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

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Addendum

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

CASC 01 00:18:05.8±3.1**,13.02N×89.92W,h114**km±82km**,MD3.8, 3C-1D,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.87**	**19**	*e*P	P	00 18 51.4	+25
SBLS				*e*S	S	00 19 09.2	+28
SNJE	**San Jose**	**0.90**	**20**⇓	*e*P	P	00 18 51.6	+25
SNJE				*e*S	S	00 19 08.8	+27
BOQS	**Boqueron**	**0.95**	**41**	*e*P	P	00 18 52.1	+25
BOQS				*e*S	S	00 19 09.0	+26
LFRS	**El Faro**	**1.03**	**54**	*e*P	P	00 18 52.3	+24
LFRS				*e*S	S	00 19 07.9	+23
LFU	**La Fuente**	**1.07**	**47**	*e*P	P	00 18 53.9	+26
LFU				*e*S	S	00 19 10.7	+25
LBRS	**Las Brisas**	**1.11**	**50**	*e*P	P	00 18 54.1	+25
LBRS				*e*S	S	00 19 13.5	+27
LCBS	**La Ceiba**	**1.11**	**55**⇑	*e*P	P	00 18 53.1	+24
LCBS				*e*S	S	00 19 11.8	+26
SNVI	**San Vicente**	**1.21**	**61**⇑	*e*P	P	00 18 54.7	+25
SNVI				*e*S	S	00 19 12.4	+24
IXG	**Ixpaco**	**1.26**	**336**⇑	*e*P	P	00 18 30.7	+0.2
IXG				*e*S	S	00 18 49.3	+0.2
CNCH	**Conchagua**	**2.05**	**83**	*e*P	P	00 19 05.8	+26
CNCH				*e*S	S	00 19 32.5	+27
TP2	**Tecpan 2**	**2.06**	**329**	*e*P	P	00 18 41.8	+1.7
TP2				*e*S	S	00 19 07.3	+1.3

*ISK **01** 00:24:35.8,38.20N×26.76E,h27km,MD2.8*
*CSEM **01** 00:24:36.8±0.1,38.18N×27.00E,h30km,MD2.8,Error ellipse: s-maj=5.0km s-min=2.4km az=106.0*
*ATH **01** 00:24:37.0,38.17N×26.61E,h17km±6km,MD2.9/3*
ISC 01 00:24:35.9±0.8**,38.17N**±0.03×**26.72E**±0.05**,h5**km±6km**, n11,**σ**1s07**/19**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.22**	**334**	*i* P	**Pg**	**00 24 40.1**	**-0.2**
URLA				*i* S	**Sg**	**00 24 43.2**	**0.0**
BLCB	**Balcova**	**0.34**	**49**	PG	**Pg**	**00 24 43.9**	**+1.2**
BLCB				SG	**Sg**	**00 24 48.1**	**+0.9**
SMG	**Samos**	**0.47**	**168**	*e*PB	**Pb**	**00 24 46.7**	**+0.5**
SMG				*e*SB	**Sb**	**00 24 54.1**	**+1.0**
KDAG	**Bornova**	**0.49**	**61**	*i* P	**Pg**	**00 24 45.8**	**0.0**
KDAG				*i* S	**Sg**	**00 24 52.0**	**-0.5**
AKS	**Akhisar**	**1.12**	**50**	PG	**Pg**	**00 24 55.9**	**-2.3**
PRK	**Paraskevi**	**1.13**	**342**	*e*PN	**Pn**	**00 24 58.1**	**-0.2**
PRK				*e*SN	**Sn**	**00 25 13.2**	**-1.2**
AYVA	**Ayvalik**	**1.14**	**359**	*i* P	**Pb**	**00 25 00.9**	**+3.2**
AYVA				*i* S	**Sb**	**00 25 13.9**	**+1.2**
BODT	**Bodrum**	**1.20**	**157**	*e*PN	**Pn**	**00 24 57.3**	**-2.0**
APE	**Apeiranthos**	**1.44**	**221**	*e*PN	**Pn**	**00 25 00.9**	**-1.9**
APE	**Apeiranthos**	**1.44**	**221**	*e*PN	**Pn**	**00 25 03.4**	**+0.6**
APE				*e*SN	**Sn**	**00 25 22.7**	**+0.4**
MANT	**Manisa**	**1.48**	**77**	*i* P	**Pn**	**00 25 03.6**	**+0.3**
MANT				*i* S	**Sb**	**00 25 22.2**	**-0.4**

*BJI **01** 00:24:49.8,30.97N×99.15E,h5km,mB4.9,mb4.3,ML4.3, Ms4.5,Msz4.0*
*IDC **01** 00:24:49.0±0.7,30.91N×99.18E,mb4.2/16,mb1 4.3/17, mb1mx4.3/23,mbtmp4.2/17,ML3.6/1,MS3.7/10,Ms1 3.7/10, ms1mx3.4/36,Error ellipse: s-maj=23.6km s-min=16.2km az=42.0*
*NEIC **01** 00:24:49.2±2.5,30.92N×99.12E,h1km±15km,mb4.7/26, Error ellipse: s-maj=7.4km s-min=5.9km az=175.0*
*MOS **01** 00:24:51.8±0.9,30.88N×99.14E,h33km,mb5.0/32,Error ellipse: s-maj=11.2km s-min=6.4km az=120.6*
ISC 01 00:24:47.7±1.4**,30.89N**±0.04×**99.04E**±0.03**,h3**km±9km**, n159,**σ**1s07**/158**,mb4.6**/45**,MS3.7**/9**,6C-2D,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.05**	**89**	P	**Pn**	**00 25 54.5**	**+2.5**
CD2				PG	**Pg**	**00 26 05.1**	**-3.5**
CD2				SG	**Sg**	**00 26 56.9**	**-5.7**
CD2				Smax			
	comp=N,400nm,1.2s						
KMI	**Kunming**	**6.61**	**149**	P	**Pn**	**00 26 28.4**	**+0.2**
KMI				SG	**Sb**	**00 28 13.9**	**+10**
KMI				Smax			
	comp=N,50nm,1.4s						
KMI				Smax			
	comp=E,40nm,2.0s						
KMI				LR	LR		
	comp=N,3μm,8.2s						
KMI				LR	LR		
	comp=E,2μm,8.2s						
KMI				LR	LR		
	comp=Z,2μm,8.6s						
LSA	**Lhasa**	**6.93**	**262**	P	**Pn**	**00 26 38.4**	**+5.7**
LSA				S	**Sn**	**00 28 02.3**	**+9.4**
LSA				LR	LR		
	comp=N,750nm,7.8s						
LSA				LR	LR		
	comp=E,890nm,6.5s						
LSA				LR	LR		
	comp=Z,1μm,5.9s						
LSA	**Lhasa**	**6.93**	**262**	*e*P	**Pn**	**00 26 36.7**	**+4.0**
LSA				pmax	pmax		
	comp=Z,20nm,0.6s						
LSA	**Lhasa**	**6.93**	**262**	*e*Pn	**Pn**	**00 26 36.7**	**+4.1**
	comp=Z,20nm,0.6s						
GYA	**Guiyang**	**8.02**	**122**	P	**P**	**00 26 48.5**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GYA				LR	LR		
	comp=N,4μm,11.4s						
GYA				LR	LR		
	comp=E,3μm,10.8s						
GYA				LR	LR		
	comp=Z,930nm,9.6s						
SHL	**Shillong**	**8.25**	**232**	*e*P	**P**	**00 26 55.0**	**+3.9**
GTA	**Gaotai**	**8.52**	**4**	*e*P	**P**	**00 26 55.7**	**+0.8**
GTA				AP		00 27 05.1	
GTA				S	**Sn**	**00 28 28.0**	**-4.7**
GTA				AMB	AMB		
	comp=Z,140nm,5.7s						
GTA				LR	LR		
	comp=N,520nm,11.4s						
GTA				LR	LR		
	comp=E,2μm,12.9s						
GTA				LR	LR		
	comp=Z,440nm,13.3s						
XAN	**Xi'an**	**8.91**	**67**	P	**P**	**00 26 58.6**	**-1.8**
XAN				AP		00 27 07.9	
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s						
ENH	**Enshi**	**9.02**	**91**	*e*Pn	**P**	**00 26 59.9**	**-2.0**
	comp=Z,46nm,0.9s						
AGT	**Agartala**	**9.83**	**227**	*e*P	**P**	**00 27 19.0**	**+5.9**
JIRN	**Jiri**	**11.68**	**257**	*e*P	**P**	**00 27 39.4**	**+1.1**
	comp=Z,70nm,0.4s						
GUN	**Gumba**	**11.86**	**259**	*e*P	**P**	**00 27 40.2**	**-0.6**
	comp=Z,77nm,0.5s						
PKI	**Pulchoki**	**12.36**	**258**	*e*P	**P**	**00 27 46.9**	**-0.6**
	comp=Z,77nm,0.4s						
PKI	**Pulchoki**	**12.36**	**258**	*e*P	**P**	**00 27 46.9**	**-0.6**
PKI				pmax	pmax		
	comp=Z,38nm,0.4s						
KKN	**Kakani**	**12.40**	**259**	*e*P	**P**	**00 27 46.7**	**-1.4**
	comp=Z,82nm,0.6s						
KKN	**Kakani**	**12.40**	**259**	*e*P	**P**	**00 27 46.7**	**-1.4**
KKN				pmax	pmax		
	comp=Z,41nm,0.6s						
DMN	**Daman**	**12.60**	**258**	*e*P	**P**	**00 27 49.7**	**-1.1**
	comp=Z,60nm,0.6s						
GKN	**Gorkha**	**12.88**	**261**	*e*P	**P**	**00 27 52.1**	**-2.4**
	comp=Z,38nm,0.4s						
WHN	**Wuhan**	**13.18**	**88**	*e*P	**P**	**00 27 56.3**	**-2.1**
BOK	**Bokaro**	**13.66**	**242**	*e*P	**P**	**00 28 04.9**	**+0.1**
BOK				AMb	AMB	00 28 11.3	
	comp=Z,24nm,1.0s						
BOK				*e*S	**S**	**00 30 28.6**	**-10**
BOK				*e*S	**S**	**00 30 29.3**	**-9.0**
KOLN	**Koldanda**	**13.83**	**261**	*e*P	**P**	**00 28 02.3**	**-4.7**
	comp=Z,65nm,0.7s						
KOLN				*e*S	**S**	**00 30 29.8**	**-12**
QIZ	**Qiongzhong**	**15.33**	**138**	*e*P	**P**	**00 28 30.6**	**+3.8**
QIZ				S	**S**	**00 31 18.2**	**+0.3**
QIZ				LR	LR		
	comp=N,980nm,13.5s						
QIZ				LR	LR		
	comp=E,1μm,13.5s						
QIZ				LR	LR		
	comp=Z,890nm,10.8s						
WMQ	**Urumqi**	**15.73**	**328**	P	**P**	**00 28 36.7**	**+4.9**
WMQ				*e*S	**S**	**00 31 29.7**	**+2.7**
WMQ				SS	SS	00 31 47.2	+1.9
WMQ				PCP	PcP	00 33 37.7	+4.5
WMQ				AMB	AMB		
	comp=Z,30nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,310nm,6.0s						
WMQ				LR	LR		
	comp=N,350nm,7.0s						
WMQ				LR	LR		
	comp=E,310nm,8.0s						
WMQ				LR	LR		
	comp=Z,300nm,7.0s						
NJ2	**Nanjing**	**16.94**	**81**	*e*P	**P**	**00 28 49.1**	**+1.8**
NJ2				AP		00 28 56.9	
NJ2				PP	PP	00 29 03.7	+2.1
NJ2				S	**S**	**00 31 55.0**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,170nm,4.3s						
NJ2				LR	LR		
	comp=N,2μm,18.2s						
NJ2				LR	LR		
	comp=E,600nm,15.2s						
NJ2				LR	LR		
	comp=Z,390nm,16.3s						
SONM	**Songino Array**	**17.83**	**16**	P	**P**	**00 28 59.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=201,slow=11,SNR=21						
SONM				LR	LR	00 36 27.6	
	comp=Z,187nm,19.1s,baz=185,slow=39						
ULN	**Ulaanbaatar**	**18.03**	**18**	*e*P	**P**	**00 29 02.3**	**+1.5**
ULN	**Ulaanbaatar**	**18.03**	**18**	*e*Pn	**P**	**00 29 00.8**	**0.0**
	comp=Z,10nm,0.8s						
SSE	**Sheshan**	**18.98**	**84**	*e*P	**P**	**00 29 10.5**	**-2.2**
SSE				AP		00 29 18.8	
SSE				XP		00 29 22.7	
SSE				S	**S**	**00 32 43.0**	**+1.4**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s						
SSE				AMB	AMB		
	comp=Z,110nm,6.6s						
SSE				LR	LR		
	comp=N,460nm,19.8s						
SSE				LR	LR		
	comp=E,160nm,19.8s						
SSE				LR	LR		
	comp=Z,410nm,14.7s						
NDI	**New Delhi**	**19.07**	**269**	*e*P	**P**	**00 29 12.0**	**-1.7**
ZAK	**Zakamensk**	**19.73**	**8**	*e*P	**P**	**00 29 20.7**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**20.48**	**326**	P	**P**	**00 29 28.7**	**-0.6**
	comp=Z,4.7nm,0.5s,baz=132,slow=14,SNR=68						
MKAR				LR	LR	00 38 34.7	
	comp=Z,193nm,18.2s,MS3.5,baz=96,slow=40						
MKAR	**Makanchi Array**	**20.48**	**326**	P	**P**	**00 29 28.7**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,50nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,193nm,18.3s						
MKAR	**Makanchi Array**	**20.48**	**326**	P	**P**	**00 29 28.7**	**-0.6**
MKAR				LR	LR	00 38 34.7	
KSH	**Kashi**	**20.68**	**301**	*e*P	**P**	**00 29 33.5**	**+2.1**
KSH				*e*AP		00 29 41.9	
KSH				*e*XP		00 29 46.6	
KSH				*e*PP	PP	00 29 54.4	+1.5
KSH				*e*S	**S**	**00 33 15.4**	**-2.7**
KSH				*e*XS		00 33 28.0	
KSH				*e*PCP	PcP	00 33 45.0	+3.5
KSH				*e*SCP		00 37 17.1	
KSH				*e*PCS		00 37 21.4	
KSH				*e*SCS	ScS	00 40 58.6	-0.9
KSH				LR	LR		
	comp=N,440nm,5.8s						
KSH				LR	LR		
	comp=E,860nm,8.5s						
BHPL	**Bhopal**	**20.68**	**254**	*e*P	**P**	**00 29 33.2**	**+1.7**
BHPL				AMb	AMB	00 29 37.5	
	comp=Z,30nm,0.7s						
AJM	**Ajmer**	**21.84**	**264**	*e*P	**P**	**00 29 45.2**	**+1.9**
AJM				*e*x	x	00 32 13.4	
SNY	**Shenyang**	**22.50**	**54**	⇓P	**P**	**00 29 50.1**	**+0.4**
FRU	**Bishkek**	**22.80**	**308**	*e*P	**P**	**00 29 57.0**	**+4.3**
FRU				pmax	pmax		
	comp=Z,30nm,1.5s,mb4.5						
AAK	**Ala-Archa**	**22.81**	**308**	*e*P	**P**	**00 29 53.3**	**+0.6**
AAK				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**22.81**	**308**	*e*P	**P**	**00 29 53.3**	**+0.6**
	comp=Z,25nm,0.9s,mb4.6						
HYB	**Hyderabad**	**22.96**	**239**	*e*P	**P**	**00 30 03.0**	**+8.5**
CN2	**Changchun**	**24.51**	**51**	*e*P	**P**	**00 30 10.5**	**+1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
KS15	**Wonju Array Si**	**24.68**	**67**	*e*P	**P**	**00 30 11.7**	**+0.6**
KURK	**Kurchatov**	**24.97**	**328***c*	*i*P	**P**	**00 30 14.4**	**+0.7**
KURK	**Kurchatov**	**24.97**	**328**	*e*P	**P**	**00 30 14.2**	**+0.5**
	comp=Z,16nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**25.22**	**340**	P	**P**	**00 30 16.6**	**+0.6**
	comp=Z,9.3nm,0.6s,mb4.5,baz=317,slow=11,SNR=48						
ZAL	**Zalesovo**	**25.22**	**340**	*i* P	**P**	**00 30 16.8**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KULM	**Kulim**	**25.51**	**176**	P	**P**	**00 30 19.4**	**+0.3**
JOW	**Kunigami**	**25.88**	**92**	LR	LR	00 41 50.2	
	comp=Z,198nm,18.2s,MS3.7,baz=128,slow=40						
NVS	**Novosibirsk**	**26.47**	**339**	*e*P	**P**	**00 30 26.3**	**-1.3**
NVS				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
PALK	**Pallekele**	**29.10**	**220**	*e*P	**P**	**00 30 54.7**	**+2.7**
	comp=E,7.6nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**30.37**	**325**	P	**P**	**00 31 03.2**	**+0.4**
	comp=E,2.5nm,0.9s,mb3.9,baz=117,slow=9.9,SNR=12						
BVAR	**Borovoye Array**	**30.37**	**325**	P	**P**	**00 31 03.2**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,30nm,0.9s						
BRVK	**Borovoye**	**30.44**	**325**	*e*P	**P**	**00 31 03.2**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
BRVK	**Borovoye**	**30.44**	**325**	*e*P	**P**	**00 31 03.2**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.0						
HABR	**Khabarovsk**	**32.42**	**47**	*e*P	**P**	**00 31 26.6**	**+5.7**
MJAR	**Matsushiro Arr**	**32.90**	**69**	LR	LR	00 46 40.4	
	comp=Z,93nm,19.1s,MS3.5,baz=35,slow=40						
AKTO	**Aktyubinsk**	**36.15**	**315**	P	**P**	**00 31 53.9**	**+0.9**
	comp=Z,2.0nm,0.6s,mb4.2,baz=94,slow=9.2,SNR=12						
AKTO	**Aktyubinsk**	**36.15**	**315**	P	**P**	**00 31 53.9**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
ARU	**Arti**	**38.00**	**324**⇑	*i*P	**P**	**00 32 08.5**	**+0.1**
ARU				*e*S	**S**	**00 38 00.0**	**-1.0**
ARU				*e*		00 42 13.7	
ARU				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
ARU	**Arti**	**38.00**	**324**	*e*P	**P**	**00 32 08.8**	**+0.3**
	comp=Z,10nm,0.9s,mb4.6						
GNI	**Garni**	**44.55**	**297**	P	**P**	**00 33 04.4**	**+1.9**
GUMO	**Guam**	**45.43**	**102**	P	**P**	**00 33 09.8**	**-0.1**
	comp=Z,21nm,0.3s,mb5.4,baz=177,slow=20,SNR=4.7						
GUMO	**Guam**	**45.43**	**102**	*e*P	**P**	**00 33 08.0**	**-1.8**
GUMO				pmax	pmax		
	comp=Z,89nm,0.8s,mb5.7						
GUMO	**Guam**	**45.43**	**102**	*e*P	**P**	**00 33 08.0**	**-1.9**
	comp=Z,89nm,0.8s,mb5.7						
GOF	**Gofitskoye**	**45.49**	**305**	*e*P	**P**	**00 33 10.5**	**+0.6**
KIV	**Kislovodsk**	**45.79**	**303**	*e*P	**P**	**00 33 13.1**	**+0.8**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**45.79**	**303**	*e*P	**P**	**00 33 12.7**	**+0.4**
	comp=Z,9.2nm,0.8s,mb4.8						
PET	**Petropavlovsk**	**47.95**	**45**	*e*P	**P**	**00 33 28.2**	**-1.0**
PET				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
PET	**Petropavlovsk**	**47.95**	**45**	*e*P	**P**	**00 33 28.2**	**-1.0**
	comp=Z,40nm,0.9s,mb5.4						
KLMR	**Klimovskoe**	**48.78**	**326***d*	*i*P	**P**	**00 33 35.3**	**-0.3**
KLMR				*e*S	**S**	**00 40 48.2**	**+10**
KLMR				pmax	pmax		
	comp=Z,30nm,2.2s,mb4.9						
KLMR				smax			
	comp=E,930nm,4.4s						
ANN	**Anapa**	**49.48**	**305**	*e*P	**P**	**00 33 51.7**	**+11**
OBN	**Obninsk**	**49.73**	**318**	*e*P	**P**	**00 33 42.9**	**0.0**
OBN				pmax	pmax		
	comp=Z,26nm,1.9s,mb4.9						
JOF	**Joensuu**	**52.89**	**328**	*e*p	**P**	**00 34 06.0**	**-0.8**
	comp=Z,3.9nm,0.6s,mb4.5						
JOF	**Joensuu**	**52.89**	**328**	*e*P	**P**	**00 34 06.0**	**-0.8**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BR131	**Keskin Array S**	**53.05**	**299**	P	**P**	**00 34 07.8**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.1						
BRTR	**Keskin Array B**	**53.05**	**299**	P	**P**	**00 34 08.9**	**+0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=102,slow=5.1,SNR=5.7						
BRTR	**Keskin Array B**	**53.05**	**299**	P	**P**	**00 34 09.0**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKASG	**Malin Array Be**	**54.35**	**313**	P	**P**	**00 34 17.2**	**-0.5**
	comp=Z,1.3nm,0.4s,mb4.2,baz=76,slow=6.8,SNR=7.1						
AKASG	**Malin Array Be**	**54.35**	**313**	P	**P**	**00 34 17.2**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.4s						
AKASG	**Malin Array Be**	**54.35**	**313**	P	**P**	**00 34 17.2**	**-0.5**
CSS	**Prodhromos**	**54.42**	**293**	P	**P**	**00 34 23.0**	**+4.6**
	comp=Z,10nm,0.9s,mb4.8						
KEV	**Kevo**	**55.17**	**336**	*e*p	**P**	**00 34 24.4**	**+1.0**
	comp=Z,8.5nm,0.9s,mb4.8						
KEV	**Kevo**	**55.17**	**336**	*e*P	**P**	**00 34 24.4**	**+1.0**
KEV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
KAF	**Kangasniemi**	**55.19**	**327**	*e*p	**P**	**00 34 22.9**	**-0.8**
	comp=Z,5.8nm,0.9s,mb4.6						
KAF	**Kangasniemi**	**55.19**	**327**	*e*P	**P**	**00 34 22.9**	**-0.8**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**55.32**	**326**	P	**P**	**00 34 24.5**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.3,baz=79,slow=9.7,SNR=12						
FINES				LR	LR	00 58 25.4	
	comp=Z,46nm,18.9s,MS3.6,baz=156,slow=36						
FINES	**FINESS Array B**	**55.32**	**326**	P	**P**	**00 34 24.5**	**-0.1**
FINES				pmax	pmax		
	comp=Z,20nm,0.7s						
FINES				MLR	MLR		
	comp=Z,47nm,18.9s						
ARCES	**ARCESS Array B**	**55.67**	**336**	P	**P**	**00 34 26.8**	**-0.3**
	comp=Z,9.5nm,1.1s,mb4.8,baz=82,slow=8.6,SNR=9.7						
ARCES				LR	LR	01 00 01.4	
	comp=Z,77nm,18.8s,MS3.8,baz=182,slow=38						
ARCES	**ARCESS Array B**	**55.67**	**336**	P	**P**	**00 34 26.8**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARCES				MLR	MLR		
	comp=Z,77nm,18.8s						
MLR	**Muntele Rosu**	**57.39**	**307**	LR	LR	01 03 22.8	
	comp=Z,87nm,19.2s,MS3.9,baz=187,slow=40						
KWP	**Kalwaria**	**58.66**	**312**	*e*P	**P**	**00 34 48.2**	**-0.3**
KWP				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
KWP	**Kalwaria**	**58.66**	**312**	*e*P	**P**	**00 34 48.1**	**-0.3**
	comp=Z,31nm,1.1s,mb5.2						
WRAB	**Tennant Creek**	**60.86**	**142**	*e*P	**P**	**00 35 03.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.0						
WRAB	**Tennant Creek**	**60.86**	**142**	*e*P	**P**	**00 35 03.2**	**-0.8**
	comp=Z,14nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**60.86**	**142**	P	**P**	**00 35 02.7**	**-1.4**
	comp=Z,2.5nm,0.6s,mb4.5,baz=335,slow=7.0,SNR=12						
WRA	**Warramunga Arr**	**60.86**	**142**	*i* P	**P**	**00 35 04.0**	**-0.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WB2	**Warramunga Arr**	**60.87**	**142**	*e*P	**P**	**00 35 03.2**	**-0.9**
IDI	**Anoyia**	**60.93**	**296**	P	**P**	**00 35 04.7**	**+0.4**
	comp=Z,3.0nm,0.4s,mb4.8,baz=58,slow=13,SNR=6.8						
HFS	**Hagfors**	**61.50**	**325**	LR	LR	01 03 18.4	
	comp=Z,84nm,18.3s,MS3.9,baz=74,slow=38						
MORC	**Moravsky Berou**	**61.88**	**313**	*e*P	**P**	**00 35 10.1**	**-0.5**
MORC				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
MORC	**Moravsky Berou**	**61.88**	**313**	*e*P	**P**	**00 35 10.1**	**-0.5**
	comp=Z,7.7nm,1.1s,mb4.8						
NB2	**NORSAR Subarra**	**62.48**	**327**	P	**P**	**00 35 12.9**	**-1.5**
	comp=Z,1.7nm,0.7s,mb4.3,baz=75,slow=6.5						
NOA	**NORSAR Array B**	**62.48**	**327**	P	**P**	**00 35 13.4**	**-1.0**
	comp=Z,1.7nm,0.7s,mb4.3,baz=75,slow=6.6,SNR=4.5						
NOA				LR	LR	01 03 49.9	
	comp=Z,60nm,21.6s,MS3.7,baz=140,slow=37						
NOA	**NORSAR Array B**	**62.48**	**327**	P	**P**	**00 35 13.4**	**-1.0**
NOA				pmax	pmax		
	comp=Z,20nm,0.7s						
NOA				MLR	MLR		
	comp=Z,60nm,21.6s						
VRAC	**Vranov**	**62.60**	**313**	LR	LR	01 04 30.6	
	comp=Z,48nm,20.9s,MS3.6,baz=277,slow=38						
CLL	**Collm**	**64.22**	**316**	*e**PP	pP	00 35 34.0	+7.1
GERES	**GERESS Array B**	**64.56**	**313**	P	**P**	**00 35 28.7**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.7,baz=63,slow=6.0,SNR=7.0						
GERES	**GERESS Array B**	**64.56**	**313**	P	**P**	**00 35 28.7**	**+0.5**
GERES				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GRA1	**Grafenberg Arr**	**65.81**	**315**	*e*P	**P**	**00 35 37.7**	**+1.4**
	comp=Z,2.0nm,0.8s,mb4.2						
GRF	**Grafenberg Arr**	**65.81**	**315**	*e*P	**P**	**00 35 37.7**	**+1.4**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
GRF	**Grafenberg Arr**	**65.81**	**315**	*e*P	**P**	**00 35 37.7**	**+1.4**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
GRF	**Grafenberg Arr**	**65.81**	**315**	*e*P	**P**	**00 35 37.7**	**+1.4**
	comp=Z,2.0nm,0.8s,mb4.2						
KMBO	**Kilima Mbogo**	**66.65**	**254**	P	**P**	**00 35 42.6**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.4,baz=43,slow=11,SNR=15						
KMBO	**Kilima Mbogo**	**66.65**	**254**	P	**P**	**00 35 42.6**	**+0.4**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CDF	**Champ du Feu**	**68.70**	**314**	*e*P	**P**	**00 35 54.6**	**+0.1**
HAU	**Haudompre**	**69.43**	**314**	*e*P	**P**	**00 35 59.1**	**+0.1**
MEZF	**Maizieres J'vi**	**70.02**	**315**	*e*P	**P**	**00 36 02.2**	**-0.4**
LPG	**La Plagne**	**70.19**	**312**	*e*P	**P**	**00 36 03.8**	**+0.2**
	comp=Z,16nm,0.7s,mb4.7						
LPG	**La Plagne**	**70.19**	**312**	*e*P	**P**	**00 36 03.8**	**+0.2**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
LPL	**La Plagne**	**70.19**	**312**	*e*P	**P**	**00 36 03.9**	**+0.2**
	comp=Z,16nm,0.8s,mb4.7						
LPL	**La Plagne**	**70.19**	**312**	*e*P	**P**	**00 36 03.9**	**+0.2**
LPL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MBDF	**Montbardon**	**70.49**	**311**	*e*P	**P**	**00 36 05.4**	**-0.1**
ORIF	**Oris-en-Rattie**	**70.99**	**311**	*e*P	**P**	**00 36 08.4**	**-0.1**
LOR	**Lormes**	**71.27**	**314**	*e*P	**P**	**00 36 09.7**	**-0.5**
COLA	**College**	**71.46**	**24**	*e*P	**P**	**00 36 11.0**	**-0.1**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
COLA	**College**	**71.46**	**24**	*e*P	**P**	**00 36 11.0**	**-0.1**
	comp=Z,9.5nm,0.9s,mb4.7						
SMF	**Signal de Mont**	**71.55**	**314**	*e*P	**P**	**00 36 11.9**	**0.0**
SSF	**Saint Saulge**	**71.57**	**314**	*e*P	**P**	**00 36 11.2**	**-0.8**
MCK	**McKinley**	**71.69**	**26**	P	**P**	**00 36 12.1**	**-0.4**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
MCK	**McKinley**	**71.69**	**26**	P	**P**	**00 36 12.1**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.0						
AVF	**Avril sur Loir**	**71.78**	**314**	*e*P	**P**	**00 36 11.9**	**-1.4**
	comp=Z,79nm,1.8s,mb5.0						
AVF	**Avril sur Loir**	**71.78**	**314**	*e*P	**P**	**00 36 11.9**	**-1.4**
AVF				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.0						
ILAR	**Eielson Array**	**71.86**	**24**	P	**P**	**00 36 11.8**	**-1.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=294,slow=5.7,SNR=9.5						
ILAR	**Eielson Array**	**71.86**	**24**	P	**P**	**00 36 11.8**	**-1.6**
ILAR				pmax	pmax		
	comp=Z,20nm,1.0s						
LASF	**Ste Croix**	**72.66**	**311**	*e*P	**P**	**00 36 18.2**	**-0.3**
TCF	**Toulx Ste Croi**	**72.72**	**314**	*e*P	**P**	**00 36 17.9**	**-0.9**
	comp=Z,9.6nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**72.72**	**314**	*e*P	**P**	**00 36 17.9**	**-0.9**
TCF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
INK	**Inuvik**	**73.74**	**18**	*e*P	**P**	**00 36 23.8**	**-0.5**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INK	Inuvik	73.74	18	eP	P	00 36 23.8	-0.6
	comp=Z,3.7nm,0.7s,mb4.4						
RES	Resolute Bay	74.29	4	P	P	00 36 28.3	+0.9
ETSF	Etsaut	76.05	312	eP	P	00 36 38.2	+0.1
	comp=Z,24nm,1.2s,mb4.7						
ETSF	Etsaut	76.05	312	eP	P	00 36 38.2	+0.1
ETSF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
SJPF	Ste Jean	76.37	312	eP	P	00 36 39.5	-0.4
	comp=Z,38nm,1.3s,mb4.9						
SJPF	Ste Jean	76.37	312	eP	P	00 36 39.5	-0.4
SJPF				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
YKA	Yellowknife Ar	83.10	15	P	P	00 37 16.5	+0.9
	comp=Z,0.5nm,0.7s,mb3.7,baz=335,slow=4.6,SNR=4.1						
YKA	Yellowknife Ar	83.10	15	i P	P	00 37 20.2	+4.6
YKA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TORD	Torodi Ar. Bea	89.52	285	P	P	00 37 49.0	+0.8
	comp=Z,1.7nm,0.9s,mb4.4,baz=47,slow=4.6,SNR=8.7						
SNAA	Sanae	122.73	202	e	PKPdf	00 43 54.5	+8.0
SNAA	Sanae	122.73	202	⇑iPKPdf	PKPdf	00 43 48.7	+2.2
SNAA				e		00 43 54.5	
VNA2	Neumayer--Watz	124.22	202	e	PKPdf	00 43 57.2	+7.7
VNA2	Neumayer--Watz	124.22	202	⇑iPKPdf	PKPdf	00 43 51.7	+2.2
VNA2				e		00 43 57.2	
VNA1	Neumayer--Stat	124.53	203	e	PKPdf	00 43 59.6	+10
VNA1	Neumayer--Stat	124.53	203	⇑iPKPdf	PKPdf	00 43 52.5	+2.5
VNA1				e		00 43 59.6	
VNA3	Neumayer Olymp	124.93	202	e	PKPdf	00 43 59.8	+9.0
VNA3	Neumayer Olymp	124.93	202	⇑iPKPdf	PKPdf	00 43 54.3	+3.5
VNA3				e		00 43 59.8	
BDFB	Brasilia	146.30	289	PKPbc	PKPbc	00 44 33.6	+3.3
	comp=Z,3.3nm,0.7s,baz=77,slow=4.7,SNR=5.0						
BDFB	Brasilia	146.30	289	PKP2	PKPab	00 44 33.6	+0.4
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.7s						

*BJI **01** 00:34:20.9, 26.70N×55.70E, h10^{km}, mB5.2, mb4.7, Ms4.6, Msz4.6*
*IDC **01** 00:34:23.1±0.9, 26.81N×55.73E, mb4.1/19, mb1 4.2/19, mb1mx4.2/24, mbtmp4.1/19, Error ellipse: s-maj=21.3km s-min=15.5km az=150.0*
*TEH **01** 00:34:26.9, 26.73N×55.68E, h10^{km}, Mn4.3*
*CSEM **01** 00:34:26.4±0.1, 26.77N×55.57E, h35^{km}, mb4.3/23, Error ellipse: s-maj=2.3km s-min=1.5km az=55.0*
*NEIC **01** 00:34:26.9, 26.73N×55.68E, h10^{km}, mb4.3/24, ML4.3(TEH), After TEH.*
*THR **01** 00:34:29.3±0.4, 27.25N×55.68E, h14^{km}±3^{km}, ML3.7*
ISC 01 00:34:23.2±0.2**, 26.77N**±0.02×**55.56E**±0.03**, h10^{km}, n141, σ1^{s}06**/150**, mb4.2**/43**, 3C, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.83	41	ePG	Pg	00 34 38.6	-1.3
BNDS				eSG	Sg	00 34 45.5	-5.6
BNDS				AML	AML	00 35 03.4	
	comp=N,6μm,0.4s						
BNDS	Bandar-Abbas	0.83	41	ePg	Pg	00 34 38.6	-1.3
	SNR=91						
BNDS				eSg	Sg	00 34 45.5	-5.5
	comp=N,6μm,0.4s,SNR=91						
BANOM	Banah	1.07	142	P	Pb	00 34 43.3	-0.1
	SNR=1066						
ASHO	Ashiyiah	2.12	168	P	Pn	00 35 02.4	+3.1
	SNR=66						
ASHO				P		00 35 02.6	
	SNR=71						
GHIR	Ghir-Karzin	2.74	304	ePN	Pn	00 35 12.8	+4.8
GHIR				eSG	Sg	00 35 50.7	-3.8
GHIR				AML	AML	00 36 20.8	
	comp=N,400nm,0.6s						
KRBR	Kerman	3.37	18	ePN	Pn	00 35 17.3	+0.2
KRBR				eSG	Sn	00 35 59.5	+2.0
KRBR				AML	AML	00 36 01.3	
	comp=N,201nm,0.4s						
ISRV	Sarvestan	3.38	321	Pn	Pn	00 35 21.2	+4.0
IMOK	Mook	3.39	313	Pn	Pn	00 35 21.2	+3.9
ARQ	Araqi	3.53	165	P	Pn	00 35 22.0	+2.8
	SNR=18						
IPAR	Pars	3.78	325	Pn	Pn	00 35 26.2	+3.4
BIDO	Bidbid	3.98	144	P	Pn	00 35 25.7	0.0
	SNR=7.6						
BSY	Bisya	4.27	159	P	Pn	00 35 31.3	+1.4
	SNR=13						
BSYO	Bisya	4.30	159	P	Pn	00 35 31.3	+1.1
	SNR=13						
SMDO	Samad	4.33	148	P	Pn	00 35 31.6	+0.9
	SNR=22						
SMDO	Samad	4.33	148	P	Pn	00 35 31.5	+0.8
	SNR=22						
IMEH	Mehriz	4.68	350	Pn	Pn	00 35 37.9	+2.3
IBAF	Bafgh	4.80	0	Pn	Pn	00 35 38.2	+0.8
WBK	Wadi Bani Khal	5.17	142	P	Pn	00 35 41.9	-0.7
	SNR=13						
ISAD	Sadrabad	5.38	343	Pn	Pn	00 35 48.3	+2.8
ZHSF	Zahedan	5.40	57	ePN	Pn	00 35 47.2	+1.4
HASS	Wahat al Ahsa'	5.51	255	P	Pn	00 35 50.4	+3.0
HASS				S	Sn	00 36 56.6	+5.0
ICHK	Chekchek	5.55	350	Pn	Pn	00 35 49.2	+1.3
IGAR	Garneh	6.19	333	Pn	Pn	00 35 59.3	+2.3
QRN	Al-Qurain	7.05	288	eP	Pn	00 36 10.2	+1.1
QRN				AML	AML	00 37 31.0	
	comp=Z,31nm,0.2s						
IPIR	Pirpir	7.16	327	Pn	Pn	00 36 10.0	-0.6
KBD	Kabd	7.36	291	eP	Pn	00 36 15.3	+1.9
KBD				AML	AML	00 37 38.8	
	comp=Z,97nm,0.2s						
KBD	Kabd	7.36	291	eP	Pn	00 36 15.3	+1.9
KBD				eS	Sn	00 37 37.0	-0.8
IKLH	Kalahroud	7.38	333	Pn	Pn	00 36 12.5	-1.2
RDF	Al-Radifah	7.41	289	eP	Pn	00 36 15.0	+0.9
RDF				AML	AML	00 37 38.6	
	comp=Z,29nm,0.3s						
RDF	Al-Radifah	7.41	289	eP	Pn	00 36 15.0	+0.9
RDF				eS	Sn	00 37 38.6	-0.5
UMR	Umm Al-Rimmam	7.46	294	eP	Pn	00 36 16.0	+1.2
UMR				AML	AML	00 37 41.1	
	comp=Z,30nm,0.3s						
UMR	Umm Al-Rimmam	7.46	294	eP	Pn	00 36 16.0	+1.2
UMR				eS	Sn	00 37 39.8	-0.5
NAY	Al-Naaiem	7.76	290	eP	Pn	00 36 20.8	+1.9
NAY				AML	AML	00 37 42.6	
	comp=Z,9.7nm,0.5s						
NAY	Al-Naaiem	7.76	290	eP	Pn	00 36 20.8	+1.9
NAY				eS	Sn	00 37 47.0	-0.7
MIB	Mutribah	7.85	295	eP	Pn	00 36 21.7	+1.4
MIB				AML	AML	00 37 50.5	
	comp=Z,35nm,0.4s						
MIB	Mutribah	7.85	295	eP	Pn	00 36 21.7	+1.4
MIB				eS	Sn	00 37 49.5	-0.7
ISFB	Sefidab	8.08	340	Pn	P	00 36 24.2	+0.7
RYDS	Riyadh	8.46	254	P	P	00 36 27.7	-1.0
SHAO	Shalim	8.70	180	P	P	00 36 31.6	-0.6
	SNR=34						
IVRN	Varamin	8.84	339	Pn	P	00 36 34.3	+0.3
IQOM	Qom	8.92	335	Pn	P	00 36 34.9	-0.3
IQOM				Sn	Sn	00 38 11.2	-5.6
WHFO	Wadi Hawf	8.96	191	P	P	00 36 36.8	+1.1
	SNR=24						
IFIR	Firoozkooh	9.16	345	Pn	P	00 36 38.5	0.0
IDMV	Damavand	9.29	342	Pn	P	00 36 40.5	+0.3
RBK	Rabkut	9.31	188	P	P	00 36 41.6	+1.1
	SNR=14						
ABTO	Aybut	9.60	193	P	P	00 36 44.1	-0.5
	SNR=25						
IAFJ	Afjeh	9.64	341	Pn	P	00 36 45.4	+0.3
MZLS	Mizel	9.75	256	P	P	00 36 45.8	-0.9
IKOM	Komasi	10.13	319	Pn	P	00 36 51.8	0.0
IGHG	Ghaleghazi	10.81	316	Pn	P	00 37 01.2	+0.1
IDHR	Dehrash	11.16	317	Pn	P	00 37 05.8	-0.2
AFFS	'Afif	11.71	259	P	P	00 37 12.4	-1.0
KAMS	Al Khamasin	11.95	240	P	P	00 37 14.4	-2.2
HILS	Ha'il	12.29	276	P	P	00 37 21.0	-0.2
TATS	Tathlith	13.23	240	P	P	00 37 31.4	-2.5
DJNS	Zahran al Janu	14.31	233	P	P	00 37 45.7	-2.5
BLJS	Baljurashi	14.54	245	P	P	00 37 49.6	-1.4
KBRS	Khaybar	14.66	270	P	P	00 37 52.9	+0.3
GNI	Garni	16.09	329	eP	P	00 38 11.6	+0.4
	comp=Z,29nm,1.2s						
GNI	Garni	16.09	329	eP	P	00 38 11.6	+0.5
	comp=Z,29nm,1.2s						
TBKS	Tabuk	16.93	279	P	P	00 38 23.5	+1.6
KIV	Kislovodsk	20.06	332	eP	P	00 39 00.8	+1.3
	comp=Z,16nm,0.8s						
KIV	Kislovodsk	20.06	332	eP	P	00 39 00.8	+1.4
	comp=Z,16nm,0.8s						
CSS	Prodhromos	20.73	299	P	P	00 39 07.3	+0.9
	comp=Z,13nm,1.0s						
CSS	Prodhromos	20.73	299	P	P	00 39 07.3	+0.9
	comp=Z,13nm,1.0s						
AAK	Ala-Archa	22.12	39	eP	P	00 39 18.8	-1.7
	comp=Z,4.9nm,0.9s,mb3.9						
AAK	Ala-Archa	22.12	39	eP	P	00 39 18.8	-1.7
	comp=Z,4.9nm,0.9s,mb3.9						
BRTR	Keskin Array B	22.36	311	P	P	00 39 24.6	+1.8
	comp=Z,2.2nm,0.6s,mb3.8,baz=128,slow=14,SNR=12						
BRTR	Keskin Array B	22.36	311	P	P	00 39 24.6	+1.8
BR131	Keskin Array S	22.36	311	eP	P	00 39 24.8	+1.9
	comp=Z,1.7nm,0.5s,mb3.7						
BR131	Keskin Array S	22.36	311	eP	P	00 39 24.8	+2.0
	comp=Z,1.7nm,0.5s,mb3.7						
AKTO	Aktyubinsk	23.71	4	P	P	00 39 36.2	+0.3
	comp=Z,5.1nm,0.6s,mb4.2,baz=175,slow=9.9,SNR=23						
IDI	Anoyia	27.54	295	P	P	00 40 13.6	+1.5
	comp=Z,6.0nm,0.7s,mb4.4,baz=14,slow=4.0,SNR=7.3						
BRVK	Borovoye	28.47	19	eP	P	00 40 17.9	-2.4
	comp=Z,1.7nm,0.6s,mb3.9						
BRVK	Borovoye	28.47	19	eP	P	00 40 17.9	-2.4
	comp=Z,1.7nm,0.6s,mb3.9						
BVAR	Borovoye Array	28.47	19	P	P	00 40 18.7	-1.6
	comp=Z,4.5nm,0.8s,mb4.2,baz=205,slow=8.0,SNR=25						
BVAR				PcP	PcP	00 43 31.6	-1.0
	comp=Z,0.6nm,0.6s,baz=205,slow=2.7,SNR=5.2						
BVAR	Borovoye Array	28.47	19	PcP	PcP	00 43 31.6	-1.0
MKAR	Makanchi Array	29.06	40	P	P	00 40 24.2	-1.5
	comp=Z,0.5nm,0.6s,mb3.5,baz=224,slow=7.9,SNR=12						
KURK	Kurchatov	29.69	30	eP	P	00 40 29.3	-2.0
	comp=Z,1.7nm,0.8s,mb3.8						
KURK	Kurchatov	29.69	30	eP	P	00 40 29.3	-2.0
	comp=Z,1.7nm,0.8s,mb3.8						
WMQ	Urumqi	31.01	48	eP	P	00 40 43.0	-0.1
WMQ				AP	pP	00 40 47.3	+1.3
WMQ				XP	sP	00 40 50.0	+2.7
AKASG	Malin Array Be	31.21	327	P	P	00 40 43.9	-0.9
	comp=Z,1.7nm,0.5s,mb4.1,baz=135,slow=8.5,SNR=22						
AKASG	Malin Array Be	31.21	327	P	P	00 40 43.8	-1.0
KMBO	Kilima Mbogo	32.87	215	P	P	00 41 00.2	+0.6
	comp=Z,1.0nm,0.7s,mb3.9,baz=54,slow=24,SNR=4.3						
KMBO	Kilima Mbogo	32.87	215	P	P	00 41 00.2	+0.5
KWP	Kalwaria	34.03	321	eP	P	00 41 11.4	+2.0
	comp=Z,2.4nm,0.7s,mb4.2						
KWP	Kalwaria	34.03	321	eP	P	00 41 11.4	+2.0
	comp=Z,2.4nm,0.7s,mb4.2						
ZAL	Zalesovo	34.66	31	P	P	00 41 12.8	-1.9
	comp=Z,3.3nm,0.5s,mb4.5,baz=237,slow=8.2,SNR=20						
MORC	Moravsky Berou	37.09	319	eP	P	00 41 33.0	-2.3
	comp=Z,3.7nm,0.9s,mb4.2						
GERES	GERESS Array B	39.09	316	P	P	00 41 52.6	+0.5
	comp=Z,0.7nm,0.5s,mb3.7,baz=111,slow=7.5,SNR=16						
KHC	Kasperske Hory	39.26	316	eP	P	00 41 53.5	0.0
JOF	Joensuu	39.52	343	ep	P	00 41 54.6	-1.0
	comp=Z,3.3nm,0.8s,mb4.1						
FINES	FINESS Array B	39.93	338	P	P	00 41 58.8	-0.2
	comp=Z,3.6nm,0.6s,mb4.3,baz=136,slow=10,SNR=30						
SQTA	Sankt Quirin	40.22	312	⇑iP	P	00 42 01.4	-0.2
	comp=Z,3.0nm,0.7s,mb4.2						
MOTA	Moosalm	40.32	313	⇑iP	P	00 42 02.1	-0.3
	comp=Z,2.8nm,0.9s,mb4.0						
DAVA	Damuels	41.12	312	⇑iP	P	00 42 09.1	+0.3
	comp=Z,17nm,0.5s,mb5.0						
SBF	Sospel	42.18	307	eP	P	00 42 17.5	-0.2
FRF	La Foret Royal	42.71	306	eP	P	00 42 21.8	-0.2
	comp=Z,34nm,1.2s,mb4.6						
MBDF	Montbardon	42.77	308	eP	P	00 42 22.4	-0.1
	comp=Z,6.9nm,0.8s,mb4.2						
LPG	La Plagne	42.90	309	eP	P	00 42 23.5	0.0
	comp=Z,17nm,1.1s,mb4.4						
LPL	La Plagne	42.91	309	eP	P	00 42 24.1	+0.5
	comp=Z,5.6nm,0.7s,mb4.1						
CDF	Champ du Feu	43.08	313	eP	P	00 42 24.9	0.0
HINF	Hinteralfeld	43.23	312	eP	P	00 42 26.1	-0.1
ORIF	Oris-en-Rattie	43.43	308	eP	P	00 42 27.6	-0.2
CABF	La Chapelle	43.53	310	eP	P	00 42 28.7	+0.1
	comp=Z,10nm,0.8s,mb4.3						
HAU	Haudompre	43.60	313	eP	P	00 42 29.2	0.0
VIVF	Saint-Julien-l	44.27	308	eP	P	00 42 34.2	-0.5
SONM	Songino Array	44.65	48	P	P	00 42 37.4	-0.2
	comp=Z,0.7nm,0.6s,mb3.6,baz=271,slow=11,SNR=4.6						
LASF	Ste Croix	44.77	307	eP	P	00 42 38.5	-0.2
SMF	Signal de Mont	45.07	310	eP	P	00 42 40.2	-0.8
	comp=Z,7.3nm,0.7s,mb4.3						
ULN	Ulaanbaatar	45.09	48	P	P	00 42 40.3	-0.9
	comp=Z,1.5nm,0.7s,mb3.9						
ULN	Ulaanbaatar	45.09	48	P	P	00 42 40.3	-0.9
	comp=Z,1.5nm,0.7s,mb3.9						
LOR	Lormes	45.14	311	eP	P	00 42 41.6	0.0
SSF	Saint Saulge	45.35	311	eP	P	00 42 42.4	-0.9
	comp=Z,3.3nm,0.7s,mb4.3						
NB2	NORSAR Subarra	45.37	331	P	P	00 42 42.6	-0.6
	comp=Z,1.5nm,0.7s,mb3.9,baz=114,slow=7.9						
NOA	NORSAR Array B	45.37	331	P	P	00 42 42.6	-0.6
	comp=Z,1.1nm,0.6s,mb3.9,baz=116,slow=7.9,SNR=7.2						
BAIF	Baives	45.38	315	eP	P	00 42 43.2	-0.3
AVF	Avril sur Loir	45.42	310	eP	P	00 42 43.4	-0.4
BGF	Bois d'Agland	45.74	310	eP	P	00 42 46.2	-0.1
	comp=Z,7.0nm,0.7s,mb4.4						
MTLF	Montolieu	45.91	305	eP	P	00 42 47.7	0.0
	comp=Z,13nm,1.0s,mb4.5						
KEV	Kevo	46.11	347	ep	P	00 42 48.0	-0.9
	comp=Z,6.1nm,0.8s,mb4.6						
CAF	Calviac	46.12	308	eP	P	00 42 49.0	-0.4
TCF	Toulx Ste Croi	46.14	310	eP	P	00 42 49.3	-0.2
	comp=Z,6.1nm,0.7s,mb4.3						
ARCES	ARCESS Array B	46.25	346	P	P	00 42 49.9	-0.2
	comp=Z,1.8nm,0.7s,mb4.1,baz=143,slow=10,SNR=12						
MFF	Saint Martin d	47.80	310	eP	P	00 43 02.3	-0.3
ETSF	Etsaut	47.93	305	eP	P	00 43 03.6	-0.1
LDF	La Druitiere	47.96	312	eP	P	00 43 03.0	-0.9
SJPF	Ste Jean	48.42	305	eP	P	00 43 07.6	+0.1
	comp=Z,50nm,1.2s,mb5.1						
ESDC	Sonseca Array	50.59	301	P	P	00 43 24.7	+0.5
	comp=Z,1.1nm,0.6s,mb4.0,baz=70,slow=7.1,SNR=12						
ESLA	Sonseca Array	50.59	301	eP	P	00 43 24.6	+0.4
TORD	Torodi Ar. Bea	52.06	266	P	P	00 43 35.9	+0.2
	comp=Z,4.8nm,0.6s,mb4.6,baz=63,slow=7.2,SNR=138						
EVO	Evora	53.84	300	eP	P	00 43 47.2	-1.4
	comp=Z,19nm,1.2s,mb4.6						
DBIC	Dimbokro	60.65	262	P	P	00 44 37.4	+0.3
	comp=Z,2.0nm,0.6s,mb4.4,baz=22,slow=11,SNR=5.9						
DBIC	Dimbokro	60.65	262	eP	P	00 44 36.9	-0.3
	comp=Z,3.0nm,0.7s,mb4.5						
DBIC	Dimbokro	60.65	262	eP	P	00 44 36.9	-0.2
	comp=Z,3.0nm,0.7s,mb4.5						
LIC	Lamto	61.00	262	eP	P	00 44 39.3	-0.2
	comp=Z,5.6nm,0.9s,mb4.7						
INK	Inuvik	84.97	3	P	P	00 46 59.4	0.0
	comp=Z,0.9nm,0.9s,mb3.9,baz=313,slow=18,SNR=5.7						
INK	Inuvik	84.97	3	P	P	00 46 59.3	0.0
ILAR	Eielson Array	87.10	9	P	P	00 47 09.4	-0.5
	comp=Z,0.6nm,0.6s,mb4.0,baz=324,slow=4.7,SNR=13						
WRA	Warramunga Arr	89.32	113	P	P	00 47 21.3	-0.3
	comp=Z,0.3nm,0.6s,mb3.8,baz=315,slow=4.1,SNR=4.8						
TXAR	Lajitas Array	120.77	339	PKP	PKPdf	00 53 17.7	-1.4
	comp=Z,0.3nm,0.8s,baz=180,slow=2.3,SNR=4.3						

*NIED **01** 00:47:00, 42.50N×145.50E, h29^{km}, Mw3.9 Best double couple: Mo8.1×10^{14} NP1:φs140°, δ67°, λ-40°. NP2:φs248°, δ54°, λ-151°.*
*IDC **01** 00:47:06.0±1.5, 42.45N×145.60E, mb3.6/6, mb1 3.8/8, mb1mx3.6/22, mbtmp3.6/8, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/27, Error ellipse: s-maj=38.1km s-min=22.0km az=178.0*
*MOS **01** 00:47:07.5±1.1, 42.30N×145.68E, h33^{km}, mb4.5/1, Error ellipse: s-maj=30.8km s-min=19.9km az=94.9*
*JMA **01** 00:47:09.8±0.1, 42.52N×145.46E, h49^{km}±2^{km}, M4.0*
*SKHL **01** 00:47:10.4±0.5, 42.49N×145.49E, h38^{km}±5^{km}, mb5.7/1*
ISC 01 00:47:09.5±0.8**, 42.49N**±0.05×**145.50E**±0.06**, h33^{km}, n23, σ0^{s}83**/32**, mb3.5**/6**, 5C, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.78	311	⇑P	P	00 47 24.1	+0.1
JAK				eS	S	00 47 34.6	0.0
NEM2	Nemuro 2	0.90	12	⇑P	P	00 47 26.1	+0.5
NEM2				eS	S	00 47 37.7	+0.1
JNK	Nakash	1.24	333	⇑P	P	00 47 30.1	-0.4
JNK				eS	S	00 47 45.0	-1.3
JOB	Onbets	1.29	289	P	P	00 47 31.7	+0.4
JOB				eS	S	00 47 47.5	-0.2
JRA	Rausu	1.48	349	⇑P	P	00 47 34.1	+0.1
JRA				eS	S	00 47 52.2	-0.1
JAR	Ashorobuto	1.50	303	P	P	00 47 34.1	-0.3
JAR				eS	S	00 47 52.3	-0.7
YUK	Yuzh-Kuril'sk	1.57	10	eP	P	00 47 35.1	-0.2
YUK				AMB	AMB	00 47 36.0	
	190nm,0.2s						
YUK				AMB	AMB	00 47 36.0	
	150nm,0.2s						
YUK				AMB	AMB	00 47 36.0	
	2μm,0.2s						
YUK				AMB	AMB	00 47 37.0	
	2μm,0.4s						
YUK				i S	S	00 47 54.2	-0.5
YUK				A		00 47 55.0	
	3μm,0.6s						
YUK				A		00 47 55.0	
	2μm,0.6s						
YUK				A		00 47 59.6	
	4μm,1.0s						
YUK				A		00 47 59.6	
	6μm,1.0s						
YUK	Yuzh-Kuril'sk	1.57	10	ePN	P	00 47 35.1	-0.2
YUK				i S	S	00 47 54.2	-0.5
YUK				pmax	pmax		
	comp=N,190nm,0.3s						
YUK				pmax	pmax		
	comp=E,150nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=E,6μm,1.1s						
JCH	Churui	1.58	275	⇑P	P	00 47 35.9	+0.4
JTKR	Abashiri--Toko	1.88	323	P	P	00 47 40.1	+0.3
JTKR				eS	S	00 48 02.6	0.0
ASAJ	Asahikawa	2.67	309	Pn	Pn	00 47 53.0	+1.7
	comp=E,8.8nm,0.3s,baz=125,slow=17,SNR=11						
ASAJ				Sn	Sn	00 48 25.8	+3.0
	comp=E,11nm,0.3s,baz=57,slow=7.0,SNR=10						
ASAJ	Asahikawa	2.67	309	PN	Pn	00 47 53.0	+1.8
ASAJ						00 48 25.8	
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,11nm,0.3s						
MJAR	Matsushiro Arr	8.18	226	Pn	P	00 49 06.3	-2.4
	comp=N,1.5nm,0.3s,baz=30,slow=13,SNR=13						
MJAR	Matsushiro Arr	8.18	226	PN	P	00 49 06.3	-2.4
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1	Attu Island--F	21.20	51	LR	LR	00 57 44.4	
	comp=Z,21nm,21.9s,slow=30						
SONM	Songino Array	27.87	295	P	P	00 52 59.1	+1.1
	comp=Z,0.5nm,0.7s,mb3.3,baz=79,slow=7.3,SNR=3.0						
SONM	Songino Array	27.87	295	P	P	00 52 59.1	+1.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	43.22	35	P	P	00 55 08.3	-0.4
	comp=Z,0.3nm,0.5s,mb3.3,baz=279,slow=10.0,SNR=7.1						
MKAR	Makanchi Array	44.11	298	P	P	00 55 15.8	-0.3
	comp=Z,0.4nm,0.8s,mb3.2,baz=75,slow=11,SNR=3.4						
FINES	FINESS Array B	65.44	333	P	P	00 57 49.6	-1.0
	comp=Z,2.0nm,0.7s,mb4.2,baz=53,slow=6.9,SNR=5.9						
FINES	FINESS Array B	65.44	333	P	P	00 57 49.6	-1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	Pinedale Array	71.65	49	P	P	00 58 29.7	+0.3
	comp=Z,0.4nm,0.5s,mb3.6,baz=202,slow=1.6,SNR=4.3						
TXAR	Lajitas Array	84.36	55	P	P	00 59 40.5	+1.0
	comp=Z,0.2nm,0.5s,mb3.5,baz=324,slow=3.7,SNR=4.1						

MAN 01 00:55:54.6, 6.09N×123.80E, h28^{km}, mb4.3, ML3.2, MS3.0, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.15	90	eP	Pn	00 56 18.0	+3.0
PAGZ	Pagadian	1.79	347	eP	Pn	00 56 24.0	-0.2
IPIL	Ipil	2.08	324	eP	Pn	00 56 28.7	+0.4
IPIL				eS	Sn	00 56 53.4	-0.1
BUKP	Musuan	2.18	35	eP	Pn	00 56 30.0	+0.3
BUKP				eS	Sn	00 56 56.0	0.0

*IDC **01** 00:56:51.6±1.7, 33.01N×75.97E, mb3.5/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.5/7, ML2.9/1, Error ellipse: s-maj=38.2km s-min=29.0km az=55.0*
*NDI **01** 00:56:54.4±2.5, 33.44N×75.46E, h10^{km}, MD2.9, ML3.0*
*NNC **01** 00:57:06.6±0.7, 34.01N×74.97E, h21^{km}±5^{km}, Error ellipse: s-maj=8.9km s-min=4.7km az=74.0*
ISC 01 00:56:57.2±0.5**, 33.32N**±0.05×**75.5E**±0.1**, h33^{km}, n17, σ1^{s}07**/23**, mb3.6**/5**, 4C, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THN	Thein Dam	0.91	166	eP	P	00 57 09.9	-3.6
THN				eS	S	00 57 23.8	-1.8
PONG	Pong	1.42	163	eP	P	00 57 21.1	+0.2
PONG				eS	S	00 57 43.0	+4.4
BHK	Bhakra	2.06	157	eS	S	00 57 59.5	+4.7
SDNR	Sundarnagar	2.21	145	eP	P	00 57 32.2	-0.1
SDNR				eS	S	00 58 01.0	+2.3
KLP	Kalpa	2.95	126	eP	P	00 57 42.8	0.0
KLP				eS	S	00 58 17.6	+0.2
KLP				AML	AML	00 58 32.7	
	comp=N,133nm,0.4s						
KLP				AML	AML	00 58 33.1	
	comp=E,169nm,0.4s						
KUDL	Kundal	5.23	170	eP	P	00 58 15.2	+0.1
KHET	Khetri	5.24	177	eP	P	00 58 14.4	-0.8
KHET				eS	S	00 59 11.1	-4.2
KHET				AML	AML	00 59 35.3	
	comp=N,11nm,0.4s						
KHET				AML	AML	00 59 35.5	
	comp=E,13nm,0.4s						
KK31	Karatay Array	10.52	340	⇑Pn	P	00 59 27.9	-0.8
	comp=E,0.2nm,0.3s,baz=155,slow=12,SNR=15						
KK31				⇑Sn	S	01 01 19.7	-6.7
	comp=E,0.9nm,0.6s,baz=157,slow=24,SNR=4.4						
MKAR	Makanchi Array	14.43	19	Pn	P	01 00 19.3	-1.6
	comp=E,0.1nm,0.3s,baz=202,slow=16,SNR=4.4						
AB31	Akbulak array	19.68	329	⇑P	P	01 01 25.3	-0.8
	comp=E,0.2nm,0.4s,baz=139,slow=14,SNR=5.5						
BVA0	Borovoye Array	20.03	351	⇑P	P	01 01 29.9	0.0
	comp=E,2.8nm,3.0s,baz=161,slow=11,SNR=10.0						
BVAR	Borovoye Array	20.03	351	P	P	01 01 30.2	+0.2
	comp=E,1.1nm,0.6s,baz=161,slow=11,SNR=11						
AKTO	Aktyubinsk	21.39	328	P	P	01 01 44.5	+0.6
	comp=E,1.8nm,0.6s,mb3.6,baz=139,slow=9.4,SNR=9.1						
ZAL	Zalesovo	21.65	15	P	P	01 01 46.3	-0.2
	comp=E,0.6nm,0.4s,mb3.4,baz=295,slow=4.6,SNR=3.4						
BRTR	Keskin Array B	33.98	293	P	P	01 03 41.8	+2.1
	comp=E,0.2nm,0.4s,mb3.4,baz=121,slow=8.4,SNR=3.1						
ARCES	ARCESS Array B	45.47	338	P	P	01 05 15.8	+1.2
	comp=E,2.9nm,0.8s,mb4.1,baz=98,slow=8.5,SNR=5.8						
WRA	Warramunga Arr	77.18	124	P	P	01 08 44.4	-5.3
	comp=E,0.2nm,0.4s,mb3.4,baz=326,slow=5.8,SNR=2.0						

IDC 01 00:58:39.7±35.0**, 24.17S**×**179.92W, h477^{km}**±334^{km}**, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.3**/13**, mbtmp4.5**/4**, 2D, Error ellipse: s-maj=207.9km s-min=44.4km az=69.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.56	271	⇓iP	P	01 04 23.0	-0.3
	6.6nm,0.4s						
STKA	Stephens Creek	34.70	248	P	P	01 04 48.8	-0.8
	2.1nm,0.5s,baz=91,slow=11,SNR=8.2						
WB2	Warramunga Arr	42.46	266	⇓iP	P	01 05 51.3	-1.8
WRA	Warramunga Arr	42.47	266	P	P	01 05 51.5	-1.7

	3.6nm,0.3s,baz=104,slow=8.2,SNR=63						
FITZ	**Fitzroy Crossi**	**50.89**	**266**	P	P	01 06 56.0	-1.7
	5.9nm,0.6s,baz=113,slow=8.2,SNR=9.6						
MAW	**Mawson**	**77.53**	**200**	P	P	01 09 44.9	-1.0
	2.1nm,0.6s,baz=76,slow=4.2,SNR=2.3						
BVAR	**Borovoye Array**	**120.69**	**319**	PKP	PKPdf	01 16 35.5	-0.7
	0.3nm,0.4s,baz=125,slow=3.7,SNR=4.4						
AKASG	**Malin Array Be**	**145.24**	**327**	PKPbc	PKPbc	01 17 22.1	-0.5
	0.5nm,0.4s,baz=39,slow=3.3,SNR=5.0						
BRTR	**Keskin Array B**	**147.80**	**307**	PKPbc	PKPdf	01 17 30.0	+3.8
	0.6nm,0.6s,baz=162,slow=3.1,SNR=4.0						
BRTR				PKPab	PKPab	01 17 35.0	-1.2
	0.6nm,0.6s,baz=99,slow=4.9,SNR=4.6						

NNC 01 01:02:02.6±3.6**, 35.23N×72.39E, mpv4.0, 2C-3D, Error ellipse: s-maj=40.0km s-min=30.7km az=19.0, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.00**	**350**	⇓Pn	Pn	01 04 02.6	-0.3
	2.0nm,0.2s,baz=160,slow=12,SNR=157						
KK31				⇓Sn	Sn	01 05 38.1	+2.9
	1.0nm,0.4s,baz=165,slow=21,SNR=8.7						
MK31	**Makanchi Array**	**13.74**	**30**	⇑P	P	01 05 19.3	-1.8
	1.3nm,1.0s,baz=206,slow=12,SNR=7.8						
AB31	**Akbulak array**	**16.74**	**331**	⇑P	P	01 05 59.0	-1.0
	0.2nm,0.4s,baz=164,slow=10,SNR=8.0						
BVA0	**Borovoye Array**	**17.85**	**356**	⇓P	P	01 06 11.1	-2.7
	0.6nm,1.3s,slow=0.1,SNR=5.8						

IDC 01 01:43:52.3±1.6**, 6.74S×155.32E, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.8**/12**, mbtmp3.6**/4**, MS3.7**/2**, Ms1 3.8**/2**, ms1mx2.8**/23**, Error ellipse: s-maj=65.1km s-min=31.3km az=125.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.22**	**235**	P	P	01 49 11.7	-0.2
	0.9nm,0.5s,baz=61,slow=10.0,SNR=12						
WRA				PcP	PcP	01 52 52.0	-2.0
	0.1nm,0.3s,baz=53,slow=1.9,SNR=7.0						
FITZ	**Fitzroy Crossi**	**31.05**	**246**	LR	LR	02 02 42.8	
	comp=Z,108nm,18.7s,baz=181,slow=36						
SONM	**Songino Array**	**69.30**	**327**	P	P	01 55 01.5	-2.0
	0.3nm,0.4s,baz=134,slow=4.8,SNR=5.3						
ILAR	**Eielson Array**	**83.02**	**21**	P	P	01 56 18.8	-1.8
	0.4nm,0.6s,baz=252,slow=5.6,SNR=10						
ILAR				LR	LR	02 28 37.9	
	comp=Z,51nm,21.3s,baz=173,slow=32						
MKAR	**Makanchi Array**	**83.43**	**319**	P	P	01 56 22.7	-0.3
	0.1nm,0.3s,baz=92,slow=8.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**153.27**	**286**	PKPbc	PKPdf	02 03 52.2	+4.9
	0.4nm,0.5s,baz=50,slow=1.9,SNR=9.9						

MAN 01 01:49:31.1, 8.89N×122.93E, h32km, mb4.1, ML2.9, MS2.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.52**	**126**	⇑*i*P	Pb	01 49 37.2	-4.7
DCPH				*i* S	Sb	01 49 51.5	+2.3
SNPH	**Sibulan**	**0.54**	**34**	⇑*i*P	Pb	01 49 43.0	+0.8
SNPH				*i* S	Sb	01 49 51.0	+1.1
PAGZ	**Pagadian**	**1.13**	**157**	*e*P	Pn	01 49 48.7	-2.2
IPIL	**Ipil**	**1.15**	**198**	*e*P	Pn	01 49 50.8	-0.5
IPIL				*e*S	Sn	01 50 06.0	+0.1
TBP	**Tagbilaran**	**1.21**	**49**	*e*P	Pn	01 49 51.6	-0.5
GUIM	**Jordan**	**1.76**	**349**	*e*P	Pn	01 49 59.9	+0.1
GUIM				*e*S	Sn	01 50 28.6	+7.3

NEIC ***01*** *01:52:57.7±0.3, 4.84N×127.59E, mb4.5/17, Error ellipse: s-maj=13.0km s-min=5.6km az=64.0*
MOS ***01*** *01:52:58.3±1.1, 4.82N×127.60E, h157km, mb4.5/10, Error ellipse: s-maj=36.4km s-min=12.1km az=113.9*
MAN ***01*** *01:53:00.1, 5.54N×127.48E, h156km, mb4.3, ML3.1, MS2.9*
IDC ***01*** *01:53:02.0±8.0, 4.84N×127.59E, h169km±78km, mb3.9/9, mb1 4.1/9, mb1mx3.9/18, mbtmp4.4/9, Error ellipse: s-maj=37.0km s-min=14.3km az=63.0*
ISC 01 01:52:54.5±0.9**, 4.91N**±0.06×**127.58E**±0.10**, h115**km±7km**, h130**km±1.5km**:pP-P, n53, σ0^{s}79**/55**, mb4.6**/30**, 2C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.41**	**327**	*e*P	**P**	**01 53 34.3**	**+0.6**
MATI				*e*S	**S**	**01 54 00.9**	**-2.3**
GSPH	**General Santos**	**2.87**	**294**	*i* P	**P**	**01 53 40.0**	**+0.2**
DAV	**Davao City (W)**	**2.93**	**317**	Pn	**P**	**01 53 43.9**	**+3.3**
BIPH	**Bislig**	**3.47**	**340**	⇓*i*P	**P**	**01 53 47.5**	**-0.4**
BIPH				*i* S	**S**	**01 54 23.8**	**-4.7**
BUKP	**Musuan**	**3.87**	**320**	*e*P	**P**	**01 53 54.4**	**+1.1**
BUKP				*e*S	**S**	**01 54 38.1**	**0.0**
PAGZ	**Pagadian**	**5.09**	**305**	*e*P	**P**	**01 54 09.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**22.95**	**185**	⇑*i*P	**P**	**01 57 50.0**	**+0.4**
	4.9nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**22.95**	**185**	P	**P**	**01 57 50.4**	**+0.8**
	6.3nm,0.3s,mb4.4,baz=22,slow=10,SNR=24						
WRAB	**Tennant Creek**	**25.57**	**165**	*e*P	**P**	**01 58 14.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,11nm,0.4s,mb4.6						
WRAB	**Tennant Creek**	**25.57**	**165**	*e*P	**P**	**01 58 14.6**	**0.0**
	comp=Z,11nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**25.58**	**165**	P	**P**	**01 58 14.5**	**-0.2**
	comp=Z,5.2nm,0.5s,mb4.2,baz=346,slow=9.9,SNR=13						
WB2	**Warramunga Arr**	**25.58**	**165**	*e*P	**P**	**01 58 14.3**	**-0.4**
ENH	**Enshi**	**30.46**	**328**	P	**P**	**01 59 00.3**	**+1.6**
	comp=Z,11nm,1.3s,mb4.3						
CTAO	**Charters Tower**	**30.89**	**144**	P	**P**	**01 58 59.3**	**-3.3**
CTAO				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.6						
CTAO	**Charters Tower**	**30.89**	**144**	P	**P**	**01 58 59.3**	**-3.3**
	comp=Z,15nm,1.3s,mb4.5						
INCN	**Inchon**	**32.43**	**359**	*e*P	**P**	**01 59 17.1**	**+1.3**
	comp=Z,62nm,1.1s,mb5.2						
FORT	**Forrest**	**35.49**	**179**	*e*P	**P**	**01 59 42.2**	**+0.2**
	comp=Z,7.0nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.94**	**161**	⇑*i*P	**P**	**02 00 11.4**	**+0.5**
	comp=Z,4.1nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**38.94**	**161**	P	**P**	**02 00 11.4**	**+0.5**
	comp=Z,6.0nm,0.5s,mb4.7,baz=335,slow=7.1,SNR=14						
STKA	**Stephens Creek**	**38.94**	**161**	*e*P	**P**	**02 00 11.1**	**+0.2**
JIRN	**Jiri**	**45.39**	**305**	*e*P	**P**	**02 01 03.9**	**+0.4**
	comp=Z,13nm,0.7s,mb4.8						
GUN	**Gumba**	**45.74**	**305**	*e*P	**P**	**02 01 06.1**	**-0.1**
	comp=Z,18nm,0.7s,mb4.9						
KKN	**Kakani**	**46.19**	**304**	*e*P	**P**	**02 01 09.9**	**+0.1**
ULN	**Ulaanbaatar**	**46.27**	**341**	*e*P	**P**	**02 01 10.7**	**+0.5**
ULN				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.3						
ULN	**Ulaanbaatar**	**46.27**	**341**	*e*P	**P**	**02 01 10.7**	**+0.5**
	comp=Z,3.0nm,0.5s,mb4.3						
SONM	**Songino Array**	**46.47**	**340**	P	**P**	**02 01 12.7**	**+1.1**
	comp=Z,1.2nm,0.4s,mb4.0,baz=157,slow=8.8,SNR=16						
DZM	**Mont Dzumac**	**46.54**	**127**	P	**P**	**02 01 12.6**	**0.0**
	comp=Z,9.4nm,0.8s,mb4.6,baz=235,slow=23,SNR=8.4						
PALK	**Pallekele**	**46.66**	**275**	P	**P**	**02 01 13.8**	**+0.1**
	comp=Z,22nm,1.3s,mb4.7						
KOLN	**Koldanda**	**47.57**	**304**	*e*P	**P**	**02 01 20.8**	**+0.2**
	comp=Z,20nm,0.7s,mb5.1						
MKAR	**Makanchi Array**	**57.08**	**324**	P	**P**	**02 02 31.1**	**0.0**
	comp=Z,3.1nm,0.4s,mb4.7,baz=113,slow=7.8,SNR=78						
MKAR				pP	pP	02 03 02.4	+3.5
	comp=Z,3.0nm,0.7s,baz=128,slow=8.0,SNR=11						
ZAL	**Zalesovo**	**59.94**	**332**	P	**P**	**02 02 50.5**	**-0.3**
	comp=Z,0.8nm,0.3s,mb4.2,baz=339,slow=7.8,SNR=6.9						
AAK	**Ala-Archa**	**60.06**	**317**	P	**P**	**02 02 51.4**	**-0.4**
AAK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
AAK	**Ala-Archa**	**60.06**	**317**	P	**P**	**02 02 51.4**	**-0.4**
	comp=Z,2.6nm,0.9s,mb4.3						
KURK	**Kurchatov**	**61.21**	**327**	*e*P	**P**	**02 02 59.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**61.21**	**327**	*e*P	**P**	**02 02 59.0**	**-0.5**
	comp=Z,9.3nm,0.9s,mb4.8						
KURK				*e*pP	pP	02 03 30.8	+3.2
TIXI	**Tiksi**	**66.66**	**0**	*e*P	**P**	**02 03 32.5**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**66.88**	**326**	*e*P	**P**	**02 03 35.9**	**-0.5**
BRVK				*e**PP	pP	02 04 07.2	+2.3
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**66.88**	**326**	*e*P	**P**	**02 03 35.9**	**-0.5**
	comp=Z,2.9nm,0.6s,mb4.3						
BRVK				*e*pP	pP	02 04 07.2	+2.3
ARU	**Arti**	**74.40**	**327**	*e*P	**P**	**02 04 21.2**	**-0.3**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
ARU	**Arti**	**74.40**	**327**	*e*P	**P**	**02 04 21.2**	**-0.3**
	comp=Z,2.2nm,0.5s,mb4.1						
QRN	**Al-Qurain**	**78.60**	**298**	*e*P	**P**	**02 04 45.1**	**-0.4**
QRN				AMb	AMB	02 04 46.2	
	comp=Z,19nm,0.7s,mb5.0						
UMR	**Umm Al-Rimmam**	**78.78**	**299**	*e*P	**P**	**02 04 46.1**	**-0.4**
UMR				AMb	AMB	02 04 49.9	
	comp=Z,7.9nm,0.4s,mb4.9						
RDF	**Al-Radifah**	**78.92**	**298**	*e*P	**P**	**02 04 46.8**	**-0.5**
RDF				AMb	AMB	02 04 48.9	
	comp=Z,5.1nm,0.4s,mb4.7						
MIB	**Mutribah**	**79.12**	**299**	*e*P	**P**	**02 04 48.3**	**0.0**
MIB				AMb	AMB	02 04 49.5	
	comp=Z,16nm,0.8s,mb4.9						
NAY	**Al-Naaiem**	**79.19**	**299**	*e*P	**P**	**02 04 48.4**	**-0.3**
IMA2	**Indian Mountai**	**80.96**	**24**	*e*P	**P**	**02 04 58.2**	**+0.8**
MCK	**McKinley**	**82.73**	**26**	*e*P	**P**	**02 05 07.2**	**+0.6**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
MCK	**McKinley**	**82.73**	**26**	*e*P	**P**	**02 05 07.2**	**+0.6**
	comp=Z,4.6nm,1.1s,mb4.2						
ILAR	**Eielson Array**	**83.68**	**25**	P	**P**	**02 05 11.4**	**+0.1**
	comp=Z,1.0nm,0.5s,mb3.9,baz=246,slow=5.5,SNR=22						
INK	**Inuvik**	**88.76**	**22**	*e*P	**P**	**02 05 35.4**	**-0.6**
INK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
INK	**Inuvik**	**88.76**	**22**	*e*P	**P**	**02 05 35.4**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9						
ARCES	**ARCESS Array B**	**89.64**	**340**	P	**P**	**02 05 39.7**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.4,baz=79,slow=6.2,SNR=8.8						
TORD	**Torodi Ar. Bea**	**123.35**	**289**	PKP	PKPdf	02 11 40.2	+1.3
	comp=Z,0.7nm,0.7s,baz=55,slow=1.9,SNR=7.8						

IDC 01 01:59:08.2±13.0**, 16.92S×179.19W, h437**km±156km**, mb2.8**/6**, mb1 3.2**/6**, mb1mx3.1**/14**, mbtmp3.6**/6**, Error ellipse: s-maj=103.4km s-min=34.3km az=161.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.47**	**240**	P	P	02 05 50.2	-1.9
	0.7nm,0.3s,baz=101,slow=9.7,SNR=3.4						
WRA	**Warramunga Arr**	**44.09**	**259**	P	P	02 06 35.8	-1.8
	0.1nm,0.3s,baz=96,slow=7.3,SNR=5.0						
FITZ	**Fitzroy Crossi**	**52.46**	**260**	P	P	02 07 39.7	-1.3
	2.0nm,0.6s,baz=117,slow=4.5,SNR=3.6						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	P	02 10 27.8	-0.2
	0.2nm,0.5s,baz=241,slow=9.3,SNR=3.2						
ILAR	**Eielson Array**	**85.10**	**13**	P	P	02 10 55.5	-1.6
	0.3nm,0.5s,baz=222,slow=4.8,SNR=8.7						
TXAR	**Lajitas Array**	**86.10**	**58**	P	P	02 11 01.9	-1.0
	0.2nm,0.6s,baz=207,slow=5.6,SNR=3.7						
GERES	**GERESS Array B**	**146.47**	**345**	PKPbc	PKPbc	02 17 58.5	0.0
	0.6nm,0.5s,baz=27,slow=3.0,SNR=6.2						

NEIC ***01*** *02:01:11.2±0.9, 0.70N×98.42E, h30km, mb4.1/3, Error ellipse: s-maj=25.4km s-min=14.9km az=56.0*
IDC ***01*** *02:01:21.2±3.2, 1.19N×98.93E, h102km±22km, mb3.6/7, mb1 3.7/7, mb1mx3.5/18, mbtmp3.9/7, Error ellipse: s-maj=53.2km s-min=19.8km az=54.0*
ISC 01 02:01:18.9±2.8**, 1.2N**±0.2×**98.9E**±0.3**, h102**km±18km**, n13, σ0^{s}88**/15**, mb4.0**/10**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.65**	**1**	P	**P**	**02 01 48.9**	**+1.5**
	23nm,0.3s,baz=172,slow=13,SNR=40						
PSI				S	**S**	**02 02 07.3**	**-1.4**
	4.3nm,0.3s,baz=57,slow=21,SNR=5.7						
PSI	**Prapat**	**1.65**	**1**	P	**P**	**02 01 48.9**	**+1.5**
PSI				S	**S**	**02 02 07.3**	**-1.4**
KULM	**Kulim**	**4.47**	**23**	*e*Pn	**P**	**02 02 26.5**	**+0.7**
WRA	**Warramunga Arr**	**40.58**	**123**	P	**P**	**02 08 50.6**	**+0.5**
	1.7nm,0.6s,mb4.0,baz=302,slow=9.0,SNR=11						
WRAB	**Tennant Creek**	**40.58**	**123**	*e*P	**P**	**02 08 48.8**	**-1.3**
	2.3nm,0.6s,mb4.2						
SONM	**Songino Array**	**46.96**	**7**	P	**P**	**02 09 42.2**	**+0.9**
	0.8nm,0.4s,mb3.8,baz=192,slow=9.3,SNR=7.8						
MKAR	**Makanchi Array**	**47.72**	**345**	P	**P**	**02 09 47.5**	**+0.3**
	0.9nm,0.5s,mb3.9,baz=156,slow=8.7,SNR=10						
KURK	**Kurchatov**	**52.30**	**344**	*e*P	**P**	**02 10 21.8**	**-0.3**
	2.0nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**53.89**	**350**	P	**P**	**02 10 33.5**	**-0.3**
	1.9nm,0.4s,mb4.5,baz=304,slow=4.9,SNR=6.3						
BVAR	**Borovoye Array**	**56.87**	**340**	P	**P**	**02 10 54.6**	**-0.7**
	0.6nm,0.5s,mb3.9,baz=142,slow=10,SNR=6.8						
CHKZ	**Chkalovo**	**57.33**	**340**	*e*P	**P**	**02 10 57.4**	**-1.2**
	0.9nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**70.40**	**312**	P	**P**	**02 12 24.5**	**+0.4**
	0.3nm,0.5s,mb3.4,baz=130,slow=8.1,SNR=2.7						
FINES	**FINESS Array B**	**80.83**	**332**	P	**P**	**02 13 23.5**	**+0.8**
	1.5nm,0.8s,mb3.9,baz=90,slow=9.5,SNR=3.4						

NEIC ***01*** *02:06:47.8, 33.69S×69.98W, h10km, ML3.8(GUC), After GUC.*
GUC 01 02:06:47.8±0.7**, 33.69S×69.98W, h10**km±6km**, ML3.8, 9C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.24**	**230**	⇓*i*P	Pg	02 06 52.7	-0.3
LMEL				*i* S	Sg	02 06 56.5	0.0
LMEL				AMP		02 06 57.5	
	comp=N,26μm,0.2s						
SJCH	**San Jose de Ma**	**0.32**	**279**	⇓*i*P	Pg	02 06 53.2	-1.1
SJCH				*i* S	Sg	02 06 57.9	-0.9
SJCH				AMP		02 06 58.5	
	comp=N,16μm,0.4s						
FCH	**Farellones**	**0.45**	**324**	⇑*i*P	Pg	02 06 56.3	-0.6
FCH				⇑*i*P		02 06 56.3	
FCH				*i* S	Sg	02 07 02.6	-0.3
FCH				AMP		02 07 02.9	
	comp=E,14μm,0.2s						
FCH	**Farellones**	**0.45**	**324**	P	Pg	02 06 56.3	-0.5
FSR	**Penalolen**	**0.50**	**295**	⇓*i*P	Pg	02 06 57.6	-0.4
FSR				*i* S	Sg	02 07 04.7	-0.1
FSR				AMP		02 07 05.9	
	comp=N,13μm,0.5s						
CLCH	**Cerro Calan**	**0.55**	**302**	⇑*i*P	Pg	02 06 58.4	-0.6
CLCH				*i* S	Sg	02 07 06.5	+0.1
CLCH				AMP		02 07 08.0	
	comp=E,12μm,0.7s						
ANTU	**Antumapu**	**0.56**	**282**	⇑*i*P	Pg	02 06 58.6	-0.5
ANTU				*i* S	Sg	02 07 06.4	-0.2
ANTU				AMP		02 07 06.9	
	comp=N,7μm,0.5s						
CHCH	**Chadas Angostu**	**0.61**	**246**	⇑*i*P	Pg	02 06 59.4	-0.7
CHCH				*i* S	Sg	02 07 08.2	-0.1
SAN	**Santiago**	**0.62**	**292**	*e*P	Pg	02 06 59.0	-1.3
SAN				*i* S	Sg	02 07 08.0	-0.5
SAN				AMP		02 07 12.6	
	comp=E,2μm,0.4s						
CACH	**El Canelo**	**0.67**	**230**	⇓*i*P	Pb	02 07 00.6	-0.5
CACH				*i* S	Sb	02 07 10.2	0.0
RCDM	**Rinconada Maip**	**0.72**	**286**	*e*P	Pb	02 07 01.4	-0.6
RCDM				*i* S	Sb	02 07 11.6	-0.1
RCDM				AMP		02 07 11.8	
	comp=N,3μm,0.3s						
CICH	**Cipreses**	**0.73**	**210**	⇑*i*P	Pb	02 07 01.6	-0.6
CICH				*i* S	Sb	02 07 11.9	0.0
TACH	**Talagante**	**0.80**	**272**	⇑*i*P	Pb	02 07 02.7	-0.7
TACH				*i* S	Sb	02 07 13.7	-0.4
PEL	**Peldehue**	**0.80**	**312**	⇓*i*P	Pb	02 07 02.7	-0.8
PEL				*i* S	Sb	02 07 13.8	-0.4
PEL				AMP		02 07 15.8	
	comp=N,4μm,0.3s						
JACH	**Jahuel**	**1.13**	**333**	⇓*i*P	Pb	02 07 08.3	-0.7
JACH				*i* S	Sb	02 07 23.5	-0.1
LNV	**Longovilo**	**1.22**	**257**	⇓*i*P	Pb	02 07 09.6	-1.0
LNV				*i* S	Sb	02 07 26.0	-0.3
MDZ	**Mendoza**	**1.24**	**50**	*e*P	Pb	02 07 11.2	+0.3
SFDO	**San Fernando**	**1.26**	**223**	⇑*i*P	Pb	02 07 11.1	-0.2
NICH	**Los Niches**	**1.67**	**218**	⇓*i*P	Pn	02 07 18.1	+0.7
NICH				*i* S	Sn	02 07 40.6	+1.6
TALC	**Talca**	**2.18**	**218**	⇑*i*P	Pn	02 07 23.5	-1.3
TALC				*i* S	Sn	02 07 52.8	+0.7
TALC				AMP		02 07 54.7	
	comp=E,2μm,0.3s						
CHNG	**Los Chungos**	**2.21**	**324**	*i* P	Pn	02 07 26.1	+0.9
CHNG				*i* S	Sn	02 07 55.6	+2.8
CHNG				AMP		02 08 02.1	
	comp=E,476nm,0.4s						
ILCH	**Illapel**	**2.28**	**334**	*e*P	Pn	02 07 28.6	+2.4
ILCH				*i* S	Sn	02 07 58.6	+4.0
ILCH				AMP		02 08 01.9	
	comp=E,824nm,0.3s						
LNCH	**Linares**	**2.53**	**211**	*e*P	Pn	02 07 43.4	+14
LNCH				*i* S	Sn	02 08 17.2	+16
LNCH				AMP		02 08 24.1	
	comp=N,1μm,0.4s						
CMCH	**Combarbala**	**2.65**	**341**	*e*P	Pn	02 07 33.5	+2.0
CMCH				*i* S	Sn	02 08 08.9	+4.8
CMCH				AMP		02 08 15.0	
	comp=E,3μm,0.6s						
TRQA	**Tornquist**	**7.82**	**126**	*e*Pn	Pn	02 08 43.9	-0.5
	comp=E,9.0nm,0.6s						

MOS ***01*** *02:22:02.7±1.6, 42.42N×45.59E, h20km, mb3.9/1, Error ellipse: s-maj=15.4km s-min=13.8km az=42.6*
ISC 01 02:22:03.4±0.7**, 42.46N**±0.04×**45.59E**±0.04**, h16**km±11km**, n11, σ1^{s}06**/21**, 3C-1D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.51**	**66**	*i* PG	**Pb**	**02 22 12.0**	**-1.4**
BTLR				*e*S	**Sb**	**02 22 20.0**	**-0.3**
BTLR				pmax	pmax		
	comp=Z,47nm,0.3s						
MTA	**Mtatsminda**	**0.97**	**218**	P	**Pb**	**02 22 25.8**	**+4.5**
DLMR	**Dylym**	**0.98**	**51**	PG	**Pb**	**02 22 20.0**	**-1.5**
DLMR				*i* S	**Sb**	**02 22 32.7**	**-1.2**
DLMR				pmax	pmax		
	comp=Z,175nm,0.2s						
DGRG	**David-gareji**	**1.02**	**189**	P	**Pb**	**02 22 27.7**	**+5.5**
DGRG				S	**Sb**	**02 22 35.3**	**+0.2**
LACR	**Lac**	**1.03**	**291**	⇑*i*PG	**Pb**	**02 22 20.5**	**-1.8**
LACR				*i* S	**Sb**	**02 22 35.3**	**0.0**
KRNR	**Karanay**	**1.04**	**69**	*e*PG	**Pb**	**02 22 24.3**	**+1.9**
KRNR				*e*S	**Sb**	**02 22 40.0**	**+4.4**
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
DBC	**Dubki**	**1.07**	**58**	*e*PG	**Pb**	**02 22 24.0**	**+1.0**
DBC				*i* S	**Sb**	**02 22 39.0**	**+2.4**
KORR	**Kora**	**1.29**	**300**	⇑*i*PG	**Pn**	**02 22 26.4**	**-0.4**
KORR				*e*S	**Sb**	**02 22 43.6**	**+0.7**
KMSR	**Komsomolskaya**	**1.32**	**314**	*e*PG	**Pn**	**02 22 26.9**	**-0.4**
KMSR				*e*S	**Sb**	**02 22 44.6**	**+0.7**
TRKR	**Terskaya**	**1.42**	**334**	⇑*i*PG	**Pn**	**02 22 28.0**	**-0.6**
TRKR				*i* S	**Sb**	**02 22 46.4**	**-0.1**
LSNR	**Lesken**	**1.54**	**303**	⇓*i*PG	**Pn**	**02 22 30.7**	**+0.3**
LSNR				*e*S	**Sn**	**02 22 50.8**	**+0.6**

LDG ***01*** *02:24:16.5±0.1, 42.88N×0.23E, h10km, Md2.5/2, Ml2.8/13, Error ellipse: s-maj=1.3km s-min=0.8km az=6.0*
NEIC ***01*** *02:24:16.5, 42.88N×0.23E, h5km, ML2.8(LDG), ML2.4(STR), MN2.4(MDD), After STR.*
CSEM ***01*** *02:24:16.6±0.0, 42.90N×0.23E, h5km, ML2.7/16, Error ellipse: s-maj=0.9km s-min=0.7km az=176.0*
MDD ***01*** *02:24:17.3±0.1, 42.86N×0.22E, mbLg2.3/23, Error ellipse: s-maj=1.3km s-min=1.1km az=109.0, PRXIMO*
STR 01 02:24:16.5±0.1**, 42.88N×0.23E, h5**km±1km**, Ml2.4, 1D, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RESF	**Ens**	**0.11**	**132**	Pg	Pg	02 24 19.5	+0.7
RESF				Sg	Sg	02 24 21.7	+1.3
RESF	**Ens**	**0.11**	**132**	Pg	Pg	02 24 19.6	+0.7
RESF				Lg		02 24 21.4	
EPF	**Esparros**	**0.17**	**28**	*e*Pg	Pg	02 24 21.1	+1.1
EPF				*e*Sg	Sg	02 24 24.1	+1.7
	610nm,0.3s						
LABF	**Labassere**	**0.20**	**326**	Pg	Pg	02 24 21.4	+0.8
LABF				Sg	Sg	02 24 24.7	+1.3
LABF	**Labassere**	**0.20**	**326**	Pg	Pg	02 24 21.5	+0.8
LABF				Lg		02 24 24.8	
EBIE	**Bielsa**	**0.20**	**198**	⇓Pg	Pg	02 24 20.7	0.0
	SNR=18						
EBIE				Lg		02 24 23.0	
	282nm,0.2s,SNR=33						
EBIE	**Bielsa**	**0.20**	**198**	Pg	Pg	02 24 20.7	0.0
	SNR=18						
EBIE				Lg		02 24 23.0	
	282nm,0.2s,SNR=33						
MELF	**Melles**	**0.39**	**91**	Pg	Pg	02 24 24.3	0.0
MELF				Sg	Sg	02 24 29.7	+0.2
MELF	**Melles**	**0.39**	**91**	Pg	Pg	02 24 24.3	0.0
MELF				Lg		02 24 29.8	
REYF	**Montagne du Re**	**0.49**	**293**	Pg	Pg	02 24 26.1	-0.3
REYF				Sg	Sg	02 24 33.0	0.0
REYF	**Montagne du Re**	**0.49**	**293**	Pg	Pg	02 24 26.3	-0.1
REYF				Lg		02 24 33.2	
ETSF	**Etsaut**	**0.58**	**272**	*e*Pg	Pg	02 24 27.2	-0.9
ETSF				*e*Sg	Sg	02 24 34.7	-1.2
	31nm,0.2s						
FDAF	**Les Forges d'A**	**0.59**	**264**	Pg	Pg	02 24 27.5	-0.8
FDAF				Lg		02 24 35.5	
MLS	**Moulis**	**0.64**	**83**	Pg	Pg	02 24 28.5	-0.8
MLS				Sg	Sg	02 24 36.8	-1.1
MLS	**Moulis**	**0.64**	**83**	Pg	Pg	02 24 28.6	-0.7
EGRA	**Graus**	**0.69**	**175**	Pg	Pg	02 24 29.8	-0.4
	3.1nm,0.1s,SNR=35						
EGRA				Lg		02 24 38.7	
	14nm,0.2s,SNR=11						
ATE	**Arette**	**0.71**	**287**	Pg	Pg	02 24 30.0	-0.8
ATE				Sg	Sg	02 24 39.6	-0.7
ATE	**Arette**	**0.71**	**287**	Pg	Pg	02 24 30.1	-0.7
ATE				Lg		02 24 39.8	
SALF	**Salau**	**0.72**	**99**	Pg	Pg	02 24 30.3	-0.5
SALF				Sg	Sg	02 24 40.2	-0.2
SALF	**Salau**	**0.72**	**99**	Pg	Pg	02 24 30.2	-0.6
SALF				Lg		02 24 40.3	
CSOR	**Sort**	**0.84**	**127**	Pg	Pg	02 24 32.3	-0.9
CSOR				Lg		02 24 43.8	
	11nm,0.1s						
LARF	**Larrau**	**0.91**	**280**	Pg	Pg	02 24 33.2	-1.4
LARF				Sg	Sg	02 24 45.9	-0.9
LARF	**Larrau**	**0.91**	**280**	Pg	Pg	02 24 33.6	-1.1
LARF				Lg		02 24 46.1	
ORDF	**Ordiarp**	**0.92**	**292**	Lg		02 24 46.8	
GRBF	**Gourbit**	**0.96**	**92**	Pg	Pg	02 24 35.0	-0.7
CORG	**Organya**	**1.03**	**129**	Pg	Pg	02 24 36.2	-0.9
PAND	**Andorre**	**1.03**	**110**	Pg	Pg	02 24 36.1	-1.0
PAND				Lg		02 24 49.9	
CAVN	**Les Avellanes**	**1.07**	**159**	Pg	Pg	02 24 36.8	-1.1
CAVN				Lg		02 24 50.5	
	17nm,0.1s						
SJPF	**Ste Jean**	**1.09**	**283**	*e*Pg	Pg	02 24 37.1	-1.2
SJPF				*e*Sg	Sg	02 24 51.0	-1.9
	15nm,0.3s						
SJPF	**Ste Jean**	**1.09**	**283**	Pg	Pg	02 24 37.1	-1.2
SJPF				Lg		02 24 51.0	
	7.4nm,0.3s						
SJPF	**Ste Jean**	**1.09**	**283**	*e*Pg	Pg	02 24 37.1	-1.2
SJPF				*e*Sg	Sg	02 24 51.0	-1.9
	7.4nm,0.3s						
ESAC	**San Caprasio**	**1.27**	**204**	Pg	Pg	02 24 41.4	-0.5
	8.8nm,0.1s,SNR=7.9						
ESAC				Lg		02 24 56.8	
	49nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.27**	**204**	Pg	Pg	02 24 41.4	-0.4
	8.8nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**1.28**	**265**	Pg	Pg	02 24 41.9	-0.1
	8.5nm,0.2s,SNR=7.9						
IUNC				Lg		02 24 59.7	
	8.6nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**1.28**	**265**	Pg	Pg	02 24 41.9	-0.1
	8.5nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.31**	**274**	Pg	Pg	02 24 43.0	+0.4
	3.9nm,0.1s,SNR=7.9						
IUSE				Lg		02 24 59.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	6.1nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.31**	**274**	Pg	Pg	02 24 43.0	+0.4
	3.9nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**1.32**	**286**	Pg	Pg	02 24 40.8	-2.0
	6.0nm,0.4s,SNR=15						
EALK				Lg		02 24 58.6	
	53nm,0.2s,SNR=20						
EARA	**Aranguren**	**1.34**	**266**	Pg	Pg	02 24 42.6	-0.6
	2.4nm,0.2s,SNR=7.9						
EARA				Lg		02 25 01.9	
	46nm,0.2s,SNR=11						
CLLI	**Llivia**	**1.35**	**107**	Pg	Pg	02 24 41.8	-1.6
EMIR	**Miracle**	**1.36**	**135**	Pg	Pg	02 24 42.1	-1.6
	0.7nm,0.1s,SNR=12						
EMIR				Lg		02 25 01.0	
	31nm,0.2s,SNR=5.0						
EMIR	**Miracle**	**1.36**	**135**	Pg	Pg	02 24 42.1	-1.6
	0.7nm,0.1s,SNR=12						
CARF	**Carcanieres**	**1.39**	**96**	Pg	Pg	02 24 42.7	-1.6
CARF				Sg	Sg	02 25 01.4	-1.4
CARF	**Carcanieres**	**1.39**	**96**	P	Pb	02 24 42.9	+0.3
CARF				S	Sb	02 25 01.7	+1.2
VALF	**Valcebollere**	**1.40**	**109**	Pg	Pg	02 24 42.8	-1.7
VALF	**Valcebollere**	**1.40**	**109**	P	Pn	02 24 42.7	-0.1
VALF				S	Sb	02 25 02.5	+1.7
MTLF	**Montolieu**	**1.53**	**72**	*e*Pg	Pg	02 24 44.8	-2.2
MTLF				*e*Sg	Sg	02 25 04.3	-3.0
	21nm,0.2s						
CBRU	**Bruguera**	**1.56**	**112**	Lg		02 25 09.4	
	11nm,0.2s						
EPOB	**Poblet**	**1.65**	**157**	Pg	Pg	02 24 47.2	-2.3
	1.3nm,0.1s,SNR=17						
EPOB				Lg		02 25 07.9	
	15nm,0.1s,SNR=18						
EPOB	**Poblet**	**1.65**	**157**	Pg	Pg	02 24 47.2	-2.3
	1.3nm,0.1s,SNR=17						
ERTA	**Horta de San J**	**1.92**	**178**	Pg	Pg	02 24 52.2	-2.7
	0.7nm,0.1s,SNR=14						
ERTA				Lg		02 25 16.4	
	21nm,0.3s,SNR=5.8						
ERTA	**Horta de San J**	**1.92**	**178**	Pg	Pg	02 24 52.2	-2.7
	0.7nm,0.1s,SNR=14						
CFON	**Fontmartina**	**1.98**	**124**	Pg	Pg	02 24 53.6	-2.5
CFON				Lg		02 25 19.3	
	22nm,0.2s						
EJON	**La Jonquera**	**2.01**	**101**	Pn	Pn	02 24 51.5	+0.1
	0.2nm,0.2s,SNR=4.0						
EJON				Pg	Pg	02 24 54.8	-1.8
	2.1nm,0.2s,SNR=6.4						
EJON				Lg		02 25 21.6	
	8.8nm,0.2s,SNR=5.0						
EJON	**La Jonquera**	**2.01**	**101**	Pn	Pn	02 24 51.5	0.0
	0.2nm,0.2s,SNR=4.0						
EJON	**La Jonquera**	**2.01**	**101**	Pg	Pg	02 24 54.8	-1.8
	2.1nm,0.2s,SNR=6.4						
EBR	**Ebro Roquetas**	**2.07**	**174**	*e*SG	Sg	02 25 23.5	-1.8
LFF	**La Frestale**	**2.09**	**10**	*e*Pg	Pg	02 24 55.1	-3.2
LFF				*e*Sg	Sg	02 25 22.4	-3.8
	30nm,0.4s						
LFF	**La Frestale**	**2.09**	**10**	Pn	Pn	02 24 50.0	-2.7
LFF				Pg	Pg	02 24 55.1	-3.2
LFF				Lg		02 25 22.4	
	15nm,0.4s						
LFF	**La Frestale**	**2.09**	**10**	*e*Pn	Pn	02 24 50.0	-2.7
LFF				*e*Pg	Pg	02 24 55.1	-3.2
LFF				*e*Sg	Sg	02 25 22.4	-3.8
LFF	**La Frestale**	**2.09**	**10**	*e*Pg	Pg	02 24 55.1	-3.2
LFF				*e*Sg	Sg	02 25 22.4	-3.8
	15nm,0.4s						
CAF	**Calviac**	**2.44**	**32**	*e*Pg	Pg	02 25 01.9	-3.3
CAF				*e*Sg	Sg	02 25 33.3	-4.4
	7.3nm,0.2s						
CAF	**Calviac**	**2.44**	**32**	Pn	Pn	02 24 55.2	-2.4
CAF				Pg	Pg	02 25 01.9	-3.3
CAF				Lg		02 25 33.3	
	3.7nm,0.2s						
CAF	**Calviac**	**2.44**	**32**	*e*Pn	Pn	02 24 55.2	-2.4
CAF				*e*Pg	Pg	02 25 01.9	-3.3
CAF				*e*Sg	Sg	02 25 33.3	-4.4
CAF	**Calviac**	**2.44**	**32**	*e*Pg	Pg	02 25 01.9	-3.3
CAF				*e*Sg	Sg	02 25 33.3	-4.4
	3.7nm,0.2s						
EMOS	**Mosqueruela**	**2.57**	**192**	Pn	Pn	02 25 00.4	+0.9
	0.1nm,0.1s,SNR=4.0						
EMOS				Pg	Pg	02 25 04.1	-3.7
	1.3nm,0.3s,SNR=7.9						
EMOS				Lg		02 25 34.1	
	1.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.57**	**192**	Pn	Pn	02 25 00.4	+0.9
	0.1nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**2.57**	**192**	Pg	Pg	02 25 04.1	-3.7
	1.3nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**2.90**	**64**	*e*P	Pn	02 25 03.7	-0.5
LASF	**Ste Croix**	**2.90**	**64**	*e*Pg	Pg	02 25 10.3	-4.1
LASF				*e*Sg	Sg	02 25 47.5	-5.5
	5.1nm,0.3s						
LASF	**Ste Croix**	**2.90**	**64**	Pn	Pn	02 25 01.1	-3.1
LASF				Pn	Pn	02 25 03.7	-0.5
LASF				Pg	Pg	02 25 10.3	-4.1
LASF				Lg		02 25 47.5	
	2.5nm,0.3s						
LASF	**Ste Croix**	**2.90**	**64**	*e*Pn	Pn	02 25 01.1	-3.1
LASF				*e*P		02 25 03.7	
LASF				*e*Pg	Pg	02 25 10.3	-4.1
LASF				*e*Sg	Sg	02 25 47.5	-5.5
LASF	**Ste Croix**	**2.90**	**64**	*e*P	Pn	02 25 03.7	-0.5
LASF	**Ste Croix**	**2.90**	**64**	*e*Pg	Pg	02 25 10.3	-4.1
LASF				*e*Sg	Sg	02 25 47.5	-5.5
	2.5nm,0.3s						
TCF	**Toulx Ste Croi**	**3.69**	**22**	*e*Pg	Pg	02 25 24.7	-5.5
TCF				*e*Sn	Sn	02 25 52.9	-7.0
TCF				*e*Sg	Sg	02 26 11.6	-7.7
	3.1nm,0.3s						
MFF	**Saint Martin d**	**3.73**	**356**	*e*Pg	Pg	02 25 25.3	-5.7
MFF				*e*Sg	Sg	02 26 13.1	-7.6
	5.7nm,0.5s						
MFF	**Saint Martin d**	**3.73**	**356**	*e*Pn	Pn	02 25 12.3	-3.7
MFF				*e*Pg	Pg	02 25 25.3	-5.7
MFF				*e*Sg	Sg	02 26 13.1	-7.6
VIVF	**Saint-Julien-l**	**3.77**	**57**	*e*Pg	Pg	02 25 25.9	-5.9
VIVF				*e*Sg	Sg	02 26 15.1	-7.0
	2.3nm,0.2s						
GUD	**Guadarrama**	**3.97**	**237**	Pn	Pn	02 25 18.6	-0.8
	0.6nm,0.2s,SNR=4.0						
GUD				Sn	Sn	02 26 03.6	-3.3
	0.4nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**4.01**	**278**	Pn	Pn	02 25 20.2	+0.3
	0.3nm,0.2s,SNR=4.0						
EARI				Sn	Sn	02 26 05.5	-2.3
	1.0nm,0.4s,SNR=4.0						
EARI	**Arriondas**	**4.01**	**278**	Pn	Pn	02 25 20.2	+0.3
	0.3nm,0.2s,SNR=4.0						
EARI				Sn	Sn	02 26 05.6	-2.3
	1.0nm,0.4s,SNR=4.0						
BGF	**Bois d'Agland**	**4.12**	**26**	*e*Pg	Pg	02 25 33.4	-5.4
BGF				*e*Sg	Sg	02 26 26.4	-7.4
	9.7nm,0.4s						
ESDC	**Sonseca Array**	**4.50**	**226**	Pn	Pn	02 25 24.5	-2.4
	1.2nm,0.1s,baz=45,slow=14,SNR=11						
ESDC				Sn	Sn	02 26 09.4	-11
	0.6nm,0.2s,baz=6.0,slow=31,SNR=7.9						
ESDC	**Sonseca Array**	**4.50**	**226**	Pn	Pn	02 25 24.5	-2.4
	1.2nm,0.1s,SNR=11						
ESDC				Sn	Sn	02 26 09.4	-11
	0.6nm,0.2s,SNR=7.9						
SSF	**Saint Saulge**	**4.78**	**28**	*e*Sg	Sg	02 26 46.1	-10
	0.9nm,0.4s						
LOR	**Lormes**	**5.08**	**29**	*e*Sg	Sg	02 26 55.8	-10
	1.0nm,0.2s						
ECAL	**Calabor**	**5.24**	**262**	Pn	Pn	02 25 35.4	-2.0
	1.1nm,0.2s,SNR=4.0						
ECAL				Sn	Sn	02 26 32.0	-7.1
	0.9nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**5.24**	**262**	Pn	Pn	02 25 35.4	-2.0
	1.1nm,0.2s,SNR=4.0						
ECAL				Sn	Sn	02 26 32.0	-7.1
	0.9nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**5.42**	**277**	Sn	Sn	02 26 38.5	-5.1
	0.9nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**5.42**	**277**	Sn	Sn	02 26 38.5	-5.1
	0.9nm,0.2s,SNR=4.0						
LDF	**La Druitiere**	**5.72**	**358**	*e*Sg	Sg	02 27 15.9	-11
	8.2nm,0.8s						
EADA	**Adamuz**	**5.96**	**219**	Pn	Pn	02 25 45.0	-2.6
	0.0nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**5.96**	**219**	Pn	Pn	02 25 45.0	-2.6
ELOB	**Lobios**	**6.22**	**263**	Pn	Pn	02 25 48.5	-2.8
	0.2nm,0.1s,SNR=4.0						
ELOB	**Lobios**	**6.22**	**263**	Pn	Pn	02 25 48.5	-2.8

IDC 01 02:47:06.0±3.9**, 12.02S**×**167.75E, mb4.2**/5**, mb1 4.4**/5**, mb1mx4.0**/15**, mbtmp4.1**/5**, MS2.5**/2**, Ms1 2.5**/2**, ms1mx2.4**/33**, Error ellipse: s-maj=178.5km s-min=28.5km az=145.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.09**	**288**	LR	LR	02 50 57.1	
	comp=Z,40nm,19.1s,baz=110,slow=29						
WRA	**Warramunga Arr**	**33.03**	**252**	P	P	02 53 43.3	-2.0
	0.6nm,0.5s,baz=85,slow=9.1,SNR=5.5						
FITZ	**Fitzroy Crossi**	**41.05**	**256**	P	P	02 54 51.7	-1.3
	1.3nm,0.3s,baz=56,slow=11,SNR=7.6						
TGY	**Tagaytay City**	**53.16**	**298**	LR	LR	03 18 57.3	
	comp=Z,3.7nm,18.9s,baz=73,slow=36						
ILAR	**Eielson Array**	**83.81**	**18**	P	P	02 59 37.5	-0.7
	2.8nm,0.6s,baz=243,slow=5.1,SNR=49						
YKA	**Yellowknife Ar**	**94.93**	**27**	P	P	03 00 29.2	-1.9
	0.4nm,0.7s,baz=258,slow=4.6,SNR=4.6						
MKAR	**Makanchi Array**	**95.57**	**317**	P	P	03 00 32.0	-2.4
	0.5nm,0.5s,baz=108,slow=3.8,SNR=4.1						

IDC ***01*** *02:50:35.3±5.7, 5.19S×145.51E, h70km±51km, mb4.0/3, mb1 4.2/6, mb1mx3.8/14, mbtmp4.3/6, ML4.0/3, MS4.1/3, Ms1 4.1/3, ms1mx3.3/28, Error ellipse: s-maj=39.3km s-min=31.0km az=147.0*

NEIC ***01*** *02:50:36.2±2.2, 5.25S×145.44E, h79km±20km, mb4.5/5, Error ellipse: s-maj=18.6km s-min=16.1km az=117.0*

ISC 01 02:50:34.2±2.9**, 5.2S**±0.1×**145.4E**±0.1**, h71**km±27km**, n22, σ0.84**/21**, mb4.3**/6**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.49**	**157**	P	**P**	**02 51 42.6**	**+1.2**
	50nm,0.3s,baz=354,slow=4.4,SNR=125						
PMG				S	**S**	**02 52 32.2**	**-0.6**
	45nm,0.3s,baz=327,slow=22,SNR=12						
PMG	**Port Moresby**	**4.49**	**157**	*e*Pn	**P**	**02 51 41.7**	**+0.3**
PMG				*e*Sn	**S**	**02 52 26.1**	**-6.8**
CTA	**Charters Tower**	**14.78**	**177**	*e*P	**P**	**02 54 06.7**	**+5.9**
	5.2nm,0.6s						
CTA	**Charters Tower**	**14.78**	**177**	P	**P**	**02 54 00.8**	**-0.1**
	0.2nm,0.3s,baz=359,slow=15,SNR=2.5						
CTAO	**Charters Tower**	**14.78**	**177**	*e*Pn	**P**	**02 54 06.8**	**+5.9**
	6.0nm,0.5s						
WRAB	**Tennant Creek**	**18.13**	**215**	*e*P	**P**	**02 54 42.1**	**-0.7**
	9.4nm,0.7s						
WB2	**Warramunga Arr**	**18.14**	**215**	*e*P	**P**	**02 54 42.4**	**-0.5**
WRA	**Warramunga Arr**	**18.15**	**215**	P	**P**	**02 54 42.5**	**-0.5**
	0.7nm,0.3s,baz=40,slow=12,SNR=25						
WRA				PcP	PcP	02 59 13.9	-0.1
	0.1nm,0.3s,baz=12,slow=1.8,SNR=5.2						
GUMO	**Guam**	**18.71**	**358**	LR	LR	03 00 38.9	
	comp=Z,56nm,18.3s,baz=59,slow=32						
FITZ	**Fitzroy Crossi**	**23.15**	**235**	*e*P	**P**	**02 55 36.6**	**+1.4**
	9.4nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.15**	**235**	P	**P**	**02 55 37.2**	**+1.9**
	11nm,0.5s,mb4.4,baz=64,slow=8.5,SNR=15						
ARMA	**Armidale**	**25.73**	**168**	*e*P	**P**	**02 56 00.7**	**+0.8**
STKA	**Stephens Creek**	**26.74**	**187**	*e*P	**P**	**02 56 08.8**	**-0.4**
	3.0nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**26.74**	**187**	P	**P**	**02 56 09.2**	**+0.1**
	3.7nm,0.7s,mb4.1,baz=1.7,slow=7.4,SNR=7.8						
STKA	**Stephens Creek**	**26.74**	**187**	*e*P	**P**	**02 56 07.7**	**-1.4**
CBIJ	**Chichi jima**	**32.29**	**355**	LR	LR	03 07 32.7	
	comp=Z,453nm,20.4s,baz=231,slow=32						
AFI	**Afiamalu**	**43.04**	**105**	LR	LR	03 13 04.3	
	comp=Z,2μm,18.9s,baz=190,slow=31						
ENH	**Enshi**	**49.28**	**318**	*e*P	**P**	**02 59 18.5**	**+0.3**
	27nm,1.8s,mb4.9						
DGAR	**Diego Garcia**	**72.46**	**264**	P	**P**	**03 01 48.1**	**-7.5**
	183nm,1.3s						
QSPA	**South Pole Qui**	**84.72**	**180**	P	**P**	**03 03 01.5**	**+0.4**
	5.4nm,1.0s,mb4.4						
COLA	**College**	**85.08**	**23**	P	**P**	**03 02 56.3**	**-6.8**
	11nm,1.3s,mb4.6						
ILAR	**Eielson Array**	**85.42**	**23**	P	**P**	**03 03 03.7**	**-1.1**
	0.4nm,0.7s,mb3.5,baz=254,slow=4.4,SNR=5.1						
ILAR				pP	pP	03 03 25.2	+0.8
	1.0nm,0.8s,baz=249,slow=5.1,SNR=7.3						

CSEM ***01*** *03:07:39.9, 20.31S×178.77W, h33km, mb5.7*

IDC ***01*** *03:08:39.9±0.5, 20.92S×179.08W, h634km±5km, mb4.6/28, mb1 4.6/31, mb1mx4.6/31, mbtmp5.6/31, Error ellipse: s-maj=8.8km s-min=6.5km az=160.0*

HRVD ***01*** *03:08:40.4±0.3, 20.97S×178.91W, h651km±3km, MW5.5/73, Centroid moment Tensor Solution. LP body waves: s73,c122; Half duration: 1.5s Moment tensor: Scale 10^17Nm; Mrr-1.98±.06; Mθθ1.85±.11; Mφφ0.13±.12; Mrθ-0.69±.11; Mθφ-1.12±.10; Mφr-1.08±.10; Best double couple: M0 2.553×10^17 NP1:φs322°, δ50°, λ-50°. NP2: φs90°, δ54°, λ-127°. Principal axes: T 2.408, Plg2°, Azm205°; N .293, Plg29°, Azm114°; P -2.699, Plg61°, Azm299°; nsta1 refers to body waves, cutoff=40s.*

NEIC ***01*** *03:08:40.4±0.1, 21.02S×179.11W, mb5.2/91 Error ellipse: s-maj=4.5km s-min=2.7km az=121.0*

MOS ***01*** *03:08:40.3±0.8, 20.80S×179.19W, h646km, mb5.5/35, Error ellipse: s-maj=9.4km s-min=7.3km az=62.2*

BJI ***01*** *03:08:43.1, 20.04S×179.36W, h644km, mB5.2, mb5.2*

BGS ***01*** *03:08:44.2±3.5, 21.02S×179.11W, h645km*

ISC 01 03:08:39.2±0.1**, 21.06S**±0.02×**179.12W**±0.03**, h644**km±1.4km**: pP-P, n853, σ1.00**/382**, mb5.1**/125**, 60C-166D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.23**	**173**	P	**P**	**03 10 42.4**	**+0.2**
	315nm,0.3s,baz=84,slow=19,SNR=16						
RAO				S	**S**	**03 12 22.7**	**+2.1**
	123nm,0.3s,baz=91,slow=23,SNR=14						
RAO	**Raoul Island**	**8.23**	**173**	*e*P	**P**	**03 10 41.7**	**-0.6**
	2μm,0.3s						
RAO				*e*S	**S**	**03 12 22.0**	**+1.5**
AFI	**Afiamalu**	**9.98**	**46**	P	**P**	**03 10 55.6**	**-3.0**
	150nm,0.3s,baz=41,slow=1.9,SNR=117						
AFI				S	**S**	**03 12 43.8**	**-6.5**
	28nm,0.3s,baz=41,slow=23,SNR=6.5						
AFI	**Afiamalu**	**9.98**	**46**	⇑*i*P	**P**	**03 10 55.4**	**-3.2**
	617nm,0.6s						
AFI				*e*S	**S**	**03 12 44.6**	**-5.7**
FUNA	**Funafuti**	**12.56**	**352**	⇑*i*P	**P**	**03 11 21.8**	**-1.5**
DZM	**Mont Dzumac**	**13.47**	**263**	*e*P	**P**	**03 11 34.2**	**+2.3**
DZM				*e*S	**S**	**03 13 57.6**	**+7.0**
DZM	**Mont Dzumac**	**13.47**	**263**	P	**P**	**03 11 34.6**	**+2.7**
	24nm,0.3s,baz=82,slow=15,SNR=118						
DZM				S	**S**	**03 13 57.1**	**+6.5**
	baz=323,slow=17,SNR=9.8						
NOUC	**Port Laguerre**	**13.60**	**263**	*e*P	**P**	**03 11 35.5**	**+2.2**
NOUC				*e*S	**S**	**03 13 59.7**	**+6.7**
OUZ	**Omahuta**	**15.49**	**203**	PN	**P**	**03 11 55.5**	**+4.1**
OUZ	**Omahuta**	**15.49**	**203**	*e*P	**P**	**03 11 55.5**	**+4.2**
WCZ	**Waipu Caves**	**15.89**	**200**	PN	**P**	**03 11 58.9**	**+3.9**
WCZ	**Waipu Caves**	**15.89**	**200**	*e*P	**P**	**03 11 58.9**	**+3.8**
MTAZ	**Motutapu**	**16.51**	**197**	PN	**P**	**03 12 04.1**	**+3.4**
MTAZ	**Motutapu**	**16.51**	**197**	*e*P	**P**	**03 12 04.2**	**+3.5**
MXZ	**Matakaoa Point**	**16.60**	**187**	PN	**P**	**03 12 00.5**	**-1.1**
MXZ	**Matakaoa Point**	**16.60**	**187**	P	**P**	**03 12 01.5**	**0.0**
OTAZ	**Otara**	**16.66**	**197**	PN	**P**	**03 12 05.7**	**+3.6**
OTAZ	**Otara**	**16.66**	**197**	P	**P**	**03 12 05.7**	**+3.6**
WTAZ	**Waiatarua**	**16.74**	**198**	PN	**P**	**03 12 06.1**	**+3.3**
WTAZ	**Waiatarua**	**16.74**	**198**	P	**P**	**03 12 06.2**	**+3.3**
MKAZ	**Moumakai**	**16.75**	**196**	PN	**P**	**03 12 05.8**	**+2.9**
MKAZ	**Moumakai**	**16.75**	**196**	P	**P**	**03 12 05.9**	**+3.0**
PUZ	**Puketiti**	**17.11**	**187**	PN	**P**	**03 12 05.9**	**-0.3**
PUZ				SN	**S**	**03 14 51.6**	**-0.8**
PUZ	**Puketiti**	**17.11**	**187**	*e*P	**P**	**03 12 06.5**	**+0.3**
URZ	**Urewera**	**17.45**	**190**	P	**P**	**03 12 07.8**	**-1.6**
	67nm,0.3s,baz=320,slow=2.7,SNR=136						
URZ				S	**S**	**03 14 54.8**	**-3.4**
	4.0nm,0.3s,baz=132,slow=23,SNR=6.2						
URZ				ScP		03 18 48.6	
	3.5nm,0.3s,baz=290,slow=4.2,SNR=8.4						
URZ	**Urewera**	**17.45**	**190**	PN	**P**	**03 12 07.4**	**-2.0**
URZ	**Urewera**	**17.45**	**190**	P	**P**	**03 12 07.6**	**-1.8**
MWZ	**Matawai**	**17.46**	**189**	PN	**P**	**03 12 08.1**	**-1.4**
MWZ	**Matawai**	**17.46**	**189**	P	**P**	**03 12 08.2**	**-1.3**
RAR	**Rarotonga**	**18.05**	**94**	P	**P**	**03 12 12.9**	**-2.1**
	4.0nm,0.3s,baz=269,slow=4.5,SNR=7.2						
RAR	**Rarotonga**	**18.05**	**94**	P	**P**	**03 12 13.0**	**-2.1**
BKZ	**Black Stump Fm**	**18.44**	**191**	PN	**P**	**03 12 16.7**	**-1.8**
BKZ	**Black Stump Fm**	**18.44**	**191**	*e*P	**P**	**03 12 17.4**	**-1.1**
OTVZ	**Oturere**	**18.59**	**193**	PN	**P**	**03 12 18.7**	**-1.2**
FWVZ	**Far West T-bar**	**18.71**	**193**	PN	**P**	**03 12 20.0**	**-1.0**
FWVZ	**Far West T-bar**	**18.71**	**193**	*e*P	**P**	**03 12 19.6**	**-1.4**
WNVZ	**Wahianoa**	**18.77**	**193**	PN	**P**	**03 12 20.2**	**-1.3**
WNVZ	**Wahianoa**	**18.77**	**193**	P	**P**	**03 12 20.8**	**-0.7**
MOVZ	**Moawhango**	**18.81**	**192**	PN	**P**	**03 12 20.0**	**-1.9**
MOVZ	**Moawhango**	**18.81**	**192**	P	**P**	**03 12 21.0**	**-0.9**
TSZ	**Takapari Road**	**19.40**	**191**	PN	**P**	**03 12 26.8**	**-0.5**
TSZ	**Takapari Road**	**19.40**	**191**	P	**P**	**03 12 26.8**	**-0.5**
BFZ	**Birch Farm**	**19.95**	**190**	PN	**P**	**03 12 31.3**	**-1.0**
BFZ				SN	**S**	**03 15 39.6**	**+0.3**
BFZ	**Birch Farm**	**19.95**	**190**	*e*P	**P**	**03 12 30.3**	**-2.0**
MRZ	**Mangatainoka R**	**20.06**	**192**	PN	**P**	**03 12 31.3**	**-1.9**
MRZ				SN	**S**	**03 15 35.3**	**-5.6**
MRZ	**Mangatainoka R**	**20.06**	**192**	P	**P**	**03 12 31.3**	**-1.9**
KIW	**Kapiti Island**	**20.38**	**193**	PN	**P**	**03 12 35.5**	**-0.6**
KIW	**Kapiti Island**	**20.38**	**193**	P	**P**	**03 12 35.7**	**-0.5**
CAW	**Cannon Point**	**20.59**	**193**	PN	**P**	**03 12 36.9**	**-1.1**
CAW	**Cannon Point**	**20.59**	**193**	P	**P**	**03 12 36.9**	**-1.1**
MRW	**Makara Radio**	**20.78**	**193**	PN	**P**	**03 12 38.4**	**-1.3**
MRW	**Makara Radio**	**20.78**	**193**	P	**P**	**03 12 38.5**	**-1.3**
SNZO	**South Karori**	**20.86**	**193**	*e*P	**P**	**03 12 39.5**	**-1.0**
	183nm,0.8s						
SNZO				*e*S	**S**	**03 15 49.9**	**-4.0**
QRZ	**Quartz Range**	**20.95**	**198**	PN	**P**	**03 12 42.1**	**+0.8**
QRZ				*e*SN	**S**	**03 15 53.0**	**-2.4**
QRZ	**Quartz Range**	**20.95**	**198**	*e*P	**P**	**03 12 42.0**	**+0.7**
TUWZ	**Tuamarina**	**21.14**	**195**	PN	**P**	**03 12 42.1**	**-0.9**
DSZ	**Denniston Nort**	**22.00**	**198**	PN	**P**	**03 12 50.8**	**0.0**
DSZ				SN	**S**	**03 16 09.9**	**-2.4**
DSZ	**Denniston Nort**	**22.00**	**198**	*e*P	**P**	**03 12 50.8**	**0.0**
LTZ	**Lake Taylor**	**22.83**	**196**	PN	**P**	**03 12 56.8**	**-1.4**
LTZ				*e*SN	**S**	**03 16 22.2**	**-3.2**
LTZ	**Lake Taylor**	**22.83**	**196**	*e*P	**P**	**03 12 56.8**	**-1.4**
HNR	**Honiara**	**23.23**	**297**	P	**P**	**03 13 01.0**	**-1.0**
	93nm,0.8s,mb5.3,baz=339,slow=2.4,SNR=4.8						
WVZ	**Waitaha Valley**	**23.54**	**199**	PN	**P**	**03 13 03.2**	**-1.2**
WVZ	**Waitaha Valley**	**23.54**	**199**	P	**P**	**03 13 02.8**	**-1.6**
RPZ	**Rata Peaks**	**24.03**	**198**	P	**P**	**03 13 08.2**	**-0.5**
	34nm,0.5s,mb5.0,baz=15,slow=5.9,SNR=23						
RPZ	**Rata Peaks**	**24.03**	**198**	PN	**P**	**03 13 08.1**	**-0.7**
RPZ	**Rata Peaks**	**24.03**	**198**	*e*P	**P**	**03 13 08.7**	**0.0**
FOZ	**Fox Glacier**	**24.31**	**200**	PN	**P**	**03 13 09.9**	**-1.2**
FOZ	**Fox Glacier**	**24.31**	**200**	*e*P	**P**	**03 13 09.9**	**-1.2**
LBZ	**Lake Benmore**	**24.90**	**198**	PN	**P**	**03 13 14.8**	**-1.5**
LBZ	**Lake Benmore**	**24.90**	**198**	*e*P	**P**	**03 13 14.8**	**-1.5**
JCZ	**Jackson Bay**	**25.07**	**201**	PN	**P**	**03 13 17.7**	**-0.1**
JCZ				ScP		03 19 09.9	
JCZ	**Jackson Bay**	**25.07**	**201**	*e*P	**P**	**03 13 18.2**	**+0.4**
WKZ	**Wanaka**	**25.65**	**200**	PN	**P**	**03 13 22.1**	**-0.8**
WKZ	**Wanaka**	**25.65**	**200**	P	**P**	**03 13 22.1**	**-0.8**
EAZ	**Earnscleugh**	**25.93**	**199**	PN	**P**	**03 13 25.3**	**+0.1**
EAZ	**Earnscleugh**	**25.93**	**199**	*e*P	**P**	**03 13 25.3**	**0.0**
MLZ	**Mavora Lakes**	**26.39**	**200**	PN	**P**	**03 13 29.6**	**+0.4**
MLZ	**Mavora Lakes**	**26.39**	**200**	*e*P	**P**	**03 13 29.6**	**+0.3**
DCZ	**Deep Cove**	**26.84**	**202**	PN	**P**	**03 13 32.9**	**-0.3**
DCZ	**Deep Cove**	**26.84**	**202**	*e*P	**P**	**03 13 33.9**	**+0.7**
TBI	**Tubuai**	**27.54**	**100**	*e*P	**P**	**03 13 39.6**	**+0.3**
	86nm,0.8s,mb5.3						
PAE	**Paea**	**28.06**	**88**	*e*P	**P**	**03 13 42.9**	**-0.9**
PPT	**Papeete**	**28.08**	**88**	*e*P	**P**	**03 13 43.3**	**-0.7**
PPT				*e*pP		03 15 18.1	
	67nm,1.4s						
PPT	**Papeete**	**28.08**	**88**	P	**P**	**03 13 43.3**	**-0.7**
	43nm,0.5s,mb5.2,baz=225,slow=4.6,SNR=8.8						
TVO	**Taravao**	**28.34**	**89**	*e*P	**P**	**03 13 45.5**	**-0.7**
TVO				*e*pP		03 15 19.0	
	238nm,1.5s						
PMOR	**Pomariorio Ree**	**30.27**	**84**	*e*P	**P**	**03 14 01.9**	**-0.7**
VAH	**Vaihoa**	**30.45**	**84**	*e*P	**P**	**03 14 03.1**	**-1.1**
CNB	**Canberra Magne**	**31.05**	**236**	⇑*i*P	**P**	**03 14 11.0**	**+2.0**
	182nm,0.9s,mb5.6						
CNB				*e*PP	PP	03 15 51.6	-4.1
CNB				*e*S	**S**	**03 18 34.3**	**+1.4**
CNB				*e*SCP		03 19 30.8	
CTA	**Charters Tower**	**32.40**	**265**	⇑*i*P	**P**	**03 14 21.8**	**+1.3**
	221nm,0.4s,mb6.0						
CTA				*e*PCP	PcP	03 16 48.3	+0.1
CTA				*e*S	**S**	**03 18 52.6**	**-1.0**
CTA				*e*SCP		03 19 38.4	
CTA				*e*SCS	ScS	03 23 37.6	+5.4
CTA	**Charters Tower**	**32.40**	**265**	P	**P**	**03 14 21.9**	**+1.4**
	248nm,0.5s,mb6.0,baz=94,slow=10,SNR=561						
CTA				S	**S**	**03 18 52.5**	**-1.1**
	5.6nm,0.8s,baz=292,slow=16,SNR=8.9						
CTA	**Charters Tower**	**32.40**	**265**	⇑*i*P	**P**	**03 14 21.8**	**+1.3**
CTA				*e*		03 16 48.3	
CTA				*e*S	**S**	**03 18 52.6**	**-1.0**
CTA				*e*		03 23 37.6	
CTA				pmax	pmax		
	comp=Z,221nm,0.4s						
CTAO	**Charters Tower**	**32.40**	**265**	⇑*i*P	**P**	**03 14 21.7**	**+1.2**
CTAO				*e*		03 16 48.2	
CTAO				*i* S	**S**	**03 18 52.5**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,277nm,0.6s,mb6.0						
CTAO	**Charters Tower**	**32.40**	**265**	⇑*i*P	**P**	**03 14 21.7**	**+1.2**
	comp=Z,277nm,0.6s,mb6.0						
CTAO				*e*PcP	PcP	03 16 48.2	0.0
CTAO				*i* S	**S**	**03 18 52.5**	**-1.2**
CTAO				*e*ScP		03 19 35.1	
PMG	**Port Moresby**	**34.45**	**284**	P	**P**	**03 14 38.5**	**+0.9**
	comp=Z,218nm,0.8s,mb5.7,baz=87,slow=5.3,SNR=88						
PMG				PcP	PcP	03 16 53.4	-0.7
	comp=Z,13nm,0.7s,baz=248,slow=5.0,SNR=4.0						
PMG	**Port Moresby**	**34.45**	**284**	⇓*i*P	**P**	**03 14 38.3**	**+0.7**
PMG				*e*		03 16 53.2	
PMG				pmax	pmax		
	comp=Z,221nm,0.8s						
PMG	**Port Moresby**	**34.45**	**284**	⇓*i*P	**P**	**03 14 38.3**	**+0.7**
	comp=Z,221nm,0.8s,mb5.7						
PMG				*e*PcP	PcP	03 16 53.1	-1.0
TOO	**Toolangi**	**34.72**	**234**	⇑*i*P	**P**	**03 14 41.6**	**+2.0**
	comp=Z,98nm,0.6s,mb5.5						
TOO				*e*S	**S**	**03 19 27.7**	**-0.6**
TOO				*e*SCS	ScS	03 23 48.1	+3.6
TOO	**Toolangi**	**34.72**	**234**	⇑*i*P	**P**	**03 14 41.6**	**+2.0**
TOO				*e*S	**S**	**03 19 27.7**	**-0.6**
TOO				*e*		03 23 48.1	
TOO				pmax	pmax		
	comp=Z,98nm,0.6s,mb5.5						
TAU	**Tasmania Unive**	**35.49**	**224**	⇑*e*P	**P**	**03 14 47.4**	**+1.5**
TAU				pmax	pmax		
	comp=Z,85nm,1.3s,mb5.1						
TAU	**Tasmania Unive**	**35.49**	**224**	⇑*e*P	**P**	**03 14 47.4**	**+1.5**
	comp=Z,85nm,1.3s,mb5.1						
STKA	**Stephens Creek**	**36.60**	**245**	⇑*i*P	**P**	**03 14 57.1**	**+2.0**
	comp=Z,117nm,1.0s,mb5.4						
STKA				*e*S	**S**	**03 19 56.2**	**0.0**
STKA				*e*SCS	ScS	03 23 57.7	+2.6
STKA	**Stephens Creek**	**36.60**	**245**	P	**P**	**03 14 57.1**	**+2.0**
	comp=Z,125nm,0.5s,mb5.7,baz=91,slow=9.7,SNR=336						
STKA				ScP		03 19 49.8	
	comp=Z,7.0nm,0.8s,baz=160,slow=4.2,SNR=3.3						
STKA				S	**S**	**03 19 56.2**	**0.0**
	comp=Z,7.0nm,1.0s,baz=307,slow=20,SNR=4.1						
STKA				P3KPbc		03 45 10.7	
	comp=Z,3.0nm,0.9s,baz=309,slow=2.5,SNR=4.9						
TAOE	**Nuku Hiva Isla**	**39.45**	**78**	*e*P	**P**	**03 15 17.9**	**-0.4**
	comp=Z,725nm,1.0s,mb6.0						
RKT	**Rikitea**	**40.85**	**101**	*e*P	**P**	**03 15 29.4**	**0.0**
	comp=Z,61nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**43.48**	**263**	⇑*i*P	**P**	**03 15 50.1**	**0.0**
WB2				*e*S	**S**	**03 21 32.2**	**-2.5**
WB2				*e*SCS	ScS	03 24 40.2	+3.4
WRAB	**Tennant Creek**	**43.48**	**263**	⇑*e*P	**P**	**03 15 50.1**	**0.0**
WRAB				*e*		03 17 22.4	
WRAB				*e*S	**S**	**03 21 31.6**	**-3.2**
WRAB				pmax	pmax		
	comp=Z,429nm,0.9s,mb5.9						
WRAB	**Tennant Creek**	**43.48**	**263**	⇑*e*P	**P**	**03 15 50.1**	**0.0**
	comp=Z,429nm,0.9s,mb5.9						
WRAB				*e*PcP	PcP	03 17 22.4	-1.0
WRAB				*e*ScP		03 19 50.9	
WRAB				*e*S	**S**	**03 21 31.6**	**-3.2**
WRA	**Warramunga Arr**	**43.49**	**263**	P	**P**	**03 15 50.4**	**+0.2**
	comp=Z,87nm,0.3s,mb5.7,baz=97,slow=7.5,SNR=510						

WRA PcP PcP 03 17 23.4 +0.1
comp=Z,15nm,0.9s,baz=91,slow=3.9,SNR=7.0
WRA S **S** **03 21 32.2 -2.7**
comp=Z,26nm,1.0s,baz=96,slow=13,SNR=15
POHA Pohakuloa 46.67 31 P **P** **03 16 10.7 -3.8**
comp=Z,1µm,0.8s
HKL Haleakala 47.15 30 *eP* **P** **03 16 17.0 -1.0**
FORT Forrest 48.11 247⇑ *iP* **P** **03 16 25.1 +0.1**
comp=Z,227nm,0.6s,mb5.7
FORT *eS* **S** **03 22 37.6 -1.0**
MIDW Midway 49.01 2 *eP* **P** **03 16 29.5 -2.3**
comp=Z,268nm,1.1s,mb5.5
GUMO Guam 49.36 311 P **P** **03 16 33.7 -0.8**
comp=Z,138nm,0.6s,mb5.5,baz=187,slow=9.8,SNR=8.2
GUMO Guam 49.36 311 *eP* **P** **03 16 34.2 -0.3**
GUMO pmax pmax
comp=Z,403nm,1.1s,mb5.7
GUMO Guam 49.36 311 *eP* **P** **03 16 34.1 -0.3**
comp=Z,403nm,1.1s,mb5.7
FITZ Fitzroy Crossi 51.92 263⇓ *iP* **P** **03 16 53.3 +0.5**
comp=Z,56nm,0.6s,mb5.0
FITZ *eS* **S** **03 23 30.2 +0.5**
FITZ Fitzroy Crossi 51.92 263 P **P** **03 16 53.3 +0.5**
comp=Z,95nm,0.8s,mb5.1,baz=109,slow=4.9,SNR=214
FITZ S **S** **03 23 30.3 +0.6**
comp=Z,17nm,0.9s,baz=272,slow=23,SNR=3.0
KLBR Kellerberrin 56.87 245⇓ *iP* **P** **03 17 27.5 +0.4**
comp=Z,203nm,1.0s,mb5.2
NWAO Narrogin (SRO) 57.18 244 P **P** **03 17 29.9 +0.8**
comp=Z,54nm,0.7s,mb4.8,baz=111,slow=6.2,SNR=40
SBA Scott Base 57.25 184⇑ *eP* **P** **03 17 31.8 +2.7**
SBA pmax pmax
comp=Z,610nm,1.1s,mb5.6
SBA Scott Base 57.25 184⇑ *eP* **P** **03 17 31.8 +2.8**
comp=Z,62nm,1.1s,mb4.7
VNDA Vanda 57.27 185 P **P** **03 17 31.1 +1.9**
comp=Z,7.8nm,0.5s,mb4.1,baz=8.8,slow=7.7,SNR=54
MUN Mundaring 58.14 245⇓ *iP* **P** **03 17 36.4 +0.8**
CBIJ Chichi jima 60.79 320 P **P** **03 17 52.1 -1.0**
comp=Z,103nm,0.5s,mb5.3,baz=258,slow=20,SNR=8.7
DAV Davao City (W) 61.05 291 P **P** **03 17 54.7 -0.2**
comp=Z,256nm,1.1s,mb5.4
CASY Casey 63.01 205 *eP* **P** **03 18 07.9 +1.0**
comp=Z,40nm,0.7s,mb4.8
JHJ Hachijo jima 2 66.64 323 P **P** **03 18 29.2 -0.7**
comp=Z,154nm,0.5s,mb5.6,baz=220,slow=18
KKM Kota Kinabalu 68.89 286 *eP* **P** **03 18 43.9 +0.2**
QSPA South Pole Qui 69.01 180 *eP* **P** **03 18 44.9 +1.5**
comp=Z,107nm,1.2s,mb5.0
JOW Kunigami 69.73 311 P **P** **03 18 48.4 -0.1**
comp=Z,79nm,0.8s,mb5.2,baz=137,slow=8.2,SNR=20
MJAR Matsushiro Arr 70.04 324 P **P** **03 18 49.4 -0.8**
comp=Z,57nm,0.8s,mb5.0,baz=158,slow=5.6,SNR=85
MAJO Matsushiro 70.05 324⇓ *eP* **P** **03 18 48.6 -1.6**
MAJO pmax pmax
comp=Z,72nm,0.8s,mb5.2
MAJO Matsushiro 70.05 324⇓ *eP* **P** **03 18 48.6 -1.6**
comp=Z,72nm,0.8s,mb5.2
MAT Matsushiro 70.05 324 P **P** **03 18 49.3 -0.9**
MAT Matsushiro 70.05 324 *eP* **P** **03 18 49.0 -1.2**
MAT pmax pmax
comp=Z,78nm,1.0s,mb5.1
MAT Matsushiro 70.05 324 *eP* **P** **03 18 49.0 -1.2**
comp=Z,78nm,1.0s,mb5.1
JNU Nakatsue 71.97 317 P **P** **03 19 00.9 -0.4**
comp=Z,53nm,0.9s,mb5.0,baz=99,slow=4.9,SNR=6.6
KSM Kuching 72.45 279⇓ *iP* **P** **03 19 05.2 +0.8**
NACB Ninganchiao 73.17 305⇓ *iP* **P** **03 19 06.8 -1.4**
YHNB Yeheng 73.56 305⇓ *eP* **P** **03 19 09.7 -0.9**
TATO Taipei 73.64 306⇓ *eP* **P** **03 19 10.2 -0.9**
comp=Z,152nm,0.9s,mb5.5
FX1 Attu Island--F 73.93 355⇓ *eP* **P** **03 19 10.7 -1.3**
NIKO Nikolski 74.26 6⇓ *eP* **P** **03 19 11.9 -1.9**
UNV Unalaska Valle 75.39 8⇓ *eP* **P** **03 19 17.9 -2.2**
comp=Z,320nm,0.9s,mb5.8
QZH Quanzhou 75.85 304⇓ *iP* **P** **03 19 23.5 +0.3**
QZH AMB AMB
comp=Z,150nm,0.8s,mb5.6
QZH AMB AMB
comp=Z,830nm,3.7s
YSS Yuzh-Sakhalins 75.93 334 *i* P **P** **03 19 22.2 -1.0**
YSS pmax pmax
comp=Z,219nm,2.7s,mb5.2
YSS Yuzh-Sakhalins 75.93 334 *eP* **P** **03 19 23.4 +0.2**
comp=Z,134nm,1.4s,mb5.3
PET Petropavlovsk 76.25 346 *eP* **P** **03 19 23.6 -1.2**
PET pmax pmax
comp=Z,108nm,0.8s,mb5.4
KS15 Wonju Array Si 76.63 319 *eP* **P** **03 19 27.6 +0.4**
SSE Sheshan 77.25 311 *eP* **P** **03 19 30.2 -0.4**
SSE PCP PcP 03 19 37.3 -1.4
SSE AP pP 03 21 41.1 -1.9
SSE PP PP 03 22 35.2 -1.9
SSE XP sP 03 22 46.3 -0.6
SSE S S 03 28 29.6 -0.3
SSE SCS ScS 03 28 49.2 +0.8
SSE XS 03 32 20.2
SSE AMB AMB
comp=Z,50nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,210nm,6.0s
SDPT Sand Point 77.75 11 *eP* **P** **03 19 31.3 -1.4**
comp=Z,286nm,0.9s,mb5.8
SAO San Andreas Ge 79.15 44⇓ *eP* **P** **03 19 40.9 +0.3**
SAO pmax pmax
comp=Z,55nm,1.0s,mb5.0
SAO San Andreas Ge 79.15 44⇓ *eP* **P** **03 19 40.9 +0.3**
comp=Z,55nm,1.0s,mb5.0
LRV Little Rabbit 79.23 44 *eP* **P** **03 19 41.9 +1.0**
PTRM Twissleman Ran 79.31 45 *eP* **P** **03 19 41.7 +0.3**
NJ2 Nanjing 79.43 310 *eP* **P** **03 19 38.0 -4.1**
NJ2 AP pP 03 21 52.3 -3.2
NJ2 S S 03 28 45.0 -7.2
NJ2 SKS SKS 03 28 53.0 -2.2
NJ2 XS 03 32 43.0
NJ2 AMB AMB
comp=Z,100nm,0.8s,mb5.4
NJ2 AMB AMB
comp=Z,190nm,8.3s
HOPS Hopland 79.48 41 *eP* **P** **03 19 42.8 +0.6**
comp=Z,91nm,0.9s,mb5.3
KCPM Cahto Peak 79.59 40 *eP* **P** **03 19 43.8 +1.0**
KIPM Iron Peak 79.73 40 *eP* **P** **03 19 44.7 +1.2**
MWC Mount Wilson 79.95 47⇓ *eP* **P** **03 19 44.9 +0.1**
COCO West Island 80.23 261 *eP* **P** **03 19 47.3 +0.8**
comp=Z,168nm,1.3s,mb5.3
KHMM Horse Mountain 80.25 39 *eP* **P** **03 19 47.6 +1.5**
MDJ Mudanjiang 80.38 326 P **P** **03 19 47.9 +1.2**
MDJ AP pP 03 22 00.2 -0.4
MDJ PP PP 03 23 01.2 -1.5
MDJ XP sP 03 23 04.9 +0.8
MDJ S S 03 29 04.5 +3.1
MDJ AMB AMB
comp=Z,80nm,1.0s,mb5.1
MDJ AMB AMB
comp=Z,320nm,5.7s
MDJ Mudanjiang 80.38 326⇓ *iP* **P** **03 19 47.1 +0.4**
comp=Z,86nm,1.0s,mb5.1
HABR Khabarovsk 80.42 331⇑ *iP* **P** **03 19 47.3 +0.5**
HABR pmax pmax
comp=Z,323nm,1.6s,mb5.5
ISA Isabella 80.47 46 *eP* **P** **03 19 47.9 +0.5**
CMB Columbia Colle 80.58 43⇓ *iP* **P** **03 19 48.1 +0.2**
CMB *e**PP pP 03 22 01.7 -0.1
CMB pmax pmax
comp=Z,55nm,1.1s,mb4.9
CMB Columbia Colle 80.58 43⇓ *iP* **P** **03 19 48.0 +0.1**
comp=Z,56nm,1.1s,mb4.9
CMB *ep*P pP 03 22 01.7 -0.1
OHCM Honcut 80.66 42 *eP* **P** **03 19 48.3 0.0**
OHCM *e* 03 20 10.2
OHCM *ep*P pP 03 22 03.0 +0.7
MAW Mawson 80.69 200 P **P** **03 19 49.2 +1.4**
comp=Z,8.8nm,0.7s,mb4.3,baz=114,slow=7.2,SNR=12
MAW Mawson 80.69 200 *eP* **P** **03 19 49.1 +1.3**
MAW pmax pmax
comp=Z,110nm,0.8s
MAW Mawson 80.69 200 *eP* **P** **03 19 49.1 +1.3**
comp=Z,11nm,0.8s,mb4.3
WDC Whiskeytown Da 80.77 40⇓ *iP* **P** **03 19 49.3 +0.5**
WDC *e**PP pP 03 22 04.9 +2.1
WDC pmax pmax
comp=Z,78nm,1.0s,mb5.1
WDC Whiskeytown Da 80.77 40⇓ *iP* **P** **03 19 49.3 +0.4**
comp=Z,78nm,1.0s,mb5.1
WDC *ep*P pP 03 22 04.9 +2.0
WDC *es*P sP 03 22 58.8 -7.5
PMSA Palmer Station 81.19 157 *eP* **P** **03 19 52.3 +1.8**
comp=Z,34nm,1.1s,mb4.7
YBH Yreka Blue Hor 81.38 39⇓ *iP* **P** **03 19 52.8 +0.9**
YBH *e**PP pP 03 22 04.7 -1.4
YBH pmax pmax
comp=Z,78nm,0.8s
YBH Yreka Blue Hor 81.38 39⇓ *iP* **P** **03 19 52.8 +0.9**
comp=Z,78nm,0.8s,mb5.2
YBH *ep*P PcP 03 19 56.5 +0.1
YBH *ep*P pP 03 22 04.7 -1.4
DAC Darwin (Calif) 81.41 46 *eP* **P** **03 19 52.3 +0.1**
DAC *e**PP pP 03 22 11.0 +4.6
DAC pmax pmax
comp=Z,27nm,0.8s,mb4.7
DAC Darwin (Calif) 81.41 46 *eP* **P** **03 19 52.3 +0.1**
comp=Z,27nm,0.8s,mb4.7
DAC *ep*P pP 03 22 10.9 +4.5
GLA Glamis 81.58 50⇓ *eP* **P** **03 19 54.2 +1.1**
GLA *e**PP pP 03 22 08.2 +0.7
GLA Glamis 81.58 50⇓ *eP* **P** **03 19 54.2 +1.0**
GLA *e*PcP PcP 03 19 57.4 -0.1
GLA *ep*P pP 03 22 08.2 +0.8
KDAK Kodiak Island 81.60 14 P **P** **03 19 52.2 -0.5**
comp=Z,31nm,0.8s,mb4.9,baz=347,slow=21,SNR=17
KDAK Kodiak Island 81.60 14 P **P** **03 19 52.2 -0.5**
WHN Wuhan 81.93 307⇓ P **P** **03 19 55.5 +0.5**
WHN AMB AMB
comp=Z,70nm,1.3s,mb5.0
SNY Shenyang 81.96 321⇓ P **P** **03 19 55.0 +0.1**
CN2 Changchun 82.11 323 *eP* **P** **03 19 55.7 +0.1**
CN2 AMB AMB
comp=Z,50nm,1.1s,mb5.0
NVAR Mina Array Bea 82.15 44 P **P** **03 19 56.3 +0.4**
comp=Z,39nm,0.9s,mb4.9,baz=217,slow=7.8,SNR=218
NVAR PKPPKP 03 46 27.8
comp=Z,1.6nm,1.0s,baz=84,slow=4.0,SNR=5.7
MNV Mina 82.25 44⇓ *iP* **P** **03 19 56.6 +0.2**
MNV *e**PP pP 03 22 12.9 +1.9
LDFC Landfair 82.45 48⇓ *eP* **P** **03 19 57.9 +0.5**
LDFC *ep*P pP 03 22 12.0 -0.1
LDFC *es*P sP 03 23 14.8 -0.6
KLR Kul'dur 82.48 330 *eP* **P** **03 19 54.7 -2.6**
KLR pmax pmax
comp=Z,190nm,2.6s,mb5.2
TPH Tonopah 82.66 45⇓ *iP* **P** **03 19 58.7 +0.3**
TPH pmax pmax
comp=Z,72nm,1.1s,mb5.1
TPH Tonopah 82.66 45⇓ *iP* **P** **03 19 58.7 +0.3**
comp=Z,72nm,1.1s,mb5.1
TPNV Topopah Spring 82.68 46⇓ *iP* **P** **03 19 58.7 +0.1**
TPNV *e**PP pP 03 22 14.7 +1.4
TPNV pmax pmax
comp=Z,56nm,0.9s,mb5.1
TPNV Topopah Spring 82.68 46⇓ *iP* **P** **03 19 58.7 +0.2**
comp=Z,56nm,0.9s,mb5.1
TPNV *ep*P pP 03 22 14.7 +1.4
KULM Kulim 82.81 278⇓ *eP* **P** **03 20 00.7 +1.0**
HBO Huckleberry Mo 82.91 38 P **P** **03 20 00.1 +0.6**
MOD Modoc 82.92 40⇓ *iP* **P** **03 20 00.1 +0.5**
comp=Z,73nm,0.9s,mb5.2
NEN Nelson 82.94 48 *eP* **P** **03 20 00.1 +0.2**
NEN *ep*P pP 03 22 13.9 -0.8
NEN *es*P sP 03 23 16.1 -1.8
BROR Big Rock Looko 83.09 37 P **P** **03 20 00.9 +0.5**
SSOR Sweet Springs 83.45 37 P **P** **03 20 02.6 +0.4**
PSI Prapat 83.50 276 P **P** **03 20 03.2 +0.2**
comp=Z,54nm,1.0s,mb5.0,baz=161,slow=2.2,SNR=22
BKCOR Black Crater 83.54 38 P **P** **03 20 03.4 +0.8**
SVW2 Sparrevohn 84.04 11 *eP* **P** **03 20 03.6 -1.1**
MA2 Magadan 84.05 345 P **P** **03 20 03.8 +1.0**
MA2 *e**SP sP 03 23 20.3 -2.7
MA2 S S 03 29 36.1 -0.7
MA2 eSSS SSS 03 39 07.8 +2.6
MA2 pmax pmax
comp=Z,70nm,1.5s,mb5.0
MA2 Magadan 84.05 345 *eP* **P** **03 20 02.8 -2.0**
comp=Z,70nm,0.9s,mb5.2
TUC Tucson 84.15 52⇓ *iP* **P** **03 20 06.8 +0.8**
TUC *e**PP pP 03 22 21.5 +0.2
TUC pmax pmax
comp=Z,33nm,0.9s,mb4.9
TUC Tucson 84.15 52⇓ *iP* **P** **03 20 06.8 +0.9**
comp=Z,33nm,0.9s,mb4.9
TUC *ep*P pP 03 22 21.5 +0.2
WVOR Wild Horse Val 84.23 40⇓ *eP* **P** **03 20 06.2 +0.1**
WVOR *e**PP pP 03 22 19.9 -1.5
WVOR pmax pmax
comp=Z,56nm,1.0s,mb5.0
WVOR Wild Horse Val 84.23 40⇓ *eP* **P** **03 20 06.2 +0.1**
comp=Z,56nm,1.0s,mb5.0
WVOR *ep*P pP 03 22 19.9 -1.6
VIPM Ingram Point 84.28 38 P **P** **03 20 07.0 +0.7**
OOW Octopus West 84.34 34 P **P** **03 20 07.6 +1.2**
OCWA Octopus Mounta 84.35 34 P **P** **03 20 07.7 +1.2**
SLKM Skilak Lake 84.59 14 *eP* **P** **03 20 06.5 -0.9**
ARUT Antelope Range 85.02 46 *eP* **P** **03 20 10.3 +0.3**
ARUT *e**PP pP 03 22 28.7 +3.1
FIB Fire Island 85.19 14 *eP* **P** **03 20 09.7 -0.6**
FIB pmax pmax
comp=Z,70nm,0.9s,mb5.3
FIB Fire Island 85.19 14 *eP* **P** **03 20 09.7 -0.5**
comp=Z,70nm,0.9s,mb5.3
PGC Sidney 85.30 33⇓ *iP* **P** **03 20 11.1 0.0**
comp=Z,114nm,0.9s,mb5.5
WUAZ Wupatki 85.30 49⇓ *eP* **P** **03 20 11.8 +0.4**
comp=Z,34nm,1.0s,mb4.9
WUAZ *ep*P pP 03 22 29.0 +1.9
ELK Elko 85.40 43⇓ *eP* **P** **03 20 11.8 0.0**
ELK *e**PP pP 03 22 26.1 -1.4
ELK pmax pmax
comp=Z,19nm,1.0s
ELK Elko 85.40 43⇓ *eP* **P** **03 20 11.8 +0.1**
comp=Z,18nm,1.0s,mb4.7
ELK *ep*P pP 03 22 26.1 -1.4
ENH Enshi 85.49 305⇓ *iP* **P** **03 20 13.1 +0.7**
comp=Z,169nm,1.0s,mb5.6
TTA Tatalina 85.68 10 *eP* **P** **03 20 12.1 -0.4**
JCW Jim Creek 85.81 34 P **P** **03 20 13.8 +0.4**
PMR Palmer 85.81 14 *eP* **P** **03 20 12.3 -0.8**
PMR pmax pmax
comp=Z,161nm,1.3s,mb5.5
PMR Palmer 85.81 14 *eP* **P** **03 20 12.3 -0.8**
comp=Z,161nm,1.3s,mb5.5
TBM Table Mountain 85.89 36 P **P** **03 20 14.4 +0.5**
LTY Liberty 85.91 36 P **P** **03 20 14.1 +0.2**
SYO Syowa Base 85.95 193⇓ P **P** **03 20 14.1 +0.4**
SYO Syowa Base 85.95 193⇑ *ep*P pP 03 22 31.6 +2.0
SYO Syowa Base 85.95 193⇓ *eP* **P** **03 20 14.1 +0.4**
SYO *es*P S 03 29 51.8 -2.6
SYO Syowa Base 85.95 193⇓ *eP* **P** **03 20 14.1 +0.4**
SYO ⇑ *ep*P pP 03 22 31.6 +2.0
SYO *es*P S 03 29 51.8 -2.6
GYA Guiyang 86.02 300⇓ *iP* **P** **03 20 16.1 +1.1**
GYA AP pP 03 22 31.1 +0.2
GYA SKS SKS 03 29 42.6 +3.1
GYA AMB AMB
comp=Z,50nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,130nm,3.6s
HAWA Hanford 86.02 37⇓ *eP* **P** **03 20 14.9 +0.4**
comp=Z,6.7nm,0.9s,mb4.3
HAWA *ep*P pP 03 22 29.4 -1.1
MDW Midway 86.02 36 P **P** **03 20 15.2 +0.7**
DIV Divide 86.20 16⇓ *iP* **P** **03 20 14.1 -0.9**
comp=Z,291nm,1.0s,mb5.9
MVU Marysvale 86.22 46 *eP* **P** **03 20 17.1 +1.4**
comp=Z,15nm,1.1s,mb4.5
MVU *ep*P pP 03 22 33.1 +1.4
MSU Marysvale 86.25 46 *eP* **P** **03 20 16.6 +0.8**
MSU *e**PP pP 03 22 33.0 +1.2
BMO Blue Mountains 86.41 39⇓ *iP* **P** **03 20 16.4 0.0**
BMO *e**PP pP 03 22 31.7 -0.8
BMO pmax pmax
comp=Z,40nm,0.9s,mb5.0
BMO Blue Mountains 86.41 39⇓ *iP* **P** **03 20 16.4 0.0**
comp=Z,40nm,0.9s,mb5.0
BMO *ep*P pP 03 22 31.6 -0.8
EPH Ephrata 86.55 36 P **P** **03 20 17.3 +0.3**
WTV Waterville 86.56 36 P **P** **03 20 17.3 +0.2**
SEY Seymchan 86.68 347⇑ *iP* **P** **03 20 16.3 -0.9**
DUG Dugway 86.68 45 *eP* **P** **03 20 17.3 -0.5**
DUG *e**PP pP 03 22 34.4 +0.4
DUG pmax pmax
comp=Z,50nm,0.8s,mb5.2
DUG Dugway 86.68 45 *eP* **P** **03 20 17.3 -0.5**
comp=Z,5.2nm,0.8s,mb4.2
DUG *ep*P pP 03 22 34.4 +0.4
TNA Tin City 86.77 5 *eP* **P** **03 20 16.6 -0.9**
comp=Z,20nm,0.8s,mb4.8
TNA *ep*P pP 03 22 29.7 -4.2
NLU North Lily Min 87.05 45 *eP* **P** **03 20 16.5 -3.0**
OD2 Odessa Site #2 87.06 36 P **P** **03 20 19.7 +0.3**
TMUT Trail Mountain 87.30 46 *eP* **P** **03 20 21.4 +0.6**
TMUT *ep*P pP 03 22 38.0 +0.9
MPU Maple Canyon 87.37 45 *eP* **P** **03 20 21.1 0.0**
comp=Z,14nm,1.0s,mb4.6
MPU *ep*P pP 03 22 38.1 +0.7
NOQ North Oquirrh 87.37 45 *eP* **P** **03 20 21.1 +0.1**
comp=Z,32nm,1.0s,mb4.9
HLID Hailey 87.43 41⇓ *iP* **P** **03 20 21.9 +0.7**
comp=Z,44nm,0.9s,mb5.1
HLID *ep*P pP 03 22 34.0 -3.7
SNAA Sanae 87.48 179 *e* **P** **03 20 23.9 +3.1**
SNAA Sanae 87.48 179 *e* pP 03 22 37.0 -0.3
SNAA Sanae 87.48 179 *e* Px 03 22 40.6
SNAA Sanae 87.48 179 *e* tx 03 28 53.9
SNAA Sanae 87.48 179⇓ *iP* **P** **03 20 21.1 +0.3**
SNAA *e* pP 03 22 37.0 -0.3
SNAA *e* 03 29 47.8
SNAA Sanae 87.48 179⇓ *iP* **P** **03 20 21.1 +0.3**
SNAA *e* 03 20 23.9
SNAA *e* pP 03 22 37.0 -0.3
SNAA *e* pP 03 22 40.6 +3.3
SNAA *e* 03 28 53.9
SNAA *e* 03 29 47.8
SNAA *e* 03 37 59.2
SNAA *e* 03 38 04.4
HVU Hansel Valley 87.53 43⇓ *iP* **P** **03 20 22.2 +0.5**
HVU pmax pmax
comp=Z,49nm,1.0s,mb5.1
HVU Hansel Valley 87.53 43⇓ *iP* **P** **03 20 22.2 +0.4**
comp=Z,48nm,1.0s,mb5.1
CTU Camp Tracy 87.64 45⇓ *iP* **P** **03 20 22.1 -0.1**
comp=Z,30nm,1.1s,mb4.8
XAN Xi'an 87.64 308 P **P** **03 20 23.5 +1.1**
XAN AMB AMB
comp=Z,80nm,1.0s,mb5.3
VNA3 Neumayer Olymp 87.65 177 *e* **P** **03 20 23.4 +1.8**
VNA3 Neumayer Olymp 87.65 177 *e* pP 03 22 39.0 +0.8
VNA3 Neumayer Olymp 87.65 177 *e* Px 03 22 41.7
VNA3 Neumayer Olymp 87.65 177 *e* tx 03 28 49.3
VNA3 Neumayer Olymp 87.65 177 *e* tx 03 29 49.5
VNA3 Neumayer Olymp 87.65 177⇓ *iP* **P** **03 20 22.4 +0.8**
VNA3 *e* 03 20 23.4
VNA3 *e* pP 03 22 39.0 +0.8
VNA3 *e* pP 03 22 41.7 +3.5
VNA3 *e* 03 28 49.3
VNA3 *e* 03 29 49.5
VNA3 *e* 03 33 49.2
VNA3 *e* 03 38 00.0
VNA3 *e* 03 38 04.3
SRU San Rafael 87.67 46⇓ *iP* **P** **03 20 22.9 +0.5**
SRU *e**PP pP 03 22 41.3 +2.3
SRU pmax pmax
comp=Z,94nm,1.3s,mb5.3
SRU San Rafael 87.67 46⇓ *iP* **P** **03 20 22.9 +0.4**
comp=Z,94nm,1.3s,mb5.3
SRU *ep*P pP 03 22 41.3 +2.3
MCK McKinley 87.75 13⇓ *iP* **P** **03 20 21.0 -1.2**
MCK *e**PP pP 03 22 38.1 -0.7
MCK pmax pmax
comp=Z,48nm,0.8s,mb5.2
MCK McKinley 87.75 13⇓ *iP* **P** **03 20 21.0 -1.2**
comp=Z,48nm,0.8s,mb5.2
MCK *ep*P pP 03 22 38.1 -0.7
DAU Daniels Canyon 87.82 45 *eP* **P** **03 20 24.0 +0.9**
LAZ Ladron 87.82 52 *eP* **P** **03 20 23.8 +0.5**
LAZ *ep*P pP 03 22 40.5 +0.6
LENM Lemitar 87.84 52 *eP* **P** **03 20 23.9 +0.5**
LENM *ep*P pP 03 22 40.7 +0.7
MNTX Cornudas Mount 87.93 55⇓ *iP* **P** **03 20 24.3 +0.5**
comp=Z,35nm,0.9s,mb5.0
MNTX *ep*P pP 03 22 39.0 -1.5
TCUT Toone Canyon 88.07 44 *eP* **P** **03 20 24.8 +0.5**
TCUT *ep*P pP 03 22 41.5 +0.5
VNA2 Neumayer--Watz 88.08 177 *e* **P** **03 20 25.5 +1.8**
VNA2 Neumayer--Watz 88.08 177 *e* pP 03 22 41.6 +1.2
VNA2 Neumayer--Watz 88.08 177 *e* Px 03 22 44.4
VNA2 Neumayer--Watz 88.08 177 *e* tx 03 28 46.7
VNA2 Neumayer--Watz 88.08 177 *e* tx 03 29 50.1
VNA2 Neumayer--Watz 88.08 177⇓ *iP* **P** **03 20 24.7 +1.0**
VNA2 *e* 03 20 25.5
VNA2 *e* pP 03 22 41.6 +1.2
VNA2 *e* pP 03 22 44.4 +4.0
VNA2 *e* 03 28 46.7
VNA2 *e* 03 29 50.1
VNA2 *e* 03 34 08.8
VNA2 *e* 03 37 59.5
VNA2 *e* 03 38 03.3
BNM Barren Site 88.09 52 *eP* **P** **03 20 25.0 +0.4**
NVL N'lazarevskaya 88.10 184⇑ *iP* **P** **03 20 23.7 0.0**
NVL pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
LPM Los Pinos Moun 88.16 52 *eP* **P** **03 20 25.1 +0.2**
LPM *ep*P pP 03 22 41.7 +0.2
THY Trims Highway 88.17 14⇓ *iP* **P** **03 20 23.7 -0.5**
HWUT Hardware Ranch 88.22 44⇓ *iP* **P** **03 20 24.6 -0.3**
comp=Z,26nm,0.8s,mb4.9
LTX Lajitas 88.24 58⇓ *eP* **P** **03 20 26.1 +0.7**
LTX *e**PP pP 03 22 43.5 +1.4
LTX pmax pmax
comp=Z,44nm,0.9s,mb5.1
LTX Lajitas 88.24 58⇓ *eP* **P** **03 20 26.1 +0.7**
comp=Z,44nm,0.9s,mb5.1
LTX *ep*P pP 03 22 43.5 +1.3
TXAR Lajitas Array 88.24 58 P **P** **03 20 26.3 +0.9**
comp=Z,33nm,0.8s,mb5.0,baz=219,slow=5.8,SNR=316
TXAR pP pP 03 22 39.7 -2.4
comp=Z,3.4nm,1.0s,baz=207,slow=2.0,SNR=3.7
TXAR PKKPbc 03 38 06.0
comp=Z,1.4nm,0.7s,baz=101,slow=2.9,SNR=17
TXAR PKPPKP 03 46 15.7
comp=Z,0.1nm,0.6s,baz=153,slow=2.8,SNR=3.5
TXAR Lajitas Array 88.24 58 P **P** **03 20 26.3 +0.9**
TXAR pP pP 03 22 39.7 -2.5
TXAR PKKPbc 03 38 06.0
TXAR P'P' 03 46 15.7
VNA1 Neumayer--Stat 88.31 177 *e* **P** **03 20 27.2 +2.5**
VNA1 Neumayer--Stat 88.31 177 *e* pP 03 22 43.0 +1.5
VNA1 Neumayer--Stat 88.31 177 *e* Px 03 22 46.4
VNA1 Neumayer--Stat 88.31 177⇓ *iP* **P** **03 20 26.0 +1.3**
VNA1 *e* 03 20 27.2
VNA1 *e* pP 03 22 43.0 +1.5
VNA1 *e* pP 03 22 46.4 +4.9
PV10 Paradox Valley 88.32 48 *eP* **P** **03 20 25.6 0.0**
NEW Newport 88.44 36 P **P** **03 20 25.6 -0.2**
comp=Z,16nm,0.8s,mb4.7,baz=237,slow=3.8,SNR=33
NEW Newport 88.44 36⇓ *iP* **P** **03 20 25.4 -0.4**
NEW pmax pmax
comp=Z,17nm,0.9s
NEW Newport 88.44 36⇓ *iP* **P** **03 20 25.4 -0.4**
comp=Z,17nm,0.9s,mb4.7
PV01 Paradox Valley 88.53 48 *eP* **P** **03 20 26.3 -0.3**
PV01 *ep*P pP 03 22 46.3 +3.0
HIA Hailar 88.54 325 *eP* **P** **03 20 26.0 -0.3**
HIA pmax pmax
comp=Z,32nm,1.0s
HIA Hailar 88.54 325 *eP* **P** **03 20 26.0 -0.3**
comp=Z,32nm,1.0s,mb5.0
ANMO Albuquerque 88.57 52 P **P** **03 20 27.1 +0.4**
comp=Z,20nm,0.9s,mb4.8,baz=229,slow=4.8,SNR=55
ANMO pP pP 03 22 42.4 -1.2
comp=Z,3.5nm,1.0s,baz=226,slow=3.2,SNR=3.1
ANMO Albuquerque 88.57 52 *eP* **P** **03 20 26.9 +0.1**
ANMO *e**PP pP 03 22 43.5 -0.1
ANMO pmax pmax
comp=Z,33nm,1.1s
ANMO Albuquerque 88.57 52 *eP* **P** **03 20 26.9 +0.1**
comp=Z,33nm,1.1s,mb5.0
ANMO *ep*P pP 03 22 43.5 -0.2
KMI Kunming 88.67 297⇓ P **P** **03 20 29.6 +2.1**
KMI AP pP 03 22 48.5 +4.1
KMI S S 03 30 21.9 +1.9
KMI AMB AMB

comp=Z,50nm,0.9s,mb5.2
GDL2 Guadalupe Moun 88.93 55 *e*P P **03 20 28.9 +0.4**
GDL2 *e*pP pP 03 22 45.3 -0.2
IMA2 Indian Mountai 88.97 10 *e*P P **03 20 27.4 -0.5**
IMA2 *e*pP pP 03 22 44.5 -0.4
IMA2 *e*PP PP 03 24 03.2 -7.9
DLBC Dease Lake 88.97 23 *e*P P **03 20 28.1 +0.1**
DLBC *e*pP pP 03 22 44.2 -0.8
COLA College 88.98 13*d*/P P **03 20 26.2 -1.7**
COLA College 88.98 13⇓/P P **03 20 26.3 -1.6**
comp=Z,118nm,0.9s,mb5.6
COLA *e*pP pP 03 22 44.9 -0.1
HHC Hu-ho-hao-te 88.99 315 *e*P P **03 20 29.4 +0.8**
HHC SKS SKS 03 29 56.6 -0.9
HHC S S 03 30 23.4 +0.9
HHC AMB AMB
comp=Z,50nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,240nm,4.8s
MCMT McKenzie Canyo 89.06 41 *e*P P **03 20 29.4 +0.6**
MCMT *e*pP pP 03 22 45.4 -0.4
ILAR Eielson Array 89.09 13 P P **03 20 27.1 -1.4**
comp=Z,26nm,0.6s,mb5.1,baz=216,slow=5.1,SNR=539
ILAR pP pP 03 22 44.7 -0.8
comp=Z,6.0nm,1.1s,baz=228,slow=5.7,SNR=4.3
ILAR PKiKP 03 25 20.9
comp=Z,0.6nm,0.4s,baz=267,slow=2.9,SNR=12
MSO Missoula 89.46 39 *e*P P **03 20 29.6 -1.0**
comp=Z,11nm,1.2s,mb4.5
BILL Bilibino 89.48 355⇓/P P **03 20 29.3 -0.9**
BILL *e**PP pP 03 22 47.7 +0.3
BILL pmax pmax
comp=Z,40nm,0.9s,mb5.2
BILL Bilibino 89.48 355⇓/P P **03 20 29.3 -0.9**
comp=Z,40nm,0.9s,mb5.2
BILL *e*pP pP 03 22 47.7 +0.3
DLMT Dillon 89.49 40⇓*e*P P **03 20 30.9 +0.2**
comp=Z,36nm,1.2s,mb5.0
DLMT *e*pP pP 03 22 48.1 +0.2
REDW Red Top Meadow 89.55 43⇓/P P **03 20 31.3 +0.2**
comp=Z,78nm,1.1s,mb5.5
REDW *e*pP pP 03 22 49.4 +1.1
TPAW Teton Pass 89.55 43⇓/P P **03 20 31.7 +0.6**
comp=Z,47nm,1.1s,mb5.2
PLCA Paso Flores 89.65 134 P P **03 20 32.9 +1.3**
comp=Z,4.4nm,0.8s,mb4.4,baz=211,slow=7.3,SNR=16
PLCA pP pP 03 22 48.5 -0.3
comp=Z,3.2nm,1.0s,baz=225,slow=2.9,SNR=4.0
PLCA Paso Flores 89.65 134 *e*P P **03 20 33.2 +1.6**
PLCA *e**PP pP 03 22 46.5 -2.3
CPRX Cap Rock 89.66 54 *e*P P **03 20 31.3 -0.5**
SNOW Snow King Moun 89.66 43⇓*e*P P **03 20 32.1 +0.5**
comp=Z,70nm,0.9s,mb5.5
SNOW *e*pP pP 03 22 49.4 +0.5
IMW Indian Meadow 89.76 42⇓*e*P P **03 20 32.6 +0.6**
comp=Z,59nm,1.0s,mb5.4
IMW *e*pP pP 03 22 48.6 -0.7
MOOW Moose Ponds 89.81 42 *e*P P **03 20 32.4 +0.2**
comp=Z,26nm,1.4s,mb4.9
MOOW *e*pP pP 03 22 49.6 0.0
LOHW Long Hollow 89.83 43⇓*e*P P **03 20 32.4 0.0**
comp=Z,34nm,1.0s,mb5.1
LOHW *e*pP pP 03 22 49.7 0.0
CHMT Chamberlain Mo 89.90 39 *e*P P **03 20 32.2 -0.4**
CHMT *e*pP pP 03 22 49.9 0.0
BTO Baotou 89.91 314 *e*P P **03 20 33.6 +0.8**
BTO AMB AMB
comp=Z,40nm,1.5s,mb5.0
QLMT Earthquake Lak 89.93 41 *e*P P **03 20 33.7 +0.9**
QLMT *e*pP pP 03 22 50.2 +0.1
PDAR Pinedale Array 90.09 44 P P **03 20 33.4 -0.1**
comp=Z,21nm,0.8s,mb5.0,baz=205,slow=2.9,SNR=171
PDAR PKKPbc 03 38 00.4
comp=Z,2.0nm,0.5s,baz=90,slow=1.8,SNR=20
PDAR PKPPKP 03 46 08.1
comp=Z,0.8nm,1.0s,baz=45,slow=4.2,SNR=4.5
YFT Old Faithful 90.10 42⇓*e*P P **03 20 35.2 +1.6**
SMCO Snowmass 90.12 48⇓*e*P P **03 20 33.6 -0.2**
comp=Z,21nm,0.9s,mb5.0
YMR Madison River 90.13 41 *e*P P **03 20 34.5 +0.8**
comp=Z,74nm,1.6s,mb5.3
YMR *e*pP pP 03 22 50.6 -0.5
CD2 Chengdu 90.21 303 P P **03 20 36.2 +1.8**
BOZ Bozeman (W) 90.22 40⇓*e*P P **03 20 34.1 0.0**
BOZ *e**PP pP 03 22 47.3 -4.2
BOZ pmax pmax
comp=Z,22nm,0.9s,mb5.0
BOZ Bozeman (W) 90.22 40⇓*e*P P **03 20 34.1 +0.1**
comp=Z,22nm,0.9s,mb5.0
BOZ *e*pP pP 03 22 47.3 -4.2
DAWY Dawson 90.28 16⇓/P P **03 20 33.6 -0.4**
SDCO Great Sand Dun 90.51 50 *e*P P **03 20 35.9 +0.2**
comp=Z,25nm,1.1s,mb5.0
HRY Holter Researc 90.63 39 *e*P P **03 20 35.8 -0.1**
HRY *e*pP pP 03 22 52.3 -1.2
RWWY Rawlins 91.12 45 *e*P P **03 20 38.0 -0.4**
comp=Z,56nm,1.2s,mb5.3
ISCO Idaho Springs 91.34 48⇓*e*P P **03 20 39.6 +0.2**
ISCO pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ISCO Idaho Springs 91.34 48⇓*e*P P **03 20 39.6 +0.2**
comp=Z,8.4nm,0.9s,mb4.6
GCMT Greycliff 91.48 41 *e*P P **03 20 40.7 +0.8**
GCMT *e*pP pP 03 22 58.4 +0.8
PHWY Pilot Hill 92.12 46 *e*P P **03 20 42.6 -0.3**
YAK Yakutsk 92.24 338*d*/P P **03 20 41.8 -1.1**
YAK pmax pmax
comp=Z,89nm,0.8s,mb5.8
YAK Yakutsk 92.24 338 *e*P P **03 20 42.0 -0.9**
comp=Z,63nm,0.8s,mb5.6
LZH Lanzhou 92.28 308 *e*P P **03 20 45.4 +1.6**
LZH AP pP 03 23 02.4 +0.9
LZH XP sP 03 24 05.4 +2.0
LZH *e*S S 03 30 53.3 +2.1
LZH XS 03 34 56.5
LZH AMB AMB
comp=Z,100nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,360nm,5.3s
EGMT Eagleton 92.51 39 *e*P P **03 20 43.4 -1.1**
comp=Z,7.1nm,0.8s,mb4.8
EGMT *e*pP pP 03 23 02.8 +0.5
EDM Edmonton 93.15 33 *e*P P **03 20 46.2 -1.1**
EDM *e**PP pP 03 23 02.8 -2.4
LAO LASA Array 94.02 41 *e*P P **03 20 51.6 +0.1**
comp=Z,23nm,1.0s,mb5.2
LAO *e*pP pP 03 23 10.2 +0.8
WMOK Wichita Mounta 94.22 54 *e*pP pP 03 23 10.6 0.0
comp=Z,8.7nm,1.2s
RSSD Black Hills 94.28 44 *e*P P **03 20 52.0 -0.7**
RSSD *e**PP pP 03 23 10.6 0.0
RSSD pmax pmax
comp=Z,19nm,0.9s,mb5.1
RSSD Black Hills 94.28 44 *e*P P **03 20 52.0 -0.7**
comp=Z,19nm,0.9s,mb5.1
RSSD *e*pP pP 03 23 10.6 0.0
INK Inuvik 95.09 15 *e*P P **03 20 54.4 -1.4**
INK *e**PP pP 03 23 13.5 -0.2
INK pmax pmax
comp=Z,24nm,1.0s
INK Inuvik 95.09 15 *e*P P **03 20 54.4 -1.4**
comp=Z,24nm,1.0s,mb5.3
INK *e*pP pP 03 23 13.5 -0.2
ULN Ulaanbaatar 95.10 320 *e*P P **03 20 56.0 -0.3**
ULN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ULN Ulaanbaatar 95.10 320 *e*P P **03 20 56.0 -0.4**
comp=Z,8.9nm,1.0s,mb4.8
SONM Songino Array 95.49 319 P P **03 20 58.0 -0.1**
comp=Z,1.3nm,0.5s,mb4.3,baz=121,slow=3.5,SNR=20
SONM PP PP 03 24 58.3 -3.2
comp=Z,3.3nm,1.1s,baz=119,slow=8.7,SNR=6.3
SONM PKiKP 03 25 34.3
comp=Z,1.4nm,1.0s,baz=104,slow=1.2,SNR=5.7
SONM PKKP PKKP 03 37 46.6 +65
comp=Z,0.7nm,0.5s,baz=263,slow=3.6,SNR=9.0
DGMT Dagmar 96.03 40 *e*P P **03 21 00.2 -0.3**
comp=Z,18nm,0.9s,mb5.2
DGMT *e*pP pP 03 23 19.1 +0.7
YKA Yellowknife Ar 97.46 25 P P **03 21 05.6 -0.9**
comp=Z,4.7nm,0.7s,mb4.8,baz=245,slow=4.5,SNR=26
YKA pP pP 03 23 23.4 -1.2
comp=Z,1.0nm,0.8s,baz=230,slow=4.8,SNR=1.9
YKA PP PP 03 25 12.4 -4.0
comp=Z,1.6nm,1.0s,baz=243,slow=8.0,SNR=5.9
YKA PKiKP 03 25 35.7
comp=Z,0.4nm,0.6s,baz=247,slow=1.4,SNR=7.1
ZAK Zakamensk 98.39 321 *e*P P **03 21 14.8 +3.7**
TIXI Tiksi 99.02 345 *e*P P **03 21 12.3 -1.1**
LSA Lhasa 99.92 298 *e*P P **03 21 18.6 +0.1**
LSA pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
LSA Lhasa 99.92 298 *e*Pdif P **03 21 18.6 +0.2**
comp=Z,7.1nm,1.0s,mb5.0
ULM Lac du Bonnet 101.73 41 PKiKP 03 25 42.8
comp=Z,2.2nm,0.8s,baz=222,slow=5.2,SNR=3.9
LPAZ La Paz 102.81 113 P Pdif 03 21 33.9 +2.4
comp=Z,0.6nm,0.6s,baz=286,slow=8.3,SNR=3.6
LPAZ PKKP PKKP 03 37 34.8 +66
comp=Z,1.5nm,0.5s,baz=183,slow=9.6,SNR=4.9
CPUP Villa Florida 106.50 127 *e*PKPdf 03 25 53.0
ZAL Zalesovo 110.28 321 Pdiff Pdif 03 22 01.6 -1.8
comp=Z,0.8nm,0.3s,baz=160,slow=6.8,SNR=3.1
ZAL PKiKP 03 25 59.1
comp=Z,4.8nm,0.6s,baz=331,slow=2.3,SNR=21
MKAR Makanchi Array 110.82 313 Pdiff Pdif 03 22 07.3 +1.2
comp=Z,1.3nm,0.8s,baz=91,slow=6.0,SNR=9.8
MKAR PKiKP 03 26 00.8
comp=Z,3.4nm,0.4s,baz=74,slow=2.2,SNR=40
MKAR PKKPbc 03 37 02.1
comp=Z,2.1nm,0.8s,baz=278,slow=4.2,SNR=14
NVS Novosibirsk 111.30 322 *e*PKIKP PKPdf 03 26 00.1 -1.1
NVS pmax pmax
comp=Z,11nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,0.6s
KURK Kurchatov 113.69 317 PKIKP PKPdf 03 26 05.9 -0.1
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 113.69 317 *e*PKPdf PKPdf 03 26 05.8 -0.2
KSH Kashi 114.34 305 *e*PKP PKPdf 03 26 10.7 +3.1
KSH *e*PKS PKS 03 29 46.6 +4.1
KSH *e*SKS SKS 03 32 21.3 +24
KSH PP PP
comp=Z,210nm,5.1s
TKM2 Tokmak 2 115.04 309 P PKPdf 03 26 09.5 +0.7
SNR=7.1
KZA Kyzart 115.20 308 P PKPdf 03 26 10.9 +1.8
SNR=5.8
KBK Karagaybulak 115.49 308 P PKPdf 03 26 10.7 +1.0
SNR=5.4
CHMS Chumysh 115.66 309 P PKPdf 03 26 10.5 +0.5
SNR=5.4
UCH Uchtor 115.76 308 P PKPdf 03 26 11.8 +1.6
SNR=10
AAK Ala-Archa 115.82 308 *i* PKIKP PKPdf 03 26 10.0 -0.3
AAK Ala-Archa 115.82 308 *e*PKPdf PKPdf 03 26 09.8 -0.5
USP Ospenovka 115.87 309 P PKPdf 03 26 11.1 +0.7
SNR=7.7
AML Almayashu 116.36 308 P PKPdf 03 26 12.9 +1.5
SNR=9.7
SJG San Juan 117.20 80 *e*PKIKP PKPdf 03 26 13.5 -0.1
MTP Monte Pirata 117.74 80 *e*PKPdf PKPdf 03 26 14.0 -0.6
VOSK Vostochnaya 118.48 319 PKIKP PKPdf 03 26 15.2 -0.1
VOSK pmax pmax
comp=Z,28nm,1.0s
CHKZ Chkalovo 118.66 321 *e*PKIKP PKPdf 03 26 15.2 -0.4
KKAR Karatay Array 118.77 308 *i* PKIKP PKPdf 03 26 16.5 +0.4
KKAR pmax pmax
comp=Z,7.0nm,0.7s
BVA0 Borovoye Array 118.83 320 *i* PKIKP PKPdf 03 26 16.0 +0.1
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 118.89 320 *e*PKIKP PKPdf 03 26 16.2 +0.2
CAM4 Nova Friburgo 119.52 133 *e*P 03 26 08.6
CAM4 *i* 03 26 19.3
CAM4 *i* 03 26 23.0
CAM4 *i* 03 26 24.5
CAM4 *i* 03 26 33.4
BDFB Brasilia 119.73 123 PKP PKPdf 03 26 18.8 +0.3
comp=Z,3.5nm,0.7s,baz=220,slow=4.7,SNR=7.5
BDFB PKKPbc 03 36 32.7
comp=Z,4.5nm,0.9s,baz=116,slow=6.6,SNR=4.5
SCHQ Schefferville 119.76 38 PKP PKPdf 03 26 17.3 -0.4
comp=Z,6.1nm,0.8s,baz=68,slow=0.8,SNR=7.5
OPO Ambohidratompo 119.93 232 PKP PKPdf 03 26 20.5 +1.6
comp=Z,5.2nm,0.8s,baz=73,slow=3.7,SNR=8.4
DAG Damnarks Havn 123.39 5⇑/P PKPdf 03 26 24.6 +0.3
comp=Z,13nm,0.7s
DAG Damnarks Havn 123.39 5⇑*e*PKIKP PKPdf 03 26 24.6 +0.3
DAG pmax pmax
comp=Z,13nm,0.7s
SFJD Kangerlussuaq 123.85 22 *i* P PKPdf 03 26 25.1 -0.2
comp=Z,20nm,0.6s
SFJD Kangerlussuaq 123.85 22 *i* PKIKP PKPdf 03 26 25.1 -0.2
SFJD pmax pmax
comp=Z,20nm,0.6s
SVE Sverdlovsk 123.85 325 *e*PKIKP PKPdf 03 26 26.1 +0.6
SVE pmax pmax
comp=Z,20nm,1.5s
SUMG Summit 123.94 13 *e*PKPdf PKPdf 03 26 26.1 +0.7
SUMG *e*PP PP 03 28 15.5 -8.0
SOKR Solikamsk 125.03 329*d* /PKIKP PKPdf 03 26 27.8 +0.2
SOKR pmax pmax
comp=Z,110nm,1.0s
ARU Arti 125.06 325 *i* PKIKP PKPdf 03 26 28.3 +0.5
ARU *e* 03 28 24.8
ARU Arti 125.06 325 *e*PKPdf PKPdf 03 26 28.5 +0.8
ARU *e*PP PP 03 28 23.9 -6.6
AB31 Akbulak array 125.77 316 *i* PKIKP PKPdf 03 26 29.9 +0.6
AB31 pmax pmax
comp=Z,3.0nm,0.5s
AKTO Aktyubinsk 126.78 318 PKP PKPdf 03 26 32.1 +0.8
comp=Z,22nm,0.9s,baz=89,slow=3.6,SNR=58
AKTO Aktyubinsk 126.78 318 PKIKP PKPdf 03 26 31.8 +0.5
AKTO pmax pmax
comp=Z,6.0nm,1.0s
JMDO Jabal Madar 127.10 283 P PKPdf 03 26 34.2 +1.5
SNR=7.7
SMDO Samad 127.27 283 P PKPdf 03 26 34.8 +1.7
SNR=8.3
BSY Bisya 127.99 283 P PKPdf 03 26 34.8 +0.4
SNR=16
SCO Scoresbysund 128.74 10 *i* P PKPdf 03 26 35.2 +0.7
comp=Z,8.6nm,0.9s
KEV Kevo 128.81 349 *ep* PKPdf 03 26 27.3 -7.4
comp=Z,29nm,0.9s
KEV Kevo 128.81 349 *e*PKIKP PKPdf 03 26 27.3 -7.4
KEV pmax pmax
comp=Z,29nm,0.9s
ARCES ARCESS Array B 129.27 349 PKhKP 03 26 22.4
comp=Z,1.5nm,0.5s,baz=22,slow=0.2,SNR=13
ARCES PKP PKPdf 03 26 35.8 +0.2
comp=Z,23nm,0.5s,baz=18,slow=1.4,SNR=71
ARCES SKPbc 03 29 00.6
comp=Z,22nm,0.8s,baz=18,slow=3.8,SNR=14
ASHO Ashiyiah 129.31 285 P PKPdf 03 26 38.3 +1.4
SNR=17
RBK Rabkut 129.73 276 P PKPdf 03 26 39.3 +1.5
SNR=8.2
RBK P 03 29 04.8
SNR=13
WHFO Wadi Hawf 130.22 276 P PKPdf 03 26 39.9 +1.2
SNR=8.1
WHFO P 03 29 06.6
SNR=14
MATP Matopo 130.71 215 PKhKP 03 26 26.4
comp=Z,1.2nm,0.7s,baz=312,slow=3.7,SNR=3.5
MATP PKP PKPdf 03 26 41.0 +1.4
comp=Z,9.7nm,0.7s,baz=152,slow=1.5,SNR=21
MATP SKPbc 03 29 07.3
comp=Z,33nm,0.7s,baz=156,slow=3.9,SNR=37
KLMR Klimovskoe 131.96 336 *i* PKIKP PKPdf 03 26 41.1 +0.2
KLMR pmax pmax
comp=Z,70nm,1.4s
JOF Joensuu 133.33 341 *ep* 03 26 29.6
comp=Z,30nm,0.6s
JOF Joensuu 133.33 341 *ep* 03 29 12.9
comp=Z,24nm,1.0s
JOF Joensuu 133.33 341 *e*PKHKP 03 26 29.6
JOF pmax pmax
comp=Z,30nm,0.6s
JOF Joensuu 133.33 341 *e*P 03 29 12.9
JOF pmax pmax
comp=Z,24nm,1.0s
LSZ Lusaka 135.03 219 *e*PKPdf PKPdf 03 26 49.5 +1.8
LSZ *e*SKP 03 29 22.9
KAF Kangasniemi 135.39 343 *ep* 03 26 34.8
comp=Z,24nm,0.6s
KAF Kangasniemi 135.39 343 *ep* 03 29 19.8
comp=Z,4.2nm,0.5s
KAF Kangasniemi 135.39 343 *e*PKHKP 03 26 34.8
KAF pmax pmax
comp=Z,24nm,0.6s
KAF Kangasniemi 135.39 343 *e*P 03 29 19.8
KAF pmax pmax
comp=Z,4.0nm,0.5s
MOS Moscow 135.88 331 *e*PKIKP PKPdf 03 26 46.3 -1.9
FINES FINESS Array B 136.00 343 PKhKP 03 26 36.1
comp=Z,1.5nm,0.5s,baz=70,slow=3.8,SNR=16
FINES PKP PKPdf 03 26 47.7 -0.5
comp=Z,25nm,0.8s,baz=104,slow=5.7,SNR=20
FINES SKPbc 03 29 22.6
comp=Z,8.9nm,0.6s,baz=45,slow=4.1,SNR=11
VRHR Novokhopersk 136.34 323 *e*PKIKP PKPdf 03 26 49.6 +0.4
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.6s
OBN Obninsk 136.74 331 *i* PKIKP PKPdf 03 26 50.5 +0.7
OBN *e* 03 29 46.1
OBN pmax pmax
comp=Z,67nm,0.9s
OBN Obninsk 136.74 331 *e*PKPdf PKPdf 03 26 48.7 -1.1
TSUM Tsumeb 136.77 203 *e*PKPdf PKPdf 03 26 52.0 +1.2
TSUM Tsumeb 136.77 203 *e*SKP 03 29 27.4
VOR Voronezh 137.35 325 PKIKP PKPdf 03 26 51.0 0.0
VOR pmax pmax
comp=Z,80nm,1.8s
TI2 Plekhanov 137.81 309⇓/PKIKP PKPdf 03 26 53.0 +0.8
KMBO Kilima Mbogo 138.15 243 PKhKP 03 26 48.0
comp=Z,3.2nm,0.9s,baz=100,slow=4.3,SNR=9.4
KMBO PKP PKPdf 03 26 55.7 +2.2
comp=Z,7.5nm,1.0s,baz=65,slow=3.1,SNR=10
KMBO SKPbc 03 29 32.7
comp=Z,6.3nm,1.0s,baz=33,slow=1.0,SNR=5.5
KMBO Kilima Mbogo 138.15 243 PKP 03 26 48.0
KMBO PKP PKPdf 03 26 55.7 +2.2
KMBO SKPbc 03 29 32.7
GNI Garni 138.21 307 *e*P PKPdf 03 26 53.8 +0.9
GNI Garni 138.21 307 *e*PKPpre 03 26 47.3
GNI *e*PKP PKPdf 03 26 53.6 +0.7
GNI *e*PKPdf PKPdf 03 26 54.8 +1.9
KIV Kislovodsk 138.58 313 *i* PKIKP PKPdf 03 26 53.2 -0.3
KIV pmax pmax
comp=Z,9.0nm,0.7s
CLDR Calderan 139.07 306 *e*P 03 26 46.7
KAMS Al Khamasin 139.20 277 P PKPdf 03 26 55.9 +0.7
NB2 NORSAR Subarra 139.40 352 PKPabc 03 26 46.7
comp=Z,7.1nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 139.40 352 PKhKP 03 26 47.0
comp=Z,10nm,0.7s,baz=16,slow=4.7,SNR=30
NOA PKP PKPdf 03 26 55.8 +1.3
comp=Z,12nm,0.7s,baz=14,slow=3.7,SNR=15
NOA SKPbc 03 29 32.4
comp=Z,10nm,0.9s,baz=14,slow=4.5,SNR=9.9
HAKT HAKKARI 139.57 304 *i* P 03 26 40.6
NAO01 NORSAR Array S 139.63 352 *e*PKPpre 03 26 47.9
HFS Hagfors 139.91 350 PKhKP 03 26 48.3
comp=Z,21nm,0.4s,baz=50,slow=3.7,SNR=126
HFS PKP PKPdf 03 26 57.5 +2.1
comp=Z,15nm,0.6s,baz=63,slow=3.3,SNR=8.8
HFS SKPbc 03 29 34.2
comp=Z,9.4nm,0.8s,baz=288,slow=4.7,SNR=6.1
MSL Mosul 140.30 302 *ex* x 03 26 52.8
EZM Erzurum 140.78 308 *e*P 03 26 46.8
KONO Kongsberg 140.95 353 *e*PKHKP 03 26 51.3
BTMT Batman 141.14 305 P PKPdf 03 26 55.5 -2.7
BNGL BINGOL 141.20 306 *i* P PKPdf 03 26 51.2 -7.1
BEST Besiri 141.38 305 *i* P PKPdf 03 26 54.1 -4.5
MACK Trabzon 141.62 310 *i* P PKPdf 03 26 55.0 -3.9
ANN Anapa 141.72 317 *i* PKHKP 03 26 52.8
ANN pmax pmax
comp=Z,64nm,1.0s
MARD Mardin 141.90 304 *i* P PKPdf 03 26 51.2 -8.3
BLJS Baljurashi 141.90 276 P PKPdf 03 26 60.0 0.0
GUMT Gumushane 141.99 309 P PKPdf 03 26 58.7 -0.9
PTK Pertek 142.53 307 P PKPdf 03 26 59.8 -0.8
GRSN GIRESUNGRSN 142.70 311 *i* P PKPdf 03 26 55.0 -5.7
ELZG Elazig 142.95 307 *i* P PKPdf 03 26 58.9 -2.4
SUW Suwalki 142.98 338⇓/PKP PKPdf 03 27 00.0 -0.8
AKASG Malin Array Be 142.98 330 PKP PKPdf 03 26 59.6 -1.3
comp=Z,180nm,0.6s,baz=43,slow=4.3,SNR=880
AKASG SKPbc 03 29 42.2
comp=Z,2.7nm,0.7s,baz=44,slow=3.3,SNR=5.9
AKASG SKKPbc 03 37 54.9
comp=Z,0.5nm,0.5s,baz=249,slow=3.1,SNR=5.0
AKASG Malin Array Be 142.98 330 PKP PKPdf 03 26 59.6 -1.3
AKASG SKPbc 03 29 42.2
AKASG SKKPbc 03 37 54.9
LTHS Al Lith 143.07 276 P PKPbc 03 27 03.3 +2.6
URFA Urfa 143.37 305 P PKPbc 03 27 02.2 +1.1
MYA Malataya 143.42 306 P PKPbc 03 27 03.6 +2.4
SIM Simferopol' 143.73 319*d* /PKIKP PKPdf 03 27 04.8 +2.4
SIM pmax pmax
comp=Z,333nm,0.9s
ATAB Bozova 143.77 305 *i* P PKPbc 03 27 02.7 +0.4
SVST Sivas 144.04 309 *i* P PKPbc 03 26 59.8 -3.2
MUD Monsted U'grnd 144.12 352⇓/P PKPbc 03 27 03.7 +1.0
comp=Z,253nm,1.0s
MUD Monsted U'grnd 144.12 352⇓/PKIKP PKPdf 03 27 03.7 +1.0
MUD pmax pmax
comp=Z,250nm,1.0s
TOKT Tokat 144.14 310 *e*P PKPbc 03 27 00.9 -2.3
KVT Kavak 144.20 312 P PKPdf 03 27 04.5 +1.1
COP Copenhagen 144.36 349⇓/P PKPdf 03 27 04.2 +1.0
comp=Z,34nm,0.5s
COP Copenhagen 144.36 349⇓/PKIKP PKPdf 03 27 04.2 +1.0
COP pmax pmax
comp=Z,34nm,0.5s
BSD Bornholm Skovb 144.39 346⇓/P PKPdf 03 27 04.1 +0.9
comp=Z,124nm,1.0s
BSD Bornholm Skovb 144.39 346⇓/PKIKP PKPdf 03 27 04.1 +0.9
BSD pmax pmax
comp=Z,120nm,1.0s
KBRS Khaybar 144.55 285 P PKPdf 03 27 07.2 +2.7
GAZ Gaziantep 144.68 305 P PKPdf 03 27 05.6 +1.2
KAHT Ahir Dag 144.80 306 *i* P PKPdf 03 27 02.7 -1.8
BOYT Boyabat 144.85 313 *i* P PKPdf 03 27 04.6 +0.1
BYBT Boyabat 144.92 313 P PKPdf 03 27 07.6 +3.0
BNN Bunyan 145.17 308 P PKPdf 03 27 06.6 +1.4
CTKT Corum 145.25 312 *i* P PKPdf 03 27 01.7 -3.5
GMK Mull of Kintyr 145.42 7⇓*e*P PKPdf 03 27 07.3 +2.3
CORM Corum 145.54 311 P PKPdf 03 27 08.7 +2.9
COBT Iskenderun 145.60 304 *i* P PKPdf 03 27 05.6 -0.4
TOS Tosya 145.61 313 P PKPdf 03 27 09.6 +3.8
GCL Cushendall 145.63 7 *e*P PKPdf 03 27 07.6 +2.2
KOZT Kozan 145.64 306 P PKPdf 03 27 09.4 +3.4
EKA Eskdalemuir Ar 145.64 4 PKPbc PKPbc 03 27 07.8 +1.0
comp=Z,84nm,0.8s,baz=335,slow=2.6,SNR=130
EKA SKKPbc 03 37 45.0
comp=Z,4.6nm,1.0s,baz=191,slow=4.3,SNR=4.6
ESK Eskdalemuir 145.66 4 *e*PKIKP PKPdf 03 27 07.5 +2.1
HTY Hatay 145.81 304 P PKPdf 03 27 09.9 +3.6
BALT Daday 145.83 314 *i* P PKPdf 03 27 06.5 +0.4
CEYT Ceyhan 145.84 305 P PKPdf 03 27 07.9 +1.5
AVNT Avonos 145.92 309 *i* P PKPdf 03 27 05.6 -0.8
CDAG Cicekdag 145.95 310 *i* P PKPdf 03 27 00.8 -5.6
GAL1 Galloway 145.98 6⇓*e*P PKPdf 03 27 08.8 +2.9
GAL1 AMb AMB 03 27 09.7
comp=Z,248nm,1.0s
CANT Cankiri 146.07 312 *e*P PKPdf 03 27 09.5 +3.0
FKH Fakeheh 146.08 300 *e*P PKPdf 03 27 11.3 +4.5
ELDT Eldivan 146.25 312 *i* P PKPdf 03 27 07.5 +0.6
KARA Karaisali 146.29 306 P PKPdf 03 27 07.5 +0.5
UMJS Umm Lajj 146.31 284 P PKPdf 03 27 12.2 +4.8
BSEG Bad Segeberg 146.40 350 *e*PKP2 PKPab 03 27 10.8 -4.3
BSEG *e* 03 30 43.9
BSEG Bad Segeberg 146.40 350 *e*PKPdf PKPdf 03 27 08.1 +1.4
BSEG *e*PKPbc PKPbc 03 27 10.8 +2.2
BSEG *e*PP PP 03 30 43.9 +2.4
BR131 Keskin Array S 146.42 311 *e*PKPdf PKPdf 03 27 07.9 +0.7
BR131 *e*PKPbc PKPbc 03 27 10.8 +1.7
BR131 *ep*PKPdf 03 29 36.9
BRTR Keskin Array B 146.42 311 PKP PKPdf 03 27 07.7 +0.5
comp=Z,33nm,0.7s,baz=115,slow=1.0,SNR=109
BRTR PKPbc PKPbc 03 27 11.0 +1.8
comp=Z,37nm,0.7s,baz=127,slow=3.5,SNR=149
BRTR pPKPbc 03 29 33.0
comp=Z,1.2nm,0.9s,baz=130,slow=3.4,SNR=1.8

BRTR				SKKPbc		03 37 41.5	
	comp=Z,1.0nm,0.8s,baz=221,slow=6.0,SNR=6.1						
BRTR	**Keskin Array B**	**146.42**	**311**	PKIKP	PKPdf	03 27 07.7	+0.5
BRTR						03 29 33.0	
SAFT	**Safranbolu**	**146.43**	**314**	P	PKPdf	03 27 07.8	+0.6
GMM	**Mts of Mourne**	**146.47**	**7**	⇓eP	PKPdf	03 27 10.2	+3.4
KWP	**Kalwaria**	**146.63**	**334**	⇓iPKP	PKPdf	03 27 11.6	+4.4
KWP	**Kalwaria**	**146.63**	**334**	ePKIKP	PKPdf	03 27 08.2	+1.0
KWP				i		03 27 11.6	
KWP				e		03 29 29.3	
KWP	**Kalwaria**	**146.63**	**334**	ePKPdf	PKPdf	03 27 08.2	+1.0
KWP				ePKPbc	PKPbc	03 27 11.4	+2.1
KWP				⇓iPKP	PKPdf	03 27 11.6	+4.4
KWP				epPKPdf		03 29 29.3	
WIM	**Isle of Man**	**146.70**	**6**	⇓eP	PKPdf	03 27 11.0	+3.9
WIM				AMb	AMB	03 27 12.2	
	comp=Z,440nm,1.1s						
BHL	**Bhannes**	**146.76**	**300**	eP	PKPdf	03 27 12.8	+4.8
MERS	**Mersin**	**146.82**	**306**	P	PKPdf	03 27 12.5	+4.6
TBKS	**Tabuk**	**146.89**	**290**	P	PKPdf	03 27 13.5	+5.2
KSDI	**Kefar Szold**	**146.92**	**299**	P	PKPdf	03 27 08.7	+0.5
ANTO	**Ankara**	**146.96**	**312**	P	PKPdf	03 27 12.7	+4.6
ANTO	**Ankara**	**146.96**	**312**	ePKIKP	PKPdf	03 27 09.3	+1.3
ANTO				e		03 29 35.1	
ANTO	**Ankara**	**146.96**	**312**	ePKPdf	PKPdf	03 27 09.3	+1.2
ANTO				ePKPbc	PKPbc	03 27 12.9	+2.5
ANTO				epPKPdf		03 29 35.1	
LOD	**Lodumlu**	**146.97**	**312**	P	PKPdf	03 27 13.0	+4.9
BURAR	**Bucovina Array**	**147.02**	**329**	⇓P	PKPdf	03 27 13.1	+5.2
BURAR	**Bucovina Array**	**147.02**	**329**	⇓P	PKPdf	03 27 13.1	+5.2
RUE	**Ruedersdorf**	**147.08**	**345**	ePKPdf	PKPdf	03 27 09.3	+1.5
RUE				ePKPbc	PKPdf	03 27 12.3	+4.4
CFR	**Carcaliu**	**147.12**	**323**	⇓P	PKPdf	03 27 11.7	+3.6
SGKT	**Sivrigoynuk**	**147.16**	**313**	i P	PKPdf	03 27 03.6	-4.7
DCN	**Croghan**	**147.17**	**9**	⇓iP	PKPdf	03 27 12.3	+4.4
MMLI	**Mount Malkishu**	**147.27**	**298**	P	PKPdf	03 27 09.8	+1.0
OJC	**Ojcow**	**147.28**	**337**	ePKP	PKPdf	03 27 07.6	-0.6
OJC				e		03 27 12.8	
OJC	**Ojcow**	**147.28**	**337**	ePKP	PKPdf	03 27 07.6	-0.6
OJC				i		03 27 12.8	
DLF	**Lyons Farm**	**147.32**	**8**	⇓iP	PKPdf	03 27 12.5	+4.3
HNTI	**Hanita**	**147.34**	**299**	P	PKPdf	03 27 09.3	+0.4
KOLS	**Kolonicke sedl**	**147.36**	**334**	i PKP	PKPdf	03 27 13.8	+5.4
KOLS				i		03 27 22.4	
DSB	**Dublin**	**147.39**	**8**	ePKPbc	PKPdf	03 27 12.2	+3.9
DSB				ePKPab	PKPab	03 27 16.5	-2.5
STHS	**Stebnicka Huta**	**147.39**	**335**	i PKP	PKPdf	03 27 13.8	+5.4
TIRR	**Tirgusor**	**147.40**	**322**	⇑P	PKPdf	03 27 13.4	+4.8
TIRR	**Tirgusor**	**147.40**	**322**	PKP2	PKPab	03 27 13.7	-5.6
TIRR	**Tirgusor**	**147.40**	**322**	⇑P	PKPdf	03 27 13.4	+4.8
WCB1	**Church Bay**	**147.47**	**6**	⇓eP	PKPdf	03 27 12.6	+4.2
WCB1				AMb	AMB	03 27 13.4	
	comp=Z,145nm,0.9s						
WME	**Myndd Eilian**	**147.47**	**6**	⇓eP	PKPdf	03 27 12.8	+4.4
HAF	**Haifa**	**147.53**	**298**	P	PKPdf	03 27 10.4	+1.2
MZDA	**Masada**	**147.53**	**295**	P	PKPdf	03 27 10.0	+0.8
HARR	**Harsova**	**147.53**	**323**	⇓P	PKPdf	03 27 13.2	+4.4
WLF1	**Llynfaes**	**147.57**	**6**	⇓eP	PKPdf	03 27 12.9	+4.3
WLF1				AMb	AMB	03 27 15.3	
	comp=Z,145nm,1.1s						
YRC	**Rhoscolyn**	**147.59**	**6**	⇓eP	PKPdf	03 27 12.9	+4.3
YRC				AMb	AMB	03 27 15.7	
	comp=Z,62nm,0.9s						
OFRI	**'Ofer**	**147.60**	**298**	P	PKPdf	03 27 09.7	+0.4
WPM1	**Penmaenmawr**	**147.65**	**5**	⇓eP	PKPdf	03 27 13.3	+4.6
IKL	**Isikli**	**147.66**	**305**	P	PKPdf	03 27 14.2	+4.9
CRVS	**Cervenica-Dubn**	**147.71**	**334**	i PKP	PKPdf	03 27 14.8	+5.8
YLL	**Llanberis**	**147.74**	**6**	eP	PKPdf	03 27 13.3	+4.4
NIE	**Niedzica**	**147.75**	**336**	ePKP	PKPdf	03 27 11.0	+2.0
PHNC	**Paralimni**	**147.77**	**303**	⇓P	PKPdf	03 27 14.8	+5.3
	comp=Z,2.4nm,0.9s						
MDU	**Mudurnu**	**147.78**	**314**	P	PKPdf	03 27 14.1	+4.7
ZFRI	**Zfri**	**147.81**	**294**	P	PKPdf	03 27 11.0	+1.3
HENT	**Hendek**	**147.82**	**315**	i P	PKPdf	03 27 07.5	-1.9
YRE	**Yr Eifl**	**147.87**	**6**	⇓eP	PKPdf	03 27 13.4	+4.4
KSP	**Ksiaz**	**147.90**	**342**	⇓iPKP	PKPdf	03 27 15.2	+6.0
KSP	**Ksiaz**	**147.90**	**342**	i PKP2	PKPdf	03 27 14.8	+5.6
KSP				e		03 30 45.5	
KSP	**Ksiaz**	**147.90**	**342**	ePKP	PKPdf	03 27 10.3	+1.1
KSP				ePKPdf	PKPdf	03 27 14.8	+5.6
KSP				e		03 27 19.8	
KSP				epPKP		03 29 41.0	
KSP				ePP	PP	03 30 45.5	-5.0
WIT	**Witteveen**	**147.99**	**353**	ePKP	PKPdf	03 27 11.7	+2.4
WIT				ex	x	03 27 15.4	
PSN	**Preselentsi**	**147.99**	**321**	P	PKPdf	03 27 16.0	+6.4
KDHN	**Kadinhani**	**148.00**	**310**	i P	PKPdf	03 27 15.1	+5.4
HRFI	**Mount Harif**	**148.01**	**293**	P	PKPdf	03 27 10.6	+0.6
KIZT	**Kizilcal**	**148.02**	**311**	P	PKPdf	03 27 15.4	+5.7
AYUS	**'Aynunah**	**148.02**	**290**	P	PKPdf	03 27 16.2	+6.1
AQBJ	**Aqaba**	**148.04**	**293**	P	PKPdf	03 27 11.4	+1.3
SBD1	**Bryn Du**	**148.05**	**5**	⇓eP	PKPdf	03 27 14.6	+5.2
SBD1				AMb	AMB	03 27 15.3	
	comp=Z,182nm,1.0s						
JMOS	**Jabal al Moall**	**148.06**	**292**	P	PKPdf	03 27 16.3	+6.2
ALWS	**Ilw as Safayha**	**148.08**	**292**	P	PKPdf	03 27 16.4	+6.2
MLR	**Muntele Rosu**	**148.11**	**326**	PKP	PKPdf	03 27 10.6	+0.9
	comp=Z,87nm,0.8s,baz=17,slow=2.7,SNR=58						
MLR				PKPbc	PKPdf	03 27 15.3	+5.6
	comp=Z,87nm,0.8s,baz=347,slow=1.7,SNR=57						
ERMK	**Ermenek**	**148.12**	**306**	i P	PKPdf	03 27 11.3	+1.3
EIL	**Elat**	**148.13**	**293**	P	PKPdf	03 27 11.9	+1.7
BDAS	**Al Bad'**	**148.14**	**290**	P	PKPdf	03 27 16.4	+6.1
MBH	**Mount Berech**	**148.15**	**293**	P	PKPdf	03 27 11.8	+1.5
OKC	**Ostrava-Krasne**	**148.18**	**339**	ePKPDF	PKPdf	03 27 10.3	+0.6
OKC				⇑iPKPB	PKPdf	03 27 15.5	+5.8
OKC				ePKPAB	PKPab	03 27 20.6	-1.6
OKC	**Ostrava-Krasne**	**148.18**	**339**	ePKIKP	PKPdf	03 27 10.3	+0.6
OKC				e		03 27 20.6	
HAQS	**Haql**	**148.23**	**291**	P	PKPdf	03 27 16.7	+6.3
UPC	**Upice**	**148.28**	**342**	ePKPDF	PKPdf	03 27 11.1	+1.3
UPC				⇑iPKPB	PKPdf	03 27 15.8	+6.0
UPC				ePKPAB	PKPab	03 27 21.1	-1.5
UPC				epPKP		03 29 43.0	
UPC	**Upice**	**148.28**	**342**	ePKHKP		03 27 11.1	
UPC				e		03 27 21.1	
DPC	**Dobruska-Polom**	**148.33**	**341**	ePKPDF	PKPdf	03 27 11.4	+1.5
DPC				⇑iPKPB	PKPdf	03 27 16.1	+6.2
DPC				epPKP		03 29 46.2	
CSS	**Prodhromos**	**148.33**	**303**	P	PKPdf	03 27 16.1	+5.7
CSS	**Prodhromos**	**148.33**	**303**	P	PKPdf	03 27 11.6	+1.2
CSS	**Prodhromos**	**148.33**	**303**	ePKPdf	PKPdf	03 27 11.3	+0.9
CSS				ePKPbc	PKPdf	03 27 16.0	+5.6
CSS				epPKPdf		03 29 42.9	
CLL	**Collm**	**148.35**	**345**	i PKIKP	PKPdf	03 27 11.0	+1.1
	comp=Z,logA/T=1.4						
CLL				i PKP1	PKPdf	03 27 15.6	+5.7
CLL				i PKP2	PKPab	03 27 21.3	-1.6
CLL				e*PPKP		03 29 45.0	
CLL	**Collm**	**148.35**	**345**	⇓iPKHKP		03 27 11.0	
CLL				i		03 27 21.3	
CLL				pmax	pmax		
	comp=Z,36nm,1.5s						
CLL				pmax	pmax		
	comp=Z,189nm,1.0s						
CLL				pmax	pmax		
	comp=Z,87nm,1.1s						
CLL	**Collm**	**148.35**	**345**	i PKP	PKPdf	03 27 11.0	+1.1
CLL				⇓iPKP	PKPdf	03 27 15.6	+5.7
MAMC	**Mammari**	**148.36**	**303**	P	PKPdf	03 27 16.4	+6.0
CLZ	**Clausthal**	**148.40**	**349**	ePKPdf	PKPdf	03 27 11.4	+1.5
CLZ				ePKPbc	PKPdf	03 27 16.2	+6.3
CLZ				ePKPab	PKPab	03 27 21.8	-1.3
KZIT	**Kziot**	**148.42**	**295**	P	PKPdf	03 27 12.2	+1.5
MORC	**Moravsky Berou**	**148.44**	**339**	ePKHKP		03 27 11.2	
MORC				e		03 27 22.3	
MORC	**Moravsky Berou**	**148.44**	**339**	PKP2	PKPab	03 27 16.4	-6.9
MORC	**Moravsky Berou**	**148.44**	**339**	ePKPdf	PKPdf	03 27 11.2	+1.1
MORC				ePKPbc	PKPdf	03 27 16.0	+5.9
MORC				ePKPab	PKPab	03 27 22.3	-1.0
KECS	**Kecovo**	**148.44**	**335**	i PKP	PKPdf	03 27 16.3	+6.2
KECS				i		03 27 22.0	
ESKT	**Eskisehir**	**148.46**	**312**	P	PKPdf	03 27 11.4	+1.0
ESKT	**Eskisehir**	**148.46**	**312**	i P	PKPdf	03 27 08.4	-2.0
HLM1	**Long Mynd**	**148.46**	**4**	⇓eP	PKPdf	03 27 15.4	+5.4
HLM1				AMb	AMB	03 27 17.7	
	comp=Z,172nm,1.3s						
GPA	**Golpazari**	**148.47**	**314**	P	PKPdf	03 27 15.4	+5.0
LIKS	**Likavka**	**148.51**	**337**	i PKP	PKPdf	03 27 17.5	+7.3
BRG	**Berggiesshubel**	**148.52**	**344**	⇑iPKHKP		03 27 11.7	
BRG				i		03 27 21.8	
BRG				pmax	pmax		
	comp=Z,36nm,1.5s						
BRG				pmax	pmax		
	comp=Z,399nm,1.9s						
BRG				pmax	pmax		
	comp=Z,115nm,1.3s						
BRG				pmax	pmax		
	comp=Z,19nm,1.5s						
BRG	**Berggiesshubel**	**148.52**	**344**	⇑iPKP	PKPdf	03 27 11.7	+1.5
BRG				i		03 27 16.2	
BRG				i		03 27 21.9	
BRG				pPKP		03 29 42.1	
SSP1	**Stoney Pound**	**148.55**	**5**	⇓eP	PKPdf	03 27 15.7	+5.5
BORA	**Eskisehir**	**148.56**	**313**	i P	PKPdf	03 27 08.4	-2.2
VOIR		**148.61**	**326**	⇑P	PKPdf	03 27 12.6	+2.1
VOIR		**148.61**	**326**	⇑P	PKPdf	03 27 17.2	+6.7
HRT	**Hereke**	**148.63**	**315**	P	PKPdf	03 27 16.8	+6.1
PVCC	**Panska Ves**	**148.67**	**343**	ePKPDF	PKPdf	03 27 11.8	+1.4
PVCC				⇑iPKPB	PKPdf	03 27 16.9	+6.5
PVCC				epPKP		03 29 47.3	
PRD	**Provadia**	**148.74**	**321**	eP	PKPdf	03 27 18.0	+7.2
MTUR	**Matau**	**148.75**	**326**	PKHKP		03 27 16.1	
DRGR		**148.79**	**330**	⇓P	PKPdf	03 27 11.2	+0.5
WTSB	**Winterswijk**	**148.81**	**353**	ePKP	PKPdf	03 27 11.6	+1.0
	comp=Z,64nm,0.8s						
WTSB				ex	x	03 27 16.7	
WTSB				ex	x	03 27 22.8	
HTR	**Trewern Hill**	**148.87**	**5**	⇓eP	PKPdf	03 27 16.2	+5.5
HTR				AMb	AMB	03 27 17.7	
	comp=Z,107nm,1.4s						
YLV	**Yalova**	**148.96**	**315**	P	PKPdf	03 27 17.2	+6.0
MCH1	**Michaelchurch**	**148.97**	**5**	⇓eP	PKPdf	03 27 16.6	+5.7
MCH1				AMb	AMB	03 27 17.3	
	comp=Z,106nm,1.2s						
VYHS	**Vyhne**	**149.07**	**336**	i PKP	PKPdf	03 27 17.9	+6.8
VYHS				i		03 27 24.9	
SSW	**Stow on the Wo**	**149.08**	**3**	⇓eP	PKPdf	03 27 17.3	+6.3
PTCA	**Ponta do Capel**	**149.08**	**49**	ePKP	PKPdf	03 27 19.4	+7.9
PCED	**Cedros**	**149.13**	**49**	ePKP	PKPdf	03 27 18.5	+7.0
PPCY	**Paphos**	**149.13**	**303**	⇓P	PKPdf	03 27 17.4	+5.8
PSZ	**Piszkesteto**	**149.13**	**335**	eCPKP/F	PKPdf	03 27 12.5	+1.3
PSZ				i PKPp	PKPdf	03 27 17.7	+6.5
PSZ	**Piszkesteto**	**149.13**	**335**	ePKPdf	PKPdf	03 27 12.0	+0.8
PSZ				ePKPbc	PKPdf	03 27 17.6	+6.4
CALA	**Caldeira**	**149.15**	**49**	ePKP	PKPdf	03 27 19.0	+7.4
VRAC	**Vranov**	**149.15**	**340**	PKP	PKPdf	03 27 12.1	+0.9
	comp=Z,2.4nm,0.8s,baz=346,slow=6.3,SNR=5.0						
VRAC				PKPbc	PKPdf	03 27 18.0	+6.8
	comp=Z,65nm,1.0s,baz=25,slow=1.4,SNR=60						
VRAC				PKPab	PKPab	03 27 25.2	-1.0
	comp=Z,68nm,0.9s,baz=2.4,slow=1.2,SNR=26						
VRAC	**Vranov**	**149.15**	**340**	PKIKP	PKPdf	03 27 12.1	+0.9
VRAC						03 27 25.2	
PRU	**Pruhonice**	**149.17**	**343**	ePKPDF	PKPdf	03 27 12.5	+1.3
PRU				⇑iPKPB	PKPdf	03 27 17.7	+6.5
PRU				ePKPAB	PKPab	03 27 24.1	-2.2
PRU				epPKP		03 29 44.6	
PRU	**Pruhonice**	**149.17**	**343**	ePKIKP	PKPdf	03 27 12.5	+1.3
PRU				e		03 27 24.1	
CTT	**Catalca**	**149.26**	**317**	eP	PKPdf	03 27 14.5	+2.8
ELBA	**Catalca**	**149.26**	**317**	i P	PKPdf	03 27 09.4	-2.3
MOX	**Moxa**	**149.28**	**347**	i P	PKPdf	03 27 12.8	+1.4
MOX				PP2		03 27 18.0	
MOX				PKP2	PKPab	03 27 25.0	-1.7
MOX	**Moxa**	**149.28**	**347**	ePKIKP	PKPdf	03 27 12.8	+1.4
MOX				e		03 27 25.1	
MOX	**Moxa**	**149.28**	**347**	ePKP	PKPdf	03 27 12.8	+1.4
MOX				e		03 27 17.9	
MOX				e		03 27 25.1	
HGH	**Gray Hill**	**149.34**	**5**	⇓eP	PKPdf	03 27 17.3	+5.9
HGH				AMb	AMB	03 27 18.8	
	comp=Z,226nm,1.4s						
PCND	**Candelaria**	**149.37**	**49**	ePKP	PKPdf	03 27 20.7	+8.8
SKP1	**Kophill**	**149.37**	**2**	⇓eP	PKPdf	03 27 17.4	+5.9
PICO	**Pico**	**149.38**	**49**	ePKP	PKPdf	03 27 19.5	+7.6
ROSA	**Rosais**	**149.41**	**48**	ePKP	PKPdf	03 27 18.8	+6.8
PBOI	**Pico dos Bois**	**149.44**	**49**	ePKP	PKPdf	03 27 20.5	+8.5
TKTP	**Tekketepe**	**149.48**	**310**	i P	PKPdf	03 27 11.3	-0.8
NKC	**Novy Kostel**	**149.48**	**345**	ePKPDF	PKPdf	03 27 13.4	+1.7
NKC				⇑iPKPB	PKPdf	03 27 18.8	+7.1
NKC				ePKPAB	PKPab	03 27 26.0	-1.6
NKC	**Novy Kostel**	**149.48**	**345**	ePKHKP		03 27 13.4	
NKC				e		03 27 26.0	
TREC	**Trest**	**149.51**	**341**	ePKPDF	PKPdf	03 27 12.7	+0.9
TREC				⇑iPKPB	PKPdf	03 27 18.6	+6.8
TREC				ePKPAB	PKPab	03 27 26.7	-1.0
TREC	**Trest**	**149.51**	**341**	ePKIKP	PKPdf	03 27 12.7	+0.9
TREC				e		03 27 26.7	
BCK	**Bucak**	**149.53**	**309**	P	PKPdf	03 27 18.6	+6.4
ORLT	**Orhaneli**	**149.53**	**315**	P	PKPdf	03 27 17.9	+5.8
SWN1	**Swindon**	**149.53**	**3**	eP	PKPdf	03 27 17.5	+5.8
SZH	**Strazhica**	**149.55**	**322**	P	PKPdf	03 27 19.0	+7.0
PMAN	**Manadas**	**149.56**	**48**	ePKP	PKPdf	03 27 19.3	+7.1
SMOL	**Smolenice**	**149.56**	**338**	i PKP	PKPdf	03 27 19.7	+7.8
SMOL				i		03 27 27.4	
JMB	**Yambol**	**149.66**	**321**	P	PKPdf	03 27 19.0	+6.8
BUD	**Budapest**	**149.83**	**335**	⇓iPKP/p	PKPdf	03 27 19.3	+7.0
SRO	**Srobarova**	**149.83**	**336**	i PKP	PKPdf	03 27 19.9	+7.6
SRO				i		03 27 28.6	
PVL	**Pavlikeni**	**149.92**	**323**	P	PKPdf	03 27 20.0	+7.4
EDRB	**Edirne**	**149.93**	**319**	eP	PKPdf	03 27 19.5	+6.9
ZST	**Bratislava**	**149.94**	**338**	i PKP	PKPdf	03 27 20.2	+7.8
ZST				i		03 27 29.1	
BNT	**Bandirma**	**150.01**	**316**	eP	PKPdf	03 27 20.0	+7.1
CRAR	**CRAIOVA**	**150.02**	**326**	PKHKP		03 27 20.7	
HGN	**Heimansgroeve**	**150.09**	**354**	ePKP	PKPdf	03 27 14.2	+1.6
	comp=Z,14nm,0.7s						
HGN				ex	x	03 27 19.7	
HGN				ex	x	03 27 27.9	
MRMT	**Marmara Adasi**	**150.09**	**317**	P	PKPdf	03 27 19.5	+6.6
BZS	**Buzias**	**150.17**	**330**	⇑P	PKPdf	03 27 19.3	+6.4
KHC	**Kasperske Hory**	**150.21**	**343**	ePKPDF	PKPdf	03 27 14.3	+1.5
KHC				⇑iPKPB	PKPdf	03 27 20.3	+7.5
KHC				ePKPAB	PKPab	03 27 29.4	-1.2
KHC				epPKP		03 29 49.3	
KHC	**Kasperske Hory**	**150.21**	**343**	ePKIKP	PKPdf	03 27 14.3	+1.5
KHC				e		03 27 29.4	
GRA1	**Grafenberg Arr**	**150.27**	**346**	ePKPdf	PKPdf	03 27 13.2	+0.3
GRA1				ePKPbc	PKPdf	03 27 20.7	+7.8
GRA1				ePKPab	PKPab	03 27 30.0	-0.8
GRA1				ePP	PP	03 31 03.0	-0.5
GRF	**Grafenberg Arr**	**150.27**	**346**	ePKIKP	PKPdf	03 27 13.2	+0.3
GRF				e		03 27 30.0	
GRF				e		03 31 03.0	
GRF	**Grafenberg Arr**	**150.27**	**346**	ePKP	PKPdf	03 27 13.2	+0.3
GRF				ePKP	PKPdf	03 27 20.7	+7.8
GRF				ePKP	PKPab	03 27 30.0	-0.8
GRF				ePP	PP	03 31 03.0	-0.5
TNS	**Taunus Mts**	**150.29**	**350**	ePKPdf	PKPdf	03 27 14.3	+1.4
TNS				ePKPbc	PKPdf	03 27 20.6	+7.7
TNS				ePKPab	PKPab	03 27 29.5	-1.4
ELL	**Elmali**	**150.31**	**308**	eP	PKPdf	03 27 21.1	+7.7
GOLH	**Golhisar**	**150.37**	**309**	i P	PKPdf	03 27 05.6	-7.9
WET	**Wettzell**	**150.38**	**344**	ePKPdf	PKPdf	03 27 14.5	+1.4
WET				ePKPbc	PKPdf	03 27 20.8	+7.7
WET				ePKPab	PKPab	03 27 30.4	-0.9
BALB	**Balikesir**	**150.41**	**315**	P	PKPdf	03 27 17.3	+3.9
GEC2	**GERESS Array S**	**150.44**	**343**	ePKPdf	PKPdf	03 27 14.2	+1.0
GEC2				ePKPbc	PKPdf	03 27 21.0	+7.8
GEC2				ePKPab	PKPab	03 27 30.3	-1.3
GEC2				epPKPbc		03 29 50.5	
GERES	**GERESS Array B**	**150.44**	**343**	PKP	PKPdf	03 27 14.6	+1.4
	comp=Z,2.5nm,0.7s,baz=70,slow=1.2,SNR=26						
GERES				PKPbc	PKPdf	03 27 20.5	+7.3
	comp=Z,45nm,0.7s,baz=45,slow=1.4,SNR=172						
GERES				PKPab	PKPab	03 27 30.2	-1.4
	comp=Z,5.1nm,0.8s,slow=2.7,SNR=10						
GERES				pPKPab		03 29 48.1	
	comp=Z,1.9nm,0.7s,baz=45,slow=5.7,SNR=5.7						
GERES	**GERESS Array B**	**150.44**	**343**	PKIKP	PKPdf	03 27 14.6	+1.4
GERES						03 27 30.2	
MANT	**Manisa**	**150.52**	**312**	i P	PKPdf	03 27 19.0	+5.3
DENT	**Denizli**	**150.52**	**311**	eP	PKPdf	03 27 20.1	+6.4
DIM	**Dimitrovgrad**	**150.53**	**321**	P	PKPdf	03 27 21.0	+7.5
DNZL	**Cakiroluk**	**150.54**	**310**	i P	PKPdf	03 27 19.0	+5.3
SOP	**Sopron**	**150.57**	**338**	⇓ePKP/p	PKPdf	03 27 21.3	+7.9
AKAS	**Kas**	**150.74**	**307**	i P	PKPdf	03 27 16.1	+2.1
ABH	**Alteburg**	**150.75**	**351**	⇓eP	PKPdf	03 27 21.7	+8.1
ABH	**Alteburg**	**150.75**	**351**	PKP	PKPdf	03 27 12.0	-1.6
TOD	**Tromm**	**150.82**	**349**	⇓eP	PKPdf	03 27 21.7	+8.0
TOD	**Tromm**	**150.82**	**349**	PKIKP	PKPdf	03 27 14.3	+0.6
AKS	**Akhisar**	**150.84**	**313**	eP	PKPdf	03 27 21.6	+7.5
KDZ	**Kurdzhali**	**150.84**	**320**	P	PKPdf	03 27 21.5	+7.5
GIVF	**Givet**	**150.85**	**355**	ePKIKP	PKPdf	03 27 15.2	+1.5
SIND	**Sindeldorf**	**150.93**	**348**	⇓eP	PKPdf	03 27 21.7	+7.8
BAIF	**Baives**	**150.94**	**356**	ePKIKP	PKPdf	03 27 15.4	+1.5
SWS	**Schriesheim**	**150.96**	**349**	⇓eP	PKPdf	03 27 21.8	+7.9
FETY	**Fethiye**	**150.97**	**308**	eP	PKPdf	03 27 21.7	+7.3
PLD	**Plovdiv**	**150.98**	**322**	P	PKPdf	03 27 22.0	+7.8
RUP	**Ruppelstein**	**151.00**	**352**	eP	PKPdf	03 27 22.4	+8.4
PGB	**Panagyurishte**	**151.00**	**323**	P	PKPdf	03 27 22.0	+7.8
PKSM	**Moragy**	**151.01**	**334**	PKIKP	PKPdf	03 27 21.9	+7.8
WLF	**Walferdange**	**151.15**	**353**	ePKIKP	PKPdf	03 27 16.0	+1.8
WLF				e		03 27 33.0	
WLF	**Walferdange**	**151.15**	**353**	ePKPdf	PKPdf	03 27 16.0	+1.8
WLF				ePKPbc	PKPdf	03 27 22.4	+8.2
WLF				ePKPab	PKPab	03 27 33.0	-1.6
MOA	**Molln**	**151.17**	**341**	⇑iP	PKPdf	03 27 15.4	+1.1
	SNR=20						
MOA	**Molln**	**151.17**	**341**	⇓X	PKPdf	03 27 22.3	+8.0
MOA	**Molln**	**151.17**	**341**	⇓iP	PKPdf	03 27 22.3	+8.0
MOA	**Molln**	**151.17**	**341**	⇑iP	PKPab	03 27 34.1	-0.6
KTD	**Kalmit**	**151.22**	**350**	eP	PKPdf	03 27 22.6	+8.3
RZN	**Rozhen**	**151.23**	**321**	P	PKPdf	03 27 22.6	+8.0
DALT	**Dalyan (Mudla)**	**151.23**	**309**	eP	PKPdf	03 27 22.1	+7.3
ARSA	**Arzberg**	**151.30**	**339**	⇑iP	PKPdf	03 27 15.7	+1.2
	SNR=9.5						
ARSA	**Arzberg**	**151.30**	**339**	⇓X	PKPdf	03 27 22.5	+8.0
ARSA	**Arzberg**	**151.30**	**339**	⇓iP	PKPdf	03 27 22.5	+8.0
ARSA	**Arzberg**	**151.30**	**339**	⇑iP	PKPab	03 27 34.5	-0.8
BEO	**Belgrade**	**151.31**	**330**	⇑iPKP	PKPdf	03 27 22.5	+7.9
BOLS	**Boljevac**	**151.31**	**327**	⇑iPKP	PKPdf	03 27 22.6	+7.9
EZN	**Ezine**	**151.33**	**316**	eP	PKPdf	03 27 22.5	+7.7
YER	**Yerkesik**	**151.33**	**310**	eP	PKPdf	03 27 23.1	+8.2
SVIS	**Svilajnac**	**151.34**	**329**	⇓iPKP	PKPdf	03 27 22.7	+8.0
AYDN	**Tasoluk**	**151.38**	**311**	i P	PKPdf	03 27 20.9	+6.0
KDAG	**Bornova**	**151.45**	**313**	i P	PKPdf	03 27 18.0	+3.0
VTS	**Vitosha**	**151.51**	**324**	P	PKPdf	03 27 23.0	+8.1
VTS	**Vitosha**	**151.51**	**324**	P	PKPdf	03 27 23.7	+8.8
HDH	**Heidenheim**	**151.53**	**347**	⇓eP	PKPdf	03 27 23.1	+8.3
STU	**Stuttgart**	**151.56**	**348**	ePKIKP	PKPdf	03 27 16.1	+1.3
STU				e		03 27 33.4	
STU	**Stuttgart**	**151.56**	**348**	ePKPdf	PKPdf	03 27 16.1	+1.3
STU				ePKPbc	PKPdf	03 27 23.0	+8.2
STU				ePKPab	PKPab	03 27 33.4	-2.9
MLSB	**Milas**	**151.62**	**311**	eP	PKPdf	03 27 23.6	+8.3
FUR	**Furstenfeldbru**	**151.69**	**345**	ePKPbc	PKPdf	03 27 23.7	+8.7
FUR				ePKPab	PKPab	03 27 35.8	-1.0
LBG	**Lerchenberg**	**151.73**	**349**	⇓eP	PKPdf	03 27 23.8	+8.7
BUCH	**Bad Urach**	**151.84**	**348**	⇓eP	PKPdf	03 27 24.1	+8.9
MMB	**Musomiste**	**151.87**	**322**	P	PKPdf	03 27 23.5	+8.0
URLA	**Izmir**	**151.92**	**314**	i P	PKPdf	03 27 16.1	+0.4
PERS	**Pernice**	**151.97**	**339**	ePKPbc	PKPdf	03 27 23.6	+8.2
PERS				ePKPab	PKPab	03 27 36.6	-1.5
STR	**Strasbourg**	**151.99**	**350**	PKP	PKPdf	03 27 17.6	+2.2
DAT	**Datca**	**152.02**	**310**	eP	PKPdf	03 27 22.9	+7.0
KKB	**Krupnik**	**152.06**	**323**	P	PKPdf	03 27 24.0	+8.3
DIVS	**Divcibare**	**152.08**	**330**	⇑iPKP	PKPdf	03 27 24.4	+8.8
BARS	**Barje**	**152.09**	**326**	⇓iPKP	PKPdf	03 27 23.9	+8.1
KBA	**Koelnbreinsper**	**152.14**	**342**	⇓iP	PKPdf	03 27 16.6	+0.9
	SNR=6.7						
KBA	**Koelnbreinsper**	**152.14**	**342**	⇑X	PKPdf	03 27 24.2	+8.5
KBA	**Koelnbreinsper**	**152.14**	**342**	⇑iP	PKPdf	03 27 24.2	+8.5
KBA	**Koelnbreinsper**	**152.14**	**342**	⇑iP	PKPab	03 27 38.9	+0.1
BFO	**Black Forest**	**152.14**	**349**	ePKPdf	PKPdf	03 27 16.7	+1.1
BFO				ePKPbc	PKPdf	03 27 24.5	+8.9
BFO				ePKPab	PKPab	03 27 37.1	-1.6
BFO				epPKPbc		03 29 53.9	
BFO				ePP	PP	03 31 15.1	+1.5
WLS	**Welschbruch**	**152.22**	**351**	PKP	PKPdf	03 27 15.4	-0.3
CDF	**Champ du Feu**	**152.23**	**351**	ePKIKP	PKPdf	03 27 17.0	+1.3
GUT	**Gutenstein**	**152.25**	**348**	⇓eP	PKPdf	03 27 24.5	+8.7
SPAK	**Spaichingen**	**152.28**	**349**	eP	PKPdf	03 27 24.6	+8.8
FLN	**La Foliniere**	**152.34**	**2**	ePKIKP	PKPdf	03 27 16.9	+1.0
	comp=Z,152nm,1.4s						
WATA	**Walderalm**	**152.39**	**344**	⇑iP	PKPdf	03 27 19.3	+3.2
	SNR=9.1						
WATA	**Walderalm**	**152.39**	**344**	⇓X	PKPdf	03 27 24.8	+8.8
WATA	**Walderalm**	**152.39**	**344**	⇓iP	PKPdf	03 27 24.8	+8.8
WATA	**Walderalm**	**152.39**	**344**	⇑iP	PKPab	03 27 38.9	-0.9
UBR	**Uberruh**	**152.41**	**346**	⇓eP	PKPdf	03 27 25.0	+9.0
MEZF	**Maizieres J'vi**	**152.41**	**354**	ePKIKP	PKPdf	03 27 17.6	+1.6
LIBD	**Limburg**	**152.43**	**350**	⇓eP	PKPdf	03 27 25.1	+9.1
ECH	**Echery**	**152.44**	**351**	PKP	PKPdf	03 27 17.6	+1.6
WTTA	**Wattenberg**	**152.44**	**344**	⇓iP	PKPdf	03 27 17.5	+1.4
	SNR=16						
WTTA	**Wattenberg**	**152.44**	**344**	⇓X	PKPdf	03 27 25.4	+9.3
WTTA	**Wattenberg**	**152.44**	**344**	⇓iP	PKPdf	03 27 25.4	+9.3
WTTA	**Wattenberg**	**152.44**	**344**	⇑iP	PKPab	03 27 39.4	-0.6
MOTA	**Moosalm**	**152.50**	**345**	⇑iP	PKPdf	03 27 17.4	+1.2
	SNR=7.2						
MOTA	**Moosalm**	**152.50**	**345**	⇑X	PKPdf	03 27 25.3	+9.2
MOTA	**Moosalm**	**152.50**	**345**	⇑iP	PKPdf	03 27 25.3	+9.2
MOTA	**Moosalm**	**152.50**	**345**	⇓iP	PKPab	03 27 39.2	-1.1
LDF	**La Druitiere**	**152.52**	**1**	ePKIKP	PKPdf	03 27 17.2	+1.1
	comp=Z,46nm,1.1s						
BBLS	**Bajina Basta -**	**152.52**	**330**	ePKP	PKPdf	03 27 26.1	+10
KIZ	**Kirchzarten**	**152.57**	**350**	⇓eP	PKPdf	03 27 25.0	+8.8
ROSF	**Rostrenen**	**152.58**	**6**	ePKIKP	PKPdf	03 27 17.0	+0.8
THEF	**They Montfort**	**152.58**	**353**	PKP	PKPdf	03 27 18.2	+1.9
SQTA	**Sankt Quirin**	**152.59**	**345**	⇓X	PKPdf	03 27 25.4	+9.1
SQTA	**Sankt Quirin**	**152.59**	**345**	⇑iP	PKPdf	03 27 17.7	+1.4
SQTA	**Sankt Quirin**	**152.59**	**345**	⇓iP	PKPdf	03 27 25.4	+9.1
SQTA	**Sankt Quirin**	**152.59**	**345**	⇑iP	PKPab	03 27 39.8	-0.9
FELD	**Feldberg**	**152.63**	**350**	eP	PKPdf	03 27 25.3	+9.0
LJU	**Ljubljana**	**152.69**	**339**	i PKPbc	PKPdf	03 27 25.6	+9.2
GRR	**Gorron**	**152.70**	**3**	ePKIKP	PKPdf	03 27 17.7	+1.3
SGMF	**Saint Gilles**	**152.73**	**5**	ePKIKP	PKPdf	03 27 17.3	+0.9
	comp=Z,76nm,1.2s						
HAU	**Haudompre**	**152.76**	**352**	ePKIKP	PKPdf	03 27 18.0	+1.5
MOF	**Molkenrain**	**152.80**	**351**	PKP	PKPdf	03 27 17.2	+0.6
DAVA	**Damuels**	**152.84**	**347**	⇑iP	PKPdf	03 27 18.3	+1.7
	SNR=8.0						
DAVA	**Damuels**	**152.84**	**347**	⇓X	PKPdf	03 27 26.2	+10
DAVA	**Damuels**	**152.84**	**347**	⇓iP	PKPdf	03 27 26.2	+10
DAVA	**Damuels**	**152.84**	**347**	⇑iP	PKPab	03 27 40.8	-0.9
HINF	**Hinteralfeld**	**152.87**	**351**	ePKIKP	PKPdf	03 27 18.4	+1.7
BOJS	**Bojanci**	**152.91**	**337**	ePKPdf	PKPdf	03 27 18.2	+1.4
BOJS				ePKPbc	PKPdf	03 27 26.2	+9.4
BBS	**Basel-Blauen**	**153.12**	**350**	⇓eP	PKPdf	03 27 26.4	+9.4
BBS	**Basel-Blauen**	**153.12**	**350**	PKIKP	PKPdf	03 27 17.8	+0.8
DAVOX	**Davos**	**153.31**	**346**	PKP	PKPdf	03 27 18.7	+1.4
	comp=Z,11nm,0.8s,baz=338,slow=0.2,SNR=12						
DAVOX				PKPbc	PKPdf	03 27 27.4	+10
	comp=Z,52nm,0.6s,baz=302,slow=1.3,SNR=58						
DAVOX				PKPab	PKPab	03 27 42.8	-1.0
	comp=Z,51nm,0.8s,baz=336,slow=5.7,SNR=12						
LOMF	**Lomont**	**153.33**	**351**	PKP	PKPdf	03 27 19.3	+2.0
LOR	**Lormes**	**153.74**	**355**	ePKIKP	PKPdf	03 27 19.3	+1.4
	comp=Z,38nm,1.2s						
HYF	**Humbligny**	**153.81**	**357**	ePKIKP	PKPdf	03 27 19.8	+1.8
SSF	**Saint Saulge**	**153.97**	**356**	ePKIKP	PKPdf	03 27 19.6	+1.4
	comp=Z,22nm,1.0s						
CABF	**La Chapelle**	**154.16**	**352**	ePKIKP	PKPdf	03 27 20.0	+1.5
	comp=Z,43nm,1.0s						
AVF	**Avril sur Loir**	**154.25**	**356**	ePKIKP	PKPdf	03 27 19.6	+1.0
	comp=Z,14nm,1.2s						
SMF	**Signal de Mont**	**154.36**	**355**	ePKIKP	PKPdf	03 27 19.9	+1.1
	comp=Z,13nm,1.0s						
MFF	**Saint Martin d**	**154.51**	**2**	ePKIKP	PKPdf	03 27 20.2	+1.3
	comp=Z,46nm,1.1s						
BGF	**Bois d'Agland**	**154.51**	**357**	ePKIKP	PKPdf	03 27 20.3	+1.3
	comp=Z,47nm,1.3s						
IDI	**Anoyia**	**154.61**	**309**	PKP	PKPdf	03 27 21.2	+1.8
	comp=Z,13nm,0.8s,baz=94,slow=2.3,SNR=5.4						
IDI				PKPbc	PKPdf	03 27 31.3	+12
	comp=Z,12nm,0.9s,baz=207,slow=17,SNR=6.8						
IDI				PKPab	PKPab	03 27 48.0	-1.5
	comp=Z,8.4nm,0.5s,baz=308,slow=13,SNR=7.1						
TCF	**Toulx Ste Croi**	**154.81**	**358**	ePKIKP	PKPdf	03 27 20.6	+1.2
	comp=Z,51nm,1.1s						
PLDF	**La Plantade**	**155.05**	**355**	PKP	PKPdf	03 27 21.7	+2.0
LPL	**La Plagne**	**155.13**	**350**	ePKIKP	PKPdf	03 27 21.7	+1.9
	comp=Z,57nm,1.4s						
LPG	**La Plagne**	**155.15**	**350**	ePKIKP	PKPdf	03 27 21.8	+2.0
	comp=Z,33nm,1.3s						
BNI	**Bardonecchia**	**155.60**	**350**	ePKIKP	PKPdf	03 27 22.6	+2.2
BNI				e		03 27 32.6	
BNI				e		03 27 52.6	
LBL	**Lubilhac**	**155.81**	**356**	PKP	PKPdf	03 27 22.5	+1.8
ORIF	**Oris-en-Rattie**	**155.85**	**351**	ePKIKP	PKPdf	03 27 22.3	+1.6
MBDF	**Montbardon**	**155.90**	**350**	ePKIKP	PKPdf	03 27 22.5	+1.7
	comp=Z,37nm,1.1s						

VIVF	Saint-Julien-l	156.06	353	ePKIKP	PKPdf	03 27 22.7	+1.7
	comp=Z,43nm,1.3s						
CAF	Calviac	156.18	358	ePKIKP	PKPdf	03 27 22.9	+1.7
	comp=Z,19nm,1.1s						
LFF	La Frestale	156.18	0	ePKIKP	PKPdf	03 27 22.6	+1.4
TOUF	Mont Tournerai	156.50	348	PKP	PKPdf	03 27 28.1	+6.5
SBF	Sospel	156.61	348	ePKIKP	PKPdf	03 27 23.9	+2.1
	comp=Z,31nm,0.9s						
SMRF	Simiane la Rot	156.81	351	ePKIKP	PKPdf	03 27 23.9	+1.9
LASF	Ste Croix	156.91	355	ePKIKP	PKPdf	03 27 23.7	+1.5
	comp=Z,80nm,1.4s						
FRF	La Foret Royal	157.05	349	ePKIKP	PKPdf	03 27 23.5	+1.1
	comp=Z,32nm,1.2s						
LMR	La Mourre	157.29	349	ePKIKP	PKPdf	03 27 23.7	+1.0
	comp=Z,25nm,1.2s						
PGF	Pioggiola	157.51	344	ePKIKP	PKPdf	03 27 24.0	+1.0
	comp=Z,48nm,0.9s						
MTLF	Montolieu	157.75	357	ePKIKP	PKPdf	03 27 24.5	+1.2
	comp=Z,47nm,1.4s						
PCAB	Cabril	158.08	18	ePKPab	PKPab	03 28 03.8	-0.4
EPF	Esparros	158.09	1	ePKIKP	PKPdf	03 27 25.3	+1.6
	comp=Z,40nm,1.2s						
ETSF	Etsaut	158.19	3	ePKIKP	PKPdf	03 27 25.2	+1.4
	comp=Z,44nm,1.1s						
PBRG	Braganca	158.34	16	ePKPab	PKPab	03 28 04.4	-0.9
PVRL	Vila Real	158.57	18	ePKPab	PKPab	03 28 05.3	-1.0
PVIS	Viseu	159.03	19	ePKPab	PKPab	03 28 07.1	-1.2
MTE	Manteigas	159.43	19	ePKPdf	PKPdf	03 27 27.7	+2.4
MTE	Manteigas	159.43	19	ePKPab	PKPab	03 28 09.1	-1.0
PTOM	Tomar	159.86	21	ePKPdf	PKPdf	03 27 28.2	+2.4
PTOM	Tomar	159.86	21	ePKPab	PKPab	03 28 10.6	-1.3
PCBR	Castelo Branco	159.96	19	ePKPdf	PKPdf	03 27 27.9	+2.0
PCBR	Castelo Branco	159.96	19	ePKPab	PKPab	03 28 10.8	-1.6
GUD	Guadarrama	160.01	11	PKIKP	PKPdf	03 27 28.6	+2.7
ERTA	Horta de San J	160.16	1	PKP	PKPdf	03 27 27.9	+1.9
PLOU	Loures	160.25	24	ePKPab	PKPab	03 28 12.4	-1.2
EBR	Ebro Roquetas	160.30	1	eTs		03 27 50.0	
EBR				ePKPpB		03 28 13.0	
EVO	Evora	160.97	22	ePKIKP	PKPdf	03 27 28.3	+1.4
	comp=Z,66nm,1.3s						
ESDC	Sonseca Array	160.99	12	PKP	PKPdf	03 27 29.1	+2.1
	comp=Z,2.2nm,0.9s,baz=4.3,slow=3.4,SNR=8.7						
ESDC				PKPab	PKPab	03 28 15.6	-1.2
	comp=Z,16nm,0.9s,baz=345,slow=4.2,SNR=30						
ESDC				PP	PP	03 31 56.8	-5.3
	comp=Z,1.9nm,0.9s,baz=347,slow=6.2,SNR=4.4						
ESDC	Sonseca Array	160.99	12	PKP	PKPdf	03 27 28.7	+1.8
EBAD	Badajoz	161.10	19	PKP	PKPdf	03 27 28.9	+1.9
PBEJ	Beja	161.48	22	ePKPdf	PKPdf	03 27 30.0	+2.5
PBEJ	Beja	161.48	22	ePKPab	PKPab	03 28 17.4	-1.6
PTEO	Sao Teotonio	161.58	25	ePKPdf	PKPdf	03 27 29.1	+1.5
PTEO	Sao Teotonio	161.58	25	ePKPab	PKPab	03 28 18.3	-1.2
EMIN	Mina Concepcio	162.11	20	PKP	PKPdf	03 27 30.4	+2.3
EADA	Adamuz	162.31	14	PKP	PKPdf	03 27 30.8	+2.5
EBAN	Banos Encina	162.48	12	PKIKP	PKPdf	03 27 30.9	+2.4
ELUQ	Luque	162.96	14	PKIKP	PKPdf	03 27 31.4	+2.4
EQES	Quesada	162.97	11	PKP	PKPdf	03 27 30.6	+1.6
EHUE	Huescar	163.03	9	PKIKP	PKPdf	03 27 29.8	+0.8
ESPR	Espera	163.19	19	PKP	PKPdf	03 27 32.3	+3.1
ELOJ	Sierra Loja	163.38	14	PKIKP	PKPdf	03 27 29.9	+0.5
ECOG	Cogollos-Vega	163.38	12	PKIKP	PKPdf	03 27 30.1	+0.7
ERON	Agron	163.58	13	PKP	PKPdf	03 27 30.1	+0.5
EJIF	Jimena Fronter	163.69	19	PKIKP	PKPdf	03 27 31.7	+2.0
EMIJ	Mijas	163.78	16	PKP	PKPdf	03 27 30.8	+1.0
LIC	Lamto	164.18	158	ePKIKP	PKPdf	03 27 31.8	+0.9
	comp=Z,71nm,1.0s						
DBIC	Dimbokro	164.66	158	PKP	PKPdf	03 27 32.4	+1.0
	comp=Z,21nm,0.9s,baz=153,slow=0.7,SNR=18						
DBIC	Dimbokro	164.66	158	ePKIKP	PKPdf	03 27 32.0	+0.6
MDT	Midelt	167.31	22	PKP	PKPdf	03 27 35.5	+2.7
	comp=Z,13nm,1.0s,baz=49,slow=2.1,SNR=19						
MDT				PKPab	PKPab	03 28 43.8	-0.7
	comp=Z,12nm,0.9s,baz=346,slow=4.1,SNR=12						
MDT	Midelt	167.31	22	PKP	PKPdf	03 27 35.5	+2.7
MDT				PKPab	PKPab	03 28 43.8	-0.7
MDT				PP	PP	03 33 00.1	+26
TORD	Torodi Ar. Bea	172.09	186	PKP	PKPdf	03 27 36.8	+0.7
	comp=Z,14nm,0.9s,baz=320,slow=0.8,SNR=69						
TORD				PKPab	PKPab	03 29 05.4	-0.7
	comp=Z,2.6nm,1.0s,baz=194,slow=5.9,SNR=6.3						
TORD				pPKPab		03 31 23.1	
	comp=Z,2.7nm,1.0s,baz=182,slow=2.9,SNR=2.8						
TORD				PP	PP	03 33 00.1	+1.4
	comp=Z,2.4nm,1.0s,baz=193,slow=3.4,SNR=4.2						

*IDC **01** 03:15:46.3±0.7, 9.12S×119.66E, mb4.6/6, mb1 4.8/8, mb1mx4.5/17, mbtmp4.7/8, ML4.6/2, MS3.7/3, Ms1 3.7/3, ms1mx2.8/24, Error ellipse: s-maj=46.4km s-min=16.6km az=57.0*

*BJI **01** 03:15:47.9, 9.10S×119.80E, h10^{km}, mB5.2, mb4.8, Ms4.1*

*NEIC **01** 03:15:47.9±0.3, 9.11S×119.77E, h10^{km}, mb5.1/13, Error ellipse: s-maj=16.1km s-min=5.6km az=51.0*

NEIC Felt [V] at Waingapu. Felt [IV] at Ruteng, Flores.

*MOS **01** 03:15:50.1±1.4, 8.97S×119.95E, h33^{km}, mb5.5/9, Error ellipse: s-maj=27.7km s-min=13.0km az=129.4*

ISC 01 03:15:49.2±0.5**, 9.2S**±0.1×**119.8E**±0.2**, h33**^{km}**, n46, σ0^{s}77**/38**, mb5.1**/18**, MS3.7**/3**, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.54	148	Pn	P	03 18 19.4	-1.9
	5.0nm,0.3s,baz=354,slow=4.9,SNR=6.4						
FITZ				Sn	S	03 20 10.7	-8.5
	19nm,0.3s,baz=173,slow=17,SNR=7.2						
FITZ				LR	LR	03 23 12.5	
	comp=Z,468nm,21.3s,baz=160,slow=42						
WRA	Warramunga Arr	17.68	129	P	P	03 19 54.5	-0.2
	1.5nm,0.3s,baz=304,slow=13,SNR=9.7						
WRA				S	S	03 22 56.9	-11
	0.9nm,0.3s,baz=298,slow=20,SNR=4.9						
KULM	Kulim	23.88	306	P	P	03 21 06.9	+5.9
PSI	Prapat	23.95	299	LR	LR	03 30 55.9	
	comp=Z,199nm,20.8s,MS3.6,baz=192,slow=38						
CTA	Charters Tower	27.77	116	P	P	03 21 38.5	+1.2
	11nm,0.9s,mb4.5,baz=285,slow=10,SNR=6.8						
CTAO	Charters Tower	27.77	116	eP	P	03 21 38.5	+1.1
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
CTAO	Charters Tower	27.77	116	eP	P	03 21 38.5	+1.2
	comp=Z,14nm,0.9s,mb4.6						
STKA	Stephens Creek	30.33	141	P	P	03 22 01.7	+1.6
	comp=Z,13nm,0.7s,mb4.8,baz=311,slow=8.6,SNR=11						
STKA	Stephens Creek	30.33	141	eP	P	03 22 01.4	+1.3
STKA				e		03 22 07.3	
HNR	Honiara	39.61	94	LR	LR	03 40 11.2	
	comp=Z,103nm,18.2s,MS3.7,baz=324,slow=37						
TAU	Tasmania Unive	41.35	149	eP	P	03 23 34.0	+0.3
TAU				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.0						
TAU	Tasmania Unive	41.35	149	eP	P	03 23 34.0	+0.3
	comp=Z,47nm,1.3s,mb5.0						
CD2	Chengdu	42.71	340	eP	P	03 23 51.8	+6.7
LSA	Lhasa	47.47	326	eP	P	03 24 24.7	+1.6
LSA	Lhasa	47.47	326	eP	P	03 24 24.6	+1.5
LSA				pmax	pmax		
	comp=Z,160nm,1.1s,mb5.9						
LSA	Lhasa	47.47	326	eP	P	03 24 24.6	+1.5
	comp=Z,16nm,1.1s,mb4.9						
MAJO	Matsushiro	48.65	20	P	P	03 24 32.4	+0.2
JIRN	Jiri	48.97	319	eP	P	03 24 35.1	+0.3
	comp=Z,43nm,0.7s,mb5.6						
GUN	Gumba	49.34	319	eP	P	03 24 38.0	+0.4
	comp=Z,72nm,0.7s,mb5.8						
PKI	Pulchoki	49.42	319	eP	P	03 24 38.1	-0.1
	comp=Z,27nm,0.7s,mb5.4						
PKI	Pulchoki	49.42	319	eP	P	03 24 38.1	-0.1
PKI				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
DMN	Daman	49.64	318	eP	P	03 24 39.8	-0.1
	comp=Z,54nm,1.0s,mb5.5						
KKN	Kakani	49.65	319	eP	P	03 24 40.0	0.0
	comp=Z,27nm,0.8s,mb5.3						
KKN	Kakani	49.65	319	eP	P	03 24 40.0	0.0
KKN				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
GKN	Gorkha	50.21	319	eP	P	03 24 44.0	-0.3
	comp=Z,34nm,0.7s,mb5.5						
KOLN	Koldanda	50.74	317	eP	P	03 24 48.0	-0.3
	comp=Z,35nm,0.7s,mb5.4						
SONM	Songino Array	57.98	349	P	P	03 25 40.7	-0.2
	comp=Z,2.9nm,0.8s,mb4.3,baz=168,slow=9.7,SNR=9.5						
WMQ	Urumqi	60.24	334	eP	P	03 25 57.0	+0.3
WMQ				AP	pP	03 26 07.0	+0.2
WMQ				XP	sP	03 26 11.0	+0.3
WMQ				LR	LR		
	comp=N,60nm,20.0s,MS3.9						
WMQ				LR	LR		
	comp=E,80nm,22.0s,MS3.9						
MKAR	Makanchi Array	64.96	333	P	P	03 26 27.5	-0.5
	comp=E,3.9nm,0.6s,mb4.6,baz=141,slow=7.5,SNR=12						
ZAL	Zalesovo	69.47	339	P	P	03 26 55.1	-1.0
	comp=E,2.8nm,0.6s,mb4.4,baz=349,slow=5.9,SNR=5.5						
KURK	Kurchatov	69.49	333	P	P	03 26 49.7	-6.7
AVH	Avacha	70.44	24	P	pP	03 27 12.0	-0.4
SBA	Scott Base	72.70	171	eP	P	03 27 15.3	+0.1
SBA				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
SBA	Scott Base	72.70	171	eP	P	03 27 15.2	0.0
	comp=Z,25nm,1.3s,mb5.0						
MA2	Magadan	72.86	16	eP	P	03 27 15.2	-1.3
MA2				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.3						
MA2	Magadan	72.86	16	eP	P	03 27 15.2	-1.2
	comp=Z,41nm,1.0s,mb5.3						
AKTO	Aktyubinsk	79.80	325	P	P	03 27 55.9	+0.1
	comp=Z,3.1nm,0.7s,mb4.3,baz=90,slow=8.6,SNR=3.3						
LBTB	Lobatse	89.94	245	eP	P	03 28 51.8	+4.8
LBTB				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.2						
LBTB	Lobatse	89.94	245	eP	P	03 28 51.8	+4.7
	comp=Z,14nm,1.1s,mb5.2						
YKA	Yellowknife Ar	114.02	24	PKiKP		03 34 26.3	
	comp=Z,0.5nm,0.5s,baz=302,slow=1.7,SNR=7.4						
TORD	Torodi Ar. Bea	119.26	280	PKP	PKPdf	03 34 37.9	+1.8
	comp=Z,1.0nm,0.8s,baz=51,slow=1.7,SNR=5.0						
NVAR	Mina Array Bea	120.52	51	PKP	PKPdf	03 34 40.4	+2.4
	comp=Z,0.3nm,0.3s,baz=278,slow=3.1,SNR=4.4						
TXAR	Lajitas Array	134.66	58	PKP	PKPdf	03 35 06.6	+1.3
	comp=Z,0.3nm,0.6s,baz=218,slow=1.4,SNR=6.7						
CPUP	Villa Florida	144.61	184	ePKIKP	PKPdf	03 35 25.8	+2.6
BDFB	Brasilia	152.55	206	PKPbc	PKPdf	03 35 46.6	+11
	comp=Z,1.4nm,0.6s,baz=228,slow=7.0,SNR=4.4						
BDFB				PKPab	PKPab	03 35 55.3	-0.6
	comp=Z,1.8nm,0.5s,baz=132,slow=3.9,SNR=5.3						
LPAZ	La Paz	153.53	163	PKPbc	PKPdf	03 35 48.9	+11
	comp=Z,0.8nm,0.8s,baz=280,slow=6.1,SNR=3.1						
LPAZ				PKPab	PKPab	03 36 00.0	0.0
	comp=Z,1.4nm,0.6s,baz=200,slow=7.1,SNR=4.4						

IDC 01 03:21:42.4±1.3**, 23.12N**×**143.48E, mb3.9**/5**, mb1 4.0**/6**, mb1mx3.7**/22**, mbtmp3.9**/6**, ML3.5**/1**, MS3.2**/2**, Ms1 3.2**/2**, ms1mx2.7**/32**, Error ellipse: s-maj=56.4km s-min=20.4km az=90.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.13	344	Pn	Pn	03 22 45.5	-2.6
	5.7nm,0.3s,baz=175,slow=7.3,SNR=5.7						
CBIJ				Sn	Sn	03 23 34.8	-3.2
	51nm,0.3s,baz=289,slow=23,SNR=13						
GUMO	Guam	9.57	172	LR	LR	03 27 07.1	
	comp=Z,277nm,21.3s,baz=294,slow=34						
JHJ	Hachijo jima 2	10.48	343	LR	LR	03 27 55.6	
	comp=Z,82nm,18.9s,baz=227,slow=36						
WB2	Warramunga Arr	43.72	192	eP	P	03 29 49.9	-1.3
WRA	Warramunga Arr	43.72	192	P	P	03 29 49.0	-2.2
	0.5nm,0.3s,baz=18,slow=9.0,SNR=9.0						
FITZ	Fitzroy Crossi	44.52	205	eP	P	03 29 56.6	-1.2
	4.4nm,0.9s						
FITZ	Fitzroy Crossi	44.52	205	P	P	03 29 55.8	-2.0
	1.9nm,0.3s,baz=27,slow=11,SNR=5.6						
MKAR	Makanchi Array	53.95	312	P	P	03 31 08.4	-1.6
	0.3nm,0.4s,baz=87,slow=11,SNR=4.1						
INK	Inuvik	66.16	24	P	P	03 32 32.3	-1.2
	0.8nm,0.9s,baz=270,slow=5.1,SNR=3.6						
FINES	FINESS Array B	82.03	334	P	P	03 34 03.9	-1.5
	1.0nm,0.6s,baz=59,slow=8.1,SNR=3.7						

*IDC **01** 03:26:58.9±4.4, 11.83S×166.32E, h122^{km}±31^{km}, mb4.0/4, mb1 4.1/6, mb1mx3.8/16, mbtmp4.5/6, MS3.4/1, Ms1 3.4/1, ms1mx3.0/20, Error ellipse: s-maj=49.1km s-min=17.1km az=56.0*

*NEIC **01** 03:26:59.4±2.5, 11.85S×166.26E, h126^{km}±16^{km}, mb4.7/1, Error ellipse: s-maj=38.2km s-min=13.2km az=57.0*

ISC 01 03:26:59.5±2.7**, 12.0S**±0.1×**166.2E**±0.2**, h137**^{km}±20^{km}**, n11, σ0^{s}57**/14**, mb4.2**/5**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.62	292	P	P	03 28 34.9	-0.7
	34nm,0.3s,baz=141,slow=4.7,SNR=4.5						
HNR				S	S	03 29 50.7	+0.5
	25nm,0.3s,baz=219,slow=13,SNR=2.7						
DZM	Mont Dzumac	10.07	179	eP	P	03 29 21.9	+0.2
DZM				eS	S	03 31 11.2	-1.7
DZM	Mont Dzumac	10.07	179	P	P	03 29 21.9	+0.2
	7.7nm,0.3s,baz=25,slow=19,SNR=32						
DZM				S	S	03 31 13.3	+0.4
	3.9nm,0.3s,baz=159,slow=22,SNR=6.8						
NOUC	Port Laguerre	10.10	179	eP	P	03 29 22.3	+0.3
NOUC				eS	S	03 31 13.8	+0.2
PMG	Port Moresby	18.87	276	LR	LR	03 37 22.9	
	comp=Z,102nm,18.3s,baz=38,slow=33						
STKA	Stephens Creek	30.10	225	P	P	03 32 58.5	-0.1
	1.6nm,0.9s,mb3.8,baz=68,slow=11,SNR=2.1						
STKA	Stephens Creek	30.10	225	P	P	03 32 57.6	-0.9
WRA	Warramunga Arr	31.60	251	P	P	03 33 11.8	0.0
	1.0nm,0.7s,mb3.6,baz=84,slow=8.6,SNR=7.4						
RPZ	Rata Peaks	31.93	173	P	P	03 33 14.4	0.0
	7.3nm,0.8s,mb4.5,baz=334,slow=7.8,SNR=5.7						
QSPA	South Pole Qui	78.06	180	eP	P	03 38 44.9	+0.8
	14nm,1.0s,mb4.5						
MKAR	Makanchi Array	94.47	317	P	P	03 40 04.9	-0.4
	1.9nm,0.6s,mb4.4,baz=88,slow=6.4,SNR=22						
MKAR				pP	pP	03 40 27.6	-13
	1.0nm,0.7s,baz=96,slow=5.6,SNR=5.9						

*BJI **01** 03:30:55.3, 54.51N×164.62W, h98^{km}, mB4.8, mb4.7*

*MOS **01** 03:30:57.4±0.9, 54.59N×164.84W, h104^{km}, mb5.0/10, Error ellipse: s-maj=15.4km s-min=6.7km az=69.3*

*IDC **01** 03:30:58.6±0.8, 54.60N×164.79W, h94^{km}±4^{km}, mb4.0/20, mb1 4.2/24, mb1mx4.1/28, mbtmp4.3/24, MS3.3/3, Ms1 3.3/3, ms1mx2.8/32, Error ellipse: s-maj=18.9km s-min=10.4km az=14.0*

*NEIC **01** 03:30:58.4±0.2, 54.51N×164.77W, mb4.7/17, Error ellipse: s-maj=6.5km s-min=2.9km az=147.0*

ISC 01 03:30:57.4±0.2**, 54.58N**±0.04×**164.81W**±0.04**, h95**^{km}**, h95**^{km}±1.4^{km}**:pP-P, n171, σ1^{s}15**/179**, mb4.5**/41**, 3C, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPOG	Pogromni	0.04	65	P	P	03 31 12.1	+1.4
WFAR	Faris Peak	0.05	157	P	P	03 31 11.9	+1.2
WESN	West Dahl Nort	0.13	95	P	P	03 31 12.4	+1.7
WTUG	Tugumak	0.36	42	P	P	03 31 13.6	+1.9
SSLW	Shishaldin Wes	0.44	64	P	P	03 31 13.8	+1.4
SSLS	Shishaldin Sou	0.49	74	P	P	03 31 14.1	+1.4
SSLN	Shishaldin Nor	0.53	63	P	P	03 31 14.9	+2.0
AKA	Akutan	0.72	232	P	P	03 31 15.3	+0.6
AKUT	Akutan	0.72	232	P	P	03 31 15.2	+0.5
AKUT				S	S	03 31 28.2	+0.6
AHB	Akutan Harbor	0.75	232	P	P	03 31 15.6	+0.6
AKLV	Akutan Long Va	0.79	239	P	P	03 31 16.1	+0.7
AKLV				S	S	03 31 29.5	+0.7
LVA	Lava Point	0.83	240	P	P	03 31 16.8	+1.0
UNV	Unalaska Valle	1.24	234	P	P	03 31 20.5	-0.1
UNV				S	S	03 31 37.1	-0.8
MTBL	Makushin Table	1.26	242	P	P	03 31 21.4	+0.6
MNAT	Makushin Natee	1.30	238	P	P	03 31 21.6	+0.3
MNAT				S	S	03 31 39.3	+0.1
BALA	Baldy Mountain	1.32	61	P	P	03 31 23.5	+2.0
MSW	Makushin Switc	1.34	241	P	P	03 31 22.2	+0.5
MSW				S	S	03 31 39.9	+0.1
MCIR	Makushin Cirqu	1.38	244	P	P	03 31 23.2	+1.0
MGOD	Makushin Gods	1.45	238	P	P	03 31 23.4	+0.3
MSOM	Makushin Julie	1.47	240	P	P	03 31 23.6	+0.2
MSOM				S	S	03 31 43.2	+0.5
DRIA	Deer Island	1.52	74	P	P	03 31 24.7	+0.6
DT1	Dutton Round H	1.55	69	P	P	03 31 25.4	+0.9
DT1				S	S	03 31 45.3	+0.8
DTNA	Dutton South F	1.58	68	P	P	03 31 26.0	+1.1
DTNA				S	S	03 31 46.7	+1.6
DOL	Dolgoi Island	1.79	70	P	P	03 31 28.6	+1.1
DOL				S	S	03 31 49.1	-0.7
HAG	Hague Volcano	1.83	65	P	P	03 31 29.6	+1.6
PN7A	Pavlof North-7	1.83	61	P	P	03 31 29.8	+1.8
PVV	Pavlof Volcano	1.91	64	P	P	03 31 30.6	+1.5
BLHA	Black Hill	1.93	53	P	P	03 31 31.5	+2.2
OKCD	Okmok Cone D	2.27	241	P	P	03 31 34.1	+0.2
OKCE	Okmok Cone E	2.29	241	P	P	03 31 34.7	+0.4
SDPT	Sand Point	2.61	71	P	P	03 31 38.9	+0.2
SDPT				S	S	03 32 09.8	+0.2
NIKO	Nikolski	2.89	238	P	P	03 31 42.6	+0.1
NIKO				S	S	03 32 15.1	-1.3
ANPB	Aniakchak Plen	4.31	56	P	P	03 32 03.2	+1.2
ANPK	Aniakchak Peak	4.41	56	P	P	03 32 04.6	+1.3
ATKA	Atka Island	6.10	251	P	P	03 32 27.9	+1.4
ANCK	Angle Creek	6.32	51	P	P	03 32 30.6	+1.2
CAHL	Cahill	6.33	53	P	P	03 32 30.5	+0.8
ACHA	Angle Creek He	6.40	51	P	P	03 32 32.5	+1.9
MGLS	Mageik LS	6.40	51	P	P	03 32 32.2	+1.5
KABR	Katmai Barrier	6.52	53	P	P	03 32 32.4	0.0
KAWH	Katmai	6.72	51	P	P	03 32 35.8	+0.6
KAPH	Katmai Pasha	7.04	51	P	P	03 32 40.6	+1.1
KDAK	Kodiak Island	7.54	60	P	P	03 32 44.3	-2.0
	19nm,0.3s,baz=238,slow=7.3,SNR=98						
KDAK				S	S	03 34 03.7	-7.1
	5.6nm,0.3s,baz=341,slow=20,SNR=7.7						
KDAK	Kodiak Island	7.54	60	P	P	03 32 44.2	-2.1
AUI	Augustine Isla	7.83	48	P	P	03 32 51.2	+0.9
AUW	Augustine West	7.83	48	P	P	03 32 51.3	+1.0
AUL	Augustine Lava	7.85	48	P	P	03 32 51.5	+0.9
OPT	Oil Point	8.09	46	P	P	03 32 55.1	+1.3
SVW2	Sparrevohn	8.17	33	P	P	03 32 56.5	+1.6
ILW	Iliamna West	8.36	44	P	P	03 32 58.5	+1.0
INE	Iliamna NE	8.39	44	P	P	03 32 59.6	+1.7
CNPM	China Poot	8.90	51	P	P	03 33 04.0	-0.7
TT01	Tatalina	9.51	25	P	P	03 33 14.8	+2.1
TTA	Tatalina	9.53	25	eP	P	03 33 14.8	+1.7
SLKM	Skilak Lake	9.82	47	eP	P	03 33 16.1	-1.0
SEW	Seward	9.96	50	P	P	03 33 17.5	-1.5
FIB	Fire Island	10.20	44	P	P	03 33 22.0	-0.1
RC01	Rabbit Creek A	10.33	45	P	P	03 33 23.4	-0.5
PMR	Palmer	10.85	43	eP	P	03 33 30.5	-0.4
PMR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PMR	Palmer	10.85	43	eP	P	03 33 30.5	-0.4
	comp=Z,3.4nm,0.3s						
GCSA	Galena City Sc	10.95	18	P	P	03 33 33.6	+1.5
GHO	Glory Hole Cre	11.03	43	P	P	03 33 33.7	+0.4
TNA	Tin City	11.12	353	P	P	03 33 35.2	+0.7
SML	Sawmill	11.29	43	eP	P	03 33 37.1	+0.4
HIN	Hinchinbrook I	11.42	52	P	P	03 33 36.6	-1.9
FID	Port Fidalgo	11.57	50	P	P	03 33 37.8	-2.7
TRF	Thorofare Moun	11.59	34	P	P	03 33 41.8	+1.1
DIV	Divide	12.04	49	P	P	03 33 45.2	-1.6
KLU	Klutina	12.14	48	P	P	03 33 46.0	-1.9
MCK	McKinley	12.23	35	eP	P	03 33 49.1	-0.1
BMRM	Bremner River	12.50	51	P	P	03 33 50.6	-2.2
IM3	Indian Mountai	12.66	21	P	P	03 33 57.0	+2.2
IMA2	Indian Mountai	12.74	21	eP	P	03 33 58.8	+2.8
GLB	Gilahina Butte	13.04	50	P	P	03 33 58.0	-1.9
THY	Trims Highway	13.17	40	P	P	03 34 00.7	-0.8
MDM	Murphy Dome	13.29	32	P	P	03 34 02.7	-0.4
COLA	College	13.35	33	P	P	03 34 03.2	-0.6
BALM	Baldy	13.56	52	P	P	03 34 05.0	-1.4
ILAR	Eielson Array	13.59	34	P	P	03 34 05.3	-1.5
	comp=Z,0.6nm,0.3s,baz=225,slow=11,SNR=31						
ILAR				PcP	PcP	03 39 25.1	-1.7
	comp=Z,0.1nm,0.3s,baz=283,slow=3.1,SNR=4.6						
ILAR				LR	LR	03 39 43.6	
	comp=Z,35nm,20.5s,baz=342,slow=39						
ILAR				ScP		03 42 49.4	
	comp=Z,0.0nm,0.3s,baz=291,slow=2.4,SNR=8.6						
IL1	Eielson Array	13.59	34	P	P	03 34 05.6	-1.1
YAH	Yahtse	13.65	56	P	P	03 34 06.7	-0.9
DOT	Dot Lake	13.93	41	P	P	03 34 10.1	-1.1
PNL	Peninsula	14.66	59	P	P	03 34 20.0	-0.6
DAWY	Dawson	15.96	43	P	P	03 34 36.4	-0.6
BM3	Burnt Mountain	16.06	29	P	P	03 34 39.4	+1.1
BILL	Bilibino	19.09	326	eP	P	03 35 13.7	-0.8
BILL				pmax	pmax		
	comp=Z,14nm,1.1s						
BILL	Bilibino	19.09	326	eP	P	03 35 13.7	-0.8
	comp=Z,14nm,1.1s						
BILL				e		03 35 36.5	
DLBC	Dease Lake	19.44	64	P	P	03 35 17.1	-1.2
	comp=Z,0.6nm,0.3s,baz=276,slow=11,SNR=16						
DLBC	Dease Lake	19.44	64	eP	P	03 35 17.6	-0.7
INK	Inuvik	19.99	34	P	P	03 35 21.7	-2.4
	comp=Z,2.9nm,0.3s,baz=244,slow=11,SNR=167						
INK				PcP	PcP	03 39 35.0	-1.8
	comp=Z,0.3nm,0.3s,baz=279,slow=3.9,SNR=4.2						
INK				ScP		03 43 02.9	
	comp=Z,0.3nm,0.3s,baz=287,slow=1.8,SNR=16						
INK				LR	LR	03 43 55.3	
	comp=Z,69nm,21.6s,baz=178,slow=39						
INK	Inuvik	19.99	34	eP	P	03 35 21.2	-2.9
INK				pmax	pmax		
	comp=Z,36nm,0.6s						
INK	Inuvik	19.99	34	eP	P	03 35 21.2	-2.9
	comp=Z,36nm,0.6s						
YKW3	Yellowknife Ar	26.72	52	eP	P	03 36 28.5	-0.6
YKA	Yellowknife Ar	26.73	52	P	P	03 36 29.2	0.0
	comp=Z,7.2nm,0.4s,mb4.6,baz=274,slow=9.1,SNR=83						
YKA				PcP	PcP	03 39 49.6	-1.0
	comp=Z,1.2nm,0.5s,baz=279,slow=2.1,SNR=7.0						
YKA				ScP		03 43 20.6	
	comp=Z,0.5nm,0.5s,baz=284,slow=3.3,SNR=4.7						
EDM	Edmonton	29.80	71	eP	P	03 36 56.3	-0.6
CHMT	Chamberlain Mo	32.85	82	eP	P	03 37 22.8	-0.9
RES	Resolute Bay	33.18	27	eP	P	03 37 24.8	-1.4
RES				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
RES	Resolute Bay	33.18	27	eP	P	03 37 24.8	-1.5
	comp=Z,9.8nm,0.6s,mb4.8						
HLID	Hailey	34.09	88	eP	P	03 37 34.2	-0.2
MCMT	McKenzie Canyo	34.26	85	eP	P	03 37 35.8	0.0
EGMT	Eagleton	34.26	78	eP	P	03 37 35.7	-0.1
BOZ	Bozeman (W)	34.49	83	eP	P	03 37 37.8	0.0
BOZ				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.4						
BOZ	Bozeman (W)	34.49	83	eP	P	03 37 37.8	+0.1
	comp=Z,3.9nm,0.6s,mb4.4						
NVAR	Mina Array Bea	35.12	98	P	P	03 37 42.9	-0.3
	comp=Z,0.5nm,0.6s,mb3.5,baz=291,slow=7.7,SNR=3.8						
NVAR				pP	pP	03 38 03.1	-2.2
	comp=Z,1.5nm,0.7s,baz=293,slow=8.0,SNR=6.0						
NVAR				ScP		03 43 48.8	
	comp=Z,0.2nm,0.6s,baz=325,slow=2.4,SNR=3.8						
ELK	Elko	35.36	92	eP	P	03 37 45.2	-0.1
LAO	LASA Array	37.00	77	eP	P	03 37 59.1	+0.1
	comp=Z,12nm,1.0s,mb4.8						
TPNV	Topopah Spring	37.32	98	eP	P	03 38 01.0	-0.7
TPNV				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.4						
TPNV	Topopah Spring	37.32	98	eP	P	03 38 00.9	-0.8
	comp=Z,6.4nm,1.1s,mb4.5						
BW06	Boulder Array	37.40	85	eP	P	03 38 00.3	-2.0
	comp=Z,1.8nm,0.6s,mb4.2						
PDAR	Pinedale Array	37.40	85	P	P	03 38 02.6	+0.3
	comp=Z,2.0nm,0.5s,mb4.3,baz=315,slow=3.8,SNR=20						
PDAR				ScP		03 43 57.2	
	comp=Z,0.5nm,0.9s,baz=315,slow=2.6,SNR=3.7						
FCC	Fort Churchill	37.43	54	eP	P	03 38 02.4	0.0
FCC				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
FCC	Fort Churchill	37.43	54	eP	P	03 38 02.4	0.0
	comp=Z,28nm,0.9s,mb5.2						
TMUT	Trail Mountain	38.65	91	eP	P	03 38 13.5	+0.7
SRU	San Rafael	39.17	90	eP	P	03 38 17.4	+0.3
SRU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
SRU	San Rafael	39.17	90	eP	P	03 38 17.4	+0.3
	comp=Z,6.0nm,0.8s,mb4.5						
RSSD	Black Hills	39.75	79	eP	P	03 38 21.7	-0.2
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
RSSD	Black Hills	39.75	79	eP	P	03 38 21.7	-0.2
	comp=Z,6.0nm,0.5s,mb4.7						
ULM	Lac du Bonnet	40.73	67	P	P	03 38 29.9	0.0
	comp=Z,2.8nm,0.3s,mb4.5,baz=307,slow=9.1,SNR=14						
PV01	Paradox Valley	40.96	90	eP	P	03 38 29.8	-2.1
MDJ	Mudanjiang	42.20	284	P	P	03 38 40.6	-1.2
MDJ				AMB	AMB		
	comp=Z,80nm,5.4s						

SDCO	**Great Sand Dun**	**43.01**	**88**	*e*P	**P**	**03 38 48.3**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.0						
EYMN	**Ely**	**44.42**	**67**	*e*P	**P**	**03 38 58.7**	**-1.1**
	comp=Z,6.6nm,0.6s,mb4.5						
CN2	**Changchun**	**45.03**	**286**	*e*P	**P**	**03 39 05.4**	**+0.6**
DAG	**Danmarks Havn**	**47.17**	**10**	⇑*i*P	**P**	**03 39 20.8**	**-0.4**
	comp=Z,6.3nm,0.5s,mb4.6						
DAG	**Danmarks Havn**	**47.17**	**10**	⇑*e*P	**P**	**03 39 20.8**	**-0.4**
DAG				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
DAG	**Danmarks Havn**	**47.17**	**10**	⇑*e*P	**P**	**03 39 20.8**	**-0.4**
	comp=Z,6.3nm,0.5s,mb4.6						
MNTX	**Cornudas Mount**	**47.35**	**94**	*e*P	**P**	**03 39 22.4**	**-0.8**
SUMG	**Summit**	**47.83**	**19**	*e*P	**P**	**03 39 26.5**	**0.0**
	comp=Z,19nm,0.9s,mb4.9						
WMOK	**Wichita Mounta**	**49.00**	**86**	*e*P	**P**	**03 39 33.1**	**-2.9**
WMOK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
WMOK	**Wichita Mounta**	**49.00**	**86**	*e*P	**P**	**03 39 33.1**	**-2.9**
	comp=Z,6.4nm,0.6s,mb4.7						
TXAR	**Lajitas Array**	**50.09**	**94**	P	**P**	**03 39 43.9**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.2,baz=296,slow=5.3,SNR=22						
TXAR				pP	pP	03 40 06.1	-1.2
	comp=Z,1.6nm,0.5s,baz=299,slow=5.3,SNR=7.5						
TXAR				ScP		03 44 48.6	
	comp=Z,1.3nm,0.9s,baz=275,slow=2.9,SNR=9.5						
SCHQ	**Schefferville**	**51.94**	**47**	P	**P**	**03 39 57.1**	**-0.9**
	comp=Z,11nm,0.8s,mb4.9,baz=326,slow=8.4,SNR=13						
SCO	**Scoresbysund**	**52.42**	**15**	*i* P	**P**	**03 40 00.6**	**-0.8**
SONM	**Songino Array**	**52.48**	**302**	P	**P**	**03 40 01.6**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.9,baz=44,slow=8.8,SNR=7.2						
SONM				pP	pP	03 40 25.0	-0.3
	comp=Z,2.0nm,0.9s,baz=35,slow=8.2,SNR=7.4						
SONM				PcP	PcP	03 41 11.0	-0.4
	comp=Z,2.0nm,0.6s,baz=75,slow=2.0,SNR=18						
SONM				ScP		03 44 59.3	
	comp=Z,0.8nm,1.1s,baz=54,slow=4.7,SNR=4.6						
OXF	**Oxford**	**54.57**	**79**	*e*P	**P**	**03 40 15.6**	**-2.1**
OXF				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.2						
OXF	**Oxford**	**54.57**	**79**	*e*P	**P**	**03 40 15.6**	**-2.1**
	comp=Z,25nm,0.9s,mb5.2						
HHC	**Hu-ho-hao-te**	**54.64**	**292**	*e*P	**P**	**03 40 21.2**	**+3.1**
HHC				AP	pP	03 40 44.9	+3.5
HHC				XP	sP	03 40 56.2	+4.2
HHC				PCP	PcP	03 41 17.4	-2.3
HHC				PP	PP	03 42 27.5	+4.6
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
HHC				AMB	AMB		
	comp=Z,210nm,6.5s						
ARCES	**ARCESS Array B**	**55.97**	**356**	P	**P**	**03 40 25.8**	**-1.6**
	comp=Z,5.6nm,1.0s,mb4.5,baz=10,slow=7.3,SNR=9.8						
ARCES				PcP	PcP	03 41 23.4	-1.1
	comp=Z,2.6nm,0.7s,baz=14,slow=5.0,SNR=3.9						
NCB	**Newcomb**	**56.06**	**60**	*e*P	**P**	**03 40 26.8**	**-1.6**
	comp=Z,8.1nm,0.6s,mb4.9						
MCWV	**Mont Chateau**	**56.20**	**68**	*e*P	**P**	**03 40 27.5**	**-2.0**
SSE	**Sheshan**	**56.26**	**277**	*e*P	**P**	**03 40 28.2**	**-1.7**
SSE				AMB	AMB		
	comp=Z,50nm,0.6s						
SSE				AMB	AMB		
	comp=Z,40nm,6.6s						
MIV	**Mineville/With**	**56.34**	**60**	*e*P	**P**	**03 40 28.6**	**-1.7**
NJ2	**Nanjing**	**56.90**	**280**	*e*P	**P**	**03 40 35.8**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
ELN	**Prospectdale**	**57.46**	**70**	P	**P**	**03 40 36.6**	**-1.8**
ZAL	**Zalesovo**	**57.60**	**319**	PcP	PcP	03 41 30.2	-0.8
	comp=Z,2.0nm,0.5s,baz=78,slow=7.8,SNR=5.1						
JOF	**Joensuu**	**62.16**	**352**	*e*p	**P**	**03 41 08.6**	**-1.6**
	comp=Z,2.0nm,0.5s,mb4.4						
JOF	**Joensuu**	**62.16**	**352**	*e*P	**P**	**03 41 08.6**	**-1.6**
JOF				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.4						
LZH	**Lanzhou**	**62.24**	**294**	*e*P	**P**	**03 41 11.8**	**+0.7**
LZH				AP	pP	03 41 36.5	+1.5
LZH				XP	sP	03 41 46.5	+0.9
LZH				PCP	PcP	03 41 50.5	+0.7
LZH				PP	PP	03 43 31.8	+0.6
LZH				SCP		03 45 42.3	
LZH				PCS		03 45 53.0	
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,60nm,4.9s						
KAF	**Kangasniemi**	**63.32**	**354**	*e*p	**P**	**03 41 16.4**	**-1.5**
	comp=Z,3.5nm,0.4s,mb4.6,baz=1.6,slow=6.3						
KAF	**Kangasniemi**	**63.32**	**354**	*e*P	**P**	**03 41 16.4**	**-1.5**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
BVAR	**Borovoye Array**	**63.43**	**326**	P	**P**	**03 41 18.2**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=43,slow=6.8,SNR=12						
BVAR				pP	pP	03 41 41.4	-1.3
	comp=Z,2.8nm,0.6s,baz=40,slow=7.2,SNR=6.5						
BVAR				PcP	PcP	03 41 53.4	-1.0
	comp=Z,3.1nm,0.5s,baz=26,slow=2.1,SNR=14						
FINES	**FINESS Array B**	**64.00**	**354**	P	**P**	**03 41 21.0**	**-1.1**
	comp=Z,2.6nm,0.5s,mb4.3,baz=18,slow=6.8,SNR=24						
FINES				pP	pP	03 41 45.6	-0.5
	comp=Z,2.7nm,0.8s,baz=20,slow=6.6,SNR=1.9						
MKAR	**Makanchi Array**	**64.21**	**315**	P	**P**	**03 41 22.3**	**-1.4**
	comp=Z,0.5nm,0.4s,mb3.7,baz=50,slow=7.6,SNR=11						
MKAR				pP	pP	03 41 47.0	-0.7
	comp=Z,0.7nm,0.6s,baz=45,slow=6.9,SNR=3.4						
WMQ	**Urumqi**	**64.26**	**310**	*e*P	**P**	**03 41 25.3**	**+1.2**
WMQ				AP	pP	03 41 49.7	+1.6
WMQ				XP	sP	03 42 00.7	+2.1
WMQ				PP	PP	03 43 49.5	+1.2
WMQ				AMB	AMB		
	comp=Z,20nm,4.1s						
WMQ				LR	LR		
	comp=N,50nm,19.0s						
WMQ				LR	LR		
	comp=E,50nm,19.8s						
WMQ				LR	LR		
	comp=Z,50nm,20.0s						
NB2	**NORSAR Subarra**	**64.68**	**2**	P	**P**	**03 41 25.4**	**-1.2**
	comp=Z,38nm,2.0s,mb4.9,baz=358,slow=6.5						
NB2	**NORSAR Subarra**	**64.68**	**2**	P	**P**	**03 41 25.4**	**-1.2**
	baz=358,slow=6.9						
NOA	**NORSAR Array B**	**64.68**	**2**	P	**P**	**03 41 25.6**	**-0.9**
	comp=Z,2.4nm,0.7s,mb4.1,baz=359,slow=6.4,SNR=7.1						
HFS	**Hagfors**	**65.63**	**1**	P	**P**	**03 41 31.6**	**-1.1**
	comp=Z,3.3nm,0.3s,mb4.6,baz=25,slow=3.5,SNR=74						
CD2	**Chengdu**	**66.23**	**290**	*e*P	**P**	**03 41 37.0**	**0.0**
OBN	**Obninsk**	**69.27**	**347**	*e*P	**P**	**03 41 53.9**	**-1.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
AKTO	**Aktyubinsk**	**69.39**	**332**	P	**P**	**03 41 56.0**	**-0.3**
	comp=Z,4.9nm,0.6s,mb4.5,baz=30,slow=6.2,SNR=23						
EKA	**Eskdalemuir Ar**	**69.42**	**11**	P	**P**	**03 41 56.2**	**-0.2**
	comp=Z,1.1nm,0.5s,mb3.9,baz=346,slow=4.6,SNR=7.9						
KMI	**Kunming**	**71.29**	**287**	P	**P**	**03 42 07.7**	**-0.5**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
PPT	**Papeete**	**73.03**	**165**	LR	LR	04 11 23.8	
	comp=Z,82nm,19.0s,baz=274,slow=33						
AKASG	**Malin Array Be**	**74.44**	**351**	P	**P**	**03 42 25.1**	**-1.0**
	comp=Z,2.5nm,0.3s,mb4.3,baz=11,slow=5.8,SNR=14						
GERES	**GERESS Array B**	**76.94**	**1**	P	**P**	**03 42 39.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=14,slow=5.5,SNR=5.5						
ESDC	**Sonseca Array**	**84.69**	**15**	P	**P**	**03 43 21.9**	**+0.7**
	comp=Z,1.1nm,0.5s,mb4.0,baz=341,slow=4.5,SNR=13						
BRTR	**Keskin Array B**	**84.74**	**346**	P	**P**	**03 43 22.6**	**+1.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=46,slow=2.1,SNR=22						
WRA	**Warramunga Arr**	**90.51**	**235**	P	**P**	**03 43 48.2**	**-1.4**
	comp=Z,1.0nm,0.8s,mb4.0,baz=39,slow=5.6,SNR=10						
TORD	**Torodi Ar. Bea**	**111.57**	**14**	PKiKP		03 49 20.9	
	comp=Z,0.2nm,0.6s,baz=345,slow=2.3,SNR=4.7						
TORD				PKKPbc		04 00 12.7	
	comp=Z,0.9nm,0.8s,baz=171,slow=2.2,SNR=7.9						
TSUM	**Tsumeb**	**144.64**	**356**	*e*PKP	PKPdf	03 50 22.2	-0.3

MAN 01 03:33:40.4,10.36N×124.95E,h32km,mb3.5,ML2.2, MS1.6,1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.24**	**202**	*e*P	Pb	03 33 49.0	+1.7
MSLP				*e*S	Sb	03 33 55.5	+3.5
SCPH	**Surigao**	**0.78**	**137**	⇑*e*P	Pn	03 33 55.3	+0.2
PLP	**Palo**	**0.80**	**2**	*i* P	Pn	03 33 55.7	+0.2
PLP				*i* S	Sb	03 34 06.9	+0.5

BER 01 04:58:58.4±11.0,66.45N×12.77E,h15km±91km,MD1.8, ML1.8,2D,Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**0.15**	**139**	⇓*i*P	Pb	04 59 02.7	+0.3
STOK	**Stokkvaagen**	**0.15**	**139**	*e*S	Sb	04 59 04.2	-0.8
STOK	**Stokkvaagen**	**0.15**	**139**	⇓*i*P	Pb	04 59 02.7	+0.3
STOK				*e*S	Sb	04 59 04.2	-0.8
STOK2	**Flostrand**	**0.26**	**114**	*e*P	Pb	04 59 04.0	-0.2
STOK2				*e*		04 59 04.1	
	baz=242,slow=16						
STOK2	**Flostrand**	**0.26**	**114**	*e*S	Sb	04 59 06.7	-1.5
STOK2				AML	AML	04 59 06.8	
	comp=E,121nm,0.1s						
MOR8	**Moi Rana**	**0.73**	**112**	*e*P	Pb	04 59 12.8	+0.6
MOR8				*e*S	Sb	04 59 23.3	+1.5
MOR8	**Moi Rana**	**0.73**	**112**	*e*P	Pb	04 59 12.8	+0.6
MOR8				*e*S	Sb	04 59 23.3	+1.5
NSS	**Namsos**	**1.95**	**190**	*e*P	Pn	04 59 31.0	-0.4
NSS				*e*S	Sn	04 59 54.3	-1.5

*JMA **01** 05:30:02.3±0.1,35.66N×140.19E,h67km±2km,M3.1*
*IDC **01** 05:30:07.0±2.5,35.33N×139.64E,h84km±14km,mb3.1/2, mb1 3.4/3,mb1mx3.1/21,mbtmp3.6/3,Error ellipse: s-maj=53.5km s-min=6.8km az=67.0*
ISC 01 05:30:01.9±0.6,35.61N±0.03×140.20E±0.05,h75km±5km, n17,σ0.86/31,mb3.5/2,2C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.19**	**179**	P	**P**	**05 30 13.4**	**+0.4**
JCN				S	**S**	**05 30 22.5**	**+1.2**
JYT	**Yasato**	**0.62**	**360**	⇑P	**P**	**05 30 15.6**	**-0.9**
JYT				S	**S**	**05 30 25.6**	**-1.6**
BSO3	**Boso 3**	**0.84**	**162**	P	**P**	**05 30 18.7**	**-0.3**
BSO3				S	**S**	**05 30 33.2**	**+1.5**
JOD2	**Odawara 2**	**0.97**	**250**	⇓P	**P**	**05 30 20.6**	**+0.1**
JOD2				S	**S**	**05 30 32.9**	**-1.5**
JAG	**Ashikaga**	**1.01**	**324**	⇑P	**P**	**05 30 20.9**	**-0.1**
JAG				S	**S**	**05 30 34.3**	**-1.1**
JIM2	**Oshima 3**	**1.09**	**215**	P	**P**	**05 30 21.5**	**-0.5**
JIM2				S	**S**	**05 30 36.7**	**-0.3**
JRY	**Ryogami san**	**1.13**	**292**	⇓P	**P**	**05 30 23.2**	**+0.7**
JRY				S	**S**	**05 30 38.6**	**+0.7**
BSO1	**Boso 1**	**1.15**	**146**	P	**P**	**05 30 21.7**	**-1.0**
BSO1				S	**S**	**05 30 39.5**	**+1.1**
JYN	**Shimob**	**1.35**	**266**	⇓P	**P**	**05 30 25.9**	**+0.3**
JYN				S	**S**	**05 30 43.7**	**+0.6**
JKT	**Katashina**	**1.39**	**327**	P	**P**	**05 30 26.7**	**+0.7**
JKT				S	**S**	**05 30 43.4**	**-0.5**
JIZS	**Izushimoda**	**1.40**	**231**	⇓P	**P**	**05 30 26.2**	**0.0**
JIZS				S	**S**	**05 30 43.7**	**-0.5**
MJAR	**Matsushiro Arr**	**1.86**	**301**	P	**P**	**05 30 32.6**	**+0.3**
	19nm,0.3s,baz=139,slow=14,SNR=52						
MJAR				S	**S**	**05 30 55.5**	**+0.7**
	20nm,0.3s,baz=139,slow=13,SNR=15						
MAT	**Matsushiro**	**1.86**	**301**	P	**P**	**05 30 33.2**	**+0.8**
MAT				S	**S**	**05 30 55.2**	**+0.4**
JHJ	**Hachijo jima 2**	**2.51**	**188**	P	**P**	**05 30 41.5**	**+0.2**
	95nm,0.3s,baz=117,slow=7.1,SNR=17						
JHJ				S	**S**	**05 31 09.1**	**-1.7**
	63nm,0.3s,baz=63,slow=22,SNR=6.3						
CBIJ	**Chichi jima**	**8.65**	**168**	P	**P**	**05 32 02.0**	**-4.4**
	19nm,0.3s,baz=273,slow=7.9,SNR=6.3						
MKAR	**Makanchi Array**	**44.06**	**303**	P	**P**	**05 38 05.0**	**+1.3**
	0.3nm,0.5s,mb3.2,baz=84,slow=7.9,SNR=3.3						
WRA	**Warramunga Arr**	**55.52**	**187**	P	**P**	**05 39 30.7**	**-1.0**
	0.4nm,0.4s,mb3.8,baz=2.1,slow=7.7,SNR=7.1						

*ATH **01** 05:34:03.4,39.72N×25.60E,h23km,MD3.1/4*
*NEIC **01** 05:34:03.4,39.72N×25.60E,h23km,MD3.1(ATH),After ATH.*
*CSEM **01** 05:34:04.3±0.1,39.71N×25.62E,h12km,MD3.1,Error ellipse: s-maj=3.3km s-min=1.7km az=13.0*
*THE **01** 05:34:05.2,39.69N×25.54E,h13km,ML2.9*
*ISK **01** 05:34:06.0,39.69N×25.74E,h18km,MD3.1*
ISC 01 05:34:02.5±0.7,39.67N±0.04×25.55E±0.03,h3km±5km, n28,σ0.94/37,2D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.36**	**308**	⇓*i*PB	**Pb**	**05 34 11.6**	**+0.4**
LIA				*e*SB	**Sb**	**05 34 17.1**	**+0.2**
LOS	**Limnos**	**0.45**	**306**	*e*Pg	**Pg**	**05 34 13.5**	**+2.1**
EZN	**Ezine**	**0.62**	**75**	*i* PG	**Pg**	**05 34 15.1**	**+0.3**
EZN				*i* SG	**Sg**	**05 34 23.4**	**+0.4**
PRK	**Paraskevi**	**0.70**	**127**	⇓*i*PN	**Pn**	**05 34 17.2**	**-1.8**
PRK				*e*SN	**Sn**	**05 34 27.4**	**-3.0**
AYVA	**Ayvalik**	**0.95**	**112**	*i* P	**Pb**	**05 34 22.1**	**+0.9**
AYVA				*i* S	**Sg**	**05 34 35.2**	**+1.0**
LPK	**Lapseki**	**1.16**	**53**	*i* PG	**Pg**	**05 34 25.5**	**-0.2**
LPK				*i* SG	**Sg**	**05 34 40.0**	**-1.2**
ALN	**Alexandroupoli**	**1.28**	**17**	*e*Pg	**Pg**	**05 34 27.4**	**-0.6**
ALN				*e*Sg	**Sg**	**05 34 44.5**	**-0.6**
OUR	**Ouranopolis**	**1.38**	**299**	*e*Pg	**Pg**	**05 34 28.5**	**-1.5**
PAIG	**Paliouri**	**1.46**	**281**	*e*Pg	**Pg**	**05 34 29.6**	**-2.1**
RDO	**Rodhopi**	**1.47**	**360**	*e*PN	**Pn**	**05 34 29.6**	**-0.4**
SART	**Tekirdag**	**1.61**	**50**	*i* P	**Pn**	**05 34 32.1**	**+0.2**
SART				*i* S	**Sb**	**05 34 52.7**	**-0.4**
MFT	**Murefte**	**1.73**	**49**	PN	**Pn**	**05 34 34.6**	**+0.9**
MFT				SN	**Sn**	**05 34 55.2**	**-1.3**
PLG	**Polygyros**	**1.76**	**294**	*e*PN	**Pn**	**05 34 35.0**	**+0.9**
MRMT	**Marmara Adasi**	**1.82**	**59**	PN	**Pn**	**05 34 35.7**	**+0.7**
XOR	**Xorichti**	**1.85**	**261**	*e*Pb	**Pb**	**05 34 35.7**	**-0.9**
EDC	**Edincik**	**1.90**	**68**	PN	**Pn**	**05 34 37.1**	**+1.0**
BTOK	**Tokmak**	**1.91**	**87**	*i* P	**Pn**	**05 34 35.2**	**-1.1**
BTOK				*i* S	**Sn**	**05 35 00.5**	**-0.7**
AKS	**Akhisar**	**1.93**	**114**	PN	**Pn**	**05 34 36.5**	**0.0**
BNT	**Bandirma**	**1.94**	**69**	PN	**Pn**	**05 34 37.1**	**+0.4**
SRS	**Serrai**	**2.08**	**315**	*e*Pn	**Pn**	**05 34 38.6**	**-0.1**
NVR	**Nevrokopi**	**2.11**	**323**	*e*PN	**Pn**	**05 34 39.5**	**+0.3**
KCT	**Karacabey**	**2.23**	**74**	PN	**Pn**	**05 34 41.7**	**+0.8**
EDRB	**Edirne**	**2.35**	**22**	*e*PN	**Pn**	**05 34 44.3**	**+1.7**
DST	**Dursunbey**	**2.38**	**91**	*e*PN	**Pn**	**05 34 43.0**	**+0.1**
KNT	**Kendrikon**	**2.51**	**307**	*e*Pn	**Pn**	**05 34 45.2**	**+0.3**
ORLT	**Orhaneli**	**2.60**	**81**	*e*PN	**Pn**	**05 34 46.2**	**+0.1**
GRG	**Griva**	**2.73**	**299**	*e*Pn	**Pn**	**05 34 48.3**	**+0.3**
YLV	**Yalova**	**3.06**	**72**	*e*PN	**Pn**	**05 34 53.3**	**+0.6**

*BJI **01** 05:43:31.4,6.80N×73.00W,h163km,mB5.3*
*IDC **01** 05:43:31.1±0.6,6.78N×72.93W,h161km±6km,mb3.7/15, mb1 3.9/19,mb1mx3.8/25,mbtmp4.2/19,Error ellipse: s-maj=10.9km s-min=7.1km az=129.0*
*NEIC **01** 05:43:31.5±0.5,6.79N×72.98W,h164km±5km,mb4.3/17, Error ellipse: s-maj=7.1km s-min=5.7km az=70.0*
*FUNV **01** 05:43:32.8,6.83N×73.00W,h157km,MW3.6*
ISC 01 05:43:30.3±0.4,6.86N±0.03×72.94W±0.04,h164km±3km, n62,σ1.22/71,mb4.0/26,5C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.18**	**32**	⇓*i*P	**P**	**05 44 00.3**	**+2.2**
CAPV				*e*S	**S**	**05 44 19.2**	**-0.4**
ROSC	**El Rosal**	**2.42**	**215**	P	**P**	**05 44 12.1**	**+0.4**
	299nm,0.3s,baz=92,slow=22,SNR=519						
ROSC				S	**S**	**05 44 42.9**	**-0.6**
	228nm,0.3s,baz=106,slow=16,SNR=11						
SOCV	**Socops**	**2.50**	**55**	⇓*i*P	**P**	**05 44 14.9**	**+2.3**
SOCV				*e*S	**S**	**05 44 44.7**	**-0.6**
VIGV	**El Vigia**	**2.51**	**38**	*e*P	**P**	**05 44 14.7**	**+1.8**
VIGV				*e*S	**S**	**05 44 44.7**	**-0.7**
SDV	**Santo Domingo**	**3.05**	**48**	P	**P**	**05 44 21.6**	**+2.1**
	184nm,0.3s,baz=261,slow=5.6,SNR=698						
SDV				S	**S**	**05 44 58.6**	**+1.5**
	118nm,0.3s,baz=302,slow=18,SNR=23						
SDV	**Santo Domingo**	**3.05**	**48**	*e*Pn	**P**	**05 44 21.5**	**+2.0**
SDV				*e*Sn	**S**	**05 44 56.0**	**-1.1**
ELOV	**Elorza**	**3.43**	**87**	*e*P	**P**	**05 44 25.9**	**+1.5**
ELOV				*e*S	**S**	**05 45 04.1**	**-1.8**
VIRV	**Villa del Rosa**	**3.66**	**8**	*e*P	**P**	**05 44 26.8**	**-0.6**
VIRV				*e*S	**S**	**05 45 08.9**	**-2.2**
QARV	**Quebrada Arrib**	**4.10**	**35**	⇓*i*P	**P**	**05 44 34.4**	**+1.5**
QARV				*e*S	**S**	**05 45 19.4**	**-1.9**
SANV	**Sanarito**	**4.27**	**52**	*i* P	**P**	**05 44 36.2**	**+1.0**
SANV				*e*S	**S**	**05 45 23.0**	**-2.3**
BAUV	**El Baul**	**5.28**	**67**	*i* P	**P**	**05 44 48.5**	**+0.1**
CAOV	**Caicara del Or**	**6.58**	**86**	*i* P	**P**	**05 45 05.2**	**-0.5**
OTAV	**Otavalo**	**8.57**	**220**	*e*Pn	**P**	**05 45 31.1**	**-1.0**
	7.7nm,0.8s						
OTAV				*e*Sn	**S**	**05 47 05.0**	**-2.2**
PCJ	**Portland Cotta**	**11.58**	**340**	⇑*e*P	**P**	**05 46 14.3**	**+2.8**
PCJ				⇑*e*S	**S**	**05 48 09.7**	**-8.4**
PCJ				⇑*e*S	**S**	**05 48 09.7**	**-8.3**
HOJ	**Hope**	**11.69**	**342**	*e*P	**P**	**05 46 16.5**	**+3.5**
GWJ	**Greenwich**	**11.75**	**342**	⇑*e*P	**P**	**05 46 17.7**	**+3.9**
STH	**Stony Hill**	**11.78**	**342**	⇑*e*P	**P**	**05 46 17.5**	**+3.4**
STH				*e*S	**S**	**05 48 14.6**	**-8.1**
JTS	**JuntasAbangare**	**12.36**	**287**	P	**P**	**05 46 22.7**	**+1.0**
	1.1nm,0.3s,baz=263,slow=4.0,SNR=9.4						
JTS	**JuntasAbangare**	**12.36**	**287**	*e*Pn	**P**	**05 46 22.3**	**+0.6**
	22nm,0.6s						
SJG	**San Juan**	**13.00**	**30**	P	**P**	**05 46 30.8**	**+1.0**
	3.5nm,0.3s,baz=208,slow=14,SNR=9.2						
SJG	**San Juan**	**13.00**	**30**	*e*Pn	**P**	**05 46 29.7**	**-0.1**
SJG				*e*Sn	**S**	**05 48 43.0**	**-8.1**
SAML	**Samuel**	**18.47**	**148**	*e*P	**P**	**05 47 34.8**	**-1.5**
	5.7nm,0.7s						
SAML				*e*S	**S**	**05 50 55.4**	**+2.0**
LPAZ	**La Paz**	**23.48**	**168**	P	**P**	**05 48 27.2**	**+0.8**
	0.8nm,0.3s,mb3.6,baz=351,slow=14,SNR=9.2						
LPAZ	**La Paz**	**23.48**	**168**	*e*P	**P**	**05 48 26.5**	**+0.1**
	1.0nm,0.5s,mb3.5						
LPAZ				*e*pP		05 48 55.4	
SIV	**San Ignacio**	**25.56**	**153**	P	**P**	**05 48 45.1**	**-0.9**
	0.3nm,0.3s,mb3.4,baz=340,slow=8.3,SNR=6.0						
OXF	**Oxford**	**31.44**	**333**	*e*P	**P**	**05 49 37.9**	**-0.6**
	21nm,1.2s,mb4.8						
WVT	**Waverly**	**32.17**	**337**	*e*P	**P**	**05 49 44.7**	**-0.1**
	4.7nm,0.7s,mb4.3						
BDFB	**Brasilia**	**33.30**	**132**	P	**P**	**05 49 55.2**	**+0.5**
	0.9nm,0.4s,mb3.8,baz=288,slow=9.6,SNR=2.8						
ACSO	**Alum Creek Sta**	**34.43**	**346**	*e*P	**P**	**05 50 04.6**	**+0.5**
	5.5nm,0.9s,mb4.3						
CCM	**Cathedral Cave**	**35.22**	**335**	*e*P	**P**	**05 50 10.0**	**-0.7**
	5.9nm,0.6s,mb4.4						
LTX	**Lajitas**	**36.58**	**312**	*e*P	**P**	**05 50 22.2**	**0.0**
TXAR	**Lajitas Array**	**36.58**	**312**	P	**P**	**05 50 22.7**	**+0.4**
	1.2nm,0.6s,mb3.7,baz=127,slow=9.5,SNR=22						
TXAR				PcP	PcP	05 52 43.1	+0.7
	0.6nm,0.6s,baz=138,slow=5.0,SNR=6.2						
TXAR	**Lajitas Array**	**36.58**	**312**	P	**P**	**05 50 22.7**	**+0.4**
TXAR				PcP	PcP	05 52 43.1	+0.7
MNTX	**Cornudas Mount**	**39.08**	**313**	*e*P	**P**	**05 50 43.5**	**+0.3**
	2.2nm,0.7s,mb3.9						
SDCO	**Great Sand Dun**	**42.64**	**321**	*e*P	**P**	**05 51 12.2**	**0.0**
	2.1nm,0.7s,mb3.9						
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**05 51 48.4**	**-0.8**
	4.0nm,0.5s,mb4.3,baz=156,slow=6.4,SNR=16						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**05 51 56.0**	**+0.9**
	15nm,0.5s,mb4.8,baz=187,slow=7.0,SNR=38						
SCHQ	**Schefferville**	**48.09**	**5**	*e*P	**P**	**05 51 55.5**	**+0.4**
	20nm,0.6s,mb4.9						
PDAR	**Pinedale Array**	**48.16**	**324**	P	**P**	**05 51 55.4**	**-0.4**
	0.4nm,0.4s,mb3.4,baz=125,slow=8.8,SNR=5.6						
PDAR				PcP	PcP	05 53 20.8	-0.2
	0.6nm,0.4s,baz=114,slow=6.8,SNR=5.7						
HLID	**Hailey**	**51.52**	**322**	*e*P	**P**	**05 52 21.4**	**0.0**
	1.5nm,0.9s,mb3.6						
NVAR	**Mina Array Bea**	**51.59**	**314**	P	**P**	**05 52 22.6**	**+0.6**
	0.3nm,0.5s,mb3.2,baz=121,slow=9.3,SNR=4.5						
FCC	**Fort Churchill**	**54.28**	**347**	*e*P	**P**	**05 52 40.2**	**-1.3**
	3.9nm,0.7s,mb4.2						
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**05 53 42.2**	**-1.4**
	4.6nm,0.6s,mb4.5,baz=133,slow=6.7,SNR=58						
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**05 53 42.2**	**-1.4**
DBIC	**Dimbokro**	**67.55**	**86**	P	**P**	**05 54 10.1**	**-1.6**
	6.3nm,0.6s,mb4.5,baz=266,slow=7.1,SNR=27						
DBIC	**Dimbokro**	**67.55**	**86**	*e*P	**P**	**05 54 10.1**	**-1.6**
	5.8nm,0.6s,mb4.5						
SUMG	**Summit**	**68.92**	**11**	*e*P	**P**	**05 54 19.4**	**+0.3**
	22nm,0.6s,mb5.1						
INK	**Inuvik**	**73.06**	**340**	*e*P	**P**	**05 54 43.5**	**-0.3**
	2.6nm,0.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**73.55**	**78**	P	**P**	**05 54 46.1**	**-1.6**
	0.8nm,0.3s,mb3.9,baz=285,slow=6.6,SNR=32						
ILAR	**Eielson Array**	**77.01**	**335**	P	**P**	**05 55 06.0**	**-0.3**
	0.8nm,0.7s,mb3.5,baz=117,slow=4.8,SNR=8.1						
NB2	**NORSAR Subarra**	**81.21**	**29**	P	**P**	**05 55 30.6**	**+1.6**
	1.0nm,0.6s,mb3.6,baz=270,slow=6.2						
NOA	**NORSAR Array B**	**81.21**	**29**	P	**P**	**05 55 29.6**	**+0.5**
	1.0nm,0.6s,mb3.7,baz=268,slow=5.3,SNR=4.8						
GERES	**GERESS Array B**	**82.68**	**42**	P	**P**	**05 55 37.2**	**+0.3**
	0.7nm,0.6s,mb3.6,baz=243,slow=3.0,SNR=6.7						
ARCES	**ARCESS Array B**	**86.58**	**20**	P	**P**	**05 55 56.1**	**+0.4**
	2.6nm,0.7s,mb4.2,baz=272,slow=4.6,SNR=10.0						
TSUM	**Tsumeb**	**92.71**	**109**	P	**P**	**05 56 28.0**	**+2.3**
	7.6nm,1.3s,mb4.7						
ZAL	**Zalesovo**	**116.60**	**15**	PKP	PKPdf	06 01 56.3	+1.6
	1.9nm,0.6s,baz=106,slow=0.8,SNR=7.8						
MKAR	**Makanchi Array**	**122.23**	**20**	PKP	PKPdf	06 02 06.7	+0.8
	0.9nm,0.4s,baz=306,slow=2.6,SNR=26						
SONM	**Songino Array**	**125.55**	**1**	PKP	PKPdf	06 02 14.0	+1.8
	1.0nm,0.5s,baz=305,slow=0.8,SNR=8.3						
WMQ	**Urumqi**	**126.60**	**17**	*e*PKP	PKPdf	06 02 15.3	+0.9
LZH	**Lanzhou**	**137.18**	**4**	*e*PKP	PKPdf	06 02 34.0	-0.5
LZH				XPKP		06 03 34.4	
WRAB	**Tennant Creek**	**150.51**	**241**	*e*PKPbc	PKPdf	06 03 03.4	+5.6
WRAB				*e*pPKPdf		06 03 41.2	
WRA	**Warramunga Arr**	**150.51**	**241**	PKPbc	PKPdf	06 03 03.5	+5.7
	2.2nm,0.5s,baz=108,slow=2.4,SNR=26						

BER 01 05:48:40.2±0.4,66.39N×13.28E,h10km±2km,MD1.8, ML1.9,2C,Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK2	**Flostrand**	**0.06**	**144**	*e*P	Pg	05 48 42.3	-0.1
STOK2				*e*		05 48 42.3	
	baz=325,slow=11						
STOK2	**Flostrand**	**0.06**	**144**	*e*S	Sg	05 48 43.8	-0.1
STOK2				AML	AML	05 48 44.1	
	comp=N,538nm,0.3s						
STOK	**Stokkvaagen**	**0.12**	**243**	⇑*i*P	Pg	05 48 43.0	-0.1
STOK	**Stokkvaagen**	**0.12**	**243**	*e*S	Sg	05 48 44.6	-0.5
STOK				AML	AML	05 48 46.5	
	comp=Z,241nm,0.4s						
STOK	**Stokkvaagen**	**0.12**	**243**	⇑*i*P	Pg	05 48 43.0	-0.1
STOK				*e*S	Sg	05 48 44.6	-0.5
STOK				AML	AML	05 48 46.5	
	comp=Z,241nm,0.4s						
MELSS	**Ber_school_2**	**0.51**	**20**	*e*P	Pg	05 48 49.5	-1.0
MELSS				*e*S	Sg	05 48 56.5	-1.0
MELSS	**Ber_school_2**	**0.51**	**20**	*e*P	Pg	05 48 49.5	-1.0
MELSS				*e*S	Sg	05 48 56.5	-1.0
MOR8	**Moi Rana**	**0.52**	**114**	*e*P	Pg	05 48 50.9	+0.2
MOR8				*e*S	Sg	05 48 59.0	+1.3
MOR8	**Moi Rana**	**0.52**	**114**	*e*P	Pg	05 48 50.9	+0.2
MOR8				*e*S	Sg	05 48 59.0	+1.3
NSS	**Namsos**	**1.94**	**197**	*e*P	Pn	05 49 14.4	+0.7
NSS				*e*S	Sn	05 49 41.2	+3.0

*IDC **01** 05:53:12.0±1.3,6.38N×124.23E,mb3.9/5,mb1 4.1/5, mb1mx3.8/18,mbtmp3.9/5,Error ellipse: s-maj=79.5km s-min=23.2km az=67.0*
*MAN **01** 05:53:14.5,6.21N×123.69E,h33km,mb4.7,ML3.6,MS3.5*
ISC 01 05:53:15.5±1.3,6.24N±0.08×123.68E±0.07,h46km±14km, n11,σ1.06/15,mb3.8/5,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.27**	**97**	⇑*i*P	**P**	**05 53 39.0**	**+1.9**
GSPH				*i* S	**S**	**05 53 59.0**	**+5.7**
PAGZ	**Pagadian**	**1.62**	**349**	*e*P	**P**	**05 53 41.5**	**-0.7**
PAGZ				*e*S	**S**	**05 54 01.1**	**-0.9**
IPIL	**Ipil**	**1.89**	**324**	*e*P	**P**	**05 53 46.2**	**+0.3**
IPIL				*e*S	**S**	**05 54 09.2**	**+0.6**
BUKP	**Musuan**	**2.12**	**40**	*e*P	**P**	**05 53 49.7**	**+0.4**
BUKP				*e*S	**S**	**05 54 14.8**	**+0.2**
DCPH	**Dipolog City**	**2.35**	**352**	*e*P	**P**	**05 53 51.7**	**-0.8**
MATI	**Mati**	**2.65**	**75**	*e*P	**P**	**05 53 55.8**	**-1.0**
WRA	**Warramunga Arr**	**28.05**	**158**	P	**P**	**05 59 03.4**	**-1.5**
	1.1nm,0.8s,mb3.5,baz=335,slow=9.9,SNR=4.7						
CTA	**Charters Tower**	**34.32**	**140**	P	**P**	**05 59 58.6**	**-1.3**
	2.7nm,0.9s,mb4.2,baz=344,slow=7.4,SNR=2.2						
STKA	**Stephens Creek**	**41.58**	**157**	P	**P**	**06 01 01.7**	**+1.0**
	4.7nm,0.8s,mb4.2,baz=338,slow=7.6,SNR=7.3						
MKAR	**Makanchi Array**	**53.78**	**326**	P	**P**	**06 02 38.0**	**+2.3**
	0.9nm,0.9s,mb3.7,baz=111,slow=6.2,SNR=4.9						

ILAR	**Eielson Array**	**84.16**	**26**	P	**P**	**06 05 42.6**	**-0.1**
	0.5nm,1.0s,mb3.6,baz=270,slow=5.4,SNR=4.9						

IDC 01 06:10:56.4±4.7**,5.29N**×**93.40E,mb3.6**/3**,mb1 3.8**/3**, mb1mx3.5**/18**,mbtmp3.6**/3**,Error ellipse: s-maj=165.4km s-min=30.1km az=62.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.44**	**349**	P	P	06 18 52.8	-1.9
	0.4nm,0.6s,baz=172,slow=8.6,SNR=4.1						
SONM	**Songino Array**	**43.83**	**13**	P	P	06 19 04.3	-1.6
	0.3nm,0.5s,baz=202,slow=7.8,SNR=3.4						
WRA	**Warramunga Arr**	**47.42**	**123**	P	P	06 19 32.9	-2.0
	1.8nm,0.7s,baz=302,slow=9.0,SNR=9.3						

*NEIC **01** 06:25:32.1,18.93N×64.21W,h62^{km},MD3.5(RSPR), After RSPR.*

RSPR 01 06:25:32.1,18.93N×64.21W,h62^{km}±2km**,MD3.5**/6**, MD3.5**/6**,5C-2D,Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.64**	**217**	*e*S	S	06 25 54.9	-1.2
TBVI	**Tortola**	**0.64**	**217**⇑	*e*P	P	06 25 45.3	-0.6
TBVI				*e*S		06 27 54.9	
MTP	**Monte Pirata**	**1.53**	**237**⇑	*e*P	P	06 25 56.3	-1.4
MTP				*e*S	S	06 26 15.8	-0.9
CBYP	**Canovanas**	**1.70**	**248**⇑	*e*P	P	06 25 58.3	-1.7
CBYP				*e*S	S	06 26 18.7	-2.0
HUMP	**Col San Antoni**	**1.75**	**244**⇓	*e*P	P	06 25 58.7	-2.0
HUMP				*e*S	S	06 26 20.5	-1.3
CPD	**Cerro la Pandu**	**1.85**	**242**⇑	*e*P	P	06 26 00.6	-1.5
CPD				*e*S	S	06 26 23.5	-0.8
SJG	**San Juan**	**2.02**	**246**⇓	*e*P	P	06 26 03.9	-0.5
CELP	**Cerrillos**	**2.41**	**250**⇑	*e*P	P	06 26 08.5	-1.5
CELP				*e*S	S	06 26 37.6	-0.7

*NEIC **01** 06:37:43.2,15.13N×94.16W,h16^{km},MD4.1(MEX),After MEX.*

MEX 01 06:37:43.2±1.2**,15.13N**×**94.16W,h16^{km}**±23km**,MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.98**	**289**	*i* P	Pn	06 38 12.7	-3.9
HUIG				*i* S	Sn	06 38 34.9	-6.4
CMIG	**Matias Romero**	**2.07**	**340**	*i* P	Pn	06 38 14.4	-3.4
CMIG				*i* S	Sn	06 38 38.6	-4.8
SCX	**San Cristobal**	**2.17**	**42**	*e*P	Pn	06 38 15.5	-3.7
SCX				*i* S	Sn	06 38 39.5	-6.4
CCIG	**Comitan**	**2.26**	**59**	*i* P	Pn	06 38 17.6	-3.0
CCIG				*i* S	Sn	06 38 43.7	-4.5
OXX	**Oaxaca**	**3.14**	**309**	*e*P	Pn	06 38 31.0	-2.0
VHO	**Vista Hermosa**	**3.14**	**308**	*i* P	Pn	06 38 31.7	-1.4
VHO				*i* S	Sn	06 39 06.0	-4.5

BER 01 06:39:33.2±0.7**,66.39N**×**13.28E,h10^{km}**±2km**,MD1.0, ML1.1,Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK2	**Flostrand**	**0.06**	**145**	*e*P	Pg	06 39 35.2	-0.2
STOK2				*e*		06 39 35.2	
	baz=325,slow=10						
STOK2	**Flostrand**	**0.06**	**145**	*e*S	Sg	06 39 36.7	-0.2
STOK2				AML	AML	06 39 36.8	
	comp=N,118nm,0.1s						
STOK	**Stokkvaagen**	**0.12**	**242**	*e*P	Pg	06 39 35.9	-0.3
STOK				*e*		06 39 36.2	
	baz=62,slow=12						
STOK				*e*S	Sg	06 39 38.0	-0.1
STOK				AML	AML	06 39 39.3	
	comp=Z,27nm,0.3s						
STOK	**Stokkvaagen**	**0.12**	**242**	*e*P	Pg	06 39 35.9	-0.3
STOK				*e*		06 39 36.2	
	baz=62,slow=12						
STOK	**Stokkvaagen**	**0.12**	**242**	*e*S	Sg	06 39 37.9	-0.2
STOK				AML	AML	06 39 39.3	
	comp=Z,27nm,0.3s						
MOR8	**Moi Rana**	**0.52**	**114**	*e*P	Pg	06 39 43.7	0.0
MOR8				*e*S	Sg	06 39 52.5	+1.7
MOR8	**Moi Rana**	**0.52**	**114**	*e*P	Pg	06 39 43.7	0.0
MOR8				*e*S	Sg	06 39 52.4	+1.6

*IDC **01** 07:13:05.1±2.5,51.32N×179.10W,h18^{km}±14km,mb4.2/23, mb1 4.4/24,mb1mx4.3/29,mbtmp4.3/24,ML4.4/1,MS3.6/14, Ms1 3.6/14,ms1mx3.4/35,Error ellipse: s-maj=18.8km s-min=13.1km az=165.0*

*BJI **01** 07:13:06.7,51.42N×179.46W,h31^{km},mB5.0,mb4.9, Ms4.6,Msz4.3*

*MOS **01** 07:13:08.1±0.8,51.35N×179.08W,h53^{km},mb5.0/29, Error ellipse: s-maj=11.1km s-min=9.1km az=80.8*

*NEIC **01** 07:13:09.3±0.7,51.24N×179.10W,h51^{km}±5km,mb4.4/20, ML4.8(AEIC),Error ellipse: s-maj=9.8km s-min=4.9km az=183.0*

ISC 01 07:13:08.5±0.7**,51.32N**±0.08×**179.08W**±0.05**,h55^{km}**±5km**, h39^{km}**±2.5km**:pP-P,n151,**σ0.90/145**,mb4.6**/53**,MS3.8**/19**, 1C-1D,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.23**	**68**	P	**P**	**07 13 29.0**	**-0.8**
KIKV	**Kanaga Island**	**1.31**	**64**	P	**P**	**07 13 30.5**	**-0.5**
KICM	**Kanaga Island**	**1.32**	**62**	P	**P**	**07 13 31.0**	**-0.1**
KINC	**Kanaga Island**	**1.36**	**63**	P	**P**	**07 13 31.4**	**-0.3**
KIRH	**Kanaga Island**	**1.37**	**64**	P	**P**	**07 13 31.4**	**-0.4**
ADAG	**Mount Adagdak**	**1.68**	**66**	P	**P**	**07 13 36.1**	**0.0**
GSCK	**Great Sitkin C**	**1.94**	**68**	P	**P**	**07 13 39.7**	**-0.1**
GSTD	**Great Sitkin T**	**1.97**	**67**	P	**P**	**07 13 40.2**	**+0.1**
GSTD				S	**S**	**07 14 06.9**	**+3.4**
GSMY	**Great Sitkin M**	**2.02**	**68**	P	**P**	**07 13 41.1**	**+0.3**
GSMY				S	**S**	**07 14 06.3**	**+1.6**
GSTR	**Great Sitkin T**	**2.03**	**67**	P	**P**	**07 13 41.4**	**+0.4**
ATKA	**Atka Island**	**3.16**	**72**	P	**P**	**07 13 56.8**	**-0.2**
ATKA				S	**S**	**07 14 33.6**	**-0.1**
FX1	**Attu Island--F**	**5.03**	**291**	Pn	**P**	**07 14 22.5**	**-0.7**
	20nm,0.3s,baz=116,slow=13,SNR=49						
FX1				Sn	**S**	**07 15 28.4**	**+7.7**
	28nm,0.3s,baz=50,slow=23,SNR=6.4						
FX1	**Attu Island--F**	**5.03**	**291**	P	**P**	**07 14 22.5**	**-0.7**
FX1						07 15 28.4	
FX1				pmax	pmax		
	comp=Z,20nm,0.3s						
FX1				smax			
	comp=N,28nm,0.3s						
FX1	**Attu Island--F**	**5.03**	**291**	P	**P**	**07 14 22.9**	**-0.3**
NIKO	**Nikolski**	**6.51**	**71**	P	**P**	**07 14 43.5**	**-0.4**
OKCE	**Okmok Cone E**	**7.01**	**68**	P	**P**	**07 14 51.0**	**+0.1**
MSOM	**Makushin Julie**	**7.80**	**67**	P	**P**	**07 15 01.2**	**-0.7**
MSW	**Makushin Switc**	**7.92**	**66**	P	**P**	**07 15 03.2**	**-0.3**
MTBL	**Makushin Table**	**8.00**	**66**	P	**P**	**07 15 04.8**	**+0.3**
UNV	**Unalaska Valle**	**8.07**	**67**	P	**P**	**07 15 04.7**	**-0.8**
LVA	**Lava Point**	**8.41**	**65**	P	**P**	**07 15 10.4**	**+0.1**
AKLV	**Akutan Long Va**	**8.46**	**65**	P	**P**	**07 15 11.7**	**+0.8**
AKUT	**Akutan**	**8.55**	**66**	P	**P**	**07 15 13.1**	**+0.9**
SDPT	**Sand Point**	**11.82**	**63**	P	**P**	**07 15 55.4**	**-1.2**
KDAK	**Kodiak Island**	**16.60**	**57**	Pn	**P**	**07 16 55.0**	**-3.5**
	comp=N,1.5nm,0.3s,baz=260,slow=4.1,SNR=23						
KDAK				Sn	**S**	**07 19 59.6**	**-0.7**
	comp=N,0.3nm,0.3s,baz=122,slow=23,SNR=4.6						
TTA	**Tatalina**	**16.96**	**38**	*e*P	**P**	**07 17 05.9**	**+2.9**
TTA				pmax	pmax		
	comp=Z,23nm,1.2s						
TTA	**Tatalina**	**16.96**	**38**	*e*P	**P**	**07 17 05.9**	**+2.9**
	comp=Z,23nm,1.2s						
BILL	**Bilibino**	**18.23**	**342**⇓	*e*P	**P**	**07 17 23.0**	**+4.2**
BILL				pmax	pmax		
	comp=Z,36nm,1.7s						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s						
BILL	**Bilibino**	**18.23**	**342**	*e*P	**P**	**07 17 21.3**	**+2.5**
	comp=Z,25nm,1.1s						
SLKM	**Skilak Lake**	**18.46**	**49**	*e*P	**P**	**07 17 22.7**	**+1.1**
IMA2	**Indian Mountai**	**19.59**	**31**	*e*P	**P**	**07 17 33.9**	**-0.4**
COLA	**College**	**21.06**	**38**	*e*P	**P**	**07 17 49.2**	**-0.5**
COLA				pmax	pmax		
	comp=Z,90nm,0.9s,mb5.1						
COLA	**College**	**21.06**	**38**	*e*P	**P**	**07 17 49.2**	**-0.5**
	comp=Z,9.5nm,0.9s,mb4.1						
THY	**Trims Highway**	**21.37**	**43**	*e*P	**P**	**07 17 55.0**	**+2.2**
ILAR	**Eielson Array**	**21.40**	**39**	P	**P**	**07 17 52.6**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=243,slow=8.7,SNR=53						
ILAR				PcP	PcP	07 21 53.1	-2.5
	comp=Z,1.4nm,0.9s,baz=266,slow=3.3,SNR=7.0						
ILAR				ScP		07 25 29.8	
	comp=Z,0.7nm,0.6s,baz=280,slow=3.6,SNR=15						
ILAR				LR	LR	07 25 32.2	
	comp=Z,68nm,20.6s,MS3.0,slow=35						
ILAR	**Eielson Array**	**21.40**	**39**	P	**P**	**07 17 52.7**	**-0.3**
ILAR						07 21 53.1	
ILAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ILAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
ILAR				MLR	MLR		
	comp=Z,68nm,20.6s						
YSS	**Yuzh-Sakhalins**	**25.15**	**275**	*i* P	**P**	**07 18 31.2**	**+1.6**
YSS				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.4						
ASAJ	**Asahikawa**	**26.53**	**269**	LR	LR	07 27 17.9	
	comp=Z,99nm,19.9s,MS3.4,baz=41,slow=32						
INK	**Inuvik**	**27.61**	**35**	P	**P**	**07 18 51.5**	**-0.6**
	comp=Z,0.8nm,0.3s,mb3.8,baz=242,slow=6.8,SNR=18						
INK				PcP	PcP	07 22 07.9	-0.9
	comp=Z,0.7nm,0.4s,baz=252,slow=5.2,SNR=6.7						
INK				ScP		07 25 47.4	
	comp=Z,0.5nm,0.8s,baz=256,slow=4.2,SNR=3.9						
INK	**Inuvik**	**27.61**	**35**	P	**P**	**07 18 51.5**	**-0.6**
INK						07 22 07.9	
INK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
INK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
INK				pmax	pmax		
	comp=N,1.0nm,0.8s						
DLBC	**Dease Lake**	**28.54**	**56**	LR	LR	07 29 03.6	
	comp=N,122nm,19.8s,MS3.5,baz=228,slow=34						
YAK	**Yakutsk**	**29.32**	**311**	*i* P	**P**	**07 19 03.6**	**-3.9**
TIXI	**Tiksi**	**30.60**	**331**	*e*P	**P**	**07 19 18.6**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
MJAR	**Matsushiro Arr**	**33.60**	**261**	P	**P**	**07 19 45.0**	**-0.3**
	comp=Z,1.4nm,0.4s,mb4.2,baz=48,slow=7.8,SNR=6.1						
MJAR				LR	LR	07 30 35.0	
	comp=Z,149nm,21.2s,MS3.7,baz=65,slow=31						
MDJ	**Mudanjiang**	**34.41**	**279**	P	**P**	**07 19 51.4**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,210nm,4.5s						
YKA	**Yellowknife Ar**	**35.40**	**46**	P	**P**	**07 19 60.0**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.3,baz=282,slow=7.2,SNR=27						
YKA				PcP	PcP	07 22 29.4	-0.2
	comp=Z,0.4nm,0.4s,baz=278,slow=3.0,SNR=6.1						
YKA				ScP		07 26 14.1	
	comp=Z,0.3nm,0.4s,baz=290,slow=3.0,SNR=15						
YKA				LR	LR	07 35 44.9	
	comp=Z,105nm,18.6s,MS3.6,baz=280,slow=38						
CN2	**Changchun**	**37.38**	**281**	*e*P	**P**	**07 20 17.7**	**+0.4**
CN2				*e*S	**S**	**07 26 00.9**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
HAWA	**Hanford**	**38.55**	**73**	*e*P	**P**	**07 20 27.6**	**+0.6**
	comp=Z,0.6nm,0.8s						
EDM	**Edmonton**	**38.99**	**61**	*e*P	**P**	**07 20 30.0**	**-0.6**
NEW	**Newport**	**39.07**	**69**	*e*P	**P**	**07 20 31.3**	**0.0**
	comp=Z,6.0nm,0.9s,mb4.3						
WVOR	**Wild Horse Val**	**41.19**	**78**	*e*P	**P**	**07 20 49.2**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
WVOR	**Wild Horse Val**	**41.19**	**78**	*e*P	**P**	**07 20 49.2**	**+0.3**
	comp=Z,6.1nm,0.8s,mb4.3						
CHMT	**Chamberlain Mo**	**42.01**	**69**	*e*P	**P**	**07 20 55.2**	**-0.3**
HRY	**Holter Researc**	**42.95**	**69**	*e*P	**P**	**07 21 03.8**	**+0.6**
HLID	**Hailey**	**43.13**	**74**	*e*P	**P**	**07 21 05.7**	**+1.0**
	comp=Z,3.1nm,0.8s,mb4.1						
MCMT	**McKenzie Canyo**	**43.36**	**72**	*e*P	**P**	**07 21 06.4**	**-0.2**
BOZ	**Bozeman (W)**	**43.64**	**70**	*e*P	**P**	**07 21 08.8**	**0.0**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
BOZ	**Bozeman (W)**	**43.64**	**70**	*e*P	**P**	**07 21 08.8**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**43.73**	**83**	P	**P**	**07 21 08.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=292,slow=9.7,SNR=2.6						
ELK	**Elko**	**44.24**	**78**	*e*P	**P**	**07 21 14.4**	**+0.6**
ELK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ELK	**Elko**	**44.24**	**78**	*e*P	**P**	**07 21 14.4**	**+0.7**
	comp=Z,4.1nm,0.8s,mb4.2						
GCMT	**Greycliff**	**44.71**	**69**	*e*P	**P**	**07 21 18.3**	**+0.9**
ISA	**Isabella**	**45.36**	**86**	P	**P**	**07 21 22.6**	**-0.1**
TPNV	**Topopah Spring**	**45.93**	**83**	*e*P	**P**	**07 21 27.1**	**-0.2**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
TPNV	**Topopah Spring**	**45.93**	**83**	*e*P	**P**	**07 21 27.1**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.4						
DUG	**Dugway**	**46.05**	**77**	*e*P	**P**	**07 21 28.2**	**0.0**
DUG				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
DUG	**Dugway**	**46.05**	**77**	*e*P	**P**	**07 21 28.2**	**0.0**
	comp=Z,12nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**46.13**	**296**	*i* P	**P**	**07 21 29.4**	**+0.7**
ULN	**Ulaanbaatar**	**46.13**	**296**	*e*P	**P**	**07 21 29.0**	**+0.4**
	comp=Z,9.5nm,1.0s,mb4.7						
BW06	**Boulder Array**	**46.49**	**72**	*e*P	**P**	**07 21 31.7**	**+0.1**
	comp=Z,6.9nm,0.6s,mb4.8						
PDAR	**Pinedale Array**	**46.49**	**72**	P	**P**	**07 21 32.2**	**+0.6**
	comp=Z,8.2nm,0.7s,mb4.8,baz=304,slow=3.9,SNR=63						
SONM	**Songino Array**	**46.51**	**296**	P	**P**	**07 21 32.3**	**+0.6**
	comp=Z,4.9nm,0.8s,mb4.5,baz=57,slow=8.7,SNR=30						
SONM				ScP		07 26 56.9	
	comp=Z,1.5nm,1.0s,baz=90,slow=3.0,SNR=5.5						
SONM				LR	LR	07 41 59.3	
	comp=Z,176nm,18.2s,MS4.1,baz=178,slow=37						
SONM	**Songino Array**	**46.51**	**296**	P	**P**	**07 21 32.3**	**+0.6**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM				pmax	pmax		
	comp=N,2.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,176nm,18.2s						
ZAK	**Zakamensk**	**46.83**	**301**	*e*P	**P**	**07 21 35.1**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
MVU	**Marysvale**	**47.46**	**78**	*e*P	**P**	**07 21 39.6**	**+0.3**
	comp=Z,3.0nm,0.8s,mb4.3						
MSU	**Marysvale**	**47.47**	**78**	*e*P	**P**	**07 21 40.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**47.53**	**286**	*e*P	**P**	**07 21 36.8**	**-3.0**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,130nm,4.5s						
HHC				LR	LR		
	comp=N,230nm,15.9s,MS4.5						
HHC				LR	LR		
	comp=E,340nm,13.3s,MS4.5						
HHC				LR	LR		
	comp=Z,180nm,15.5s,MS4.2						
SSE	**Sheshan**	**47.82**	**269**	*e*P	**P**	**07 21 40.4**	**-1.8**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,50nm,3.6s						
SRU	**San Rafael**	**48.12**	**77**	*e*P	**P**	**07 21 44.7**	**+0.3**
NJ2	**Nanjing**	**48.64**	**272**	*e*P	**P**	**07 21 50.2**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
PV10	**Paradox Valley**	**49.48**	**76**	*e*P	**P**	**07 21 55.7**	**+0.8**
ULM	**Lac du Bonnet**	**49.86**	**56**	LR	LR	07 41 34.9	
	comp=Z,59nm,19.3s,MS3.6,baz=341,slow=34						
PV01	**Paradox Valley**	**49.92**	**76**	*e*P	**P**	**07 21 58.3**	**0.0**
SDCO	**Great Sand Dun**	**52.03**	**75**	*e*P	**P**	**07 22 14.8**	**+0.5**
ANMO	**Albuquerque**	**53.27**	**78**	*i* P	**P**	**07 22 23.3**	**-0.3**
ZAL	**Zalesovo**	**53.96**	**313**	PcP	PcP	07 23 33.6	+0.6
	comp=Z,2.0nm,0.6s,baz=96,slow=7.5,SNR=8.3						
ZAL				LR	LR	07 48 45.0	
	comp=Z,50nm,19.6s,MS3.6,baz=46,slow=40						
LZH	**Lanzhou**	**55.23**	**286**	*e*P	**P**	**07 22 37.6**	**-0.3**
LZH				AP	pP	07 22 48.4	-4.4
LZH				XP	sP	07 22 56.5	-2.6
LZH				PCP	PcP	07 23 38.5	+0.4
LZH				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,40nm,4.5s						
GTA	**Gaotai**	**55.42**	**292**	P	**P**	**07 22 39.5**	**+0.3**
GTA				AP	pP	07 22 50.2	-4.0
GTA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
MNTX	**Cornudas Mount**	**56.13**	**80**	*e*P	**P**	**07 22 44.4**	**-0.1**
	comp=Z,7.3nm,1.2s,mb4.6						
WMOK	**Wichita Mounta**	**58.08**	**73**	*e*P	**P**	**07 22 58.2**	**0.0**
WMOK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
WMOK	**Wichita Mounta**	**58.08**	**73**	*e*P	**P**	**07 22 58.2**	**0.0**
	comp=Z,14nm,0.9s,mb5.0						
ARCES	**ARCESS Array B**	**58.12**	**350**	P	**P**	**07 22 57.2**	**-0.8**
	comp=Z,2.7nm,0.6s,mb4.5,baz=27,slow=7.6,SNR=19						
ARCES				LR	LR	07 51 46.6	
	comp=Z,58nm,18.2s,MS3.7,baz=59,slow=40						
ARCES	**ARCESS Array B**	**58.12**	**350**	P	**P**	**07 22 57.2**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,30nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,59nm,18.2s						
ARCES	**ARCESS Array B**	**58.12**	**350**	P	**P**	**07 22 57.2**	**-0.8**
ARCES				LR	LR	07 51 46.6	
CD2	**Chengdu**	**58.81**	**282**	*e*P	**P**	**07 23 03.0**	**-0.3**
TXAR	**Lajitas Array**	**58.84**	**81**	P	**P**	**07 23 02.5**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=309,slow=5.3,SNR=8.0						
TXAR				LR	LR	07 44 24.2	
	comp=Z,37nm,20.9s,MS3.5,baz=280,slow=32						
KURK	**Kurchatov**	**58.93**	**314**	*e*P	**P**	**07 23 01.5**	**-2.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**58.93**	**314**	*e*P	**P**	**07 23 01.5**	**-2.3**
	comp=Z,1.8nm,0.6s,mb4.3						
WMQ	**Urumqi**	**59.22**	**303**	*e*P	**P**	**07 23 08.0**	**+2.0**
WMQ				AP	pP	07 23 20.7	-0.3
WMQ				AMB	AMB		
	comp=Z,20nm,4.3s						
WMQ				LR	LR		
	comp=N,370nm,22.0s,MS4.6						
WMQ				LR	LR		
	comp=E,370nm,21.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,370nm,20.6s,MS4.5						
MKAR	**Makanchi Array**	**59.93**	**308**	P	**P**	**07 23 09.6**	**-1.2**
	comp=Z,2.5nm,0.4s,mb4.6,baz=50,slow=6.4,SNR=38						
MKAR				PcP	PcP	07 23 56.2	-0.2
	comp=Z,1.1nm,0.6s,baz=37,slow=4.3,SNR=4.6						
MKAR				LR	LR	07 49 18.9	
	comp=Z,80nm,20.3s,MS3.9,baz=194,slow=36						
MKAR	**Makanchi Array**	**59.93**	**308**	P	**P**	**07 23 09.6**	**-1.2**
MKAR						07 23 56.2	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,80nm,20.3s						
MKAR	**Makanchi Array**	**59.93**	**308**	P	**P**	**07 23 09.6**	**-1.2**
MKAR				PcP	PcP	07 23 56.2	-0.2
MKAR				LR	LR	07 49 18.9	
SCHQ	**Schefferville**	**60.16**	**38**	P	**P**	**07 23 10.7**	**-1.5**
	comp=Z,3.8nm,0.8s,mb4.5,baz=281,slow=8.8,SNR=5.2						
BVAR	**Borovoye Array**	**60.82**	**320**	P	**P**	**07 23 15.2**	**-1.6**
	comp=Z,2.3nm,0.4s,mb4.7,baz=52,slow=7.4,SNR=15						
BVAR				PcP	PcP	07 23 59.5	-0.3
	comp=Z,2.1nm,0.6s,baz=64,slow=2.6,SNR=6.2						
BVAR	**Borovoye Array**	**60.82**	**320**	P	**P**	**07 23 15.2**	**-1.6**
BVAR						07 23 59.5	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,20nm,0.6s						
KMI	**Kunming**	**63.56**	**278**	P	**P**	**07 23 35.4**	**0.0**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
JOF	**Joensuu**	**63.60**	**345**	*e*p	**P**	**07 23 34.5**	**-0.6**
	comp=Z,4.9nm,0.6s,mb4.7						
JOF	**Joensuu**	**63.60**	**345**	*e*P	**P**	**07 23 34.5**	**-0.6**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
KAF	**Kangasniemi**	**65.12**	**347**	*e*p	**P**	**07 23 44.0**	**-0.9**
	comp=Z,4.2nm,0.6s,mb4.7,baz=12,slow=5.7						
KAF	**Kangasniemi**	**65.12**	**347**	*e*P	**P**	**07 23 44.0**	**-0.9**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
SWET	**Sewanee**	**65.24**	**64**	*e*P	**P**	**07 23 44.0**	**-2.2**
FINES	**FINESS Array B**	**65.80**	**347**	P	**P**	**07 23 48.0**	**-1.2**
	comp=Z,2.5nm,0.4s,mb4.6,baz=12,slow=7.8,SNR=31						
FINES	**FINESS Array B**	**65.80**	**347**	P	**P**	**07 23 48.0**	**-1.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AAK	**Ala-Archa**	**66.76**	**310***c*	*i*P	**P**	**07 23 55.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
AAK				MLR	MLR		
	comp=Z,100nm,26.0s,MS3.9						
LSA	**Lhasa**	**67.29**	**289**	*e*P	**P**	**07 24 00.7**	**+1.5**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
LSA	**Lhasa**	**67.29**	**289**	*e*P	**P**	**07 24 00.7**	**+1.4**
	comp=Z,11nm,0.6s,mb5.0						
AKTO	**Aktyubinsk**	**67.63**	**325**	P	**P**	**07 24 00.3**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=64,slow=6.0,SNR=6.8						
AKTO	**Aktyubinsk**	**67.63**	**325**	P	**P**	**07 24 00.3**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
NB2	**NORSAR Subarra**	**67.68**	**355**	P	**P**	**07 24 01.2**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=7.0,slow=6.2						
NOA	**NORSAR Array B**	**67.68**	**355**	P	**P**	**07 24 00.8**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.3,baz=8.0,slow=6.4,SNR=7.0						
NOA				LR	LR	07 52 47.0	
	comp=Z,20nm,21.5s,MS3.3,baz=120,slow=35						
HFS	**Hagfors**	**68.42**	**353**	P	**P**	**07 24 05.1**	**-0.6**
	comp=Z,1.8nm,0.4s,mb4.5,baz=38,slow=7.6,SNR=16						
HFS	**Hagfors**	**68.42**	**353**	P	**P**	**07 24 05.1**	**-0.6**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
OBN	**Obninsk**	**69.86**	**339**	*e*P	**P**	**07 24 14.4**	**-0.3**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
GUN	**Gumba**	**71.71**	**292**	*e*P	**P**	**07 24 27.5**	**+1.2**
	comp=Z,53nm,0.4s						
JIRN	**Jiri**	**71.72**	**291**	*e*P	**P**	**07 24 27.5**	**+1.1**
	comp=Z,49nm,0.9s,mb5.4						
KKN	**Kakani**	**72.15**	**292**	*e*P	**P**	**07 24 30.0**	**+1.1**
	comp=Z,24nm,0.4s,mb5.5						
PKI	**Pulchoki**	**72.24**	**292**	*e*P	**P**	**07 24 30.3**	**+0.9**
	comp=Z,15nm,0.4s,mb5.2						
GKN	**Gorkha**	**72.36**	**293**	*e*P	**P**	**07 24 31.0**	**+0.8**
	comp=Z,31nm,0.6s,mb5.4						
DMN	**Daman**	**72.39**	**292**	*e*P	**P**	**07 24 31.4**	**+1.1**
AKASG	**Malin Array Be**	**75.55**	**342**	P	**P**	**07 24 47.8**	**-0.3**
	comp=Z,1.7nm,0.3s,mb4.5,baz=19,slow=5.9,SNR=21						
AKASG	**Malin Array Be**	**75.55**	**342**	P	**P**	**07 24 47.8**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CLL	**Collm**	**77.23**	**352**	*i* P	**P**	**07 24 57.7**	**+0.1**
CTA	**Charters Tower**	**77.33**	**213**	LR	LR	07 53 05.4	
	comp=Z,82nm,19.6s,MS4.1,baz=227,slow=31						
VAN	**Vannovskaya**	**77.99**	**317**	P	**P**	**07 25 02.0**	**-0.1**
VRAC	**Vranov**	**78.86**	**350**	P	**P**	**07 25 07.3**	**+0.7**
	comp=Z,1.8nm,0.4s,mb4.3,baz=32,slow=9.5,SNR=3.0						
VRAC	**Vranov**	**78.86**	**350**	P	**P**	**07 25 07.3**	**+0.7**
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GERES	**GERESS Array B**	**79.61**	**351**	P	**P**	**07 25 10.3**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=18,slow=4.2,SNR=7.2						
GERES	**GERESS Array B**	**79.61**	**351**	P	**P**	**07 25 10.3**	**-0.4**
GERES				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MLR	**Muntele Rosu**	**81.17**	**342**	P	**P**	**07 25 19.4**	**+0.3**
	comp=Z,6.8nm,0.6s,mb4.7,baz=281,slow=0.9,SNR=7.8						
WRAB	**Tennant Creek**	**81.84**	**224**	*e*P	**P**	**07 25 21.7**	**-1.4**
WRA	**Warramunga Arr**	**81.85**	**224**	P	**P**	**07 25 22.0**	**-1.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=34,slow=6.1,SNR=15						
WRA	**Warramunga Arr**	**81.85**	**224**	P	**P**	**07 25 22.0**	**-1.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DAVOX	**Davos**	**81.97**	**354**	P	**P**	**07 25 24.4**	**+1.1**
	comp=Z,2.0nm,0.5s,mb4.3,baz=338,slow=14,SNR=3.5						
PSI	**Prapat**	**82.81**	**265**	LR	LR	08 07 17.3	

comp=Z,65nm,18.1s,MS4.0,baz=332,slow=39
STKA Stephens Creek 89.78 213 P **P** **07 26 02.4 +0.6**
comp=Z,6.9nm,0.7s,mb5.1,baz=345,slow=3.8,SNR=13
TORD Torodi Ar. Bea 115.80 359 PKP PKPdf 07 31 45.8 +0.9
comp=Z,0.3nm,0.4s,baz=359,slow=2.2,SNR=5.9
DBIC Dimbokro 122.03 7 PKP PKPdf 07 31 58.2 +1.3
comp=Z,1.0nm,0.4s,baz=280,slow=2.9,SNR=6.6
DBIC Dimbokro 122.03 7 PKIKP PKPdf 07 31 58.3 +1.3
DBIC pmax pmax
comp=Z,1.0nm,0.4s
MAW Mawson 146.33 218 PKPbc PKPbc 07 32 43.5 +2.1
comp=Z,3.2nm,0.5s,baz=109,slow=7.4,SNR=7.4
MAW Mawson 146.33 218 PKP2 PKPab 07 32 43.6 -0.9
LBTB Lobatse 147.64 315 *e*PKP2 PKPab 07 32 48.4 -2.5

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*MOS **01** 07:22:45.6±0.9,36.17N×70.09E,h135km,mb4.5/38,Error ellipse: s-maj=8.7km s-min=4.8km az=116.3*
*BJI **01** 07:22:46.4,36.38N×69.90E,h148km,mB4.9,mb4.8*
*NEIC **01** 07:22:46.2±0.8,36.17N×70.12E,h126km±7km,mb4.6/42, Error ellipse: s-maj=6.8km s-min=3.3km az=223.0*
*IDC **01** 07:22:48.1±0.8,36.09N×70.08E,h146km±5km,mb4.1/21, mb1 4.3/24,mb1mx4.2/28,mbtmp4.6/24,MS3.4/2, Ms1 3.4/2,ms1mx2.8/24,Error ellipse: s-maj=15.4km s-min=10.4km az=22.0*
*NNC **01** 07:22:57.7±3.5,36.98N×69.96E,h188km±29km,mpv5.4, Error ellipse: s-maj=38.5km s-min=25.6km az=26.0*
ISC 01 07:22:46.6±0.4**,36.17N**±0.02×**70.12E**±0.03**,h146**km±4km**,** **h148**km±2.4km**:pP-P,n223,**σ**0.98**/277**,mb4.4**/65**,20C-19D, Hindu Kush region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CEP Cherat 2.76 147 ⇓P **P** **07 23 33.3 +1.8**
CHCP Chirah Chowk 3.60 133 ⇓P **P** **07 23 33.3 -9.1**
THW Thamme Wali 3.62 158 ⇑P **P** **07 23 43.5 +0.8**
THW S **S** **07 24 25.0 -0.7**
SBDP Sheikh Budin 3.90 171 ⇑P **P** **07 23 47.8 +1.4**
DRP Derazinda 4.42 179 P **P** **07 23 54.2 +1.0**
SARP Sargodha 4.74 153 ⇓P **P** **07 23 57.5 +0.1**
TAS Tashkent 5.19 353 *e*P **P** **07 24 04.8 +1.4**
TAS pmax pmax
comp=Z,10.0nm,1.5s
KSH Kashi 5.71 52⇑*i*P **P** **07 24 13.4 +3.1**
KSH S **S** **07 25 19.4 +4.2**
KSH Smax
comp=N,2μm,0.7s
KSH Smax
comp=E,2μm,0.6s
AML Almayashu 6.56 24 P **P** **07 24 22.2 +0.4**
SNR=143
KK31 Karatay Array 6.93 2 ⇓P **P** **07 24 26.4 -0.4**
comp=E,169nm,0.5s,baz=195,slow=14,SNR=887
KK31 ⇑S **S** **07 25 39.1 -5.5**
comp=E,76nm,0.5s,baz=192,slow=24,SNR=7.1
KK31 Karatay Array 6.93 2 ⇓P **P** **07 24 26.4 -0.4**
comp=E,169nm,0.4s
KK31 S **S** **07 25 39.1 -5.5**
UCH Uchtor 6.94 28 P **P** **07 24 27.4 +0.4**
SNR=81
EKS2 Erkin-Say 7.07 22 P **P** **07 24 28.8 +0.1**
SNR=53
KZA Kyzart 7.12 32 P **P** **07 24 29.6 +0.3**
SNR=29
AAK Ala-Archa 7.29 26 P **P** **07 24 31.9 +0.3**
SNR=76
AAK Ala-Archa 7.29 26 *e*Pn **P** **07 24 31.0 -0.6**
comp=E,108nm,1.7s
AAK *e*Sn **S** **07 25 49.3 -3.8**
KBK Karagaybulak 7.47 28 P **P** **07 24 35.3 +1.3**
SNR=20
CHMS Chumysh 7.70 26 P **P** **07 24 36.9 -0.2**
SNR=72
ULHL Ulahol 7.70 36 P **P** **07 24 38.1 +1.0**
SNR=22
USP Ospenovka 7.85 24 P **P** **07 24 38.9 -0.1**
SNR=83
TKM2 Tokmak 2 7.95 30 P **P** **07 24 41.0 +0.5**
SNR=13
KLP Kalpa 8.19 122 *e*P **P** **07 24 44.0 +0.4**
KLP *e*S **S** **07 26 10.8 -4.1**
RTK Rohtak 8.88 142 *e*P **P** **07 24 51.1 -1.6**
KHET Khetri 9.40 148 *e*P **P** **07 24 58.5 -1.2**
KHET *e*S **S** **07 26 35.8 -7.9**
BHGR Bahadurgarh 9.42 140 *e*P **P** **07 24 59.8 -0.1**
NDI New Delhi 9.57 139 *e*P **P** **07 25 01.0 -0.9**
NDI *e*S **S** **07 26 39.5 -8.3**
KUDL Kundal 9.65 144 *e*P **P** **07 25 02.8 -0.2**
KUDL AMb AMB 07 25 04.8
comp=Z,135nm,0.7s
KUDL *e*S **S** **07 26 41.6 -8.0**
AYAN Aya Nagar 9.69 140 *e*P **P** **07 25 03.7 +0.3**
AYAN AMb AMB 07 25 05.2
comp=Z,136nm,0.8s
AYAN *e*S **S** **07 26 44.5 -5.9**
ASOR Ausora 9.81 137 *e*P **P** **07 25 05.3 +0.2**
KALG Kalgarh 9.84 130 *e*P **P** **07 25 03.4 -2.0**
KALG AMb AMB 07 25 08.1
comp=Z,93nm,0.4s
KALG *e*S **S** **07 26 46.6 -7.5**
SONA Sohna 9.85 141 *e*P **P** **07 25 05.6 0.0**
SONA AMb AMB 07 25 09.1
comp=Z,143nm,0.6s
SONA *e*S **S** **07 26 45.8 -8.6**
AJM Ajmer 10.40 157 *e*P **P** **07 25 12.0 -0.9**
AJM AMb AMB 07 25 14.0
comp=Z,18nm,0.3s
AJM *e*S **S** **07 27 01.5 -6.0**
AGRA Agra 11.12 141 *e*P **P** **07 25 21.8 -0.5**
AGRA AMb AMB 07 25 23.8
comp=Z,137nm,1.0s
AGRA *e*S **S** **07 27 17.6 -6.7**
BHJ Bhuj 12.88 182 *e*P **P** **07 25 45.2 0.0**
BHJ *e*S **S** **07 27 59.2 -6.5**
MK31 Makanchi Array 13.97 37 ⇑P **P** **07 25 59.1 +0.1**
comp=Z,59nm,0.7s,baz=225,slow=15,SNR=292
MK31 Makanchi Array 13.97 37 ⇑P **P** **07 25 59.1 +0.1**
comp=Z,59nm,0.6s
MKAR Makanchi Array 13.97 37 P **P** **07 25 59.2 +0.1**
comp=Z,1.1nm,0.3s,baz=223,slow=15,SNR=33
MKAR S **S** **07 28 43.8 +13**
baz=256,slow=15,SNR=3.2
MKAR Makanchi Array 13.97 37 P **P** **07 25 59.2 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
KOLN Koldanda 14.17 122 *e*Pn **P** **07 26 00.6 -1.1**
KOLN *e*Sn **S** **07 28 28.8 -6.6**
comp=Z,344nm,0.8s
KOLN Koldanda 14.17 122 *e*Pn **P** **07 26 00.6 -1.1**
comp=Z,172nm,0.8s
KOLN *e*Sn **S** **07 28 28.8 -6.6**
BHPL Bhopal 14.35 152 *e*P **P** **07 26 03.3 -0.8**
BHPL AMb AMB 07 26 11.3
comp=Z,74nm,0.6s
BHPL *e*x x 07 28 34.8
GKN Gorkha 14.74 119 *e*Pn **P** **07 26 07.9 -1.1**
GKN *e*Sn **S** **07 28 40.8 -7.8**
comp=Z,497nm,0.5s
GKN Gorkha 14.74 119 *e*Pn **P** **07 26 07.9 -1.1**
comp=Z,249nm,0.5s
GKN *e*Sn **S** **07 28 40.8 -7.8**
AB31 Akbulak array 15.04 334 ⇓P **P** **07 26 11.5 -1.2**
comp=Z,54nm,0.5s,baz=142,slow=11,SNR=988
AB31 ⇑S **S** **07 28 46.9 -8.5**
comp=Z,39nm,0.5s
AB31 Akbulak array 15.04 334 ⇓P **P** **07 26 11.5 -1.1**
AB31 S **S** **07 28 46.9 -8.5**
AB31 pmax pmax
comp=Z,54nm,0.4s
AB31 Akbulak array 15.04 334 ⇓P **P** **07 26 11.4 -1.2**
comp=Z,54nm,0.4s
AB31 S **S** **07 28 46.9 -8.5**
DMN Daman 15.31 120 *e*Pn **P** **07 26 15.2 -0.9**
DMN *e*Sn **S** **07 28 54.1 -7.5**
KKN Kakani 15.32 119 *e*Pn **P** **07 26 15.1 -1.2**
KKN *e*Sn **S** **07 28 53.7 -8.2**
comp=Z,197nm,0.5s
KKN Kakani 15.32 119 *e*P **P** **07 26 15.1 -1.2**
KKN *e* 07 28 53.7
KKN pmax pmax
comp=Z,98nm,0.5s
KKN Kakani 15.32 119 *e*Pn **P** **07 26 15.1 -1.2**
comp=Z,98nm,0.5s
KKN *e*Sn **S** **07 28 53.7 -8.2**
WMQ Urumqi 15.46 55 P **P** **07 26 17.9 0.0**
WMQ XP 07 27 00.9
WMQ S **S** **07 29 02.8 -2.2**
WMQ PCP PcP 07 31 13.9 +1.2
WMQ AMB AMB
comp=Z,30nm,0.6s
WMQ AMB AMB
comp=Z,200nm,3.8s
WMQ LR LR
comp=N,760nm,14.0s
WMQ LR LR
comp=E,650nm,14.6s
WMQ LR LR
comp=Z,640nm,15.0s
PKI Pulchoki 15.55 119 *e*Pn **P** **07 26 18.5 -0.5**
PKI *e*Sn **S** **07 28 59.3 -7.6**
comp=Z,216nm,0.6s
PKI Pulchoki 15.55 119 *e*P **P** **07 26 18.5 -0.5**
PKI *e* 07 28 59.3
PKI pmax pmax
comp=Z,108nm,0.6s
PKI Pulchoki 15.55 119 *e*Pn **P** **07 26 18.5 -0.5**
comp=Z,108nm,0.6s
PKI *e*Sn **S** **07 28 59.3 -7.6**
GUN Gumba 15.68 117 *e*Pn **P** **07 26 20.1 -0.6**
GUN *e*Sn **S** **07 29 00.9 -9.1**
comp=Z,366nm,0.8s
GUN Gumba 15.68 117 *e*Pn **P** **07 26 20.1 -0.6**
comp=Z,183nm,0.8s
GUN *e*Sn **S** **07 29 00.9 -9.1**
KURK Kurchatov 15.78 20 ⇑P **P** **07 26 19.9 -1.8**
comp=Z,5.1nm,0.6s
KURK ⇑S **S** **07 29 17.6 +5.7**
comp=Z,12nm,1.0s
JIRN Jiri 16.05 117 *e*Pn **P** **07 26 25.1 -0.2**
JIRN *e*Sn **S** **07 29 12.4 -5.9**
comp=Z,231nm,0.5s
JIRN Jiri 16.05 117 *e*Pn **P** **07 26 25.1 -0.2**
comp=Z,116nm,0.5s
JIRN *e*Sn **S** **07 29 12.4 -5.9**
VOSK Vostochnaya 16.56 2 ⇓P **P** **07 26 29.9 -1.5**
comp=Z,28nm,1.0s
VOSK Vostochnaya 16.56 2 ⇓P **P** **07 26 30.0 -1.4**
VOSK pmax pmax
comp=Z,28nm,1.0s
AKTK Aktyubinsk 16.73 332 ⇓P **P** **07 26 33.1 -0.3**
AKTK S **S** **07 29 27.0 -6.4**
AKTO Aktyubinsk 16.73 332 ⇓P **P** **07 26 33.1 -0.3**
comp=Z,34nm,1.1s
AKTO ⇓S **S** **07 29 27.0 -6.4**
comp=Z,12nm,0.9s
AKTO Aktyubinsk 16.73 332 P **P** **07 26 33.1 -0.3**
comp=Z,10nm,0.3s,baz=138,slow=13,SNR=250
AKTO S **S** **07 29 26.4 -7.0**
comp=Z,1.2nm,0.3s,baz=311,slow=20,SNR=3.2
AKTO Aktyubinsk 16.73 332 P **P** **07 26 33.2 -0.3**
AKTO S **S** **07 29 26.4 -6.9**
AKTO pmax pmax
comp=Z,10.0nm,0.3s
AKTO smax
comp=N,1.0nm,0.3s
BVA0 Borovoye Array 16.85 1 ⇑P **P** **07 26 34.2 -0.8**
comp=N,6.0nm,1.1s
BVA0 Borovoye Array 16.85 1 ⇑P **P** **07 26 34.2 -0.8**
BVA0 pmax pmax
comp=Z,6.0nm,1.1s
BVAR Borovoye Array 16.85 1 P **P** **07 26 33.9 -1.1**
comp=Z,2.8nm,0.3s,baz=166,slow=12,SNR=69
BVAR S **S** **07 29 32.9 -3.2**
comp=Z,0.7nm,0.3s,baz=188,slow=25,SNR=2.8
BVAR Borovoye Array 16.85 1 P **P** **07 26 33.9 -1.1**
BVAR S **S** **07 29 32.9 -3.2**
BVAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR smax
comp=N,1.0nm,0.3s
BRVK Borovoye 16.89 0 *e*P **P** **07 26 33.6 -1.8**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 16.89 0 *e*P **P** **07 26 33.6 -1.8**
comp=Z,19nm,0.8s
BOK Bokaro 18.37 128 *e*P **P** **07 26 54.1 +1.3**
BOK AMb AMB 07 26 56.7
comp=Z,20nm,0.7s
LSA Lhasa 18.77 104 *e*P **P** **07 27 00.7 +3.7**
LSA Lhasa 18.77 104 *e*P **P** **07 27 00.2 +3.2**
LSA *e*S **S** **07 30 19.3 +1.4**
LSA pmax pmax
comp=Z,43nm,0.7s
LSA Lhasa 18.77 104 *e*P **P** **07 27 00.1 +3.2**
comp=Z,43nm,0.7s
LSA *e*S **S** **07 30 19.3 +1.4**
KAD Karad 19.13 168 *e*P **P** **07 27 02.6 +1.8**
KAD AMb AMB 07 27 09.5
comp=Z,18nm,1.1s
DGRG David-gareji 19.97 293 P **P** **07 27 09.7 +0.4**
HYB Hyderabad 20.12 156⇑*i*P **P** **07 27 13.0 +2.0**
comp=Z,31nm,0.8s
HYB *e*S **S** **07 30 49.0 +5.3**
HYB Hyderabad 20.12 156⇑*e*P **P** **07 27 13.0 +2.0**
HYB *e*S **S** **07 30 49.0 +5.3**
HYB pmax pmax
comp=Z,31nm,0.8s
HYB Hyderabad 20.12 156⇑*e*P **P** **07 27 13.0 +2.0**
comp=Z,31nm,0.8s
HYB *e*S **S** **07 30 49.0 +5.3**
GNI Garni 20.33 289*d i*P **P** **07 27 15.8 +2.9**
GNI pmax pmax
comp=Z,175nm,0.9s
GNI Garni 20.33 289 *e*P **P** **07 27 15.7 +2.8**
comp=Z,178nm,0.9s
MTA Mtatsminda 20.43 293 P **P** **07 27 14.9 +0.9**
TI2 Plekhanov 20.47 293 *e*P **P** **07 27 15.0 +0.7**
ZAL Zalesovo 20.49 25 P **P** **07 27 14.8 +0.3**
comp=Z,41nm,0.4s,baz=253,slow=9.3,SNR=74
ZAL S **S** **07 30 52.4 +2.0**
comp=Z,7.0nm,0.6s,baz=140,slow=18,SNR=9.0
ZAL Zalesovo 20.49 25 P **P** **07 27 14.8 +0.3**
ZAL S **S** **07 30 52.4 +1.9**
ZAL pmax pmax
comp=Z,41nm,0.4s
ZAL smax
comp=N,7.0nm,0.6s
ZAL Zalesovo 20.49 25 P **P** **07 27 14.8 +0.3**
ZAL S **S** **07 30 52.4 +2.0**
NVS Novosibirsk 20.74 22 *e*P **P** **07 27 16.8 -0.2**
NVS *e**PP 07 27 46.9
NVS *e*PPP PPP 07 28 03.6 +7.7
NVS *e*S **S** **07 30 58.7 +3.6**
NVS pmax pmax
comp=N,8.0nm,0.6s
NVS pmax pmax
comp=Z,14nm,0.6s
NVS pmax pmax
comp=E,2.0nm,0.4s
NVS smax
comp=N,27nm,0.9s
NVS smax
comp=E,15nm,0.9s
SVE Sverdlovsk 21.63 346 *e*P **P** **07 27 27.4 +1.7**
SVE *e* 07 27 52.0
SVE pmax pmax
comp=Z,106nm,1.1s,mb5.2
ARU Arti 21.72 342⇓*i*P **P** **07 27 27.7 +1.0**
ARU *e*PPP PPP 07 28 01.3 -8.0
ARU *e*S **S** **07 31 18.8 +6.0**
ARU *e*SSS SSS 07 31 58.1 -27
ARU pmax pmax
comp=Z,85nm,0.8s,mb5.2
ARU Arti 21.72 342 *e*P **P** **07 27 27.9 +1.2**
comp=Z,89nm,0.8s,mb5.2
ARU *e*S **S** **07 31 20.9 +8.1**
KIV Kislovodsk 22.32 299 *e*P **P** **07 27 33.6 +1.0**
KIV *e**PP 07 28 00.6
KIV pmax pmax
comp=Z,10.0nm,0.5s,mb4.5
KIV Kislovodsk 22.32 299 *e*P **P** **07 27 33.6 +1.0**
comp=Z,9.6nm,0.5s,mb4.5
KIV *e*pP 07 28 00.6
KIV *e*S **S** **07 31 36.1 +13**
GTA Gaotai 23.64 73 P **P** **07 27 48.4 +3.1**
GTA AP 07 28 16.6
GTA PP PP 07 28 27.0 +3.8
GTA XP 07 28 32.9
GTA PCP PcP 07 31 30.1 +2.8
GTA S **S** **07 31 51.9 +6.0**
GTA SCP 07 34 53.0
GTA SCS ScS 07 38 36.9 +1.0
GTA AMB AMB
comp=Z,60nm,0.8s,mb5.2
GTA AMB AMB
comp=Z,250nm,5.3s
GTA LR LR
comp=N,190nm,11.8s
GTA LR LR
comp=E,190nm,11.8s
GTA LR LR
comp=Z,180nm,12.5s
SOC Sochi 24.39 297 *e*P **P** **07 27 52.3 -0.1**
SOKR Solikamsk 24.96 344⇑*i*P **P** **07 27 59.9 +2.2**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb4.7
ANN Anapa 26.17 299 *e*P **P** **07 28 08.5 -0.6**
ANN *e* 07 31 38.7
ANN *e* 07 32 27.7
VRSR Storozhevoye 26.70 314 *e*P **P** **07 28 13.7 -0.1**
VRSR *e**PP pP 07 28 45.4 +1.3
VRSR *e*S **S** **07 32 45.4 +8.8**
VRSR *e**SS 07 33 39.1
VRSR pmax pmax
comp=Z,1.0nm,0.8s,mb3.5
VRSR pmax pmax
comp=N,2.0nm,1.3s
VRSR pmax pmax
comp=E,2.0nm,0.9s
VRSR smax
comp=N,4.0nm,1.5s
VRSR smax
comp=Z,1.0nm,1.7s
VRSR smax
comp=E,3.0nm,1.6s
LZH Lanzhou 27.16 80 *e*P **P** **07 28 19.3 +1.1**
LZH AP pP 07 28 51.0 +2.4
LZH XP sP 07 29 10.0 +4.5
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
LZH AMB AMB
comp=Z,130nm,5.4s
ZAK Zakamensk 27.74 49 *e*P **P** **07 28 23.5 +0.2**
ZAK *e* 07 29 17.3
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
CD2 Chengdu 28.43 91 *e*P **P** **07 28 29.0 -0.7**
CD2 AP pP 07 29 02.3 +2.0
CD2 PP PP 07 29 27.0 0.0
CD2 S **S** **07 33 02.0 -2.7**
SONM Songino Array 29.10 55 P **P** **07 28 36.7 +1.1**
comp=Z,4.1nm,0.8s,mb4.2,baz=258,slow=9.8,SNR=27
SONM Songino Array 29.10 55 P **P** **07 28 36.7 +1.2**
SONM pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 29.55 55⇓*e*P **P** **07 28 40.5 +1.0**
ULN Ulaanbaatar 29.55 55 *e*P **P** **07 28 39.4 0.0**
comp=Z,4.8nm,0.9s,mb4.2
OBN Obninsk 29.73 320 *e*P **P** **07 28 41.1 +0.1**
OBN *i* *PP pP 07 29 11.1 -0.8
OBN *e* 07 29 38.4
OBN pmax pmax
comp=Z,14nm,0.5s,mb5.0
KMI Kunming 30.01 102 P **P** **07 28 47.7 +3.9**
PALK Pallekele 30.35 159 P **P** **07 28 47.9 +1.0**
comp=Z,8.3nm,0.9s,mb4.5
KLMR Klimovskoe 31.43 331 *e*P **P** **07 28 55.1 -0.8**
KLMR *e* 07 30 04.5
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.6
GYA Guiyang 32.52 97 P **P** **07 29 06.7 +1.0**
GYA AP pP 07 29 40.6 +3.4
GYA XP sP 07 29 59.4 +5.4
GYA PP PP 07 30 20.6 +1.4
GYA SCP 07 35 18.5
GYA SCS ScS 07 39 15.8 -0.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
HHC Hu-ho-hao-te 32.54 69 *e*P **P** **07 29 11.8 +6.0**
HHC AP pP 07 29 39.3 +2.1
HHC XP sP 07 29 54.1 0.0
HHC S **S** **07 34 19.8 +11**
HHC XS 07 35 07.3
HHC AMB AMB
comp=Z,210nm,5.5s
AKASG Malin Array Be 32.60 309 P **P** **07 29 04.7 -1.5**
comp=Z,4.5nm,0.5s,mb4.5,baz=82,slow=7.9,SNR=23
AKASG pP pP 07 29 37.4 -0.3
comp=Z,8.5nm,0.8s,baz=89,slow=7.3,SNR=6.6
AKASG Malin Array Be 32.60 309 P **P** **07 29 04.7 -1.5**
AKASG *PP pP 07 29 37.4 -0.2
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 32.60 309 P **P** **07 29 04.7 -1.5**
AKASG pP pP 07 29 37.4 -0.3
ENH Enshi 33.29 89 *e*P **P** **07 29 13.1 +0.8**
comp=Z,10.0nm,0.6s,mb4.7
MLR Muntele Rosu 34.33 300 P **P** **07 29 21.6 +0.6**
comp=Z,20nm,0.8s,mb4.9,baz=112,slow=2.5,SNR=24
MLR Muntele Rosu 34.33 300 P **P** **07 29 21.6 +0.7**
MLR pmax pmax
comp=Z,20nm,0.8s
JOF Joensuu 35.80 331 *e*p **P** **07 29 32.5 -0.7**
comp=Z,10nm,0.5s,mb4.7
JOF Joensuu 35.80 331 *e*P **P** **07 29 32.5 -0.7**
JOF pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
BOD Bodaibo 36.05 39 *e*P **P** **07 29 34.3 -1.1**
BOD pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
FINES FINESS Array B 37.37 327 P **P** **07 29 46.7 +0.3**
comp=Z,6.3nm,0.6s,mb4.4,baz=105,slow=11,SNR=20
FINES LR LR 07 45 46.9
comp=Z,44nm,18.1s,baz=358,slow=37
FINES FINESS Array B 37.37 327 P **P** **07 29 46.7 +0.3**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES MLR MLR
comp=Z,44nm,18.1s
FINES FINESS Array B 37.37 327 P **P** **07 29 46.7 +0.3**
FINES LR LR 07 45 46.9
KAF Kangasniemi 37.52 328 *e*p **P** **07 29 46.9 -0.8**
comp=Z,6.6nm,0.7s,mb4.4,baz=113,slow=8.2
KAF Kangasniemi 37.52 328 *e*P **P** **07 29 46.9 -0.8**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
APA Apatity 37.67 338⇓*e*P **P** **07 29 43.5 -5.4**
APA pmax pmax
comp=Z,21nm,1.0s,mb4.7
PSZ Piszkesteto 38.47 304 P **P** **07 29 54.0 -1.7**
PSZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
PSZ Piszkesteto 38.47 304 P **P** **07 29 54.0 -1.7**
comp=Z,4.1nm,0.6s,mb4.2
MORC Moravsky Berou 39.99 307 *e*P **P** **07 30 09.6 +1.3**
MORC *e**PP pP 07 30 41.3 +0.7
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
MORC Moravsky Berou 39.99 307 *e*P **P** **07 30 09.6 +1.3**
comp=Z,2.1nm,0.8s,mb3.8
MORC *e*pP pP 07 30 41.3 +0.6
NJ2 Nanjing 40.22 81 *e*P **P** **07 30 10.0 -0.4**
NJ2 AP pP 07 30 41.3 -1.4
NJ2 XP sP 07 30 57.7 -2.3
NJ2 PP PP 07 31 48.5 +0.3
NJ2 S **S** **07 36 10.0 +3.9**
NJ2 XS 07 37 08.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
NJ2 LR LR
comp=N,310nm,29.2s
NJ2 LR LR
comp=E,500nm,24.8s
NJ2 LR LR
comp=Z,130nm,18.6s
VRAC Vranov 40.62 306 P **P** **07 30 14.0 +0.6**
comp=Z,2.6nm,0.5s,mb4.1,baz=91,slow=12,SNR=3.7
VRAC Vranov 40.62 306 P **P** **07 30 14.0 +0.6**
VRAC pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.0nm,0.5s						
KEV	Kevo	40.85	339	ep	P	07 30 15.3	+0.2
	comp=Z,4.2nm,0.4s,mb4.4						
KEV	Kevo	40.85	339	eP	P	07 30 15.3	+0.2
KEV				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
ARCES	ARCESS Array B	41.18	338	P	P	07 30 18.9	+1.1
	comp=Z,6.3nm,0.5s,mb4.5,baz=113,slow=7.3,SNR=59						
ARCES	ARCESS Array B	41.18	338	P	P	07 30 19.0	+1.2
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BRG	Berggiesshubel	42.27	309	i P	P	07 30 27.9	+1.0
BRG				*PP	pP	07 31 02.0	+2.5
BRG				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
BRG				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
BRG	Berggiesshubel	42.27	309	i P	P	07 30 27.9	+1.0
	comp=Z,7.7nm,0.7s,mb4.4						
BRG				pP	pP	07 31 02.0	+2.6
CN2	Changchun	42.39	62	eP	P	07 30 28.5	+0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
SSE	Sheshan	42.42	82	eP	P	07 30 27.4	-1.0
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,90nm,5.8s						
GERES	GERESS Array B	42.54	306	P	P	07 30 30.0	+0.9
	comp=Z,1.2nm,0.5s,mb3.8,baz=80,slow=8.1,SNR=7.8						
GERES	GERESS Array B	42.54	306	P	P	07 30 30.0	+0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PSI	Prapat	42.55	135	P	P	07 30 30.4	+0.8
	comp=Z,18nm,0.5s,mb5.0,baz=304,slow=7.6,SNR=13						
PSI	Prapat	42.55	135	P	P	07 30 30.4	+0.8
PSI				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.0						
PSI	Prapat	42.55	135	P	P	07 30 30.4	+0.8
CLL	Collm	42.85	309	i P	P	07 30 32.2	+0.6
HFS	Hagfors	42.89	322	P	P	07 30 31.8	0.0
	comp=Z,12nm,0.6s,mb4.7,baz=98,slow=10,SNR=35						
HFS				pP	pP	07 31 05.1	+0.7
	comp=Z,3.7nm,0.5s,baz=90,slow=10,SNR=2.6						
HFS				LR	LR	07 50 21.9	
	comp=Z,47nm,19.7s,baz=252,slow=38						
HFS	Hagfors	42.89	322	P	P	07 30 31.8	0.0
HFS				*PP	pP	07 31 05.1	+0.7
HFS				pmax	pmax		
	comp=Z,12nm,0.6s						
HFS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HFS				MLR	MLR		
	comp=Z,47nm,19.7s						
NB2	NORSAR Subarra	44.22	323	P	P	07 30 42.1	-0.3
	comp=Z,6.4nm,0.6s,mb4.4,baz=98,slow=7.9						
NOA	NORSAR Array B	44.22	323	P	P	07 30 42.4	0.0
	comp=Z,8.5nm,0.8s,mb4.5,baz=98,slow=7.9,SNR=22						
NOA				pP	pP	07 31 14.7	-0.5
	comp=Z,2.8nm,0.6s,baz=98,slow=8.0,SNR=3.1						
NOA	NORSAR Array B	44.22	323	P	P	07 30 42.4	0.0
NOA				*PP	pP	07 31 14.7	-0.5
NOA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NOA	NORSAR Array B	44.22	323	P	P	07 30 42.4	0.0
NOA				pP	pP	07 31 14.7	-0.5
YAK	Yakutsk	44.64	35	eP	P	07 30 45.4	-0.4
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.6						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK	Yakutsk	44.64	35	eP	P	07 30 44.8	-1.0
	comp=E,31nm,0.6s,mb5.1						
MDJ	Mudanjiang	45.18	60	P	P	07 30 49.6	-0.7
MDJ				AMB	AMB		
	comp=Z,160nm,6.3s						
DAVOX	Davos	45.34	303	P	P	07 30 51.4	-0.2
	comp=Z,2.8nm,0.5s,mb4.1,baz=122,slow=14,SNR=4.5						
TIXI	Tiksi	46.34	22⇓	eP	P	07 31 00.1	+1.0
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
PGF	Pioggiola	46.79	297	eP	P	07 31 02.1	-0.9
SBF	Sospel	47.60	300	eP	P	07 31 07.9	-1.4
LPG	La Plagne	47.72	302	eP	P	07 31 11.1	+0.9
	comp=Z,6.4nm,0.6s,mb4.1						
LPG	La Plagne	47.72	302	eP	P	07 31 11.1	+0.9
LPG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
LPL	La Plagne	47.73	302	eP	P	07 31 11.0	+0.7
	comp=Z,11nm,0.7s,mb4.3						
LPL	La Plagne	47.73	302	eP	P	07 31 11.0	+0.7
LPL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
MBDF	Montbardon	47.87	301	eP	P	07 31 11.0	-0.4
	comp=Z,10nm,0.5s,mb4.4						
MBDF	Montbardon	47.87	301	eP	P	07 31 11.0	-0.4
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
CABF	La Chapelle	47.94	303	eP	P	07 31 12.2	+0.2
	comp=Z,10nm,0.6s,mb4.4						
CABF	La Chapelle	47.94	303	eP	P	07 31 12.2	+0.2
CABF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
FRF	La Foret Royal	48.23	299	eP	P	07 31 13.6	-0.6
ORIF	Oris-en-Rattie	48.45	301	eP	P	07 31 16.2	+0.3
VIVF	Saint-Julien-l	49.30	301	eP	P	07 31 22.6	+0.2
	comp=Z,9.8nm,0.8s,mb4.2						
VIVF	Saint-Julien-l	49.30	301	eP	P	07 31 22.6	+0.2
VIVF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
SMF	Signal de Mont	49.45	304	eP	P	07 31 23.0	-0.5
	comp=Z,12nm,0.6s,mb4.4						
SMF	Signal de Mont	49.45	304	eP	P	07 31 23.0	-0.5
SMF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
SSF	Saint Saulge	49.58	304	eP	P	07 31 23.6	-0.9
AVF	Avril sur Loir	49.74	304	eP	P	07 31 24.7	-1.1
	comp=Z,14nm,0.8s,mb4.3						
AVF	Avril sur Loir	49.74	304	eP	P	07 31 24.7	-1.1
AVF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
LASF	Ste Croix	50.05	301	eP	P	07 31 28.5	+0.3
	comp=Z,37nm,1.1s,mb4.6						
BGF	Bois d'Agland	50.14	304	eP	P	07 31 28.2	-0.6
TCF	Toulx Ste Croi	50.63	304	eP	P	07 31 31.7	-0.8
CAF	Calviac	51.07	302	eP	P	07 31 35.3	-0.6
	comp=Z,4.1nm,0.6s,mb4.0						
CAF	Calviac	51.07	302	eP	P	07 31 35.3	-0.6
CAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
MTLF	Montolieu	51.40	300	eP	P	07 31 38.0	-0.4
	comp=Z,14nm,0.9s,mb4.3						
MTLF	Montolieu	51.40	300	eP	P	07 31 38.0	-0.4
MTLF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
LDF	La Druitiere	51.61	307	eP	P	07 31 39.3	-0.6
LFF	La Frestale	51.98	302	eP	P	07 31 41.9	-0.8
	comp=Z,15nm,0.6s,mb4.5						
LFF	La Frestale	51.98	302	eP	P	07 31 41.9	-0.8
LFF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
EKA	Eskdalemuir Ar	52.03	316	P	P	07 31 42.4	-0.5
	comp=Z,2.6nm,0.9s,mb3.9,baz=98,slow=5.9,SNR=4.3						
EKA				pP	pP	07 32 16.9	+0.2
	comp=Z,2.7nm,0.7s,baz=96,slow=7.6,SNR=3.8						
EKA	Eskdalemuir Ar	52.03	316	P	P	07 31 42.4	-0.5
EKA				*PP	pP	07 32 16.9	+0.3
EKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GRR	Gorron	52.14	307	eP	P	07 31 43.4	-0.4
ETSF	Etsaut	53.47	300	eP	P	07 31 53.7	-0.1
	comp=Z,10nm,0.5s,mb4.5						
ETSF	Etsaut	53.47	300	eP	P	07 31 53.7	-0.1
ETSF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
MJAR	Matsushiro Arr	53.73	68	P	P	07 31 55.6	-0.1
	comp=Z,1.9nm,0.8s,mb3.9,baz=277,slow=9.8,SNR=3.6						
MJAR	Matsushiro Arr	53.73	68	P	P	07 31 55.6	-0.2
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ESDC	Sonseca Array	56.98	298	P	P	07 32 18.3	-0.8
	comp=Z,0.2nm,0.3s,mb3.4,baz=59,slow=7.9,SNR=4.2						
ESLA	Sonseca Array	56.98	298	P	P	07 32 18.1	-1.0
	comp=Z,3.2nm,1.1s,mb4.1						
BILL	Bilibino	59.21	26	eP	P	07 32 34.3	+0.1
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
SUMG	Summit	61.14	341	eP	P	07 32 48.3	+1.0
	comp=Z,5.8nm,0.8s,mb4.5						
TORD	Torodi Ar. Bea	65.00	268	P	P	07 33 11.8	-1.7
	comp=Z,5.2nm,0.7s,mb4.5,baz=42,slow=5.9,SNR=31						
TORD				pP	pP	07 33 46.9	-1.6
	comp=Z,2.3nm,0.6s,baz=44,slow=5.8,SNR=4.6						
INK	Inuvik	74.34	9	P	P	07 34 10.0	+0.8
	comp=Z,4.4nm,0.7s,mb4.3,baz=14,slow=7.6,SNR=41						
INK	Inuvik	74.34	9	P	P	07 34 10.0	+0.8
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK	Inuvik	74.34	9	eP	P	07 34 10.0	+0.8
	comp=Z,3.9nm,0.8s,mb4.2						
COLA	College	74.99	16⇓	eP	P	07 34 13.8	+0.9
FITZ	Fitzroy Crossi	75.27	126	eP	P	07 34 15.6	+0.2
	comp=Z,5.2nm,0.5s,mb4.4						
ILAR	Eielson Array	75.29	15	P	P	07 34 14.4	-0.2
	comp=Z,0.8nm,0.5s,mb3.6,baz=303,slow=4.9,SNR=28						
ILAR	Eielson Array	75.29	15	P	P	07 34 14.4	-0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	81.60	2	P	P	07 34 49.8	+0.8
	comp=Z,1.7nm,0.6s,mb3.9,baz=351,slow=5.3,SNR=21						
YKA				pP	pP	07 35 25.5	-0.1
	comp=Z,1.1nm,0.6s,baz=350,slow=5.3,SNR=3.9						
YKA	Yellowknife Ar	81.60	2	P	P	07 34 49.8	+0.8
YKA				*PP	pP	07 35 25.5	-0.1
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	81.60	2	P	P	07 34 49.8	+0.8
YKA				pP	pP	07 35 25.5	-0.1
WRA	Warramunga Arr	82.42	121	P	P	07 34 53.4	-0.7
	comp=Z,5.3nm,0.5s,mb4.4,baz=323,slow=4.9,SNR=44						
WRA	Warramunga Arr	82.42	121	P	P	07 34 53.4	-0.7
WRA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WRA	Warramunga Arr	82.42	121	P	P	07 34 53.4	-0.7
WRAB	Tennant Creek	82.42	121c	iP	P	07 34 53.7	-0.4
WRAB	Tennant Creek	82.42	121⇑	eP	P	07 34 53.6	-0.5
	comp=Z,6.0nm,0.4s,mb4.6						
WB2	Warramunga Arr	82.43	121	eP	P	07 34 53.6	-0.5
PMG	Port Moresby	85.20	105	P	P	07 35 09.8	+1.6
CTAO	Charters Tower	91.05	114	P	P	07 35 35.0	-0.9
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CTAO	Charters Tower	91.05	114	P	P	07 35 35.0	-0.9
	comp=Z,3.6nm,0.8s,mb4.5						
STKA	Stephens Creek	95.17	126	P	P	07 35 55.7	+1.2
	comp=Z,1.0nm,0.5s,mb4.3,baz=324,slow=8.7,SNR=4.4						
STKA	Stephens Creek	95.17	126	P	P	07 35 56.0	+1.5
VNA2	Neumayer--Watz	119.83	202⇑	iP	PKPdf	07 41 20.6	+1.9
VNA1	Neumayer--Stat	119.98	202⇑	iP	PKPdf	07 41 20.9	+1.9
VNA3	Neumayer Olymp	120.64	202⇑	iP	PKPdf	07 41 21.7	+1.4

*THR **01** 07:24:45.2±0.5, 32.67N×49.60E, h18km±6km, ML2.5*
*KISR **01** 07:24:45.8±1.1, 32.45N×49.72E, h33km, ML2.8*
*CSEM **01** 07:24:45.9±0.1, 32.67N×49.54E, h30km, ML2.8, Error ellipse: s-maj=3.7km s-min=1.5km az=121.0*
ISC 01 07:24:46.5±1.7**, 32.55N**±0.07×**49.6E**±0.1**, h23**km±16km**, n6, σ0.60**/10**, Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.80	237	ePG	Pb	07 25 01.8	+0.3
ASAO	Ashtian	2.03	10	ePn	Pn	07 25 18.8	-1.2
ASAO				eSg	Sn	07 25 45.6	+0.7
ASAO				AML	AML	07 25 49.4	
	comp=N,45nm,0.7s						
NASN	Na'in	2.73	84	ePn	Pn	07 25 30.3	+0.3
NASN				AML	AML	07 26 12.9	
	comp=N,15nm,0.4s						
KBD	Kabd	3.73	206	eP	Pn	07 25 44.3	0.0
KBD				eS	Sn	07 26 28.5	+0.5
NAY	Al-Naaiem	3.85	212	eP	Pn	07 25 45.7	-0.3
NAY				eS	Sn	07 26 31.6	+0.5
NAY				AML	AML	07 26 57.8	
	comp=Z,9.9nm,0.5s						
RDF	Al-Radifah	4.01	206	eP	Pn	07 25 48.4	+0.2
RDF				eS	Sn	07 26 34.1	-1.0
RDF				AML	AML	07 26 39.1	
	comp=Z,20nm,0.2s						

*PDA **01** 07:31:16.5±1.4, 38.96N×27.88W, MD2.7, ML2.1, Error ellipse: s-maj=2.4km s-min=2.4km az=59.0*
*CSEM **01** 07:31:16.5±0.3, 38.96N×27.88W, ML2.1, Error ellipse: s-maj=11.8km s-min=7.8km az=44.0, After PDA*
SVSA 01 07:31:16.5±1.4**, 38.96N×27.88W, MD2.7, ML2.1, Error ellipse: s-maj=2.4km s-min=2.4km az=59.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRBC	Serra Branca	0.15	303	eP	Pg	07 31 18.8	-0.7
SRBC				eS	Sg	07 31 22.1	+0.6
STGR	Santa Cruz	0.16	322	eP	Pg	07 31 19.6	0.0
STGR				eS	Sg	07 31 22.2	+0.5
	618nm,0.1s						
STGR	Santa Cruz	0.16	322	eP	Pg	07 31 19.6	0.0
STGR				eS	Sg	07 31 22.2	+0.5
	618nm,0.1s						
PVIA	Vitoria	0.17	310	eP	Pg	07 31 19.9	-0.1
PVIA				eS	Sg	07 31 22.3	0.0
	46nm,0.2s						
PAMA	Santo Amaro	0.36	220	eP	Pg	07 31 23.9	+0.2
PAMA				eS	Sg	07 31 28.6	+0.1
PMAN	Manadas	0.36	207	i P	Pg	07 31 23.0	-0.7
PMAN				eS	Sg	07 31 28.3	-0.2
	570nm,0.2s						
PMAN	Manadas	0.36	207	eS	Sg	07 31 28.3	-0.2
	570nm,0.2s						
ROSA	Rosais	0.37	230	eP	Pg	07 31 23.3	-0.5
ROSA				eS	Sg	07 31 27.9	-0.9
PSBA	Serra de Santa	0.47	113	eP	Pg	07 31 24.4	-1.5
PSBA				eS	Sg	07 31 30.9	-1.3
	46nm,0.1s						
PSBA	Serra de Santa	0.47	113	eP	Pg	07 31 24.4	-1.5
PSBA				eS	Sg	07 31 30.9	-1.3
	46nm,0.1s						
ASBA	Santa Barbara	0.49	118	eP	Pg	07 31 25.4	-0.9
ASBA				eS	Sg	07 31 32.5	-0.4
	41nm,0.2s						
ASBA	Santa Barbara	0.49	118	eP	Pg	07 31 25.4	-0.9
ASBA				eS	Sg	07 31 32.5	-0.4
	41nm,0.2s						
PBIS	Biscoitos	0.53	111	eP	Pg	07 31 26.2	-0.8
PBIS				eS	Sg	07 31 33.4	-0.6
	34nm,0.3s						
PBIS	Biscoitos	0.53	111	eP	Pg	07 31 26.2	-0.8
PBIS				eS	Sg	07 31 33.4	-0.6
	34nm,0.3s						
PPAD	Pico dos Padre	0.53	119	eP	Pg	07 31 25.9	-1.2
PPAD				eS	Sg	07 31 33.4	-0.7
	21nm,0.2s						
PPAD	Pico dos Padre	0.53	119	eP	Pg	07 31 25.9	-1.2
PPAD				eS	Sg	07 31 33.4	-0.7
	21nm,0.2s						
PIED	Piedade	0.55	194	eP	Pg	07 31 26.2	-1.3
PIED				eS	Sg	07 31 33.8	-1.1
PVNV	Vila Nova	0.60	109	eS	Sg	07 31 35.4	-1.0
	34nm,0.1s						
PVNV	Vila Nova	0.60	109	eS	Sg	07 31 35.4	-1.0
	34nm,0.1s						
RIB2	Ribeirinha	0.62	117	eP	Pg	07 31 27.4	-1.5
RIB2				eS	Sg	07 31 35.8	-1.4
	22nm,0.2s						
RIB2	Ribeirinha	0.62	117	eP	Pg	07 31 27.4	-1.5
RIB2				eS	Sg	07 31 35.8	-1.4
	22nm,0.2s						
PICO	Pico	0.62	223	eP	Pg	07 31 27.3	-1.6
PICO				eS	Sg	07 31 35.9	-1.4
PBOI	Pico dos Bois	0.65	217	eP	Pg	07 31 28.3	-1.1
PBOI				eS	Sg	07 31 37.2	-0.9
	43nm,0.2s						
PCND	Candelaria	0.67	223	eP	Pg	07 31 28.6	-1.2
PCND				eS	Sg	07 31 37.1	-1.6
	46nm,0.1s						
PFAV	Pico das Favas	0.67	111	eS	Sg	07 31 37.1	-1.6
	20nm,0.1s						
PCED	Cedros	0.72	243	eS	Sg	07 31 37.9	-2.6
	29nm,0.2s						
CALA	Caldeira	0.74	240	eP	Pg	07 31 28.8	-2.5
PTCA	Ponta do Capel	0.81	243	eP	Pg	07 31 30.6	-2.0
PTCA				eS	Sg	07 31 40.5	-2.9
PLUZ	Luz	0.86	274	eP	Pg	07 31 18.7	-15
PLUZ				eS	Sg	07 31 20.4	-25
	430nm,0.2s						

MAN 01 07:35:10.6, 15.26N×121.83E, h1km, mb3.9, ML2.7, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALP	Baler	0.53	333	eP	Pg	07 35 20.3	-0.9
BALP				eS	Sg	07 35 24.4	-3.9
PCPH	Palayan	0.77	293	eP	Pg	07 35 25.5	-0.4
PCPH				eS	Sg	07 35 33.3	-2.8
CAUP	Cauayan	1.67	360	eP	Pn	07 35 40.2	-1.0
CAUP				eS	Sb	07 36 02.6	-0.7

*KISR **01** 07:41:11.6±0.7, 32.51N×49.74E, h33km, ML3.4*
*CSEM **01** 07:41:11.8±0.1, 32.67N×49.59E, h25km, ML3.0, Error ellipse: s-maj=3.0km s-min=1.4km az=121.0*
*TEH **01** 07:41:12.3, 32.63N×49.59E, h10km, Mn3.4*
*THR **01** 07:41:12.5±0.8, 32.70N×49.53E, h30km±6km, ML3.0*
ISC 01 07:41:12.2±1.4**, 32.62N**±0.04×**49.59E**±0.05**, h23**km±14km**, n24, σ0.88**/28**, Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.84	233	ePG	Pb	07 41 28.7	+0.7
IPIR	Pirpir	1.10	86	Pg	Pn	07 41 31.1	-1.2
IKLH	Kalahroud	1.81	67	Pn	Pn	07 41 43.5	+1.0
ASAO	Ashtian	1.96	11	ePn	Pn	07 41 45.5	+0.9
ASAO				eSG	Sn	07 42 11.3	+2.6
ASAO				AML	AML	07 42 13.6	
	comp=N,114nm,0.5s						
IGAR	Garneh	2.23	99	Pn	Pn	07 41 47.0	-1.6
IZEF	Zefreh	2.32	82	Pn	Pn	07 41 50.4	+0.5
IKOM	Komasi	2.33	312	Pn	Pn	07 41 50.4	+0.4
IQOM	Qom	2.54	29	Pn	Pn	07 41 53.1	+0.2
NASN	Na'in	2.72	85	ePN	Pn	07 41 57.2	+1.7
ISFB	Sefidab	2.81	51	Lg		07 42 35.9	
ISFB	Sefidab	2.81	51	Pn	Pn	07 41 56.8	0.0
IVRN	Varamin	2.96	36	Pn	Pn	07 41 59.0	0.0
IGHG	Ghaleghazi	3.05	305	Pn	Pn	07 42 00.1	-0.1
SNGE	Sanandaj	3.09	323	ePn	Pn	07 42 00.3	-0.6
SNGE				AML	AML	07 42 51.3	
	comp=N,46nm,0.4s						
IDHR	Dehrash	3.38	309	Pn	Pn	07 42 02.4	-2.5
MIB	Mutribah	3.41	215	eP	Pn	07 42 05.6	+0.3
MIB				eS	Sn	07 42 46.4	+0.9
MIB				AML	AML	07 42 48.3	
	comp=Z,99nm,0.4s						
UMR	Umm Al-Rimmam	3.46	208	eP	Pn	07 42 05.9	-0.1
UMR				eS	Sn	07 42 46.7	0.0
UMR				AML	AML	07 42 54.4	
	comp=Z,62nm,0.3s						
CHTH	Charan	3.52	21	ePn	Pn	07 42 06.4	-0.5
IDMV	Damavand	3.58	34	Pn	Pn	07 42 07.1	-0.6
IAFJ	Afjeh	3.68	28	Pn	Pn	07 42 08.4	-0.7
KBD	Kabd	3.80	206	eP	Pn	07 42 10.9	0.0
KBD				AML	AML	07 42 51.8	
	comp=Z,118nm,0.3s						
NAY	Al-Naaiem	3.92	212	eP	Pn	07 42 12.3	-0.2
NAY				eS	Sn	07 42 58.1	-0.3
NAY				AML	AML	07 43 01.9	
	comp=Z,26nm,0.4s						
IFIR	Firoozkooh	4.00	40	Pn	Pn	07 42 13.0	-0.6
RDF	Al-Radifah	4.08	206	eP	Pn	07 42 15.0	+0.2
RDF				eS	Sn	07 43 02.1	-0.3
RDF				AML	AML	07 43 03.5	
	comp=Z,36nm,0.3s						

IDC 01 07:42:14.0±4.8**, 29.44S×178.66W, mb4.3**/2**, mb1 4.5**/2**, mb1mx3.9**/12**, mbtmp4.3**/2**, Error ellipse: s-maj=180.0km s-min=75.7km az=156.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.14	256	P	P	07 49 00.2	-2.6
	2.9nm,0.6s,baz=90,slow=9.3,SNR=8.0						
WRA	Warramunga Arr	43.49	272	P	P	07 50 19.7	-1.2
	1.2nm,0.3s,baz=111,slow=7.8,SNR=7.5						
FINES	FINESS Array B	144.05	340	PKP	PKPdf	08 01 50.1	-2.4
	1.2nm,0.3s,baz=49,slow=3.7,SNR=15						

*CSEM **01** 08:15:04.4±1.4, 38.96N×27.86W, h2km±5km, ML1.7, Error ellipse: s-maj=4.8km s-min=2.3km az=73.0, After PDA*
*PDA **01** 08:15:04.4±1.4, 38.96N×27.86W, h2km±5km, MD2.6, ML1.7, Error ellipse: s-maj=4.8km s-min=2.3km az=73.0*
SVSA 01 08:15:04.4±1.4**, 38.96N×27.86W, h2**km±5km**, MD2.6, ML1.7, Error ellipse: s-maj=4.8km s-min=2.3km az=73.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRBC	Serra Branca	0.16	301	eP	Pg	08 15 06.8	-0.8
STGR	Santa Cruz	0.17	319	eP	Pg	08 15 07.5	-0.2
STGR				eS	Sg	08 15 10.3	+0.4
	148nm,0.1s						
STGR	Santa Cruz	0.17	319	eP	Pg	08 15 07.5	-0.2
STGR				eS	Sg	08 15 10.3	+0.4
	148nm,0.1s						
PVIA	Vitoria	0.18	308	eS	Sg	08 15 10.4	-0.1
	18nm,0.1s						
PMAN	Manadas	0.37	209	eP	Pg	08 15 11.0	-0.7
PMAN				eS	Sg	08 15 16.4	-0.2
	86nm,0.2s						
PMAN	Manadas	0.37	209	eP	Pg	08 15 11.0	-0.7
PMAN				eS	Sg	08 15 16.4	-0.2
	86nm,0.2s						
PAMA	Santo Amaro	0.37	222	eP	Pg	08 15 11.8	0.0
PAMA				eS	Sg	08 15 17.1	+0.4
ROSA	Rosais	0.38	232	eP	Pg	08 15 11.0	-0.9
PSBA	Serra de Santa	0.46	114	eS	Sg	08 15 19.2	-0.6
	26nm,0.3s						
PICO	Pico	0.63	224	eS	Sg	08 15 23.9	-1.5
PCED	Cedros	0.73	244	eS	Sg	08 15 25.8	-3.0
	13nm,0.4s						
PLUZ	Luz	0.87	274	eP	Pg	08 15 06.5	-15
PLUZ				eS	Sg	08 15 08.6	-25
	100nm,0.1s						

*ISK **01** 08:26:17.7, 38.25N×26.72E, h30km, MD3.2*
*ATH **01** 08:26:18.6, 38.19N×26.85E, h29km±1km, MD3.0/3*
*CSEM **01** 08:26:19.3±0.1, 38.20N×26.95E, h25km, MD3.2, Error ellipse: s-maj=4.6km s-min=2.7km az=67.0*
ISC 01 08:26:18.8±0.7**, 38.17N**±0.03×**26.64E**±0.05**, h8**km±5km**, n15, σ1.26**/24**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.20	351	i P	Pg	08 26 22.3	-0.6
URLA				i S	Sg	08 26 25.9	+0.2
BLCB	Balcova	0.39	56	i PG	Pg	08 26 26.0	-0.6
BLCB				i SG	Sg	08 26 30.6	-1.3
SMG	Samos	0.48	161⇑	iPB	Pg	08 26 28.9	+0.4
SMG				eSB	Sg	08 26 36.3	+1.2
AYDN	Tasoluk	1.11	117	i P	Pb	08 26 40.5	+0.8
AYDN				i S	Sb	08 26 53.5	-0.5
PRK	Paraskevi	1.11	345	ePN	Pn	08 26 40.4	-0.2
PRK				eSN	Sn	08 26 56.1	0.0
AYVA	Ayvalik	1.14	2	i P	Pb	08 26 41.4	+1.1
AYVA				i S	Sb	08 26 57.0	+2.0
AKS	Akhisar	1.17	52	PG	Pg	08 26 37.2	-4.9
BODT	Bodrum	1.23	154	ePN	Pn	08 26 40.6	-1.5
BDRM	Kayabasi	1.27	149	i P	Pb	08 26 44.3	+1.7
BDRM				i S	Sb	08 27 00.5	+1.6
APE	Apeiranthos	1.40	219	ePN	Pn	08 26 43.1	-1.6
APE				eSN	Sn	08 27 01.6	-1.9
APE	Apeiranthos	1.40	219	ePn	Pn	08 26 46.1	+1.4
MANT	Manisa	1.55	77	i P	Pn	08 26 47.7	+1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANT				*i* S	**Sb**	**08 27 06.3**	**-0.5**
YER	**Yerkesik**	**1.67**	**128**	*e*PN	**Pn**	**08 26 45.7**	**-2.7**
BALB	**Balikesir**	**1.76**	**33**	*e*PN	**Pn**	**08 26 44.9**	**-4.9**
DALT	**Dalyan (Mudla)**	**2.12**	**131**	*e*PN	**Pn**	**08 26 51.5**	**-3.4**

*CSEM **01** 08:28:39.5±1.6, 38.96N×27.87W, ML1.8, Error ellipse: s-maj=4.0km s-min=3.0km az=75.0, After PDA*
*PDA **01** 08:28:39.5±1.6, 38.96N×27.87W, MD3.0, ML1.8, Error ellipse: s-maj=4.0km s-min=3.0km az=75.0*
SVSA 01 08:28:39.5±1.6**, 38.96N×27.87W, MD3.0, ML1.8, Error ellipse: s-maj=4.0km s-min=3.0km az=75.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.15**	**300**	*e*P	Pg	08 28 42.4	-0.2
STGR	**Santa Cruz**	**0.16**	**319**	*e*P	Pg	08 28 42.5	-0.2
STGR				*e*S	Sg	08 28 45.3	+0.5
	285nm,0.1s						
STGR	**Santa Cruz**	**0.16**	**319**	*e*P	Pg	08 28 42.5	-0.2
STGR				*e*S	Sg	08 28 45.3	+0.5
	285nm,0.1s						
PVIA	**Vitoria**	**0.18**	**308**	*e*P	Pg	08 28 43.0	-0.1
PVIA				*e*S	Sg	08 28 45.4	-0.1
	30nm,0.1s						
PMAN	**Manadas**	**0.37**	**208**	*e*P	Pg	08 28 46.1	-0.8
PMAN				*e*S	Sg	08 28 51.2	-0.6
	183nm,0.2s						
PMAN	**Manadas**	**0.37**	**208**	*e*P	Pg	08 28 46.1	-0.8
PMAN				*e*S	Sg	08 28 51.2	-0.6
	183nm,0.2s						
PAMA	**Santo Amaro**	**0.37**	**221**	*e*P	Pg	08 28 46.9	0.0
PAMA				*e*S	Sg	08 28 52.0	+0.2
ROSA	**Rosais**	**0.38**	**231**	*e*P	Pg	08 28 46.0	-1.0
PSBA	**Serra de Santa**	**0.47**	**114**	*e*S	Sg	08 28 54.4	-0.6
	28nm,0.4s						
PSBA	**Serra de Santa**	**0.47**	**114**	*e*S	Sg	08 28 54.4	-0.6
	28nm,0.4s						
PBIS	**Biscoitos**	**0.52**	**112**	*e*S	Sg	08 28 56.5	-0.3
	11nm,0.2s						
PBIS	**Biscoitos**	**0.52**	**112**	*e*S	Sg	08 28 56.5	-0.3
	11nm,0.2s						
PPAD	**Pico dos Padre**	**0.52**	**119**	*e*rx		08 28 56.0	
PPAD	**Pico dos Padre**	**0.52**	**119**	*e*-		08 28 56.0	
PICO	**Pico**	**0.63**	**224**	*e*P	Pg	08 28 50.4	-1.7
PICO				*e*S	Sg	08 28 58.9	-1.6
PBOI	**Pico dos Bois**	**0.66**	**217**	*e*P	Pg	08 28 51.4	-1.2
PBOI				*e*S	Sg	08 29 00.3	-1.0
	18nm,0.2s						
PCND	**Candelaria**	**0.68**	**224**	*e*P	Pg	08 28 51.5	-1.5
PCND				*e*S	Sg	08 29 00.4	-1.6
	20nm,0.4s						
PCED	**Cedros**	**0.73**	**243**	*e*S	Sg	08 29 01.7	-2.1
	24nm,0.3s						
CALA	**Caldeira**	**0.75**	**240**	*e*P	Pg	08 28 52.0	-2.5
PTCA	**Ponta do Capel**	**0.82**	**243**	*e*rx		08 29 02.9	
PLUZ	**Luz**	**0.87**	**274**	*e*P	Pg	08 28 41.7	-15
PLUZ				*e*S	Sg	08 28 43.5	-25
	230nm,0.2s						

*CSEM **01** 08:48:23.8±1.4, 38.97N×27.86W, ML1.9, Error ellipse: s-maj=2.8km s-min=2.6km az=165.0, After PDA*
*PDA **01** 08:48:23.8±1.4, 38.97N×27.86W, MD3.0, ML1.9, Error ellipse: s-maj=2.8km s-min=2.6km az=165.0*
SVSA 01 08:48:23.8±1.4**, 38.97N×27.86W, MD3.0, ML1.9, Error ellipse: s-maj=2.8km s-min=2.6km az=165.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.16**	**297**	*e*P	Pg	08 48 26.4	-0.5
SRBC				*e*S	Sg	08 48 29.1	+0.1
STGR	**Santa Cruz**	**0.16**	**316**	*e*P	Pg	08 48 27.0	0.0
STGR				*e*S	Sg	08 48 29.9	+0.8
	484nm,0.1s						
STGR	**Santa Cruz**	**0.16**	**316**	*e*P	Pg	08 48 27.0	0.0
STGR				*e*S	Sg	08 48 29.9	+0.8
	484nm,0.1s						
PVIA	**Vitoria**	**0.18**	**305**	*e*P	Pg	08 48 27.4	0.0
PVIA				*e*S	Sg	08 48 30.0	+0.2
	45nm,0.1s						
PMAN	**Manadas**	**0.38**	**208**	*e*P	Pg	08 48 30.7	-0.6
PMAN				*e*S	Sg	08 48 36.2	-0.2
	288nm,0.2s						
PMAN	**Manadas**	**0.38**	**208**	*e*P	Pg	08 48 30.7	-0.6
PMAN				*e*S	Sg	08 48 36.2	-0.2
	288nm,0.2s						
PAMA	**Santo Amaro**	**0.38**	**221**	*e*P	Pg	08 48 31.3	-0.1
PAMA				*e*S	Sg	08 48 36.6	+0.2
ROSA	**Rosais**	**0.39**	**230**	*e*P	Pg	08 48 30.8	-0.7
ROSA				*e*S	Sg	08 48 36.2	-0.4
PSBA	**Serra de Santa**	**0.46**	**115**	*e*S	Sg	08 48 38.5	-0.7
	34nm,0.2s						
PSBA	**Serra de Santa**	**0.46**	**115**	*e*S	Sg	08 48 38.5	-0.7
	34nm,0.2s						
ASBA	**Santa Barbara**	**0.48**	**120**	*e*S	Sg	08 48 39.5	-0.4
	20nm,0.2s						
ASBA	**Santa Barbara**	**0.48**	**120**	*e*S	Sg	08 48 39.5	-0.4
	20nm,0.2s						
PBIS	**Biscoitos**	**0.52**	**113**	*e*S	Sg	08 48 40.3	-0.7
	16nm,0.3s						
PBIS	**Biscoitos**	**0.52**	**113**	*e*S	Sg	08 48 40.3	-0.7
	16nm,0.3s						
PVNV	**Vila Nova**	**0.59**	**110**	*e*S	Sg	08 48 42.1	-1.2
	24nm,0.3s						
PVNV	**Vila Nova**	**0.59**	**110**	*e*S	Sg	08 48 42.1	-1.2
	24nm,0.3s						
PICO	**Pico**	**0.64**	**224**	*e*P	Pg	08 48 34.9	-1.7
PICO				*e*S	Sg	08 48 43.6	-1.5
PFAV	**Pico das Favas**	**0.66**	**113**	*e*S	Sg	08 48 44.4	-1.3
	7.8nm,0.1s						
PBOI	**Pico dos Bois**	**0.67**	**217**	*e*P	Pg	08 48 35.9	-1.2
PBOI				*e*S	Sg	08 48 44.9	-1.0
	27nm,0.2s						
PCND	**Candelaria**	**0.68**	**224**	*e*P	Pg	08 48 35.9	-1.6
PCND				*e*S	Sg	08 48 45.3	-1.3
	27nm,0.2s						
PCED	**Cedros**	**0.74**	**243**	*e*S	Sg	08 48 45.5	-2.9
	17nm,0.2s						
CALA	**Caldeira**	**0.76**	**240**	*e*P	Pg	08 48 36.4	-2.6
CALA				*e*S	Sg	08 48 46.9	-2.2
PTCA	**Ponta do Capel**	**0.82**	**243**	*e*rx		08 48 48.6	
PLUZ	**Luz**	**0.87**	**274**	*e*P	Pg	08 48 26.2	-15
PLUZ				*e*S	Sg	08 48 27.8	-25
	347nm,0.1s						

BER 01 08:56:03.7±0.5**, 66.39N×13.26E, h10**km±1km**, MD1.9, ML1.5, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STOK2	**Flostrand**	**0.07**	**143**	*e*P	Pg	08 56 05.7	-0.3
STOK2				*e*		08 56 05.8	
	baz=324,slow=10						
STOK2	**Flostrand**	**0.07**	**143**	*e*S	Sg	08 56 07.2	-0.3
STOK2				AML	AML	08 56 07.3	
	comp=N,452nm,0.1s						
STOK	**Stokkvaagen**	**0.12**	**238**	*e*P	Pg	08 56 06.4	-0.2
STOK	**Stokkvaagen**	**0.12**	**238**	*e*S	Sg	08 56 08.5	-0.1
STOK				AML	AML	08 56 09.9	
	comp=Z,130nm,0.3s						
STOK	**Stokkvaagen**	**0.12**	**238**	*e*P	Pg	08 56 06.4	-0.2
STOK				*e*S	Sg	08 56 08.5	-0.1
STOK				AML	AML	08 56 09.9	
	comp=Z,130nm,0.3s						
MELSS	**Ber_school_2**	**0.51**	**21**	*e*P	Pg	08 56 12.9	-1.1
MELSS				*e*S	Sg	08 56 19.6	-1.2
MELSS	**Ber_school_2**	**0.51**	**21**	*e*P	Pg	08 56 12.9	-1.1
MELSS				*e*S	Sg	08 56 20.7	-0.2
MOR8	**Moi Rana**	**0.53**	**115**	*e*P	Pg	08 56 14.4	0.0
MOR8				*e*S	Sg	08 56 23.0	+1.5
MOR8				AML	AML	08 56 23.9	
	comp=Z,8.8nm,0.0s						
MOR8	**Moi Rana**	**0.53**	**115**	*e*P	Pg	08 56 14.4	0.0
MOR8				*e*S	Sg	08 56 23.0	+1.5
MOR8				AML	AML	08 56 23.9	
	comp=Z,8.8nm,0.0s						
NSS	**Namsos**	**1.95**	**197**	*e*P	Pn	08 56 36.8	-0.5
NSS				*e*S	Sn	08 57 03.5	+1.5

*NEIC **01** 09:01:01.9, 16.04N×96.34W, h51km, MD3.7(MEX), After MEX.*
MEX 01 09:01:01.9±0.7**, 16.04N×96.34W, h51**km±13km**, MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.34**	**140**	*i* P	P	09 01 10.4	-1.3
HUIG				*i* S	S	09 01 16.7	-1.9
VHO	**Vista Hermosa**	**1.10**	**340**	*i* P	P	09 01 20.2	-1.1
VHO				*i* S	S	09 01 33.8	-1.8
OXX	**Oaxaca**	**1.10**	**341**	*i* P	P	09 01 19.0	-2.3
OXX				*i* S	S	09 01 33.0	-2.7
CMIG	**Matias Romero**	**1.75**	**53**	*i* P	P	09 01 27.9	-2.5
CMIG				*i* S	S	09 01 50.0	-1.5

*NIED **01** 09:25:00, 38.10N×144.50E, h5km, Mw3.6 Best double couple: M₀2.38×10^14 NP1:φs207°, δ67°, λ-96°. NP2:φs41°, δ24°, λ-77°.*
JMA 01 09:25:13.2±0.2**, 38.07N×144.53E, h52**km**, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.46**	**295**	P	P	09 25 52.0	+0.2
JIO	**Ouri**	**2.53**	**280**	P	P	09 25 53.4	+0.5
JIO				*e*S	S	09 26 23.0	+0.4
MIYJ	**Miyakonagasawa**	**2.60**	**306**	P	P	09 25 53.7	-0.1
MIYJ				*e*S	S	09 26 24.4	+0.2
JMK	**Ichinoseki**	**2.74**	**290**	P	P	09 25 56.2	+0.4
JMK				*e*S	S	09 26 28.5	+0.6
JOM	**Ohasama**	**2.89**	**300**	P	P	09 25 58.6	+0.6
JOM				*e*S	S	09 26 32.3	+0.6
JMM	**Marumori**	**2.96**	**267**	P	P	09 25 58.9	0.0
JMM				*e*S	S	09 26 32.8	-0.6

*HEL **01** 09:30:02.2±0.1, 59.00N×18.18E, ML2.1, ML2.7(UPP), ML2.1(NAO), Explosion*
*NAO **01** 09:30:04.3±2.1, 59.23N×18.11E, ML2.1*
*BER **01** 09:30:04.5±3.6, 59.16N×18.12E, ML2.1(NAO), Suspected explosion*
*IDC **01** 09:30:04.3±2.3, 59.15N×18.19E, mb1 3.3/3, mb1mx3.0/20, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=27.1km s-min=8.6km az=179.0*
ISC 01 09:30:00.2±0.4**, 58.99N**±0.03×**18.31E**±0.05**, n39, σ0.98**/62**, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.16**	**274**	*i* P	**Pg**	**09 30 03.6**	**+0.3**
NYNU				*i* S	**Sg**	**09 30 05.0**	**-0.4**
NRTU	**Norrtaelje**	**0.70**	**13**	*i* P	**Pg**	**09 30 14.9**	**+0.6**
UPP	**Uppsala**	**0.94**	**338**	*e*P	**Pg**	**09 30 18.6**	**-0.3**
ESKU	**Eskilstuna**	**1.02**	**284**	*e*P	**Pb**	**09 30 19.1**	**-1.2**
GOTU	**Gotland**	**1.32**	**174**	*e*P	**Pb**	**09 30 25.6**	**+0.1**
GRAU	**Graesoe**	**1.35**	**5**	*e*P	**Pb**	**09 30 26.5**	**+0.5**
OSTU	**Oestervaala**	**1.38**	**335**	*e*P	**Pb**	**09 30 26.4**	**-0.1**
OSTU				*e*S	**Sb**	**09 30 44.4**	**-0.1**
AAL	**Aland**	**1.47**	**35**	*e*S	**Sb**	**09 30 48.6**	**+1.5**
VSTU	**Vaestervik**	**1.63**	**216**	*e*P	**Pn**	**09 30 30.9**	**+0.6**
VSTU				*e*S	**Sb**	**09 30 51.8**	**-0.1**
LNKU	**Linkoeping**	**1.66**	**243**	*e*P	**Pn**	**09 30 30.9**	**+0.2**
NRAU	**Nora**	**1.77**	**290**	*e*P	**Pn**	**09 30 32.9**	**+0.6**
ASKU	**Askersund**	**1.81**	**268**	*e*P	**Pn**	**09 30 33.1**	**+0.3**
ASPU	**Aespoe**	**1.82**	**211**	*e*P	**Pn**	**09 30 34.3**	**+1.3**
FALU	**Falun**	**1.96**	**321**	*e*S	**Sn**	**09 31 01.4**	**+0.7**
HFS	**Hagfors**	**2.61**	**298**	*e*P	**Pn**	**09 30 45.3**	**+1.0**
HFS				*e*SB	**Sb**	**09 31 19.4**	**-1.0**
HFS	**Hagfors**	**2.61**	**298**	Pn	**Pn**	**09 30 45.3**	**+1.0**
	baz=110,slow=14						
HFS				Lg		09 31 19.4	
	baz=110,slow=28						
ROTU	**Roteberg**	**2.73**	**334**	*e*P	**Pn**	**09 30 46.5**	**+0.5**
ARNU	**Arnoeviken**	**2.75**	**351**	*e*P	**Pn**	**09 30 46.5**	**+0.2**
HASU	**Hassela**	**3.28**	**346**	*e*P	**Pn**	**09 30 53.8**	**-0.1**
NB2	**NORSAR Subarra**	**4.11**	**303**	*e*P	**Pn**	**09 31 05.1**	**-0.5**
NB2				*e*PG	**Pg**	**09 31 14.2**	**-8.0**
NB2				*e*SG		09 32 07.0	
NB2	**NORSAR Subarra**	**4.11**	**303**	Pn	**Pn**	**09 31 05.1**	**-0.5**
	baz=124,slow=14						
NB2				Pg	**Pg**	**09 31 14.2**	**-8.0**
NB2				Lg		09 32 07.0	
	baz=122,slow=37						
NOA	**NORSAR Array B**	**4.11**	**303**	Pn	**Pn**	**09 31 04.5**	**-1.1**
	0.2nm,0.3s,baz=131,slow=14,SNR=2.8						
NOA				Pg	**Pg**	**09 31 14.3**	**-7.9**
	0.4nm,0.3s,baz=131,slow=14,SNR=2.3						
NOA				Lg		09 32 06.2	
	0.9nm,0.3s,baz=160,slow=10,SNR=7.1						
PVF	**Pernaja**	**4.12**	**65**	*e*P	**Pn**	**09 31 07.1**	**+1.3**
PVF				*e*S	**Sn**	**09 31 55.1**	**-0.4**
PVF				MSG		09 32 17.5	
	comp=Z,4.1nm,0.2s						
BSD	**Bornholm Skovb**	**4.31**	**207**	*i* P	**Pn**	**09 31 07.4**	**-1.1**
BSD				*i* S	**Sn**	**09 31 57.7**	**-2.5**
BSD				*e*S	**Sn**	**09 32 12.0**	**+12**
KEF	**Keuruu**	**4.54**	**43**	*e*P	**Pn**	**09 31 12.9**	**+1.2**
KEF				*e*S	**Sn**	**09 32 05.5**	**-0.5**
KEF				MSG		09 32 27.8	
	comp=Z,3.0nm,0.2s						
VAF	**Ylistaro**	**4.58**	**26**	*e*P	**Pn**	**09 31 14.1**	**+1.8**
VAF				*e*S	**Sn**	**09 32 07.7**	**+0.6**
VAF				MSG		09 32 28.0	
	comp=Z,3.0nm,0.2s						
FIA0	**FINESS Array S**	**4.59**	**54**	Pn	**Pn**	**09 31 13.7**	**+1.3**
	baz=253,slow=12						
FIA0				Pg	**Pg**	**09 31 24.4**	**-7.4**
	baz=253,slow=16						
FIA0				Sn	**Sn**	**09 32 07.2**	**-0.1**
	baz=249,slow=22						
FIA0				Lg		09 32 24.9	
	baz=245,slow=28						
FIA0	**FINESS Array S**	**4.59**	**54**	*e*P	**Pn**	**09 31 13.7**	**+1.3**
FIA0				*e*S	**Sn**	**09 32 06.0**	**-1.3**
FIA0				MSG		09 32 30.9	
	comp=Z,3.6nm,0.2s						
FINES	**FINESS Array B**	**4.59**	**54**	Pn	**Pn**	**09 31 13.7**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=249,slow=12,SNR=19						
FINES				Pg	**Pg**	**09 31 23.4**	**-8.3**
	comp=Z,0.3nm,0.3s,baz=248,slow=12,SNR=5.3						
FINES				Sn	**Sn**	**09 32 05.7**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=247,slow=21,SNR=10						
FINES				Lg		09 32 24.9	
	comp=Z,1.4nm,0.3s,baz=243,slow=21,SNR=8.4						
NOD	**Norderasen**	**4.77**	**341**	*e*P	**Pn**	**09 31 13.9**	**-1.0**
KAF	**Kangasniemi**	**5.04**	**48**	*e*P	**Pn**	**09 31 19.6**	**+0.8**
KAF				*e*S	**Sn**	**09 32 17.0**	**-1.6**
KAF				MSG		09 32 40.7	
	comp=Z,1.8nm,0.2s						
SUF	**Sumiainen**	**5.35**	**42**	*e*P	**Pn**	**09 31 23.4**	**+0.2**
SUF				*e*S	**Sn**	**09 32 24.4**	**-2.1**
SUF				MSG		09 32 49.5	
	comp=Z,1.7nm,0.2s						
OUL	**Oulu**	**7.07**	**27**	*e*P	**Pn**	**09 31 46.9**	**-0.6**
JOF	**Joensuu**	**7.45**	**53**	*e*P	**Pn**	**09 31 51.3**	**-1.4**
JOF				*e*S	**Sn**	**09 33 15.1**	**-3.9**
JOF				MSG		09 33 57.7	
	comp=Z,1.1nm,0.3s						
APA0	**Apatity Array**	**10.84**	**31**	Pn	**P**	**09 32 35.5**	**-4.0**
	baz=221,slow=10						
APA0	**Apatity Array**	**10.84**	**31**	*e*P	**P**	**09 32 35.5**	**-4.0**
ARA0	**ARCESS Array S**	**11.02**	**13**	Pn	**P**	**09 32 37.8**	**-4.2**
	baz=194,slow=14						
ARA0				Sn	**S**	**09 34 36.5**	**-11**
	baz=191,slow=28						
ARA0	**ARCESS Array S**	**11.02**	**13**	*e*P	**P**	**09 32 37.8**	**-4.2**
ARA0				*e*S	**S**	**09 34 36.5**	**-11**
ARCES	**ARCESS Array B**	**11.02**	**13**	Pn	**P**	**09 32 37.7**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=197,slow=13,SNR=14						
ARCES				Sn	**S**	**09 34 35.7**	**-12**
	comp=Z,0.2nm,0.3s,baz=191,slow=24,SNR=2.9						

*NEIC **01** 10:21:36.5, 16.22N×98.07W, h6km, MD3.9(MEX), After MEX.*
MEX 01 10:21:36.9±0.9**, 16.25N×98.10W, h11**km±7km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**350**	*i* P	Pg	10 21 39.5	-0.9
PNIG				*i* S	Sg	10 21 42.5	-0.2
VHO	**Vista Hermosa**	**1.54**	**58**	*i* P	Pn	10 22 01.1	-3.5
VHO				*i* S	Sb	10 22 20.3	-4.2
OXX	**Oaxaca**	**1.56**	**58**	*e*P	Pn	10 22 01.5	-3.2
OXX				*i* S	Sb	10 22 20.0	-4.9
ACX	**Acapulco**	**1.85**	**290**	*e*P	Pn	10 22 12.5	+3.6
PLIG	**Platanillo**	**2.52**	**328**	*e*P	Pn	10 22 15.3	-3.2
PLIG				*i* S	Sn	10 22 42.0	-7.4
PLIG	**Platanillo**	**2.52**	**328**	*i* P	Pn	10 22 17.4	-1.1
PLIG				*i* S	Sn	10 22 45.7	-3.7
PPM	**Popocatepetl**	**2.85**	**350**	*e*P	Pn	10 22 24.8	+1.7
PPM				*i* S	Sn	10 22 51.1	-6.7
PPM	**Popocatepetl**	**2.85**	**350**	*e*P	Pn	10 22 24.8	+1.7
PPM				*i* S	Sn	10 22 55.7	-2.1

*NIED **01** 10:31:00, 39.50N×142.20E, h74km, Mw4.4 Best double couple: M₀4.72×10^15 NP1:φs67°, δ71°, λ-139°. NP2: φs321°, δ52°, λ-25°.*
*JMA **01** 10:31:39.2±0.1, 39.50N×142.25E, h64km±1km, M3.8 Broadband fault plane solution: P waves. NP1:φs212°, δ27°, λ85°. NP2:φs38°, δ63°, λ93°. Principal axes: T Plg72°, Azm314°; N Plg2°, Azm217°; P Plg18°, Azm126°;*
JMA Felt I J1.
ISC 01 10:31:38.6±1.3**, 39.50N**±0.04×**142.3E**±0.1**, h64**km±8km**, n13, σ0.41**/25**, 2C-8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.36**	**283**	⇓P	**P**	**10 31 50.0**	**+0.3**
MIYJ				S	**S**	**10 31 57.9**	**0.0**
JTH	**Tanohata**	**0.54**	**325**	⇓P	**P**	**10 31 51.7**	**+0.2**
JTH				S	**S**	**10 32 00.8**	**-0.1**
OFUJ	**Ofunato**	**0.63**	**228**	⇑P	**P**	**10 31 52.8**	**+0.4**
OFUJ				S	**S**	**10 32 02.4**	**-0.2**
JOM	**Ohasama**	**0.76**	**268**	⇓P	**P**	**10 31 54.4**	**+0.4**
JOM				S	**S**	**10 32 05.8**	**+0.5**
JKZ	**Kuzumaki**	**0.87**	**304**	⇓P	**P**	**10 31 55.9**	**+0.5**
JKZ				*e*S	**S**	**10 32 07.8**	**-0.1**
JMK	**Ichinoseki**	**0.98**	**237**	⇓P	**P**	**10 31 57.1**	**+0.2**
JMK				S	**S**	**10 32 10.1**	**-0.3**
JANG	**Nango**	**1.05**	**327**	⇓P	**P**	**10 31 57.6**	**-0.2**
JANG				S	**S**	**10 32 11.2**	**-0.7**
JIO	**Ouri**	**1.27**	**215**	⇑P	**P**	**10 32 00.5**	**-0.2**
JIO				*e*S	**S**	**10 32 15.8**	**-1.3**
JAH	**Hinai**	**1.44**	**299**	⇓P	**P**	**10 32 03.2**	**+0.1**
JAH				S	**S**	**10 32 21.6**	**+0.4**
JTM	**Tenmabayashi**	**1.58**	**325**	P	**P**	**10 32 04.8**	**-0.3**
JTM				S	**S**	**10 32 24.2**	**-0.5**
JYK	**Kaneyama**	**1.59**	**249**	⇓P	**P**	**10 32 05.4**	**+0.1**
JOU	**Okura**	**1.69**	**228**	P	**P**	**10 32 06.6**	**+0.1**
JOU				S	**S**	**10 32 27.5**	**+0.4**
MAT	**Matsushiro**	**4.36**	**229**	P	**P**	**10 32 44.4**	**+0.4**
MAT				*e*S	**S**	**10 33 33.9**	**-0.1**

*IDC **01** 10:37:18.3±1.0, 13.93N×146.54E, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, Error ellipse: s-maj=29.4km s-min=20.1km az=135.0*
*NEIC **01** 10:37:23.5±3.5, 13.91N×146.44E, h36km±29km, mb4.2/1, Error ellipse: s-maj=33.2km s-min=20.6km az=93.0*
ISC 01 10:37:23.0±3.7**, 13.9N**±0.2×**146.5E**±0.2**, h53**km±32km**, n11, σ0.74**/11**, mb3.8**/6**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.64**	**260**	Pn	**P**	**10 37 49.5**	**-0.4**
	25nm,0.3s,baz=102,slow=4.0,SNR=18						
GUMO				Sn	**S**	**10 38 10.7**	**+0.8**
	49nm,0.3s,baz=12,slow=23,SNR=6.6						
GUMO	**Guam**	**1.64**	**260**	*e*Pn	**P**	**10 37 48.9**	**-1.0**
GUMO				Sn	**S**	**10 38 10.7**	**+0.8**
WRA	**Warramunga Arr**	**35.69**	**200**	P	**P**	**10 44 18.4**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=23,slow=9.7,SNR=14						
WRA				PcP	PcP	10 46 47.7	+1.6
	0.2nm,0.5s,baz=17,slow=3.3,SNR=5.1						
STKA	**Stephens Creek**	**45.74**	**186**	P	**P**	**10 45 35.9**	**-5.2**
SONM	**Songino Array**	**47.43**	**324**	P	**P**	**10 45 54.2**	**0.0**
	0.4nm,0.7s,mb3.5,baz=133,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**62.40**	**316**	P	**P**	**10 47 42.8**	**+0.1**
	0.5nm,0.4s,mb4.0,baz=91,slow=8.4,SNR=16						
KURK	**Kurchatov**	**65.40**	**320**	P	**P**	**10 48 00.8**	**-1.4**
	1.2nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**67.62**	**25**	P	**P**	**10 48 16.2**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=251,slow=6.0,SNR=9.2						
INK	**Inuvik**	**73.48**	**22**	P	**P**	**10 48 52.4**	**+1.0**
	0.7nm,0.8s,mb3.6,baz=281,slow=7.3,SNR=5.0						
DBIC	**Dimbokro**	**145.01**	**304**	PKP	PKPdf	10 56 58.0	+2.6
	3.2nm,0.8s,baz=25,slow=1.3,SNR=6.5						
DBIC	**Dimbokro**	**145.01**	**304**	PKP	PKPdf	10 56 58.0	+2.6

*MOS **01** 10:49:37.7±1.7, 54.98N×111.65E, h15km, mb4.4/1, Error ellipse: s-maj=13.3km s-min=8.2km az=59.7*
BYKL 01 10:49:37.9±0.2**, 55.02N×111.64E, h12**km±5km**, 8C-2D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.31**	**243**	⇑*i*Pg	Pg	10 49 44.5	0.0
YLYR				*i* Sg	Sg	10 49 49.2	+0.3
YLYR				Pmax			
	166nm,0.1s						
YLYR				Smax			
	4μm,0.2s						
YLYR	**Ulyunkhan**	**0.31**	**243**	*e*PG	Pg	10 49 44.5	0.0
YLYR				*e*		10 49 49.1	
YLYR				pmax	pmax		
	comp=Z,185nm,0.1s						
YLYR				smax			
	comp=E,7μm,0.2s						
KMO	**Kumora**	**0.90**	**344**	⇑*i*Pg	Pg	10 49 54.4	-1.7
KMO				*i* Sg	Sg	10 50 06.0	-2.2
KMO				Pmax			
	comp=E,134nm,0.4s						
KMO				Smax			
	comp=E,591nm,0.9s						
KMO	**Kumora**	**0.90**	**344**	⇑*i*PG	Pg	10 49 54.3	-1.8
KMO				*e*		10 50 06.0	
KMO				pmax	pmax		
	comp=Z,98nm,0.5s						
KMO				smax			
	comp=E,583nm,1.0s						
YOA	**Uoyan**	**1.12**	**2**	*e*Pg	Pg	10 49 58.3	-2.0
YOA				*e*Sg	Sg	10 50 14.3	-0.9
YOA				*e*Sb	Sb	10 50 16.4	+3.4
YOA				Pmax			
	comp=E,427nm,0.4s						
YOA				max			
	comp=E,4μm,0.6s						
YOA	**Uoyan**	**1.12**	**2**	⇑*i*PG	Pg	10 49 58.3	-2.0
YOA				*i*		10 50 14.2	
YOA				pmax	pmax		
	comp=Z,374nm,0.3s						
YOA				smax			
	comp=N,4μm,0.5s						
UKT	**Uakit**	**1.23**	**67**	⇑*i*Pg	Pg	10 50 00.1	-2.5
UKT				*e*Pb	Pb	10 50 02.1	+1.5
UKT				*i* Sg	Sg	10 50 16.5	-2.5
UKT				*e*Sb	Sb	10 50 19.5	+3.2
UKT				max			
	comp=N,158nm,0.6s						
UKT				max			
	comp=N,1μm,0.4s						
UKT	**Uakit**	**1.23**	**67**	*e*PG	Pg	10 50 00.0	-2.6
UKT				*e*		10 50 16.5	
UKT				pmax	pmax		
	comp=Z,121nm,0.3s						
UKT				smax			
	comp=N,994nm,0.4s						
NIZ	**Nizh Angarsk**	**1.42**	**303**	⇑*i*Pg	Pg	10 50 03.6	-2.7
NIZ				*i* Sg	Sg	10 50 22.8	-2.4
NIZ				Pmax			
	comp=N,58nm,0.5s						
NIZ				Smax			
	comp=N,169nm,0.4s						
NIZ	**Nizh Angarsk**	**1.42**	**303**	*e*PN	Pn	10 50 03.8	+0.2
NIZ				*e*		10 50 22.8	
NIZ				pmax	pmax		
	comp=Z,251nm,0.4s						
NIZ				smax			

comp=N,281nm,0.4s
SVKR Severomuysk 1.55 44 *e*Pg Pg 10 50 06.8 -2.1
SVKR *e*Pb Pb 10 50 07.5 +1.4
SVKR *e*Sg Sg 10 50 27.8 -1.8
SVKR max
comp=N,573nm,0.5s
SVKR Smax
comp=N,2µm,0.6s
SVKR Severomuysk 1.55 44 *e*PN Pn 10 50 06.8 +1.3
SVKR *e* 10 50 27.6
SVKR pmax pmax
comp=Z,552nm,0.7s
SVKR smax
comp=E,2µm,0.6s
SYVR Suvo 1.67 216 ⇑*i*Pg Pg 10 50 07.7 -3.6
SYVR *e* 10 50 13.2
SYVR *i* Sg Sg 10 50 31.2 -2.4
SYVR max
comp=E,85nm,0.8s
SYVR Smax
comp=E,237nm,0.4s
SYVR Suvo 1.67 216 *e*PN Pn 10 50 07.6 +0.4
SYVR *e* 10 50 28.1
SYVR pmax pmax
comp=Z,71nm,0.3s
SYVR smax
comp=N,245nm,0.3s
MXMB Maximikha 2.45 225 *e*Pg Pg 10 50 22.3 -4.5
MXMB *e*Sg Sg 10 50 55.3 -4.2
MXMB Pmax
comp=N,21nm,0.4s
MXMB Smax
comp=N,1µm,0.8s
NLYR Nelyaty 2.73 56 ⇓*i*Pn Pn 10 50 22.2 -0.2
NLYR *e*Pg Pg 10 50 26.6 -5.8
NLYR *i* Sg Sg 10 51 02.8 -6.0
NLYR Pmax
comp=N,39nm,0.6s
NLYR Smax
comp=N,440nm,1.1s
NLYR Nelyaty 2.73 56 *e*PN Pn 10 50 22.1 -0.3
NLYR *e* 10 50 26.7
NLYR *e* 10 51 02.5
NLYR pmax pmax
comp=Z,23nm,0.4s
NLYR smax
comp=N,454nm,1.0s
OGRR Ongureny 2.74 241 ⇑*i*Pn Pn 10 50 22.6 +0.1
OGRR *e*Pg Pg 10 50 26.4 -6.3
OGRR *e* 10 50 31.3
OGRR *e* 10 50 57.0
OGRR *i* Sg Sg 10 51 02.8 -6.4
OGRR max
comp=N,18nm,0.3s
OGRR Smax
comp=N,81nm,0.7s
OGRR Ongureny 2.74 241 *e*PN Pn 10 50 22.6 +0.1
OGRR *e* 10 50 27.6
OGRR *e* 10 51 02.8
OGRR pmax pmax
comp=Z,17nm,0.3s
OGRR smax
comp=N,207nm,1.6s
BOD Bodaibo 3.10 24 ⇓*i*Pn Pn 10 50 26.7 -0.9
BOD *e*Pg Pg 10 50 31.8 -8.0
BOD *i* Sg Sg 10 51 11.8 -9.3
BOD Pmax
comp=N,35nm,0.9s
BOD Smax
comp=N,132nm,0.6s
CIT Chita 3.21 158 *e*Pg Pg 10 50 35.2 -6.9
CIT *e*Sn Sn 10 51 05.6 -2.3
CIT *e*Sg Sg 10 51 17.6 -7.4
CIT Pmax
comp=N,22nm,0.4s
CIT Smax
comp=N,173nm,0.8s
ZRHB Zarechye 3.63 229 *e*Sg Sg 10 51 30.3 -8.6
ZRHB Smax
comp=N,120nm,0.4s
TRG Tyrgan 3.86 236 *e*Pn Pn 10 50 38.2 -0.3
TRG *e*Pg Pg 10 50 45.5 -10
TRG *e*Sg Sg 10 51 35.8 -11
TRG Pmax
comp=N,12nm,1.0s
TRG Smax
comp=N,84nm,0.5s
FFNB Fofonovo 4.16 226 *e*Sg Sg 10 51 47.4 -9.1
FFNB Smax
comp=N,249nm,0.7s
CRS Chara 4.17 60 *e*Pn Pn 10 50 42.1 -0.8
CRS *e*Pg Pg 10 50 51.8 -9.5
CRS *e*Sg Sg 10 51 47.4 -10
CRS Pmax
comp=N,28nm,1.0s
CRS Smax
comp=N,391nm,1.4s
CRS Chara 4.17 60 *e*PN Pn 10 50 54.2 +11
CRS *e* 10 51 47.7
CRS pmax pmax
comp=Z,29nm,1.0s
CRS smax
comp=E,379nm,1.3s
HRMR Khuramsha 4.41 221 *e*Pg Pg 10 50 57.1 -8.8
HRMR *e*Sg Sg 10 51 55.3 -9.4
HRMR Pmax
comp=E,21nm,0.5s
HRMR Smax
comp=E,400nm,0.6s
TUP Tupik 4.86 94 *e*Pn Pn 10 50 50.8 -1.8
TUP *e*Pg Pg 10 51 04.2 -11
TUP *e*Sg Sg 10 52 07.7 -12
TUP Pmax
comp=E,11nm,0.5s
TUP Smax
comp=E,137nm,0.8s
TUP Tupik 4.86 94 *e*PN Pn 10 50 50.8 -1.8
TUP *e* 10 51 04.2
TUP *e* 10 52 07.6
TUP pmax pmax
comp=Z,12nm,0.5s
TUP smax
comp=N,165nm,1.2s
LSTR Listvyanka 5.15 235 *e* Pn 10 51 04.6 +7.9
LSTR *e*Sg Sg 10 52 15.9 -13
LSTR Smax
comp=N,61nm,1.2s
LSTR Listvyanka 5.15 235 *e*PN Pn 10 51 09.2 +12
LSTR *e* 10 52 17.5
LSTR pmax pmax
comp=Z,25nm,0.8s
LSTR smax
comp=N,76nm,2.2s
KPC Khapcheranga 5.34 175 *e*Pn Pn 10 50 58.6 -0.9
KPC *e*Pg Pg 10 51 13.3 -11
KPC *e*Sg Sg 10 52 22.1 -14
KPC Pmax
comp=N,5.0nm,0.5s
KPC Smax
comp=N,111nm,1.5s
KPC Khapcheranga 5.34 175 *e*PN Pn 10 51 13.6 +14
KPC *e* 10 52 23.0
KPC pmax pmax
comp=Z,5.0nm,0.4s
KPC smax
comp=E,65nm,1.1s
TLY Talaya 5.84 238 *e* Pn 10 51 22.2 +16
TLY *e*Sg Sg 10 52 36.0 -16
TLY Smax
comp=E,43nm,1.1s
TLY Talaya 5.84 238 *e*PN Pn 10 51 22.1 +16
TLY *e* 10 52 36.0
TLY pmax pmax
comp=Z,5.0nm,0.3s
TLY smax
comp=N,48nm,1.6s
ARS Arshan 6.32 244 *e* Pn 10 51 26.5 +13
ARS *e*Sg Sg 10 52 52.1 -16
ARS Smax
comp=N,161nm,0.8s
ARS Arshan 6.32 244 *e*PN Pn 10 51 29.8 +17
ARS *e* 10 52 51.3
ARS pmax pmax
comp=Z,17nm,0.5s
ARS smax
comp=E,162nm,0.8s
MOY Mondy 7.20 247 *e*Pn Pn 10 51 26.3 +0.6
MOY *e*Sg Sg 10 53 20.4 -17
MOY Smax
comp=E,52nm,1.6s
ORL Orlik 7.44 255 *e*Pn Pn 10 51 28.0 -0.9
ORL *e* 10 52 56.1
ORL *e*Sg Sg 10 53 27.6 -18
ORL Smax
comp=E,50nm,1.4s
ORL Orlik 7.44 255 *e*PN Pn 10 51 27.1 -1.8
ORL *e* 10 51 51.5
ORL *e* 10 53 27.9
ORL pmax pmax
comp=Z,7.0nm,1.0s
ORL smax
comp=N,36nm,1.0s
KROS Kirovskiy 8.89 88 *e*Pg P 10 52 16.6 +27
KROS *e*Sn Sn 10 53 19.3 -11
KROS *e*Sg Sg 10 54 12.5 -22
KROS Pmax
comp=N,31nm,0.4s
KROS Smax
comp=N,28nm,0.7s
SHRR Shira 12.41 276 *e*P P 10 52 34.2 -2.9

*BJI **01** 10:50:05.6, 17.02S×71.86W, h31km, mB5.1, Ms5.5, Msz5.3*
*IDC **01** 10:50:07.2±1.0, 17.08S×70.71W, h29km±5km, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, mbtmp4.1/8, MS3.3/1, Ms1 3.3/1, ms1mx2.5/21, Error ellipse: s-maj=30.7km s-min=19.6km az=46.0*
*NEIC **01** 10:50:07.3±0.5, 17.20S×71.02W, mb4.3/11, ML4.3(LIM), Error ellipse: s-maj=15.2km s-min=9.6km az=66.0*
NEIC Felt [III] at Ilo and Moquegua; [II] at Arequipa.
ISC 01 10:50:05.5±0.5, 17.16S±0.07×70.90W±0.08, h31km, h31km±1km:pP-P, n35, σ1§12/30, mb4.2/17, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.90**	**321**	⇓*i*P		**Pn**		**10 50 22.9**	**+0.8**
ARE				S		**Sn**		**10 50 34.0**	**0.0**
LPAZ	**La Paz**	**2.79**	**72**	Pn		**Pn**		**10 50 56.7**	**+7.5**
LPAZ	4.2nm,0.3s,baz=243,slow=14,SNR=47			Pg		**Pn**		**10 51 03.3**	**+14**
LPAZ	**La Paz**	**2.79**	**72**	*e*Pn		**Pn**		**10 50 56.7**	**+7.5**
SIV	**San Ignacio**	**9.49**	**84**	Pn		**P**		**10 52 24.0**	**+0.7**
	28nm,0.3s,baz=263,slow=9.9,SNR=59								
SAML	**Samuel**	**11.09**	**44**	*e*Pn		**P**		**10 52 47.0**	**+1.6**
CFAA	**Coronel Fontan**	**14.58**	**171**	Pn		**P**		**10 53 32.7**	**+1.0**
	1.3nm,0.3s,baz=278,slow=10,SNR=37								
CFAA	**Coronel Fontan**	**14.58**	**171**	Pn		**P**		**10 53 32.7**	**+1.0**
OTAV	**Otavalo**	**18.82**	**336**	P		**P**		**10 54 28.6**	**+3.2**
TRQA	**Tornquist**	**22.24**	**161**	*e*P		**P**		**10 55 00.0**	**-1.3**
	0.0nm,0.2s,baz=22,slow=11,SNR=2.3								
PLCA	**Paso Flores**	**23.49**	**179**	P		**P**		**10 55 14.8**	**+1.3**
	3.0nm,0.7s,mb3.8								
PLCA	**Paso Flores**	**23.49**	**179**	*e*P		**P**		**10 55 14.8**	**+1.4**
	2.2nm,0.9s,mb3.6,baz=341,slow=15,SNR=4.2								
SDV	**Santo Domingo**	**25.88**	**1**	LR		LR		11 06 50.9	
	4.3nm,0.9s,mb3.9								
WVT	**Waverly**	**55.37**	**343**	*e*P		**P**		**10 59 36.3**	**-2.9**
	comp=Z,64nm,18.7s,baz=234,slow=39								
TXAR	**Lajitas Array**	**56.01**	**325**	P		**P**		**10 59 43.7**	**-0.1**
	2.4nm,0.8s,mb4.3								
SIUC	**Southern Illin**	**57.24**	**343**	*e*P		**P**		**10 59 50.3**	**-2.2**
	0.9nm,0.6s,mb4.0,baz=149,slow=8.4,SNR=15								
WMOK	**Wichita Mounta**	**58.02**	**333**	*e*P		**P**		**10 59 56.8**	**-1.2**
	16nm,0.8s,mb5.1								
ANMO	**Albuquerque**	**61.86**	**327**	*e*P		**P**		**11 00 24.2**	**-0.1**
	1.9nm,0.7s,mb4.2								
SDCO	**Great Sand Dun**	**63.57**	**330**	*e*P		**P**		**11 00 35.9**	**+0.2**
	1.0nm,0.6s,mb4.1								
PV01	**Paradox Valley**	**65.39**	**328**	*e*P		**P**		**11 00 47.8**	**+0.3**
SNAA	**Sanae**	**66.97**	**161**	*e*P		**P**		**11 00 56.7**	**-0.4**
	3.1nm,0.6s,mb4.3								
SNAA				*e*pP		pP		11 01 06.4	-0.3
DBIC	**Dimbokro**	**69.41**	**76**	P		**P**		**11 01 11.9**	**-1.2**
	2.4nm,0.4s,mb4.3								
DBIC				pP		pP		11 01 21.7	-1.2
	4.6nm,0.6s,mb4.6,baz=214,slow=3.7,SNR=10								
DBIC	**Dimbokro**	**69.41**	**76**	*e*P		**P**		**11 01 11.6**	**-1.6**
	5.6nm,0.7s,baz=236,slow=6.8,SNR=4.2								
DBIC				*e*pP		pP		11 01 21.4	-1.5
	5.1nm,0.6s,mb4.6								
PDAR	**Pinedale Array**	**69.43**	**331**	P		**P**		**11 01 12.8**	**0.0**
	0.3nm,0.5s,mb3.5,baz=123,slow=7.3,SNR=4.8								
ULM	**Lac du Bonnet**	**70.64**	**343**	P		**P**		**11 01 18.8**	**-1.2**
	1.9nm,0.5s,mb4.3,baz=143,slow=5.6,SNR=7.7								
ULM				pP		pP		11 01 28.4	-1.3
	1.4nm,0.5s,baz=166,slow=4.8,SNR=3.1								
NVAR	**Mina Array Bea**	**70.93**	**322**	P		**P**		**11 01 22.8**	**+0.8**
	0.4nm,0.4s,mb3.7,baz=144,slow=6.6,SNR=4.6								
HLID	**Hailey**	**72.39**	**328**	P		**P**		**11 01 31.8**	**+1.2**
	1.5nm,1.0s,mb3.9								
TORD	**Torodi Ar. Bea**	**77.74**	**72**	P		**P**		**11 02 00.5**	**-1.2**
	6.3nm,0.7s,mb4.7,baz=255,slow=5.7,SNR=40								
TORD				pP		pP		11 02 10.4	-1.3
	4.3nm,0.5s,baz=257,slow=5.7,SNR=16								
TSUM	**Tsumeb**	**83.12**	**108**	*e*P		**P**		**11 02 30.5**	**+0.2**
	4.4nm,0.9s,mb4.5								
TSUM				*e*pP		pP		11 02 40.6	+0.3
YKA	**Yellowknife Ar**	**86.49**	**341**	P		**P**		**11 02 46.7**	**+0.5**
	1.4nm,0.7s,mb4.3,baz=132,slow=4.7,SNR=12								
WRA	**Warramunga Arr**	**135.57**	**215**	PKP		PKPdf		11 09 25.0	-3.8
	0.4nm,0.4s,baz=139,slow=1.7,SNR=10								
MKAR	**Makanchi Array**	**143.07**	**31**	PKhKP				11 09 34.3	
	0.4nm,0.7s,baz=320,slow=3.0,SNR=3.8								
MJAR	**Matsushiro Arr**	**147.84**	**313**	PKPbc		PKPdf		11 09 49.9	-0.1
	2.3nm,0.7s,baz=74,slow=2.8,SNR=8.2								
WMQ	**Urumqi**	**147.85**	**30**	*e*PKP		PKPdf		11 09 45.8	-4.0
SONM	**Songino Array**	**149.33**	**4**	PKPbc		PKPdf		11 09 53.6	+1.6
	1.5nm,0.7s,baz=317,slow=1.9,SNR=15								
LZH	**Lanzhou**	**160.58**	**13**	*e*PKP		PKPdf		11 10 03.0	-4.5
LZH				XPKP				11 10 16.5	

IDC 01 11:08:50.0±1.5, 2.34N×127.81E, mb3.9/4, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, Error ellipse: s-maj=136.9km s-min=20.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.05**	**164**	P		P	P	11 13 57.7	-0.5
	2.4nm,0.5s,baz=343,slow=10,SNR=48								
STKA	**Stephens Creek**	**36.46**	**160**	P		P	P	11 15 55.9	-2.8
	2.0nm,0.4s,baz=323,slow=9.8,SNR=11								
MKAR	**Makanchi Array**	**59.30**	**325**	P		P	P	11 18 54.7	-1.3
	0.6nm,0.6s,baz=122,slow=7.9,SNR=7.0								
BVAR	**Borovoye Array**	**69.06**	**327**	P		P	P	11 19 57.1	-2.6
	0.2nm,0.4s,baz=112,slow=7.8,SNR=2.9								

*NDI **01** 11:16:06.7±3.5, 34.92N×72.88E, h10km, ML2.9*
*IDC **01** 11:16:11.4±7.4, 34.75N×73.09E, h38km±61km, mb3.5/4, mb1 3.6/7, mb1mx3.3/20, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=47.3km s-min=33.4km az=34.0*
*NNC **01** 11:16:15.0±1.2, 35.35N×72.51E, mpv3.7, Error ellipse: s-maj=27.6km s-min=10.1km az=90.0*
ISC 01 11:16:05.7±0.7, 34.74N±0.08×73.0E±0.1, h10km, n14, σ1§00/18, mb3.6/4, 3C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.32**	**131**	*e*P		**Pb**		**11 17 03.0**	**-1.4**
DLH				*ex*		**Sb**		**11 17 45.0**	**-0.1**
SDNR	**Sundarnagar**	**4.66**	**133**	*e*P		**Pn**		**11 17 18.6**	**+0.8**
SDNR				*e*S		**Sn**		**11 18 11.8**	**-0.8**
SMLA	**Simla**	**5.04**	**135**	*e*P		**Pn**		**11 17 23.7**	**+0.5**
SMLA				*e*S		**Sn**		**11 18 23.2**	**+1.0**
DDI	**Dehra Dun**	**6.15**	**134**	*ex*		**Pg**		**11 18 14.5**	**+6.0**
NDI	**New Delhi**	**7.04**	**148**	*e*S		**Sn**		**11 19 08.5**	**-3.8**
KK31	**Karatay Array**	**8.56**	**348**	⇑Pn		**P**		**11 18 13.7**	**+1.0**
	1.6nm,0.3s,baz=162,slow=11,SNR=41								
KK31				⇑Sn		**Sn**		**11 19 47.6**	**-2.8**
	2.4nm,0.6s,baz=170,slow=22,SNR=10.0								
MKAR	**Makanchi Array**	**13.94**	**27**	Pn		**P**		**11 19 25.9**	**+0.4**
	0.0nm,0.3s,baz=219,slow=18,SNR=2.3								
AB31	**Akbulak array**	**17.40**	**330**	⇑P		**P**		**11 20 10.1**	**0.0**
	0.8nm,0.7s,baz=154,slow=13,SNR=8.4								
BVAR	**Borovoye Array**	**18.37**	**355**	P		**P**		**11 20 22.7**	**+0.5**
	0.5nm,0.3s,baz=169,slow=9.0,SNR=6.3								
AKTO	**Aktyubinsk**	**19.11**	**330**	P		**P**		**11 20 30.4**	**-0.6**
	0.3nm,0.3s,baz=126,slow=10,SNR=6.3								
ARCES	**ARCESS Array B**	**43.38**	**338**	P		**P**		**11 24 11.4**	**+1.9**
	0.8nm,0.4s,mb3.8,baz=113,slow=9.2,SNR=7.8								
TORD	**Torodi Ar. Bea**	**67.32**	**271**	P		**P**		**11 27 02.8**	**-0.5**
	0.5nm,0.7s,mb3.7,baz=41,slow=5.5,SNR=4.3								
WRA	**Warramunga Arr**	**79.69**	**123**	P		**P**		**11 28 15.5**	**+0.1**
	0.1nm,0.4s,mb3.1,baz=323,slow=5.0,SNR=2.4								
YKA	**Yellowknife Ar**	**82.91**	**4**	P		**P**		**11 28 30.6**	**-0.9**
	0.5nm,0.7s,mb3.6,baz=348,slow=5.4,SNR=4.3								

MAN 01 11:27:39.2, 6.18N×123.90E, h32km, mb4.0, ML2.8, MS2.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.05**	**95**	*e*P			Pn	11 28 01.0	+3.1
PAGZ	**Pagadian**	**1.74**	**343**	*e*P			Pn	11 28 07.9	+0.2
PAGZ				*e*S			Sn	11 28 28.5	-0.5
BUKP	**Musuan**	**2.05**	**34**	*e*P			Pn	11 28 13.2	+1.0
BUKP				*e*S			Sn	11 28 34.7	-2.3
IPIL	**Ipil**	**2.07**	**321**	*e*P			Pn	11 28 12.8	+0.3
IPIL				*e*S			Sn	11 28 37.1	-0.4

*NEIC **01** 11:42:38.9, 45.17S×167.41E, h116km, MG3.8(WEL), After WEL.*
WEL 01 11:42:39.2±0.4, 45.14S×167.44E, h114km±3km, ML3.7/8, Error ellipse: s-maj=3.6km s-min=2.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**211**	PN		P		11 42 55.0	-1.0
DCZ				SN		S		11 43 07.2	-1.4
DCZ	**Deep Cove**	**0.40**	**211**	P		P		11 42 55.0	-1.0
DCZ				S		S		11 43 07.4	-1.3
MLZ	**Mavora Lakes**	**0.56**	**112**	PN		P		11 42 56.6	-0.4
MLZ				SN		S		11 43 09.9	-0.5
MLZ	**Mavora Lakes**	**0.56**	**112**	P		P		11 42 56.6	-0.4
MLZ				S		S		11 43 10.0	-0.4
MSZ	**Milford Sound**	**0.58**	**37**	PN		P		11 42 57.0	-0.1
MSZ				SN		S		11 43 10.2	-0.6
MSZ	**Milford Sound**	**0.58**	**37**	P		P		11 42 57.0	-0.1
MSZ				S		S		11 43 10.5	-0.2
WKZ	**Wanaka**	**1.16**	**75**	PN		P		11 43 02.6	-0.2
WKZ				SN		S		11 43 19.7	-0.7
WKZ	**Wanaka**	**1.16**	**75**	*e*P		P		11 43 02.6	-0.2
WKZ				S		S		11 43 19.8	-0.6
EAZ	**Earnscleugh**	**1.32**	**95**	PN		P		11 43 04.1	-0.5
EAZ				SN		S		11 43 21.8	-2.0
EAZ	**Earnscleugh**	**1.32**	**95**	*e*P		P		11 43 04.2	-0.4
JCZ	**Jackson Bay**	**1.42**	**42**	PN		P		11 43 05.0	-0.7
JCZ				SN		S		11 43 24.0	-1.8
JCZ	**Jackson Bay**	**1.42**	**42**	*e*P		P		11 43 05.1	-0.6
TUZ	**Tuapeka**	**1.74**	**119**	PN		P		11 43 09.0	-0.6
TUZ				SN		S		11 43 29.6	-2.8
TUZ	**Tuapeka**	**1.74**	**119**	P		P		11 43 09.0	-0.6
TUZ				S		S		11 43 29.0	-2.9
LBZ	**Lake Benmore**	**2.09**	**70**	PN		P		11 43 12.2	-1.9
LBZ	**Lake Benmore**	**2.09**	**70**	*e*P		P		11 43 12.2	-1.8
FOZ	**Fox Glacier**	**2.25**	**46**	PN		P		11 43 14.9	-1.3
FOZ	**Fox Glacier**	**2.25**	**46**	*e*P		P		11 43 15.2	-1.0
ODZ	**Otahua Downs**	**2.27**	**89**	PN		P		11 43 14.7	-1.7
ODZ	**Otahua Downs**	**2.27**	**89**	*e*P		P		11 43 14.8	-1.6
RPZ	**Rata Peaks**	**2.95**	**62**	PN		P		11 43 22.6	-3.1
RPZ	**Rata Peaks**	**2.95**	**62**	*e*P		P		11 43 22.6	-3.0
WVZ	**Waitaha Valley**	**3.14**	**50**	PN		P		11 43 24.8	-3.4
WVZ	**Waitaha Valley**	**3.14**	**50**	*e*P		P		11 43 25.5	-2.7
LTZ	**Lake Taylor**	**4.21**	**58**	PN		P		11 43 38.5	-4.0
LTZ	**Lake Taylor**	**4.21**	**58**	*e*P		P		11 43 38.5	-4.0
DSZ	**Denniston Nort**	**4.64**	**45**	PN		P		11 43 44.6	-3.9
DSZ	**Denniston Nort**	**4.64**	**45**	*e*P		P		11 43 44.6	-3.9
QRZ	**Quartz Range**	**5.70**	**43**	PN		P		11 43 59.2	-3.5
QRZ	**Quartz Range**	**5.70**	**43**	*e*P		P		11 43 59.2	-3.5
NNZ	**Nelson**	**5.85**	**50**	PN		P		11 44 01.9	-2.8
NNZ	**Nelson**	**5.85**	**50**	P		P		11 44 01.9	-2.8

*NEIC **01** 11:44:20.7±1.9, 10.78S×166.24E, h87km±16km, mb4.6/2, Error ellipse: s-maj=20.1km s-min=14.4km az=54.0*
*IDC **01** 11:44:25.9±3.6, 11.07S×166.31E, h138km±33km, mb3.7/5, mb1 4.0/7, mb1mx3.8/16, mbtmp4.3/7, Error ellipse: s-maj=33.1km s-min=20.9km az=68.0*
ISC 01 11:44:26.6±2.5, 11.11S±0.1×166.2E±0.1, h155km±22km, n15, σ0§74/16, mb4.0/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.39**	**285**	P		**P**		**11 45 58.7**	**-0.8**
	27nm,0.3s,baz=131,slow=5.4,SNR=6.2								
HNR	**Honiara**	**6.39**	**285**	Pn		**P**		**11 45 50.7**	**-8.8**
DZM	**Mont Dzumac**	**10.90**	**179**	*e*P		**P**		**11 46 59.4**	**+0.2**
DZM	**Mont Dzumac**	**10.90**	**179**	P		**P**		**11 46 59.2**	**0.0**
	5.9nm,0.3s,baz=349,slow=14,SNR=73								
DZM				S		**S**		**11 48 57.2**	**-1.6**
	0.2nm,0.3s,baz=276,slow=22,SNR=1.8								
NOUC	**Port Laguerre**	**10.93**	**180**	*e*P		**P**		**11 47 00.3**	**+0.8**
NOUC				*e*S		**S**		**11 49 00.4**	**+0.9**
CTAO	**Charters Tower**	**21.18**	**243**	P		**P**		**11 49 01.9**	**+1.0**
WRAB	**Tennant Creek**	**31.88**	**250**	P		**P**		**11 50 38.8**	**-0.8**
	2.7nm,0.6s,mb4.2								
WB2	**Warramunga Arr**	**31.88**	**250**	*e*P		**P**		**11 50 39.1**	**-0.5**
WRA	**Warramunga Arr**	**31.89**	**250**	P		**P**		**11 50 39.3**	**-0.4**
	2.1nm,0.6s,mb4.0,baz=83,slow=8.8,SNR=38								
RPZ	**Rata Peaks**	**32.75**	**174**	P		**P**		**11 50 46.6**	**-0.2**
	3.4nm,0.6s,mb4.2,baz=323,slow=3.6,SNR=3.5								
FITZ	**Fitzroy Crossi**	**39.81**	**255**	*e*P			**P**	**11 51 47.3**	**+0.9**
	11nm,0.6s,mb4.7								
SONM	**Songino Array**	**78.99**	**324**	P		**P**		**11 56 15.0**	**+0.3**
	0.3nm,0.5s,mb3.2,baz=129,slow=5.1,SNR=5.0								
ILAR	**Eielson Array**	**83.43**	**18**	P		**P**		**11 56 37.1**	**-0.4**
	0.7nm,0.6s,mb3.6,baz=236,slow=6.5,SNR=16								
MKAR	**Makanchi Array**	**93.89**	**317**	P		**P**		**11 57 27.8**	**+0.1**
	1.0nm,0.6s,mb4.1,baz=90,slow=6.4,SNR=14								
ARCES	**ARCESS Array B**	**116.52**	**346**	PKP		PKPdf		12 02 51.9	+0.3
	2.9nm,0.9s,baz=27,slow=2.7,SNR=4.7								

MAN 01 11:52:43.0, 5.88N×126.54E, h10km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.09**	**345**	*e*P			Pb	11 53 03.4	-0.2
MATI				*e*S			Sb	11 53 19.8	+2.1
GSPH	**General Santos**	**1.59**	**277**	*e*P			Pn	11 53 11.0	-0.4
BUKP	**Musuan**	**2.47**	**324**	*e*P			Pn	11 53 22.3	-1.7
BUKP				*e*S			Sn	11 53 54.6	+0.1
PAGZ	**Pagadian**	**3.69**	**302**	*e*P			Pn	11 53 41.1	-0.2
IPIL	**Ipil**	**4.37**	**296**	*e*P			Pn	11 53 51.5	+0.4

*CSEM **01** 12:02:19.5±1.7, 38.97N×27.88W, h0km±6km, ML1.9, Error ellipse: s-maj=3.4km s-min=3.2km az=156.0, After PDA*
*PDA **01** 12:02:19.5±1.7, 38.97N×27.88W, h0km±6km, MD2.9, ML1.9, Error ellipse: s-maj=3.4km s-min=3.2km az=156.0*
SVSA 01 12:02:19.5±1.7, 38.97N×27.88W, h0km±6km, MD2.9, ML1.9, Error ellipse: s-maj=3.4km s-min=3.2km az=156.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.10**	**307**	*e*P		Pg		12 02 21.1	-0.4
PGRA				*e*S		Sg		12 02 22.7	-0.2
	889nm,0.2s								
PGRA	**Graciosa**	**0.10**	**307**	*e*P		Pg		12 02 21.1	-0.4
PGRA				*e*S		Sg		12 02 22.7	-0.2
	889nm,0.2s								
SRBC	**Serra Branca**	**0.14**	**298**	*e*P		Pg		12 02 21.9	-0.5
SRBC				*e*S		Sg		12 02 24.5	+0.2
STGR	**Santa Cruz**	**0.15**	**319**	*i*P		Pg		12 02 22.6	+0.1
STGR				*e*S		Sg		12 02 25.2	+0.8
	516nm,0.1s								
STGR	**Santa Cruz**	**0.15**	**319**	*e*S		Sg		12 02 25.2	+0.8
	516nm,0.1s								
PVIA	**Vitoria**	**0.17**	**307**	*e*S		Sg		12 02 25.5	+0.4
	46nm,0.1s								
PAMA	**Santo Amaro**	**0.37**	**219**	*e*P		Pg		12 02 26.9	0.0
PAMA				*e*S		Sg		12 02 31.9	0.0
PMAN	**Manadas**	**0.37**	**206**	*e*P		Pg		12 02 26.0	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMAN				eS	Sg	12 02 31.8	-0.1
	196nm,0.2s						
PMAN	**Manadas**	**0.37**	**206**	eP	Pg	12 02 26.0	-1.0
PMAN				eS	Sg	12 02 31.8	-0.1
	196nm,0.2s						
ROSA	**Rosais**	**0.38**	**229**	eP	Pg	12 02 26.2	-0.8
ROSA				eS	Sg	12 02 31.7	-0.4
PSBA	**Serra de Santa**	**0.48**	**115**	eS	Sg	12 02 34.5	-0.9
	26nm,0.2s						
PSBA	**Serra de Santa**	**0.48**	**115**	eS	Sg	12 02 34.5	-0.9
	26nm,0.2s						
ASBA	**Santa Barbara**	**0.50**	**120**	eS	Sg	12 02 35.5	-0.6
	18nm,0.1s						
ASBA	**Santa Barbara**	**0.50**	**120**	eS	Sg	12 02 35.5	-0.6
	18nm,0.1s						
PBIS	**Biscoitos**	**0.53**	**113**	eS	Sg	12 02 36.6	-0.5
	14nm,0.2s						
PBIS	**Biscoitos**	**0.53**	**113**	eS	Sg	12 02 36.6	-0.5
	14nm,0.2s						
PVNV	**Vila Nova**	**0.60**	**110**	eS	Sg	12 02 38.5	-1.0
	11nm,0.1s						
RIB2	**Ribeirinha**	**0.62**	**118**	eS	Sg	12 02 38.9	-1.4
	7.8nm,0.1s						
PICO	**Pico**	**0.63**	**223**	eP	Pg	12 02 30.3	-1.8
PICO				eS	Sg	12 02 38.8	-1.8
PBOI	**Pico dos Bois**	**0.66**	**216**	eS	Sg	12 02 40.0	-1.4
	14nm,0.1s						
PCND	**Candelaria**	**0.68**	**223**	eP	Pg	12 02 31.8	-1.2
PCND				eS	Sg	12 02 40.5	-1.5
	21nm,0.2s						
CALA	**Caldeira**	**0.75**	**239**	eS	Sg	12 02 42.5	-2.0
PLUZ	**Luz**	**0.86**	**274**	eP	Pg	12 02 21.8	-15
PLUZ				eS	Sg	12 02 23.2	-25
	308nm,0.1s						

*IDC **01** 13:01:25.5±1.8, 23.90S×66.72W, h186km±16km, mb3.4/6, mb1 3.6/11, mb1mx3.5/18, mbtmp3.9/11, Error ellipse: s-maj=22.1km s-min=13.6km az=83.0*
*NEIC **01** 13:01:25.5±1.0, 23.96S×66.67W, h192km±10km, mb3.8/10, Error ellipse: s-maj=17.7km s-min=7.7km az=90.0*
ISC 01 13:01:24.6±0.9**, 23.97S**±0.05×**66.7W**±0.1**, h200**km±10km**, n28, σ1s10**/26**, mb3.8**/13**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.73**	**190**	P	**P**	**13 03 15.2**	**0.0**
	0.3nm,0.3s,baz=16,slow=13,SNR=23						
CFAA				S	**S**	**13 04 36.6**	**-4.9**
	0.4nm,0.3s,baz=302,slow=20,SNR=9.1						
LPAZ	**La Paz**	**7.76**	**350**	P	**P**	**13 03 16.5**	**+1.0**
	2.5nm,0.3s,baz=176,slow=7.6,SNR=53						
LPAZ				S	**S**	**13 04 41.6**	**-0.5**
	baz=38,slow=19,SNR=1.4						
LPAZ	**La Paz**	**7.76**	**350**	ePn	**P**	**13 03 16.4**	**+0.9**
LPAZ				S	**S**	**13 04 41.6**	**-0.5**
SIV	**San Ignacio**	**9.53**	**35**	P	**P**	**13 03 38.2**	**-0.5**
	1.5nm,0.3s,baz=217,slow=13,SNR=36						
TRQA	**Tornquist**	**14.61**	**165**	P	**P**	**13 04 43.7**	**+0.7**
	2.0nm,0.4s						
SAML	**Samuel**	**15.31**	**13**	eP	**P**	**13 04 51.1**	**-0.7**
	3.0nm,0.9s						
PLCA	**Paso Flores**	**17.03**	**190**	P	**P**	**13 05 13.1**	**+0.8**
	0.2nm,0.3s,baz=40,slow=17,SNR=3.9						
PLCA	**Paso Flores**	**17.03**	**190**	P	**P**	**13 05 12.9**	**+0.6**
	1.9nm,0.8s						
BDFB	**Brasilia**	**19.41**	**68**	P	**P**	**13 05 38.5**	**+1.1**
	0.7nm,0.3s,baz=254,slow=11,SNR=6.0						
EFI	**East Falkland**	**28.45**	**169**	P	**P**	**13 07 00.3**	**-2.4**
	34nm,1.0s,mb4.9						
PMSA	**Palmer Station**	**40.84**	**178**	eP	**P**	**13 08 46.2**	**-1.7**
	43nm,1.2s,mb4.8						
SNAA	**Sanae**	**59.29**	**161**	P	**P**	**13 11 07.9**	**+0.9**
	0.3nm,0.8s,mb3.0,baz=297,slow=6.8,SNR=3.6						
SNAA	**Sanae**	**59.29**	**161**	eP	**P**	**13 11 07.5**	**+0.5**
	2.5nm,1.2s,mb3.7						
SNAA				epP	pP	13 11 53.6	+0.7
WVT	**Waverly**	**63.02**	**341**	eP	**P**	**13 11 30.6**	**-1.9**
	3.3nm,0.5s,mb4.2						
TXAR	**Lajitas Array**	**63.82**	**324**	P	**P**	**13 11 38.0**	**+0.2**
	0.3nm,0.3s,mb3.3,baz=146,slow=6.5,SNR=3.5						
ANMO	**Albuquerque**	**69.68**	**326**	P	**P**	**13 12 14.3**	**-0.1**
	1.0nm,0.7s,mb3.5						
SDCO	**Great Sand Dun**	**71.41**	**328**	P	**P**	**13 12 25.6**	**+0.8**
	0.9nm,0.5s,mb3.7						
TORD	**Torodi Ar. Bea**	**76.29**	**69**	P	**P**	**13 12 53.3**	**-0.1**
	0.4nm,0.3s,mb3.5,baz=264,slow=6.0,SNR=8.0						
PDAR	**Pinedale Array**	**77.27**	**329**	P	**P**	**13 12 59.1**	**+0.9**
	0.3nm,0.5s,mb3.2,baz=134,slow=7.0,SNR=5.7						
ULM	**Lac du Bonnet**	**78.29**	**341**	P	**P**	**13 13 03.1**	**-0.5**
	1.3nm,0.8s,mb3.6,baz=148,slow=17,SNR=6.1						
CMB	**Columbia Colle**	**79.64**	**320**	P	**P**	**13 13 08.2**	**-3.0**
	5.4nm,1.0s,mb4.1						
HLID	**Hailey**	**80.22**	**327**	eP	**P**	**13 13 15.8**	**+1.7**
	1.7nm,0.8s,mb3.7						
YKA	**Yellowknife Ar**	**94.19**	**340**	P	**P**	**13 14 22.2**	**+1.0**
	0.7nm,0.6s,mb3.9,baz=137,slow=4.5,SNR=9.0						
WRA	**Warramunga Arr**	**131.79**	**207**	PKP	PKPdf	13 20 16.7	+2.1
	0.3nm,0.4s,baz=157,slow=1.8,SNR=17						
ZAL	**Zalesovo**	**143.23**	**28**	PKP	PKPdf	13 20 34.7	+0.4
	0.9nm,0.3s,baz=177,slow=4.0,SNR=5.2						
ZAL	**Zalesovo**	**143.23**	**28**	PKP	PKPdf	13 20 34.7	+0.4
MKAR	**Makanchi Array**	**146.32**	**40**	PKP	PKPdf	13 20 43.0	+3.2
	2.1nm,0.6s,baz=308,slow=2.6,SNR=41						
MKAR				PKPbc	PKPbc	13 20 44.3	+3.0
	2.2nm,0.6s,baz=326,slow=2.1,SNR=42						
MKAR	**Makanchi Array**	**146.32**	**40**	PKP	PKPdf	13 20 43.0	+3.2
MKAR				PKPbc	PKPbc	13 20 44.3	+3.0

MAN 01 13:10:36.4, 6.19N×123.78E, h26km, mb4.0, ML2.8, MS2.5, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**1.69**	**347**	eP	Pn	13 11 04.0	-0.8
PAGZ				eS	Sn	13 11 25.7	-0.1
IPIL	**Ipil**	**1.99**	**323**	eP	Pn	13 11 09.6	+0.5
IPIL				eS	Sn	13 11 33.7	+0.3
BUKP	**Musuan**	**2.10**	**37**	eP	Pn	13 11 10.6	-0.1
BUKP				eS	Sn	13 11 36.4	+0.1

WEL 01 13:13:40.1±1.2**, 35.24S×177.72E, h33**km**, ML3.6**/5**, Error ellipse: s-maj=13.4km s-min=8.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.37**	**169**	PN	Pn	13 14 16.4	-1.1
MXZ				SN	Sn	13 14 42.9	-2.9
MXZ				SN	Sn	13 14 44.1	-1.7
PUZ	**Puketiti**	**2.86**	**171**	PN	Pn	13 14 22.0	-2.6
PUZ				SN	Sn	13 14 55.0	-3.3
URZ	**Urewera**	**3.06**	**189**	PN	Pn	13 14 26.2	-1.2
MWZ	**Matawai**	**3.10**	**183**	PN	Pn	13 14 26.7	-1.2
BKZ	**Black Stump Fm**	**4.04**	**194**	PN	Pn	13 14 38.8	-2.6

IDC 01 13:13:59.3±1.5**, 15.56S×175.44W, mb3.7**/5**, mb1 4.1**/6**, mb1mx4.0**/14**, mbtmp3.8**/6**, MS4.2**/23**, Ms1 4.1**/23**, ms1mx4.1**/28**, Error ellipse: s-maj=99.2km s-min=23.0km az=152.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.90**	**66**	Pn	Pn	13 14 59.7	-2.2
	30nm,0.3s,baz=51,slow=1.2,SNR=48						
AFI				Sn	Sn	13 15 42.0	-7.0
	51nm,0.3s,baz=101,slow=22,SNR=10						
AFI				LR	LR	13 16 20.3	
	comp=Z,3µm,19.4s,baz=280,slow=36						
RAO	**Raoul Island**	**13.82**	**189**	LR	LR	13 20 54.7	
	comp=Z,309nm,19.0s,baz=309,slow=30						
RAR	**Rarotonga**	**15.89**	**113**	LR	LR	13 22 39.1	
	comp=Z,350nm,20.8s,baz=266,slow=33						
DZM	**Mont Dzumac**	**18.33**	**247**	LR	LR	13 24 12.5	
	comp=Z,1µm,18.7s,baz=17,slow=34						
NOUC	**Port Laguerre**	**18.46**	**247**	eP	P	13 18 23.5	+5.0
URZ	**Urewera**	**23.55**	**195**	LR	LR	13 27 43.4	
	comp=Z,540nm,18.9s,baz=7.3,slow=35						
HNR	**Honiara**	**24.78**	**281**	LR	LR	13 27 35.0	
	comp=Z,253nm,19.2s,baz=326,slow=33						
PPT	**Papeete**	**24.86**	**98**	eLQ		13 24 35.4	
PPT				eLR	LR	13 25 38.8	
	355nm,26.0s						
TBI	**Tubuai**	**25.66**	**112**	eLQ		13 24 54.6	
TBI				eLR	LR	13 25 58.7	
	267nm,27.0s						
RPZ	**Rata Peaks**	**30.34**	**200**	LR	LR	13 30 17.7	
	comp=Z,191nm,21.8s,baz=35,slow=32						
RKT	**Rikitea**	**38.82**	**108**	eLR	LR	13 32 05.6	
	248nm,25.8s						
STKA	**Stephens Creek**	**42.26**	**240**	P	P	13 21 55.1	-1.1
	3.7nm,1.1s,baz=62,slow=17,SNR=2.3						
STKA				LR	LR	13 37 05.6	
	comp=Z,277nm,21.9s,baz=30,slow=33						
WRA	**Warramunga Arr**	**47.89**	**257**	P	P	13 22 38.7	-2.8
	2.8nm,1.1s,baz=91,slow=8.3,SNR=13						
FITZ	**Fitzroy Crossi**	**56.25**	**258**	LR	LR	13 45 50.2	
	comp=Z,277nm,19.5s,baz=110,slow=34						
NWAO	**Narrogin (SRO)**	**62.83**	**241**	LR	LR	13 50 33.5	
	comp=Z,210nm,18.9s,baz=354,slow=35						
MJAR	**Matsushiro Arr**	**67.80**	**321**	LR	LR	13 48 04.1	
	comp=Z,202nm,21.1s,baz=120,slow=30						
KDAK	**Kodiak Island**	**75.48**	**12**	LR	LR	13 51 24.7	
	comp=Z,143nm,21.6s,baz=267,slow=30						
NVAR	**Mina Array Bea**	**75.77**	**43**	LR	LR	13 49 57.9	
	comp=Z,134nm,20.9s,baz=260,slow=28						
NEW	**Newport**	**81.95**	**35**	LR	LR	13 54 18.9	
	comp=Z,154nm,19.4s,baz=216,slow=30						
TXAR	**Lajitas Array**	**82.34**	**57**	P	P	13 26 23.8	-1.0
	0.1nm,0.3s,baz=260,slow=5.5,SNR=2.6						
TXAR				LR	LR	13 55 02.2	
	comp=Z,211nm,20.3s,baz=190,slow=30						
ANMO	**Albuquerque**	**82.41**	**51**	LR	LR	13 57 01.7	
	comp=Z,217nm,20.6s,baz=280,slow=31						
ILAR	**Eielson Array**	**82.99**	**12**	P	P	13 26 25.4	-1.9
	0.4nm,1.0s,baz=214,slow=6.5,SNR=3.5						
ILAR				LR	LR	13 56 32.1	
	comp=Z,65nm,20.8s,baz=256,slow=31						
PDAR	**Pinedale Array**	**83.70**	**43**	P	P	13 26 30.4	-1.1
	0.3nm,0.7s,baz=233,slow=4.5,SNR=2.7						
PDAR				LR	LR	14 00 40.6	
	comp=Z,60nm,19.0s,baz=249,slow=34						
MAW	**Mawson**	**87.01**	**199**	LR	LR	14 00 44.6	
	comp=Z,164nm,20.1s,baz=241,slow=32						
PLCA	**Paso Flores**	**90.86**	**133**	LR	LR	14 00 26.0	
	comp=Z,90nm,18.4s,baz=87,slow=31						
YKA	**Yellowknife Ar**	**91.03**	**24**	LR	LR	13 59 43.7	
	comp=Z,144nm,21.9s,baz=245,slow=30						
SONM	**Songino Array**	**93.66**	**319**	LR	LR	14 04 13.0	
	comp=Z,113nm,20.9s,baz=98,slow=32						
ULM	**Lac du Bonnet**	**95.29**	**39**	LR	LR	14 03 46.2	
	comp=Z,173nm,20.6s,baz=283,slow=31						
VYHS	**Vyhne**	**145.12**	**343**	eP	PKPbc	13 33 41.2	+2.2
KHC	**Kasperske Hory**	**145.71**	**349**	eP	PKPbc	13 33 39.5	-1.0
ZST	**Bratislava**	**145.85**	**345**	eP	PKPbc	13 33 45.9	+5.1
GERES	**GERESS Array B**	**145.97**	**349**	PKPbc	PKPbc	13 33 42.2	+1.1
	0.3nm,0.4s,baz=31,slow=5.7,SNR=2.9						

*IDC **01** 13:45:53.9±1.4, 18.94S×177.46W, h545km±20km, mb3.9/5, mb1 3.8/8, mb1mx3.5/18, mbtmp4.7/8, Error ellipse: s-maj=27.2km s-min=14.5km az=143.0*
*NEIC **01** 13:45:54.9±0.7, 19.02S×177.45W, h563km±11km, mb4.7/7, Error ellipse: s-maj=15.9km s-min=9.9km az=144.0*
ISC 01 13:45:53.7±0.8**, 19.0S**±0.1×**177.4W**±0.1**, h565**km±16km**, n26, σ1s00**/26**, mb4.5**/7**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.37**	**48**	P	**P**	**13 47 47.5**	**+1.1**
	10nm,0.3s,baz=25,slow=3.6,SNR=15						
AFI				S	**S**	**13 49 15.1**	**-1.3**
	2.3nm,0.3s,baz=31,slow=19,SNR=4.3						
AFI	**Afiamalu**	**7.37**	**48**	ePn	**P**	**13 47 47.3**	**+0.8**
AFI				eSn	**S**	**13 49 14.7**	**-1.6**
RAO	**Raoul Island**	**10.25**	**183**	Pn	**P**	**13 48 15.6**	**+0.6**
DZM	**Mont Dzumac**	**15.45**	**256**	P	**P**	**13 49 08.7**	**+1.8**
	1.0nm,0.3s,baz=61,slow=19,SNR=11						
URZ	**Urewera**	**19.81**	**193**	P	**P**	**13 49 47.6**	**-0.7**
	0.8nm,0.3s,baz=175,slow=19,SNR=6.0						
CTA	**Charters Tower**	**34.23**	**262**	eP	**P**	**13 51 54.4**	**0.0**
	9.4nm,0.6s,mb4.5						
CTA	**Charters Tower**	**34.23**	**262**	P	**P**	**13 51 53.9**	**-0.6**
	12nm,0.5s,mb4.7,baz=90,slow=11,SNR=25						
CTAO	**Charters Tower**	**34.23**	**262**	eP	**P**	**13 51 54.1**	**-0.3**
	14nm,0.6s,mb4.7						
PMG	**Port Moresby**	**35.58**	**280**	P	**P**	**13 52 05.4**	**-0.3**
	16nm,0.7s,mb4.7,baz=104,slow=8.8,SNR=6.2						
PMG	**Port Moresby**	**35.58**	**280**	eP	**P**	**13 52 05.4**	**-0.3**
	24nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**38.98**	**243**	eP	**P**	**13 52 34.3**	**+1.1**
	5.7nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**38.98**	**243**	P	**P**	**13 52 34.3**	**+1.1**
	7.3nm,0.7s,mb4.3,baz=93,slow=12,SNR=23						
STKA	**Stephens Creek**	**38.98**	**243**	eP	**P**	**13 52 34.0**	**+0.7**
WB2	**Warramunga Arr**	**45.38**	**260**⇓	iP	**P**	**13 53 22.9**	**-1.1**
WRAB	**Tennant Creek**	**45.38**	**260**	eP	**P**	**13 53 22.8**	**-1.2**
	7.0nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**45.39**	**260**	P	**P**	**13 53 23.0**	**-1.1**
	6.1nm,0.4s,mb4.4,baz=97,slow=7.8,SNR=189						
GUMO	**Guam**	**49.28**	**308**	eP	**P**	**13 53 55.1**	**+1.6**
	209nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.80**	**261**	eP	**P**	**13 54 25.7**	**-0.3**
	5.0nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.80**	**261**	P	**P**	**13 54 25.6**	**-0.4**
	6.2nm,0.5s,mb4.2,baz=77,slow=4.5,SNR=34						
KKM	**Kota Kinabalu**	**69.92**	**284**	eP	**P**	**13 56 10.3**	**-0.2**
KSM	**Kuching**	**73.77**	**277**	P	**P**	**13 56 31.8**	**-0.9**
CMB	**Columbia Colle**	**77.96**	**43**	P	**P**	**13 56 55.6**	**+0.4**
	39nm,1.9s,mb4.4						
LAZ	**Ladron**	**85.26**	**51**	P	**P**	**13 57 25.6**	**-6.8**
ILAR	**Eielson Array**	**86.70**	**13**	P	**P**	**13 57 39.8**	**+1.3**
	0.1nm,0.5s,baz=222,slow=4.5,SNR=6.6						
ARCES	**ARCESS Array B**	**127.52**	**350**	PKP	PKPdf	14 03 56.6	+2.4
	6.2nm,1.1s,slow=1.8,SNR=6.7						
GERES	**GERESS Array B**	**148.87**	**346**	PKPbc	PKPdf	14 04 39.5	+6.7
	0.3nm,0.3s,baz=14,slow=4.0,SNR=3.9						

*CSEM **01** 13:50:16.5±1.6, 11.96N×43.53E, h6km, ML3.9, Error ellipse: s-maj=32.5km s-min=31.4km az=73.0, After DHMR*
DHMR 01 13:50:16.5±1.2**, 11.96N×43.53E, h7**km±7km**, ML3.9, 8C, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.39**	**24**⇑	iP	Pn	13 50 42.4	0.0
TRBA				iS	Sb	13 51 01.9	+1.8
TRBA				AML	AML	13 51 02.2	
	comp=E,3µm,0.5s						
UDYN	**Al 'Udayn**	**2.04**	**12**⇑	iP	Pn	13 50 53.2	+1.5
UDYN				iS	Sn	13 51 21.4	+3.7
UDYN				AML	AML	13 51 29.0	
	comp=Z,2µm,0.5s						
UDYN	**Al 'Udayn**	**2.04**	**12**⇑	iP	Pn	13 50 53.2	+1.5
UDYN				iS	Sn	13 51 21.4	+3.7
	comp=Z,772nm,0.5s						
LBOS		**2.54**	**41**⇑	iP	Pn	13 51 00.1	+1.4
LBOS				iS	Sn	13 51 35.5	+5.2
BDHA	**Al Bayda'**	**2.82**	**45**⇑	iP	Pn	13 51 04.9	+2.0
BDHA				iS	Sn	13 51 43.0	+5.5
BDHA				AML	AML	13 51 51.5	
	comp=N,588nm,0.6s						
BDHA	**Al Bayda'**	**2.82**	**45**⇑	iP	Pn	13 51 04.9	+2.0
BDHA				iS	Sn	13 51 43.0	+5.4
	comp=N,294nm,0.6s						
HAJJ	**Hajjah**	**3.72**	**1**⇑	iP	Pn	13 51 17.3	+1.7
HAJJ				iS	Sn	13 52 03.7	+3.5
HAJJ				AML	AML	13 52 19.4	
	comp=E,418nm,0.7s						
HAJJ	**Hajjah**	**3.72**	**1**⇑	iP	Pn	13 51 17.3	+1.7
HAJJ				iS	Sn	13 52 03.7	+3.5
	comp=E,209nm,0.7s						

IDC 01 13:55:17.6±1.4**, 0.25N×123.52E, mb3.5**/3**, mb1 3.9**/4**, mb1mx3.8**/14**, mbtmp3.7**/4**, ML4.3**/1**, Error ellipse: s-maj=113.0km s-min=23.0km az=69.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.35**	**174**	P	P	13 59 34.7	-0.8
	0.8nm,0.3s,baz=23,slow=10,SNR=13						
WRA	**Warramunga Arr**	**22.69**	**153**	P	P	14 00 20.3	-2.0
	0.8nm,0.6s,baz=331,slow=10,SNR=17						
SONM	**Songino Array**	**49.68**	**345**	P	P	14 04 12.3	-1.0
	0.5nm,0.8s,baz=166,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**58.68**	**328**	P	P	14 05 16.2	-3.1
	0.2nm,0.3s,baz=127,slow=7.2,SNR=4.3						

*NEIC **01** 14:03:49.1, 32.14N×114.91W, h6km, ML3.1(PAS), After PAS.*
ECX 01 14:03:51.7±0.5**, 32.27N×114.93W, h10**km**, MD3.3, ML3.5, 3C-3D, Western Arizona-Sonora border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COA	**Coachella**	**0.61**	**345**⇓	eP	Pb	14 04 02.8	-1.2
RUN	**Ruthven**	**0.70**	**357**⇓	eP	Pb	14 04 04.0	-1.5
SGL	**Mount Signal**	**0.77**	**300**⇑	eP	Pb	14 04 04.6	-2.1
GLA	**Glamis**	**0.78**	**7**⇓	eP	Pb	14 04 05.4	-1.5
GLA	**Glamis**	**0.78**	**7**	eP	Pb	14 04 05.3	-1.6
COK	**Cook Ranch**	**0.88**	**311**⇑	eP	Pb	14 04 07.1	-1.5
RDX	**Rancho Dowling**	**0.93**	**249**⇑	eP	Pb	14 04 07.8	-1.6
RDX				eS	Sb	14 04 20.2	-1.3
RDX				e		14 04 21.1	
	comp=N,965nm,0.4s						
SPX	**San Pedro Mart**	**1.30**	**200**	eP	Pb	14 04 14.4	-1.5
ENX	**Ensenada**	**1.52**	**256**	ePN	Pn	14 04 18.6	-0.5
ENX				eS	Sb	14 04 38.2	-0.6
BAR	**Barrett**	**1.52**	**286**	eP	Pn	14 04 17.0	-2.1
ECNX	**Esteban Cantu**	**1.54**	**247**	ePN	Pn	14 04 19.0	-0.4
ECNX				eS	Sb	14 04 38.9	-0.5
PBX	**Punta Banda**	**1.61**	**251**	ePN	Pn	14 04 20.2	-0.2
PBX				eS	Sn	14 04 41.0	-0.4
PFO	**Pinyon Flat Ob**	**1.85**	**317**	ePn	Pn	14 04 21.9	-1.9
LDFC	**Landfair**	**2.80**	**357**	Pn	Pn	14 04 34.9	-2.6
MWC	**Mount Wilson**	**3.26**	**307**	Pn	Pn	14 04 40.8	-3.2
NEN	**Nelson**	**3.37**	**1**	ePn	Pn	14 04 42.1	-3.3
TUC	**Tucson**	**3.52**	**88**	Pn	Pn	14 04 39.6	-8.0
WUAZ	**Wupatki**	**4.38**	**41**	Pn	Pn	14 04 55.2	-4.7
ISA	**Isabella**	**4.48**	**320**	Pn	Pn	14 05 02.5	+1.2
TPNV	**Topopah Spring**	**4.79**	**347**	Pn	Pn	14 05 02.2	-3.4

IDC 01 14:17:26.3±4.9**, 13.95S×171.46E, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.9**/14**, mbtmp3.9**/4**, Error ellipse: s-maj=182.5km s-min=38.3km az=143.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.95**	**255**	P	P	14 24 28.5	-2.3
	0.3nm,0.7s,baz=85,slow=8.3,SNR=6.5						
SONM	**Songino Array**	**84.33**	**322**	P	P	14 30 01.6	0.0
	0.6nm,0.8s,baz=127,slow=4.0,SNR=3.5						
ILAR	**Eielson Array**	**84.58**	**17**	P	P	14 30 00.8	-1.6
	1.2nm,0.8s,baz=233,slow=6.0,SNR=14						
MKAR	**Makanchi Array**	**99.46**	**316**	P	P	14 31 10.9	-1.5
	0.3nm,0.7s,baz=76,slow=5.9,SNR=2.8						

*BUG **01** 14:32:30.8, 51.51N×6.77E, h1km, ML1.7*
*LDG **01** 14:32:32.5±0.1, 51.59N×6.90E, h1km, Ml2.9/6, Error ellipse: s-maj=2.1km s-min=1.4km az=39.0, Suspected Mining induced.*
*NEIC **01** 14:32:32.5, 51.59N×6.90E, h1km, ML2.9(LDG), After LDG.*
*CSEM **01** 14:32:32.4±0.1, 51.59N×6.88E, ML2.9/6, Error ellipse: s-maj=5.5km s-min=3.0km az=29.0*
*BNS **01** 14:32:33.3±1.0, 51.55N×6.88E, h1km, ML2.0*
*BGR **01** 14:32:33.8±1.0, 51.46N×6.98E, h1km, ML2.0/4, Error ellipse: s-maj=11.1km s-min=4.4km az=137.0*
ISC 01 14:32:30.5±0.5**, 51.60N**±0.03×**6.76E**±0.04**, n34, σ1s22**/70**, 1D, Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.07**	**70**	Pg	**Pg**	**14 32 32.6**	**+0.7**
BZER				Sg	**Sg**	**14 32 34.0**	**+1.2**
LAUG	**Laupendahl**	**0.27**	**155**	ePg	**Pg**	**14 32 36.7**	**+0.7**
LAUG				eSg	**Sg**	**14 32 40.3**	**+0.7**
	150nm,0.6s						
BUG	**Bochum--Univer**	**0.35**	**116**⇓	ePg	**Pg**	**14 32 37.8**	**+0.2**
BUG				Sg	**Sg**	**14 32 42.9**	**+0.7**
WTSB	**Winterswijk**	**0.37**	**3**	ePg	**Pg**	**14 32 39.8**	**+1.9**
	65nm,0.3s						
RODG	**Roetgen-Dahlhe**	**0.58**	**219**	eSg	**Sg**	**14 32 53.0**	**+3.1**
BNS	**Bensberg**	**0.69**	**158**	ePg	**Pg**	**14 32 44.9**	**+0.7**
BNS				eSg	**Sg**	**14 32 53.8**	**+0.5**
HOBG	**Hohbusch**	**0.71**	**150**	ePg	**Pg**	**14 32 45.8**	**+1.0**
HOBG				eSg	**Sg**	**14 32 54.0**	**-0.2**
HGN	**Heimansgroeve**	**0.98**	**212**	ePg	**Pg**	**14 32 51.5**	**+1.3**
	16nm,0.2s						
HGN				eSg	**Sg**	**14 33 05.1**	**+1.8**
KLL	**Kalltalsperre**	**0.99**	**197**	ePg	**Pg**	**14 32 51.2**	**+0.8**
KLL				eSg	**Sg**	**14 33 05.2**	**+1.6**
	55nm,0.7s						
STB	**Steinbach**	**1.00**	**177**	ePg	**Pg**	**14 32 51.1**	**+0.5**
STB				eSg	**Sg**	**14 33 04.7**	**+0.7**
	68nm,0.4s						
BEBN	**Eben Emael**	**1.05**	**221**	P	**Pb**	**14 32 53.8**	**+2.5**
BEBN				S	**Sb**	**14 33 08.6**	**+3.1**
MEM	**Membach**	**1.10**	**206**	P	**Pb**	**14 32 53.0**	**+0.9**
MEM				S	**Sb**	**14 33 07.9**	**+1.1**
HILG	**Hillesheim**	**1.31**	**182**	ePg	**Pg**	**14 32 57.0**	**+0.4**
HILG				eSg	**Sg**	**14 33 13.7**	**-0.4**
BGG	**Burgeitz**	**1.44**	**165**	ePg	**Pg**	**14 32 57.8**	**-1.4**
BGG				eSg	**Sg**	**14 33 17.2**	**-1.2**
	47nm,0.2s						
TNS	**Taunus Mts**	**1.74**	**142**	ePg	**Pg**	**14 33 02.9**	**-2.3**
	SNR=1.9						
TNS				eSg	**Sg**	**14 33 23.1**	**-5.4**
GIVF	**Givet**	**1.94**	**220**	ePg	**Pg**	**14 33 09.5**	**+0.3**
GIVF				eSn	**Sn**	**14 33 30.2**	**-0.2**
GIVF				eSg	**Sg**	**14 33 35.3**	**+0.3**
	27nm,0.3s						
GIVF	**Givet**	**1.94**	**220**	ePn	**Pn**	**14 33 05.5**	**+0.5**
GIVF				ePg	**Pg**	**14 33 09.5**	**+0.3**
GIVF				eSn	**Sn**	**14 33 30.2**	**-0.2**
GIVF				eSg	**Sg**	**14 33 35.3**	**+0.3**
GIVF	**Givet**	**1.94**	**220**	ePg	**Pg**	**14 33 09.5**	**+0.3**
GIVF				eSn	**Sn**	**14 33 30.2**	**-0.2**
GIVF				eSg	**Sg**	**14 33 35.3**	**+0.3**
	13nm,0.3s						
WLF	**Walferdange**	**1.97**	**192**	ePg	**Pg**	**14 33 09.4**	**-0.5**
	SNR=1.6						
WLF				eSg	**Sg**	**14 33 32.8**	**-3.4**
DOU	**Dourbes**	**2.04**	**223**	P	**Pn**	**14 33 07.3**	**+0.9**
DOU				S	**Sn**	**14 33 32.3**	**-0.7**
BAIF	**Baives**	**2.24**	**227**	ePg	**Pg**	**14 33 15.3**	**+0.2**
BAIF				eSn	**Sn**	**14 33 37.4**	**-0.6**
BAIF				eSg	**Sg**	**14 33 45.0**	**+0.1**
	5.1nm,0.2s						
BAIF	**Baives**	**2.24**	**227**	ePn	**Pn**	**14 33 09.5**	**+0.2**
BAIF				ePg	**Pg**	**14 33 15.3**	**+0.2**
BAIF				eSn	**Sn**	**14 33 37.4**	**-0.6**
BAIF				eSg	**Sg**	**14 33 45.0**	**+0.1**
BAIF	**Baives**	**2.24**	**227**	ePg	**Pg**	**14 33 15.3**	**+0.2**
BAIF				eSn	**Sn**	**14 33 37.4**	**-0.6**
BAIF				eSg	**Sg**	**14 33 45.0**	**+0.1**
	2.5nm,0.2s						
CLZ	**Clausthal**	**2.26**	**82**	ePg	**Pg**	**14 33 14.2**	**-1.4**
	SNR=2.6						
CLZ				eSg	**Sg**	**14 33 41.6**	**-4.1**
RFYF	**Reffroy**	**3.08**	**196**	ePn	**Pn**	**14 33 20.9**	**-0.5**
RFYF				eSg	**Sg**	**14 34 09.6**	**-3.6**
	14nm,0.2s						
CDF	**Champ du Feu**	**3.21**	**174**	ePn	**Pn**	**14 33 22.5**	**-0.6**
CDF				eSg	**Sg**	**14 34 12.8**	**-4.4**
	2.7nm,0.2s						
SFTF	**Sexfontaines**	**3.57**	**199**	ePn	**Pn**	**14 33 27.6**	**-0.8**
SFTF				eSg	**Sg**	**14 34 25.7**	**-3.8**
	7.9nm,0.3s						
LOR	**Lormes**	**4.73**	**205**	ePn	**Pn**	**14 33 43.1**	**-1.7**
LOR				eSn	**Sn**	**14 34 36.0**	**-5.2**
LOR				eSg	**Sg**	**14 35 01.0**	**-7.0**
	4.4nm,0.4s						
CABF	**La Chapelle**	**5.01**	**185**	ePn	**Pn**	**14 33 47.2**	**-1.6**
SSF	**Saint Saulge**	**5.01**	**206**	ePn	**Pn**	**14 33 47.0**	**-1.8**
AVF	**Avril sur Loir**	**5.30**	**206**	ePn	**Pn**	**14 33 50.5**	**-2.4**
LDF	**La Druitiere**	**5.36**	**239**	ePn	**Pn**	**14 33 52.3**	**-1.3**
FLN	**La Foliniere**	**5.45**	**241**	ePn	**Pn**	**14 33 53.4**	**-1.6**
GRR	**Gorron**	**5.87**	**240**	ePn	**Pn**	**14 33 59.3**	**-1.6**
GRR				eSn	**Sn**	**14 35 03.7**	**-6.2**

*KNET **01** 15:16:51.5, 42.86N×77.64E, h1km, ml2.3*

NNC ***01*** *15:16:51.9±5.0, 43.33N×77.50E, h33km, mpv3.0, Error ellipse: s-maj=63.4km s-min=10.1km az=158.0*

ISC 01 15:16:48.8±2.7**, 42.9N**±0.2×**78.0E**±0.2**, h6**km±23km**, n7,** σ1s**29**/10**, 7C-6D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	Ulahol	1.47	245	⇓P	Pn	15 17 14.4	-1.6
	7.9nm,0.2s,SNR=44						
ULHL				⇑S	Sb	15 17 32.6	-2.4
	102nm,0.2s						
TKM2	Tokmak 2	1.79	272	⇑P	Pn	15 17 20.4	-0.2
	8.0nm,0.2s,SNR=11						
TKM2				⇑S	Sn	15 17 42.6	-1.4
	33nm,0.1s						
KZA	Kyzart	2.21	250	⇑P	Pn	15 17 27.9	+1.3
	1.8nm,0.1s,SNR=6.9						
KZA				⇓S	Sn	15 17 56.0	+1.4
	8.2nm,0.2s						
KBK	Karagaybulak	2.28	266	⇓P	Pn	15 17 28.6	+0.9
	5.9nm,0.2s,SNR=12						
KBK				⇑S	Sn	15 17 57.9	+1.4
	23nm,0.2s						
MK31	Makanchi Array	4.95	36	⇑Pn	Pn	15 18 06.2	+0.5
	2.1nm,0.9s,baz=214,slow=17,SNR=5.8						
MK31				⇓Sn	Sn	15 19 03.4	-0.7
	0.7nm,0.6s,baz=221,slow=24,SNR=5.2						
MK31				⇓Lg		15 19 22.4	
	1.8nm,0.7s,baz=219,slow=27,SNR=4.5						
KK31	Karatay Array	5.52	275	⇓Lg		15 19 34.4	
	1.0nm,0.6s,baz=83,slow=30,SNR=10						
KURK	Kurchatov	7.85	3	⇑Lg		15 20 53.0	
	2.1nm,1.6s						

IDC ***01*** *15:38:26.4±0.6, 34.83N×73.12E, mb4.9/25, mb1 5.0/28, mb1mx5.0/28, mbtmp4.9/28, ML5.1/3, MS3.9/15, Ms1 3.9/15, ms1mx3.8/24, Error ellipse: s-maj=16.3km s-min=13.1km az=4.0*

BJI ***01*** *15:38:27.1, 34.78N×73.30E, h10km, mB5.1, mb4.9, ML5.2, Ms4.5, Msz4.1*

HRVD ***01*** *15:38:27.1±0.5, 34.79N×73.14E, h13km±1km, MW4.7/59, Centroid moment Tensor Solution. LP body waves: s14,c14; Mantle waves: s59,c93; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.48±.15; Mθθ-1.63±.11; Mφφ0.15±.08; Mrθ-0.25±.19; Mθφ0.19±.06; Mφr-0.17±.27; Best double couple: M0 1.597×10^16 NP1:φs104°, δ41°, λ103°. NP2:φs268°, δ50°, λ79°. Principal axes: T 1.526, Plg81°, Azm122°; N .144, Plg8°, Azm275°; P -1.667, Plg4°, Azm6°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***01*** *15:38:27.1±0.2, 34.70N×73.12E, h10km, mb5.0/63 Error ellipse: s-maj=5.1km s-min=3.0km az=211.0*

NDI ***01*** *15:38:27.2±3.7, 34.91N×73.01E, h10km, ML5.0, mb5.0(NEIC)*

MOS ***01*** *15:38:29.5±0.9, 34.82N×73.06E, h33km, mb5.1/66, Error ellipse: s-maj=6.7km s-min=3.8km az=112.0*

NNC ***01*** *15:38:33.9±4.9, 35.20N×72.17E, h7km±87km, mpv5.4, Error ellipse: s-maj=91.8km s-min=41.2km az=163.0*

ISC 01 15:38:26.3±0.1**, 34.81N**±0.02×**73.15E**±0.02**, h10**km**, (h16**km±3.1km**:pP-P), n408,** σ1s**24**/454**, mb5.0**/110**, MS4.0**/27**, 42C-22D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	1.15	175	⇓P	Pb	15 38 49.1	+1.2
CEP	Cherat	1.42	227	⇓P	Pn	15 38 51.5	-0.8
CEP				S	Sb	15 39 16.0	+5.5
SRNI	Srinagar	1.57	116	eP	Pn	15 38 56.5	+2.0
SRNI				eSG	Sg	15 39 23.0	+4.2
THW	Thamme Wali	2.33	211	⇑P	Pn	15 39 07.6	+2.3
JMU	Jammu	2.55	145	ePB	Pb	15 39 13.0	+1.3
JMU				eSB	Sb	15 39 47.5	+4.3
SARP	Sargodha	2.91	188	⇓P	Pn	15 39 15.4	+1.8
SARP				S	Sn	15 39 55.0	+6.1
SBDP	Sheikh Budin	3.18	219	P	Pn	15 39 18.6	+1.2
THN	Thein Dam	3.20	137	eP	Pn	15 39 20.8	+3.2
THN				ex	Sn	15 40 06.3	+10
DLH	Dalhousie	3.26	133	eP	Pn	15 39 21.0	+2.4
DLH				eSB	Sb	15 40 10.0	+6.1
PONG	Pong	3.69	140	eP	Pn	15 39 28.0	+3.4
PONG				eS	Sn	15 40 12.0	+3.3
DRP	Derazinda	3.93	220	P	Pn	15 39 30.0	+1.9
BHK	Bhakra	4.36	140	eP	Pn	15 39 40.0	+5.9
BHK				eS	Sn	15 40 30.4	+4.8
SDNR	Sundarnagar	4.60	135	eP	Pn	15 39 38.6	+1.0
SDNR				eS	Sn	15 40 33.0	+1.2
SMLA	Simla	4.99	136	eP	Pn	15 39 44.9	+1.8
SMLA				eS	Sn	15 40 42.0	+0.5
KLP	Kalpa	5.38	126	eP	Pn	15 39 50.6	+2.0
KLP				AML	AML	15 41 27.3	
	comp=N,5μm,0.8s						
KLP				AML	AML	15 41 29.0	
	comp=E,8μm,0.6s						
DDI	Dehra Dun	6.10	136	eP	Pn	15 39 59.7	+1.0
DDI				ex	Sn	15 41 10.6	+1.3
BHGR	Bahadurgarh	6.91	151	eP	Pn	15 40 09.4	-0.7
NDI	New Delhi	7.02	149	eP	Pn	15 40 11.0	-0.7
NDI				eS	Sn	15 41 27.5	-5.0
KHET	Khetri	7.09	161	eP	Pn	15 40 11.5	-1.2
KHET				eS	Sn	15 41 29.6	-4.5
AYAN	Aya Nagar	7.16	151	eP	Pn	15 40 13.2	-0.6
KUDL	Kundal	7.23	156	eP	Pn	15 40 13.9	-0.8
KUDL				eS	Sn	15 41 31.7	-6.0
AML	Almayashu	7.32	3	P	Pn	15 40 19.6	+3.6
	SNR=92						
SONA	Sohna	7.35	152	eP	Pn	15 40 15.7	-0.7
SONA				eS	Sn	15 41 36.5	-4.2
SONA				AML	AML	15 41 39.2	
	comp=N,364nm,0.3s						
KZA	Kyzart	7.44	12	P	Pn	15 40 20.0	+2.4
	SNR=146						
UCH	Uchtor	7.48	8	P	Pn	15 40 20.8	+2.6
	SNR=487						
ULHL	Ulahol	7.81	17	P	Pn	15 40 26.2	+3.5
	SNR=17						
EKS2	Erkin-Say	7.85	3	P	Pn	15 40 26.4	+3.1
	SNR=54						
AAK	Ala-Archa	7.88	7	P	Pn	15 40 26.1	+2.4
	SNR=138						
AAK	Ala-Archa	7.88	7	eP	Pn	15 40 24.6	+0.8
AAK				e		15 41 51.4	
AAK				pmax	pmax		
	comp=Z,131nm,0.9s						
AAK	Ala-Archa	7.88	7	ePn	Pn	15 40 24.6	+0.8
	comp=Z,131nm,0.9s						
AAK				eSn	Sn	15 41 51.4	-2.6
KBK	Karagaybulak	7.96	10	P	Pn	15 40 27.2	+2.4
	SNR=116						
PTH	Pithoragarh	7.96	129	eP	Pn	15 40 26.0	+1.1
PTH				ex	x	15 41 54.0	
LGTI	Lohaghat	8.05	130	eP	P	15 40 25.0	-1.1
LGTI				ex	x	15 41 55.5	
FRU	Bishkek	8.09	8	i P	P	15 40 30.0	+3.3
FRU				pmax	pmax		
	comp=Z,200nm,1.6s						
JASL	Jaisalmer	8.10	194	eP	P	15 40 25.2	-1.5
CHMS	Chumysh	8.27	8	P	P	15 40 31.0	+1.8
	SNR=45						
TKM2	Tokmak 2	8.32	13	P	P	15 40 31.9	+2.1
	SNR=92						
TKM2	Tokmak 2	8.32	13	P	P	15 40 31.8	+1.9
TKM2				S	Sn	15 42 03.5	-1.4
TKM2				pmax	pmax		
	comp=Z,37nm,0.6s						
AJM	Ajmer	8.40	171	eP	P	15 40 29.6	-1.4
AJM				eS	Sn	15 41 59.6	-7.4
AJM				AML	AML	15 42 18.7	
	comp=E,1μm,0.5s						
AJM				AML	AML	15 42 20.9	
	comp=N,519nm,0.4s						
USP	Ospenovka	8.51	7	P	P	15 40 34.9	+2.4
	SNR=9.9						
KK31	Karatay Array	8.53	347	⇑Pn	P	15 40 33.4	+0.6
	comp=N,102nm,0.5s,baz=168,slow=12,SNR=2088						
KK31				⇓Sn	Sn	15 42 07.0	-3.1
	comp=N,213nm,0.6s,baz=173,slow=22,SNR=11						
KK31	Karatay Array	8.53	347	⇑P	P	15 40 33.4	+0.6
KK31						15 42 07.0	
KK31				pmax	pmax		
	comp=Z,102nm,0.4s						
KK31	Karatay Array	8.53	347	⇑Pn	P	15 40 33.4	+0.6
	comp=Z,102nm,0.4s						
KK31				Sn	Sn	15 42 07.0	-3.1
KKAR	Karatay Array	8.53	347	eP	P	15 40 33.1	+0.3
KKAR				eS	Sn	15 42 07.0	-3.1
KKAR				pmax	pmax		
	comp=Z,55nm,0.4s						
AGRA	Agra	8.60	150	eP	P	15 40 32.4	-1.4
AGRA				eS	Sn	15 42 06.4	-5.5
AAA	Alma-Ata	8.95	18	eP	P	15 40 40.0	+1.4
AAA				eS	Sn	15 42 24.0	+3.5
AAA				pmax	pmax		
	comp=Z,2μm,1.0s						
AAA				smax			
	comp=E,9μm,2.0s						
AAA				MLR	MLR		
	comp=Z,29μm,2.5s						
JHNI	Jhansi	10.41	152	ex	P	15 40 54.0	-4.8
JHNI				eS	S	15 42 46.0	-11
KOLN	Koldanda	11.36	125	ePn	P	15 41 08.5	-3.2
KOLN				eSn	S	15 43 11.7	-8.1
	comp=Z,457nm,0.7s						
KOLN	Koldanda	11.36	125	ePn	P	15 41 08.5	-3.2
	comp=Z,228nm,0.7s						
KOLN				eSn	S	15 43 11.7	-8.1
BHJ	Bhuj	11.91	196	eS	S	15 43 22.1	-11
GKN	Gorkha	11.93	122	ePn	P	15 41 16.1	-3.3
GKN				eSn	S	15 43 24.3	-9.3
	comp=Z,612nm,0.6s						
GKN	Gorkha	11.93	122	ePn	P	15 41 16.1	-3.3
	comp=Z,306nm,0.6s						
GKN				eSn	S	15 43 24.3	-9.3
ALBI	Allahabad	12.07	139	ex	P	15 41 17.0	-4.4
ALBI				eS	S	15 43 27.5	-10
BHPL	Bhopal	12.12	161	eP	P	15 41 18.4	-3.7
BHPL				AML	AML	15 44 05.8	
	comp=E,348nm,0.5s						
BHPL				AML	AML	15 44 13.8	
	comp=N,158nm,0.3s						
DMN	Daman	12.49	122	ePn	P	15 41 23.3	-3.8
DMN				eSn	S	15 43 38.9	-8.5
	comp=N,263nm,0.6s						
DMN	Daman	12.49	122	ePn	P	15 41 23.3	-3.8
	comp=N,132nm,0.6s						
DMN				eSn	S	15 43 38.9	-8.5
KKN	Kakani	12.51	121	ePn	P	15 41 23.3	-3.9
KKN				eSn	S	15 43 39.7	-8.0
	comp=N,500nm,0.7s						
KKN	Kakani	12.51	121	eP	P	15 41 23.3	-3.9
KKN				e		15 43 39.7	
KKN				pmax	pmax		
	comp=Z,250nm,0.7s						
KKN	Kakani	12.51	121	ePn	P	15 41 23.3	-3.9
	comp=Z,250nm,0.7s						
KKN				eSn	S	15 43 39.7	-8.0
PKI	Pulchoki	12.73	121	ePn	P	15 41 26.1	-4.1
GUN	Gumba	12.86	119	ePn	P	15 41 28.7	-3.3
JIRN	Jiri	13.23	119	ePn	P	15 41 33.7	-3.2
MK31	Makanchi Array	13.81	27	⇓P	P	15 41 45.5	+1.1
	comp=Z,13nm,0.6s,baz=197,slow=5.8,SNR=7.6						
MK31	Makanchi Array	13.81	27	⇓P	P	15 41 45.5	+1.1
MK31				pmax	pmax		
	comp=Z,13nm,0.6s						
MK31	Makanchi Array	13.81	27	⇓P	P	15 41 45.5	+1.1
	comp=Z,13nm,0.6s						
MKAR	Makanchi Array	13.81	27	Pn	P	15 41 45.0	+0.6
	comp=Z,1.3nm,0.3s,baz=210,slow=14,SNR=69						
MKAR				LR	LR	15 47 29.7	
	comp=Z,1μm,18.5s,baz=268,slow=39						
MKAR	Makanchi Array	13.81	27	i P	P	15 41 45.4	+1.0
MKAR				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ	Urumqi	14.39	47	eP	P	15 41 49.5	-2.6
WMQ				AP		15 41 52.9	
WMQ				XP		15 41 56.5	
WMQ				PP	PP	15 42 01.1	-2.5
WMQ				PPP	PPP	15 42 08.0	-2.5
WMQ				S	S	15 44 30.1	-2.6
WMQ				SS	SS	15 44 46.7	-2.8
WMQ				PCP	PcP	15 47 05.7	-2.9
WMQ				AMB	AMB		
	comp=Z,90nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,280nm,4.4s						
WMQ				LR	LR		
	comp=N,6μm,18.0s						
WMQ				LR	LR		
	comp=E,7μm,20.1s						
WMQ				LR	LR		
	comp=Z,9μm,18.4s						
AKL	Akola	14.46	165	ex	x	15 41 02.9	
AKL				ex	x	15 43 36.0	
BOK	Bokaro	15.60	131	ex	P	15 42 03.0	-5.0
BOK				AML	AML	15 45 24.3	
	comp=E,66nm,0.5s						
BOK				AML	AML	15 45 30.0	
	comp=N,58nm,0.3s						
LSA	Lhasa	16.05	104	eP	P	15 42 10.7	-3.0
LSA	Lhasa	16.05	104	eP	P	15 42 10.6	-3.1
LSA				pmax	pmax		
	comp=Z,54nm,0.7s						
LSA	Lhasa	16.05	104	eP	P	15 42 10.6	-3.2
	comp=Z,54nm,0.7s						
KURK	Kurchatov	16.39	12	⇑P	P	15 42 20.8	+3.0
	comp=Z,21nm,1.1s						
KURK				⇑S	S	15 45 27.4	+8.0
	comp=Z,26nm,1.4s						
KURK	Kurchatov	16.39	12	eP	P	15 42 14.6	-3.2
KURK				eS	S	15 45 15.9	-3.5
KURK				S	S	15 45 27.4	+8.0
KURK				pmax	pmax		
	comp=Z,35nm,0.8s						
KURK	Kurchatov	16.39	12	eP	P	15 42 14.6	-3.3
	comp=Z,35nm,0.8s						
KURK				eS	S	15 45 15.9	-3.5
KURK				S	S	15 45 27.4	+8.0
BANOM	Banah	17.01	243	P	P	15 42 28.0	+2.1
	SNR=24						
BIDO	Bidbid	17.26	233	P	P	15 42 32.3	+3.2
	SNR=10						
WBK	Wadi Bani Khal	17.37	229	P	P	15 42 30.7	+0.3
	SNR=21						
AB31	Akbulak array	17.41	330	⇑P	P	15 42 28.7	-2.1
	comp=Z,16nm,0.5s,baz=142,slow=12,SNR=517						
AB31				⇑S	S	15 45 33.0	-10
	comp=Z,29nm,0.7s,baz=161,slow=20,SNR=7.7						
AB31	Akbulak array	17.41	330	eP	P	15 42 28.6	-2.2
AB31				eS	S	15 45 34.5	-8.4
AB31				pmax	pmax		
	comp=Z,10.0nm,0.5s						
AB31	Akbulak array	17.41	330	⇑P	P	15 42 28.6	-2.1
	comp=Z,16nm,0.5s						
AB31				S	S	15 45 33.0	-10
KAD	Karad	17.46	177	eP	P	15 42 31.4	-0.1
SMDO	Samad	17.63	232	P	P	15 42 34.7	+1.0
	SNR=18						
HOQ	Hoqain	17.76	235	P	P	15 42 39.0	+3.7
	SNR=12						
ASHO	Ashiyiah	17.92	240	P	P	15 42 41.4	+4.1
	SNR=9.2						
VOSK	Vostochnaya	17.97	356	⇓P	P	15 42 38.6	+0.9
	comp=Z,32nm,0.7s						
VOSK				⇑S	S	15 46 01.1	+5.4
	comp=Z,50nm,1.4s						
VOSK	Vostochnaya	17.97	356	⇓P	P	15 42 38.6	+0.9
VOSK				S	S	15 46 01.1	+5.4
VOSK				pmax	pmax		
	comp=Z,32nm,0.6s						
HYB	Hyderabad	17.98	163	i P	P	15 42 33.0	-5.1
	comp=Z,70nm,1.0s						
HYB				e		15 42 38.0	
HYB				e		15 45 43.0	
HYB				eS	S	15 45 54.0	-2.1
HYB				LR	LR	15 52 30.0	
	comp=Z,2.8nm,12.0s						
HYB	Hyderabad	17.98	163	eP	P	15 42 33.0	-5.1
HYB				pmax	pmax		
	comp=Z,70nm,1.0s						
HYB	Hyderabad	17.98	163	eP	P	15 42 33.0	-5.1
	comp=Z,70nm,1.0s						
HYB				e		15 42 38.0	
HYB				eS	S	15 45 43.0	-13
JMDO	Jabal Madar	18.09	231	P	P	15 42 40.5	+1.1
	SNR=16						
BVA0	Borovoye Array	18.31	355	⇑P	P	15 42 41.1	-0.9
	comp=Z,14nm,0.7s,baz=160,slow=13,SNR=858						
BVA0				⇑S	S	15 46 06.9	+3.5
	comp=Z,8.4nm,1.9s,baz=175,slow=21,SNR=4.0						
BVA0	Borovoye Array	18.31	355	⇑P	P	15 42 41.1	-0.9
BVA0				S	S	15 46 06.9	+3.5
BVA0				pmax	pmax		
	comp=Z,14nm,0.6s						
BVA0	Borovoye Array	18.31	355	⇑P	P	15 42 41.1	-0.9
	comp=Z,14nm,0.6s						
BVA0				S	S	15 46 06.9	+3.5
BVAR	Borovoye Array	18.31	355	P	P	15 42 40.7	-1.3
	comp=Z,15nm,0.3s,baz=164,slow=9.7,SNR=331						
BVAR	Borovoye Array	18.31	355	P	P	15 42 40.7	-1.3
BVAR				pmax	pmax		
	comp=Z,15nm,0.3s						
BRVK	Borovoye	18.36	354	eP	P	15 42 40.9	-1.6
BRVK				eS	S	15 46 04.8	+0.5
BRVK				pmax	pmax		
	comp=Z,81nm,0.7s						
BRVK	Borovoye	18.36	354	eP	P	15 42 40.9	-1.6
	comp=Z,81nm,0.7s						
BRVK				eS	S	15 46 04.8	+0.5
BSY	Bisya	18.41	233	P	P	15 42 45.8	+2.4
	SNR=33						
ARQ	Araqi	18.46	236	P	P	15 42 47.4	+3.3
	SNR=11						
SHL	Shillong	18.61	115	ex	P	15 42 43.0	-2.8
SHL				ex	x	15 45 57.0	
AKTK	Aktyubinsk	19.12	329	⇓P	P	15 42 51.3	-0.4
AKTK				S	S	15 46 13.9	-7.7
AKTO	Aktyubinsk	19.12	329	⇓P	P	15 42 51.3	-0.4
	comp=Z,12nm,0.5s						
AKTO				⇑S	S	15 46 13.9	-7.7
	comp=Z,19nm,1.5s						
AKTO	Aktyubinsk	19.12	329	P	P	15 42 51.5	-0.3
	comp=Z,18nm,0.3s,baz=134,slow=9.9,SNR=245						
AKTO				S	S	15 46 17.1	-4.5
	comp=Z,0.7nm,0.3s,baz=240,slow=20,SNR=3.7						
AKTO				LR	LR	15 50 16.0	
	comp=Z,274nm,18.7s,slow=37						
AKTO	Aktyubinsk	19.12	329	P	P	15 42 50.7	-1.1
AKTO				S	S	15 46 16.1	-5.5
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
VIS	Vishakhapatnam	19.29	149	eP	P	15 42 53.0	-1.1
VIS				ex	x	15 46 15.4	
IMP	Imphal	20.59	113	eP	P	15 43 08.0	0.0
ZAL	Zalesovo	20.80	20	P	P	15 43 09.0	-1.1
	comp=Z,52nm,0.7s,baz=256,slow=6.8,SNR=114						
ZAL				S	S	15 46 56.0	-1.3
	comp=Z,9.0nm,1.1s,baz=188,slow=23,SNR=5.7						
ZAL				LR	LR	15 51 59.0	
	comp=Z,285nm,21.9s,MS3.6,baz=227,slow=39						
ZAL	Zalesovo	20.80	20	P	P	15 43 09.0	-1.1
ZAL				S	S	15 46 56.0	-1.3
ZAL				pmax	pmax		
	comp=Z,53nm,0.7s						
ZAL				smax			
	comp=N,9.0nm,1.1s						
ZAL				MLR	MLR		
	comp=Z,285nm,21.9s						
NVS	Novosibirsk	21.22	16	⇓iP	P	15 43 12.5	-1.9
NVS				eS	S	15 47 04.2	-1.1
NVS				pmax	pmax		
	comp=Z,114nm,1.4s,mb5.0						
NVS				pmax	pmax		
	comp=N,160nm,1.6s						
NVS				smax			
	comp=N,66nm,1.4s						
NVS				smax			
	comp=E,21nm,1.1s						
GTA	Gaotai	21.72	70	P	P	15 43 20.1	+0.6
GTA				AP		15 43 23.8	
GTA				XP		15 43 27.1	
GTA				PP	PP	15 43 45.8	+1.4
GTA				S	S	15 47 15.3	+0.5
GTA				PCP	PcP	15 47 20.9	0.0
GTA				SS	SS	15 47 52.5	+1.0
GTA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,300nm,5.7s						
GTA				LR	LR		
	comp=N,460nm,11.8s,MS4.2						
GTA				LR	LR		
	comp=E,330nm,12.9s,MS4.2						
GTA				LR	LR		
	comp=Z,400nm,12.2s,MS4.0						
UMR	Umm Al-Rimmam	22.13	263	eP	P	15 43 23.9	+0.2
UMR				AMb	AMB	15 43 30.7	
	comp=Z,244nm,0.7s,mb5.8						
QRN	Al-Qurain	22.26	261	eP	P	15 43 24.5	-0.4
QRN				AMb	AMB	15 43 28.9	
	comp=Z,182nm,0.8s,mb5.6						
KBD	Kabd	22.28	262	eP	P	15 43 25.3	+0.1
KBD				AMb	AMB	15 43 26.7	
	comp=Z,555nm,0.7s						
MIB	Mutribah	22.35	264	eP	P	15 43 26.1	+0.2
MIB				AMb	AMB	15 43 34.1	
	comp=Z,378nm,0.7s,mb5.9						
RDF	Al-Radifah	22.49	262	eP	P	15 43 27.3	+0.1
RDF				AMb	AMB	15 43 29.7	
	comp=Z,378nm,0.7s,mb5.9						
NAY	Al-Naaiem	22.62	263	eP	P	15 43 28.7	+0.1
NAY				AMb	AMB	15 43 32.7	
	comp=Z,201nm,0.8s,mb5.6						
DGRG	David-gareji	22.77	295	P	P	15 43 30.5	+0.6
GNI	Garni	23.11	292c	iP	P	15 43 36.4	+3.1
GNI				pmax	pmax		
	comp=Z,50nm,0.9s						
GNI				MLR	MLR		
	comp=Z,100nm,18.0s						
GNI	Garni	23.11	292	eP	P	15 43 35.9	+2.7
	comp=Z,86nm,0.8s,mb5.2						
MTA	Mtatsminda	23.24	296	P	P	15 43 36.6	+2.2
TI2	Plekhanov	23.27	296	⇓iP	P	15 43 37.2	+2.4
TBLG	Delisi	23.28	296	P	P	15 43 37.6	+2.7
SVE	Sverdlovsk	23.61	343	⇑eP	P	15 43 38.7	+0.8
SVE				ePPP	PPP	15 44 21.3	+1.0
SVE				eS	S	15 47 55.0	+6.4
SVE				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.0						
SVE				MLR	MLR		
	comp=N,400nm,10.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,500nm,10.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,400nm,10.0s,MS4.2						
ARU	Arti	23.81	340	⇑eP	P	15 43 41.2	+1.4
ARU				pmax	pmax		
	comp=Z,33nm,0.9s,mb4.8						
ARU				MLR	MLR		
	comp=Z,500nm,26.0s,MS3.9						
ARU	Arti	23.81	340	eP	P	15 43 41.0	+1.1
	comp=Z,28nm,0.6s,mb4.9						
BHD	Baghdad	23.86	275	ex	x	15 43 42.0	
BHD				ex	x	15 48 01.0	
HAKT	HAKKARI	23.88	285	i P	P	15 43 42.4	+1.6
WHFO	Wadi Hawf	24.10	231	P	P	15 43 44.5	+1.4
	SNR=17						
RBK	Rabkut	24.14	229	P	P	15 43 45.2	+1.8
	SNR=7.6						
ONI	Oni	24.35	297	P	P	15 43 48.9	+3.6
MSL	Mosul	24.46	282	ex	x	15 43 49.0	
ABTO	Aybut	24.82	231	P	P	15 43 51.8	+1.8
	SNR=21						
LZH	Lanzhou	24.99	78	eP	P	15 43 53.4	+1.9
LZH				AP		15 43 56.7	
LZH				XP		15 43 58.6	
LZH				PP	PP	15 44 31.0	+2.0
LZH				PCP	PcP	15 47 28.5	+0.9
LZH				eS	S	15 48 13.4	+1.0
LZH				XS		15 48 18.2	
LZH				PCS		15 51 08.8	
LZH				SCS	ScS	15 54 52.9	+0.5
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,130nm,4.8s						
LZH				LR	LR		
	comp=E,1μm,13.9s						
LZH				LR	LR		
	comp=Z,2μm,15.5s,MS4.7						
GOF	Gofitskoye	25.13	303	⇑iP	P	15 43 53.5	+0.8
GOF				pmax	pmax		

KIV **Kislovodsk** 25.14 300 *e*P **P** **15 43 52.9 +0.1**
comp=Z,34nm,1.0s,mb4.8
KIV *e* 15 44 25.1
KIV *e*S **S** **15 48 17.3 +2.5**
KIV pmax pmax
comp=Z,29nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,135nm,18.0s,MS3.5
BEST Besiri 25.79 286 *i* P **P** **15 44 01.6 +2.5**
CD2 Chengdu 25.95 90⇑*i*P **P** **15 44 01.5 +0.9**
CD2 AP pP 15 44 04.0 +0.5
CD2 XP sP 15 44 06.7 +1.8
CD2 PP PP 15 44 40.5 -1.0
CD2 S **S** **15 48 32.8 +4.2**
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.0
CD2 LR LR
comp=N,310nm,10.2s
CD2 LR LR
comp=Z,150nm,10.8s,MS3.8
MOY Mondy 26.14 41 *e*P **P** **15 44 02.3 +0.2**
MARD Mardin 26.22 285 *i* P **P** **15 44 04.1 +1.1**
ZAK Zakamensk 26.85 45 *e*P **P** **15 44 10.3 +1.6**
ZAK *e* 15 47 25.1
ZAK pmax pmax
comp=Z,11nm,0.8s,mb4.4
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
SOKR Solikamsk 27.00 342⇑*i*P **P** **15 44 11.0 +1.1**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb4.8
SOKR MLR MLR
comp=Z,390nm,18.0s,MS4.0
KMI Kunming 27.31 103 P **P** **15 44 12.4 -0.7**
KMI AP pP 15 44 17.3 +1.3
KMI XP sP 15 44 18.6 +1.2
KMI PP PP 15 45 00.8 +0.6
KMI PPP PPP 15 45 13.4 +1.2
KMI S **S** **15 48 50.7 -0.1**
KMI XS 15 48 56.3
KMI SS SS 15 50 07.3 +0.3
KMI SSS SSS 15 50 25.8 +0.7
KMI AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
KMI LR LR
comp=N,220nm,10.1s
KMI LR LR
comp=E,180nm,9.3s
KMI LR LR
comp=Z,170nm,17.2s
HILS Ha'il 27.77 263 P **P** **15 44 17.5 +0.2**
CHRT Chiangrai 27.84 115⇑P **P** **15 44 17.0 -1.0**
comp=Z,418nm,0.8s
CHG Chiang Mai 27.88 118⇓P **P** **15 44 17.6 -0.8**
comp=Z,38nm,0.8s,mb5.1
SONM Songino Array 27.92 52 P **P** **15 44 19.7 +1.3**
comp=Z,2.9nm,0.6s,mb4.1,baz=254,slow=9.1,SNR=18
SONM PcP PcP 15 47 34.7 +0.5
comp=Z,2.4nm,0.9s,baz=236,slow=5.2,SNR=3.6
SONM ScP 15 51 17.0
comp=Z,0.6nm,0.8s,baz=215,slow=2.0,SNR=3.9
SONM LR LR 15 56 51.1
comp=Z,533nm,21.1s,MS4.1,baz=45,slow=40
SONM Songino Array 27.92 52 P **P** **15 44 19.7 +1.3**
SONM 15 47 34.7
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM pmax pmax
comp=N,1.0nm,0.8s
SONM MLR MLR
comp=Z,533nm,21.1s
PALK Pallekele 28.27 164 *e*P **P** **15 44 22.7 +0.7**
comp=Z,24nm,0.9s,mb4.8
AFFS 'Afif 28.32 256 P **P** **15 44 21.6 -0.7**
ULN Ulaanbaatar 28.36 52 *i* P **P** **15 44 23.5 +1.1**
ULN Ulaanbaatar 28.36 52 *e*P **P** **15 44 22.9 +0.6**
comp=Z,3.7nm,0.8s,mb4.1
GZT Gaziantep 28.77 286 *i* P **P** **15 44 26.7 +0.6**
ANN Anapa 28.99 301 *e*P **P** **15 44 21.1 -7.0**
KAMS Al Khamasin 29.03 248 P **P** **15 44 27.6 -1.1**
XAN Xi'an 29.42 81 P **P** **15 44 31.6 -0.5**
XAN AP pP 15 44 40.5 +5.4
XAN AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
BTO Baotou 29.59 68 *e*P **P** **15 44 34.7 +1.2**
BTO AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
COBT Iskenderun 29.91 284 *i* P **P** **15 44 37.3 +0.9**
GYA Guiyang 29.91 97⇑*i*P **P** **15 44 35.6 -1.0**
GYA PCP PcP 15 47 39.4 0.0
GYA S **S** **15 49 33.7 +1.2**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,260nm,4.8s
GYA LR LR
comp=N,150nm,9.9s
GYA LR LR
comp=E,170nm,7.5s
GYA LR LR
comp=Z,340nm,7.2s
QURS Qurayyt al Mil 30.11 274 P **P** **15 44 39.3 +1.1**
TATS Tathlith 30.32 248 P **P** **15 44 40.0 -0.2**
KBRS Khaybar 30.49 262 P **P** **15 44 42.8 +1.1**
BOYT Boyabat 30.62 294 *i* P **P** **15 44 42.6 -0.1**
ENH Enshi 30.86 88 *e*P **P** **15 44 44.7 -0.1**
comp=Z,54nm,0.8s,mb5.4
ENH *e*PcP PcP 15 47 39.6 -2.2
DJNS Zahran al Janu 31.38 245 P **P** **15 44 50.4 +0.8**
BLJS Baljurashi 31.57 250 P **P** **15 44 51.8 +0.6**
TBKS Tabuk 31.76 268 P **P** **15 44 54.4 +1.6**
BALT Daday 31.76 294 *i* P **P** **15 44 52.9 +0.2**
UMJS Umm Lajj 32.32 263 P **P** **15 44 59.4 +1.6**
OBN Obninsk 32.35 320 *i* P **P** **15 44 57.1 -0.6**
OBN *e* 15 46 03.9
OBN *e* 15 47 43.4
OBN *e*SS SS 15 51 58.8 -6.6
OBN pmax pmax
comp=Z,24nm,0.7s,mb5.1
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.6
OBN Obninsk 32.35 320 *e*P **P** **15 44 57.2 -0.6**
comp=Z,22nm,0.5s,mb5.2
AYUS 'Aynunah 32.83 269 P **P** **15 45 03.7 +1.5**
KLMR Klimovskoe 33.81 331*c i*P **P** **15 45 09.6 -0.7**
KLMR pmax pmax
comp=Z,80nm,1.3s,mb5.5
KLMR pmax pmax
comp=Z,90nm,4.3s
WHN Wuhan 34.77 85 ⇓P **P** **15 45 19.6 +0.7**
WHN AMB AMB
comp=Z,50nm,0.8s,mb5.5
AKASG Malin Array Be 35.37 310 P **P** **15 45 22.3 -1.5**
comp=Z,5.5nm,0.5s,mb4.8,baz=82,slow=7.9,SNR=28
AKASG PP PP 15 46 40.5 -2.8
comp=Z,8.3nm,0.8s,baz=84,slow=10.0,SNR=5.2
AKASG PcP PcP 15 47 52.5 -1.7
comp=Z,4.1nm,0.7s,baz=80,slow=3.5,SNR=6.3
AKASG Malin Array Be 35.37 310 P **P** **15 45 22.3 -1.5**
AKASG 15 46 40.5
AKASG 15 47 52.5
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 35.37 310 *i* P **P** **15 45 22.5 -1.3**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 35.37 310 P **P** **15 45 22.3 -1.5**
AKASG PP PP 15 46 40.5 -2.8
AKASG PcP PcP 15 47 52.5 -1.7
BOD Bodaibo 35.60 37 *e*P **P** **15 45 25.6 -0.1**
BOD pmax pmax
comp=Z,14nm,0.9s,mb4.9
MLR Muntele Rosu 37.14 301 P **P** **15 45 40.2 +1.4**
comp=Z,9.3nm,0.6s,mb4.8,baz=320,slow=0.2,SNR=13
MLR PcP PcP 15 47 59.2 -0.3
comp=Z,5.8nm,0.6s,baz=41,slow=5.8,SNR=4.2
MLR LR LR 16 03 10.0
comp=Z,96nm,19.5s,MS3.6,baz=229,slow=40
MLR Muntele Rosu 37.14 301⇑P **P** **15 45 40.0 +1.2**
MLR Muntele Rosu 37.14 301 P **P** **15 45 40.2 +1.4**
MLR 15 47 59.2
MLR pmax pmax
comp=Z,9.0nm,0.6s
MLR pmax pmax
comp=Z,6.0nm,0.6s
MLR MLR MLR
comp=Z,96nm,19.5s
BURAR Bucovina Array 37.68 305⇑P **P** **15 45 43.8 +0.5**
BURAR Bucovina Array 37.68 305⇑P **P** **15 45 43.8 +0.5**
VOIR 37.77 301⇓P **P** **15 45 44.1 0.0**
NJ2 Nanjing 37.99 81 *e*P **P** **15 45 47.0 +0.9**
NJ2 AP pP 15 45 51.2 +2.1
NJ2 XP sP 15 45 54.1 +3.7
NJ2 PP PP 15 47 17.1 +1.1
NJ2 S **S** **15 51 38.0 +0.1**
NJ2 XS 15 51 45.0
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,150nm,4.2s
NJ2 LR LR
comp=N,1μm,29.2s,MS4.6
NJ2 LR LR
comp=E,820nm,25.5s,MS4.6
NJ2 LR LR
comp=Z,250nm,24.6s,MS3.9
JOF Joensuu 38.20 330 *e*p **P** **15 45 46.5 -1.1**
comp=Z,49nm,0.5s,mb5.5
JOF Joensuu 38.20 330 *e*P **P** **15 45 46.5 -1.1**
JOF pmax pmax
comp=Z,49nm,0.5s,mb5.5
VSU Vasula 38.59 322 *i* P **P** **15 45 50.8 -0.1**
IDI Anoyia 39.20 285 P **P** **15 45 56.8 +0.6**
comp=Z,9.5nm,0.6s,mb4.7,baz=88,slow=11,SNR=6.4
VTS Vitosha 39.26 297⇓P **P** **15 45 57.2 +0.5**
DRGR 39.38 303⇑P **P** **15 45 58.1 +0.5**
KWP Kalwaria 39.42 308 *e*P **P** **15 45 59.1 +1.2**
LVZ Lovozero 39.67 338 *i* P **P** **15 45 59.2 -0.6**
LVZ pmax pmax
comp=Z,41nm,0.9s,mb5.2
LVZ pmax pmax
comp=N,12nm,1.3s
LVZ pmax pmax
comp=E,23nm,1.2s
LVZ MLR MLR
comp=Z,361nm,16.0s,MS4.3
LVZ MLR MLR
comp=N,91nm,12.0s
LVZ MLR MLR
comp=E,285nm,20.0s
SNY Shenyang 39.71 64 ⇓P **P** **15 46 01.2 +0.8**
FINES FINESS Array B 39.86 327 P **P** **15 46 01.5 +0.1**
comp=E,17nm,0.7s,mb4.9,baz=104,slow=7.9,SNR=35
FINES LR LR 16 02 48.3
comp=E,79nm,18.3s,MS3.6,baz=149,slow=37
FINES FINESS Array B 39.86 327 P **P** **15 46 01.5 +0.1**
FINES pmax pmax
comp=Z,17nm,0.7s
FINES MLR MLR
comp=Z,79nm,18.3s
FINES FINESS Array B 39.86 327 P **P** **15 46 01.5 +0.1**
GVD Gavdhos 39.95 285 *e*P **P** **15 46 02.7 +0.3**
comp=Z,40nm,0.7s,mb5.2
KAF Kangasniemi 39.99 328 *e*p **P** **15 46 01.2 -1.3**
baz=111,slow=8.1
BZS Buzias 40.18 302 ⇓P **P** **15 46 05.4 +1.2**
SSE Sheshan 40.18 81 *e*P **P** **15 46 03.9 -0.5**
SSE AP pP 15 46 08.3 +0.9
SSE XP sP 15 46 10.8 +2.2
SSE S **S** **15 52 11.0 +0.1**
SSE XS 15 52 17.7
SSE SCS ScS 15 56 10.0 +0.8
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,70nm,6.9s
SSE LR LR
comp=N,120nm,20.1s,MS3.7
SSE LR LR
comp=E,20nm,20.2s,MS3.7
CRVS Cervenica-Dubn 40.22 307 *e*pP pP 15 46 08.8 +1.3
CRVS *e*PP PP 15 47 35.8 -5.0
STHS Stebnicka Huta 40.37 307 *e*P **P** **15 46 00.7 -5.0**
STHS *e*PCP PcP 15 48 09.0 -0.6
KECS Kecovo 40.86 306 *e*P **P** **15 46 08.7 -1.1**
KECS *e*PP PP 15 47 45.2 -2.1
PSZ Piszkesteto 41.27 305 *e*P **P** **15 46 13.5 +0.4**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
PSZ Piszkesteto 41.27 305 *e*P **P** **15 46 13.5 +0.4**
comp=Z,7.1nm,0.9s,mb4.3
OJC Ojcow 41.32 309 *e*P **P** **15 46 13.1 -0.4**
VYHS Vyhne 41.96 306 *e*P **P** **15 46 18.9 +0.2**
VYHS *e*PP PP 15 47 59.7 +0.6
VYHS *e*PCP PcP 15 48 13.1 -1.7
YHNB Yeheng 42.73 90 *e*P **P** **15 46 25.2 -0.1**
MORC Moravsky Berou 42.78 308 *e*P **P** **15 46 25.1 -0.3**
MORC *e* 15 48 06.2
MORC pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MORC Moravsky Berou 42.78 308 *e*P **P** **15 46 25.1 -0.4**
comp=Z,9.2nm,1.0s,mb4.5
MORC *e*PP PP 15 48 06.2 -1.2
KEV Kevo 43.01 338 *e*p **P** **15 46 26.7 -0.4**
comp=Z,22nm,0.7s,mb5.0
KEV Kevo 43.01 338 *e*P **P** **15 46 26.7 -0.4**
KEV pmax pmax
comp=Z,22nm,0.7s,mb5.0
ZST Bratislava 43.13 306 *e*PCP PcP 15 48 17.5 -1.1
ARCES ARCESS Array B 43.37 338 P **P** **15 46 30.9 +1.0**
comp=Z,22nm,0.6s,mb5.1,baz=114,slow=7.8,SNR=74
ARCES PcP PcP 15 48 18.1 -1.1
comp=Z,6.6nm,0.8s,baz=90,slow=2.7,SNR=3.5
ARCES LR LR 16 05 35.8
comp=Z,320nm,19.9s,MS4.2,baz=119,slow=38
ARCES ARCESS Array B 43.37 338 P **P** **15 46 30.9 +0.9**
ARCES 15 48 18.1
ARCES pmax pmax
comp=Z,22nm,0.6s
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES MLR MLR
comp=Z,320nm,19.9s
ARCES ARCESS Array B 43.37 338 P **P** **15 46 30.9 +1.0**
ARCES PcP PcP 15 48 18.1 -1.1
ARE0 ARCESS Array S 43.37 338 *e*P **P** **15 46 30.4 +0.5**
VRAC Vranov 43.41 307 P **P** **15 46 30.9 +0.4**
comp=Z,9.7nm,0.7s,mb4.6,baz=96,slow=9.6,SNR=9.4
VRAC LR LR 16 05 49.0
comp=Z,44nm,20.6s,MS3.4,baz=262,slow=38
VRAC Vranov 43.41 307 P **P** **15 46 30.9 +0.3**
VRAC pmax pmax
comp=Z,10.0nm,0.7s
VRAC MLR MLR
comp=Z,44nm,20.6s
VRAC Vranov 43.41 307⇑P **P** **15 46 30.9 +0.3**
DPC Dobruska-Polom 43.55 309 *e*P **P** **15 46 32.2 +0.5**
DPC *e*PP PP 15 48 20.7 +5.7
MDJ Mudanjiang 43.73 59 P **P** **15 46 32.5 -0.7**
MDJ AMB AMB
comp=Z,340nm,6.1s
MDJ LR LR
comp=N,110nm,22.9s
MDJ LR LR
comp=Z,120nm,22.9s,MS3.7
UPC Upice 43.74 309 *e*P **P** **15 46 33.5 +0.3**
KTK1 Kautokeino 43.86 337 *e*P **P** **15 46 35.2 +1.2**
TREC Trest 44.13 307 *e*P **P** **15 46 36.8 +0.4**
YAK Yakutsk 44.35 34⇓*e*P **P** **15 46 38.5 +0.5**
YAK pmax pmax
comp=Z,23nm,0.7s,mb5.0
YAK MLR MLR
comp=Z,300nm,21.0s,MS4.2
YAK Yakutsk 44.35 34 *e*P **P** **15 46 38.0 0.0**
comp=Z,39nm,0.8s,mb5.2
PRU Pruhonice 44.71 308 *e*P **P** **15 46 41.3 +0.2**
PRU *e*PP PP 15 48 23.2 -3.4
PRU AMS AMS 16 01 40.0
BRG Berggiesshubel 45.04 310 *i* P **P** **15 46 43.5 -0.3**
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.7
BRG Berggiesshubel 45.04 310 *i* P **P** **15 46 43.5 -0.2**
comp=Z,11nm,0.9s,mb4.7
MOA Molln 45.05 305⇓*e*P **P** **15 46 43.5 -0.4**
comp=Z,12nm,1.1s,mb4.6
GEC2 GERESS Array S 45.34 307 *e*P **P** **15 46 45.6 -0.5**
GEC2 *e* 15 48 25.0
GEC2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
GEC2 GERESS Array S 45.34 307 *e*P **P** **15 46 45.6 -0.5**
comp=Z,5.0nm,1.0s,mb4.3
GEC2 *e*PcP PcP 15 48 25.0 -1.2
GERES GERESS Array B 45.34 307 P **P** **15 46 46.5 +0.4**
comp=Z,2.8nm,0.8s,mb4.1,baz=90,slow=8.0,SNR=9.3
GERES PcP PcP 15 48 24.9 -1.2
comp=Z,3.1nm,0.7s,baz=117,slow=3.0,SNR=8.5
GERES LR LR 16 08 06.4
comp=Z,67nm,19.5s,MS3.6,baz=76,slow=39
GERES GERESS Array B 45.34 307 P **P** **15 46 46.5 +0.4**
GERES 15 48 24.9
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES MLR MLR
comp=Z,67nm,19.5s
KHC Kasperske Hory 45.39 307 *e*P **P** **15 46 46.4 -0.1**
KHC x x 15 47 06.5
KHC *e*PP PP 15 48 35.1 +1.6
KHC Kasperske Hory 45.39 307 *e*P **P** **15 46 46.4 -0.1**
KHC *e* 15 48 35.1
KHC Kasperske Hory 45.39 307 *e*P **P** **15 46 46.4 -0.1**
KHC *e* 15 47 06.5
KHC *e*PP PP 15 48 35.1 +1.6
HFS Hagfors 45.47 323 P **P** **15 46 46.9 -0.1**
comp=Z,19nm,0.5s,mb5.2,baz=98,slow=10,SNR=99
HFS PP PP 15 48 30.7 -3.5
comp=Z,8.5nm,0.7s,baz=79,slow=7.3,SNR=3.6
HFS Hagfors 45.47 323 P **P** **15 46 46.9 -0.1**
HFS 15 48 30.7
HFS pmax pmax
comp=Z,19nm,0.5s
HFS pmax pmax
comp=Z,9.0nm,0.7s
TRO Tromso 45.51 337 *e*P **P** **15 46 46.7 -0.6**
CLL Collm 45.61 310 P **P** **15 46 47.0 -1.3**
CLL *i* PCP PcP 15 48 25.5 -1.6
CLL *i* 15 48 48.0
CLL Collm 45.61 310 *e*P **P** **15 46 47.0 -1.3**
CLL *i* 15 48 25.5
KBA Koelnbreinsper 45.76 304⇑*e*P **P** **15 46 49.7 +0.3**
comp=Z,8.9nm,1.1s,mb4.6
MOR8 Moi Rana 46.14 331 *e*P **P** **15 46 51.7 -0.5**
MOR8 AMb AMB 15 46 53.9
comp=Z,85nm,0.7s,mb5.8
MOX Moxa 46.53 310 *i* P **P** **15 46 55.2 -0.3**
MOX PcP PcP 15 48 29.0 -1.3
MELSS Ber_school_2 46.57 332 *e*P **P** **15 46 56.4 +0.8**
TIXI Tiksi 46.70 21 *i* P **P** **15 46 56.8 +0.2**
TIXI pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
TIXI MLR MLR
comp=Z,500nm,19.0s,MS4.5
NB2 NORSAR Subarra 46.78 324 P **P** **15 46 56.2 -1.1**
comp=Z,9.7nm,0.6s,mb4.9,baz=96,slow=7.4
NB2 NORSAR Subarra 46.78 324 P **P** **15 46 56.2 -1.1**
baz=96,slow=7.9
NOA NORSAR Array B 46.78 324 P **P** **15 46 56.8 -0.6**
comp=Z,8.7nm,0.6s,mb4.8,baz=96,slow=7.6,SNR=36
NOA PP PP 15 48 47.3 +0.1
comp=Z,3.1nm,0.7s,baz=93,slow=9.7,SNR=3.7
NOA LR LR 16 08 30.9
comp=Z,78nm,19.0s,MS3.7,baz=85,slow=39
NOA NORSAR Array B 46.78 324 P **P** **15 46 56.8 -0.5**
NOA 15 48 47.3
NOA pmax pmax
comp=Z,9.0nm,0.6s
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,78nm,19.0s
NSS Namsos 46.85 329 *e*P **P** **15 46 57.2 -0.6**
GRA1 Grafenberg Arr 46.87 308 *e*P **P** **15 46 58.5 +0.3**
comp=Z,14nm,0.8s,mb4.9
GRA1 *e*PcP PcP 15 48 30.9 -0.6
GRA1 *e*PP PP 15 48 49.6 +1.3
GRF Grafenberg Arr 46.87 308 *e*P **P** **15 46 58.5 +0.3**
GRF *e* 15 48 30.9
GRF *e* 15 48 49.6
GRF pmax pmax
comp=Z,14nm,0.8s,mb4.9
GRF Grafenberg Arr 46.87 308 *e*P **P** **15 46 58.5 +0.3**
GRF *e* 15 48 30.9
GRF *e* 15 48 49.6
GRF pmax pmax
comp=Z,14nm,0.8s,mb4.9
GRF Grafenberg Arr 46.87 308 *e*P **P** **15 46 58.5 +0.3**
comp=Z,14nm,0.8s,mb4.9
GRF *e*PcP PcP 15 48 30.9 -0.6
GRF *e*PP PP 15 48 49.6 +1.3
NAO01 NORSAR Array S 46.92 324 P **P** **15 46 56.5 -2.0**
LOF Lofoten 46.93 334 *e*P **P** **15 47 00.7 +2.2**
LOF AMb AMB 15 47 08.0
comp=Z,181nm,1.7s,mb5.7
HABR Khabarovsk 46.99 53 *e*P **P** **15 47 02.3 +3.1**
BSEG Bad Segeberg 47.12 314 *e*P **P** **15 47 00.1 0.0**
BSEG pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLZ Clausthal 47.22 311 *e*P **P** **15 47 01.3 +0.4**
CLZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CLZ Clausthal 47.22 311 *e*P **P** **15 47 01.3 +0.4**
comp=Z,9.0nm,1.1s,mb4.6
MOTA Moosalm 47.24 305⇓*e*P **P** **15 46 60.0 -1.2**
comp=Z,3.5nm,0.8s,mb4.3
KSM Kuching 47.93 126 *e*P **P** **15 47 06.7 -0.4**
DAVA Damuels 48.07 305⇑*e*P **P** **15 47 06.6 -1.1**
comp=Z,26nm,0.9s,mb5.3
DAVOX Davos 48.15 305 P **P** **15 47 07.4 -0.9**
comp=Z,6.2nm,0.6s,mb4.8,baz=109,slow=11,SNR=7.0
DAVOX PcP PcP 15 48 35.3 -0.8
comp=Z,12nm,0.6s,baz=164,slow=1.7,SNR=8.4
TNS Taunus Mts 48.59 309 *e*P **P** **15 47 11.2 -0.5**
TNS *e* 15 48 37.1
TNS pmax pmax
comp=Z,20nm,1.7s,mb4.9
TNS Taunus Mts 48.59 309 *e*P **P** **15 47 11.2 -0.5**
comp=Z,20nm,1.7s,mb4.9
TNS *e*PcP PcP 15 48 37.1 -0.6
KKM Kota Kinabalu 48.91 116 *e*P **P** **15 47 15.5 +0.9**
BFO Black Forest 48.94 307 *e*P **P** **15 47 14.6 +0.2**
BFO *e* 15 48 37.9
KMBO Kilima Mbogo 49.05 231 P **P** **15 47 17.3 +1.6**
comp=Z,14nm,0.9s,mb5.0,baz=31,slow=11,SNR=44
KMBO LR LR 16 10 42.3
comp=Z,98nm,18.6s,MS3.8,baz=95,slow=40
KMBO Kilima Mbogo 49.05 231 *i* P **P** **15 47 17.2 +1.5**
KMBO pmax pmax
comp=Z,14nm,0.9s
PGF Pioggiola 49.61 299 *e*P **P** **15 47 18.0 -1.6**
comp=Z,27nm,0.8s,mb5.0
PGF Pioggiola 49.61 299 *e*P **P** **15 47 18.0 -1.6**
PGF pmax pmax
comp=Z,13nm,0.8s,mb5.0
CDF Champ du Feu 49.62 307 *e*P **P** **15 47 18.4 -1.2**
comp=Z,14nm,1.0s,mb4.7
CDF Champ du Feu 49.62 307 *e*P **P** **15 47 18.4 -1.2**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
HINF Hinteralfeld 50.00 306 *e*P **P** **15 47 20.7 -1.9**
comp=Z,17nm,0.9s,mb4.8
HINF Hinteralfeld 50.00 306 *e*P **P** **15 47 20.7 -1.9**
HINF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SBF Sospel 50.42 301 *e*P **P** **15 47 24.5 -1.3**
comp=Z,75nm,1.2s,mb5.3
SBF Sospel 50.42 301 *e*P **P** **15 47 24.5 -1.3**
SBF pmax pmax
comp=Z,38nm,1.2s,mb5.3
LPG La Plagne 50.53 303 *e*P **P** **15 47 25.8 -0.8**
comp=Z,25nm,0.8s,mb4.9
LPG La Plagne 50.53 303 *e*P **P** **15 47 25.8 -0.8**
LPG pmax pmax
comp=Z,12nm,0.8s,mb4.9
LPL La Plagne 50.54 303 *e*P **P** **15 47 25.7 -1.0**
comp=Z,38nm,0.9s,mb5.0
LPL La Plagne 50.54 303 *e*P **P** **15 47 25.7 -1.0**
LPL pmax pmax
comp=Z,19nm,0.9s,mb5.0

MBDF	**Montbardon**	**50.69**	**302**	eP	**P**	**15 47 26.0**	**-1.8**
	comp=Z,19nm,0.8s,mb4.8						
MBDF	**Montbardon**	**50.69**	**302**	eP	**P**	**15 47 26.0**	**-1.8**
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
CABF	**La Chapelle**	**50.75**	**305**	eP	**P**	**15 47 26.9**	**-1.3**
FRF	**La Foret Royal**	**51.04**	**301**	eP	**P**	**15 47 28.8**	**-1.7**
LMR	**La Mourre**	**51.20**	**301**	eP	**P**	**15 47 30.6**	**-1.1**
ORIF	**Oris-en-Rattie**	**51.26**	**303**	eP	**P**	**15 47 31.2**	**-1.0**
ORIF				eR			
	comp=Z,123nm,20.8s						
BAIF	**Baives**	**51.31**	**310**	eP	**P**	**15 47 31.5**	**-1.0**
SMRF	**Simiane la Rot**	**51.70**	**302**	eP	**P**	**15 47 34.3**	**-1.2**
MAJO	**Matsushiro**	**51.95**	**68**	eP	**P**	**15 47 36.9**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,45nm,0.7s,mb5.5						
MAJO	**Matsushiro**	**51.95**	**68**	eP	**P**	**15 47 36.9**	**-0.6**
	comp=Z,45nm,0.7s,mb5.5						
MAT	**Matsushiro**	**51.95**	**68**	P	**P**	**15 47 36.8**	**-0.7**
MAT	**Matsushiro**	**51.95**	**68**	eP	**P**	**15 47 37.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
MAT	**Matsushiro**	**51.95**	**68**	eP	**P**	**15 47 37.0**	**-0.5**
	comp=Z,7.5nm,0.7s,mb4.7						
MJAR	**Matsushiro Arr**	**51.95**	**68**	P	**P**	**15 47 37.5**	**-0.1**
	comp=Z,34nm,0.8s,mb5.3,baz=288,slow=9.9,SNR=69						
MJAR	**Matsushiro Arr**	**51.95**	**68**	P	**P**	**15 47 37.5**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,34nm,0.8s						
VIVF	**Saint-Julien-l**	**52.11**	**303**	eP	**P**	**15 47 37.1**	**-1.5**
SMF	**Signal de Mont**	**52.25**	**305**	eP	**P**	**15 47 37.8**	**-1.8**
	comp=Z,35nm,1.0s,mb5.0						
SMF	**Signal de Mont**	**52.25**	**305**	eP	**P**	**15 47 37.8**	**-1.8**
SMF				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
SSF	**Saint Saulge**	**52.38**	**306**	eP	**P**	**15 47 38.6**	**-2.0**
	comp=Z,43nm,1.3s,mb4.9						
SSF	**Saint Saulge**	**52.38**	**306**	eP	**P**	**15 47 38.6**	**-2.0**
SSF				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
YSS	**Yuzh-Sakhalins**	**52.38**	**54**	i P	**P**	**15 47 41.0**	**+0.4**
YSS	**Yuzh-Sakhalins**	**52.38**	**54**	eP	**P**	**15 47 40.4**	**-0.2**
AVF	**Avril sur Loir**	**52.55**	**306**	eP	**P**	**15 47 39.8**	**-2.1**
	comp=Z,34nm,1.0s,mb4.9						
AVF	**Avril sur Loir**	**52.55**	**306**	eP	**P**	**15 47 39.8**	**-2.1**
AVF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
LASF	**Ste Croix**	**52.87**	**302**	eP	**P**	**15 47 43.1**	**-1.2**
	comp=Z,39nm,1.2s,mb4.9						
BGF	**Bois d'Agland**	**52.94**	**305**	eP	**P**	**15 47 43.0**	**-1.8**
TCF	**Toulx Ste Croi**	**53.43**	**305**	eP	**P**	**15 47 46.9**	**-1.5**
	comp=Z,36nm,1.1s,mb4.9						
TCF	**Toulx Ste Croi**	**53.43**	**305**	eP	**P**	**15 47 46.9**	**-1.5**
TCF				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
CAF	**Calviac**	**53.88**	**304**	eP	**P**	**15 47 50.5**	**-1.2**
	comp=Z,102nm,1.7s,mb5.2						
CAF	**Calviac**	**53.88**	**304**	eP	**P**	**15 47 50.5**	**-1.2**
CAF				pmax	pmax		
	comp=Z,51nm,1.7s,mb5.2						
MTLF	**Montolieu**	**54.21**	**302**	eP	**P**	**15 47 52.7**	**-1.5**
EKA	**Eskdalemuir Ar**	**54.71**	**317**	P	**P**	**15 47 56.6**	**-1.0**
	comp=Z,4.5nm,0.6s,mb4.7,baz=93,slow=7.0,SNR=15						
EKA				PcP	PcP	15 48 59.1	-1.2
	comp=Z,3.4nm,0.7s,baz=98,slow=4.7,SNR=4.9						
EKA	**Eskdalemuir Ar**	**54.71**	**317**	P	**P**	**15 47 56.7**	**-1.0**
EKA						15 48 59.2	
EKA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
EKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LFF	**La Frestale**	**54.78**	**304**	eP	**P**	**15 47 57.0**	**-1.4**
GRR	**Gorron**	**54.92**	**308**	eP	**P**	**15 47 57.6**	**-1.7**
MFF	**Saint Martin d**	**54.92**	**306**	eP	**P**	**15 47 57.7**	**-1.7**
DAV	**Davao City (W)**	**55.43**	**107**	P	**P**	**15 48 03.4**	**-0.1**
EPF	**Esparros**	**55.62**	**302**	eP	**P**	**15 48 03.5**	**-1.0**
ETSF	**Etsaut**	**56.29**	**302**	eP	**P**	**15 48 07.8**	**-1.5**
	comp=Z,15nm,0.7s,mb4.8						
ETSF	**Etsaut**	**56.29**	**302**	eP	**P**	**15 48 07.8**	**-1.5**
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
SJPF	**Ste Jean**	**56.68**	**302**	eP	**P**	**15 48 10.9**	**-1.2**
	comp=Z,85nm,1.7s,mb5.2						
SJPF	**Ste Jean**	**56.68**	**302**	eP	**P**	**15 48 10.9**	**-1.2**
SJPF				pmax	pmax		
	comp=Z,42nm,1.7s,mb5.2						
DAG	**Danmarks Havn**	**56.84**	**344**⇑	iP	**P**	**15 48 12.7**	**-0.1**
	comp=Z,20nm,0.8s,mb5.2						
DAG	**Danmarks Havn**	**56.84**	**344**⇑	iP	**P**	**15 48 12.7**	**-0.1**
DAG				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
SCO	**Scoresbysund**	**59.29**	**337**	i P	**P**	**15 48 29.4**	**-0.7**
BILL	**Bilibino**	**59.36**	**26**	eP	**P**	**15 48 30.7**	**+0.2**
BILL				e		15 49 15.0	
BILL				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BILL	**Bilibino**	**59.36**	**26**	eP	**P**	**15 48 30.7**	**+0.2**
	comp=Z,10nm,0.8s,mb4.9						
BILL				ePcP	PcP	15 49 15.0	-3.3
ESDC	**Sonseca Array**	**59.80**	**299**	P	**P**	**15 48 33.0**	**-1.0**
	comp=Z,4.2nm,0.7s,mb4.6,baz=61,slow=7.0,SNR=12						
ESDC				PcP	PcP	15 49 18.1	-2.3
	comp=Z,4.5nm,0.9s,baz=58,slow=5.3,SNR=5.1						
ESLA	**Sonseca Array**	**59.80**	**299**	eP	**P**	**15 48 32.4**	**-1.5**
	comp=Z,1.1nm,0.7s,mb4.0						
MDT	**Midelt**	**63.04**	**293**	P	**P**	**15 48 55.0**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.7,baz=69,slow=6.8,SNR=8.2						
SUMG	**Summit**	**63.22**	**342**	eP	**P**	**15 48 56.9**	**+0.4**
	comp=Z,51nm,0.8s,mb5.7						
LSZ	**Lusaka**	**65.60**	**228**	eP	**P**	**15 49 12.2**	**-0.6**
LSZ				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
LSZ	**Lusaka**	**65.60**	**228**	eP	**P**	**15 49 12.2**	**-0.6**
	comp=Z,12nm,1.1s,mb4.8						
TORD	**Torodi Ar. Bea**	**67.46**	**271**	P	**P**	**15 49 23.3**	**-1.4**
	comp=Z,46nm,0.6s,mb5.7,baz=42,slow=5.6,SNR=288						
FX1	**Attu Island--F**	**68.57**	**40**	eP	**P**	**15 49 29.4**	**-1.6**
SFJD	**Kangerlussuaq**	**69.95**	**340**	i P	**P**	**15 49 38.9**	**-0.3**
	comp=Z,24nm,0.7s,mb5.2						
SFJD	**Kangerlussuaq**	**69.95**	**340**	i P	**P**	**15 49 38.9**	**-0.3**
SFJD				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**72.48**	**128**	eP	**P**	**15 49 54.8**	**-0.5**
	comp=Z,14nm,0.8s,mb5.0						
IMA2	**Indian Mountai**	**73.19**	**18**	eP	**P**	**15 49 58.5**	**0.0**
LBTB	**Lobatse**	**74.64**	**224**	eP	**P**	**15 50 07.7**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
LBTB	**Lobatse**	**74.64**	**224**	eP	**P**	**15 50 07.7**	**-0.1**
	comp=Z,28nm,0.9s,mb5.2						
TTA	**Tatalina**	**74.98**	**21**	eP	**P**	**15 50 09.4**	**+0.4**
TTA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
TTA	**Tatalina**	**74.98**	**21**	eP	**P**	**15 50 09.4**	**+0.4**
	comp=Z,3.9nm,0.7s,mb4.5						
INK	**Inuvik**	**75.28**	**10**	eP	**P**	**15 50 11.1**	**+0.5**
INK				pmax	pmax		
	comp=Z,36nm,0.9s						
INK	**Inuvik**	**75.28**	**10**	eP	**P**	**15 50 11.1**	**+0.6**
	comp=Z,36nm,0.9s,mb5.3						
TSUM	**Tsumeb**	**75.29**	**234**	eP	**P**	**15 50 11.5**	**-0.1**
	comp=Z,11nm,0.9s,mb4.8						
COLA	**College**	**75.60**	**17**	eP	**P**	**15 50 12.5**	**0.0**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
COLA	**College**	**75.60**	**17**	eP	**P**	**15 50 12.5**	**0.0**
	comp=Z,12nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**75.91**	**17**	P	**P**	**15 50 13.8**	**-0.4**
	comp=Z,3.6nm,0.7s,mb4.4,baz=293,slow=4.7,SNR=50						
ILAR				LR	LR	16 30 11.5	
	comp=Z,123nm,19.1s,MS4.2,baz=181,slow=41						
ILAR	**Eielson Array**	**75.91**	**17**	P	**P**	**15 50 13.9**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,123nm,19.1s						
MCK	**McKinley**	**76.28**	**18**	eP	**P**	**15 50 16.5**	**+0.2**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MCK	**McKinley**	**76.28**	**18**	eP	**P**	**15 50 16.5**	**+0.2**
	comp=Z,4.2nm,0.9s,mb4.4						
DBIC	**Dimbokro**	**76.38**	**269**	P	**P**	**15 50 17.6**	**-0.4**
	comp=Z,54nm,0.8s,mb5.5,baz=34,slow=6.8,SNR=56						
DBIC				LR	LR	16 26 16.7	
	comp=Z,80nm,21.6s,MS4.0,baz=41,slow=38						
DBIC	**Dimbokro**	**76.38**	**269**	eP	**P**	**15 50 17.3**	**-0.6**
DBIC				pmax	pmax		
	comp=Z,65nm,0.9s						
DBIC	**Dimbokro**	**76.38**	**269**	eP	**P**	**15 50 17.3**	**-0.7**
	comp=Z,65nm,0.9s,mb5.6						
LIC	**Lamto**	**76.77**	**268**⇑	iP	**P**	**15 50 19.7**	**-0.4**
	comp=Z,124nm,0.8s,mb5.6						
LIC				eR			
	comp=Z,99nm,21.8s						
THY	**Trims Highway**	**77.33**	**17**	eP	**P**	**15 50 21.9**	**-0.3**
MUN	**Mundaring**	**77.79**	**144**	eP	**P**	**15 50 24.1**	**-1.3**
DAWY	**Dawson**	**78.15**	**14**	eP	**P**	**15 50 27.1**	**+0.4**
KLBR	**Kellerberrin**	**78.25**	**142**	eP	**P**	**15 50 26.5**	**-1.4**
	comp=Z,26nm,1.1s,mb5.1						
WRA	**Warramunga Arr**	**79.61**	**123**	P	**P**	**15 50 35.5**	**-0.1**
	comp=Z,14nm,0.7s,mb5.0,baz=323,slow=5.1,SNR=160						
WRA				PKKPbc		16 09 23.4	
	comp=Z,0.6nm,0.4s,baz=128,slow=2.1,SNR=17						
WRA	**Warramunga Arr**	**79.61**	**123**	P	**P**	**15 50 35.5**	**0.0**
WRA				pmax	pmax		
	comp=Z,14nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRAB	**Tennant Creek**	**79.61**	**123**c	iP	**P**	**15 50 35.5**	**0.0**
WRAB	**Tennant Creek**	**79.61**	**123**	eP	**P**	**15 50 35.3**	**-0.2**
	comp=Z,28nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**79.62**	**123**	eP	**P**	**15 50 35.5**	**-0.1**
PMG	**Port Moresby**	**82.45**	**107**	eP	**P**	**15 50 51.0**	**+0.4**
PMG				pmax	pmax		
	comp=Z,21nm,1.0s						
PMG	**Port Moresby**	**82.45**	**107**	eP	**P**	**15 50 51.0**	**+0.5**
	comp=Z,21nm,1.0s,mb5.0						
YKW3	**Yellowknife Ar**	**82.77**	**4**	eP	**P**	**15 50 51.5**	**+0.2**
YKA	**Yellowknife Ar**	**82.83**	**4**	P	**P**	**15 50 52.0**	**+0.4**
	comp=Z,9.7nm,0.6s,mb5.0,baz=348,slow=5.4,SNR=91						
YKA				LR	LR	16 28 40.2	
	comp=Z,64nm,18.2s,MS4.0,baz=290,slow=36						
YKA	**Yellowknife Ar**	**82.83**	**4**	P	**P**	**15 50 52.0**	**+0.4**
YKA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,64nm,18.3s						
YKA	**Yellowknife Ar**	**82.83**	**4**	P	**P**	**15 50 52.0**	**+0.4**
FORT	**Forrest**	**83.24**	**135**	eP	**P**	**15 50 56.2**	**+1.8**
	comp=Z,27nm,0.8s,mb5.3						
SCHQ	**Schefferville**	**84.32**	**338**	P	**P**	**15 50 59.5**	**+0.3**
	comp=Z,24nm,0.8s,mb5.4,baz=39,slow=6.1,SNR=17						
SCHQ	**Schefferville**	**84.32**	**338**	eP	**P**	**15 50 59.5**	**+0.2**
	comp=Z,34nm,0.9s,mb5.5						
CTA	**Charters Tower**	**88.24**	**116**	eP	**P**	**15 51 19.5**	**+0.2**
	comp=Z,7.2nm,0.9s,mb4.9						
CTA	**Charters Tower**	**88.24**	**116**	eP	**P**	**15 51 19.5**	**+0.2**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTAO	**Charters Tower**	**88.24**	**116**	eP	**P**	**15 51 18.8**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9						
CTAO	**Charters Tower**	**88.24**	**116**	eP	**P**	**15 51 18.8**	**-0.5**
	comp=Z,8.3nm,1.0s,mb4.9						
FFC	**Flin Flon**	**90.73**	**357**	eP	**P**	**15 51 30.1**	**-0.1**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
FFC	**Flin Flon**	**90.73**	**357**	eP	**P**	**15 51 30.1**	**-0.1**
	comp=Z,5.1nm,0.8s,mb4.9						
EDM	**Edmonton**	**92.15**	**4**	eP	**P**	**15 51 37.9**	**+1.1**
STKA	**Stephens Creek**	**92.38**	**128**	P	**P**	**15 51 39.3**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.5,baz=324,slow=8.4,SNR=4.4						
STKA	**Stephens Creek**	**92.38**	**128**	P	**P**	**15 51 35.4**	**-3.0**
ULM	**Lac du Bonnet**	**94.75**	**353**	P	**P**	**15 51 49.0**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.8,baz=24,slow=6.0,SNR=6.7						
ULM				LR	LR	16 34 56.2	
	comp=Z,70nm,19.9s,MS4.1,baz=48,slow=36						
PDAR	**Pinedale Array**	**102.76**	**2**	PKiKP		15 56 46.5	
	comp=Z,0.8nm,0.6s,baz=44,slow=3.7,SNR=6.8						
SYO	**Syowa Base**	**106.44**	**192**	⇑Pdiff	Pdif	15 52 42.5	+1.7
SYO	**Syowa Base**	**106.44**	**192**⇑	eP	Pdif	15 52 42.5	+1.7
TXAR	**Lajitas Array**	**116.13**	**357**	PKKPbc		16 07 41.8	
	comp=Z,0.8nm,0.3s,baz=170,slow=5.5,SNR=5.6						
SNAA	**Sanae**	**118.43**	**200**⇑	iP	PKPdf	15 57 12.5	-3.9
SNAA	**Sanae**	**118.43**	**200**	⇑	PKPdf	15 57 17.6	+1.2
SNAA	**Sanae**	**118.43**	**200**	ePKPdf	PKPdf	15 57 07.6	-8.8
SNAA				⇑iPKPdf	PKPdf	15 57 12.5	-3.9
VNA2	**Neumayer--Watz**	**119.49**	**202**⇑	iP	PKPdf	15 57 16.9	-1.5
VNA1	**Neumayer--Stat**	**119.66**	**202**	P	PKPdf	15 57 15.1	-3.6
VNA3	**Neumayer Olymp**	**120.29**	**202**⇑	iP	PKPdf	15 57 18.1	-1.9
LPAZ	**La Paz**	**140.80**	**288**	PKhKP		15 57 52.1	
	comp=Z,0.5nm,0.5s,SNR=4.6						
LPAZ	**La Paz**	**140.80**	**288**	PKHKP		15 57 52.1	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TRQA	**Tornquist**	**144.02**	**251**	ePKPdf	PKPdf	15 58 01.2	-3.7
NNA	**Nana**	**144.53**	**302**	ePKPdf	PKPdf	15 58 03.2	-3.4
PLCA	**Paso Flores**	**150.85**	**247**	PKPbc	PKPdf	15 58 20.7	+4.6
	comp=Z,13nm,1.0s,baz=145,slow=2.6,SNR=16						
PLCA	**Paso Flores**	**150.85**	**247**	ePKIKP	PKPdf	15 58 20.0	+3.9

*NEIC **01** 15:57:28.7,32.27S×71.83W,h10km,ML3.4(GUC),After GUC.*

GUC 01 15:57:28.7±0.9**,32.27S×71.83W,h10**km±5km**,MD3.7, ML3.4,9C-4D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**36**⇓	iP	Pg	15 57 38.7	+0.4
CHNG				iS	Sg	15 57 46.1	+1.4
CHNG				AMP		15 57 46.6	
	comp=N,2μm,0.3s						
IHA	**Instituto Hidr**	**0.77**	**168**⇑	iP	Pb	15 57 43.3	-0.5
IHA				iS	Sb	15 57 54.4	+0.4
ILCH	**Illapel**	**0.84**	**42**⇑	iP	Pb	15 57 44.7	-0.2
ILCH				iS	Sb	15 57 56.4	+0.4
ILCH				AMP		15 57 59.1	
	comp=N,1μm,0.3s						
ROCH	**El Roble**	**0.98**	**136**⇑	iP	Pb	15 57 47.5	+0.1
ROCH				iS	Sb	15 58 01.9	+1.7
JACH	**Jahuel**	**1.12**	**112**⇑	iP	Pb	15 57 49.1	-0.6
JACH				iS	Sb	15 58 04.4	+0.2
LCCH	**Las Cruces**	**1.23**	**170**⇓	iP	Pb	15 57 50.3	-1.2
LCCH				iS	Sb	15 58 06.9	-0.3
CMCH	**Combarbala**	**1.30**	**33**⇑	iP	Pb	15 57 51.7	-1.0
CMCH				iS	Sb	15 58 09.0	-0.2
CMCH				AMP		15 58 16.0	
	comp=N,2μm,0.8s						
PEL	**Peldehue**	**1.30**	**133**⇑	iP	Pb	15 57 51.9	-0.9
PEL				iS	Sb	15 58 09.4	0.0
PEL				AMP		15 58 12.3	
	comp=E,3μm,0.2s						
RCDM	**Rinconada Maip**	**1.49**	**145**	i P	Pn	15 57 54.9	-0.8
RCDM				iS	Sb	15 58 14.3	-0.7
RCDM				AMP		15 58 17.8	
	comp=N,731nm,0.4s						
SAN	**Santiago**	**1.54**	**141**	i P	Pn	15 57 55.6	-0.7
SAN				iS	Sb	15 58 16.4	+0.2
SAN				AMP		15 58 19.5	
	comp=N,574nm,0.6s						
TACH	**Talagante**	**1.57**	**152**⇑	iP	Pn	15 57 56.3	-0.6
TACH				iS	Sb	15 58 17.1	-0.2
ANTU	**Antumapu**	**1.64**	**143**⇑	iP	Pn	15 57 57.4	-0.4
ANTU				iS	Sn	15 58 19.8	+0.7
ANTU				AMP		15 58 27.1	
	comp=N,591nm,0.9s						
FCH	**Farellones**	**1.67**	**130**	eP	Pn	15 57 57.8	-0.5
FCH				iS	Sn	15 58 21.1	+1.2
FCH				AMP		15 58 23.2	
	comp=E,691nm,0.3s						
PCH	**Pirque**	**1.75**	**141**	eP	Pn	15 57 59.1	-0.2
PCH				iS	Sn	15 58 22.4	+0.7
CHCH	**Chadas Angostu**	**1.93**	**150**	eP	Pn	15 58 01.7	-0.3
CHCH				iS	Sn	15 58 27.0	+0.5
LMEL	**Las Melosas**	**2.08**	**140**⇑	iP	Pn	15 58 04.3	+0.1
LMEL				iS	Sn	15 58 31.5	+1.1
LMEL				AMP		15 58 38.4	
	comp=N,488nm,0.2s						
CACH	**El Canelo**	**2.11**	**151**⇓	iP	Pn	15 58 04.8	+0.3
TLL	**Tololo Astrono**	**2.27**	**23**⇓	iP	Pn	15 58 08.3	+1.5
TLL				AMP		15 58 46.1	
	comp=E,443nm,0.4s						

*MOS **01** 16:00:22.1±2.3,57.10N×119.60E,h1km,mb4.3/1,Error ellipse: s-maj=30.6km s-min=21.0km az=148.6*

BYKL 01 16:00:18.1±1.2**,57.20N×119.75E,2D,East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.86**	**250**⇓	iPg	Pg	16 00 34.1	-1.2
CRS				i Pb	Pb	16 00 36.1	+0.5
CRS				i Sg	Sg	16 00 45.1	-1.7
CRS				max			
	175nm,0.8s						
CRS				Smax			
	504nm,1.6s						
CRS	**Chara**	**0.86**	**250**	ePG	Pg	16 00 34.1	-1.2
CRS				e		16 00 45.5	
CRS				pmax	pmax		
	comp=Z,183nm,0.6s						
CRS				smax			
	comp=E,356nm,0.6s						
NLYR	**Nelyaty**	**2.33**	**254**	ePg	Pg	16 01 00.5	-4.2
NLYR			⇓	i		16 01 02.3	
NLYR				i Sg	Sg	16 01 30.4	-5.4
NLYR				max			
	comp=E,89nm,0.4s						
NLYR				Smax			
	comp=E,854nm,1.0s						
NLYR	**Nelyaty**	**2.33**	**254**	ePN	Pn	16 01 00.2	+1.9
NLYR				e		16 01 02.2	
NLYR				e		16 01 31.2	
NLYR				pmax	pmax		
	comp=Z,107nm,0.5s						
NLYR				smax			
	comp=E,848nm,1.1s						
NRGR	**Nerungri**	**2.78**	**99**	ePN	Pn	16 01 13.8	+9.1
NRGR				S	Sn	16 01 50.7	+11
TUP	**Tupik**	**2.78**	**178**	e	Pn	16 01 05.7	+1.0
TUP				ePg	Pg	16 01 07.6	-6.1
TUP				ePgPg		16 01 10.3	
TUP				eSg	Sg	16 01 43.6	-7.2
TUP				max			
	comp=E,43nm,0.2s						
TUP				Smax			
	comp=E,621nm,0.8s						
TUP	**Tupik**	**2.78**	**178**	ePN	Pn	16 01 05.7	+1.0
TUP				e		16 01 10.1	
TUP				eS	Sn	16 01 37.2	-2.3
TUP				e		16 01 43.4	
TUP				pmax	pmax		
	comp=Z,50nm,0.3s						
TUP				smax			
	comp=E,623nm,0.9s						
CLNS	**Chul'man**	**2.84**	**95**	ePN	Pn	16 01 11.7	+6.2
CLNS				e		16 01 15.9	
CLNS				eS	Sn	16 01 50.2	+9.4
CLNS				e		16 01 53.9	
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.4s						
CLNS				pmax	pmax		
	comp=N,1.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.3s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.3s						
CLNS				pmax	pmax		
	comp=E,21nm,0.4s						
CLNS				smax			
	comp=E,14nm,0.3s						
CLNS				smax			
	comp=Z,15nm,0.4s						
CLNS				smax			
	comp=N,16nm,0.3s						
CLNS				smax			
	comp=N,40nm,0.3s						
CLNS				smax			
	comp=Z,67nm,0.3s						
CLNS				smax			
	comp=E,129nm,0.4s						
CLNS				MLR	MLR		
	comp=Z,70nm,11.0s						
CLNS				MLR	MLR		
	comp=Z,1μm,13.0s						
CLNS				MLR	MLR		
	comp=N,400nm,13.0s						
CLNS				MLR	MLR		
	comp=E,400nm,13.0s						
BOD	**Bodaibo**	**3.16**	**284**	ePg	Pg	16 01 13.4	-7.8
BOD				e		16 01 17.5	
BOD				e		16 01 21.3	
BOD				eSn	Sn	16 01 44.6	-4.5
BOD				eSg	Sg	16 01 55.4	-8.0
BOD				max			
	comp=E,15nm,0.6s						
BOD				Smax			
	comp=E,127nm,0.8s						
SVKR	**Severomuysk**	**3.59**	**255**	ePn	Pn	16 01 25.5	+9.4
SVKR				eSg	Sg	16 02 07.8	-10
SVKR				Smax			
	comp=E,276nm,1.2s						
UKT	**Uakit**	**3.81**	**246**	e	Pn	16 01 22.2	+2.8
UKT				ePg	Pg	16 01 26.8	-7.5
UKT				eSg	Sg	16 02 16.0	-9.1
UKT				Pmax			
	comp=E,8.0nm,0.5s						
UKT				Smax			
	comp=E,96nm,1.2s						
KMO	**Kumora**	**4.91**	**258**	ePn	Pn	16 01 35.1	+0.2
KMO				ePg	Pg	16 01 45.1	-11
KMO				eSg	Sg	16 02 48.9	-13
KMO				Pmax			
	comp=E,23nm,1.0s						
KMO				Smax			
	comp=E,144nm,1.4s						
KMO	**Kumora**	**4.91**	**258**	ePN	Pn	16 01 35.0	+0.1
KMO				e		16 01 48.3	
KMO				eS	Sn	16 02 29.8	-3.6
KMO				e		16 02 50.4	
KMO				pmax	pmax		
	comp=Z,11nm,0.4s						
KMO				smax			
	comp=N,144nm,0.9s						
YLYR	**Ulyunkhan**	**5.35**	**248**	e	Pn	16 01 33.9	-7.2
YLYR				ePn	Pn	16 01 40.7	-0.4
YLYR				ePg	Pg	16 01 55.2	-10
YLYR				e		16 02 42.0	
YLYR				eSg	Sg	16 03 04.8	-11
YLYR				Pmax			
	comp=N,7.0nm,0.7s						
YLYR				Smax			
	comp=N,87nm,0.9s						
YLYR	**Ulyunkhan**	**5.35**	**248**	ePN	Pn	16 01 42.6	+1.5
YLYR				e		16 01 55.5	
NIZ	**Nizh Angarsk**	**5.83**	**260**	eSg	Sg	16 03 19.2	-13
NIZ				Smax			
	comp=N,78nm,1.3s						
CIT	**Chita**	**6.31**	**217**	e	Pn	16 02 15.7	+21
CIT				eSg	Sg	16 03 33.3	-15
CIT				Smax			
	comp=N,135nm,1.3s						
SYVR	**Suvo**	**6.59**	**242**	ePn	Pn	16 01 57.9	-0.7
SYVR				ePg	Pg	16 02 16.8	-13
SYVR				eSg	Sg	16 03 43.6	-14
SYVR				Pmax			
	comp=N,8.0nm,1.5s						
SYVR				Smax			
	comp=N,61nm,1.5s						
KPC	**Khapcheranga**	**8.70**	**213**	e	P	16 02 27.8	-0.3
KPC				e		16 02 58.0	
KPC				e		16 04 21.3	
KPC				eSg	Sg	16 04 47.2	-20
KPC				Smax			
	comp=N,51nm,2.4s						
ARS	**Arshan**	**11.35**	**250**	eSg	S	16 06 07.5	+54
ARS				Smax			
	comp=N,32nm,1.0s						

GUC 01 16:09:21.5±0.7**,29.76S×71.67W,h40**km±4km**,ML3.7,3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.39**	**112**⇓	iP	P	16 09 30.8	-0.1
LSCH				iS	S	16 09 37.5	+0.1
LSCH				AMP		16 09 38.2	
	comp=E,16μm,0.4s						
TLL	**Tololo Astrono**	**0.85**	**119**⇓	iP	P	16 09 38.2	+1.1
TLL				iS	S	16 09 50.7	+2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLL				AMP		16 09 51.8	
	comp=E,10µm,0.4s						
OVCH	Ovalle	0.94	155	iP	P	16 09 38.4	+0.1
OVCH				iS	S	16 09 51.8	+1.1
OVCH				AMP		16 09 54.2	
	comp=E,2µm,0.3s						
CMCH	Combarbala	1.52	158	⇓iP	P	16 09 47.5	+0.8
CMCH				iS	S	16 10 07.0	+1.5
CMCH				AMP		16 10 12.5	
	comp=E,4µm,0.4s						
ILCH	Illapel	1.92	167	eP	P	16 09 53.0	+0.7
ILCH				iS	S	16 10 16.6	+1.2
ILCH				AMP		16 10 20.5	
	comp=E,710nm,0.5s						
CHNG	Los Chungos	2.12	176	iP	P	16 09 55.4	+0.2
CHNG				iS	S	16 10 19.1	-1.4
CHNG				AMP		16 10 33.0	
	comp=E,317nm,0.8s						

*NNC **01** 16:11:52.6±4.0, 40.37N×69.32E, h33^{km}±26^{km}, mpv3.3, Error ellipse: s-maj=33.5km s-min=19.7km az=154.0*

ISC 01 16:11:40.1±6.0**, 39.4N**±0.5×**69.1E**±0.2**, h33^{km}, n11, σ0^{s}57**/13**, 3C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	3.80	15	⇓Pn	Pn	16 12 38.8	+0.8
	4.7nm,0.3s,baz=78,slow=84,SNR=122						
KK31				⇑Pg	P	16 12 44.6	+6.8
	8.4nm,0.7s,baz=201,slow=19,SNR=8.5						
KK31				⇑Lg		16 13 25.3	
	40nm,0.4s,baz=194,slow=26,SNR=31						
AML	Almayashu	4.38	51	P	P	16 12 46.0	0.0
	SNR=36						
EKS2	Erkin-Say	4.76	46	P	P	16 12 50.7	-0.6
	SNR=9.9						
UCH	Uchtor	4.94	54	P	P	16 12 54.2	+0.4
	SNR=14						
AAK	Ala-Archa	5.15	50	P	P	16 12 56.9	0.0
	SNR=22						
KZA	Kyzart	5.33	58	P	P	16 13 00.5	+1.0
	SNR=16						
KBK	Karagaybulak	5.44	52	P	P	16 13 01.4	+0.4
	SNR=23						
CHMS	Chumysh	5.53	48	P	P	16 13 01.6	-0.6
	SNR=9.7						
USP	Ospenovka	5.56	45	P	P	16 13 01.7	-0.8
	SNR=6.6						
TKM2	Tokmak 2	5.98	52	P	P	16 13 08.2	-0.3
	SNR=6.6						
AB31	Akbulak array	11.81	329	⇓Pn	P	16 14 28.9	-0.2
	0.3nm,0.3s,baz=136,slow=16,SNR=17						
AB31				⇑Sn	S	16 16 30.2	-10
	0.8nm,0.5s,baz=154,slow=22,SNR=4.5						

*CSEM **01** 16:12:32.4±1.0, 12.10N×43.48E, h4^{km}, ML3.5, Error ellipse: s-maj=21.5km s-min=19.9km az=73.0, After DHMR*

DHMR 01 16:12:32.4±1.4**, 12.10N×43.48E, h5^{km}±8^{km}, ML3.5, 8D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.28	29	⇓iP	Pb	16 12 56.5	-0.2
TRBA				iS	Sb	16 13 14.8	+1.4
TRBA				AML	AML	16 13 16.1	
	comp=E,978nm,0.5s						
UDYN	Al ‘Udayn	1.91	14	⇓iP	Pn	16 13 07.4	+1.4
UDYN				iS	Sn	16 13 33.8	+3.0
UDYN				AML	AML	16 13 43.0	
	comp=Z,564nm,0.5s						
UDYN	Al ‘Udayn	1.91	14	⇓iP	Pn	16 13 07.4	+1.4
	comp=Z,282nm,0.5s						
UDYN				iS	Sn	16 13 33.8	+3.0
LBOS		2.46	44	⇓iP	Pn	16 13 15.5	+1.6
LBOS				iS	Sn	16 13 49.8	+5.0
DHBB	Dhamar BB	2.61	20	⇓iP	Pn	16 13 17.4	+1.4
DHBB				iS	Sn	16 13 53.5	+5.1
BDHA	Al Bayda’	2.76	47	⇓iP	Pn	16 13 19.6	+1.4
BDHA				iS	Sn	16 13 57.8	+5.5
BDHA				AML	AML	16 14 05.4	
	comp=N,285nm,0.6s						
HAJJ	Hajjah	3.58	2	⇓iP	Pn	16 13 32.0	+2.3
HAJJ				iS	Sn	16 14 16.8	+3.8
HAJJ				AML	AML	16 14 33.4	
	comp=E,153nm,0.8s						
HAJJ	Hajjah	3.58	2	⇓iP	Pn	16 13 32.0	+2.2
HAJJ				iS	Sn	16 14 16.8	+3.8
	comp=E,76nm,0.8s						

*BJI **01** 16:36:21.7, 33.95N×73.05E, h10^{km}, mB5.1, mb4.5, ML4.3*
*IDC **01** 16:36:28.9±1.0, 34.16N×73.69E, mb4.1/12, mb1 4.3/15, mb1mx4.1/24, mbtmp4.2/15, ML4.3/3, MS4.7/1, Ms1 4.7/1, ms1mx2.8/31, Error ellipse: s-maj=23.6km s-min=19.1km az=17.0*
*NEIC **01** 16:36:29.5±0.4, 34.06N×73.75E, h10^{km}, mb4.0/8, Error ellipse: s-maj=10.7km s-min=4.6km az=49.0*
*NDI **01** 16:36:30.6±3.6, 34.28N×73.49E, h11^{km}±23^{km}, ML3.8, mb4.0(NEIC)*
*MOS **01** 16:36:31.2±1.3, 34.10N×73.82E, h33^{km}, mb4.5/12, Error ellipse: s-maj=13.8km s-min=5.8km az=96.6*
*NNC **01** 16:36:40.8±5.9, 34.80N×73.34E, h22^{km}±59^{km}, mpv4.5, Error ellipse: s-maj=57.9km s-min=46.7km az=15.0*

ISC 01 16:36:29.4±0.2**, 34.20N**±0.02×**73.83E**±0.04**, h10^{km}, n110, σ1^{s}55**/142**, mb4.1**/16**, MS5.0**/2**, 17C-4D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	0.72	221	⇓P	Pb	16 36 42.9	-0.6
CEP	Cherat	1.64	257	P	Pn	16 36 58.6	+0.2
THW	Thamme Wali	2.24	232	⇑P	Pn	16 37 08.4	+1.4
THN	Thein Dam	2.37	138	eP	Pb	16 37 13.0	+1.2
	16nm,0.1s						
THN				ex	Sn	16 37 36.9	-1.5
DLH	Dalhousie	2.44	132	eP	Pg	16 37 19.0	+0.9
DLH				eS	Sg	16 37 51.0	+0.3
SARP	Sargodha	2.47	203	P	Pn	16 37 11.4	+1.0
SARP				S	Sn	16 37 43.0	+2.1
PONG	Pong	2.87	141	eP	Pb	16 37 22.0	+1.8
PONG				eSB	Sg	16 38 06.0	+1.2
SBDP	Sheikh Budin	3.16	234	P	Pn	16 37 19.9	-0.3
BHK	Bhakra	3.53	141	ex	Pg	16 37 40.7	+0.8
BHK				eSB	Sg	16 38 27.1	+0.1
SDNR	Sundarnagar	3.78	135	eP	Pn	16 37 31.0	+2.0
SDNR				eSB	Sb	16 38 30.2	+8.2
DRP	Derazinda	3.91	232	⇑P	Pn	16 37 31.4	+0.6
SMLA	Simla	4.17	136	eP	Pn	16 37 36.9	+2.4
SMLA				eS	Sn	16 38 25.8	+2.0
	2µm,0.3s						
KLP	Kalpa	4.58	124	eP	Pn	16 37 42.9	+2.6
KLP				eS	Sn	16 38 36.3	+2.0
KLP				AML	AML	16 39 01.0	
	comp=N,569nm,0.6s						
KLP				AML	AML	16 39 05.9	
	comp=E,946nm,0.7s						
DDI	Dehra Dun	5.27	136	eP	Pn	16 37 52.4	+2.2
DDI				ex	Sg	16 39 21.9	-3.1
NDI	New Delhi	6.22	151	eP	Pn	16 38 05.5	+2.0
NDI				eS	Sn	16 39 13.5	-1.9
KALG	Kalgarh	6.29	137	eP	Pn	16 38 05.6	+1.2
KHET	Khetri	6.34	164	eP	Pn	16 38 06.3	+1.1
KHET				eS	Sn	16 39 15.1	-3.4
KHET				AML	AML	16 40 01.1	
	comp=N,36nm,0.5s						
KHET				AML	AML	16 40 03.1	
	comp=E,40nm,0.7s						
KUDL	Kundal	6.46	159	eP	Pn	16 38 07.4	+0.6
SONA	Sohna	6.56	154	eP	Pn	16 38 08.0	-0.3
SONA				eS	Sn	16 39 20.4	-3.5
SONA				eS	Sn	16 39 20.8	-3.1
SONA				AML	AML	16 40 09.5	
	comp=N,37nm,0.4s						
SONA				AML	AML	16 40 09.8	
	comp=E,48nm,0.4s						
PTH	Pithoragarh	7.14	129	eP	Pn	16 38 20.0	+3.5
PTH				eS	Sn	16 39 37.7	-0.9
LGTI	Lohaghat	7.23	129	eP	Pn	16 38 18.5	+0.7
LGTI				eS	Sn	16 39 37.7	-3.1
AML	Almayashu	7.92	359	P	Pn	16 38 30.1	+2.8
	SNR=32						
KZA	Kyzart	7.94	8	P	Pn	16 38 30.0	+2.3
	SNR=28						
UCH	Uchtor	8.03	4	P	P	16 38 31.2	+2.3
	SNR=46						
AAK	Ala-Archa	8.43	3	P	P	16 38 36.5	+2.0
	SNR=8.2						
AAK	Ala-Archa	8.43	3	c iP	P	16 38 35.5	+1.0
AAK	Ala-Archa	8.43	3	ePn	P	16 38 34.9	+0.4
	comp=E,7.1nm,0.6s						
EKS2	Erkin-Say	8.45	360	P	P	16 38 36.9	+2.2
	SNR=17						
KBK	Karagaybulak	8.49	6	P	P	16 38 37.4	+2.1
	SNR=14						
FRU	Bishkek	8.64	4	eP	P	16 38 40.0	+2.6
CHMS	Chumysh	8.81	4	P	P	16 38 41.8	+2.0
	SNR=15						
TKM2	Tokmak 2	8.81	9	P	P	16 38 41.8	+2.0
	SNR=16						
TKM2	Tokmak 2	8.81	9	P	P	16 38 41.6	+1.8
KK31	Karatay Array	9.26	345	Pn	P	16 38 45.8	-0.2
	comp=E,10nm,0.5s,baz=165,slow=12,SNR=196						
KK31				⇑Sn	Sn	16 40 26.4	-4.8
	comp=E,5.6nm,0.5s,baz=170,slow=23,SNR=7.8						
KK31	Karatay Array	9.26	345	P	P	16 38 45.8	-0.1
KK31						16 40 26.4	
KK31				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KK31	Karatay Array	9.26	345	Pn	P	16 38 45.8	-0.2
	comp=Z,10nm,0.4s						
KK31				Sn	Sn	16 40 26.4	-4.8
KKAR	Karatay Array	9.26	345	iP	P	16 38 45.7	-0.2
KKAR				S	Sn	16 40 26.6	-4.6
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KOLN	Koldanda	10.55	125	ePn	P	16 39 01.0	-2.8
KOLN				eSn	S	16 40 57.2	-6.0
	comp=Z,26nm,0.5s						
KOLN	Koldanda	10.55	125	ePn	P	16 39 01.0	-2.8
	comp=Z,13nm,0.5s						
KOLN				eSn	S	16 40 57.2	-6.0
GKN	Gorkha	11.13	121	ePn	P	16 39 09.1	-2.6
GKN				eSn	S	16 41 09.2	-8.1
	comp=Z,53nm,0.5s						
GKN	Gorkha	11.13	121	ePn	P	16 39 09.1	-2.6
	comp=Z,26nm,0.5s						
GKN				eSn	S	16 41 09.2	-8.1
DMN	Daman	11.70	121	ePn	P	16 39 16.2	-3.3
DMN				eSn	S	16 41 22.9	-8.3
	comp=Z,35nm,0.6s						
DMN	Daman	11.70	121	ePn	P	16 39 16.2	-3.3
	comp=Z,18nm,0.6s						
DMN				eSn	S	16 41 22.9	-8.3
KKN	Kakani	11.72	120	ePn	P	16 39 16.4	-3.3
KKN				eSn	S	16 41 23.5	-8.1
	comp=Z,30nm,0.5s						
KKN	Kakani	11.72	120	eP	P	16 39 16.4	-3.3
KKN				e		16 41 23.5	
KKN				pmax	pmax		
	comp=Z,15nm,0.5s						
KKN	Kakani	11.72	120	ePn	P	16 39 16.4	-3.3
	comp=Z,15nm,0.5s						
KKN				eSn	S	16 41 23.5	-8.1
PKI	Pulchoki	11.94	121	ePn	P	16 39 19.2	-3.5
PKI				eSn	S	16 41 29.0	-8.0
	comp=Z,54nm,0.7s						
PKI	Pulchoki	11.94	121	eP	P	16 39 19.2	-3.5
PKI				e		16 41 29.0	
PKI				pmax	pmax		
	comp=Z,27nm,0.7s						
PKI	Pulchoki	11.94	121	ePn	P	16 39 19.2	-3.5
	comp=Z,27nm,0.7s						
PKI				eSn	S	16 41 29.0	-8.0
GUN	Gumba	12.09	118	ePn	P	16 39 22.1	-2.5
JIRN	Jiri	12.45	118	ePn	P	16 39 25.0	-4.6
MK31	Makanchi Array	14.12	25	⇑P	P	16 39 52.6	+1.1
	comp=Z,1.0nm,0.4s,baz=207,slow=14,SNR=49						
MK31	Makanchi Array	14.12	25	⇑P	P	16 39 52.6	+1.1
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	14.12	25	Pn	P	16 39 50.8	-0.7
	comp=Z,0.4nm,0.3s,baz=208,slow=14,SNR=18						
MKAR	Makanchi Array	14.12	25	iP	P	16 39 52.5	+1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LSA	Lhasa	15.38	102	P	P	16 40 06.2	-1.9
LSA	Lhasa	15.38	102	eP	P	16 40 02.8	-5.3
LSA				pmax	pmax		
	comp=Z,19nm,0.8s						
LSA	Lhasa	15.38	102	eP	P	16 40 02.8	-5.2
	comp=Z,19nm,0.8s						
LSA				e		16 40 14.0	
KURK	Kurchatov	16.87	11	⇓P	P	16 40 25.9	-1.2
	comp=Z,4.6nm,0.8s						
KURK	Kurchatov	16.87	11	⇑eP	P	16 40 25.8	-1.2
KURK	Kurchatov	16.87	11	⇓P	P	16 40 25.9	-1.2
AB31	Akbulak array	18.22	330	⇑P	P	16 40 42.6	-1.3
	comp=Z,1.5nm,0.4s,baz=140,slow=13,SNR=48						
AB31				⇑S	S	16 43 52.7	-12
	comp=Z,1.6nm,0.6s,baz=151,slow=22,SNR=7.9						
AB31	Akbulak array	18.22	330	eP	P	16 40 42.6	-1.3
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VOSK	Vostochnaya	18.62	355	⇑P	P	16 40 47.5	-1.4
	comp=Z,4.3nm,0.8s						
VOSK	Vostochnaya	18.62	355	⇑P	P	16 40 47.5	-1.4
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVA0	Borovoye Array	18.97	354	⇑P	P	16 40 52.9	-0.2
	comp=Z,0.8nm,0.5s,baz=164,slow=11,SNR=43						
BVA0	Borovoye Array	18.97	354	⇑P	P	16 40 52.9	-0.2
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVA0	Borovoye Array	18.97	354	⇑P	P	16 40 52.9	-0.2
	comp=Z,0.8nm,0.5s						
BVAR	Borovoye Array	18.97	354	P	P	16 40 51.5	-1.6
	comp=Z,1.5nm,0.3s,baz=159,slow=13,SNR=40						
BVAR	Borovoye Array	18.97	354	P	P	16 40 51.5	-1.6
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRVK	Borovoye	19.02	353	eP	P	16 40 53.3	-0.3
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	Borovoye	19.02	353	eP	P	16 40 53.3	-0.3
	comp=Z,7.0nm,0.8s						
AKTK	Aktyubinsk	19.92	329	⇑P	P	16 41 02.8	-1.3
AKTK				S	S	16 44 35.5	-7.0
AKTO	Aktyubinsk	19.92	329	⇑P	P	16 41 02.8	-1.3
	comp=Z,2.0nm,0.6s						
AKTO				⇓S	S	16 44 35.5	-7.0
	comp=Z,0.9nm,1.2s						
AKTO	Aktyubinsk	19.92	329	P	P	16 41 02.7	-1.3
	comp=Z,1.9nm,0.3s,baz=136,slow=11,SNR=37						
AKTO				S	S	16 44 40.5	-2.0
	comp=Z,0.1nm,0.3s,baz=329,slow=19,SNR=3.1						
AKTO	Aktyubinsk	19.92	329	P	P	16 41 02.7	-1.3
AKTO				S	S	16 44 40.5	-1.9
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	Zalesovo	21.20	18	P	P	16 41 16.4	-0.7
	comp=Z,8.2nm,0.4s,mb4.4,baz=258,slow=7.3,SNR=35						
ZAL				LR	LR	16 50 38.9	
	comp=Z,30nm,18.3s,baz=186,slow=40						
ZAL	Zalesovo	21.20	18	P	P	16 41 16.5	-0.7
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,30nm,18.3s						
GTA	Gaotai	21.42	68	eP	P	16 41 20.5	+1.0
GTA				AP		16 41 26.1	
GTA				XP		16 41 29.3	
NVS	Novosibirsk	21.66	15	iP	P	16 41 22.6	+0.7
GNI	Garni	23.86	293	iP	P	16 41 44.8	+1.2
GNI	Garni	23.86	293	eP	P	16 41 41.8	-1.7
	comp=Z,9.0nm,1.1s,mb4.1						
ARU	Arti	24.57	339	⇑iP	P	16 41 51.2	+0.9
ARU				ePPP	PPP	16 42 30.2	-6.7
ARU				eS	S	16 46 11.1	+2.9
ARU				eSS	SS	16 46 57.0	-6.6
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
ARU	Arti	24.57	339	eP	P	16 41 49.7	-0.6
	comp=Z,4.4nm,0.6s,mb4.2						
SONM	Songino Array	27.86	51	P	P	16 42 22.3	+1.3
	comp=Z,2.1nm,0.6s,mb3.9,baz=255,slow=9.5,SNR=22						
SONM	Songino Array	27.86	51	P	P	16 42 22.3	+1.3
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	36.19	311	P	P	16 43 32.6	-1.2
	comp=Z,0.5nm,0.3s,mb3.9,baz=82,slow=8.1,SNR=3.7						
AKASG	Malin Array Be	36.19	311	iP	P	16 43 37.5	+3.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MLR	Muntele Rosu	37.93	302	P	P	16 43 48.1	-0.5
	comp=Z,4.2nm,0.7s,mb4.3,baz=138,slow=6.8,SNR=7.4						
MLR	Muntele Rosu	37.93	302	P	P	16 43 48.1	-0.5
MLR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SSE	Sheshan	39.72	81	eP	P	16 44 01.2	-2.5
SSE				AMB	AMB		
	comp=Z,50nm,0.7s						
SSE				AMB	AMB		
	comp=Z,80nm,5.1s						
FINES	FINESS Array B	40.67	327	P	P	16 44 10.9	-0.2
	comp=Z,1.5nm,0.8s,mb3.7,baz=120,slow=11,SNR=5.8						
FINES	FINESS Array B	40.67	327	P	P	16 44 10.9	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	44.14	338	P	P	16 44 39.1	-0.2
	comp=Z,1.8nm,0.5s,mb4.1,baz=118,slow=8.7,SNR=9.6						
ARCES	ARCESS Array B	44.14	338	P	P	16 44 39.2	-0.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	46.29	323	P	P	16 44 55.4	-1.2
	comp=Z,6.4nm,0.7s,mb4.7,baz=94,slow=10,SNR=20						
HFS	Hagfors	46.29	323	P	P	16 44 55.4	-1.2
HFS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIXI	Tiksi	47.07	21	iP	P	16 45 02.2	-0.4
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
NB2	NORSAR Subarra	47.59	324	P	P	16 45 04.9	-2.0
	comp=Z,1.4nm,0.5s,mb4.2,baz=97,slow=7.4						
NOA	NORSAR Array B	47.59	324	P	P	16 45 05.3	-1.6
	comp=Z,1.9nm,0.5s,mb4.4,baz=97,slow=7.6,SNR=7.3						
NOA	NORSAR Array B	47.59	324	P	P	16 45 05.3	-1.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GUMO	Guam	66.89	89	LR	LR	17 15 13.1	
	comp=Z,2µm,20.6s,MS5.2,baz=242,slow=35						
TORD	Torodi Ar. Bea	68.03	271	P	P	16 47 29.3	-2.0
	comp=Z,1.8nm,0.5s,mb4.4,baz=47,slow=5.5,SNR=25						
FX1	Attu Island--F	68.68	40	LR	LR	17 17 50.8	
	comp=Z,538nm,20.8s,MS4.8,baz=323,slow=36						
ILAR	Eielson Array	76.33	17	P	P	16 48 19.3	-0.4
	comp=Z,0.2nm,0.6s,mb3.2,baz=302,slow=4.7,SNR=6.1						
WRA	Warramunga Arr	78.81	123	P	P	16 48 34.4	+0.1
	comp=Z,2.1nm,0.6s,mb4.2,baz=323,slow=5.3,SNR=46						
WRA	Warramunga Arr	78.81	123	P	P	16 48 34.4	+0.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRAB	Tennant Creek	78.81	123	eP	P	16 48 33.5	-0.8
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
WRAB	Tennant Creek	78.81	123	eP	P	16 48 33.5	-0.7
	comp=Z,3.7nm,0.6s,mb4.5						
YKA	Yellowknife Ar	83.40	4	P	P	16 48 57.5	-0.1
	comp=Z,0.3nm,0.5s,mb3.6,baz=347,slow=5.3,SNR=6.9						

*IDC **01** 16:56:05.9±4.4, 6.23S×148.25E, h48^{km}±40^{km}, mb4.1/3, mb1 4.4/5, mb1mx3.9/13, mbtmp4.4/5, ML4.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/26, Error ellipse: s-maj=42.8km s-min=23.7km az=141.0*
*NEIC **01** 16:56:06.1±3.2, 6.17S×148.08E, h53^{km}±26^{km}, mb4.7/3, Error ellipse: s-maj=42.5km s-min=12.7km az=153.0*

ISC 01 16:55:59.7±4.4**, 6.1S**±0.1×**148.0E**±0.1**, h13^{km}**±31^{km}**, n18, σ0^{s}98**/19**, mb4.5**/3**, 1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.40	194	P	Pn	16 56 56.6	+2.9
	59nm,0.3s,baz=17,slow=4.9,SNR=114						
PMG				S	Sn	16 57 34.2	0.0
	16nm,0.3s,baz=29,slow=16,SNR=4.0						
PMG				LR	LR	16 58 36.9	
	comp=Z,151nm,18.7s,baz=338,slow=45						
PMG	Port Moresby	3.40	194	ePn	Pn	16 56 56.2	+2.6
PMG				eSn	Sn	16 57 33.9	-0.4
PMG				S	Sn	16 57 34.2	0.0
HNR	Honiara	12.30	106	P	P	16 58 56.9	-0.7
	24nm,0.6s						
WRAB	Tennant Creek	19.11	223	eP	P	17 00 23.9	-1.2
	7.9nm,0.5s						
WB2	Warramunga Arr	19.12	223	⇑iP	P	17 00 24.3	-0.8
WB2				eS	S	17 04 08.1	+13
WRA	Warramunga Arr	19.13	223	P	P	17 00 24.5	-0.8
	1.5nm,0.3s,baz=50,slow=10,SNR=63						
WRA				S	S	17 04 02.3	+7.3
	0.1nm,0.3s,baz=47,slow=21,SNR=3.1						
FITZ	Fitzroy Crossi	24.87	239	eP	P	17 01 24.7	+1.0
	12nm,0.4s,mb4.8						
FITZ	Fitzroy Crossi	24.87	239	P	P	17 01 24.9	+1.2
	13nm,0.3s,mb4.9,baz=70,slow=8.8,SNR=71						
STKA	Stephens Creek	26.35	192	eP	P	17 01 37.9	+0.5
	4.3nm,0.9s,mb4.0						
STKA	Stephens Creek	26.35	192	P	P	17 01 37.9	+0.5
	5.3nm,0.7s,mb4.2,baz=1.2,slow=7.8,SNR=11						
STKA	Stephens Creek	26.35	192	eP	P	17 01 37.6	+0.1
KLBR	Kellerberrin	38.00	224	eP	P	17 03 19.3	0.0
	6.2nm,0.5s,mb4.6						
RAO	Raoul Island	39.56	130	P	P	17 03 25.6	-6.9
	267nm,0.5s						
ILAR	Eielson Array	85.17	23	P	P	17 08 37.1	+0.4
	0.2nm,0.6s,baz=252,slow=4.7,SNR=4.6						
CFAA	Coronel Fontan	129.01	140	PKP	PKPdf	17 15 07.8	-3.9
	0.1nm,0.3s,baz=329,slow=4.6,SNR=3.5						
LPAZ	La Paz	137.90	122	PKP	PKPdf	17 15 24.4	-4.2
	1.1nm,0.3s,baz=233,slow=10,SNR=4.9						
SAML	Samuel	145.52	115	ePKPdf	PKPdf	17 15 41.4	-0.8
SAML				epPKPdf		17 15 54.6	
TORD	Torodi Ar. Bea	146.07	284	PKPbc	PKPbc	17 15 42.5	+1.8
	1.3nm,0.8s,baz=68,slow=3.8,SNR=8.5						

*IDC **01** 16:58:01.4±0.9, 34.25N×73.57E, mb4.0/10, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, ML3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/27, Error ellipse: s-maj=22.4km s-min=20.7km az=15.0*
*BJI **01** 16:58:02.5, 34.20N×73.60E, h18^{km}, mB4.3, mb3.9, ML4.0*
*NDI **01** 16:58:03.9±3.3, 34.31N×73.44E, h10^{km}, MD3.9, ML3.7, mb3.7(NEIC)*
*NEIC **01** 16:58:03.9±3.6, 34.24N×73.63E, h18^{km}±23^{km}, mb3.7/8, Error ellipse: s-maj=14.7km s-min=4.9km az=56.0*
*MOS **01** 16:58:05.1±1.3, 34.33N×73.53E, h33^{km}, mb4.2/9, Error ellipse: s-maj=21.5km s-min=7.8km az=94.8*
*NNC **01** 16:58:19.4±6.3, 35.20N×73.37E, h72^{km}±47^{km}, mpv4.3, Error ellipse: s-maj=54.3km s-min=42.1km az=28.0*

ISC 01 16:58:04.2±0.3**, 34.27N**±0.03×**73.76E**±0.05**, h33^{km}, n96, σ1^{s}23**/123**, mb4.0**/13**, MS3.2**/1**, 8C-8D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	0.74	214	⇓P	P	16 58 17.7	-0.5
CEP	Cherat	1.60	254	P	P	16 58 31.6	+1.1
THN	Thein Dam	2.46	138	eSB	Sb	16 59 24.6	+6.9
SARP	Sargodha	2.51	202	P	P	16 58 46.2	+2.6
DLH	Dalhousie	2.52	132	eP	P	16 58 49.0	+5.2
DLH				eSB	Sb	16 59 29.0	+9.3
SBDP	Sheikh Budin	3.16	232	P	P	16 58 56.6	+3.8
BHK	Bhakra	3.62	141	ex	x	16 59 22.3	
BHK				eSB	Sb	17 00 00.5	+9.3
SDNR	Sundarnagar	3.86	135	eP	P	16 59 07.0	+4.2
SDNR				eS	S	16 59 52.2	+4.5
DRP	Derazinda	3.91	231	P	P	16 59 07.2	+3.8
SMLA	Simla	4.25	137	eP	P	16 59 11.5	+3.2
SMLA				eS	S	17 00 00.9	+3.4
KLP	Kalpa	4.66	125	eP	P	16 59 18.0	+3.9
KLP				eS	S	17 00 12.1	+4.4
KLP				AML	AML	17 00 37.6	
	comp=E,623nm,0.4s						
KLP				AML	AML	17 00 37.7	
	comp=N,636nm,0.5s						
DDI	Dehra Dun	5.36	136	eP	P	16 59 28.0	+4.1
KSH	Kashi	5.53	18	eP	P	16 59 30.5	+4.2
KSH				S	S	17 00 34.9	+5.3
KSH				Smax			
	comp=N,50nm,0.4s						
KSH				Smax			
	comp=E,70nm,0.4s						
NDI	New Delhi	6.30	151	eP	P	16 59 37.0	-0.2

NDI				eS	S	17 00 49.5	+0.5
KHET	Khetri	6.42	164	eP	P	16 59 39.3	+0.4
KHET				eS	S	17 00 50.1	-1.8
KHET				AML	AML	17 01 38.9	
	comp=N,28nm,0.1s						
KHET				AML	AML	17 01 39.9	
	comp=E,40nm,0.4s						
KUDL	Kundal	6.54	158	eP	P	16 59 41.1	+0.5
KUDL				eS	S	17 00 52.8	-2.0
SONA	Sohna	6.64	154	eP	P	16 59 42.2	+0.2
SONA				eS	S	17 00 56.7	-0.7
SONA				AML	AML	17 01 02.5	
	comp=N,44nm,0.2s						
SONA				AML	AML	17 01 03.1	
	comp=E,54nm,0.1s						
SONA				AML	AML	17 01 03.3	
	comp=E,69nm,0.4s						
PTH	Pithoragarh	7.23	129	ex	x	16 59 58.0	
PTH				eS	S	17 01 08.0	-4.0
LGTI	Lohaghat	7.31	129	eP	P	16 59 53.7	+2.3
LGTI				eS	S	17 01 13.3	-0.9
AML	Almayashu	7.85	360	P	P	16 59 59.7	+0.8
	SNR=25						
KZA	Kyzart	7.88	8	P	P	17 00 00.8	+1.5
	SNR=26						
UCH	Uchtor	7.97	4	P	P	17 00 01.5	+1.0
	SNR=32						
AAK	Ala-Archa	8.37	4	P	P	17 00 07.3	+1.2
	SNR=11						
AAK	Ala-Archa	8.37	4	⇑eP	P	17 00 06.3	+0.2
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AAK	Ala-Archa	8.37	4	ePn	P	17 00 05.7	-0.4
	comp=Z,13nm,1.0s						
EKS2	Erkin-Say	8.38	0	P	P	17 00 07.3	+1.1
	SNR=11						
KBK	Karagaybulak	8.43	6	P	P	17 00 04.0	-2.8
	SNR=8.5						
CHMS	Chumysh	8.75	5	P	P	17 00 12.3	+1.0
	SNR=8.5						
TKM2	Tokmak 2	8.76	9	P	P	17 00 12.3	+0.8
	SNR=10						
KK31	Karatay Array	9.18	345	⇓Pn	P	17 00 16.3	-1.0
	comp=Z,9.5nm,0.7s,baz=165,slow=12,SNR=85						
KK31				⇑Sn	Sn	17 01 53.0	-7.7
	comp=Z,12nm,0.7s,baz=167,slow=20,SNR=14						
KK31	Karatay Array	9.18	345	⇓Pn	P	17 00 16.3	-1.0
	comp=Z,9.5nm,0.6s						
KK31				Sn	Sn	17 01 53.0	-7.7
KKAR	Karatay Array	9.18	345	i P	P	17 00 16.2	-1.1
KKAR				S	S	17 01 53.2	-7.4
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLN	Koldanda	10.64	125	ePn	P	17 00 37.4	0.0
KOLN				eSn	S	17 02 30.2	-6.2
	comp=Z,45nm,0.7s						
KOLN	Koldanda	10.64	125	ePn	P	17 00 37.4	0.0
	comp=Z,22nm,0.7s						
KOLN				eSn	S	17 02 30.2	-6.2
GKN	Gorkha	11.21	121	ePn	P	17 00 44.4	-0.9
GKN				eSn	S	17 02 43.7	-6.8
	comp=Z,74nm,0.5s						
GKN	Gorkha	11.21	121	ePn	P	17 00 44.4	-0.9
	comp=Z,37nm,0.5s						
GKN				eSn	S	17 02 43.7	-6.8
DMN	Daman	11.78	121	ePn	P	17 00 52.5	-0.4
DMN				eSn	S	17 02 57.7	-6.6
KKN	Kakani	11.80	120	ePn	P	17 00 52.0	-1.2
KKN				eSn	S	17 02 56.6	-8.1
	comp=Z,56nm,0.7s						
KKN	Kakani	11.80	120	ePn	P	17 00 52.0	-1.2
	comp=Z,28nm,0.7s						
KKN				eSn	S	17 02 56.6	-8.1
PKI	Pulchoki	12.02	121	ePn	P	17 00 55.4	-0.7
PKI				eSn	S	17 03 03.9	-6.2
	comp=Z,31nm,0.5s						
PKI	Pulchoki	12.02	121	ePn	P	17 00 55.4	-0.7
	comp=Z,15nm,0.5s						
PKI				eSn	S	17 03 03.9	-6.2
GUN	Gumba	12.16	118	ePn	P	17 00 57.4	-0.7
JIRN	Jiri	12.53	118	ePn	P	17 01 02.8	-0.2
MK31	Makanchi Array	14.08	25	⇓P	P	17 01 29.3	+6.0
	comp=Z,2.9nm,0.8s,baz=214,slow=14,SNR=10.0						
MKAR	Makanchi Array	14.08	25	Pn	P	17 01 23.0	-0.3
	comp=Z,0.1nm,0.3s,baz=206,slow=14,SNR=5.2						
MKAR	Makanchi Array	14.08	25	i P	P	17 01 26.0	+2.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	14.08	25	i P	P	17 01 30.1	+6.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	14.08	25	Pn	P	17 01 23.0	-0.3
LSA	Lhasa	15.44	102	eP	P	17 01 47.8	+6.5
	comp=Z,5.1nm,0.7s						
KURK	Kurchatov	16.82	11	⇑P	P	17 01 56.4	-2.2
	comp=Z,3.3nm,1.0s						
KURK	Kurchatov	16.82	11c	i P	P	17 01 57.3	-1.2
KURK	Kurchatov	16.82	11	⇑P	P	17 01 56.4	-2.2
KURK				eP		17 01 56.8	
AB31	Akbulak array	18.13	330	⇓P	P	17 02 15.4	+0.3
	comp=Z,1.7nm,0.5s,baz=140,slow=12,SNR=29						
AB31				⇑S	S	17 05 23.1	-10
	comp=Z,1.1nm,0.7s,baz=146,slow=24,SNR=3.6						
AB31	Akbulak array	18.13	330	eP	P	17 02 15.3	+0.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VOSK	Vostochnaya	18.55	355	⇓P	P	17 02 19.3	-1.0
	comp=Z,1.3nm,0.5s						
VOSK	Vostochnaya	18.55	355	⇓P	P	17 02 19.3	-1.0
	comp=Z,1.3nm,0.4s						
BVA0	Borovoye Array	18.90	354	P	P	17 02 23.5	-0.9
	comp=Z,0.6nm,0.7s,baz=164,slow=11,SNR=24						
BVA0	Borovoye Array	18.90	354	i P	P	17 02 23.5	-1.0
BVA0	Borovoye Array	18.90	354	P	P	17 02 23.5	-1.0
	comp=Z,0.6nm,0.7s						
BVAR	Borovoye Array	18.90	354	P	P	17 02 23.7	-0.8
	comp=Z,0.7nm,0.3s,baz=162,slow=10,SNR=32						
BVAR	Borovoye Array	18.90	354	P	P	17 02 23.7	-0.8
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	Borovoye	18.95	354	eP	P	17 02 21.0	-4.0
	comp=Z,4.1nm,0.9s						
AKTK	Aktyubinsk	19.84	329	⇑P	P	17 02 33.7	-1.3
AKTO	Aktyubinsk	19.84	329	⇑P	P	17 02 33.7	-1.2
	comp=Z,1.7nm,1.1s						
AKTO	Aktyubinsk	19.84	329	P	P	17 02 33.8	-1.1
	comp=Z,0.9nm,0.3s,baz=128,slow=11,SNR=20						
AKTO				S	S	17 06 12.6	+1.2
	comp=Z,0.1nm,0.3s,baz=257,slow=18,SNR=5.5						
AKTO	Aktyubinsk	19.84	329	P	P	17 02 33.8	-1.1
AKTO				S	S	17 06 12.6	+1.2
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	Zalesovo	21.15	18	P	P	17 02 47.5	-1.0
	comp=Z,3.7nm,0.6s,mb3.9,baz=259,slow=10.0,SNR=18						
ZAL				S	S	17 06 35.5	-1.5
	comp=Z,0.6nm,0.3s,baz=195,slow=20,SNR=4.4						
ZAL	Zalesovo	21.15	18	P	P	17 02 47.5	-1.0
ZAL				S	S	17 06 35.5	-1.5
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL				smax			
	comp=N,1.0nm,0.3s						
NVS	Novosibirsk	21.61	15	eP	P	17 02 53.8	+0.7
ARU	Arti	24.49	339	⇓iP	P	17 03 22.2	+0.9
ARU				e		17 03 50.4	
ARU				eS	S	17 07 41.2	+4.5
ARU				eSS	SS	17 08 26.7	-5.6
ARU				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9						
SONM	Songino Array	27.86	51	P	P	17 03 54.4	+1.7
	comp=Z,1.5nm,0.8s,mb3.7,baz=257,slow=10.0,SNR=9.6						
SONM				LR	LR	17 16 48.0	
	comp=Z,69nm,21.6s,MS3.2,baz=357,slow=40						
SONM	Songino Array	27.86	51	P	P	17 03 54.4	+1.6
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,69nm,21.6s						
AKASG	Malin Array Be	36.10	311	P	P	17 05 03.6	-1.1
	comp=Z,0.2nm,0.3s,mb3.5,baz=80,slow=7.7,SNR=5.6						
SANT	Santorini	39.15	287	eP	P	17 05 34.5	+4.2
	comp=Z,59nm,0.7s						
SSE	Sheshan	39.77	81	eP	P	17 05 36.1	+0.6
SSE				AMB	AMB		
	comp=Z,10.0nm,3.5s						
FINES	FINESS Array B	40.58	327	P	P	17 05 41.9	-0.1
	comp=Z,3.0nm,1.0s,mb3.9,baz=176,slow=31,SNR=4.7						
FINES	FINESS Array B	40.58	327	P	P	17 05 41.9	-0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MORC	Moravsky Berou	43.51	308	P	P	17 06 05.3	-0.7
	comp=Z,2.1nm,0.8s,mb3.9						
ARCES	ARCESS Array B	44.06	338	P	P	17 06 11.1	+0.8
	comp=Z,1.3nm,0.5s,mb3.9,baz=104,slow=5.0,SNR=8.3						
ARCES	ARCESS Array B	44.06	338	P	P	17 06 11.1	+0.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	44.06	338	P	P	17 06 11.1	+0.8
NB2	NORSAR Subarra	47.51	324	P	P	17 06 36.3	-1.4
	comp=Z,1.8nm,0.6s,mb4.3,baz=98,slow=7.4						
NOA	NORSAR Array B	47.51	324	P	P	17 06 36.7	-1.1
	comp=Z,1.8nm,0.6s,mb4.3,baz=96,slow=7.7,SNR=9.8						
NOA	NORSAR Array B	47.51	324	P	P	17 06 36.7	-1.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	47.51	324	P	P	17 06 36.7	-1.1
TORD	Torodi Ar. Bea	67.97	271	P	P	17 09 01.4	-0.9
	comp=Z,3.5nm,0.8s,mb4.5,baz=46,slow=5.5,SNR=19						
DBIC	Dimbokro	76.88	269	P	P	17 09 54.9	-0.3
	comp=Z,1.5nm,0.5s,mb4.2,baz=189,slow=22,SNR=5.2						
DBIC	Dimbokro	76.88	269	P	P	17 09 54.9	-0.3
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.5s						
DBIC	Dimbokro	76.88	269	P	P	17 09 53.0	-2.2
	comp=Z,2.4nm,0.6s,mb4.3						
WRA	Warramunga Arr	78.89	123	P	P	17 10 07.6	+1.4
	comp=Z,0.8nm,0.5s,mb3.9,baz=323,slow=4.9,SNR=32						
WRA	Warramunga Arr	78.89	123	i P	P	17 10 07.5	+1.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRAB	Tennant Creek	78.89	123	P	P	17 10 07.0	+0.8
	comp=Z,3.2nm,0.8s,mb4.3						
PMG	Port Moresby	81.81	107	P	pP	17 10 32.9	+0.7
YKA	Yellowknife Ar	83.34	4	P	P	17 10 29.9	+1.3
	comp=Z,1.1nm,0.8s,mb3.9,baz=335,slow=5.2,SNR=4.2						
YKA	Yellowknife Ar	83.34	4	i P	P	17 10 31.6	+3.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	83.34	4	P	P	17 10 29.9	+1.3

IDC 01 17:09:55.6±1.9**, 5.11N**×**126.19E, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.7**/16**, mbtmp3.8**/4**, Error ellipse: s-maj=110.7km s-min=25.8km az=68.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.07	181	eP	P	17 15 02.5	-1.6
	5.2nm,1.4s						
FITZ	Fitzroy Crossi	23.07	181	P	P	17 15 02.2	-1.9
	1.4nm,0.4s,baz=343,slow=11,SNR=10						
WRA	Warramunga Arr	26.16	162	P	P	17 15 31.7	-1.9
	0.4nm,0.4s,baz=345,slow=9.8,SNR=18						
WB2	Warramunga Arr	26.16	162	eP	P	17 15 31.8	-1.8
STKA	Stephens Creek	39.60	159	P	P	17 17 29.6	-1.1
	0.8nm,0.4s,baz=350,slow=8.5,SNR=7.4						
MKAR	Makanchi Array	56.12	325	P	P	17 19 36.8	-2.4
	1.0nm,1.1s,baz=110,slow=9.8,SNR=4.4						

IDC ***01*** *17:11:38.8±1.2, 60.46S×34.49W, mb4.0/5, mb1 4.1/6, mb1mx3.9/15, mbtmp4.0/6, ML3.7/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/15, Error ellipse: s-maj=50.8km s-min=24.7km az=25.0*

NEIC ***01*** *17:11:40.0±0.3, 60.42S×34.51W, h10km, mb4.6/9, Error ellipse: s-maj=11.1km s-min=6.4km az=49.0*

ISC 01 17:11:38.3±0.6**, 60.43S**±0.09×**34.6W**±0.2**, h10**^{km}**, n29,** σ0^{s}**96**/20**, mb4.4**/8**, MS3.7**/6**, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	14.18	240	eP	P	17 14 59.9	-0.9
	87nm,1.4s						
VNA3	Neumayer Olymp	14.72	148	P	P	17 15 08.5	+0.6
VNA2	Neumayer--Watz	15.17	145	P	P	17 15 14.0	+0.1
EFI	East Falkland	15.71	293	eP	P	17 15 26.3	+5.3
	75nm,0.9s						
SNAA	Sanae	16.82	145	P	P	17 15 37.5	+2.5
SNAA	Sanae	16.82	145	Pn	P	17 15 35.1	+0.1
	0.3nm,0.3s,baz=304,slow=10,SNR=34						
SNAA				Sn	S	17 18 34.0	-7.1
	0.0nm,0.3s,baz=320,slow=19,SNR=3.5						
SNAA				LR	LR	17 20 58.5	
	comp=Z,53nm,19.6s,baz=220,slow=33						
SNAA	Sanae	16.82	145	eP	P	17 15 35.6	+0.6
	6.6nm,0.6s						
USHA	Ushuaia	18.83	272	LR	LR	17 21 28.3	
	comp=Z,202nm,21.7s,baz=71,slow=31						
PLCA	Paso Flores	29.62	295	LR	LR	17 28 05.6	
	comp=Z,76nm,18.8s,MS3.4,baz=182,slow=33						
CFAA	Coronel Fontan	36.39	307	P	P	17 18 45.1	+0.6
	0.2nm,0.7s,baz=262,slow=1.8,SNR=4.7						
CPUP	Villa Florida	37.49	325	eP	P	17 18 54.0	+0.3
	12nm,0.9s,mb4.7						
CPUP				e		17 19 02.7	
MAW	Mawson	38.97	143	LR	LR	17 34 01.9	
	comp=Z,51nm,18.3s,MS3.4,baz=64,slow=34						
BDFB	Brasilia	45.78	342	LR	LR	17 35 08.0	
	comp=Z,73nm,20.7s,MS3.6,baz=114,slow=31						
SIV	San Ignacio	48.35	325	P	P	17 20 21.6	-0.3
	1.7nm,0.6s,mb4.2,baz=146,slow=8.1,SNR=9.3						
LPAZ	La Paz	50.29	316	P	P	17 20 38.5	+1.7
	1.1nm,0.6s,mb4.1,baz=176,slow=4.8,SNR=5.7						
LPAZ				LR	LR	17 39 53.5	
	comp=Z,40nm,18.8s,MS3.5,baz=99,slow=34						
LPAZ	La Paz	50.29	316	eP	P	17 20 37.5	+0.7
	2.8nm,0.9s,mb4.3						
LPAZ				LR	LR	17 39 53.5	
LBTB	Lobatse	53.90	77	P	P	17 21 03.5	-0.3
	1.4nm,0.6s,mb4.0,baz=205,slow=17,SNR=4.3						
LBTB	Lobatse	53.90	77	P	P	17 21 02.5	-1.2
	2.8nm,0.8s,mb4.2						
TSUM	Tsumeb	55.14	65	P	P	17 21 11.7	-1.2
	5.8nm,1.1s,mb4.5						
SAML	Samuel	55.65	325	eP	P	17 21 15.9	-0.8
	4.6nm,0.7s,mb4.6						
SAML				e		17 21 24.8	
NNA	Nana	57.44	309	P	P	17 21 19.8	-10
	23nm,0.4s						
LSZ	Lusaka	63.47	74	LR	LR	17 44 36.0	
	comp=Z,94nm,18.2s,MS4.0,baz=350,slow=31						
LSZ	Lusaka	63.47	74	P	P	17 22 03.2	-7.4
	4.3nm,1.1s,mb4.5						
TORD	Torodi Ar. Bea	78.85	36	P	P	17 23 43.9	+0.9
	4.1nm,0.7s,mb4.5,baz=196,slow=6.6,SNR=24						
NWAO	Narrogin (SRO)	84.14	156	LR	LR	18 01 34.7	
	comp=Z,117nm,19.2s,MS4.3,baz=61,slow=36						
NOA	NORSAR Array B	126.17	26	PKP	PKPdf	17 30 41.1	-1.7
	1.0nm,0.7s,baz=206,slow=1.9,SNR=3.5						
YKA	Yellowknife Ar	136.83	318	PKP	PKPdf	17 31 01.1	-1.6
	0.8nm,0.6s,baz=135,slow=2.1,SNR=10						
INK	Inuvik	146.60	318	PKPbc	PKPbc	17 31 19.6	+1.6
	5.0nm,1.0s,baz=86,slow=4.6,SNR=10						
ILAR	Eielson Array	149.92	308	PKPbc	PKPdf	17 31 28.9	+3.8
	3.5nm,0.8s,baz=157,slow=1.7,SNR=22						

IDC ***01*** *17:13:18.4±0.5, 13.97N×146.43E, mb4.7/21, mb1 4.8/21, mb1mx4.7/25, mbtmp4.7/21, MS4.0/4, Ms1 4.0/4, ms1mx3.5/23, Error ellipse: s-maj=16.0km s-min=13.0km az=114.0*

HRVD ***01*** *17:13:19.7±0.9, 14.01N×146.83E, h18km±2km, MW4.8/33, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s33,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.12±.18; $M_{\theta\theta}$-0.09±.12; $M_{\phi\phi}$1.21±.13; $M_{r\theta}$1.60±.45; $M_{\theta\phi}$0.31±.08; $M_{\phi r}$-0.43±.33; Best double couple: $M_0$1.826×10^{16} NP1:ϕ_s218°,δ49°,λ-39°. NP2: ϕ_s336°,δ61°,λ-132°. Principal axes: T 1.289, Plg7°, Azm95°; N 1.077, Plg36°, Azm359°; P -2.364, Plg53°, Azm194°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***01*** *17:13:19.7±5.5, 13.95N×146.37E, h10km±33km, mb4.9/39 Error ellipse: s-maj=9.0km s-min=7.0km az=78.0*

BJI ***01*** *17:13:21.2, 13.81N×147.01E, h53km, mB5.2, mb4.7, Ms4.9, Msz4.6*

MOS ***01*** *17:13:21.4±1.0, 13.91N×146.29E, h33km, mb5.1/31, Error ellipse: s-maj=12.8km s-min=7.7km az=102.3*

ISC 01 17:13:20.4±2.0**, 13.89N**±0.05×**146.30E**±0.05**, h24**^{km}±14^{km}**, h47**^{km}±3.1^{km}**:pP-P, n149,** σ1^{s}**04**/150**, mb4.8**/73**, MS4.3**/16**, 3C-5D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.42	258	Pn	Pn	17 13 49.1	+4.0
	282nm,0.3s,baz=107,slow=5.1,SNR=176						
GUMO				Sn	Sn	17 14 10.0	+6.9
	510nm,0.3s,baz=14,slow=23,SNR=13						
GUMO	Guam	1.42	258	eP	Pn	17 13 49.4	+4.3
JOW	Kunigami	21.20	310	P	P	17 18 05.8	-1.1
	82nm,0.9s,mb5.1,baz=136,slow=11,SNR=17						
JOW				LR	LR	17 25 09.3	
	comp=Z,438nm,19.2s,MS3.9,baz=136,slow=34						
PMG	Port Moresby	23.16	178	P	P	17 18 27.9	+1.5
	19nm,1.0s,mb4.5,baz=18,slow=3.1,SNR=6.8						
PMG	Port Moresby	23.16	178	i P	P	17 18 25.2	-1.3
PMG	Port Moresby	23.16	178	eP	P	17 18 25.2	-1.2
	31nm,1.4s,mb4.5						
MJAR	Matsushiro Arr	23.69	344	P	P	17 18 30.1	-1.3
	3.0nm,0.6s,mb3.9,baz=164,slow=10,SNR=7.9						
MJAR				LR	LR	17 27 02.2	
	comp=Z,377nm,18.8s,MS3.9,baz=170,slow=35						
MAJO	Matsushiro	23.69	344	P	P	17 18 31.4	0.0
MAJO				pmax	pmax		
	comp=Z,46nm,1.4s,mb4.7						
MAJO	Matsushiro	23.69	344	P	P	17 18 31.4	0.0
	comp=Z,46nm,1.4s,mb4.7						
MAT	Matsushiro	23.69	344	P	P	17 18 30.4	-1.0
MAT				eS	S	17 22 51.2	+10
MAT	Matsushiro	23.69	344	eP	P	17 18 30.0	-1.4
MAT				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.3						
MAT	Matsushiro	23.69	344	eP	P	17 18 30.0	-1.4
	comp=Z,14nm,1.1s,mb4.3						
JNU	Nakatsue	23.74	326	P	P	17 18 33.2	+1.4
	comp=Z,32nm,0.8s,mb4.8,baz=116,slow=4.7,SNR=12						
JNU				LR	LR	17 25 15.3	
	comp=Z,426nm,21.4s,MS3.9,baz=228,slow=30						
HNR	Honiara	26.84	149	LR	LR	17 29 17.0	
	comp=Z,279nm,19.2s,MS3.8,baz=342,slow=36						
KS15	Wonju Array Si	28.62	328	eP	P	17 19 16.0	-1.2
SSE	Sheshan	28.72	311	eP	P	17 19 18.4	+0.2
SSE				AP	pP	17 19 33.7	+8.5
SSE				XP	sP	17 19 41.6	+13
SSE				S	S	17 24 04.3	-0.3
SSE				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,50nm,3.8s						
SSE				LR	LR		
	comp=Z,150nm,22.1s,MS3.5						
DL2	Dalian	33.09	323	P	P	17 19 57.6	+0.9
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
WHN	Wuhan	33.74	305	P	P	17 20 08.4	+6.0
MDJ	Mudanjiang	33.77	338	P	P	17 20 03.5	+1.0
MDJ				XP	sP	17 20 21.7	+9.1
MDJ				S	S	17 25 24.5	+0.8
MDJ				AMB	AMB		
	comp=Z,380nm,5.3s						
MDJ				LR	LR		
	comp=Z,160nm,17.9s,MS3.8						
CN2	Changchun	34.75	333	eP	P	17 20 12.9	+1.9
CN2				eS	S	17 25 38.3	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
WRAB	Tennant Creek	35.61	200	⇓eP	P	17 20 17.9	-0.7
WRAB	Tennant Creek	35.61	200	eP	P	17 20 17.5	-1.1
	comp=Z,9.6nm,0.8s,mb4.8						
WB2	Warramunga Arr	35.62	200	eP	P	17 20 18.2	-0.4
WRA	Warramunga Arr	35.62	200	P	P	17 20 18.2	-0.4
	comp=Z,7.4nm,1.0s,mb4.6,baz=21,slow=9.6,SNR=26						
WRA				PcP	PcP	17 22 47.5	+0.1
	comp=Z,1.8nm,0.8s,baz=12,slow=3.8,SNR=6.0						
WRA	Warramunga Arr	35.62	200	i P	P	17 20 18.2	-0.5
WRA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ENH	Enshi	37.60	302	eP	P	17 20 34.7	-0.5
	comp=Z,14nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	37.76	213	eP	P	17 20 37.5	+0.8
	comp=Z,7.6nm,1.0s,mb4.4						
FITZ	Fitzroy Crossi	37.76	213	P	P	17 20 37.0	+0.3
	comp=Z,5.8nm,0.9s,mb4.3,baz=101,slow=2.4,SNR=4.2						
GYA	Guiyang	39.09	295	P	P	17 20 55.3	+7.6
GYA				PP	PP	17 22 28.7	+7.3
GYA				S	S	17 26 51.2	+5.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GYA				AMB	AMB		
	comp=Z,150nm,5.1s						
GYA				LR	LR		
	comp=N,1μm,18.9s,MS4.9						
GYA				LR	LR		
	comp=E,820nm,17.1s,MS4.9						
GYA				LR	LR		
	comp=Z,1μm,19.5s,MS4.7						
XAN	Xi’an	39.30	307	P	P	17 20 51.9	+2.4
XAN				AP	pP	17 21 03.1	+6.5
HHC	Hu-ho-hao-te	40.46	318	⇑P	P	17 21 00.1	+1.2
HHC				AP	pP	17 21 12.3	+6.3
HHC				XP	sP	17 21 17.8	+8.8
HHC				PP	PP	17 22 37.1	+1.6
HHC				PCP	PcP	17 23 02.1	0.0
HHC				SCP		17 26 46.9	
HHC				PCS		17 26 52.8	
HHC				S	S	17 27 03.5	-2.4
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,170nm,4.6s						
HHC				LR	LR		
	comp=N,260nm,16.6s,MS4.3						
HHC				LR	LR		
	comp=E,280nm,16.7s,MS4.3						
HHC				LR	LR		
	comp=Z,260nm,17.8s,MS4.1						
BTO	Baotou	41.34	317	eP	P	17 21 07.3	+1.1
BTO				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
HIA	Hailar	41.47	334	eP	P	17 21 03.7	-3.4
HIA				pmax	pmax		
	comp=Z,57nm,1.8s						
HIA	Hailar	41.47	334	eP	P	17 21 03.7	-3.4
	comp=Z,56nm,1.8s,mb4.9						
KMI	Kunming	42.38	292	P	P	17 21 15.7	+0.8
KMI				AP	pP	17 21 29.4	+7.4
KMI				LR	LR		
	comp=N,550nm,15.9s,MS4.7						
KMI				LR	LR		
	comp=E,350nm,11.8s,MS4.7						
KMI				LR	LR		
	comp=Z,290nm,11.8s,MS4.4						
LZH	Lanzhou	43.92	308	eP	P	17 21 29.0	+1.7
LZH				AP	pP	17 21 46.0	+12
LZH				PP	PP	17 23 14.0	+2.7
LZH				PCP	PcP	17 23 16.0	+2.3
LZH				eS	S	17 27 57.3	+0.5
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,150nm,4.0s						
LZH				LR	LR		
	comp=E,720nm,13.2s						
LZH				LR	LR		
	comp=Z,1μm,14.8s,MS5.0						
MA2	Magadan	45.72	3	eP	P	17 21 39.6	-1.8
MA2				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.4						
MA2	Magadan	45.72	3	eP	P	17 21 39.6	-1.8
	comp=Z,62nm,1.2s,mb5.4						
STKA	Stephens Creek	45.73	186	eP	P	17 21 41.1	-0.7
	comp=Z,2.9nm,0.7s,mb4.3						
STKA	Stephens Creek	45.73	186	P	P	17 21 41.1	-0.7
	comp=Z,3.4nm,0.7s,mb4.4,baz=19,slow=13,SNR=5.3						
STKA	Stephens Creek	45.73	186	P	P	17 21 38.5	-3.4
ULN	Ulaanbaatar	46.94	324	i P	P	17 21 53.5	+2.4
ULN	Ulaanbaatar	46.94	324	P	P	17 21 49.3	-1.9
SONM	Songino Array	47.29	324	P	P	17 21 54.6	+0.6
	comp=Z,9.0nm,0.8s,mb4.7,baz=138,slow=8.5,SNR=37						
GTA	Gaotai	48.02	311	eP	P	17 22 00.9	+1.1
GTA				AP	pP	17 22 14.5	+7.5
GTA				XP	sP	17 22 19.9	+10
GTA				PCP	PcP	17 23 29.0	+1.0
GTA				PP	PP	17 23 52.3	+1.1
GTA				AMB	AMB		

comp=Z,180nm,4.6s
GTA LR LR
comp=N,310nm,19.0s,MS4.6
GTA LR LR
comp=E,420nm,16.3s,MS4.6
GTA LR LR
comp=Z,370nm,19.0s,MS4.4
YAK Yakutsk 49.52 350⇓ *e*P **P** 17 22 08.8 -2.3
YAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
YAK MLR MLR
comp=Z,200nm,16.0s,MS4.2
YAK Yakutsk 49.52 350 *e*P **P** 17 22 08.0 -3.0
comp=Z,19nm,0.9s,mb5.1
ZAK Zakamensk 50.37 325 *e*P **P** 17 22 17.7 0.0
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
LSA Lhasa 53.09 297 P **P** 17 22 38.9 +0.3
LSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LSA Lhasa 53.09 297 P **P** 17 22 38.9 +0.4
comp=Z,8.4nm,0.8s,mb4.7
BILL Bilibino 55.64 9*d i*P **P** 17 22 55.3 -1.3
BILL pmax pmax
comp=Z,15nm,1.0s,mb5.0
BILL Bilibino 55.64 9 *e*P **P** 17 22 54.8 -1.8
comp=Z,32nm,1.3s,mb5.2
TAU Tasmania Unive 56.53 179 P **P** 17 23 01.0 -2.4
JIRN Jiri 57.35 294 *e*P **P** 17 23 11.0 +1.6
comp=Z,11nm,0.6s,mb5.1
GUN Gumba 57.63 294 *e*P **P** 17 23 12.6 +1.2
comp=Z,16nm,0.6s,mb5.2
WMQ Urumqi 57.94 313 P **P** 17 23 13.2 -0.1
WMQ AP pP 17 23 29.2 +8.6
WMQ XP sP 17 23 36.2 +13
WMQ PCP PcP 17 24 04.4 -0.8
WMQ PP PP 17 25 23.9 +0.5
WMQ AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,270nm,5.0s
WMQ LR LR
comp=N,520nm,22.0s,MS4.8
WMQ LR LR
comp=E,540nm,22.0s,MS4.8
WMQ LR LR
comp=Z,630nm,22.0s,MS4.7
PKI Pulchoki 58.04 294 *e*P **P** 17 23 14.4 +0.1
KKN Kakani 58.16 294 *e*P **P** 17 23 16.0 +0.9
DMN Daman 58.31 294 *e*P **P** 17 23 16.5 +0.4
comp=Z,11nm,0.7s,mb5.0
TIXI Tiksi 58.68 354 *i* P **P** 17 23 15.5 -2.6
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
GKN Gorkha 58.73 294 *e*P **P** 17 23 18.7 -0.3
KOLN Koldanda 59.65 294 *e*P **P** 17 23 24.1 -1.3
comp=Z,16nm,0.9s,mb5.1
ZAL Zalesovo 62.20 324 P **P** 17 23 41.4 -1.0
comp=Z,2.1nm,0.7s,mb4.4,baz=10.0,slow=6.9,SNR=11
MKAR Makanchi Array 62.24 316 P **P** 17 23 42.6 -0.1
comp=Z,9.5nm,0.8s,mb5.0,baz=90,slow=8.5,SNR=65
NVS Novosibirsk 63.31 325⇑ *i*P **P** 17 23 48.4 -1.3
NVS pmax pmax
comp=Z,24nm,1.3s,mb5.2
NVS pmax pmax
comp=E,24nm,1.5s
KURK Kurchatov 65.25 320*d i*P **P** 17 24 01.6 -0.8
KURK Kurchatov 65.25 320 *e*P **P** 17 24 01.0 -1.4
comp=E,36nm,1.0s,mb5.4
COLA College 67.33 25 *i* P **P** 17 24 13.3 -2.1
COLA College 67.33 25 *e*P **P** 17 24 12.5 -3.0
comp=E,17nm,0.9s,mb5.1
AAK Ala-Archa 67.37 311*c i*P **P** 17 24 15.2 -0.8
AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
AAK MLR MLR
comp=Z,400nm,18.0s,MS4.7
AAK Ala-Archa 67.37 311 *e*P **P** 17 24 14.5 -1.5
comp=Z,3.9nm,0.9s,mb4.4
ILAR Eielson Array 67.70 25 P **P** 17 24 15.6 -2.2
comp=Z,11nm,0.8s,mb4.9,baz=261,slow=4.8,SNR=16
THY Trims Highway 67.85 27 *e*P **P** 17 24 18.2 -0.4
KKAR Karatay Array 70.30 311 *i*P **P** 17 24 34.3 +0.2
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
BVA0 Borovoye Array 70.55 322 *i* P **P** 17 24 35.0 -0.5
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRVK Borovoye 70.62 322 *e*P **P** 17 24 35.5 -0.4
BRVK pmax pmax
comp=Z,13nm,0.8s,mb4.9
BRVK Borovoye 70.62 322 *e*P **P** 17 24 35.5 -0.4
comp=Z,13nm,0.8s,mb4.9
DAWY Dawson 70.75 27 *e*P **P** 17 24 36.1 -0.4
INK Inuvik 73.56 22 P **P** 17 24 52.2 -0.9
comp=Z,14nm,0.8s,mb4.9,baz=261,slow=6.5,SNR=23
INK Inuvik 73.56 22 *e*P **P** 17 24 52.4 -0.6
INK pmax pmax
comp=Z,17nm,0.8s
INK Inuvik 73.56 22 *e*P **P** 17 24 52.4 -0.6
comp=Z,17nm,0.8s,mb5.0
DLBC Dease Lake 74.98 33 P **P** 17 25 01.9 +0.5
comp=Z,8.5nm,0.9s,mb4.7,baz=241,slow=6.8,SNR=7.2
SVE Sverdlovsk 76.13 326 *e*P **P** 17 25 08.7 +0.7
SVE *e* 17 25 21.2
SVE *e* 17 35 40.0
SVE pmax pmax
comp=Z,40nm,1.1s,mb5.3
SVE MLR MLR
comp=N,300nm,15.0s,MS4.8
SVE MLR MLR
comp=E,200nm,15.0s,MS4.8
SVE MLR MLR
comp=Z,400nm,15.0s,MS4.8
AB31 Akbulak array 77.25 318 *i* P **P** 17 25 13.7 -0.7
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ARU Arti 77.31 325⇓ *i*P **P** 17 25 14.1 -0.5
ARU *e* 17 25 25.5
ARU *e* 17 28 08.1
ARU *e*S S 17 35 02.1 +0.3
ARU *e*SS SS 17 40 00.5 -2.7
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ARU Arti 77.31 325 *e*P **P** 17 25 13.4 -1.2
comp=Z,12nm,0.9s,mb4.8
AKTO Aktyubinsk 78.34 319 P **P** 17 25 19.7 -0.7
YKA Yellowknife Ar 81.95 28 P **P** 17 25 39.2 -0.1
comp=Z,3.2nm,0.8s,mb4.3,baz=286,slow=5.2,SNR=18
YKA Yellowknife Ar 81.95 28 *i* P **P** 17 25 39.2 -0.2
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 81.95 28 P **P** 17 25 39.2 -0.2
RES Resolute Bay 83.94 14 *e*P **P** 17 25 49.2 -0.2
RES pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
RES Resolute Bay 83.94 14 *e*P **P** 17 25 49.2 -0.1
comp=Z,6.4nm,0.8s,mb4.8
NEW Newport 84.08 42 P **P** 17 25 50.9 +0.3
comp=Z,5.4nm,0.7s,mb4.8,baz=231,slow=4.4,SNR=7.1
CMB Columbia Colle 84.15 52 *e*P **P** 17 25 50.8 -0.4
CMB pmax pmax
comp=Z,14nm,1.0s,mb5.0
CMB Columbia Colle 84.15 52 *e*P **P** 17 25 50.8 -0.4
comp=Z,14nm,1.0s,mb5.1
WVOR Wild Horse Val 84.44 48 *e*P **P** 17 25 52.9 +0.3
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.9
WVOR Wild Horse Val 84.44 48 *e*P **P** 17 25 52.9 +0.3
comp=Z,11nm,1.0s,mb4.9
BMO Blue Mountains 84.80 45 *e*P **P** 17 25 54.1 -0.2
BMO pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
BMO Blue Mountains 84.80 45 *e*P **P** 17 25 54.1 -0.2
comp=Z,9.7nm,1.1s,mb4.8
EDM Edmonton 85.08 36 *e*P **P** 17 25 54.9 -0.6
NVAR Mina Array Bea 85.65 52 P **P** 17 26 00.0 +1.3
comp=Z,5.7nm,0.7s,mb4.9,baz=263,slow=4.5,SNR=13
MNV Mina 85.76 52 *e*P **P** 17 25 59.5 +0.2
MNV pmax pmax
comp=Z,11nm,1.2s,mb5.0
MNV Mina 85.76 52 *e*P **P** 17 25 59.5 +0.2
comp=Z,11nm,1.2s,mb5.0
DAC Darwin (Calif) 86.73 54 *e*P **P** 17 26 04.4 +0.3
DAC pmax pmax
comp=Z,14nm,1.2s,mb5.1
DAC Darwin (Calif) 86.73 54 *e*P **P** 17 26 04.3 +0.2
comp=Z,14nm,1.2s,mb5.1
CHMT Chamberlain Mo 86.97 42 *e*P **P** 17 26 05.0 0.0
HLID Hailey 87.14 46 *e*P **P** 17 26 06.9 +0.9
comp=Z,8.8nm,1.1s,mb4.9
ARCES ARCESS Array B 87.22 342 P **P** 17 26 06.5 +0.8
comp=Z,3.8nm,0.6s,mb4.8,baz=51,slow=4.9,SNR=10
ELK Elko 87.33 49 P **P** 17 26 07.7 +0.8
comp=Z,12nm,0.9s,mb5.1,baz=277,slow=4.9,SNR=35
ELK Elko 87.33 49 *e*P **P** 17 26 07.5 +0.6
ELK pmax pmax
comp=Z,19nm,1.0s
ELK Elko 87.33 49 *e*P **P** 17 26 07.5 +0.5
comp=Z,19nm,1.0s,mb5.3
TPNV Topopah Spring 87.60 53 *e*P **P** 17 26 08.3 0.0
TPNV pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
TPNV Topopah Spring 87.60 53 *e*P **P** 17 26 08.2 -0.1
comp=Z,6.9nm,1.0s,mb4.8
MCMT McKenzie Canyo 87.85 44 *e*P **P** 17 26 09.9 +0.6
DLMT Dillon 87.86 44 *e*P **P** 17 26 09.4 0.0
comp=Z,5.6nm,1.0s,mb4.8
HRY Holter Researc 87.96 42 *e*P **P** 17 26 10.0 +0.2
HRY *e* 17 26 21.0
BAR Barrett 88.40 57 *e*P **P** 17 26 12.0 -0.3
BOZ Bozeman (W) 88.42 43 *e*P **P** 17 26 12.4 +0.4
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
BOZ Bozeman (W) 88.42 43 *e*P **P** 17 26 12.4 +0.4
comp=Z,3.7nm,0.8s,mb4.7
JOF Joensuu 88.60 335 *e*p **P** 17 26 09.7 -2.8
comp=Z,4.0nm,0.9s,mb4.8
JOF Joensuu 88.60 335 *e*P **P** 17 26 09.7 -2.8
JOF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
QLMT Earthquake Lak 88.81 44 *e*P **P** 17 26 14.7 +0.8
HVU Hansel Valley 88.82 47 *e*P **P** 17 26 13.7 -0.3
HVU pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
HVU Hansel Valley 88.82 47 *e*P **P** 17 26 13.7 -0.4
comp=Z,8.8nm,1.0s,mb5.0
NEN Nelson 89.05 54 *e*P **P** 17 26 15.8 +0.5
YMR Madison River 89.18 44 *e*P **P** 17 26 17.2 +1.6
comp=Z,21nm,1.0s,mb5.4
DUG Dugway 89.27 49 *e*P **P** 17 26 16.8 +0.6
DUG pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
DUG Dugway 89.27 49 *e*P **P** 17 26 16.8 +0.6
comp=Z,8.9nm,0.7s,mb5.2
YFT Old Faithful 89.33 44 *e*P **P** 17 26 18.8 +2.4
IMW Indian Meadow 89.44 45 *e*P **P** 17 26 18.5 +1.6
comp=Z,9.7nm,0.4s,mb5.1
GCMT Greycliff 89.68 43 *e*P **P** 17 26 18.7 +0.7
HWUT Hardware Ranch 89.73 47 *e*P **P** 17 26 18.6 +0.3
comp=Z,3.8nm,0.8s,mb4.8
GNI Garni 89.76 311 *i* P **P** 17 26 20.4 +1.9
KIV Kislovodsk 90.00 315 *e*P **P** 17 26 19.2 -0.3
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,254nm,16.0s,MS4.7
MSU Marysvale 90.29 50 *e*P **P** 17 26 21.3 +0.5
PDAR Pinedale Array 90.77 46 P **P** 17 26 23.4 +0.3
comp=Z,1.2nm,0.8s,mb4.3,baz=268,slow=2.7,SNR=8.6
SRU San Rafael 91.28 49 *e*P **P** 17 26 25.9 +0.3
SRU pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
SRU San Rafael 91.28 49 *e*P **P** 17 26 25.9 +0.4
comp=Z,8.2nm,0.9s,mb5.1
FINES FINESS Array B 91.47 335 P **P** 17 26 24.7 -1.1
comp=Z,1.8nm,0.6s,mb4.5,baz=56,slow=6.9,SNR=7.1
FINES FINESS Array B 91.47 335 *i* P **P** 17 26 25.7 -0.1
FINES pmax pmax
comp=Z,2.0nm,0.6s
PV01 Paradox Valley 93.05 50 *e*P **P** 17 26 34.0 +0.3
ULM Lac du Bonnet 96.21 35 P **P** 17 26 47.3 -0.6
comp=Z,0.5nm,0.3s,mb4.4,baz=281,slow=5.2,SNR=3.7
MNTX Cornudas Mount 97.79 55 *e*P **P** 17 26 56.2 +0.7
comp=Z,2.3nm,0.9s,mb4.7
TORD Torodi Ar. Bea 135.82 306 PKP PKPdf 17 32 42.7 -2.2
comp=Z,0.6nm,0.6s,baz=7.7,slow=1.2,SNR=7.7
DBIC Dimbokro 144.82 304 PKP PKPdf 17 32 57.6 -3.4
comp=Z,20nm,0.7s,baz=37,slow=4.4,SNR=23
DBIC Dimbokro 144.82 304 *e*PKIKP PKPdf 17 32 57.4 -3.6
LPAZ La Paz 146.70 99 PKPbc PKPbc 17 33 03.6 +2.6
comp=Z,8.3nm,1.0s,baz=330,slow=3.8,SNR=21
LPAZ La Paz 146.70 99 *e*PKP2 PKPab 17 33 02.7 -1.9
SAML Samuel 150.71 84 *e*PKPbc PKPdf 17 33 12.8 +2.2

*NEIC **01** 17:16:59.9,60.61N×147.52W,h10km,mb3.8/4, ML4.1(PMR),ML3.9(AEIC),After AEIC.*
NEIC Felt [II] at Anchorage. Also felt at Cordova, Girdwood, Palmer, Seward, Valdez and Whittier.
*IDC **01** 17:17:00.6±2.0,60.51N×147.44W,h44km±21km,mb3.5/3, mb1 3.9/8,mb1mx3.7/23,mbtmp3.8/8,ML3.9/5,MS3.1/4, Ms1 3.1/4,ms1mx2.8/25,Error ellipse: s-maj=22.1km s-min=16.7km az=72.0*
ISC 01 17:16:58.9±0.4,60.58N±0.03×147.54W±0.04,h25km±4km, n61,σ1s02/73,mb3.7/7,MS3.1/1,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLI	**Glacier Island**	**0.38**	**36**	P	**Pb**	**17 17 06.9**	**-0.1**
GLI				S	**Sb**	**17 17 12.4**	**-0.2**
HIN	**Hinchinbrook I**	**0.55**	**109**	P	**Pb**	**17 17 10.9**	**+1.1**
FID	**Port Fidalgo**	**0.55**	**71**	P	**Pb**	**17 17 09.4**	**-0.5**
VLZ	**Valdez**	**0.81**	**46**	P	**Pb**	**17 17 13.7**	**-0.6**
VLZ				S	**Sb**	**17 17 24.7**	**-0.2**
EYAK	**Cordova Ski Ar**	**0.89**	**91**	P	**Pb**	**17 17 15.6**	**+0.1**
EYAK				S	**Sb**	**17 17 29.6**	**+2.6**
MPA	**Moose Pass**	**0.90**	**265**	P	**Pb**	**17 17 15.9**	**+0.1**
KNK	**Knik Glacier**	**0.95**	**332**	P	**Pb**	**17 17 16.4**	**-0.2**
DIV	**Divide**	**1.03**	**57**	P	**Pn**	**17 17 17.3**	**-0.6**
DIV				S	**Sb**	**17 17 31.0**	**0.0**
SEW	**Seward**	**1.06**	**244**	P	**Pn**	**17 17 18.5**	**+0.1**
SEW				S	**Sb**	**17 17 32.5**	**+0.5**
SGAM	**Sherman Glacie**	**1.16**	**93**	P	**Pn**	**17 17 20.0**	**+0.3**
RC01	**Rabbit Creek A**	**1.19**	**296**	P	**Pn**	**17 17 20.5**	**+0.3**
RC01				S	**Sb**	**17 17 36.1**	**+0.4**
KLU	**Klutina**	**1.21**	**40**	P	**Pn**	**17 17 20.0**	**-0.5**
SCM	**Sheep Creek Mo**	**1.26**	**5**	P	**Pn**	**17 17 21.4**	**+0.1**
PMR	**Palmer**	**1.28**	**324**	*e*P	**Pn**	**17 17 21.3**	**-0.2**
SML	**Sawmill**	**1.29**	**343**	P	**Pn**	**17 17 21.9**	**+0.3**
SML				S	**Sn**	**17 17 39.2**	**+0.9**
MID	**Middleton Isla**	**1.30**	**152**	P	**Pn**	**17 17 22.8**	**+1.0**
SLKM	**Skilak Lake**	**1.33**	**268**	P	**Pn**	**17 17 22.6**	**+0.4**
SLKM				S	**Sn**	**17 17 40.3**	**+1.1**
GHO	**Glory Hole Cre**	**1.37**	**331**	P	**Pn**	**17 17 22.9**	**+0.1**
GHO				S	**Sn**	**17 17 42.4**	**+2.0**
FIB	**Fire Island**	**1.42**	**296**	P	**Pn**	**17 17 24.2**	**+0.8**
FIB				S	**Sn**	**17 17 44.4**	**+3.0**
RAGM	**Ragged Mountai**	**1.43**	**96**	P	**Pn**	**17 17 23.8**	**+0.1**
BMRM	**Bremner River**	**1.50**	**74**	P	**Pn**	**17 17 24.7**	**+0.2**
KAIM	**Kayak Island**	**1.69**	**111**	P	**Pn**	**17 17 27.9**	**+0.5**
TZL	**Tazlina**	**1.79**	**34**	P	**Pn**	**17 17 29.9**	**+1.1**
NKA	**Nikishka**	**1.83**	**277**	P	**Pn**	**17 17 30.7**	**+1.4**
GLB	**Gilahina Butte**	**2.01**	**63**	P	**Pn**	**17 17 32.2**	**+0.2**
GLB				S	**Sn**	**17 17 56.1**	**-0.5**
CNPM	**China Poot**	**2.13**	**242**	P	**Pn**	**17 17 33.5**	**-0.1**
SDG	**Sourdough**	**2.18**	**25**	P	**Pn**	**17 17 35.2**	**+0.8**
SDG				S	**Sn**	**17 18 02.6**	**+1.8**
XLV	**Seldovia**	**2.38**	**244**	P	**Pn**	**17 17 36.6**	**-0.7**
CYK	**Cape Yakataga**	**2.56**	**99**	P	**Pn**	**17 17 39.1**	**-0.7**
ILW	**Iliamna West**	**2.83**	**262**	P	**Pn**	**17 17 42.9**	**-0.8**
YAH	**Yahtse**	**2.88**	**92**	P	**Pn**	**17 17 43.9**	**-0.5**
THY	**Trims Highway**	**2.97**	**16**	*e*P	**Pn**	**17 17 46.5**	**+0.8**
MENT	**Mentasta**	**2.98**	**36**	*e*P	**Pn**	**17 17 45.3**	**-0.6**
CTGM	**Chitina Glacie**	**3.07**	**80**	P	**Pn**	**17 17 46.9**	**-0.2**
MCK	**McKinley**	**3.23**	**349**	*e*P	**Pn**	**17 17 49.5**	**+0.2**
KDAK	**Kodiak Island**	**3.82**	**225**	P	**Pn**	**17 17 55.9**	**-1.8**
KDAK	20nm,0.3s,baz=37,slow=12,SNR=67			S	**Sn**	**17 18 37.5**	**-4.9**
	10nm,0.3s,baz=39,slow=7.9,SNR=4.6						
KDAK	**Kodiak Island**	**3.82**	**225**	P	**Pn**	**17 17 56.7**	**-1.0**
SVW2	**Sparrevohn**	**3.97**	**281**	*e*P	**Pn**	**17 17 57.4**	**-2.4**
ILAR	**Eielson Array**	**4.22**	**4**	P	**Pn**	**17 18 02.2**	**-1.2**
	2.1nm,0.3s,baz=186,slow=12,SNR=102						
ILAR				S	**Sn**	**17 18 52.1**	**-0.4**
	7.8nm,0.3s,baz=197,slow=15,SNR=5.7						
ILAR				LR	LR	17 19 59.4	
	comp=Z,92nm,19.2s,baz=210,slow=42						
COLA	**College**	**4.32**	**358**	*e*P	**Pn**	**17 18 03.2**	**-1.5**
TTA	**Tatalina**	**4.67**	**304**	*e*P	**Pn**	**17 18 06.9**	**-2.8**
DAWY	**Dawson**	**5.17**	**44**	*e*P	**Pn**	**17 18 15.9**	**-0.9**
IMA2	**Indian Mountai**	**6.16**	**336**	*e*P	**Pn**	**17 18 29.1**	**-1.8**
DLBC	**Dease Lake**	**9.16**	**96**	P	**P**	**17 19 10.5**	**-2.2**
	0.5nm,0.3s,baz=297,slow=14,SNR=7.9						
DLBC				LR	LR	17 23 10.8	
	comp=Z,202nm,20.7s,baz=200,slow=41						
INK	**Inuvik**	**9.81**	**32**	P	**P**	**17 19 20.4**	**-1.0**
	0.3nm,0.3s,baz=218,slow=20,SNR=7.3						
BBB	**Bella Bella**	**13.61**	**119**	LR	LR	17 24 29.5	
	comp=Z,84nm,20.3s,baz=6.1,slow=33						
NIKO	**Nikolski**	**13.89**	**246**	P	**P**	**17 20 15.1**	**-1.2**
YKW3	**Yellowknife Ar**	**15.71**	**68**	*e*P	**P**	**17 20 41.9**	**+2.0**
YKA	**Yellowknife Ar**	**15.72**	**69**	P	**P**	**17 20 38.1**	**-1.9**
	0.6nm,0.3s,baz=279,slow=11,SNR=14						
NEW	**Newport**	**21.33**	**112**	LR	LR	17 29 42.4	
	comp=Z,96nm,21.6s,MS3.1,baz=117,slow=36						
NEW	**Newport**	**21.33**	**112**	*e*P	**P**	**17 21 46.1**	**+0.1**
	2.2nm,0.6s,mb3.7						
BMO	**Blue Mountains**	**23.84**	**118**	*e*P	**P**	**17 22 11.7**	**+1.0**
	1.1nm,0.5s,mb3.5						
DLMT	**Dillon**	**25.57**	**111**	*e*P	**P**	**17 22 28.2**	**+0.9**
IMW	**Indian Meadow**	**27.45**	**111**	*e*P	**P**	**17 22 45.7**	**+1.1**
	2.7nm,0.8s,mb3.8						
BW06	**Boulder Array**	**28.97**	**111**	P	**P**	**17 22 58.4**	**+0.2**
PDAR	**Pinedale Array**	**28.97**	**111**	P	**P**	**17 22 54.4**	**-3.8**
	0.5nm,0.9s,mb3.2,baz=276,slow=9.1,SNR=2.5						
TPNV	**Topopah Spring**	**30.85**	**126**	P	**P**	**17 23 15.3**	**+0.3**
SDCO	**Great Sand Dun**	**34.84**	**112**	*e*P	**P**	**17 23 50.1**	**+0.4**
	0.8nm,0.5s,mb3.9						
SONM	**Songino Array**	**56.59**	**309**	P	**P**	**17 26 40.6**	**-0.9**
	1.3nm,0.8s,mb4.0,baz=43,slow=7.3,SNR=5.7						
MKAR	**Makanchi Array**	**65.61**	**325**	P	**P**	**17 27 39.2**	**-3.1**
	0.6nm,0.4s,mb4.0,baz=35,slow=6.9,SNR=11						
MKAR	**Makanchi Array**	**65.61**	**325**	P	**P**	**17 27 39.2**	**-3.1**

*IDC **01** 17:21:27.0±0.5,3.13N×93.74E,mb4.5/23,mb1 4.7/24, mb1mx4.6/26,mbtmp4.5/24,ML4.5/1,MS4.1/13,Ms1 4.1/13, ms1mx3.9/23,Error ellipse: s-maj=17.9km s-min=12.0km az=49.0*
*BJI **01** 17:21:29.7,3.02N×93.80E,h35km,mB5.1,mb4.7,Ms5.0, Msz4.8*
*MOS **01** 17:21:30.1±1.0,3.17N×93.83E,h33km,mb5.0/22,Error ellipse: s-maj=11.6km s-min=5.9km az=117.2*
*NEIC **01** 17:21:31.5±0.3,3.11N×93.77E,mb4.7/28,Error ellipse: s-maj=8.4km s-min=5.2km az=215.0*
ISC 01 17:21:29.6±0.3,3.12N±0.04×93.77E±0.03,h30km, h30km±,7km:pP-P,n168,σ1s09/177,mb4.6/71,MS4.6/30, 7C-10D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.16**	**93**	Pn	**Pn**	**17 22 47.4**	**+0.5**
	17nm,0.3s,baz=279,slow=7.6,SNR=43						
PSI				Sn	**Sn**	**17 23 46.4**	**+0.2**
	14nm,0.3s,baz=255,slow=13,SNR=5.1						
PSI				LR	LR	17 24 06.0	
	comp=Z,840nm,19.0s,baz=268,slow=31						
PALK	**Pallekele**	**13.65**	**288**	Pn	**P**	**17 24 37.2**	**-6.7**
	18nm,0.9s						
PALK				*e*Sn	**S**	**17 27 00.1**	**-15**
KKTK	**Khon Kaen**	**15.87**	**34**	P	**P**	**17 25 15.0**	**+2.2**
	494nm,0.7s						
UBT	**Ubonrachathani**	**16.37**	**42**	⇓P	**P**	**17 25 22.0**	**+2.8**
CHG	**Chiang Mai**	**16.40**	**18**	P	**P**	**17 25 16.9**	**-2.7**
KSM	**Kuching**	**16.60**	**95**	*e*P	**P**	**17 25 22.5**	**+0.3**
CHRT	**Chiangrai**	**17.66**	**19**	⇑P	**P**	**17 25 35.0**	**-0.3**
	116nm,0.9s						
HYB	**Hyderabad**	**20.62**	**315**	*i* P	**P**	**17 26 10.0**	**+0.7**
HYB				*e*S	**S**	**17 30 00.0**	**+6.7**
HYB	**Hyderabad**	**20.62**	**315**	*e*P	**P**	**17 26 10.0**	**+0.7**
HYB				*e*S	**S**	**17 30 00.0**	**+6.7**
QIZ	**Qiongzhong**	**22.30**	**44**	P	**P**	**17 26 25.7**	**-0.6**
QIZ				S	**S**	**17 30 26.5**	**+1.7**
QIZ				LR	LR		
	comp=N,3μm,15.5s						
QIZ				LR	LR		
	comp=Z,2μm,18.7s,MS4.5						
QIZ	**Qiongzhong**	**22.30**	**44**	P	**P**	**17 26 27.5**	**+1.2**
	comp=Z,31nm,1.1s,mb4.7						
KKM	**Kota Kinabalu**	**22.56**	**82**	*e*P	**P**	**17 26 29.6**	**+0.6**
KMI	**Kunming**	**23.52**	**21**	⇓P	**P**	**17 26 40.3**	**+2.0**
KMI				AP		17 26 49.0	
KMI				XP		17 26 53.0	
KMI				PP	PP	17 27 13.4	+2.7
KMI				PPP	PPP	17 27 25.4	+4.7
KMI				S	**S**	**17 30 50.6**	**+4.0**
KMI				XS		17 31 07.5	
KMI				SS	SS	17 31 41.3	+6.2
KMI				SSS	SSS	17 31 55.9	+4.7
KMI				AMB	AMB		
	comp=Z,20nm,2.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,280nm,3.9s						
KMI				LR	LR		
	comp=N,2μm,11.1s,MS4.9						
KMI				LR	LR		
	comp=E,2μm,15.5s,MS4.9						
KMI				LR	LR		
	comp=Z,2μm,11.5s,MS4.8						
JIRN	**Jiri**	**25.46**	**344**	*e*P	**P**	**17 26 57.1**	**+0.2**
	comp=Z,26nm,0.6s,mb4.9						
PKI	**Pulchoki**	**25.60**	**343**	*e*P	**P**	**17 26 58.1**	**-0.1**
DMN	**Daman**	**25.73**	**342**	*e*P	**P**	**17 26 59.4**	**0.0**
	comp=Z,34nm,1.0s,mb4.8						
GUN	**Gumba**	**25.78**	**344**	*e*P	**P**	**17 26 59.5**	**-0.4**
	comp=Z,44nm,0.8s,mb5.0						
KKN	**Kakani**	**25.84**	**343**	*e*P	**P**	**17 27 00.2**	**-0.3**
	comp=Z,51nm,1.3s,mb4.9						
KKN	**Kakani**	**25.84**	**343**	*e*P	**P**	**17 27 00.2**	**-0.3**
KKN				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.6						
GKN	**Gorkha**	**26.24**	**341**	*e*P	**P**	**17 27 03.7**	**-0.5**
	comp=Z,28nm,0.7s,mb4.9						
GYA	**Guiyang**	**26.30**	**27**	P	**P**	**17 27 04.5**	**-0.2**
GYA				AP	pP	17 27 13.6	+0.2
GYA				XP	sP	17 27 17.8	+0.4
GYA				PP	PP	17 27 49.3	+1.8
GYA				S	**S**	**17 31 37.0**	**+3.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,150nm,5.0s						
GYA				LR	LR		
	comp=N,1μm,16.5s,MS4.7						
GYA				LR	LR		
	comp=E,730nm,12.6s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,15.9s,MS4.6						
KOLN	**Koldanda**	**26.37**	**339**	*e*P	**P**	**17 27 05.2**	**-0.2**
	comp=Z,15nm,0.8s,mb4.6						
LSA	**Lhasa**	**26.56**	**355**	P	**P**	**17 27 08.6**	**+1.5**
LSA				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
LSA				LR	LR		
	comp=N,260nm,15.0s,MS4.4						
LSA				LR	LR		
	comp=E,700nm,13.0s,MS4.4						
LSA				LR	LR		
	comp=Z,570nm,13.0s,MS4.3						
LSA	**Lhasa**	**26.56**	**355**	*e*P	**P**	**17 27 08.7**	**+1.6**
LSA				pmax	pmax		
	comp=Z,58nm,0.7s,mb5.2						
LSA	**Lhasa**	**26.56**	**355**	*e*P	**P**	**17 27 08.7**	**+1.7**
	comp=Z,58nm,0.7s,mb5.2						
CD2	**Chengdu**	**29.21**	**18**	P	**P**	**17 27 29.6**	**-1.5**
CD2				XP	sP	17 27 47.9	+4.2
CD2				PP	PP	17 28 22.1	-3.9
CD2				S	**S**	**17 32 17.6**	**-2.8**
CD2				SS	SS	17 33 52.3	+0.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CD2				LR	LR		
	comp=N,890nm,11.4s						
CD2				LR	LR		
	comp=Z,1μm,10.8s,MS4.8						
ENH	**Enshi**	**30.84**	**27**	*e*P	**P**	**17 27 43.3**	**-2.2**
	comp=Z,7.6nm,0.6s,mb4.7						
QZH	**Quanzhou**	**32.29**	**46**	P	**P**	**17 27 59.5**	**+1.2**
QZH				S	**S**	**17 33 09.4**	**+0.6**
QZH				LR	LR		
	comp=N,3μm,15.1s,MS5.2						
QZH				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,2µm,11.7s,MS5.2						
QZH				LR	LR		
	comp=Z,4µm,12.8s,MS5.3						
XAN	Xi'an	33.86	23	P	P	17 28 09.4	-2.4
XAN				AP	pP	17 28 19.7	-1.0
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
LZH	Lanzhou	34.10	15	eP	P	17 28 17.5	+3.5
LZH				AP	pP	17 28 25.4	+2.6
LZH				XP	sP	17 28 29.2	+2.6
LZH				PP	PP	17 29 33.4	+4.8
LZH				PCP	PcP	17 30 53.2	+2.1
LZH				eS	S	17 33 41.0	+4.1
LZH				XS		17 33 55.3	
LZH				SCP		17 34 33.5	
LZH				PCS		17 34 38.0	
LZH				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
LZH				AMB	AMB		
	comp=Z,90nm,4.5s						
LZH				LR	LR		
	comp=E,2µm,12.3s						
LZH				LR	LR		
	comp=Z,2µm,13.5s,MS5.1						
GTA	Gaotai	36.54	8	eP	P	17 28 34.1	-0.6
GTA				AP	pP	17 28 43.9	+0.4
GTA				XP	sP	17 28 47.9	+0.6
GTA				PP	PP	17 29 59.3	+0.1
GTA				S	S	17 34 14.4	-0.1
GTA				XS		17 34 30.4	
GTA				SS	SS	17 36 40.8	-0.5
GTA				AMB	AMB		
	comp=Z,110nm,4.9s						
GTA				LR	LR		
	comp=N,390nm,12.2s,MS4.6						
GTA				LR	LR		
	comp=E,470nm,11.8s,MS4.6						
GTA				LR	LR		
	comp=Z,380nm,12.2s,MS4.4						
NJ2	Nanjing	37.20	37	eP	P	17 28 39.9	-0.4
NJ2				AP	pP	17 28 49.7	+0.5
NJ2				XP	sP	17 28 53.8	+0.9
NJ2				PP	PP	17 30 07.6	-0.1
NJ2				S	S	17 34 25.0	+0.3
NJ2				XS		17 34 42.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,100nm,5.0s						
NJ2				LR	LR		
	comp=N,5µm,21.4s,MS5.4						
NJ2				LR	LR		
	comp=E,4µm,21.1s,MS5.4						
NJ2				LR	LR		
	comp=Z,3µm,21.1s,MS5.0						
FITZ	Fitzroy Crossi	37.82	125	eP	P	17 28 44.8	-0.8
	comp=Z,15nm,0.6s,mb4.9						
FITZ				e	pP	17 28 53.4	-1.1
FITZ	Fitzroy Crossi	37.82	125	P	P	17 28 44.8	-0.8
	comp=Z,20nm,0.7s,mb5.0,baz=288,slow=5.9,SNR=28						
SSE	Sheshan	37.99	40	eP	P	17 28 46.8	-0.1
SSE				AP	pP	17 28 55.5	-0.3
SSE				XP	sP	17 28 59.4	-0.1
SSE				PP	PP	17 30 14.0	-3.1
SSE				PCP	PcP	17 31 02.1	-0.6
SSE				S	S	17 34 38.0	+1.3
SSE				XS		17 34 53.4	
SSE				SCS	ScS	17 38 55.6	+1.0
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,100nm,6.0s						
SSE				LR	LR		
	comp=N,720nm,12.1s,MS5.0						
SSE				LR	LR		
	comp=E,1µm,12.2s,MS5.0						
SSE				LR	LR		
	comp=Z,2µm,12.4s,MS5.1						
HHC	Hu-ho-hao-te	40.85	21	eP	P	17 29 11.2	+0.7
HHC				AP	pP	17 29 20.8	+1.3
HHC				XP	sP	17 29 24.7	+1.5
HHC				PP	PP	17 30 48.9	+1.1
HHC				PCP	PcP	17 31 11.6	0.0
HHC				SCP		17 34 57.6	
HHC				PCS		17 35 01.4	
HHC				S	S	17 35 19.0	-0.6
HHC				XS		17 35 34.7	
HHC				SS	SS	17 38 16.5	-0.2
HHC				SCS	ScS	17 39 11.2	0.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,160nm,5.6s						
HHC				LR	LR		
	comp=N,780nm,16.7s,MS5.1						
HHC				LR	LR		
	comp=E,2µm,15.5s,MS5.1						
HHC				LR	LR		
	comp=Z,860nm,14.3s,MS4.8						
WMQ	Urumqi	40.89	353	P	P	17 29 11.6	+0.8
WMQ				AP	pP	17 29 21.6	+1.8
WMQ				XP	sP	17 29 25.6	+2.1
WMQ				PP	PP	17 30 49.6	+1.5
WMQ				PPP	PPP	17 31 18.5	+0.9
WMQ				S	S	17 35 20.7	+0.5
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,590nm,5.4s						
WMQ				LR	LR		
	comp=N,540nm,22.0s,MS4.5						
WMQ				LR	LR		
	comp=E,520nm,21.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,650nm,21.0s,MS4.5						
NWAO	Narrogin (SRO)	42.17	150	P	P	17 29 21.5	0.0
	comp=Z,5.0nm,0.7s,mb4.3,baz=300,slow=9.3,SNR=4.6						
UCH	Uchtor	42.58	339	P	P	17 29 25.8	+1.0
	SNR=11						
AML	Almayashu	42.80	338	P	P	17 29 27.5	+0.9
	SNR=15						
KBK	Karagaybulak	42.80	339	P	P	17 29 27.6	+1.1
	SNR=7.6						
TKM2	Tokmak 2	42.82	340	P	P	17 29 27.6	+0.9
	SNR=5.1						
AAK	Ala-Archa	42.95	339	i P	P	17 29 27.2	-0.5
AAK				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.2						
AAK	Ala-Archa	42.95	339	eP	P	17 29 26.4	-1.3
	comp=Z,15nm,1.4s,mb4.5						
EKS2	Erkin-Say	43.23	338	P	P	17 29 30.4	+0.3
	SNR=6.6						
USP	Ospenovka	43.50	339	P	P	17 29 32.8	+0.6
	SNR=10						
DL2	Dalian	43.73	32	eP	P	17 29 33.3	-0.9
DL2				eS	S	17 35 59.3	-2.7
DL2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
DL2				LR	LR		
	comp=N,660nm,14.0s,MS4.7						
DL2				LR	LR		
	comp=E,390nm,15.6s,MS4.7						
DL2				LR	LR		
	comp=Z,610nm,16.1s,MS4.6						
MKAR	Makanchi Array	44.64	349	P	P	17 29 41.6	+0.2
	comp=Z,10nm,0.5s,mb4.9,baz=171,slow=8.4,SNR=107						
KKAR	Karatay Array	44.88	336	i P	P	17 29 42.8	-0.5
KKAR				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.3						
JNU	Nakatsue	45.76	45	P	P	17 29 51.2	+0.8
	comp=Z,4.0nm,0.6s,mb4.5,baz=180,slow=12,SNR=3.6						
SONM	Songino Array	45.86	12	P	P	17 29 51.2	+0.1
	comp=Z,5.6nm,0.8s,mb4.6,baz=193,slow=8.1,SNR=39						
SONM				PcP	PcP	17 31 29.4	+0.9
	comp=Z,3.0nm,0.8s,baz=185,slow=3.2,SNR=4.0						
WRA	Warramunga Arr	45.95	122	P	P	17 29 51.8	-0.4
	comp=Z,12nm,0.6s,mb5.0,baz=299,slow=8.8,SNR=147						
WRAB	Tennant Creek	45.95	122	eP	P	17 29 51.0	-1.2
WRAB				e*PP	pP	17 30 00.4	-0.7
WRAB				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.3						
WRAB	Tennant Creek	45.95	122	eP	P	17 29 51.0	-1.2
	comp=Z,27nm,0.7s,mb5.3						
WRAB				epP	pP	17 30 00.4	-0.7
WB2	Warramunga Arr	45.96	122	⇑iP	P	17 29 51.7	-0.5
WB2				e	pP	17 30 00.6	-0.6
ULN	Ulaanbaatar	46.03	12	i P	P	17 29 52.3	-0.1
ULN	Ulaanbaatar	46.03	12	eP	P	17 29 51.7	-0.7
	comp=Z,2.9nm,0.8s,mb4.3						
ZAK	Zakamensk	47.78	8	eP	P	17 30 06.4	+0.2
ZAK				e		17 31 32.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
KURK	Kurchatov	49.13	347	⇑eP	P	17 30 16.7	+0.1
KURK	Kurchatov	49.13	347	eP	P	17 30 15.6	-1.0
KURK				epP	pP	17 30 25.1	-0.5
CN2	Changchun	49.27	30	eP	P	17 30 20.0	+2.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,630nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=E,660nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=Z,910nm,21.0s,MS4.8						
HIA	Hailar	51.04	22	eP	P	17 30 30.8	-0.4
HIA				e*PP	pP	17 30 40.6	+0.3
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HIA	Hailar	51.04	22	eP	P	17 30 30.8	-0.4
	comp=Z,8.0nm,0.6s,mb4.8						
HIA				epP	pP	17 30 40.6	+0.3
ATD	Arta Tunnel	51.13	282	LR	LR	17 46 60.0	
	comp=Z,110nm,20.7s,MS3.9,baz=19,slow=30						
ZAL	Zalesovo	51.19	353	P	P	17 30 32.4	+0.1
	comp=Z,7.9nm,0.4s,mb5.0,baz=300,slow=5.6,SNR=32						
ZAL				LR	LR	17 56 13.9	
	comp=Z,203nm,19.4s,MS4.2,baz=293,slow=41						
ZAL	Zalesovo	51.19	353	i P	P	17 30 32.4	+0.1
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MDJ	Mudanjiang	51.97	32	P	P	17 30 38.3	-0.1
MDJ				AP	pP	17 30 47.1	-0.4
MDJ				XP	sP	17 30 51.0	0.0
MDJ				SCP		17 35 47.4	
MDJ				S	S	17 38 03.0	+4.9
MDJ				AMB	AMB		
	comp=Z,220nm,5.1s						
MDJ				LR	LR		
	comp=N,270nm,22.8s,MS4.5						
MDJ				LR	LR		
	comp=E,370nm,21.3s,MS4.5						
MDJ				LR	LR		
	comp=Z,460nm,18.4s,MS4.5						
NVS	Novosibirsk	52.27	352	eP	P	17 30 37.7	-2.8
NVS				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
NVS				pmax	pmax		
	comp=N,9.0nm,1.1s						
MJAR	Matsushiro Arr	52.69	45	P	P	17 30 44.3	+0.4
	comp=N,1.3nm,0.7s,mb4.0,baz=250,slow=7.7,SNR=5.4						
MJAR				PP	PP	17 32 39.5	-4.7
	comp=N,1.5nm,0.6s,baz=230,slow=8.8,SNR=5.2						
MJAR				LR	LR	17 54 55.5	
	comp=N,711nm,18.5s,MS4.7,baz=235,slow=38						
BVA0	Borovoye Array	53.37	343	i P	P	17 30 47.3	-1.3
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
BVAR	Borovoye Array	53.37	343	P	P	17 30 47.3	-1.3
	comp=Z,5.6nm,0.8s,mb4.5,baz=149,slow=8.6,SNR=29						
BRVK	Borovoye	53.43	343	eP	P	17 30 47.0	-2.1
BRVK				e*PP	pP	17 30 56.2	-2.0
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BRVK	Borovoye	53.43	343	eP	P	17 30 47.0	-2.1
	comp=Z,6.2nm,1.0s,mb4.5						
BRVK				epP	pP	17 30 56.2	-2.0
AB31	Akbulak array	54.25	333	i P	P	17 30 53.8	-1.3
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
PMG	Port Moresby	54.63	104	P	P	17 30 58.6	+0.2
PMG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PMG	Port Moresby	54.63	104	P	P	17 30 58.5	+0.2
	comp=Z,9.5nm,0.8s,mb4.9						
AKTO	Aktyubinsk	55.96	333	P	P	17 31 07.0	-0.6
	comp=Z,1.1nm,0.5s,mb4.1,baz=114,slow=13,SNR=4.9						
KLR	Kul'dur	56.17	29	eP	P	17 31 06.3	-2.8
KLR				pmax	pmax		
	comp=Z,420nm,3.8s						
KLR				MLR	MLR		
	comp=Z,4µm,13.0s,MS5.7						
KMBO	Kilima Mbogo	56.65	267	P	P	17 31 13.8	+0.7
	comp=Z,2.2nm,0.9s,mb4.2,baz=64,slow=23,SNR=3.6						
KMBO				LR	LR	17 52 11.5	
	comp=Z,430nm,19.0s,MS4.6,baz=94,slow=33						
KMBO	Kilima Mbogo	56.65	267	P	P	17 31 13.8	+0.7
KMBO				LR	LR	17 52 11.5	
BOD	Bodaibo	56.84	13	eP	P	17 31 11.7	-2.1
STKA	Stephens Creek	57.18	131	eP	P	17 31 16.0	-0.5
	comp=Z,5.7nm,0.6s,mb4.8						
STKA	Stephens Creek	57.18	131	P	P	17 31 16.1	-0.5
	comp=Z,6.4nm,0.6s,mb4.8,baz=304,slow=7.4,SNR=16						
STKA				LR	LR	17 55 50.5	
	comp=Z,151nm,18.7s,MS4.1,baz=24,slow=36						
STKA	Stephens Creek	57.18	131	eP	P	17 31 15.5	-1.1
GNI	Garni	57.55	317	i P	P	17 31 19.0	-0.1
GNI				pmax	pmax		
	comp=Z,11nm,1.2s						
GNI	Garni	57.55	317	eP	P	17 31 18.6	-0.5
	comp=Z,14nm,0.9s,mb5.0						
DGRG	David-gareji	57.73	318	P	P	17 31 19.6	-0.6
SVE	Sverdlovsk	59.68	340	eP	P	17 31 31.5	-2.1
SVE				e		17 31 47.9	
SVE				e		17 39 45.0	
SVE				ePS	ScS	17 41 16.0	-1.9
SVE				MLR	MLR		
	comp=N,200nm,14.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,400nm,14.0s,MS4.8						
SVE				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.7						
ARU	Arti	60.12	338	i P	P	17 31 34.8	-1.9
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ARU	Arti	60.12	338	eP	P	17 31 34.3	-2.3
	comp=Z,6.7nm,0.8s,mb4.7						
KIV	Kislovodsk	60.64	320	eP	P	17 31 41.8	+1.5
KIV				e		17 32 27.5	
KIV				eS	S	17 39 54.7	+1.8
KIV				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
ANN	Anapa	64.41	319	eP	P	17 32 00.3	-5.2
YAK	Yakutsk	64.60	18	⇓eP	P	17 32 05.1	-1.3
YAK				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
YAK	Yakutsk	64.60	18	eP	P	17 32 04.4	-2.0
	comp=Z,21nm,1.0s,mb5.1						
ANTO	Ankara	65.97	313	P	P	17 32 12.2	-3.3
HNR	Honiara	67.10	102	LR	LR	18 04 49.9	
	comp=Z,112nm,18.7s,MS4.1,baz=323,slow=39						
OBN	Obninsk	69.21	329	eP	P	17 32 40.0	+4.4
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
IDI	Anoyia	71.01	306	P	P	17 32 47.6	+0.6
	comp=Z,16nm,1.0s,mb4.9,baz=69,slow=5.6,SNR=7.3						
IDI				LR	LR	18 04 29.7	
	comp=Z,61nm,19.2s,MS3.9,baz=273,slow=36						
AKASG	Malin Array Be	71.67	323	P	P	17 32 48.5	-2.1
	comp=Z,2.2nm,0.6s,mb4.3,baz=92,slow=5.2,SNR=17						
LBTB	Lobatse	71.69	243	P	P	17 32 51.1	-0.1
	comp=Z,6.0nm,0.8s,mb4.5,baz=94,slow=2.8,SNR=4.6						
LBTB	Lobatse	71.69	243	eP	P	17 32 50.1	-1.1
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
LBTB	Lobatse	71.69	243	eP	P	17 32 50.1	-1.2
	comp=Z,8.5nm,0.9s,mb4.7						
TIXI	Tiksi	71.94	11	d iP	P	17 32 51.0	-0.9
TIXI				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
MLR	Muntele Rosu	72.33	317	P	P	17 32 54.5	-0.2
	comp=Z,5.4nm,0.8s,mb4.5,baz=105,slow=4.3,SNR=7.2						
VOIR		72.94	317	⇓P	P	17 32 59.2	+0.9
BURAR	Bucovina Array	73.34	319	⇑P	P	17 33 01.4	+0.9
BURAR	Bucovina Array	73.34	319	⇑P	P	17 33 01.4	+0.9
VTS	Vitosha	73.63	313	⇓P	P	17 33 01.8	-0.6
MAW	Mawson	73.83	192	P	P	17 33 04.2	+1.2
	comp=Z,2.3nm,0.7s,mb4.2,baz=354,slow=10,SNR=3.6						
MAW				LR	LR	18 01 34.6	
	comp=Z,167nm,18.9s,MS4.3,baz=58,slow=33						
MAW	Mawson	73.83	192	P	P	17 33 03.1	+0.1
MAW				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MAW	Mawson	73.83	192	P	P	17 33 03.1	+0.1
	comp=Z,8.5nm,1.1s,mb4.6						
JOF	Joensuu	74.97	335	ep	P	17 33 08.3	-1.4
	comp=Z,4.6nm,0.8s,mb4.5						
JOF	Joensuu	74.97	335	eP	P	17 33 08.3	-1.4
JOF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BZS	Buzias	75.33	316	⇑P	P	17 33 12.4	+0.3
KWP	Kalwaria	75.42	321	eP	P	17 33 12.9	+0.4
KOLS	Kolonicke sedl	75.55	320	eP	P	17 33 14.1	+0.8
KOLS				epP	pP	17 33 23.2	+0.5
CRVS	Cervenica-Dubn	76.07	320	eP	P	17 33 17.9	+1.7
CRVS				epP	pP	17 33 25.3	-0.3
SUW	Suwalki	76.15	325	eP	P	17 33 16.0	-0.5
SUW	Suwalki	76.15	325	eP	P	17 33 14.5	-2.1
	comp=Z,56nm,1.0s,mb5.5						
STHS	Stebnicka Huta	76.31	320	eP	P	17 33 18.5	+0.9
STHS				epP	pP	17 33 26.6	-0.4
KECS	Kecovo	76.62	319	eP	P	17 33 18.2	-1.1
KECS				epP	pP	17 33 27.3	-1.5
FINES	FINESS Array B	76.74	333	P	P	17 33 18.9	-0.9
	comp=Z,1.2nm,0.4s,mb4.2,baz=98,slow=6.1,SNR=13						
FINES				LR	LR	18 13 14.5	
	comp=Z,60nm,20.2s,MS3.9,baz=151,slow=40						
KAF	Kangasniemi	76.85	334	ep	P	17 33 19.1	-1.2
	comp=Z,3.9nm,0.8s,mb4.4,baz=106,slow=5.2						
KAF	Kangasniemi	76.85	334	eP	P	17 33 19.1	-1.2
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
VYHS	Vyhne	77.71	319	eP	P	17 33 25.7	+0.4
OKC	Ostrava-Krasne	78.37	320	eP	P	17 33 27.7	-1.2
MORC	Moravsky Berou	78.74	320	P	P	17 33 27.5	-3.5
MORC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
MORC	Moravsky Berou	78.74	320	P	P	17 33 27.5	-3.5
	comp=Z,5.4nm,0.9s,mb4.5						
ZST	Bratislava	78.81	318	eP	P	17 33 32.0	+0.6
ZST				epP	pP	17 33 40.3	-0.5
ARCES	ARCESS Array B	79.60	341	P	P	17 33 35.1	-0.2
	comp=Z,3.9nm,0.8s,mb4.4,baz=100,slow=5.4,SNR=9.1						
ARCES				LR	LR	18 12 38.7	
	comp=Z,186nm,21.2s,MS4.4,baz=240,slow=39						
DPC	Dobruska-Polom	79.60	321	eP	P	17 33 36.6	+0.9
GROS	Grobnik	79.67	317	eP	P	17 33 36.3	+0.2
KSP	Ksiaz	79.69	321	eP	P	17 33 37.1	+1.0
KSP	Ksiaz	79.69	321	eP	P	17 33 36.7	+0.6
BOJS	Bojanci	79.74	316	eP	P	17 33 37.1	+0.6
ARSA	Arzberg	79.74	317	⇓eP	P	17 33 37.4	+1.0
	comp=Z,15nm,1.4s,mb4.7						
UPC	Upice	79.82	321	eP	P	17 33 37.8	+1.0
BILL	Bilibino	80.62	21	i P	pP	17 33 48.8	-1.4
GORS	Gorjuse	80.69	316	eP	P	17 33 42.4	+0.8
PRU	Pruhonice	80.70	320	epP	pP	17 33 50.1	-0.9
PVCC	Panska Ves	80.74	321	eP	P	17 33 42.2	+0.5
GERES	GERESS Array B	81.13	319	P	P	17 33 44.7	+0.9
	comp=Z,6.3nm,0.8s,mb4.6,baz=108,slow=4.2,SNR=34						
BRG	Berggiesshubel	81.17	321	eP	P	17 33 44.8	+0.8
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
BRG	Berggiesshubel	81.17	321	eP	P	17 33 44.8	+0.9
	comp=Z,5.9nm,0.9s,mb4.5						
BRG				e		17 37 00.2	
KHC	Kasperske Hory	81.23	319	eP	P	17 33 45.6	+1.3
KHC				ePP	PP	17 36 56.5	+4.4
CLL	Collm	81.80	321	P	P	17 33 46.0	-1.2
CLL	Collm	81.80	321	eP	P	17 33 46.0	-1.2
NKC	Novy Kostel	82.06	320	eP	P	17 33 49.1	+0.5
WTTA	Wattenberg	82.38	317	⇑eP	P	17 33 50.2	-0.1
	comp=Z,5.8nm,0.8s,mb4.6						
SQTA	Sankt Quirin	82.67	317	⇓i	P	17 33 53.4	+1.5
MOTA	Moosalm	82.75	317	⇓iP	P	17 33 52.4	+0.2
	comp=Z,9.1nm,1.3s,mb4.6						
GRA1	Grafenberg Arr	82.81	320	eP	P	17 33 52.8	+0.3
	comp=Z,7.0nm,1.3s,mb4.5						
GRF	Grafenberg Arr	82.81	320	eP	P	17 33 52.8	+0.3
GRF				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
GRF	Grafenberg Arr	82.81	320	eP	P	17 33 52.8	+0.3
GRF				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
GRF	Grafenberg Arr	82.81	320	eP	P	17 33 52.8	+0.3
	comp=Z,7.0nm,1.3s,mb4.5						
DAVA	Damuels	83.58	317	⇓eP	P	17 33 57.4	+0.9
	comp=Z,11nm,0.8s,mb5.0						
NB2	NORSAR Subarra	83.68	331	P	P	17 33 51.8	-4.9
	comp=Z,4.6nm,1.0s,mb4.6,baz=93,slow=5.6						
NOA	NORSAR Array B	83.68	331	P	P	17 33 56.4	-0.3
	comp=Z,3.3nm,1.0s,mb4.4,baz=97,slow=5.4,SNR=3.7						
NOA				LR	LR	18 16 22.3	
	comp=Z,67nm,20.5s,MS4.0,baz=100,slow=39						
NOA	NORSAR Array B	83.68	331	P	P	17 33 56.4	-0.3
NOA				LR	LR	18 16 22.3	
LPG	La Plagne	85.71	315	eP	P	17 34 07.6	+0.4
	comp=Z,14nm,0.8s,mb4.9						
LPG	La Plagne	85.71	315	eP	P	17 34 07.6	+0.4
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
TORD	Torodi Ar. Bea	91.32	283	P	P	17 34 35.1	+0.5
	comp=Z,1.6nm,1.0s,mb4.3,baz=61,slow=4.3,SNR=5.1						
DBIC	Dimbokro	98.20	277	LR	LR	18 17 51.0	
	comp=Z,111nm,18.5s,MS4.4,baz=73,slow=34						
ILAR	Eielson Array	99.26	22	P	P	17 35 11.3	+1.6
	comp=Z,0.3nm,0.9s,mb3.8,baz=278,slow=4.3,SNR=4.3						
PDAR	Pinedale Array	129.69	22	PKP	PKPdf	17 40 39.2	-2.4
	comp=Z,0.4nm,0.8s,baz=329,slow=5.3,SNR=2.5						
TXAR	Lajitas Array	143.66	26	PKP	PKPdf	17 41 02.9	-4.5
	comp=Z,1.0nm,0.7s,baz=270,slow=2.5,SNR=6.5						
CPUP	Villa Florida	143.93	227	ePKIKP	PKPdf	17 41 02.2	-5.8
LPAZ	La Paz	157.91	232	PKP	PKPdf	17 41 27.6	-1.8
	comp=Z,0.5nm,0.6s,baz=173,slow=15,SNR=2.6						
LPAZ				PKPab	PKPab	17 42 01.1	+1.4
	comp=Z,1.2nm,0.7s,baz=111,slow=4.6,SNR=4.5						

*ATH **01** 17:22:23.2, 37.90N×20.74E, h13km±6km, MD3.6/3*
*NEIC **01** 17:22:23.2, 37.90N×20.74E, h13km, MD3.6(ATH), After ATH.*
*CSEM **01** 17:22:23.3±0.2, 37.89N×20.66E, h2km, MD3.6, Error ellipse: s-maj=5.5km s-min=1.9km az=59.0*
*THE **01** 17:22:26.1, 37.96N×20.53E, h21km*
ISC 01 17:22:23.7±1.2**, 37.92N**±0.05×**20.7E**±0.1**, h13km**±8km**, n14, σ0§67**/20**, 1D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.27	340	ePG	Pg	17 22 29.2	-0.4
VLS				eSG	Sg	17 22 34.5	+0.9
RLS	Riolos of Patr	0.62	77	⇓iPB	Pb	17 22 34.8	-0.9
RLS				eSB	Sb	17 22 43.0	-1.0
LKD	Levkas	0.79	357	ePg	Pg	17 22 38.4	-1.1
LKD				eSg	Sg	17 22 49.9	-0.3
ITM	Ithomi	1.22	127	ePB	Pb	17 22 45.8	-0.3
ITM				eSB	Sb	17 23 02.0	+0.5
EVR	Evrytania	1.32	41	ePB	Pb	17 22 48.1	+0.3
IGT	Igoumenitsa	1.64	350	ePg	Pg	17 22 51.9	-4.6
IGT	Igoumenitsa	1.64	350	ePg	Pg	17 22 51.8	-4.6
AGG	Agios Georgios	1.68	49	ePb	Pb	17 22 55.0	+1.0
AGG				eSb	Sb	17 23 15.8	+0.8
XOR	Xorichti	2.42	53	ePn	Pn	17 23 04.3	+0.7
XOR	Xorichti	2.42	53	ePn	Pn	17 23 04.3	+0.7
FNA	Florina	2.91	10	ePn	Pn	17 23 10.6	+0.1
FNA				eSn	Sn	17 23 44.8	-0.8
PAIG	Paliouri	3.06	48	ePn	Pn	17 23 12.7	0.0
GRG	Griva	3.30	23	ePn	Pn	17 23 16.4	+0.2
KNT	Kendrikon	3.65	27	ePn	Pn	17 23 21.4	+0.3

*NEIC **01** 17:27:51.4, 32.24N×114.95W, h6km, ML3.1(PAS), After PAS.*
ECX 01 17:27:51.3±0.3**, 32.19N×114.88W, h10km, MD3.3, ML3.6, 1C-2D, Western Arizona-Sonora border region**

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

COA Coachella 0.70 343 eP Pb 17 28 03.6 -1.5
RUN Ruthven 0.78 354⇓eP Pb 17 28 04.7 -1.8
GLA Glamis 0.86 3 i P Pb 17 28 06.2 -1.6
GLA Glamis 0.86 3 eP Pb 17 28 06.2 -1.6
RDX Rancho Dowling 0.94 254 eP Pb 17 28 07.8 -1.5
RDX eS Sb 17 28 20.5 -1.1
RDX ⇑e 17 28 21.9
comp=N,1µm,0.4s
YUH Yuha Desert 0.99 297⇓eP Pb 17 28 08.2 -2.0
SPX San Pedro Mart 1.25 204 eP Pb 17 28 13.0 -1.5
ENX Ensenada 1.55 259 ePN Pn 17 28 18.9 -0.2
ECNX Esteban Cantu 1.56 250 ePN Pn 17 28 18.7 -0.5
BAR Barrett 1.59 288 P Pn 17 28 16.6 -3.2
PBX Punta Banda 1.63 254 ePN Pn 17 28 19.7 -0.6
PFO Pinyon Flat Ob 1.94 317 eP Pn 17 28 21.1 -3.6
LDFC Landfair 2.88 356 Pn Pn 17 28 36.5 -1.7
MWC Mount Wilson 3.35 308 Pn Pn 17 28 43.6 -1.2
NEN Nelson 3.45 0 eP Pn 17 28 44.0 -2.2
TUC Tucson 3.47 87 Pn Pn 17 28 45.7 -0.9
TPNV Topopah Spring 4.88 347 Pn Pn 17 29 03.7 -2.8

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*BJI **01** 17:29:23.6, 26.60N×55.70E, h10km, mB5.0, mb4.3, Ms4.6, Msz4.5*
*IDC **01** 17:29:26.1±0.9, 26.87N×55.79E, mb4.2/18, mb1 4.3/18, mb1mx4.3/24, mbtmp4.2/18, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=21.3km s-min=16.6km az=153.0*
*TEH **01** 17:29:28.6, 26.64N×55.69E, h10km, Mn4.2*
*THR **01** 17:29:28.8±0.9, 26.89N×55.86E, h29km±10km, ML3.4*
*CSEM **01** 17:29:28.5±0.1, 26.73N×55.75E, h35km, mb4.7/34, Error ellipse: s-maj=3.0km s-min=2.0km az=56.0*
*NEIC **01** 17:29:28.6, 26.64N×55.69E, h10km, mb4.6/31, ML4.2(TEH), After TEH.*
*MOS **01** 17:29:29.3±0.8, 26.86N×55.70E, h33km, mb4.8/28, Error ellipse: s-maj=11.7km s-min=5.2km az=129.4*
ISC 01 17:29:27.2±0.7**, 26.76N**±0.03×**55.76E**±0.03**, h22**km±5km**, n180,** σ1.08/184**, mb4.4**/53**, MS3.8**/2**, 10C-2D, Southern Iran**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
BNDS Bandar-Abbas 0.73 30 ePG Pb 17 29 40.4 -0.8
BNDS eSG Sb 17 29 49.4 -1.4
BANOM Banah 0.97 150 P Pn 17 29 45.2 -0.3
SNR=637
BANOM P 17 29 45.3
SNR=2451
ASHO Ashiyiah 2.09 172 P Pn 17 30 04.1 +2.6
SNR=106
GHIR Ghir-Karzin 2.89 302 ePN Pn 17 30 15.6 +2.7
GHIR SN Sn 17 30 49.0 +1.5
HOQ Hoqain 3.46 156 P Pn 17 30 21.0 -0.1
SNR=14
HOQ P 17 30 22.8
SNR=9.8
ARQ Araqi 3.48 168 P Pn 17 30 23.3 +2.0
SNR=38
ISRV Sarvestan 3.50 319 Pn Pn 17 30 23.5 +1.9
IMOK Mook 3.53 311 Pn Pn 17 30 24.0 +2.0
BIDO Bidbid 3.88 146 P Pn 17 30 27.0 0.0
SNR=29
BIDO P 17 30 27.8
SNR=20
IPAR Pars 3.89 323 Pn Pn 17 30 28.4 +1.3
BSY Bisya 4.21 162 P Pn 17 30 32.9 +1.2
SNR=29
BSYO Bisya 4.23 161 P Pn 17 30 32.9 +0.9
SNR=29
SMDO Samad 4.23 150 P Pn 17 30 32.8 +0.8
SNR=35
IMEH Mehriz 4.72 348 Pn Pn 17 30 40.6 +1.7
IBAF Bafgh 4.81 358 Pn Pn 17 30 41.6 +1.3
JMDO Jabal Madar 4.87 153 P Pn 17 30 41.7 +0.7
SNR=12
WBK Wadi Bani Khal 5.06 144 P Pn 17 30 43.2 -0.5
SNR=80
ZHSF Zahedan 5.26 56 ePN Pn 17 30 45.9 -0.7
ZHSF AML AML 17 31 31.7
comp=N,18nm,0.5s
ISAD Sadrabad 5.44 341 Pn Pn 17 30 51.4 +2.3
ICHK Chekchek 5.59 348 Pn Pn 17 30 52.8 +1.6
HASS Wahat al Ahsa' 5.68 255 P Pn 17 30 53.4 +1.0
IGAR Garneh 6.28 331 Pn Pn 17 31 02.8 +1.8
NASN Na'in 6.54 338 ePN Pn 17 31 05.4 +0.8
NASN AML AML 17 31 29.6
comp=N,11nm,0.3s
IZEF Zefreh 6.80 335 Pn Pn 17 31 06.4 -1.8
QRN Al-Qurain 7.22 288 eP Pn 17 31 14.0 -0.2
QRN eS Sn 17 32 35.9 -0.5
QRN AML AML 17 32 36.3
comp=Z,46nm,0.2s
IPIR Pirpir 7.26 326 Pn Pn 17 31 14.5 -0.2
IKLH Kalahroud 7.47 332 Pn Pn 17 31 16.1 -1.6
KBD Kabd 7.53 290 eP Pn 17 31 19.0 +0.6
KBD AML AML 17 32 42.7
comp=Z,78nm,0.2s
RDF Al-Radifah 7.58 288 eP Pn 17 31 19.3 +0.1
RDF AML AML 17 32 44.6
comp=Z,33nm,0.2s
UMR Umm Al-Rimmam 7.62 293 eP Pn 17 31 20.1 +0.3
UMR AML AML 17 32 47.3
comp=Z,37nm,0.3s
NAY Al-Naaiem 7.92 290 eP Pn 17 31 24.2 +0.2
ISFB Sefidab 8.15 339 Pn P 17 31 26.8 -0.4
SHAO Shalim 8.70 181 P P 17 31 32.2 -2.5
SNR=41
IVRN Varamin 8.91 338 Pn P 17 31 36.8 -0.8
WHFO Wadi Hawf 8.99 192 P P 17 31 38.4 -0.4
SNR=20
IQOM Qom 9.01 335 Pn P 17 31 38.1 -0.9
IDMV Damavand 9.35 341 Pn P 17 31 43.4 -0.3
ABTO Aybut 9.64 194 P P 17 31 45.9 -1.9
SNR=18
IAFJ Afjeh 9.70 340 Pn P 17 31 48.2 -0.4
MZLS Mizel 9.92 256 P P 17 31 50.0 -1.6
IKOM Komasi 10.25 318 Pn P 17 31 54.4 -1.8
IGHG Ghaleghazi 10.93 316 Pn P 17 32 03.8 -1.7
ILIN Laeen 11.10 319 Pn P 17 32 06.1 -1.6
IDHR Dehrash 11.29 317 Pn P 17 32 08.9 -1.5
AFFS 'Afif 11.88 259 P P 17 32 16.3 -2.0
HILS Ha'il 12.46 276 P P 17 32 24.5 -1.7
TATS Tathlith 13.38 240 P P 17 32 34.7 -3.7
DJNS Zahran al Janu 14.45 234 P P 17 32 49.2 -3.3
GNI Garni 16.19 328 eP P 17 33 17.6 +2.7
GNI pmax pmax
comp=Z,25nm,0.9s
GNI Garni 16.19 328 eP P 17 33 17.6 +2.7
comp=Z,25nm,0.9s
GNI Garni 16.19 328 eP P 17 33 17.6 +2.7
comp=Z,25nm,0.9s
DGRG David-gareji 16.97 332 P P 17 33 27.2 +2.4
KIV Kislovodsk 20.15 332 eP P 17 34 03.7 +1.0
KIV pmax pmax
comp=Z,54nm,0.9s
KIV Kislovodsk 20.15 332 eP P 17 34 03.7 +1.0
comp=Z,54nm,0.9s
CSS Prodhromos 20.89 298 eP P 17 34 10.2 -0.2
comp=Z,11nm,0.8s
CSS Prodhromos 20.89 298 eP P 17 34 10.2 -0.1
comp=Z,11nm,0.8s
GOF Gofitskoye 20.92 334⇓iP P 17 34 10.0 -0.6
GOF pmax pmax
comp=Z,23nm,1.1s
GOF Gofitskoye 20.92 334 i P P 17 34 10.0 -0.6
comp=Z,23nm,1.1s
AAK Ala-Archa 22.02 39 eP P 17 34 18.3 -3.4
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
AAK Ala-Archa 22.02 39 eP P 17 34 18.3 -3.4
comp=Z,8.1nm,0.9s,mb4.2
AKTO Aktyubinsk 23.70 4 P P 17 34 39.2 +1.1
comp=Z,2.2nm,0.6s,mb3.7,baz=187,slow=9.3,SNR=8.9
AKTO LR LR 17 46 07.8
comp=Z,122nm,18.1s,MS3.4,slow=42
SANT Santorini 27.44 298 P P 17 35 14.7 +1.3
comp=Z,143nm,1.2s,mb5.4
IDI Anoyia 27.70 295 P P 17 35 16.9 +1.2
comp=Z,6.5nm,0.5s,mb4.6,baz=207,slow=8.9,SNR=7.4
BRVK Borovoye 28.42 19 eP P 17 35 21.0 -1.1
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
BRVK Borovoye 28.42 19 eP P 17 35 21.0 -1.1
comp=Z,1.6nm,0.7s,mb3.8
BRVK Borovoye 28.42 19 eP P 17 35 21.0 -1.1
comp=Z,1.5nm,0.7s,mb3.7
BVAR Borovoye Array 28.42 19 P P 17 35 21.6 -0.5
comp=Z,4.1nm,0.8s,mb4.1,baz=202,slow=8.0,SNR=15
BVAR PcP PcP 17 38 34.1 -0.2
comp=Z,0.3nm,0.3s,baz=202,slow=2.9,SNR=5.5
MKAR Makanchi Array 28.95 39 P P 17 35 26.6 -0.3
comp=Z,1.3nm,0.7s,mb3.8,baz=232,slow=8.5,SNR=6.2
MLR Muntele Rosu 30.23 316 P P 17 35 39.5 +1.2
comp=Z,3.5nm,0.6s,mb4.3,baz=9.2,slow=6.4,SNR=5.3
VOIR 30.76 315 ⇑P P 17 35 44.5 +1.4
WMQ Urumqi 30.88 48 eP P 17 35 44.0 -0.1
WMQ AP pP 17 35 48.4 -2.4
WMQ XP sP 17 35 51.0 -2.7
WMQ PP PP 17 36 45.2 -0.7
WMQ PPP PPP 17 37 00.4 -0.4
WMQ PCP PcP 17 38 40.5 -0.2
WMQ eS S 17 40 46.5 +0.8
WMQ SS SS 17 42 28.3 -1.0
WMQ SCS ScS 17 46 17.4 +1.2
WMQ AMB AMB
comp=Z,180nm,8.0s
WMQ LR LR
comp=N,530nm,22.0s,MS4.3
WMQ LR LR
comp=E,540nm,22.0s,MS4.3
WMQ LR LR
comp=Z,610nm,22.0s,MS4.2
LSA Lhasa 31.25 76 eP P 17 35 50.1 +2.6
LSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
LSA Lhasa 31.25 76 eP P 17 35 50.1 +2.6
comp=Z,3.3nm,0.8s,mb4.2
LSA Lhasa 31.25 76 eP P 17 35 50.1 +2.6
comp=Z,3.3nm,0.8s,mb4.2
AKASG Malin Array Be 31.31 327 P P 17 35 46.9 -1.0
comp=Z,4.6nm,0.5s,mb4.5,baz=134,slow=8.3,SNR=44
BURAR Bucovina Array 31.70 319 ⇑P P 17 35 51.7 +0.4
BURAR Bucovina Array 31.70 319 ⇑P P 17 35 51.6 +0.3
KMBO Kilima Mbogo 32.97 216 P P 17 36 05.1 +2.4
comp=Z,2.6nm,0.8s,mb4.2,baz=35,slow=13,SNR=7.2
BZS Buzias 33.03 314 ⇓P P 17 36 03.0 +0.1
KOLS Kolonicke sedl 34.06 319 i P P 17 36 13.1 +1.3
KWP Kalwaria 34.15 321 P P 17 36 12.3 -0.3
KWP pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KWP Kalwaria 34.15 321 P P 17 36 12.3 -0.3
comp=Z,8.4nm,0.8s,mb4.7
CRVS Cervenica-Dubn 34.52 319 i P P 17 36 16.0 +0.2
ZAL Zalesovo 34.58 30 P P 17 36 15.2 -1.0
comp=Z,2.5nm,0.6s,mb4.3,baz=234,slow=7.8,SNR=10
STHS Stebnicka Huta 34.88 320 i P P 17 36 21.0 +2.1
KECS Kecovo 34.91 318 i P P 17 36 20.1 +0.9
PSZ Piszkesteto 35.03 317 eP P 17 36 19.7 -0.5
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
PSZ Piszkesteto 35.03 317 eP P 17 36 19.7 -0.5
comp=Z,5.6nm,0.8s,mb4.5
PSZ Piszkesteto 35.03 317 eP P 17 36 19.7 -0.5
comp=Z,5.6nm,0.8s,mb4.5
OJC Ojcow 36.09 320 eP P 17 36 29.2 +0.1
MORC Moravsky Berou 37.21 318 eP P 17 36 38.2 -0.3
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
MORC Moravsky Berou 37.21 318 eP P 17 36 38.2 -0.3
comp=Z,3.9nm,0.8s,mb4.3
MORC Moravsky Berou 37.21 318 eP P 17 36 38.2 -0.3
comp=Z,3.9nm,0.8s,mb4.3
VRAC Vranov 37.60 317 ⇑P P 17 36 42.9 +1.1
VRAC Vranov 37.60 317 ⇑P P 17 36 42.9 +1.1
GERES GERESS Array B 39.22 316 P P 17 36 55.4 0.0
comp=Z,1.5nm,0.6s,mb3.9,baz=114,slow=6.8,SNR=13
FINES FINESS Array B 40.00 338 P P 17 37 01.6 -0.2
comp=Z,1.7nm,0.4s,mb4.1,baz=138,slow=10.0,SNR=25
WTTA Wattenberg 40.09 313⇑iP P 17 37 02.5 0.0
comp=Z,20nm,1.2s,mb4.7
WATA Walderalm 40.14 313⇑iP P 17 37 03.3 +0.2
comp=Z,8.1nm,0.6s,mb4.6
SQTA Sankt Quirin 40.36 312⇑iP P 17 37 04.7 -0.1
comp=Z,20nm,0.5s,mb5.1
MOTA Moosalm 40.46 313⇑eP P 17 37 05.1 -0.5
comp=Z,8.1nm,0.7s,mb4.6
CLL Collm 40.47 319 P P 17 37 06.0 +0.3
PGF Pioggiola 41.03 305 eP P 17 37 10.4 0.0
comp=Z,54nm,1.2s,mb4.7
PGF Pioggiola 41.03 305 eP P 17 37 10.4 0.0
PGF pmax pmax
comp=Z,27nm,1.2s,mb4.8
DAVA Damuels 41.25 312⇑iP P 17 37 12.0 -0.1
comp=Z,29nm,0.5s,mb5.2
CD2 Chengdu 42.00 73 eP P 17 37 15.7 -2.8
SBF Sospel 42.33 307 eP P 17 37 21.1 +0.1
comp=Z,33nm,0.9s,mb4.7
SBF Sospel 42.33 307 eP P 17 37 21.1 +0.1
SBF pmax pmax
comp=Z,16nm,0.9s,mb4.7
FRF La Foret Royal 42.86 306 eP P 17 37 25.2 -0.2
MBDF Montbardon 42.92 308 eP P 17 37 25.6 -0.2
comp=Z,11nm,0.8s,mb4.4
MBDF Montbardon 42.92 308 eP P 17 37 25.6 -0.2
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
LMR La Mourre 42.94 306 eP P 17 37 26.1 +0.1
comp=Z,19nm,1.2s,mb4.4
LMR La Mourre 42.94 306 eP P 17 37 26.1 +0.1
LMR pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
LPG La Plagne 43.04 309 eP P 17 37 26.4 -0.4
comp=Z,13nm,0.8s,mb4.4
LPG La Plagne 43.04 309 eP P 17 37 26.4 -0.4
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LPL La Plagne 43.06 309 eP P 17 37 26.6 -0.3
comp=Z,14nm,0.8s,mb4.5
LPL La Plagne 43.06 309 eP P 17 37 26.6 -0.3
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
CDF Champ du Feu 43.21 313 eP P 17 37 27.1 -1.0
HINF Hinteralfeld 43.37 312 eP P 17 37 28.8 -0.6
ORIF Oris-en-Rattie 43.57 308 eP P 17 37 29.5 -1.6
CABF La Chapelle 43.67 310 eP P 17 37 31.8 -0.1
SMRF Simiane la Rot 43.68 307 eP P 17 37 32.2 +0.2
HAU Haudompre 43.74 312 eP P 17 37 31.6 -0.8
comp=Z,20nm,0.9s,mb4.5
HAU Haudompre 43.74 312 eP P 17 37 31.6 -0.8
HAU pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 44.41 308 eP P 17 37 37.3 -0.7
SONM Songino Array 44.52 48 P P 17 37 39.9 +1.1
comp=Z,1.8nm,0.8s,mb4.0,baz=253,slow=7.7,SNR=12
MEZF Maizieres J'vi 44.68 313 eP P 17 37 40.0 -0.1
LASF Ste Croix 44.92 307 eP P 17 37 41.9 -0.2
comp=Z,60nm,1.5s,mb4.9
ULN Ulaanbaatar 44.96 48 eP P 17 37 42.8 +0.5
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
ULN Ulaanbaatar 44.96 48 eP P 17 37 42.8 +0.5
comp=Z,3.2nm,0.9s,mb4.2
ULN Ulaanbaatar 44.96 48 eP P 17 37 42.8 +0.5
comp=Z,3.2nm,0.9s,mb4.2
GIVF Givet 45.13 315 eP P 17 37 44.3 +0.7
SMF Signal de Mont 45.21 310 eP P 17 37 43.7 -0.6
comp=Z,29nm,1.1s,mb4.7
SMF Signal de Mont 45.21 310 eP P 17 37 43.7 -0.6
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.7
LOR Lormes 45.28 311 eP P 17 37 44.2 -0.6
comp=Z,11nm,0.8s,mb4.5
LOR Lormes 45.28 311 eP P 17 37 44.2 -0.6
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
NB2 NORSAR Subarra 45.46 331 P P 17 37 45.3 -0.8
comp=Z,1.3nm,0.7s,mb3.9,baz=117,slow=7.9
NOA NORSAR Array B 45.46 331 P P 17 37 45.4 -0.7
comp=Z,2.6nm,0.9s,mb4.1,baz=117,slow=7.9,SNR=6.1
SSF Saint Saulge 45.49 311 eP P 17 37 46.0 -0.5
SSF pmax pmax
comp=Z,12nm,1.0s,mb4.7
SSF Saint Saulge 45.49 311 eP P 17 37 46.0 -0.5
comp=Z,12nm,1.0s,mb4.7
BAIF Baives 45.51 315 eP P 17 37 47.4 +0.8
comp=Z,29nm,1.0s,mb4.8
BAIF Baives 45.51 315 eP P 17 37 47.4 +0.8
BAIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
AVF Avril sur Loir 45.56 310 eP P 17 37 46.4 -0.6
comp=Z,10nm,0.8s,mb4.5
AVF Avril sur Loir 45.56 310 eP P 17 37 46.4 -0.6
AVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BGF Bois d'Agland 45.88 310 eP P 17 37 49.2 -0.4
comp=Z,10nm,0.7s,mb4.6
BGF Bois d'Agland 45.88 310 eP P 17 37 49.2 -0.4
BGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MTLF Montolieu 46.06 305 eP P 17 37 51.5 +0.5
comp=Z,44nm,1.3s,mb4.9
MTLF Montolieu 46.06 305 eP P 17 37 51.5 +0.5
MTLF pmax pmax
comp=Z,22nm,1.3s,mb4.9
HYF Humbligny 46.10 311 eP P 17 37 51.6 +0.3
CAF Calviac 46.27 308 eP P 17 37 52.8 +0.1
comp=Z,25nm,1.0s,mb4.8
CAF Calviac 46.27 308 eP P 17 37 52.8 +0.1
CAF pmax pmax
comp=Z,13nm,1.0s,mb4.8
TCF Toulx Ste Croi 46.28 309 eP P 17 37 52.5 -0.3
ARCES ARCESS Array B 46.30 346 P P 17 37 52.2 -0.4
comp=Z,1.4nm,0.7s,mb4.0,baz=146,slow=9.2,SNR=10
LFF La Frestale 47.21 308 eP P 17 38 00.3 +0.2
EPF Esparros 47.42 305 eP P 17 38 00.6 -1.2
MFF Saint Martin d 47.94 310 eP P 17 38 04.8 -1.0
ETSF Etsaut 48.08 305 eP P 17 38 07.4 +0.4
comp=Z,8.5nm,0.7s,mb4.6
ETSF Etsaut 48.08 305 eP P 17 38 07.4 +0.4
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LDF La Druitiere 48.10 312 eP P 17 38 06.0 -1.0
comp=Z,19nm,0.7s,mb4.9
LDF La Druitiere 48.10 312 eP P 17 38 06.0 -1.0
LDF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
FLN La Foliniere 48.35 313 eP P 17 38 08.2 -0.8
SJPF Ste Jean 48.57 305 eP P 17 38 11.1 +0.4
comp=Z,12nm,0.7s,mb4.8
SJPF Ste Jean 48.57 305 eP P 17 38 11.1 +0.4
SJPF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
SGMF Saint Gilles 49.68 312 eP P 17 38 18.6 -0.7
QUIF Quistinic 50.07 311 eP P 17 38 21.2 -1.0
ROSF Rostrenen 50.17 312 eP P 17 38 22.2 -0.8
ESDC Sonseca Array 50.75 301 P P 17 38 27.7 +0.2
comp=Z,1.1nm,0.4s,mb4.1,baz=68,slow=7.5,SNR=6.0
BOD Bodaibo 50.94 36 eP P 17 38 25.5 -3.2
TORD Torodi Ar. Bea 52.24 266 P P 17 38 38.7 -0.4
comp=Z,2.9nm,0.9s,mb4.2,baz=56,slow=5.2,SNR=13
HIA Hailar 53.47 47 eP P 17 38 46.8 -1.0
HIA pmax pmax
comp=Z,13nm,1.5s
HIA Hailar 53.47 47 eP P 17 38 46.8 -0.9
comp=Z,13nm,1.5s,mb4.7
HIA Hailar 53.47 47 eP P 17 38 46.8 -1.0
comp=Z,13nm,1.5s,mb4.7
DBIC Dimbokro 60.83 262 P P 17 39 39.3 -1.1
DBIC pmax pmax
comp=Z,6.0nm,1.0s
DBIC Dimbokro 60.83 262 P P 17 39 39.3 -1.1
comp=Z,6.2nm,1.0s,mb4.7
DBIC Dimbokro 60.83 262 P P 17 39 39.3 -1.1
comp=Z,6.2nm,1.0s,mb4.7
SUMG Summit 65.97 341 eP P 17 40 14.9 +1.5
comp=Z,5.4nm,0.8s,mb4.6
SUMG Summit 65.97 341 eP P 17 40 14.9 +1.5
comp=Z,5.4nm,0.8s,mb4.6
INK Inuvik 84.97 3 P P 17 42 01.8 +0.5
comp=Z,0.8nm,0.6s,mb4.0,baz=14,slow=10,SNR=4.9
ILAR Eielson Array 87.08 10 P P 17 42 11.4 -0.4
comp=Z,0.8nm,0.6s,mb4.1,baz=317,slow=4.8,SNR=9.6
WRA Warramunga Arr 89.16 113 P P 17 42 23.5 +0.6
comp=Z,0.6nm,0.7s,mb4.0,baz=310,slow=4.3,SNR=8.3

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*MOS **01** 17:45:29.9±1.7, 54.97N×111.62E, h26km, mb4.3/1, Error ellipse: s-maj=20.5km s-min=11.0km az=64.1*
BYKL 01 17:45:30.3±0.3**, 55.01N**×**111.62E, h12**km±6km**, 4C-2D, Lake Baykal region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
YLYR Ulyunkhan 0.30 243⇓iPg Pg 17 45 37.1 +0.5
YLYR i Sg Sg 17 45 41.9 +1.1
YLYR Pmax
73nm,0.1s
YLYR Smax
2µm,0.2s
YLYR Ulyunkhan 0.30 243⇓iPG Pg 17 45 37.1 +0.5
YLYR i 17 45 42.0
YLYR pmax pmax
comp=Z,178nm,0.1s
YLYR smax
comp=E,6µm,0.3s
KMO Kumora 0.91 345 ePg Pg 17 45 47.1 -1.5
KMO eSg Sg 17 45 58.8 -2.0
KMO Pmax
comp=E,73nm,0.4s
KMO Smax
comp=E,434nm,1.3s
KMO Kumora 0.91 345 ePG Pg 17 45 47.2 -1.4
KMO e 17 45 59.0
KMO pmax pmax
comp=Z,62nm,0.4s
KMO smax
comp=N,379nm,1.0s
YOA Uoyan 1.13 3 ePg Pg 17 45 50.9 -2.0
YOA eSg Sg 17 46 06.9 -1.1
YOA Pmax
comp=N,197nm,0.6s
YOA Smax
comp=N,2µm,0.8s
YOA Uoyan 1.13 3⇑iPN Pn 17 45 51.0 -0.9
YOA e 17 46 06.9
YOA pmax pmax
comp=Z,188nm,0.3s
YOA smax
comp=N,2µm,0.5s
UKT Uakit 1.25 67⇑iPg Pg 17 45 52.7 -2.6
UKT ePb Pb 17 45 54.4 +1.1
UKT i Sg Sg 17 46 09.1 -2.8
UKT eSb Sb 17 46 12.2 +3.1
UKT max
comp=N,106nm,0.7s
UKT max
comp=N,771nm,0.4s
UKT Uakit 1.25 67 ePN Pn 17 45 52.6 -1.0
UKT e 17 46 09.2
UKT pmax pmax
comp=Z,96nm,0.3s
UKT smax
comp=N,652nm,0.4s
NIZ Nizh Angarsk 1.41 304 ePg Pg 17 45 56.5 -2.1
NIZ eSg Sg 17 46 15.4 -2.1
NIZ Pmax
comp=N,56nm,0.3s
NIZ Smax
comp=N,126nm,0.3s
NIZ Nizh Angarsk 1.41 304 ePN Pn 17 45 56.5 +0.6
NIZ e 17 46 15.5
NIZ pmax pmax
comp=Z,142nm,0.4s
NIZ smax
comp=N,255nm,0.3s
SVKR Severomuysk 1.56 44 ePg Pg 17 45 59.7 -1.9
SVKR eSg Sg 17 46 20.5 -2.0
SVKR Pmax
comp=N,153nm,0.5s
SVKR Smax
comp=N,1µm,0.6s
SVKR Severomuysk 1.56 44 ePN Pn 17 45 59.9 +1.8
SVKR e 17 46 20.6
SVKR pmax pmax
comp=Z,346nm,0.5s
SVKR smax
comp=E,1µm,0.6s
SYVR Suvo 1.65 216⇑iPg Pg 17 46 00.4 -3.0
SYVR i Sg Sg 17 46 23.9 -1.6
SYVR Pmax
comp=E,57nm,0.7s
SYVR Smax
comp=E,268nm,0.3s
SYVR Suvo 1.65 216 ePN Pn 17 46 00.5 +1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SYVR				e		17 46 22.4	
SYVR				pmax	pmax		
	comp=Z,53nm,0.3s						
SYVR				smax			
	comp=N,289nm,0.2s						
OGRR	Ongureny	2.73	241⇑	iPn	Pn	17 46 15.3	+0.6
OGRR				ePg	Pg	17 46 19.0	-5.8
OGRR				eSn	Sn	17 46 49.2	+1.3
OGRR				i Sg	Sg	17 46 55.4	-5.7
OGRR				Pmax			
	comp=N,9.0nm,0.3s						
OGRR				Smax			
	comp=N,76nm,0.4s						
NLYR	Nelyaty	2.74	56	ePn	Pn	17 46 14.7	-0.3
NLYR				ePg	Pg	17 46 19.3	-5.8
NLYR				eSg	Sg	17 46 55.4	-6.3
NLYR				Pmax			
	comp=N,25nm,0.6s						
NLYR				Smax			
	comp=N,320nm,1.1s						
NLYR	Nelyaty	2.74	56	ePN	Pn	17 46 14.5	-0.5
NLYR				e		17 46 19.4	
NLYR				e		17 46 54.6	
NLYR				pmax	pmax		
	comp=Z,19nm,0.3s						
NLYR				smax			
	comp=N,316nm,1.1s						
BOD	Bodaibo	3.11	24	ePn	Pn	17 46 19.3	-0.9
BOD				ePg	Pg	17 46 24.6	-7.9
BOD				eSn	Sn	17 46 56.5	-1.2
BOD				eSg	Sg	17 47 04.5	-9.5
BOD				Pmax			
	comp=N,33nm,0.7s						
BOD				Smax			
	comp=N,68nm,0.6s						
CIT	Chita	3.21	158	ePg	Pg	17 46 27.8	-6.6
CIT				eSg	Sg	17 47 10.1	-7.1
CIT				Pmax			
	comp=N,14nm,0.5s						
CIT				Smax			
	comp=N,71nm,0.5s						
TRG	Tyrgan	3.85	236	ePn	Pn	17 46 31.0	+0.3
TRG				ePg	Pg	17 46 38.1	-9.1
TRG				eSn	Sn	17 47 14.9	-1.4
TRG				eSg	Sg	17 47 27.9	-11
TRG				Pmax			
	comp=N,9.0nm,0.4s						
TRG				Smax			
	comp=N,84nm,0.4s						
CRS	Chara	4.19	60	ePn	Pn	17 46 34.7	-0.8
CRS				ePg	Pg	17 46 44.7	-9.3
CRS				eSg	Sg	17 47 40.1	-10
CRS				Pmax			
	comp=N,31nm,1.5s						
CRS				Smax			
	comp=N,123nm,1.3s						
CRS	Chara	4.19	60	ePN	Pn	17 46 34.7	-0.8
CRS				e		17 46 45.7	
CRS				e		17 47 40.2	
CRS				pmax	pmax		
	comp=Z,62nm,1.4s						
CRS				smax			
	comp=E,283nm,1.3s						
KAB	Kabansk	4.19	227	eSg	Sg	17 47 40.3	-10
KAB				Smax			
	comp=E,349nm,0.9s						
TUP	Tupik	4.87	94	ePn	Pn	17 46 43.8	-1.4
TUP				ePg	Pg	17 46 57.0	-11
TUP				eSg	Sg	17 48 00.4	-12
TUP				Pmax			
	comp=E,8.0nm,0.5s						
TUP				Smax			
	comp=E,89nm,0.9s						
TUP	Tupik	4.87	94	ePN	Pn	17 46 57.0	+12
TUP				e		17 48 00.0	
TUP				pmax	pmax		
	comp=Z,17nm,0.5s						
TUP				smax			
	comp=N,120nm,1.0s						
LSTR	Listvyanka	5.13	235	ePn	Pn	17 46 49.1	+0.2
LSTR				eSg	Sg	17 48 08.0	-13
LSTR				Smax			
	comp=N,29nm,0.6s						
IRK	Irkutsk	5.18	241	eSg	Sg	17 48 08.7	-14
IRK				Smax			
	comp=N,128nm,0.4s						
KPC	Khapcheranga	5.33	175	ePn	Pn	17 46 50.6	-1.2
KPC				e		17 46 52.9	
KPC				ePg	Pg	17 47 05.2	-12
KPC				e		17 47 09.3	
KPC				eSg	Sg	17 48 14.9	-13
KPC				max			
	comp=N,2.0nm,0.4s						
KPC				Smax			
	comp=N,90nm,1.5s						
TLY	Talaya	5.83	238	ePg	Pg	17 47 13.1	-14
TLY				eSg	Sg	17 48 28.5	-16
TLY				Pmax			
	comp=N,5.0nm,0.3s						
TLY				Smax			
	comp=N,15nm,0.6s						
TLY	Talaya	5.83	238	ePN	Pn	17 46 55.2	-3.5
TLY				e		17 47 12.7	
TLY				e		17 48 27.0	
TLY				pmax	pmax		
	comp=Z,3.0nm,0.2s						
TLY				smax			
	comp=E,46nm,1.9s						
ARS	Arshan	6.30	244	ePg	Pg	17 47 21.5	-15
ARS				eSg	Sg	17 48 42.8	-17
ARS				Pmax			
	comp=E,10.0nm,0.5s						
ARS				Smax			
	comp=E,136nm,0.8s						
ARS	Arshan	6.30	244	ePG	Pg	17 47 25.8	-10
ARS				e		17 48 43.5	
ARS				pmax	pmax		
	comp=Z,12nm,0.4s						
ARS				smax			
	comp=E,135nm,0.8s						
ZAK	Zakamensk	6.87	231	eSg	Sg	17 49 04.2	-15
ZAK				Smax			
	comp=E,16nm,1.1s						
MOY	Mondy	7.19	247	ePn	Pn	17 47 16.9	-1.0
MOY				eSn	Sn	17 48 56.6	+16
MOY				eSg	Sg	17 49 10.4	-19
MOY				Smax			
	comp=E,52nm,1.9s						
ORL	Orlik	7.42	255	ePn	Pn	17 47 20.5	-0.7
ORL				e		17 48 40.8	
ORL				eSg	Sg	17 49 19.1	-18
ORL				Smax			
	comp=E,29nm,1.2s						

*IDC **01** 17:51:28.0±0.8, 1.52N×126.44E, mb4.3/7, mb1 4.4/8, mb1mx4.2/15, mbtmp4.3/8, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/17, Error ellipse: s-maj=53.5km s-min=16.0km az=77.0*
*BJI **01** 17:51:30.5, 1.74N×127.09E, h47^{km}, mb4.3*
*MOS **01** 17:51:30.5±1.1, 1.64N×126.62E, h33^{km}, mb5.0/7, Error ellipse: s-maj=37.5km s-min=12.4km az=114.8*
*NEIC **01** 17:51:36.7±1.8, 1.54N×126.57E, h79^{km}±18^{km}, mb4.5/14, Error ellipse: s-maj=15.3km s-min=6.4km az=60.0*
ISC 01 17:51:35.6±2.9**, 1.55N**±0.08×**126.6E**±0.1**, h83**^{km}±28^{km}**, n44, σ0^{s}92**/45**, mb4.6**/22**, 1D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	11.25	294	ePn	P	17 54 14.4	-0.8
KSM	Kuching	16.26	270	P	P	17 55 20.9	+0.6
FITZ	Fitzroy Crossi	19.55	183	eP	P	17 55 59.1	-0.2
	4.7nm,0.7s						
FITZ	Fitzroy Crossi	19.55	183	P	P	17 55 58.5	-0.7
	0.5nm,0.3s,baz=26,slow=16,SNR=8.9						
GUMO	Guam	21.70	56	LR	LR	18 03 00.7	
	comp=Z,121nm,19.0s,baz=261,slow=32						
WRAB	Tennant Creek	22.67	161	eP	P	17 56 31.2	+0.3
WRAB				eS	S	18 00 36.2	+7.6
WRAB				pmax	pmax		
	comp=Z,48nm,1.0s,mb4.8						
WRAB	Tennant Creek	22.67	161	eP	P	17 56 31.2	+0.3
	comp=Z,48nm,1.0s,mb4.8						
WRAB				eS	S	18 00 36.2	+7.6
WRA	Warramunga Arr	22.68	161	P	P	17 56 31.8	+0.9
	comp=Z,17nm,0.7s,mb4.5,baz=339,slow=11,SNR=103						
WRA				PcP	PcP	18 00 25.9	+3.5
	comp=Z,0.5nm,0.8s,baz=317,slow=2.5,SNR=4.7						
WB2	Warramunga Arr	22.68	161	eP	P	17 56 31.9	+1.0
YHNB	Yeheng	23.53	348	eP	P	17 56 37.9	-1.2
JOW	Kunigami	25.19	4	P	P	17 56 57.1	+2.0
	comp=Z,22nm,0.8s,mb4.6,baz=181,slow=11,SNR=4.7						
CTAO	Charters Tower	28.89	139	eP	P	17 57 28.6	-0.4
CTAO				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.6						
CTAO	Charters Tower	28.89	139	eP	P	17 57 28.6	-0.4
	comp=Z,24nm,1.5s,mb4.6						
ENH	Enshi	32.85	332	eP	P	17 58 02.4	-1.2
	comp=Z,9.5nm,1.0s,mb4.6						
STKA	Stephens Creek	36.17	158	P	P	17 58 30.5	-1.5
	comp=Z,2.8nm,0.8s,mb4.3,baz=337,slow=12,SNR=7.1						
STKA	Stephens Creek	36.17	158	P	P	17 58 30.5	-1.5
STKA				eP		17 58 31.3	
MJAR	Matsushiro Arr	36.45	16	P	P	17 58 34.5	+0.2
	comp=Z,1.3nm,0.6s,mb4.0,baz=182,slow=11,SNR=3.4						
LZH	Lanzhou	40.31	331	eP	P	17 59 07.9	+1.5
LZH				AP	pP	17 59 14.6	-12
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
LSA	Lhasa	43.78	313	eP	P	17 59 35.8	+0.9
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
LSA	Lhasa	43.78	313	eP	P	17 59 35.8	+0.8
	comp=Z,4.7nm,0.7s,mb4.3						
JIRN	Jiri	46.54	308	eP	P	17 59 57.4	+0.5
	comp=Z,4.8nm,0.5s,mb4.5						
GUN	Gumba	46.90	308	eP	P	18 00 00.6	+0.8
	comp=Z,6.0nm,0.5s,mb4.6						
KKN	Kakani	47.32	307	eP	P	18 00 02.9	-0.2
DMN	Daman	47.38	307	eP	P	18 00 02.8	-0.7
GKN	Gorkha	47.93	307	eP	P	18 00 07.4	-0.4
KOLN	Koldanda	48.66	306	eP	P	18 00 13.1	-0.3
	comp=Z,12nm,0.6s,mb5.0						
ULN	Ulaanbaatar	49.14	343	i P	P	18 00 17.6	+0.8
ULN	Ulaanbaatar	49.14	343	eP	P	18 00 17.1	+0.3
	comp=Z,2.6nm,0.8s,mb4.2						
SONM	Songino Array	49.31	342	P	P	18 00 19.6	+1.4
	comp=Z,1.7nm,0.7s,mb4.1,baz=158,slow=8.1,SNR=12						
MKAR	Makanchi Array	59.26	326	P	P	18 01 29.9	-0.8
	comp=Z,2.0nm,0.4s,mb4.5,baz=120,slow=7.9,SNR=75						
MKAR	Makanchi Array	59.26	326	i P	P	18 01 29.8	-0.9
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	Makanchi Array	59.26	326	P	P	18 01 29.9	-0.8
YAK	Yakutsk	60.38	2	P	P	18 01 32.7	-5.5
YAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
YAK	Yakutsk	60.38	2	P	P	18 01 32.7	-5.5
	comp=Z,11nm,0.7s,mb5.0						
MA2	Magadan	60.85	14	P	P	18 01 39.4	-2.0
MA2				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
MA2	Magadan	60.85	14	P	P	18 01 39.4	-2.0
	comp=Z,40nm,1.0s,mb5.4						
AAK	Ala-Archa	61.87	319	i P	P	18 01 56.1	+7.6
AAK				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.2						
ZAL	Zalesovo	62.45	334	P	P	18 01 52.2	-0.1
	comp=Z,0.9nm,0.3s,mb4.2,baz=360,slow=2.3,SNR=3.3						
KURK	Kurchatov	63.49	328	d iP	P	18 01 58.7	-0.5
KURK	Kurchatov	63.49	328	eP	P	18 01 58.5	-0.7
	comp=Z,6.5nm,0.5s,mb4.8						
BRVK	Borovoye	69.13	327	eP	P	18 02 35.2	+0.3
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
BRVK	Borovoye	69.13	327	eP	P	18 02 35.2	+0.3
	comp=Z,1.2nm,0.5s,mb4.0						
ARU	Arti	76.69	328	i P	P	18 03 19.8	+0.7
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
ARU	Arti	76.69	328	eP	P	18 03 18.7	-0.4
	comp=Z,3.6nm,0.6s,mb4.3						

IDC 01 18:01:24.1±1.5**, 13.57N**×**92.90E, mb4.0**/5**, mb1 4.2**/5**, mb1mx3.8**/18**, mbtmp4.0**/5**, Error ellipse: s-maj=112.5km s-min=20.4km az=54.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.30	347	P	P	18 08 12.3	-1.9
	0.5nm,0.8s,baz=169,slow=7.3,SNR=2.9						
FITZ	Fitzroy Crossi	45.09	133	P	P	18 09 41.7	-2.3
	3.7nm,1.0s,baz=300,slow=8.1,SNR=6.5						
WRA	Warramunga Arr	52.64	128	P	P	18 10 40.4	-2.1
	1.4nm,0.5s,baz=307,slow=7.8,SNR=35						
WRA				PcP	PcP	18 11 50.6	-2.0
	0.3nm,0.5s,baz=318,slow=2.8,SNR=6.9						
ARCES	ARCESS Array B	69.54	340	P	P	18 12 34.2	-2.2
	4.2nm,1.1s,baz=98,slow=6.4,SNR=3.2						
GERES	GERESS Array B	72.82	317	P	P	18 12 54.9	-1.6
	0.2nm,0.4s,baz=90,slow=7.8,SNR=4.7						

*NIED **01** 18:22:00, 21.70N×121.20E, h8^{km}, Mw3.7 Best double couple: M$_0$4.73×10^{14} NP1:φ$_s$310°, δ85°, λ-81°. NP2:φ$_s$70°, δ10°, λ-150°.*
*JMA **01** 18:22:35.9±0.3, 21.71N×121.20E, h79^{km}, M3.8*
*NEIC **01** 18:22:35.6±0.6, 21.66N×121.20E, h35^{km}, mb4.0/4, Error ellipse: s-maj=18.3km s-min=10.5km az=80.0*
*IDC **01** 18:22:42.5±8.8, 21.59N×121.06E, h98^{km}±82^{km}, mb3.4/8, mb1 3.6/8, mb1mx3.5/18, mbtmp3.7/8, Error ellipse: s-maj=37.0km s-min=18.7km az=73.0*
ISC 01 18:22:34.7±1.4**, 21.66N**±0.08×**121.21E**±0.08**, h42**^{km}±12^{km}**, n24, σ0^{s}84**/30**, mb3.8**/12**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.53	8	ePn	P	18 23 12.7	-1.6
YHNB	Yeheng	3.00	3	ePn	P	18 23 20.2	-0.8
YOJ	Yonaguni jima	3.25	30	P	P	18 23 25.0	+0.5
YOJ				eS	S	18 24 02.2	-0.2
TATO	Taipei	3.31	4	P	P	18 23 28.6	+3.2
HATJ	Hateruma jima	3.38	45	P	P	18 23 27.0	+0.6
HATJ				S	S	18 24 05.7	-0.1
IRIF	Iriomote-Funau	3.54	41	P	P	18 23 29.1	+0.5
IRIF				eS	S	18 24 09.8	+0.1
JKRS	Kuro-shima	3.64	45	P	P	18 23 30.7	+0.6
JKRS				S	S	18 24 12.1	-0.3
JIJ	Ishigaki jima	3.82	45	P	P	18 23 32.6	0.0
JIJ				S	S	18 24 15.7	-1.1
JTJ	Tarama	4.38	47	P	P	18 23 40.9	+0.4
JTJ				S	S	18 24 30.7	-0.2
MAJO	Matsushiro	20.94	41	P	P	18 27 17.2	+0.8
ULN	Ulaanbaatar	28.52	340	P	P	18 28 28.0	-0.4
	0.8nm,0.7s,mb3.6						
ASAJ	Asahikawa	28.55	33	P	P	18 28 31.9	+3.2
	6.0nm,0.7s,mb4.5,baz=218,slow=12,SNR=4.1						
SONM	Songino Array	28.71	339	P	P	18 28 30.2	+0.1
	0.5nm,0.6s,mb3.4,baz=143,slow=7.2,SNR=3.1						
MKAR	Makanchi Array	40.19	318	P	P	18 30 09.6	+1.0
	0.1nm,0.5s,mb2.8,baz=114,slow=9.7,SNR=2.5						
ZAL	Zalesovo	42.39	329	P	P	18 30 27.1	+0.5
	0.6nm,0.4s,mb3.5,baz=347,slow=5.3,SNR=3.2						
WRAB	Tennant Creek	43.29	162	P	P	18 30 33.8	-0.6
	4.2nm,1.0s,mb4.1						
WRA	Warramunga Arr	43.29	162	P	P	18 30 33.8	-0.6
	0.9nm,0.6s,mb3.7,baz=344,slow=8.9,SNR=19						
WRA				PcP	PcP	18 32 23.4	0.0
	0.5nm,0.6s,baz=345,slow=3.6,SNR=9.1						
BRVK	Borovoye	49.72	322	P	P	18 31 23.4	-1.3
ILAR	Eielson Array	71.44	27	P	P	18 33 51.2	-1.1
	0.2nm,0.6s,mb3.2,baz=267,slow=4.6,SNR=4.6						
INK	Inuvik	75.55	22	P	P	18 34 16.1	-0.1
	1.0nm,0.7s,mb3.9						
NOA	NORSAR Array B	80.46	332	P	P	18 34 43.0	-0.5
	0.9nm,0.8s,mb3.8,baz=77,slow=5.4,SNR=2.7						
YKA	Yellowknife Ar	85.28	23	P	P	18 35 08.7	+0.7
	0.7nm,0.6s,mb3.9,baz=312,slow=4.4,SNR=6.4						
YKA	Yellowknife Ar	85.28	23	P	P	18 35 08.7	+0.7
FCC	Fort Churchill	94.73	18	P	P	18 35 53.5	+0.9
	3.3nm,0.8s,mb4.8						

*FUNV **01** 18:31:32.8, 7.01N×72.95W, h195^{km}, MW3.2*
*BJI **01** 18:31:33.6, 7.10N×72.80W, h189^{km}, mB4.7*
*NEIC **01** 18:31:33.6±0.6, 7.07N×72.76W, h189^{km}±6^{km}, mb4.3/18, Error ellipse: s-maj=7.9km s-min=6.2km az=60.0*
*IDC **01** 18:31:33.5±0.5, 7.06N×72.76W, h188^{km}±5^{km}, mb3.6/13, mb1 3.9/16, mb1mx3.7/23, mbtmp4.2/16, Error ellipse: s-maj=11.1km s-min=8.3km az=126.0*
ISC 01 18:31:32.7±0.3**, 7.08N**±0.04×**72.73W**±0.04**, h195**^{km}±3^{km}**, n73, σ0^{s}97**/78**, mb4.0**/26**, 1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	Capacho	0.88	28⇓	iP	P	18 32 02.1	+0.8
CAPV				eS	S	18 32 22.6	-0.9
SOCV	Socops	2.21	57	eP	P	18 32 15.3	+1.8
SOCV				eS	S	18 32 45.8	+0.9
VIGV	El Vigia	2.21	38	eP	P	18 32 15.0	+1.5
VIGV				eS	S	18 32 44.9	-0.1
ROSC	El Rosal	2.72	216	P	P	18 32 20.1	+0.8
	77nm,0.3s,baz=8.4,slow=2.3,SNR=88						
ROSC				S	S	18 32 54.1	-1.2
	172nm,0.3s,baz=76,slow=20,SNR=13						
SDV	Santo Domingo	2.75	49	P	P	18 32 21.3	+1.7
	44nm,0.3s,baz=230,slow=8.2,SNR=89						
SDV				S	S	18 32 55.4	-0.4
	22nm,0.3s,baz=327,slow=20,SNR=3.4						
SDV	Santo Domingo	2.75	49	ePn	P	18 32 21.0	+1.4
SDV				eSn	S	18 32 55.4	-0.4
ELOV	Elorza	3.23	91	i P	P	18 32 26.8	+1.4
VIRV	Villa del Rosa	3.42	5	eP	P	18 32 26.7	-0.9
QARV	Quebrada Arrib	3.80	35	i P	P	18 32 33.4	+1.0
QARV				eS	S	18 33 17.7	-0.9
SANV	Sanarito	3.97	53	eP	P	18 32 35.5	+0.9
DABV	Dabajuro	4.34	28	eP	P	18 32 39.7	+0.5
DABV				eS	S	18 33 29.3	-1.5
TEPV	Terepaima	4.53	50	eP	P	18 32 42.5	+1.0
SIQV	Siquisique	4.57	39	eP	P	18 32 42.6	+0.4
SIQV				eS	S	18 33 34.3	-1.8
JACV	Jacura	5.54	44	eP	P	18 32 54.9	+0.2
JACV				eS	S	18 33 55.4	-3.0
IMOV	Isla Los Monje	5.55	19	eP	P	18 32 54.4	-0.4
MONV	Montecano	5.56	29	eP	P	18 32 55.0	+0.2
CAOV	Caicara del Or	6.37	87	eP	P	18 33 05.1	-0.3
CAOV				eS	S	18 34 15.0	-2.6
MERV	Las Mercedes	6.73	71	eP	P	18 33 10.2	+0.1
BIRV	Birongo	7.22	62	eP	P	18 33 16.4	-0.2
CUPV	Cœpira	7.48	66	eP	P	18 33 20.0	0.0
OTAV	Otavalo	8.87	220	ePn	P	18 33 37.7	-0.5
	9.5nm,0.8s						
OTAV				eSn	S	18 35 13.3	-2.9
JTS	JuntasAbangare	12.49	286	P	P	18 34 25.5	+0.7
	0.2nm,0.3s,baz=48,slow=7.0,SNR=4.2						
JTS	JuntasAbangare	12.49	286	ePn	P	18 34 23.1	-1.7
	33nm,1.0s						
SJG	San Juan	12.70	30	ePn	P	18 34 28.2	+0.7
	15nm,0.9s						
SAML	Samuel	18.55	149	eP	P	18 35 35.9	-1.2
	22nm,0.8s						
SAML				epP		18 36 06.0	
DWPF	Disney	22.48	340	P	P	18 36 15.5	-0.8
	70nm,1.1s,mb5.1						
LPAZ	La Paz	23.66	169	P	P	18 36 28.5	+0.7
	0.8nm,0.5s,mb3.6,baz=18,slow=6.4,SNR=4.4						
LPAZ				pP		18 37 04.4	
	2.3nm,0.7s,baz=327,slow=15,SNR=4.1						
LPAZ	La Paz	23.66	169	P	P	18 36 27.9	+0.1
SIV	San Ignacio	25.67	153	P	P	18 36 47.8	+1.2
	0.8nm,0.5s,mb3.6,baz=304,slow=4.3,SNR=4.9						
SIV				pP	pP	18 37 25.1	-0.1
	5.4nm,0.6s,baz=337,slow=10,SNR=14						
WVT	Waverly	32.05	337	eP	P	18 37 42.8	-0.3
	12nm,1.0s,mb4.4						
BDFB	Brasilia	33.30	133	P	P	18 37 54.1	-0.1
	2.0nm,0.4s,mb4.0,baz=294,slow=12,SNR=3.6						
WMOK	Wichita Mounta	36.51	323	eP	P	18 38 19.9	-1.2
	4.9nm,0.6s,mb4.2						
LTX	Lajitas	36.58	311	eP	P	18 38 21.7	0.0
	3.3nm,0.6s,mb4.0						
TXAR	Lajitas Array	36.58	311	P	P	18 38 21.6	-0.1
	3.5nm,0.7s,mb4.0,baz=126,slow=9.2,SNR=28						
KSU1	Kansas State U	38.46	330	eP	P	18 38 35.7	-1.5
MNTX	Cornudas Mount	39.07	313	eP	P	18 38 42.5	0.0
	10nm,0.8s,mb4.4						
ANMO	Albuquerque	41.59	317	P	P	18 39 04.1	+1.0
SDCO	Great Sand Dun	42.59	321	eP	P	18 39 12.2	+1.0
	6.4nm,1.0s,mb4.0						
ISCO	Idaho Springs	43.93	323	eP	P	18 39 23.1	+1.2
	6.2nm,1.1s,mb3.9						
PV01	Paradox Valley	44.78	319	eP	P	18 39 29.4	+0.7
WUAZ	Wupatki	45.31	314	eP	P	18 39 33.9	+1.0
	16nm,0.9s,mb4.3						
RSSD	Black Hills	45.92	329	eP	P	18 39 37.8	+0.2
SRU	San Rafael	46.60	319	eP	P	18 39 43.3	+0.4
ULM	Lac du Bonnet	47.17	340	P	P	18 39 46.6	-0.6
	4.4nm,0.6s,mb4.0,baz=150,slow=8.2,SNR=10						
DAU	Daniels Canyon	47.78	320	eP	P	18 39 53.0	+0.8
NEN	Nelson	47.88	313	eP	P	18 39 52.8	-0.1
BW06	Boulder Array	48.10	324	eP	P	18 39 54.6	+0.1
PDAR	Pinedale Array	48.10	324	P	P	18 39 54.7	+0.2
	1.9nm,0.6s,mb3.6,baz=122,slow=8.9,SNR=12						
HWUT	Hardware Ranch	48.64	321	eP	P	18 39 58.0	-0.6
	2.9nm,0.7s,mb3.7						
TPNV	Topopah Spring	49.47	313	eP	P	18 40 06.0	+0.9
MCMT	McKenzie Canyo	51.23	324	eP	P	18 40 18.8	+0.4
HLID	Hailey	51.47	322	eP	P	18 40 20.4	+0.3
	4.9nm,1.1s,mb3.9						
FCC	Fort Churchill	54.11	346	eP	P	18 40 37.5	-1.8
	8.1nm,1.1s,mb4.2						
YKA	Yellowknife Ar	63.15	340	P	P	18 41 41.0	-0.7
	4.2nm,0.7s,mb4.2,baz=131,slow=6.7,SNR=40						
YKA	Yellowknife Ar	63.15	340	P	P	18 41 41.0	-0.7
DLBC	Dease Lake	67.28	331	eP	P	18 42 03.1	-5.1
DBIC	Dimbokro	67.33	86	P	P	18 42 08.9	-0.3
	1.2nm,0.4s,mb3.9,baz=241,slow=6.0,SNR=8.5						
DBIC	Dimbokro	67.33	86	P	P	18 42 07.2	-2.0
	14nm,1.3s,mb4.4						
SUMG	Summit	68.66	10	eP	P	18 42 16.4	0.0
	5.5nm,0.9s,mb4.2						
INK	Inuvik	72.92	340	eP	P	18 42 40.9	-1.1
	2.3nm,0.7s,mb3.9						
TORD	Torodi Ar. Bea	73.31	78	P	P	18 42 44.4	-0.9
	0.4nm,0.5s,mb3.3,baz=281,slow=6.2,SNR=9.8						
ILAR	Eielson Array	76.89	335	P	P	18 43 04.7	+0.1
	0.9nm,0.8s,mb3.5,baz=119,slow=3.0,SNR=7.5						
NB2	NORSAR Subarra	80.92	29	P	P	18 43 28.0	+1.7
	1.2nm,0.5s,mb3.8,baz=269,slow=5.3						
NOA	NORSAR Array B	80.92	29	P	P	18 43 28.1	+1.8
	1.8nm,0.6s,mb3.9,baz=268,slow=5.3,SNR=5.4						
GERES	GERESS Array B	82.37	42	P	P	18 43 33.9	-0.2
	0.4nm,0.6s,mb3.2,baz=270,slow=6.9,SNR=2.8						
ARCES	ARCESS Array B	86.30	20	P	P	18 43 54.1	+0.9
	4.3nm,1.0s,mb4.1,baz=315,slow=1.7,SNR=5.5						
MKAR	Makanchi Array	121.95	20	PKP	PKPdf	18 50 05.0	+1.1
	0.1nm,0.4s,baz=290,slow=3.1,SNR=4.7						
WMQ	Urumqi	126.33	18	ePKP	PKPdf	18 50 13.2	+0.8
CN2	Changchun	126.75	344	ePKP	PKPdf	18 50 17.2	+4.0
LZH	Lanzhou	136.94	4	ePKP	PKPdf	18 50 39.5	+6.8
LZH				XPKP		18 51 47.5	
STKA	Stephens Creek	139.61	228	PKP	PKPdf	18 50 39.5	+1.8
	2.6nm,0.9s,baz=34,slow=3.6,SNR=3.0						
SSE	Sheshan	139.77	341	ePKP	PKPdf	18 50 41.6	+3.6
SSE				PP	PP		
	comp=Z,30nm,3.6s						
WRA	Warramunga Arr	150.80	241	PKP	PKPdf	18 50 59.9	+3.1
	comp=Z,1.2nm,0.4s,baz=107,slow=2.6,SNR=22						
WRA				PKPbc	PKPdf	18 51 03.4	+6.6
	comp=Z,1.3nm,0.4s,baz=106,slow=2.5,SNR=51						
WRA				pPKPbc		18 51 54.0	
	comp=Z,1.7nm,0.6s,baz=110,slow=2.6,SNR=6.5						

*NEIC **01** 18:33:03.2±1.5, 55.71N×119.04E, h10^{km}, mb4.2/2, Error ellipse: s-maj=25.2km s-min=15.2km az=66.0*
*MOS **01** 18:33:04.9±2.0, 56.11N×118.03E, h10^{km}, mb4.6/2, Error ellipse: s-maj=10.8km s-min=7.9km az=64.4*
*BYKL **01** 18:33:06.4±0.3, 56.11N×117.98E*
*IDC **01** 18:33:06.2±1.2, 55.81N×118.14E, mb3.6/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/29, Error ellipse: s-maj=32.5km s-min=23.8km az=133.0*
*BJI **01** 18:33:12.2, 55.70N×119.00E, h10^{km}, mB4.6, mb4.7, ML4.6*
ISC 01 18:33:05.0±0.4**, 56.07N**±0.03×**118.12E**±0.05**, h10**^{km}**, n59, σ1^{s}63**/88**, mb3.9**/8**, MS3.6**/1**, 4C-4D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.84**	**5**	⇑*i*	**Pg**	**18 33 21.1**	**-0.7**
CRS				Pmax		18 33 21.7	
	456nm,0.2s						
CRS				*i* Sg	**Sg**	**18 33 31.9**	**-1.2**
CRS				Smax		18 33 32.3	
	5μm,0.5s						
CRS	**Chara**	**0.84**	**5**	*e*PG	**Pg**	**18 33 21.1**	**-0.7**
CRS				*e*		18 33 31.9	
CRS				pmax	pmax		
	comp=Z,256nm,0.3s						
CRS				smax			
	comp=E,5μm,0.2s						
NLYR	**Nelyaty**	**1.42**	**288**	⇑*i*	**Pg**	**18 33 30.2**	**-3.1**
NLYR				*e*Pb	**Pb**	**18 33 31.8**	**+0.8**
NLYR				max		18 33 36.8	
	comp=E,1μm,0.3s						
NLYR				*i* Sg	**Sg**	**18 33 47.6**	**-4.6**
NLYR				*e*Sb	**Sb**	**18 33 50.7**	**+1.7**
NLYR				max		18 33 51.7	
	comp=E,13μm,0.8s						
NLYR	**Nelyaty**	**1.42**	**288**	*e*PG	**Pg**	**18 33 30.0**	**-3.3**
NLYR				*e*		18 33 47.5	
NLYR				pmax	pmax		
	comp=Z,107nm,0.3s						
NLYR				smax			
	comp=N,13μm,0.8s						
TUP	**Tupik**	**1.95**	**147**	*e*Pn	**Pn**	**18 33 41.2**	**+2.7**
TUP				⇑*i*Pg	**Pb**	**18 33 42.8**	**+2.6**
TUP				Pmax		18 33 43.4	
	comp=N,3μm,0.4s						
TUP				*i* Sg	**Sb**	**18 34 09.8**	**+5.3**
TUP				Smax		18 34 13.5	
	comp=N,2μm,0.5s						
TUP	**Tupik**	**1.95**	**147**	*e*PN	**Pn**	**18 33 43.1**	**+4.6**
TUP				*e*		18 34 10.0	
TUP				pmax	pmax		
	comp=Z,3μm,0.3s						
TUP				smax			
	comp=E,2μm,0.5s						
SVKR	**Severomuysk**	**2.56**	**273**	*e*Pn	**Pn**	**18 33 46.8**	**-0.5**
SVKR				*e*Pg	**Pb**	**18 33 50.9**	**+0.3**
SVKR				*e*		18 33 52.2	
SVKR				max		18 33 56.9	
	comp=E,485nm,0.2s						
SVKR				*e*Sg	**Sb**	**18 34 23.4**	**+1.2**
SVKR				Smax		18 34 27.3	
	comp=E,4μm,0.5s						
SVKR	**Severomuysk**	**2.56**	**273**	*e*PN	**Pn**	**18 33 52.1**	**+4.8**
SVKR				*e*S	**Sn**	**18 34 17.3**	**-1.4**
SVKR				*e*		18 34 23.4	
SVKR				pmax	pmax		
	comp=Z,761nm,0.8s						
SVKR				smax			
	comp=N,4μm,0.6s						
UKT	**Uakit**	**2.60**	**259**	⇓*i*Pg	**Pb**	**18 33 51.7**	**+0.3**
UKT				Pmax		18 33 52.7	
	comp=N,368nm,0.5s						
UKT				*e*		18 33 54.5	
UKT				*i* Sg	**Sb**	**18 34 24.6**	**+1.0**
UKT				Smax		18 34 29.1	
	comp=N,2μm,1.0s						
UKT	**Uakit**	**2.60**	**259**	*e*PN	**Pn**	**18 33 51.0**	**+3.1**
UKT				*e*		18 34 24.2	
UKT				pmax	pmax		
	comp=Z,288nm,0.2s						
UKT				smax			
	comp=N,909nm,0.4s						
BOD	**Bodaibo**	**2.86**	**310**	*e*Pn	**Pn**	**18 33 50.7**	**-0.9**
BOD				*e*Pg	**Pb**	**18 33 55.5**	**-0.3**
BOD				Pmax		18 33 56.2	
	comp=N,379nm,0.3s						
BOD				*e*Sg	**Sb**	**18 34 32.0**	**+1.1**
BOD				Smax		18 34 33.6	
	comp=N,2μm,0.4s						
BOD	**Bodaibo**	**2.86**	**310**	*e*PN	**Pn**	**18 33 50.0**	**-1.6**
BOD				*e*		18 33 55.0	
BOD				*e*		18 34 30.9	
BOD				pmax	pmax		
	comp=Z,381nm,0.4s						
BOD				smax			
	comp=N,2μm,0.5s						
YOA	**Uoyan**	**3.59**	**274**	*e*Pn	**Pn**	**18 34 02.6**	**+0.7**
YOA				*e*		18 34 06.1	
YOA				*e*Pg	**Pb**	**18 34 08.8**	**+0.6**
YOA				Pmax		18 34 19.8	
	comp=N,370nm,0.6s						
YOA				*e*Sg	**Sb**	**18 34 56.0**	**+4.0**
YOA				Smax		18 35 03.7	
	comp=N,3μm,0.8s						
NRGR	**Nerungri**	**3.72**	**78**	*e*PN	**Pn**	**18 34 05.7**	**+2.0**
NRGR				S	**Sn**	**18 35 02.3**	**+14**
CLNS	**Chul'man**	**3.83**	**76**	*e*PN	**Pn**	**18 34 07.0**	**+1.6**
CLNS				*e*		18 34 13.5	
CLNS				*e*S	**Sn**	**18 34 55.2**	**+4.1**
CLNS				*e*		18 35 01.0	
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.3s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.4s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.2s						
CLNS				pmax	pmax		
	comp=N,27nm,0.3s						
CLNS				pmax	pmax		
	comp=E,33nm,0.3s						
CLNS				smax			
	comp=E,119nm,0.4s						
CLNS				smax			
	comp=Z,175nm,0.6s						
CLNS				smax			
	comp=N,190nm,0.5s						
CLNS				smax			
	comp=E,322nm,0.4s						
CLNS				smax			
	comp=N,1μm,0.6s						
CLNS				smax			
	comp=Z,292nm,0.6s						
CLNS				MLR	MLR		
	comp=Z,70nm,11.0s						
KMO	**Kumora**	**3.89**	**270**	⇓*i*Pn	**Pn**	**18 34 06.1**	**-0.1**
KMO				*e*		18 34 09.1	
KMO				*e*Pg	**Pb**	**18 34 13.9**	**+0.5**
KMO				Pmax		18 34 17.6	
	comp=Z,148nm,0.5s						
KMO				*e*Sn	**Sn**	**18 34 48.4**	**-4.2**
KMO				*i* Sg	**Sb**	**18 35 03.7**	**+2.7**
KMO				Smax		18 35 08.2	
	comp=Z,966nm,1.3s						
KMO	**Kumora**	**3.89**	**270**	*e*PN	**Pn**	**18 34 06.0**	**-0.2**
KMO				*e*		18 34 15.0	
KMO				*e*S	**Sn**	**18 34 50.0**	**-2.6**
KMO				*e*		18 35 03.4	
KMO				pmax	pmax		
	comp=Z,148nm,0.4s						
KMO				smax			
	comp=N,970nm,1.2s						
YLYR	**Ulyunkhan**	**4.14**	**256**	⇓*i*Pn	**Pn**	**18 34 09.6**	**-0.1**
YLYR				*e*		18 34 13.1	
YLYR				*e*Pg	**Pb**	**18 34 19.2**	**+1.6**
YLYR				Pmax		18 34 21.4	
	comp=N,151nm,1.1s						
YLYR				*i* Sg	**Sb**	**18 35 12.4**	**+4.4**
YLYR				Smax		18 35 15.6	
	comp=N,1μm,0.8s						
YLYR	**Ulyunkhan**	**4.14**	**256**	*e*PN	**Pn**	**18 34 19.1**	**+9.4**
YLYR				*e*		18 35 10.1	
YLYR				pmax	pmax		
	comp=Z,125nm,0.6s						
YLYR				smax			
	comp=N,1μm,0.9s						
NIZ	**Nizh Angarsk**	**4.84**	**270**	*e*Pn	**Pn**	**18 34 19.1**	**-0.5**
NIZ				*e*		18 34 23.4	
NIZ				*e*Pg	**Pb**	**18 34 30.8**	**+1.2**
NIZ				Pmax		18 34 34.2	
	comp=N,23nm,0.6s						
NIZ				*e*Sg	**Sb**	**18 35 34.2**	**+5.9**
NIZ				Smax		18 35 40.2	
	comp=N,325nm,0.8s						
NIZ	**Nizh Angarsk**	**4.84**	**270**	*e*PN	**Pn**	**18 34 19.1**	**-0.5**
NIZ				*e*		18 34 32.9	
NIZ				*e*S	**Sn**	**18 35 12.4**	**-4.0**
NIZ				*e*		18 35 34.2	
NIZ				pmax	pmax		
	comp=Z,24nm,0.6s						
NIZ				smax			
	comp=N,267nm,0.5s						
CIT	**Chita**	**4.87**	**215**	*e*Pn	**Pn**	**18 34 20.0**	**0.0**
CIT				*e*		18 34 25.1	
CIT				*e*Pg	**Pb**	**18 34 33.0**	**+2.9**
CIT				Pmax		18 34 39.2	
	comp=N,71nm,0.8s						
CIT				*e*Sg	**Sb**	**18 35 37.0**	**+7.8**
CIT				Smax		18 35 40.0	
	comp=N,1μm,1.5s						
CIT	**Chita**	**4.87**	**215**	*e*PN	**Pn**	**18 34 33.0**	**+2.9**
CIT				*e*		18 35 38.1	
CIT				pmax	pmax		
	comp=Z,70nm,0.8s						
CIT				smax			
	comp=E,1μm,1.3s						
KROS	**Kirovskiy**	**5.32**	**104**	⇓*i*Pn	**Pn**	**18 34 25.0**	**-1.4**
KROS				⇑*i*Pg	**Pg**	**18 34 41.7**	**-9.5**
KROS				*e*Sn	**Sn**	**18 35 22.4**	**-6.1**
KROS				*i* Sg	**Sg**	**18 35 50.6**	**-12**
OGRR	**Ongureny**	**6.55**	**253**	*e*Pn	**Pn**	**18 34 42.9**	**-0.9**
OGRR				*e*Pg	**Pg**	**18 35 02.2**	**-13**
OGRR				*e*		18 35 04.1	
OGRR				max		18 35 07.1	
	comp=E,17nm,0.6s						
OGRR				*e*Sg	**Sg**	**18 36 26.9**	**-16**
OGRR				Smax		18 36 40.7	
	comp=E,166nm,1.5s						
OGRR	**Ongureny**	**6.55**	**253**	*e*PN	**Pn**	**18 34 42.9**	**-0.9**
OGRR				*e*		18 35 03.4	
OGRR				*e*		18 36 28.4	
OGRR				pmax	pmax		
	comp=Z,15nm,0.5s						
OGRR				smax			
	comp=N,104nm,1.2s						
HIA	**Hailar**	**6.88**	**171**	PN	**Pn**	**18 34 38.6**	**-10**
HIA				pmax	pmax		
	comp=Z,15nm,0.4s						
HIA	**Hailar**	**6.88**	**171**	Pn	**Pn**	**18 34 38.6**	**-10**
	comp=Z,15nm,0.4s						
KPC	**Khapcheranga**	**7.26**	**211**	*e*Pn	**Pn**	**18 34 51.9**	**-1.8**
KPC				*e*Pg	**Pg**	**18 35 16.8**	**-13**
KPC				Pmax		18 35 20.1	
	comp=Z,17nm,0.4s						
KPC				*e*Sg	**Sg**	**18 36 51.0**	**-16**
KPC				Smax		18 36 57.1	
	comp=Z,381nm,1.4s						
KPC	**Khapcheranga**	**7.26**	**211**	*e*PN	**Pn**	**18 34 51.9**	**-1.8**
KPC				*e*		18 35 16.9	
KPC				*e*		18 36 50.9	
KPC				pmax	pmax		
	comp=Z,14nm,0.6s						
KPC				smax			
	comp=E,257nm,0.9s						
TRG	**Tyrgan**	**7.63**	**249**	*e*Pn	**Pn**	**18 34 57.0**	**-1.9**
TRG				*e*		18 35 00.5	
TRG				*e*Sg	**Sg**	**18 37 01.4**	**-17**
TRG				Smax		18 37 26.4	
	comp=E,153nm,1.7s						
TRG	**Tyrgan**	**7.63**	**249**	*e*PN	**Pn**	**18 34 56.9**	**-2.0**
TRG				*e*		18 35 22.5	
TRG				*e*		18 37 01.3	
TRG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TRG				smax			
	comp=N,146nm,1.3s						
KAB	**Kabansk**	**7.86**	**244**	*e*Sg	Sx	18 37 10.0	
KAB				Smax		18 37 35.1	
	comp=N,1μm,1.3s						
YAK	**Yakutsk**	**8.43**	**40**	*i* PN	**P**	**18 35 08.9**	**-1.2**
LSTR	**Listvyanka**	**8.89**	**247**	*e*Sg	Sx	18 37 40.3	
LSTR				Smax		18 37 56.2	
	comp=N,109nm,1.6s						
IRK	**Irkutsk**	**8.98**	**251**	*e*PG	Px	18 35 46.9	
IRK				*e*		18 37 42.3	
IRK				pmax	pmax		
	comp=Z,14nm,0.2s						
IRK				smax			
	comp=N,223nm,0.6s						
TLY	**Talaya**	**9.61**	**249**	*e*Pn	**P**	**18 35 23.5**	**-2.8**
TLY				*e*Sg	Sx	18 38 01.0	
TLY				Smax		18 38 12.5	
	comp=N,77nm,1.1s						
TLY	**Talaya**	**9.61**	**249**	*e*P	**P**	**18 35 23.7**	**-2.6**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ARS	**Arshan**	**10.13**	**252**	*e*Pn	**P**	**18 35 31.3**	**-2.1**
ARS				*e*Pg	Px	18 36 07.0	
ARS				Pmax		18 36 38.7	
	comp=Z,16nm,0.5s						
ARS				*e*Sg	Sx	18 38 16.9	
ARS				Smax		18 38 24.2	
	comp=Z,207nm,1.0s						
ZAK	**Zakamensk**	**10.55**	**244**	*e*Sg	Sx	18 38 30.0	
ZAK				Smax		18 38 50.1	
	comp=Z,36nm,1.1s						
ZAK	**Zakamensk**	**10.55**	**244**	*e*P	**P**	**18 35 36.1**	**-3.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ULN	**Ulaanbaatar**	**10.67**	**224**	*i* P	**P**	**18 35 43.2**	**+2.3**
ULN	**Ulaanbaatar**	**10.67**	**224**	*e*Pn	**P**	**18 35 38.0**	**-2.9**
	comp=Z,1.6nm,0.3s						
KLR	**Kul'dur**	**10.73**	**124**	*e*P	**P**	**18 35 39.2**	**-2.5**
SONM	**Songino Array**	**10.96**	**226**	Pn	**P**	**18 35 42.9**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=32,slow=14,SNR=15						
SONM				Lg		18 38 44.6	
	comp=Z,2.2nm,0.3s,baz=25,slow=30,SNR=5.2						
MOY	**Mondy**	**11.03**	**254**	*e*Sg	Sx	18 38 44.7	
MOY				Smax		18 39 03.1	
	comp=Z,94nm,1.6s						
TIXI	**Tiksi**	**16.29**	**12**	*e*P	**P**	**18 36 51.0**	**-4.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**23.91**	**274**	P	**P**	**18 38 20.3**	**+1.0**
	comp=Z,2.0nm,0.8s,mb3.6						
MKAR	**Makanchi Array**	**23.94**	**262**	P	**P**	**18 38 21.4**	**+1.7**
	comp=Z,0.8nm,0.9s,mb3.2,baz=63,slow=6.4,SNR=3.9						
NJ2	**Nanjing**	**24.02**	**178**	*e*P	**P**	**18 38 24.6**	**+4.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
SSE	**Sheshan**	**25.06**	**174**	*e*P	**P**	**18 38 33.7**	**+3.1**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,160nm,7.2s						
YHNB	**Yeheng**	**31.45**	**174**	P	**P**	**18 39 20.9**	**-7.7**
ILAR	**Eielson Array**	**43.35**	**38**	P	**P**	**18 41 10.5**	**+2.2**
	comp=Z,0.3nm,0.6s,mb3.2,baz=302,slow=5.2,SNR=5.3						
FINES	**FINESS Array B**	**44.24**	**316**	P	**P**	**18 41 18.2**	**+2.7**
	comp=Z,2.5nm,0.9s,mb4.0,baz=55,slow=7.5,SNR=7.2						
FINES	**FINESS Array B**	**44.24**	**316**	P	**P**	**18 41 18.2**	**+2.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	**Moravsky Berou**	**55.69**	**310**	*e*P	**P**	**18 42 37.8**	**-5.5**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
MORC	**Moravsky Berou**	**55.69**	**310**	*e*P	**P**	**18 42 37.8**	**-5.5**
	comp=Z,3.3nm,0.5s,mb4.6						
VRAC	**Vranov**	**56.45**	**310**	LR	LR	19 11 27.5	
	comp=Z,46nm,19.6s,MS3.6,baz=264,slow=41						
WRA	**Warramunga Arr**	**76.94**	**164**	P	**P**	**18 44 59.2**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=353,slow=6.6,SNR=7.4						

*MOS **01** 18:47:02.4±2.0,56.11N×117.97E,h10km,mb4.3/1, Error ellipse: s-maj=15.0km s-min=12.8km az=71.4*

BYKL 01 18:47:02.4±0.3,56.11N×117.99E,h13km±15km,3C-1D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.81**	**11**	⇑*i*	Pg	18 47 17.0	-1.7
CRS				*i* Sg	Sg	18 47 28.0	-1.5
CRS				Pmax			
	62nm,0.1s						
CRS				Smax			
	857nm,0.2s						
CRS	**Chara**	**0.81**	**11**	*e*PG	Pg	18 47 17.0	-1.7
CRS				*e*		18 47 27.8	
CRS				pmax	pmax		
	comp=Z,61nm,0.1s						
CRS				smax			
	comp=E,847nm,0.2s						
NLYR	**Nelyaty**	**1.33**	**288**	⇑*i*	Pg	18 47 26.0	-3.1
NLYR				*e*		18 47 31.1	
NLYR				*i* Sg	Sg	18 47 43.7	-3.2
NLYR				*e*Sb	Sb	18 47 46.4	+2.9
NLYR				max			
	comp=E,140nm,0.3s						
NLYR				max			
	comp=E,2μm,0.8s						
NLYR	**Nelyaty**	**1.33**	**288**	*e*PG	Pg	18 47 25.8	-3.3
NLYR				*e*		18 47 43.5	
NLYR				pmax	pmax		
	comp=Z,182nm,0.1s						
NLYR				smax			
	comp=E,2μm,0.1s						
TUP	**Tupik**	**2.03**	**146**	⇑*i*	Pg	18 47 38.9	-4.1
TUP				*i* Sg	Sg	18 48 06.1	-3.9
TUP				Pmax			
	comp=E,338nm,0.2s						
TUP				Smax			
	comp=E,249nm,0.2s						
TUP	**Tupik**	**2.03**	**146**	*e*PN	Pn	18 47 37.3	+0.5
TUP				*e*		18 47 39.0	
TUP				*e*S	Sn	18 48 02.9	+0.8
TUP				*e*		18 48 06.2	
TUP				pmax	pmax		
	comp=Z,384nm,0.2s						
TUP				smax			
	comp=E,335nm,0.3s						
SVKR	**Severomuysk**	**2.48**	**272**	*e*Pg	Pg	18 47 46.9	-5.1
SVKR				*e*Sg	Sg	18 48 20.1	-5.0
SVKR				Pmax			
	comp=E,106nm,0.2s						
SVKR				Smax			
	comp=E,677nm,0.4s						
SVKR	**Severomuysk**	**2.48**	**272**	*e*PN	Pn	18 47 48.1	+4.9
SVKR				*e*		18 48 19.8	
SVKR				pmax	pmax		
	comp=Z,138nm,0.4s						
SVKR				smax			
	comp=N,682nm,0.4s						
UKT	**Uakit**	**2.54**	**258**	⇓*i*	Pg	18 47 47.6	-5.6
UKT				*i* Sg	Sg	18 48 21.1	-6.0
UKT				Pmax			
	comp=N,54nm,0.2s						
UKT				Smax			
	comp=N,157nm,0.3s						
UKT	**Uakit**	**2.54**	**258**	*e*PN	Pn	18 47 47.4	+3.3
UKT				*e*		18 48 20.7	
UKT				pmax	pmax		
	comp=Z,47nm,0.2s						
UKT				smax			
	comp=N,155nm,0.4s						
BOD	**Bodaibo**	**2.77**	**310**	*e*Pn	Pn	18 47 47.0	-0.4
BOD				*e*Pg	Pg	18 47 51.6	-6.2
BOD				*e*Sg	Sg	18 48 28.0	-6.9
BOD				Pmax			
	comp=N,39nm,0.3s						
BOD				Smax			
	comp=N,291nm,0.4s						
BOD	**Bodaibo**	**2.77**	**310**	*e*PN	Pn	18 47 50.7	+3.3
BOD				*e*		18 48 26.8	
BOD				pmax	pmax		
	comp=Z,66nm,0.2s						
BOD				smax			
	comp=N,201nm,0.3s						
YOA	**Uoyan**	**3.51**	**273**	*e*Pg	Pg	18 48 05.3	-7.2
YOA				*e*Sg	Sg	18 48 52.2	-7.1
YOA				Pmax			
	comp=N,36nm,0.2s						
YOA				Smax			
	comp=N,375nm,0.4s						
YOA	**Uoyan**	**3.51**	**273**	*e*PN	Pn	18 48 04.5	+6.7
YOA				*i*		18 48 51.8	
YOA				pmax	pmax		
	comp=Z,76nm,0.4s						
YOA				smax			
	comp=E,384nm,0.4s						
NRGR	**Nerungri**	**3.78**	**79**	*e*PN	Pn	18 48 01.5	-0.2
NRGR				S	Sn	18 48 58.2	+12
KMO	**Kumora**	**3.82**	**269**	*e*Pn	Pn	18 48 02.2	-0.1
KMO				*e*Pg	Pg	18 48 09.8	-8.9
KMO				*e*Sg	Sg	18 48 59.6	-10
KMO				Pmax			
	comp=E,14nm,0.4s						
KMO				Smax			
	comp=E,104nm,0.9s						
KMO	**Kumora**	**3.82**	**269**	*e*PN	Pn	18 48 00.9	-1.4
KMO				*e*		18 48 10.3	
KMO				*e*S	Sn	18 48 45.9	-1.6
KMO				*e*		18 49 00.0	
KMO				pmax	pmax		
	comp=Z,17nm,0.3s						
KMO				smax			
	comp=E,112nm,0.5s						
CLNS	**Chul'man**	**3.90**	**76**	*e*PN	Pn	18 48 02.9	-0.5
CLNS				*e*		18 48 09.9	
CLNS				*e*S	Sn	18 48 51.1	+1.6
CLNS				pmax	pmax		
	comp=N,1.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,1.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.2s						
CLNS				smax			
	comp=E,23nm,0.5s						
CLNS				smax			
	comp=Z,5.0nm,0.3s						
CLNS				smax			
	comp=N,13nm,0.4s						
CLNS				smax			
	comp=N,168nm,0.7s						
CLNS				smax			
	comp=Z,35nm,0.5s						
CLNS				smax			
	comp=E,54nm,0.4s						
CLNS				MLR	MLR		
	comp=Z,600nm,14.0s						
YLYR	**Ulyunkhan**	**4.08**	**255**	*e*Pn	Pn	18 48 05.5	-0.4
YLYR				*e*Pg	Pg	18 48 15.1	-8.7
YLYR				*e*Sg	Sg	18 49 08.9	-9.3
YLYR				Pmax			
	comp=Z,18nm,0.5s						
YLYR				Smax			
	comp=Z,109nm,1.0s						
YLYR	**Ulyunkhan**	**4.08**	**255**	*e*PN	Pn	18 48 05.6	-0.3
YLYR				*e*		18 48 15.6	
YLYR				*e*		18 49 07.3	
YLYR				pmax	pmax		
	comp=Z,18nm,0.3s						
YLYR				smax			
	comp=N,139nm,1.1s						
NIZ	**Nizh Angarsk**	**4.76**	**269**	*e*Pn	Pn	18 48 15.2	-0.5
NIZ				*e*Pg	Pg	18 48 26.7	-11
NIZ				*e*Sg	Sg	18 49 29.6	-11
NIZ				Pmax			
	comp=N,5.0nm,0.3s						
NIZ				Smax			
	comp=N,28nm,0.4s						
NIZ	**Nizh Angarsk**	**4.76**	**269**	*e*PN	Pn	18 48 29.0	+13
NIZ				*e*		18 49 30.2	
NIZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NIZ				smax			
	comp=N,36nm,0.9s						
CIT	**Chita**	**4.86**	**214**	*e*Pg	Pg	18 48 28.4	-11
CIT				*e*Sg	Sg	18 49 31.8	-12
CIT				Pmax			
	comp=N,6.0nm,0.4s						
CIT				Smax			
	comp=N,154nm,0.9s						
CIT	**Chita**	**4.86**	**214**	*e*PN	Pn	18 48 30.4	+13
CIT				*e*		18 49 31.1	
CIT				pmax	pmax		
	comp=Z,7.0nm,0.3s						
CIT				smax			
	comp=E,188nm,1.7s						
SYVR	**Suvo**	**5.23**	**245**	*e*Pn	Pn	18 48 21.2	-1.0
SYVR				*e*		18 48 24.7	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR				*e*Pg	Pg	18 48 35.8	-11
SYVR				*e*Sg	Sg	18 49 44.4	-12
SYVR				Pmax			
	comp=E,24nm,0.9s						
SYVR				Smax			
	comp=E,53nm,0.8s						
KROS	**Kirovskiy**	**5.40**	**104**	*e*Pn	Pn	18 48 21.5	-3.2
KROS				*e*Pg	Pg	18 48 37.6	-13
KROS				*e*Sn	Sn	18 49 22.0	-5.5
KROS				*e*Sg	Sg	18 49 46.1	-16
KPC	**Khapcheranga**	**7.26**	**210**	*e*Pn	Pn	18 48 47.7	-3.1
KPC				*e*Sg	Sg	18 50 46.7	-17
KPC				Smax			
	comp=E,28nm,0.8s						
KPC	**Khapcheranga**	**7.26**	**210**	*e*PG	Pg	18 49 12.7	-15
KPC				*e*		18 50 46.8	
KPC				pmax	pmax		
	comp=Z,33nm,0.4s						
KPC				smax			
	comp=N,36nm,0.6s						
TRG	**Tyrgan**	**7.57**	**249**	*e*Pn	Pn	18 48 53.3	-1.9
TRG				*e*Sg	Sg	18 50 57.1	-17
TRG				Smax			
	comp=N,18nm,0.8s						
ZAK	**Zakamensk**	**10.51**	**243**	*e*Sg	S	18 52 27.8	+54
ZAK				Smax			
	comp=N,5.0nm,0.8s						

*NIED **01** 18:50:00, 38.20N×144.80E, h8km, Mw3.7 Best double couple: $M_0$3.36×10^{14} NP1:ϕ_s205°, δ65°, λ-90°. NP2:ϕ_s26°, δ25°, λ-89°.*

JMA 01 18:50:05.5±0.1**, 38.24N×144.80E, h44km, M3.8, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.59**	**290**	P	P	18 50 46.3	+0.3
MIYJ	**Miyakonagasawa**	**2.68**	**301**	P	P	18 50 47.3	+0.1
MIYJ				S	S	18 51 18.4	-0.3
JIO	**Ouri**	**2.72**	**276**	S	S	18 51 20.1	+0.3
JMK	**Ichinoseki**	**2.89**	**285**	P	P	18 50 50.8	+0.5
JMK				*e*S	S	18 51 24.1	0.0
JOM	**Ohasama**	**3.00**	**295**	P	P	18 50 52.3	+0.5
JOM				S	S	18 51 27.5	+0.6
JMM	**Marumori**	**3.19**	**265**	P	P	18 50 54.5	+0.1
JMM				S	S	18 51 30.9	-0.6
NEM2	**Nemuro 2**	**5.17**	**8**	P	P	18 51 17.8	-4.6
NEM2				*e*S	S	18 52 12.2	-9.4
JRY	**Ryogami san**	**5.21**	**247**	P	P	18 51 22.0	-0.9
JRY				*e*S	S	18 52 18.9	-3.6
MAT	**Matsushiro**	**5.52**	**254**	P	P	18 51 27.3	+0.1
MAT				*e*S	S	18 52 29.6	-0.6
JTKR	**Abashiri--Toko**	**5.76**	**354**	*e*S	S	18 52 29.6	-6.9

*IDC **01** 19:09:08.9±3.5, 49.98N×19.06E, mb1 4.0/2, mb1mx3.4/18, mbtmp4.0/2, ML2.9/3, Error ellipse: s-maj=67.4km s-min=10.2km az=140.0*
*NEIC **01** 19:09:09.4±0.8, 50.33N×18.79E, h5km, MG2.7(WAR), Error ellipse: s-maj=13.4km s-min=5.1km az=194.0*
*IPEC **01** 19:09:09.7±0.2, 50.28N×18.82E, h3km±1km, ML2.5/3, Error ellipse: s-maj=2.2km s-min=0.8km az=166.0*
*WAR **01** 19:09:10.3, 50.26N×18.86E, ML2.8, Mining Induced*
*CSEM **01** 19:09:10.2±0.1, 50.29N×18.83E, h2km, ML3.6/3, Error ellipse: s-maj=3.1km s-min=1.6km az=19.0*
*PRU **01** 19:09:10.8, 50.29N×18.75E*

ISC 01 19:09:08.3±0.4**, 50.33N**±0.03×**18.78E**±0.03**, n52, σ1§47**/91**, 2C-8D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.45**	**236**	*e*PG	**Pg**	**19 09 20.0**	**+2.7**
RAC				*e*SG	**Sg**	**19 09 27.0**	**+3.7**
RAC	**Raciborz**	**0.45**	**236**	*e*Pg	**Pg**	**19 09 19.9**	**+2.6**
RAC				*e*Sg	**Sg**	**19 09 26.9**	**+3.6**
OKC	**Ostrava-Krasne**	**0.64**	**219**	*e*PG	**Pg**	**19 09 22.2**	**+1.1**
OKC				*e*SG	**Sg**	**19 09 31.5**	**+1.8**
	40nm,0.3s						
OKC	**Ostrava-Krasne**	**0.64**	**219**	*e*Pg	**Pg**	**19 09 21.9**	**+0.8**
OKC				*e*Sg	**Sg**	**19 09 29.5**	**-0.2**
OJC	**Ojcow**	**0.67**	**100**	*e*PG	**Pg**	**19 09 22.0**	**+0.4**
OJC				*e*SG	**Sg**	**19 09 30.0**	**-0.4**
OJC	**Ojcow**	**0.67**	**100**	*e*Pg	**Pg**	**19 09 21.9**	**+0.3**
OJC				*e*Sg	**Sg**	**19 09 29.8**	**-0.6**
MORC	**Moravsky Berou**	**0.97**	**235**	*e*Pg	**Pn**	**19 09 27.2**	**-1.8**
MORC				*e*Sg	**Sn**	**19 09 40.7**	**-3.0**
MORC	**Moravsky Berou**	**0.97**	**235**	*e*Pg	**Pn**	**19 09 28.1**	**-0.9**
MORC				*e*Sg	**Sn**	**19 09 40.7**	**-3.0**
LIKS	**Likavka**	**1.30**	**170**	*e*PN	**Pn**	**19 09 33.6**	**-0.1**
LIKS				*e*SN	**Sn**	**19 09 51.5**	**-0.6**
NIE	**Niedzica**	**1.35**	**132**	*e*PG	**Pg**	**19 09 34.0**	**-1.3**
NIE				*e*SG	**Sg**	**19 09 52.0**	**-1.3**
DPC	**Dobruska-Polom**	**1.57**	**272**	*e*PG	**Pn**	**19 09 39.2**	**+1.6**
DPC				*e*SG	**Sn**	**19 10 00.5**	**+1.5**
	60nm,0.3s						
DPC	**Dobruska-Polom**	**1.57**	**272**	*e*Pn	**Pn**	**19 09 38.9**	**+1.3**
DPC	**Dobruska-Polom**	**1.57**	**272**	*e*Pg	**Pn**	**19 09 39.2**	**+1.6**
DPC				*e*Sg	**Sn**	**19 10 00.5**	**+1.5**
JAVC	**Velka Javorina**	**1.64**	**206**	*e*Pn	**Pn**	**19 09 39.1**	**+0.5**
KSP	**Ksiaz**	**1.66**	**289**	*e*PN	**Pn**	**19 09 41.0**	**+2.1**
KSP				*i* PG	**Pg**	**19 09 42.5**	**+1.0**
KSP				*e*SG	**Sg**	**19 10 05.5**	**+1.8**
KSP	**Ksiaz**	**1.66**	**289**	*e*Pg	**Pg**	**19 09 42.4**	**+0.9**
KSP				*e*Sn	**Sn**	**19 10 01.6**	**+0.4**
KSP				*e*Sg	**Sg**	**19 10 05.4**	**+1.7**
KSP	**Ksiaz**	**1.66**	**289**	*e*Pn	**Pn**	**19 09 40.6**	**+1.7**
KSP				*i* Pg	**Pg**	**19 09 42.5**	**+1.0**
KSP				*e*Sn	**Sn**	**19 10 01.6**	**+0.3**
KSP				*e*Sg	**Sg**	**19 10 04.7**	**+1.0**
KSP	**Ksiaz**	**1.66**	**289**	*i* Pg	**Pg**	**19 09 42.5**	**+1.0**
KSP				*e*Sn	**Sn**	**19 10 01.6**	**+0.3**
KSP				*e*Sg	**Sg**	**19 10 04.7**	**+1.0**
VRAC	**Vranov**	**1.75**	**235**	Pg	**Pg**	**19 09 41.1**	**-2.1**
	5.5nm,0.3s,baz=58,slow=15,SNR=28						
VRAC				Lg		19 10 03.8	
	15nm,0.3s,baz=109,slow=20,SNR=20						
VRAC	**Vranov**	**1.75**	**235**	⇓P	**Pn**	**19 09 41.8**	**+1.7**
VRAC	**Vranov**	**1.75**	**235**	*e*Pn	**Pn**	**19 09 40.7**	**+0.6**
VRAC	**Vranov**	**1.75**	**235**	⇓P	**Pn**	**19 09 41.8**	**+1.7**
VRAC				*e*Sg		19 10 03.8	
	51nm,0.4s						
UPC	**Upice**	**1.78**	**277**	*e*PG	**Pg**	**19 09 42.2**	**-1.6**
STHS	**Stebnicka Huta**	**1.84**	**119**	*e*PN	**Pn**	**19 09 43.4**	**+2.0**
STHS				*e*SN	**Sn**	**19 10 09.8**	**+4.1**
VYHS	**Vyhne**	**1.84**	**179**	*e*PN	**Pn**	**19 09 41.0**	**-0.4**
VYHS				*e*PG	**Pg**	**19 09 43.8**	**-1.3**
VYHS				*e*SN	**Sn**	**19 10 06.1**	**+0.3**
VYHS	**Vyhne**	**1.84**	**179**	*e*Pg	**Pg**	**19 09 43.8**	**-1.3**
VYHS				*e*Sn	**Sn**	**19 10 06.1**	**+0.3**
KRUC	**Moravsky**	**2.00**	**231**	*e*Pn	**Pn**	**19 09 43.9**	**+0.1**
KRUC				*e*Sn	**Sn**	**19 10 11.0**	**+1.1**
	25nm,0.3s						
KECS	**Kecovo**	**2.16**	**148**	*e*PG	**Pg**	**19 09 48.3**	**-3.2**
KECS				*e*		19 10 10.5	
KECS	**Kecovo**	**2.16**	**148**	*e*P	**Pn**	**19 09 45.1**	**-0.9**
KECS				*e*Pg	**Pg**	**19 09 48.3**	**-3.2**
KECS				*e*		19 10 10.5	
CRVS	**Cervenica-Dubn**	**2.26**	**128**	*e*PN	**Pn**	**19 09 50.9**	**+3.5**
CRVS				*e*SN	**Sn**	**19 10 17.0**	**+0.6**
PSZ	**Piszkesteto**	**2.53**	**163**	⇑*e*PB	**Pb**	**19 09 57.2**	**+2.9**
PSZ				*e*SB	**Sb**	**19 10 28.9**	**+2.8**
PSZ	**Piszkesteto**	**2.53**	**163**	*e*Pn	**Pn**	**19 09 56.2**	**+5.0**
KWP	**Kalwaria**	**2.63**	**104**	*e*PN	**Pn**	**19 09 58.0**	**+5.3**
KWP				*e*SG	**Sg**	**19 10 38.0**	**+2.1**
KWP	**Kalwaria**	**2.63**	**104**	*e*Pn	**Pn**	**19 09 58.2**	**+5.5**
KWP				*e*Sg	**Sg**	**19 10 38.0**	**+2.1**
KOLS	**Kolonicke sedl**	**2.67**	**120**	*e*PG	**Pg**	**19 09 58.1**	**-3.5**
PVCC	**Panska Ves**	**2.70**	**276**	*e*PG	**Pg**	**19 09 59.9**	**-2.3**
PRU	**Pruhonice**	**2.75**	**264**	*e*PG	**Pn**	**19 10 00.1**	**+5.7**
PRU				*e*SG	**Sn**	**19 10 35.4**	**+6.6**
	26nm,0.6s						
BRG	**Berggiesshubel**	**3.13**	**282**	Pg	**Pg**	**19 10 11.4**	**+0.7**
BRG				Sg	**Sg**	**19 10 50.2**	**-2.2**
KHC	**Kasperske Hory**	**3.58**	**252**	*e*PN	**Pn**	**19 10 05.5**	**-0.8**
KHC				*e*PG	**Pg**	**19 10 14.3**	**-5.5**
KHC				*e*SN	**Sn**	**19 10 49.0**	**-0.9**
KHC				*e*SG	**Sg**	**19 11 02.8**	**-4.7**
	20nm,0.4s						
GERES	**GERESS Array B**	**3.62**	**248**	Pn	**Pn**	**19 10 06.8**	**0.0**
	0.2nm,0.3s,baz=73,slow=14,SNR=5.9						
GERES				Pg	**Pg**	**19 10 16.7**	**-3.9**
	0.7nm,0.3s,baz=67,slow=15,SNR=11						
GERES				Lg		19 11 04.0	
	4.3nm,0.3s,baz=61,slow=28,SNR=12						
GERES	**GERESS Array B**	**3.62**	**248**	Pg	**Pg**	**19 10 16.7**	**-3.9**
CLL	**Collm**	**3.79**	**287**	*e*PG	**Pg**	**19 10 26.0**	**+2.1**
CLL				*e*SG	**Sg**	**19 11 13.0**	**-1.5**
MOA	**Molln**	**3.87**	**232**	⇑*i*Pn	**Pn**	**19 10 09.6**	**-0.7**
MOA				⇓*e*Sg	**Sg**	**19 11 09.5**	**-7.6**
	comp=E,18nm,0.6s						
NKC	**Novy Kostel**	**4.06**	**271**	*e*PG	**Pg**	**19 10 22.7**	**-6.7**
NKC				*e*SG	**Sg**	**19 11 18.6**	**-4.9**
	46nm,1.0s						
DRGR		**4.40**	**142**	⇓P	**Pn**	**19 10 15.7**	**-2.2**
DRGR		**4.40**	**142**	⇓P	**Pn**	**19 10 15.7**	**-2.2**
BURAR	**Bucovina Array**	**5.04**	**120**	⇓P	**Pn**	**19 10 26.4**	**-0.5**
BZS	**Buzias**	**5.09**	**157**	⇓P	**Pn**	**19 10 27.7**	**0.0**
BZS	**Buzias**	**5.09**	**157**	⇓P	**Pn**	**19 10 27.7**	**0.0**
AKASG	**Malin Array Be**	**6.67**	**83**	Lg		19 12 32.9	
	0.6nm,0.3s,baz=259,slow=26,SNR=7.0						
FINES	**FINESS Array B**	**11.85**	**17**	Pn	**P**	**19 11 57.2**	**-4.2**
	0.2nm,0.3s,baz=196,slow=10,SNR=8.2						
ARCES	**ARCESS Array B**	**19.53**	**7**	Pn	**P**	**19 13 36.8**	**-2.9**
	0.1nm,0.3s,baz=197,slow=13,SNR=5.3						

MAN 01 19:34:27.0, 13.58N×120.75E, h149km, mb4.0, ML2.7, MS2.4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.21**	**111**	⇑*i*P	S	19 35 00.0	-3.3
LUBP	**Lubang**	**0.51**	**288**	*e*P	P	19 34 49.9	+1.1
LUBP				*e*S	S	19 35 06.6	+1.2
BOAC	**Boac**	**1.07**	**96**	*e*P	P	19 34 53.1	+0.6
BOAC				*e*S	S	19 35 13.6	+1.5
SJMP	**San Jose**	**1.17**	**162**	*e*P	P	19 34 53.9	+0.5
SJMP				*e*S	S	19 35 14.4	+0.6
BUSP	**Coron**	**1.65**	**199**	*e*P	P	19 34 59.2	+0.7
BUSP				*e*S	S	19 35 23.4	+0.7
OTRP	**Odiongan**	**1.73**	**134**	*e*P	P	19 34 59.0	-0.3
SCZP	**Santa Cruz**	**2.33**	**340**	*e*P	P	19 35 06.6	+0.1
CUYO	**Cuyo Island**	**2.72**	**174**	*e*P	P	19 35 11.3	-0.2

*IDC **01** 20:02:04.1±1.8, 40.05N×8.58W, mb4.0/3, mb1 4.1/6, mb1mx3.6/25, mbtmp4.0/6, ML4.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/28, Error ellipse: s-maj=28.1km s-min=20.7km az=73.0*
*SFS **01** 20:02:05.0, 40.06N×8.58W, ML3.6*
*INMG **01** 20:02:06.7±1.1, 40.05N×8.62W, h6km±3km, ML3.8, Error ellipse: s-maj=2.7km s-min=2.0km az=97.0*
*LDG **01** 20:02:06.1±0.1, 40.07N×8.66W, h5km, Md3.9/1, Ml3.9/17, Error ellipse: s-maj=2.9km s-min=1.6km az=89.0*
*NEIC **01** 20:02:06.1, 40.06N×8.61W, h7km, MN3.9(MDD), After MDD.*
*CSEM **01** 20:02:06.6±0.1, 40.05N×8.56W, h10km, ML3.9/43, Error ellipse: s-maj=1.8km s-min=0.8km az=79.0*
*MDD **01** 20:02:06.2±0.4, 40.07N×8.60W, h7km±2km, mbLg3.9/30, Error ellipse: s-maj=3.8km s-min=1.9km az=96.0, PRXIMO*
*IGIL **01** 20:02:08.5, 40.00N×8.60W, h2km, ML4.2*

ISC 01 20:02:04.7±0.4**, 40.10N**±0.01×**8.39W**±0.03**, h15km**±2km**, n189, σ1§46**/399**, mb3.8**/3**, MS3.9**/1**, 9C-1D, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTOM	**Tomar**	**0.48**	**182**	*e*Pg	**Pg**	**20 02 14.9**	**+0.2**
PTOM				*e*Sg	**Sg**	**20 02 21.5**	**+0.2**
PTOM	**Tomar**	**0.48**	**182**	Pg	**Pg**	**20 02 14.8**	**+0.1**
PTOM				Pg	**Pg**	**20 02 14.9**	**+0.2**
PTOM				Lg		20 02 21.5	
MTE	**Manteigas**	**0.72**	**65**	*e*P	**Pb**	**20 02 23.0**	**+4.6**
MTE				*e*S	**Sb**	**20 02 35.8**	**+8.0**
	1μm,0.3s						
MTE	**Manteigas**	**0.72**	**65**	Pg	**Pg**	**20 02 22.8**	**+3.5**
MTE				Lg		20 02 34.6	
MTE	**Manteigas**	**0.72**	**65**	*e*P	**Pb**	**20 02 23.0**	**+4.6**
MTE				*e*S	**Sb**	**20 02 35.8**	**+8.0**
	1μm,0.3s						
PVIS	**Viseu**	**0.72**	**32**	*e*P	**Pb**	**20 02 22.5**	**+4.0**
PVIS				*e*S	**Sb**	**20 02 35.0**	**+7.0**
	1μm,0.1s						
PVIS	**Viseu**	**0.72**	**32**	Pg	**Pg**	**20 02 22.4**	**+3.0**
PVIS				*e*S	**Sb**	**20 02 35.0**	**+7.0**
	1μm,0.1s						
PCBR	**Castelo Branco**	**0.75**	**110**	*e*P	**Pb**	**20 02 23.3**	**+4.3**
PCBR				*e*S	**Sb**	**20 02 35.5**	**+6.8**
	7μm,0.3s						
PCBR	**Castelo Branco**	**0.75**	**110**	Pg	**Pg**	**20 02 23.2**	**+3.3**
PCBR				*e*S	**Sb**	**20 02 35.5**	**+6.8**
	7μm,0.3s						
ALMR	**Almeirim**	**0.95**	**189**	*e*P	**Pb**	**20 02 22.9**	**+0.5**
ALMR				*e*S	**Sb**	**20 02 35.3**	**+0.7**
ALMR				*e*S	**Sb**	**20 02 35.4**	**+0.8**
ALMR				AML	AML	20 02 36.7	
	comp=E,8μm,0.3s						
PVRL	**Vila Real**	**1.28**	**23**	*e*Pn	**Pn**	**20 02 30.9**	**+2.7**
PVRL	**Vila Real**	**1.28**	**23**	*e*Pg	**Pg**	**20 02 32.3**	**+1.8**
PVRL				*e*Sn	**Sn**	**20 02 50.1**	**+4.9**
	comp=E,1μm,0.3s						
PVRL	**Vila Real**	**1.28**	**23**	Pg	**Pg**	**20 02 30.7**	**+0.2**
PVRL				Pn	**Pn**	**20 02 30.9**	**+2.7**
PVRL				Lg		20 02 50.2	
PVRL	**Vila Real**	**1.28**	**23**	Pg	**Pg**	**20 02 30.7**	**+0.2**
PVRL				Lg		20 02 50.2	
PVRL	**Vila Real**	**1.28**	**23**	*e*Pg	**Pg**	**20 02 32.3**	**+1.8**
PVRL				*e*Sn	**Sn**	**20 02 50.1**	**+4.9**
	comp=E,1μm,0.3s						
PLOU	**Loures**	**1.35**	**206**	*e*P	**Pn**	**20 02 28.6**	**-0.5**
PLOU				*e*S	**Sb**	**20 02 45.6**	**-0.5**
	comp=E,2μm,0.2s						
PLOU	**Loures**	**1.35**	**206**	Pg	**Pg**	**20 02 28.5**	**-3.3**
PLOU				Lg		20 02 46.0	
PLOU	**Loures**	**1.35**	**206**	Pg	**Pg**	**20 02 28.5**	**-3.3**
PLOU				*e*S	**Sb**	**20 02 45.6**	**-0.5**
	comp=E,2μm,0.2s						
INMG	**Instituto de M**	**1.44**	**203**	*e*P	**Pn**	**20 02 31.1**	**+0.6**
INMG				*e*S	**Sb**	**20 02 48.3**	**-0.5**
LIS	**Lisbon**	**1.50**	**203**	*e*P	**Pn**	**20 02 31.9**	**+0.6**
LIS				*e*S	**Sb**	**20 02 49.9**	**-0.6**
LIS				*e*S	**Sb**	**20 02 49.9**	**-0.6**
LIS				AML	AML	20 02 51.7	
	comp=E,2μm,0.3s						
EVO	**Evora**	**1.59**	**169**	*e*Pn	**Pn**	**20 02 32.7**	**+0.1**
EVO	**Evora**	**1.59**	**169**	*e*Pg	**Pg**	**20 02 34.5**	**-2.1**
EVO				*e*Sg	**Sg**	**20 02 54.2**	**-3.7**
	comp=E,2μm,0.3s						
PCAB	**Cabril**	**1.63**	**10**	*e*Pn	**Pn**	**20 02 35.1**	**+1.9**
PCAB				*e*Sn	**Sn**	**20 02 59.6**	**+5.5**
	comp=E,854nm,0.3s						
PCAB	**Cabril**	**1.63**	**10**	Pn	**Pn**	**20 02 35.0**	**+1.8**
PCAB				Lg		20 02 59.5	
PCAB	**Cabril**	**1.63**	**10**	Pn	**Pn**	**20 02 35.0**	**+1.8**
PCAB				*e*Sn	**Sn**	**20 02 59.6**	**+5.5**
	comp=E,854nm,0.3s						
EBAD	**Badajoz**	**1.71**	**141**	Pn	**Pn**	**20 02 35.6**	**+1.2**
	comp=E,37nm,0.1s,SNR=218						
EBAD				Pg	**Pg**	**20 02 38.4**	**-0.7**
	comp=E,373nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**20 02 58.6**	**+2.5**
	comp=E,94nm,0.1s						
EBAD				Lg		20 03 01.0	
	comp=E,913nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**1.71**	**141**	Pn	**Pn**	**20 02 35.6**	**+1.2**
EBAD				Pg	**Pg**	**20 02 38.4**	**-0.7**
EBAD				Pg	**Pg**	**20 02 38.7**	**-0.4**
EBAD				Sn	**Sn**	**20 02 58.6**	**+2.5**
EBAD				Sn	**Sn**	**20 02 58.9**	**+2.8**
EBAD				Lg		20 03 01.0	
EBAD				Lg		20 03 01.3	
EBAD	**Badajoz**	**1.71**	**141**	Pn	**Pn**	**20 02 35.6**	**+1.2**
	comp=E,37nm,0.1s,SNR=218						
EBAD	**Badajoz**	**1.71**	**141**	Pg	**Pg**	**20 02 38.4**	**-0.7**
	comp=E,373nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**20 02 58.6**	**+2.5**
	comp=E,94nm,0.1s						
ELOB	**Lobios**	**1.79**	**8**	⇑Pn	**Pn**	**20 02 37.2**	**+1.8**
	comp=E,29nm,0.2s,SNR=18						
ELOB				Pg	**Pg**	**20 02 39.8**	**-0.7**
	comp=E,28nm,0.2s,SNR=7.9						
ELOB				Lg		20 03 04.0	
	comp=E,813nm,0.3s,SNR=16						
ELOB	**Lobios**	**1.79**	**8**	⇑Pn	**Pn**	**20 02 37.2**	**+1.8**
ELOB				Pg	**Pg**	**20 02 39.8**	**-0.7**
ELOB				Lg		20 03 04.1	
ELOB	**Lobios**	**1.79**	**8**	Pn	**Pn**	**20 02 37.2**	**+1.8**
	comp=E,29nm,0.2s,SNR=18						
ELOB	**Lobios**	**1.79**	**8**	Pg	**Pg**	**20 02 39.8**	**-0.7**
	comp=E,28nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**2.06**	**354**	Pn	**Pn**	**20 02 40.4**	**+1.0**
	comp=E,12nm,0.2s,SNR=7.9						
EZAM				Pg	**Pg**	**20 02 43.5**	**-2.5**
	comp=E,11nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**2.06**	**354**	Pn	**Pn**	**20 02 40.4**	**+1.0**
EZAM				Pg	**Pg**	**20 02 43.0**	**-3.0**
EZAM				Pg	**Pg**	**20 02 43.5**	**-2.5**
EZAM				Lg		20 03 12.4	
PBEJ	**Beja**	**2.11**	**169**	*e*Pn	**Pn**	**20 02 40.2**	**+0.1**
	comp=E,369nm,0.3s						
PBRG	**Braganca**	**2.11**	**36**	*e*Pn	**Pn**	**20 02 42.3**	**+2.2**
PBRG				*e*Sg	**Sg**	**20 03 17.4**	**+2.1**
	comp=E,293nm,0.3s						
PBRG	**Braganca**	**2.11**	**36**	Pn	**Pn**	**20 02 42.8**	**+2.7**
PBRG				Lg		20 03 17.4	
	comp=E,147nm,0.3s						
ECAL	**Calabor**	**2.23**	**34**	⇑Pn	**Pn**	**20 02 44.0**	**+2.3**
	comp=E,86nm,0.3s,SNR=18						
ECAL				Pg	**Pg**	**20 02 49.5**	**+0.3**
	comp=E,132nm,0.3s,SNR=23						
ECAL				Lg		20 03 21.1	
	comp=E,1μm,0.4s						
ECAL	**Calabor**	**2.23**	**34**	⇑Pn	**Pn**	**20 02 44.0**	**+2.3**
ECAL				Pn	**Pn**	**20 02 44.2**	**+2.4**
ECAL				Pg	**Pg**	**20 02 49.5**	**+0.3**
ECAL				Sn	**Sn**	**20 03 12.7**	**+3.5**
ECAL				Lg		20 03 20.0	
ECAL				Lg		20 03 21.1	
ECAL	**Calabor**	**2.23**	**34**	Pn	**Pn**	**20 02 44.0**	**+2.3**
	comp=E,86nm,0.3s,SNR=18						
ECAL	**Calabor**	**2.23**	**34**	Pg	**Pg**	**20 02 49.5**	**+0.2**
	comp=E,132nm,0.3s,SNR=23						
ERUA	**La Rua**	**2.48**	**22**	⇑Pn	**Pn**	**20 02 47.9**	**+2.6**
	comp=E,38nm,0.2s,SNR=18						
ERUA				Pg	**Pg**	**20 02 53.6**	**-0.7**
	comp=E,36nm,0.3s,SNR=12						
ERUA				Sn	**Sn**	**20 03 16.6**	**+1.1**
	comp=E,24nm,0.2s,SNR=7.9						
ERUA				Lg		20 03 27.4	
	comp=E,202nm,0.5s,SNR=15						
ERUA	**La Rua**	**2.48**	**22**	⇑Pn	**Pn**	**20 02 47.9**	**+2.6**
ERUA				Pn	**Pn**	**20 02 48.1**	**+2.8**
ERUA				Pg	**Pg**	**20 02 53.6**	**-0.7**
ERUA				Sn	**Sn**	**20 03 14.0**	**-1.5**
ERUA				Sn	**Sn**	**20 03 16.6**	**+1.1**
ERUA				Lg		20 03 27.4	
ERUA				Lg		20 03 27.9	
ERUA	**La Rua**	**2.48**	**22**	Pg	**Pg**	**20 02 53.6**	**-0.7**
	comp=E,36nm,0.3s,SNR=12						
ERUA				Sn	**Sn**	**20 03 16.6**	**+1.1**
	comp=E,24nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.56**	**186**	*e*Pn	**Pn**	**20 02 45.9**	**-0.6**
PTEO	**Sao Teotonio**	**2.56**	**186**	*e*Pg	**Pg**	**20 02 52.5**	**-3.5**
PTEO				*e*Sg	**Sg**	**20 03 24.8**	**-5.4**
	comp=E,498nm,0.5s						
PTEO	**Sao Teotonio**	**2.56**	**186**	Pn	**Pn**	**20 02 45.8**	**-0.7**
PTEO				Pn	**Pn**	**20 02 45.9**	**-0.6**
PTEO				Pg	**Pg**	**20 02 52.5**	**-3.5**
PTEO				Lg		20 03 24.8	
	comp=E,249nm,0.5s						
EGRO	**El Granado**	**2.66**	**164**	⇓Pn	**Pn**	**20 02 48.0**	**+0.1**
	comp=E,34nm,0.2s,SNR=18						
EGRO				Pg	**Pg**	**20 02 55.3**	**-2.6**
	comp=E,98nm,0.4s,SNR=26						
EGRO				Sn	**Sn**	**20 03 20.3**	**+0.2**
	comp=E,92nm,0.2s,SNR=7.9						
EGRO				Lg		20 03 30.4	
	comp=E,463nm,0.4s,SNR=9.9						
EGRO	**El Granado**	**2.66**	**164**	Pn	**Pn**	**20 02 48.0**	**+0.2**
EGRO				Pg	**Pg**	**20 02 55.3**	**-2.6**
EGRO				Sn	**Sn**	**20 03 19.2**	**-0.9**
EGRO				Sn	**Sn**	**20 03 21.1**	**+1.0**
EGRO				Lg		20 03 30.4	
EGRO				Lg		20 03 30.6	
EGRO	**El Granado**	**2.66**	**164**	Pn	**Pn**	**20 02 48.0**	**+0.1**
	comp=E,34nm,0.2s,SNR=18						
EGRO	**El Granado**	**2.66**	**164**	Pg	**Pg**	**20 02 55.3**	**-2.6**
	comp=E,98nm,0.4s,SNR=26						
EGRO				Sn	**Sn**	**20 03 19.2**	**-0.9**
	comp=E,92nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.69**	**149**	Pn	**Pn**	**20 02 49.1**	**+0.8**
	comp=E,41nm,0.2s,SNR=313						
EMIN				Pg	**Pg**	**20 02 55.7**	**-2.7**
	comp=E,64nm,0.5s,SNR=21						
EMIN				Sn	**Sn**	**20 03 21.0**	**+0.2**
	comp=E,39nm,0.1s,SNR=14						
EMIN				Lg		20 03 32.8	
	comp=E,413nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.69**	**149**	Pn	**Pn**	**20 02 49.1**	**+0.8**
EMIN				Pg	**Pg**	**20 02 55.8**	**-2.7**
EMIN				Sn	**Sn**	**20 03 20.5**	**-0.3**
EMIN				Sn	**Sn**	**20 03 21.7**	**+0.8**
EMIN				Lg		20 03 31.8	
EMIN				Lg		20 03 32.8	
EMIN	**Mina Concepcio**	**2.69**	**149**	Pn	**Pn**	**20 02 49.1**	**+0.8**
	comp=E,41nm,0.2s,SNR=313						
EMIN	**Mina Concepcio**	**2.69**	**149**	Pg	**Pg**	**20 02 55.8**	**-2.7**
EMIN				Sn	**Sn**	**20 03 20.5**	**-0.3**
	comp=E,39nm,0.1s,SNR=14						
STS	**Santiago**	**2.79**	**358**	Pn	**Pn**	**20 02 50.6**	**+0.9**
	comp=E,17nm,0.2s,SNR=10						
STS				Pg	**Pg**	**20 02 59.1**	**-1.3**
	comp=E,39nm,0.4s,SNR=5.0						
STS				Sn	**Sn**	**20 03 23.5**	**+0.1**
	comp=E,40nm,0.1s,SNR=14						
STS				Lg		20 03 35.1	
	comp=E,310nm,0.5s,SNR=7.9						
STS	**Santiago**	**2.79**	**358**	Pg	**Pg**	**20 02 59.1**	**-1.4**
	comp=E,39nm,0.4s,SNR=5.0						
STS				Sn	**Sn**	**20 03 23.5**	**+0.1**
	comp=E,40nm,0.1s,SNR=14						
EMAZ	**Mazaricos**	**2.88**	**351**	⇑Pn	**Pn**	**20 02 51.6**	**+0.5**
	comp=E,13nm,0.2s,SNR=18						
EMAZ				Pg	**Pg**	**20 02 59.5**	**-2.8**
	comp=E,39nm,0.3s,SNR=14						
EMAZ				Sn	**Sn**	**20 03 24.0**	**-1.7**
	comp=E,63nm,0.2s,SNR=7.9						
EMAZ				Lg		20 03 36.9	
	comp=E,1μm,0.6s,SNR=10						
EMAZ	**Mazaricos**	**2.88**	**351**	Pn	**Pn**	**20 02 51.6**	**+0.5**
EMAZ				Pg	**Pg**	**20 02 59.5**	**-2.8**
EMAZ				Sn	**Sn**	**20 03 24.0**	**-1.7**
EMAZ				Sn	**Sn**	**20 03 24.3**	**-1.5**
EMAZ				Lg		20 03 36.9	
EMAZ				Lg		20 03 37.3	
EMAZ	**Mazaricos**	**2.88**	**351**	Pn	**Pn**	**20 02 51.6**	**+0.5**
	comp=E,13nm,0.2s,SNR=18						
EMAZ	**Mazaricos**	**2.88**	**351**	Pg	**Pg**	**20 02 59.5**	**-2.8**
	comp=E,39nm,0.3s,SNR=14						
EMAZ				Sn	**Sn**	**20 03 24.0**	**-1.8**
	comp=E,63nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.28**	**79**	⇑Pn	**Pn**	**20 02 59.5**	**+2.7**
	comp=E,6.4nm,0.2s,SNR=18						
GUD				Pg	**Pg**	**20 03 09.9**	**-0.5**
	comp=E,35nm,0.4s,SNR=19						
GUD				Sn	**Sn**	**20 03 38.7**	**+2.8**
	comp=E,61nm,0.4s,SNR=8.1						
GUD				Lg		20 03 55.3	
	comp=E,171nm,0.4s,SNR=18						
GUD	**Guadarrama**	**3.28**	**79**	Pn	**Pn**	**20 02 59.5**	**+2.7**
GUD				Pg	**Pg**	**20 03 09.9**	**-0.5**
GUD				Sn	**Sn**	**20 03 38.7**	**+2.8**
GUD				Lg		20 03 55.3	
GUD				Lg		20 03 56.0	
EPON	**Pontenova**	**3.36**	**16**	⇑Pn	**Pn**	**20 02 58.8**	**+1.0**
	comp=E,12nm,0.2s,SNR=18						
EPON				Pg	**Pg**	**20 03 09.2**	**-2.6**
	comp=E,35nm,0.3s,SNR=4.0						
EPON				Lg		20 03 55.1	
	comp=E,248nm,0.5s						
EPON	**Pontenova**	**3.36**	**16**	Pn	**Pn**	**20 02 58.8**	**+1.0**
EPON				Pg	**Pg**	**20 03 09.2**	**-2.6**
EPON				Sn	**Sn**	**20 03 39.5**	**+1.7**
EPON				Lg		20 03 54.8	
EPON				Lg		20 03 55.1	
EPON	**Pontenova**	**3.36**	**16**	Pn	**Pn**	**20 02 58.8**	**+1.0**
	comp=E,12nm,0.2s,SNR=18						

EPON Pontenova 3.36 16 Pg **Pg** **20 03 09.2 -2.6**
comp=E,35nm,0.3s,SNR=4.0
ESDC Sonseca Array 3.44 96 Pn **Pn** **20 03 01.1 +2.2**
comp=E,23nm,0.3s,baz=279,slow=13,SNR=213
ESDC Sn **Sn** **20 03 41.7 +2.0**
comp=E,28nm,0.3s,baz=272,slow=23,SNR=9.9
ESDC Lg 20 03 57.7
comp=E,62nm,0.3s,baz=277,slow=30,SNR=14
ESDC Sonseca Array 3.44 96 Pn **Pn** **20 03 01.2 +2.3**
comp=E,70nm,0.3s,baz=279,slow=13,SNR=193
ESDC Sn **Sn** **20 03 41.5 +1.8**
comp=E,23nm,0.1s,baz=273,slow=23,SNR=7.9
ESDC Lg 20 03 58.2
comp=E,128nm,0.4s,baz=275,slow=29,SNR=7.9
ESDC Sonseca Array 3.44 96 Pn **Pn** **20 03 01.2 +2.3**
ESDC Sn **Sn** **20 03 40.9 +1.2**
ESDC Sn **Sn** **20 03 41.5 +1.8**
ESDC Lg 20 03 58.2
ESDC Sonseca Array 3.44 96 Pn **Pn** **20 03 01.2 +2.3**
comp=E,70nm,0.3s,SNR=193
ESDC Sn **Sn** **20 03 41.5 +1.7**
comp=E,23nm,0.1s,SNR=7.9
ESLA Sonseca Array 3.44 96 *e*Pn **Pn** **20 03 01.2 +2.3**
ESLA *e*Sn **Sn** **20 03 40.1 +0.3**
ESLA Sonseca Array 3.44 96 *e*Pn **Pn** **20 03 01.2 +2.3**
ESLA *e*Sn **Sn** **20 03 40.1 +0.3**
EADA Adamuz 3.54 122 Pn **Pn** **20 03 01.7 +1.3**
comp=E,7.9nm,0.1s,SNR=109
EADA Sn **Sn** **20 03 42.9 +0.5**
comp=E,48nm,0.2s
EADA Lg 20 04 02.5
comp=E,292nm,0.3s,SNR=9.8
EADA Adamuz 3.54 122 Pn **Pn** **20 03 01.7 +1.3**
EADA Sn **Sn** **20 03 42.9 +0.5**
EADA Sn **Sn** **20 03 43.3 +0.9**
EADA Lg 20 04 00.9
EADA Lg 20 04 02.5
EADA Adamuz 3.54 122 Pn **Pn** **20 03 01.7 +1.3**
comp=E,7.9nm,0.1s,SNR=109
EADA Sn **Sn** **20 03 42.9 +0.5**
comp=E,48nm,0.2s
GIBL Gibalbin 3.78 149 *i* P **Pn** **20 03 04.0 +0.2**
GIBL *e*S **Sn** **20 03 48.0 -0.4**
ESPR Espera 3.79 148 Pn **Pn** **20 03 04.7 +0.7**
comp=E,62nm,0.2s,SNR=189
ESPR Sn **Sn** **20 03 48.7 0.0**
comp=E,40nm,0.2s,SNR=4.0
ESPR Lg 20 04 07.1
comp=E,137nm,0.3s,SNR=5.0
ESPR Espera 3.79 148 Pn **Pn** **20 03 04.7 +0.7**
ESPR Pn **Pn** **20 03 04.9 +1.0**
ESPR Sn **Sn** **20 03 48.8 0.0**
ESPR Lg 20 04 07.1
ESPR Lg 20 04 08.6
ESPR Espera 3.79 148 Pn **Pn** **20 03 04.7 +0.7**
comp=E,62nm,0.2s,SNR=189
ESPR Sn **Sn** **20 03 48.7 0.0**
comp=E,40nm,0.2s,SNR=4.0
EARI Arriondas 3.99 36 Pn **Pn** **20 03 08.7 +1.9**
comp=E,9.2nm,0.3s,SNR=36
EARI Lg 20 04 16.2
comp=E,66nm,0.6s,SNR=5.0
EARI Arriondas 3.99 36 Pn **Pn** **20 03 08.7 +1.9**
EARI Pn **Pn** **20 03 09.0 +2.2**
EARI Sn **Sn** **20 03 54.9 +1.1**
EARI Lg 20 04 16.2
EARI Lg 20 04 16.5
EARI Arriondas 3.99 36 Pn **Pn** **20 03 08.7 +1.9**
comp=E,9.2nm,0.3s,SNR=36
EBAN Banos Encina 4.07 117 Pn **Pn** **20 03 09.1 +1.1**
comp=E,9.7nm,0.1s,SNR=28
EBAN Sn **Sn** **20 03 55.3 -0.6**
comp=E,61nm,0.2s,SNR=15
EBAN Lg 20 04 19.7
comp=E,153nm,0.4s,SNR=14
EBAN Banos Encina 4.07 117 Pn **Pn** **20 03 09.1 +1.1**
EBAN Sn **Sn** **20 03 55.3 -0.6**
EBAN Sn **Sn** **20 03 55.7 -0.2**
EBAN Lg 20 04 18.8
EBAN Lg 20 04 19.7
ELUQ Luque 4.10 127 Pn **Pn** **20 03 09.6 +1.2**
comp=E,5.4nm,0.2s,SNR=16
ELUQ Pg **Pg** **20 03 23.2 -3.4**
comp=E,1.8nm,0.2s,SNR=4.0
ELUQ Sn **Sn** **20 03 56.3 -0.3**
comp=E,13nm,0.2s,SNR=6.2
ELUQ Lg 20 04 18.6
comp=E,124nm,0.6s,SNR=7.6
ELUQ Luque 4.10 127 Pn **Pn** **20 03 09.6 +1.2**
ELUQ Pg **Pg** **20 03 23.2 -3.4**
ELUQ Sn **Sn** **20 03 56.3 -0.3**
ELUQ Sn **Sn** **20 03 57.1 +0.5**
ELUQ Lg 20 04 18.6
ELUQ Lg 20 04 18.7
CNIL Conil 4.15 153 P **Pn** **20 03 10.2 +1.1**
CNIL Conil 4.15 153 *i* P **Pn** **20 03 10.2 +1.1**
EJIF Jimena Fronter 4.31 147 Pn **Pn** **20 03 11.9 +0.6**
comp=E,1.2nm,0.2s,SNR=12
EJIF Lg 20 04 26.2
comp=E,45nm,0.5s,SNR=5.0
EJIF Jimena Fronter 4.31 147 Pn **Pn** **20 03 11.9 +0.6**
EJIF Pn **Pn** **20 03 12.4 +1.0**
EJIF Sn **Sn** **20 04 01.3 -0.5**
EJIF Lg 20 04 24.4
EJIF Lg 20 04 26.2
ELOJ Sierra Loja 4.44 130 Pn **Pn** **20 03 14.2 +0.9**
comp=E,4.6nm,0.2s,SNR=5.5
ELOJ Sn **Sn** **20 04 04.6 -0.6**
comp=E,17nm,0.3s,SNR=11
ELOJ Lg 20 04 31.6
comp=E,55nm,0.7s,SNR=8.3
ELOJ Sierra Loja 4.44 130 Pn **Pn** **20 03 14.2 +0.9**
ELOJ Pn **Pn** **20 03 15.0 +1.8**
ELOJ Sn **Sn** **20 04 04.6 -0.6**
ELOJ Sn **Sn** **20 04 05.8 +0.6**
ELOJ Lg 20 04 30.1
ELOJ Lg 20 04 31.6
EMIJ Mijas 4.53 140 Pn **Pn** **20 03 15.9 +1.3**
comp=E,7.1nm,0.2s,SNR=46
EMIJ Sn **Sn** **20 04 06.9 -0.7**
comp=E,22nm,0.4s,SNR=7.9
EMIJ Lg 20 04 32.6
comp=E,103nm,0.6s,SNR=5.0
EMIJ Mijas 4.53 140 Pn **Pn** **20 03 15.9 +1.3**
EMIJ Sn **Sn** **20 04 06.9 -0.7**
EMIJ Sn **Sn** **20 04 07.4 -0.1**
EMIJ Lg 20 04 32.6
EMIJ Lg 20 04 33.2
ECOG Cogollos-Vega 4.71 125 Pn **Pn** **20 03 19.0 +1.9**
comp=E,5.0nm,0.2s,SNR=12
ECOG Sn **Sn** **20 04 11.4 -0.7**
comp=E,34nm,0.4s,SNR=12
ECOG Lg 20 04 37.8
comp=E,50nm,0.5s,SNR=5.0
ECOG Cogollos-Vega 4.71 125 Pn **Pn** **20 03 19.0 +1.9**
ECOG Sn **Sn** **20 04 11.4 -0.7**
ECOG Sn **Sn** **20 04 11.9 -0.1**
ECOG Lg 20 04 37.8
ECOG Lg 20 04 40.1
ERON Agron 4.73 129 Pn **Pn** **20 03 19.2 +1.9**
comp=E,2.8nm,0.1s,SNR=4.9
ERON Pg **Pg** **20 03 32.6 -6.6**
comp=E,2.7nm,0.2s,SNR=4.0
ERON Sn **Sn** **20 04 11.1 -1.4**
comp=E,10nm,0.4s,SNR=7.9
ERON Lg 20 04 40.4
comp=E,23nm,0.4s,SNR=5.0
ERON Agron 4.73 129 Pn **Pn** **20 03 19.2 +1.9**
ERON Pg **Pg** **20 03 32.6 -6.6**
ERON Sn **Sn** **20 04 11.1 -1.4**
ERON Sn **Sn** **20 04 12.0 -0.6**
ERON Lg 20 04 40.4
EQES Quesada 4.74 117 Pn **Pn** **20 03 18.0 +0.6**
comp=E,5.7nm,0.1s,SNR=58
EQES Sn **Sn** **20 04 11.8 -1.0**
comp=E,31nm,0.3s,SNR=6.9
EQES Lg 20 04 40.6
comp=E,139nm,0.5s,SNR=5.0
EQES Quesada 4.74 117 Pn **Pn** **20 03 18.0 +0.6**
EQES Pn **Pn** **20 03 18.6 +1.1**
EQES Sn **Sn** **20 04 11.8 -1.0**
EQES Sn **Sn** **20 04 12.4 -0.4**
EQES Lg 20 04 40.6
EQES Lg 20 04 41.6

EQES Quesada 4.74 117 Pn **Pn** **20 03 18.6 +1.1**
EQES Sn **Sn** **20 04 11.8 -1.0**
comp=E,31nm,0.3s,SNR=6.9
EVIA Vianos 4.79 106 Pn **Pn** **20 03 19.7 +1.5**
comp=E,6.1nm,0.3s,SNR=7.9
EVIA Pg **Pg** **20 03 35.1 -5.3**
comp=E,4.9nm,0.2s,SNR=4.0
EVIA Sn **Sn** **20 04 14.6 +0.4**
comp=E,24nm,0.4s,SNR=4.0
EVIA Lg 20 04 40.5
comp=E,159nm,0.6s,SNR=7.9
EVIA Vianos 4.79 106 Pn **Pn** **20 03 19.7 +1.5**
EVIA Pn **Pn** **20 03 20.2 +1.9**
EVIA Pg **Pg** **20 03 35.1 -5.3**
EVIA Sn **Sn** **20 04 12.8 -1.3**
EVIA Sn **Sn** **20 04 14.6 +0.4**
EVIA Lg 20 04 40.4
EQUE Quentar 4.83 125 Pn **Pn** **20 03 20.0 +1.2**
comp=E,28nm,0.3s,SNR=69
EQUE Sn **Sn** **20 04 13.4 -1.8**
comp=E,93nm,0.4s,SNR=9.3
EQUE Lg 20 04 41.9
comp=E,81nm,0.5s,SNR=7.9
ELAN Lanestosa 4.86 48 Pn **Pn** **20 03 21.4 +2.3**
comp=E,2.3nm,0.3s,SNR=7.9
ELAN Pg **Pg** **20 03 36.1 -5.6**
comp=E,1.3nm,0.2s,SNR=4.0
ELAN Sn **Sn** **20 04 14.3 -1.5**
comp=E,4.3nm,0.2s,SNR=7.9
ELAN Lg 20 04 44.9
comp=E,88nm,0.6s,SNR=7.9
ELAN Lanestosa 4.86 48 Pn **Pn** **20 03 21.4 +2.3**
ELAN Pg **Pg** **20 03 36.1 -5.6**
ELAN Sn **Sn** **20 04 14.3 -1.5**
ELAN Sn **Sn** **20 04 16.6 +0.9**
ELAN Lg 20 04 44.7
ELAN Lg 20 04 45.0
ELAN Lanestosa 4.86 48 Pn **Pn** **20 03 21.4 +2.3**
comp=E,2.3nm,0.3s,SNR=7.9
ELAN Lanestosa 4.86 48 Pg **Pg** **20 03 36.1 -5.6**
comp=E,1.3nm,0.2s,SNR=4.0
ELAN Sn **Sn** **20 04 14.3 -1.4**
comp=E,4.3nm,0.2s,SNR=7.9
EHUE Huescar 5.06 115 Pn **Pn** **20 03 23.4 +1.3**
comp=E,3.1nm,0.1s,SNR=6.5
EHUE Sn **Sn** **20 04 20.2 -0.7**
comp=E,14nm,0.2s,SNR=8.2
EHUE Lg 20 04 51.7
comp=E,42nm,0.5s,SNR=5.0
EHUE Huescar 5.06 115 Pn **Pn** **20 03 23.4 +1.3**
EHUE Sn **Sn** **20 04 20.2 -0.7**
EHUE Sn **Sn** **20 04 20.9 0.0**
EHUE Lg 20 04 51.7
EBER Berja 5.37 125 Pn **Pn** **20 03 28.4 +2.1**
comp=E,16nm,0.3s,SNR=42
EBER Sn **Sn** **20 04 27.8 -0.9**
comp=E,18nm,0.3s,SNR=6.5
EBER Lg 20 05 00.8
comp=E,175nm,0.6s,SNR=5.0
EBER Berja 5.37 125 Pn **Pn** **20 03 28.4 +2.1**
EBER Sn **Sn** **20 04 27.8 -0.9**
EBER Sn **Sn** **20 04 28.5 -0.1**
EBER Lg 20 05 00.8
EBER Berja 5.37 125 Pn **Pn** **20 03 28.4 +2.0**
comp=E,16nm,0.3s,SNR=42
EBER Sn **Sn** **20 04 27.8 -0.8**
comp=E,18nm,0.3s,SNR=6.5
ETOB Tobarra 5.50 103 Pn **Pn** **20 03 29.3 +1.1**
comp=E,3.9nm,0.2s,SNR=32
ETOB Sn **Sn** **20 04 31.9 0.0**
comp=E,13nm,0.3s,SNR=7.9
ETOB Lg 20 05 05.3
comp=E,122nm,0.5s,SNR=5.0
ETOB Tobarra 5.50 103 Pn **Pn** **20 03 29.3 +1.1**
ETOB Sn **Sn** **20 04 31.6 -0.3**
ETOB Sn **Sn** **20 04 31.9 0.0**
ETOB Lg 20 05 04.3
ETOB Lg 20 05 05.3
ETOB Tobarra 5.50 103 Pn **Pn** **20 03 29.3 +1.1**
comp=E,3.9nm,0.2s,SNR=32
ETOB Sn **Sn** **20 04 31.6 -0.3**
EARA Aranguren 5.78 60 Pn **Pn** **20 03 33.4 +1.4**
comp=E,0.4nm,0.1s,SNR=7.9
EARA Lg 20 05 14.0
comp=E,554nm,0.6s,SNR=7.9
IUNC Unciti 5.82 61 Pn **Pn** **20 03 35.0 +2.2**
comp=E,5.6nm,0.1s,SNR=7.9
IUNC Sn **Sn** **20 04 38.3 -1.7**
comp=E,2.0nm,0.1s,SNR=7.9
IUNC Lg 20 05 16.8
comp=E,54nm,0.6s,SNR=7.9
IUNC Unciti 5.82 61 Pn **Pn** **20 03 35.0 +2.3**
comp=E,5.6nm,0.1s,SNR=7.9
IUNC Sn **Sn** **20 04 38.3 -1.7**
comp=E,2.0nm,0.1s,SNR=7.9
IUSE Utxeti 5.87 59 Pn **Pn** **20 03 35.0 +1.5**
comp=E,1.3nm,0.1s,SNR=7.9
IUSE Lg 20 05 15.6
comp=E,19nm,0.4s,SNR=7.9
IPRE Itoiz 5.94 61 Pn **Pn** **20 03 35.9 +1.5**
comp=E,0.8nm,0.1s,SNR=4.0
IPRE Lg 20 05 17.9
comp=E,17nm,0.5s,SNR=7.9
IPRE Itoiz 5.94 61 Pn **Pn** **20 03 35.9 +1.5**
comp=E,0.8nm,0.1s,SNR=4.0
EMUR La Murta 6.01 110 Pn **Pn** **20 03 35.7 +0.3**
comp=E,3.5nm,0.4s,SNR=7.9
EMUR Sn **Sn** **20 04 43.7 -1.0**
comp=E,7.6nm,0.5s,SNR=4.0
EMUR Lg 20 05 19.9
comp=E,46nm,0.4s,SNR=7.9
EMUR La Murta 6.01 110 Pn **Pn** **20 03 35.3 -0.1**
EMUR Pn **Pn** **20 03 35.7 +0.3**
EMUR Sn **Sn** **20 04 42.9 -1.8**
EMUR Sn **Sn** **20 04 43.7 -1.0**
EMUR Lg 20 05 19.9
EMUR Lg 20 05 20.4
EMUR La Murta 6.01 110 Pn **Pn** **20 03 35.7 +0.3**
comp=E,3.5nm,0.4s,SNR=7.9
EMUR Sn **Sn** **20 04 43.7 -1.0**
comp=E,7.6nm,0.5s,SNR=4.0
EMOS Mosqueruela 6.07 85 Pn **Pn** **20 03 37.2 +1.0**
comp=E,7.7nm,0.3s,SNR=15
EMOS Sn **Sn** **20 04 44.0 -2.1**
comp=E,8.4nm,0.4s,SNR=7.9
EMOS Lg 20 05 24.4
comp=E,43nm,0.5s,SNR=5.0
EMOS Mosqueruela 6.07 85 Pn **Pn** **20 03 37.2 +1.0**
EMOS Pn **Pn** **20 03 37.7 +1.5**
EMOS Sn **Sn** **20 04 44.0 -2.1**
EMOS Sn **Sn** **20 04 45.0 -1.1**
EMOS Lg 20 05 24.4
EMOS Lg 20 05 24.6
EMOS Mosqueruela 6.07 85 Pn **Pn** **20 03 37.7 +1.5**
EMOS Sn **Sn** **20 04 44.0 -2.1**
comp=E,8.4nm,0.4s,SNR=7.9
SJPF Ste Jean 6.16 58 *e*Pn **Pn** **20 03 38.6 +1.1**
SJPF *e*Sn **Sn** **20 04 47.6 -0.8**
SJPF *e*Sg **Sg** **20 05 23.2 -6.6**
comp=E,49nm,0.6s
ESAC San Caprasio 6.22 72 Pn **Pn** **20 03 39.4 +1.1**
comp=E,32nm,0.3s,SNR=14
ESAC Sn **Sn** **20 04 48.1 -1.8**
comp=E,28nm,0.3s,SNR=7.9
ESAC Lg 20 05 29.5
comp=E,115nm,0.4s,SNR=5.0
ESAC San Caprasio 6.22 72 Pn **Pn** **20 03 39.4 +1.1**
ESAC Pn **Pn** **20 03 39.8 +1.5**
ESAC Sn **Sn** **20 04 48.1 -1.8**
ESAC Sn **Sn** **20 04 49.4 -0.5**
ESAC Lg 20 05 28.5
ESAC Lg 20 05 29.5
ESAC San Caprasio 6.22 72 Pn **Pn** **20 03 39.4 +1.1**
comp=E,32nm,0.3s,SNR=14
ESAC Sn **Sn** **20 04 48.1 -1.8**
comp=E,28nm,0.3s,SNR=7.9
EBEN Beniarda 6.48 100 Pn **Pn** **20 03 44.0 +2.0**
comp=E,1.5nm,0.4s,SNR=9.2
EBEN Sn **Sn** **20 04 53.8 -2.5**
comp=E,4.2nm,0.3s,SNR=5.0
EBEN Lg 20 05 37.1
comp=E,105nm,0.7s,SNR=7.9
EBEN Beniarda 6.48 100 Pn **Pn** **20 03 42.8 +0.8**
EBEN Pn **Pn** **20 03 44.0 +2.0**
EBEN Sn **Sn** **20 04 53.9 -2.5**

EBEN Lg 20 05 36.4
EBEN Lg 20 05 37.1
EBEN Beniarda 6.48 100 Pn **Pn** **20 03 42.8 +0.8**
EBEN Sn **Sn** **20 04 53.8 -2.6**
comp=E,4.2nm,0.3s,SNR=5.0
ETSF Etsaut 6.51 62 *e*Pn **Pn** **20 03 43.4 +0.9**
ETSF *e*Sn **Sn** **20 04 55.4 -1.8**
ETSF *e*Sg **Sg** **20 05 35.7 -5.9**
comp=E,67nm,0.7s
ERTA Horta de San J 6.70 80 Pn **Pn** **20 03 45.1 -0.1**
comp=E,4.1nm,0.4s,SNR=7.8
ERTA Sn **Sn** **20 04 59.8 -2.3**
comp=E,5.7nm,0.3s,SNR=7.9
ERTA Lg 20 05 44.5
comp=E,22nm,0.4s,SNR=7.9
ERTA Horta de San J 6.70 80 Pn **Pn** **20 03 45.1 -0.1**
ERTA Pn **Pn** **20 03 46.1 +0.9**
ERTA Sn **Sn** **20 04 59.8 -2.3**
ERTA Sn **Sn** **20 05 00.6 -1.5**
ERTA Lg 20 05 44.5
ERTA Lg 20 05 44.9
ERTA Horta de San J 6.70 80 Pn **Pn** **20 03 46.1 +0.9**
ERTA Sn **Sn** **20 04 59.8 -2.2**
comp=E,5.7nm,0.3s,SNR=7.9
EBR Ebro Roquetas 6.82 81 *e*SN **Sn** **20 05 07.7 +2.9**
EBR *e*Rs 20 05 24.7
EBR *e*S*S* 20 05 39.2
EBR Ebro Roquetas 6.82 81 *e*SG **Sg** **20 05 53.5 +1.8**
EGRA Graus 6.90 70 Pn **Pn** **20 03 48.8 +0.9**
comp=E,3.0nm,0.2s,SNR=20
EGRA Sn **Sn** **20 05 04.3 -2.5**
comp=E,2.6nm,0.4s,SNR=5.0
EGRA Lg 20 05 52.4
comp=E,39nm,0.6s,SNR=7.9
EGRA Graus 6.90 70 Pn **Pn** **20 03 48.8 +0.9**
EGRA Pn **Pn** **20 03 49.2 +1.3**
EGRA Sn **Sn** **20 05 04.3 -2.5**
EGRA Lg 20 05 50.1
EGRA Lg 20 05 52.4
EGRA Graus 6.90 70 Pn **Pn** **20 03 49.2 +1.3**
EGRA Sn **Sn** **20 05 04.3 -2.6**
comp=E,2.6nm,0.4s,SNR=5.0
EBIE Bielsa 6.92 65 Pn **Pn** **20 03 49.2 +1.0**
comp=E,2.6nm,0.3s,SNR=6.8
EBIE Sn **Sn** **20 05 04.9 -2.5**
comp=E,2.3nm,0.4s,SNR=7.9
EBIE Lg 20 05 51.2
comp=E,30nm,0.7s,SNR=7.9
EBIE Bielsa 6.92 65 Pn **Pn** **20 03 49.2 +1.0**
EBIE Sn **Sn** **20 05 04.9 -2.5**
EBIE Lg 20 05 50.6
EBIE Lg 20 05 51.2
EBIE Bielsa 6.92 65 Pn **Pn** **20 03 49.2 +1.0**
comp=E,2.6nm,0.3s,SNR=6.8
EBIE Sn **Sn** **20 05 04.9 -2.5**
comp=E,2.3nm,0.4s,SNR=7.9
EPF Esparros 7.17 63 *e*Pn **Pn** **20 03 52.7 +0.9**
EPF *e*Sn **Sn** **20 05 11.5 -2.3**
EPF *e*Sg **Sg** **20 05 54.5 -9.1**
comp=E,50nm,0.8s
EPOB Poblet 7.30 77 Pn **Pn** **20 03 53.3 -0.3**
comp=E,2.3nm,0.3s,SNR=7.3
EPOB Sn **Sn** **20 05 13.1 -3.9**
comp=E,2.8nm,0.4s,SNR=7.9
EPOB Lg 20 06 03.7
comp=E,11nm,0.4s,SNR=7.9
EPOB Poblet 7.30 77 Pn **Pn** **20 03 53.3 -0.3**
EPOB Pn **Pn** **20 03 53.5 -0.1**
EPOB Sn **Sn** **20 05 13.1 -3.9**
EPOB Sn **Sn** **20 05 14.0 -3.0**
EPOB Lg 20 06 02.9
EPOB Lg 20 06 03.7
EPOB Poblet 7.30 77 Pn **Pn** **20 03 53.5 -0.1**
EMIR Miracle 7.72 73 Pn **Pn** **20 03 59.1 -0.3**
comp=E,3.9nm,0.3s,SNR=4.9
EMIR Sn **Sn** **20 05 23.4 -4.0**
comp=E,6.5nm,0.4s,SNR=7.9
EMIR Lg 20 06 16.9
comp=E,22nm,0.4s,SNR=7.9
EMIR Miracle 7.72 73 Pn **Pn** **20 03 58.9 -0.5**
EMIR Pn **Pn** **20 03 59.1 -0.3**
EMIR Sn **Sn** **20 05 23.2 -4.1**
EMIR Sn **Sn** **20 05 23.4 -4.0**
EMIR Lg 20 06 16.9
EMIR Lg 20 06 17.6
EMIR Miracle 7.72 73 Pn **Pn** **20 03 59.1 -0.3**
MDT Midelt 7.88 156 Pn **Pn** **20 03 59.5 -2.1**
comp=E,2.6nm,0.3s,baz=338,slow=12,SNR=174
MDT Sn **Sn** **20 05 23.6 -7.8**
comp=E,1.4nm,0.3s,baz=141,slow=14,SNR=3.0
LFF La Frestale 8.30 51 *e*Pn **P** **20 04 07.0 -0.5**
LFF *e*Sn **Sn** **20 05 37.3 -4.5**
comp=E,6.5nm,0.6s
MTLF Montolieu 8.57 64 *e*Pn **P** **20 04 10.9 -0.4**
MTLF *e*Sn **Sn** **20 05 44.7 -3.9**
MTLF *e*Sg **Sg** **20 06 36.7 -13**
comp=E,64nm,1.4s
ETOS Mallorca 8.62 89 Pn **P** **20 04 10.9 -1.0**
comp=E,1.4nm,0.3s,SNR=7.9
ETOS Sn **Sn** **20 05 44.8 -5.0**
comp=E,2.3nm,0.4s,SNR=7.9
ETOS Mallorca 8.62 89 Pn **P** **20 04 10.8 -1.1**
ETOS Pn **P** **20 04 10.9 -1.0**
ETOS Sn **Sn** **20 05 43.7 -6.7**
ETOS Sn **Sn** **20 05 44.9 -5.0**
ETOS Mallorca 8.62 89 Pn **P** **20 04 10.9 -1.0**
QUIF Quistinic 8.67 24 *e*Pn **P** **20 04 10.8 -1.9**
QUIF *e*Sn **Sn** **20 05 42.2 -9.0**
comp=E,1.4nm,0.3s
EJON La Jonquera 8.81 71 Pn **P** **20 04 17.1 +2.5**
comp=E,2.5nm,0.3s,SNR=5.4
EJON Lg 20 06 52.3
comp=E,0.7nm,0.2s,SNR=4.0
EJON La Jonquera 8.81 71 Pn **P** **20 04 17.1 +2.5**
MFF Saint Martin d 8.85 40 *e*Sn **Sn** **20 05 50.4 -5.1**
comp=E,3.7nm,0.3s
RJF Les Rejaudoux 8.96 51 *e*Pn **P** **20 04 15.6 -1.0**
RJF *e*Sn **Sn** **20 05 54.2 -4.0**
comp=E,4.6nm,0.3s
ROSF Rostrenen 9.02 22 *e*Pn **P** **20 04 15.6 -1.8**
ROSF *e*Sn **Sn** **20 05 52.8 -6.9**
comp=E,9.3nm,0.6s
CAF Calviac 9.10 55 *e*Pn **P** **20 04 17.0 -1.6**
CAF *e*Sn **Sn** **20 05 57.0 -4.8**
comp=E,6.2nm,0.5s
SGMF Saint Gilles 9.16 25 *e*Pn **P** **20 04 17.4 -2.1**
SGMF *e*Sn **Sn** **20 05 57.2 -6.2**
comp=E,1.8nm,0.2s
GRR Gorron 9.89 31 *e*Pn **P** **20 04 27.5 -1.9**
TCF Toulx Ste Croi 9.90 48 *e*Pn **P** **20 04 28.3 -1.3**
TCF *e*Sn **Sn** **20 06 16.3 -5.3**
comp=E,6.1nm,0.5s
LASF Ste Croix 9.93 62 *e*Pn **P** **20 04 27.6 -2.4**
LASF *e*Sg **Sg** **20 07 21.8 -14**
comp=E,24nm,1.0s
FLN La Foliniere 10.34 30 *e*Pn **P** **20 04 33.5 -2.1**
baz=207
LDF La Druitiere 10.35 32 *e*Pn **P** **20 04 33.3 -2.4**
BGF Bois d'Agland 10.42 48 *e*Pn **P** **20 04 35.6 -1.1**
AVF Avril sur Loir 10.84 48 *e*Pn **P** **20 04 41.2 -1.2**
SMF Signal de Mont 11.04 50 *e*Pn **P** **20 04 43.5 -1.7**
SSF Saint Saulge 11.08 47 *e*Pn **P** **20 04 44.2 -1.5**
SMRF Simiane la Rot 11.09 65 *e*Pn **P** **20 04 45.1 -0.7**
SMRF *e*Sn **S** **20 06 44.7 -5.8**
comp=E,8.7nm,0.8s
LOR Lormes 11.39 47 *e*Pn **P** **20 04 47.9 -2.1**
baz=234
FRF La Foret Royal 11.74 68 *e*Pn **P** **20 04 53.6 -1.1**
FRF *e*Sn **S** **20 06 59.1 -7.4**
comp=E,3.1nm,0.8s
BAIF Baives 13.34 38 *e*Pn **P** **20 05 14.4 -1.6**
EKA Eskdalemuir Ar 15.64 11 Pn **P** **20 05 45.7 -0.3**
comp=E,0.1nm,0.3s,baz=196,slow=14,SNR=2.9
VRAC Vranov 19.93 54 LR LR 20 15 44.4
comp=E,41nm,18.3s,baz=360,slow=41
TORD Torodi Ar. Bea 28.28 159 P **P** **20 07 59.6 -0.1**
comp=E,0.8nm,0.9s,mb3.3,baz=344,slow=11,SNR=3.6
FINES FINESS Array B 29.94 33 P **P** **20 08 14.5 +0.3**
comp=E,1.2nm,0.7s,mb3.7,baz=234,slow=12,SNR=3.4
ARCES ARCESS Array B 34.46 20 P **P** **20 08 54.2 +0.6**
comp=E,3.2nm,0.9s,mb4.2,baz=225,slow=8.6,SNR=13
BDFB Brasilia 66.59 222 LR LR 20 37 04.8
comp=E,76nm,18.5s,MS3.9,baz=164,slow=32

*CSEM **01** 20:54:45.7±0.7, 39.44N×29.80W, h10km, ML2.8, Error ellipse: s-maj=7.8km s-min=5.7km az=51.0, After PDA*
*PDA **01** 20:54:45.7±0.7, 39.44N×29.80W, h10km, MD3.4, ML2.8, Error ellipse: s-maj=7.8km s-min=5.7km az=51.0*
SVSA 01 20:54:45.7±0.7**, 39.44N×29.80W, h10km, MD3.4, ML2.8, Error ellipse: s-maj=7.8km s-min=5.7km az=51.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	1.22	135	eP	Pb	20 55 04.0	-4.3
CALA				eS	Sb	20 55 17.8	-6.1
HOR	Horta	1.29	135	eP	Pb	20 55 05.0	-4.7
HOR				eS	Sb	20 55 19.5	-6.7
ROSA	Rosais	1.41	120	eP	Pn	20 55 06.9	-4.7
ROSA				eS	Sb	20 55 22.6	-7.1
PCND	Candelaria	1.43	133	eS	Sb	20 55 23.4	-6.7
	35nm,0.2s						
PICO	Pico	1.43	131	eP	Pn	20 55 07.3	-4.5
PICO				eS	Sb	20 55 23.4	-6.7
PGRA	Graciosa	1.47	106	eS	Sb	20 55 24.1	-7.3
	49nm,0.3s						
PGRA	Graciosa	1.47	106	eS	Sb	20 55 24.1	-7.3
	49nm,0.3s						
PBOI	Pico dos Bois	1.50	132	eS	Sb	20 55 25.9	-6.3
	39nm,0.1s						
PMAN	Manadas	1.56	121	eS	Sb	20 55 26.1	-7.9
	37nm,0.1s						

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*NEIC **01** 20:57:48.9±1.2, 21.37S×67.22W, h179km±18km, mb4.7/4, Error ellipse: s-maj=20.2km s-min=14.4km az=69.0*
*IDC **01** 20:57:49.2±2.0, 21.35S×66.98W, h173km±20km, mb3.7/1, mb1 3.2/4, mb1mx3.1/17, mbtmp3.7/4, Error ellipse: s-maj=27.7km s-min=20.3km az=98.0*
ISC 01 20:57:48.3±1.0**, 21.34S**±0.07×**67.10W**±0.09**, h186km**±14km**, n13, σ1^{s}52**/17**, mb4.4**/3**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.12	349	P	P	20 59 07.5	+2.9
	1.7nm,0.3s,baz=167,slow=9.0,SNR=18						
LPAZ				S	S	21 00 05.0	+1.1
	0.7nm,0.3s,baz=82,slow=25,SNR=8.6						
LPAZ	La Paz	5.12	349	ePn	P	20 59 07.3	+2.7
LPAZ				P		20 59 07.5	
LPAZ				eSn	S	21 00 04.7	+0.8
LPAZ				S	S	21 00 05.0	+1.1
ARE	Arequipa	6.39	319	eP	P	20 59 20.0	-1.3
ARE				eS	S	21 00 29.0	-4.6
SIV	San Ignacio	7.80	48	P	P	20 59 40.3	+0.4
	2.6nm,0.3s,baz=235,slow=12,SNR=53						
SIV				S	S	21 01 04.9	-2.0
	2.0nm,0.3s,baz=319,slow=21,SNR=9.2						
CPUP	Villa Florida	10.22	121	ePn	P	21 00 11.7	+0.2
	24nm,0.4s						
CPUP				e		21 00 22.7	
CFAA	Coronel Fontan	10.27	185	P	P	21 00 11.6	-0.5
	0.1nm,0.3s,baz=338,slow=11,SNR=7.2						
CFAA	Coronel Fontan	10.27	185	P	P	21 00 11.6	-0.5
SAML	Samuel	12.89	18	ePn	P	21 00 44.7	-1.0
	4.1nm,1.0s						
BDFB	Brasilia	18.96	76	P	P	21 02 00.0	+2.4
	0.7nm,0.3s,baz=271,slow=7.0,SNR=5.0						
BBSR	BB Station	53.46	3	P	P	21 06 54.9	+3.5
	34nm,1.1s,mb5.0						
WVT	Waverly	60.43	341	P	P	21 07 38.1	-2.4
	5.6nm,0.9s,mb4.4						
TORD	Torodi Ar. Bea	75.71	70	P	P	21 09 15.6	+0.1
	0.9nm,0.5s,mb3.7,baz=258,slow=5.5,SNR=19						
MKAR	Makanchi Array	144.50	37	PKP	PKPdf	21 17 04.3	+2.0
	0.6nm,0.6s,baz=317,slow=2.7,SNR=7.9						

MAN 01 21:03:16.5, 13.44N×120.34E, h28km, mb3.9, ML2.6, MS2.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.31	342	eP	Pb	21 03 25.8	+2.0
LUBP				eS	Sb	21 03 32.1	+3.2
PGP	Puerto Galera	0.60	84	eP	Pb	21 03 28.2	-0.1
SJMP	San Jose	1.23	142	eP	Pn	21 03 38.1	0.0
SJMP				eS	Sn	21 03 53.8	-0.2
BUSP	Coron	1.44	186	eP	Pn	21 03 41.1	0.0
BUSP				eS	Sn	21 03 58.8	-0.4
BOAC	Boac	1.46	89	eP	Pn	21 03 40.9	-0.5
BOAC				eS	Sn	21 04 00.1	+0.4

IDC 01 21:40:39.5±2.1**, 1.65N×96.77E, mb3.8**/5**, mb1 3.9**/5**, mb1mx3.7**/17**, mbtmp3.8**/5**, ML2.3**/1**, Error ellipse: s-maj=56.7km s-min=26.7km az=45.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.44	62	Pn	Pn	21 41 20.8	-0.4
	0.7nm,0.3s,baz=315,slow=20,SNR=2.9						
WRA	Warramunga Arr	42.63	122	P	P	21 48 37.8	-1.9
	0.5nm,0.7s,baz=302,slow=9.2,SNR=4.8						
MKAR	Makanchi Array	46.71	346	P	P	21 49 10.3	-1.7
	1.4nm,0.7s,baz=164,slow=7.5,SNR=11						
SONM	Songino Array	46.76	9	P	P	21 49 10.1	-2.3
	0.5nm,0.6s,baz=187,slow=7.9,SNR=4.6						
ZAL	Zalesovo	53.05	351	P	P	21 49 58.2	-2.3
	2.6nm,0.8s,baz=294,slow=7.2,SNR=14						
BVAR	Borovoye Array	55.69	341	P	P	21 50 17.5	-2.4
	1.0nm,0.7s,baz=162,slow=9.0,SNR=4.6						

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*IDC **01** 21:41:29.5±1.9, 1.90N×96.63E, mb4.0/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML2.7/1, Error ellipse: s-maj=43.7km s-min=24.2km az=35.0*
*NEIC **01** 21:41:33.9±0.9, 1.91N×96.70E, h30km, mb4.3/3, Error ellipse: s-maj=20.7km s-min=9.7km az=218.0*
ISC 01 21:41:27.4±5.5**, 1.8N**±0.1×**96.57E**±0.08**, h3km**±36km**, n10, σ0^{s}61**/11**, mb4.1**/8**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.54	68	Pn	Pn	21 42 10.8	+0.6
	1.9nm,0.3s,baz=274,slow=19,SNR=4.5						
PSI				Sn	Sn	21 42 42.4	+0.2
	8.6nm,0.3s,baz=264,slow=1.4,SNR=4.0						
KKM	Kota Kinabalu	20.04	77	P	P	21 46 03.1	-1.6
LSA	Lhasa	28.19	350	P	P	21 47 23.5	0.0
	14nm,1.8s,mb4.3						
WRA	Warramunga Arr	42.90	122	P	P	21 49 29.8	+0.5
	0.8nm,0.5s,mb3.7,baz=303,slow=8.9,SNR=5.5						
WRAB	Tennant Creek	42.91	122	P	P	21 49 29.6	+0.2
	9.5nm,1.2s,mb4.4						
MKAR	Makanchi Array	46.48	346	P	P	21 49 58.0	+0.3
	0.8nm,0.4s,mb4.0,baz=161,slow=8.3,SNR=12						
SONM	Songino Array	46.61	9	P	P	21 49 58.7	0.0
	0.9nm,0.4s,mb4.1,baz=190,slow=9.2,SNR=12						
KURK	Kurchatov	51.03	345	eP	P	21 50 33.4	+0.6
	1.9nm,0.8s,mb4.1						
ZAL	Zalesovo	52.83	351	P	P	21 50 46.5	0.0
	1.8nm,0.4s,mb4.3,baz=306,slow=5.6,SNR=6.4						
BVAR	Borovoye Array	55.45	341	P	P	21 51 05.0	-0.7
	0.9nm,0.6s,mb4.0,baz=141,slow=9.5,SNR=4.6						

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*IDC **01** 21:58:33.0±2.0, 26.96N×55.60E, mb3.9/11, mb1 4.0/11, mb1mx3.9/21, mbtmp3.9/11, MS3.4/3, Ms1 3.4/3, ms1mx2.9/31, Error ellipse: s-maj=44.4km s-min=21.8km az=159.0*
*CSEM **01** 21:58:34.7±0.1, 26.80N×55.76E, h30km, ML3.3, Error ellipse: s-maj=2.9km s-min=2.1km az=47.0*
*TEH **01** 21:58:36.3, 26.87N×55.87E, h10km, Mn3.8*
*THR **01** 21:58:41.2±0.3, 27.72N×56.09E, h18km±4km, ML3.3*
*NEIC **01** 21:58:41.0, 27.72N×56.09E, h18km, mb3.9/3, ML3.3(THR), ML3.8(TEH), After THR.*
ISC 01 21:58:34.2±0.9**, 26.78N**±0.03×**55.75E**±0.05**, h30km**±8km**, n52, σ1^{s}49**/55**, mb3.8**/13**, MS3.7**/2**, 2C-2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.72	31	ePG	Pb	21 58 48.3	+0.1
BNDS				eSG	Sb	21 58 53.6	-4.3
BNDS				AML	AML	21 58 58.6	
	comp=N,2μm,0.3s						
BNDS	Bandar-Abbas	0.72	31	ePg	Pb	21 58 48.0	-0.2
BNDS				eSg	Sb	21 58 53.0	-4.9
BNDS	Bandar-Abbas	0.72	31	ePg	Pb	21 58 48.3	+0.1
	SNR=109						
BNDS				eSg	Sb	21 58 53.6	-4.3
	comp=N,2μm,0.3s,SNR=109						
BANOM	Banah	0.99	150	P	Pn	21 58 50.7	-1.5
	SNR=709						
BANOM				⇑S	Sb	21 59 06.2	+0.9
ASHO	Ashiyiah	2.11	172	P	Pn	21 59 10.4	+2.1
	SNR=73						
ASHO				P		21 59 10.4	
	SNR=74						
GHIR	Ghir-Karzin	2.87	302	ePN	Pn	21 59 27.2	+8.0
GHIR				eSG	Sn	22 00 08.8	+16
GHIR				AML	AML	22 00 33.4	
	comp=N,206nm,0.8s						
GHIR	Ghir-Karzin	2.87	302	ePn	Pn	21 59 27.0	+7.8
GHIR				eSg	Sn	22 00 08.0	+15
ISRV	Sarvestan	3.48	319	Pn	Pn	21 59 30.5	+2.7
ARQ	Araqi	3.50	168	P	Pn	21 59 29.9	+1.8
	SNR=8.1						
IMOK	Mook	3.51	311	Pn	Pn	21 59 31.2	+3.0
IPAR	Pars	3.87	323	Pn	Pn	21 59 35.4	+2.1
BIDO	Bidbid	3.90	146	P	Pn	21 59 34.3	+0.6
	SNR=7.1						
SMDO	Samad	4.25	150	P	Pn	21 59 39.6	+0.8
	SNR=22						
IMEH	Mehriz	4.70	348	Pn	Pn	21 59 45.7	+0.6
IBAF	Bafgh	4.79	358	Pn	Pn	21 59 46.8	+0.3
JMDO	Jabal Madar	4.89	153	P	Pn	21 59 47.7	-0.1
	SNR=12						
WBK	Wadi Bani Khal	5.08	144	P	Pn	21 59 49.2	-1.3
	SNR=9.7						
ZHSF	Zahedan	5.26	56	ePN	Pn	21 59 51.2	-1.8
ZHSF	Zahedan	5.26	56	eP	Pn	21 59 51.0	-2.0
ISAD	Sadrabad	5.42	341	Pn	Pn	21 59 57.2	+1.9
ICHK	Chekchek	5.57	348	Pn	Pn	21 59 58.5	+1.2
RDF	Al-Radifah	7.56	288	eP	Pn	22 00 25.6	+0.2
RDF				AML	AML	22 01 51.6	
	comp=Z,14nm,0.4s						
UMR	Umm Al-Rimmam	7.61	293	eP	Pn	22 00 26.5	+0.5
UMR				AML	AML	22 01 52.6	
	comp=Z,19nm,0.2s						
NAY	Al-Naaiem	7.91	290	eP	Pn	22 00 30.4	+0.2
NAY				AML	AML	22 02 00.8	
	comp=Z,7.6nm,0.5s						
MIB	Mutribah	8.00	294	eP	P	22 00 31.5	0.0
MIB				AML	AML	22 02 03.5	
	comp=Z,11nm,0.3s						
ISFB	Sefidab	8.13	339	Pn	P	22 00 31.3	-2.0
SHAO	Shalim	8.72	181	P	P	22 00 38.7	-2.8
	SNR=8.1						
IVRN	Varamin	8.89	338	Pn	P	22 00 42.0	-1.8
IQOM	Qom	8.98	335	Pn	P	22 00 42.9	-2.2
WHFO	Wadi Hawf	9.01	192	⇑P	P	22 00 42.7	-2.8
RBK	Rabkut	9.34	189	⇓P	P	22 00 47.4	-2.7
ABTO	Aybut	9.65	194	⇓P	P	22 00 49.0	-5.4
IAFJ	Afjeh	9.68	340	Pn	P	22 00 52.0	-2.8
IKOM	Komasi	10.23	318	Pn	P	22 01 01.8	-0.5
IDHR	Dehrash	11.27	317	Pn	P	22 01 14.5	-2.0
GNI	Garni	16.17	328	eP	P	22 02 25.0	+4.0
	comp=Z,8.9nm,1.0s						
ATD	Arta Tunnel	19.43	221	LR	LR	22 11 13.6	
	comp=Z,34nm,21.4s,baz=356,slow=39						
AAK	Ala-Archa	22.01	39	P	P	22 03 28.0	+0.3
	comp=Z,7.2nm,1.1s,mb4.0						
AKTO	Aktyubinsk	23.68	4	P	P	22 03 44.3	+0.2
	comp=Z,1.0nm,0.5s,mb3.5,baz=187,slow=8.5,SNR=6.0						
BVAR	Borovoye Array	28.40	19	P	P	22 04 27.1	-1.0
	comp=Z,2.3nm,0.8s,mb3.9,baz=202,slow=8.0,SNR=10						
MKAR	Makanchi Array	28.94	39	P	P	22 04 33.8	+0.8
	comp=Z,0.7nm,0.8s,mb3.5,baz=233,slow=8.7,SNR=4.1						
KURK	Kurchatov	29.59	30	P	P	22 04 40.6	+1.8
	comp=Z,1.4nm,0.9s,mb3.7						
AKASG	Malin Array Be	31.29	327	P	P	22 04 52.0	-1.8
	comp=Z,0.3nm,0.4s,mb3.5,baz=134,slow=8.5,SNR=6.2						
ZAL	Zalesovo	34.56	30	P	P	22 05 20.6	-1.6
	comp=Z,1.7nm,0.6s,mb4.1,baz=241,slow=8.9,SNR=9.0						
GERES	GERESS Array B	39.20	316	P	P	22 06 01.6	+0.3
	comp=Z,0.2nm,0.5s,mb3.1,baz=90,slow=8.0,SNR=5.1						
FINES	FINESS Array B	39.98	338	P	P	22 06 07.2	-0.5
	comp=Z,1.2nm,0.5s,mb3.9,baz=141,slow=12,SNR=9.9						
SONM	Songino Array	44.51	48	P	P	22 06 46.8	+1.9
	comp=Z,1.2nm,0.8s,mb3.8,baz=266,slow=7.9,SNR=8.5						
ARCES	ARCESS Array B	46.28	346	P	P	22 06 59.2	+0.7
	comp=Z,4.5nm,1.0s,mb4.3,baz=146,slow=8.7,SNR=5.3						
TORD	Torodi Ar. Bea	52.23	266	P	P	22 07 44.5	-0.6
	comp=Z,1.1nm,0.6s,mb4.0,baz=65,slow=7.3,SNR=20						
TSUM	Tsumeb	58.82	223	LR	LR	22 32 59.5	
	comp=Z,41nm,20.4s,MS3.5,baz=321,slow=35						
ILAR	Eielson Array	87.06	10	P	P	22 11 20.9	+3.2
	comp=Z,0.6nm,0.7s,mb3.9,baz=310,slow=3.5,SNR=6.1						
YKA	Yellowknife Ar	90.70	356	LR	LR	22 57 31.9	
	comp=Z,40nm,18.8s,MS3.9,baz=250,slow=39						

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*NEIC **01** 22:15:57.8±0.8, 22.46S×68.02W, h118km±8km, mb4.3/17, Error ellipse: s-maj=10.5km s-min=7.4km az=80.0*
*IDC **01** 22:15:59.2±1.9, 22.52S×67.96W, h131km±17km, mb4.0/9, mb1 4.0/12, mb1mx3.9/18, mbtmp4.3/12, Error ellipse: s-maj=21.9km s-min=13.1km az=84.0*
*GUC **01** 22:16:00.8±1.2, 22.87S×68.05W, h150km±8km, ML4.4*
ISC 01 22:15:59.4±0.3**, 22.54S**±0.04×**67.99W**±0.05**, h150km, n50, σ1^{s}38**/59**, mb4.2**/18**, 3C-5D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.41	208	⇓iP	P	22 16 22.0	+1.2
SPCH				i S	S	22 16 38.1	+0.8
SPCH				AMP		22 16 45.7	
	comp=E,6μm,0.6s						
CEN1	Los Morros	2.21	247	⇓iP	P	22 16 39.5	+2.1
CEN1				i S	S	22 17 08.4	+1.8
CEN1				AMP		22 17 09.4	
	comp=N,1μm,0.6s						
ANCH	Antofagasta	2.50	243	⇓iP	P	22 16 40.8	-0.3
ANCH				i S	S	22 17 11.5	-1.5
ANCH				AMP		22 17 13.2	
	comp=N,2μm,0.3s						
CPN1	Cerro Paranal	3.04	226	⇓iP	P	22 16 47.4	-0.5
CPN1				i S	S	22 17 22.4	-2.7
CPN1				AMP		22 17 23.9	
	comp=E,2μm,0.4s						
CRCH	Chaqaral	4.48	212	eP	P	22 17 03.7	-3.1
CRCH				i S	S	22 17 53.4	-5.4
LPAZ	La Paz	6.22	359	P	P	22 17 30.8	+0.9
	comp=E,1.8nm,0.3s,baz=188,slow=8.2,SNR=29						
LPAZ				S	S	22 18 39.9	-0.4
	comp=E,0.4nm,0.3s,baz=60,slow=25,SNR=6.1						
LPAZ	La Paz	6.22	359	eP	P	22 17 30.8	+0.9
	comp=E,6.1nm,0.5s						
ARE	Arequipa	6.89	331	eP	P	22 17 37.0	-1.9
ARE				eS	S	22 18 52.0	-4.4
CFAA	Coronel Fontan	9.03	181	P	P	22 18 05.4	-2.0
	comp=E,0.1nm,0.3s,baz=356,slow=12,SNR=9.0						
CFAA				S	S	22 19 38.2	-9.3
	comp=E,0.3nm,0.3s,baz=232,slow=18,SNR=5.1						
CFAA	Coronel Fontan	9.03	181	P	P	22 18 05.4	-2.0
CFAA				S	S	22 19 38.2	-9.3
SIV	San Ignacio	9.22	46	P	P	22 18 07.7	-2.2
	comp=E,5.1nm,0.3s,baz=242,slow=11,SNR=32						
SIV				S	S	22 19 43.8	-8.3
	comp=E,2.2nm,0.3s,baz=305,slow=23,SNR=8.5						
CPUP	Villa Florida	10.42	113	P	P	22 18 24.9	-0.8
	comp=E,9.6nm,0.6s						
NNA	Nana	13.47	320	P	P	22 19 09.8	+4.4
	comp=E,20nm,1.0s						
SAML	Samuel	14.28	20	P	P	22 19 13.7	-2.2
TRQA	Tornquist	16.30	163	eP	P	22 19 41.7	+0.8
	comp=E,6.7nm,0.5s						
PLCA	Paso Flores	18.27	186	P	P	22 20 02.8	-1.2
	comp=E,0.2nm,0.3s,baz=7.2,slow=13,SNR=4.0						
PLCA	Paso Flores	18.27	186	eP	P	22 20 02.4	-1.6
	comp=E,2.1nm,0.7s						
BDFB	Brasilia	20.07	74	P	P	22 20 22.5	-0.4
	comp=E,8.9nm,0.6s,baz=256,slow=12,SNR=16						
BAO	Brasilia Array	20.09	74	P	P	22 20 22.0	-1.2
JTS	JuntasAbangare	36.62	331	P	P	22 22 51.7	-1.3
	comp=E,29nm,1.4s,mb4.7						
DWPF	Disney	52.00	345	P	P	22 24 51.8	-3.7
	comp=E,45nm,1.1s,mb5.0						
VNA3	Neumayer Olymp	58.82	161	⇑i	P	22 25 45.5	+1.6
VNA3	Neumayer Olymp	58.82	161		P	22 25 51.6	+7.7
VNA1	Neumayer--Stat	59.02	160		P	22 25 50.0	+4.7
VNA2	Neumayer--Watz	59.39	161	⇑i	P	22 25 49.4	+1.6
VNA2	Neumayer--Watz	59.39	161		P	22 25 56.1	+8.3
SNAA	Sanae	61.02	161	⇑i	P	22 25 58.9	0.0
SNAA	Sanae	61.02	161	P	P	22 25 59.0	+0.1
	comp=E,1.0nm,0.6s,mb3.8,baz=290,slow=6.6,SNR=19						
WVT	Waverly	61.30	342	eP	P	22 25 58.1	-3.1
	comp=E,5.1nm,0.6s,mb4.5						
LTX	Lajitas	61.97	325	eP	P	22 26 02.3	-3.5
	comp=E,9.1nm,1.0s,mb4.6						
ANMO	Albuquerque	67.84	327	eP	P	22 26 44.3	+0.8
	comp=E,2.4nm,0.8s,mb4.0						
DBIC	Dimbokro	68.22	73	P	P	22 26 45.8	-0.4
	comp=E,5.3nm,0.9s,mb4.3,baz=239,slow=4.9,SNR=7.4						
DBIC	Dimbokro	68.22	73	eP	P	22 26 45.4	-0.8
	comp=E,5.3nm,0.8s,mb4.3						
SDCO	Great Sand Dun	69.57	329	eP	P	22 26 54.8	+0.8
	comp=E,4.2nm,1.0s,mb4.1						
RSSD	Black Hills	74.10	334	eP	P	22 27 21.7	+1.0
	comp=E,2.3nm,0.6s,mb4.1						
SYO	Syowa Base	75.23	159	⇓P	P	22 27 28.0	+1.4
PDAR	Pinedale Array	75.44	330	P	P	22 27 29.1	+0.8
	comp=E,0.5nm,0.7s,mb3.3,baz=134,slow=6.6,SNR=4.7						
HWUT	Hardware Ranch	75.51	328	eP	P	22 27 29.9	+1.1
	comp=E,2.0nm,0.6s,mb3.9						
ULM	Lac du Bonnet	76.56	342	P	P	22 27 34.2	-0.3
	comp=E,3.4nm,0.5s,mb4.2,baz=151,slow=7.0,SNR=10						
ULM	Lac du Bonnet	76.56	342	P	P	22 27 34.2	-0.3
TORD	Torodi Ar. Bea	76.91	70	P	P	22 27 37.0	-0.1
	comp=E,4.0nm,0.6s,mb4.2,baz=257,slow=5.3,SNR=99						
HLID	Hailey	78.38	327	eP	P	22 27 46.5	+1.8
	comp=E,3.1nm,0.8s,mb4.0						
TSUM	Tsumeb	78.93	106	P	P	22 27 49.5	+1.4
	comp=E,4.4nm,0.8s,mb4.1,baz=250,slow=6.2,SNR=6.1						
TSUM	Tsumeb	78.93	106	eP	P	22 27 49.3	+1.2
	comp=E,3.2nm,0.7s,mb4.1						
MAW	Mawson	83.09	163	P	P	22 28 10.4	+1.4
	comp=E,1.8nm,0.5s,mb4.0,baz=236,slow=6.4,SNR=5.4						
MAW	Mawson	83.09	163	eP	P	22 28 10.4	+1.4
LBTB	Lobatse	83.81	114	eP	P	22 28 14.7	+1.2
	comp=E,3.0nm,0.7s,mb4.1						
YKA	Yellowknife Ar	92.45	340	P	P	22 28 54.7	+0.9
	comp=E,0.7nm,0.5s,mb4.0,baz=134,slow=4.4,SNR=8.4						
YKA	Yellowknife Ar	92.45	340	P	P	22 28 54.7	+0.9
MKAR	Makanchi Array	145.95	37	PKPbc	PKPbc	22 35 22.6	+1.4
	comp=E,0.4nm,0.7s,baz=332,slow=1.9,SNR=5.2						

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*TRN **01** 22:21:12.8, 10.72N×62.30W, h74km, MD3.6, Md4.0(FDF)*
*FUNV **01** 22:21:12.7, 10.76N×62.21W, h78km, MW3.3*
*NEIC **01** 22:21:12.7, 10.76N×62.21W, h78km, mb3.9/2, MD3.6(TRN), MW4.0(CAR), After CAR.*
*IDC **01** 22:21:13.7±2.2, 10.88N×62.53W, h98km±19km, mb3.7/10, mb1 3.9/11, mb1mx3.7/22, mbtmp4.0/11, MS2.7/2, Ms1 2.7/2, ms1mx2.5/21, Error ellipse: s-maj=19.7km s-min=18.6km az=106.0*
ISC 01 22:21:11.2±0.3**, 10.73N**±0.03×**62.33W**±0.03**, h94km**±3km**, n51, σ1^{s}07**/70**, mb3.9**/11**, 4C-3D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.13	127	⇑iP	P	22 21 24.2	-0.4
GUIV				eS	S	22 21 32.0	-2.6
GUNV	Guanoco	0.82	227	⇑iP	P	22 21 31.1	+1.5
GUNV				eS	S	22 21 44.3	+1.2
ALNG	Atlantic LNG	0.83	131	eP	P	22 21 29.3	-0.3
CRUV	Carupano	0.89	267	eP	P	22 21 30.9	+0.6
CRUV				eS	S	22 21 44.0	-0.5
TRN	Trinidad (W)	0.91	95	⇑iP	P	22 21 30.5	0.0
TRN				eS	S	22 21 42.3	-2.6
TPP	Pointe-a-Pierr	0.95	115	eP	P	22 21 31.6	+0.7
TPP				eS	S	22 21 43.9	-1.8
TPP	Pointe-a-Pierr	0.95	115	eP	P	22 21 31.6	+0.7
TPP				eS	S	22 21 47.8	+2.1
ITEV	Isla Los Testi	1.01	309	⇓iP	P	22 21 32.0	+0.5
ITEV				eS	S	22 21 46.2	-0.6
GRW	Mount Saint Ca	1.57	25	⇑iP	P	22 21 38.7	+0.2
GRW				eS	S	22 21 58.9	+0.3
TPR	Prospect	1.59	73	eP	P	22 21 39.1	+0.4
TPR				eS	S	22 21 58.8	-0.3
ORIV	Oritupano	1.96	213	⇓eP	P	22 21 44.9	+1.5
ORIV				eS	S	22 22 09.1	+1.8
PCRV	Puerto La Cruz	2.33	257	eP	P	22 21 50.0	+1.3
PCRV				eS	S	22 22 16.6	+0.1
IBAV	Isla La Blanqu	2.46	297	⇓iP	P	22 21 51.2	+0.8
IBAV				eS	S	22 22 19.7	+0.1
SVB	Belmont	2.74	22	eS	S	22 22 26.1	-0.5
GURV	El Guri	3.04	194	eP	P	22 21 58.3	0.0
GURV				eS	S	22 22 32.1	-1.8
CUPV	Cœpira	3.47	259	eP	P	22 22 05.4	+1.1
CUPV				eS	S	22 22 44.4	0.0
MVM	Montagne Vaucl	4.05	20	eP	P	22 22 12.4	+0.1
MVM				eS	S	22 22 59.1	+0.2
FDF	Fort de France	4.15	16	eP	P	22 22 13.3	-0.3
FDF				eS	S	22 22 58.1	-3.1
MERV	Las Mercedes	4.17	250	eP	P	22 22 14.5	+0.5
MERV				eS	S	22 23 00.4	-1.5
CRM	Caravelle	4.24	19	eP	P	22 22 15.2	+0.4
LUEV	Luepa	4.93	170	eP	P	22 22 22.8	-1.5
CAOV	Caicara del Or	5.19	230	eP	P	22 22 27.4	-0.5
CAOV				eS	S	22 23 22.9	-4.1
MGG	Marie-Galante	5.25	11	eP	P	22 22 30.6	+1.8
SCG	Saint Claude	5.31	7	eP	P	22 22 29.8	+0.4
BCG	Bois Riant Cap	5.37	7	eP	P	22 22 31.2	+0.9
LZG	Guadaloupe-1	5.41	6	eP	P	22 22 31.5	+0.7
TURV	Turiamo	5.43	268	eP	P	22 22 31.6	+0.5
DEG	La Desirade	5.69	12	eP	P	22 22 35.4	+0.7
BAUV	El Baul	5.90	253	eP	P	22 22 36.7	-0.8
BAUV				eS	S	22 23 40.0	-4.5
TEPV	Terepaima	6.79	264	eP	P	22 22 49.8	-0.2
SANV	Sanarito	7.20	261	eP	P	22 22 55.0	-0.6
MTP	Monte Pirata	7.96	337	ePn	P	22 23 04.5	-1.5
MTP				eSn	S	22 24 22.7	-12
SJG	San Juan	8.22	334	LR	LR	22 25 31.5	
	comp=Z,34nm,19.8s,baz=85,slow=32						
SDV	Santo Domingo	8.39	258	P	P	22 23 11.1	-0.5
	0.9nm,0.3s,baz=38,slow=5.7,SNR=3.4						
SDV				S	S	22 24 39.4	-6.0
	2.6nm,0.3s,baz=47,slow=14,SNR=4.3						
VIGV	El Vigia	9.10	259	eP	P	22 23 19.9	-1.3
ROSC	El Rosal	13.24	245	LR	LR	22 28 59.8	
	comp=Z,46nm,18.5s,baz=352,slow=36						
SAML	Samuel	19.56	183	eP	P	22 25 34.8	+0.7
	4.0nm,0.8s						
SIV	San Ignacio	26.57	177	P	P	22 26 44.4	+1.9
	1.9nm,0.6s,mb3.8,baz=6.4,slow=11,SNR=9.4						
CPUP	Villa Florida	37.15	173	P	P	22 28 13.8	-0.9
TXAR	Lajitas Array	42.74	302	P	P	22 28 59.5	-1.4
	0.4nm,0.4s,mb3.5,baz=76,slow=7.4,SNR=4.7						
SCHQ	Schefferville	44.14	356	P	P	22 29 11.0	-0.9
	2.5nm,0.7s,mb4.1,baz=151,slow=10,SNR=4.2						
PDAR	Pinedale Array	51.94	317	P	P	22 30 11.3	-1.2
	1.9nm,0.5s,mb4.4,baz=112,slow=9.7,SNR=8.0						
TORD	Torodi Ar. Bea	62.54	81	P	P	22 31 27.9	+0.1
	0.3nm,0.4s,mb3.6,baz=292,slow=6.8,SNR=9.8						
YKA	Yellowknife Ar	63.71	336	P	P	22 31 31.8	-2.9
	0.5nm,0.6s,mb3.5,baz=111,slow=7.4,SNR=4.9						
YKA	Yellowknife Ar	63.71	336	P	P	22 31 31.8	-2.9
NB2	NORSAR Subarra	72.72	29	P	P	22 32 31.6	+1.1
	2.5nm,0.8s,mb4.1,baz=260,slow=5.8						
NOA	NORSAR Array B	72.72	29	P	P	22 32 31.9	+1.4
	1.5nm,0.8s,mb3.9,baz=262,slow=5.8,SNR=4.7						
ILAR	Eielson Array	78.05	334	P	P	22 32 59.5	-1.3
	0.6nm,0.5s,mb3.5,baz=92,slow=4.2,SNR=13						
ARCES	ARCESS Array B	79.27	21	P	P	22 33 08.6	+1.3
	0.9nm,0.4s,mb4.0,baz=260,slow=5.5,SNR=4.5						
FINES	FINESS Array B	79.91	29	P	P	22 33 11.9	+1.0
	1.6nm,0.4s,mb4.2,baz=278,slow=4.1,SNR=27						
KAF	Kangasniemi	79.97	29	ep	P	22 33 11.4	+0.2
	1.3nm,0.5s,mb4.0						

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*KISR **01** 22:25:21.0±1.0, 34.72N×44.43E, h33km, ML3.3*
*CSEM **01** 22:25:24.8±0.3, 34.90N×45.80E, h16km, ML3.3, Error ellipse: s-maj=8.6km s-min=3.3km az=121.0*
*THR **01** 22:25:26.4±1.6, 35.15N×45.93E, h15km, ML3.3*
ISC 01 22:25:22.1±2.5**, 34.98N**±0.08×**45.5E**±0.2**, h10km, n12, σ1^{s}05**/17**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGE	Sanandaj	1.51	85	ePg	Pn	22 25 46.7	-2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNGE				AML	AML	22 26 14.3	
	comp=N,606nm,0.4s						
BHD	Baghdad	1.95	209	ex	x	22 25 58.5	
BHD				ex	x	22 26 28.5	
ASAO	Ashtian	3.74	95	ePN	Pn	22 26 22.4	+1.2
ASAO				eSg	Sn	22 27 13.5	+7.8
SHGR	Shooshtar-Gavs	3.97	135	ePN	Pn	22 26 27.2	+2.8
SHGR				AML	AML	22 27 17.6	
	comp=N,50nm,0.3s						
THKV	Tehran--Karaj	4.48	76	ePn	Pn	22 26 31.0	-0.6
CHTH	Charan	4.67	77	ePn	Pn	22 26 34.4	0.0
UMR	Umm Al-Rimmam	5.73	160	eP	Pn	22 26 49.4	+0.1
UMR				AML	AML	22 27 56.4	
	comp=Z,8.4nm,0.5s						
UMR				eS	Sn	22 27 57.2	+1.3
NAY	Al-Naaiem	5.90	165	eP	Pn	22 26 51.7	-0.1
NAY				eS	Sn	22 27 59.1	-1.1
NAY				AML	AML	22 28 02.0	
	comp=Z,4.9nm,0.2s						
RDF	Al-Radifah	6.28	163	eP	Pn	22 26 57.3	+0.2
RDF				AML	AML	22 28 06.6	
	comp=Z,6.7nm,0.3s						
RDF				eS	Sn	22 28 08.8	-1.0
RDF	Al-Radifah	6.28	163	eP	Pn	22 26 57.3	+0.1
RDF				eS	Sn	22 28 08.8	-1.0
NASN	Na'in	6.45	108	ePn	Pn	22 26 59.8	+0.3
QRN	Al-Qurain	6.55	161	eP	Pn	22 27 01.0	+0.1
QRN				eS	Sn	22 28 16.1	-0.3
QRN				AML	AML	22 28 17.8	
	comp=Z,14nm,0.2s						

*CSEM **01** 22:30:39.1±0.3, 28.06N×16.26W, h15^{km}±5^{km}, mb3.3/7, Error ellipse: s-maj=4.4km s-min=2.3km az=10.0, After MDD*

MDD 01 22:30:38.9±0.3**, 28.06N×16.26W, h10**^{km}±3^{km}**, mb3.5**/1**, mbLg2.5**/6**, 2C, Error ellipse: s-maj=4.9km s-min=2.2km az=7.0, PRXIMO TT-MODEL: CANARY, Canary Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCAN	Las Canadas	0.35	298	⇑P	Pg	22 30 46.0	-0.1
	39nm,0.2s,SNR=18						
CCAN				S	Sg	22 30 51.4	+0.6
	71nm,0.1s,SNR=11						
CRAJ	Montana Rajada	0.37	305	P	Pg	22 30 46.1	-0.3
	13nm,0.1s,SNR=34						
CRAJ				S	Sg	22 30 51.3	-0.1
	857nm,0.2s,SNR=12						
CRAJ	Montana Rajada	0.37	305	P	Pg	22 30 46.1	-0.3
	13nm,0.1s,SNR=34						
CRAJ				S	Sg	22 30 51.3	-0.1
	857nm,0.2s,SNR=12						
CICO	Icod de los Vi	0.51	305	⇑P	Pg	22 30 48.3	-0.8
	1.7nm,0.1s,SNR=18						
CICO				S	Sg	22 30 54.7	-1.2
	10nm,0.1s,SNR=16						
CHIO	Chio	0.53	290	P	Pg	22 30 48.4	-1.2
	13nm,0.1s,SNR=18						
CHIO				S	Sg	22 30 56.0	-0.7
	81nm,0.1s,SNR=15						
EGOM	La Gomera	0.85	277	P	Pb	22 30 52.6	-2.6
	3.8nm,0.1s,SNR=16						
EGOM				S	Sb	22 31 02.8	-3.6
	18nm,0.1s,SNR=11						
EGOM	La Gomera	0.85	277	P	Pb	22 30 52.6	-2.6
	3.8nm,0.1s,SNR=16						
EGOM				S	Sb	22 31 02.8	-3.6
	18nm,0.1s,SNR=11						
EHIG	Higuera	1.46	290	S	Sb	22 31 19.4	-4.6
	3.2nm,0.1s,SNR=4.0						
EHIG	Higuera	1.46	290	S	Sb	22 31 19.4	-4.6
	3.2nm,0.1s,SNR=4.0						
CFTV	Fuerteventura	1.95	79	P	Pn	22 31 09.1	-3.3
	0.5nm,0.1s,SNR=4.0						
CFTV				S	Sn	22 31 28.8	-8.3
	1.0nm,0.1s,SNR=7.9						
CFUE	Fuerteventura	2.13	73	P	Pn	22 31 12.2	-2.7
	1.3nm,0.1s,SNR=4.0						
CFUE				S	Sn	22 31 34.6	-7.1
	4.4nm,0.1s,SNR=7.9						
EFAM	Famara	2.62	65	S	Sn	22 31 46.8	-7.4
	SNR=4.0						

MAN 01 22:38:16.7, 9.08N×126.31E, h10^{km}, mb3.7, ML2.4, MS2.0, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.69	261	eP	Pb	22 38 30.7	+0.4
BUTP				eS	Sb	22 38 42.6	+2.9
BIPH	Bislig	0.89	177	⇓iP	Pb	22 38 32.3	-1.5
BIPH				i S	Sb	22 38 43.9	-1.7
SCPH	Surigao	1.07	311	⇓eP	Pb	22 38 35.5	-1.3
SCPH						22 38 48.5	
BUKP	Musuan	1.72	226	eP	Pn	22 38 46.6	-0.3
BUKP				eS	Sn	22 39 09.7	+0.6
MSLP	Maasin	1.77	306	eP	Pn	22 38 47.7	0.0

*CSEM **01** 22:43:34.9±0.3, 12.08N×43.43E, h4^{km}, ML3.9, Error ellipse: s-maj=5.6km s-min=5.0km az=34.0, After DHMR*

DHMR 01 22:43:34.9±1.1**, 12.08N×43.43E, h4**^{km}±7^{km}**, ML3.9, 6C-3D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.32	30	⇑iP	Pb	22 44 00.1	+0.2
TRBA				i S	Sb	22 44 18.6	+1.5
TRBA				AML	AML	22 44 20.3	
	comp=Z,3μm,0.5s						
UDYN	Al 'Udayn	1.94	15	⇑iP	Pn	22 44 10.1	+1.0
UDYN				i S	Sn	22 44 36.5	+2.3
UDYN				AML	AML	22 44 47.8	
	comp=Z,2μm,0.7s						
UDYN	Al 'Udayn	1.94	15	⇑iP	Pn	22 44 10.1	+1.1
	comp=Z,950nm,0.7s						
UDYN				i S	Sn	22 44 36.5	+2.3
LBOS		2.51	45	⇑iP	Pn	22 44 18.4	+1.2
LBOS				i S	Sn	22 44 53.6	+5.0
DHBB	Dhamar BB	2.64	21	⇓iP	Pn	22 44 21.1	+2.0
DHBB				i S	Sn	22 44 57.6	+5.7
BDHA	Al Bayda'	2.80	48	⇑iP	Pn	22 44 23.3	+1.9
BDHA				i S	Sn	22 45 01.5	+5.4
BDHA				AML	AML	22 45 07.0	
	comp=N,776nm,0.6s						
BDHA	Al Bayda'	2.80	48	⇑iP	Pn	22 44 23.3	+2.0
BDHA				i S	Sn	22 45 01.5	+5.5
	comp=N,388nm,0.6s						
HAJJ	Hajjah	3.60	3	⇓iP	Pn	22 44 34.3	+1.7
HAJJ				i S	Sn	22 45 20.4	+4.3
HAJJ				AML	AML	22 45 37.5	
	comp=E,367nm,0.8s						
HAJJ	Hajjah	3.60	3	⇓iP	Pn	22 44 34.3	+1.7
HAJJ				i S	Sn	22 45 20.5	+4.4
	comp=E,184nm,0.8s						

*NEIC **01** 22:44:38.6±1.1, 31.75N×137.97E, h350^{km}±13^{km}, mb4.0/5, Error ellipse: s-maj=15.5km s-min=12.1km az=51.0*
*JMA **01** 22:44:39.2±0.3, 32.11N×138.15E, h403^{km}, M3.3*
*IDC **01** 22:44:40.6±0.9, 31.84N×137.92E, h366^{km}±10^{km}, mb2.8/5, mb1 3.0/8, mb1mx2.9/22, mbtmp3.6/8, Error ellipse: s-maj=24.4km s-min=13.7km az=70.0*

ISC 01 22:44:39.5±0.4**, 32.03N**±0.06×**138.21E**±0.07**, h387**^{km}±5^{km}**, n32, σ0^{s}85**/40**, mb3.8**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.72	50	P	P	22 45 34.6	+1.6
	35nm,0.3s,baz=244,slow=19,SNR=7.8						
JHJ				S	S	22 46 16.9	+2.0
	26nm,0.3s,baz=73,slow=19,SNR=4.0						
JHJ2	Mitsune	1.73	51	P	P	22 45 34.5	+1.4
JWZ	Kozaga	2.58	306	P	P	22 45 38.5	-0.2
JIE	Ise	2.67	332	P	P	22 45 40.0	+0.6
JIE				S	S	22 46 26.4	-0.1
JKN2	Miekihoku	2.74	324	P	P	22 45 40.0	0.0
JAA	Atsumi	2.75	341	P	P	22 45 40.9	+0.9
JWM	Minabe	3.01	308	P	P	22 45 42.1	-0.1
JOD2	Odawara 2	3.31	13	P	P	22 45 45.4	+0.6
JOD2				eS	S	22 46 36.2	+0.1
JHE	Heguri	3.36	322	P	P	22 45 45.3	0.0
BSO3	Boso 3	3.37	34	P	P	22 45 44.7	-0.6
BSO3				S	S	22 46 35.1	-2.0
BSO1	Boso 1	3.50	41	P	P	22 45 46.3	-0.2
BSO1				S	S	22 46 37.8	-1.3
JAI	Aioi	3.62	300	P	P	22 45 47.2	-0.4
JAJ2	Tsuna	3.67	311	P	P	22 45 47.7	-0.4
MRT2	Murotomisaki 2	3.69	293	P	P	22 45 47.8	-0.5
JWT	Wachi	4.00	325	P	P	22 45 51.4	+0.1
JRY	Ryogami san	4.02	8	P	P	22 45 52.1	+0.7
JRY				S	S	22 46 47.2	-0.7
JJS	Sakaide	4.28	304	P	P	22 45 53.6	-0.5
MJAR	Matsushiro Arr	4.50	360	P	P	22 45 56.3	-0.1
	0.7nm,0.3s,baz=180,slow=11,SNR=5.3						
JAG	Ashikaga	4.50	13	P	P	22 45 55.7	-0.7
JAG				S	S	22 46 52.6	-4.0
CBIJ	Chichi jima	6.01	144	P	P	22 46 12.6	+0.2
	8.3nm,0.3s,baz=288,slow=20,SNR=7.8						
CBIJ				S	S	22 47 25.1	-0.3
	17nm,0.3s,baz=277,slow=22,SNR=11						
GUMO	Guam	19.34	160	P	P	22 48 36.7	-2.0
	294nm,1.3s						
SONM	Songino Array	28.80	313	P	P	22 50 05.5	+0.3
	0.4nm,0.4s,mb3.1,baz=119,slow=9.0,SNR=4.8						
MKAR	Makanchi Array	44.73	306	P	P	22 52 17.8	+0.4
	0.6nm,0.5s,mb3.2,baz=84,slow=8.5,SNR=15						
MKAR				ScP		22 57 09.1	
	0.3nm,0.6s,baz=86,slow=5.4,SNR=3.5						
JIRN	Jiri	44.98	278	eP	P	22 52 19.6	-0.1
	22nm,0.6s,mb4.7						
GUN	Gumba	45.16	279	eP	P	22 52 21.5	+0.4
	13nm,0.5s,mb4.5						
PKI	Pulchoki	45.66	279	eP	P	22 52 24.4	-0.6
	5.0nm,0.6s,mb4.0						
KKN	Kakani	45.70	279	eP	P	22 52 25.5	+0.2
	18nm,0.9s,mb4.4						
GKN	Gorkha	46.17	280	eP	P	22 52 28.6	-0.4
	7.2nm,0.5s,mb4.3						
KOLN	Koldanda	47.12	280	eP	P	22 52 36.2	0.0
WRA	Warramunga Arr	51.81	185	P	P	22 53 11.5	-0.1
	0.2nm,0.9s,baz=360,slow=7.6,SNR=5.5						
ILAR	Eielson Array	55.13	30	P	P	22 53 37.6	+2.7
	0.4nm,0.6s,mb2.8,baz=273,slow=6.1,SNR=5.8						
PDAR	Pinedale Array	83.08	43	P	P	22 56 28.3	+4.5
	0.3nm,0.3s,mb3.5,baz=297,slow=2.0,SNR=4.1						

BER 01 22:44:41.0±2.9**, 66.53N×13.24E, MD1.3, ML0.7, Northern Norway**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STOK2	Flostrand	0.20	166	eP	Pg	22 44 43.7	-1.3
STOK2				e		22 44 43.7	
	baz=325,slow=10						
STOK2	Flostrand	0.20	166	eS	Sg	22 44 45.2	-2.5
STOK2				AML	AML	22 44 45.3	
	comp=N,245nm,0.1s						
STOK	Stokkvaagen	0.22	204	eP	Pg	22 44 44.4	-0.9
STOK				eS	Sg	22 44 46.4	-1.9
STOK	Stokkvaagen	0.22	204	eP	Pg	22 44 44.4	-0.9
STOK	Stokkvaagen	0.22	204	eS	Sg	22 44 46.4	-1.9
MOR8	Moi Rana	0.61	126	eP	Pg	22 44 52.3	-0.8
MOR8				eS	Sg	22 45 01.1	0.0
MOR8				AML	AML	22 45 02.6	
	comp=Z,4.0nm,0.2s						
MOR8	Moi Rana	0.61	126	eP	Pg	22 44 52.3	-0.8
MOR8				eS	Sg	22 45 01.0	-0.2
MOR8				AML	AML	22 45 02.6	
	comp=Z,4.0nm,0.2s						
NSS	Namsos	2.08	195	eP	Pn	22 45 15.2	-2.3
NSS				eS	Sn	22 45 42.4	-2.1

IDC 01 23:01:08.3±1.8**, 7.62S×127.68E, mb4.0**/3**, mb1 4.0**/5**, mb1mx3.9**/11**, mbtmp3.9**/5**, ML3.7**/2**, Error ellipse: s-maj=105.6km s-min=28.8km az=79.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.61	191	Pn	P	23 03 42.6	-2.1
	0.5nm,0.3s,baz=28,slow=13,SNR=9.8						
FITZ				Sn	S	23 05 38.1	-7.3
	1.3nm,0.3s,baz=304,slow=19,SNR=7.3						
WRA	Warramunga Arr	13.84	153	Pn	P	23 04 25.0	-3.4
	0.3nm,0.3s,baz=327,slow=14,SNR=22						
WRA				Sn	S	23 06 56.2	-7.7
	0.4nm,0.3s,baz=334,slow=22,SNR=6.5						
SONM	Songino Array	58.34	343	P	P	23 11 06.1	-1.4
	0.8nm,0.8s,baz=170,slow=8.8,SNR=3.3						
MKAR	Makanchi Array	67.51	328	P	P	23 12 06.5	-1.9
	1.2nm,0.6s,baz=126,slow=8.1,SNR=2.6						
ZAL	Zalesovo	71.14	335	P	P	23 12 27.5	-3.2
	0.7nm,0.4s,baz=303,slow=5.2,SNR=4.7						

*MAN **01** 23:01:42.0, 8.48N×126.86E, h1^{km}, mb5.1, ML4.0, MS4.1*
*BJI **01** 23:01:44.6, 8.37N×126.76E, h56^{km}, mB5.1, mb4.7, Ms4.6, Msz4.3*
*MOS **01** 23:01:45.5±0.9, 8.96N×126.55E, h33^{km}, mb5.0/11, Error ellipse: s-maj=27.0km s-min=9.6km az=118.2*
*NEIC **01** 23:01:49.7±1.1, 8.31N×126.57E, h84^{km}±10^{km}, mb4.7/13, Error ellipse: s-maj=12.4km s-min=7.8km az=76.0*
*IDC **01** 23:01:50.2±6.0, 8.30N×126.49E, h87^{km}±54^{km}, mb4.1/15, mb1 4.2/16, mb1mx4.1/22, mbtmp4.4/16, ML4.4/1, Error ellipse: s-maj=30.7km s-min=17.2km az=76.0*

ISC 01 23:01:37.9±0.4**, 8.40N**±0.04×**127.20E**±0.03**, h10**^{km}**, n82, σ1^{s}45**/96**, mb4.6**/37**, MS4.4**/4**, 4C-4D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.86	256	⇑eP	Pb	23 01 54.0	-0.5
BIPH				eS	Sb	23 02 00.4	-5.4
BUTP	Butuan	1.67	290	eP	Pn	23 02 07.5	+0.2
BUTP				eS	Sn	23 02 28.1	-0.9
DAV	Davao City (W)	2.08	231	eP	Pn	23 02 16.0	+2.7
DAV	Davao City (W)	2.08	231	ePn	Pn	23 02 15.8	+2.5
BUKP	Musuan	2.18	257	eP	Pn	23 02 16.1	+1.4
BUKP				eS	Sn	23 02 42.1	+0.1
SCPH	Surigao	2.18	309	⇑iP	Pn	23 02 16.3	+1.5
SCPH				eS	Sn	23 02 43.2	+1.1
CGP	Cagayan de Oro	2.48	272	⇓iP	Pn	23 02 20.2	+1.2
CGP				i S	Sn	23 02 49.0	-0.7
MSLP	Maasin	2.89	307	eP	Pn	23 02 27.1	+2.3
MSLP				eS	Sn	23 03 07.5	+7.5
GSPH	General Santos	3.20	224	eP	Pn	23 02 30.0	+0.7
PLP	Palo	3.52	322	eP	Pn	23 02 36.4	+2.6
PLP				eS	Sn	23 03 17.6	+1.6
TBP	Tagbilaran	3.54	292	eP	Pn	23 02 35.1	+0.9
TBP				eS	Sn	23 03 16.1	-0.4
BESP	Borongan	3.63	332	eP	Pn	23 02 39.4	+4.1
LLP	Lapu-Lapu	3.72	301	⇓eP	Pn	23 02 38.5	+1.8
LLP				eS	Sn	23 03 19.2	-1.9
DCPH	Dipolog City	3.81	273	⇑iP	Pn	23 02 38.5	+0.5
DCPH				eS	Sn	23 03 20.3	-3.2
PAGZ	Pagadian	3.82	262	eP	Pn	23 02 38.9	+0.8
SNPH	Sibulan	4.03	284	⇓eP	Pn	23 02 42.0	+0.9
CNP	Catarman	4.79	329	eP	Pn	23 02 53.6	+1.7
CNP				eS	Sn	23 03 50.7	+2.5
GUIM	Jordan	5.06	296	eP	Pn	23 02 56.7	+1.0
RCP	Roxas	5.40	306	⇓eP	Pn	23 03 01.9	+1.4
YHNB	Yeheng	17.11	342	P	P	23 05 46.0	+7.1
JOW	Kunigami	18.36	3	P	P	23 06 00.1	+5.6
	1.9nm,0.3s,baz=186,slow=3.9,SNR=5.0						
QIZ	Qiongzhong	19.88	304	P	P	23 06 10.5	-1.9
QIZ				S	S	23 09 38.5	-12
QIZ				LR	LR		
	comp=Z,320nm,13.4s						
NJ2	Nanjing	24.79	343	eP	P	23 07 02.4	+1.0
NJ2				AP		23 07 12.1	
NJ2				PP	PP	23 07 38.1	0.0
NJ2				S	S	23 11 14.0	-6.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,200nm,5.5s						
NJ2				LR	LR		
	comp=N,2μm,25.4s,MS4.5						
NJ2				LR	LR		
	comp=E,720nm,29.9s,MS4.5						
NJ2				LR	LR		
	comp=Z,370nm,20.0s						
FITZ	Fitzroy Crossi	26.37	183	P	P	23 07 17.7	+1.3
	comp=Z,10nm,0.5s,mb4.6,baz=291,slow=5.8,SNR=3.1						
KMI	Kunming	28.64	308	P	P	23 07 38.1	+1.2
KMI				AP	pP	23 07 45.8	+5.9
KMI				S	S	23 12 14.4	-10
KMI				LR	LR		
	comp=N,120nm,8.9s						
KMI				LR	LR		
	comp=E,140nm,14.3s						
KMI				LR	LR		
	comp=Z,150nm,15.1s,MS3.7						
CD2	Chengdu	31.31	319	eP	P	23 07 59.0	-1.7
CD2				PP	PP	23 08 59.0	-5.0
CD2				S	S	23 12 57.0	-9.4
CTAO	Charters Tower	33.95	147	P	P	23 08 35.9	+12
CTAO				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
CTAO	Charters Tower	33.95	147	P	P	23 08 35.9	+12
	comp=Z,14nm,1.4s,mb4.7						
LZH	Lanzhou	34.83	326	eP	P	23 08 29.1	-2.1
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,70nm,5.0s						
LZH				LR	LR		
	comp=E,520nm,13.0s						
LZH				LR	LR		
	comp=Z,860nm,14.4s,MS4.6						
MDJ	Mudanjiang	36.14	3	P	P	23 08 44.4	+2.1
	comp=Z,9.0nm,0.7s,mb4.8						
ASAJ	Asahikawa	38.03	18	P	P	23 09 02.6	+4.5
	comp=Z,7.0nm,0.8s,mb4.5,baz=334,slow=23,SNR=4.1						
LSA	Lhasa	39.87	307	eP	P	23 09 13.4	-0.2
LSA	Lhasa	39.87	307	P	P	23 09 13.2	-0.4
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
LSA	Lhasa	39.87	307	P	P	23 09 13.2	-0.5
	comp=Z,2.9nm,0.5s,mb4.3						
STKA	Stephens Creek	42.34	162	P	P	23 09 36.4	+2.4
	comp=Z,1.0nm,0.5s,mb3.7,baz=342,slow=13,SNR=4.1						
ULN	Ulaanbaatar	42.89	340	eP	P	23 09 38.4	+0.2
ULN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
ULN	Ulaanbaatar	42.89	340	eP	P	23 09 38.4	+0.2
	comp=Z,5.9nm,0.6s,mb4.5						
SONM	Songino Array	43.09	339	P	P	23 09 39.9	+0.1
	comp=Z,1.6nm,0.5s,mb4.0,baz=154,slow=9.2,SNR=13						
SONM				PcP	PcP	23 11 30.2	-0.2
	comp=Z,1.0nm,0.6s,baz=173,slow=2.8,SNR=5.0						
JIRN	Jiri	43.18	302	eP	P	23 09 40.0	-0.9
	comp=Z,14nm,0.4s,mb5.1						
GUN	Gumba	43.52	302	eP	P	23 09 42.6	-1.0
	comp=Z,17nm,0.5s,mb5.1						
PKI	Pulchoki	43.81	301	eP	P	23 09 44.3	-1.7
	comp=Z,6.1nm,0.5s,mb4.6						
PKI	Pulchoki	43.81	301	eP	P	23 09 44.3	-1.7
PKI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
GKN	Gorkha	44.59	302	eP	P	23 09 50.5	-1.8
	comp=Z,5.6nm,0.4s,mb4.8						
KOLN	Koldanda	45.41	301	eP	P	23 09 57.3	-1.5
	comp=Z,28nm,0.7s,mb5.2						
WMQ	Urumqi	49.26	323	eP	P	23 10 28.0	-0.8
WMQ				AP	pP	23 10 38.0	+6.2
WMQ				PCP	PcP	23 11 54.5	+2.5
WMQ				PP	PP	23 12 20.2	-2.9
WMQ				eS	S	23 17 25.2	-8.4
WMQ				AMB	AMB		
	comp=Z,60nm,5.3s						
WMQ				LR	LR		
	comp=N,880nm,18.0s,MS4.8						
WMQ				LR	LR		
	comp=E,440nm,19.5s,MS4.8						
WMQ				LR	LR		
	comp=Z,550nm,19.4s,MS4.6						
BOD	Bodaibo	50.35	351	eP	P	23 10 36.7	-0.2
MKAR	Makanchi Array	54.07	323	P	P	23 11 03.7	-1.2
	comp=Z,2.3nm,0.5s,mb4.3,baz=118,slow=7.2,SNR=67						
MKAR	Makanchi Array	54.07	323	eP	P	23 11 03.5	-1.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	Makanchi Array	54.07	323	P	P	23 11 03.7	-1.2
ZAL	Zalesovo	56.70	332	P	P	23 11 22.2	-1.8
	comp=Z,1.4nm,0.6s,mb4.2,baz=349,slow=8.0,SNR=7.4						
NVS	Novosibirsk	57.98	332	eP	P	23 11 29.9	-3.0
KURK	Kurchatov	58.12	326	eP	P	23 11 32.5	-1.5
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
KURK	Kurchatov	58.12	326	eP	P	23 11 32.5	-1.5
	comp=Z,8.7nm,0.7s,mb4.9						
KKAR	Karatay Array	60.22	315	i P	P	23 11 46.5	-2.1
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
TIXI	Tiksi	63.20	1	⇑iP	P	23 12 08.0	-0.3
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
VOSK	Vostochnaya	63.27	326	P	P	23 12 07.0	-2.0
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
BVA0	Borovoye Array	63.72	326	i P	P	23 12 10.7	-1.2
BVA0				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
BVAR	Borovoye Array	63.72	326	P	P	23 12 10.7	-1.3
	comp=Z,7.0nm,0.6s,mb4.8,baz=130,slow=7.8,SNR=47						
BRVK	Borovoye	63.79	326	eP	P	23 12 10.9	-1.5
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
BRVK	Borovoye	63.79	326	eP	P	23 12 10.9	-1.5
	comp=Z,8.1nm,0.7s,mb4.9						
AB31	Akbulak array	68.89	320	i P	P	23 12 43.7	-1.2
AB31				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
AKTO	Aktyubinsk	70.35	321	P	P	23 12 52.8	-1.0
	comp=Z,1.9nm,0.8s,mb4.1,baz=98,slow=7.6,SNR=6.3						
ARU	Arti	71.29	327	eP	P	23 12 58.1	-1.3
ARU				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
ARU	Arti	71.29	327	eP	P	23 12 58.0	-1.4
	comp=Z,9.9nm,0.5s,mb5.0						
MCK	McKinley	79.81	27	eP	P	23 13 50.8	+3.1
MCK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
MCK	McKinley	79.81	27	eP	P	23 13 50.8	+3.1
	comp=Z,4.6nm,0.6s,mb4.6						
ILAR	Eielson Array	80.72	26	P	P	23 13 55.0	+2.4
	comp=Z,2.0nm,0.8s,mb4.1,baz=246,slow=5.0,SNR=25						
JOF	Joensuu	85.27	333	ep	P	23 14 15.1	-0.7
	comp=Z,3.9nm,0.6s,mb4.7						
JOF	Joensuu	85.27	333	eP	P	23 14 15.1	-0.7
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
INK	Inuvik	85.68	22	P	P	23 14 21.9	+4.1
	comp=Z,0.5nm,0.5s,mb4.0,baz=300,slow=6.8,SNR=6.7						
INK	Inuvik	85.68	22	eP	P	23 14 21.5	+3.7
INK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
INK	Inuvik	85.68	22	eP	P	23 14 21.5	+3.7
	comp=Z,0.9nm,0.7s,mb4.1						
ARCES	ARCESS Array B	86.26	340	P	P	23 14 21.0	+0.4
	comp=Z,5.0nm,0.7s,mb4.8,baz=50,slow=4.6,SNR=9.1						
FINES	FINESS Array B	87.97	332	P	P	23 14 28.8	-0.3
	comp=Z,2.3nm,0.5s,mb4.7,baz=72,slow=5.6,SNR=27						
AKASG	Malin Array Be	88.59	321	P	P	23 14 31.0	-1.3
	comp=Z,1.3nm,0.6s,mb4.4,baz=67,slow=5.6,SNR=9.4						
RES	Resolute Bay	93.17	10	eP	P	23 14 54.7	+1.6
RES				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb5.0						
RES	Resolute Bay	93.17	10	eP	P	23 14 54.7	+1.7
	comp=Z,9.3nm,1.5s,mb5.0						
YKA	Yellowknife Ar	95.08	24	P	P	23 15 05.4	+3.4
	comp=Z,0.6nm,0.6s,mb4.2,baz=296,slow=4.3,SNR=5.9						
YKA	Yellowknife Ar	95.08	24	P	P	23 15 05.5	+3.4
GERES	GERESS Array B	98.73	322	P	P	23 15 18.7	-0.2
	comp=Z,0.5nm,0.7s,mb4.2,baz=37,slow=4.9,SNR=4.7						
TORD	Torodi Ar. Bea	121.81	291	PKP	PKPdf	23 20 33.7	-2.6
	comp=Z,0.9nm,0.7s,baz=62,slow=1.5,SNR=7.1						
PLCA	Paso Flores	144.13	157	PKP	PKPdf	23 21 16.1	-1.1
	comp=Z,0.8nm,0.8s,baz=289,slow=2.5,SNR=2.9						

*IDC **01** 23:31:18.2±1.2, 32.48N×101.86E, mb3.8/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML3.1/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/23, Error ellipse: s-maj=48.2km s-min=22.3km az=61.0*
*NEIC **01** 23:31:18.9±0.8, 32.29N×101.52E, h10^{km}, Error ellipse:*

s-maj=16.0km s-min=10.5km az=163.0

*BJI **01** 23:31:21.2, 32.33N×101.58E, h14km, mb4.5, ML4.0, Ms4.1, Msz3.8*

ISC 01 23:31:16.6±0.5**, 32.36N**±0.04×**101.63E**±0.04**, h10**km**, n21, σ1.25**/29**, mb4.0**/4**, MS3.4**/1**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.32**	**128**	P	**Pn**	**23 32 01.4**	**+5.9**
CD2				PG	**Pg**	**23 32 02.8**	**-0.2**
CD2				SG	**Sg**	**23 32 34.1**	**+0.1**
CD2				Smax			
	comp=N,2μm,0.8s						
CD2				Smax			
	comp=E,2μm,1.4s						
LZH	**Lanzhou**	**4.14**	**26**	P	**Pn**	**23 32 25.7**	**+4.3**
LZH				PG	**Pg**	**23 32 38.2**	**-1.2**
LZH				S	**Sn**	**23 33 16.3**	**+5.8**
LZH				SG	**Sg**	**23 33 34.3**	**-0.3**
LZH				Smax			
	comp=N,480nm,1.0s						
LZH				Smax			
	comp=E,490nm,0.9s						
LZH				LR	LR		
	comp=E,2μm,5.7s						
LZH				LR	LR		
	comp=Z,2μm,8.0s						
XAN	**Xi'an**	**6.34**	**73**	P	**Pn**	**23 32 53.9**	**+1.5**
XAN				SG	**Sg**	**23 34 46.0**	**-1.6**
XAN				Smax			
	comp=N,90nm,1.0s						
XAN				Smax			
	comp=E,100nm,1.1s						
ENH	**Enshi**	**7.04**	**105**	*e*Pn	**Pn**	**23 33 02.8**	**+0.5**
	comp=E,46nm,0.8s						
GTA	**Gaotai**	**7.19**	**349**	*e*PG	**Pg**	**23 33 32.7**	**-7.4**
GTA				LR	LR		
	comp=N,430nm,10.7s						
GTA				LR	LR		
	comp=E,1μm,10.6s						
GTA				LR	LR		
	comp=Z,580nm,9.9s						
KMI	**Kunming**	**7.28**	**172**	P	**Pn**	**23 33 11.6**	**+5.9**
KMI				Smax			
	comp=N,30nm,1.6s						
KMI				Smax			
	comp=E,40nm,1.5s						
KMI				LR	LR		
	comp=N,540nm,10.2s						
KMI				LR	LR		
	comp=E,1μm,10.6s						
GYA	**Guiyang**	**7.34**	**142**	P	**Pn**	**23 33 13.1**	**+6.6**
GYA				S	**Sn**	**23 34 37.5**	**+6.8**
GYA				SG	**Sg**	**23 35 10.6**	**-10**
GYA				Smax			
	comp=N,130nm,1.1s						
GYA				Smax			
	comp=E,160nm,0.9s						
GYA				LR	LR		
	comp=N,2μm,11.4s						
GYA				LR	LR		
	comp=E,2μm,11.0s						
GYA				LR	LR		
	comp=Z,2μm,11.2s						
LSA	**Lhasa**	**9.37**	**256**	P	**P**	**23 33 35.8**	**+1.0**
JIRN	**Jiri**	**14.17**	**255**	*e*P	**P**	**23 34 40.4**	**+0.8**
GUN	**Gumba**	**14.33**	**256**	*e*P	**P**	**23 34 41.0**	**-0.7**
PKI	**Pulchoki**	**14.84**	**255**	*e*P	**P**	**23 34 47.9**	**-0.5**
KKN	**Kakani**	**14.87**	**256**	*e*P	**P**	**23 34 47.3**	**-1.4**
GKN	**Gorkha**	**15.32**	**258**	*e*P	**P**	**23 34 52.2**	**-2.5**
SONM	**Songino Array**	**15.87**	**12**	Pn	**P**	**23 35 02.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=191,slow=15,SNR=4.9						
SONM				LR	LR	23 41 45.0	
	comp=Z,157nm,21.2s,baz=143,slow=40						
KOLN	**Koldanda**	**16.26**	**258**	*e*P	**P**	**23 35 04.8**	**-2.0**
MKAR	**Makanchi Array**	**20.66**	**320**	P	**P**	**23 36 00.8**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=122,slow=15,SNR=4.1						
ZAL	**Zalesovo**	**24.69**	**336**	P	**P**	**23 36 40.9**	**+2.1**
	comp=Z,1.2nm,0.5s,mb3.7,baz=311,slow=7.3,SNR=4.5						
ZAL				LR	LR	23 47 33.1	
	comp=Z,135nm,20.7s,MS3.4,baz=316,slow=40						
FINES	**FINESS Array B**	**55.35**	**326**	P	**P**	**23 40 52.4**	**-0.2**
	comp=Z,2.9nm,1.0s,mb4.3,baz=100,slow=8.5,SNR=3.1						
FINES	**FINESS Array B**	**55.35**	**326**	P	**P**	**23 40 52.4**	**-0.2**
WRA	**Warramunga Arr**	**60.70**	**144**	P	**P**	**23 41 31.5**	**+0.7**
	comp=Z,2.8nm,0.9s,mb4.4,baz=337,slow=7.5,SNR=15						
KMBO	**Kilima Mbogo**	**69.17**	**255**	P	**P**	**23 42 28.9**	**+3.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=52,slow=15,SNR=4.5						

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*CSEM **01** 23:35:50.8±0.1, 12.11N×43.54E, h10km, ML3.5, Error ellipse: s-maj=2.6km s-min=2.3km az=32.0, After DHMR*

DHMR 01 23:35:50.8±1.1**, 12.11N×43.54E, h11**km±7km**, ML3.5, 5C-4D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.25**	**27**	⇑*i*P	Pb	23 36 13.7	-0.2
TRBA				*i* S	Sb	23 36 32.2	+2.3
TRBA				AML	AML	23 36 33.5	
	comp=E,1μm,0.6s						
UDYN	**Al 'Udayn**	**1.89**	**13**	⇑*i*P	Pn	23 36 24.5	+1.0
UDYN				*i* S	Sn	23 36 50.1	+2.7
UDYN				AML	AML	23 36 59.4	
	comp=N,595nm,0.3s						
UDYN	**Al 'Udayn**	**1.89**	**13**	⇑*i*P	Pn	23 36 24.5	+1.1
UDYN				*i* S	Sn	23 36 50.1	+2.6
	comp=N,297nm,0.3s						
LBOS		**2.42**	**43**	⇓*i*P	Pn	23 36 33.3	+2.3
LBOS				*i* S	Sn	23 37 04.8	+3.9
DHBB	**Dhamar BB**	**2.58**	**19**	⇓*i*P	Pn	23 36 35.1	+1.8
DHBB				*i* S	Sn	23 37 10.4	+5.4
BDHA	**Al Bayda'**	**2.71**	**47**	⇑*i*P	Pn	23 36 37.1	+2.0
BDHA				*i* S	Sn	23 37 14.0	+5.8
BDHA				AML	AML	23 37 27.5	
	comp=E,244nm,0.5s						
BDHA	**Al Bayda'**	**2.71**	**47**	⇑*i*P	Pn	23 36 37.2	+2.1
BDHA				*i* S	Sn	23 37 14.0	+5.8
	comp=E,122nm,0.5s						
HAJJ	**Hajjah**	**3.57**	**1**	⇓*i*P	Pn	23 36 48.7	+1.4
HAJJ				*i* S	Sn	23 37 34.3	+4.4
HAJJ				AML	AML	23 37 53.2	
	comp=E,121nm,0.9s						
HAJJ	**Hajjah**	**3.57**	**1**	⇓*i*P	Pn	23 36 48.7	+1.4
HAJJ				*i* S	Sn	23 37 34.3	+4.3
	comp=E,60nm,0.9s						

MEX 01 23:44:39.4±0.6**, 17.34N×95.13W, h23**km±31km**, MD3.7, 1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.34**	**136**	⇓*i*P	Pb	23 44 45.5	-1.4
CMIG				*i* S	Sb	23 44 50.6	-1.3
OXX	**Oaxaca**	**1.54**	**261**	*i* P	Pn	23 45 03.0	-2.9
OXX				*i* S	Sn	23 45 22.5	-2.9
VHO	**Vista Hermosa**	**1.55**	**261**	*i* P	Pn	23 45 03.2	-2.8
VHO				*i* S	Sn	23 45 21.2	-4.4
CCIG	**Comitan**	**3.05**	**110**	*i* P	Pn	23 45 23.6	-3.8
CCIG				*i* S	Sn	23 45 59.7	-3.9

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*GUC **02** 00:34:59.0±0.9, 21.74S×68.61W, h125km, ML4.0*

*IDC **02** 00:35:19.8±4.7, 19.07S×67.87W, h259km±33km, mb3.3/1, mb1 3.3/4, mb1mx3.0/17, mbtmp3.9/4, Error ellipse: s-maj=74.3km s-min=21.5km az=14.0*

ISC 02 00:34:56.4±0.8**, 21.5S**±0.1×**68.6W**±0.2**, h150**km**, n9, σ1.59**/13**, mb3.5**/1**, 2C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.36**	**218**	⇑*i*P	**P**	**00 35 39.5**	**+3.1**
CEN1				*i* S	**S**	**00 36 09.3**	**+2.3**
CEN1				AMP		00 36 11.1	
	comp=N,349nm,0.8s						
ANCH	**Antofagasta**	**2.71**	**217**	*i* P	**P**	**00 35 41.9**	**+1.1**
ANCH				*i* S	**S**	**00 36 13.0**	**-1.7**
ANCH				AMP		00 36 16.8	
	comp=N,711nm,0.1s						
CPN1	**Cerro Paranal**	**3.50**	**208**	⇑*i*P	**P**	**00 35 51.1**	**+0.2**
CPN1				*i* S	**S**	**00 36 31.8**	**-0.9**
CPN1				AMP		00 36 36.9	
	comp=E,237nm,0.1s						
CRCH	**Chaqaral**	**5.13**	**201**	*i* S	**S**	**00 37 09.8**	**-1.4**
LPAZ	**La Paz**	**5.23**	**5**	P	**P**	**00 36 12.6**	**-1.1**
	comp=E,0.7nm,0.3s,baz=189,slow=11,SNR=16						
LPAZ				S	**S**	**00 36 51.6**	**-22**
	comp=E,0.7nm,0.3s,baz=162,slow=18,SNR=4.3						
SIV	**San Ignacio**	**9.02**	**54**	P	**P**	**00 37 02.5**	**-1.7**
	comp=E,2.2nm,0.3s,baz=250,slow=12,SNR=55						
SIV				S	**S**	**00 38 29.1**	**-15**
	comp=E,0.1nm,0.3s,baz=247,slow=15,SNR=1.7						
BDFB	**Brasilia**	**20.38**	**77**	P	**P**	**00 39 24.7**	**+1.6**
	comp=E,0.8nm,0.3s,baz=262,slow=11,SNR=9.3						
TORD	**Torodi Ar. Bea**	**77.10**	**70**	P	**P**	**00 46 37.1**	**+1.8**
	comp=E,0.7nm,0.6s,mb3.5,baz=254,slow=6.2,SNR=21						
MKAR	**Makanchi Array**	**145.49**	**36**	PKP	PKPdf	00 54 22.7	+6.2
	comp=E,0.7nm,0.8s,baz=344,slow=2.5,SNR=5.5						

NEIC 02 00:54:10.7, 51.62N×178.01E, h63km**, ML3.5**(AEIC)**, After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.65**	**296**	P	P	00 54 49.9	-2.1
KIMD	**Kanaga Island**	**2.96**	**85**	P	P	00 54 56.0	-0.5
KIKV	**Kanaga Island**	**3.01**	**83**	P	P	00 54 56.8	-0.3
KIRH	**Kanaga Island**	**3.06**	**83**	P	P	00 54 57.5	-0.3
FX1	**Attu Island--F**	**3.23**	**295**	*e*P	P	00 54 57.0	-3.3
ADAG	**Mount Adagdak**	**3.37**	**82**	P	P	00 55 01.3	-0.8
GSTR	**Great Sitkin T**	**3.71**	**80**	P	P	00 55 06.3	-0.7
ATKA	**Atka Island**	**4.86**	**80**	P	P	00 55 22.6	-0.5

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*ATH **02** 01:17:19.3, 39.09N×25.80E, h53km±3km, MD3.1/3*

*CSEM **02** 01:17:20.4±0.2, 38.90N×25.92E, h10km, MD3.1, Error ellipse: s-maj=5.2km s-min=2.3km az=91.0*

*ISK **02** 01:17:21.4, 38.89N×25.79E, h32km, MD3.1*

ISC 02 01:17:21.7±1.2**, 38.92N**±0.04×**25.86E**±0.09**, h23**km±7km**, n17, σ0.64**/24**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.46**	**45**	⇑*i*P	**Pb**	**01 17 30.2**	**-0.9**
PRK				*e*S	**Sb**	**01 17 38.1**	**+0.6**
AYVA	**Ayvalik**	**0.75**	**59**	*i* P	**Pb**	**01 17 35.5**	**-0.6**
AYVA				*i* S	**Sb**	**01 17 45.2**	**-0.7**
URLA	**Izmir**	**0.80**	**134**	*i* P	**Pb**	**01 17 36.6**	**-0.3**
URLA				*i* S	**Sb**	**01 17 48.2**	**+0.9**
EZN	**Ezine**	**0.97**	**22**	*i* PG	**Pb**	**01 17 39.6**	**-0.2**
EZN				*i* SG	**Sb**	**01 17 53.3**	**+1.1**
BLCB	**Balcova**	**1.07**	**120**	*i* PN	**Pn**	**01 17 40.8**	**-0.7**
BLCB				*i* SN	**Sn**	**01 17 54.8**	**-0.9**
IZM	**Izmir**	**1.22**	**115**	PN	**Pn**	**01 17 43.7**	**+0.1**
IZM				SN	**Sn**	**01 17 59.6**	**+0.1**
KDAG	**Bornova**	**1.22**	**115**	*i* P	**Pn**	**01 17 38.3**	**-5.3**
SMG	**Samos**	**1.43**	**147**	*e*P	**Pn**	**01 17 46.4**	**-0.3**
SMG				*e*S	**Sn**	**01 18 06.3**	**+1.3**
AKS	**Akhisar**	**1.53**	**91**	PN	**Pn**	**01 17 48.0**	**0.0**
BALB	**Balikesir**	**1.73**	**65**	PN	**Pn**	**01 17 50.1**	**-0.8**
APE	**Apeiranthos**	**1.87**	**188**	*e*P	**Pn**	**01 17 52.6**	**-0.3**
BNT	**Bandirma**	**2.14**	**47**	*e*PN	**Pn**	**01 17 56.5**	**-0.3**
MRMT	**Marmara Adasi**	**2.15**	**38**	*e*PN	**Pn**	**01 17 57.5**	**+0.6**
MFT	**Murefte**	**2.16**	**30**	*e*PN	**Pn**	**01 17 57.1**	**0.0**
DST	**Dursunbey**	**2.26**	**71**	*e*PN	**Pn**	**01 17 58.2**	**-0.3**
KCT	**Karacabey**	**2.35**	**54**	*e*PN	**Pn**	**01 18 00.5**	**+0.7**
ORLT	**Orhaneli**	**2.60**	**63**	*e*PN	**Pn**	**01 18 04.2**	**+0.7**

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*IDC **02** 01:24:13.9±3.8, 43.30N×146.90E, mb3.8/8, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, Error ellipse: s-maj=102.6km s-min=27.6km az=175.0*

*SKHL **02** 01:24:21.5±0.7, 43.06N×146.94E, h40km±9km, mb5.4/1*

*JMA **02** 01:24:21.3±0.1, 43.08N×146.85E, h63km±2km, M3.8*

*MOS **02** 01:24:23.9±2.0, 44.67N×146.73E, h33km, mb4.0/5, Error ellipse: s-maj=34.2km s-min=26.2km az=88.8*

ISC 02 01:24:20.7±1.1**, 43.10N**±0.07×**146.86E**±0.09**, h72**km±7km**, n31, σ0.80**/44**, mb3.6**/8**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.86**	**289**	P	**P**	**01 24 37.8**	**0.0**
NEM2				*e*S	**S**	**01 24 50.0**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.19**	**323**	*e*P	**P**	**01 24 41.3**	**-0.7**
YUK				AMB	AMB	01 24 42.0	
	3μm,0.2s						
YUK				AMB	AMB	01 24 42.1	
	1μm,0.3s						
YUK				*e*S	**S**	**01 24 56.3**	**-1.6**
YUK				A		01 24 57.7	
	5μm,1.0s						
YUK				A		01 24 57.9	
	4μm,0.4s						
YUK				A		01 24 57.9	
	2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.19**	**323**	*e*PN	**P**	**01 24 41.3**	**-0.7**
YUK				*e*S	**S**	**01 24 56.3**	**-1.6**
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				smax			
	comp=N,5μm,0.4s						
YUK				smax			
	comp=E,5μm,0.5s						
YUK				smax			
	comp=N,4μm,0.4s						
YUK				smax			
	comp=E,2μm,0.5s						
JRA	**Rausu**	**1.52**	**304**	P	**P**	**01 24 46.7**	**+0.1**
JRA				*e*S	**S**	**01 25 05.9**	**+0.3**
JAK	**Akkeshi**	**1.59**	**267**	P	**P**	**01 24 47.5**	**0.0**
JAK				*e*S	**S**	**01 25 07.0**	**-0.3**
JNK	**Nakash**	**1.64**	**288**	P	**P**	**01 24 47.9**	**-0.3**
JNK				*e*S	**S**	**01 25 07.8**	**-0.6**
JOB	**Onbets**	**2.23**	**266**	P	**P**	**01 24 56.4**	**+0.1**
JOB				*e*S	**S**	**01 25 22.1**	**-0.6**
JAR	**Ashorobuto**	**2.27**	**276**	P	**P**	**01 24 57.3**	**+0.4**
JAR				*e*S	**S**	**01 25 24.0**	**+0.3**
JTKR	**Abashiri--Toko**	**2.32**	**293**	P	**P**	**01 24 58.2**	**+0.6**
JTKR				*e*S	**S**	**01 25 26.1**	**+1.2**
JCH	**Churui**	**2.62**	**261**	P	**P**	**01 25 01.7**	**-0.1**
JCH				*e*S	**S**	**01 25 31.1**	**-1.4**
JMP	**Maruseppu**	**2.71**	**291**	P	**P**	**01 25 03.7**	**+0.7**
JMP				*e*S	**S**	**01 25 36.0**	**+1.4**
JEM	**Erimo**	**2.94**	**250**	P	**P**	**01 25 07.0**	**+0.7**
JKK2	**Kamakawa 2**	**3.10**	**286**	P	**P**	**01 25 09.4**	**+1.0**
JFR	**Furan**	**3.13**	**273**	P	**P**	**01 25 09.6**	**+0.7**
JFR				*e*S	**S**	**01 25 45.5**	**+0.3**
JNBK	**Urakawa-nobuka**	**3.14**	**256**	P	**P**	**01 25 08.7**	**-0.4**
JNBK				*e*S	**S**	**01 25 44.2**	**-1.3**
ASAJ	**Asahikawa**	**3.26**	**290**	P	**P**	**01 25 12.1**	**+1.3**
JBT2	**Biratori 2**	**3.32**	**266**	P	**P**	**01 25 11.9**	**+0.3**
SONM	**Songino Array**	**28.54**	**294**	P	**P**	**01 30 12.1**	**+0.7**
	comp=E,0.8nm,0.5s,mb3.6,baz=86,slow=8.1,SNR=7.6						
SONM	**Songino Array**	**28.54**	**294**	P	**P**	**01 30 12.1**	**+0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**41.24**	**308**	P	**P**	**01 31 57.9**	**-1.9**
	comp=Z,0.7nm,0.4s,mb3.9,baz=93,slow=6.8,SNR=3.3						
ZAL	**Zalesovo**	**41.24**	**308**	P	**P**	**01 31 57.9**	**-1.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**44.71**	**298**	P	**P**	**01 32 28.4**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.5,baz=74,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**44.71**	**298**	P	**P**	**01 32 28.4**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**47.08**	**30**	P	**P**	**01 32 46.7**	**+0.2**
	comp=Z,1.5nm,0.8s,mb3.8,baz=310,slow=7.5,SNR=7.9						
INK	**Inuvik**	**47.08**	**30**	P	**P**	**01 32 46.7**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**49.76**	**310**	P	**P**	**01 33 07.3**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=70,slow=10,SNR=5.6						
FINES	**FINESS Array B**	**65.36**	**333**	P	**P**	**01 34 55.4**	**-1.6**
	comp=Z,0.8nm,0.5s,mb3.8,baz=37,slow=9.5,SNR=6.7						
FINES	**FINESS Array B**	**65.36**	**333**	P	**P**	**01 34 55.4**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**70.14**	**339**	P	**P**	**01 35 26.2**	**-0.6**
	comp=Z,0.8nm,0.4s,mb3.9,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**70.14**	**339**	P	**P**	**01 35 26.4**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=24,slow=5.3,SNR=2.5						
TXAR	**Lajitas Array**	**83.19**	**56**	P	**P**	**01 36 40.9**	**+0.7**
	comp=Z,0.2nm,0.7s,mb3.1,baz=315,slow=1.8,SNR=4.0						

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*IDC **02** 01:29:42.5±1.4, 56.35N×152.27W, mb4.0/9, mb1 4.1/11, mb1mx3.9/21, mbtmp3.9/11, ML3.6/2, MS3.6/3, Ms1 3.6/3, ms1mx2.9/32, Error ellipse: s-maj=30.3km s-min=22.7km az=28.0*

*NEIC **02** 01:29:44.5, 56.23N×152.26W, h14km, ML3.7(AEIC), After AEIC.*

ISC 02 01:29:39.2±2.0**, 56.18N**±0.06×**152.18W**±0.07**, h2**km±13km**, n79, σ1.05**/82**, mb4.0**/9**, MS3.8**/2**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.62**	**352**	Pn	**Pn**	**01 30 09.7**	**+0.7**
	22nm,0.3s,baz=187,slow=8.4,SNR=269						
KDAK				Sn	**Sn**	**01 30 27.4**	**-3.2**
	43nm,0.3s,baz=293,slow=5.4,SNR=21						
KDAK	**Kodiak Island**	**1.62**	**352**	P	**Pn**	**01 30 09.7**	**+0.7**
KDAK				S	**Sb**	**01 30 34.8**	**+4.5**
KABR	**Katmai Barrier**	**2.47**	**323**	P	**Pn**	**01 30 22.2**	**+1.0**
CAHL	**Cahill**	**2.53**	**319**	P	**Pn**	**01 30 21.9**	**-0.1**
KAWH	**Katmai**	**2.62**	**328**	P	**Pn**	**01 30 24.3**	**+1.0**
KJL	**Kejulik**	**2.63**	**317**	P	**Pn**	**01 30 24.5**	**+1.1**
KAHG	**Katmai Hook Gl**	**2.65**	**332**	P	**Pn**	**01 30 24.9**	**+1.2**
ACHA	**Angle Creek He**	**2.66**	**321**	P	**Pn**	**01 30 24.7**	**+0.9**
MGLS	**Mageik LS**	**2.66**	**321**	P	**Pn**	**01 30 23.9**	**+0.1**
KAPH	**Katmai Pasha**	**2.69**	**335**	P	**Pn**	**01 30 25.8**	**+1.6**
KARR	**Katmai Rainbow**	**2.69**	**331**	P	**Pn**	**01 30 26.1**	**+1.8**
CNTC	**Contact Creek**	**2.90**	**318**	P	**Pn**	**01 30 28.7**	**+1.5**
KAHC	**Katmai Hardscr**	**2.91**	**329**	P	**Pn**	**01 30 28.1**	**+0.8**
AUI	**Augustine Isla**	**3.23**	**349**	P	**Pn**	**01 30 33.1**	**+1.2**
AUH	**Augustine H**	**3.26**	**349**	P	**Pn**	**01 30 34.0**	**+1.6**
AUW	**Augustine West**	**3.27**	**348**	P	**Pn**	**01 30 34.0**	**+1.5**
AUL	**Augustine Lava**	**3.28**	**349**	P	**Pn**	**01 30 34.1**	**+1.5**
XLV	**Seldovia**	**3.29**	**4**	P	**Pn**	**01 30 33.7**	**+0.9**
ANPK	**Aniakchak Peak**	**3.36**	**284**	P	**Pn**	**01 30 33.8**	**0.0**
ANPK				S	**Sn**	**01 31 12.3**	**-2.5**
CNPM	**China Poot**	**3.39**	**8**	P	**Pn**	**01 30 34.6**	**+0.4**
OPT	**Oil Point**	**3.52**	**351**	P	**Pn**	**01 30 37.4**	**+1.3**
IVS	**Iliamna South**	**3.87**	**353**	P	**Pn**	**01 30 41.5**	**+0.6**
INE	**Iliamna NE**	**3.92**	**354**	P	**Pn**	**01 30 42.3**	**+0.6**
ILW	**Iliamna West**	**3.92**	**353**	P	**Pn**	**01 30 42.3**	**+0.6**
SEW	**Seward**	**4.19**	**19**	P	**Pn**	**01 30 44.9**	**-0.7**
RSO	**Redoubt South**	**4.30**	**356**	P	**Pn**	**01 30 47.7**	**+0.5**
RDT	**Redoubt**	**4.41**	**359**	P	**Pn**	**01 30 49.4**	**+0.8**
SLKM	**Skilak Lake**	**4.46**	**13**	*e*P	**Pn**	**01 30 48.5**	**-0.9**
SDPT	**Sand Point**	**4.76**	**263**	P	**Pn**	**01 30 53.5**	**-0.2**
SPU	**Mount Spurr**	**5.01**	**1**	P	**Pn**	**01 30 57.4**	**+0.2**
CKL	**Chakachamna La**	**5.03**	**359**	P	**Pn**	**01 30 57.1**	**-0.4**
FIB	**Fire Island**	**5.11**	**11**	*e*P	**Pn**	**01 30 58.0**	**-0.5**
	38nm,0.7s						
SVW2	**Sparrevohn**	**5.24**	**342**	P	**Pn**	**01 30 59.9**	**-0.5**
STLK	**Strandline Lak**	**5.33**	**2**	P	**Pn**	**01 31 01.5**	**-0.3**
GLI	**Glacier Island**	**5.41**	**27**	P	**Pn**	**01 31 02.3**	**-0.5**
FID	**Port Fidalgo**	**5.47**	**31**	P	**Pn**	**01 31 02.6**	**-1.1**
EYAK	**Cordova Ski Ar**	**5.53**	**35**	P	**Pn**	**01 31 04.8**	**+0.2**
HAG	**Hague Volcano**	**5.56**	**265**	P	**Pn**	**01 31 04.6**	**-0.3**
BLHA	**Black Hill**	**5.58**	**269**	P	**Pn**	**01 31 04.2**	**-1.0**
PN7A	**Pavlof North-7**	**5.59**	**266**	P	**Pn**	**01 31 04.9**	**-0.5**
DTNA	**Dutton South F**	**5.79**	**264**	P	**Pn**	**01 31 07.3**	**-1.0**
GHO	**Glory Hole Cre**	**5.85**	**15**	P	**Pn**	**01 31 08.1**	**-1.0**
DIV	**Divide**	**5.98**	**31**	P	**Pn**	**01 31 10.9**	**0.0**
BALA	**Baldy Mountain**	**6.08**	**265**	P	**Pn**	**01 31 11.8**	**-0.5**
SCM	**Sheep Creek Mo**	**6.20**	**22**	P	**Pn**	**01 31 13.4**	**-0.5**
BMRM	**Bremner River**	**6.22**	**36**	P	**Pn**	**01 31 14.2**	**-0.1**
KLU	**Klutina**	**6.24**	**29**	P	**Pn**	**01 31 13.7**	**-0.8**
GLB	**Gilahina Butte**	**6.83**	**36**	P	**Pn**	**01 31 22.6**	**-0.3**
YAH	**Yahtse**	**6.91**	**48**	P	**Pn**	**01 31 25.0**	**+0.9**
TT01	**Tatalina**	**7.02**	**345**	P	**Pn**	**01 31 24.0**	**-1.5**
TTA	**Tatalina**	**7.04**	**346**	*e*P	**Pn**	**01 31 24.3**	**-1.5**
BALM	**Baldy**	**7.07**	**42**	P	**Pn**	**01 31 26.6**	**+0.3**
TRF	**Thorofare Moun**	**7.35**	**7**	P	**Pn**	**01 31 29.1**	**-1.1**
KTH	**Kantishna Hill**	**7.42**	**4**	P	**Pn**	**01 31 30.6**	**-0.6**
PAX	**Paxson**	**7.61**	**24**	P	**Pn**	**01 31 32.9**	**-0.9**
MCK	**McKinley**	**7.75**	**11**	P	**Pn**	**01 31 34.4**	**-1.3**
MTBL	**Makushin Table**	**8.61**	**261**	P	**P**	**01 31 45.8**	**-1.9**
IL1	**Eielson Array**	**9.00**	**15**	P	**P**	**01 31 51.4**	**-1.8**
ILAR	**Eielson Array**	**9.00**	**15**	Pn	**P**	**01 31 51.7**	**-1.5**
	1.5nm,0.3s,baz=202,slow=14,SNR=74						
ILAR				Sn	**Sn**	**01 33 25.9**	**-10**
	0.5nm,0.3s,baz=199,slow=25,SNR=5.4						
MDM	**Murphy Dome**	**9.02**	**11**	P	**P**	**01 31 50.1**	**-3.2**
IM3	**Indian Mountai**	**9.86**	**356**	P	**P**	**01 32 02.9**	**-2.0**
IMA2	**Indian Mountai**	**9.95**	**356**	*e*P	**P**	**01 32 04.0**	**-2.0**
BM3	**Burnt Mountain**	**11.82**	**14**	P	**P**	**01 32 29.7**	**-1.9**
INK	**Inuvik**	**14.85**	**28**	Pn	**P**	**01 33 12.2**	**+0.6**
	0.1nm,0.3s,baz=246,slow=12,SNR=3.2						
INK				LR	LR	01 39 33.3	
	comp=Z,114nm,19.5s,baz=272,slow=40						
YKA	**Yellowknife Ar**	**19.94**	**56**	P	**P**	**01 34 16.1**	**+1.2**
	0.2nm,0.3s,baz=270,slow=10,SNR=12						
PDAR	**Pinedale Array**	**30.25**	**98**	P	**P**	**01 35 55.7**	**+2.4**
	0.2nm,0.5s,mb3.1,baz=11,slow=4.6,SNR=2.4						
ARCES	**ARCESS Array B**	**54.58**	**1**	P	**P**	**01 39 10.5**	**+0.1**
	1.3nm,0.6s,mb4.1,baz=7.2,slow=7.1,SNR=8.4						
SONM	**Songino Array**	**57.45**	**308**	P	**P**	**01 39 32.2**	**+0.8**
	2.6nm,0.7s,mb4.4,baz=38,slow=6.7,SNR=16						
SONM				LR	LR	02 06 34.8	
	comp=Z,63nm,19.5s,MS3.7,baz=224,slow=39						
ZAL	**Zalesovo**	**60.76**	**325**	P	**P**	**01 39 54.7**	**+0.6**
	1.0nm,0.6s,mb4.1,baz=101,slow=6.9,SNR=5.8						
ZAL	**Zalesovo**	**60.76**	**325**	P	**P**	**01 39 54.7**	**+0.6**
NB2	**NORSAR Subarra**	**62.39**	**9**	P	**P**	**01 40 05.7**	**+0.6**
	1.0nm,0.7s,mb4.0,baz=350,slow=6.5						
NOA	**NORSAR Array B**	**62.39**	**9**	P	**P**	**01 40 05.4**	**+0.3**
	1.5nm,0.8s,mb4.2,baz=350,slow=6.8,SNR=4.8						
FINES	**FINESS Array B**	**62.71**	**1**	P	**P**	**01 40 07.6**	**+0.5**
	4.1nm,1.0s,mb4.5,baz=14,slow=7.9,SNR=6.1						
MKAR	**Makanchi Array**	**67.72**	**323**	P	**P**	**01 40 40.0**	**+0.4**
	0.7nm,0.6s,mb3.9,baz=26,slow=5.8,SNR=6.4						
MKAR	**Makanchi Array**	**67.72**	**323**	P	**P**	**01 40 40.0**	**+0.4**
AKTK	**Aktyubinsk**	**70.83**	**340**	P	**P**	**01 40 58.9**	**+0.2**
AKTO	**Aktyubinsk**	**70.83**	**340**	P	**P**	**01 40 58.9**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=46,slow=7.4,SNR=4.1						
AKASG	**Malin Array Be**	**73.48**	**359**	P	**P**	**01 41 14.9**	**+0.7**
	1.3nm,0.6s,mb4.0,baz=4.7,slow=6.1,SNR=5.4						
RPN	**Rapa Nui**	**90.61**	**143**	LR	LR	02 17 00.9	
	comp=Z,47nm,18.6s,MS4.0,baz=238,slow=31						

GUC 02 01:34:27.1±0.6**, 30.71S×71.43W, h46**km±4km**, MD3.7, ML2.7, 3C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.59**	**142**	*i* P	P	01 34 39.6	+0.4
CMCH				*i* S	S	01 34 49.4	+1.3
CMCH				AMP		01 34 50.2	
	comp=E,3μm,0.5s						
TLL	**Tololo Astrono**	**0.76**	**45**	⇑*i*P	P	01 34 42.7	+1.1
TLL				*i* S	S	01 34 54.1	+2.0
TLL				AMP		01 34 58.7	
	comp=N,459nm,0.4s						
ILCH	**Illapel**	**0.95**	**167**	⇑*i*P	P	01 34 45.0	+0.8
ILCH				*i* S	S	01 34 57.9	+1.0
ILCH				AMP		01 34 59.0	
	comp=E,465nm,0.1s						
CHNG	**Los Chungos**	**1.17**	**183**	⇑*i*P	P	01 34 47.2	-0.1
CHNG				AMP		01 35 10.1	
	comp=E,55nm,0.1s						
RCDM	**Rinconada Maip**	**2.82**	**169**	*i* S	S	01 35 43.4	-0.5
RCDM				AMP		01 35 47.2	
	comp=E,48nm,0.2s						

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*NEIC **02** 01:50:47.1, 38.29S×176.23E, h155km, MG4.1(WEL), After WEL.*

WEL 02 01:50:47.0±0.3**, 38.25S×176.21E, h154**km±3km**, ML3.8**/13**, 9C, Error ellipse: s-maj=2.6km s-min=2.4km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.71**	**91**	⇑PN	P	01 51 09.8	-0.5
URZ				SN	S	01 51 27.3	-0.9
BKZ	**Black Stump Fm**	**0.94**	**167**	⇑PN	P	01 51 11.8	0.0
BKZ				SN	S	01 51 30.3	-0.6
BKZ	**Black Stump Fm**	**0.94**	**167**	P	P	01 51 11.8	0.0
BKZ				S	S	01 51 30.3	-0.6
WTVZ	**West Tongariro**	**0.99**	**209**	PN	P	01 51 12.2	0.0
WTVZ	**West Tongariro**	**0.99**	**209**	P	P	01 51 12.2	0.0
OTVZ	**Oturere**	**1.01**	**205**	PN	P	01 51 12.6	+0.3
TWVZ	**Taurewa**	**1.02**	**216**	PN	P	01 51 12.4	0.0
TWVZ	**Taurewa**	**1.02**	**216**	P	P	01 51 12.4	0.0
MWZ	**Matawai**	**1.04**	**95**	PN	P	01 51 12.7	+0.2

MWZ				SN	S	01 51 31.9	-0.4
MWZ	Matawai	1.04	95	eP	P	01 51 12.8	+0.2
MWZ				S	S	01 51 31.9	-0.4
CNZ	Chateau	1.08	208	PN	P	01 51 12.7	-0.3
CNZ	Chateau	1.08	208	P	P	01 51 12.8	-0.2
WPVZ	Whakapapa	1.09	208	PN	P	01 51 13.1	0.0
WPVZ	Whakapapa	1.09	208	P	P	01 51 13.1	+0.1
TUVZ	Tukino	1.11	203	⇑PN	P	01 51 13.3	+0.1
TUVZ	Tukino	1.11	203	P	P	01 51 13.3	+0.1
FWVZ	Far West T-bar	1.13	207	PN	P	01 51 13.2	-0.2
FWVZ	Far West T-bar	1.13	207	P	P	01 51 13.3	-0.1
TRVZ	Turoa	1.17	206	PN	P	01 51 13.7	-0.1
WNVZ	Wahianoa	1.18	204	⇑PN	P	01 51 13.9	-0.1
WNVZ	Wahianoa	1.18	204	P	P	01 51 13.9	0.0
MOVZ	Moawhango	1.21	197	⇑PN	P	01 51 13.6	-0.6
MOVZ				eSN	S	01 51 34.4	-0.9
PKVZ	Pokaka	1.24	213	PN	P	01 51 14.1	-0.4
KNZ	Kokohu	1.38	124	PN	P	01 51 16.0	+0.1
KNZ				SN	S	01 51 37.1	-1.2
KNZ	Kokohu	1.38	124	eP	P	01 51 15.8	-0.1
PUZ	Puketiti	1.62	84	ePN	P	01 51 17.8	-0.6
PUZ				SN	S	01 51 41.4	-1.3
PUZ	Puketiti	1.62	84	eP	P	01 51 17.8	-0.6
PUZ				S	S	01 51 41.4	-1.3
WAZ	Wanganui	1.78	212	⇑PN	P	01 51 19.3	-0.8
WAZ				SN	S	01 51 45.5	-0.3
WAZ	Wanganui	1.78	212	P	P	01 51 19.3	-0.9
MXZ	Matakaoa Point	1.79	68	PN	P	01 51 19.4	-0.9
MXZ				SN	S	01 51 44.5	-1.4
MXZ	Matakaoa Point	1.79	68	eP	P	01 51 19.8	-0.5
TSZ	Takapari Road	1.82	186	⇑PN	P	01 51 19.5	-1.0
TSZ				SN	S	01 51 44.5	-2.0
TSZ	Takapari Road	1.82	186	P	P	01 51 19.5	-1.1
TSZ				S	S	01 51 44.5	-2.0
BFZ	Birch Farm	2.43	179	PN	P	01 51 25.9	-2.0
BFZ	Birch Farm	2.43	179	P	P	01 51 25.9	-2.0
MRZ	Mangatainoka R	2.46	191	⇑PN	P	01 51 26.0	-2.3
MRZ				eSN	S	01 51 55.9	-4.1
MRZ	Mangatainoka R	2.46	191	P	P	01 51 26.0	-2.3
KIW	Kapiti Island	2.80	201	PN	P	01 51 29.4	-3.2
KIW	Kapiti Island	2.80	201	P	P	01 51 29.5	-3.1
MTW	Mount Morrison	2.96	190	PN	P	01 51 31.3	-3.3
MTW	Mount Morrison	2.96	190	P	P	01 51 31.3	-3.3
CAW	Cannon Point	2.99	197	PN	P	01 51 31.8	-3.2
TRWZ	Traveller	3.17	187	PN	P	01 51 33.9	-3.5
PAWZ	Paruwai Farm	3.19	191	PN	P	01 51 33.9	-3.6
PAWZ	Paruwai Farm	3.19	191	P	P	01 51 33.9	-3.7
MRW	Makara Radio	3.20	201	PN	P	01 51 34.1	-3.6
MRW	Makara Radio	3.20	201	P	P	01 51 34.1	-3.6
MSWZ	Moikau Station	3.25	193	⇑PN	P	01 51 34.6	-3.8
MSWZ	Moikau Station	3.25	193	P	P	01 51 34.6	-3.7

*CASC **02** 02:17:10.8±2.6, 13.78N×91.88W, h13^{km}±16^{km}, MD4.6, mb3.8(NEIC)*
*IDC **02** 02:17:14.9±4.2, 13.81N×91.76W, h73^{km}±38^{km}, mb3.6/9, mb1 3.9/11, mb1mx3.7/25, mbtmp3.9/11, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.9/20, Error ellipse: s-maj=54.8km s-min=12.0km az=55.0*
*NEIC **02** 02:17:14.5±1.5, 13.87N×91.73W, h69^{km}±14^{km}, mb3.8/7, MD4.5(MEX), Error ellipse: s-maj=36.6km s-min=6.4km az=53.0*
*MEX **02** 02:17:16.7±0.4, 13.95N×92.57W, h50^{km}, MD4.5*
ISC 02 02:17:11.6±1.6, **13.75N**±0.09×**91.9W**±0.1, **h58**^{km}±15^{km}, **n49**, σ**1**^{s}**09**/44, **mb3.9**/14, **MS3.6**/1, **1C-1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	1.24	56	eP	P	02 17 32.9	-0.2
PCG	Pacaya	1.41	63	eP	P	02 17 36.5	+0.9
IXG	Ixpaco	1.46	73	⇑eP	P	02 17 35.6	-0.7
IXG				eS	S	02 17 55.6	+1.1
NBG	Las Nubes	1.72	61	eP	P	02 17 41.4	+1.6
SBLS	San Blas	2.21	87	eP	Px	02 17 55.1	
SBLS				eS	Sx	02 18 23.7	
SNJE	San Jose	2.23	87	eP	Px	02 17 56.6	
SNJE				eS	Sx	02 18 23.3	
MRL	Marmol	2.51	58	eP	P	02 17 51.8	+0.8
CCIG	Comitan	2.53	355	i P	P	02 17 51.9	+0.7
CCIG				i S	S	02 18 19.0	-1.9
LFRS	El Faro	2.76	92	⇓eP	Px	02 18 02.5	
LFRS				eS	Sx	02 18 34.8	
LBRS	Las Brisas	2.77	90	eP	Px	02 18 02.9	
LBRS				eS	Sx	02 18 37.9	
LCBS	La Ceiba	2.84	91	eP	Px	02 18 04.8	
LCBS				eS	Sx	02 18 39.2	
SNVI	San Vicente	2.98	92	eP	Px	02 18 07.2	
SNVI				eS	Sx	02 18 43.6	
SCX	San Cristobal	3.06	347	eP	P	02 17 57.0	-1.7
SCX				i S	S	02 18 30.0	-4.2
SCX	San Cristobal	3.06	347	eP	P	02 17 59.0	+0.3
VSM	San Miguel	3.54	95	eP	Px	02 18 15.2	
VSM				eS	Sx	02 18 59.9	
BLLM	Bellamira	3.57	94	eP	Px	02 18 16.3	
BLLM				eS	Sx	02 18 58.1	
CMIG	Matias Romero	4.40	319	eP	P	02 18 11.5	-6.0
CMIG				i S	S	02 18 56.8	-11
CRIN	San Cristobal	4.83	102	eP	P	02 18 24.4	+0.8
LEON	Leon	5.05	105	eP	P	02 18 25.7	-0.9
MIRN	Miramar	5.22	104	eP	P	02 18 28.4	-0.5
MOMJ	Momotombo	5.39	104	eP	P	02 18 30.7	-0.5
COPN	Copaltepe	5.40	106	eP	P	02 18 30.6	-0.8
OXX	Oaxaca	5.71	306	eP	P	02 18 29.5	-6.3
OXX				i S	S	02 19 26.0	-15
JTS	JuntasAbangare	7.61	116	P	P	02 19 02.4	+0.2
	1.3nm,0.3s,baz=311,slow=20,SNR=12						
JTS				S	S	02 20 25.9	-2.0
	0.8nm,0.3s,baz=353,slow=23,SNR=2.0						
JTS				LR	LR	02 21 46.7	
	comp=Z,132nm,19.5s,baz=257,slow=36						
JTS	JuntasAbangare	7.61	116	ePn	P	02 19 02.5	+0.2
	9.5nm,0.6s						
PPM	Popocatepetl	8.35	310	i S	S	02 20 35.3	-11
LTX	Lajitas	18.96	327	eP	P	02 21 31.0	+0.2
	4.1nm,1.0s						
TXAR	Lajitas Array	18.96	327	P	P	02 21 29.9	-0.9
	0.1nm,0.3s,baz=155,slow=8.3,SNR=21						
GDL2	Guadalupe Moun	21.62	330	eP	P	02 21 58.4	-0.2
MNTX	Cornudas Mount	21.73	328	eP	P	02 21 59.2	-0.4
	7.9nm,1.0s,mb4.1						
WMOK	Wichita Mounta	21.81	345	eP	P	02 21 58.2	-2.2
	2.3nm,0.9s,mb3.6						
BNM	Barren Site	24.31	329	eP	P	02 22 26.8	+1.9
LAZ	Ladron	24.77	329	eP	P	02 22 30.6	+1.3
ANMO	Albuquerque	24.87	331	P	P	02 22 31.2	+0.9
	1.5nm,0.7s,mb3.6,baz=159,slow=12,SNR=6.2						
ANMO	Albuquerque	24.87	331	eP	P	02 22 31.1	+0.7
	1.6nm,0.8s,mb3.6						
TUC	Tucson	25.29	320	eP	P	02 22 35.8	+1.5
	1.1nm,0.8s,mb3.4						
SNOW	Snow King Moun	33.76	335	eP	P	02 23 50.2	+0.5
	5.3nm,0.6s,mb4.7						
ELK	Elko	33.76	327	P	P	02 23 50.6	+0.9
	1.1nm,0.8s,mb3.8,baz=154,slow=9.5,SNR=4.4						
LOHW	Long Hollow	33.82	335	eP	P	02 23 50.0	-0.3
	2.1nm,0.7s,mb4.2						
NVAR	Mina Array Bea	33.93	321	P	P	02 23 52.2	+0.9
	1.3nm,0.6s,mb4.0,baz=132,slow=9.6,SNR=4.9						
LPAZ	La Paz	37.98	141	P	P	02 24 26.1	+0.4
	0.8nm,0.7s,mb3.6,baz=310,slow=9.4,SNR=3.6						
SIV	San Ignacio	42.45	133	P	P	02 25 02.8	+0.1
	2.1nm,0.7s,mb3.9,baz=302,slow=7.8,SNR=13						
CFAA	Coronel Fontan	50.48	154	P	P	02 26 05.3	-0.7
	0.2nm,0.6s,mb3.3,baz=252,slow=6.4,SNR=4.9						
YKA	Yellowknife Ar	51.29	347	P	P	02 26 10.4	-1.3
	1.2nm,0.5s,mb4.0,baz=148,slow=7.5,SNR=20						
YKA				PcP	PcP	02 27 25.3	-0.8
	0.7nm,0.8s,baz=139,slow=3.5,SNR=7.0						
INK	Inuvik	60.71	344	P	P	02 27 18.1	-0.9
	3.4nm,0.8s,mb4.5,baz=130,slow=8.0,SNR=17						
ILAR	Eielson Array	63.11	337	P	P	02 27 34.9	-0.4
	1.2nm,0.9s,mb4.0,baz=170,slow=4.1,SNR=11						
GERES	GERESS Array B	89.73	40	LR	LR	03 12 22.0	
	comp=Z,23nm,19.3s,MS3.6,baz=313,slow=37						
STKA	Stephens Creek	128.02	240	PKP	PKPdf	02 36 12.3	+0.5
	2.6nm,0.8s,slow=1.0,SNR=3.8						
WRA	Warramunga Arr	135.43	255	PKP	PKPdf	02 36 27.3	+1.3
	0.3nm,0.6s,baz=75,slow=0.7,SNR=5.6						

IDC 02 02:50:52.4±19.0, **4.18S**×**103.92E**, **h146**^{km}±174^{km}, **mb3.4**/5, **mb1 3.6**/5, **mb1mx3.4**/14, **mbtmp3.8**/5, **Error ellipse: s-maj=143.4km s-min=26.9km az=58.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	25.36	125	P	P	02 56 05.6	-2.2
	0.8nm,0.3s,baz=306,slow=8.7,SNR=6.4						
WRA	Warramunga Arr	33.52	120	P	P	02 57 18.6	-1.7
	0.3nm,0.4s,baz=300,slow=11,SNR=9.6						
SONM	Songino Array	51.84	2	P	P	02 59 47.5	-0.2
	0.6nm,0.8s,baz=180,slow=10,SNR=3.7						
MKAR	Makanchi Array	54.24	342	P	P	03 00 02.0	-3.3
	0.7nm,0.7s,baz=162,slow=7.7,SNR=5.2						
ARCES	ARCESS Array B	89.85	340	P	P	03 03 33.6	-1.9
	3.2nm,0.9s,baz=108,slow=4.7,SNR=3.5						
TXAR	Lajitas Array	143.82	43	PKP	PKPdf	03 10 11.5	+0.7
	0.2nm,0.8s,baz=270,slow=1.3,SNR=4.1						

*GUC **02** 02:57:00.3±1.1, 28.71S×68.35W, h145^{km}±106^{km}, ML4.0*
*IDC **02** 02:57:02.9±4.4, 29.00S×68.20W, h109^{km}±42^{km}, mb3.4/2, mb1 3.6/3, mb1mx3.3/14, mbtmp3.7/3, Error ellipse: s-maj=43.2km s-min=41.9km az=141.0*
ISC 02 02:57:02.3±1.1, **28.98S**±0.06×**68.2W**±0.1, **h116**^{km}±14^{km}, **n13**, σ**0**^{s}**99**/18, **mb3.5**/2, **1C-2D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLL	Tololo Astrono	2.59	242	eP	P	02 57 45.9	+1.9
TLL				i S	S	02 58 18.7	+3.3
TLL				AMP		02 58 21.3	
	comp=N,310nm,0.8s						
CFAA	Coronel Fontan	2.62	182	P	P	02 57 44.8	+0.5
	comp=N,4.2nm,0.3s,baz=354,slow=13,SNR=487						
CFAA				S	S	02 58 15.1	-0.9
	comp=N,7.2nm,0.3s,baz=240,slow=16,SNR=40						
LSCH	La Serena	2.85	250	⇓iP	P	02 57 47.8	+0.4
LSCH				i S	S	02 58 21.5	0.0
LSCH				AMP		02 58 23.5	
	comp=N,203nm,0.5s						
CDCH	Caldera	3.03	308	eP	P	02 57 50.6	+0.8
CDCH				i S	S	02 58 24.0	-1.8
CMCH	Combarbala	3.30	228	⇓eP	P	02 57 53.3	-0.1
CMCH				i S	S	02 58 32.9	+0.7
CMCH				AMP		02 59 03.0	
	comp=E,528nm,0.3s						
CHNG	Los Chungos	4.09	224	⇑iP	P	02 58 03.1	-1.0
CHNG				i S	S	02 58 49.9	-1.5
CHNG				AMP		02 59 18.9	
	comp=E,53nm,0.6s						
JACH	Jahuel	4.25	209	eP	P	02 58 06.6	+0.4
ROCH	El Roble	4.67	211	eP	P	02 58 11.1	-0.9
FCH	Farellones	4.71	202	eP	P	02 58 13.3	+0.9
RCDM	Rinconada Maip	5.04	206	i P	P	02 58 16.1	-0.8
TORD	Torodi Ar. Bea	79.33	69	P	P	03 08 57.1	0.0
	comp=E,0.6nm,0.6s,mb3.6,baz=243,slow=4.7,SNR=13						
PDAR	Pinedale Array	80.92	330	P	P	03 09 05.0	0.0
	comp=E,0.6nm,0.8s,mb3.5,baz=162,slow=8.6,SNR=5.1						
WRA	Warramunga Arr	126.74	207	PKP	PKPdf	03 15 54.4	+1.8
	comp=E,0.4nm,0.4s,baz=156,slow=1.8,SNR=18						

MAN 02 02:59:36.3, 6.26N×123.67E, h35^{km}, mb4.5, ML3.3, MS3.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	1.28	98	i P	P	03 00 02.0	+4.0
PAGZ	Pagadian	1.60	350	eP	P	03 00 02.0	-0.6
PAGZ				eS	S	03 00 22.6	+0.2
IPIL	Ipil	1.87	324	eP	P	03 00 07.1	+0.6
IPIL				eS	S	03 00 29.8	+0.7
BUKP	Musuan	2.12	41	eP	P	03 00 09.7	-0.4
BUKP				eS	S	03 00 35.8	+0.4
CGP	Cagayan de Oro	2.41	25	⇓iP	P	03 00 14.5	+0.4
CGP				i S	S	03 00 41.5	-1.2
MATI	Mati	2.66	75	eP	P	03 00 15.1	-2.6
SNPH	Sibulan	3.09	352	eP	P	03 00 28.0	+4.1

*BJI **02** 03:07:58.3, 3.01N×93.99E, h31^{km}, mB5.1, mb4.9, Ms4.8, Msz4.5*
*HRVD **02** 03:07:59.8±1.1, 3.18N×93.82E, h19^{km}±2^{km}, MW4.7/34, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s34,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.38±.21; $M_{\theta\theta}$-0.56±.14; $M_{\phi\phi}$-0.82±.15; $M_{r\theta}$-0.35±.41; $M_{\theta\phi}$0.76±.11; $M_{\phi r}$0.03±.42; Best double couple: $M_0$1.461×10^{16} NP1:ϕ_s150°,δ41°,λ105°. NP2: ϕ_s310°,δ51°,λ77°. Principal axes: T 1.445, Plg79°, Azm165°; N .036, Plg10°, Azm318°; P -1.477, Plg5°, Azm49°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **02** 03:07:59.8±0.3, 3.10N×93.83E, h27^{km}±2^{km}, mb4.7/21, mb1 4.8/22, mb1mx4.8/24, mbtmp4.9/22, ML3.9/1, MS4.0/7, Ms1 4.0/7, ms1mx3.5/22 Error ellipse: s-maj=13.4km s-min=8.5km az=46.0*
*NEIC **02** 03:07:59.8±0.1, 3.09N×93.83E, mb5.2/72, Error ellipse: s-maj=4.6km s-min=2.9km az=213.0*
*MOS **02** 03:07:59.2±0.9, 3.20N×93.89E, h33^{km}, mb5.4/67, Error ellipse: s-maj=9.6km s-min=4.4km az=124.5*
ISC 02 03:07:58.2±0.2, **3.11N**±0.04×**93.84E**±0.03, **h28**^{km}±.3^{km}**:pP-P, n350**, σ**0**^{s}**96**/341, **mb5.1**/134, **MS4.3**/19, **49C-10D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	5.08	93	Pn	Pn	03 09 15.1	+0.5
	4.4nm,0.3s,baz=280,slow=8.3,SNR=35						
PSI				Sn	Sn	03 10 12.6	-0.6
	16nm,0.3s,baz=273,slow=14,SNR=5.2						
KULM	Kulim	7.12	72	ePn	Pn	03 09 42.5	-0.9
PALK	Pallekele	13.72	288	ePn	P	03 11 11.5	-2.1
	34nm,0.8s						
PALK				eSn	S	03 13 27.9	-18
NST	Nakhon Sawan	13.94	26	P	P	03 11 22.0	+5.6
KKTK	Khon Kaen	15.84	33	P	P	03 11 44.0	+2.9
	617nm,0.5s						
CHG	Chiang Mai	16.39	17	P	P	03 11 46.3	-1.8
	15nm,0.8s						
KSM	Kuching	16.53	95	eP	P	03 11 54.1	+4.1
VIS	Vishakhapatnam	17.81	325	eP	P	03 12 04.7	-1.3
VIS				AMb	AMB	03 12 06.4	
	comp=Z,73nm,0.7s						
VIS				eS	S	03 15 18.4	-2.7
BWNR	Bhubaneshwar	18.80	336	ex	x	03 14 49.9	
HYB	Hyderabad	20.67	315	i P	P	03 12 38.0	-0.7
	comp=Z,50nm,1.0s						
HYB				e		03 13 44.0	
HYB				eS	S	03 16 32.0	+8.7
HYB	Hyderabad	20.67	315	eP	P	03 12 38.0	-0.7
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
HYB	Hyderabad	20.67	315	eP	P	03 12 38.0	-0.7
	comp=Z,50nm,1.0s						
HYB				e		03 13 44.0	
AGT	Agartala	20.80	353	eP	P	03 12 42.0	+2.0
BOK	Bokaro	21.96	340	eP	P	03 12 52.5	+0.9
BOK				AML	AML	03 12 54.4	
	comp=Z,320nm,0.8s						
QIZ	Qiongzhong	22.25	44	eP	P	03 12 56.8	+2.2
QIZ				eS	S	03 16 50.4	-2.5
QIZ				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.6						
QIZ				LR	LR		
	comp=N,670nm,14.5s						
QIZ				LR	LR		
	comp=Z,510nm,12.2s,MS4.2						
SHL	Shillong	22.41	355	eP	P	03 12 55.0	-1.1
SHL				eS	S	03 17 05.0	+9.3
KKM	Kota Kinabalu	22.49	82	eP	P	03 12 58.0	+1.0
KMI	Kunming	23.50	21	P	P	03 13 09.1	+2.2
KMI				AP		03 13 17.6	
KMI				XP		03 13 21.1	
KMI				PP	PP	03 13 41.5	+2.3
KMI				S	S	03 17 22.5	+7.3
KMI				XS		03 17 33.2	
KMI				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=N,700nm,11.1s,MS4.5						
KMI				LR	LR		
	comp=E,610nm,10.5s,MS4.5						
KMI				LR	LR		
	comp=Z,800nm,11.3s,MS4.4						
KAD	Karad	23.90	308	eP	P	03 13 12.3	+1.4
KAD				AMb	AMB	03 13 16.0	
	comp=Z,40nm,0.9s,mb4.9						
POO	Poona	24.86	309	ex	x	03 13 27.0	
JIRN	Jiri	25.48	344	eP	P	03 13 26.8	+0.8
	comp=Z,108nm,0.9s,mb5.4						
BHPL	Bhopal	25.56	323	eP	P	03 13 28.4	+1.7
BHPL				AMb	AMB	03 13 28.9	
	comp=Z,38nm,1.0s,mb4.9						
PKI	Pulchoki	25.63	342	eP	P	03 13 27.3	0.0
GUN	Gumba	25.81	344	eP	P	03 13 29.5	+0.5
	comp=Z,90nm,0.8s,mb5.4						
KKN	Kakani	25.87	342	eP	P	03 13 29.7	+0.1
GKN	Gorkha	26.27	341	eP	P	03 13 33.3	+0.1
	comp=Z,130nm,0.9s,mb5.5						
GYA	Guiyang	26.27	27	⇑iP	P	03 13 33.2	-0.1
GYA				AP	pP	03 13 42.5	+1.0
GYA				XP	sP	03 13 46.6	+1.4
GYA				PP	PP	03 14 10.7	-5.2
GYA				S	S	03 18 04.7	+2.8
GYA				XS		03 18 16.4	
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,210nm,4.0s						
GYA				LR	LR		
	comp=N,470nm,14.0s,MS4.3						
GYA				LR	LR		
	comp=E,390nm,13.9s,MS4.3						
GYA				LR	LR		
	comp=Z,620nm,14.4s,MS4.3						
KOLN	Koldanda	26.40	339	eP	P	03 13 34.8	+0.3
	comp=Z,169nm,1.3s,mb5.4						
LSA	Lhasa	26.57	355	eP	P	03 13 37.9	+1.9
LSA				e*PP	pP	03 13 46.4	+2.2
LSA				pmax	pmax		
	comp=Z,179nm,0.7s,mb5.7						
LSA	Lhasa	26.57	355	eP	P	03 13 37.9	+1.9
	comp=Z,179nm,0.7s,mb5.7						
LSA				epP	pP	03 13 46.4	+2.3
CD2	Chengdu	29.20	18	P	P	03 13 58.9	-0.9
CD2				PP	PP	03 14 51.2	-3.4
CD2				S	S	03 18 50.2	+1.1
CD2				XS		03 19 04.7	
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
CD2				LR	LR		
	comp=N,360nm,10.3s						
CD2				LR	LR		
	comp=Z,440nm,11.1s,MS4.3						
ENH	Enshi	30.81	27	eP	P	03 14 12.8	-1.3
	comp=Z,20nm,0.8s,mb5.0						
WHN	Wuhan	33.47	33	⇓P	P	03 14 37.7	+0.3
WHN				S	S	03 19 55.0	-1.1
WHN				LR	LR		
	comp=Z,2μm,13.5s,MS5.0						
XAN	Xi'an	33.83	23	P	P	03 14 39.1	-1.4
XAN				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
LZH	Lanzhou	34.09	15	eP	P	03 14 45.7	+3.0
LZH				AP	pP	03 14 52.5	+1.5
LZH				XP	sP	03 14 55.8	+1.2
LZH				PP	PP	03 16 00.1	+2.9
LZH				eS	S	03 20 06.1	+0.4
LZH				XS		03 20 18.5	
LZH				eSS	SS	03 22 16.5	+2.1
LZH				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,110nm,4.8s						
LZH				LR	LR		
	comp=E,870nm,11.0s						
LZH				LR	LR		
	comp=Z,1μm,12.3s,MS4.9						
MBWA	Marble Bar	35.00	135	eP	P	03 14 49.9	-0.7
	comp=Z,31nm,1.0s,mb5.2						
MBWA				epP	pP	03 14 58.6	-0.3
GTA	Gaotai	36.54	8	⇑P	P	03 15 03.3	-0.1
GTA				AP	pP	03 15 11.8	0.0
GTA				XP	sP	03 15 16.0	+0.7
GTA				PP	PP	03 16 27.8	-0.2
GTA				PCP	PcP	03 17 27.5	+0.5
GTA				S	S	03 20 41.8	-1.6
GTA				XS		03 20 57.4	
GTA				SS	SS	03 23 07.1	-3.0
GTA				SCS	ScS	03 25 14.4	-1.1
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
GTA				AMB	AMB		
	comp=Z,190nm,5.7s						
GTA				LR	LR		
	comp=N,290nm,13.3s,MS4.3						
GTA				LR	LR		
	comp=E,250nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=Z,270nm,14.1s,MS4.2						
NJ2	Nanjing	37.17	36	eP	P	03 15 07.8	-1.0
NJ2				AP	pP	03 15 17.8	+0.6
NJ2				XP	sP	03 15 20.3	-0.4
NJ2				PP	PP	03 16 30.0	-6.1
NJ2				S	S	03 20 46.0	-7.1
NJ2				AMB	AMB		
	comp=Z,580nm,6.4s						
NJ2				LR	LR		
	comp=N,3μm,22.0s,MS5.1						
NJ2				LR	LR		
	comp=E,3μm,25.2s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,29.2s,MS4.8						
FITZ	Fitzroy Crossi	37.76	125	⇑iP	P	03 15 12.9	-1.0
	comp=Z,23nm,0.7s,mb5.0						
FITZ				epP	pP	03 15 21.6	-0.7
FITZ				ePCP	PcP	03 17 30.4	-0.5
FITZ	Fitzroy Crossi	37.76	125	P	P	03 15 12.9	-1.0
	comp=Z,28nm,0.7s,mb5.1,baz=302,slow=5.7,SNR=68						
FITZ				pP	pP	03 15 21.5	-0.8
	comp=Z,30nm,0.7s,baz=316,slow=7.5,SNR=12						
SSE	Sheshan	37.95	40	P	P	03 15 15.8	+0.4
SSE				AP	pP	03 15 24.6	+0.9
SSE				XP	sP	03 15 28.1	+0.8
SSE				PP	PP	03 16 42.7	-2.7
SSE				S	S	03 21 06.4	+1.4
SSE				XS		03 21 21.6	
SSE				SCS	ScS	03 25 25.3	+1.9
SSE				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,30nm,3.5s						
SSE				LR	LR		
	comp=N,290nm,10.0s,MS4.7						
SSE				LR	LR		
	comp=E,450nm,10.0s,MS4.7						
SSE				LR	LR		
	comp=Z,750nm,12.8s,MS4.7						
KSH	Kashi	39.71	338	eP	P	03 15 31.4	+1.4
KSH				eAP	pP	03 15 41.3	+2.9
KSH				eXP	sP	03 15 45.2	+3.3
KSH				PP	PP	03 17 06.0	+0.9
KSH				ePPP	PPP	03 17 31.3	+1.1
KSH				ePCP	PcP	03 17 39.3	+2.5
KSH				eSCP		03 21 23.8	
KSH				ePCS		03 21 27.7	
KSH				eS	S	03 21 32.0	+0.4
KSH				eXS		03 21 48.0	
KSH				eSS	SS	03 24 20.5	-0.4
KSH				eSCS	ScS	03 25 35.6	+2.0
KSH				AMB	AMB		
	comp=Z,520nm,4.6s						
KSH				LR	LR		
	comp=N,670nm,5.5s						
KSH				LR	LR		
	comp=E,630nm,5.6s						
JOW	Kunigami	40.52	51	LR	LR	03 31 36.3	
	comp=E,241nm,21.6s,MS4.0,baz=27,slow=35						
HHC	Hu-ho-hao-te	40.83	21	eP	P	03 15 39.6	+0.4
HHC				AP	pP	03 15 48.8	+1.2
HHC				XP	sP	03 15 52.0	+0.9
HHC				PP	PP	03 17 17.9	+1.5
HHC				PCP	PcP	03 17 40.8	+0.4
HHC				SCP		03 21 26.8	

HHC PCS 03 21 31.1
HHC S **S** **03 21 47.0 -1.2**
HHC XS 03 22 03.6
HHC SS SS 03 24 44.2 -1.0
HHC SCS ScS 03 25 40.0 -0.1
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
HHC AMB AMB
comp=Z,130nm,4.3s
HHC LR LR
comp=N,320nm,9.5s
HHC LR LR
comp=E,580nm,13.1s
HHC LR LR
comp=Z,440nm,9.5s
WMQ Urumqi 40.91 353 P **P** **03 15 40.4 +0.6**
WMQ AP pP 03 15 48.4 +0.2
WMQ XP sP 03 15 51.4 -0.3
WMQ PP PP 03 17 18.4 +1.3
WMQ PPP PPP 03 17 46.6 0.0
WMQ *eS* **S** **03 21 50.4 +1.1**
WMQ SS SS 03 24 46.6 -0.2
WMQ SCS ScS 03 25 41.4 +0.9
WMQ AMB AMB
comp=Z,40nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,280nm,5.0s
WMQ LR LR
comp=N,860nm,16.3s,MS4.9
WMQ LR LR
comp=E,940nm,16.0s,MS4.9
WMQ LR LR
comp=Z,950nm,17.3s,MS4.7
ULHL Ulahol 42.03 340 P **P** **03 15 50.1 +1.0**
SNR=5.3
NWAO Narrogin (SRO) 42.13 150 P **P** **03 15 49.7 -0.3**
comp=Z,6.5nm,0.7s,mb4.3,baz=291,slow=9.3,SNR=5.7
NWAO pP pP 03 15 57.9 -0.5
comp=Z,9.4nm,0.7s,baz=318,slow=8.8,SNR=4.0
KZA Kyzart 42.22 339 P **P** **03 15 51.7 +1.1**
SNR=9.8
UCH Uchtor 42.62 339 P **P** **03 15 55.0 +1.1**
SNR=30
AML Almayashu 42.83 338 P **P** **03 15 56.8 +1.2**
SNR=34
KBK Karagaybulak 42.84 339 P **P** **03 15 57.0 +1.3**
SNR=19
TKM2 Tokmak 2 42.85 340 P **P** **03 15 56.5 +0.8**
SNR=16
AAK Ala-Archa 42.98 339 P **P** **03 15 57.9 +1.1**
SNR=8.5
AAK Ala-Archa 42.98 339*c* *i*P **P** **03 15 56.7 -0.1**
AAK pmax pmax
comp=Z,31nm,1.7s,mb4.8
AAK Ala-Archa 42.98 339 *e*P **P** **03 15 56.6 -0.2**
comp=Z,34nm,1.4s,mb4.9
FRU Bishkek 43.11 339 *e*P **P** **03 15 59.5 +1.6**
MKAR Makanchi Array 44.66 349 P **P** **03 16 10.7 +0.4**
comp=Z,48nm,0.7s,mb5.5,baz=168,slow=9.1,SNR=318
MKAR pP pP 03 16 19.7 +0.9
comp=Z,12nm,0.6s,baz=157,slow=9.2,SNR=32
MKAR LR LR 03 37 16.1
comp=Z,68nm,18.8s,MS3.6,baz=134,slow=39
MKAR Makanchi Array 44.66 349⇑ *e*P **P** **03 16 10.6 +0.2**
KKAR Karatay Array 44.91 336 *i*P **P** **03 16 12.1 -0.3**
KKAR pmax pmax
comp=Z,11nm,0.6s,mb4.9
JNU Nakatsue 45.72 45 P **P** **03 16 19.6 +0.7**
comp=Z,13nm,0.9s,mb4.9,baz=180,slow=13,SNR=4.1
SONM Songino Array 45.85 12 P **P** **03 16 20.0 +0.1**
comp=Z,14nm,0.8s,mb5.0,baz=192,slow=8.6,SNR=93
SONM pP pP 03 16 28.7 +0.4
comp=Z,12nm,0.7s,baz=190,slow=8.6,SNR=19
SONM PcP PcP 03 17 55.7 -1.6
comp=Z,4.6nm,0.8s,baz=189,slow=3.3,SNR=4.4
SONM LR LR 03 38 29.0
comp=Z,102nm,20.8s,MS3.8,baz=253,slow=40
WRA Warramunga Arr 45.88 122 P **P** **03 16 20.1 -0.3**
comp=Z,46nm,0.8s,mb5.4,baz=299,slow=8.9,SNR=272
WRA pP pP 03 16 28.8 -0.1
comp=Z,54nm,0.8s,baz=299,slow=8.7,SNR=29
WRAB Tennant Creek 45.89 122 *e*P **P** **03 16 20.1 -0.4**
WRAB *e**PP pP 03 16 29.0 +0.1
WRAB pmax pmax
comp=Z,90nm,0.8s,mb5.8
WRAB Tennant Creek 45.89 122 *e*P **P** **03 16 20.1 -0.4**
comp=Z,90nm,0.8s,mb5.8
WRAB *e*pP pP 03 16 29.0 +0.1
WB2 Warramunga Arr 45.90 122⇑ *i*P **P** **03 16 20.2 -0.3**
WB2 *e*pP pP 03 16 29.0 0.0
ULN Ulaanbaatar 46.02 12 *e*P **P** **03 16 20.9 -0.2**
ULN *e**PP pP 03 16 29.4 -0.2
ULN pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ULN Ulaanbaatar 46.02 12 *e*P **P** **03 16 20.9 -0.2**
comp=Z,4.5nm,0.7s,mb4.5
ULN *e*pP pP 03 16 29.4 -0.1
FORT Forrest 46.90 138 *e*P **P** **03 16 28.7 +0.3**
comp=Z,19nm,1.0s,mb5.0
FORT *e*pP pP 03 16 37.3 +0.5
ZAK Zakamensk 47.78 8 *e*P **P** **03 16 33.2 -1.8**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
HASS Wahat al Ahsa'' 47.78 302 P **P** **03 16 36.2 +0.9**
KURK Kurchatov 49.15 347 *e*P **P** **03 16 45.4 -0.2**
KURK *e**PP pP 03 16 54.5 +0.4
KURK pmax pmax
comp=Z,41nm,0.9s,mb5.5
KURK Kurchatov 49.15 347 *e*P **P** **03 16 45.4 -0.2**
comp=Z,41nm,0.9s,mb5.5
KURK *e*pP pP 03 16 54.5 +0.4
CN2 Changchun 49.24 30 *e*P **P** **03 16 48.5 +2.2**
CN2 *e*AP pP 03 16 58.5 +3.6
CN2 *e*S **S** **03 23 52.0 +2.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 LR LR
comp=N,1µm,23.0s,MS4.9
CN2 LR LR
comp=E,910nm,23.0s,MS4.9
CN2 LR LR
comp=Z,980nm,25.0s,MS4.7
OPO Ambohidratompo 50.72 243 P **P** **03 16 57.7 -0.3**
comp=Z,2.8nm,0.8s,mb4.2,baz=22,slow=6.1,SNR=4.5
KBD Kabd 50.87 306 *e*P **P** **03 16 59.6 +0.6**
KBD AMb AMB 03 17 00.7
comp=Z,246nm,1.0s,mb6.1
RDF Al-Radifah 50.89 305 *e*P **P** **03 16 59.6 +0.4**
RDF AMb AMB 03 17 00.8
comp=Z,126nm,1.0s,mb5.8
UMR Umm Al-Rimmam 50.99 306 *e*P **P** **03 17 00.5 +0.5**
UMR AMb AMB 03 17 01.4
comp=Z,111nm,0.8s,mb5.9
HIA Hailar 51.02 22 *e*P **P** **03 16 59.9 +0.1**
HIA *e**PP pP 03 17 08.6 +0.2
HIA pmax pmax
comp=Z,58nm,1.3s
HIA Hailar 51.02 22 *e*P **P** **03 16 59.9 0.0**
comp=Z,58nm,1.3s,mb5.3
HIA *e*pP pP 03 17 08.6 +0.2
ZAL Zalesovo 51.21 353 P **P** **03 17 01.4 +0.1**
comp=Z,21nm,0.5s,mb5.3,baz=302,slow=6.2,SNR=82
ZAL pP pP 03 17 09.9 +0.1
comp=Z,25nm,0.5s,baz=302,slow=5.1,SNR=17
NAY Al-Naaiem 51.26 306 *e*P **P** **03 17 02.2 +0.2**
NAY AMb AMB 03 17 03.3
comp=Z,54nm,1.2s,mb5.4
MZLS Mizel 51.30 298 P **P** **03 17 02.8 +0.4**
MIB Mutribah 51.39 306 *e*P **P** **03 17 03.6 +0.6**
MIB AMb AMB 03 17 05.7
comp=Z,228nm,1.0s,mb6.1
MDJ Mudanjiang 51.94 32 P **P** **03 17 07.5 +0.6**
MDJ AP pP 03 17 14.9 -0.6
MDJ XP sP 03 17 18.1 -0.7
MDJ PP PP 03 19 06.7 +1.1
MDJ S **S** **03 24 31.0 +4.4**
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,260nm,4.2s
MDJ LR LR
comp=E,100nm,18.0s
MDJ LR LR
comp=Z,110nm,17.4s,MS4.0
NVS Novosibirsk 52.29 352⇑ *i*P **P** **03 17 03.8 -5.6**
NVS pmax pmax
comp=Z,36nm,0.9s,mb5.3
NVS pmax pmax
comp=N,22nm,0.9s
NVS pmax pmax
comp=E,13nm,0.8s
FRSS Farasan al Kab 52.55 289 P **P** **03 17 12.9 +1.0**
MAT Matsushiro 52.64 45 P **P** **03 17 13.8 +1.5**
MAT Matsushiro 52.64 45 *e*P **P** **03 17 12.0 -0.3**
MJAR Matsushiro Arr 52.64 45 P **P** **03 17 12.0 -0.3**
comp=E,3.3nm,0.7s,mb4.4,baz=242,slow=7.6,SNR=8.0
MJAR PcP PcP 03 18 24.4 +2.4
comp=E,2.8nm,0.9s,baz=243,slow=5.6,SNR=4.2
MJAR LR LR 03 41 22.3
comp=E,187nm,20.4s,MS4.1,baz=230,slow=38
VOSK Vostochnaya 52.96 343 P **P** **03 17 13.4 -1.0**
VOSK pmax pmax
comp=Z,25nm,0.8s,mb5.2
BVA0 Borovoye Array 53.40 343 *i*P **P** **03 17 16.6 -1.1**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BRVK Borovoye 53.46 343 *e*P **P** **03 17 16.8 -1.3**
BRVK *e**PP pP 03 17 25.5 -1.2
BRVK pmax pmax
comp=Z,14nm,0.9s,mb4.9
BRVK Borovoye 53.46 343 *e*P **P** **03 17 16.8 -1.3**
comp=Z,14nm,0.9s,mb4.9
BRVK *e*pP pP 03 17 25.4 -1.2
BLJS Baljurashi 53.59 292 P **P** **03 17 20.9 +1.4**
AB31 Akbulak array 54.29 333 *i*P **P** **03 17 23.1 -1.1**
AB31 pmax pmax
comp=Z,26nm,1.0s,mb5.1
PMG Port Moresby 54.56 104 P **P** **03 17 26.1 -0.6**
comp=Z,9.8nm,0.7s,mb4.9,baz=279,slow=13,SNR=3.1
PMG pP pP 03 17 34.3 -0.9
comp=Z,14nm,0.8s,baz=215,slow=5.7,SNR=3.3
PMG Port Moresby 54.56 104 P **P** **03 17 26.1 -0.6**
PMG *PP pP 03 17 34.4 -0.9
KLR Kul'dur 56.14 29 *e*P **P** **03 17 34.0 -3.7**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,34nm,1.2s,mb5.2
CTA Charters Tower 56.35 117 *e*P **P** **03 17 39.2 -0.4**
comp=Z,8.5nm,0.9s,mb4.8
CTA *e*pP pP 03 17 47.7 -0.5
CTA Charters Tower 56.35 117 P **P** **03 17 38.9 -0.7**
comp=Z,9.2nm,0.8s,mb4.8,baz=300,slow=6.2,SNR=11
CTA pP pP 03 17 47.6 -0.6
comp=Z,11nm,0.9s,baz=279,slow=8.4,SNR=6.8
CTA Charters Tower 56.35 117 *e*P **P** **03 17 39.2 -0.4**
CTA *e**PP pP 03 17 47.7 -0.5
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 56.35 117 *e*P **P** **03 17 38.9 -0.7**
CTAO *e**PP pP 03 17 47.7 -0.5
CTAO pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
CTAO Charters Tower 56.35 117 *e*P **P** **03 17 38.9 -0.6**
comp=Z,8.0nm,1.0s,mb4.7
CTAO *e*pP pP 03 17 47.7 -0.5
KMBO Kilima Mbogo 56.73 267 P **P** **03 17 42.4 0.0**
comp=Z,8.5nm,1.0s,mb4.7,baz=57,slow=10,SNR=20
KMBO pP pP 03 17 51.1 +0.1
comp=Z,10nm,1.1s,baz=70,slow=8.8,SNR=7.8
KMBO LR LR 03 38 38.1
comp=Z,110nm,18.0s,MS4.0,baz=96,slow=32
BOD Bodaibo 56.83 13 *e*P **P** **03 17 40.6 -1.9**
BOD pmax pmax
comp=Z,21nm,1.1s,mb5.1
STKA Stephens Creek 57.12 131 *e*P **P** **03 17 43.9 -1.1**
comp=Z,12nm,0.7s,mb5.0
STKA *e*pP pP 03 17 52.9 -0.7
STKA Stephens Creek 57.12 131 P **P** **03 17 44.0 -0.9**
comp=Z,13nm,0.7s,mb5.1,baz=310,slow=6.5,SNR=27
STKA pP pP 03 17 52.9 -0.7
comp=Z,15nm,0.7s,baz=314,slow=6.8,SNR=11
HAKT HAKKARI 57.23 313 *i*P **P** **03 17 42.8 -2.8**
GNI Garni 57.61 317 *e*P **P** **03 17 48.0 -0.3**
GNI pmax pmax
comp=Z,21nm,0.9s
GNI Garni 57.61 317 *e*P **P** **03 17 48.0 -0.3**
comp=Z,21nm,0.9s,mb5.2
DGRG David-gareji 57.78 318 P **P** **03 17 48.3 -1.2**
TI2 Plekhanov 58.32 318 *i*P **P** **03 17 54.0 +0.8**
TI2 *i* pP 03 18 03.0 +1.1
UMJS Umm Lajj 58.56 298 P **P** **03 17 56.3 +1.1**
CLNS Chul'man 58.99 19 *e*P **P** **03 17 52.5 -5.2**
CLNS pmax pmax
comp=Z,19nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,14nm,1.2s
CLNS pmax pmax
comp=E,14nm,1.0s
BEST Besiri 59.13 313 *i*P **P** **03 17 58.4 -0.6**
MARD Mardin 59.27 312 *i*P **P** **03 17 58.5 -1.4**
SVE Sverdlovsk 59.71 340 *e*P **P** **03 18 00.0 -2.7**
SVE *e* pP 03 18 10.5 -0.9
SVE *e* 03 20 18.0
SVE *e*S S 03 26 36.0 +26
SVE pmax pmax
comp=Z,76nm,1.3s,mb5.6
QURS Qurayyt al Mil 60.06 305 P **P** **03 18 06.3 +0.9**
ARU Arti 60.16 338⇑ *i*P **P** **03 18 03.8 -1.9**
ARU *e* 03 18 45.8
ARU *e*PPP PPP 03 21 39.9 -6.7
ARU *e*S **S** **03 26 16.4 +0.8**
ARU *e*SS SS 03 30 12.1 -1.8
ARU pmax pmax
comp=Z,25nm,1.0s,mb5.2
ARU Arti 60.16 338 *e*P **P** **03 18 03.6 -2.1**
comp=Z,23nm,0.9s,mb5.2
ARU *e*pP pP 03 18 12.3 -2.1
ARU *e*sP sP 03 18 18.6 +1.0
KIV Kislovodsk 60.69 320*c* *i*P **P** **03 18 08.6 -0.9**
KIV *i* pP 03 18 17.3 -1.0
KIV pmax pmax
comp=Z,30nm,0.9s,mb5.4
YSS Yuzh-Sakhalins 60.74 36 *e*P **P** **03 18 09.0 -0.8**
YSS *e* pP 03 18 19.3 +0.8
GOF Gofitskoye 60.97 321 *e*P **P** **03 18 08.4 -3.0**
GOF pmax pmax
comp=Z,17nm,0.7s,mb5.3
AYUS 'Aynunah 60.99 301 P **P** **03 18 12.3 +0.5**
ELZG Elazig 61.03 313 *i*P **P** **03 18 11.1 -0.8**
BDAS Al Bad' 61.19 301 P **P** **03 18 13.9 +0.7**
MACK Trabzon 61.38 316 *i*P **P** **03 18 14.0 -0.3**
GZT Gaziantep 61.69 311 *i*P **P** **03 18 15.3 -1.0**
BHL Bhannes 62.12 307 *e*P **P** **03 18 20.3 +1.0**
KAHT Ahir Dag 62.30 311 *i*P **P** **03 18 20.4 -0.1**
COBT Iskenderun 62.41 310 *i*P **P** **03 18 20.5 -0.8**
GRSN GIRESUNGRSN 62.42 315 *i*P **P** **03 18 19.3 -2.0**
SOC Sochi 62.47 318 *e*P **P** **03 18 18.0 -3.5**
SOKR Solikamsk 63.12 340 *i*P **P** **03 18 24.7 -0.9**
SOKR *e* pP 03 18 33.4 -0.9
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.5
AVNT Avonos 64.17 312 *i*P **P** **03 18 32.3 -0.5**
CSS Prodhromos 64.25 307 *e*P **P** **03 18 32.7 -0.7**
comp=Z,25nm,1.2s,mb5.1
CSS *e*pP pP 03 18 42.0 -0.2
YAK Yakutsk 64.59 18 *e*P **P** **03 18 32.6 -2.5**
YAK pmax pmax
comp=Z,23nm,0.9s,mb5.2
YAK Yakutsk 64.59 18 *e*P **P** **03 18 34.0 -1.1**
comp=Z,31nm,0.6s,mb5.5
BOYT Boyabat 64.98 315 *i*P **P** **03 18 36.4 -1.6**
ANTO Ankara 66.02 313 *e*P **P** **03 18 43.8 -0.9**
ANTO *e**PP pP 03 18 52.7 -0.8
ANTO pmax pmax
comp=Z,16nm,0.8s,mb5.1
ANTO Ankara 66.02 313 *e*P **P** **03 18 43.8 -0.9**
comp=Z,16nm,0.8s,mb5.1
ANTO *e*pP pP 03 18 52.7 -0.8
BALT Daday 66.09 314 *i*P **P** **03 18 43.7 -1.5**
SIM Simferopol' 66.71 318*c* *i*P **P** **03 18 49.9 +0.9**
SIM *i* pP 03 18 58.0 +0.2
SIM pmax pmax
comp=Z,42nm,0.6s,mb5.7
ESKT Eskisehir 67.36 312 *i*P **P** **03 18 51.8 -1.5**
TKTP Tekketepe 67.38 310 *i*P **P** **03 18 51.9 -1.6**
LSZ Lusaka 67.47 252 *e*P **P** **03 18 53.8 -0.5**
LSZ *e**PP pP 03 19 02.9 -0.2
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LSZ Lusaka 67.47 252 *e*P **P** **03 18 53.8 -0.6**
comp=Z,5.4nm,0.8s,mb4.6
LSZ *e*pP pP 03 19 02.9 -0.2
HENT Hendek 67.68 313 *i*P **P** **03 18 53.2 -2.1**
MOS Moscow 69.00 330 *e*P **P** **03 19 07.1 +4.0**
MOS pmax pmax
comp=Z,46nm,1.2s,mb5.3
OBN Obninsk 69.25 329⇓ *i*P **P** **03 19 03.5 -1.2**
OBN *e*S S 03 28 12.0 +4.3
OBN pmax pmax
comp=Z,18nm,0.8s,mb5.0
PSN Preselentsi 70.39 315 *i*P **P** **03 19 11.3 -0.6**
TIRR Tirgusor 70.43 316⇑ P **P** **03 19 10.7 -1.4**
KLMR Klimovskoe 70.61 335 *e*P **P** **03 19 11.4 -1.5**
KLMR pmax pmax
comp=Z,20nm,1.8s,mb4.8
CFR Carcaliu 70.81 317⇓ P **P** **03 19 13.1 -1.3**
HARR Harsova 70.83 316⇓ P **P** **03 19 13.0 -1.5**
AKASG Malin Array Be 71.71 323 P **P** **03 19 18.1 -1.7**
comp=Z,8.8nm,0.7s,mb4.8,baz=91,slow=5.3,SNR=47
AKASG pP pP 03 19 26.9 -1.6
comp=Z,9.2nm,0.7s,baz=92,slow=4.8,SNR=16
AKASG PP PP 03 22 00.1 -0.7
comp=Z,0.9nm,0.7s,baz=96,slow=6.4,SNR=4.1
AKASG Malin Array Be 71.71 323 *i*P **P** **03 19 18.1 -1.6**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
LBTB Lobatse 71.75 243 *e*P **P** **03 19 20.4 0.0**
LBTB *e**PP pP 03 19 28.8 -0.4
LBTB pmax pmax
comp=Z,19nm,1.1s,mb4.9
LBTB Lobatse 71.75 243 *e*P **P** **03 19 20.4 0.0**
comp=Z,19nm,1.1s,mb4.9
LBTB *e*pP pP 03 19 28.8 -0.5
TIXI Tiksi 71.93 11 *e*P **P** **03 19 15.6 -5.1**
TIXI *e* 03 19 28.3
TIXI pmax pmax
comp=Z,50nm,0.8s,mb5.5
MLR Muntele Rosu 72.39 317⇓ P **P** **03 19 23.2 -0.6**
RZN Rozhen 72.41 313 *i*P **P** **03 19 23.7 -0.4**
MTUR Matau 72.93 316⇓ P **P** **03 19 26.1 -1.0**
VOIR 72.99 317⇓ P **P** **03 19 28.2 +0.8**
MMB Musomiste 73.12 313 *i*P **P** **03 19 27.0 -1.2**
SEY Seymchan 73.36 24⇓ *e*P **P** **03 19 29.2 0.0**
BURAR Bucovina Array 73.39 319⇑ P **P** **03 19 29.6 -0.1**
BURAR Bucovina Array 73.39 319⇑ *i*P **P** **03 19 29.6 -0.1**
KKB Krupnik 73.64 313 *i*P **P** **03 19 30.0 -1.3**
VTS Vitosha 73.69 313 *i*P **P** **03 19 31.3 -0.2**
VTS Vitosha 73.69 313⇑ P **P** **03 19 31.0 -0.5**
MAW Mawson 73.84 192 P **P** **03 19 32.5 +0.6**
comp=Z,1.6nm,0.4s,mb4.3,baz=6.4,slow=9.7,SNR=8.3
MAW pP pP 03 19 39.7 -1.0
comp=Z,3.2nm,0.7s,baz=77,slow=16,SNR=3.3
MAW Mawson 73.84 192 *e*P **P** **03 19 32.3 +0.4**
MAW *e**PP pP 03 19 41.2 +0.5
MAW pmax pmax
comp=Z,9.0nm,0.9s
MAW Mawson 73.84 192 *e*P **P** **03 19 32.3 +0.4**
comp=Z,9.5nm,0.9s,mb4.7
MAW *e*pP pP 03 19 41.2 +0.5
JOF Joensuu 75.01 335 *e*p **P** **03 19 37.1 -1.6**
BZS Buzias 75.39 316⇓ P **P** **03 19 40.2 -1.1**
KWP Kalwaria 75.47 321 *e*P **P** **03 19 41.4 -0.3**
KWP pmax pmax
comp=Z,11nm,0.6s,mb5.0
KWP Kalwaria 75.47 321 *e*P **P** **03 19 41.4 -0.3**
comp=Z,11nm,0.6s,mb5.0
VSU Vasula 75.52 330 *i*P **P** **03 19 41.0 -0.8**
KOLS Kolonicke sedl 75.60 320 *i*P **P** **03 19 42.8 +0.4**
KOLS *e*pP pP 03 19 51.9 +0.6
CRVS Cervenica-Dubn 76.12 320 *e*P **P** **03 19 44.7 -0.6**
APA Apatity 76.18 340⇑ *i*P **P** **03 19 44.7 -0.6**
APA *i* 03 19 50.6
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
SUW Suwalki 76.19 325 *e*P **P** **03 19 44.6 -1.1**
SUW *e**PP pP 03 19 53.2 -1.3
SUW pmax pmax
comp=Z,87nm,1.0s,mb5.6
SUW Suwalki 76.19 325 *e*P **P** **03 19 44.6 -1.1**
comp=Z,87nm,1.0s,mb5.6
SUW *e*pP pP 03 19 53.2 -1.3
STHS Stebnicka Huta 76.36 320 *i*P **P** **03 19 46.9 +0.2**
STHS *e*pP pP 03 19 53.6 -2.0
KECS Kecovo 76.67 319 *i*P **P** **03 19 48.1 -0.4**
KECS *e*pP pP 03 19 56.9 -0.4
FINES FINESS Array B 76.77 333 P **P** **03 19 48.0 -0.8**
comp=Z,10.0nm,0.8s,mb4.8,baz=94,slow=6.3,SNR=29
FINES pP pP 03 19 56.5 -1.2
comp=Z,7.7nm,0.7s,baz=76,slow=7.9,SNR=5.8
FINES FINESS Array B 76.77 333⇑ *e*P **P** **03 19 48.0 -0.7**
KAF Kangasniemi 76.88 334 *e*p **P** **03 19 47.4 -1.9**
comp=Z,8.6nm,0.7s,mb4.8,baz=107,slow=5.0
KAF Kangasniemi 76.88 334 *e*P **P** **03 19 47.4 -1.9**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
NIE Niedzica 76.96 320 *e*P **P** **03 19 51.0 +1.0**
PSZ Piszkesteto 76.96 318 *e*P **P** **03 19 49.7 -0.4**
PSZ *e**PP pP 03 19 58.8 -0.2
PSZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PSZ Piszkesteto 76.96 318 *e*P **P** **03 19 49.7 -0.4**
comp=Z,9.4nm,0.8s,mb4.8
PSZ *e*pP pP 03 19 58.8 -0.2
OJC Ojcow 77.43 321 *e*P **P** **03 19 52.6 0.0**
VYHS Vyhne 77.76 319 *i*P **P** **03 19 54.6 +0.2**
VYHS *e*pP pP 03 20 03.5 +0.2
OKC Ostrava-Krasne 78.42 320 *e*P **P** **03 19 58.7 +0.7**
OKC *e*pP pP 03 20 07.1 +0.2
MORC Moravsky Berou 78.80 320 *e*P **P** **03 20 00.0 -0.1**
MORC *e**PP pP 03 20 09.1 +0.1
MORC pmax pmax
comp=Z,11nm,0.9s,mb4.8
MORC Moravsky Berou 78.80 320 *e*P **P** **03 19 60.0 -0.2**
comp=Z,11nm,0.9s,mb4.8
MORC *e*pP pP 03 20 09.1 +0.1
ZST Bratislava 78.86 318 *e*P **P** **03 20 01.1 +0.6**
ZST *e*pP pP 03 20 09.5 +0.1
ARCES ARCESS Array B 79.63 341 P **P** **03 20 04.3 0.0**
comp=Z,8.3nm,0.8s,mb4.7,baz=88,slow=4.8,SNR=20
ARCES pP pP 03 20 12.8 -0.4
comp=Z,9.6nm,0.8s,baz=90,slow=4.9,SNR=6.3
ARE0 ARCESS Array S 79.63 341 *e*P **P** **03 20 03.9 -0.3**
GROS Grobnik 79.72 317 *e*P **P** **03 20 05.3 +0.1**
GROS *e*pP pP 03 20 14.0 -0.1
KSP Ksiaz 79.74 321 *e*P **P** **03 20 05.6 +0.4**
KSP *e**PP pP 03 20 14.0 -0.1
BOJS Bojanci 79.79 316 *e*P **P** **03 20 05.7 +0.1**
BOJS *e*pP pP 03 20 14.2 -0.3
ARSA Arzberg 79.80 317⇑ *e*P **P** **03 20 06.3 +0.7**
comp=Z,36nm,1.3s,mb5.2
UPC Upice 79.87 321 *e*P **P** **03 20 06.3 +0.4**
UPC *e*pP pP 03 20 14.8 0.0
TREC Trest 80.06 319 *e*P **P** **03 20 07.1 +0.2**
TREC *e*pP pP 03 20 15.5 -0.4
LJU Ljubljana 80.35 316 *e*P **P** **03 20 09.0 +0.4**
LJU *e*pP pP 03 20 17.9 +0.4
OBKA Obir 80.38 317⇑ *e*P **P** **03 20 09.5 +0.8**
comp=Z,28nm,1.5s,mb5.0
BILL Bilibino 80.60 21⇑ *e*P **P** **03 20 10.5 +1.0**
BILL pmax pmax
comp=Z,14nm,1.2s,mb4.8
BILL Bilibino 80.60 21 *e*P **P** **03 20 09.7 +0.2**
comp=Z,4.6nm,0.5s,mb4.7
MOA Molln 80.71 318⇑ *e*P **P** **03 20 10.4 0.0**
comp=Z,10nm,1.4s,mb4.6
PRU Pruhonice 80.75 320 *e*P **P** **03 20 10.9 +0.3**
PRU *e*pP pP 03 20 18.6 -0.9
PVCC Panska Ves 80.79 321 *e*P **P** **03 20 11.4 +0.6**
PVCC *e*pP pP 03 20 19.4 -0.3
SYO Syowa Base 80.80 197⇑ P **P** **03 20 11.2 +0.7**
SYO Syowa Base 80.80 197⇓ *e*pP pP 03 20 20.2 +0.8
SYO Syowa Base 80.80 197⇑ *e*P **P** **03 20 11.2 +0.7**
SYO ⇓ *e*pP pP 03 20 20.2 +0.8
PTQR Pietraquaria 80.82 312 P **P** **03 20 11.5 +0.3**
AQU L'Aquila 80.85 312 P **P** **03 20 12.1 +0.8**
AQU pmax pmax
comp=Z,14nm,0.4s,mb5.2
AQU L'Aquila 80.85 312 P **P** **03 20 12.1 +0.8**
comp=Z,14nm,0.4s,mb5.2
ROBS Robic 81.08 316 *e*P **P** **03 20 12.1 -0.3**
GEC2 GERESS Array S 81.18 319 *e*P **P** **03 20 13.6 +0.7**
GEC2 pmax pmax

	comp=Z,30nm,0.9s,mb5.2						
GEC2	**GERESS Array S**	**81.18**	**319**	*e*P	**P**	**03 20 13.6**	**+0.7**
	comp=Z,30nm,0.9s,mb5.2						
GERES	**GERESS Array B**	**81.18**	**319**	P	**P**	**03 20 13.5**	**+0.6**
	comp=Z,15nm,0.7s,mb5.0,baz=100,slow=5.3,SNR=142						
GERES				pP	pP	03 20 22.2	+0.4
	comp=Z,17nm,0.7s,baz=104,slow=5.5,SNR=25						
PTCC	**Patocco-Chiusa**	**81.20**	**316**	P	**P**	**03 20 13.5**	**+0.5**
BRG	**Berggiesshubel**	**81.22**	**321**	*i* P	**P**	**03 20 13.6**	**+0.5**
BRG				*i*	pP	03 20 22.4	+0.4
BRG				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
BRG	**Berggiesshubel**	**81.22**	**321**	*i* P	**P**	**03 20 13.6**	**+0.6**
	comp=Z,17nm,1.0s,mb4.9						
BRG				*i*	pP	03 20 22.4	+0.4
KBA	**Koelnbreinsper**	**81.26**	**317**	*e*P	**P**	**03 20 13.3**	**0.0**
	comp=Z,9.8nm,0.9s,mb4.7,SNR=7.3						
ARV	**Arcevia**	**81.27**	**313**	P	**P**	**03 20 08.9**	**-4.6**
ARV				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.5						
ARV	**Arcevia**	**81.27**	**313**	P	**P**	**03 20 08.9**	**-4.6**
	comp=Z,51nm,0.8s,mb5.5						
GMNA	**Gemona**	**81.27**	**316**	P	**P**	**03 20 13.4**	**0.0**
KHC	**Kasperske Hory**	**81.28**	**319**	*e*P	**P**	**03 20 12.5**	**-0.9**
KHC				*e*pP	pP	03 20 21.6	-0.8
MNS	**Montasola**	**81.38**	**312**	P	**P**	**03 20 13.8**	**-0.3**
MNS				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
MNS	**Montasola**	**81.38**	**312**	P	**P**	**03 20 13.8**	**-0.3**
	comp=Z,34nm,1.2s,mb5.2						
FSSB	**Fossombrone**	**81.40**	**314**	P	**P**	**03 20 15.0**	**+0.9**
FVI	**Forni Avoltri**	**81.61**	**316**	P	**P**	**03 20 15.3**	**+0.1**
FVI				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
FVI	**Forni Avoltri**	**81.61**	**316**	P	**P**	**03 20 15.3**	**+0.1**
	comp=Z,22nm,1.0s,mb5.0						
WET	**Wettzell**	**81.74**	**319**	*e*P	**P**	**03 20 16.3**	**+0.5**
WET				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
WET	**Wettzell**	**81.74**	**319**	*e*P	**P**	**03 20 16.3**	**+0.5**
	comp=Z,19nm,1.3s,mb4.9						
CLL	**Collm**	**81.85**	**321**	⇑P	**P**	**03 20 16.3**	**0.0**
	comp=Z,logA/T=1.0,mb4.7						
CLL				*i* *PP	pP	03 20 25.2	-0.1
CLL	**Collm**	**81.85**	**321**	⇑*i*P	**P**	**03 20 16.3**	**0.0**
CLL				*i* *PP	pP	03 20 25.2	-0.1
CLL				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
CLL	**Collm**	**81.85**	**321**	⇑*i*P	**P**	**03 20 16.3**	**0.0**
	comp=Z,13nm,1.2s,mb4.7						
CLL				*i* pP	pP	03 20 25.2	-0.1
CRE	**Caprese Michel**	**81.99**	**313**	P	**P**	**03 20 17.5**	**+0.3**
CRE				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
CRE	**Caprese Michel**	**81.99**	**313**	P	**P**	**03 20 17.5**	**+0.3**
	comp=Z,17nm,0.8s,mb5.0						
SFI	**Santa Sofia**	**82.08**	**314**	P	**P**	**03 20 19.2**	**+1.5**
SFI				pmax	pmax		
	comp=Z,119nm,1.1s,mb5.7						
SFI	**Santa Sofia**	**82.08**	**314**	P	**P**	**03 20 19.2**	**+1.5**
	comp=Z,119nm,1.1s,mb5.7						
NKC	**Novy Kostel**	**82.11**	**320**	*e*P	**P**	**03 20 18.6**	**+0.9**
NKC				*e*pP	pP	03 20 26.4	-0.3
PGD	**Poggio Sodo**	**82.17**	**314**	P	**P**	**03 20 19.6**	**+1.4**
PGD				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.5						
PGD	**Poggio Sodo**	**82.17**	**314**	P	**P**	**03 20 19.6**	**+1.4**
	comp=Z,56nm,1.0s,mb5.5						
VMG	**Vicchio**	**82.31**	**314**	P	**P**	**03 20 20.3**	**+1.5**
CTI	**Castel Tesino**	**82.35**	**316**	P	**P**	**03 20 19.8**	**+0.8**
CTI				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
CTI	**Castel Tesino**	**82.35**	**316**	P	**P**	**03 20 19.8**	**+0.8**
	comp=Z,27nm,0.9s,mb5.2						
WTTA	**Wattenberg**	**82.43**	**317**	*e*P	**P**	**03 20 19.4**	**0.0**
	comp=Z,20nm,0.7s,mb5.2,SNR=11						
WATA	**Walderalm**	**82.48**	**317**	⇑*i*P	**P**	**03 20 19.4**	**-0.3**
	comp=Z,10nm,1.0s,mb4.7						
MOX	**Moxa**	**82.67**	**321**	*i* P	**P**	**03 20 20.8**	**+0.2**
SQTA	**Sankt Quirin**	**82.72**	**317**	⇑*e*P	**P**	**03 20 20.9**	**-0.1**
	comp=Z,8.4nm,0.8s,mb4.8						
MOTA	**Moosalm**	**82.80**	**317**	⇑*e*P	**P**	**03 20 21.1**	**-0.2**
	comp=Z,17nm,1.0s,mb5.0						
GRA1	**Grafenberg Arr**	**82.86**	**320**	*e*P	**P**	**03 20 22.1**	**+0.5**
	comp=Z,24nm,1.0s,mb5.2						
GRA1				*e*pP	pP	03 20 31.4	+0.8
GRF	**Grafenberg Arr**	**82.86**	**320**	*e*P	**P**	**03 20 22.1**	**+0.5**
GRF				*e**PP	pP	03 20 31.4	+0.8
GRF				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
GRF	**Grafenberg Arr**	**82.86**	**320**	*e*P	**P**	**03 20 22.1**	**+0.5**
GRF				*e**PP	pP	03 20 31.4	+0.8
GRF				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
GRF	**Grafenberg Arr**	**82.86**	**320**	*e*P	**P**	**03 20 22.1**	**+0.5**
	comp=Z,24nm,1.0s,mb5.2						
GRF				*e*pP	pP	03 20 31.4	+0.8
GSCL	**Gusciola**	**83.01**	**314**	P	**P**	**03 20 23.9**	**+1.4**
BRMO	**Bormio**	**83.26**	**316**	P	**P**	**03 20 24.4**	**+0.7**
CLZ	**Clausthal**	**83.53**	**322**	*e*P	**P**	**03 20 25.5**	**+0.5**
CLZ				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.1						
CLZ	**Clausthal**	**83.53**	**322**	*e*P	**P**	**03 20 25.5**	**+0.5**
	comp=Z,18nm,1.1s,mb5.1						
DAVA	**Damuels**	**83.63**	**317**	⇑*e*P	**P**	**03 20 26.0**	**+0.4**
	comp=Z,25nm,1.0s,mb5.3,SNR=10						
BSEG	**Bad Segeberg**	**83.68**	**324**	*e*P	**P**	**03 20 26.2**	**+0.5**
BSEG				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.1						
NB2	**NORSAR Subarra**	**83.72**	**331**	P	**P**	**03 20 25.2**	**-0.5**
	comp=Z,14nm,1.0s,mb5.0,baz=94,slow=5.0						
NOA	**NORSAR Array B**	**83.72**	**331**	P	**P**	**03 20 25.5**	**-0.3**
	comp=Z,7.1nm,0.9s,mb4.8,baz=95,slow=5.4,SNR=15						
NOA				pP	pP	03 20 33.8	-1.0
	comp=Z,6.8nm,0.8s,baz=95,slow=5.4,SNR=9.3						
NAO01	**NORSAR Array S**	**83.86**	**331**	*e*P	**P**	**03 20 26.3**	**-0.1**
	comp=Z,9.2nm,0.9s,mb4.9						
PGF	**Pioggiola**	**84.11**	**312**	*e*P	**P**	**03 20 28.5**	**+0.3**
	comp=Z,46nm,1.1s,mb5.2						
PGF	**Pioggiola**	**84.11**	**312**	*e*P	**P**	**03 20 28.5**	**+0.3**
PGF				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.2						
TNS	**Taunus Mts**	**84.68**	**320**	*e*P	**P**	**03 20 31.5**	**+0.7**
TNS				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1						
TNS	**Taunus Mts**	**84.68**	**320**	*e*P	**P**	**03 20 31.5**	**+0.7**
	comp=Z,15nm,1.0s,mb5.1						
BFO	**Black Forest**	**84.71**	**318**	*e*P	**P**	**03 20 31.1**	**+0.1**
BFO				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.1						
BFO	**Black Forest**	**84.71**	**318**	*e*P	**P**	**03 20 31.1**	**+0.1**
	comp=Z,18nm,1.2s,mb5.1						
SBF	**Sospel**	**85.27**	**314**	⇑*i*P	**P**	**03 20 34.2**	**+0.3**
	comp=Z,65nm,0.8s,mb5.5						
SBF	**Sospel**	**85.27**	**314**	⇑*i*P	**P**	**03 20 34.2**	**+0.3**
SBF				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.5						
CDF	**Champ du Feu**	**85.41**	**318**	*e*P	**P**	**03 20 34.4**	**-0.1**
HINF	**Hinteralfeld**	**85.69**	**318**	*e*P	**P**	**03 20 35.6**	**-0.3**
MBDF	**Montbardon**	**85.75**	**314**	*e*P	**P**	**03 20 36.0**	**-0.3**
	comp=Z,20nm,0.9s,mb5.0						
MBDF	**Montbardon**	**85.75**	**314**	*e*P	**P**	**03 20 36.0**	**-0.3**
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
LPG	**La Plagne**	**85.76**	**315**	⇑*i*P	**P**	**03 20 36.9**	**+0.6**
	comp=Z,23nm,0.7s,mb5.2						
LPG	**La Plagne**	**85.76**	**315**	⇑*i*P	**P**	**03 20 36.9**	**+0.6**
LPG				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.2						
LPL	**La Plagne**	**85.77**	**315**	⇑*i*P	**P**	**03 20 36.9**	**+0.5**
	comp=Z,36nm,1.0s,mb5.3						
LPL	**La Plagne**	**85.77**	**315**	⇑*i*P	**P**	**03 20 36.9**	**+0.5**
LPL				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.3						
BNI	**Bardonecchia**	**85.81**	**315**	*e*P	**P**	**03 20 36.8**	**+0.2**
BNI				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.1						
BNI	**Bardonecchia**	**85.81**	**315**	*e*P	**P**	**03 20 36.8**	**+0.2**
	comp=Z,12nm,0.9s,mb5.1						
FRF	**La Foret Royal**	**85.84**	**313**	⇑*i*P	**P**	**03 20 37.2**	**+0.4**
	comp=Z,47nm,0.9s,mb5.4						
FRF	**La Foret Royal**	**85.84**	**313**	⇑*i*P	**P**	**03 20 37.2**	**+0.4**
FRF				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.4						
LMR	**La Mourre**	**85.94**	**313**	*e*P	**P**	**03 20 37.6**	**+0.3**
	comp=Z,84nm,1.3s,mb5.5						
LMR	**La Mourre**	**85.94**	**313**	*e*P	**P**	**03 20 37.6**	**+0.3**
LMR				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.5						
HAU	**Haudompre**	**86.03**	**318**	*e*P	**P**	**03 20 37.4**	**-0.2**
	comp=Z,26nm,0.9s,mb5.2						
HAU	**Haudompre**	**86.03**	**318**	*e*P	**P**	**03 20 37.4**	**-0.2**
HAU				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.2						
CABF	**La Chapelle**	**86.22**	**316**	⇑*i*P	**P**	**03 20 39.0**	**+0.4**
	comp=Z,114nm,1.4s,mb5.6						
CABF	**La Chapelle**	**86.22**	**316**	⇑*i*P	**P**	**03 20 39.0**	**+0.4**
CABF				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.6						
ORIF	**Oris-en-Rattie**	**86.38**	**315**	⇑*i*P	**P**	**03 20 39.4**	**0.0**
	comp=Z,19nm,0.8s,mb5.1						
ORIF	**Oris-en-Rattie**	**86.38**	**315**	⇑*i*P	**P**	**03 20 39.4**	**0.0**
ORIF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
SMRF	**Simiane la Rot**	**86.61**	**314**	*e*P	**P**	**03 20 41.5**	**+0.9**
	comp=Z,120nm,1.5s,mb5.6						
MEZF	**Maizieres J'vi**	**86.89**	**318**	*e*P	**P**	**03 20 41.9**	**+0.1**
GIVF	**Givet**	**87.01**	**320**	*e*P	**P**	**03 20 42.5**	**+0.2**
VIVF	**Saint-Julien-l**	**87.24**	**315**	⇑*i*P	**P**	**03 20 43.9**	**+0.3**
	comp=Z,30nm,1.1s,mb5.1						
VIVF	**Saint-Julien-l**	**87.24**	**315**	⇑*i*P	**P**	**03 20 43.9**	**+0.3**
VIVF				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.1						
BAIF	**Baives**	**87.41**	**320**	*e*P	**P**	**03 20 44.6**	**+0.3**
	comp=Z,62nm,1.2s,mb5.4						
BAIF	**Baives**	**87.41**	**320**	*e*P	**P**	**03 20 44.6**	**+0.3**
BAIF				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.4						
LOR	**Lormes**	**87.73**	**317**	*e*P	**P**	**03 20 45.9**	**0.0**
	comp=Z,39nm,1.1s,mb5.2						
LOR	**Lormes**	**87.73**	**317**	*e*P	**P**	**03 20 45.9**	**0.0**
LOR				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.3						
SMF	**Signal de Mont**	**87.76**	**316**	*e*P	**P**	**03 20 46.1**	**0.0**
	comp=Z,38nm,1.1s,mb5.2						
SMF	**Signal de Mont**	**87.76**	**316**	*e*P	**P**	**03 20 46.1**	**0.0**
SMF				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.2						
LASF	**Ste Croix**	**87.85**	**314**	*e*P	**P**	**03 20 47.2**	**+0.7**
SSF	**Saint Saulge**	**87.98**	**317**	*e*P	**P**	**03 20 47.4**	**+0.3**
AVF	**Avril sur Loir**	**88.09**	**317**	*e*P	**P**	**03 20 47.6**	**0.0**
	comp=Z,64nm,1.3s,mb5.4						
AVF	**Avril sur Loir**	**88.09**	**317**	*e*P	**P**	**03 20 47.6**	**0.0**
AVF				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.4						
BGF	**Bois d'Agland**	**88.45**	**316**	*e*P	**P**	**03 20 49.8**	**+0.4**
	comp=Z,162nm,1.7s,mb5.7						
BGF	**Bois d'Agland**	**88.45**	**316**	*e*P	**P**	**03 20 49.8**	**+0.4**
BGF				pmax	pmax		
	comp=Z,81nm,1.7s,mb5.7						
MTLF	**Montolieu**	**89.07**	**313**	⇑*i*P	**P**	**03 20 53.1**	**+0.7**
	comp=Z,46nm,1.2s,mb5.4						
MTLF	**Montolieu**	**89.07**	**313**	⇑*i*P	**P**	**03 20 53.1**	**+0.7**
MTLF				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.4						
NVL	**N'lazarevskaya**	**90.28**	**199**	⇑*i*P	**P**	**03 20 59.6**	**+2.2**
NVL				*i*	pP	03 21 07.8	+1.4
NVL				*e*		03 24 30.9	
NVL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.4						
FLN	**La Foliniere**	**90.54**	**319**	*e*P	**P**	**03 20 59.5**	**+0.4**
ETSF	**Etsaut**	**91.13**	**313**	⇑*i*P	**P**	**03 21 03.2**	**+1.2**
	comp=Z,31nm,0.9s,mb5.3						
ETSF	**Etsaut**	**91.13**	**313**	⇑*i*P	**P**	**03 21 03.2**	**+1.2**
ETSF				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.3						
TORD	**Torodi Ar. Bea**	**91.39**	**283**	P	**P**	**03 21 04.5**	**+0.7**
	comp=Z,5.2nm,1.1s,mb4.8,baz=78,slow=5.2,SNR=24						
TORD				pP	pP	03 21 13.2	+0.4
	comp=Z,3.9nm,0.9s,baz=70,slow=4.8,SNR=11						
SJPF	**Ste Jean**	**91.60**	**313**	*e*P	**P**	**03 21 05.4**	**+1.3**
	comp=Z,84nm,1.4s,mb5.6						
SJPF	**Ste Jean**	**91.60**	**313**	*e*P	**P**	**03 21 05.4**	**+1.3**
SJPF				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.6						
ESDC	**Sonseca Array**	**94.04**	**310**	P	**P**	**03 21 16.2**	**+0.8**
	comp=Z,2.5nm,0.7s,mb4.8,baz=59,slow=4.3,SNR=8.3						
ESDC				pP	pP	03 21 25.2	+0.7
	comp=Z,2.4nm,0.8s,baz=52,slow=3.5,SNR=7.3						
DBIC	**Dimbokro**	**98.27**	**277**	LR	LR	04 01 59.1	
	comp=Z,62nm,20.5s,MS4.1,baz=101,slow=33						
KDAK	**Kodiak Island**	**99.70**	**30**	LR	LR	04 12 24.9	
	comp=Z,118nm,19.9s,MS4.4,baz=272,slow=39						
ULM	**Lac du Bonnet**	**126.20**	**8**	PKP	PKPdf	03 26 59.0	-4.3
	comp=Z,1.5nm,0.7s,baz=225,slow=7.3,SNR=3.8						
DGMT	**Dagmar**	**126.28**	**15**	*e*PKPdf	PKPdf	03 26 59.0	-4.5
BOZ	**Bozeman (W)**	**126.44**	**22**	*e*PKIKP	PKPdf	03 27 00.8	-3.1
LOHW	**Long Hollow**	**128.55**	**23**	PKPdf	PKPdf	03 27 03.6	-4.5
BW06	**Boulder Array**	**129.67**	**22**	*e*PKPdf	PKPdf	03 27 07.1	-3.1
BW06				*e*pPKPdf		03 27 15.6	
PDAR	**Pinedale Array**	**129.67**	**22**	PKP	PKPdf	03 27 07.1	-3.2
	comp=Z,1.4nm,0.9s,slow=3.0,SNR=9.2						
PDAR				pPKP		03 27 15.6	
	comp=Z,2.0nm,1.0s,slow=1.5,SNR=7.7						
DUG	**Dugway**	**130.46**	**27**	*e*PKIKP	PKPdf	03 27 09.5	-2.3
PV10	**Paradox Valley**	**133.61**	**25**	*e*PKPdf	PKPdf	03 27 14.7	-3.1
SMCO	**Snowmass**	**133.76**	**22**	PKPdf	PKPdf	03 27 14.9	-3.1
ANMO	**Albuquerque**	**137.61**	**25**	*e*PKIKP	PKPdf	03 27 22.6	-2.7
BDFB	**Brasilia**	**140.45**	**249**	PKP	PKPdf	03 27 27.3	-3.5
	comp=Z,3.9nm,0.9s,baz=293,slow=4.2,SNR=3.3						
BDFB				pPKP		03 27 36.8	
	comp=Z,2.1nm,0.7s,baz=61,slow=4.8,SNR=2.4						
MNTX	**Cornudas Mount**	**140.85**	**26**	*e*PKPdf	PKPdf	03 27 27.0	-4.3
TXAR	**Lajitas Array**	**143.63**	**26**	PKP	PKPdf	03 27 31.2	-4.9
	comp=Z,1.6nm,0.8s,baz=184,slow=1.3,SNR=22						
CPUP	**Villa Florida**	**143.98**	**227**	*e*PKIKP	PKPdf	03 27 31.4	-5.4
CPUP				*e*		03 27 40.0	
NATX	**Nacogdoches**	**144.39**	**12**	*e*PKPdf	PKPdf	03 27 33.1	-4.3
NATX				*e*pPKPdf		03 27 41.5	
CPD	**Cerro la Pandu**	**151.02**	**317**	*e*PKIKP	PKPdf	03 27 51.2	+2.6
CPD				*e*		03 27 59.4	
SJG	**San Juan**	**151.13**	**318**	PKPbc	PKPdf	03 27 51.3	+2.6
	comp=Z,7.6nm,0.8s,baz=254,slow=20,SNR=2.9						
SJG				PKPab	PKPab	03 27 58.9	-0.9
	comp=Z,12nm,0.8s,baz=46,slow=7.5,SNR=4.3						
SAML	**Samuel**	**156.44**	**255**	*e*PKPab	PKPab	03 28 21.9	-0.4
LPAZ	**La Paz**	**157.96**	**232**	PKP	PKPdf	03 27 56.1	-2.0
	comp=Z,1.6nm,0.7s,baz=73,slow=1.8,SNR=8.0						
LPAZ				pPKP		03 28 04.8	
	comp=Z,2.2nm,0.9s,baz=325,slow=2.9,SNR=6.0						
LPAZ				PKPab	PKPab	03 28 29.0	+0.2
	comp=Z,2.6nm,0.6s,baz=121,slow=6.7,SNR=10.0						
LPAZ				pPKPab		03 28 38.0	
	comp=Z,1.9nm,0.6s,baz=116,slow=8.3,SNR=6.0						
LPAZ	**La Paz**	**157.96**	**232**	*e*PKIKP	PKPdf	03 27 55.8	-2.3
LPAZ				*e*		03 28 29.4	
SDV	**Santo Domingo**	**160.47**	**308**	PKPab	PKPab	03 28 39.2	-0.4
	comp=Z,8.0nm,1.0s,baz=71,slow=2.6,SNR=11						
SDV				pPKPab		03 28 47.9	
	comp=Z,7.5nm,0.9s,baz=350,slow=3.0,SNR=6.5						
ROSC	**El Rosal**	**165.78**	**304**	PKP	PKPdf	03 28 04.1	-2.2
	comp=Z,5.6nm,1.0s,baz=269,slow=22,SNR=3.7						
ROSC				pPKP		03 28 12.4	
	comp=Z,3.5nm,0.5s,baz=92,slow=21,SNR=3.7						
OTAV	**Otavalo**	**171.61**	**293**	*e*PKPdf	PKPdf	03 28 07.2	-2.8
OTAV				*e*pPKPdf		03 28 15.8	

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*TRN **02** 03:30:40.0, 10.60N×61.47W, h17km, MD4.2*
TRN Felt (IV-VI) in northern Trinidad, (III) in central andsouth Trinidad.
*FUNV **02** 03:30:40.8, 10.73N×61.74W, MW3.2*
*NEIC **02** 03:30:40.1, 10.59N×61.45W, h17km, mb4.3/15, MD4.2(TRN), MD3.8(FDF), After TRN.*
NEIC Felt at Chaguanas, Chaguaramas, D'Abadie, Diego Martin, Marabella, Port-of-Spain, Saint Augustine, Sangre Grande and Westbrook.
*IDC **02** 03:30:43.0±1.5, 10.63N×61.86W, h46km±14km, mb3.9/18, mb1 4.1/21, mb1mx4.0/25, mbtmp4.2/21, ML4.4/1, MS3.7/5, Ms1 3.8/5, ms1mx3.3/28, Error ellipse: s-maj=13.1km s-min=9.6km az=111.0*
ISC 02 03:30:37.7±0.3**, 10.54N**±0.02×**61.68W**±0.02**, h17**km**, n91,** σ**1§27**/111**, mb4.2**/28**, MS3.7**/5**, 3C-6D, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.29**	**67**	*i* P	**Pb**	**03 30 43.3**	**-0.8**
TRN				*e*S	**Sb**	**03 30 46.1**	**-2.3**
TPP	**Pointe-a-Pierr**	**0.31**	**134**	⇓*i*P	**Pb**	**03 30 45.9**	**+1.5**
TPP				*e*S	**Sb**	**03 30 50.3**	**+1.4**
ALNG	**Atlantic LNG**	**0.35**	**182**	⇓*i*P	**Pb**	**03 30 50.7**	**+5.6**
ALNG				*e*S	**Sb**	**03 30 56.5**	**+6.3**
SIPA	**Siparia**	**0.42**	**157**	⇑*i*P	**Pb**	**03 30 51.8**	**+5.4**
GUIV	**Guiria**	**0.55**	**282**	*e*P	**Pb**	**03 30 50.2**	**+1.7**
GUIV				*e*S	**Sb**	**03 30 56.8**	**+1.0**
TPR	**Prospect**	**1.09**	**54**	*e*P	**Pb**	**03 30 57.6**	**-0.1**
GUNV	**Guanoco**	**1.30**	**253**	*e*P	**Pn**	**03 31 05.0**	**+3.8**
GUNV				*e*S	**Sb**	**03 31 23.8**	**+6.3**
CRUV	**Carupano**	**1.54**	**275**	*e*P	**Pn**	**03 31 06.7**	**+2.1**
GRW	**Mount Saint Ca**	**1.61**	**1**	⇑*i*P	**Pn**	**03 31 06.7**	**+1.0**
GRW				*e*S	**Sn**	**03 31 27.3**	**+1.1**
GRW	**Mount Saint Ca**	**1.61**	**1**	⇑*i*P	**Pn**	**03 31 06.7**	**+1.0**
GRW				*e*S	**Sn**	**03 31 29.6**	**+3.4**
ITEV	**Isla Los Testi**	**1.65**	**300**	*e*P	**Pn**	**03 31 08.2**	**+2.1**
ITEV				*e*S	**Sn**	**03 31 29.1**	**+2.1**
GRHS	**Sauteurs**	**1.68**	**1**	*e*P	**Pn**	**03 31 07.8**	**+1.2**
GRHS				*e*S	**Sn**	**03 31 28.9**	**+1.1**
GRHS	**Sauteurs**	**1.68**	**1**	*e*P	**Pn**	**03 31 07.8**	**+1.2**
GRHS				*e*S	**Sn**	**03 31 26.8**	**-1.0**
ORIV	**Oritupano**	**2.24**	**230**	*e*P	**Pn**	**03 31 19.4**	**+4.7**
ORIV				*e*S	**Sn**	**03 31 48.8**	**+6.6**
FCV	**Fort Charlotte**	**2.64**	**9**	*e*P	**Pn**	**03 31 22.5**	**+2.2**
FCV				*e*S	**Sn**	**03 31 51.8**	**-0.4**
FCV	**Fort Charlotte**	**2.64**	**9**	*e*P	**Pn**	**03 31 23.9**	**+3.6**
FCV				*e*S	**Sn**	**03 31 58.3**	**+6.1**
SVB	**Belmont**	**2.75**	**9**	*e*P	**Pn**	**03 31 24.1**	**+2.2**
SVB				*e*S	**Sn**	**03 31 54.7**	**-0.4**
SVB	**Belmont**	**2.75**	**9**	*e*P	**Pn**	**03 31 24.1**	**+2.2**
SVB				*e*S	**Sn**	**03 31 59.1**	**+4.1**
MVM	**Montagne Vaucl**	**4.07**	**11**	*e*P	**Pn**	**03 31 41.1**	**+0.4**
MVM				*e*S	**Sn**	**03 32 28.2**	**-0.2**
FDF	**Fort de France**	**4.20**	**7**	⇓*e*P	**Pn**	**03 31 43.0**	**+0.4**
FDF				*e*S	**Sn**	**03 32 31.4**	**-0.4**
CRM	**Caravelle**	**4.26**	**10**	⇓*e*P	**Pn**	**03 31 43.8**	**+0.5**
ORCV	**Isla La Orchil**	**4.61**	**286**	*e*P	**Pn**	**03 31 49.3**	**+1.0**
DSHT	**Scott's Head**	**4.66**	**4**	*e*P	**Pn**	**03 31 49.5**	**+0.4**
DSHT				*e*S	**Sn**	**03 32 46.2**	**+2.9**
MERV	**Las Mercedes**	**4.73**	**255**	*e*P	**Pn**	**03 31 52.2**	**+2.2**
MERV				*e*S	**Sn**	**03 32 44.4**	**-0.7**
MDN	**Morne-Daniel**	**4.76**	**3**	*e*P	**Pn**	**03 31 50.9**	**+0.4**
MDN				*e*S	**Sn**	**03 32 47.6**	**+1.7**
BBL	**Barber's Block**	**4.96**	**2**	*e*P	**Pn**	**03 31 53.2**	**-0.1**
TBG	**Guadaloupe-3**	**5.28**	**0**	*e*P	**Pn**	**03 31 57.6**	**-0.3**
MGG	**Marie-Galante**	**5.36**	**4**	*e*P	**Pn**	**03 31 59.8**	**+0.9**
SCG	**Saint Claude**	**5.46**	**360**	*e*P	**Pn**	**03 32 00.8**	**+0.5**
DOG	**Dongo Capester**	**5.46**	**1**	*e*P	**Pn**	**03 32 00.8**	**+0.4**
BCG	**Bois Riant Cap**	**5.52**	**1**	*e*P	**Pn**	**03 32 01.4**	**+0.3**
LZG	**Guadaloupe-1**	**5.57**	**359**	*e*P	**Pn**	**03 32 02.1**	**+0.1**
CAOV	**Caicara del Or**	**5.59**	**236**	*e*S	**Sn**	**03 33 05.8**	**-0.9**
DEG	**La Desirade**	**5.77**	**6**	*e*P	**Pn**	**03 32 03.9**	**-0.8**
BAUV	**El Baul**	**6.47**	**256**	*e*P	**Pn**	**03 32 15.5**	**+0.9**
BAUV				*e*S	**Sn**	**03 33 25.2**	**-3.5**
TEPV	**Terepaima**	**7.42**	**266**	*e*P	**Pn**	**03 32 27.9**	**0.0**
MTP	**Monte Pirata**	**8.40**	**334**	*e*Pn	**P**	**03 32 40.4**	**-1.3**
ELOV	**Elorza**	**8.48**	**246**	*e*P	**P**	**03 32 42.2**	**-0.4**
CPD	**Cerro la Pandu**	**8.51**	**332**	*e*Pn	**P**	**03 32 41.3**	**-1.9**
SJG	**San Juan**	**8.69**	**331**	P	**P**	**03 32 45.1**	**-0.5**
	2.0nm,0.3s,baz=214,slow=16,SNR=4.2						
SJG				S	**Sn**	**03 34 15.4**	**-8.7**
	4.5nm,0.3s,baz=316,slow=15,SNR=3.3						
SJG	**San Juan**	**8.69**	**331**	*e*Pn	**P**	**03 32 44.7**	**-0.9**
	14nm,0.5s						
SDV	**Santo Domingo**	**8.98**	**260**	P	**P**	**03 32 49.0**	**-0.7**
	4.0nm,0.3s,baz=89,slow=8.9,SNR=43						
SDV				S	**Sn**	**03 34 26.1**	**-5.3**
	4.6nm,0.3s,baz=84,slow=17,SNR=3.4						
SDV	**Santo Domingo**	**8.98**	**260**	*e*Pn	**P**	**03 32 48.7**	**-0.9**
	57nm,0.9s						
SOCV	**Socops**	**9.33**	**257**	*e*P	**P**	**03 32 53.9**	**-0.5**
SOCV				*e*S	**Sn**	**03 34 32.2**	**-7.8**
CAPV	**Capacho**	**10.83**	**257**	*e*P	**P**	**03 33 14.0**	**-1.2**
ROSC	**El Rosal**	**13.75**	**247**	P	**P**	**03 33 55.3**	**+0.8**
	0.9nm,0.3s,baz=61,slow=23,SNR=4.1						
SAML	**Samuel**	**19.41**	**184**	*e*P	**P**	**03 35 06.0**	**0.0**
	4.3nm,0.6s						
OTAV	**Otavalo**	**19.57**	**240**	*e*P	**P**	**03 35 11.5**	**+3.7**
	19nm,1.0s						
SIV	**San Ignacio**	**26.36**	**179**	P	**P**	**03 36 15.7**	**+0.7**
	2.9nm,0.7s,mb3.9,baz=14,slow=9.7,SNR=16						
LPAZ	**La Paz**	**27.41**	**194**	P	**P**	**03 36 27.0**	**+2.5**
	1.7nm,1.0s,mb3.5,baz=11,slow=6.3,SNR=5.9						
LPAZ				LR	LR	03 48 25.9	
	comp=Z,258nm,18.9s,MS3.8,baz=356,slow=39						
LPAZ	**La Paz**	**27.41**	**194**	*e*P	**P**	**03 36 27.2**	**+2.6**
	3.6nm,0.9s,mb3.9						
BDFB	**Brasilia**	**29.32**	**152**	P	**P**	**03 36 43.1**	**+1.3**
	2.1nm,0.6s,mb4.1,baz=165,slow=7.3,SNR=4.3						
WVT	**Waverly**	**34.79**	**321**	*e*P	**P**	**03 37 28.2**	**-1.4**
	4.7nm,0.7s,mb4.5						
CFAA	**Coronel Fontan**	**42.37**	**188**	P	**P**	**03 38 32.5**	**-0.4**
	0.2nm,0.6s,baz=327,slow=7.6,SNR=4.5						
CFAA	**Coronel Fontan**	**42.37**	**188**	P	**P**	**03 38 32.5**	**-0.4**
TXAR	**Lajitas Array**	**43.39**	**302**	P	**P**	**03 38 40.2**	**-0.9**
	1.5nm,0.8s,mb3.8,baz=114,slow=7.9,SNR=14						
TXAR				PcP	PcP	03 40 30.3	+0.1
	1.9nm,0.8s,baz=123,slow=5.7,SNR=9.2						
SCHQ	**Schefferville**	**44.37**	**356**	P	**P**	**03 38 48.2**	**-0.6**
	4.8nm,0.6s,mb4.4,baz=159,slow=7.9,SNR=9.4						
SCHQ	**Schefferville**	**44.37**	**356**	P	**P**	**03 38 48.2**	**-0.6**
MNTX	**Cornudas Mount**	**45.50**	**304**	*e*P	**P**	**03 38 55.8**	**-2.3**
	2.6nm,1.0s,mb4.0						
ANMO	**Albuquerque**	**47.40**	**308**	P	**P**	**03 39 12.3**	**-0.8**
	0.7nm,0.4s,mb3.9,baz=126,slow=6.0,SNR=6.5						
ANMO	**Albuquerque**	**47.40**	**308**	*e*P	**P**	**03 39 12.1**	**-1.0**
	2.7nm,1.1s,mb4.1						
SDCO	**Great Sand Dun**	**47.69**	**312**	*e*P	**P**	**03 39 14.3**	**-1.1**
	2.0nm,0.7s,mb4.3						
ULM	**Lac du Bonnet**	**48.59**	**331**	P	**P**	**03 39 19.9**	**-2.3**
	1.2nm,0.5s,mb4.2,baz=111,slow=10,SNR=4.0						
SMCO	**Snowmass**	**49.31**	**313**	*e*P	**P**	**03 39 26.7**	**-1.2**
	1.1nm,0.5s,mb4.1						
PV01	**Paradox Valley**	**50.09**	**311**	*e*P	**P**	**03 39 32.9**	**-1.0**
PLCA	**Paso Flores**	**51.66**	**189**	P	**P**	**03 39 45.4**	**-0.4**
	1.9nm,0.9s,mb4.0,baz=348,slow=10,SNR=3.9						
PLCA				LR	LR	04 05 20.8	
	comp=Z,126nm,18.3s,MS4.0,baz=245,slow=40						
PLCA	**Paso Flores**	**51.66**	**189**	P	**P**	**03 39 45.4**	**-0.4**
PLCA				LR	LR	04 05 20.8	
BW06	**Boulder Array**	**52.51**	**316**	*e*P	**P**	**03 39 49.8**	**-2.4**
	2.4nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**52.51**	**316**	P	**P**	**03 39 49.4**	**-2.8**
	1.8nm,0.8s,mb4.1,baz=112,slow=9.1,SNR=16						
PDAR				LR	LR	04 05 14.4	
	comp=Z,58nm,18.1s,MS3.7,baz=225,slow=40						
FRB	**Frobisher Bay**	**53.35**	**356**	LR	LR	04 01 26.8	
	comp=Z,51nm,19.9s,MS3.6,baz=180,slow=35						
HWUT	**Hardware Ranch**	**53.47**	**314**	*e*P	**P**	**03 39 56.8**	**-2.5**
	2.5nm,0.9s,mb4.1						
DUG	**Dugway**	**53.88**	**312**	*e*P	**P**	**03 40 00.7**	**-1.6**
	3.3nm,0.7s,mb4.4						
BOZ	**Bozeman (W)**	**55.02**	**319**	*e*P	**P**	**03 40 08.3**	**-2.4**
	1.2nm,0.9s,mb3.9						
DBIC	**Dimbokro**	**56.25**	**89**	P	**P**	**03 40 19.5**	**-0.4**
	4.2nm,0.6s,mb4.6,baz=291,slow=4.5,SNR=12						
DBIC	**Dimbokro**	**56.25**	**89**	*e*P	**P**	**03 40 19.7**	**-0.2**
	5.1nm,0.7s,mb4.7						
SFJD	**Kangerlussuaq**	**56.88**	**5**	LR	LR	04 02 44.3	
	comp=Z,54nm,20.0s,MS3.6,baz=199,slow=34						
ESDC	**Sonseca Array**	**58.61**	**50**	P	**P**	**03 40 37.1**	**+0.9**
	2.0nm,0.6s,mb4.3,baz=259,slow=7.5,SNR=10.0						
NEW	**Newport**	**59.48**	**320**	*e*P	**P**	**03 40 39.5**	**-2.7**
	4.9nm,0.7s,mb4.7						
TORD	**Torodi Ar. Bea**	**61.94**	**81**	P	**P**	**03 40 59.0**	**-0.3**
	2.7nm,0.6s,mb4.5,baz=290,slow=6.7,SNR=21						
SUMG	**Summit**	**63.55**	**8**	*e*P	**P**	**03 41 09.4**	**+0.3**
	47nm,1.0s						
YKA	**Yellowknife Ar**	**64.14**	**336**	P	**P**	**03 41 10.0**	**-3.2**
	0.8nm,0.7s,mb3.9,baz=109,slow=7.3,SNR=5.7						
DAG	**Danmarks Havn**	**69.98**	**10**	⇓*i*P	**P**	**03 41 50.1**	**+0.3**
	4.2nm,0.9s,mb4.4						
DAG	**Danmarks Havn**	**69.98**	**10**	⇓*e*P	**P**	**03 41 50.1**	**+0.3**
	4.2nm,0.9s,mb4.4						
GERES	**GERESS Array B**	**72.52**	**42**	P	**P**	**03 42 05.8**	**+0.2**
	1.3nm,0.7s,mb4.0,baz=256,slow=5.5,SNR=10						
NOA	**NORSAR Array B**	**72.57**	**29**	P	**P**	**03 42 06.1**	**+0.5**
	0.7nm,0.8s,mb3.6,baz=330,slow=3.6,SNR=2.8						
NOA	**NORSAR Array B**	**72.57**	**29**	P	**P**	**03 42 06.1**	**+0.5**
ILAR	**Eielson Array**	**78.50**	**334**	P	**P**	**03 42 37.9**	**-1.3**
	0.8nm,0.6s,mb3.8,baz=88,slow=3.9,SNR=13						
ARCES	**ARCESS Array B**	**79.22**	**21**	P	**P**	**03 42 43.8**	**+0.8**
	6.0nm,0.9s,mb4.5,SNR=3.0						
FINES	**FINESS Array B**	**79.76**	**29**	P	**P**	**03 42 47.4**	**+1.3**
	2.6nm,0.8s,mb4.2,baz=225,slow=5.4,SNR=5.1						
STKA	**Stephens Creek**	**149.77**	**222**	PKPbc	PKPdf	03 50 25.9	-0.5
	3.3nm,0.9s,baz=78,slow=5.3,SNR=3.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**161.95**	**237**	PKP	PKPdf	03 50 41.0	-1.4
	0.7nm,1.0s,baz=109,slow=0.3,SNR=5.1						
WRA				PKPab	PKPab	03 51 25.9	-1.2
	1.5nm,0.9s,baz=107,slow=4.1,SNR=6.6						

CASC 02 03:33:53.7±3.0**,12.94N×89.08W,h20**^{km}±33^{km}**,MD3.6, 1C-9D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.68**	**1**	⇓iP	Pb	03 34 10.9	+4.2
LFRS				eS	Sb	03 34 19.7	+3.9
SNVI	**San Vicente**	**0.71**	**19**	⇓eP	Pb	03 34 12.3	+5.0
SNVI				eS	Sb	03 34 22.9	+6.4
LCBS	**La Ceiba**	**0.72**	**8**	⇓iP	Pb	03 34 11.6	+4.2
LCBS				eS	Sb	03 34 21.9	+5.0
LBRS	**Las Brisas**	**0.80**	**2**	eP	Pb	03 34 12.6	+3.9
LBRS				eS	Sb	03 34 23.9	+4.9
LFU	**La Fuente**	**0.81**	**358**	⇑iP	Pb	03 34 12.4	+3.5
LFU				eS	Sb	03 34 23.2	+3.9
BOQS	**Boqueron**	**0.82**	**346**	⇓iP	Pb	03 34 11.8	+2.7
BOQS				eS	Sb	03 34 22.9	+3.3
VSM	**San Miguel**	**0.92**	**58**	⇓eP	Pb	03 34 18.1	+7.3
VSM				eS	Sb	03 34 33.4	+11
BLLM	**Bellamira**	**0.96**	**58**	⇓eP	Pb	03 34 18.5	+7.0
BLLM				eS	Sb	03 34 33.8	+10
SBLS	**San Blas**	**1.04**	**329**	eP	Pb	03 34 13.4	+0.5
SBLS				eS	Sb	03 34 25.7	-0.5
SNJE	**San Jose**	**1.06**	**331**	⇓eP	Pb	03 34 13.9	+0.7
SNJE				eS	Sb	03 34 25.6	-1.0
RTR	**El Retiro**	**1.10**	**330**	⇓eP	Pb	03 34 14.7	+0.7
RTR				eS	Sb	03 34 27.9	0.0
CNCH	**Conchagua**	**1.26**	**74**	eP	Pn	03 34 23.0	+6.7
CNCH				eS	Sb	03 34 39.8	+7.4
MTO2	**Montecristo 2**	**1.48**	**349**	⇓iP	Pn	03 34 20.2	+0.7
LEON	**Leon**	**2.19**	**103**	eP	Pn	03 34 27.6	-2.2
LEON				eS	Sn	03 34 56.3	-0.3
TEL3	**Telica 3**	**2.21**	**99**	eP	Pn	03 34 28.8	-1.2
MIRN	**Miramar**	**2.36**	**102**	eP	Pn	03 34 30.4	-1.7
MIRN				eS	Sn	03 35 00.8	-0.1
COPN	**Copaltepe**	**2.54**	**107**	eP	Pn	03 34 33.9	-0.8
COPN				eS	Sn	03 35 04.6	-0.8

*ATH **02** 04:26:47.5,37.66N×20.92E,h10^{km}±1^{km},MD3.7/14, ML3.8*
*THE **02** 04:26:47.6,37.56N×20.84E,h2^{km},ML3.6*
*CSEM **02** 04:26:47.0±0.1,37.40N×20.77E,h60^{km},ML3.8,Error ellipse: s-maj=5.4km s-min=2.0km az=75.0*
*NEIC **02** 04:26:47.5,37.66N×20.92E,h10^{km},ML3.8(ATH),After ATH.*
*IDC **02** 04:26:50.3±1.6,37.61N×20.95E,h41^{km}±22^{km},mb3.5/7, mb1 3.6/12,mb1mx3.4/26,mbtmp3.6/12,ML3.3/4,Error ellipse: s-maj=17.0km s-min=10.7km az=23.0*
*HLW **02** 04:26:52.9,37.40N×21.19E,h33^{km},Mb3.4*
ISC 02 04:26:46.1±0.4**,37.54N**±0.03×**20.83E**±0.04**,h10**^{km}**,n61, σ1^{s}27**/79**,mb3.7**/7**,3C-2D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.67**	**343**	⇑iPB	**Pb**	**04 26 58.8**	**-0.6**
VLS				eSB	**Sb**	**04 27 07.1**	**-1.4**
RLS	**Riolos of Patr**	**0.72**	**44**	ePB	**Pb**	**04 26 58.8**	**-1.6**
RLS				eSB	**Sb**	**04 27 07.1**	**-3.0**
ITM	**Ithomi**	**0.94**	**112**	ePG	**Pg**	**04 27 04.8**	**-0.2**
ITM				eSB	**Sb**	**04 27 18.5**	**+2.1**
LKD	**Levkas**	**1.18**	**353**	ePg	**Pg**	**04 27 07.9**	**-1.8**
EVR	**Evrytania**	**1.58**	**29**	ePG	**Pg**	**04 27 14.0**	**-3.7**
EVR				eSB	**Sb**	**04 27 34.3**	**-0.6**
VLI	**Veliai**	**1.87**	**115**	ePN	**Pn**	**04 27 21.5**	**+3.0**
AGG	**Agios Georgios**	**1.90**	**38**	ePb	**Pb**	**04 27 20.1**	**-0.3**
AGG				eSb	**Sb**	**04 27 45.1**	**+1.0**
IGT	**Igoumenitsa**	**2.03**	**349**	ePn	**Pn**	**04 27 21.8**	**+1.0**
IGT				eSn	**Sn**	**04 27 48.2**	**+1.7**
LKR	**Lokris**	**2.04**	**56**	ePN	**Pn**	**04 27 22.4**	**+1.4**
JAN	**Janina**	**2.12**	**0**	ePN	**Pn**	**04 27 23.0**	**+0.9**
KYTH	**Kithira**	**2.17**	**125**	ePN	**Pn**	**04 27 26.6**	**+3.8**
KEK	**Kerkira**	**2.32**	**340**	ePN	**Pn**	**04 27 27.1**	**+2.1**
ATH	**Athens Observa**	**2.33**	**78**	ePN	**Pn**	**04 27 26.2**	**+1.1**
MPAR	**Parnis Oros**	**2.38**	**74**	ePN	**Pn**	**04 27 27.0**	**+1.2**
SRN	**Sarande**	**2.43**	**345**	ePn	**Pn**	**04 27 27.4**	**+0.9**
NEO	**Neokhori**	**2.58**	**46**	ePN	**Pn**	**04 27 30.1**	**+1.4**
XOR	**Xorichti**	**2.60**	**45**	ePn	**Pn**	**04 27 30.0**	**+1.0**
LSK	**Leskovik**	**2.62**	**356**	i Pn	**Pn**	**04 27 30.5**	**+1.3**
LSK				i Sn	**Sn**	**04 28 00.5**	**-0.9**
LSK	**Leskovik**	**2.62**	**356**	ePn	**Pn**	**04 27 30.5**	**+1.3**
LSK				i Sn	**Sn**	**04 28 00.5**	**-0.9**
KZN	**Kozani**	**2.86**	**15**	ePN	**Pn**	**04 27 33.8**	**+1.1**
LIT	**Litokhoron**	**2.87**	**26**	ePn	**Pn**	**04 27 33.2**	**+0.4**
LIT	**Litokhoron**	**2.87**	**26**	ePn	**Pn**	**04 27 33.2**	**+0.4**
AOS	**Alonnisos**	**2.90**	**55**	ePn	**Pn**	**04 27 34.1**	**+0.9**
PAIG	**Paliouri**	**3.27**	**42**	ePn	**Pn**	**04 27 38.5**	**+0.1**
FNA	**Florina**	**3.27**	**7**	ePn	**Pn**	**04 27 39.5**	**+1.0**
PLG	**Polygyros**	**3.49**	**35**	ePN	**Pn**	**04 27 42.2**	**+0.6**
BIA	**Bitola**	**3.50**	**6**	i Pn	**Pn**	**04 27 41.5**	**-0.3**
BIA				eSn	**Sn**	**04 28 18.0**	**-5.7**
THE	**Thessaloniki**	**3.51**	**28**	ePn	**Pn**	**04 27 42.0**	**+0.1**
OHR	**Ohrid**	**3.57**	**360**	i Pn	**Pn**	**04 27 42.4**	**-0.4**
OHR				eSn	**Sn**	**04 28 21.2**	**-4.3**
GRG	**Griva**	**3.63**	**19**	ePn	**Pn**	**04 27 43.9**	**+0.3**
SOH	**Sokhos**	**3.82**	**30**	ePn	**Pn**	**04 27 47.0**	**+0.6**
KNT	**Kendrikon**	**3.96**	**23**	ePn	**Pn**	**04 27 48.6**	**+0.3**
IDI	**Anoyia**	**3.97**	**123**	P	**Pn**	**04 27 49.2**	**+0.8**
	0.7nm,0.3s,baz=140,slow=17,SNR=3.9						
IDI				S	**Sn**	**04 28 33.0**	**-2.5**
	5.1nm,0.3s,baz=68,slow=19,SNR=5.3						
VAY	**Valandovo**	**4.01**	**19**	i Pn	**Pn**	**04 27 49.0**	**-0.1**
VAY				eSn	**Sn**	**04 28 31.9**	**-4.8**
QSH	**Qafa e Shtames**	**4.04**	**350**	i Pn	**Pg**	**04 28 08.4**	**+1.5**
STIP	**Stip**	**4.28**	**14**	i Pn	**Pn**	**04 27 52.0**	**-0.9**
STIP				eSn	**Sn**	**04 28 37.7**	**-5.8**
SKO	**Skopje**	**4.46**	**6**	i Pn	**Pn**	**04 27 54.9**	**-0.5**
SKO				eSn	**Sn**	**04 28 41.6**	**-6.3**
MMB	**Musomiste**	**4.62**	**28**	i P	**Pn**	**04 27 57.0**	**-0.8**
KKB	**Krupnik**	**4.66**	**21**	eP	**Pn**	**04 27 58.0**	**-0.3**
VAE	**Valguarnera**	**5.11**	**271**	P	**Pn**	**04 28 04.7**	**+0.2**
	0.4nm,0.3s,baz=248,slow=21,SNR=2.6						
VAE				S	**Sn**	**04 29 05.5**	**+1.2**
	1.2nm,0.3s,baz=117,slow=9.7,SNR=2.4						
RZN	**Rozhen**	**5.12**	**35**	i P	**Pn**	**04 28 04.5**	**-0.2**
SLUM		**7.03**	**148**	P	**Pn**	**04 28 28.1**	**-3.6**
HMAT	**Matruh**	**8.25**	**139**	⇑P	**P**	**04 28 45.2**	**-3.5**
HMAT				S	**Sn**	**04 30 08.6**	**-14**
HMAT	**Matruh**	**8.25**	**139**	P	**P**	**04 28 45.2**	**-3.6**
MLR	**Muntele Rosu**	**8.82**	**24**	P	**P**	**04 28 55.6**	**-1.1**
	baz=153,slow=14						
SWA2		**9.13**	**154**	⇓P	**P**	**04 28 57.7**	**-3.2**
SWA1		**9.20**	**152**	⇑P	**P**	**04 28 58.6**	**-3.3**
VOY	**Vojsko**	**9.94**	**331**	ePn	**P**	**04 29 12.7**	**+0.6**
VOY				eSn	**Sn**	**04 30 56.5**	**-8.3**
HFRF	**Wahat Farafira**	**12.13**	**146**	⇓P	**P**	**04 29 38.1**	**-3.8**
VRAC	**Vranov**	**12.16**	**347**	P	**P**	**04 29 47.8**	**+5.5**
	0.7nm,0.3s,baz=121,slow=12,SNR=4.6						
DAVOX	**Davos**	**12.29**	**322**	S	**S**	**04 31 56.6**	**-5.6**
	0.1nm,0.3s,baz=96,slow=23,SNR=2.7						
GERES	**GERESS Array B**	**12.44**	**338**	P	**P**	**04 29 45.6**	**-0.4**
	0.1nm,0.3s,baz=157,slow=15,SNR=3.6						
GERES				S	**S**	**04 31 56.9**	**-8.8**
	0.1nm,0.3s,baz=156,slow=24,SNR=5.2						
AKASG	**Malin Array Be**	**14.46**	**22**	P	**P**	**04 30 10.2**	**-2.5**
	0.2nm,0.3s,baz=23,slow=38,SNR=3.7						
HFS	**Hagfors**	**23.07**	**351**	P	**P**	**04 31 50.5**	**-2.0**
	1.3nm,0.3s,mb3.8,baz=161,slow=9.9,SNR=15						
EKA	**Eskdalemuir Ar**	**24.09**	**325**	P	**P**	**04 32 01.4**	**-1.1**
	2.1nm,0.7s,mb3.7,baz=124,slow=9.0,SNR=4.8						
FINES	**FINESS Array B**	**24.16**	**6**	P	**P**	**04 32 03.0**	**0.0**
	4.1nm,1.1s,mb3.8,baz=158,slow=10,SNR=4.9						
NB2	**NORSAR Subarra**	**24.30**	**349**	P	**P**	**04 32 02.6**	**-1.7**
	5.3nm,1.2s,mb3.9,baz=162,slow=10						
NOA	**NORSAR Array B**	**24.30**	**349**	P	**P**	**04 32 03.6**	**-0.8**
	1.4nm,0.8s,mb3.5,baz=150,slow=8.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**29.69**	**220**	P	**P**	**04 32 54.5**	**-0.1**
	0.4nm,0.6s,mb3.3,baz=33,slow=8.7,SNR=6.4						
ARCES	**ARCESS Array B**	**32.16**	**3**	P	**P**	**04 33 12.2**	**-3.5**
	2.4nm,0.9s,mb4.0,baz=297,slow=2.7,SNR=5.0						
MKAR	**Makanchi Array**	**45.43**	**58**	P	**P**	**04 35 03.2**	**-3.4**
	0.5nm,0.6s,mb3.5,baz=287,slow=6.4,SNR=8.5						

*IDC **02** 04:43:54.2±1.1,2.45N×95.94E,mb4.3/9,mb1 4.4/10, mb1mx4.2/18,mbtmp4.3/10,ML3.6/1,MS3.5/3,Ms1 3.5/3, ms1mx3.0/19,Error ellipse: s-maj=44.3km s-min=17.9km az=45.0*
*MOS **02** 04:43:57.7±0.8,2.50N×95.99E,h33^{km},mb4.6/10,Error ellipse: s-maj=18.7km s-min=9.9km az=113.6*
*BJI **02** 04:43:58.6,2.40N×96.00E,h30^{km},mB5.0,mb4.8*
*NEIC **02** 04:43:58.6±0.6,2.39N×95.97E,h30^{km},mb4.6/10,Error ellipse: s-maj=15.8km s-min=7.6km az=218.0*
ISC 02 04:43:57.6±0.7**,2.5N**±0.1×**96.00E**±0.09**,h33**^{km}**, (h28**^{km}±5.8^{km}**:pP-P),n40,σ0^{s}81**/38**,mb4.4**/24**,MS3.8**/2**,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.94**	**83**	Pn	**Pn**	**04 44 44.3**	**+1.1**
	8.2nm,0.3s,baz=296,slow=6.3,SNR=19						
PSI				LR	LR	04 45 37.6	
	comp=Z,243nm,19.4s,baz=23,slow=35						
KULM	**Kulim**	**5.43**	**59**	ePn	**Pn**	**04 45 18.4**	**0.0**
JIRN	**Jiri**	**26.76**	**340**	eP	**P**	**04 49 37.3**	**+0.8**
	46nm,0.7s,mb5.1						
PKI	**Pulchoki**	**26.95**	**339**	eP	**P**	**04 49 38.6**	**+0.4**
DMN	**Daman**	**27.10**	**338**	eP	**P**	**04 49 40.0**	**+0.5**
GUN	**Gumba**	**27.10**	**340**	eP	**P**	**04 49 40.2**	**+0.7**
	47nm,0.9s,mb5.0						
KKN	**Kakani**	**27.20**	**339**	eP	**P**	**04 49 41.0**	**+0.5**
	29nm,0.8s,mb4.8						
KKN	**Kakani**	**27.20**	**339**	eP	**P**	**04 49 41.0**	**+0.5**
KKN				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
LSA	**Lhasa**	**27.48**	**351**	eP	**P**	**04 49 43.7**	**+0.6**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
LSA	**Lhasa**	**27.48**	**351**	eP	**P**	**04 49 43.7**	**+0.6**
	comp=Z,4.6nm,0.5s,mb4.3						
GKN	**Gorkha**	**27.63**	**338**	eP	**P**	**04 49 44.9**	**+0.5**
	comp=Z,56nm,0.9s,mb5.2						
KOLN	**Koldanda**	**27.82**	**336**	eP	**P**	**04 49 46.6**	**+0.4**
	comp=Z,19nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**35.63**	**126**	P	**P**	**04 50 54.0**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.2,baz=293,slow=5.3,SNR=6.3						
GTA	**Gaotai**	**36.95**	**5**	eP	**P**	**04 51 04.7**	**-0.8**
GTA				AP	pP	04 51 14.5	-0.7
GTA				XP	sP	04 51 18.6	-0.9
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
HHC	**Hu-ho-hao-te**	**40.73**	**18**	eP	**P**	**04 51 37.3**	**+0.3**
HHC				AP	pP	04 51 47.1	+0.3
HHC				XP	sP	04 51 50.6	-0.4
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
HHC				AMB	AMB		
	comp=Z,160nm,4.6s						
WRA	**Warramunga Arr**	**43.72**	**122**	P	**P**	**04 52 01.8**	**0.0**
	comp=Z,1.1nm,0.4s,mb3.9,baz=302,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**43.72**	**122**	eP	**P**	**04 52 01.9**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
WRAB	**Tennant Creek**	**43.72**	**122**	eP	**P**	**04 52 01.9**	**+0.2**
	comp=Z,2.9nm,0.4s,mb4.4						
AAK	**Ala-Archa**	**44.38**	**337**	eP	**P**	**04 52 06.4**	**-0.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**44.38**	**337**	eP	**P**	**04 52 06.4**	**-0.4**
	comp=Z,3.8nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**45.75**	**347**	P	**P**	**04 52 16.6**	**-1.1**
	comp=Z,3.9nm,0.4s,mb4.7,baz=162,slow=8.3,SNR=82						
MKAR	**Makanchi Array**	**45.75**	**347**	P	**P**	**04 52 17.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**46.09**	**10**	P	**P**	**04 52 19.9**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.5,baz=190,slow=9.0,SNR=28						
SONM				PcP	PcP	04 53 56.8	+0.1
	comp=Z,1.0nm,0.5s,baz=182,slow=3.5,SNR=4.5						
ULN	**Ulaanbaatar**	**46.23**	**10**	eP	**P**	**04 52 21.4**	**-0.1**
ULN				e*PP	pP	04 52 27.9	-3.5
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**46.23**	**10**	eP	**P**	**04 52 21.4**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.4						
ULN				epP	pP	04 52 27.9	-3.4
KKAR	**Karatay Array**	**46.41**	**334**	i P	**P**	**04 52 23.5**	**+0.6**
ZAK	**Zakamensk**	**48.15**	**6**	eP	**P**	**04 52 35.0**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
KURK	**Kurchatov**	**50.28**	**346**	eP	**P**	**04 52 52.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**50.28**	**346**	eP	**P**	**04 52 52.7**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**52.14**	**352**	P	**P**	**04 53 05.9**	**-0.9**
	comp=Z,4.6nm,0.5s,mb4.7,baz=302,slow=5.4,SNR=19						
VOSK	**Vostochnaya**	**54.24**	**342**	P	**P**	**04 53 21.4**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
AB31	**Akbulak array**	**55.85**	**332**	i P	**P**	**04 53 33.6**	**-0.6**
AKTO	**Aktyubinsk**	**57.57**	**332**	P	**P**	**04 53 45.7**	**-0.7**
LSZ	**Lusaka**	**69.33**	**253**	LR	LR	05 22 32.6	
	comp=Z,62nm,18.4s,MS3.9,baz=18,slow=34						
TIXI	**Tiksi**	**72.17**	**10**	eP	**P**	**04 55 17.5**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AKASG	**Malin Array Be**	**73.54**	**322**	P	**P**	**04 55 28.4**	**-0.6**
	comp=Z,0.1nm,0.2s,mb3.3,baz=90,slow=5.0,SNR=5.4						
FINES	**FINESS Array B**	**78.34**	**333**	P	**P**	**04 55 55.6**	**-0.3**
	comp=Z,4.9nm,1.0s,mb4.4,baz=104,slow=7.9,SNR=5.8						
ARCES	**ARCESS Array B**	**80.96**	**340**	P	**P**	**04 56 11.6**	**+1.6**
	comp=Z,5.9nm,0.9s,mb4.5,baz=135,slow=1.7,SNR=6.9						
ARCES				LR	LR	05 38 40.9	
	comp=Z,35nm,20.0s,MS3.7,baz=194,slow=41						
GERES	**GERESS Array B**	**83.08**	**319**	P	**P**	**04 56 23.0**	**+1.6**
	comp=Z,0.1nm,0.4s,mb3.2,baz=112,slow=7.2,SNR=6.8						
TXAR	**Lajitas Array**	**143.21**	**29**	PKP	PKPdf	05 03 28.4	-0.7
	comp=Z,0.2nm,0.5s,baz=217,slow=0.6,SNR=5.5						

*HLW **02** 04:46:37.5,34.75N×24.54E,h15^{km},Mb3.1*
*CSEM **02** 04:46:39.7±0.3,34.43N×24.80E,h10^{km},ML3.1,Error ellipse: s-maj=23.2km s-min=7.9km az=65.0*
*ATH **02** 04:46:43.7,34.50N×24.40E,h27^{km}±7^{km},MD3.3/3*
*NEIC **02** 04:46:43.5,34.49N×24.40E,h27^{km},MD3.3(ATH),After ATH.*
ISC 02 04:46:41.8±1.3**,34.29N**±0.05×**24.3E**±0.2**,h32**^{km}±15^{km}**, n12,σ0^{s}85**/15**,3C-3D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.57**	**344**	ePB	**Pb**	**04 46 53.0**	**-0.4**
VAM	**Vamos**	**1.11**	**357**	ePN	**Pn**	**04 47 01.7**	**+0.3**
VAM				eSN	**Sn**	**04 47 14.9**	**-0.8**
VAM	**Vamos**	**1.11**	**357**	ePn	**Pn**	**04 47 01.7**	**+0.3**
VAM				eSn	**Sn**	**04 47 15.1**	**-0.6**
NPS	**Neapolis**	**1.46**	**48**	ePN	**Pn**	**04 47 07.0**	**+0.6**
KARP	**Karpathos**	**2.68**	**61**	ePN	**Pn**	**04 47 24.6**	**+0.8**
SLUM		**2.90**	**164**	⇑P	**Pn**	**04 47 28.3**	**+1.3**
HMAT	**Matruh**	**3.98**	**143**	⇑P	**Pn**	**04 47 41.4**	**-0.8**
HMAT				S	**Sn**	**04 48 27.6**	**-0.7**
SWA2		**5.13**	**168**	⇓P	**Pn**	**04 47 59.2**	**+0.6**
SWA1		**5.16**	**166**	P	**Pn**	**04 47 59.5**	**+0.6**
HFRF	**Wahat Farafira**	**7.92**	**153**	⇓P	**Pn**	**04 48 36.2**	**-1.5**
AMAG	**Maghara**	**8.38**	**113**	⇑P	**P**	**04 48 38.5**	**-5.5**
SUZ		**8.51**	**119**	⇓P	**P**	**04 48 41.4**	**-4.5**

*CSEM **02** 04:50:59.5±1.3,35.40N×3.66W,h15^{km},MD2.6,Error ellipse: s-maj=41.4km s-min=15.8km az=170.0,After CNRM*
*CNRM **02** 04:50:59.5,35.40N×3.66W,h15^{km},MD2.6*
MDD 02 04:51:00.4±1.6**,35.20N×3.74W,h47**^{km}±19^{km}**,mb4.0**/1**, Error ellipse: s-maj=17.2km s-min=8.5km az=37.0, PRXIMO Error de magnitud,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.24**	**183**	P	P	04 51 09.0	+0.3
TOU				S	S	04 51 14.0	-0.6
ZAI	**Zaio**	**0.85**	**106**	P	P	04 51 15.0	-1.1
ZAI				S	S	04 51 26.0	-1.6
EMIJ	**Mijas**	**1.60**	**329**	P	P	04 51 24.2	-2.5
	23nm,0.9s,SNR=7.9						
EMIJ				S	S	04 51 43.9	-2.5
	86nm,1.7s,SNR=7.9						
EBER	**Berja**	**1.83**	**22**	P	P	04 51 30.0	0.0
	SNR=7.9						
EBER				S	S	04 51 49.1	-2.9
	138nm,1.6s,SNR=7.9						
EQES	**Quesada**	**2.65**	**11**	P	P	04 51 40.5	-1.2
	340nm,4.0s,SNR=7.9						
EQES				S	S	04 52 10.1	-2.8
	SNR=7.9						
ETOB	**Tobarra**	**3.86**	**26**	P	P	04 51 57.3	-1.5
	SNR=7.9						

*CSEM **02** 04:55:53.5±1.0,12.07N×43.37E,h8^{km},ML3.9,Error ellipse: s-maj=22.3km s-min=20.6km az=89.0,After DHMR*
DHMR 02 04:55:53.5±1.5**,12.07N×43.37E,h8**^{km}±9^{km}**,ML3.9,7C-2D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.36**	**32**	i P		04 55 02.8	
TRBA				i S		04 55 20.6	
TRBA				AML	AML	04 55 22.1	
	comp=E,39nm,0.2s						
TRBA	**At Turbah**	**1.36**	**32**	⇓iP	Pb	04 56 19.0	+0.1
TRBA				i S	Sb	04 56 37.8	+1.4
TRBA				AML	AML	04 56 39.5	
	comp=N,2µm,0.4s						
TRBA	**At Turbah**	**1.36**	**32**	i P		05 12 44.1	
TRBA				i S		05 12 59.0	
TRBA				AML	AML	05 13 02.2	
	comp=N,100nm,0.5s						
UDYN	**Al 'Udayn**	**1.97**	**17**	⇑iP	Pn	04 56 29.1	+1.5
UDYN				i S	Sn	04 56 56.0	+3.3
UDYN				AML	AML	04 57 06.0	
	comp=N,2µm,0.5s						
UDYN	**Al 'Udayn**	**1.97**	**17**	⇑iP	Pn	04 56 29.1	+1.5
UDYN				i S	Sn	04 56 56.0	+3.2
	comp=N,1µm,0.5s						
LBOS		**2.56**	**45**	⇑iP	Pn	04 56 37.4	+1.4
LBOS				i S	Sn	04 57 12.9	+5.2
DHBB	**Dhamar BB**	**2.68**	**22**	⇓iP	Pn	04 56 40.1	+2.4
DHBB				i S	Sn	04 57 16.8	+6.2
BDHA	**Al Bayda'**	**2.86**	**48**	⇑iP	Pn	04 56 41.9	+1.6
BDHA				i S	Sn	04 57 20.9	+5.6
BDHA				AML	AML	04 57 33.8	
	comp=N,642nm,0.5s						
BDHA	**Al Bayda'**	**2.86**	**48**	⇑iP	Pn	04 56 41.9	+1.6
BDHA				i S	Sn	04 57 20.9	+5.6
	comp=N,321nm,0.5s						
HAJJ	**Hajjah**	**3.61**	**4**	⇑iP	Pn	04 56 52.8	+1.7
HAJJ				i S	Sn	04 57 37.7	+3.3
HAJJ				AML	AML	04 57 55.6	
	comp=N,343nm,0.5s						
HAJJ	**Hajjah**	**3.61**	**4**	⇑iP	Pn	04 56 52.8	+1.8
HAJJ				i S	Sn	04 57 37.7	+3.3
	comp=N,171nm,0.5s						

*CSEM **02** 04:56:29.3,37.65N×20.91E,h14^{km},MD3.7/3,After ATH*
*NEIC **02** 04:56:29.3,37.65N×20.91E,h14^{km},MD3.7(ATH),After ATH.*
ATH 02 04:56:29.3,37.65N×20.91E,h14^{km}±3^{km}**,MD3.7**/3**,1C, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.58**	**334**	ePG	Pg	04 56 40.5	-0.7
VLS				eSB	Sb	04 56 49.5	+0.9
RLS	**Riolos of Patr**	**0.60**	**47**	⇑iPG	Pg	04 56 40.5	-1.0
RLS				eSB	Sb	04 56 49.3	+0.2
ITM	**Ithomi**	**0.94**	**120**	ePG	Pg	04 56 46.9	-1.2
ITM				eSB	Sb	04 57 00.4	+1.6
EVR	**Evrytania**	**1.45**	**29**	ePB	Pb	04 56 56.8	+1.2
LKR	**Lokris**	**1.93**	**58**	ePN	Pn	04 57 03.8	+1.7

*CSEM **02** 05:07:18.7±1.0,11.98N×43.54E,h5^{km},ML4.1,Error ellipse: s-maj=20.6km s-min=18.8km az=86.0,After DHMR*
DHMR 02 05:07:18.7±1.3**,11.98N×43.54E,h5**^{km}±8^{km}**,ML4.1,5C-1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.36**	**24**	⇑iP	Pb	05 07 44.3	0.0
TRBA				i S	Sb	05 08 03.9	+2.1
TRBA				AML	AML	05 08 05.5	
	comp=N,4µm,0.8s						
UDYN	**Al 'Udayn**	**2.02**	**12**	⇑iP	Pn	05 07 55.0	+1.3
UDYN				i S	Sn	05 08 22.4	+2.8
UDYN				AML	AML	05 08 32.0	
	comp=N,4µm,0.6s						
LBOS		**2.51**	**41**	⇑iP	Pn	05 08 03.0	+2.2
LBOS				i S	Sn	05 08 36.3	+4.2
DHBB	**Dhamar BB**	**2.70**	**18**	⇓iP	Pn	05 08 05.0	+1.5
DHBB				i S	Sn	05 08 43.0	+5.9
BDHA	**Al Bayda'**	**2.79**	**45**	⇑iP	Pn	05 08 07.5	+2.6
BDHA				i S	Sn	05 08 44.9	+5.5
BDHA				AML	AML	05 08 59.6	
	comp=N,877nm,0.7s						
HAJJ	**Hajjah**	**3.69**	**1**	⇑iP	Pn	05 08 18.6	+0.9
HAJJ				i S	Sn	05 09 06.7	+4.5
HAJJ				AML	AML	05 09 21.4	
	comp=N,636nm,0.6s						

*IDC **02** 05:08:36.4±1.4,5.02N×94.11E,mb4.1/8,mb1 4.3/9, mb1mx4.0/20,mbtmp4.1/9,ML3.6/1,MS3.1/1,Ms1 3.1/1, ms1mx2.5/14,Error ellipse: s-maj=58.7km s-min=17.0km az=52.0*
*NEIC **02** 05:08:41.2±0.6,5.06N×94.11E,h30^{km},mb4.3/5,Error ellipse: s-maj=20.2km s-min=7.0km az=46.0*
ISC 02 05:08:40.0±0.9**,5.1N**±0.1×**94.2E**±0.1**,h33**^{km}**,n19, σ0^{s}62**/19**,mb4.2**/12**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.27**	**115**	Pn	**Pn**	**05 09 59.0**	**+0.3**
	2.2nm,0.3s,baz=301,slow=14,SNR=6.0						
PSI				Sn	**Sn**	**05 10 54.7**	**-4.3**
	1.3nm,0.3s,baz=338,slow=17,SNR=1.9						
PSI				LR	LR	05 12 19.7	
	comp=Z,186nm,19.3s,baz=23,slow=42						
KULM	**Kulim**	**6.46**	**88**	Pn	**Pn**	**05 10 16.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**38.67**	**127**	eP	**P**	**05 16 02.0**	**-0.6**
	2.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**38.67**	**127**	P	**P**	**05 16 00.9**	**-1.6**
	3.7nm,0.6s,mb4.3,baz=274,slow=2.1,SNR=12						
MKAR	**Makanchi Array**	**42.78**	**348**	P	**P**	**05 16 36.7**	**+0.4**
	2.2nm,0.6s,mb4.1,baz=173,slow=8.3,SNR=19						
MKAR	**Makanchi Array**	**42.78**	**348**	P	**P**	**05 16 36.7**	**+0.4**
SONM	**Songino Array**	**43.85**	**12**	P	**P**	**05 16 44.5**	**-0.3**
	2.5nm,0.7s,mb4.0,baz=194,slow=7.8,SNR=20						
SONM				PcP	PcP	05 18 29.8	-1.6
	0.6nm,0.6s,baz=182,slow=4.8,SNR=3.8						
ULN	**Ulaanbaatar**	**44.02**	**12**	eP	**P**	**05 16 45.5**	**-0.7**
	2.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**46.68**	**123**	P	**P**	**05 17 07.9**	**+0.2**
	2.8nm,0.6s,mb4.4,baz=302,slow=9.2,SNR=37						
WRAB	**Tennant Creek**	**46.69**	**123**	eP	**P**	**05 17 07.9**	**+0.1**
	10nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**46.69**	**123**	eP	**P**	**05 17 08.2**	**+0.3**
KURK	**Kurchatov**	**47.29**	**347**	eP	**P**	**05 17 12.5**	**+0.4**
	2.7nm,0.5s,mb4.4						
ZAL	**Zalesovo**	**49.28**	**353**	P	**P**	**05 17 28.0**	**+0.4**
	2.2nm,0.5s,mb4.4,baz=312,slow=4.0,SNR=5.7						
BVAR	**Borovoye Array**	**51.61**	**342**	P	**P**	**05 17 44.7**	**-0.6**
	1.2nm,0.6s,mb4.0,baz=139,slow=10,SNR=7.9						
BRVK	**Borovoye**	**51.67**	**342**	eP	**P**	**05 17 45.2**	**-0.6**
	1.1nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**75.16**	**333**	P	**P**	**05 20 20.5**	**0.0**
	2.2nm,0.8s,mb4.2,baz=90,slow=5.6,SNR=10						
FINES	**FINESS Array B**	**75.16**	**333**	P	**P**	**05 20 20.5**	**-0.1**
GERES	**GERESS Array B**	**79.90**	**319**	P	**P**	**05 20 48.0**	**+0.8**
	0.4nm,0.5s,mb3.6,baz=108,slow=4.2,SNR=4.4						
TXAR	**Lajitas Array**	**141.72**	**26**	PKhKP		05 28 04.7	
	0.2nm,0.7s,baz=213,slow=1.0,SNR=3.8						
TXAR				PKP	PKPdf	05 28 10.3	+1.3
	0.1nm,0.6s,baz=180,slow=0.9,SNR=2.9						

*ATH **02** 05:22:43.8,38.14N×26.60E,h36^{km},MD3.3/3*
*ISK **02** 05:22:43.3,38.12N×26.71E,h17^{km},MD3.2*
*CSEM **02** 05:22:43.0±0.1,38.11N×26.71E,h15^{km},MD3.2,Error*

ellipse: s-maj=2.8km s-min=1.9km az=99.0

ISC 02 05:22:42.6±0.8**,38.15N**±0.03×**26.64E**±0.05**,h7**^{km}±5^{km}**,n28,**σ**1**^{s}**09**/39**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.21	350	iP	Pg	05 22 46.0	-1.0
URLA				iS	Sg	05 22 49.4	-0.5
BLCB	Balcova	0.39	53	iPG	Pg	05 22 51.2	+0.7
BLCB				iSG	Sg	05 22 56.7	+0.9
SMG	Samos	0.47	161	ePB	Pg	05 22 54.2	+2.1
SMG				SB	Sg	05 23 02.3	+3.9
IZM	Izmir	0.55	63	iPG	Pg	05 22 54.0	+0.4
IZM				iSG	Sg	05 23 02.3	+1.4
KDAG	Bornova	0.55	63	iP	Pg	05 22 53.1	-0.5
KDAG				iS	Sg	05 23 01.4	+0.4
AYDN	Tasoluk	1.09	116	iP	Pb	05 23 05.3	+1.8
PRK	Paraskevi	1.13	345	ePN	Pn	05 23 04.8	0.0
PRK				SN	Sn	05 23 20.6	-0.1
AYVA	Ayvalik	1.15	2	iP	Pb	05 23 04.2	-0.3
AYVA				iS	Sb	05 23 22.2	+2.7
AKS	Akhisar	1.17	51	iPN	Pn	05 23 04.9	-0.5
BODT	Bodrum	1.21	154	PN	Pn	05 23 05.4	-0.6
MLSB	Milas	1.24	133	iPN	Pn	05 23 05.3	-1.1
APE	Apeiranthos	1.40	220	ePN	Pn	05 23 09.2	+0.6
APE	Apeiranthos	1.40	220	ePn	Pn	05 23 08.4	-0.2
MANT	Manisa	1.54	77	iP	Pn	05 23 12.8	+2.1
DAT	Datca	1.60	152	ePN	Pn	05 23 10.5	-1.1
YER	Yerkesik	1.65	128	PN	Pn	05 23 11.2	-1.1
EZN	Ezine	1.69	352	PN	Pn	05 23 13.8	+1.0
BALB	Balikesir	1.77	33	PN	Pn	05 23 13.2	-0.8
DENT	Denizli	1.93	101	PN	Pn	05 23 15.8	-0.5
DNZL	Cakiroluk	1.96	103	iP	Pn	05 23 21.2	+4.6
DNZL				iS	Sn	05 23 34.2	-7.5
DST	Dursunbey	2.12	46	PN	Pn	05 23 19.1	+0.1
GDZ	Gediz	2.41	66	iP	Pg	05 23 28.5	-2.3
GDZ				iS	Sg	05 24 02.2	-0.7
FETY	Fethiye	2.46	127	ePN	Pn	05 23 23.7	-0.2
MRMT	Marmara Adasi	2.56	16	ePN	Pn	05 23 25.0	-0.2
ORLT	Orhaneli	2.58	42	PN	Pn	05 23 25.7	+0.2
TKTP	Tekketepe	2.90	91	eP	Pg	05 23 36.5	-4.1
TKTP				iS	Sg	05 24 24.7	+5.4
YLV	Yalova	3.21	40	ePN	Pn	05 23 34.9	+0.4
ESKT	Eskisehir	3.56	66	iP	Pg	05 23 50.0	-3.7
ESKT				iS	Sg	05 24 39.3	-1.7

*FUNV **02** 05:43:53.9,10.71N×61.59W,MW2.3*
*TRN **02** 05:43:54.5,10.65N×61.62W,h5^{km},MD3.1*

ISC 02 05:43:54.6±0.6**,10.62N**±0.04×**61.61W**±0.03**,h10**^{km}**,n8,**σ**0**^{s}**81**/15**,1C,Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.21	82⇑	iP	Pg	05 43 58.4	-0.7
TRN				eS	Sg	05 44 02.0	-0.2
TPP	Pointe-a-Pierr	0.34	152	eP	Pg	05 44 01.1	-0.5
TPP				eS	Sg	05 44 07.4	+1.2
GUIV	Guiria	0.60	273	eP	Pb	05 44 05.3	-1.4
GUIV				eS	Sg	05 44 14.1	-0.6
TPR	Prospect	1.00	55	eP	Pb	05 44 13.1	-0.4
GUNV	Guanoco	1.38	251	eP	Pn	05 44 20.3	+0.2
GUNV				eS	Sb	05 44 41.1	+3.5
GRW	Mount Saint Ca	1.53	358	eP	Pn	05 44 22.2	+0.1
GRW				eS	Sb	05 44 43.4	+1.4
CRUV	Carupano	1.60	272	eP	Pn	05 44 22.8	-0.3
CRUV				eS	Sb	05 44 44.3	+0.4
ITEV	Isla Los Testi	1.66	296	eP	Pn	05 44 23.7	-0.3
ITEV				eS	Sn	05 44 45.7	+0.2

*IDC **02** 06:17:07.2±1.3,18.73S×177.53W,h555^{km}±16^{km},mb3.5/9, mb1 3.7/11,mb1mx3.5/19,mbtmp4.5/11,Error ellipse: s-maj=22.0km s-min=11.9km az=150.0*
*NEIC **02** 06:17:07.9±0.8,18.76S×177.53W,h566^{km}±11^{km},mb4.4/9, Error ellipse: s-maj=17.3km s-min=8.8km az=158.0*

ISC 02 06:17:06.4±0.9**,18.8S**±0.1×**177.6W**±0.1**,h555**^{km}±17^{km}**,n32,**σ**0**^{s}**87**/25**,mb4.2**/12**,1C-1D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.41	50	P	P	06 18 59.4	+0.1
	8.0nm,0.3s,baz=239,slow=3.9,SNR=6.8						
AFI				S	S	06 20 28.7	-0.3
	3.2nm,0.3s,baz=42,slow=19,SNR=2.9						
DZM	Mont Dzumac	15.28	255	P	P	06 20 22.6	+4.4
	0.8nm,0.3s,baz=73,slow=22,SNR=7.6						
RAR	Rarotonga	16.98	101	P	P	06 20 34.9	+0.4
	0.9nm,0.3s,baz=10,slow=19,SNR=3.0						
URZ	Urewera	19.97	192	P	P	06 21 02.6	-0.3
	3.2nm,0.3s,baz=279,slow=19,SNR=5.1						
CTA	Charters Tower	34.04	262	eP	P	06 23 06.9	+0.8
	9.8nm,0.7s,mb4.5						
CTA	Charters Tower	34.04	262	P	P	06 23 06.8	+0.8
	7.9nm,0.4s,mb4.6,baz=93,slow=10,SNR=24						
CTAO	Charters Tower	34.04	262	eP	P	06 23 06.9	+0.9
	12nm,0.8s,mb4.5						
PMG	Port Moresby	35.32	280	P	P	06 23 18.3	+1.5
	11nm,0.6s,mb4.6,baz=114,slow=4.3,SNR=6.2						
PMG	Port Moresby	35.32	280	eP	P	06 23 18.3	+1.5
	22nm,0.9s,mb4.7						
STKA	Stephens Creek	38.88	242	eP	P	06 23 47.0	+1.3
	3.4nm,0.4s,mb4.2						
STKA	Stephens Creek	38.88	242	P	P	06 23 46.1	+0.4
	3.9nm,0.4s,mb4.3,baz=52,slow=6.9,SNR=14						
WB2	Warramunga Arr	45.19	260⇓	iP	P	06 24 35.3	-0.5
WRAB	Tennant Creek	45.19	260	eP	P	06 24 35.4	-0.5
	6.1nm,0.5s,mb4.4						
WRA	Warramunga Arr	45.20	260	P	P	06 24 35.4	-0.6
	6.6nm,0.6s,mb4.4,baz=96,slow=8.2,SNR=114						
WRA				PcP	PcP	06 26 04.2	-0.4
	0.6nm,0.4s,baz=94,slow=3.6,SNR=4.8						
KAKA	Kakadu	48.30	270	eP	P	06 25 19.8	+20
	11nm,0.4s,mb4.7						
FORT	Forrest	50.31	245	eP	P	06 25 13.3	-1.0
	8.1nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	53.61	261	eP	P	06 25 38.1	0.0
	7.0nm,0.5s,mb4.2						
FITZ	Fitzroy Crossi	53.61	261	P	P	06 25 38.0	-0.1
	6.6nm,0.4s,mb4.3,baz=86,slow=3.8,SNR=52						
MBWA	Marble Bar	58.58	256	eP	P	06 26 11.5	-0.8
	6.0nm,0.3s,mb4.3						
MJAR	Matsushiro Arr	69.01	323	P	P	06 27 17.2	-1.0
	0.5nm,0.4s,mb3.4,baz=158,slow=7.4,SNR=4.1						
MJAR	Matsushiro Arr	69.01	323	P	P	06 27 17.2	-1.0
ENH	Enshi	85.34	304	P	P	06 28 48.0	+1.6
	4.3nm,0.4s,mb4.3						
TXAR	Lajitas Array	85.83	57	P	P	06 28 49.8	+1.0
	0.1nm,0.6s,baz=214,slow=6.8,SNR=4.4						
ILAR	Eielson Array	86.54	13	P	P	06 28 50.1	-1.1
	0.6nm,0.8s,mb3.3,baz=220,slow=4.8,SNR=7.4						
MKAR	Makanchi Array	110.24	314	PKiKP		06 34 35.5	
	0.4nm,0.5s,baz=132,slow=0.5,SNR=6.8						
BVAR	Borovoye Array	117.95	321	PKP	PKPdf	06 34 50.8	+1.0
	0.7nm,0.5s,baz=180,slow=3.0,SNR=3.8						
ARCES	ARCESS Array B	127.27	350	PKP	PKPdf	06 35 07.8	+0.5
	4.3nm,0.9s,baz=43,slow=1.4,SNR=13						
ARCES	ARCESS Array B	127.27	350	PKP	PKPdf	06 35 07.8	+0.5
EKA	Eskdalemuir Ar	143.24	5	PKP	PKPdf	06 35 36.6	-0.2
	1.8nm,0.7s,baz=315,slow=2.4,SNR=6.4						
CLL	Collm	146.44	348⇑	iPKP1	PKPbc	06 35 47.0	+2.6
GERES	GERESS Array B	148.60	346	PKPbc	PKPdf	06 35 51.5	+5.4
	1.6nm,0.8s,slow=2.7,SNR=5.6						
DAVOX	Davos	151.37	349	PKPbc	PKPdf	06 35 59.3	+8.9
	4.9nm,0.4s,baz=227,slow=3.8,SNR=7.1						

WEL 02 06:26:23.1±0.4**,38.60S**×**175.81E,h134**^{km}±2^{km}**,ML3.6**/11**, Error ellipse: s-maj=3.2km s-min=3.2km az=0.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	West Tongariro	0.55	198	PN	P	06 26 42.8	-0.2
WTVZ				SN	S	06 26 58.7	+0.5
CNZ	Chateau	0.64	198	PN	P	06 26 43.3	-0.2
WPVZ	Whakapapa	0.64	198	PN	P	06 26 43.4	-0.2
TUVZ	Tukino	0.68	190	PN	P	06 26 43.9	0.0
FWVZ	Far West T-bar	0.69	197	PN	P	06 26 43.9	0.0
TRVZ	Turoa	0.73	196	PN	P	06 26 44.3	+0.1
WNVZ	Wahianoa	0.75	192	PN	P	06 26 44.4	+0.1
PKVZ	Pokaka	0.78	207	PN	P	06 26 44.3	-0.3
PKVZ				SN	S	06 27 01.3	+0.3
BKZ	Black Stump Fm	0.78	137	PN	P	06 26 43.9	-0.7
BKZ				SN	S	06 27 00.9	-0.1
MOVZ	Moawhango	0.81	183	PN	P	06 26 44.4	-0.4
MOVZ				SN	S	06 27 00.6	-0.8
URZ	Urewera	1.08	72	ePN	P	06 26 46.4	-0.9
URZ				SN	S	06 27 04.9	-0.8
WAZ	Wanganui	1.32	209	PN	P	06 26 49.3	-0.6
MWZ	Matawai	1.38	80	PN	P	06 26 50.8	+0.3
TSZ	Takapari Road	1.47	175	PN	P	06 26 50.8	-0.7
KNZ	Kokohu	1.52	107	PN	P	06 26 52.3	+0.2
PXZ	Pawanui	1.65	151	PN	P	06 26 53.2	-0.3
MRZ	Mangatainoka R	2.07	185	PN	P	06 26 56.7	-1.8
MRZ				SN	S	06 27 21.9	-3.7
KIW	Kapiti Island	2.37	197	PN	P	06 26 59.6	-2.7
CAW	Cannon Point	2.57	193	PN	P	06 27 02.1	-2.9
DUWZ	D'Urville Isla	2.64	213	PN	P	06 27 02.8	-3.2
MRW	Makara Radio	2.76	198	PN	P	06 27 04.1	-3.4
PAWZ	Paruwai Farm	2.80	186	PN	P	06 27 04.6	-3.3
TRWZ	Traveller	2.80	182	PN	P	06 27 05.0	-3.0
MSWZ	Moikau Station	2.85	188	PN	P	06 27 05.2	-3.4
TCW	Tory Channel	2.87	204	SN	S	06 27 38.4	-5.3
NNZ	Nelson	3.22	215	PN	P	06 27 09.6	-3.9
QRZ	Quartz Range	3.37	228	PN	P	06 27 11.1	-4.4

*LDG **02** 06:46:38.3±0.0,48.35N×8.96E,h12^{km},Md2.7/1,Ml2.6/9, Error ellipse: s-maj=0.7km s-min=0.5km az=161.0*
*ZUR **02** 06:46:38.5,48.34N×8.95E,h10^{km},ML2.2/6*
*LEDBW **02** 06:46:38.4±0.1,48.35N×8.98E,h12^{km}±2^{km},ML2.0,Error ellipse: s-maj=2.2km s-min=1.2km az=83.0*
*CSEM **02** 06:46:38.4±0.1,48.36N×8.96E,h12^{km},ML2.6/7,Error ellipse: s-maj=0.9km s-min=0.8km az=147.0*
*NEIC **02** 06:46:38.0,48.35N×8.98E,h11^{km},ML2.6(LDG), ML2.0(LEDBW),ML2.0(STR),After LEDBW.*
*BGR **02** 06:46:38.5±0.7,48.37N×8.98E,h10^{km},ML1.8/3,Error ellipse: s-maj=13.3km s-min=3.3km az=142.0*
*STR **02** 06:46:40.1±0.5,48.34N×8.84E,h5^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 02 06:46:37.4±0.3**,48.36N**±0.02×**8.92E**±0.02**,h14**^{km}±3^{km}**,n52,**σ**0**^{s}**99**/98**,2C-6D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUBL	Tuebingen Lnz	0.20	34⇓	iP	Pg	06 46 42.9	+0.8
TUBL				iS	Sg	06 46 45.7	+0.5
BUCH	Bad Urach	0.30	73⇑	iP	Pg	06 46 44.1	+0.1
BUCH				iS	Sg	06 46 48.1	-0.3
LBG	Lerchenberg	0.32	345⇓	iP	Pg	06 46 45.2	+1.0
LBG				iS	Sg	06 46 50.0	+1.2
GUT	Gutenstein	0.32	155⇓	iP	Pg	06 46 44.5	+0.3
GUT				iS	Sg	06 46 48.8	0.0
BFO	Black Forest	0.39	266	ePg	Pg	06 46 46.8	+1.1
	SNR=16						
BFO				eSg	Sg	06 46 52.3	+1.1
STU	Stuttgart	0.45	24	eSg	Sg	06 46 53.0	0.0
SLE	Schleitheim	0.66	206⇓	iPg	Pg	06 46 51.2	+0.4
SLE				eSg	Sg	06 46 59.8	+0.1
SISB	Singen-Sch Ber	0.68	177⇓	eP	Pb	06 46 51.3	+0.9
SISB				S	Sb	06 47 00.4	+1.1
SISB				S	Sb	06 47 02.0	+2.7
TRULL	Truellikon	0.73	193⇓	ePg	Pg	06 46 52.5	+0.3
TRULL				eSg	Sg	06 47 02.3	+0.3
FELD	Feldberg	0.78	232	ePg	Pg	06 46 54.3	+1.1
	SNR=1.3						
FELD	Feldberg	0.78	232	Pg	Pg	06 46 53.7	+0.5
FELD				Sg	Sg	06 47 04.3	+0.6
FELD	Feldberg	0.78	232	Sg	Sg	06 47 04.3	+0.6
KIZ	Kirchzarten	0.78	239	P	Pb	06 46 53.2	+1.0
KIZ				P		06 46 53.8	
KIZ				S	Sb	06 47 04.1	+1.7
KIZ				S	Sb	06 47 05.0	+2.6
KIZ	Kirchzarten	0.78	239	PG	Pg	06 46 53.8	+0.6
KIZ	Kirchzarten	0.78	239	P	Pb	06 46 53.2	+1.0
KIZ				Pg	Pg	06 46 53.8	+0.6
KIZ				S	Sb	06 47 04.1	+1.7
HDH	Heidenheim	0.89	75	PG	Pg	06 46 54.7	-0.6
HDH	Heidenheim	0.89	75	P	Pb	06 46 54.5	+0.5
HDH				Pg	Pg	06 46 54.7	-0.6
HDH				Sg	Sg	06 47 06.1	-1.1
HDH	Heidenheim	0.89	75	P	Pb	06 46 54.5	+0.5
HDH				Pg	Pg	06 46 54.7	-0.6
HDH	Heidenheim	0.89	75	Pg	Pg	06 46 54.7	-0.6
LIBD	Limburg	0.90	257	ePg	Pg	06 46 56.4	+0.8
	SNR=1.3						
LIBD	Limburg	0.90	257	Pg	Pg	06 46 56.3	+0.7
LIBD				Sg	Sg	06 47 08.3	+0.5
LIBD	Limburg	0.90	257	Sg	Sg	06 47 08.3	+0.5
WILA	Wila	0.95	180⇑	ePg	Pg	06 46 56.4	-0.1
WILA				eSg	Sg	06 47 09.3	+0.1
LANF	Langenberg	0.96	311	Pg	Pg	06 46 58.1	+1.3
LANF				Sg	Sg	06 47 10.6	+0.8
SULZ	Sulz-Cheisache	0.99	213⇑	ePn	Pn	06 46 57.5	+0.7
SULZ				eSn	Sn	06 47 10.8	+0.3
WLS	Welschbruch	1.04	274	Pg	Pg	06 46 58.6	+0.2
WLS				Sg	Sg	06 47 13.2	+0.8
WLS	Welschbruch	1.04	274	ePg	Pg	06 46 58.7	+0.3
	SNR=6.2						
UBR	Uberruh	1.05	130	S	Sg	06 47 11.7	-0.9
UBR	Uberruh	1.05	130	Pg	Pg	06 46 57.7	-0.8
UBR				Sg	Sg	06 47 11.7	-0.9
SIND	Sindeldorf	1.09	24	P	Pb	06 46 58.7	+1.2
SIND				S	Sb	06 47 10.9	-0.4
SIND				S	Sb	06 47 12.8	+1.4
SIND	Sindeldorf	1.09	24	SG	Sg	06 47 12.8	-1.1
SIND	Sindeldorf	1.09	24	Pg	Pg	06 46 58.7	-0.6
SIND				S	Sb	06 47 10.9	-0.4
SIND				Sg	Sg	06 47 12.8	-1.1
CDF	Champ du Feu	1.10	273	ePg	Pg	06 46 59.5	+0.1
CDF				eSg	Sg	06 47 14.3	+0.2
	8.9nm,0.2s						
CDF	Champ du Feu	1.10	273	ePn	Pn	06 46 58.6	+0.3
CDF				ePg	Pg	06 46 59.5	+0.1
CDF				eSg	Sg	06 47 14.3	+0.2
ECH	Echery	1.18	264	Pg	Pg	06 47 00.7	-0.5
ECH				Sg	Sg	06 47 17.0	0.0
ECH	Echery	1.18	264	ePg	Pg	06 47 00.9	-0.3
	SNR=2.9						
MOF	Molkenrain	1.30	248	Pg	Pg	06 47 04.3	+0.8
MOF				Sg	Sg	06 47 20.1	-0.8
MOF	Molkenrain	1.30	248	ePg	Pg	06 47 04.4	+1.0
	SNR=1.9						
HINF	Hinteralfeld	1.49	249	ePg	Pg	06 47 06.6	-0.6
HINF				eSg	Sg	06 47 26.1	-1.0
	4.9nm,0.2s						
HINF	Hinteralfeld	1.49	249	ePn	Pn	06 47 03.8	-0.1
HINF				ePg	Pg	06 47 06.6	-0.6
HINF				eSg	Sg	06 47 26.1	-1.0
HINF	Hinteralfeld	1.49	249	ePg	Pg	06 47 06.6	-0.6
HINF				eSg	Sg	06 47 26.1	-1.0
	2.5nm,0.2s						
HAU	Haudompre	1.76	259	ePg	Pg	06 47 11.7	-0.8
HAU				eSg	Sg	06 47 34.3	-1.7
	7.8nm,0.3s						
GRF	Grafenberg Arr	2.02	48	eSg	Sg	06 47 40.9	-3.8
RFYF	Reffroy	2.31	278	eSg	Sg	06 47 51.9	-2.4
	8.6nm,0.2s						
SFTF	Sexfontaines	2.60	268	ePg	Pg	06 47 27.0	-2.3
SFTF				eSg	Sg	06 48 01.0	-2.9
	8.8nm,0.3s						
SFTF	Sexfontaines	2.60	268	ePn	Pn	06 47 18.8	-0.9
SFTF				ePg	Pg	06 47 27.0	-2.3
SFTF				eSg	Sg	06 48 01.0	-2.9
SFTF	Sexfontaines	2.60	268	ePg	Pg	06 47 27.0	-2.3
SFTF				eSg	Sg	06 48 01.0	-2.9
	4.4nm,0.3s						
CABF	La Chapelle	2.60	229	ePg	Pg	06 47 26.9	-2.4
CABF				eSg	Sg	06 48 00.5	-3.5
	2.8nm,0.3s						
CABF	La Chapelle	2.60	229	ePn	Pn	06 47 18.7	-1.0
CABF				ePg	Pg	06 47 26.9	-2.4
CABF				eSg	Sg	06 48 00.5	-3.5
CABF	La Chapelle	2.60	229	ePg	Pg	06 47 26.9	-2.4
CABF				eSg	Sg	06 48 00.5	-3.5
	1.4nm,0.3s						
BAIF	Baives	3.52	301	ePn	Pn	06 47 31.5	-1.4
LOR	Lormes	3.58	254	ePn	Pn	06 47 32.2	-1.5
LOR				eSg	Sg	06 48 31.4	-5.2
	1.4nm,0.2s						

*PDA **02** 06:59:34.9±0.8,38.69N×29.13W,MD2.9,ML1.9,Error ellipse: s-maj=11.2km s-min=7.2km az=37.0*
*CSEM **02** 06:59:34.9±0.8,38.69N×29.13W,ML1.9,Error ellipse: s-maj=11.2km s-min=7.2km az=37.0,After PDA*

SVSA 02 06:59:34.9±0.8**,38.69N**×**29.13W,MD2.9,ML1.9,Error ellipse: s-maj=11.2km s-min=7.2km az=37.0,Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.35	108	eP	Pg	06 59 41.6	-0.3
CALA				eS	Sg	06 59 46.4	-0.1
HOR	Horta	0.42	112	erx		06 59 43.5	
HOR	Horta	0.42	112	e-		06 59 43.5	
PICO	Pico	0.58	109	eP	Pg	06 59 45.2	-1.3
PICO				eS	Sg	06 59 53.5	-0.7
ROSA	Rosais	0.69	87	eP	Pg	06 59 47.0	-1.7
ROSA				eS	Sg	06 59 56.2	-1.8
PMAN	Manadas	0.81	94	eS	Sg	06 59 58.6	-3.4
	30nm,0.4s						
SRBC	Serra Branca	0.92	67	erx		07 00 08.4	
PGRA	Graciosa	0.96	69	erx		06 59 56.7	

*CSEM **02** 07:12:47.6,37.65N×20.80E,h5^{km},MD3.5/1,After ATH*
*NEIC **02** 07:12:47.6,37.65N×20.80E,h5^{km},MD3.4(ATH),After ATH.*

ATH 02 07:12:46.9,37.63N×**20.85E,h17**^{km}±4^{km}**,MD3.4**/5**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.58	339	ePN	Pn	07 12 58.4	-1.8
VLS				eSN	Sn	07 13 07.2	-2.1
RLS	Riolos of Patr	0.65	49	ePB	Pb	07 12 59.0	-0.4
RLS				eSN	Sn	07 13 08.3	-2.6
RLS	Riolos of Patr	0.65	49	ePb	Pb	07 12 59.8	+0.4
ITM	Ithomi	0.97	117	ePN	Pn	07 13 05.5	-0.2
ITM	Ithomi	0.97	117	ePb	Pb	07 13 07.1	+2.3
ITM				eSb	Sb	07 13 20.9	+3.7
EVR	Evrytania	1.49	30	ePN	Pn	07 13 15.8	+2.7
EVR				eSN	Sn	07 13 36.4	+4.1
EVR	Evrytania	1.49	30	ePb	Pb	07 13 16.9	+3.2
EVR				eSb	Sb	07 13 37.3	+5.0
VLI	Veliai	1.90	118	ePN	Pn	07 13 20.7	+1.7
VLI	Veliai	1.90	118	ePn	Pn	07 13 24.5	+5.5

*CSEM **02** 07:41:59.1,37.63N×20.91E,h5^{km},MD3.6/1,After ATH*
*NEIC **02** 07:41:59.1,37.63N×20.91E,h5^{km},MD3.5(ATH),After ATH.*

ATH 02 07:41:59.1,37.63N×**20.91E,h5**^{km}±3^{km}**,MD3.5**/6**,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.60	335	ePB	Pb	07 42 10.9	-0.8
VLS				eSB	Sb	07 42 20.2	0.0
RLS	Riolos of Patr	0.61	46	ePG	Pg	07 42 10.8	-0.6
RLS				eSG	Sg	07 42 20.2	+0.6
ITM	Ithomi	0.93	119	ePB	Pb	07 42 17.0	-0.3
EVR	Evrytania	1.47	29	ePB	Pb	07 42 27.2	+0.7
VLI	Veliai	1.86	119	ePG	Pg	07 42 34.0	-2.2
KYTH	Kithira	2.17	128	ePG	Pg	07 42 39.2	-3.3

*CSEM **02** 08:11:06.9±1.4,38.60N×29.33W,ML2.4,Error ellipse: s-maj=15.7km s-min=14.1km az=168.0,After PDA*
*PDA **02** 08:11:06.9±1.4,38.60N×29.33W,MD3.4,ML2.4,Error ellipse: s-maj=15.7km s-min=14.1km az=168.0*

SVSA 02 08:11:06.9±1.4**,38.60N**×**29.33W,MD3.4,ML2.4,Error ellipse: s-maj=15.7km s-min=14.1km az=168.0,Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	Ponta do Capel	0.42	91	eS	Sg	08 11 20.5	-0.4
	128nm,0.2s						
PTCA	Ponta do Capel	0.42	91	eS	Sg	08 11 20.5	-0.4
	128nm,0.2s						
CALA	Caldeira	0.50	91	eP	Pg	08 11 15.7	-1.1
CALA				eS	Sg	08 11 22.5	-0.9
HOR	Horta	0.56	97	eP	Pg	08 11 16.5	-1.5
HOR				eS	Sg	08 11 24.0	-1.4
PCND	Candelaria	0.69	100	eP	Pg	08 11 19.4	-1.4
PCND				eS	Sg	08 11 28.5	-1.5
	74nm,0.3s						
PICO	Pico	0.72	97	eP	Pg	08 11 19.0	-2.2
PICO				eS	Sg	08 11 28.9	-1.9
PBOI	Pico dos Bois	0.77	102	eP	Pg	08 11 20.4	-1.8
PBOI				eS	Sg	08 11 29.9	-2.6
	57nm,0.3s						
ROSA	Rosais	0.86	81	eP	Pg	08 11 21.1	-3.1
ROSA				eS	Sg	08 11 32.3	-3.4
PAMA	Santo Amaro	0.91	84	eS	Sg	08 11 33.6	-3.5
PMAN	Manadas	0.98	87	erx		08 11 20.3	
PIED	Piedade	1.02	100	erx		08 11 24.3	
SRBC	Serra Branca	1.10	66	erx		08 11 35.1	
PGRA	Graciosa	1.14	67	erx		08 11 32.6	
ASBA	Santa Barbara	1.58	85	erx		08 11 51.6	
PSBA	Serra de Santa	1.58	83	erx		08 11 42.5	
PPAD	Pico dos Padre	1.61	86	eS	Sb	08 11 50.5	-7.4
	17nm,0.1s						
RIB2	Ribeirinha	1.69	87	eP	Pn	08 11 33.1	-4.8
RIB2				eS	Sb	08 11 52.1	-8.4
	16nm,0.2s						
PVNV	Vila Nova	1.71	84	erx		08 11 53.8	

IDC 02 08:11:52.7±1.4**,16.91S**×**178.09W,mb4.1**/3**,mb1 4.4**/4**, mb1mx4.0**/14**,mbtmp4.3**/4**,ML4.5**/1**,Error ellipse: s-maj=77.0km s-min=25.6km az=166.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	17.83	107	P	P	08 16 02.5	-1.4
	1.5nm,0.3s,baz=10,slow=11,SNR=2.5						
STKA	Stephens Creek	39.39	240	P	P	08 19 24.6	-1.4
	3.7nm,0.5s,baz=86,slow=7.6,SNR=12						
WRA	Warramunga Arr	45.12	259	P	P	08 20 10.8	-2.2
	1.4nm,0.5s,baz=96,slow=7.3,SNR=48						
TXAR	Lajitas Array	85.20	58	P	P	08 24 31.5	-1.2
	0.5nm,0.7s,baz=210,slow=6.2,SNR=7.7						

CASC 02 08:12:50.0±1.7**,10.63N**×**87.21W,h85**^{km}±110^{km}**,MD3.7, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.66	21	eP	P	08 13 17.4	-0.6
COPN				eS	S	08 13 39.7	+1.0
TICN	Ticuantepe	1.69	34	eP	P	08 13 18.5	0.0
XAVN	Gruta Xavier	1.74	30	eP	P	08 13 18.9	-0.2
XAVN				eS	S	08 13 41.6	+1.0
MGAN	Managua	1.78	32	eP	P	08 13 19.6	-0.1
MGAN				eS	S	08 13 42.3	+0.8
LEON	Leon	1.80	10	eP	P	08 13 19.7	-0.3
LEON				eS	S	08 13 43.0	+1.0
MIRN	Miramar	1.86	15	eP	P	08 13 20.6	-0.2
MIRN				eS	S	08 13 43.5	0.0
MOMJ	Momotombo	1.89	20	eP	P	08 13 20.7	-0.3
MOMJ				eS	S	08 13 43.5	-0.5
CNGN	Cerro Negro	1.93	15	eP	P	08 13 20.7	-0.9
CNGN				eS	S	08 13 46.6	+1.8
TEL3	Telica 3	1.96	10	eP	P	08 13 21.9	-0.2
TEL3				eS	S	08 13 46.6	+0.9
PRS1	Puriscal	2.92	102	eP	P	08 13 35.6	+0.2
PRS1				eS	S	08 14 11.0	+1.4
LAJ	Bijagual	3.13	104	eP	P	08 13 32.1	-6.3
LAJ				eS	S	08 14 05.0	-10
LCR2	La Lucha 2	3.28	105	eP	P	08 13 39.9	-0.4
LCR2				eS	S	08 14 17.7	-0.6

*OTT **02** 08:40:13.8±0.3,52.38N×34.31W,h5^{km},ML4.3/6,Atlantic Ocean 1393km northeast from Bonavista, Nl*
*IDC **02** 08:40:14.5±0.5,52.73N×34.57W,mb4.4/24,mb1 4.6/26, mb1mx4.5/29,mbtmp4.4/26,ML3.8/2,MS3.9/26,Ms1 3.9/26, ms1mx3.8/34,Error ellipse: s-maj=14.2km s-min=10.3km az=176.0*

*MOS **02** 08:40:14.6±1.0, 52.77N×34.60W, h10km, mb5.0/59, Error ellipse: s-maj=7.6km s-min=6.7km az=154.6*
*BJI **02** 08:40:15.0, 53.26N×35.04W, h10km, mB5.3, mb4.9, Ms4.9, Msz4.6*
*CSEM **02** 08:40:15.4±0.1, 52.75N×34.57W, h20km, mb4.8/57, Error ellipse: s-maj=3.6km s-min=1.4km az=2.0*
*NEIC **02** 08:40:16.9±0.2, 52.91N×34.63W, h10km, mb4.7/96, Error ellipse: s-maj=6.9km s-min=2.9km az=8.0*
ISC 02 08:40:15.0±0.1, **52.87N**±0.04×**34.66W**±0.03, **h10km**, **n337**, σ**1.14**/348, **mb4.7**/120, **MS3.9**/33, **12C-1D**, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	13.72	25	Pn	P	08 43 34.4	+2.7
	0.7nm,0.3s,baz=228,slow=9.0,SNR=5.1						
BORG				Sn	S	08 46 03.8	-1.4
	1.2nm,0.3s,baz=242,slow=1.4,SNR=6.7						
BORG				LR	LR	08 47 30.4	
	comp=Z,579nm,20.9s,baz=304,slow=32						
BORG	Borgarnes	13.72	25	ePn	P	08 43 35.4	+3.7
	379nm,1.8s						
DRLN	Deer Lake	14.80	265	PN	P	08 43 42.0	-4.0
DRLN				SN	S	08 46 13.3	-17
DRLN				Trac		08 46 23.1	
	comp=Z,26nm,0.6s						
SFJD	Kangerlussuaq	16.18	337	Pn	P	08 44 02.2	-1.5
	0.8nm,0.3s,baz=130,slow=13,SNR=4.6						
SFJD	Kangerlussuaq	16.18	337	i P	P	08 44 02.8	-1.0
	56nm,1.0s						
SFJD	Kangerlussuaq	16.18	337	eP	P	08 44 02.8	-1.0
SFJD				pmax	pmax		
	comp=Z,56nm,1.0s						
SFJD	Kangerlussuaq	16.18	337	eP	P	08 44 02.8	-1.0
	comp=Z,56nm,1.0s						
CODG	Codroy Newfoun	16.45	262	PN	P	08 44 05.0	-2.3
CODG				SN	S	08 46 58.9	-11
CODG				Trac		08 47 47.4	
	comp=Z,11nm,0.4s						
NATG	Natashquan Que	17.64	273	PN	P	08 44 21.2	-1.1
NATG				SN	S	08 47 28.4	-8.3
NATG				Trac		08 48 09.8	
	comp=Z,6.0nm,0.4s						
CHEG	Cheticamp, Nov	17.79	261	PN	P	08 44 22.6	-1.5
CHEG				SN	S	08 47 28.5	-12
MADG	Magdalen Islan	18.17	263	PN	P	08 44 28.2	-0.8
MADG				Trac		08 47 46.2	
	comp=Z,6.4nm,0.2s						
ESK	Eskdalemuir	18.53	70	eP	P	08 44 33.2	0.0
ESK				pmax	pmax		
	comp=Z,51nm,1.0s						
ESK	Eskdalemuir	18.53	70	eP	P	08 44 33.2	-0.1
	comp=Z,51nm,1.0s						
ESK	Eskdalemuir	18.53	70	eP	P	08 44 33.2	0.0
	comp=Z,51nm,1.0s						
EKA	Eskdalemuir Ar	18.55	70	P	P	08 44 33.0	-0.6
	comp=Z,0.8nm,0.3s,baz=275,slow=9.6,SNR=26						
SCO	Scoresbysund	18.59	13	e	P	08 44 35.5	+1.5
SCO				i S	S	08 48 05.6	+7.4
SABG	Sable island	18.98	252	PN	P	08 44 46.0	+7.2
SCHQ	Schefferville	19.00	289	P	P	08 44 38.0	-0.9
	comp=Z,0.6nm,0.3s,baz=85,slow=9.1,SNR=12						
SCHQ				LR	LR	08 50 41.1	
	comp=Z,507nm,20.9s,baz=103,slow=33						
SCHQ	Schefferville	19.00	289	PN	P	08 44 37.9	-1.0
SCHQ				SN	S	08 48 04.6	-2.7
SCHQ				Trac		08 49 41.4	
	comp=Z,1.0nm,0.2s						
SCHQ	Schefferville	19.00	289	eP	P	08 44 37.4	-1.5
	comp=Z,39nm,1.1s						
GBN	Guysborough	19.01	258	PN	P	08 44 36.6	-2.5
GBN				SN	S	08 47 58.3	-10
TIGG	Tignish, PEI	19.09	263	PN	P	08 44 45.9	+5.7
KUQ	Kuujjuuaa	19.68	299	PN	P	08 44 49.4	+2.5
EMAZ	Mazaricos	19.77	110	P	P	08 44 53.2	+5.3
	comp=Z,15nm,0.4s						
SUMG	Summit	19.85	357	eP	P	08 44 48.9	+0.3
	comp=Z,41nm,1.2s						
MALG	Malagash, Nova	19.89	261	PN	P	08 44 51.3	+2.0
MALG				SN	S	08 48 20.1	-7.2
MALG				Trac		08 48 53.8	
	comp=Z,1.5nm,0.1s						
SMQ	Clarke City	20.02	275	PN	P	08 44 50.9	+0.4
SMQ				SN	S	08 48 26.3	-3.6
SMQ				Trac		08 49 12.0	
	comp=Z,0.6nm,0.1s						
STS	Santiago	20.05	109	P	P	08 44 55.1	+4.1
STS				pmax	pmax		
	comp=Z,15nm,0.3s						
STS	Santiago	20.05	109	P	P	08 44 55.1	+4.1
	comp=Z,15nm,0.3s						
EZAM	Zamans	20.44	111	P	P	08 44 59.8	+4.7
EZAM				pmax	pmax		
	comp=Z,11nm,0.7s						
EZAM	Zamans	20.44	111	P	P	08 44 59.8	+4.8
	comp=Z,11nm,0.7s						
FRB	Frobisher Bay	20.59	315	P	P	08 44 56.6	+0.2
	comp=Z,47nm,1.1s,baz=120,slow=7.4						
FRB				LR	LR	08 50 56.7	
	comp=Z,150nm,19.3s,MS3.4,baz=131,slow=31						
EPON	Pontenova	20.59	107	P	P	08 45 00.8	+4.2
	comp=Z,82nm,1.1s						
ICQ	Pointe Anglais	20.61	274	PN	P	08 44 55.8	-1.0
ICQ				SN	S	08 48 36.6	-5.5
HAL	Halifax	20.67	258	PN	P	08 44 59.0	+1.6
LMN	Caledonia Moun	20.74	262	PN	P	08 44 55.2	-2.9
LMN				SN	S	08 48 37.9	-6.9
LMN				Trac		08 48 43.5	
	comp=Z,1.9nm,0.4s						
GSQ	Grosses Roches	20.75	272	PN	P	08 44 57.6	-0.6
GSQ				SN	S	08 48 43.2	-1.7
GSQ				Trac		08 49 55.4	
	comp=Z,3.1nm,0.4s						
BATG	Bathurst New B	20.81	267	PN	P	08 44 57.7	-1.2
BATG				SN	S	08 48 39.8	-6.3
BATG				Trac		08 49 02.7	
	comp=Z,2.2nm,0.4s						
ELOB	Lobios	20.98	111	P	P	08 45 04.9	+4.3
	comp=Z,6.4nm,0.5s						
MNQ	Manicouagan	21.16	277	PN	P	08 45 03.2	+0.8
MNQ				SN	S	08 48 58.3	+5.5
CNQ	Baie Comeau	21.18	274	PN	P	08 45 04.7	+2.1
CNQ				SN	S	08 48 33.8	-19
JMIC	Jan Mayen	21.61	23	LR	LR	08 51 20.4	
	comp=Z,592nm,20.8s,MS4.0,baz=31,slow=31						
ECAL	Calabor	21.69	109	P	P	08 45 11.6	+3.8
	comp=Z,18nm,0.8s,mb4.5						
EARI	Arriondas	21.74	104	P	P	08 45 11.1	+2.8
	comp=Z,48nm,1.1s,mb4.8						
PBRG	Braganca	21.77	109	eP	P	08 45 08.7	0.0
PBRG				esP		08 45 14.8	
GRR	Gorron	21.78	88	eP	P	08 45 07.5	-1.1
	comp=Z,117nm,1.2s,mb4.9						
GRR	Gorron	21.78	88	eP	P	08 45 07.5	-1.1
GRR				pmax	pmax		
	comp=Z,58nm,1.2s,mb4.9						
PVIS	Viseu	21.84	113	eP	P	08 45 08.6	-0.8
PVIS				esP		08 45 16.0	
FLN	La Foliniere	21.85	87	eP	P	08 45 08.4	-1.0
FLN				eR			
	comp=Z,157nm,21.0s						
FLN	La Foliniere	21.85	87	eP	P	08 45 08.4	-1.0
	comp=Z,160nm,21.0s						
LDF	La Druitiere	22.14	87	eP	P	08 45 11.2	-1.0
	comp=Z,47nm,0.8s,mb4.7						
LDF	La Druitiere	22.14	87	eP	P	08 45 11.2	-1.0
LDF				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.7						
GGN	Saint George	22.35	263	PN	P	08 45 12.8	-1.5
GGN				SN	S	08 49 18.4	+3.4
GGN				Trac		08 49 24.3	
	comp=Z,2.4nm,0.3s						
ELAN	Lanestosa	22.83	102	P	P	08 45 20.8	+1.8
	comp=Z,14nm,0.8s,mb4.4						
A64	Saint Simeon	22.89	271	PN	P	08 45 21.6	+2.1
MFF	Saint Martin d	23.01	92	eP	P	08 45 19.7	-1.0
LMQ	La Malbaie	23.27	271	PN	P	08 45 24.9	+1.6
LMQ				SN	S	08 49 41.1	+10
LG4Q	La Grande 4	23.41	288	PN	P	08 45 25.3	+0.8
LG4Q				SN	S	08 49 47.9	+14
EBAD	Badajoz	23.70	115	P	P	08 45 31.1	+3.6
	comp=Z,13nm,0.9s,mb4.4						
EALK	Alkurruntz	23.98	100	P	P	08 45 30.4	+0.2
	comp=Z,81nm,1.6s,mb4.9						
GUD	Guadarrama	24.01	108	P	P	08 45 31.7	+1.1
GUD				pmax	pmax		
	comp=Z,11nm,0.3s,mb4.8						
GUD	Guadarrama	24.01	108	P	P	08 45 31.7	+1.1
	comp=Z,11nm,0.3s,mb4.8						
GUD	Guadarrama	24.01	108	P	P	08 45 31.7	+1.1
	comp=Z,11nm,0.3s,mb4.8						
BAIF	Baives	24.18	81	eP	P	08 45 31.8	-0.2
EGRO	El Granado	24.33	118	P	P	08 45 36.5	+2.9
	comp=Z,6.0nm,0.7s,mb4.1						
GIVF	Givet	24.53	81	eP	P	08 45 35.6	+0.1
EMIN	Mina Concepcio	24.59	117	P	P	08 45 38.9	+2.6
	comp=Z,5.6nm,0.6s,mb4.3						
DAG	Danmarks Havn	24.75	9	i P	P	08 45 38.0	+0.6
	comp=Z,1.5nm,0.8s,mb3.6						
DAG	Danmarks Havn	24.75	9	eP	P	08 45 38.0	+0.6
DAG				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.7						
DAG	Danmarks Havn	24.75	9	eP	P	08 45 38.0	+0.6
	comp=Z,1.5nm,0.8s,mb3.6						
ESDC	Sonseca Array	24.77	110	P	P	08 45 37.1	-0.8
	comp=Z,4.3nm,0.8s,mb4.0,baz=316,slow=8.6,SNR=13						
ESDC	Sonseca Array	24.77	110	P	P	08 45 39.3	+1.5
	comp=Z,4.4nm,0.8s,mb4.0						
ESLA	Sonseca Array	24.77	110	eP	P	08 45 36.9	-1.0
	comp=Z,3.2nm,1.0s,mb3.8						
BGF	Bois d'Agland	24.84	90	eP	P	08 45 37.8	-0.7
	comp=Z,75nm,0.9s,mb4.9						
BGF	Bois d'Agland	24.84	90	eP	P	08 45 37.8	-0.7
BGF				pmax	pmax		
	comp=Z,38nm,0.9s,mb4.9						
SSF	Saint Saulge	25.00	88	eP	P	08 45 39.0	-1.1
SSF				pmax	pmax		
	comp=Z,57nm,1.5s,mb4.9						
SSF	Saint Saulge	25.00	88	eP	P	08 45 39.0	-1.1
	comp=Z,57nm,1.5s,mb4.9						
AVF	Avril sur Loir	25.04	89	eP	P	08 45 39.3	-1.1
	comp=Z,76nm,1.2s,mb4.8						
AVF	Avril sur Loir	25.04	89	eP	P	08 45 39.3	-1.1
AVF				pmax	pmax		
	comp=Z,38nm,1.2s,mb4.8						
ECAB	El Cabril	25.06	114	P	P	08 45 43.3	+2.6
	comp=Z,95nm,1.8s,mb5.0						
LOR	Lormes	25.12	87⇑	iP	P	08 45 40.0	-1.2
	comp=Z,17nm,0.5s,mb4.5						
LOR	Lormes	25.12	87⇑	iP	P	08 45 40.0	-1.2
LOR				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.5						
EBIE	Bielsa	25.27	100	P	P	08 45 42.9	+0.2
	comp=Z,5.4nm,0.9s,mb4.1						
MEZF	Maizieres J'vi	25.30	84⇑	iP	P	08 45 42.5	-0.4
	comp=Z,75nm,0.8s,mb5.0						
SMF	Signal de Mont	25.40	89	eP	P	08 45 42.8	-1.1
EADA	Adamuz	25.46	113	P	P	08 45 46.7	+2.2
	comp=Z,13nm,1.0s,mb4.4						
ESAC	San Caprasio	25.49	102	P	P	08 45 44.7	0.0
	comp=Z,44nm,0.7s,mb5.1						
NAO01	NORSAR Array S	25.66	54	eP	P	08 45 45.7	-0.5
	comp=Z,7.6nm,0.8s,mb4.3						
ESPR	Espera	25.70	117	P	P	08 45 48.6	+1.9
	comp=Z,74nm,0.8s,mb5.3						
WEMQ	Wemindji, Queb	25.80	288	PN	P	08 45 47.0	-0.5
WEMQ				SN	S	08 50 45.1	+31
NB2	NORSAR Subarra	25.82	53	P	P	08 45 47.4	-0.2
	comp=Z,49nm,1.4s,mb4.8,baz=273,slow=9.3						
NOA	NORSAR Array B	25.82	53	P	P	08 45 47.7	+0.1
	comp=Z,8.7nm,0.9s,mb4.3,baz=273,slow=9.0,SNR=9.3						
NOA				LR	LR	08 54 07.2	
	comp=Z,229nm,19.4s,MS3.7,baz=270,slow=32						
EBAN	Banos Encina	25.90	112	P	P	08 45 50.1	+1.5
EBAN				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.2						
EBAN	Banos Encina	25.90	112	P	P	08 45 50.1	+1.4
	comp=Z,5.6nm,0.8s,mb4.2						
ELUQ	Luque	26.06	114	P	P	08 45 52.2	+2.1
ELUQ				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.6						
ELUQ	Luque	26.06	114	P	P	08 45 52.2	+2.1
	comp=Z,21nm,1.0s,mb4.6						
EJIF	Jimena Fronter	26.21	117	P	P	08 45 53.8	+2.3
EJIF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
EJIF	Jimena Fronter	26.21	117	P	P	08 45 53.8	+2.3
	comp=Z,6.5nm,0.6s,mb4.3						
HAU	Haudompre	26.30	84⇑	iP	P	08 45 51.0	-1.2
	comp=Z,30nm,0.9s,mb4.5						
HAU				eR			
	comp=Z,238nm,18.2s						
HAU	Haudompre	26.30	84⇑	iP	P	08 45 51.0	-1.2
HAU				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.5						
HAU				MLR	MLR		
	comp=Z,240nm,18.3s,MS3.8						
EVIA	Vianos	26.30	110	P	P	08 45 54.6	+2.3
EVIA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
EVIA	Vianos	26.30	110	P	P	08 45 54.6	+2.3
	comp=Z,4.6nm,0.5s,mb4.3						
EMOS	Mosqueruela	26.33	105	P	P	08 45 53.5	+0.9
	comp=Z,22nm,1.0s,mb4.6						
ELOJ	Sierra Loja	26.42	114	P	P	08 45 56.3	+2.9
ELOJ				pmax	pmax		
	comp=Z,10.0nm,0.3s,mb4.8						
ELOJ	Sierra Loja	26.42	114	P	P	08 45 56.3	+2.9
	comp=Z,1.3nm,0.3s,mb3.9						
ERTA	Horta de San J	26.43	103	P	P	08 45 53.7	+0.2
	comp=Z,28nm,1.1s,mb4.7						
BSEG	Bad Segeberg	26.50	70	eP	P	08 45 54.0	+0.1
BSEG				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.2						
BSEG	Bad Segeberg	26.50	70	eP	P	08 45 54.0	+0.1
	comp=Z,64nm,0.9s,mb5.2						
ECHE	Chera	26.55	106	P	P	08 45 55.3	+0.8
ECHE				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.1						
ECHE	Chera	26.55	106	P	P	08 45 55.3	+0.8
	comp=Z,4.1nm,0.7s,mb4.1						
ECHE	Chera	26.55	106	P	P	08 45 55.3	+0.8
	comp=Z,40nm,0.7s,mb5.1						
EMIR	Miracle	26.56	100	P	P	08 45 54.1	-0.5
	comp=Z,16nm,0.9s,mb4.5						
EQES	Quesada	26.56	112	P	P	08 45 56.9	+2.3
	comp=Z,199nm,2.0s,mb5.3						
TNS	Taunus Mts	26.64	78	eP	P	08 45 57.0	+1.7
TNS				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.2						
TNS	Taunus Mts	26.64	78	eP	P	08 45 57.0	+1.7
	comp=Z,80nm,0.9s,mb5.2						
CDF	Champ du Feu	26.68	83	eP	P	08 45 55.5	-0.2
HINF	Hinteralfeld	26.68	84	eP	P	08 45 54.6	-1.1
MDV	Middlebury	26.77	266	P	P	08 45 57.9	+1.3
CABF	La Chapelle	26.78	87	eP	P	08 45 56.6	0.0
ALFO	Alfred	26.95	271	PN	P	08 45 57.6	-0.6
GRQ	Grand Remous	27.06	273	PN	P	08 45 58.4	-0.8
HFS	Hagfors	27.11	55	P	P	08 45 59.1	-0.4
	comp=Z,6.1nm,1.0s,mb4.1,baz=280,slow=9.0,SNR=7.9						
CLZ	Clausthal	27.18	74	eP	P	08 46 01.9	+1.7
CLZ				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.6						
CLZ	Clausthal	27.18	74	eP	P	08 46 01.9	+1.7
	comp=Z,22nm,1.2s,mb4.6						
BFO	Black Forest	27.35	82	eP	P	08 45 59.1	-2.7
BFO				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.5						
BFO	Black Forest	27.35	82	eP	P	08 45 59.1	-2.7
	comp=Z,26nm,1.5s,mb4.5						
MOX	Moxa	28.35	76	i P	P	08 46 09.9	-0.9
GRA1	Grafenberg Arr	28.50	78	eP	P	08 46 09.6	-2.5
GRA1				LR	LR		
	comp=Z,100nm,18.8s,MS3.4						
GRA1	Grafenberg Arr	28.50	78	eP	P	08 46 09.6	-2.5
	comp=Z,100nm,18.8s						
GRF	Grafenberg Arr	28.50	78	eP	P	08 46 09.6	-2.5
GRF				MLR	MLR		
	comp=Z,100nm,18.8s,MS3.4						
GRF	Grafenberg Arr	28.50	78	eP	P	08 46 09.6	-2.5
	comp=Z,100nm,18.8s						
CLL	Collm	28.91	74	P	P	08 46 16.0	+0.2
	comp=Z,logA/T=1.1,mb4.6						
CLL	Collm	28.91	74	eP	P	08 46 16.0	+0.2
CLL				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
CLL	Collm	28.91	74	eP	P	08 46 16.0	+0.2
	comp=Z,12nm,0.9s,mb4.6						
DAVOX	Davos	28.99	84	P	P	08 46 15.9	-0.8
	comp=Z,2.7nm,0.6s,mb4.2,baz=322,slow=19,SNR=3.0						
DAVOX				LR	LR	08 58 08.2	
	comp=Z,140nm,19.9s,MS3.6,baz=99,slow=37						
MDT	Midelt	29.44	121	LR	LR	08 56 32.3	
	comp=Z,106nm,18.4s,MS3.5,baz=4.2,slow=33						
BRG	Berggiesshubel	29.62	74	eP	P	08 46 21.2	-1.1
BRG				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.4						
BRG	Berggiesshubel	29.62	74	eP	P	08 46 21.2	-1.1
	comp=Z,12nm,1.4s,mb4.5						
BRG	Berggiesshubel	29.62	74	eP	P	08 46 21.2	-1.1
	comp=Z,12nm,1.4s,mb4.4						
GEC2	GERESS Array S	30.33	78	eP	P	08 46 25.5	-3.1
GEC2				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
GEC2	GERESS Array S	30.33	78	eP	P	08 46 25.5	-3.1
	comp=Z,6.0nm,0.9s,mb4.3						
GERES	GERESS Array B	30.33	78	P	P	08 46 27.5	-1.0
	comp=Z,2.0nm,0.5s,mb4.1,baz=297,slow=9.0,SNR=12						
GERES				LR	LR	08 56 14.4	
	comp=Z,95nm,20.7s,MS3.4,baz=112,slow=32						
CADS	Cadrg	31.58	82	eP	P	08 46 38.2	-1.5
ARCES	ARCESS Array B	31.73	35	P	P	08 46 40.0	-0.6
	comp=Z,14nm,0.8s,mb4.8,baz=259,slow=7.5,SNR=38						
ARCES				LR	LR	08 57 25.0	
	comp=Z,101nm,20.6s,MS3.5,baz=244,slow=32						
ARE0	ARCESS Array S	31.73	35	eP	P	08 46 39.5	-1.2
JAVS	Javornik	31.95	83	eP	P	08 46 41.8	-1.0
RES	Resolute Bay	32.15	334	eP	P	08 46 45.2	+0.9
RES				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
RES	Resolute Bay	32.15	334	eP	P	08 46 45.2	+0.9
	comp=Z,10.0nm,1.0s,mb4.6						
VISS	Visnje	32.46	82	eP	P	08 46 46.0	-1.4
FINES	FINESS Array B	32.87	51	P	P	08 46 49.3	-1.4
	comp=Z,5.9nm,0.7s,mb4.6,baz=287,slow=7.5,SNR=18						
FINES				LR	LR	08 58 40.9	
	comp=Z,231nm,19.0s,MS3.9,baz=332,slow=34						
FCC	Fort Churchill	32.92	304	eP	P	08 46 51.6	+0.4
FCC				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.1						
FCC	Fort Churchill	32.92	304	eP	P	08 46 51.6	+0.4
	comp=Z,35nm,1.3s,mb5.1						
FCC	Fort Churchill	32.92	304	eP	P	08 46 51.6	+0.4
	comp=Z,35nm,1.3s,mb5.1						
MCWV	Mont Chateau	33.35	265	eP	P	08 46 53.7	-1.4
	comp=Z,43nm,1.5s,mb5.2						
VYHS	Vyhne	33.52	76	eP	P	08 46 56.9	+0.4
STHS	Stebnicka Huta	34.49	73	eP	P	08 47 04.9	0.0
APA	Apatity	34.78	39⇑	iP	P	08 47 07.6	+0.4
APA				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
APA	Apatity	34.78	39	i P	P	08 47 07.6	+0.4
	comp=Z,30nm,1.0s,mb5.2						
CRVS	Cervenica-Dubn	34.86	73	eP	P	08 47 07.6	-0.4
ACSO	Alum Creek Sta	34.89	269	eP	P	08 47 08.3	-0.2
	comp=Z,6.0nm,0.6s,mb4.7						
KOLS	Kolonicke sedl	35.31	73	eP	P	08 47 12.2	+0.3
ULM	Lac du Bonnet	37.14	291	P	P	08 47 26.6	-0.7
	comp=Z,2.9nm,0.8s,mb4.2,baz=87,slow=7.8,SNR=4.5						
ULM				LR	LR	09 01 29.5	
	comp=Z,178nm,18.7s,MS3.9,baz=78,slow=34						
WCI	Wyandotte Cave	38.15	269	eP	P	08 47 35.5	-0.4
WCI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
WCI	Wyandotte Cave	38.15	269	eP	P	08 47 35.5	-0.4
	comp=Z,10.0nm,0.7s,mb4.7						
AKASG	Malin Array Be	38.42	67	P	P	08 47 36.6	-1.5
	comp=Z,2.6nm,0.5s,mb4.2,baz=298,slow=8.5,SNR=4.5						
FFC	Flin Flon	38.43	301	eP	P	08 47 38.7	+0.6
FFC				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.6						
FFC	Flin Flon	38.43	301	eP	P	08 47 38.7	+0.6
	comp=Z,17nm,1.4s,mb4.6						
KLMR	Klimovskoe	39.25	48	eP	P	08 47 44.6	-0.3
KLMR				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
OBN	Obninsk	40.27	57⇓	iP	P	08 47 53.2	-0.2
OBN				e		08 49 27.2	
OBN				eS	S	08 53 59.1	-1.3
OBN				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.1						
OBN	Obninsk	40.27	57	i P	P	08 47 53.2	-0.2
	comp=Z,24nm,0.9s,mb4.9						
OBN				eS	S	08 53 59.1	-1.3
	comp=Z,200nm,16.0s						
WVT	Waverly	40.45	267	eP	P	08 47 54.8	-0.2
WVT	Waverly	40.45	267	eP	P	08 47 54.8	-0.2
FVM	French Village	40.81	272	eP	P	08 47 57.5	-0.5
FVM				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.8						
FVM	French Village	40.81	272	eP	P	08 47 57.5	-0.6
	comp=Z,27nm,1.1s,mb4.8						
FVM	French Village	40.81	272	eP	P	08 47 57.5	-0.5
	comp=Z,27nm,1.1s,mb4.8						
YKA	Yellowknife Ar	41.10	316	P	P	08 48 00.4	+0.2
	comp=Z,3.5nm,0.9s,mb4.0,baz=60,slow=9.0,SNR=15						
YKA				LR	LR	09 02 45.7	
	comp=Z,75nm,20.9s,MS3.5,baz=60,slow=33						
YKA	Yellowknife Ar	41.10	316⇑	eP	P	08 48 00.4	+0.2
YKA	Yellowknife Ar	41.10	316	eP	P	08 48 00.4	+0.2
CCM	Cathedral Cave	41.26	272	eP	P	08 48 01.7	0.0
CCM				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.8						
CCM	Cathedral Cave	41.26	272	eP	P	08 48 01.7	-0.1
	comp=Z,28nm,1.1s,mb4.8						
CCM	Cathedral Cave	41.26	272	eP	P	08 48 01.7	0.0
	comp=Z,28nm,1.1s,mb4.8						
CPD	Cerro la Pandu	42.45	227	eP	P	08 48 11.3	-0.4
CPD	Cerro la Pandu	42.45	227	eP	P	08 48 11.3	-0.4
KSU1	Kansas State U	43.83	277	eP	P	08 48 21.9	-0.7
MIAR	Mount Ida	44.99	270	eP	P	08 48 31.7	-0.3
MIAR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
MIAR	Mount Ida	44.99	270	eP	P	08 48 31.7	-0.3
	comp=Z,10nm,0.9s,mb4.7						
MIAR	Mount Ida	44.99	270	eP	P	08 48 31.7	-0.3
	comp=Z,10.0nm,0.9s,mb4.7						
INK	Inuvik	45.28	329	P	P	08 48 34.3	+0.4
	comp=Z,2.8nm,0.6s,mb4.2,baz=75,slow=15,SNR=7.7						
INK				LR	LR	09 05 19.8	
	comp=Z,128nm,20.7s,MS3.8,baz=245,slow=33						
INK	Inuvik	45.28	329	eP	P	08 48 34.2	+0.3
INK				pmax	pmax		
	comp=Z,12nm,0.9s						
INK	Inuvik	45.28	329	eP	P	08 48 34.2	+0.2
	comp=Z,12nm,0.9s,mb4.7						
INK	Inuvik	45.28	329	eP	P	08 48 34.2	+0.3
	comp=Z,12nm,0.9s,mb4.7						
GCMT	Greycliff	47.32	293	eP	P	08 48 51.3	+1.0
HRY	Holter Researc	47.96	295	eP	P	08 48 55.9	+0.5
WMOK	Wichita Mounta	48.01	274	eP	P	08 48 54.8	-1.1
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
WMOK	Wichita Mounta	48.01	274	eP	P	08 48 54.8	-1.1
	comp=Z,6.6nm,0.9s,mb4.7						
WMOK	Wichita Mounta	48.01	274	eP	P	08 48 54.8	-1.1
	comp=Z,7.0nm,0.9s,mb4.7						
BOZ	Bozeman (W)	48.50	294	eP	P	08 49 00.4	+0.9
BOZ				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
BOZ	Bozeman (W)	48.50	294	eP	P	08 49 00.4	+0.9
	comp=Z,12nm,1.1s,mb4.8						
BOZ	Bozeman (W)	48.50	294	eP	P	08 49 00.4	+0.9
	comp=Z,11nm,1.1s,mb4.8						
CHMT	Chamberlain Mo	48.61	296	eP	P	08 49 00.9	+0.6
ISCO	Idaho Springs	48.74	284	eP	P	08 49 02.5	+1.0
ISCO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ISCO	Idaho Springs	48.74	284	eP	P	08 49 02.5	+1.0
	comp=Z,4.8nm,0.7s,mb4.6						
ISCO	Idaho Springs	48.74	284	eP	P	08 49 02.5	+1.0
	comp=Z,5.0nm,0.7s,mb4.7						
MSO	Missoula	49.03	297	eP	P	08 49 03.5	-0.2
	comp=Z,3.7nm,1.0s,mb4.4						
TORD	Torodi Ar. Bea	49.05	130	P	P	08 49 01.9	-2.3
	comp=Z,6.6nm,0.9s,mb4.7,baz=325,slow=7.2,SNR=26						
BW06	Boulder Array	49.13	290	eP	P	08 49 04.1	-0.3
	comp=Z,1.5nm,0.5s,mb4.3						
PDAR	Pinedale Array	49.13	290	P	P	08 49 04.2	-0.3
	comp=Z,2.4nm,0.5s,mb4.5,baz=59,slow=7.7,SNR=27						
PDAR				LR	LR	09 09 02.1	
	comp=Z,221nm,18.5s,MS4.2,baz=61,slow=35						
DLMT	Dillon	49.21	294	eP	P	08 49 05.9	+0.9
	comp=Z,8.6nm,0.9s,mb4.8						
SNOW	Snow King Moun	49.37	291	eP	P	08 49 05.6	-0.6

comp=Z,5.7nm,0.9s,mb4.6
TPAW Teton Pass 49.46 292 *e*P **P 08 49 07.4 +0.4**
comp=Z,7.1nm,0.8s,mb4.8
MCMT McKenzie Canyo 49.68 294 *e*P **P 08 49 09.3 +0.7**
DLBC Dease Lake 49.72 317 P **P 08 49 09.0 +0.3**
comp=Z,3.2nm,0.8s,mb4.4,baz=315,slow=8.9,SNR=5.2
DLBC LR LR 09 08 26.7
comp=Z,89nm,19.3s,MS3.8,baz=252,slow=34
DLBC Dease Lake 49.72 317 P **P 08 49 09.0 +0.3**
DLBC LR LR 09 08 26.7
DAWY Dawson 49.72 326 PN **P 08 49 10.1 +1.4**
KIV Kislovodsk 49.76 67 *i* P **P 08 49 09.1 -0.1**
KIV pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KIV MLR MLR
comp=Z,100nm,18.0s,MS3.9
KIV Kislovodsk 49.76 67 *i* P **P 08 49 09.1 -0.1**
comp=Z,100nm,18.0s
NEW Newport 49.85 300 *e*P **P 08 49 10.3 +0.4**
NEW pmax pmax
comp=Z,14nm,1.4s
NEW Newport 49.85 300 *e*P **P 08 49 10.3 +0.4**
comp=Z,14nm,1.4s,mb4.8
NEW Newport 49.85 300 *e*P **P 08 49 10.3 +0.4**
comp=Z,14nm,1.4s,mb4.8
SMCO Snowmass 49.95 285 *e*P **P 08 49 11.1 +0.3**
comp=Z,4.7nm,1.0s,mb4.5
SDCO Great Sand Dun 50.02 282 *e*P **P 08 49 12.0 +0.6**
comp=Z,2.6nm,0.8s,mb4.3
ARU Arti 50.03 46⇑*i*P **P 08 49 10.6 -0.5**
ARU *e* 08 51 04.2
ARU *e*S **S 08 56 17.7 -3.1**
ARU *e*SS SS 08 59 49.4 -1.2
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ARU Arti 50.03 46 *i* P **P 08 49 10.6 -0.5**
comp=Z,10.0nm,0.8s,mb4.9
ARU *e*S **S 08 56 17.7 -3.1**
HWUT Hardware Ranch 51.02 290 *e*P **P 08 49 19.3 +0.5**
comp=Z,13nm,0.8s,mb4.9
ILAR Eielson Array 51.66 330 P **P 08 49 24.2 +0.8**
comp=Z,6.0nm,0.9s,mb4.5,baz=42,slow=5.6,SNR=52
ILAR LR LR 09 09 55.0
comp=Z,62nm,18.8s,MS3.7,baz=3.7,slow=34
PV10 Paradox Valley 51.69 285 *e*P **P 08 49 25.0 +1.0**
COLA College 51.88 330 *e*P **P 08 49 26.1 +0.9**
comp=Z,8.2nm,1.1s,mb4.6
COLA College 51.88 330 *i* P **P 08 49 26.2 +1.1**
SRU San Rafael 52.06 287 *e*P **P 08 49 27.2 +0.4**
SRU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SRU San Rafael 52.06 287 *e*P **P 08 49 27.1 +0.3**
comp=Z,10nm,0.9s,mb4.8
SRU San Rafael 52.06 287 *e*P **P 08 49 27.2 +0.4**
comp=Z,10.0nm,0.9s,mb4.8
DBIC Dimbokro 52.10 141 P **P 08 49 25.7 -1.7**
comp=Z,2.5nm,0.7s,mb4.3,baz=285,slow=3.4,SNR=4.7
DBIC LR LR 09 09 05.1
comp=Z,169nm,19.6s,MS4.1,baz=328,slow=33
DBIC Dimbokro 52.10 141 *e*P **P 08 49 24.2 -3.2**
DBIC pmax pmax
comp=Z,9.0nm,1.0s
DBIC Dimbokro 52.10 141 *e*P **P 08 49 24.2 -3.2**
comp=Z,9.0nm,1.0s,mb4.7
BMO Blue Mountains 52.11 297 *e*P **P 08 49 26.1 -1.0**
comp=Z,4.2nm,1.0s,mb4.3
ANMO Albuquerque 52.48 280 *e*P **P 08 49 30.8 +0.8**
comp=Z,6.2nm,0.9s,mb4.5
ANMO Albuquerque 52.48 280 *i* P **P 08 49 30.8 +0.8**
SDV Santo Domingo 52.64 227 P **P 08 49 29.7 -1.8**
comp=Z,4.4nm,0.8s,mb4.4,baz=353,slow=3.4,SNR=6.3
SDV Santo Domingo 52.64 227 *e*P **P 08 49 29.9 -1.6**
comp=Z,3.9nm,0.8s,mb4.4
DUG Dugway 52.66 289 *e*P **P 08 49 31.1 -0.2**
DUG pmax pmax
comp=Z,15nm,1.1s,mb4.8
DUG Dugway 52.66 289 *e*P **P 08 49 31.1 -0.2**
comp=Z,15nm,1.1s,mb4.8
DUG Dugway 52.66 289 *e*P **P 08 49 31.1 -0.2**
comp=Z,15nm,1.1s,mb4.8
IMA2 Indian Mountai 52.69 333 *e*P **P 08 49 31.8 +0.6**
BBB Bella Bella 52.83 310 LR LR 09 11 09.9
comp=Z,139nm,20.4s,MS4.0,baz=47,slow=35
LPM Los Pinos Moun 53.02 280 *e*P **P 08 49 34.6 +0.6**
MCK McKinley 53.03 329 *e*P **P 08 49 34.7 +0.9**
MCK pmax pmax
comp=Z,16nm,1.1s,mb4.9
MCK McKinley 53.03 329 *e*P **P 08 49 34.7 +0.9**
comp=Z,16nm,1.1s,mb4.8
MCK McKinley 53.03 329 *e*P **P 08 49 34.7 +0.9**
comp=Z,16nm,1.1s,mb4.8
BNM Barren Site 53.13 280 *e*P **P 08 49 35.4 +0.5**
LAZ Ladron 53.26 280 *e*P **P 08 49 36.8 +1.0**
MSU Marysvale 53.42 287 *e*P **P 08 49 38.0 +1.1**
ELK Elko 53.67 291 *e*P **P 08 49 39.9 +1.2**
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK Elko 53.67 291 *e*P **P 08 49 39.9 +1.1**
comp=Z,8.5nm,1.1s,mb4.6
ELK Elko 53.67 291 *e*P **P 08 49 39.9 +1.2**
comp=Z,9.0nm,1.1s,mb4.6
MNTX Comudas Mount 54.10 277 *e*P **P 08 49 40.5 -1.5**
comp=Z,3.4nm,1.0s,mb4.2
WVOR Wild Horse Val 54.43 295 *e*P **P 08 49 45.2 +0.9**
WVOR pmax pmax
comp=Z,11nm,0.6s,mb5.0
WVOR Wild Horse Val 54.43 295 *e*P **P 08 49 45.2 +0.9**
comp=Z,11nm,0.6s,mb5.0
WVOR Wild Horse Val 54.43 295 *e*P **P 08 49 45.2 +0.9**
comp=Z,11nm,0.6s,mb5.0
ARUT Antelope Range 54.64 288 *e*P **P 08 49 46.8 +0.9**
ARUT Antelope Range 54.64 288 *e*P **P 08 49 46.8 +0.9**
LTX Lajitas 54.74 273 *e*P **P 08 49 45.3 -1.5**
LTX pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
LTX Lajitas 54.74 273 *e*P **P 08 49 45.3 -1.5**
comp=Z,7.3nm,1.2s,mb4.6
LTX Lajitas 54.74 273 *e*P **P 08 49 45.3 -1.5**
comp=Z,7.0nm,1.2s,mb4.6
TXAR Lajitas Array 54.74 273 P **P 08 49 46.0 -0.8**
comp=Z,2.2nm,0.8s,mb4.3,baz=58,slow=8.3,SNR=37
TXAR LR LR 09 11 40.9
comp=Z,112nm,18.9s,MS4.0,baz=270,slow=34
TIXI Tiksi 55.23 6 *e*P **P 08 49 51.9 +2.1**
TIXI pmax pmax
comp=Z,13nm,0.9s,mb5.0
TIXI Tiksi 55.23 6 *e*P **P 08 49 51.9 +2.1**
comp=Z,13nm,0.9s,mb5.0
AB31 Akbulak array 55.32 53 *i* P **P 08 49 50.0 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
AB31 Akbulak array 55.32 53 *i* P **P 08 49 50.0 -0.7**
comp=Z,5.0nm,1.1s,mb4.5
SLKM Skilak Lake 55.83 327 *e*P **P 08 49 55.1 +0.9**
SLKM Skilak Lake 55.83 327 *e*P **P 08 49 55.1 +0.9**
TPH Tonopah 56.61 290 *e*P **P 08 49 59.8 -0.4**
TPH pmax pmax
comp=Z,20nm,1.0s,mb5.1
TPH Tonopah 56.61 290 *e*P **P 08 49 59.8 -0.3**
comp=Z,20nm,1.0s,mb5.1
TPH Tonopah 56.61 290 *e*P **P 08 49 59.8 -0.4**
comp=Z,20nm,1.0s,mb5.1
TPNV Topopah Spring 56.84 289 *e*P **P 08 50 01.1 -0.7**
TPNV pmax pmax
comp=Z,11nm,1.1s,mb4.8
TPNV Topopah Spring 56.84 289 *e*P **P 08 50 01.1 -0.7**
comp=Z,11nm,1.1s,mb4.8
TPNV Topopah Spring 56.84 289 *e*P **P 08 50 01.1 -0.7**
comp=Z,11nm,1.1s,mb4.8
MNV Mina 56.89 291 *e*P **P 08 50 02.0 -0.2**
MNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MNV Mina 56.89 291 *e*P **P 08 50 02.0 -0.2**
comp=Z,5.5nm,0.9s,mb4.6
MNV Mina 56.89 291 *e*P **P 08 50 02.0 -0.2**
comp=Z,5.0nm,0.9s,mb4.5
TUC Tucson 56.90 281 *e*P **P 08 50 02.0 -0.3**
TUC pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
TUC Tucson 56.90 281 *e*P **P 08 50 02.0 -0.3**
comp=Z,4.5nm,1.0s,mb4.5
TUC Tucson 56.90 281 *e*P **P 08 50 02.0 -0.3**
comp=Z,4.0nm,1.0s,mb4.4
NEN Nelson 56.93 287 *e*P **P 08 50 02.4 -0.1**
NVAR Mina Array Bea 56.98 291 P **P 08 50 03.2 +0.5**
comp=Z,1.1nm,0.5s,mb4.2,baz=57,slow=5.1,SNR=8.5
NVAR LR LR 09 13 48.0
comp=Z,75nm,18.6s,MS3.8,baz=30,slow=35
BRVK Borovoye 57.33 44 *e*P **P 08 50 04.6 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BRVK Borovoye 57.33 44 *e*P **P 08 50 04.6 -0.5**
comp=Z,5.1nm,0.9s,mb4.5
BRVK Borovoye 57.33 44 *e*P **P 08 50 04.6 -0.5**
comp=Z,5.0nm,0.9s,mb4.5
BVA0 Borovoye Array 57.40 44 *i* P **P 08 50 05.4 -0.2**
BVA0 pmax pmax
comp=Z,20nm,0.8s,mb5.2
BVA0 Borovoye Array 57.40 44 *i* P **P 08 50 05.4 -0.2**
comp=Z,20nm,0.8s,mb5.2
LDFC Landfair 57.49 286 *e*P **P 08 50 07.2 +0.8**
VOSK Vostochnaya 57.87 44 P **P 08 50 08.3 -0.5**
VOSK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VOSK Vostochnaya 57.87 44 P **P 08 50 08.3 -0.5**
comp=Z,5.0nm,0.8s,mb4.6
ROSC El Rosal 57.87 229 P **P 08 50 09.3 -0.1**
comp=Z,77nm,0.7s,mb5.8,baz=70,slow=3.0,SNR=62
ROSC LR LR 09 09 53.6
comp=Z,125nm,20.3s,MS4.0,baz=198,slow=31
DAC Darwin (Calif) 58.08 289 *e*P **P 08 50 10.8 +0.3**
DAC pmax pmax
comp=Z,11nm,1.5s,mb4.7
DAC Darwin (Calif) 58.08 289 *e*P **P 08 50 10.8 +0.3**
comp=Z,11nm,1.5s,mb4.7
BILL Bilibino 58.40 351 *i* P **P 08 50 11.2 -1.2**
BILL pmax pmax
comp=Z,20nm,1.0s,mb5.1
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.3
BILL Bilibino 58.40 351 *i* P **P 08 50 11.2 -1.2**
comp=Z,200nm,17.0s
PFO Pinyon Flat Ob 59.31 286 *e*P **P 08 50 20.0 +0.8**
PFO pmax pmax
comp=Z,19nm,0.9s,mb5.1
PFO Pinyon Flat Ob 59.31 286 *e*P **P 08 50 20.0 +0.8**
comp=Z,19nm,0.9s,mb5.1
PFO Pinyon Flat Ob 59.31 286 *e*P **P 08 50 20.0 +0.8**
comp=Z,19nm,0.9s,mb5.1
BAR Barrett 60.11 286 *e*P **P 08 50 24.6 0.0**
NVS Novosibirsk 61.01 36 *e*P **P 08 50 27.6 -2.8**
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=Z,14nm,1.4s,mb4.9
KURK Kurchatov 62.51 41c *i*P **P 08 50 40.1 -0.5**
KURK Kurchatov 62.51 41 *e*P **P 08 50 39.7 -0.9**
comp=Z,4.7nm,0.6s,mb4.8
KURK Kurchatov 62.51 41 *i* P **P 08 50 40.1 -0.5**
OTAV Otavalo 63.84 230 *e*P **P 08 50 49.3 -0.7**
comp=Z,14nm,1.1s,mb4.9
AAK Ala-Archa 67.05 49 *i* P **P 08 51 09.7 -0.4**
AAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
AAK Ala-Archa 67.05 49 *e*P **P 08 51 09.7 -0.4**
comp=Z,7.2nm,1.2s,mb4.6
AAK Ala-Archa 67.05 49 *i* P **P 08 51 09.7 -0.4**
comp=Z,8.0nm,1.4s,mb4.6
MKAR Makanchi Array 67.10 42 P **P 08 51 10.2 -0.2**
comp=Z,5.1nm,0.6s,mb4.7,baz=332,slow=4.9,SNR=63
MKAR LR LR 09 22 38.1
comp=Z,100nm,18.4s,MS4.1,baz=234,slow=38
MKAR Makanchi Array 67.10 42⇑*e*P **P 08 51 10.1 -0.2**
BDFB Brasilia 69.20 194 P **P 08 51 21.4 -2.5**
comp=Z,2.3nm,0.5s,mb4.3,baz=30,slow=8.1,SNR=3.3
BDFB LR LR 09 16 13.7
comp=Z,178nm,20.3s,MS4.3,baz=209,slow=31
WMQ Urumqi 71.70 40 *e*P **P 08 51 40.7 +2.0**
WMQ AP pP 08 51 45.4 +3.6
WMQ XP sP 08 51 47.7 +4.8
WMQ PCP PcP 08 51 59.8 +1.8
WMQ PP PP 08 54 21.9 +2.2
WMQ PPP PPP 08 56 03.7 +2.3
WMQ *e*S S 09 00 59.4 +2.3
WMQ SCS ScS 09 01 42.1 +1.6
WMQ SS SS 09 05 37.2 +2.5
WMQ AMB AMB
comp=Z,20nm,5.0s
WMQ LR LR
comp=N,360nm,16.0s,MS4.9
WMQ LR LR
comp=E,480nm,18.0s,MS4.9
WMQ LR LR
comp=Z,240nm,20.0s,MS4.5
SONM Songino Array 74.33 26 P **P 08 51 54.6 +0.7**
comp=Z,2.9nm,0.9s,mb4.2,baz=326,slow=5.8,SNR=8.5
SONM LR LR 09 26 03.2
comp=Z,104nm,19.6s,MS4.1,baz=192,slow=37
ULN Ulaanbaatar 74.48 26 *e*P **P 08 51 55.6 +0.9**
ULN pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ULN Ulaanbaatar 74.48 26 *e*P **P 08 51 55.6 +0.9**
comp=Z,5.7nm,1.0s,mb4.5
ULN Ulaanbaatar 74.48 26 *e*P **P 08 51 55.6 +0.9**
comp=Z,6.0nm,1.0s,mb4.5
LPAZ La Paz 74.70 213 P **P 08 51 55.6 -1.0**
comp=Z,3.4nm,0.8s,mb4.3,baz=18,slow=5.8,SNR=18
LPAZ LR LR 09 21 43.3
comp=Z,64nm,18.3s,MS4.0,baz=214,slow=33
LPAZ La Paz 74.70 213 *e*P **P 08 51 55.5 -1.1**
LPAZ pmax pmax
comp=Z,10.0nm,1.3s
LPAZ La Paz 74.70 213 *e*P **P 08 51 55.5 -1.1**
comp=Z,10nm,1.3s,mb4.6
LPAZ La Paz 74.70 213 *e*P **P 08 51 55.5 -1.1**
comp=Z,10.0nm,1.3s,mb4.6
MDJ Mudanjiang 81.95 11 P **P 08 52 35.8 0.0**
MDJ AMB AMB
comp=Z,180nm,4.0s
CN2 Changchun 82.19 14 *e*P **P 08 52 37.0 0.0**
LZH Lanzhou 84.34 33 *e*P **P 08 52 50.6 +2.5**
LZH AP pP 08 52 53.7 +2.4
LZH XP sP 08 52 55.3 +2.9
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,170nm,4.9s
LZH LR LR
comp=E,200nm,15.9s
LZH LR LR
comp=Z,290nm,17.0s,MS4.7
TSUM Tsumeb 84.79 131 LR LR 09 28 33.4
comp=Z,71nm,19.4s,MS4.1,baz=317,slow=34
CD2 Chengdu 89.04 35 *e*P **P 08 53 10.6 -0.6**
NJ2 Nanjing 92.33 22 *e*P **P 08 53 27.9 +1.5**
NJ2 PP PP 08 57 11.9 +2.1
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,130nm,8.2s
NJ2 LR LR
comp=N,380nm,22.8s,MS4.9
NJ2 LR LR
comp=E,320nm,21.9s,MS4.9
NJ2 LR LR
comp=Z,280nm,26.7s,MS4.6
SSE Sheshan 93.77 21 P **P 08 53 33.0 -0.1**
SSE AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,80nm,7.7s
KMI Kunming 93.94 38 P **P 08 53 35.1 +1.1**
KMI LR LR
comp=Z,50nn,22.7s,MS3.9
VNA2 Neumayer--Watz 125.03 169 *e* PKPdf 08 59 31.0 +14
VNA2 Neumayer--Watz 125.03 169 *e* PKPdf 08 59 51.8 +34
VNA2 Neumayer--Watz 125.03 169⇑*i*PKPdf PKPdf 08 59 24.2 +6.9
VNA2 *e* 08 59 31.0
VNA2 *e* 08 59 51.8
VNA3 Neumayer Olymp 125.09 170 *e* PKPdf 08 59 24.2 +6.8
VNA3 Neumayer Olymp 125.09 170 *e* PKPdf 08 59 45.9 +28
VNA3 Neumayer Olymp 125.09 170⇑*i*PKPdf PKPdf 08 59 17.3 -0.1
VNA3 *e* 08 59 24.2
VNA3 *e* 08 59 45.9
WRAB Tennant Creek 146.04 19 *e*PKP2 PKPab 08 59 55.7 -1.9
WRA Warramunga Arr 146.04 19 PKPbc PKPbc 08 59 55.9 +0.7
comp=Z,1.7nm,0.6s,baz=339,slow=3.0,SNR=26

CSEM ***02*** *08:41:44.2±1.1, 12.11N×43.40E, h11km, ML3.7, Error ellipse: s-maj=24.3km s-min=22.6km az=80.0, After DHMR*

DHMR 02 08:41:44.2±1.1, 12.11N×43.40E, h11km±7km, ML3.7, 4C-5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.31**	**32**⇓	*i*P	Pb	08 42 08.5	+0.1
TRBA				*i* S	Sb	08 42 26.7	+1.6
TRBA				AML	AML	08 42 29.0	
	comp=N,2μm,0.3s						
UDYN	**Al 'Udayn**	**1.93**	**16**⇓	*i*P	Pn	08 42 18.2	+0.9
UDYN				*i* S	Sn	08 42 44.8	+3.1
UDYN				AML	AML	08 42 55.1	
	comp=N,1μm,0.6s						
UDYN	**Al 'Udayn**	**1.93**	**16**⇓	*i*P	Pn	08 42 18.2	+0.9
UDYN				*i* S	Sn	08 42 44.8	+3.1
	comp=N,731nm,0.6s						
LBOS		**2.51**	**46**⇑	*i*P	Pn	08 42 27.1	+1.5
LBOS				*i* S	Sn	08 43 01.9	+5.4
DHBB	**Dhamar BB**	**2.63**	**21**⇑	*i*P	Pn	08 42 29.9	+2.6
DHBB				*i* S	Sn	08 43 05.4	+5.9
BDHA	**Al Bayda'**	**2.81**	**48**⇑	*i*P	Pn	08 42 31.8	+1.9
BDHA				*i* S	Sn	08 43 09.3	+5.2
BDHA				AML	AML	08 43 17.1	
	comp=Z,96nm,0.5s						
BDHA	**Al Bayda'**	**2.81**	**48**⇑	*i*P	Pn	08 42 31.8	+1.9
BDHA				*i* S	Sn	08 43 09.3	+5.2
	comp=Z,48nm,0.5s						
HAJJ	**Hajjah**	**3.57**	**3**⇓	*i*P	Pn	08 42 42.5	+1.8
HAJJ				*i* S	Sn	08 43 27.1	+3.6
HAJJ				AML	AML	08 43 44.7	
	comp=N,377nm,0.5s						
HAJJ	**Hajjah**	**3.57**	**3**⇓	*i*P	Pn	08 42 42.5	+1.7
HAJJ				*i* S	Sn	08 43 27.1	+3.7
	comp=N,188nm,0.5s						

NEIC ***02*** *08:47:12.4, 51.03N×175.27E, h51km, ML3.7(AEIC), After AEIC.*
IDC ***02*** *08:47:14.5±1.5, 51.72N×175.83E, mb3.4/5, mb1 3.9/7, mb1mx3.7/22, mbtmp3.6/7, ML3.9/1, Error ellipse: s-maj=34.0km s-min=12.5km az=14.0*

ISC 02 08:47:16.7±1.1, 51.8N±0.2×175.9E±0.1, h33km, n11, σ1§37/13, mb3.5/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.46**	**313**	P	**P**	**08 47 40.7**	**-0.2**
SMY				S	**S**	**08 48 04.1**	**+5.2**
FX1	**Attu Island--F**	**2.00**	**305**	Pn	**Pn**	**08 47 47.0**	**-1.8**
	31nm,0.3s,baz=97,slow=8.1,SNR=23						
FX1				Sn	**Sn**	**08 48 14.1**	**+1.1**
	51nm,0.3s,baz=258,slow=20,SNR=28						
FX1	**Attu Island--F**	**2.00**	**305**	P	**P**	**08 47 46.8**	**-1.9**
KIMD	**Kanaga Island**	**4.29**	**87**	P	**P**	**08 48 20.7**	**-0.6**
ATKA	**Atka Island**	**6.17**	**82**	P	**P**	**08 48 46.6**	**-1.1**
KDAK	**Kodiak Island**	**19.06**	**59**	P	**P**	**08 51 37.3**	**-1.2**
	0.4nm,0.3s,baz=299,slow=19,SNR=5.0						
ILAR	**Eielson Array**	**23.11**	**41**	P	**P**	**08 52 22.1**	**+2.1**
	0.4nm,0.8s,mb2.9,baz=247,slow=6.4,SNR=6.5						
MJAR	**Matsushiro Arr**	**30.60**	**255**	P	**P**	**08 53 30.5**	**+1.0**
	0.6nm,0.3s,mb3.9,baz=33,slow=5.4,SNR=4.2						
YKA	**Yellowknife Ar**	**37.38**	**46**	P	**P**	**08 54 28.9**	**+1.3**
	0.3nm,0.4s,mb3.4,baz=280,slow=9.3,SNR=5.3						
PDAR	**Pinedale Array**	**49.34**	**69**	P	**P**	**08 56 07.2**	**+2.9**
	0.5nm,0.6s,mb3.7,baz=328,slow=3.7,SNR=4.5						
TXAR	**Lajitas Array**	**61.86**	**78**	P	**P**	**08 57 34.6**	**-0.2**
	0.2nm,0.6s,mb3.4,baz=284,slow=5.2,SNR=3.6						

ATH ***02*** *09:00:34.6, 38.23N×26.90E, h25km±1km, MD3.3/3*
ISK ***02*** *09:00:36.2, 38.13N×26.85E, h19km, MD3.1*
CSEM ***02*** *09:00:36.2±0.1, 38.15N×26.83E, h15km, MD3.1, Error ellipse: s-maj=2.6km s-min=1.6km az=124.0*

ISC 02 09:00:35.3±0.6, 38.20N±0.02×26.73E±0.04, h5km±5km, n19, σ0§90/29, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.19**	**327**	*i*P	**Pg**	**09 00 38.7**	**-0.6**
URLA				*i* S	**Sg**	**09 00 42.1**	**+0.2**
IZM	**Izmir**	**0.46**	**64**	*i* PG	**Pg**	**09 00 45.3**	**+0.7**
IZM				*i* SG	**Sg**	**09 00 51.9**	**+1.1**
KDAG	**Bornova**	**0.47**	**64**	*i*P	**Pg**	**09 00 44.0**	**-0.7**
KDAG				*i* S	**Sg**	**09 00 50.8**	**-0.2**
SMG	**Samos**	**0.50**	**170**⇑	*i*PN	**Pg**	**09 00 45.4**	**+0.2**
SMG				*e*SN	**Sg**	**09 00 53.0**	**+1.1**
AYDN	**Tasoluk**	**1.05**	**120**	*i*P	**Pb**	**09 00 55.7**	**0.0**
AYDN				*i* S	**Sb**	**09 01 09.4**	**-0.2**
AKS	**Akhisar**	**1.09**	**51**	*i* PG	**Pg**	**09 00 55.9**	**-1.1**
PRK	**Paraskevi**	**1.11**	**341**	*e*PN	**Pn**	**09 00 56.2**	**-1.2**
PRK				*e*SN	**Sn**	**09 01 12.1**	**-1.1**
AYVA	**Ayvalik**	**1.11**	**358**	*i*P	**Pb**	**09 00 57.2**	**+0.6**
AYVA				*i* S	**Sb**	**09 01 11.9**	**+0.7**
BODT	**Bodrum**	**1.22**	**158**	PN	**Pn**	**09 00 57.0**	**-2.1**
MLSB	**Milas**	**1.23**	**137**	*e*PN	**Pn**	**09 00 58.1**	**-1.0**
BDRM	**Kayabasi**	**1.27**	**153**	*i*P	**Pb**	**09 00 58.5**	**-0.7**
BDRM				*i* S	**Sb**	**09 01 15.8**	**+0.1**
MANT	**Manisa**	**1.47**	**78**	*i*P	**Pn**	**09 01 03.3**	**+0.7**
MANT				*i* S	**Sb**	**09 01 22.7**	**+1.1**
APE	**Apeiranthos**	**1.48**	**221**	*e*PN	**Pn**	**09 01 02.7**	**0.0**
APE	**Apeiranthos**	**1.48**	**221**	*e*PN	**Pn**	**09 01 03.5**	**+0.8**
APE				*e*SN	**Sn**	**09 01 24.3**	**+1.7**
YER	**Yerkesik**	**1.63**	**130**	PN	**Pn**	**09 01 03.1**	**-1.7**
EZN	**Ezine**	**1.66**	**349**	PN	**Pn**	**09 01 06.2**	**+1.0**
BALB	**Balikesir**	**1.70**	**32**	PN	**Pn**	**09 01 06.3**	**+0.5**
DST	**Dursunbey**	**2.04**	**46**	PN	**Pn**	**09 01 10.8**	**0.0**
ORLT	**Orhaneli**	**2.50**	**42**	PN	**Pn**	**09 01 17.5**	**+0.2**

NEIC ***02*** *09:01:55.6, 25.14S×69.29W, h68km, MD3.5(GUC), After GUC.*

GUC 02 09:01:55.6±0.7, 25.14S×69.29W, h68km±21km, MD2.9, ML3.0, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**1.13**	**297**⇑	*i*P	P	09 02 16.4	+0.5
CPN1				*i* S	S	09 02 32.7	+1.6
CPN1				AMP		09 02 38.0	
	comp=N,301nm,0.4s						
CRCH	**Chaqaral**	**1.70**	**225**	*i* P	P	09 02 24.0	+0.3
CRCH				*i* S	S	09 02 45.5	+1.0
CRCH				AMP		09 02 46.5	
	comp=N,387nm,0.4s						
ANCH	**Antofagasta**	**1.77**	**325**	*i* P	P	09 02 24.8	+0.1
ANCH				*i* S	S	09 02 47.1	+1.0
CEN1	**Los Morros**	**1.93**	**334**	*i* P	P	09 02 25.4	-1.5
CEN1				*i* S	S	09 02 48.4	-1.4
CEN1				AMP		09 02 52.0	
	comp=E,115nm,0.3s						
CDCH	**Caldera**	**2.37**	**215**	*i* P	P	09 02 33.2	+0.1
CDCH				*i* S	S	09 03 01.4	+0.4
CDCH				AMP		09 03 09.1	
	comp=N,116nm,0.3s						
SPCH	**San Pedro de A**	**2.43**	**24**	*i* P	P	09 02 34.5	+0.5
SPCH				*i* S	S	09 03 04.6	+2.0
SPCH				AMP		09 03 10.8	
	comp=E,177nm,0.3s						

CSEM ***02*** *09:03:07.8±1.1, 12.17N×43.40E, h9km, ML3.7, Error ellipse: s-maj=23.5km s-min=22.3km az=130.0, After DHMR*

DHMR 02 09:03:07.8±1.3, 12.17N×43.40E, h10km±8km, ML3.7, 2C-4D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.27**	**34**⇓	*i*P	Pb	09 03 30.7	-0.6
TRBA				*i* S	Sb	09 03 50.1	+2.6
TRBA				AML	AML	09 03 53.4	
	comp=N,1μm,0.3s						
UDYN	**Al 'Udayn**	**1.87**	**17**⇑	*i*P	Pn	09 03 41.8	+1.6
UDYN				*i* S	Sn	09 04 06.8	+2.7
UDYN				AML	AML	09 04 18.7	
	comp=N,2μm,0.5s						
LBOS		**2.47**	**47**⇑	*i*P	Pn	09 03 50.8	+1.9
LBOS				*i* S	Sn	09 04 23.8	+4.3
DHBB	**Dhamar BB**	**2.58**	**22**⇓	*i*P	Pn	09 03 52.3	+2.0
DHBB				*i* S	Sn	09 04 26.9	+4.9
BDHA	**Al Bayda'**	**2.77**	**49**⇓	*i*P	Pn	09 03 55.0	+1.8
BDHA				*i* S	Sn	09 04 33.0	+5.9
BDHA				AML	AML	09 04 38.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,472nm,0.3s						
HAJJ	Hajjah	3.51	3⇓	iP	Pn	09 04 05.4	+1.7
HAJJ				iS	Sn	09 04 50.0	+4.3
HAJJ				AML	AML	09 05 10.3	
	comp=E,231nm,0.5s						

*IDC **02** 09:13:27.2±1.4, 11.74N×43.60E, mb4.0/6, mb1 4.0/7, mb1mx3.8/16, mbtmp3.9/7, ML3.1/1, MS4.0/10, Ms1 4.0/10, ms1mx3.9/17, Error ellipse: s-maj=40.0km s-min=9.4km az=154.0*
*CSEM **02** 09:13:27.1±0.2, 11.93N×43.55E, h5^{km}, mb4.3/1, Error ellipse: s-maj=6.7km s-min=2.9km az=120.0*
*DHMR **02** 09:13:28.5±1.5, 12.11N×43.48E, h7^{km}±9^{km}, ML4.6*
*NEIC **02** 09:13:28.9±0.8, 11.78N×43.54E, h10^{km}, mb4.3/1, Error ellipse: s-maj=23.7km s-min=10.0km az=137.0*
ISC 02 09:13:27.7±0.6**, 11.92N**±0.05×**43.41E**±0.07**, h10^{km}, n32, σ1§26**/34**, mb4.0**/6**, MS4.0**/9**, 4D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	0.67	235	Pg	Pg	09 13 42.3	+1.1
	1µm,0.3s,baz=36,slow=18,SNR=80						
ATD				Lg		09 13 52.4	
	6µm,0.3s,baz=112,slow=23,SNR=142						
ATD	Arta Tunnel	0.67	235	Pg	Pg	09 13 42.3	+1.1
ATD				Lg		09 13 52.4	
TRBA	At Turbah	1.48	28	iP	Pn	09 13 52.6	-1.9
TRBA				iS	Sb	09 14 10.5	-2.9
TRBA				AML	AML	09 14 15.9	
	comp=E,12µm,0.5s						
UDYN	Al 'Udayn	2.11	15	iP	Pn	09 14 03.5	0.0
UDYN				iS	Sn	09 14 28.8	-1.2
UDYN				AML	AML	09 14 40.9	
	comp=N,9µm,0.5s						
UDYN	Al 'Udayn	2.11	15	iP	Pn	09 14 03.5	0.0
UDYN				iS	Sn	09 14 28.8	-1.2
	comp=N,4µm,0.5s						
LBOS		2.64	43⇓	iP	Pn	09 14 10.7	-0.5
LBOS				iS	Sn	09 14 45.4	+1.8
DHBB	Dhamar BB	2.80	20⇓	iP	Pn	09 14 13.5	+0.1
DHBB				iS	Sn	09 14 48.5	+0.8
BDHA	Al Bayda'	2.93	46⇓	iP	Pn	09 14 15.5	+0.2
BDHA				iS	Sn	09 14 53.1	+2.2
BDHA				AML	AML	09 15 07.9	
	comp=N,4µm,0.5s						
BDHA	Al Bayda'	2.93	46⇓	iP	Pn	09 14 15.5	+0.2
BDHA				iS	Sn	09 14 53.1	+2.1
	comp=N,2µm,0.5s						
HAJJ	Hajjah	3.76	3	iS	Sn	09 15 12.9	+1.0
HAJJ				AML	AML	09 15 34.2	
	comp=N,2µm,0.5s						
HAJJ	Hajjah	3.76	3	iS	Sn	09 15 12.9	+1.0
	comp=N,1µm,0.5s						
FRSS	Farasan al Kab	4.95	346	P	Pn	09 14 41.0	-3.0
FRSS				S	Sn	09 15 38.0	-4.0
DJNS	Zahran al Janu	5.76	1	P	Pn	09 14 56.2	+0.9
DJNS				S	Sn	09 16 02.7	+0.5
TATS	Tathlith	7.58	1	P	Pn	09 15 21.0	+0.1
TATS				S	Sn	09 16 48.0	+0.2
BLJS	Baljurashi	8.11	348	P	P	09 15 25.8	-2.5
KMBO	Kilima Mbogo	14.33	206	Pn	P	09 16 51.1	-1.9
	comp=N,0.1nm,0.3s,baz=26,slow=13,SNR=4.8						
KMBO				Lg		09 20 55.8	
	comp=N,0.5nm,0.3s,baz=266,slow=16,SNR=5.5						
KMBO				LR	LR	09 22 20.5	
	comp=N,1µm,21.0s,baz=91,slow=37						
BHD	Baghdad	21.27	2	ex	x	09 18 16.0	
BHD				ex	x	09 22 23.0	
BHD				e		09 24 57.0	
MSL	Mosul	24.27	359	ex	x	09 18 51.0	
MSL				ex	x	09 23 19.0	
GNI	Garni	28.14	2	LR	LR	09 32 28.9	
	comp=N,132nm,18.1s,MS3.6,baz=21,slow=40						
TORD	Torodi Ar. Bea	40.70	276	P	P	09 21 11.8	+1.4
	comp=N,4.7nm,1.0s,mb4.1,baz=94,slow=7.8,SNR=22						
GERES	GERESS Array B	44.30	332	P	P	09 21 39.9	+0.4
	comp=N,0.8nm,0.7s,mb3.5,baz=166,slow=4.0,SNR=3.8						
GERES				LR	LR	09 40 46.8	
	comp=N,82nm,18.4s,MS3.7,baz=276,slow=37						
BVAR	Borovoye Array	46.34	22	P	P	09 21 55.6	0.0
	comp=N,0.6nm,0.6s,mb3.7,baz=243,slow=3.2,SNR=3.1						
MKAR	Makanchi Array	47.74	36	P	P	09 22 05.8	-1.0
	comp=N,2.1nm,0.9s,mb4.2,baz=243,slow=6.4,SNR=6.7						
MKAR				LR	LR	09 46 00.6	
	comp=N,228nm,21.3s,MS4.1,baz=231,slow=41						
DBIC	Dimbokro	47.87	268	P	P	09 22 09.0	+0.8
	comp=N,5.3nm,0.8s,mb4.6,baz=93,slow=5.8,SNR=5.4						
DBIC	Dimbokro	47.87	268	eP	P	09 22 09.8	+1.6
	comp=N,2.2nm,0.8s,mb4.2						
DBIC	Dimbokro	47.87	268	eP	P	09 22 09.8	+1.6
FINES	FINESS Array B	51.03	349	LR	LR	09 46 42.5	
	comp=N,65nm,18.7s,MS3.7,baz=156,slow=39						
ZAL	Zalesovo	53.16	29	LR	LR	09 47 05.9	
	comp=N,287nm,18.0s,MS4.4,baz=272,slow=38						
NOA	NORSAR Array B	54.38	341	LR	LR	09 47 43.1	
	comp=N,82nm,20.5s,MS3.8,baz=65,slow=38						
ARCES	ARCESS Array B	58.69	353	LR	LR	09 49 12.5	
	comp=N,128nm,19.2s,MS4.1,baz=339,slow=36						
SONM	Songino Array	63.18	42	P	P	09 23 57.9	-0.3
	comp=N,1.3nm,0.9s,mb4.0,baz=259,slow=7.6,SNR=4.2						
SONM				LR	LR	09 55 27.1	
	comp=N,156nm,19.0s,MS4.2,baz=222,slow=40						
MAW	Mawson	80.56	173	LR	LR	09 58 35.8	
	comp=N,124nm,18.8s,MS4.3,baz=60,slow=34						

*CSEM **02** 09:25:45.7±0.9, 12.00N×43.47E, h13^{km}, ML3.9, Error ellipse: s-maj=18.8km s-min=17.2km az=88.0, After DHMR*
DHMR 02 09:25:45.7±1.4**, 12.00N×43.47E, h14^{km}**±13^{km}**, ML3.9, 3C-4D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.38	27⇑	iP	Pn	09 26 11.1	+0.4
TRBA				iS	Sb	09 26 29.8	+1.7
TRBA				AML	AML	09 26 31.7	
	comp=N,2µm,0.3s						
UDYN	Al 'Udayn	2.02	14⇓	iP	Pn	09 26 21.6	+1.8
UDYN				iS	Sn	09 26 48.3	+3.3
UDYN				AML	AML	09 26 57.9	
	comp=N,2µm,0.4s						
UDYN	Al 'Udayn	2.02	14⇓	iP	Pn	09 26 21.6	+1.8
UDYN				iS	Sn	09 26 48.3	+3.3
	comp=N,898nm,0.4s						
LBOS		2.54	43⇓	iP	Pn	09 26 29.9	+2.6
LBOS				iS	Sn	09 27 03.5	+5.2
DHBB	Dhamar BB	2.71	19⇓	iP	Pn	09 26 31.8	+2.1
DHBB				iS	Sn	09 27 08.7	+6.1
BDHA	Al Bayda'	2.83	46	iP	Pn	09 26 33.2	+1.7
BDHA				iS	Sn	09 27 11.0	+5.3
BDHA				AML	AML	09 27 27.9	
	comp=N,666nm,0.5s						
BDHA	Al Bayda'	2.83	46	iP	Pn	09 26 33.2	+1.7
BDHA				iS	Sn	09 27 11.0	+5.3
	comp=N,333nm,0.5s						
HAJJ	Hajjah	3.68	2⇑	iP	Pn	09 26 44.2	+0.6
HAJJ				iS	Sn	09 27 31.4	+4.2
HAJJ				AML	AML	09 27 47.4	
	comp=N,469nm,0.5s						
HAJJ	Hajjah	3.68	2⇑	iP	Pn	09 26 44.2	+0.7
HAJJ				iS	Sn	09 27 31.4	+4.2
	comp=N,235nm,0.5s						

MAN 02 09:38:51.7, 12.36N×125.13E, h17^{km}, mb3.8, ML2.5, MS2.1, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Catarman	0.48	288	eP	Pb	09 39 03.0	+1.8
CNP				eS	Sb	09 39 12.6	+5.0
BESP	Borongan	0.81	158	eP	Pb	09 39 06.6	-0.3
BESP				eS	Sb	09 39 20.1	+2.6
PLP	Palo	1.20	187	eP	Pb	09 39 14.1	+0.6
PLP				eS	Sb	09 39 29.9	+1.3
PVCP	Virac	1.55	322	eP	Pn	09 39 18.1	-0.7
MSLP	Maasin	2.23	187	eP	Pn	09 39 31.0	+2.5
MSLP				eS	Sn	09 40 07.0	+11

*CSEM **02** 09:39:25.5±1.3, 11.96N×43.38E, h3^{km}, ML4.1, Error ellipse: s-maj=27.5km s-min=24.0km az=114.0, After DHMR*
DHMR 02 09:39:25.5±1.2**, 11.96N×43.38E, h4^{km}**±7^{km}**, ML4.1, 4C-4D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.45	29⇑	iP	Pn	09 39 52.1	-0.5
TRBA				iS	Sb	09 40 13.6	+2.1
TRBA				AML	AML	09 40 16.8	
	comp=E,3µm,0.4s						
UDYN	Al 'Udayn	2.07	16⇓	iP	Pn	09 40 03.0	+1.4
UDYN				iS	Sn	09 40 31.1	+2.9
UDYN				AML	AML	09 40 45.6	
	comp=Z,2µm,0.6s						
UDYN	Al 'Udayn	2.07	16⇓	iP	Pn	09 40 03.0	+1.5
UDYN				iS	Sn	09 40 31.1	+2.9
	comp=Z,942nm,0.6s						
LBOS		2.63	44	iP	Pn	09 40 12.0	+2.5
LBOS				iS	Sn	09 40 47.5	+5.2
DHBB	Dhamar BB	2.77	21⇑	iP	Pn	09 40 14.0	+2.5
DHBB				iS	Sn	09 40 51.8	+5.9
BDHA	Al Bayda'	2.92	47⇑	iP	Pn	09 40 15.0	+1.3
BDHA				iS	Sn	09 40 55.1	+5.4
BDHA				AML	AML	09 41 04.8	
	comp=N,1µm,0.7s						
BDHA	Al Bayda'	2.92	47⇑	iP	Pn	09 40 15.0	+1.3
BDHA				iS	Sn	09 40 55.1	+5.4
	comp=N,628nm,0.7s						
HAJJ	Hajjah	3.72	3⇓	iP	Pn	09 40 26.7	+1.6
HAJJ				iS	Sn	09 41 13.9	+4.0
HAJJ				AML	AML	09 41 35.1	
	comp=N,1µm,0.5s						
HAJJ	Hajjah	3.72	3⇓	iP	Pn	09 40 26.7	+1.7
HAJJ				iS	Sn	09 41 13.9	+4.0
	comp=N,504nm,0.5s						

*BJI **02** 09:47:38.2, 11.46N×42.89E, h10^{km}, mB5.3, mb4.8, Ms4.9, Msz4.5*
*DHMR **02** 09:47:43.3±1.5, 12.06N×43.59E, h6^{km}±11^{km}, ML4.8*
*CSEM **02** 09:47:43.3, 12.06N×43.59E, h6^{km}, ML4.8, After DHMR*
*MOS **02** 09:47:43.6±1.1, 11.82N×43.55E, h10^{km}, mb4.9/18, MS4.4/10, Error ellipse: s-maj=13.9km s-min=6.9km az=85.6*
*IDC **02** 09:47:44.1±0.9, 11.88N×43.49E, mb4.5/11, mb1 4.5/12, mb1mx4.4/18, mbtmp4.4/12, MS4.3/14, Ms1 4.3/14, ms1mx4.1/19, Error ellipse: s-maj=26.1km s-min=7.9km az=142.0*
*NEIC **02** 09:47:45.0±0.3, 11.81N×43.54E, h10^{km}, mb4.6/12, ML4.8(DHMR), Error ellipse: s-maj=8.4km s-min=6.3km az=146.0*
ISC 02 09:47:43.7±0.3**, 11.89N**±0.04×**43.54E**±0.04**, h10^{km}, (h15^{km}**±1.2^{km}**:pP-P), n120, σ1§15**/122**, mb4.7**/41**, MS4.4**/27**, 11C-10D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	0.77	243	Pg	Pg	09 47 57.9	-1.2
	2µm,0.3s,baz=51,slow=16,SNR=2090						
ATD				Lg		09 48 08.3	
	4µm,0.3s,baz=240,slow=22,SNR=59						
TRBA	At Turbah	1.45	23	iP	Pn	09 48 07.7	-2.4
TRBA				iS	Sb	09 48 24.9	-3.8
TRBA				AML	AML	09 48 29.3	
	comp=E,18µm,0.3s						
UDYN	Al 'Udayn	2.11	11	iP	Pn	09 48 18.5	-1.0
UDYN				iS	Sn	09 48 44.7	-1.4
UDYN				AML	AML	09 48 55.5	
	comp=Z,14µm,0.7s						
UDYN	Al 'Udayn	2.11	11	iP	Pn	09 48 18.5	-1.0
UDYN				iS	Sn	09 48 44.7	-1.4
	comp=Z,7µm,0.7s						
LBOS		2.58	40	iP	Pn	09 48 25.1	-1.2
LBOS				iS	Sn	09 48 59.4	+1.3
DHBB	Dhamar BB	2.79	17	iP	Pn	09 48 29.5	+0.2
DHBB				iS	Sn	09 49 04.6	+1.1
BDHA	Al Bayda'	2.87	43⇑	eP	Pn	09 48 29.4	-1.0
BDHA				iS	Sn	09 49 07.2	+1.9
BDHA				AML	AML	09 49 18.9	
	comp=N,9µm,0.5s						
BDHA	Al Bayda'	2.87	43⇑	eP	Pn	09 48 29.4	-1.0
BDHA				iS	Sn	09 49 07.2	+1.9
	comp=N,4µm,0.5s						
HAJJ	Hajjah	3.79	1	iP	Pn	09 48 42.2	-1.2
HAJJ				iS	Sn	09 49 28.6	-0.1
FRSS	Farasan al Kab	5.02	344	S	Sn	09 49 54.5	-5.2
FRSS				P		09 48 58.8	
DJNS	Zahran al Janu	5.79	0	P	Pn	09 49 10.9	-0.9
TATS	Tathlith	7.61	360	P	Pn	09 49 36.7	-0.7
BLJS	Baljurashi	8.17	347	P	P	09 49 43.1	-2.0
KAMS	Al Khamasin	8.44	7	P	P	09 49 49.7	+0.8
ABTO	Aybut	10.89	59 ⇑	P	P	09 50 25.3	+2.5
WHFO	Wadi Hawf	11.56	58 ⇓	P	P	09 50 34.7	+2.8
KMBO	Kilima Mbogo	14.36	206	Pn	P	09 51 09.1	-0.2
	comp=N,0.2nm,0.3s,baz=22,slow=16,SNR=6.0						
KMBO				Lg		09 55 17.3	
	comp=N,1.0nm,0.3s,baz=89,slow=16,SNR=9.4						
KMBO				LR	LR	09 56 36.1	
	comp=N,2µm,21.2s,baz=82,slow=37						
KMBO	Kilima Mbogo	14.36	206	iP	P	09 51 09.6	+0.3
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMBO	Kilima Mbogo	14.36	206	Pn	P	09 51 09.1	-0.2
KMBO				Lg		09 55 17.3	
KMBO				LR	LR	09 56 36.1	
ARQ	Araqi	16.80	46 ⇓	P	P	09 51 41.4	+0.6
	SNR=10						
BSY	Bisya	16.92	49 ⇓	P	P	09 51 40.3	-1.9
	SNR=11						
JMDO	Jabal Madar	17.37	51 ⇑	P	P	09 51 45.3	-2.7
ASHO	Ashiyiah	17.40	41 ⇓	P	P	09 51 44.7	-3.6
	SNR=15						
HOQ	Hoqain	17.51	47 ⇓	P	P	09 51 48.6	-1.2
SMDO	Samad	17.73	49	P	P	09 51 52.6	+0.1
	SNR=14						
BIDO	Bidbid	18.06	48 ⇓	P	P	09 51 55.6	-1.1
	SNR=17						
WBK	Wadi Bani Khal	18.17	52	P	P	09 51 57.3	-0.7
	SNR=9.4						
BANOM	Banah	18.44	39 ⇑	P	P	09 51 59.3	-1.9
	SNR=38						
BHD	Baghdad	21.30	2	ex	x	09 52 32.0	
BHD				ex	x	09 56 23.0	
MSL	Mosul	24.30	359	ex	x	09 53 06.5	
MSL				ex	x	09 53 39.0	
MSL				ex	x	09 57 37.0	
MSL				ex	x	10 00 40.0	
MSL				e		10 01 20.0	
CSS	Prodhromos	24.78	340	P	P	09 53 06.2	-0.9
GNI	Garni	28.17	2	P	P	09 53 40.1	+1.7
	comp=Z,3.6nm,0.5s,mb4.3,baz=33,slow=18,SNR=6.4						
GNI				LR	LR	10 05 29.1	
	comp=Z,373nm,18.4s,MS4.0,baz=352,slow=38						
TI2	Plekhanov	29.75	2	eP	P	09 53 54.6	+2.0
KIV	Kislovodsk	31.96	359	deP	P	09 54 13.1	+1.1
KIV				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.9						
KIV				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.2						
KIV	Kislovodsk	31.96	359	eP	P	09 54 12.6	+0.6
	comp=Z,21nm,0.9s,mb5.0						
ANN	Anapa	33.22	352	eP	P	09 54 27.2	+4.3
ANN				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.3						
ANN				MLR	MLR		
	comp=Z,668nm,13.0s,MS4.5						
VOIR		36.97	338 ⇑	P	P	09 54 56.8	+1.8
BURAR	Bucovina Array	38.80	340 ⇓	P	P	09 55 12.3	+2.0
VOR	Voronezh	39.89	356	eP	P	09 55 20.0	+0.6
VOR				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.2						
VOR				pmax	pmax		
	comp=N,110nm,1.7s						
AKASG	Malin Array Be	40.44	346	P	P	09 55 23.5	-0.4
	comp=N,3.7nm,0.8s,mb4.2,baz=165,slow=6.9,SNR=15						
AKASG	Malin Array Be	40.44	346	iP	P	09 55 24.1	+0.2
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KOLN	Koldanda	40.65	61	eP	P	09 55 26.1	+0.3
	comp=Z,22nm,1.0s,mb4.7						
AAK	Ala-Archa	40.75	36	iP	P	09 55 26.5	0.0
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
AAK				MLR	MLR		
	comp=Z,800nm,22.0s,MS4.5						
AAK	Ala-Archa	40.75	36	eP	P	09 55 25.9	-0.6
	comp=Z,8.8nm,0.7s,mb4.5						
TORD	Torodi Ar. Bea	40.84	276	P	P	09 55 27.6	+0.1
	comp=Z,12nm,1.1s,mb4.4,baz=91,slow=4.7,SNR=39						
KOLS	Kolonicke sedl	40.94	339	eP	P	09 55 29.1	+1.1
KOLS				e		09 55 41.8	
FRU	Bishkek	40.95	35	eP	P	09 55 30.5	+2.4
FRU				e	pP	09 55 35.0	+3.9
FRU				pmax	pmax		
	comp=Z,70nm,2.1s,mb4.9						
FRU				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.8						
PSZ	Piszkesteto	41.01	336	eP	P	09 55 28.2	-0.4
PSZ				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
PSZ	Piszkesteto	41.01	336	eP	P	09 55 28.2	-0.4
	comp=Z,13nm,1.0s,mb4.5						
CRVS	Cervenica-Dubn	41.21	338	eP	P	09 55 31.0	+0.8
CRVS	Cervenica-Dubn	41.21	338	eP	P	09 55 31.1	+0.9
KECS	Kecovo	41.23	337	eP	P	09 55 31.3	+0.9
KECS				e		09 55 48.3	
GKN	Gorkha	41.60	61	eP	P	09 55 33.3	-0.4
STHS	Stebnicka Huta	41.72	338	eP	P	09 55 35.3	+0.9
STHS	Stebnicka Huta	41.72	338	eP	P	09 55 35.5	+1.1
VYHS	Vyhne	41.90	335	eP	P	09 55 36.8	+0.9
DMN	Daman	41.91	62	eP	P	09 55 36.7	+0.5
KKN	Kakani	42.10	62	eP	P	09 55 37.8	0.0
PKI	Pulchoki	42.16	62	eP	P	09 55 38.5	+0.2
ZST	Bratislava	42.40	334	eP	P	09 55 41.1	+1.1
GUN	Gumba	42.64	62	eP	P	09 55 42.4	+0.1
	comp=Z,23nm,0.9s,mb4.9						
OBN	Obninsk	43.47	354⇑	eP	P	09 55 49.2	+0.6
OBN				iS	S	10 02 19.6	+2.9
OBN				eSS	SS	10 05 48.8	+25
OBN				pmax	pmax		
	comp=Z,45nm,1.7s,mb4.9						
OBN				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.3						
MOS	Moscow	43.99	355	eP	P	09 55 53.2	+0.4
MOS				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.1						
GERES	GERESS Array B	44.40	332	P	P	09 55 56.6	+0.3
	comp=Z,2.5nm,0.9s,mb4.0,baz=135,slow=7.5,SNR=14						
GERES				LR	LR	10 15 27.6	
	comp=Z,84nm,18.3s,MS3.7,baz=329,slow=38						
KHC	Kasperske Hory	44.66	332	eP	P	09 55 58.0	-0.3
BRG	Berggiesshubel	45.77	334	eP	P	09 56 06.8	-0.3
BRG				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BRG	Berggiesshubel	45.77	334	P	P	09 56 06.8	-0.3
	comp=Z,8.8nm,1.0s,mb4.6						
ARU	Arti	45.95	12⇓	iP	P	09 56 08.8	+0.4
ARU				e		09 57 55.7	
ARU				eS	S	10 02 51.6	-0.7
ARU				eSS	SS	10 06 16.8	+7.6
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ARU				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.2						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,200nm,19.0s,MS4.2						
ARU	Arti	45.95	12	P	P	09 56 08.6	+0.2
BRVK	Borovoye	46.31	22	eP	P	09 56 10.9	-0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	Borovoye	46.31	22	eP	P	09 56 10.9	-0.5
	comp=Z,2.2nm,0.6s,mb4.3						
BVAR	Borovoye Array	46.32	22	P	P	09 56 12.2	+0.7
	comp=Z,3.3nm,0.9s,mb4.3,baz=217,slow=7.4,SNR=13						
CLL	Collm	46.49	334	P	P	09 56 13.0	+0.2
CLL	Collm	46.49	334	eP	P	09 56 06.0	-6.8
SVE	Sverdlovsk	46.74	13	eP	P	09 56 09.7	-5.0
SVE				eS	S	10 03 12.0	+8.2
SVE				MLR	MLR		
	comp=N,400nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,200nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.6						
CHKZ	Chkalovo	46.92	22	eP	P	09 56 15.5	-0.7
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
CHKZ	Chkalovo	46.92	22	eP	P	09 56 15.5	-0.7
	comp=Z,5.9nm,1.1s,mb4.4						
MKAR	Makanchi Array	47.69	36	P	P	09 56 22.4	0.0
	comp=Z,9.0nm,0.9s,mb4.8,baz=225,slow=5.1,SNR=18						
MKAR				LR	LR	10 20 16.2	
	comp=Z,445nm,21.9s,MS4.4,baz=270,slow=41						
MKAR	Makanchi Array	47.69	36	iP	P	09 56 22.3	-0.1
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DBIC	Dimbokro	47.99	268	P	P	09 56 24.5	-0.7
	comp=Z,13nm,1.1s,mb4.9,baz=86,slow=5.6,SNR=6.4						
DBIC				LR	LR	10 16 19.8	
	comp=Z,103nm,18.4s,MS3.8,baz=67,slow=36						
DBIC	Dimbokro	47.99	268	eP	P	09 56 24.9	-0.3
DBIC				pmax	pmax		
	comp=Z,14nm,1.1s						
DBIC	Dimbokro	47.99	268	eP	P	09 56 24.9	-0.3
	comp=Z,14nm,1.1s,mb4.9						
KURK	Kurchatov	48.15	29	iP	P	09 56 26.6	+0.7
KURK	Kurchatov	48.15	29	eP	P	09 56 25.7	-0.2
	comp=Z,14nm,1.3s,mb4.8						
SOKR	Solikamsk	48.61	9	eP	P	09 56 27.0	-2.3
SOKR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,240nm,15.0s,MS4.3						
KLMR	Klimovskoe	48.97	357	eP	P	09 56 31.3	-0.8
KLMR				pmax	pmax		
	comp=Z,30nm,1.9s,mb5.0						
KLMR				MLR	MLR		
	comp=Z,240nm,11.0s,MS4.4						
WMQ	Urumqi	49.49	42	eP	P	09 56 37.7	+1.3
WMQ				AP	pP	09 56 42.2	+2.8
WMQ				XP	sP	09 56 44.7	+4.1
WMQ				PCP	PcP	09 57 59.7	+1.0
WMQ				PP	PP	09 58 32.7	+1.5
WMQ				PPP	PPP	09 59 27.7	+2.2
WMQ				eS	S	10 03 43.7	+1.0
WMQ				SCS	ScS	10 06 26.2	+0.7
WMQ				AMB	AMB		
	comp=Z,220nm,5.2s						
WMQ				LR	LR		
	comp=N,590nm,19.3s,MS4.7						
WMQ				LR	LR		
	comp=E,630nm,22.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,630nm,19.2s,MS4.6						
FINES	FINESS Array B	51.09	349	P	P	09 56 47.6	-0.7
	comp=Z,6.1nm,1.0s,mb4.5,baz=143,slow=9.5,SNR=4.9						
FINES				LR	LR	10 20 04.0	
	comp=Z,213nm,18.7s,MS4.2,baz=329,slow=38						
FINES	FINESS Array B	51.09	349	iP	P	09 56 48.2	-0.1
FINES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NVS	Novosibirsk	52.94	28	eP	P	09 57 01.1	-1.3
NVS				eS	S	10 04 29.6	-0.3
NVS				pmax	pmax		
	comp=Z,22nm,1.9s,mb4.8						
NVS				smax			
	comp=E,9.0nm,1.0s						
ZAL	Zalesovo	53.12	29	LR	LR	10 21 47.4	
	comp=E,2µm,21.4s,MS5.0,baz=322,slow=38						
NB2	NORSAR Subarra	54.46	341	P	P	09 57 11.7	-1.6
	comp=E,7.1nm,1.0s,mb4.5,baz=139,slow=7.4						
NOA	NORSAR Array B	54.46	341	P	P	09 57 11.8	-1.5
	comp=E,4.1nm,1.0s,mb4.3,baz=138,slow=7.3,SNR=4.8						
NOA				LR	LR	10 21 16.0	
	comp=E,115nm,20.2s,MS3.9,baz=120,slow=37						
KMI	Kunming	57.27	68	P	P	09 57 35.1	+0.9
KMI				S	S	10 05 25.1	-3.1
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=N,320nm,9.3s						
KMI				LR	LR		
	comp=E,730nm,10.5s						
KMI				LR	LR		
	comp=Z,100nm,48.2s						
CD2	Chengdu	58.50	61	eP	P	09 57 43.0	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	58.74	353	LR	LR	10 23 29.4	
	comp=Z,205nm,20.5s,MS4.2,baz=164,slow=36						
LZH	Lanzhou	59.15	55	*e*P	P	09 57 47.8	+0.6
LZH				AP	pP	09 57 51.1	+0.8
LZH				XP	sP	09 57 52.4	+1.0
LZH				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
GYA	Guiyang	60.83	66⇑	*i*P	P	09 57 58.5	-0.3
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.1						
SONM	Songino Array	63.12	42	P	P	09 58 13.7	-0.2
	comp=Z,6.1nm,1.0s,mb4.7,baz=252,slow=7.2,SNR=20						
SONM				LR	LR	10 30 02.1	
	comp=Z,307nm,19.8s,MS4.5,baz=216,slow=40						
ULN	Ulaanbaatar	63.56	42	*e*P	P	09 58 16.5	-0.3
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ULN	Ulaanbaatar	63.56	42	*e*P	P	09 58 16.5	-0.2
	comp=Z,2.8nm,1.0s,mb4.2						
HHC	Hu-ho-hao-te	65.72	51	*e*P	P	09 58 32.1	+1.2
HHC				AP	pP	09 58 36.8	+2.8
HHC				XP	sP	09 58 39.1	+4.0
HHC				PP	PP	10 01 00.0	+2.1
HHC				SCP		10 03 04.8	
HHC				PCS		10 03 06.9	
HHC				S	S	10 07 16.7	+1.2
HHC				SCS	ScS	10 08 22.9	-0.2
HHC				SS	SS	10 11 32.7	+1.4
HHC				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
HHC				AMB	AMB		
	comp=Z,230nm,3.7s						
HHC				LR	LR		
	comp=N,350nm,13.2s,MS5.0						
HHC				LR	LR		
	comp=E,530nm,13.3s,MS5.0						
HHC				LR	LR		
	comp=Z,420nm,14.7s,MS4.8						
WHN	Wuhan	67.60	62	⇑P	P	09 58 43.5	+0.4
NJ2	Nanjing	71.41	60	*e*P	P	09 59 05.0	-1.4
NJ2				AP	pP	09 59 10.9	+1.4
NJ2				XP	sP	09 59 12.6	+2.0
NJ2				PP	PP	10 01 45.6	-1.2
NJ2				S	S	10 08 21.0	-2.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,210nm,5.6s						
NJ2				LR	LR		
	comp=N,820nm,22.8s,MS5.0						
NJ2				LR	LR		
	comp=E,700nm,26.7s,MS5.0						
NJ2				LR	LR		
	comp=Z,430nm,30.6s,MS4.5						
SSE	Sheshan	73.45	61	P	P	09 59 17.3	-1.3
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,50nm,5.2s						
CN2	Changchun	76.06	48	*e*P	P	09 59 34.0	+0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
SUMG	Summit	76.34	342	*e*P	P	09 59 35.3	+1.0
	comp=Z,7.7nm,1.0s,mb4.6						
TIXI	Tiksi	77.33	19	*i*P	P	09 59 39.4	-0.4
TIXI				pmax	pmax		
	comp=Z,13nm,2.5s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,600nm,24.0s,MS4.8						
MDJ	Mudanjiang	78.97	47	P	P	09 59 48.1	-1.2
MDJ				XP	sP	09 59 53.5	-0.1
MDJ				S	S	10 09 47.1	+0.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,210nm,4.0s						
MDJ				LR	LR		
	comp=N,90nm,22.9s,MS4.2						
MDJ				LR	LR		
	comp=E,60nm,19.2s,MS4.2						
MDJ				LR	LR		
	comp=Z,110nm,19.2s,MS4.2						
MAW	Mawson	80.51	173	LR	LR	10 31 04.8	
	comp=Z,201nm,18.4s,MS4.5,baz=154,slow=32						
SYO	Syowa Base	80.73	181	⇑X		09 59 55.7	
SYO	Syowa Base	80.73	181⇑	*e*P	P	09 59 55.7	-2.6
MJAR	Matsushiro Arr	86.72	54	LR	LR	10 46 01.0	
	comp=Z,166nm,18.6s,MS4.5,baz=320,slow=40						
ASAJ	Asahikawa	88.23	45	LR	LR	10 44 37.6	
	comp=Z,154nm,20.2s,MS4.4,baz=70,slow=39						
BILL	Bilibino	90.54	18⇓	*i*P	P	10 00 48.8	+1.9
BILL				*e*		10 04 19.1	
BILL				*e*S	S	10 11 37.4	-2.4
BILL				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.8						
BDFB	Brasilia	94.61	255	LR	LR	10 42 22.1	
	comp=Z,140nm,18.4s,MS4.5,baz=291,slow=35						
WRA	Warramunga Arr	94.72	109	P	P	10 01 07.9	+0.8
	comp=Z,1.7nm,1.2s,mb4.3,baz=304,slow=3.6,SNR=5.0						
PDAR	Pinedale Array	120.29	337	PKP	PKPdf	10 06 37.6	-0.8
	comp=Z,0.4nm,0.8s,baz=108,slow=4.7,SNR=3.8						
NVAR	Mina Array Bea	127.15	342	PKP	PKPdf	10 06 52.5	+0.6
	comp=Z,0.5nm,0.5s,baz=27,slow=2.2,SNR=5.4						
TXAR	Lajitas Array	128.23	323	PKP	PKPdf	10 06 53.5	-0.8
	comp=Z,1.0nm,1.0s,baz=117,slow=2.8,SNR=6.7						

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*CSEM **02** 09:56:38.7±1.0, 12.15N×43.20E, h9km, ML3.8, Error ellipse: s-maj=20.5km s-min=18.4km az=81.0, After DHMR*

DHMR 02 09:56:38.7±1.5**, 12.15N×43.20E, h10**km±10km**, ML3.8, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.40	40	*i*P	Pn	09 57 05.1	+0.7
TRBA				*i*S	Sb	09 57 24.1	+1.9
TRBA				AML	AML	09 57 25.1	
	comp=N,2µm,0.3s						
TRBA	At Turbah	1.40	40	*i*P	Pn	09 57 05.1	+0.7
TRBA				*i*S	Sb	09 57 24.1	+1.9
	comp=N,916nm,0.3s						
UDYN	Al ‘Udayn	1.95	23	*i*P	Pn	09 57 13.9	+1.6
UDYN				*i*S	Sn	09 57 40.6	+3.5
UDYN				AML	AML	09 57 52.8	
	comp=N,994nm,0.5s						
UDYN	Al ‘Udayn	1.95	23	*i*P	Pn	09 57 13.9	+1.6
UDYN				*i*S	Sn	09 57 40.6	+3.5
	comp=N,497nm,0.5s						
LBOS		2.63	49	*i*P	Pn	09 57 23.7	+1.7
LBOS				*i*S	Sn	09 57 59.1	+4.7
DHBB	Dhamar BB	2.67	26	*i*P	Pn	09 57 25.2	+2.7
DHBB				*i*S	Sn	09 58 00.9	+5.6
BDHA	Al Bayda’	2.94	52	*i*P	Pn	09 57 27.9	+1.6
BDHA				*i*S	Sn	09 58 08.3	+6.2
BDHA				AML	AML	09 58 12.8	
	comp=N,546nm,0.5s						
BDHA	Al Bayda’	2.94	52	*i*P	Pn	09 57 27.9	+1.5
BDHA				*i*S	Sn	09 58 08.3	+6.2
	comp=N,273nm,0.5s						
HAJJ	Hajjah	3.55	6	*i*P	Pn	09 57 36.2	+1.2
HAJJ				*i*S	Sn	09 58 21.5	+4.0

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*CSEM **02** 10:07:26.1±0.9, 11.92N×43.56E, h8km, ML4.1, Error ellipse: s-maj=21.5km s-min=18.9km az=96.0, After DHMR*

DHMR 02 10:07:26.1±1.3**, 11.92N×43.56E, h8**km±14km**, ML4.1, 5D, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al ‘Udayn	2.07	11⇓	*i*P	Pn	10 08 03.3	+1.7
UDYN				*i*S	Sn	10 08 30.6	+2.8
UDYN				AML	AML	10 08 43.3	
	comp=E,2µm,0.5s						
UDYN	Al ‘Udayn	2.07	11⇓	*i*P	Pn	10 08 03.3	+1.7
UDYN				*i*S	Sn	10 08 30.6	+2.8
LBOS		2.54	40⇓	*i*P	Pn	10 08 09.8	+1.4
LBOS				*i*S	Sn	10 08 45.2	+5.3
DHBB	Dhamar BB	2.75	17	*i*P	Pn	10 08 13.8	+2.4
DHBB				*i*S	Sn	10 08 51.2	+6.1
BDHA	Al Bayda’	2.83	44⇓	*i*P	Pn	10 08 14.7	+2.3
BDHA				*i*S	Sn	10 08 52.0	+4.9
BDHA				AML	AML	10 09 07.1	
	comp=Z,514nm,0.6s						
HAJJ	Hajjah	3.75	1⇓	*i*P	Pn	10 08 26.4	+0.8
HAJJ				*i*S	Sn	10 09 14.4	+4.0
HAJJ				AML	AML	10 09 29.8	
	comp=E,1µm,0.9s						

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*MOS **02** 10:19:27.4±0.9, 25.06N×141.56E, h514km, mb4.5/31, Error ellipse: s-maj=12.0km s-min=7.1km az=96.8*

*BJI **02** 10:19:28.1, 25.09N×142.11E, h546km, mB4.8, mb4.5*

*IDC **02** 10:19:28.2±0.6, 25.01N×141.68E, h514km±5km, mb3.6/17, mb1 3.7/21, mb1mx3.7/24, mbtmp4.5/21, Error ellipse: s-maj=13.7km s-min=9.1km az=91.0*

*NEIC **02** 10:19:28.8±0.7, 25.03N×141.63E, h517km±8km, mb4.1/37, Error ellipse: s-maj=6.6km s-min=5.1km az=115.0*

*JMA **02** 10:19:29.4±0.2, 25.16N×141.42E, h515km*

ISC 02 10:19:28.3±0.4**, 25.07N**±0.04×**141.58E**±0.05**, h519**km±4km**, n156, σ0**^{s}**90**/167**, mb4.2**/64**, 4C-2D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.65	19	P	P	10 20 34.4	+0.3
JHHJ				S	S	10 21 25.8	-0.4
CBIJ	Chichi jima	2.09	15	P	P	10 20 36.6	+0.6
	48nm,0.3s,baz=165,slow=22,SNR=103						
CBIJ				S	S	10 21 29.6	-0.2
	360nm,0.3s,baz=169,slow=23,SNR=19						
CBIJ	Chichi jima	2.09	15	P	P	10 20 36.8	+0.7
CBIJ				S	S	10 21 29.6	-0.2
JHJ2	Mitsune	8.16	350	P	P	10 21 27.6	-0.2
JHJ2				S	S	10 23 02.4	-0.5
JHJ	Hachijo jima 2	8.18	349	P	P	10 21 27.9	-0.1
	23nm,0.3s,baz=80,slow=15,SNR=31						
JHJ				S	S	10 23 03.8	+0.6
	31nm,0.3s,baz=57,slow=22,SNR=4.1						
BSO1	Boso 1	9.57	357	P	P	10 21 42.3	-0.1
BSO1				S	S	10 23 29.1	-0.2
BSO3	Boso 3	9.75	355	P	P	10 21 44.6	+0.3
BSO3				S	S	10 23 33.8	+1.1
JIM2	Oshima 3	9.80	350	P	P	10 21 45.0	+0.2
JIM2				S	S	10 23 33.4	-0.3
BSO4	Boso 4	9.95	354	P	P	10 21 46.8	+0.4
BSO4				S	S	10 23 38.3	+1.8
JKN2	Miekihoku	10.24	334	P	P	10 21 50.0	+0.6
JOD2	Odawara 2	10.39	349	P	P	10 21 50.9	0.0
JOD2				S	S	10 23 43.5	-1.4
JHU	Hanno	10.93	350	P	P	10 21 56.1	-0.4
JHU				S	S	10 23 53.5	-1.7
JRY	Ryogami san	11.15	349	P	P	10 21 58.7	-0.1
JRY				S	S	10 23 59.2	-0.3
JYT	Yasato	11.19	354	P	P	10 21 59.5	+0.3
JYT				*e*S	S	10 23 59.6	-0.5
JAG	Ashikaga	11.47	351	P	P	10 22 01.8	-0.2
JAG				S	S	10 24 03.8	-1.7
JHO	Hitachi	11.54	356	P	P	10 22 03.1	+0.3
MJAR	Matsushiro Arr	11.80	347	P	P	10 22 04.4	-1.0
	0.7nm,0.3s,baz=166,slow=11,SNR=5.6						
MAJO	Matsushiro	11.80	347	*e*P	P	10 22 05.3	-0.1
MAJO				pmax	pmax		
	comp=Z,12nm,0.3s						
MAJO	Matsushiro	11.80	347	*e*P	P	10 22 05.3	-0.1
MAJO				pmax	pmax		
	comp=Z,12nm,0.3s						
MAJO	Matsushiro	11.80	347	*e*Pn	P	10 22 05.3	-0.1
	comp=Z,12nm,0.3s						
MAT	Matsushiro	11.80	347	P	P	10 22 05.4	0.0
MAT	Matsushiro	11.80	347	*e*P	P	10 22 05.0	-0.4
JOW	Kunigami	12.10	281	P	P	10 22 10.4	+1.8
	comp=Z,12nm,0.3s,baz=113,slow=15,SNR=25						
JOW	Kunigami	12.10	281	P	P	10 22 10.1	+1.5
JKE	Kume jima 2	13.40	279	P	P	10 22 23.0	+1.1
JMK	Ichinoseki	13.85	359	P	P	10 22 27.5	+1.0
KS15	Wonju Array Si	16.98	320	*e*P	P	10 23 01.1	+3.5
YHNB	Yeheng	18.34	273	*e*P	P	10 23 12.8	+1.9
ASAJ	Asahikawa	19.02	2	P	P	10 23 19.7	+2.4
	comp=Z,1.5nm,0.3s,baz=127,slow=27,SNR=9.7						
MDJ	Mudanjiang	21.80	336	P	P	10 23 43.6	+0.4
MDJ				AMB	AMB		
	comp=Z,80nm,3.5s						
YSS	Yuzh-Sakhalins	21.86	2⇑	*e*P	P	10 23 47.8	+4.1
YSS				pmax	pmax		
	comp=Z,88nm,2.2s,mb5.0						
CN2	Changchun	22.87	329	*e*P	P	10 23 53.0	+0.1
KLR	Kul’dur	25.32	345	*e*P	P	10 24 12.0	-2.7
MA2	Magadan	35.08	8	*e*P	P	10 25 38.1	-0.3
MA2				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
MA2	Magadan	35.08	8	*e*P	P	10 25 38.1	-0.3
	comp=Z,11nm,0.6s,mb4.6						
ULN	Ulaanbaatar	35.45	319	*e*P	P	10 25 42.5	+0.9
ULN				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.6						
ULN	Ulaanbaatar	35.45	319	*e*P	P	10 25 42.5	+0.9
	comp=Z,1.2nm,0.5s,mb3.7						
SONM	Songino Array	35.83	318	P	P	10 25 45.7	+1.0
	comp=Z,1.5nm,0.4s,mb3.8,baz=133,slow=7.5,SNR=10						
SONM				PcP	PcP	10 27 57.4	-1.3
	comp=Z,0.7nm,0.5s,baz=88,slow=3.1,SNR=3.2						
YAK	Yakutsk	37.82	351	*i*P	P	10 26 01.0	+0.1
YAK	Yakutsk	37.82	351	*e*P	P	10 26 00.2	-0.6
	comp=Z,17nm,0.7s,mb4.7						
HNR	Honiara	38.68	150	P	P	10 26 05.4	-2.9
	comp=Z,27nm,0.3s,mb5.3,baz=153,slow=9.0,SNR=2.7						
ZAK	Zakamensk	38.80	321	*e*P	P	10 26 01.8	-7.2
ZAK				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
CTA	Charters Tower	45.11	174	P	P	10 26 58.1	-1.4
	comp=Z,1.8nm,0.7s,mb3.7,baz=353,slow=8.1,SNR=3.6						
WRAB	Tennant Creek	45.28	190	*e*P	P	10 26 59.7	-1.1
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.3						
WRAB	Tennant Creek	45.28	190	*e*P	P	10 26 59.7	-1.1
	comp=Z,3.8nm,0.4s,mb4.3						
WB2	Warramunga Arr	45.29	190	*e*P	P	10 26 59.8	-1.1
WB2				*e*		10 27 07.9	
WRA	Warramunga Arr	45.29	190	P	P	10 26 59.8	-1.1
	comp=Z,5.4nm,0.4s,mb4.5,baz=7.3,slow=8.0,SNR=131						
WRA				ScP		10 31 31.2	
	comp=Z,1.0nm,0.9s,baz=8.3,slow=4.6,SNR=4.0						
WRA				S	S	10 32 59.2	-4.1
	comp=Z,0.6nm,0.8s,baz=12,slow=14,SNR=4.1						
BILL	Bilibino	45.55	13⇑	*e*P	P	10 27 02.0	-0.2
BILL				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
BILL	Bilibino	45.55	13⇑	*e*P	P	10 27 02.0	-0.2
BILL				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
BILL	Bilibino	45.55	13	*e*P	P	10 27 01.6	-0.6
	comp=Z,8.9nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	45.63	201	*e*P	P	10 27 03.0	-0.5
	comp=Z,8.1nm,0.6s,mb4.4						
FITZ				*e*		10 27 11.3	
PSI	Prapat	46.63	249	P	P	10 27 11.6	+0.2
	comp=Z,4.7nm,0.5s,mb4.3,baz=160,slow=15,SNR=3.1						
TIXI	Tiksi	47.17	355	*i*P	P	10 27 14.9	+0.3
JIRN	Jiri	49.35	286	*e*P	P	10 27 32.8	+1.2
	comp=Z,7.2nm,0.4s,mb4.6						
GUN	Gumba	49.57	286	*e*P	P	10 27 34.3	+1.0
	comp=Z,7.1nm,0.3s,mb4.5						
PKI	Pulchoki	50.05	286	*e*P	P	10 27 36.7	-0.1
	comp=Z,4.0nm,0.5s,mb4.1						
PKI	Pulchoki	50.05	286	*e*P	P	10 27 36.7	-0.1
PKI				pmax	pmax		
	comp=Z,20nm,0.5s,mb4.8						
KKN	Kakani	50.12	286	*e*P	P	10 27 37.7	+0.4
DMN	Daman	50.30	286	*e*P	P	10 27 39.4	+0.7
MKAR	Makanchi Array	51.36	311	P	P	10 27 46.1	-0.1
	comp=Z,2.4nm,0.4s,mb3.9,baz=87,slow=8.9,SNR=52						
MKAR				ScP		10 31 56.8	
	comp=Z,0.4nm,0.4s,baz=77,slow=5.0,SNR=4.5						
KOLN	Koldanda	51.58	286	*e*P	P	10 27 48.2	+0.2
	comp=Z,3.2nm,0.3s,mb4.2						
KURK	Kurchatov	54.03	316*d*	*i*P	P	10 28 04.4	-0.8
KURK	Kurchatov	54.03	316	*e*P	P	10 28 04.1	-1.1
	comp=Z,2.3nm,0.4s,mb3.9						
SVW2	Sparrevohn	55.29	32	*e*P	P	10 28 14.1	+0.2
TTA	Tatalina	55.47	29	*e*P	P	10 28 14.7	-0.4
KDAK	Kodiak Island	56.31	36	P	P	10 28 19.5	-1.5
	comp=Z,7.1nm,0.4s,mb4.3,baz=251,slow=5.1,SNR=13						
STKA	Stephens Creek	56.62	180	P	P	10 28 22.2	-1.3
	comp=Z,0.9nm,0.4s,mb3.3,baz=352,slow=7.0,SNR=5.7						
AAK	Ala-Archa	56.98	306	*e*P	P	10 28 25.0	-0.8
	comp=Z,1.5nm,0.5s,mb3.5						
IMA2	Indian Mountai	57.14	26	*e*P	P	10 28 26.3	-0.3
PMR	Palmer	58.44	32	*e*P	P	10 28 33.9	-1.5
PMR				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.1						
PMR	Palmer	58.44	32	*e*P	P	10 28 33.9	-1.5
	comp=Z,4.5nm,0.4s,mb4.0						
MCK	McKinley	58.75	29	*e*P	P	10 28 36.0	-1.5
MCK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
MCK	McKinley	58.75	29	*e*P	P	10 28 36.0	-1.5
	comp=Z,9.1nm,1.0s,mb4.0						
SML	Sawmill	58.84	31	*e*P	P	10 28 37.1	-1.0
BVA0	Borovoye Array	59.18	318	*i*P	P	10 28 40.1	-0.4
BVA0				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.3						
BRVK	Borovoye	59.24	318	*e*P	P	10 28 40.5	-0.4
BRVK				pmax	pmax		
	comp=Z,60nm,0.6s,mb5.0						
BRVK	Borovoye	59.24	318	*e*P	P	10 28 40.5	-0.3
	comp=Z,6.2nm,0.6s,mb4.0						
COLA	College	59.35	28	*i*P	P	10 28 41.2	-0.3
ILAR	Eielson Array	59.75	28	P	P	10 28 42.2	-1.9
	comp=Z,4.4nm,0.8s,mb3.8,baz=270,slow=5.6,SNR=48						
KKAR	Karatay Array	59.84	307	*i*P	P	10 28 45.0	0.0
KKAR				pmax	pmax		
	comp=Z,20nm,0.5s,mb4.7						
MENT	Mentasta	61.05	30	*e*P	P	10 28 52.4	-0.3
INK	Inuvik	65.10	24	*e*P	P	10 29 17.4	-1.1
INK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
INK	Inuvik	65.10	24	*e*P	P	10 29 17.4	-1.1
	comp=Z,5.3nm,0.3s,mb4.5						
ARU	Arti	65.69	323	*i*P	P	10 29 21.8	-0.6
ARU	Arti	65.69	323	*e*P	P	10 29 21.6	-0.8
AB31	Akbulak array	66.13	315	*e*P	P	10 29 24.5	-0.7
AB31				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.1						
YKW3	Yellowknife Ar	74.15	28	*e*P	P	10 30 10.9	-1.3
RES	Resolute Bay	74.15	13	*e*P	P	10 30 11.8	-0.3
RES				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
RES	Resolute Bay	74.15	13	*e*P	P	10 30 11.8	-0.3
	comp=Z,4.2nm,0.8s,mb3.9						
YKA	Yellowknife Ar	74.18	28	P	P	10 30 11.7	-0.7
	comp=Z,4.9nm,0.5s,mb4.2,baz=294,slow=5.9,SNR=65						
ARCES	ARCESS Array B	75.27	341	P	P	10 30 18.2	-0.2
	comp=Z,3.8nm,0.6s,mb4.0,baz=84,slow=8.9,SNR=28						
JCW	Jim Creek	75.85	43	P	P	10 30 22.9	+0.9
FMW	Mount Fremont	76.48	44	P	P	10 30 26.1	+0.6
JOF	Joensuu	76.65	334	*e*p	P	10 30 25.2	-0.9
EBG	Ellensburg	77.19	44	P	P	10 30 30.1	+0.8
MXC	Moxie City	77.49	44	P	P	10 30 31.6	+0.7
MDW	Midway	77.81	44	P	P	10 30 33.4	+0.7
OBN	Obninsk	77.88	325⇓	*e*P	P	10 30 30.0	-2.9
OBN				*e*		10 33 37.0	
OBN				*e*S	S	10 39 41.0	-2.1
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.3						
OD2	Odessa Site #2	78.16	43	P	P	10 30 34.8	+0.2
EDM	Edmonton	78.76	36	*e*P	P	10 30 37.5	-0.1
NEW	Newport	78.77	42	*e*P	P	10 30 37.9	+0.2
NEW				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NEW	Newport	78.77	42	*e*P	P	10 30 37.9	+0.2
	comp=Z,6.9nm,0.7s,mb4.1						
KIV	Kislovodsk	79.04	313⇑	*e*P	P	10 30 40.1	+0.9
KIV				*e*S	S	10 40 01.2	+5.9
KIV				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.4						
KAF	Kangasniemi	79.06	334	*e*p	P	10 30 37.7	-1.3
	comp=Z,1.3nm,0.3s,mb3.7,baz=55,slow=4.8						
KAF	Kangasniemi	79.06	334	*e*P	P	10 30 37.7	-1.3
KAF				pmax	pmax		
	comp=Z,10.0nm,0.3s,mb4.6						
FINES	FINESS Array B	79.52	334	P	P	10 30 40.6	-0.8
	comp=Z,5.6nm,0.5s,mb4.2,baz=62,slow=5.7,SNR=59						
BMO	Blue Mountains	80.11	45	*e*P	P	10 30 45.3	+0.5
	comp=Z,5.4nm,0.8s,mb3.9						
CHMT	Chamberlain Mo	81.72	42	*e*P	P	10 30 53.1	+0.1
NVAR	Mina Array Bea	82.20	51	P	P	10 30 56.5	+0.8
	comp=Z,1.8nm,0.6s,mb3.7,baz=278,slow=6.4,SNR=13						
SUMG	Summit	82.61	0	*e*P	P	10 30 57.7	+0.7
	comp=Z,3.7nm,0.5s,mb4.2						
HRY	Holter Researc	82.67	42	*e*P	P	10 30 58.3	+0.4
DLMT	Dillon	82.85	43	*e*P	P	10 30 59.6	+0.9
	comp=Z,5.4nm,0.7s,mb4.2						
ELK	Elko	83.29	48	*e*P	P	10 31 01.8	+0.7
ELK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ELK	Elko	83.29	48	*e*P	P	10 31 01.8	+0.7
	comp=Z,2.5nm,0.5s,mb4.0						
BOZ	Bozeman (W)	83.31	43	*e*P	P	10 31 01.7	+0.6
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
BOZ	Bozeman (W)	83.31	43	*e*P	P	10 31 01.7	+0.6
	comp=Z,4.7nm,0.6s,mb4.2						
FFC	Flin Flon	83.75	32	*e*P	P	10 31 02.7	-0.3
FFC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
FFC	Flin Flon	83.75	32	*e*P	P	10 31 02.7	-0.2
	comp=Z,4.0nm,0.8s,mb4.0						
QLMT	Earthquake Lak	83.83	43	*e*P	P	10 31 04.6	+1.0
AKASG	Malin Array Be	83.93	324	P	P	10 31 02.7	-1.2
	comp=Z,0.9nm,0.3s,mb3.8,baz=52,slow=5.0,SNR=8.2						
AKASG	Malin Array Be	83.93	324	P	P	10 31 02.7	-1.2
YMR	Madison River	84.20	43	*e*P	P	10 31 06.9	+1.5
	comp=Z,12nm,0.7s,mb4.5						
TPNV	Topopah Spring	84.32	52	*e*P	P	10 31 06.5	+0.3
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
TPNV	Topopah Spring	84.32	52	*e*P	P	10 31 06.5	+0.3
	comp=Z,6.8nm,0.7s,mb4.3						
YFT	Old Faithful	84.39	43	*e*P	P	10 31 08.3	+1.9
GCMT	Greycliff	84.43	42	*e*P	P	10 31 07.4	+0.9
HVU	Hansel Valley	84.45	46	*e*P	P	10 31 07.8	+1.1
HVU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
HVU	Hansel Valley	84.45	46	*e*P	P	10 31 07.8	+1.0
	comp=Z,3.5nm,0.8s,mb3.9						
FCC	Fort Churchill	84.66	26	*e*P	P	10 31 06.5	-0.9
FCC				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
FCC	Fort Churchill	84.66	26	*e*P	P	10 31 06.5	-0.8
	comp=Z,3.8nm,0.7s,mb4.0						
TPAW	Teton Pass	84.79	44	*e*P	P	10 31 09.3	+0.9
	comp=Z,1.5nm,0.3s,mb4.0						
MOOW	Moose Ponds	84.79	44	*e*P	P	10 31 09.5	+1.1
	comp=Z,1.2nm,0.4s,mb3.8						
DUG	Dugway	85.18	48	*e*P	P	10 31 10.4	0.0
DUG				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.0						
DUG	Dugway	85.18	48	*e*P	P	10 31 10.4	0.0
	comp=Z,2.7nm,0.6s,mb4.0						
NB2	NORSAR Subarra	85.28	338	P	P	10 31 08.7	-1.6
	comp=Z,9.2nm,1.1s,mb4.2,baz=44,slow=4.8						
NOA	NORSAR Array B	85.28	338	P	P	10 31 09.2	-1.1
	comp=Z,2.2nm,0.8s,mb3.7,baz=50,slow=4.5,SNR=4.6						
HWUT	Hardware Ranch	85.33	46	*e*P	P	10 31 11.3	+0.3
	comp=Z,3.8nm,0.9s,mb3.9						
PFO	Pinyon Flat Ob	85.69	55	*e*P	P	10 31 13.1	+0.1
PFO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
PFO	Pinyon Flat Ob	85.69	55	*e*P	P	10 31 13.1	+0.2
	comp=Z,4.2nm,0.8s,mb4.1						
BAR	Barrett	85.95	56	*e*P	P	10 31 14.1	-0.2
PDAR	Pinedale Array	86.04	44	P	P	10 31 14.9	+0.6
	comp=Z,0.5nm,0.4s,mb3.5,baz=312,slow=1.8,SNR=7.3						
PV10	Paradox Valley	88.63	48	*e*P	P	10 31 26.9	+0.2
RSSD	Black Hills	88.70	41	*e*P	P	10 31 27.0	+0.1
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
RSSD	Black Hills	88.70	41	*e*P	P	10 31 26.9	0.0
	comp=Z,1.7nm,0.5s,mb4.1						
ULM	Lac du Bonnet	89.44	33	P	P	10 31 29.9	-0.3
	comp=Z,1.1nm,0.6s,mb3.9,baz=315,slow=2.9,SNR=3.0						
SMCO	Snowmass	89.58	46	*e*P	P	10 31 31.9	+0.8
	comp=Z,5.9nm,0.9s,mb4.4						
ISCO	Idaho Springs	90.13	45	*e*P	P	10 31 34.5	+0.9
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
ISCO	Idaho Springs	90.13	45	*e*P	P	10 31 34.5	+0.9
	comp=Z,1.8nm,0.7s,mb4.0						
SDCO	Great Sand Dun	91.33	47	*e*P	P	10 31 40.0	+0.8
	comp=Z,2.7nm,0.7s,mb4.3						
ANMO	Albuquerque	92.20	50	*e*P	P	10 31 44.2	+0.9
ANMO				pmax	pmax		
	comp=Z,10.0nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ANMO	Albuquerque	92.20	50	eP	P	10 31 44.2	+1.0
	comp=Z,1.3nm,0.8s,mb4.0						
TXAR	Lajitas Array	97.25	53	P	P	10 32 06.7	+0.3
	comp=Z,0.4nm,0.7s,mb3.8,baz=305,slow=2.0,SNR=7.2						
TORD	Torodi Ar. Bea	125.48	310	PKP	PKPdf	10 37 31.2	+0.5
	comp=Z,0.4nm,0.4s,baz=4.3,slow=3.2,SNR=3.9						
PLCA	Paso Flores	149.04	128	PKPbc	PKPdf	10 38 18.6	+6.2
	comp=Z,2.6nm,0.7s,baz=208,slow=5.6,SNR=9.3						
LPAZ	La Paz	150.92	78	PKPbc	PKPdf	10 38 24.4	+8.4
	comp=Z,3.6nm,0.5s,baz=336,slow=2.7,SNR=25						
SAML	Samuel	151.49	60	ePKPab	PKPab	10 38 32.2	-4.6

*NIED **02** 10:19:00,25.20N×141.70E,h520km,Mw5.1 Best double couple: $M_0$4.57×10^{16} NP1:ϕ_s175°,δ83°,λ18°. NP2:ϕ_s82°,δ72°,λ173°.*
*MOS **02** 10:19:35.2±0.8,25.04N×141.56E,h513km,mb5.0/30, Error ellipse: s-maj=14.6km s-min=8.9km az=83.2*
*BJI **02** 10:19:36.9,25.03N×141.68E,h541km,mB4.8,mb4.7*
*IDC **02** 10:19:36.4±0.6,24.99N×141.66E,h512km±5km,mb3.8/16, mb1 4.0/21,mb1mx4.0/24,mbtmp4.7/21,Error ellipse: s-maj=13.6km s-min=9.7km az=103.0*
*JMA **02** 10:19:37.7±0.2,25.23N×141.66E,h522km,M5.7*
*NEIC **02** 10:19:37.3±0.7,25.05N×141.62E,h522km±8km,mb4.4/41, MW5.0(NIED),Error ellipse: s-maj=7.4km s-min=5.1km az=132.0*
ISC 02 10:19:36.7±0.5**,25.07N**±0.05×**141.62E**±0.05**,h522**km±4km**, n181,**σ0^{s}**86**/185**,mb4.4**/61**,2C,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.63	18	P	P	10 20 43.7	+1.0
JHHJ				S	S	10 21 35.8	+0.9
CBIJ	Chichi jima	2.08	14	P	P	10 20 44.5	-0.1
	236nm,0.3s,baz=273,slow=19,SNR=42						
CBIJ				S	S	10 21 37.5	-1.0
	809nm,0.3s,baz=157,slow=23,SNR=15						
CBIJ	Chichi jima	2.08	14	P	P	10 20 44.8	+0.1
CBIJ				S	S	10 21 37.6	-0.9
BSO3	Boso 3	9.74	355	P	P	10 21 52.8	+0.1
JIM2	Oshima 3	9.80	349	P	P	10 21 53.4	+0.2
BSO4	Boso 4	9.95	354	P	P	10 21 55.0	+0.3
JIE	Ise	10.22	336	P	P	10 21 57.7	+0.1
JOD2	Odawara 2	10.39	348	P	P	10 21 59.0	-0.3
JHU	Hanno	10.93	350	P	P	10 22 04.0	-0.9
JRY	Ryogami san	11.15	349	P	P	10 22 07.1	-0.1
JRY				eS	S	10 24 08.0	+0.1
JYT	Yasato	11.19	354	P	P	10 22 07.4	-0.1
JYT				eS	S	10 24 08.8	+0.3
JAG	Ashikaga	11.47	351	⇑P	P	10 22 09.7	-0.7
JAG				S	S	10 24 11.8	-2.0
MJAR	Matsushiro Arr	11.80	346	P	P	10 22 12.4	-1.4
	2.8nm,0.3s,baz=161,slow=10,SNR=20						
MJAR	Matsushiro Arr	11.80	346	P	P	10 22 12.4	-1.4
MJAR	Matsushiro Arr	11.80	346	P	P	10 22 12.4	-1.4
MAT	Matsushiro	11.80	346	P	P	10 22 13.4	-0.4
MAT				S	S	10 24 20.0	-0.1
MAT	Matsushiro	11.80	346	eP	P	10 22 13.0	-0.8
MAT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAT	Matsushiro	11.80	346	eP	P	10 22 13.0	-0.8
	comp=Z,9.7nm,0.8s						
JOW	Kunigami	12.13	281	P	P	10 22 18.5	+1.2
	comp=Z,16nm,0.3s,baz=110,slow=10,SNR=28						
JOW	Kunigami	12.13	281	P	P	10 22 18.3	+1.0
JOW	Kunigami	12.13	281	P	P	10 22 18.5	+1.2
JNU	Nakatsue	12.34	313	P	P	10 22 20.4	+1.0
	comp=Z,0.5nm,0.3s,baz=130,slow=16,SNR=4.4						
JSJ	Shimokoshiki	12.37	305	P	P	10 22 20.4	+0.7
JKE	Kume jima 2	13.43	279	P	P	10 22 31.1	+0.5
KS15	Wonju Array Si	17.00	320	eP	P	10 23 08.1	+2.0
YHNB	Yeheng	18.37	273	eP	P	10 23 20.5	+1.0
SSE	Sheshan	18.99	293	P	P	10 23 24.8	-0.5
SSE				AMB	AMB		
	comp=Z,40nm,0.7s						
SSE				AMB	AMB		
	comp=Z,60nm,3.6s						
ASAJ	Asahikawa	19.02	2	P	P	10 23 27.2	+1.7
	comp=Z,4.5nm,0.3s,baz=233,slow=7.3,SNR=21						
NJ2	Nanjing	21.14	294	eP	P	10 23 45.9	+0.4
NJ2				S	S	10 27 08.0	+2.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,130nm,9.9s						
CN2	Changchun	22.88	329	eP	P	10 24 01.0	-0.2
ENH	Enshi	28.86	288	eP	P	10 24 52.8	-1.5
	comp=Z,6.7nm,0.6s,mb4.5						
HHC	Hu-ho-hao-te	29.54	310	eP	P	10 25 02.7	+2.7
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,180nm,6.2s						
KKM	Kota Kinabalu	30.82	236	eP	P	10 25 10.5	-0.7
GYA	Guiyang	31.45	280	⇑iP	P	10 25 17.1	+0.6
GYA				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.1						
CD2	Chengdu	33.82	289	eP	P	10 25 35.3	-1.1
LZH	Lanzhou	34.13	298	eP	P	10 25 39.7	+0.7
LZH				AP		10 27 10.0	
LZH				PP	PP	10 27 15.5	+5.7
LZH				XP	sP	10 28 09.2	-0.3
LZH				eS	S	10 30 30.0	+0.8
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
MA2	Magadan	35.07	8	eP	P	10 25 46.2	-0.3
MA2				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.8						
MA2	Magadan	35.07	8	eP	P	10 25 46.2	-0.3
	comp=Z,19nm,0.6s,mb4.8						
KMI	Kunming	35.12	279	P	P	10 25 47.3	0.0
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
ULN	Ulaanbaatar	35.47	319	eP	P	10 25 50.6	+0.6
ULN				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.9						
ULN	Ulaanbaatar	35.47	319	eP	P	10 25 50.5	+0.6
	comp=Z,3.3nm,0.8s,mb3.9						
SONM	Songino Array	35.85	318	P	P	10 25 53.7	+0.6
	comp=Z,2.7nm,0.5s,mb4.0,baz=135,slow=8.5,SNR=9.5						
SONM				PcP	PcP	10 28 06.4	-0.4
	comp=Z,1.3nm,0.7s,baz=89,slow=2.7,SNR=4.1						
SONM	Songino Array	35.85	318	P	P	10 25 53.7	+0.6
SONM						10 28 06.4	
SONM	Songino Array	35.85	318	P	P	10 25 53.7	+0.6
SONM				PcP	PcP	10 28 06.4	-0.4
FX1	Attu Island--F	36.53	32	eP	P	10 25 59.6	+1.0
GTA	Gaotai	37.80	303	eP	P	10 26 09.6	+0.5
GTA				AP	pP	10 27 45.4	+2.7
GTA				XP	sP	10 28 45.2	+4.6
YAK	Yakutsk	37.82	351	eP	P	10 26 08.2	-0.9
YAK				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.1						
YAK	Yakutsk	37.82	351	eP	P	10 26 08.2	-0.8
	comp=Z,48nm,0.8s,mb5.1						
KULM	Kulim	43.91	250	eP	P	10 26 58.3	-0.1
WRAB	Tennant Creek	45.29	190	eP	P	10 27 07.5	-1.6
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
WRAB	Tennant Creek	45.29	190	eP	P	10 27 07.5	-1.6
	comp=Z,18nm,0.8s,mb4.7						
WRA	Warramunga Arr	45.30	190	P	P	10 27 08.1	-1.1
	comp=Z,8.1nm,0.5s,mb4.5,baz=11,slow=8.3,SNR=23						
WRA				ScP		10 31 39.5	
	comp=Z,1.9nm,0.9s,baz=6.5,slow=4.6,SNR=5.9						
WRA				S	S	10 33 06.9	-4.6
	comp=Z,1.9nm,1.1s,baz=15,slow=16,SNR=5.4						
WRA	Warramunga Arr	45.30	190	P	P	10 27 08.1	-1.1
WRA				S	S	10 33 06.9	-4.6
WRA	Warramunga Arr	45.30	190	P	P	10 27 08.1	-1.1
WRA	Warramunga Arr	45.30	190	P	P	10 27 08.1	-1.1
WRA				ScP		10 31 39.5	
WRA				S	S	10 33 06.9	-4.6
BILL	Bilibino	45.53	13	eP	P	10 27 09.8	-0.5
	comp=Z,31nm,0.7s,mb5.0						
PSI	Prapat	46.67	249	P	P	10 27 19.4	-0.4
	comp=Z,21nm,0.6s,mb4.8,baz=34,slow=4.4,SNR=8.9						
PSI	Prapat	46.67	249	P	P	10 27 19.4	-0.4
PSI	Prapat	46.67	249	P	P	10 27 19.4	-0.4
WMQ	Urumqi	47.36	307	eP	P	10 27 24.7	0.0
WMQ				AP	pP	10 29 05.3	+2.5
WMQ				XP	sP	10 30 03.7	+4.3
MKAR	Makanchi Array	51.39	311	P	P	10 27 54.3	-0.2
	comp=Z,4.5nm,0.5s,mb4.0,baz=86,slow=9.1,SNR=25						
MKAR				ScP		10 32 04.8	
	comp=Z,1.3nm,0.7s,baz=80,slow=5.8,SNR=4.3						
MKAR	Makanchi Array	51.39	311	P	P	10 27 54.3	-0.2
MKAR	Makanchi Array	51.39	311	P	P	10 27 54.3	-0.2
MKAR				ScP		10 32 04.8	
KURK	Kurchatov	54.05	316	eP	P	10 28 12.9	-0.6
KURK				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.1						
KURK	Kurchatov	54.05	316	eP	P	10 28 12.9	-0.6
	comp=Z,7.6nm,0.8s,mb4.1						
KDAK	Kodiak Island	56.29	36	P	P	10 28 27.9	-1.1
	comp=Z,12nm,0.4s,mb4.4,baz=256,slow=3.6,SNR=14						
KDAK	Kodiak Island	56.29	36	P	P	10 28 27.9	-1.1
STKA	Stephens Creek	56.63	180	P	P	10 28 30.1	-1.6
	comp=Z,2.0nm,0.5s,mb3.6,baz=360,slow=7.4,SNR=7.5						
STKA	Stephens Creek	56.63	180	eP	P	10 28 29.7	-2.0
AAK	Ala-Archa	57.01	306	eP	P	10 28 32.9	-1.3
AAK				pmax	pmax		
	comp=Z,30nm,0.6s,mb4.7						
AAK	Ala-Archa	57.01	306	eP	P	10 28 32.9	-1.3
AAK				pmax	pmax		
	comp=Z,30nm,0.6s,mb4.7						
AAK	Ala-Archa	57.01	306	eP	P	10 28 32.9	-1.3
	comp=Z,3.3nm,0.6s,mb3.7						
IMA2	Indian Mountai	57.12	26	eP	P	10 28 34.0	-0.6
PMR	Palmer	58.42	32	eP	P	10 28 41.9	-1.6
PMR				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.5						
PMR	Palmer	58.42	32	eP	P	10 28 41.9	-1.5
	comp=Z,23nm,0.8s,mb4.5						
MCK	McKinley	58.73	29	eP	P	10 28 44.4	-1.1
MCK				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.4						
MCK	McKinley	58.73	29	eP	P	10 28 44.4	-1.2
	comp=Z,23nm,1.0s,mb4.4						
SML	Sawmill	58.81	31	eP	P	10 28 45.0	-1.1
SML	Sawmill	58.81	31	eP	P	10 28 45.0	-1.2
BRVK	Borovoye	59.26	318	eP	P	10 28 48.7	-0.5
BRVK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.2						
BRVK	Borovoye	59.26	318	eP	P	10 28 48.6	-0.5
	comp=Z,13nm,0.9s,mb4.2						
COLA	College	59.33	28	eP	P	10 28 48.9	-0.6
COLA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.2						
COLA	College	59.33	28	eP	P	10 28 48.9	-0.6
	comp=Z,13nm,0.8s,mb4.2						
ILAR	Eielson Array	59.73	28	P	P	10 28 50.4	-1.7
	comp=Z,11nm,0.8s,mb4.2,baz=261,slow=5.7,SNR=42						
ILAR	Eielson Array	59.73	28	P	P	10 28 50.4	-1.7
ILAR	Eielson Array	59.73	28	P	P	10 28 50.4	-1.7
INK	Inuvik	65.08	24	eP	P	10 29 25.4	-1.2
INK				pmax	pmax		
	comp=Z,15nm,0.7s						
INK	Inuvik	65.08	24	eP	P	10 29 25.4	-1.2
	comp=Z,15nm,0.7s,mb4.5						
ARU	Arti	65.71	323	eP	P	10 29 29.3	-1.4
ARU				pmax	pmax		
	comp=Z,15nm,0.4s,mb4.9						
ARU	Arti	65.71	323	eP	P	10 29 29.3	-1.4
	comp=Z,14nm,0.4s,mb4.9						
YKW3	Yellowknife Ar	74.13	28	eP	P	10 30 19.3	-1.0
RES	Resolute Bay	74.14	13	eP	P	10 30 19.7	-0.5
RES				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
RES	Resolute Bay	74.14	13	eP	P	10 30 19.7	-0.5
	comp=Z,9.0nm,0.9s,mb4.2						
YKA	Yellowknife Ar	74.16	28	P	P	10 30 19.8	-0.6
	comp=Z,9.7nm,0.6s,mb4.4,baz=294,slow=5.8,SNR=42						
YKA	Yellowknife Ar	74.16	28	P	P	10 30 19.8	-0.7
YKA	Yellowknife Ar	74.16	28	P	P	10 30 19.8	-0.6
ARCES	ARCESS Array B	75.28	341	P	P	10 30 26.4	-0.2
	comp=Z,5.5nm,0.6s,mb4.1,baz=78,slow=8.5,SNR=12						
ARCES	ARCESS Array B	75.28	341	P	P	10 30 26.4	-0.2
ARCES	ARCESS Array B	75.28	341	P	P	10 30 26.4	-0.2
EDM	Edmonton	78.74	36	eP	P	10 30 45.8	+0.2
EDM	Edmonton	78.74	36	eP	P	10 30 45.8	+0.2
NEW	Newport	78.74	42	eP	P	10 30 45.9	+0.1
NEW				pmax	pmax		
	comp=Z,17nm,0.8s						
NEW	Newport	78.74	42	eP	P	10 30 45.9	+0.1
	comp=Z,17nm,0.8s,mb4.4						
FINES	FINESS Array B	79.53	334	P	P	10 30 49.0	-0.6
	comp=Z,6.4nm,0.5s,mb4.2,baz=65,slow=5.6,SNR=19						
FINES	FINESS Array B	79.53	334	P	P	10 30 49.0	-0.6
FINES	FINESS Array B	79.53	334	P	P	10 30 49.0	-0.6
FINES	FINESS Array B	79.53	334	P	P	10 30 49.0	-0.6
BMO	Blue Mountains	80.08	45	eP	P	10 30 52.8	0.0
BMO				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.2						
BMO	Blue Mountains	80.08	45	eP	P	10 30 52.8	0.0
BMO				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.2						
BMO	Blue Mountains	80.08	45	eP	P	10 30 52.8	0.0
	comp=Z,12nm,0.9s,mb4.2						
WVOR	Wild Horse Val	80.23	48	eP	P	10 30 53.7	+0.1
WVOR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.1						
WVOR	Wild Horse Val	80.23	48	eP	P	10 30 53.7	+0.1
WVOR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.1						
WVOR	Wild Horse Val	80.23	48	eP	P	10 30 53.7	+0.1
	comp=Z,9.0nm,0.9s,mb4.1						
CHMT	Chamberlain Mo	81.69	42	eP	P	10 31 00.4	-0.7
NVAR	Mina Array Bea	82.17	51	P	P	10 31 04.4	+0.8
	comp=Z,4.4nm,0.7s,mb4.0,baz=287,slow=3.8,SNR=21						
NVAR	Mina Array Bea	82.17	51	P	P	10 31 04.4	+0.8
SUMG	Summit	82.61	0	eP	P	10 31 05.8	+0.6
	comp=Z,7.6nm,0.6s,mb4.4						
HRY	Holter Researc	82.65	42	eP	P	10 31 06.3	+0.5
DLMT	Dillon	82.82	43	eP	P	10 31 07.6	+0.8
	comp=Z,11nm,0.6s,mb4.6						
ELK	Elko	83.26	48	eP	P	10 31 09.5	+0.4
ELK				pmax	pmax		
	comp=Z,11nm,0.9s						
ELK	Elko	83.26	48	eP	P	10 31 09.5	+0.4
	comp=Z,11nm,0.9s,mb4.4						
BOZ	Bozeman (W)	83.28	43	eP	P	10 31 09.5	+0.4
BOZ				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.5						
BOZ	Bozeman (W)	83.28	43	eP	P	10 31 09.5	+0.5
	comp=Z,11nm,0.7s,mb4.5						
FFC	Flin Flon	83.72	32	eP	P	10 31 10.8	-0.2
FFC				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.5						
FFC	Flin Flon	83.72	32	eP	P	10 31 10.8	-0.3
	comp=Z,16nm,1.0s,mb4.5						
QLMT	Earthquake Lak	83.80	43	eP	P	10 31 12.5	+0.9
AKASG	Malin Array Be	83.94	324	P	P	10 31 11.4	-0.8
	comp=Z,1.0nm,0.3s,mb3.8,baz=52,slow=5.0,SNR=7.4						
AKASG	Malin Array Be	83.94	324	P	P	10 31 11.4	-0.8
AKASG	Malin Array Be	83.94	324	P	P	10 31 11.4	-0.8
YMR	Madison River	84.17	43	eP	P	10 31 15.0	+1.6
	comp=Z,34nm,0.8s,mb4.9						
TPNV	Topopah Spring	84.29	52	eP	P	10 31 14.7	+0.5
TPNV				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.7						
TPNV	Topopah Spring	84.29	52	eP	P	10 31 14.7	+0.5
	comp=Z,21nm,0.8s,mb4.7						
YFT	Old Faithful	84.36	43	eP	P	10 31 17.0	+2.6
GCMT	Greycliff	84.41	42	eP	P	10 31 15.4	+0.8
HVU	Hansel Valley	84.42	46	eP	P	10 31 15.3	+0.6
HVU				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.2						
HVU	Hansel Valley	84.42	46	eP	P	10 31 15.2	+0.5
	comp=Z,5.9nm,0.7s,mb4.2						
FCC	Fort Churchill	84.64	26	eP	P	10 31 14.5	-0.9
FCC				pmax	pmax		
	comp=Z,70nm,0.8s,mb5.2						
FCC	Fort Churchill	84.64	26	eP	P	10 31 14.5	-0.9
	comp=Z,7.4nm,0.8s,mb4.3						
TPAW	Teton Pass	84.76	44	eP	P	10 31 17.2	+0.8
	comp=Z,8.7nm,0.9s,mb4.3						
MOOW	Moose Ponds	84.77	44	eP	P	10 31 17.3	+1.0
	comp=Z,5.6nm,0.8s,mb4.2						
REDW	Red Top Meadow	84.89	44	eP	P	10 31 16.8	-0.2
	comp=Z,2.5nm,0.6s,mb3.9						
LOHW	Long Hollow	84.92	44	eP	P	10 31 18.0	+0.9
	comp=Z,8.8nm,1.2s,mb4.2						
DUG	Dugway	85.16	48	eP	P	10 31 18.6	+0.2
DUG				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.2						
DUG	Dugway	85.16	48	eP	P	10 31 18.6	+0.2
	comp=Z,6.0nm,0.7s,mb4.2						
NOA	NORSAR Array B	85.29	338	P	P	10 31 17.4	-1.1
	comp=Z,3.8nm,0.8s,mb4.0,baz=50,slow=4.5,SNR=7.7						
NOA	NORSAR Array B	85.29	338	P	P	10 31 17.4	-1.1
NOA	NORSAR Array B	85.29	338	P	P	10 31 17.4	-1.1
HWUT	Hardware Ranch	85.30	46	eP	P	10 31 19.3	+0.3
	comp=Z,14nm,1.1s,mb4.4						
PFO	Pinyon Flat Ob	85.66	55	eP	P	10 31 21.0	0.0
PFO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
PFO	Pinyon Flat Ob	85.66	55	eP	P	10 31 21.0	+0.1
	comp=Z,14nm,0.9s,mb4.6						
NEN	Nelson	85.89	53	eP	P	10 31 22.5	+0.5
BAR	Barrett	85.92	56	eP	P	10 31 22.0	-0.2
BW06	Boulder Array	86.01	44	eP	P	10 31 22.1	-0.3
PDAR	Pinedale Array	86.01	44	P	P	10 31 23.6	+1.1
	comp=Z,1.4nm,0.7s,mb3.7,baz=284,slow=2.9,SNR=11						
PDAR	Pinedale Array	86.01	44	P	P	10 31 23.6	+1.1
PV10	Paradox Valley	88.60	48	eP	P	10 31 35.2	+0.5
RSSD	Black Hills	88.68	41	eP	P	10 31 35.1	+0.2
RSSD				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.4						
RSSD	Black Hills	88.68	41	eP	P	10 31 35.0	+0.1
	comp=Z,2.9nm,0.5s,mb4.4						
ULM	Lac du Bonnet	89.41	33	P	P	10 31 38.8	+0.6
	comp=Z,1.0nm,0.5s,mb4.0,baz=306,slow=2.5,SNR=4.8						
ULM	Lac du Bonnet	89.41	33	P	P	10 31 38.8	+0.6
SMCO	Snowmass	89.55	46	eP	P	10 31 40.0	+0.9
	comp=Z,12nm,0.9s,mb4.7						
ISCO	Idaho Springs	90.10	45	eP	P	10 31 42.6	+1.0
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
ISCO	Idaho Springs	90.10	45	eP	P	10 31 42.6	+1.0
	comp=Z,5.8nm,0.7s,mb4.5						
TUC	Tucson	90.46	54	eP	P	10 31 43.8	+0.3
TUC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
TUC	Tucson	90.46	54	eP	P	10 31 43.8	+0.3
TUC				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
TUC	Tucson	90.46	54	eP	P	10 31 43.8	+0.4
	comp=Z,1.7nm,0.9s,mb3.9						
SDCO	Great Sand Dun	91.30	47	eP	P	10 31 47.9	+0.7
ANMO	Albuquerque	92.17	50	eP	P	10 31 51.7	+0.4
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ANMO	Albuquerque	92.17	50	eP	P	10 31 51.7	+0.5
	comp=Z,3.6nm,1.0s,mb4.4						
MNTX	Cornudas Mount	94.69	52	eP	P	10 32 02.9	0.0
	comp=Z,1.8nm,0.9s,mb4.2						
TXAR	Lajitas Array	97.22	53	P	P	10 32 14.8	+0.4
	comp=Z,0.8nm,0.6s,mb4.1,baz=302,slow=2.7,SNR=9.9						
TXAR	Lajitas Array	97.22	53	P	P	10 32 14.9	+0.5
TXAR	Lajitas Array	97.22	53	P	P	10 32 14.8	+0.4
TORD	Torodi Ar. Bea	125.50	310	PKP	PKPdf	10 37 39.3	+0.4
	comp=Z,0.9nm,0.6s,baz=10,slow=2.8,SNR=4.9						
PLCA	Paso Flores	149.01	128	PKPbc	PKPdf	10 38 27.1	+6.6
	comp=Z,5.9nm,0.7s,baz=247,slow=5.2,SNR=14						
PLCA	Paso Flores	149.01	128	PKPbc	PKPdf	10 38 27.1	+6.6
LPAZ	La Paz	150.88	78	PKPbc	PKPdf	10 38 32.7	+8.6
	comp=Z,6.8nm,0.6s,baz=314,slow=2.9,SNR=6.6						
LPAZ	La Paz	150.88	78	ePKIKP	PKPdf	10 38 24.2	+0.2
LPAZ	La Paz	150.88	78	ePKIKP	PKPdf	10 38 24.2	+0.2
LPAZ	La Paz	150.88	78	ePKPbc	PKPdf	10 38 32.1	+8.1
SAML	Samuel	151.46	60	ePKPbc	PKPdf	10 38 24.0	-1.0

WEL 02 10:29:05.3±0.5**,34.84S**×**178.44E,h33**km**,ML3.8**/4**,Error ellipse: s-maj=11.7km s-min=4.0km az=90.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.73	182	P*	Pb	10 29 46.6	-6.7
MXZ				eS*	Sb	10 30 18.1	-8.3
MXZ				eS*	Sb	10 30 18.2	-8.3
PUZ	Puketiti	3.23	183	PN	Pn	10 29 52.7	-2.3
PUZ				SN	Sn	10 30 28.5	-4.4
MWZ	Matawai	3.57	192	P*	Pb	10 29 58.4	-9.2
MWZ				eS*	Sb	10 30 38.7	-12
URZ	Urewera	3.58	197	eP*	Pb	10 29 58.9	-8.9
BKZ	Black Stump Fm	4.60	199	eP*	Pb	10 30 11.2	-14
BKZ				eS*	Sb	10 31 02.5	-18
PXZ	Pawanui	5.34	193	ePN	Pn	10 30 18.5	-6.3
PXZ				eSN	Sn	10 31 16.5	-9.4

*CSEM **02** 10:30:59.6±0.5,12.12N×43.53E,h8km,ML4.2,Error ellipse: s-maj=10.1km s-min=9.2km az=26.0,After DHMR*
DHMR 02 10:30:59.6±1.4**,12.12N**×**43.53E,h9**km±8km**,ML4.2,9D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.25	27	⇓iP	Pb	10 31 22.5	-0.3
TRBA				iS	Sb	10 31 40.6	+1.8
TRBA				AML	AML	10 31 42.5	
	comp=N,4μm,0.5s						
UDYN	Al ‘Udayn	1.89	13	⇓iP	Pn	10 31 33.8	+1.4
UDYN				iS	Sn	10 31 58.7	+2.2
UDYN				AML	AML	10 32 08.6	
	comp=N,5μm,0.5s						
UDYN	Al ‘Udayn	1.89	13	⇓iP	Pn	10 31 33.8	+1.4
UDYN				iS	Sn	10 31 58.7	+2.2
	comp=N,3μm,0.5s						
LBOS		2.42	44	⇓iP	Pn	10 31 42.2	+2.2
LBOS				iS	Sn	10 32 15.1	+5.1
DHBB	Dhamar BB	2.58	19	⇓iP	Pn	10 31 44.4	+2.1
DHBB				iS	Sn	10 32 19.2	+5.1
BDHA	Al Bayda’	2.71	47	⇓iP	Pn	10 31 45.5	+1.4
BDHA				iS	Sn	10 32 22.5	+5.1
BDHA				AML	AML	10 32 31.3	
	comp=E,1μm,0.7s						
BDHA	Al Bayda’	2.71	47	⇓iP	Pn	10 31 45.5	+1.4
BDHA				iS	Sn	10 32 22.5	+5.1
	comp=E,629nm,0.7s						
HAJJ	Hajjah	3.56	1	⇓iP	Pn	10 31 57.5	+1.3
HAJJ				iS	Sn	10 32 43.7	+4.7
HAJJ				AML	AML	10 32 59.6	
	comp=N,1μm,0.5s						
HAJJ	Hajjah	3.56	1	⇓iP	Pn	10 31 57.5	+1.2
HAJJ				iS	Sn	10 32 43.7	+4.7
	comp=N,721nm,0.5s						

*CSEM **02** 10:38:11.1±1.5,11.99N×43.49E,h7km,ML3.5,Error ellipse: s-maj=41.6km s-min=29.9km az=116.0,After DHMR*
DHMR 02 10:38:11.1±1.3**,11.99N**×**43.49E,h7**km±10km**,ML3.5, 1C-4D,Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.38	26	⇓iP	Pb	10 38 35.8	-1.0
TRBA				iS	Sb	10 38 56.8	+2.3
TRBA				AML	AML	10 38 57.0	
	comp=E,905nm,0.3s						
UDYN	Al ‘Udayn	2.02	13	⇓iP	Pn	10 38 47.1	+1.1
UDYN				iS	Sn	10 39 14.9	+3.2
UDYN				AML	AML	10 39 24.4	
	comp=N,751nm,0.5s						
UDYN	Al ‘Udayn	2.02	13	⇓iP	Pn	10 38 47.1	+1.1
UDYN				iS	Sn	10 39 14.9	+3.1
	comp=N,376nm,0.5s						
LBOS		2.54	42	⇑iP	Pn	10 38 56.0	+2.6
LBOS				iS	Sn	10 39 29.7	+4.9
DHBB	Dhamar BB	2.71	19	⇓iP	Pn	10 38 57.7	+1.8
DHBB				iS	Sn	10 39 35.1	+5.8
BDHA	Al Bayda’	2.83	45	iP	Pn	10 39 00.0	+2.5
BDHA				iS	Sn	10 39 37.0	+4.8
BDHA				AML	AML	10 39 46.6	
	comp=N,214nm,0.3s						
BDHA	Al Bayda’	2.83	45	iP	Pn	10 39 00.0	+2.5
BDHA				iS	Sn	10 39 37.0	+4.8
	comp=N,107nm,0.3s						

ISC 02 10:51:39.9±1.2**,38.27N**±0.05×**26.58E**±0.08**,h10**km**,n6, σ1^{s}12**/11**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.09	6	iP	Pg	10 51 41.8	-0.7

URLA				*i* S	**Sg**	**10 51 45.2**	**+1.0**
IZM	**Izmir**	**0.55**	**76**	*i* PG	**Pg**	**10 51 50.3**	**-0.8**
IZM				*i* SG	**Sg**	**10 51 58.9**	**+0.4**
KDAG	**Bornova**	**0.56**	**76**	*i* P	**Pg**	**10 51 49.3**	**-1.8**
KDAG				*i* S	**Sg**	**10 51 57.9**	**-0.7**
AKS	**Akhisar**	**1.14**	**57**	*e*PN	**Pn**	**10 52 00.8**	**-1.0**
BDRM	**Kayabasi**	**1.38**	**150**	*i* P	**Pn**	**10 52 07.0**	**+1.7**
BDRM				*i* S	**Sb**	**10 52 22.2**	**-0.7**
MANT	**Manisa**	**1.57**	**81**	*i* P	**Pn**	**10 52 08.9**	**+0.9**
MANT				*i* S	**Sb**	**10 52 30.1**	**+1.8**

*IDC **02** 10:55:17.8±1.4,31.99N×101.62E,mb3.7/4,mb1 3.9/5, mb1mx3.6/19,mbtmp3.7/5,ML3.1/1,MS3.3/1,Ms1 3.3/1, ms1mx2.3/24,Error ellipse: s-maj=84.8km s-min=24.3km az=59.0*
*NEIC **02** 10:55:21.4±0.9,32.25N×101.35E,h10km,mb4.1/2,Error ellipse: s-maj=26.2km s-min=12.1km az=220.0*
*BJI **02** 10:55:23.2,32.20N×101.39E,h11km,ML3.8,Ms4.0, Msz3.7*
ISC 02 10:55:19.3±0.7,32.31N±0.06×101.68E±0.07,h10km,n14, σ1§57/23,mb4.0/5,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.26**	**128**	P	**Pn**	**10 56 03.2**	**+5.8**
CD2				PG	**Pg**	**10 56 04.0**	**-0.5**
CD2				SG	**Sg**	**10 56 34.6**	**-0.1**
CD2	comp=N,880nm,0.9s			Smax			
CD2	comp=E,1μm,0.9s			Smax			
LZH	**Lanzhou**	**4.17**	**25**	PG	**Pg**	**10 56 36.1**	**-6.5**
LZH				S	**Sn**	**10 57 14.1**	**+0.2**
LZH	comp=N,160nm,1.0s			Smax			
LZH	comp=E,150nm,0.9s			Smax			
LZH				LR	LR		
LZH	comp=E,880nm,6.0s			LR	LR		
LZH	comp=Z,910nm,6.2s			LR	LR		
XAN	**Xi'an**	**6.32**	**72**	P	**Pn**	**10 56 58.4**	**+3.5**
XAN				PG	**Pg**	**10 57 19.1**	**-6.3**
XAN				S	**Sn**	**10 58 14.9**	**+7.1**
XAN				SG	**Sg**	**10 58 43.4**	**-6.2**
XAN	comp=N,40nm,1.2s			Smax			
XAN	comp=E,40nm,1.2s			Smax			
ENH	**Enshi**	**6.99**	**105**	*e*Pn	**Pn**	**10 57 07.2**	**+2.8**
ENH	comp=E,25nm,0.8s			*e*Sg	**Sg**	**10 59 09.6**	**-2.4**
GTA	**Gaotai**	**7.24**	**348**	*e*PG	**Pg**	**10 57 34.8**	**-9.1**
GTA	comp=N,350nm,7.9s			LR	LR		
GTA	comp=E,780nm,10.6s			LR	LR		
GTA	comp=Z,350nm,9.9s			LR	LR		
GYA	**Guiyang**	**7.28**	**142**	P	**Pn**	**10 57 10.6**	**+2.2**
GYA				S	**Sn**	**10 58 40.4**	**+8.5**
GYA				SG	**Sg**	**10 59 10.2**	**-11**
GYA	comp=N,80nm,0.9s			Smax			
GYA	comp=E,90nm,1.0s			Smax			
GYA	comp=N,970nm,11.2s			LR	LR		
GYA	comp=E,1μm,11.0s			LR	LR		
GYA	comp=E,1μm,10.8s			LR	LR		
SONM	**Songino Array**	**15.91**	**12**	Pn	**P**	**10 59 07.0**	**+2.1**
SONM	comp=E,0.1nm,0.3s,baz=198,slow=9.1,SNR=5.7			LR	LR	11 05 56.9	
MKAR	comp=E,118nm,21.4s,baz=184,slow=39 **Makanchi Array**	**20.72**	**320**	P	**P**	**11 00 00.8**	**-1.5**
ZAL	comp=E,0.7nm,0.6s,baz=122,slow=11,SNR=4.2 **Zalesovo**	**24.75**	**336**	P	**P**	**11 00 43.8**	**+1.6**
KURK	comp=E,2.7nm,0.9s,mb3.8,baz=290,slow=7.8,SNR=3.9 **Kurchatov**	**25.05**	**324**	*e*P	**P**	**11 00 43.4**	**-1.6**
ARU	comp=E,2.0nm,0.7s,mb3.8 **Arti**	**38.21**	**322**	*e*P	**P**	**11 02 39.0**	**-1.8**
FINES	**FINESS Array B**	**55.41**	**326**	P	**P**	**11 04 55.8**	**0.0**
WRAB	comp=E,1.3nm,0.8s,mb4.0,baz=84,slow=14,SNR=3.7 **Tennant Creek**	**60.64**	**144**	*e*P	**P**	**11 05 33.7**	**+0.7**
WRA	comp=E,2.1nm,0.7s,mb4.4 **Warramunga Arr**	**60.64**	**144**	P	**P**	**11 05 28.9**	**-4.1**
	comp=E,1.1nm,1.1s,mb3.9,baz=337,slow=6.7,SNR=3.2						

*NNC **02** 10:58:10.9±6.0,35.29N×73.55E,mpv3.1,Error ellipse: s-maj=399.0km s-min=50.1km az=75.0*
ISC 02 10:58:02.9±0.8,35.20N±0.08×75.1E±0.2,h10km,n7, σ1§11/10,1D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.74**	**165**	*e*S	**Sn**	**10 59 23.0**	**+1.6**
DLH				*e*x	x	10 59 26.0	
THN	**Thein Dam**	**2.80**	**169**	*e*P	**Pn**	**10 58 46.9**	**-1.8**
THN				*e*S	**Sn**	**10 59 22.5**	**-0.4**
SDNR	**Sundarnagar**	**4.00**	**157**	*e*P	**Pn**	**10 59 04.4**	**-1.3**
SDNR				*e*SB	**Sb**	**11 00 03.0**	**+1.0**
KLP	**Kalpa**	**4.50**	**143**	*e*PB	**Pb**	**10 59 16.8**	**-5.0**
KLP				*e*x	x	10 59 18.3	
KLP				*e*SG	**Sg**	**11 00 32.5**	**-0.2**
KLP	comp=N,42nm,0.6s			AML	AML	11 00 44.2	
KLP	comp=E,41nm,0.4s			AML	AML	11 00 44.5	
KUDL	**Kundal**	**7.13**	**170**	*e*x	x	11 00 56.9	
KK31	**Karatay Array**	**8.66**	**337**	Pn	**P**	**11 00 12.9**	**+1.6**
KK31	comp=E,0.3nm,0.3s,baz=160,slow=12,SNR=11			⇓Sn	**Sn**	**11 01 49.6**	**-0.5**
AB31	comp=E,0.6nm,0.4s,baz=170,slow=24,SNR=6.8 **Akbulak array**	**17.94**	**326**	P	**P**	**11 02 14.0**	**0.0**
	comp=E,0.2nm,0.3s,baz=148,slow=13,SNR=4.4						

*CSEM **02** 10:59:49.7±1.5,12.13N×43.41E,h7km,ML3.9,Error ellipse: s-maj=33.8km s-min=30.2km az=84.0,After DHMR*
DHMR 02 10:59:49.7±1.4,12.13N×43.41E,h8km±8km,ML3.9,1C-5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.29**	**32**	⇓*i*P	Pb	11 00 14.5	+0.6
TRBA				*i* S	Sb	11 00 32.1	+1.6
TRBA	comp=Z,2μm,0.5s			AML	AML	11 00 34.1	
UDYN	**Al 'Udayn**	**1.90**	**17**	⇑*i*P	Pn	11 00 23.1	+0.2
UDYN				*i* S	Sn	11 00 50.3	+3.0
UDYN	comp=N,2μm,0.4s			AML	AML	11 01 00.4	
LBOS		**2.49**	**46**	⇓*i*P	Pn	11 00 33.2	+1.9
LBOS				*i* S	Sn	11 01 06.6	+4.4
DHBB	**Dhamar BB**	**2.61**	**21**	⇓*i*P	Pn	11 00 35.6	+2.7
DHBB				*i* S	Sn	11 01 10.5	+5.3
BDHA	**Al Bayda'**	**2.79**	**49**	⇓*i*P	Pn	11 00 37.2	+1.7
BDHA				*i* S	Sn	11 01 15.7	+5.9
BDHA	comp=N,836nm,0.6s			AML	AML	11 01 25.2	
HAJJ	**Hajjah**	**3.55**	**3**	⇓*i*P	Pn	11 00 47.8	+1.4
HAJJ				*i* S	Sn	11 01 33.4	+4.4
HAJJ	comp=N,434nm,0.9s			AML	AML	11 01 54.2	

*IDC **02** 11:01:13.7±1.7,17.54S×178.31W,h530km±24km,mb3.0/4, mb1 3.3/5,mb1mx3.1/15,mbtmp4.0/5,Error ellipse: s-maj=80.6km s-min=16.2km az=148.0*
*NEIC **02** 11:01:14.5±1.1,17.43S×178.40W,h537km±16km,mb3.8/2, Error ellipse: s-maj=69.0km s-min=12.9km az=153.0*
ISC 02 11:01:13.3±1.3,17.4S±0.6×178.5W±0.3,h530km±23km,n8, σ0§57/8,mb3.6/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.29**	**63**	P	**P**	**11 03 04.8**	**+0.5**
AFI	3.4nm,0.3s,baz=221,slow=22,SNR=5.6			S	**S**	**11 04 32.1**	**-0.4**
	1.6nm,0.3s,baz=204,slow=20,SNR=2.5						
CTAO	**Charters Tower**	**33.50**	**260**	*e*P	**P**	**11 07 10.6**	**+0.6**
STKA	1.6nm,0.6s,mb3.7 **Stephens Creek**	**38.86**	**241**	P	**P**	**11 07 53.8**	**-0.2**
WRAB	7.0nm,0.9s,mb4.2,baz=99,slow=10.0,SNR=10 **Tennant Creek**	**44.68**	**259**	*e*P	**P**	**11 08 39.9**	**-0.6**
WRA	1.2nm,0.4s,mb3.8 **Warramunga Arr**	**44.69**	**259**	P	**P**	**11 08 40.4**	**-0.2**
WRA	1.4nm,0.5s,mb3.7,baz=96,slow=7.1,SNR=40			PcP	PcP	11 10 10.4	-1.7
ILAR	0.3nm,0.3s,baz=90,slow=3.8,SNR=7.3 **Eielson Array**	**85.37**	**13**	P	**P**	**11 12 54.8**	**0.0**
TXAR	0.2nm,0.4s,mb3.0,baz=219,slow=5.0,SNR=7.3 **Lajitas Array**	**85.74**	**58**	P	**P**	**11 12 57.6**	**+0.2**
GERES	0.3nm,0.7s,mb3.0,baz=207,slow=5.6,SNR=4.9 **GERESS Array B 147.08 345**			PKPbc	PKPdf	11 19 57.3	+4.3
	0.8nm,0.4s,baz=27,slow=2.2,SNR=7.2						

*MDD **02** 11:05:52.5±0.5,45.81N×0.04W,h11km,mbLg1.9/15, Error ellipse: s-maj=5.1km s-min=3.4km az=74.0,PRXIMO*
*CSEM **02** 11:05:52.0±0.0,45.81N×0.05W,h3km,MD2.5/2,ML2.6/17, Error ellipse: s-maj=0.8km s-min=0.6km az=73.0,After LDG*
*NEIC **02** 11:05:52.0,45.81N×0.05W,h3km,ML2.6(LDG),After LDG.*
LDG 02 11:05:52.0±0.0,45.81N×0.05W,h3km,Md2.5/2,Ml2.6/18, Error ellipse: s-maj=0.8km s-min=0.6km az=73.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.79**	**355**	*e*Pn	Pn	11 06 08.6	-1.2
MFF	22nm,0.2s			*e*Sg	Sg	11 06 17.1	-1.3
MFF	**Saint Martin d**	**0.79**	**355**	Pg	Pg	11 06 07.2	-0.6
MFF	11nm,0.2s			Lg		11 06 17.1	
MFF	**Saint Martin d**	**0.79**	**355**	*e*Pg	Pg	11 06 07.2	-0.6
MFF				*e*Pn	Pn	11 06 08.6	-1.2
MFF				*e*Sg	Sg	11 06 17.1	-1.3
MFF	**Saint Martin d**	**0.79**	**355**	*e*Pn	Pn	11 06 08.6	-1.2
MFF	11nm,0.2s			*e*Sg	Sg	11 06 17.1	-1.3
LFF	**La Frestale**	**1.04**	**147**	*e*Pn	Pn	11 06 11.9	-1.4
LFF	17nm,0.2s			*e*Sg	Sg	11 06 24.8	-1.7
LFF				*e*Sn	Sn	11 06 26.2	-2.2
LFF	**La Frestale**	**1.04**	**147**	Pg	Pg	11 06 10.8	-1.9
LFF	8.6nm,0.2s			Lg		11 06 24.8	
LFF	**La Frestale**	**1.04**	**147**	*e*Pg	Pg	11 06 10.8	-1.9
LFF				*e*Pn	Pn	11 06 11.9	-1.4
LFF				*e*Sg	Sg	11 06 24.8	-1.7
LFF				*e*Sn	Sn	11 06 26.2	-2.2
LFF	**La Frestale**	**1.04**	**147**	*e*Pn	Pn	11 06 11.9	-1.4
LFF	8.6nm,0.2s			*e*Sg	Sg	11 06 24.8	-1.7
LFF				*e*Sn	Sn	11 06 26.2	-2.2
RJF	**Les Rejaudoux**	**1.21**	**114**	*e*Pg	Pg	11 06 14.9	-1.3
RJF	46nm,0.2s			*e*Sg	Sg	11 06 30.4	-1.9
RJF	**Les Rejaudoux**	**1.21**	**114**	Pn	Pn	11 06 14.1	-1.7
RJF	23nm,0.2s			Lg		11 06 30.4	
RJF	**Les Rejaudoux**	**1.21**	**114**	*e*Pn	Pn	11 06 14.1	-1.7
RJF				*e*Pg	Pg	11 06 14.9	-1.3
RJF				*e*Sg	Sg	11 06 30.4	-1.9
RJF	**Les Rejaudoux**	**1.21**	**114**	*e*Pg	Pg	11 06 14.9	-1.3
RJF	23nm,0.2s			*e*Sg	Sg	11 06 30.4	-1.9
TCF	**Toulx Ste Croi**	**1.64**	**72**	*e*Pg	Pg	11 06 22.4	-2.4
TCF				*e*Sn	Sn	11 06 40.6	-3.2
TCF	6.3nm,0.2s			*e*Sg	Sg	11 06 43.7	-3.0
TCF	**Toulx Ste Croi**	**1.64**	**72**	Pn	Pn	11 06 20.4	-1.5
TCF				Pg	Pg	11 06 22.4	-2.4
TCF				Sn	Sn	11 06 40.6	-3.2
TCF	3.2nm,0.2s			Lg		11 06 43.7	
TCF	**Toulx Ste Croi**	**1.64**	**72**	*e*Pn	Pn	11 06 20.4	-1.5
TCF				*e*Pg	Pg	11 06 22.4	-2.4
TCF				*e*Sn	Sn	11 06 40.6	-3.2
TCF				*e*Sg	Sg	11 06 43.7	-3.0
TCF	**Toulx Ste Croi**	**1.64**	**72**	*e*Pg	Pg	11 06 22.4	-2.4
TCF				*e*Sn	Sn	11 06 40.6	-3.2
TCF	3.2nm,0.2s			*e*Sg	Sg	11 06 43.7	-3.0
CAF	**Calviac**	**1.73**	**120**	*e*Pg	Pg	11 06 23.5	-3.1
CAF				*e*Sn	Sn	11 06 42.7	-3.5
CAF	12nm,0.2s			*e*Sg	Sg	11 06 46.4	-3.3
CAF	**Calviac**	**1.73**	**120**	Pn	Pn	11 06 21.3	-2.0
CAF				Pg	Pg	11 06 23.5	-3.1
CAF				Sn	Sn	11 06 42.7	-3.5
CAF	6.1nm,0.2s			Lg		11 06 46.4	
CAF	**Calviac**	**1.73**	**120**	*e*Pn	Pn	11 06 21.3	-2.0
CAF				*e*Pg	Pg	11 06 23.5	-3.1
CAF				*e*Sn	Sn	11 06 42.7	-3.5
CAF				*e*Sg	Sg	11 06 46.4	-3.3
CAF	**Calviac**	**1.73**	**120**	*e*Pg	Pg	11 06 23.5	-3.1
CAF				*e*Sn	Sn	11 06 42.7	-3.5
CAF	6.1nm,0.2s			*e*Sg	Sg	11 06 46.4	-3.3
BGF	**Bois d'Agland**	**2.14**	**69**	*e*Pg	Pg	11 06 31.9	-2.9
BGF	20nm,0.3s			*e*Sg	Sg	11 06 59.1	-4.3
BGF	**Bois d'Agland**	**2.14**	**69**	Pn	Pn	11 06 26.9	-2.2
BGF				Pg	Pg	11 06 31.9	-2.9
BGF	10nm,0.3s			Lg		11 06 59.1	
BGF	**Bois d'Agland**	**2.14**	**69**	*e*Pn	Pn	11 06 26.9	-2.2
BGF				*e*Pg	Pg	11 06 31.9	-2.9
BGF				*e*Sg	Sg	11 06 59.1	-4.3
BGF	**Bois d'Agland**	**2.14**	**69**	*e*Pg	Pg	11 06 31.9	-2.9
BGF	10nm,0.3s			*e*Sg	Sg	11 06 59.1	-4.3
HYF	**Humbligny**	**2.36**	**51**	*e*Pg	Pg	11 06 35.9	-3.2
HYF	**Humbligny**	**2.36**	**51**	*e*Pn	Pn	11 06 29.8	-2.4
HYF				*e*Pg	Pg	11 06 35.9	-3.2
HYF	**Humbligny**	**2.36**	**51**	*e*Pg	Pg	11 06 35.9	-3.2
AVF	**Avril sur Loir**	**2.55**	**66**	*e*Pg	Pg	11 06 39.2	-3.7
AVF	**Avril sur Loir**	**2.55**	**66**	*e*Pn	Pn	11 06 32.6	-2.4
AVF				*e*Pg	Pg	11 06 39.2	-3.7
AVF	**Avril sur Loir**	**2.55**	**66**	*e*Pg	Pg	11 06 39.2	-3.7
GRR	**Gorron**	**2.63**	**348**	*e*Pg	Pg	11 06 40.6	-4.0
SSF	**Saint Saulge**	**2.76**	**62**	Pn	Pn	11 06 35.5	-2.4
SSF				Pg	Pg	11 06 43.4	-3.6
SSF	1.1nm,0.2s			Lg		11 07 18.5	
SSF	**Saint Saulge**	**2.76**	**62**	*e*Pn	Pn	11 06 35.5	-2.4
SSF				*e*Pg	Pg	11 06 43.4	-3.6
SSF				*e*Sg	Sg	11 07 18.5	-5.3
SSF	**Saint Saulge**	**2.76**	**62**	*e*Pg	Pg	11 06 43.4	-3.6
SSF	1.1nm,0.2s			*e*Sg	Sg	11 07 18.5	-5.3
LDF	**La Druitiere**	**2.78**	**359**	*e*Pg	Pg	11 06 43.4	-4.1
LDF	5.9nm,0.3s			*e*Sg	Sg	11 07 19.6	-5.0
EPF	**Esparros**	**2.80**	**174**	*e*Pg	Pg	11 06 44.1	-3.7
EPF	5.5nm,0.2s			*e*Sg	Sg	11 07 19.9	-5.2
EPF	**Esparros**	**2.80**	**174**	Pn	Pn	11 06 36.0	-2.5
EPF				Pg	Pg	11 06 44.1	-3.7
EPF	2.8nm,0.2s			Lg		11 07 19.9	
EPF	**Esparros**	**2.80**	**174**	*e*Pn	Pn	11 06 36.0	-2.5
EPF				*e*Pg	Pg	11 06 44.1	-3.7
EPF				*e*Sg	Sg	11 07 19.9	-5.2
EPF	**Esparros**	**2.80**	**174**	*e*Pg	Pg	11 06 44.1	-3.7
EPF	2.8nm,0.2s			*e*Sg	Sg	11 07 19.9	-5.2
SJPF	**Ste Jean**	**2.83**	**198**	*e*Pn	Pn	11 06 36.2	-2.7
SJPF	5.2nm,0.4s			*e*Sg	Sg	11 07 19.7	-6.5
ETSF	**Etsaut**	**2.94**	**187**	*e*Pg	Pg	11 06 46.6	-4.1
ETSF	2.1nm,0.3s			*e*Sg	Sg	11 07 24.3	-5.5
ETSF	**Etsaut**	**2.94**	**187**	Pn	Pn	11 06 37.8	-2.7
ETSF				Pg	Pg	11 06 46.6	-4.1
ETSF	1.1nm,0.3s			Lg		11 07 24.3	
ETSF	**Etsaut**	**2.94**	**187**	*e*Pn	Pn	11 06 37.8	-2.7
ETSF				*e*Pg	Pg	11 06 46.6	-4.1
ETSF				*e*Sg	Sg	11 07 24.3	-5.5
ETSF	**Etsaut**	**2.94**	**187**	*e*Pg	Pg	11 06 46.6	-4.1
ETSF	1.0nm,0.3s			*e*Sg	Sg	11 07 24.3	-5.5
MTLF	**Montolieu**	**2.96**	**146**	*e*Pn	Pn	11 06 37.9	-2.8
MTLF	2.8nm,0.2s			*e*Sg	Sg	11 07 24.4	-6.0
FLN	**La Foliniere**	**2.96**	**354**	*e*Sn	Sn	11 07 11.7	-5.7
FLN	6.0nm,0.3s			*e*Sg	Sg	11 07 24.8	-5.9
SGMF	**Saint Gilles**	**2.98**	**326**	*e*Pn	Pn	11 06 38.1	-3.0
SGMF	2.9nm,0.3s			*e*Sg	Sg	11 07 25.4	-5.9
QUIF	**Quistinic**	**3.00**	**316**	*e*Pg	Pg	11 06 47.6	-4.3
LOR	**Lormes**	**3.06**	**60**	*e*Pn	Pn	11 06 39.1	-3.2
LOR	1.4nm,0.2s			*e*Sg	Sg	11 07 27.9	-6.1
EBIE	**Bielsa**	**3.13**	**177**	Pn	Pn	11 06 42.1	-1.1
EBIE	SNR=4.0			Sn	Sn	11 07 17.1	-4.6
EBIE	SNR=7.9			Lg		11 07 30.5	
LASF	0.3nm,0.1s,SNR=7.9 **Ste Croix**	**3.27**	**121**	*e*Pn	Pn	11 06 42.2	-3.0
LASF	3.0nm,0.3s			*e*Sg	Sg	11 07 34.5	-6.4
ROSF	**Rostrenen**	**3.35**	**320**	*e*Pn	Pn	11 06 43.2	-3.1
ROSF	2.3nm,0.2s			*e*Sg	Sg	11 07 37.5	-6.0
VIVF	**Saint-Julien-l**	**3.46**	**104**	*e*Sg	Sg	11 07 40.5	-6.8
ORIF	4.6nm,0.3s **Oris-en-Rattie**	**4.27**	**100**	*e*Pn	Pn	11 06 55.9	-3.5
CABF	**La Chapelle**	**4.33**	**77**	*e*Pn	Pn	11 06 56.9	-3.4

*NNC **02** 11:06:19.5±5.5,37.80N×70.34E,mpv3.8,Error ellipse: s-maj=60.1km s-min=37.0km az=111.0*
ISC 02 11:06:13.6±2.0,37.4N±0.1×71.2E±0.1,h33km,n10, σ0§90/12,2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.08**	**21**	P	**P**	**11 07 30.2**	**+0.7**
UCH	SNR=24 **Uchtor**	**5.44**	**27**	P	**P**	**11 07 35.2**	**+0.8**
EKS2	SNR=6.9 **Erkin-Say**	**5.59**	**20**	P	**S**	**11 08 40.6**	**0.0**
KZA	SNR=6.0 **Kyzart**	**5.60**	**33**	P	**P**	**11 07 36.0**	**-0.7**
KK31	SNR=5.5 **Karatay Array**	**5.70**	**355**	P	**P**	**11 07 39.7**	**+1.6**
KK31	5.4nm,0.4s,baz=175,slow=12,SNR=68			S	**S**	**11 08 43.1**	**-0.2**
AAK	4.0nm,0.5s,baz=166,slow=20,SNR=7.3 **Ala-Archa**	**5.79**	**25**	P	**P**	**11 07 39.5**	**+0.1**
USP	SNR=12 **Ospenovka**	**6.36**	**22**	P	**P**	**11 07 46.8**	**-0.6**
TKM2	SNR=5.6 **Tokmak 2**	**6.44**	**30**	P	**P**	**11 07 47.8**	**-0.8**
AB31	SNR=6.3 **Akbulak array**	**14.37**	**329**	⇓P	**P**	**11 09 34.6**	**-1.8**
AB31	0.6nm,0.3s			⇓S	**S**	**11 12 07.3**	**-8.2**
AKTO	2.4nm,0.7s,baz=153,slow=24,SNR=6.4 **Aktyubinsk**	**16.07**	**328**	P	**P**	**11 09 59.4**	**+0.8**

*MOS **02** 11:12:08.2±1.1,54.99N×111.63E,h11km,mb4.4/1,Error ellipse: s-maj=14.8km s-min=7.6km az=60.9*
BYKL 02 11:12:08.3±0.2,55.03N×111.64E,h15km±4km,7C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.32**	**241**	⇓*i*Pg	Pg	11 12 14.7	-0.5
YLYR				*e*Sg	Sg	11 12 19.5	-0.2
YLYR	408nm,0.2s			Pmax			
YLYR				Smax			
YLYR	**Ulyunkhan**	**0.32**	**241**	*e*PG	Pg	11 12 14.7	-0.5
YLYR				*e*		11 12 19.4	
YLYR	comp=Z,410nm,0.1s			pmax	pmax		
YLYR	comp=E,10μm,0.4s			smax			
KMO	**Kumora**	**0.90**	**344**	⇑*i*Pg	Pg	11 12 24.4	-2.0
KMO				*e*Sg	Sg	11 12 36.3	-2.1
KMO				*e*Sb	Sb	11 12 42.0	+5.5
KMO	comp=E,139nm,0.5s			Pmax			
KMO	comp=E,890nm,1.3s			Smax			
KMO	**Kumora**	**0.90**	**344**	*e*PG	Pg	11 12 24.5	-1.9
KMO				*e*		11 12 36.7	
KMO	comp=Z,135nm,0.5s			pmax	pmax		
KMO	comp=N,892nm,1.3s			smax			
YOA	**Uoyan**	**1.11**	**2**	⇑*i*Pg	Pg	11 12 29.0	-1.6
YOA				*e*Sg	Sg	11 12 44.7	-0.7
YOA				*e*		11 12 49.8	
YOA	comp=N,233nm,0.2s			Pmax			
YOA	comp=N,3μm,0.8s			Smax			
YOA	**Uoyan**	**1.11**	**2**	⇑*i*PG	Pg	11 12 28.6	-2.0
YOA				*e*		11 12 44.5	
YOA	comp=Z,403nm,0.4s			pmax	pmax		
YOA	comp=N,3μm,0.5s			smax			
UKT	**Uakit**	**1.23**	**67**	⇑*i*Pg	Pg	11 12 30.2	-2.7
UKT				⇑*i*Pb	Pb	11 12 32.4	+1.7
UKT				*e*Sg	Sg	11 12 46.6	-2.8
UKT				*e*Sb	Sb	11 12 50.1	+4.0
UKT	comp=N,240nm,0.6s			max			
UKT	comp=N,1μm,0.9s			Smax			
UKT	**Uakit**	**1.23**	**67**	*e*PG	Pg	11 12 30.4	-2.5
UKT				*e*		11 12 46.7	
UKT	comp=Z,204nm,0.1s			pmax	pmax		
UKT	comp=N,1μm,0.3s			smax			
NIZ	**Nizh Angarsk**	**1.41**	**303**	⇑*i*Pg	Pg	11 12 33.8	-2.8
NIZ				*e*Sg	Sg	11 12 53.2	-2.3
NIZ	comp=N,248nm,0.7s			Pmax			
NIZ	comp=N,315nm,0.7s			Smax			
NIZ	**Nizh Angarsk**	**1.41**	**303**	*e*PG	Pg	11 12 34.1	-2.5
NIZ				*e*		11 12 53.1	
NIZ	comp=Z,215nm,0.5s			pmax	pmax		
NIZ	comp=E,272nm,0.3s			smax			
SVKR	**Severomuysk**	**1.54**	**44**	*e*Pg	Pg	11 12 36.7	-2.5
SVKR				*e*Sg	Sg	11 12 58.3	-1.5
SVKR	comp=E,562nm,0.4s			Pmax			
SVKR	comp=E,3μm,0.6s			Smax			
SVKR	**Severomuysk**	**1.54**	**44**	*e*PN	Pn	11 12 37.5	+2.1
SVKR				*e*		11 12 58.1	
SVKR	comp=Z,563nm,1.1s			pmax	pmax		
SVKR	comp=N,3μm,1.0s			smax			
SYVR	**Suvo**	**1.68**	**216**	*e*Pg	Pg	11 12 38.5	-3.4
SYVR				*e*Sg	Sg	11 13 01.5	-2.8
SYVR	comp=N,164nm,0.6s			Pmax			
SYVR	comp=N,743nm,0.9s			Smax			
SYVR	**Suvo**	**1.68**	**216**	*e*PN	Pn	11 12 37.9	+0.5
SYVR				*e*		11 12 58.3	
SYVR	comp=Z,151nm,0.6s			pmax	pmax		
SYVR	comp=N,471nm,0.2s			smax			
MXMB	**Maximikha**	**2.46**	**225**	*e*Pg	Pg	11 12 52.5	-4.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXMB				eSg	Sg	11 13 25.6	-4.6
MXMB				Pmax			
	comp=N,24nm,0.1s						
MXMB				Smax			
	comp=N,3µm,0.7s						
NLYR	Nelyaty	2.72	56	ePn	Pn	11 12 52.4	0.0
NLYR				ePg	Pg	11 12 57.5	-5.2
NLYR				eSg	Sg	11 13 33.0	-6.1
NLYR				eSgSg		11 13 40.4	
NLYR				Pmax			
	comp=N,63nm,0.7s						
NLYR				max			
	comp=N,761nm,1.2s						
NLYR	Nelyaty	2.72	56	ePN	Pn	11 12 52.2	-0.2
NLYR				e		11 12 57.2	
NLYR				e		11 13 32.3	
NLYR				pmax	pmax		
	comp=Z,49nm,0.7s						
NLYR				smax			
	comp=N,645nm,1.1s						
OGRR	Ongureny	2.75	241	ePn	Pn	11 12 53.2	+0.5
OGRR				ePg	Pg	11 12 57.0	-6.2
OGRR				eSn	Sn	11 13 25.7	-0.1
OGRR				eSg	Sg	11 13 33.4	-6.4
OGRR				Pmax			
	comp=N,39nm,0.4s						
OGRR				Smax			
	comp=N,216nm,0.6s						
OGRR	Ongureny	2.75	241	ePN	Pn	11 12 53.2	+0.5
OGRR				e		11 12 57.9	
OGRR				e		11 13 33.1	
OGRR				pmax	pmax		
	comp=Z,25nm,0.3s						
OGRR				smax			
	comp=N,233nm,0.9s						
BOD	Bodaibo	3.09	24	ePn	Pn	11 12 56.8	-0.8
BOD				ePg	Pg	11 13 02.4	-7.6
BOD				eSn	Sn	11 13 32.3	-2.2
BOD				eSg	Sg	11 13 42.2	-9.0
BOD				Pmax			
	comp=N,37nm,1.0s						
BOD				Smax			
	comp=N,126nm,0.7s						
CIT	Chita	3.22	158	Pg	Pg	11 13 06.5	-6.2
CIT				ePgPg		11 13 11.3	
CIT				eSg	Sg	11 13 47.7	-8.0
CIT				max			
	comp=N,50nm,0.5s						
CIT				Smax			
	comp=N,383nm,0.7s						
CIT	Chita	3.22	158	ePN	Pn	11 13 06.5	+7.0
CIT				e		11 13 47.9	
CIT				pmax	pmax		
	comp=Z,49nm,0.5s						
CIT				smax			
	comp=E,385nm,0.7s						
TRG	Tyrgan	3.87	236	ePn	Pn	11 13 08.4	-0.2
TRG				ePg	Pg	11 13 17.6	-8.0
TRG				eSg	Sg	11 14 09.3	-7.9
TRG				Pmax			
	comp=E,11nm,0.4s						
TRG				Smax			
	comp=E,110nm,0.4s						
TRG	Tyrgan	3.87	236	ePN	Pn	11 13 08.4	-0.2
TRG				e		11 13 17.3	
TRG				eS	Sn	11 13 52.1	-2.2
TRG				e		11 14 05.4	
TRG				pmax	pmax		
	comp=Z,21nm,0.7s						
TRG				smax			
	comp=N,129nm,0.4s						
CRS	Chara	4.17	61	ePn	Pn	11 13 12.1	-0.8
CRS				ePg	Pg	11 13 23.5	-8.1
CRS				eSg	Sg	11 14 17.9	-9.3
CRS				Pmax			
	comp=N,47nm,0.9s						
CRS				Smax			
	comp=N,676nm,1.7s						
CRS	Chara	4.17	61	ePN	Pn	11 13 23.4	+10
CRS				e		11 14 18.0	
CRS				pmax	pmax		
	comp=Z,50nm,1.0s						
CRS				smax			
	comp=E,678nm,1.3s						
FFNB	Fofonovo	4.17	226	eSn	Sn	11 13 59.6	-2.3
FFNB				eSg	Sg	11 14 16.7	-10
FFNB				Smax			
	comp=E,391nm,0.7s						
KAB	Kabansk	4.21	227	eSg	Sg	11 14 19.4	-9.3
KAB				Smax			
	comp=E,926nm,1.6s						
HRMR	Khuramsha	4.42	221	ePn	Pn	11 13 15.9	-0.5
HRMR				ePg	Pg	11 13 27.2	-9.3
HRMR				eSg	Sg	11 14 25.7	-10
HRMR				Pmax			
	comp=E,47nm,0.5s						
HRMR				Smax			
	comp=E,794nm,0.6s						
TUP	Tupik	4.86	94	⇓iPn	Pn	11 13 21.1	-1.6
TUP				e		11 13 24.8	
TUP				ePg	Pg	11 13 34.7	-11
TUP				eSg	Sg	11 14 38.3	-12
TUP				Pmax			
	comp=E,38nm,0.7s						
TUP				Smax			
	comp=E,299nm,0.7s						
TUP	Tupik	4.86	94	ePN	Pn	11 13 21.0	-1.7
TUP				e		11 13 34.7	
TUP				e		11 14 38.3	
TUP				pmax	pmax		
	comp=Z,37nm,0.6s						
TUP				smax			
	comp=N,300nm,0.8s						
LSTR	Listvyanka	5.16	235	eSg	Sg	11 14 46.5	-13
LSTR				Smax			
	comp=N,91nm,1.2s						
LSTR	Listvyanka	5.16	235	ePN	Pn	11 13 42.5	+16
LSTR				e		11 14 46.5	
LSTR				pmax	pmax		
	comp=Z,42nm,1.6s						
LSTR				smax			
	comp=E,105nm,1.6s						
IRK	Irkutsk	5.20	241	ePN	Pn	11 13 39.6	+12
IRK				e		11 14 47.8	
IRK				pmax	pmax		
	comp=Z,126nm,0.1s						
IRK				smax			
	comp=N,272nm,0.8s						
KPC	Khapcheranga	5.35	175	ePn	Pn	11 13 28.1	-1.6
KPC				ePg	Pg	11 13 44.0	-11
KPC				eSg	Sg	11 14 53.5	-13
KPC				Pmax			
	comp=N,11nm,0.6s						
KPC				Smax			
	comp=N,211nm,1.2s						
TLY	Talaya	5.85	238	eSg	Sg	11 15 07.4	-16
TLY				Smax			
	comp=N,72nm,0.9s						
TLY	Talaya	5.85	238	ePN	Pn	11 13 36.3	-0.3
TLY				e		11 13 52.6	
TLY				e		11 15 06.4	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.3s						
TLY				smax			
	comp=E,73nm,1.4s						
ARS	Arshan	6.32	244	Pg	Pg	11 14 01.7	-13
ARS				eSg	Sg	11 15 22.6	-16
ARS				Pmax			
	comp=E,19nm,0.4s						
ARS				Smax			
	comp=E,316nm,0.8s						
ARS	Arshan	6.32	244	ePG	Pg	11 14 02.3	-12
ARS				e		11 15 22.4	
ARS				pmax	pmax		
	comp=Z,19nm,0.4s						
ARS				smax			
	comp=E,316nm,0.7s						
ZAK	Zakamensk	6.89	231	eSg	Sg	11 15 40.3	-17
ZAK				Smax			
	comp=E,32nm,0.8s						
ZAK	Zakamensk	6.89	231	ePN	Pn	11 14 02.3	+11
ZAK				e		11 14 15.5	
ZAK				eS	Sn	11 15 44.0	+34
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAK				smax			
	comp=N,32nm,0.8s						
MOY	Mondy	7.21	247	ePN	Pn	11 13 56.7	+0.9
MOY				eS	Sn	11 15 48.6	+30
MOY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MOY				smax			
	comp=N,112nm,1.6s						
ORL	Orlik	7.44	255	⇑iPn	Pn	11 13 58.0	-1.0
ORL				e		11 15 22.1	
ORL				eSg	Sg	11 15 57.9	-18
ORL				Smax			
	comp=N,87nm,1.4s						
ORL	Orlik	7.44	255	ePN	Pn	11 13 58.0	-1.0
ORL				e		11 14 21.8	
ORL				e		11 15 58.4	
ORL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ORL				smax			
	comp=N,87nm,1.3s						
TDJR	Todzha	9.58	260	eSg	Sg	11 17 03.5	-24

*ATH **02** 11:16:06.1, 39.33N×25.50E, h26^{km}±1^{km}, MD3.7/12, ML3.5*
*THE **02** 11:16:06.1, 39.25N×25.55E, h3^{km}, ML3.8*
*NEIC **02** 11:16:06.1, 39.33N×25.50E, h26^{km}, ML3.5(ATH), After ATH.*
*CSEM **02** 11:16:07.4±0.1, 39.38N×25.55E, h25^{km}, ML3.5, Error ellipse: s-maj=1.9km s-min=1.4km az=33.0*
*ISK **02** 11:16:08.6, 39.40N×25.60E, h30^{km}, MD3.6*
ISC 02 11:16:05.5±0.4**, 39.36N**±0.02×**25.48E**±0.02**, h7**^{km}±3^{km}**, n94, σ1^{s}08**/117**, 21C-3D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.59	337	⇑iPN	Pg	11 16 18.9	+1.6
LIA				eSN	Sg	11 16 27.4	+2.2
PRK	Paraskevi	0.63	100	⇓iPN	Pg	11 16 18.4	+0.3
PRK				eSN	Sg	11 16 27.0	+0.5
LOS	Limnos	0.65	332	ePg	Pg	11 16 20.6	+2.0
EZN	Ezine	0.81	54	iPG	Pg	11 16 21.6	-0.1
EZN				iSG	Sg	11 16 33.0	+0.5
AYVA	Ayvalik	0.94	92	iP	Pb	11 16 24.0	+0.3
AYVA				iS	Sb	11 16 38.5	+2.2
AOS	Alonnisos	1.25	262	ePg	Pg	11 16 29.6	-0.9
AOS				eSg	Sg	11 16 48.7	+1.5
URLA	Izmir	1.32	138	iP	Pb	11 16 30.6	+0.4
URLA				iS	Sb	11 16 47.8	+0.5
LPK	Lapseki	1.42	44	PN	Pn	11 16 32.4	+0.6
PAIG	Paliouri	1.50	293	ePg	Pg	11 16 33.8	-1.7
OUR	Ouranopolis	1.51	311	ePb	Pb	11 16 34.2	+0.8
OUR	Ouranopolis	1.51	311	ePb	Pb	11 16 34.2	+0.8
BLCB	Balcova	1.56	128	PN	Pn	11 16 34.0	+0.2
BLCB				SN	Sn	11 16 53.0	-1.4
ALN	Alexandroupoli	1.60	16	ePb	Pb	11 16 35.0	0.0
IZM	Izmir	1.69	124	PN	Pn	11 16 36.7	+1.0
KDAG	Bornova	1.69	124	iP	Pn	11 16 37.6	+1.9
KDAG				iS	Sn	11 17 00.8	+3.0
NEO	Neokhori	1.75	269	ePN	Pn	11 16 36.9	+0.4
XOR	Xorichti	1.77	271	ePb	Pb	11 16 37.1	-0.8
XOR				eSb	Sb	11 17 01.6	+1.3
RDO	Rodhopi	1.79	1	ePN	Pn	11 16 37.7	+0.6
PTL	Penteli	1.81	225	ePB	Pb	11 16 37.0	-1.6
PLG	Polygyros	1.86	304	ePB	Pb	11 16 38.7	-0.8
SART	Tekirdag	1.87	44	iP	Pn	11 16 38.6	+0.4
SART				iS	Sn	11 17 01.9	-0.3
AKS	Akhisar	1.88	104	PN	Pn	11 16 38.6	+0.2
BALB	Balikesir	1.88	81	PN	Pn	11 16 38.5	+0.1
ATH	Athens Observa	1.95	225	ePN	Pn	11 16 39.2	-0.2
SMG	Samos	1.96	147	ePN	Pn	11 16 39.9	+0.4
MFT	Murefte	1.99	44	PN	Pn	11 16 39.8	-0.2
BTOK	Tokmak	2.02	78	iP	Pg	11 16 44.6	-1.2
BTOK				iS	Sg	11 17 12.0	-0.6
MRMT	Marmara Adasi	2.05	52	PN	Pn	11 16 41.2	+0.4
LKR	Lokris	2.05	251	ePB	Pb	11 16 41.5	-1.2
EDC	Edincik	2.09	61	PN	Pn	11 16 40.6	-0.8
BNT	Bandirma	2.13	61	PN	Pn	11 16 41.7	-0.3
SOH	Sokhos	2.19	313	ePn	Pn	11 16 44.4	+1.6
APE	Apeiranthos	2.28	179	ePN	Pn	11 16 43.7	-0.5
THE	Thessaloniki	2.31	304	ePn	Pn	11 16 46.2	+1.6
NVR	Nevrokopi	2.34	329	ePN	Pn	11 16 45.4	+0.4
KCT	Karacabey	2.40	67	ePN	Pn	11 16 45.6	-0.2
DST	Dursunbey	2.45	83	ePN	Pn	11 16 46.2	-0.4
AGG	Agios Georgios	2.47	263	ePn	Pn	11 16 47.1	+0.3
AYDN	Tasoluk	2.53	131	iP	Pg	11 16 57.7	+1.6
AYDN				iS	Sg	11 17 27.6	-2.3
MANT	Manisa	2.55	109	iP	Pn	11 16 47.9	-0.1
MANT				iS	Sn	11 17 22.6	+2.9
EDRB	Edirne	2.67	21	ePN	Pn	11 16 50.2	+0.5
KNT	Kendrikon	2.67	313	ePn	Pn	11 16 51.5	+1.7
BODT	Bodrum	2.71	147	ePN	Pn	11 16 50.2	0.0
ORLT	Orhaneli	2.73	74	ePN	Pn	11 16 50.4	-0.1
MLSB	Milas	2.74	138	ePN	Pn	11 16 51.7	+1.0
BDRM	Kayabasi	2.76	145	iP	Pb	11 16 50.4	-4.5
BDRM				iS	Sg	11 17 35.2	-2.3
CTT	Catalca	2.88	51	ePN	Pn	11 16 52.3	-0.4
EVR	Evrytania	2.88	262	ePN	Pn	11 16 53.6	+0.9
ULDT	Uludag	2.93	73	iP	Pb	11 16 52.8	-4.9
ULDT				iS	Sg	11 17 38.7	-4.3
VAY	Valandovo	2.96	312	ePg	Pg	11 17 04.8	+0.1
VAY				eSn	Sn	11 17 29.5	-0.6
DAT	Datca	3.10	147	ePN	Pn	11 16 56.3	+0.5
GDZ	Gediz	3.12	94	iP	Pg	11 17 05.0	-2.8
GDZ				iS	Sb	11 17 42.9	+3.4
YER	Yerkesik	3.13	134	ePN	Pn	11 16 56.0	-0.2
BADT	Buyukada	3.17	61	ePN	Pn	11 16 55.8	-1.0
DENT	Denizli	3.21	119	ePN	Pn	11 16 57.5	+0.1
YLV	Yalova	3.23	67	ePN	Pn	11 16 57.4	-0.2
ISK	Istanbul-Kandi	3.23	57	ePN	Pn	11 16 56.8	-0.9
DNZL	Cakiroluk	3.26	120	iP	Pb	11 17 03.8	+0.5
DNZL				iS	Sb	11 17 49.2	+5.8
VLI	Veliai	3.31	218	ePN	Pn	11 16 58.1	-0.7
STIP	Stip	3.43	314	ePg	Pg	11 17 12.3	-1.6
STIP				eSn	Sn	11 17 39.7	-2.1
HRT	Hereke	3.53	64	ePN	Pn	11 17 01.2	-0.8
BIA	Bitola	3.59	299	eSn	Sn	11 17 45.6	-0.3
ALT	Altintas	3.61	93	ePN	Pn	11 17 02.4	-0.7
VTS	Vitosha	3.66	333	⇓P	Pn	11 17 05.6	+1.8
VTS	Vitosha	3.66	333	⇓P	Pn	11 17 05.6	+1.8
TKTP	Tekketepe	4.01	108	iP	Pn	11 17 09.4	+0.6
TKTP				iS	Sb	11 18 09.2	+3.9
SKO	Skopje	4.03	312	eSn	Sn	11 17 54.7	-2.4
ESKT	Eskisehir	4.17	86	iP	Pn	11 17 10.2	-0.7
ESKT				iS	Sg	11 18 20.0	-4.2
ESKT	Eskisehir	4.17	86	ePn	Pn	11 17 10.7	-0.2
BARS	Barje	4.43	323	⇑iPn	Pn	11 17 15.2	+0.6
MDU	Mudurnu	4.55	74	ePN	Pn	11 17 16.2	-0.2
KIZT	Kizilcal	5.00	93	ePN	Pn	11 17 22.6	-0.2
TIRR	Tirgusor	5.55	22	⇑iP	Pn	11 17 29.7	-0.8
HARR	Harsova	5.63	18	⇑iP	Pn	11 17 29.8	-1.9
HARR	Harsova	5.63	18	⇑iP	Pn	11 17 29.8	-1.9
GRUS	Gruza	5.76	323	iPn	Pg	11 17 54.7	-5.9
ISR	Istrita	5.81	7	⇑iP	Pn	11 17 34.2	0.0
ISR	Istrita	5.81	7	⇑iP	Pn	11 17 34.2	0.0
SNX	Sinaia	6.00	0	⇑iP	Pn	11 17 36.5	-0.3
SNX	Sinaia	6.00	0	⇑iP	Pn	11 17 36.5	-0.3
VOIR		6.09	357	⇑iP	Pn	11 17 37.7	-0.4
VOIR		6.09	357	⇑iP	Pn	11 17 37.7	-0.4
MLR	Muntele Rosu	6.14	3	⇑iP	Pn	11 17 38.3	-0.6
MLR	Muntele Rosu	6.14	3	⇑iP	Pn	11 17 38.3	-0.6
CFR	Carcaliu	6.14	18	⇑iP	Pn	11 17 37.0	-1.9
CFR	Carcaliu	6.14	18	⇑iP	Pn	11 17 37.0	-1.9
DIVS	Divcibare	6.27	321	iPn	Pg	11 18 10.1	-0.5
DIVS				Sn	Sb	11 19 20.1	+9.3
BBLS	Bajina Basta -	6.40	317	iPn	Pg	11 18 14.5	+1.2
BBLS				Sn	Sg	11 19 29.6	-9.1
BZS	Buzias	6.88	337	⇑iP	Pn	11 17 47.9	-1.3
BZS	Buzias	6.88	337	⇑iP	Pn	11 17 47.9	-1.3
DRGR		7.70	346	⇑iP	Pn	11 18 01.2	+0.4
DRGR		7.70	346	⇑iP	Pn	11 18 01.2	+0.3
BURAR	Bucovina Array	8.26	359	⇑iP	P	11 18 08.3	-0.3
BURAR	Bucovina Array	8.26	359	⇑iP	P	11 18 08.3	-0.3

*NNC **02** 11:18:11.5±1.2, 37.00N×70.33E, h198^{km}±30^{km}, mpv3.5, Error ellipse: s-maj=39.8km s-min=10.7km az=74.0*
ISC 02 11:18:06.7±2.5**, 36.8N**±0.2×**70.6E**±0.2**, h200**^{km}**, n8, σ0^{s}49**/9**, 2C, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.86	23	P	P	11 19 32.8	0.0
	SNR=65						
UCH	Uchtor	6.22	28	P	P	11 19 37.3	-0.2
	SNR=36						
KK31	Karatay Array	6.32	359	P	P	11 19 39.9	+1.1
	1.6nm,0.3s,baz=180,slow=13,SNR=33						
KK31				S	S	11 20 50.4	-0.2
	3.7nm,0.5s,baz=182,slow=25,SNR=9.5						
EKS2	Erkin-Say	6.37	22	P	P	11 19 39.9	+0.5
	SNR=6.5						
KZA	Kyzart	6.40	33	P	P	11 19 39.4	-0.4
	SNR=8.5						
AAK	Ala-Archa	6.57	26	P	P	11 19 41.8	-0.3
	SNR=7.0						
AB31	Akbulak array	14.70	331	⇑P	P	11 21 26.2	+0.2
	0.1nm,0.2s,baz=144,slow=12,SNR=12						
AKTO	Aktyubinsk	16.39	330	⇑P	P	11 21 46.1	-0.7
	0.7nm,0.8s						

NEIC 02 11:41:51.8, 34.94S×179.32W, h173^{km}, MG4.1(WEL)**, After WEL., South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.25	216	ePN	P	11 42 42.4	-1.4
MXZ				eSN	S	11 43 22.9	-1.0
MXZ	Matakaoa Point	3.25	216	P	P	11 42 43.5	-0.3
PUZ	Puketiti	3.69	211	P	P	11 42 49.5	+0.1
MWZ	Matawai	4.23	216	ePN	P	11 42 55.8	-0.6
MWZ				eSN	S	11 43 47.0	+0.7
MWZ	Matawai	4.23	216	eP	P	11 42 56.6	+0.2
URZ	Urewera	4.38	220	PN	P	11 42 58.4	0.0
URZ				SN	S	11 43 49.8	0.0
URZ	Urewera	4.38	220	P	P	11 42 58.5	+0.1
KNZ	Kokohu	4.73	210	ePN	P	11 43 02.9	0.0
KNZ	Kokohu	4.73	210	eP	P	11 43 02.9	0.0
BKZ	Black Stump Fm	5.39	217	ePN	P	11 43 10.6	-0.8
BKZ	Black Stump Fm	5.39	217	P	P	11 43 11.5	+0.1
WNVZ	Wahianoa	5.97	221	PN	P	11 43 19.1	-0.1
WNVZ	Wahianoa	5.97	221	P	P	11 43 19.1	0.0
TSZ	Takapari Road	6.34	215	ePN	P	11 43 22.7	-1.3
TSZ	Takapari Road	6.34	215	eP	P	11 43 23.1	-0.9
MRZ	Mangatainoka R	6.99	214	ePN	P	11 43 31.0	-1.7
MRZ	Mangatainoka R	6.99	214	eP	P	11 43 31.3	-1.4
CAW	Cannon Point	7.58	214	ePN	P	11 43 38.6	-1.9
CAW	Cannon Point	7.58	214	P	P	11 43 38.6	-1.9
THZ	Tophouse	9.15	220	ePN	P	11 43 58.4	-2.7

MAN 02 11:49:07.0, 11.22N×124.70E, h21^{km}, mb4.2, ML3.1, MS2.8, 1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.81	62	eP	Pb	11 49 22.6	+0.3
BESP				eS	Sb	11 49 35.1	+2.3
MSLP	Maasin	1.09	172	eP	Pb	11 49 26.8	-0.1
MSLP				eS	Sb	11 49 46.7	+6.0
LLP	Lapu-Lapu	1.15	219	⇓eP	Pb	11 49 26.9	-1.2
LLP				iS	Sb	11 49 42.3	-0.3
CNP	Catarman	1.28	358	eP	Pn	11 49 28.6	-1.3
CNP				eS	Sb	11 49 47.0	+0.6
GUIM	Jordan	2.16	254	eP	Pn	11 49 42.2	-0.3
GUIM				eS	Sn	11 50 09.0	+0.2

*IDC **02** 12:13:29.8±0.6, 12.07S×101.54E, mb4.4/13, mb1 4.5/14, mb1mx4.4/20, mbtmp4.4/14, MS4.2/9, Ms1 4.2/9, ms1mx4.0/15, Error ellipse: s-maj=21.0km s-min=15.0km az=52.0*
*BJI **02** 12:13:31.3, 12.10S×101.50E, h10^{km}, mB5.2, mb4.8, Ms4.6, Msz4.2*
*NEIC **02** 12:13:31.3±0.3, 12.13S×101.49E, h10^{km}, mb4.7/16, Error ellipse: s-maj=9.5km s-min=6.3km az=220.0*
ISC 02 12:13:28.2±2.1**, 12.18S**±0.07×**101.48E**±0.07**, h3**^{km}±14^{km}**, h29**^{km}±5.3^{km}**:pP-P, n68, σ1^{s}07**/52**, mb4.6**/35**, MS4.2**/12**, 3C-1D, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COCO	West Island	4.54	269	ePn	Pn	12 14 38.2	-1.4
COCO				eSn	Sn	12 15 23.3	-10
PSI	Prapat	15.09	350	Pn	P	12 17 02.2	-2.2
	0.2nm,0.3s,baz=178,slow=13,SNR=6.3						
PSI				Sn	S	12 19 39.6	-13
	baz=26,slow=17,SNR=2.9						
PSI				LR	LR	12 22 14.0	
	comp=Z,750nm,18.7s,baz=171,slow=35						
MBWA	Marble Bar	19.62	119	eP	P	12 18 00.6	-0.2
	21nm,0.5s						
KKM	Kota Kinabalu	23.29	40	eP	P	12 18 38.9	+0.5
FITZ	Fitzroy Crossi	24.04	107	eP	P	12 18 46.7	+1.0
	11nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	24.04	107	P	P	12 18 46.4	+0.7
	9.8nm,1.1s,mb4.2,baz=266,slow=8.1,SNR=6.3						
FITZ				LR	LR	12 28 21.6	
	comp=Z,985nm,18.5s,MS4.3,baz=217,slow=37						
NWAO	Narrogin (SRO)	25.20	148	LR	LR	12 29 12.4	
	comp=Z,323nm,18.8s,MS3.9,baz=140,slow=37						
KAKA	Kakadu	30.23	94	eP	P	12 20 02.5	+20
	6.3nm,0.8s,mb4.4						
WRA	Warramunga Arr	32.46	108	P	P	12 20 01.5	-0.8
	13nm,0.9s,mb4.8,baz=280,slow=10,SNR=74						
WRAB	Tennant Creek	32.47	108	eP	P	12 20 01.5	-0.8
	22nm,0.8s,mb5.0						
WRAB				e		12 20 14.9	
WB2	Warramunga Arr	32.47	108	eP	P	12 20 01.5	-0.9
WB2				e		12 20 14.9	
KMI	Kunming	37.09	2	P	P	12 20 44.5	+2.6
KMI				PP	PP	12 22 12.0	+3.7
KMI				S	S	12 26 29.7	+1.5
KMI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=N,270nm,17.0s						
KMI				LR	LR		
	comp=E,340nm,22.3s						
KMI				LR	LR		
	comp=Z,280nm,21.4s,MS4.0						
GYA	Guiyang	38.73	7	⇑iP	P	12 20 57.1	+1.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
STKA	Stephens Creek	41.73	125	eP	P	12 21 21.7	+1.3
	comp=Z,7.6nm,0.9s,mb4.3						
STKA	Stephens Creek	41.73	125	P	P	12 21 21.2	+0.8
	comp=Z,9.6nm,0.8s,mb4.5,baz=304,slow=9.4,SNR=8.6						
STKA				LR	LR	12 38 21.0	
	comp=Z,887nm,19.8s,MS4.6,baz=317,slow=36						
JIRN	Jiri	42.28	340	eP	P	12 21 26.4	+1.4
	comp=Z,20nm,0.6s,mb4.9						
GUN	Gumba	42.62	339	eP	P	12 21 28.9	+1.2
	comp=Z,19nm,0.4s,mb5.2						
LSA	Lhasa	42.80	347	P	P	12 21 30.4	+1.1
LSA	Lhasa	42.80	347	eP	P	12 21 30.6	+1.3
	comp=Z,9.6nm,0.8s,mb4.6						
CD2	Chengdu	42.89	3	P	P	12 21 30.6	+0.7
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
ENH	Enshi	42.90	10	eP	P	12 21 29.8	-0.3
	comp=Z,41nm,1.2s,mb5.0						
GKN	Gorkha	43.14	338	eP	P	12 21 32.7	+0.7
	comp=Z,9.4nm,0.5s,mb4.8						
KOLN	Koldanda	43.32	337	eP	P	12 21 34.3	+0.8
CTA	Charters Tower	43.62	106	P	P	12 21 36.6	+0.6
	comp=Z,1.1nm,0.6s,mb3.8,baz=295,slow=11,SNR=4.3						
CTAO	Charters Tower	43.62	106	eP	P	12 21 36.5	+0.6
	comp=Z,6.1nm,1.1s,mb4.2						
WHN	Wuhan	44.24	16	⇑P	P	12 21 41.4	+0.5
NJ2	Nanjing	47.02	20	eP	P	12 22 03.4	+0.5
NJ2				AP	pP	12 22 07.3	+3.5
NJ2				XP	sP	12 22 09.9	+5.8
NJ2				PP	PP	12 23 54.3	+1.0
NJ2				S	S	12 28 53.0	-1.5
NJ2				XS		12 29 02.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,70nm,7.4s						
NJ2				LR	LR		
	comp=N,460nm,28.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NJ2				LR	LR		
	comp=E,530nm,19.9s						
NJ2				LR	LR		
	comp=Z,390nm,34.0s						
LZH	**Lanzhou**	**48.05**	**3**	*e*P	**P**	**12 22 12.2**	**+1.2**
LZH				AP	pP	12 22 22.5	+11
LZH				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.9						
GTA	**Gaotai**	**51.34**	**358**	⇑P	**P**	**12 22 36.6**	**+0.4**
GTA				AP	pP	12 22 48.9	+12
GTA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GTA				AMB	AMB		
	comp=Z,170nm,5.7s						
GTA				LR	LR		
	comp=N,190nm,16.0s,MS4.5						
GTA				LR	LR		
	comp=E,250nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=Z,220nm,14.1s,MS4.3						
OPO	**Ambohidratompo**	**52.58**	**256**	P	**P**	**12 22 46.2**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.3,baz=127,slow=5.1,SNR=3.7						
HHC	**Hu-ho-hao-te**	**53.57**	**10**	*e*P	**P**	**12 22 52.8**	**-0.1**
HHC				AP	pP	12 22 57.5	+3.8
HHC				XP	sP	12 22 59.8	+5.8
HHC				PCP	PcP	12 23 59.1	-0.5
HHC				PP	PP	12 24 54.9	-0.3
HHC				SCP		12 27 55.7	
HHC				PCS		12 27 56.9	
HHC				S	**S**	**12 30 24.4**	**-0.9**
HHC				XS		12 30 32.2	
HHC				SCS	ScS	12 32 38.2	-1.9
HHC				SS	SS	12 34 03.5	-1.4
HHC				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,310nm,6.7s						
HHC				LR	LR		
	comp=N,370nm,17.8s,MS4.7						
HHC				LR	LR		
	comp=E,540nm,21.4s,MS4.7						
HHC				LR	LR		
	comp=Z,390nm,20.2s,MS4.5						
WMQ	**Urumqi**	**57.12**	**348**	P	**P**	**12 23 17.4**	**-1.2**
WMQ				AP	pP	12 23 27.4	+8.0
WMQ				XP	sP	12 23 31.4	+12
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,260nm,5.2s						
WMQ				LR	LR		
	comp=N,60nm,20.0s,MS3.9						
WMQ				LR	LR		
	comp=E,80nm,21.0s,MS3.9						
WMQ				LR	LR		
	comp=Z,70nm,19.0s,MS3.8						
MJAR	**Matsushiro Arr**	**59.54**	**34**	P	**P**	**12 23 32.7**	**-2.9**
	comp=Z,2.0nm,0.8s,mb4.2,baz=212,slow=7.7,SNR=5.0						
AAK	**Ala-Archa**	**59.89**	**337**	*e*P	**P**	**12 23 37.9**	**0.0**
	comp=Z,4.5nm,1.0s,mb4.5						
SONM	**Songino Array**	**59.90**	**4**	P	**P**	**12 23 37.4**	**-0.4**
	comp=Z,17nm,1.2s,mb4.9,baz=188,slow=7.3,SNR=28						
SONM				LR	LR	12 53 14.8	
	comp=Z,116nm,18.7s,MS4.0,baz=212,slow=40						
ULN	**Ulaanbaatar**	**59.97**	**4**	*e*P	**P**	**12 23 38.1**	**-0.3**
	comp=Z,18nm,1.3s,mb5.0						
MAW	**Mawson**	**60.90**	**196**	LR	LR	12 46 14.2	
	comp=Z,196nm,18.1s,MS4.3,baz=60,slow=32						
MKAR	**Makanchi Array**	**61.17**	**345**	P	**P**	**12 23 45.5**	**-1.1**
	comp=Z,2.6nm,0.7s,mb4.5,baz=161,slow=8.2,SNR=10						
MKAR				LR	LR	12 52 33.4	
	comp=Z,77nm,20.2s,MS3.9,baz=39,slow=38						
KMBO	**Kilima Mbogo**	**64.59**	**275**	LR	LR	12 48 19.8	
	comp=Z,184nm,18.8s,MS4.3,baz=94,slow=32						
KURK	**Kurchatov**	**65.73**	**344**	*e*P	**P**	**12 24 15.6**	**-0.9**
	comp=Z,10nm,0.9s,mb4.9						
ZAL	**Zalesovo**	**67.37**	**349**	P	**P**	**12 24 25.8**	**-1.1**
	comp=Z,6.3nm,0.6s,mb4.8,baz=320,slow=4.1,SNR=34						
SYO	**Syowa Base**	**68.81**	**200**	⇓pP	pP	12 24 41.8	+5.3
BVAR	**Borovoye Array**	**70.20**	**341**	P	**P**	**12 24 44.0**	**-0.4**
	comp=Z,2.7nm,0.5s,mb4.4,baz=150,slow=8.8,SNR=22						
BRVK	**Borovoye**	**70.26**	**341**	*e*P	**P**	**12 24 42.9**	**-1.8**
	comp=Z,1.6nm,0.6s,mb4.1						
LSZ	**Lusaka**	**70.96**	**258**	P	**P**	**12 24 50.0**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=76,slow=4.0,SNR=5.7						
VNDA	**Vanda**	**71.96**	**169**	P	**P**	**12 24 54.8**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=318,slow=6.7,SNR=8.1						
VNDA				LR	LR	12 50 02.3	
	comp=Z,81nm,19.9s,MS4.0,baz=306,slow=30						
AKTK	**Aktyubinsk**	**72.98**	**333**	P	**P**	**12 25 00.9**	**-0.2**
AKTO	**Aktyubinsk**	**72.98**	**333**	P	**P**	**12 25 00.9**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=157,slow=7.7,SNR=4.0						
YAK	**Yakutsk**	**77.20**	**13**	*e*P	**P**	**12 25 23.0**	**-2.0**
	comp=Z,43nm,1.3s,mb5.2						
TSUM	**Tsumeb**	**80.40**	**252**	*e*P	**P**	**12 25 44.3**	**+1.0**
	comp=Z,2.5nm,0.6s,mb4.3						
MLR	**Muntele Rosu**	**88.69**	**317**	P	**P**	**12 26 27.6**	**+3.2**
	comp=Z,1.4nm,0.5s,mb4.6,baz=175,slow=11,SNR=2.4						
YKA	**Yellowknife Ar**	**123.54**	**19**	PKP	PKPdf	12 32 27.6	-1.6
	comp=Z,0.5nm,0.6s,baz=355,slow=2.5,SNR=5.5						
YKA	**Yellowknife Ar**	**123.54**	**19**	PKP	PKPdf	12 32 27.6	-1.6
PDAR	**Pinedale Array**	**139.35**	**36**	PKP	PKPdf	12 33 00.6	+1.0
	comp=Z,0.4nm,0.6s,baz=270,slow=1.5,SNR=4.0						
TUC	**Tucson**	**144.25**	**51**	*e*PKPdf	PKPdf	12 33 07.0	-1.4
SDCO	**Great Sand Dun**	**144.93**	**39**	*e*PKPdf	PKPdf	12 33 09.2	-0.2
LAZ	**Ladron**	**145.85**	**45**	*e*PKPbc	PKPbc	12 33 12.2	+2.4
ANMO	**Albuquerque**	**146.00**	**44**	*e*PKPbc	PKPbc	12 33 13.2	+3.0
LPM	**Los Pinos Moun**	**146.25**	**45**	*e*PKPbc	PKPbc	12 33 13.4	+2.6
BNM	**Barren Site**	**146.34**	**45**	*e*PKPbc	PKPbc	12 33 13.7	+2.8
MNTX	**Cornudas Mount**	**148.55**	**48**	*e*PKPbc	PKPdf	12 33 19.8	+4.1
GDL2	**Guadalupe Moun**	**149.00**	**46**	PKPbc	PKPdf	12 33 20.8	+4.4
LPAZ	**La Paz**	**149.91**	**200**	PKPbc	PKPdf	12 33 24.1	+5.9
	comp=Z,0.6nm,0.6s,baz=62,slow=6.4,SNR=3.0						
LPAZ				PKPab	PKPab	12 33 29.9	+1.2
	comp=Z,1.7nm,0.7s,baz=98,slow=5.8,SNR=7.3						
LPAZ	**La Paz**	**149.91**	**200**	*e*PKPbc	PKPdf	12 33 23.7	+5.4
LPAZ				PKPab	PKPab	12 33 29.9	+1.2
WMOK	**Wichita Mounta**	**150.96**	**36**	*e*PKPbc	PKPdf	12 33 24.4	+5.0
LTX	**Lajitas**	**151.04**	**50**	*e*PKPbc	PKPdf	12 33 25.6	+6.0
TXAR	**Lajitas Array**	**151.04**	**50**	PKPbc	PKPdf	12 33 25.9	+6.3
	comp=Z,3.0nm,0.7s,baz=256,slow=1.1,SNR=40						
TXAR				PKPab	PKPab	12 33 32.5	-0.7
	comp=Z,1.8nm,0.8s,baz=230,slow=0.6,SNR=8.7						
TXAR	**Lajitas Array**	**151.04**	**50**	PKPbc	PKPdf	12 33 25.9	+6.3
TXAR				PKPab	PKPab	12 33 32.5	-0.7

*BUG **02** 12:21:02.2, 51.53N×6.82E, h1km, ML1.7*
*LDG **02** 12:21:03.3±0.2, 51.61N×6.91E, h1km, Ml2.8/5, Error ellipse: s-maj=3.0km s-min=1.9km az=39.0, Suspected Mining induced.*
*BGR **02** 12:21:03.9±1.5, 51.49N×6.98E, h1km, ML1.8/2, Error ellipse: s-maj=18.9km s-min=6.7km az=137.0*
*BNS **02** 12:21:04.0±1.4, 51.56N×6.87E, h1km, ML2.0*
*NEIC **02** 12:21:06.1±7.2, 51.39N×6.61E, h10km, ML2.8(LDG), Error ellipse: s-maj=82.8km s-min=18.1km az=26.0*
ISC 02 12:21:01.9±0.5**, 51.58N**±0.02×**6.78E**±0.04**, n26, σ1s32**/54**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.07**	**50**	Pg	**Pg**	**12 21 03.9**	**+0.6**
BZER				Sg	**Sg**	**12 21 05.3**	**+1.0**
LAUG	**Laupendahl**	**0.25**	**156**	*e*Pg	**Pg**	**12 21 08.3**	**+1.4**
LAUG				*e*Sg	**Sg**	**12 21 11.6**	**+1.5**
	150nm,0.6s						
BUG	**Bochum--Univer**	**0.33**	**114**	*e*Pg	**Pg**	**12 21 06.5**	**-2.0**
	SNR=1.2						
BUG				*e*Sg	**Sg**	**12 21 09.6**	**-3.4**
WTSB	**Winterswijk**	**0.39**	**1**	*e*Pg	**Pg**	**12 21 11.0**	**+1.3**
	36nm,0.6s						
BNS	**Bensberg**	**0.66**	**158**	*e*Pg	**Pg**	**12 21 16.7**	**+1.6**
BNS				*e*Sg	**Sg**	**12 21 25.1**	**+1.2**
HOBG	**Hohbusch**	**0.69**	**150**	*e*Pg	**Pg**	**12 21 15.4**	**-0.2**
HOBG				*e*Sg	**Sg**	**12 21 25.3**	**+0.5**
HGN	**Heimansgroeve**	**0.97**	**214**	*e*Pg	**Pg**	**12 21 22.9**	**+1.6**
	14nm,0.2s,baz=50						
HGN				*e*Sg	**Sg**	**12 21 36.3**	**+1.9**
KLL	**Kalltalsperre**	**0.98**	**198**	*e*Pg	**Pg**	**12 21 22.4**	**+1.0**
KLL				*e*Sg	**Sg**	**12 21 36.4**	**+2.0**
	50nm,0.6s						
STB	**Steinbach**	**0.98**	**178**	*e*Pg	**Pg**	**12 21 22.2**	**+0.6**
STB				*e*Sg	**Sg**	**12 21 35.6**	**+0.9**
	47nm,0.2s						
HILG	**Hillesheim**	**1.29**	**183**	*e*Sg	**Sg**	**12 21 44.2**	**-0.6**
BGG	**Burgeitz**	**1.42**	**165**	*e*Pg	**Pg**	**12 21 29.7**	**-0.5**
BGG				*e*Sg	**Sg**	**12 21 48.7**	**-0.3**
TNS	**Taunus Mts**	**1.72**	**141**	*e*Pg	**Pg**	**12 21 34.7**	**-1.5**
	SNR=1.3						
TNS				*e*Sg	**Sg**	**12 21 54.0**	**-5.0**
GIVF	**Givet**	**1.93**	**221**	*e*Pg	**Pg**	**12 21 40.7**	**+0.3**
GIVF				*e*Sn	**Sn**	**12 22 01.6**	**0.0**
GIVF				*e*Sg	**Sg**	**12 22 06.5**	**+0.4**
	21nm,0.3s						
GIVF	**Givet**	**1.93**	**221**	*e*Pn	**Pn**	**12 21 36.7**	**+0.4**
GIVF				*e*Pg	**Pg**	**12 21 40.7**	**+0.3**
GIVF				*e*Sn	**Sn**	**12 22 01.6**	**0.0**
GIVF				*e*Sg	**Sg**	**12 22 06.5**	**+0.4**
GIVF	**Givet**	**1.93**	**221**	*e*Pg	**Pg**	**12 21 40.7**	**+0.3**
GIVF				*e*Sn	**Sn**	**12 22 01.6**	**0.0**
GIVF				*e*Sg	**Sg**	**12 22 06.5**	**+0.4**
	10nm,0.3s						
WLF	**Walferdange**	**1.96**	**192**	*e*Sg	**Sg**	**12 22 04.2**	**-2.8**
BAIF	**Baives**	**2.23**	**228**	*e*Pg	**Pg**	**12 21 46.4**	**0.0**
BAIF				*e*Sn	**Sn**	**12 22 08.4**	**-0.9**
BAIF				*e*Sg	**Sg**	**12 22 16.2**	**0.0**
	9.1nm,0.3s						
BAIF	**Baives**	**2.23**	**228**	*e*Pn	**Pn**	**12 21 40.5**	**-0.1**
BAIF				*e*Pg	**Pg**	**12 21 46.4**	**0.0**
BAIF				*e*Sn	**Sn**	**12 22 08.4**	**-0.9**
BAIF				*e*Sg	**Sg**	**12 22 16.2**	**0.0**
BAIF	**Baives**	**2.23**	**228**	*e*Pg	**Pg**	**12 21 46.4**	**0.0**
BAIF				*e*Sn	**Sn**	**12 22 08.4**	**-0.9**
BAIF				*e*Sg	**Sg**	**12 22 16.2**	**0.0**
	4.6nm,0.3s						
CLZ	**Clausthal**	**2.25**	**82**	*e*Sg	**Sg**	**12 22 12.5**	**-4.3**
CDF	**Champ du Feu**	**3.18**	**174**	*e*Pn	**Pn**	**12 21 54.1**	**-0.1**
CDF				*e*Sg	**Sg**	**12 22 44.1**	**-3.8**
	4.7nm,0.4s						
SFTF	**Sexfontaines**	**3.56**	**199**	*e*Sg	**Sg**	**12 22 56.6**	**-3.8**
	5.2nm,0.3s						
LOR	**Lormes**	**4.71**	**205**	*e*Pn	**Pn**	**12 22 14.2**	**-1.8**
LOR				*e*Sn	**Sn**	**12 23 07.2**	**-5.0**
LOR				*e*Sg	**Sg**	**12 23 32.3**	**-6.6**
	2.0nm,0.3s						
SSF	**Saint Saulge**	**5.00**	**207**	*e*Pn	**Pn**	**12 22 18.2**	**-1.8**
AVF	**Avril sur Loir**	**5.29**	**206**	*e*Pn	**Pn**	**12 22 21.8**	**-2.3**
GRR	**Gorron**	**5.87**	**240**	*e*Pn	**Pn**	**12 22 30.2**	**-2.1**
GRR				*e*Sn	**Sn**	**12 23 34.7**	**-6.6**

*NEIC **02** 12:33:53.2, 18.95N×104.17W, h3km, MD4.1(MEX), After MEX.*
MEX 02 12:33:53.8±1.1**, 18.86N**×**104.16W, h16**km±64km**, MD4.1, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLM	**Colima**	**0.54**	**54**	*i* P	Pb	12 34 02.7	-1.8
COLM				*i* S	Sb	12 34 08.8	-2.9
CJM	**Chamela**	**1.05**	**307**	*i* P	Pb	12 34 10.0	-3.1
CJM				*i* S	Sb	12 34 22.4	-4.1
SFJM	**Santa Fe**	**1.93**	**33**	*i* P	Pn	12 34 24.0	-2.4
SFJM				*i* S	Sn	12 34 46.0	-4.4
SFJM	**Santa Fe**	**1.93**	**33**	*i* P	Pn	12 34 24.0	-2.4
SFJM				*i* S	Sn	12 34 46.5	-3.9
MOIG	**Morelia**	**2.92**	**73**	*i* P	Pn	12 34 37.0	-3.5
MOIG				*i* S	Sn	12 35 11.2	-4.4
MOIG	**Morelia**	**2.92**	**73**	*i* P	Pn	12 34 37.0	-3.5
MOIG				*i* S	Sn	12 35 12.6	-3.0
ZAIG	**Zacatecas**	**4.16**	**21**	*i* P	Pn	12 34 55.0	-3.1
ZAIG				*i* S	Sn	12 35 41.8	-5.2
PLIG	**Platanillo**	**4.44**	**95**	*i* S	Sn	12 35 47.6	-6.4

*NIED **02** 12:54:00, 36.20N×139.80E, h59km, Mw4.2 Best double couple: Mo2.28×10[15] NP1:φs48°, δ74°, λ95°. NP2:φs212°, δ17°, λ75°.*
*BJI **02** 12:54:37.9, 35.85N×139.76E, h62km, mB4.9, mb4.6, Ms4.4, Msz4.1*
*NEIC **02** 12:54:38.9±0.3, 36.10N×139.82E, mb4.7/10, MW4.2(NIED), Error ellipse: s-maj=8.1km s-min=6.4km az=188.0*
NEIC Recorded [3 JMA] in Saitama; [2 JMA] in Chiba, Gumma, Ibaraki, Tochigi and Tokyo; [1 JMA] in Fukushima, Kanagawa and Yamanashi Prefectures.
*MOS **02** 12:54:38.7±0.7, 36.11N×139.77E, h68km, mb4.5/12, Error ellipse: s-maj=16.1km s-min=10.9km az=127.0*
*IDC **02** 12:54:39.1±0.6, 36.09N×139.78E, h52km±6km, mb3.8/15, mb1 4.0/17, mb1mx4.0/23, mbtmp4.1/17, Error ellipse: s-maj=9.5km s-min=7.0km az=50.0*
*JMA **02** 12:54:39.6±0.1, 36.13N×139.85E, h50km±1km, M4.2 Broadband fault plane solution: P waves. NP1:φs229°, δ35°, λ85°. NP2:φs56°, δ55°, λ94°. Principal axes: T Plg80°, Azm340°; N Plg3°, Azm234°; P Plg10°, Azm143°;*
JMA Felt III J1.
ISC 02 12:54:38.3±0.4**, 36.11N**±0.04×**139.86E**±0.05**, h62**km±3km**, h51**km±2.4km**: pP-P, n68, σ0s87**/76**, mb4.3**/24**, 1C-7D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.30**	**67**	⇑P	**P**	**12 54 48.7**	**0.0**
JYT				S	**S**	**12 54 55.1**	**-1.2**
JAG	**Ashikaga**	**0.45**	**314**	⇓P	**P**	**12 54 50.2**	**+0.1**
JAG				S	**S**	**12 54 57.5**	**-1.2**
JRY	**Ryogami san**	**0.78**	**263**	⇓P	**P**	**12 54 54.3**	**+0.5**
JRY				S	**S**	**12 55 05.0**	**-0.3**
JKT	**Katashina**	**0.82**	**323**	⇓P	**P**	**12 54 54.5**	**+0.2**
JOD2	**Odawara 2**	**1.05**	**217**	P	**P**	**12 54 58.7**	**+1.3**
JOD2				S	**S**	**12 55 13.0**	**+1.4**
JYN	**Shimob**	**1.23**	**241**	P	**P**	**12 55 01.4**	**+1.6**
JFY	**Yanaizu**	**1.30**	**355**	⇓P	**P**	**12 55 01.2**	**+0.4**
JHK	**Hiroka**	**1.32**	**329**	⇓P	**P**	**12 55 01.5**	**+0.3**
MJAR	**Matsushiro Arr**	**1.40**	**288**	P	**P**	**12 55 02.6**	**+0.3**
	162nm,0.3s,baz=91,slow=8.9,SNR=1342						
MJAR				S	**S**	**12 55 17.5**	**-2.5**
	77nm,0.3s,baz=106,slow=18,SNR=16						
MJAR	**Matsushiro Arr**	**1.40**	**288**	P	**P**	**12 55 02.6**	**+0.3**
MJAR				S	**S**	**12 55 17.5**	**-2.4**
MJAR				pmax	pmax		
	comp=Z,162nm,0.3s						
MJAR				smax			
	comp=N,77nm,0.3s						
MAJO	**Matsushiro**	**1.40**	**288**	⇓*i*P	**P**	**12 55 02.9**	**+0.6**
MAT	**Matsushiro**	**1.40**	**288**	P	**P**	**12 55 02.1**	**-0.2**
MAT				S	**S**	**12 55 20.7**	**+0.7**
MAT	**Matsushiro**	**1.40**	**288**	P	**P**	**12 55 02.2**	**-0.1**
MAT	**Matsushiro**	**1.40**	**288**	*e*P	**P**	**12 55 02.0**	**-0.3**
MAT				*e*S	**S**	**12 55 21.0**	**+1.0**
JFT	**Otama**	**1.46**	**15**	⇓P	**P**	**12 55 03.8**	**+0.8**
JHJ	**Hachijo jima 2**	**2.99**	**181**	P	**P**	**12 55 24.5**	**0.0**
	comp=N,183nm,0.3s,baz=354,slow=9.4,SNR=133						
JHJ				S	**S**	**12 55 57.8**	**-1.4**
	comp=N,239nm,0.3s,baz=62,slow=23,SNR=12						
ASAJ	**Asahikawa**	**8.27**	**14**	P	**P**	**12 56 37.8**	**-0.1**
	comp=N,0.9nm,0.3s,baz=179,slow=31,SNR=6.5						
ASAJ	**Asahikawa**	**8.27**	**14**	P	**P**	**12 56 37.8**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CBIJ	**Chichi jima**	**9.20**	**167**	P	**P**	**12 56 46.5**	**-4.2**
	comp=Z,24nm,0.3s,baz=274,slow=23,SNR=12						
CBIJ				S	**S**	**12 58 25.4**	**-8.5**
	comp=Z,6.1nm,0.3s,baz=285,slow=23,SNR=2.3						
HHC	**Hu-ho-hao-te**	**22.60**	**291**	*e*P	**P**	**12 59 30.6**	**-3.8**
HHC				AP		12 59 47.3	
HHC				XP		12 59 56.6	
HHC				PP	PP	12 59 59.4	-4.9
HHC				S	**S**	**13 03 24.1**	**-9.0**
HHC				SCP		13 06 56.2	
HHC				PCS		13 07 04.7	
HHC				AMB	AMB		
	comp=Z,180nm,5.9s						
HHC				LR	LR		
	comp=N,300nm,13.9s						
HHC				LR	LR		
	comp=E,620nm,16.8s						
HHC				LR	LR		
	comp=Z,260nm,11.9s						
SONM	**Songino Array**	**27.29**	**306**	P	**P**	**13 00 18.7**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.5,baz=101,slow=7.6,SNR=3.7						
SONM	**Songino Array**	**27.29**	**306**	P	**P**	**13 00 18.7**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.55**	**303**	P	**P**	**13 02 37.9**	**+0.4**
	comp=Z,1.3nm,0.6s,mb3.9,baz=86,slow=9.8,SNR=13						
MKAR	**Makanchi Array**	**43.55**	**303**	P	**P**	**13 02 37.9**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**45.52**	**309**	*e*P	**P**	**13 02 52.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
KURK	**Kurchatov**	**45.52**	**309**	*e*P	**P**	**13 02 52.6**	**-0.6**
	comp=Z,9.4nm,0.7s,mb4.8						
JIRN	**Jiri**	**45.85**	**275**	*e*P	**P**	**13 02 56.5**	**+0.3**
	comp=Z,22nm,0.8s,mb5.1						
GUN	**Gumba**	**46.00**	**276**	*e*P	**P**	**13 02 57.6**	**+0.3**
	comp=Z,12nm,0.8s,mb4.9						
KKN	**Kakani**	**46.53**	**276**	*e*P	**P**	**13 03 01.5**	**0.0**
GKN	**Gorkha**	**46.96**	**276**	*e*P	**P**	**13 03 04.8**	**-0.1**
	comp=Z,36nm,0.7s,mb5.4						
KOLN	**Koldanda**	**47.89**	**277**	*e*P	**P**	**13 03 12.0**	**-0.2**
	comp=Z,10nm,0.7s,mb4.9						
KAKA	**Kakadu**	**49.06**	**190**	*e*P	Px	13 03 41.8	
	comp=Z,4.2nm,0.6s						
AAK	**Ala-Archa**	**49.83**	**299**	*e*P	**P**	**13 03 25.8**	**-1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**49.83**	**299**	*e*P	**P**	**13 03 25.8**	**-1.2**
	comp=Z,2.8nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**50.27**	**313**	P	**P**	**13 03 29.4**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.3,baz=90,slow=7.2,SNR=12						
BVAR	**Borovoye Array**	**50.27**	**313**	P	**P**	**13 03 29.4**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**50.94**	**32**	P	**P**	**13 03 35.0**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.0,baz=271,slow=5.6,SNR=29						
ILAR				pP	pP	13 03 48.1	-3.1
	comp=Z,1.1nm,0.7s,baz=277,slow=6.9,SNR=5.8						
ILAR	**Eielson Array**	**50.94**	**32**	P	**P**	**13 03 35.0**	**-0.1**
ILAR				*PP	pP	13 03 48.1	-3.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**55.57**	**196**	*e*P	**P**	**13 04 09.6**	**-0.3**
	comp=Z,3.9nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**55.57**	**196**	P	**P**	**13 04 09.9**	**-0.1**
	comp=Z,4.8nm,0.6s,mb4.7,baz=16,slow=9.5,SNR=20						
INK	**Inuvik**	**55.78**	**27**	P	**P**	**13 04 11.0**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.2,baz=290,slow=6.8,SNR=15						
INK				pP	pP	13 04 25.0	-2.2
	comp=Z,0.8nm,0.6s,baz=318,slow=5.8,SNR=2.4						
INK	**Inuvik**	**55.78**	**27**	P	**P**	**13 04 11.0**	**+0.2**
INK				*PP	pP	13 04 25.0	-2.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**55.78**	**27**	P	**P**	**13 04 11.0**	**+0.3**
INK				pP	pP	13 04 25.0	-2.2
WRAB	**Tennant Creek**	**55.98**	**186**	*e*P	**P**	**13 04 12.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**55.98**	**186**	*e*P	**P**	**13 04 12.3**	**-0.5**
	comp=Z,7.2nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**55.99**	**186**	*e*P	**P**	**13 04 11.9**	**-1.0**
WRA	**Warramunga Arr**	**55.99**	**186**	P	**P**	**13 04 11.8**	**-1.2**
	comp=Z,2.5nm,0.5s,mb4.5,baz=1.2,slow=7.6,SNR=48						
WRA				pP	pP	13 04 26.6	-2.8
	comp=Z,2.6nm,0.5s,baz=1.0,slow=7.5,SNR=8.2						
WRA	**Warramunga Arr**	**55.99**	**186**	P	**P**	**13 04 11.8**	**-1.1**
WRA				*PP	pP	13 04 26.6	-2.8
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARU	**Arti**	**56.22**	**319**	*e*P	**P**	**13 04 13.1**	**-1.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARU	**Arti**	**56.22**	**319**	*e*P	**P**	**13 04 13.1**	**-1.1**
	comp=Z,3.2nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**65.23**	**30**	P	**P**	**13 05 15.0**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.6,baz=302,slow=6.4,SNR=3.6						
YKA	**Yellowknife Ar**	**65.23**	**30**	P	**P**	**13 05 15.0**	**0.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**65.23**	**30**	P	**P**	**13 05 15.0**	**0.0**
FINES	**FINESS Array B**	**69.04**	**332**	P	**P**	**13 05 37.8**	**-1.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=101,slow=9.7,SNR=5.2						
FINES	**FINESS Array B**	**69.04**	**332**	P	**P**	**13 05 37.8**	**-1.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SUMG	**Summit**	**71.60**	**359**	*e*P	**P**	**13 05 55.3**	**+1.0**
	comp=Z,13nm,1.3s,mb4.7						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**13 06 09.8**	**-0.4**
	comp=Z,1.0nm,0.4s,mb4.1,baz=49,slow=5.8,SNR=13						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**13 06 09.8**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**13 06 09.8**	**-0.4**
NB2	**NORSAR Subarra**	**74.55**	**337**	P	**P**	**13 06 11.3**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**74.55**	**337**	P	**P**	**13 06 11.5**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=40,slow=5.9,SNR=6.7						
NOA	**NORSAR Array B**	**74.55**	**337**	P	**P**	**13 06 11.5**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVAR	**Mina Array Bea**	**76.54**	**52**	P	**P**	**13 06 25.4**	**+1.9**
	comp=Z,0.8nm,0.8s,mb3.7,baz=290,slow=7.6,SNR=5.7						
PDAR	**Pinedale Array**	**79.20**	**45**	P	**P**	**13 06 39.4**	**+1.3**
	comp=Z,0.8nm,1.0s,mb3.6,baz=270,slow=1.5,SNR=4.1						
GERES	**GERESS Array B**	**82.83**	**327**	P	**P**	**13 06 57.1**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=39,slow=8.5,SNR=3.5						
TXAR	**Lajitas Array**	**91.68**	**51**	P	**P**	**13 07 42.0**	**+1.8**
	comp=Z,0.2nm,0.3s,mb3.9,baz=225,slow=1.8,SNR=4.1						
RKT	**Rikitea**	**99.57**	**112**	*e*LR	LR	13 07 56.3	
	comp=Z,144nm,28.2s						
LPAZ	**La Paz**	**148.24**	**59**	PKPbc	PKPdf	13 14 19.3	+5.0
	comp=Z,0.3nm,0.4s,baz=223,slow=2.7,SNR=2.9						

ISC 02 13:02:55.1±0.7**, 40.89N**±0.06×**38.26E**±0.05**, h10**km**, n7, σ1s32**/13**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRSN	**GIRESUNGRSN**	**0.04**	**10**	*i* P	**Pg**	**13 02 55.6**	**-1.4**
GRSN				*i* S	**Sg**	**13 02 58.2**	**-0.1**
GUMT	**Gumushane**	**1.02**	**114**	*i* PG	**Pg**	**13 03 14.2**	**-1.3**
GUMT				*i* SG	**Sg**	**13 03 28.7**	**-0.5**
MACK	**Trabzon**	**1.15**	**87**	*i* P	**Pb**	**13 03 18.2**	**+1.7**
MACK				*i* S	**Sb**	**13 03 34.5**	**+3.3**
SVST	**Sivas**	**1.50**	**222**	*i* P	**Pn**	**13 03 21.1**	**-1.0**
SVST				*i* S	**Sb**	**13 03 42.0**	**+0.5**
PTK	**Pertek**	**2.17**	**156**	*e*PN	**Pn**	**13 03 32.4**	**+0.5**
BOYT	**Boyabat**	**2.59**	**283**	*i* P	**Pn**	**13 03 36.2**	**-1.6**
BOYT				*i* S	**Sn**	**13 04 13.2**	**+3.6**
CTKT	**Corum**	**2.65**	**265**	*i* P	**Pn**	**13 03 39.5**	**+0.8**
CTKT				*i* S	**Sn**	**13 04 17.9**	**+6.8**

*NEIC **02** 13:04:11.7±1.9, 8.16S×123.82E, h110km±19km, mb4.5/11, Error ellipse: s-maj=16.8km s-min=9.8km az=51.0*
*IDC **02** 13:04:12.0±5.5, 8.19S×123.75E, h119km±53km, mb3.9/4, mb1 4.1/6, mb1mx3.8/13, mbtmp4.4/6, Error ellipse: s-maj=35.9km s-min=25.2km az=51.0*
ISC 02 13:04:15.1±1.9**, 8.2S**±0.1×**124.1E**±0.1**, h172**km±20km**, n22, σ1s20**/26**, mb4.3**/10**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.32**	**119**	*e*P	Px	13 06 48.6	
	62nm,0.4s						
KAKA				*e*S	Sx	13 08 29.0	
FITZ	**Fitzroy Crossi**	**9.92**	**172**	*e*P	**P**	**13 06 33.9**	**-0.7**
	7.1nm,0.3s						
FITZ				*e*S	**S**	**13 08 20.4**	**-3.5**
FITZ	**Fitzroy Crossi**	**9.92**	**172**	P	**P**	**13 06 34.0**	**-0.6**
	2.7nm,0.3s,baz=7.6,slow=12,SNR=36						
FITZ				S	**S**	**13 08 21.6**	**-2.2**
	9.3nm,0.3s,baz=133,slow=18,SNR=12						
MBWA	**Marble Bar**	**13.53**	**198**	*e*P	**P**	**13 07 25.7**	**+4.5**
	16nm,0.7s						
WRA	**Warramunga Arr**	**15.29**	**141**	P	**P**	**13 07 44.6**	**+1.3**
	3.4nm,0.3s,baz=317,slow=12,SNR=83						
WRA				S	**S**	**13 10 26.1**	**-1.6**
	1.6nm,0.3s,baz=309,slow=24,SNR=6.6						
WRAB	**Tennant Creek**	**15.29**	**141**	*e*P	**P**	**13 07 43.5**	**+0.3**
	17nm,0.6s						

WRAB				*e*Sn	**S**	**13 10 28.3**	**+0.6**
WB2	**Warramunga Arr**	**15.29**	**141**	*e*P	**P**	**13 07 43.8**	**+0.4**
WB2				*e*S	**S**	**13 10 25.5**	**-2.4**
KSM	**Kuching**	**16.80**	**304**	*e*P	**P**	**13 08 02.0**	**0.0**
FORT	**Forrest**	**22.73**	**171**	*e*P	**P**	**13 09 06.3**	**+3.1**
	13nm,0.9s,mb4.4						
KLBR	**Kellerberrin**	**23.99**	**193**	*e*P	**P**	**13 09 17.1**	**+1.9**
	928nm,4.7s						
CTA	**Charters Tower**	**24.45**	**121**	*e*P	**P**	**13 09 24.8**	**+5.1**
	2.7nm,0.5s,mb4.0						
CTA	**Charters Tower**	**24.45**	**121**	P	**P**	**13 09 23.2**	**+3.6**
	4.2nm,0.6s,mb4.2,baz=311,slow=14,SNR=16						
CTAO	**Charters Tower**	**24.45**	**121**	*e*P	**P**	**13 09 23.3**	**+3.7**
	4.5nm,0.6s,mb4.2						
MUN	**Mundaring**	**24.75**	**196**	*e*P	**P**	**13 09 22.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**25.39**	**194**	P	**P**	**13 09 27.9**	**-0.4**
	2.8nm,0.3s,mb4.3,baz=26,slow=8.8,SNR=9.6						
STKA	**Stephens Creek**	**28.60**	**148**	P	**P**	**13 09 59.5**	**+1.9**
	2.1nm,0.6s,mb4.0,baz=317,slow=13,SNR=3.6						
JIRN	**Jiri**	**51.18**	**316**	*e*P	**P**	**13 13 03.0**	**+0.1**
	2.3nm,0.2s,mb4.4						
GUN	**Gumba**	**51.55**	**316**	*e*P	**P**	**13 13 05.6**	**-0.1**
	6.6nm,0.5s,mb4.6						
PKI	**Pulchoki**	**51.66**	**315**	*e*P	**P**	**13 13 06.0**	**-0.6**
	4.6nm,0.2s,mb4.7						
GKN	**Gorkha**	**52.47**	**315**	*e*P	**P**	**13 13 11.9**	**-0.7**
	6.9nm,0.3s,mb4.8						
KOLN	**Koldanda**	**53.06**	**314**	*e*P	**P**	**13 13 16.4**	**-0.6**
	2.7nm,0.2s,mb4.6						
MKAR	**Makanchi Array**	**66.20**	**330**	P	**P**	**13 14 45.6**	**-1.0**
	0.4nm,0.4s,mb3.6,baz=136,slow=7.3,SNR=11						

NIED ***02*** *13:13:00,38.10N×142.30E,h35km,Mw6.5 Best double couple: M₀5.39×10¹⁸ NP1:φs21°,δ71°,λ89°. NP2:φs205°, δ19°,λ93°.*

BJI ***02*** *13:13:07.1,38.06N×142.03E,h26km,mB6.7,mb5.9, Ms6.7,Msz6.7*

JMA ***02*** *13:13:07.9±0.1,38.07N×142.35E,h40km±2km,M6.6*

JMA Felt III J1.

HRVD ***02*** *13:13:09.5±0.1,38.11N×142.38E,h34km,MW6.5/91, Centroid moment Tensor Solution. LP body waves: s91,c228;Mantle waves: s91,c405; Half duration: 4s1 Moment tensor: Scale 10¹⁸Nm; Mrr3.81±.03; Mθθ-0.10±.03; Mφφ-3.71±.03; Mrθ1.92±.04; Mrφ-1.52±.02; Mθφ4.40±.04; Best double couple: M₀6.273×10¹⁸ NP1: φs197°,δ20°,λ84°. NP2:φs23°,δ70°,λ92°. Principal axes: T 6.051, Plg65°, Azm297°; N .442, Plg2°, Azm202°; P -6.496, Plg25°, Azm111°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***02*** *13:13:09.5±0.1,38.09N×142.12E,h29km,mb6.1/162, ME6.4,MS6.3/149,MW6.4,MW6.4(NIED) Error ellipse: s-maj=3.2km s-min=2.3km az=154.0 Broadband fault plane solution: P waves. NP1:φs27°,δ75°,λ80°. NP2: φs241°,δ18°,λ123°. Principal axes: T Plg59°, Azm283°; N Plg0°, Azm0°; P Plg29°, Azm125°; Moment Tensor Solution. s79 Moment tensor: Scale 10¹⁸ Nm; Mrr2.24; Mθθ-0.84; Mφφ-1.39; Mrθ2.05; Mφθ-1.44; Mφr4.22; Best double couple: M₀5.3×10¹⁸ NP1:φs235°,δ15°,λ117°. NP2:φs27°,δ77°,λ83°. Principal axes: T 5.17, Plg58°, Azm288°; N .22, Plg7°, Azm29°; P -5.39, Plg31°, Azm123°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Kamaishi, Misawa and Sendai; [II] at Tokyo and Yokosuka. Recorded [3 JMA] in northeastern Honshu and [2 JMA] in much of northern and central Honshu. Also recorded [1 JMA] in the Abashiri area, Hokkaido and in southwestern and south-central Hokkaido.

MOS ***02*** *13:13:09.1±0.8,38.22N×142.13E,h33km,mb6.2/73, MS6.3/60 Error ellipse: s-maj=6.6km s-min=4.2km az=99.8*

CRAAG ***02*** *13:13:10.8,38.06N×142.14E,Mb6.4*

IDC ***02*** *13:13:10.8±0.4,37.99N×142.21E,h43km±3km,mb5.1/26, mb1 5.2/30,mb1mx5.2/31,mbtmp5.4/30,ML4.6/4,MS6.3/22, Ms1 6.3/22,ms1mx6.3/25,Error ellipse: s-maj=9.7km s-min=6.9km az=106.0*

IGIL ***02*** *13:13:10.0,38.10N×142.15E,h29km,MS6.8*

BGS ***02*** *13:13:11.6,38.40N×142.31E,h33km,mb5.6*

ISC 02 13:13:09.3±0.1,38.06N±0.02×142.18E±0.02,h38km, h38km±.7km:pP-P,n1155,σ0s93/1101,mb6.0/255, MS6.4/204,316C-39D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.76**	**301**	⇓P	**P**	**13 13 24.0**	**+0.3**
JIO				S	**S**	**13 13 35.4**	**+1.3**
OFUJ	**Ofunato**	**1.09**	**339**	⇓P	**P**	**13 13 27.7**	**-0.7**
OFUJ				*e*S	**S**	**13 13 42.4**	**-0.1**
JMM	**Marumori**	**1.11**	**260**	⇓P	**P**	**13 13 29.1**	**+0.5**
JMM				*e*S	**S**	**13 13 45.0**	**+2.0**
JMK	**Ichinoseki**	**1.17**	**320**	⇓P	**P**	**13 13 29.6**	**+0.2**
JOU	**Okura**	**1.23**	**285**	⇓P	**P**	**13 13 31.4**	**+1.1**
JFK	**Kawauchi**	**1.25**	**237**	⇓P	**P**	**13 13 30.8**	**+0.3**
JFK				*e*S	**S**	**13 13 47.3**	**+0.9**
ONAJ	**Iwakimizuishiy**	**1.46**	**229**	⇓P	**P**	**13 13 33.7**	**+0.1**
JFT	**Otama**	**1.56**	**250**	⇓P	**P**	**13 13 36.5**	**+1.5**
JFT				S	**S**	**13 13 57.5**	**+3.3**
JOM	**Ohasama**	**1.57**	**334**	⇓P	**P**	**13 13 35.2**	**0.0**
JOM				*e*S	**S**	**13 13 55.3**	**+0.7**
JYK	**Kaneyama**	**1.67**	**302**	⇓P	**P**	**13 13 37.3**	**+0.7**
JYS	**Shirataka**	**1.68**	**276**	⇓P	**P**	**13 13 37.7**	**+1.0**
JYW	**Yuwa**	**2.13**	**314**	⇓P	**P**	**13 13 44.3**	**+1.1**
JANG	**Nango**	**2.37**	**348**	P	**P**	**13 13 46.6**	**0.0**
JIZZ	**Izumozaki**	**2.80**	**260**	P	**P**	**13 13 55.4**	**+2.7**
JSD	**Sado**	**3.09**	**271**	⇓P	**P**	**13 13 56.9**	**0.0**
JRY	**Ryogami san**	**3.32**	**233**	⇓P	**P**	**13 14 00.1**	**-0.1**
MAJO	**Matsushiro**	**3.51**	**246**	*e*P	**P**	**13 14 04.5**	**+1.7**
MJAR	**Matsushiro Arr**	**3.51**	**246**	P	**P**	**13 14 04.2**	**+1.4**
	48nm,0.3s,baz=70,slow=12,SNR=229						
MJAR				LR	LR	13 15 42.4	
	comp=Z,1058μm,18.9s,baz=65,slow=44						
MJAR	**Matsushiro Arr**	**3.51**	**246**	P	**P**	**13 14 04.2**	**+1.4**
MJAR				pmax	pmax		
	comp=Z,48nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,58μm,18.9s						
MJAR	**Matsushiro Arr**	**3.51**	**246**	P	**P**	**13 14 04.2**	**+1.4**
MJAR				LR	LR	13 15 42.4	
MAT	**Matsushiro**	**3.51**	**246**	P	**P**	**13 14 04.3**	**+1.5**
MAT				S	**S**	**13 14 47.1**	**+3.4**
MAT	**Matsushiro**	**3.51**	**246**	P	**P**	**13 14 04.4**	**+1.6**
MAT	**Matsushiro**	**3.51**	**246**	*e*P	**P**	**13 14 04.0**	**+1.2**
MAT				*e*S	**S**	**13 14 47.0**	**+3.3**
JNG	**Nsakai**	**3.65**	**244**	⇓P	**P**	**13 14 06.1**	**+1.3**
JYN	**Shimob**	**3.88**	**230**	P	**P**	**13 14 09.2**	**+1.1**
JTT	**Ttatey**	**4.13**	**251**	P	**P**	**13 14 14.4**	**+2.8**
JNBK	**Urakawa-nobuka**	**4.24**	**6**	⇑P	**P**	**13 14 11.5**	**-1.7**
JGN	**Niukaw**	**4.30**	**246**	⇓P	**P**	**13 14 15.8**	**+1.8**
JNY	**Yasuok**	**4.39**	**233**	⇓P	**P**	**13 14 17.2**	**+1.8**
JGF	**Kuroka**	**4.58**	**239**	⇓P	**P**	**13 14 20.3**	**+2.3**
HMMJ	**Hamamatsu 2**	**4.81**	**230**	⇑P	**P**	**13 14 22.7**	**+1.5**
JHJ	**Hachijo jima 2**	**5.30**	**202**	P	**P**	**13 14 27.2**	**-0.9**
	comp=Z,182nm,0.3s,baz=60,slow=5.3,SNR=78						
JHJ				S	**S**	**13 15 21.6**	**-7.2**
	comp=Z,322nm,0.3s,baz=116,slow=16,SNR=3.8						
ASAJ	**Asahikawa**	**6.06**	**3**	P	**P**	**13 14 36.1**	**-2.6**
	comp=Z,20nm,0.3s,baz=211,slow=13,SNR=116						
ASAJ				S	**S**	**13 15 44.4**	**-3.5**
	comp=Z,62nm,0.3s,baz=80,slow=32,SNR=6.7						
JKY	**Yasaka**	**6.17**	**249**	P	**P**	**13 14 43.1**	**+2.8**
JHE	**Heguri**	**6.25**	**239**	P	**P**	**13 14 42.5**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**6.59**	**24**	*e*P	**P**	**13 14 41.8**	**-4.4**
YUK				*i* S	**S**	**13 15 49.8**	**-11**
YUK				pmax	pmax		
	comp=E,4μm,1.3s						
YUK				pmax	pmax		
	comp=Z,8μm,1.3s						
YUK				pmax	pmax		
	comp=N,15μm,1.0s						
YUK				pmax	pmax		
	comp=E,1μm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,2μm,0.6s						
YUK				smax			
	comp=N,85μm,0.7s						
YUK				smax			
	comp=E,94μm,0.7s						
YUK				smax			
	comp=N,7μm,0.5s						
YUK				smax			
	comp=E,14μm,0.7s						
YUK				MLR	MLR		
	comp=E,466μm,15.2s						
JAD	**Aida**	**7.16**	**247**	P	**P**	**13 14 55.5**	**+1.2**
JKR	**Kurayoshi**	**7.23**	**251**	P	**P**	**13 14 58.2**	**+3.1**
JHS	**Saijyo**	**7.91**	**250**	P	**P**	**13 15 06.6**	**+2.0**
MRT2	**Murotomisaki 2**	**8.03**	**237**	P	**P**	**13 15 07.8**	**+1.6**
JJG	**Jouge**	**8.04**	**248**	P	**P**	**13 15 08.1**	**+1.7**
KUR	**Kuril'sk**	**8.34**	**29***c*	*i*P	**P**	**13 15 03.6**	**-6.9**
KUR				pmax	pmax		
	comp=N,11μm,4.0s						
KUR				pmax	pmax		
	comp=E,10μm,4.0s						
KUR				pmax	pmax		
	comp=Z,12μm,4.0s						
KUR				pmax	pmax		
	comp=N,1μm,1.2s						
KUR				pmax	pmax		
	comp=E,1μm,1.2s						
KUR				pmax	pmax		
	comp=Z,2μm,1.2s						
JHM	**Kurahashi**	**8.73**	**246**	P	**P**	**13 15 17.1**	**+1.1**
YSS	**Yuzh-Sakhalins**	**8.90**	**3***α*	*i*P	**P**	**13 15 15.0**	**-3.3**
YSS				*e*S	**S**	**13 16 49.0**	**-9.5**
YSS				pmax	pmax		
	comp=Z,590nm,1.2s						
YSS				pmax	pmax		
	comp=Z,8μm,6.0s						
YSS				pmax	pmax		
	comp=Z,2μm,1.3s						
YSS				pmax	pmax		
	comp=Z,16μm,5.0s						
YSS				smax			
	comp=E,42μm,8.0s						
YSS				MLR	MLR		
	comp=Z,336μm,19.0s						
YSS				MLR	MLR		
	comp=N,232μm,18.0s						
YSS				MLR	MLR		
	comp=E,5μm,17.0s						
YSS	**Yuzh-Sakhalins**	**8.90**	**3**	*e*Pn	**P**	**13 15 14.7**	**-3.7**
	comp=E,2μm,1.2s						
JKD	**Kudamatsu**	**9.25**	**248**	P	**P**	**13 15 25.9**	**+2.7**
JKI	**Kunimi**	**9.68**	**246**	P	**P**	**13 15 32.7**	**+3.6**
JTY	**Toyota**	**9.75**	**250**	P	**P**	**13 15 32.2**	**+2.1**
JUS	**Usuki**	**9.85**	**243**	P	**P**	**13 15 32.1**	**+0.7**
JFA	**Akaike**	**10.20**	**248**	P	**P**	**13 15 37.3**	**+1.0**
JKIT	**Kitakata**	**10.30**	**241**	P	**P**	**13 15 38.4**	**+0.8**
JNU	**Nakatsue**	**10.44**	**245**	P	**P**	**13 15 39.6**	**+0.1**
	comp=E,4.3nm,0.3s,baz=61,slow=22,SNR=62						
JNU				LR	LR	13 20 01.8	
	comp=E,474μm,20.2s,baz=58,slow=39						
JFI	**Itaya**	**10.64**	**248**	P	**P**	**13 15 43.6**	**+1.4**
JTU	**Tsushima**	**10.90**	**255**	P	**P**	**13 15 46.1**	**+0.3**
CBIJ	**Chichi jima**	**10.93**	**180**	P	**P**	**13 15 40.9**	**-5.4**
	comp=E,46nm,0.3s,baz=353,slow=5.5,SNR=35						
CBIJ				S	**S**	**13 17 39.1**	**-9.2**
	comp=E,148nm,0.3s,baz=288,slow=22,SNR=6.8						
JTZ	**Takazaki**	**10.97**	**239**	P	**P**	**13 15 47.3**	**+0.5**
UGL	**Uglegorsk**	**11.02**	**360**	*e*P	**P**	**13 15 43.0**	**-4.3**
UGL				*e*		13 17 46.0	
UGL				pmax	pmax		
	comp=Z,160nm,0.9s						
UGL				pmax	pmax		
	comp=N,15μm,6.0s						
UGL				pmax	pmax		
	comp=E,9μm,6.0s						
UGL				pmax	pmax		
	comp=Z,14μm,6.0s						
UGL				MLR	MLR		
	comp=Z,196μm,20.0s						
UGL				MLR	MLR		
	comp=N,189μm,22.0s						
UGL				MLR	MLR		
	comp=E,413μm,19.0s						
JUR	**Ureshino**	**11.12**	**247**	P	**P**	**13 15 50.2**	**+1.4**
JZO	**Okuchi**	**11.17**	**242**	P	**P**	**13 15 49.2**	**-0.3**
JHD	**Hondo**	**11.31**	**244**	P	**P**	**13 15 52.3**	**+0.9**
KS15	**Wonju Array Si**	**11.34**	**271**⇑	*e*Pn	**P**	**13 15 53.8**	**+2.1**
MDJ	**Mudanjiang**	**11.50**	**309**	P	**P**	**13 15 53.7**	**-0.2**
MDJ				AP		13 16 02.3	
MDJ				PP	PP	13 16 03.9	+1.2
MDJ				XP		13 16 05.4	
MDJ				S	**S**	**13 18 04.0**	**+1.9**
MDJ				XS		13 18 14.1	
MDJ				PCS		13 25 15.4	
MDJ				AMB	AMB		
	comp=Z,510nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,17μm,5.0s						
MDJ				LR	LR		
	comp=N,175μm,16.0s						
MDJ				LR	LR		
	comp=E,176μm,16.8s						
MDJ				LR	LR		
	comp=Z,354μm,18.0s						
MDJ	**Mudanjiang**	**11.50**	**309**⇑	*e*Pn	**P**	**13 15 54.2**	**+0.3**
	comp=Z,603nm,1.0s						
JTSR	**Tashiro 2**	**11.54**	**237**	P	**P**	**13 15 56.4**	**+1.9**
JSU	**Suzuyama**	**11.64**	**239**	P	**P**	**13 15 57.0**	**+1.1**
JFU	**Fukue jima 2**	**12.21**	**248**	P	**P**	**13 16 05.7**	**+2.1**
INCN	**Inchon**	**12.32**	**272**⇑	*e*Pn	**P**	**13 16 06.7**	**+1.7**
	comp=Z,402nm,1.0s						
JKC	**Kuchinoerabu**	**12.47**	**236**	P	**P**	**13 16 07.8**	**+0.8**
CN2	**Changchun**	**13.88**	**300**	*e*P	**P**	**13 16 24.4**	**-1.1**
CN2				*e*XP		13 16 35.0	
CN2				*e*S	**S**	**13 18 58.0**	**-1.3**
CN2				AMB	AMB		
	comp=Z,100nm,1.0s						
CN2				AMB	AMB		
	comp=Z,66μm,8.0s						
SNY	**Shenyang**	**14.76**	**291**	⇑P	**P**	**13 16 36.2**	**-0.8**
SNY				AP		13 16 43.9	
SNY				XP		13 16 48.8	
SNY				S	**S**	**13 19 17.2**	**-2.8**
SNY				XS		13 19 28.2	
SNY				SS	SS	13 19 34.8	-2.7
SNY				AMB	AMB		
	comp=Z,59μm,10.2s						
SNY				LR	LR		
	comp=N,96μm,13.8s						
SNY				LR	LR		
	comp=E,357μm,16.2s						
SNY				LR	LR		
	comp=Z,425μm,18.3s						
JTK	**Tokunoshima**	**15.10**	**231**	P	**P**	**13 16 40.3**	**-1.2**
DL2	**Dalian**	**16.12**	**279**⇑	*i*P	**P**	**13 16 54.9**	**+0.4**
DL2				AP		13 17 03.6	
DL2				S	**S**	**13 19 54.9**	**+3.2**
DL2				AMB	AMB		
	comp=Z,710nm,1.0s						
DL2				AMB	AMB		
	comp=Z,14μm,6.5s						
DL2				LR	LR		
	comp=N,51μm,14.3s						
DL2				LR	LR		
	comp=E,71μm,17.3s						
DL2				LR	LR		
	comp=Z,105μm,19.5s						
JOW	**Kunigami**	**16.20**	**230**	P	**P**	**13 16 54.1**	**-1.5**
	comp=Z,2.3nm,0.3s,baz=48,slow=15,SNR=10						
SSE	**Sheshan**	**18.61**	**254**	P	**P**	**13 17 23.4**	**-2.4**
SSE				AP		13 17 34.7	
SSE				S	**S**	**13 20 44.4**	**-4.1**
SSE				AMB	AMB		
	comp=Z,1μm,1.2s						
SSE				AMB	AMB		
	comp=Z,16μm,10.6s						
SSE				LR	LR		
	comp=N,95μm,20.8s						
SSE				LR	LR		
	comp=E,65μm,20.8s						
SSE				LR	LR		
	comp=Z,106μm,22.1s						
PET	**Petropavlovsk**	**18.83**	**32**κ	*i*P	**P**	**13 17 28.2**	**0.0**
PET				*i* S	**S**	**13 20 56.3**	**+3.1**
PET				pmax	pmax		
	comp=Z,8μm,5.5s						
PET				pmax	pmax		
	comp=Z,11μm,17.4s						
PET				pmax	pmax		
	comp=Z,75nm,0.8s						
PET				pmax	pmax		
	comp=Z,625nm,3.4s						
PET				pmax	pmax		
	comp=Z,101nm,1.1s						
PET				smax			
	comp=N,307nm,3.4s						
PET				smax			
	comp=N,42μm,17.0s						
PET				smax			
	comp=E,369nm,2.7s						
PET				smax			
	comp=E,56μm,10.4s						
PET				smax			
	comp=E,56μm,9.2s						
PET				MLR	MLR		
	comp=N,73μm,18.0s						
PET				MLR	MLR		
	comp=E,58μm,19.0s						
PET				MLR	MLR		
	comp=Z,77μm,19.0s						
PET				MLR	MLR		
	comp=Z,74μm,17.0s						
PET	**Petropavlovsk**	**18.83**	**32**	*e*P	**P**	**13 17 28.1**	**-0.1**
	comp=Z,2μm,1.8s						
HIA	**Hailar**	**19.64**	**312**⇑	*e*P	**P**	**13 17 32.3**	**-5.1**
HIA				pmax	pmax		
	comp=Z,222nm,0.9s						
HIA	**Hailar**	**19.64**	**312**⇑	*e*P	**P**	**13 17 32.3**	**-5.1**
	comp=Z,222nm,0.9s						
NJ2	**Nanjing**	**19.99**	**260**	*e*P	**P**	**13 17 38.3**	**-3.0**
NJ2				AP		13 17 41.6	
NJ2				PP	PP	13 17 58.2	-2.7
NJ2				S	**S**	**13 21 23.0**	**+4.0**
NJ2				XS		13 21 31.0	
NJ2				AMB	AMB		
	comp=Z,400nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,3μm,4.8s						
NJ2				LR	LR		
	comp=N,238μm,16.4s						
NJ2				LR	LR		
	comp=E,430μm,16.0s						
NJ2				LR	LR		
	comp=Z,182μm,13.1s						
TIA	**Tai'an**	**20.05**	**272**	⇑P	**P**	**13 17 38.7**	**-3.1**
TIA				PP	PP	13 17 53.5	-8.2
TIA				S	**S**	**13 21 16.5**	**-3.6**
TIA				AMB	AMB		
	comp=Z,1μm,1.8s						
TIA				AMB	AMB		
	comp=Z,7μm,7.0s						
TIA				LR	LR		
	comp=N,32μm,13.0s,MS6.1						
TIA				LR	LR		
	comp=E,53μm,13.0s,MS6.1						
TATO	**Taipei**	**21.88**	**239**	*e*P	**P**	**13 18 00.8**	**+0.3**
	comp=E,607nm,1.4s,mb5.8						
TATO				LR	LR		
	comp=Z,89μm,20.0s,MS6.2						
NRGR	**Nerungri**	**21.93**	**334**	*e*P	**P**	**13 17 59.3**	**-1.5**
NRGR				S		13 18 09.9	
CLNS	**Chul'man**	**22.01**	**334***c*	*i*P	**P**	**13 18 00.8**	**-0.8**
CLNS				*e**PP		13 18 12.1	
CLNS				*e*PPP	PPP	13 18 24.2	-14
CLNS				*e*S	**S**	**13 21 56.7**	**-0.5**
CLNS				*e*		13 22 12.0	
CLNS				*e*SS	SS	13 22 35.8	-1.3
CLNS				pmax	pmax		
	comp=Z,1μm,2.1s,mb5.9						
CLNS				pmax	pmax		
	comp=N,857nm,1.9s						
CLNS				pmax	pmax		
	comp=E,194nm,1.1s						
CLNS				smax			
	comp=N,341nm,1.3s						
CLNS				smax			
	comp=Z,81nm,1.0s						
CLNS				smax			
	comp=E,148nm,1.2s						
CLNS				MLR	MLR		
	comp=Z,256μm,16.0s,MS6.7						
CLNS				MLR	MLR		
	comp=N,150μm,17.0s,MS6.6						
CLNS				MLR	MLR		
	comp=E,67μm,14.0s,MS6.6						
YHNB	**Yeheng**	**22.16**	**239**	*e*P	**P**	**13 18 03.3**	**-0.1**
MA2	**Magadan**	**22.23**	**12***c*	*i*P	**P**	**13 18 03.2**	**-0.6**
MA2				*e*		13 18 37.1	
MA2				*e*S	**S**	**13 22 01.4**	**+0.3**
MA2				pmax	pmax		
	comp=N,500nm,2.0s						
MA2				pmax	pmax		
	comp=Z,1μm,2.0s,mb6.0						
MA2				MLR	MLR		
	comp=Z,63μm,18.0s,MS6.1						
MA2	**Magadan**	**22.23**	**12**⇑	*i*P	**P**	**13 18 03.1**	**-0.6**
	comp=Z,5μm,2.1s,mb6.6						
MA2				LR	LR		
	comp=Z,39μm,19.0s,MS5.8						
NACB	**Ninganchiao**	**22.34**	**238**	*e*P	**P**	**13 18 04.7**	**-0.5**
TIY	**Taiyuan**	**23.44**	**278**	⇑P	**P**	**13 18 11.0**	**-4.8**
TIY				S	**S**	**13 22 30.0**	**+7.1**
TIY				LR	LR		
	comp=N,92μm,15.0s						
HHC	**Hu-ho-hao-te**	**23.75**	**286**⇑	*i*P	**P**	**13 18 16.6**	**-2.1**
HHC				AP		13 18 25.8	
HHC				XP		13 18 29.9	
HHC				PP	PP	13 18 48.3	-4.1
HHC				S	**S**	**13 22 24.1**	**-4.1**
HHC				XS		13 22 39.0	
HHC				SS	SS	13 23 10.9	-7.9
HHC				SCP		13 25 37.6	
HHC				PCS		13 25 41.7	
HHC				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.2						
HHC				LR	LR		
	comp=N,33μm,16.8s,MS6.6						
HHC				LR	LR		
	comp=E,141μm,13.9s,MS6.6						
HHC				LR	LR		
	comp=Z,175μm,13.9s,MS6.7						
QZH	**Quanzhou**	**23.91**	**244**⇑	*i*P	**P**	**13 18 18.6**	**-1.9**
QZH				AP		13 18 27.1	
QZH				S	**S**	**13 22 30.2**	**-1.0**
QZH				XS		13 22 48.4	
QZH				AMB	AMB		
	comp=Z,690nm,1.1s,mb6.0						
QZH				AMB	AMB		
	comp=Z,32μm,7.2s						
QZH				LR	LR		
	comp=N,158μm,15.3s,MS6.7						
QZH				LR	LR		
	comp=E,110μm,14.5s,MS6.7						
QZH				LR	LR		
	comp=Z,221μm,15.3s,MS6.8						
WHN	**Wuhan**	**24.12**	**260**	⇑P	**P**	**13 18 19.7**	**-2.8**
WHN				S	**S**	**13 22 33.7**	**-1.1**
WHN				AMB	AMB		
	comp=Z,30μm,7.8s						
WHN				LR	LR		
	comp=N,162μm,17.3s,MS7.0						
WHN				LR	LR		
	comp=E,360μm,15.6s,MS7.0						
WHN				LR	LR		
	comp=Z,448μm,16.3s,MS7.0						
CIT	**Chita**	**24.38**	**314**	*e*P	**P**	**13 18 22.8**	**-2.0**
CIT				*e*		13 18 36.8	
CIT				*e*		13 22 44.2	
CIT				pmax	pmax		
	comp=Z,745nm,1.7s,mb5.8						
GUMO	**Guam**	**24.49**	**174**	P	**P**	**13 18 26.3**	**0.0**
	comp=Z,38nm,0.6s,mb5.0,baz=328,slow=13,SNR=2.4						
GUMO				LR	LR	13 26 47.3	
	comp=Z,41μm,20.9s,MS5.9,baz=183,slow=33						
GUMO	**Guam**	**24.49**	**174**	*e*P	**P**	**13 18 27.7**	**+1.5**
GUMO				pmax	pmax		
	comp=Z,2μm,1.7s,mb6.3						
GUMO				MLR	MLR		
	comp=Z,35μm,20.0s,MS5.8						
GUMO	**Guam**	**24.49**	**174**	*e*P	**P**	**13 18 27.7**	**+1.5**
	comp=Z,2μm,1.7s,mb6.3						
GUMO				LR	LR		

comp=Z,35µm,20.0s,MS5.8
BTO Baotou 24.93 286 *e*P **P 13 18 29.0 -1.3**
BTO S **S 13 22 49.3 +0.9**
BTO AMB AMB
comp=Z,160nm,1.9s,mb5.2
BTO LR LR
comp=E,76µm,13.3s
YAK Yakutsk 25.21 346*c i*P **P 13 18 31.8 -0.9**
YAK *e*PP pP 13 18 41.4 -1.6
YAK *e*PPP PPP 13 19 12.8 -10
YAK *e* 13 22 08.2
YAK *i* S **S 13 22 51.7 -1.2**
YAK *e*SSS SSS 13 23 55.2 -16
YAK pmax pmax
comp=Z,231nm,0.9s,mb5.7
YAK pmax pmax
comp=N,166nm,1.2s
YAK pmax pmax
comp=E,91nm,1.3s
YAK smax
comp=E,38nm,1.4s
YAK smax
comp=Z,20nm,1.0s
YAK smax
comp=N,47nm,1.2s
YAK Yakutsk 25.21 346⇑*i*P **P 13 18 30.8 -1.9**
comp=N,2µm,1.3s,mb6.4
YAK LR LR
comp=Z,122µm,20.0s,MS6.4
SEY Seymchan 25.67 11 *i*P **P 13 18 36.8 -0.2**
FX1 Attu Island--F 26.05 45 P **P 13 18 41.6 +1.1**
comp=Z,34nm,0.6s,mb5.1,baz=217,slow=5.1,SNR=2.1
FX1 LR LR 13 26 30.3
comp=Z,2µm,21.0s,baz=260,slow=31
FX1 Attu Island--F 26.05 45 *e*P **P 13 18 42.1 +1.5**
SGCP Mt. Cagua 26.45 227 *e*P **P 13 18 43.0 -1.6**
SMY Shemya 26.52 46 PFAKE 13 19 00.0 +15
SMY LR LR
comp=Z,59µm,21.0s,MS6.1
CVP Callao Caves 27.00 227 *i*P **P 13 18 49.0 -0.7**
XAN Xi'an 27.10 272 P **P 13 18 49.0 -1.5**
XAN AP pP 13 18 58.8 -2.2
XAN PP PP 13 19 37.8 +0.4
XAN S **S 13 23 24.7 +0.5**
XAN AMB AMB
comp=Z,190nm,2.5s,mb5.2
XAN AMB AMB
comp=Z,13µm,9.5s
XAN LR LR
comp=N,23µm,17.3s,MS6.3
XAN LR LR
comp=E,74µm,17.3s,MS6.3
XAN LR LR
comp=Z,107µm,16.4s,MS6.5
APYP Conner 27.21 228 *e*P **P 13 18 49.4 -2.2**
PIP Pasuquin 27.22 230⇓*e*P **P 13 18 51.1 -0.7**
ULN Ulaanbaatar 27.30 302⇑*i*P **P 13 18 51.1 -1.1**
comp=Z,319nm,1.0s,mb5.8
ULN LR LR
comp=Z,122µm,19.0s,MS6.5
CAUP Cauayan 27.60 226 *e*P **P 13 18 54.1 -1.1**
ABRA Dolores 27.69 229 *e*P **P 13 18 53.1 -3.0**
SONM Songino Array 27.74 302 P **P 13 18 55.4 -0.7**
comp=Z,127nm,0.9s,mb5.5,baz=96,slow=7.2,SNR=200
SONM LR LR 13 30 22.5
comp=Z,121µm,19.2s,MS6.5,baz=167,slow=37
SONM Songino Array 27.74 302 P **P 13 18 55.4 -0.8**
SONM pmax pmax
comp=Z,127nm,1.0s
SONM MLR MLR
comp=Z,121µm,19.2s
ENH Enshi 28.04 264⇑*i*P **P 13 18 57.7 -1.4**
comp=Z,2µm,1.2s,mb6.7
ENH LR LR
comp=Z,92µm,20.0s,MS6.4
WAKE Wake Island 28.34 124 *e*P **P 13 19 02.0 +0.2**
comp=Z,1µm,1.8s,mb6.2
WAKE LR LR
comp=Z,74µm,20.0s,MS6.3
HKC Hong Kong 28.71 245⇑*i*P **P 13 19 06.0 +0.9**
HKC *i* S **S 13 23 50.0 -0.1**
BALP Baler 28.71 225 *e*P **P 13 19 02.6 -2.6**
BCPH Baguio City Da 28.77 227⇑*e*P **P 13 19 04.0 -1.6**
GZH Guangzhou 28.82 247 P **P 13 19 00.8 -5.3**
GZH S **S 13 23 49.0 -2.9**
GZH AMB AMB
comp=Z,190nm,2.5s,mb5.4
GZH LR LR
comp=N,82µm,18.0s,MS6.5
GZH LR LR
comp=E,74µm,19.9s,MS6.5
GZH LR LR
comp=Z,241µm,17.1s,MS6.9
PCPH Palayan 29.13 225⇑*e*P **P 13 19 07.8 -1.1**
BOLP Bolinao 29.16 228 *e*P **P 13 19 07.1 -2.0**
PVCP Virac 29.16 218 *e*P **P 13 19 08.0 -1.1**
POLP Polilio Island 29.34 223 *e*P **P 13 19 09.0 -1.8**
SCZP Santa Cruz 29.63 228 *e*P **P 13 19 09.9 -3.5**
CNP Catarman 29.86 216 *e*P **P 13 19 16.6 +1.3**
IRK Irkutsk 29.88 311 *e*P **P 13 19 13.0 -2.2**
IRK pmax pmax
comp=Z,1µm,2.9s,mb6.2
AUQP San Andres 30.13 220 *e*P **P 13 19 19.5 +1.7**
TGY Tagaytay City 30.40 224 P **P 13 19 20.0 -0.2**
comp=Z,373nm,1.0s,mb6.1,baz=218,slow=2.2,SNR=18
TGY Tagaytay City 30.40 224 P **P 13 19 20.0 -0.2**
TGY pmax pmax
comp=Z,373nm,1.0s
BOAC Boac 30.45 222 *e*P **P 13 19 18.7 -2.0**
LZH Lanzhou 30.51 278⇑P **P 13 19 20.2 -0.8**
LZH AP pP 13 19 28.8 -2.9
LZH XP sP 13 19 33.8 -2.8
LZH PP PP 13 20 20.0 -1.6
LZH S **S 13 24 18.0 -0.5**
LZH XS 13 24 31.0
LZH SS SS 13 25 59.0 -1.5
LZH SCP 13 26 01.0
LZH PCS 13 26 05.2
LZH AMB AMB
comp=Z,600nm,1.2s,mb6.3
LZH AMB AMB
comp=Z,5µm,4.0s
LZH LR LR
comp=E,181µm,15.0s
LZH LR LR
comp=Z,265µm,19.1s,MS6.9
PGP Puerto Galera 30.89 223⇓*e*P **P 13 19 23.3 -1.2**
LUBP Lubang 31.09 225 *e*P **P 13 19 24.1 -2.2**
OTRP Odiongan 31.28 220 *e*P **P 13 19 26.7 -1.3**
SJMP San Jose 31.66 222 *e*P **P 13 19 30.3 -1.1**
MOY Mondy 31.76 309 *e*P **P 13 19 30.9 -0.9**
MOY pmax pmax
comp=Z,1µm,3.5s
MSLP Maasin 31.86 214 *e*P **P 13 19 31.4 -1.7**
SCPH Surigao 31.91 212⇓*e*P **P 13 19 32.9 -0.6**
GYA Guiyang 32.00 259⇑*i*P **P 13 19 32.0 -2.2**
GYA AP pP 13 19 41.2 -3.8
GYA XP sP 13 19 45.8 -4.1
GYA PP PP 13 20 41.2 +0.1
GYA S **S 13 24 39.0 -3.0**
GYA XS 13 24 51.4
GYA AMB AMB
comp=Z,380nm,1.7s,mb6.0
GYA AMB AMB
comp=Z,6µm,9.3s
GYA LR LR
comp=N,48µm,15.6s,MS6.6
GYA LR LR
comp=E,93µm,17.4s,MS6.6
GYA LR LR
comp=Z,108µm,16.8s,MS6.6
LLP Lapu-Lapu 32.10 215 *e*P **P 13 19 34.1 -1.1**
CD2 Chengdu 32.29 269 P **P 13 19 35.3 -1.4**
CD2 AP pP 13 19 46.7 -0.8
CD2 PP PP 13 20 45.4 +0.6
CD2 PPP PPP 13 21 02.8 +2.7
CD2 S **S 13 24 43.1 -3.4**
CD2 XS 13 25 01.4
CD2 SS SS 13 26 37.2 -5.3
CD2 AMB AMB
comp=Z,210nm,1.0s,mb5.9
CD2 AMB AMB
comp=Z,5µm,8.1s
CD2 LR LR
comp=N,73µm,15.6s
CD2 LR LR
comp=Z,68µm,15.6s,MS6.4
GUIM Jordan 32.48 218 *e*P **P 13 19 37.2 -1.3**
BUSP Coron 32.54 223 *e*P **P 13 19 37.3 -1.7**
BUTP Butuan 32.58 212 *e*P **P 13 19 38.4 -1.0**
TBP Tagbilaran 32.70 215 *e*P **P 13 19 38.4 -2.1**
GTA Gaotai 32.86 286⇑P **P 13 19 40.5 -1.1**
GTA AP pP 13 19 52.9 +0.6
GTA PP PP 13 20 51.2 -0.8
GTA PCP PcP 13 22 25.8 0.0
GTA S **S 13 24 52.3 -3.0**
GTA XS 13 25 12.1
GTA SCP 13 26 05.6
GTA SS SS 13 26 51.7 -3.7
GTA SCS ScS 13 30 02.0 -2.1
GTA AMB AMB
comp=Z,360nm,1.2s,mb6.2
GTA AMB AMB
comp=Z,11µm,8.4s
GTA LR LR
comp=N,69µm,18.6s,MS6.8
GTA LR LR
comp=E,168µm,19.4s,MS6.8
GTA LR LR
comp=Z,230µm,19.0s,MS6.9
BILL Bilibino 32.87 16*c i*P **P 13 19 39.5 -1.9**
BILL pmax pmax
comp=Z,298nm,2.0s,mb5.9
BILL MLR MLR
comp=Z,37µm,20.0s,MS6.1
BILL Bilibino 32.87 16⇑*i*P **P 13 19 39.4 -2.0**
BILL LR LR
comp=Z,37µm,20.0s,MS6.1
CUYO Cuyo Island 33.07 221 *e*P **P 13 19 42.5 -1.2**
ENPP El Nido 33.61 223 *e*P **P 13 19 46.7 -1.6**
BUKP Musuan 33.80 212 *e*P **P 13 19 49.1 -0.8**
QIZ Qiongzhong 33.91 245 P **P 13 19 51.4 +0.6**
QIZ AP pP 13 20 01.5 -0.1
QIZ PP PP 13 21 04.8 -0.2
QIZ S **S 13 25 14.6 +2.8**
QIZ AMB AMB
comp=Z,110nm,1.7s,mb5.5
QIZ AMB AMB
comp=Z,8µm,8.6s
QIZ LR LR
comp=N,70µm,17.6s,MS6.5
QIZ LR LR
comp=E,49µm,18.2s,MS6.5
QIZ LR LR
comp=Z,102µm,16.4s,MS6.6
QIZ Qiongzhong 33.91 245⇑*i*P **P 13 19 51.3 +0.5**
comp=Z,185nm,1.3s,mb5.8
QIZ LR LR
comp=Z,84µm,19.0s,MS6.5
MATI Mati 34.17 209 *e*P **P 13 19 51.7 -1.5**
DAV Davao City (W) 34.32 210 *e*P **P 13 19 55.0 +0.6**
DAV Davao City (W) 34.32 210 PFAKE 13 20 10.0 +16
DAV LR LR
comp=Z,18µm,21.0s,MS5.8
TIXI Tiksi 34.35 353 *e*P **P 13 19 50.2 -3.9**
TIXI *e*S **S 13 25 12.1 -6.0**
TIXI pmax pmax
comp=Z,101nm,1.6s,mb5.5
TIXI pmax pmax
comp=N,57nm,1.7s
TIXI pmax pmax
comp=E,41nm,1.5s
TIXI pmax pmax
comp=Z,10µm,8.6s
TIXI MLR MLR
comp=N,74µm,18.0s,MS6.5
TIXI MLR MLR
comp=E,31µm,18.0s,MS6.5
TIXI MLR MLR
comp=Z,99µm,18.0s,MS6.6
TIXI Tiksi 34.35 353⇑*i*P **P 13 19 52.1 -2.0**
TIXI LR LR
comp=Z,96µm,20.0s,MS6.5
PAGZ Pagadian 34.55 214 *e*P **P 13 19 54.8 -1.5**
IPIL Ipil 34.97 215 *e*P **P 13 19 57.1 -2.8**
MIDW Midway 35.03 94 PFAKE 13 20 10.0 +10
MIDW LR LR
comp=Z,81µm,22.0s,MS6.4
KMI Kunming 35.72 260⇑P **P 13 20 05.8 -0.5**
KMI AP pP 13 20 16.7 -0.4
KMI PP PP 13 21 27.9 +0.2
KMI S **S 13 25 38.4 -1.4**
KMI XS 13 25 57.0
KMI PCS 13 26 20.6
KMI SS SS 13 27 55.8 -5.7
KMI SCS ScS 13 30 15.9 -3.5
KMI AMB AMB
comp=Z,200nm,1.5s,mb5.8
KMI AMB AMB
comp=Z,9µm,6.6s
KMI LR LR
comp=N,67µm,17.0s,MS6.6
KMI LR LR
comp=E,79µm,18.8s,MS6.6
KMI LR LR
comp=Z,114µm,17.2s,MS6.7
KWAJ Kwajalein Atol 37.07 135 PFAKE 13 20 30.0 +12
KWAJ LR LR
comp=Z,24µm,22.0s,MS6.0
UNV Unalaska Valle 38.11 49 PFAKE 13 20 40.0 +14
UNV LR LR
comp=Z,81µm,20.0s,MS6.5
KKM Kota Kinabalu 39.64 223 P **P 13 20 39.9 +0.7**
KKM Kota Kinabalu 39.64 223⇑*i*P **P 13 20 40.1 +1.0**
TNA Tin City 39.66 30⇑*i*P **P 13 20 38.9 +0.1**
comp=Z,1µm,2.2s,mb6.2
TNA LR LR
comp=Z,22µm,20.0s,MS6.0
UBT Ubonrachathani 39.86 245 P **P 13 20 41.5 +0.6**
comp=Z,312nm,1.0s,mb6.0
TSM Tawau 40.26 219 P **P 13 20 44.9 +0.6**
KKTK Khon Kaen 40.74 249 PG **P 13 20 47.0 -1.3**
KKTK SG pP 13 20 56.0 -3.2
CHRT Chiangrai 40.88 256⇑P **P 13 20 48.5 -0.9**
comp=Z,2µm,0.8s,mb6.7
WMQ Urumqi 40.93 296 P **P 13 20 50.2 +0.7**
WMQ AP pP 13 21 02.4 +1.9
WMQ PP PP 13 22 28.3 +1.2
WMQ S **S 13 26 58.2 -0.2**
WMQ SS SS 13 29 56.2 -0.4
WMQ SCS ScS 13 30 49.2 +0.2
WMQ AMB AMB
comp=Z,560nm,1.2s,mb6.1
WMQ AMB AMB
comp=Z,23µm,5.2s
WMQ LR LR
comp=N,29µm,19.0s,MS6.4
WMQ LR LR
comp=E,50µm,22.0s,MS6.4
WMQ LR LR
comp=Z,57µm,22.0s,MS6.4
CHG Chiang Mai 42.14 255⇑P **P 13 21 00.1 +0.4**
comp=Z,127nm,1.1s,mb5.5
NVS Novosibirsk 42.58 313⇑*i*P **P 13 21 01.7 -1.2**
NVS *i* S **S 13 27 23.4 +0.8**
NVS pmax pmax
comp=N,530nm,2.5s
NVS pmax pmax
comp=E,3µm,2.5s
NVS pmax pmax
comp=Z,3µm,2.5s,mb6.6
NVS smax
comp=N,310nm,2.8s
NVS smax
comp=E,787nm,2.4s
LSA Lhasa 42.73 274 P **P 13 21 05.7 +1.2**
LSA S **S 13 27 26.0 +0.9**
LSA AMB AMB
comp=Z,1µm,1.0s,mb6.6
LSA AMB AMB
comp=Z,12µm,7.0s
LSA LR LR
comp=N,17µm,25.0s,MS6.2
LSA LR LR
comp=E,39µm,27.0s,MS6.2
LSA LR LR
comp=Z,62µm,25.0s,MS6.4
LSA Lhasa 42.73 274⇑*i*P **P 13 21 05.6 +1.1**
LSA pmax pmax
comp=Z,316nm,1.1s,mb6.0
LSA MLR MLR
comp=Z,66µm,20.0s,MS6.5
LSA Lhasa 42.73 274⇑*i*P **P 13 21 05.6 +1.1**
comp=Z,316nm,1.1s,mb6.0
LSA LR LR
comp=Z,66µm,20.0s,MS6.5
NST Nakhon Sawan 43.16 251⇓P **P 13 21 08.5 +0.4**
comp=Z,125nm,1.5s,mb5.4
PCI Palu 43.91 213 P **P 13 21 12.8 -1.5**
MKAR Makanchi Array 44.10 301 P **P 13 21 14.8 -0.5**
comp=Z,165nm,0.9s,mb5.7,baz=49,slow=5.0,SNR=14
MKAR S **S 13 27 48.3 +3.5**
comp=Z,3.0nm,1.0s,baz=101,slow=7.3,SNR=2.1
MKAR LR LR 13 40 20.0
comp=Z,52µm,18.2s,MS6.5,baz=83,slow=37
MKAR Makanchi Array 44.10 301 P **P 13 21 14.9 -0.4**
MKAR S **S 13 27 48.3 +3.5**
MKAR pmax pmax
comp=Z,165nm,1.0s
MKAR smax
comp=N,3.0nm,1.0s
MKAR MLR MLR
comp=Z,52µm,18.2s
TTA Tatalina 44.23 35 *e*P **P 13 21 17.1 +0.9**
SVW2 Sparrevohn 44.34 38 *e*P **P 13 21 18.5 +1.4**
AGT Agartala 45.37 267 *ex* x 13 21 31.0
AGT *ex* x 13 22 48.0
NNT Nongplab 45.44 248 P **P 13 21 22.5 -4.0**
IMA2 Indian Mountai 45.49 31 *e*P **P 13 21 25.7 -0.5**
KURK Kurchatov 45.79 307⇑*i*P **P 13 21 27.8 -1.0**
KURK pmax pmax
comp=Z,523nm,0.9s,mb6.5
KURK MLR MLR
comp=Z,28µm,19.0s,MS6.2
KURK Kurchatov 45.79 307⇑*i*P **P 13 21 27.8 -1.0**
comp=Z,523nm,0.9s,mb6.5
KURK LR LR
comp=Z,28µm,19.0s,MS6.2
KDAK Kodiak Island 45.93 43 P **P 13 21 29.4 -0.5**
comp=Z,68nm,0.9s,mb5.6,baz=290,slow=3.3,SNR=38
KDAK S **S 13 28 07.8 -3.1**
comp=Z,8.6nm,1.1s,baz=202,slow=21,SNR=2.4
KDAK Kodiak Island 45.93 43 P **P 13 21 29.4 -0.5**
KDAK S **S 13 28 07.8 -3.2**
KSM Kuching 46.70 226⇑*i*P **P 13 21 36.8 +0.4**
FIB Fire Island 46.96 38 *e*P **P 13 21 38.0 +0.2**
FIB pmax pmax
comp=Z,740nm,1.1s,mb6.5
FIB MLR MLR
comp=Z,10µm,19.0s,MS5.8
FIB Fire Island 46.96 38 *e*P **P 13 21 38.0 +0.1**
comp=Z,74nm,1.1s,mb5.5
FIB LR LR
comp=Z,10µm,19.0s,MS5.8
SLKM Skilak Lake 46.97 39 *e*P **P 13 21 38.1 +0.1**
PMR Palmer 47.44 37 *e*P **P 13 21 40.4 -1.2**
PMR pmax pmax
comp=Z,274nm,1.8s,mb5.9
PMR Palmer 47.44 37 *e*P **P 13 21 40.4 -1.2**
comp=Z,274nm,1.8s,mb5.9
MCK McKinley 47.44 34⇑*i*P **P 13 21 40.6 -1.0**
MCK pmax pmax
comp=Z,490nm,1.1s,mb6.3
MCK MLR MLR
comp=Z,9µm,19.0s,MS5.8
MCK McKinley 47.44 34⇑*i*P **P 13 21 40.6 -1.0**
comp=Z,49nm,1.1s,mb5.3
MCK LR LR
comp=Z,9µm,19.0s,MS5.8
PMG Port Moresby 47.45 173 P **P 13 21 42.2 -0.1**
comp=Z,12nm,0.7s,mb4.9,baz=8.3,slow=8.8,SNR=6.7
PMG S **S 13 28 33.4 +0.4**
comp=Z,2.5nm,0.5s,baz=274,slow=18,SNR=4.2
PMG Port Moresby 47.45 173⇓*i*P **P 13 21 42.3 0.0**
PMG *e*S **S 13 28 34.1 +1.0**
PMG pmax pmax
comp=Z,114nm,1.1s
PMG MLR MLR
comp=Z,16µm,22.0s
PMG Port Moresby 47.45 173⇓*i*P **P 13 21 42.3 0.0**
comp=Z,114nm,1.1s,mb5.7
PMG *e*S **S 13 28 34.1 +1.0**
PMG LR LR
comp=Z,16µm,22.0s,MS6.0
JIRN Jiri 47.54 275 *e*P **P 13 21 42.0 -0.9**
comp=Z,694nm,1.0s,mb6.6
GUN Gumba 47.67 275 *e*P **P 13 21 42.9 -1.0**
comp=Z,2µm,1.0s
SML Sawmill 47.81 37 *e*P **P 13 21 43.8 -0.8**
COLA College 47.89 33⇑*i*P **P 13 21 44.3 -0.8**
COLA pmax pmax
comp=Z,2µm,2.5s,mb6.6
COLA MLR MLR
comp=Z,20µm,19.0s,MS6.1
COLA College 47.89 33⇑*i*P **P 13 21 44.2 -0.9**
comp=Z,2µm,2.5s,mb6.6
COLA LR LR
comp=Z,20µm,19.0s,MS6.1
KKN Kakani 48.19 275 *e*P **P 13 21 46.6 -1.4**
comp=Z,1µm,1.0s,mb6.8
KKN Kakani 48.19 275 *e*P **P 13 21 46.6 -1.4**
KKN pmax pmax
comp=Z,534nm,1.0s,mb6.5
PKI Pulchoki 48.19 275 *e*P **P 13 21 46.5 -1.5**
comp=Z,322nm,1.0s,mb6.3
ILAR Eielson Array 48.30 33 P **P 13 21 47.8 -0.5**
comp=Z,28nm,0.7s,mb5.4,baz=266,slow=6.1,SNR=382
ILAR pP pP 13 21 59.8 +0.4
comp=Z,71nm,1.1s,baz=266,slow=5.8,SNR=10
ILAR LR LR 13 45 36.8
comp=Z,12µm,18.8s,MS5.9,baz=277,slow=40
ILAR PKPPKP 13 52 45.8
comp=Z,0.5nm,0.8s,baz=192,slow=2.0,SNR=4.1
DMN Daman 48.41 275 *e*P **P 13 21 48.2 -1.5**
comp=Z,508nm,1.0s,mb6.5
GKN Gorkha 48.60 276 *e*P **P 13 21 50.0 -1.1**
comp=Z,2µm,1.0s,mb7.0
AAA Alma-Ata 48.64 298 *i*P **P 13 21 52.1 +0.9**
AAA *i* S **S 13 28 54.0 +4.6**
AAA pmax pmax
comp=Z,2µm,6.5s
AAA smax
comp=E,19µm,18.3s
AAA MLR MLR
comp=Z,79µm,17.6s,MS6.8
THY Trims Highway 48.88 35⇑*i*P **P 13 21 51.5 -1.3**
DIV Divide 49.09 38⇑*i*P **P 13 21 54.1 -0.4**
comp=Z,14nm,0.3s,mb5.5
DIV LR LR
comp=Z,66µm,20.0s,MS6.6
ULHL Ulahol 49.44 297 P **P 13 21 58.1 +0.7**
SNR=17
KOLN Koldanda 49.52 276 *e*P **P 13 21 57.1 -1.1**
comp=Z,982nm,1.1s,mb6.7
BOK Bokaro 49.64 270 *e*P **P 13 21 59.4 +0.2**
BOK AMb AMB 13 22 02.6
comp=Z,150nm,1.3s,mb5.9
TKM2 Tokmak 2 49.69 298 P **P 13 21 59.2 -0.1**
SNR=208
MENT Mentasta 49.85 35 *e*P **P 13 22 00.4 +0.2**
VOSK Vostochnaya 50.06 311 P **P 13 22 00.8 -1.2**
VOSK pmax pmax
comp=Z,1µm,1.7s,mb6.7
HNR Honiara 50.08 157 PFAKE 13 22 10.0 +7.3
HNR LR LR
comp=Z,66µm,21.0s,MS6.6
IPM Ipoh 50.12 239 P **P 13 22 02.8 -0.3**
KZA Kyzart 50.20 297 P **P 13 22 04.3 +1.1**
SNR=123
KBK Karagaybulak 50.22 298 P **P 13 22 03.5 +0.1**
SNR=201
CHMS Chumnysh 50.25 298 P **P 13 22 03.2 -0.4**
SNR=44
BVA0 Borovoye Array 50.34 312 *i*P **P 13 22 03.2 -0.9**
BVA0 pmax pmax
comp=Z,599nm,2.8s,mb6.1
BVAR Borovoye Array 50.34 312 P **P 13 22 03.2 -0.9**
comp=Z,47nm,0.6s,mb5.7,baz=79,slow=7.6,SNR=140
BVAR pP pP 13 22 16.0 +0.8
comp=Z,54nm,0.6s,baz=77,slow=5.9,SNR=8.6
BVAR S **S 13 29 12.9 -0.1**
comp=Z,1.8nm,0.9s,baz=85,slow=17,SNR=2.5
BVAR Borovoye Array 50.34 312 P **P 13 22 03.2 -0.9**
BVAR *PP pP 13 22 16.0 +0.8
BVAR S **S 13 29 12.9 -0.1**
BVAR pmax pmax

BVAR smax
comp=N,2.0nm,0.9s
USP Ospenovka 50.34 299 P **P** **13 22 03.8 -0.5**
SNR=86
BRVK Borovoye 50.39 312⇑ *i*P **P** **13 22 03.7 -0.9**
BRVK pmax pmax
comp=Z,1μm,2.0s,mb6.5
BRVK MLR MLR
comp=Z,16μm,19.0s,MS6.0
BRVK Borovoye 50.39 312⇑ *i*P **P** **13 22 03.7 -0.8**
comp=Z,1μm,2.0s,mb6.5
BRVK LR LR
comp=Z,16μm,19.0s,MS6.0
FRU Bishkek 50.40 298⇑ *i*P **P** **13 22 05.0 +0.3**
FRU *i* pP 13 22 17.0 +1.2
FRU *i* 13 23 59.0
FRU *e*S **S** **13 29 10.0 -3.9**
FRU pmax pmax
comp=Z,2μm,2.6s,mb6.7
FRU pmax pmax
comp=Z,14μm,7.2s
FRU smax
comp=E,13μm,14.0s
FRU MLR MLR
comp=Z,62μm,16.0s,MS6.7
FRU MLR MLR
comp=E,66μm,14.0s
KGM Kluang 50.52 234 P **P** **13 22 06.5 +0.4**
AAK Ala-Archa 50.55 298 P **P** **13 22 05.5 -0.3**
SNR=65
AAK Ala-Archa 50.55 298*c* *i*P **P** **13 22 04.6 -1.3**
AAK pmax pmax
comp=Z,114nm,1.3s,mb5.6
AAK MLR MLR
comp=Z,72μm,18.0s,MS6.7
AAK Ala-Archa 50.55 298⇑ *i*P **P** **13 22 04.3 -1.6**
comp=Z,85nm,0.9s,mb5.7
AAK LR LR
comp=Z,12μm,21.0s,MS5.9
KSH Kashi 50.55 294⇑ *i*P **P** **13 22 07.4 +1.5**
KSH AP pP 13 22 17.1 +0.1
KSH XP sP 13 22 21.1 -0.5
KSH PCP PcP 13 23 25.0 +1.4
KSH PP PP 13 24 04.2 +1.5
KSH PPP PPP 13 25 01.3 +0.3
KSH *e*SCP 13 27 17.8
KSH *e*PCS 13 27 22.1
KSH S **S** **13 29 17.0 +0.9**
KSH PS PS 13 29 30.3 +0.4
KSH XS 13 29 33.6
KSH SCS ScS 13 31 52.0 +1.5
KSH SS SS 13 32 47.7 +0.1
KSH AMB AMB
comp=Z,20μm,6.3s
KSH LR LR
comp=N,44μm,13.4s,MS6.8
KSH LR LR
comp=E,53μm,14.8s,MS6.8
UCH Uchtor 50.66 297 P **P** **13 22 07.2 +0.4**
SNR=62
EKS2 Erkin-Say 51.04 298 P **P** **13 22 09.2 -0.3**
SNR=60
PBA Port Blair 51.24 253 *ex* x 13 24 12.1
AML Almayashu 51.27 297 P **P** **13 22 11.8 +0.5**
SNR=165
KAKA Kakadu 51.32 192⇑ *i*P **P** **13 22 31.4 +19**
comp=E,83nm,0.6s,mb5.8
COEN Coen 51.75 179 P **P** **13 22 13.7 -1.6**
PSI Prapat 52.84 239 P **P** **13 22 23.0 -0.5**
comp=E,82nm,1.0s,mb5.6,baz=11,slow=4.8,SNR=48
PSI S **S** **13 29 50.3 +2.5**
comp=E,2.8nm,0.8s,baz=50,slow=21,SNR=2.4
PSI Prapat 52.84 239 P **P** **13 22 23.0 -0.5**
PSI S **S** **13 29 50.3 +2.5**
KIP Kipapa 53.64 90 *i* P **P** **13 22 28.9 -0.4**
KIP LR LR
comp=Z,16μm,19.0s,MS6.1
SVE Sverdlovsk 54.79 318α *i*P **P** **13 22 36.8 -0.4**
SVE *e* 13 23 40.0
SVE *e* 13 24 36.0
SVE *e*S **S** **13 30 13.0 -0.6**
SVE *e* 13 32 20.0
SVE *e*SS SS 13 33 50.0 -6.6
SVE pmax pmax
comp=Z,228nm,2.0s,mb5.9
SVE pmax pmax
comp=N,2μm,9.0s
SVE pmax pmax
comp=E,6μm,9.0s
SVE pmax pmax
comp=Z,11μm,9.0s
SVE MLR MLR
comp=N,49μm,20.0s,MS6.7
SVE MLR MLR
comp=E,36μm,20.0s,MS6.7
SVE MLR MLR
comp=Z,56μm,20.0s,MS6.6
VIS Vishakhapatnam 54.91 266 *e*P **P** **13 22 38.7 +0.1**
VIS AMb AMB 13 22 40.4
comp=Z,201nm,1.6s,mb5.9
SIT Sitka 55.22 41 *e*P **P** **13 22 41.0 +0.7**
SIT pmax pmax
comp=Z,265nm,1.8s,mb6.0
SIT Sitka 55.22 41 *e*P **P** **13 22 41.0 +0.7**
comp=Z,265nm,1.8s,mb6.0
ARU Arti 56.00 318⇑ *i*P **P** **13 22 44.8 -1.2**
ARU *e* 13 24 47.1
ARU *e*S **S** **13 30 33.0 +3.2**
ARU *e*SS SS 13 34 15.8 -0.2
ARU pmax pmax
comp=Z,325nm,1.2s,mb6.2
ARU MLR MLR
comp=E,112μm,18.0s,MS7.0
ARU MLR MLR
comp=Z,151μm,18.0s,MS7.1
ARU MLR MLR
comp=N,34μm,17.0s,MS7.0
ARU Arti 56.00 318⇑ *i*P **P** **13 22 44.9 -1.1**
comp=N,887nm,1.5s,mb6.6
ARU LR LR
comp=Z,41μm,19.0s,MS6.5
BHPL Bhopal 56.60 275 *e*P **P** **13 22 49.4 -1.3**
BHPL AMb AMB 13 22 51.0
comp=Z,176nm,1.5s,mb5.9
CRAG Craig 56.90 43 *e*P **P** **13 22 53.3 +0.9**
comp=Z,191nm,1.9s,mb5.8
CRAG LR LR
comp=Z,22μm,22.0s,MS6.2
AJM Ajmer 57.14 280 *e*P **P** **13 22 54.2 -0.4**
AJM AMb AMB 13 22 55.5
comp=Z,242nm,1.3s,mb6.1
CTA Charters Tower 57.96 175 *e*P **P** **13 22 58.5 -1.9**
comp=Z,37nm,1.5s,mb5.2
CTA *e*S **S** **13 30 55.3 -0.8**
CTA *e*PKPPKP 13 52 41.7
CTA Charters Tower 57.96 175 P **P** **13 22 59.5 -0.9**
comp=Z,3.6nm,0.6s,baz=0.4,slow=8.5,SNR=15
CTA S **S** **13 30 53.0 -3.2**
comp=Z,0.6nm,0.4s,baz=62,slow=20,SNR=2.0
CTA Charters Tower 57.96 175 P **P** **13 22 59.5 -0.9**
CTA S **S** **13 30 53.0 -3.1**
CTA pmax pmax
comp=Z,400nm,0.6s
CTA smax
comp=N,1.0nm,0.4s
CTAO Charters Tower 57.96 175 *e*P **P** **13 22 58.6 -1.9**
comp=N,166nm,1.5s,mb5.8
CTAO LR LR
comp=Z,11μm,22.0s,MS5.9
FITZ Fitzroy Crossi 57.98 199 *e*P **P** **13 22 59.4 -1.2**
comp=Z,198nm,1.4s,mb6.0
FITZ *es*P sP 13 23 12.8 -3.6
FITZ *e*S **S** **13 30 57.7 +1.3**
FITZ *e*PKPPKP 13 52 53.3
WRAB Tennant Creek 58.15 189⇑ *i*P **P** **13 22 59.7 -2.0**
WRAB pmax pmax
comp=Z,339nm,1.1s,mb6.3
WRAB MLR MLR
comp=Z,9μm,22.0s,MS5.8
WRAB Tennant Creek 58.15 189⇑ *i*P **P** **13 22 59.6 -2.1**
comp=Z,339nm,1.1s,mb6.3
WRAB LR LR
comp=Z,9μm,22.0s,MS5.8
WB2 Warramunga Arr 58.16 189⇑ *i*P **P** **13 22 59.6 -2.2**
WB2 *es*P sP 13 23 13.0 -4.6
WB2 *e*S **S** **13 30 56.5 -2.2**
WB2 *e*PKPPKP 13 52 52.8
WRA Warramunga Arr 58.16 189 P **P** **13 22 58.1 -3.7**
comp=Z,117nm,1.1s,mb5.8,baz=6.2,slow=7.7,SNR=100
WRA S **S** **13 30 58.3 -0.4**
comp=Z,14nm,1.4s,baz=4.3,slow=12,SNR=10
WRA PKPPKP 13 52 41.6
comp=Z,1.1nm,1.1s,baz=186,slow=3.0,SNR=4.7
WRA Warramunga Arr 58.16 189 P **P** **13 22 58.1 -3.7**
WRA S **S** **13 30 58.3 -0.4**
WRA pmax pmax
comp=Z,117nm,1.1s
WRA smax
comp=N,14nm,1.4s
AKTO Aktyubinsk 58.45 312 PKP2bc 13 52 55.5
comp=N,0.4nm,0.3s,baz=353,slow=2.3,SNR=4.6
HYB Hyderabad 58.84 268⇑ *i*P **P** **13 23 05.5 -1.1**
comp=N,200nm,1.0s,mb6.1
HYB *e* 13 23 26.0
HYB *e* 13 25 34.0
HYB *e*S **S** **13 31 08.0 +0.4**
HYB LR LR 13 50 48.0
comp=N,43nm,18.0s
HYB Hyderabad 58.84 268⇑ *i*P **P** **13 23 05.5 -1.1**
HYB *e*S **S** **13 31 08.0 +0.4**
HYB pmax pmax
comp=Z,200nm,1.0s,mb6.1
HYB Hyderabad 58.84 268⇑ *i*P **P** **13 23 05.5 -1.1**
comp=Z,200nm,1.0s,mb6.1
HYB *e*S **S** **13 31 08.0 +0.4**
KBS Kingsbay 59.75 350⇑ *i*P **P** **13 23 12.2 0.0**
KBS AMb AMB 13 23 30.4
comp=Z,273nm,2.3s,mb5.9
KBS *e*S **S** **13 31 21.0 +2.3**
KBS AMS AMS 13 52 00.3
comp=Z,15μm,17.4s,MS6.2
KBS Kingsbay 59.75 350⇑ *i*P **P** **13 23 11.2 -0.9**
KBS pmax pmax
comp=Z,2μm,2.3s,mb6.8
KBS MLR MLR
comp=Z,27μm,19.0s,MS6.4
KBS Kingsbay 59.75 350⇑ *i*P **P** **13 23 11.2 -0.9**
comp=Z,2μm,2.3s,mb6.8
KBS LR LR
comp=Z,27μm,19.0s,MS6.4
MDRS Chennai 60.01 263 *e*P **P** **13 23 14.7 0.0**
MDRS AMb AMB 13 23 16.2
comp=Z,169nm,1.2s,mb6.0
LVZ Lovozero 61.43 336*c* *i*P **P** **13 23 22.3 -1.3**
LVZ *i* 13 25 37.6
LVZ *i*S **S** **13 31 35.9 -4.3**
LVZ *i*SS SS 13 35 37.3 -5.4
LVZ pmax pmax
comp=Z,158nm,1.3s,mb6.0
LVZ pmax pmax
comp=N,65nm,1.2s
LVZ pmax pmax
comp=E,71nm,1.2s
LVZ smax
comp=N,9μm,16.5s
LVZ smax
comp=Z,3μm,12.2s
LVZ smax
comp=E,2μm,8.6s
LVZ MLR MLR
comp=Z,63μm,18.0s,MS6.8
LVZ MLR MLR
comp=N,13μm,15.0s,MS6.6
LVZ MLR MLR
comp=E,30μm,17.0s,MS6.6
POO Poona 61.94 272 *ex* x 13 23 31.9
POO AMb AMB 13 23 35.1
comp=Z,274nm,0.8s,mb6.4
APA Apatity 62.01 336⇓ *i*P **P** **13 23 26.8 -0.7**
APA *i* pP 13 23 38.6 -0.2
APA *i*S **S** **13 31 47.0 -0.5**
APA *i* 13 33 06.0
APA *i*SS SS 13 35 44.0 -8.0
APA pmax pmax
comp=Z,650nm,1.6s,mb6.5
APA pmax pmax
comp=Z,9μm,8.0s
APA pmax pmax
comp=N,3μm,6.0s
APA pmax pmax
comp=E,4μm,6.0s
APA MLR MLR
comp=Z,83μm,18.0s,MS6.9
MBWA Marble Bar 62.57 204⇑ *i*P **P** **13 23 30.6 -1.2**
comp=Z,105nm,1.0s,mb5.9
MBWA LR LR
comp=Z,6μm,20.0s,MS5.8
YKA Yellowknife Ar 62.62 31 P **P** **13 23 30.6 -1.0**
comp=Z,16nm,0.7s,mb5.3,baz=304,slow=6.8,SNR=115
YKA pP pP 13 23 43.1 +0.1
comp=Z,22nm,0.7s,baz=301,slow=6.0,SNR=24
YKA LR LR 13 51 05.0
comp=Z,12μm,21.4s,MS6.0,baz=265,slow=36
YKA PKPPKP 13 52 30.7
comp=Z,1.3nm,1.0s,baz=137,slow=2.8,SNR=5.0
BHJ Bhuj 62.68 279 *e*P **P** **13 23 32.6 0.0**
BHJ AMb AMB 13 23 46.8
comp=Z,306nm,1.7s,mb6.2
KEV Kevo 62.70 339 *ep* **P** **13 23 30.5 -1.6**
comp=Z,29nm,0.7s,mb5.5
KEV Kevo 62.70 339 *e*P **P** **13 23 30.5 -1.6**
KEV pmax pmax
comp=Z,290nm,0.7s,mb6.5
PALK Pallekele 63.18 258⇑ *i*P **P** **13 23 35.6 -0.5**
comp=Z,589nm,2.2s,mb6.3
PALK LR LR
comp=Z,6μm,20.0s,MS5.7
KLMR Klimovskoe 63.22 328*c* *i*P **P** **13 23 34.5 -1.1**
KLMR *i* 13 25 54.9
KLMR *i*S **S** **13 32 03.9 +1.1**
KLMR pmax pmax
comp=Z,1μm,2.8s,mb6.5
KLMR pmax pmax
comp=Z,5μm,9.4s
KLMR smax
comp=E,3μm,4.2s
ARCES ARCESS Array B 63.25 339 P **P** **13 23 34.8 -1.0**
comp=E,27nm,0.7s,mb5.5,baz=53,slow=7.5,SNR=87
ARCES pP pP 13 23 47.4 +0.2
comp=E,26nm,0.8s,baz=56,slow=4.4,SNR=7.3
ARCES LR LR 13 54 06.6
comp=E,38μm,21.1s,MS6.5,baz=47,slow=39
ARCES ARCESS Array B 63.25 339 P **P** **13 23 34.8 -1.0**
ARCES *PP pP 13 23 47.4 +0.2
ARCES pmax pmax
comp=Z,270nm,0.7s
ARCES MLR MLR
comp=Z,38μm,21.2s
ARE0 ARCESS Array S 63.25 339⇑ *i*P **P** **13 23 34.5 -1.2**
PECR Pechory 63.40 322⇓ *i*P **P** **13 23 35.5 -1.4**
PECR *i* 13 25 52.0
PECR *i*S **S** **13 32 05.2 +0.1**
PECR *i* 13 36 17.6
PECR pmax pmax
comp=Z,11μm,10.0s
PECR pmax pmax
comp=N,3μm,9.4s
PECR pmax pmax
comp=E,6μm,6.0s
PECR pmax pmax
comp=N,4μm,8.6s
PECR pmax pmax
comp=E,7μm,8.6s
PECR pmax pmax
comp=Z,8μm,8.6s
PECR smax
comp=N,8μm,11.4s
PECR smax
comp=E,7μm,11.4s
PECR MLR MLR
comp=Z,42μm,18.0s,MS6.7
PECR MLR MLR
comp=N,20μm,15.0s,MS6.6
PECR MLR MLR
comp=E,24μm,17.0s,MS6.6
ASH Ashkhabad 63.70 299⇑ *i*P **P** **13 23 39.0 -0.1**
ASH S **S** **13 32 21.0 +12**
VAN Vannovskaya 63.87 299 *i* P **P** **13 23 39.1 -1.1**
VAN S **S** **13 32 18.5 +7.3**
NOUC Port Laguerre 63.99 155 *e*P **P** **13 23 42.3 +1.0**
DZM Mont Dzumac 64.01 155 *e*P **P** **13 23 41.3 0.0**
KTK1 Kautokeino 64.21 340⇑ *i*P **P** **13 23 42.3 +0.4**
MNGI Mangalore 64.35 267 *e*P **P** **13 23 42.5 -1.2**
DAG Danmarks Havn 64.81 355⇓ *i*P **P** **13 23 44.0 -1.7**
comp=E,132nm,1.1s,mb5.9
comp=Z,15μm,22.0s
DAG Danmarks Havn 64.81 355⇓ *e*P **P** **13 23 44.0 -1.7**
DAG pmax pmax
comp=Z,130nm,1.1s,mb5.9
DAG MLR MLR
comp=N,11μm,22.0s,MS6.0
DAG MLR MLR
comp=Z,15μm,22.0s,MS6.1
DAG MLR MLR
comp=E,6μm,23.0s,MS6.0
DAG Danmarks Havn 64.81 355⇓ *e*P **P** **13 23 44.0 -1.7**
comp=E,133nm,1.1s,mb5.9
DAG LR LR
comp=Z,15μm,22.0s,MS6.1
TRO Tromso 64.94 341⇑ *i*P **P** **13 23 43.6 -3.0**
TRO AMb AMB 13 23 50.2
comp=Z,216nm,2.4s,mb5.8
TRO *e*PP PP 13 26 10.3 -1.4
TRO *e*S **S** **13 32 25.6 +1.7**
TRO *e*SS SS 13 36 42.1 +4.3
TRO AMS AMS 13 57 57.8
comp=Z,28μm,16.5s,MS6.5
OCWA Octopus Mounta 65.22 48 *e*P **P** **13 23 49.6 +0.9**
comp=Z,751nm,1.9s,mb6.4
OCWA LR LR
comp=Z,19μm,22.0s,MS6.2
JOF Joensuu 65.35 332 *ep* **P** **13 23 47.2 -2.1**
comp=Z,15nm,0.5s,mb5.3
COCO West Island 65.56 230⇑ *i*P **P** **13 23 51.6 +0.1**
comp=Z,1μm,1.8s,mb6.6
COCO LR LR
comp=Z,2μm,20.0s,MS5.4
MOS Moscow 66.79 323α *i*P **P** **13 23 57.8 -0.8**
MOS *i* pP 13 24 10.0 -0.1
MOS *e* 13 24 29.3
MOS *i* 13 26 25.5
MOS *e*PPP PPP 13 28 07.3 +3.0
MOS *i*S S 13 32 47.3 +0.7
MOS pmax pmax
comp=Z,1μm,4.6s
MOS pmax pmax
comp=N,4μm,4.5s
MOS pmax pmax
comp=E,2μm,4.5s
MOS pmax pmax
comp=Z,1μm,2.4s,mb6.4
MOS smax
comp=N,3μm,2.5s
MOS MLR MLR
comp=N,44μm,15.0s,MS6.9
MOS MLR MLR
comp=E,25μm,15.0s,MS6.9
MOS MLR MLR
comp=Z,91μm,15.0s,MS7.1
AFI Afiamalu 67.33 131 PFAKE 13 24 10.0 +7.4
AFI LR LR
comp=Z,25μm,21.0s,MS6.4
VRHR Novokhopersk 67.34 318 *e*P **P** **13 24 00.9 -1.2**
VRHR *e* 13 26 25.9
VRHR *e*S S 13 32 51.3 -2.0
VRHR pmax pmax
comp=Z,100nm,1.0s,mb5.8
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.6
VRHR pmax pmax
comp=N,130nm,1.1s
VRHR pmax pmax
comp=E,120nm,1.0s
VRHR smax
comp=Z,970nm,4.8s
VRHR smax
comp=N,3μm,5.3s
VRHR smax
comp=E,1μm,5.0s
VRHR MLR MLR
comp=Z,118μm,17.0s,MS7.2
VRHR MLR MLR
comp=N,47μm,18.0s,MS7.1
VRHR MLR MLR
comp=E,82μm,16.0s,MS7.1
COR Corvallis 67.35 51 PFAKE 13 24 10.0 +7.7
COR LR LR
comp=Z,15μm,22.0s,MS6.2
LOF Lofoten 67.39 342⇑ *i*P **P** **13 24 04.1 +1.9**
PUL Pulkovo 67.62 329 *i* P **P** **13 24 03.8 +0.1**
PUL *i* 13 26 33.7
PUL *i*S S 13 32 50.3 -6.2
PUL *i*SS SS 13 37 14.2 -5.0
PUL pmax pmax
comp=N,74nm,0.6s
PUL pmax pmax
comp=Z,129nm,0.6s,mb6.1
PUL pmax pmax
comp=E,235nm,0.8s
PUL pmax pmax
comp=Z,557nm,3.2s
PUL pmax pmax
comp=N,2μm,2.3s
PUL pmax pmax
comp=E,3μm,2.6s
PUL smax
comp=N,6μm,13.3s
PUL smax
comp=Z,1μm,11.1s
PUL smax
comp=E,8μm,18.8s
PUL MLR MLR
comp=N,27μm,20.0s,MS6.7
PUL MLR MLR
comp=Z,74μm,20.0s,MS6.9
PUL MLR MLR
comp=E,40μm,18.0s,MS6.7
PUL Pulkovo 67.62 329 *i* P **P** **13 24 02.9 -0.8**
OBN Obninsk 67.64 323*c* *i*P **P** **13 24 02.8 -1.1**
OBN *e* 13 24 20.2
OBN *e* 13 26 37.0
OBN *i*S S 13 32 53.8 -3.0
OBN *i*SS SS 13 37 13.4 -6.2
OBN pmax pmax
comp=Z,574nm,1.7s,mb6.3
OBN MLR MLR
comp=Z,65μm,15.0s,MS7.0
OBN Obninsk 67.64 323 *e*P **P** **13 24 02.6 -1.3**
comp=Z,3μm,2.1s,mb6.9
OBN LR LR
comp=Z,10μm,19.0s,MS6.1
KAF Kangasniemi 67.68 333 *ep* **P** **13 24 02.1 -2.0**
comp=Z,23nm,0.8s,mb5.3,baz=47,slow=5.8
KAF Kangasniemi 67.68 333 *e*P **P** **13 24 02.1 -2.0**
KAF pmax pmax
comp=Z,230nm,0.8s,mb6.3
WTV Waterville 67.69 46 P **P** **13 24 04.2 -0.1**
NAC Naches 67.70 48 P **P** **13 24 06.3 +1.9**
EBG Ellensburg 67.75 47 P **P** **13 24 05.4 +0.6**
TDH Tom, Dick, Har 67.90 49 P **P** **13 24 06.9 +1.1**
FINES FINESS Array B 68.19 332 P **P** **13 24 06.5 -0.8**
comp=Z,52nm,0.8s,mb5.6,baz=56,slow=6.9,SNR=86
FINES LR LR 13 55 43.8
comp=Z,39μm,21.7s,MS6.6,baz=49,slow=37
FINES FINESS Array B 68.19 332 P **P** **13 24 06.5 -0.8**
FINES pmax pmax
comp=Z,520nm,0.9s
FINES MLR MLR
comp=Z,39μm,21.7s
VOR Voronezh 68.26 319 *e*P **P** **13 24 06.0 -1.9**
VOR *e**PP pP 13 24 14.0 -5.4
VOR S S 13 33 02.0 -2.3
VOR pmax pmax
comp=N,300nm,2.5s
VOR pmax pmax
comp=E,450nm,2.5s
VOR pmax pmax
comp=Z,1μm,2.5s,mb6.5
VOR smax
comp=N,310nm,2.5s
VOR smax
comp=E,250nm,2.5s
MAK Makhachkala 68.31 308*c* *i*P **P** **13 24 08.0 -0.3**

MAK *i* 13 24 33.0
MAK *i* 13 26 40.7
MAK *i* PPP PPP 13 28 17.6 -1.1
MAK *i* S S 13 33 07.8 +2.8
MAK *i* SS SS 13 37 35.8 +5.7
MAK pmax pmax
comp=Z,502nm,3.1s
MAK pmax pmax
comp=Z,461nm,1.7s,mb6.2
MAK smax
comp=N,4μm,7.8s
MAK smax
comp=E,5μm,7.8s
MAK MLR MLR
comp=Z,71μm,16.0s,MS7.0
MAK MLR MLR
comp=N,52μm,17.0s,MS7.2
MAK MLR MLR
comp=E,98μm,17.0s,MS7.2
VRSR Storozhevoye 68.55 319 *e*P **P 13 24 08.5 -1.2**
VRSR *e**PP pP 13 24 20.4 -0.9
VRSR *e*S S 13 33 06.2 -1.6
VRSR *e**SS 13 33 27.8
VRSR *e*SS SS 13 37 30.4 -3.5
VRSR pmax pmax
comp=N,60nm,2.1s
VRSR pmax pmax
comp=Z,140nm,2.1s,mb5.5
VRSR pmax pmax
comp=E,50nm,2.0s
VRSR smax
comp=N,20nm,1.9s
VRSR smax
comp=Z,10.0nm,1.9s
VRSR smax
comp=E,10.0nm,1.7s
VRSR MLR MLR
comp=N,9μm,16.0s,MS6.3
VRSR MLR MLR
comp=E,10μm,16.0s,MS6.3
VRSR MLR MLR
comp=Z,18μm,16.0s,MS6.4
OD2 Odessa Site #2 68.56 46 P **P 13 24 09.7 -0.1**
HUMO Hull Mountain 68.61 52 *e*P **P 13 24 10.7 +0.5**
comp=Z,184nm,1.8s,mb5.7
HUMO LR LR
comp=Z,17μm,22.0s,MS6.2
MOR8 Moi Rana 68.61 340⇑ *i*P **P 13 24 08.0 -1.8**
MOR8 AMb AMB 13 24 13.1
comp=Z,252nm,2.0s,mb5.8
HAWA Hanford 68.63 47 *e*P **P 13 24 10.1 -0.2**
comp=Z,48nm,2.1s,mb5.1
HAWA LR LR
comp=Z,908nm,22.0s
NEW Newport 68.97 45⇑ *i*P **P 13 24 11.7 -0.7**
NEW pmax pmax
comp=Z,564nm,1.9s
NEW MLR MLR
comp=Z,14μm,21.0s
NEW Newport 68.97 45⇑ *i*P **P 13 24 11.7 -0.7**
comp=Z,564nm,1.9s,mb6.2
NEW LR LR
comp=Z,14μm,21.0s,MS6.2
KHMM Horse Mountain 69.05 54 *e*P **P 13 24 13.8 +0.8**
YBH Yreka Blue Hor 69.24 53 *e*P **P 13 24 14.3 +0.2**
YBH pmax pmax
comp=Z,103nm,1.2s
YBH MLR MLR
comp=Z,11μm,20.0s
YBH Yreka Blue Hor 69.24 53 *e*P **P 13 24 14.3 +0.2**
comp=Z,103nm,1.2s,mb5.6
YBH LR LR
comp=Z,11μm,20.0s,MS6.1
JMIC Jan Mayen 69.24 350⇑ *i*P **P 13 24 13.8 +0.2**
JMIC *e*S S 13 33 19.3 +3.6
JMIC AMS AMS 13 57 08.5
comp=Z,5μm,17.1s,MS5.8
STKA Stephens Creek 69.58 181 *e*P **P 13 24 15.7 -0.7**
comp=Z,28nm,0.9s,mb5.2
STKA *e*S S 13 33 20.8 +0.5
STKA *e*PKPPKP 13 52 25.8
STKA Stephens Creek 69.58 181 P **P 13 24 14.7 -1.7**
comp=Z,18nm,0.8s,mb5.0,baz=350,slow=7.5,SNR=17
STKA S S 13 33 19.9 -0.4
comp=Z,2.1nm,0.9s,baz=246,slow=23,SNR=1.7
STKA LR LR 13 55 05.1
comp=Z,13μm,21.1s,MS6.1,baz=4.8,slow=36
SUMG Summit 69.66 0⇑ *i*P **P 13 24 16.0 -0.2**
comp=Z,755nm,1.5s,mb6.4
FORT Forrest 69.74 193 *e*P **P 13 24 16.6 -0.8**
comp=Z,86nm,1.1s,mb5.6
FORT *e*sP sP 13 24 27.8 -5.4
FORT *e*S S 13 33 23.8 +1.6
FORT *e*PKPPKP 13 52 25.3
KCPM Cahto Peak 69.79 55 *e*P **P 13 24 18.1 +0.6**
GOF Gofitskoye 69.87 312⇑ *i*P **P 13 24 17.7 -0.2**
GOF *i* pP 13 24 28.4 -1.1
GOF pmax pmax
comp=Z,141nm,0.8s,mb6.0
VSU Vasula 69.88 330*c i*P **P 13 24 17.1 -0.6**
VSU Vasula 69.88 330⇑ *i*P **P 13 24 17.1 -0.6**
WDC Whiskeytown Da 69.97 54 *e*P **P 13 24 18.8 +0.2**
WDC pmax pmax
comp=Z,110nm,1.3s,mb5.6
WDC MLR MLR
comp=Z,8μm,20.0s,MS6.0
WDC Whiskeytown Da 69.97 54 *e*P **P 13 24 18.8 +0.2**
comp=Z,110nm,1.3s,mb5.6
WDC LR LR
comp=Z,8μm,20.0s,MS6.0
DGRG David-gareji 70.46 308 P **P 13 24 19.5 -2.0**
DGRG S S 13 33 44.4 +14
HOPS Hopland 70.50 55 PFAKE 13 24 30.0 +8.1
HOPS LR LR
comp=Z,23μm,22.0s,MS6.4
NSS Namsos 70.54 339⇑ *i*P **P 13 24 19.5 -2.1**
NSS AMb AMB 13 24 38.8
comp=Z,247nm,2.0s,mb5.8
NSS *e*S S 13 33 31.6 +0.7
NSS *e*SS SS 13 38 04.3 -0.1
NSS AMS AMS 13 59 06.8
comp=Z,32μm,20.0s,MS6.6
MOD Modoc 70.65 52 *e*P **P 13 24 22.8 +0.1**
comp=Z,76nm,0.9s,mb5.6
MOD LR LR
comp=Z,15μm,22.0s,MS6.2
MTA Mtatsminda 70.68 308 P **P 13 24 22.4 -0.5**
MTA S S 13 33 30.9 -2.2
TI2 Plekhanov 70.69 308⇑ *i*P **P 13 24 22.4 -0.5**
TI2 pmax pmax
comp=Z,278nm,2.8s,mb5.7
TI2 pmax pmax
comp=Z,14μm,6.0s
KIV Kislovodsk 70.70 311*c i*P **P 13 24 22.7 -0.2**
KIV pmax pmax
comp=Z,1μm,2.5s,mb6.3
KIV MLR MLR
comp=Z,18μm,15.0s,MS6.4
KIV Kislovodsk 70.70 311⇑ *i*P **P 13 24 22.8 -0.1**
comp=Z,987nm,1.5s,mb6.5
KIV LR LR
comp=Z,55μm,19.0s,MS6.8
BMO Blue Mountains 70.79 48⇑ *i*P **P 13 24 23.0 -0.5**
BMO MLR MLR
comp=Z,11μm,22.0s,MS6.1
ONI Oni 71.01 309 P **P 13 24 25.6 +0.7**
ONI S S 13 33 22.0 -15
NSHM Saint Helena R 71.07 56 *e*P **P 13 24 27.5 +2.2**
SCO Scoresbysund 71.16 354⇑ *i*P **P 13 24 24.7 -0.6**
comp=Z,229nm,1.7s,mb5.8
SCO *e* 13 33 38.7
SCO Scoresbysund 71.16 354⇑ *i*P **P 13 24 24.7 -0.6**
comp=Z,229nm,1.7s,mb5.8
SCO *i* S S 13 33 38.7 +0.7
WVOR Wild Horse Val 71.37 50⇑ *e*P **P 13 24 27.0 0.0**
WVOR pmax pmax
comp=Z,496nm,1.9s,mb6.1
WVOR Wild Horse Val 71.37 50⇑ *e*P **P 13 24 27.0 -0.1**
comp=Z,496nm,1.9s,mb6.1
MSO Missoula 71.56 45⇑ *i*P **P 13 24 27.5 -0.6**
comp=Z,90nm,1.5s,mb5.5
MSO LR LR
comp=Z,6μm,21.0s,MS5.8
GNI Garni 71.58 307 *e*P **P 13 24 28.7 +0.4**
GNI pmax pmax
comp=Z,719nm,1.6s
GNI MLR MLR
comp=Z,26μm,21.0s
GNI Garni 71.58 307 *e*P **P 13 24 28.7 +0.4**
comp=Z,719nm,1.6s,mb6.3
GNI LR LR
comp=Z,26μm,21.0s,MS6.5
AKH Akhalkalaki 71.65 308 P **P 13 24 29.1 +0.4**
IZAR Zarasai 71.87 328 *e*P **P 13 24 29.4 -0.3**
IZAR AMb AMB 13 24 34.6
comp=Z,58nm,1.9s,mb5.2
CHMT Chamberlain Mo 71.89 44 *e*P **P 13 24 29.4 -0.7**
IDID Didziasalis 71.95 327 *e*P **P 13 24 29.9 -0.3**
IDID AMb AMB 13 24 35.1
comp=Z,53nm,2.0s,mb5.1
MNK Minsk 72.01 326 *e*P **P 13 24 30.0 -0.6**
MNK *e*S S 13 33 50.0 +1.8
ISAL Salakas 72.04 328 *e*P **P 13 24 30.4 -0.3**
ISAL AMb AMB 13 24 35.6
comp=Z,76nm,1.7s,mb5.3
IIGN Ignalina 72.15 327 *e*P **P 13 24 30.7 -0.6**
IIGN AMb AMB 13 24 34.6
comp=Z,51nm,1.6s,mb5.2
DIGO Kars 72.29 308 *i*P **P 13 24 32.3 -0.2**
FFC Flin Flon 72.52 33⇑ *i*P **P 13 24 32.8 -0.7**
comp=Z,181nm,1.1s,mb5.9
FFC LR LR
comp=Z,3μm,20.0s,MS5.5
SOC Sochi 72.67 312*c i*P **P 13 24 34.5 -0.2**
SOC *e**PP pP 13 24 46.3 +0.1
SOC *e**SP sP 13 24 50.6 +0.1
SOC *e* 13 27 16.9
SOC *e*PPP PPP 13 29 01.8 +0.6
SOC *e*S S 13 33 55.9 +0.1
SOC *e* 13 34 43.8
SOC pmax pmax
comp=Z,601nm,2.6s,mb6.1
SOC pmax pmax
comp=Z,8μm,5.0s
SOC MLR MLR
comp=Z,50μm,17.0s,MS6.9
ARTV Artvin 72.74 309 *i*P **P 13 24 35.1 0.0**
CMB Columbia Colle 72.78 55 *e*P **P 13 24 36.4 +0.9**
CMB pmax pmax
comp=Z,212nm,1.4s,mb5.9
CMB MLR MLR
comp=Z,27μm,22.0s,MS6.5
CMB Columbia Colle 72.78 55 *e*P **P 13 24 36.4 +0.9**
comp=Z,212nm,1.4s,mb5.9
CMB LR LR
comp=Z,27μm,22.0s,MS6.5
HRY Holter Researc 72.79 44 *e*P **P 13 24 35.8 +0.4**
SAO San Andreas Ge 72.81 57 *e*P **P 13 24 35.7 0.0**
SAO pmax pmax
comp=Z,730nm,1.4s,mb6.4
SAO MLR MLR
comp=Z,11μm,22.0s,MS6.1
SAO San Andreas Ge 72.81 57 *e*P **P 13 24 35.7 0.0**
comp=Z,73nm,1.4s,mb5.4
SAO LR LR
comp=Z,11μm,22.0s,MS6.1
KLBR Kellerberrin 72.94 202 *e*P **P 13 24 35.5 -1.1**
comp=Z,163nm,1.5s,mb5.7
EGMT Eagleton 73.10 42⇑ *i*P **P 13 24 36.6 -0.5**
comp=Z,148nm,1.0s,mb5.9
DLMT Dillon 73.19 45 *e*P **P 13 24 38.1 +0.4**
comp=Z,800nm,2.0s,mb6.3
ANN Anapa 73.26 314*c i*P **P 13 24 37.2 -0.9**
ANN *i* pP 13 24 49.6 -0.1
ANN *i*S S 13 34 02.1 -0.4
ANN pmax pmax
comp=Z,730nm,1.0s,mb6.6
MOL Molde 73.31 340 *e*P **P 13 24 38.6 +0.6**
MOL *e*sP sP 13 24 50.8 -3.0
DOMB Dombas 73.31 339⇑ *i*P **P 13 24 38.0 0.0**
DOMB AMb AMB 13 24 43.1
comp=Z,302nm,2.3s,mb5.8
SEMD Semdilli 73.32 304 P **P 13 24 38.3 -0.4**
TVAN Van 73.36 306 *i*P **P 13 24 39.4 +0.6**
MCMT McKenzie Canyo 73.37 46 *e*P **P 13 24 38.6 -0.2**
NB2 NORSAR Subarra 73.48 337 P **P 13 24 38.7 -0.4**
comp=Z,2μm,2.0s,mb6.7,baz=39,slow=5.8
NB2 NORSAR Subarra 73.48 337 P **P 13 24 38.7 -0.4**
baz=39,slow=6.2
NOA NORSAR Array B 73.48 337 P **P 13 24 38.4 -0.7**
comp=Z,56nm,0.8s,mb5.5,baz=38,slow=5.9,SNR=127
NOA pP pP 13 24 51.7 +1.0
comp=Z,74nm,0.8s,baz=39,slow=5.9,SNR=13
NOA LR LR 13 59 42.2
comp=Z,85μm,20.7s,MS7.0,baz=20,slow=38
NOA NORSAR Array B 73.48 337 P **P 13 24 38.4 -0.7**
NOA pP pP 13 24 51.7 +1.0
NOA LR LR 13 59 42.2
BOZ Bozeman (W) 73.55 45⇑ *i*P **P 13 24 39.8 0.0**
BOZ pmax pmax
comp=Z,500nm,0.8s,mb6.5
BOZ MLR MLR
comp=Z,8μm,21.0s,MS6.0
BOZ Bozeman (W) 73.55 45⇑ *i*P **P 13 24 39.8 -0.1**
comp=Z,50nm,0.8s,mb5.5
BOZ LR LR
comp=Z,8μm,21.0s,MS6.0
HAKT HAKKARI 73.73 305 *i*P **P 13 24 40.2 -0.9**
NAO01 NORSAR Array S 73.73 337 *e*P **P 13 24 40.5 0.0**
comp=Z,54nm,0.8s,mb5.5
NAO01 LR LR
comp=Z,68μm,19.0s,MS7.0
MUN Mundaring 73.77 203 *e*P **P 13 24 39.2 -2.2**
ERZM Erzurum 73.84 308 *i*P **P 13 24 42.3 +0.7**
EZM Erzurum 73.84 308 P **P 13 24 42.2 +0.5**
AKASG Malin Array Be 73.86 322 P **P 13 24 40.5 -0.9**
comp=Z,70nm,0.9s,mb5.6,baz=46,slow=5.9,SNR=122
AKASG pP pP 13 24 53.0 -0.1
comp=Z,30nm,0.6s,baz=46,slow=6.3,SNR=8.9
AKASG S S 13 34 20.3 +11
comp=Z,0.4nm,0.4s,baz=50,slow=7.2,SNR=3.3
AKASG Malin Array Be 73.86 322 P **P 13 24 40.6 -0.9**
AKASG pP 13 24 53.0 -0.1
AKASG pmax pmax
comp=Z,700nm,0.9s
AKASG pmax pmax
comp=Z,300nm,0.6s
NVAR Mina Array Bea 73.89 54 P **P 13 24 42.8 +0.9**
comp=Z,7.1nm,0.9s,baz=288,slow=5.7,SNR=40
NVAR LR LR 13 51 03.3
comp=Z,10μm,21.0s,MS6.1,baz=275,slow=31
MNV Mina 73.98 54 *e*P **P 13 24 42.7 +0.2**
MNV pmax pmax
comp=Z,407nm,2.0s,mb6.0
MNV MLR MLR
comp=Z,12μm,22.0s,MS6.2
MNV Mina 73.98 54 *e*P **P 13 24 42.7 +0.2**
comp=Z,407nm,2.0s,mb6.0
MNV LR LR
comp=Z,12μm,22.0s,MS6.2
QLMT Earthquake Lak 74.17 45 *e*P **P 13 24 44.0 +0.6**
MACK Trabzon 74.20 310 *i*P **P 13 24 44.5 +0.8**
NWAO Narrogin (SRO) 74.34 202 P **P 13 24 44.1 -0.6**
comp=Z,70nm,1.1s,mb5.5,baz=27,slow=6.6,SNR=8.9
NWAO Narrogin (SRO) 74.34 202⇑ *i*P **P 13 24 43.8 -0.9**
NWAO pmax pmax
comp=Z,300nm,1.7s
NWAO MLR MLR
comp=Z,4μm,21.0s
NWAO Narrogin (SRO) 74.34 202⇑ *i*P **P 13 24 43.8 -0.9**
comp=Z,300nm,1.7s,mb6.0
NWAO LR LR
comp=Z,4μm,21.0s,MS5.7
SUW Suwalki 74.35 328⇑ *e*P **P 13 24 44.0 -0.3**
comp=Z,7μm,5.3s
SUW *e*pP pP 13 24 55.4 -0.5
SUW *e*PcP PcP 13 25 00.1 +0.9
SUW *e*PP PP 13 27 36.0 +3.5
SUW *e*S S 13 34 15.5 +1.1
SUW MLR MLR 14 00 02.6
comp=Z,57μm,16.8s,MS6.9
SUW Suwalki 74.35 328⇑ *e*P **P 13 24 44.0 -0.3**
SUW *e**PP pP 13 24 55.4 -0.5
SUW *e* 13 25 00.1
SUW *e* 13 27 36.0
SUW *e*S S 13 34 15.5 +1.0
SUW pmax pmax
comp=Z,690nm,5.3s
SUW MLR MLR
comp=Z,57μm,16.8s,MS6.9
ELK Elko 74.43 50⇑ *i*P **P 13 24 45.2 +0.2**
ELK pmax pmax
comp=Z,350nm,1.0s
ELK MLR MLR
comp=Z,14μm,22.0s
ELK Elko 74.43 50⇑ *i*P **P 13 24 45.2 +0.2**
comp=Z,35nm,1.0s,mb5.2
ELK LR LR
comp=Z,14μm,22.0s,MS6.2
OSL Oslo 74.50 337 *e*P **P 13 24 46.2 +1.2**
YMR Madison River 74.53 45⇑ *e*P **P 13 24 46.0 +0.5**
comp=Z,47nm,0.8s,mb5.5
YMR LR LR
comp=Z,8μm,21.0s,MS6.0
BNGL BINGOL 74.54 307 *i*P **P 13 24 46.0 +0.3**
GCMT Greycliff 74.54 44 *e*P **P 13 24 46.2 +0.7**
GUMT Gumushane 74.67 309 P **P 13 24 46.4 0.0**
YFT Old Faithful 74.73 45⇑ *i*P **P 13 24 48.7 +2.0**
TPH Tonopah 74.79 54 *e*P **P 13 24 47.5 +0.4**
TPH pmax pmax
comp=Z,1μm,2.3s,mb6.4
TPH MLR MLR
comp=Z,14μm,22.0s,MS6.2
TPH Tonopah 74.79 54 *e*P **P 13 24 47.5 +0.3**
comp=Z,1μm,2.3s,mb6.4
TPH LR LR
comp=Z,14μm,22.0s,MS6.2
SFJD Kangerlussuaq 74.81 5⇑ *i*P **P 13 24 45.8 -0.9**
comp=Z,47nm,0.9s,mb5.4
SFJD *i* pP 13 25 00.3 +2.0
SFJD *e* 13 27 34.1
SFJD *i* S S 13 34 17.8 -1.6
comp=Z,22μm,20.0s
SFJD Kangerlussuaq 74.81 5⇑ *i*P **P 13 24 45.8 -0.9**
SFJD *i* pP 13 25 00.3 +2.0
SFJD *e* 13 27 34.1
SFJD *i* S S 13 34 17.8 -1.6
SFJD pmax pmax
comp=Z,470nm,0.9s,mb6.4
SFJD MLR MLR
comp=Z,22μm,20.0s,MS6.5
MSL Mosul 74.87 304 *ex* x 13 24 48.0
MSL *ex* x 13 25 01.0
MSL *ex* x 13 27 23.0
MSL *ex* x 13 34 19.0
MSL *ex* x 13 35 22.5
IMW Indian Meadow 75.02 46⇑ *i*P **P 13 24 49.3 +0.9**
comp=Z,92nm,0.8s,mb5.8
SIM Simferopol' 75.02 316*c i*P **P 13 24 49.6 +1.2**
SIM *i* pP 13 25 01.0 +1.1
SIM *e* 13 27 38.0
SIM *e*PPP PPP 13 29 24.0 +0.2
SIM *i*S S 13 34 23.5 +1.3
SIM *e*SS SS 13 39 11.0 -2.4
SIM pmax pmax
comp=Z,2μm,19.6s
SIM MLR MLR
comp=Z,28μm,16.5s,MS6.6
KONO Kongsberg 75.07 337 *e*P **P 13 24 47.9 -0.4**
KONO *e*S S 13 34 25.1 +2.7
KONO Kongsberg 75.07 337 *e*P **P 13 24 47.6 -0.7**
KONO pmax pmax
comp=Z,1μm,2.3s,mb6.4
KONO MLR MLR
comp=Z,64μm,20.0s,MS6.9
KONO Kongsberg 75.07 337 *e*P **P 13 24 47.6 -0.8**
comp=Z,1μm,2.3s,mb6.4
KONO LR LR
comp=Z,64μm,20.0s,MS6.9
BEST Besiri 75.09 306 *i*P **P 13 24 49.0 +0.1**
GRSN GIRESUNGRSN 75.12 310 *i*P **P 13 24 47.8 -1.2**
MOOW Moose Ponds 75.22 46⇑ *i*P **P 13 24 50.4 +0.8**
comp=Z,657nm,2.0s,mb6.2
TPAW Teton Pass 75.27 46⇑ *i*P **P 13 24 50.8 +1.0**
comp=Z,70nm,0.8s,mb5.6
HVU Hansel Valley 75.27 48⇑ *e*P **P 13 24 50.3 +0.4**
HVU pmax pmax
comp=Z,75nm,0.9s,mb5.6
HVU Hansel Valley 75.27 48⇑ *e*P **P 13 24 50.3 +0.4**
comp=Z,75nm,0.9s,mb5.6
TOO Toolangi 75.32 177 *e*P **P 13 24 51.2 +1.0**
comp=Z,15nm,0.8s,mb5.0
TOO *e*S S 13 34 29.3 +3.7
TOO Toolangi 75.32 177 *e*P **P 13 24 51.2 +1.0**
TOO *e*S S 13 34 29.3 +3.7
TOO pmax pmax
comp=Z,15nm,0.8s,mb5.0
LOHW Long Hollow 75.39 46⇑ *i*P **P 13 24 51.1 +0.6**
comp=Z,546nm,2.0s,mb6.1
SNOW Snow King Moun 75.40 46 *e*P **P 13 24 51.7 +1.1**
comp=Z,63nm,0.8s,mb5.6
REDW Red Top Meadow 75.41 46⇑ *e*P **P 13 24 51.1 +0.6**
comp=Z,574nm,2.0s,mb6.2
ISA Isabella 75.41 56 PFAKE 13 25 00.0 +9.2
ISA LR LR
comp=Z,3μm,22.0s,MS5.5
DAC Darwin (Calif) 75.62 55 *e*P **P 13 24 51.8 -0.1**
DAC pmax pmax
comp=Z,51nm,1.1s,mb5.4
DAC MLR MLR
comp=Z,19μm,22.0s,MS6.4
DAC Darwin (Calif) 75.62 55 *e*P **P 13 24 51.8 -0.2**
comp=Z,51nm,1.1s,mb5.4
DAC LR LR
comp=Z,19μm,22.0s,MS6.4
AHID Auburn Hatcher 75.64 47⇑ *i*P **P 13 24 52.2 +0.3**
comp=Z,62nm,0.8s,mb5.6
AHID LR LR
comp=Z,17μm,22.0s,MS6.3
BGU Big Grassy Mou 75.65 49⇑ *i*P **P 13 24 51.9 -0.1**
UMR Umm Al-Rimmam 75.66 296 *e*P **P 13 24 51.7 -0.6**
DGMT Dagmar 75.66 39⇑ *i*P **P 13 24 51.3 -0.6**
comp=Z,106nm,0.8s,mb5.8
DGMT LR LR
comp=Z,19μm,22.0s,MS6.3
PTK Pertek 75.67 308 P **P 13 24 52.2 +0.1**
RUND Rundenannen 75.68 339 *e*P **P 13 24 52.2 +0.4**
BER Bergen 75.71 339 *e*P **P 13 24 53.0 +1.1**
BER *e*S S 13 34 30.2 +0.8
BER AMS AMS 14 02 02.5
comp=Z,55μm,15.7s,MS7.0
MARD Mardin 75.75 306 *i*P **P 13 24 52.6 -0.1**
MIB Mutribah 75.78 297 *e*P **P 13 24 52.4 -0.6**
MIB AMb AMB 13 24 53.9
comp=Z,181nm,1.0s,mb6.0
BHD Baghdad 75.79 301 *i*x x 13 24 52.0
BHD *i*x x 13 25 01.0
BHD *i*x x 13 27 41.0
BHD *i*x x 13 29 31.0
BHD *i*x x 13 34 31.0
BHD *i*x x 13 35 29.0
LAO LASA Array 75.80 41⇑ *i*P **P 13 24 53.0 +0.2**
comp=Z,1μm,1.8s,mb6.6
LAO LR LR
comp=Z,12μm,20.0s,MS6.2
KBD Kabd 75.89 296 *e*P **P 13 24 53.2 -0.5**
KBD AMb AMB 13 25 12.8
comp=Z,1μm,1.8s,mb6.6
QRN Al-Qurain 75.98 296 *e*P **P 13 24 53.9 -0.3**
QRN AMb AMB 13 25 13.4
comp=Z,768nm,1.6s,mb6.4
TPNV Topopah Spring 76.08 54⇑ *e*P **P 13 24 54.7 +0.1**
TPNV pmax pmax
comp=Z,615nm,1.8s,mb6.2
TPNV MLR MLR
comp=Z,33μm,22.0s,MS6.6
TPNV Topopah Spring 76.08 54⇑ *e*P **P 13 24 54.6 +0.1**
comp=Z,615nm,1.8s,mb6.2
TPNV LR LR
comp=Z,33μm,22.0s,MS6.6
HWUT Hardware Ranch 76.09 48⇑ *i*P **P 13 24 54.9 +0.4**
comp=Z,123nm,1.2s,mb5.7
HWUT LR LR
comp=Z,9μm,21.0s,MS6.0
RDF Al-Radifah 76.14 296 *e*P **P 13 24 54.8 -0.3**
RDF AMb AMB 13 24 58.0
comp=Z,369nm,0.8s,mb6.4
SNCC San Nicolas Is 76.14 59 PFAKE 13 25 10.0 +15
SNCC LR LR
comp=Z,27μm,21.0s,MS6.5
NAY Al-Naaiem 76.17 296 *e*P **P 13 24 54.1 -1.1**
NAY AMb AMB 13 25 23.9
comp=Z,310nm,1.2s,mb6.1
DUG Dugway 76.23 50⇑ *i*P **P 13 24 55.5 +0.2**
DUG pmax pmax
comp=Z,94nm,1.0s,mb5.7

DUG MLR MLR
comp=Z,11µm,22.0s,MS6.1
DUG Dugway 76.23 50⇑ *iP* **P 13 24 55.5 +0.2**
comp=Z,94nm,1.0s,mb5.7
DUG LR LR
comp=Z,11µm,22.0s,MS6.1
NOQ North Oquirrh 76.36 49⇑ *eP* **P 13 24 56.2 +0.1**
comp=Z,690nm,1.6s,mb6.3
TCUT Toone Canyon 76.49 48⇑ *eP* **P 13 24 57.3 +0.5**
KIS Kishinev 76.51 320 *oiP* **P 13 24 56.0 -0.8**
KIS *i* pP 13 25 08.0 -0.4
KIS *i* 13 27 48.0
KIS *i* PPP PPP 13 29 36.0 -2.1
KIS *i* S S 13 34 36.0 -2.4
KIS *i* PS PS 13 35 20.0 -1.8
KIS pmax pmax
comp=Z,1µm,3.0s
KIS pmax pmax
comp=N,400nm,2.0s
KIS pmax pmax
comp=E,400nm,2.0s
KIS pmax pmax
comp=Z,9µm,10.0s
KIS pmax pmax
comp=N,2µm,4.0s
KIS pmax pmax
comp=E,2µm,4.0s
KIS pmax pmax
comp=Z,4µm,6.0s
BW06 Boulder Array 76.52 46⇑ *eP* **P 13 24 56.8 -0.1**
comp=Z,50nm,0.7s,mb5.5
BW06 LR LR
comp=Z,12µm,21.0s,MS6.2
PDAR Pinedale Array 76.52 46 P **P 13 24 56.6 -0.3**
comp=Z,14nm,0.8s,mb4.9,baz=273,slow=2.0,SNR=100
PDAR pP pP 13 25 09.8 +1.2
comp=Z,54nm,0.7s,baz=264,slow=1.5,SNR=45
PDAR LR LR 13 56 49.0
comp=Z,10µm,21.3s,MS6.1,baz=333,slow=34
WAR Warsaw 76.53 327 *eP* **P 13 25 02.3 +5.5**
comp=Z,7µm,4.8s
WAR *e*PcP PcP 13 25 06.6 -2.0
WAR *e*S S 13 34 39.8 +1.3
WAR *e*SS 13 34 55.6
WAR MLR MLR 14 01 32.4
comp=Z,60µm,18.3s,MS6.9
WAR Warsaw 76.53 327 *eP* **P 13 25 02.3 +5.5**
WAR *e* 13 25 06.6
WAR *e*S S 13 34 39.8 +1.3
WAR *e**SS 13 34 55.6
WAR pmax pmax
comp=Z,7µm,4.8s
WAR MLR MLR
comp=Z,60µm,18.3s,MS6.9
WAR Warsaw 76.53 327 *eP* **P 13 25 02.3 +5.5**
comp=Z,7.1nm,4.8s
WAR *e*PcP PcP 13 25 06.6 -2.0
WAR *e*S S 13 34 39.8 +1.3
WAR *e*SS 13 34 55.6
WAR LR LR
comp=Z,60µm,18.3s,MS6.9
MWC Mount Wilson 76.54 57 *eP* **P 13 24 56.8 -0.4**
CTU Camp Tracy 76.55 49⇑ *iP* **P 13 24 57.2 +0.1**
comp=Z,537nm,2.0s,mb6.1
SVST Sivas 76.62 310 *iP* **P 13 24 58.8 +1.2**
RAO Raoul Island 76.66 145 PFAKE 13 25 10.0 +12
RAO LR LR
comp=Z,20µm,20.0s,MS6.4
BORG Borgarnes 76.71 353⇑ *iP* **P 13 24 59.0 +1.4**
comp=Z,250nm,1.4s,mb6.0
BORG LR LR
comp=Z,2µm,21.0s,MS5.5
HASS Wahat al Ahsa' 76.77 292 P **P 13 24 57.5 -1.2**
BOYT Boyabat 76.80 312 *iP* **P 13 24 58.3 -0.3**
NLU North Lily Min 76.82 49⇑ *iP* **P 13 24 59.0 +0.3**
BSD Bornholm Skovb 76.83 332 *iP* **P 13 24 58.1 -0.3**
comp=Z,51nm,0.9s,mb5.5
BSD *i* pP 13 25 08.9 -1.1
BSD *e* 13 27 48.8
BSD *i* S S 13 34 43.6 +1.9
BSD *i* 13 40 19.2
comp=Z,33µm,21.0s
BSD Bornholm Skovb 76.83 332 *iP* **P 13 24 58.1 -0.3**
BSD *i* pP 13 25 08.9 -1.1
BSD *e* 13 27 48.8
BSD *i* S S 13 34 43.6 +1.9
BSD pmax pmax
comp=Z,510nm,0.9s,mb6.5
BSD MLR MLR
comp=Z,33µm,21.0s,MS6.6
LVV L'vov 76.91 324 *iP* **P 13 24 58.9 -0.1**
LVV *e* pP 13 25 10.0 -0.6
LVV *e* 13 27 51.0
LVV *e*S S 13 34 43.0 +0.3
LVV MLR MLR
comp=Z,34µm,16.0s,MS6.8
URFA Urfa 76.91 307 P **P 13 24 58.7 -0.6**
BZK Bozkurt 76.98 313 *eP* **P 13 24 59.8 +0.2**
DAU Daniels Canyon 77.02 49 *eP* **P 13 25 01.4 +1.6**
MPU Maple Canyon 77.05 49⇑ *iP* **P 13 25 00.2 +0.2**
comp=Z,105nm,1.0s,mb5.7
MPU LR LR
comp=Z,15µm,22.0s,MS6.3
ATAB Bozova 77.22 308 *iP* **P 13 25 00.6 -0.4**
COP Copenhagen 77.28 333 *iP* **P 13 25 01.0 0.0**
COP *i* 13 27 55.4
COP *e* 13 29 43.0
COP *i* S S 13 34 45.0 -1.7
comp=Z,34µm,17.0s
ARUT Antelope Range 77.33 52 *eP* **P 13 25 02.5 +0.9**
BALT Daday 77.61 313 *iP* **P 13 25 03.8 +0.7**
MVU Marysvale 77.64 51⇑ *iP* **P 13 25 04.6 +1.2**
comp=Z,75nm,1.2s,mb5.5
MVU LR LR
comp=Z,13µm,22.0s,MS6.2
KWP Kalwaria 77.65 325⇑ *eP* **P 13 25 04.1 +0.9**
comp=Z,8µm,3.5s
KWP *e*PcP PcP 13 25 15.0 +1.5
KWP *e*PP PP 13 27 57.0 -3.2
KWP *e*S S 13 34 52.7 +2.0
KWP *e*SKS SKS 13 35 08.3 0.0
KWP MLR MLR 14 02 48.6
comp=Z,117µm,17.1s,MS7.3
KWP Kalwaria 77.65 325⇑ *eP* **P 13 25 04.1 +1.0**
KWP *e* pP 13 25 15.0 +0.3
KWP *e* 13 27 57.0
KWP *e*S S 13 34 52.7 +1.9
KWP *e* 13 35 08.3
KWP pmax pmax
comp=Z,760nm,3.5s
KWP MLR MLR
comp=Z,117µm,17.1s,MS7.3
MSU Marysvale 77.66 51 *eP* **P 13 25 04.7 +1.3**
GZT Gaziantep 77.75 308 *iP* **P 13 25 03.8 -0.1**
CORM Corum 77.75 312 P **P 13 25 03.9 0.0**
TMUT Trail Mountain 77.75 50⇑ *iP* **P 13 25 04.0 +0.1**
NEN Nelson 77.77 54 *eP* **P 13 25 04.2 +0.2**
MUD Monsted U'grnd 77.78 335⇑ *iP* **P 13 25 04.0 +0.3**
comp=Z,115nm,1.5s,mb5.6
MUD *i* 13 28 00.8
MUD *i* 13 29 44.4
MUD *i* S S 13 34 52.4 +0.4
MUD *e* 13 40 55.2
comp=Z,65µm,19.0s
MUD Monsted U'grnd 77.78 335⇑ *iP* **P 13 25 04.0 +0.3**
MUD *i* 13 28 00.8
MUD *i* S S 13 34 52.4 +0.4
MUD pmax pmax
comp=Z,120nm,1.5s,mb5.6
MUD MLR MLR
comp=Z,65µm,19.0s,MS7.0
BURAR Bucovina Array 77.88 322⇑ *iP* **P 13 25 04.2 -0.2**
BURAR Bucovina Array 77.88 322⇑ *iP* **P 13 25 04.2 -0.3**
PFO Pinyon Flat Ob 77.97 57⇑ *eP* **P 13 25 04.7 -0.5**
PFO pmax pmax
comp=Z,640nm,2.4s,mb6.1
PFO MLR MLR
comp=Z,6µm,22.0s,MS5.9
PFO Pinyon Flat Ob 77.97 57⇑ *eP* **P 13 25 04.7 -0.5**
comp=Z,640nm,2.4s,mb6.1
PFO LR LR
comp=Z,6µm,22.0s,MS5.9
KAHT Ahir Dag 78.01 308 *iP* **P 13 25 06.2 +0.9**
CFR Carcaliu 78.08 319⇑ *iP* **P 13 25 04.7 -0.9**
CFR Carcaliu 78.08 319⇑ *iP* **P 13 25 04.7 -0.8**
GAZ Gaziantep 78.08 308 P **P 13 25 05.2 -0.5**
SAFT Safranbolu 78.20 313 P **P 13 25 06.8 +0.5**
ELDT Eldivan 78.26 312 *iP* **P 13 25 06.1 -0.5**
CDAG Cicekdag 78.26 311 *iP* **P 13 25 06.6 -0.1**
SRU San Rafael 78.28 49⇑ *iP* **P 13 25 06.9 +0.1**
comp=Z,95nm,0.8s,mb5.8
ULM Lac du Bonnet 78.31 34 P **P 13 25 05.8 -0.9**
comp=Z,17nm,0.8s,mb5.0,baz=316,slow=6.6,SNR=34
ULM LR 14 03 30.6
comp=Z,8µm,18.6s,MS6.1,baz=323,slow=38
ULM Lac du Bonnet 78.31 34 P **P 13 25 05.8 -0.9**
ULM LR LR 14 03 30.6
KOLS Kolonicke sedl 78.35 324 *iP* **P 13 25 07.0 +0.1**
KOLS *e*pP pP 13 25 17.4 -1.2
KOLS *e*PP PP 13 28 02.2 -4.0
BAR Barrett 78.39 58 *eP* **P 13 25 07.4 -0.2**
TIRR Tirgusor 78.42 318⇑ *iP* **P 13 25 07.4 -0.1**
TIRR Tirgusor 78.42 318⇑ *iP* **P 13 25 07.4 0.0**
STHS Stebnicka Huta 78.47 325 *iP* **P 13 25 08.2 +0.6**
STHS *e*sP sP 13 25 20.4 -3.1
AVNT Avonos 78.51 310 *iP* **P 13 25 08.4 +0.3**
OUZ Omahuta 78.52 154 *e*PN **P 13 25 10.3 +2.2**
HARR Harsova 78.52 318⇑ *iP* **P 13 25 07.4 -0.6**
HARR Harsova 78.52 318⇑ *iP* **P 13 25 07.4 -0.6**
OJC Ojcow 78.53 326⇑ *iP* **P 13 25 08.0 +0.1**
OJC *e* pP 13 25 20.0 +0.5
OJC *e*PP PP 13 28 01.6 -6.0
OJC *e*S S 13 35 01.7 +1.6
OJC *e*SS SS 13 40 03.7 -3.1
OJC MLR MLR 14 02 51.9
comp=Z,113µm,17.9s,MS7.2
UZH Uzhgorod 78.56 324 *iP* **P 13 25 07.5 -0.6**
UZH *e*S S 13 35 01.0 +0.5
UZH MLR MLR
comp=Z,28µm,14.0s,MS6.7
RSSD Black Hills 78.66 42⇑ *iP* **P 13 25 08.3 -0.5**
RSSD pmax pmax
comp=Z,56nm,0.8s,mb5.5
RSSD MLR MLR
comp=Z,12µm,22.0s,MS6.2
RSSD Black Hills 78.66 42⇑ *iP* **P 13 25 08.3 -0.5**
comp=Z,56nm,0.8s,mb5.5
RSSD LR LR
comp=Z,12µm,22.0s,MS6.2
CRVS Cervenica-Dubn 78.74 325 *iP* **P 13 25 09.7 +0.6**
CRVS *e* pP 13 25 22.4 +1.6
CRVS *e*PP PP 13 28 05.5 -3.8
CRVS *e*S S 13 34 57.8 -4.6
CRVS *e* 13 35 22.6
KAMT Kaman 78.81 311 P **P 13 25 09.6 -0.1**
NIE Niedzica 78.89 326⇑ *iP* **P 13 25 10.4 +0.5**
DGAR Diego Garcia 78.90 251 PFAKE 13 25 20.0 +9.3
DGAR LR LR
comp=Z,4µm,22.0s,MS5.7
MLR Muntele Rosu 79.00 320⇑ *iP* **P 13 25 10.4 -0.2**
MLR Muntele Rosu 79.00 320⇑ *iP* **P 13 25 10.4 -0.2**
SGKT Sivrigoynuk 79.00 313 *iP* **P 13 25 09.9 -0.8**
ANTO Ankara 79.03 312 P **P 13 25 10.5 -0.4**
ANTO Ankara 79.03 312⇑ *iP* **P 13 25 10.9 0.0**
ANTO pmax pmax
comp=Z,203nm,2.5s,mb5.6
ANTO MLR MLR
comp=Z,13µm,21.0s,MS6.2
ANTO Ankara 79.03 312⇑ *iP* **P 13 25 10.9 0.0**
comp=Z,2µm,2.5s,mb6.6
ANTO LR LR
comp=Z,13µm,21.0s,MS6.2
COBT Iskenderun 79.09 308 *iP* **P 13 25 10.0 -1.3**
RUE Ruedersdorf 79.29 331⇑ *iP* **P 13 25 11.9 -0.1**
comp=Z,2µm,2.5s,mb6.6
SNX Sinaia 79.31 320⇑ *iP* **P 13 25 12.0 -0.3**
SNX Sinaia 79.31 320⇑ *iP* **P 13 25 12.0 -0.3**
RAC Raciborz 79.32 327 *eP* **P 13 25 13.1 +0.8**
RAC *e*S S 13 35 11.0 +2.5
RAC MLR MLR 14 03 06.8
RAC LME 14 04 31.5
RAC LMN 14 06 05.7
comp=Z,51µm,19.6s
RAC Raciborz 79.32 327 *eP* **P 13 25 13.1 +0.8**
RAC *e*S S 13 35 11.0 +2.5
RAC LR LR
comp=Z,63µm,17.2s,MS7.0
BSEG Bad Segeberg 79.42 333 *eP* **P 13 25 12.2 -0.5**
BSEG *e*S S 13 35 10.7 +1.2
BSEG pmax pmax
comp=Z,1µm,2.1s,mb6.5
VOIR 79.48 320⇑ *iP* **P 13 25 13.2 0.0**
VOIR 79.48 320⇑ *iP* **P 13 25 13.2 -0.1**
BSTP Nigde 79.49 310 *iP* **P 13 25 16.6 +3.2**
HENT Hendek 79.49 314 *iP* **P 13 25 12.2 -1.1**
KECS Kecovo 79.49 325 *eP* **P 13 25 13.0 -0.2**
KECS *e* pP 13 25 25.1 +0.2
KECS *e*PP PP 13 28 14.4 -0.9
KECS *e* 13 35 29.6
OKC Ostrava-Krasne 79.53 327⇑ *iP* **P 13 25 13.3 -0.1**
OKC *e*pP pP 13 25 24.3 -0.7
OKC *e*PP PP 13 28 12.1 -3.5
OKC *e*S S 13 35 10.9 +0.2
OKC *e*SKS SKS 13 35 27.9 +6.2
OKC AMS AMS 14 03 10.0
comp=Z,58µm,16.4s
KSP Ksiaz 79.55 329⇑ *eP* **P 13 25 13.8 +0.3**
comp=Z,9µm,4.1s
KSP *e*PcP PcP 13 25 22.0 +0.4
KSP *e*pP pP 13 25 26.2 +1.1
KSP *e*PP PP 13 28 12.1 -3.7
KSP *e*S S 13 35 12.1 +1.2
KSP *e*SKS SKS 13 35 25.1 +3.3
KSP *e*S 13 35 34.6
KSP *e*SS SS 13 40 15.2 -7.0
KSP MLR MLR 14 02 48.7
comp=Z,101µm,20.1s,MS7.2
KSP Ksiaz 79.55 329⇑ *eP* **P 13 25 13.4 -0.1**
KSP *e*pP pP 13 25 23.5 -1.6
KSP *e*PP PP 13 28 08.5 -7.2
KSP *e*PPP PPP 13 29 54.0 -12
KSP *e*S S 13 34 58.0 -13
KSP *e*SKS SKS 13 35 16.0 -5.8
KSP *e*SS SS 13 40 10.0 -12
KSP LR LR
comp=Z,117µm,20.1s,MS7.2
MDU Mudurnu 79.55 314 P **P 13 25 13.6 -0.1**
PV10 Paradox Valley 79.64 49 *eP* **P 13 25 15.3 +1.1**
DRGR 79.68 323⇑ *iP* **P 13 25 13.0 -1.2**
DRGR 79.68 323⇓ *iP* **P 13 25 13.0 -1.2**
DRGR 79.68 323⇑ *iP* **P 13 25 13.0 -1.3**
LIKS Likavka 79.69 326 *e*pP pP 13 25 25.6 -0.4
PHWY Pilot Hill 79.78 45⇑ *iP* **P 13 25 14.9 0.0**
MORC Moravsky Berou 79.83 327⇑ *iP* **P 13 25 14.7 -0.3**
comp=Z,1µm,2.1s,mb6.5
DPC Dobruska-Polom 79.91 328⇑ *iP* **P 13 25 16.2 +0.8**
DPC *e*pP pP 13 25 27.1 0.0
DPC *e*PP PP 13 28 15.4 -3.2
DPC *e*S S 13 35 14.7 0.0
DPC *e*SKS SKS 13 35 32.3 +7.9
DPC AMS AMS 14 03 30.0
comp=Z,47µm,16.6s
UPC Upice 79.92 328⇑ *iP* **P 13 25 15.7 +0.2**
UPC *e*pP pP 13 25 26.9 -0.3
MERS Mersin 79.94 309 P **P 13 25 15.8 -0.1**
WUAZ Wupatki 80.05 53 *eP* **P 13 25 17.0 +0.5**
comp=Z,92nm,1.0s,mb5.7
WUAZ LR LR
comp=Z,22µm,22.0s,MS6.5
PV01 Paradox Valley 80.08 49 *eP* **P 13 25 17.1 +0.5**
PSZ Piszkesteto 80.18 325⇑ *eP* **P 13 25 17.6 +0.7**
PSZ *i* pP pP 13 25 29.3 +0.7
PSZ Piszkesteto 80.18 325⇑ *iP* **P 13 25 17.2 +0.3**
comp=Z,919nm,1.8s,mb6.4
VYHS Vyhne 80.23 326 *iP* **P 13 25 17.4 +0.3**
VYHS *e* pP 13 25 29.0 +0.2
VYHS *e*PP PP 13 28 12.0 -9.4
VYHS *e*S S 13 35 13.2 -4.8
VYHS *e* 13 35 33.4
KDHN Kadinhani 80.31 312 *iP* **P 13 25 21.0 +3.2**
SMCO Snowmass 80.33 47⇑ *eP* **P 13 25 18.3 +0.4**
comp=Z,34nm,0.8s,mb5.3
MEST Erdemli 80.35 309 *iP* **P 13 25 18.1 0.0**
BORA Eskisehir 80.38 314 *iP* **P 13 25 18.6 +0.5**
ESKT Eskisehir 80.39 313 *eP* **P 13 25 17.8 -0.4**
ESKT Eskisehir 80.39 313 *iP* **P 13 25 17.5 -0.7**
FKH Fakeheh 80.45 306 *eP* **P 13 25 18.9 +0.3**
JAVC Velka Javorina 80.47 327 P **P 13 25 20.2 +1.8**
BRG Berggiesshubel 80.48 330 *iP* **P 13 25 18.8 +0.4**
BRG *i* *PP pP 13 25 29.9 -0.2
BRG pmax pmax
comp=Z,141nm,1.4s,mb5.7
BRG pmax pmax
comp=Z,3µm,2.9s,mb6.7
BRG MLR MLR
comp=E,37µm,16.9s
BRG MLR MLR
comp=Z,96µm,16.8s,MS7.2
BRG Berggiesshubel 80.48 330 *iP* **P 13 25 18.8 +0.4**
comp=Z,141nm,1.4s,mb5.7
BRG *i* pP pP 13 25 29.9 -0.2
BRG *i* PP PP 13 28 13.8 -10
BRG S S 13 35 22.0 +1.4
BRG SS SS 13 40 29.0 -7.1
BRG LR LR
comp=Z,96µm,16.8s,MS7.2
PVCC Panska Ves 80.50 329⇑ *iP* **P 13 25 18.8 +0.3**
PVCC *e*pP pP 13 25 29.7 -0.5
PVCC *e*PP PP 13 28 19.6 -4.2
PVCC *e*S S 13 35 21.0 +0.2
PVCC AMS AMS 14 03 10.0
comp=Z,84µm,20.9s
CLL Collm 80.51 330⇑ *iP* **P 13 25 18.0 -0.6**
comp=Z,logA/T=2.3,mb6.0
CLL *i* *PP pP 13 25 30.0 -0.3
CLL *i* *SP sP 13 25 34.4 -0.1
CLL *e*PP PP 13 28 23.0 -0.9
CLL *e**PPP 13 28 35.0
CLL *e*PPP PPP 13 30 14.0 -1.0
CLL *e*S S 13 35 22.0 +1.1
CLL *e*ScS ScS 13 35 35.0 -3.4
CLL *e*PPS PPS 13 36 24.0 -8.4
CLL *e*SS SS 13 40 24.0 -13
CLL *e**SSS 13 41 18.0
CLL *e*PKKP PKKP 13 43 54.0 +14
CLL *e* 13 44 30.0
CLL Collm 80.51 330⇑ *iP* **P 13 25 18.0 -0.6**
CLL *i* *PP pP 13 25 30.0 -0.3
CLL *i* *SP sP 13 25 34.4 -0.1
CLL *e*S S 13 35 22.0 +1.1
CLL *e* 13 35 35.0
CLL *e* 13 43 54.0
CLL pmax pmax
comp=Z,289nm,1.5s,mb6.0
CLL MLR MLR
comp=Z,56µm,16.4s,MS7.0
CLL Collm 80.51 330⇑ *iP* **P 13 25 18.0 -0.6**
comp=Z,289nm,1.5s,mb6.0
CLL *i* pP pP 13 25 30.0 -0.3
CLL *i* sP sP 13 25 34.4 -0.1
CLL *e*S S 13 35 22.0 +1.1
CLL *e*ScS ScS 13 35 35.0 -3.4
CLL *e*PKKP PKKP 13 43 54.0 +14
CLL LR LR
comp=Z,56µm,16.4s,MS7.0
YLV Yalova 80.53 315 P **P 13 25 18.3 -0.6**
SZH Strazhica 80.55 318 *iP* **P 13 25 20.0 +1.0**
VRAC Vranov 80.59 327⇓ *iP* **P 13 25 19.1 0.0**
ELBA Catalca 80.66 316 *iP* **P 13 25 19.7 +0.1**
ISCO Idaho Springs 80.70 46⇑ *iP* **P 13 25 20.3 +0.4**
ISCO pmax pmax
comp=Z,364nm,1.8s,mb6.0
ISCO MLR MLR
comp=Z,20µm,22.0s,MS6.4
ISCO Idaho Springs 80.70 46⇑ *iP* **P 13 25 20.3 +0.4**
comp=Z,364nm,1.8s,mb6.0
ISCO LR LR
comp=Z,20µm,22.0s,MS6.4
TAU Tasmania Unive 80.72 176 *eP* **P 13 25 20.3 +0.4**
comp=Z,30nm,1.1s,mb5.1
TAU LR LR
comp=Z,4µm,22.0s,MS5.7
MZLS Mizel 80.74 293 P **P 13 25 20.1 -0.3**
JMB Yambol 80.76 317 *iP* **P 13 25 20.5 +0.4**
JMB Yambol 80.76 317 P **P 13 25 21.7 +1.6**
SMOL Smolenice 80.83 326 *iP* **P 13 25 21.9 +1.5**
SMOL *e*sP sP 13 25 33.1 -3.2
SMOL *e*PP PP 13 28 25.1 -1.8
IKL Isikli 80.86 309 P **P 13 25 20.3 -0.5**
KRUC Moravsky 80.86 327 P **P 13 25 21.2 +0.7**
BUD Budapest 80.89 325⇑ *eP* **P 13 25 20.7 0.0**
PRA Prague 80.91 329⇑ P **P 13 25 22.0 +1.3**
PRA pP pP 13 25 33.0 +0.6
PRU Pruhonice 80.92 329⇑ *iP* **P 13 25 20.8 0.0**
PRU *e*pP pP 13 25 30.7 -1.8
PRU *e*PP PP 13 28 21.3 -6.4
PRU *e*S S 13 35 26.7 +1.5
PRU *e*SKS SKS 13 35 40.4 +8.8
PRU AMS AMS 14 03 00.0
comp=Z,64µm,21.0s
PRU Pruhonice 80.92 329⇑ *iP* **P 13 25 20.8 0.0**
PRU *e**PP pP 13 25 30.7 -1.8
PRU *e* 13 28 21.3
PRU *e*S S 13 35 26.7 +1.5
PRU MLR MLR
comp=Z,64µm,21.0s,MS7.0
ULDT Mludag 80.95 314 *iP* **P 13 25 19.7 -1.4**
SRO Srobarova 80.97 325 *eP* **P 13 25 22.6 +1.5**
SRO *e*sP sP 13 25 34.7 -2.3
SRO1 Iza 81.04 325 *eP* **P 13 25 23.1 +1.6**
SRO1 *e*sP sP 13 25 34.4 -3.0
BZS Buzias 81.05 322⇑ *iP* **P 13 25 22.0 +0.4**
BZS Buzias 81.05 322⇑ *iP* **P 13 25 22.0 +0.4**
ERMK Ermenek 81.07 310 *iP* **P 13 25 19.6 -2.2**
TREC Trest 81.07 328⇑ *iP* **P 13 25 21.8 +0.2**
TREC *e*pP pP 13 25 33.1 -0.2
TREC *e*PP PP 13 28 24.7 -4.2
CLZ Clausthal 81.08 332 *eP* **P 13 25 21.2 -0.4**
comp=Z,750nm,1.9s,mb6.3
CLZ *e*PP PP 13 28 27.6 -1.4
CLZ *e*pPP 13 28 37.8
CLZ *e*S S 13 35 26.8 0.0
EDRB Edirne 81.10 317 P **P 13 25 22.2 +0.3**
ALT Altintas 81.12 313 *iP* **P 13 25 20.5 -1.6**
HILS Ha'il 81.12 298 P **P 13 25 22.3 0.0**
BHL Bhannes 81.14 306 *eP* **P 13 25 22.2 -0.1**
ZST Bratislava 81.22 326 *iP* **P 13 25 23.5 +1.1**
ZST *e* pP 13 25 34.7 +0.6
ZST *e*PP PP 13 28 25.1 -5.0
ZST *e*S S 13 35 28.2 -0.1
ZST *e* 13 35 50.6
GDZ Gediz 81.46 313 *iP* **P 13 25 22.9 -0.9**
VKA Vienna 81.50 327⇑ *iP* **P 13 25 24.7 +0.8**
BERN Bernov 81.55 330⇑ *iP* **P 13 25 45.2 +5.2**
MOX Moxa 81.57 331⇑ *iP* **P 13 25 23.8 -0.4**
comp=Z,logA/T=2.6,mb6.3
MOX *i* pP 13 25 36.0 +0.1
MOX PP PP 13 25 25.0 -7.9
MOX pPP 13 28 39.0
MOX S S 13 35 35.0 +3.1
MOX L 14 04 41.0
MOX Moxa 81.57 331 *eP* **P 13 25 23.8 -0.4**
comp=Z,1µm,2.3s,mb6.3
MOX *e* pP 13 25 36.1 +0.2
MOX *e* 13 28 25.2
MOX LR LR
comp=Z,44µm,19.0s,MS6.8
NKC Novy Kostel 81.57 330⇑ *iP* **P 13 25 24.2 0.0**
NKC *e*pP pP 13 25 35.8 -0.1
NKC *e*PP PP 13 28 23.4 -10
NKC *e*S S 13 35 33.8 +1.9
NKC AMS AMS 14 04 40.0
comp=Z,56µm,15.7s
NKC Novy Kostel 81.57 330⇑ *iP* **P 13 25 24.2 0.0**
NKC *e**PP pP 13 25 35.8 -0.1
NKC *e*S S 13 35 33.8 +1.9
NKC MLR MLR
comp=Z,56µm,15.7s,MS7.0
WIT Witteveen 81.60 335 *eP* **P 13 25 24.9 +0.6**
WIT *ex* x 13 25 38.1
QURS Qurayyt al Mil 81.66 303 P **P 13 25 25.8 +0.7**
SART Tekirdag 81.66 316 *iP* **P 13 25 23.8 -1.0**
TKTP Tekketepe 81.68 312 *iP* **P 13 25 23.9 -1.2**
BTOK Tokmak 81.83 315 *iP* **P 13 25 25.8 0.0**
SOP Sopron 81.84 326⇑ *iP* **P 13 25 26.7 +1.1**
SOP Sopron 81.84 326 Pn **P 13 25 27.2 +1.6**
EDI Edinburgh 81.85 341 *eP* **P 13 25 23.8 -1.7**
EDI AMb AMB 13 25 29.2

comp=Z,99nm,2.4s,mb5.3
EAB Aberfoyle 81.90 342 *e*P **P 13 25 25.9 +0.1**
EAB AMb AMB 13 25 29.4
comp=Z,186nm,1.6s,mb5.8
CSS Prodhromos 81.91 308 *e*P **P 13 25 26.2 -0.1**
comp=Z,182nm,1.2s,mb5.9
HIZ Hauiti 81.92 155 *e*PN **P 13 25 28.1 +1.9**
EBL Broad Law 81.94 341 *e*P **P 13 25 26.2 +0.2**
EBL AMb AMB 13 25 29.6
comp=Z,160nm,1.8s,mb5.7
EYMN Ely 81.95 33⇑ *i*P **P 13 25 24.9 -1.3**
comp=Z,1µm,2.2s,mb6.4
EYMN LR LR
comp=Z,12µm,21.0s,MS6.2
KDZ Kurdzhali 81.95 317 *i* P **P 13 25 27.0 +0.7**
KHL Karahalli 81.96 313 *e*P **P 13 25 25.6 -0.8**
HNTI Hanita 81.97 306 P **P 13 25 27.8 +1.2**
EAU Auchinoon 81.98 341 *e*P **P 13 25 25.3 -0.9**
EAU AMb AMB 13 25 30.0
comp=Z,217nm,1.6s,mb5.8
KHC Kasperske Hory 81.99 329⇑ *i*P **P 13 25 26.5 +0.1**
KHC *e* x x 13 25 32.5
KHC *ep*P pP 13 25 38.1 0.0
KHC *e* x x 13 25 44.5
KHC *e*PP PP 13 28 30.9 -5.4
KHC *e*S S 13 35 31.2 -5.0
KHC *e*x x 13 35 57.6
KHC AMS AMS 14 04 00.0
comp=Z,77µm,19.9s
KHC Kasperske Hory 81.99 329⇑ *i*P **P 13 25 26.5 +0.1**
KHC *e**PP pP 13 25 38.1 0.0
KHC *e* 13 25 44.5
KHC *e* 13 28 30.9
KHC *e*S S 13 35 31.2 -5.0
KHC MLR MLR
comp=Z,77µm,19.9s,MS7.1
KHC Kasperske Hory 81.99 329⇑ *i*P **P 13 25 26.5 +0.1**
KHC *e* 13 25 32.5
KHC *ep*P pP 13 25 38.1 0.0
KHC *e* 13 25 44.5
KHC *e*PP PP 13 28 30.9 -5.4
KHC *e*S S 13 35 31.2 -5.0
KHC *e* 13 35 57.6
KHC LR LR
comp=Z,77µm,19.9s,MS7.1
PLD Plovdiv 82.01 318 *i* P **P 13 25 27.5 +0.9**
PKSM Moragy 82.02 324 P **P 13 25 26.5 -0.1**
SDCO Great Sand Dun 82.15 48⇑ *i*P **P 13 25 28.1 +0.6**
comp=Z,514nm,2.3s,mb6.0
SDCO LR LR
comp=Z,15µm,22.0s,MS6.3
GEC2 GERESS Array S 82.16 329 *e*P **P 13 25 26.8 -0.5**
comp=Z,412nm,1.8s,mb6.1
GERES GERESS Array B 82.16 329 P **P 13 25 27.7 +0.4**
comp=Z,19nm,0.9s,mb5.0,baz=45,slow=3.8,SNR=66
GERES *ep*P pP 13 25 39.2 +0.2
comp=Z,32nm,0.9s,baz=36,slow=5.1,SNR=20
GERES LR LR 14 04 47.6
comp=Z,64µm,20.7s,MS7.0,baz=25,slow=38
GERES GERESS Array B 82.16 329 P **P 13 25 27.7 +0.4**
GERES *PP pP 13 25 39.2 +0.2
GERES pmax pmax
comp=Z,190nm,0.9s
GERES MLR MLR
comp=Z,64µm,20.7s
BOLS Boljevac 82.18 321⇑ *i*P **P 13 25 27.2 -0.3**
BEO Belgrade 82.19 322⇓ *i*P **P 13 25 27.9 +0.4**
MMLI Mount Malkishu 82.23 305 P **P 13 25 29.3 +1.3**
RDO Rodhopi 82.24 317 *e*P **P 13 25 28.2 +0.4**
WTSB Winterswijk 82.26 334 *e*P **P 13 25 27.4 -0.3**
comp=Z,380nm,3.4s
WTSB *ex* x 13 25 39.4
WET Wettzell 82.26 329 *e*P **P 13 25 27.8 0.0**
WET *e* 13 28 35.6
WET *e*S S 13 35 40.1 +1.1
WET pmax pmax
comp=Z,727nm,2.0s,mb6.3
WET Wettzell 82.26 329 *e*P **P 13 25 27.8 0.0**
comp=Z,727nm,2.0s,mb6.3
WET *e*PP PP 13 28 35.6 -2.9
WET *e*S S 13 35 40.1 +1.1
HAF Haifa 82.26 306 P **P 13 25 29.0 +0.9**
OFRI 'Ofer 82.39 306 P **P 13 25 29.8 +1.0**
AFFS 'Afif 82.39 294 P **P 13 25 28.9 -0.1**
ESK Eskdalemuir 82.39 341 *e*P **P 13 25 28.7 +0.4**
ESK AMb AMB 13 25 31.9
comp=Z,61nm,3.5s
ESK Eskdalemuir 82.39 341 *e*P **P 13 25 28.3 0.0**
ESK LR LR
comp=Z,9µm,19.0s,MS6.2
VTS Vitosha 82.44 319 *i* P **P 13 25 29.0 +0.2**
VTS Vitosha 82.44 319⇓ P **P 13 25 29.5 +0.7**
GRA1 Grafenberg Arr 82.49 330 *e*P **P 13 25 29.0 +0.1**
comp=Z,2µm,2.0s,mb6.7
GRA1 *ep*P pP 13 28 39.8 -0.4
GRA1 *e*S S 13 35 42.3 +1.1
GRA1 LR LR
comp=Z,56µm,18.6s,MS7.0
GRF Grafenberg Arr 82.49 330 *e*P **P 13 25 29.0 +0.1**
GRF *e* 13 28 39.8
GRF *e*S S 13 35 42.3 +1.1
GRF pmax pmax
comp=Z,2µm,2.0s,mb6.7
GRF MLR MLR
comp=Z,56µm,18.6s,MS7.0
GRF Grafenberg Arr 82.49 330 *e*P **P 13 25 29.0 +0.1**
comp=Z,2µm,2.0s,mb6.7
GRF *ep*P pP 13 28 39.8 -0.4
GRF *e*S S 13 35 42.3 +1.1
GRF LR LR
comp=Z,56µm,18.6s,MS7.0
TUC Tucson 82.49 55 *e*P **P 13 25 29.4 +0.1**
comp=Z,337nm,2.3s,mb5.9
TUC LR LR
comp=Z,10µm,21.0s,MS6.2
ECK Cauldkaine Hil 82.50 341 *e*P **P 13 25 29.4 +0.6**
ECK AMb AMB 13 25 31.8
comp=Z,151nm,1.3s,mb5.8
SLTI Sal'it 82.60 305 P **P 13 25 30.5 +0.6**
ARSA Arzberg 82.63 327 *i* P **P 13 25 29.9 +0.2**
comp=Z,5µm,4.3s,SNR=24
ARSA Arzberg 82.63 327 P **P 13 25 29.8 +0.1**
MKRJ Makawir 82.66 304 P **P 13 25 30.9 +0.7**
DNZL Cakiroluk 82.66 313 *i* P **P 13 25 30.5 +0.5**
GOLH Golhisar 82.67 312 *i* P **P 13 25 29.4 -0.7**
MOA Molln 82.70 328 *e*P **P 13 25 30.3 +0.3**
comp=Z,6µm,4.6s,SNR=17
MOA Molln 82.70 328 P **P 13 25 30.5 +0.5**
GRUS Gruza 82.75 322 Pn **P 13 25 30.4 0.0**
ELL Elmali 82.80 311 P **P 13 25 30.8 0.0**
MMB Musomiste 82.89 318 *i* P **P 13 25 31.0 -0.1**
KOGS Kog 82.92 326 *e*P **P 13 25 30.9 -0.2**
comp=Z,4µm,3.9s
DIVS Divcibare 82.95 322⇓ *i*P **P 13 25 31.0 -0.4**
GMK Mull of Kintyr 82.97 342 *e*P **P 13 25 31.7 +0.5**
BARS Barje 82.98 320⇓ *i*P **P 13 25 31.8 +0.2**
NVR Nevrokopi 82.99 318 *e*P **P 13 25 32.0 +0.4**
GCD Castle Douglas 82.99 341 *e*P **P 13 25 31.3 0.0**
MZDA Masada 82.99 304 P **P 13 25 33.2 +1.3**
KKB Krupnik 83.02 319 *i* P **P 13 25 32.0 +0.2**
TNS Taunus Mts 83.11 332 *e*P **P 13 25 31.9 -0.2**
comp=Z,441nm,1.9s,mb6.2
TNS *ep*P PP 13 28 44.3 -0.9
PRK Paraskevi 83.17 315 *e*P **P 13 25 32.8 +0.2**
GAL1 Galloway 83.18 341 *e*P **P 13 25 32.7 +0.3**
KDAG Bornova 83.19 314 *i* P **P 13 25 33.3 +0.5**
GROS Grobnik 83.24 326 *e*P **P 13 25 32.5 -0.3**
PERS Pernice 83.28 326 *e*P **P 13 25 33.2 +0.3**
PERS *ep*P pP 13 25 44.0 -0.4
PERS *e*S S 13 35 50.7 +1.4
LIA Limnos Island 83.31 316 *e*P **P 13 25 33.5 +0.2**
AKAS Kas 83.32 311 *i* P **P 13 25 31.4 -2.1**
GCL Cushendall 83.34 342 *e*P **P 13 25 33.0 -0.1**
AYDN Tasoluk 83.36 313 *i* P **P 13 25 34.5 +0.9**
FETY Fethiye 83.36 312 P **P 13 25 32.4 -1.2**
SIND Sindeldorf 83.39 331⇑ *e*P **P 13 25 33.4 -0.1**
SIND Sindeldorf 83.39 331 P **P 13 25 34.4 +0.9**
BBLS Bajina Basta - 83.40 322 *e*P **P 13 25 35.6 +1.9**
LAZ Ladron 83.41 51 *e*P **P 13 25 35.1 +1.1**
ANMO Albuquerque 83.46 50⇑ *e*P **P 13 25 34.9 +0.7**
ANMO pmax pmax
comp=Z,262nm,1.8s
ANMO MLR MLR
comp=Z,13µm,22.0s
ANMO Albuquerque 83.46 50⇑ *e*P **P 13 25 34.9 +0.7**
comp=Z,262nm,1.8s,mb6.0
ANMO LR LR
comp=Z,13µm,22.0s,MS6.2
KAMS Al Khamasin 83.46 291 P **P 13 25 34.0 -0.5**
TOD Tromm 83.48 332⇑ *e*P **P 13 25 34.0 0.0**
TOD Tromm 83.48 332 *e*P **P 13 25 34.1 +0.1**
YER Yerkesik 83.48 313 P **P 13 25 35.0 +0.7**
DALT Dalyan (Mudla) 83.53 312 P **P 13 25 34.0 -0.5**
HGN Heimansgroeve 83.56 344 *e*P **P 13 25 33.1 -1.2**
comp=Z,361nm,2.7s,mb6.0
HGN *ex* x 13 25 46.3
HGN *e*PP PP 13 28 50.2 +1.5
HGN *e*S S 13 35 51.6 -0.4
MASH Mash'abbe Sade 83.57 304 P **P 13 25 35.1 +0.3**
RTMM Retamin 83.60 305 P **P 13 25 35.2 +0.2**
URLA Izmir 83.60 314 *i* P **P 13 25 33.7 -1.1**
ZFRI Zfri 83.60 304 P **P 13 25 35.6 +0.6**
LHO Holmfirth 83.61 339 *e*P **P 13 25 34.4 0.0**
SWS Schriesheim 83.62 332 *e*P **P 13 25 34.7 +0.1**
SWS Schriesheim 83.62 332 P **P 13 25 37.3 +2.7**
OBKA Obir 83.62 327 *i* P **P 13 25 34.7 0.0**
comp=Z,5µm,4.3s,SNR=14
MLSB Milas 83.67 313 P **P 13 25 36.0 +0.8**
LENM Lemitar 83.67 51 *e*P **P 13 25 36.3 +1.1**
FUR Furstenfeldbru 83.69 329 *e*P **P 13 25 34.9 -0.1**
FUR pmax pmax
comp=Z,1µm,2.1s,mb6.8
FUR Furstenfeldbru 83.69 329 *e*P **P 13 25 34.9 -0.1**
comp=Z,1µm,2.1s,mb6.8
KBA Koelnbreinsper 83.69 328⇑ *i*P **P 13 25 35.4 +0.4**
comp=Z,4µm,4.5s,SNR=25
ABH Alteburg 83.72 332⇑ *e*P **P 13 25 35.0 -0.1**
ABH Alteburg 83.72 332 *e*P **P 13 25 35.5 +0.4**
HDH Heidenheim 83.77 330 *e*P **P 13 25 35.5 +0.1**
HDH Heidenheim 83.77 330 P **P 13 25 38.1 +2.7**
KBI1 Birley Grange 83.78 339 *e*P **P 13 25 35.9 +0.6**
LPM Los Pinos Moun 83.78 51 *e*P **P 13 25 36.8 +0.9**
SKO Skopje 83.79 320 Pn **P 13 25 38.1 +2.4**
PLE Pljevlja 83.81 322⇑ *i*P **P 13 25 36.9 +1.1**
KBRS Khaybar 83.88 298 P **P 13 25 37.3 +0.7**
KZIT Kziot 83.88 305 P **P 13 25 36.8 +0.4**
NNZ Nelson 83.89 157 PN **P 13 25 36.5 +0.3**
BNM Barren Site 83.89 51 *e*P **P 13 25 37.5 +1.1**
IVA Berane 83.90 321⇑ *i*P **P 13 25 37.1 +0.9**
PLG Polygyros 83.91 318 *e*P **P 13 25 36.1 -0.2**
SMG Samos 83.92 314 *e*P **P 13 25 36.6 +0.2**
KTD Kalmit 83.99 332 *e*P **P 13 25 36.4 -0.1**
KTD Kalmit 83.99 332 *e*P **P 13 25 36.7 +0.2**
LJU Ljubljana 84.00 326 *i* P **P 13 25 35.9 -0.7**
LJU *ep*P pP 13 25 47.8 -0.6
LJU *e* 13 28 53.0
LJU *e* 13 30 44.8
LJU *e*S S 13 35 56.2 -0.2
STU Stuttgart 84.01 331⇑ *i*P **P 13 25 36.9 +0.3**
comp=Z,83nm,1.1s,mb5.8
BDRM Kayabasi 84.02 313 *i* P **P 13 25 37.7 +0.8**
PMOR Pomariorio Ree 84.04 114 *e*P **P 13 25 39.1 +1.6**
comp=Z,110nm,1.2s,mb5.9
RUP Ruppelstein 84.05 333 *e*P **P 13 25 36.7 -0.1**
RUP Ruppelstein 84.05 333 *e*P **P 13 25 37.0 +0.2**
GMM Mts of Mourne 84.06 342 *e*P **P 13 25 36.6 -0.1**
PVY Plav 84.07 321⇑ *i*P **P 13 25 37.3 +0.3**
KWE Weaver Farm 84.08 339 *e*P **P 13 25 37.2 +0.4**
BOJS Bojanci 84.09 326 *i* P **P 13 25 37.0 -0.2**
comp=Z,5µm,4.3s
BOJS *e* 13 28 33.2
BOJS *e* 13 28 43.9
BOJS *e* 13 28 53.6
BOJS *e*S S 13 35 58.1 +0.7
BOJS *e* 13 36 20.3
BODT Bodrum 84.10 313 P **P 13 25 35.8 -1.5**
UPM Unac-Piva 84.14 322⇑ *i*P **P 13 25 37.9 +0.5**
DAT Datca 84.17 313 P **P 13 25 36.1 -1.7**
SCHQ Schefferville 84.19 16⇑ *i*P **P 13 25 37.2 -0.1**
comp=Z,20nm,0.7s,mb5.3,baz=352,slow=5.6,SNR=22
SCHQ LR LR 14 06 03.6
comp=Z,13µm,21.1s,MS6.3,baz=341,slow=38
SCHQ Schefferville 84.19 16⇑ *i*P **P 13 25 37.1 -0.2**
comp=Z,42nm,0.8s,mb5.6
SCHQ LR LR
comp=Z,20µm,21.0s,MS6.5
CADS Cadrg 84.19 327 *e*P **P 13 25 36.4 -1.2**
comp=Z,3µm,4.7s
TBKS Tabuk 84.20 301 P **P 13 25 38.5 +0.4**
ARG Arkhangelos 84.21 312 *e*P **P 13 25 38.6 +0.7**
BUCH Bad Urach 84.22 331 *e*P **P 13 25 37.8 +0.1**
JMQS Jabal Moqyreh 84.22 302 P **P 13 25 38.5 +0.4**
AQBJ Aqaba 84.22 303 P **P 13 25 38.5 +0.3**
WATA Walderalm 84.23 329⇑ *i*P **P 13 25 37.6 -0.2**
comp=Z,942nm,2.5s,mb6.5
LBG Lerchenberg 84.25 331 *e*P **P 13 25 38.2 +0.4**
LBG Lerchenberg 84.25 331 P **P 13 25 39.0 +1.2**
WTTA Wattenberg 84.26 329⇑ *i*P **P 13 25 38.0 +0.1**
comp=Z,5µm,4.1s,SNR=15
WTTA Wattenberg 84.26 329 P **P 13 25 38.3 +0.4**
MBH Mount Berech 84.27 303 P **P 13 25 38.8 +0.4**
CEY Cerknica 84.28 326 *e*P **P 13 25 37.4 -0.7**
VOY Vojsko 84.28 327 *e*P **P 13 25 36.3 -1.7**
VOY *e* pP 13 25 48.0 -1.8
FVI Forni Avoltri 84.31 328 P **P 13 25 36.9 -1.3**
EIL Elat 84.33 303 P **P 13 25 39.1 +0.4**
GMNA Gemona 84.37 327 P **P 13 25 37.8 -0.7**
VAH Vaihoa 84.38 114 *e*P **P 13 25 40.7 +1.5**
comp=Z,135nm,1.5s,mb5.8
NKY Niksic 84.39 322⇑ *i*P **P 13 25 38.3 -0.3**
SNZO South Karori 84.39 156 PFAKE 13 25 50.0 +11
SNZO LR LR
comp=Z,43µm,21.0s,MS6.8
WME Myndd Eilian 84.40 341 *e*P **P 13 25 38.9 +0.4**
WLF Walferdange 84.41 333⇑ *i*P **P 13 25 38.7 +0.2**
comp=Z,292nm,1.8s,mb6.1
MOTA Moosalm 84.41 329⇑ *i*P **P 13 25 38.9 +0.2**
comp=Z,2µm,3.5s,SNR=12
MOTA Moosalm 84.41 329 P **P 13 25 39.6 +0.9**
WPM1 Penmaenmawr 84.42 340 *e*P **P 13 25 39.1 +0.5**
SEST Monte Rota 84.43 328 P **P 13 25 38.7 -0.1**
SQTA Sankt Quirin 84.47 329⇑ *i*P **P 13 25 39.0 +0.1**
comp=Z,852nm,2.5s,mb6.4
ALWS Ilw as Safayha 84.49 303 P **P 13 25 40.0 +0.5**
GIVF Givet 84.51 334 *e*P **P 13 25 38.7 -0.4**
WLF1 Lijnfaes 84.53 341 *e*P **P 13 25 39.3 +0.2**
UBR Uberruh 84.54 330 P **P 13 25 40.6 +1.3**
BRY Bratogost 84.54 322 *e*P **P 13 25 39.4 -0.1**
TTG Podgorica 84.55 321⇑ *i*P **P 13 25 39.9 +0.4**
JMOS Jabal al Moall 84.55 303 P **P 13 25 40.4 +0.6**
PPT Papeete 84.55 117 *e*SS SS 13 41 43.3 +6.4
PPT *e*LR LR 13 51 42.7
comp=Z,81µm,25.2s,baz=320
PPT Papeete 84.55 117 LR LR 13 59 22.0
comp=Z,13µm,19.8s,MS6.3,baz=298,slow=33
SBD1 Bryn Du 84.57 340 *e*P **P 13 25 39.5 +0.2**
SBD1 AMb AMB 13 25 44.3
comp=Z,422nm,2.1s,mb6.2
TRI Trieste 84.59 327 P **P 13 25 39.0 -0.6**
comp=Z,51µm,2.2s
YRC Rhoscolyn 84.61 341 *e*P **P 13 25 40.2 +0.7**
PAE Paea 84.61 117 *e*P **P 13 25 41.8 +1.5**
comp=Z,206nm,1.4s,mb6.1
GUT Gutenstein 84.62 331⇑ *e*P **P 13 25 39.6 -0.1**
GUT Gutenstein 84.62 331 P **P 13 25 40.6 +0.9**
BRES Bressanone 84.67 328 P **P 13 25 39.9 -0.1**
BFO Black Forest 84.71 331 *e*P **P 13 25 39.8 -0.3**
BFO *e**PP pP 13 25 52.9 +1.0
BFO pmax pmax
comp=Z,1µm,2.1s,mb6.7
BFO Black Forest 84.71 331 *e*P **P 13 25 39.8 -0.3**
comp=Z,1µm,2.1s,mb6.7
BFO *ep*P pP 13 25 52.9 +1.0
BFO *ep*PP 13 29 10.3
HAQS Haql 84.74 303 P **P 13 25 41.4 +0.6**
TATS Tathlith 84.75 291 P **P 13 25 41.5 +0.5**
BAIF Baives 84.75 334 *e*P **P 13 25 40.0 -0.3**
comp=Z,298nm,1.6s,mb5.9
BAIF Baives 84.75 334 *e*P **P 13 25 40.0 -0.3**
BAIF pmax pmax
comp=Z,149nm,1.6s,mb5.9
NEO Neokhori 84.79 317 *e*P **P 13 25 40.2 -0.6**
HLM1 Long Mynd 84.81 339 *e*P **P 13 25 40.8 +0.3**
HLM1 AMb AMB 13 25 44.5
comp=Z,182nm,1.9s,mb5.9
YRE Yr Eifl 84.81 340 *e*P **P 13 25 41.0 +0.5**
BUM Brajici-Budva 84.82 321⇑ *i*P **P 13 25 41.3 +0.4**
KZN Kozani 84.84 319 *e*P **P 13 25 40.4 -0.6**
ULC Ulcinj 84.90 321⇑ *i*P **P 13 25 41.6 +0.3**
QSH Qafa e Shtames 84.90 320 *i* P **P 13 25 42.0 +0.7**
HCY Herceg Novi 84.91 322⇑ *i*P **P 13 25 41.6 +0.3**
TVO Taravao 84.92 117 *e*P **P 13 25 43.5 +1.6**
comp=Z,185nm,1.2s,mb6.1
DAVA Damuels 84.95 330 *i* P **P 13 25 41.6 +0.2**
comp=Z,5µm,4.5s,SNR=17
SSP1 Stoney Pound 84.96 340 *e*P **P 13 25 41.8 +0.5**
SSP1 AMb AMB 13 25 46.5
comp=Z,174nm,2.2s,mb5.8
STON Ston 84.97 323 *i* P **P 13 25 39.8 -1.7**
STON Ston 84.97 323 Pn **P 13 25 41.4 -0.2**
SISB Singen-Sch Ber 84.99 330 P **P 13 25 44.1 +2.6**
BDAS Al Bad' 85.03 302 P **P 13 25 43.0 +0.8**
CDF Champ du Feu 85.04 332 *e*P **P 13 25 41.6 -0.2**
comp=Z,335nm,1.4s,mb6.0
STEIN Stein am Rhein 85.04 330⇑ *i*P **P 13 25 41.8 0.0**
TIR Tirane 85.05 320 P **P 13 25 42.2 +0.2**
DLF Lyons Farm 85.06 342 *e*P **P 13 25 39.6 -2.2**
DLF Lyons Farm 85.06 342⇑ *i*P **P 13 25 42.7 +0.9**
DLF Lyons Farm 85.06 342⇑ *i*P pP 13 25 55.7 +2.1
DLF Lyons Farm 85.06 342⇑ *i*P **P 13 25 42.7 +0.9**
DSB Dublin 85.07 342⇑ *i*P **P 13 25 42.3 +0.5**
comp=Z,682nm,1.8s,mb6.5
AYUS 'Aynunah 85.08 302 P **P 13 25 42.9 +0.5**
LIENZ Alp Oberkamor 85.10 330⇑ *i*P **P 13 25 42.5 +0.4**
SLE Schleitheim 85.11 331⇑ *i*P **P 13 25 42.2 +0.1**
SLE Schleitheim 85.11 331⇑ *i*P **P 13 25 42.2 -0.1**
APE Apeiranthos 85.11 314⇑ P **P 13 25 41.5 -0.9**
WEIN Weingarten 85.11 330⇑ *i*P **P 13 25 42.2 +0.1**
TRULL Truellikon 85.13 331⇑ *i*P **P 13 25 42.2 0.0**
KIZ Kirchzarten 85.17 331 *e*P **P 13 25 42.4 0.0**
KIZ Kirchzarten 85.17 331 P **P 13 25 43.1 +0.7**
DCN Croghan 85.20 342 *e*P **P 13 25 40.3 -2.1**
DCN Croghan 85.20 342⇑ *i*P **P 13 25 43.4 +1.0**
DCN Croghan 85.20 342⇑ *i*P pP 13 25 56.6 +2.4
DCN Croghan 85.20 342⇑ *i*P **P 13 25 43.4 +1.0**
FELD Feldberg 85.20 331⇑ *e*P **P 13 25 42.3 -0.3**
FELD Feldberg 85.20 331 *e*P **P 13 25 42.9 +0.3**
CTI Castel Tesino 85.22 328 P **P 13 25 42.3 -0.4**
WILA Wila 85.23 330⇑ *i*P **P 13 25 43.0 +0.3**
WILA Wila 85.23 330⇑ P **P 13 25 43.1 +0.4**
KARP Karpathos 85.23 312 *e*P **P 13 25 46.3 +3.2**
ECH Echery 85.24 332 *e*P **P 13 25 43.1 +0.3**
MCH1 Michaelchurch 85.31 339 *e*P **P 13 25 43.1 +0.1**
MCH1 AMb AMB 13 25 47.8
comp=Z,253nm,2.0s,mb6.0
HTR Trewern Hill 85.31 339 *e*P **P 13 25 43.8 +0.8**
HTR AMb AMB 13 25 47.1
comp=Z,221nm,1.5s,mb6.1
FUORN Ofenpass 85.34 329⇑ *i*P **P 13 25 44.1 +0.8**
PLONS Plons 85.34 330⇑ *i*P **P 13 25 43.6 +0.3**
DAVOX Davos 85.36 329 LR LR 14 05 06.6
comp=Z,32µm,21.6s,MS6.7,baz=274,slow=36
DAVOX Davos 85.36 329⇑ *i*P **P 13 25 44.0 +0.6**
LKR Lokris 85.38 317 *e*P **P 13 25 42.5 -1.2**
ZUR Zurich 85.40 330⇑ *i*P **P 13 25 43.7 +0.1**
ZUR Zurich 85.40 330⇑ P **P 13 25 43.9 +0.3**
BRMO Bormio 85.41 329 P **P 13 25 44.0 +0.4**
BRMO P 13 25 44.3
SULZ Sulz-Cheisache 85.45 331⇑ *i*P **P 13 25 43.8 0.0**
SULZ Sulz-Cheisache 85.45 331⇑ P **P 13 25 43.9 +0.1**
ATH Athens Observa 85.48 316 *e*P **P 13 25 42.9 -1.3**
MOF Molkenrain 85.56 331 *e*P **P 13 25 44.5 +0.2**
HGH Gray Hill 85.57 339 *e*P **P 13 25 44.6 +0.3**
HGH AMb AMB 13 25 48.0
comp=Z,232nm,1.9s,mb6.1
UMJS Umm Lajj 85.59 299 P **P 13 25 46.0 +1.0**
BERNI Berninapass 85.60 329⇑ *i*P **P 13 25 45.3 +0.7**
LLS Linth-Limmern 85.66 330⇑ *i*P **P 13 25 45.3 +0.5**
LLS Linth-Limmern 85.66 330⇑ P **P 13 25 45.2 +0.4**
THEF They Montfort 85.67 332 *e*P **P 13 25 45.0 +0.1**
HINF Hinterafeld 85.69 332 *e*P **P 13 25 44.7 -0.3**
MABI Malga Bissina 85.69 329 P **P 13 25 44.8 -0.2**
MUO Muotathal 85.70 330⇑ *i*P **P 13 25 45.4 +0.3**
MUO Muotathal 85.70 330⇑ P **P 13 25 45.5 +0.4**
HAU Haudompre 85.72 332 *e*P **P 13 25 44.9 -0.2**
HAU *e*R
comp=Z,43µm,21.0s
BBS Basel-Blauen 85.73 331⇑ *e*P **P 13 25 45.7 +0.5**
BBS Basel-Blauen 85.73 331 *e*P **P 13 25 45.6 +0.4**
VDL Val di Lei 85.77 329⇑ *i*P **P 13 25 46.0 +0.6**
BALST Balsthal 85.77 331⇑ *i*P **P 13 25 45.5 +0.1**
MEZF Maizieres J'vi 85.78 333 *e*P **P 13 25 45.5 +0.1**
comp=Z,1µm,1.9s,mb6.5
JAN Janina 85.79 319 *e*P **P 13 25 46.1 +0.4**
TUE Stuetta 85.83 329 P **P 13 25 46.3 +0.6**
comp=Z,685nm,2.5s,mb6.4
EVR Evrytania 85.83 318 *e*P **P 13 25 45.7 -0.2**
TAOE Nuku Hiva Isla 85.83 105 *e*SS SS 13 41 58.4 +2.2
TAOE *e*LR LR 13 52 25.3
comp=Z,138µm,23.6s,baz=314
DJNS Zahran al Janu 85.84 289 P **P 13 25 47.5 +1.1**
HSA Swansea 85.85 340 *e*P **P 13 25 46.0 +0.4**
BNALP Bannalp 85.87 330⇑ *i*P **P 13 25 46.2 +0.3**
BOURR Bourrignon 85.90 331⇑ *i*P **P 13 25 46.2 +0.2**
BLJS Baljurashi 85.92 292 P **P 13 25 47.6 +0.8**
SAL Salo 86.05 328 P **P 13 25 46.9 +0.1**
HASLI Hasliberg 86.07 330⇑ *i*P **P 13 25 47.0 +0.2**
LOMF Lomont 86.09 331 *e*P **P 13 25 47.3 +0.4**
FUSIO Fusio 86.11 330⇑ *i*P **P 13 25 47.5 +0.4**
KSU1 Kansas State U 86.14 42 *e*P **P 13 25 46.5 -0.9**
KEK Kerkira 86.30 319 *e*P **P 13 25 47.6 -0.6**
MNTX Cornudas Mount 86.32 52⇑ *i*P **P 13 25 48.6 +0.1**
comp=Z,319nm,2.1s,mb6.2
MNTX LR LR
comp=Z,8µm,22.0s,MS6.1
NPS Neapolis 86.34 313 *e*P **P 13 25 44.9 -3.6**
WIMIS Wimmis 86.35 331⇑ *i*P **P 13 25 48.3 +0.1**
HEX Exmoor 86.36 339 *e*P **P 13 25 48.9 +0.7**
PESA Pesaro 86.39 326 P **P 13 25 49.1 +0.6**
MUGIO Muggio 86.40 329⇑ *i*P **P 13 25 47.9 -0.6**
TORNY Torny 86.52 331⇑ *i*P **P 13 25 49.4 +0.4**
LTHS Al Lith 86.54 293 P **P 13 25 50.3 +0.5**
VAI Varese 86.55 329 P **P 13 25 48.7 -0.6**
comp=Z,7µm,4.0s
BRANT Les Verrieres 86.56 331⇑ *i*P **P 13 25 50.0 +0.7**
RSM Repubblica di 86.57 326 P **P 13 25 50.4 +1.0**
LKBD Leukerbad 86.58 330⇑ *i*P **P 13 25 49.6 +0.2**
LKBD Leukerbad 86.58 330⇓ P **P 13 25 50.2 +0.8**
GDL2 Guadalupe Moun 86.61 51 *e*P **P 13 25 50.6 +0.7**
FSSB Fossombrone 86.61 326 P **P 13 25 50.0 +0.4**
RLS Riolos of Patr 86.64 317 *e*P **P 13 25 49.8 -0.1**
CING Cingoli 86.67 325 P **P 13 25 49.5 -0.4**
LCI Lecce 86.69 321 P **P 13 25 50.2 +0.1**
comp=Z,818nm,2.2s,mb6.6
ARV Arcevia 86.69 326 P **P 13 25 50.4 +0.4**
comp=Z,424nm,2.0s,mb6.3
FGMS Monte Sant'Ang 86.70 323 P **P 13 25 50.3 +0.2**
MMK Mattmark 86.72 330⇑ *i*P **P 13 25 50.8 +0.7**
SENIN Lac Senin 86.72 331⇑ *i*P **P 13 25 50.5 +0.4**
BRT Bari-Castellan 86.73 322 P **P 13 25 51.1 +0.9**
comp=Z,2µm,3.1s
IDI Anoyia 86.73 313 LR LR 14 10 12.1
comp=Z,20µm,20.1s,MS6.5,baz=200,slow=39
MCGN Macugnaga 86.79 330 P **P 13 25 50.9 +0.5**
VLI Veliai 86.81 315 *e*P **P 13 25 48.4 -2.4**
SFI Santa Sofia 86.85 327 P **P 13 25 51.7 +0.9**
ZCCA Zocca 86.87 327 P **P 13 25 52.5 +1.7**
AIGLE Aigle 86.88 331⇑ *i*P **P 13 25 50.9 +0.1**
SNTG Esanatoglia 86.89 325 P **P 13 25 50.9 0.0**
GRYON Gryon 86.89 331⇑ *i*P **P 13 25 51.1 +0.2**
RGNG Rignano Grg 86.90 323 P **P 13 25 51.0 -0.1**
DIX Grande Dixence 86.92 330⇑ *i*P **P 13 25 51.7 +0.7**
DIX Grande Dixence 86.92 330⇑ P **P 13 25 52.0 +1.0**
LBOS 86.92 285⇑ *e*P **P 13 25 51.3 -0.4**
PGD Poggio Sodo 86.93 327 P **P 13 25 53.0 +1.9**
comp=Z,2µm,2.4s,mb7.0
FNVD Fontana Vidola 86.95 327 P **P 13 25 52.8 +1.5**
CABF La Chapelle 86.98 331 *e*P **P 13 25 51.3 0.0**
BADI Badiali 86.99 326 P **P 13 25 51.2 -0.3**
comp=Z,1µm,2.9s,mb6.7
VLS Valsamata 87.02 318 *e*P **P 13 25 51.3 -0.4**

CRE Caprese Michel 87.03 326 P **P** **13 25 52.0 +0.3**
comp=Z,1µm,2.7s,mb6.7
ITM Ithomi 87.03 316 *e*P **P** **13 25 51.1 -0.7**
SALAN Lac Salanfe 87.03 331 ⇑*i*P **P** **13 25 52.0 +0.4**
GSCL Gusciola 87.03 328 P **P** **13 25 52.6 +0.9**
VAM Vamos 87.05 314 *e*P **P** **13 25 51.3 -0.6**
ERBM Eremo 87.05 328 P **P** **13 25 52.3 +0.6**
MURB Monte Urbino 87.06 326 P **P** **13 25 52.3 +0.5**
ORO Oropa 87.06 330 P **P** **13 25 51.4 -0.4**
TERO Teramo 87.08 325 P **P** **13 25 52.2 +0.3**
EMV Vieux Emosson 87.13 331 ⇑*i*P **P** **13 25 52.5 +0.4**
EMV Vieux Emosson 87.13 331 ⇑P **P** **13 25 52.4 +0.3**
NRCA Norcia 87.14 325 P **P** **13 25 51.1 -1.1**
DHBB Dhamar BB 87.14 286 ⇑*e*P **P** **13 25 53.5 +0.7**
BOB Bobbio (Coli) 87.17 328 P **P** **13 25 53.0 +0.7**
LOR Lormes 87.25 333 *e*P **P** **13 25 52.3 -0.3**
comp=Z,410nm,1.4s,mb6.2
LOR *e*R
comp=Z,30µm,21.0s
LOR Lormes 87.25 333 *e*P **P** **13 25 52.3 -0.3**
LOR pmax pmax
comp=Z,205nm,1.4s,mb6.2
LOR MLR MLR
comp=Z,30µm,21.0s,MS6.7
BDI Bagni Di Lucca 87.26 327 P **P** **13 25 52.9 +0.1**
VLC Villacollemand 87.28 328 P **P** **13 25 53.2 +0.4**
FG4 Candela 87.35 323 P **P** **13 25 53.7 +0.4**
AQU L'Aquila 87.39 325 P **P** **13 25 54.3 +0.9**
comp=Z,3µm,3.1s
FLN La Foliniere 87.42 336 *e*P **P** **13 25 53.2 -0.2**
FLN *e*R
comp=Z,90µm,19.2s
INTR Introdacqua 87.42 324 P **P** **13 25 53.4 -0.2**
CSNT Castellina Chi 87.44 327 P **P** **13 25 52.9 -0.7**
LDF La Druitiere 87.45 336 *e*P **P** **13 25 53.4 -0.2**
CII Carovilli 87.47 324 P **P** **13 25 54.5 +0.7**
FRSS Farasan al Kab 87.50 289 P **P** **13 25 55.7 +1.1**
GVD Gavdhos 87.52 313 ⇑*i*P **P** **13 25 53.6 -0.6**
comp=Z,162nm,1.1s,mb6.2
SSF Saint Saulge 87.55 333 *e*P **P** **13 25 53.8 -0.3**
comp=Z,170nm,1.2s,mb5.8
MIDA Miranda 87.55 324 P **P** **13 25 54.2 0.0**
RNI2 Rionero Sannit 87.55 324 P **P** **13 25 54.9 +0.7**
FIAM Fiamignano 87.58 325 P **P** **13 25 54.7 +0.3**
PSB1 Pescosannita 87.62 323 P **P** **13 25 54.8 +0.3**
LPL La Plagne 87.65 330 *e*P **P** **13 25 54.9 +0.3**
PTQR Pietraquaria 87.65 324 P **P** **13 25 54.6 -0.1**
MRLC Muro Lucano 87.65 322 P **P** **13 25 54.4 -0.3**
LPG La Plagne 87.66 330 *e*P **P** **13 25 55.1 +0.5**
HYF Humbligny 87.68 334 *e*P **P** **13 25 54.9 +0.2**
MNS Montasola 87.69 325 P **P** **13 25 54.3 -0.6**
MNS pmax pmax
comp=Z,2µm,3.6s
MNS Montasola 87.69 325 P **P** **13 25 54.3 -0.6**
comp=Z,2µm,3.6s
ORI Oriolo Calabro 87.72 321 P **P** **13 25 55.9 +0.8**
SMF Signal de Mont 87.78 333 *e*P **P** **13 25 54.9 -0.3**
comp=Z,740nm,1.8s,mb6.3
SMF Signal de Mont 87.78 333 *e*P **P** **13 25 54.9 -0.3**
SMF pmax pmax
comp=Z,370nm,1.8s,mb6.3
CSSN Cassano Irpino 87.80 323 P **P** **13 25 54.9 -0.5**
AVF Avril sur Loir 87.84 333 *e*P **P** **13 25 55.3 -0.1**
comp=Z,576nm,1.6s,mb6.3
SLCN Sala Consilina 87.87 322 P **P** **13 25 55.8 0.0**
GRR Gorron 87.87 336 *e*P **P** **13 25 55.6 0.0**
comp=Z,284nm,1.2s,mb6.1
GUAR Guarcino 87.87 324 P **P** **13 25 55.8 +0.1**
SGO Sicignano 87.89 322 P **P** **13 25 55.7 -0.2**
CERT Cerreto 87.90 325 P **P** **13 25 55.2 -0.7**
RFI Roccamonfina 87.94 324 P **P** **13 25 56.6 +0.5**
comp=Z,214nm,2.6s,mb5.9
MTCE Montecelio 87.95 325 P **P** **13 25 55.5 -0.6**
BNI Bardonecchia 88.06 330 ⇑*i*P **P** **13 25 56.5 -0.1**
comp=Z,155nm,2.0s,mb5.9
CUC Castrocucco 88.08 322 P **P** **13 25 54.7 -2.1**
TDS Terranova Siba 88.08 321 P **P** **13 25 57.4 +0.6**
TDS pmax pmax
comp=Z,574nm,3.1s
TDS Terranova Siba 88.08 321 P **P** **13 25 57.4 +0.6**
comp=Z,6µm,3.1s
WMOK Wichita Mounta 88.13 46 *e*P **P** **13 25 57.0 -0.1**
WMOK pmax pmax
comp=Z,246nm,1.8s,mb6.1
WMOK MLR MLR
comp=Z,9µm,20.0s,MS6.2
WMOK Wichita Mounta 88.13 46 *e*P **P** **13 25 57.0 -0.2**
comp=Z,246nm,1.8s,mb6.1
WMOK LR LR
comp=Z,9µm,20.0s,MS6.2
GDM Grand'Maison 88.15 331 *e*P **P** **13 25 56.0 -1.0**
RDP Rocca di Papa 88.17 325 P **P** **13 25 57.1 -0.1**
ROM9 Roma 88.21 325 P **P** **13 25 57.9 +0.6**
BGF Bois d'Agland 88.22 333 *e*P **P** **13 25 57.2 -0.1**
TOL Tolfa 88.25 325 P **P** **13 25 57.5 0.0**
GRN Grenoble 88.26 331 *e*P **P** **13 25 57.2 -0.3**
MBDF Montbardon 88.29 330 *e*P **P** **13 25 57.5 -0.2**
PLDF La Plantade 88.44 332 *e*P **P** **13 25 59.2 +0.9**
SURF Saint Ours 88.48 330 *e*P **P** **13 25 58.9 +0.3**
ORIF Oris-en-Rattie 88.48 331 *e*P **P** **13 25 58.7 +0.1**
ORIF *e*R
comp=Z,39µm,22.2s
SGMF Saint Gilles 88.52 337 *e*P **P** **13 25 58.9 +0.2**
TBI Tubuai 88.53 121 *e*SKSac 13 36 24.1
TBI *e*SS SS 13 42 27.4 -7.5
TBI *e*LR LR 13 53 00.2
comp=Z,36µm,22.0s,baz=316
AGO Saint Agoulin 88.55 333 *e*P **P** **13 25 59.4 +0.5**
SAOF Saorge 88.59 329 *e*P **P** **13 25 57.9 -1.2**
ROSF Rostrenen 88.66 338 *e*P **P** **13 25 59.5 +0.2**
comp=Z,1µm,1.9s,mb6.5
TCF Toulx Ste Croi 88.67 334 *e*P **P** **13 25 59.8 +0.3**
GRI Girifalco 88.69 321 P **P** **13 26 00.1 +0.4**
TOUF Mont Tournerai 88.69 329 *e*P **P** **13 25 59.7 +0.1**
SBF Sospel 88.74 329 *e*P **P** **13 25 59.9 +0.1**
MVIF Mont Vial 88.83 329 *e*P **P** **13 26 00.2 -0.1**
VIVF Saint-Julien-l 89.00 331 *e*P **P** **13 26 01.0 0.0**
comp=Z,174nm,1.5s,mb5.9
QUIF Quistinic 89.00 338 *e*P **P** **13 26 00.8 -0.2**
comp=Z,374nm,1.5s,mb6.2
LTX Lajitas 89.02 53 ⇑*i*P **P** **13 26 01.5 0.0**
LTX pmax pmax
comp=Z,180nm,0.8s,mb6.5
LTX MLR MLR
comp=Z,12µm,20.0s,MS6.3
LTX Lajitas 89.02 53 ⇑*i*P **P** **13 26 01.5 0.0**
comp=Z,18nm,0.8s,mb5.5
LTX LR LR
comp=Z,12µm,20.0s,MS6.3
TXAR Lajitas Array 89.02 53 P **P** **13 26 02.2 +0.7**
comp=Z,7.6nm,0.8s,mb5.1,baz=292,slow=3.5,SNR=47
TXAR pP pP 13 26 15.3 +1.9
comp=Z,14nm,0.6s,baz=303,slow=2.8,SNR=19
TXAR LR LR 14 00 00.4
comp=Z,11µm,21.5s,MS6.2,baz=340,slow=32
PGF Pioggiola 89.17 327 *e*P **P** **13 26 01.5 -0.4**
comp=Z,59nm,1.1s,mb5.5
LBL Lubilhac 89.21 332 *e*P **P** **13 26 01.8 -0.2**
MFF Saint Martin d 89.21 335 *e*P **P** **13 26 02.2 +0.2**
FRF La Foret Royal 89.31 329 *e*P **P** **13 26 02.3 -0.3**
STR5 Stromboli 5 89.31 321 P **P** **13 26 02.0 -0.7**
SMRF Simiane la Rot 89.39 330 *e*P **P** **13 26 02.8 -0.1**
SOI Samo 89.44 320 P **P** **13 26 03.4 +0.1**
LMR La Mourre 89.56 329 *e*P **P** **13 26 03.7 0.0**
MTTG Motta San Giov 89.68 321 P **P** **13 26 03.7 -0.7**
CCM Cathedral Cave 89.69 39 ⇑*i*P **P** **13 26 04.2 -0.3**
comp=Z,642nm,1.8s,mb6.7
CCM LR LR
comp=Z,9µm,20.0s,MS6.2
SLM Saint Louis 89.73 38 *e*P **P** **13 26 04.6 -0.1**
comp=Z,81nm,0.8s,mb6.1
RJF Les Rejaudoux 89.77 333 *e*P **P** **13 26 04.5 -0.2**
comp=Z,212nm,1.5s,mb5.9
RJF *e*R
comp=Z,32µm,21.8s
AAM Ann Arbor 89.79 32 PFAKE 13 26 20.0 +15
AAM LR LR
comp=Z,14µm,20.0s,MS6.4
CAF Calviac 89.90 333 *e*P **P** **13 26 05.1 -0.2**
LASF Ste Croix 89.97 331 *e*P **P** **13 26 05.6 0.0**
comp=Z,170nm,1.6s,mb5.8
FVM French Village 90.15 39 ⇑*i*P **P** **13 26 06.3 -0.3**
comp=Z,632nm,2.1s,mb6.6
ATD Arta Tunnel 90.20 285 LR LR 14 08 40.0
comp=Z,7µm,20.9s,MS6.1,baz=270,slow=37
MSEY Mahe Island 90.25 264 PFAKE 13 26 20.0 +12
MSEY LR LR
comp=Z,3µm,20.0s,MS5.7
LFF La Frestale 90.36 334 *e*P **P** **13 26 06.9 -0.5**
comp=Z,394nm,1.5s,mb6.2
USI Ustica 90.36 323 P **P** **13 26 06.8 -0.8**
SSY Sortino 90.65 320 P **P** **13 26 08.5 -0.5**
VAE Valguarnera 90.73 321 LR LR 14 11 06.7
comp=Z,26µm,18.1s,MS6.7,baz=27,slow=38
MIAR Mount Ida 91.16 43 *e*P **P** **13 26 11.3 -0.1**
MIAR pmax pmax
comp=Z,29nm,0.8s,mb5.7
MIAR MLR MLR
comp=Z,8µm,22.0s,MS6.1
MIAR Mount Ida 91.16 43 *e*P **P** **13 26 11.3 -0.1**
comp=Z,29nm,0.8s,mb5.7
MIAR LR LR
comp=Z,8µm,22.0s,MS6.1
MTLF Montolieu 91.21 332 *e*P **P** **13 26 11.3 -0.2**
LOZ Lake Ozonia 91.25 25 *e*P **P** **13 26 11.9 +0.3**
ERPA Erie 91.44 30 PFAKE 13 26 20.0 +7.4
ERPA LR LR
comp=Z,10µm,19.0s,MS6.3
ACSO Alum Creek Sta 91.79 33 PFAKE 13 26 30.0 +16
ACSO LR LR
comp=Z,8µm,20.0s,MS6.2
HBAR Harrisburg 91.92 41 *e*P **P** **13 26 15.7 +0.8**
WCI Wyandotte Cave 91.94 36 *e*P **P** **13 26 15.6 +0.6**
comp=Z,47nm,0.8s,mb5.9
WCI LR LR
comp=Z,12µm,21.0s,MS6.3
NCB Newcomb 91.95 25 *e*P **P** **13 26 14.9 +0.1**
comp=Z,672nm,2.3s,mb6.6
NCB LR LR
comp=Z,11µm,21.0s,MS6.3
MIV Mineville/With 92.09 25 *e*P **P** **13 26 18.9 +3.4**
EPF Esparros 92.16 333 *e*P **P** **13 26 15.0 -0.8**
MDV Middlebury 92.27 25 *e*P **P** **13 26 15.9 -0.4**
HALT Halls 92.31 39 *e*P **P** **13 26 18.5 +1.8**
LBNH Lisbon 92.46 24 PFAKE 13 26 30.0 +13
LBNH LR LR
comp=Z,15µm,20.0s,MS6.4
ETSF Etsaut 92.60 334 *e*P **P** **13 26 17.4 -0.5**
comp=Z,61nm,1.3s,mb5.6
SJPF Ste Jean 92.64 334 *e*P **P** **13 26 17.3 -0.7**
NATX Nacogdoches 92.65 46 PFAKE 13 26 30.0 +12
NATX LR LR
comp=Z,20µm,21.0s,MS6.5
ACCN Adirondack Com 92.66 25 *e*P **P** **13 26 18.9 +0.7**
WVT Waverly 92.89 38 PFAKE 13 26 30.0 +11
WVT LR LR
comp=Z,9µm,20.0s,MS6.2
OXF Oxford 93.37 40 *e*P **P** **13 26 20.7 -0.9**
OXF pmax pmax
comp=Z,25nm,1.0s,mb5.6
OXF MLR MLR
comp=Z,9µm,22.0s,MS6.2
OXF Oxford 93.37 40 *e*P **P** **13 26 20.6 -0.9**
comp=Z,25nm,1.0s,mb5.6
OXF LR LR
comp=Z,9µm,22.0s,MS6.2
MCWV Mont Chateau 93.58 31 *e*P **P** **13 26 23.3 +0.9**
comp=Z,35nm,1.3s,mb5.6
MCWV LR LR
comp=Z,12µm,19.0s,MS6.4
HRV Harvard--Oak R 94.14 24 PFAKE 13 26 40.0 +15
HRV LR LR
comp=Z,16µm,19.0s,MS6.5
WES Weston 94.32 24 PFAKE 13 26 40.0 +14
WES LR LR
comp=Z,18µm,20.0s,MS6.5
SWET Sewanee 94.54 38 *e*P **P** **13 26 25.8 -1.0**
CMAH Djebel Manchou 94.73 325 P **P** **13 26 27.0 -0.7**
CAEH 'Ain El Ouahch 94.86 325 P **P** **13 26 28.0 -0.3**
FWV Forest Hill 94.93 33 *e*P **P** **13 26 29.0 +0.4**
CPCT Cooper Cave 95.02 37 *e*P **P** **13 26 29.6 +0.5**
BLA Blacksburg 95.41 33 PFAKE 13 26 40.0 +9.2
BLA LR LR
comp=Z,13µm,21.0s,MS6.4
CASM Ain Smara 95.45 325 P **P** **13 26 30.0 -1.0**
DFRA Djebel Bou Aff 95.49 326 P **P** **13 26 31.0 -0.2**
MYNC Murphy 95.52 37 PFAKE 13 26 40.0 +8.7
MYNC LR LR
comp=Z,3µm,19.0s,MS5.7
CTEI Djebel Teioual 95.66 325 P **P** **13 26 31.0 -0.9**
CBN Corbin 95.82 30 PFAKE 13 26 40.0 +7.4
CBN LR LR
comp=Z,14µm,21.0s,MS6.4
SET Setif 95.99 326 P **P** **13 26 35.0 +1.6**
CMER Merouana 96.25 325 P **P** **13 26 34.0 -0.6**
ESDC Sonseca Array 96.64 334 P **P** **13 26 37.0 +0.7**
comp=Z,3.7nm,0.8s,baz=24,slow=4.3,SNR=7.7
ESDC PP PP 13 30 27.0 -6.6
comp=Z,2.8nm,0.9s,baz=22,slow=7.3,SNR=5.0
MTE Manteigas 97.14 337 *e*P **P** **13 26 40.2 +1.6**
MTE Manteigas 97.14 337 *e*PP PP 13 30 38.2 +0.5
MTE *e*S 13 37 15.5
MTE Manteigas 97.14 337 *e*LQ 13 56 24.5
MTE *e*LR LR 14 01 28.6
comp=Z,55µm,18.0s
GOGA Godfrey 97.19 37 PFAKE 13 26 50.0 +11
GOGA LR LR
comp=Z,11µm,22.0s,MS6.3
PCBR Castelo Branco 97.63 337 *e*PP PP 13 30 36.3 -5.3
PTOM Tomar 98.12 337 *e*PP PP 13 30 44.3 -1.1
RKT Rikitea 98.58 113 *e*PP PP 13 30 47.2 -1.8
RKT Rikitea 98.58 113 *e*PS PS 13 39 38.7 -4.1
RKT Rikitea 98.58 113 *e*SKSac 13 37 21.5
RKT *e*SS SS 13 45 00.0 +2.4
RKT *e*LR LR 13 58 17.3
comp=Z,49µm,27.2s,baz=309
NHSC New Hope 98.97 35 PFAKE 13 27 00.0 +13
NHSC LR LR
comp=Z,18µm,22.0s,MS6.5
PLOU Loures 99.02 338 *e*PP PP 13 30 50.5 -1.2
LIS Lisbon 99.17 338 *e*P **P** **13 26 44.8 -3.0**
LIS *e*S 13 37 24.8
LIS *e*S 13 37 25.5
LIS AMS AMS 14 16 10.6
comp=Z,45µm,17.4s,MS7.0
PBEJ Beja 99.41 336 *e*PP PP 13 30 55.1 +0.2
PTEO Sao Teotonio 100.12 337 *e*PP PP 13 31 02.6 +2.0
MORF Marmelete 100.32 337 *e*P P 13 26 54.7 +1.6
MORF *e*S 13 37 29.6
MORF *e*S 13 37 29.7
MORF AMS AMS 14 16 39.9
comp=Z,20µm,21.6s,MS6.6
KMBO Kilima Mbogo 102.43 278 P Pdif 13 27 02.8 -0.3
comp=Z,2.2nm,0.8s,baz=29,slow=5.2,SNR=9.7
KMBO PP PP 13 31 09.6 -9.0
comp=Z,2.2nm,1.0s,baz=48,slow=16,SNR=3.7
KMBO Kilima Mbogo 102.43 278 P Pdif 13 27 02.8 -0.3
KMBO PP PP 13 31 09.6 -9.0
KMBO LR LR
comp=Z,8µm,21.0s,MS6.2
DWPF Disney 102.54 39 PFAKE 13 27 10.0 +6.8
DWPF LR LR
comp=Z,9µm,19.0s,MS6.3
ADH Angra Heroismo 103.04 352 *e*P Pdif 13 27 25.0 +20
ADH Angra Heroismo 103.04 352 *e*PP PP 13 31 40.0 +17
ADH *e* 13 41 15.0
ADH *e*SS SS 13 46 20.0 +20
ADH Angra Heroismo 103.04 352 *i* LR LR 14 01 45.0
PTCN Pitcairn Islan 103.31 111 PFAKE 13 27 20.0 +13
PTCN LR LR
comp=Z,1.0nm,21.0s
DRV Dumont d'Urvil 104.41 181 Pdif Pdif 13 27 27.0 +16
DRV Dumont d'Urvil 104.41 181 PP PP 13 31 52.0 +20
DRV SP SP 13 40 53.0 +16
DRV SS SS 13 46 27.0 +10
BBSR BB Station 105.59 23 PFAKE 13 31 40.0
BBSR LR LR
comp=Z,8µm,21.0s,MS6.2
CASY Casey 106.83 193 PFAKE 13 31 40.0
CASY LR LR
comp=Z,8µm,22.0s,MS6.2
MIR Mirnyy 110.86 199 *i* P Pdif 13 27 32.0 -6.9
MIR *e* 13 32 20.0
MIR *e*SS SS 13 47 46.0 +1.4
MIR pmax pmax
comp=Z,500nm,6.0s
RCC Rio Carpintero 112.17 39 P PP 13 32 20.6 -10
JTS JuntasAbangare 114.81 53 PFAKE 13 32 00.0 +14
JTS LR LR
comp=Z,1µm,19.0s,MS5.6
VNDA Vanda 115.94 175 *e*PKIKP PKPdf 13 31 48.4 +1.3
SBA Scott Base 116.61 174 PFAKE 13 32 00.0 +12
SBA LR LR
comp=Z,5µm,22.0s,MS6.0
TORD Torodi Ar. Bea 117.03 316 PKP PKPdf 13 31 50.4 -0.2
comp=Z,5.8nm,1.0s,baz=7.4,slow=1.5,SNR=14
TORD PP PP 13 32 58.7 -6.6
comp=Z,19nm,1.0s,baz=34,slow=5.2,SNR=12
TORD PKKPab 13 42 23.2
comp=Z,1.6nm,0.9s,baz=240,slow=5.0,SNR=3.5
LSZ Lusaka 118.07 272 *e*PKIKP PKPdf 13 31 53.8 +1.3
LSZ MLR MLR
comp=Z,11µm,20.0s,MS6.5
SJG San Juan 118.11 31 PFAKE 13 32 10.0 +17
SJG LR LR
comp=Z,9µm,22.0s,MS6.3
PAYG Puerto Ayora 119.21 65 PFAKE 13 32 10.0 +15
PAYG LR LR
comp=Z,9µm,22.0s,MS6.3
RPN Rapa Nui 120.10 102 PFAKE 13 32 10.0 +14
RPN LR LR
comp=Z,7µm,22.0s,MS6.2
MAW Mawson 120.72 206 PKP PKPdf 13 31 56.6 +0.1
comp=Z,7.1nm,1.2s,baz=67,slow=7.7,SNR=3.3
MAW PKKPbc 13 42 04.2
comp=Z,2.3nm,0.8s,baz=292,slow=5.6,SNR=4.7
MAW Mawson 120.72 206 PKP PKPdf 13 31 56.6 +0.1
MAW PKKPbc 13 42 04.2
MAW LR LR
comp=Z,15µm,22.0s,MS6.6
SDV Santo Domingo 124.15 40 *e*PKPdf PKPdf 13 32 05.2 +0.8
SDV LR LR
comp=Z,6µm,20.0s,MS6.3
LBTB Lobatse 125.36 264 *e*PKIKP PKPdf 13 32 07.8 +1.3
LBTB MLR MLR
comp=Z,8µm,20.0s,MS6.4
ROSC El Rosal 125.49 47 PKP PKPdf 13 32 08.6 +1.5
comp=Z,6.3nm,0.5s,baz=82,slow=3.2,SNR=9.0
DBIC Dimbokro 125.95 318 PKP PKPdf 13 32 08.0 +0.1
comp=Z,9.1nm,0.7s,baz=354,slow=1.7,SNR=11
DBIC PP PP 13 33 59.7 -6.1
comp=Z,8.9nm,1.0s,baz=19,slow=7.6,SNR=9.4
DBIC Dimbokro 125.95 318 PKIKP PKPdf 13 32 08.0 +0.1
DBIC 13 33 59.7
DBIC pmax pmax
comp=Z,90nm,0.7s
DBIC pmax pmax
comp=Z,90nm,1.0s
DBIC Dimbokro 125.95 318 *e*PKPdf PKPdf 13 32 08.5 +0.6
DBIC LR LR
comp=Z,23µm,19.0s,MS6.9
LIC Lamto 126.41 318 *e*PKIKP PKPdf 13 32 08.5 -0.3
comp=Z,50nm,1.2s
LIC *e*R
comp=Z,37µm,22.2s
OTAV Otavalo 126.62 54 *e*PKPdf PKPdf 13 32 11.3 +2.1
OTAV LR LR
comp=Z,6µm,21.0s,MS6.3
QSPA South Pole Qui 127.80 180 *e*Pdif Pdif 13 29 05.9 +13
QSPA LR LR
comp=Z,10µm,22.0s,MS6.5
SYO Syowa Base 129.39 207 ⇑pPdiff 13 29 12.2
SYO Syowa Base 129.39 207 ⇑PKPdf PKPdf 13 32 13.1 0.0
SYO Syowa Base 129.39 207 ⇑*i*PKPdf PKPdf 13 32 13.1 0.0
SYO ⇑*i*PP PP 13 34 24.1 -3.0
SYO *e*S 13 35 35.0
NNA Nana 136.62 64 *e*PKPdf PKPdf 13 32 28.4 +0.4
NNA LR LR
comp=Z,3µm,21.0s,MS6.0
NVL N'lazarevskaya 138.47 202 ⇓*i*PKIKP PKPdf 13 32 33.2 +3.3
NVL *e* 13 32 39.2
NVL pmax pmax
comp=Z,200nm,1.2s
SNAA Sanae 141.91 197 *e*PKPpre 13 32 31.5
SAML Samuel 143.09 45 *e*PKPpre 13 32 37.1
SAML LR LR
comp=Z,7µm,22.0s,MS6.4
ARE Arequipa 143.44 63 *e*P PKPbc 13 32 42.0 +3.4
ARE *e* 13 36 02.0
ARE *e* 13 54 40.0
VNA2 Neumayer--Watz 143.47 196 ⇑*i* PKPbc 13 32 41.1 +4.0
VNA2 Neumayer--Watz 143.47 196 ⇑*i* PKPbc 13 32 52.5 +15
VNA2 Neumayer--Watz 143.47 196 ⇑*i* PKPbc 13 32 55.9 +19
VNA2 Neumayer--Watz 143.47 196 ⇑*i* PKPbc 13 33 02.5 +25
VNA2 Neumayer--Watz 143.47 196 ⇑*i*PKPdf PKPdf 13 32 37.8 -0.8
VNA2 ⇑*i*P 13 32 41.1
VNA2 ⇑*i*P 13 32 52.5
VNA2 ⇑*i*P 13 32 55.9
VNA2 ⇑*i*P 13 33 02.5
VNA3 Neumayer Olymp 143.71 195 ⇑*i* PKPbc 13 32 41.6 +3.8
VNA3 Neumayer Olymp 143.71 195 ⇑*i* PKPbc 13 32 53.0 +15
VNA3 Neumayer Olymp 143.71 195 ⇑*i* PKPbc 13 32 56.5 +19
VNA3 Neumayer Olymp 143.71 195 ⇑*i* PKPbc 13 33 03.1 +25
VNA3 Neumayer Olymp 143.71 195 ⇑*i*PKPdf PKPdf 13 32 38.3 -0.7
VNA3 ⇑*i*P 13 32 41.6
VNA3 ⇑*i*P 13 32 53.0
VNA3 ⇑*i*P 13 32 56.5
VNA3 ⇑*i*P 13 33 03.1
VNA1 Neumayer--Stat 143.87 196 ⇑*i* PKPbc 13 32 42.8 +4.5
VNA1 Neumayer--Stat 143.87 196 PKPbc 13 32 57.6 +19
VNA1 Neumayer--Stat 143.87 196 PKPbc 13 33 04.7 +26
VNA1 Neumayer--Stat 143.87 196 ⇑*i*PKPdf PKPdf 13 32 39.1 -0.1
VNA1 ⇑*i*P 13 32 42.8
VNA1 P 13 32 57.6
VNA1 P 13 33 04.7
LPAZ La Paz 145.65 59 PKPbc PKPbc 13 32 45.6 +0.9
comp=Z,47nm,0.9s,baz=337,slow=3.9,SNR=135
LPAZ La Paz 145.65 59 *e*PKP2 PKPab 13 32 45.5 -1.1
LPAZ MLR MLR
comp=Z,7µm,22.0s
LPAZ La Paz 145.65 59 *e*PKPdf PKPdf 13 32 45.5 +1.5
LPAZ *e*PKPbc PKPbc 13 32 46.4 +1.8
LPAZ LR LR
comp=Z,7µm,22.0s,MS6.4
RCBR Riachuelo 147.87 356 *e*PKPdf PKPdf 13 32 50.7 +2.9
RCBR *e*PKPbc PKPdf 13 32 52.9 +5.1
RCBR LR LR
comp=Z,7µm,21.0s,MS6.4
CEN1 Los Morros 148.74 71 *e*P PKPdf 13 32 51.8 +3.0
PMSA Palmer Station 149.11 158 PFAKE 13 33 00.0 +12
PMSA LR LR
comp=Z,8µm,22.0s,MS6.5
TLL Tololo Astrono 151.69 84 *e*P PKPdf 13 32 54.5 +1.3
PEL Peldehue 152.92 90 *e*P PKPdf 13 32 53.2 -1.7
FCH Farellones 153.29 90 *e*P PKPdf 13 32 56.9 +1.5
PLCA Paso Flores 154.65 106 PKP PKPdf 13 32 57.9 +0.8
comp=Z,2.6nm,0.8s,baz=229,slow=4.8,SNR=4.5
PLCA PKPbc PKPdf 13 33 07.5 +10
comp=Z,5.1nm,1.0s,baz=319,slow=3.1,SNR=7.2
PLCA PKPab PKPab 13 33 20.5 -2.3
comp=Z,10.0nm,0.9s,baz=280,slow=4.3,SNR=11
PLCA PP PP 13 36 58.2 -1.4
comp=Z,3.6nm,1.1s,baz=312,slow=5.5,SNR=3.3
PLCA Paso Flores 154.65 106 *e*PKIKP PKPdf 13 32 58.5 +1.5
PLCA *e* 13 33 07.9
PLCA MLR MLR
comp=Z,8µm,20.0s
BDFB Brasilia 155.92 25 PKP PKPdf 13 33 02.5 +3.1
comp=Z,1.3nm,0.3s,baz=136,slow=2.4,SNR=3.8
BDFB PKPab PKPab 13 33 28.2 -0.8
comp=Z,10.0nm,0.8s,baz=341,slow=4.0,SNR=6.1
BDFB PP PP 13 37 03.2 -4.3
comp=Z,3.6nm,0.6s,baz=352,slow=8.5,SNR=1.7
BDFB Brasilia 155.92 25 PKIKP PKPdf 13 33 02.5 +3.1
BDFB 13 33 28.2
BDFB 13 37 03.3
BDFB pmax pmax
comp=Z,1.0nm,0.4s
BDFB pmax pmax
comp=Z,10.0nm,0.8s
BDFB pmax pmax
comp=Z,4.0nm,0.6s
BAO Brasilia Array 155.93 25 PKPdf PKPdf 13 33 02.0 +2.6
BAO *e* 13 33 13.5
BAO *e* 13 33 30.0
BAO *e* 13 33 42.0
TRIS Tristan da Cun 159.77 265 PFAKE 13 33 20.0 +16
TRIS LR LR
comp=Z,7µm,22.0s,MS6.5
CPUP Villa Florida 159.81 60 *e*PKIKP PKPdf 13 33 05.7 +1.7
CPUP MLR MLR
comp=Z,1µm,20.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EFI	East Falkland	160.31	140	PFAKE		13 33 20.0	+16
EFI				LR	LR		
	comp=Z,7μm,22.0s						
TRQA	Tornquist	160.98	97	PFAKE		13 33 20.0	+15
TRQA				LR	LR		
	comp=Z,16μm,22.0s						
LPA	La Plata	163.52	85	cePKP	PKPdf	13 33 07.0	-0.5
LPA				esPKP		13 33 22.0	
LPA				epPKP		13 34 10.0	
LPA				eSKKS		13 44 30.0	
	comp=Z,18μm,22.0s						

MEX 02 13:24:41.2±0.4, 16.97N×100.20W, h19km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.10	322	iP	Pb	13 24 44.3	-0.8
CAIG				iS	Sb	13 24 46.5	-1.2
ACX	Acapulco	0.29	110	iP	Pb	13 24 46.5	-1.1
ACX				iS	Sb	13 24 51.0	-1.0

CSEM 02 14:19:19.3, 12.13N×43.35E, h6km, ML3.7, After DHMR
DHMR 02 14:19:19.3±1.4, 12.13N×43.35E, h7km±14km, ML3.7, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	1.92	18	iP	Pn	14 19 53.0	+0.3
UDYN				iS	Sn	14 20 21.1	+3.7
UDYN				AML	AML	14 20 32.8	
	comp=N,1μm,0.4s						
LBOS		2.53	47	iP	Pn	14 20 04.1	+2.6
LBOS				iS	Sn	14 20 38.3	+5.3
DHBB	Dhamar BB	2.63	23	iP	Pn	14 20 04.6	+1.7
DHBB				iS	Sn	14 20 40.1	+4.7
BDHA	Al Bayda'	2.83	49	iP	Pn	14 20 08.0	+2.2
BDHA				iS	Sn	14 20 45.5	+4.9
BDHA				AML	AML	14 20 53.0	
	comp=N,365nm,0.3s						
BDHA	Al Bayda'	2.83	49	iP	Pn	14 20 08.0	+2.2
BDHA				iS	Sn	14 20 45.5	+4.9
	comp=N,183nm,0.3s						
HAJJ	Hajjah	3.55	4⇓	iP	Pn	14 20 18.1	+2.0
HAJJ				iS	Sn	14 21 03.3	+4.4

MAN 02 14:20:43.0, 10.37N×125.82E, h15km, mb4.1, ML2.9, MS2.6, 1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.67	209⇓	eP	Pb	14 20 56.1	+0.3
SCPH				eS	Sb	14 21 08.5	+3.9
BUTP	Butuan	1.40	188	eP	Pn	14 21 06.8	-1.4
BUTP				eS	Sb	14 21 29.3	+3.4
BUKP	Musuan	2.58	197	eP	Pn	14 21 16.1	-8.9
PAGZ	Pagadian	3.47	224	eP	Pn	14 21 37.7	0.0

CSEM 02 14:25:12.5±0.1, 35.87N×29.75E, h15km, MD3.3, Error ellipse: s-maj=2.9km s-min=1.7km az=80.0
ISK 02 14:25:16.0, 36.05N×29.83E, h32km, MD3.3
HLW 02 14:25:16.2, 35.79N×29.75E, h15km, Mb3.3
ISC 02 14:25:12.7±0.8, 35.85N±0.03×29.71E±0.05, h11km±6km, n22, σ1s02/33, 7C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.40	347	iP	Pg	14 25 21.4	+0.5
AKAS				iS	Sg	14 25 27.6	+1.2
ELL	Elmali	0.91	10	PG	Pg	14 25 30.4	-0.6
FETY	Fethiye	0.94	327	PG	Pg	14 25 30.6	-0.9
FETY				SG	Sg	14 25 42.5	-1.6
DALT	Dalyan (Mudla)	1.27	317	PN	Pn	14 25 36.7	+0.4
DALT				SN	Sn	14 25 53.2	-0.1
GOLH	Golhisar	1.39	355	iP	Pn	14 25 38.6	+0.5
GOLH				iS	Sb	14 26 03.6	+7.8
YER	Yerkesik	1.73	319	PN	Pn	14 25 44.2	+1.3
YER				SN	Sn	14 26 03.0	-2.0
BCK	Bucak	1.76	23	ePN	Pn	14 25 41.0	-2.4
DNZL	Cakiroluk	1.92	344	iP	Pn	14 25 49.7	+4.1
DNZL				iS	Sn	14 26 14.8	+4.9
DAT	Datca	1.94	298	ePN	Pn	14 25 48.1	+2.2
DENT	Denizli	1.98	344	ePN	Pn	14 25 46.4	-0.1
TKTP	Tekketepe	2.24	12	iP	Pn	14 25 51.8	+1.5
TKTP				iS	Sn	14 26 27.2	+9.0
ERMK	Ermenek	2.71	72	iP	Pn	14 25 56.0	-0.8
ERMK				iS	Sn	14 26 30.6	+0.7
IKL	Isikli	3.24	82	ePN	Pn	14 26 04.0	-0.5
HMAT	Matruh	5.22	206	⇑P	Pn	14 26 33.0	+0.5
HMAT				S	Sn	14 27 29.4	-4.1
SLUM		5.74	222	⇑P	Pn	14 26 40.4	+0.5
SLUM				S	Sn	14 27 42.1	-4.4
AMAG	Maghara	5.96	150	⇑P	Pn	14 26 42.9	-0.1
GLL	Jalalah	6.47	164	⇑P	Pn	14 26 50.4	+0.2
SWA1		7.38	208	P	Pn	14 27 03.0	0.0
SWA1				S	Sn	14 28 21.0	-6.6
SWA2		7.50	210	⇑P	Pn	14 27 04.7	0.0
AWBH		7.53	185	⇑P	Pn	14 27 04.8	-0.4
HKAT	Jabal Katrina	8.15	152	⇑P	P	14 27 13.5	-0.3
HFRF	Wahat Farafira	8.75	188	P	P	14 27 21.9	-0.3

MOS 02 14:35:32.9±1.4, 33.48N×140.42E, h33km, mb4.5/23, Error ellipse: s-maj=18.4km s-min=7.9km az=108.7
JMA 02 14:35:36.6±0.1, 33.66N×140.47E, h54km±3km, M4.4
JMA Felt II J1.
BJI 02 14:35:37.0, 33.60N×140.30E, h68km, mB5.3, mb4.2, Ms4.8, Msz4.8
IDC 02 14:35:37.7±0.9, 33.50N×140.35E, h58km±9km, mb4.0/16, mb1 4.2/18, mb1mx4.2/21, mbtmp4.3/18, Error ellipse: s-maj=18.3km s-min=8.9km az=76.0
NEIC 02 14:35:39.1±0.9, 33.57N×140.27E, h68km±8km, mb4.4/12, Error ellipse: s-maj=9.3km s-min=6.5km az=86.0
NEIC Recorded [2 JMA] on Hachijo-jima.
ISC 02 14:35:36.5±0.5, 33.61N±0.03×140.39E±0.07, h61km±4km, n77, σ1s00/88, mb4.2/30, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.69	224	P	P	14 35 51.5	+0.7
JHJ2				eS	S	14 36 02.1	+0.7
JHJ	Hachijo jima 2	0.71	226	P	P	14 35 51.6	+0.7
	775nm,0.3s,baz=66,slow=22,SNR=1516						
JHJ				S	S	14 36 01.8	+0.1
	11μm,0.3s,baz=34,slow=21,SNR=125						
JMY	Miyakejima3	0.87	302	P	P	14 35 53.4	+0.4
BSO1	Boso 1	1.15	25	P	P	14 35 55.4	-1.4
BSO3	Boso 3	1.19	5	P	P	14 35 57.0	-0.4
JKO	Kozu shima	1.19	299	P	P	14 35 58.1	+0.7
JKO				eS	S	14 36 13.5	+0.5
NJJJ	Nii jima 2	1.22	311	P	P	14 35 58.0	+0.3
JIM2	Oshima 3	1.36	324	P	P	14 35 59.6	-0.3
JIM2				eS	S	14 36 15.3	-1.9
BSO4	Boso 4	1.38	358	P	P	14 35 59.9	-0.2
JIZS	Izushimoda	1.67	312	P	P	14 36 04.6	+0.5
JIZS				eS	S	14 36 24.6	+0.1
KTJJ	Kamata 2	1.71	320	P	P	14 36 04.6	-0.1
KTJJ				eS	S	14 36 24.0	-1.5
JOD2	Odawara 2	1.97	327	P	P	14 36 08.1	-0.1
JOD2				eS	S	14 36 29.9	-1.8
MJAR	Matsushiro Arr	3.43	329	P	P	14 36 29.6	+0.8
	38nm,0.3s,baz=163,slow=14,SNR=252						
MJAR				S	S	14 37 09.6	+1.0
	26nm,0.3s,baz=189,slow=18,SNR=8.8						
MJAR	Matsushiro Arr	3.43	329	P	P	14 36 29.6	+0.7
MJAR				S	S	14 37 09.6	+1.0
MJAR				pmax	pmax		
	comp=Z,38nm,0.3s						
MJAR				smax			
	comp=N,26nm,0.3s						
MAJO	Matsushiro	3.43	329	eP	P	14 36 29.5	+0.6
MAT	Matsushiro	3.43	329	P	P	14 36 30.0	+1.1
MAT				S	S	14 37 08.5	-0.1
MAT	Matsushiro	3.43	329	eP	P	14 36 30.0	+1.1
MAT				eS	S	14 37 09.0	+0.4
CBIJ	Chichi jima	6.67	166	P	P	14 37 11.1	-3.1
	comp=N,36nm,0.3s,baz=309,slow=19,SNR=18						
CBIJ				S	S	14 38 22.2	-7.3
	comp=N,14nm,0.3s,baz=283,slow=21,SNR=3.1						
ASAJ	Asahikawa	10.63	9	P	P	14 38 04.8	-3.7
	comp=N,1.8nm,0.3s,baz=186,slow=15,SNR=16						
ASAJ				S	S	14 39 56.8	-10
	comp=N,1.0nm,0.3s,baz=63,slow=30,SNR=3.4						
HIA	Hailar	21.90	322	eP	P	14 40 27.5	+1.7
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HIA	Hailar	21.90	322	eP	P	14 40 27.5	+1.7
	comp=Z,4.5nm,0.6s,mb4.1						
HHC	Hu-ho-hao-te	23.99	296	eP	P	14 40 47.9	+1.7
HHC				AP		14 41 00.9	
HHC				XP		14 41 11.0	
HHC				LR	LR		
	comp=N,1μm,16.8s						
HHC				LR	LR		
	comp=E,1μm,14.9s						
HHC				LR	LR		
	comp=Z,2μm,14.9s						
ULN	Ulaanbaatar	28.74	310	eP	P	14 41 30.6	+0.4
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ULN	Ulaanbaatar	28.74	310	eP	P	14 41 30.6	+0.3
	comp=Z,3.5nm,0.8s,mb4.1						
SONM	Songino Array	29.16	309	P	P	14 41 33.9	0.0
	comp=Z,1.8nm,0.8s,mb3.9,baz=110,slow=8.6,SNR=7.7						
SONM	Songino Array	29.16	309	P	P	14 41 33.9	0.0
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAK	Zakamensk	31.86	313	eP	P	14 41 56.8	-1.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.8						
TIXI	Tiksi	38.59	354	eP	P	14 42 53.7	-1.1
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
MKAR	Makanchi Array	45.31	305	P	P	14 43 50.0	+0.1
	comp=Z,4.4nm,0.7s,mb4.4,baz=93,slow=9.7,SNR=21						
MKAR	Makanchi Array	45.31	305	P	P	14 43 50.1	+0.2
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	Kurchatov	47.45	311	eP	P	14 44 05.9	-0.9
KURK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
KURK	Kurchatov	47.45	311	eP	P	14 44 05.9	-0.9
	comp=Z,11nm,1.0s,mb4.7						
AAK	Ala-Archa	51.45	301	eP	P	14 44 35.7	-1.8
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
AAK	Ala-Archa	51.45	301	eP	P	14 44 35.7	-1.8
	comp=Z,3.9nm,1.1s,mb4.2						
ILAR	Eielson Array	52.84	31	P	P	14 44 47.4	-0.3
	comp=Z,1.8nm,0.9s,mb4.0,baz=274,slow=6.5,SNR=15						
ILAR	Eielson Array	52.84	31	P	P	14 44 47.4	-0.3
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FITZ	Fitzroy Crossi	53.31	198	eP	P	14 44 51.7	-0.1
	comp=Z,2.5nm,0.6s,mb4.3						
WRAB	Tennant Creek	53.55	187	eP	P	14 44 51.7	-1.9
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
WRAB	Tennant Creek	53.55	187	eP	P	14 44 51.7	-1.9
	comp=Z,7.6nm,0.8s,mb4.7						
WB2	Warramunga Arr	53.56	187	eP	P	14 44 52.3	-1.3
WRA	Warramunga Arr	53.56	187	P	P	14 44 52.3	-1.3
	comp=Z,3.7nm,0.5s,mb4.5,baz=4.8,slow=7.8,SNR=73						
WRA				ScP		14 49 51.4	
	comp=Z,1.6nm,0.8s,baz=7.5,slow=4.7,SNR=12						
WRA	Warramunga Arr	53.56	187	P	P	14 44 52.3	-1.3
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WRA				pmax	pmax		
	comp=N,2.0nm,0.8s						
CTAO	Charters Tower	53.69	173	eP	P	14 44 54.7	+0.2
CTAO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CTAO	Charters Tower	53.69	173	eP	P	14 44 54.7	+0.2
	comp=Z,1.4nm,0.6s,mb4.1						
INK	Inuvik	57.82	26	P	P	14 45 23.4	-0.2
	comp=Z,2.2nm,0.8s,mb4.2,baz=264,slow=5.5,SNR=12						
INK	Inuvik	57.82	26	P	P	14 45 23.4	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	Arti	58.40	320	eP	P	14 45 26.5	-1.3
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ARU	Arti	58.40	320	eP	P	14 45 26.5	-1.2
	comp=Z,3.3nm,0.7s,mb4.5						
STKA	Stephens Creek	65.14	179	P	P	14 46 12.4	-0.9
	comp=Z,3.4nm,0.8s,mb4.5,baz=225,slow=6.0,SNR=4.9						
ARCES	ARCESS Array B	66.91	340	P	P	14 46 23.7	-0.2
	comp=Z,2.5nm,0.9s,mb4.3,baz=50,slow=6.4,SNR=5.1						
ARCES	ARCESS Array B	66.91	340	P	P	14 46 23.7	-0.2
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	Yellowknife Ar	67.19	29	P	P	14 46 25.7	0.0
	comp=Z,0.9nm,0.5s,mb4.0,baz=298,slow=6.4,SNR=8.9						
YKA	Yellowknife Ar	67.19	29	P	P	14 46 25.8	0.0
FINES	FINESS Array B	71.46	332	P	P	14 46 51.7	-0.2
	comp=Z,4.2nm,0.9s,mb4.4,baz=90,slow=5.7,SNR=7.4						
FINES	FINESS Array B	71.46	332	P	P	14 46 51.7	-0.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SUMG	Summit	74.10	360	eP	P	14 47 08.6	+1.4
	comp=Z,5.8nm,0.8s,mb4.6						
WVOR	Wild Horse Val	75.36	49	eP	P	14 47 16.6	+1.6
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
WVOR	Wild Horse Val	75.36	49	eP	P	14 47 16.6	+1.6
	comp=Z,4.7nm,0.8s,mb4.5						
AKASG	Malin Array Be	76.50	322	P	P	14 47 21.0	-0.3
	comp=Z,2.4nm,0.7s,mb4.3,baz=48,slow=6.0,SNR=14						
AKASG	Malin Array Be	76.50	322	P	P	14 47 21.0	-0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	NORSAR Subarra	77.02	337	P	P	14 47 23.5	-0.5
	comp=Z,1.9nm,0.8s,mb4.1,baz=42,slow=5.6						
NOA	NORSAR Array B	77.02	337	P	P	14 47 24.1	+0.1
	comp=Z,2.9nm,0.8s,mb4.3,baz=41,slow=5.9,SNR=8.3						
NOA	NORSAR Array B	77.02	337	P	P	14 47 24.2	+0.2
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FFC	Flin Flon	77.04	32	eP	P	14 47 24.9	+0.6
FFC				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
FFC	Flin Flon	77.04	32	eP	P	14 47 24.9	+0.6
	comp=Z,6.2nm,1.1s,mb4.5						
NVAR	Mina Array Bea	77.73	52	P	P	14 47 30.4	+2.0
	comp=Z,1.0nm,0.7s,mb3.9,baz=279,slow=6.0,SNR=8.8						
NVAR	Mina Array Bea	77.73	52	P	P	14 47 30.4	+2.0
BOZ	Bozeman (W)	77.76	43	eP	P	14 47 29.5	+1.0
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BOZ	Bozeman (W)	77.76	43	eP	P	14 47 29.5	+1.0
	comp=Z,1.8nm,0.6s,mb4.2						
PDAR	Pinedale Array	80.67	45	P	P	14 47 45.4	+1.0
	comp=Z,0.2nm,0.5s,mb3.3,baz=270,slow=1.5,SNR=3.4						
GERES	GERESS Array B	85.17	328	P	P	14 48 07.1	+0.1
	comp=Z,1.2nm,0.6s,mb4.2,baz=34,slow=4.8,SNR=9.2						
GERES	GERESS Array B	85.17	328	P	P	14 48 07.1	+0.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SCHQ	Schefferville	88.85	15	P	P	14 48 25.4	+0.7
	comp=Z,4.7nm,0.9s,mb4.8,baz=17,slow=5.0,SNR=4.5						
TXAR	Lajitas Array	92.88	52	P	P	14 48 45.5	+1.4
	comp=Z,1.3nm,0.7s,mb4.5,baz=288,slow=4.0,SNR=6.2						
TXAR	Lajitas Array	92.88	52	P	P	14 48 45.5	+1.4
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	La Paz	149.06	63	PKPbc	PKPdf	14 55 21.0	+7.0
	comp=Z,1.6nm,0.4s,baz=1.1,slow=6.9,SNR=8.9						
LPAZ	La Paz	149.06	63	PKP2	PKPdf	14 55 21.0	+7.0
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						

CSEM 02 14:40:00.5±1.0, 12.01N×43.49E, h13km, ML3.7, Error ellipse: s-maj=22.0km s-min=20.2km az=80.0, After DHMR
DHMR 02 14:40:00.5±1.0, 12.01N×43.49E, h14km±10km, ML3.7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	2.00	13	iP	Pn	14 40 35.4	+1.1
UDYN				iS	Sn	14 41 02.8	+3.4
UDYN				AML	AML	14 41 12.9	
	comp=Z,779nm,0.4s						
UDYN	Al 'Udayn	2.00	13	iP	Pn	14 40 35.4	+1.0
UDYN				iS	Sn	14 41 02.8	+3.5
	comp=Z,390nm,0.4s						
LBOS		2.52	43	iP	Pn	14 40 43.6	+1.7
LBOS				iS	Sn	14 41 17.9	+5.4
DHBB	Dhamar BB	2.69	19	iP	Pn	14 40 46.5	+2.2
DHBB				iS	Sn	14 41 22.5	+5.6
BDHA	Al Bayda'	2.81	46	iP	Pn	14 40 47.8	+1.8
BDHA				iS	Sn	14 41 25.4	+5.4
BDHA				AML	AML	14 41 38.9	
	comp=N,591nm,0.5s						
HAJJ	Hajjah	3.67	2	iP	Pn	14 41 00.3	+2.2
HAJJ				iS	Sn	14 41 45.3	+3.6
HAJJ	Hajjah	3.67	2	iP	Pn	14 41 00.3	+2.2
HAJJ				iS	Sn	14 41 45.3	+3.6

IDC 02 14:42:38.2±1.4, 19.77N×122.96E, mb3.6/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=65.7km s-min=28.3km az=72.0
MAN 02 14:42:40.5, 19.85N×121.13E, h16km, mb4.5, ML3.4, MS3.3
ISC 02 14:42:38.9±1.5, 20.04N±0.09×121.1E±0.2, h33km, n10, σ0s63/12, mb3.5/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	1.76	194⇓	iP	P	14 43 07.8	+0.3
PIP				eS	S	14 43 28.1	-0.7
SGCP	Mt. Cagua	2.02	152	eP	P	14 43 10.4	-0.8
APYP	Conner	2.18	175	eP	P	14 43 13.6	+0.2
APYP				eS	S	14 43 39.2	-0.3
ABRA	Dolores	2.40	188	eP	P	14 43 16.8	+0.1
CVP	Callao Caves	2.44	163	eP	P	14 43 17.0	-0.2
CAUP	Cauayan	3.17	167	eP	P	14 43 28.7	+1.1
BALP	Baler	4.31	173	eP	P	14 43 44.8	+0.9
MKAR	Makanchi Array	41.30	319	P	P	14 50 36.6	+14
	1.7nm,1.0s,mb3.6,baz=107,slow=12,SNR=4.2						
WRA	Warramunga Arr	41.81	161	P	P	14 50 23.1	-4.3
	1.1nm,0.6s,mb3.7,baz=345,slow=8.8,SNR=22						
ILAR	Eielson Array	72.94	27	P	P	14 54 06.0	-0.5
	0.2nm,0.5s,mb3.3,baz=276,slow=6.0,SNR=4.2						

DHMR 02 14:42:46.8±1.8, 11.74N×43.41E, h8km±21km, ML4.6, 3C-3D, Ethiopia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	2.28	14⇑	iP	Pn	14 43 27.5	+2.1
UDYN				iS	Sn	14 43 57.2	+3.3
UDYN				AML	AML	14 44 04.2	
	comp=N,6μm,0.6s						
UDYN	Al 'Udayn	2.28	14⇑	iP	Pn	14 43 27.5	+2.1
UDYN				iS	Sn	14 43 57.2	+3.3
	comp=N,3μm,0.6s						
LBOS		2.78	40⇓	iP	Pn	14 43 33.8	+1.4
LBOS				iS	Sn	14 44 12.3	+5.8
DHBB	Dhamar BB	2.97	19	iP	Pn	14 43 38.0	+2.8
DHBB				iS	Sn	14 44 17.6	+6.1
BDHA	Al Bayda'	3.06	43⇓	iP	Pn	14 43 37.8	+1.4
BDHA				iS	Sn	14 44 18.8	+5.1
BDHA				AML	AML	14 44 30.0	
	comp=N,3μm,0.6s						
BDHA	Al Bayda'	3.06	43⇓	iP	Pn	14 43 37.8	+1.3
BDHA				iS	Sn	14 44 18.8	+5.1
	comp=N,1μm,0.6s						
HAJJ	Hajjah	3.94	3⇑	iP	Pn	14 43 50.3	+1.3
HAJJ				iS	Sn	14 44 39.1	+3.1

NEIC 02 14:47:24.0, 32.04S×71.47W, h33km, ML3.6(GUC), After GUC.
GUC 02 14:47:24.0±0.7, 32.04S×71.47W, h33km±1km, MD3.7, ML3.6, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.16	350⇑	iP	Pn	14 47 30.0	+0.1
CHNG				iS	Sn	14 47 34.5	+0.8
CHNG				AMP		14 47 35.1	
	comp=E,8μm,0.5s						
PACH	Papudo	0.49	177⇑	iP	Pb	14 47 34.7	+0.2
PACH				iS	Sb	14 47 42.5	+0.8
JACH	Jahuel	0.98	131⇑	iP	Pn	14 47 41.7	+0.1
JACH				iS	Sn	14 47 55.5	+1.1
ROCH	El Roble	1.00	158	iP	Pn	14 47 42.1	+0.2
ROCH				iS	Sn	14 47 56.2	+1.2
PEL	Peldehue	1.28	149	eP	Pn	14 47 46.5	+0.6
PEL				iS	Sn	14 48 03.3	+1.2
PEL				AMP		14 48 04.8	
	comp=N,4μm,0.3s						
LCCH	Las Cruces	1.43	183⇓	iP	Pn	14 47 48.3	+0.3
LCCH				iS	Sn	14 48 07.1	+1.2
RCDM	Rinconada Maip	1.55	159⇓	iP	Pn	14 47 50.3	+0.6
RCDM				iS	Sn	14 48 11.1	+2.3
RCDM				AMP		14 48 11.8	
	comp=E,2μm,0.1s						
STL	Santa Lucia	1.56	154	iP	Pn	14 47 50.8	+0.9
STL				iS	Sn	14 48 11.0	+1.9
STL				AMP		14 48 12.5	
	comp=N,500nm,0.4s						
FCH	Farellones	1.62	143	eP	Pn	14 47 51.5	+0.7
FCH				iS	Sn	14 48 13.0	+2.3
FCH				AMP		14 48 14.8	
	comp=E,2μm,0.2s						
TACH	Talagante	1.67	165	iP	Pn	14 47 52.1	+0.6
TACH				iS	Sn	14 48 13.9	+2.0
ANTU	Antumapu	1.68	155⇑	iP	Pn	14 47 52.4	+0.8
ANTU				iS	Sn	14 48 14.3	+2.1
ANTU				AMP		14 48 20.5	
	comp=E,1μm,0.3s						
PCH	Pirque	1.77	153	iP	Pn	14 47 53.5	+0.6
PCH				iS	Sn	14 48 16.3	+1.9
SJCH	San Jose de Ma	1.85	150	iP	Pn	14 47 53.9	-0.2
SJCH				iS	Sn	14 48 17.3	+0.8
SJCH				AMP		14 48 25.6	
	comp=N,470nm,0.3s						
TLL	Tololo Astrono	1.95	17⇓	iP	Pn	14 47 55.4	-0.1
TLL				iS	Sn	14 48 20.6	+1.5
TLL				AMP		14 48 23.9	
	comp=E,2μm,0.7s						
CHCH	Chadas Angostu	2.01	160⇑	iP	Pn	14 47 57.2	+0.9
CHCH				iS	Sn	14 48 22.4	+1.9
LMEL	Las Melosas	2.09	150	eP	Pn	14 47 58.6	+1.1
LMEL				AMP		14 48 30.7	
	comp=N,1μm,0.2s						
LSCH	La Serena	2.14	5	AMP		14 48 29.3	
	comp=E,506nm,0.1s						
CACH	El Canelo	2.19	161	eP	Pn	14 48 00.5	+1.5
CACH				iS	Sn	14 48 28.0	+2.7
CICH	Cipreses	2.44	159⇓	iP	Pn	14 48 03.5	+1.1
CICH				iS	Sn	14 48 33.2	+1.8
SFDO	San Fernando	2.59	172	eP	Pn	14 48 05.2	+0.5
SFDO				iS	Sn	14 48 36.6	+1.2

CSEM 02 15:03:06.1±0.2, 43.14N×45.97E, h21km, mb3.9, Error ellipse: s-maj=8.5km s-min=5.6km az=3.0, After OBN
MOS 02 15:03:06.1±1.8, 43.14N×45.97E, h21km, mb3.9/1, 2C-1D, Error ellipse: s-maj=22.1km s-min=9.7km az=21.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLMR	Dylym	0.49	98	PG	Pb	15 03 17.0	+1.1
DLMR				iS	Sb	15 03 26.0	+3.4
DLMR				pmax	pmax		
	comp=Z,175nm,0.2s						
DLMR	Dylym	0.49	98	Pg	Pb	15 03 17.0	+1.1
	comp=Z,175nm,0.2s						
DLMR				iSg	Sb	15 03 26.0	+3.4
BTLR	Botlikh	0.51	159	ePG	Pb	15 03 15.8	-0.5
BTLR				iS	Sb	15 03 24.0	+0.7
BTLR				pmax	pmax		
	comp=Z,46nm,0.2s						
BTLR	Botlikh	0.51	159	ePg	Pb	15 03 15.8	-0.5
	comp=Z,46nm,0.2s						
BTLR				iSg	Sb	15 03 24.0	+0.7
DBC	Dubki	0.64	100	ePG	Pb	15 03 18.0	-0.5
DBC				iS	Sb	15 03 27.7	+0.7
DBC				pmax	pmax		

	comp=Z,24nm,0.2s						
DBC	**Dubki**	**0.64**	**100**	*e*Pg	Pb	15 03 18.0	-0.5
	comp=Z,24nm,0.2s						
DBC				*i* Sg	Sb	15 03 27.7	+0.7
UNCR	**Uncukul**	**0.74**	**125**	*e*PG	Pb	15 03 18.0	-2.2
UNCR				*e*S	Sb	15 03 28.0	-1.8
UNCR				pmax	pmax		
	comp=Z,21nm,0.2s						
UNCR	**Uncukul**	**0.74**	**125**	*e*Pg	Pb	15 03 18.0	-2.2
	comp=Z,21nm,0.2s						
UNCR				*e*Sg	Sb	15 03 28.0	-1.8
KRNR	**Karanay**	**0.76**	**114**	PG	Pb	15 03 18.0	-2.4
KRNR				*e*S	Sb	15 03 28.0	-2.3
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
KRNR	**Karanay**	**0.76**	**114**	Pg	Pb	15 03 18.0	-2.4
	comp=Z,25nm,0.2s						
KRNR				*e*Sg	Sb	15 03 28.0	-2.3
ARNR	**Ardon**	**1.24**	**273**	*e*PG	Pn	15 03 30.1	+1.7
ARNR				*e*S	Sb	15 03 48.1	+3.9
KMSR	**Komsomolskaya**	**1.25**	**281**	*e*PG	Pn	15 03 30.1	+1.6
KMSR				*e*S	Sb	15 03 48.4	+3.9
LACR	**Lac**	**1.27**	**256**	⇑*i*PG	Pn	15 03 30.2	+1.4
LACR				*i* S	Sb	15 03 48.4	+3.3
LACR	**Lac**	**1.27**	**256**	*i* Pg	Pn	15 03 30.2	+1.4
PRTR	**Priterechnaya**	**1.37**	**297**	*e*PG	Pn	15 03 31.7	+1.4
PRTR				*i* S	Sn	15 03 51.2	+3.2
KORR	**Kora**	**1.39**	**268**	⇑*i*PG	Pn	15 03 32.2	+1.6
KORR				*e*S	Sn	15 03 52.0	+3.5
KORR	**Kora**	**1.39**	**268**	*i* Pg	Pn	15 03 32.2	+1.6
LSNR	**Lesken**	**1.58**	**276**	*e*PG	Pn	15 03 34.8	+1.5
LSNR				*i* S	Sn	15 03 56.8	+3.5
KIV	**Kislovodsk**	**2.52**	**290**	*de*PN	Pn	15 03 45.9	-0.9
KIV				*e*		15 04 18.6	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIV				smax			
	comp=N,15nm,0.6s						
KIV	**Kislovodsk**	**2.52**	**290**	*e*Pn	Pn	15 03 45.9	-0.9
	comp=N,6.0nm,0.8s						
KIV				*e*Sn	Sn	15 04 18.6	+1.4
	comp=N,15nm,0.6s						

IDC 02 15:52:02.5±1.0**, 55.81S**×**144.77W, mb4.2**/2**, mb1 4.4**/2**, mb1mx4.1**/9**, mbtmp4.2**/2**, MS4.4**/1**, Ms1 4.4**/1**, ms1mx3.8**/15**, Error ellipse: s-maj=170.4km s-min=32.5km az=178.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**46.72**	**323**	LR	LR	16 13 32.7	
	comp=Z,484nm,21.4s,baz=238,slow=28						
WRA	**Warramunga Arr**	**68.66**	**266**	P	P	16 03 07.1	-2.4
	1.8nm,1.0s,baz=149,slow=5.6,SNR=17						
LPAZ	**La Paz**	**69.19**	**88**	P	P	16 03 11.3	-1.4
	2.1nm,1.0s,baz=225,slow=5.7,SNR=3.6						
ILAR	**Eielson Array**	**120.27**	**359**	PKP	PKPdf	16 10 53.4	-2.8
	0.9nm,1.0s,baz=186,slow=1.4,SNR=6.4						
ESDC	**Sonseca Array**	**149.60**	**105**	PKPbc	PKPdf	16 11 52.7	+2.5
	0.4nm,0.4s,baz=214,slow=2.4,SNR=5.6						
MKAR	**Makanchi Array**	**149.76**	**273**	PKPbc	PKPdf	16 11 53.9	+3.7
	2.6nm,1.0s,baz=134,slow=4.0,SNR=7.4						

*IDC **02** 16:07:21.9±2.4, 23.45S×179.65E, h553km±23km, mb3.3/7, mb1 3.6/8, mb1mx3.5/12, mbtmp4.2/8, Error ellipse: s-maj=56.0km s-min=15.1km az=163.0*

*NEIC **02** 16:07:21.3±2.0, 23.80S×179.85E, h558km±21km, mb4.1/5, Error ellipse: s-maj=24.5km s-min=14.6km az=150.0*

ISC 02 16:07:22.7±2.0**, 23.7S**±0.2×**179.7E**±0.1**, h585**km±24km**, n23, σ0ˢ47**/16**, mb3.9**/10**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.33**	**275**	P	**P**	**16 10 04.7**	**0.0**
	0.8nm,0.3s,baz=114,slow=18,SNR=9.1						
CTAO	**Charters Tower**	**31.20**	**270**	*e*P	**P**	**16 12 57.5**	**+0.6**
	5.1nm,0.4s,mb4.5						
PMG	**Port Moresby**	**34.18**	**289**	P	**P**	**16 13 20.8**	**-1.1**
	11nm,0.8s,mb4.5,baz=124,slow=5.0,SNR=5.6						
PMG	**Port Moresby**	**34.18**	**289**	*e*P	**P**	**16 13 22.3**	**+0.4**
	5.7nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**34.53**	**248**	*e*P	**P**	**16 13 25.7**	**+1.0**
	4.2nm,1.4s,mb3.9						
STKA	**Stephens Creek**	**34.53**	**248**	P	**P**	**16 13 25.2**	**+0.6**
	0.8nm,0.4s,mb3.7,baz=122,slow=19,SNR=4.9						
WB2	**Warramunga Arr**	**42.13**	**266**	*e*P	**P**	**16 14 26.2**	**-0.3**
WB2				*e*S	**S**	**16 20 05.8**	**+0.3**
WRAB	**Tennant Creek**	**42.13**	**266**	*e*P	**P**	**16 14 26.0**	**-0.5**
	5.4nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**42.14**	**266**	P	**P**	**16 14 26.2**	**-0.3**
	2.1nm,0.3s,mb4.1,baz=90,slow=6.1,SNR=158						
WRA				ScP		16 19 08.1	
	1.5nm,0.9s,baz=103,slow=4.2,SNR=8.3						
WRA				S	**S**	**16 20 05.4**	**-0.3**
	1.1nm,0.8s,baz=107,slow=13,SNR=6.1						
KAKA	**Kakadu**	**46.02**	**275**	*e*P	Px	16 15 17.2	
	2.6nm,0.3s						
NVAR	**Mina Array Bea**	**84.83**	**44**	P	**P**	**16 18 57.5**	**+0.1**
	0.6nm,0.7s,mb3.3,baz=232,slow=9.1,SNR=4.4						
SNAA	**Sanae**	**84.84**	**179**	*e*P	**P**	**16 18 56.5**	**-0.2**
	1.0nm,0.4s,mb3.8						
TXAR	**Lajitas Array**	**90.58**	**58**	P	**P**	**16 19 24.5**	**-0.2**
	0.9nm,0.5s,mb3.9,baz=217,slow=6.3,SNR=8.1						
ILAR	**Eielson Array**	**91.94**	**14**	P	**P**	**16 19 30.6**	**+0.6**
	0.3nm,0.8s,mb3.4,baz=240,slow=6.9,SNR=4.4						
PDAR	**Pinedale Array**	**92.76**	**44**	P	**P**	**16 19 34.0**	**-0.3**
	0.5nm,0.7s,mb3.6,baz=180,slow=1.5,SNR=3.5						
ARCES	**ARCESS Array B**	**131.67**	**348**	PKP	PKPdf	16 25 30.6	+1.4
	2.4nm,0.8s,slow=1.2,SNR=4.4						
FINES	**FINESS Array B**	**138.20**	**341**	PKP	PKPdf	16 25 43.3	+2.0
	1.4nm,0.7s,baz=72,slow=6.0,SNR=4.9						
NB2	**NORSAR Subarra**	**141.88**	**351**	PKPabc	PKPdf	16 25 44.8	-2.9
	0.2nm,0.7s,baz=27,slow=3.8						
NOA	**NORSAR Array B**	**141.88**	**351**	PKhKP		16 25 44.5	
	1.1nm,0.7s,baz=17,slow=4.9,SNR=4.1						
NOA	**NORSAR Array B**	**141.88**	**351**	PKP	PKPdf	16 25 44.5	-3.2
AKASG	**Malin Array Be**	**144.68**	**327**	PKP	PKPdf	16 25 54.5	+1.6
	2.4nm,0.5s,baz=44,slow=3.9,SNR=20						
BRTR	**Keskin Array B**	**147.26**	**307**	PKPbc	PKPdf	16 26 03.0	+5.3
KSP	**Ksiaz**	**150.03**	**339**	*e*P	PKPdf	16 26 09.8	+8.2

WEL 02 16:07:49.7±0.2**, 41.09S**×**173.51E, h101**km±2km**, ML3.5**/11**, 8C-2D, Error ellipse: s-maj=1.5km s-min=1.3km az=0.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.16**	**217**	⇓PN	P	16 08 03.7	-0.2
NNZ				SN	S	16 08 13.9	-0.8
DUWZ	**D'Urville Isla**	**0.43**	**48**	PN	P	16 08 05.1	-0.1
DUWZ				SN	S	16 08 16.6	-0.3
TUWZ	**Tuamarina**	**0.47**	**136**	⇑PN	P	16 08 05.6	+0.1
TUWZ				SN	S	16 08 16.8	-0.6
TCW	**Tory Channel**	**0.59**	**102**	⇑PN	P	16 08 06.8	+0.3
TCW				SN	S	16 08 18.3	-0.7
BSWZ	**Blackbirch Sta**	**0.68**	**156**	PN	P	16 08 07.4	+0.2
QRZ	**Quartz Range**	**0.79**	**289**	⇓PN	P	16 08 07.4	-0.8
QRZ				SN	S	16 08 20.3	-1.8
THZ	**Tophouse**	**0.81**	**214**	⇑PN	P	16 08 08.2	-0.2
THZ				SN	S	16 08 22.4	0.0
MRW	**Makara Radio**	**0.91**	**99**	⇑PN	P	16 08 09.2	-0.3
MRW				SN	S	16 08 22.7	-1.6
SNZO	**South Karori**	**0.93**	**104**	PN	P	16 08 09.4	-0.3
SNZO				SN	S	16 08 23.2	-1.5
WEL	**Wellington**	**0.97**	**102**	PN	P	16 08 09.8	-0.3
BHW	**Baring Head**	**1.08**	**108**	⇑PN	P	16 08 10.7	-0.5
KIW	**Kapiti Island**	**1.09**	**78**	PN	P	16 08 11.0	-0.4
KIW				SN	S	16 08 26.6	-1.2
CAW	**Cannon Point**	**1.18**	**91**	⇑PN	P	16 08 11.9	-0.7
CAW				SN	S	16 08 28.0	-1.7
KHZ	**Kahutara**	**1.32**	**179**	⇑PN	P	16 08 13.9	-0.3
KHZ				SN	S	16 08 30.7	-1.9
MSWZ	**Moikau Station**	**1.35**	**104**	PN	P	16 08 13.8	-0.8
DSZ	**Denniston Nort**	**1.44**	**242**	PN	P	16 08 14.7	-1.0
DSZ				SN	S	16 08 32.6	-2.4
MTW	**Mount Morrison**	**1.51**	**93**	PN	P	16 08 15.3	-1.2
MRZ	**Mangatainoka R**	**1.63**	**75**	PN	P	16 08 16.6	-1.4
TRWZ	**Traveller**	**1.67**	**101**	PN	P	16 08 17.6	-1.0
WAZ	**Wanganui**	**1.75**	**41**	⇑PN	P	16 08 19.6	+0.1
NRZ	**Ngariki Road**	**1.78**	**11**	PN	P	16 08 20.1	+0.1
NWEZ	**Newall Road**	**1.84**	**9**	PN	P	16 08 20.8	+0.2
NEZ	**North Egmont**	**1.87**	**14**	PN	P	16 08 20.8	-0.3
LTZ	**Lake Taylor**	**1.93**	**208**	PN	P	16 08 20.8	-1.0
LTZ				SN	S	16 08 43.2	-2.4
RAEZ	**Rainy Point**	**1.93**	**21**	PN	P	16 08 22.0	+0.2
PKE	**Pukeiti**	**1.93**	**11**	PN	P	16 08 21.7	-0.1
PKE				SN	S	16 08 45.7	0.0
TSZ	**Takapari Road**	**2.13**	**62**	PN	P	16 08 22.9	-1.7
VRZ	**Vera Road**	**2.19**	**26**	PN	P	16 08 25.0	-0.3
PKVZ	**Pokaka**	**2.29**	**39**	PN	P	16 08 25.5	-1.2
TRVZ	**Turoa**	**2.38**	**42**	PN	P	16 08 27.0	-0.9
WNVZ	**Wahianoa**	**2.38**	**43**	PN	P	16 08 27.1	-0.9
MOVZ	**Moawhango**	**2.41**	**46**	PN	P	16 08 26.5	-1.8
FWVZ	**Far West T-bar**	**2.41**	**41**	PN	P	16 08 27.4	-1.0
FWVZ				*e*SN	S	16 08 56.2	-1.1
WPVZ	**Whakapapa**	**2.45**	**40**	PN	P	16 08 27.5	-1.4
WPVZ				SN	S	16 08 58.2	0.0
CNZ	**Chateau**	**2.45**	**40**	PN	P	16 08 27.4	-1.6
TUVZ	**Tukino**	**2.45**	**43**	PN	P	16 08 27.8	-1.1
NGZ	**Ngauruhoe**	**2.50**	**41**	PN	P	16 08 28.3	-1.2
TWVZ	**Taurewa**	**2.50**	**37**	PN	P	16 08 28.1	-1.5
WTVZ	**West Tongariro**	**2.54**	**40**	PN	P	16 08 28.8	-1.4
CRLZ	**Canterbury Las**	**2.57**	**195**	PN	P	16 08 27.8	-2.7
MQZ	**McQueen's Vall**	**2.69**	**193**	PN	P	16 08 29.1	-3.1

MAN 02 16:22:58.3, 17.81N×**121.30E, h21**km**, mb4.3, ML3.2, MS3.0, 1C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	**Conner**	**0.07**	**313**	*e*P	Pb	16 23 02.7	+0.6
APYP				*e*S	Sb	16 23 06.3	+1.5
CVP	**Callao Caves**	**0.51**	**102**	⇓*i*P	Pb	16 23 09.0	+0.5
CVP				*i* S	Sb	16 23 16.0	+0.6
ABRA	**Dolores**	**0.58**	**254**	*e*P	Pb	16 23 08.5	-1.2
ABRA				*e*S	Sb	16 23 16.2	-1.3
PIP	**Pasuquin**	**0.82**	**308**	⇓*i*P	Pb	16 23 14.7	+0.9
PIP				*i* S	Sb	16 23 26.6	+2.1
SGCP	**Mt. Cagua**	**0.83**	**59**	*e*P	Pb	16 23 14.3	+0.4
SGCP				*e*S	Sb	16 23 27.0	+2.4
CAUP	**Cauayan**	**1.00**	**150**	*e*P	Pb	16 23 16.6	-0.2
CAUP				*e*S	Sb	16 23 32.6	+3.2
BCPH	**Baguio City Da**	**1.58**	**206**	⇑*e*P	Pn	16 23 24.9	-0.6
BCPH				*e*S	Sn	16 23 46.0	+0.6
BOLP	**Bolinao**	**1.94**	**223**	*e*P	Pn	16 23 30.5	-0.2
BOLP				*e*S	Sn	16 23 45.0	-10
BALP	**Baler**	**2.08**	**173**	*e*P	Pn	16 23 31.4	-1.2
PCPH	**Palayan**	**2.25**	**185**	*e*P	Pn	16 23 35.0	0.0
PCPH				*e*S	Sn	16 24 03.1	+0.7

MOS 02 16:41:20.4±1.4**, 54.96N**×**111.56E, h41**km**, mb4.4**/1**, 2C-1D, Error ellipse: s-maj=60.3km s-min=34.1km az=62.8, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.24**	**250**	⇓*i*P	P	16 41 29.2	+1.0
YLYR				*e*		16 41 34.0	
YLYR				pmax	pmax		
	comp=Z,188nm,0.1s						
YLYR				smax			
	comp=E,4μm,0.1s						
KMO	**Kumora**	**0.95**	**348**	⇑*i*P	P	16 41 38.9	+1.5
KMO				*e*		16 41 50.8	
KMO				pmax	pmax		
	comp=Z,69nm,0.5s						
KMO				smax			
	comp=E,262nm,1.0s						
YOA	**Uoyan**	**1.18**	**4**	⇑*i*P	P	16 41 42.8	+2.2
YOA				*i*		16 41 58.6	
YOA				pmax	pmax		
	comp=Z,115nm,0.4s						
YOA				smax			
	comp=N,1μm,0.6s						
UKT	**Uakit**	**1.30**	**65**	*e*P	P	16 41 44.5	+2.1
UKT				*e*		16 42 01.1	
UKT				pmax	pmax		
	comp=Z,89nm,0.2s						
UKT				smax			
	comp=N,415nm,0.2s						
CRS	**Chara**	**4.25**	**60**	*e*P	P	16 42 38.6	+14
CRS				pmax	pmax		
	comp=Z,15nm,0.7s						
TUP	**Tupik**	**4.90**	**93**	*e*P	P	16 42 49.2	+16
TUP				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TLY	**Talaya**	**5.77**	**239**	*e*P	P	16 43 03.2	+18
TLY				pmax	pmax		
	comp=Z,6.0nm,0.2s						

MAN 02 16:58:14.5, 17.87N×**121.21E, h32**km**, mb4.0, ML2.7, MS2.4, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	**Conner**	**0.04**	**95**	*e*P	Pn	16 58 20.7	+2.1
APYP				*e*S	Sn	16 58 24.2	+3.2
ABRA	**Dolores**	**0.52**	**246**	*e*P	Pb	16 58 26.4	+1.1
ABRA				*e*S	Sb	16 58 34.4	+1.7
CVP	**Callao Caves**	**0.61**	**105**	*e*P	Pb	16 58 26.0	-0.7
CAUP	**Cauayan**	**1.09**	**147**	*e*P	Pn	16 58 34.6	+0.9

MAN 02 16:59:47.2, 17.90N×**121.21E, h33**km**, mb3.8, ML2.6, MS2.2, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	**Conner**	**0.05**	**144**	*e*P	P	16 59 53.6	+0.9
APYP				*e*S	S	16 59 57.2	+0.6
ABRA	**Dolores**	**0.54**	**242**	*e*P	P	16 59 59.2	+1.0
ABRA				*e*S	S	17 00 07.2	+0.9
CVP	**Callao Caves**	**0.61**	**109**	*e*P	P	16 59 59.5	+0.2
CAUP	**Cauayan**	**1.12**	**148**	*e*P	P	17 00 07.6	+1.1

*CSEM **02** 17:19:42.8±0.8, 12.00N×43.50E, h7km, ML3.5, Error ellipse: s-maj=16.4km s-min=15.1km az=82.0, After DHMR*

DHMR 02 17:19:42.8±0.9**, 12.00N**×**43.50E, h8**km±6km**, ML3.5, 2C-6D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.36**	**26**	⇓*i*P	Pb	17 20 08.3	+0.1
TRBA				*i* S	Sb	17 20 27.9	+2.2
TRBA				AML	AML	17 20 29.4	
	comp=E,911nm,0.3s						
TRBA	**At Turbah**	**1.36**	**26**	⇓*i*P		17 35 19.4	
TRBA				*i* S		17 35 36.6	
UDYN	**Al 'Udayn**	**2.01**	**13**	*i* P	Pn	17 20 18.9	+1.5
UDYN				*i* S	Sn	17 20 46.1	+3.1
UDYN				AML	AML	17 20 55.0	
	comp=N,569nm,0.8s						
UDYN	**Al 'Udayn**	**2.01**	**13**	*i* P		17 35 30.9	
UDYN				*i* S		17 35 57.0	
UDYN				AML	AML	17 36 05.1	
	comp=N,154nm,0.4s						
UDYN	**Al 'Udayn**	**2.01**	**13**	*i* P	Pn	17 20 18.9	+1.4
UDYN				*i* S	Sn	17 20 46.1	+3.1
	comp=N,285nm,0.8s						
LBOS		**2.53**	**42**	⇑*i*P	Pn	17 20 26.5	+1.6
LBOS				*i* S	Sn	17 21 01.0	+4.8
DHBB	**Dhamar BB**	**2.70**	**19**	⇑*i*P	Pn	17 20 28.9	+1.6
DHBB				*i* S	Sn	17 21 06.2	+5.6
BDHA	**Al Bayda'**	**2.82**	**46**	⇓*i*P	Pn	17 20 31.6	+2.5
BDHA				*i* S	Sn	17 21 08.9	+5.4
BDHA				AML	AML	17 21 20.8	
	comp=N,327nm,0.5s						
BDHA	**Al Bayda'**	**2.82**	**46**	⇓*i*P	Pn	17 20 31.5	+2.5
BDHA				*i* S	Sn	17 21 08.9	+5.4
	comp=N,164nm,0.5s						
HAJJ	**Hajjah**	**3.68**	**2**	⇓*i*P	Pn	17 20 42.6	+1.4
HAJJ				*i* S	Sn	17 21 29.6	+4.2
HAJJ				AML	AML	17 21 45.6	
	comp=E,104nm,0.5s						
HAJJ	**Hajjah**	**3.68**	**2**	⇓*i*P	Pn	17 20 42.6	+1.3
HAJJ				*i* S	Sn	17 21 29.6	+4.2
	comp=E,52nm,0.5s						

*NEIC **02** 17:30:52.5, 36.70S×177.46E, h174km, MG3.8(WEL), After WEL.*

WEL 02 17:30:53.3±0.5**, 36.74S**×**177.54E, h173**km±6km**, ML3.6**/10**, 1C, Error ellipse: s-maj=8.2km s-min=7.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.03**	**144**	PN	P	17 31 20.3	-0.3
MXZ				SN	S	17 31 41.1	-0.8
MXZ	**Matakaoa Point**	**1.03**	**144**	*e*P	P	17 31 20.2	-0.5
MXZ				S	S	17 31 41.5	-0.3
PUZ	**Puketiti**	**1.45**	**157**	PN	P	17 31 24.4	-0.1
PUZ				SN	S	17 31 47.6	-1.1
PUZ	**Puketiti**	**1.45**	**157**	P	P	17 31 24.4	-0.2
PUZ				S	S	17 31 47.6	-1.1
URZ	**Urewera**	**1.56**	**193**	PN	P	17 31 25.7	+0.1
URZ				SN	S	17 31 50.0	-0.6
URZ				SN	S	17 31 50.1	-0.4
URZ	**Urewera**	**1.56**	**193**	P	P	17 31 25.0	-0.6
MWZ	**Matawai**	**1.59**	**180**	*e*PN	P	17 31 26.6	+0.7
MWZ				SN	S	17 31 50.7	-0.5
MWZ	**Matawai**	**1.59**	**180**	*e*P	P	17 31 26.3	+0.3
KNZ	**Kokohu**	**2.28**	**177**	PN	P	17 31 32.8	-0.7
KNZ	**Kokohu**	**2.28**	**177**	P	P	17 31 32.8	-0.7
BKZ	**Black Stump Fm**	**2.56**	**199**	PN	P	17 31 35.9	-1.0
BKZ	**Black Stump Fm**	**2.56**	**199**	*e*P	P	17 31 35.9	-1.0
WNVZ	**Wahianoa**	**3.00**	**210**	P	P	17 31 41.7	-0.6
MOVZ	**Moawhango**	**3.01**	**207**	PN	P	17 31 41.1	-1.3
MOVZ	**Moawhango**	**3.01**	**207**	P	P	17 31 41.1	-1.3
TSZ	**Takapari Road**	**3.54**	**200**	PN	P	17 31 46.8	-2.3
TSZ	**Takapari Road**	**3.54**	**200**	P	P	17 31 46.8	-2.2
BFZ	**Birch Farm**	**4.06**	**194**	*e*P	P	17 31 53.1	-2.6
MRZ	**Mangatainoka R**	**4.21**	**201**	⇑PN	P	17 31 54.5	-3.1
MRZ				SN	S	17 32 43.1	-4.1
MRZ	**Mangatainoka R**	**4.21**	**201**	P	P	17 31 54.5	-3.1
CAW	**Cannon Point**	**4.77**	**203**	PN	P	17 32 01.0	-3.9
CAW	**Cannon Point**	**4.77**	**203**	P	P	17 32 01.0	-3.9
TCW	**Tory Channel**	**5.14**	**209**	*e*SN	S	17 33 03.9	-4.9
TUWZ	**Tuamarina**	**5.46**	**210**	PN	P	17 32 09.5	-4.3
NNZ	**Nelson**	**5.52**	**215**	PN	P	17 32 11.0	-3.7
THZ	**Tophouse**	**6.17**	**214**	PN	P	17 32 19.1	-4.2
THZ	**Tophouse**	**6.17**	**214**	*e*P	P	17 32 19.1	-4.2

PGC 02 17:51:22.8, 50.35N×**130.21W, h10**km**, MLSn2.9**/1**, Mw3.5, West of Vancouver Island, British Columbia, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.36**	**77**	Pn	Pn	17 51 45.7	-2.2
HOLB				Sn	Sn	17 52 00.9	-5.1
	comp=Z,15nm,0.2s						
HOLB				Trac		17 52 03.0	
	comp=Z,15nm,0.2s						
BPBC	**Brooks Peninsu**	**1.57**	**96**	Pn	Pn	17 51 48.2	-2.7
BPBC				Sn	Sn	17 52 07.2	-4.3
BPBC				Sg	Sg	17 52 11.2	-4.2
BPBC				Trac		17 52 12.7	
	comp=Z,70nm,0.2s						
PHC	**Port Hardy**	**1.81**	**77**	Pn	Pn	17 51 52.2	-2.1
PHC				Sn	Sn	17 52 12.9	-4.5
PHC				Trac		17 52 14.4	
	comp=Z,7.0nm,0.1s						
MAYB	**Maynard**	**1.94**	**87**	Pn	Pn	17 51 54.0	-2.2
MAYB				Sn	Sn	17 52 16.6	-4.3
	comp=Z,7.0nm,0.1s						
MAYB				Trac		17 52 17.0	
	comp=Z,7.0nm,0.1s						
BBB	**Bella Bella**	**2.26**	**35**	Pn	Pn	17 51 58.8	-2.1
WOSB	**Woss**	**2.34**	**93**	Pn	Pn	17 51 59.6	-2.4
WOSB				Sn	Sn	17 52 27.7	-3.4
	comp=Z,4.0nm,0.2s						
WOSB				Trac		17 52 29.3	
	comp=Z,4.0nm,0.2s						
BNB	**Barry Inlet**	**2.43**	**337**	Pn	Pn	17 52 00.5	-2.8
BNB				Sn	Sn	17 52 29.1	-4.3
	comp=Z,41nm,0.1s						
BNB				Trac		17 52 32.5	
	comp=Z,41nm,0.1s						
NCRB	**Newcastle Ridg**	**2.66**	**87**	Pn	Pn	17 52 04.9	-1.5
NCRB				Sn	Sn	17 52 35.2	-3.8
	comp=Z,5.0nm,0.3s						
NCRB				Trac		17 52 37.3	
	comp=Z,5.0nm,0.3s						
MOBC	**Moresby Island**	**3.04**	**340**	Pn	Pn	17 52 09.3	-2.6
MOBC				Trac		17 52 48.6	
	comp=Z,1.0nm,0.2s						
BTB	**Buttle Lake**	**3.15**	**104**	Sn	Sn	17 52 47.4	-4.3
	comp=Z,2.0nm,0.2s						
BTB				Trac		17 52 50.5	
	comp=Z,2.0nm,0.2s						
BNAB	**Bonilla**	**3.16**	**355**	Pn	Pn	17 52 10.6	-3.0
BNAB				Sn	Sn	17 52 46.0	-5.8
	comp=Z,1.0nm,0.2s						
BNAB				Trac		17 52 49.7	
	comp=Z,1.0nm,0.2s						
RUBB	**Prince Rupert**	**3.98**	**360**	Pn	Pn	17 52 23.5	-1.9
RUBB				Trac		17 53 11.8	
	comp=Z,7.0nm,0.4s						

*MEX **02** 17:58:13.5±0.8, 16.22N×98.52W, h20km±29km, MD4.8*

*BJI **02** 17:58:13.7, 16.20N×98.50W, h20km, mB5.2, Ms5.1, Msz4.7*

*HRVD **02** 17:58:13.7±0.8, 16.46N×98.19W, h34km±2km, MW5.0/34, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s34,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.14±.40; $M_{\theta\theta}$-1.81±.27; $M_{\phi\phi}$-1.33±.30; $M_{r\theta}$1.73±.17; $M_{\theta\phi}$0.86±.24; $M_{\phi r}$-0.98±.25; Best double couple: $M_0$3.434×10^{16} NP1:ϕ_s309°,δ27°,λ96°. NP2:ϕ_s123°,δ63°,λ87°. Principal axes: T 3.778, Plg72°, Azm26°; N -.688, Plg3°, Azm124°; P -3.09, Plg18°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 17:58:13.7, 16.23N×98.53W, h20km, mb4.9/51, MD4.8(MEX), After MEX.*

*IDC **02** 17:58:15.3±1.1, 16.57N×98.23W, h26km±3km, mb4.2/19, mb1 4.4/22, mb1mx4.3/28, mbtmp4.4/22, ML4.1/3, MS4.1/18, Ms1 4.1/18, ms1mx4.1/22, Error ellipse: s-maj=30.7km s-min=12.5km az=47.0*

ISC 02 17:58:12.8±0.4**, 16.38N**±0.04×**98.40W**±0.03**, h26**km**, h26**km±.4km**:pP-P, n146, σ1ˢ22**/149**, mb4.7**/58**, MS4.2**/19**, 2D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.26**	**88**	*i* P	**Pb**	**17 58 20.6**	**+1.2**
PNIG				*i* S	**Sb**	**17 58 26.0**	**+2.1**
ACX	**Acapulco**	**1.53**	**288**	*e*P	**Pn**	**17 58 35.5**	**-3.3**
ACX				*i* S	**Sn**	**17 58 54.0**	**-4.0**
VHO	**Vista Hermosa**	**1.74**	**67**	*i* P	**Pn**	**17 58 43.2**	**+1.4**
VHO				*i* S	**Sn**	**17 59 05.8**	**+2.5**
OXX	**Oaxaca**	**1.75**	**66**	*i* P	**Pn**	**17 58 43.6**	**+1.7**
CAIG	**El Cayaco**	**1.91**	**291**	*e*P	**Pn**	**17 58 41.8**	**-2.4**
CAIG				*i* S	**Sn**	**17 59 01.8**	**-5.8**
PLIG	**Platanillo**	**2.26**	**332**	*e*P	**Pn**	**17 58 49.2**	**0.0**
PLIG				*i* S	**Sn**	**17 59 15.2**	**-1.3**
HUIG	**Huatulco**	**2.29**	**105**	*e*P	**Pn**	**17 58 52.1**	**+2.5**
HUIG				*i* S	**Sn**	**17 59 15.6**	**-1.6**
HUIG	**Huatulco**	**2.29**	**105**	*e*P	**Pn**	**17 58 52.1**	**+2.5**
HUIG				*i* S	**Sn**	**17 59 18.4**	**+1.1**
YAIG	**Yautepec**	**2.54**	**346**	*e*P	**Pn**	**17 58 54.6**	**+1.3**
YAIG				*i* S	**Sn**	**17 59 24.9**	**+1.1**
PPM	**Popocatepetl**	**2.68**	**355**	*e*P	**Pn**	**17 58 55.2**	**-0.1**
PPM				*i* P		17 58 55.3	
PPM				*e*P		17 58 57.6	
PPM				*i* S	**Sn**	**17 59 29.8**	**+2.7**
PPM	**Popocatepetl**	**2.68**	**355**	*i* P	**Pn**	**17 58 55.3**	**+0.1**
IIZ	**Mezontepec**	**2.90**	**344**	*i* P	**Pn**	**17 58 58.9**	**+0.5**
UNM	**Universidad Na**	**3.02**	**346**	*e*P	**Pn**	**17 59 01.1**	**+1.0**
UNM				*i* S	**Sn**	**17 59 36.7**	**+0.8**
UNM	**Universidad Na**	**3.02**	**346**	*e*P	**Pn**	**17 59 03.2**	**+3.1**
UNM				*i* S	**Sn**	**17 59 39.1**	**+3.2**
ZIIG	**Zihuatanejo**	**3.17**	**293**	*i* P	**Pn**	**17 58 59.5**	**-2.8**
PTVM	**Pico Tres Padr**	**3.26**	**348**	*e*P	**Pn**	**17 59 07.5**	**+3.9**
CMIG	**Matias Romero**	**3.44**	**78**	*i* P	**Pn**	**17 59 05.8**	**-0.3**
CMIG				*i* S	**Sn**	**17 59 46.4**	**-0.1**
CMIG	**Matias Romero**	**3.44**	**78**	*i* P	**Pn**	**17 59 05.8**	**-0.3**
CMIG				*i* S	**Sn**	**17 59 48.1**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TUIG	Tuzandepetl	4.14	66	*i* P	Pn	17 59 15.5	-0.6
TUIG				*i* S	Sn	18 00 03.4	-0.8
MOIG	Morelia	4.22	321	*i* P	Pn	17 59 17.6	+0.5
MOIG				*i* S	Sn	18 00 04.1	-2.1
SFJM	Santa Fe	6.00	314	*e*P	Pn	17 59 41.3	-1.1
CCIG	Comitan	6.01	90	*e*P	Pn	17 59 41.0	-1.5
CCIG				*i* S	Sn	18 00 48.9	-2.3
LTX	Lajitas	13.77	340	*e*Pn	P	18 01 28.8	-0.1
	11nm,0.8s						
TXAR	Lajitas Array	13.77	340	Pn	P	18 01 28.5	-0.3
	0.2nm,0.3s,baz=160,slow=15,SNR=8.2						
TXAR				Lg		18 05 27.8	
	0.1nm,0.3s,baz=141,slow=24,SNR=2.5						
TXAR				LR	LR	18 07 09.4	
	comp=Z,2µm,18.5s,baz=145,slow=39						
JTS	JuntasAbangare	14.41	113	Pn	P	18 01 36.9	-0.5
	0.3nm,0.3s,baz=180,slow=20,SNR=1.9						
JTS	JuntasAbangare	14.41	113	Pn	P	18 01 38.9	+1.5
NATX	Nacogdoches	15.68	12	*e*P	P	18 01 56.3	+2.5
	38nm,0.8s						
NATX				*e*		18 02 04.4	
SOR	Soroa	15.84	64	P	P	18 01 55.7	-0.2
MNTX	Cornudas Mount	16.52	339	*e*P	P	18 02 03.9	-0.5
	12nm,0.7s						
WMOK	Wichita Mounta	18.28	359	*e*P	P	18 02 23.6	-2.9
	14nm,0.7s						
MIAR	Mount Ida	18.60	13	*e*P	P	18 02 27.8	-2.6
	25nm,0.7s						
BNM	Barren Site	19.18	339	*e*P	P	18 02 36.9	-0.3
LENM	Lemitar	19.31	338	*e*P	P	18 02 38.3	-0.6
LPM	Los Pinos Moun	19.32	339	*e*P	P	18 02 39.3	+0.3
TUC	Tucson	19.43	327	*e*P	P	18 02 40.2	0.0
	45nm,1.5s						
LAZ	Ladron	19.58	338	*e*P	P	18 02 42.4	+0.4
OXF	Oxford	19.77	22	*e*P	P	18 02 41.5	-2.5
	88nm,1.1s						
ANMO	Albuquerque	19.85	340	P	P	18 02 44.2	-0.6
	baz=158,slow=12,SNR=20						
ANMO				LR	LR	18 11 21.5	
	comp=Z,1µm,18.7s,slow=40						
ANMO	Albuquerque	19.85	340	*e*P	P	18 02 44.2	-0.6
	16nm,0.8s						
GNAR	Gosnell	20.88	19	*e*P	P	18 02 53.6	-1.9
	603nm,1.3s						
PARMO	Parma	21.61	19	*e*P	P	18 03 01.5	-1.4
UTMT	University of	21.61	21	*e*P	P	18 03 01.9	-1.0
	455nm,1.1s						
GOGA	Godfrey	21.66	36	*e*P	P	18 03 00.9	-2.5
	48nm,0.8s,mb5.0						
WVT	Waverly	21.80	24	*e*P	P	18 03 02.5	-2.3
	84nm,0.8s,mb5.2						
WVT				*e*		18 03 14.2	
WVT				*e*		18 04 14.3	
SWET	Sewanee	21.82	28	*e*P	P	18 03 01.8	-3.2
SWET				*e*		18 04 55.5	
SDCO	Great Sand Dun	22.18	345	*e*P	P	18 03 08.9	+0.3
	20nm,0.7s,mb4.7						
GLA	Glamis	22.27	321	*e*P	P	18 03 10.6	+1.2
CCM	Cathedral Cave	22.49	15	*e*P	P	18 03 09.8	-1.8
	36nm,0.8s,mb4.8						
FVM	French Village	22.64	17	*e*P	P	18 03 09.9	-3.2
	13nm,0.6s,mb4.5						
CPCT	Cooper Cave	22.67	31	*e*P	P	18 03 12.2	-1.4
KSU1	Kansas State U	22.69	4	*e*P	P	18 03 12.7	-0.9
NHSC	New Hope	23.41	41	*e*P	P	18 03 20.2	-0.6
	292nm,1.1s,mb5.6						
PV01	Paradox Valley	23.44	340	*e*P	P	18 03 22.1	+1.1
PV01				*e*PcP	PcP	18 07 07.2	-1.2
PV10	Paradox Valley	23.82	339	*e*P	P	18 03 24.7	0.0
SMCO	Snowmass	23.92	343	*e*P	P	18 03 27.8	+2.3
	42nm,1.1s,mb4.8						
TZTN	Tazewell	24.02	30	*e*P	P	18 03 27.4	+0.8
NEN	Nelson	24.15	326	*e*P	P	18 03 29.4	+1.5
ISCO	Idaho Springs	24.16	346	*e*P	P	18 03 29.4	+1.4
	16nm,0.6s,mb4.6						
WCI	Wyandotte Cave	24.23	24	*e*P	P	18 03 28.1	-0.6
	164nm,1.2s,mb5.3						
SRU	San Rafael	25.00	337	*e*P	P	18 03 36.7	+0.6
	25nm,0.8s,mb4.8						
ARUT	Antelope Range	25.11	331	*e*P	P	18 03 38.6	+1.5
MSU	Marysvale	25.15	334	*e*P	P	18 03 40.0	+2.5
MVU	Marysvale	25.15	334	*e*P	P	18 03 41.7	+4.2
	19nm,0.9s,mb4.6						
OTAV	Otavalo	25.38	127	*e*P	P	18 03 42.9	+2.9
	5.0nm,0.9s,mb4.0						
TMUT	Trail Mountain	25.43	336	*e*P	P	18 03 41.3	+1.3
PHWY	Pilot Hill	25.57	348	*e*P	P	18 03 42.4	+1.0
TPNV	Topopah Spring	25.87	326	*e*P	P	18 03 45.7	+1.4
	78nm,1.6s,mb5.0						
BLA	Blacksburg	26.14	34	*e*P	P	18 03 44.6	-2.1
	31nm,0.7s,mb4.9						
DAC	Darwin (Calif)	26.14	323	*e*P	P	18 03 47.6	+0.9
	18nm,1.3s,mb4.5						
FWV	Forest Hill	26.21	33	*e*P	P	18 03 46.6	-0.7
MPU	Maple Canyon	26.21	337	*e*P	P	18 03 48.3	+0.9
	15nm,0.8s,mb4.6						
NLU	North Lily Min	26.33	336	*e*P	P	18 03 49.7	+1.2
DAU	Daniels Canyon	26.42	338	*e*P	P	18 03 50.1	+0.9
DUG	Dugway	26.83	335	*e*P	P	18 03 54.1	+1.0
	23nm,1.2s,mb4.6						
DUG				*e*pP	pP	18 04 01.9	+1.2
CTU	Camp Tracy	26.84	337	*e*P	P	18 03 54.0	+0.8
	9.4nm,0.8s,mb4.4						
TCUT	Toone Canyon	27.09	338	*e*P	P	18 03 56.2	+0.8
ACSO	Alum Creek Sta	27.28	26	*e*P	P	18 03 56.1	-1.0
	52nm,0.8s,mb5.1						
ACSO				*e*pP	pP	18 04 03.6	-1.2
BGU	Big Grassy Mou	27.54	336	*e*P	P	18 03 59.4	-0.1
BGU				*e*pP	pP	18 04 06.5	-0.6
PDAR	Pinedale Array	27.97	342	P	P	18 04 03.2	-0.2
	4.6nm,0.8s,mb4.2,baz=135,slow=10,SNR=12						
PDAR				pP	pP	18 04 10.2	-0.9
	7.8nm,0.9s,baz=141,slow=9.5,SNR=8.9						
PDAR				LR	LR	18 16 49.4	
	comp=Z,493nm,18.5s,MS4.1,baz=169,slow=40						
RSSD	Black Hills	28.06	351	*e*P	P	18 04 04.3	+0.1
	24nm,1.3s,mb4.7						
NVAR	Mina Array Bea	28.07	325	P	P	18 04 04.7	+0.4
	4.0nm,0.8s,mb4.1,baz=153,slow=8.1,SNR=26						
NVAR				pP	pP	18 04 13.2	+1.2
	3.9nm,0.8s,baz=130,slow=13,SNR=7.9						
NVAR				LR	LR	18 15 54.7	
	comp=Z,226nm,18.8s,MS3.8,baz=145,slow=38						
NVAR	Mina Array Bea	28.07	325	P	P	18 04 04.7	+0.4
NVAR				pP	pP	18 04 13.2	+1.2
NVAR				LR	LR	18 15 54.8	
SDV	Santo Domingo	28.07	102	P	P	18 04 06.0	+1.4
	13nm,0.7s,mb4.7,baz=314,slow=4.7,SNR=27						
SDV				LR	LR	18 16 40.1	
	comp=Z,171nm,18.7s,MS3.7,baz=26,slow=40						
SDV	Santo Domingo	28.07	102	*e*P	P	18 04 05.9	+1.3
	17nm,0.8s,mb4.7						
SDV				*e*pP	pP	18 04 14.4	+2.1
HVU	Hansel Valley	28.17	337	*e*P	P	18 04 05.9	+0.7
	13nm,0.8s,mb4.6						
HVU				*e*pP	pP	18 04 13.6	+0.7
ELK	Elko	28.32	332	P	P	18 04 06.7	+0.2
	2.1nm,0.7s,mb3.9,baz=143,slow=7.7,SNR=12						
ELK				LR	LR	18 15 22.6	
	comp=Z,335nm,19.4s,MS4.0,baz=160,slow=36						
ELK	Elko	28.32	332	*e*P	P	18 04 06.8	+0.3
	26nm,1.6s,mb4.6						
REDW	Red Top Meadow	28.91	341	*e*P	P	18 04 12.1	+0.3
	80nm,1.5s,mb5.2						
TPAW	Teton Pass	29.05	341	*e*P	P	18 04 14.8	+1.7
	28nm,1.0s,mb4.9						
LOHW	Long Hollow	29.06	342	*e*P	P	18 04 13.8	+0.6
	33nm,1.1s,mb5.0						
LOHW				*e*pP	pP	18 04 21.6	+0.7
MOOW	Moose Ponds	29.22	341	*e*P	P	18 04 15.3	+0.6
	65nm,1.8s,mb5.1						
QLMT	Earthquake Lak	30.41	342	P	P	18 04 25.8	+0.6
GCMT	Greycliff	30.80	345	*e*P	P	18 04 27.6	-1.0
GCMT				*e*pP	pP	18 04 35.9	-0.5
MCMT	McKenzie Canyo	30.86	340	*e*P	P	18 04 30.2	+1.0
MCMT				*e*pP	pP	18 04 37.7	+0.8
BOZ	Bozeman (W)	31.21	342	*e*P	P	18 04 32.1	-0.1
	14nm,1.2s,mb4.7						
BOZ				*e*pP	pP	18 04 40.2	+0.2
WVOR	Wild Horse Val	31.22	330	*e*P	P	18 04 32.5	+0.2
	40nm,1.5s,mb5.0						
DLMT	Dillon	31.25	341	*e*P	P	18 04 33.1	+0.5
	55nm,1.3s,mb5.2						
DLMT				*e*pP	pP	18 04 41.1	+0.7
MTP	Monte Pirata	31.39	82	*e*P	P	18 04 33.6	-0.5
MOD	Modoc	31.64	328	*e*P	P	18 04 36.2	+0.2
	5.2nm,0.7s,mb4.5						
EYMN	Ely	31.98	9	*e*P	P	18 04 37.0	-2.0
	11nm,0.7s,mb4.8						
HRY	Holter Researc	32.23	343	*e*P	P	18 04 40.7	-0.5
SADO	Sadowa	32.62	26	P	P	18 04 41.5	-3.1
	7.4nm,0.7s,mb4.7,baz=246,slow=6.3,SNR=2.5						
SADO				LR	LR	18 21 36.9	
	comp=Z,175nm,19.8s,MS3.8,baz=12,slow=43						
CHMT	Chamberlain Mo	32.84	341	*e*P	P	18 04 46.4	-0.1
EGMT	Eagleton	32.91	346	*e*P	P	18 04 47.0	-0.1
	62nm,1.5s,mb5.3						
MSO	Missoula	32.99	340	*e*P	P	18 04 47.6	-0.1
	4.6nm,0.9s,mb4.4						
ULM	Lac du Bonnet	33.84	3	P	P	18 04 53.2	-1.9
	2.0nm,0.5s,mb4.3,baz=182,slow=8.4,SNR=5.4						
ULM				LR	LR	18 19 37.1	
	comp=Z,247nm,20.4s,MS3.9,baz=263,slow=38						
ULM	Lac du Bonnet	33.84	3	P	P	18 04 53.2	-1.9
ULM				LR	LR	18 19 37.1	
NEW	Newport	35.31	338	P	P	18 05 06.8	-0.9
	1.7nm,0.4s,mb4.3,baz=108,slow=14,SNR=3.8						
FFC	Flin Flon	38.36	357	*e*P	P	18 05 32.7	-0.7
	36nm,1.0s,mb5.0						
FFC				*e*pP	pP	18 05 40.5	-0.8
SAML	Samuel	42.99	123	*e*P	P	18 06 11.2	-0.8
	3.0nm,0.9s,mb4.0						
LPAZ	La Paz	44.11	136	LR	LR	18 22 49.1	
	comp=Z,144nm,21.8s,MS3.9,baz=40,slow=33						
SCHQ	Schefferville	45.42	25	P	P	18 06 30.3	-0.8
	12nm,0.8s,mb4.8,baz=227,slow=5.3,SNR=12						
SCHQ				pP	pP	18 06 37.3	-1.7
	18nm,0.9s,baz=215,slow=6.2,SNR=9.2						
SCHQ				LR	LR	18 28 08.7	
	comp=Z,193nm,18.9s,MS4.1,baz=255,slow=40						
SCHQ	Schefferville	45.42	25	*e*P	P	18 06 29.7	-1.4
	24nm,0.9s,mb5.0						
YKA	Yellowknife Ar	47.45	350	P	P	18 06 45.9	-1.1
	4.3nm,0.8s,mb4.4,baz=159,slow=7.4,SNR=21						
YKA				pP	pP	18 06 53.1	-1.9
	3.8nm,0.7s,baz=155,slow=7.1,SNR=12						
YKA				LR	LR	18 30 10.0	
	comp=Z,220nm,18.7s,MS4.2,baz=155,slow=40						
DLBC	Dease Lake	48.06	338	P	P	18 06 52.4	+0.5
	3.0nm,0.7s,mb4.4,baz=170,slow=14,SNR=6.6						
DLBC				LR	LR	18 28 38.4	
	comp=Z,578nm,18.1s,MS4.6,baz=168,slow=38						
TAOE	Nuku Hiva Isla	48.33	242	*e*LR	LR	18 20 14.9	
	764nm,24.0s						
SIV	San Ignacio	48.90	129	P	P	18 06 58.3	-0.6
	1.7nm,0.7s,mb4.2,baz=297,slow=12,SNR=5.1						
RKT	Rikitea	53.11	223	*e*LR	LR	18 22 29.5	
	431nm,25.2s						
THY	Trims Highway	57.12	337	*e*P	P	18 07 59.1	-0.2
ILAR	Eielson Array	58.27	338	P	P	18 08 06.8	-0.5
	2.4nm,0.9s,mb4.2,baz=133,slow=4.7,SNR=24						
ILAR				pP	pP	18 08 14.9	-0.5
	3.7nm,0.9s,baz=152,slow=4.2,SNR=14						
ILAR				LR	LR	18 35 19.6	
	comp=Z,424nm,19.2s,MS4.6,baz=330,slow=38						
MCK	McKinley	58.50	336	*e*P	P	18 08 08.4	-0.5
	3.3nm,0.8s,mb4.4						
BDFB	Brasilia	59.03	120	P	P	18 08 13.4	+0.1
	5.5nm,0.6s,mb4.8,baz=287,slow=8.7,SNR=8.9						
PPT	Papeete	60.66	238	*e*LR	LR	18 25 58.0	
	246nm,25.8s						
PLCA	Paso Flores	62.43	156	LR	LR	18 29 58.4	
	comp=Z,179nm,18.4s,MS4.3,baz=102,slow=30						
TBI	Tubuai	63.64	233	*e*LR	LR	18 27 21.4	
	232nm,26.2s						
RCBR	Riachuelo	65.62	104	*e*P	P	18 08 58.4	+1.0
	12nm,0.8s,mb5.0						
SUMG	Summit	65.66	17	*e*P	P	18 08 56.1	-0.5
	22nm,1.0s,mb5.1						
SUMG				*e*pP	pP	18 09 04.9	0.0
DAG	Danmarks Havn	71.81	14⇓	*i*P	P	18 09 33.5	-1.2
	4.0nm,0.6s,mb4.5						
DAG	Danmarks Havn	71.81	14⇓	*e*P	P	18 09 33.5	-1.2
	4.0nm,0.6s,mb4.5						
BILL	Bilibino	76.93	337	*e*P	P	18 10 04.5	+0.2
	2.6nm,0.9s,mb4.2						
NB2	NORSAR Subarra	84.95	27	P	P	18 10 47.7	+1.1
	0.8nm,0.6s,mb4.0,baz=297,slow=4.8						
NOA	NORSAR Array B	84.95	27	P	P	18 10 47.7	+1.1
	1.0nm,0.6s,mb4.1,baz=298,slow=4.8,SNR=3.9						
NOA				pP	pP	18 10 56.0	+0.9
	1.6nm,1.0s,baz=275,slow=4.7,SNR=2.3						
NOA				LR	LR	18 50 28.6	
	comp=Z,29nm,19.8s,MS3.7,baz=5.0,slow=37						
NOA	NORSAR Array B	84.95	27	P	P	18 10 47.7	+1.1
NOA				pP	pP	18 10 56.0	+0.9
NOA				LR	LR	18 50 28.6	
ARCES	ARCESS Array B	85.75	17	P	P	18 10 50.6	+0.1
	2.8nm,0.7s,mb4.6,baz=326,slow=4.4,SNR=4.4						
ARCES				LR	LR	18 55 50.9	
	comp=Z,106nm,18.7s,MS4.3,baz=133,slow=40						
FINES	FINESS Array B	90.87	23	P	P	18 11 14.8	-0.3
	1.8nm,0.7s,mb4.5,slow=1.9,SNR=4.9						
FINES				LR	LR	18 53 01.5	
	comp=Z,142nm,18.8s,MS4.4,baz=335,slow=36						
FINES	FINESS Array B	90.87	23	P	P	18 11 14.8	-0.3
FINES				LR	LR	18 53 01.5	
DBIC	Dimbokro	91.52	83	P	P	18 11 19.8	+0.6
	1.2nm,0.4s,mb4.5,baz=269,slow=12,SNR=3.5						
GERES	GERESS Array B	91.61	38	P	P	18 11 19.0	+0.2
	0.5nm,0.7s,mb4.0,baz=333,slow=3.0,SNR=3.7						
GERES				LR	LR	18 51 21.3	
	comp=Z,146nm,18.9s,MS4.4,baz=188,slow=35						
TORD	Torodi Ar. Bea	95.77	75	P	P	18 11 37.5	-1.2
	0.8nm,0.8s,mb4.2,baz=285,slow=5.4,SNR=4.5						
WMQ	Urumqi	119.83	355	*e*PKP	PKPdf	18 17 03.4	-2.3
WMQ				LR	LR		
	comp=N,250nm,22.0s,MS5.1						
WMQ				LR	LR		
	comp=E,360nm,21.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,330nm,20.0s,MS5.0						
NJ2	Nanjing	120.05	324	*e*PKP	PKPdf	18 17 05.9	-0.6
NJ2				PP	PP	18 18 33.0	+2.4
NJ2				PKS	PKS	18 20 40.0	+2.5
NJ2				PPP	PPP	18 21 04.0	+0.3
NJ2				PP	PP		
	comp=Z,150nm,6.6s						
NJ2				LR	LR		
	comp=N,690nm,22.4s						
NJ2				LR	LR		
	comp=E,590nm,27.6s						
NJ2				LR	LR		
	comp=Z,250nm,28.0s						
LZH	Lanzhou	123.73	338	*e*PKP	PKPdf	18 17 10.0	-3.6
LZH				XPKP		18 17 22.0	
LZH				LR	LR		
	comp=N,200nm,19.2s						
LZH				LR	LR		
	comp=Z,300nm,21.0s,MS4.9						
WRA	Warramunga Arr	129.93	258	PKP	PKPdf	18 17 22.4	-3.4
	comp=Z,0.6nm,0.7s,baz=82,slow=2.1,SNR=15						
KMI	Kunming	133.89	333	PKP	PKPdf	18 17 33.8	+0.6
KMI				LR	LR		
	comp=Z,60nm,26.4s,MS4.2						
HYB	Hyderabad	146.28	5	*i* PKP	PKPdf	18 17 53.0	-2.6
HYB	Hyderabad	146.28	5	*e*P	PKPbc	18 17 53.0	+1.0

MOS 02 18:23:52.6±1.8**, 54.97N**×**111.64E, h29**km**, mb4.2**/1**, 1C-1D, Error ellipse: s-maj=88.0km s-min=34.7km az=61.1, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.29	251⇓	*i*PG	Pb	18 23 59.9	+0.1
YLYR				*e*		18 24 04.7	
YLYR				pmax	pmax		
	comp=Z,198nm,0.4s						
YLYR				smax			
	comp=E,3µm,0.1s						
YOA	Uoyan	1.17	2⇑	*i*PN	Pn	18 24 13.6	+0.4
YOA				*i*		18 24 29.3	
YOA				pmax	pmax		
	comp=Z,39nm,0.3s						
YOA				smax			
	comp=N,730nm,0.5s						
UKT	Uakit	1.25	65	*e*PN	Pn	18 24 15.4	+1.0
UKT				*e*		18 24 31.9	
UKT				pmax	pmax		
	comp=Z,57nm,0.2s						
UKT				smax			
	comp=N,262nm,0.2s						
SVKR	Severomuysk	1.58	43	*e*PN	Pn	18 24 22.1	+2.9
SVKR				*e*		18 24 42.8	
SVKR				pmax	pmax		
	comp=Z,160nm,0.4s						
SVKR				smax			
	comp=E,468nm,0.6s						
CRS	Chara	4.20	60	*e*PN	Pn	18 25 08.6	+12
CRS				*e*		18 26 02.8	
CRS				pmax	pmax		
	comp=Z,23nm,1.5s						
CRS				smax			
	comp=E,78nm,1.3s						

*IDC **02** 18:28:18.9±0.9, 30.97N×130.00E, h150km±10km, mb3.4/6, mb1 3.4/9, mb1mx3.3/22, mbtmp3.7/9, Error ellipse: s-maj=31.6km s-min=9.0km az=104.0*
*NEIC **02** 18:28:20.0±0.8, 30.97N×130.01E, h160km±9km, MG3.5(JMA), Error ellipse: s-maj=20.8km s-min=10.2km az=107.0*
*JMA **02** 18:28:20.5±0.1, 30.97N×130.30E, h151km±1km, M3.5*
ISC 02 18:28:18.4±0.5**, 30.93N**±0.05×**130.20E**±0.10**, h160**km±4km**, n20, σ0.92**/30**, mb3.5**/6**, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKC	Kuchinoerabu	0.47	180	P	P	18 28 42.1	+1.0
JKC				S	S	18 28 58.4	-0.2
JSU	Suzuyama	0.61	21	P	P	18 28 42.3	+0.5
JTSR	Tashiro 2	0.66	69	P	P	18 28 42.1	0.0
JTSR				S	S	18 28 58.8	-1.5
JTN	Tanegashima 3	0.73	112	P	P	18 28 42.9	+0.5
JTN				S	S	18 29 00.3	-0.6
JSJ	Shimokoshiki	0.85	331	P	P	18 28 44.0	+0.8
JSJ				S	S	18 29 02.3	0.0
JNAR	Kushima--Naru	1.09	57	P	P	18 28 45.7	+0.6
JNAR				S	S	18 29 05.0	-0.7
JNN	Nakanoshima	1.12	194	P	P	18 28 46.8	+1.5
JTZ	Takazaki	1.23	38	P	P	18 28 46.9	+0.6
JTZ				S	S	18 29 06.5	-1.4
JZO	Okuchi	1.25	16	P	P	18 28 47.3	+0.7
JZO				S	S	18 29 07.8	-0.5
JIU2	Izumi 2	1.69	18	P	P	18 28 52.0	+1.0
JIU2				S	S	18 29 15.8	-0.4
JNU	Nakatsue	2.26	15	P	P	18 28 58.5	+1.0
	9.4nm,0.3s,baz=204,slow=7.6,SNR=82						
JNU				S	S	18 29 27.0	-0.6
	5.5nm,0.3s,baz=28,slow=17,SNR=5.7						
JOW	Kunigami	4.42	203	P	P	18 29 25.8	+0.6
	1.4nm,0.3s,baz=305,slow=29,SNR=6.3						
JOW				S	S	18 30 14.9	-1.7
	3.4nm,0.3s,baz=142,slow=24,SNR=10						
MJAR	Matsushiro Arr	8.71	48	P	P	18 30 24.3	+2.3
	0.3nm,0.3s,baz=270,slow=19,SNR=5.6						
SONM	Songino Array	24.82	320	P	P	18 33 26.0	-1.0
	0.3nm,0.3s,mb3.3,baz=137,slow=10,SNR=4.4						
WRA	Warramunga Arr	50.74	175	P	P	18 37 03.6	-0.5
	0.3nm,0.3s,mb3.4,baz=355,slow=8.1,SNR=6.2						
FINES	FINESS Array B	69.65	330	P	P	18 39 10.7	-1.3
	1.6nm,0.4s,mb4.1,baz=63,slow=6.2,SNR=32						
FINES	FINESS Array B	69.65	330	P	P	18 39 10.7	-1.3
BRTR	Keskin Array B	75.53	308	P	P	18 39 47.0	+0.2
	1.2nm,0.7s,mb3.6,baz=90,slow=4.9,SNR=6.3						
NOA	NORSAR Array B	75.87	334	P	P	18 39 47.2	-1.0
	0.6nm,0.6s,mb3.4,baz=52,slow=5.8,SNR=2.9						
GERES	GERESS Array B	82.49	323	P	P	18 40 24.6	+0.5
	0.4nm,0.6s,mb3.2,baz=39,slow=6.3,SNR=3.2						

*NEIC **02** 18:50:15.6, 16.04N×97.09W, h16km, MD4.1(MEX), After MEX.*
MEX 02 18:50:15.4±0.9**, 16.04N**×**97.09W, h17**km±38km**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.98	106	*e*P	Pb	18 50 31.2	-2.4
HUIG				*i* S	Sb	18 50 42.3	-3.8
PNIG	Pinotepa	1.05	290	*i* P	Pb	18 50 31.7	-3.0
PNIG				*i* S	Sb	18 50 44.1	-4.0
VHO	Vista Hermosa	1.08	18	*e*P	Pb	18 50 32.5	-2.7
VHO				*i* S	Sb	18 50 46.0	-3.1
OXX	Oaxaca	1.09	19	*i* P	Pb	18 50 32.5	-3.0
OXX				*i* S	Sb	18 50 44.0	-5.4
CMIG	Matias Romero	2.36	63	*i* P	Pn	18 50 51.1	-3.0
CMIG				*i* S	Sn	18 51 18.2	-4.7
ACX	Acapulco	2.83	287	*e*P	Pn	18 50 59.0	-1.8
ACX				*i* S	Sn	18 51 30.0	-4.8
CAIG	El Cayaco	3.21	289	*i* P	Pn	18 51 03.8	-2.3
CAIG				*i* S	Sn	18 51 36.0	-8.3
CAIG	El Cayaco	3.21	289	*i* P	Pn	18 51 00.9	-5.2
CAIG				*i* S	Sn	18 51 36.0	-8.3
PLIG	Platanillo	3.28	316	*i* P	Pn	18 51 02.7	-4.5
PLIG				*i* S	Sn	18 51 41.3	-4.9
PPM	Popocatepetl	3.35	334	*e*P	Pn	18 51 05.0	-3.1
PPM				*e*P		18 51 05.6	
PPM				*i* S	Sn	18 51 47.0	-0.9
PPM				*i* S	Sn	18 51 47.0	-0.8
PPM	Popocatepetl	3.35	334	*e*P	Pn	18 51 05.0	-3.1
PPM				*i* S	Sn	18 51 47.0	-0.9
YAIG	Yautepec	3.38	326	*i* P	Pn	18 51 05.5	-3.2
YAIG				*i* S	Sn	18 51 44.3	-4.4

MAN 02 19:03:53.6, 8.41N×123.27E, h32km, mb3.9, ML2.6, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.19	25⇑	*i*P	Pb	19 04 01.1	+1.1
DCPH				*i* S	Sn	19 04 06.2	+2.2
PAGZ	Pagadian	0.57	169	*e*P	Pb	19 04 06.2	+1.0
PAGZ				*e*S	Sb	19 04 14.4	+1.2
IPIL	Ipil	0.93	228	*e*P	Pn	19 04 10.3	-0.2
IPIL				*e*S	Sn	19 04 21.6	-1.2

*IDC **02** 19:12:00.3±0.8, 12.80N×93.19E, mb4.1/12, mb1 4.3/12, mb1mx4.2/17, mbtmp4.1/12, MS3.5/1, Ms1 3.5/1, ms1mx2.8/18, Error ellipse: s-maj=34.7km s-min=18.7km az=53.0*
*BJI **02** 19:12:03.7, 12.79N×93.35E, h36km, mB4.9, mb4.4*
*NEIC **02** 19:12:05.1±0.5, 12.87N×93.30E, h30km, mb4.2/6, Error ellipse: s-maj=15.2km s-min=11.2km az=59.0*
ISC 02 19:12:03.6±0.8**, 12.8N**±0.1×**93.14E**±0.07**, h33**km**, n35, σ0.82**/29**, mb4.2**/18**, MS3.5**/1**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNT	Nongplab	6.43	91	P	P	19 13 40.5	+2.0
NST	Nakhon Sawan	7.35	66	P	P	19 13 50.0	-1.3
CHG	Chiang Mai	8.18	42	P	P	19 14 03.9	+1.1
KKTK	Khon Kaen	10.01	68	P	P	19 14 29.0	+0.8
LSA	Lhasa	16.91	354	P	P	19 16 00.4	+1.0
LSA	Lhasa	16.91	354	*e*P	P	19 16 00.1	+0.6
	4.6nm,0.6s						
CD2	Chengdu	20.51	27	P	P	19 16 40.4	-1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
ENH	Enshi	23.04	38	*e*P	P	19 17 05.4	-1.6
	comp=Z,40nm,0.8s,mb4.9						
LZH	Lanzhou	25.11	21	*e*P	P	19 17 27.5	+0.5
LZH				AP	pP	19 17 35.5	-0.8
LZH				XP	sP	19 17 39.3	-0.7
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,140nm,4.5s						
GTA	Gaotai	27.15	11	*e*P	P	19 17 46.3	+0.4
GTA				AP	pP	19 17 56.4	+1.0
GTA				XP	sP	19 18 01.0	+1.5
AAK	Ala-Archa	33.83	335	*e*P	P	19 18 44.9	-0.1
	comp=Z,3.7nm,1.0s,mb4.3						
MKAR	Makanchi Array	35.09	347	P	P	19 18 55.8	0.0
	comp=Z,4.1nm,0.8s,mb4.4,baz=164,slow=8.8,SNR=16						
SONM	Songino Array	36.63	15	P	P	19 19 08.5	-0.3
	comp=Z,2.2nm,0.9s,mb4.0,baz=195,slow=7.0,SNR=11						
SONM				PcP	PcP	19 21 31.8	0.0
	comp=Z,0.6nm,0.8s,baz=198,slow=3.0,SNR=5.8						
CN2	Changchun	41.51	36	*e*P	P	19 19 48.9	-0.5
CN2				AMB	AMB		

comp=Z,10.0nm,1.0s,mb4.4
BVAR Borovoye Array 44.04 340 P P 19 20 09.8 -0.1
comp=Z,2.2nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=22
BRVK Borovoye 44.10 340 eP P 19 20 10.2 -0.2
comp=Z,2.3nm,0.6s,mb4.1
WRA Warramunga Arr 51.99 128 P P 19 21 11.2 -0.9
comp=Z,1.5nm,0.8s,mb4.0,baz=306,slow=9.5,SNR=36
WRA PcP PcP 19 22 24.2 -0.2
comp=Z,0.9nm,0.7s,baz=315,slow=3.5,SNR=9.8
KMBO Kilima Mbogo 57.14 260 LR LR 19 43 52.6
comp=Z,44nm,21.2s,MS3.5,baz=91,slow=33
BR131 Keskin Array S 58.54 309 eP P 19 21 59.3 -0.1
comp=Z,0.9nm,0.6s,mb4.0
BRTR Keskin Array B 58.54 309 P P 19 21 59.6 +0.2
comp=Z,1.1nm,0.7s,mb4.0,baz=121,slow=7.2,SNR=6.9
AKASG Malin Array Be 63.73 320 P P 19 22 33.3 -1.0
comp=Z,0.4nm,0.4s,mb3.8,baz=82,slow=6.2,SNR=5.7
FINES FINESS Array B 67.93 331 P P 19 23 00.8 -0.1
comp=Z,3.0nm,0.7s,mb4.5,baz=96,slow=5.6,SNR=17
FINES FINESS Array B 67.93 331 P P 19 23 00.8 -0.1
ARCES ARCESS Array B 70.33 340 P P 19 23 15.7 +0.1
comp=Z,1.2nm,0.6s,mb4.0,baz=90,slow=7.3,SNR=14
BRG Berggiesshubel 73.37 319 eP P 19 23 35.0 +1.0
comp=Z,2.5nm,0.7s,mb4.2
GERES GERESS Array B 73.54 317 P P 19 23 36.0 +1.0
comp=Z,3.8nm,0.8s,mb4.4,baz=86,slow=5.7,SNR=31
NB2 NORSAR Subarra 74.99 330 P P 19 23 42.8 -0.4
comp=Z,1.9nm,0.6s,mb4.2,baz=91,slow=5.8
NOA NORSAR Array B 74.99 330 P P 19 23 43.2 0.0
comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=5.8,SNR=6.2
TORD Torodi Ar. Bea 88.53 283 P P 19 24 55.4 +0.4
comp=Z,0.8nm,0.8s,mb4.1,baz=74,slow=5.1,SNR=5.4
ILAR Eielson Array 90.56 22 P P 19 25 03.1 -0.3
comp=Z,1.1nm,0.7s,mb4.3,baz=294,slow=4.5,SNR=14
PDAR Pinedale Array 120.91 19 PKP PKPdf 19 30 55.1 +2.1
comp=Z,0.5nm,0.6s,SNR=3.9
NVAR Mina Array Bea 121.15 29 PKP PKPdf 19 30 56.4 +2.9
comp=Z,0.7nm,0.7s,baz=332,slow=0.9,SNR=4.5
NVAR Mina Array Bea 121.15 29 PKP PKPdf 19 30 56.4 +2.8
TXAR Lajitas Array 135.07 21 PKP PKPdf 19 31 24.1 +3.6
comp=Z,0.6nm,0.6s,baz=73,slow=1.4,SNR=3.6
PLCA Paso Flores 148.72 204 PKPbc PKPdf 19 31 49.2 +5.3
comp=Z,1.6nm,0.8s,baz=278,slow=2.4,SNR=3.1

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*CSEM **02** 19:26:33.6,37.47N×20.56E,h11km,MD3.6/1,After ATH*
ATH 02 19:26:33.6,37.47N×20.56E,h11km±2km,MD3.5/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.71**	**2**	*e*PB	Pb	19 26 47.5	+0.1
VLS				*e*SB	Sb	19 26 57.3	+0.4
ITM	**Ithomi**	**1.13**	**104**	*e*PG	Pg	19 26 54.6	-1.6
ITM				*e*SB	Sb	19 27 10.6	+1.5
EVR	**Evrytania**	**1.75**	**34**	*e*PG	Pg	19 27 06.1	-2.4
EVR				*e*SN	Sn	19 27 29.2	+2.6

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*BJI **02** 19:45:17.9,21.60S×169.90E,h10km,mB5.5,mb4.9, Ms5.3,Msz4.6*
*IDC **02** 19:45:18.9±0.6,21.62S×169.81E,mb4.5/9,mb1 4.6/13, mb1mx4.6/17,mbtmp4.5/13,ML4.4/3,MS4.3/17,Ms1 4.2/17, ms1mx4.1/22,Error ellipse: s-maj=20.2km s-min=18.8km az=109.0*
*HRVD **02** 19:45:20.1±0.4,21.67S×169.49E,h30km±1km,MW5.0/51, Centroid moment Tensor Solution. LP body waves: s27,c33;Mantle waves: s51,c68; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.79±.25; $M_{\theta\theta}$-0.61±.22; $M_{\phi\phi}$-2.19±.19; $M_{r\theta}$-0.09±.30; $M_{\theta\phi}$1.63±.11; $M_{\phi r}$-2.76±.25; Best double couple: $M_0$4.093×10^{16} NP1:ϕ_s307°,δ30°,λ51°. NP2:ϕ_s170°,δ67°,λ110°. Principal axes: T 4.142, Plg63°, Azm111°; N -.106, Plg18°, Azm342°; P -4.043, Plg20°, Azm245°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 19:45:20.1±0.3,21.64S×169.86E,h10km,mb4.9/13 Error ellipse: s-maj=9.2km s-min=7.9km az=67.0*
*LDG **02** 19:45:22.9±0.3,21.00S×168.75E,h10km,Mb4.8/2,Error ellipse: s-maj=56.6km s-min=24.1km az=38.0*
ISC 02 19:45:21.0±2.2,21.68S±0.06×169.75E±0.06,h25km±15km, h17km±1.4km:pP-P,n148,σ1?05/50,mb4.7/22,MS4.3/15, 17C-7D,Southeast of Loyalty Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 3.09 262 eP Pn 19 46 09.7 +0.2
DZM eS Sn 19 46 43.6 -2.4
DZM Mont Dzumac 3.09 262 Pn Pn 19 46 09.8 +0.3
27nm,0.3s,baz=94,slow=15,SNR=348
DZM Sn Sn 19 46 45.2 -0.9
59nm,0.3s,baz=144,slow=19,SNR=8.8
BKM Butte a Klehm 4.23 340 ⇑iP Pn 19 46 25.7 0.0
RAO Raoul Island 13.45 127 LR LR 19 52 41.2
comp=Z,2μm,21.0s,baz=176,slow=33
HNR Honiara 15.40 321 Pn P 19 48 59.5 +0.9
12nm,0.3s,baz=142,slow=12,SNR=2.2
HNR LR LR 19 53 55.6
comp=Z,644nm,18.6s,baz=317,slow=34
URZ Urewera 17.70 161 P P 19 49 27.3 -0.3
0.2nm,0.3s,baz=126,slow=19,SNR=2.4
URZ LR LR 19 55 28.9
comp=Z,996nm,18.8s,baz=320,slow=34
AFI Afiamalu 19.20 69 P P 19 49 44.9 -1.1
1.8nm,0.3s,baz=274,slow=19,SNR=2.7
AFI LR LR 19 55 48.9
comp=Z,810nm,18.0s,baz=47,slow=33
AFI Afiamalu 19.20 69 eP P 19 49 46.5 +0.5
70nm,0.8s
RPZ Rata Peaks 22.00 177 P P 19 50 13.4 -1.7
12nm,1.1s,mb4.2,baz=40,slow=17,SNR=1.5
RPZ LR LR 19 57 39.0
comp=Z,654nm,21.3s,MS4.0,baz=347,slow=34
CTAO Charters Tower 22.00 270 eP P 19 50 17.0 +1.7
33nm,1.1s,mb4.7
PMG Port Moresby 24.91 296 P P 19 50 44.1 +0.3
10.0nm,0.7s,mb4.5,baz=85,slow=2.4,SNR=5.9
PMG LR LR 19 58 56.9
comp=Z,800nm,20.2s,MS4.2,baz=103,slow=33
PMG Port Moresby 24.91 296 eP P 19 50 44.2 +0.5
20nm,0.9s,mb4.7
STKA Stephens Creek 27.04 242 eP P 19 51 05.2 +1.8
9.3nm,0.9s,mb4.3
STKA Stephens Creek 27.04 242 P P 19 51 05.0 +1.6
12nm,0.9s,mb4.5,baz=71,slow=8.4,SNR=4.6
STKA LR LR 20 00 53.4
comp=Z,1μm,20.9s,MS4.4,baz=58,slow=34
RAR Rarotonga 28.35 95 LR LR 19 59 54.2
comp=Z,666nm,18.9s,MS4.3,baz=273,slow=31
WB2 Warramunga Arr 33.09 266 eP P 19 51 56.6 -0.7
WRAB Tennant Creek 33.09 266 eP P 19 51 56.2 -1.1
10nm,1.0s,mb4.7
WRA Warramunga Arr 33.10 266 P P 19 51 56.4 -1.0
4.1nm,0.9s,mb4.4,baz=98,slow=8.6,SNR=24
KAKA Kakadu 36.66 278 eP Px 19 52 49.0
6.3nm,0.8s
TBI Tubuai 37.63 100 eS S 19 58 23.6 -0.2
TBI eLR LR 20 02 50.7
481nm,26.0s
PPT Papeete 38.46 91 eS S 19 58 36.0 -0.3
PPT eLR LR 20 03 13.0
540nm,24.8s
PPT Papeete 38.46 91 LR LR 20 04 40.0
comp=Z,465nm,21.4s,MS4.3,baz=303,slow=30
GUMO Guam 42.72 323 LR LR 20 08 08.6
comp=Z,235nm,21.5s,MS4.0,baz=84,slow=32
MBWA Marble Bar 46.40 261 eP P 19 53 48.1 +0.5
8.6nm,0.8s,mb4.7
TAOE Nuku Hiva Isla 49.78 83 eLR LR 20 08 27.7
1μm,24.6s
RKT Rikitea 50.87 103 eS S 20 01 35.9 +0.4
RKT eLR LR 20 08 58.7
276nm,26.2s
VNDA Vanda 56.02 182 P P 19 54 60.0 +0.3
1.0nm,0.7s,mb4.0,baz=27,slow=6.8,SNR=6.2
JOW Kunigami 62.75 318 LR LR 20 19 13.3
comp=Z,165nm,21.4s,MS4.2,baz=100,slow=32
MJAR Matsushiro Arr 65.12 332 P P 19 56 01.3 -0.9
6.9nm,0.8s,mb4.8,baz=171,slow=7.4,SNR=12
MJAR LR LR 20 21 26.3
comp=Z,161nm,18.3s,MS4.3,baz=65,slow=33
MAJO Matsushiro 65.12 332 eP P 19 56 01.5 -0.7
9.8nm,0.8s,mb4.9
MAT Matsushiro 65.12 332 P P 19 56 00.9 -1.3
MAT Matsushiro 65.12 332 eP P 19 56 01.0 -1.2
10nm,0.8s,mb4.9
ASAJ Asahikawa 70.04 340 LR LR 20 20 43.4
comp=Z,232nm,21.2s,MS4.4,baz=2.4,slow=30
MDJ Mudanjiang 75.48 332 P P 19 57 05.3 +0.3
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,120nm,4.2s
MDJ LR LR
comp=N,70nm,17.0s
MDJ LR LR
comp=Z,120nm,17.7s,MS4.2
CN2 Changchun 76.78 329 eP P 19 57 10.6 -1.7
ENH Enshi 77.59 310 eP P 19 57 17.0 0.0
comp=Z,18nm,1.0s,mb5.0
GYA Guiyang 77.60 305 P P 19 57 22.4 +5.2
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
KMI Kunming 79.96 302 P P 19 57 29.5 -0.6
HHC Hu-ho-hao-te 82.37 319 eP P 19 57 44.6 +2.2
HHC AP pP 19 57 49.5 -0.8
HHC XP sP 19 57 51.8 -1.1
HHC PP PP 20 00 56.0 +2.6
HHC S S 20 07 59.6 +4.1
HHC SKS SKS 20 08 01.1 -3.9
HHC XS 20 08 07.9
HHC PS PS 20 08 52.8 +3.8
HHC SS SS 20 13 24.5 +4.8
HHC AMB AMB
comp=Z,260nm,4.9s
HHC LR LR
comp=N,320nm,14.9s,MS4.9
HHC LR LR
comp=E,250nm,13.6s,MS4.9
HHC LR LR
comp=Z,270nm,14.9s,MS4.7
SYO Syowa Base 82.73 196 ⇓P P 19 57 47.9 +4.2
SYO Syowa Base 82.73 196 ⇓eP P 19 57 47.9 +4.2
LZH Lanzhou 84.71 312 eP P 19 57 58.7 +4.3
LZH AP pP 19 58 03.8 +1.4
LZH XP sP 19 58 06.0 +1.0
LZH AMB AMB
comp=Z,20nm,1.1s,mb5.2
SNAA Sanae 86.76 182 eP P 19 58 04.3 +0.6
comp=Z,20nm,1.3s,mb5.2
VNA3 Neumayer Olymp 87.33 180 ⇑i P 19 58 14.9 +8.4
VNA3 Neumayer Olymp 87.33 180 P 19 58 19.3 +13
VNA3 Neumayer Olymp 87.33 180 Px 19 58 32.3
VNA3 Neumayer Olymp 87.33 180 ⇑iP P 19 58 08.3 +1.8
VNA3 ⇑iP pP 19 58 14.9 +0.4
VNA3 P 19 58 19.3
VNA3 P 19 58 32.3
VNA2 Neumayer--Watz 87.63 181 ⇑i P 19 58 15.7 +7.8
VNA2 Neumayer--Watz 87.63 181 ⇑i P 19 58 20.4 +12
VNA2 Neumayer--Watz 87.63 181 ⇑i Px 19 58 33.5
VNA2 Neumayer--Watz 87.63 181 ⇑iP P 19 58 10.0 +2.1
VNA2 ⇑iP 19 58 15.7
VNA2 ⇑iP 19 58 20.4
VNA2 ⇑iP 19 58 33.5
ULN Ulaanbaatar 89.09 323 eP P 19 58 15.7 +0.2
comp=Z,7.2nm,1.0s,mb5.0
SONM Songino Array 89.45 323 P P 19 58 17.5 +0.4
comp=Z,3.2nm,1.0s,mb4.6,baz=112,slow=1.4,SNR=15
SONM LR LR 20 39 50.4
comp=Z,88nm,18.1s,MS4.2,baz=134,slow=37
BILL Bilibino 89.49 359 eP P 19 58 16.5 -0.3
comp=Z,9.3nm,1.0s,mb5.1
NVAR Mina Array Bea 90.06 48 P P 19 58 20.9 +0.7
comp=Z,2.0nm,0.7s,mb4.6,baz=232,slow=11,SNR=13
LSA Lhasa 91.21 301 eP P 19 58 27.7 +2.0
LSA Lhasa 91.21 301 eP P 19 58 27.7 +2.0
comp=Z,5.5nm,1.1s,mb4.8
ILAR Eielson Array 92.41 17 P P 19 58 29.0 -1.4
comp=Z,2.3nm,0.6s,mb4.7,baz=232,slow=5.1,SNR=25
PLCA Paso Flores 96.40 138 LR LR 20 32 06.0
comp=Z,86nm,18.4s,MS4.3,baz=183,slow=29
TXAR Lajitas Array 97.51 62 LR LR 20 34 58.3
comp=Z,194nm,19.7s,MS4.6,baz=310,slow=31
PDAR Pinedale Array 97.92 47 LR LR 20 34 32.0
comp=Z,65nm,18.9s,MS4.1,baz=149,slow=30
ARCES ARCESS Array B 127.54 345 PKP PKPdf 20 04 24.7 -3.5
comp=Z,5.3nm,0.6s,baz=73,slow=1.7,SNR=38
FINES FINESS Array B 133.01 337 PKP PKPdf 20 04 34.6 -4.3
comp=Z,2.5nm,0.8s,baz=351,slow=1.9,SNR=12
FINES SKPbc 20 08 03.5
comp=Z,1.2nm,0.7s,baz=90,slow=7.6,SNR=6.1
AKASG Malin Array Be 137.73 323 PKP PKPdf 20 04 43.0 -4.8
comp=Z,0.8nm,0.5s,baz=61,slow=2.5,SNR=8.2
AKASG SKPbc 20 08 16.6
comp=Z,0.2nm,0.2s,baz=58,slow=2.7,SNR=4.8
AKASG Malin Array Be 137.73 323 PKP PKPdf 20 04 43.0 -4.8
AKASG SKPbc 20 08 16.6
NB2 NORSAR Subarra 137.91 345 PKPdf PKPdf 20 04 42.3 -5.6
comp=Z,18nm,1.7s,baz=31,slow=1.9
NB2 NORSAR Subarra 137.91 345 PKPd 20 04 42.3
baz=31,slow=1.9
NOA NORSAR Array B 137.91 345 PKP PKPdf 20 04 44.2 -3.7
comp=Z,0.9nm,0.7s,baz=36,slow=2.2,SNR=3.5
BRTR Keskin Array B 138.65 306 PKP PKPdf 20 04 46.2 -3.6
comp=Z,0.6nm,0.8s,baz=67,slow=6.8,SNR=3.5
BURAR Bucovina Array 141.53 321 ⇓P PKPdf 20 04 55.3 +0.6
BURAR Bucovina Array 141.53 321 ⇓P PKPdf 20 04 55.3 +0.6
KOLS Kolonicke sedl 142.49 324 ePKP PKPdf 20 04 53.9 -2.4
KOLS Kolonicke sedl 142.49 324 e PKPdf 20 04 53.9 -2.4
STHS Stebnicka Huta 142.76 326 ePKP PKPdf 20 04 56.2 -0.5
STHS Stebnicka Huta 142.76 326 e PKPdf 20 04 56.2 -0.5
CRVS Cervenica-Dubn 142.94 325 ePKP PKPdf 20 04 51.5 -5.6
KECS Kecovo 143.72 325 ePKP PKPdf 20 04 53.7 -4.7
VYHS Vyhne 144.58 326 ePKP PKPdf 20 04 56.0 -3.9
DPC Dobruska-Polom 144.58 330 ePKP PKPdf 20 04 56.3 -3.6
UPC Upice 144.61 331 ePKP PKPdf 20 04 56.3 -3.6
BZS Buzias 144.69 320 ⇑P PKPbc 20 04 55.8 +0.3
BZS Buzias 144.69 320 ⇑P PKPbc 20 04 55.8 +0.3
VTS Vitosha 145.15 315 eP PKPbc 20 04 59.0 +2.2
VTS Vitosha 145.15 315 ⇓P PKPbc 20 04 59.1 +2.2
VRAC Vranov 145.17 329 ⇓P PKPbc 20 04 58.1 +1.4
MMB Musomiste 145.23 313 eP PKPbc 20 04 58.0 +0.9
PVCC Panska Ves 145.24 332 ePKP PKPdf 20 04 58.2 -2.8
BRG Berggiesshubel 145.25 333 ⇓iP PKPbc 20 04 57.9 +1.0
CLL Collm 145.32 334 i PKIKP PKPdf 20 04 58.0 -3.1
comp=Z,logA/T=1.7
KKB Krupnik 145.55 313 eP PKPbc 20 05 00.0 +2.1
PRU Pruhonice 145.64 331 ePKP PKPdf 20 04 59.2 -2.5
PRU ex x 20 05 21.9
ZST Bratislava 145.66 327 ePKP PKPdf 20 05 00.0 -1.8
ZST e 20 05 05.1
TREC Trest 145.70 330 ePKP PKPdf 20 04 59.6 -2.2
CLZ Clausthal 145.91 337 ePKPbc PKPbc 20 05 00.5 +2.1
ESK Eskdalemuir 146.00 353 ePKPbc PKPbc 20 04 59.2 +0.7
NKC Novy Kostel 146.36 333 ePKP PKPdf 20 05 01.7 -1.2
MOX Moxa 146.39 335 i P PKPbc 20 05 01.9 +2.3
MOX Moxa 146.39 335 eP PKPbc 20 05 01.9 +2.3
KHC Kasperske Hory 146.70 331 ePKP PKPdf 20 05 01.6 -2.0
KHC x x 20 05 08.5
KHC Kasperske Hory 146.70 331 eP PKPbc 20 05 01.6 +1.2
KHC e 20 05 08.5
GEC2 GERESS Array S 146.85 331 ePKPbc PKPbc 20 05 03.3 +2.6
GERES GERESS Array B 146.85 331 PKPbc PKPbc 20 05 03.5 +2.8
comp=Z,5.8nm,0.7s,baz=326,slow=14,SNR=72
WET Wettzell 147.00 332 ePKPbc PKPbc 20 05 03.7 +2.6
GRA1 Grafenberg Arr 147.29 334 ePKPbc PKPdf 20 05 04.7 +0.2
GRF Grafenberg Arr 147.29 334 ePKP PKPdf 20 05 04.7 +0.2
TNS Taunus Mts 147.93 337 ePKPbc PKPdf 20 05 06.1 +0.6
KBA Koelnbreinsper 148.28 329 ⇑iP PKPdf 20 05 06.9 +0.7
comp=Z,13nm,1.2s
DCN Croghan 148.31 357 eP PKPdf 20 05 06.0 0.0
LJU Ljubljana 148.40 326 i PKPbc PKPdf 20 05 07.6 +1.2
CEY Cerknica 148.66 326 ePKPbc PKPdf 20 05 08.0 +1.2
VOY Vojsko 148.73 327 ePKPbc PKPdf 20 05 08.0 +1.1
MOTA Moosalm 149.13 331 ⇑iP PKPdf 20 05 08.7 +1.2
comp=Z,8.4nm,1.0s
SQTA Sankt Quirin 149.18 331 ⇑iP PKPdf 20 05 09.2 +1.6
comp=Z,17nm,1.2s
WLF Walferdange 149.20 339 ePKPbc PKPdf 20 05 08.5 +0.9
GIVF Givet 149.24 341 ePKP1 PKPdf 20 05 09.4 +1.8
comp=Z,69nm,1.0s
BAIF Baives 149.46 342 ePKP1 PKPdf 20 05 09.3 +1.3
comp=Z,25nm,1.0s
BFO Black Forest 149.53 335 ePKPbc PKPdf 20 05 10.2 +2.1
DAVA Damuels 149.72 332 ⇑iP PKPdf 20 05 10.7 +2.2
comp=Z,12nm,1.1s
CDF Champ du Feu 149.86 336 ePKP1 PKPdf 20 05 10.9 +2.2
comp=Z,37nm,1.0s
BRMO Bormio 150.12 331 P PKPdf 20 05 11.9 +2.8
HINF Hinteralfeld 150.51 336 ePKP1 PKPdf 20 05 12.4 +2.7
comp=Z,39nm,1.0s
HAU Haudompre 150.54 337 ePKP1 PKPdf 20 05 12.5 +2.8
comp=Z,46nm,0.8s
MEZF Maizieres J'vi 150.57 339 ePKP1 PKPdf 20 05 13.1 +3.4
comp=Z,116nm,1.0s
ARV Arcevia 150.93 324 P PKPdf 20 05 14.3 +3.9
SNTG Esanatoglia 151.09 323 P PKPdf 20 05 14.9 +4.2
VAI Varese 151.30 332 P PKPdf 20 05 13.6 +2.7
ZCCA Zocca 151.38 327 P PKPdf 20 05 16.0 +4.9
MCGN Macugnaga 151.57 333 P PKPdf 20 05 15.5 +4.2
CABF La Chapelle 151.81 336 ePKP1 PKPdf 20 05 16.0 +4.4
comp=Z,28nm,0.8s
ORO Oropa 151.83 332 P PKPdf 20 05 15.9 +4.2
FLN La Foliniere 151.87 346 ePKP1 PKPdf 20 05 15.3 +3.6
comp=Z,77nm,0.8s
LDF La Druitiere 151.95 346 ePKP1 PKPdf 20 05 15.4 +3.6
comp=Z,36nm,0.8s
LOR Lormes 152.04 339 ePKP1 PKPdf 20 05 16.0 +4.0
comp=Z,29nm,0.7s
GRR Gorron 152.31 346 ePKP1 PKPdf 20 05 16.4 +4.1
comp=Z,29nm,0.7s
SSF Saint Saulge 152.33 340 ePKP1 PKPdf 20 05 16.7 +4.3
comp=Z,34nm,1.0s
LPL La Plagne 152.45 334 ePKP1 PKPdf 20 05 17.5 +4.9
comp=Z,26nm,0.8s
LPG La Plagne 152.46 334 ePKP1 PKPdf 20 05 17.6 +5.0
comp=Z,31nm,0.7s
AVF Avril sur Loir 152.62 339 ePKP1 PKPdf 20 05 17.9 +5.1
SGMF Saint Gilles 152.78 349 ePKP1 PKPdf 20 05 17.2 +4.2
ROSF Rostrenen 152.82 350 ePKP1 PKPdf 20 05 17.1 +4.1
BNI Bardonecchia 152.85 333 ePKPbc PKPdf 20 05 17.5 +4.3
BGF Bois d'Agland 152.99 340 ePKP1 PKPdf 20 05 18.1 +4.8
comp=Z,23nm,0.6s
QUIF Quistinic 153.21 349 ePKP1 PKPdf 20 05 19.1 +5.5
ORIF Oris-en-Rattie 153.29 334 ePKP1 PKPdf 20 05 18.9 +5.1
comp=Z,27nm,0.8s
TCF Toulx Ste Croi 153.43 340 ePKP1 PKPdf 20 05 19.0 +5.0
VIVF Saint-Julien-l 153.82 335 ePKP1 PKPdf 20 05 19.9 +5.4
ESDC Sonseca Array 161.28 345 PKPab PKPab 20 06 07.1 +1.6
comp=Z,1.7nm,0.9s,baz=12,slow=3.7,SNR=4.9
TORD Torodi Ar. Bea 165.80 235 PKP PKPdf 20 05 26.7 -2.3
comp=Z,1.3nm,1.1s,baz=58,slow=0.4,SNR=4.3
TORD PKPab PKPab 20 06 26.3 +0.5
comp=Z,0.6nm,0.8s,baz=120,slow=2.5,SNR=3.2

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*NNC **02** 20:02:25.8±8.6,40.93N×74.18E,mpv3.0,Error ellipse: s-maj=111.8km s-min=56.9km az=39.0*
*KNET **02** 20:02:29.5,41.05N×74.18E,h4km,ml2.7*
ISC 02 20:02:29.7±1.4,40.94N±0.08×73.99E±0.09,h10km,n11, σ1?11/17,12C-5D,Kyrgyzstan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AML Almayashu 1.22 350 ⇑P Pb 20 02 50.8 -1.6
41nm,0.2s,SNR=76
AML ⇑S Sb 20 03 07.7 -0.3
90nm,0.2s
UCH Uchtor 1.35 17 P Pb 20 02 52.8 -1.8
33nm,0.2s,SNR=165
UCH ⇓S Sb 20 03 11.3 -0.5
27nm,0.2s
KZA Kyzart 1.48 39 ⇑P Pn 20 02 54.5 -2.0
17nm,0.2s,SNR=56
KZA ⇑S Sb 20 03 14.8 -0.9
57nm,0.2s
EKS2 Erkin-Say 1.73 355 ⇑P Pn 20 03 00.1 -0.1
20nm,0.3s,SNR=56
AAK Ala-Archa 1.74 12 ⇑P Pn 20 02 59.9 -0.4
30nm,0.3s,SNR=41
AAK ⇑S Sn 20 03 23.1 +0.4
25nm,0.3s
KBK Karagaybulak 1.86 22 ⇑P Pn 20 03 02.0 0.0
45nm,0.2s,SNR=41
ULHL Ulahol 2.14 51 ⇑P Pn 20 03 05.8 -0.2
16nm,0.2s,SNR=73
ULHL ⇓S Sn 20 03 33.6 +0.8
59nm,0.2s
CHMS Chumysh 2.14 15 ⇓P Pn 20 03 07.1 +1.1
7.8nm,0.1s,SNR=12
CHMS ⇑S Sn 20 03 35.2 +2.4
13nm,0.3s
TKM2 Tokmak 2 2.32 31 ⇓P Pn 20 03 09.8 +1.2
7.9nm,0.1s,SNR=9.2
USP Ospenovka 2.36 9 ⇑P Pn 20 03 10.6 +1.5
29nm,0.3s,SNR=32
KK31 Karatay Array 3.38 311 ⇑Pn Pn 20 03 24.1 +0.4
2.1nm,0.5s,baz=129,slow=12,SNR=32
KK31 ⇓Lg 20 04 15.3
7.9nm,0.4s,baz=127,slow=28,SNR=14

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*NEIC **02** 20:05:02.5,17.57N×68.11W,h76km,MD3.8(RSPR), After RSPR.*
RSPR 02 20:05:04.4,17.70N×68.07W,h52km±7km,MD3.9/12, MD3.9/12,16C-5D,Mona Passage

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.96**	**71**	⇑*e*P	P	20 05 21.4	-0.5
CRPR	**Cabo Rojo, PR**	**0.96**	**71**	*e*S	S	20 05 35.8	+1.0
CRPR	**Cabo Rojo, PR**	**0.96**	**71**	*e*S	S	20 05 34.5	-0.3
CRPR	**Cabo Rojo, PR**	**0.96**	**71**	⇑*e*P	P	20 05 20.1	-1.8
CRPR				*e*S	S	20 05 34.5	-0.3
MGP	**Maguayo**	**0.98**	**71**	⇑*e*P	P	20 05 21.3	-0.8
MGP				*e*S	S	20 05 36.3	+1.0
MGP	**Maguayo**	**0.98**	**71**	⇓*e*P	P	20 05 20.4	-1.7
LSP	**Las Mesas**	**1.05**	**63**	⇑*e*P	P	20 05 22.4	-0.7
LSP	**Las Mesas**	**1.05**	**63**	*e*S	S	20 05 38.5	+1.5
LSP	**Las Mesas**	**1.05**	**63**	*e*S	S	20 05 36.0	-1.0
LSP	**Las Mesas**	**1.05**	**63**	⇑*e*P	P	20 05 21.8	-1.3
LSP				*e*S	S	20 05 36.0	-1.0
LRS	**Lares**	**1.31**	**63**	⇑*e*P	P	20 05 25.6	-1.2
LRS				*e*S	S	20 05 43.9	+0.4
LRS	**Lares**	**1.31**	**63**	⇑*e*P	P	20 05 25.6	-1.3
AOPR	**Arecibo Observ**	**1.41**	**63**	⇑*e*P	P	20 05 26.9	-1.3
AOPR	**Arecibo Observ**	**1.41**	**63**	*e*S	S	20 05 46.2	+0.3
AOPR	**Arecibo Observ**	**1.41**	**63**	*e*S	S	20 05 44.3	-1.7
AOPR	**Arecibo Observ**	**1.41**	**63**	⇑*e*P	P	20 05 26.7	-1.6
AOPR				*e*S	S	20 05 44.3	-1.7
CELP	**Cerrillos**	**1.47**	**75**	⇑*e*P	P	20 05 27.5	-1.5
CELP				*e*S	S	20 05 47.3	0.0
CELP	**Cerrillos**	**1.47**	**75**	⇑*e*P	P	20 05 27.6	-1.4
CELP				*e*S	S	20 05 45.0	-2.3
ICM	**Isla Caja Muer**	**1.49**	**82**	⇑*e*P	P	20 05 27.7	-1.6
ICM	**Isla Caja Muer**	**1.49**	**82**	*e*S	S	20 05 47.0	-0.7
ICM	**Isla Caja Muer**	**1.49**	**82**	*e*S	S	20 05 46.7	-1.0
ICM	**Isla Caja Muer**	**1.49**	**82**	⇓*e*P	P	20 05 27.9	-1.4
ICM				*e*S	S	20 05 46.7	-1.0
SJG	**San Juan**	**1.87**	**77**	⇑*e*P	P	20 05 32.9	-1.7
SJG				*e*S	S	20 05 56.9	-0.2
SJG	**San Juan**	**1.87**	**77**	⇓*e*P	P	20 05 32.9	-1.8
SJG				*e*S	S	20 05 55.3	-1.8
CBYP	**Canovanas**	**2.18**	**74**	⇑*e*P	P	20 05 37.5	-1.5
CBYP				*e*S	S	20 06 04.0	-0.9
CBYP	**Canovanas**	**2.18**	**74**	*e*S	S	20 06 02.7	-2.2
CBYP	**Canovanas**	**2.18**	**74**	⇑*e*P	P	20 05 38.2	-0.8
CBYP				*e*S	S	20 06 02.7	-2.2
MTP	**Monte Pirata**	**2.42**	**80**	⇑*e*P	P	20 05 40.5	-2.0
MTP	**Monte Pirata**	**2.42**	**80**	*e*S	S	20 06 10.0	-1.1
MTP	**Monte Pirata**	**2.42**	**80**	*e*S	S	20 06 09.8	-1.3
MTP	**Monte Pirata**	**2.42**	**80**	⇓*e*P	P	20 05 41.3	-1.2
MTP				*e*S	S	20 06 09.8	-1.3
TBVI	**Tortola**	**3.37**	**77**	*e*S	S	20 06 32.0	-2.9
TBVI	**Tortola**	**3.37**	**77**	⇓*e*P	P	20 05 54.3	-1.6
TBVI				*e*S	S	20 06 32.0	-2.9
SDV	**Santo Domingo**	**9.11**	**196**	P	P	20 07 09.2	-6.6

MAN 02 20:17:14.7,10.80N×125.01E,mb4.5,ML3.4,MS3.2,1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.37**	**356**	*i* P	Pg	20 17 22.2	+0.1
PLP				*i* S	Sg	20 17 27.4	+0.4
MSLP	**Maasin**	**0.67**	**193**	*e*P	Pg	20 17 28.6	+0.4
MSLP				*e*S	Sg	20 17 39.8	+2.7
SCPH	**Surigao**	**1.11**	**155**	⇓*e*P	Pb	20 17 35.4	-1.1
LLP	**Lapu-Lapu**	**1.13**	**245**	*e*P	Pb	20 17 35.9	-0.9
LLP				*e*S	Sb	20 17 52.1	+0.2
TBP	**Tagbilaran**	**1.57**	**226**	*e*P	Pn	20 17 43.8	-0.2
TBP				*e*S	Sb	20 18 05.7	+0.9

BUTP Butuan 1.91 162 eP Pn 20 17 49.1 +0.2
GUIM Jordan 2.38 266 eP Pn 20 17 55.6 -0.1
GUIM eS Sn 20 18 25.6 -0.4
BUKP Musuan 2.90 179 eP Pn 20 18 03.1 +0.2
PAGZ Pagadian 3.34 209 eP Pn 20 18 09.4 +0.2
PAGZ eS Sn 20 18 52.6 +2.4
IPIL Ipil 3.84 219 eP Pn 20 18 17.7 +1.4
MATI Mati 4.02 162 eP Pn 20 18 18.7 -0.2

MAN 02 20:28:02.3, 10.82N×125.15E, h2^{km}, mb4.0, ML2.8, MS2.4, 1D, Leyte

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLP Palo 0.39 334 i P Pg 20 28 10.2 +0.2
PLP i S Sg 20 28 16.3 +1.2
MSLP Maasin 0.73 203 eP Pg 20 28 16.0 -1.0
MSLP eS Sg 20 28 27.2 +0.4
BESP Borongan 0.83 20 eP Pg 20 28 19.1 +0.3
BESP eS Sg 20 28 33.2 +3.2
SCPH Surigao 1.08 162⇓eP Pb 20 28 22.9 -0.5
GUIM Jordan 2.52 266 eP Pn 20 28 46.4 +1.4
BUKP Musuan 2.92 182 eP Pn 20 28 51.1 +0.5

*CSEM **02** 20:40:40.2±1.1, 12.12N×43.49E, h9^{km}, ML3.7, Error ellipse: s-maj=21.9km s-min=19.5km az=62.0, After DHMR*
DHMR 02 20:40:40.2±1.4**, 12.12N×43.49E, h9^{km}**±9^{km}**, ML3.7, 6D, Western Arabian Peninsula**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TRBA At Turbah 1.26 29 i P Pb 20 41 04.2 +0.5
TRBA i S Sb 20 41 21.6 +1.7
TRBA AML AML 20 41 23.9
comp=N,1μm,0.2s
UDYN Al ‘Udayn 1.89 14 i P Pn 20 41 13.0 -0.1
UDYN i S Sn 20 41 39.9 +2.7
UDYN AML AML 20 41 50.2
comp=N,2μm,0.4s
UDYN Al ‘Udayn 1.89 14 i P Pn 20 41 13.0 0.0
UDYN i S Sn 20 41 39.9 +2.7
comp=N,808nm,0.4s
LBOS 2.44 45⇓iP Pn 20 41 22.3 +1.3
LBOS i S Sn 20 41 56.2 +4.9
DHBB Dhamar BB 2.59 20⇓iP Pn 20 41 25.1 +2.1
DHBB i S Sn 20 42 00.2 +5.3
BDHA Al Bayda’ 2.74 48⇓iP Pn 20 41 27.0 +1.8
BDHA i S Sn 20 42 04.2 +5.4
BDHA AML AML 20 42 15.1
comp=N,312nm,0.5s
BDHA Al Bayda’ 2.74 48⇓iP Pn 20 41 27.0 +1.8
BDHA i S Sn 20 42 04.2 +5.5
comp=N,156nm,0.5s
HAJJ Hajjah 3.56 2⇓iP Pn 20 41 39.1 +2.3
HAJJ i S Sn 20 42 23.5 +4.1
HAJJ AML AML 20 42 38.3
comp=N,265nm,0.7s
HAJJ Hajjah 3.56 2⇓iP Pn 20 41 39.1 +2.3
HAJJ i S Sn 20 42 23.5 +4.1
comp=N,133nm,0.7s

*IDC **02** 20:56:19.6±0.5, 23.11S×172.58E, h30^{km}±3^{km}, mb4.7/12, mb1 4.8/15, mb1mx4.8/17, mbtmp4.9/15, ML4.4/3, MS4.7/24, Ms1 4.7/24, ms1mx4.6/30, Error ellipse: s-maj=15.2km s-min=14.5km az=10.0*
*MOS **02** 20:56:19.1±1.4, 23.23S×172.59E, h33^{km}, mb5.6/20, Error ellipse: s-maj=11.6km s-min=9.8km az=55.9*
*BJI **02** 20:56:22.7, 23.20S×172.60E, h56^{km}, mB5.3, mb4.8, Ms5.2, Msz4.9*
*HRVD **02** 20:56:22.8±0.2, 23.21S×172.74E, h15^{km}, MW5.4/89, Centroid moment Tensor Solution. LP body waves: s63,c122;Mantle waves: s89,c185; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.99±.04; $M_{\theta\theta}$1.15±.03; $M_{\phi\phi}$-0.15±.03; $M_{r\theta}$0.31±.08; $M_{\theta\phi}$0.82±.02; $M_{\phi r}$-0.47±.09; Best double couple: $M_0$1.464×10^{17} NP1: ϕ_s35°, δ53°, λ-135°. NP2: ϕ_s274°, δ56°, λ-47°. Principal axes: T 1.55, Plg2°, Azm335°; N -.17, Plg34°, Azm66°; P -1.378, Plg56°, Azm242°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 20:56:22.8±1.2, 23.16S×172.55E, h57^{km}±11^{km}, mb5.3/37 Error ellipse: s-maj=7.3km s-min=6.2km az=53.0*
*CSEM **02** 20:56:26.0, 23.06S×171.29E, h33^{km}, mb5.8*
ISC 02 20:56:18.6±0.2**, 23.20S**±0.04**×172.55E**±0.04**, h31^{km}, h31^{km}**±.7^{km}**: pP-P, n269, σ1^{s}13**/144**, mb5.2**/51**, MS4.8**/38**, 18C-14D, Southeast of Loyalty Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 5.75 280 eP Pn 20 57 44.7 +0.6
DZM eS Sn 20 58 47.3 -2.6
DZM Mont Dzumac 5.75 280 Pn Pn 20 57 44.2 +0.1
18nm,0.3s,baz=96,slow=16,SNR=197
DZM Sn Sn 20 58 50.3 +0.4
61nm,0.3s,baz=201,slow=22,SNR=10
DZM LR LR 20 59 15.2
comp=Z,2μm,21.2s,baz=281,slow=30
HIZ Hauiti 15.39 173 PN P 20 59 58.0 +2.8
HIZ Hauiti 15.39 173 P P 20 59 58.0 +2.8
URZ Urewera 15.51 166 Pn P 20 59 57.4 +0.6
0.2nm,0.3s,baz=15,slow=7.1,SNR=9.8
URZ LR LR 21 04 28.7
comp=Z,5μm,20.9s,baz=183,slow=31
AFI Afiamalu 17.48 61 P P 21 00 17.7 -4.2
1.9nm,0.3s,baz=40,slow=18,SNR=5.1
AFI LR LR 21 05 40.3
comp=Z,2μm,20.9s,baz=249,slow=32
AFI Afiamalu 17.48 61 eP P 21 00 17.6 -4.3
AFI pmax pmax
comp=Z,68nm,0.8s
AFI Afiamalu 17.48 61 eP P 21 00 17.6 -4.4
comp=Z,68nm,0.8s
QRZ Quartz Range 17.57 180 ePN P 21 00 26.3 +3.5
QRZ Quartz Range 17.57 180 eP P 21 00 26.3 +3.5
SNZO South Karori 18.14 175 eP P 21 00 31.4 +1.4
comp=Z,194nm,1.0s
HNR Honiara 18.25 317 P P 21 00 31.8 +0.3
comp=Z,6.2nm,0.3s,baz=102,slow=5.4,SNR=5.5
HNR LR LR 21 06 08.4
comp=Z,1μm,20.3s,baz=147,slow=32
HNR Honiara 18.25 317 P P 21 00 32.1 +0.6
HNR pmax pmax
comp=Z,225nm,1.1s
HNR Honiara 18.25 317 P P 21 00 32.1 +0.6
comp=Z,225nm,1.1s
DSZ Denniston Nort 18.50 182 P P 21 00 39.4 +5.0
THZ Tophouse 18.51 179 ePN P 21 00 33.8 -0.7
THZ Tophouse 18.51 179 eP P 21 00 33.8 -0.7
LTZ Lake Taylor 19.53 181 ePN P 21 00 46.5 +0.2
LTZ Lake Taylor 19.53 181 eP P 21 00 46.5 +0.1
WVZ Waitaha Valley 19.88 184 ePN P 21 00 49.0 -1.2
WVZ Waitaha Valley 19.88 184 P P 21 00 49.4 -0.8
RPZ Rata Peaks 20.50 183 P P 21 00 56.7 0.0
comp=Z,27nm,0.7s,baz=31,slow=2.8,SNR=8.6
RPZ LR LR 21 07 49.5
comp=Z,3μm,21.9s,MS4.7,baz=1.0,slow=34
RPZ Rata Peaks 20.50 183 PN P 21 00 56.4 -0.3
CTAO Charters Tower 24.63 272 eP P 21 01 38.2 +0.4
CTAO e 21 05 16.0
CTAO pmax pmax
comp=Z,122nm,1.3s,mb5.3
CTAO MLR MLR
comp=Z,3μm,20.0s,MS4.7
CTAO Charters Tower 24.63 272 eP P 21 01 38.2 +0.4
comp=Z,122nm,1.3s,mb5.3
CTAO ePcP PcP 21 05 16.0 0.0
CTAO LR LR
comp=Z,3μm,20.0s,MS4.7
TOO Toolangi 27.27 232⇓iP P 21 02 03.9 +1.8
comp=Z,34nm,0.9s,mb4.9
TOO Toolangi 27.27 232⇓iP P 21 02 03.9 +1.8
TOO pmax pmax
comp=Z,35nm,0.9s,mb4.9
PMG Port Moresby 27.90 295 P P 21 02 08.4 +0.3
comp=Z,9.7nm,0.8s,mb4.5,baz=98,slow=4.2,SNR=6.6
PMG LR LR 21 11 32.4
comp=Z,1μm,20.4s,MS4.5,baz=270,slow=33
PMG Port Moresby 27.90 295 i P P 21 02 08.9 +0.8
PMG Port Moresby 27.90 295 eP P 21 02 07.5 -0.6
comp=Z,11nm,0.9s,mb4.5
TAU Tasmania Unive 28.69 221 eP P 21 02 15.3 +0.4
TAU pmax pmax
comp=Z,333nm,2.0s,mb5.7
TAU Tasmania Unive 28.69 221 eP P 21 02 15.3 +0.4
comp=Z,333nm,2.0s,mb5.7
STKA Stephens Creek 28.70 246⇓iP P 21 02 16.0 +0.9
comp=Z,27nm,1.7s,mb4.7
STKA Stephens Creek 28.70 246 P P 21 02 15.4 +0.3
comp=Z,13nm,0.9s,mb4.6,baz=85,slow=10.0,SNR=14
STKA PcP PcP 21 05 25.5 +0.2
comp=Z,5.7nm,0.9s,baz=46,slow=5.1,SNR=2.4
STKA LR LR 21 12 46.8
comp=Z,3μm,19.0s,MS4.9,baz=60,slow=34
TBI Tubuai 34.83 98 eS S 21 08 31.6 -5.2
TBI eLQ 21 10 25.0
TBI eLR LR 21 12 13.2
comp=Z,2μm,28.5s,baz=260
WB2 Warramunga Arr 35.60 268⇓iP P 21 03 15.0 -0.6
WRAB Tennant Creek 35.61 268 d iP P 21 03 14.7 -0.9
WRAB Tennant Creek 35.61 268 eP P 21 03 14.2 -1.4
comp=Z,207nm,1.6s,mb5.8
WRA Warramunga Arr 35.62 268 P P 21 03 14.9 -0.8
comp=Z,32nm,1.2s,mb5.1,baz=102,slow=8.8,SNR=53
WRA PcP PcP 21 05 44.0 -0.3
comp=Z,9.0nm,0.9s,baz=94,slow=2.9,SNR=5.9
WRA S S 21 08 47.1 -2.0
comp=Z,0.5nm,0.9s,baz=103,slow=18,SNR=3.3
WRA PKiKP 21 13 03.0
comp=Z,1.0nm,0.9s,baz=48,slow=0.5,SNR=6.3
PPT Papeete 35.87 88 eS S 21 08 40.3 -13
PPT eLQ 21 11 05.4
PPT eLR LR 21 12 43.3
comp=Z,2μm,25.0s,baz=247
PPT Papeete 35.87 88 LR LR 21 13 46.7
comp=Z,1μm,20.0s,MS4.6,baz=255,slow=29
PMOR Pomariorio Ree 38.16 85 eP P 21 03 37.4 +0.3
comp=Z,128nm,1.1s,mb5.6
VAH Vaihoa 38.33 85 eP P 21 03 38.5 -0.1
comp=Z,121nm,0.9s,mb5.6
KAKA Kakadu 39.44 278⇓iP Px 21 04 09.0
comp=Z,59nm,0.5s
FORT Forrest 40.15 249 eP P 21 03 47.1 -6.5
comp=Z,18nm,0.9s,mb4.8
FORT e 21 03 54.3
GUMO Guam 45.51 321 LR LR 21 21 03.0
comp=Z,1μm,21.5s,MS4.8,baz=124,slow=33
TAOE Nuku Hiva Isla 47.43 80 eP P 21 04 53.1 +0.6
comp=Z,544nm,1.0s
TAOE Nuku Hiva Isla 47.43 80 eLR LR 21 18 02.1
comp=Z,2μm,26.4s
RKT Rikitea 48.02 101 eS S 21 11 53.2 +1.2
RKT eLQ 21 15 59.8
RKT eLR LR 21 18 17.5
comp=Z,1μm,28.2s
DRV Dumont d’Urvil 48.06 197 P P 21 04 57.0 +0.2
MBWA Marble Bar 48.73 262 eP P 21 05 01.3 -1.2
comp=Z,96nm,1.0s,mb5.8
KLBR Kellerberrin 48.94 248⇓iP P 21 05 03.7 -0.3
comp=Z,127nm,1.1s,mb5.9
NWAO Narrogin (SRO) 49.29 246 eP P 21 05 05.1 -1.6
NWAO pmax pmax
comp=Z,173nm,1.6s
NWAO Narrogin (SRO) 49.29 246 eP P 21 05 05.1 -1.6
comp=Z,173nm,1.6s,mb5.8
MUN Mundaring 50.22 247 eP P 21 05 13.8 -0.1
KIP Kipapa 52.82 35 i P P 21 05 32.9 -0.7
VNDA Vanda 54.62 183 P P 21 05 45.8 -0.3
comp=Z,5.6nm,1.0s,mb4.5,baz=357,slow=8.3,SNR=8.1
VNDA pP pP 21 05 55.0 -0.6
comp=Z,16nm,0.8s,baz=17,slow=5.7,SNR=16
VNDA LR LR 21 25 30.0
comp=Z,963nm,20.4s,MS4.9,baz=18,slow=32
VNDA Vanda 54.62 183 eP P 21 05 45.4 -0.7
VNDA pmax pmax
comp=Z,20nm,0.9s
VNDA MLR MLR
comp=Z,1μm,22.0s
VNDA Vanda 54.62 183 eP P 21 05 45.4 -0.7
comp=Z,20nm,0.9s,mb5.1
VNDA LR LR
comp=Z,1μm,22.0s,MS4.9
SBA Scott Base 54.78 182 eP P 21 05 46.8 -0.5
SBA pmax pmax
comp=Z,173nm,0.9s,mb6.1
SBA Scott Base 54.78 182 eP P 21 05 46.8 -0.5
comp=Z,173nm,0.9s,mb6.1
CASY Casey 57.80 205 P P 21 06 08.5 -0.5
KKM Kota Kinabalu 62.21 291 eP P 21 06 39.8 -0.2
JHJ Hachijo jima 2 64.14 330 LR LR 21 31 18.8
comp=Z,353nm,22.0s,MS4.5,baz=133,slow=33
MIR Mirnyy 64.79 206 c iP P 21 06 56.2 +0.1
MIR pmax pmax
comp=Z,153nm,2.0s,mb5.7
MIR pmax pmax
comp=Z,396nm,8.0s
MIR MLR MLR
comp=N,520nm,18.0s,MS5.0
MIR MLR MLR
comp=E,620nm,18.0s,MS5.0
MIR MLR MLR
comp=Z,1μm,18.0s,MS5.2
KSM Kuching 65.27 283 eP P 21 06 59.7 -0.4
MJAR Matsushiro Arr 67.69 331 P P 21 07 15.2 0.0
comp=Z,1.4nm,0.8s,baz=167,slow=10,SNR=3.6
MJAR pP pP 21 07 23.6 -1.2
comp=Z,4.7nm,0.9s,baz=168,slow=8.1,SNR=4.7
MJAR LR LR 21 32 49.1
comp=Z,328nm,20.5s,MS4.5,baz=165,slow=32
MAT Matsushiro 67.69 331 P P 21 07 13.7 -1.5
MAT Matsushiro 67.69 331 P P 21 07 14.0 -1.2
MAT MLR MLR
comp=Z,740nm,22.0s,MS4.9
RPN Rapa Nui 69.72 112 LR LR 21 29 58.9
comp=Z,328nm,21.3s,MS4.5,baz=272,slow=29
ASAJ Asahikawa 72.40 338 LR LR 21 37 58.6
comp=Z,503nm,20.2s,MS4.8,baz=177,slow=35
SSE Sheshan 73.05 316 P P 21 07 49.3 +1.5
SSE PCP PcP 21 08 05.6 +1.0
SSE PP PP 21 10 31.4 -1.2
SSE S S 21 17 14.5 +2.9
SSE SS SS 21 21 55.9 +0.7
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,110nm,4.2s
SSE LR LR
comp=N,70nm,22.2s,MS4.2
SSE LR LR
comp=E,120nm,22.2s,MS4.2
SSE LR LR
comp=Z,240nm,25.5s,MS4.4
QIZ Qiongzhong 74.21 299 P P 21 07 55.1 +0.4
QIZ S S 21 17 24.8 +0.1
QIZ LR LR
comp=Z,290nm,19.7s,MS4.6
NJ2 Nanjing 75.19 315 eP P 21 08 01.6 +1.5
NJ2 AP pP 21 08 12.1 +2.2
NJ2 PP PP 21 10 49.2 -1.4
NJ2 S S 21 17 32.0 -3.4
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,40nm,8.1s
NJ2 LR LR
comp=N,680nm,20.1s,MS5.1
NJ2 LR LR
comp=E,420nm,16.3s,MS5.1
NJ2 LR LR
comp=Z,390nm,20.0s,MS4.7
FX1 Attu Island--F 75.76 0 LR LR 21 36 04.3
comp=Z,28nm,20.8s,baz=12,slow=32
PSI Prapat 76.11 279 P P 21 08 05.3 -0.4
comp=Z,58nm,1.1s,mb5.4,baz=152,slow=5.9,SNR=18
PSI LR LR 21 42 02.3
comp=Z,551nm,21.2s,MS4.8,baz=22,slow=36
MDJ Mudanjiang 78.07 330 P P 21 08 17.5 +1.5
MDJ PP PP 21 11 13.7 -0.8
MDJ S S 21 18 10.6 +4.1
MDJ AMB AMB
comp=Z,160nm,4.6s
MDJ LR LR
comp=N,460nm,23.2s,MS4.8
MDJ LR LR
comp=E,310nm,25.9s,MS4.8
MDJ LR LR
comp=Z,760nm,30.4s,MS4.8
KKTK Khon Kaen 78.66 293 P P 21 08 20.0 +0.2
CN2 Changchun 79.44 327 eP P 21 08 27.0 +3.5
CN2 LR LR
comp=N,630nm,21.0s,MS5.1
CN2 LR LR
comp=E,640nm,21.0s,MS5.1
CN2 LR LR
comp=Z,870nm,23.0s,MS5.0
GYA Guiyang 80.60 304⇓iP P 21 08 33.5 +3.5
GYA AP pP 21 08 43.6 +3.7
GYA XP sP 21 08 47.9 +4.7
GYA PP PP 21 11 40.8 +5.2
GYA S S 21 18 39.8 +6.3
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.9
GYA AMB AMB
comp=Z,130nm,3.9s
GYA LR LR
comp=N,1μm,18.4s,MS5.4
GYA LR LR
comp=E,1μm,17.9s,MS5.4
GYA LR LR
comp=Z,1μm,18.0s,MS5.3
NST Nakhon Sawan 80.64 291 P P 21 08 32.0 +1.6
SYO Syowa Base 81.98 195 ⇓P P 21 08 35.3 -1.1
SYO Syowa Base 81.98 195 ⇑PcP PcP 21 08 38.5 -3.8
SYO Syowa Base 81.98 195⇓eP P 21 08 35.3 -1.1
SYO ⇑ePcP PcP 21 08 38.5 -3.8
KMI Kunming 82.97 301 P P 21 08 43.8 +1.4
KMI PP PP 21 11 55.2 +0.2
KMI SKS SKS 21 19 01.0 -5.3
KMI S S 21 19 02.9 +5.1
KMI AMB AMB
comp=Z,280nm,5.0s
KMI LR LR
comp=N,190nm,20.5s,MS4.7
KMI LR LR
comp=E,310nm,22.3s,MS4.7
KMI LR LR
comp=Z,300nm,28.9s
CHG Chiang Mai 83.08 294 ⇓P P 21 08 44.9 +1.8
comp=Z,16nm,1.1s,mb5.0
CD2 Chengdu 85.08 306 eP P 21 08 54.3 +1.3
CD2 PP PP 21 12 13.0 +1.2
CD2 SKS SKS 21 19 13.2 -7.2
CD2 S S 21 19 20.5 +1.8
HHC Hu-ho-hao-te 85.22 318 eP P 21 08 56.1 +2.7
HHC PP PP 21 12 18.1 +5.3
HHC SKS SKS 21 19 11.2 -10
HHC S S 21 19 20.3 +0.4
HHC SS SS 21 24 59.6 +2.1
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.9
HHC LR LR
comp=N,220nm,19.0s,MS4.9
HHC LR LR
comp=E,360nm,14.3s,MS4.9
HHC LR LR
comp=Z,550nm,22.6s
NVL N’lazarevskaya 85.31 186 eP P 21 08 50.9 -2.3
NVL e*PP pP 21 09 01.3 -1.8
NVL e*SP sP 21 09 05.4 -0.9
NVL i 21 14 16.6
NVL eS S 21 19 05.4 -15
NVL pmax pmax
comp=Z,2.0nm,1.1s,mb4.2
NVL MLR MLR
comp=Z,38nm,18.4s,MS3.8
SNAA Sanae 85.33 181 eP P 21 08 50.7 -2.6
SNAA pmax pmax
comp=Z,47nm,1.5s
SNAA Sanae 85.33 181 eP P 21 08 50.7 -2.6
comp=Z,47nm,1.5s,mb5.4
KDAK Kodiak Island 85.78 18 LR LR 21 40 14.3
comp=Z,826nm,20.7s,MS5.1,baz=215,slow=31
VNA3 Neumayer Olymp 85.80 179⇑i P 21 08 59.0 +3.4
VNA3 Neumayer Olymp 85.80 179⇑i P 21 09 07.3 +12
VNA3 Neumayer Olymp 85.80 179 P P 21 08 54.6 -1.0
VNA3 ⇑iP 21 08 59.0
VNA3 ⇑iP 21 09 07.3
VNA2 Neumayer--Watz 86.13 180⇑i P 21 09 00.1 +2.8
VNA2 Neumayer--Watz 86.13 180 P 21 09 09.1 +12
VNA2 Neumayer--Watz 86.13 180⇑iP P 21 08 56.7 -0.6
VNA2 ⇑iP 21 09 00.1
VNA2 P 21 09 09.1
SEY Seymchan 87.32 351 eP P 21 09 02.1 -1.1
SEY eS S 21 19 39.0 -0.5
SEY eSSS SSS 21 28 59.7 +0.9
SEY pmax pmax
comp=N,20nm,0.9s
SEY pmax pmax
comp=Z,50nm,0.9s,mb5.7
SEY smax
comp=N,410nm,31.5s
SEY smax
comp=E,120nm,17.4s
SEY MLR MLR
comp=Z,670nm,18.0s,MS5.1
SEY MLR MLR
comp=N,420nm,19.0s,MS4.9
SEY MLR MLR
comp=E,150nm,19.0s,MS4.9
CMB Columbia Colle 87.55 47 eP P 21 09 05.6 +0.7
CMB pmax pmax
comp=Z,24nm,1.2s,mb5.3
CMB Columbia Colle 87.55 47 eP P 21 09 05.6 +0.6
comp=Z,24nm,1.2s,mb5.3
LZH Lanzhou 87.66 311 eP P 21 09 05.7 +0.2
LZH AMB AMB
comp=Z,10.0nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,70nm,5.0s
LZH LR LR
comp=E,470nm,19.0s
LZH LR LR
comp=Z,750nm,21.0s,MS5.1
HUMO Hull Mountain 88.38 42 eP P 21 09 09.5 +0.7
comp=Z,34nm,1.4s,mb5.4
NVAR Mina Array Bea 89.15 47 P P 21 09 12.3 -0.3
comp=Z,14nm,1.2s,mb5.2,baz=212,slow=6.3,SNR=35
NVAR pP pP 21 09 22.2 -0.4
comp=Z,6.6nm,1.0s,baz=217,slow=5.8,SNR=6.6
NVAR LR LR 21 41 19.4
comp=Z,359nm,19.7s,MS4.8,baz=245,slow=30
MNV Mina 89.26 47 eP P 21 09 12.4 -0.7
MNV pmax pmax
comp=Z,37nm,1.4s,mb5.5
MNV Mina 89.26 47 eP P 21 09 12.3 -0.7
comp=Z,36nm,1.4s,mb5.5
MOD Modoc 89.65 43 eP P 21 09 14.5 -0.3
comp=Z,20nm,1.0s,mb5.4
TPH Tonopah 89.71 48 eP P 21 09 13.9 -1.3
TPH pmax pmax
comp=Z,47nm,1.4s,mb5.6
TPH Tonopah 89.71 48 eP P 21 09 13.9 -1.3
comp=Z,46nm,1.4s,mb5.6
LDFC Landfair 89.72 51 P P 21 09 15.5 +0.1
TPNV Topopah Spring 89.83 49 eP P 21 09 15.5 -0.3
TPNV pmax pmax
comp=Z,53nm,1.6s,mb5.6
TPNV MLR MLR
comp=Z,720nm,19.0s,MS5.1
TPNV Topopah Spring 89.83 49 eP P 21 09 15.5 -0.3
comp=Z,53nm,1.6s,mb5.6
TPNV LR LR
comp=Z,720nm,19.0s,MS5.1
NEN Nelson 90.19 51 eP P 21 09 17.3 -0.2
WVOR Wild Horse Val 90.98 44 eP P 21 09 22.3 +1.3
WVOR pmax pmax
comp=Z,29nm,1.1s,mb5.5
WVOR Wild Horse Val 90.98 44 eP P 21 09 22.3 +1.3
comp=Z,29nm,1.1s,mb5.5
BILL Bilibino 91.09 358 eP P 21 09 19.8 -1.1
BILL pmax pmax
comp=Z,20nm,1.1s,mb5.4
BILL Bilibino 91.09 358 eP P 21 09 19.8 -1.1
comp=Z,20nm,1.1s,mb5.4
YAK Yakutsk 91.58 341 eP P 21 09 23.6 +0.4
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.4
YAK Yakutsk 91.58 341 eP P 21 09 23.6 +0.3
comp=Z,17nm,0.8s,mb5.4
TUC Tucson 91.64 56 eP P 21 09 23.7 -0.6
TUC pmax pmax
comp=Z,25nm,1.3s,mb5.4

TUC Tucson 91.64 56 eP P 21 09 23.7 -0.6
comp=Z,25nm,1.3s,mb5.4
MCK McKinley 91.75 16 P P 21 09 23.0 -1.0
ULN Ulaanbaatar 91.87 322 eP P 21 09 23.6 -1.3
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
ULN Ulaanbaatar 91.87 322 eP P 21 09 23.6 -1.3
comp=Z,5.0nm,0.9s,mb4.8
GTA Gaotai 92.07 312 eP P 21 09 28.9 +2.8
GTA AP pP 21 09 39.0 +3.0
GTA PP PP 21 13 13.9 +5.3
GTA SKS SKS 21 19 57.7 -6.1
GTA S S 21 20 28.5 +5.2
GTA XS 21 20 45.6
GTA AMB AMB
comp=Z,90nm,4.6s
GTA LR LR
comp=N,290nm,20.9s,MS4.9
GTA LR LR
comp=E,380nm,22.8s,MS4.9
GTA LR LR
comp=Z,400nm,21.3s,MS4.8
ARUT Antelope Range 92.19 50 eP P 21 09 28.3 +1.6
SONM Songino Array 92.23 322 P P 21 09 24.8 -1.8
comp=Z,1.9nm,0.9s,mb4.4,baz=153,slow=9.9,SNR=8.6
SONM PKKP PKKP 21 26 41.7 +10
comp=Z,0.8nm,1.0s,baz=270,slow=1.4,SNR=4.7
SONM LR LR 21 46 39.9
comp=Z,287nm,21.3s,MS4.7,baz=279,slow=33
ELK Elko 92.36 46 eP P 21 09 27.3 0.0
ELK pmax pmax
comp=Z,22nm,1.2s
ELK Elko 92.36 46 eP P 21 09 27.3 0.0
comp=Z,22nm,1.2s,mb5.4
COLA College 92.95 16 eP P 21 09 28.7 -0.8
COLA pmax pmax
comp=Z,22nm,1.2s,mb5.5
COLA College 92.95 16 eP P 21 09 28.7 -0.8
comp=Z,22nm,1.2s,mb5.5
ILAR Eielson Array 93.12 16 P P 21 09 27.9 -2.4
comp=Z,5.9nm,0.9s,mb5.0,baz=230,slow=5.0,SNR=31
ILAR LR LR 21 44 33.7
comp=Z,566nm,20.1s,MS5.0,baz=150,slow=31
MSU Marysvale 93.41 49 eP P 21 09 31.7 -0.5
PLCA Paso Flores 93.54 137 P P 21 09 32.5 -0.2
comp=Z,6.0nm,0.9s,mb5.0,baz=208,slow=7.0,SNR=7.5
PLCA LR LR 21 41 31.1
comp=Z,195nm,21.4s,MS4.5,baz=216,slow=29
PLCA Paso Flores 93.54 137 eP P 21 09 33.1 +0.3
PLCA pmax pmax
comp=Z,9.0nm,0.9s
PLCA Paso Flores 93.54 137 eP P 21 09 33.1 +0.3
comp=Z,9.1nm,0.9s,mb5.2
DLBC Dease Lake 94.16 26 LR LR 21 49 14.9
comp=Z,469nm,18.0s,MS5.0,baz=187,slow=34
LSA Lhasa 94.21 300 P P 21 09 38.0 +1.9
HLID Hailey 94.24 44 eP P 21 09 36.9 +0.9
comp=Z,2.6nm,0.7s,mb4.8
PALK Pallekele 94.51 276 eP P 21 09 38.0 +0.1
comp=Z,60nm,1.5s,mb5.8
SRU San Rafael 94.83 50 eP P 21 09 40.3 +1.5
SRU pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
SRU San Rafael 94.83 50 eP P 21 09 40.3 +1.6
comp=Z,9.9nm,1.1s,mb5.2
NEW Newport 94.85 39 LR LR 21 44 32.4
comp=Z,292nm,19.0s,MS4.8,baz=227,slow=30
DAU Daniels Canyon 94.89 48 eP P 21 09 38.7 -0.3
TCUT Toone Canyon 95.10 47 P P 21 09 40.2 +0.3
MNTX Cornudas Mount 95.54 58 eP P 21 09 40.8 -1.4
comp=Z,3.4nm,1.0s,mb4.7
LTX Lajitas 95.97 61 eP P 21 09 44.9 +0.7
LTX pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
LTX Lajitas 95.97 61 eP P 21 09 44.9 +0.7
comp=Z,3.1nm,0.9s,mb4.7
TXAR Lajitas Array 95.97 61 P P 21 09 42.8 -1.4
comp=Z,2.6nm,0.9s,mb4.6,baz=225,slow=5.3,SNR=13
TXAR PKKP PKKP 21 26 33.5 +7.7
comp=Z,0.7nm,0.7s,baz=135,slow=5.3,SNR=5.1
TXAR LR LR 21 48 46.2
comp=Z,350nm,18.3s,MS4.9,baz=185,slow=33
TXAR Lajitas Array 95.97 61 P P 21 09 42.8 -1.4
TXAR PKKP PKKP 21 26 33.5 +7.7
TXAR LR LR 21 48 46.2
ANMO Albuquerque 96.03 55 i P P 21 09 41.8 -2.6
ANMO Albuquerque 96.03 55 eP P 21 09 41.5 -2.9
comp=Z,8.0nm,1.0s,mb5.1
PDAR Pinedale Array 97.06 47 LR LR 21 47 30.6
comp=Z,372nm,19.4s,MS4.9,baz=251,slow=32
SDCO Great Sand Dun 97.85 52 eP P 21 09 52.8 +0.3
comp=Z,2.0nm,0.7s,mb4.8
WMQ Urumqi 102.16 312 eP Pdif 21 10 12.5 +0.8
WMQ PP PP 21 14 26.4 +0.2
WMQ SKS SKS 21 20 48.0 -8.3
WMQ eS S 21 21 48.6 0.0
WMQ SS SS 21 28 57.5 -0.8
WMQ AMB AMB
comp=Z,50nm,5.0s
WMQ LR LR
comp=N,470nm,22.0s,MS5.1
WMQ LR LR
comp=E,550nm,24.0s,MS5.1
WMQ LR LR
comp=Z,710nm,24.0s,MS5.1
YKA Yellowknife Ar 102.77 27 PP PP 21 14 25.3 -5.2
comp=Z,0.7nm,0.8s,baz=248,slow=6.9,SNR=4.4
MKAR Makanchi Array 106.71 314 PKKPbc 21 25 57.2
comp=Z,1.0nm,0.8s,baz=288,slow=3.7,SNR=3.4
BVAR Borovoye Array 115.42 319 PKP PKPdf 21 14 56.6 -5.8
comp=Z,1.6nm,0.7s,baz=36,slow=0.9,SNR=11
BVAR pPKP 21 15 06.5
comp=Z,2.0nm,0.7s,baz=103,slow=2.7,SNR=9.3
SAML Samuel 116.83 114 ePKPdf PKPdf 21 15 00.9 -5.1
SDV Santo Domingo 118.05 92 ePKPdf PKPdf 21 15 02.9 -5.4
ARU Arti 122.25 323 i PKIKP PKPdf 21 15 12.1 -3.4
ARU Arti 122.25 323 ePKPdf PKPdf 21 15 10.1 -5.4
AKTK Aktyubinsk 123.06 316 PKP PKPdf 21 15 11.8 -5.4
AKTK pPKP 21 15 22.1
AKTO Aktyubinsk 123.06 316 PKP PKPdf 21 15 11.8 -5.3
comp=Z,3.3nm,0.7s,baz=86,slow=3.7,SNR=15
AKTO pPKP 21 15 22.1
comp=Z,4.0nm,0.7s,baz=130,slow=1.0,SNR=8.4
BDFB Brasilia 124.64 130 PKP PKPdf 21 15 16.2 -5.0
comp=Z,3.7nm,0.8s,baz=333,slow=3.4,SNR=3.4
BDFB pPKP 21 15 26.4
comp=Z,6.5nm,0.8s,baz=222,slow=1.7,SNR=4.0
BAO Brasilia Array 124.66 130 PKPdf PKPdf 21 15 15.5 -5.7
LSZ Lusaka 128.25 226 ePKIKP PKPdf 21 15 22.8 -5.3
ARCES ARCESS Array B 129.66 346 PKP PKPdf 21 15 23.7 -5.7
comp=Z,4.0nm,0.6s,baz=45,slow=1.7,SNR=11
ARCES pPKP 21 15 33.9
comp=Z,4.3nm,0.6s,baz=333,slow=2.7,SNR=4.3
KMBO Kilima Mbogo 130.25 247 PKP PKPdf 21 15 28.9 -3.1
comp=Z,2.7nm,0.8s,baz=22,slow=3.6,SNR=5.7
RYDS Riyadh 130.73 283 P PKPdf 21 15 30.9 -1.8
TSUM Tsumeb 131.28 212 ePKPdf PKPdf 21 15 30.3 -3.5
MZLS Mizel 131.98 282 P PKPdf 21 15 32.3 -2.8
DJNS Zahran al Janu 132.10 273 P PKPdf 21 15 34.3 -1.1
TATS Tathlith 132.62 276 P PKPdf 21 15 34.1 -2.2
AFFS ‘Afif 133.96 281 P PKPdf 21 15 37.8 -0.9
BLJS Baljurashi 134.42 276 P PKPdf 21 15 37.4 -2.2
FINES FINESS Array B 135.41 338 PKhKP 21 15 30.6
comp=Z,3.1nm,0.9s,baz=76,slow=5.7,SNR=3.4
FINES PKP PKPdf 21 15 34.2 -6.2
comp=Z,2.3nm,0.8s,baz=76,slow=4.8,SNR=4.5
FINES FINESS Array B 135.41 338 PKP PKPdf 21 15 30.6 -10
FINES PKP PKPdf 21 15 34.1 -6.2
LTHS Al Lith 135.60 276 P PKPdf 21 15 39.7 -2.2
QURS Qurayyt al Mil 139.61 292 P PKPdf 21 15 47.2 -1.7
NB2 NORSAR Subarra 140.04 346 PKPdf PKPdf 21 15 45.2 -3.6
comp=Z,3.5nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 140.04 346 PKhKP 21 15 38.5
comp=Z,1.3nm,0.8s,baz=28,slow=2.0,SNR=3.3
NOA PKP PKPdf 21 15 45.6 -3.2
comp=Z,1.9nm,0.8s,baz=34,slow=2.1,SNR=4.6
TBKS Tabuk 140.21 287 P PKPdf 21 15 48.2 -1.9
HFS Hagfors 140.23 344 PKhKP 21 15 35.4
comp=Z,1.8nm,0.7s,baz=90,slow=3.0,SNR=4.9
HFS PKP PKPdf 21 15 45.6 -3.6
comp=Z,3.4nm,0.8s,baz=63,slow=3.3,SNR=6.2
AKASG Malin Array Be 140.50 323 PKP PKPdf 21 15 47.1 -2.8
comp=Z,0.4nm,0.4s,baz=48,slow=3.3,SNR=5.1
AYUS ‘Aynunah 141.33 287 P Pdif 21 13 14.9 +10
BDAS Al Bad‘ 141.49 287 P Pdif 21 13 10.7 +5.5
JMOS Jabal al Moall 141.50 288 P Pdif 21 13 17.0 +12
ALWS Ilw as Safayha 141.55 288 P Pdif 21 13 18.9 +13
BRTR Keskin Array B 141.65 305 PKP PKPdf 21 15 49.9 -2.4
comp=Z,1.0nm,0.8s,baz=141,slow=4.5,SNR=4.2
HAQS Haql 141.66 288 P Pdif 21 13 13.6 +7.6
KWP Kalwaria 144.58 326 ePKP PKPdf 21 15 53.2 -3.8
MUD Monsted U’grnd 144.62 344 i P PKPbc 21 15 53.2 +1.8
comp=Z,30nm,0.9s
MUD i 21 16 00.1
MUD Monsted U’grnd 144.62 344 i PKIKP PKPdf 21 15 53.2 -3.7
MUD i 21 16 00.1
MUD pmax pmax
comp=Z,30nm,0.9s
MLR Muntele Rosu 144.96 318 PKP PKPdf 21 15 53.4 -4.4
comp=Z,12nm,0.9s,baz=323,slow=1.6,SNR=7.8
MLR Muntele Rosu 144.96 318 ⇓P PKPbc 21 15 52.6 -0.2
KOLS Kolonicke sedl 145.23 325 ePKP PKPdf 21 15 53.4 -4.8
KOLS e 21 15 56.5
STHS Stebnicka Huta 145.46 326 ePKP PKPdf 21 15 54.0 -4.5
STHS e 21 15 57.6
OJC Ojcow 145.66 329 ePKP PKPdf 21 15 54.1 -4.8
CRVS Cervenica-Dubn 145.67 326 ePKP PKPdf 21 15 54.8 -4.1
CRVS e 21 16 20.2
CRVS ePP PP 21 19 18.3 -0.5
CRVS Cervenica-Dubn 145.67 326 ePKP2 PKPab 21 15 54.8 -1.6
CRVS e 21 19 18.3
NIE Niedzica 145.93 327 ePKP PKPdf 21 15 56.4 -2.9
KECS Kecovo 146.44 326 ePKP PKPdf 21 15 56.6 -3.6
KECS e 21 16 07.6
BSEG Bad Segeberg 146.51 341 ePKPbc PKPbc 21 15 59.3 +3.0
BSEG epPKPbc 21 16 07.0
OKC Ostrava-Krasne 146.70 329 ePKP PKPdf 21 16 00.5 -0.1
OKC epPKP 21 16 07.5
KSP Ksiaz 146.82 332 ePKP PKPdf 21 15 57.9 -3.0
KSP Ksiaz 146.82 332 ePKP2 PKPab 21 16 00.5 -0.3
KSP Ksiaz 146.82 332 ePKPdf PKPdf 21 15 58.0 -2.8
KSP ePKPab PKPab 21 16 00.5 -0.3
KSP epPKP 21 16 08.1
MORC Moravsky Berou 147.03 330 ePKIKP PKPdf 21 15 56.7 -4.5
PSZ Piszkesteto 147.10 325 ePKPbc PKPdf 21 15 59.7 -1.7
PSZ ePKPab PKPab 21 16 01.5 -0.5
DPC Dobruska-Polom 147.16 332 ePKP PKPdf 21 16 00.5 -0.9
DPC epPKP 21 16 08.7
UPC Upice 147.18 332 ePKP PKPdf 21 16 01.0 -0.4
UPC epPKP 21 16 08.7
VYHS Vyhne 147.27 327 ePKP PKPdf 21 15 58.6 -3.0
VYHS e 21 16 02.3
VYHS e 21 16 31.6
BZS Buzias 147.51 321 ⇑P PKPdf 21 16 00.0 -2.1
BZS Buzias 147.51 321 ⇑PKP2 PKPab 21 15 59.9 -3.8
EKA Eskdalemuir Ar 147.75 355 PKP PKPdf 21 15 59.5 -2.6
comp=Z,24nm,0.8s,baz=349,slow=2.5,SNR=25
EKA PKPbc PKPdf 21 16 01.7 -0.5
comp=Z,24nm,0.8s,baz=344,slow=3.0,SNR=26
EKA pPKPbc 21 16 09.7
comp=Z,18nm,0.7s,baz=351,slow=2.6,SNR=10
BRG Berggiesshubel 147.77 334 ePKIKP PKPdf 21 15 59.2 -3.1
BRG i 21 16 02.9
BRG i 21 16 10.4
ESK Eskdalemuir 147.77 355 ePKP2 PKPab 21 16 00.6 -3.8
PVCC Panska Ves 147.78 333 ePKP PKPdf 21 16 00.9 -1.5
CLL Collm 147.79 336 ePKIKP PKPdf 21 16 00.0 -2.4
CLL i PKP1 PKPdf 21 16 02.9 +0.5
CLL ePKP2 PKPab 21 16 06.0 +1.4
CLL i *PPKP 21 16 10.7
CLL e 21 16 14.0
CLL Collm 147.79 336 ⇑ePKP2 PKPab 21 16 00.0 -4.6
CLL pmax pmax
comp=Z,22nm,1.0s
CLL pmax pmax
comp=Z,16nm,0.9s
CLL Collm 147.79 336 ePKP PKPdf 21 16 00.0 -2.4
CLL ⇑iPKP PKPdf 21 16 02.9 +0.5
CLL ePKP PKPdf 21 16 06.0 +3.6
CLL i pPKP 21 16 10.7
VRAC Vranov 147.79 330 PKPbc PKPdf 21 16 00.8 -1.6
comp=Z,9.7nm,0.9s,baz=74,slow=0.8,SNR=5.8
VRAC Vranov 147.79 330 ⇑PKIKP PKPdf 21 15 59.9 -2.5
VTS Vitosha 148.06 315 eP PKPdf 21 16 04.0 +0.9
VTS Vitosha 148.06 315 ⇓P PKPdf 21 16 02.6 -0.4
MMB Musomiste 148.16 313 eP PKPdf 21 16 02.0 -1.3
PRU Pruhonice 148.20 333 ePKP PKPdf 21 16 04.2 +1.1
PRU epPKP 21 16 11.1
CLZ Clausthal 148.28 339 ePKPbc PKPdf 21 16 04.6 +1.5
CLZ epPKPbc 21 16 12.0
ZST Bratislava 148.33 328 ePKP PKPdf 21 16 05.3 +2.0
ZST e 21 16 11.9
KKB Krupnik 148.47 313 eP PKPdf 21 16 03.0 -0.8
MOX Moxa 148.84 336 ePKP2 PKPab 21 16 06.0 -2.9
MOX pmax pmax
comp=Z,18nm,1.5s
NKC Novy Kostel 148.86 335 ePKP PKPdf 21 16 06.0 +1.9
NKC epPKP 21 16 13.5
KHC Kasperske Hory 149.26 333 ePKP PKPdf 21 16 04.0 -0.8
KHC epPKP 21 16 13.5
GEC2 GERESS Array S 149.43 332 ePKP2 PKPab 21 16 07.3 -4.0
GERES GERESS Array B 149.43 332 PKPbc PKPdf 21 16 04.7 -0.3
comp=Z,6.0nm,0.9s,baz=45,slow=1.9,SNR=20
GERES pPKPbc 21 16 14.8
comp=Z,4.3nm,0.7s,baz=41,slow=1.9,SNR=8.1
WET Wettzell 149.54 333 ePKP2 PKPab 21 16 08.0 -3.8
GRA1 Grafenberg Arr 149.77 336 ePKPbc PKPdf 21 16 08.4 +2.8
GRA1 ePP PP 21 19 46.8 +4.5
GRA1 LR LR
comp=Z,300nm,21.6s,MS5.0
GRF Grafenberg Arr 149.77 336 ePKP2 PKPab 21 16 08.4 -4.3
GRF e 21 19 46.8
GRF MLR MLR
comp=Z,300nm,21.6s,MS5.0
GRF Grafenberg Arr 149.77 336 ePKP2 PKPab 21 16 08.4 -4.3
GRF e 21 19 46.8
GRF MLR MLR
comp=Z,300nm,21.6s,MS5.0
DCN Croghan 149.91 360 eP PKPdf 21 16 08.0 +2.3
DLF Lyons Farm 149.94 359 eP PKPdf 21 16 08.0 +2.3
TNS Taunus Mts 150.30 339 ePKIKP PKPdf 21 16 09.5 +3.1
PERS Pernice 150.38 328 ePKPbc PKPdf 21 16 09.7 +3.1
KBA Koelnbreinsper 150.91 330 ⇑iP PKPdf 21 16 10.0 +2.6
comp=Z,13nm,0.8s
FUR Furstenfeldbru 150.97 334 ePKIKP PKPdf 21 16 10.9 +3.4
FUR e 21 16 19.5
LJU Ljubljana 151.09 327 ePKPdf PKPdf 21 16 08.4 +0.7
LJU ePKPbc PKPdf 21 16 11.7 +4.0
LJU e 21 16 18.7
LJU e 21 16 30.6
LJU Ljubljana 151.09 327 ePKIKP PKPdf 21 16 08.4 +0.7
LJU e 21 16 18.7
BOJS Bojanci 151.10 326 ePKPdf PKPdf 21 16 09.2 +1.4
BOJS ePKPbc PKPdf 21 16 12.2 +4.5
BOJS e 21 16 19.5
CEY Cerknica 151.35 327 ePKPbc PKPdf 21 16 12.3 +4.2
GIVF Givet 151.48 343 ePKP1 PKPdf 21 16 11.9 +3.7
comp=Z,47nm,0.8s
WATA Walderalm 151.50 332 ⇑iP PKPdf 21 16 09.2 +1.0
comp=Z,7.9nm,0.9s
WTTA Wattenberg 151.53 332 ⇓iP PKPdf 21 16 09.8 +1.5
comp=Z,14nm,0.7s
BAIF Baives 151.68 344 ePKP1 PKPdf 21 16 12.3 +3.8
comp=Z,47nm,1.3s
MOTA Moosalm 151.69 333 ⇑iP PKPdf 21 16 09.4 +0.8
comp=Z,7.8nm,0.8s
CDF Champ du Feu 152.25 339 ePKP1 PKPdf 21 16 13.5 +4.1
DAVOX Davos 152.65 334 PKPbc PKPdf 21 16 12.2 +2.3
comp=Z,13nm,0.7s,baz=45,slow=14,SNR=13
DAVOX PKPab PKPab 21 16 22.4 -2.4
comp=Z,16nm,0.9s,baz=24,slow=15,SNR=6.7
MEZF Maizieres J’vi 152.87 342 ePKP1 PKPdf 21 16 14.1 +3.9
comp=Z,90nm,1.4s
HINF Hinteralfeld 152.91 339 ePKP1 PKPdf 21 16 14.9 +4.6
comp=Z,37nm,1.1s
HAU Haudompre 152.91 339 ePKP1 PKPdf 21 16 14.9 +4.6
comp=Z,13nm,0.7s
SSF Saint Saulge 154.62 342 ePKP1 PKPdf 21 16 18.3 +5.6
LPL La Plagne 154.93 336 ePKP1 PKPdf 21 16 19.2 +6.1
LPG La Plagne 154.94 336 ePKP1 PKPdf 21 16 19.1 +6.0
comp=Z,28nm,1.1s
TCF Toulx Ste Croi 155.68 344 ePKP1 PKPdf 21 16 20.6 +6.6
LIC Lamto 162.96 188 ePKIKP PKPdf 21 16 22.0 -1.4
comp=Z,130nm,1.4s
ESDC Sonseca Array 163.31 351 PKPab PKPab 21 17 11.0 +0.1
comp=Z,2.7nm,0.7s,baz=2.3,slow=4.1,SNR=7.6
DBIC Dimbokro 163.37 189 PKP PKPdf 21 16 19.6 -4.2
comp=Z,9.7nm,0.9s,baz=74,slow=1.0,SNR=6.8
DBIC Dimbokro 163.37 189 ePKIKP PKPdf 21 16 19.8 -4.0
TORD Torodi Ar. Bea 166.76 223 PKP PKPdf 21 16 22.4 -4.4
comp=Z,15nm,0.9s,baz=51,slow=0.5,SNR=37
TORD pPKP 21 16 32.5
comp=Z,12nm,1.0s,baz=66,slow=0.7,SNR=10
TORD PKPab PKPab 21 17 25.8 -0.7
comp=Z,7.2nm,1.0s,baz=122,slow=3.2,SNR=6.2

IDC 02 21:20:04.7±5.5**, 5.74N**×**77.82W, h47**^{km}±46^{km}**, mb3.3**/1**, mb1 3.5**/3**, mb1mx3.2**/21**, mbtmp3.6**/3**, ML2.6**/2**, MS4.2**/1**, Ms1 4.2**/1**, ms1mx2.9**/17**, Error ellipse: s-maj=41.7km s-min=40.5km az=74.0, Near west coast of Colombia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ROSC El Rosal 3.58 104 P P 21 20 58.7 -0.4
3.2nm,0.3s,baz=142,slow=11,SNR=5.3
ROSC S S 21 21 40.1 -0.6
baz=284,slow=18,SNR=3.7
SDV Santo Domingo 7.78 66 P P 21 21 56.0 -2.0
0.6nm,0.3s,baz=330,slow=7.1,SNR=3.5
SDV S S 21 23 22.5 -3.1
0.3nm,0.3s,baz=62,slow=17,SNR=2.8
ANMO Albuquerque 39.29 322 LR LR 21 46 03.1
comp=Z,331nm,18.0s,slow=40
TORD Torodi Ar. Bea 78.53 78 P P 21 32 02.1 -1.3
0.3nm,0.7s,baz=275,slow=5.0,SNR=5.0
WRA Warramunga Arr 145.71 243 PKPbc PKPbc 21 39 38.2 -1.6
0.3nm,0.5s,baz=104,slow=4.1,SNR=5.8

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*IDC **02** 21:25:25.1±0.9, 4.89N×62.20E, mb4.1/12, mb1 4.1/12, mb1mx4.0/21, mbtmp4.1/12, MS3.5/2, Ms1 3.5/2, ms1mx3.2/14, Error ellipse: s-maj=24.0km s-min=18.9km az=138.0*

*NEIC **02** 21:25:26.7±0.6, 4.90N×62.19E, h10^{km}, Error ellipse: s-maj=16.4km s-min=10.6km az=128.0*

ISC 02 21:25:24.9±0.8**, 4.9N**±0.1×**62.2E**±0.1**, h10**^{km}**, n15,** σ0^{s}47/14**, mb4.0**/12**, MS3.3**/2**, Carlsberg Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ATD Arta Tunnel 20.24 290 LR LR 21 36 51.9
comp=Z,83nm,18.1s,MS3.1,baz=160,slow=34
KMBO Kilima Mbogo 25.64 257 P P 21 30 57.6 +0.9
7.6nm,1.0s,mb4.2,baz=53,slow=12,SNR=18
KMBO LR LR 21 39 17.1
comp=Z,163nm,20.8s,MS3.5,baz=97,slow=32
LSZ Lusaka 39.22 239 P P 21 32 55.4 +0.1
1.5nm,0.6s,mb3.9,baz=107,slow=8.5,SNR=4.2
MATP Matopo 41.60 232 P P 21 33 14.7 -0.3
3.9nm,1.0s,mb4.0,baz=267,slow=2.0,SNR=4.9
BRTR Keskin Array B 43.18 327 P P 21 33 28.0 +0.3
1.0nm,0.9s,mb3.5,baz=143,slow=7.2,SNR=5.6
AKTK Aktyubinsk 45.49 356 P P 21 33 46.6 +0.5
AKTO Aktyubinsk 45.49 356 P P 21 33 46.6 +0.5
4.1nm,1.1s,mb4.2,baz=184,slow=5.6,SNR=6.7
BVAR Borovoye Array 48.42 7 P P 21 34 09.4 +0.2
0.1nm,0.3s,mb3.3,baz=162,slow=4.7,SNR=3.9
AKASG Malin Array Be 53.32 334 P P 21 34 45.5 -1.0
0.2nm,0.4s,mb3.4,baz=131,slow=6.6,SNR=9.3
AKASG Malin Array Be 53.32 334 P P 21 34 45.5 -1.0
SONM Songino Array 57.02 34 P P 21 35 13.3 -0.1
1.5nm,1.0s,mb4.0,baz=180,slow=1.5,SNR=3.6
VRAC Vranov 58.62 327 P P 21 35 24.0 -0.5
2.0nm,0.5s,mb4.5,baz=106,slow=20,SNR=3.5
TORD Torodi Ar. Bea 60.19 282 P P 21 35 35.5 -0.3
3.4nm,1.0s,mb4.3,baz=90,slow=5.7,SNR=17
DBIC Dimbokro 66.69 275 P P 21 36 18.6 -0.2
3.9nm,0.9s,mb4.5,baz=38,slow=5.8,SNR=3.9
WRA Warramunga Arr 75.01 112 P P 21 37 09.1 0.0
7.6nm,1.2s,mb4.5,baz=289,slow=5.1,SNR=17

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*BJI **02** 22:21:53.9, 13.62N×146.82E, h59^{km}, mB5.2, mb4.7, Ms4.8, Msz4.4*

*MOS **02** 22:21:53.9±0.9, 13.95N×146.24E, h33^{km}, mb5.0/10, Error ellipse: s-maj=21.4km s-min=12.0km az=105.2*

*IDC **02** 22:21:58.0±3.6, 14.02N×146.30E, h50^{km}±33^{km}, mb4.1/15, mb1 4.2/15, mb1mx4.1/22, mbtmp4.4/15, MS4.0/12, Ms1 4.0/12, ms1mx3.8/23, Error ellipse: s-maj=24.2km s-min=15.8km az=78.0*

*NEIC **02** 22:21:57.7±1.8, 13.92N×146.30E, h52^{km}±15^{km}, mb4.6/10, Error ellipse: s-maj=13.6km s-min=8.5km az=76.0*

ISC 02 22:21:56.8±1.6**, 13.94N**±0.08×**146.33E**±0.09**, h56**^{km}±13^{km}**, n57,** σ1^{s}02/49**, mb4.5**/29**, MS4.2**/15**, 2C, South of Mariana Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 1.46 256 P P 22 22 20.9 -0.5
331nm,0.3s,baz=116,slow=4.9,SNR=87
GUMO S S 22 22 40.0 +0.4
457nm,0.3s,baz=217,slow=21,SNR=8.6
GUMO Guam 1.46 256 ⇑iP P 22 22 21.1 -0.3
CBIJ Chichi jima 13.65 344 LR LR 22 29 43.4
comp=Z,633nm,21.7s,baz=162,slow=34
JOW Kunigami 21.20 310 P P 22 26 40.4 +0.6
54nm,0.6s,mb5.1,baz=142,slow=10,SNR=9.0
JOW LR LR 22 33 47.5
comp=Z,669nm,19.4s,MS4.0,baz=130,slow=34
PMG Port Moresby 23.21 178 P P 22 27 02.9 +3.1
7.4nm,0.8s,mb4.2,baz=2.5,slow=10,SNR=4.3
PMG Port Moresby 23.21 178 eP P 22 26 58.9 -0.9
PMG pmax pmax
comp=Z,33nm,1.2s
PMG Port Moresby 23.21 178 eP P 22 26 58.9 -0.9
comp=Z,33nm,1.2s,mb4.6
MJAR Matsushiro Arr 23.65 344 LR LR 22 35 32.7
comp=Z,446nm,19.3s,MS3.9,baz=180,slow=35
JNU Nakatsue 23.72 326 P P 22 27 04.9 +0.4
comp=Z,27nm,1.1s,mb4.6,baz=93,slow=9.2,SNR=4.9
HNR Honiara 26.87 149 LR LR 22 37 21.2
comp=Z,225nm,19.1s,MS3.7,baz=290,slow=34
QIZ Qiongzhong 35.30 283 P P 22 28 51.0 +2.4
QIZ eS S 22 34 20.7 +2.9
QIZ LR LR
comp=E,330nm,14.7s
QIZ LR LR
comp=Z,340nm,16.2s,MS4.2
WRAB Tennant Creek 35.66 200 eP P 22 28 51.1 -0.6
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WRAB Tennant Creek 35.66 200 eP P 22 28 51.1 -0.5
comp=Z,5.6nm,0.8s,mb4.5
WRA Warramunga Arr 35.68 200 P P 22 28 50.5 -1.2
comp=Z,6.0nm,1.1s,mb4.4,baz=21,slow=9.3,SNR=10.0
KSM Kuching 37.70 254 eP P 22 29 07.8 -1.1
HHC Hu-ho-hao-te 40.44 318 eP P 22 29 31.7 +0.4
HHC AP pP 22 29 44.0 -2.0
HHC XP sP 22 29 49.5 -3.2
HHC PP PP 22 31 08.9 +0.4
HHC PCS 22 35 24.6
HHC S S 22 35 34.8 -0.7
HHC SCS ScS 22 39 31.9 +2.1
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,250nm,5.7s
HHC LR LR
comp=N,360nm,11.4s,MS4.6
HHC LR LR
comp=E,430nm,13.1s,MS4.6
HHC LR LR
comp=Z,380nm,13.1s,MS4.4
BTO Baotou 41.33 317 eP P 22 29 39.4 +0.8
BTO AMB AMB
comp=Z,20nm,0.9s,mb4.8
LZH Lanzhou 43.91 308 eP P 22 30 01.3 +1.4
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,120nm,4.3s
LZH LR LR
comp=E,670nm,12.4s
LZH LR LR
comp=Z,990nm,13.5s,MS4.9
STKA Stephens Creek 45.78 186 P P 22 30 16.1 +1.3
comp=Z,1.8nm,0.6s,mb4.2,baz=128,slow=14,SNR=5.3
ULN Ulaanbaatar 46.91 324 eP P 22 30 23.8 +0.3
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ULN Ulaanbaatar 46.91 324 eP P 22 30 23.8 +0.2
comp=Z,3.7nm,0.6s,mb4.5
SONM Songino Array 47.27 324 P P 22 30 26.3 0.0

	comp=Z,3.7nm,0.6s,mb4.5,baz=136,slow=8.1,SNR=29						
SONM				LR	LR	22 50 20.6	
	comp=Z,189nm,19.0s,MS4.1,baz=151,slow=36						
ZAK	Zakamensk	50.34	325	eP	P	22 30 49.3	-0.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
LSA	Lhasa	53.10	297	eP	P	22 31 12.0	+0.9
LSA	Lhasa	53.10	297	eP	P	22 31 11.8	+0.7
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LSA	Lhasa	53.10	297	eP	P	22 31 11.8	+0.7
	comp=Z,4.5nm,0.6s,mb4.6						
BILL	Bilibino	55.59	9	eP	P	22 31 27.6	-1.1
BILL				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BILL	Bilibino	55.59	9	eP	P	22 31 27.6	-1.1
	comp=Z,2.0nm,0.5s,mb4.4						
WMQ	Urumqi	57.93	313	eP	P	22 31 45.8	+0.2
WMQ				AMB	AMB		
	comp=Z,220nm,5.0s						
WMQ				LR	LR		
	comp=N,150nm,22.0s,MS4.2						
WMQ				LR	LR		
	comp=E,120nm,21.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,150nm,19.5s,MS4.1						
MKAR	Makanchi Array	62.23	316	P	P	22 32 14.4	-0.5
	comp=Z,4.6nm,0.5s,mb4.9,baz=91,slow=8.7,SNR=76						
MKAR				LR	LR	23 02 49.8	
	comp=Z,104nm,18.5s,MS4.0,baz=19,slow=39						
NVS	Novosibirsk	63.29	325	⇑iP	P	22 32 19.7	-2.3
NVS				pmax	pmax		
	comp=Z,22nm,1.9s,mb5.0						
NVS				pmax	pmax		
	comp=E,10.0nm,1.7s						
KURK	Kurchatov	65.23	320	eP	P	22 32 33.4	-1.2
KURK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
KURK	Kurchatov	65.23	320	eP	P	22 32 33.4	-1.2
	comp=Z,17nm,0.9s,mb5.1						
AAK	Ala-Archa	67.36	311	eP	P	22 32 47.2	-1.0
AAK				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
AAK	Ala-Archa	67.36	311	eP	P	22 32 47.2	-1.0
	comp=Z,3.5nm,1.0s,mb4.3						
ILAR	Eielson Array	67.65	25	P	P	22 32 48.4	-1.3
	comp=Z,1.3nm,0.5s,mb4.2,baz=249,slow=5.1,SNR=21						
PPT	Papeete	70.56	114	LR	LR	22 57 32.4	
	comp=Z,52nm,19.3s,MS3.8,baz=349,slow=30						
BRVK	Borovoye	70.60	322	eP	P	22 33 07.7	-0.2
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BRVK	Borovoye	70.60	322	eP	P	22 33 07.7	-0.3
	comp=Z,4.7nm,0.9s,mb4.4						
INK	Inuvik	73.50	22	P	P	22 33 25.3	+0.4
	comp=Z,1.6nm,0.8s,mb4.0,baz=285,slow=6.5,SNR=8.1						
ARU	Arti	77.28	325	eP	P	22 33 46.2	-0.5
ARU	Arti	77.28	325	eP	P	22 33 46.2	-0.5
	comp=Z,4.6nm,0.6s,mb4.6						
YKA	Yellowknife Ar	81.90	28	P	P	22 34 11.5	+0.2
	comp=Z,0.6nm,0.5s,mb3.8,baz=284,slow=5.2,SNR=7.1						
YKA				LR	LR	23 07 46.7	
	comp=Z,90nm,19.8s,MS4.1,baz=270,slow=34						
NVAR	Mina Array Bea	85.59	52	P	P	22 34 32.4	+1.8
	comp=Z,1.4nm,0.6s,mb4.3,baz=266,slow=5.8,SNR=6.8						
ARCES	ARCESS Array B	87.18	342	P	P	22 34 37.0	-0.5
	comp=Z,1.6nm,0.6s,mb4.4,baz=45,slow=5.1,SNR=7.4						
ELK	Elko	87.28	49	P	P	22 34 39.6	+0.9
	comp=Z,1.6nm,0.8s,mb4.3,baz=268,slow=6.9,SNR=9.0						
DUG	Dugway	89.21	49	eP	P	22 34 49.4	+1.4
DUG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
DUG	Dugway	89.21	49	eP	P	22 34 49.4	+1.4
	comp=Z,2.2nm,0.6s,mb4.7						
PDAR	Pinedale Array	90.71	46	P	P	22 34 55.6	+0.7
	comp=Z,0.3nm,0.6s,mb3.8,baz=259,slow=4.6,SNR=2.8						
PDAR				LR	LR	23 13 23.2	
	comp=Z,96nm,18.1s,MS4.3,baz=39,slow=34						
FINES	FINESS Array B	91.44	335	P	P	22 34 56.6	-1.2
	comp=Z,0.7nm,0.5s,mb4.3,baz=45,slow=2.7,SNR=7.4						
FINES				LR	LR	23 19 06.4	
	comp=Z,100nm,19.2s,MS4.3,baz=112,slow=38						
NOA	NORSAR Array B	97.22	340	LR	LR	23 23 35.5	
	comp=Z,48nm,21.0s,MS4.0,baz=265,slow=38						
TXAR	Lajitas Array	99.98	56	LR	LR	23 17 42.0	
	comp=Z,111nm,18.8s,MS4.4,baz=330,slow=34						
TORD	Torodi Ar. Bea	135.82	306	PKP	PKPdf	22 41 15.1	+2.9
	comp=Z,0.5nm,0.7s,baz=29,slow=1.9,SNR=6.6						
DBIC	Dimbokro	144.82	304	PKP	PKPdf	22 41 29.8	+1.4
	comp=Z,14nm,0.6s,baz=50,slow=3.6,SNR=33						
DBIC	Dimbokro	144.82	304	ePKIKP	PKPdf	22 41 29.8	+1.3
DBIC				e		22 41 42.3	
LPAZ	La Paz	146.68	98	PKPbc	PKPbc	22 41 35.6	+2.7
	comp=Z,2.2nm,0.8s,baz=304,slow=2.1,SNR=8.1						
LPAZ	La Paz	146.68	98	ePKP2	PKPab	22 41 35.5	-1.1

*CSEM **02** 22:31:01.1±0.3, 26.80N×55.86E, h20^{km}, ML2.9, Error ellipse: s-maj=12.2km s-min=8.3km az=76.0*
*KISR **02** 22:31:02.5±0.5, 27.13N×55.84E, h33^{km}, ML3.3*
*THR **02** 22:31:03.5±0.3, 26.95N×55.98E, h13^{km}±3^{km}, ML2.9*
ISC 02 22:31:02.5±1.1**, 26.84N**±0.04×**55.78E**±0.07**, h24**^{km}±12^{km}**, n18, σ1^{s}36**/25**, 6C-1D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.66	32	ePG	Pb	22 31 13.2	-2.0
BNDS				AML	AML	22 31 32.7	
	comp=N,811nm,0.4s						
BANOM	Banah	1.02	153	⇑P	Pb	22 31 20.9	-0.5
	SNR=722						
BANOM				⇑S	Sb	22 31 36.2	+1.7
ASHO	Ashiyiah	2.16	173	P	Pn	22 31 39.5	+1.8
	SNR=68						
ASHO				⇓S	Sn	22 32 13.4	+9.4
GHIR	Ghir-Karzin	2.87	301	ePN	Pn	22 31 52.5	+4.6
GHIR				AML	AML	22 32 55.1	
	comp=N,63nm,0.5s						
KRBR	Kerman	3.25	15	ePN	Pn	22 31 54.4	+1.2
KRBR				SN	Sn	22 32 31.6	0.0
KRBR				AML	AML	22 32 37.9	
	comp=N,28nm,0.4s						
KRBR	Kerman	3.25	15	ePn	Pn	22 31 54.4	+1.2
	SNR=47						
KRBR				Sn	Sn	22 32 31.5	-0.1
	SNR=47						
HOQ	Hoqain	3.52	157	⇑P	Pn	22 31 54.8	-2.3
ARQ	Araqi	3.55	169	P	Pn	22 31 59.2	+1.7
	SNR=8.0						
BSY	Bisya	4.27	162	⇑P	Pn	22 32 07.6	-0.1
SMDO	Samad	4.29	151	⇑P	Pn	22 32 05.2	-2.8
BSYO	Bisya	4.30	162	P	Pn	22 32 07.6	-0.5
JMDO	Jabal Madar	4.92	154	⇑P	Pn	22 32 17.5	+0.5
NASN	Na'in	6.48	337	ePN	Pn	22 32 40.5	+1.6
NAY	Al-Naaiem	7.92	290	eP	Pn	22 33 00.3	+1.3
NAY				eS	Sn	22 34 28.3	-0.5
NAY				AML	AML	22 34 29.6	
	comp=Z,2.2nm,0.4s						
MIB	Mutribah	8.01	294	eP	P	22 33 00.9	+0.6
MIB				eS	Sn	22 34 30.1	-0.9
MIB				AML	AML	22 34 30.3	
	comp=Z,4.6nm,0.3s						
MIB	Mutribah	8.01	294	eP	P	22 33 00.9	+0.6
MIB				eS	Sn	22 34 30.1	-0.9
WHFO	Wadi Hawf	9.07	192	P	P	22 33 14.6	-0.5
	SNR=9.9						
ABTO	Aybut	9.72	194	P	P	22 33 21.6	-2.4
	SNR=8.8						

*NEIC **02** 22:37:17.0±1.0, 6.76N×77.68W, h54^{km}±13^{km}, mb3.8/1, Error ellipse: s-maj=16.0km s-min=11.5km az=213.0*
*IDC **02** 22:37:17.2±2.6, 6.68N×77.67W, h60^{km}±23^{km}, mb3.2/4, mb1 3.6/7, mb1mx3.4/22, mbtmp3.6/7, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.7/11, Error ellipse: s-maj=36.6km s-min=18.5km az=12.0*
ISC 02 22:37:14.9±1.3**, 6.79N**±0.10×**77.68W**±0.07**, h50**^{km}±16^{km}**, n13, σ0^{s}91**/14**, mb3.5**/5**, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	3.85	120	P	P	22 38 14.4	+1.3
	1.3nm,0.3s,baz=287,slow=19,SNR=3.2						
OTAV	Otavalo	6.56	187	ePn	P	22 38 50.0	-1.1
	4.2nm,0.5s						

SDV	Santo Domingo	7.29	73	P	P	22 38 59.9	-1.4
	2.7nm,0.3s,baz=327,slow=10.0,SNR=18						
SDV				S	S	22 40 25.2	+1.7
	1.8nm,0.3s,baz=86,slow=16,SNR=5.2						
SDV	Santo Domingo	7.29	73	ePn	P	22 39 00.1	-1.2
SDV				eSn	S	22 40 22.1	-1.3
JTS	JuntasAbangare	7.99	296	P	P	22 39 11.4	+0.4
	1.3nm,0.3s,baz=282,slow=18,SNR=8.8						
JTS				LR	LR	22 41 57.8	
	comp=Z,64nm,20.2s,baz=162,slow=35						
SAML	Samuel	21.29	137	eP	P	22 42 00.3	+0.8
	2.1nm,0.5s,mb3.7						
NVAR	Mina Array Bea	48.34	317	P	P	22 45 53.7	+0.1
	0.3nm,0.3s,mb3.9,baz=114,slow=8.9,SNR=3.4						
NVAR	Mina Array Bea	48.34	317	P	P	22 45 53.7	+0.1
YKA	Yellowknife Ar	61.79	342	P	P	22 47 31.2	+0.5
	0.3nm,0.6s,mb3.6,baz=128,slow=7.1,SNR=5.1						
YKA	Yellowknife Ar	61.79	342	P	P	22 47 31.2	+0.5
ILAR	Eielson Array	75.09	336	P	P	22 48 52.8	-0.2
	0.1nm,0.5s,mb3.0,baz=117,slow=6.0,SNR=3.4						
TORD	Torodi Ar. Bea	78.18	78	P	P	22 49 10.7	-0.7
	0.4nm,0.7s,mb3.5,baz=289,slow=5.5,SNR=8.6						
WRA	Warramunga Arr	146.30	244	PKPbc	PKPbc	22 56 51.5	+0.5
	0.3nm,0.5s,baz=102,slow=3.2,SNR=3.3						

IDC 02 22:53:21.3±1.5**, 13.98N**×**146.54E, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.5**/18**, mbtmp3.5**/3**, Error ellipse: s-maj=37.3km s-min=23.4km az=139.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.67	257	Pn	Pn	22 53 52.5	+0.6
	25nm,0.3s,baz=136,slow=11,SNR=8.1						
GUMO				Sn	Sn	22 54 13.3	-1.1
	35nm,0.3s,baz=44,slow=24,SNR=4.2						
WRA	Warramunga Arr	35.78	200	P	P	23 00 22.2	-2.1
	0.2nm,0.3s,baz=23,slow=9.6,SNR=7.1						
MKAR	Makanchi Array	62.34	316	P	P	23 03 45.8	-2.1
	0.3nm,0.4s,baz=89,slow=8.5,SNR=8.1						
ILAR	Eielson Array	67.53	25	P	P	23 04 18.9	-2.3
	0.4nm,0.6s,baz=254,slow=6.2,SNR=6.2						

*IDC **02** 23:02:29.7±1.1, 13.88N×146.60E, mb4.2/8, mb1 4.3/8, mb1mx4.1/19, mbtmp4.2/8, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=29.2km s-min=19.6km az=148.0*
*NEIC **02** 23:02:36.0±2.5, 13.84N×146.44E, h46^{km}±20^{km}, mb4.3/4, Error ellipse: s-maj=22.0km s-min=12.7km az=91.0*
ISC 02 23:02:28.5±5.2**, 13.9N**±0.1×**146.69E**±0.09**, h7**^{km}±33^{km}**, n20, σ1^{s}05**/17**, mb4.3**/12**, MS3.3**/1**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.79	261	Pn	Pn	23 03 00.8	+0.8
	81nm,0.3s,baz=145,slow=5.9,SNR=19						
GUMO				Sn	Sn	23 03 24.0	+0.8
	106nm,0.3s,baz=325,slow=20,SNR=6.2						
GUMO	Guam	1.79	261	ePn	Pn	23 03 00.6	+0.6
JOW	Kunigami	21.51	310	P	P	23 07 21.3	+1.1
	31nm,0.7s,mb4.9,baz=130,slow=14,SNR=5.5						
MJAR	Matsushiro Arr	23.82	343	LR	LR	23 15 43.9	
	comp=Z,116nm,21.7s,MS3.3,baz=205,slow=33						
WRAB	Tennant Creek	35.71	200	eP	P	23 09 29.6	-0.3
	2.9nm,0.8s,mb4.3						
WRA	Warramunga Arr	35.73	200	P	P	23 09 30.4	+0.4
	1.5nm,0.7s,mb4.0,baz=29,slow=9.8,SNR=6.1						
KSM	Kuching	38.02	254	P	P	23 09 47.4	-1.9
ULN	Ulaanbaatar	47.18	324	eP	P	23 11 03.1	-0.4
	2.3nm,0.6s,mb4.3						
SONM	Songino Array	47.54	324	P	P	23 11 06.1	-0.2
	2.6nm,0.7s,mb4.4,baz=138,slow=8.7,SNR=17						
MKAR	Makanchi Array	62.52	316	P	P	23 12 54.2	-0.9
	2.4nm,0.5s,mb4.6,baz=90,slow=8.9,SNR=32						
KURK	Kurchatov	65.52	320	eP	P	23 13 12.9	-1.7
	6.9nm,0.9s,mb4.7						
ILAR	Eielson Array	67.56	25	P	P	23 13 27.6	+0.2
	1.0nm,0.7s,mb3.9,baz=253,slow=5.6,SNR=13						
BRVK	Borovoye	70.87	322	eP	P	23 13 46.4	-1.6
	2.2nm,0.7s,mb4.2						
INK	Inuvik	73.44	22	P	P	23 14 04.5	+1.6
	1.2nm,0.7s,mb3.9,baz=283,slow=7.3,SNR=6.6						
YKA	Yellowknife Ar	81.80	28	P	P	23 14 50.4	+1.2
	0.5nm,0.6s,mb3.6,baz=286,slow=5.3,SNR=4.3						
YKA	Yellowknife Ar	81.80	28	P	P	23 14 50.4	+1.2
FINES	FINESS Array B	91.65	336	P	P	23 15 38.0	+0.7
	2.1nm,0.9s,mb4.4,slow=1.9,SNR=4.8						
TORD	Torodi Ar. Bea	136.15	306	PKP	PKPdf	23 21 53.0	-1.3
	0.2nm,0.5s,baz=21,slow=2.0,SNR=4.9						
DBIC	Dimbokro	145.16	304	PKPbc	PKPbc	23 22 08.8	+0.6
	8.7nm,0.7s,baz=38,slow=3.0,SNR=18						
DBIC	Dimbokro	145.16	304	PKPbc	PKPbc	23 22 08.8	+0.6

*NDI **02** 23:12:34.9±5.0, 34.81N×72.79E, h10^{km}, MD3.5, ML3.4*
*NNC **02** 23:12:37.8±21.0, 35.94N×74.61E, mpv3.3, Error ellipse: s-maj=2166.5km s-min=173.1km az=67.0*
ISC 02 23:12:29.5±1.3**, 34.86N**±0.10×**72.7E**±0.2**, h10**^{km}**, n7, σ1^{s}74**/13**, 1C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	3.52	133	eP	Pn	23 13 27.3	+1.9
THN				eS	Sn	23 14 08.8	+1.3
DLH	Dalhousie	3.60	129	eP	Pn	23 13 28.0	+1.4
DLH				eS	Sn	23 14 09.0	-0.6
BHK	Bhakra	4.66	136	eSB	Sb	23 14 48.6	+0.8
SMLA	Simla	5.31	133	eP	Pn	23 13 37.5	-13
SMLA				eS	Sn	23 14 40.8	-12
KLP	Kalpa	5.74	124	eP	Pn	23 13 59.7	+2.8
KLP				eS	Sn	23 15 01.4	-2.3
KLP				AML	AML	23 15 15.9	
	comp=E,72nm,0.7s						
KLP				AML	AML	23 15 16.0	
	comp=N,51nm,0.8s						
KUDL	Kundal	7.45	153	eP	Pn	23 14 20.4	-0.5
KUDL				eS	Sn	23 15 42.7	-3.6
KK31	Karatay Array	8.40	349	⇑Pn	P	23 14 35.5	+1.2
	comp=N,0.7nm,0.5s,baz=162,slow=13,SNR=13						
KK31				⇓Sn	Sn	23 16 08.5	-1.6
	comp=N,0.9nm,0.7s,baz=148,slow=22,SNR=4.8						

*IDC **02** 23:18:29.4±3.8, 6.72S×147.58E, h86^{km}±36^{km}, mb3.8/3, mb1 4.0/5, mb1mx3.8/11, mbtmp4.1/5, Error ellipse: s-maj=54.3km s-min=29.8km az=106.0*
*NEIC **02** 23:18:29.6±3.0, 6.65S×147.26E, h85^{km}±30^{km}, mb4.2/3, Error ellipse: s-maj=39.6km s-min=21.8km az=127.0*
ISC 02 23:18:28.6±3.3**, 6.7S**±0.2×**147.2E**±0.2**, h88**^{km}±31^{km}**, n13, σ0^{s}93**/14**, mb4.0**/4**, 1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.73	180	P	P	23 19 11.0	-0.4
	17nm,0.3s,baz=8.0,slow=9.0,SNR=47						
PMG				S	S	23 19 43.5	0.0
	42nm,0.3s,baz=201,slow=22,SNR=6.2						
PMG	Port Moresby	2.73	180	⇑ePn	P	23 19 10.9	-0.5
PMG				S	S	23 19 43.5	0.0
CTAO	Charters Tower	13.38	184	ePn	P	23 21 38.1	+2.0
WRAB	Tennant Creek	18.13	222	eP	P	23 22 35.6	-0.4
	7.6nm,0.6s						
WB2	Warramunga Arr	18.13	222	eP	P	23 22 35.8	-0.3
WRA	Warramunga Arr	18.14	222	P	P	23 22 35.9	-0.3
	1.0nm,0.3s,baz=46,slow=11,SNR=47						
STKA	Stephens Creek	25.62	191	eP	P	23 23 51.1	-0.5
	3.3nm,0.9s,mb3.8						
STKA	Stephens Creek	25.62	191	P	P	23 23 50.6	-1.0
	3.7nm,0.5s,mb4.1,baz=6.2,slow=9.1,SNR=13						
KLBR	Kellerberrin	37.00	224	eP	P	23 25 31.7	+0.2
	4.9nm,0.3s,mb4.9						
MKAR	Makanchi Array	78.09	321	P	P	23 30 21.2	+1.6
	0.2nm,0.4s,mb3.2,baz=99,slow=8.7,SNR=4.6						
MKAR	Makanchi Array	78.09	321	P	P	23 30 21.2	+1.6
ILAR	Eielson Array	86.02	23	P	P	23 30 59.0	-1.2
	1.0nm,0.6s,mb3.9,baz=239,slow=5.3,SNR=17						
TORD	Torodi Ar. Bea	145.39	283	PKPbc	PKPbc	23 38 00.3	+2.4
	1.2nm,0.3s,baz=79,slow=3.3,SNR=64						

*ATH **02** 23:24:30.8, 38.24N×26.51E, h29^{km}±1^{km}, MD3.0/3*
*ISK **02** 23:24:31.8, 38.21N×26.72E, h5^{km}, MD3.0*
*CSEM **02** 23:24:32.5±0.2, 38.18N×26.84E, MD3.0, Error ellipse: s-maj=5.1km s-min=2.2km az=107.0*
ISC 02 23:24:31.0±0.8**, 38.28N**±0.03×**26.56E**±0.05**, h5**^{km}±4^{km}**, n16, σ1^{s}07**/27**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.09	18	i P	Pg	23 24 32.2	-0.7
URLA				i S	Sg	23 24 34.6	+0.4
BLCB	Balcova	0.39	74	i PG	Pg	23 24 38.6	-0.3
BLCB				i SG	Sg	23 24 44.5	+0.3
IZM	Izmir	0.56	78	i PG	Pg	23 24 41.8	-0.5
IZM				i SG	Sg	23 24 50.8	+1.0
KDAG	Bornova	0.57	77	i P	Pg	23 24 40.8	-1.6
KDAG				i S	Sg	23 24 49.5	-0.5
SMG	Samos	0.61	159	ePN	Pg	23 24 42.7	-0.5
SMG				eSN	Sn	23 24 52.2	-4.0
SMG	Samos	0.61	159	eP	Pg	23 24 42.7	-0.5
SMG				eS	Sg	23 24 53.8	+2.4
PRK	Paraskevi	0.99	347	ePN	Pn	23 24 50.1	-1.3
PRK				eSN	Sn	23 25 04.9	-1.0
AYVA	Ayvalik	1.03	6	i P	Pb	23 24 50.3	-0.7
AYVA				i S	Sb	23 25 06.6	+2.0
AKS	Akhisar	1.15	58	PN	Pn	23 24 53.9	+0.2
AYDN	Tasoluk	1.21	120	i P	Pb	23 24 53.3	-0.7
AYDN				i S	Sb	23 25 09.3	-0.5
BODT	Bodrum	1.35	154	PN	Pn	23 24 57.1	+0.5
MLSB	Milas	1.38	135	PN	Pn	23 24 56.6	-0.3
MLSB				SN	Sn	23 25 14.7	-0.9
APE	Apeiranthos	1.46	214	ePN	Pn	23 25 01.0	+2.9
MANT	Manisa	1.58	82	i P	Pn	23 25 00.6	+0.7
MANT				i S	Sb	23 25 20.9	+0.3
BALB	Balikesir	1.70	37	ePN	Pn	23 25 04.1	+2.5
YER	Yerkesik	1.78	129	ePN	Pn	23 25 02.7	0.0

IDC 02 23:38:50.7±6.6**, 5.64S**×**152.23E, h55**^{km}±59^{km}**, mb3.4**/3**, mb1 3.8**/4**, mb1mx3.5**/12**, mbtmp3.7**/4**, ML3.2**/1**, Error ellipse: s-maj=67.2km s-min=37.0km az=128.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.27	233	P	P	23 40 21.7	-1.1
	3.4nm,0.3s,baz=54,slow=6.2,SNR=10						
PMG				S	S	23 41 31.6	-2.4
	3.8nm,0.3s,baz=144,slow=20,SNR=10						
WRA	Warramunga Arr	22.47	229	P	P	23 43 45.1	-1.4
	0.9nm,0.6s,baz=56,slow=10,SNR=12						
SONM	Songino Array	66.73	328	P	P	23 49 36.0	-2.3
	0.3nm,0.6s,baz=148,slow=5.4,SNR=3.9						
ILAR	Eielson Array	83.14	22	P	P	23 51 10.6	-1.3
	1.1nm,0.7s,baz=249,slow=4.9,SNR=16						
TORD	Torodi Ar. Bea	150.02	287	PKPbc	PKPdf	23 58 36.4	+5.3
	0.6nm,1.0s,baz=94,slow=2.2,SNR=4.5						

BJI 02 23:46:37.0, 29.59N×**115.71E, h18**^{km}**, mB4.7, mb4.6, ML3.9, Ms4.0, Msz3.9, Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHN	Wuhan	1.51	309	PG	Pn	23 47 03.5	0.0
WHN				SG	Sn	23 47 24.3	+1.4
WHN				Smax			
	comp=N,3μm,0.3s						
WHN				Smax			
	comp=E,3μm,0.2s						
NJ2	Nanjing	3.65	47	eP	Pn	23 47 33.2	-0.8
NJ2				PG	Pn	23 47 39.2	+5.2
NJ2				SG	Sn	23 48 25.5	+8.4
NJ2				Smax			
	comp=N,620nm,0.6s						
NJ2				Smax			
	comp=E,280nm,0.4s						
TIA	Tai'an	6.71	10	P	Pn	23 48 16.7	-0.5
TIA				PG	Pn	23 48 40.2	+23
TIA				SG	Sn	23 49 58.0	+24
TIA				Smax			
	comp=N,10.0nm,1.0s						
TIA				Smax			
	comp=E,30nm,1.0s						
XAN	Xi'an	7.28	309	PG	Pn	23 48 46.5	+21
XAN				SG	Sn	23 50 17.9	+30
XAN				Smax			
	comp=N,30nm,0.8s						
XAN				Smax			
	comp=E,30nm,0.8s						
GYA	Guiyang	8.58	251	P	P	23 48 44.2	+0.8
GYA				AP		23 48 48.9	
GYA				XP		23 48 51.6	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,140nm,4.0s						
GYA				LR	LR		
	comp=N,1μm,18.0s						
GYA				LR	LR		
	comp=E,1μm,17.9s						
GYA				LR	LR		
	comp=Z,1μm,18.4s						

*BJI **02** 23:49:22.5, 21.10S×170.30E, h10^{km}, mB5.7, mb5.3, Ms5.4, Msz5.0*
*HRVD **02** 23:49:23.7±0.1, 21.60S×169.64E, h20^{km}, MW5.7/88, Centroid moment Tensor Solution. LP body waves: s88,c178;Mantle waves: s87,c196; Half duration: 1^{s}8 Moment tensor: Scale 10^{17}Nm; M_{rr}3.36±.05; $M_{\theta\theta}$-0.27±.04; $M_{\phi\phi}$-3.09±.04; $M_{r\theta}$-0.42±.09; $M_{\theta\phi}$1.62±.03; $M_{\phi r}$-1.95±.09; Best double couple: $M_0$4.13×10^{17} NP1: ϕ_s318°,δ36°,λ60°. NP2:ϕ_s173°,δ60°,λ110°. Principal axes: T 4.078, Plg69°, Azm124°; N .105, Plg17°, Azm343°; P -4.181, Plg12°, Azm249°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 23:49:23.7±0.2, 21.44S×169.90E, h10^{km}, mb5.4/21, MS5.4/13, MW5.6 Error ellipse: s-maj=7.9km s-min=7.2km az=153.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}3.18; $M_{\theta\theta}$-0.99; $M_{\phi\phi}$-2.19; $M_{r\theta}$0.03; $M_{\theta\phi}$1.59; $M_{\phi r}$-1.71; Best double couple: $M_0$3.7×10^{17} NP1: ϕ_s311°,δ35°,λ66°. NP2:ϕ_s160°,δ59°,λ106°. Principal axes: T 3.72, Plg72°, Azm107°; N -.12, Plg13°, Azm331°; P -3.6, Plg12°, Azm239°;*
*LDG **02** 23:49:25.6±0.2, 20.88S×169.58E, h10^{km}, Mb5.3/4, Ms5.3/9 Error ellipse: s-maj=20.7km s-min=4.2km az=148.0*
*MOS **02** 23:49:27.4±1.3, 21.34S×169.66E, h33^{km}, mb5.7/18, MS5.4/14, Error ellipse: s-maj=13.0km s-min=11.5km az=132.4*
*CSEM **02** 23:49:28.1, 21.55S×169.53E, h33^{km}, mb5.6*
*IDC **02** 23:49:28.6±2.0, 21.49S×169.60E, h33^{km}±13^{km}, mb4.6/11, mb1 4.7/15, mb1mx4.7/16, mbtmp4.8/15, ML4.7/3, MS5.1/15, Ms1 5.1/15, ms1mx5.1/18, Error ellipse: s-maj=18.6km s-min=13.5km az=169.0*
*BGS **02** 23:49:30.4±2.5, 21.44S×169.90E, h10^{km}*
ISC 02 23:49:26.1±1.8**, 21.47S**±0.05×**169.72E**±0.06**, h27**^{km}±12^{km}**, h17**^{km}±2.5^{km}**:pP-P, n509, σ1^{s}21**/141**, mb5.3**/53**, MS5.3**/52**, 111C-16D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.10	258	eP	Pn	23 50 13.5	-1.0
DZM				eS	Sn	23 50 48.6	-2.5
DZM	Mont Dzumac	3.10	258	Pn	Pn	23 50 13.6	-0.9
	75nm,0.3s,baz=85,slow=16,SNR=580						
DZM				Sn	Sn	23 50 48.4	-2.6
	229nm,0.3s,baz=166,slow=20,SNR=12						
DZM				LR	LR	23 51 05.2	
	comp=Z,24μm,20.0s,baz=64,slow=32						
BKM	Butte a Klehm	4.03	340	⇑iP	Pn	23 50 29.9	+2.4
RAO	Raoul Island	13.60	127	LR	LR	23 56 43.1	
	comp=Z,13μm,21.2s,baz=358,slow=32						
HNR	Honiara	15.22	320	Pn	P	23 53 00.5	-0.5
	9.7nm,0.3s,baz=230,slow=13,SNR=5.7						
HNR				LR	LR	23 57 54.6	
	comp=Z,4μm,21.8s,baz=135,slow=33						
HNR	Honiara	15.22	320	eP	P	23 53 00.0	-1.0
HNR				pmax	pmax		
	comp=Z,1μm,1.5s						
HNR	Honiara	15.22	320	ePn	P	23 53 00.0	-1.0

comp=Z,1μm,1.5s
URZ Urewera 17.91 161 P **P** **23 53 35.0 0.0**
comp=Z,1.4nm,0.3s,baz=1.9,slow=8.9,SNR=15
URZ LR LR 23 59 12.0
comp=Z,11μm,19.3s,baz=168,slow=32
AFI Afiamalu 19.15 70 P **P** **23 53 48.9 -1.3**
comp=Z,2.7nm,0.3s,baz=294,slow=18,SNR=3.8
AFI LR LR 23 59 37.4
comp=Z,7μm,19.6s,baz=45,slow=32
AFI Afiamalu 19.15 70 *e*P **P** **23 53 43.8 -6.4**
AFI pmax pmax
comp=Z,114nm,0.9s
AFI Afiamalu 19.15 70 *e*P **P** **23 53 43.8 -6.4**
comp=Z,114nm,0.9s
SNZO South Karori 20.23 169 *e*P **P** **23 53 56.8 -5.0**
comp=Z,228nm,1.2s
SNZO LR LR
comp=Z,12μm,20.0s,MS5.2
RIV Riverview 20.50 229 *e*P **P** **23 54 07.3 +2.5**
CTAO Charters Tower 21.98 269 *e*P **P** **23 54 20.7 +0.9**
CTAO pmax pmax
comp=Z,173nm,1.1s,mb5.4
CTAO MLR MLR
comp=Z,13μm,19.0s,MS5.4
CTAO Charters Tower 21.98 269 *e*P **P** **23 54 20.7 +0.9**
comp=Z,173nm,1.1s,mb5.4
CTAO LR LR
comp=Z,13μm,19.0s,MS5.4
RPZ Rata Peaks 22.22 177 P **P** **23 54 21.5 -0.5**
comp=Z,35nm,0.9s,mb4.8,baz=7.5,slow=10,SNR=6.0
RPZ LR LR 00 02 03.9
comp=Z,14μm,19.6s,MS5.4,baz=352,slow=34
PMG Port Moresby 24.79 295 P **P** **23 54 48.2 +0.8**
comp=Z,45nm,1.0s,mb5.0,baz=127,slow=5.5,SNR=18
PMG LR LR 00 02 52.5
comp=Z,7μm,19.8s,MS5.2,baz=342,slow=32
PMG Port Moresby 24.79 295 *e*P **P** **23 54 48.0 +0.6**
PMG pmax pmax
comp=Z,172nm,1.0s
PMG MLR MLR
comp=Z,7μm,20.0s
PMG Port Moresby 24.79 295 *e*P **P** **23 54 48.0 +0.6**
comp=Z,172nm,1.0s,mb5.5
PMG LR LR
comp=Z,7μm,20.0s,MS5.2
TOO Toolangi 26.39 227 *e*P **P** **23 55 03.7 +1.6**
comp=Z,33nm,0.9s,mb4.9
TOO *e*S **S** **23 59 38.1 +6.5**
TOO Toolangi 26.39 227 *e*P **P** **23 55 03.7 +1.6**
TOO *e*S **S** **23 59 38.1 +6.5**
TOO pmax pmax
comp=Z,33nm,0.9s,mb4.9
STKA Stephens Creek 27.11 242 *e*P **P** **23 55 08.6 -0.2**
comp=Z,48nm,0.9s,mb5.0
STKA *e*S **S** **23 59 43.7 +0.2**
STKA Stephens Creek 27.11 242 P **P** **23 55 08.5 -0.3**
comp=Z,27nm,0.9s,mb4.8,baz=74,slow=8.8,SNR=34
STKA LR LR 00 04 50.4
comp=Z,7μm,20.0s,MS5.2,baz=36,slow=34
RAR Rarotonga 28.40 95 LR LR 00 04 20.0
comp=Z,2μm,18.2s,MS4.7,baz=264,slow=31
WB2 Warramunga Arr 33.08 266 *e*P **P** **23 55 59.5 -2.4**
WB2 *e*S **S** **00 01 17.9 -0.1**
WRAB Tennant Creek 33.08 266 *i* P **P** **23 56 01.0 -0.9**
WRAB Tennant Creek 33.08 266 *e*P **P** **23 56 00.8 -1.1**
comp=Z,15nm,1.3s,mb4.8
WRAB LR LR
comp=Z,3μm,19.0s,MS5.0
WRA Warramunga Arr 33.09 266 P **P** **23 55 59.9 -2.1**
comp=Z,12nm,0.9s,mb4.8,baz=96,slow=8.8,SNR=30
WRA S **S** **00 01 16.1 -2.0**
comp=Z,1.3nm,1.0s,baz=100,slow=12,SNR=4.6
KAKA Kakadu 36.60 278 *e*P Px 23 56 52.7
comp=Z,38nm,0.8s
TBI Tubuai 37.70 101 *e*S **S** **00 02 23.1 -6.2**
TBI *e*LQ 00 05 13.9
TBI *e*LR LR 00 06 43.1
comp=Z,3μm,25.5s
FORT Forrest 38.35 247 *e*P **P** **23 56 45.9 -0.8**
comp=Z,65nm,0.7s,mb5.5
PPT Papeete 38.49 92 *e*S **S** **00 02 33.7 -7.5**
PPT *e*LQ 00 05 30.6
PPT *e*LR LR 00 07 07.3
comp=Z,2μm,23.8s
PPT Papeete 38.49 92 LR LR 00 08 36.2
comp=Z,1μm,20.9s,MS4.8,baz=266,slow=30
KLBR Kellerberrin 47.20 246 *e*P **P** **23 57 57.2 -1.4**
comp=Z,67nm,0.9s,mb5.6
NWAO Narrogin (SRO) 47.63 245 *e*P **P** **23 58 00.6 -1.3**
NWAO pmax pmax
comp=Z,30nm,0.7s
NWAO MLR MLR
comp=Z,6μm,20.0s
NWAO Narrogin (SRO) 47.63 245 *e*P **P** **23 58 00.6 -1.3**
comp=Z,30nm,0.7s,mb5.4
NWAO LR LR
comp=Z,6μm,20.0s,MS5.5
MUN Mundaring 48.51 246 *e*P **P** **23 58 08.8 +0.1**
MUN *e*S **S** **00 05 03.8 -3.4**
DRV Dumont d'Urvil 49.01 195 P **P** **23 58 13.0 +0.9**
DRV S **S** **00 05 16.0 +2.4**
DRV SP SP 00 05 27.0 +5.8
DRV R 00 13 00.0
TAOE Nuku Hiva Isla 49.78 83 *e*S **S** **00 05 17.2 -7.9**
TAOE *e*SS SS 00 08 50.7 -3.5
TAOE *e*LQ 00 10 11.5
TAOE *e*LR LR 00 12 18.0
comp=Z,8μm,24.2s
RKT Rikitea 50.94 103 *e*S **S** **00 05 35.2 -5.8**
RKT *e*LQ 00 10 40.8
RKT *e*LR LR 00 12 47.0
comp=Z,1μm,25.5s
DAV Davao City (W) 51.76 298 *e*P **P** **23 58 35.0 +1.2**
PAGZ Pagadian 54.00 298 *e*P **P** **23 58 50.6 +0.3**
TBP Tagbilaran 54.64 300 *e*P **P** **23 58 54.9 -0.2**
KKM Kota Kinabalu 59.14 291 *e*P **P** **23 59 26.9 -0.2**
KSM Kuching 62.32 284 *e*P **P** **23 59 48.0 -0.7**
KSM *e* pP 23 59 54.6 -2.7
MJAR Matsushiro Arr 64.92 332 P **P** **00 00 04.5 -1.0**
comp=Z,6.9nm,0.7s,mb4.8,baz=165,slow=7.1,SNR=15
MJAR LR LR 00 25 26.4
comp=Z,705nm,21.1s,MS4.8,baz=165,slow=33
MJAR Matsushiro Arr 64.92 332 P **P** **00 00 04.5 -1.0**
MAT Matsushiro 64.92 332 P **P** **00 00 03.0 -2.6**
MAT S **S** **00 08 51.0 +7.3**
MIR Mirnyy 65.22 205 *d* iP **P** **00 00 07.2 +0.2**
MIR *e*S S 00 08 48.0 +1.2
MIR pmax pmax
comp=Z,140nm,1.8s,mb5.7
MIR pmax pmax
comp=Z,792nm,8.0s
MIR smax
comp=N,900nm,6.4s
MIR smax
comp=E,594nm,8.8s
MIR MLR MLR
comp=N,590nm,16.0s,MS5.1
MIR MLR MLR
comp=E,890nm,16.0s,MS5.1
MIR MLR MLR
comp=Z,2μm,16.0s,MS5.4
MIR MLR MLR
comp=N,550nm,20.0s
MIR MLR MLR
comp=E,440nm,20.0s
MIR MLR MLR
comp=Z,2μm,20.0s
QZH Quanzhou 67.78 310 ⇑ *i* P **P** **00 00 24.6 +0.6**
QZH S S 00 09 20.0 +1.4
QZH SS SS 00 13 41.0 -0.5
QZH AMB AMB
comp=Z,1μm,9.6s
QZH LR LR
comp=Z,2μm,22.5s,MS5.2
SSE Sheshan 69.99 317 P **P** **00 00 37.4 -0.1**
SSE AP pP 00 00 40.5 -5.5
SSE XP sP 00 00 41.9 -7.2
SSE PP PP 00 03 09.9 -4.2
SSE S S 00 09 48.2 +3.6
SSE XS 00 09 53.8
SSE SCS ScS 00 10 39.4 +5.4
SSE SS SS 00 14 17.0 +1.4
SSE AMB AMB
comp=Z,30nm,1.1s,mb5.1
SSE AMB AMB
comp=Z,420nm,8.2s
SSE LR LR
comp=N,290nm,29.1s,MS4.6
SSE LR LR
comp=E,470nm,29.1s,MS4.6
SSE LR LR
comp=Z,590nm,22.9s
GZH Guangzhou 70.54 306 P **P** **00 00 40.2 -0.7**
GZH S S 00 09 51.1 -0.1
GZH LR LR
comp=N,470nm,18.3s,MS5.0
GZH LR LR
comp=E,800nm,20.5s,MS5.0
GZH LR LR
comp=Z,880nm,22.1s,MS5.0
QIZ Qiongzhong 71.07 300 P **P** **00 00 44.9 +0.7**
QIZ XP sP 00 00 51.7 -4.1
QIZ PPP PPP 00 05 09.6 +4.6
QIZ S S 00 09 59.7 +2.2
QIZ SCS ScS 00 10 47.3 +4.6
QIZ AMB AMB
comp=Z,30nm,2.0s,mb4.9
QIZ AMB AMB
comp=Z,720nm,4.4s
QIZ LR LR
comp=N,520nm,19.4s
QIZ LR LR
comp=Z,540nm,23.1s,MS4.7
NJ2 Nanjing 72.11 316 *e*P **P** **00 00 50.2 -0.1**
NJ2 AP pP 00 01 00.9 +2.0
NJ2 XP sP 00 01 03.4 +1.5
NJ2 PP PP 00 03 31.2 -1.0
NJ2 S S 00 10 07.0 -2.2
NJ2 XS 00 10 22.0
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,510nm,8.5s
NJ2 LR LR
comp=N,2μm,27.4s,MS5.4
NJ2 LR LR
comp=E,2μm,24.7s,MS5.4
NJ2 LR LR
comp=Z,1μm,20.0s,MS5.1
YSS Yuzh-Sakhalins 72.32 341 P **P** **00 00 51.0 -0.2**
YSS S S 00 10 14.0 +2.7
YSS pmax pmax
comp=Z,150nm,1.6s,mb5.7
WHN Wuhan 74.17 312 ⇓ P **P** **00 01 03.2 +0.8**
WHN AP pP 00 01 13.1 +2.1
WHN S S 00 10 33.0 +0.5
WHN AMB AMB
comp=Z,180nm,1.7s,mb5.7
WHN LR LR
comp=N,1μm,13.3s
WHN LR LR
comp=E,2μm,19.2s
WHN LR LR
comp=Z,1μm,15.8s,MS5.4
DL2 Dalian 75.05 323 P **P** **00 01 07.0 -0.3**
DL2 S S 00 10 48.7 +6.5
DL2 AMB AMB
comp=Z,60nm,0.9s,mb5.5
DL2 AMB AMB
comp=Z,410nm,6.3s
DL2 LR LR
comp=N,390nm,20.2s,MS4.8
DL2 LR LR
comp=E,270nm,22.0s,MS4.8
DL2 LR LR
comp=Z,530nm,21.0s,MS4.8
MDJ Mudanjiang 75.28 332 P **P** **00 01 08.5 0.0**
MDJ AP pP 00 01 11.7 -5.4
MDJ XP sP 00 01 12.9 -7.2
MDJ PCP PcP 00 01 20.3 -1.7
MDJ PP PP 00 03 57.8 -1.4
MDJ S S 00 10 50.4 +5.8
MDJ XS 00 10 56.2
MDJ SCS ScS 00 11 21.8 +5.8
MDJ AMB AMB
comp=Z,30nm,1.7s,mb5.0
MDJ AMB AMB
comp=Z,520nm,8.1s
MDJ LR LR
comp=N,690nm,23.6s,MS4.9
MDJ LR LR
comp=E,420nm,24.9s,MS4.9
MDJ LR LR
comp=Z,960nm,23.6s,MS5.0
TIA Tai'an 75.90 319 P **P** **00 01 11.9 -0.3**
TIA AMB AMB
comp=Z,70nm,1.6s,mb5.3
SNY Shenyang 76.07 326 ⇑ P **P** **00 01 10.7 -2.3**
SNY AP pP 00 01 21.6 -0.1
SNY S S 00 10 55.3 +2.0
SNY XS 00 11 09.5
SNY SS SS 00 15 45.7 -4.0
SNY AMB AMB
comp=Z,30nm,2.4s,mb4.8
SNY LR LR
comp=N,650nm,18.8s,MS5.1
SNY LR LR
comp=E,510nm,17.9s,MS5.1
SNY LR LR
comp=Z,950nm,21.1s,MS5.1
CN2 Changchun 76.58 329 ⇑ P **P** **00 01 16.0 +0.2**
CN2 *e*XP sP 00 01 23.5 -4.0
CN2 *e*S S 00 11 02.6 +3.8
CN2 AMB AMB
comp=Z,70nm,1.4s,mb5.4
CN2 AMB AMB
comp=Z,680nm,4.0s
CN2 LR LR
comp=N,1μm,16.0s,MS5.4
CN2 LR LR
comp=E,760nm,16.0s,MS5.4
CN2 LR LR
comp=Z,1μm,23.0s
GYA Guiyang 77.46 305 ⇑ *i* P **P** **00 01 21.9 +0.9**
GYA S S 00 11 12.4 +3.7
GYA AMB AMB
comp=Z,40nm,1.5s,mb5.1
GYA AMB AMB
comp=Z,890nm,7.8s
GYA LR LR
comp=N,580nm,20.1s,MS5.1
GYA LR LR
comp=E,670nm,19.2s,MS5.1
GYA LR LR
comp=Z,650nm,19.5s,MS5.0
KLR Kul'dur 78.07 336 *e*P **P** **00 01 22.0 -1.9**
KLR *e* 00 11 17.5
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.4
KLR MLR MLR
comp=N,3μm,19.0s,MS5.7
KLR MLR MLR
comp=E,1μm,19.0s,MS5.7
CHRT Chiangrai 79.75 296 ⇑ P **P** **00 01 35.5 +1.8**
comp=E,237nm,1.0s,mb6.1
KMI Kunming 79.83 302 ⇑ P **P** **00 01 36.0 +2.0**
KMI PP PP 00 04 40.3 +3.3
KMI S S 00 11 39.4 +5.5
KMI SS SS 00 16 53.7 +7.4
KMI SSS SSS 00 20 13.4 +6.5
KMI AMB AMB
comp=Z,60nm,1.5s,mb5.3
KMI LR LR
comp=N,400nm,22.3s,MS5.0
KMI LR LR
comp=E,550nm,18.5s,MS5.0
KMI LR LR
comp=Z,690nm,21.4s,MS5.0
XAN Xi'an 79.94 313 P **P** **00 01 34.7 +0.3**
XAN AP pP 00 01 39.9 -3.2
XAN AMB AMB
comp=Z,40nm,1.9s,mb5.0
CHG Chiang Mai 79.98 295 ⇑ P **P** **00 01 36.5 +1.6**
comp=Z,51nm,1.5s,mb5.2
CD2 Chengdu 81.94 308 P **P** **00 01 46.3 +1.3**
CD2 PP PP 00 04 55.5 +0.7
CD2 PPP PPP 00 06 45.8 -0.9
CD2 S S 00 11 58.6 +2.9
CD2 SS SS 00 17 22.0 +4.1
CD2 AMB AMB
comp=Z,400nm,7.5s
CD2 LR LR
comp=N,310nm,17.4s
CD2 LR LR
comp=Z,440nm,24.0s
HHC Hu-ho-hao-te 82.19 319 ⇑ P **P** **00 01 47.1 +1.0**
HHC AP pP 00 01 51.9 -3.0
HHC XP sP 00 01 54.0 -3.7
HHC PP PP 00 04 58.4 +1.8
HHC S S 00 12 01.9 +3.8
HHC SKS SKS 00 12 03.5 -5.0
HHC XS 00 12 10.8
HHC PS PS 00 12 55.0 +3.6
HHC SS SS 00 17 26.8 +5.3
HHC AMB AMB
comp=Z,40nm,1.6s,mb5.1
HHC AMB AMB
comp=Z,570nm,6.9s
HHC LR LR
comp=N,550nm,16.7s,MS5.2
HHC LR LR
comp=E,740nm,15.5s,MS5.2
HHC LR LR
comp=Z,930nm,20.2s,MS5.1
MA2 Magadan 82.23 350 *e*P **P** **00 01 55.9 +10**
MA2 *e* 00 13 07.6
MA2 pmax pmax
comp=Z,700nm,24.5s
LZH Lanzhou 84.55 312 *e*P **P** **00 02 00.3 +2.0**
LZH AP pP 00 02 03.5 -3.6
LZH XP sP 00 02 06.0 -3.9
LZH PP PP 00 05 18.5 +2.9
LZH SKS SKS 00 12 22.0 -2.7
LZH S S 00 12 27.3 +5.5
LZH XS 00 12 33.0
LZH AMB AMB
comp=Z,170nm,1.7s,mb5.9
LZH AMB AMB
comp=Z,630nm,5.2s
LZH LR LR
comp=E,2μm,16.3s
LZH LR LR
comp=Z,2μm,17.5s,MS5.6
SEY Seymchan 85.22 352 *e*P **P** **00 02 01.3 +0.3**
SEY 00 05 23.3
SEY *e*PPP PPP 00 07 16.7 +0.2
SEY *e*S S 00 12 29.3 +1.5
SEY PS PS 00 13 32.6 +4.3
SEY pmax pmax
comp=E,20nm,1.7s
SEY pmax pmax
comp=Z,30nm,1.7s,mb5.2
SEY pmax pmax
comp=N,20nm,2.2s
SEY smax
comp=N,1μm,21.1s
SEY smax
comp=E,330nm,27.7s
CLNS Chul'man 86.61 337 *e*P **P** **00 02 08.8 +0.8**
CLNS pmax pmax
comp=Z,49nm,1.3s,mb5.6
CLNS pmax pmax
comp=N,28nm,1.4s
CLNS pmax pmax
comp=E,20nm,1.3s
NVL N'lazarevskaya 86.72 187 *e*P **P** **00 02 07.1 -1.1**
NVL *i* 00 07 27.8
NVL *e* 00 12 35.0
NVL *e*SSS SSS 00 21 59.6 +2.2
NVL pmax pmax
comp=Z,4.0nm,1.4s,mb4.5
MAIT Maitri 86.72 187 ⇑ *i* P **P** **00 02 07.1 -1.1**
SNAA Sanae 86.97 182 ⇑ *i* **P** **00 02 10.7 +1.3**
SNAA Sanae 86.97 182 ⇑ *i* **P** **00 02 13.8 +4.4**
SNAA Sanae 86.97 182 ⇑ *i* **P** **00 02 22.5 +13**
SNAA Sanae 86.97 182 ⇑ *i* Px 00 02 38.4
SNAA Sanae 86.97 182 ⇑ *i* P **P** **00 02 07.8 -1.6**
SNAA ⇑ *i* P 00 02 10.7
SNAA ⇑ *i* P 00 02 13.8
SNAA ⇑ *i* P 00 02 22.5
SNAA ⇑ *i* P 00 02 38.4
VNA3 Neumayer Olymp 87.54 180 ⇑ *i* **P** **00 02 23.9 +12**
VNA3 Neumayer Olymp 87.54 180 ⇑ *i* P **P** **00 02 11.7 -0.5**
VNA3 ⇑ *i* P 00 02 23.9
VNA3 ⇑ *i* P 00 02 35.3
VNA2 Neumayer--Watz 87.84 181 ⇑ *i* **P** **00 02 25.5 +12**
VNA2 Neumayer--Watz 87.84 181 ⇑ *i* Px 00 02 34.3
VNA2 Neumayer--Watz 87.84 181 ⇑ *i* P **P** **00 02 13.2 -0.4**
VNA2 ⇑ *i* P 00 02 25.5
VNA2 ⇑ *i* P 00 02 34.3
CIT Chita 88.03 329 *e*P **P** **00 02 16.1 +1.2**
CIT pmax pmax
comp=Z,115nm,1.7s,mb5.8
ULN Ulaanbaatar 88.91 323 *e*P **P** **00 02 19.5 +0.2**
ULN pmax pmax
comp=Z,99nm,1.5s,mb5.9
ULN Ulaanbaatar 88.91 323 *c* iP **P** **00 02 18.3 -1.0**
ULN Ulaanbaatar 88.91 323 *e*P **P** **00 02 19.5 +0.2**
comp=Z,99nm,1.5s,mb5.9
GTA Gaotai 88.97 313 P **P** **00 02 20.9 +1.1**
GTA AP pP 00 02 27.0 -1.6
GTA XP sP 00 02 29.9 -1.5
GTA PP PP 00 05 54.7 +2.8
GTA SKS SKS 00 12 48.8 -4.6
GTA S S 00 13 08.2 +4.3
GTA XS 00 13 16.5
GTA PS PS 00 14 18.9 +4.3
GTA SS SS 00 19 06.7 +6.4
GTA AMB AMB
comp=Z,10.0nm,1.9s,mb4.8
GTA AMB AMB
comp=Z,510nm,8.4s
GTA LR LR
comp=N,410nm,18.2s,MS5.1
GTA LR LR
comp=E,560nm,20.9s,MS5.1
GTA LR LR
comp=Z,660nm,22.4s,MS5.0
YAK Yakutsk 89.12 342 *i* P **P** **00 02 18.3 -1.6**
YAK Yakutsk 89.12 342 *i* P **P** **00 02 18.2 -1.7**
YAK pmax pmax
comp=Z,86nm,1.4s,mb5.9
YAK MLR MLR
comp=Z,2μm,22.0s,MS5.6
YAK Yakutsk 89.12 342 *i* P **P** **00 02 18.3 -1.6**
SONM Songino Array 89.26 323 P **P** **00 02 21.2 +0.3**
comp=Z,15nm,1.1s,mb5.2,baz=131,slow=2.8,SNR=49
SONM PKKP PKKP 00 19 55.9 +11
comp=Z,0.5nm,0.9s,slow=4.4,SNR=3.5
SONM Songino Array 89.26 323 P **P** **00 02 21.2 +0.3**
BILL Bilibino 89.27 359 *e*P **P** **00 02 19.5 -1.0**
BILL pmax pmax
comp=Z,90nm,1.7s,mb5.8
BILL Bilibino 89.27 359 *i* P **P** **00 02 19.4 -1.1**
BILL pmax pmax
comp=Z,48nm,1.4s,mb5.6
BILL MLR MLR
comp=Z,500nm,18.0s,MS5.0
BILL Bilibino 89.27 359 *e*P **P** **00 02 19.5 -1.1**
comp=Z,90nm,1.7s,mb5.8
NVAR Mina Array Bea 89.93 48 P **P** **00 02 24.6 +0.3**
comp=Z,2.3nm,0.6s,mb4.7,baz=233,slow=10,SNR=12
NVAR LR LR 00 39 55.9
comp=Z,724nm,18.1s,MS5.2,baz=255,slow=34
MNV Mina 90.04 48 *e*P **P** **00 02 18.7 -6.1**
MNV pmax pmax
comp=Z,21nm,1.1s,mb5.4
MNV MLR MLR
comp=Z,1μm,20.0s,MS5.3
MNV Mina 90.04 48 *e*P **P** **00 02 18.7 -6.1**
comp=Z,22nm,1.1s,mb5.4
MNV LR LR
comp=Z,1μm,20.0s,MS5.3
LSA Lhasa 91.07 301 P **P** **00 02 31.2 +1.4**
LSA AMB AMB
comp=Z,170nm,1.0s,mb6.3
LSA LR LR
comp=N,220nm,20.0s,MS4.9
LSA LR LR
comp=E,440nm,20.0s,MS4.9
LSA LR LR
comp=Z,320nm,20.0s,MS4.8
BOD Bodaibo 91.52 334 *e*P **P** **00 02 30.6 -0.5**
BOD pmax pmax
comp=Z,17nm,1.7s,mb5.1

WVOR Wild Horse Val 91.57 45 *e*P **P 00 02 28.8 -3.0**
WVOR pmax pmax
comp=Z,13nm,1.1s,mb5.2
WVOR MLR MLR
comp=Z,1µm,20.0s,MS5.4
WVOR Wild Horse Val 91.57 45 *e*P **P 00 02 28.8 -3.0**
comp=Z,13nm,1.1s,mb5.2
WVOR LR LR
comp=Z,1µm,20.0s,MS5.4
PALK Pallekele 91.71 277 *e*P **P 00 02 33.8 +0.7**
comp=Z,30nm,1.3s,mb5.5
COLA College 92.03 17 *e*P **P 00 02 31.9 -1.4**
COLA pmax pmax
comp=Z,33nm,1.4s,mb5.5
COLA College 92.03 17 *i* P **P 00 02 30.5 -2.8**
COLA College 92.03 17 *e*P **P 00 02 31.9 -1.5**
comp=Z,33nm,1.4s,mb5.5
ILAR Eielson Array 92.21 17 P **P 00 02 32.8 -1.4**
comp=Z,1.7nm,0.5s,mb4.6,baz=255,slow=5.2,SNR=22
ILAR PKKP PKKP 00 19 49.4 +10
comp=Z,0.5nm,0.8s,baz=330,slow=1.5,SNR=4.3
ILAR LR LR 00 40 14.7
comp=Z,1µm,19.6s,MS5.4,baz=231,slow=33
ILAR Eielson Array 92.21 17 P **P 00 02 32.8 -1.4**
ZAK Zakamensk 92.35 324⇑ *i*P **P 00 02 35.5 +0.3**
ZAK pmax pmax
comp=Z,13nm,1.4s,mb5.1
TUC Tucson 92.85 56 *e*P **P 00 02 36.3 -1.6**
TUC pmax pmax
comp=Z,1.0nm,0.5s,mb4.5
TUC Tucson 92.85 56 *e*P **P 00 02 36.3 -1.7**
comp=Z,1.1nm,0.5s,mb4.5
ELK Elko 93.09 47 *e*P **P 00 02 35.6 -3.2**
ELK pmax pmax
comp=Z,7.0nm,1.4s
ELK MLR MLR
comp=Z,1µm,19.0s
ELK Elko 93.09 47 *e*P **P 00 02 35.6 -3.2**
comp=Z,6.8nm,1.4s,mb4.9
ELK LR LR
comp=Z,1µm,19.0s,MS5.3
JIRN Jiri 94.29 298 *e*P **P 00 02 45.4 +0.7**
comp=Z,72nm,1.6s,mb5.9
GUN Gumba 94.64 298 *e*P **P 00 02 46.1 -0.1**
PKI Pulchoki 94.90 298 *e*P **P 00 02 48.3 +0.8**
PKI Pulchoki 94.90 298 *e*P **P 00 02 48.3 +0.8**
KKN Kakani 95.09 298 *e*P **P 00 02 48.9 +0.6**
KKN Kakani 95.09 298 *e*P **P 00 02 48.9 +0.6**
DMN Daman 95.17 297 *e*P **P 00 02 50.2 +1.5**
comp=Z,11nm,0.2s,mb5.9
GKN Gorkha 95.70 298 *e*P **P 00 02 50.8 -0.3**
KOLN Koldanda 96.47 297 *e*P **P 00 02 54.6 0.0**
PLCA Paso Flores 96.58 138 P **P 00 02 57.1 +2.3**
comp=Z,1.9nm,0.8s,mb4.6,baz=258,slow=6.3,SNR=4.7
PLCA LR LR 00 36 43.3
comp=Z,677nm,21.1s,MS5.1,baz=232,slow=29
PLCA Paso Flores 96.58 138 P **P 00 02 57.1 +2.3**
TIXI Tiksi 97.00 348 *i* P **P 00 02 54.5 -1.5**
TIXI Tiksi 97.00 348 *i* P **P 00 02 54.4 -1.6**
TIXI Tiksi 97.00 348 *i* P **P 00 02 54.5 -1.5**
HYB Hyderabad 97.26 286 *e*P **P 00 03 03.0 +4.7**
HYB Hyderabad 97.26 286 *e*P **P 00 03 03.0 +4.7**
TXAR Lajitas Array 97.43 62 P **P 00 03 01.5 +2.6**
comp=Z,0.3nm,0.6s,baz=204,slow=4.9,SNR=5.1
TXAR PKKP PKKP 00 19 40.4 +8.7
comp=Z,0.3nm,0.7s,baz=112,slow=6.7,SNR=3.5
TXAR Lajitas Array 97.43 62 P **P 00 03 01.5 +2.6**
TXAR Lajitas Array 97.43 62 P **P 00 03 01.5 +2.6**
TXAR PKKP PKKP 00 19 40.4 +8.7
PDAR Pinedale Array 97.79 47 P **P 00 03 01.8 +1.6**
comp=Z,0.4nm,0.7s,baz=256,slow=1.1,SNR=3.7
PDAR PP PP 00 07 00.8 -0.6
comp=Z,0.8nm,0.9s,baz=270,slow=4.4,SNR=4.4
PDAR LR LR 00 43 28.0
comp=Z,403nm,19.3s,MS4.9,baz=106,slow=33
WMQ Urumqi 99.06 313 *e*P **P 00 03 05.8 -0.1**
WMQ AP pP 00 03 10.3 -4.4
WMQ XP sP 00 03 12.8 -4.7
WMQ PP PP 00 07 11.1 +0.6
WMQ PPP PPP 00 09 20.1 +0.6
WMQ SKS SKS 00 13 42.4 -6.7
WMQ *e*S S 00 14 33.5 +2.3
WMQ SS SS 00 21 26.0 +2.7
WMQ AMB AMB
comp=Z,30nm,4.0s
WMQ LR LR
comp=N,500nm,24.0s,MS5.1
WMQ LR LR
comp=E,390nm,21.0s,MS5.1
WMQ LR LR
comp=Z,620nm,24.0s,MS5.0
YKA Yellowknife Ar 102.43 27 P Pdif 00 03 19.9 -0.6
comp=Z,0.2nm,0.4s,baz=249,slow=4.6,SNR=6.5
YKA Yellowknife Ar 102.43 27 P Pdif 00 03 19.9 -0.7
YKA Yellowknife Ar 102.43 27 P Pdif 00 03 19.9 -0.6
MKAR Makanchi Array 103.63 315 Pdiff Pdif 00 03 26.9 +0.6
comp=Z,1.1nm,0.6s,baz=90,slow=5.8,SNR=4.5
MKAR PKiKP 00 07 43.9
comp=Z,2.1nm,0.9s,baz=236,slow=1.9,SNR=5.4
MKAR Makanchi Array 103.63 315 P Pdif 00 03 26.9 +0.7
NVS Novosibirsk 105.29 323 *e*P Pdif 00 03 49.7 +16
NVS pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 112.47 320 *e*PKIKP PKPdf 00 07 58.3 -6.0
BRVK Borovoye 112.47 320 *e*PKPdf PKPdf 00 07 58.3 -6.0
SVE Sverdlovsk 118.12 324 *e*PKIKP PKPdf 00 08 11.6 -3.6
SVE *e*PS PS 00 19 18.0 +6.3
SVE *e*SS SS 00 25 44.0 +4.3
SVE MLR MLR
comp=N,400nm,20.0s,MS5.2
SVE MLR MLR
comp=E,400nm,20.0s,MS5.2
SVE MLR MLR
comp=Z,500nm,20.0s,MS5.1
ARU Arti 119.29 324 *e*PKIKP PKPdf 00 08 13.2 -4.3
ARU Arti 119.29 324 *i* PKIKP PKPdf 00 08 12.9 -4.6
ARU MLR MLR
comp=Z,400nm,19.0s,MS5.1
ARU Arti 119.29 324 *e*PKPdf PKPdf 00 08 13.2 -4.3
SOKR Solikamsk 119.86 327 *e*PKIKP PKPdf 00 08 15.0 -3.5
SOKR pmax pmax
comp=Z,20nm,1.2s
SDV Santo Domingo 120.74 92 *e*PKPdf PKPdf 00 08 16.3 -5.1
DAG Danmarks Havn 124.49 2⇑ *i*P 00 08 11.8
comp=Z,4.2nm,0.4s
DAG Danmarks Havn 124.49 2⇑ *e*PKIKP PKPdf 00 08 11.8 -15
DAG Danmarks Havn 124.49 2⇑ *e*PKIKP 00 08 11.8
DAG pmax pmax
comp=Z,4.0nm,0.4s
SCHQ Schefferville 126.42 37 PKP PKPdf 00 08 27.3 -3.9
comp=Z,4.8nm,0.9s,baz=87,slow=18,SNR=7.7
SUMG Summit 126.46 10 *e*PKPdf PKPdf 00 08 26.9 -4.0
APA Apatity 126.47 341⇓ *i*PKIKP PKPdf 00 08 24.0 -7.0
APA Apatity 126.47 341⇓ *i*PKIKP PKPdf 00 08 24.0 -7.0
PECR Pechory 127.19 325 *e*PKIKP PKPdf 00 08 27.2 -5.5
PECR pmax pmax
comp=Z,1.0nm,1.6s
QRN Al-Qurain 127.23 290 *e*P PKPdf 00 08 29.7 -3.9
QRN AMb AMB 00 08 39.1
comp=Z,50nm,1.1s
ARCES ARCESS Array B 127.32 345 PKP PKPdf 00 08 28.2 -4.4
comp=Z,9.4nm,0.4s,baz=85,slow=3.0,SNR=122
ARCES ARCESS Array B 127.32 345 PKIKP PKPdf 00 08 28.2 -4.5
ARE0 ARCESS Array S 127.32 345 *e*PKPdf PKPdf 00 08 28.2 -4.5
LSZ Lusaka 127.49 229 *e*PKIKP PKPdf 00 08 30.8 -3.6
LSZ Lusaka 127.49 229 *e*PKPdf PKPdf 00 08 30.8 -3.6
RDF Al-Radifah 127.57 291 *e*P PKPdf 00 08 30.9 -3.4
RDF AMb AMB 00 08 33.7
comp=Z,76nm,1.5s
MAK Makhachkala 127.70 308 *e*PKIKP PKPdf 00 08 35.9 +1.8
MAK *i* 00 10 29.3
KLMR Klimovskoe 127.70 332 *d i*PKIKP PKPdf 00 08 29.1 -4.5
KLMR *e*SS SS 00 27 45.5 +4.0
KLMR pmax pmax
comp=Z,60nm,1.5s
KLMR MLR MLR
comp=Z,1µm,23.0s,MS5.6
BDFB Brasilia 127.75 132 PKP PKPdf 00 08 30.7 -4.2
comp=Z,3.7nm,0.6s,baz=189,slow=1.1,SNR=6.0
BDFB Brasilia 127.75 132 PKIKP PKPdf 00 08 30.7 -4.2
RYDS Riyadh 127.77 285 P PKPdf 00 08 32.5 -2.3
MIB Mutribah 127.84 292 *e*P PKPdf 00 08 31.0 -3.8
MIB AMb AMB 00 08 33.8
comp=Z,38nm,1.2s
NAY Al-Naaiem 127.87 291 *e*P PKPdf 00 08 31.0 -3.9
NAY AMb AMB 00 08 33.9
comp=Z,20nm,1.5s
KMBO Kilima Mbogo 128.44 250 PKP PKPdf 00 08 33.2 -3.2
comp=Z,3.1nm,0.9s,baz=116,slow=1.6,SNR=11
KMBO Kilima Mbogo 128.44 250 PKIKP PKPdf 00 08 33.2 -3.2
KMBO Kilima Mbogo 128.44 250 PKP PKPdf 00 08 33.2 -3.2
KAMS Al Khamasin 128.96 279 P PKPdf 00 08 33.7 -3.4
MZLS Mizel 129.04 284 P PKPdf 00 08 34.2 -3.1
DJNS Zahran al Janu 129.35 276 P PKPdf 00 08 35.8 -2.1
TATS Tathlith 129.81 278 P PKPdf 00 08 36.1 -2.6
TI2 Plekhanov 129.85 307 *e*PKIKP PKPdf 00 08 35.2 -3.1
JOF Joensuu 129.96 337 *ep* PKPdf 00 08 33.8 -4.1
comp=Z,10nm,0.7s
JOF Joensuu 129.96 337 *e*PKIKP PKPdf 00 08 33.8 -4.1
GNI Garni 130.01 305 *i* PKIKP PKPdf 00 08 34.7 -3.9
GNI Garni 130.01 305 *i* PKIKP PKPdf 00 08 34.6 -4.0
GNI Garni 130.01 305 *i* PKP PKPdf 00 08 34.7 -3.9
BHD Baghdad 130.54 296 *ex* x 00 08 36.0
MOS Moscow 130.78 326 *e*PKIKP PKPdf 00 08 33.5 -6.1
MOS pmax pmax
comp=Z,75nm,1.6s
AFFS 'Afif 131.02 284 P PKPdf 00 08 37.9 -3.0
VOR Voronezh 131.40 321 PKIKP PKPdf 00 08 36.0 -4.9
VOR pmax pmax
comp=Z,90nm,2.0s
MSL Mosul 131.56 300 *ex* x 00 08 40.0
MSL *ex* x 00 12 06.0
VRSR Storozhevoye 131.57 320 *i* PKIKP PKPdf 00 08 37.4 -3.9
VRSR pmax pmax
comp=Z,1.0nm,0.9s
VRSR pmax pmax
comp=N,1.0nm,1.1s
VRSR pmax pmax
comp=E,1.0nm,0.8s
OBN Obninsk 131.59 326⇓ *i*PKIKP PKPdf 00 08 37.2 -4.0
OBN *i* 00 10 53.1
OBN *e*PS PS 00 21 00.6 -8.8
OBN pmax pmax
comp=Z,65nm,1.8s
OBN Obninsk 131.59 326 *e*PKPdf PKPdf 00 08 37.2 -4.0
BLJS Baljurashi 131.62 278 P PKPdf 00 08 40.4 -1.8
KAF Kangasniemi 132.28 338 *ep* PKPdf 00 08 36.8 -5.5
comp=Z,3.9nm,0.5s
KAF Kangasniemi 132.28 338 *e*PKIKP PKPdf 00 08 36.8 -5.5
HILS Ha'il 132.50 288 P PKPdf 00 08 41.2 -2.5
LTHS Al Lith 132.79 278 P PKPdf 00 08 41.9 -2.6
FINES FINESS Array B 132.80 337 PKhKP 00 08 26.9
comp=Z,1.9nm,0.8s,baz=46,slow=3.5,SNR=6.7
FINES PKP PKPdf 00 08 39.2 -4.1
comp=Z,2.3nm,0.4s,baz=42,slow=3.2,SNR=32
FINES SKPbc 00 12 05.6
comp=Z,9.6nm,0.9s,baz=117,slow=4.3,SNR=11
FINES FINESS Array B 132.80 337 PKHKP 00 08 27.0
FINES 00 08 39.2
FINES FINESS Array B 132.80 337 PKP 00 08 26.9
FINES PKP PKPdf 00 08 39.2 -4.1
FINES SKPbc 00 12 05.6
SOC Sochi 133.24 310 *i* PKIKP PKPdf 00 08 38.5 -6.1
SOC *e* 00 11 05.9
QURS Qurayyt al Mil 136.52 293 P PKPdf 00 08 47.8 -3.1
TBKS Tarauk 137.18 289 P PKPdf 00 08 49.0 -3.3
AKASG Malin Array Be 137.54 323 PKhKP 00 08 41.5
comp=Z,0.4nm,0.4s,baz=46,slow=4.1,SNR=5.2
AKASG PKP PKPdf 00 08 47.8 -4.5
comp=Z,0.9nm,0.4s,baz=52,slow=1.5,SNR=18
AKASG Malin Array Be 137.54 323 PKHKP 00 08 41.5
AKASG 00 08 47.8
AKASG Malin Array Be 137.54 323 PKP 00 08 41.5
AKASG PKP PKPdf 00 08 47.8 -4.5
NB2 NORSAR Subarra137.70 345 PKPdf PKPdf 00 08 46.4 -6.0
comp=Z,2.9nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 137.70 345 PKP PKPdf 00 08 48.3 -4.0
comp=Z,1.8nm,0.5s,baz=34,slow=2.1,SNR=8.2
NOA NORSAR Array B 137.70 345 PKIKP PKPdf 00 08 48.3 -4.1
AYUS 'Aynunah 138.31 289 P PKPdf 00 08 50.9 -3.5
JMOS Jabal al Moall 138.46 290 P PKPdf 00 08 51.0 -3.6
BDAS Al Bad' 138.46 289 P PKPdf 00 08 51.2 -3.5
ALWS Ilw as Safayha 138.50 290 P PKPdf 00 08 52.1 -2.7
BR131 Keskin Array S 138.51 306 *e*PKPdf PKPdf 00 08 49.9 -4.5
BRTR Keskin Array B 138.51 306 PKP PKPdf 00 08 49.8 -4.7
comp=Z,1.7nm,0.9s,baz=72,slow=3.9,SNR=8.2
BRTR Keskin Array B 138.51 306 PKIKP PKPdf 00 08 49.8 -4.6
HAQS Haql 138.62 290 P PKPdf 00 08 51.8 -3.1
ANTO Ankara 139.11 307 *e*PKIKP PKPdf 00 08 52.3 -3.2
ANTO Ankara 139.11 307 *e*PKPdf PKPdf 00 08 52.3 -3.3
CSS Prodhromos 139.59 299 PKPdf PKPdf 00 08 52.2 -4.3
BURAR Bucovina Array 141.35 321⇓ P PKPdf 00 08 52.5 -6.8
BURAR Bucovina Array 141.35 321⇓ P PKPdf 00 08 52.5 -6.8
KWP Kalwaria 141.67 325 *e*PKP PKPdf 00 08 56.3 -3.5
KOLS Kolonicke sedl 142.30 325 *e*PKP PKPdf 00 08 57.9 -3.0
STHS Stebnicka Huta 142.56 326 *e*PKP PKPdf 00 08 57.6 -3.7
CRVS Cervenica-Dubn 142.75 325 *e*PKP PKPdf 00 08 57.1 -4.5
OJC Ojcow 142.81 328 *e*PKP PKPdf 00 08 56.9 -4.8
OJC Ojcow 142.81 328 *e*PKIKP PKPdf 00 08 56.9 -4.8
NIE Niedzica 143.05 326 *e*PKP PKPdf 00 08 59.7 -2.4
DRGR 143.24 321⇓ P PKPbc 00 08 56.0 +0.1
DRGR 143.24 321⇓ PKHKP 00 08 56.0
KECS Kecovo 143.52 325 *e*PKP PKPdf 00 08 56.7 -6.2
KECS *e* 00 09 04.0
OKC Ostrava-Krasne 143.87 328 *e*PKP PKPdf 00 08 58.6 -4.9
OKC Ostrava-Krasne 143.87 328 *e*PKHKP 00 08 58.6
BSEG Bad Segeberg 143.99 339 *e*PKHKP 00 08 58.3
BSEG Bad Segeberg 143.99 339 *e*PKIKP PKPdf 00 08 58.3 -5.3
KSP Ksiaz 144.05 331 *e*PKP PKPdf 00 08 58.5 -5.3
KSP *e* 00 09 01.4
KSP Ksiaz 144.05 331⇑ *e*PKHKP 00 08 57.8
KSP *e* 00 12 09.0
KSP MLR MLR
comp=Z,2µm,24.2s,MS5.9
KSP Ksiaz 144.05 331⇑ *e*PKIKP PKPdf 00 08 57.8 -6.0
KSP MLR MLR
comp=Z,2µm,24.2s,MS5.9
KSP Ksiaz 144.05 331⇑ *e*PKP PKPdf 00 08 57.8 -6.0
KSP *e*PP PP 00 12 09.0 -8.1
KSP LR LR
comp=Z,2µm,24.2s,MS5.9
PRK Paraskevi 144.12 308 *e*P PKPbc 00 08 58.2 -0.6
SMG Samos 144.16 305 *e*P PKPbc 00 08 58.5 -0.4
PSZ Piszkesteto 144.18 325⇓ *e*PKP/p PKPdf 00 08 59.5 -4.6
PSZ Piszkesteto 144.18 325 *e*PKHKP 00 08 59.4
PSZ Piszkesteto 144.18 325 *e*PKPdf PKPdf 00 08 59.4 -4.7
MORC Moravsky Berou 144.20 329 *e*PKHKP 00 08 59.3
MORC Moravsky Berou 144.20 329⇓ PKIKP PKPdf 00 08 59.0 -5.1
MORC Moravsky Berou 144.20 329 *e*PKPdf PKPdf 00 08 59.3 -4.8
RZN Rozhen 144.35 313 *i* P PKPbc 00 08 59.0 -0.3
DPC Dobruska-Polom 144.38 330 *e*PKP PKPdf 00 08 59.4 -5.0
DPC Dobruska-Polom 144.38 330 *e*PKHKP 00 08 59.4
VYHS Vyhne 144.38 326 *i* PKP PKPdf 00 08 59.7 -4.8
VYHS *e* 00 09 12.9
VYHS *e*PP PP 00 12 08.1 -11
UPC Upice 144.41 331 *e*PKP PKPdf 00 08 59.7 -4.8
UPC Upice 144.41 331 *e*PKHKP 00 08 59.7
KARP Karpathos 144.45 301 *e*P PKPbc 00 09 02.7 +2.9
BZS Buzias 144.51 320⇑ P PKPbc 00 08 59.8 +0.2
BZS Buzias 144.51 320⇑ PKHKP 00 08 59.8
VRAC Vranov 144.97 329⇑ PKIKP PKPdf 00 09 02.8 -2.7
VRAC Vranov 144.97 329⇑ PKIKP PKPdf 00 09 02.8 -2.7
VTS Vitosha 144.98 315 *i* P PKPbc 00 09 02.0 +0.9
VTS Vitosha 144.98 315⇑ PKIKP PKPdf 00 09 02.3 -3.4
VTS Vitosha 144.98 315⇑ PKIKP PKPdf 00 09 02.3 -3.4
PVCC Panska Ves 145.04 332 *e*PKP PKPdf 00 09 01.5 -4.1
PVCC Panska Ves 145.04 332 *e*PKIKP PKPdf 00 09 01.5 -4.1
BRG Berggiesshubel 145.05 333⇑ *i*PKIKP PKPdf 00 09 01.6 -4.0
BRG *i* 00 09 08.2
BRG MLR MLR
comp=Z,2µm,23.6s,MS5.7
BRG Berggiesshubel 145.05 333⇑ *i*PKP PKPdf 00 09 01.6 -4.0
BRG *i* 00 09 08.2
BRG LR LR
comp=Z,2µm,23.6s,MS5.7
MMB Musomiste 145.06 313 *i* P PKPbc 00 09 01.0 -0.3
NVR Nevrokopi 145.07 312 *e*P PKPbc 00 09 01.1 -0.2
SRO Srobarova 145.09 326 *e*PKP PKPdf 00 09 01.9 -3.8
SMOL Smolenice 145.09 327 *e*PKP PKPdf 00 09 03.1 -2.6
CLL Collm 145.11 334⇑ *i*PKIKP PKPdf 00 09 01.4 -4.3
comp=Z,logA/T=2.1
CLL Collm 145.11 334⇑ *i*PKHKP 00 09 01.4
CLL MLR MLR
comp=Z,1µm,22.1s,MS5.7
CLL Collm 145.11 334⇑ *i*PKIKP PKPdf 00 09 01.4 -4.3
CLL pmax pmax
comp=Z,193nm,1.4s
CLL MLR MLR
comp=Z,1µm,22.1s,MS5.7
BOLS Boljevac 145.21 317⇑ *i*PKP PKPdf 00 09 02.4 -3.7
KKB Krupnik 145.38 314 *i* P PKPbc 00 09 02.0 -0.1
PRA Prague 145.43 332 PKP PKPdf 00 09 04.0 -2.2
SVIS Svilajnac 145.44 319⇑ *i*PKP PKPdf 00 09 03.0 -3.5
PRU Pruhonice 145.44 331 *e*PKP PKPdf 00 09 02.8 -3.5
PRU AMS AMS 01 09 40.0
comp=Z,2µm,27.4s
PRU Pruhonice 145.44 331 *e*PKIKP PKPdf 00 09 02.8 -3.5
PRU MLR MLR
comp=Z,2µm,27.4s,MS5.6
ZST Bratislava 145.46 327 *e*PKP PKPdf 00 09 04.2 -2.2
ZST *e* 00 09 13.4
ZST *e* 00 09 25.9
ZST *e*L 00 21 44.8
TREC Trest 145.50 330 *e*PKP PKPdf 00 09 03.4 -3.0
CLZ Clausthal 145.70 337 *e*PKIKP PKPdf 00 09 03.8 -2.8
CLZ Clausthal 145.70 337 *e*PKP2 PKPab 00 09 03.8 -0.8
PLG Polygyros 145.75 311 *e*P PKPbc 00 09 04.3 +1.2
NPS Neapolis 145.75 302 *e*P PKPbc 00 09 04.6 +1.4
BARS Barje 145.78 316⇑ *i*PKP PKPdf 00 09 03.1 -3.9
GRUS Gruza 145.96 318 *e*PKP PKPdf 00 09 03.2 -4.2
SOP Sopron 146.08 327⇑ *i*PKP/p 00 09 05.2
NKC Novy Kostel 146.16 334 *e*PKP PKPdf 00 09 04.3 -3.2
NKC Novy Kostel 146.16 334 *e*PKIKP PKPdf 00 09 04.3 -3.2
MOX Moxa 146.18 335 *i* P PKPbc 00 09 04.5 +0.7
comp=Z,logA/T=2.1
MOX L 00 17 45.0
MOX Moxa 146.18 335 *e*PKIKP PKPdf 00 09 04.5 -3.0
MOX MLR MLR
comp=Z,600nm,20.0s,MS5.4
MOX Moxa 146.18 335 *e*PKP2 PKPab 00 09 04.5 -2.0
MOX pmax pmax
comp=Z,256nm,2.2s
MOX MLR MLR
comp=Z,600nm,20.0s,MS5.4
DIVS Divcibare 146.29 319⇑ *i*PKP PKPdf 00 09 04.3 -3.6
NEO Neokhori 146.32 309 *e*P PKPbc 00 09 04.7 +0.2
KHC Kasperske Hory 146.50 331 *e*PKP PKPdf 00 09 04.3 -3.8
KHC x x 00 09 11.5
KHC x x 00 09 25.0
KHC *e*PP PP 00 12 39.5 +7.7
KHC AMS AMS 01 14 00.0
comp=Z,1µm,22.1s
KHC Kasperske Hory 146.50 331 *e*PKHKP 00 09 04.3
KHC *e* 00 09 11.5
KHC MLR MLR
comp=Z,1µm,22.1s,MS5.7
KHC Kasperske Hory 146.50 331 *e*PKIKP PKPdf 00 09 04.3 -3.8
KHC MLR MLR
comp=Z,1µm,22.1s,MS5.7
KHC Kasperske Hory 146.50 331 *e*PKP PKPdf 00 09 04.3 -3.8
KHC *e* 00 09 11.5
KHC *e* 00 09 25.0
KHC *e*PP PP 00 12 39.5 +7.7
KHC LR LR
comp=Z,1µm,22.1s,MS5.7
GEC2 GERESS Array S 146.65 331 *e*PKIKP PKPdf 00 09 06.7 -1.7
GEC2 GERESS Array S 146.65 331 *e*PKP2 PKPab 00 09 06.7 -1.6
GERES GERESS Array S 146.65 331 PKP PKPdf 00 09 03.9 -4.5
comp=Z,13nm,0.6s,baz=180,slow=1.0,SNR=80
GERES PKPbc PKPbc 00 09 06.9 +2.0
comp=Z,13nm,0.5s,baz=29,slow=2.9,SNR=106
GERES SKPbc 00 12 41.5
comp=Z,2.1nm,0.6s,baz=25,slow=3.2,SNR=7.2
GERES GERESS Array B 146.65 331 PKHKP 00 09 03.9
GERES 00 09 06.9
LKR Lokris 146.72 308 *e*P PKPbc 00 09 05.9 +0.5
BBLS Bajina Basta - 146.77 319 *e*PKP PKPdf 00 09 08.7 0.0
WET Wettzell 146.80 332 *e*PKIKP PKPdf 00 09 07.1 -1.5
WET Wettzell 146.80 332 *e*PKP2 PKPab 00 09 07.1 -1.8
VAM Vamos 146.83 302 *e*P PKPbc 00 09 07.9 +2.1
ARSA Arzberg 146.89 327⇑ *i*P PKPbc 00 09 07.1 +1.6
comp=Z,902nm,3.9s
KZN Kozani 146.95 312 *e*P PKPbc 00 09 06.6 +0.7
GRA1 Grafenberg Arr 147.08 334 *e*PKPbc PKPdf 00 09 07.9 -1.2
GRA1 LR LR
comp=Z,900nm,19.1s,MS5.6
GRF Grafenberg Arr 147.08 334 *e*PKIKP PKPdf 00 09 07.9 -1.2
GRF MLR MLR
comp=Z,900nm,19.1s,MS5.6
GRF Grafenberg Arr 147.08 334 *e*PKIKP PKPdf 00 09 07.9 -1.2
GRF MLR MLR
comp=Z,900nm,19.1s,MS5.6
GRF Grafenberg Arr 147.08 334 *e*PKP PKPdf 00 09 07.9 -1.2
GRF LR LR
comp=Z,900nm,19.1s,MS5.6
MOA Molln 147.10 329⇑ *i*P PKPdf 00 09 07.7 -1.4
comp=Z,1µm,4.5s,SNR=13
VLI Veliai 147.43 305 *e*P PKPdf 00 09 09.6 -0.4
EVR Evrytania 147.48 310 *e*P PKPdf 00 09 08.9 -1.2
PERS Pernice 147.51 327 *e*PKPbc PKPdf 00 09 08.4 -1.4
TNS Taunus Mts 147.72 337 *e*PKP2 PKPab 00 09 09.5 -3.0
TNS Taunus Mts 147.72 337 *e*PKP2 PKPab 00 09 09.5 -3.0
TIR Tirane 147.77 315 PKIKP PKPdf 00 09 09.8 -0.6
TIR Tirane 147.77 315 PKP PKPdf 00 09 09.8 -0.6
JAN Janina 147.86 311 *e*P PKPdf 00 09 10.3 -0.3
SIND Sindeldorf 148.00 335 *e*P PKPdf 00 09 10.1 -0.4
RLS Riolos of Patr 148.06 308 *e*P PKPdf 00 09 11.0 0.0
KBA Koelnbreinsper 148.09 329⇑ *i*P PKPdf 00 09 09.7 -1.0
comp=Z,145nm,1.9s,SNR=6.5
DCN Croghan 148.09 357⇓ *i*P PKPdf 00 09 10.2 -0.4
DLF Lyons Farm 148.09 356⇓ *i*P PKPdf 00 09 10.0 -0.6
TOD Tromm 148.10 336⇑ *e*P PKPdf 00 09 10.5 -0.2
HGN Heimansgroeve 148.11 340 *e*P PKPdf 00 09 09.7 -1.0
comp=Z,124nm,2.2s
BOJS Bojanci 148.18 325 *e*PKPbc PKPdf 00 09 10.4 -0.6
LJU Ljubljana 148.21 326 *e*PKPbc PKPdf 00 09 10.8 -0.2
LJU Ljubljana 148.21 326 *e*PKIKP PKPdf 00 09 10.8 -0.2
FUR Furstenfeldbru 148.24 332 *e*PKP2 PKPab 00 09 11.4 -3.2
FUR Furstenfeldbru 148.24 332 *e*PKP2 PKPab 00 09 11.4 -3.2
SWS Schriesheim 148.24 336 *e*P PKPdf 00 09 10.7 -0.2
GORS Gorjuse 148.29 327 *e*PKPbc PKPdf 00 09 10.1 -1.0
ABH Alteburg 148.33 338⇑ *e*P PKPdf 00 09 11.0 0.0
STON Ston 148.36 319 *i* P PKPdf 00 09 10.2 -1.1
HDH Heidenheim 148.37 334 *e*P PKPdf 00 09 11.0 -0.1
VOY Vojsko 148.54 327 *e*PKPbc PKPdf 00 09 11.1 -0.4
KEK Kerkira 148.57 312 *e*P PKPdf 00 09 11.6 -0.2
KTD Kalmit 148.60 337 *e*P PKPdf 00 09 12.0 +0.5
STU Stuttgart 148.62 335 *e*PKIKP PKPdf 00 09 11.4 -0.2
STU Stuttgart 148.62 335 *e*PKPbc PKPdf 00 09 11.4 -0.1
RUP Ruppelstein 148.65 338 *e*P PKPdf 00 09 12.0 +0.4
FVI Forni Avoltri 148.70 329 PKIKP PKPdf 00 09 11.8 +0.1
FVI Forni Avoltri 148.70 329 PKP PKPdf 00 09 11.8 +0.1
WATA Walderalm 148.73 331⇓ *i*P PKPdf 00 09 11.8 0.0
comp=Z,199nm,1.8s,SNR=9.9
WTTA Wattenberg 148.75 331⇑ *i*P PKPdf 00 09 12.0 +0.2
comp=Z,481nm,1.9s,SNR=14
BUCH Bad Urach 148.82 334 *e*P PKPdf 00 09 11.6 -0.3
SEST Monte Rota 148.86 329 PKP PKPdf 00 09 12.6 +0.6
LBG Lerchenberg 148.87 335 *e*P PKPdf 00 09 12.4 +0.5
MOTA Moosalm 148.93 331⇓ *i*P PKPdf 00 09 12.2 +0.1
comp=Z,142nm,1.5s,SNR=17
SQTA Sankt Quirin 148.98 331⇓ *i*P PKPdf 00 09 12.6 +0.4
comp=Z,108nm,1.3s,SNR=24
WLF Walferdange 148.99 339 *e*PKHKP 00 09 08.3
WLF *e* 00 09 13.4
WLF Walferdange 148.99 339 *e*PKPdf PKPdf 00 09 08.3 -3.8
WLF *e*PKPbc PKPdf 00 09 13.4 +1.3
GIVF Givet 149.03 341⇑ *i*PKP1 PKPdf 00 09 12.6 +0.4
comp=Z,182nm,1.0s
GIVF Givet 149.03 341⇑ *i*PKIKP PKPdf 00 09 12.6 +0.4
UBR Uberruh 149.11 333⇑ *e*P PKPdf 00 09 12.8 +0.4
BRES Bressanone 149.12 330 PKP PKPdf 00 09 12.5 +0.1
GUT Gutenstein 149.22 334 *e*P PKPdf 00 09 12.7 +0.2
BAIF Baives 149.25 342⇑ *i*PKP1 PKPdf 00 09 13.4 +0.9
comp=Z,438nm,1.6s
BAIF Baives 149.25 342⇑ *i*PKP2 PKPab 00 09 13.4 -5.3
BFO Black Forest 149.32 335 *e*PKIKP PKPdf 00 09 13.2 +0.5
BFO Black Forest 149.32 335 *e*PKP2 PKPab 00 09 13.2 -5.8
SPAK Spaichingen 149.33 335 *e*P PKPdf 00 09 13.2 +0.5
DAVA Damuels 149.51 332⇑ *i*P PKPdf 00 09 14.0 +1.0
comp=Z,288nm,1.8s
APPI Appiano 149.52 330 PKP PKPdf 00 09 12.8 -0.3
CTI Castel Tesino 149.64 329 PKIKP PKPdf 00 09 14.6 +1.3
CTI Castel Tesino 149.64 329 PKP PKPdf 00 09 14.6 +1.3
CDF Champ du Feu 149.65 337⇑ *i*PKP1 PKPdf 00 09 14.2 +1.0
comp=Z,523nm,1.7s
CDF Champ du Feu 149.65 337⇑ *i*PKIKP PKPdf 00 09 14.2 +1.0
KIZ Kirchzarten 149.79 335⇑ *e*P PKPdf 00 09 14.0 +0.6
FELD Feldberg 149.82 335 *e*P PKPdf 00 09 14.4 +0.9

FELD	Feldberg	149.82	335	eP	PKPdf	00 09 14.7	+1.2
FUORN	Ofenpass	149.86	331	PKP	PKPdf	00 09 15.4	+1.8
ECH	Echery	149.86	336	PKP	PKPdf	00 09 14.7	+1.1
ECH	Echery	149.86	336	ePKIKP	PKPdf	00 09 14.7	+1.1
ECH	Echery	149.86	336	eP	PKPdf	00 09 14.7	+1.1
DAVOX	Davos	149.91	332	PKP	PKPdf	00 09 15.2	+1.5
BRMO	Bormio	149.92	331	PKP	PKPdf	00 09 15.0	+1.3
MOF	Molkenrain	150.17	336	PKP	PKPdf	00 09 15.4	+1.3
MOF	Molkenrain	150.17	336	ePKIKP	PKPdf	00 09 15.4	+1.3
MOF	Molkenrain	150.17	336	eP	PKPdf	00 09 15.4	+1.3
THEF	They Montfort	150.28	338	PKP	PKPdf	00 09 15.6	+1.4
THEF	They Montfort	150.28	338	ePKIKP	PKPdf	00 09 15.6	+1.4
THEF	They Montfort	150.28	338	eP	PKPdf	00 09 15.6	+1.4
HINF	Hinterfeld	150.31	336	⇑iPKP1	PKPdf	00 09 15.6	+1.3
	comp=Z,282nm,1.3s						
HINF	Hinterfeld	150.31	336	⇑iPKIKP	PKPdf	00 09 15.6	+1.3
RGNG	Rignano Grg	150.33	319	PKP	PKPdf	00 09 15.8	+1.3
HAU	Haudompre	150.33	337	⇑iPKP1	PKPdf	00 09 15.8	+1.5
	comp=Z,188nm,1.1s						
HAU				eR			
	comp=Z,1μm,23.0s						
HAU	Haudompre	150.33	337	⇑iPKIKP	PKPdf	00 09 15.8	+1.5
HAU				MLR	MLR		
	comp=Z,1μm,23.0s,MS5.6						
BBS	Basel-Blauen	150.35	335	⇑eP	PKPdf	00 09 15.7	+1.4
BBS	Basel-Blauen	150.35	335	ePKIKP	PKPdf	00 09 15.8	+1.5
BBS	Basel-Blauen	150.35	335	eP	PKPdf	00 09 15.8	+1.5
MEZF	Maizieres J'vi	150.36	339	⇑iPKP1	PKPdf	00 09 16.4	+2.1
	comp=Z,676nm,1.4s						
TUE	Stuetta	150.38	332	PKP	PKPdf	00 09 13.1	-1.3
CING	Cingoli	150.69	324	PKP	PKPdf	00 09 17.3	+2.3
LOMF	Lomont	150.70	336	PKP	PKPdf	00 09 16.8	+1.9
LOMF	Lomont	150.70	336	ePKIKP	PKPdf	00 09 16.8	+1.9
LOMF	Lomont	150.70	336	eP	PKPdf	00 09 16.8	+1.9
FSSB	Fossombrone	150.71	325	PKP	PKPdf	00 09 16.8	+1.8
RSM	Repubblica di	150.72	325	PKP2	PKPab	00 09 18.2	-6.8
RSM	Repubblica di	150.72	325	PKP	PKPdf	00 09 18.2	+3.2
ARV	Arcevia	150.75	324	PKIKP	PKPdf	00 09 17.3	+2.2
ARV	Arcevia	150.75	324	PKP	PKPdf	00 09 17.3	+2.2
CSA1	St Austell	150.86	353	eP	PKPdf	00 09 16.3	+1.3
SNTG	Esanatoglia	150.90	324	PKP	PKPdf	00 09 17.6	+2.3
MRLC	Muro Lucano	150.91	317	PKP	PKPdf	00 09 16.8	+1.4
TDS	Terranova Siba	150.94	315	PKHKP		00 09 18.1	
TDS	Terranova Siba	150.94	315	PKP	PKPdf	00 09 18.1	+2.6
SFI	Santa Sofia	151.06	326	PKIKP	PKPdf	00 09 18.9	+3.4
SFI	Santa Sofia	151.06	326	PKP	PKPdf	00 09 18.9	+3.4
CCA1	Carnmenellis	151.06	353	eP	PKPdf	00 09 16.8	+1.5
CRQ2	Rosemanowes 2	151.07	353	eP	PKPdf	00 09 17.1	+1.7
CRQ2				AMb	AMB	00 09 18.1	
	comp=Z,338nm,1.6s						
CII	Carovilli	151.08	320	PKP	PKPdf	00 09 18.8	+3.2
VAI	Varese	151.10	332	PKIKP	PKPdf	00 09 16.5	+1.0
VAI	Varese	151.10	332	PKP	PKPdf	00 09 16.5	+1.0
CPZ	Penzance	151.13	354	eP	PKPdf	00 09 17.8	+2.4
CPZ				AMb	AMB	00 09 20.2	
	comp=Z,130nm,1.5s						
INTR	Introdacqua	151.14	321	PKP	PKPdf	00 09 15.9	+0.2
CMA1	Manaccan	151.15	353	eP	PKPdf	00 09 17.4	+1.9
MIDA	Miranda	151.16	320	PKP	PKPdf	00 09 17.8	+2.1
VMG	Vicchio	151.18	326	PKP	PKPdf	00 09 20.8	+5.1
CGH1	Goonhilly	151.19	353	eP	PKPdf	00 09 17.6	+2.1
MGR	Morigerati	151.20	316	PKP	PKPdf	00 09 17.0	+1.2
SEI	Scarperia	151.21	326	PKP	PKPdf	00 09 20.5	+4.8
AQU	L'Aquila	151.22	322	PKHKP		00 09 17.9	
AQU	L'Aquila	151.22	322	PKP	PKPdf	00 09 17.9	+2.1
SGG	Gregorio Mates	151.23	319	PKP	PKPdf	00 09 18.1	+2.2
GRI	Girifalco	151.30	313	PKHKP		00 09 17.1	
GRI	Girifalco	151.30	313	PKP	PKPdf	00 09 17.1	+1.1
MMK	Mattmark	151.30	333	PKP2	PKPab	00 09 21.1	-6.3
MMK	Mattmark	151.30	333	PKP	PKPdf	00 09 21.1	+5.3
MCGN	Macugnaga	151.37	333	PKP	PKPdf	00 09 18.7	+2.8
PTQR	Pietraquaria	151.43	321	PKP	PKPdf	00 09 19.1	+3.0
CABF	La Chapelle	151.60	336	⇑iPKP1	PKPdf	00 09 19.2	+3.0
	comp=Z,88nm,0.7s						
CABF	La Chapelle	151.60	336	⇑iPKHKP		00 09 19.2	
ORO	Oropa	151.63	332	PKHKP		00 09 18.6	
ORO	Oropa	151.63	332	PKP	PKPdf	00 09 18.6	+2.3
FLN	La Foliniere	151.66	346	⇑iPKP1	PKPdf	00 09 18.5	+2.3
	comp=Z,146nm,0.7s						
FLN				eR			
	comp=Z,1μm,20.5s						
FLN	La Foliniere	151.66	346	⇑iPKHKP		00 09 18.5	
FLN				MLR	MLR		
	comp=Z,1μm,20.5s,MS5.7						
LDF	La Druitiere	151.74	346	⇑iPKP1	PKPdf	00 09 18.6	+2.2
	comp=Z,54nm,0.6s						
LDF	La Druitiere	151.74	346	⇑iPKHKP		00 09 18.6	
LOR	Lormes	151.83	339	⇑iPKP1	PKPdf	00 09 19.2	+2.6
	comp=Z,123nm,1.1s						
LOR				eR			
	comp=Z,2μm,23.0s						
LOR	Lormes	151.83	339	⇑iPKHKP		00 09 19.2	
LOR				MLR	MLR		
	comp=Z,2μm,23.0s,MS5.8						
SOI	Samo	151.92	312	PKIKP	PKPdf	00 09 20.4	+3.4
SOI	Samo	151.92	312	PKP	PKPdf	00 09 20.4	+3.4
GRR	Gorron	152.09	347	⇑iPKP1	PKPdf	00 09 19.6	+2.7
	comp=Z,92nm,0.7s						
GRR	Gorron	152.09	347	⇑iPKIKP	PKPdf	00 09 19.6	+2.7
SSF	Saint Saulge	152.12	340	⇑iPKP1	PKPdf	00 09 19.9	+2.9
	comp=Z,45nm,0.7s						
SSF	Saint Saulge	152.12	340	⇑iPKIKP	PKPdf	00 09 19.9	+2.9
MTTG	Motta San Giov	152.20	312	PKP	PKPdf	00 09 21.3	+3.9
HYF	Humbligny	152.21	341	⇑iPKP1	PKPdf	00 09 20.4	+3.3
LPL	La Plagne	152.25	334	⇑iPKP1	PKPdf	00 09 20.8	+3.6
	comp=Z,32nm,0.7s						
LPL	La Plagne	152.25	334	⇑iPKIKP	PKPdf	00 09 20.8	+3.6
LPG	La Plagne	152.25	334	⇑iPKP1	PKPdf	00 09 20.9	+3.7
	comp=Z,64nm,0.8s						
LPG	La Plagne	152.25	334	⇑iPKIKP	PKPdf	00 09 20.9	+3.7
SMF	Signal de Mont	152.38	339	⇑iPKP1	PKPdf	00 09 20.2	+2.8
	comp=Z,309nm,1.8s						
SMF	Signal de Mont	152.38	339	⇑iPKIKP	PKPdf	00 09 20.2	+2.8
AVF	Avril sur Loir	152.41	340	⇑iPKP1	PKPdf	00 09 20.1	+2.7
AVF	Avril sur Loir	152.41	340	⇑iPKIKP	PKPdf	00 09 20.1	+2.7
SGMF	Saint Gilles	152.56	349	⇑iPKP1	PKPdf	00 09 20.4	+2.8
	comp=Z,134nm,1.0s						
SGMF	Saint Gilles	152.56	349	⇑iPKIKP	PKPdf	00 09 20.4	+2.8
ROSF	Rostrenen	152.60	350	⇑iPKP1	PKPdf	00 09 20.2	+2.6
	comp=Z,24nm,0.5s						
ROSF	Rostrenen	152.60	350	⇑iPKIKP	PKPdf	00 09 20.2	+2.6
BNI	Bardonecchia	152.64	333	ePKIKP	PKPdf	00 09 21.1	+3.3
BNI	Bardonecchia	152.64	333	ePKPbc	PKPdf	00 09 21.1	+3.3
BGF	Bois d'Agland	152.78	340	⇑iPKP1	PKPdf	00 09 21.3	+3.4
	comp=Z,51nm,0.8s						
BGF	Bois d'Agland	152.78	340	⇑iPKIKP	PKPdf	00 09 21.3	+3.4
MBDF	Montbardon	152.87	333	⇑iPKP1	PKPdf	00 09 21.5	+3.4
MBDF	Montbardon	152.87	333	⇑iPKIKP	PKPdf	00 09 21.5	+3.4
PLDF	La Plantade	153.04	338	PKP	PKPdf	00 09 20.6	+2.3
PLDF	La Plantade	153.04	338	ePKIKP	PKPdf	00 09 20.6	+2.3
PLDF	La Plantade	153.04	338	eP	PKPdf	00 09 20.6	+2.3
ORIF	Oris-en-Rattie	153.08	334	⇑iPKP1	PKPdf	00 09 22.2	+3.8
	comp=Z,49nm,0.8s						
ORIF	Oris-en-Rattie	153.08	334	⇑iPKIKP	PKPdf	00 09 22.2	+3.8
AGO	Saint Agoulin	153.14	339	PKP	PKPdf	00 09 19.4	+1.0
AGO	Saint Agoulin	153.14	339	eP	PKPdf	00 09 19.4	+1.0
TCF	Toulx Ste Croi	153.22	341	⇑iPKP1	PKPdf	00 09 22.2	+3.6
	comp=Z,16nm,0.5s						
TCF	Toulx Ste Croi	153.22	341	⇑iPKIKP	PKPdf	00 09 22.2	+3.6
PGF	Pioggiola	153.49	327	ePKP1	PKPdf	00 09 22.9	+3.9
	comp=Z,79nm,1.0s						
PGF	Pioggiola	153.49	327	ePKIKP	PKPdf	00 09 22.9	+3.9
MFF	Saint Martin d	153.60	344	⇑iPKP1	PKPdf	00 09 22.9	+3.8
MFF	Saint Martin d	153.60	344	⇑iPKIKP	PKPdf	00 09 22.9	+3.8
VIVF	Saint-Julien-l	153.61	336	⇑iPKP1	PKPdf	00 09 23.3	+4.2
VIVF	Saint-Julien-l	153.61	336	⇑iPKIKP	PKPdf	00 09 23.3	+4.2
LBL	Lubilhac	153.81	338	PKP	PKPdf	00 09 21.3	+1.9
LBL	Lubilhac	153.81	338	ePKIKP	PKPdf	00 09 21.3	+1.9
LBL	Lubilhac	153.81	338	eP	PKPdf	00 09 21.3	+1.9
FRF	La Foret Royal	153.85	331	ePKP1	PKPdf	00 09 23.7	+4.2
FRF	La Foret Royal	153.85	331	ePKIKP	PKPdf	00 09 23.7	+4.2
SMRF	Simiane la Rot	153.98	333	ePKP1	PKPdf	00 09 24.3	+4.6
	comp=Z,242nm,1.5s						
LMR	La Mourre	154.09	331	ePKP1	PKPdf	00 09 24.0	+4.1
LMR	La Mourre	154.09	331	ePKIKP	PKPdf	00 09 24.0	+4.1
RJF	Les Rejaudoux	154.32	341	ePKP1	PKPdf	00 09 24.5	+4.4
RJF				eR			
	comp=Z,1μm,19.0s						
RJF	Les Rejaudoux	154.32	341	ePKIKP	PKPdf	00 09 24.5	+4.4
RJF				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.7						
CAF	Calviac	154.48	339	ePKP1	PKPdf	00 09 25.4	+5.1
CAF	Calviac	154.48	339	ePKIKP	PKPdf	00 09 25.4	+5.1
LASF	Ste Croix	154.58	336	ePKP1	PKPdf	00 09 25.4	+4.9
	comp=Z,39nm,1.1s						
LFF	La Frestale	154.89	341	ePKP1	PKPdf	00 09 26.0	+5.2
LFF	La Frestale	154.89	341	ePKIKP	PKPdf	00 09 26.0	+5.2
LIC	Lamto	164.02	199	⇑iPKP2	PKPab	00 10 21.2	-1.7
	comp=Z,204nm,1.7s						
LIC				eR			
	comp=Z,1μm,21.2s						
DBIC	Dimbokro	164.38	200	PKPab	PKPab	00 10 23.2	-1.2
	comp=Z,7.5nm,0.9s,baz=159,slow=8.0,SNR=4.4						
DBIC	Dimbokro	164.38	200	ePKP2	PKPab	00 10 22.8	-1.6
DBIC	Dimbokro	164.38	200	ePKPab	PKPab	00 10 22.8	-1.7
TORD	Torodi Ar. Bea	165.89	236	PKP	PKPdf	00 09 29.4	-4.5
	comp=Z,3.5nm,1.1s,baz=228,slow=0.3,SNR=14						
TORD				PKPab	PKPab	00 10 29.9	-1.1
	comp=Z,2.1nm,0.8s,baz=80,slow=2.9,SNR=4.2						
TORD				PP	PP	00 14 14.9	-4.4
	comp=Z,1.8nm,1.0s,baz=146,slow=5.3,SNR=4.4						

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*NNC **02** 23:50:01.8±1.2, 35.50N×73.06E, mpv3.8, Error ellipse: s-maj=18.1km s-min=7.3km az=52.0*

ISC 02 23:49:53.6±0.5**, 34.99N**±0.05×**73.97E**±0.07**, h33**^{km}**, n20,** σ**1**^{s}**35**/29**, 5C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	1.45	204	P	P	23 50 16.3	-1.4
CEP	Cherat	2.06	236	⇑P	P	23 50 28.6	+2.1
CEP				S	S	23 50 55.0	+3.7
THW	Thamme Wali	2.87	221	P	P	23 50 31.4	-6.6
THN	Thein Dam	2.93	150	eP	P	23 50 38.5	-0.4
THN				ex	Sb	23 51 15.4	-5.3
DLH	Dalhousie	2.95	145	eP	P	23 50 41.0	+1.9
DLH				ex	Sb	23 51 22.0	+0.8
SARP	Sargodha	3.24	200	P	P	23 50 31.4	-12
PONG	Pong	3.45	151	ePB	Pb	23 50 53.0	-0.8
PONG				eS	Sb	23 51 37.0	+1.4
SBDP	Sheikh Budin	3.76	225	P	P	23 50 49.9	-0.8
BHK	Bhakra	4.11	149	ePB	Pb	23 51 05.9	+0.9
SDNR	Sundarnagar	4.29	143	eP	P	23 50 56.4	-1.8
SDNR				eS	Sb	23 52 00.0	+0.1
DRP	Derazinda	4.52	225	P	P	23 51 00.7	-0.7
SMLA	Simla	4.69	144	eP	P	23 51 00.1	-3.8
SMLA				ex	Sb	23 52 11.8	+0.3
KLP	Kalpa	4.97	133	eP	P	23 51 06.8	-1.1
DDI	Dehra Dun	5.79	142	eP	P	23 51 16.5	-2.7
DDI				eS	Sb	23 52 36.0	-7.2
NDI	New Delhi	6.86	155	ePB	Pb	23 51 55.0	+3.1
KHET	Khetri	7.07	167	eP	P	23 51 32.2	-5.1
KUDL	Kundal	7.15	162	eP	P	23 51 33.5	-4.9
KK31	Karatay Array	8.54	343	⇓Pn	P	23 51 59.5	+1.7
	2.9nm,0.5s,baz=156,slow=11,SNR=43						
KK31				⇑Sn	Sn	23 53 33.4	-0.8
	3.3nm,0.6s,baz=166,slow=23,SNR=3.8						
AB31	Akbulak array	17.61	328	⇑P	P	23 53 58.2	+0.4
	0.4nm,0.5s						
AB31				⇑S	S	23 57 06.3	-4.4
	1.2nm,0.8s						
AKTO	Aktyubinsk	19.32	328	⇑P	P	23 54 19.4	+0.8
	0.9nm,1.2s						

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*CSEM **03** 00:30:49.2±0.2, 26.52N×55.78E, h10^{km}, ML3.3, Error ellipse: s-maj=5.4km s-min=2.5km az=128.0*
*KISR **03** 00:30:53.1±1.4, 27.20N×55.60E, h12^{km}±999^{km}, ML3.6*
*THR **03** 00:30:54.7±0.3, 26.80N×56.01E, h22^{km}±5^{km}, ML3.3*
*TEH **03** 00:30:57.0, 26.84N×55.63E, h10^{km}, Mn3.7*

ISC 03 00:30:53.3±0.9**, 26.78N**±0.03×**55.67E**±0.05**, h24**^{km}±11^{km}**, n39,** σ**1**^{s}**29**/54**, 6C-4D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.76	36	ePG	Pb	00 31 06.7	-1.0
BNDS				eSG	Sb	00 31 15.7	-2.0
BNDS				AML	AML	00 31 24.8	
	comp=N,2μm,0.4s						
BNDS	Bandar-Abbas	0.76	36	ePg	Pb	00 31 06.7	-1.0
	SNR=98						
BNDS				eSg	Sb	00 31 15.7	-2.0
	comp=N,2μm,0.4s,SNR=98						
BANOM	Banah	1.02	146	P	Pb	00 31 12.1	-0.1
	SNR=203						
BANOM				⇑S	Sb	00 31 26.8	+1.5
ASHO	Ashiyiah	2.12	170	⇓P	Pn	00 31 30.3	+2.4
	SNR=94						
ASHO				⇓S	Sn	00 32 03.2	+9.5
GHIR	Ghir-Karzin	2.81	303	ePN	Pn	00 31 44.1	+6.3
GHIR				eSG	Sn	00 32 28.0	+17
GHIR				AML	AML	00 32 44.4	
	comp=N,93nm,0.4s						
KRBR	Kerman	3.33	17	ePN	Pn	00 31 46.6	+1.4
ARQ	Araqi	3.52	167	⇑P	Pn	00 31 48.4	+0.6
	SNR=9.7						
BSY	Bisya	4.25	161	⇑P	Pn	00 31 58.7	+0.4
SMDO	Samad	4.29	149	⇑P	Pn	00 31 58.7	-0.1
	SNR=6.8						
IMEH	Mehriz	4.68	349	Pn	Pn	00 32 06.0	+1.6
IBAF	Bafgh	4.79	359	Pn	Pn	00 32 06.6	+0.7
JMDO	Jabal Madar	4.92	153	⇓P	Pn	00 32 07.8	0.0
WBK	Wadi Bani Khal	5.12	143	⇑P	Pn	00 32 09.0	-1.6
ZHSF	Zahedan	5.31	57	ePN	Pn	00 32 11.7	-1.6
ICHK	Chekchek	5.55	349	Pn	Pn	00 32 17.7	+1.0
HASS	Wahat al Ahsa'	5.61	255	P	Pn	00 32 20.0	+2.5
HASS				S	Sn	00 33 24.9	+3.0
IGAR	Garneh	6.23	332	Pn	Pn	00 32 28.6	+2.4
IZEF	Zefreh	6.75	335	Pn	Pn	00 32 32.6	-0.9
QRN	Al-Qurain	7.14	288	eP	Pn	00 32 40.3	+1.2
QRN				eS	Sn	00 34 00.7	+0.4
QRN				AML	AML	00 34 01.5	
	comp=Z,9.9nm,0.2s						
IPIR	Pirpir	7.20	326	Pn	Pn	00 32 39.7	-0.2
IKLH	Kalahroud	7.42	332	Pn	Pn	00 32 42.0	-0.9
RDF	Al-Radifah	7.50	288	eP	Pn	00 32 44.5	+0.5
RDF				eS	Sn	00 34 08.3	-0.9
RDF				AML	AML	00 34 09.4	
	comp=Z,7.7nm,0.3s						
UMR	Umm Al-Rimmam	7.54	293	eP	Pn	00 32 45.8	+1.1
UMR				AML	AML	00 34 08.7	
	comp=Z,8.4nm,0.3s						
UMR				eS	Sn	00 34 09.5	-0.8
UMR	Umm Al-Rimmam	7.54	293	eP	Pn	00 32 45.8	+1.1
UMR				eS	Sn	00 34 09.5	-0.8
NAY	Al-Naaiem	7.84	290	eP	Pn	00 32 49.7	+0.8
NAY				eS	Sn	00 34 18.0	+0.2
MIB	Mutribah	7.94	294	eP	Pn	00 32 50.8	+0.6
MIB				eS	Sn	00 34 18.5	-1.7
MIB				AML	AML	00 34 21.4	
	comp=Z,7.8nm,0.3s						
ISFB	Sefidab	8.11	339	Pn	P	00 32 53.7	+1.2
ISFB				Sn	Sn	00 34 20.9	-3.5
IVRN	Varamin	8.86	338	Pn	P	00 33 03.5	+0.5
IQOM	Qom	8.95	335	Pn	P	00 33 05.1	+0.8
WHFO	Wadi Hawf	8.99	192	⇑P	P	00 33 04.6	-0.2
	SNR=12						
IFIR	Firoozkooh	9.18	345	Pn	P	00 33 07.2	-0.2
IDMV	Damavand	9.30	341	Pn	P	00 33 09.3	+0.2
IDMV				Sn	Sn	00 34 48.8	-5.3
RBK	Rabkut	9.33	189	⇓P	P	00 33 08.8	-0.7
ABTO	Aybut	9.64	194	P	P	00 33 11.9	-1.8
	SNR=11						
MZLS	Mizel	9.85	256	P	P	00 33 15.1	-1.6
MZLS				S	Sn	00 35 03.4	-4.1
AFFS	'Afif	11.80	259	P	P	00 33 41.7	-1.6
HILS	Ha'il	12.38	276	P	P	00 33 48.9	-2.2
TATS	Tathlith	13.32	240	P	P	00 34 00.4	-3.3
DJNS	Zahran al Janu	14.40	234	P	P	00 34 14.4	-3.4

ISC 03 00:33:44.7±0.8**, 40.42N**±0.04×**41.56E**±0.09**, h10**^{km}**, n5,** σ**0**^{s}**77**/9**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZM	Erzurum	0.54	196	iP	Pg	00 33 54.2	-1.4
ERZM				iS	Sg	00 34 03.1	+0.3
EZM	Erzurum	0.54	196	iPG	Pg	00 33 54.8	-0.7
EZM				iSG	Sg	00 34 04.4	+1.5
ARTV	Artvin	0.81	20	iP	Pb	00 34 00.2	-0.2
ARTV				iS	Sb	00 34 11.9	+0.7
MACK	Trabzon	1.46	291	iP	Pn	00 34 11.1	-0.1
MACK				iS	Sb	00 34 30.0	+0.2
GUMT	Gumushane	1.58	272	ePN	Pn	00 34 12.8	-0.2

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*IDC **03** 00:50:04.9±0.7, 47.91N×105.39E, mb4.1/12, mb1 4.2/13, mb1mx4.1/22, mbtmp4.1/13, MS3.9/3, Ms1 3.9/3, ms1mx3.6/26, Error ellipse: s-maj=24.5km s-min=7.7km az=14.0*
*BJI **03** 00:50:05.5, 47.96N×105.46E, h10^{km}, mB4.9, mb4.6, ML4.8, Ms4.6, Msz4.4*
*BYKL **03** 00:50:06.8±0.3, 47.97N×105.37E, h15^{km}±19^{km}*
*NEIC **03** 00:50:06.1±0.2, 47.92N×105.48E, h10^{km}, mb4.3/7, Error ellipse: s-maj=7.4km s-min=4.0km az=193.0*
*MOS **03** 00:50:06.3±2.1, 47.93N×105.50E, h16^{km}, mb4.5/17, Error ellipse: s-maj=9.4km s-min=6.2km az=95.8*

ISC 03 00:50:04.1±0.3**, 48.15N**±0.02×**105.42E**±0.03**, h10**^{km}**, n113,** σ**1**^{s}**59**/153**, mb4.3**/25**, MS4.0**/4**, 5C-1D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	0.73	115	Pg	Pg	00 50 18.6	-0.1
	975nm,0.3s,baz=279,slow=19						
SONM				Lg		00 50 27.6	
	6μm,0.3s,baz=271,slow=22,SNR=116						
ULN	Ulaanbaatar	1.13	104	iPg	Pg	00 50 26.7	-0.1
ULN				iSg	Sg	00 50 41.2	-0.7
ULN	Ulaanbaatar	1.13	104	eP	Pb	00 50 25.9	+0.6
ULN				eS	Sb	00 50 40.6	+0.7
BLGM	Bulgan	1.41	298	iPg	Pg	00 50 31.0	-1.3
ZAK	Zakamensk	2.64	329	ePg	Pg	00 50 56.8	0.0
ZAK				Pmax		00 51 04.2	
	1μm,0.9s						
ZAK				eSg	Sg	00 51 33.4	+1.4
ZAK				Smax		00 51 48.8	
	3μm,0.9s						
ZAK	Zakamensk	2.64	329	eP	Pg	00 50 56.6	-0.2
ZAK				e		00 51 32.9	
ZAK				pmax	pmax		
	comp=Z,1μm,0.9s						
ZAK				smax			
	comp=N,3μm,0.9s						
BTMB	Babushkin	3.57	4	ePn	Pn	00 51 05.2	+4.5
BTMB				e		00 51 17.3	
BTMB				max		00 51 23.1	
	comp=N,215nm,0.2s						
BTMB				eSg	Sg	00 52 02.4	-0.4
BTMB				Smax		00 52 14.7	
	comp=N,4μm,1.2s						
TLY	Talaya	3.72	343	ePn	Pn	00 51 07.9	+5.1
TLY				e		00 51 10.8	
TLY				ePg	Pg	00 51 17.7	-0.6
TLY				Pmax		00 51 22.6	
	comp=N,365nm,0.3s						
TLY				eSg	Sg	00 52 08.2	+0.3
TLY				Smax		00 52 16.7	
	comp=N,2μm,1.6s						
TLY	Talaya	3.72	343	eP	Pn	00 51 07.6	+4.8
TLY				pmax	pmax		
	comp=Z,366nm,0.3s						
LSTR	Listvyanka	3.74	354	ePn	Pn	00 51 08.1	+4.9
LSTR				ePg	Pg	00 51 17.8	-1.0
LSTR				e		00 51 24.3	
LSTR				max		00 51 45.0	
	comp=Z,306nm,1.0s						
LSTR				eSg	Sg	00 52 09.4	+0.7
LSTR				Smax		00 52 19.4	
	comp=Z,4μm,1.3s						
LSTR	Listvyanka	3.74	354	⇑iP	Pn	00 51 08.1	+4.9
LSTR				pmax	pmax		
	comp=Z,213nm,1.2s						
KAB	Kabansk	3.99	11	ePg	Pg	00 51 22.3	-1.4
KAB				Pmax		00 51 42.0	
	comp=Z,1μm,1.3s						
KAB				eSg	Sg	00 52 16.7	-0.1
KAB				Smax		00 52 25.0	
	comp=Z,18μm,1.3s						
KAB	Kabansk	3.99	11	eP	Pg	00 51 23.2	-0.5
KAB				pmax	pmax		
	comp=Z,978nm,0.7s						
FFNB	Fofonovo	4.00	12	ePn	Pn	00 51 11.6	+4.8
FFNB				ePg	Pg	00 51 22.0	-1.9
FFNB				Pmax		00 51 23.6	
	comp=Z,55nm,0.1s						
FFNB				eSg	Sg	00 52 16.2	-1.0
FFNB				Smax		00 52 26.0	
	comp=Z,6μm,0.8s						
STDB	Stepnoy Dvoret	4.07	8	ePg	Pg	00 51 23.3	-2.1
STDB				Pmax		00 51 33.0	
	comp=Z,2μm,1.9s						
STDB				eSg	Sg	00 52 19.9	+0.2
STDB				Smax		00 52 31.7	
	comp=Z,24μm,1.2s						
IRK	Irkutsk	4.17	350	ePg	Pg	00 51 24.3	-3.0
IRK				Pmax		00 51 32.7	
	comp=Z,421nm,0.5s						
IRK				eSg	Sg	00 52 21.8	-1.0
IRK				Smax		00 52 26.5	
	comp=Z,8μm,1.0s						
IRK	Irkutsk	4.17	350	eP	Pn	00 51 13.5	+4.3
IRK				pmax	pmax		
	comp=Z,561nm,0.7s						
ARS	Arshan	4.24	334	ePn	Pn	00 51 15.1	+4.8
ARS				ePg	Pg	00 51 25.8	-3.0
ARS				e		00 51 31.5	
ARS				eSg	Sg	00 52 23.7	-1.6
ARS				Smax		00 52 34.6	
	comp=Z,56μm,1.0s						
ARS	Arshan	4.24	334	eP	Pg	00 51 25.8	-3.0
ARS				pmax	pmax		
	comp=Z,310nm,0.4s						
MOY	Mondy	4.54	323	ePg	Pg	00 51 30.4	-4.3
MOY				e		00 51 34.2	
MOY				max		00 51 35.3	
	comp=Z,754nm,1.2s						
MOY				eSg	Sg	00 52 32.0	-3.1
MOY				Smax		00 52 48.2	
	comp=Z,3μm,1.0s						
MOY	Mondy	4.54	323	eP	Pg	00 51 32.2	-2.5
MOY				pmax	pmax		
	comp=Z,749nm,1.2s						
ZRHB	Zarechye	4.55	13	ePg	Pg	00 51 32.5	-2.4
ZRHB				Pmax		00 51 40.5	
	comp=Z,2μm,1.1s						
ZRHB				eSg	Sg	00 52 34.3	-1.2
ZRHB				Smax		00 52 53.0	
	comp=Z,23μm,1.3s						
DZD	Dalandzadgad	4.63	189	iPn	Pn	00 51 14.3	-1.5
DZD				iPg	Pg	00 51 26.6	-10
DZD				iSg	Sg	00 52 26.8	-12
TRG	Tyrgan	4.66	7	⇑iPn	Pn	00 51 19.7	+3.5
TRG				e		00 51 24.4	
TRG				ePg	Pg	00 51 35.0	-2.0
TRG				Pmax		00 51 46.5	
	comp=Z,435nm,1.8s						
TRG				eSg	Sg	00 52 37.6	-1.5
TRG				Smax		00 52 40.9	
	comp=Z,3μm,1.8s						
TRG	Tyrgan	4.66	7	eP	Pn	00 51 19.9	+3.7
TRG				eS	Sn	00 52 16.5	+5.6
TRG				pmax	pmax		
	comp=Z,433nm,0.8s						
TRG				smax			
	comp=E,2μm,0.4s						
TSC	Tosontsengel	4.81	280	iPn	Pn	00 51 19.9	+1.5
TSC				iPg	Pg	00 51 33.0	-7.1
TSC				iSg	Sg	00 52 35.1	-9.2
KPC	Khapcheranga	4.84	69	⇑iPn	Pn	00 51 20.1	+1.3
KPC				ePg	Pg	00 51 35.6	-5.2
KPC				Pmax		00 51 45.0	
	comp=E,539nm,1.4s						
KPC				eSn	Sn	00 52 17.4	+1.7
KPC				eSg	Sg	00 52 38.8	-6.6
KPC				Smax		00 52 42.5	
	comp=E,4μm,2.1s						
KPC	Khapcheranga	4.84	69	eP	Pg	00 51 36.3	-4.5
KPC				pmax	pmax		
	comp=Z,335nm,0.3s						
MXMB	Maximikha	5.54	21	ePn	Pn	00 51 32.2	+3.6
MXMB				e		00 51 36.6	
MXMB				ePg	Pg	00 51 50.3	-4.4
MXMB				Pmax		00 51 55.9	
	comp=Z,510nm,1.0s						
MXMB				eSg	Sg	00 53 05.3	-3.2
MXMB				Smax		00 53 13.9	

comp=Z,8μm,1.4s
OGRR Ongureny 5.67 13 *e*Pn **Pn** **00 51 34.0 +3.5**
OGRR *e* 00 51 38.7
OGRR max 00 51 39.8
comp=Z,30nm,0.2s
OGRR *e*Sg **Sg** **00 53 07.6 -5.3**
OGRR Smax 00 53 17.2
comp=Z,1μm,1.3s
OGRR Ongureny 5.67 13 *e*P **Pn** **00 51 34.5 +4.0**
OGRR pmax pmax
comp=Z,120nm,2.0s
ORL Orlik 5.67 323 *e*Pn **Pn** **00 51 35.4 +4.8**
ORL *e*Pg **Pg** **00 51 51.6 -5.8**
ORL Pmax 00 51 57.1
comp=Z,139nm,1.4s
ORL *e*Sg **Sg** **00 53 07.4 -5.6**
ORL Smax 00 53 32.2
comp=Z,1μm,1.2s
ORL Orlik 5.67 323 *e*P **Pg** **00 51 50.8 -6.6**
ORL pmax pmax
comp=Z,138nm,1.1s
SYVR Suvo 6.23 26 *e*Pn **Pn** **00 51 41.8 +3.4**
SYVR *e* 00 51 46.6
SYVR *e*Pg **Pg** **00 52 02.6 -5.9**
SYVR *e* 00 52 06.6
SYVR max 00 52 07.5
comp=Z,98nm,1.0s
SYVR *e*Sg **Sg** **00 53 26.3 -5.2**
SYVR Smax 00 53 52.3
comp=Z,2μm,2.4s
CIT Chita 6.51 50 *e*Pn **Pn** **00 51 43.7 +1.3**
CIT *e* 00 51 48.3
CIT *e*Pg **Pg** **00 52 06.0 -8.1**
CIT Pmax 00 52 13.5
comp=Z,257nm,1.6s
CIT *e*Sg **Sg** **00 53 32.2 -8.7**
CIT Smax 00 53 48.8
comp=Z,1μm,1.4s
TDJR Todzha 7.33 309 *e*Pg **Pg** **00 52 19.8 -11**
TDJR *e*Sg **Sg** **00 53 57.4 -11**
YLYR Ulyunkhan 7.63 26 *e*Pn **Pn** **00 52 00.5 +2.5**
YLYR *e* 00 52 05.0
YLYR *e*Pg **Pg** **00 52 27.8 -8.6**
YLYR Pmax 00 52 31.8
comp=Z,62nm,1.5s
YLYR *e*Sg **Sg** **00 54 09.4 -8.7**
YLYR Smax 00 54 18.0
comp=Z,2μm,1.6s
NIZ Nizh Angarsk 8.05 17 *e*P **P** **00 52 06.9 +3.0**
BTO Baotou 8.23 155 *e*P **P** **00 52 03.8 -2.6**
HHC Hu-ho-hao-te 8.51 147 *e*P **P** **00 52 07.7 -2.7**
HHC AP 00 52 12.5
HHC XP 00 52 14.4
HHC S **Sn** **00 53 39.3 -8.2**
HHC AMB AMB
comp=Z,40nm,0.7s
HHC AMB AMB
comp=Z,240nm,3.9s
HHC Smax
comp=N,240nm,0.8s
HHC Smax
comp=E,200nm,0.6s
HHC LR LR
comp=N,2μm,5.3s
HHC LR LR
comp=E,660nm,5.0s
HHC LR LR
comp=Z,2μm,8.3s
KMO Kumora 8.53 23 *e*P **P** **00 52 14.6 +4.0**
KMO pmax pmax
comp=Z,72nm,0.8s
UKT Uakit 8.93 32 *e*Pn **P** **00 52 18.6 +2.4**
UKT *e* 00 52 32.5
UKT *e* 00 52 54.6
UKT max 00 52 55.2
comp=Z,102nm,1.6s
UKT *e*Sg **Sg** **00 54 49.4 -12**
UKT Smax 00 55 01.5
comp=Z,815nm,1.7s
ULG Ulaangom 8.96 287 *e*Pg Px 00 52 46.3
ULG *e*Sg Sx 00 54 42.5
HIA Hailar 9.54 78 P **P** **00 52 23.4 -1.1**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA Hailar 9.54 78 P **P** **00 52 23.4 -1.0**
comp=Z,21nm,0.9s
GTA Gaotai 9.63 207 *e*P **P** **00 52 24.6 -1.1**
GTA AP 00 52 27.5
GTA XP 00 52 30.0
GTA S **Sn** **00 54 14.2 -0.8**
GTA XS 00 54 18.8
GTA LG1 00 55 02.1
GTA LG2 00 55 16.9
GTA AMB AMB
comp=Z,10.0nm,0.6s
GTA AMB AMB
comp=Z,180nm,5.3s
GTA LR LR
comp=N,2μm,8.7s
GTA LR LR
comp=E,3μm,9.1s
GTA LR LR
comp=Z,3μm,8.7s
NLYR Nelyaty 10.45 33 *e*Pn **P** **00 52 39.8 +2.9**
NLYR max 00 53 33.6
comp=Z,43nm,1.3s
NLYR *e*Sg S 00 55 34.4 +59
NLYR Smax 00 55 47.0
comp=Z,2μm,1.5s
BOD Bodaibo 10.97 25 *e*P **P** **00 52 45.0 +0.9**
BOD *e*S **S** **00 54 49.1 +1.2**
BOD pmax pmax
comp=Z,3.0nm,0.1s
BOD smax
comp=E,581nm,1.8s
TUP Tupik 11.05 50 *e*Pn **P** **00 52 45.8 +0.6**
TUP max 00 53 33.7
comp=E,9.0nm,1.0s
TUP *e*Sg S 00 55 52.9 +63
TUP Smax 00 56 17.2
comp=E,832nm,2.2s
WMQ Urumqi 13.06 257 *e*P **P** **00 53 10.6 -1.7**
WMQ AP 00 53 13.9
WMQ XP 00 53 17.3
WMQ PP PP 00 53 21.2 -1.4
WMQ PPP PPP 00 53 28.2 -1.4
WMQ S **S** **00 55 38.3 -0.3**
WMQ SS SS 00 55 53.5 -0.4
WMQ PCP PcP 00 58 41.0 -3.7
WMQ AMB AMB
comp=Z,10.0nm,1.0s
WMQ AMB AMB
comp=Z,60nm,4.0s
WMQ LR LR
comp=N,2μm,10.0s
WMQ LR LR
comp=E,1μm,8.0s
WMQ LR LR
comp=Z,1μm,7.4s
ZAL Zalesovo 14.18 302 LR LR 01 00 05.4
comp=Z,514nm,18.3s,baz=325,slow=42
SNY Shenyang 14.30 109 ⇑P **P** **00 53 31.5 +2.9**
SNY PP PP 00 53 44.3 +4.3
SNY S **S** **00 56 07.9 -0.4**
SNY AMB AMB
comp=Z,10.0nm,1.1s
SNY AMB AMB
comp=Z,590nm,5.4s
SNY LR LR
comp=N,950nm,8.5s
SNY LR LR
comp=E,1μm,9.3s
SNY LR LR
comp=Z,2μm,13.2s
DL2 Dalian 14.93 122 *e*P **P** **00 53 34.3 -2.5**
DL2 *e*S **S** **00 56 16.2 -6.8**
DL2 AMB AMB
comp=Z,140nm,4.7s
DL2 LR LR
comp=N,570nm,10.6s
DL2 LR LR
comp=E,470nm,10.8s
DL2 LR LR
comp=Z,810nm,10.9s
NVS Novosibirsk 15.31 304 *e*P Px 00 53 59.9

MKAR Makanchi Array 15.69 274 Pn **P** **00 53 47.5 +0.8**
comp=Z,0.1nm,0.3s,baz=102,slow=11,SNR=5.3
MKAR Lg 00 58 15.6
comp=Z,0.6nm,0.3s,baz=82,slow=27,SNR=8.2
MKAR Makanchi Array 15.69 274⇑*e*P **P** **00 53 49.7 +3.0**
CD2 Chengdu 17.26 185 P **P** **00 54 09.5 +2.8**
CD2 PP PP 00 54 23.6 +2.4
CD2 S **S** **00 57 23.8 +6.4**
CD2 AMB AMB
comp=Z,20nm,1.1s
CD2 LR LR
comp=N,740nm,14.4s
CD2 LR LR
comp=Z,250nm,7.8s
KLR Kul'dur 17.39 77 *e*P **P** **00 54 13.2 +5.0**
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
KURK Kurchatov 17.59 288 *e*P **P** **00 54 13.3 +2.7**
KURK pmax pmax
comp=Z,22nm,0.8s
KURK Kurchatov 17.59 288 *e*P **P** **00 54 13.3 +2.6**
comp=Z,22nm,0.8s
ENH Enshi 18.12 169 P **P** **00 54 15.3 -2.2**
YAK Yakutsk 19.48 36 *i*P **P** **00 54 39.6 +6.0**
YAK pmax pmax
comp=Z,35nm,1.9s
KS15 Wonju Array Si 19.58 115 P **P** **00 54 33.3 -1.7**
LSA Lhasa 21.44 216 *e*P **P** **00 54 52.9 -1.6**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
LSA Lhasa 21.44 216 *e*P **P** **00 54 52.9 -1.6**
comp=Z,4.1nm,0.6s,mb3.9
GYA Guiyang 21.67 177 P **P** **00 54 57.0 +0.2**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
FRU Bishkek 22.15 268 *e*P **P** **00 55 06.0 +4.5**
FRU pmax pmax
comp=Z,60nm,1.7s,mb4.8
FRU pmax pmax
comp=N,140nm,1.9s
AAK Ala-Archa 22.32 267 *e*P **P** **00 55 04.4 +1.3**
AAK pmax pmax
comp=Z,36nm,1.2s,mb4.7
AAK Ala-Archa 22.32 267 *e*P **P** **00 55 04.3 +1.2**
comp=Z,36nm,1.2s,mb4.7
BVAR Borovoye Array 22.62 296 P **P** **00 55 09.0 +3.1**
comp=Z,9.1nm,0.9s,mb4.2,baz=98,slow=10,SNR=25
BVAR Borovoye Array 22.62 296 P **P** **00 55 09.1 +3.2**
BRVK Borovoye 22.68 296 *e*P **P** **00 55 10.1 +3.5**
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb3.9
BRVK Borovoye 22.68 296 *e*P **P** **00 55 10.1 +3.5**
comp=Z,5.4nm,0.9s,mb4.0
KSH Kashi 22.82 259 *e*P **P** **00 55 12.1 +4.1**
KSH *e*AP 00 55 20.4
ASAJ Asahikawa 25.91 85 LR LR 01 06 22.5
comp=Z,217nm,18.4s,MS3.7,baz=162,slow=38
TIXI Tiksi 25.97 17 *i*P **P** **00 55 45.2 +7.2**
TIXI pmax pmax
comp=Z,24nm,2.1s,mb4.4
JOW Kunigami 27.77 132 LR LR 01 08 37.1
comp=Z,251nm,19.0s,MS3.8,baz=349,slow=40
ARU Arti 29.32 304⇓*i*P **P** **00 56 13.0 +4.4**
ARU *e* 00 57 08.6
ARU *e*PPP PPP 00 57 18.2 +1.2
ARU *e*S **S** **01 01 09.7 +9.2**
ARU *e*SS SS 01 02 44.7 +13
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
ARU MLR MLR
comp=Z,800nm,17.0s,MS4.4
ARU MLR MLR
comp=N,300nm,18.5s,MS4.3
ARU MLR MLR
comp=E,600nm,17.0s,MS4.3
BILL Bilibino 35.83 34 *i*P **P** **00 57 10.7 +5.5**
BILL pmax pmax
comp=Z,21nm,1.4s,mb4.9
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.1
BILL Bilibino 35.83 34 *e*P **P** **00 57 07.5 +2.3**
comp=Z,11nm,0.9s,mb4.8
KLMR Klimovskoe 38.61 314 *e*P **P** **00 57 32.9 +4.2**
KLMR pmax pmax
comp=Z,20nm,1.8s,mb4.5
VRHR Novokhopersk 40.28 299 *e*P **P** **00 57 47.6 +4.9**
VRHR pmax pmax
comp=Z,20nm,0.8s,mb4.9
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,1.7s
OBN Obninsk 41.70 306 *i*P **P** **00 57 58.5 +4.4**
OBN pmax pmax
comp=Z,34nm,1.9s,mb4.7
ARCES ARCESS Array B 42.57 329 P **P** **00 58 03.5 +2.4**
comp=Z,1.8nm,0.8s,mb3.9,baz=50,slow=9.5,SNR=5.1
ARCES ARCESS Array B 42.57 329 P **P** **00 58 03.5 +2.4**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 42.67 289 *e*P **P** **00 58 08.5 +6.2**
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
GNI Garni 43.25 283 P **P** **00 58 07.9 +0.9**
GNI pmax pmax
comp=Z,13nm,1.3s
GNI Garni 43.25 283 P **P** **00 58 07.9 +0.9**
comp=Z,13nm,1.3s,mb4.5
FINES FINESS Array B 44.70 318 P **P** **00 58 20.1 +1.6**
comp=Z,1.8nm,0.7s,mb4.0,baz=72,slow=6.0,SNR=5.7
FINES FINESS Array B 44.70 318 P **P** **00 58 20.1 +1.6**
FINES pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 47.56 303 P **P** **00 58 41.6 +0.3**
comp=Z,1.8nm,0.5s,mb4.3,baz=55,slow=8.9,SNR=13
AKASG Malin Array Be 47.56 303 P **P** **00 58 41.6 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
BR131 Keskin Array S 50.64 289 *e*P **P** **00 59 06.0 +0.8**
comp=Z,1.3nm,0.7s,mb4.0
BRTR Keskin Array B 50.64 289 P **P** **00 59 06.2 +1.1**
comp=Z,2.7nm,0.7s,mb4.3,baz=56,slow=5.9,SNR=20
BRTR Keskin Array B 50.64 289 P **P** **00 59 06.2 +1.1**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 51.33 322 P **P** **00 59 11.2 +1.1**
comp=Z,2.8nm,0.9s,mb4.2,baz=57,slow=7.1,SNR=3.9
NOA NORSAR Array B 51.33 322 P **P** **00 59 11.2 +1.1**
NOA pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 54.29 30 P **P** **00 59 33.8 +1.7**
comp=Z,1.3nm,1.0s,mb3.8,baz=293,slow=4.0,SNR=7.2
ILAR Eielson Array 54.29 30 P **P** **00 59 33.8 +1.8**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
CLL Collm 55.92 311 P **P** **00 59 48.0 +3.9**
CLL Collm 55.92 311 *e*P **P** **00 59 48.0 +3.9**
GERES GERESS Array B 57.03 308 P **P** **00 59 53.7 +1.6**
comp=Z,1.2nm,0.9s,mb3.9,baz=45,slow=5.7,SNR=5.3
GERES GERESS Array B 57.03 308 P **P** **00 59 53.7 +1.6**
GERES pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 65.19 19 P **P** **01 00 48.3 +1.4**
comp=Z,0.9nm,0.8s,mb3.8,baz=330,slow=6.5,SNR=3.8
YKA Yellowknife Ar 65.19 19 P **P** **01 00 48.4 +1.4**
WRAB Tennant Creek 72.56 152 *i*P **P** **01 01 24.6 -8.7**
WRAB Tennant Creek 72.56 152 *e*P **P** **01 01 32.2 -1.0**
WRA Warramunga Arr 72.56 152 P **P** **01 01 32.2 -1.1**
comp=Z,3.6nm,1.0s,mb4.2,baz=345,slow=7.0,SNR=20
STKA Stephens Creek 86.01 150 P **P** **01 02 45.3 -0.4**
comp=Z,2.1nm,0.5s,mb4.7,baz=330,slow=4.6,SNR=9.3
TORD Torodi Ar. Bea 89.25 289 P **P** **01 03 05.1 +3.4**
comp=Z,0.4nm,0.9s,mb3.8,baz=34,slow=5.8,SNR=3.0
SIV San Ignacio 146.06 336 PKPbc PKPbc 01 09 46.9 +2.4
comp=Z,2.6nm,0.8s,baz=1.8,slow=4.4,SNR=6.5
LPAZ La Paz 147.79 348 PKPbc PKPdf 01 09 51.3 +2.0
comp=Z,3.2nm,0.8s,baz=34,slow=11,SNR=10
LPAZ La Paz 147.79 348 PKP2 PKPab 01 09 51.3 -2.4
LPAZ pmax pmax
comp=Z,3.0nm,0.8s

IDC 03 01:04:59.2±2.1,15.22S×175.74W,mb3.7/3,mb1 4.2/4,
mb1mx3.9/13,mbtmp3.8/4,Error ellipse:
s-maj=163.8km s-min=26.5km az=160.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.05**	**72**	Pn	Pn	01 06 00.5	-3.4
	6.2nm,0.3s,baz=56,slow=10,SNR=5.8						
AFI				Sn	Sn	01 06 42.5	-10
	9.0nm,0.3s,baz=294,slow=23,SNR=4.2						
WRA	**Warramunga Arr**	**47.68**	**257**	P	P	01 13 37.7	-2.0
	1.2nm,0.8s,baz=89,slow=7.4,SNR=13						
TXAR	**Lajitas Array**	**82.40**	**57**	P	P	01 17 25.3	+0.3
	0.8nm,0.9s,baz=217,slow=6.3,SNR=6.7						
PDAR	**Pinedale Array**	**83.65**	**43**	P	P	01 17 29.8	-1.4
	0.5nm,0.8s,baz=207,slow=2.0,SNR=4.7						
BRTR	**Keskin Array B**	**144.57**	**319**	PKP	PKPdf	01 24 36.5	-3.2
	1.4nm,0.8s,baz=105,slow=2.4,SNR=11						
GERES	**GERESS Array B**	**145.58**	**349**	PKPbc	PKPbc	01 24 38.7	-1.3
	0.4nm,0.6s,slow=2.7,SNR=4.7						

*IDC **03** 01:08:54.4±1.2,60.46S×44.53W,mb4.0/3,mb1 3.9/4,*
mb1mx3.8/12,mbtmp3.9/4,ML3.4/1,Error ellipse:
s-maj=65.2km s-min=26.8km az=51.0
*NEIC **03** 01:08:55.9±0.9,60.17S×43.82W,h10km,mb4.2/1,Error*
ellipse: s-maj=94.1km s-min=16.7km az=55.0
ISC 03 01:08:54.1±1.5,60.5S±0.3×44.8W±0.9,h10km,n12,
σ1s61/5,mb4.0/4,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.81**	**141**	P	P	**01 13 27.0**	**-0.1**
	0.1nm,0.3s,baz=276,slow=10,SNR=8.6						
SIV	**San Ignacio**	**46.01**	**338**	P	P	**01 17 18.5**	**-0.7**
	1.1nm,0.5s,mb4.1,baz=192,slow=7.2,SNR=7.9						
LPAZ	**La Paz**	**47.28**	**329**	P	P	**01 17 31.5**	**+2.2**
	2.0nm,0.8s,mb3.8,baz=215,slow=10,SNR=4.6						
SAML	**Samuel**	**53.27**	**337**	*e*P	P	**01 18 13.8**	**-1.3**
	2.7nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**82.23**	**45**	P	P	**01 21 17.1**	**+0.5**
	1.3nm,0.6s,mb4.0,baz=208,slow=3.6,SNR=18						
AKASG	**Malin Array Be**	**125.75**	**49**	PKP	PKPdf	01 27 54.4	-3.6
	0.3nm,0.3s,baz=231,slow=1.5,SNR=5.7						
FINES	**FINESS Array B**	**133.19**	**39**	PKP	PKPdf	01 28 08.5	-3.4
	1.1nm,0.7s,baz=270,slow=1.9,SNR=4.1						
YKA	**Yellowknife Ar**	**133.67**	**323**	PKP	PKPdf	01 28 09.6	-3.1
	0.3nm,0.6s,baz=147,slow=2.3,SNR=4.4						
INK	**Inuvik**	**143.39**	**321**	PKP	PKPdf	01 28 30.8	+0.9
	0.6nm,0.7s,baz=180,slow=16,SNR=4.1						
INK	**Inuvik**	**143.39**	**321**	PKP	PKPdf	01 28 30.8	+0.9
ILAR	**Eielson Array**	**146.06**	**311**	PKPbc	PKPbc	01 28 34.1	+1.4
	1.5nm,0.8s,baz=137,slow=0.5,SNR=11						
MKAR	**Makanchi Array**	**146.77**	**90**	PKPbc	PKPbc	01 28 35.6	+0.8
	2.3nm,0.6s,baz=238,slow=3.2,SNR=31						

*IDC **03** 01:09:31.6±1.0,60.45S×44.69W,mb4.4/6,mb1 4.3/7,*
mb1mx4.2/12,mbtmp4.3/7,ML3.9/1,MS3.7/1,Ms1 3.7/1,
ms1mx2.8/13,Error ellipse: s-maj=44.2km s-min=22.3km
az=46.0
*BJI **03** 01:09:33.2,60.40S×44.70W,h10km*
*NEIC **03** 01:09:33.3±0.3,60.37S×44.75W,h10km,mb4.9/4,Error*
ellipse: s-maj=23.2km s-min=8.8km az=57.0
ISC 03 01:09:31.8±0.6,60.4S±0.1×44.7W±0.3,h10km,n35,
σ0s75/15,mb4.5/10,4C-2D,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**13.83**	**283**	LR	LR	01 16 39.9	
	comp=Z,281nm,18.1s,baz=153,slow=31						
VNA2	**Neumayer--Watz**	**18.27**	**141**	⇑*i*	Px	01 13 59.9	
VNA2	**Neumayer--Watz**	**18.27**	**141**	⇑*i*P	P	**01 13 47.1**	**+0.5**
VNA2				⇑*i*P		01 13 59.9	
SNAA	**Sanae**	**19.88**	**142**	⇓*i*	Px	01 14 21.5	
SNAA	**Sanae**	**19.88**	**142**		Px	01 14 31.1	
SNAA	**Sanae**	**19.88**	**142**	P	P	**01 14 03.8**	**-1.8**
	0.3nm,0.3s,baz=291,slow=11,SNR=13						
SNAA	**Sanae**	**19.88**	**142**	⇑*i*P	P	**01 14 06.0**	**+0.4**
SNAA				⇓*i*P		01 14 21.5	
SNAA				P		01 14 31.1	
TRQA	**Tornquist**	**24.89**	**326**	*e*P	P	**01 14 55.9**	**+0.2**
	27nm,1.0s,mb4.7						
PLCA	**Paso Flores**	**25.34**	**309**	P	P	**01 15 01.0**	**+1.1**
	3.2nm,0.8s,mb3.9,baz=153,slow=11,SNR=4.3						
PLCA	**Paso Flores**	**25.34**	**309**	P	P	**01 15 01.0**	**+1.1**
QSPA	**South Pole Qui**	**29.84**	**180**	*e*P	P	**01 15 40.4**	**-0.2**
	38nm,0.6s,mb5.3						
BDFB	**Brasilia**	**44.76**	**355**	P	P	**01 17 47.0**	**-0.1**
	2.3nm,0.9s,mb4.0,baz=151,slow=1.1,SNR=3.0						
SIV	**San Ignacio**	**45.91**	**338**	P	P	**01 17 55.5**	**-0.7**
	7.5nm,0.5s,mb4.9,baz=172,slow=7.7,SNR=42						
LPAZ	**La Paz**	**47.20**	**329**	P	P	**01 18 06.7**	**+0.3**
	2.4nm,0.7s,mb4.2,baz=160,slow=9.3,SNR=8.4						
SAML	**Samuel**	**53.18**	**337**	*e*P	P	**01 18 50.5**	**-1.6**
	12nm,0.8s,mb4.9						
OTAV	**Otavalo**	**65.84**	**323**	*e*P	P	**01 20 19.4**	**0.0**
	11nm,1.2s,mb4.8						
DBIC	**Dimbokro**	**73.84**	**42**	P	P	**01 21 08.5**	**+0.3**
	3.1nm,0.8s,mb4.3,baz=145,slow=7.5,SNR=4.3						
DBIC	**Dimbokro**	**73.84**	**42**	P	P	**01 21 08.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**82.11**	**45**	P	P	**01 21 54.5**	**+0.7**
	3.4nm,0.8s,mb4.3,baz=205,slow=6.4,SNR=13						
BR131	**Keskin Array S**	**118.38**	**59**	*e*PKP	Pdif	01 24 36.3	-2.6
GERES	**GERESS Array B**	**118.68**	**40**	PKP	PKPdf	01 28 21.9	-0.4
	0.4nm,0.6s,baz=180,slow=2.9,SNR=4.3						
AKASG	**Malin Array Be**	**125.64**	**49**	PKP	PKPdf	01 28 32.0	-3.5
	2.1nm,0.6s,baz=242,slow=1.6,SNR=13						
FINES	**FINESS Array B**	**133.07**	**38**	PKP	PKPdf	01 28 46.4	-3.0
	1.6nm,0.6s,baz=135,slow=2.7,SNR=9.1						
YKA	**Yellowknife Ar**	**133.60**	**323**	PKP	PKPdf	01 28 49.8	-0.4
	1.1nm,0.6s,baz=140,slow=2.0,SNR=13						
KAF	**Kangasniemi**	**133.65**	**38**	*e*p	PKPdf	01 28 48.9	-1.5
INK	**Inuvik**	**143.32**	**322**	PKP	PKPdf	01 29 04.6	-2.8
	1.0nm,0.7s,baz=56,slow=8.5,SNR=4.6						
KDAK	**Kodiak Island**	**144.55**	**298**	PKP	PKPdf	01 29 07.4	-2.5
	15nm,1.0s,baz=312,slow=7.2,SNR=4.6						
PMR	**Palmer**	**145.23**	**306**	PKP	PKPdf	01 29 08.5	-2.5
ILAR	**Eielson Array**	**146.01**	**311**	PKPbc	PKPbc	01 29 11.0	+0.8
	5.5nm,0.7s,baz=137,slow=1.6,SNR=22						
MCK	**McKinley**	**146.27**	**309**	PKP	PKPdf	01 29 11.4	-1.3
COLA	**College**	**146.42**	**311**	PKP	PKPdf	01 29 11.5	-1.4
MKAR	**Makanchi Array**	**146.72**	**90**	PKPbc	PKPbc	01 29 12.7	+0.3
	2.3nm,0.5s,baz=245,slow=3.6,SNR=20						
KURK	**Kurchatov**	**147.51**	**81**	*e*PKP	PKPdf	01 29 13.0	-2.2
IMA2	**Indian Mountai**	**149.14**	**311**	*e*PKPbc	PKPdf	01 29 20.2	+2.9
GTA	**Gaotai**	**149.56**	**117**	*e*PKP	PKPdf	01 29 20.7	+1.9
GTA				APKP		01 29 24.0	
GTA				XPKP		01 29 26.9	

*IDC **03** 01:14:21.6±1.1,21.56S×169.85E,mb3.9/5,mb1 4.1/7,*
mb1mx4.0/13,mbtmp4.0/7,ML3.4/2,MS3.3/1,Ms1 3.3/1,
ms1mx2.7/23,Error ellipse: s-maj=34.4km s-min=29.3km
az=147.0
*NEIC **03** 01:14:23.2±0.5,21.50S×169.78E,h10km,mb4.2/1,Error*
ellipse: s-maj=13.7km s-min=11.1km az=211.0
ISC 03 01:14:22.8±5.4,21.5S±0.2×169.71E±0.09,h15km±37km,
n20,σ0s72/18,mb4.0/7,2C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.08**	**260**	*e*P	Pn	**01 15 11.5**	**-0.5**
DZM				*e*S	Sn	**01 15 48.4**	**-0.5**
DZM	**Mont Dzumac**	**3.08**	**260**	Pn	Pn	**01 15 12.7**	**+0.7**
	5.4nm,0.3s,baz=86,slow=18,SNR=62						
DZM				Sn	Sn	**01 15 48.6**	**-0.3**
	28nm,0.3s,baz=104,slow=15,SNR=7.2						
DZM				LR	LR	01 15 58.5	
	comp=Z,419nm,19.1s,baz=236,slow=30						
URZ	**Urewera**	**17.84**	**161**	P	P	**01 18 32.1**	**-0.1**
	0.1nm,0.3s,slow=16,SNR=3.8						
CTAO	**Charters Tower**	**21.97**	**270**	P	P	**01 19 17.9**	**-0.1**
	9.0nm,1.0s,mb4.2						
PMG	**Port Moresby**	**24.82**	**296**	P	P	**01 19 52.2**	**+6.2**
	9.6nm,0.7s,mb4.5,baz=150,slow=6.3,SNR=5.5						
STKA	**Stephens Creek**	**27.07**	**242**	P	P	**01 20 07.3**	**+0.6**
	1.8nm,0.7s,mb3.7,baz=111,slow=8.6,SNR=3.1						
WRA	**Warramunga Arr**	**33.08**	**266**	P	P	**01 21 00.1**	**-0.2**
	0.7nm,0.6s,mb3.8,baz=98,slow=8.9,SNR=6.2						
QSPA	**South Pole Qui**	**68.53**	**180**	*e*P	P	**01 25 26.0**	**-0.2**
SNAA	**Sanae**	**86.89**	**182**	P	P	**01 27 07.0**	**-0.6**
	1.0nm,0.9s,mb4.0,baz=303,slow=10,SNR=4.0						
VNA3	**Neumayer Olymp**	**87.47**	**180**		P	**01 27 19.3**	**+8.9**
VNA3	**Neumayer Olymp**	**87.47**	**180**	⇑*i*P	P	**01 27 11.4**	**+1.0**
VNA3				P		01 27 19.3	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	87.76	181		P	01 27 22.0	+10
VNA2	Neumayer--Watz	87.76	181⇑	iP	P	01 27 12.5	+0.7
VNA2				P		01 27 22.0	
SONM	Songino Array	89.32	323	P	P	01 27 21.2	+1.4
	0.8nm,0.9s,mb4.0,baz=124,slow=5.2,SNR=3.5						
SONM	Songino Array	89.32	323	P	P	01 27 21.2	+1.4
ILAR	Eielson Array	92.28	17	P	P	01 27 31.8	-1.3
	0.2nm,0.6s,mb3.6,baz=222,slow=4.3,SNR=4.3						
ARCES	ARCESS Array B	127.39	345	PKP	PKPdf	01 33 27.2	-3.0
	5.0nm,1.1s,baz=63,slow=2.7,SNR=6.5						
BRG	Berggiesshubel	145.12	333	eP	PKPbc	01 34 00.6	+0.8
BRG				e		01 34 07.0	
CLL	Collm	145.18	334	P	PKPbc	01 34 01.0	+1.0
GERES	GERESS Array B	146.71	331	PKPbc	PKPbc	01 34 05.8	+2.0
	1.6nm,0.6s,baz=41,slow=2.8,SNR=15						

MOS 03 01:24:30.4±2.0, 54.99N×111.65E, h23km, mb4.4/1, 1C-1D, Error ellipse: s-maj=20.6km s-min=15.1km az=49.1, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.30	248⇓	iPG	Pb	01 24 37.0	-0.3
YLYR				e		01 24 41.9	
YLYR				pmax	pmax		
	comp=Z,118nm,0.1s						
YLYR				smax			
	comp=N,4μm,0.2s						
YOA	Uoyan	1.15	2⇑	iPG	Pn	01 24 50.9	-0.3
YOA				e		01 25 06.6	
YOA				pmax	pmax		
	comp=Z,256nm,0.3s						
YOA				smax			
	comp=N,1μm,0.5s						
UKT	Uakit	1.24	65	ePN	Pn	01 24 52.4	-0.1
NIZ	Nizh Angarsk	1.44	304	ePN	Pn	01 24 56.3	+0.9
NIZ				e		01 25 15.2	
NIZ				pmax	pmax		
	comp=Z,107nm,0.3s						
NIZ				smax			
	comp=N,163nm,0.4s						
SVKR	Severomuysk	1.57	43	ePN	Pn	01 24 59.2	+2.0
SVKR				e		01 25 20.1	
SVKR				pmax	pmax		
	comp=Z,295nm,0.4s						
SVKR				smax			
	comp=E,1μm,0.6s						
CRS	Chara	4.18	60	ePN	Pn	01 25 46.3	+12
CRS				e		01 26 40.2	
CRS				pmax	pmax		
	comp=Z,21nm,1.1s						
CRS				smax			
	comp=E,149nm,1.3s						
SHRR	Shira	12.42	277	eP	P	01 27 25.9	-2.7

DHMR 03 01:34:11.0±1.8, 11.77N×43.75E, h14km±16km, ML3.7, 1C-7D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	At Turbah	1.49	14⇑	iP	Pn	01 34 39.0	+1.5
TRBA				iS	Sb	01 34 57.9	+1.4
TRBA				AML	AML	01 35 03.1	
	comp=E,781nm,0.5s						
UDYN	Al 'Udayn	2.19	5⇓	iP	Pn	01 34 49.1	+1.6
UDYN				iS	Sn	01 35 18.8	+4.3
UDYN				AML	AML	01 35 23.8	
	comp=N,993nm,0.5s						
UDYN	Al 'Udayn	2.19	5⇓	iP	Pn	01 34 49.2	+1.7
UDYN				iS	Sn	01 35 18.8	+4.3
	comp=N,497nm,0.5s						
LBOS		2.54	35⇓	iP	Pn	01 34 54.9	+2.4
LBOS				iS	Sn	01 35 28.5	+5.0
BDHA	Al Bayda'	2.81	39⇓	iP	Pn	01 34 58.3	+1.8
BDHA				iS	Sn	01 35 36.2	+5.8
BDHA				AML	AML	01 35 49.7	
	comp=E,419nm,0.4s						
BDHA	Al Bayda'	2.81	39⇓	iP	Pn	01 34 58.3	+1.9
BDHA				iS	Sn	01 35 36.2	+5.8
	comp=E,209nm,0.4s						
DHBB	Dhamar BB	2.85	13⇓	iP	Pn	01 34 58.5	+1.6
DHBB				iS	Sn	01 35 36.6	+5.3
HAJJ	Hajjah	3.90	358⇓	iP	Pn	01 35 12.4	+0.5
HAJJ				iS	Sn	01 36 02.2	+4.2

*BJI **03** 01:38:54.8, 32.95N×137.53E, h10km, mB5.0, mb4.5, Ms4.4, Msz4.2*
*NIED **03** 01:39:00, 33.10N×137.00E, h14km, Mw4.5 Best double couple: $M_0$6.74×10[15] NP1:ϕ_s52°, δ47°, λ79°. NP2:ϕ_s247°, δ45°, λ101°.*
*JMA **03** 01:39:01.4±0.1, 33.13N×137.00E, h41km±3km, M4.3*
JMA Felt I J1.
*MOS **03** 01:39:03.4±0.8, 33.30N×136.91E, h33km, mb5.0/43, Error ellipse: s-maj=11.0km s-min=5.6km az=106.1*
*IDC **03** 01:39:04.3±0.6, 33.08N×137.01E, h37km±5km, mb4.3/18, mb1 4.5/23, mb1mx4.4/27, mbtmp4.5/23, ML4.1/5, MS3.8/5, Ms1 3.8/5, ms1mx3.4/28, Error ellipse: s-maj=14.5km s-min=12.1km az=68.0*
*NEIC **03** 01:39:04.5±0.2, 33.10N×136.98E, mb4.8/37, MW4.5(NIED), Error ellipse: s-maj=5.6km s-min=4.5km az=166.0*
NEIC Recorded [1 JMA] in Mie, Nara and Wakayama Prefectures.

ISC 03 01:39:03.4±0.2, 33.24N±0.02×136.99E±0.02, h39km, h39km±2.5km:pP-P, n216, σ0s94/238, mb4.7/69, MS4.2/14, 8C-19D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.73	43	P	P	01 39 16.3	-1.0
TK01				eS	S	01 39 27.1	-0.3
TK02	Tokai 2	0.96	42	⇓P	P	01 39 19.6	-0.9
TK02				eS	S	01 39 33.2	+0.1
JWZ	Kozaga	1.11	286	⇓P	P	01 39 21.3	-1.3
JWZ				eS	S	01 39 35.2	-1.7
JKN2	Miekihoku	1.17	329	⇓P	P	01 39 23.3	-0.1
JKN2				S	S	01 39 38.1	-0.3
JIE	Ise	1.18	349	⇓P	P	01 39 23.8	+0.2
JIE				S	S	01 39 39.4	+0.7
TK03	Tokai 3	1.23	41	P	P	01 39 23.6	-0.8
TK03				eS	S	01 39 40.1	-0.1
TK04	Tokai 4	1.36	33	⇓P	P	01 39 25.8	-0.6
TK04				eS	S	01 39 43.7	+0.2
JWM	Minabe	1.50	295	⇓P	P	01 39 27.2	-1.1
JWM				eS	S	01 39 45.5	-1.3
JWY	Kouya	1.52	311	⇓P	P	01 39 28.6	0.0
JWY				eS	S	01 39 47.4	0.0
TSUJ	Tsu 2	1.54	342	P	P	01 39 28.9	-0.1
TSUJ				S	S	01 39 48.4	+0.4
JHE	Heguri	1.78	323	⇓P	P	01 39 32.4	+0.1
JHE				S	S	01 39 54.5	+0.6
SHZ3	Shizuoka 3	2.09	29	P	P	01 39 35.7	-1.0
SHZ3				eS	S	01 40 00.5	-1.1
JAJ2	Tsuna	2.11	305	⇓P	P	01 39 36.8	-0.2
JAJ2				eS	S	01 40 01.8	-0.4
JIZS	Izushimoda	2.16	46	P	P	01 39 37.9	+0.2
JAI	Aioi	2.19	285	⇓P	P	01 39 37.0	-1.2
JAI				eS	S	01 40 02.0	-2.3
JHJ	Hachijo jima 2	2.35	92	Pn	P	01 39 38.7	-1.7
	403nm,0.3s,baz=224,slow=22,SNR=81						
JHJ				Sn	S	01 40 04.2	-4.0
	249nm,0.3s,baz=28,slow=23,SNR=11						
JHJ2	Mitsune	2.38	92	P	P	01 39 38.5	-2.3
JHJ2				eS	S	01 40 05.1	-3.8
JWT	Wachi	2.43	328	⇓P	P	01 39 41.6	0.0
JWT				eS	S	01 40 10.7	+0.4
JGM	Miyama	2.47	355	⇓P	P	01 39 42.1	0.0
JGM				S	S	01 40 12.0	+0.7
JIM2	Oshima 3	2.51	53	P	P	01 39 42.2	-0.5
MAJO	Matsushiro	3.45	17	eP	P	01 39 55.7	-0.4
MAT	Matsushiro	3.45	17	P	P	01 39 56.0	-0.1
MAT				S	S	01 40 36.0	-0.2
MAT	Matsushiro	3.45	17	eP	P	01 39 56.0	-0.1
MAT				eS	S	01 40 36.0	-0.2
MJAR	Matsushiro Arr	3.45	17	Pn	P	01 39 56.3	+0.2
	19nm,0.3s,baz=196,slow=13,SNR=170						
MJAR				Sn	S	01 40 36.1	-0.1
	104nm,0.3s,baz=347,slow=29,SNR=17						
MJAR				LR	LR	01 41 28.4	
	comp=Z,1μm,19.6s,baz=205,slow=40						
MJAR	Matsushiro Arr	3.45	17	P	P	01 39 56.3	+0.2
MJAR						01 40 36.1	
MJAR				pmax	pmax		
	comp=Z,19nm,0.3s						
MJAR				smax			
	comp=N,104nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,1μm,19.6s						
JNU	Nakatsue	5.12	270	Pn	P	01 40 17.6	-2.2
	comp=Z,12nm,0.3s,baz=92,slow=9.9,SNR=38						
CBIJ	Chichi jima	7.59	142	Pn	P	01 40 49.4	-5.0
	comp=Z,13nm,0.3s,baz=68,slow=20,SNR=5.9						
CBIJ				LR	LR	01 43 32.8	
	comp=Z,776nm,18.5s,baz=333,slow=36						
KS15	Wonju Array Si	8.54	302	eP	P	01 41 05.5	-2.0
JOW	Kunigami	9.88	232	LR	LR	01 45 01.0	
	comp=Z,362nm,19.6s,baz=142,slow=36						
ASAJ	Asahikawa	11.71	20	Pn	P	01 41 48.6	-2.2
	comp=Z,0.5nm,0.3s,baz=251,slow=15,SNR=5.3						
ASAJ				LR	LR	01 46 51.8	
	comp=Z,579nm,18.8s,baz=307,slow=40						
ASAJ	Asahikawa	11.71	20	P	P	01 41 48.7	-2.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,579nm,18.8s						
MDJ	Mudanjiang	12.73	335	P	P	01 42 02.1	-2.5
MDJ				AP		01 42 04.7	
MDJ				S	S	01 44 25.8	-0.1
MDJ				PCP	PcP	01 47 37.1	-2.2
MDJ				SCP		01 51 10.5	
MDJ				PCS		01 51 11.8	
MDJ				SCS	ScS	01 54 46.4	+3.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,120nm,4.3s						
MDJ				LR	LR		
	comp=N,190nm,16.7s						
MDJ				LR	LR		
	comp=E,90nm,16.0s						
MDJ				LR	LR		
	comp=Z,230nm,18.1s						
SSE	Sheshan	13.56	265	P	P	01 42 12.6	-2.9
SSE				AMB	AMB		
	comp=Z,30nm,0.8s						
SSE				LR	LR		
	comp=N,120nm,17.5s						
SSE				LR	LR		
	comp=E,100nm,17.5s						
SSE				LR	LR		
	comp=Z,150nm,14.8s						
CN2	Changchun	13.87	323	eP	P	01 42 21.4	+1.9
CN2				eXP		01 42 28.3	
CN2				eS	S	01 44 59.2	+6.0
CN2				AMB	AMB		
	comp=Z,40nm,1.0s						
CN2				LR	LR		
	comp=N,740nm,12.0s						
CN2				LR	LR		
	comp=E,670nm,12.0s						
CN2				LR	LR		
	comp=Z,530nm,12.0s						
NJ2	Nanjing	15.33	271	eP	P	01 42 37.9	-0.7
NJ2				AP		01 42 41.5	
NJ2				XP		01 42 44.9	
NJ2				PP	PP	01 42 48.8	-2.1
NJ2				S	S	01 45 29.0	+1.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,220nm,3.8s						
NJ2				LR	LR		
	comp=N,600nm,11.6s						
NJ2				LR	LR		
	comp=E,720nm,15.9s						
NJ2				LR	LR		
	comp=Z,420nm,14.8s						
KLR	Kul'dur	16.45	348	eP	P	01 42 50.9	-1.9
KLR				MLR	MLR		
	comp=Z,2μm,12.0s						
WHN	Wuhan	19.41	268	eP	P	01 43 29.6	+0.6
HIA	Hailar	20.53	326	eP	P	01 43 41.5	+0.6
HIA				pmax	pmax		
	comp=Z,20nm,0.8s						
HIA	Hailar	20.53	326	eP	P	01 43 41.5	+0.6
	comp=Z,20nm,0.8s						
HHC	Hu-ho-hao-te	21.62	298	eP	P	01 43 54.1	+2.1
HHC				AP		01 43 58.2	
HHC				XP		01 44 01.2	
HHC				PP	PP	01 44 19.9	+2.7
HHC				S	S	01 47 49.2	+5.0
HHC				PCP	PcP	01 47 54.4	+1.0
HHC				SCP		01 51 29.1	
HHC				PCS		01 51 30.9	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
HHC				AMB	AMB		
	comp=Z,330nm,4.4s						
HHC				LR	LR		
	comp=N,340nm,12.9s,MS4.4						
HHC				LR	LR		
	comp=E,990nm,13.9s,MS4.4						
HHC				LR	LR		
	comp=Z,520nm,11.9s,MS4.2						
BTO	Baotou	22.72	297	eP	P	01 44 04.7	+1.8
BTO				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
XAN	Xi'an	23.36	280	P	P	01 44 10.1	+0.9
XAN				AP		01 44 16.1	
XAN				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.7						
ENH	Enshi	23.55	270	eP	P	01 44 11.4	+0.4
	comp=Z,26nm,0.8s,mb4.7						
ULN	Ulaanbaatar	26.83	312	iP	P	01 44 42.1	+0.1
ULN	Ulaanbaatar	26.83	312	eP	P	01 44 41.4	-0.6
	comp=Z,12nm,1.3s,mb4.3						
GYA	Guiyang	27.09	264	P	P	01 44 46.2	+1.5
GYA				AP	pP	01 44 50.8	-4.4
GYA				XP	sP	01 44 53.4	-6.5
GYA				PP	PP	01 45 29.2	-2.3
GYA				S	S	01 49 18.5	+0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,230nm,5.2s						
GYA				LR	LR		
	comp=N,580nm,11.1s,MS4.4						
GYA				LR	LR		
	comp=E,260nm,11.7s,MS4.4						
GYA				LR	LR		
	comp=Z,750nm,11.7s,MS4.5						
SONM	Songino Array	27.23	311	P	P	01 44 46.0	+0.3
	comp=Z,2.2nm,0.8s,mb3.7,baz=116,slow=8.6,SNR=13						
SONM				PcP	PcP	01 48 04.8	-0.6
	comp=Z,1.5nm,0.7s,baz=129,slow=1.7,SNR=7.6						
SONM	Songino Array	27.23	311	P	P	01 44 46.0	+0.3
SONM						01 48 04.8	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LZH	Lanzhou	27.34	285	eP	P	01 44 46.5	-0.3
LZH				AP	pP	01 44 49.6	-7.7
LZH				XP	sP	01 44 51.0	-11
LZH				PP	PP	01 45 34.0	-0.6
LZH				eS	S	01 49 24.1	+2.0
LZH				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
LZH				AMB	AMB		
	comp=Z,120nm,4.8s						
LZH				LR	LR		
	comp=E,680nm,12.1s						
LZH				LR	LR		
	comp=Z,1μm,13.3s,MS4.6						
MA2	Magadan	27.89	15	eP	P	01 44 42.7	-8.9
MA2				ePPP	PPP	01 45 51.8	-1.7
MA2				e		01 48 08.4	
MA2				eSSS	SSS	01 50 58.1	-14
MA2				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.8						
MA2				MLR	MLR		
	comp=Z,300nm,22.0s,MS3.8						
CD2	Chengdu	28.19	274	P	P	01 44 53.4	-1.1
CD2				PP	PP	01 45 47.6	+1.9
CD2				PPP	PPP	01 46 00.6	+2.7
CD2				S	S	01 49 42.8	+6.9
CD2				SS	SS	01 51 10.6	+10
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				LR	LR		
	comp=N,270nm,14.4s						
CD2				LR	LR		
	comp=Z,300nm,16.2s,MS4.0						
YAK	Yakutsk	29.19	353	iP	P	01 45 03.5	+0.4
YAK				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.7						
YAK				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.2						
ZAK	Zakamensk	30.07	315	eP	P	01 45 06.8	-4.3
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.9						
GTA	Gaotai	30.43	292	eP	P	01 45 14.0	-0.4
GTA				AP	pP	01 45 18.0	-7.1
GTA				XP	sP	01 45 20.4	-10
GTA				PP	PP	01 46 15.3	+0.6
GTA				PCP	PcP	01 48 13.1	-0.3
GTA				S	S	01 50 16.0	+4.7
GTA				SS	SS	01 51 57.9	+5.2
GTA				AMB	AMB		
	comp=Z,220nm,4.9s						
GTA				LR	LR		
	comp=N,260nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=E,430nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=Z,460nm,14.8s,MS4.2						
KMI	Kunming	30.87	264	P	P	01 45 18.4	-0.1
KMI				S	S	01 50 21.3	+2.9
KMI				LR	LR		
	comp=N,230nm,13.5s,MS4.2						
KMI				LR	LR		
	comp=E,330nm,14.5s,MS4.2						
KMI				LR	LR		
	comp=Z,370nm,13.5s,MS4.2						
BILL	Bilibino	38.70	17	eP	P	01 46 25.8	+0.8
BILL				e		01 48 34.7	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.0						
TIXI	Tiksi	38.72	356	iP	P	01 46 25.2	+0.1
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.1						
LSA	Lhasa	39.02	278	eP	P	01 46 29.0	+1.0
LSA	Lhasa	39.02	278	eP	P	01 46 28.7	+0.7
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
LSA	Lhasa	39.02	278	eP	P	01 46 28.7	+0.7
	comp=Z,12nm,0.8s,mb4.7						
WMQ	Urumqi	39.46	300	P	P	01 46 31.8	+0.3
WMQ				AP	pP	01 46 36.2	-6.3
WMQ				XP	sP	01 46 38.8	-8.5
WMQ				PP	PP	01 48 07.0	+0.7
WMQ				PCP	PcP	01 48 39.5	-0.1
WMQ				eS	S	01 52 34.0	+3.3
WMQ				SCS	ScS	01 56 37.4	+2.9
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,290nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,22.0s,MS4.8						
WMQ				LR	LR		
	comp=E,880nm,22.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,960nm,21.2s,MS4.6						
NVS	Novosibirsk	42.98	317	eP	P	01 46 59.6	-0.7
NVS				e		01 48 46.7	
NVS				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.6						
NVS				pmax	pmax		
	comp=E,15nm,1.2s						
MKAR	Makanchi Array	43.19	305	P	P	01 47 03.0	+0.9
	comp=E,4.2nm,0.7s,mb4.3,baz=92,slow=10,SNR=18						
MKAR				PcP	PcP	01 48 49.7	-2.0
	comp=E,2.8nm,0.9s,baz=82,slow=8.6,SNR=4.4						
MKAR	Makanchi Array	43.19	305	P	P	01 47 03.0	+0.9
MKAR						01 48 49.7	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JIRN	Jiri	43.80	277	eP	P	01 47 07.6	+0.2
	comp=Z,50nm,0.8s,mb5.3						
GUN	Gumba	43.97	277	eP	P	01 47 08.9	+0.1
	comp=Z,37nm,0.9s,mb5.1						
PKI	Pulchoki	44.48	277	eP	P	01 47 12.2	-0.6
KKN	Kakani	44.51	277	eP	P	01 47 12.3	-0.8
	comp=Z,29nm,0.8s,mb5.1						
KKN	Kakani	44.51	277	eP	P	01 47 12.3	-0.8
KKN				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
GKN	Gorkha	44.97	278	eP	P	01 47 16.4	-0.4
KURK	Kurchatov	45.53	311c	iP	P	01 47 20.7	-0.2
KURK	Kurchatov	45.53	311	eP	P	01 47 20.5	-0.5
	comp=Z,14nm,1.0s,mb4.8						
KOLN	Koldanda	45.91	278	eP	P	01 47 23.8	-0.5
	comp=Z,23nm,0.9s,mb5.1						
AAK	Ala-Archa	49.17	300	eP	P	01 47 48.1	-1.4
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK	Ala-Archa	49.17	300	eP	P	01 47 48.1	-1.4
	comp=Z,3.9nm,0.8s,mb4.5						
BVAR	Borovoye Array	50.52	314	P	P	01 47 59.6	-0.1
	comp=Z,4.6nm,0.9s,mb4.4,baz=100,slow=9.0,SNR=9.7						
BVAR	Borovoye Array	50.52	314	P	P	01 47 59.6	-0.1
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KDAK	Kodiak Island	52.34	40	P	P	01 48 13.1	-0.2
	comp=Z,16nm,0.7s,mb5.0,baz=256,slow=5.6						
WRAB	Tennant Creek	52.93	183	eP	P	01 48 14.4	-3.8
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
WRAB	Tennant Creek	52.93	183	eP	P	01 48 14.3	-3.9
	comp=Z,16nm,1.0s,mb4.9						
WB2	Warramunga Arr	52.94	183	eP	P	01 48 15.0	-3.3
WB2				e	pP	01 48 27.0	-2.5
WRA	Warramunga Arr	52.94	183	P	P	01 48 15.1	-3.2
	comp=Z,7.2nm,0.9s,mb4.6,baz=1.4,slow=7.8,SNR=45						
WRA				pP	pP	01 48 26.9	-2.5
	comp=Z,7.7nm,0.9s,baz=0.2,slow=7.7,SNR=15						
WRA				PcP	PcP	01 49 25.4	-1.5
	comp=Z,3.3nm,0.8s,baz=356,slow=4.2,SNR=7.5						
WRA	Warramunga Arr	52.94	183	P	P	01 48 15.1	-3.2
WRA				*PP	pP	01 48 26.9	-2.6
WRA						01 49 25.4	
WRA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
COLA	College	54.20	31	iP	P	01 48 27.7	+0.7
ILAR	Eielson Array	54.62	31	P	P	01 48 29.2	-0.8
	comp=Z,1.7nm,0.8s,mb4.1,baz=275,slow=4.6,SNR=17						
ILAR				PcP	PcP	01 49 31.1	-1.5
	comp=Z,0.7nm,0.7s,baz=268,slow=3.4,SNR=4.3						
ILAR	Eielson Array	54.62	31	P	P	01 48 29.3	-0.8
ILAR						01 49 31.1	
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DIV	Divide	55.47	35	eP	P	01 48 36.8	+0.5
SVE	Sverdlovsk	55.64	320	eP	P	01 48 38.3	+0.7
SVE				MLR	MLR		
	comp=N,100nm,12.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,100nm,12.0s,MS4.3						
SVE				MLR	MLR		
	comp=Z,200nm,12.0s,MS4.4						
ARU	Arti	56.84	319⇓	iP	P	01 48 45.0	-1.2
ARU				e		01 50 49.2	
ARU				eS	S	01 56 35.7	+0.6
ARU				eSS	SS	02 00 21.7	-2.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**64.91**	**176**	eP	**P**	**01 49 38.7**	**-2.5**
	comp=Z,4.8nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**64.91**	**176**	P	**P**	**01 49 38.9**	**-2.3**
	comp=Z,5.2nm,0.7s,mb4.7,baz=344,slow=7.0,SNR=8.9						
STKA				pP	pP	01 49 50.1	-2.6
	comp=Z,4.9nm,0.8s,baz=336,slow=7.8,SNR=5.2						
ARCES	**ARCESS Array B**	**66.25**	**339**	P	**P**	**01 49 49.5**	**+0.3**
	comp=Z,2.4nm,0.5s,mb4.5,baz=61,slow=8.8,SNR=19						
ARCES				pP	pP	01 50 01.0	+0.2
	comp=Z,3.1nm,1.0s,baz=51,slow=7.8,SNR=1.6						
ARCES				LR	LR	02 23 31.8	
	comp=Z,114nm,18.4s,MS4.1,baz=103,slow=40						
ARCES	**ARCESS Array B**	**66.25**	**339**	P	**P**	**01 49 49.5**	**+0.3**
ARCES				*PP	pP	01 50 01.0	+0.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,114nm,18.4s						
JOF	**Joensuu**	**67.58**	**332**	ep	**P**	**01 49 56.4**	**-1.2**
	comp=Z,3.6nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**68.88**	**28**	P	**P**	**01 50 05.6**	**-0.1**
	comp=Z,1.7nm,0.5s,mb4.2,baz=300,slow=6.1,SNR=19						
YKA				PcP	PcP	01 50 30.2	+0.1
	comp=Z,1.6nm,0.8s,baz=300,slow=4.3,SNR=6.1						
YKA	**Yellowknife Ar**	**68.88**	**28**	P	**P**	**01 50 05.6**	**-0.1**
YKA						01 50 30.2	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**68.88**	**28**	P	**P**	**01 50 05.6**	**-0.1**
YKA				PcP	PcP	01 50 30.2	+0.1
OBN	**Obninsk**	**68.94**	**323**	i P	**P**	**01 50 05.6**	**-0.6**
OBN				e		01 50 29.4	
OBN				e		01 52 40.1	
OBN				eS	S	01 59 08.7	+2.2
OBN				eSS	SS	02 03 33.4	-0.7
OBN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.3						
DAG	**Danmarks Havn**	**69.21**	**354**	⇓iP	**P**	**01 50 07.7**	**+0.1**
	comp=Z,4.5nm,0.8s,mb4.5						
DAG	**Danmarks Havn**	**69.21**	**354**	⇓eP	**P**	**01 50 07.7**	**+0.1**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
DAG	**Danmarks Havn**	**69.21**	**354**	⇓eP	**P**	**01 50 07.7**	**+0.1**
	comp=Z,4.5nm,0.8s,mb4.5						
KAF	**Kangasniemi**	**69.99**	**332**	ep	**P**	**01 50 10.4**	**-2.1**
	comp=Z,2.1nm,0.5s,mb4.3,baz=52,slow=5.4						
KAF	**Kangasniemi**	**69.99**	**332**	eP	**P**	**01 50 10.4**	**-2.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**70.45**	**332**	P	**P**	**01 50 15.1**	**-0.2**
	comp=Z,1.9nm,0.4s,mb4.4,baz=60,slow=6.4,SNR=36						
FINES	**FINESS Array B**	**70.45**	**332**	P	**P**	**01 50 15.1**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**70.45**	**332**	P	**P**	**01 50 15.1**	**-0.2**
KIV	**Kislovodsk**	**70.62**	**310**	i P	**P**	**01 50 15.4**	**-1.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.5						
KIV	**Kislovodsk**	**70.62**	**310**	eP	**P**	**01 50 17.4**	**+0.7**
	comp=Z,18nm,1.1s,mb4.9						
GNI	**Garni**	**71.02**	**306**	i P	**P**	**01 50 19.3**	**+0.1**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ANN	**Anapa**	**73.50**	**313**	eP	**P**	**01 50 27.9**	**-5.8**
MIB	**Mutribah**	**74.09**	**295**	eP	**P**	**01 50 36.3**	**-1.2**
KBD	**Kabd**	**74.12**	**295**	eP	**P**	**01 50 36.8**	**-0.9**
KBD				AMb	AMB	01 50 40.6	
	comp=Z,72nm,0.8s,mb5.6						
NAY	**Al-Naaiem**	**74.43**	**295**	eP	**P**	**01 50 38.2**	**-1.3**
NAY				AMb	AMB	01 50 39.6	
	comp=Z,21nm,1.2s,mb5.0						
AKASG	**Malin Array Be**	**75.03**	**321**	P	**P**	**01 50 42.0**	**-0.4**
	comp=Z,8.9nm,0.6s,mb4.8,baz=52,slow=6.2,SNR=45						
AKASG	**Malin Array Be**	**75.03**	**321**	P	**P**	**01 50 42.1**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NB2	**NORSAR Subarra**	**76.23**	**336**	P	**P**	**01 50 48.8**	**-0.3**
	comp=Z,1.5nm,0.5s,mb4.2,baz=45,slow=5.6						
NOA	**NORSAR Array B**	**76.23**	**336**	P	**P**	**01 50 48.9**	**-0.2**
	comp=Z,2.3nm,0.5s,mb4.3,baz=45,slow=5.6,SNR=8.3						
NOA	**NORSAR Array B**	**76.23**	**336**	P	**P**	**01 50 48.9**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BR131	**Keskin Array S**	**78.58**	**310**	eP	**P**	**01 51 02.3**	**-0.3**
	comp=Z,4.7nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**78.58**	**310**	P	**P**	**01 51 02.8**	**+0.2**
	comp=Z,5.6nm,0.9s,mb4.5,baz=106,slow=4.6,SNR=26						
BRTR	**Keskin Array B**	**78.58**	**310**	P	**P**	**01 51 02.8**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FFC	**Flin Flon**	**78.83**	**30**	eP	**P**	**01 51 03.4**	**-0.3**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
FFC	**Flin Flon**	**78.83**	**30**	eP	**P**	**01 51 03.4**	**-0.2**
	comp=Z,4.5nm,0.6s,mb4.6						
BURAR	**Bucovina Array**	**78.97**	**320**	⇓P	**P**	**01 51 05.3**	**+0.7**
BURAR	**Bucovina Array**	**78.97**	**320**	⇓P	**P**	**01 51 05.3**	**+0.7**
KWP	**Kalwaria**	**79.03**	**323**	eP	**P**	**01 51 05.6**	**+0.8**
CMB	**Columbia Colle**	**79.05**	**52**	eP	**P**	**01 51 04.7**	**-0.5**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CMB	**Columbia Colle**	**79.05**	**52**	eP	**P**	**01 51 04.7**	**-0.5**
	comp=Z,3.9nm,0.9s,mb4.3						
EGMT	**Eagleton**	**79.50**	**39**	eP	**P**	**01 51 07.8**	**+0.3**
	comp=Z,3.2nm,0.8s,mb4.3						
DLMT	**Dillon**	**79.59**	**42**	eP	**P**	**01 51 08.5**	**+0.5**
	comp=Z,6.1nm,0.9s,mb4.5						
KOLS	**Kolonicke sedl**	**79.69**	**322**	eP	**P**	**01 51 06.6**	**-1.9**
STHS	**Stebnicka Huta**	**79.90**	**323**	eP	**P**	**01 51 09.8**	**+0.2**
STHS				e		01 51 29.8	
OJC	**Ojcow**	**80.09**	**325**	eP	**P**	**01 51 11.0**	**+0.4**
CRVS	**Cervenica-Dubn**	**80.12**	**323**	eP	**P**	**01 51 11.0**	**+0.2**
NVAR	**Mina Array Bea**	**80.18**	**50**	P	**P**	**01 51 12.5**	**+1.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=280,slow=5.6,SNR=10.0						
KECS	**Kecovo**	**80.89**	**323**	eP	**P**	**01 51 14.3**	**-0.5**
GCMT	**Greycliff**	**80.95**	**41**	eP	**P**	**01 51 15.5**	**+0.3**
OKC	**Ostrava-Krasne**	**81.15**	**325**	eP	**P**	**01 51 16.5**	**+0.3**
KSP	**Ksiaz**	**81.34**	**327**	eP	**P**	**01 51 18.0**	**+0.8**
KSP	**Ksiaz**	**81.34**	**327**	eP	**P**	**01 51 17.9**	**+0.7**
MORC	**Moravsky Berou**	**81.48**	**325**	eP	**P**	**01 51 18.2**	**+0.3**
MORC				pmax	pmax		
	comp=Z,52nm,3.1s						
MORC	**Moravsky Berou**	**81.48**	**325**	⇑P	**P**	**01 51 18.8**	**+0.9**
MORC	**Moravsky Berou**	**81.48**	**325**	eP	**P**	**01 51 18.2**	**+0.3**
	comp=Z,52nm,3.1s						
DPC	**Dobruska-Polom**	**81.66**	**326**	eP	**P**	**01 51 19.8**	**+0.9**
UPC	**Upice**	**81.70**	**326**	eP	**P**	**01 51 20.0**	**+1.0**
VYHS	**Vyhne**	**81.71**	**324**	i P	**P**	**01 51 20.1**	**+1.0**
BSEG	**Bad Segeberg**	**81.72**	**331**	eP	**P**	**01 51 19.7**	**+0.6**
BSEG				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
BZS	**Buzias**	**82.15**	**320**	⇓P	**P**	**01 51 21.7**	**+0.2**
VRAC	**Vranov**	**82.25**	**325**	⇑P	**P**	**01 51 23.1**	**+1.2**
PVCC	**Panska Ves**	**82.35**	**327**	eP	**P**	**01 51 23.1**	**+0.7**
TPNV	**Topopah Spring**	**82.37**	**51**	eP	**P**	**01 51 23.2**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
TPNV	**Topopah Spring**	**82.37**	**51**	eP	**P**	**01 51 23.2**	**+0.5**
	comp=Z,9.8nm,1.2s,mb4.6						
SMOL	**Smolenice**	**82.39**	**324**	eP	**P**	**01 51 24.1**	**+1.5**
BRG	**Berggiesshubel**	**82.39**	**328**	eP	**P**	**01 51 23.1**	**+0.5**
BRG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
BRG	**Berggiesshubel**	**82.39**	**328**	eP	**P**	**01 51 23.1**	**+0.5**
	comp=Z,8.3nm,0.9s,mb4.7						
CLL	**Collm**	**82.50**	**328**	⇑P	**P**	**01 51 23.2**	**+0.1**
	comp=Z,logA/T=1.2,mb4.9						
CLL				i *PP	pP	01 51 35.3	+0.4
CLL	**Collm**	**82.50**	**328**	⇑iP	**P**	**01 51 23.2**	**+0.1**
CLL				i *PP	pP	01 51 35.3	+0.4
CLL				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
CLL	**Collm**	**82.50**	**328**	⇑iP	**P**	**01 51 23.2**	**+0.1**
	comp=Z,15nm,0.9s,mb4.9						
CLL				i pP	pP	01 51 35.3	+0.4
PRU	**Pruhonice**	**82.74**	**327**	eP	**P**	**01 51 25.2**	**+0.8**
TREC	**Trest**	**82.78**	**326**	eP	**P**	**01 51 25.6**	**+1.0**
PDAR	**Pinedale Array**	**82.91**	**43**	P	**P**	**01 51 26.2**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.2,baz=303,slow=2.3,SNR=16						
VTS	**Vitosha**	**83.21**	**317**	⇑P	**P**	**01 51 27.5**	**+0.6**
CLZ	**Clausthal**	**83.24**	**330**	eP	**P**	**01 51 27.5**	**+0.6**
CLZ				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
CLZ	**Clausthal**	**83.24**	**330**	eP	**P**	**01 51 27.5**	**+0.6**
	comp=Z,21nm,1.1s,mb5.1						
NKC	**Novy Kostel**	**83.51**	**328**	eP	**P**	**01 51 29.6**	**+1.3**
MOX	**Moxa**	**83.58**	**329**	i P	**P**	**01 51 29.2**	**+0.6**
KHC	**Kasperske Hory**	**83.79**	**327**	eP	**P**	**01 51 30.3**	**+0.6**
KHC	**Kasperske Hory**	**83.79**	**327**	⇑iP	**P**	**01 51 30.2**	**+0.5**
GEC2	**GERESS Array S**	**83.94**	**326**	eP	**P**	**01 51 30.9**	**+0.5**
GEC2				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
GEC2	**GERESS Array S**	**83.94**	**326**	eP	**P**	**01 51 30.9**	**+0.5**
	comp=Z,11nm,0.9s,mb5.0						
GERES	**GERESS Array B**	**83.94**	**326**	P	**P**	**01 51 31.2**	**+0.7**
	comp=Z,6.3nm,0.7s,mb4.8,baz=40,slow=4.8,SNR=53						
GERES				pP	pP	01 51 42.9	+0.6
	comp=Z,2.6nm,0.8s,baz=45,slow=3.8,SNR=6.8						
GERES	**GERESS Array B**	**83.94**	**326**	P	**P**	**01 51 31.2**	**+0.8**
GERES				*PP	pP	01 51 42.9	+0.6
GERES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MVU	**Marysvale**	**83.99**	**48**	eP	**P**	**01 51 32.1**	**+1.1**
	comp=Z,8.0nm,1.1s,mb4.8						
MSU	**Marysvale**	**84.01**	**47**	eP	**P**	**01 51 32.6**	**+1.5**
NEN	**Nelson**	**84.05**	**51**	eP	**P**	**01 51 31.8**	**+0.5**
WET	**Wettzell**	**84.10**	**327**	eP	**P**	**01 51 32.3**	**+1.0**
WET				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
WET	**Wettzell**	**84.10**	**327**	eP	**P**	**01 51 32.3**	**+1.0**
	comp=Z,10.0nm,1.0s,mb4.9						
GRA1	**Grafenberg Arr**	**84.45**	**328**	eP	**P**	**01 51 33.7**	**+0.7**
	comp=Z,36nm,1.1s,mb5.4						
GRF	**Grafenberg Arr**	**84.45**	**328**	eP	**P**	**01 51 33.7**	**+0.7**
GRF				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.4						
GRF	**Grafenberg Arr**	**84.45**	**328**	eP	**P**	**01 51 33.7**	**+0.7**
GRF				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.4						
GRF	**Grafenberg Arr**	**84.45**	**328**	eP	**P**	**01 51 33.7**	**+0.7**
	comp=Z,36nm,1.1s,mb5.4						
ULM	**Lac du Bonnet**	**84.64**	**31**	P	**P**	**01 51 33.9**	**-0.1**
	comp=Z,3.2nm,0.9s,mb4.5,baz=284,slow=7.3,SNR=4.3						
SRU	**San Rafael**	**84.65**	**46**	eP	**P**	**01 51 35.0**	**+0.7**
SRU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
SRU	**San Rafael**	**84.65**	**46**	eP	**P**	**01 51 35.0**	**+0.8**
	comp=Z,8.2nm,1.0s,mb4.8						
FUR	**Furstenfeldbru**	**85.54**	**327**	eP	**P**	**01 51 38.7**	**+0.2**
FUR				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.3						
FUR	**Furstenfeldbru**	**85.54**	**327**	eP	**P**	**01 51 38.7**	**+0.2**
	comp=Z,22nm,1.1s,mb5.3						
BAIF	**Baives**	**87.12**	**332**	eP	**P**	**01 51 46.2**	**+0.1**
	comp=Z,9.6nm,0.9s,mb4.7						
BAIF	**Baives**	**87.12**	**332**	eP	**P**	**01 51 46.2**	**+0.1**
BAIF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
CDF	**Champ du Feu**	**87.13**	**329**	eP	**P**	**01 51 47.3**	**+1.1**
HINF	**Hinteralfeld**	**87.77**	**329**	eP	**P**	**01 51 49.7**	**+0.4**
	comp=Z,4.2nm,0.6s,mb4.6						
HINF	**Hinteralfeld**	**87.77**	**329**	eP	**P**	**01 51 49.7**	**+0.4**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
HAU	**Haudompre**	**87.84**	**329**	eP	**P**	**01 51 49.9**	**+0.2**
MEZF	**Maizieres J'vi**	**88.00**	**330**	eP	**P**	**01 51 50.4**	**0.0**
CABF	**La Chapelle**	**89.03**	**329**	eP	**P**	**01 51 55.2**	**-0.2**
LOR	**Lormes**	**89.47**	**330**	eP	**P**	**01 51 57.2**	**-0.2**
LPL	**La Plagne**	**89.59**	**328**	eP	**P**	**01 51 58.3**	**+0.2**
	comp=Z,33nm,1.2s,mb5.2						
LPL	**La Plagne**	**89.59**	**328**	eP	**P**	**01 51 58.3**	**+0.2**
LPL				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.2						
LPG	**La Plagne**	**89.60**	**328**	eP	**P**	**01 51 58.4**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0						
LPG	**La Plagne**	**89.60**	**328**	eP	**P**	**01 51 58.4**	**+0.3**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
ANMO	**Albuquerque**	**89.81**	**47**	i P	**P**	**01 52 00.2**	**+0.9**
AVF	**Avril sur Loir**	**90.06**	**330**	eP	**P**	**01 52 00.1**	**-0.1**
	comp=Z,13nm,0.9s,mb5.0						
AVF	**Avril sur Loir**	**90.06**	**330**	eP	**P**	**01 52 00.1**	**-0.1**
AVF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
GDL2	**Guadalupe Moun**	**92.94**	**48**	eP	**P**	**01 52 14.9**	**+1.0**
LTX	**Lajitas**	**95.32**	**50**	eP	**P**	**01 52 25.5**	**+0.7**
LTX				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.2						
LTX	**Lajitas**	**95.32**	**50**	eP	**P**	**01 52 25.5**	**+0.7**
	comp=Z,9.5nm,1.1s,mb5.1						
TXAR	**Lajitas Array**	**95.32**	**50**	P	**P**	**01 52 26.1**	**+1.3**
	comp=Z,4.6nm,0.8s,mb5.0,baz=290,slow=3.3,SNR=58						
TXAR	**Lajitas Array**	**95.32**	**50**	P	**P**	**01 52 26.1**	**+1.3**
TXAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**117.19**	**310**	PKP	PKPdf	01 57 45.2	+0.2
	comp=Z,0.9nm,0.6s,baz=43,slow=0.9,SNR=20						
QSPA	**South Pole Qui**	**122.99**	**180**	ePKP	PKPdf	01 57 54.5	-0.4
DBIC	**Dimbokro**	**126.28**	**310**	PKP	PKPdf	01 58 02.5	-0.3
	comp=Z,2.9nm,0.7s,baz=38,slow=2.4,SNR=4.9						
DBIC	**Dimbokro**	**126.28**	**310**	PKIKP	PKPdf	01 58 02.5	-0.3
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SAML	**Samuel**	**149.49**	**42**	ePKPdf	PKPdf	01 58 45.1	+0.5
SAML				ePKPbc	PKPdf	01 58 49.5	+5.0
LPAZ	**La Paz**	**151.74**	**59**	PKPbc	PKPdf	01 58 56.5	+8.6
	comp=Z,2.0nm,0.9s,baz=30,slow=5.5,SNR=5.5						
LPAZ	**La Paz**	**151.74**	**59**	PKIKP	PKPdf	01 58 56.5	+8.6
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
USHA	**Ushuaia**	**151.99**	**148**	PKPbc	PKPdf	01 58 55.3	+8.2
	comp=Z,16nm,0.9s,baz=243,slow=2.3,SNR=4.3						
SIV	**San Ignacio**	**156.31**	**48**	PKP	PKPdf	01 58 54.7	+0.6
	comp=Z,0.6nm,0.7s,baz=203,slow=2.1,SNR=4.4						
SIV				PKPab	PKPab	01 59 23.6	-1.3
	comp=Z,2.6nm,0.6s,baz=301,slow=4.5,SNR=15						

SNSN 03 01:43:51.0, 24.07N×49.51E, h175^{km}, Ml3.7, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HASS	**Wahat al Ahsa'**	**1.12**	**8**	P	P	01 44 19.4	+0.1
HASS				S	S	01 44 40.0	-1.3
RYDS	**Riyadh**	**2.63**	**273**	P	P	01 44 37.5	+2.0
RYDS				S	S	01 45 09.2	-0.5
MZLS	**Mizel**	**3.94**	**270**	P	P	01 44 49.4	-2.5
KAMS	**Al Khamasin**	**5.91**	**232**	P	P	01 45 16.6	-0.9
AFFS	**'Afif**	**5.96**	**270**	P	P	01 45 17.5	-0.7
TATS	**Tathlith**	**7.20**	**232**	P	P	01 45 33.8	-0.7

*IDC **03** 01:44:11.6±2.1, 29.26N×130.35E, h50^{km}±18^{km}, mb3.7/9, mb1 3.8/11, mb1mx3.7/22, mbtmp4.0/11, ML3.5/2, Error ellipse: s-maj=30.3km s-min=15.0km az=100.0*
*NEIC **03** 01:44:11.2±1.2, 29.25N×130.28E, h44^{km}±11^{km}, mb4.5/2, Error ellipse: s-maj=19.5km s-min=9.9km az=93.0*
ISC 03 01:44:11.5±1.4**, 29.30N**±0.06×**130.4E**±0.2**, h66^{km}**±12^{km}**, n17, σ0^{s}73**/20**, mb4.0**/12**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**3.11**	**218**	P	**P**	**01 44 55.4**	**-4.0**
	5.7nm,0.3s,baz=132,slow=25,SNR=6.0						
JOW				S	**S**	**01 45 35.6**	**+0.1**
	11nm,0.3s,baz=127,slow=27,SNR=2.8						
JOW	**Kunigami**	**3.11**	**218**	P	**P**	**01 44 55.4**	**-4.0**
JOW				S	**S**	**01 45 35.6**	**+0.1**
JNU	**Nakatsue**	**3.83**	**6**	P	**P**	**01 45 09.3**	**-0.1**
	7.2nm,0.3s,baz=194,slow=13,SNR=32						
JNU				S	**S**	**01 45 54.1**	**+0.5**
	3.8nm,0.3s,baz=105,slow=29,SNR=6.8						
SONM	**Songino Array**	**26.21**	**322**	P	**P**	**01 49 40.5**	**-1.2**
	0.5nm,0.5s,mb3.2,baz=141,slow=9.2,SNR=3.8						
MKAR	**Makanchi Array**	**41.05**	**309**	P	**P**	**01 51 50.4**	**+0.5**
	1.1nm,0.6s,mb3.9,baz=93,slow=10,SNR=6.2						
KURK	**Kurchatov**	**44.02**	**314**	eP	**P**	**01 52 13.8**	**-0.2**
WRAB	**Tennant Creek**	**49.09**	**175**	P	**P**	**01 52 54.2**	**-0.1**
	2.8nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**49.10**	**175**	P	**P**	**01 52 55.0**	**+0.6**
	0.8nm,0.8s,mb3.7,baz=354,slow=8.4,SNR=5.4						
WRA				pP	pP	01 53 05.1	-6.2
	1.6nm,0.7s,baz=352,slow=8.3,SNR=10.0						
BVAR	**Borovoye Array**	**49.35**	**316**	P	**P**	**01 52 56.3**	**+0.4**
	4.8nm,0.6s,mb4.6,baz=96,slow=10,SNR=28						
BRVK	**Borovoye**	**49.42**	**316**	eP	**P**	**01 52 56.1**	**-0.3**
	3.5nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**60.82**	**29**	P	**P**	**01 54 18.1**	**-0.6**
	0.8nm,0.7s,mb3.8,baz=281,slow=6.0,SNR=7.0						
JOF	**Joensuu**	**68.32**	**331**	ep	**P**	**01 55 07.2**	**-0.1**
	2.7nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**71.17**	**331**	P	**P**	**01 55 23.3**	**-1.4**
	1.0nm,0.5s,mb3.9,baz=70,slow=7.3,SNR=11						
FINES	**FINESS Array B**	**71.17**	**331**	P	**P**	**01 55 23.3**	**-1.4**
AKASG	**Malin Array Be**	**74.47**	**320**	P	**P**	**01 55 44.8**	**+0.5**
	3.8nm,0.6s,mb4.3,baz=59,slow=6.4,SNR=12						
BRTR	**Keskin Array B**	**76.69**	**308**	P	**P**	**01 55 58.6**	**+1.5**
	2.0nm,0.6s,mb4.0,baz=96,slow=4.5,SNR=14						
NOA	**NORSAR Array B**	**77.42**	**334**	P	**P**	**01 56 00.9**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=50,slow=5.8,SNR=3.1						

*IDC **03** 02:01:11.3±0.7, 6.74N×72.99W, h161^{km}±6^{km}, mb3.5/10, mb1 3.7/12, mb1mx3.6/23, mbtmp4.0/12, Error ellipse: s-maj=11.9km s-min=7.6km az=128.0*
*NEIC **03** 02:01:12.2±0.6, 6.74N×73.00W, h170^{km}±6^{km}, mb4.1/1, Error ellipse: s-maj=10.1km s-min=8.1km az=79.0*
ISC 03 02:01:11.0±0.6**, 6.72N**±0.06×**72.96W**±0.07**, h174^{km}**±6^{km}**, n20, σ1^{s}05**/20**, mb3.7**/10**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.30**	**217**	P	**P**	**02 01 52.8**	**+1.3**
	120nm,0.3s,baz=35,slow=2.8,SNR=304						
ROSC				S	**S**	**02 02 21.1**	**-1.5**
	53nm,0.3s,baz=89,slow=15,SNR=8.2						
SDV	**Santo Domingo**	**3.16**	**47**	P	**P**	**02 02 02.6**	**+0.6**
	8.5nm,0.3s,baz=183,slow=0.8,SNR=24						
SDV				S	**S**	**02 02 40.5**	**-0.7**
	30nm,0.3s,baz=291,slow=12,SNR=15						
OTAV	**Otavalo**	**8.45**	**221**	eP	**P**	**02 03 11.2**	**0.0**
RCC	**Rio Carpintero**	**13.46**	**349**	P	**P**	**02 04 18.3**	**+2.2**
SAML	**Samuel**	**18.36**	**148**	eP	**P**	**02 05 13.8**	**-1.3**
	6.0nm,0.7s						
LPAZ	**La Paz**	**23.35**	**168**	P	**P**	**02 06 06.5**	**+1.5**
	0.7nm,0.3s,mb3.5,baz=350,slow=11,SNR=7.1						
LPAZ	**La Paz**	**23.35**	**168**	P	**P**	**02 06 06.5**	**+1.5**
SIV	**San Ignacio**	**25.45**	**153**	P	**P**	**02 06 25.0**	**+0.3**
	1.0nm,0.7s,mb3.4,baz=338,slow=11,SNR=6.6						
BDFB	**Brasilia**	**33.23**	**132**	P	**P**	**02 07 35.2**	**+1.5**
	3.5nm,0.5s,mb4.3,baz=292,slow=13,SNR=9.1						
TXAR	**Lajitas Array**	**36.65**	**312**	P	**P**	**02 08 02.6**	**0.0**
	0.9nm,0.6s,mb3.5,baz=125,slow=9.4,SNR=16						
ULM	**Lac du Bonnet**	**47.44**	**340**	P	**P**	**02 09 28.4**	**-1.3**
	1.9nm,0.4s,mb4.1,baz=136,slow=8.0,SNR=7.4						
PDAR	**Pinedale Array**	**48.26**	**324**	P	**P**	**02 09 36.1**	**-0.1**
	0.7nm,0.6s,mb3.5,baz=129,slow=9.3,SNR=6.9						
NVAR	**Mina Array Bea**	**51.67**	**315**	P	**P**	**02 10 02.5**	**+0.3**
	1.0nm,0.9s,mb3.4,baz=117,slow=8.1,SNR=3.6						
YKA	**Yellowknife Ar**	**63.42**	**340**	P	**P**	**02 11 23.2**	**-0.9**
	1.4nm,0.6s,mb4.0,baz=133,slow=6.7,SNR=28						
YKA				pP	pP	02 12 01.4	-3.7
	0.4nm,0.5s,baz=132,slow=6.6,SNR=3.0						
YKA	**Yellowknife Ar**	**63.42**	**340**	P	**P**	**02 11 23.2**	**-0.9**
YKA				pP	pP	02 12 01.4	-3.8
DBIC	**Dimbokro**	**67.58**	**86**	P	**P**	**02 11 50.7**	**-0.7**
	6.1nm,1.1s,mb4.3,baz=140,slow=6.9,SNR=12						
DBIC	**Dimbokro**	**67.58**	**86**	P	**P**	**02 11 50.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**73.60**	**78**	P	**P**	**02 12 26.8**	**-0.8**
	0.2nm,0.3s,mb3.3,baz=284,slow=6.6,SNR=10						
MKAR	**Makanchi Array**	**122.37**	**20**	PKP	PKPdf	02 19 47.3	+1.8
	1.3nm,1.0s,baz=340,slow=2.4,SNR=4.7						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	PKPdf	02 20 44.3	+7.3
	1.0nm,0.4s,baz=109,slow=2.6,SNR=11						

*NIED **03** 02:01:00, 33.20N×137.00E, h14^{km}, Mw4.5 Best double couple: $M_0$6.1×10^{15} NP1:ϕ_s38°, δ52°, λ71°. NP2:ϕ_s247°, δ42°, λ113°.*
*BJI **03** 02:01:17.8, 32.97N×137.28E, h13^{km}, mB4.8, mb4.6, Ms4.4, Msz4.1*
*JMA **03** 02:01:22.1±0.1, 33.13N×136.99E, h42^{km}±3^{km}, M4.4*
JMA Felt I J1.
*MOS **03** 02:01:22.9±0.9, 33.17N×137.01E, h33^{km}, mb5.0/40, Error ellipse: s-maj=11.4km s-min=5.6km az=109.4*
*NEIC **03** 02:01:23.4±1.3, 33.09N×137.02E, h29^{km}±9^{km}, mb4.8/41, MW4.5(NIED), Error ellipse: s-maj=5.2km s-min=4.1km az=144.0*
NEIC Recorded [1 JMA] in Mie and Nara Prefectures.
*IDC **03** 02:01:24.7±0.6, 33.07N×137.04E, h38^{km}±4^{km}, mb4.3/16, mb1 4.5/22, mb1mx4.4/26, mbtmp4.5/22, ML4.3/6, MS3.9/11, Ms1 3.9/11, ms1mx3.6/31, Error ellipse: s-maj=14.7km s-min=12.7km az=71.0*
ISC 03 02:01:24.3±0.2**, 33.26N**±0.03×**136.99E**±0.02**, h43^{km}, h43^{km}**±2.0^{km}**:pP-P, n221, σ1^{s}02**/238**, mb4.7**/68**, MS4.1**/18**, 5C-22D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.71**	**45**	P	**P**	**02 01 37.1**	**-0.8**
TK01				eS	**S**	**02 01 47.5**	**-0.4**
TK02	**Tokai 2**	**0.93**	**43**	⇓P	**P**	**02 01 40.4**	**-0.7**
TK02				eS	**S**	**02 01 51.3**	**-2.3**
JWZ	**Kozaga**	**1.10**	**284**	⇓P	**P**	**02 01 41.8**	**-1.7**
JWZ				S	**S**	**02 01 55.7**	**-2.1**
JKN2	**Miekihoku**	**1.15**	**329**	⇓P	**P**	**02 01 43.8**	**-0.3**
JKN2				S	**S**	**02 01 58.5**	**-0.4**
JIE	**Ise**	**1.15**	**348**	⇓P	**P**	**02 01 44.3**	**+0.1**
JIE				S	**S**	**02 02 00.1**	**+1.0**
TK03	**Tokai 3**	**1.21**	**42**	P	**P**	**02 01 44.4**	**-0.7**
TK03				eS	**S**	**02 02 00.8**	**+0.2**
TK04	**Tokai 4**	**1.34**	**33**	⇓P	**P**	**02 01 46.6**	**-0.4**
TK04				S	**S**	**02 02 04.6**	**+0.7**
JWM	**Minabe**	**1.49**	**294**	⇓P	**P**	**02 01 47.7**	**-1.4**
JWM				S	**S**	**02 02 06.1**	**-1.4**
JWY	**Kouya**	**1.51**	**310**	⇓P	**P**	**02 01 49.1**	**-0.3**
JWY				eS	**S**	**02 02 08.0**	**0.0**
TSUJ	**Tsu 2**	**1.52**	**342**	⇓P	**P**	**02 01 49.5**	**-0.1**
TSUJ				S	**S**	**02 02 08.9**	**+0.6**
JHE	**Heguri**	**1.76**	**322**	⇓P	**P**	**02 01 52.8**	**-0.2**
JHE				S	**S**	**02 02 15.0**	**+0.7**
SHZ3	**Shizuoka 3**	**2.06**	**29**	P	**P**	**02 01 56.4**	**-0.8**
SHZ3				S	**S**	**02 02 21.2**	**-0.6**
JAJ2	**Tsuna**	**2.10**	**304**	⇓P	**P**	**02 01 57.3**	**-0.5**
JAJ2				eS	**S**	**02 02 22.3**	**-0.5**
JAI	**Aioi**	**2.19**	**285**	P	**P**	**02 01 57.5**	**-1.5**
JAI				S	**S**	**02 02 22.4**	**-2.6**
JMY	**Miyakejima3**	**2.25**	**68**	P	**P**	**02 01 58.7**	**-1.2**
JMY				eS	**S**	**02 02 25.8**	**-0.8**
JHJ	**Hachijo jima 2**	**2.34**	**93**	Pn	**P**	**02 01 59.1**	**-2.1**
	1μm,0.3s,baz=235,slow=20,SNR=260						
JHJ				Sn	**S**	**02 02 24.9**	**-4.1**
	547nm,0.3s,baz=34,slow=22,SNR=14						
JHJ2	**Mitsune**	**2.37**	**93**	⇓P	**P**	**02 01 59.0**	**-2.7**
JHJ2				eS	**S**	**02 02 25.0**	**-4.7**
JWT	**Wachi**	**2.41**	**327**	⇓P	**P**	**02 02 02.0**	**-0.2**
JGM	**Miyama**	**2.44**	**355**	⇓P	**P**	**02 02 02.7**	**0.0**
JGM				S	**S**	**02 02 32.5**	**+1.0**
MJAR	**Matsushiro Arr**	**3.42**	**17**	Pn	**P**	**02 02 16.6**	**+0.1**
	32nm,0.3s,baz=204,slow=15,SNR=170						
MJAR				Sn	**S**	**02 02 55.9**	**-0.4**
	98nm,0.3s,baz=315,slow=52,SNR=15						
MJAR				LR	LR	02 03 49.2	
	comp=Z,942nm,19.9s,baz=215,slow=40						
MJAR	**Matsushiro Arr**	**3.42**	**17**	P	**P**	**02 02 16.6**	**0.0**
MJAR						02 02 55.9	
MJAR				pmax	pmax		
	comp=Z,32nm,0.3s						
MJAR				smax			
	comp=N,98nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,942nm,20.0s						
MAJO	**Matsushiro**	**3.42**	**17**	eP	**P**	**02 02 16.0**	**-0.6**
MAT	**Matsushiro**	**3.42**	**17**	P	**P**	**02 02 16.6**	**0.0**
MAT				S	**S**	**02 02 55.9**	**-0.5**
MAT	**Matsushiro**	**3.42**	**17**	eP	**P**	**02 02 17.0**	**+0.4**
MAT				eS	**S**	**02 02 56.0**	**-0.4**
JNU	**Nakatsue**	**5.13**	**270**	Pn	**P**	**02 02 38.0**	**-2.7**
	comp=Z,8.0nm,0.3s,baz=101,slow=8.1,SNR=33						
CBIJ	**Chichi jima**	**7.61**	**142**	Pn	**P**	**02 03 09.8**	**-5.5**
	comp=Z,49nm,0.3s,baz=305,slow=13,SNR=18						

CBIJ LR LR 02 05 52.3
comp=Z,655nm,18.6s,baz=318,slow=36
KS15 Wonju Array Si 8.53 302 *eP* **P 02 03 25.9 -2.2**
JOW Kunigami 9.90 232 Pn **P 02 03 44.4 -2.7**
comp=Z,2.8nm,0.3s,baz=108,slow=20,SNR=5.0
JOW LR LR 02 07 21.1
comp=Z,324nm,18.8s,baz=30,slow=36
ASAJ Asahikawa 11.69 20 Pn **P 02 04 09.2 -2.1**
comp=Z,0.9nm,0.3s,baz=244,slow=20,SNR=3.7
ASAJ LR LR 02 09 13.0
comp=Z,455nm,19.3s,baz=176,slow=40
ASAJ Asahikawa 11.69 20 P **P 02 04 09.2 -2.0**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,455nm,19.3s
MDJ Mudanjiang 12.71 335 P **P 02 04 22.6 -2.4**
MDJ S **S 02 06 46.7 +0.7**
MDJ PCP PcP 02 09 57.9 -1.8
MDJ SCP 02 13 30.3
MDJ PCS 02 13 31.7
MDJ AMB AMB
comp=Z,10.0nm,1.6s
MDJ AMB AMB
comp=Z,220nm,5.6s
MDJ LR LR
comp=N,180nm,16.9s
MDJ LR LR
comp=E,120nm,17.2s
MDJ LR LR
comp=Z,220nm,19.0s
SSE Sheshan 13.56 265 P **P 02 04 32.4 -3.9**
SSE S **S 02 07 04.4 -2.1**
SSE AMB AMB
comp=Z,30nm,0.8s
SSE AMB AMB
comp=Z,110nm,9.5s
SSE LR LR
comp=Z,170nm,13.7s
CN2 Changchun 13.86 323 *eP* **P 02 04 40.3 +0.3**
CN2 *eXP* 02 04 46.1
CN2 AMB AMB
comp=Z,40nm,1.2s
CN2 LR LR
comp=Z,550nm,12.0s
NJ2 Nanjing 15.33 270 *eP* **P 02 04 58.5 -0.8**
NJ2 AP 02 05 02.1
NJ2 XP 02 05 06.3
NJ2 PP PP 02 05 11.0 -0.7
NJ2 S **S 02 07 50.0 +1.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
NJ2 AMB AMB
comp=Z,190nm,4.0s
NJ2 LR LR
comp=N,580nm,19.8s
NJ2 LR LR
comp=E,880nm,14.7s
NJ2 LR LR
comp=Z,380nm,13.3s
KLR Kul'dur 16.43 348 *eP* **P 02 05 11.2 -1.9**
KLR MLR MLR
comp=Z,3μm,13.5s
TIA Tai'an 16.60 286 *eP* **P 02 05 16.3 +0.9**
WHN Wuhan 19.41 268 *eP* **P 02 05 50.0 +0.3**
HIA Hailar 20.51 326 *eP* **P 02 06 02.3 +1.1**
HIA pmax pmax
comp=Z,20nm,1.0s
HIA Hailar 20.51 326 *eP* **P 02 06 02.3 +1.1**
comp=Z,20nm,1.0s
HHC Hu-ho-hao-te 21.61 298 *eP* **P 02 06 14.2 +1.7**
HHC AP 02 06 23.3
HHC XP 02 06 26.6
HHC PP PP 02 06 39.4 +1.6
HHC S **S 02 10 07.9 +3.6**
HHC XS 02 10 20.4
HHC SCP 02 13 47.2
HHC PCS 02 13 51.3
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb4.2
HHC AMB AMB
comp=Z,170nm,3.5s
HHC LR LR
comp=N,310nm,9.9s
HHC LR LR
comp=E,580nm,12.9s
HHC LR LR
comp=Z,570nm,9.9s
BTO Baotou 22.71 297 *eP* **P 02 06 23.3 -0.1**
ENH Enshi 23.55 270 *eP* **P 02 06 31.7 +0.1**
comp=Z,21nm,0.8s,mb4.6
ULN Ulaanbaatar 26.82 312 *i* P **P 02 07 03.3 +0.9**
ULN Ulaanbaatar 26.82 312 *eP* **P 02 07 02.6 +0.2**
comp=Z,11nm,1.3s,mb4.2
GYA Guiyang 27.10 264 P **P 02 07 06.6 +1.4**
GYA AP pP 02 07 10.8 -5.7
GYA XP sP 02 07 12.9 -8.8
GYA PP PP 02 07 52.8 +0.5
GYA S **S 02 11 43.4 +4.8**
GYA SS SS 02 12 56.6 +1.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
GYA AMB AMB
comp=Z,150nm,4.5s
GYA LR LR
comp=N,310nm,11.7s,MS4.2
GYA LR LR
comp=E,240nm,12.0s,MS4.2
GYA LR LR
comp=Z,320nm,9.9s
SONM Songino Array 27.22 311 P **P 02 07 06.5 +0.4**
comp=Z,2.2nm,0.9s,mb3.7,baz=116,slow=8.1,SNR=12
SONM PcP PcP 02 10 24.7 -1.0
comp=Z,1.5nm,0.7s,baz=126,slow=2.5,SNR=6.1
SONM pPcP 02 10 37.0
comp=Z,0.9nm,0.6s,baz=133,slow=2.7,SNR=4.1
SONM Songino Array 27.22 311 P **P 02 07 06.5 +0.4**
SONM 02 10 24.7
SONM pmax pmax
comp=Z,20nm,0.9s
SONM pmax pmax
comp=Z,20nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.6s
LZH Lanzhou 27.34 285 *eP* **P 02 07 06.6 -0.7**
LZH AP pP 02 07 09.7 -8.9
LZH PP PP 02 07 54.5 -0.8
LZH *eS* **S 02 11 44.0 +1.7**
LZH AMB AMB
comp=Z,10.0nm,1.1s,mb4.3
LZH AMB AMB
comp=Z,100nm,4.8s
LZH LR LR
comp=N,660nm,12.7s
LZH LR LR
comp=Z,870nm,13.8s,MS4.5
MA2 Magadan 27.86 15 *eP* **P 02 07 06.5 -5.3**
MA2 *e* 02 08 15.1
MA2 *e*SSS SSS 02 13 30.1 -1.7
MA2 pmax pmax
comp=Z,60nm,1.8s,mb4.9
MA2 MLR MLR
comp=Z,400nm,21.0s,MS4.0
CD2 Chengdu 28.19 274 P **P 02 07 13.7 -1.4**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 LR LR
comp=N,290nm,15.0s
CD2 LR LR
comp=Z,370nm,16.8s,MS4.0
GTA Gaotai 30.42 292 *eP* **P 02 07 34.4 -0.4**
GTA AP pP 02 07 37.9 -8.4
GTA XP sP 02 07 40.6 -11
GTA PP PP 02 08 34.5 -0.8
GTA PCP PcP 02 10 33.9 +0.1
GTA S **S 02 12 35.2 +3.8**
GTA AMB AMB
comp=Z,110nm,6.1s
GTA LR LR
comp=N,260nm,17.9s,MS4.2
GTA LR LR
comp=E,360nm,15.2s,MS4.2
GTA LR LR
comp=Z,490nm,15.6s,MS4.3
KMI Kunming 30.88 264 P **P 02 07 39.1 +0.1**
KMI S **S 02 12 41.5 +2.8**
KMI LR LR
comp=N,200nm,15.2s,MS4.2
KMI LR LR
comp=E,290nm,14.3s,MS4.2
KMI LR LR
comp=Z,290nm,11.4s,MS4.2
TIXI Tiksi 38.69 356 *eP* **P 02 08 42.0 -3.3**
TIXI pmax pmax
comp=Z,13nm,1.0s,mb4.6
TIXI MLR MLR
comp=Z,191nm,14.0s,MS4.1
LSA Lhasa 39.02 277 P **P 02 08 49.4 +0.9**
LSA Lhasa 39.02 277 *eP* **P 02 08 49.6 +1.1**
LSA pmax pmax
comp=Z,32nm,1.3s,mb4.9
LSA Lhasa 39.02 277 *eP* **P 02 08 49.6 +1.1**
comp=Z,32nm,1.3s,mb4.9
WMQ Urumqi 39.45 300 P **P 02 08 52.6 +0.7**
WMQ AP pP 02 08 57.0 -6.7
WMQ XP sP 02 08 59.6 -9.3
WMQ PP PP 02 10 27.8 +1.1
WMQ PPP PPP 02 10 52.0 +0.4
WMQ PCP PcP 02 11 00.3 +0.4
WMQ *eS* **S 02 14 54.8 +4.1**
WMQ SCS ScS 02 18 58.2 +3.7
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,290nm,5.0s
WMQ LR LR
comp=N,1μm,22.0s,MS4.8
WMQ LR LR
comp=E,880nm,22.0s,MS4.8
WMQ LR LR
comp=Z,960nm,21.2s,MS4.6
ZAL Zalesovo 41.94 316 LR LR 02 27 27.3
comp=Z,557nm,19.3s,MS4.5,baz=90,slow=37
NVS Novosibirsk 42.96 317 *eP* **P 02 09 20.1 -0.6**
NVS *e* 02 11 07.5
NVS pmax pmax
comp=Z,16nm,1.6s,mb4.5
NVS pmax pmax
comp=E,14nm,1.7s
MKAR Makanchi Array 43.18 305 P **P 02 09 23.1 +0.6**
comp=E,4.8nm,0.9s,mb4.2,baz=92,slow=9.9,SNR=16
MKAR PcP PcP 02 11 10.8 -1.2
comp=E,4.5nm,1.0s,baz=90,slow=1.2,SNR=3.9
MKAR LR LR 02 28 24.4
comp=E,127nm,19.4s,MS3.8,baz=18,slow=37
MKAR Makanchi Array 43.18 305 P **P 02 09 23.1 +0.6**
MKAR 02 11 10.8
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR pmax pmax
comp=Z,5.0nm,1.0s
MKAR MLR MLR
comp=Z,127nm,19.4s
MKAR Makanchi Array 43.18 305 *i* P **P 02 09 23.3 +0.8**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
JIRN Jiri 43.80 277 *eP* **P 02 09 28.0 +0.1**
comp=Z,45nm,0.8s,mb5.2
GUN Gumba 43.97 277 *eP* **P 02 09 29.2 0.0**
PKI Pulchoki 44.48 277 *eP* **P 02 09 32.7 -0.6**
KKN Kakani 44.51 277 *eP* **P 02 09 33.2 -0.4**
comp=Z,28nm,0.9s,mb5.1
KKN Kakani 44.51 277 *eP* **P 02 09 33.2 -0.4**
KKN pmax pmax
comp=Z,14nm,0.9s,mb4.8
GKN Gorkha 44.97 278 *eP* **P 02 09 36.8 -0.4**
comp=Z,25nm,1.0s,mb5.0
KURK Kurchatov 45.52 311 *i* P **P 02 09 41.3 0.0**
KURK Kurchatov 45.52 311 *eP* **P 02 09 41.1 -0.2**
comp=Z,7.2nm,0.6s,mb4.8
TNA Tin City 45.90 28 *eP* **P 02 09 44.7 +0.6**
comp=Z,3.9nm,0.7s,mb4.5
KOLN Koldanda 45.91 278 *eP* **P 02 09 44.2 -0.6**
comp=Z,21nm,1.0s,mb5.0
KAKA Kakadu 45.92 186 *eP* **P 02 10 02.5 +18**
comp=Z,4.7nm,0.6s,mb4.6
AAK Ala-Archa 49.16 300 *i* P **P 02 10 13.8 +3.9**
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
AAK MLR MLR
comp=Z,100nm,18.0s,MS3.9
AAK Ala-Archa 49.16 300 *eP* **P 02 10 09.1 -0.8**
comp=Z,4.2nm,0.6s,mb4.7
VOSK Vostochnaya 50.17 314 P **P 02 10 16.9 -0.6**
VOSK pmax pmax
comp=Z,13nm,1.0s,mb4.9
BRVK Borovoye 50.57 314 *eP* **P 02 10 19.6 -0.9**
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BRVK Borovoye 50.57 314 *eP* **P 02 10 19.6 -0.9**
comp=Z,4.9nm,0.9s,mb4.4
KKAR Karatay Array 51.94 301 *i* P **P 02 10 30.7 -0.3**
KKAR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
WRAB Tennant Creek 52.95 183 *i* P pP 02 10 46.1 -4.9
WRAB Tennant Creek 52.95 183 *eP* **P 02 10 35.0 -3.9**
comp=Z,20nm,1.0s,mb5.0
WB2 Warramunga Arr 52.96 183 *eP* **P 02 10 35.5 -3.5**
WB2 *e* pP 02 10 47.4 -3.6
WRA Warramunga Arr 52.96 183 P **P 02 10 35.6 -3.4**
comp=Z,6.4nm,0.9s,mb4.6,baz=0.8,slow=7.8,SNR=45
WRA pP pP 02 10 47.2 -3.8
comp=Z,11nm,0.9s,baz=359,slow=7.6,SNR=17
WRA PcP PcP 02 11 45.2 -2.1
comp=Z,3.1nm,0.9s,baz=357,slow=4.2,SNR=5.5
WRA Warramunga Arr 52.96 183 P **P 02 10 35.6 -3.4**
WRA *PP pP 02 10 47.2 -3.8
WRA 02 11 45.2
WRA pmax pmax
comp=Z,6.0nm,0.9s
WRA pmax pmax
comp=Z,11nm,0.9s
WRA pmax pmax
comp=Z,30nm,1.0s
CTAO Charters Tower 53.78 169 *eP* **P 02 10 41.8 -3.2**
CTAO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CTAO Charters Tower 53.78 169 *eP* **P 02 10 41.8 -3.3**
comp=Z,9.3nm,0.9s,mb4.7
ILAR Eielson Array 54.59 31 P **P 02 10 49.6 -0.7**
comp=Z,1.6nm,0.8s,mb4.1,baz=281,slow=4.8,SNR=19
ILAR PcP PcP 02 11 51.4 -1.6
comp=Z,0.4nm,0.9s,baz=273,slow=5.0,SNR=4.1
ILAR Eielson Array 54.59 31 P **P 02 10 49.7 -0.7**
ILAR 02 11 51.4
ILAR pmax pmax
comp=Z,20nm,0.8s
SVE Sverdlovsk 55.62 320 ⇓ *eP* sP 02 11 12.9 -2.1
SVE pmax pmax
comp=Z,20nm,1.3s,mb5.0
ARU Arti 56.82 319 ⇑ *iP* **P 02 11 04.8 -1.7**
ARU *eS* **S 02 18 53.7 -1.2**
ARU *e*SS SS 02 22 39.6 -4.8
ARU pmax pmax
comp=Z,11nm,1.1s,mb4.8
ARU Arti 56.82 319 *eP* **P 02 11 05.4 -1.2**
comp=Z,26nm,1.3s,mb5.1
AB31 Akbulak array 57.63 311 P **P 02 11 11.3 -1.0**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AKTO Aktyubinsk 58.53 313 LR LR 02 37 25.5
comp=Z,99nm,18.6s,MS4.0,slow=37
STKA Stephens Creek 64.93 176 *eP* **P 02 11 59.3 -2.5**
comp=Z,3.7nm,0.7s,mb4.5
STKA *e* pP 02 12 11.5 -2.8
STKA Stephens Creek 64.93 176 P **P 02 11 59.1 -2.8**
comp=Z,3.2nm,0.6s,mb4.5,baz=339,slow=7.3,SNR=8.4
ARCES ARCESS Array B 66.23 339 P **P 02 12 09.7 +0.2**
comp=Z,1.8nm,0.5s,mb4.3,baz=59,slow=9.0,SNR=15
ARCES LR LR 02 45 24.8
comp=Z,145nm,19.3s,MS4.2,baz=189,slow=40
ARCES ARCESS Array B 66.23 339 P **P 02 12 09.7 +0.2**
ARCES pmax pmax
comp=Z,20nm,0.5s
ARCES MLR MLR
comp=Z,145nm,19.3s
JOF Joensuu 67.56 332 *ep* **P 02 12 15.2 -2.7**
comp=Z,3.4nm,0.8s,mb4.4
YKA Yellowknife Ar 68.86 28 P **P 02 12 25.9 -0.1**
comp=Z,3.5nm,0.9s,mb4.3,baz=294,slow=6.1,SNR=18
YKA PcP PcP 02 12 50.6 +0.2
comp=Z,1.2nm,0.8s,baz=295,slow=4.5,SNR=5.4
YKA Yellowknife Ar 68.86 28 P **P 02 12 25.9 -0.1**
YKA 02 12 50.6
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 68.92 323 *i* P **P 02 12 24.5 -2.0**
OBN *e*SS SS 02 25 48.5 -5.6
OBN pmax pmax
comp=Z,29nm,2.4s,mb4.8
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
DAG Danmarks Havn 69.18 354 ⇓ *iP* **P 02 12 27.9 +0.1**
comp=Z,5.9nm,0.9s,mb4.5
DAG Danmarks Havn 69.18 354 ⇓ *eP* **P 02 12 27.9 +0.1**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
DAG Danmarks Havn 69.18 354 ⇓ *eP* **P 02 12 27.9 +0.1**
comp=Z,5.9nm,0.9s,mb4.5
KAF Kangasniemi 69.97 332 *ep* **P 02 12 31.7 -1.1**
comp=Z,3.3nm,0.7s,mb4.4,baz=52,slow=5.5
KAF Kangasniemi 69.97 332 *eP* **P 02 12 31.7 -1.1**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
FINES FINESS Array B 70.43 332 P **P 02 12 35.5 -0.1**
comp=Z,3.1nm,0.6s,mb4.4,baz=63,slow=7.1,SNR=28
FINES pP pP 02 12 47.4 -0.8
comp=Z,2.4nm,0.8s,baz=58,slow=6.2,SNR=2.2
FINES FINESS Array B 70.43 332 P **P 02 12 35.5 -0.1**
FINES *PP pP 02 12 47.4 -0.8
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES pmax pmax
comp=Z,20nm,0.8s
KIV Kislovodsk 70.60 310 *i* P **P 02 12 37.5 +0.5**
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
KIV Kislovodsk 70.60 310 P **P 02 12 36.7 -0.3**
comp=Z,18nm,1.0s,mb4.9
GNI Garni 71.01 306 LR LR 02 46 57.3
comp=Z,54nm,19.6s,MS3.8,baz=341,slow=38
GNI Garni 71.01 306 *i* P **P 02 12 40.4 +0.8**
GNI pmax pmax
comp=Z,8.0nm,1.4s
SUMG Summit 74.40 359 *eP* **P 02 13 00.3 +1.4**
comp=Z,13nm,0.9s,mb4.8
AKASG Malin Array Be 75.01 321 P **P 02 13 02.5 -0.3**
comp=Z,8.3nm,0.6s,mb4.8,baz=52,slow=6.1,SNR=32
AKASG Malin Array Be 75.01 321 P **P 02 13 02.5 -0.3**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
NB2 NORSAR Subarra 76.21 336 P **P 02 13 08.9 -0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=44,slow=5.6
NOA NORSAR Array B 76.21 336 P **P 02 13 09.4 +0.1**
comp=Z,2.1nm,0.6s,mb4.2,baz=45,slow=5.6,SNR=6.6
NOA LR LR 02 51 49.3
comp=Z,35nm,21.7s,MS3.6,baz=290,slow=40
NOA NORSAR Array B 76.21 336 P **P 02 13 09.5 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,35nm,21.7s
CHMT Chamberlain Mo 78.27 41 *eP* **P 02 13 20.8 -0.4**
BR131 Keskin Array S 78.57 310 *eP* **P 02 13 23.1 +0.1**
comp=Z,4.0nm,0.8s,mb4.4
BRTR Keskin Array B 78.57 310 P **P 02 13 23.6 +0.6**
comp=Z,4.7nm,0.8s,mb4.4,baz=92,slow=4.7,SNR=23
BRTR pP pP 02 13 36.8 +1.1
comp=Z,2.5nm,0.9s,baz=105,slow=4.6,SNR=4.9
BRTR Keskin Array B 78.57 310 P **P 02 13 23.6 +0.6**
BRTR *PP pP 02 13 36.8 +1.2
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR pmax pmax
comp=Z,3.0nm,0.9s
MZLS Mizel 78.63 291 P **P 02 13 23.7 +0.1**
FFC Flin Flon 78.81 30 *eP* **P 02 13 23.8 -0.2**
FFC pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
FFC Flin Flon 78.81 30 *eP* **P 02 13 23.8 -0.1**
comp=Z,4.1nm,0.6s,mb4.5
BURAR Bucovina Array 78.95 320 ⇓ P **P 02 13 25.7 +0.8**
BURAR Bucovina Array 78.95 320 ⇓ P **P 02 13 25.7 +0.8**
KWP Kalwaria 79.01 323 *eP* **P 02 13 26.2 +1.0**
EGMT Eagleton 79.48 39 *eP* **P 02 13 28.2 +0.4**
comp=Z,11nm,1.0s,mb4.7
HILS Ha'il 79.50 296 P **P 02 13 28.5 +0.2**
DLMT Dillon 79.56 42 *eP* **P 02 13 29.1 +0.8**
comp=Z,6.5nm,0.8s,mb4.6
KOLS Kolonicke sedl 79.67 322 *eP* **P 02 13 29.3 +0.5**
KOLS *e* pP 02 13 44.7 +3.2
STHS Stebnicka Huta 79.88 323 *eP* **P 02 13 29.4 -0.5**
STHS *e* 02 13 50.7
OJC Ojcow 80.08 325 *eP* **P 02 13 31.6 +0.7**
CRVS Cervenica-Dubn 80.10 323 *eP* **P 02 13 31.4 +0.3**
NVAR Mina Array Bea 80.16 50 P **P 02 13 32.9 +1.3**
comp=Z,1.3nm,0.6s,mb4.0,baz=280,slow=7.0,SNR=10
NVAR Mina Array Bea 80.16 50 P **P 02 13 32.9 +1.3**
NIE Niedzica 80.34 324 *eP* **P 02 13 33.9 +1.5**
AFFS 'Afif 80.40 292 P **P 02 13 33.1 -0.1**
KECS Kecovo 80.87 323 *eP* **P 02 13 34.5 -0.7**
OKC Ostrava-Krasne 81.13 325 *eP* **P 02 13 37.1 +0.6**
KSP Ksiaz 81.32 327 *eP* **P 02 13 38.4 +0.9**
KSP Ksiaz 81.32 327 *eP* **P 02 13 38.1 +0.6**
MORC Moravsky Berou 81.46 325 *eP* **P 02 13 38.2 0.0**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MORC Moravsky Berou 81.46 325 *eP* **P 02 13 38.2 0.0**
comp=Z,7.1nm,0.9s,mb4.6
DPC Dobruska-Polom 81.64 326 *eP* **P 02 13 40.2 +1.0**
DPC *ex* x 02 13 47.7
UPC Upice 81.68 326 *eP* **P 02 13 39.8 +0.4**
VYHS Vyhne 81.69 324 *eP* **P 02 13 40.6 +1.1**
BZS Buzias 82.14 320 ⇑ P **P 02 13 42.2 +0.4**
VRAC Vranov 82.23 325 ⇓ P **P 02 13 43.5 +1.3**
PVCC Panska Ves 82.33 327 *eP* **P 02 13 43.5 +0.8**
PVCC *ex* x 02 13 51.1
TPNV Topopah Spring 82.35 51 *eP* **P 02 13 43.7 +0.6**
TPNV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TPNV Topopah Spring 82.35 51 *eP* **P 02 13 43.7 +0.6**
comp=Z,4.8nm,0.8s,mb4.5
BRG Berggiesshubel 82.37 328 *eP* **P 02 13 43.3 +0.4**
comp=Z,4.7nm,0.8s,mb4.5
SRO Srobarova 82.40 323 *eP* **P 02 13 44.4 +1.3**
CLL Collm 82.48 328 ⇑ P **P 02 13 43.7 +0.2**
comp=Z,logA/T=1.1,mb4.8
CLL Collm 82.48 328 ⇑ *iP* **P 02 13 43.7 +0.2**
CLL pmax pmax
comp=Z,11nm,0.9s,mb4.8
CLL Collm 82.48 328 ⇑ *iP* **P 02 13 43.7 +0.2**
comp=Z,11nm,0.9s,mb4.8
DUG Dugway 82.57 46 *eP* **P 02 13 43.7 -0.5**
DUG pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
DUG Dugway 82.57 46 *eP* **P 02 13 43.7 -0.4**
comp=Z,3.3nm,0.9s,mb4.4
PRU Pruhonice 82.72 327 *eP* **P 02 13 45.4 +0.7**
PRU *ex* x 02 13 53.0
TREC Trest 82.76 326 *eP* **P 02 13 45.7 +0.7**
PDAR Pinedale Array 82.89 43 P **P 02 13 46.6 +0.9**
comp=Z,2.1nm,0.8s,mb4.2,baz=303,slow=3.2,SNR=20
RZN Rozhen 82.89 316 *eP* **P 02 13 47.0 +1.2**
VTS Vitosha 83.19 317 *eP* **P 02 13 48.0 +0.7**
VTS Vitosha 83.19 317 ⇓ P **P 02 13 48.1 +0.8**
CLZ Clausthal 83.22 330 *eP* **P 02 13 48.0 +0.8**
CLZ pmax pmax
comp=Z,30nm,1.3s,mb5.2
CLZ Clausthal 83.22 330 *eP* **P 02 13 48.0 +0.8**
comp=Z,30nm,1.3s,mb5.2
NKC Novy Kostel 83.49 328 *eP* **P 02 13 49.8 +1.2**
NKC *ex* x 02 13 56.9
MMB Musomiste 83.53 316 *eP* **P 02 13 49.0 0.0**
MOX Moxa 83.56 329 *i* P **P 02 13 49.5 +0.6**
ARUT Antelope Range 83.64 49 *eP* **P 02 13 50.8 +1.1**
BLJS Baljurashi 83.66 289 P **P 02 13 51.0 +0.9**
KKB Krupnik 83.72 317 *eP* **P 02 13 51.0 +1.0**
KHC Kasperske Hory 83.77 327 *eP* **P 02 13 50.7 +0.7**
KHC *ex* x 02 13 58.5
KHC x x 02 14 02.5
KHC Kasperske Hory 83.77 327 *eP* **P 02 13 50.7 +0.7**
KHC *e* pP 02 14 02.5 -0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KHC	Kasperske Hory	83.77	327	eP	P	02 13 50.7	+0.7
KHC				e		02 13 58.5	
KHC				e	pP	02 14 02.5	-0.3
GEC2	GERESS Array S	83.92	326	eP	P	02 13 51.1	+0.3
GEC2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
GEC2	GERESS Array S	83.92	326	eP	P	02 13 51.1	+0.3
	comp=Z,9.0nm,0.9s,mb4.9						
GERES	GERESS Array B	83.92	326	P	P	02 13 51.0	+0.2
	comp=Z,6.1nm,0.7s,mb4.8,baz=39,slow=5.0,SNR=55						
GERES				pP	pP	02 14 03.5	0.0
	comp=Z,3.3nm,0.7s,baz=34,slow=4.8,SNR=9.0						
GERES	GERESS Array B	83.92	326	P	P	02 13 51.0	+0.2
GERES				*PP	pP	02 14 03.5	-0.1
GERES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MVU	Marysvale	83.97	48	eP	P	02 13 52.7	+1.4
	comp=Z,7.1nm,1.1s,mb4.7						
MSU	Marysvale	83.99	48	eP	P	02 13 52.9	+1.5
UMJS	Umm Lajj	84.04	296	P	P	02 13 52.7	+0.7
WET	Wettzell	84.08	327	eP	P	02 13 52.8	+1.2
WET				pmax	pmax		
	comp=Z,24nm,1.5s,mb5.1						
WET	Wettzell	84.08	327	eP	P	02 13 52.8	+1.2
	comp=Z,24nm,1.5s,mb5.1						
LTHS	Al Lith	84.38	290	P	P	02 13 54.6	+0.9
GRA1	Grafenberg Arr	84.43	328	eP	P	02 13 54.6	+1.3
	comp=Z,25nm,0.9s,mb5.3						
GRF	Grafenberg Arr	84.43	328	eP	P	02 13 54.6	+1.3
GRF				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.3						
GRF	Grafenberg Arr	84.43	328	eP	P	02 13 54.6	+1.3
GRF				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.3						
GRF	Grafenberg Arr	84.43	328	eP	P	02 13 54.6	+1.3
	comp=Z,25nm,0.9s,mb5.3						
ULM	Lac du Bonnet	84.62	31	P	P	02 13 54.8	+0.6
	comp=Z,2.8nm,0.8s,mb4.5,baz=294,slow=2.9,SNR=5.3						
SRU	San Rafael	84.62	46	eP	P	02 13 55.3	+0.7
SRU				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.9						
SRU	San Rafael	84.62	46	eP	P	02 13 55.3	+0.8
	comp=Z,12nm,1.2s,mb4.9						
TNS	Taunus Mts	85.24	330	eP	P	02 13 56.9	-0.4
TNS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
TNS	Taunus Mts	85.24	330	eP	P	02 13 56.9	-0.4
	comp=Z,6.0nm,0.8s,mb4.8						
FUR	Furstenfeldbru	85.52	327	eP	P	02 13 59.1	+0.3
FUR				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.5						
FUR	Furstenfeldbru	85.52	327	eP	P	02 13 59.1	+0.3
	comp=Z,34nm,1.0s,mb5.5						
PPT	Papeete	86.32	114	LR	LR	02 52 05.4	
	comp=Z,228nm,18.4s,MS4.6,baz=327,slow=35						
BFO	Black Forest	86.72	329	eP	P	02 14 05.4	+0.8
DAVA	Damuels	86.81	327	⇓iP	P	02 14 05.7	+0.6
	comp=Z,13nm,1.0s,mb5.1						
BAIF	Baives	87.10	332	eP	P	02 14 06.4	-0.1
CDF	Champ du Feu	87.11	329	eP	P	02 14 07.7	+1.1
HINF	Hinteralfeld	87.75	329	eP	P	02 14 09.9	+0.2
MEZF	Maizieres J'vi	87.98	330	eP	P	02 14 10.5	-0.2
SDCO	Great Sand Dun	88.51	45	eP	P	02 14 14.5	+1.0
	comp=Z,7.6nm,1.5s,mb4.8						
LPL	La Plagne	89.57	328	eP	P	02 14 18.5	+0.1
	comp=Z,11nm,0.8s,mb4.9						
LPL	La Plagne	89.57	328	eP	P	02 14 18.5	+0.1
LPL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
LPG	La Plagne	89.58	328	eP	P	02 14 18.5	+0.1
	comp=Z,28nm,1.0s,mb5.3						
LPG	La Plagne	89.58	328	eP	P	02 14 18.5	+0.1
LPG				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.2						
AVF	Avril sur Loir	90.04	330	eP	P	02 14 20.3	-0.2
TXAR	Lajitas Array	95.30	50	P	P	02 14 46.2	+1.1
	comp=Z,6.3nm,0.9s,mb5.0,baz=291,slow=3.2,SNR=63						
TXAR	Lajitas Array	95.30	50	P	P	02 14 46.2	+1.1
TXAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TORD	Torodi Ar. Bea	117.18	310	PKP	PKPdf	02 20 05.8	+0.4
	comp=Z,0.8nm,0.5s,baz=29,slow=0.8,SNR=18						
TORD				pPKP		02 20 17.9	
	comp=Z,0.6nm,0.7s,baz=42,slow=1.1,SNR=3.8						
QSPA	South Pole Qui	123.01	180	ePKP	PKPdf	02 20 15.4	+0.1
DBIC	Dimbokro	126.26	310	PKP	PKPdf	02 20 23.5	+0.3
	comp=Z,3.1nm,0.8s,baz=240,slow=20,SNR=6.1						
DBIC				pPKP		02 20 35.6	
	comp=Z,1.9nm,0.6s,baz=290,slow=15,SNR=1.4						
DBIC	Dimbokro	126.26	310	PKIKP	PKPdf	02 20 23.5	+0.3
DBIC						02 20 35.6	
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SAML	Samuel	149.47	42	ePKPdf	PKPdf	02 21 06.2	+1.2
SAML				ePKPbc	PKPdf	02 21 10.1	+5.1
LPAZ	La Paz	151.72	59	PKPbc	PKPdf	02 21 15.9	+7.7
	comp=Z,1.7nm,0.8s,baz=232,slow=5.7,SNR=7.0						
LPAZ	La Paz	151.72	59	PKIKP	PKPdf	02 21 15.9	+7.6
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SIV	San Ignacio	156.29	48	PKPab	PKPab	02 21 44.0	-1.2
	comp=Z,2.6nm,0.6s,baz=303,slow=4.0,SNR=18						

*IDC **03** 02:14:26.7±1.9, 1.76N×97.09E, h43^{km}±8^{km}, mb3.4/4, mb1 3.4/5, mb1mx3.2/17, mbtmp3.5/5, Error ellipse: s-maj=46.2km s-min=23.6km az=41.0*
*NEIC **03** 02:14:26.3±0.9, 1.74N×97.08E, mb4.3/2, Error ellipse: s-maj=17.5km s-min=13.5km az=52.0*
ISC 03 02:14:24.4±8.1**, 1.8N**±0.3×**97.1E**±0.5**, h41**^{km}±58^{km}**, h40**^{km}±.5^{km}**:pP-P, n8, σ0^{s}77**/8**, mb3.9**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.14	61	P	P	02 14 58.4	-0.1
	2.1nm,0.3s,baz=244,slow=4.2,SNR=7.2						
KULM	Kulim	5.02	46	eP	P	02 15 39.4	+0.1
ENH	Enshi	30.72	21	P	P	02 20 37.3	-0.7
	4.5nm,0.6s,mb4.5						
WRA	Warramunga Arr	42.46	122	P	P	02 22 17.5	-0.1
	0.3nm,0.5s,mb3.2,baz=304,slow=9.1,SNR=4.7						
WRAB	Tennant Creek	42.47	122	P	P	02 22 17.7	+0.1
	2.5nm,0.6s,mb4.0						
SONM	Songino Array	46.61	9	P	P	02 22 51.2	+0.8
	0.8nm,0.7s,mb3.8,baz=194,slow=7.6,SNR=6.1						
SONM				pP	pP	02 23 02.4	+0.5
	1.3nm,0.7s,baz=191,slow=9.7,SNR=7.2						
SONM				sP	sP	02 23 09.3	+2.5
	0.8nm,0.5s,baz=190,slow=7.8,SNR=4.8						
MKAR	Makanchi Array	46.67	346	P	P	02 22 51.5	+0.7
	0.8nm,0.7s,mb3.8,baz=157,slow=9.3,SNR=4.9						
MKAR				pP	pP	02 23 03.0	+0.6
	0.6nm,0.5s,baz=158,slow=8.6,SNR=2.8						
BVAR	Borovoye Array	55.67	341	P	P	02 23 58.0	-0.9
	0.8nm,0.6s,mb3.9,baz=250,slow=39,SNR=4.6						
BVAR				pP	pP	02 24 09.8	-0.8
	1.0nm,0.7s,baz=135,slow=8.4,SNR=4.6						

*ISK **03** 02:21:08.7, 37.11N×28.48E, h25^{km}, MD2.9*
*CSEM **03** 02:21:09.0±0.1, 37.14N×28.55E, h10^{km}, MD2.9, Error ellipse: s-maj=2.9km s-min=2.1km az=33.0*
ISC 03 02:21:10.3±0.6**, 37.09N**±0.04×**28.46E**±0.05**, h18**^{km}±7^{km}**, n11, σ0^{s}93**/18**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.15	289	i PG	Pb	02 21 14.2	-0.4
YER				i SG	Sb	02 21 17.9	+0.4
DALT	Dalyan (Mudla)	0.35	156	PG	Pb	02 21 16.8	-0.8
DALT				SG	Sb	02 21 23.2	+0.6
MLSB	Milas	0.58	291	PG	Pb	02 21 21.8	+0.1
MLSB				SG	Sb	02 21 30.3	+0.8
FETY	Fethiye	0.67	132	PG	Pb	02 21 22.4	-0.8
FETY				SG	Sb	02 21 33.5	+1.5
AYDN	Tasoluk	0.74	321	i P	Pb	02 21 24.4	+0.1
AYDN				i S	Sb	02 21 33.9	0.0
DNZL	Cakiroluk	0.76	38	i P	Pb	02 21 24.4	-0.3
DNZL				i S	Sb	02 21 34.6	+0.1
DAT	Datca	0.79	244	ePG	Pb	02 21 24.7	-0.5
DENT	Denizli	0.81	34	ePG	Pb	02 21 23.5	-2.0
BODT	Bodrum	0.92	269	ePG	Pb	02 21 27.2	-0.2
MANT	Manisa	1.40	3	i P	Pn	02 21 35.9	+0.6
MANT				i S	Sn	02 21 55.5	+2.1
IZM	Izmir	1.62	324	ePN	Pn	02 21 36.8	-1.5

*ATH **03** 02:22:25.5, 39.23N×21.57E, h62^{km}±2^{km}*
*THE **03** 02:22:26.5, 39.20N×21.50E, h21^{km}, ML2.5*
ISC 03 02:22:25.9±0.7**, 39.21N**±0.04×**21.53E**±0.04**, h59**^{km}±10^{km}**, n16, σ0^{s}74**/26**, 2D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.36	143	⇓iP	P	02 22 36.7	+0.2
EVR				eS	S	02 22 44.9	+0.6
EVR	Evrytania	0.36	143	⇓iP	P	02 22 36.7	+0.2
EVR				eS	S	02 22 44.7	+0.4
AGG	Agios Georgios	0.65	106	ePg	P	02 22 40.1	+0.5
AGG				eSg	S	02 22 49.0	-0.7
JAN	Janina	0.69	311	eP	P	02 22 40.7	+0.7
JAN				eS	S	02 22 51.4	+0.9
LKD	Levkas	0.84	234	ePg	P	02 22 40.8	-1.2
LKD				eSg	S	02 22 53.1	-0.9
IGT	Igoumenitsa	0.98	290	ePg	P	02 22 43.3	-0.6
IGT				eSg	S	02 22 55.8	-1.4
VLS	Valsamata	1.26	216	eP	P	02 22 48.5	+0.8
VLS				eS	S	02 23 06.2	+2.2
LKR	Lokris	1.28	115	eP	P	02 22 48.2	+0.2
XOR	Xorichti	1.30	82	ePg	P	02 22 48.1	-0.3
NEO	Neokhori	1.32	85	eP	P	02 22 48.3	-0.4
NEO				eS	S	02 23 05.1	-0.5
KEK	Kerkira	1.43	291	eP	P	02 22 49.8	-0.3
FNA	Florina	1.58	356	ePg	P	02 22 52.4	+0.2
AOS	Alonnisos	1.83	90	ePb	P	02 22 55.3	-0.4
AOS				eSb	S	02 23 17.4	-0.3
GRG	Griva	1.87	21	ePb	P	02 22 56.2	0.0
OUR	Ouranopolis	2.20	58	ePn	P	02 23 00.9	0.0
KNT	Kendrikon	2.22	28	ePn	P	02 23 01.4	+0.3
KNT				eSn	S	02 23 28.3	+0.9

*CSEM **03** 02:35:53.8±1.0, 12.16N×43.45E, h14^{km}, ML3.8, Error ellipse: s-maj=20.7km s-min=19.8km az=129.0, After DHMR*
DHMR 03 02:35:53.8±1.3**, 12.16N**×**43.45E, h15**^{km}±6^{km}**, ML3.8, 3C-4D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	At Turbah	1.25	31	⇑iP	Pb	02 36 16.9	+0.3
TRBA				i S	Sb	02 36 35.4	+3.1
TRBA				AML	AML	02 36 35.9	
	comp=E,2μm,0.5s						
UDYN	Al 'Udayn	1.87	16	⇑iP	Pn	02 36 27.2	+1.5
UDYN				i S	Sn	02 36 51.7	+2.6
UDYN				AML	AML	02 37 03.4	
	comp=N,2μm,0.5s						
UDYN	Al 'Udayn	1.87	16	⇑iP	Pn	02 36 27.2	+1.6
UDYN				i S	Sn	02 36 51.7	+2.6
	comp=N,844nm,0.5s						
LBOS		2.44	46	⇓iP	Pn	02 36 35.4	+1.5
LBOS				i S	Sn	02 37 08.0	+4.2
DHBB	Dhamar BB	2.57	21	⇓iP	Pn	02 36 37.8	+2.2
DHBB				i S	Sn	02 37 12.2	+5.4
BDHA	Al Bayda'	2.74	49	i P	Pn	02 36 40.3	+2.1
BDHA				i S	Sn	02 37 17.2	+5.9
BDHA				AML	AML	02 37 29.8	
	comp=N,349nm,0.5s						
BDHA	Al Bayda'	2.74	49	i P	Pn	02 36 40.3	+2.1
BDHA				i S	Sn	02 37 17.2	+5.9
	comp=N,174nm,0.5s						
HAJJ	Hajjah	3.52	2	⇓iP	Pn	02 36 50.6	+1.4
HAJJ				i S	Sn	02 37 35.3	+4.2
HAJJ				AML	AML	02 37 56.5	
	comp=N,368nm,0.5s						
HAJJ	Hajjah	3.52	2	⇓iP	Pn	02 36 50.6	+1.4
HAJJ				i S	Sn	02 37 35.3	+4.3
	comp=N,184nm,0.5s						

*NEIC **03** 02:47:53.2, 30.86S×71.79W, ML2.8(GUC), After GUC.*
GUC 03 02:47:53.2±0.5**, 30.86S**×**71.79W, MD3.5, ML2.8, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	Combarbala	0.74	115	eP	Pg	02 48 08.2	+0.2
CMCH				i S	Sg	02 48 19.9	+2.0
CMCH				AMP		02 48 22.6	
	comp=E,975nm,0.2s						
CHNG	Los Chungos	1.04	166	i P	Pb	02 48 09.9	-4.0
CHNG				i S	Sb	02 48 25.3	-2.7
LSCH	La Serena	1.06	26	i P	Pb	02 48 13.5	-0.7
LSCH				i S	Sb	02 48 29.0	+0.5
LSCH				AMP		02 48 31.9	
	comp=N,255nm,0.7s						
TLL	Tololo Astrono	1.10	51	i P	Pb	02 48 14.6	-0.1
TLL				i S	Sb	02 48 30.8	+1.4
TLL				AMP		02 48 35.3	
	comp=E,442nm,0.3s						
PEL	Peldehue	2.46	158	i P	Pn	02 48 35.8	+0.7
PEL				i S	Sn	02 49 08.1	+1.8
PEL				AMP		02 49 14.7	
	comp=E,168nm,0.5s						
FCH	Farellones	2.77	153	i P	Pn	02 48 40.3	+0.8
FCH				i S	Sn	02 49 17.0	+2.8
FCH				AMP		02 49 29.2	
	comp=E,29nm,0.6s						

*ISK **03** 02:49:38.9, 38.20N×26.49E, h9^{km}, MD3.1*
*CSEM **03** 02:49:39.7±0.1, 38.23N×26.53E, h12^{km}, MD3.1, Error ellipse: s-maj=3.3km s-min=2.6km az=104.0*
*ATH **03** 02:49:40.8, 38.16N×26.38E, h30^{km}±4^{km}, MD2.9/3*
ISC 03 02:49:39.9±0.8**, 38.22N**±0.03×**26.49E**±0.05**, h7**^{km}±5^{km}**, n17, σ1^{s}10**/30**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.16	32	i P	Pg	02 49 43.8	+0.5
URLA				i S	Sg	02 49 47.0	+1.4
BLCB	Balcova	0.47	69	PG	Pg	02 49 48.9	-0.3
BLCB				SG	Sg	02 49 54.9	-0.6
SMG	Samos	0.58	152	ePN	Pg	02 49 52.8	+1.2
SMG				eSN	Sg	02 50 01.8	+2.4
IZM	Izmir	0.63	74	PG	Pg	02 49 51.8	-0.8
IZM				SG	Sg	02 50 00.7	-0.4
KDAG	Bornova	0.64	73	i P	Pg	02 49 51.2	-1.5
KDAG				i S	Sg	02 49 59.4	-1.9
PRK	Paraskevi	1.03	351	ePN	Pn	02 50 01.4	+0.7
PRK				eSN	Sn	02 50 16.3	+0.7
AYVA	Ayvalik	1.09	8	i P	Pb	02 50 04.6	+3.8
AYVA				i S	Sb	02 50 20.1	+5.0
AKS	Akhisar	1.23	57	PN	Pn	02 50 03.4	-0.1
AYDN	Tasoluk	1.23	117	i P	Pb	02 50 04.1	+1.0
AYDN				i S	Sb	02 50 18.6	-0.5
BODT	Bodrum	1.33	150	ePN	Pn	02 50 04.7	-0.2
BODT				eSN	Sn	02 50 23.1	+0.1
APE	Apeiranthos	1.38	214	ePN	Pn	02 50 03.8	-1.8
APE				eSN	Sn	02 50 23.1	-1.2
APE	Apeiranthos	1.38	214	ePN	Pn	02 50 04.7	-0.9
BDRM	Kayabasi	1.38	146	i P	Pb	02 50 04.2	-1.5
BDRM				i S	Sb	02 50 25.7	+2.3
EZN	Ezine	1.60	356	ePN	Pn	02 50 08.4	-0.5
EZN				eSN	Sn	02 50 30.0	0.0
MANT	Manisa	1.65	80	i P	Pn	02 50 11.7	+2.2
MANT				i S	Sb	02 50 31.6	+0.5
YER	Yerkesik	1.79	127	ePN	Pn	02 50 11.2	-0.3
DST	Dursunbey	2.17	50	ePN	Pn	02 50 16.4	-0.5

*IDC **03** 03:07:50.2±1.5, 52.88N×170.78W, h105^{km}±9^{km}, mb3.4/6, mb1 3.6/7, mb1mx3.4/23, mbtmp3.6/7, Error ellipse: s-maj=33.1km s-min=24.1km az=162.0*
*NEIC **03** 03:07:50.2, 52.13N×170.30W, h86^{km}, MG3.6(AEIC), After AEIC.*
ISC 03 03:07:49.7±0.5**, 52.8N**±0.2×**170.7W**±0.1**, h116**^{km}±5^{km}**, n21, σ0^{s}81**/24**, mb3.6**/6**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKO	Nikolski	1.12	82	P	P	03 08 11.6	-1.3
NIKO				S	S	03 08 27.4	-2.9
OKCE	Okmok Cone E	1.63	68	P	P	03 08 18.7	-0.1
OKCE				S	S	03 08 42.3	+1.5
OKCD	Okmok Cone D	1.66	68	P	P	03 08 19.4	+0.2
OKER	East Rim	1.71	68	P	P	03 08 19.9	+0.2
OKER				S	S	03 08 44.2	+1.8
ATKA	Atka Island	2.23	255	P	P	03 08 26.6	+0.2
ATKA				S	S	03 08 54.7	+0.4
MNAT	Makushin Natee	2.62	65	P	P	03 08 31.5	-0.1
UNV	Unalaska Valle	2.71	66	P	P	03 08 32.6	-0.3
AKUT	Akutan	3.21	64	P	P	03 08 40.0	+0.3
GSCK	Great Sitkin C	3.45	258	P	P	03 08 42.4	-0.4
WESE	West Dahl East	3.98	63	P	P	03 08 50.2	+0.2
DRIA	Deer Island	5.42	63	P	P	03 09 08.5	-0.9
DT1	Dutton Round H	5.46	62	P	P	03 09 09.4	-0.5
DOL	Dolgoi Island	5.70	63	P	P	03 09 12.6	-0.5
ILAR	Eielson Array	17.03	36	P	P	03 11 40.8	-0.8
	0.1nm,0.3s,baz=230,slow=9.5,SNR=8.2						
INK	Inuvik	23.41	34	P	P	03 12 48.2	0.0
	1.0nm,0.8s,mb3.2,baz=231,slow=9.0,SNR=7.9						
INK				pP		03 13 11.4	
	0.9nm,0.8s,baz=242,slow=8.2,SNR=2.1						
NEW	Newport	33.68	76	P	P	03 14 20.9	-0.2
	1.8nm,0.5s,mb4.2,baz=304,slow=6.4,SNR=6.3						
NVAR	Mina Array Bea	38.48	91	P	P	03 15 02.3	+0.7
	0.3nm,0.4s,mb3.4,baz=280,slow=11,SNR=4.1						
PDAR	Pinedale Array	41.10	79	P	P	03 15 24.3	+1.1
	0.8nm,0.5s,mb3.8,baz=297,slow=4.7,SNR=10						
PDAR				pP	pP	03 15 48.1	-1.7
	0.5nm,0.7s,baz=297,slow=3.3,SNR=3.1						
TXAR	Lajitas Array	53.54	88	P	P	03 17 00.6	+0.2
	0.6nm,0.4s,mb4.0,baz=307,slow=6.5,SNR=23						
TXAR				pP	pP	03 17 25.1	-2.9
	0.5nm,0.7s,baz=292,slow=5.4,SNR=4.7						
WRA	Warramunga Arr	86.67	231	P	P	03 20 21.1	-0.1
	0.2nm,0.8s,mb3.1,baz=32,slow=5.6,SNR=4.6						
LBTB	Lobatse	149.61	330	PKPbc	PKPdf	03 27 27.6	+7.3
	4.7nm,0.5s,baz=24,slow=1.8,SNR=15						

*IDC **03** 03:17:28.4±0.9, 33.70S×77.76E, mb4.0/7, mb1 4.1/7, mb1mx3.9/15, mbtmp4.0/7, MS4.0/6, Ms1 4.0/6, ms1mx3.7/19, Error ellipse: s-maj=38.4km s-min=24.1km az=171.0*
*NEIC **03** 03:17:29.2±0.7, 33.55S×77.73E, h10^{km}, mb4.6/2, Error ellipse: s-maj=32.4km s-min=16.1km az=175.0*
ISC 03 03:17:27.9±0.7**, 33.8S**±0.2×**77.8E**±0.1**, h10**^{km}**, n23, σ1^{s}56**/16**, mb4.1**/9**, MS4.1**/6**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATP	Matopo	45.50	274	P	P	03 25 47.3	-2.1
	1.6nm,0.7s,mb4.0,baz=124,slow=9.1,SNR=5.3						
LBTB	Lobatse	45.94	267	P	P	03 25 51.4	-1.5
	1.7nm,0.5s,mb4.2,baz=130,slow=11,SNR=4.8						
LSZ	Lusaka	48.29	280	eP	P	03 26 09.8	-1.6
	5.1nm,0.6s,mb4.7						
KMBO	Kilima Mbogo	49.96	302	LR	LR	03 43 11.5	
	comp=Z,46nm,18.0s,MS3.5,baz=84,slow=31						
WRA	Warramunga Arr	51.67	90	P	P	03 26 36.8	-0.5
	2.1nm,0.8s,mb4.1,baz=246,slow=7.5,SNR=10						
WRAB	Tennant Creek	51.68	90	eP	P	03 26 36.2	-1.1
	5.7nm,0.9s,mb4.5						
STKA	Stephens Creek	52.83	107	LR	LR	03 46 18.7	
	comp=Z,140nm,18.4s,MS4.0,baz=29,slow=33						
SNAA	Sanae	55.43	202		P	03 27 14.2	+10
SNAA	Sanae	55.43	202		P	03 27 25.3	+21
SNAA	Sanae	55.43	202	P	P	03 27 05.7	+1.3
	0.5nm,0.8s,mb3.6,baz=100,slow=11,SNR=3.7						
SNAA	Sanae	55.43	202	P	P	03 27 05.7	+1.3
SNAA				P		03 27 14.2	
SNAA				P		03 27 25.3	
VNA2	Neumayer--Watz	56.96	203		P	03 27 25.9	+10
VNA2	Neumayer--Watz	56.96	203	P	P	03 27 17.8	+2.4
VNA2				P		03 27 25.9	
VNA3	Neumayer Olymp	57.65	202		P	03 27 28.3	+8.1
VNA3	Neumayer Olymp	57.65	202	P	P	03 27 17.3	-2.9
VNA3				P		03 27 28.3	
JOW	Kunigami	76.95	45	LR	LR	03 58 45.9	
	comp=Z,147nm,20.6s,MS4.3,baz=205,slow=32						
DZM	Mont Dzumac	76.96	108	LR	LR	03 58 52.4	
	comp=Z,148nm,18.4s,MS4.3,baz=202,slow=32						
MKAR	Makanchi Array	80.29	3	LR	LR	04 01 51.9	
	comp=Z,74nm,20.0s,MS4.0,baz=21,slow=33						
BRTR	Keskin Array B	83.78	327	P	P	03 30 00.8	+2.2
	0.9nm,0.9s,mb3.9,baz=146,slow=4.5,SNR=4.3						
SONM	Songino Array	85.17	19	P	P	03 30 05.7	+0.3
	0.4nm,0.6s,mb3.8,baz=225,slow=6.1,SNR=2.9						
TORD	Torodi Ar. Bea	86.03	289	P	P	03 30 11.6	+1.2
	1.5nm,0.7s,mb4.3,baz=108,slow=4.6,SNR=12						
DBIC	Dimbokro	87.63	280	LR	LR	04 05 10.6	
	comp=Z,86nm,20.5s,MS4.2,baz=190,slow=33						
YKA	Yellowknife Ar	150.19	12	PKPbc	PKPdf	03 37 20.3	+4.2
	0.9nm,0.8s,baz=317,slow=3.7,SNR=8.1						

MDD 03 03:26:53.1±2.8**, 37.00N**×**10.77W, mb3.6**/5**, Error ellipse: s-maj=33.3km s-min=23.0km az=148.0, PRXIMO SOLUCIN POBRE ERROR EN MAGNITUD, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.72	71	ePn	Pn	03 27 22.9	-1.6
PTEO				eSn	Sn	03 27 44.7	-2.8
PBEJ	Beja	2.53	65	ePn	Pn	03 27 34.7	-1.3
PBEJ				eSn	Sn	03 28 04.8	-3.2
EGRO	El Granado	2.68	77	Pn	Pn	03 27 36.0	-2.2
	0.6nm,0.1s,SNR=5.6						
EGRO				Sn	Sn	03 28 08.3	-3.4
	1.0nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.35	75	Pn	Pn	03 27 45.4	-2.4
	0.7nm,0.1s,SNR=11						
EMIN				Sn	Sn	03 28 24.2	-4.7
	0.3nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.45	58	Pn	Pn	03 27 46.5	-2.7
	0.7nm,0.1s,SNR=6.0						
EBAD				Sn	Sn	03 28 26.7	-4.7
	0.8nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	3.84	41	eSn	Sn	03 28 35.8	-5.5
ESPR	Espera	3.94	90	Pn	Pn	03 27 53.6	-2.5
	0.7nm,0.1s,SNR=7.9						
EADA	Adamuz	5.05	75	Pn	Pn	03 28 08.9	-3.1
	0.3nm,0.1s,SNR=6.6						
EADA				Sn	Sn	03 29 05.3	-6.7
	0.4nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	5.98	61	Pn	Pn	03 28 21.2	-3.8
	0.9nm,0.1s,baz=245,slow=13,SNR=6.6						

*LDG **03** 03:31:40.5±0.1, 46.65N×9.97E, h10^{km}, Ml2.6/10, Error ellipse: s-maj=1.6km s-min=1.2km az=56.0*
*ROM **03** 03:31:40.4±0.1, 46.65N×10.00E, h9^{km}±2^{km}, Md2.5/10, Ml2.3/3, Error ellipse: s-maj=3.8km s-min=1.6km az=1.0*
*CSEM **03** 03:31:40.2±0.0, 46.64N×10.01E, h12^{km}, ML2.7/14, Error ellipse: s-maj=1.2km s-min=0.7km az=175.0*
*NEIC **03** 03:31:40.1, 46.70N×10.00E, h7^{km}, ML2.9(FUR), ML2.9(SZGRF), ML2.6(LDG), ML2.5(ZUR), ML2.3(ROM), After ZUR.*
*PRU **03** 03:31:44.3, 46.76N×10.05E, h4^{km}*
ZUR 03 03:31:41.1, 46.65N×**10.00E, h4**^{km}±2^{km}**, ML2.5**/7**, 11C-8D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAVOX	Davos	0.15	328	⇓iPg	Pg	03 31 44.5	+0.3
DAVOX				eSg	Sg	03 31 47.0	+0.7
FUORN	Ofenpass	0.19	99	Pg	Pg	03 31 45.1	+0.2
FUORN				Sg	Sg	03 31 47.8	+0.4
FUORN	Ofenpass	0.19	99	eSg	Sg	03 31 47.8	+0.4
FUORN	Ofenpass	0.19	99	⇑iPg	Pg	03 31 45.1	+0.2
BERNI	Berninapass	0.24	176	eSg	Sg	03 31 49.9	+0.8
BERNI	Berninapass	0.24	176	⇑iPg	Pg	03 31 46.4	+0.5
BERNI	Berninapass	0.24	176	⇑iPg	Pg	03 31 46.4	+0.5
BERNI				eSg	Sg	03 31 49.9	+0.8
BRMO	Bormio	0.31	124	Pg	Pg	03 31 47.2	-0.2
BRMO				Sg	Sg	03 31 51.9	+0.3
	72nm,0.2s						
VDL	Val di Lei	0.40	246	eSg	Sg	03 31 55.0	+0.5
VDL	Val di Lei	0.40	246	⇑iPg	Pg	03 31 49.3	+0.2
VDL	Val di Lei	0.40	246	⇑iPg	Pg	03 31 49.3	+0.2
VDL				eSg	Sg	03 31 55.0	+0.5

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TUE	Stuetta	0.48	249	Pg	Pg	03 31 50.6	-0.2
TUE				Sg	Sg	03 31 57.3	+0.1
	123nm,0.3s						
PLONS	Plons	0.58	313	⇑iPg	Pg	03 31 52.3	-0.4
DAVA	Damuels	0.64	353	⇓ePg	Pg	03 31 53.5	-0.5
	SNR=18						
DAVA	Damuels	0.64	353	Pg	Pg	03 31 53.5	-0.4
	17nm,7.0s						
DAVA				Sg	Sg	03 32 02.0	-0.5
	171nm,0.4s						
LLS	Linth-Limmern	0.71	287	ePg	Pg	03 31 54.7	-0.6
APPI	Appiano	0.87	101	Pg	Pg	03 31 57.5	-0.9
	106nm,0.2s						
FUSIO	Fusio	0.94	258	⇑iPg	Pg	03 31 58.9	-1.0
MUGIO	Muggio	0.99	223	Pg	Pg	03 31 59.8	-1.0
MUGIO	Muggio	0.99	223	⇑iPg	Pg	03 31 59.9	-0.9
SQTA	Sankt Quirin	1.01	55	ePg	Pg	03 31 59.5	-1.7
	SNR=25						
SQTA	Sankt Quirin	1.01	55	Pg	Pg	03 31 59.5	-1.7
	24nm,7.0s						
SQTA				Sg	Sg	03 32 12.5	-2.1
	24nm,0.2s						
MOTA	Moosalm	1.03	47	⇓ePg	Pg	03 31 59.8	-1.8
	SNR=9.8						
MOTA	Moosalm	1.03	47	Pg	Pg	03 31 59.8	-1.8
	9.0nm,8.0s						
MOTA				Sg	Sg	03 32 13.5	-1.8
	12nm,0.2s						
WILA	Wila	1.07	316	⇓iP	Pb	03 32 02.2	+0.4
BNALP	Bannalp	1.10	282	⇓iP	Pb	03 32 02.3	-0.1
VAI	Varese	1.16	228	Pg	Pg	03 32 03.3	-0.9
	25nm,0.2s						
BRES	Bressanone	1.20	87	Pg	Pg	03 32 04.3	-0.7
SCE	Schlegeis	1.24	71	⇓iPg	Pg	03 32 03.7	-2.1
SCE				i Sg	Sg	03 32 21.3	-1.0
HASLI	Hasliberg	1.27	275	⇑iP	Pb	03 32 05.2	-0.1
WATA	Walderalm	1.28	57	⇓iPg	Pg	03 32 04.4	-2.3
WATA	Walderalm	1.28	57	Pg	Pg	03 32 04.4	-2.2
WATA				Sg	Sg	03 32 21.6	-2.1
	8.5nm,0.1s						
WTTA	Wattenberg	1.28	61	⇑ePg	Pg	03 32 04.5	-2.1
	SNR=18						
WTTA	Wattenberg	1.28	61	Pg	Pg	03 32 04.5	-2.1
WTTA				Sg	Sg	03 32 21.1	-2.6
	20nm,0.2s						
CTI	Castel Tesino	1.29	117	Pg	Pg	03 32 05.6	-1.3
	10.0nm,0.2s						
SEST	Monte Rota	1.53	86	Pg	Pg	03 32 09.6	-2.1
	44nm,0.5s						
ORO	Oropa	1.74	235	Pg	Pg	03 32 13.5	-2.3
	14nm,0.2s						
FUR	Furstenfeldbru	1.75	29	ePn	Pn	03 32 14.7	+2.3
FUR				eSn	Sn	03 32 37.8	+2.5
BFO	Black Forest	2.02	327	ePn	Pn	03 32 16.6	+0.2
BFO				eSn	Sn	03 32 40.8	-1.6
KBA	Koelnbreinsper	2.34	78	⇑iPg	Pg	03 32 24.3	-3.4
KBA				⇓iSg	Sg	03 32 55.9	-2.9
	comp=E,9.0nm,0.3s						
HINF	Hinteralfeld	2.44	300	ePg	Pg	03 32 25.1	-4.7
HINF				eSn	Sn	03 32 46.9	-6.1
HINF				eSg	Sg	03 32 56.7	-5.6
	7.3nm,0.3s						
HINF	Hinteralfeld	2.44	300	ePn	Pn	03 32 18.6	-3.7
HINF				ePg	Pg	03 32 25.1	-4.7
HINF				eSn	Sn	03 32 46.9	-6.1
HINF				eSg	Sg	03 32 56.7	-5.6
HINF	Hinteralfeld	2.44	300	ePg	Pg	03 32 25.1	-4.7
HINF				eSn	Sn	03 32 46.9	-6.1
HINF				eSg	Sg	03 32 56.7	-5.6
	3.7nm,0.3s						
LPG	La Plagne	2.54	244	ePg	Pg	03 32 26.8	-5.0
LPG				eSg	Sg	03 33 00.2	-5.4
	3.1nm,0.3s						
LPG	La Plagne	2.54	244	ePn	Pn	03 32 20.0	-3.7
LPG				ePg	Pg	03 32 26.8	-5.0
LPG				eSg	Sg	03 33 00.2	-5.4
LPG	La Plagne	2.54	244	ePg	Pg	03 32 26.8	-5.0
LPG				eSg	Sg	03 33 00.2	-5.4
	1.5nm,0.3s						
LPL	La Plagne	2.54	245	ePg	Pg	03 32 27.4	-4.4
LPL				eSg	Sg	03 33 00.1	-5.6
	2.7nm,0.3s						
LPL	La Plagne	2.54	245	ePn	Pn	03 32 20.2	-3.6
LPL				ePg	Pg	03 32 27.4	-4.4
LPL				eSg	Sg	03 33 00.1	-5.6
LPL	La Plagne	2.54	245	ePg	Pg	03 32 27.4	-4.4
LPL				eSg	Sg	03 33 00.1	-5.6
	1.4nm,0.3s						
CDF	Champ du Feu	2.55	315	ePg	Pg	03 32 27.9	-4.1
CDF				eSg	Sg	03 33 00.4	-5.6
	5.8nm,0.3s						
CDF	Champ du Feu	2.55	315	ePn	Pn	03 32 20.0	-3.9
CDF				ePg	Pg	03 32 27.9	-4.1
CDF				eSg	Sg	03 33 00.4	-5.6
CDF	Champ du Feu	2.55	315	ePg	Pg	03 32 27.9	-4.1
CDF				eSg	Sg	03 33 00.4	-5.6
	2.9nm,0.3s						
CABF	La Chapelle	2.69	271	ePg	Pg	03 32 30.2	-4.7
CABF				eSn	Sn	03 32 52.8	-6.6
CABF				eSg	Sg	03 33 05.3	-5.5
	7.0nm,0.4s						
CABF	La Chapelle	2.69	271	ePn	Pn	03 32 22.2	-3.8
CABF				ePg	Pg	03 32 30.2	-4.7
CABF				eSn	Sn	03 32 52.8	-6.6
CABF				eSg	Sg	03 33 05.3	-5.5
CABF	La Chapelle	2.69	271	ePg	Pg	03 32 30.2	-4.7
CABF				eSn	Sn	03 32 52.8	-6.6
CABF				eSg	Sg	03 33 05.3	-5.5
	3.5nm,0.4s						
HAU	Haudompre	2.83	300	eP	Pn	03 32 28.0	+0.1
HAU	Haudompre	2.83	300	ePg	Pg	03 32 32.5	-5.1
HAU				eSg	Sg	03 33 08.7	-6.6
	8.3nm,0.3s						
HAU	Haudompre	2.83	300	ePn	Pn	03 32 23.9	-4.0
HAU				eP		03 32 28.0	
HAU				ePg	Pg	03 32 32.5	-5.1
HAU				eSg	Sg	03 33 08.7	-6.6
HAU	Haudompre	2.83	300	eP	Pn	03 32 28.0	+0.1
HAU	Haudompre	2.83	300	ePg	Pg	03 32 32.5	-5.1
HAU				eSg	Sg	03 33 08.7	-6.6
	4.2nm,0.3s						
WET	Wettzell	3.16	37	ePn	Pn	03 32 31.5	-1.1
WET				eSn	Sn	03 33 08.6	-2.6
SBF	Sospel	3.32	214	ePn	Pn	03 32 30.4	-4.5
SBF				ePg	Pg	03 32 41.5	-6.0
ORIF	Oris-en-Rattie	3.36	240	ePn	Pn	03 32 31.2	-4.3
ORIF				ePg	Pg	03 32 42.4	-5.8
KHC	Kasperske Hory	3.46	43	ePN	Pn	03 32 35.5	-1.3
KHC				ePG	Pg	03 32 44.0	-6.1
KHC				eSN	Sn	03 33 17.2	-1.6
KHC				eSG	Sg	03 33 29.2	-7.0
KHC	Kasperske Hory	3.46	43	ePg	Pg	03 32 44.0	-6.1
KHC				eSg	Sg	03 33 29.2	-7.0
FRF	La Foret Royal	3.90	219	eP	Pn	03 32 42.2	-0.8
FRF	La Foret Royal	3.90	219	ePn	Pn	03 32 38.0	-5.0
FRF				eP		03 32 42.2	
FRF	La Foret Royal	3.90	219	eP	Pn	03 32 42.2	-0.8
NKC	Novy Kostel	3.94	24	eSG	Sg	03 33 46.7	-5.5
VIVF	Saint-Julien-l	4.14	246	ePn	Pn	03 32 41.7	-4.8
VIVF				ePg	Pg	03 32 56.8	-6.9
LMR	La Mourre	4.14	218	ePn	Pn	03 32 41.6	-4.9
LMR				eSn	Sn	03 33 27.1	-8.9
SMF	Signal de Mont	4.24	272	ePn	Pn	03 32 42.9	-5.0
SMF				eSn	Sn	03 33 30.0	-8.6
SMF				eSg	Sg	03 33 52.9	-9.4
	2.3nm,0.3s						
LOR	Lormes	4.25	281	ePn	Pn	03 32 42.9	-5.2
	baz=104						
LOR	Lormes	4.25	281	eP	Pn	03 32 46.8	-1.3
	baz=98						
LOR	Lormes	4.25	281	ePg	Pg	03 32 58.5	-7.4
LOR				eSg	Sg	03 33 53.2	-9.4
	2.0nm,0.2s						
LOR	Lormes	4.25	281	ePn	Pn	03 32 42.9	-5.2
LOR				eP		03 32 46.8	
LOR				ePg	Pg	03 32 58.5	-7.4
LOR				eSg	Sg	03 33 53.2	-9.4
LOR	Lormes	4.25	281	eP	Pn	03 32 46.8	-1.3
SSF	Saint Saulge	4.47	278	eP	Pn	03 32 49.9	-1.4
SSF				ePg	Pg	03 33 02.9	-7.5
SSF				eSg	Sg	03 34 00.4	-10
SSF	Saint Saulge	4.47	278	ePg	Pg	03 33 02.9	-7.5
SSF				eSg	Sg	03 34 00.4	-10
	0.9nm,0.3s						
PRU	Pruhonice	4.51	41	eSG	Sg	03 34 05.4	-5.8
AVF	Avril sur Loir	4.57	274	ePn	Pn	03 32 47.9	-4.8
BGF	Bois d'Agland	4.93	272	ePn	Pn	03 32 52.2	-5.5

*IDC **03** 03:34:17.4±10.0, 17.70S×178.26W, h536km±124km, mb3.0/4, mb1 3.3/4, mb1mx3.1/12, mbtmp3.9/4, Error ellipse: s-maj=87.5km s-min=41.9km az=158.0*
*NEIC **03** 03:34:19.6±6.4, 17.67S×178.35W, h562km±74km, mb4.2/2, Error ellipse: s-maj=71.3km s-min=31.4km az=156.0*
ISC 03 03:34:13.7±1.6, **17.6S**±0.6×**178.3W**±0.4, **h500**km, **n9, σ0^{s}13**/7, **mb3.7**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.87	241	eP	P	03 40 56.5	0.0
	2.2nm,0.4s,mb3.9						
STKA	Stephens Creek	38.87	241	P	P	03 40 56.3	-0.2
	3.0nm,0.5s,mb4.0,baz=88,slow=8.1,SNR=10						
WB2	Warramunga Arr	44.77	259	eP	P	03 41 43.6	-0.1
WRAB	Tennant Creek	44.77	259	eP	P	03 41 43.6	-0.1
	3.7nm,0.4s,mb4.2						
WRA	Warramunga Arr	44.78	259	P	P	03 41 44.0	+0.3
	2.2nm,0.4s,mb3.9,baz=97,slow=6.9,SNR=118						
ILAR	Eielson Array	85.53	13	P	P	03 45 58.6	-0.1
	0.9nm,1.1s,mb3.3,baz=221,slow=5.1,SNR=6.8						
TXAR	Lajitas Array	85.74	58	P	P	03 46 00.6	+0.1
	0.2nm,0.6s,mb3.0,baz=210,slow=7.3,SNR=3.1						
BRTR	Keskin Array B	144.60	315	PKP	PKPdf	03 52 53.4	+0.7
	0.6nm,0.6s,baz=48,slow=2.5,SNR=6.0						
GERES	GERESS Array B	147.30	345	PKPbc	PKPdf	03 53 00.3	+3.4
	0.4nm,0.5s,baz=45,slow=3.8,SNR=4.4						

*NEIC **03** 03:38:16.1±4.3, 5.27S×145.47E, h105km±40km, mb4.0/1, Error ellipse: s-maj=54.1km s-min=21.3km az=135.0*
*IDC **03** 03:38:17.4±6.0, 5.40S×145.70E, h116km±56km, mb3.9/2, mb1 4.0/4, mb1mx3.6/11, mbtmp4.2/4, Error ellipse: s-maj=59.3km s-min=31.1km az=120.0*
ISC 03 03:38:16.5±4.5, **5.5S**±0.2×**145.5E**±0.2, **h121**km±43km, **n6, σ0^{s}83**/7, **mb4.0**/2, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	4.25	158	P	P	03 39 21.3	+0.8
	11nm,0.3s,baz=332,slow=5.3,SNR=24						
PMG				S	S	03 40 08.9	-0.6
	11nm,0.3s,baz=339,slow=23,SNR=16						
WRAB	Tennant Creek	18.03	216	eP	P	03 42 20.2	-0.4
	4.2nm,0.5s						
WRA	Warramunga Arr	18.04	216	P	P	03 42 20.7	-0.1
	0.5nm,0.3s,baz=40,slow=12,SNR=16						
STKA	Stephens Creek	26.54	187	P	P	03 43 45.7	+0.8
	5.0nm,1.0s,mb4.0,baz=356,slow=11,SNR=5.7						
STKA	Stephens Creek	26.54	187	P	P	03 43 45.7	+0.8
ILAR	Eielson Array	85.57	23	P	P	03 50 41.5	-0.4
	1.3nm,0.8s,mb3.9,baz=248,slow=5.4,SNR=15						

IDC 03 03:53:03.0±12.0, **13.49S**×**77.57W, h132**km±51km, **mb3.4**/3, **mb1 3.6**/4, **mb1mx3.3**/15, **mbtmp3.8**/4, **Error ellipse: s-maj=532.7km s-min=31.2km az=31.0, Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	La Paz	9.54	108	P	P	03 55 17.7	-0.5
	0.2nm,0.3s,baz=309,slow=12,SNR=15						
TXAR	Lajitas Array	49.47	330	P	P	04 01 40.0	-1.9
	0.5nm,0.6s,baz=152,slow=8.5,SNR=10						
TORD	Torodi Ar. Bea	82.86	75	P	P	04 05 13.4	-1.2
	0.3nm,0.6s,baz=267,slow=4.1,SNR=2.4						
INK	Inuvik	90.72	342	P	P	04 05 50.3	-1.3
	1.2nm,1.0s,baz=112,slow=5.4,SNR=3.8						

*NEIC **03** 04:04:28.7±2.5, 5.13S×129.87E, h194km±26km, mb3.7/1, Error ellipse: s-maj=37.8km s-min=12.5km az=78.0*
*IDC **03** 04:04:30.2±6.1, 5.13S×129.89E, h207km±61km, mb3.4/6, mb1 3.7/7, mb1mx3.6/12, mbtmp4.1/7, Error ellipse: s-maj=55.1km s-min=17.0km az=73.0*
ISC 03 04:04:28.5±3.4, **5.2S**±0.1×**129.9E**±0.4, **h211**km±37km, **n16, σ0^{s}38**/17, **mb3.8**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KAKA	Kakadu	7.92	162	eP	P	04 06 44.9	+23
	20nm,0.2s						
KAKA				eS	S	04 08 06.5	+17
WRAB	Tennant Creek	15.32	164	eP	P	04 07 55.4	0.0
	28nm,0.7s						
WRA	Warramunga Arr	15.32	164	P	P	04 07 55.2	-0.3
	3.5nm,0.3s,baz=337,slow=13,SNR=123						
WRA				S	S	04 10 38.7	-0.7
	2.4nm,0.3s,baz=333,slow=21,SNR=7.4						
WB2	Warramunga Arr	15.33	164	eP	P	04 07 55.9	+0.3
WB2				eS	S	04 10 39.7	+0.3
FORT	Forrest	25.55	184	eP	P	04 09 40.0	+0.2
	19nm,0.6s,mb4.9						
STKA	Stephens Creek	28.76	159	eP	P	04 10 09.6	+0.8
	1.6nm,0.3s,mb4.1						
STKA	Stephens Creek	28.76	159	P	P	04 10 09.3	+0.5
	2.0nm,0.4s,mb4.1,baz=327,slow=6.7,SNR=17						
STKA	Stephens Creek	28.76	159	eP	P	04 10 09.3	+0.5
STKA				eP		04 10 09.6	
MJAR	Matsushiro Arr	42.20	10	P	P	04 12 02.3	-0.1
	3.5nm,0.7s,mb3.9,baz=184,slow=8.6,SNR=6.5						
SONM	Songino Array	56.67	341	P	P	04 13 52.4	+0.4
	0.4nm,0.6s,mb3.2,baz=158,slow=7.8,SNR=2.5						
MKAR	Makanchi Array	66.64	326	P	P	04 14 58.8	+0.3
	0.8nm,0.5s,mb3.6,baz=115,slow=8.2,SNR=12						
ZAL	Zalesovo	69.89	334	P	P	04 15 17.8	-0.6
	0.6nm,0.6s,mb3.4,baz=151,slow=22,SNR=3.0						
BVAR	Borovoye Array	76.46	328	P	P	04 15 56.3	-0.2
	0.3nm,0.5s,mb3.2,baz=162,slow=9.1,SNR=2.8						
BVAR	Borovoye Array	76.46	328	P	P	04 15 56.3	-0.2
BRVK	Borovoye	76.53	328	P	P	04 15 56.8	-0.2
	0.7nm,0.4s,mb3.6						
LPAZ	La Paz	152.22	140	PKPbc	PKPdf	04 24 02.8	+10
	0.6nm,0.4s,baz=184,slow=0.7,SNR=7.6						

*BJI **03** 04:07:16.1, 45.64S×97.28E, h14km, mB5.5, mb5.2, Ms4.9, Msz4.6*
*IDC **03** 04:07:17.8±0.5, 45.23S×97.21E, mb4.8/10, mb1 4.8/10, mb1mx4.8/11, mbtmp4.7/10, MS4.3/7, Ms1 4.3/7, ms1mx4.3/7, Error ellipse: s-maj=23.2km s-min=19.1km az=155.0*
*HRVD **03** 04:07:19.2±0.2, 45.21S×97.13E, h12km, MW5.1/76, Centroid moment Tensor Solution. LP body waves: s64,c83;Mantle waves: s76,c133; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.90±.14; $M_{\theta\theta}$4.61±.12; $M_{\phi\phi}$1.30±.15; $M_{r\theta}$-1.15±.36; $M_{\theta\phi}$-2.01±.12; $M_{\phi r}$-0.85±.53; Best double couple: $M_0$5.891×10^{16} NP1: ϕ_s306°,δ43°,λ-74°. NP2:ϕ_s104°,δ49°,λ-104°. Principal axes: T 5.6, Plg3°, Azm204°; N .593, Plg11°, Azm114°; P -6.182, Plg79°, Azm312°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 04:07:19.2±0.2, 45.20S×97.16E, h10km, mb5.0/10, MS4.4/3 Error ellipse: s-maj=9.5km s-min=6.9km az=118.0*
ISC 03 04:07:18.2±0.3, **45.29S**±0.06×**97.4E**±0.1, **h10**km, **(h16**km±5.3km**:pP-P), n93, σ1^{s}02**/64, **mb5.0**/29, **MS4.5**/13, **11C-3D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CASY	Casey	22.20	166	eP	P	04 12 16.4	+0.3
	88nm,1.3s,mb5.0						
STKA	Stephens Creek	36.62	84	eP	P	04 14 27.4	+1.0
	14nm,0.9s,mb4.8						
STKA	Stephens Creek	36.62	84	P	P	04 14 26.6	+0.2
	27nm,1.1s,mb5.0,baz=233,slow=5.4,SNR=18						
STKA				PcP	PcP	04 16 48.4	-1.5
	6.0nm,0.9s,baz=241,slow=3.1,SNR=4.0						
STKA				LR	LR	04 26 29.0	
	comp=Z,581nm,19.8s,MS4.4,baz=316,slow=31						
SYO	Syowa Base	37.22	210	⇓P	P	04 14 29.6	-1.5
SYO	Syowa Base	37.22	210	⇓eP	P	04 14 29.6	-1.5
WRA	Warramunga Arr	39.58	63	P	P	04 14 51.8	+0.5
	34nm,0.8s,mb5.1,baz=222,slow=8.2,SNR=76						
WB2	Warramunga Arr	39.58	63	eP	P	04 14 51.9	+0.5
WRAB	Tennant Creek	39.59	63	eP	P	04 14 51.6	+0.2
VNDA	Vanda	40.75	162	eP	P	04 15 00.5	0.0
	9.6nm,0.9s,mb4.4						
VNDA				LR	LR		
	comp=Z,606nm,21.0s,MS4.4						
QSPA	South Pole Qui	44.85	180	eP	P	04 15 34.0	+0.3
	comp=Z,19nm,0.9s,mb4.9						
CTAO	Charters Tower	47.30	74	eP	P	04 15 52.5	-1.3
	comp=Z,21nm,1.1s,mb5.0						
CTAO				LR	LR		
	comp=Z,320nm,19.0s,MS4.3						
PSI	Prapat	47.90	2	P	P	04 15 54.7	-3.9
	comp=Z,12nm,0.9s,mb4.9,baz=163,slow=11,SNR=2.8						
PSI	Prapat	47.90	2	P	P	04 15 54.7	-3.9
SNAA	Sanae	50.78	204	⇑i	P	04 16 27.3	+7.3
SNAA	Sanae	50.78	204	P	P	04 16 18.9	-1.1
	comp=Z,3.9nm,0.7s,mb4.5,baz=134,slow=8.9,SNR=42						
SNAA	Sanae	50.78	204	⇑iP	P	04 16 19.6	-0.4
SNAA				⇑iP		04 16 27.3	
VNA2	Neumayer--Watz	52.43	204	⇑i	P	04 16 38.9	+6.4
VNA2	Neumayer--Watz	52.43	204	⇑iP	P	04 16 32.3	-0.2
VNA2				⇑iP		04 16 38.9	
VNA1	Neumayer--Stat	52.81	204	⇑i	P	04 16 37.2	+1.8
VNA3	Neumayer Olymp	52.89	203		P	04 16 43.1	+7.2
VNA3	Neumayer Olymp	52.89	203	⇑iP	P	04 16 36.3	+0.4
VNA3				P		04 16 43.1	
PMG	Port Moresby	55.62	66	P	P	04 16 56.1	-0.5
	comp=Z,5.3nm,0.8s,mb4.6,baz=266,slow=8.2,SNR=6.1						
PMG				PcP	PcP	04 17 54.8	-1.3
	comp=Z,8.3nm,0.9s,baz=257,slow=6.4,SNR=3.2						
PMG	Port Moresby	55.62	66	P	P	04 16 56.1	-0.6
PMG				PcP	PcP	04 17 54.8	-1.3
NST	Nakhon Sawan	60.72	3	P	P	04 17 31.0	-1.4
CHG	Chiang Mai	63.81	2	⇑P	P	04 17 52.7	-0.3
	comp=Z,15nm,0.7s,mb5.1						
LSZ	Lusaka	64.69	274	eP	P	04 17 56.5	-2.2
	comp=Z,30nm,1.3s,mb5.2						
HYB	Hyderabad	64.71	340	⇑iP	P	04 17 58.0	-0.9
HYB	Hyderabad	64.71	340	⇑eP	P	04 17 58.0	-0.9
QIZ	Qiongzhong	65.01	13	P	P	04 18 00.7	-0.1
QIZ				S	S	04 26 42.1	+1.0
QIZ				LR	LR		
	comp=N,300nm,18.0s						
QIZ				LR	LR		
	comp=Z,340nm,25.1s						
KMBO	Kilima Mbogo	68.57	291	P	P	04 18 22.3	-1.1
	comp=Z,8.1nm,1.1s,mb4.6,baz=120,slow=4.5,SNR=9.2						
KMBO				LR	LR	04 42 08.0	
	comp=Z,50nm,19.1s,MS3.8,baz=91,slow=30						
TSUM	Tsumeb	69.53	263	eP	P	04 18 27.6	-1.7
	comp=Z,9.3nm,1.2s,mb4.6						
TSUM				LR	LR		
	comp=Z,211nm,19.0s,MS4.4						
KMI	Kunming	70.25	5	P	P	04 18 34.9	+1.4
KMI				S	S	04 27 45.6	+1.7
KMI				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.8						
KMI				LR	LR		
	comp=N,210nm,19.5s,MS4.5						
KMI				LR	LR		
	comp=E,130nm,17.7s,MS4.5						
KMI				LR	LR		
	comp=Z,280nm,20.4s,MS4.5						
GYA	Guiyang	71.91	9	⇓iP	P	04 18 43.8	+0.3
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
JIRN	Jiri	73.31	350	eP	P	04 18 51.5	-0.3
	comp=Z,74nm,1.2s,mb5.5						
PKI	Pulchoki	73.33	349	eP	P	04 18 51.1	-0.8
KKN	Kakani	73.56	349	eP	P	04 18 52.8	-0.4
GUN	Gumba	73.60	349	eP	P	04 18 52.7	-0.7
	comp=Z,166nm,1.2s,mb5.8						
KOLN	Koldanda	73.79	347	eP	P	04 18 53.1	-1.4
	comp=Z,101nm,1.4s,mb5.5						
GKN	Gorkha	73.86	348	eP	P	04 18 54.4	-0.5
	comp=Z,134nm,1.3s,mb5.7						
LSA	Lhasa	74.85	354	eP	P	04 18 58.8	-1.8
	comp=Z,4.8nm,0.6s,mb4.6						
ENH	Enshi	76.01	11	eP	P	04 19 06.7	-0.6
	comp=Z,24nm,1.1s,mb5.0						
CD2	Chengdu	76.06	6	eP	P	04 19 06.0	-1.5
TATS	Tathlith	80.98	310	P	P	04 19 36.1	+1.6
LZH	Lanzhou	81.21	5	eP	P	04 19 36.5	+1.0
LZH				AP	pP	04 19 39.7	+1.0
LZH				XP	sP	04 19 41.5	+1.8
LZH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,200nm,4.1s						
LZH				LR	LR		
	comp=E,470nm,18.5s						
LZH				LR	LR		
	comp=Z,660nm,20.0s,MS5.0						
BLJS	Baljurashi	82.29	308	P	P	04 19 43.8	+2.5
LTHS	Al Lith	83.27	308	P	P	04 19 47.5	+1.1
MZLS	Mizel	83.74	313	P	P	04 19 49.5	+0.8
GTA	Gaotai	84.35	2	eP	P	04 19 52.0	+0.5
GTA				AP	pP	04 20 01.9	+7.2
GTA				XP	sP	04 20 05.3	+10
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
GTA				AMB	AMB		
	comp=Z,250nm,5.3s						
GTA				LR	LR		
	comp=N,250nm,12.9s						
GTA				LR	LR		
	comp=E,250nm,17.9s						
GTA				LR	LR		
	comp=Z,310nm,19.4s						
AFFS	'Afif	84.80	312	P	P	04 19 54.9	+0.8
HHC	Hu-ho-hao-te	86.69	11	eP	P	04 20 02.9	-0.2
HHC				AP	pP	04 20 07.6	+1.3
HHC				XP	sP	04 20 09.9	+2.5
HHC				PP	PP	04 23 24.8	-2.8
HHC				SKS	SKS	04 30 24.6	-7.4
HHC				S	S	04 30 35.3	-3.4
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.3						
HHC				AMB	AMB		
	comp=Z,190nm,7.5s						
HHC				LR	LR		
	comp=N,340nm,19.0s,MS5.0						
HHC				LR	LR		
	comp=E,420nm,14.3s,MS5.0						
HHC				LR	LR		
	comp=Z,380nm,15.5s,MS4.9						
KZA	Kyzart	89.20	344	P	P	04 20 16.2	+1.0
	SNR=8.7						
MJAR	Matsushiro Arr	89.42	32	P	P	04 20 16.4	+0.1
	comp=Z,2.8nm,0.8s,mb4.6,baz=211,slow=7.3,SNR=4.8						
MJAR				LR	LR	04 56 31.3	
	comp=Z,111nm,20.5s,MS4.3,baz=295,slow=33						
UCH	Uchtor	89.50	343	P	P	04 20 17.6	+1.1
	SNR=14						
AML	Almayashu	89.57	343	P	P	04 20 17.8	+1.0
	SNR=15						
AAK	Ala-Archa	89.89	343	P	P	04 20 19.3	+0.9
	SNR=9.9						
AAK	Ala-Archa	89.89	343	eP	P	04 20 16.2	-2.2
	comp=Z,23nm,1.2s,mb5.4						
EKS2	Erkin-Say	90.06	343	P	P	04 20 20.0	+0.8
	SNR=9.3						
CHMS	Chumysh	90.19	344	P	P	04 20 20.0	+0.3
	SNR=6.6						
AYUS	'Aynunah	92.37	309	P	P	04 20 31.1	+1.0
BDAS	Al Bad'	92.65	309	P	P	04 20 32.3	+0.9
MKAR	Makanchi Array	92.66	350	P	P	04 20 30.8	-0.2
	comp=Z,2.3nm,0.8s,mb4.6,baz=194,slow=5.0,SNR=6.2						
MKAR				LR	LR	04 59 08.1	
	comp=Z,136nm,21.1s,MS4.4,baz=32,slow=34						
PPT	Papeete	92.93	118	LR	LR	04 52 20.0	
	comp=Z,197nm,19.6s,MS4.6,baz=248,slow=29						
SONM	Songino Array	93.08	6	P	P	04 20 33.0	+0.2
	comp=Z,5.1nm,1.1s,mb4.9,baz=186,slow=3.9,SNR=14						
SONM				LR	LR	05 01 29.4	
	comp=Z,147nm,20.1s,MS4.4,baz=269,slow=35						
JMOS	Jabal al Moall	93.22	309	P	P	04 20 35.2	+1.2
PLCA	Paso Flores	93.68	189	P	P	04 20 34.5	-1.3
	comp=Z,4.9nm,1.1s,mb4.9,baz=150,slow=4.0,SNR=3.8						
PLCA				LR	LR	05 00 50.1	
	comp=Z,363nm,21.3s,MS4.8,baz=179,slow=34						
BRTR	Keskin Array B	102.12	315	P	Pdif	04 21 14.7	+0.4
	comp=Z,0.9nm,1.0s,baz=135,slow=3.5,SNR=4.9						
GERES	GERESS Array B	118.71	312	PKP	PKPdf	04 26 05.6	-3.6
	comp=Z,1.1nm,0.9s,slow=1.3,SNR=6.7						

FINES	FINESS Array B	120.83	328	PKP	PKPdf	04 26 10.3	-2.7
	comp=Z,0.9nm,0.6s,baz=135,slow=2.7,SNR=9.7						
ESDC	Sonseca Array	123.89	294	PKP	PKPdf	04 26 17.3	-2.1
	comp=Z,0.9nm,0.8s,baz=108,slow=4.7,SNR=4.3						
ARCES	ARCESS Array B	125.86	336	PKP	PKPdf	04 26 19.9	-2.5
	comp=Z,3.1nm,0.9s,baz=90,slow=2.4,SNR=4.2						
NOA	NORSAR Array B	126.57	323	PKP	PKPdf	04 26 21.6	-2.2
	comp=Z,1.2nm,0.9s,baz=140,slow=8.9,SNR=3.5						
OTAV	Otavalo	134.99	186	ePKP	PKPdf	04 26 39.3	-1.9
ILAR	Eielson Array	140.47	37	PKhKP		04 26 39.1	
	comp=Z,0.4nm,0.8s,baz=277,slow=3.6,SNR=8.2						
JTS	JuntasAbangare	145.07	176	PKPbc	PKPbc	04 26 57.2	+0.8
	comp=Z,36nm,1.1s,baz=301,slow=2.6,SNR=9.1						
JTS	JuntasAbangare	145.07	176	ePKP	PKPdf	04 26 55.5	-3.7
INK	Inuvik	145.39	31	PKPbc	PKPbc	04 26 56.0	+0.4
	comp=Z,98nm,1.3s,baz=299,slow=3.0,SNR=116						
SUMG	Summit	145.89	338	ePKP	PKPdf	04 26 56.4	-2.5
CPD	Cerro la Pandu	149.46	213	PKP	PKPdf	04 27 03.3	-2.9
MWC	Mount Wilson	150.82	100	ePKPdf	PKPdf	04 27 07.3	-0.6
MWC				ePKPbc	PKPdf	04 27 12.8	+4.9
HUMO	Hull Mountain	151.05	81	PKP	PKPdf	04 27 06.0	-2.0
SFJD	Kangerlussuaq	152.45	333	PKPbc	PKPdf	04 27 14.0	+4.7
	comp=Z,2.9nm,0.5s,baz=245,slow=1.7,SNR=4.4						
NVAR	Mina Array Bea	152.72	92	PKP	PKPdf	04 27 10.6	0.0
	comp=Z,2.1nm,1.1s,baz=183,slow=4.9,SNR=9.5						
NVAR				PKPbc	PKPdf	04 27 17.6	+7.1
	comp=Z,7.5nm,0.9s,baz=214,slow=3.5,SNR=35						
MNV	Mina	152.83	92	ePKPdf	PKPdf	04 27 08.2	-2.5
MNV				ePKPbc	PKPdf	04 27 16.5	+5.8
NEN	Nelson	153.81	100	PKP	PKPdf	04 27 12.1	0.0
NEN				PKPbc	PKPdf	04 27 18.5	+6.3
YKA	Yellowknife Ar	154.87	35	PKP	PKPdf	04 27 11.2	-1.5
	comp=Z,0.6nm,0.9s,baz=261,slow=2.6,SNR=3.9						
YKA				PKPbc	PKPdf	04 27 19.6	+7.0
	comp=Z,5.3nm,1.0s,baz=301,slow=2.3,SNR=23						
YKA	Yellowknife Ar	154.87	35	PKP	PKPdf	04 27 11.2	-1.5
YKA				PKPbc	PKPdf	04 27 19.6	+7.0
TXAR	Lajitas Array	157.00	127	PKP	PKPdf	04 27 14.9	-1.7
	comp=Z,1.6nm,1.0s,baz=198,slow=4.0,SNR=10						
TXAR				PKPab	PKPab	04 27 45.2	-1.1
	comp=Z,3.5nm,1.2s,baz=191,slow=6.4,SNR=7.4						
MSU	Marysvale	157.07	97	ePKP	PKPdf	04 27 14.9	-1.5
HWUT	Hardware Ranch	158.72	90	ePKP	PKPdf	04 27 16.8	-1.6
IMW	Indian Meadow	159.82	84	ePKP	PKPdf	04 27 19.1	-0.5
LOHW	Long Hollow	159.99	85	ePKP	PKPdf	04 27 17.7	-2.0
PDAR	Pinedale Array	160.50	88	PKP	PKPdf	04 27 19.3	-1.0
	comp=Z,1.2nm,1.1s,baz=225,slow=2.1,SNR=6.3						
PDAR				PKPab	PKPab	04 27 59.5	-1.4
	comp=Z,1.9nm,1.1s,baz=252,slow=4.7,SNR=6.1						
ISCO	Idaho Springs	162.22	100	ePKP	PKPdf	04 27 21.5	-0.6

*BUG **03** 04:49:10.6,51.55N×6.79E,h1km,ML1.7*
*CSEM **03** 04:49:11.9±0.2,51.57N×6.90E,h2km,ML2.7/6,Error ellipse: s-maj=5.0km s-min=3.0km az=92.0*
*LDG **03** 04:49:12.2±0.2,51.58N×6.85E,h1km,Ml2.8/6,Error ellipse: s-maj=3.8km s-min=2.4km az=26.0,Suspected Mining induced.*
*BNS **03** 04:49:13.0±1.0,51.54N×6.86E,h1km,ML2.0*
*UCC **03** 04:49:13.0±1.1,51.54N×6.86E,h1km,ML2.1*
*BGR **03** 04:49:14.9±0.9,51.39N×7.04E,h1km,ML1.7/2,Error ellipse: s-maj=12.2km s-min=4.4km az=134.0*
ISC 03 04:49:10.3±0.5**,51.59N**±0.03×**6.73E**±0.04**,n34,σ1^{s}32**/64**,1D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BZER	Hlnxe	0.09	73	Pg	Pg	04 49 12.3	+0.2
BZER				Sg	Sg	04 49 13.8	+0.5
LAUG	Laupendahl	0.28	151	ePg	Pg	04 49 16.3	+0.5
LAUG				eSg	Sg	04 49 20.0	+0.5
	142nm,1.1s						
BUG	Bochum--Univer	0.37	114	⇓iPg	Pg	04 49 17.6	-0.1
BUG				Sg	Sg	04 49 22.7	+0.1
WTSB	Winterswijk	0.38	7	ePg	Pg	04 49 19.4	+1.7
	46nm,0.5s						
RODG	Roetgen-Dahlhe	0.57	218	ePg	Pg	04 49 23.9	+2.4
RODG				eSg	Sg	04 49 32.3	+3.2
BNS	Bensberg	0.69	156	ePg	Pg	04 49 25.2	+1.2
BNS				eSg	Sg	04 49 33.4	+0.2
HOBG	Hohbusch	0.72	148	ePg	Pg	04 49 25.4	+0.8
HOBG				eSg	Sg	04 49 33.5	-0.7
HGN	Heimansgroeve	0.97	211	ePg	Pg	04 49 31.2	+1.5
	20nm,0.3s						
HGN				eSg	Sg	04 49 45.2	+2.6
KLL	Kalltalsperre	0.98	196	ePg	Pg	04 49 31.1	+1.2
KLL				eSg	Sg	04 49 44.9	+1.9
	52nm,0.6s						
STB	Steinbach	1.00	176	ePg	Pg	04 49 31.1	+0.8
STB				eSg	Sg	04 49 44.4	+0.7
	61nm,0.3s						
BEBN	Eben Emael	1.04	220	P	Pb	04 49 33.5	+2.7
BEBN				S	Sg	04 49 48.0	+3.2
MEM	Membach	1.09	205	P	Pb	04 49 32.8	+1.2
MEM				S	Sb	04 49 47.9	+1.7
HILG	Hillesheim	1.30	181	eSg	Sg	04 49 53.0	-0.7
BGG	Burgeitz	1.44	164	ePg	Pg	04 49 37.6	-1.4
BGG				eSg	Sg	04 49 56.8	-1.5
TNS	Taunus Mts	1.75	141	ePg	Pg	04 49 42.5	-2.7
TNS				eSg	Sg	04 50 01.4	-7.1
GIVF	Givet	1.92	220	ePn	Pn	04 49 44.5	0.0
GIVF	Givet	1.92	220	ePg	Pg	04 49 48.4	-0.2
GIVF				eSn	Sn	04 50 09.3	-0.5
GIVF				eSg	Sg	04 50 14.0	-0.2
	21nm,0.3s						
GIVF	Givet	1.92	220	ePg	Pg	04 49 48.4	-0.2
GIVF				eSn	Sn	04 50 09.3	-0.5
GIVF				eSg	Sg	04 50 14.0	-0.2
	10nm,0.3s						
WLF	Walferdange	1.97	191	ePg	Pg	04 49 48.9	-0.6
WLF				eSg	Sg	04 50 12.8	-3.0
WLF	Walferdange	1.97	191	P	Pn	04 49 48.9	+3.7
WLF				S	Sn	04 50 12.5	+1.6
DOU	Dourbes	2.02	223	P	Pn	04 49 46.7	+0.7
DOU				S	Sn	04 50 12.4	+0.1
BAIF	Baives	2.22	227	ePn	Pn	04 49 48.5	-0.3
BAIF	Baives	2.22	227	ePg	Pg	04 49 54.4	-0.1
BAIF				eSn	Sn	04 50 16.1	-1.2
BAIF				eSg	Sg	04 50 23.1	-1.0
	9.3nm,0.4s						
BAIF	Baives	2.22	227	ePg	Pg	04 49 54.4	-0.1
BAIF				eSn	Sn	04 50 16.1	-1.2
BAIF				eSg	Sg	04 50 23.1	-1.0
	4.7nm,0.4s						
CLZ	Clausthal	2.28	82	eSg	Sg	04 50 22.6	-3.5
CDF	Champ du Feu	3.21	173	ePn	Pn	04 50 02.0	-0.9
CDF				eSg	Sg	04 50 52.0	-5.0
	3.3nm,0.3s						
MEZF	Maizieres J'vi	3.28	200	eSg	Sg	04 50 54.6	-4.8
	8.4nm,0.4s						
SFTF	Sexfontaines	3.56	199	eSg	Sg	04 51 04.2	-4.7
	5.0nm,0.3s						
LOR	Lormes	4.72	205	ePn	Pn	04 50 22.9	-1.5
	baz=39						
LOR				eSn	Sn	04 51 15.1	-5.5
LOR				eSg	Sg	04 51 39.8	-7.5
	2.5nm,0.3s						
SSF	Saint Saulge	5.00	206	ePn	Pn	04 50 26.4	-2.0
AVF	Avril sur Loir	5.29	206	ePn	Pn	04 50 29.7	-2.8
LDF	La Druitiere	5.33	238	ePn	Pn	04 50 31.9	-1.2
LDF				eSn	Sn	04 51 30.9	-5.3
FLN	La Foliniere	5.43	241	ePn	Pn	04 50 33.1	-1.3
	baz=60						
FLN				eSn	Sn	04 51 33.9	-4.7
GRR	Gorron	5.85	240	ePn	Pn	04 50 38.4	-2.0
GRR				eSn	Sn	04 51 42.2	-6.9

*IGIL **03** 05:05:10.6,36.58N×7.75W,h2km,ML1.9*
*INMG **03** 05:05:11.1±1.0,36.49N×7.71W,h31km,ML2.4,Error ellipse: s-maj=4.8km s-min=2.1km az=32.0*
*NEIC **03** 05:05:11.2,36.56N×7.66W,h30km,MN2.5(MDD),After MDD.*
MDD 03 05:05:11.0±1.1**,36.53N**×**7.68W,h38**^{km}±21^{km}**, mbLg2.5**/22**,3C-1D,Error ellipse: s-maj=13.2km s-min=5.0km az=29.0,PRXIMO,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	El Granado	1.01	9	⇑P	P	05 05 28.3	-0.6
	4.6nm,0.1s,SNR=18						
EGRO				S	S	05 05 40.5	-1.6
	34nm,0.1s,SNR=46						
MORF	Marmelete	1.09	315	eP	P	05 05 28.9	-1.1
MORF				eS	S	05 05 42.4	-1.8
MORF				eS	S	05 05 42.4	-1.8
MORF				AML	AML	05 05 44.3	
	comp=E,21nm,0.2s						
PTEO	Sao Teotonio	1.31	321	eP	P	05 05 32.2	-1.0
PTEO				eS	S	05 05 47.8	-1.9
	comp=E,12nm,0.3s						
PTEO	Sao Teotonio	1.31	321	P	P	05 05 32.2	-1.0
PTEO				S	S	05 05 47.8	-1.9
	comp=E,5.9nm,0.3s						
EMIN	Mina Concepcio	1.47	33	⇑P	P	05 05 34.3	-1.3
	comp=E,2.3nm,0.1s,SNR=18						
EMIN				S	S	05 05 51.1	-2.7
	comp=E,11nm,0.1s,SNR=9.7						
PBEJ	Beja	1.50	354	eP	P	05 05 34.9	-1.0
PBEJ				eS	S	05 05 52.4	-2.0
	comp=E,22nm,0.2s						
PBEJ	Beja	1.50	354	P	P	05 05 35.0	-0.9
PBEJ				S	S	05 05 52.4	-2.0
	comp=E,11nm,0.2s						
ESPR	Espera	1.51	77	P	P	05 05 35.2	-0.8
	comp=E,6.3nm,0.1s,SNR=12						
ESPR				S	S	05 05 52.6	-2.0
	comp=E,34nm,0.2s,SNR=4.9						
EBAD	Badajoz	2.28	13	P	P	05 05 45.4	-1.7
	comp=E,2.0nm,0.1s,SNR=16						
EBAD				S	S	05 06 10.9	-3.2
	comp=E,13nm,0.2s,SNR=9.1						
EMIJ	Mijas	2.34	88	P	P	05 05 47.0	-0.9
	comp=E,0.8nm,0.1s,SNR=7.9						
EMIJ				S	S	05 06 12.4	-3.4
	comp=E,5.8nm,0.3s,SNR=7.9						
PLOU	Loures	2.62	334	ePn	P	05 05 50.7	-1.2
PLOU				eSn	S	05 06 20.6	-2.2
	comp=E,11nm,0.1s						
PLOU	Loures	2.62	334	P	P	05 05 50.7	-1.2
PLOU				S	S	05 06 19.3	-3.5
	comp=E,5.4nm,0.1s						
ELUQ	Luque	2.92	68	P	P	05 05 54.4	-1.7
	comp=E,1.7nm,0.2s,SNR=7.9						
ELUQ				S	S	05 06 26.2	-4.2
	comp=E,2.9nm,0.2s,SNR=7.9						
EADA	Adamuz	2.96	56	⇓P	P	05 05 55.1	-1.7
	comp=E,2.8nm,0.1s,SNR=18						
EADA				S	S	05 06 27.5	-4.0
	comp=E,6.8nm,0.1s,SNR=7.7						
PTOM	Tomar	3.13	350	ePn	P	05 05 57.6	-1.6
PTOM				eSn	S	05 06 31.0	-4.8
	comp=E,8.8nm,0.2s						
PTOM	Tomar	3.13	350	P	P	05 05 57.6	-1.6
PTOM				S	S	05 06 31.1	-4.7
	comp=E,4.4nm,0.2s						
PCBR	Castelo Branco	3.31	3	ePn	P	05 05 59.9	-1.7
PCBR				eSn	S	05 06 36.4	-3.8
	comp=E,7.1nm,0.1s						
PCBR	Castelo Branco	3.31	3	P	P	05 05 59.7	-1.9
PCBR				S	S	05 06 36.4	-3.8
	comp=E,3.5nm,0.1s						
ECOG	Cogollos-Vega	3.38	76	S	S	05 06 37.7	-4.4
	comp=E,2.0nm,0.3s,SNR=7.9						
EQUE	Quentar	3.47	78	S	S	05 06 39.9	-4.4
	comp=E,1.9nm,0.3s,SNR=7.9						
EBAN	Banos Encina	3.51	61	⇑P	P	05 06 02.2	-2.3
	comp=E,3.9nm,0.1s,SNR=18						
EBAN				S	S	05 06 39.6	-5.7
	comp=E,0.7nm,0.2s,SNR=6.6						
MTE	Manteigas	3.86	2	eSn	S	05 06 49.2	-5.1
	comp=E,7.6nm,0.4s						
MTE	Manteigas	3.86	2	Sn	S	05 06 49.2	-5.1
	comp=E,3.8nm,0.4s						
EBER	Berja	3.87	83	P	P	05 06 06.8	-2.8
	comp=E,0.6nm,0.3s,SNR=4.0						
EBER				S	S	05 06 49.2	-5.3
	comp=E,1.4nm,0.2s,SNR=4.0						
EQES	Quesada	3.90	70	P	P	05 06 07.9	-2.1
	comp=E,0.5nm,0.1s,SNR=7.9						
EQES				S	S	05 06 50.5	-4.6
	comp=E,3.0nm,0.3s,SNR=7.9						
PVIS	Viseu	4.18	358	ePn	P	05 06 11.8	-2.2
PVIS				eSn	S	05 06 56.7	-5.6
	comp=E,9.4nm,0.1s						
PVIS	Viseu	4.18	358	P	P	05 06 11.9	-2.1
PVIS				S	S	05 06 56.7	-5.6
	comp=E,4.7nm,0.1s						
ESDC	Sonseca Array	4.29	42	P	P	05 06 13.3	-2.4
	comp=E,3.9nm,0.1s,baz=226,slow=13,SNR=7.9						
ESDC				S	S	05 06 57.6	-7.6
	comp=E,2.5nm,0.1s,baz=226,slow=23,SNR=7.9						
EVIA	Vianos	4.62	61	P	P	05 06 17.1	-3.2
	comp=E,1.0nm,0.3s,SNR=7.9						
EVIA				S	S	05 07 06.8	-6.6
	comp=E,1.5nm,0.2s,SNR=7.9						
PVRL	Vila Real	4.74	360	eSn	S	05 07 10.7	-5.6
	comp=E,8.7nm,0.1s						
GUD	Guadarrama	4.95	33	S	S	05 07 15.8	-5.9
	comp=E,1.7nm,0.4s,SNR=7.9						
PCAB	Cabril	5.18	357	ePn	P	05 06 25.6	-2.5
PCAB				eSn	S	05 07 20.3	-7.1
	comp=E,7.5nm,0.1s						
PCAB	Cabril	5.18	357	P	P	05 06 25.6	-2.5
PCAB				S	S	05 07 19.9	-7.5
	comp=E,3.8nm,0.1s						
ETOB	Tobarra	5.31	65	P	P	05 06 26.4	-3.6
	comp=E,0.7nm,0.1s,SNR=7.9						
ETOB				S	S	05 07 23.0	-7.7
	comp=E,1.0nm,0.1s,SNR=7.9						
ELOB	Lobios	5.33	357	P	P	05 06 27.7	-2.6
	comp=E,0.7nm,0.2s,SNR=4.0						
ELOB				S	S	05 07 24.2	-7.2
	comp=E,11nm,0.2s,SNR=7.9						
ECAL	Calabor	5.45	7	S	S	05 07 28.1	-6.2
	comp=E,4.4nm,0.2s,SNR=7.9						

*CSEM **03** 05:11:07.1±1.0,12.14N×43.41E,h7km,ML3.5,Error ellipse: s-maj=26.9km s-min=21.1km az=113.0,After DHMR*
DHMR 03 05:11:07.1±1.3**,12.14N**×**43.41E,h8**^{km}±10^{km}**,ML3.5, 1C-5D,Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	At Turbah	1.29	32	⇓iP	Pb	05 11 31.2	0.0
TRBA				iS	Sb	05 11 49.4	+1.7
TRBA				AML	AML	05 11 51.9	
	comp=N,792nm,0.5s						
UDYN	Al 'Udayn	1.90	17	⇓iP	Pn	05 11 41.8	+1.7
UDYN				iS	Sn	05 12 07.6	+3.1
UDYN				AML	AML	05 12 18.1	
	comp=N,760nm,0.5s						
LBOS		2.49	46	⇑iP	Pn	05 11 50.9	+2.3
LBOS				iS	Sn	05 12 24.5	+5.0
DHBB	Dhamar BB	2.60	21	⇓iP	Pn	05 11 51.8	+1.6
DHBB				iS	Sn	05 12 27.3	+5.0
BDHA	Al Bayda'	2.79	49	⇓iP	Pn	05 11 54.2	+1.3
BDHA				iS	Sn	05 12 32.7	+5.6
BDHA				AML	AML	05 12 38.7	
	comp=E,202nm,0.4s						
BDHA	Al Bayda'	2.79	49	⇓iP	Pn	05 11 54.2	+1.3
BDHA				iS	Sn	05 12 32.7	+5.6
	comp=E,101nm,0.4s						

*IDC **03** 05:18:37.4±1.2,34.82N×73.57E,mb3.7/8,mb1 3.8/11, mb1mx3.7/23,mbtmp3.7/11,ML3.6/3,Error ellipse: s-maj=26.9km s-min=24.8km az=37.0*
*NDI **03** 05:18:38.0±5.7,34.86N×73.17E,h10km,MD3.9,ML3.8*
*NEIC **03** 05:18:38.5±0.6,34.74N×73.60E,h10km,mb4.1/1,Error ellipse: s-maj=15.8km s-min=6.1km az=51.0*
*NNC **03** 05:18:48.3±19.0,35.42N×73.37E,mpv3.9,Error ellipse: s-maj=1000.9km s-min=171.5km az=74.0*
ISC 03 05:18:37.3±0.4**,34.92N**±0.03×**73.97E**±0.05**,h10**^{km}**,n41, σ1^{s}32**/57**,mb3.7**/8**,1C-1D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	1.39	205	P	Pn	05 19 02.7	-0.1
CEP	Cherat	2.02	238	P	Pn	05 19 12.2	+0.2
THW	Thamme Wali	2.81	222	⇑P	Pn	05 19 24.9	+1.7
THN	Thein Dam	2.87	149	eP	Pb	05 19 29.3	+1.0
THN				eS	Sb	05 20 08.3	+4.6
DLH	Dalhousie	2.89	144	ex	Pb	05 19 30.0	+1.3
DLH				eS	Sg	05 20 13.0	-0.7
SARP	Sargodha	3.18	200	P	Pn	05 19 30.0	+1.6
PONG	Pong	3.39	150	ePB	Pg	05 19 43.0	-2.0
PONG				eSB	Sg	05 20 28.0	-2.1
SBDP	Sheikh Budin	3.71	226	P	Pn	05 19 36.2	+0.2
BHK	Bhakra	4.05	149	eP	Pg	05 20 02.1	+3.9
BHK				eS	Sg	05 20 51.1	-1.0
SDNR	Sundarnagar	4.23	143	eP	Pn	05 19 47.4	+4.0
SDNR				eS	Sn	05 20 36.0	+2.5
DRP	Derazinda	4.47	226	P	Pn	05 19 47.4	+0.7
SMLA	Simla	4.63	144	eP	Pn	05 19 52.7	+3.6
SMLA				eS	Sn	05 20 45.2	+1.6
KLP	Kalpa	4.92	132	eP	Pn	05 19 58.0	+4.8
KLP				eS	Sn	05 20 57.7	+6.8
KLP				AML	AML	05 21 24.0	
	comp=N,441nm,0.4s						
KLP				AML	AML	05 21 24.5	
	comp=E,518nm,0.5s						
DDI	Dehra Dun	5.73	142	ex	Pn	05 20 10.5	+5.9
NDI	New Delhi	6.80	155	eP	Pn	05 20 23.0	+3.3
NDI				ex	Sn	05 21 36.0	-1.9
AYAN	Aya Nagar	6.96	156	eP	Pn	05 20 23.0	+1.2
AYAN				eS	Sn	05 21 41.3	-0.5
KHET	Khetri	7.00	167	eP	Pn	05 20 21.1	-1.4
KHET				eS	Sn	05 21 37.8	-5.1
KHET				AML	AML	05 22 31.4	
	comp=N,22nm,0.5s						
KHET				AML	AML	05 22 31.5	
	comp=E,27nm,0.3s						
KUDL	Kundal	7.09	162	eP	Pn	05 20 22.5	-1.1
KUDL				eS	Sn	05 21 40.8	-4.3
KK31	Karatay Array	8.61	343	P	P	05 20 45.6	+0.7
	comp=E,2.1nm,0.3s,baz=157,slow=12,SNR=85						
KK31				⇓S	Sn	05 22 17.8	-5.2
	comp=E,2.4nm,0.3s,baz=165,slow=23,SNR=11						
KOLN	Koldanda	10.88	128	ePn	P	05 21 16.4	+0.2
GKN	Gorkha	11.41	124	ePn	P	05 21 23.8	+0.3
GKN				eSn	S	05 23 26.5	-5.7
	comp=E,37nm,0.4s						
GKN	Gorkha	11.41	124	ePn	P	05 21 23.8	+0.3
	comp=E,18nm,0.4s						
GKN				eSn	S	05 23 26.5	-5.7
DMN	Daman	11.99	124	ePn	P	05 21 31.5	+0.3
DMN				eSn	S	05 23 40.6	-5.4
	comp=E,22nm,0.5s						
DMN	Daman	11.99	124	ePn	P	05 21 31.5	+0.3
	comp=E,11nm,0.5s						
DMN				eSn	S	05 23 40.6	-5.4
KKN	Kakani	11.99	123	ePn	P	05 21 30.1	-1.2
PKI	Pulchoki	12.22	124	ePn	P	05 21 34.7	+0.4
GUN	Gumba	12.33	121	ePn	P	05 21 35.3	-0.6
JIRN	Jiri	12.70	121	ePn	P	05 21 40.3	-0.6
MKAR	Makanchi Array	13.42	25	Pn	P	05 21 53.6	+3.4
	comp=E,0.1nm,0.3s,baz=199,slow=16,SNR=4.4						
BVAR	Borovoye Array	18.28	353	P	P	05 22 52.0	-0.6
	comp=E,0.2nm,0.3s,baz=158,slow=7.8,SNR=4.9						
AKTK	Aktyubinsk	19.38	328	P	P	05 23 03.5	-2.3
AKTO	Aktyubinsk	19.38	328	P	P	05 23 03.5	-2.3
	comp=E,0.6nm,0.3s,baz=124,slow=9.0,SNR=13						
ZAL	Zalesovo	20.48	19	P	P	05 23 18.0	+0.2
	comp=E,1.2nm,0.4s,baz=269,slow=8.8,SNR=3.7						
SONM	Songino Array	27.32	52	P	P	05 24 27.1	+3.0
	comp=E,0.5nm,0.8s,mb3.1,baz=256,slow=12,SNR=2.6						
FINES	FINESS Array B	40.14	326	P	P	05 26 14.4	-0.3
	comp=E,2.7nm,1.0s,mb3.9,baz=129,slow=8.9,SNR=2.7						
ARCES	ARCESS Array B	43.53	338	P	P	05 26 42.3	0.0
	comp=E,4.4nm,1.1s,mb4.1,baz=104,slow=5.0,SNR=5.3						
NOA	NORSAR Array B	47.09	324	P	P	05 27 09.8	-1.0
	comp=E,0.3nm,0.6s,mb3.4,baz=96,slow=7.7,SNR=2.6						
TORD	Torodi Ar. Bea	68.13	271	P	P	05 29 37.2	-2.7
	comp=E,0.5nm,0.5s,mb3.8,baz=39,slow=6.1,SNR=9.1						
INK	Inuvik	75.05	10	P	P	05 30 21.3	+1.0
	comp=E,1.2nm,1.1s,mb3.8,baz=316,slow=5.0,SNR=4.3						
WRA	Warramunga Arr	79.10	124	P	P	05 30 45.2	+1.4
	comp=E,0.5nm,0.7s,mb3.5,baz=320,slow=4.9,SNR=6.5						
WRAB	Tennant Creek	79.10	124	P	P	05 30 44.6	+0.8
	comp=E,1.4nm,0.7s,mb4.0						

IDC 03 05:21:50.5±7.6**,25.34N**×**110.17W,mb1 3.4**/5**, mb1mx3.3**/21**,mbtmp3.0**/5**,ML3.3**/5**,Error ellipse: s-maj=89.5km s-min=24.4km az=177.0,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	7.02	54	Pn	Pn	05 23 35.2	-1.9
	0.1nm,0.3s,baz=229,slow=12,SNR=8.1						
TXAR				Sn	Sn	05 24 54.6	-4.0
	0.2nm,0.3s,baz=246,slow=15,SNR=4.3						
TXAR				Lg		05 25 31.6	
	0.9nm,0.3s,baz=203,slow=29,SNR=9.6						
ANMO	Albuquerque	10.11	18	Pn	P	05 24 17.1	-2.9
	baz=225,slow=8.6,SNR=3.1						
ANMO				Lg		05 26 59.7	
	baz=306,slow=20,SNR=3.6						
NVAR	Mina Array Bea	14.76	334	Pn	P	05 25 22.5	+0.2
	0.1nm,0.3s,baz=153,slow=6.0,SNR=2.4						
ELK	Elko	15.94	346	Pn	P	05 25 39.1	+1.4
	0.0nm,0.3s,baz=204,slow=20,SNR=2.0						
PDAR	Pinedale Array	17.39	2	Pn	P	05 25 58.1	+2.0
	0.0nm,0.3s,baz=180,slow=8.1,SNR=3.0						

*CSEM **03** 05:25:32.8±1.1,12.14N×43.34E,h8km,ML3.6,Error ellipse: s-maj=23.9km s-min=22.3km az=82.0,After DHMR*
DHMR 03 05:25:32.8±1.3**,12.14N**×**43.34E,h8**^{km}±8^{km}**,ML3.6,3C-5D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRBA	At Turbah	1.32	35	⇑iP	Pb	05 25 57.1	-0.3
TRBA				iS	Sb	05 26 16.2	+1.9
TRBA				AML	AML	05 26 18.6	
	comp=E,1μm,0.3s						
UDYN	Al 'Udayn	1.92	18	⇓iP	Pn	05 26 07.5	+1.4
UDYN				iS	Sn	05 26 33.5	+2.9
UDYN				AML	AML	05 26 44.1	
	comp=N,793nm,0.4s						
LBOS		2.54	47	⇓iP	Pn	05 26 16.3	+1.4
LBOS				iS	Sn	05 26 51.4	+5.2
DHBB	Dhamar BB	2.63	23	⇓iP	Pn	05 26 18.8	+2.6
DHBB				iS	Sn	05 26 54.2	+5.6
BDHA	Al Bayda'	2.83	50	⇑iP	Pn	05 26 20.8	+1.6
BDHA				iS	Sn	05 26 59.5	+5.7
BDHA				AML	AML	05 27 10.2	
	comp=N,377nm,0.4s						
BDHA	Al Bayda'	2.83	50	⇑iP	Pn	05 26 20.8	+1.6
BDHA				iS	Sn	05 26 59.5	+5.6
	comp=N,188nm,0.4s						
HAJJ	Hajjah	3.55	4	⇓iP	Pn	05 26 31.4	+2.0
HAJJ				iS	Sn	05 27 15.6	+3.6
HAJJ				AML	AML	05 27 33.4	
	comp=E,137nm,0.5s						
HAJJ	Hajjah	3.55	4	⇓iP	Pn	05 26 31.4	+2.0
HAJJ				iS	Sn	05 27 15.6	+3.6
	comp=E,68nm,0.5s						

*IDC **03** 05:51:59.1±2.9,16.28S×173.59W,h42km±26km,mb4.0/8, mb1 4.4/10,mb1mx4.2/16,mbtmp4.4/10,ML4.8/1,MS3.6/4, Ms1 3.6/4,ms1mx3.2/18,Error ellipse: s-maj=32.7km s-min=16.1km az=137.0*
*NEIC **03** 05:51:59.4±1.3,16.29S×173.49W,h43km±11km,mb4.6/16, Error ellipse: s-maj=15.2km s-min=8.1km az=138.0*
*BJI **03** 05:52:01.3,15.82S×173.30W,h63km,mB5.4,mb5.0, Ms4.7,Msz4.3*
ISC 03 05:51:58.0±1.8**,16.25S**±0.09×**173.39W**±0.09**, h39**^{km}±14^{km}**,n90,σ0^{s}92**/49**,mb4.5**/29**,MS3.9**/6**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.80	34	P	P	05 52 43.6	+2.2
	55nm,0.3s,baz=184,slow=2.3,SNR=48						
AFI				S	S	05 53 13.0	-1.3
	144nm,0.3s,baz=38,slow=22,SNR=4.5						
AFI	Afiamalu	2.80	34	eP	P	05 52 43.3	+1.8
AFI				eS	S	05 53 12.9	-1.3
RAR	Rarotonga	13.81	113	P	P	05 55 13.0	-0.5
	4.9nm,0.3s,baz=264,slow=7.4,SNR=13						
PAE	Paea	22.82	97	eT		06 20 28.3	
	12nm,0.3s						
PPT	Papeete	22.82	97	eLR	LR	06 02 13.0	
	177nm,28.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	23.47	199	P	P	05 57 04.6	-0.4
	5.0nm,0.4s,mb4.3,baz=28,slow=3.5,SNR=6.5						
TBI	Tubuai	23.57	111	*e*LR	LR	06 02 37.9	
	164nm,32.0s						
TBI	Tubuai	23.57	111	*e*T		06 21 24.6	
	9.3nm,0.4s						
HNR	Honiara	26.85	281	LR	LR	06 05 07.8	
	comp=Z,146nm,22.0s,MS3.5,baz=98,slow=30						
RKT	Rikitea	36.73	107	*e*LR	LR	06 08 42.4	
	150nm,29.8s						
RKT	Rikitea	36.73	107	*e*T		06 37 50.9	
	3.0nm,0.4s						
STKA	Stephens Creek	43.63	241	P	P	05 59 57.9	-2.8
	1.0nm,0.6s,mb3.8,baz=52,slow=12,SNR=3.6						
STKA				LR	LR	06 15 28.5	
	comp=Z,53nm,20.5s,MS3.4,baz=208,slow=32						
STKA	Stephens Creek	43.63	241	P	P	05 59 57.9	-2.8
STKA				LR	LR	06 15 28.5	
WRAB	Tennant Creek	49.66	257	P	P	06 00 49.9	+1.6
WRA	Warramunga Arr	49.67	257	P	P	06 00 45.2	-3.1
	1.2nm,0.7s,mb4.0,baz=96,slow=6.7,SNR=14						
WRA				PcP	PcP	06 02 07.3	-2.3
	2.1nm,0.9s,baz=89,slow=3.8,SNR=7.9						
VNDA	Vanda	62.54	186	*e*P	P	06 02 24.9	+5.0
MJAR	Matsushiro Arr	69.59	320	LR	LR	06 32 55.4	
	comp=Z,110nm,18.5s,MS4.1,baz=170,slow=35						
CMB	Columbia Colle	73.39	41	*e*P	P	06 03 27.4	-0.8
	2.9nm,0.6s,mb4.4						
NVAR	Mina Array Bea	74.95	42	P	P	06 03 37.8	+0.7
	2.9nm,0.9s,mb4.2,baz=219,slow=8.0,SNR=16						
NVAR				LR	LR	06 31 13.7	
	comp=Z,25nm,19.4s,MS3.5,baz=315,slow=31						
MNV	Mina	75.05	42	*e*P	P	06 03 37.6	-0.1
	5.3nm,1.2s,mb4.3						
TPNV	Topopah Spring	75.46	44	*e*P	P	06 03 40.2	+0.2
	14nm,1.5s,mb4.7						
MOD	Modoc	75.78	38	*e*P	P	06 03 41.7	-0.1
	7.6nm,1.0s,mb4.6						
ARUT	Antelope Range	77.79	45	*e*P	P	06 03 53.5	+0.2
ELK	Elko	78.21	41	*e*P	P	06 03 55.0	-0.4
	5.3nm,1.1s,mb4.4						
SSE	Sheshan	78.47	307	P	P	06 03 56.6	-0.5
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,100nm,7.0s						
MVU	Marysvale	78.99	44	*e*P	P	06 04 01.0	+1.2
	comp=Z,10nm,1.2s,mb4.6						
BMO	Blue Mountains	79.29	37	*e*P	P	06 04 00.6	-0.7
	comp=Z,3.0nm,0.8s,mb4.3						
MDJ	Mudanjiang	79.70	322	P	P	06 04 02.3	-1.2
MDJ				AP	pP	06 04 20.2	+5.0
MDJ				XP	sP	06 04 29.2	+10
MDJ				PP	PP	06 07 01.7	-4.4
MDJ				S	S	06 13 56.0	-5.6
MDJ				XS		06 14 29.3	
MDJ				SS	SS	06 19 04.3	-9.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,290nm,5.0s						
MDJ				LR	LR		
	comp=N,100nm,42.1s,MS3.9						
MDJ				LR	LR		
	comp=E,40nm,37.9s,MS3.9						
MDJ				LR	LR		
	comp=Z,40nm,32.0s						
TMUT	Trail Mountain	80.07	44	*e*P	P	06 04 05.8	+0.2
DIV	Divide	80.21	13	*e*P	P	06 04 04.1	-1.8
HLID	Hailey	80.27	39	*e*P	P	06 04 06.7	+0.1
	comp=Z,6.7nm,1.1s,mb4.5						
SRU	San Rafael	80.44	45	*e*P	P	06 04 07.9	+0.4
	comp=Z,5.6nm,1.1s,mb4.4						
NJ2	Nanjing	80.68	307	*e*P	P	06 04 09.4	+0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MNTX	Cornudas Mount	80.72	53	*e*P	P	06 04 09.1	-0.1
	comp=Z,11nm,1.6s,mb4.5						
TXAR	Lajitas Array	81.07	56	P	P	06 04 11.6	+0.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=220,slow=8.4,SNR=9.7						
CN2	Changchun	81.74	320	*e*P	P	06 04 15.6	+1.3
MCMT	McKenzie Canyo	81.90	39	*e*P	P	06 04 15.5	+0.4
DLMT	Dillon	82.34	38	*e*P	P	06 04 17.1	-0.2
	comp=Z,13nm,1.2s,mb4.7						
SNOW	Snow King Moun	82.48	41	*e*P	P	06 04 18.5	+0.4
	comp=Z,8.3nm,0.9s,mb4.7						
IMW	Indian Meadow	82.58	40	*e*P	P	06 04 19.1	+0.6
	comp=Z,16nm,1.2s,mb4.9						
QLMT	Earthquake Lak	82.76	39	*e*P	P	06 04 20.2	+0.8
BW06	Boulder Array	82.89	42	*e*P	P	06 04 19.9	-0.2
	comp=Z,5.1nm,0.9s,mb4.5						
PDAR	Pinedale Array	82.89	42	P	P	06 04 20.3	+0.2
	comp=Z,5.4nm,0.8s,mb4.6,baz=216,slow=3.0,SNR=46						
SMCO	Snowmass	82.89	46	*e*P	P	06 04 20.9	+0.7
	comp=Z,7.6nm,1.0s,mb4.7						
BOZ	Bozeman (W)	83.07	39	*e*P	P	06 04 21.0	0.0
COLA	College	83.19	11	*e*P	P	06 04 19.9	-1.3
	comp=Z,16nm,1.0s,mb5.0						
ILAR	Eielson Array	83.27	11	P	P	06 04 20.9	-0.7
	comp=Z,2.9nm,0.5s,mb4.5,baz=239,slow=5.6,SNR=50						
SDCO	Great Sand Dun	83.27	48	P	P	06 04 22.7	+0.5
GCMT	Greycliff	84.32	39	P	P	06 04 27.3	-0.1
HHC	Hu-ho-hao-te	89.61	313	*e*P	P	06 04 53.0	-0.1
HHC				PP	PP	06 08 25.2	-2.3
HHC				SKS	SKS	06 15 18.1	-0.2
HHC				S	S	06 15 38.1	-1.0
HHC				SS	SS	06 21 36.9	-2.4
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2						
HHC				AMB	AMB		
	comp=Z,180nm,5.2s						
HHC				LR	LR		
	comp=N,230nm,16.6s,MS5.0						
HHC				LR	LR		
	comp=E,350nm,13.1s,MS5.0						
HHC				LR	LR		
	comp=Z,300nm,16.7s,MS4.8						
YKA	Yellowknife Ar	90.87	23	P	P	06 04 57.2	-1.3
	comp=Z,1.3nm,1.0s,mb4.2,baz=235,slow=4.5,SNR=5.6						
YKA	Yellowknife Ar	90.87	23	P	P	06 04 57.2	-1.3
KMI	Kunming	91.40	296	P	P	06 05 04.2	+2.3
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.1						
CD2	Chengdu	92.26	301	*e*P	P	06 05 05.7	0.0
LZH	Lanzhou	93.73	306	*e*P	P	06 05 12.8	+0.5
ARCES	ARCESS Array B	125.44	352	PKP	PKPdf	06 10 54.7	+0.1
	comp=Z,3.5nm,1.0s,slow=3.6,SNR=3.9						
ARCES	ARCESS Array B	125.44	352	PKP	PKPdf	06 10 54.7	+0.1
TATS	Tathlith	144.81	281	P	PKPdf	06 11 32.3	+0.6
KMBO	Kilima Mbogo	145.17	243	PKP	PKPdf	06 11 33.2	+0.7
	comp=Z,6.2nm,1.0s,baz=50,slow=2.5,SNR=13						
KMBO	Kilima Mbogo	145.17	243	PKP	PKPdf	06 11 33.2	+0.6
GIVF	Givet	146.20	2	*e*PKP1	PKPbc	06 11 34.7	+0.4
BAIF	Baives	146.22	3	*e*PKP1	PKPbc	06 11 34.8	+0.5
	comp=Z,70nm,1.1s						
GRF	Grafenberg Arr	146.43	355	*e*PKP	PKPdf	06 11 36.6	+3.0
BLJS	Baljurashi	146.58	282	P	PKPdf	06 11 37.9	+3.2
WLF	Walferdange	146.67	1	*e*PKP	PKPdf	06 11 36.8	+2.8
BR131	Keskin Array S	146.81	320	*e*PKP	PKPdf	06 11 36.6	+2.1
BRTR	Keskin Array B	146.81	320	PKPbc	PKPbc	06 11 36.0	0.0
	comp=Z,5.3nm,0.8s,baz=124,slow=2.4,SNR=23						
GERES	GERESS Array B	146.98	351	PKPbc	PKPbc	06 11 37.1	+1.0
	comp=Z,4.1nm,0.6s,baz=37,slow=4.9,SNR=29						
FLN	La Foliniere	147.06	9	*e*PKP1	PKPdf	06 11 37.0	+2.4
	comp=Z,30nm,0.7s						
LDF	La Druitiere	147.27	8	*e*PKP1	PKPdf	06 11 37.4	+2.4
GRR	Gorron	147.37	9	*e*PKP1	PKPdf	06 11 38.6	+3.5
	comp=Z,46nm,1.0s						
LTHS	Al Lith	147.69	282	P	PKPdf	06 11 40.9	+4.4
MEZF	Maizieres J'vi	147.81	2	*e*PKP1	PKPdf	06 11 39.5	+3.7
CDF	Champ du Feu	147.92	359	*e*PKP1	PKPdf	06 11 39.7	+3.7
	comp=Z,33nm,0.9s						
HAU	Haudompre	148.33	0	*e*PKP1	PKPdf	06 11 40.7	+4.0
	comp=Z,31nm,0.9s						
HINF	Hinteralfeld	148.52	360	*e*PKP1	PKPdf	06 11 40.8	+3.8
HYF	Humbligny	148.89	5	*e*PKP1	PKPdf	06 11 42.5	+4.9
LOR	Lormes	148.98	4	*e*PKP1	PKPdf	06 11 42.5	+4.7
	comp=Z,32nm,1.0s						
SSF	Saint Saulge	149.17	4	*e*PKP1	PKPdf	06 11 43.0	+4.9
	comp=Z,75nm,1.3s						
BGF	Bois d'Agland	149.62	5	*e*PKP1	PKPdf	06 11 44.0	+5.2
CABF	La Chapelle	149.72	1	*e*PKP1	PKPdf	06 11 44.9	+5.9
	comp=Z,83nm,1.1s						
GRUS	Gruza	149.96	339	*e*P	PKPdf	06 11 44.7	+5.3
DIVS	Divcibare	150.01	341	*e*P	PKPdf	06 11 45.5	+6.0
BBLS	Bajina Basta -	150.40	341	*e*P	PKPdf	06 11 47.2	+7.1
DBAS	Duba	150.69	297	P	PKPdf	06 11 47.7	+6.6
LPL	La Plagne	150.82	360	*e*PKP1	PKPdf	06 11 47.9	+7.2
	comp=Z,12nm,0.9s						
LPG	La Plagne	150.84	360	*e*PKP1	PKPdf	06 11 48.0	+7.3
	comp=Z,31nm,1.1s						
BDAS	Al Bad'	151.07	300	P	PKPdf	06 11 48.3	+6.7
VIVF	Saint-Julien-l	151.43	3	*e*PKP1	PKPdf	06 11 48.6	+7.0
	comp=Z,103nm,1.4s						
TORD	Torodi Ar. Bea	174.33	122	PKP	PKPdf	06 12 03.8	-0.5
	comp=Z,0.7nm,0.9s,baz=226,slow=3.7,SNR=3.6						
TORD				PKPab	PKPab	06 13 37.4	-1.3
	comp=Z,0.9nm,0.9s,baz=268,slow=3.4,SNR=3.8						

NEIC **03** *05:53:49.3, 36.98S×176.64E, h308km, MG4.0(WEL), After WEL.*

WEL 03 05:53:49.1±0.2**, 36.99S×176.65E, h310**km±2km**, ML3.9**/10**, Error ellipse: s-maj=4.7km s-min=3.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.32	164	PN	P	05 54 32.4	-0.1
URZ				SN	S	05 55 05.6	-0.8
URZ	Urewera	1.32	164	P	P	05 54 32.4	-0.1
MXZ	Matakaoa Point	1.44	114	PN	P	05 54 33.0	-0.2
MXZ				SN	S	05 55 07.1	-0.6
MXZ	Matakaoa Point	1.44	114	P	P	05 54 33.0	-0.2
MXZ				S	S	05 55 07.1	-0.6
MWZ	Matawai	1.51	153	PN	P	05 54 33.7	0.0
MWZ				SN	S	05 55 08.3	-0.2
MWZ	Matawai	1.51	153	P	P	05 54 33.7	0.0
PUZ	Puketiti	1.67	131	PN	P	05 54 34.5	-0.3
PUZ	Puketiti	1.67	131	*e*P	P	05 54 34.7	0.0
BKZ	Black Stump Fm	2.18	183	PN	P	05 54 38.3	-0.3
BKZ				SN	S	05 55 17.1	-0.1
BKZ	Black Stump Fm	2.18	183	*e*P	P	05 54 38.4	-0.2
BKZ				S	S	05 55 17.1	-0.1
KNZ	Kokohu	2.19	159	PN	P	05 54 38.3	-0.3
KNZ	Kokohu	2.19	159	*e*P	P	05 54 38.3	-0.3
TUVZ	Tukino	2.41	199	PN	P	05 54 40.8	+0.3
WNVZ	Wahianoa	2.48	199	PN	P	05 54 41.1	0.0
WNVZ	Wahianoa	2.48	199	P	P	05 54 41.3	+0.1
PXZ	Pawanui	3.04	177	PN	P	05 54 46.1	-0.3
WAZ	Wanganui	3.06	205	PN	P	05 54 46.3	-0.3
TSZ	Takapari Road	3.12	190	PN	P	05 54 46.5	-0.6
MRZ	Mangatainoka R	3.77	193	PN	P	05 54 52.1	-1.7
MRZ	Mangatainoka R	3.77	193	P	P	05 54 52.1	-1.7
MRZ				S	S	05 55 43.2	-1.2
KIW	Kapiti Island	4.10	199	PN	P	05 54 55.5	-1.9
KIW	Kapiti Island	4.10	199	P	P	05 54 55.5	-1.9
CAW	Cannon Point	4.30	196	PN	P	05 54 57.7	-1.9
CAW	Cannon Point	4.30	196	P	P	05 54 57.7	-1.9
NNZ	Nelson	4.93	210	*e*P	P	05 55 04.0	-2.8
BSWZ	Blackbirch Sta	5.19	204	P	P	05 55 08.0	-1.7
THZ	Tophouse	5.58	210	*e*P	P	05 55 11.5	-2.9
LTZ	Lake Taylor	6.70	209	*e*P	P	05 55 24.1	-3.6

NIED **03** *06:04:00, 31.80N×142.00E, h5km, Mw3.9 Best double couple: M0 8.05×10^14 NP1: φs 4°, δ84°, λ-17°. NP2: φs 96°, δ73°, λ-174°.*

IDC **03** *06:04:15.9±1.0, 31.60N×141.75E, mb3.8/6, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, ML3.6/3, Error ellipse: s-maj=27.3km s-min=17.4km az=71.0*

JMA **03** *06:04:17.2±0.1, 31.77N×142.01E, h30km, M3.7*

NEIC **03** *06:04:22.1±0.7, 31.65N×141.64E, h45km, mb4.5/1, MW3.9(NIED), Error ellipse: s-maj=22.8km s-min=14.6km az=76.0*

ISC 03 06:04:18.2±0.5**, 31.64N**±0.04×**141.8E**±0.1**, h33**km**, n16,** σ**1§05**/20**, mb3.9**/7**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.24	311	P	P	06 04 54.3	+0.7
JHJ	Hachijo jima 2	2.26	311	Pn	Pn	06 04 53.9	-0.3
	19nm,0.3s,baz=73,slow=19,SNR=5.7						
JHJ				Sn	Sn	06 05 23.1	+1.9
	24nm,0.3s,baz=75,slow=20,SNR=3.1						
BSO1	Boso 1	3.08	347	P	P	06 05 04.2	-1.5
CBIJ	Chichi jima	4.54	176	Pn	Pn	06 05 26.1	-0.5
	9.7nm,0.3s,baz=289,slow=19,SNR=5.3						
CBIJ				Sn	Sn	06 06 17.5	-1.4
	19nm,0.3s,baz=288,slow=20,SNR=4.0						
CBIJ	Chichi jima	4.54	176	P	P	06 05 27.9	+1.4
CBIJ				*e*S	S	06 06 18.5	-0.3
JRY	Ryogami san	4.99	332	P	P	06 05 32.6	-0.2
JRY				*e*S	S	06 06 28.9	-1.2
JHO	Hitachi	5.06	349	P	P	06 05 32.8	-1.0
JAG	Ashikaga	5.16	338	P	P	06 05 34.2	-0.9
MJAR	Matsushiro Arr	5.73	329	Pn	Pn	06 05 42.1	-1.2
	0.9nm,0.3s,baz=149,slow=11,SNR=7.1						
SONM	Songino Array	31.34	311	P	P	06 10 38.7	+1.0
	1.1nm,0.7s,mb3.8,baz=120,slow=9.1,SNR=4.5						
MKAR	Makanchi Array	47.43	306	P	P	06 12 51.5	+0.2
	1.2nm,0.9s,mb3.8,baz=89,slow=9.3,SNR=5.9						
WRAB	Tennant Creek	51.78	189	*e*P	P	06 13 24.9	-0.1
	3.0nm,0.5s,mb4.5						
WRA	Warramunga Arr	51.79	189	P	P	06 13 25.2	+0.1
	4.1nm,1.0s,mb4.3,baz=5.9,slow=7.6,SNR=25						
ILAR	Eielson Array	53.92	30	P	P	06 13 42.4	+2.0
	0.8nm,1.1s,mb3.6,baz=276,slow=4.4,SNR=4.6						
INK	Inuvik	59.06	26	P	P	06 14 17.2	+0.2
	0.4nm,0.7s,mb3.6,baz=321,slow=6.5,SNR=3.1						
TXAR	Lajitas Array	93.13	53	P	P	06 17 31.9	+1.6
	0.4nm,0.8s,mb3.9,baz=293,slow=2.7,SNR=4.8						

WAR **03** *06:10:39.1, 51.50N×16.15E, ML2.8, Mining Induced*

PRU **03** *06:10:39.3, 51.46N×16.15E, Felt In Harrachov*

CSEM **03** *06:10:39.2±0.3, 51.48N×16.14E, h0km, ML3.3/5, Error ellipse: s-maj=5.1km s-min=2.8km az=13.0*

IPEC **03** *06:10:39.3±0.3, 51.46N×16.22E, h6km±1km, ML2.0/2, Error ellipse: s-maj=2.2km s-min=1.0km az=28.0*

VIE **03** *06:10:41.4±0.6, 51.28N×16.26E, mb2.3/3, ML2.8/3, Error ellipse: s-maj=8.3km s-min=3.4km az=119.0, Suspected Mining induced.*

ISC 03 06:10:37.2±0.8**, 51.46N**±0.04×**16.12E**±0.04**, n22,** σ**1§28**/42**, 2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	170	⇓*i*PG	Pg	06 10 51.3	+1.6
KSP				⇓*e*SG	Sg	06 11 00.3	+2.2
KSP	Ksiaz	0.63	170	*e*Pg	Pg	06 10 51.3	+1.6
KSP				*e*Sg	Sg	06 11 01.1	+3.0
KSP	Ksiaz	0.63	170	*e*Pg	Pg	06 10 51.2	+1.5
KSP				*e*Sg	Sg	06 11 00.1	+2.0
UPC	Upice	0.96	184	*e*PG	Pg	06 10 57.5	+1.2
UPC	Upice	0.96	184	*e*Pg	Pg	06 10 57.4	+1.1
DPC	Dobruska-Polom	1.12	174	*e*PG	Pg	06 11 00.2	+0.7
DPC				*e*SG	Sg	06 11 16.1	+1.6
	41nm,0.2s						
DPC	Dobruska-Polom	1.12	174	*e*Pg	Pg	06 11 00.1	+0.6
DPC				*e*Sg	Sg	06 11 16.1	+1.6
	41nm,0.2s						
PVCC	Panska Ves	1.36	227	*e*PG	Pg	06 11 04.8	+0.5
PVCC				*e*SG	Sg	06 11 23.7	+1.4
PVCC	Panska Ves	1.36	227	*e*Pg	Pg	06 11 04.8	+0.5
PVCC				*e*Sg	Sg	06 11 23.9	+1.6
BRG	Berggiesshubel	1.50	248	*e*Pn	Pn	06 11 07.0	+1.7
BRG				*e*Sg	Sg	06 11 26.9	0.0
PRU	Pruhonice	1.79	215	*e*PG	Pg	06 11 12.4	-0.4
PRU				*e*SG	Sg	06 11 36.0	-0.6
PRU	Pruhonice	1.79	215	*e*Pn	Pn	06 11 11.3	+1.8
PRU				*e*Sg	Sg	06 11 35.8	-0.8
MORC	Moravsky Berou	1.91	151	*e*Pn	Pn	06 11 11.9	+0.6
CLL	Collm	1.96	267	*e*PN	Pn	06 11 12.0	0.0
CLL				*i* PG	Pg	06 11 15.4	-0.9
CLL				*i*		06 11 19.1	
CLL				*i* SG	Sg	06 11 42.3	-0.2
OKC	Ostrava-Krasne	2.08	141	*e*PG	Pg	06 11 18.5	-0.1
OKC				*e*SG	Sg	06 11 44.6	-1.6
VRAC	Vranov	2.18	172	*e*Pn	Pn	06 11 16.3	+1.2
VRAC				*e*Sg	Sg	06 11 46.4	-3.3
	15nm,0.3s						
KRUC	Moravsky	2.41	176	*e*Pn	Pn	06 11 19.7	+1.3
KRUC				*e*Sg	Sg	06 11 55.7	-1.7
	4.8nm,0.2s						
NKC	Novy Kostel	2.63	244	*e*SG	Sg	06 12 04.7	-0.2
	37nm,0.4s						
OJC	Ojcow	2.64	117	*e*PG	Pg	06 11 29.0	-0.9
OJC				*e*SG	Sg	06 12 03.0	-2.1
KHC	Kasperske Hory	2.85	216	*e*PN	Pn	06 11 25.5	+0.8
KHC				*e*PG	Pg	06 11 31.2	-2.8
KHC				*e*SN	Sn	06 12 00.0	-0.2
KHC				*e*SG	Sg	06 12 09.9	-2.1
MOX	Moxa	2.96	256	*i* P	Pn	06 11 32.7	+6.4
MOX	Moxa	2.96	256	*e*Pg	Pg	06 11 34.8	-1.5
MOX				*e*Sg	Sg	06 12 14.7	-1.0

IDC 03 06:18:47.4±10.0**, 31.99S×177.73W, h155**km±65km**, mb3.3**/1**, mb1 3.7**/2**, mb1mx3.4**/11**, mbtmp4.0**/2**, Error ellipse: s-maj=149.2km s-min=36.7km az=160.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.73	357	P	P	06 19 31.7	-0.6
	205nm,0.3s,baz=95,slow=8.0,SNR=15						
RAO				S	S	06 19 52.9	-14
	177nm,0.3s,baz=76,slow=23,SNR=6.9						
DZM	Mont Dzumac	17.20	301	P	P	06 22 38.1	-1.5
	0.9nm,0.3s,baz=30,slow=22,SNR=12						
WB2	Warramunga Arr	44.40	274	*e*P	P	06 26 44.5	+0.2
WRA	Warramunga Arr	44.41	274	P	P	06 26 42.6	-1.8
	0.7nm,0.4s,baz=109,slow=7.6,SNR=16						
FINES	FINESS Array B	146.71	339	PKPbc	PKPbc	06 38 08.9	-0.8
	1.3nm,0.4s,baz=51,slow=4.9,SNR=27						
AKASG	Malin Array Be	152.69	321	PKPbc	PKPdf	06 38 25.8	+8.1
	0.5nm,0.4s,baz=51,slow=3.3,SNR=7.3						

NEIC **03** *06:21:54.4, 38.18S×176.16E, h157km, MG3.8(WEL), After WEL.*

WEL 03 06:21:54.5±0.3**, 38.17S×176.16E, h156**km±2km**, ML3.6**/11**, Error ellipse: s-maj=4.2km s-min=4.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.75	97	PN	P	06 22 17.8	-0.5
URZ				SN	S	06 22 35.8	-0.7
URZ	Urewera	0.75	97	P	P	06 22 17.8	-0.4
BKZ	Black Stump Fm	1.03	165	PN	P	06 22 20.2	+0.1
BKZ				SN	S	06 22 39.5	-0.4
BKZ	Black Stump Fm	1.03	165	P	P	06 22 20.2	+0.1
BKZ				S	S	06 22 39.5	-0.4
MWZ	Matawai	1.09	99	PN	P	06 22 20.8	0.0
MWZ				SN	S	06 22 40.6	-0.3
MWZ	Matawai	1.09	99	P	P	06 22 20.9	+0.2
MWZ				S	S	06 22 40.9	-0.1
TUVZ	Tukino	1.17	200	PN	P	06 22 21.6	+0.1
TUVZ	Tukino	1.17	200	P	P	06 22 21.6	+0.2
WNVZ	Wahianoa	1.23	201	PN	P	06 22 22.2	0.0
WNVZ	Wahianoa	1.23	201	P	P	06 22 22.2	+0.1
MOVZ	Moawhango	1.27	194	PN	P	06 22 21.9	-0.6
PUZ	Puketiti	1.66	87	PN	P	06 22 25.8	-0.6
PUZ	Puketiti	1.66	87	P	P	06 22 25.8	-0.6
MXZ	Matakaoa Point	1.80	71	PN	P	06 22 27.8	-0.2
MXZ	Matakaoa Point	1.80	71	P	P	06 22 27.8	-0.2
WAZ	Wanganui	1.83	210	PN	P	06 22 27.7	-0.6
TSZ	Takapari Road	1.89	185	PN	P	06 22 28.0	-1.0
TSZ	Takapari Road	1.89	185	P	P	06 22 28.0	-1.0
PXZ	Pawanui	1.94	164	PN	P	06 22 29.1	-0.4
MRZ	Mangatainoka R	2.53	190	PN	P	06 22 34.4	-2.3
MRZ	Mangatainoka R	2.53	190	P	P	06 22 34.4	-2.4
KIW	Kapiti Island	2.85	199	PN	P	06 22 37.8	-3.0
KIW	Kapiti Island	2.85	199	P	P	06 22 37.8	-3.1
MTW	Mount Morrison	3.03	189	PN	P	06 22 39.9	-3.2
MTW	Mount Morrison	3.03	189	P	P	06 22 39.9	-3.2
CAW	Cannon Point	3.05	196	PN	P	06 22 40.2	-3.2
CAW	Cannon Point	3.05	196	P	P	06 22 40.2	-3.2
MRW	Makara Radio	3.25	200	PN	P	06 22 41.8	-4.2
MRW	Makara Radio	3.25	200	P	P	06 22 41.8	-4.2
NNZ	Nelson	3.72	214	PN	P	06 22 48.0	-4.1
NNZ	Nelson	3.72	214	P	P	06 22 48.0	-4.1
THZ	Tophouse	4.37	214	PN	P	06 22 55.8	-4.8

BJI **03** *06:40:55.5, 18.00S×178.00W, h577km, mB5.1, mb4.7*

NEIC **03** *06:40:55.5±0.9, 18.03S×177.98W, h578km±11km, mb4.8/12, Error ellipse: s-maj=13.4km s-min=8.1km az=139.0*

IDC **03** *06:40:58.0±1.2, 18.20S×177.96W, h615km±15km, mb3.8/13, mb1 4.0/14, mb1mx4.0/17, mbtmp4.7/14, Error ellipse: s-maj=17.7km s-min=10.2km az=144.0*

MOS **03** *06:40:58.3±2.1, 16.57S×178.70W, h557km, mb5.0/6, Error ellipse: s-maj=14.5km s-min=14.4km az=101.8*

ISC 03 06:40:57.3±0.8**, 18.09S**±0.08×**178.02W**±0.06**, h623**km±11km**, n164,** σ**1§17**/72**, mb4.6**/35**, 12C-17D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.30	56	P	P	06 42 50.9	-0.4
	18nm,0.3s,baz=48,slow=5.1,SNR=17						
AFI				S	S	06 44 23.0	+0.8
	3.9nm,0.3s,baz=43,slow=23,SNR=2.6						
AFI	Afiamalu	7.30	56	*e*P	P	06 42 48.0	-3.3
AFI				pmax	pmax		
	comp=Z,71nm,0.5s						
AFI	Afiamalu	7.30	56	*e*P	P	06 42 48.0	-3.3
	comp=Z,71nm,0.5s						
NOUC	Port Laguerre	15.26	252	*e*P	P	06 44 10.1	+2.5
URZ	Urewera	20.54	191	P	P	06 44 54.4	-2.0
	comp=Z,6.8nm,0.4s,baz=288,slow=1.8,SNR=13						
URZ				S	S	06 47 59.1	-9.2
	comp=Z,5.4nm,0.8s,baz=2.1,slow=9.6,SNR=1.9						
PAE	Paea	27.06	94	*e*P	P	06 45 53.7	-0.6
	comp=Z,56nm,1.0s,mb5.1						
PPT	Papeete	27.07	93	*e*P	P	06 45 54.0	-0.4
	comp=Z,47nm,1.4s,mb4.9						
RPZ	Rata Peaks	27.16	198	P	P	06 45 53.0	-2.0
	comp=Z,6.8nm,0.5s,mb4.5,baz=10,slow=5.0,SNR=4.5						
TBI	Tubuai	27.20	106	*e*P	P	06 45 55.4	0.0
	comp=Z,77nm,0.8s,mb5.4						
TVO	Taravao	27.36	94	*e*P	P	06 45 56.5	-0.4
	comp=Z,60nm,0.8s,mb5.2						
PMOR	Pomariorio Ree	29.03	88	*e*P	P	06 46 10.9	-0.3
	comp=Z,78nm,1.1s,mb5.2						
VAH	Vaihoa	29.24	89	*e*P	P	06 46 12.4	-0.6
	comp=Z,72nm,1.0s,mb5.3						
CTAO	Charters Tower	33.78	261	*e*P	P	06 46 51.6	+0.4
CTAO				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.1						
CTAO	Charters Tower	33.78	261	*e*P	P	06 46 51.6	+0.5
	comp=Z,31nm,0.6s,mb5.1						
PMG	Port Moresby	34.85	280	P	P	06 47 01.9	+1.8
	comp=Z,68nm,0.8s,mb5.3,baz=76,slow=4.5,SNR=26						
PMG	Port Moresby	34.85	280	*d i*P	P	06 46 59.5	-0.6
PMG	Port Moresby	34.85	280	*e*P	P	06 47 00.1	+0.1
	comp=Z,76nm,0.9s,mb5.3						
TOO	Toolangi	37.34	231	*e*P	P	06 47 21.8	+1.5
	comp=Z,25nm,1.1s,mb4.7						
TOO	Toolangi	37.34	231	*e*P	P	06 47 21.8	+1.5
TOO				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.7						
STKA	Stephens Creek	38.87	241	*e*P	P	06 47 34.2	+1.5
	comp=Z,25nm,0.9s,mb4.7						
STKA	Stephens Creek	38.87	241	P	P	06 47 33.7	+1.0
	comp=Z,26nm,0.7s,mb4.9,baz=88,slow=9.1,SNR=44						
WB2	Warramunga Arr	44.95	260	⇓*i*P	P	06 48 20.5	-0.2
WB2				*e*S	S	06 54 13.4	-2.2
WRAB	Tennant Creek	44.95	260	*d i*P	P	06 48 20.4	-0.4
WRAB	Tennant Creek	44.95	260	*e*P	P	06 48 20.3	-0.4
	comp=Z,74nm,1.0s,mb5.2						
WRA	Warramunga Arr	44.96	260	P	P	06 48 20.5	-0.3
	comp=Z,20nm,0.4s,mb5.0,baz=96,slow=7.0,SNR=954						
WRA				PcP	PcP	06 49 48.6	+0.1
	comp=Z,2.3nm,0.3s,baz=90,slow=3.8,SNR=5.8						
WRA				S	S	06 54 13.6	-2.2
	comp=Z,1.3nm,0.9s,baz=99,slow=13,SNR=5.9						
KAKA	Kakadu	47.95	269	⇓*i*P	Px	06 49 04.2	
	comp=Z,41nm,0.3s						
FORT	Forrest	50.27	245	⇓*i*P	P	06 48 59.7	-0.6
	comp=Z,37nm,0.6s,mb5.0						
KLBR	Kellerberrin	59.08	244	⇓*i*P	P	06 50 01.0	-0.4
	comp=Z,23nm,0.6s,mb4.5						
MUN	Mundaring	60.37	243	*e*P	P	06 50 10.4	+0.5
MJAR	Matsushiro Arr	68.27	323	P	P	06 50 59.5	+0.2
	comp=Z,14nm,0.6s,mb4.6,baz=157,slow=6.5,SNR=25						
MAT	Matsushiro	68.27	323	P	P	06 50 59.4	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MAT	Matsushiro	68.27	323	eP	P	06 50 59.0	-0.4
QSPA	South Pole Qui	71.97	180	eP	P	06 51 20.8	+0.5
	comp=Z,5.5nm,0.6s,mb4.3						
KSM	Kuching	73.07	277	eP	P	06 51 28.6	+0.8
YSS	Yuzh-Sakhalins	73.74	333	⇑eP	P	06 51 26.2	-4.7
YSS				pmax	pmax		
	comp=Z,205nm,2.8s,mb5.2						
SSE	Sheshan	76.14	310	P	P	06 51 42.1	-2.4
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,60nm,5.0s						
NVAR	Mina Array Bea	79.30	44	P	P	06 52 02.3	+1.2
	comp=Z,1.0nm,0.8s,baz=227,slow=9.1,SNR=7.9						
CN2	Changchun	80.39	322	eP	P	06 52 07.8	+1.2
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
SLKM	Skilak Lake	81.48	13	P	P	06 52 11.1	-0.7
ELK	Elko	82.53	43	P	P	06 52 17.8	+0.2
ELK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ELK	Elko	82.53	43	P	P	06 52 17.8	+0.2
	comp=Z,1.1nm,0.7s,mb3.5						
TTA	Tatalina	82.58	10	eP	P	06 52 17.7	+0.4
TTA				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.5						
TTA	Tatalina	82.58	10	eP	P	06 52 17.7	+0.4
	comp=Z,22nm,1.3s,mb4.5						
BMO	Blue Mountains	83.45	39	P	P	06 52 22.1	+0.1
BMO				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.7						
BMO	Blue Mountains	83.45	39	P	P	06 52 22.1	+0.1
	comp=Z,0.6nm,0.4s,mb3.5						
SEY	Seymchan	84.03	347	⇑iP	P	06 52 21.9	-2.5
PSI	Prapat	84.27	275	P	P	06 52 27.3	+0.5
	comp=Z,15nm,0.8s,mb4.5,baz=170,slow=11,SNR=6.9						
HLID	Hailey	84.52	41	eP	P	06 52 28.8	+1.5
	comp=Z,1.3nm,0.7s,mb3.7						
ENH	Enshi	84.68	304	eP	P	06 52 29.5	+1.1
	comp=Z,13nm,0.8s,mb4.6						
TXAR	Lajitas Array	85.78	57	P	P	06 52 35.9	+2.2
	comp=Z,1.4nm,0.7s,mb3.7,baz=220,slow=6.0,SNR=21						
COLA	College	85.87	12	eP	P	06 52 32.3	-0.9
COLA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
COLA	College	85.87	12	eP	P	06 52 32.3	-1.0
	comp=Z,6.4nm,0.6s,mb4.4						
ILAR	Eielson Array	85.98	13	P	P	06 52 33.5	-0.3
	comp=Z,2.7nm,0.4s,mb4.2,baz=221,slow=4.8,SNR=83						
BILL	Bilibino	86.65	354	⇑iP	P	06 52 35.1	-1.7
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.3						
CHMT	Chamberlain Mo	86.94	38	eP	P	06 52 39.2	+0.4
PDAR	Pinedale Array	87.23	43	P	P	06 52 41.1	+1.0
	comp=Z,0.9nm,0.7s,mb3.6,baz=245,slow=2.2,SNR=10						
HHC	Hu-ho-hao-te	87.66	314	eP	P	06 52 43.7	+1.4
HHC				AP	pP	06 54 52.9	-2.5
HHC				PP	PP	06 56 24.5	+3.6
HHC				SKS	SKS	07 02 13.4	+2.3
HHC				S	S	07 02 36.2	+4.4
HHC				SS	SS	07 08 46.6	+4.6
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
HHC				AMB	AMB		
	comp=Z,280nm,6.9s						
SNAA	Sanae	90.41	178		P	06 53 00.9	+6.6
SNAA	Sanae	90.41	178	⇑iP	P	06 52 55.0	+0.7
SNAA				P		06 53 00.9	
VNA3	Neumayer Olymp	90.54	176		P	06 53 03.1	+8.2
VNA3	Neumayer Olymp	90.54	176	⇑iP	P	06 52 56.6	+1.7
VNA3				P		06 53 03.1	
VNA2	Neumayer--Watz	90.98	177		P	06 53 04.7	+7.8
VNA2	Neumayer--Watz	90.98	177	⇑iP	P	06 52 59.0	+2.1
VNA2				P		06 53 04.7	
VNA1	Neumayer--Stat	91.21	177		P	06 53 00.9	+2.9
VNA1	Neumayer--Stat	91.21	177	P	P	06 52 54.4	-3.6
VNA1				P		06 53 00.9	
ULN	Ulaanbaatar	93.53	319	⇑iP	P	06 53 08.4	-0.7
SONM	Songino Array	93.93	319	P	P	06 53 11.0	+0.1
	comp=Z,1.2nm,0.9s,mb4.0,baz=166,slow=6.1,SNR=5.1						
YKA	Yellowknife Ar	94.34	25	P	P	06 53 11.2	-1.1
	comp=Z,0.6nm,0.6s,mb3.9,baz=238,slow=4.9,SNR=7.4						
TIXI	Tiksi	96.42	345	eP	P	06 53 19.1	-2.5
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.4						
MKAR	Makanchi Array	109.52	314	PKiKP		06 58 18.3	
	comp=Z,0.7nm,0.4s,baz=137,slow=0.8,SNR=12						
AAK	Ala-Archa	114.78	309	i PKIKP	PKPdf	06 58 28.4	0.0
ARU	Arti	123.20	326	i PKIKP	PKPdf	06 58 45.6	+1.2
ARU				e		07 00 29.7	
ARCES	ARCESS Array B	126.56	350	PKP	PKPdf	06 58 51.4	+0.9
	comp=Z,1.5nm,0.4s,baz=92,slow=0.4,SNR=22						
JOF	Joensuu	130.84	343	ep	PKPdf	06 58 57.7	-1.0
	comp=Z,3.6nm,0.6s						
KAF	Kangasniemi	132.84	345	ep	PKPdf	06 59 00.4	-2.1
	comp=Z,3.3nm,0.7s						
FINES	FINESS Array B	133.46	344	PKhKP		06 58 59.7	
	comp=Z,1.9nm,0.9s,baz=45,slow=5.9,SNR=5.2						
FINES				PKP	PKPdf	06 59 04.7	+1.0
	comp=Z,1.5nm,0.6s,baz=90,slow=5.7,SNR=12						
OBN	Obninsk	134.63	333	i PKIKP	PKPdf	06 59 06.8	+0.8
OBN				pmax	pmax		
	comp=Z,7.0nm,1.6s						
KIV	Kislovodsk	137.24	316	i PKIKP	PKPdf	06 59 11.1	0.0
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	Malin Array Be	140.89	333	PKhKP		06 59 13.2	
	comp=Z,1.0nm,0.3s,baz=42,slow=4.2,SNR=21						
AKASG	Malin Array Be	140.89	333	i PKHKP		06 59 13.3	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SIM	Simferopol’	142.12	322	d i PKHKP		06 59 17.6	
SIM				pmax	pmax		
	comp=Z,21nm,1.1s						
HILS	Ha’il	142.27	292	P	PKPdf	06 59 20.9	+0.4
BLJS	Baljurashi	142.55	279	P	PKPdf	06 59 23.0	+1.8
BSEG	Bad Segeberg	143.65	352	ePKHKP		06 59 23.4	
LTHS	Al Lith	143.69	280	P	PKPbc	06 59 25.6	+3.0
KIS	Kishinev	143.70	329	ePKHKP		06 59 23.0	
OJC	Ojcow	144.91	340	ePKP	PKPdf	06 59 27.5	+3.1
BURAR	Bucovina Array	144.94	332	⇓P	PKPdf	06 59 28.5	+4.0
BURAR	Bucovina Array	144.94	332	⇓P	PKPdf	06 59 28.5	+3.9
STHS	Stebnicka Huta	145.10	338	ePKP	PKPdf	06 59 28.6	+3.9
KOLS	Kolonicke sedl	145.12	336	ePKP	PKPdf	06 59 27.7	+2.9
BR131	Keskin Array S	145.17	315	ePKP	PKPdf	06 59 28.1	+3.0
BRTR	Keskin Array B	145.17	315	PKPbc	PKPbc	06 59 27.9	+1.7
	comp=Z,7.6nm,0.6s,baz=132,slow=4.1,SNR=37						
KSP	Ksiaz	145.38	344	ePKP	PKPdf	06 59 29.2	+4.0
KSP	Ksiaz	145.38	344	ePKIKP	PKPdf	06 59 29.1	+3.9
NIE	Niedzica	145.42	339	⇓ePKP	PKPdf	06 59 29.6	+4.3
CRVS	Cervenica-Dubn	145.45	337	ePKP	PKPdf	06 59 28.0	+2.7
CLZ	Clausthal	145.67	351	ePKIKP	PKPdf	06 59 29.8	+4.2
CLL	Collm	145.72	348	⇓i PKP1	PKPbc	06 59 29.7	+2.5
CLL				i PKP2	PKPab	06 59 35.6	+3.2
CLL	Collm	145.72	348	⇓i PKIKP	PKPdf	06 59 29.7	+4.0
CLL				pmax	pmax		
	comp=Z,39nm,0.9s						
OKC	Ostrava-Krasne	145.76	341	ePKPbc	PKPbc	06 59 29.4	+2.1
OKC				ePKPab	PKPab	06 59 32.3	-0.3
UPC	Upice	145.76	344	ePKPbc	PKPbc	06 59 30.1	+2.8
UPC				ePKPab	PKPab	06 59 32.3	-0.3
DPC	Dobruska-Polom	145.82	344	ePKPbc	PKPbc	06 59 30.5	+3.0
DPC				ePKPab	PKPab	06 59 32.9	0.0
BRG	Berggiesshubel	145.93	346	i PKIKP	PKPdf	06 59 30.5	+4.4
BRG				pmax	pmax		
	comp=Z,459nm,1.8s						
BRG				pmax	pmax		
	comp=Z,21nm,1.5s						
BRG				MLR	MLR		
	comp=Z,3µm,15.1s						
BRG	Berggiesshubel	145.93	346	i P	PKPdf	06 59 30.4	+4.4
MORC	Moravsky Berou	146.00	342	⇑PKIKP	PKPdf	06 59 31.0	+4.8
PVCC	Panska Ves	146.10	346	ePKPbc	PKPbc	06 59 31.4	+3.2
PVCC				ePKPab	PKPab	06 59 33.8	-0.1
KECS	Kecovo	146.15	338	ePKP	PKPdf	06 59 31.2	+4.7
MLR	Muntele Rosu	146.18	329	⇓P	PKPdf	06 59 31.1	+4.4
PRU	Pruhonice	146.61	345	ePKPbc	PKPbc	06 59 32.2	+2.9
PRU				ePKPab	PKPab	06 59 35.5	-0.4
MOX	Moxa	146.62	349	i P	PKPdf	06 59 32.3	+5.1
DRGR		146.66	334	⇓P	PKPdf	06 59 31.6	+4.2
VRAC	Vranov	146.69	342	⇓PKIKP	PKPdf	06 59 33.1	+5.7
VYHS	Vyhne	146.72	339	ePKP	PKPdf	06 59 32.7	+5.2
TREC	Trest	147.01	344	ePKPbc	PKPdf	06 59 33.2	+5.3
JMQS	Jabal Moqyreh	147.21	295	P	PKPdf	06 59 34.9	+6.0
DBAS	Duba	147.42	292	P	PKPdf	06 59 35.4	+6.1
TNS	Taunus Mts	147.53	352	ePKIKP	PKPdf	06 59 34.9	+6.2
ZST	Bratislava	147.54	341	ePKP	PKPdf	06 59 35.5	+6.7
GRF	Grafenberg Arr	147.60	349	ePKIKP	PKPdf	06 59 35.1	+6.2
GRF	Grafenberg Arr	147.60	349	ePKIKP	PKPdf	06 59 35.1	+6.2
KHC	Kasperske Hory	147.64	346	ePKPbc	PKPdf	06 59 34.9	+5.9
KHC				ePKPab	PKPab	06 59 40.3	+0.3
KHC	Kasperske Hory	147.64	346	i PKIKP	PKPdf	06 59 35.3	+6.3
WET	Wettzell	147.79	347	ePKIKP	PKPdf	06 59 36.0	+6.8
JMOS	Jabal al Moall	147.81	296	P	PKPdf	06 59 36.3	+6.4
AYUS	‘Aynunah	147.87	294	P	PKPdf	06 59 36.5	+6.6
GEC2	GERESS Array S	147.88	345	ePKIKP	PKPdf	06 59 35.5	+6.2
GERES	GERESS Array B	147.88	345	PKPbc	PKPdf	06 59 35.7	+6.4
	comp=Z,6.2nm,0.6s,baz=27,slow=3.0,SNR=27						
BDAS	Al Bad‘	147.97	295	P	PKPdf	06 59 36.6	+6.5
GIVF	Givet	147.98	357	ePKP1	PKPdf	06 59 35.7	+6.2
HAQS	Haql	147.99	296	P	PKPdf	06 59 36.6	+6.5
BAIF	Baives	148.06	357	ePKP1	PKPdf	06 59 36.0	+6.4
	comp=Z,10nm,0.6s						
BZS	Buzias	148.06	334	⇑P	PKPdf	06 59 36.1	+6.4
FUR	Furstenfeldbru	149.06	348	ePKIKP	PKPdf	06 59 38.6	+7.4
FLN	La Foliniere	149.34	3	ePKP1	PKPdf	06 59 38.6	+7.0
BFO	Black Forest	149.40	352	ePKHKP		06 59 39.4	
CDF	Champ du Feu	149.45	353	ePKP1	PKPdf	06 59 39.3	+7.5
	comp=Z,30nm,1.0s						
LDF	La Druitiere	149.52	3	ePKP1	PKPdf	06 59 39.0	+7.1
ROSF	Rostrenen	149.53	7	ePKP1	PKPdf	06 59 38.9	+7.0
MEZF	Maizieres J’vi	149.56	356	ePKP1	PKPdf	06 59 39.9	+7.9
KBA	Koelnbreinsper	149.61	345	⇑iP	PKPdf	06 59 39.7	+7.6
	comp=Z,11nm,0.7s						
VTS	Vitosha	149.64	328	⇑PKHKP		06 59 40.0	
SGMF	Saint Gilles	149.69	6	ePKP1	PKPdf	06 59 39.3	+7.1
GRR	Gorron	149.69	4	ePKP1	PKPdf	06 59 39.6	+7.4
	comp=Z,9.9nm,0.4s						
WATA	Walderalm	149.78	347	⇓iP	PKPdf	06 59 39.9	+7.6
	comp=Z,12nm,1.1s						
GRUS	Gruza	149.82	332	i PKP	PKPdf	06 59 40.1	+7.6
WTTA	Wattenberg	149.84	347	⇓iP	PKPdf	06 59 40.3	+7.9
	comp=Z,16nm,0.5s						
HAU	Haudompre	149.95	354	ePKP1	PKPdf	06 59 40.4	+7.8
	comp=Z,14nm,0.6s						
DIVS	Divcibare	149.97	334	i PKP	PKPdf	06 59 40.6	+7.9
SQTA	Sankt Quirin	149.97	347	⇑iP	PKPdf	06 59 40.7	+8.1
	comp=Z,9.4nm,1.0s						
HINF	Hinteralfeld	150.08	353	ePKP1	PKPdf	06 59 40.5	+7.7
CRES	Cresnjev	150.16	341	i PKPbc	PKPdf	06 59 41.0	+8.0
LJU	Ljubljana	150.24	342	ePKPbc	PKPdf	06 59 42.0	+8.9
BBLS	Bajina Basta -	150.40	334	i PKP	PKPdf	06 59 41.5	+8.1
BOJS	Bojanci	150.51	341	i PKPbc	PKPdf	06 59 42.1	+8.6
LOR	Lormes	150.86	357	ePKP1	PKPdf	06 59 42.6	+8.6
	comp=Z,12nm,0.7s						
SSF	Saint Saulge	151.08	358	ePKP1	PKPdf	06 59 43.1	+8.8
	comp=Z,26nm,0.9s						
CABF	La Chapelle	151.35	354	ePKP1	PKPdf	06 59 44.1	+9.4
MFF	Saint Martin d	151.51	3	ePKP1	PKPdf	06 59 43.8	+8.9
	comp=Z,6.5nm,0.5s						
BGF	Bois d’Agland	151.60	359	ePKP1	PKPdf	06 59 44.2	+9.1
LPL	La Plagne	152.37	353	ePKP1	PKPdf	06 59 48.1	+12
LPG	La Plagne	152.38	353	ePKP1	PKPdf	06 59 48.2	+12
RJF	Les Rejaudoux	152.86	1	ePKP1	PKPdf	06 59 47.5	+11
TORD	Torodi Ar. Bea	175.08	177	PKP	PKPdf	07 00 00.1	+2.9
	comp=Z,0.8nm,0.9s,baz=315,slow=4.2,SNR=3.5						

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*CSEM **03** 06:50:39.8±0.3, 12.11N×43.45E, h9km, ML3.8, Error ellipse: s-maj=5.5km s-min=4.9km az=28.0, After DHMR*

DHMR 03 06:50:39.8±1.0, 12.11N×43.45E, h10km±6km, ML3.8, 9D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.29	30	⇓iP	Pb	06 51 03.7	0.0
TRBA				i S	Sb	06 51 22.2	+2.0
TRBA				AML	AML	06 51 22.8	
	comp=N,1µm,0.3s						
UDYN	Al ‘Udayn	1.92	15	⇓iP	Pn	06 51 14.4	+1.6
UDYN				i S	Sn	06 51 40.8	+3.5
UDYN				AML	AML	06 51 48.4	
	comp=N,2µm,0.6s						
UDYN	Al ‘Udayn	1.92	15	⇓iP	Pn	06 51 14.4	+1.5
	comp=N,992nm,0.6s						
UDYN				i S	Sn	06 51 40.8	+3.5
LBOS		2.48	45	⇓iP	Pn	06 51 22.8	+1.8
LBOS				i S	Sn	06 51 56.5	+5.0
DHBB	Dhamar BB	2.62	20	⇓iP	Pn	06 51 24.7	+1.8
DHBB				i S	Sn	06 51 59.7	+4.6
BDHA	Al Bayda’	2.77	48	⇓iP	Pn	06 51 27.1	+2.0
BDHA				i S	Sn	06 52 04.5	+5.4
BDHA				AML	AML	06 52 13.6	
	comp=N,553nm,0.6s						
BDHA	Al Bayda’	2.77	48	⇓iP	Pn	06 51 27.1	+1.9
	comp=N,276nm,0.6s						
BDHA				i S	Sn	06 52 04.5	+5.5
HAJJ	Hajjah	3.58	2	⇓iP	Pn	06 51 37.9	+1.4
HAJJ				i S	Sn	06 52 23.6	+4.2
HAJJ				AML	AML	06 52 39.1	
	comp=E,217nm,0.7s						
HAJJ	Hajjah	3.58	2	⇓iP	Pn	06 51 37.9	+1.4
HAJJ				i S	Sn	06 52 23.6	+4.3
	comp=E,109nm,0.7s						

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*CSEM **03** 07:02:58.7±0.5, 12.06N×43.47E, h5km, ML4.1, Error ellipse: s-maj=9.3km s-min=8.5km az=35.0, After DHMR*

DHMR 03 07:02:58.7±1.0, 12.06N×43.47E, h5km±6km, ML4.1, 2C-4D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.32	28	⇓iP	Pb	07 03 23.8	+0.2
TRBA				i S	Sb	07 03 42.5	+1.8
TRBA				AML	AML	07 03 44.7	
	comp=N,3µm,0.4s						
UDYN	Al ‘Udayn	1.96	14	⇓iP	Pn	07 03 33.9	+1.0
UDYN				i S	Sn	07 04 00.7	+2.7
UDYN				AML	AML	07 04 10.7	
	comp=N,3µm,0.5s						
LBOS		2.50	44	⇑iP	Pn	07 03 42.4	+1.8
LBOS				i S	Sn	07 04 16.6	+4.7
DHBB	Dhamar BB	2.65	20	⇑iP	Pn	07 03 44.9	+2.1
DHBB				i S	Sn	07 04 20.7	+4.9
BDHA	Al Bayda’	2.79	47	⇓iP	Pn	07 03 46.7	+1.8
BDHA				i S	Sn	07 04 24.9	+5.5
BDHA				AML	AML	07 04 39.8	
	comp=N,2µm,0.7s						
HAJJ	Hajjah	3.62	2	⇓iP	Pn	07 03 57.6	+1.0
HAJJ				i S	Sn	07 04 44.9	+4.7
HAJJ				AML	AML	07 05 02.5	
	comp=N,683nm,0.5s						

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*NEIC **03** 07:05:39.9, 30.71S×71.69W, h15km, ML3.2(GUC), After GUC.*

GUC 03 07:05:39.9±1.1, 30.71S×71.69W, h15km±7km, MD3.9, ML3.2, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.43	77	⇑iP	Pb	07 05 48.8	+0.1
OVCH				i S	Sb	07 05 55.4	+0.7
OVCH				AMP		07 05 55.7	
	comp=N,9µm,0.2s						
CMCH	Combarbala	0.75	128	⇓iP	Pb	07 05 53.7	-0.5
CMCH				i S	Sb	07 06 04.3	+0.3
CMCH				AMP		07 06 04.6	
	comp=N,9µm,0.1s						
LSCH	La Serena	0.89	26	⇑iP	Pb	07 05 55.6	-0.9
LSCH				i S	Sb	07 06 07.4	-0.4
LSCH				AMP		07 06 09.5	
	comp=N,805nm,0.4s						
TLL	Tololo Astrono	0.94	55	⇓iP	Pb	07 05 57.1	-0.2
TLL				i S	Sb	07 06 09.9	+0.7
TLL				AMP		07 06 10.8	
	comp=E,1µm,0.3s						
ILCH	Illapel	1.03	154	⇑iP	Pb	07 05 57.9	-1.0
ILCH				i S	Sb	07 06 11.4	-0.6
ILCH				AMP		07 06 13.4	
	comp=N,1µm,0.2s						
CHNG	Los Chungos	1.18	172	⇑iP	Pb	07 06 00.5	-1.1
CHNG				i S	Sb	07 06 15.7	-0.8
CHNG				AMP		07 06 17.2	
	comp=E,384nm,0.3s						
JACH	Jahuel	2.18	155	eP	Pn	07 06 17.0	+0.8
PEL	Peldehue	2.58	161	i S	Sn	07 06 54.7	+1.6
PEL				AMP		07 07 02.3	
	comp=E,243nm,0.4s						
FCH	Farellones	2.87	156	eP	Pn	07 06 27.3	+1.2
FCH				AMP		07 07 10.6	
	comp=E,69nm,0.3s						
RCDM	Rinconada Maip	2.87	165	i P	Pn	07 06 25.7	-0.4
RCDM				AMP		07 07 14.2	
	comp=E,109nm,0.5s						

MAN 03 07:27:36.9, 17.87N×121.17E, h27km, mb4.2, ML3.0, MS2.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	0.07	93	eP	Pb	07 27 42.6	+1.1
APYP				eS	Sb	07 27 46.3	+1.5
ABRA	Dolores	0.49	244	eP	Pb	07 27 48.6	+1.6
ABRA				eS	Sb	07 27 56.5	+2.6
CVP	Callao Caves	0.64	105	⇑iP	Pb	07 27 48.5	-0.9
CVP				i S	Sb	07 27 57.0	-1.0
CAUP	Cauayan	1.11	146	eP	Pn	07 27 57.2	+0.4
CAUP				eS	Sn	07 28 12.4	+1.1
BALP	Baler	2.15	170	eP	Pn	07 28 11.6	-0.1

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*IDC **03** 07:43:02.9±1.4, 38.04N×145.09E, mb3.6/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.6/5, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.1/31, Error ellipse: s-maj=37.3km s-min=27.4km az=108.0*

*JMA **03** 07:43:08.2±0.2, 38.19N×144.76E, h52km, M4.0*

ISC 03 07:43:06.8±1.3, 38.19N±0.05×144.83E±0.08, h46km±15km, n18, σ1§21/29, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.63	291	P	P	07 43 48.8	+1.0
OFUJ				eS	S	07 44 19.3	+0.6
MIYJ	Miyakonagasawa	2.73	302	P	P	07 43 49.8	+0.6
MIYJ				S	S	07 44 21.0	-0.2
JIO	Ouri	2.75	277	P	P	07 43 50.4	+0.9
JIO				S	S	07 44 22.0	+0.3
JMK	Ichinoseki	2.93	286	P	P	07 43 53.7	+1.6
JMK				eS	S	07 44 26.8	+0.5
JOT	Ohata	4.32	319	P	P	07 44 12.8	+1.1
JOT				eS	S	07 44 59.4	-2.1
JCH	Churui	4.56	346	P	P	07 44 14.2	-1.0
JCH				eS	S	07 45 03.9	-3.7
JKB	Kayabe	4.71	323	P	P	07 44 18.3	+1.1
JKB				eS	S	07 45 10.1	-1.1
JRY	Ryogami san	5.21	247	P	P	07 44 23.8	-0.4
JRY				eS	S	07 45 20.7	-3.1
NEM2	Nemuro 2	5.22	7	P	P	07 44 20.7	-3.6
NEM2				eS	S	07 45 14.9	-9.2
JOD2	Odawara 2	5.46	239	P	P	07 44 27.4	-0.2
JOD2				eS	S	07 45 27.7	-2.2
MJAR	Matsushiro Arr	5.52	255	Pn	P	07 44 28.3	-0.2
	1.9nm,0.3s,baz=86,slow=15,SNR=9.9						
JTKR	Abashiri--Toko	5.82	353	P	P	07 44 31.1	-1.6
JTKR				eS	S	07 45 33.8	-5.3
JHR	Hokuryu	6.03	338	P	P	07 44 36.6	+1.0
JHR				eS	S	07 45 44.9	+0.6
ASAJ	Asahikawa	6.16	345	Pn	P	07 44 37.6	+0.1
	1.0nm,0.3s,baz=216,slow=33,SNR=4.7						
JHJ	Hachijo jima 2	6.51	221	LR	LR	07 46 38.9	
	comp=Z,275nm,18.8s,baz=287,slow=33						
BVAR	Borovoye Array	51.81	312	P	P	07 52 14.3	+2.4
	0.5nm,0.7s,mb3.6,baz=67,slow=11,SNR=3.3						
WRA	Warramunga Arr	58.65	192	P	P	07 53 01.2	-0.7
	1.0nm,0.8s,mb3.9,baz=14,slow=7.2,SNR=5.1						
YKA	Yellowknife Ar	61.44	31	P	P	07 53 20.7	+0.4
	0.4nm,0.7s,mb3.6,baz=311,slow=7.3,SNR=3.5						

NEIC 03 07:49:34.6, 34.33N×116.83W, h5km, ML4.1(PAS), 1D, After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	Pinyon Flat Ob	0.78	156	⇓eP	Pg	07 49 48.8	-1.5
GSC	Goldstone	0.97	1	eP	Pb	07 49 52.2	-1.3
MWC	Mount Wilson	1.02	264	eP	Pb	07 49 52.8	-1.6
LDFC	Landfair	1.60	62	eP	Pn	07 50 01.7	-2.0
BAR	Barrett	1.65	175	eP	Pn	07 50 03.0	-1.5
ISA	Isabella	1.89	315	ePn	Pn	07 50 05.9	-2.0
DAC	Darwin (Calif)	2.04	342	ePn	Pn	07 50 08.5	-1.5
NEN	Nelson	2.10	51	ePn	Pn	07 50 08.9	-1.9
GLA	Glamis	2.10	127	ePn	Pn	07 50 08.3	-2.6
SNCC	San Nicolas Is	2.49	245	ePn	Pn	07 50 14.2	-2.2
PTRM	Twissleman Ran	3.07	296	ePn	Pn	07 50 21.9	-2.9
TPH	Tonopah	3.75	355	ePn	Pn	07 50 31.7	-2.7
LRV	Little Rabbit	4.01	303	Pn	Pn	07 50 35.5	-2.5
MNV	Mina	4.23	346	ePn	Pn	07 50 39.6	-1.6
ARUT	Antelope Range	4.41	38	ePn	Pn	07 50 42.0	-1.8
SAO	San Andreas Ge	4.48	304	ePn	Pn	07 50 41.9	-2.8
WUAZ	Wupatki	4.64	74	ePn	Pn	07 50 43.8	-3.2
CMB	Columbia Colle	4.68	323	ePn	Pn	07 50 45.0	-2.7
TUC	Tucson	5.45	110	ePn	Pn	07 50 53.8	-4.6
MVU	Marysvale	5.59	40	Pn	Pn	07 50 58.5	-1.9
MSU	Marysvale	5.61	41	ePn	Pn	07 50 58.9	-1.8
DUG	Dugway	6.67	28	ePn	Pn	07 51 11.8	-4.0
TMUT	Trail Mountain	6.70	41	ePn	Pn	07 51 14.4	-1.7
NLU	North Lily Min	6.78	33	Pn	Pn	07 51 15.0	-2.2
SRU	San Rafael	6.96	45	ePn	Pn	07 51 16.7	-3.0
MPU	Maple Canyon	7.03	35	Pn	Pn	07 51 17.6	-3.1
BGU	Big Grassy Mou	7.24	23	ePn	Pn	07 51 20.7	-3.0
DAU	Daniels Canyon	7.52	35	Pn	Pn	07 51 24.5	-3.1
CTU	Camp Tracy	7.53	31	ePn	Pn	07 51 24.7	-2.9
LAZ	Ladron	8.02	87	Pn	P	07 51 32.0	-2.5
TCUT	Toone Canyon	8.02	31	Pn	P	07 51 31.6	-3.1
BNM	Barren Site	8.45	88	ePn	P	07 51 37.6	-3.0
HLID	Hailey	9.41	11	ePn	P	07 51 49.0	-4.8
MNTX	Cornudas Mount	9.96	102	ePn	P	07 51 57.6	-3.9
BOZ	Bozeman (W)	11.98	18	eP	P	07 52 25.7	-3.3

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*BUC **03** 07:49:50.2±0.5, 45.85N×27.28E, h22km±12km, MD4.0/5, Error ellipse: s-maj=5.1km s-min=4.2km az=19.0*

*IDC **03** 07:49:50.5±3.1, 45.88N×27.09E, h36km±28km, mb3.5/7, mb1 3.5/11, mb1mx3.4/23, mbtmp3.6/11, ML3.5/4, Error ellipse: s-maj=20.1km s-min=14.9km az=110.0*

*CSEM **03** 07:49:50.4±0.1, 45.80N×27.22E, h60km, MD4.0/5, Error ellipse: s-maj=2.0km s-min=1.6km az=127.0*

*MOS **03** 07:49:50.1±1.1, 45.85N×27.18E, h33km, mb4.5/1, Error ellipse: s-maj=8.9km s-min=5.1km az=81.9*

*NEIC **03** 07:49:51.3, 45.86N×27.27E, h30km, MD4.7(BUC), ML4.2(BUC), After BUC.*

*SOF **03** 07:49:52.0, 45.74N×27.05E, h80km, MD3.2*

ISC 03 07:49:50.6±0.3, 45.82N±0.03×27.23E±0.03, h67km±5km, n83, σ1§19/108, mb3.6/6, 11C-8D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRD	Bordesti	0.30	208	P	P	07 49 57.9	-3.6
ISR	Istrita	0.85	215	⇑iP	P	07 50 07.3	+0.1
ISR				i S	S	07 50 21.0	+1.5
ISR	Istrita	0.85	215	⇑iP	P	07 50 07.3	+0.1
ISR				i S	S	07 50 21.0	+1.5
CFR	Carcaliu	0.90	135	⇑iP	P	07 50 07.2	-0.7
CFR				i S	S	07 50 21.2	+0.5
CFR	Carcaliu	0.90	135	⇓P	P	07 50 07.2	-0.7
CFR				S	S	07 50 21.2	+0.5
CFR	Carcaliu	0.90	135	⇑iP	P	07 50 07.2	-0.7
CFR				i S	S	07 50 21.2	+0.5
MLR	Muntele Rosu	0.96	251	Pg	P	07 50 09.1	+0.5
	218nm,0.3s,baz=52,slow=6.0,SNR=1601						
MLR				Lg		07 50 22.0	
	276nm,0.3s,baz=201,slow=20,SNR=22						
MLR	Muntele Rosu	0.96	251	⇑iP	P	07 50 09.1	+0.5
MLR				i S	S	07 50 23.0	+1.0
MLR	Muntele Rosu	0.96	251	P	P	07 50 09.2	+0.6
HARR	Harsova	1.23	156	⇓iP	P	07 50 12.4	+0.2
HARR				i S	S	07 50 27.8	-0.6
HARR	Harsova	1.23	156	⇓iP	P	07 50 12.4	+0.2
HARR				i S	S	07 50 27.8	-0.5
SNX	Sinaia	1.29	250	i S	S	07 50 32.0	+2.3
IAS	Iasi	1.40	9	⇓iP	P	07 50 14.7	+0.1
IAS				i S	S	07 50 31.4	-0.9
IAS	Iasi	1.40	9	P	P	07 50 15.5	+0.9
IAS				S	S	07 50 32.9	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IAS	Iasi	1.40	9	⇓iP	P	07 50 14.7	+0.1
IAS				iS	S	07 50 31.4	-0.9
IAS	Iasi	1.40	9	⇓iP	P	07 50 14.7	+0.1
IAS				S	S	07 50 32.9	+0.6
TIRR	Tirgusor	1.60	148	⇑iP	P	07 50 18.6	+1.3
TIRR				iS	S	07 50 39.2	+2.2
TIRR	Tirgusor	1.60	148	⇓P	P	07 50 18.6	+1.3
TIRR				S	S	07 50 39.2	+2.2
TIRR	Tirgusor	1.60	148	P	P	07 50 18.5	+1.2
TIRR				P		07 50 21.0	
KIS	Kishinev	1.61	42	eP	P	07 50 18.0	+0.5
KIS				iS	S	07 50 40.0	+2.6
KIS				pmax	pmax		
	comp=Z,800nm,0.8s						
KIS				smax			
	comp=N,4μm,0.7s						
KIS				smax			
	comp=E,2μm,0.7s						
KIS	Kishinev	1.61	42	eP	P	07 50 18.0	+0.5
	comp=E,800nm,0.8s						
KIS				iS	S	07 50 40.0	+2.6
	comp=E,4μm,0.7s						
MTUR	Matau	1.63	250	⇓iP	P	07 50 19.1	+1.3
MTUR	Matau	1.63	250	P	P	07 50 19.5	+1.7
MTUR	Matau	1.63	250	P	P	07 50 18.5	+0.7
MTUR				P		07 50 19.5	
PSN	Preselentsi	2.24	162	iP	P	07 50 27.0	+0.8
BURAR	Bucovina Array	2.27	323	⇑iP	P	07 50 27.1	+0.5
BURAR	Bucovina Array	2.27	323	P	P	07 50 26.8	+0.1
BURAR				P		07 50 27.3	
PRD	Provadia	2.62	177	iP	P	07 50 32.0	+0.4
SZH	Strazhica	2.71	200	iP	P	07 50 32.5	-0.4
PVL	Pavlikeni	2.93	208	iP	P	07 50 37.0	+1.0
DRGR		3.28	289	P	P	07 50 38.5	-2.3
DRGR		3.28	289	P	P	07 50 38.5	-2.3
JMB	Yambol	3.38	188	iP	P	07 50 41.7	-0.6
PGB	Panagyurishte	3.94	215	iP	P	07 50 50.0	0.0
DIM	Dimitrovgrad	3.96	199	iP	P	07 50 51.0	+0.7
EDRB	Edirne	3.98	185	ePN	P	07 50 49.9	-0.8
VTS	Vitosha	4.33	223	iP	P	07 50 54.0	-1.5
VTS	Vitosha	4.33	223	⇑iP	P	07 50 54.8	-0.7
VTS	Vitosha	4.33	223	⇑iP	P	07 50 54.8	-0.8
VTS	Vitosha	4.33	223	P	P	07 50 54.9	-0.6
KDZ	Kurdzhali	4.37	198	iP	P	07 50 56.0	0.0
RZN	Rozhen	4.51	205	iP	P	07 50 58.0	0.0
SEV	Sevastopol’	4.73	103	⇑iP	P	07 51 01.3	+0.3
SEV				eS	S	07 51 54.1	-1.0
SEV				pmax	pmax		
	comp=Z,30nm,0.3s						
SEV				smax			
	comp=N,50nm,0.4s						
SEV				smax			
	comp=E,30nm,0.4s						
SEV	Sevastopol’	4.73	103	iP	P	07 51 01.3	+0.3
	comp=E,30nm,0.3s						
SEV				eS	S	07 51 54.1	-1.0
CTT	Catalca	4.75	169	ePN	P	07 51 00.7	-0.6
MMB	Musomiste	4.93	212	iP	P	07 51 03.0	-0.9
KKB	Krupnik	4.96	219	iP	P	07 51 03.0	-1.2
GRUS	Gruza	5.02	250	ePn	P	07 51 08.8	+3.7
AKASG	Malin Array Be	5.07	15	Pn	P	07 51 03.3	-2.5
	comp=E,2.8nm,0.3s,baz=125,slow=28,SNR=10						
AKASG				Sn	S	07 51 57.6	-6.0
	comp=E,16nm,0.3s,baz=198,slow=21,SNR=9.0						
AKASG				Lg		07 52 22.5	
	comp=E,34nm,0.3s,baz=198,slow=30,SNR=12						
AKASG	Malin Array Be	5.07	15	P	P	07 51 03.3	-2.4
AKASG						07 51 57.6	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG				smax			
	comp=N,16nm,0.3s						
YAL	Yalta	5.08	103	eP	P	07 51 06.5	+0.6
YAL				eS	S	07 52 02.6	-1.2
YAL				pmax	pmax		
	comp=Z,30nm,0.5s						
YAL				smax			
	comp=N,20nm,0.5s						
YAL				smax			
	comp=E,20nm,0.5s						
YAL	Yalta	5.08	103	eP	P	07 51 06.5	+0.6
	comp=E,30nm,0.5s						
YAL				eS	S	07 52 02.6	-1.2
BADT	Buyukada	5.15	164	ePN	P	07 51 06.0	-0.8
ALU	Alushta	5.19	100	eP	P	07 51 08.2	+0.7
ALU				eS	S	07 52 06.5	-0.2
ALU				pmax	pmax		
	comp=Z,50nm,0.3s						
ALU				smax			
	comp=N,60nm,0.5s						
ALU				smax			
	comp=E,30nm,0.5s						
ALU	Alushta	5.19	100	eP	P	07 51 08.2	+0.7
	comp=E,50nm,0.3s						
ALU				eS	S	07 52 06.5	-0.2
HRT	Hereke	5.30	160	ePN	P	07 51 08.3	-0.7
DIVS	Divcibare	5.42	254	ePn	P	07 51 08.5	-2.1
PSZ	Piszkesteto	5.45	295	P	P	07 51 08.9	-2.1
PSZ	Piszkesteto	5.45	295	P	P	07 51 08.9	-2.1
LPK	Lapseki	5.45	184	ePN	P	07 51 08.8	-2.2
YLV	Yalova	5.48	163	ePN	P	07 51 07.7	-3.7
SUDU	Sudak	5.55	97	⇑iP	P	07 51 13.0	+0.5
SUDU				eS	S	07 52 15.5	-0.2
SUDU				pmax	pmax		
	comp=Z,50nm,0.5s						
SUDU				smax			
	comp=E,50nm,0.5s						
SUDU				smax			
	comp=N,60nm,0.5s						
SUDU	Sudak	5.55	97	iP	P	07 51 13.0	+0.5
	comp=N,50nm,0.5s						
SUDU				eS	S	07 52 15.5	-0.2
	comp=N,60nm,0.5s						
EZN	Ezine	6.03	187	ePN	P	07 51 15.2	-3.8
BRTR	Keskin Array B	7.70	140	Pn	P	07 51 41.1	-1.2
	comp=N,0.2nm,0.3s,baz=332,slow=12,SNR=3.5						
KIV	Kislovodsk	11.13	94	eP	P	07 52 25.6	-3.3
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	FINESS Array B	15.67	358	Pn	P	07 53 22.0	-6.3
	comp=Z,0.1nm,0.3s,baz=167,slow=12,SNR=5.0						
KAF	Kangasniemi	16.34	358	ep	P	07 53 28.6	-8.1
	comp=Z,2.0nm,0.8s						
KAF	Kangasniemi	16.34	358	eP	P	07 53 28.6	-8.1
KAF				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	Hagfors	16.44	336	Pn	P	07 53 32.8	-5.2
	comp=Z,0.0nm,0.3s,baz=130,slow=11,SNR=5.3						
JOF	Joensuu	17.30	6	ep	P	07 53 42.9	-5.8
	comp=Z,1.2nm,0.5s						
NB2	NORSAR Subarra	17.91	334	P	P	07 53 54.7	-1.5
	comp=Z,1.2nm,0.6s,baz=142,slow=9.3						
NOA	NORSAR Array B	17.91	334	Pn	P	07 53 51.0	-5.3
	comp=Z,0.2nm,0.3s,baz=143,slow=11,SNR=2.6						
AKTK	Aktyubinsk	20.98	66	P	P	07 54 30.4	+0.4
AKTK	Aktyubinsk	20.98	66	P	P	07 54 30.4	+0.3
AKTO	Aktyubinsk	20.98	66	P	P	07 54 30.4	+0.4
	comp=Z,0.5nm,0.4s,baz=271,slow=12,SNR=4.0						
ARCES	ARCESS Array B	23.80	358	P	P	07 54 57.6	+0.2
	comp=Z,1.1nm,0.6s,mb3.4,baz=174,slow=10,SNR=14						
BVAR	Borovoye Array	28.62	60	P	P	07 55 44.6	+2.2
	comp=Z,0.2nm,0.3s,mb3.2,baz=262,slow=10,SNR=2.9						
MKAR	Makanchi Array	37.39	68	P	P	07 57 00.7	+2.3
	comp=Z,1.0nm,0.8s,mb3.8,baz=281,slow=7.9,SNR=4.1						
TORD	Torodi Ar. Bea	39.08	222	P	P	07 57 13.9	+1.2
	comp=Z,2.1nm,0.7s,mb4.1,baz=27,slow=9.0,SNR=16						
DBIC	Dimbokro	47.85	225	P	P	07 58 23.7	+0.1
	comp=Z,1.6nm,0.5s,mb4.1,baz=5.4,slow=9.6,SNR=5.1						
DBIC	Dimbokro	47.85	225	P	P	07 58 23.7	+0.1
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	Yellowknife Ar	67.81	342	P	P	08 00 44.1	+1.3
	comp=Z,0.3nm,0.5s,mb3.4,baz=31,slow=6.2,SNR=4.4						

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*ROM **03** 08:33:01.7±0.2, 39.20N×17.06E, h10km, Md3.3/2, Ml3.6/10, Error ellipse: s-maj=3.4km s-min=1.4km az=71.0*
*NEIC **03** 08:33:01.7, 39.20N×17.06E, h10km, MD3.7(PDG), ML3.7(CSEM), ML3.6(ROM), After ROM.*
*IDC **03** 08:33:02.0±1.0, 39.29N×17.02E, mb3.8/8, mb1 3.9/13, mb1mx3.8/25, mbtmp3.8/13, ML3.4/5, MS3.1/5, Ms1 3.1/5, ms1mx2.8/31, Error ellipse: s-maj=18.8km s-min=14.3km az=89.0*
*PDG **03** 08:33:03.4±0.6, 39.23N×17.02E, h11km±1km*
*CSEM **03** 08:33:05.3±0.1, 39.17N×16.95E, h60km, MD3.3/2, Error ellipse: s-maj=2.9km s-min=2.1km az=140.0*
*THE **03** 08:33:12.8, 39.27N×17.75E, h11km, ML3.4*
ISC 03 08:33:01.5±0.5**, 39.23N**±0.02×**16.98E**±0.04**, h3**km±4km**, n77, σ1s11**/94**, mb3.7**/8**, MS3.6**/2**, 14C-4D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRI	Girifalco	0.60	227	Pg	Pg	08 33 14.3	+0.8
GRI				Sg	Sg	08 33 25.2	+3.8
	7μm,0.4s						
TDS	Terranova Siba	0.66	311	Pg	Pg	08 33 16.0	+1.4
PLAC	Placanica	0.89	209	Pg	Pg	08 33 18.9	-0.4
PLAC				Sg	Sg	08 33 32.7	+1.6
	2μm,1.1s						
ORI	Oriolo Calabro	0.93	334	Pg	Pg	08 33 21.3	+1.3
	1μm,0.6s						
CUC	Castrocucco	1.18	311	Pg	Pg	08 33 26.1	+1.0
	2μm,0.8s						
CEL	Celeste	1.29	222	Pg	Pg	08 33 26.9	-0.4
	1μm,1.1s						
SOI	Samo	1.36	212	Pg	Pg	08 33 28.6	-0.2
	2μm,1.4s						
SCLL	Scilla	1.39	226	Pg	Pg	08 33 29.4	+0.1
	338nm,1.2s						
LCI	Lecce	1.41	38	Pg	Pg	08 33 29.3	-0.3
	309nm,0.5s						
MGR	Morigerati	1.43	310	Pg	Pg	08 33 30.4	+0.4
	228nm,0.6s						
MSRU	Castanea	1.50	230	Pg	Pg	08 33 30.8	-0.7
	1μm,0.7s						
NOCI	Noci	1.56	2	Pg	Pg	08 33 31.5	-1.1
	828nm,0.6s						
MTTG	Motta San Giov	1.59	220	Pg	Pg	08 33 32.8	-0.4
	542nm,0.8s						
PE1	Pezze di Greco	1.61	12	ePn	Pn	08 33 32.0	+1.0
SG1	Sgolgore (BA)	1.62	352	ePn	Pn	08 33 32.9	+1.7
BRT	Bari-Castellan	1.65	6	Pg	Pg	08 33 32.8	-1.8
	474nm,0.6s						
CMPR	Campora	1.69	311	Pg	Pg	08 33 34.6	-0.6
	768nm,1.3s						
AMUR	Altamura	1.70	350	Pg	Pg	08 33 34.0	-1.4
	215nm,0.7s						
VPL	Vulcano Piano	1.78	242	Pg	Pg	08 33 35.2	-1.8
	1μm,0.9s						
BAI	Bari	1.88	358	ePn	Pn	08 33 36.3	+1.5
CDT	Castel del Mon	1.93	344	ePn	Pn	08 33 37.4	+1.9
IGT	Igoumenitsa	2.62	82	ePn	Pn	08 33 45.5	+0.1
IGT				eSn	Sn	08 34 12.2	-5.9
VAE	Valguarnera	2.67	230	Pn	Pn	08 33 48.8	+2.6
	4.0nm,0.3s,baz=31,slow=12,SNR=3.1						
VAE				LR	LR	08 35 09.0	
	comp=Z,193nm,19.0s,baz=304,slow=46						
VAE	Valguarnera	2.67	230	Pn	Pn	08 33 48.8	+2.6
VAE				LR	LR	08 35 09.0	
LKD	Levkas	2.91	99	ePn	Pn	08 33 50.4	+0.8
LKD				eSn	Sn	08 34 19.8	-5.7
TIR	Tirane	3.06	45	ePn	Pn	08 33 50.7	-1.0
ULC	Ulcinj	3.23	32	⇑iPn	Pn	08 33 54.8	+0.6
ULC				eSn	Sn	08 34 34.6	+0.9
BUM	Brajici-Budva	3.40	25	⇑iPn	Pn	08 33 56.6	+0.1
BUM				eSn	Sn	08 34 39.5	+1.6
HCY	Herceg Novi	3.41	19	⇑iPn	Pn	08 33 57.1	+0.4
HCY				eSn	Sn	08 34 38.8	+0.5
OHR	Ohrid	3.48	56	ePn	Pn	08 33 57.7	0.0
TTG	Podgorica	3.63	28	⇑iPn	Pn	08 33 59.9	0.0
TTG				eSn	Sn	08 34 44.8	+0.9
FNA	Florina	3.72	64	ePn	Pn	08 34 02.7	+1.6
BIA	Bitola	3.78	60	ePn	Pn	08 34 03.7	+1.7
BIA				eSn	Sn	08 34 39.4	-8.2
BRY	Bratogost	3.85	17	⇑iPn	Pn	08 34 03.0	0.0
BRY				eSn	Sn	08 34 49.5	+0.1
NKY	Niksic	3.89	22	⇓iPn	Pn	08 34 03.4	-0.1
NKY				eSn	Sn	08 34 50.1	-0.3
PVY	Plav	4.05	33	⇑iPn	Pn	08 34 07.0	+1.1
PVY				eSn	Sn	08 34 54.5	0.0
AGG	Agios Georgios	4.17	91	ePn	Pn	08 34 08.1	+0.6
UPM	Unac-Piva	4.23	20	⇓iPn	Pn	08 34 09.1	+0.8
UPM				eSn	Sn	08 34 58.6	-0.3
IVA	Berane	4.25	30	⇑iPn	Pn	08 34 09.2	+0.5
IVA				eSn	Sn	08 34 59.0	-0.6
SKO	Skopje	4.36	50	ePn	Pn	08 34 09.2	-1.0
PLE	Pljevlja	4.48	23	⇑iPn	Pn	08 34 12.0	+0.1
PLE				eSn	Sn	08 35 04.8	-0.6
GRG	Griva	4.50	66	ePn	Pn	08 34 12.0	-0.2
STIP	Stip	4.67	57	ePn	Pn	08 34 13.4	-1.2
VAY	Valandovo	4.76	62	ePn	Pn	08 34 16.4	+0.5
VAY				eSn	Sn	08 35 02.8	-10
XOR	Xorichti	4.82	86	ePn	Pn	08 34 17.9	+1.2
KNT	Kendrikon	4.92	65	ePn	Pn	08 34 20.0	+1.8
BBLS	Bajina Basta -	4.98	21	iPn	Pn	08 34 19.3	+0.3
KKB	Krupnik	5.34	59	eP	Pn	08 34 25.0	+0.9
DIVS	Divcibare	5.36	24	iPn	Pn	08 34 23.5	-0.8
GRUS	Gruza	5.43	30	iPn	Pn	08 34 26.2	+0.8
MMB	Musomiste	5.66	63	eP	Pn	08 34 28.0	-0.7
VTS	Vitosha	5.79	53	eP	Pn	08 34 31.5	+1.1
VTS	Vitosha	5.79	53	⇑P	Pn	08 34 31.2	+0.8
RZN	Rozhen	6.39	65	eP	Pn	08 34 39.0	+0.1
BOJS	Bojanci	6.40	349	ePn	Pn	08 34 39.4	+0.4
BOJS				eSn	Sn	08 35 51.8	-1.7
APE	Apeiranthos	7.08	105	⇓P	Pn	08 34 45.9	-2.7
BZS	Buzias	7.24	27	⇑P	Pn	08 34 48.7	-2.2
BZS	Buzias	7.24	27	⇑P	Pn	08 34 48.7	-2.2
IDI	Anoyia	7.43	120	Pn	Pn	08 34 50.7	-2.9
	0.6nm,0.3s,baz=45,slow=18,SNR=2.9						
IDI				Sn	Sn	08 36 11.1	-8.3
	0.3nm,0.3s,baz=183,slow=22,SNR=3.3						
OBKA	Obir	7.49	347	⇑iP	Pn	08 34 54.4	0.0
	comp=Z,13nm,0.5s						
ARSA	Arzberg	8.09	353	⇑iP	P	08 35 01.8	-0.9
	comp=Z,4.7nm,0.4s						
MOA	Molln	8.84	348	⇑iP	P	08 35 12.7	-0.5
	comp=Z,7.2nm,0.6s						
MLR	Muntele Rosu	9.12	44	Pn	P	08 35 14.9	-2.1
	0.1nm,0.3s,baz=270,slow=18,SNR=2.0						
MLR	Muntele Rosu	9.12	44	⇓P	P	08 35 21.4	+4.4
GERES	GERESS Array B	9.89	347	Pn	P	08 35 24.8	-2.9
	0.1nm,0.3s,baz=156,slow=13,SNR=14						
GERES				Sn	Sn	08 37 16.2	-4.3
	0.2nm,0.3s,baz=167,slow=21,SNR=4.1						
GERES				LR	LR	08 39 24.9	
	comp=Z,57nm,18.5s,baz=357,slow=39						
VRAC	Vranov	10.08	359	LR	LR	08 38 50.3	
	comp=Z,40nm,20.1s,baz=20,slow=35						
KHC	Kasperske Hory	10.19	347	eP	P	08 35 31.0	-0.8
KHC				x	x	08 35 39.5	
BRTR	Keskin Array B	12.88	83	Pn	P	08 36 08.0	-0.4
	0.1nm,0.3s,baz=260,slow=15,SNR=4.1						
HFS	Hagfors	21.03	355	P	P	08 37 48.0	-0.6
	7.1nm,1.0s,mb3.9,baz=198,slow=14,SNR=3.4						
NOA	NORSAR Array B	22.13	353	P	P	08 37 58.1	-1.5
	0.9nm,0.7s,mb3.3,baz=166,slow=9.6,SNR=3.3						
FINES	FINESS Array B	22.94	11	P	P	08 38 07.6	0.0
	1.7nm,0.9s,mb3.5,baz=260,slow=23,SNR=2.4						
TORD	Torodi Ar. Bea	29.29	212	P	P	08 39 06.0	-1.3
	0.5nm,0.8s,mb3.3,baz=23,slow=9.4,SNR=5.0						
ARCES	ARCESS Array B	30.71	6	P	P	08 39 15.9	-3.5
	1.8nm,0.7s,mb4.0,baz=326,slow=4.4,SNR=3.7						
ARCES				LR	LR	08 50 57.8	
	comp=Z,40nm,21.0s,MS3.0,baz=213,slow=35						
MKAR	Makanchi Array	47.11	58	P	P	08 41 34.2	-2.2
	0.9nm,0.7s,mb3.8,baz=283,slow=6.6,SNR=3.7						
SONM	Songino Array	61.91	50	P	P	08 43 23.5	-1.0
	0.3nm,0.3s,mb3.9,slow=13,SNR=3.1						
JOW	Kunigami	88.24	56	LR	LR	09 25 32.7	
	comp=Z,90nm,21.4s,MS4.2,baz=119,slow=36						
TXAR	Lajitas Array	92.22	311	P	P	08 46 15.6	+1.6
	0.2nm,0.7s,mb3.6,baz=75,slow=3.6,SNR=4.9						

JMA 03 09:06:00.8±0.2**, 38.21N**×**144.63E, h53**km**, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.48	291	P	P	09 06 40.0	+0.4
MIYJ	Miyakonagasawa	2.58	303	P	P	09 06 41.2	0.0
MIYJ				S	S	09 07 11.3	-0.2
JIO	Ouri	2.59	276	P	P	09 06 41.7	+0.4
JIO				S	S	09 07 11.9	+0.2
JMK	Ichinoseki	2.77	287	P	P	09 06 44.2	+0.3
JMK				eS	S	09 07 17.3	+1.0
JCH	Churui	4.50	348	P	P	09 07 05.7	-2.6
JCH				eS	S	09 07 55.4	-4.6
JRY	Ryogami san	5.07	246	P	P	09 07 15.5	-0.7
JRY				eS	S	09 08 10.9	-3.4
NEM2	Nemuro 2	5.22	9	P	P	09 07 13.4	-4.8
NEM2				eS	S	09 08 09.1	-8.8
JOD2	Odawara 2	5.33	238	eS	S	09 08 16.7	-4.1
JTKR	Abashiri--Toko	5.78	355	P	P	09 07 23.3	-2.7
JTKR				eS	S	09 08 26.5	-5.4

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*NIED **03** 09:22:00, 24.60N×122.70E, h98km, Mw4.2 Best double couple: M0 1.98×10^15 NP1:φs76°, δ56°, λ-84°. NP2:φs246°, δ34°, λ-99°.*
*IDC **03** 09:22:02.9±3.5, 24.64N×122.86E, h100km±31km, mb3.8/10, mb1 4.0/11, mb1mx3.8/21, mbtmp4.2/11, Error ellipse: s-maj=23.1km s-min=18.5km az=57.0*
*NEIC **03** 09:22:03.3±0.7, 24.51N×122.73E, h101km±7km, MG4.1(JMA), Error ellipse: s-maj=12.0km s-min=11.3km az=117.0*
*JMA **03** 09:22:04.4±0.2, 24.57N×122.74E, h93km±1km, M4.1*
ISC 03 09:22:02.2±0.4**, 24.63N**±0.06×**122.75E**±0.04**, h111**km±4km**, n39, σ1s02**/56**, mb4.0**/12**, 2C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.29	126	P	P	09 22 18.1	-0.1
YOJ				S	S	09 22 28.5	-1.6
IRIF	Iriomote-Funau	0.94	108	P	P	09 22 23.6	+0.4
IRIF				S	S	09 22 38.1	-0.8
HATJ	Hateruma jima	1.12	121	P	P	09 22 25.7	+0.6
HATJ				S	S	09 22 41.3	-0.9
NACB	Ninganchiao	1.15	247	ePn	P	09 22 24.2	-1.3
TATO	Taipei	1.20	287	⇑iP	P	09 22 26.3	+0.3
JKRS	Kuro-shima	1.21	109	P	P	09 22 27.0	+0.8
JKRS				S	S	09 22 43.8	-0.3
YHNB	Yeheng	1.25	272	⇑eP	P	09 22 27.1	+0.4
JIJ	Ishigaki jima	1.29	102	P	P	09 22 27.7	+0.6
JIJ				S	S	09 22 44.7	-1.1
JTJ	Tarama	1.77	89	P	P	09 22 34.2	+1.3
JTJ				eS	S	09 22 56.5	+0.7
JMJ	Miyako jima 2	2.32	85	P	P	09 22 41.6	+1.6
JMJ				S	S	09 23 08.9	+0.6
JOGS	Gusukube	2.42	86	P	P	09 22 44.0	+2.7
JOGS				eS	S	09 23 11.9	+1.2
JKE	Kume jima 2	4.02	64	P	P	09 23 04.1	+1.2
JKE				eS	S	09 23 50.8	+1.5
JAGN	Aguni-jima	4.50	63	P	P	09 23 10.3	+0.8
JAGN				eS	S	09 24 01.0	-0.1
NAH1	Naha	4.73	70	eS	S	09 24 07.2	+0.4
JJT2	Tamagusuku 2	4.76	71	P	P	09 23 14.5	+1.4
JIH	Iheya	5.27	62	P	P	09 23 20.2	+0.3
JIH				eS	S	09 24 19.0	-1.0
JOW	Kunigami	5.44	65	P	P	09 23 21.8	-0.4
	29nm,0.3s,baz=244,slow=8.6,SNR=81						
JOW				S	S	09 24 19.9	-4.1
	24nm,0.3s,baz=105,slow=25,SNR=7.7						
JOW	Kunigami	5.44	65	P	P	09 23 21.9	-0.3
JOW				eS	S	09 24 22.2	-1.9
JTK	Tokunoshima	6.39	59	P	P	09 23 34.2	-1.0
JTK				eS	S	09 24 44.5	-2.8
JAM	Amami Oshima	7.20	57	P	P	09 23 44.9	-1.4
JAM				eS	S	09 25 03.0	-4.0
JZK	Kikaishima	7.43	59	P	P	09 23 48.7	-0.8
JZK				eS	S	09 25 11.5	-1.3
JMZ	Minamidaito 2	7.76	79	P	P	09 23 50.7	-3.2
JMZ				eS	S	09 25 11.0	-10
KS15	Wonju Array Si	13.50	18	ePn	P	09 25 14.0	+3.8
ASAJ	Asahikawa	25.30	35	P	P	09 27 20.3	+0.4
	8.9nm,0.8s,mb4.2,baz=298,slow=20,SNR=12						
SONM	Songino Array	26.54	335	P	P	09 27 32.0	+0.7
	2.7nm,0.7s,mb3.9,baz=150,slow=8.8,SNR=14						
MKAR	Makanchi Array	39.02	315	P	P	09 29 20.1	+0.7
	0.4nm,0.3s,mb3.7,baz=100,slow=9.2,SNR=12						
MKAR				PcP	PcP	09 31 27.3	-0.7
	0.4nm,0.5s,baz=109,slow=3.0,SNR=4.3						
MKAR	Makanchi Array	39.02	315	P	P	09 29 20.1	+0.8
MKAR				PcP	PcP	09 31 27.3	-0.7
WRAB	Tennant Creek	45.71	165	eP	P	09 30 13.5	-0.6
WRA	Warramunga Arr	45.72	165	P	P	09 30 13.9	-0.2
	4.9nm,0.5s,mb4.5,baz=347,slow=8.7,SNR=54						
WB2	Warramunga Arr	45.72	165	⇓iP	P	09 30 14.0	-0.2
BVAR	Borovoye Array	48.24	320	P	P	09 30 33.7	+0.2
	0.8nm,0.5s,mb3.8,baz=107,slow=6.9,SNR=7.7						
ILAR	Eielson Array	68.16	27	P	P	09 32 51.3	-0.8
	0.2nm,0.4s,mb3.3,baz=294,slow=8.1,SNR=9.2						
JOF	Joensuu	69.02	331	ep	P	09 32 56.4	-1.0
	1.5nm,0.3s,mb4.3						
ARCES	ARCESS Array B	69.66	338	P	P	09 33 01.1	-0.1
	2.2nm,0.8s,mb4.0,baz=64,slow=5.3,SNR=12						
KAF	Kangasniemi	71.47	330	ep	P	09 33 11.5	-0.7
	0.6nm,0.4s,mb3.8						
FINES	FINESS Array B	71.78	330	P	P	09 33 14.1	0.0
	1.4nm,0.3s,mb4.2,baz=52,slow=5.8,SNR=25						
NB2	NORSAR Subarra	78.49	332	P	P	09 33 52.4	+0.2
	0.9nm,0.6s,mb3.7,baz=58,slow=5.3						
NOA	NORSAR Array B	78.49	332	P	P	09 33 52.1	-0.1
	0.8nm,0.5s,mb3.7,baz=51,slow=5.7,SNR=5.4						
YKA	Yellowknife Ar	82.00	23	P	P	09 34 12.0	+1.2
	1.6nm,0.5s,mb4.1,baz=307,slow=5.0,SNR=19						

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*IDC **03** 09:45:22.5±2.1, 30.80S×177.82W, mb4.5/2, mb1 4.6/3, mb1mx4.1/11, mbtmp4.4/3, ML3.1/1, Error ellipse: s-maj=56.8km s-min=26.3km az=120.0*
*NEIC **03** 09:45:25.6±3.0, 30.84S×177.88W, h23km±22km, mb4.6/2, Error ellipse: s-maj=19.4km s-min=10.5km az=103.0*
ISC 03 09:45:24.9±1.3**, 30.95S**±0.07×**177.8W**±0.2**, h33**km**, n15, σ0s76**/16**, mb4.5**/4**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.70	358	Pn	Pn	09 45 52.3	-0.5
	52nm,0.3s,baz=288,slow=23,SNR=3.2						
RAO				Sn	Sn	09 46 08.0	-5.4
	254nm,0.3s,baz=124,slow=22,SNR=9.1						
PUZ	Puketiti	7.80	203	PN	Pn	09 47 18.4	-0.6
MWZ	Matawai	8.29	206	PN	P	09 47 24.8	-0.9
URZ	Urewera	8.39	208	Pn	P	09 47 26.8	-0.3
	0.2nm,0.3s,baz=331,slow=13,SNR=4.6						
URZ				Sn	Sn	09 49 02.1	+0.2
	1.1nm,0.3s,baz=215,slow=20,SNR=11						
URZ	Urewera	8.39	208	PN	P	09 47 25.8	-1.3
URZ				SN	Sn	09 49 02.7	+0.8
MRZ	Mangatainoka R	11.06	207	SN	S	09 50 01.2	-6.1
CTAO	Charters Tower	34.02	280	eP	P	09 52 07.9	-0.1
STKA	Stephens Creek	34.49	258	P	P	09 52 13.9	+2.0
	10nm,0.7s,mb4.8,baz=96,slow=9.8,SNR=16						
STKA	Stephens Creek	34.49	258	eP	P	09 52 11.9	0.0
WB2	Warramunga Arr	44.25	273	eP	P	09 53 33.7	+0.6
WRAB	Tennant Creek	44.25	273	eP	P	09 53 33.1	-0.1
	3.3nm,0.6s,mb4.2						
WRA	Warramunga Arr	44.26	273	P	P	09 53 32.9	-0.3
	2.1nm,0.5s,mb4.2,baz=112,slow=7.9,SNR=20						
QSPA	South Pole Qui	59.16	180	eP	P	09 55 25.6	+1.3
	7.7nm,1.0s,mb4.7						
FINES	FINESS Array B	145.71	340	PKPbc	PKPbc	10 05 00.7	+0.7
	1.6nm,0.5s,baz=72,slow=4.4,SNR=18						
NOA	NORSAR Array B	149.32	351	PKPbc	PKPdf	10 05 11.8	+6.7
	1.1nm,0.8s,baz=15,slow=4.1,SNR=2.6						

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*NDI **03** 09:51:48.1±4.0, 34.80N×72.12E, h10km, ML3.7*
*NNC **03** 09:52:05.8±3.8, 35.08N×71.78E, mpv3.8, Error ellipse: s-maj=75.9km s-min=22.5km az=99.0*
ISC 03 09:51:52.9±0.8**, 34.25N**±0.07×**72.4E**±0.1**, h10**km**, n11, σ1s38**/19**, 2C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	3.33	122	ePB	Pb	09 52 54.5	+2.7
THN				eS	Sb	09 53 33.0	+0.3
DLH	Dalhousie	3.46	119	eP	Pb	09 52 52.0	-1.9
DLH				eS	Sb	09 53 37.0	+0.8
BHK	Bhakra	4.42	129	ex	Sg	09 54 16.3	-4.0
SDNR	Sundarnagar	4.74	124	eP	Pn	09 53 06.4	+0.2
SDNR				ex	Sb	09 54 16.0	+2.5
SMLA	Simla	5.10	126	eP	Pn	09 53 10.7	-0.6
SMLA				ex	Sb	09 54 28.9	+5.0
	256nm,0.4s						
KLP	Kalpa	5.64	117	eP	Pn	09 53 18.0	-0.9
KLP				eS	Sn	09 54 21.8	-2.7
KLP				AML	AML	09 54 45.5	

comp=N,53nm,0.3s
KLP AML AML 09 54 45.7
comp=E,65nm,0.5s
KHET Khetri 6.82 154 *e*P **Pn 09 53 38.1 +2.6**
KHET *e*S **Sn 09 54 53.5 -0.6**
KUDL Kundal 7.03 149 *e*P **Pn 09 53 38.5 -0.1**
KUDL *e*S **Sn 09 54 58.0 -1.4**
KK31 Karatay Array 8.96 351 ⇑P **P 09 54 04.4 -1.0**
comp=E,1.7nm,0.3s,baz=167,slow=13,SNR=26
KK31 ⇑S **Sn 09 55 37.5 -10**
comp=E,1.3nm,0.5s,baz=176,slow=24,SNR=6.2
AB31 Akbulak array 17.59 332 ⇓P **P 09 55 60.0 +0.3**
comp=E,0.2nm,0.4s,baz=161,slow=14,SNR=10
AKTO Aktyubinsk 19.29 331 ⇓P **P 09 56 21.3 +0.9**
comp=E,0.3nm,0.5s

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*BJI **03** 10:06:00.9, 7.73S×117.22E, h356^{km}, mB4.6, mb4.5*
*IDC **03** 10:06:03.6±3.4, 7.50S×116.57E, h346^{km}±35^{km}, mb3.9/11, mb1 4.0/11, mb1mx4.0/14, mbtmp4.5/11, Error ellipse: s-maj=19.6km s-min=12.1km az=51.0*
*MOS **03** 10:06:03.9±0.7, 7.34S×116.70E, h362^{km}, mb5.0/10, Error ellipse: s-maj=22.8km s-min=10.4km az=122.3*
*NEIC **03** 10:06:04.8±1.4, 7.43S×116.64E, h362^{km}±15^{km}, mb4.2/7, Error ellipse: s-maj=17.0km s-min=7.2km az=45.0*
ISC 03 10:06:03.5±1.2**, 7.44S**±0.08×**116.63E**±0.09**, h361**^{km}±13^{km}**, n57,** σ0^{s}**89**/52**, mb4.3**/32**, 4C-6D, Bali Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LEM Lembang 8.97 273 P **P 10 08 08.6 -1.5**
106nm,0.9s
KSM Kuching 10.87 324 *e*Pn **P 10 08 34.0 +1.1**
KAKA Kakadu 16.42 110 *e*P **P 10 09 55.1 +20**
27nm,0.7s
KULM Kulim 20.35 308 *e*P **P 10 10 14.8 +0.5**
PSI Prapat 20.39 299 P **P 10 10 14.5 -0.2**
13nm,0.3s,baz=149,slow=5.5,SNR=16
WRA Warramunga Arr 21.20 128 P **P 10 10 22.8 +0.3**
21nm,0.7s,mb4.5,baz=307,slow=9.4,SNR=170
WRA Warramunga Arr 21.20 128 *i* P **P 10 10 22.7 +0.2**
WRA pmax pmax
comp=Z,21nm,0.7s
WRAB Tennant Creek 21.20 128⇑*i*P **P 10 10 23.1 +0.6**
WRAB Tennant Creek 21.20 128⇓*i*P **P 10 10 22.8 +0.3**
comp=Z,40nm,0.8s,mb4.7
WB2 Warramunga Arr 21.20 128⇓*i*P **P 10 10 22.7 +0.2**
CTAO Charters Tower 31.33 117 *e*P **P 10 11 53.0 -0.6**
CTAO pmax pmax
comp=Z,10.0nm,1.0s,mb4.0
CTAO Charters Tower 31.33 117 *e*P **P 10 11 53.0 -0.6**
comp=Z,10.0nm,1.0s,mb4.0
STKA Stephens Creek 33.65 140⇓*i*P **P 10 12 13.2 0.0**
comp=Z,10.0nm,0.6s,mb4.2
STKA Stephens Creek 33.65 140 P **P 10 12 13.2 0.0**
comp=Z,12nm,0.6s,mb4.3,baz=314,slow=8.9,SNR=46
KMI Kunming 35.08 338 P **P 10 12 29.2 +3.9**
KMI AMB AMB
comp=Z,20nm,1.1s,mb4.3
KMI LR LR
comp=Z,110nm,26.0s
ENH Enshi 38.11 350 P **P 10 12 49.8 -0.8**
comp=Z,23nm,0.9s,mb4.4
SSE Sheshan 38.56 6 P **P 10 12 54.2 0.0**
SSE AMB AMB
comp=Z,50nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,70nm,4.0s
NJ2 Nanjing 39.32 3 *e*P **P 10 12 57.5 -3.0**
NJ2 AP pP 10 14 07.1 -4.4
NJ2 PP PP 10 14 38.2 -2.1
NJ2 XP sP 10 14 45.4 -5.9
NJ2 S **S 10 18 31.0 -3.8**
NJ2 PCS 10 18 52.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.2
NJ2 AMB AMB
comp=Z,190nm,5.6s
NJ2 LR LR
comp=N,380nm,10.6s
NJ2 LR LR
comp=E,450nm,15.8s
NJ2 LR LR
comp=Z,300nm,15.8s
CD2 Chengdu 40.07 343⇑*i*P **P 10 13 08.4 +1.8**
CD2 AMB AMB
comp=Z,50nm,0.7s,mb4.8
MJAR Matsushiro Arr 48.20 23 P **P 10 14 10.3 -0.6**
comp=Z,5.2nm,0.7s,mb3.9,baz=194,slow=8.2,SNR=12
GTA Gaotai 49.15 343 P **P 10 14 20.0 +2.0**
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.1
ULN Ulaanbaatar 55.71 352⇓*i*P **P 10 15 05.8 +0.1**
SONM Songino Array 55.77 352 P **P 10 15 07.0 +0.9**
comp=Z,6.3nm,0.6s,mb4.1,baz=171,slow=8.1,SNR=36
SONM PcP PcP 10 16 00.2 -0.2
comp=Z,1.2nm,0.7s,baz=166,slow=4.0,SNR=4.4
ZAK Zakamensk 58.74 350 *e*P **P 10 15 26.5 0.0**
ZAK pmax pmax
comp=Z,20nm,1.2s,mb4.4
MKAR Makanchi Array 62.02 334 P **P 10 15 47.9 -0.5**
comp=Z,5.0nm,0.5s,mb4.3,baz=156,slow=6.7,SNR=55
MKAR Makanchi Array 62.02 334 *i* P **P 10 15 48.7 +0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
AAK Ala-Archa 62.88 326 *i* P **P 10 15 53.3 -0.7**
AAK Ala-Archa 62.88 326⇑*i*P **P 10 15 53.4 -0.6**
comp=Z,3.2nm,1.0s,mb3.8
BOD Bodaibo 65.07 358 *e*P **P 10 16 07.8 0.0**
BOD pmax pmax
comp=Z,40nm,0.8s,mb5.1
KKAR Karatay Array 65.42 325 *e*P **P 10 16 09.7 -0.7**
KKAR pmax pmax
comp=Z,10.0nm,0.3s,mb4.9
KURK Kurchatov 66.58 335⇑*i*P **P 10 16 17.6 +0.1**
KURK Kurchatov 66.58 335 *e*P **P 10 16 15.9 -1.5**
comp=Z,3.4nm,0.7s,mb4.2
OPO Ambohidratompo 68.22 253 P **P 10 16 28.0 -0.1**
comp=Z,4.2nm,0.8s,mb4.2,baz=102,slow=7.9,SNR=6.1
YAK Yakutsk 70.00 7 *e*P **P 10 16 37.2 -1.0**
YAK pmax pmax
comp=Z,14nm,1.0s,mb4.7
VOSK Vostochnaya 71.36 333 P **P 10 16 46.4 -0.1**
VOSK pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
BVA0 Borovoye Array 71.83 333 *i* P **P 10 16 49.6 +0.4**
BVA0 pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
BRVK Borovoye 71.90 333 *e*P **P 10 16 49.6 0.0**
BRVK pmax pmax
comp=Z,20nm,0.6s,mb5.0
BRVK Borovoye 71.90 333 *e*P **P 10 16 49.6 0.0**
comp=Z,2.0nm,0.6s,mb4.0
AB31 Akbulak array 74.95 325 *i* P **P 10 17 07.2 -0.1**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
AKTO Aktyubinsk 76.62 326 P **P 10 17 16.7 +0.1**
AKTO pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
SYO Syowa Base 78.46 201 ⇓P **P 10 17 26.3 +0.1**
KMBO Kilima Mbogo 79.33 270 P **P 10 17 32.5 +0.6**
comp=Z,0.4nm,0.3s,mb3.6,baz=62,slow=22,SNR=4.3
KMBO Kilima Mbogo 79.33 270 *i* P **P 10 17 34.2 +2.3**
KMBO pmax pmax
comp=Z,10.0nm,0.3s
ARU Arti 79.37 331 *e*P **P 10 17 30.6 -0.7**
ARU *e* 10 20 35.8
ARU *e*S S 10 26 57.8 -2.9
ARU *e*SS SS 10 32 16.6 -3.7
BILL Bilibino 82.97 17 *e*P **P 10 17 49.9 +0.3**
BILL pmax pmax
comp=Z,20nm,0.8s,mb5.0
KIV Kislovodsk 83.73 316⇓*i*P **P 10 17 52.6 -1.4**
KIV pmax pmax
comp=Z,25nm,2.5s,mb4.6
ANN Anapa 87.59 316 *e*P **P 10 18 06.9 -5.8**
BRTR Keskin Array B 89.34 310 P **P 10 18 21.0 0.0**
comp=Z,0.9nm,0.6s,mb3.8,baz=135,slow=5.2,SNR=5.0
OBN Obninsk 90.40 326 *e*P **P 10 18 25.9 +0.4**
OBN pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AKASG Malin Array Be 94.06 320 P **P 10 18 44.4 +1.9**
comp=Z,0.2nm,0.3s,mb3.6,baz=78,slow=6.1,SNR=3.1
FINES FINESS Array B 96.74 331 P **P 10 18 53.9 -0.6**
comp=Z,1.0nm,0.7s,mb4.0,baz=108,slow=24,SNR=3.1

YKA Yellowknife Ar 113.71 23 PKiKP 10 24 00.7
comp=Z,0.3nm,0.6s,baz=313,slow=2.0,SNR=4.5
TORD Torodi Ar. Bea 115.87 281 PKP PKPdf 10 24 05.4 +1.0
comp=Z,0.6nm,0.5s,baz=55,slow=1.7,SNR=9.1
DBIC Dimbokro 121.96 273 PKP PKPdf 10 24 17.8 +1.5
comp=Z,4.1nm,1.0s,baz=56,slow=3.6,SNR=2.4
OXF Oxford 143.93 38 *e*PKIKP PKPdf 10 24 58.0 +1.3
CPUP Villa Florida 145.93 190 *e*PKPbc PKPbc 10 25 04.6 +3.0
CPUP *e*PKPab PKPab 10 25 05.8 +0.4
BDFB Brasilia 152.49 214 PKPbc PKPdf 10 25 20.3 +9.5
comp=Z,2.8nm,0.6s,slow=6.1,SNR=3.7

MAN 03 10:34:48.5, 9.03N×126.27E, h27^{km}, mb4.2, ML3.0, MS2.8, 1D, Mindanao

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
BUTP Butuan 0.64 265 *e*P Pb 10 35 01.5 +0.4
BUTP *e*S Sb 10 35 12.0 +2.2
SCPH Surigao 1.07 314⇓*e*P Pn 10 35 07.2 -0.7
BUKP Musuan 1.65 226 *e*P Pn 10 35 15.9 -0.3
BUKP *e*S Sn 10 35 36.8 0.0
MSLP Maasin 1.77 308 *e*P Pn 10 35 18.1 +0.2
BESP Borongan 2.68 342 *e*P Pn 10 35 30.4 -0.6
PAGZ Pagadian 3.09 248 *e*P Pn 10 35 36.5 -0.3
PAGZ *e*S Sn 10 36 13.2 0.0

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*BJI **03** 10:36:17.6, 4.68N×94.26E, h30^{km}, mB5.1, mb4.6, Ms4.0, Msz3.8*
*MOS **03** 10:36:20.3±1.2, 5.11N×94.69E, h33^{km}, mb5.0/12, Error ellipse: s-maj=21.4km s-min=8.1km az=110.3*
*NEIC **03** 10:36:22.0±0.5, 5.05N×94.48E, h30^{km}, mb4.6/12, Error ellipse: s-maj=16.6km s-min=5.9km az=224.0*
*IDC **03** 10:36:25.3±3.8, 5.18N×94.68E, h58^{km}±33^{km}, mb4.0/11, mb1 4.2/12, mb1mx4.0/17, mbtmp4.3/12, ML4.0/1, MS3.6/7, Ms1 3.7/7, ms1mx3.3/26, Error ellipse: s-maj=36.6km s-min=16.9km az=49.0*
ISC 03 10:36:27.9±1.7**, 5.23N**±0.08×**94.88E**±0.10**, h94**^{km}±16^{km}**, h39**^{km}±4.7^{km}**:pP-P, n70,** σ1^{s}**03**/69**, mb4.5**/33**, 3C, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PSI Prapat 4.70 121 P **P 10 37 37.7 -0.3**
5.4nm,0.3s,baz=323,slow=13,SNR=17
PSI S **S 10 38 32.3 +0.6**
4.1nm,0.3s,baz=138,slow=18,SNR=2.9
PSI LR LR 10 39 47.9
comp=Z,324nm,21.1s,baz=280,slow=41
PSI Prapat 4.70 121 P **P 10 37 37.7 -0.3**
PSI S **S 10 38 32.3 +0.6**
PSI LR LR 10 39 47.9
KULM Kulim 5.75 89 *e*Pn **P 10 37 50.7 -1.5**
KULM *e*Sn **S 10 38 55.9 -1.5**
KSM Kuching 15.85 103 *e*P **P 10 40 08.9 +2.0**
KSM *e* 10 40 17.2
KMI Kunming 21.17 20 P **P 10 41 11.2 +3.9**
KMI AP 10 41 18.7
KMI S **S 10 45 05.4 +13**
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.2
KMI LR LR
comp=N,130nm,13.3s
KMI LR LR
comp=E,140nm,16.4s
KMI LR LR
comp=Z,150nm,16.5s
JIRN Jiri 23.79 341 *e*P **P 10 41 33.8 +0.9**
comp=Z,7.4nm,0.3s,mb4.5
GYA Guiyang 23.92 27⇑*i*P **P 10 41 36.5 +2.3**
GYA AMB AMB
comp=Z,40nm,0.7s,mb4.9
PKI Pulchoki 23.97 339 *e*P **P 10 41 35.3 +0.6**
DMN Daman 24.12 338 *e*P **P 10 41 36.9 +0.8**
GUN Gumba 24.12 340 *e*P **P 10 41 36.1 0.0**
comp=Z,14nm,0.5s,mb4.5
KKN Kakani 24.22 339 *e*P **P 10 41 37.2 +0.1**
comp=Z,17nm,0.6s,mb4.5
KKN Kakani 24.22 339 *e*P **P 10 41 37.2 +0.1**
KKN pmax pmax
comp=Z,9.0nm,0.6s,mb4.3
LSA Lhasa 24.59 352 *e*P **P 10 41 41.9 +1.2**
LSA pmax pmax
comp=Z,18nm,0.6s,mb4.7
LSA Lhasa 24.59 352 *e*P **P 10 41 41.9 +1.3**
comp=Z,18nm,0.6s,mb4.7
GKN Gorkha 24.65 338 *e*P **P 10 41 40.8 -0.5**
KOLN Koldanda 24.85 336 *e*P **P 10 41 43.1 -0.1**
comp=Z,32nm,0.7s,mb4.9
XAN Xi'an 31.49 23 P **P 10 42 42.0 -1.0**
XAN AMB AMB
comp=Z,40nm,0.8s,mb5.2
GTA Gaotai 34.31 7 P **P 10 43 06.9 -0.5**
GTA AP pP 10 43 16.6 -13
HHC Hu-ho-hao-te 38.49 20 *e*P **P 10 43 49.8 +7.3**
HHC AP pP 10 43 59.7 -5.0
HHC XP sP 10 44 03.7 -12
HHC PP PP 10 45 22.0 +6.9
HHC PCP PcP 10 45 55.3 +1.1
HHC SCS ScS 10 53 52.2 +11
HHC AMB AMB
comp=Z,170nm,5.2s
HHC LR LR
comp=N,240nm,11.9s
HHC LR LR
comp=E,300nm,13.1s
HHC LR LR
comp=Z,220nm,11.9s
ULHL Ulahol 40.41 339 P **P 10 43 59.4 +1.0**
SNR=7.9
UCH Uchtor 41.05 337 P **P 10 44 04.8 +1.2**
SNR=15
TKM2 Tokmak 2 41.24 338 P **P 10 44 05.6 +0.5**
TKM2 pmax pmax
comp=Z,11nm,1.3s,mb4.5
KBK Karagaybulak 41.25 338 P **P 10 44 06.8 +1.6**
SNR=6.3
AML Almayashu 41.30 336 P **P 10 44 06.8 +1.2**
SNR=20
AAK Ala-Archa 41.41 337 P **P 10 44 08.4 +1.9**
SNR=7.4
AAK Ala-Archa 41.41 337 *e*P **P 10 44 06.2 -0.3**
AAK pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
AAK Ala-Archa 41.41 337 *e*P **P 10 44 06.2 -0.3**
comp=Z,3.1nm,0.5s,mb4.4
EKS2 Erkin-Say 41.71 336 P **P 10 44 10.0 +1.0**
SNR=6.5
USP Ospenovka 41.94 338 P **P 10 44 11.6 +0.7**
SNR=11
MKAR Makanchi Array 42.81 347 P **P 10 44 17.9 -0.1**
comp=Z,8.5nm,0.6s,mb4.7,baz=166,slow=7.4,SNR=55
MKAR Makanchi Array 42.81 347 *e*P **P 10 44 17.6 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 42.81 347 P **P 10 44 17.9 -0.1**
KKAR Karatay Array 43.44 334 *i* P **P 10 44 23.2 0.0**
KKAR pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
SONM Songino Array 43.58 11 P **P 10 44 23.9 -0.3**
comp=Z,4.7nm,0.7s,mb4.3,baz=192,slow=7.8,SNR=32
SONM PcP PcP 10 46 11.7 +0.9
comp=Z,1.3nm,0.5s,baz=195,slow=3.4,SNR=7.9
SONM LR LR 11 03 13.3
comp=Z,58nm,20.1s,baz=339,slow=37
ULN Ulaanbaatar 43.74 12 *e*P **P 10 44 25.3 -0.2**
ULN *e**PP pP 10 44 35.7 -12
ULN *e* 10 46 12.1
ULN pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ULN Ulaanbaatar 43.74 12 *e*P **P 10 44 25.2 -0.3**
comp=Z,3.3nm,0.6s,mb4.2
ULN *e*pP pP 10 44 35.7 -12
ULN *e* 10 46 12.1
ZAK Zakamensk 45.55 8 *e*P **P 10 44 38.0 -1.9**
ZAK pmax pmax
comp=Z,20nm,1.3s,mb4.7
WRA Warramunga Arr 46.16 124 P **P 10 44 45.1 -0.1**
comp=Z,14nm,0.7s,mb4.8,baz=304,slow=9.2,SNR=122
WRAB Tennant Creek 46.16 124 *e*P **P 10 44 45.9 +0.7**
WRAB pmax pmax
comp=Z,38nm,1.0s,mb5.1
WRAB Tennant Creek 46.16 124 *e*P **P 10 44 45.9 +0.7**
comp=Z,38nm,1.0s,mb5.1
WB2 Warramunga Arr 46.17 124 *e*P **P 10 44 45.8 +0.5**
KURK Kurchatov 47.33 346⇑*i*P **P 10 44 54.2 +0.2**
KURK pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
KURK Kurchatov 47.33 346⇑*i*P **P 10 44 54.2 +0.2**
comp=Z,8.5nm,0.6s,mb4.7
GUMO Guam 49.93 77 LR LR 11 05 50.1
comp=Z,95nm,19.9s,baz=230,slow=35
NVS Novosibirsk 50.35 351 *e*P **P 10 45 14.4 -2.8**
MJAR Matsushiro Arr 50.42 46 P **P 10 45 19.0 +1.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=276,slow=31,SNR=5.0
VOSK Vostochnaya 51.26 342 P **P 10 45 23.3 -0.9**
BVA0 Borovoye Array 51.71 341 P **P 10 45 27.0 -0.5**
BVA0 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
BRVK Borovoye 51.77 341 *e*P **P 10 45 27.3 -0.7**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BRVK Borovoye 51.77 341 *e*P **P 10 45 27.3 -0.7**
comp=Z,2.9nm,0.6s,mb4.5
AB31 Akbulak array 52.89 332 P **P 10 45 35.5 -0.9**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTO Aktyubinsk 54.60 332 P **P 10 45 47.4 -1.5**
AKTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
CTAO Charters Tower 56.40 118 *e*P **P 10 46 03.2 +0.9**
CTAO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
CTAO Charters Tower 56.40 118 *e*P **P 10 46 03.2 +0.9**
comp=Z,2.6nm,0.9s,mb4.3
STKA Stephens Creek 57.77 133 P **P 10 46 11.4 -0.3**
comp=Z,1.6nm,0.8s,mb4.1,baz=295,slow=9.0,SNR=3.5
KMBO Kilima Mbogo 57.90 265 LR LR 11 05 59.2
comp=Z,45nm,20.7s,baz=90,slow=31
ARU Arti 58.59 337 *e*P **P 10 46 15.9 -1.2**
ARU pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
ARU Arti 58.59 337 *e*P **P 10 46 15.8 -1.3**
comp=Z,10nm,1.5s,mb4.6
BRTR Keskin Array B 64.71 312 P **P 10 46 56.9 -1.5**
comp=Z,1.3nm,0.7s,mb3.9,baz=125,slow=7.6,SNR=5.9
TAU Tasmania Unive 67.38 141 *e*P **P 10 47 14.9 -0.5**
TAU pmax pmax
comp=Z,45nm,1.2s,mb5.2
TAU Tasmania Unive 67.38 141 *e*P **P 10 47 14.9 -0.5**
comp=Z,45nm,1.2s,mb5.2
AKASG Malin Array Be 70.67 322 P **P 10 47 32.6 -2.7**
comp=Z,0.9nm,0.5s,mb3.8,baz=94,slow=5.3,SNR=5.4
FINES FINESS Array B 75.38 332 P **P 10 48 02.1 -0.6**
comp=Z,0.9nm,0.5s,mb3.8,baz=90,slow=3.8,SNR=11
ARCES ARCESS Array B 77.98 340 P **P 10 48 16.6 -0.5**
comp=Z,2.1nm,0.6s,mb4.0,baz=92,slow=5.1,SNR=12
ARCES LR LR 11 24 42.8
comp=Z,34nm,21.0s,baz=88,slow=37
GERES GERESS Array B 80.28 319 P **P 10 48 30.4 +0.5**
comp=Z,3.2nm,0.7s,mb4.3,baz=101,slow=5.3,SNR=27
GERES pP pP 10 48 45.4 -9.4
comp=Z,1.2nm,0.7s,baz=104,slow=5.5,SNR=4.4
GERES LR LR 11 26 47.9
comp=Z,55nm,18.2s,baz=269,slow=38
KHC Kasperske Hory 80.37 319 *e*P **P 10 48 30.5 0.0**
ILAR Eielson Array 96.89 22 P **P 10 49 49.1 -0.2**
comp=Z,0.3nm,0.6s,mb3.9,baz=297,slow=3.6,SNR=9.6
ILAR LR LR 11 38 37.0
comp=Z,44nm,18.0s,baz=359,slow=38
NVAR Mina Array Bea 126.77 32 PKP PKPdf 10 55 23.4 +2.4
comp=Z,0.5nm,0.6s,baz=251,slow=4.5,SNR=4.0
PDAR Pinedale Array 127.33 23 PKP PKPdf 10 55 24.7 +2.7
comp=Z,0.5nm,0.6s,baz=135,slow=2.1,SNR=6.3
TXAR Lajitas Array 141.28 26 PKhKP 10 55 46.4
comp=Z,0.5nm,0.6s,baz=184,slow=0.6,SNR=4.5

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*IDC **03** 10:54:57.1±1.7, 3.52S×145.98E, mb3.8/2, mb1 4.2/4, mb1mx4.0/10, mbtmp4.1/4, ML3.6/2, MS3.7/9, Ms1 3.8/9, ms1mx3.5/16, Error ellipse: s-maj=81.2km s-min=28.6km az=105.0*
*NEIC **03** 10:55:01.0±1.0, 3.47S×145.93E, h35^{km}, mb4.7/2, Error ellipse: s-maj=17.9km s-min=15.4km az=213.0*
ISC 03 10:54:58.9±0.9**, 3.6S**±0.1×**145.9E**±0.1**, h33**^{km}**, n19,** σ1^{s}**21**/11**, mb3.7**/2**, MS3.9**/7**, Near north coast of New Guinea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PMG Port Moresby 5.95 168 Pn **Pn 10 56 25.6 -1.5**
1.9nm,0.3s,baz=28,slow=3.8,SNR=9.4
PMG LR LR 10 58 34.6
comp=Z,173nm,19.9s,baz=174,slow=36
PMG Port Moresby 5.95 168 Pn **Pn 10 56 25.6 -1.5**
PMG *e*Pn **Pn 10 56 26.8 -0.3**
PMG LR LR 10 58 34.6
HNR Honiara 15.13 113 LR LR 11 02 53.9
comp=Z,249nm,20.4s,baz=13,slow=32
HNR Honiara 15.13 113 Pn **P 10 58 31.1 -0.9**
29nm,0.5s
KAKA Kakadu 16.12 235 *e*P Px 10 59 07.5
7.5nm,0.6s
WRAB Tennant Creek 19.80 214 *e*P **P 10 59 29.6 +0.1**
26nm,0.8s
WB2 Warramunga Arr 19.81 214 *e*P **P 10 59 30.2 +0.6**
WRA Warramunga Arr 19.82 214 P **P 10 59 29.6 -0.1**
0.6nm,0.3s,baz=38,slow=12,SNR=100
DZM Mont Dzumac 27.14 134 LR LR 11 10 24.6
comp=Z,206nm,18.4s,MS3.7,baz=7.9,slow=34
STKA Stephens Creek 28.47 188 P **P 11 00 55.5 +2.3**
1.0nm,0.4s,mb3.8,baz=338,slow=11,SNR=2.9
KKM Kota Kinabalu 31.14 288 *e*P **P 11 01 15.5 -1.6**
KSM Kuching 35.92 277 *e*P **P 11 01 57.9 -0.6**
URZ Urewera 44.77 145 LR LR 11 19 20.3
comp=Z,104nm,20.7s,MS3.7,baz=223,slow=33
RPZ Rata Peaks 45.78 155 LR LR 11 20 21.5
comp=Z,110nm,20.8s,MS3.8,baz=178,slow=33
SONM Songino Array 61.74 331 LR LR 11 30 57.5
comp=Z,96nm,18.0s,MS4.0,baz=226,slow=35
MKAR Makanchi Array 74.92 320 LR LR 11 38 49.1
comp=Z,36nm,18.1s,MS3.7,baz=200,slow=35
ZAL Zalesovo 76.37 328 LR LR 11 39 09.6
comp=Z,297nm,18.0s,MS4.6,baz=138,slow=35
ILAR Eielson Array 83.68 23 P **P 11 07 27.1 +1.8**
0.4nm,0.8s,mb3.6,baz=257,slow=5.4,SNR=6.3
NVAR Mina Array Bea 96.73 52 LR LR 11 50 33.5
comp=Z,19nm,18.9s,MS3.6,baz=190,slow=34

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*IDC **03** 10:57:58.2±1.9, 17.91S×178.44W, h590^{km}±22^{km}, mb3.5/9, mb1 3.7/11, mb1mx3.7/15, mbtmp4.4/11, Error ellipse: s-maj=39.5km s-min=13.6km az=156.0*
*NEIC **03** 10:57:58.3±1.1, 17.84S×178.48W, h590^{km}±12^{km}, mb4.3/4, Error ellipse: s-maj=39.2km s-min=10.3km az=156.0*
ISC 03 10:57:57.6±1.2**, 17.8S**±0.3×**178.5W**±0.2**, h591**^{km}±17^{km}**, n24,** σ0^{s}**89**/20**, mb4.0**/12**, 2D, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AFI Afiamalu 7.55 60 P **P 10 59 52.1 -0.8**
4.1nm,0.3s,baz=311,slow=11,SNR=5.8
AFI Afiamalu 7.55 60 *e*P **P 10 59 52.8 -0.1**
40nm,0.8s
DZM Mont Dzumac 14.76 251 P **P 11 01 04.7 +1.1**
0.6nm,0.3s,baz=92,slow=22,SNR=7.6
CTAO Charters Tower 33.35 260 *e*P **P 11 03 49.6 +0.1**
7.3nm,0.6s,mb4.5
PMG Port Moresby 34.32 279 P **P 11 03 59.3 +1.6**
21nm,0.8s,mb4.8,baz=58,slow=5.2,SNR=14
STKA Stephens Creek 38.59 241⇓*i*P **P 11 04 32.5 -0.1**
5.1nm,0.6s,mb4.2
STKA Stephens Creek 38.59 241 P **P 11 04 31.9 -0.7**
7.1nm,0.6s,mb4.4,baz=91,slow=9.1,SNR=12
STKA Stephens Creek 38.59 241 *e*P **P 11 04 32.5 0.0**
WB2 Warramunga Arr 44.53 259⇓*i*P **P 11 05 18.5 -1.2**
WRA Warramunga Arr 44.54 259 P **P 11 05 18.6 -1.3**
5.2nm,0.7s,mb4.2,baz=96,slow=7.2,SNR=156
MJAR Matsushiro Arr 67.74 323 P **P 11 07 59.0 0.0**
0.9nm,0.5s,mb3.5,baz=156,slow=6.9,SNR=4.4
NVAR Mina Array Bea 79.41 44 P **P 11 09 04.9 +0.3**
1.5nm,0.7s,mb3.4,baz=228,slow=10,SNR=11
ILAR Eielson Array 85.79 13 P **P 11 09 35.3 -0.6**
1.3nm,0.5s,mb3.8,baz=221,slow=4.8,SNR=37
TXAR Lajitas Array 86.03 58 P **P 11 09 39.4 +1.5**
2.5nm,0.7s,mb3.9,baz=220,slow=6.1,SNR=38
TXAR Lajitas Array 86.03 58 P **P 11 09 39.4 +1.5**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ANMO	**Albuquerque**	**86.11**	**52**	eP	**P**	**11 09 38.0**	**-0.1**
	0.6nm,0.7s,mb3.3						
PDAR	**Pinedale Array**	**87.34**	**43**	P	**P**	**11 09 44.1**	**+0.4**
	1.5nm,0.6s,mb3.9,baz=224,slow=2.6,SNR=3.8						
RSSD	**Black Hills**	**91.55**	**44**	eP	**P**	**11 10 03.6**	**+0.4**
	1.6nm,0.8s,mb4.1						
YKA	**Yellowknife Ar**	**94.27**	**25**	P	**P**	**11 10 13.7**	**-1.3**
	0.3nm,0.5s,mb3.7,baz=237,slow=4.8,SNR=8.1						
YKA	**Yellowknife Ar**	**94.27**	**25**	P	**P**	**11 10 13.7**	**-1.4**
BRTR	**Keskin Array B**	**144.61**	**315**	PKP	PKPdf	11 16 28.9	+1.4
	0.8nm,0.6s,baz=127,slow=6.2,SNR=4.1						
KHC	**Kasperske Hory**	**147.23**	**345**	ePKPbc	PKPdf	11 16 36.5	+4.8
GERES	**GERESS Array B**	**147.46**	**345**	PKPbc	PKPdf	11 16 35.6	+3.6
	1.4nm,0.5s,baz=45,slow=1.9,SNR=14						
DAVOX	**Davos**	**150.26**	**348**	PKPbc	PKPdf	11 16 44.0	+7.5
	2.0nm,0.5s,baz=298,slow=9.2,SNR=5.8						

*ZUR **03** 10:58:00.5, 48.20N×9.12E, h10^{km}, ML2.1/6*
*LEDBW **03** 10:58:00.8±0.1, 48.20N×9.14E, h9^{km}±3^{km}, ML2.0, Error ellipse: s-maj=4.6km s-min=1.6km az=101.0*
*BGR **03** 10:58:00.3±0.3, 48.17N×9.20E, h10^{km}, ML1.8/1, Error ellipse: s-maj=5.6km s-min=2.2km az=162.0*
*NEIC **03** 10:58:00.0, 48.20N×9.14E, h9^{km}, ML2.5(LDG), ML2.2(STR), ML2.0(LEDBW), After LEDBW.*
*STR **03** 10:58:02.2±0.6, 48.24N×9.02E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **03** 10:58:02.2±0.1, 48.19N×9.06E, h13^{km}, Md2.4/2, Ml2.5/8, Error ellipse: s-maj=2.0km s-min=1.3km az=109.0*
ISC 03 10:58:00.2±0.3**, 48.20N**±0.02×**9.05E**±0.03**, h13**^{km}±2^{km}**, n48, σ0^{s}94**/93**, 2C-11D, Germany**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**0.14**	**162**	⇓iP	**Pg**	**10 58 03.8**	**0.0**
GUT				eP		10 58 05.7	
GUT				eS	**Sg**	**10 58 06.1**	**-0.3**
GUT	**Gutenstein**	**0.14**	**162**	eP	**Pg**	**10 58 05.7**	**+1.8**
GUT				eS	**Sg**	**10 58 06.1**	**-0.2**
GUT	**Gutenstein**	**0.14**	**162**	⇓iP*	**Pg**	**10 58 03.8**	**0.0**
GUT				eS*	**Sg**	**10 58 06.1**	**-0.3**
GUT	**Gutenstein**	**0.14**	**162**	⇓iP	**Pg**	**10 58 03.8**	**-0.1**
GUT				eS	**Sg**	**10 58 06.1**	**-0.2**
BUCH	**Bad Urach**	**0.32**	**39**	⇑iP	**Pg**	**10 58 06.7**	**-0.3**
BUCH				i S	**Sg**	**10 58 11.1**	**-0.4**
LBG	**Lerchenberg**	**0.49**	**340**	⇓iP	**Pb**	**10 58 11.1**	**+1.0**
LBG				S	**Sb**	**10 58 18.0**	**+1.1**
LBG				S	**Sb**	**10 58 20.8**	**+3.9**
LBG	**Lerchenberg**	**0.49**	**340**	⇓iP	**Pb**	**10 58 11.1**	**+1.0**
LBG				S	**Sb**	**10 58 20.8**	**+3.9**
LBG	**Lerchenberg**	**0.49**	**340**	⇓iP*	**Pb**	**10 58 11.1**	**+1.0**
LBG				PmP		10 58 11.9	
LBG				S*	**Sb**	**10 58 18.0**	**+1.1**
LBG				SmS		10 58 20.8	
BFO	**Black Forest**	**0.50**	**285**	ePg	**Pg**	**10 58 11.7**	**+1.3**
	SNR=10						
BFO				eSg	**Sg**	**10 58 18.9**	**+1.7**
SISB	**Singen-Sch Ber**	**0.52**	**186**	⇓iP	**Pb**	**10 58 11.0**	**+0.4**
SISB				i S	**Sb**	**10 58 17.9**	**+0.2**
SISB				S	**Sb**	**10 58 21.6**	**+3.8**
STEIN	**Stein am Rhein**	**0.55**	**193**	⇓iPg	**Pg**	**10 58 11.7**	**+0.3**
STEIN				eSg	**Sg**	**10 58 19.3**	**+0.5**
SLE	**Schleitheim**	**0.58**	**221**	⇑iPg	**Pg**	**10 58 12.5**	**+0.6**
SLE				i Sg	**Sg**	**10 58 20.6**	**+0.8**
WEIN	**Weingarten**	**0.68**	**184**	⇓iPg	**Pg**	**10 58 13.9**	**0.0**
WEIN				i Sg	**Sg**	**10 58 23.3**	**+0.2**
FELD	**Feldberg**	**0.78**	**245**	ePg	**Pg**	**10 58 16.8**	**+1.0**
	SNR=1.2						
WILA	**Wila**	**0.80**	**187**	⇓iPg	**Pg**	**10 58 16.2**	**0.0**
WILA				i Sg	**Sg**	**10 58 27.1**	**+0.2**
KIZ	**Kirchzarten**	**0.80**	**252**	eP	**Pb**	**10 58 17.1**	**+1.7**
HDH	**Heidenheim**	**0.86**	**63**	P	**Pb**	**10 58 16.0**	**-0.4**
HDH				S	**Sb**	**10 58 26.7**	**-0.9**
UBR	**Uberruh**	**0.88**	**126**	P	**Pb**	**10 58 16.9**	**+0.1**
UBR				S	**Sb**	**10 58 28.0**	**-0.2**
UBR				S	**Sb**	**10 58 29.6**	**+1.4**
SULZ	**Sulz-Cheisache**	**0.92**	**223**	ePn	**Pn**	**10 58 18.5**	**-0.2**
SULZ				eSn	**Sn**	**10 58 31.8**	**+0.1**
LIENZ	**Alp Oberkamor**	**0.96**	**162**	⇓iPg	**Pg**	**10 58 18.8**	**-0.6**
LANF	**Langenberg**	**1.14**	**314**	Pg	**Pg**	**10 58 23.8**	**+0.8**
CDF	**Champ du Feu**	**1.20**	**281**	ePg	**Pg**	**10 58 25.0**	**+0.7**
CDF				eSn	**Sn**	**10 58 38.6**	**-0.2**
CDF				eSg	**Sg**	**10 58 40.7**	**+0.3**
	14nm,0.3s						
CDF	**Champ du Feu**	**1.20**	**281**	ePn	**Pn**	**10 58 23.6**	**+0.9**
CDF				ePg	**Pg**	**10 58 25.0**	**+0.7**
CDF				eSn	**Sn**	**10 58 38.6**	**-0.2**
CDF				eSg	**Sg**	**10 58 40.7**	**+0.3**
SIND	**Sindeldorf**	**1.20**	**18**	P	**Pb**	**10 58 23.5**	**+1.2**
SIND				S	**Sb**	**10 58 38.5**	**+1.0**
ECH	**Echery**	**1.27**	**271**	Pg	**Pg**	**10 58 25.9**	**+0.3**
ECH				Sg	**Sg**	**10 58 42.8**	**+0.3**
ECH	**Echery**	**1.27**	**271**	ePg	**Pg**	**10 58 25.9**	**+0.4**
	SNR=3.2						
BBS	**Basel-Blauen**	**1.27**	**235**	ePg	**Pg**	**10 58 25.6**	**-0.2**
	SNR=2.6						
BBS	**Basel-Blauen**	**1.27**	**235**	Pg	**Pg**	**10 58 25.9**	**+0.2**
SWS	**Schriesheim**	**1.30**	**350**	⇑eP	**Pb**	**10 58 26.3**	**+2.3**
MOF	**Molkenrain**	**1.33**	**255**	Pg	**Pg**	**10 58 27.2**	**+0.3**
MOF				Sg	**Sg**	**10 58 45.5**	**+0.7**
MOF	**Molkenrain**	**1.33**	**255**	ePg	**Pg**	**10 58 27.3**	**+0.4**
	SNR=1.9						
TOD	**Tromm**	**1.41**	**353**	ePg	**Pg**	**10 58 28.0**	**-0.4**
	SNR=3.4						
TOD	**Tromm**	**1.41**	**353**	Pg	**Pg**	**10 58 28.1**	**-0.4**
TOD				Sg	**Sg**	**10 58 46.7**	**-0.7**
HINF	**Hinteralfeld**	**1.53**	**256**	ePg	**Pg**	**10 58 30.5**	**-0.2**
HINF				eSn	**Sn**	**10 58 46.1**	**-0.9**
HINF				eSg	**Sg**	**10 58 50.8**	**-0.3**
	3.4nm,0.2s						
HINF	**Hinteralfeld**	**1.53**	**256**	ePn	**Pn**	**10 58 27.4**	**+0.1**
HINF				ePg	**Pg**	**10 58 30.5**	**-0.2**
HINF				eSn	**Sn**	**10 58 46.1**	**-0.9**
HINF				eSg	**Sg**	**10 58 50.8**	**-0.3**
LOMF	**Lomont**	**1.73**	**241**	ePg	**Pg**	**10 58 34.2**	**-0.5**
	SNR=1.4						
HAU	**Haudompre**	**1.82**	**265**	ePg	**Pg**	**10 58 36.2**	**-0.4**
HAU				eSn	**Sn**	**10 58 53.3**	**-1.3**
HAU				eSg	**Sg**	**10 58 59.8**	**-1.2**
	6.8nm,0.2s						
HAU	**Haudompre**	**1.82**	**265**	ePn	**Pn**	**10 58 31.7**	**+0.2**
HAU				ePg	**Pg**	**10 58 36.2**	**-0.4**
HAU				eSn	**Sn**	**10 58 53.3**	**-1.3**
HAU				eSg	**Sg**	**10 58 59.8**	**-1.2**
ABH	**Alteburg**	**1.95**	**330**	ePg	**Pg**	**10 58 38.8**	**-0.4**
	SNR=2.2						
RUP	**Ruppelstein**	**1.99**	**320**	Pg	**Pg**	**10 58 39.3**	**-0.7**
GRF	**Grafenberg Arr**	**2.07**	**43**	ePg	**Pg**	**10 58 38.7**	**-2.8**
	SNR=2.1						
GRF				eSg	**Sg**	**10 59 04.5**	**-4.5**
CABF	**La Chapelle**	**2.57**	**233**	ePg	**Pg**	**10 58 50.0**	**-1.5**
CABF				eSg	**Sg**	**10 59 22.9**	**-2.8**
	3.2nm,0.3s						
SFTF	**Sexfontaines**	**2.68**	**272**	ePn	**Pn**	**10 58 43.5**	**-0.3**
SFTF				eSg	**Sg**	**10 59 26.9**	**-2.7**
	3.3nm,0.2s						
WET	**Wettzell**	**2.71**	**68**	ePg	**Pg**	**10 58 50.0**	**-4.2**
	SNR=2.2						
WET				eSg	**Sg**	**10 59 22.9**	**-7.4**
GEC2	**GERESS Array S**	**3.16**	**77**	ePg	**Pg**	**10 58 57.8**	**-5.4**
GEC2				eSg	**Sg**	**10 59 38.0**	**-7.4**
GIVF	**Givet**	**3.36**	**306**	ePn	**Pn**	**10 58 52.7**	**-0.8**
LOR	**Lormes**	**3.63**	**257**	ePg	**Pg**	**10 59 09.8**	**-2.8**
LOR				eSg	**Sg**	**10 59 56.0**	**-5.0**
	1.2nm,0.2s						
BAIF	**Baives**	**3.68**	**302**	ePn	**Pn**	**10 58 57.2**	**-0.8**

DHMR 03 11:06:31.5±1.6**, 11.78N**×**43.54E, h8**^{km}±15^{km}**, ML4.2, 4C-3D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.54**	**21**	⇓iP	Pn	11 07 00.4	+0.9
TRBA				i S	Sb	11 07 20.9	+1.3
TRBA				AML	AML	11 07 21.6	
	comp=N,5μm,0.3s						
UDYN	**Al 'Udayn**	**2.21**	**11**	⇑iP	Pn	11 07 10.6	+1.5
UDYN				i S	Sn	11 07 41.1	+4.2
UDYN				AML	AML	11 07 48.0	
	comp=Z,1μm,0.3s						
LBOS		**2.66**	**39**	⇑iP	Pn	11 07 17.6	+2.1
LBOS				i S	Sn	11 07 53.5	+5.2
DHBB	**Dhamar BB**	**2.89**	**16**	⇓iP	Pn	11 07 20.6	+1.8
DHBB				i S	Sn	11 08 00.5	+6.3
BDHA	**Al Bayda'**	**2.94**	**42**	⇑iP	Pn	11 07 21.1	+1.7
BDHA				i S	Sn	11 08 00.9	+5.5
BDHA				AML	AML	11 08 13.6	
	comp=N,2μm,0.6s						
BDHA	**Al Bayda'**	**2.94**	**42**	⇑iP	Pn	11 07 21.1	+1.6
BDHA				i S	Sn	11 08 00.9	+5.5
HAJJ	**Hajjah**	**3.89**	**1**	⇓iP	Pn	11 07 34.3	+1.3
HAJJ				i S	Sn	11 08 22.7	+3.2
HAJJ				AML	AML	11 08 37.8	
	comp=E,569nm,0.5s						

*IDC **03** 11:18:11.1±1.0, 12.30N×141.07E, mb3.9/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/19, Error ellipse: s-maj=54.4km s-min=23.9km az=89.0*
*NEIC **03** 11:18:14.1±0.6, 12.26N×141.18E, h20^{km}, mb4.4/1, Error ellipse: s-maj=18.3km s-min=11.9km az=119.0*
ISC 03 11:18:14.0±0.8**, 12.2N**±0.1×**141.2E**±0.2**, h33**^{km}**, n10, σ0^{s}39**/7**, mb4.0**/6**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.81**	**69**	ePn	**Pn**	**11 19 11.9**	**0.0**
JOW	**Kunigami**	**18.96**	**322**	LR	LR	11 28 59.7	
	comp=Z,62nm,19.6s,baz=253,slow=34						
WRAB	**Tennant Creek**	**32.65**	**192**	eP	**P**	**11 24 44.7**	**-0.7**
	3.2nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**32.67**	**192**	P	**P**	**11 24 45.4**	**-0.1**
	1.3nm,0.7s,mb4.0,baz=11,slow=10.0,SNR=14						
STKA	**Stephens Creek**	**43.84**	**180**	P	**P**	**11 26 19.7**	**+0.7**
	1.4nm,0.7s,mb3.8,baz=338,slow=15,SNR=3.3						
BVAR	**Borovoye Array**	**68.81**	**322**	P	**P**	**11 29 17.0**	**+0.1**
	0.7nm,0.4s,mb3.9,baz=105,slow=7.3,SNR=7.9						
ILAR	**Eielson Array**	**71.33**	**25**	P	**P**	**11 29 31.8**	**-0.2**
	0.4nm,0.8s,mb3.4,baz=254,slow=6.1,SNR=4.8						
FINES	**FINESS Array B**	**90.87**	**334**	P	**P**	**11 31 15.3**	**+0.1**
	1.2nm,0.7s,mb4.4,baz=45,slow=5.4,SNR=5.8						
LPAZ	**La Paz**	**151.28**	**102**	PKPbc	PKPdf	11 38 08.8	+10
	0.6nm,0.5s,baz=220,slow=2.7,SNR=5.2						
LPAZ	**La Paz**	**151.28**	**102**	PKPbc	PKPdf	11 38 08.8	+10

*ATH **03** 11:34:24.1, 37.68N×20.95E, h31^{km}±1^{km}, MD3.6/10, ML3.7*
*NEIC **03** 11:34:24.7, 37.66N×20.97E, h5^{km}, ML3.7(ATH), After ATH.*
*CSEM **03** 11:34:26.8±0.2, 37.78N×20.97E, h2^{km}, ML3.7, Error ellipse: s-maj=5.6km s-min=2.9km az=41.0*
*THE **03** 11:34:33.0, 38.11N×20.90E, h10^{km}, ML3.0*
ISC 03 11:34:23.2±1.0**, 37.62N**±0.05×**20.95E**±0.06**, h6**^{km}±6^{km}**, n30, σ1^{s}29**/38**, 2C, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.60**	**43**	⇑iPN	**Pg**	**11 34 36.2**	**+1.0**
RLS				eSN	**Sg**	**11 34 44.0**	**+0.9**
VLS	**Valsamata**	**0.63**	**333**	⇑iPN	**Pg**	**11 34 36.0**	**+0.3**
VLS				eSN	**Sg**	**11 34 45.4**	**+1.3**
ITM	**Ithomi**	**0.89**	**119**	ePN	**Pn**	**11 34 42.2**	**+0.2**
ITM				eSN	**Sn**	**11 34 55.0**	**-0.3**
LKD	**Levkas**	**1.11**	**348**	ePg	**Pn**	**11 34 44.5**	**-0.6**
LKD				eSg	**Sn**	**11 34 54.0**	**-6.9**
LKD	**Levkas**	**1.11**	**348**	ePg	**Pn**	**11 34 44.5**	**-0.7**
LKD				eSg	**Sn**	**11 34 54.0**	**-6.9**
EVR	**Evrytania**	**1.46**	**27**	ePN	**Pg**	**11 34 50.2**	**-2.1**
EVR	**Evrytania**	**1.46**	**27**	ePg	**Pg**	**11 34 51.0**	**-1.3**
AGG	**Agios Georgios**	**1.77**	**37**	ePg	**Pg**	**11 34 59.2**	**+0.7**
VLI	**Veliai**	**1.82**	**119**	ePN	**Pn**	**11 34 55.8**	**+0.4**
VLI	**Veliai**	**1.82**	**119**	ePn	**Pg**	**11 35 00.0**	**+0.4**
LKR	**Lokris**	**1.91**	**57**	ePN	**Pn**	**11 34 56.2**	**-0.5**
LKR	**Lokris**	**1.91**	**57**	ePn	**Pg**	**11 35 00.2**	**-1.2**
IGT	**Igoumenitsa**	**1.97**	**346**	ePg	**Pg**	**11 35 00.2**	**-2.4**
IGT				eSg	**Sg**	**11 35 21.2**	**-7.6**
KYTH	**Kithira**	**2.14**	**128**	ePN	**Pn**	**11 35 00.0**	**+0.1**
KYTH	**Kithira**	**2.14**	**128**	ePb	**Pb**	**11 35 02.3**	**+0.3**
ATH	**Athens Observa**	**2.22**	**80**	ePN	**Pn**	**11 35 00.3**	**-0.7**
ATH	**Athens Observa**	**2.22**	**80**	ePn	**Pn**	**11 35 04.8**	**+3.8**
MPAR	**Parnis Oros**	**2.26**	**76**	ePb	**Pb**	**11 35 03.5**	**-0.6**
KEK	**Kerkira**	**2.28**	**337**	ePN	**Pn**	**11 35 00.6**	**-1.3**
KEK	**Kerkira**	**2.28**	**337**	ePg	**Pg**	**11 35 07.5**	**-1.1**
PTL	**Penteli**	**2.34**	**79**	ePg	**Pg**	**11 35 09.0**	**-1.0**
NEO	**Neokhori**	**2.45**	**46**	ePN	**Pn**	**11 35 03.8**	**-0.6**
NEO	**Neokhori**	**2.45**	**46**	ePn	**Pn**	**11 35 07.2**	**+2.8**
LIT	**Litokhoron**	**2.75**	**25**	ePn	**Pn**	**11 35 12.2**	**+3.6**
FNA	**Florina**	**3.18**	**6**	ePn	**Pn**	**11 35 17.3**	**+2.6**
BIA	**Bitola**	**3.41**	**5**	ePn	**Pn**	**11 35 20.8**	**+2.8**
BIA				eSn	**Sn**	**11 35 55.4**	**-3.8**
OHR	**Ohrid**	**3.49**	**358**	ePn	**Pn**	**11 35 22.1**	**+3.0**
VAY	**Valandovo**	**3.90**	**18**	ePn	**Pn**	**11 35 26.7**	**+1.7**
VAY				eSn	**Sn**	**11 36 03.9**	**-7.8**
STIP	**Stip**	**4.18**	**13**	ePn	**Pn**	**11 35 29.2**	**+0.3**
SKO	**Skopje**	**4.36**	**5**	ePn	**Pn**	**11 35 34.0**	**+2.5**

*JMA **03** 11:41:58.8±0.1, 36.08N×139.87E, h103^{km}±1^{km}, M2.8*
*IDC **03** 11:42:07.8±1.1, 37.07N×137.88E, mb3.7/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=39.1km s-min=16.9km az=65.0*
*NEIC **03** 11:42:12.1±1.9, 37.03N×137.86E, h28^{km}±17^{km}, mb4.4/2, Error ellipse: s-maj=27.0km s-min=16.1km az=216.0*
ISC 03 11:42:00.4±0.7**, 36.02N**±0.04×**139.81E**±0.06**, h90**^{km}±6^{km}**, n21, σ1^{s}06**/30**, mb3.9**/3**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.33**	**187**	P	**P**	**11 42 15.5**	**+1.5**
TOK				eS	**S**	**11 42 28.0**	**+3.7**
JYT	**Yasato**	**0.37**	**56**	P	**P**	**11 42 13.8**	**-0.4**
JYT				S	**S**	**11 42 25.4**	**+0.6**
JAG	**Ashikaga**	**0.50**	**325**	P	**P**	**11 42 14.9**	**-0.3**
JAG				eS	**S**	**11 42 26.9**	**+0.6**
JRY	**Ryogami san**	**0.74**	**270**	P	**P**	**11 42 17.9**	**+0.4**
JKT	**Katashina**	**0.87**	**329**	P	**P**	**11 42 18.2**	**-0.7**
JKT				eS	**S**	**11 42 33.4**	**+0.8**
JOD2	**Odawara 2**	**0.96**	**218**	P	**P**	**11 42 19.3**	**-0.5**
JOD2				eS	**S**	**11 42 34.8**	**+0.5**
JYN	**Shimob**	**1.15**	**244**	P	**P**	**11 42 22.0**	**-0.2**
JYN				eS	**S**	**11 42 39.5**	**+1.0**
JIM2	**Oshima 3**	**1.33**	**194**	P	**P**	**11 42 23.5**	**-1.0**
JIM2				eS	**S**	**11 42 42.5**	**+0.1**
BSO3	**Boso 3**	**1.34**	**155**	P	**P**	**11 42 23.4**	**-1.2**
BSO3				eS	**S**	**11 42 43.2**	**+0.7**
MJAR	**Matsushiro Arr**	**1.40**	**292**	Pn	**P**	**11 42 23.9**	**-1.4**
	2.4nm,0.3s,baz=352,slow=8.6,SNR=40						
MAJO	**Matsushiro**	**1.40**	**292**	ePg	**P**	**11 42 23.2**	**-2.0**
MAT	**Matsushiro**	**1.40**	**292**	P	**P**	**11 42 24.4**	**-0.9**
MAT				eS	**S**	**11 42 43.3**	**-0.4**
MAT	**Matsushiro**	**1.40**	**292**	P	**P**	**11 42 24.4**	**-0.9**
MAT				eS	**S**	**11 42 44.0**	**+0.3**
MAT	**Matsushiro**	**1.40**	**292**	eP	**P**	**11 42 24.0**	**-1.3**
MAT				S	**S**	**11 42 43.0**	**-0.7**
BSO1	**Boso 1**	**1.66**	**145**	P	**P**	**11 42 26.6**	**-2.1**
BSO1				eS	**S**	**11 42 50.1**	**+0.6**
MKAR	**Makanchi Array**	**43.57**	**303**	P	**P**	**11 49 58.3**	**+1.5**
	0.7nm,0.8s,mb3.5,baz=91,slow=10,SNR=4.6						
KURK	**Kurchatov**	**45.55**	**309**	eP	**P**	**11 50 14.7**	**+2.1**
	2.0nm,0.5s,mb4.1						
ILAR	**Eielson Array**	**51.04**	**32**	P	pP	11 51 10.2	-6.7
	0.3nm,0.6s,baz=244,slow=6.4,SNR=7.1						
ARCES	**ARCESS Array B**	**64.49**	**339**	P	**P**	**11 52 35.3**	**+6.2**
	3.9nm,1.0s,mb4.2,baz=72,slow=7.7,SNR=5.2						
NVAR	**Mina Array Bea**	**76.63**	**52**	P	pP	11 54 04.6	-1.9
	0.4nm,0.3s,baz=172,slow=11,SNR=5.3						
SDCO	**Great Sand Dun**	**84.93**	**46**	P	pP	11 54 48.1	-2.5
	6.2nm,1.1s						

IDC 03 11:43:57.1±1.5**, 11.91N**×**144.86E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/16**, mbtmp3.7**/3**, MS3.7**/2**, Ms1 3.8**/2**, ms1mx3.0**/22**, Error ellipse: s-maj=94.0km s-min=21.0km az=98.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.67**	**0**	Pn	Pn	11 44 29.4	+1.5
	154nm,0.3s,baz=240,slow=2.2,SNR=39						
GUMO				Sn	Sn	11 44 49.4	-0.9
	90nm,0.3s,baz=6.1,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**33.30**	**198**	P	P	11 50 37.1	-1.8
	0.8nm,0.7s,baz=20,slow=9.8,SNR=9.9						
ILAR	**Eielson Array**	**70.08**	**25**	P	P	11 55 10.5	-2.3
	0.6nm,1.1s,baz=242,slow=6.2,SNR=4.3						
AKTO	**Aktyubinsk**	**78.93**	**319**	LR	LR	12 33 42.4	
	comp=Z,49nm,18.6s,baz=159,slow=38						
FINES	**FINESS Array B**	**92.68**	**335**	P	P	11 57 10.0	-1.9
	1.4nm,0.9s,baz=90,slow=5.7,SNR=5.3						
NOA	**NORSAR Array B**	**98.61**	**339**	LR	LR	12 44 00.4	
	comp=Z,29nm,20.6s,baz=85,slow=36						

*NEIC **03** 11:47:03.6, 30.94S×71.65W, h24^{km}, ML3.2(GUC), After GUC.*
GUC 03 11:47:03.6±1.0**, 30.94S**×**71.65W, h24**^{km}±6^{km}**, MD4.0, ML3.2, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.51**	**49**	⇓iP	Pb	11 47 13.9	+0.1
OVCH				i S	Sb	11 47 21.4	+0.5
OVCH				AMP		11 47 21.8	
	comp=E,5μm,0.2s						
CMCH	**Combarbala**	**0.60**	**113**	⇑iP	Pb	11 47 15.6	+0.2
CMCH				i S	Sb	11 47 24.4	+0.9
CMCH				AMP		11 47 24.6	
	comp=N,11μm,0.2s						
ILCH	**Illapel**	**0.80**	**149**	⇑iP	Pb	11 47 18.2	-0.6
ILCH				i S	Sb	11 47 29.2	-0.1
ILCH				AMP		11 47 29.9	
	comp=E,638nm,0.4s						
CHNG	**Los Chungos**	**0.95**	**172**	⇑iP	Pb	11 47 20.4	-0.8
CHNG				i S	Sb	11 47 32.9	-0.5
CHNG				AMP		11 47 36.0	
	comp=E,767nm,0.5s						
TLL	**Tololo Astrono**	**1.06**	**44**	⇓iP	Pn	11 47 22.7	-0.5
TLL				i S	Sb	11 47 36.9	+0.2
TLL				AMP		11 47 41.2	
	comp=E,1μm,0.5s						
LSCH	**La Serena**	**1.09**	**19**	⇑iP	Pn	11 47 23.0	-0.5
LSCH				i S	Sb	11 47 37.1	-0.3
LSCH				AMP		11 47 40.4	
	comp=E,495nm,0.3s						
JACH	**Jahuel**	**1.95**	**153**	eP	Pn	11 47 37.2	+1.4
PEL	**Peldehue**	**2.34**	**160**	eP	Pn	11 47 41.8	+0.3
PEL				i S	Sn	11 48 11.3	+1.6
PEL				AMP		11 48 17.3	
	comp=E,335nm,0.3s						
ZON	**Zonda**	**2.62**	**104**	eP	Pn	11 47 53.1	+7.7
ZON				eS	Sn	11 48 29.0	+12
FCH	**Farellones**	**2.64**	**154**	eP	Pn	11 47 46.4	+0.7
FCH				AMP		11 48 32.6	
	comp=E,102nm,0.4s						
RCBR	**Riachuelo**	**41.81**	**61**	eP	P	11 54 52.6	-0.7

*NIED **03** 11:56:00, 38.20N×144.80E, h5^{km}, Mw4.4 Best double couple: M$_0$4.32×10^{15} NP1:φ$_s$205°, δ73°, λ-94°. NP2:φ$_s$39°, δ17°, λ-77°.*
*IDC **03** 11:56:31.4±0.6, 38.14N×145.03E, mb4.2/16, mb1 4.4/18, mb1mx4.3/24, mbtmp4.2/18, ML3.9/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/36, Error ellipse: s-maj=18.1km s-min=15.4km az=119.0*
*BJI **03** 11:56:34.6, 38.22N×145.05E, h31^{km}, mB5.0, mb4.5, Ms4.3, Msz3.7*
*MOS **03** 11:56:34.6±1.0, 38.10N×144.99E, h33^{km}, mb4.6/20, Error ellipse: s-maj=11.9km s-min=8.3km az=99.0*
*JMA **03** 11:56:36.0±0.1, 38.18N×144.78E, h53^{km}, M4.6*
*NEIC **03** 11:56:36.1±0.3, 38.08N×145.04E, mb4.7/11, MW4.4(NIED), Error ellipse: s-maj=7.3km s-min=5.8km az=158.0*
ISC 03 11:56:33.8±1.3**, 38.25N**±0.03×**144.87E**±0.03**, h23**^{km}±9^{km}**, h29**^{km}±2.0^{km}**:pP-P, n114, σ1^{s}27**/118**, mb4.4**/34**, MS3.7**/10**, 9C-4D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.64**	**289**	P	**Pn**	**11 57 16.9**	**+0.9**
OFUJ				S	**Sn**	**11 57 47.4**	**-0.3**
MIYJ	**Miyakonagasawa**	**2.73**	**300**	P	**Pn**	**11 57 17.9**	**+0.7**
MIYJ				S	**Sn**	**11 57 49.3**	**-0.6**
JIO	**Ouri**	**2.78**	**275**	P	**Pn**	**11 57 18.3**	**+0.3**
JIO				S	**Sn**	**11 57 49.7**	**-1.4**
JMK	**Ichinoseki**	**2.95**	**285**	P	**Pn**	**11 57 21.2**	**+0.8**
JMK				eS	**Sn**	**11 57 55.0**	**-0.4**
JOM	**Ohasama**	**3.05**	**295**	P	**Pn**	**11 57 22.8**	**+0.9**
JOM				S	**Sn**	**11 57 58.4**	**+0.3**
JMM	**Marumori**	**3.24**	**265**	P	**Pn**	**11 57 24.5**	**-0.1**
JMM				S	**Sn**	**11 58 00.4**	**-2.5**
JANG	**Nango**	**3.36**	**310**	P	**Pn**	**11 57 26.5**	**+0.3**
JANG				eS	**Sn**	**11 58 05.3**	**-0.6**
JYK	**Kaneyama**	**3.60**	**282**	P	**Pn**	**11 57 30.8**	**+1.2**
JYK				S	**Sn**	**11 58 11.5**	**-0.4**
JOT	**Ohata**	**4.30**	**318**	eS	**Sn**	**11 58 27.3**	**-2.3**
JCH	**Churui**	**4.51**	**346**	P	**Pn**	**11 57 41.6**	**-1.0**
JCH				S	**Sn**	**11 58 31.4**	**-3.7**
JKB	**Kayabe**	**4.68**	**322**	P	**Pn**	**11 57 45.8**	**+0.8**
JKB				eS	**Sn**	**11 58 36.4**	**-2.9**
BSO1	**Boso 1**	**4.76**	**222**	P	**Pn**	**11 57 43.2**	**-3.0**
NEM2	**Nemuro 2**	**5.16**	**7**	P	**Pn**	**11 57 48.5**	**-3.2**
NEM2				S	**Sn**	**11 58 44.1**	**-7.1**
JRY	**Ryogami san**	**5.26**	**247**	P	**Pn**	**11 57 51.7**	**-1.5**
JRY				S	**Sn**	**11 58 48.0**	**-5.9**
JOD2	**Odawara 2**	**5.52**	**239**	P	**Pn**	**11 57 54.5**	**-2.3**
JOD2				eS	**Sn**	**11 58 54.3**	**-5.9**
MJAR	**Matsushiro Arr**	**5.57**	**254**	Pn	**Pn**	**11 57 57.8**	**+0.2**
	4.7nm,0.3s,baz=79,slow=15,SNR=45						
MJAR				Sn	**Sn**	**11 59 03.1**	**+1.5**
	2.2nm,0.3s,baz=118,slow=18,SNR=3.6						
MJAR				LR	LR	12 00 10.9	
	comp=Z,250nm,19.5s,baz=330,slow=39						
MJAR	**Matsushiro Arr**	**5.57**	**254**	P	**Pn**	**11 57 57.8**	**+0.3**
MJAR						11 59 03.1	
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				smax			
	comp=N,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,251nm,19.5s						
MAJO	**Matsushiro**	**5.57**	**254**	eP	**Pn**	**11 57 57.2**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,35nm,0.6s						
MAJO	**Matsushiro**	**5.57**	**254**	ePn	**Pn**	**11 57 57.2**	**-0.4**
	comp=Z,35nm,0.6s						
MAT	**Matsushiro**	**5.57**	**254**	P	**Pn**	**11 57 58.0**	**+0.4**
MAT				eS	**Sn**	**11 59 01.0**	**-0.7**
MAT	**Matsushiro**	**5.57**	**254**	eP	**Pn**	**11 57 58.0**	**+0.4**
MAT				S	**Sn**	**11 59 01.0**	**-0.7**
JOSM	**Okushiri--Mats**	**5.64**	**315**	P	**Pn**	**11 57 59.3**	**+0.8**
JTKR	**Abashiri--Toko**	**5.77**	**353**	P	**Pn**	**11 57 59.5**	**-0.8**
JTKR				S	**Sn**	**11 59 01.4**	**-5.1**
YUK	**Yuzh-Kuril'sk**	**5.83**	**7**	⇓iP	**Pn**	**11 57 58.0**	**-3.2**
YUK				pmax	pmax		
	comp=N,230nm,0.4s						
YUK				pmax	pmax		
	comp=E,230nm,0.4s						
YUK				pmax	pmax		
	comp=Z,460nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
JHR	**Hokuryu**	**5.99**	**338**	P	**Pn**	**11 58 04.8**	**+1.4**
JHR				eS	**Sn**	**11 59 10.0**	**-2.0**
ASAJ	**Asahikawa**	**6.11**	**344**	Pn	**Pn**	**11 58 04.5**	**-0.7**
	comp=Z,2.5nm,0.3s,baz=206,slow=13,SNR=22						
ASAJ				Sn	**Sn**	**11 59 12.9**	**-2.2**
	comp=Z,3.2nm,0.3s,baz=351,slow=18,SNR=6.2						
ASAJ	**Asahikawa**	**6.11**	**344**	P	**Pn**	**11 58 04.5**	**-0.7**
ASAJ						11 59 12.9	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
JHJ	**Hachijo jima 2**	**6.58**	**221**	Sn	**Sn**	**11 59 22.5**	**-4.4**
	comp=N,39nm,0.3s,baz=92,slow=20,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**8.84**	**351**	P	**P**	**11 58 45.8**	**+2.5**
MDJ	**Mudanjiang**	**13.11**	**304**	ePn	**P**	**11 59 43.9**	**+2.6**
	comp=N,17nm,1.1s						
SSE	**Sheshan**	**20.71**	**257**	P	**P**	**12 01 15.3**	**+0.2**
SSE				XP		12 01 27.4	
SSE				S	**S**	**12 05 00.5**	**+0.1**
SSE				XS		12 05 13.2	

SSE AMB AMB
comp=Z,40nm,0.7s
SSE AMB AMB
comp=Z,50nm,3.7s
SSE LR LR
comp=N,70nm,19.0s,MS3.2
SSE LR LR
comp=E,60nm,19.0s,MS3.2
SSE LR LR
comp=Z,100nm,20.7s,MS3.2
HIA Hailar 21.13 310 *e*P **P 12 01 20.4 +1.1**
HIA pmax pmax
comp=Z,3.0nm,0.5s
HIA Hailar 21.13 310 *e*P **P 12 01 20.4 +1.2**
comp=Z,2.8nm,0.5s,mb3.9
NJ2 Nanjing 22.12 262 *e*P **P 12 01 29.5 +0.2**
NJ2 AP 12 01 38.6
NJ2 XP 12 01 43.1
NJ2 PP PP 12 01 58.2 +2.6
NJ2 PPP PPP 12 02 08.1 +2.5
NJ2 S **S 12 05 28.0 +1.2**
NJ2 XS 12 05 42.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
NJ2 AMB AMB
comp=Z,140nm,5.4s
NJ2 LR LR
comp=N,570nm,20.5s,MS4.2
NJ2 LR LR
comp=E,690nm,18.9s,MS4.2
NJ2 LR LR
comp=Z,180nm,24.8s
GUMO Guam 24.56 180 LR LR 12 10 37.2
comp=Z,31nm,18.7s,MS2.8,baz=248,slow=35
SEY Seymchan 25.14 8⇑ *i*P **P 12 01 59.8 +1.5**
YAK Yakutsk 25.59 343⇑ *i*P **P 12 02 03.7 +1.1**
YAK pmax pmax
comp=Z,24nm,1.0s,mb4.7
YAK Yakutsk 25.59 343 *e*P **P 12 02 03.9 +1.3**
comp=Z,15nm,0.8s,mb4.6
HHC Hu-ho-hao-te 25.73 286 *e*P **P 12 02 07.0 +2.9**
HHC AP pP 12 02 16.2 +5.3
HHC XP sP 12 02 20.5 +6.5
HHC PP PP 12 02 48.5 +4.1
HHC PCP PcP 12 05 35.4 +0.8
HHC S **S 12 06 32.6 +3.4**
HHC XS 12 06 48.2
HHC PCS 12 09 14.0
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
HHC AMB AMB
comp=Z,210nm,6.4s
HHC LR LR
comp=N,140nm,12.5s,MS4.1
HHC LR LR
comp=E,340nm,11.5s,MS4.1
HHC LR LR
comp=Z,310nm,13.5s,MS4.0
BOD Bodaibo 28.06 324 *e*P pP 12 02 35.4 +3.3
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ULN Ulaanbaatar 29.00 302⇓ *i*P **P 12 02 35.6 +1.7**
SONM Songino Array 29.44 301 LR LR 12 14 49.5
comp=Z,130nm,18.4s,MS3.6,baz=181,slow=37
BILL Bilibino 32.12 15⇓ *i*P **P 12 03 00.4 -0.8**
BILL pmax pmax
comp=Z,22nm,2.5s,mb4.5
GYA Guiyang 34.13 261 P **P 12 03 20.0 +0.9**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
GTA Gaotai 34.85 286 *e*P **P 12 03 27.5 +2.4**
GTA AP pP 12 03 33.2 +1.1
GTA XP sP 12 03 36.1 +1.1
ZAL Zalesovo 43.16 311 LR LR 12 24 38.8
comp=Z,148nm,18.3s,MS3.9,baz=172,slow=39
KDAK Kodiak Island 44.35 43 P **P 12 04 42.4 -1.4**
comp=Z,6.5nm,0.6s,mb4.5,baz=356,slow=16,SNR=6.7
MKAR Makanchi Array 45.81 302 P **P 12 04 56.5 +1.0**
comp=Z,1.4nm,0.7s,mb4.0,baz=83,slow=9.2,SNR=7.8
MKAR LR LR 12 24 47.7
comp=Z,85nm,19.1s,MS3.7,baz=22,slow=37
MKAR Makanchi Array 45.81 302 *i*P **P 12 04 57.0 +1.5**
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MKAR Makanchi Array 45.81 302 P **P 12 04 56.5 +1.0**
MKAR LR LR 12 24 47.7
PMR Palmer 46.01 37 *e*P **P 12 04 56.1 -0.7**
PMR pmax pmax
comp=Z,18nm,1.3s,mb4.8
PMR Palmer 46.01 37 *e*P **P 12 04 56.1 -0.7**
comp=Z,18nm,1.3s,mb4.8
COLA College 46.58 33⇑ *i*P **P 12 05 01.6 +0.3**
ILAR Eielson Array 46.99 33 P **P 12 05 04.0 -0.6**
comp=Z,4.6nm,0.8s,mb4.5,baz=261,slow=5.9,SNR=41
ILAR Eielson Array 46.99 33 P **P 12 05 04.0 -0.5**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 47.36 308 *e*P **P 12 05 08.4 +0.8**
KURK *e* 12 05 22.2
KURK pmax pmax
comp=Z,11nm,0.8s,mb4.8
KURK Kurchatov 47.36 308 *e*P **P 12 05 08.4 +0.8**
comp=Z,11nm,0.8s,mb4.8
KURK *e* 12 05 22.2
PMG Port Moresby 47.45 177 P **P 12 05 07.7 -1.2**
comp=Z,3.5nm,0.7s,mb4.4,baz=274,slow=2.5,SNR=3.6
PMG Port Moresby 47.45 177 P **P 12 05 07.7 -1.2**
PMG pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 51.79 312 P **P 12 05 42.9 +1.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=78,slow=8.4,SNR=18
BVAR PcP PcP 12 06 54.9 +0.2
comp=Z,0.8nm,0.5s,baz=76,slow=5.9,SNR=2.9
BVAR Borovoye Array 51.79 312 P **P 12 05 42.9 +1.3**
BVAR 12 06 54.9
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR pmax pmax
comp=Z,10.0nm,0.5s
BRVK Borovoye 51.85 312 *e*P **P 12 05 42.9 +0.9**
BRVK pmax pmax
comp=Z,20nm,0.7s,mb5.2
BRVK Borovoye 51.85 312 *e*P **P 12 05 42.9 +0.8**
comp=Z,1.9nm,0.7s,mb4.1
AAK Ala-Archa 52.33 299⇑ *i*P **P 12 05 47.7 +1.9**
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ARU Arti 57.27 319⇑ *i*P **P 12 06 22.2 +0.6**
ARU *e* 12 08 27.4
ARU *e*S **S 12 14 19.5 +5.2**
ARU *e*SS SS 12 18 03.1 -2.0
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ARU Arti 57.27 319 *e*P **P 12 06 21.2 -0.4**
comp=Z,5.5nm,0.8s,mb4.6
WRAB Tennant Creek 58.71 192 *e*P **P 12 06 29.5 -2.7**
WRAB *e**PP pP 12 06 38.5 -0.9
WRAB pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
WRAB Tennant Creek 58.71 192 *e*P **P 12 06 29.5 -2.6**
comp=Z,9.7nm,0.8s,mb4.9
WRAB *e*pP pP 12 06 38.5 -0.9
WB2 Warramunga Arr 58.72 192 *e*P **P 12 06 29.8 -2.4**
WB2 *e* pP 12 06 38.7 -0.8
WRA Warramunga Arr 58.72 192 P **P 12 06 29.3 -2.9**
comp=Z,4.8nm,0.8s,mb4.6,baz=12,slow=7.3,SNR=35
WRA PcP PcP 12 07 20.6 -1.1
comp=Z,1.3nm,0.6s,baz=2.2,slow=4.1,SNR=10.0
WRA Warramunga Arr 58.72 192 P **P 12 06 29.3 -2.9**
WRA 12 07 20.6
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA pmax pmax
comp=Z,10.0nm,0.6s
YKA Yellowknife Ar 61.37 31 P **P 12 06 49.0 -0.8**
comp=Z,3.2nm,0.7s,mb4.5,baz=300,slow=6.8,SNR=19
YKA Yellowknife Ar 61.37 31 P **P 12 06 49.0 -0.8**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 61.37 31 P **P 12 06 49.0 -0.8**
OBN Obninsk 68.75 324⇓ *i*P **P 12 07 38.2 +0.7**
OBN *e* 12 10 09.3
OBN *e*S S 12 16 40.8 +2.8
OBN pmax pmax
comp=Z,3.0nm,0.4s,mb4.6

FINES FINESS Array B 69.00 333 P **P 12 07 37.5 -1.4**
comp=Z,2.1nm,0.6s,mb4.2,baz=34,slow=6.9,SNR=9.2
FINES FINESS Array B 69.00 333 *i*P **P 12 07 37.5 -1.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 69.83 183 P **P 12 07 42.6 -2.0**
comp=Z,2.2nm,0.9s,mb4.1,baz=344,slow=18,SNR=2.9
FFC Flin Flon 71.18 34 *e*P **P 12 07 52.3 -0.1**
FFC *e**PP pP 12 08 01.8 +2.1
FFC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FFC Flin Flon 71.18 34 *e*P **P 12 07 52.3 -0.1**
comp=Z,9.5nm,0.9s,mb4.7
FFC *e*pP pP 12 08 01.8 +2.1
NVAR Mina Array Bea 72.06 55 P **P 12 07 58.1 +0.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=296,slow=5.6,SNR=5.4
KIV Kislovodsk 72.16 312*c i*P **P 12 08 01.0 +2.6**
KIV pmax pmax
comp=Z,23nm,1.0s,mb5.1
KIV Kislovodsk 72.16 312 *e*P **P 12 08 01.3 +2.8**
comp=Z,12nm,0.7s,mb4.9
GNI Garni 73.16 308 LR LR 12 40 02.0
comp=Z,30nm,19.3s,MS3.6,baz=347,slow=36
IMW Indian Meadow 73.36 47 *e*P **P 12 08 05.3 -0.1**
IMW *e*pP pP 12 08 16.1 +3.4
IMW *e*sP sP 12 08 22.1 +6.8
NOA NORSAR Array B 74.10 339 P **P 12 08 09.6 +0.2**
comp=Z,3.5nm,1.1s,mb4.2,baz=37,slow=5.9,SNR=4.3
NOA NORSAR Array B 74.10 339 P **P 12 08 09.6 +0.3**
NOA pmax pmax
comp=Z,4.0nm,1.1s
HWUT Hardware Ranch 74.38 49 *e*P **P 12 08 11.8 +0.5**
comp=Z,4.0nm,1.0s,mb4.3
PDAR Pinedale Array 74.84 47 P **P 12 08 14.0 0.0**
comp=Z,1.7nm,0.7s,mb4.1,baz=293,slow=2.3,SNR=16
AKASG Malin Array Be 74.99 324 P **P 12 08 15.6 +0.9**
comp=Z,0.7nm,0.5s,mb3.9,baz=40,slow=6.2,SNR=5.7
AKASG Malin Array Be 74.99 324 *i*P **P 12 08 15.8 +1.1**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG Malin Array Be 74.99 324 P **P 12 08 15.6 +0.9**
BRTR Keskin Array B 80.07 313 P **P 12 08 43.4 +0.3**
comp=Z,0.4nm,0.5s,mb3.6,baz=63,slow=2.8,SNR=3.7
CLL Collm 81.37 332 P **P 12 08 50.0 +0.3**
CLL Collm 81.37 332 *e*P **P 12 08 50.0 +0.3**
ANMO Albuquerque 81.69 52⇑ *i*P **P 12 08 51.5 -0.2**
GERES GERESS Array B 83.09 330 P **P 12 08 59.4 +0.8**
comp=Z,0.7nm,0.6s,mb3.9,baz=34,slow=4.8,SNR=7.5
GERES LR LR 12 52 43.8
comp=Z,43nm,18.5s,MS3.9,baz=81,slow=40
MNTX Cornudas Mount 84.52 54 *e*P **P 12 09 06.0 -0.2**
comp=Z,2.1nm,0.7s,mb4.4
DAVOX Davos 86.26 331 LR LR 12 48 39.8
comp=Z,76nm,18.9s,MS4.1,baz=263,slow=36
TXAR Lajitas Array 87.20 54 P **P 12 09 20.1 +0.6**
comp=Z,1.7nm,0.9s,mb4.3,baz=300,slow=3.2,SNR=17
TXAR Lajitas Array 87.20 54 P **P 12 09 20.2 +0.7**
TXAR pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 142.69 196⇑ *i*P PKPdf 12 16 00.8 -7.6
SNAA Sanae 142.69 196 *e* PKPdf 12 16 05.0 -3.4
SNAA Sanae 142.69 196 *e* PKPdf 12 16 12.0 +3.6
SNAA Sanae 142.69 196 *e* PKPdf 12 16 17.9 +9.5
VNA2 Neumayer--Watz 144.22 195⇑ *i*P PKPbc 12 16 03.1 -2.9
VNA2 Neumayer--Watz 144.22 195 *e* PKPbc 12 16 06.0 0.0
VNA2 Neumayer--Watz 144.22 195 *e* PKPbc 12 16 16.3 +10
VNA2 Neumayer--Watz 144.22 195 *e* PKPbc 12 16 23.1 +17
VNA3 Neumayer Olymp 144.42 194 P PKPbc 12 16 02.0 -4.6
VNA3 Neumayer Olymp 144.42 194 *e* PKPbc 12 16 04.8 -1.8
VNA3 Neumayer Olymp 144.42 194 *e* PKPbc 12 16 14.6 +8.0
VNA3 Neumayer Olymp 144.42 194 *e* PKPbc 12 16 21.4 +15
PMSA Palmer Station 148.47 157 *e*PKPdf PKPdf 12 16 14.1 -4.2
PMSA *e*PKPbc PKPdf 12 16 17.3 -1.1
PMSA *e*PKPab PKPab 12 16 21.3 -1.7

*IDC **03** 12:19:55.0±0.7,3.43S×145.91E,mb4.3/8,mb1 4.5/10, mb1mx4.4/13,mbtmp4.4/10,ML4.3/3,MS4.0/11,Ms1 4.0/11, ms1mx4.0/17,Error ellipse: s-maj=32.2km s-min=15.5km az=74.0*
*BJI **03** 12:19:57.1,3.50S×145.90E,h15km,mB5.2,mb4.6,Ms4.6, Msz4.3*
*NEIC **03** 12:19:57.1±0.4,3.49S×145.89E,h15km,mb4.7/8,Error ellipse: s-maj=11.3km s-min=7.0km az=76.0*
ISC 03 12:19:53.5±3.0,**3.51S**±0.06×**145.79E**±0.09,**h2**km±19km, **n44**,σ1**908**/39,**mb4.5**/18,**MS4.2**/11,**Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.01**	**167**	Pn		**Pn**	**12 21 26.0**	**+0.3**
	6.0nm,0.3s,baz=357,slow=6.0,SNR=30							
PMG				Sn		**Sn**	**12 22 35.9**	**-0.2**
	baz=285,slow=14,SNR=2.4							
PMG				LR		LR	12 23 34.6	
	comp=Z,574nm,20.9s,baz=173,slow=36							
PMG	**Port Moresby**	**6.01**	**167**	*e*P		**Pn**	**12 21 24.5**	**-1.2**
	138nm,0.9s							
PMG				*e*Sn		**Sn**	**12 22 28.9**	**-7.2**
HNR	**Honiara**	**15.25**	**113**	Pn		**P**	**12 23 32.4**	**+0.6**
	2.0nm,0.3s,baz=286,slow=8.9,SNR=3.7							
HNR				LR		LR	12 28 30.6	
	comp=Z,383nm,19.2s,baz=291,slow=34							
HNR	**Honiara**	**15.25**	**113**	*e*Pn		**P**	**12 23 31.5**	**-0.3**
	117nm,0.8s							
KAKA	**Kakadu**	**16.05**	**235**	*e*P		Px	12 24 05.5	
	39nm,0.6s							
CTAO	**Charters Tower**	**16.48**	**178**	*e*P		**P**	**12 23 49.0**	**+1.3**
	14nm,0.9s							
WRAB	**Tennant Creek**	**19.77**	**213**	*e*P		**P**	**12 24 28.5**	**+0.6**
	247nm,1.0s							
WB2	**Warramunga Arr**	**19.78**	**213**	*e*P		**P**	**12 24 27.4**	**-0.7**
WRA	**Warramunga Arr**	**19.78**	**213**	P		**P**	**12 24 27.2**	**-1.0**
	2.5nm,0.3s,baz=38,slow=12,SNR=86							
DZM	**Mont Dzumac**	**27.24**	**134**	P		**P**	**12 25 41.1**	**-0.1**
	7.4nm,0.8s,mb4.2,baz=3.5,slow=15,SNR=5.6							
DZM				LR		LR	12 35 15.4	
	comp=Z,435nm,19.4s,MS4.0,baz=21,slow=34							
STKA	**Stephens Creek**	**28.49**	**187**	*e*P		**P**	**12 25 56.2**	**+3.8**
	9.3nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**28.49**	**187**	P		**P**	**12 25 54.3**	**+1.9**
	12nm,0.9s,mb4.5,baz=344,slow=8.9,SNR=14							
STKA	**Stephens Creek**	**28.49**	**187**	P		**P**	**12 25 53.2**	**+0.8**
KSM	**Kuching**	**35.80**	**277**	P		**P**	**12 26 57.9**	**+1.2**
YHNB	**Yeheng**	**36.71**	**321**	*e*P		**P**	**12 27 04.5**	**+0.4**
NWAO	**Narrogin (SRO)**	**39.62**	**219**	*e*P		**P**	**12 27 27.4**	**-1.0**
	55nm,1.4s,mb5.1							
MJAR	**Matsushiro Arr**	**40.47**	**351**	P		**P**	**12 27 34.5**	**-0.9**
	3.3nm,0.9s,mb4.0,baz=172,slow=8.6,SNR=3.8							
MJAR				LR		LR	12 41 02.1	
	comp=Z,202nm,19.9s,MS4.0,baz=195,slow=31							
KS15	**Wonju Array Si**	**44.01**	**339**	*e*P		**P**	**12 28 07.8**	**+3.3**
KMI	**Kunming**	**50.54**	**307**	P		**P**	**12 28 56.0**	**+0.2**
KMI				AP		pP	12 29 09.2	+13
KMI				PP		PP	12 30 55.3	+2.8
KMI				SCS		ScS	12 38 42.9	-2.0
KMI				AMB		AMB		
	comp=Z,110nm,4.8s							
KMI				LR		LR		
	comp=N,190nm,22.6s,MS4.2							
KMI				LR		LR		
	comp=E,160nm,20.5s,MS4.2							
KMI				LR		LR		
	comp=Z,190nm,21.6s,MS4.1							
CD2	**Chengdu**	**52.69**	**314**	*e*P		**P**	**12 29 12.4**	**+0.4**
HHC	**Hu-ho-hao-te**	**54.09**	**328**	*e*P		**P**	**12 29 27.0**	**+4.8**
HHC				AP		pP	12 29 31.4	+8.7
HHC				XP		sP	12 29 35.6	+13
HHC				PCP		PcP	12 30 32.8	+5.8
HHC				PP		PP	12 31 29.9	+4.6
HHC				PCS			12 34 24.8	
HHC				S		**S**	**12 36 58.2**	**+0.3**
HHC				XS			12 37 06.5	
HHC				SCS		ScS	12 39 12.6	+3.3
HHC				SS		SS	12 40 38.8	0.0
HHC				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
HHC				AMB		AMB		
	comp=Z,210nm,5.5s							
HHC				LR		LR		
	comp=N,210nm,13.1s,MS4.5							
HHC				LR		LR		
	comp=E,220nm,13.1s,MS4.5							
HHC				LR		LR		
	comp=Z,260nm,13.1s,MS4.5							
FX1	**Attu Island--F**	**60.74**	**19**	LR		LR	12 56 39.0	
	comp=Z,30nm,18.8s,MS3.5,baz=63,slow=36							
ULN	**Ulaanbaatar**	**61.36**	**331**	*e*P		**P**	**12 30 12.0**	**-1.3**
	comp=Z,12nm,1.3s,mb4.9							
SONM	**Songino Array**	**61.65**	**331**	P		**P**	**12 30 14.8**	**-0.5**
	comp=Z,1.8nm,0.9s,mb4.2,baz=146,slow=5.8,SNR=5.7							
SONM				LR		LR	12 55 44.2	
	comp=Z,232nm,18.3s,MS4.4,baz=148,slow=35							
LSA	**Lhasa**	**61.79**	**306**	*e*P		**P**	**12 30 17.6**	**+1.1**
	comp=Z,1.4nm,0.4s,mb4.4							
PPT	**Papeete**	**64.78**	**108**	LR		LR	12 52 37.5	
	comp=Z,118nm,20.0s,MS4.1,baz=259,slow=30							
JIRN	**Jiri**	**65.17**	**303**	*e*P		**P**	**12 30 37.4**	**-1.4**
GUN	**Gumba**	**65.51**	**303**	*e*P		**P**	**12 30 41.9**	**+0.9**
	comp=Z,16nm,0.8s,mb5.1							
PKI	**Pulchoki**	**65.80**	**302**	*e*P		**P**	**12 30 40.2**	**-2.6**
KKN	**Kakani**	**65.97**	**302**	*e*P		**P**	**12 30 43.1**	**-0.9**
	comp=Z,20nm,0.9s,mb5.2							
DMN	**Daman**	**66.06**	**302**	*e*P		**P**	**12 30 42.2**	**-2.4**
GKN	**Gorkha**	**66.58**	**302**	*e*P		**P**	**12 30 49.7**	**+1.9**
	comp=Z,18nm,0.8s,mb5.1							
KOLN	**Koldanda**	**67.39**	**302**	*e*P		**P**	**12 30 53.2**	**+0.2**
	comp=Z,8.9nm,0.7s,mb4.9							
MKAR	**Makanchi Array**	**74.82**	**320**	P		**P**	**12 31 39.1**	**+1.7**
	comp=Z,2.7nm,0.9s,mb4.2,baz=102,slow=7.8,SNR=7.0							
MKAR				LR		LR	13 02 35.0	
	comp=Z,82nm,21.7s,MS4.0,baz=265,slow=34							
ZAL	**Zalesovo**	**76.28**	**328**	P		**P**	**12 31 44.6**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=358,slow=7.6,SNR=7.7							
ZAL				LR		LR	13 04 32.4	
	comp=Z,220nm,19.7s,MS4.5,baz=336,slow=35							
KURK	**Kurchatov**	**78.50**	**323**	*e*P		**P**	**12 31 58.4**	**+0.5**
	comp=Z,7.0nm,1.2s,mb4.5							
ILAR	**Eielson Array**	**83.69**	**23**	P		**P**	**12 32 24.9**	**-0.1**
	comp=Z,1.2nm,0.9s,mb4.0,baz=253,slow=5.0,SNR=9.9							
BVAR	**Borovoye Array**	**84.06**	**324**	P		**P**	**12 32 27.8**	**+0.8**
	comp=Z,1.7nm,0.8s,mb4.3,baz=104,slow=6.1,SNR=7.6							
BRVK	**Borovoye**	**84.13**	**324**	P		**P**	**12 32 27.2**	**-0.2**
	comp=Z,2.5nm,0.9s,mb4.3							
NVAR	**Mina Array Bea**	**96.80**	**52**	LR		LR	13 07 41.9	
	comp=Z,149nm,20.1s,MS4.5,baz=255,slow=30							
YKA	**Yellowknife Ar**	**97.54**	**28**	LR		LR	13 16 12.3	
	comp=Z,88nm,19.8s,MS4.2,baz=245,slow=35							
SANT	**Santorini**	**116.28**	**309**	*e*PKPdf		PKPdf	12 38 40.4	-0.9
TORD	**Toroidal Ar. Bea**	**143.25**	**287**	PKP		PKPdf	12 39 30.6	-1.9
	comp=Z,1.3nm,0.9s,baz=92,slow=2.5,SNR=3.9							
SIV	**San Ignacio**	**147.12**	**127**	PKPbc		PKPdf	12 39 38.9	-0.2
	comp=Z,2.2nm,0.7s,baz=234,slow=3.9,SNR=12							

*CSEM **03** 12:21:00.6±0.2,67.57N×34.95E,h2km,ML2.2,Error ellipse: s-maj=5.4km s-min=2.5km az=95.0,Mining explosion.*
*NAO **03** 12:21:05.9±2.3,67.71N×33.81E,ML2.2*
*HEL **03** 12:21:06.4±0.2,67.69N×33.82E,ML2.5,ML2.2(NAO), Explosion*
*IDC **03** 12:21:07.1±2.7,67.77N×33.73E,mb1 3.5/4, mb1mx3.2/22,mbtmp3.5/4,ML3.1/4,Error ellipse: s-maj=28.2km s-min=10.3km az=73.0*
ISC 03 12:21:03.6±1.4,**67.64N**±0.04×**33.9E**±0.2,**n26**,σ1**960**/43, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APA0	**Apatity Array**	**0.33**	**265**	*i*P		**Pg**	**12 21 12.2**	**+1.9**
APA0				*i*S			12 21 16.8	
APA0				*e*RG			12 21 18.2	
APA0	**Apatity Array**	**0.33**	**265**	Pg		**Pg**	**12 21 12.2**	**+1.9**
	baz=93,slow=16							
APA0				Lg			12 21 16.8	
	baz=98,slow=37							
APA0				Rg			12 21 18.2	
	baz=83,slow=37							
APA0	**Apatity Array**	**0.33**	**265**	P		**Pg**	**12 21 12.1**	**+1.9**
KU4	**Liikasenvaara**	**2.11**	**235**	*e*PB		**Pb**	**12 21 43.6**	**+1.1**
KU4				*e*SB		**Sb**	**12 22 11.2**	**+1.9**
SGF	**Sodankyl**	**2.82**	**269**	*e*PG		**Pg**	**12 21 56.2**	**-3.7**
SGF				*e*SB		**Sb**	**12 22 30.3**	**+0.4**
SGF				MSG			12 22 33.6	
	comp=Z,17nm,0.2s							
KEV	**Kevo**	**3.28**	**314**	*e*P		**Pn**	**12 21 59.0**	**+1.7**
KEV				*e*S		**Sn**	**12 22 37.2**	**-0.5**
KEV				MSG			12 22 47.5	
	comp=Z,16nm,0.3s							
KEV	**Kevo**	**3.28**	**314**	P		**Pn**	**12 21 58.9**	**+1.6**
ARA0	**ARCESS Array S**	**3.60**	**306**	*e*P		**Pn**	**12 22 02.7**	**+0.8**
ARA0				*e*PG		**Pg**	**12 22 10.8**	**-4.8**
ARA0				*e*S		**Sn**	**12 22 44.3**	**-1.5**
ARA0				*e*SG			12 22 55.3	
ARA0	**ARCESS Array S**	**3.60**	**306**	Pn		**Pn**	**12 22 02.7**	**+0.8**
	baz=122,slow=14							
ARA0				Pg		**Pg**	**12 22 10.8**	**-4.8**
	baz=123,slow=16							
ARA0				Sn		**Sn**	**12 22 44.3**	**-1.5**
	baz=124,slow=28							
ARA0				Lg			12 22 55.3	
	baz=126,slow=37							
ARA0	**ARCESS Array S**	**3.60**	**306**	P		**Pn**	**12 22 02.6**	**+0.7**
ARA0	**ARCESS Array S**	**3.60**	**306**	Pg		**Pg**	**12 22 10.7**	**-4.9**
ARA0				Sn		**Sn**	**12 22 44.3**	**-1.5**
	SNR=8.4							
ARCES	**ARCESS Array B**	**3.60**	**306**	Pn		**Pn**	**12 22 02.5**	**+0.6**
	comp=Z,6.1nm,0.3s,baz=120,slow=14,SNR=351							
ARCES				Sn		**Sn**	**12 22 45.0**	**-0.8**
	comp=Z,2.4nm,0.3s,baz=125,slow=25,SNR=6.3							
ARCES				Lg			12 22 54.9	
	comp=Z,5.0nm,0.3s,baz=126,slow=35,SNR=8.6							
OUL	**Oulu**	**4.10**	**235**	*e*P		**Pn**	**12 22 10.4**	**+1.4**
OUL				*e*SG		**Sn**	**12 23 12.9**	**+15**
SUF	**Sumiainen**	**5.91**	**217**	*e*P		**Pn**	**12 22 35.8**	**+1.3**
SUF				*e*S		**Sn**	**12 23 41.5**	**-2.3**
SUF	**Sumiainen**	**5.91**	**217**	P		**Pn**	**12 22 35.7**	**+1.2**
KEF	**Keuruu**	**6.68**	**219**	*e*P		**Pn**	**12 22 45.7**	**+0.2**
KEF	**Keuruu**	**6.68**	**219**	P		**Pn**	**12 22 45.6**	**+0.1**
FIA0	**FINESS Array S**	**7.06**	**212**	Pn		**Pn**	**12 22 49.9**	**-0.8**
	baz=28,slow=16							
FIA0				Sn		**Sn**	**12 24 09.1**	**-3.6**
	baz=32,slow=22							
FIA0				Lg			12 24 41.7	
	baz=20,slow=28							
FIA0	**FINESS Array S**	**7.06**	**212**	*e*P		**Pn**	**12 22 49.9**	**-0.8**
FIA0				*e*S		**Sn**	**12 24 09.1**	**-3.6**
FIA0				*e*SG			12 24 41.7	
FINES	**FINESS Array B**	**7.06**	**212**	Pn		**Pn**	**12 22 49.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=6.8							
FINES				Sn		**Sn**	**12 24 10.6**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=38,slow=23,SNR=4.3							
FINES				Lg			12 24 41.8	
	comp=Z,0.6nm,0.3s,baz=27,slow=27,SNR=4.2							
HFS	**Hagfors**	**11.58**	**239**	Pn		**P**	**12 23 49.7**	**-3.3**
	baz=21,slow=14							
HFS				Sn		**S**	**12 25 54.7**	**-10**
	baz=41,slow=28							
HFS	**Hagfors**	**11.58**	**239**	Pn		**P**	**12 23 49.2**	**-3.9**
	comp=Z,0.0nm,0.3s,baz=39,slow=13,SNR=6.2							
HFS				Sn		**S**	**12 25 54.8**	**-10**
	comp=Z,0.0nm,0.3s,baz=61,slow=19,SNR=4.1							
HFS	**Hagfors**	**11.58**	**239**	*e*P		**P**	**12 23 49.7**	**-3.3**
HFS				*e*S		**S**	**12 25 54.7**	**-10**
SPA0	**Spitsbergen Ar**	**11.68**	**342**	Pn		**P**	**12 23 48.3**	**-6.0**
	baz=130,slow=14							
SPA0	**Spitsbergen Ar**	**11.68**	**342**	*e*P		**P**	**12 23 48.3**	**-6.0**
NOA	**NORSAR Array B**	**11.77**	**247**	Pn		**P**	**12 23 52.1**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=314,slow=2.6,SNR=2.5							

*CSEM **03** 12:24:18.7±0.5,67.67N×34.16E,h2km,ML2.9,Error ellipse: s-maj=12.3km s-min=4.8km az=101.0,Mining explosion.*
*NAO **03** 12:24:20.9±1.9,67.65N×33.99E,ML2.9*
*IDC **03** 12:24:23.1±2.2,67.71N×33.81E,mb1 3.6/5, mb1mx3.3/23,mbtmp3.5/5,ML3.5/5,Error ellipse: s-maj=24.4km s-min=9.8km az=70.0*
HEL 03 12:24:21.0±0.4,**67.65N**×**33.99E**,**ML2.8**,**ML2.5**(BER), **ML2.9**(NAO),**Explosion**,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APA0	**Apatity Array**	**0.38**	**264**	*i*P		Pg	12 24 28.3	-0.4
APA0				*i*S			12 24 33.0	
APA0				*e*RG			12 24 34.2	
APA0	**Apatity Array**	**0.38**	**264**	Pg		Pg	12 24 28.3	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=100,slow=16						
APA0				Lg		12 24 33.0	
	baz=85,slow=37						
APA0				Rg		12 24 34.2	
	baz=86,slow=37						
KU4	Liikasenvaara	2.16	235	ePB	Pb	12 24 58.9	-1.8
KU4				eSG	Sg	12 25 27.3	-5.6
SGF	Sodankyl	2.87	269	eP	Pn	12 25 07.8	-1.1
SGF				eSB	Sb	12 25 47.8	-1.1
SGF				MSG		12 25 48.8	
	comp=Z,30nm,0.2s						
SGF	Sodankyl	2.87	269	P	Pn	12 25 07.7	-1.2
KEV	Kevo	3.31	313	eP	Pn	12 25 14.9	-0.2
KEV				eS	Sn	12 25 53.3	-2.4
KEV				MSG		12 26 03.9	
	comp=Z,38nm,0.3s						
KEV	Kevo	3.31	313	P	Pn	12 25 14.9	-0.2
KEV				S	Sn	12 25 53.3	-2.5
	comp=Z,38nm,0.3s						
ARA0	ARCESS Array S	3.64	305	eP	Pn	12 25 18.8	-1.0
ARA0				ePG	Pg	12 25 26.9	-6.8
ARA0				eS	Sn	12 26 00.0	-4.1
ARA0				eSG		12 26 11.8	
ARA0	ARCESS Array S	3.64	305	Pn	Pn	12 25 18.8	-1.0
	baz=126,slow=16						
ARA0				Pg	Pg	12 25 26.9	-6.8
	baz=121,slow=16						
ARA0				Sn	Sn	12 26 00.0	-4.1
	baz=118,slow=28						
ARA0				Lg		12 26 11.8	
	baz=117,slow=37						
ARA0	ARCESS Array S	3.64	305	P	Pn	12 25 18.8	-1.0
ARA0				S	Sn	12 26 00.0	-4.1
ARA0				Sg		12 26 11.7	
ARCES	ARCESS Array B	3.64	305	Pn	Pn	12 25 18.8	-1.0
	comp=Z,13nm,0.3s,baz=122,slow=15,SNR=93						
ARCES				Pg	Pg	12 25 26.9	-6.7
	comp=Z,5.8nm,0.3s,baz=118,slow=16,SNR=15						
ARCES				Sn	Sn	12 26 01.3	-2.8
	comp=Z,8.0nm,0.3s,baz=119,slow=26,SNR=13						
ARCES				Lg		12 26 12.3	
	comp=Z,14nm,0.3s,baz=115,slow=35,SNR=12						
OUL	Oulu	4.15	235	eP	Pn	12 25 25.8	-1.3
OUL				eSG	Sn	12 26 28.0	+11
OUL				MSG		12 26 32.9	
	comp=Z,15nm,0.2s						
OUL	Oulu	4.15	235	P	Pn	12 25 25.7	-1.4
OUL				Sg	Sn	12 26 27.9	+11
	comp=Z,15nm,0.2s						
KTK1	Kautokeino	4.21	294	eP	Pn	12 25 26.5	-1.5
KTK1				eS	Sn	12 26 14.8	-3.8
KTK1				AML	AML	12 26 35.4	
	comp=Z,30nm,0.1s						
KTK1	Kautokeino	4.21	294	P	Pn	12 25 26.4	-1.6
KTK1				S	Sn	12 26 14.8	-3.8
	comp=Z,30nm,0.1s						
KIF	Kilpisjarvi	5.07	292	eP	Pn	12 25 37.6	-2.5
KIF				eS	Sn	12 26 34.2	-6.1
FIA0	FINESS Array S	7.10	212	Pn	Pn	12 26 05.6	-3.1
	baz=29,slow=14						
FIA0				Sn	Sn	12 27 22.6	-8.4
	baz=40,slow=22						
FIA0				Lg		12 27 57.7	
	baz=33,slow=28						
FIA0	FINESS Array S	7.10	212	eP	Pn	12 26 05.6	-3.1
FIA0				eS	Sn	12 27 22.6	-8.4
FIA0				eSG		12 27 57.7	
FIA0	FINESS Array S	7.10	212	P	Pn	12 26 05.5	-3.2
FINES	FINESS Array B	7.10	212	Pn	Pn	12 26 05.5	-3.2
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=6.2						
FINES				Lg		12 27 57.5	
	comp=Z,1.6nm,0.3s,baz=30,slow=26,SNR=7.4						
LOF	Lofoten	7.72	283	eP	Pn	12 26 13.0	-4.4
LOF				AML	AML	12 27 41.8	
	comp=Z,4.8nm,0.7s						
MOR8	Moi Rana	7.82	268	eP	Pn	12 26 11.2	-7.6
MOR8				AML	AML	12 27 42.9	
	comp=Z,4.2nm,0.3s						
HFS	Hagfors	11.64	239	Pn	P	12 27 05.8	-5.4
	comp=Z,0.1nm,0.3s,baz=42,slow=12,SNR=9.8						
HFS				Sn	S	12 29 10.7	-12
	comp=Z,0.0nm,0.3s,baz=55,slow=23,SNR=3.0						
HFS	Hagfors	11.64	239	eP	P	12 27 05.2	-5.9
HFS				eSG		12 30 17.6	
HFS	Hagfors	11.64	239	P	P	12 27 05.2	-5.9
	baz=49,slow=11						
HFS				Lg		12 30 17.6	
	baz=60,slow=37						
HFS	Hagfors	11.64	239	Pn	P	12 27 05.2	-6.0
	SNR=4.1						
SPA0	Spitsbergen Ar	11.68	342	Pn	P	12 27 03.6	-8.2
	baz=134,slow=16						
SPA0	Spitsbergen Ar	11.68	342	eP	P	12 27 03.6	-8.2
NB2	NORSAR Subarra	11.82	247	Pn	P	12 27 08.2	-5.6
	baz=44,slow=14						
NB2	NORSAR Subarra	11.82	247	eP	P	12 27 08.2	-5.6
NB2	NORSAR Subarra	11.82	247	Pn	P	12 27 08.1	-5.6
	SNR=7.5						
NOA	NORSAR Array B	11.82	247	Pn	P	12 27 08.0	-5.8
	comp=Z,0.3nm,0.3s,baz=45,slow=11,SNR=2.3						
AKASG	Malin Array Be	17.17	190	Pn	P	12 28 16.2	-7.2
	comp=Z,0.5nm,0.3s,baz=5.9,slow=12,SNR=2.0						

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*MOS **03** 12:51:48.2±0.8, 4.23N×126.02E, h149^{km}, mb5.0/14, Error ellipse: s-maj=15.9km s-min=7.9km az=114.0*
*NEIC **03** 12:51:49.7±0.2, 4.27N×126.08E, mb4.7/16, Error ellipse: s-maj=7.8km s-min=5.2km az=69.0*
*IDC **03** 12:51:50.2±0.7, 4.22N×125.97E, h149^{km}±5^{km}, mb4.0/19, mb1 4.1/19, mb1mx4.1/22, mbtmp4.5/19, MS3.2/1, Ms1 3.2/1, ms1mx2.4/21, Error ellipse: s-maj=19.2km s-min=11.1km az=61.0*
*MAN **03** 12:51:53.4, 4.57N×125.71E, h16^{km}, mb5.2, ML4.2, MS4.4*
*BJI **03** 12:51:56.1, 5.11N×125.63E, h149^{km}, mB5.6, mb4.7*
ISC 03 12:51:48.2±0.3, **4.20N**±0.03×**126.08E**±0.05, **h149**^{km}, **h149**^{km}±2.1^{km}**:pP-P, n105,** σ**0**^{s}**92**/106, **mb4.5**/46, **2C-9D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	2.73	4	eP	P	12 52 33.0	+0.1
DAV	Davao City (W)	2.90	350	iP	P	12 52 38.0	+3.1
DAV	Davao City (W)	2.90	350	ePn	P	12 52 35.2	+0.3
DAV				eSn	S	12 53 11.4	+0.9
KCP	Kidapawan	2.96	341⇓	eP	P	12 52 36.0	+0.3
KCP				iS	S	12 53 12.2	+0.2
BUKP	Musuan	3.79	345	eP	P	12 52 46.5	-0.1
CGP	Cagayan de Oro	4.45	342⇓	eP	P	12 52 56.4	+1.2
CGP				eS	S	12 53 42.7	-4.0
PAGZ	Pagadian	4.51	324	eP	P	12 52 55.1	-0.9
BUTP	Butuan	4.76	355	eP	P	12 53 00.3	+1.0
IPIL	Ipil	4.99	316	eP	P	12 53 01.4	-0.9
DCPH	Dipolog City	5.13	328	eP	P	12 53 05.0	+0.8
SCPH	Surigao	5.58	354⇓	eP	P	12 53 11.5	+1.4
SNPH	Sibulan	5.84	331	eP	P	12 53 16.0	+2.4
MSLP	Maasin	6.02	348	eP	P	12 53 16.1	+0.1
TSM	Tawau	8.19	271	P	P	12 53 46.9	+1.8
KKM	Kota Kinabalu	10.00	281	ePn	P	12 54 10.9	+1.8
KSM	Kuching	15.98	261	eP	P	12 55 27.1	+1.0
KAKA	Kakadu	17.95	159	eP	Px	12 56 09.4	
	22nm,0.6s						
YHNB	Yeheng	20.85	348	eP	P	12 56 16.4	-3.3
JOW	Kunigami	22.60	5	P	P	12 56 41.0	+4.0
	16nm,0.8s,mb4.5,baz=291,slow=13,SNR=2.7						
KGM	Kluang	22.83	265	P	P	12 56 41.2	+1.8
PMG	Port Moresby	24.98	123	P	P	12 57 01.1	+1.3
	16nm,0.7s,mb4.7,baz=334,slow=4.0,SNR=12						
PMG	Port Moresby	24.98	123d	iP	P	12 57 00.9	+1.1
PMG	Port Moresby	24.98	123	P	P	12 57 00.7	+0.9
	51nm,1.3s,mb4.9						
IPM	Ipoh	24.99	272	P	P	12 57 00.3	+0.4
WRAB	Tennant Creek	25.32	162⇑	iP	P	12 57 03.2	+0.2
WRAB	Tennant Creek	25.32	162	eP	P	12 57 02.8	-0.2
	36nm,0.6s,mb5.1						
WRA	Warramunga Arr	25.33	162	P	P	12 57 02.9	-0.1
	17nm,0.3s,mb5.0,baz=339,slow=10,SNR=122						
WRA				ScP		13 03 59.2	
	2.6nm,0.9s,baz=341,slow=3.2,SNR=9.7						
WRA	Warramunga Arr	25.33	162	iP	P	12 57 02.9	-0.1
WRA				pmax	pmax		
	comp=Z,17nm,0.3s						
WB2	Warramunga Arr	25.33	162⇓	iP	P	12 57 02.8	-0.3
WB2				eS	S	13 01 27.6	+12
KULM	Kulim	25.37	273	eP	P	12 57 02.3	-1.2
PSI	Prapat	27.14	268	P	P	12 57 19.8	0.0
	comp=Z,4.9nm,0.8s,mb4.2,baz=339,slow=0.5,SNR=4.1						
PSI				LR	LR	13 08 18.2	
	comp=Z,49nm,21.2s,baz=279,slow=36						
PSI	Prapat	27.14	268	P	P	12 57 19.8	0.0
PSI				LR	LR	13 08 18.2	
SSE	Sheshan	27.15	351	P	P	12 57 18.8	-0.9
SSE				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
NJ2	Nanjing	28.52	347	eP	P	12 57 31.0	-1.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CTAO	Charters Tower	31.23	141	eP	P	12 57 55.7	-0.4
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
CTAO	Charters Tower	31.23	141	eP	P	12 57 55.7	-0.4
	comp=Z,10nm,0.9s,mb4.5						
MJAR	Matsushiro Arr	34.06	18	P	P	12 58 19.6	-0.7
	comp=Z,4.9nm,0.9s,mb4.2,baz=198,slow=8.0,SNR=7.9						
FORT	Forrest	34.83	177	eP	P	12 58 27.2	+0.3
	comp=Z,38nm,1.0s,mb5.0						
KLBR	Kellerberrin	36.47	192	eP	P	12 58 40.5	-0.1
	comp=Z,18nm,0.5s,mb5.0						
MUN	Mundaring	37.18	194	eP	P	12 58 46.7	0.0
NWAO	Narrogin (SRO)	37.86	192	eP	P	12 58 52.6	+0.2
NWAO				pmax	pmax		
	comp=Z,12nm,0.6s						
NWAO	Narrogin (SRO)	37.86	192	eP	P	12 58 52.6	+0.2
	comp=Z,12nm,0.6s,mb4.7						
STKA	Stephens Creek	38.80	159⇓	iP	P	12 59 01.1	+1.0
	comp=Z,11nm,0.9s,mb4.5						
STKA				e		12 59 13.5	
STKA	Stephens Creek	38.80	159	P	P	12 59 01.1	+1.0
	comp=Z,13nm,0.7s,mb4.6,baz=336,slow=7.4,SNR=19						
LSA	Lhasa	41.65	311	P	P	12 59 24.1	+0.4
LSA	Lhasa	41.65	311	eP	P	12 59 23.8	+0.1
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
LSA	Lhasa	41.65	311	eP	P	12 59 23.8	+0.1
	comp=Z,7.8nm,0.6s,mb4.5						
ASAJ	Asahikawa	42.34	18	P	P	12 59 30.5	+1.4
	comp=Z,8.5nm,0.7s,mb4.5,baz=197,slow=7.9,SNR=5.0						
JIRN	Jiri	44.57	306	eP	P	12 59 47.2	-0.1
	comp=Z,13nm,0.4s,mb4.9						
GUN	Gumba	44.93	306	eP	P	12 59 49.0	-1.1
	comp=Z,33nm,0.4s,mb5.3						
YSS	Yuzh-Sakhalins	44.97	16	eP	P	12 59 51.0	+0.8
KKN	Kakani	45.36	306	eP	P	12 59 53.0	-0.6
	comp=Z,8.6nm,0.4s,mb4.7						
DMN	Daman	45.43	305	eP	P	12 59 54.0	-0.2
GKN	Gorkha	45.97	306	eP	P	12 59 57.8	-0.6
ULN	Ulaanbaatar	46.48	342⇓	iP	P	13 00 02.7	+0.6
ULN	Ulaanbaatar	46.48	342	P	P	12 59 59.3	-2.8
	comp=Z,2.0nm,0.6s,mb3.9						
SONM	Songino Array	46.65	342	P	P	13 00 03.1	-0.3
	comp=Z,0.5nm,0.4s,mb3.5,baz=160,slow=8.3,SNR=5.2						
SONM				PcP	PcP	13 01 35.9	+0.7
	comp=Z,0.5nm,0.5s,baz=159,slow=4.1,SNR=4.9						
KOLN	Koldanda	46.73	305	eP	P	13 00 03.7	-0.6
	comp=Z,51nm,0.5s,mb5.4						
MKAR	Makanchi Array	56.80	325	P	P	13 01 18.1	-1.1
	comp=Z,2.9nm,0.4s,mb4.4,baz=119,slow=7.1,SNR=46						
MKAR				pP	pP	13 01 53.7	-0.4
	comp=Z,3.1nm,0.6s,baz=122,slow=8.3,SNR=4.8						
MKAR				ScP		13 05 59.3	
	comp=Z,1.0nm,0.6s,baz=113,slow=5.2,SNR=8.1						
YAK	Yakutsk	57.76	2	eP	P	13 01 24.4	-1.3
YAK				e	pP	13 01 57.3	-3.4
YAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
YAK	Yakutsk	57.76	2	eP	P	13 01 24.4	-1.3
	comp=Z,16nm,0.8s,mb4.9						
YAK				e	pP	13 01 57.3	-3.4
KZA	Kyzart	58.83	318	P	P	13 01 34.0	+0.5
	SNR=6.5						
TKM2	Tokmak 2	58.97	319	P	P	13 01 34.8	+0.4
	SNR=7.0						
TKM2	Tokmak 2	58.97	319	P	P	13 01 34.1	-0.4
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
UCH	Uchtor	59.39	317	P	P	13 01 38.0	+0.6
	SNR=16						
AAK	Ala-Archa	59.58	318⇓	iP	P	13 01 36.0	-2.6
AAK				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.2						
AAK	Ala-Archa	59.58	318	eP	P	13 01 37.2	-1.4
	comp=Z,2.1nm,0.8s,mb4.0						
USP	Ospenovka	59.84	319	P	P	13 01 40.2	-0.2
	SNR=8.4						
ZAL	Zalesovo	59.88	333	P	P	13 01 39.9	-0.6
	comp=Z,1.1nm,0.4s,mb4.1,baz=2.0,slow=3.9,SNR=4.5						
ZAL				pP	pP	13 02 13.2	-2.6
	comp=Z,1.0nm,0.7s,baz=28,slow=6.5,SNR=3.6						
EKS2	Erkin-Say	60.07	318	P	P	13 01 42.3	+0.3
	SNR=11						
KURK	Kurchatov	61.00	328⇑	iP	P	13 01 48.1	-0.1
KURK				i*PP	pP	13 02 21.7	-1.8
KURK	Kurchatov	61.00	328	eP	P	13 01 46.8	-1.4
	comp=Z,13nm,0.8s,mb4.8						
KURK				e	pP	13 02 21.2	-2.3
SEY	Seymchan	61.73	13	iP	P	13 01 52.8	-0.1
KKAR	Karatay Array	62.45	317	iP	P	13 01 57.4	-0.6
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
VOSK	Vostochnaya	66.12	327	P	P	13 02 19.7	-1.9
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
BVA0	Borovoye Array	66.58	327	iP	P	13 02 23.7	-0.8
BVA0				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
BVAR	Borovoye Array	66.58	327	P	P	13 02 24.3	-0.2
	comp=Z,4.8nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=36						
BVAR				pP	pP	13 02 59.4	-0.9
	comp=Z,4.0nm,0.8s,baz=127,slow=7.2,SNR=4.9						
BRVK	Borovoye	66.65	327	eP	P	13 02 24.5	-0.5
BRVK				e*PP	pP	13 03 00.1	-0.7
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
BRVK	Borovoye	66.65	327	eP	P	13 02 24.4	-0.5
	comp=Z,5.7nm,0.8s,mb4.5						
BRVK				epP	pP	13 03 00.1	-0.7
AB31	Akbulak array	71.38	321	iP	P	13 02 52.5	-1.4
AB31				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.9						
AKTK	Aktyubinsk	72.89	322	P	P	13 03 02.0	-0.8
AKTK				pP	pP	13 03 39.7	+0.4
AKTO	Aktyubinsk	72.89	322	P	P	13 03 02.0	-0.8
	comp=Z,4.9nm,0.7s,mb4.3,baz=103,slow=5.2,SNR=21						
AKTO				pP	pP	13 03 39.7	+0.4
	comp=Z,3.7nm,0.8s,baz=96,slow=7.9,SNR=4.2						
SVE	Sverdlovsk	73.22	329	eP	P	13 03 05.2	+0.6
SVE				e		13 03 53.5	
ARU	Arti	74.20	328	eP	P	13 03 08.8	-1.4
ARU				e*PP	pP	13 03 45.8	-1.1
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
ARU	Arti	74.20	328	eP	P	13 03 08.8	-1.5
	comp=Z,4.2nm,0.6s,mb4.3						
ARU				epP	pP	13 03 45.8	-1.1
IMA2	Indian Mountai	82.22	24	eP	P	13 03 55.2	+1.4
KIV	Kislovodsk	82.35	314	iP	P	13 03 55.5	+0.6
SLKM	Skilak Lake	83.26	30	eP	P	13 03 59.2	0.0
MCK	McKinley	84.03	26	eP	P	13 04 02.4	-0.5
MCK				e*PP	pP	13 04 40.6	+0.2
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
MCK	McKinley	84.03	26	eP	P	13 04 02.4	-0.5
	comp=Z,3.5nm,0.8s,mb4.1						
MCK				epP	pP	13 04 40.6	+0.2
ILAR	Eielson Array	84.96	25	P	P	13 04 08.1	+0.5
	comp=Z,1.2nm,0.9s,mb3.6,baz=261,slow=5.0,SNR=18						
ILAR				pP	pP	13 04 47.1	+2.0
	comp=Z,0.8nm,0.8s,baz=242,slow=5.0,SNR=2.9						
OBN	Obninsk	86.31	325⇓	iP	P	13 04 15.2	+0.8
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
JOF	Joensuu	88.47	333	ep	P	13 04 24.0	-0.5
	comp=Z,2.5nm,0.5s,mb4.3						
KMBO	Kilima Mbogo	88.91	269	P	P	13 04 28.7	+0.9
	comp=Z,0.8nm,0.4s,mb4.0,baz=31,slow=7.5,SNR=4.4						
KMBO	Kilima Mbogo	88.91	269	iP	P	13 04 29.0	+1.2
KMBO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KMBO	Kilima Mbogo	88.91	269	P	P	13 04 28.7	+0.9
BRTR	Keskin Array B	89.23	310	P	P	13 04 27.9	-0.8
	comp=Z,0.9nm,0.5s,mb4.0,baz=102,slow=5.8,SNR=6.3						
ARCES	ARCESS Array B	89.79	340	P	P	13 04 30.4	-0.2
	comp=Z,3.3nm,0.9s,mb4.3,baz=84,slow=5.7,SNR=16						
INK	Inuvik	89.97	21	P	P	13 04 32.6	+1.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=236,slow=4.8,SNR=9.8						
FINES	FINESS Array B	91.12	332	P	P	13 04 36.9	-0.1
	comp=Z,0.9nm,0.6s,mb4.0,baz=72,slow=6.0,SNR=9.0						
FINES	FINESS Array B	91.12	332	iP	P	13 04 37.2	+0.2
FINES				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AKASG	Malin Array Be	91.12	321	P	P	13 04 36.5	-0.8
	comp=Z,0.2nm,0.3s,mb3.6,baz=72,slow=4.7,SNR=4.3						
DLBC	Dease Lake	93.67	31	P	P	13 04 49.6	+0.8
	comp=Z,1.7nm,0.9s,mb4.2,baz=208,slow=18,SNR=3.2						
TXAR	Lajitas Array	121.82	52	PKP	PKPdf	13 10 29.0	+3.7
	comp=Z,0.3nm,0.7s,baz=225,slow=1.3,SNR=3.1						
TORD	Torodi Ar. Bea	122.16	288	PKP	PKPdf	13 10 28.9	+2.7
	comp=Z,0.8nm,0.6s,baz=69,slow=2.1,SNR=4.7						

MAN 03 13:05:59.9, 12.74N×123.20E, h11^{km}, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	San Andres	0.78	319	eP	Pb	13 06 14.8	-0.2
AUQP				eS	Sb	13 06 29.0	+3.7
OTRP	Odiongan	1.21	252	eP	Pb	13 06 22.0	-0.4
OTRP				eS	Sb	13 06 39.5	+1.6
RCP	Roxas	1.25	201	eP	Pb	13 06 21.9	-1.2
GQP	Guinayangan	1.38	328⇓	eP	Pn	13 06 24.0	-1.1
GQP				eS	Sb	13 06 42.3	-0.3
CNP	Catarman	1.44	99	eP	Pn	13 06 25.1	-1.0
CNP				eS	Sb	13 06 45.6	+1.0
BOAC	Boac	1.51	299	eP	Pn	13 06 26.0	-1.0
SJMP	San Jose	2.05	263	eP	Pn	13 06 35.3	+0.5
GUIM	Jordan	2.18	196	eP	Pn	13 06 38.4	+1.7

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*ROM **03** 13:24:42.1±0.3, 43.09N×11.01E, h9^{km}, Md2.1/9, Ml2.2/4, Error ellipse: s-maj=4.6km s-min=2.5km az=88.0*
*CSEM **03** 13:24:42.0±0.1, 43.09N×10.98E, h12^{km}, ML2.6/5, Error ellipse: s-maj=2.1km s-min=1.7km az=177.0*
*NEIC **03** 13:24:42.1, 43.09N×11.01E, h9^{km}, ML2.6(LDG), ML2.2(ROM), After ROM.*
*LDG **03** 13:24:43.7±0.5, 43.03N×10.99E, h10^{km}, Md2.3/1, Ml2.6/4, Error ellipse: s-maj=11.3km s-min=8.0km az=121.0*
ISC 03 13:24:41.5±0.4, **43.09N**±0.03×**10.91E**±0.04, **h10**^{km}**, n18,** σ**1**^{s}**01**/25, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSNT	Castellina Chi	0.47	36	Pg	Pg	13 24 51.8	+0.7
CSNT				Sg	Sg	13 24 57.8	+0.2
MAON	Monte Argentar	0.68	166	Pg	Pg	13 24 56.0	+0.8
MAON				Sg	Sg	13 25 05.3	+0.9
PII	Pisa	0.69	336	Pg	Pg	13 24 56.4	+1.0
	30nm,0.2s						
SACS	San Casciano d	0.78	108	Pg	Pg	13 24 56.3	-0.8
	75nm,0.8s						
CRE	Caprese Michel	0.93	55	Pg	Pg	13 24 59.9	-0.2
	627nm,2.7s						
VMG	Vicchio	0.99	28	Pg	Pg	13 25 02.1	+0.8
VMG				Sg	Sg	13 25 15.5	+1.0
	36nm,0.2s						
BADI	Badiali	1.06	66	Pg	Pg	13 25 01.6	-1.2
	439nm,2.7s						
MURB	Monte Urbino	1.20	81	Pg	Pg	13 25 04.2	-1.3
	101nm,0.2s						
FSSB	Fossombrone	1.49	66	Pg	Pg	13 25 08.5	-2.8
	9.0nm,0.3s						
PGF	Pioggiola	1.50	250	ePn	Pn	13 25 10.1	+1.4
PGF				eSn	Sn	13 25 28.8	+0.3
	13nm,0.3s						
SBF	Sospel	2.64	288	ePn	Pn	13 25 25.2	+0.2
SBF				eSn	Sn	13 25 56.8	-0.6
	3.2nm,0.3s						
FRF	La Foret Royal	3.14	280	ePn	Pn	13 25 31.9	-0.2
FRF				eSn	Sn	13 26 08.2	-1.9
	1.8nm,0.2s						
LMR	La Mourre	3.22	276	ePn	Pn	13 25 32.9	-0.4
LMR				eSn	Sn	13 26 10.8	-1.3
	3.0nm,0.2s						
MBDF	Montbardon	3.41	300	ePn	Pn	13 25 36.8	+0.9
LPG	La Plagne	3.83	310	ePn	Pn	13 25 42.4	+0.5
SMRF	Simiane la Rot	3.98	285	ePn	Pn	13 25 44.9	+0.9
ORIF	Oris-en-Rattie	4.06	298	eP	Pn	13 25 48.9	+3.7
LASF	Ste Croix	5.21	283	ePn	Pn	13 26 00.7	-0.8

IDC 03 13:42:32.2±6.7, **4.14S**×**151.55E, h76**^{km}±55^{km}**, mb3.2**/2, **mb1 3.4**/3, **mb1mx3.3**/12, **mbtmp3.6**/3, **ML2.9**/1, **Error ellipse: s-maj=91.7km s-min=38.1km az=109.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.81	220	P	P	13 44 08.1	-3.3
	1.4nm,0.3s,baz=37,slow=9.6,SNR=6.3						
PMG				S	S	13 45 34.5	+6.4
	1.1nm,0.3s,baz=158,slow=18,SNR=3.9						
WRA	Warramunga Arr	22.98	225	P	P	13 47 32.4	+1.3
	0.3nm,0.4s,baz=50,slow=9.9,SNR=15						
SONM	Songino Array	65.11	328	P	P	13 53 05.2	-2.0
	0.4nm,0.4s,baz=138,slow=5.6,SNR=6.4						
TORD	Torodi Ar. Bea	148.91	289	PKP	PKPdf	14 02 05.7	-2.5
	0.8nm,0.6s,baz=44,slow=1.3,SNR=5.8						

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*NEIC **03** 14:09:12.0±2.4, 7.33S×128.08E, h59^{km}±25^{km}, mb4.4/2, Error ellipse: s-maj=22.7km s-min=13.9km az=46.0*
*IDC **03** 14:09:15.1±10.0, 7.32S×128.26E, h90^{km}±105^{km}, mb3.6/5, mb1 3.8/7, mb1mx3.7/12, mbtmp4.0/7, ML4.0/2, Error ellipse: s-maj=56.0km s-min=35.9km az=69.0*
ISC 03 14:09:07.6±0.7, **7.2S**±0.1×**128.1E**±0.2, **h33**^{km}**, n17,** σ**0**^{s}**59**/17, **mb4.0**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.93	142	eP	Px	14 11 16.5	
	69nm,0.2s						
KAKA				eS	Sx	14 12 26.3	
WRAB	Tennant Creek	14.02	155	ePn	P	14 12 26.7	+0.5
	12nm,0.5s						
WRAB				eSn	S	14 14 49.7	-12
WRA	Warramunga Arr	14.03	155	P	P	14 12 26.5	+0.2
	2.1nm,0.3s,baz=341,slow=13,SNR=74						
WRA				S	S	14 14 51.9	-10
	2.9nm,0.3s,baz=332,slow=23,SNR=8.4						
WB2	Warramunga Arr	14.03	155	eP	P	14 12 26.5	+0.1
WB2				eS	S	14 14 50.1	-12
PMG	Port Moresby	18.96	98	P	P	14 13 28.5	-0.4
	0.3nm,0.3s,baz=278,slow=7.1,SNR=4.1						
KSM	Kuching	19.75	295	eP	P	14 13 45.6	+7.8
CTAO	Charters Tower	21.75	128	eP	P	14 13 59.1	+0.8
	27nm,1.6s,mb4.4						
STKA	Stephens Creek	27.58	155	eP	P	14 14 52.6	-1.4
	3.6nm,1.4s,mb3.8						
STKA	Stephens Creek	27.58	155	P	P	14 14 52.5	-1.5
	0.6nm,0.4s,mb3.6,baz=348,slow=9.3,SNR=3.7						
STKA	Stephens Creek	27.58	155	eP	P	14 14 52.7	-1.3
ULN	Ulaanbaatar	57.90	343	eP	P	14 18 59.1	+0.2
	2.4nm,0.9s,mb4.2						
SONM	Songino Array	58.06	343	P	P	14 19 00.6	+0.6
	0.8nm,0.7s,mb3.9,baz=165,slow=8.5,SNR=5.6						
MKAR	Makanchi Array	67.39	328	P	P	14 20 02.0	+0.2
	0.6nm,0.4s,mb3.9,baz=116,slow=6.3,SNR=14						
ZAL	Zalesovo	70.95	335	P	P	14 20 23.2	-0.4
	1.0nm,0.4s,mb4.1,baz=28,slow=6.6,SNR=3.4						
BVAR	Borovoye Array	77.25	328	P	P	14 20 59.7	-0.5
	0.3nm,0.4s,mb3.6,baz=117,slow=6.6,SNR=4.3						
SWET	Sewanee	138.13	43	ePKPdf	PKPdf	14 28 31.2	+1.3
ELN	Prospectdale	140.22	37	ePKPdf	PKPdf	14 28 41.6	+8.0

MAN 03 14:14:29.9, 13.51N×120.12E, h1^{km}, mb4.0, ML2.8, MS2.5, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.26	28	eP	Pg	14 14 34.5	-0.5
LUBP				eS	Sg	14 14 37.2	-1.2
PGP	Puerto Galera	0.81	90	eP	Pg	14 14 45.2	-0.9
TGY	Tagaytay City	0.99	53	eP	Pb	14 14 48.6	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SJMP	San Jose	1.42	137	eP	Pb	14 14 57.1	+0.2
SJMP				eS	Sb	14 15 17.5	+2.0
BUSP	Coron	1.50	177	eP	Pn	14 14 59.0	+0.9
BUSP				eS	Sb	14 15 19.1	+1.4
BOAC	Boac	1.68	91	eP	Pn	14 15 01.8	+1.2
BOAC				eS	Sb	14 15 24.1	+1.2
OTRP	Odiongan	2.17	121	eP	Pn	14 15 07.4	-0.3

MAN 03 14:45:42.7, 12.81N×123.23E, h12km, mb4.1, ML2.9, MS2.6, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	San Andres	0.74	314	eP	Pb	14 45 56.8	-0.2
AUQP				eS	Sb	14 46 10.9	+4.1
PVCP	Virac	1.20	49	eP	Pb	14 46 04.2	-0.6
PVCP				eS	Sb	14 46 22.3	+2.3
OTRP	Odiongan	1.26	249	eP	Pb	14 46 04.3	-1.5
OTRP				eS	Sb	14 46 22.1	+0.3
GQP	Guinayangan	1.33	325	⇓eP	Pb	14 46 06.3	-0.8
GQP				eS	Sb	14 46 24.6	+0.8
RCP	Roxas	1.33	201	⇑eP	Pb	14 46 06.0	-1.0
CNP	Catarman	1.44	102	eP	Pn	14 46 07.7	-0.9
CNP				eS	Sb	14 46 27.6	+0.6
BOAC	Boac	1.49	296	eP	Pn	14 46 08.4	-1.0
BOAC				eS	Sb	14 46 29.4	+0.8
GUIM	Jordan	2.26	196	eP	Pn	14 46 21.4	+1.0
POLP	Polilio Island	2.28	327	eP	Pn	14 46 22.3	+1.5

MAN 03 14:49:35.6, 8.62N×122.46E, h43km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	Ipil	0.83	173	eP	P	14 49 52.4	+1.4
IPIL				eS	S	14 50 03.7	+1.4
DCPH	Dipolog City	0.88	92	⇑iP	P	14 49 50.9	-0.8
DCPH				iS	S	14 50 07.9	+4.5
SNPH	Sibulan	1.05	47	eP	P	14 49 54.5	+0.4
SNPH				iS	S	14 50 10.5	+2.7
PAGZ	Pagadian	1.19	130	eP	P	14 49 56.7	+0.7
PAGZ				eS	S	14 50 11.5	+0.2
GUIM	Jordan	2.00	4	eP	P	14 50 08.1	+0.5
GUIM				eS	S	14 50 32.2	+0.7
CUYO	Cuyo Island	2.64	327	eP	P	14 50 17.4	+0.7
CUYO				eS	S	14 50 46.3	-1.5
BUKP	Musuan	2.67	106	eP	P	14 50 18.9	+1.7
MSLP	Maasin	2.80	57	eP	P	14 50 18.8	-0.3
BUSP	Coron	4.04	327	eP	P	14 50 36.3	-0.2
BUSP				eS	S	14 51 19.3	-3.9
SJMP	San Jose	4.04	341	eP	P	14 50 36.1	-0.5
SJMP				eS	S	14 51 19.6	-3.7

*NIED **03** 14:59:00, 28.80N×129.50E, h14km, Mw3.7 Best double couple: Mo4.61×10^14 NP1:φs339°, δ54°, λ-57°. NP2: φs111°, δ48°, λ-127°.*

JMA 03 14:59:32.7±0.1**, 28.84N×129.52E, h20km**±4km**, M3.7, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.43	170	P	Pb	14 59 41.4	-0.2
JAM				S	Sb	14 59 47.2	-0.4
JZK	Kikaishima	0.66	143	P	Pb	14 59 45.2	-0.2
JZK				S	Sb	14 59 54.5	+0.5
JNN	Nakanoshima	1.04	17	P	Pb	14 59 51.1	-0.8
JNN				eS	Sb	15 00 04.6	-0.6
JTK	Tokunoshima	1.16	206	P	Pb	14 59 53.9	-0.1
JTK				eS	Sb	15 00 10.3	+1.6
JKC	Kuchinoerabu	1.72	20	P	Pn	15 00 00.6	-1.4
JKC				eS	Sn	15 00 20.8	-2.7
JTN	Tanegashima 3	2.21	35	P	Pn	15 00 07.2	-1.8
JTN				eS	Sn	15 00 33.1	-2.9
JIH	Iheya	2.26	218	P	Pn	15 00 10.4	+0.6
JIH				eS	Sn	15 00 37.4	0.0
JOW	Kunigami	2.28	209	P	Pn	15 00 10.7	+0.6

MAN 03 15:30:36.5, 6.46N×123.67E, h30km, mb4.7, ML3.6, MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	1.41	348	eP	Pn	15 30 59.6	-0.8
PAGZ				eS	Sn	15 31 18.4	+0.3
IPIL	Ipil	1.71	321	eP	Pn	15 31 04.9	+0.1
IPIL				eS	Sn	15 31 25.9	+0.2
BUKP	Musuan	1.97	44	eP	Pn	15 31 08.7	+0.1
BUKP				eS	Sn	15 31 36.5	+3.9
DCPH	Dipolog City	2.13	352	eP	Pn	15 31 10.9	0.0
MATI	Mati	2.62	79	eP	Pn	15 31 17.3	-0.5

*BJI **03** 15:39:56.0, 0.24S×98.78E, h20km, mB5.3, mb4.9, Ms4.5, Msz4.0*
*NEIC **03** 15:40:03.6±0.4, 0.28N×98.49E, h30km, mb4.6/12, Error ellipse: s-maj=10.8km s-min=8.2km az=50.0*
*MOS **03** 15:40:03.1±0.9, 0.55N×98.80E, h33km, mb5.0/16, Error ellipse: s-maj=19.8km s-min=8.4km az=105.5*
*IDC **03** 15:40:05.7±3.9, 0.32N×98.66E, h44km±33km, mb4.3/15, mb1 4.4/16, mb1mx4.2/21, mbtmp4.5/16, ML4.6/1, Error ellipse: s-maj=36.1km s-min=14.0km az=50.0*

ISC 03 15:40:01.7±0.4**, 0.31N**±0.06×**98.59E**±0.06**, h28km, h28km**±2.2km**:pP-P, n89,** σ1.06/84**, mb4.7**/49**, MS4.0**/2**, 4C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.50	8	P	Pn	15 40 43.0	+1.5
	139nm,0.3s,baz=191,slow=5.1,SNR=253						
KULM	Kulim	5.36	23	ePn	Pn	15 41 23.8	+1.6
KSM	Kuching	11.78	84	ePn	P	15 42 53.2	+2.0
NST	Nakhon Sawan	15.35	6	P	P	15 43 43.0	+4.6
	42nm,0.7s						
KKTK	Khon Kaen	16.47	14	P	P	15 43 52.5	-0.2
	432nm,0.9s						
KKM	Kota Kinabalu	18.50	72	eP	P	15 44 19.6	+1.5
QIZ	Qiongzhong	21.64	30	eP	P	15 44 52.3	+0.2
	30nm,1.2s,mb4.6						
KMI	Kunming	25.00	9	P	P	15 45 26.7	+1.7
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
KMI				LR	LR		
	comp=N,150nm,12.1s,MS3.8						
KMI				LR	LR		
	comp=E,120nm,14.6s,MS3.8						
KMI				LR	LR		
	comp=Z,170nm,15.1s,MS3.7						
GYA	Guiyang	27.14	16	⇓iP	P	15 45 44.5	-0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
JIRN	Jiri	29.69	337	eP	P	15 46 08.1	+0.3
	comp=Z,20nm,0.8s,mb4.9						
GUN	Gumba	30.03	337	eP	P	15 46 11.4	+0.6
	comp=Z,22nm,0.5s,mb5.1						
DMN	Daman	30.07	336	eP	P	15 46 11.3	+0.1
	comp=Z,0.5nm,0.1s,mb4.5						
LSA	Lhasa	30.08	347	P	P	15 46 12.0	+0.8
LSA	Lhasa	30.08	347	P	P	15 46 10.0	-1.2
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
LSA	Lhasa	30.08	347	P	P	15 46 10.0	-1.2
	comp=Z,9.4nm,0.6s,mb4.7						
KKN	Kakani	30.16	336	eP	P	15 46 12.1	+0.1
	comp=Z,9.9nm,0.6s,mb4.7						
GKN	Gorkha	30.61	335	eP	P	15 46 16.0	0.0
KOLN	Koldanda	30.86	333	eP	P	15 46 18.8	+0.7
	comp=Z,31nm,0.6s,mb5.3						
ENH	Enshi	31.55	18	⇓iP	P	15 46 22.7	-1.5
	comp=Z,54nm,0.6s,mb5.6						
XAN	Xi'an	34.93	15	P	P	15 46 52.0	-1.5
XAN				AP	pP	15 46 59.8	-1.8
XAN				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.8						
LZH	Lanzhou	35.93	7	eP	P	15 47 02.0	0.0
LZH				AP	pP	15 47 11.1	+0.9
LZH				XP	sP	15 47 14.5	+0.9
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
NWAO	Narrogin (SRO)	37.44	154	P	P	15 47 16.6	+2.0
GTA	Gaotai	38.94	2	P	P	15 47 27.5	+0.4
GTA				AP	pP	15 47 35.1	-0.3
GTA				XP	sP	15 47 38.4	-0.4
GTA				PCP	PcP	15 49 38.3	+0.3
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
WRA	Warramunga Arr	40.39	122	P	P	15 47 38.1	-1.3
	comp=Z,2.1nm,0.5s,mb4.1,baz=302,slow=9.1,SNR=32						
WRA				PcP	PcP	15 49 42.9	+0.1
	comp=Z,1.5nm,0.6s,baz=313,slow=2.6,SNR=10						
WRAB	Tennant Creek	40.39	122	P	P	15 47 38.6	-0.8
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
WRAB	Tennant Creek	40.39	122	P	P	15 47 38.6	-0.8
	comp=Z,3.3nm,0.5s,mb4.3						
HHC	Hu-ho-hao-te	42.04	15	eP	P	15 47 53.6	+0.9
HHC				AP	pP	15 48 03.1	+2.1
HHC				XP	sP	15 48 07.4	+3.0
HHC				PP	PP	15 49 34.1	+0.9
HHC				PCP	PcP	15 49 48.2	+0.2
HHC				PCS		15 53 39.1	
HHC				S	S	15 54 15.9	+6.0
HHC				XS		15 54 25.5	
HHC				SS	SS	15 57 12.0	0.0
HHC				SCS	ScS	15 57 52.1	+1.0
HHC				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
HHC				AMB	AMB		
	comp=Z,270nm,4.9s						
HHC				LR	LR		
	comp=N,230nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=E,260nm,15.5s,MS4.4						
HHC				LR	LR		
	comp=Z,250nm,14.3s,MS4.2						
WMQ	Urumqi	44.40	349	eP	P	15 48 13.0	+1.1
WMQ				AP	pP	15 48 18.0	-2.2
WMQ				XP	sP	15 48 20.0	-3.6
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
KS15	Wonju Array Si	45.79	33	⇓eP	P	15 48 22.3	-0.7
UCH	Uchtor	47.03	336	P	P	15 48 34.4	+1.6
	SNR=6.8						
TKM2	Tokmak 2	47.17	337	P	P	15 48 35.1	+1.2
	SNR=7.9						
KBK	Karagaybulak	47.21	336	P	P	15 48 35.9	+1.7
	SNR=7.9						
AML	Almayashu	47.29	335	P	P	15 48 36.3	+1.5
	SNR=5.6						
AAK	Ala-Archa	47.37	336	eP	P	15 48 35.1	-0.4
AAK				e		15 50 06.3	
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	Ala-Archa	47.37	336	eP	P	15 48 35.1	-0.4
	comp=Z,3.0nm,0.9s,mb4.2						
AAK				ePcP	PcP	15 50 06.2	-0.1
EKS2	Erkin-Say	47.69	335	P	P	15 48 39.4	+1.4
	SNR=5.1						
SONM	Songino Array	47.82	7	P	P	15 48 39.7	+0.7
	comp=Z,9.9nm,0.6s,mb5.1,baz=191,slow=9.1,SNR=43						
SONM				PcP	PcP	15 50 07.8	-0.1
	comp=Z,5.2nm,0.6s,baz=185,slow=3.5,SNR=9.2						
USP	Ospenovka	47.90	336	P	P	15 48 40.4	+0.8
	SNR=11						
ULN	Ulaanbaatar	47.94	8	eP	P	15 48 38.0	-1.9
MKAR	Makanchi Array	48.45	345	P	P	15 48 44.0	+0.3
	comp=Z,13nm,0.7s,mb5.1,baz=158,slow=8.0,SNR=89						
MKAR	Makanchi Array	48.45	345	iP	P	15 48 43.2	-0.6
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	Karatay Array	49.47	333	P	P	15 48 52.0	+0.3
KKAR				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
CN2	Changchun	49.49	25	eP	P	15 48 50.6	-1.3
CN2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
ZAK	Zakamensk	50.05	4	eP	P	15 48 55.7	-0.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MJAR	Matsushiro Arr	51.43	41	P	P	15 49 05.0	-1.8
	comp=Z,2.5nm,0.5s,mb4.4,baz=222,slow=7.2,SNR=12						
STKA	Stephens Creek	51.73	132	P	P	15 49 08.8	-0.3
	comp=Z,3.1nm,0.6s,mb4.4,baz=298,slow=8.4,SNR=12						
STKA	Stephens Creek	51.73	132	eP	P	15 49 08.8	-0.3
STKA				epP	pP	15 49 18.7	+1.2
MDJ	Mudanjiang	51.99	28	eP	P	15 49 10.9	0.0
HIA	Hailar	52.06	17	eP	P	15 49 10.7	-0.6
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HIA	Hailar	52.06	17	eP	P	15 49 10.7	-0.6
	comp=Z,8.1nm,0.6s,mb4.8						
KURK	Kurchatov	53.02	344	eP	P	15 49 18.1	-0.4
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KURK	Kurchatov	53.02	344	eP	P	15 49 18.1	-0.3
	comp=Z,5.1nm,0.7s,mb4.6						
ZAL	Zalesovo	54.66	350	P	P	15 49 29.9	-0.5
	comp=Z,19nm,0.4s,mb5.5,baz=318,slow=4.6,SNR=49						
NVS	Novosibirsk	55.80	349	eP	P	15 49 36.7	-2.0
RDF	Al-Radifah	56.37	305	eP	P	15 49 43.1	-0.1
RDF				AMb	AMB	15 49 43.4	
	comp=Z,19nm,0.8s,mb5.2						
NAY	Al-Naaiem	56.74	305	eP	P	15 49 45.5	-0.3
NAY				AMb	AMB	15 49 46.5	
	comp=Z,9.7nm,0.7s,mb5.0						
MIB	Mutribah	56.86	306	eP	P	15 49 46.6	-0.1
MIB				AMb	AMB	15 49 47.7	
	comp=Z,22nm,0.6s,mb5.4						
VOSK	Vostochnaya	57.10	340	P	P	15 49 46.7	-1.4
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BVA0	Borovoye Array	57.55	340	P	P	15 49 50.0	-1.2
BVA0				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
BRVK	Borovoye	57.61	340	⇑iP	P	15 49 50.4	-1.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BRVK	Borovoye	57.61	340	⇑iP	P	15 49 50.4	-1.3
	comp=Z,4.5nm,0.6s,mb4.7						
BOD	Bodaibo	58.64	10	eP	P	15 49 57.7	-1.1
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
AB31	Akbulak array	58.95	331	P	P	15 49 59.8	-1.3
AB31				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
YSS	Yuzh-Sakhalins	60.32	33	P	P	15 50 09.6	-0.9
ARU	Arti	64.54	337	eP	P	15 50 37.1	-1.4
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
ARU	Arti	64.54	337	eP	P	15 50 37.0	-1.5
	comp=Z,3.3nm,0.5s,mb4.6						
YAK	Yakutsk	65.90	15	eP	P	15 50 44.3	-2.8
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
YAK	Yakutsk	65.90	15	eP	P	15 50 45.3	-1.8
	comp=Z,17nm,0.8s,mb5.1						
BR131	Keskin Array S	70.73	312	eP	P	15 51 16.9	-0.7
	comp=Z,1.8nm,0.6s,mb4.2						
BRTR	Keskin Array B	70.73	312	P	P	15 51 17.2	-0.4
	comp=Z,2.6nm,0.6s,mb4.3,baz=133,slow=6.9,SNR=17						
AKASG	Malin Array Be	76.81	322	P	P	15 51 51.9	-0.9
	comp=Z,1.5nm,0.5s,mb4.2,baz=90,slow=5.5,SNR=13						
RPZ	Rata Peaks	77.60	135	P	P	15 51 58.1	+0.8
	comp=Z,6.8nm,0.6s,mb4.8,baz=280,slow=0.3,SNR=7.9						
MLR	Muntele Rosu	77.67	317	P	P	15 51 58.6	+1.0
	comp=Z,3.6nm,0.7s,mb4.4,baz=161,slow=3.9,SNR=7.3						
JOF	Joensuu	79.54	335	ep	P	15 52 07.1	-0.4
	comp=Z,2.8nm,0.9s,mb4.2						
SYO	Syowa Base	79.59	198	⇑P	P	15 52 11.7	+4.1
SYO	Syowa Base	79.59	198	⇑eP	P	15 52 11.7	+4.1
FINES	FINESS Array B	81.43	332	P	P	15 52 17.7	+0.2
	comp=Z,1.5nm,0.5s,mb4.2,baz=100,slow=4.9,SNR=17						
KAF	Kangasniemi	81.50	333	ep	P	15 52 17.1	-0.8
	comp=Z,3.8nm,0.8s,mb4.4						
KAF	Kangasniemi	81.50	333	eP	P	15 52 17.1	-0.8
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ARCES	ARCESS Array B	83.84	340	P	P	15 52 30.4	+0.6
	comp=Z,1.2nm,0.4s,mb4.3,baz=99,slow=4.5,SNR=13						
GERES	GERESS Array B	86.39	319	P	P	15 52 44.0	+1.0
	comp=Z,0.6nm,0.8s,mb3.9,baz=180,slow=8.0,SNR=3.7						
HFS	Hagfors	87.18	330	P	P	15 52 47.4	+0.9
	comp=Z,1.6nm,0.4s,mb4.6,baz=135,slow=4.2,SNR=14						
DAVOX	Davos	88.89	317	P	P	15 52 56.5	+1.5
	comp=Z,2.3nm,0.6s,mb4.7,baz=172,slow=12,SNR=5.2						
ULM	Lac du Bonnet	128.14	12	PKP	PKPdf	15 59 07.3	-3.4
	comp=Z,0.8nm,0.6s,baz=120,slow=21,SNR=6.3						
PDAR	Pinedale Array	130.22	27	PKP	PKPdf	15 59 12.2	-2.6
	comp=Z,0.5nm,0.7s,baz=90,slow=1.5,SNR=5.0						
TXAR	Lajitas Array	143.66	34	PKP	PKPdf	15 59 34.9	-4.8
	comp=Z,0.5nm,0.5s,baz=309,slow=5.8,SNR=4.9						
JCT	Junction City	144.74	28	ePKIKP	PKPdf	15 59 37.0	-4.6
JSC	Jenkinsville	145.59	360	ePKIKP	PKPdf	15 59 39.5	-3.4
GOGA	Godfrey	146.41	3	ePKP2	PKPab	15 59 42.6	-1.2

*NIED **03** 16:10:00, 29.20N×130.40E, h32km, Mw5.9 Best double couple: Mo8.09×10^17 NP1:φs188°, δ80°, λ-48°. NP2: φs289°, δ43°, λ-165°.*
*BGS **03** 16:10:33.4, 27.84N×131.20E, h48km, mb5.9*
*BJI **03** 16:10:35.2, 28.98N×130.80E, h47km, mB6.1, mb5.7, Ms6.2, Msz6.0*
*IDC **03** 16:10:35.3±0.4, 29.35N×130.34E, mb5.7/33, mb1 5.7/38, mb1mx5.7/39, mbtmp5.7/38, ML4.9/5, MS5.8/32, Ms1 5.8/32, ms1mx5.7/41, Error ellipse: s-maj=13.7km s-min=11.5km az=43.0*
*DHMR **03** 16:10:38.5±3.0, 29.35N×130.22E, h10km, mb6.5*
*MOS **03** 16:10:38.8±1.1, 29.37N×130.34E, h33km, mb6.2/69, MS6.1/43, Error ellipse: s-maj=6.8km s-min=4.1km az=108.7*
*JMA **03** 16:10:39.0±0.1, 29.21N×130.44E, h69km±4km, M6.1*
JMA Felt III J1.
*NEIC **03** 16:10:39.5±0.1, 29.34N×130.29E, h26km, mb6.1/221, ME6.0, MS5.7/127, MW5.9, MW5.9(NIED), Error ellipse: s-maj=3.3km s-min=2.6km az=161.0 Broadband fault plane solution: P waves. NP1:φs35°, δ75°, λ90°. NP2: φs215°, δ15°, λ90°. Principal axes: T Plg60°, Azm305°; N Plg0°, Azm0°; P Plg30°, Azm125°; Moment Tensor Solution. s37 Moment tensor: Scale 10^18 Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: Mo1×10^18 NP1:φs212°, δ20°, λ87°. NP2: φs35°, δ71°, λ91°. Principal axes: T .94, Plg64°, Azm307°; N .13, Plg1°, Azm215°; P -1.07, Plg26°, Azm124°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Recorded [3 JMA] on Amami-oshima and [2 JMA] on Kikaiga-shima and Tokuno-shima.
*HRVD **03** 16:10:42.4±0.1, 29.14N×130.64E, h33km, MW5.9/87, Centroid moment Tensor Solution. LP body waves: s83,c191;Mantle waves: s87,c281; Half duration: 2.3s Moment tensor: Scale 10^18Nm; Mrr0.72±.01; Mθθ-0.19±.01; Mφφ-0.52±.01; Mrθ0.45±.01; Mθφ-0.41±.01; Mφr0.46±.01; Best double couple: Mo.996×10^18 NP1: φs205°, δ26°, λ75°. NP2:φs41°, δ65°, λ97°. Principal axes: T .961, Plg69°, Azm325°; N .069, Plg6°, Azm218°; P -1.03, Plg20°, Azm126°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 03 16:10:40.0±0.1**, 29.28N**±0.01×**130.29E**±0.02**, h41km, h41km**±1.8km**:pP-P, n1081,** σ1.08/1014**, mb6.1**/277**, MS5.9**/191**, 252C-41D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.66	327	⇓P	P	16 10 55.0	+2.1
JNN				eS	S	16 11 07.4	+5.0
JZK	Kikaishima	1.00	196	P	P	16 10 57.5	-0.2
JZK				eS	S	16 11 10.2	-0.7
JAM	Amami Oshima	1.05	215	P	P	16 10 58.8	+0.4
JKC	Kuchinoerabu	1.18	356	⇑P	P	16 11 01.2	+1.0
JKC				eS	S	16 11 19.9	+4.5
JTN	Tanegashima 3	1.49	23	⇑P	P	16 11 04.2	-0.6
JTK	Tokunoshima	1.90	219	P	P	16 11 10.8	+0.3
JTSR	Tashiro 2	1.96	16	P	P	16 11 11.1	-0.2
JTSR				eS	S	16 11 36.4	+1.6
JSU	Suzuyama	2.22	4	⇑P	P	16 11 15.1	0.0
JSJ	Shimokoshiki	2.44	348	⇑P	P	16 11 19.0	+0.7
JOW	Kunigami	3.02	217	Pn	P	16 11 27.1	+0.6
	146nm,0.3s,baz=62,slow=12,SNR=123						
JOW				Sn	S	16 12 09.5	+7.7
	593nm,0.3s,baz=202,slow=23,SNR=7.2						
JOW				LR	LR	16 12 57.3	
	comp=Z,169μm,18.7s,baz=52,slow=46						
JOW	Kunigami	3.02	217	P	P	16 11 25.2	-1.3
JIH	Iheya	3.03	223	⇓P	P	16 11 26.0	-0.7
JHD	Hondo	3.18	358	P	P	16 11 29.6	+0.9
JIU2	Izumi 2	3.29	8	P	P	16 11 30.4	+0.1
JKIT	Kitakata	3.48	16	⇑P	P	16 11 31.9	-1.1
JMZ	Minamidaito 2	3.55	166	P	P	16 11 28.7	-5.3
JFU	Fukue jima 2	3.61	339	⇑P	P	16 11 35.7	+0.8
JAGN	Aguni-jima	3.80	226	P	P	16 11 37.5	-0.1
JUR	Ureshino	3.81	356	⇑P	P	16 11 39.1	+1.4
JNU	Nakatsue	3.86	7	Pn	P	16 11 39.0	+0.5
	112nm,0.3s,baz=170,slow=16,SNR=372						
JNU				Sn	S	16 12 23.2	+0.1
	118nm,0.3s,baz=60,slow=44,SNR=6.5						
JNU				LR	LR	16 12 54.9	
	comp=Z,31μm,20.3s,baz=186,slow=37						
JUS	Usuki	3.98	18	⇑P	P	16 11 38.8	-1.3
JFI	Itaya	4.13	1	P	P	16 11 43.6	+1.3
JKE	Kume jima 2	4.28	227	⇓P	P	16 11 43.3	-1.0
JTY	Toyota	5.01	7	P	P	16 11 54.2	-0.5
JKN2	Miekihoku	7.10	44	P	P	16 12 19.9	-4.1
JIE	Ise	7.47	45	P	P	16 12 25.3	-3.8
SSE	Sheshan	8.08	285	P	P	16 12 36.2	-1.4
SSE				XP		16 12 54.0	
SSE				S	S	16 14 06.3	-2.4
SSE				AMB	AMB		
	comp=Z,20nm,0.8s						
SSE				LR	LR		
	comp=N,37μm,14.6s						
SSE				LR	LR		
	comp=E,85μm,14.5s						
SSE				LR	LR		
	comp=Z,109μm,16.0s						
SSE	Sheshan	8.08	285	P	P	16 12 36.2	-1.4
	comp=Z,21nm,0.8s						
SSE				sP		16 12 54.0	
SSE				S	S	16 14 06.3	-2.4
KS15	Wonju Array Si	8.38	347	⇑eP	P	16 12 44.2	+2.4
JSG	Sagara	8.60	49	P	P	16 12 41.8	-2.9
JGF	Kuroka	8.68	42	P	P	16 12 42.8	-3.1
INCN	Inchon	8.73	340	⇑ePn	P	16 12 48.7	+2.1
	comp=Z,2μm,1.6s						
JNY	Yasuok	8.82	45	P	P	16 12 44.6	-3.2
SHZ3	Shizuoka 3	8.85	47	P	P	16 12 44.2	-4.0
TATO	Taipei	8.94	243	ePn	P	16 12 49.6	+0.2
	comp=Z,968nm,1.0s						
JHJ	Hachijo jima 2	8.99	62	Pn	P	16 12 47.0	-3.1
	comp=Z,99nm,0.3s,baz=244,slow=20,SNR=10						
JHJ				LR	LR	16 15 51.5	
	comp=Z,33μm,19.8s,baz=304,slow=35						
JIZS	Izushimoda	9.09	51	P	P	16 12 47.4	-4.1
JGN	Niukaw	9.10	39	P	P	16 12 48.5	-3.2
YHNB	Yeheng	9.18	242	ePn	P	16 12 52.4	-0.4
NACB	Ninganchiao	9.29	239	ePn	P	16 12 52.9	-1.4
JIM2	Oshima 3	9.46	53	P	P	16 12 52.9	-3.8
JOD2	Odawara 2	9.54	49	P	P	16 12 53.9	-3.9
MAJO	Matsushiro	9.83	41	eP	P	16 12 58.3	-3.5
MAJO				pmax	pmax		
	comp=Z,220nm,0.9s						
MAJO	Matsushiro	9.83	41	eP	P	16 12 58.3	-3.4
	comp=Z,229nm,0.8s						
MAT	Matsushiro	9.83	41	P	P	16 12 58.2	-3.6
MAT				eS	S	16 14 51.7	-0.3
MAT	Matsushiro	9.83	41	eP	P	16 12 58.0	-3.8
MAT				pmax	pmax		
	comp=Z,110nm,1.0s						
MAT	Matsushiro	9.83	41	eP	P	16 12 58.0	-3.8
	comp=Z,110nm,1.0s						
MAT				S	S	16 15 00.0	+8.0
MJAR	Matsushiro Arr	9.83	41	Pn	P	16 12 58.3	-3.5
	comp=Z,9.3nm,0.3s,baz=332,slow=13,SNR=92						
NJ2	Nanjing	10.23	289	eP	P	16 13 09.2	+2.0
NJ2				PP	PP	16 13 18.2	+3.2
NJ2				XP		16 13 28.1	
NJ2				S	S	16 15 09.0	+7.3
NJ2				SS	SS	16 15 18.0	+2.5
NJ2				AMB	AMB		
	comp=Z,5μm,8.4s						

NJ2 LR LR
comp=N,114μm,16.5s
NJ2 LR LR
comp=E,153μm,12.1s
NJ2 LR LR
comp=Z,66μm,12.1s
CBIJ Chichi jima 10.72 99 Pn **P** **16 13 07.8 -6.2**
comp=Z,92nm,0.3s,baz=295,slow=2.3,SNR=25
CBIJ LR LR 16 16 37.8
comp=Z,35μm,21.4s,baz=285,slow=34
QZH Quanzhou 11.28 250⇑ *i*P **P** **16 13 22.0 +0.5**
QZH XP 16 13 37.6
QZH S **S** **16 15 28.5 +1.2**
QZH AMB AMB
comp=Z,520nm,1.1s
QZH LR LR
comp=N,96μm,15.1s
QZH LR LR
comp=E,56μm,13.4s
QZH LR LR
comp=Z,93μm,13.5s
QZH Quanzhou 11.28 250⇑ *i*P **P** **16 13 22.0 +0.5**
comp=Z,520nm,1.1s
QZH sP 16 13 37.6
QZH S **S** **16 15 28.5 +1.2**
DL2 Dalian 11.98 326⇑ *i*P **P** **16 13 33.9 +2.9**
DL2 AP 16 13 46.1
DL2 *e*S **S** **16 15 47.4 +3.2**
DL2 LG1 16 16 16.7
DL2 LG2 16 16 52.0
DL2 AMB AMB
comp=Z,370nm,1.2s
DL2 AMB AMB
comp=Z,5μm,4.3s
DL2 LR LR
comp=N,56μm,14.7s
DL2 LR LR
comp=E,52μm,13.9s
DL2 LR LR
comp=Z,80μm,14.5s
DL2 Dalian 11.98 326⇑ *i*P **P** **16 13 33.9 +2.9**
comp=Z,370nm,1.2s
DL2 pP 16 13 46.1
DL2 *e*S **S** **16 15 47.4 +3.2**
TIA Tai'an 13.05 305 P **P** **16 13 47.5 +2.2**
TIA AMB AMB
comp=Z,180nm,1.1s
TIA AMB AMB
comp=Z,8μm,6.0s
TIA LR LR
comp=N,29μm,13.5s
TIA LR LR
comp=E,33μm,13.8s
TIA Tai'an 13.05 305 P **P** **16 13 47.5 +2.2**
comp=E,180nm,1.1s
SGCP Mt. Cagua 13.32 216 *e*P **P** **16 13 44.3 -4.6**
SNY Shenyang 13.65 338⇑ *i*P **P** **16 13 55.6 +2.5**
SNY AP 16 14 02.9
SNY XP 16 14 08.9
SNY S **S** **16 16 39.0 +15**
SNY XS 16 16 47.1
SNY AMB AMB
comp=Z,6μm,5.1s
SNY LR LR
comp=N,117μm,13.3s
SNY LR LR
comp=E,49μm,11.4s
SNY LR LR
comp=Z,153μm,13.7s
WHN Wuhan 13.88 279 *e*P **P** **16 13 57.8 +1.6**
WHN LR LR
comp=N,47μm,12.3s
WHN LR LR
comp=E,142μm,17.1s
WHN LR LR
comp=Z,129μm,18.6s
CVP Callao Caves 13.89 216 *e*P **P** **16 13 54.0 -2.4**
APYP Conner 14.06 218 *e*P **P** **16 13 55.1 -3.5**
ABRA Dolores 14.52 219 *e*P **P** **16 14 02.6 -2.1**
CAUP Cauayan 14.53 214 *e*P **P** **16 14 05.3 +0.5**
CN2 Changchun 15.00 346⇑ P **P** **16 14 12.9 +2.2**
CN2 *e*S **S** **16 16 57.8 +1.6**
CN2 AMB AMB
comp=Z,1μm,1.2s
CN2 AMB AMB
comp=Z,13μm,5.0s
CN2 Changchun 15.00 346⇑ P **P** **16 14 12.9 +2.2**
comp=Z,1μm,1.2s
CN2 *e*S **S** **16 16 57.8 +1.6**
MDJ Mudanjiang 15.32 358 P **P** **16 14 16.0 +1.2**
MDJ S **S** **16 17 03.6 0.0**
MDJ PCP PcP 16 19 18.0 -1.0
MDJ PCS 16 22 52.3
MDJ AMB AMB
comp=Z,70nm,1.3s
MDJ AMB AMB
comp=Z,4μm,9.5s
MDJ LR LR
comp=N,30μm,23.7s
MDJ LR LR
comp=E,21μm,16.1s
MDJ LR LR
comp=Z,40μm,22.5s
MDJ Mudanjiang 15.32 358 P **P** **16 14 16.0 +1.2**
comp=Z,73nm,1.3s
MDJ S **S** **16 17 03.6 0.0**
MDJ PcP PcP 16 19 18.0 -1.0
MDJ PcS 16 22 52.3
BCPH Baguio City Da 15.64 217⇑ *e*P **P** **16 14 21.3 +2.2**
BALP Baler 15.69 213 *e*P **P** **16 14 18.2 -1.5**
BOLP Bolinao 15.99 219 *e*P **P** **16 14 22.7 -1.0**
PCPH Palayan 16.07 214⇑ *e*P **P** **16 14 25.1 +0.4**
HKC Hong Kong 16.08 248⇓ *i*P **P** **16 14 26.0 +1.2**
HKC *i* S **S** **16 17 40.0 +18**
GZH Guangzhou 16.41 252 P **P** **16 14 24.8 -4.0**
GZH S **S** **16 17 29.2 +0.2**
GZH AMB AMB
comp=Z,290nm,1.5s
GZH LR LR
comp=N,38μm,18.3s
GZH LR LR
comp=E,29μm,20.2s
GZH LR LR
comp=Z,58μm,19.6s
GZH Guangzhou 16.41 252 P **P** **16 14 24.8 -4.0**
comp=Z,290nm,1.5s
GZH S **S** **16 17 29.2 +0.2**
POLP Polilio Island 16.41 210 *e*P **P** **16 14 32.3 +3.4**
SCZP Santa Cruz 16.49 218 *e*P **P** **16 14 28.1 -1.9**
PVCP Virac 16.61 201 *e*P **P** **16 14 32.8 +1.3**
GQP Guinayangan 16.94 207⇓ *e*P **P** **16 14 38.3 +2.7**
TIY Taiyuan 17.08 304⇑ P **P** **16 14 37.0 -0.3**
TIY S **S** **16 17 58.0 +14**
TIY LR LR
comp=N,81μm,13.0s
AUQP San Andres 17.38 206 *e*P **P** **16 14 47.9 +6.7**
TGY Tagaytay City 17.41 212 Pn **P** **16 14 43.6 +2.1**
comp=N,12nm,0.3s,baz=7.4,slow=3.4,SNR=27
TGY Tagaytay City 17.41 212 *e*P **P** **16 14 44.7 +3.2**
CNP Catarman 17.49 199 *e*P **P** **16 14 44.3 +1.8**
BOAC Boac 17.59 208 *e*P **P** **16 14 46.7 +3.0**
ASAJ Asahikawa 17.76 30 P **P** **16 14 41.7 -4.0**
comp=N,2.5nm,0.3s,baz=243,slow=20,SNR=21
ASAJ LR LR 16 21 44.3
comp=N,28μm,20.2s,baz=240,slow=38
PGP Puerto Galera 17.93 211⇓ *e*P **P** **16 14 49.2 +1.2**
LUBP Lubang 18.05 213 *e*P **P** **16 14 50.7 +1.1**
ENH Enshi 18.09 278⇑ *e*P **P** **16 14 51.5 +1.6**
comp=N,1μm,1.4s
OTRP Odiongan 18.51 206 *e*P **P** **16 14 57.3 +2.1**
SJMP San Jose 18.79 209 *e*P **P** **16 14 59.5 +1.0**
XAN Xi'an 18.79 290 P **P** **16 14 57.9 -0.6**
XAN AP 16 15 04.0
XAN AMB AMB
comp=Z,490nm,1.1s
XAN AMB AMB
comp=Z,7μm,8.7s
XAN LR LR
comp=N,12μm,10.5s
XAN LR LR
comp=E,36μm,11.0s
XAN LR LR
comp=Z,43μm,11.8s
XAN Xi'an 18.79 290 P **P** **16 14 57.9 -0.6**
comp=Z,490nm,1.1s

XAN pP 16 15 04.0
RCP Roxas 18.98 203⇓ *e*P **P** **16 15 04.3 +3.5**
HHC Hu-ho-hao-te 19.14 312⇑ *i*P **P** **16 15 03.0 +0.5**
HHC AP 16 15 11.0
HHC XP 16 15 15.5
HHC PP PP 16 15 20.1 +0.5
HHC S **S** **16 18 31.5 +0.6**
HHC PCP PcP 16 19 25.1 0.0
HHC PCS 16 23 00.8
HHC AMB AMB
comp=Z,140nm,0.8s
HHC AMB AMB
comp=Z,21μm,6.2s
HHC LR LR
comp=N,48μm,14.9s
HHC LR LR
comp=E,47μm,13.9s
HHC LR LR
comp=Z,74μm,16.8s
HHC Hu-ho-hao-te 19.14 312⇑ *i*P **P** **16 15 03.0 +0.5**
comp=Z,150nm,0.8s
HHC pP 16 15 11.0
HHC sP 16 15 15.5
HHC PP PP 16 15 20.1 +0.5
HHC S **S** **16 18 31.5 +0.6**
HHC PcP PcP 16 19 25.1 0.0
HHC PcS 16 23 00.8
YUK Yuzh-Kuril'sk 19.26 36⇑ *i*P **P** **16 15 01.5 -2.3**
YUK *e*S **S** **16 18 39.0 +5.4**
YUK pmax pmax
comp=Z,11μm,3.0s
YUK pmax pmax
comp=N,11μm,2.8s
YUK pmax pmax
comp=E,6μm,2.8s
YUK pmax pmax
comp=N,220nm,0.5s
YUK pmax pmax
comp=Z,250nm,0.5s
YUK smax
comp=N,25μm,5.0s
YUK smax
comp=E,37μm,5.0s
YUK MLR MLR
comp=N,17μm,17.0s
YUK MLR MLR
comp=Z,37μm,17.0s
YUK MLR MLR
comp=E,26μm,18.0s
YUK Yuzh-Kuril'sk 19.26 36⇑ *i*P **P** **16 15 01.5 -2.3**
comp=E,250nm,0.5s
YUK *e*S **S** **16 18 39.0 +5.4**
HABR Khabarovsk 19.51 10 *i* P **P** **16 15 02.9 -3.6**
HABR *e*S **S** **16 18 45.2 +6.1**
HABR pmax pmax
comp=Z,361nm,1.2s
HABR MLR MLR
comp=Z,31μm,15.0s
BUSP Coron 19.59 211 *e*P **P** **16 15 07.7 +0.1**
MSLP Maasin 19.71 196 *e*P **P** **16 15 09.6 +0.7**
LLP Lapu-Lapu 19.77 199⇓ *e*P **P** **16 15 10.6 +1.1**
comp=Z,590μm,1.0s
LLP *e*S **S** **16 19 01.8 +17**
GUIM Jordan 19.91 203 *e*P **P** **16 15 11.8 +0.8**
SCPH Surigao 19.91 194⇓ *e*P **P** **16 15 11.5 +0.4**
KLR Kul'dur 19.95 3 *de*P **P** **16 15 05.5 -5.8**
KLR pmax pmax
comp=Z,220nm,1.8s
KLR pmax pmax
comp=Z,3μm,13.0s
KLR MLR MLR
comp=Z,65μm,13.0s
KLR Kul'dur 19.95 3 *e*Pr **P** **16 15 05.5 -5.8**
BTO Baotou 20.04 310 *e*P **P** **16 15 12.1 -0.2**
BTO AMB AMB
comp=Z,100nm,0.8s
BTO LR LR
comp=E,20μm,10.0s
BTO Baotou 20.04 310 *e*P **P** **16 15 12.1 -0.2**
comp=E,110nm,0.8s
YSS Yuzh-Sakhalins 20.14 25α *i*P **P** **16 15 10.0 -3.3**
YSS *i* *PP 16 15 24.0
YSS *e**SP 16 15 31.1
YSS *e*S **S** **16 18 43.0 -9.2**
YSS pmax pmax
comp=N,2μm,4.0s
YSS pmax pmax
comp=Z,4μm,4.0s
YSS pmax pmax
comp=E,2μm,5.0s
YSS pmax pmax
comp=N,580nm,1.2s
YSS pmax pmax
comp=E,260nm,1.2s
YSS pmax pmax
comp=Z,940nm,1.2s
YSS smax
comp=E,1μm,2.4s
YSS MLR MLR
comp=E,30μm,17.0s,MS5.7
YSS MLR MLR
comp=Z,24μm,17.0s,MS5.6
YSS MLR MLR
comp=N,15μm,19.0s,MS5.7
YSS Yuzh-Sakhalins 20.14 25 *i* Pcu **P** **16 15 10.0 -3.3**
comp=N,940nm,1.2s
YSS *i* pP 16 15 24.0
YSS *es*P 16 15 31.1
YSS *e*S **S** **16 18 43.0 -9.2**
YSS LR LR
comp=Z,24μm,17.0s,MS5.6
CUYO Cuyo Island 20.28 207 *e*P **P** **16 15 15.2 +0.3**
TBP Tagbilaran 20.40 198 *e*P **P** **16 15 15.8 -0.4**
ENPP El Nido 20.64 212 *e*P **P** **16 15 18.9 +0.2**
GUMO Guam 20.65 136 P **P** **16 15 17.1 -1.7**
comp=Z,400nm,1.0s,baz=151,slow=4.4,SNR=8.5
GUMO LR LR 16 22 49.8
comp=Z,16μm,18.1s,MS5.4,baz=312,slow=36
GUMO Guam 20.65 136 P **P** **16 15 17.1 -1.7**
GUMO LR LR 16 22 49.8
BUTP Butuan 20.68 193 *e*P **P** **16 15 20.0 +1.0**
SNPH Sibulan 20.91 200 *e*P **P** **16 15 23.0 +1.6**
GYA Guiyang 21.07 268⇓ *i*P **P** **16 15 22.7 -0.3**
GYA AP 16 15 36.8
GYA XP 16 15 44.3
GYA S **S** **16 19 20.2 +10**
GYA AMB AMB
comp=Z,500nm,1.3s,mb5.7
GYA AMB AMB
comp=Z,2μm,6.5s
GYA LR LR
comp=N,31μm,13.8s,MS6.1
GYA LR LR
comp=E,54μm,15.0s,MS6.1
GYA LR LR
comp=Z,66μm,16.1s,MS6.1
GYA Guiyang 21.07 268⇓ *i*P **P** **16 15 22.7 -0.3**
comp=Z,500nm,1.3s,mb5.7
GYA pP 16 15 36.8
GYA sP 16 15 44.3
GYA S **S** **16 19 20.2 +10**
GYA LR LR
comp=Z,66μm,16.1s,MS6.1
QIZ Qiongzhong 21.23 246 P **P** **16 15 25.0 +0.3**
QIZ XP 16 15 39.0
QIZ S **S** **16 19 14.8 +1.4**
QIZ XS 16 19 28.9
QIZ SS SS 16 19 50.9 +2.4
QIZ AMB AMB
comp=Z,380nm,1.2s,mb5.6
QIZ LR LR
comp=N,27μm,18.0s,MS5.8
QIZ LR LR
comp=E,31μm,18.7s,MS5.8
QIZ LR LR
comp=Z,35μm,15.6s,MS5.9
QIZ Qiongzhong 21.23 246 P **P** **16 15 25.0 +0.3**
comp=Z,380nm,1.2s,mb5.6
QIZ sP 16 15 39.0
QIZ S **S** **16 19 14.8 +1.4**
QIZ sS 16 19 28.9
QIZ SS SS 16 19 50.9 +2.4
QIZ LR LR
comp=Z,36μm,15.6s,MS5.9
HIA Hailar 21.52 341 *e*P **P** **16 15 25.0 -2.4**

HIA pmax pmax
comp=Z,450nm,1.3s
HIA MLR MLR
comp=Z,44μm,20.0s
HIA Hailar 21.52 341 *e*P **P** **16 15 25.0 -2.3**
comp=Z,450nm,1.3s,mb5.7
HIA LR LR
comp=Z,44μm,20.0s,MS5.8
DCPH Dipolog City 21.60 199⇑ *e*P **P** **16 15 26.2 -2.1**
BUKP Musuan 21.85 194 *e*P **P** **16 15 30.4 -0.5**
PPR Puerto Princes 22.22 211⇑ *e*P **P** **16 15 34.9 +0.3**
PAGZ Pagadian 22.29 198 *e*P **P** **16 15 35.4 +0.2**
DAV Davao City (W) 22.54 192 *e*P 16 15 48.0
DAV Davao City (W) 22.54 192 PFAKE 16 15 50.0 +12
DAV LR LR
comp=Z,7μm,21.0s,MS5.0
MATI Mati 22.54 190 *e*P **P** **16 15 36.2 -1.5**
IPIL Ipil 22.58 200 *e*P **P** **16 15 36.5 -1.6**
CD2 Chengdu 23.00 281 P **P** **16 15 41.5 -0.6**
CD2 AP 16 15 55.6
CD2 XP 16 16 01.6
CD2 PP PP 16 16 15.4 +2.7
CD2 S **S** **16 19 45.4 -0.1**
CD2 XS 16 20 04.9
CD2 SS SS 16 20 34.3 +2.7
CD2 AMB AMB
comp=Z,890nm,1.0s,mb6.2
CD2 AMB AMB
comp=Z,3μm,4.6s
CD2 LR LR
comp=N,35μm,12.0s
CD2 LR LR
comp=Z,43μm,12.6s,MS6.1
CD2 Chengdu 23.00 281 P **P** **16 15 41.5 -0.6**
comp=Z,890nm,1.0s,mb6.2
CD2 pP 16 15 55.6
CD2 sP 16 16 01.6
CD2 PP PP 16 16 15.4 +2.7
CD2 S **S** **16 19 45.4 -0.1**
CD2 sS 16 20 04.9
CD2 SS SS 16 20 34.3 +2.7
CD2 LR LR
comp=Z,43μm,12.6s,MS6.1
LZH Lanzhou 23.23 294⇑ P **P** **16 15 45.2 +0.9**
LZH AP 16 15 59.5
LZH XP 16 16 05.9
LZH PP PP 16 16 17.0 +1.2
LZH PCP PcP 16 19 31.8 -1.2
LZH *e*S **S** **16 19 52.0 +2.4**
LZH XS 16 20 13.0
LZH AMB AMB
comp=Z,1μm,1.6s,mb6.1
LZH AMB AMB
comp=Z,10μm,4.8s
LZH LR LR
comp=E,112μm,13.7s
LZH LR LR
comp=Z,121μm,15.5s,MS6.5
LZH Lanzhou 23.23 294⇑ P **P** **16 15 45.2 +0.9**
comp=Z,1μm,1.6s,mb6.1
LZH pP 16 15 59.5
LZH sP 16 16 05.9
LZH PP PP 16 16 17.0 +1.2
LZH PcP PcP 16 19 31.8 -1.2
LZH *e*S **S** **16 19 52.0 +2.4**
LZH sS 16 20 13.0
LZH LR LR
comp=Z,121μm,15.5s,MS6.5
BATP Bataraza 23.51 212 *e*P **P** **16 15 50.0 +2.8**
KMI Kunming 24.82 267⇑ P **P** **16 15 59.6 -0.3**
KMI AP 16 16 14.4
KMI PP PP 16 16 38.8 +1.3
KMI S **S** **16 20 15.4 -1.7**
KMI XS 16 20 40.2
KMI SS SS 16 21 16.8 +0.5
KMI SCP 16 23 10.1
KMI AMB AMB
comp=Z,1μm,0.9s,mb6.3
KMI LR LR
comp=N,31μm,16.4s,MS6.2
KMI LR LR
comp=E,54μm,12.3s,MS6.2
KMI LR LR
comp=Z,66μm,12.0s,MS6.4
KMI Kunming 24.82 267⇑ P **P** **16 15 59.6 -0.3**
comp=Z,1μm,0.9s,mb6.3
KMI pP 16 16 14.4
KMI PP PP 16 16 38.8 +1.3
KMI S **S** **16 20 15.4 -1.7**
KMI sS 16 20 40.2
KMI SS SS 16 21 16.8 +0.5
KMI ScP 16 23 10.1
KMI LR LR
comp=Z,66μm,12.0s,MS6.4
ULN Ulaanbaatar 25.80 322⇑ *e*P **P** **16 16 07.7 -1.2**
comp=Z,92nm,2.1s
ULN LR LR
comp=Z,80μm,19.0s,MS6.3
CIT Chita 25.90 336 *e*P **P** **16 16 09.1 -0.7**
CIT *e* 16 16 43.9
CIT *e* 16 19 37.9
CIT pmax pmax
comp=Z,924nm,1.2s,mb6.2
CIT Chita 25.90 336 *e*P **P** **16 16 09.1 -0.7**
comp=Z,924nm,1.2s,mb6.2
CIT *e* 16 16 43.9
CIT *e* 16 19 37.9
SONM Songino Array 26.14 322 P **P** **16 16 10.9 -1.1**
comp=Z,89nm,0.9s,mb5.3,baz=135,slow=8.9,SNR=122
SONM ScP 16 23 18.2
comp=Z,8.8nm,1.3s,baz=153,slow=6.6,SNR=4.6
SONM LR LR 16 27 57.7
comp=Z,69μm,18.9s,MS6.2,baz=129,slow=40
KKM Kota Kinabalu 26.66 213 *e*P **P** **16 16 17.4 +0.2**
GTA Gaotai 27.00 300⇑ P **P** **16 16 19.9 -0.2**
GTA AP pP 16 16 32.7 +1.8
GTA XP sP 16 16 40.0 +4.1
GTA PP PP 16 16 06.5 -0.1
GTA PCP PcP 16 19 42.0 +0.8
GTA S **S** **16 20 49.3 -3.6**
GTA XS 16 21 15.2
GTA SCP 16 23 14.5
GTA AMB AMB
comp=Z,60nm,1.5s
GTA AMB AMB
comp=Z,3μm,7.6s
GTA LR LR
comp=N,34μm,16.4s,MS6.3
GTA LR LR
comp=E,57μm,16.0s,MS6.3
GTA LR LR
comp=Z,76μm,17.1s,MS6.3
GTA Gaotai 27.00 300⇑ P **P** **16 16 19.9 -0.2**
comp=Z,65nm,1.5s
GTA pP pP 16 16 32.7 +1.8
GTA sP sP 16 16 40.0 +4.1
GTA PP PP 16 17 06.5 -0.1
GTA PcP PcP 16 19 42.0 +0.8
GTA S **S** **16 20 49.3 -3.6**
GTA sS 16 21 15.2
GTA ScP 16 23 14.5
GTA LR LR
comp=Z,76μm,17.1s,MS6.3
UBT Ubonrachathani 27.16 245⇓ P **P** **16 16 22.0 +0.3**
comp=Z,729nm,0.9s,mb6.2
CLNS Chul'man 27.81 354 *e*P **P** **16 16 25.0 -2.2**
CLNS *e*PPP PPP 16 17 19.6 -9.4
CLNS *e* 16 19 39.1
CLNS *e*S **S** **16 21 07.0 +1.3**
CLNS *e*SS SS 16 22 36.3 +8.7
CLNS pmax pmax
comp=Z,172nm,1.4s,mb5.5
CLNS pmax pmax
comp=N,177nm,1.2s
CLNS pmax pmax
comp=E,51nm,0.8s
CLNS pmax pmax
comp=Z,115nm,1.6s,mb5.3
CLNS pmax pmax
comp=N,116nm,1.1s
CLNS pmax pmax
comp=E,70nm,1.1s
CLNS smax
comp=N,84nm,1.3s

CLNS smax
comp=Z,32nm,1.3s
CLNS smax
comp=E,49nm,1.6s
CLNS MLR MLR
comp=N,8μm,13.0s,MS5.7
CLNS MLR MLR
comp=E,9μm,13.0s,MS5.7
CLNS MLR MLR
comp=Z,22μm,13.0s,MS5.9
KKTK Khon Kaen 28.32 249 ⇑P **P 16 16 31.0 -1.2**
comp=Z,4μm,0.5s
CHRT Chiangrai 29.21 258 ⇓P **P 16 16 40.0 -0.1**
comp=Z,829nm,0.8s,mb6.5
ZAK Zakamensk 29.30 324 *i*P **P 16 16 40.1 -0.5**
ZAK *e* 16 19 44.3
ZAK pmax pmax
comp=Z,44nm,0.9s,mb5.2
ZAK pmax pmax
comp=Z,16nm,1.6s
ZAK pmax pmax
comp=Z,15nm,1.2s
ZAK Zakamensk 29.30 324 ⇑*i*P **P 16 16 40.1 -0.5**
comp=Z,44nm,0.9s,mb5.2
ZAK *e* 16 19 44.3
IRK Irkutsk 29.95 327 *e*P **P 16 16 46.1 -0.2**
IRK *e* 16 17 37.0
IRK *e* 16 18 03.6
IRK pmax pmax
comp=Z,692nm,1.5s,mb6.2
IRK Irkutsk 29.95 327 *e*P **P 16 16 46.1 -0.2**
comp=Z,692nm,1.5s,mb6.2
IRK *e* 16 17 37.0
IRK *e* 16 18 03.6
CHG Chiang Mai 30.38 257 ⇓P **P 16 16 49.7 -0.8**
comp=Z,150nm,1.1s,mb5.6
BOD Bodaibo 30.70 343 *e*P **P 16 16 50.5 -2.5**
BOD pmax pmax
comp=Z,580nm,1.2s,mb6.3
BOD Bodaibo 30.70 343 *e*P **P 16 16 50.5 -2.5**
comp=Z,580nm,1.2s,mb6.3
NST Nakhon Sawan 30.87 251 ⇓P **P 16 16 55.5 +0.6**
comp=Z,133nm,1.1s,mb5.7
MOY Mondy 31.22 324 *e*P **P 16 16 55.8 -1.8**
MOY pmax pmax
comp=Z,231nm,2.3s,mb5.6
MOY Mondy 31.22 324 *e*P **P 16 16 55.8 -1.8**
comp=Z,231nm,2.3s,mb5.6
PET Petropavlovsk 31.55 33 *e*P **P 16 16 59.3 -1.3**
PET *e* 16 19 51.9
PET *e*S **S 16 22 03.3 -1.8**
PET pmax pmax
comp=Z,201nm,1.8s,mb5.7
PET smax
comp=N,5μm,16.5s
PET MLR MLR
comp=Z,20μm,20.0s,MS5.8
PET MLR MLR
comp=Z,15μm,22.0s
PET Petropavlovsk 31.55 33 *e*P **P 16 16 59.3 -1.3**
comp=Z,201nm,1.8s,mb5.7
PET *e* 16 19 51.9
PET *e*S **S 16 22 03.3 -1.8**
PET LR LR
comp=Z,20μm,20.0s,MS5.8
YAK Yakutsk 32.76 359 *c i*P **P 16 17 08.0 -3.0**
YAK *e**PP pP 16 17 18.6 -3.5
YAK *e* 16 18 20.8
YAK *e*PPP PPP 16 18 35.6 -1.3
YAK *e*S **S 16 22 32.2 +8.4**
YAK *e*SS SS 16 24 38.5 +15
YAK pmax pmax
comp=Z,164nm,1.2s,mb5.8
YAK pmax pmax
comp=N,99nm,1.1s
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=Z,43nm,1.1s,mb5.3
YAK pmax pmax
comp=N,25nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK smax
comp=N,4μm,22.0s
YAK smax
comp=Z,119nm,5.8s
YAK smax
comp=E,678nm,17.6s
YAK MLR MLR
comp=N,7μm,13.0s,MS5.7
YAK MLR MLR
comp=E,5μm,13.0s,MS5.7
YAK MLR MLR
comp=Z,9μm,13.0s,MS5.7
YAK Yakutsk 32.76 359 ⇑*i*P **P 16 17 08.0 -3.0**
comp=Z,164nm,1.2s,mb5.8
YAK *e*pP pP 16 17 18.6 -3.5
YAK *e* 16 18 20.8
YAK *e*PPP PPP 16 18 35.6 -1.3
YAK *e*S **S 16 22 32.2 +8.4**
YAK *e*SS SS 16 24 38.5 +15
YAK LR LR
comp=Z,9μm,13.0s,MS5.7
MA2 Magadan 33.34 19 *c i*P **P 16 17 14.8 -1.3**
MA2 pmax pmax
comp=Z,401nm,1.7s,mb6.1
MA2 MLR MLR
comp=Z,11μm,17.0s,MS5.6
MA2 Magadan 33.34 19 ⇑*i*P **P 16 17 14.8 -1.3**
comp=Z,401nm,1.7s,mb6.1
MA2 LR LR
comp=Z,11μm,17.0s,MS5.6
KSM Kuching 33.57 218 *e*P **P 16 17 18.4 0.0**
KSM *e*pP pP 16 17 31.0 +1.3
KSM *e*PcP PcP 16 19 58.9 +0.4
LSA Lhasa 33.96 281 P **P 16 17 22.3 +0.6**
LSA AP pP 16 17 33.0 +0.1
LSA XP sP 16 17 38.3 +0.2
LSA S **S 16 22 46.3 +3.5**
LSA AMB AMB
comp=Z,340nm,1.0s,mb6.2
LSA AMB AMB
comp=Z,480nm,5.0s
LSA LR LR
comp=N,16μm,16.0s,MS6.2
LSA LR LR
comp=E,34μm,16.0s,MS6.2
LSA LR LR
comp=Z,39μm,16.0s,MS6.2
LSA Lhasa 33.96 281 ⇑*e*P **P 16 17 21.6 -0.1**
LSA pmax pmax
comp=Z,340nm,1.0s,mb6.2
LSA MLR MLR
comp=Z,25μm,19.0s,MS6.0
LSA Lhasa 33.96 281 P **P 16 17 22.3 +0.6**
comp=Z,340nm,1.0s,mb6.2
LSA pP pP 16 17 33.0 +0.1
LSA sP sP 16 17 38.3 +0.2
LSA S **S 16 22 46.3 +3.5**
LSA LR LR
comp=Z,39μm,16.0s,MS6.2
WAKE Wake Island 34.49 98 PFAKE 16 17 40.0 +14
WAKE LR LR
comp=Z,7μm,19.0s,MS5.4
AGT Agartala 35.21 271 *ex* **P 16 17 37.0 +4.5**
AGT *ex* x 16 18 03.0
SEY Seymchan 36.58 17 ⇑*i*P **P 16 17 43.4 -0.3**
KULM Kulim 36.80 235 *e*P **P 16 17 46.0 0.0**
KULM *e*PP PP 16 19 09.6 -2.5
CAL Calcutta 38.18 270 *e*P **P 16 17 58.6 +1.2**
JIRN Jiri 38.63 279 *e*P **P 16 18 01.2 +0.1**
comp=Z,1μm,1.1s,mb6.5
GUN Gumba 38.84 279 *e*P **P 16 18 02.8 -0.1**
comp=Z,2μm,1.0s,mb6.9
FX1 Attu Island--F 39.19 41 *e*P **P 16 18 05.8 +0.3**
FX1 *PP pP 16 18 17.5 +0.6
PKI Pulchoki 39.33 279 *e*P **P 16 18 07.1 +0.2**
comp=Z,2μm,1.0s,mb6.8
PKI Pulchoki 39.33 279 *e*P **P 16 18 07.1 +0.2**
PKI pmax pmax
comp=Z,1μm,1.0s,mb6.5
KKN Kakani 39.39 279 *e*P **P 16 18 07.0 -0.4**
comp=Z,3μm,1.0s,mb6.9
KKN Kakani 39.39 279 *e*P **P 16 18 07.0 -0.4**
KKN pmax pmax
comp=Z,1μm,1.0s,mb6.6
DMN Daman 39.58 279 *e*P **P 16 18 08.5 -0.5**
comp=Z,2μm,1.2s,mb6.7
SMY Shemya 39.68 41 PFAKE 16 18 20.0 +10
SMY LR LR
comp=Z,5μm,20.0s,MS5.4
PSI Prapat 39.76 234 PcP PcP 16 20 16.6 -0.5
comp=Z,23nm,0.9s,baz=290,slow=5.8,SNR=3.6
PSI ScP 16 24 05.5
comp=Z,11nm,0.8s,baz=42,slow=5.0,SNR=5.2
PSI LR LR 16 36 29.5
comp=Z,6μm,19.4s,MS5.4,baz=32,slow=39
GKN Gorkha 39.89 280 *e*P **P 16 18 11.1 -0.5**
comp=Z,2μm,1.0s,mb6.7
BOK Bokaro 39.92 273 *e*P **P 16 18 12.0 +0.1**
BOK AMb AMB 16 18 14.8
comp=Z,506nm,1.1s,mb6.2
KWAJ Kwajalein Atol 40.48 113 PFAKE 16 18 30.0 +13
KWAJ LR LR
comp=Z,1μm,20.0s
KOLN Koldanda 40.84 280 *e*P **P 16 18 19.6 +0.1**
comp=Z,1μm,1.0s,mb6.5
MK31 Makanchi Array 40.96 309 P **P 16 18 19.6 -0.6**
MK31 pmax pmax
comp=Z,138nm,1.0s,mb5.5
MK31 Makanchi Array 40.96 309 P **P 16 18 19.6 -0.6**
comp=Z,138nm,1.0s,mb5.5
MKAR Makanchi Array 40.96 309 P **P 16 18 20.1 -0.1**
comp=Z,91nm,0.8s,mb5.5,baz=89,slow=9.8,SNR=149
MKAR PcP PcP 16 20 20.4 -0.2
comp=Z,25nm,0.9s,baz=90,slow=3.6,SNR=4.5
MKAR ScP 16 24 08.6
comp=Z,20nm,1.1s,baz=72,slow=3.8,SNR=7.2
MKAR Makanchi Array 40.96 309 P **P 16 18 20.1 -0.1**
MKAR *e* 16 20 20.4
ZAL Zalesovo 41.02 320 P **P 16 18 19.3 -1.4**
comp=Z,71nm,0.9s,mb5.3,baz=10,slow=8.2,SNR=242
ZAL PcP PcP 16 20 19.8 -1.0
comp=Z,18nm,0.9s,baz=18,slow=3.7,SNR=3.6
ZAL LR LR 16 37 51.1
comp=Z,54μm,18.4s,MS6.4,baz=357,slow=40
ZAL Zalesovo 41.02 320 P **P 16 18 19.3 -1.3**
ZAL *e* 16 20 19.8
PMG Port Moresby 41.76 155 LR LR 16 33 34.1
comp=Z,6μm,20.4s,MS5.5,baz=129,slow=33
PMG Port Moresby 41.76 155 *d*P **P 16 18 25.2 -2.0**
PMG Port Moresby 41.76 155 PFAKE 16 18 40.0 +13
PMG LR LR
comp=Z,6μm,21.0s,MS5.5
KAKA Kakadu 41.80 177 *e*P **P 16 18 46.9 +19**
comp=Z,135nm,1.2s,mb5.5
NVS Novosibirsk 42.16 321 ⇑*i*P **P 16 18 29.4 -0.6**
NVS *e* 16 20 20.9
NVS *e*S **S 16 24 49.2 +2.3**
NVS *e* 16 28 27.8
NVS pmax pmax
comp=Z,198nm,1.2s,mb5.6
NVS pmax pmax
comp=N,110nm,1.6s
NVS pmax pmax
comp=E,213nm,1.4s
NVS smax
comp=N,30nm,1.9s
NVS smax
comp=E,107nm,1.9s
NVS Novosibirsk 42.16 321 ⇑*i*P **P 16 18 29.4 -0.6**
comp=E,198nm,1.2s,mb5.6
NVS *e* 16 20 20.9
NVS *e*S **S 16 24 49.2 +2.3**
NVS *e* 16 28 27.8
TIXI Tiksi 42.42 359 PFAKE 16 18 40.0 +8.1
TIXI LR LR
comp=Z,22μm,20.0s,MS6.0
KURK Kurchatov 43.94 314 *e*P **P 16 18 42.9 -1.6**
KURK pmax pmax
comp=Z,510nm,2.0s,mb5.9
BILL Bilibino 44.21 18 *c i*P **P 16 18 46.0 -0.5**
BILL pmax pmax
comp=Z,420nm,1.7s,mb5.9
BILL MLR MLR
comp=Z,14μm,16.0s,MS6.0
BILL Bilibino 44.21 18 ⇑*i*P **P 16 18 46.0 -0.5**
comp=Z,420nm,1.7s,mb5.9
BILL LR LR
comp=Z,14μm,16.0s,MS6.0
VIS Vishakhapatnam 44.31 266 *e*P **P 16 18 48.0 +0.1**
VIS AMb AMB 16 18 50.5
comp=Z,291nm,1.0s,mb6.0
AAA Alma-Ata 44.49 303 *i*P **P 16 18 48.6 -0.5**
AAA *i*S **S 16 25 40.8 +20**
AAA pmax pmax
comp=Z,1μm,1.4s,mb6.5
ULHL Ulahol 45.03 302 P **P 16 18 54.8 +1.4**
SNR=5.6
KSH Kashi 45.37 298 ⇑*i*P **P 16 18 57.3 +1.2**
KSH AP pP 16 19 12.0 +4.4
KSH PCP PcP 16 20 36.0 +0.5
KSH PP PP 16 20 44.1 +1.1
KSH PPP PPP 16 21 27.0 +1.7
KSH SCP 16 24 23.4
KSH PCS 16 24 30.0
KSH S **S 16 25 32.6 -0.9**
KSH XS 16 26 01.0
KSH SCS ScS 16 28 45.7 -1.0
KSH AMB AMB
comp=Z,2μm,4.4s
KSH LR LR
comp=N,12μm,13.3s,MS6.2
KSH LR LR
comp=E,10μm,10.7s,MS6.2
KSH Kashi 45.37 298 ⇑*i*P **P 16 18 57.3 +1.2**
KSH pP pP 16 19 12.0 +4.4
KSH PcP PcP 16 20 36.0 +0.5
KSH PP PP 16 20 44.1 +1.1
KSH ScP 16 24 23.4
KSH PcS 16 24 30.0
KSH S **S 16 25 32.6 -0.9**
KSH sS 16 26 01.0
KSH ScS ScS 16 28 45.7 -1.0
TKM2 Tokmak 2 45.49 303 P **P 16 18 57.9 +0.8**
SNR=309
MIDW Midway 45.58 78 PFAKE 16 19 10.0 +12
MIDW LR LR
comp=Z,3μm,21.0s,MS5.3
KZA Kyzart 45.77 302 P **P 16 19 01.6 +2.3**
SNR=83
KBK Karagaybulak 45.97 302 P **P 16 19 01.6 +0.7**
SNR=185
NDI New Delhi 46.09 283 *e*P **P 16 18 59.0 -3.0**
NDI *ex* x 16 28 55.0
CHMS Chumysh 46.10 303 P **P 16 19 02.2 +0.2**
SNR=142
FRU Bishkek 46.21 303 *oe*P **P 16 19 03.8 +1.0**
FRU *i* 16 20 40.0
FRU *e* 16 20 58.0
FRU pmax pmax
comp=Z,380nm,1.2s,mb6.2
FRU MLR MLR
comp=Z,31μm,16.5s,MS6.3
FRU MLR MLR
comp=E,29μm,16.0s
FRU Bishkek 46.21 303 *e*Pcu 16 19 03.8
comp=E,380nm,1.2s
FRU *i* 16 20 40.0
FRU *e* 16 20 58.0
FRU LR LR
comp=Z,31μm,16.5s,MS6.3
USP Ospenovka 46.28 303 P **P 16 19 03.4 +0.1**
SNR=175
AAK Ala-Archa 46.31 302 P **P 16 19 03.9 +0.4**
SNR=106
AAK Ala-Archa 46.31 302 *e*P **P 16 19 02.7 -0.8**
AAK pmax pmax
comp=Z,21nm,0.3s,mb5.5
AAK MLR MLR
comp=Z,5μm,19.0s,MS5.4
AAK Ala-Archa 46.31 302 *e*P **P 16 19 02.7 -0.8**
comp=Z,21nm,0.3s,mb5.5
AAK LR LR
comp=Z,4μm,19.0s,MS5.4
UCH Uchtor 46.31 302 P **P 16 19 05.1 +1.6**
SNR=428
EKS2 Erkin-Say 46.83 302 P **P 16 19 08.6 +1.0**
SNR=68
AML Almayashu 46.92 302 P **P 16 19 10.3 +1.9**
SNR=45
BHPL Bhopal 47.47 276 *e*P **P 16 19 11.9 -1.0**
BHPL AMb AMB 16 19 13.9
comp=Z,262nm,1.0s,mb6.1
HNR Honiara 47.95 139 P **P 16 19 14.0 -2.8**
HNR LR LR
comp=Z,6μm,19.0s,MS5.6
HYB Hyderabad 48.60 268 ⇑*i*P **P 16 19 21.0 -0.8**
comp=Z,250nm,1.0s,mb6.2
HYB *e*pP pP 16 19 32.0 -1.3
HYB *e*sP sP 16 19 39.0 +0.9
HYB *e* 16 20 38.5
HYB *e*PcP PcP 16 20 47.0 -0.3
HYB *e*S **S 16 26 26.0 +6.4**
HYB *e*ScS ScS 16 29 12.0 +4.0
HYB LR LR 16 41 32.0
comp=Z,11nm,20.0s
HYB Hyderabad 48.60 268 ⇑*e*P **P 16 19 21.0 -0.8**
HYB *e* 16 20 47.5
HYB *e*S **S 16 26 32.0 +12**
HYB pmax pmax
comp=Z,250nm,1.0s,mb6.2
HYB Hyderabad 48.60 268 ⇑*e*P **P 16 19 21.0 -0.8**
comp=Z,250nm,1.0s,mb6.2
HYB *e* 16 20 47.5
HYB *e*S **S 16 26 32.0 +12**
AJM Ajmer 48.88 281 *e*P **P 16 19 23.0 -0.8**
AJM AMb AMB 16 19 25.5
comp=Z,297nm,1.2s,mb6.2
VOSK Vostochnaya 48.89 316 P **P 16 19 22.9 -0.7**
VOSK pmax pmax
comp=Z,493nm,1.1s,mb6.5
VOSK Vostochnaya 48.89 316 P **P 16 19 22.9 -0.7**
comp=Z,493nm,1.1s,mb6.5
WRAB Tennant Creek 49.08 175 *d*P **P 16 19 23.9 -1.6**
WRAB Tennant Creek 49.08 175 *e*P **P 16 19 23.8 -1.7**
comp=Z,151nm,0.9s,mb6.0
WRAB *e*pP pP 16 19 36.0 -1.0
WRA Warramunga Arr 49.09 175 P **P 16 19 23.9 -1.7**
comp=Z,42nm,0.9s,mb5.5,baz=350,slow=8.1,SNR=168
WRA ScP 16 24 44.9
comp=Z,6.1nm,1.3s,baz=2.6,slow=4.2,SNR=5.2
WRA PKPPKP 16 50 25.9
comp=Z,2.1nm,1.0s,baz=180,slow=1.1,SNR=5.4
WRA Warramunga Arr 49.09 175 *i*P **P 16 19 23.8 -1.7**
WRA pmax pmax
comp=Z,420nm,0.9s
WB2 Warramunga Arr 49.09 175 ⇑*i*P **P 16 19 23.8 -1.7**
WB2 *e*pP pP 16 19 38.2 +1.2
WB2 *e*S **S 16 26 25.2 -1.3**
BVA0 Borovoye Array 49.27 316 *i*P **P 16 19 25.2 -1.3**
BVA0 pmax pmax
comp=Z,133nm,1.1s,mb5.9
BVA0 Borovoye Array 49.27 316 *i*P **P 16 19 25.2 -1.3**
comp=Z,133nm,1.1s,mb5.9
BVAR Borovoye Array 49.27 316 P **P 16 19 25.1 -1.4**
comp=Z,454nm,0.9s,mb6.5,baz=96,slow=8.8,SNR=736
BVAR PKPPKP 16 50 22.2
comp=Z,1.1nm,0.9s,baz=90,slow=5.8,SNR=5.3
BRVK Borovoye 49.34 316 P **P 16 19 25.5 -1.5**
BRVK pmax pmax
comp=Z,670nm,1.0s,mb6.6
BRVK Borovoye 49.34 316 P **P 16 19 25.5 -1.5**
comp=Z,670nm,1.0s,mb6.6
LATR Latur 49.95 270 *e*P **P 16 19 31.0 -1.1**
MBWA Marble Bar 51.17 193 PFAKE 16 19 50.0 +8.6
MBWA LR LR
comp=Z,2μm,19.0s,MS5.2
UNV Unalaska Valle 51.30 43 PFAKE 16 19 50.0 +8.1
UNV LR LR
comp=Z,10μm,21.0s,MS5.8
CTAO Charters Tower 51.44 161 *e*P **P 16 19 41.2 -2.2**
CTAO pmax pmax
comp=Z,113nm,1.3s,mb5.6
CTAO MLR MLR
comp=Z,7μm,20.0s,MS5.7
CTAO Charters Tower 51.44 161 *e*P **P 16 19 41.2 -2.3**
comp=Z,113nm,1.3s,mb5.6
CTAO LR LR
comp=Z,7μm,20.0s,MS5.7
PALK Pallekele 51.46 255 *e*P **P 16 19 43.6 0.0**
comp=Z,185nm,1.0s,mb6.0
PALK LR LR
comp=Z,2μm,22.0s,MS5.2
TNA Tin City 52.10 28 ⇑*e*P **P 16 19 47.5 -0.2**
comp=Z,507nm,1.6s,mb6.2
TNA LR LR
comp=Z,5μm,22.0s,MS5.5
POO Poona 52.27 272 *ex* x 16 19 55.6
POO AMb AMB 16 19 57.7
comp=Z,336nm,1.1s,mb6.2
KAD Karad 52.46 270 *e*P **P 16 19 50.2 -0.9**
KAD AMb AMB 16 19 52.5
comp=Z,380nm,1.5s,mb6.1
BOM Bombay 53.03 272 *e*P **P 16 19 51.6 -3.8**
BHJ Bhuj 54.19 279 *e*P **P 16 20 03.0 -0.9**
BHJ AMb AMB 16 20 05.9
comp=Z,325nm,1.0s,mb6.2
SVE Sverdlovsk 55.01 321 *α i*P **P 16 20 09.2 -0.2**
SVE *e* pP 16 20 20.0 -1.1
SVE *e* 16 21 07.0
SVE *e* 16 27 47.0
SVE *e*S **S 16 28 04.0 +17**
SVE pmax pmax
comp=Z,1μm,1.7s,mb6.6
SVE pmax pmax
comp=E,1μm,2.0s
SVE pmax pmax
comp=Z,2μm,2.0s,mb6.8
SVE MLR MLR
comp=N,12μm,16.0s,MS6.8
SVE MLR MLR
comp=E,70μm,16.0s,MS6.8
SVE MLR MLR
comp=Z,86μm,16.0s,MS6.9
SVE Sverdlovsk 55.01 321 *i* Pcu **P 16 20 09.2 -0.2**
comp=Z,1μm,1.7s,mb6.6
SVE *e* pP 16 20 20.0 -1.1
SVE *e* 16 21 07.0
SVE *e* 16 27 47.0
SVE *e*S **S 16 28 04.0 +17**
SVE LR LR
comp=Z,86μm,16.0s,MS6.9
ARU Arti 56.17 321 ⇑*i*P **P 16 20 16.9 -0.8**
ARU *e* pP 16 20 27.2 -2.3
ARU *e* 16 21 12.5
ARU *e* 16 22 20.5
ARU *e*PPP PPP 16 23 42.0 +0.7
ARU *e*S **S 16 28 03.7 +1.3**
ARU *e*SS 16 28 22.1
ARU *e* 16 29 59.4
ARU pmax pmax
comp=Z,682nm,1.0s,mb6.6
ARU MLR MLR
comp=N,6μm,18.0s,MS6.4
ARU MLR MLR
comp=E,28μm,16.0s,MS6.4
ARU Arti 56.17 321 ⇑*i*P **P 16 20 16.9 -0.8**
comp=E,682nm,1.0s,mb6.6
ARU *e* pP 16 20 27.2 -2.3
ARU *e* 16 21 12.5
ARU *e* 16 22 20.5
ARU *e*PPP PPP 16 23 42.0 +0.7
ARU *e*S **S 16 28 03.7 +1.3**
ARU *e*SS 16 28 22.1
ARU *e* 16 29 59.4
SOKR Solikamsk 56.97 324 *c i*P **P 16 20 21.5 -1.9**
SOKR *i*S **S 16 28 27.0 +14**
SOKR pmax pmax
comp=Z,1μm,1.1s,mb6.8
SOKR MLR MLR
comp=Z,22μm,16.0s,MS6.4
SOKR Solikamsk 56.97 324 ⇑*i*P **P 16 20 21.5 -1.9**
comp=Z,1μm,1.1s,mb6.8
SOKR *i*S **S 16 28 27.0 +14**
SOKR LR LR
comp=Z,22μm,16.0s,MS6.4
TTA Tatalina 56.98 32 *e*P **P 16 20 22.6 -0.9**
AKTK Aktyubinsk 57.03 313 P **P 16 20 23.1 -0.9**
AKTK LR LR 16 47 03.0
AKTK ⇑*e* 16 50 21.3
AKTO Aktyubinsk 57.03 313 P **P 16 20 23.1 -0.9**
comp=Z,326nm,0.9s,mb6.4,baz=87,slow=7.7,SNR=274
AKTO LR LR 16 47 03.0
comp=Z,47μm,18.6s,MS6.6,baz=48,slow=38
AKTO PKP2bc 16 50 21.3

comp=Z,1.6nm,1.1s,baz=249,slow=1.5,SNR=4.4
IMA2 Indian Mountai 57.97 28 *e*P **P 16 20 29.9 -0.5**
KDAK Kodiak Island 58.99 38 P **P 16 20 36.4 -1.3**
comp=Z,76nm,0.8s,mb5.8,baz=269,slow=3.0,SNR=14
FORT Forrest 59.76 182 *e*P **P 16 20 42.2 -1.1**
comp=Z,84nm,0.8s,mb5.8
FORT *e*pP pP 16 20 54.6 -0.5
FORT *e*S **S 16 28 52.2 +2.4**
FIB Fire Island 59.83 33 P **P 16 20 43.1 -0.3**
FIB pmax pmax
comp=Z,140nm,0.9s,mb6.0
FIB Fire Island 59.83 33 *e*P **P 16 20 41.4 -2.0**
comp=Z,280nm,0.9s,mb6.3
FIB LR LR
comp=Z,2μm,20.0s,MS5.2
SLKM Skilak Lake 59.89 34 *e*P **P 16 20 42.3 -1.5**
MCK McKinley 60.13 30 *e*P **P 16 20 44.1 -1.3**
MCK pmax pmax
comp=Z,95nm,1.1s,mb5.7
MCK MLR MLR
comp=Z,2μm,20.0s,MS5.2
MCK McKinley 60.13 30 *e*P **P 16 20 44.1 -1.3**
comp=Z,193nm,1.1s,mb6.0
MCK LR LR
comp=Z,2μm,20.0s,MS5.2
PMR Palmer 60.28 33 *e*P **P 16 20 44.6 -1.9**
PMR pmax pmax
comp=Z,320nm,1.2s,mb6.2
PMR MLR MLR
comp=Z,3μm,20.0s,MS5.4
PMR Palmer 60.28 33 *e*P **P 16 20 44.6 -1.9**
comp=Z,320nm,1.2s,mb6.2
PMR LR LR
comp=Z,3μm,20.0s,MS5.4
COLA College 60.47 29 P **P 16 20 45.8 -1.9**
COLA pmax pmax
comp=Z,160nm,1.4s,mb5.9
COLA College 60.47 29 *e*P **P 16 20 45.8 -1.9**
comp=Z,161nm,1.4s,mb5.9
COLA *e*pP pP 16 21 00.1 +0.6
COLA LR LR
comp=Z,4μm,20.0s,MS5.5
SML Sawmill 60.63 33 *e*P **P 16 20 46.9 -1.9**
ILAR Eielson Array 60.90 29 P **P 16 20 48.3 -2.3**
comp=Z,10nm,0.9s,mb5.0,baz=267,slow=3.9,SNR=59
ILAR LR LR 16 47 47.0
comp=Z,4μm,21.9s,MS5.6,baz=298,slow=37
ILAR PKP2bc 16 50 06.6
comp=Z,1.5nm,1.0s,baz=188,slow=2.4,SNR=5.5
THY Trims Highway 61.58 31 *e*P **P 16 20 53.9 -1.3**
comp=Z,104nm,1.2s,mb5.8
KLBR Kellerberrin 61.70 192 *e*P **P 16 20 54.6 -1.8**
comp=Z,185nm,1.5s,mb6.0
NOUC Port Laguerre 61.75 142 *e*P **P 16 20 55.4 -1.5**
NOUC Port Laguerre 61.75 142 *e*P **P 16 20 55.4 -1.5**
STKA Stephens Creek 61.76 169 *e*P **P 16 20 55.4 -1.5**
comp=Z,24nm,0.9s,mb5.3
STKA *e*S **S 16 29 11.9 -3.4**
STKA Stephens Creek 61.76 169 P **P 16 20 55.8 -1.1**
comp=Z,14nm,0.7s,mb5.2,baz=338,slow=7.0,SNR=22
STKA LR LR 16 46 38.2
comp=Z,3μm,21.6s,MS5.4,baz=346,slow=35
STKA PKP2bc 16 50 21.4
comp=Z,8.3nm,1.2s,baz=129,slow=2.1,SNR=3.6
DIV Divide 61.95 33 *e*P **P 16 20 56.8 -0.9**
comp=Z,354nm,1.4s,mb6.3
DIV LR LR
comp=Z,9μm,21.0s,MS5.9
MUN Mundaring 62.37 193 *e*P **P 16 21 00.6 -0.4**
MUN *e*S **S 16 29 23.8 +0.8**
MENT Mentasta 62.57 31 *e*P **P 16 21 01.4 -0.4**
NWAO Narrogin (SRO) 63.09 192 *e*P **P 16 21 04.0 -1.8**
NWAO pmax pmax
comp=Z,69nm,1.1s
NWAO MLR MLR
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 63.09 192 *e*P **P 16 21 04.0 -1.8**
comp=Z,69nm,1.1s,mb5.7
NWAO LR LR
comp=Z,2μm,21.0s,MS5.3
PECR Pechory 64.13 322⇓ *i*P **P 16 21 10.6 -1.5**
PECR *e* 16 21 42.4
PECR *e*S **S 16 29 43.0 -1.5**
PECR *e* 16 31 00.0
PECR pmax pmax
comp=Z,2μm,1.6s,mb7.0
PECR pmax pmax
comp=Z,2μm,5.0s
PECR pmax pmax
comp=E,900nm,5.6s
PECR MLR MLR
comp=Z,48μm,19.0s,MS6.7
PECR MLR MLR
comp=N,7μm,15.0s,MS6.5
PECR MLR MLR
comp=E,23μm,15.0s,MS6.5
KIP Kipapa 64.39 79⇓ *i*P **P 16 21 14.7 +0.3**
KIP Kipapa 64.39 79 PFAKE 16 21 20.0 +5.6
KIP LR LR
comp=Z,8μm,22.0s,MS5.8
KLMR Klimovskoe 65.26 327 *c i*P **P 16 21 17.8 -1.5**
KLMR *e* 16 23 42.3
KLMR *i* S S 16 29 57.1 -1.2
KLMR pmax pmax
comp=Z,640nm,1.6s,mb6.4
KLMR pmax pmax
comp=Z,150nm,4.1s
KLMR smax
comp=E,620nm,3.4s
KLMR MLR MLR
comp=Z,32μm,16.0s,MS6.6
LVZ Lovozero 65.30 336 *c i*P **P 16 21 17.7 -1.8**
LVZ *i* 16 21 50.9
LVZ *i* 16 23 45.0
LVZ *i* S S 16 29 54.4 -4.2
LVZ *i* SS SS 16 34 10.3 -3.3
LVZ pmax pmax
comp=Z,106nm,1.4s,mb5.7
LVZ pmax pmax
comp=N,37nm,1.1s
LVZ pmax pmax
comp=E,31nm,1.3s
LVZ pmax pmax
comp=Z,511nm,2.3s,mb6.2
LVZ pmax pmax
comp=N,551nm,3.7s
LVZ pmax pmax
comp=E,268nm,2.6s
LVZ smax
comp=N,572nm,17.3s
LVZ smax
comp=Z,802nm,18.6s
LVZ smax
comp=E,1μm,16.9s
LVZ MLR MLR
comp=N,7μm,19.0s,MS6.0
LVZ MLR MLR
comp=Z,11μm,19.0s,MS6.1
LVZ MLR MLR
comp=E,8μm,21.0s,MS6.0
LVZ Lovozero 65.30 336⇑ *i*P **P 16 21 17.7 -1.8**
LVZ *i* 16 21 50.9
LVZ *i* 16 23 45.0
LVZ *i* S S 16 29 54.4 -4.2
LVZ *i* SS SS 16 34 10.3 -3.3
INK Inuvik 65.38 24 PKP2bc 16 49 57.3
comp=E,3.4nm,1.1s,baz=144,slow=6.5,SNR=3.7
INK LR LR 16 52 28.2
comp=E,6μm,20.3s,MS5.8,baz=290,slow=38
MAK Makhachkala 65.73 307 *c i*P **P 16 21 23.0 +0.3**
MAK *i* 16 23 48.5
MAK *e*PPP PPP 16 25 23.2 -1.4
MAK *i* S S 16 30 09.5 +5.1
MAK *i* 16 31 07.6
MAK pmax pmax
comp=Z,611nm,1.1s,mb6.5
MAK pmax pmax
comp=Z,1μm,1.5s,mb6.7
MAK smax
comp=N,587nm,14.8s
MAK smax
comp=E,1μm,14.8s
MAK MLR MLR
comp=N,8μm,19.0s,MS6.4
MAK MLR MLR
comp=Z,18μm,19.0s,MS6.3
MAK MLR MLR
comp=E,20μm,18.0s,MS6.4
MAK Makhachkala 65.73 307⇑ *i*P **P 16 21 23.0 +0.3**
MAK *i* 16 23 48.5
MAK *e*PPP PPP 16 25 23.2 -1.4
MAK *i* S S 16 30 09.5 +5.1
MAK *i* 16 31 07.6
MAK LR LR
comp=Z,18μm,19.0s,MS6.3
APA Apatity 65.85 335⇓ *i*P **P 16 21 21.8 -1.2**
APA *i* pP 16 21 32.0 -3.0
APA *e*S S 16 29 56.0 -9.4
APA *e*SSS SSS 16 37 21.0 +4.4
APA pmax pmax
comp=Z,320nm,1.2s,mb6.2
APA Apatity 65.85 335⇓ *i*P **P 16 21 21.8 -1.2**
comp=Z,320nm,1.2s,mb6.2
APA *i* pP 16 21 32.0 -3.0
APA *e*S S 16 29 56.0 -9.4
APA *e*SSS SSS 16 37 21.0 +4.4
DGAR Diego Garcia 66.49 246 *e*P **P 16 21 27.3 -0.7**
DGAR pmax pmax
comp=Z,170nm,0.9s,mb6.1
DGAR MLR MLR
comp=Z,1μm,20.0s,MS5.0
DGAR Diego Garcia 66.49 246 *e*P **P 16 21 27.3 -0.7**
comp=Z,170nm,0.9s,mb6.1
DGAR LR LR
comp=Z,1μm,20.0s,MS5.0
KBS Kingsbay 66.60 349⇑ *i*P **P 16 21 26.6 -1.0**
KBS AMb AMB 16 21 29.2
comp=Z,56nm,1.6s,mb5.3
KBS *e*S S 16 30 18.2 +3.9
KBS *e*SS SS 16 34 47.6 +14
KBS AMS AMS 16 52 05.3
comp=Z,5μm,22.0s,MS5.6
KBS Kingsbay 66.60 349⇑ *i*P **P 16 21 26.7 -0.9**
KBS pmax pmax
comp=Z,560nm,1.6s,mb6.3
KBS MLR MLR
comp=Z,451μm,22.0s
KBS Kingsbay 66.60 349⇑ *i*P **P 16 21 26.6 -1.0**
comp=Z,56nm,1.6s,mb5.3
KBS LR LR
comp=Z,4514μm,22.0s
VRHR Novokhopersk 67.02 317 *e*P **P 16 21 29.1 -1.5**
VRHR pmax pmax
comp=Z,200nm,0.7s,mb6.3
VRHR pmax pmax
comp=N,130nm,1.6s
VRHR pmax pmax
comp=E,150nm,1.1s
VRHR MLR MLR
comp=Z,22μm,16.0s,MS6.5
VRHR MLR MLR
comp=N,9μm,15.0s,MS6.3
VRHR MLR MLR
comp=E,13μm,15.0s,MS6.3
POHA Pohakuloa 67.18 79 PFAKE
POHA LR LR 16 21 40.0 +7.8
comp=Z,4μm,21.0s,MS5.6
KEV Kevo 67.28 338 *e*P **P 16 21 28.2 -3.8**
KEV pmax pmax
comp=Z,97nm,0.9s,mb5.8
KEV MLR MLR
comp=Z,26μm,19.0s,MS6.5
KEV Kevo 67.28 338 *e*P **P 16 21 28.2 -3.8**
comp=Z,97nm,0.9s,mb5.8
KEV LR LR
comp=Z,26μm,19.0s,MS6.5
BJO Bjornoya 67.41 344 *e*P **P 16 21 30.9 -1.9**
BJO *e*S S 16 30 27.8 +3.6
BJO AMS AMS 16 55 08.5
comp=Z,7μm,16.9s,MS6.0
BJO1 Bjornoya 67.46 344 *e*P **P 16 21 30.9 -2.2**
BJO1 LR LR
comp=Z,33198μm,20.3s
DGRG David-gareji 67.72 306 P **P 16 21 33.9 -1.3**
DGRG S S 16 30 44.9 +16
MOS Moscow 67.77 322α *i*P **P 16 21 34.3 -1.0**
MOS *i* 16 22 00.5
MOS *e* 16 24 00.4
MOS *i* S S 16 30 27.9 -0.9
MOS pmax pmax
comp=Z,2μm,2.2s,mb6.7
MOS pmax pmax
comp=N,191nm,1.5s
MOS pmax pmax
comp=E,79nm,1.5s
MOS pmax pmax
comp=Z,616nm,1.5s,mb6.4
MOS smax
comp=N,700nm,4.0s
MOS smax
comp=E,200nm,3.3s
MOS MLR MLR
comp=N,16μm,17.0s,MS6.4
MOS MLR MLR
comp=E,13μm,17.0s,MS6.4
MOS MLR MLR
comp=Z,40μm,17.0s,MS6.7
MOS Moscow 67.77 322 *i* Pcu **P 16 21 34.3 -1.0**
comp=Z,616nm,1.5s,mb6.4
MOS *i* 16 22 00.5
MOS *e* 16 24 00.4
MOS *i* S S 16 30 27.9 -0.9
MOS LR LR
comp=Z,40μm,17.0s,MS6.7
ARCES ARCESS Array B 67.85 338 P **P 16 21 34.5 -1.0**
comp=Z,60nm,0.9s,mb5.6,baz=63,slow=8.1,SNR=48
ARCES LR LR 16 56 27.4
comp=Z,25μm,19.9s,MS6.4,baz=57,slow=41
ARE0 ARCESS Array S 67.85 338 *e*P **P 16 21 33.9 -1.6**
TOO Toolangi 68.01 167 *e*P **P 16 21 37.7 +0.6**
comp=Z,43nm,1.6s,mb5.2
TOO *e*pP pP 16 21 49.6 +0.4
TOO *e*S S 16 30 37.8 +5.8
TOO Toolangi 68.01 167 *e*P **P 16 21 37.7 +0.6**
TOO *e**PP pP 16 21 49.6 +0.4
TOO *e*S S 16 30 37.8 +5.8
TOO pmax pmax
comp=Z,43nm,1.6s,mb5.2
SAMG Sameba 68.03 306 P **P 16 21 37.1 -0.1**
MTA Mtatsminda 68.05 306 P **P 16 21 36.0 -1.3**
MTA S ScS 16 31 33.9 +4.5
TI2 Plekhanov 68.06 306⇑ *i*P **P 16 21 37.6 +0.2**
TI2 pmax pmax
comp=Z,180nm,0.6s,mb6.3
TI2 MLR MLR
comp=N,4μm,13.0s,MS6.0
TI2 MLR MLR
comp=E,4μm,13.0s,MS6.0
TI2 MLR MLR
comp=Z,10μm,13.0s,MS6.2
TBLG Delisi 68.07 306 P **P 16 21 38.2 +0.7**
TBLG Delisi 68.07 306⇑ *i*P **P 16 21 37.6 +0.1**
comp=Z,180nm,0.6s,mb6.3
TBLG LR LR
comp=Z,10μm,13.0s,MS6.2
GOF Gofitskoye 68.10 310 *e*P **P 16 21 36.4 -1.2**
GOF pmax pmax
comp=Z,710nm,1.3s,mb6.5
GOF Gofitskoye 68.10 310 *e*P **P 16 21 36.4 -1.2**
comp=Z,710nm,1.3s,mb6.5
SIT Sitka 68.22 36 P **P 16 21 39.1 +1.0**
SIT pmax pmax
comp=Z,260nm,1.0s,mb6.2
VOR Voronezh 68.24 318 *e*P **P 16 21 37.0 -1.3**
VOR S S 16 30 33.0 -1.4
VOR pmax pmax
comp=N,240nm,1.3s
VOR pmax pmax
comp=E,480nm,1.3s
VOR pmax pmax
comp=Z,820nm,1.3s,mb6.6
VOR smax
comp=N,200nm,1.6s
VOR smax
comp=E,80nm,1.6s
VOR smax
comp=Z,50nm,1.6s
JOF Joensuu 68.27 331 *ep* **P 16 21 35.8 -2.5**
comp=Z,164nm,0.9s,mb6.1
VRSR Storozhevoye 68.42 317 *c i*P **P 16 21 38.2 -1.3**
VRSR *e*S S 16 30 35.0 -1.6
VRSR pmax pmax
comp=E,600nm,1.0s
VRSR pmax pmax
comp=Z,600nm,1.0s,mb6.6
VRSR pmax pmax
comp=N,300nm,1.3s
VRSR smax
comp=N,10.0nm,1.5s
VRSR smax
comp=Z,2.0nm,1.3s
VRSR smax
comp=E,9.0nm,1.6s
VRSR MLR MLR
comp=E,2μm,17.0s,MS5.6
VRSR MLR MLR
comp=Z,5μm,17.0s,MS5.8
VRSR MLR MLR
comp=N,2μm,18.0s,MS5.6
VRSR Storozhevoye 68.42 317⇑ *i*P **P 16 21 38.2 -1.3**
comp=N,600nm,1.0s,mb6.6
VRSR *e*S S 16 30 35.0 -1.6
VRSR LR LR
comp=Z,5μm,17.0s,MS5.8
OBN Obninsk 68.55 322 *c i*P **P 16 21 38.6 -1.6**
OBN *e* pP 16 21 51.4 -0.8
OBN *e* 16 22 03.1
OBN *i* 16 24 10.7
OBN *e*S S 16 30 37.6 -0.5
OBN *e*SS SS 16 35 02.6 -1.6
OBN pmax pmax
comp=Z,500nm,1.7s,mb6.2
OBN MLR MLR
comp=Z,24μm,17.0s,MS6.5
OBN Obninsk 68.55 322⇑ *i*P **P 16 21 38.6 -1.6**
comp=Z,500nm,1.7s,mb6.2
OBN *e* pP 16 21 51.4 -0.8
OBN *e* 16 22 03.1
OBN *i* 16 24 10.7
OBN *e*S S 16 30 37.6 -0.5
OBN *e*SS SS 16 35 02.6 -1.6
OBN LR LR
comp=Z,24μm,17.0s,MS6.5
GNI Garni 68.62 305 P **P 16 21 39.1 -1.8**
GNI Garni 68.62 305 P **P 16 21 41.5 +0.6**
comp=Z,194nm,0.9s,mb6.0,baz=5.9,slow=1.7,SNR=81
KIV Kislovodsk 68.72 309 *c i*P **P 16 21 41.9 +0.5**
KIV pmax pmax
comp=Z,2μm,1.3s,mb6.8
KIV Kislovodsk 68.72 309⇑ *i*P **P 16 21 41.9 +0.5**
comp=Z,2μm,1.3s,mb6.8
KTK1 Kautokeino 68.80 338⇑ *i*P **P 16 21 40.1 -1.4**
KTK1 AMb AMB 16 21 42.4
comp=Z,234nm,1.3s,mb6.0
KTK1 Kautokeino 68.80 338⇑ *i*P **P 16 21 40.1 -1.4**
comp=Z,234nm,1.3s,mb6.0
AKH Akhalkalaki 69.06 306 P **P 16 21 36.4 -7.2**
CLDR Caldiran 69.58 304 P **P 16 21 46.6 -0.2**
KARS Kars 69.63 306 P **P 16 21 48.6 +1.6**
SEMD Semdilli 69.80 302 P **P 16 21 46.9 -1.3**
TRO Tromso 69.86 340 *e*P **P 16 21 45.1 -2.9**
TRO *e*S S 16 30 56.2 +2.9
TRO *e* 16 35 43.8
TRO AMS AMS 16 57 33.8
comp=Z,14μm,17.6s,MS6.3
TRO Tromso 69.86 340 *e*P **P 16 21 45.1 -2.9**
TRO LR LR
comp=Z,14259μm,17.6s
PUL Pulkovo 69.93 328 *c i*P **P 16 21 48.1 -0.5**
PUL *i* 16 24 17.8
PUL *i* S S 16 30 55.8 +1.5
PUL *i* SS SS 16 35 27.9 +2.6
PUL pmax pmax
comp=E,405nm,1.0s
PUL pmax pmax
comp=Z,289nm,1.0s,mb6.2
PUL pmax pmax
comp=N,227nm,1.1s
PUL pmax pmax
comp=Z,489nm,1.0s,mb6.4
PUL pmax pmax
comp=N,429nm,1.4s
PUL pmax pmax
comp=E,954nm,1.6s
PUL smax
comp=N,396nm,10.4s
PUL smax
comp=Z,1μm,17.8s
PUL smax
comp=E,2μm,18.2s
PUL MLR MLR
comp=E,24μm,16.0s,MS6.6
PUL MLR MLR
comp=Z,30μm,16.0s,MS6.6
PUL MLR MLR
comp=N,12μm,17.0s,MS6.6
PUL Pulkovo 69.93 328⇑ *i*P **P 16 21 48.1 -0.5**
comp=N,289nm,1.0s,mb6.2
PUL *i* 16 24 17.8
PUL *i* S S 16 30 55.8 +1.5
PUL *i* SS SS 16 35 27.9 +2.6
PUL LR LR
comp=Z,30μm,16.0s,MS6.6
VANB Van 70.17 304 P **P 16 21 50.3 -0.1**
TVAN Van 70.18 304 *i* P **P 16 21 47.4 -3.1**
VANT Van 70.22 304 *e*P **P 16 21 52.1 +1.4**
ARTV Artvin 70.24 307 *i* P **P 16 21 45.4 -5.4**
HKR Hakkari 70.29 303 P **P 16 21 48.8 -2.4**
UMR Umm Al-Rimmam 70.30 293 *e*P **P 16 21 51.2 -0.2**
UMR AMb AMB 16 21 52.7
comp=Z,826nm,0.9s,mb6.7
HAKT HAKKARI 70.32 303 *i* P **P 16 21 47.4 -4.0**
HASS Wahat al Ahsa' 70.41 288 P **P 16 21 52.2 +0.1**
QRN Al-Qurain 70.45 293 *e*P **P 16 21 51.5 -0.7**
QRN AMb AMB 16 21 53.5
comp=Z,770nm,1.0s,mb6.6
KBD Kabd 70.46 293 *e*P **P 16 21 51.9 -0.4**
KBD AMb AMB 16 21 53.8
comp=Z,2μm,0.9s,mb7.1
AFI Afiamalu 70.48 119 PFAKE 16 22 00.0 +7.4
AFI LR LR
comp=Z,3μm,20.0s,MS5.6
MIB Mutribah 70.50 294 *e*P **P 16 21 52.1 -0.4**
MIB AMb AMB 16 21 53.9
comp=Z,1μm,0.9s,mb6.8
RDF Al-Radifah 70.67 293 *e*P **P 16 21 52.8 -0.8**
RDF AMb AMB 16 21 55.0
comp=Z,1μm,0.9s,mb6.8
KAF Kangasniemi 70.72 331 *ep* **P 16 21 50.4 -2.9**
comp=Z,116nm,1.0s,mb5.8,baz=62,slow=5.5
KAF Kangasniemi 70.72 331 *eP* **P 16 21 50.4 -2.9**
KAF pmax pmax
comp=Z,117nm,1.0s,mb5.8
NAY Al-Naaiem 70.79 293 *e*P **P 16 21 53.4 -0.9**
NAY AMb AMB 16 21 55.6
comp=Z,622nm,0.9s,mb6.5
SOC Sochi 70.86 310 *c i*P **P 16 21 53.9 -0.6**
SOC *e**PP pP 16 22 07.5 +1.0
SOC *e* 16 22 14.9
SOC *e* 16 24 39.7
SOC *e*PPP PPP 16 26 13.9 -0.9
SOC *i* S S 16 31 02.3 -3.1
SOC *e* 16 31 53.6
SOC *e*SSS SSS 16 38 52.9 +6.6
SOC pmax pmax
comp=Z,432nm,1.3s,mb6.2
SOC pmax pmax
comp=Z,1μm,1.9s,mb6.5
SOC MLR MLR
comp=Z,18μm,18.0s,MS6.4
SOC Sochi 70.86 310⇑ *i*P **P 16 21 53.9 -0.6**
comp=Z,432nm,1.3s,mb6.2
SOC *e*pP pP 16 22 07.5 +1.0
SOC *e* 16 22 14.9
SOC *e* 16 24 39.7
SOC *e*PPP PPP 16 26 13.9 -0.9
SOC *i* S S 16 31 02.3 -3.1
SOC *e* 16 31 53.6
SOC *e*SSS SSS 16 38 52.9 +6.6
SOC LR LR
comp=Z,18μm,18.0s,MS6.4
FINES FINESS Array B 71.11 331 P **P 16 21 53.8 -2.0**
comp=Z,89nm,1.0s,mb5.7,baz=63,slow=4.3,SNR=80
FINES LR LR 16 56 30.2
comp=Z,15μm,19.7s,MS6.2,baz=62,slow=39
FINES FINESS Array B 71.11 331 *i* P **P 16 21 53.7 -2.0**
FINES pmax pmax

comp=Z,89nm,1.0s
ERZM Erzurum 71.12 306 *i* P **P** **16 21 49.3 -6.9**
EZM Erzurum 71.12 306 *eP* **P** **16 21 57.2 +1.1**
MSL Mosul 71.26 302 *i* x x 16 21 58.0
BHD Baghdad 71.46 298 *i* x x 16 21 58.5
BNGL BINGOL 71.64 305 *i* P **P** **16 21 56.9 -2.4**
BTMT Batman 71.70 304 *eP* **P** **16 21 59.0 -0.6**
MACK Trabzon 71.84 307 *i* P **P** **16 21 56.9 -3.5**
ANN Anapa 71.90 312*c i* P **P** **16 21 59.9 -0.8**
ANN *i* 16 22 18.0
ANN *e*PPP PPP 16 26 23.5 -0.8
ANN *e*S S 16 31 15.9 -1.5
ANN *e* 16 32 08.6
ANN *e*SSS SSS 16 39 11.7 +6.9
ANN pmax pmax
comp=Z,661nm,1.3s,mb6.4
ANN Anapa 71.90 312⇑ *i* P **P** **16 21 59.9 -0.8**
comp=Z,661nm,1.3s,mb6.4
ANN *i* 16 22 18.0
ANN *e*PPP PPP 16 26 23.5 -0.8
ANN *e*S S 16 31 15.9 -1.5
ANN *e* 16 32 08.6
ANN *e*SSS SSS 16 39 11.7 +6.9
BEST Besiri 71.97 304 *i* P **P** **16 21 58.9 -2.4**
VSU Vasula 72.16 328*c i* P **P** **16 22 01.0 -1.0**
VSU Vasula 72.16 328⇑ *i* P **P** **16 22 01.0 -1.0**
GUMT Gumushane 72.23 307 *eP* **P** **16 22 03.4 +0.7**
LOF Lofoten 72.31 339⇑ *i* P **P** **16 22 02.6 -0.1**
DAG Danmarks Havn 72.47 353⇓ *i* P **P** **16 22 02.6 -1.0**
comp=Z,583nm,1.5s,mb6.3
comp=Z,3μm,18.0s
DAG Danmarks Havn 72.47 353⇓ *i* P **P** **16 22 02.6 -1.0**
DAG pmax pmax
comp=Z,580nm,1.5s,mb6.3
DAG MLR MLR
comp=N,3μm,18.0s,MS5.6
DAG MLR MLR
comp=E,2μm,18.0s,MS5.6
DAG MLR MLR
comp=Z,3μm,18.0s,MS5.7
MARD Mardin 72.56 303 *i* P **P** **16 21 59.8 -4.9**
DIY Diyarbakir 72.73 304 *eP* **P** **16 22 06.5 +0.8**
PTK Pertek 72.93 305 *eP* **P** **16 22 05.1 -1.8**
MOR8 Moi Rana 73.15 338⇑ *i* P **P** **16 22 05.2 -2.4**
MOR8 AMb AMB 16 22 07.5
comp=Z,273nm,1.1s,mb6.1
MOR8 Moi Rana 73.15 338⇑ *i* P **P** **16 22 05.2 -2.4**
comp=Z,273nm,1.1s,mb6.1
RYDS Riyadh 73.35 289 P **P** **16 22 08.5 -1.2**
ELZG Elazig 73.38 305 *i* P **P** **16 22 09.4 -0.2**
MNK Minsk 73.42 324 *eP* **P** **16 22 07.0 -2.5**
MNK *e*S S 16 31 34.0 -0.5
MNK MLR MLR
comp=Z,25μm,18.0s,MS6.5
MNK MLR MLR
comp=E,19μm,18.0s
TAU Tasmania Uive 73.52 167 PFAKE 16 22 20.0 +10
TAU LR LR
comp=Z,1μm,22.0s,MS5.2
MYA Malataya 73.85 305 *eP* **P** **16 22 12.8 +0.5**
URFA Urfa 73.93 304 *eP* **P** **16 22 10.4 -2.4**
SIM Simferopol' 73.98 313*c eP* **P** **16 22 12.4 -0.5**
SIM *e*PPP PPP 16 26 44.0 -1.0
SIM *e*S S 16 31 43.3 +2.4
SIM *e*PS PS 16 32 39.0 +19
SIM pmax pmax
comp=Z,190nm,0.8s,mb6.1
SIM Simferopol' 73.98 313⇑ *eP* **P** **16 22 12.4 -0.5**
comp=Z,190nm,0.8s,mb6.1
SIM *e*PPP PPP 16 26 44.0 -1.0
SIM *e*S S 16 31 43.3 +2.4
SIM *e*PS PS 16 32 39.0 +19
SVST Sivas 74.28 307 *i* P **P** **16 22 09.4 -5.4**
ATAB Bozova 74.30 304 *i* P **P** **16 22 10.3 -4.6**
TOKT Tokat 74.34 308 *eP* **P** **16 22 14.9 -0.2**
KVT Kavak 74.36 308 *eP* **P** **16 22 14.3 -0.8**
AKASG Malin Array Be 74.40 320 P **P** **16 22 14.4 -0.8**
comp=Z,114nm,0.7s,mb5.9,baz=54,slow=6.1,SNR=402
AKASG Malin Array Be 74.40 320 *i* P **P** **16 22 14.3 -0.9**
AKASG pmax pmax
comp=Z,114nm,0.7s
AKASG Malin Array Be 74.40 320 *i* P **P** **16 22 14.3 -0.9**
comp=Z,114nm,0.7s,mb5.9
MZLS Mizel 74.60 289 P **P** **16 22 17.9 +1.0**
NSS Namsos 74.96 337 *eP* **P** **16 22 15.8 -2.3**
NSS AMb AMB 16 22 18.1
comp=Z,147nm,0.9s,mb5.9
NSS AMS AMS 16 59 16.9
comp=Z,16μm,20.1s,MS6.3
NSS Namsos 74.96 337 *eP* **P** **16 22 15.8 -2.3**
comp=Z,147nm,0.9s,mb5.9
BOYT Boyabat 74.99 309 *i* P **P** **16 22 15.1 -3.7**
YKA Yellowknife Ar 75.00 26 P **P** **16 22 18.4 0.0**
comp=Z,27nm,0.9s,mb5.2,baz=303,slow=5.7,SNR=110
YKA LR LR 17 01 33.0
comp=Z,2μm,18.8s,MS5.4,baz=315,slow=41
YKA Yellowknife Ar 75.00 26 *i* P **P** **16 22 18.3 -0.1**
YKA pmax pmax
comp=Z,270nm,0.9s
BYBT Boyabat 75.06 309 *eP* **P** **16 22 18.3 -1.0**
GAZ Gaziantep 75.21 304 *eP* **P** **16 22 20.9 +0.7**
KAHT Ahir Dag 75.25 305 *i* P **P** **16 22 19.0 -1.4**
BZK Bozkurt 75.36 310 *eP* **P** **16 22 21.1 +0.2**
CTKT Corum 75.41 308 *i* P **P** **16 22 17.1 -4.2**
BNN Bunyan 75.45 306 *eP* **P** **16 22 22.6 +1.1**
CORM Corum 75.72 308 *eP* **P** **16 22 21.7 -1.3**
TOS Tosya 75.75 309 *eP* **P** **16 22 22.7 -0.5**
JMIC Jan Mayen 75.86 347 P **P** **16 22 23.9 +0.7**
comp=Z,179nm,1.0s,mb6.0,baz=148,slow=9.1,SNR=5.0
JMIC LR LR 16 59 11.6
comp=Z,5μm,21.3s,MS5.8,baz=60,slow=38
JMIC Jan Mayen 75.86 347 *eP* **P** **16 22 24.6 +1.4**
JMIC *e*S S 16 32 07.9 +6.7
JMIC AMS AMS 16 58 02.7
comp=Z,4μm,19.2s,MS5.7
JMIC Jan Mayen 75.86 347 *eP* **P** **16 22 24.6 +1.4**
JMIC LR LR
comp=Z,3816μm,19.2s
HILS Ha'il 75.94 294 P **P** **16 22 25.8 +1.3**
BALT Daday 75.96 310 *i* P **P** **16 22 20.9 -3.5**
SUW Suwalki 76.05 324⇑ *eP* **P** **16 22 24.2 -0.4**
comp=Z,800nm,1.3s,mb6.5
SUW *e*SKS SKS 16 32 35.3 +8.5
SUW MLR MLR 16 59 25.9
comp=Z,27μm,17.2s,MS6.6
SUW Suwalki 76.05 324⇑ *eP* **P** **16 22 24.2 -0.4**
SUW *e* 16 32 35.3
SUW pmax pmax
comp=Z,800nm,1.3s,mb6.5
SUW MLR MLR
comp=Z,27μm,17.2s,MS6.6
KOZT Kozan 76.07 305 *eP* **P** **16 22 24.2 -0.8**
CDAG Cicekdag 76.14 308 *i* P **P** **16 22 21.9 -3.6**
AVNT Avonos 76.18 307 *i* P **P** **16 22 24.7 -0.9**
COBT Iskenderun 76.18 304 *i* P **P** **16 22 23.8 -2.0**
CANT Cankiri 76.22 309 *eP* **P** **16 22 26.3 +0.5**
CEYT Ceyhan 76.33 305 *eP* **P** **16 22 25.0 -1.6**
KIS Kishinev 76.36 316α *i* P **P** **16 22 25.0 -1.5**
KIS *e* pP 16 22 40.0 +1.4
KIS *e*S S 16 32 24.0 +17
KIS *e*PS PS 16 32 55.0 +4.3
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS pmax pmax
comp=Z,2μm,7.0s
KIS MLR MLR
comp=E,16μm,16.0s
KIS MLR MLR
comp=Z,23μm,16.0s,MS6.6
KIS MLR MLR
comp=Z,22μm,16.0s
KIS Kishinev 76.36 316 *i* Pcu **P** **16 22 25.0 -1.5**
comp=Z,400nm,1.0s,mb6.3
KIS *e* pP 16 22 40.0 +1.4
KIS *e*S S 16 32 24.0 +17
KIS *e*PS PS 16 32 55.0 +4.3
KIS LR LR
comp=Z,23μm,16.0s,MS6.6
RAO Raoul Island 76.37 135 PFAKE 16 22 40.0 +13
RAO LR LR
comp=Z,4μm,21.0s,MS5.7
ELDT Eldivan 76.40 309 *i* P **P** **16 22 25.7 -1.2**
HTY Hatay 76.44 304 *eP* **P** **16 22 26.8 -0.4**
AFFS 'Afif 76.46 290 P **P** **16 22 28.6 +1.1**
SAFT Safranbolu 76.56 310 *eP* **P** **16 22 27.1 -0.7**
BR131 Keskin Array S 76.60 308 PFAKE 16 22 40.0 +12
BR131 LR LR
comp=Z,4μm,19.0s,MS5.8
BRTR Keskin Array B 76.60 308 P **P** **16 22 28.1 0.0**
comp=Z,181nm,0.9s,mb6.0,baz=100,slow=5.0,SNR=250
NIG Nigde 76.65 306 *eP* **P** **16 22 28.5 +0.1**
KAMT Kaman 76.71 308 *eP* **P** **16 22 28.9 +0.2**
KARA Karaisali 76.72 305 *eP* **P** **16 22 28.2 -0.6**
KAMS Al Khamasin 76.75 286 P **P** **16 22 29.2 0.0**
HFS Hagfors 76.97 333 P **P** **16 22 28.6 -1.1**
comp=Z,105nm,1.0s,mb5.7,baz=56,slow=5.3,SNR=51
HFS PP PP 16 25 19.8 -4.7
comp=Z,12nm,0.8s,baz=124,slow=5.3,SNR=3.8
HFS LR LR 17 00 08.4
comp=Z,13μm,19.8s,MS6.3,baz=35,slow=39
IAS Iasi 77.02 317 P **P** **16 22 30.6 +0.4**
FKH Fakeheh 77.09 302 *eP* **P** **16 22 31.5 +0.6**
ANTO Ankara 77.12 308 *eP* **P** **16 22 30.7 -0.3**
ANTO Ankara 77.12 308 *eP* **P** **16 22 31.0 0.0**
ANTO pmax pmax
comp=Z,196nm,1.0s,mb6.0
LOD Lodumlu 77.13 309 *eP* **P** **16 22 30.2 -0.8**
MERS Mersin 77.27 305 *eP* **P** **16 22 31.1 -0.8**
SGKT Sivrigoynuk 77.29 309 *i* P **P** **16 22 26.6 -5.3**
NB2 NORSAR Subarra 77.38 334 P **P** **16 22 30.6 -1.4**
comp=Z,191nm,1.1s,mb5.9,baz=49,slow=5.6
NB2 NORSAR Subarra 77.38 334 P **P** **16 22 30.6 -1.4**
baz=49,slow=5.6
NB2 NORSAR Subarra 77.38 334 P **P** **16 22 30.6 -1.4**
NB2 pmax pmax
comp=Z,191nm,1.1s,mb5.9
NOA NORSAR Array B 77.38 334 P **P** **16 22 30.6 -1.3**
comp=Z,105nm,1.1s,mb5.7,baz=49,slow=5.5,SNR=102
NOA PP PP 16 25 23.5 -4.7
comp=Z,18nm,0.9s,baz=48,slow=8.6,SNR=6.3
NOA LR LR 17 02 25.3
comp=Z,10μm,18.7s,MS6.2,baz=70,slow=40
NOA NORSAR Array B 77.38 334 P **P** **16 22 30.6 -1.3**
NOA PP PP 16 25 23.5 -4.7
NOA LR LR 17 02 25.3
DOMB Dombas 77.54 336⇑ *i* P **P** **16 22 32.0 -0.9**
DOMB AMb AMB 16 22 34.5
comp=Z,315nm,1.4s,mb6.0
DOMB Dombas 77.54 336⇑ *i* P **P** **16 22 32.0 -0.9**
comp=Z,315nm,1.4s,mb6.0
NAO01 NORSAR Array S 77.63 334 PFAKE 16 22 40.0 +6.7
NAO01 LR LR
comp=Z,12μm,19.0s,MS6.2
CFR Carcaliu 77.65 315⇓ P **P** **16 22 32.6 -1.2**
MEST Erdemli 77.67 305 *i* P **P** **16 22 31.4 -2.6**
QURS Qurayyt al Mil 77.67 299 P **P** **16 22 35.6 +1.4**
MOL Molde 77.73 337⇑ *i* P **P** **16 22 35.7 +1.8**
MOL AMb AMB 16 22 38.3
comp=Z,452nm,1.5s,mb6.2
MOL *e*pP pP 16 22 46.9 +0.9
MOL Molde 77.73 337⇑ *i* P **P** **16 22 35.7 +1.8**
comp=Z,452nm,1.5s,mb6.2
LVV L'vov 77.74 320 *i* P **P** **16 22 33.0 -1.2**
BHL Bhannes 77.79 302 *eP* **P** **16 22 35.0 +0.2**
TIRR Tirgusor 77.83 314⇑ P **P** **16 22 34.5 -0.3**
TIRR Tirgusor 77.83 314 *eP* **P** **16 22 34.4 -0.4**
comp=Z,17nm,2.3s
MDU Mudurnu 77.91 310 *eP* **P** **16 22 36.1 +0.8**
HENT Hendek 77.95 310 *i* P **P** **16 22 28.6 -7.0**
HARR Harsova 78.01 315⇑ P **P** **16 22 35.2 -0.6**
HARR Harsova 78.01 315⇑ P **P** **16 22 35.2 -0.6**
TATS Tathlith 78.02 286 P **P** **16 22 37.5 +1.2**
WAR Warsaw 78.08 324 *eP* **P** **16 22 35.8 -0.2**
WAR MLR MLR 17 00 23.6
comp=Z,22μm,17.4s,MS6.5
SUMG Summit 78.12 357 *eP* **P** **16 22 35.8 -0.1**
comp=Z,138nm,2.0s,mb5.5
IKL Isikli 78.16 305 *eP* **P** **16 22 34.3 -2.4**
BURAR Bucovina Array 78.19 318⇓ P **P** **16 22 36.9 +0.2**
BURAR Bucovina Array 78.19 318⇓ P **P** **16 22 36.9 +0.2**
KIZT Kizilcal 78.20 308 *eP* **P** **16 22 36.6 -0.4**
KDHN Kadinhani 78.21 308 *i* P **P** **16 22 38.1 +1.2**
PSN Preselentsi 78.35 314 *i* P **P** **16 22 38.5 +0.9**
OCWA Octopus Mounta 78.39 42 PFAKE 16 22 50.0 +12
OCWA LR LR
comp=Z,2μm,22.0s,MS5.5
HNTI Hanita 78.52 301 P **P** **16 22 39.4 +0.6**
ERMK Ermenek 78.53 306 *i* P **P** **16 22 31.4 -7.3**
SCO Scoresbysund 78.55 351⇑ *i* P **P** **16 22 38.2 0.0**
comp=Z,429nm,1.6s,mb6.1
KWP Kalwaria 78.58 321⇑ *eP* **P** **16 22 39.5 +0.8**
comp=Z,1μm,1.4s,mb6.7
KWP *e*SKS SKS 16 32 47.9 +2.7
KWP MLR MLR 17 00 29.1
comp=Z,39μm,18.5s,MS6.8
KWP Kalwaria 78.58 321⇑ *eP* **P** **16 22 39.5 +0.8**
KWP *e* 16 32 47.9
KWP pmax pmax
comp=Z,1μm,1.4s,mb6.7
KWP MLR MLR
comp=Z,39μm,18.5s,MS6.8
ESKT Eskisehir 78.61 309 *eP* **P** **16 22 38.4 -0.8**
ESKT Eskisehir 78.61 309 *i* P **P** **16 22 36.2 -2.9**
MMLI Mount Malkishu 78.63 301 P **P** **16 22 40.3 +0.8**
ISR Istrita 78.66 315⇓ P **P** **16 22 39.5 +0.2**
KBRS Khaybar 78.67 293 P **P** **16 22 41.5 +1.7**
BORA Eskisehir 78.70 309 *i* P **P** **16 22 37.2 -2.5**
HAF Haifa 78.71 301 P **P** **16 22 40.6 +0.4**
HRT Hereke 78.78 310 *eP* **P** **16 22 38.1 -2.0**
MLR Muntele Rosu 78.84 316 P **P** **16 22 40.4 +0.1**
comp=Z,56nm,0.9s,mb5.5,baz=0.3,slow=4.1,SNR=50
MLR LR LR 17 00 46.8
comp=Z,19μm,18.6s,MS6.5,baz=55,slow=38
MLR Muntele Rosu 78.84 316⇓ P **P** **16 22 39.5 -0.8**
MKRJ Makawir 78.88 300 P **P** **16 22 41.6 +0.8**
OFRI 'Ofer 78.88 301 P **P** **16 22 41.3 +0.5**
KONO Kongsberg 78.89 334 *eP* **P** **16 22 39.2 -1.1**
KONO *e*S S 16 32 37.6 +3.5
KONO *e*SS SS 16 37 49.8 +7.4
KONO Kongsberg 78.89 334 *eP* **P** **16 22 39.3 -1.0**
KONO pmax pmax
comp=Z,500nm,1.1s,mb6.4
KONO Kongsberg 78.89 334 *eP* **P** **16 22 39.2 -1.1**
KONO LR LR
comp=Z,9μm,20.0s,MS6.1
MAMC Mammari 78.99 304 P **P** **16 22 41.3 -0.1**
CSS Prodhromos 79.01 304⇑ P **P** **16 22 41.3 -0.2**
comp=Z,1.9nm,0.9s
CSS Prodhromos 79.01 304⇑ *eP* **P** **16 22 41.3 -0.2**
SLTI Sal'it 79.01 301 P **P** **16 22 42.3 +0.8**
ISK Istanbul-Kandi 79.06 311 *eP* **P** **16 22 39.6 -2.0**
PRD Provadia 79.08 313 *i* P **P** **16 22 42.5 +0.8**
LBOS 79.09 280⇑ *eP* **P** **16 22 43.6 +1.4**
LBOS AMb AMB 16 22 44.5
comp=Z,170nm,0.8s,mb6.0
YLV Yalova 79.09 310 *eP* **P** **16 22 39.1 -2.7**
MSEY Mahe Island 79.12 258 PFAKE 16 22 50.0 +7.5
MSEY LR LR
comp=Z,2μm,22.0s,MS5.3
BADT Buyukada 79.12 311 *eP* **P** **16 22 41.8 -0.1**
SNX Sinaia 79.17 316⇓ P **P** **16 22 41.9 -0.2**
SNX Sinaia 79.17 316⇓ P **P** **16 22 41.9 -0.2**
KOLS Kolonicke sedl 79.19 320 *eP* **P** **16 22 42.3 +0.2**
KOLS *e* 16 22 48.6
KOLS *e*PP PP 16 25 36.3 -7.2
MZDA Masada 79.20 300 P **P** **16 22 43.0 +0.4**
ALT Altintas 79.33 309 *eP* **P** **16 22 41.2 -1.9**
UZH Uzhgorod 79.34 320 *eP* **P** **16 22 44.0 +1.1**
BUC1 Bucharest 79.36 315 P **P** **16 22 43.9 +0.7**
VOIR 79.41 316⇓ P **P** **16 22 43.2 -0.2**
VOIR 79.41 316⇓ P **P** **16 22 43.2 -0.2**
SZAC Souni-Zanaja 79.43 304 P **P** **16 22 43.6 -0.2**
CTT Catalca 79.43 311 *eP* **P** **16 22 43.2 -0.4**
ELBA Catalca 79.43 311 *i* P **P** **16 22 38.1 -5.5**
BLJS Baljurashi 79.44 287 P **P** **16 22 45.7 +1.6**
BSD Bornholm Skovb 79.45 328 *eS* S 16 33 03.2 +23
comp=Z,17μm,17.0s
BSD Bornholm Skovb 79.45 328⇑ *i* P **P** **16 22 43.0 -0.4**
comp=Z,105nm,1.1s,mb5.7
BSD *e*S S 16 33 03.2 +23
ALFC Alevga 79.45 304⇑ P **P** **16 22 43.1 -0.7**
comp=Z,2.4nm,0.9s
ALFC Alevga 79.45 304⇑ *eP* **P** **16 22 43.1 -0.7**
ULDT Uludag 79.46 310 *i* P **P** **16 22 40.1 -3.7**
STHS Stebnicka Huta 79.50 321 *i* P **P** **16 22 44.4 +0.6**
DHBB Dhamar BB 79.50 281⇑ *eP* **P** **16 22 45.9 +1.4**
DHBB AMb AMB 16 22 47.3
comp=Z,864nm,1.2s,mb6.6
MTUR Matau 79.51 316⇑ P **P** **16 22 47.0 +3.1**
MTUR Matau 79.51 316 P **P** **16 22 43.4 -0.5**
ISP Isparta 79.64 308 *eP* **P** **16 22 43.7 -1.2**
ISP Isparta 79.64 308*c i* P **P** **16 22 44.2 -0.6**
CRVS Cervenica-Dubn 79.66 321 *i* P **P** **16 22 45.2 +0.5**
ORLT Orhaneli 79.67 310 *eP* **P** **16 22 45.1 +0.2**
TKTP Tekketepe 79.68 308 *i* P **P** **16 22 40.1 -5.0**
ZFRI Zfri 79.69 299 P **P** **16 22 46.0 +0.8**
TBKS Tabuk 79.71 296 P **P** **16 22 46.5 +1.1**
PPCY Paphos 79.76 304⇑ P **P** **16 22 45.0 -0.5**
PPCY Paphos 79.76 304⇑ *eP* **P** **16 22 45.0 -0.5**
MASH Mash'abbe Sade 79.78 300 P **P** **16 22 46.2 +0.5**
RTMM Retamin 79.83 300 P **P** **16 22 46.5 +0.5**
OJC Ojcow 79.84 322 *eP* **P** **16 22 44.9 -0.7**
OJC *e*PP PP 16 25 45.8 -2.8
OJC *e*S S 16 32 49.7 +5.4
OJC MLR MLR 17 01 41.3
comp=Z,29μm,17.6s,MS6.7
RMW Rattlesnake Mo 79.91 41 P **P** **16 22 46.7 +0.7**
PRNI Paran 79.92 299 P **P** **16 22 46.9 +0.4**
JMB Yambol 79.97 313 *i* P **P** **16 22 47.0 +0.5**
SZH Strazhica 79.97 314 *i* P **P** **16 22 46.5 0.0**
BER Bergen 80.00 336 *eP* **P** **16 22 45.9 -0.4**
BER *e*SS SS 16 38 04.6 +5.5
BER AMS AMS 17 02 33.9
comp=Z,17μm,17.9s,MS6.4
BER Bergen 80.00 336 *eP* **P** **16 22 45.9 -0.4**
BER LR LR
comp=Z,17015μm,17.9s
ANTB Antalya 80.00 307 *eP* **P** **16 22 45.1 -1.7**
NIE Niedzica 80.00 321⇑ *i* P **P** **16 22 47.6 +1.1**
NIE *e*PP PP 16 25 50.0 0.0
DRGR 80.08 318⇓ P **P** **16 22 46.9 -0.1**
DRGR 80.08 318 P **P** **16 22 46.7 -0.3**
DRGR 80.08 318⇓ P **P** **16 22 46.9 -0.1**
KHL Karahalli 80.09 308 *eP* **P** **16 22 45.8 -1.4**
KZIT Kziot 80.12 300 P **P** **16 22 47.8 +0.3**
BNT Bandirma 80.16 311 *eP* **P** **16 22 46.4 -1.1**
AQBJ Aqaba 80.17 298 P **P** **16 22 48.5 +0.7**
EDRB Edirne 80.18 313 *eP* **P** **16 22 46.0 -1.7**
COP Copenhagen 80.22 329 *i* S S 16 32 55.4 +7.2
COP *i* 16 42 40.4
comp=Z,9μm,18.0s
COP Copenhagen 80.22 329⇑ *i* P **P** **16 22 47.7 +0.2**
COP *i* S S 16 32 55.4 +7.2
COP pmax pmax
comp=Z,110nm,1.1s,mb5.7
COP MLR MLR
comp=Z,9μm,18.0s,MS6.2
COP Copenhagen 80.22 329⇑ *i* P **P** **16 22 47.7 +0.2**
comp=Z,109nm,1.1s,mb5.7
COP *i* S S 16 32 55.4 +7.2
COP *i* 16 42 40.4
COP LR LR
comp=Z,9μm,18.0s,MS6.1
MBH Mount Berech 80.25 299 P **P** **16 22 48.6 +0.4**
EIL Elat 80.28 298 P **P** **16 22 48.7 +0.3**
ALWS Ilw as Safayha 80.36 298 P **P** **16 22 49.9 +1.0**
TRBA At Turbah 80.36 280⇑ *eP* **P** **16 22 50.5 +1.4**
TRBA AMb AMB 16 22 51.8
comp=Z,1μm,1.0s,mb6.7
MFT Murefte 80.37 311 *eP* **P** **16 22 46.7 -2.0**
PVL Pavlikeni 80.38 314 *i* P **P** **16 22 50.0 +1.4**
BTOK Tokmak 80.39 310 *i* P **P** **16 22 45.8 -3.0**
JMOS Jabal al Moall 80.39 298 P **P** **16 22 50.1 +1.1**
KECS Kecovo 80.42 321 *i* P **P** **16 22 49.4 +0.6**
KECS *e*PP PP 16 25 46.6 -7.2
FRSS Farasan al Kab 80.45 284 P **P** **16 22 51.2 +1.7**
SART Tekirdag 80.48 311 *i* P **P** **16 22 43.9 -5.4**
UMJS Umm Lajj 80.49 294 P **P** **16 22 51.3 +1.7**
BALB Balikesir 80.55 310 *eP* **P** **16 22 49.5 -0.1**
COR Corvallis 80.56 44 *eP* **P** **16 22 49.6 0.0**
COR *e* 16 22 58.2
COR pmax pmax
comp=Z,940nm,2.0s,mb6.4
COR MLR MLR
comp=Z,2μm,19.0s,MS5.5
COR Corvallis 80.56 44 *eP* **P** **16 22 49.6 0.0**
comp=Z,940nm,2.0s,mb6.4
COR *e*PcP PcP 16 22 58.2 +1.5
COR LR LR
comp=Z,2μm,19.0s,MS5.5
HAQS Haql 80.58 298 P **P** **16 22 51.1 +1.0**
ELL Elmali 80.59 307 *eP* **P** **16 22 48.1 -1.8**
GOLH Golhisar 80.60 307 *i* P **P** **16 22 45.8 -4.1**
MANT Manisa 80.67 309 *i* P **P** **16 22 47.7 -2.5**
DENT Denizli 80.71 308 *eP* **P** **16 22 50.1 -0.4**
AYUS 'Aynunah 80.72 297 P **P** **16 22 51.6 +0.8**
DNZL Cakiroluk 80.73 308 *i* P **P** **16 22 48.7 -1.9**
BDAS Al Bad' 80.74 297 P **P** **16 22 51.8 +0.9**
TBM Table Mountain 80.76 41 P **P** **16 22 51.4 +0.8**
RAC Raciborz 80.77 323 *eP* **P** **16 22 50.6 +0.1**
RAC LMN 16 58 34.8
RAC MLR MLR 17 02 17.2
RAC LME 17 02 22.5
comp=Z,23μm,18.5s
RAC Raciborz 80.77 323 *eP* **P** **16 22 50.6 +0.1**
RAC LR LR
comp=Z,27μm,18.3s,MS6.6
WTV Waterville 80.83 40 P **P** **16 22 51.0 +0.1**
DIM Dimitrovgrad 80.85 313 *i* P **P** **16 22 52.0 +0.8**
LIKS Likavka 80.86 322 *eP* **P** **16 22 52.2 +1.1**
EBG Ellensburg 80.92 41 P **P** **16 22 52.6 +1.1**
OKC Ostrava-Krasne 80.93 323⇑ *i* P **P** **16 22 51.9 +0.5**
OKC AMS AMS 17 02 00.0
comp=Z,20μm,16.4s
AKS Akhisar 80.97 309 *eP* **P** **16 22 50.5 -1.3**
AKAS Kas 81.06 306 *i* P **P** **16 22 48.7 -3.7**
VLL Laurance Lake 81.06 43 P **P** **16 22 53.5 +1.3**
PSZ Piszkesteto 81.07 320⇑ *i* P **P** **16 22 52.9 +0.7**
ALN Alexandroupoli 81.12 312 *eP* **P** **16 22 52.4 -0.2**
MUD Monsted U'grnd 81.14 331⇑ *i* P **P** **16 22 52.2 -0.2**
comp=Z,176nm,1.1s,mb5.9
MUD *i* 16 23 08.1
MUD *i* S S 16 33 03.7 +6.0
MUD *i* 16 38 35.6
comp=Z,17μm,17.0s
FETY Fethiye 81.23 307 *eP* **P** **16 22 49.3 -3.9**
MORC Moravsky Berou 81.29 323⇑ P **P** **16 22 53.8 +0.5**
KSP Ksiaz 81.31 324⇑ *eP* **P** **16 22 54.4 +1.0**
comp=Z,3μm,3.2s
KSP *e*SKS SKS 16 33 19.1 +14
KSP MLR MLR 17 02 51.8
comp=Z,47μm,18.7s,MS6.9
KSP Ksiaz 81.31 324⇑ *i* P **P** **16 22 54.1 +0.7**
KSP *e**PP pP 16 23 03.5 -2.1
KSP *e* 16 26 00.0
KSP *e* 16 33 05.0
KSP *e*SS SS 16 38 17.0 -2.0
KSP MLR MLR
comp=Z,54μm,18.8s,MS6.9
KSP Ksiaz 81.31 324⇑ *i* P **P** **16 22 54.1 +0.7**
KSP *e*pP pP 16 23 03.5 -2.1
KSP *e*PP PP 16 26 00.0 -1.4
KSP *e*PPPP 16 29 27.0
KSP *e*SKS SKS 16 33 05.0 +0.3
KSP *e*SS SS 16 38 17.0 -2.0
KSP LR LR
comp=Z,54μm,18.8s,MS6.9
RDO Rodhopi 81.32 312 *eP* **P** **16 22 54.0 +0.4**
VYHS Vyhne 81.33 321 *i* P **P** **16 22 54.4 +0.9**
VYHS *e*PP PP 16 25 52.1 -9.5
DJES Djerdap 81.35 317 *eP* **P** **16 22 54.5 +0.8**
PLD Plovdiv 81.35 314 *i* P **P** **16 22 54.0 +0.2**
BZS Buzias 81.36 318 P **P** **16 22 53.8 +0.1**
SNZO South Karori 81.37 148 PFAKE 16 23 00.0 +6.1
SNZO LR LR
comp=Z,3μm,19.0s,MS5.6
DALT Dalyan (Mudla) 81.47 307 *eP* **P** **16 22 51.5 -3.0**
AYVA Ayvalik 81.51 310 *i* P **P** **16 22 51.6 -3.1**
YER Yerkesik 81.53 308 *eP* **P** **16 22 53.4 -1.5**
AYDN Tasoluk 81.54 308 *i* P **P** **16 22 52.5 -2.4**
RZN Rozhen 81.56 313 *i* P **P** **16 22 55.5 +0.6**
KDAG Bornova 81.58 309 *i* P **P** **16 22 52.5 -2.6**
DPC Dobruska-Polom 81.59 324⇑ *i* P **P** **16 22 55.8 +1.0**
DPC *e*pP pP 16 23 09.3 +2.2
DPC *e*SKS SKS 16 33 10.4 +3.8
DPC AMS AMS 17 02 20.0
comp=Z,33μm,16.5s
IZM Izmir 81.59 309 *eP* **P** **16 22 55.0 -0.2**
UPC Upice 81.66 324⇑ *i* P **P** **16 22 55.9 +0.7**

UPC *e*pP pP 16 23 05.6 -1.8
BLCB Balcova 81.75 309 *e*P **P 16 22 54.7 -1.2**
BUD Budapest 81.80 320⇑*e*P **P 16 22 56.4 +0.4**
MLSB Milas 81.80 308 *e*P **P 16 22 55.4 -0.8**
HAWA Hanford 81.80 41⇑*i*P **P 16 22 56.4 +0.4**
comp=Z,141nm,1.3s,mb5.7
HAWA LR LR
comp=Z,2µm,22.0s,MS5.3
PRK Paraskevi 81.82 310 *e*P **P 16 22 56.3 0.0**
HUMO Hull Mountain 81.82 46 *e*P **P 16 22 57.0 +0.7**
comp=Z,139nm,1.6s,mb5.6
HUMO LR LR
comp=Z,5µm,22.0s,MS5.8
SRO2 Moca 81.99 321 *e*P **P 16 22 57.5 +0.5**
SRO Srobarova 82.00 321 *i*P **P 16 22 57.2 +0.1**
VTS Vitosha 82.03 315 *i*P **P 16 22 58.0 +0.7**
VTS Vitosha 82.03 315 P **P 16 22 58.2 +0.9**
URLA Izmir 82.06 310 *i*P **P 16 22 54.4 -3.1**
VRAC Vranov 82.06 323 P **P 16 22 58.4 +1.1**
comp=Z,132nm,1.0s,mb5.8,baz=62,slow=5.5,SNR=99
VRAC LR LR 17 03 28.6
comp=Z,22µm,18.1s,MS6.5,baz=64,slow=39
VRAC Vranov 82.06 323 ⇑P **P 16 22 57.5 +0.2**
VRAC Vranov 82.06 323 P **P 16 22 58.4 +1.0**
SMOL Smolenice 82.08 322 *i*P **P 16 22 58.6 +1.2**
ARG Arkhangelos 82.10 307 *e*P **P 16 22 58.3 +0.5**
BOLS Boljevac 82.13 316⇑*i*P **P 16 22 56.8 -1.0**
DAT Datca 82.22 308 *e*P **P 16 22 56.5 -2.0**
SMG Samos 82.23 309 *e*P **P 16 22 57.5 -0.9**
BODT Bodrum 82.24 308 *e*P **P 16 22 57.0 -1.4**
MMB Musomiste 82.24 313 *i*P **P 16 22 59.0 +0.6**
ATD Arta Tunnel 82.25 279 P **P 16 23 00.7 +1.7**
comp=Z,247nm,1.0s,mb6.1,baz=26,slow=3.0,SNR=63
ATD LR LR 17 03 11.1
comp=Z,2µm,19.6s,MS5.4,baz=258,slow=38
BSEG Bad Segeberg 82.28 329 *e*P **P 16 22 58.7 +0.4**
BSEG pmax pmax
comp=Z,258nm,1.3s,mb6.0
PVCC Panska Ves 82.38 325⇑*i*P **P 16 22 59.8 +0.9**
PVCC *e*pP pP 16 23 08.7 -2.5
PVCC AMS AMS 17 04 10.0
comp=Z,31µm,15.7s
LRW Lerwick 82.43 338 *e*P **P 16 22 58.8 -0.2**
BUOR Burton Butte 82.44 46 P **P 16 23 00.7 +1.3**
ZST Bratislava 82.44 322 *e*P **P 16 23 00.4 +1.1**
YBH Yreka Blue Hor 82.44 46 *e*P **P 16 23 00.0 +0.6**
comp=Z,89nm,1.2s,mb5.6
YBH LR LR
comp=Z,2µm,20.0s,MS5.4
BEO Belgrade 82.48 318 *e*P **P 16 22 59.4 -0.2**
WAL1 Walls 82.48 338 *e*P **P 16 22 58.8 -0.4**
BRG Berggiesshubel 82.48 325⇑*i*P **P 16 23 00.0 +0.6**
BRG *i* pP 16 23 09.9 -1.8
BRG 16 26 12.0
BRG pmax pmax
comp=Z,459nm,1.8s,mb6.1
BRG MLR MLR
comp=Z,26µm,15.1s,MS6.7
BRG Berggiesshubel 82.48 325⇑*i*P **P 16 23 00.0 +0.6**
comp=Z,459nm,1.8s,mb6.1
BRG *i* pP 16 23 09.8 -1.8
BRG PP PP 16 26 12.0 +1.2
BRG *e* 16 37 13.9
BRG SS SS 16 38 53.0 +16
BRG *e*P'P' 16 49 29.0
BRG LR LR
comp=Z,26µm,15.1s,MS6.7
KKB Krupnik 82.50 314 *i*P **P 16 23 00.0 +0.3**
SRS Serrai 82.58 313 *e*P **P 16 22 59.5 -0.7**
TREC Trest 82.65 323⇑*i*P **P 16 23 01.1 +0.8**
TREC *e*pP pP 16 23 11.4 -1.2
CLL Collm 82.68 326 ⇑P **P 16 23 01.0 +0.6**
comp=Z,logA/T=2.6,mb6.4
CLL *i* PCP PcP 16 23 05.2 -0.6
CLL *e**SP sP 16 23 14.0 -3.1
CLL *e*PP PP 16 26 06.0 -6.4
CLL *e* 16 29 24.0
CLL *e*S S 16 33 25.0 +11
CLL *e*PS PS 16 34 06.0 -4.1
CLL *e*PPS PPS 16 34 25.0 -7.0
CLL *e**SSS 16 39 06.0
CLL *e* 16 42 30.0
CLL Collm 82.68 326⇑*i*P **P 16 23 01.0 +0.6**
CLL *e**PP pP 16 23 14.0 +1.3
CLL pmax pmax
comp=Z,633nm,1.5s,mb6.4
CLL MLR MLR
comp=Z,40µm,16.3s,MS6.9
CLL Collm 82.68 326⇑*i*P **P 16 23 01.0 +0.6**
comp=Z,633nm,1.5s,mb6.4
CLL *i* PcP PcP 16 23 05.2 -0.6
CLL *e*pP pP 16 23 14.0 +1.3
CLL *e*S S 16 33 25.0 +11
CLL LR LR
comp=Z,40µm,16.3s,MS6.9
PRU Pruhonice 82.72 324⇑*i*P **P 16 23 01.5 +0.8**
PRU AMS AMS 17 03 10.0
comp=Z,27µm,16.4s
PRA Prague 82.73 324 ⇑P **P 16 23 01.0 +0.3**
PRA *ex* x 16 23 12.0
PKSM Moragy 82.74 319 P **P 16 23 01.6 +0.7**
OUR Ouranopolis 82.75 312 *e*P **P 16 23 00.8 -0.2**
BARS Barje 82.76 315⇑*i*P **P 16 23 01.3 +0.3**
VKA Vienna 82.83 322⇑*i*P **P 16 23 02.8 +1.6**
GRUS Gruza 82.85 317 *i*P **P 16 23 01.2 -0.3**
SOH Sokhos 82.89 313 *e*P **P 16 23 01.4 -0.4**
KIPM Iron Peak 82.98 48 *e*P **P 16 23 03.0 +0.8**
KNT Kendrikon 83.00 313 *e*P **P 16 23 02.1 -0.2**
SOP Sopron 83.04 321⇑*i*P **P 16 23 03.5 +1.2**
PLG Polygyros 83.08 313 *e*P **P 16 23 02.3 -0.4**
KARP Karpathos 83.12 307 *e*P **P 16 23 02.7 -0.3**
RHK1 Bakonya 83.13 320⇓*e*P **P 16 23 03.6 +0.8**
DIVS Divcibare 83.16 317⇓*i*P **P 16 23 03.1 +0.1**
PAIG Paliouri 83.16 312 *e*P **P 16 23 02.8 -0.4**
WDC Whiskeytown Da 83.17 47 *e*P **P 16 23 03.4 +0.2**
comp=Z,92nm,1.3s,mb5.7
WDC LR LR
comp=Z,2µm,21.0s,MS5.4
THE Thessaloniki 83.24 313 *e*P **P 16 23 02.8 -0.8**
GRG Griva 83.42 313 *e*P **P 16 23 04.2 -0.2**
AOS Alonnisos 83.44 311 *e*P **P 16 23 04.2 -0.4**
APE Apeiranthos 83.45 309 *e*P **P 16 23 01.7 -3.0**
APE Apeiranthos 83.45 309 *e*P **P 16 23 04.0 -0.7**
APE Apeiranthos 83.45 309*c i*P **P 16 23 03.0 -1.7**
CLZ Clausthal 83.61 327 *e*P **P 16 23 06.1 +1.0**
comp=Z,870nm,1.2s,mb6.8
NKC Novy Kostel 83.63 325⇑*i*P **P 16 23 06.3 +1.1**
NKC *e*SKS SKS 16 33 27.4 +6.7
NKC AMS AMS 17 04 50.0
comp=Z,34µm,15.1s
BBLS Bajina Basta - 83.64 317 *e*P **P 16 23 07.7 +2.2**
HOPS Hopland 83.69 49 PFAKE 16 23 20.0 +14
HOPS LR LR
comp=Z,3µm,19.0s,MS5.7
BORG Borgarnes 83.69 348 LR LR 16 58 46.1
comp=Z,2µm,20.6s,MS5.5,baz=294,slow=35
BORG Borgarnes 83.69 348 PFAKE 16 23 20.0 +15
BORG LR LR
comp=Z,1µm,21.0s,MS5.2
KHC Kasperske Hory 83.75 324⇑*i*P **P 16 23 06.6 +0.7**
KHC *e*pP pP 16 23 16.6 -1.5
KHC *e*SKS SKS 16 33 30.2 +8.7
KHC AMS AMS 17 03 50.0
comp=Z,24µm,20.0s
MOX Moxa 83.78 326 *i*P **P 16 23 06.6 +0.6**
comp=Z,logA/T=2.5,mb6.4
MOX S S 16 33 34.0 +9.4
MOX SS SS 16 39 14.0 +19
MOX L 17 04 30.0
MOX Moxa 83.78 326 *e*P **P 16 23 06.6 +0.6**
MOX pmax pmax
comp=Z,468nm,1.6s,mb6.4
MOX MLR MLR
comp=Z,25µm,19.0s,MS6.6
MOX Moxa 83.78 326⇑*e*P **P 16 23 06.6 +0.6**
comp=Z,468nm,1.6s,mb6.4
MOX *e*S S 16 33 34.0 +9.4
MOX *e*SS SS 16 39 14.0 +19
MOX LR LR
comp=Z,25µm,19.0s,MS6.6
XOR Xorichti 83.78 312 *e*P **P 16 23 05.5 -0.8**
LBCM Butte Creek Ri 83.79 46 P **P 16 23 06.8 +0.5**
LIT Litokhoron 83.84 313 *e*P **P 16 23 06.0 -0.5**

MOD Modoc 83.86 45 *e*P **P 16 23 07.3 +0.7**
comp=Z,229nm,1.3s,mb6.2
MOD LR LR
comp=Z,4µm,19.0s,MS5.8
GEC2 GERESS Array S 83.86 324 *e*P **P 16 23 07.0 +0.6**
GEC2 pmax pmax
comp=Z,301nm,1.4s,mb6.2
GEC2 GERESS Array S 83.86 324 *e*P **P 16 23 07.0 +0.6**
comp=Z,301nm,1.4s,mb6.2
GERES GERESS Array B 83.86 324 P **P 16 23 07.1 +0.6**
comp=Z,74nm,1.0s,mb5.8,baz=45,slow=3.8,SNR=243
GERES PP PP 16 26 22.0 +0.2
comp=Z,9.3nm,1.0s,baz=45,slow=7.5,SNR=4.0
GERES PKKPbc 16 41 22.5
comp=Z,0.5nm,0.6s,baz=225,slow=1.9,SNR=3.7
GERES LR LR 17 04 34.3
comp=Z,22µm,19.2s,MS6.6,baz=40,slow=39
ARSA Arzberg 83.86 322 *i*P **P 16 23 07.5 +1.0**
comp=Z,1µm,1.9s,mb6.7,SNR=55
ARSA Arzberg 83.86 322 *i*P **P 16 23 07.5 +0.9**
comp=Z,1µm,1.9s,mb6.7
THR1 Thera Island 83.87 308 *e*P **P 16 23 07.3 +0.4**
THR3 Thira Island, 83.89 308 *e*P **P 16 23 07.5 +0.6**
IVA Berane 83.91 316⇑*i*P **P 16 23 08.1 +1.2**
KOGS Kog 83.95 321⇑*e*P **P 16 23 07.3 +0.3**
comp=Z,1µm,1.9s,mb6.7
PLE Pljevlja 83.95 317⇑*i*P **P 16 23 07.8 +0.8**
BMO Blue Mountains 83.96 41 *e*P **P 16 23 07.6 +0.6**
comp=Z,161nm,1.4s,mb6.0
BMO LR LR
comp=Z,1µm,22.0s,MS5.3
PVY Plav 84.02 316⇑*i*P **P 16 23 08.1 +0.6**
SFJD Kangerlussuaq 84.02 0 *i* S S 16 33 26.1 -0.5
SFJD *i* 16 39 03.4
comp=Z,2µm,22.0s
SFJD Kangerlussuaq 84.02 0⇑*i*P **P 16 23 07.1 +0.2**
comp=Z,131nm,1.0s,mb6.0
SFJD *i* pP 16 23 17.9 -1.3
SFJD *i* S S 16 33 26.1 -0.5
SFJD *i* 16 39 03.4
SFJD LR LR
comp=Z,2µm,22.0s,MS5.5
PTL Penteli 84.05 310 *e*P **P 16 23 06.8 -0.9**
WET Wettzell 84.10 324 *e*P **P 16 23 08.6 +1.0**
comp=Z,404nm,1.7s,mb6.3
FNA Florina 84.17 314 *e*P **P 16 23 07.7 -0.5**
MOA Molln 84.17 323⇑*i*P **P 16 23 09.2 +1.1**
comp=Z,1µm,1.9s,mb6.7,SNR=59
KZN Kozani 84.18 313 *e*P **P 16 23 08.0 -0.3**
ATH Athens Observa 84.19 310 *e*P **P 16 23 08.0 -0.4**
UPM Unac-Piva 84.32 317⇑*i*P **P 16 23 08.5 -0.4**
NPS Neapolis 84.35 307 *e*P **P 16 23 09.5 +0.2**
PERS Pernicis 84.46 321⇑*i*P **P 16 23 10.3 +0.8**
comp=Z,1µm,1.6s,mb6.8
NKY Niksic 84.49 316⇑*i*P **P 16 23 10.4 +0.7**
AGG Agios Georgios 84.53 312 *e*P **P 16 23 08.6 -1.5**
OHCM Honcut 84.53 48 *e*P **P 16 23 10.3 +0.2**
TTG Podgorica 84.55 316⇑*i*P **P 16 23 10.5 +0.5**
WVOR Wild Horse Val 84.58 44 *e*P **P 16 23 10.9 +0.7**
WVOR pmax pmax
comp=Z,116nm,1.3s,mb5.8
WVOR MLR MLR
comp=Z,20µm,20.0s,MS6.5
WVOR Wild Horse Val 84.58 44 *e*P **P 16 23 10.9 +0.7**
comp=Z,107nm,1.3s,mb5.8
WVOR LR LR
comp=Z,2µm,20.0s,MS5.4
GRA1 Grafenberg Arr 84.58 325 *e*P **P 16 23 11.3 +1.2**
comp=Z,1µm,1.5s,mb6.8
GRA1 *e*pP pP 16 23 22.1 -0.3
GRA1 *e*PP PP 16 26 29.0 +1.4
GRA1 LR LR
comp=Z,19µm,19.9s,MS6.5
GRF Grafenberg Arr 84.58 325 *e*P **P 16 23 11.3 +1.2**
GRF *e**PP pP 16 23 22.1 -0.3
GRF *e* 16 26 29.0
GRF pmax pmax
comp=Z,1µm,1.5s,mb6.8
GRF MLR MLR
comp=Z,19µm,19.9s,MS6.5
GRF Grafenberg Arr 84.58 325 *e*P **P 16 23 11.3 +1.2**
GRF *e**PP pP 16 23 22.1 -0.3
GRF *e* 16 26 29.0
GRF pmax pmax
comp=Z,1µm,1.5s,mb6.8
GRF MLR MLR
comp=Z,19µm,19.9s,MS6.5
GRF Grafenberg Arr 84.58 325 *e*P **P 16 23 11.3 +1.2**
comp=Z,1µm,1.5s,mb6.8
GRF *e*pP pP 16 23 22.1 -0.3
GRF *e*PP PP 16 26 29.0 +1.4
GRF LR LR
comp=Z,19µm,19.9s,MS6.5
WIT Witteveen 84.66 329 *e*P **P 16 23 11.5 +1.2**
MSO Missoula 84.67 38 *e*P **P 16 23 10.5 0.0**
comp=Z,92nm,1.5s,mb5.7
MSO LR LR
comp=Z,1µm,21.0s,MS5.2
BRY Bratogost 84.71 317⇑*i*P **P 16 23 11.0 +0.1**
TIR Tirane 84.80 315 P **P 16 23 11.9 +0.6**
ULC Ulcinj 84.82 316⇑*i*P **P 16 23 12.3 +0.9**
IDI Anoyia 84.83 308 P **P 16 23 11.7 +0.1**
comp=Z,212nm,1.1s,mb6.2,baz=19,slow=7.9,SNR=31
IDI LR LR 17 07 20.0
comp=Z,4µm,20.4s,MS5.8,baz=51,slow=40
BUM Brajici-Budva 84.84 316⇑*i*P **P 16 23 12.6 +1.1**
OBKA Obir 84.85 321⇓*i*P **P 16 23 12.2 +0.8**
comp=Z,2µm,3.3s,SNR=18
EVR Evrytania 84.93 312 *e*P **P 16 23 11.3 -0.8**
HCY Herceg Novi 85.00 316⇑*i*P **P 16 23 12.7 +0.4**
BOJS Bojanci 85.07 320⇑*e*P **P 16 23 13.7 +1.1**
comp=Z,792nm,1.6s,mb6.6
BOJS *e*pP pP 16 23 23.3 -1.7
JAN Janina 85.13 313 *e*P **P 16 23 13.3 +0.2**
LJU Ljubljana 85.14 321⇑*i*P **P 16 23 13.7 +0.7**
comp=Z,1µm,1.7s,mb6.7
KBA Koelnbreinsper 85.14 322⇑*i*P **P 16 23 13.6 +0.7**
comp=Z,984nm,2.3s,mb6.5,SNR=15
KBA Koelnbreinsper 85.14 322⇑*i*P **P 16 23 13.6 +0.7**
comp=Z,984nm,2.3s,mb6.5
WTSB Winterswijk 85.18 329⇑*e*P **P 16 23 13.2 +0.3**
comp=Z,280nm,1.3s,mb6.2
VAM Vamos 85.25 308 *e*P **P 16 23 13.3 -0.4**
GORS Gorjuse 85.27 321⇑*i*P **P 16 23 13.5 0.0**
VLI Velíai 85.39 310 *e*P **P 16 23 12.8 -1.6**
VOY Vojsko 85.50 321⇑*e*P **P 16 23 14.9 +0.2**
IGT Igoumenitsa 85.53 313 *e*P **P 16 23 14.2 -0.8**
FUR Furstenfeldbru 85.54 324 *e*P **P 16 23 15.9 +1.1**
FUR pmax pmax
comp=Z,1µm,1.7s,mb6.9
FUR Furstenfeldbru 85.54 324 *e*P **P 16 23 15.9 +1.1**
comp=Z,1µm,1.7s,mb6.9
PTCC Patocco-Chiusa 85.56 322 P **P 16 23 14.9 -0.1**
KYTH Kithira 85.57 309 *e*P **P 16 23 14.7 -0.6**
TNS Taunus Mts 85.59 327 *e*P **P 16 23 15.8 +0.8**
TNS pmax pmax
comp=Z,287nm,1.3s,mb6.3
TNS Taunus Mts 85.59 327 *e*P **P 16 23 15.8 +0.8**
comp=Z,287nm,1.3s,mb6.3
SIND Sindeldorf 85.61 326⇑*e*P **P 16 23 15.6 +0.5**
GVD Gavdhos 85.63 308 *e*P **P 16 23 15.3 -0.3**
comp=Z,451nm,1.0s,mb6.7
GMNA Gemona 85.70 322 P **P 16 23 16.2 +0.5**
FVI Forni Avoltri 85.75 322 P **P 16 23 15.7 -0.2**
KEK Kerkira 85.77 314 *e*P **P 16 23 16.3 +0.1**
KEK Kerkira 85.77 314 P **P 16 23 16.1 -0.1**
LKD Levkas 85.80 312 *e*P **P 16 23 15.3 -1.0**
HDH Heidenheim 85.81 325⇑*e*P **P 16 23 16.5 +0.4**
ITM Ithomi 85.81 311 *e*P **P 16 23 15.7 -0.8**
TOD Tromm 85.83 326⇑*e*P **P 16 23 17.0 +0.8**
HRY Holter Researc 85.88 38 *e*P **P 16 23 17.3 +0.8**
WATA Walderalm 85.92 323⇓*i*P **P 16 23 16.6 -0.1**
comp=Z,202nm,1.7s,mb6.1,SNR=8.7
WATA Walderalm 85.92 323⇓*i*P **P 16 23 16.6 -0.1**
comp=Z,202nm,1.7s,mb6.1
WTTA Wattenberg 85.93 323⇑*i*P **P 16 23 17.1 +0.4**
comp=Z,791nm,2.1s,mb6.6,SNR=30
WTTA Wattenberg 85.93 323⇑*i*P **P 16 23 17.1 +0.4**
comp=Z,791nm,2.1s,mb6.6
SWS Schriesheim 85.96 326⇑*e*P **P 16 23 17.6 +0.7**
CMB Columbia Colle 85.97 48⇑*e*P **P 16 23 17.5 +0.3**
CMB pmax pmax
comp=Z,154nm,1.2s,mb6.1
CMB MLR MLR
comp=Z,3µm,20.0s,MS5.6

CMB Columbia Colle 85.97 48⇑*e*P **P 16 23 17.5 +0.3**
comp=Z,150nm,1.2s,mb6.1
CMB LR LR
comp=Z,2µm,20.0s,MS5.6
SAO San Andreas Ge 85.98 50 *e*P **P 16 23 17.1 -0.2**
SAO pmax pmax
comp=Z,66nm,1.2s,mb5.7
SAO MLR MLR
comp=Z,2µm,19.0s,MS5.6
SAO San Andreas Ge 85.98 50 *e*P **P 16 23 17.1 -0.1**
comp=Z,67nm,1.2s,mb5.8
SAO LR LR
comp=Z,2µm,19.0s,MS5.6
EGMT Eagleton 86.11 36 *e*P **P 16 23 18.3 +0.6**
comp=Z,182nm,1.3s,mb6.2
EGMT LR LR
comp=Z,3µm,22.0s,MS5.7
VLS Valsamata 86.13 312 *e*P **P 16 23 17.5 -0.5**
MOTA Moosalm 86.16 323⇑*i*P **P 16 23 18.1 +0.3**
comp=Z,81nm,1.3s,mb5.8,SNR=19
MOTA Moosalm 86.16 323⇑*i*P **P 16 23 18.1 +0.3**
comp=Z,81nm,1.3s,mb5.8
SQTA Sankt Quirin 86.18 323⇑*i*P **P 16 23 18.5 +0.5**
comp=Z,209nm,1.7s,mb6.1,SNR=19
STU Stuttgart 86.19 325 *e*P **P 16 23 18.5 +0.5**
comp=Z,345nm,1.6s,mb6.3
EBH Black Hill 86.20 336⇑*e*P **P 16 23 17.4 -0.5**
EBH AMb AMB 16 23 22.9
comp=Z,221nm,1.7s,mb6.1
ABH Alteburg 86.25 327⇑*e*P **P 16 23 19.0 +0.7**
ABH Alteburg 86.25 327 *e*P **P 16 23 19.1 +0.8**
DLMT Dillon 86.31 39 *e*P **P 16 23 19.7 +1.0**
comp=Z,25nm,1.4s,mb5.2
BUCH Bad Urach 86.33 325⇑*e*P **P 16 23 19.3 +0.6**
KTD Kalmit 86.37 326 *e*P **P 16 23 19.7 +0.8**
KTD Kalmit 86.37 326 *e*P **P 16 23 19.8 +0.9**
HGN Heimansgroeve 86.40 328 *e*P **P 16 23 19.2 +0.2**
comp=Z,257nm,1.5s,mb6.2
HGN Heimansgroeve 86.40 328 *e*S S 16 33 51.8 +1.6
HLID Hailey 86.40 41 *e*P **P 16 23 20.4 +1.3**
comp=Z,66nm,1.0s,mb5.8
HLID LR LR
comp=Z,2µm,20.0s,MS5.4
EBL Broad Law 86.41 336⇑*e*P **P 16 23 18.6 -0.3**
EBL AMb AMB 16 23 21.1
comp=Z,368nm,1.8s,mb6.3
UBR Uberruh 86.45 324⇑*e*P **P 16 23 19.4 +0.1**
LRV Little Rabbit 86.46 50 *e*P **P 16 23 20.9 +1.2**
LBG Lerchenberg 86.46 326⇑*e*P **P 16 23 19.9 +0.6**
EAU Auchinoon 86.49 336⇑*e*P **P 16 23 18.8 -0.5**
EAU AMb AMB 16 23 20.7
comp=Z,249nm,1.7s,mb6.2
MCMT McKenzie Canyo 86.50 39 *e*P **P 16 23 20.3 +0.7**
EAB Aberfoyle 86.54 337⇑*e*P **P 16 23 18.9 -0.6**
EAB AMb AMB 16 23 20.9
comp=Z,195nm,1.3s,mb6.2
RUP Ruppelstein 86.61 327 *e*P **P 16 23 20.8 +0.8**
RUP Ruppelstein 86.61 327 *e*P **P 16 23 21.0 +1.0**
BOZ Bozeman (W) 86.66 38 *e*P **P 16 23 21.4 +1.0**
comp=Z,152nm,1.4s,mb6.0
BOZ LR LR
comp=Z,3µm,22.0s,MS5.7
GUT Gutenstein 86.70 325⇑*e*P **P 16 23 20.5 0.0**
EKA Eskdalemuir Ar 86.79 335 P **P 16 23 20.1 -0.7**
comp=Z,40nm,1.0s,mb5.6,baz=28,slow=4.6,SNR=31
EKA PP PP 16 26 43.5 -2.4
comp=Z,30nm,0.9s,baz=44,slow=8.8,SNR=12
ESK Eskdalemuir 86.82 335 *e*P **P 16 23 19.4 -1.5**
comp=Z,302nm,1.6s,mb6.3
ESK LR LR
comp=Z,3µm,19.0s,MS5.7
DAVA Damuels 86.83 324 *i*P **P 16 23 21.6 +0.5**
comp=Z,854nm,3.2s,SNR=13
SPAK Spaichingen 86.84 325 *e*P **P 16 23 21.5 +0.3**
ECK Cauldkaine Hil 86.89 335⇑*e*P **P 16 23 20.8 -0.5**
ECK AMb AMB 16 23 22.7
comp=Z,223nm,1.2s,mb6.3
BFO Black Forest 86.92 325 *e*P **P 16 23 21.9 +0.3**
comp=Z,554nm,2.4s,mb6.4
STR Strasbourg 87.02 326 *e*P **P 16 23 22.8 +0.7**
WLF Walferdange 87.06 327 *e*P **P 16 23 22.6 +0.4**
comp=Z,718nm,1.5s,mb6.7
FUORN Ofenpass 87.06 323 P **P 16 23 22.0 +0.9**
NVAR Mina Array Bea 87.09 47 P **P 16 23 23.3 +0.6**
comp=Z,16nm,0.9s,mb5.2,baz=294,slow=3.8,SNR=106
NVAR LR LR 17 00 22.3
comp=Z,1µm,20.5s,MS5.4,baz=195,slow=34
NVAR Mina Array Bea 87.09 47 P **P 16 23 23.3 +0.6**
NVAR LR LR 17 00 22.3
BRMO Bormio 87.10 323 P **P 16 23 23.2 +0.7**
DAVOX Davos 87.16 324 P **P 16 23 23.5 +0.7**
comp=Z,46nm,0.8s,mb5.7,baz=29,slow=2.4,SNR=40
DAVOX PP PP 16 26 46.2 -3.0
comp=Z,31nm,1.0s,baz=113,slow=3.2,SNR=7.1
DAVOX LR LR 17 06 51.4
comp=Z,23µm,18.4s,MS6.6,baz=47,slow=39
DAVOX Davos 87.16 324 P **P 16 23 23.2 +0.4**
MNV Mina 87.19 47 *e*P **P 16 23 23.7 +0.6**
MNV pmax pmax
comp=Z,99nm,1.4s,mb5.8
MNV MLR MLR
comp=Z,2µm,21.0s,MS5.5
MNV Mina 87.19 47 *e*P **P 16 23 23.7 +0.6**
comp=Z,99nm,1.4s,mb5.8
MNV LR LR
comp=Z,2µm,21.0s,MS5.5
RGNG Rignano Grg 87.20 317 P **P 16 23 23.6 +0.5**
QLMT Earthquake Lak 87.29 39 *e*P **P 16 23 24.7 +1.2**
QLMT *e*pP pP 16 23 40.2 +4.3
MABI Malga Bissina 87.30 323 P **P 16 23 23.3 -0.2**
GIVF Givet 87.37 328⇑*i*P **P 16 23 23.8 +0.1**
comp=Z,348nm,1.4s,mb6.1
KIZ Kirchzarten 87.37 325⇑*e*P **P 16 23 23.7 -0.1**
CDF Champ du Feu 87.38 326⇑*i*P **P 16 23 24.0 +0.2**
comp=Z,544nm,1.5s,mb6.2
FELD Feldberg 87.38 325 *e*P **P 16 23 23.8 0.0**
PTRM Twisselman Ran 87.43 50 *e*P **P 16 23 24.5 +0.1**
CING Cingoli 87.54 319 P **P 16 23 25.3 +0.6**
ECH Echery 87.57 326 *e*P **P 16 23 24.8 +0.1**
FG4 Candela 87.57 317 P **P 16 23 25.8 +0.9**
comp=Z,636nm,1.1s,mb6.8
FSSB Fossombrone 87.58 320 P **P 16 23 25.6 +0.7**
ARV Arcevia 87.61 320 P **P 16 23 26.0 +0.9**
comp=Z,225nm,1.3s,mb6.2
RSM Repubblica di 87.61 320 P **P 16 23 26.3 +1.2**
comp=Z,1µm,1.8s,mb6.9
GCMT Greycliff 87.62 37 *e*P **P 16 23 26.5 +1.5**
GCMT *e*pP pP 16 23 42.1 +4.7
ELK Elko 87.63 44 *e*P **P 16 23 26.2 +1.0**
ELK pmax pmax
comp=Z,69nm,1.3s
ELK MLR MLR
comp=Z,3µm,20.0s
ELK Elko 87.63 44 *e*P **P 16 23 26.2 +1.0**
comp=Z,69nm,1.3s,mb5.7
ELK LR LR
comp=Z,3µm,20.0s,MS5.7
YMR Madison River 87.64 39 *e*P **P 16 23 27.0 +1.9**
comp=Z,22nm,1.1s,mb5.3
YMR LR LR
comp=Z,2µm,20.0s,MS5.6
ORI Oriolo Calabro 87.65 315 P **P 16 23 26.9 +1.6**
comp=Z,397nm,1.4s,mb6.5
LHO Holmfirth 87.67 334⇑*e*P **P 16 23 24.5 -0.6**
BAIF Baives 87.68 329⇑*i*P **P 16 23 25.3 +0.1**
comp=Z,428nm,1.7s,mb6.1
SNTG Esanatoglia 87.76 320 P **P 16 23 27.9 +2.1**
KBI1 Birley Grange 87.77 333 *e*P **P 16 23 24.8 -0.7**
MOF Molkenrain 87.83 326 *e*P **P 16 23 26.0 0.0**
YFT Old Faithful 87.86 39 *e*P **P 16 23 29.4 +3.2**
BBS Basel-Blauen 87.91 325⇑*e*P **P 16 23 26.2 -0.2**
BBS Basel-Blauen 87.91 325 *e*P **P 16 23 26.1 -0.3**
CII Carovilli 87.93 318 P **P 16 23 27.8 +1.2**
TDS Terranova Siba 87.96 315 P **P 16 23 28.0 +1.2**
comp=Z,509nm,1.1s,mb6.7
TPH Tonopah 87.99 47 PFAKE 16 23 40.0 +13
TPH LR LR
comp=Z,2µm,19.0s,MS5.5
HINF Hinteralfeld 87.99 326⇑*i*P **P 16 23 26.4 -0.4**
comp=Z,146nm,1.2s,mb5.8
MURB Monte Urbino 88.00 320 P **P 16 23 28.5 +1.6**
SGO Sicignano 88.05 316 P **P 16 23 27.5 +0.3**
comp=Z,106nm,1.4s,mb5.9
PGD Poggio Sodo 88.05 321 P **P 16 23 28.9 +1.7**
comp=Z,472nm,1.3s,mb6.6

AQU L'Aquila 88.07 319 *e*P P **16 23 28.1 +0.9**
comp=Z,236nm,1.4s,mb6.2
KWE Weaver Farm 88.07 333 *e*P P **16 23 26.2 -0.8**
CRE Caprese Michel 88.09 320 P P **16 23 28.0 +0.7**
comp=Z,143nm,1.4s,mb6.0
VMG Vicchio 88.10 321 P P **16 23 29.1 +1.7**
HAU Haudompre 88.11 326⇑ *i*P P **16 23 27.1 -0.2**
comp=Z,223nm,1.3s,mb5.9
HAU *e*R
comp=Z,28µm,17.5s
HAU Haudompre 88.11 326⇑ *i*P P **16 23 27.1 -0.2**
HAU pmax pmax
comp=Z,111nm,1.3s,mb5.9
HAU MLR MLR
comp=Z,28µm,17.5s,MS6.7
THEF They Montfort 88.13 326 *e*P P **16 23 27.6 +0.2**
SEI Scarperia 88.14 321 P P **16 23 29.8 +2.2**
IMW Indian Meadow 88.16 39 *e*P P **16 23 29.5 +1.9**
comp=Z,169nm,0.4s,mb6.6
FNVD Fontana Vidola 88.20 321 P P **16 23 29.2 +1.4**
PTQR Pietraquaria 88.27 318 P P **16 23 29.7 +1.4**
RRI2 Red Ridge 88.29 40 *e*P P **16 23 29.7 +1.4**
comp=Z,89nm,1.2s,mb5.9
LOMF Lomont 88.32 325 *e*P P **16 23 28.3 -0.1**
MOOW Moose Ponds 88.36 39 *e*P P **16 23 30.1 +1.5**
comp=Z,14nm,0.5s,mb5.5
GSCL Gusciola 88.37 321 P P **16 23 29.5 +0.8**
MEZF Maizieres J'vi 88.39 327⇑ *i*P P **16 23 29.1 +0.5**
comp=Z,622nm,1.4s,mb6.3
TPAW Teton Pass 88.41 40 *e*P P **16 23 30.7 +1.8**
comp=Z,51nm,1.0s,mb5.7
HVU Hansel Valley 88.45 42 *e*P P **16 23 30.2 +1.1**
HVU pmax pmax
comp=Z,38nm,0.4s,mb6.0
HVU Hansel Valley 88.45 42 *e*P P **16 23 30.2 +1.1**
comp=Z,38nm,0.4s,mb6.0
LOHW Long Hollow 88.52 39 *e*P P **16 23 30.5 +1.1**
comp=Z,170nm,0.4s,mb6.7
SNOW Snow King Moun 88.54 40 *e*P P **16 23 31.3 +1.8**
comp=Z,87nm,1.4s,mb5.9
DGMT Dagmar 88.54 33 *e*P P **16 23 30.1 +0.8**
comp=Z,486nm,1.6s,mb6.6
DGMT LR LR
comp=Z,6µm,21.0s,MS6.0
REDW Red Top Meadow 88.55 40 *e*P P **16 23 31.0 +1.4**
comp=Z,167nm,0.4s,mb6.7
ISA Isabella 88.58 49 PFAKE 16 23 40.0 +10
ISA LR LR
comp=Z,2µm,20.0s,MS5.5
MMK Mattmark 88.63 324 P P **16 23 30.6 +0.7**
AHID Auburn Hatcher 88.79 40 PFAKE 16 23 40.0 +9.3
AHID LR LR
comp=Z,2µm,20.0s,MS5.5
LAO LASA Array 88.79 35 *e*P P **16 23 31.6 +1.0**
comp=Z,163nm,1.2s,mb6.2
LAO *e*pP pP 16 23 47.2 +4.2
LAO LR LR
comp=Z,3µm,22.0s,MS5.7
DAC Darwin (Calif) 88.81 48 *e*P P **16 23 31.4 +0.5**
DAC pmax pmax
comp=Z,180nm,1.4s,mb6.2
DAC MLR MLR
comp=Z,2µm,22.0s,MS5.5
DAC Darwin (Calif) 88.81 48 *e*P P **16 23 31.4 +0.4**
comp=Z,18nm,1.4s,mb5.2
DAC LR LR
comp=Z,2µm,22.0s,MS5.5
BGU Big Grassy Mou 88.84 43 *e*P P **16 23 31.8 +0.8**
SPUT South Promonto 88.94 42 *e*P P **16 23 32.7 +1.2**
CEL Celeste 89.08 314 P P **16 23 32.6 +0.4**
SOI Samo 89.09 314 P P **16 23 33.1 +0.8**
CABF La Chapelle 89.20 325⇑ *i*P P **16 23 32.4 -0.2**
comp=Z,212nm,1.4s,mb6.0
SNCC San Nicolas Is 89.26 52 PFAKE 16 23 40.0 +6.8
SNCC LR LR
comp=Z,4µm,19.0s,MS5.8
HWUT Hardware Ranch 89.27 41 *e*P P **16 23 34.3 +1.3**
comp=Z,199nm,1.4s,mb6.2
HWUT LR LR
comp=Z,2µm,22.0s,MS5.5
TPNV Topopah Spring 89.28 47 *e*P P **16 23 33.7 +0.5**
TPNV pmax pmax
comp=Z,75nm,1.3s,mb5.9
TPNV MLR MLR
comp=Z,2µm,20.0s,MS5.6
TPNV Topopah Spring 89.28 47 *e*P P **16 23 33.6 +0.5**
comp=Z,74nm,1.3s,mb5.8
TPNV LR LR
comp=Z,2µm,20.0s,MS5.5
DUG Dugway 89.42 43 *e*P P **16 23 34.9 +1.1**
comp=Z,201nm,1.7s,mb6.2
DUG LR LR
comp=Z,2µm,19.0s,MS5.5
NOQ North Oquirrh 89.55 42 *e*P P **16 23 35.6 +1.3**
comp=Z,339nm,1.6s,mb6.4
RSL Roselend 89.57 324 *e*P P **16 23 33.9 -0.4**
DLF Lyons Farm 89.61 336⇑ *i*P P **16 23 32.4 -1.9**
LPL La Plagne 89.63 324⇑ *i*P P **16 23 34.7 +0.1**
comp=Z,171nm,1.3s,mb5.9
LPL La Plagne 89.63 324⇑ *i*P P **16 23 34.7 +0.1**
LPL pmax pmax
comp=Z,86nm,1.3s,mb5.9
LPG La Plagne 89.63 324⇑ *i*P P **16 23 34.8 +0.2**
comp=Z,238nm,1.4s,mb6.0
LPG La Plagne 89.63 324⇑ *i*P P **16 23 34.8 +0.2**
LPG pmax pmax
comp=Z,119nm,1.4s,mb6.0
BW06 Boulder Array 89.65 40 PFAKE 16 23 50.0 +15
BW06 LR LR
comp=Z,2µm,21.0s,MS5.6
PDAR Pinedale Array 89.66 40 P P **16 23 35.4 +0.6**
comp=Z,11nm,0.9s,mb5.2,baz=270,slow=1.5,SNR=66
PDAR PP PP 16 27 05.9 -3.4
comp=Z,3.9nm,1.2s,baz=304,slow=5.3,SNR=3.2
PDAR PKKPbc 16 41 08.6
comp=Z,1.3nm,0.8s,baz=128,slow=3.3,SNR=6.3
TCUT Toone Canyon 89.67 42 *e*P P **16 23 36.2 +1.3**
CTU Camp Tracy 89.74 42 *e*P P **16 23 36.8 +1.6**
comp=Z,245nm,1.9s,mb6.2
LOR Lormes 89.83 327⇑ *i*P P **16 23 35.0 -0.5**
comp=Z,230nm,1.5s,mb6.0
LOR *e*R
comp=Z,22µm,17.2s
LOR Lormes 89.83 327⇑ *i*P P **16 23 35.0 -0.5**
LOR pmax pmax
comp=Z,115nm,1.5s,mb6.0
LOR MLR MLR
comp=Z,22µm,17.3s,MS6.7
DCN Croghan 89.84 336⇑ *i*P P **16 23 34.8 -0.6**
SSF Saint Saulge 90.14 327⇑ *i*P P **16 23 36.6 -0.4**
comp=Z,186nm,1.5s,mb5.9
MBDF Montbardon 90.15 324⇑ *i*P P **16 23 36.3 -0.8**
comp=Z,146nm,1.4s,mb5.8
PPT Papeete 90.18 110 *e*P P **16 23 39.4 +1.6**
comp=Z,63nm,1.4s,mb5.7
PPT Papeete 90.18 110 *e*PP PP 16 27 05.9 -8.2
PPT Papeete 90.18 110 *e*SS SS 16 40 31.4 +1.8
PPT *e*LR LR 16 52 40.2
comp=Z,4µm,25.5s,baz=300
PAE Paea 90.23 110 *e*P P **16 23 39.4 +1.4**
comp=Z,148nm,1.4s,mb6.1
MPU Maple Canyon 90.24 43 *e*P P **16 23 38.9 +1.3**
comp=Z,85nm,1.0s,mb6.0
SAOF Saorge 90.24 323 *e*P P **16 23 36.9 -0.6**
SMF Signal de Mont 90.28 326⇑ *i*P P **16 23 37.2 -0.4**
comp=Z,254nm,1.2s,mb6.1
PMOR Pomariorio Ree 90.29 107 *e*P P **16 23 39.3 +1.0**
comp=Z,71nm,1.1s,mb5.9
TOUF Mont Tournerai 90.39 323 *e*P P **16 23 37.7 -0.5**
SBF Sospel 90.39 323⇑ *i*P P **16 23 38.4 +0.2**
comp=Z,101nm,0.8s,mb5.9
HYF Humbligny 90.41 327⇑ *i*P P **16 23 38.6 +0.4**
AVF Avril sur Loir 90.41 327⇑ *i*P P **16 23 37.8 -0.4**
comp=Z,252nm,1.3s,mb6.1
AVF Avril sur Loir 90.41 327⇑ *i*P P **16 23 37.8 -0.4**
AVF pmax pmax
comp=Z,126nm,1.3s,mb6.1
PGF Pioggiola 90.43 321⇑ *i*P P **16 23 38.4 0.0**
comp=Z,242nm,1.3s,mb6.1
ORIF Oris-en-Rattie 90.48 324⇑ *i*P P **16 23 38.5 -0.1**
comp=Z,118nm,1.5s,mb5.7
ORIF *e*R
comp=Z,13µm,19.0s
VAE Valguarnera 90.49 314 P P **16 23 38.5 -0.4**
comp=Z,14nm,0.7s,mb5.4,baz=22,slow=9.8,SNR=2.3
VAE LR LR 17 08 48.5
comp=Z,7µm,18.3s,MS6.1,baz=56,slow=39
VAE Valguarnera 90.49 314 P P **16 23 38.5 -0.3**
VAE LR LR 17 08 48.5
ARUT Antelope Range 90.54 45 *e*P P **16 23 40.1 +1.0**
TVO Taravao 90.56 110 *e*P P **16 23 41.4 +1.8**
comp=Z,139nm,1.2s,mb6.2
LDF La Druitiere 90.69 330⇑ *i*P P **16 23 39.1 -0.4**
comp=Z,464nm,1.5s,mb6.3
FLN La Foliniere 90.73 330⇑ *i*P P **16 23 39.2 -0.5**
comp=Z,495nm,1.5s,mb6.3
FLN *e*R
comp=Z,21µm,22.5s
OG25 Le Caire 90.76 324 *e*P P **16 23 39.9 0.0**
BGF Bois d'Agland 90.82 327⇑ *i*P P **16 23 39.9 -0.3**
comp=Z,261nm,1.7s,mb6.0
MVU Marysvale 90.85 44 PFAKE 16 23 50.0 +9.5
MVU LR LR
comp=Z,2µm,19.0s,MS5.5
MSU Marysvale 90.86 44 *e*P P **16 23 42.1 +1.5**
MSU *e*pP pP 16 23 54.5 +1.5
PLDF La Plantade 90.87 326 *e*P P **16 23 40.5 +0.1**
ULM Lac du Bonnet 90.88 28 P P **16 23 40.9 +0.5**
comp=Z,60nm,1.1s,mb5.8,baz=328,slow=4.9,SNR=43
ULM LR LR 17 07 52.7
comp=Z,2µm,19.1s,MS5.6,baz=325,slow=38
OSPF L'Ospedale 90.91 320 *e*P P **16 23 40.7 0.0**
TMUT Trail Mountain 90.95 43 *e*P P **16 23 41.4 +0.4**
FRF La Foret Royal 91.02 323⇑ *i*P P **16 23 40.4 -0.8**
comp=Z,372nm,1.8s,mb6.1
AGO Saint Agoulin 91.05 326 *e*P P **16 23 41.9 +0.7**
PFO Pinyon Flat Ob 91.14 50 *e*P P **16 23 42.0 0.0**
PFO pmax pmax
comp=Z,51nm,1.3s,mb5.7
PFO MLR MLR
comp=Z,917nm,20.0s,MS5.2
PFO Pinyon Flat Ob 91.14 50 *e*P P **16 23 42.0 +0.1**
comp=Z,50nm,1.3s,mb5.7
PFO LR LR
comp=Z,903nm,20.0s,MS5.2
VIVF Saint-Julien-l 91.14 325⇑ *i*P P **16 23 41.2 -0.5**
comp=Z,181nm,1.6s,mb5.9
GRR Gorron 91.17 330⇑ *i*P P **16 23 41.6 -0.2**
comp=Z,596nm,1.5s,mb6.4
LMR La Mourre 91.24 323⇑ *i*P P **16 23 41.8 -0.4**
comp=Z,508nm,1.7s,mb6.3
SMRF Simiane la Rot 91.29 324⇑ *i*P P **16 23 42.1 -0.3**
comp=Z,150nm,1.6s,mb5.8
TCF Toulx Ste Croi 91.32 327⇑ *i*P P **16 23 42.4 -0.1**
comp=Z,409nm,1.6s,mb6.2
SRU San Rafael 91.48 43 *e*P P **16 23 44.0 +0.6**
comp=Z,4µm,1.6s
LBL Lubilhac 91.58 326 *e*P P **16 23 43.3 -0.4**
RSSD Black Hills 91.68 36⇑ *e*P P **16 23 45.0 +0.8**
RSSD *e**PP pP 16 24 01.3 +4.6
RSSD pmax pmax
comp=Z,220nm,1.6s,mb6.2
RSSD MLR MLR
comp=Z,3µm,20.0s,MS5.7
RSSD Black Hills 91.68 36⇑ *e*P P **16 23 45.0 +0.8**
comp=Z,198nm,1.6s,mb6.2
RSSD *e*pP pP 16 24 01.3 +4.6
RSSD LR LR
comp=Z,3µm,20.0s,MS5.7
FRNF Fournols 91.80 326 *e*P P **16 23 45.2 +0.5**
SGMF Saint Gilles 92.01 331⇑ *i*P P **16 23 45.6 0.0**
comp=Z,657nm,1.4s,mb6.5
LASF Ste Croix 92.10 325⇑ *i*P P **16 23 45.9 -0.2**
comp=Z,127nm,1.4s,mb5.8
MFF Saint Martin d 92.19 328⇑ *i*P P **16 23 46.7 +0.2**
comp=Z,725nm,1.5s,mb6.5
ROSF Rosfrenen 92.25 331⇑ *i*P P **16 23 46.7 0.0**
comp=Z,511nm,1.2s,mb6.4
RJF Les Rejaudoux 92.37 327⇑ *i*P P **16 23 47.5 +0.2**
comp=Z,225nm,1.3s,mb6.0
RJF *e*R
comp=Z,21µm,17.8s
CAF Calviac 92.38 326⇑ *i*P P **16 23 47.6 +0.2**
comp=Z,200nm,1.4s,mb6.0
CAF Calviac 92.38 326⇑ *i*P P **16 23 47.6 +0.2**
CAF pmax pmax
comp=Z,100nm,1.4s,mb6.0
LCHF La Chataignera 92.41 329 *e*P P **16 23 48.5 +1.0**
QUIF Quistinic 92.53 331⇑ *i*P P **16 23 47.9 -0.1**
comp=Z,221nm,1.3s,mb6.1
PHWY Pilot Hill 92.90 39 *e*P P **16 23 50.5 +0.6**
LFF La Frestale 93.01 327⇑ *i*P P **16 23 50.5 +0.2**
comp=Z,292nm,1.5s,mb6.2
KMBO Kilima Mbogo 93.20 270 P P **16 23 53.1 +1.2**
comp=Z,15nm,1.0s,mb5.3,baz=42,slow=5.8,SNR=29
KMBO PP PP 16 27 34.5 -3.9
comp=Z,5.1nm,0.9s,baz=51,slow=9.8,SNR=5.1
KMBO LR LR 17 11 03.0
comp=Z,3µm,19.6s,MS5.8,baz=191,slow=39
KMBO Kilima Mbogo 93.20 270 *i* P P **16 23 53.0 +1.1**
KMBO pmax pmax
comp=Z,150nm,1.0s
TBI Tubuai 93.20 115 *e*PP PP 16 27 33.3 -4.8
TBI Tubuai 93.20 115 *e*SKSac
TBI *e*SS SS 16 41 18.6 +5.9
TBI *e*LR LR 16 53 36.0
comp=Z,2µm,33.5s,baz=306
WUAZ Wupatki 93.26 46 *e*P P **16 23 52.2 +0.5**
comp=Z,133nm,1.2s,mb6.2
WUAZ LR LR
comp=Z,1µm,20.0s,MS5.4
MTLF Montolieu 93.45 325⇑ *i*P P **16 23 52.1 -0.3**
comp=Z,76nm,1.3s,mb5.7
ISCO Idaho Springs 93.85 40 *e*P P **16 23 55.4 +1.2**
ISCO pmax pmax
comp=Z,290nm,1.4s,mb6.5
ISCO MLR MLR
comp=Z,3µm,21.0s,MS5.7
ISCO Idaho Springs 93.85 40 *e*P P **16 23 55.4 +1.2**
comp=Z,27nm,1.4s,mb5.5
ISCO LR LR
comp=Z,2µm,21.0s,MS5.6
TAOE Nuku Hiva Isla 93.89 98 *e*PP PP 16 27 32.8 -11
TAOE Nuku Hiva Isla 93.89 98 *e*PS PS 16 36 23.6 -0.2
TAOE Nuku Hiva Isla 93.89 98 *e*SS SS 16 41 25.9 +3.3
TAOE *e*LR LR 16 53 51.0
comp=Z,12µm,25.7s
EYMN Ely 94.46 27 *e*P P **16 23 57.0 +0.2**
comp=Z,2µm,1.5s
EYMN LR LR
comp=Z,46µm,20.0s,MS6.9
EPF Esparros 94.62 326⇑ *i*P P **16 23 57.0 -0.6**
comp=Z,125nm,1.7s,mb5.8
SCHQ Schefferville 94.94 10 P P **16 23 59.1 +0.3**
comp=Z,31nm,1.3s,mb5.6,baz=359,slow=4.8,SNR=5.1
SCHQ LR LR 17 10 26.4
comp=Z,8µm,19.7s,MS6.2,baz=344,slow=38
EBIE Bielsa 94.97 326 P P **16 23 58.8 -0.5**
comp=Z,98nm,2.1s,mb5.9
ETSF Etsaut 95.16 326⇑ *i*P P **16 24 00.6 +0.5**
comp=Z,57nm,1.2s,mb5.6
EGRA Graus 95.25 325 P P **16 24 00.5 0.0**
comp=Z,39nm,1.1s,mb5.8
SJPF Ste Jean 95.32 327⇑ *i*P P **16 24 00.3 -0.5**
comp=Z,317nm,1.8s,mb6.1
SDCO Great Sand Dun 95.32 41 *e*P P **16 24 01.9 +0.8**
comp=Z,74nm,1.9s,mb5.8
SDCO LR LR
comp=Z,2µm,20.0s,MS5.7
EALK Alkurruntz 95.37 327 P P **16 24 01.2 +0.2**
comp=Z,214nm,2.3s,mb6.2
EPOB Poblet 95.48 324 P P **16 24 00.4 -1.2**
comp=Z,100nm,1.6s,mb6.0
TUC Tucson 95.68 48 *e*P P **16 24 03.4 +0.6**
TUC pmax pmax
comp=Z,59nm,1.3s,mb5.9
TUC MLR MLR
comp=Z,2µm,20.0s,MS5.7
TUC Tucson 95.68 48 *e*P P **16 24 03.4 +0.7**
comp=Z,59nm,1.3s,mb5.9
TUC LR LR
comp=Z,2µm,20.0s,MS5.7
CASY Casey 96.45 188 *e*P P **16 24 05.8 +0.4**
CASY LR LR
comp=Z,1µm,20.0s,MS5.3
ANMO Albuquerque 96.66 44 *e*P P **16 24 07.8 +0.7**
ANMO pmax pmax
comp=Z,250nm,1.5s
ANMO MLR MLR
comp=Z,2µm,19.0s
ANMO Albuquerque 96.66 44 *e*P P **16 24 07.8 +0.7**
comp=Z,25nm,1.5s,mb5.4
ANMO LR LR
comp=Z,2µm,19.0s,MS5.6
GUD Guadarrama 98.61 327 P P **16 24 15.1 -0.7**
comp=Z,11nm,0.9s,mb5.4
ETOB Tobarra 98.84 324 P P **16 24 17.8 +0.9**
comp=Z,16nm,1.0s,mb5.5
ESDC Sonseca Array 99.27 326 P P **16 24 19.1 +0.2**
comp=Z,12nm,1.0s,mb5.4,baz=31,slow=4.3,SNR=28
ESDC PP PP 16 28 14.0 -10
comp=Z,5.3nm,0.9s,baz=42,slow=8.1,SNR=6.1
ESDC PKKPbc 16 40 43.3
comp=Z,0.1nm,0.4s,baz=203,slow=2.9,SNR=4.1
EVIA Vianos 99.33 324 P P **16 24 19.4 +0.2**
comp=Z,68nm,1.3s,mb6.0
EZAM Zamans 99.49 330 P P **16 24 09.0 -11**
MNTX Cornudas Mount 99.53 46 PFAKE 16 24 30.0 +10
MNTX LR LR
comp=Z,2µm,20.0s,MS5.6
GDL2 Guadalupe Moun 99.81 45 *e*Pdif P **16 24 22.3 +0.8**
EQES Quesada 100.26 324 P P 16 24 21.9 -1.5
comp=Z,30nm,1.0s
PVIS Viseu 100.30 329 *e*P P 16 24 24.1 +0.6
EBAN Banos Encina 100.35 325 P P 16 24 24.2 +0.4
comp=Z,18nm,0.8s
MTE Manteigas 100.39 329 *e*P P 16 24 24.0 +0.1
MTE Manteigas 100.39 329 *e*SKS SKS 16 35 09.7 +12
MTE *e*SS SS 16 43 11.0 +18
EADA Adamuz 100.74 325 P P 16 24 25.6 +0.1
comp=Z,18nm,1.0s
ECOG Cogollos-Vega 100.92 324 P P 16 24 25.2 -1.2
comp=Z,17nm,1.3s
ELUQ Luque 101.05 325 P P 16 24 27.4 +0.4
comp=Z,31nm,1.0s
ECAB El Cabril 101.23 326 P P 16 24 26.8 -0.9
comp=Z,74nm,1.3s
WMOK Wichita Mounta 101.27 39 PFAKE 16 24 40.0 +12
WMOK LR LR
comp=Z,3µm,21.0s,MS5.8
ELOJ Sierra Loja 101.31 324 P P 16 24 27.0 -1.1
comp=Z,7.4nm,0.8s
EBAD Badajoz 101.46 327 P P 16 24 28.1 -0.6
comp=Z,36nm,1.4s
EMIJ Mijas 102.08 324 P Pdif 16 24 25.0 -6.7
comp=Z,31nm,1.4s
EMIN Mina Concepcio 102.08 326 P Pdif 16 24 31.1 -0.4
comp=Z,18nm,0.9s
AAM Ann Arbor 102.20 25 PFAKE 16 24 40.0 +8.0
AAM LR LR
comp=Z,3µm,20.0s,MS5.8
LTX Lajitas 102.22 46 *e*P Pdif 16 24 31.5 -0.9
LTX pmax pmax
comp=Z,10.0nm,1.1s
LTX MLR MLR
comp=Z,2µm,20.0s,MS5.7
LTX Lajitas 102.22 46 *e*Pdif Pdif 16 24 31.5 -0.9
comp=Z,10nm,1.1s
LTX LR LR
comp=Z,2µm,20.0s,MS5.7
TXAR Lajitas Array 102.22 46 P Pdif 16 24 32.4 0.0
comp=Z,0.4nm,0.3s,baz=270,slow=3.8,SNR=10
TXAR PP PP 16 28 41.6 -5.6
comp=Z,9.5nm,1.3s,baz=288,slow=4.0,SNR=5.7
TXAR PKKPbc 16 40 35.8
comp=Z,0.9nm,0.7s,baz=127,slow=6.3,SNR=5.7
ESPR Espera 102.39 325 P Pdif 16 24 32.4 -0.6
comp=Z,33nm,1.0s
PBEJ Beja 102.44 327 *e*P Pdif 16 24 33.0 -0.2
PBEJ Beja 102.44 327 *e*PP PP 16 28 47.8 -1.0
EJIF Jimena Fronter 102.52 325 P Pdif 16 24 32.6 -0.9
comp=Z,19nm,1.3s
CCM Cathedral Cave 102.57 32 PFAKE 16 24 40.0 +6.3
CCM LR LR
comp=Z,2µm,19.0s,MS5.6
EGRO El Granado 102.66 327 P Pdif 16 24 33.5 -0.6
comp=Z,16nm,1.0s
ERPA Erie 103.66 23 PFAKE 16 24 50.0 +12
ERPA LR LR
comp=Z,4µm,20.0s,MS6.0
NCB Newcomb 103.73 18 PFAKE 16 24 50.0 +11
NCB LR LR
comp=Z,4µm,21.0s,MS6.0
JCT Junction City 103.79 43 PFAKE 16 24 50.0 +11
JCT LR LR
comp=Z,2µm,20.0s,MS5.5
LBNH Lisbon 104.07 16 PFAKE 16 24 50.0 +10
LBNH LR LR
comp=Z,5µm,21.0s,MS6.0
MIAR Mount Ida 104.20 36 PFAKE 16 24 50.0 +9.0
MIAR LR LR
comp=Z,2µm,21.0s,MS5.7
ACSO Alum Creek Sta 104.25 26 PFAKE 16 24 50.0 +8.9
ACSO LR LR
comp=Z,3µm,20.0s,MS5.9
WCI Wyandotte Cave 104.64 29 PFAKE 16 24 50.0 +7.2
WCI LR LR
comp=Z,3µm,21.0s,MS5.8
RKT Rikitea 104.86 108 *e*PP PP 16 29 05.2 -2.2
RKT Rikitea 104.86 108 *e*PS PS 16 38 20.4 +2.0
RKT Rikitea 104.86 108 *e*SKSac 16 35 21.4
RKT *e*SS SS 16 43 54.0 -1.0
RKT *e*LR LR 16 59 32.0
comp=Z,2µm,24.5s,baz=304
MDT Midelt 104.88 322 Pdiff Pdif 16 24 44.5 +0.4
comp=Z,2.5nm,0.9s,baz=98,slow=6.2,SNR=4.4
MDT PP PP 16 28 57.5 -10
comp=Z,9.5nm,1.0s,baz=46,slow=8.9,SNR=6.7
WVT Waverly 105.71 31 PFAKE 16 29 10.0
WVT LR LR
comp=Z,2µm,19.0s,MS5.8
NATX Nacogdoches 105.77 39 PFAKE 16 29 10.0
NATX LR LR
comp=Z,3µm,20.0s,MS5.9
HRV Harvard--Oak R 105.79 17 PFAKE 16 29 10.0
HRV LR LR
comp=Z,3µm,20.0s,MS5.8
MCWV Mont Chateau 105.90 24 PFAKE 16 29 10.0
MCWV LR LR
comp=Z,5µm,19.0s,MS6.0
OXF Oxford 106.30 33 *e*PKP 16 29 01.7
OXF *e*PP PP 16 29 14.3 -3.4
OXF LR LR
comp=Z,3µm,19.0s,MS5.8
LSZ Lusaka 107.71 262 Pdiff Pdif 16 24 57.5 +0.7
comp=Z,13nm,1.0s,baz=62,slow=3.5,SNR=16
LSZ PKiKP 16 29 04.8
comp=Z,6.5nm,1.1s,baz=102,slow=3.8,SNR=2.8
LSZ PP PP 16 29 22.4 -6.2
comp=Z,8.8nm,1.0s,baz=59,slow=7.2,SNR=5.9
LSZ Lusaka 107.71 262 *e*P Pdif 16 24 56.0 -0.8
LSZ 16 29 22.4
LSZ pmax pmax
comp=Z,24nm,1.3s
LSZ MLR MLR
comp=Z,6µm,22.0s,MS6.1
LSZ Lusaka 107.71 262 *e*Pdif Pdif 16 24 56.0 -0.8
comp=Z,24nm,1.3s
LSZ PKPdf 16 29 04.8
LSZ PP PP 16 29 22.4 -6.2
LSZ LR LR
comp=Z,6µm,22.0s,MS6.1
BLA Blacksburg 107.86 25 PFAKE 16 29 10.0
BLA LR LR
comp=Z,82µm,19.0s
CBN Corbin 108.06 23 PFAKE 16 29 20.0
CBN LR LR
comp=Z,5µm,20.0s,MS6.0
VNDA Vanda 108.24 173 PFAKE 16 29 10.0
VNDA LR LR
comp=Z,3µm,22.0s,MS5.8
SBA Scott Base 109.07 172 PFAKE 16 29 20.0
SBA LR LR
comp=Z,2µm,22.0s,MS5.7
GOGA Godfrey 109.93 30 PFAKE 16 29 20.0
GOGA LR LR
comp=Z,188nm,20.0s
NHSC New Hope 111.56 27 PFAKE 16 29 20.0 +10
NHSC LR LR
comp=Z,2µm,19.0s,MS5.8
LBTB Lobatse 113.93 254 PFAKE 16 29 30.0 +15
LBTB LR LR
comp=Z,2µm,21.0s,MS5.8
TORD Torodi Ar. Bea 114.89 303 PKP PKPdf 16 29 18.3 +1.3
comp=Z,9.3nm,0.9s,baz=25,slow=2.0,SNR=22
TORD PP PP 16 30 14.5 -6.5
comp=Z,22nm,1.1s,baz=47,slow=5.3,SNR=9.4
TORD PKKPbc 16 39 54.1
comp=Z,2.5nm,0.9s,baz=242,slow=1.9,SNR=7.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DWPF	Disney	115.36	31	PFAKE		16 29 30.0	+12
DWPF				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
BBSR	BB Station	117.06	14	PFAKE		16 29 30.0	+9.2
BBSR				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
SYO	Syowa Base	117.24	204	⇑PKPdf	PKPdf	16 29 21.3	+1.0
SYO	Syowa Base	117.24	204	⇑ePKPdf	PKPdf	16 29 21.3	+1.0
TSUM	Tsumeb	118.54	263	PKP	PKPdf	16 29 26.0	+2.0
	comp=Z,5.5nm,0.9s,baz=78,slow=1.9,SNR=8.6						
TSUM	Tsumeb	118.54	263	PKP	PKPdf	16 29 26.0	+2.0
TSUM				LR	LR		
	comp=Z,5μm,22.0s,MS6.1						
QSPA	South Pole Qui	119.05	180	PFAKE		16 29 40.0	+16
QSPA				LR	LR		
	comp=Z,2μm,22.0s,MS5.6						
DBIC	Dimbokro	123.99	302	PKP	PKPdf	16 29 36.4	+1.6
	comp=Z,24nm,0.8s,baz=61,slow=2.4,SNR=19						
DBIC				PP	PP	16 31 17.5	-6.2
	comp=Z,33nm,1.1s,baz=15,slow=5.2,SNR=4.9						
DBIC	Dimbokro	123.99	302	ePKPdf	PKPdf	16 29 35.5	+0.8
DBIC				epPKPdf		16 29 49.4	
DBIC				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
LIC	Lamto	124.41	302	⇑iPKIKP	PKPdf	16 29 36.7	+1.2
	comp=Z,146nm,1.1s						
LIC				eR			
	comp=Z,6μm,20.8s						
RPN	Rapa Nui	127.91	103	PFAKE		16 29 50.0	+8.0
RPN				LR	LR		
	comp=Z,445nm,20.0s,MS5.1						
JTS	JuntasAbangare	128.01	46	PFAKE		16 29 50.0	+7.5
JTS				LR	LR		
	comp=Z,245nm,20.0s,MS4.9						
SNAA	Sanae	130.58	198	⇑iPKPdf	PKPdf	16 29 46.8	+0.9
SNAA				e		16 29 58.4	
SNAA				e		16 32 10.9	
SNAA				e		16 33 08.8	
PAYG	Puerto Ayora	132.01	61	PFAKE		16 30 00.0	+10
PAYG				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
VNA2	Neumayer--Watz	132.22	197	⇑iPKPdf	PKPdf	16 29 50.5	+1.5
VNA2				e		16 30 02.2	
VNA2				e		16 30 08.0	
VNA2				e		16 32 11.1	
VNA2				e		16 33 13.5	
VNA3	Neumayer Olymp	132.59	196	⇑iPKPdf	PKPdf	16 29 50.9	+1.2
VNA3				e		16 30 02.3	
VNA3				e		16 30 07.8	
VNA3				e		16 32 17.2	
VNA3				e		16 33 15.5	
VNA1	Neumayer--Stat	132.61	197	⇑iPKPdf	PKPdf	16 29 52.8	+3.0
VNA1				e		16 30 04.1	
VNA1				e		16 33 10.3	
SDV	Santo Domingo	137.03	31	SKPbc		16 33 33.0	
	comp=Z,8.7nm,0.9s,baz=300,slow=23,SNR=15						
SDV	Santo Domingo	137.03	31	ePKPdf	PKPdf	16 30 01.1	+1.7
SDV				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
ROSC	El Rosal	138.63	39	PKP	PKPdf	16 30 04.5	+2.1
	comp=Z,6.2nm,0.3s,baz=92,slow=22,SNR=14						
ROSC				SKPbc		16 33 39.7	
	comp=Z,4.5nm,0.4s,baz=67,slow=23,SNR=3.5						
OTAV	Otavalo	139.82	48	PKPpre		16 29 58.9	
OTAV				ePKPdf	PKPdf	16 30 06.9	+2.4
OTAV				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
PMSA	Palmer Station	143.36	170	PFAKE		16 30 20.0	+12
PMSA				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
NNA	Nana	149.45	61	ePKPdf	PKPdf	16 30 22.6	+1.7
NNA				ePKPbc	PKPdf	16 30 26.6	+5.7
NNA				epPKPdf		16 30 37.3	
NNA				LR	LR		
	comp=Z,213nm,21.0s,MS4.9						
RCBR	Riachuelo	153.27	328	PFAKE		16 30 40.0	+13
RCBR				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
SAML	Samuel	156.15	35	ePKPdf	PKPdf	16 30 32.0	+1.6
SAML				ePKPdif		16 30 41.6	
SAML				ePP	PP	16 34 34.4	-5.1
SAML				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
ARE	Arequipa	156.27	62	eP	PKPdf	16 30 34.0	+3.5
EFI	East Falkland	156.78	167	PFAKE		16 30 40.0	+10
EFI				LR	LR		
	comp=Z,579nm,21.0s,MS5.4						
LPAZ	La Paz	158.69	57	PKP	PKPdf	16 30 36.9	+3.3
	comp=Z,23nm,1.3s,baz=1.4,slow=3.6,SNR=31						
LPAZ				PKPab	PKPab	16 31 10.9	-0.6
	comp=Z,13nm,0.9s,baz=5.8,slow=8.9,SNR=5.4						
LPAZ	La Paz	158.69	57	ePKPdf	PKPdf	16 30 37.0	+3.3
LPAZ				ePKPdif		16 30 47.9	
PLCA	Paso Flores	159.51	129	PKP	PKPdf	16 30 35.7	+1.8
	comp=Z,7.2nm,1.1s,baz=223,slow=4.1,SNR=4.0						
PLCA				PKPab	PKPab	16 31 13.8	-0.6
	comp=Z,20nm,1.2s,baz=285,slow=4.6,SNR=4.0						
PLCA	Paso Flores	159.51	129	ePKPdf	PKPdf	16 30 35.3	+1.5
PLCA				ePKPdif		16 30 46.1	
PLCA				LR	LR		
	comp=Z,2μm,20.0s,MS6.0						
SIV	San Ignacio	163.14	41	PKP	PKPdf	16 30 40.5	+2.3
	comp=Z,27nm,1.1s,baz=42,slow=0.5,SNR=61						
SIV				PKPab	PKPab	16 31 29.7	-1.1
	comp=Z,6.4nm,0.9s,baz=248,slow=2.6,SNR=2.1						
SIV				PP	PP	16 35 15.2	-1.3
	comp=Z,3.7nm,0.9s,baz=0.1,slow=5.5,SNR=5.4						
CFAA	Coronel Fontan	163.85	103	PKP	PKPdf	16 30 40.6	+2.0
	comp=Z,0.3nm,0.6s,baz=311,slow=1.8,SNR=4.2						
CFAA				PKPab	PKPab	16 31 33.0	-0.6
	comp=Z,0.7nm,0.9s,baz=137,slow=3.0,SNR=5.1						
BAO	Brasilia Array	166.33	353	PKPdf	PKPdf	16 30 42.5	+1.3
BDFB	Brasilia	166.34	353	PKP	PKPdf	16 30 43.8	+2.6
	comp=Z,14nm,0.8s,baz=14,slow=2.4,SNR=11						
BDFB				PKPab	PKPab	16 31 43.5	-1.2
	comp=Z,13nm,0.6s,baz=334,slow=4.8,SNR=10						
TRQA	Tornquist	166.56	134	PFAKE		16 30 50.0	+9.2
TRQA				LR	LR		
	comp=Z,2μm,20.0s						
LPA	La Plata	171.05	131	dePKP	PKPdf	16 30 42.0	-1.6
LPA				ePP	PP	16 35 58.0	+1.5
LPA				eSKKS		16 42 39.0	
	comp=Z,3μm,22.0s						
CPUP	Villa Florida	172.64	68	ePKPdf	PKPdf	16 30 47.1	+2.3
CPUP				LR	LR		
	comp=Z,465nm,19.0s						

JMA 03 16:23:31.2±0.2**, 29.16N**×**130.61E, h17**km**, M3.1, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.93	317	P	Pb	16 23 48.7	+0.2
JNN				eS	Sb	16 24 00.7	+0.3
JAM	Amami Oshima	1.16	230	P	Pb	16 23 52.2	-0.1
JAM				eS	Sb	16 24 07.6	+0.7
JKC	Kuchinoerabu	1.35	345	P	Pn	16 23 55.5	+0.1
JKC				eS	Sb	16 24 12.5	+0.1

*NIED **03** 16:24:00, 29.20N×130.50E, h17km, Mw5.3 Best double couple: $M_0$1.18×10^17 NP1: ϕ_s188°, δ84°, λ-78°. NP2: ϕ_s304°, δ13°, λ-153°.*
*BJI **03** 16:24:51.9, 29.07N×130.73E, h42km, mB5.7, mb4.9, Ms5.4, Msz5.2*
*MOS **03** 16:24:52.3±1.1, 29.32N×130.60E, h33km, mb5.5/18, Error ellipse: s-maj=10.9km s-min=5.4km az=116.7*
*JMA **03** 16:24:53.9±0.1, 29.23N×130.47E, h72km±3km, M5.2*
JMA Felt II J1.
*NEIC **03** 16:24:53.6±0.2, 29.22N×130.50E, mb5.3/26, MW5.3(NIED), Error ellipse: s-maj=5.9km s-min=4.6km az=89.0*
NEIC Recorded [2 JMA] on Amami-oshima and [1 JMA] on Kikaiga-shima.
*IDC **03** 16:24:54.9±1.4, 29.26N×130.45E, h40km±12km, mb4.5/25, mb1 4.6/29, mb1mx4.6/33, mbtmp4.8/29, ML4.2/3, MS5.1/5, Ms1 5.1/5, ms1mx4.5/35, Error ellipse: s-maj=11.4km s-min=7.5km az=97.0*
ISC 03 16:24:53.3±0.3**, 29.20N**±0.02×**130.58E**±0.03**, h42**km±3km**, h29**km±2.0km**: pP-P, n250, σ1.06**/254**, mb5.0**/75**, MS5.4**/10,

32C-17D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.89	316	P	P	16 25 10.1	+0.7
JNN				eS	S	16 25 22.3	+1.0
JZK	Kikaishima	1.04	211	P	P	16 25 12.9	+1.4
JAM	Amami Oshima	1.17	228	P	P	16 25 13.9	+0.6
JAM				eS	S	16 25 30.2	+1.9
JKC	Kuchinoerabu	1.30	345	P	P	16 25 16.0	+0.7
JKC				S	S	16 25 33.0	+1.3
JTN	Tanegashima 3	1.49	13	P	P	16 25 18.7	+0.7
JTSR	Tashiro 2	1.98	8	P	P	16 25 25.6	+0.7
JTSR				eS	S	16 25 49.2	+0.6
JTK	Tokunoshima	2.02	226	P	P	16 25 25.9	+0.4
JTK				eS	S	16 25 51.4	+1.8
JSU	Suzuyama	2.30	357	P	P	16 25 29.6	+0.1
JNAR	Kushima--Naru	2.39	14	P	P	16 25 31.7	+0.8
JSJ	Shimokoshiki	2.58	343	P	P	16 25 33.7	+0.2
JOW	Kunigami	3.12	221	P	P	16 25 40.8	-0.5
	66nm,0.3s,baz=66,slow=11,SNR=18						
JOW				S	S	16 26 16.7	-1.0
	275nm,0.3s,baz=37,slow=15,SNR=7.6						
JOW				LR	LR	16 27 14.1	
	comp=Z,34μm,18.7s,baz=23,slow=45						
JOW	Kunigami	3.12	221	P	P	16 25 40.5	-0.8
JTSN	Tsuno	3.13	14	P	P	16 25 40.9	-0.5
JIH	Iheya	3.16	228	P	P	16 25 41.2	-0.7
JMZ	Minamidaito 2	3.42	170	P	P	16 25 43.4	-2.1
JKIT	Kitakata	3.49	12	P	P	16 25 46.5	0.0
JNU	Nakatsue	3.91	4	P	P	16 25 53.1	+0.6
	25nm,0.3s,baz=169,slow=9.1,SNR=107						
JNU				S	S	16 26 36.8	-1.0
	14nm,0.3s,baz=229,slow=20,SNR=4.9						
JUS	Usuki	3.98	14	P	P	16 25 52.8	-0.6
JFI	Itaya	4.21	358	P	P	16 25 57.7	+1.0
JFI				S	S	16 26 46.4	+1.1
JKE	Kume jima 2	4.42	230	P	P	16 25 58.1	-1.5
JFA	Akaike	4.50	2	P	P	16 26 00.8	+0.1
JNA	Nagahama	4.63	20	P	P	16 26 00.7	-2.0
JKD	Kudamatsu	4.96	13	P	P	16 26 05.7	-1.5
SSE	Sheshan	8.35	285	P	P	16 26 52.0	-2.6
SSE				AMB	AMB		
	comp=Z,30nm,0.8s						
SSE				AMB	AMB		
	comp=Z,2μm,9.1s						
KS15	Wonju Array Si	8.52	345	eP	P	16 26 57.3	+0.4
JHJ	Hachijo jima 2	8.80	61	P	P	16 27 00.6	-0.2
	comp=Z,143nm,0.3s,baz=116,slow=6.9,SNR=12						
JHJ				LR	LR	16 29 48.7	
	comp=Z,9μm,18.4s,baz=283,slow=33						
YHNB	Yeheng	9.37	243	eP	P	16 27 06.1	-2.6
MAT	Matsushiro	9.72	39	P	P	16 27 12.7	-0.9
MAJO	Matsushiro	9.73	39	P	P	16 27 13.9	+0.3
MAJO				pmax	pmax		
	comp=Z,39nm,0.4s						
MAJO	Matsushiro	9.73	39	P	P	16 27 13.9	+0.3
	comp=Z,39nm,0.4s						
CBIJ	Chichi jima	10.45	99	LR	LR	16 30 47.0	
	comp=Z,8μm,18.5s,baz=270,slow=33						
NJ2	Nanjing	10.49	289	eP	P	16 27 22.8	-1.3
NJ2				AP		16 27 30.1	
NJ2				PP	PP	16 27 31.2	-0.9
NJ2				S	S	16 29 17.0	-4.4
NJ2				AMB	AMB		
	comp=Z,60nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,3μm,7.4s						
NJ2				LR	LR		
	comp=N,13μm,15.7s						
NJ2				LR	LR		
	comp=E,20μm,17.6s						
NJ2				LR	LR		
	comp=Z,13μm,16.0s						
QZH	Quanzhou	11.49	251	P	P	16 27 35.8	-1.9
QZH				eS	S	16 29 40.5	-5.2
QZH				LR	LR		
	comp=N,16μm,14.3s						
QZH				LR	LR		
	comp=E,13μm,12.4s						
QZH				LR	LR		
	comp=Z,21μm,15.9s						
DL2	Dalian	12.19	325	eP	P	16 27 43.4	-3.6
DL2				AMB	AMB		
	comp=Z,20nm,1.1s						
DL2				LR	LR		
	comp=N,5μm,12.3s						
DL2				LR	LR		
	comp=E,6μm,14.2s						
DL2				LR	LR		
	comp=Z,8μm,13.9s						
WHN	Wuhan	14.15	279	P	P	16 28 15.3	+2.4
APYP	Conner	14.16	219	eP	P	16 28 09.1	-4.1
CAUP	Cauayan	14.62	215	eP	P	16 28 19.7	+0.6
ABRA	Dolores	14.63	220	eP	P	16 28 16.4	-2.9
CN2	Changchun	15.14	346	eP	P	16 28 29.8	+4.1
CN2				XP		16 28 44.0	
CN2				eS	S	16 31 05.0	-7.6
CN2				AMB	AMB		
	comp=Z,130nm,1.2s						
CN2				LR	LR		
	comp=N,10μm,17.0s						
CN2				LR	LR		
	comp=E,3μm,17.0s						
CN2				LR	LR		
	comp=Z,12μm,15.0s						
MDJ	Mudanjiang	15.40	357	P	P	16 28 30.6	+1.4
MDJ				AP		16 28 37.4	
MDJ				XP		16 28 42.7	
MDJ				S	S	16 31 21.3	+2.5
MDJ				PCP	PcP	16 33 32.4	+0.2
MDJ				SCP		16 37 04.2	
MDJ				PCS		16 37 06.7	
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s						
MDJ				AMB	AMB		
	comp=Z,1μm,6.8s						
MDJ				LR	LR		
	comp=N,8μm,17.8s						
MDJ				LR	LR		
	comp=E,3μm,17.0s						
MDJ				LR	LR		
	comp=Z,6μm,17.5s						
BALP	Baler	15.76	214	eP	P	16 28 33.3	-0.6
POLP	Polilio Island	16.47	211	eP	P	16 28 42.4	-0.5
SCZP	Santa Cruz	16.59	219	eP	P	16 28 44.3	-0.1
GZH	Guangzhou	16.63	252	P	P	16 28 40.3	-4.5
GZH				S	S	16 31 43.2	-4.0
GZH				LR	LR		
	comp=N,6μm,21.4s						
GZH				LR	LR		
	comp=E,11μm,15.2s						
GZH				LR	LR		
	comp=Z,12μm,19.3s						
PVCP	Virac	16.64	202	eP	P	16 28 50.3	+5.3
CNP	Catarman	17.50	200	eP	P	16 28 59.0	+3.2
ASAJ	Asahikawa	17.70	30	P	P	16 28 57.0	-1.2
	comp=Z,1.2nm,0.3s,baz=211,slow=13,SNR=9.3						
LUBP	Lubang	18.13	214	eP	P	16 29 03.6	-0.1
OTRP	Odiongan	18.56	207	eP	P	16 29 10.6	+1.6
XAN	Xi'an	19.06	290	P	P	16 29 13.0	-1.7
XAN				AMB	AMB		
	comp=Z,80nm,1.0s						
HHC	Hu-ho-hao-te	19.39	312	eP	P	16 29 21.3	+3.0
HHC				AP		16 29 28.9	
HHC				XP		16 29 33.9	
HHC				PP	PP	16 29 38.5	+2.3
HHC				S	S	16 32 50.6	+1.2
HHC				SS	SS	16 33 16.2	-0.3
HHC				AMB	AMB		
	comp=Z,20nm,1.1s						
HHC				AMB	AMB		
	comp=Z,6μm,5.6s						
HHC				LR	LR		
	comp=N,7μm,15.3s						
HHC				LR	LR		
	comp=E,9μm,16.6s						
HHC				LR	LR		
	comp=Z,10μm,13.9s						
HABR	Khabarovsk	19.55	9	eP	P	16 29 17.3	-2.7
BUSP	Coron	19.66	212	eP	P	16 29 20.0	-1.5
MSLP	Maasin	19.71	197	eP	P	16 29 22.9	+0.8
LLP	Lapu-Lapu	19.78	200	⇑eP	P	16 29 24.0	+1.2
SCPH	Surigao	19.90	195	⇑eP	P	16 29 24.7	+0.6
GUIM	Jordan	19.94	204	eP	P	16 29 24.5	0.0
KLR	Kul'dur	20.02	2	eP	P	16 29 20.0	-5.1
YSS	Yuzh-Sakhalins	20.10	25	⇑iP	P	16 29 22.6	-3.4
YSS				pmax	pmax		
	comp=Z,159nm,1.7s						
YSS	Yuzh-Sakhalins	20.10	25	⇑iP	P	16 29 22.7	-3.3
CUYO	Cuyo Island	20.33	208	eP	P	16 29 28.9	+0.3
GUMO	Guam	20.42	137	P	P	16 29 31.2	+1.6
	comp=Z,415nm,1.1s,baz=337,slow=5.9,SNR=7.1						
GUMO				LR	LR	16 35 36.7	
	comp=Z,4μm,18.1s,MS4.8,baz=322,slow=31						
GUMO	Guam	20.42	137	eP	P	16 29 28.7	-0.8
GUMO				pmax	pmax		
	comp=Z,597nm,1.2s						
GUMO	Guam	20.42	137	eP	P	16 29 28.7	-0.9
	comp=Z,597nm,1.2s						
ENPP	El Nido	20.72	212	eP	P	16 29 32.5	-0.1
SNPH	Sibulan	20.93	201	eP	P	16 29 37.0	+2.3
GYA	Guiyang	21.32	268	⇑iP	P	16 29 38.7	+0.1
GYA				AP		16 29 49.2	
GYA				XP		16 29 52.4	
GYA				PP	PP	16 30 06.7	+3.6
GYA				S	S	16 33 32.3	+4.3
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,180nm,4.0s						
GYA				LR	LR		
	comp=N,8μm,18.3s,MS5.3						
GYA				LR	LR		
	comp=E,8μm,18.0s,MS5.3						
GYA				LR	LR		
	comp=Z,9μm,17.7s,MS5.2						
QIZ	Qiongzhong	21.44	246	P	P	16 29 39.8	0.0
BUKP	Musuan	21.84	195	eP	P	16 29 43.4	-0.5
CD2	Chengdu	23.26	281	P	P	16 29 58.1	+0.3
CD2				PP	PP	16 30 30.0	+0.4
CD2				PPP	PPP	16 30 40.0	+0.2
CD2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.1						
CD2				LR	LR		
	comp=N,6μm,13.8s						
CD2				LR	LR		
	comp=Z,7μm,13.2s,MS5.3						
LZH	Lanzhou	23.49	294	eP	P	16 30 00.4	+0.4
LZH				AP		16 30 12.2	
LZH				XP		16 30 16.6	
LZH				ePP	PP	16 30 31.0	-1.8
LZH				eS	S	16 34 04.5	-2.7
LZH				AMB	AMB		
	comp=Z,110nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,670nm,4.5s						
LZH				LR	LR		
	comp=E,12μm,12.2s						
LZH				LR	LR		
	comp=Z,20μm,13.7s,MS5.7						
BATP	Bataraza	23.58	213	eP	P	16 30 03.6	+2.5
KMI	Kunming	25.08	267	P	P	16 30 15.5	0.0
KMI				AP	pP	16 30 26.5	0.0
KMI				XP	sP	16 30 31.7	+0.1
KMI				PP	PP	16 30 53.3	-0.7
KMI				S	S	16 34 33.8	-0.5
KMI				XS		16 34 53.7	
KMI				SS	SS	16 35 35.1	-0.6
KMI				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.1						
KMI				LR	LR		
	comp=N,5μm,13.8s,MS5.5						
KMI				LR	LR		
	comp=E,9μm,14.6s,MS5.5						
KMI				LR	LR		
	comp=Z,11μm,15.2s,MS5.5						
ULN	Ulaanbaatar	26.02	322	⇓iP	P	16 30 23.8	-0.3
SONM	Songino Array	26.36	322	P	P	16 30 26.7	-0.5
	comp=Z,7.8nm,0.6s,mb4.4,baz=141,slow=9.0,SNR=14						
SONM				LR	LR	16 42 06.0	
	comp=Z,8μm,19.4s,MS5.3,baz=135,slow=39						
GTA	Gaotai	27.26	300	eP	P	16 30 40.2	+4.6
GTA				AP	pP	16 30 46.2	-0.6
GTA				XP	sP	16 30 50.1	-2.0
GTA				PP	PP	16 31 29.3	+6.0
GTA				PCP	PcP	16 33 55.7	+0.8
GTA				S	S	16 35 19.4	+9.3
GTA				XS		16 35 34.2	
GTA				SCP		16 37 33.5	
GTA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
GTA				LR	LR		
	comp=N,5μm,17.5s,MS5.4						
GTA				LR	LR		
	comp=E,7μm,15.2s,MS5.4						
GTA				LR	LR		
	comp=Z,9μm,16.7s,MS5.4						
ZAK	Zakamensk	29.51	323	eP	P	16 30 53.3	-2.3
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
PET	Petropavlovsk	31.48	33	i P	P	16 31 10.0	-3.0
YAK	Yakutsk	32.84	359	⇑eP	P	16 31 21.6	-3.2
YAK				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
YAK	Yakutsk	32.84	359	eP	P	16 31 22.1	-2.7
	comp=Z,14nm,0.8s,mb4.9						
KSM	Kuching	33.67	219	eP	P	16 31 32.4	0.0
LSA	Lhasa	34.23	281	eP	P	16 31 37.4	+0.3
SEY	Seymchan	36.58	17	⇓iP	P	16 31 55.5	-1.3
SEY	Seymchan	36.58	17	⇓iP	P	16 31 55.6	-1.2
WMQ	Urumqi	37.00	305	eP	P	16 32 01.1	+0.6
WMQ				AP	pP	16 32 11.1	-1.1
WMQ				XP	sP	16 32 15.1	-2.4
WMQ				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,850nm,5.8s						
WMQ				LR	LR		
	comp=N,3μm,18.8s,MS5.2						
WMQ				LR	LR		
	comp=E,3μm,18.2s,MS5.2						
WMQ				LR	LR		
	comp=Z,4μm,19.8s,MS5.2						
JIRN	Jiri	38.90	279	eP	P	16 32 16.4	-0.1
	comp=Z,26nm,0.4s,mb5.3						
GUN	Gumba	39.11	279	eP	P	16 32 18.3	+0.1
	comp=Z,132nm,0.5s,mb5.9						
PKI	Pulchoki	39.59	279	eP	P	16 32 22.0	-0.2
	comp=Z,171nm,1.0s,mb5.7						
PKI	Pulchoki	39.59	279	eP	P	16 32 22.0	-0.2
PKI				pmax	pmax		
	comp=Z,85nm,1.0s,mb5.4						
KKN	Kakani	39.65	279	eP	P	16 32 22.5	-0.2
	comp=Z,151nm,0.8s,mb5.8						
KKN	Kakani	39.65	279	eP	P	16 32 22.5	-0.2
KKN				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.5						
DMN	Daman	39.84	279	eP	P	16 32 23.8	-0.5
	comp=Z,166nm,1.2s,mb5.6						
PSI	Prapat	39.93	235	P	P	16 32 26.1	+0.9
	comp=Z,3.3nm,0.4s,mb4.4,baz=24,slow=6.8,SNR=8.3						
GKN	Gorkha	40.16	280	eP	P	16 32 26.5	-0.4
	comp=Z,35nm,0.4s,mb5.5						
KOLN	Koldanda	41.10	280	eP	P	16 32 34.5	-0.3
	comp=Z,102nm,1.0s,mb5.4						
MK31	Makanchi Array	41.20	309	P	P	16 32 34.9	-0.5
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
MKAR	Makanchi Array	41.20	309	P	P	16 32 35.2	-0.2
	comp=Z,4.2nm,0.5s,mb4.3,baz=88,slow=10,SNR=81						
MKAR				PcP	PcP	16 34 33.8	-0.7
	comp=Z,2.7nm,0.8s,baz=89,slow=5.7,SNR=3.6						
ZAL	Zalesovo	41.24	320	P	P	16 32 34.8	-0.8
	comp=Z,3.4nm,0.7s,mb4.1,baz=3.6,slow=7.6,SNR=11						
ZAL				PcP	PcP	16 34 33.7	-0.8
	comp=Z,3.0nm,0.3s,baz=52,slow=1.5,SNR=3.2						
PMG	Port Moresby	41.58	155	P	P	16 32 39.2	+0.4
	comp=Z,46nm,1.1s,mb5.0,baz=339,slow=7.1,SNR=16						
PMG	Port Moresby	41.58	155	⇑iP	P	16 32 39.7	+0.8
PMG	Port Moresby	41.58	155	eP	P	16 32 38.8	-0.1
	comp=Z,48nm,1.1s,mb5.0						
KAKA	Kakadu	41.71	177	⇓iP	Px	16 33 00.4	
	comp=Z,71nm,1.1s						
KURK	Kurchatov	44.18	314	eP	P	16 32 58.0	-1.6
KURK				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.1						
KURK	Kurchatov	44.18	314	eP	P	16 32 58.0	-1.6
	comp=Z,26nm,0.6s,mb5.1						
BILL	Bilibino	44.20	18	⇑iP	P	16 32 59.7	+0.2

BILL pmax pmax
comp=Z,38nm,1.7s,mb4.8
KSH Kashi 45.63 298 *e*P **P 16 33 12.6 +1.3**
KSH *e*AP pP 16 33 24.0 +0.8
KSH *e*XP sP 16 33 28.6 +0.3
KSH *e*PCP PcP 16 34 48.0 -1.5
KSH *e*PP PP 16 35 00.6 +1.8
KSH *e*PPP PPP 16 35 47.3 +5.4
KSH *e*SCP 16 38 36.7
KSH *e*PCS 16 38 41.6
KSH *e*S **S 16 39 55.0 +4.8**
KSH *e*XS 16 40 15.4
KSH *e*SCS ScS 16 43 01.0 -0.3
KSH *e*SS SS 16 43 13.3 +7.2
KSH AMB AMB
comp=Z,430nm,3.9s
KSH LR LR
comp=N,2μm,11.3s
KSH LR LR
comp=E,3μm,9.5s
TKM2 Tokmak 2 45.74 303 P **P 16 33 12.6 +0.4**
SNR=15
TKM2 Tokmak 2 45.74 303 P **P 16 33 12.2 0.0**
TKM2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KZA Kyzart 46.03 302 P **P 16 33 15.6 +1.1**
SNR=8.2
KBK Karagaybulak 46.23 303 P **P 16 33 16.4 +0.3**
SNR=10
CHMS Chumysh 46.36 303 P **P 16 33 16.9 -0.2**
SNR=10.0
FRU Bishkek 46.47 303 *e*P **P 16 33 17.5 -0.4**
USP Ospenovka 46.54 303 P **P 16 33 18.1 -0.3**
SNR=8.5
AAK Ala-Archa 46.56 302⇓*i*P **P 16 33 17.0 -1.6**
AAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AAK Ala-Archa 46.56 302⇓*i*P **P 16 33 17.1 -1.5**
UCH Uchtor 46.57 302 P **P 16 33 19.9 +1.2**
SNR=18
HNR Honiara 47.72 139 P **P 16 33 28.7 +0.6**
comp=Z,15nm,0.6s,mb5.2,baz=169,slow=8.3,SNR=5.1
HNR Honiara 47.72 139 *e*P **P 16 33 28.6 +0.5**
HNR pmax pmax
comp=Z,77nm,1.3s,mb5.6
HNR Honiara 47.72 139 *e*P **P 16 33 28.6 +0.4**
comp=Z,77nm,1.3s,mb5.6
WRAB Tennant Creek 48.98 175⇓*i*P **P 16 33 37.3 -0.5**
WRAB Tennant Creek 48.98 175 *e*P **P 16 33 37.3 -0.5**
comp=Z,95nm,1.2s,mb5.7
WRA Warramunga Arr 48.99 175 P **P 16 33 37.6 -0.3**
comp=Z,36nm,1.1s,mb5.3,baz=352,slow=8.1,SNR=82
WB2 Warramunga Arr 48.99 175⇓*i*P **P 16 33 37.6 -0.3**
VOSK Vostochnaya 49.13 316 P **P 16 33 36.9 -1.6**
VOSK pmax pmax
comp=Z,44nm,1.4s,mb5.3
KKAR Karatay Array 49.46 303 P **P 16 33 40.1 -1.1**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BVA0 Borovoye Array 49.51 316 *i* P **P 16 33 40.1 -1.3**
BVA0 pmax pmax
comp=Z,15nm,1.5s,mb4.8
BVAR Borovoye Array 49.51 316 P **P 16 33 40.5 -0.9**
comp=Z,18nm,0.5s,mb5.3,baz=100,slow=9.0,SNR=59
BVAR PcP PcP 16 35 02.8 -0.4
comp=Z,2.8nm,0.5s,baz=108,slow=4.3,SNR=3.1
BRVK Borovoye 49.57 316⇑*i*P **P 16 33 41.0 -0.9**
TNA Tin City 52.05 28 *e*P **P 16 34 00.7 +0.3**
comp=Z,24nm,1.2s,mb5.0
SVE Sverdlovsk 55.23 321⇑*e*P **P 16 34 24.0 -0.1**
SVE *e* pP 16 34 38.0 +1.8
SVE pmax pmax
comp=Z,76nm,1.5s,mb5.5
SVE MLR MLR
comp=N,1μm,16.0s,MS6.0
SVE MLR MLR
comp=E,10μm,16.0s,MS6.0
SVE MLR MLR
comp=Z,4μm,16.0s,MS5.6
AB31 Akbulak array 56.18 312 *i* P **P 16 34 29.7 -1.3**
AB31 pmax pmax
comp=Z,24nm,0.6s,mb5.4
ARU Arti 56.39 321⇑*i*P **P 16 34 30.9 -1.5**
ARU *e* 16 35 25.5
ARU *e*S **S 16 42 19.9 +1.6**
ARU *e*SS SS 16 46 04.6 -1.4
ARU pmax pmax
comp=Z,50nm,1.2s,mb5.4
ARU Arti 56.39 321⇑*i*P **P 16 34 31.1 -1.3**
SOKR Solikamsk 57.18 324⇓*i*P **P 16 34 37.1 -0.9**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.5
AKTK Aktyubinsk 57.27 314 P **P 16 34 37.8 -1.0**
AKTO Aktyubinsk 57.27 314 P **P 16 34 37.8 -1.0**
comp=Z,17nm,1.0s,mb5.0,baz=80,slow=9.0,SNR=29
FORT Forrest 59.70 183 *e*P **P 16 34 55.8 -0.2**
comp=Z,63nm,1.0s,mb5.6
PMR Palmer 60.21 33 *e*P **P 16 34 58.1 -1.0**
PMR pmax pmax
comp=Z,24nm,1.1s,mb5.1
PMR Palmer 60.21 33 *e*P **P 16 34 58.1 -1.0**
comp=Z,24nm,1.1s,mb5.2
COLA College 60.42 29⇑*i*P **P 16 35 00.7 +0.3**
ILAR Eielson Array 60.84 29 P **P 16 35 02.3 -1.0**
comp=Z,3.7nm,0.8s,mb4.6,baz=265,slow=5.2,SNR=39
DZM Mont Dzumac 61.58 142 P **P 16 35 09.0 +0.1**
comp=Z,25nm,1.0s,mb5.3,baz=22,slow=7.7,SNR=13
STKA Stephens Creek 61.64 169 *e*P **P 16 35 09.1 0.0**
comp=Z,7.5nm,0.9s,mb4.8
STKA Stephens Creek 61.64 169 P **P 16 35 08.7 -0.4**
comp=Z,10nm,0.9s,mb4.9,baz=0.2,slow=8.5,SNR=9.3
KLBR Kellerberrin 61.68 192 *e*P **P 16 35 08.6 -0.8**
comp=Z,49nm,1.2s,mb5.5
KLMR Klimovskoe 65.46 327 *e*P **P 16 35 32.0 -1.7**
KLMR pmax pmax
comp=Z,50nm,1.9s,mb5.2
APA Apatity 66.03 335⇓*e*P **P 16 35 36.0 -1.2**
APA *i* 16 35 44.8
TOO Toolangi 67.88 167 *e*P **P 16 35 50.6 +1.2**
comp=Z,17nm,1.1s,mb5.0
TOO Toolangi 67.88 167 *e*P **P 16 35 50.6 +1.2**
TOO pmax pmax
comp=Z,17nm,1.1s,mb5.0
ARCES ARCESS Array B 68.01 339 P **P 16 35 48.7 -1.0**
comp=Z,3.6nm,0.8s,mb4.4,baz=69,slow=7.7,SNR=7.0
ARCES PcP PcP 16 36 14.7 -1.1
comp=Z,3.5nm,0.8s,baz=70,slow=5.7,SNR=4.9
GOF Gofitskoye 68.35 310 *e*P **P 16 35 50.4 -1.8**
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.4
JOF Joensuu 68.46 331 *ep* **P 16 35 51.0 -1.6**
comp=Z,6.2nm,0.6s,mb4.8
OBN Obninsk 68.77 322⇑*i*P **P 16 35 54.1 -0.5**
OBN *e**PP pP 16 36 02.7 -4.4
OBN *e* 16 36 18.4
OBN pmax pmax
comp=Z,40nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,5μm,17.0s,MS5.8
GNI Garni 68.88 305 P **P 16 35 55.8 +0.2**
comp=Z,4.7nm,0.5s,mb4.7,baz=219,slow=8.2,SNR=3.2
GNI Garni 68.88 305⇑*e*P **P 16 35 56.5 +0.9**
GNI pmax pmax
comp=Z,48nm,1.5s
KIV Kislovodsk 68.97 309⇓*i*P **P 16 35 56.3 +0.3**
KIV pmax pmax
comp=Z,102nm,1.3s,mb5.6
KIV Kislovodsk 68.97 309⇓*i*P **P 16 35 56.4 +0.4**
UMR Umm Al-Rimmam 70.56 294 *e*P **P 16 36 05.4 -0.6**
UMR AMb AMB 16 36 06.7
comp=Z,58nm,1.1s,mb5.4
QRN Al-Qurain 70.72 293 *e*P **P 16 36 06.3 -0.7**
QRN AMb AMB 16 36 07.5
comp=Z,54nm,1.0s,mb5.4
KBD Kabd 70.73 293 *e*P **P 16 36 06.3 -0.7**
MIB Mutribah 70.77 294 *e*P **P 16 36 06.4 -0.9**
MIB AMb AMB 16 36 07.9
comp=Z,64nm,1.0s,mb5.5
KAF Kangasniemi 70.91 331 *ep* **P 16 36 01.8 -5.8**
comp=Z,3.3nm,0.7s,mb4.4
KAF Kangasniemi 70.91 331 *e*P **P 16 36 01.8 -5.8**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
RDF Al-Radifah 70.94 293 *e*P **P 16 36 07.8 -0.5**
RDF AMb AMB 16 36 08.9
comp=Z,79nm,1.0s,mb5.6
NAY Al-Naaiem 71.06 293 *e*P **P 16 36 08.0 -1.1**
NAY AMb AMB 16 36 09.6
comp=Z,37nm,1.0s,mb5.3
SOC Sochi 71.10 310 *e*P **P 16 36 08.9 -0.2**
FINES FINESS Array B 71.31 331 P **P 16 36 08.3 -1.6**
comp=Z,3.5nm,0.5s,mb4.6,baz=58,slow=5.0,SNR=40
MSL Mosul 71.52 302 *ex* x 16 36 11.0
MSL *ex* x 16 45 42.0
DAG Danmarks Havn 72.58 353⇑*i*P **P 16 36 17.2 0.0**
comp=Z,6.7nm,0.9s,mb4.6
DAG Danmarks Havn 72.58 353⇑*e*P **P 16 36 17.2 0.0**
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DAG Danmarks Havn 72.58 353⇑*e*P **P 16 36 17.2 0.0**
NAY comp=Z,6.7nm,0.9s,mb4.6
AKASG Malin Array Be 74.63 320 P **P 16 36 29.1 -0.6**
comp=Z,11nm,0.4s,mb5.1,baz=59,slow=6.5,SNR=56
MZLS Mizel 74.87 289 P **P 16 36 32.1 +0.5**
YKA Yellowknife Ar 74.96 26 P **P 16 36 32.0 +0.8**
comp=Z,6.1nm,1.0s,mb4.5,baz=299,slow=5.7,SNR=19
HILS Ha'il 76.20 294 P **P 16 36 39.7 +0.6**
AFFS 'Afif 76.73 290 P **P 16 36 42.6 +0.4**
BRTR Keskin Array B 76.85 308 P **P 16 36 42.9 +0.3**
comp=Z,9.0nm,0.7s,mb4.8,baz=100,slow=4.8,SNR=36
KAMS Al Khamasin 77.02 286 P **P 16 36 43.2 -0.7**
HFS Hagfors 77.15 333 P **P 16 36 42.6 -1.2**
comp=Z,2.2nm,0.5s,mb4.4,baz=72,slow=4.7,SNR=17
NB2 NORSAR Subarra 77.56 334 P **P 16 36 44.4 -1.7**
comp=Z,3.9nm,0.7s,mb4.5,baz=51,slow=5.3
NB2 NORSAR Subarra 77.56 334 P **P 16 36 44.4 -1.7**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
NOA NORSAR Array B 77.56 334 P **P 16 36 44.6 -1.5**
comp=Z,3.5nm,0.7s,mb4.4,baz=49,slow=5.5,SNR=10
QURS Qurayyt al Mil 77.93 299 P **P 16 36 48.9 +0.2**
TIRR Tirgusor 78.06 314⇑P **P 16 36 50.0 +0.9**
SUMG Summit 78.21 357 *e*P **P 16 36 50.1 +0.7**
comp=Z,19nm,1.1s,mb4.9
TATS Tathlith 78.28 286 P **P 16 36 50.9 +0.1**
BURAR Bucovina Array 78.42 318⇓P **P 16 36 52.1 +1.1**
BURAR Bucovina Array 78.42 318⇓P **P 16 36 52.1 +1.1**
MLR Muntele Rosu 79.07 316 P **P 16 36 54.9 +0.2**
baz=72,slow=9.6
MLR Muntele Rosu 79.07 316⇑P **P 16 36 54.6 -0.1**
KOLS Kolonicke sedl 79.41 320 *e*P **P 16 36 57.3 +0.9**
VOIR 79.64 316⇓P **P 16 37 00.1 +2.4**
BLJS Baljurashi 79.71 287 P **P 16 36 59.7 +1.1**
STHS Stebnicka Huta 79.72 321 *e*P **P 16 36 59.0 +0.9**
STHS *e* 16 37 05.6
CRVS Cervenica-Dubn 79.88 321 *e*P **P 16 36 58.5 -0.4**
CRVS *e* 16 37 01.7
TBKS Tabuk 79.97 297 P **P 16 37 00.4 +0.5**
OJC Ojcow 80.05 322 *e*P **P 16 37 00.3 +0.4**
ALWS Ilw as Safayha 80.62 298 P **P 16 37 03.2 -0.1**
KECS Kecovo 80.65 321 *e*P **P 16 37 03.2 +0.2**
JMOS Jabal al Moall 80.65 298 P **P 16 37 03.8 +0.3**
UMJS Umm Lajj 80.76 294 P **P 16 37 05.2 +1.1**
HAQS Haql 80.84 298 P **P 16 37 04.9 +0.4**
AYUS 'Aynunah 80.99 297 P **P 16 37 05.6 +0.3**
OKC Ostrava-Krasne 81.15 323 *e*P **P 16 37 06.4 +0.8**
OKC *ep*P pP 16 37 15.7 -2.6
MORC Moravsky Berou 81.50 323⇑P **P 16 37 09.0 +1.5**
KSP Ksiaz 81.53 324 *e*P **P 16 37 08.7 +1.1**
KSP Ksiaz 81.53 324 *e*P **P 16 37 08.2 +0.6**
VYHS Vyhne 81.55 321 *e*P **P 16 37 08.8 +1.0**
VYHS *ep*P pP 16 37 18.0 -2.4
DPC Dobruska-Polom 81.80 324 *e*P **P 16 37 10.5 +1.5**
UPC Upice 81.87 324 *e*P **P 16 37 08.9 -0.5**
VTS Vitosha 82.27 315⇑P **P 16 37 13.3 +1.7**
VRAC Vranov 82.28 323⇑P **P 16 37 12.6 +1.1**
SMOL Smolenice 82.30 322 *e*P **P 16 37 13.7 +2.1**
PVCC Panska Ves 82.59 325 *e*P **P 16 37 12.9 -0.2**
CLL Collm 82.89 326⇑P **P 16 37 14.9 +0.3**
comp=Z,logA/T=1.4,mb5.2
CLL *i* 16 37 53.1
CLL *i* 16 38 09.2
CLL Collm 82.89 326⇑*i*P **P 16 37 14.9 +0.3**
CLL pmax pmax
comp=Z,33nm,1.4s,mb5.2
CLL Collm 82.89 326⇑*i*P **P 16 37 14.9 +0.3**
comp=Z,33nm,1.4s,mb5.2
CLL *i* 16 37 53.1
CLL *i* 16 38 09.2
PRU Pruhonice 82.94 324 *e*P **P 16 37 15.6 +0.8**
PRU *ep*P pP 16 37 23.9 -3.7
NKC Novy Kostel 83.84 325 *e*P **P 16 37 20.1 +0.7**
NKC *ep*P pP 16 37 29.9 -2.2
BMO Blue Mountains 83.85 42 *e*P **P 16 37 20.5 +0.9**
BMO pmax pmax
comp=Z,22nm,1.3s,mb5.1
BMO Blue Mountains 83.85 42 *e*P **P 16 37 20.5 +0.9**
comp=Z,22nm,1.3s,mb5.1
KHC Kasperske Hory 83.96 324 *e*P **P 16 37 20.6 +0.6**
KHC *ep*P pP 16 37 28.9 -3.9
MOX Moxa 83.99 326 *i* P **P 16 37 21.2 +1.1**
comp=Z,logA/T=1.6,mb5.5
MOX Moxa 83.99 326 *e*P **P 16 37 21.2 +1.1**
MOX pmax pmax
comp=Z,71nm,2.0s,mb5.5
MOX Moxa 83.99 326 *e*P **P 16 37 21.2 +1.1**
comp=Z,71nm,2.0s,mb5.5
GERES GERESS Array B 84.07 324 P **P 16 37 20.1 -0.5**
comp=Z,5.6nm,1.1s,mb4.6,baz=56,slow=4.8,SNR=18
GERES PP PP 16 40 36.2 -0.4
comp=Z,1.1nm,1.0s,slow=8.0,SNR=3.6
ARSA Arzberg 84.08 322⇑*i*P **P 16 37 21.7 +1.0**
comp=Z,218nm,3.4s
MOA Molln 84.39 323⇑*i*P **P 16 37 23.4 +1.1**
comp=Z,18nm,1.3s,mb5.1
GRA1 Grafenberg Arr 84.79 325 *e*P **P 16 37 25.2 +1.0**
comp=Z,32nm,1.4s,mb5.3
GRA1 *ep*P pP 16 37 34.6 -2.4
GRF Grafenberg Arr 84.79 325 *e*P **P 16 37 25.2 +1.0**
GRF *e**PP pP 16 37 34.6 -2.4
GRF pmax pmax
comp=Z,32nm,1.4s,mb5.3
GRF Grafenberg Arr 84.79 325 *e*P **P 16 37 25.2 +1.0**
GRF *e**PP pP 16 37 34.6 -2.4
GRF pmax pmax
comp=Z,32nm,1.4s,mb5.3
GRF Grafenberg Arr 84.79 325 *e*P **P 16 37 25.2 +1.0**
comp=Z,32nm,1.4s,mb5.3
GRF *ep*P pP 16 37 34.6 -2.4
NVAR Mina Array Bea 86.96 47 P **P 16 37 36.9 +1.8**
comp=Z,4.3nm,0.7s,mb4.8,baz=302,slow=3.8,SNR=29
NVAR Mina Array Bea 86.96 47 P **P 16 37 36.9 +1.8**
EKA Eskdalemuir Ar 86.96 336 P **P 16 37 34.5 -0.2**
comp=Z,1.1nm,0.5s,mb4.3,baz=41,slow=4.6,SNR=7.6
PDAR Pinedale Array 89.55 40 P **P 16 37 48.9 +1.5**
comp=Z,2.7nm,0.9s,mb4.6,baz=312,slow=1.9,SNR=16
ULM Lac du Bonnet 90.83 28 P **P 16 37 54.2 +1.1**
comp=Z,6.2nm,1.0s,mb4.9,baz=323,slow=6.9,SNR=6.5
TXAR Lajitas Array 102.09 46 PKiKP
comp=Z,0.5nm,0.3s,baz=319,slow=1.9,SNR=3.9
TORD Torodi Ar. Bea 115.15 303 PKP PKPdf 16 43 31.5 +0.9
comp=Z,0.8nm,0.7s,baz=55,slow=1.1,SNR=4.1
TORD PKKPbc 16 54 08.2
comp=Z,1.7nm,1.1s,baz=218,slow=2.8,SNR=3.5
SYO Syowa Base 117.27 204⇑P Pdif 16 39 44.3 -6.5
SYO Syowa Base 117.27 204⇑Pdiff Pdif 16 39 52.4 +1.6
SYO Syowa Base 117.27 204⇓PKPdf PKPdf 16 43 33.1 -0.3
SYO Syowa Base 117.27 204⇓*e*Pdif Pdif 16 39 52.4 +1.6
SYO ⇓*e*PKPdf PKPdf 16 43 33.1 -0.3
DBIC Dimbokro 124.25 303 PKP PKPdf 16 43 49.3 +1.1
comp=Z,13nm,1.2s,baz=127,slow=2.7,SNR=3.2
SNAA Sanae 130.59 198⇑*i*PKPdf PKPdf 16 44 00.9 +1.9
SNAA *e* 16 44 12.8
SNAA *e* 16 44 19.1
VNA2 Neumayer--Watz 132.22 197 PKPdf PKPdf 16 44 04.4 +2.3
VNA2 *e* 16 44 16.2
VNA2 *e* 16 44 24.0
VNA3 Neumayer Olymp 132.59 196 PKPdf PKPdf 16 44 03.1 +0.3
VNA3 *e* 16 44 15.5
VNA3 *e* 16 44 23.2
SDV Santo Domingo 136.96 32 PKP PKPdf 16 44 14.7 +2.3
comp=Z,15nm,1.1s,baz=8.2,slow=4.2,SNR=4.9
LPAZ La Paz 158.52 57 PKP PKPdf 16 44 50.5 +4.0
comp=Z,0.8nm,0.6s,baz=322,slow=1.3,SNR=3.6
LPAZ PKPab PKPab 16 45 23.0 -0.9
comp=Z,3.8nm,1.1s,baz=15,slow=9.9,SNR=6.2
CFAA Coronel Fontan 163.59 103 PKPab PKPab 16 45 46.3 +0.9
comp=Z,0.1nm,0.5s,baz=290,slow=3.0,SNR=4.0

JMA ***03*** *16:25:58.6±0.1,32.98N×136.86E,h34km,M3.8*
ISC 03 16:25:59.0±1.1,33.00N±0.07×136.86E±0.04,h34km,n15,
σ0873/29,2C-3D,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.98**	**38**	P		**P**		**16 26 16.1**	**-0.3**
JWZ	**Kozaga**	**1.10**	**299**	⇑P		**P**		**16 26 18.1**	**0.0**
JWZ				*e*S		**S**		**16 26 31.4**	**-0.8**
TK02	**Tokai 2**	**1.21**	**38**	P		**P**		**16 26 19.6**	**0.0**
TK02				*e*S		**S**		**16 26 35.1**	**+0.1**
JKN2	**Miekihoku**	**1.33**	**339**	⇓P		**P**		**16 26 21.9**	**+0.5**
JKN2				S		**S**		**16 26 38.0**	**-0.2**
JIE	**Ise**	**1.40**	**355**	⇓P		**P**		**16 26 23.1**	**+0.7**
JIE				S		**S**		**16 26 40.4**	**+0.6**
JWM	**Minabe**	**1.52**	**304**	P		**P**		**16 26 22.7**	**-1.4**
JWM				*e*S		**S**		**16 26 42.5**	**-0.4**
JWY	**Kouya**	**1.61**	**319**	⇑P		**P**		**16 26 26.5**	**+1.0**
JWY				*e*S		**S**		**16 26 45.4**	**+0.1**
TK04	**Tokai 4**	**1.62**	**31**	P		**P**		**16 26 25.6**	**0.0**
TK04				S		**S**		**16 26 45.6**	**+0.1**
TSUJ	**Tsu 2**	**1.75**	**348**	⇓P		**P**		**16 26 28.1**	**+0.7**
TSUJ				S		**S**		**16 26 49.3**	**+0.6**
JHE	**Heguri**	**1.92**	**330**	P		**P**		**16 26 30.8**	**+1.0**
JHE				*e*S		**S**		**16 26 53.3**	**+0.3**
JAI	**Aioi**	**2.17**	**292**	P		**P**		**16 26 34.1**	**+0.7**
JAI				*e*S		**S**		**16 26 58.0**	**-1.3**
JAJ2	**Tsuna**	**2.17**	**311**	P		**P**		**16 26 25.9**	**-7.6**
JAJ2				*e*S		**S**		**16 26 59.4**	**-0.1**
SHZ3	**Shizuoka 3**	**2.35**	**28**	P		**P**		**16 26 35.6**	**-0.4**
SHZ3				*e*S		**S**		**16 27 03.3**	**-0.6**
JIZS	**Izushimoda**	**2.40**	**44**	P		**P**		**16 26 37.4**	**+0.7**
JIZS				*e*S		**S**		**16 27 02.8**	**-2.4**
MAT	**Matsushiro**	**3.71**	**17**	P		**P**		**16 26 55.7**	**+0.4**
MAT				S		**S**		**16 27 37.9**	**-0.5**

NEIC ***03*** *16:26:35.0,33.06S×69.92W,h113km,MD3.6(GUC),After GUC.*
GUC 03 16:26:35.0±0.7,33.06S×69.92W,h113km±3km,MD3.6,
ML3.7,12C-12D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.41**	**229**	⇓*i*P		**P**		**16 26 52.3**	**+0.5**
FCH				*i* S		S		**16 27 05.4**	**+0.9**
FCH				AMP				**16 27 09.4**	
	comp=N,2μm,0.2s								
CLCH	**Cerro Calan**	**0.62**	**237**	⇓*i*P		P		**16 26 53.5**	**+0.3**
CLCH				*i* S		S		**16 27 07.6**	**+0.7**
CLCH				AMP				**16 27 10.2**	
	comp=N,3μm,0.6s								
PEL	**Peldehue**	**0.65**	**262**	⇑*i*P		P		**16 26 53.5**	**+0.2**
PEL				*i* S		S		**16 27 07.7**	**+0.4**
PEL				AMP				**16 27 09.0**	
	comp=N,13μm,0.2s								
FSR	**Penalolen**	**0.66**	**230**	*i* P		P		**16 26 53.8**	**+0.4**
FSR				*i* S		S		**16 27 08.2**	**+0.7**
FSR				AMP				**16 27 10.4**	
	comp=N,3μm,0.2s								
JACH	**Jahuel**	**0.68**	**303**	⇑*i*P		P		**16 26 54.1**	**+0.5**
JACH				*i* S		S		**16 27 08.3**	**+0.5**
SJCH	**San Jose de Ma**	**0.69**	**212**	⇑*i*P		P		**16 26 53.4**	**+0.3**
SJCH				*i* S		S		**16 27 08.2**	**+0.3**
SJCH				AMP				**16 27 08.8**	
	comp=N,965nm,0.5s								
STL	**Santa Lucia**	**0.72**	**238**	⇓*i*P		P		**16 26 54.1**	**+0.1**
STL				*i* S		S		**16 27 08.6**	**+0.3**
STL				AMP				**16 27 08.9**	
	comp=N,2μm,0.3s								
SAN	**Santiago**	**0.74**	**237**	⇑*i*P		P		**16 26 54.3**	**+0.2**
SAN				*i* S		S		**16 27 08.8**	**+0.2**
SAN				AMP				**16 27 09.6**	
	comp=E,6μm,0.4s								
PCH	**Pirque**	**0.75**	**221**	⇑*i*P		P		**16 26 54.6**	**+0.3**
PCH				*i* S		S		**16 27 09.3**	**+0.5**
ANTU	**Antumapu**	**0.79**	**229**	⇑*i*P		P		**16 26 54.9**	**+0.2**
ANTU				*i* S		S		**16 27 09.9**	**+0.5**
ANTU				AMP				**16 27 10.4**	
	comp=E,2μm,0.2s								
LMEL	**Las Melosas**	**0.83**	**197**	⇓*i*P		P		**16 26 55.3**	**+0.3**
LMEL				*i* S		S		**16 27 10.4**	**+0.4**
LMEL				AMP				**16 27 15.0**	
	comp=N,1μm,0.2s								
RCDM	**Rinconada Maip**	**0.86**	**240**	⇓*i*P		P		**16 26 55.4**	**0.0**
RCDM				*i* S		S		**16 27 10.9**	**+0.2**
RCDM				AMP				**16 27 11.3**	
	comp=E,8μm,0.3s								
MDZ	**Mendoza**	**0.91**	**79**	*e*P		P		**16 26 51.6**	**-4.3**
MDZ				S		S		**16 27 14.4**	**+2.9**
ROCH	**El Roble**	**0.92**	**275**	⇓*i*P		P		**16 26 56.4**	**+0.4**
ROCH				*i* S		S		**16 27 11.9**	**+0.2**
TACH	**Talagante**	**1.04**	**235**	⇑*i*P		P		**16 26 56.9**	**-0.3**
TACH				*i* S		S		**16 27 13.4**	**-0.4**
CHCH	**Chadas Angostu**	**1.07**	**215**	⇓*i*P		P		**16 26 57.7**	**+0.2**
CHCH				*i* S		S		**16 27 14.4**	**+0.1**
CACH	**El Canelo**	**1.20**	**208**	⇑*i*P		P		**16 26 59.7**	**+0.7**
CACH				*i* S		S		**16 27 18.1**	**+1.1**
CICH	**Cipreses**	**1.33**	**198**	⇓*i*P		P		**16 27 00.7**	**+0.2**
CICH				*i* S		S		**16 27 20.4**	**+0.7**
LCCH	**Las Cruces**	**1.45**	**253**	⇓*i*P		P		**16 27 01.3**	**-0.5**
IHA	**Instituto Hidr**	**1.45**	**271**	⇓*i*P		P		**16 27 01.1**	**-0.7**
LNV	**Longovilo**	**1.54**	**234**	⇑*i*P		P		**16 27 02.5**	**-0.4**
ILCH	**Illapel**	**1.77**	**323**	⇑*i*P		P		**16 27 05.8**	**+0.2**
ILCH				*i* S		S		**16 27 28.8**	**+0.1**
ILCH				AMP				**16 27 29.6**	
	comp=N,843nm,0.3s								
CHNG	**Los Chungos**	**1.78**	**311**	⇓*i*P		P		**16 27 05.8**	**0.0**
CHNG				*i* S		S		**16 27 28.9**	**-0.1**
CHNG				AMP				**16 27 33.8**	
	comp=E,447nm,0.3s								
SFDO	**San Fernando**	**1.80**	**210**	⇓*i*P		P		**16 27 05.8**	**-0.3**
SFDO				*i* S		S		**16 27 29.9**	**+0.4**
ZON	**Zonda**	**1.83**	**35**	*e*P		P		**16 27 10.4**	**+3.9**
ZON				*e*S		S		**16 27 35.0**	**+4.8**
CMCH	**Combarbala**	**2.09**	**334**	⇑*i*P		P		**16 27 09.8**	**+0.1**
CMCH				*i* S		S		**16 27 36.2**	**+0.3**
CMCH				AMP				**16 27 37.5**	
	comp=E,2μm,0.5s								
TLL	**Tololo Astrono**	**2.98**	**345**	⇑*i*P		P		**16 27 21.8**	**+0.1**
TLL				*i* S		S		**16 27 57.4**	**+0.3**
TLL				AMP				**16 28 31.3**	
	comp=N,274nm,0.5s								
TRQA	**Tornquist**	**8.17**	**130**	*e*Pn		P		**16 28 29.8**	**-2.3**

JMA 03 16:29:04.8±0.2,29.17N×130.64E,h20km,M3.6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.94**	**315**	P		P	Pb	**16 29 21.8**	**-0.5**
JNN				S		S	Sb	**16 29 34.7**	**+0.3**
JAM	**Amami Oshima**	**1.18**	**230**	P		P	Pb	**16 29 25.9**	**-0.5**
JAM				S		S	Sb	**16 29 41.9**	**+0.6**
JKC	**Kuchinoerabu**	**1.34**	**343**	P		P	Pn	**16 29 28.6**	**-0.1**
JKC				S		S	Sb	**16 29 46.3**	**+0.3**
JTSR	**Tashiro 2**	**2.00**	**7**	*e*S		Sn		**16 30 03.4**	**+0.5**
JTK	**Tokunoshima**	**2.03**	**228**	P		Pn		**16 29 38.8**	**+0.3**
JNAR	**Kushima--Naru**	**2.41**	**13**	P		Pn		**16 29 44.9**	**+0.9**
JSJ	**Shimokoshiki**	**2.62**	**343**	P		Pn		**16 29 46.1**	**-0.9**

IDC ***03*** *16:32:26.2±1.0,29.22N×130.57E,mb3.9/8,mb1 4.0/11, mb1mx3.9/25,mbtmp3.8/11,ML3.4/3,Error ellipse: s-maj=27.7km s-min=20.4km az=110.0*
NEIC ***03*** *16:32:28.4±4.1,29.23N×130.54E,h14km±27km, MG3.7(JMA),Error ellipse: s-maj=18.5km s-min=10.1km az=119.0*
JMA ***03*** *16:32:30.4±0.1,29.20N×130.47E,h76km±3km,M3.7*
ISC 03 16:32:29.9±0.7,29.14N±0.04×130.60E±0.08,h45km±6km,
n31,σ1906/37,mb4.1/12,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.94**	**318**	P		P		**16 32 47.3**	**+0.4**
JNN				*e*S		S		**16 32 59.7**	**+0.3**
JZK	**Kikaishima**	**0.99**	**214**	P		P		**16 32 49.1**	**+1.5**
JAM	**Amami Oshima**	**1.14**	**230**	P		P		**16 32 50.4**	**+0.8**
JAM				*e*S		S		**16 33 06.0**	**+1.7**
JKC	**Kuchinoerabu**	**1.36**	**345**	P		P		**16 32 53.3**	**+0.3**

JTN	**Tanegashima 3**	**1.54**	**12**	P	**P**	**16 32 56.0**	**+0.5**
JTK	**Tokunoshima**	**1.98**	**227**	P	**P**	**16 33 02.2**	**+0.5**
JTSR	**Tashiro 2**	**2.04**	**8**	*e*S	**S**	**16 33 27.1**	**+0.3**
JSU	**Suzuyama**	**2.36**	**357**	P	**P**	**16 33 06.9**	**-0.2**
JNAR	**Kushima--Naru**	**2.45**	**14**	P	**P**	**16 33 09.3**	**+1.0**
JSJ	**Shimokoshiki**	**2.64**	**343**	P	**P**	**16 33 10.9**	**-0.2**
JOW	**Kunigami**	**3.09**	**222**	Pn	**P**	**16 33 17.3**	**-0.1**
	10.0nm,0.3s,baz=95,slow=19,SNR=12						
JOW				Sn	**S**	**16 33 51.8**	**-1.7**
	29nm,0.3s,baz=262,slow=27,SNR=6.1						
JOW	**Kunigami**	**3.09**	**222**	P	**P**	**16 33 17.1**	**-0.3**
JOW				*e*S	**S**	**16 33 52.2**	**-1.2**
JIH	**Iheya**	**3.13**	**229**	P	**P**	**16 33 17.5**	**-0.6**
JIH				*e*S	**S**	**16 33 53.1**	**-1.5**
JNU	**Nakatsue**	**3.97**	**3**	Pn	**P**	**16 33 27.3**	**-2.7**
	2.6nm,0.3s,baz=168,slow=16,SNR=9.4						
JNU				Sn	**S**	**16 34 12.1**	**-3.9**
	2.3nm,0.3s,baz=164,slow=24,SNR=2.6						
JKE	**Kume jima 2**	**4.39**	**231**	P	**P**	**16 33 34.6**	**-1.3**
JHJ	**Hachijo jima 2**	**8.81**	**61**	Sn	**S**	**16 36 06.0**	**-11**
	23nm,0.3s,baz=237,slow=22,SNR=3.0						
YHNB	**Yeheng**	**9.36**	**244**	*e*Pn	**P**	**16 34 38.6**	**-6.4**
MJAR	**Matsushiro Arr**	**9.76**	**39**	Pn	**P**	**16 34 48.7**	**-2.0**
	0.6nm,0.3s,baz=253,slow=13,SNR=5.9						
GUN	**Gumba**	**39.13**	**279**	*e*P	**P**	**16 39 55.1**	**+0.2**
	6.6nm,0.3s,mb4.8						
KKN	**Kakani**	**39.68**	**279**	*e*P	**P**	**16 39 59.5**	**+0.1**
	5.7nm,0.4s,mb4.7						
GKN	**Gorkha**	**40.18**	**280**	*e*P	**P**	**16 40 03.0**	**-0.6**
	5.3nm,0.4s,mb4.6						
KOLN	**Koldanda**	**41.13**	**280**	*e*P	**P**	**16 40 11.2**	**-0.2**
	2.7nm,0.4s,mb4.2						
MKAR	**Makanchi Array**	**41.26**	**309**	P	**P**	**16 40 12.3**	**+0.1**
	0.9nm,0.9s,mb3.4,baz=100,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**41.26**	**309**	P	**P**	**16 40 12.3**	**0.0**
WRA	**Warramunga Arr**	**48.93**	**175**	P	**P**	**16 41 14.3**	**+0.5**
	1.3nm,0.7s,mb4.1,baz=353,slow=8.4,SNR=9.3						
BVAR	**Borovoye Array**	**49.56**	**316**	P	**P**	**16 41 17.7**	**-0.6**
	1.0nm,0.6s,mb4.1,baz=101,slow=7.6,SNR=5.9						
ILAR	**Eielson Array**	**60.88**	**29**	P	**P**	**16 42 39.0**	**-1.0**
	0.5nm,0.8s,mb3.7,baz=262,slow=6.4,SNR=4.2						
INK	**Inuvik**	**65.39**	**24**	P	**P**	**16 43 10.2**	**+0.6**
	3.0nm,1.1s,mb4.2,baz=277,slow=8.1,SNR=6.5						
FINES	**FINESS Array B**	**71.37**	**331**	P	**P**	**16 43 46.3**	**-0.4**
	1.3nm,0.9s,mb3.8,baz=63,slow=4.3,SNR=4.1						
BRTR	**Keskin Array B**	**76.90**	**308**	P	**P**	**16 44 21.6**	**+2.4**
	0.8nm,0.8s,mb3.7,baz=72,slow=4.6,SNR=4.4						
NVAR	**Mina Array Bea**	**86.99**	**47**	P	**P**	**16 45 14.1**	**+2.4**
	0.5nm,0.6s,mb3.9,baz=312,slow=4.5,SNR=4.5						

JMA 03 16:33:42.8±0.3**, 29.19N×130.64E, h20**km±5km**, M3.7, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.93**	**314**	P	Pb	16 33 59.9	-0.2
JNN				*e*S	Sb	16 34 12.1	+0.1
JAM	**Amami Oshima**	**1.19**	**230**	P	Pn	16 34 04.3	-0.3
JAM				*e*S	Sb	16 34 19.3	-0.3
JKC	**Kuchinoerabu**	**1.32**	**343**	P	Pn	16 34 06.5	+0.1
JKC				*e*S	Sb	16 34 23.9	+0.5
JTN	**Tanegashima 3**	**1.49**	**11**	P	Pn	16 34 08.8	0.0

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*JMA **03** 16:39:16.3±0.2, 29.18N×130.58E, h37km, M3.2*
*IDC **03** 16:39:19.7±8.2, 29.37N×130.73E, h73km±69km, mb3.5/6, mb1 3.6/7, mb1mx3.4/22, mbtmp3.8/7, ML3.9/1, MS4.1/1, Ms1 4.1/1, ms1mx3.2/25, Error ellipse: s-maj=68.8km s-min=27.1km az=69.0*
*NEIC **03** 16:39:20.8±7.5, 29.32N×130.54E, h80km±61km, MG3.2(JMA), Error ellipse: s-maj=87.2km s-min=20.3km az=63.0*
ISC 03 16:39:17.3±1.5**, 29.21N**±0.07×**130.5E**±0.2**, h62**km±10km**, n14, σ0ˢ76**/16**, mb3.7**/6**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.82**	**320**	P	**P**	**16 39 32.8**	**-0.4**
JNN				*e*S	**S**	**16 39 44.6**	**-0.5**
JAM	**Amami Oshima**	**1.10**	**224**	*e*S	**S**	**16 39 51.1**	**-0.7**
JKC	**Kuchinoerabu**	**1.27**	**349**	P	**P**	**16 39 39.0**	**-0.4**
JKC				*e*S	**S**	**16 39 56.6**	**+0.9**
JTK	**Tokunoshima**	**1.96**	**224**	*e*S	**S**	**16 40 12.3**	**+0.2**
JTSR	**Tashiro 2**	**1.98**	**11**	*e*S	**S**	**16 40 13.2**	**+0.3**
JOW	**Kunigami**	**3.07**	**220**	P	**P**	**16 40 09.3**	**+4.7**
	23nm,0.3s,baz=63,slow=12,SNR=20						
JOW				S	**S**	**16 40 48.2**	**+8.0**
	4.7nm,0.3s,baz=107,slow=28,SNR=2.3						
JNU	**Nakatsue**	**3.91**	**5**	LR	LR	16 41 37.0	
	comp=Z,2µm,18.8s,baz=83,slow=37						
TATO	**Taipei**	**9.05**	**244**	*e*Pn	**P**	**16 41 29.3**	**+1.6**
MKAR	**Makanchi Array**	**41.13**	**309**	P	**P**	**16 46 57.2**	**+0.6**
	0.9nm,0.9s,mb3.4,baz=91,slow=9.6,SNR=4.8						
WRA	**Warramunga Arr**	**49.01**	**175**	P	**P**	**16 48 00.4**	**+0.4**
	0.2nm,0.6s,mb3.4,baz=352,slow=8.1,SNR=4.1						
BVAR	**Borovoye Array**	**49.44**	**316**	P	**P**	**16 48 02.7**	**0.0**
	1.0nm,0.5s,mb4.1,baz=95,slow=9.6,SNR=9.4						
FINES	**FINESS Array B**	**71.25**	**331**	P	**P**	**16 50 30.8**	**-0.6**
	0.7nm,0.8s,mb3.7,baz=56,slow=5.0,SNR=5.2						
AKASG	**Malin Array Be**	**74.56**	**320**	P	**P**	**16 50 51.2**	**+0.2**
	0.7nm,0.4s,mb3.9,baz=60,slow=6.5,SNR=4.3						
NOA	**NORSAR Array B**	**77.52**	**334**	P	**P**	**16 51 05.8**	**-1.7**
	1.4nm,0.8s,mb3.9,baz=11,slow=6.9,SNR=3.4						

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*NEIC **03** 16:42:20.0, 15.94N×98.63W, h18km, MD3.8(MEX), After MEX.*
MEX 03 16:42:20.5±0.7**, 15.96N×98.61W, h18**km±47km**, MD3.8, 1C, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**47**⇑	*i*P	Pb	16 42 30.8	-1.9
PNIG				*i* S	Sb	16 42 39.0	-2.1
VHO	**Vista Hermosa**	**2.11**	**58**	*e*P	Pn	16 42 52.7	-2.9
VHO				*i* S	Sn	16 43 17.6	-4.0
OXX	**Oaxaca**	**2.12**	**58**	*e*P	Pn	16 42 54.0	-1.7
OXX				*i* S	Sn	16 43 21.0	-0.9
PLIG	**Platanillo**	**2.57**	**341**	*e*P	Pn	16 42 57.6	-4.5
PLIG				*i* S	Sn	16 43 26.7	-6.5
PPM	**Popocatepetl**	**3.10**	**360**	*e*P	Pn	16 43 10.0	+0.4
PPM				*i* S	Sn	16 43 43.0	-3.5
CMIG	**Matias Romero**	**3.75**	**72**	*e*P	Pn	16 43 13.0	-5.8
CMIG				*i* S	Sn	16 43 58.0	-4.8

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*NIED **03** 16:48:00, 29.30N×130.50E, h35km, Mw5.4 Best double couple: $M_0$1.41×10¹⁷ NP1:ϕ_s17°, δ80°, λ82°. NP2:ϕ_s237°, δ13°, λ129°.*
*IDC **03** 16:48:51.7±0.4, 29.42N×130.37E, mb4.9/33, mb1 5.0/38, mb1mx4.9/41, mbtmp4.9/38, ML4.4/5, MS4.8/13, Ms1 4.9/13, ms1mx4.6/33, Error ellipse: s-maj=12.9km s-min=10.8km az=58.0*
*BJI **03** 16:48:55.0, 29.15N×130.77E, h55km, mB5.5, mb5.0, Ms5.3, Msz5.2*
*JMA **03** 16:48:55.7±0.1, 29.27N×130.51E, h67km±4km, M5.3*
JMA Felt III J1.
*HRVD **03** 16:48:56.2±0.3, 29.18N×130.70E, h34km, MW5.2/69, Centroid moment Tensor Solution. LP body waves: s49,c76;Mantle waves: s69,c125; Half duration: 1ˢ0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.75±.04; $M_{\theta\theta}$-0.14±.03; $M_{\phi\phi}$-0.60±.03; $M_{r\theta}$0.31±.03; $M_{\theta\phi}$-0.35±.02; $M_{\phi r}$0.41±.03; Best double couple: M_0.929×10^{17} NP1: ϕ_s203°, δ29°, λ80°. NP2:ϕ_s33°, δ62°, λ95°. Principal axes: T .91, Plg73°, Azm316°; N .037, Plg5°, Azm211°; P -.948, Plg17°, Azm120°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 16:48:56.2±0.2, 29.36N×130.40E, mb5.4/53, MS5.4/3, MW5.4(NIED) Error ellipse: s-maj=4.7km s-min=3.6km az=134.0*
NEIC Recorded [2 JMA] on Amami-oshima and [1 JMA] on Kikaiga-shima. Also recorded [1 JMA] in Kagoshima Prefecture, Kyushu.
*MOS **03** 16:48:56.9±0.9, 29.76N×130.30E, h33km, mb5.5/58, MS5.5/6, Error ellipse: s-maj=8.2km s-min=4.3km az=114.2*
ISC 03 16:48:55.5±0.3**, 29.32N**±0.02×**130.48E**±0.03**, h40**km±3km**, h30**km±1.7km**: pP-P, n386, σ1ˢ04**/390**, mb5.2**/126**, MS5.2**/24**,**

39C-13D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.74**	**315**	P	**P**	**16 49 11.4**	**+1.8**
JNN				S	**S**	**16 49 23.7**	**+3.9**
JZK	**Kikaishima**	**1.10**	**204**	P	**P**	**16 49 15.2**	**+0.6**
JZK				S	**S**	**16 49 29.6**	**+0.8**
JKC	**Kuchinoerabu**	**1.17**	**348**	P	**P**	**16 49 17.6**	**+2.0**
JKC				S	**S**	**16 49 32.8**	**+2.3**
JAM	**Amami Oshima**	**1.19**	**221**	P	**P**	**16 49 16.2**	**+0.4**
JAM				*e*S	**S**	**16 49 32.0**	**+0.9**
JTN	**Tanegashima 3**	**1.40**	**18**	P	**P**	**16 49 19.9**	**+0.9**
JTSR	**Tashiro 2**	**1.88**	**12**	P	**P**	**16 49 26.9**	**+1.1**
JTK	**Tokunoshima**	**2.04**	**222**	P	**P**	**16 49 28.5**	**+0.5**
JSU	**Suzuyama**	**2.18**	**359**	P	**P**	**16 49 30.9**	**+0.8**
JTZ	**Takazaki**	**2.63**	**11**	P	**P**	**16 49 37.6**	**+1.1**
JTSN	**Tsuno**	**3.05**	**17**	P	**P**	**16 49 42.5**	**0.0**
JOW	**Kunigami**	**3.15**	**219**	Pn	**P**	**16 49 43.1**	**-0.8**
	39nm,0.3s,baz=82,slow=15,SNR=32						
JOW				Sn	**S**	**16 50 20.9**	**+0.1**
	280nm,0.3s,baz=71,slow=22,SNR=7.1						
JOW				LR	LR	16 51 14.4	
	comp=Z,17µm,18.7s,baz=41,slow=45						
JIH	**Iheya**	**3.18**	**225**	P	**P**	**16 49 43.4**	**-0.9**
JKIT	**Kitakata**	**3.40**	**14**	P	**P**	**16 49 47.7**	**+0.3**
JMZ	**Minamidaito 2**	**3.55**	**169**	P	**P**	**16 49 46.0**	**-3.5**
JNU	**Nakatsue**	**3.81**	**5**	Pn	**P**	**16 49 54.4**	**+1.2**
	20nm,0.3s,baz=169,slow=14,SNR=93						
JNU				Sn	**S**	**16 50 37.9**	**+0.6**
	29nm,0.3s,baz=112,slow=14,SNR=3.7						
JNU				LR	LR	16 51 09.1	
	comp=Z,3µm,19.9s,baz=182,slow=37						
JKE	**Kume jima 2**	**4.43**	**229**	P	**P**	**16 50 00.6**	**-1.4**
JFM	**Mihama**	**7.74**	**35**	P	**P**	**16 50 47.5**	**-0.9**
TK04	**Tokai 4**	**8.06**	**49**	P	**P**	**16 50 52.6**	**-0.3**
JAO	**Obara**	**8.25**	**42**	P	**P**	**16 50 54.7**	**-0.8**
KS15	**Wonju Array Si**	**8.39**	**346**	*e*P	**P**	**16 50 58.3**	**+0.9**
JNY	**Yasuok**	**8.67**	**44**	P	**P**	**16 51 00.4**	**-0.9**
INCN	**Inchon**	**8.75**	**339**	P	**P**	**16 51 02.3**	**-0.1**
	441nm,1.5s						
JHJ	**Hachijo jima 2**	**8.82**	**62**	Pn	**P**	**16 51 03.0**	**-0.4**
	93nm,0.3s,baz=240,slow=23,SNR=11						
JHJ				LR	LR	16 54 05.1	
	comp=Z,4µm,18.9s,baz=274,slow=35						
JGN	**Niukaw**	**8.97**	**38**	P	**P**	**16 51 04.3**	**-1.1**
TATO	**Taipei**	**9.10**	**244**	*e*P	**P**	**16 51 05.3**	**-2.0**
	146nm,0.9s						
YHNB	**Yeheng**	**9.35**	**242**	*e*P	**P**	**16 51 08.4**	**-2.2**
JOD2	**Odawara 2**	**9.39**	**49**	P	**P**	**16 51 10.3**	**-0.9**
NACB	**Ninganchiao**	**9.45**	**239**	P	**P**	**16 51 10.4**	**-1.6**
MAJO	**Matsushiro**	**9.69**	**40**	*e*P	**P**	**16 51 14.1**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,74nm,0.6s						
MAJO	**Matsushiro**	**9.69**	**40**	*e*P	**P**	**16 51 14.1**	**-1.3**
	comp=Z,74nm,0.6s						
MAT	**Matsushiro**	**9.69**	**40**	P	**P**	**16 51 14.0**	**-1.4**
MAT				*e*S	**S**	**16 53 03.6**	**-0.6**
MAT	**Matsushiro**	**9.69**	**40**	*e*P	**P**	**16 51 14.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,16nm,1.0s						
MAT	**Matsushiro**	**9.69**	**40**	*e*P	**P**	**16 51 14.0**	**-1.4**
	comp=Z,16nm,1.0s						
MAT				S	**S**	**16 53 23.0**	**+19**
MJAR	**Matsushiro Arr**	**9.70**	**40**	Pn	**P**	**16 51 14.2**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=254,slow=13,SNR=34						
JAG	**Ashikaga**	**10.35**	**44**	P	**P**	**16 51 24.2**	**-0.2**
NJ2	**Nanjing**	**10.37**	**288**	*e*P	**P**	**16 51 26.0**	**+1.2**
NJ2				PP	PP	16 51 34.4	+1.8
NJ2				XP		16 51 42.5	
NJ2				S	**S**	**16 53 17.0**	**-3.8**
NJ2				AMB	AMB		
	comp=Z,240nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,1µm,8.2s						
NJ2				LR	LR		
	comp=N,9µm,14.6s						
NJ2				LR	LR		
	comp=E,19µm,13.8s						
NJ2				LR	LR		
	comp=Z,9µm,14.4s						
CBIJ	**Chichi jima**	**10.56**	**99**	Pn	**P**	**16 51 23.9**	**-3.5**
	comp=Z,62nm,0.3s,baz=287,slow=2.6,SNR=23						
CBIJ				LR	LR	16 54 51.0	
	comp=Z,3µm,20.3s,baz=316,slow=34						
QZH	**Quanzhou**	**11.45**	**250**	P	**P**	**16 51 45.3**	**+5.9**
QZH				S	**S**	**16 53 45.5**	**-1.5**
QZH				AMB	AMB		
	comp=Z,110nm,1.0s						
QZH				LR	LR		
	comp=N,6µm,11.5s						
QZH				LR	LR		
	comp=E,7µm,15.7s						
QZH				LR	LR		
	comp=Z,9µm,12.5s						
DL2	**Dalian**	**12.04**	**325**	*e*P	**P**	**16 51 48.0**	**+0.6**
DL2				AP		16 51 55.7	
DL2				XP		16 52 03.2	
DL2				*e*S	**S**	**16 53 59.3**	**-2.0**
DL2				LG1		16 54 56.0	
DL2				LG2		16 55 19.1	
DL2				AMB	AMB		
	comp=Z,40nm,1.0s						
DL2				AMB	AMB		
	comp=Z,940nm,4.6s						
DL2				LR	LR		
	comp=N,6µm,14.1s						
DL2				LR	LR		
	comp=E,5µm,12.9s						
DL2				LR	LR		
	comp=Z,7µm,13.6s						
TIA	**Tai'an**	**13.17**	**305**	⇑P	**P**	**16 52 03.5**	**+1.2**
TIA				AMB	AMB		
	comp=Z,20nm,1.1s						
TIA				LR	LR		
	comp=N,8µm,13.0s						
TIA				LR	LR		
	comp=E,12µm,14.0s						
SNY	**Shenyang**	**13.68**	**338**	⇑P	**P**	**16 52 11.4**	**+2.4**
SNY				AMB	AMB		
	comp=Z,40nm,1.9s						
SNY				AMB	AMB		
	comp=Z,1µm,6.0s						
SNY				LR	LR		
	comp=N,10µm,13.2s						
SNY				LR	LR		
	comp=E,5µm,10.2s						
SNY				LR	LR		
	comp=Z,13µm,12.9s						
WHN	**Wuhan**	**14.04**	**279**	P	**P**	**16 52 15.3**	**+1.4**
APYP	**Conner**	**14.19**	**219**	*e*P	**P**	**16 52 13.2**	**-2.7**
CAUP	**Cauayan**	**14.66**	**215**	*e*P	**P**	**16 52 22.2**	**+0.2**
ABRA	**Dolores**	**14.66**	**220**	*e*P	**P**	**16 52 19.0**	**-3.0**
CN2	**Changchun**	**15.00**	**346**	⇑P	**P**	**16 52 29.2**	**+2.9**
CN2				*e*S	**S**	**16 55 13.0**	**+1.1**
CN2				AMB	AMB		
	comp=Z,360nm,0.7s						
CN2				AMB	AMB		
	comp=Z,2µm,4.0s						
CN2				LR	LR		
	comp=N,10µm,13.0s						
CN2				LR	LR		
	comp=E,3µm,13.0s						
CN2				LR	LR		
	comp=Z,10µm,13.0s						
MDJ	**Mudanjiang**	**15.29**	**358**	P	**P**	**16 52 30.9**	**+0.9**
MDJ				AP		16 52 38.2	
MDJ				S	**S**	**16 55 16.2**	**-2.2**
MDJ				PCP	PcP	16 57 34.9	+0.4
MDJ				SCP		17 01 02.6	
MDJ				PCS		17 01 10.0	
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.7s						
MDJ				AMB	AMB		
	comp=Z,580nm,7.1s						
MDJ				LR	LR		
	comp=N,4µm,16.6s						
MDJ				LR	LR		
	comp=E,3µm,19.4s						
MDJ				LR	LR		
	comp=Z,3µm,20.3s						
BALP	**Baler**	**15.81**	**213**	*e*P	**P**	**16 52 48.0**	**+11**
POLP	**Polilio Island**	**16.53**	**210**	*e*P	**P**	**16 52 48.4**	**+2.5**
GZH	**Guangzhou**	**16.58**	**252**	P	**P**	**16 52 43.3**	**-3.2**
SCZP	**Santa Cruz**	**16.63**	**218**	*e*P	**P**	**16 52 49.6**	**+2.4**
TGY	**Tagaytay City**	**17.53**	**212**	P	**P**	**16 53 01.9**	**+3.3**
	comp=Z,11nm,0.3s,baz=244,slow=7.0,SNR=3.8						
ASAJ	**Asahikawa**	**17.65**	**30**	P	**P**	**16 52 58.6**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=244,slow=16,SNR=16						
ASAJ				LR	LR	16 59 48.6	
	comp=Z,2µm,21.4s,baz=220,slow=37						
LUBP	**Lubang**	**18.18**	**214**	*e*P	**P**	**16 53 06.0**	**-0.7**
ENH	**Enshi**	**18.25**	**278**	*e*P	**P**	**16 53 07.8**	**+0.4**
	comp=Z,133nm,0.9s						
SJMP	**San Jose**	**18.90**	**209**	*e*P	**P**	**16 53 18.1**	**+2.7**
XAN	**Xi'an**	**18.93**	**290**	P	**P**	**16 53 14.5**	**-1.2**
XAN				AMB	AMB		
	comp=Z,30nm,0.9s						
XAN				LR	LR		
	comp=N,2µm,11.4s						
XAN				LR	LR		
	comp=E,4µm,12.2s						
XAN				LR	LR		
	comp=Z,3µm,11.3s						
HHC	**Hu-ho-hao-te**	**19.24**	**312**	*e*P	**P**	**16 53 18.1**	**-1.0**
HHC				AP		16 53 29.5	
HHC				PP	PP	16 53 36.0	-0.6
HHC				XP		16 53 38.3	
HHC				S	**S**	**16 56 48.0**	**-0.7**
HHC				PCP	PcP	16 57 43.3	+2.5
HHC				SCP		17 01 12.3	
HHC				PCS		17 01 18.2	
HHC				AMB	AMB		
	comp=Z,20nm,0.7s						
HHC				AMB	AMB		
	comp=Z,2µm,6.4s						
HHC				LR	LR		
	comp=N,4µm,14.3s						
HHC				LR	LR		
	comp=E,5µm,14.3s						
HHC				LR	LR		
	comp=Z,7µm,14.3s						
HABR	**Khabarovsk**	**19.45**	**9**	*i* P	**P**	**16 53 18.7**	**-2.6**
HABR				pmax	pmax		
	comp=Z,60nm,1.0s						
KLR	**Kul'dur**	**19.91**	**2**	*e*P	**P**	**16 53 21.3**	**-5.0**
KLR				pmax	pmax		
	comp=Z,56nm,0.8s						
SCPH	**Surigao**	**19.99**	**195**⇓	*e*P	**P**	**16 53 26.6**	**-0.9**
GUIM	**Jordan**	**20.01**	**203**	*e*P	**P**	**16 53 27.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**20.04**	**25**⇓	*i*P	**P**	**16 53 28.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				MLR	MLR		
	comp=E,3µm,16.0s						
YSS				MLR	MLR		
	comp=Z,3µm,16.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**20.04**	**25**	*e*Pn	**P**	**16 53 28.4**	**+0.7**
BTO	**Baotou**	**20.15**	**309**	*e*P	**P**	**16 53 27.9**	**-1.0**
BTO				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CUYO	**Cuyo Island**	**20.39**	**208**	*e*P	**P**	**16 53 31.9**	**+0.2**
TBP	**Tagbilaran**	**20.49**	**199**	*e*P	**P**	**16 53 31.3**	**-1.3**
GUMO	**Guam**	**20.56**	**137**	P	**P**	**16 53 34.2**	**+0.8**
	comp=Z,120nm,0.8s,baz=188,slow=20,SNR=3.3						
GUMO				LR	LR	17 00 10.3	
	comp=Z,2µm,18.4s,MS4.5,baz=337,slow=33						
BUTP	**Butuan**	**20.75**	**194**	*e*P	**P**	**16 53 36.2**	**+0.8**
ENPP	**El Nido**	**20.77**	**212**	*e*P	**P**	**16 53 30.7**	**-4.8**
GYA	**Guiyang**	**21.24**	**268**⇑	*i*P	**P**	**16 53 40.5**	**+0.3**
GYA				AP		16 53 53.8	
GYA				XP		16 54 01.2	
GYA				S	**S**	**16 57 31.4**	**+2.5**
GYA				AMB	AMB		
	comp=Z,50nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,190nm,4.0s						
GYA				LR	LR		
	comp=N,2µm,13.8s,MS5.1						
GYA				LR	LR		
	comp=E,5µm,15.3s,MS5.1						
GYA				LR	LR		
	comp=Z,8µm,16.0s,MS5.2						
QIZ	**Qiongzhong**	**21.40**	**246**	P	**P**	**16 53 42.3**	**+0.4**
QIZ				S	**S**	**16 57 34.2**	**+2.1**
QIZ				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.5						
QIZ				LR	LR		
	comp=N,2µm,16.9s,MS4.8						
QIZ				LR	LR		
	comp=E,3µm,18.1s,MS4.8						
QIZ				LR	LR		
	comp=Z,3µm,15.1s,MS4.8						
QIZ	**Qiongzhong**	**21.40**	**246**	*e*P	**P**	**16 53 35.5**	**-6.3**
HIA	**Hailar**	**21.54**	**341**	*e*P	**P**	**16 53 40.9**	**-2.2**
HIA				pmax	pmax		
	comp=Z,27nm,0.7s						
HIA	**Hailar**	**21.54**	**341**	*e*P	**P**	**16 53 40.9**	**-2.2**
	comp=Z,27nm,0.7s,mb4.8						
BUKP	**Musuan**	**21.93**	**195**	*e*P	**P**	**16 53 46.6**	**-0.6**
PAGZ	**Pagadian**	**22.38**	**199**	*e*P	**P**	**16 53 52.2**	**+0.5**
MATI	**Mati**	**22.61**	**191**	*e*P	**P**	**16 53 53.4**	**-0.6**
IPIL	**Ipil**	**22.67**	**201**	*e*P	**P**	**16 53 54.0**	**-0.7**
CD2	**Chengdu**	**23.15**	**281**⇓	*i*P	**P**	**16 53 59.8**	**+0.6**
CD2				AP		16 54 14.0	
CD2				PP	PP	16 54 31.0	+0.6
CD2				S	**S**	**16 58 03.0**	**-0.9**
CD2				XS		16 58 24.0	
CD2				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.2						
CD2				LR	LR		
	comp=N,3µm,14.4s						
CD2				LR	LR		
	comp=Z,4µm,12.6s,MS5.0						
LZH	**Lanzhou**	**23.36**	**294**	*e*P	**P**	**16 54 01.3**	**+0.1**
LZH				AP		16 54 15.0	
LZH				XP		16 54 22.2	
LZH				AMB	AMB		
	comp=Z,150nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,880nm,4.5s						
LZH				LR	LR		
	comp=E,10µm,13.2s						
LZH				LR	LR		
	comp=Z,14µm,14.9s,MS5.5						
BATP	**Bataraza**	**23.63**	**213**	*e*P	**P**	**16 54 07.8**	**+3.8**
KMI	**Kunming**	**24.99**	**267**	P	**P**	**16 54 16.4**	**-0.7**
KMI				AP		16 54 31.1	
KMI				XP		16 54 38.9	
KMI				PP	PP	16 54 54.5	-0.7
KMI				PPP	PPP	16 55 05.0	-1.3
KMI				S	**S**	**16 58 31.4**	**-4.1**
KMI				XS		16 58 55.8	
KMI				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.1						
KMI				AMB	AMB		
	comp=Z,560nm,9.2s						
KMI				LR	LR		
	comp=N,3µm,13.8s,MS5.3						
KMI				LR	LR		
	comp=E,5µm,13.3s,MS5.3						
KMI				LR	LR		
	comp=Z,7µm,13.2s,MS5.3						
ULN	**Ulaanbaatar**	**25.88**	**322**⇑	*i*P	**P**	**16 54 25.2**	**+0.1**
ULN	**Ulaanbaatar**	**25.88**	**322**	*e*P	**P**	**16 54 24.4**	**-0.8**
CIT	**Chita**	**25.93**	**336**	*e*P	**P**	**16 54 26.1**	**+0.5**
CIT				*e*		16 54 43.9	
CIT				pmax	pmax		
	comp=Z,134nm,1.2s,mb5.3						
SONM	**Songino Array**	**26.21**	**322**	P	**P**	**16 54 27.6**	**-0.7**
	comp=Z,17nm,0.8s,mb4.7,baz=138,slow=8.9,SNR=39						
SONM				LR	LR	17 05 53.3	
	comp=Z,3µm,20.8s,MS4.9,baz=152,slow=39						
GTA	**Gaotai**	**27.13**	**300**	*e*P	**P**	**16 54 36.1**	**-0.7**
GTA				AP	pP	16 54 49.3	+1.6
GTA				XP	sP	16 54 55.0	+2.4
GTA				PP	PP	16 55 23.6	-0.2
GTA				S	**S**	**16 59 07.2**	**-3.3**
GTA				XS		16 59 32.7	
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,750nm,4.6s						
GTA				LR	LR		
	comp=N,3µm,14.1s,MS5.3						
GTA				LR	LR		
	comp=E,5µm,15.6s,MS5.3						
GTA				LR	LR		
	comp=Z,6µm,16.7s,MS5.2						
CLNS	**Chul'man**	**27.79**	**353**	*e*P	**P**	**16 54 39.8**	**-2.8**

CLNS pmax pmax
comp=N,25nm,1.0s
CLNS pmax pmax
comp=Z,20nm,1.0s,mb4.7
CLNS pmax pmax
comp=E,21nm,1.4s
ZAK Zakamensk 29.36 323 *e*P **P 16 54 54.8 -1.9**
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
IRK Irkutsk 30.01 327 *e*P **P 16 55 01.2 -1.2**
IRK pmax pmax
comp=Z,78nm,1.3s,mb5.3
BOD Bodaibo 30.72 343 *e*P **P 16 55 06.3 -2.4**
BOD pmax pmax
comp=Z,12nm,0.8s,mb4.8
MOY Mondy 31.29 324 *e*P **P 16 55 12.5 -1.3**
YAK Yakutsk 32.72 359 *e*P **P 16 55 23.3 -2.9**
YAK pmax pmax
comp=Z,23nm,1.1s,mb5.0
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK Yakutsk 32.72 359⇑ *i*P **P 16 55 24.4 -1.8**
MA2 Magadan 33.25 19⇑ *e*P **P 16 55 30.2 -0.6**
MA2 pmax pmax
comp=Z,40nm,0.7s,mb5.5
KSM Kuching 33.70 218 *e*P **P 16 55 34.6 -0.6**
LSA Lhasa 34.12 281 *e*P **P 16 55 39.4 +0.8**
LSA Lhasa 34.12 281 *e*P **P 16 55 39.2 +0.6**
LSA pmax pmax
comp=Z,42nm,1.0s,mb5.3
LSA Lhasa 34.12 281 *e*P **P 16 55 39.2 +0.6**
comp=Z,42nm,1.0s,mb5.3
SEY Seymchan 36.50 17⇓ *i*P **P 16 55 59.4 +0.9**
WMQ Urumqi 36.87 305 *e*P **P 16 56 01.6 -0.2**
WMQ AP pP 16 56 16.8 +3.8
WMQ XP sP 16 56 23.9 +5.7
WMQ PP PP 16 57 27.6 -0.5
WMQ AMB AMB
comp=Z,100nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,630nm,5.4s
WMQ LR LR
comp=N,2μm,19.0s,MS5.2
WMQ LR LR
comp=E,3μm,19.0s,MS5.2
WMQ LR LR
comp=Z,4μm,19.2s,MS5.2
KULM Kulim 36.96 235 *e*P **P 16 56 02.9 0.0**
JIRN Jiri 38.79 279 *e*P **P 16 56 18.1 +0.1**
comp=Z,31nm,0.4s,mb5.4
GUN Gumba 39.00 279 *e*P **P 16 56 19.9 +0.1**
PKI Pulchoki 39.48 279 *e*P **P 16 56 23.7 -0.1**
comp=Z,223nm,1.0s,mb5.8
PKI Pulchoki 39.48 279 *e*P **P 16 56 23.7 -0.1**
PKI pmax pmax
comp=Z,112nm,1.0s,mb5.5
KKN Kakani 39.55 279 *e*P **P 16 56 24.3 0.0**
comp=Z,242nm,0.9s,mb5.9
KKN Kakani 39.55 279 *e*P **P 16 56 24.3 0.0**
KKN pmax pmax
comp=Z,121nm,0.9s,mb5.6
DMN Daman 39.74 279 *e*P **P 16 56 25.8 -0.1**
comp=Z,225nm,1.2s,mb5.8
PSI Prapat 39.92 235 P **P 16 56 27.9 +0.4**
comp=Z,9.0nm,0.6s,mb4.7,baz=10,slow=8.6,SNR=6.7
GKN Gorkha 40.05 280 *e*P **P 16 56 28.2 -0.3**
comp=Z,58nm,0.4s,mb5.6
KOLN Koldanda 41.00 280 *e*P **P 16 56 36.2 -0.1**
comp=Z,189nm,1.1s,mb5.6
MK31 Makanchi Array 41.06 309 P **P 16 56 35.8 -0.9**
MK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
MKAR Makanchi Array 41.06 309 P **P 16 56 37.6 +0.9**
comp=Z,8.4nm,0.6s,mb4.5,baz=91,slow=10.0,SNR=90
MKAR PcP PcP 16 58 36.9 +0.4
comp=Z,3.8nm,0.8s,baz=108,slow=4.6,SNR=3.6
ZAL Zalesovo 41.09 320 P **P 16 56 35.9 -1.0**
comp=Z,12nm,0.8s,mb4.6,baz=7.6,slow=8.8,SNR=51
ZAL PcP PcP 16 58 36.0 -0.5
comp=Z,2.1nm,0.6s,baz=44,slow=8.5,SNR=3.3
ZAL LR LR 17 16 24.9
comp=Z,4μm,18.5s,MS5.3,baz=157,slow=40
PMG Port Moresby 41.72 155 P **P 16 56 42.7 +0.2**
comp=Z,7.2nm,1.0s,mb4.3,baz=326,slow=10,SNR=4.3
PMG Port Moresby 41.72 155⇓ *i*P **P 16 56 42.8 +0.3**
KAKA Kakadu 41.83 177 *e*P Px 16 57 04.2
comp=Z,16nm,0.7s
NVS Novosibirsk 42.24 321 *i*P **P 16 56 45.4 -0.8**
NVS *e* 16 58 40.2
NVS *e* 17 06 07.9
NVS pmax pmax
comp=Z,23nm,1.1s,mb4.7
NVS pmax pmax
comp=N,13nm,1.6s
NVS pmax pmax
comp=E,24nm,1.1s
KURK Kurchatov 44.03 314 P **P 16 56 59.4 -1.4**
KURK pmax pmax
comp=Z,33nm,0.7s,mb5.2
KURK Kurchatov 44.03 314 *e*P **P 16 56 59.0 -1.8**
comp=Z,103nm,0.8s,mb5.6
BILL Bilibino 44.12 18*c* *i*P **P 16 57 01.2 -0.1**
BILL pmax pmax
comp=Z,57nm,1.3s,mb5.1
BILL Bilibino 44.12 18⇑ *i*P **P 16 57 01.2 -0.1**
KSH Kashi 45.50 298 *e*P **P 16 57 15.0 +2.3**
KSH *e*AP pP 16 57 30.0 +5.8
KSH *e*XP sP 16 57 37.2 +8.1
KSH *e*PCP PcP 16 58 54.4 +2.9
KSH *e*PP PP 16 59 02.0 +2.1
KSH *e*PPP PPP 16 59 44.0 +1.5
KSH *e*SCP 17 02 39.3
KSH *e*PCS 17 02 47.0
KSH *e*S **S 17 03 50.7 -0.2**
KSH *e*XS 17 04 16.3
KSH *e*SCS ScS 17 07 03.3 +0.2
KSH *e*SS SS 17 07 04.6 -1.7
KSH AMB AMB
comp=Z,2μm,8.2s
KSH LR LR
comp=N,1μm,11.4s,MS5.3
KSH LR LR
comp=E,2μm,13.5s,MS5.3
TKM2 Tokmak 2 45.61 303 P **P 16 57 14.2 +0.6**
SNR=35
KZA Kyzart 45.89 302 P **P 16 57 17.0 +1.2**
SNR=12
KBK Karagaybulak 46.09 302 P **P 16 57 17.9 +0.5**
SNR=24
CHMS Chumysh 46.23 303 P **P 16 57 18.5 +0.1**
SNR=25
FRU Bishkek 46.33 303 *e*P **P 16 57 20.5 +1.3**
FRU pmax pmax
comp=Z,40nm,1.1s,mb5.3
USP Ospenovka 46.40 303 P **P 16 57 20.3 +0.5**
SNR=20
AAK Ala-Archa 46.43 302 P **P 16 57 20.1 +0.1**
SNR=13
AAK Ala-Archa 46.43 302⇑ *i*P **P 16 57 18.9 -1.1**
AAK pmax pmax
comp=Z,12nm,0.8s,mb4.9
AAK Ala-Archa 46.43 302⇑ *i*P **P 16 57 18.9 -1.1**
comp=Z,0.8nm,1.0s
UCH Uchtor 46.43 302 P **P 16 57 21.4 +1.4**
SNR=45
EKS2 Erkin-Say 46.95 302 P **P 16 57 24.2 +0.1**
SNR=16
AML Almayashu 47.05 302 P **P 16 57 26.5 +1.6**
SNR=6.1
HNR Honiara 47.86 139 P **P 16 57 34.3 +2.6**
comp=Z,24nm,0.3s,mb5.7,baz=90,slow=14,SNR=16
HYB Hyderabad 48.77 268⇓ *i*P **P 16 57 38.0 -0.6**
HYB Hyderabad 48.77 268⇓ *e*P **P 16 57 38.0 -0.6**
VOSK Vostochnaya 48.98 316 P **P 16 57 37.7 -2.1**
VOSK pmax pmax
comp=Z,45nm,1.0s,mb5.5
WRAB Tennant Creek 49.11 175⇑ *i*P **P 16 57 40.4 -0.8**
WRAB Tennant Creek 49.11 175 *e*P **P 16 57 39.9 -1.3**
comp=Z,64nm,1.1s,mb5.6
WRA Warramunga Arr 49.11 175 P **P 16 57 41.2 -0.1**
comp=Z,4.4nm,0.6s,mb4.7,baz=354,slow=8.3,SNR=45
WRA PcP PcP 16 59 05.3 +0.7
comp=Z,1.7nm,0.7s,baz=337,slow=2.9,SNR=2.1
WB2 Warramunga Arr 49.12 175 *e*P **P 16 57 40.5 -0.8**

KKAR Karatay Array 49.32 303 *i*P **P 16 57 42.0 -0.6**
KKAR pmax pmax
comp=Z,57nm,1.0s,mb5.6
BVA0 Borovoye Array 49.36 316 *i*P **P 16 57 41.7 -1.0**
BVA0 pmax pmax
comp=Z,12nm,0.9s,mb4.9
BVAR Borovoye Array 49.36 316 P **P 16 57 42.0 -0.7**
comp=Z,61nm,0.7s,mb5.7,baz=95,slow=8.4,SNR=252
BVAR PcP PcP 16 59 05.7 +0.6
comp=Z,4.8nm,0.6s,baz=108,slow=4.6,SNR=2.4
BRVK Borovoye 49.43 316⇑ *i*P **P 16 57 42.7 -0.5**
SVE Sverdlovsk 55.08 321⇑ *e*P **P 16 58 24.9 -0.6**
SVE *e* pP 16 58 34.0 -3.2
SVE pmax pmax
comp=Z,360nm,1.3s,mb6.2
SVE MLR MLR
comp=N,1μm,15.0s,MS5.8
SVE MLR MLR
comp=E,6μm,15.0s,MS5.8
SVE MLR MLR
comp=Z,8μm,15.0s,MS5.9
AB31 Akbulak array 56.03 312 *i*P **P 16 58 31.2 -1.2**
AB31 pmax pmax
comp=Z,84nm,0.8s,mb5.8
ARU Arti 56.24 321⇑ *i*P **P 16 58 32.7 -1.1**
ARU *e*S **S 17 06 21.8 +2.9**
ARU *e* 17 08 14.1
ARU *e*SS SS 17 10 05.9 -0.2
ARU pmax pmax
comp=Z,110nm,1.0s,mb5.8
ARU MLR MLR
comp=Z,4μm,16.5s,MS5.5
ARU MLR MLR
comp=N,700nm,17.0s,MS5.4
ARU MLR MLR
comp=E,3μm,16.0s,MS5.4
ARU Arti 56.24 321 *e*P **P 16 58 32.6 -1.3**
TTA Tatalina 56.87 32 *e*P **P 16 58 39.0 +0.8**
SOKR Solikamsk 57.03 324 *e*P **P 16 58 37.3 -2.1**
SOKR pmax pmax
comp=Z,140nm,1.0s,mb6.0
SOKR MLR MLR
comp=Z,2μm,15.0s,MS5.3
AKTK Aktyubinsk 57.13 313 P **P 16 58 39.4 -0.9**
AKTO Aktyubinsk 57.13 313 P **P 16 58 39.4 -0.9**
comp=Z,46nm,0.8s,mb5.5,baz=86,slow=6.9,SNR=57
IMA2 Indian Mountai 57.86 28 *e*P **P 16 58 45.3 +0.1**
KDAK Kodiak Island 58.86 38 P **P 16 58 51.5 -0.8**
comp=Z,22nm,0.9s,mb5.2,baz=333,slow=6.9,SNR=21
KDAK Kodiak Island 58.86 38 P **P 16 58 51.5 -0.8**
MCK McKinley 60.01 30 *e*P **P 16 58 59.4 -0.7**
MCK pmax pmax
comp=Z,22nm,1.2s,mb5.1
MCK McKinley 60.01 30 *e*P **P 16 58 59.4 -0.8**
comp=Z,22nm,1.2s,mb5.1
PMR Palmer 60.16 33 *e*P **P 16 59 00.2 -1.0**
PMR pmax pmax
comp=Z,30nm,1.1s,mb5.2
PMR Palmer 60.16 33 *e*P **P 16 59 00.2 -0.9**
comp=Z,30nm,1.1s,mb5.2
COLA College 60.36 29⇑ *i*P **P 16 59 03.3 +0.8**
COLA College 60.36 29 *e*P **P 16 59 02.0 -0.5**
comp=Z,8.8nm,0.8s,mb4.8
ILAR Eielson Array 60.78 29 P **P 16 59 04.5 -0.9**
comp=Z,5.7nm,0.8s,mb4.7,baz=269,slow=4.9,SNR=42
DZM Mont Dzumac 61.73 142 LR LR 17 23 49.4
comp=Z,589nm,19.9s,MS4.7,baz=102,slow=34
STKA Stephens Creek 61.77 169 *e*P **P 16 59 12.5 0.0**
comp=Z,5.7nm,1.1s,mb4.6
STKA Stephens Creek 61.77 169 P **P 16 59 12.0 -0.5**
comp=Z,3.4nm,0.8s,mb4.5,baz=357,slow=7.3,SNR=5.5
DIV Divide 61.83 33 *e*P **P 16 59 12.1 -0.4**
comp=Z,84nm,0.9s,mb5.9
MENT Mentasta 62.45 31 *e*P **P 16 59 17.1 +0.5**
INK Inuvik 65.27 24 P **P 16 59 34.7 -0.2**
comp=Z,8.1nm,0.8s,mb4.8,baz=293,slow=6.4,SNR=62
INK Inuvik 65.27 24 *e*P **P 16 59 34.6 -0.3**
KLMR Klimovskoe 65.32 327 *e*P **P 16 59 32.4 -2.9**
KLMR pmax pmax
comp=Z,60nm,1.4s,mb5.4
APA Apatity 65.89 335⇑ *e*P **P 16 59 35.6 -3.2**
APA *i* pP 16 59 44.7 -6.1
APA pmax pmax
comp=Z,31nm,1.0s,mb5.3
MOS Moscow 67.84 322 *e*P **P 16 59 49.3 -2.0**
MOS *i* 16 59 56.9
MOS *e* 17 00 20.0
MOS *e* 17 02 15.7
MOS pmax pmax
comp=Z,80nm,1.3s,mb5.6
MOS MLR MLR
comp=N,2μm,17.0s,MS5.4
MOS MLR MLR
comp=E,1μm,17.0s,MS5.4
MOS MLR MLR
comp=Z,5μm,17.0s,MS5.8
ARCES ARCESS Array B 67.87 338 P **P 16 59 50.2 -1.1**
comp=Z,4.2nm,0.7s,mb4.6,baz=51,slow=7.8,SNR=12
ARCES PcP PcP 17 00 17.2 -0.5
comp=Z,5.5nm,0.8s,baz=74,slow=3.9,SNR=5.6
ARCES LR LR 17 32 53.9
comp=Z,2μm,20.6s,MS5.3,baz=59,slow=39
TI2 Plekhanov 68.18 306 *i*P **P 16 59 54.0 +0.3**
TI2 *i* pP 17 00 06.2 +0.5
GOF Gofitskoye 68.21 310 *e*P **P 16 59 52.8 -1.0**
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.6
JOF Joensuu 68.32 331 *ep* **P 16 59 51.8 -2.4**
comp=Z,25nm,0.7s,mb5.3
VOR Voronezh 68.33 318 *e*P **P 16 59 53.0 -1.4**
VOR *e**PP pP 17 00 00.0 -6.4
VOR pmax pmax
comp=Z,110nm,1.3s,mb5.7
OBN Obninsk 68.62 322⇓ *i*P **P 16 59 55.2 -1.0**
OBN *e* 17 00 19.2
OBN pmax pmax
comp=Z,43nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.4
OBN Obninsk 68.62 322⇓ *i*P **P 16 59 55.3 -0.9**
comp=Z,5.6nm,1.9s,mb4.2
GNI Garni 68.74 305 P **P 16 59 58.5 +1.3**
comp=Z,28nm,0.9s,mb5.2,baz=326,slow=2.8,SNR=10
GNI Garni 68.74 305*c* *i*P **P 16 59 58.0 +0.8**
GNI pmax pmax
comp=Z,73nm,1.3s
KIV Kislovodsk 68.82 309 *e*P **P 16 59 57.3 -0.3**
KIV pmax pmax
comp=Z,154nm,1.1s,mb5.8
KIV Kislovodsk 68.82 309 *e*P **P 16 59 57.3 -0.3**
comp=Z,154nm,1.1s,mb5.8
UMR Umm Al-Rimmam 70.43 293 *e*P **P 17 00 07.0 -0.7**
UMR AMb AMB 17 00 08.3
comp=Z,103nm,0.8s,mb5.8
HASS Wahat al Ahsa' 70.56 288 P **P 17 00 07.9 -0.6**
QRN Al-Qurain 70.59 293 *e*P **P 17 00 08.1 -0.6**
QRN AMb AMB 17 00 09.1
comp=Z,64nm,0.8s,mb5.6
KBD Kabd 70.60 293 *e*P **P 17 00 08.0 -0.7**
KBD AMb AMB 17 00 09.4
comp=Z,254nm,0.9s,mb6.1
KAF Kangasniemi 70.77 331 *ep* **P 17 00 06.2 -3.0**
comp=Z,16nm,0.9s,mb5.0,baz=62,slow=5.6
KAF Kangasniemi 70.77 331 *e*P **P 17 00 06.2 -3.0**
KAF pmax pmax
comp=Z,16nm,0.9s,mb5.0
RDF Al-Radifah 70.81 293 *e*P **P 17 00 09.5 -0.5**
RDF AMb AMB 17 00 10.6
comp=Z,128nm,0.9s,mb5.9
NAY Al-Naaiem 70.93 293 *e*P **P 17 00 09.8 -1.0**
NAY AMb AMB 17 00 11.3
comp=Z,78nm,0.9s,mb5.6
SOC Sochi 70.96 310 *e*P **P 17 00 09.2 -1.5**
SOC pmax pmax
comp=Z,65nm,1.3s,mb5.4
FINES FINESS Array B 71.17 331 P **P 17 00 10.2 -1.3**
comp=Z,4.8nm,0.4s,mb4.8,baz=63,slow=6.1,SNR=37
FINES LR LR 17 34 34.3
comp=Z,2μm,20.3s,MS5.3,baz=246,slow=39
FINES FINESS Array B 71.17 331 *i*P **P 17 00 10.3 -1.3**
FINES pmax pmax
comp=Z,5.0nm,0.4s
MSL Mosul 71.39 302 *ex* x 17 00 14.5
ANN Anapa 72.00 312 *e*P **P 17 00 24.2 +7.4**
ANN pmax pmax
comp=Z,105nm,1.0s,mb5.7

RES Resolute Bay 72.14 11 *e*P **P 17 00 17.4 +0.2**
RES pmax pmax
comp=Z,55nm,0.8s,mb5.5
RES Resolute Bay 72.14 11 *e*P **P 17 00 17.4 +0.2**
comp=Z,55nm,0.8s,mb5.5
VSU Vasula 72.22 328⇑ *i*P **P 17 00 17.7 -0.2**
DAG Danmarks Havn 72.46 353⇑ *i*P **P 17 00 18.7 -0.3**
comp=Z,20nm,1.1s,mb5.0
DAG Danmarks Havn 72.46 353⇑ *e*P **P 17 00 18.7 -0.3**
DAG pmax pmax
comp=Z,20nm,1.1s,mb5.0
DAG Danmarks Havn 72.46 353⇑ *e*P **P 17 00 18.7 -0.3**
comp=Z,20nm,1.1s,mb5.0
MNK Minsk 73.49 324 *e*P **P 17 00 25.0 -0.4**
RYDS Riyadh 73.50 289 P **P 17 00 24.3 -1.7**
SIM Simferopol' 74.08 313 *e*P **P 17 00 29.6 +0.6**
SIM pmax pmax
comp=Z,30nm,0.9s,mb5.2
AKASG Malin Array Be 74.48 320 P **P 17 00 30.6 -0.6**
comp=Z,8.1nm,0.3s,mb5.1,baz=58,slow=6.2,SNR=116
AKASG Malin Array Be 74.48 320 *i*P **P 17 00 30.6 -0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.4s
MZLS Mizel 74.75 289 P **P 17 00 33.6 +0.2**
YKA Yellowknife Ar 74.89 26 P **P 17 00 33.8 +0.5**
comp=Z,4.7nm,0.8s,mb4.5,baz=303,slow=5.6,SNR=26
YKA Yellowknife Ar 74.89 26 *i*P **P 17 00 33.7 +0.3**
YKA pmax pmax
comp=Z,5.0nm,0.8s
SUW Suwalki 76.11 325 *e*P **P 17 00 40.3 -0.2**
SUW Suwalki 76.11 325 *e*P **P 17 00 40.3 -0.2**
comp=Z,2.2nm,1.1s
RAO Raoul Island 76.28 135 LR LR 17 29 21.4
comp=Z,651nm,19.3s,MS5.0,baz=335,slow=32
AFFS 'Afif 76.61 290 P **P 17 00 44.3 +0.3**
BRTR Keskin Array B 76.71 308 P **P 17 00 44.4 +0.2**
comp=Z,26nm,0.9s,mb5.2,baz=99,slow=4.4,SNR=70
KAMS Al Khamasin 76.90 286 P **P 17 00 45.1 -0.6**
HFS Hagfors 77.01 333 P **P 17 00 44.7 -0.8**
comp=Z,10nm,0.8s,mb4.8,baz=53,slow=7.4,SNR=23
NB2 NORSAR Subarra 77.42 334 P **P 17 00 47.1 -0.6**
comp=Z,66nm,1.7s,mb5.3,baz=49,slow=5.3
NB2 NORSAR Subarra 77.42 334 P **P 17 00 47.1 -0.6**
baz=49,slow=5.6
NB2 NORSAR Subarra 77.42 334 P **P 17 00 47.1 -0.6**
NB2 pmax pmax
comp=Z,66nm,1.7s,mb5.3
NOA NORSAR Array B 77.42 334 P **P 17 00 46.8 -0.9**
comp=Z,6.9nm,0.7s,mb4.7,baz=50,slow=5.6,SNR=23
NOA PP PP 17 03 39.5 -4.5
comp=Z,3.3nm,0.7s,baz=48,slow=8.7,SNR=5.8
NAO01 NORSAR Array S 77.67 334 P **P 17 00 48.2 -0.9**
CFR Carcaliu 77.74 315⇓ P **P 17 00 49.5 -0.3**
TIRR Tirgusor 77.92 314⇑ P **P 17 00 51.1 +0.3**
SUMG Summit 78.09 357 *e*P **P 17 00 51.4 +0.2**
comp=Z,50nm,1.0s,mb5.4
HARR Harsova 78.11 315⇓ P **P 17 00 52.0 +0.2**
TATS Tathlith 78.17 286 P **P 17 00 52.9 +0.2**
BURAR Bucovina Array 78.28 318⇓ P **P 17 00 53.4 +0.7**
BURAR Bucovina Array 78.28 318⇓ P **P 17 00 53.4 +0.7**
SCO Scoresbysund 78.54 351 *i*P **P 17 00 53.9 +0.2**
comp=Z,37nm,1.3s,mb5.2
SCO Scoresbysund 78.54 351 *i*P **P 17 00 53.9 +0.2**
SCO pmax pmax
comp=Z,37nm,1.3s,mb5.2
KWP Kalwaria 78.65 321 *e*P **P 17 00 55.6 +0.9**
KBRS Khaybar 78.81 293 P **P 17 00 57.3 +1.2**
MLR Muntele Rosu 78.93 316 P **P 17 00 56.4 +0.1**
comp=Z,7.9nm,0.8s,mb4.7,baz=1.6,slow=6.4,SNR=15
MLR Muntele Rosu 78.93 316⇑ P **P 17 00 56.7 +0.4**
KOLS Kolonicke sedl 79.26 320 *e*P **P 17 00 58.3 +0.2**
KOLS *e* 17 01 04.2
KOLS *e*PP PP 17 03 52.4 -7.2
VOIR 79.49 316⇑ P **P 17 01 01.7 +2.3**
STHS Stebnicka Huta 79.57 321 *e*P **P 17 00 59.9 +0.2**
BLJS Baljurashi 79.59 287 P **P 17 01 01.1 +0.7**
CRVS Cervenica-Dubn 79.73 321 *i*P **P 17 01 01.0 +0.4**
ISP Isparta 79.75 308*c* *i*P **P 17 00 59.7 -1.3**
ISP Isparta 79.75 308⇑ *i*P **P 17 00 59.7 -1.3**
TBKS Tabuk 79.84 297 P **P 17 01 01.9 +0.3**
NIE Niedzica 80.08 322 *e*P **P 17 01 03.3 +0.8**
ALWS Ilw as Safayha 80.49 298 P **P 17 01 05.3 +0.2**
KECS Kecovo 80.50 321 *e*P **P 17 01 05.0 +0.3**
KECS *e*PP PP 17 04 07.0 -3.0
JMOS Jabal al Moall 80.52 298 P **P 17 01 05.5 +0.2**
UMJS Umm Lajj 80.63 294 P **P 17 01 07.2 +1.3**
HAQS Haql 80.71 298 P **P 17 01 06.4 +0.2**
AYUS 'Aynunah 80.86 297 P **P 17 01 07.0 0.0**
BDAS Al Bad' 80.87 297 P **P 17 01 07.1 0.0**
DIM Dimitrovgrad 80.95 313 *e*P **P 17 01 09.0 +1.8**
OKC Ostrava-Krasne 81.00 323 *e*P **P 17 01 07.8 +0.5**
OKC *e*pP pP 17 01 16.3 -3.3
PSZ Piszkesteto 81.15 320 *e*P **P 17 01 08.4 +0.3**
PSZ pmax pmax
comp=Z,31nm,1.4s,mb5.0
PSZ Piszkesteto 81.15 320 *e*P **P 17 01 08.4 +0.2**
comp=Z,31nm,1.4s,mb5.0
MORC Moravsky Berou 81.36 323⇑ P **P 17 01 09.3 +0.1**
KSP Ksiaz 81.38 324 *e*P **P 17 01 10.5 +1.2**
KSP Ksiaz 81.38 324 *e*P **P 17 01 10.1 +0.8**
KSP *e* 17 01 16.6
VYHS Vyhne 81.40 321 *e*P **P 17 01 10.0 +0.5**
BZS Buzias 81.44 318⇑ P **P 17 01 08.4 -1.3**
DPC Dobruska-Polom 81.66 324 *e*P **P 17 01 11.6 +0.8**
DPC *e*pP pP 17 01 20.9 -2.1
RZN Rozhen 81.66 313 *e*P **P 17 01 12.0 +1.1**
UPC Upice 81.72 324 *e*P **P 17 01 11.8 +0.7**
UPC *e*pP pP 17 01 22.6 -0.7
SRO Srobarova 82.08 321 *e*P **P 17 01 13.9 +0.9**
VTS Vitosha 82.12 315 *e*P **P 17 01 14.0 +0.7**
VTS Vitosha 82.12 315⇑ P **P 17 01 14.6 +1.3**
VRAC Vranov 82.13 323 P **P 17 01 13.7 +0.5**
comp=Z,18nm,0.9s,mb5.0,baz=60,slow=5.1,SNR=20
VRAC Vranov 82.13 323⇑ P **P 17 01 14.2 +1.0**
SMOL Smolenice 82.16 322 *e*P **P 17 01 15.2 +1.8**
MMB Musomiste 82.34 314 *e*P **P 17 01 15.0 +0.5**
ATD Arta Tunnel 82.41 279 P **P 17 01 16.2 +0.8**
comp=Z,25nm,1.0s,mb5.1,baz=297,slow=0.2,SNR=6.8
ATD Arta Tunnel 82.41 279 P **P 17 01 16.2 +0.8**
PVCC Panska Ves 82.45 325 *e*P **P 17 01 15.8 +1.0**
PVCC *e*pP pP 17 01 26.0 -1.0
ZST Bratislava 82.52 322 *e*P **P 17 01 16.1 +0.9**
BRG Berggiesshubel 82.55 325 *e*P **P 17 01 14.2 -1.1**
BRG *e* pP 17 01 26.1 -1.5
BRG pmax pmax
comp=Z,47nm,1.9s,mb5.2
BRG Berggiesshubel 82.55 325 *e*P **P 17 01 14.2 -1.1**
comp=Z,47nm,1.9s,mb5.2
BRG *e* pP 17 01 26.1 -1.4
KKB Krupnik 82.59 314 *e*P **P 17 01 16.0 +0.2**
TREC Trest 82.72 323 *e*P **P 17 01 16.2 0.0**
TREC *e*pP pP 17 01 24.2 -4.3
CLL Collm 82.74 326⇑ P **P 17 01 16.4 +0.1**
comp=Z,logA/T=1.7,mb5.5
CLL *i**PP pP 17 01 26.4 -2.2
CLL *i**SP sP 17 01 33.1 +0.1
CLL Collm 82.74 326⇑ *i*P **P 17 01 16.4 +0.1**
CLL *i**PP pP 17 01 26.4 -2.2
CLL *i**SP sP 17 01 33.1 +0.1
CLL pmax pmax
comp=Z,74nm,1.5s,mb5.5
CLL Collm 82.74 326⇑ *i*P **P 17 01 16.4 +0.1**
comp=Z,74nm,1.5s,mb5.5
CLL *i* pP pP 17 01 26.4 -2.2
CLL *i* sP sP 17 01 33.1 +0.1
PRU Pruhonice 82.79 324 *e*P **P 17 01 17.2 +0.6**
CLZ Clausthal 83.67 327 *e*P **P 17 01 21.8 +0.9**
CLZ *e**PP pP 17 01 31.5 -1.7
CLZ pmax pmax
comp=Z,90nm,1.2s,mb5.8
CLZ Clausthal 83.67 327 *e*P **P 17 01 21.8 +0.9**
comp=Z,90nm,1.2s,mb5.8
CLZ *e*pP pP 17 01 31.5 -1.7
NKC Novy Kostel 83.69 325 *e*P **P 17 01 21.9 +0.8**
NKC *e*pP pP 17 01 31.5 -1.9
KHC Kasperske Hory 83.81 324 *e*P **P 17 01 22.1 +0.3**
KHC *e*pP pP 17 01 32.0 -2.0
MOX Moxa 83.84 326 *i*P **P 17 01 22.9 +1.0**
comp=Z,logA/T=1.5,mb5.4
MOX pP pP 17 01 32.0 -2.1
MOX L 17 42 48.0
MOX Moxa 83.84 326 *e*P **P 17 01 22.9 +1.0**
MOX pmax pmax

comp=Z,47nm,1.6s,mb5.4
MOX MLR MLR
comp=Z,2μm,19.0s,MS5.6
MOX Moxa 83.84 326 *e*P **P 17 01 22.9 +1.0**
comp=Z,47nm,1.6s,mb5.4
MOX LR LR
comp=Z,2μm,19.0s,MS5.6
RAR Rarotonga 83.87 118 LR LR 17 33 36.1
comp=Z,475nm,18.6s,MS4.9,baz=280,slow=32
GEC2 GERESS Array S 83.93 324 *e*P **P 17 01 23.2 +0.9**
GEC2 pmax pmax
comp=Z,40nm,1.4s,mb5.4
GEC2 GERESS Array S 83.93 324 *e*P **P 17 01 23.2 +0.9**
comp=Z,40nm,1.4s,mb5.4
GERES GERESS Array B 83.93 324 P **P 17 01 22.6 +0.3**
comp=Z,12nm,1.1s,mb5.0,baz=56,slow=4.8,SNR=41
GERES PP PP 17 04 38.1 +0.2
comp=Z,1.2nm,0.8s,baz=53,slow=6.7,SNR=3.8
ARSA Arzberg 83.94 322⇑ *i*P **P 17 01 23.3 +0.8**
comp=Z,26nm,1.0s,mb5.3
SFJD Kangerlussuaq 83.99 0⇑ *i*P **P 17 01 22.8 +0.6**
comp=Z,35nm,0.9s,mb5.5
SFJD Kangerlussuaq 83.99 0⇑ *i*P **P 17 01 22.8 +0.6**
SFJD pmax pmax
comp=Z,35nm,0.9s,mb5.5
WET Wettzell 84.16 324 *e*P **P 17 01 24.3 +0.8**
WET pmax pmax
comp=Z,43nm,1.7s,mb5.3
WET Wettzell 84.16 324 *e*P **P 17 01 24.3 +0.8**
comp=Z,43nm,1.7s,mb5.3
MOA Molln 84.25 323⇑ *i*P **P 17 01 24.8 +0.9**
comp=Z,34nm,1.2s,mb5.3,SNR=7.3
PERS Pernice 84.53 321 *e*P **P 17 01 26.1 +0.7**
GRA1 Grafenberg Arr 84.65 325 *e*P **P 17 01 27.0 +1.1**
comp=Z,98nm,1.3s,mb5.8
GRA1 *e*pP pP 17 01 36.6 -1.6
GRA1 LR LR
comp=Z,2μm,20.7s,MS5.4
GRF Grafenberg Arr 84.65 325 *e*P **P 17 01 27.0 +1.1**
GRF *e**PP pP 17 01 36.6 -1.6
GRF pmax pmax
comp=Z,98nm,1.3s,mb5.8
GRF MLR MLR
comp=Z,2μm,20.7s,MS5.4
GRF Grafenberg Arr 84.65 325 *e*P **P 17 01 27.0 +1.1**
comp=Z,98nm,1.3s,mb5.8
GRF *e*pP pP 17 01 36.6 -1.6
GRF LR LR
comp=Z,2μm,20.7s,MS5.4
FCC Fort Churchill 84.75 22 *e*P **P 17 01 27.0 +0.8**
FCC pmax pmax
comp=Z,25nm,0.8s,mb5.4
FCC Fort Churchill 84.75 22 *e*P **P 17 01 27.0 +0.8**
comp=Z,25nm,0.8s,mb5.4
IDI Anoyia 84.94 308 P **P 17 01 27.4 -0.4**
comp=Z,32nm,1.1s,mb5.4,baz=343,slow=9.1,SNR=4.0
BOJS Bojanci 85.15 320 *e*P **P 17 01 29.3 +0.8**
LJU Ljubljana 85.22 321 *e*P **P 17 01 29.0 +0.1**
VOY Vojsko 85.57 321 *e*P **P 17 01 31.2 +0.6**
FUR Furstenfeldbru 85.61 324 *e*P **P 17 01 31.6 +0.9**
FUR pmax pmax
comp=Z,24nm,0.9s,mb5.4
FUR Furstenfeldbru 85.61 324 *e*P **P 17 01 31.6 +0.9**
comp=Z,24nm,0.9s,mb5.4
TNS Taunus Mts 85.65 327 *e*P **P 17 01 31.4 +0.5**
CMB Columbia Colle 85.82 48 *e*P **P 17 01 30.5 -1.5**
CMB pmax pmax
comp=Z,34nm,1.2s,mb5.5
CMB Columbia Colle 85.82 48 *e*P **P 17 01 30.5 -1.6**
comp=Z,34nm,1.2s,mb5.5
HLID Hailey 86.26 41 *e*P **P 17 01 36.0 +2.0**
comp=Z,24nm,1.1s,mb5.3
EKA Eskdalemuir Ar 86.82 336 P **P 17 01 36.4 -0.1**
comp=Z,5.5nm,0.8s,mb4.8,baz=43,slow=4.7,SNR=12
NVAR Mina Array Bea 86.94 47 P **P 17 01 39.4 +1.9**
comp=Z,2.1nm,0.6s,mb4.5,baz=280,slow=7.0,SNR=10
DAVOX Davos 87.23 324 P **P 17 01 39.6 +0.9**
comp=Z,9.5nm,0.7s,mb5.2,baz=51,slow=3.9,SNR=11
GIVF Givet 87.43 328 *e*P **P 17 01 39.8 +0.3**
comp=Z,80nm,1.3s,mb5.5
GIVF Givet 87.43 328 *e*P **P 17 01 39.8 +0.3**
GIVF pmax pmax
comp=Z,40nm,1.3s,mb5.5
CDF Champ du Feu 87.44 326 *e*P **P 17 01 40.0 +0.3**
comp=Z,26nm,1.0s,mb5.1
CDF Champ du Feu 87.44 326 *e*P **P 17 01 40.0 +0.3**
CDF pmax pmax
comp=Z,13nm,1.0s,mb5.1
ELK Elko 87.48 44 *e*P **P 17 01 42.1 +2.0**
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 87.48 44 *e*P **P 17 01 42.1 +2.1**
comp=Z,6.9nm,0.9s,mb4.9
BAIF Baives 87.74 329 *e*P **P 17 01 41.1 +0.1**
TPH Tonopah 87.84 47 *e*P **P 17 01 41.6 -0.2**
TPH pmax pmax
comp=Z,11nm,1.2s,mb5.0
TPH Tonopah 87.84 47 *e*P **P 17 01 41.6 -0.2**
comp=Z,11nm,1.2s,mb5.0
HINF Hinteralfeld 88.06 326 *e*P **P 17 01 42.2 -0.4**
HAU Haudompre 88.17 326 *e*P **P 17 01 42.9 -0.3**
comp=Z,30nm,1.2s,mb5.1
HAU Haudompre 88.17 326 *e*P **P 17 01 42.9 -0.3**
HAU pmax pmax
comp=Z,15nm,1.2s,mb5.1
MEZF Maizieres J'vi 88.45 327 *e*P **P 17 01 44.9 +0.4**
comp=Z,45nm,1.1s,mb5.3
HWUT Hardware Ranch 89.13 41 *e*P **P 17 01 49.2 +1.3**
comp=Z,35nm,1.3s,mb5.5
CABF La Chapelle 89.27 325 *e*P **P 17 01 48.3 -0.1**
comp=Z,71nm,1.4s,mb5.5
CABF La Chapelle 89.27 325 *e*P **P 17 01 48.3 -0.1**
CABF pmax pmax
comp=Z,35nm,1.4s,mb5.5
DUG Dugway 89.28 43 *e*P **P 17 01 44.1 -4.6**
DUG pmax pmax
comp=Z,22nm,1.4s,mb5.3
DUG Dugway 89.28 43 *e*P **P 17 01 44.1 -4.6**
comp=Z,22nm,1.4s,mb5.3
BW06 Boulder Array 89.52 40 *e*P **P 17 01 51.1 +1.4**
comp=Z,4.6nm,0.6s,mb5.0
PDAR Pinedale Array 89.52 40 P **P 17 01 51.1 +1.4**
comp=Z,2.4nm,0.8s,mb4.6,baz=336,slow=3.7,SNR=9.3
LPL La Plagne 89.70 324 *e*P **P 17 01 51.0 +0.5**
comp=Z,13nm,0.8s,mb5.0
LPL La Plagne 89.70 324 *e*P **P 17 01 51.0 +0.5**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
LPG La Plagne 89.70 324 *e*P **P 17 01 51.2 +0.7**
comp=Z,23nm,0.9s,mb5.2
LPG La Plagne 89.70 324 *e*P **P 17 01 51.2 +0.7**
LPG pmax pmax
comp=Z,12nm,0.9s,mb5.2
SSF Saint Saulge 90.20 327 *e*P **P 17 01 52.6 -0.2**
MBDF Montbardon 90.22 324 *e*P **P 17 01 52.2 -0.7**
SMF Signal de Mont 90.34 326 *e*P **P 17 01 53.2 -0.3**
comp=Z,25nm,1.1s,mb5.2
SMF Signal de Mont 90.34 326 *e*P **P 17 01 53.2 -0.3**
SMF pmax pmax
comp=Z,12nm,1.1s,mb5.1
SBF Sospel 90.46 323 *e*P **P 17 01 53.7 -0.4**
HYF Humbligny 90.47 327 *e*P **P 17 01 54.5 +0.5**
AVF Avril sur Loir 90.47 327 *e*P **P 17 01 53.8 -0.3**
comp=Z,17nm,1.1s,mb5.0
AVF Avril sur Loir 90.47 327 *e*P **P 17 01 53.8 -0.3**
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
PGF Pioggiola 90.50 321 *e*P **P 17 01 53.4 -0.9**
comp=Z,40nm,1.0s,mb5.4
PGF Pioggiola 90.50 321 *e*P **P 17 01 53.4 -0.9**
PGF pmax pmax
comp=Z,20nm,1.0s,mb5.4
ORIF Oris-en-Rattie 90.55 324 *e*P **P 17 01 54.9 +0.4**
comp=Z,33nm,1.2s,mb5.2
ORIF Oris-en-Rattie 90.55 324 *e*P **P 17 01 54.9 +0.4**
ORIF pmax pmax
comp=Z,16nm,1.2s,mb5.2
LDF La Druitiere 90.75 330 *e*P **P 17 01 55.1 -0.2**
ULM Lac du Bonnet 90.77 28 P **P 17 01 55.5 +0.1**
comp=Z,5.2nm,1.0s,mb4.8,baz=346,slow=5.5,SNR=4.7

BGF Bois d'Agland 90.88 327 *e*P **P 17 01 55.7 -0.3**
comp=Z,16nm,0.7s,mb5.0
BGF Bois d'Agland 90.88 327 *e*P **P 17 01 55.7 -0.3**
BGF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
GRR Gorron 91.22 330 *e*P **P 17 01 57.6 +0.1**
SGMF Saint Gilles 92.06 331 *e*P **P 17 02 01.6 +0.2**
LASF Ste Croix 92.17 325 *e*P **P 17 02 02.3 +0.3**
MFF Saint Martin d 92.25 328 *e*P **P 17 02 02.6 +0.3**
ROSF Rostrenen 92.30 331 *e*P **P 17 02 02.6 +0.1**
comp=Z,193nm,1.4s,mb6.0
ROSF Rostrenen 92.30 331 *e*P **P 17 02 02.6 +0.1**
ROSF pmax pmax
comp=Z,97nm,1.4s,mb5.9
RJF Les Rejaudoux 92.43 327 *e*P **P 17 02 03.4 +0.2**
WUAZ Wupatki 93.11 46 *e*P **P 17 02 08.1 +1.5**
comp=Z,25nm,1.2s,mb5.5
ANMO Albuquerque 96.52 44⇑ *e*P **P 17 02 23.8 +1.8**
ESDC Sonseca Array 99.33 326 P **P 17 02 34.1 -0.5**
comp=Z,1.2nm,0.8s,mb4.5,slow=7.7,SNR=4.1
TORD Torodi Ar. Bea 115.01 303 PKP PKPdf 17 07 34.2 +1.3
comp=Z,0.8nm,0.8s,baz=65,slow=2.0,SNR=3.8
DBIC Dimbokro 124.11 303 PKP PKPdf 17 07 51.8 +1.3
comp=Z,4.7nm,0.8s,baz=95,slow=4.1,SNR=4.0
SNAA Sanae 130.67 198 *e* PKPdf 17 08 12.8 +11
SNAA Sanae 130.67 198 PKPdf PKPdf 17 08 04.2 +2.6
SNAA *e* 17 08 12.8
VNA2 Neumayer--Watz 132.30 197 PKPdf PKPdf 17 08 07.4 +2.7
VNA2 *e* 17 08 17.4
VNA3 Neumayer Olymp 132.68 196 PKPdf PKPdf 17 08 06.8 +1.4
VNA3 *e* 17 08 17.1
VNA1 Neumayer--Stat 132.70 197 *e* PKPdf 17 08 10.8 +5.3
VNA1 Neumayer--Stat 132.70 197 PKPdf PKPdf 17 08 01.9 -3.6
VNA1 *e* 17 08 10.8
ROSC El Rosal 138.50 39 PKP PKPdf 17 08 21.3 +3.7
comp=Z,4.3nm,0.4s,baz=327,slow=1.8,SNR=2.6
LPAZ La Paz 158.53 57 PKP PKPdf 17 08 52.9 +3.9
comp=Z,0.4nm,0.3s,baz=77,slow=2.2,SNR=3.9
LPAZ PKPab PKPab 17 09 25.9 -0.5
comp=Z,2.4nm,0.9s,baz=245,slow=4.9,SNR=3.8
CFAA Coronel Fontan 163.70 103 PKPab PKPab 17 09 50.4 +2.0
comp=Z,0.1nm,0.4s,baz=318,slow=10,SNR=2.4
BDFB Brasilia 166.32 354 PKPab PKPab 17 09 59.8 -0.4
comp=Z,3.0nm,0.5s,baz=271,slow=1.9,SNR=4.1

*IDC **03** 17:05:37.6±0.7, 5.81S×150.57E, mb4.2/8, mb1 4.5/9, mb1mx4.4/12, mbtmp4.3/9, ML3.4/1, MS4.4/2, Ms1 4.4/2, ms1mx3.9/19, Error ellipse: s-maj=29.1km s-min=13.8km az=124.0*
*HRVD **03** 17:05:45.8±0.8, 6.37S×150.38E, h36km±1km, MW5.1/34, Centroid moment Tensor Solution. LP body waves: s18,c21;Mantle waves: s34,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.86±.73; $M_{\theta\theta}$=-5.12±.41; $M_{\phi\phi}$=0.26±.45; $M_{r\theta}$=-0.22±.41; $M_{\theta\phi}$=-0.34±.29; $M_{\phi r}$=-1.29±.48; Best double couple: M_0=5.174×10^{16} NP1:ϕ_s101°, δ45°, λ111°. NP2:ϕ_s252°, δ48°, λ70°. Principal axes: T 5.199, Plg75°, Azm93°; N -.049, Plg14°, Azm266°; P -5.15, Plg2°, Azm356°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 17:05:45.8±1.4, 5.95S×150.49E, h59km±14km, mb4.9/4 Error ellipse: s-maj=15.3km s-min=9.2km az=150.0*

ISC 03 17:05:42.3±2.0, 5.9S±0.1×150.47E±0.09, h41km±20km, n28, σ0°98/20, mb4.3/8, MS4.4/2, New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 4.78 223 Pn **P 17 06 55.0 +1.3**
12nm,0.3s,baz=37,slow=6.8,SNR=43
PMG Sn **S 17 07 47.5 -1.0**
18nm,0.3s,baz=166,slow=19,SNR=6.1
HNR Honiara 10.03 111 P **P 17 08 07.0 +0.2**
23nm,0.8s
CTAO Charters Tower 14.68 196 *e*Pn **P 17 09 09.1 0.0**
16nm,0.8s
KAKA Kakadu 19.02 248 *e*P Px 17 10 24.9
16nm,0.5s
WRAB Tennant Creek 20.97 227 *e*P **P 17 10 24.4 +0.1**
71nm,0.9s
WRAB *e*pPn 17 10 35.0
WB2 Warramunga Arr 20.98 227 *e*P **P 17 10 24.3 -0.1**
WB2 *e*S **S 17 14 12.5 +1.7**
WRA Warramunga Arr 20.98 227 P **P 17 10 24.7 +0.1**
13nm,0.7s,baz=50,slow=10,SNR=125
WRA S **S 17 14 21.3 +10**
2.5nm,0.9s,baz=46,slow=19,SNR=5.7
WRA PcP PcP 17 14 31.4 +0.4
2.5nm,0.8s,baz=38,slow=2.1,SNR=7.7
WRA ScP 17 18 07.5
0.6nm,0.7s,baz=50,slow=2.6,SNR=7.1
STKA Stephens Creek 27.14 197 *e*P **P 17 11 22.5 -1.3**
10nm,0.8s,mb4.4
STKA Stephens Creek 27.14 197 P **P 17 11 22.5 -1.3**
13nm,0.9s,mb4.5,baz=16,slow=11,SNR=14
MBWA Marble Bar 33.41 240 *e*P **P 17 12 19.3 -0.1**
AFI Afiamalu 37.99 105 LR LR 17 26 26.8
comp=Z,564nm,20.4s,MS4.4,baz=133,slow=33
KLBR Kellerberrin 39.86 226 *e*P pP 17 13 21.0 -4.2
22nm,0.8s
URZ Urewera 40.27 147 LR LR 17 27 21.0
comp=Z,503nm,18.4s,MS4.4,baz=337,slow=32
HIA Hailar 61.12 338 *e*P **P 17 15 55.0 +0.2**
6.7nm,0.6s,mb5.0
SONM Songino Array 66.05 329 P **P 17 16 26.8 -0.3**
0.8nm,0.7s,mb3.8,baz=112,slow=24,SNR=2.9
MKAR Makanchi Array 79.64 320 P **P 17 17 46.8 -0.4**
1.2nm,0.8s,mb3.9,baz=98,slow=6.8,SNR=6.1
ZAL Zalesovo 80.80 327 P **P 17 17 52.1 -1.1**
0.9nm,0.3s,mb4.1,baz=25,slow=3.0,SNR=4.2
AAK Ala-Archa 83.75 314 *e*P **P 17 18 10.8 +2.2**
ILAR Eielson Array 84.06 23 P **P 17 18 08.2 -1.4**
1.2nm,0.7s,mb4.1,baz=252,slow=4.4,SNR=11
INK Inuvik 90.32 21 P **P 17 18 39.2 -0.6**
2.9nm,1.1s,mb4.5,baz=221,slow=6.4,SNR=5.4
NVAR Mina Array Bea 94.59 52 P **P 17 19 02.1 +1.9**
1.0nm,0.7s,mb4.4,baz=251,slow=4.5,SNR=8.7
AKASG Malin Array Be 114.02 323 PKiKP 17 24 18.8
0.7nm,0.6s,baz=62,slow=2.2,SNR=5.3
GERES GERESS Array B 123.75 327 PKP PKPdf 17 24 36.7 +0.7
1.0nm,0.6s,slow=1.3,SNR=11
LPAZ La Paz 135.90 121 PKP PKPdf 17 25 01.6 +1.8
0.7nm,0.4s,baz=24,slow=1.5,SNR=5.8
TORD Torodi Ar. Bea 148.40 285 PKPbc PKPdf 17 25 27.1 +5.2
11nm,0.7s,baz=70,slow=2.5,SNR=72
BDFB Brasilia 151.83 140 PKPbc PKPdf 17 25 35.7 +8.6
6.6nm,0.6s,baz=231,slow=2.0,SNR=8.2
BDFB PKPab PKPab 17 25 43.9 -1.1
2.8nm,0.5s,baz=125,slow=8.4,SNR=3.7
DBIC Dimbokro 155.46 273 PKPab PKPab 17 25 60.0 -0.4
3.8nm,0.9s,baz=120,slow=1.9,SNR=4.2
DBIC Dimbokro 155.46 273 PKPab PKPab 17 25 60.0 -0.5

*ATH **03** 17:09:45.9, 38.22N×26.49E, h30km±6km, MD3.0/3*
*ISK **03** 17:09:45.7, 38.21N×26.65E, h24km, MD2.8*
*CSEM **03** 17:09:46.4±0.3, 38.27N×26.69E, h25km, MD2.8, Error ellipse: s-maj=7.4km s-min=5.6km az=144.0*

ISC 03 17:09:44.6±0.9, 38.24N±0.04×26.55E±0.05, h12km±4km, n12, σ0°96/21, Aegean Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URLA Izmir 0.13 18 *i* P **Pg 17 09 47.0 -0.9**
URLA *i* S **Sg 17 09 49.1 -1.0**
BLCB Balcova 0.42 69 PG **Pg 17 09 53.7 +0.5**
BLCB SG **Sg 17 09 59.7 +0.8**
SMG Samos 0.58 156 *e*PN **Pn 17 09 58.2 -0.2**
SMG *e*SN **Sn 17 10 06.7 -1.0**
IZM Izmir 0.58 74 PG **Pg 17 09 56.6 +0.1**
IZM SG **Sg 17 10 05.9 +1.5**
KDAG Bornova 0.59 74 *i* P **Pb 17 09 55.3 -1.1**
KDAG *i* S **Sb 17 10 03.5 -0.9**
PRK Paraskevi 1.03 348 *e*PN **Pn 17 10 05.7 +0.9**
PRK *e*SN **Sn 17 10 20.2 +1.0**
PRK Paraskevi 1.03 348 *e*Pn **Pn 17 10 05.7 +0.9**
PRK *e*Sn **Sn 17 10 20.6 +1.4**
AKS Akhisar 1.18 57 *e*PN **Pn 17 10 05.9 -1.1**
AKS *e*SN **Sn 17 10 22.2 -0.9**
AYDN Tasoluk 1.20 118 *i* P **Pb 17 10 07.7 +0.8**
AYDN *i* S **Sb 17 10 23.5 +1.3**
BODT Bodrum 1.32 152 *e*PN **Pn 17 10 08.0 -1.0**
APE Apeiranthos 1.42 215 *e*PN **Pn 17 10 11.9 +1.5**
APE Apeiranthos 1.42 215 *e*Pn **Pn 17 10 11.2 +0.8**

*CSEM **03** 17:20:54.3, 35.14N×24.15E, h21km, MD3.6/4, After ATH*
*NEIC **03** 17:20:54.3, 35.14N×24.15E, h21km, MD3.5(ATH), After ATH.*

ATH 03 17:20:54.9, 35.20N×24.19E, h23km±1km, MD3.5/4, 1D, Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VAM Vamos 0.21 2⇓ *i*PB Pb 17 21 00.7 +0.3
NPS Neapolis 1.17 87 *e*PN Pn 17 21 16.8 +0.8
NPS *e*SN Sn 17 21 33.0 +1.7
KYTH Kithira 1.43 319 *e*PN Pn 17 21 20.7 +0.9
KYTH *e*SN Sn 17 21 41.0 +3.0
VLI Veliai 1.82 327 *e*PN Pn 17 21 27.0 +1.6
VLI Veliai 1.82 327 *e*Pn Pn 17 21 28.0 +2.6

IDC 03 17:28:01.2±3.5, 23.36S×179.18W, mb4.4/2, mb1 4.6/2, mb1mx4.2/11, mbtmp4.4/2, Error ellipse: s-maj=162.4km s-min=51.6km az=149.0, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 35.63 247 *e*P P 17 35 00.4 -2.3
6.5nm,1.8s
STKA Stephens Creek 35.63 247 P P 17 35 00.1 -2.7
2.3nm,0.7s,baz=89,slow=12,SNR=5.9
WB2 Warramunga Arr 43.19 265 *e*P P 17 36 04.4 -1.3
WRA Warramunga Arr 43.20 265 P P 17 36 04.4 -1.4
3.4nm,0.3s,baz=100,slow=8.1,SNR=152
KAKA Kakadu 47.02 274 *e*P P 17 36 56.8 +20
2.2nm,0.4s
AKASG Malin Array Be 144.91 328 PKP PKPdf 17 47 37.6 -4.3
1.1nm,0.5s,baz=46,slow=4.0,SNR=9.7
BRTR Keskin Array B 147.84 308 PKPbc PKPdf 17 47 49.5 +2.5
0.6nm,0.6s,baz=87,slow=3.4,SNR=3.7

*IPEC **03** 17:31:55.8±0.3, 51.55N×16.16E, h8km±1km, ML2.0/3, Error ellipse: s-maj=1.9km s-min=0.7km az=31.0*
*PRU **03** 17:31:56.9, 51.49N×16.06E*
*CSEM **03** 17:31:56.4±0.2, 51.51N×16.14E, h2km, ML3.1/6, Error ellipse: s-maj=2.6km s-min=1.5km az=30.0*
*VIE **03** 17:31:59.4±0.4, 51.22N×16.29E, mb2.4/5, ML2.7/5, Error ellipse: s-maj=4.8km s-min=2.1km az=115.0, Suspected Mining induced.*

WAR 03 17:31:56.3, 51.56N×16.10E, ML2.6, 2C-3D, Mining Induced, Poland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSP Ksiaz 0.72 170⇓ *i*PG Pg 17 32 09.5 -1.3
KSP ⇓ *e*SG Sg 17 32 19.5 -0.9
KSP Ksiaz 0.72 170 *e*Pg Pg 17 32 09.5 -1.2
KSP *e*Sg Sg 17 32 19.7 -0.7
KSP Ksiaz 0.72 170 *e*Pg Pg 17 32 09.5 -1.3
KSP *e*Sg Sg 17 32 18.9 -1.5
UPC Upice 1.05 183 *e*PG Pg 17 32 15.4 -1.9
UPC Upice 1.05 183 *e*Pg Pg 17 32 15.5 -1.8
DPC Dobruska-Polom 1.22 173 *e*PG Pg 17 32 18.2 -2.4
DPC *e*SG Sg 17 32 33.9 -2.9
22nm,0.3s
DPC Dobruska-Polom 1.22 173 *e*Pg Pg 17 32 18.2 -2.4
DPC *e*Sg Sg 17 32 33.8 -3.0
PVCC Panska Ves 1.41 224 *e*PG Pg 17 32 22.2 -2.3
PVCC *e*SG Sg 17 32 41.4 -2.0
145nm,0.2s
PVCC Panska Ves 1.41 224 *e*Pg Pg 17 32 22.2 -2.3
PVCC *e*Sg Sg 17 32 41.5 -1.9
BRG Berggiesshubel 1.52 244 *e*Pn Pn 17 32 24.1 -0.8
BRG *e*Sg Sg 17 32 44.5 -2.5
PRU Pruhonice 1.86 213 *e*PN Pn 17 32 27.6 -2.1
PRU *e*PG Pg 17 32 29.6 -3.8
PRU *e*SG Sg 17 32 54.1 -4.0
PRU Pruhonice 1.86 213 *e*Pn Pn 17 32 27.4 -2.3
PRU Pruhonice 1.86 213 *e*Pg Pg 17 32 29.6 -3.8
PRU *e*Sg Sg 17 32 53.8 -4.3
CLL Collm 1.96 264 *i* PN Pn 17 32 28.5 -2.6
CLL *i* PG Pg 17 32 31.6 -3.8
CLL *i* 17 32 35.5
CLL *i* SG Sg 17 32 57.7 -3.7
CLL Collm 1.96 264 *e*Pn Pn 17 32 28.6 -2.5
CLL *e*Sg Sg 17 32 57.3 -4.1
MORC Moravsky Berou 2.00 152 *e*Pn Pn 17 32 29.7 -2.1
MORC *e*Sg Sg 17 32 57.4 -5.6
12nm,0.3s
OKC Ostrava-Krasne 2.16 142 *e*PG Pg 17 32 35.6 -3.8
OKC *e*SG Sg 17 33 02.9 -5.2
VRAC Vranov 2.27 172 *e*Pn Pn 17 32 34.4 -1.2
VRAC *e*Sg Sg 17 33 06.6 -5.4
8.1nm,0.2s
TREC Trest 2.30 190 *e*Pn Pn 17 32 35.1 -0.9
KRUC Moravsky 2.50 176 *e*Pn Pn 17 32 37.4 -1.5
KRUC Moravsky 2.50 176 *e*Pg Pg 17 32 41.6 -4.7
KRUC *e*Sg Sg 17 33 13.6 -6.1
5.4nm,0.3s
NKC Novy Kostel 2.67 242 *e*PN Pn 17 32 39.8 -1.4
NKC *e*PG Pg 17 32 45.9 -3.6
NKC *e*SG Sg 17 33 20.5 -4.6
37nm,0.2s
NKC Novy Kostel 2.67 242 *e*Pn Pn 17 32 39.5 -1.8
KHC Kasperske Hory 2.92 215 *e*PN Pn 17 32 42.7 -2.1
KHC *e*PG Pg 17 32 48.6 -6.0
KHC *e*SN Sn 17 33 18.0 -3.1
KHC *e*SG Sg 17 33 27.7 -5.7
KHC Kasperske Hory 2.92 215 *e*Pn Pn 17 32 42.5 -2.3
MOX Moxa 2.97 254 *e*Pg Pg 17 32 51.4 -4.2
MOX *e*Sg Sg 17 33 30.9 -4.4
WET Wettzell 3.18 222 *e*Pn Pn 17 32 46.4 -2.1
CLZ Clausthal 3.58 277 *e*Pn Pn 17 32 52.1 -2.1
MOA Molln 3.90 199⇑ *i*Pn Pn 17 32 56.5 -2.3
MOA Molln 3.90 199 Pn Pn 17 32 56.5 -2.3
MOA Sg Sg 17 33 59.4 -6.7
14nm,0.6s
STHS Stebnicka Huta 3.92 121 *e*PG Pg 17 33 10.7 -3.9
STHS *e*SG Sg 17 34 05.1 -1.7
ARSA Arzberg 4.33 185⇑ *i*Pn Pn 17 33 01.8 -3.1
ARSA Arzberg 4.33 185 Pn Pn 17 33 01.8 -3.1
ARSA Sg Sg 17 34 11.7 -8.7
6.1nm,0.5s
KBA Koelnbreinsper 4.83 203⇓ *i*Pn Pn 17 33 09.8 -2.2
KBA Koelnbreinsper 4.83 203 Pn Pn 17 33 09.8 -2.2
KBA Sg Sg 17 34 30.8 -6.4
8.5nm,0.6s

*NIED **03** 17:42:00, 29.20N×130.60E, h32km, Mw4.1 Best double couple: $M_0$1.66×10^{15} NP1:ϕ_s259°, δ87°, λ-153°. NP2: ϕ_s167°, δ63°, λ-3°.*
*JMA **03** 17:42:17.3±0.1, 29.19N×130.57E, h57km, M3.8*
*IDC **03** 17:42:18.3±2.1, 29.21N×130.50E, h42km±19km, mb3.6/8, mb1 3.8/11, mb1mx3.7/23, mbtmp3.8/11, ML3.3/3, MS3.9/2, Ms1 3.9/2, ms1mx3.4/36, Error ellipse: s-maj=28.4km s-min=14.5km az=98.0*
*NEIC **03** 17:42:18.1±0.9, 29.20N×130.50E, h42km±9km, mb4.2/4, Error ellipse: s-maj=14.9km s-min=8.4km az=123.0*
*BJI **03** 17:42:20.0, 29.20N×130.50E, h41km, mb4.2*

ISC 03 17:42:16.9±0.8, 29.17N±0.04×130.62E±0.08, h51km±5km, n32, σ0°76/37, mb4.1/16, MS4.5/1, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNN Nakanoshima 0.93 316 P **P 17 42 33.7 -0.2**
JNN S **S 17 42 46.3 -0.2**
JZK Kikaishima 1.02 214 P **P 17 42 35.7 +0.5**
JAM Amami Oshima 1.17 230 P **P 17 42 37.2 0.0**
JAM S **S 17 42 51.8 -0.5**
JKC Kuchinoerabu 1.34 344 P **P 17 42 40.1 +0.4**
JKC eS **S 17 42 57.0 +0.3**
JTN Tanegashima 3 1.51 12 P **P 17 42 42.4 +0.3**
JTN eS **S 17 43 01.4 +0.6**
JTSR Tashiro 2 2.01 7 P **P 17 42 49.8 +0.8**
JTK Tokunoshima 2.01 227 P **P 17 42 49.3 +0.1**
JOW Kunigami 3.12 222 P **P 17 43 04.0 -0.9**
6.5nm,0.3s,baz=125,slow=20,SNR=9.0
JOW S **S 17 43 53.4 +12**
12nm,0.3s,baz=183,slow=26,SNR=3.5
JNU Nakatsue 3.94 3 P **P 17 43 16.6 +0.1**
2.0nm,0.3s,baz=169,slow=13,SNR=32

JNU				S	S	17 44 01.2	-0.8
	5.2nm,0.3s,baz=83,slow=41,SNR=5.9						
JNU				LR	LR	17 44 50.6	
	comp=Z,540nm,19.6s,baz=157,slow=39						
MJAR	**Matsushiro Arr**	**9.73**	**39**	P	**P**	**17 44 35.6**	**-1.4**
	0.8nm,0.3s,baz=250,slow=13,SNR=11						
CN2	**Changchun**	**15.18**	**346**	*e*P	**P**	**17 45 54.8**	**+5.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA	**Guiyang**	**21.35**	**268**	P	**P**	**17 47 03.2**	**+1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**26.40**	**322**	P	**P**	**17 47 53.9**	**+3.5**
	comp=Z,0.7nm,0.6s,mb3.4,baz=135,slow=12,SNR=3.6						
GTA	**Gaotai**	**27.30**	**300**	*e*P	**P**	**17 48 05.2**	**+6.4**
GTA				AP	pP	17 48 13.0	+1.3
GTA				XP	sP	17 48 16.1	-1.8
GUN	**Gumba**	**39.14**	**279**	*e*P	**P**	**17 49 42.1**	**+0.8**
	comp=Z,11nm,0.5s,mb4.8						
PKI	**Pulchoki**	**39.63**	**279**	*e*P	**P**	**17 49 45.0**	**-0.3**
KKN	**Kakani**	**39.69**	**279**	*e*P	**P**	**17 49 46.2**	**+0.4**
	comp=Z,6.2nm,0.4s,mb4.7						
DMN	**Daman**	**39.88**	**279**	*e*P	**P**	**17 49 46.9**	**-0.5**
GKN	**Gorkha**	**40.19**	**280**	*e*P	**P**	**17 49 49.0**	**-1.0**
	comp=Z,4.8nm,0.4s,mb4.6						
KOLN	**Koldanda**	**41.14**	**280**	*e*P	**P**	**17 49 58.1**	**+0.3**
	comp=Z,2.7nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**41.25**	**309**	P	**P**	**17 49 57.2**	**-1.3**
	comp=Z,0.3nm,0.4s,mb3.2,baz=86,slow=9.9,SNR=11						
MKAR	**Makanchi Array**	**41.25**	**309**	P	**P**	**17 49 57.2**	**-1.3**
KURK	**Kurchatov**	**44.22**	**314**	*e*P	**P**	**17 50 21.6**	**-1.1**
	comp=Z,2.7nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**48.96**	**175**	P	**P**	**17 51 00.9**	**+0.5**
	comp=Z,1.2nm,0.7s,mb4.1,baz=355,slow=8.5,SNR=13						
BVAR	**Borovoye Array**	**49.55**	**316**	P	**P**	**17 51 04.5**	**0.0**
	comp=Z,2.0nm,0.6s,mb4.3,baz=97,slow=9.5,SNR=12						
BRVK	**Borovoye**	**49.62**	**316**	*e*P	**P**	**17 51 01.1**	**-3.9**
	comp=Z,1.8nm,0.5s,mb4.4						
ILAR	**Eielson Array**	**60.85**	**29**	P	**P**	**17 52 26.1**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.8,baz=285,slow=8.0,SNR=6.6						
FINES	**FINESS Array B**	**71.35**	**331**	P	**P**	**17 53 32.5**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=45,slow=2.7,SNR=5.5						
AKASG	**Malin Array Be**	**74.67**	**320**	P	**P**	**17 53 52.6**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=59,slow=6.2,SNR=6.0						
BRTR	**Keskin Array B**	**76.90**	**308**	P	**P**	**17 54 07.2**	**+1.7**
	comp=Z,0.5nm,0.5s,mb3.7,baz=128,slow=3.9,SNR=3.6						
NOA	**NORSAR Array B**	**77.61**	**334**	P	**P**	**17 54 09.0**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=132,slow=22,SNR=2.5						
VRAC	**Vranov**	**82.32**	**323**	LR	LR	18 36 07.8	
	comp=Z,203nm,18.7s,MS4.5,baz=305,slow=39						

JMA 03 17:50:56.5±0.1**, 29.13N×130.62E, h28km, M2.8, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.96**	**318**	P	Pn	17 51 13.9	-0.4
JNN				S	Sb	17 51 26.4	-0.4
JAM	**Amami Oshima**	**1.14**	**231**	P	Pn	17 51 16.8	0.0
JTK	**Tokunoshima**	**1.99**	**228**	P	Pn	17 51 29.3	+0.4
JTSR	**Tashiro 2**	**2.05**	**7**	P	Pn	17 51 30.5	+0.7

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*NIED **03** 17:51:00, 29.20N×130.50E, h5km, Mw4.4 Best double couple: $M_0$4.73×10^{15} NP1:ϕ_s208°, δ83°, λ-81°. NP2: ϕ_s337°, δ11°, λ-141°.*
*JMA **03** 17:51:44.6, 29.20N×130.48E, h59km±4km, M3.7*
*NEIC **03** 17:51:45.9±1.0, 29.17N×130.58E, h54km±10km, mb4.2/4, Error ellipse: s-maj=15.7km s-min=9.0km az=123.0*
*IDC **03** 17:51:46.0±1.8, 29.20N×130.54E, h50km±14km, mb3.6/7, mb1 3.6/10, mb1mx3.5/24, mbtmp3.8/10, ML3.3/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/25, Error ellipse: s-maj=28.5km s-min=8.9km az=110.0*

ISC 03 17:51:44.3±0.7**, 29.18N**±0.04×**130.58E**±0.08**, h54**km±5km**, n34, σ0^{s}73**/38**, mb4.1**/13**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.90**	**317**	P	**P**	**17 52 00.4**	**-0.5**
JNN				*e*S	**S**	**17 52 12.6**	**-0.7**
JZK	**Kikaishima**	**1.01**	**212**	P	**P**	**17 52 02.8**	**+0.3**
JAM	**Amami Oshima**	**1.15**	**228**	P	**P**	**17 52 04.0**	**-0.3**
JKC	**Kuchinoerabu**	**1.32**	**346**	P	**P**	**17 52 06.9**	**0.0**
JTN	**Tanegashima 3**	**1.51**	**13**	P	**P**	**17 52 09.7**	**+0.2**
JTK	**Tokunoshima**	**1.99**	**226**	P	**P**	**17 52 16.4**	**+0.1**
JTK				*e*S	**S**	**17 52 40.4**	**+0.4**
JTSR	**Tashiro 2**	**2.00**	**9**	P	**P**	**17 52 17.0**	**+0.6**
JTSR				*e*S	**S**	**17 52 41.2**	**+1.0**
JSU	**Suzuyama**	**2.32**	**357**	P	**P**	**17 52 20.5**	**-0.4**
JNAR	**Kushima--Naru**	**2.42**	**14**	P	**P**	**17 52 22.9**	**+0.6**
JOW	**Kunigami**	**3.10**	**222**	P	**P**	**17 52 31.8**	**-0.2**
	5.7nm,0.3s,baz=125,slow=19,SNR=8.7						
JOW				S	**S**	**17 53 08.4**	**+0.4**
	9.1nm,0.3s,baz=90,slow=30,SNR=3.5						
JOW	**Kunigami**	**3.10**	**222**	P	**P**	**17 52 31.6**	**-0.4**
JIH	**Iheya**	**3.14**	**228**	P	**P**	**17 52 31.7**	**-0.9**
JNU	**Nakatsue**	**3.94**	**4**	P	**P**	**17 52 44.1**	**+0.3**
	3.2nm,0.3s,baz=179,slow=6.3,SNR=14						
JNU				S	**S**	**17 53 29.0**	**-0.2**
	2.4nm,0.3s,baz=135,slow=19,SNR=9.7						
MJAR	**Matsushiro Arr**	**9.75**	**39**	P	**P**	**17 54 04.0**	**-0.4**
	0.2nm,0.3s,baz=253,slow=23,SNR=3.7						
CBIJ	**Chichi jima**	**10.46**	**99**	LR	LR	17 57 03.5	
	comp=Z,279nm,20.7s,baz=283,slow=30						
QIZ	**Qiongzhong**	**21.42**	**246**	*e*P	**P**	**17 56 25.6**	**-4.1**
SONM	**Songino Array**	**26.37**	**322**	P	**P**	**17 57 19.2**	**+2.0**
	0.9nm,0.8s,mb3.4,baz=150,slow=12,SNR=4.2						
PET	**Petropavlovsk**	**31.50**	**33**	*e*P	**P**	**17 58 01.2**	**-1.9**
	96nm,1.5s,mb5.4						
GUN	**Gumba**	**39.10**	**279**	*e*P	**P**	**17 59 08.8**	**+0.7**
KKN	**Kakani**	**39.65**	**279**	*e*P	**P**	**17 59 13.2**	**+0.6**
	5.3nm,0.5s,mb4.5						
DMN	**Daman**	**39.84**	**279**	*e*P	**P**	**17 59 14.2**	**0.0**
	3.3nm,0.5s,mb4.4						
GKN	**Gorkha**	**40.16**	**280**	*e*P	**P**	**17 59 16.3**	**-0.5**
	4.4nm,0.4s,mb4.5						
KOLN	**Koldanda**	**41.10**	**280**	*e*P	**P**	**17 59 24.4**	**-0.2**
	4.1nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**41.21**	**309**	P	**P**	**17 59 25.5**	**+0.2**
	0.3nm,0.4s,mb3.3,baz=83,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**41.21**	**309**	P	**P**	**17 59 25.5**	**+0.2**
KURK	**Kurchatov**	**44.19**	**314**	*e*P	**P**	**17 59 49.6**	**+0.1**
	1.8nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**48.97**	**175**	P	**P**	**18 00 28.1**	**+0.5**
	0.4nm,0.5s,mb3.7,baz=354,slow=8.4,SNR=7.2						
BVAR	**Borovoye Array**	**49.52**	**316**	P	**P**	**18 00 30.7**	**-0.6**
	1.2nm,0.5s,mb4.2,baz=91,slow=10,SNR=10						
BRVK	**Borovoye**	**49.59**	**316**	*e*P	**P**	**18 00 31.8**	**0.0**
ARU	**Arti**	**56.40**	**321**	*e*P	**P**	**18 01 21.1**	**-1.2**
FINES	**FINESS Array B**	**71.33**	**331**	P	**P**	**18 02 58.6**	**-1.2**
	0.7nm,0.5s,mb3.8,baz=63,slow=4.3,SNR=6.3						
AKASG	**Malin Array Be**	**74.64**	**320**	P	**P**	**18 03 19.4**	**0.0**
	1.0nm,0.4s,mb4.1,baz=58,slow=6.6,SNR=7.4						
AKASG	**Malin Array Be**	**74.64**	**320**	P	**P**	**18 03 19.4**	**0.0**
BRTR	**Keskin Array B**	**76.86**	**308**	P	**P**	**18 03 33.5**	**+1.2**
	0.9nm,0.7s,mb3.8,baz=94,slow=3.3,SNR=4.8						

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*ATH **03** 18:07:32.1, 38.15N×26.30E, h31km±3km, MD3.0/3*
*ISK **03** 18:07:32.3, 38.34N×26.59E, h29km, MD2.9*
*CSEM **03** 18:07:33.7±0.2, 38.24N×26.83E, h40km, MD2.9, Error ellipse: s-maj=7.3km s-min=4.5km az=110.0*

ISC 03 18:07:31.6±0.8**, 38.29N**±0.03×**26.48E**±0.05**, h6**km±5km**, n15, σ1^{s}14**/25**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.12**	**50**	*i* P	**Pg**	**18 07 34.4**	**+0.2**
URLA				*i* S	**Sg**	**18 07 36.3**	**+0.4**
BLCB	**Balcova**	**0.45**	**77**	*i* PG	**Pg**	**18 07 41.2**	**+0.5**
BLCB				*i* SG	**Sg**	**18 07 46.6**	**-0.1**
IZM	**Izmir**	**0.62**	**79**	*i* PG	**Pg**	**18 07 44.3**	**+0.2**
IZM				*i* SG	**Sg**	**18 07 52.9**	**+0.5**
KDAG	**Bornova**	**0.63**	**79**	*i* P	**Pg**	**18 07 42.5**	**-1.6**
KDAG				*i* S	**Sg**	**18 07 51.7**	**-0.9**
SMG	**Samos**	**0.64**	**154**	*e*PN	**Pg**	**18 07 44.7**	**+0.3**
SMG				*e*SN	**Sg**	**18 07 54.2**	**+1.2**
PRK	**Paraskevi**	**0.97**	**350**	*e*PN	**Pn**	**18 07 52.8**	**+1.2**
PRK				*e*SN	**Sn**	**18 08 07.8**	**+2.0**
AKS	**Akhisar**	**1.20**	**60**	*e*PN	**Pn**	**18 07 52.7**	**-2.1**
AYDN	**Tasoluk**	**1.27**	**119**	*i* P	**Pb**	**18 07 55.6**	**+0.2**
AYDN				*i* S	**Sb**	**18 08 11.8**	**0.0**
BODT	**Bodrum**	**1.39**	**152**	*e*PN	**Pn**	**18 07 55.4**	**-2.1**
APE	**Apeiranthos**	**1.43**	**212**	*e*PN	**Pn**	**18 07 58.4**	**+0.3**
APE				*e*SN	**Sn**	**18 08 17.3**	**-0.1**
APE	**Apeiranthos**	**1.43**	**212**	*e*PN	**Pn**	**18 07 55.2**	**-2.9**
BDRM	**Kayabasi**	**1.44**	**148**	*i* P	**Pn**	**18 07 58.5**	**+0.3**
BDRM				*i* S	**Sb**	**18 08 18.5**	**+1.7**
EZN	**Ezine**	**1.54**	**355**	*e*PN	**Pn**	**18 07 57.3**	**-2.4**
MANT	**Manisa**	**1.64**	**82**	*i* P	**Pn**	**18 08 02.3**	**+1.2**
MANT				*i* S	**Sb**	**18 08 22.6**	**-0.1**
DAT	**Datca**	**1.78**	**150**	*e*PN	**Pn**	**18 08 01.8**	**-1.3**

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*NIED **03** 18:10:00, 29.30N×130.40E, h32km, Mw4.1 Best double couple: $M_0$1.58×10^{15} NP1:ϕ_s43°, δ72°, λ60°. NP2:ϕ_s285°, δ34°, λ147°.*
*JMA **03** 18:10:24.8±0.1, 29.26N×130.40E, h71km±4km, M3.5*
*NEIC **03** 18:10:29.9±1.1, 29.13N×130.07E, h84km±13km, mb4.0/2, Error ellipse: s-maj=19.2km s-min=11.8km az=121.0*
*IDC **03** 18:10:30.3±2.2, 29.18N×130.17E, h86km±23km, mb3.3/5, mb1 3.4/7, mb1mx3.3/22, mbtmp3.6/7, MS3.3/2, Ms1 3.3/2, ms1mx3.1/10, Error ellipse: s-maj=28.5km s-min=17.7km az=111.0*

ISC 03 18:10:25.1±0.7**, 29.25N**±0.04×**130.4E**±0.1**, h61**km±6km**, n22, σ0^{s}55**/26**, mb3.6**/7**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.77**	**320**	P	**P**	**18 10 40.4**	**+0.1**
JNN				*e*S	**S**	**18 10 51.6**	**0.0**
JZK	**Kikaishima**	**1.02**	**204**	P	**P**	**18 10 44.0**	**+0.3**
JAM	**Amami Oshima**	**1.11**	**221**	P	**P**	**18 10 44.3**	**-0.7**
JAM				*e*S	**S**	**18 11 00.2**	**+0.6**
JKC	**Kuchinoerabu**	**1.22**	**350**	P	**P**	**18 10 46.6**	**+0.1**
JKC				*e*S	**S**	**18 11 03.0**	**+0.6**
JTN	**Tanegashima 3**	**1.48**	**18**	P	**P**	**18 10 49.4**	**-0.7**
JTN				*e*S	**S**	**18 11 09.1**	**+0.6**
JTSR	**Tashiro 2**	**1.95**	**12**	P	**P**	**18 10 56.4**	**-0.2**
JTSR				*e*S	**S**	**18 11 19.9**	**0.0**
JTK	**Tokunoshima**	**1.96**	**222**	P	**P**	**18 10 56.4**	**-0.3**
JSU	**Suzuyama**	**2.25**	**0**	P	**P**	**18 11 00.1**	**-0.7**
JNAR	**Kushima--Naru**	**2.38**	**17**	P	**P**	**18 11 02.5**	**-0.2**
JOW	**Kunigami**	**3.08**	**219**	P	**P**	**18 11 12.2**	**-0.3**
	7.6nm,0.3s,baz=87,slow=20,SNR=10						
JOW				S	**S**	**18 11 48.5**	**+0.3**
	12nm,0.3s,baz=260,slow=30,SNR=4.4						
JNU	**Nakatsue**	**3.88**	**5**	LR	LR	18 13 04.6	
	comp=Z,402nm,20.0s,baz=206,slow=39						
JHJ	**Hachijo jima 2**	**8.88**	**62**	LR	LR	18 15 42.4	
	comp=Z,199nm,19.5s,baz=124,slow=34						
MJAR	**Matsushiro Arr**	**9.77**	**40**	P	**P**	**18 12 51.9**	**+6.6**
	0.3nm,0.3s,baz=224,slow=15,SNR=4.6						
MJAR	**Matsushiro Arr**	**9.77**	**40**	P	**P**	**18 12 51.9**	**+6.6**
SONM	**Songino Array**	**26.24**	**322**	P	**P**	**18 15 55.9**	**-0.3**
	0.3nm,0.6s,mb3.0,baz=138,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**41.08**	**309**	P	**P**	**18 18 05.0**	**+0.8**
	0.3nm,0.6s,mb3.1,baz=86,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**41.08**	**309**	P	**P**	**18 18 05.0**	**+0.8**
KURK	**Kurchatov**	**44.05**	**314**	*e*P	**P**	**18 18 28.6**	**+0.2**
	1.7nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**49.05**	**175**	P	**P**	**18 19 08.3**	**+0.1**
	0.8nm,0.6s,mb3.9,baz=352,slow=8.1,SNR=7.8						
BRVK	**Borovoye**	**49.45**	**316**	*e*P	**P**	**18 19 09.3**	**-1.6**
	0.7nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**60.86**	**29**	P	**P**	**18 20 34.3**	**+1.1**
	0.2nm,0.7s,mb3.3,baz=286,slow=6.6,SNR=3.9						
FINES	**FINESS Array B**	**71.20**	**331**	P	**P**	**18 21 39.1**	**0.0**
	2.9nm,1.1s,mb4.1,baz=284,slow=7.9,SNR=3.7						

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*IDC **03** 18:24:56.9±1.1, 33.68N×137.24E, h352km±10km, mb3.0/8, mb1 3.3/11, mb1mx3.1/26, mbtmp3.8/11, Error ellipse: s-maj=18.1km s-min=14.8km az=110.0*
*JMA **03** 18:24:56.6±0.3, 33.76N×137.25E, h369km±3km, M3.1*
*NEIC **03** 18:24:56.8±0.6, 33.62N×137.30E, h358km±6km, mb3.5/1, Error ellipse: s-maj=14.1km s-min=10.8km az=115.0*

ISC 03 18:24:56.3±0.5**, 33.69N**±0.07×**137.29E**±0.06**, h363**km±3km**, n38, σ0^{s}74**/49**, mb3.3**/10**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.47**	**57**	P	**P**	**18 25 43.5**	**+1.3**
TK04	**Tokai 4**	**0.85**	**35**	P	**P**	**18 25 44.3**	**+1.2**
JIE	**Ise**	**0.85**	**326**	P	**P**	**18 25 44.1**	**+1.0**
JIE				S	**S**	**18 26 19.9**	**0.0**
JWZ	**Kozaga**	**1.32**	**263**	P	**P**	**18 25 45.5**	**+0.3**
JWZ				S	**S**	**18 26 23.0**	**-0.5**
JWY	**Kouya**	**1.50**	**291**	P	**P**	**18 25 46.8**	**+0.6**
JWY				S	**S**	**18 26 24.4**	**-0.8**
JIM2	**Oshima 3**	**2.05**	**59**	P	**P**	**18 25 49.8**	**+0.3**
JGM	**Miyama**	**2.06**	**347**	P	**P**	**18 25 50.2**	**+0.6**
JYN	**Shimob**	**2.08**	**30**	P	**P**	**18 25 49.9**	**+0.2**
JOD2	**Odawara 2**	**2.16**	**43**	P	**P**	**18 25 50.7**	**+0.4**
JWT	**Wachi**	**2.23**	**316**	P	**P**	**18 25 51.2**	**+0.4**
JWT				S	**S**	**18 26 32.3**	**-1.2**
JAI	**Aioi**	**2.37**	**273**	P	**P**	**18 25 52.0**	**+0.1**
JAI				S	**S**	**18 26 34.8**	**-0.6**
JRY	**Ryogami san**	**2.67**	**29**	P	**P**	**18 25 54.9**	**+0.6**
JRY				S	**S**	**18 26 40.2**	**+0.4**
JKG	**Kaga**	**2.70**	**343**	P	**P**	**18 25 54.8**	**+0.3**
JMN	**Monobe**	**2.84**	**272**	P	**P**	**18 25 56.2**	**+0.5**
MAJO	**Matsushiro**	**2.94**	**15**	*e*Pn	**P**	**18 25 55.8**	**-0.7**
MAT	**Matsushiro**	**2.94**	**15**	P	**P**	**18 25 56.6**	**+0.1**
MAT				S	**S**	**18 26 42.5**	**-1.3**
MAT	**Matsushiro**	**2.94**	**15**	P	**P**	**18 25 56.6**	**+0.1**
MAT				S	**S**	**18 26 42.9**	**-0.9**
MAT	**Matsushiro**	**2.94**	**15**	*e*P	**P**	**18 25 57.0**	**+0.5**
MAT				*e*S	**S**	**18 26 43.0**	**-0.8**
MJAR	**Matsushiro Arr**	**2.94**	**15**	P	**P**	**18 25 56.7**	**+0.1**
	5.1nm,0.3s,baz=167,slow=8.2,SNR=81						
MJAR				S	**S**	**18 26 43.0**	**-0.8**
	0.8nm,0.3s,baz=192,slow=22,SNR=4.1						
BSO1	**Boso 1**	**3.21**	**72**	P	**P**	**18 25 57.7**	**-1.2**
BSO1				S	**S**	**18 26 47.4**	**-0.6**
JAG	**Ashikaga**	**3.25**	**32**	P	**P**	**18 25 58.4**	**-0.9**
JHS	**Saijyo**	**3.69**	**292**	P	**P**	**18 26 03.8**	**+0.3**
JTO	**Tosashimizu**	**3.85**	**259**	P	**P**	**18 26 05.2**	**+0.2**
JNU	**Nakatsue**	**5.39**	**266**	P	**P**	**18 26 22.1**	**+0.7**
	2.0nm,0.3s,baz=92,slow=9.8,SNR=3.6						
ASAJ	**Asahikawa**	**11.20**	**20**	P	**P**	**18 27 30.1**	**+0.7**
	2.7nm,0.3s,baz=236,slow=9.2,SNR=25						
SONM	**Songino Array**	**27.12**	**311**	P	**P**	**18 30 09.4**	**+0.4**
	0.6nm,0.6s,mb3.0,baz=103,slow=8.4,SNR=5.0						
BILL	**Bilibino**	**38.19**	**17**	*e*P	**P**	**18 31 43.4**	**+0.2**
	1.8nm,0.7s,mb3.4						
MKAR	**Makanchi Array**	**43.13**	**305**	P	**P**	**18 32 23.1**	**-0.4**
	0.4nm,0.4s,mb2.9,baz=87,slow=10.0,SNR=10						
KAKA	**Kakadu**	**46.37**	**187**	*e*P	**P**	**18 33 09.7**	**+20**
	3.9nm,0.7s,mb3.6						
BVAR	**Borovoye Array**	**50.39**	**314**	P	**P**	**18 33 18.6**	**-0.7**
	0.3nm,0.6s,mb2.7,baz=277,slow=36,SNR=4.0						
WRAB	**Tennant Creek**	**53.40**	**183**	*e*P	**P**	**18 33 38.7**	**-3.2**
WB2	**Warramunga Arr**	**53.41**	**183**	*e*P	**P**	**18 33 41.1**	**-0.9**
WRA	**Warramunga Arr**	**53.41**	**183**	P	**P**	**18 33 41.1**	**-0.8**
	2.2nm,0.3s,mb3.9,baz=359,slow=7.6,SNR=108						
ILAR	**Eielson Array**	**54.10**	**31**	P	**P**	**18 33 46.1**	**-0.2**
	0.2nm,0.4s,mb2.8,baz=250,slow=5.7,SNR=8.7						
INK	**Inuvik**	**58.87**	**26**	P	**P**	**18 34 19.7**	**+0.2**
	0.6nm,0.5s,mb3.3,baz=310,slow=7.9,SNR=5.1						
FINES	**FINESS Array B**	**70.17**	**332**	P	**P**	**18 35 31.0**	**-0.5**
	1.2nm,0.8s,mb3.7,baz=48,slow=6.6,SNR=4.4						
KIV	**Kislovodsk**	**70.51**	**310**	*e*P	**P**	**18 35 33.5**	**-0.3**
PDAR	**Pinedale Array**	**82.41**	**43**	P	**P**	**18 36 41.4**	**+1.8**
	0.6nm,0.8s,mb3.5,slow=1.5,SNR=4.5						

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*NEIC **03** 18:31:24.1, 24.47S×69.53W, h80km, MD3.5(GUC), After GUC.*

GUC 03 18:31:24.1±0.8**, 24.47S×69.53W, h80km, MD3.5, ML3.5, 3C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.81**	**259**⇑	*i*P	P	18 31 41.6	+0.4
CPN1				*i* S	S	18 31 55.1	+1.2
CPN1				AMP		18 31 56.8	
	comp=N,2μm,0.1s						
ANCH	**Antofagasta**	**1.12**	**314**⇑	*i*P	P	18 31 46.1	+1.3
ANCH				*i* S	S	18 32 01.9	+1.5
ANCH				AMP		18 32 04.1	
	comp=N,2μm,0.1s						
CEN1	**Los Morros**	**1.23**	**330**⇑	*i*P	P	18 31 45.6	-0.8
CEN1				*i* S	S	18 32 01.8	-1.3
CEN1				AMP		18 32 02.7	
	comp=N,1μm,0.4s						
SPCH	**San Pedro de A**	**1.98**	**38**	*i* P	P	18 31 56.7	+0.4
SPCH				*i* S	S	18 32 22.4	+2.4
SPCH				AMP		18 32 29.0	
	comp=E,549nm,0.2s						
CRCH	**Chaqaral**	**2.11**	**208**	*e*P	P	18 31 58.3	+0.2
CRCH				*i* S	S	18 32 24.9	+1.6
CRCH				AMP		18 32 30.0	
	comp=E,703nm,0.3s						
CDCH	**Caldera**	**2.84**	**204**	*e*P	P	18 32 08.3	-0.1
CDCH				AMP		18 32 51.1	
	comp=N,211nm,0.3s						

MAN 03 18:36:31.7, 11.34N×125.80E, h9km, mb4.0, ML2.8, MS2.5, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.44**	**306**	*e*P	Pg	18 36 41.8	+1.2
BESP				*e*S	Sg	18 36 52.4	+5.8
PLP	**Palo**	**0.82**	**258**	*e*P	Pb	18 36 47.4	-0.3
PLP				*e*S	Sb	18 37 01.8	+3.1
MSLP	**Maasin**	**1.52**	**218**	*e*P	Pn	18 36 58.4	-0.8
MSLP				*e*S	Sb	18 37 20.4	+1.7
CNP	**Catarman**	**1.61**	**316**	*e*P	Pn	18 37 00.1	-0.4
CNP				*e*S	Sb	18 37 26.7	+5.2

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*BJI **03** 18:48:06.0, 1.03N×97.34E, h33km, mB5.1, mb5.0, Ms4.9, Msz4.6*
*IDC **03** 18:48:06.6±0.5, 1.14N×97.11E, h20km±3km, mb4.4/16, mb1 4.5/17, mb1mx4.4/19, mbtmp4.5/17, ML4.0/1, MS4.2/3, Ms1 4.2/3, ms1mx3.5/16, Error ellipse: s-maj=16.8km s-min=12.7km az=32.0*
*MOS **03** 18:48:06.0±0.9, 1.05N×97.15E, h33km, mb5.1/16, Error ellipse: s-maj=12.9km s-min=7.6km az=101.2*
*HRVD **03** 18:48:07.8±1.1, 1.10N×97.08E, h26km±3km, MW4.9/29, Centroid moment Tensor Solution. LP body waves: s12,c12;Mantle waves: s29,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.21±.34; $M_{\theta\theta}$-0.48±.21; $M_{\phi\phi}$-0.73±.25; $M_{r\theta}$-0.42±.40; $M_{\theta\phi}$1.31±.16; $M_{\phi r}$-2.15±.62; Best double couple: $M_0$2.74×10^{16} NP1:ϕ_s288°, δ33°, λ27°. NP2:ϕ_s175°, δ75°, λ120°. Principal axes: T 2.942, Plg50°, Azm119°; N -.406, Plg29°, Azm347°; P -2.538, Plg24°, Azm242°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 18:48:07.8±0.3, 1.06N×97.16E, h30km, mb5.0/13 Error ellipse: s-maj=8.6km s-min=6.0km az=193.0*

ISC 03 18:48:05.4±0.4**, 1.05N**±0.05×**97.19E**±0.04**, h26**km**, h26**km±1.2km**:pP-P, n122, σ1^{s}13**/132**, mb4.8**/61**, MS4.5**/15**, 19C-12D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.46**	**45**	Pn	**Pn**	**18 48 45.8**	**+1.1**
	32nm,0.3s,baz=214,slow=8.2,SNR=177						
PSI				Sn	**Sn**	**18 49 15.3**	**+1.1**
	30nm,0.3s,baz=266,slow=7.7,SNR=4.7						
PSI				LR	LR	18 49 36.2	
	comp=Z,2μm,19.1s,baz=313,slow=38						
KULM	**Kulim**	**5.45**	**39**⇑	*e*P	**Pn**	**18 49 27.1**	**0.0**
KSM	**Kuching**	**13.12**	**88**	*e*P	**P**	**18 51 12.7**	**-0.3**
NST	**Nakhon Sawan**	**14.82**	**11**	P	**P**	**18 51 28.0**	**-7.3**
UBT	**Ubonrachathani**	**16.09**	**28**	⇑P	**P**	**18 51 54.0**	**+2.3**
KKTK	**Khon Kaen**	**16.18**	**20**	⇑P	**P**	**18 51 54.9**	**+2.1**
	679nm,0.8s						
CHG	**Chiang Mai**	**17.74**	**5**	⇑P	**P**	**18 52 10.3**	**-2.2**
	20nm,0.7s						
CHRT	**Chiangrai**	**18.88**	**8**	⇑PN	**P**	**18 52 22.5**	**-4.0**
CHRT				PG	**P**	**18 52 25.0**	**-1.5**
CHRT				SG	Px	18 52 37.5	
KKM	**Kota Kinabalu**	**19.62**	**75**	*e*P	**P**	**18 52 34.5**	**-0.6**
VIS	**Vishakhapatnam**	**21.45**	**321**	*e*P	**P**	**18 52 54.7**	**+0.7**
VIS				AMb	AMB	18 53 10.0	
	comp=Z,45nm,0.8s,mb4.8						
VIS				*e*S	**S**	**18 56 43.4**	**-2.3**
QIZ	**Qiongzhong**	**21.75**	**34**	P	**P**	**18 52 55.6**	**-1.5**
QIZ				S	**S**	**18 56 54.6**	**+3.2**
QIZ				XS		18 57 08.9	
QIZ				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.5						
QIZ				LR	LR		
	comp=E,920nm,15.2s						
QIZ				LR	LR		
	comp=Z,960nm,12.8s,MS4.4						
QIZ	**Qiongzhong**	**21.75**	**34**	*e*P	**P**	**18 52 55.8**	**-1.3**
	comp=Z,45nm,1.1s,mb4.8						
HYB	**Hyderabad**	**24.50**	**313**	*i* P	**P**	**18 53 31.5**	**+7.3**
HYB	**Hyderabad**	**24.50**	**313**	*e*P	**P**	**18 53 31.5**	**+7.3**
KMI	**Kunming**	**24.53**	**12**	⇑P	**P**	**18 53 26.0**	**+1.7**
KMI				AP		18 53 35.5	
KMI				XP		18 53 39.5	
KMI				PP	PP	18 54 03.7	+3.3
KMI				PCP	PcP	18 57 04.7	+1.2
KMI				S	**S**	**18 57 44.1**	**+3.7**
KMI				XS		18 58 00.3	
KMI				PCS		19 00 44.1	
KMI				AMB	AMB		
	comp=Z,110nm,1.3s,mb5.2						
KMI				LR	LR		
	comp=N,2μm,15.7s,MS4.7						
KMI				LR	LR		
	comp=E,960nm,13.5s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,14.7s,MS4.7						
BOK	**Bokaro**	**25.12**	**335**	*e*P	**P**	**18 53 32.2**	**+2.2**
BOK				AMb	AMB	18 53 35.4	
	comp=Z,64nm,1.1s,mb5.1						
BOK				*e*S	**S**	**18 57 50.0**	**-0.5**
GYA	**Guiyang**	**26.86**	**19**⇓	*i*P	**P**	**18 53 45.0**	**-1.1**
GYA				AP	pP	18 53 54.2	+0.6
GYA				XP	sP	18 53 58.3	+1.3
GYA				PP	PP	18 54 32.8	+1.2
GYA				S	**S**	**18 58 24.0**	**+4.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
GYA				AMB	AMB		
	comp=Z,150nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,13.5s,MS4.7						
GYA				LR	LR		
	comp=E,520nm,12.9s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,14.1s,MS4.6						
JIRN	**Jiri**	**28.48**	**339**	*e*P	**P**	**18 54 01.2**	**+0.4**
	comp=Z,97nm,0.9s,mb5.4						
PKI	**Pulchoki**	**28.69**	**338**	*e*P	**P**	**18 54 03.7**	**+1.0**
	comp=Z,88nm,1.1s,mb5.4						
PKI	**Pulchoki**	**28.69**	**338**	*e*P	**P**	**18 54 03.7**	**+1.0**
PKI				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.1						
GUN	**Gumba**	**28.82**	**339**	*e*P	**P**	**18 54 04.2**	**+0.3**
	comp=Z,151nm,1.1s,mb5.7						
DMN	**Daman**	**28.84**	**337**	*e*P	**P**	**18 54 04.3**	**+0.3**
DAV	**Davao City (W)**	**28.93**	**77**	*e*P	**P**	**18 54 05.1**	**+0.1**
KKN	**Kakani**	**28.93**	**338**	*e*P	**P**	**18 54 05.1**	**+0.2**
	comp=Z,78nm,1.0s,mb5.4						
KKN	**Kakani**	**28.93**	**338**	*e*P	**P**	**18 54 05.1**	**+0.2**
KKN				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.1						
LSA	**Lhasa**	**29.07**	**349**	P	**P**	**18 54 06.4**	**+0.3**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
BHPL	**Bhopal**	**29.23**	**320**	*e*P	**P**	**18 54 10.5**	**+2.8**
BHPL				AMb	AMB	18 54 11.7	
	comp=Z,4.8nm,0.2s,mb4.9						
GKN	**Gorkha**	**29.37**	**337**	*e*P	**P**	**18 54 08.7**	**-0.2**
	comp=Z,81nm,0.9s,mb5.4						
KOLN	**Koldanda**	**29.59**	**335**	*e*P	**P**	**18 54 10.0**	**-0.8**
	comp=Z,42nm,0.6s,mb5.3						
CD2	**Chengdu**	**30.34**	**11**	P	**P**	**18 54 16.0**	**-1.5**
CD2				PP	PP	18 55 15.0	-2.0
CD2				PPP	PPP	18 55 29.0	-2.3
CD2				S	**S**	**18 59 10.0**	**-5.0**
CD2				SS	SS	19 00 49.0	-5.9
CD2				LR	LR		
	comp=N,490nm,13.2s						
CD2				LR	LR		
	comp=Z,650nm,12.6s,MS4.5						
AJM	**Ajmer**	**33.31**	**321**	*e*P	**P**	**18 54 45.3**	**+1.9**

AJM AMb AMB 18 55 03.2
comp=Z,25nm,1.1s,mb5.0
XAN Xi'an 34.61 17 P **P** **18 54 52.9 -1.7**
XAN AMB AMB
comp=Z,40nm,0.7s,mb5.5
LZH Lanzhou 35.41 9 ⇑P **P** **18 55 01.1 -0.3**
LZH AP pP 18 55 09.0 0.0
LZH XP sP 18 55 12.2 -0.1
LZH PP PP 18 56 21.0 -0.3
LZH *e*S **S** **19 00 31.5 -2.2**
LZH SS SS 19 02 52.5 +0.3
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,120nm,4.8s
LZH LR LR
comp=E,960nm,12.5s
LZH LR LR
comp=Z,1μm,14.0s,MS4.8
NJ2 Nanjing 37.00 31 *e*P **P** **18 55 15.5 +0.7**
NJ2 AP pP 18 55 24.6 +2.1
NJ2 XP sP 18 55 28.5 +2.8
NJ2 PP PP 18 56 41.1 -0.4
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
SSE Sheshan 37.54 35 P **P** **18 55 20.2 +0.8**
SSE AP pP 18 55 28.9 +1.8
SSE PP PP 18 56 46.6 -1.4
SSE PCP PcP 18 57 38.4 +0.7
SSE S **S** **19 01 07.1 +0.5**
SSE XS 19 01 21.6
SSE AMB AMB
comp=Z,40nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,160nm,4.5s
SSE LR LR
comp=N,120nm,22.6s,MS3.9
SSE LR LR
comp=E,170nm,22.7s,MS3.9
SSE LR LR
comp=Z,250nm,19.7s,MS4.0
KAKA Kakadu 37.56 112 *e*P **P** **18 55 39.3 +20**
comp=Z,18nm,0.9s,mb4.8
GTA Gaotai 38.26 3 ⇑P **P** **18 55 25.2 -0.1**
GTA AP pP 18 55 35.1 +2.1
GTA XP sP 18 55 38.9 +2.7
GTA PP PP 18 56 56.1 -0.3
GTA PCP PcP 18 57 40.5 +0.7
GTA S **S** **19 01 15.4 -1.9**
GTA XS 19 01 31.4
GTA SS SS 19 03 55.9 -0.6
GTA SCS ScS 19 05 33.1 +0.2
GTA AMB AMB
comp=Z,50nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,140nm,6.8s
GTA LR LR
comp=N,330nm,15.6s,MS4.4
GTA LR LR
comp=E,310nm,13.7s,MS4.4
GTA LR LR
comp=Z,450nm,18.2s,MS4.3
HHC Hu-ho-hao-te 41.70 16 *e*P **P** **18 55 54.6 +0.7**
HHC AP pP 18 56 04.3 +2.7
HHC XP sP 18 56 07.8 +3.0
HHC PP PP 18 57 34.5 +1.1
HHC PCP PcP 18 57 51.2 +0.3
HHC SCP 19 01 37.1
HHC PCS 19 01 40.5
HHC S **S** **19 02 10.1 +1.1**
HHC XS 19 02 26.0
HHC SS SS 19 05 10.7 +0.9
HHC SCS ScS 19 05 52.5 -0.7
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
HHC AMB AMB
comp=Z,290nm,5.8s
HHC LR LR
comp=N,490nm,11.9s,MS4.8
HHC LR LR
comp=E,630nm,14.3s,MS4.8
HHC LR LR
comp=Z,540nm,15.5s,MS4.5
WRA Warramunga Arr 41.97 122 P **P** **18 55 56.5 +0.2**
comp=Z,9.3nm,0.7s,mb4.5,baz=300,slow=9.1,SNR=80
WRA pP pP 18 56 02.9 -1.0
comp=Z,9.3nm,0.7s,baz=300,slow=9.0,SNR=17
WRA pPcP 18 57 59.1
comp=Z,1.8nm,0.8s,baz=305,slow=3.1,SNR=5.7
WRA Warramunga Arr 41.97 122 *i*P **P** **18 55 56.5 +0.2**
WRA pmax pmax
comp=Z,9.0nm,0.7s
WRAB Tennant Creek 41.97 122 *c i*P **P** **18 55 56.1 -0.2**
WB2 Warramunga Arr 41.98 122 *e*P **P** **18 55 56.8 +0.4**
WB2 *ep*P pP 18 56 03.8 -0.3
KSH Kashi 42.90 336 *e*P **P** **18 56 06.2 +2.5**
KSH *e*AP pP 18 56 15.8 +4.4
KSH *e*XP sP 18 56 20.1 +5.5
KSH *e*PP PP 18 57 48.7 +3.0
KSH *e*PCP PcP 18 57 59.3 +4.5
KSH *e*SCP 19 01 44.4
KSH *e*PCS 19 01 48.6
KSH *e*S **S** **19 02 28.0 +1.4**
KSH *e*XS 19 02 44.4
KSH *e*SS SS 19 05 33.2 +1.1
KSH *e*SCS ScS 19 06 02.6 +2.1
KSH AMB AMB
comp=Z,60nm,5.0s
KSH LR LR
comp=N,380nm,5.0s
KSH LR LR
comp=E,520nm,5.4s
FORT Forrest 43.17 140 *e*P **P** **18 56 12.2 +6.2**
comp=E,81nm,0.7s,mb5.6
WMQ Urumqi 43.42 350 P **P** **18 56 08.0 +0.2**
WMQ AP pP 18 56 18.0 +2.5
WMQ XP sP 18 56 22.0 +3.3
WMQ PP PP 18 57 51.2 +0.4
WMQ PCP PcP 18 57 56.6 +0.1
WMQ PPP PPP 18 58 27.1 +0.3
WMQ *e*S **S** **19 02 33.4 -0.6**
WMQ SS SS 19 05 40.1 -1.2
WMQ SCS ScS 19 06 02.3 -1.3
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,230nm,4.4s
WMQ LR LR
comp=N,1μm,22.0s,MS5.1
WMQ LR LR
comp=E,2μm,22.0s,MS5.1
WMQ LR LR
comp=Z,1μm,22.4s,MS4.7
DL2 Dalian 43.81 28 P **P** **18 56 12.0 +0.9**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
JNU Nakatsue 44.93 41 P **P** **18 56 20.4 +0.3**
comp=Z,13nm,0.6s,mb4.9,baz=242,slow=12,SNR=5.0
UCH Uchtor 45.78 336 P **P** **18 56 28.1 +1.2**
SNR=26
TKM2 Tokmak 2 45.95 338 P **P** **18 56 29.0 +0.9**
SNR=10
KBK Karagaybulak 45.97 337 P **P** **18 56 29.5 +1.1**
SNR=19
AML Almayashu 46.03 336 P **P** **18 56 30.1 +1.3**
SNR=6.0
AAK Ala-Archa 46.13 337 ⇓*i*P **P** **18 56 29.2 -0.4**
AAK pmax pmax
comp=Z,11nm,1.7s,mb4.5
AAK MLR MLR
comp=Z,200nm,18.0s,MS4.1
FRU Bishkek 46.25 337 *e*P **P** **18 56 32.0 +1.5**
CHMS Chumysh 46.34 337 P **P** **18 56 31.7 +0.5**
SNR=7.3
EKS2 Erkin-Say 46.44 336 P **P** **18 56 33.0 +1.0**
SNR=16
USP Ospenovka 46.66 337 P **P** **18 56 34.4 +0.6**
SNR=34
SONM Songino Array 47.28 8 P **P** **18 56 38.8 +0.2**
comp=Z,14nm,0.8s,mb4.9,baz=191,slow=9.5,SNR=40
SONM PcP PcP 18 58 10.0 +0.2
comp=Z,4.1nm,0.8s,baz=200,slow=4.3,SNR=5.1
SONM pPcP 18 58 16.6
comp=Z,2.1nm,0.7s,baz=189,slow=2.5,SNR=3.8
MKAR Makanchi Array 47.38 346 P **P** **18 56 39.5 0.0**
comp=Z,13nm,0.7s,mb5.0,baz=160,slow=8.6,SNR=110
MKAR Makanchi Array 47.38 346 *i*P **P** **18 56 39.5 +0.1**
MKAR pmax pmax
comp=Z,13nm,0.7s
ULN Ulaanbaatar 47.41 9 ⇑*i*P **P** **18 56 39.0 -0.6**
KKAR Karatay Array 48.19 334 *i*P **P** **18 56 45.4 -0.3**
KKAR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ZAK Zakamensk 49.42 5 ⇑*i*P **P** **18 56 55.0 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CN2 Changchun 49.44 27 ⇑P **P** **18 56 54.9 -0.5**
CN2 *e*AP pP 18 57 03.6 +0.3
CN2 *e*S **S** **19 03 58.4 -1.4**
CN2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
CN2 LR LR
comp=N,600nm,16.0s,MS4.8
CN2 LR LR
comp=E,480nm,16.0s,MS4.8
CN2 LR LR
comp=Z,610nm,17.0s,MS4.7
PMG Port Moresby 50.83 103 *c i*P **P** **18 57 06.2 -0.2**
MAT Matsushiro 51.81 42 P **P** **18 57 14.2 +0.7**
MAT Matsushiro 51.81 42 P **P** **18 57 14.0 +0.5**
MAT pmax pmax
comp=Z,11nm,1.1s,mb4.7
MAT Matsushiro 51.81 42 P **P** **18 57 14.0 +0.5**
comp=Z,11nm,1.1s,mb4.7
MJAR Matsushiro Arr 51.81 42 P **P** **18 57 12.3 -1.2**
comp=Z,3.2nm,0.7s,mb4.3,baz=219,slow=6.5,SNR=9.7
KURK Kurchatov 51.93 345 *c i*P **P** **18 57 13.8 -0.5**
MDJ Mudanjiang 52.00 29 P **P** **18 57 15.2 +0.3**
MDJ AP pP 18 57 23.3 +0.6
MDJ XP sP 18 57 27.8 +2.0
MDJ PCP PcP 18 58 26.5 -0.6
MDJ PP PP 18 59 13.6 -0.1
MDJ SCP 19 02 20.3
MDJ PCS 19 02 25.0
MDJ S **S** **19 04 37.9 +2.7**
MDJ XS 19 04 53.5
MDJ SCS ScS 19 07 02.5 +2.5
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,200nm,5.1s
MDJ LR LR
comp=N,100nm,31.2s
MDJ LR LR
comp=E,100nm,20.2s
MDJ LR LR
comp=Z,200nm,17.9s
CIT Chita 52.62 13 *e*P **P** **18 57 19.9 +0.5**
OPO Ambohidratompo 52.85 246 P **P** **18 57 22.0 +0.4**
comp=Z,6.7nm,1.0s,mb4.5,baz=69,slow=8.8,SNR=6.5
STKA Stephens Creek 53.27 132 *e*P **P** **18 57 25.8 +1.3**
comp=Z,8.3nm,0.8s,mb4.7
STKA *ep*P pP 18 57 32.7 +0.4
STKA Stephens Creek 53.27 132 P **P** **18 57 25.2 +0.7**
comp=Z,9.9nm,0.8s,mb4.8,baz=303,slow=8.0,SNR=16
STKA pP pP 18 57 32.8 +0.4
comp=Z,22nm,0.7s,baz=300,slow=8.6,SNR=19
ZAL Zalesovo 53.70 351 P **P** **18 57 27.0 -0.3**
comp=Z,12nm,0.8s,mb4.9,baz=301,slow=6.8,SNR=74
ZAL Zalesovo 53.70 351 *i*P **P** **18 57 27.0 -0.3**
ZAL pmax pmax
comp=Z,12nm,0.8s
NVS Novosibirsk 54.82 350 ⇑*i*P **P** **18 57 33.4 -2.2**
NVS *i*S **S** **19 05 11.4 -1.8**
NVS pmax pmax
comp=Z,17nm,1.0s,mb5.0
NVS pmax pmax
comp=N,15nm,1.3s
NVS pmax pmax
comp=E,12nm,1.3s
NVS smax
comp=N,14nm,1.8s
NVS smax
comp=E,10.0nm,2.0s
VOSK Vostochnaya 55.94 341 P **P** **18 57 42.0 -1.7**
VOSK pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BVA0 Borovoye Array 56.39 341 *i*P **P** **18 57 45.5 -1.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
KLR Kul'dur 56.39 27 *e*P **P** **18 57 43.2 -3.8**
AB31 Akbulak array 57.64 332 P **P** **18 57 54.4 -1.4**
AB31 pmax pmax
comp=Z,13nm,0.8s,mb5.0
BOD Bodaibo 58.16 11 *e*P **P** **18 57 58.3 -1.0**
BOD pmax pmax
comp=Z,18nm,0.9s,mb5.1
ASAJ Asahikawa 58.79 37 P **P** **18 58 03.6 -0.3**
comp=Z,10nm,1.0s,mb4.8,baz=166,slow=4.2,SNR=3.7
KMBO Kilima Mbogo 59.97 268 P **P** **18 58 12.9 +0.4**
comp=Z,0.3nm,0.3s,mb3.9,baz=50,slow=22,SNR=4.0
KMBO pP pP 18 58 19.5 -1.0
comp=Z,1.4nm,0.7s,baz=43,slow=23,SNR=3.6
YSS Yuzh-Sakhalins 60.48 34 ⇑*i*P **P** **18 58 13.9 -1.6**
YSS pmax pmax
comp=Z,79nm,1.7s,mb5.5
YSS Yuzh-Sakhalins 60.48 34 P **P** **18 58 14.5 -1.0**
SVE Sverdlovsk 62.82 338 *e*P **P** **18 58 29.0 -2.1**
SVE *e* 18 58 45.0
SVE *e* 18 59 06.0
SVE MLR MLR
comp=N,100nm,17.0s,MS4.2
SVE MLR MLR
comp=E,100nm,17.0s,MS4.2
SVE MLR MLR
comp=Z,200nm,17.0s,MS4.4
ARU Arti 63.32 337 ⇓*i*P **P** **18 58 32.5 -1.9**
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KIV Kislovodsk 64.41 319 ⇑*i*P **P** **18 58 44.6 +2.8**
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.8
GOF Gofitskoye 64.67 321 *e*P pP 18 58 52.8 +1.3
YAK Yakutsk 65.57 16 *e*P **P** **18 58 46.7 -2.2**
YAK *e* pP 18 58 53.5 -3.4
YAK pmax pmax
comp=Z,31nm,1.0s,mb5.3
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.2
YAK pmax pmax
comp=E,4.0nm,0.8s
SOKR Solikamsk 66.22 339 ⇓*i*P **P** **18 58 51.3 -1.8**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
BR131 Keskin Array S 69.20 312 *e*P **P** **18 59 11.5 -0.7**
comp=Z,1.6nm,0.6s,mb4.1
BRTR Keskin Array B 69.20 312 P **P** **18 59 11.5 -0.7**
comp=Z,1.7nm,0.8s,mb4.1,baz=133,slow=6.2,SNR=4.5
BRTR pP pP 18 59 17.9 -2.3
comp=Z,2.2nm,0.8s,baz=129,slow=7.3,SNR=8.9
MOS Moscow 72.45 329 *e*P sP 18 59 46.9 +4.5
MOS pmax pmax
comp=Z,61nm,1.1s,mb5.4
OBN Obninsk 72.74 328 ⇑*i*P **P** **18 59 33.0 -0.2**
OBN *e* 19 02 13.8
OBN *e*S S 19 08 55.2 -0.6
OBN pmax pmax
comp=Z,22nm,1.2s,mb5.0
SEY Seymchan 73.90 23 ⇓*i*P **P** **18 59 40.0 +0.2**
TIRR Tirgusor 74.22 316 ⇑P **P** **18 59 48.4 +6.3**
AKASG Malin Array Be 75.37 322 P **P** **18 59 47.2 -1.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=92,slow=5.0,SNR=9.0
AKASG pP pP 18 59 53.1 -3.5
comp=Z,4.0nm,0.8s,baz=89,slow=5.4,SNR=9.6
MLR Muntele Rosu 76.17 317 ⇓P **P** **18 59 59.6 +6.4**
BURAR Bucovina Array 77.13 319 ⇓P **P** **18 59 59.2 +0.7**
BURAR Bucovina Array 77.13 319 ⇓P **P** **18 59 59.2 +0.7**
DRGR 78.63 318 ⇓P **P** **19 00 13.1 +6.3**
RPZ Rata Peaks 79.11 135 LR LR 19 35 17.3
comp=Z,275nm,20.4s,MS4.6,baz=86,slow=36
BZS Buzias 79.17 316 ⇓P **P** **19 00 13.7 +3.9**
APA Apatity 79.26 339 ⇓*i*P **P** **19 00 16.4 +6.6**
APA pmax pmax
comp=Z,18nm,0.9s,mb5.0
SYO Syowa Base 79.86 198 ⇑PcP PcP 19 00 23.1 +2.1
FINES FINESS Array B 80.13 333 P **P** **19 00 14.3 -0.3**
comp=Z,2.4nm,0.8s,mb4.2,baz=135,slow=5.4,SNR=6.7
FINES pP pP 19 00 20.5 -2.2
comp=Z,2.6nm,0.8s,baz=106,slow=6.3,SNR=3.2
FINES FINESS Array B 80.13 333 *i*P **P** **19 00 14.3 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 80.21 333 *ep* **P** **19 00 05.9 -9.1**
comp=Z,3.7nm,0.7s,mb4.4
KAF Kangasniemi 80.21 333 *e*P **P** **19 00 05.9 -9.1**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BILL Bilibino 81.31 21 ⇓*i*P **P** **19 00 20.4 -0.3**
BILL pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.6
ARCES ARCESS Array B 82.67 340 P **P** **19 00 27.1 -0.6**
comp=Z,5.9nm,1.0s,mb4.6,baz=76,slow=5.0,SNR=7.2
ARCES pP pP 19 00 35.0 -0.9
comp=Z,4.2nm,0.9s,baz=104,slow=5.0,SNR=3.0
ARCES LR LR 19 41 35.6
comp=Z,112nm,21.1s,MS4.2,baz=193,slow=39
GERES GERESS Array B 84.92 319 P **P** **19 00 40.0 +0.4**
comp=Z,0.9nm,0.8s,mb4.0,baz=117,slow=3.0,SNR=7.5
GERES pP pP 19 00 46.2 -1.6
comp=Z,2.2nm,0.8s,baz=72,slow=4.2,SNR=10
KHC Kasperske Hory 85.02 319 *e*P **P** **19 00 40.0 0.0**
NB2 NORSAR Subarra 87.13 331 P **P** **19 00 50.1 -0.1**
comp=Z,1.4nm,0.8s,mb4.2,baz=95,slow=4.8
NB2 NORSAR Subarra 87.13 331 P **P** **19 00 50.1 -0.1**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
NOA NORSAR Array B 87.13 331 P **P** **19 00 49.9 -0.3**
comp=Z,2.8nm,0.9s,mb4.5,baz=94,slow=4.9,SNR=6.8
ILAR Eielson Array 99.84 23 P **P** **19 01 52.5 +3.8**
comp=Z,0.2nm,0.8s,baz=280,slow=5.5,SNR=3.0
ULM Lac du Bonnet 127.69 11 pPKP 19 07 16.6
comp=Z,3.1nm,0.9s,baz=351,slow=5.2,SNR=3.9
PDAR Pinedale Array 130.18 26 PKP PKPdf 19 07 14.3 -4.2
comp=Z,0.4nm,0.7s,baz=295,slow=2.0,SNR=3.6
PDAR pPKP 19 07 23.2
comp=Z,1.0nm,0.7s,baz=98,slow=1.2,SNR=5.9
TXAR Lajitas Array 143.80 32 PKP PKPdf 19 07 39.0 -4.7
comp=Z,0.5nm,0.4s,baz=297,slow=2.8,SNR=7.0
TXAR pPKP 19 07 46.5
comp=Z,2.0nm,0.7s,baz=270,slow=1.3,SNR=3.4

*IDC **03** 19:08:38.4±2.2,20.09S×177.71W,h467km±25km,mb3.5/7, mb1 3.8/10,mb1mx3.7/15,mbtmp4.4/10,Error ellipse: s-maj=29.3km s-min=14.7km az=149.0*
*NEIC **03** 19:08:38.5±1.2,20.09S×177.69W,h467km±14km,mb4.3/4, Error ellipse: s-maj=25.1km s-min=10.4km az=150.0*
ISC 03 19:08:36.8±1.2,20.0S±0.2×177.7W±0.1,h453km±14km, n30,σ0°90/19,mb4.0/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.33**	**44**	P	**P**		**19 10 37.2**	**+0.1**
	5.0nm,0.3s,baz=306,slow=4.6,SNR=5.5							
AFI				S	**S**		**19 12 12.0**	**-0.4**
	9.9nm,0.3s,baz=250,slow=22,SNR=8.1							
AFI	**Afiamalu**	**8.33**	**44**	P	**P**		**19 10 37.2**	**+0.1**
	3.2nm,1.1s							
AFI				S	**S**		**19 12 12.0**	**-0.4**
DZM	**Mont Dzumac**	**14.91**	**259**	P	**P**		**19 11 50.4**	**+2.2**
	0.2nm,0.3s,baz=122,slow=19,SNR=12							
URZ	**Urewera**	**18.72**	**193**	P	**P**		**19 12 25.9**	**-0.4**
	3.5nm,0.3s,baz=318,slow=2.2,SNR=24							
CTAO	**Charters Tower**	**33.79**	**264**	*e*P	**P**		**19 14 41.2**	**+0.3**
	8.4nm,0.7s,mb4.3							
PMG	**Port Moresby**	**35.48**	**282**	P	**P**		**19 14 55.5**	**+0.4**
	4.0nm,0.6s,mb4.0,baz=82,slow=10.0,SNR=4.0							
STKA	**Stephens Creek**	**38.23**	**244**	P	**P**		**19 15 17.3**	**-0.3**
	2.0nm,0.7s,mb3.6,baz=86,slow=13,SNR=4.4							
WB2	**Warramunga Arr**	**44.91**	**262**	*e*P	**P**		**19 16 10.1**	**-1.2**
WRA	**Warramunga Arr**	**44.92**	**262**	P	**P**		**19 16 10.2**	**-1.2**
	1.1nm,0.4s,mb3.6,baz=97,slow=7.8,SNR=62							
KAKA	**Kakadu**	**48.22**	**271**	*e*P	**P**		**19 16 56.8**	**+20**
	1.9nm,0.3s,mb3.9							
NVAR	**Mina Array Bea**	**80.50**	**43**	P	**P**		**19 20 02.4**	**+0.7**
	1.8nm,0.7s,mb3.7,baz=227,slow=9.6,SNR=13							
TUC	**Tucson**	**82.48**	**52**	*e*P	**P**		**19 20 13.1**	**+1.2**
	9.2nm,1.1s,mb4.2							
WVOR	**Wild Horse Val**	**82.60**	**40**	*e*P	**P**		**19 20 12.4**	**+0.1**
	9.0nm,1.0s,mb4.2							
TXAR	**Lajitas Array**	**86.58**	**57**	P	**P**		**19 20 32.6**	**+0.5**
	2.8nm,0.8s,mb4.1,baz=225,slow=7.1,SNR=10							
TXAR	**Lajitas Array**	**86.58**	**57**	P	**P**		**19 20 32.6**	**+0.5**
ILAR	**Eielson Array**	**87.79**	**13**	P	**P**		**19 20 35.4**	**-1.6**
	3.4nm,0.8s,mb4.1,baz=221,slow=6.0,SNR=50							
PDAR	**Pinedale Array**	**88.44**	**43**	P	**P**		**19 20 40.5**	**-0.1**
	2.5nm,0.7s,mb4.1,baz=218,slow=2.7,SNR=24							
ARCES	**ARCESS Array B**	**128.49**	**350**	PKP	PKPdf		19 26 50.1	-0.5
	3.3nm,0.9s,baz=342,slow=3.8,SNR=4.6							
AKASG	**Malin Array Be**	**142.71**	**332**	PKhKP			19 27 13.3	
	0.5nm,0.4s,baz=41,slow=4.3,SNR=12							
AKASG	**Malin Array Be**	**142.71**	**332**	PKP	PKPdf		19 27 13.3	-3.8
BRTR	**Keskin Array B**	**146.69**	**313**	PKPbc	PKPbc		19 27 26.8	+0.6
	1.2nm,0.8s,baz=108,slow=3.9,SNR=6.8							
CLL	**Collm**	**147.65**	**347**	P	PKPdf		19 27 29.0	+3.6
	logA/T=0.9							
UPC	**Upice**	**147.68**	**344**	*e*PKPbc	PKPdf		19 27 29.9	+4.5
DPC	**Dobruska-Polom**	**147.74**	**343**	*e*PKPbc	PKPdf		19 27 29.7	+4.2
PVCC	**Panska Ves**	**148.03**	**345**	*e*PKPbc	PKPdf		19 27 30.7	+4.7
PRU	**Pruhonice**	**148.53**	**345**	*e*PKPbc	PKPdf		19 27 31.4	+4.6
TREC	**Trest**	**148.92**	**343**	*e*PKPbc	PKPdf		19 27 32.2	+4.7
KHC	**Kasperske Hory**	**149.56**	**345**	*e*PKPbc	PKPdf		19 27 34.1	+5.6
GERES	**GERESS Array B**	**149.80**	**345**	PKPbc	PKPdf		19 27 34.9	+6.0
	3.4nm,0.8s,baz=27,slow=3.0,SNR=22							
TORD	**Torodi Ar. Bea**	**173.15**	**175**	PKP	PKPdf		19 27 52.6	-0.7
	0.3nm,0.9s,baz=342,slow=3.6,SNR=3.5							

*ATH **03** 19:41:16.7, 40.22N×23.86E,h20km±1km,MD2.9/4*
*THE **03** 19:41:16.7,40.20N×23.91E,h10km,ML2.4*
*CSEM **03** 19:41:16.5±0.1,40.23N×23.92E,h12km,ML2.4,Error ellipse: s-maj=2.4km s-min=1.9km az=66.0*
*NEIC **03** 19:41:16.7,40.22N×23.86E,h20km,MD2.9(ATH),After ATH.*
ISC 03 19:41:15.9±0.5,40.22N±0.03×23.87E±0.05,h10km±5km, n18,σ0°59/24,1C,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.14**	**36**	*e*Pg	**Pg**		**19 41 19.6**	**+0.3**
PAIG	**Paliouri**	**0.33**	**207**	*e*Pg	**Pg**		**19 41 23.0**	**+0.3**
PAIG				*e*Sg	**Sg**		**19 41 28.1**	**+0.9**
PLG	**Polygyros**	**0.36**	**296**	*e*PB	**Pb**		**19 41 23.0**	**-0.1**
PLG				*e*SB	**Sb**		**19 41 29.1**	**-0.3**
SOH	**Sokhos**	**0.72**	**327**	*e*Pg	**Pg**		**19 41 30.1**	**-0.3**
THE	**Thessaloniki**	**0.81**	**301**	*e*Pg	**Pg**		**19 41 32.5**	**+0.4**
SRS	**Serrai**	**0.92**	**347**	*e*Pg	**Pg**		**19 41 34.9**	**+0.5**
LOS	**Limnos**	**0.97**	**107**	*e*Pg	**Pg**		**19 41 33.9**	**-1.5**
XOR	**Xorichti**	**1.00**	**212**	*e*Pg	**Pg**		**19 41 35.9**	**-0.1**
NEO	**Neokhori**	**1.04**	**209**	⇑*i*PN	**Pn**		**19 41 36.6**	**+0.1**
NEO				*e*SN	**Sn**		**19 41 51.0**	**-0.1**
AOS	**Alonnisos**	**1.05**	**180**	*e*Pg	**Pg**		**19 41 35.9**	**-1.0**
AOS				*e*Sg	**Sg**		**19 41 51.1**	**+0.2**
LIA	**Limnos Island**	**1.05**	**107**	*e*PN	**Pn**		**19 41 37.0**	**+0.3**
NVR	**Nevrokopi**	**1.13**	**360**	*e*PN	**Pn**		**19 41 38.0**	**+0.2**
NVR				*e*SN	**Sn**		**19 41 53.3**	**-0.1**
NVR	**Nevrokopi**	**1.13**	**360**	*e*Pn	**Pn**		**19 41 38.0**	**+0.2**
NVR				*e*Sn	**Sn**		**19 41 53.1**	**-0.3**
KNT	**Kendrikon**	**1.20**	**322**	*e*Pg	**Pg**		**19 41 39.8**	**-0.2**
GRG	**Griva**	**1.34**	**304**	*e*Pg	**Pg**		**19 41 42.3**	**-0.4**
RDO	**Rodopi**	**1.57**	**53**	*e*PN	**Pn**		**19 41 45.7**	**+1.6**
AGG	**Agios Georgios**	**1.69**	**225**	*e*Pb	**Pb**		**19 41 46.3**	**-0.3**
ALN	**Alexandroupoli**	**1.79**	**67**	*e*Pb	**Pb**		**19 41 48.2**	**-0.2**

*ATH **03** 19:46:37.2, 40.22N×23.90E,h15km±1km,MD3.1/4*
*THE **03** 19:46:37.5,40.20N×23.90E,h1km,ML2.6*
*CSEM **03** 19:46:37.6±0.1,40.22N×23.88E,h2km,ML2.6,Error ellipse: s-maj=1.7km s-min=1.5km az=77.0*
*NEIC **03** 19:46:37.2,40.22N×23.90E,h15km,MD3.1(ATH),After ATH.*
ISC 03 19:46:36.6±0.5,40.21N±0.02×23.89E±0.04,h8km±5km, n21,σ0°71/28,Greece

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

OUR	Ouranopolis	0.14	31	ePg	Pg	19 46 40.2	+0.4
PAIG	Paliouri	0.32	209	ePg	Pg	19 46 43.5	+0.4
PAIG				eSg	Sg	19 46 48.6	+1.0
PAIG	Paliouri	0.32	209	ePg	Pg	19 46 43.5	+0.3
PAIG				eSg	Sg	19 46 48.6	+1.0
PLG	Polygyros	0.37	296	ePB	Pb	19 46 44.5	-0.5
SOH	Sokhos	0.73	327	ePg	Pg	19 46 51.2	0.0
SOH	Sokhos	0.73	327	ePg	Pg	19 46 51.2	-0.1
SRS	Serrai	0.93	346	ePg	Pg	19 46 54.6	-0.7
SRS				eSg	Sg	19 47 08.8	+1.1
LOS	Limnos	0.96	106	ePg	Pg	19 46 55.1	-0.6
LOS				eSg	Sg	19 47 08.9	+0.4
XOR	Xorichti	1.00	213	ePg	Pg	19 46 56.3	-0.2
XOR	Xorichti	1.00	213	eP	Pb	19 47 00.0	+4.3
XOR	Xorichti	1.00	213	eP	Pb	19 47 00.0	+4.3
NEO	Neokhori	1.04	210	ePN	Pn	19 46 56.9	-0.4
NEO				eSN	Sn	19 47 11.7	-0.4
AOS	Alonnisos	1.04	180	ePg	Pg	19 46 56.6	-0.8
AOS				eSg	Sg	19 47 11.3	+0.1
LIA	Limnos Island	1.04	107	ePN	Pn	19 46 56.9	-0.5
NVR	Nevrokopi	1.14	359	ePN	Pn	19 46 58.5	-0.3
KNT	Kendrikon	1.21	322	ePg	Pg	19 47 00.2	-0.6
GRG	Griva	1.35	304	ePg	Pg	19 47 02.6	-1.0
RDO	Rodhopi	1.57	53	ePN	Pn	19 47 06.4	+1.5
AGG	Agios Georgios	1.69	226	ePb	Pb	19 47 06.8	-0.7
AGG				eSb	Sb	19 47 29.8	+1.0
ALN	Alexandroupoli	1.78	67	ePb	Pb	19 47 08.9	-0.2
FNA	Florina	2.00	287	ePn	Pn	19 47 12.1	+1.1

*KISR **03** 19:56:49.8±1.2, 28.98N×51.76E, h33km, ML3.1*
*CSEM **03** 19:56:52.3±0.1, 28.59N×51.53E, h20km, ML3.1, Error ellipse: s-maj=2.2km s-min=1.9km az=32.0*
*TEH **03** 19:56:55.0, 28.62N×51.46E, h14km, Mn3.1*
ISC 03 19:56:50.4±1.1**, 28.62N**±0.03×**51.52E**±0.04**, h2**km±9km**, n31,** σ1^{s}**16**/37**, 1C-2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISRV	Sarvestan	1.59	61	Pn	Pg	19 57 23.2	+1.1
IPAR	Pars	1.81	47	Pn	Pg	19 57 26.0	-0.5
UMR	Umm Al-Rimmam	3.45	286	eP	Pn	19 57 46.8	+0.6
UMR				eS	Sn	19 58 28.2	0.0
UMR				AML	AML	19 58 38.4	
	comp=Z,39nm,0.4s						
ISAD	Sadrabad	3.78	29	Pn	Pn	19 57 52.6	+1.7
HASS	Wahat al Ahsa'	3.79	206	P	Pn	19 57 52.8	+1.8
HASS				S	Sg	19 58 57.0	+0.6
NAY	Al-Naaiem	3.80	280	eP	Pn	19 57 51.5	+0.3
NAY				eS	Sn	19 58 39.0	+2.1
NAY				AML	AML	19 58 57.7	
	comp=Z,17nm,0.5s						
NAY	Al-Naaiem	3.80	280	eP	Pn	19 57 51.5	+0.4
NAY				eS	Sn	19 58 39.0	+2.0
MIB	Mutribah	3.84	289	eP	Pn	19 57 51.9	+0.2
MIB				eS	Sn	19 58 38.3	+0.4
MIB				AML	AML	19 58 54.1	
	comp=Z,34nm,0.5s						
IMEH	Mehriz	3.85	43	Pn	Pn	19 57 54.2	+2.3
IZEF	Zefreh	4.32	9	Pn	Pn	19 57 55.9	-2.6
ICHK	Chekchek	4.39	34	Pn	Pn	19 58 00.5	+1.0
IBAF	Bafgh	4.59	49	Pn	Pn	19 58 04.3	+1.9
IKLH	Kalahroud	4.68	1	Pn	Pn	19 58 02.1	-1.6
BANOM	Banah	5.04	121	P	Pn	19 58 08.8	+0.1
	SNR=19						
ASHO	Ashiyiah	5.65	133	P	Pn	19 58 17.9	+0.5
	SNR=10						
ISFB	Sefidab	5.75	6	Pn	Pn	19 58 19.2	+0.5
ISFB				Sn	Sn	19 59 21.7	-4.5
IVRN	Varamin	6.36	2	Pn	Pn	19 58 27.4	+0.1
IKOM	Komasi	6.51	329	Pn	Pn	19 58 29.3	-0.2
IRAZ	Razeghan	6.89	349	Pn	Pn	19 58 34.5	-0.4
ARQ	Araqi	6.93	138	⇓P	Pn	19 58 34.2	-1.2
IDMV	Damavand	6.95	3	Pn	Pn	19 58 35.8	+0.1
IFIR	Firoozkooh	7.08	8	Pn	Pn	19 58 37.1	-0.4
HOQ	Hoqain	7.23	133	⇓P	Pn	19 58 37.3	-2.3
MZLS	Mizel	7.28	232	P	Pn	19 58 39.3	-1.0
ISHM	Shahmirzad	7.32	11	Pn	Pn	19 58 40.7	-0.2
ILIN	Laeen	7.38	329	Pn	Pn	19 58 40.7	-1.0
IDHR	Dehrash	7.47	325	Pn	Pn	19 58 40.6	-2.4
BSY	Bisya	7.78	138	P	Pn	19 58 47.4	0.0
	SNR=6.3						
BSYO	Bisya	7.81	137	P	Pn	19 58 47.3	-0.5
	SNR=6.3						
SMDO	Samad	8.08	132	⇑P	P	19 58 51.3	-0.2
HILS	Ha'il	8.68	264	P	P	19 58 57.9	-2.0

*NNC **03** 20:21:38.9±4.0, 37.95N×70.50E, mpv4.2, Error ellipse: s-maj=31.2km s-min=25.8km az=153.0*
*NEIC **03** 20:21:38.9, 37.95N×70.50E, mb3.8/1, After NNC.*
ISC 03 20:21:33.7±2.2**, 37.9N**±0.1×**71.2E**±0.1**, h10**km**, n8,** σ**0**^{s}**70**/14**, mb4.0**/2**, 3C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	5.18	354	P	Pn	20 22 57.5	+4.4
	11nm,0.3s,baz=179,slow=13,SNR=259						
KK31				⇓S	Sn	20 23 58.7	+5.0
	6.2nm,0.3s,baz=179,slow=23,SNR=5.4						
AAK	Ala-Archa	5.32	27	eP	Pn	20 22 55.1	0.0
	3.3nm,0.4s						
AAK				eSn	Sn	20 23 57.2	0.0
AB31	Akbulak array	13.92	328	⇑P	P	20 24 53.0	-0.1
	0.5nm,0.3s,baz=133,slow=13,SNR=32						
AB31				⇑S	S	20 27 23.4	-5.3
	1.4nm,0.5s,baz=263,slow=31,SNR=5.8						
AB31	Akbulak array	13.92	328	⇑P	P	20 24 53.0	-0.2
	0.5nm,0.3s						
AB31				S	S	20 27 23.4	-5.3
AKTK	Aktyubinsk	15.63	327	⇓P	P	20 25 16.4	+1.0
AKTK				S	S	20 28 08.8	-0.3
AKTO	Aktyubinsk	15.63	327	⇓P	P	20 25 16.4	+1.0
	0.8nm,0.8s						
AKTO				⇓S	S	20 28 08.8	-0.3
	0.9nm,1.4s						
JOF	Joensuu	34.70	329	ep	P	20 28 17.4	-8.0
	1.0nm,0.3s,mb4.2						
KAF	Kangasniemi	36.51	326	ep	P	20 28 39.4	-1.3
	1.4nm,0.8s,mb3.8						

*ATH **03** 20:22:33.9, 38.18N×26.60E, h38km±1km, MD2.9/3*
*ISK **03** 20:22:33.9, 38.17N×26.69E, h19km, MD2.7*
*NEIC **03** 20:22:33.0, 38.17N×26.59E, h9km, MD2.9(ATH), MD2.7(ISK), After ISK.*
*CSEM **03** 20:22:34.4±0.3, 38.23N×26.72E, h24km±2km, MD2.7, Error ellipse: s-maj=8.7km s-min=5.2km az=102.0*
ISC 03 20:22:33.3±0.8**, 38.23N**±0.03×**26.57E**±0.05**, h5**km±5km**, n14,** σ1^{s}**12**/25**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.13	9	i P	Pg	20 22 36.0	-0.2
URLA				i S	Sg	20 22 38.3	+0.3
BLCB	Balcova	0.41	67	PG	Pg	20 22 41.3	-0.2
BLCB				SG	Sg	20 22 46.6	-0.3
SMG	Samos	0.56	158	ePN	Pg	20 22 44.9	+0.3
SMG				eSN	Sg	20 22 53.6	+1.5
IZM	Izmir	0.57	73	PG	Pg	20 22 44.7	-0.1
IZM				SG	Sg	20 22 53.3	+0.9
KDAG	Bornova	0.58	72	i P	Pg	20 22 43.8	-1.1
KDAG				i S	Sg	20 22 50.4	-2.2
PRK	Paraskevi	1.04	347	ePN	Pn	20 22 54.1	-0.3
PRK				eSN	Sn	20 23 09.5	0.0
AYVA	Ayvalik	1.08	5	i P	Pb	20 22 48.9	-5.3
AYVA				i S	Sb	20 23 10.2	+1.8
AKS	Akhisar	1.17	56	ePN	Pn	20 22 56.3	0.0
AKS				eSN	Sn	20 23 10.9	-1.9
AYDN	Tasoluk	1.18	118	i P	Pb	20 22 56.5	+0.7
AYDN				i S	Sb	20 23 11.8	+0.5
BODT	Bodrum	1.30	153	ePN	Pn	20 22 56.5	-1.7
BODT				eSN	Sn	20 23 12.4	-3.8
APE	Apeiranthos	1.42	216	ePN	Pn	20 22 59.9	+0.1
APE	Apeiranthos	1.42	216	ePN	Pn	20 22 58.7	-1.1
MANT	Manisa	1.59	80	i P	Pn	20 23 03.6	+1.4
MANT				i S	Sb	20 23 24.4	+1.4
GVD	Gavdhos	3.93	211	ePn	Pn	20 23 28.4	-7.2

WEL 03 20:30:33.4±0.1**, 43.24S**×**171.53E, h5**km**, ML3.6**/10**, 1C-1D, Error ellipse: s-maj=1.2km s-min=0.9km az=0.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	Rata Peaks	0.58	216	⇑P*	Pb	20 30 45.0	-0.7
RPZ				SG	Sg	20 30 53.0	0.0
WVZ	Waitaha Valley	0.60	286	⇓P*	Pb	20 30 45.3	-0.8
WVZ				SG	Sg	20 30 53.2	-0.4
LTZ	Lake Taylor	0.71	50	P*	Pb	20 30 47.4	-0.5
CRLZ	Canterbury Las	0.86	113	P*	Pb	20 30 50.0	-0.5
CRLZ				S*	Sb	20 31 02.1	-0.1
MQZ	McQueen's Vall	0.94	120	P*	Pb	20 30 51.1	-0.7
MQZ				S*	Sb	20 31 03.9	-0.5
FOZ	Fox Glacier	1.38	256	P*	Pb	20 30 57.8	-1.5
LBZ	Lake Benmore	1.50	220	PN	Pn	20 31 00.3	-0.8
DSZ	Denniston Nort	1.51	8	PN	Pn	20 31 00.4	-0.9
KHZ	Kahutara	1.69	62	PN	Pn	20 31 02.7	-1.2
ODZ	Otahua Downs	1.91	199	PN	Pn	20 31 05.0	-2.0
JCZ	Jackson Bay	2.17	247	PN	Pn	20 31 09.4	-1.4
WKZ	Wanaka	2.41	228	PN	Pn	20 31 12.0	-2.1
NNZ	Nelson	2.45	35	PN	Pn	20 31 14.4	-0.3
QRZ	Quartz Range	2.53	18	PN	Pn	20 31 14.8	-1.1
TUWZ	Tuamarina	2.55	45	PN	Pn	20 31 16.3	+0.2
EAZ	Earnscleugh	2.55	218	PN	Pn	20 31 13.3	-2.8
TUZ	Tuapeka	3.03	206	PN	Pn	20 31 20.6	-2.4
MLZ	Mavora Lakes	3.20	228	PN	Pn	20 31 23.3	-2.1

*SOF **03** 20:31:42.5, 42.37N×23.62E, h20km, MD3.0*
*CSEM **03** 20:31:42.8±0.1, 42.43N×23.61E, h10km, MD3.0, Error ellipse: s-maj=1.5km s-min=1.2km az=21.0*
*THE **03** 20:31:43.5, 42.38N×23.60E, h1km, ML2.9*
ISC 03 20:31:42.4±0.5**, 42.38N**±0.03×**23.58E**±0.04**, h8**km±7km**, n18,** σ**0**^{s}**91**/25**, 1D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VTS	Vitosha	0.35	308	i Pg	Pg	20 31 50.2	+0.6
VTS				i Sg	Sg	20 31 55.3	+1.0
PGB	Panagyurishte	0.47	68	i Pg	Pg	20 31 52.0	+0.2
KKB	Krupnik	0.63	216	i Pg	Pg	20 31 55.7	+0.6
MMB	Musomiste	0.79	172	i Pg	Pg	20 31 59.0	+0.7
PLD	Plovdiv	0.87	108	i Pg	Pg	20 32 02.0	+2.1
RZN	Rozhen	1.09	129	i Pg	Pg	20 32 03.5	-0.7
STIP	Stip	1.24	237	ePg	Pg	20 32 07.0	-0.3
STIP				eSg	Sg	20 32 24.6	+0.7
SRS	Serrai	1.26	180	ePg	Pg	20 32 07.2	-0.4
SRS				eSg	Sg	20 32 25.0	+0.7
VAY	Valandovo	1.30	216	i Pg	Pg	20 32 07.4	-0.9
VAY				i Sg	Sg	20 32 24.4	-1.3
KNT	Kendrikon	1.32	203	ePg	Pg	20 32 08.1	-0.7
KNT				eSg	Sg	20 32 26.9	+0.6
BARS	Barje	1.37	289	⇓iPg	Pg	20 32 09.2	-0.6
BARS				Sg	Sg	20 32 27.1	-1.0
DIM	Dimitrovgrad	1.48	102	i Pg	Pg	20 32 11.0	-1.1
SOH	Sokhos	1.56	186	ePg	Pg	20 32 11.5	-2.1
GRG	Griva	1.67	212	ePb	Pb	20 32 14.1	+1.0
OUR	Ouranopolis	2.06	172	ePn	Pn	20 32 18.4	+0.6
JMB	Yambol	2.22	87	i Pn	Pn	20 32 20.1	0.0
JMB				i Sn	Sn	20 32 46.9	-1.1
ALN	Alexandroupoli	2.36	128	ePn	Pn	20 32 22.8	+0.7
PAIG	Paliouri	2.45	178	ePn	Pn	20 32 23.7	+0.4

*BJI **03** 20:38:11.3, 11.97N×141.38E, h33km, mB5.8, mb5.2, Ms5.5, Msz5.3*
*HRVD **03** 20:38:11.9±0.1, 12.20N×140.80E, h12km, MW5.7/90, Centroid moment Tensor Solution. LP body waves: s81,c157;Mantle waves: s90,c262; Half duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; Mrr-3.15±.04; Mθθ3.01±.03; Mφφ0.14±.04; Mrθ1.91±.10; Mθφ0.98±.03; Mφr1.20±.11; Best double couple: Mo3.944×10^{17} NP1: φs82°,δ29°,λ-74°. NP2:φs244°,δ63°,λ-98°. Principal axes: T 3.989, Plg17°, Azm340°; N -.09, Plg7°, Azm248°; P -3.899, Plg71°, Azm136°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **03** 20:38:11.9±0.2, 12.19N×141.01E, h10km, mb5.5/39, MS5.8/5, MW5.6 Error ellipse: s-maj=6.6km s-min=5.3km az=80.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; Mrr-3.10; Mθθ2.12; Mφφ0.98; Mrθ-0.13; Mθφ1.75; Mφr0.55; Best double couple: Mo3.3×10^{17} NP1: φs64°,δ44°,λ-75°. NP2:φs224°,δ48°,λ-104°. Principal axes: T 3.4, Plg2°, Azm324°; N -.2, Plg10°, Azm233°; P -3.2, Plg80°, Azm64°;*
*MOS **03** 20:38:13.6±0.9, 12.13N×141.01E, h33km, mb5.8/43, MS5.5/26 Error ellipse: s-maj=10.3km s-min=4.9km az=111.9*
*IDC **03** 20:38:18.9±2.2, 12.17N×140.98E, h65km±19km, mb4.8/31, mb1 4.8/35, mb1mx4.8/36, mbtmp5.1/35, MS5.1/8, Ms1 5.1/8, ms1mx5.0/11, Error ellipse: s-maj=14.6km s-min=8.7km az=73.0*
ISC 03 20:38:14.3±0.2**, 12.14N**±0.03×**141.04E**±0.03**, h37**km**, h37**km±2.0km**: pP-P, n335,** σ**0**^{s}**99**/307**, mb5.5**/127**, MS5.3**/54**, 16C-29D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.00	68	P	P	20 39 16.6	+1.8
	277nm,0.3s,baz=208,slow=6.4,SNR=81						
GUMO				S	S	20 40 07.2	+6.0
	baz=17,slow=19,SNR=2.1						
GUMO				LR	LR	20 40 45.1	
	comp=Z,23μm,19.1s,baz=222,slow=36						
GUMO	Guam	4.00	68	eP	P	20 39 15.8	+0.9
CBIJ	Chichi jima	14.92	4	P	P	20 41 44.5	0.0
	2.9nm,0.3s,baz=278,slow=19,SNR=2.3						
CBIJ				LR	LR	20 46 50.3	
	comp=Z,7μm,18.1s,baz=167,slow=34						
MATI	Mati	15.46	252	eP	P	20 41 50.3	-1.2
BUTP	Butuan	15.48	260	eP	P	20 41 53.7	+1.9
MSLP	Maasin	16.00	264	eP	P	20 41 58.3	-0.1
CNP	Catarman	16.00	273	eP	P	20 42 05.1	+6.6
DAV	Davao City (W)	16.05	253	eP	P	20 42 02.0	+2.9
BUKP	Musuan	16.29	256	eP	P	20 42 02.6	+0.5
PVCP	Virac	16.52	277	eP	P	20 42 10.6	+5.5
TBP	Tagbilaran	17.04	263	eP	P	20 42 11.3	-0.3
PAGZ	Pagadian	17.90	258	eP	P	20 42 23.0	+0.7
AUQP	San Andres	17.95	276	eP	P	20 42 28.0	+5.1
GUIM	Jordan	18.15	267	eP	P	20 42 26.4	+1.0
OTRP	Odiongan	18.59	273	eP	P	20 42 32.6	+1.8
IPIL	Ipil	18.69	258	eP	P	20 42 31.4	-0.8
POLP	Polilio Island	18.75	280	eP	P	20 42 33.0	+0.2
BOAC	Boac	18.76	276	eP	P	20 42 32.0	-1.0
JOW	Kunigami	18.91	322	P	P	20 42 33.5	-1.1
	0.5nm,0.3s,baz=169,slow=19,SNR=2.1						
JOW				LR	LR	20 48 05.6	
	comp=Z,10μm,21.4s,baz=109,slow=31						
CAUP	Cauayan	19.20	287	eP	P	20 42 41.4	+3.4
BALP	Baler	19.22	283	eP	P	20 42 38.6	+0.3
SGCP	Mt. Cagua	19.30	291	eP	P	20 42 41.8	+2.7
SJMP	San Jose	19.46	273	eP	P	20 42 39.8	-1.2
CUYO	Cuyo Island	19.66	268	eP	P	20 42 42.0	-1.1
TGY	Tagaytay City	19.67	278	P	P	20 42 43.8	+0.6
	48nm,0.3s,baz=208,slow=7.5,SNR=10						
TGY				LR	LR	20 49 41.7	
	comp=Z,9.3nm,18.4s,baz=76,slow=35						
APYP	Conner	19.94	289	eP	P	20 42 47.3	+1.2
LUBP	Lubang	20.33	277	eP	P	20 42 50.1	-0.1
ABRA	Dolores	20.39	288	eP	P	20 42 49.9	-0.9
SCZP	Santa Cruz	20.82	282	eP	P	20 42 56.0	+0.8
BOLP	Bolinao	20.90	284	eP	P	20 42 57.3	+1.2
JHJ	Hachijo jima 2	20.91	357	LR	LR	20 49 11.5	
	comp=Z,12μm,19.2s,MS5.3,baz=149,slow=31						
ENPP	El Nido	21.19	270	eP	P	20 42 59.1	+0.1
PPR	Puerto Princes	22.02	266	⇓eP	P	20 43 07.8	+0.4
PMG	Port Moresby	22.25	164	P	P	20 43 10.2	+0.5
	44nm,0.8s,mb4.9,baz=3.2,slow=12,SNR=18						
PMG	Port Moresby	22.25	164	d iP	P	20 43 09.9	+0.2
PMG	Port Moresby	22.25	164	eP	P	20 43 09.7	+0.1
	237nm,1.3s,mb5.5						
YHNB	Yeheng	22.40	307	eP	P	20 43 10.8	-0.2
JNU	Nakatsue	22.86	338	P	P	20 43 16.8	+1.1
	74nm,1.0s,mb5.0,baz=129,slow=8.7,SNR=14						
JNU				LR	LR	20 50 34.7	
	comp=Z,5μm,20.9s,MS5.0,baz=193,slow=32						
BATP	Bataraza	23.09	264	eP	P	20 43 19.4	+1.5
MJAR	Matsushiro Arr	24.43	354	P	P	20 43 28.5	-2.4
	14nm,1.2s,baz=173,slow=11,SNR=8.3						
MJAR				PcP	PcP	20 47 10.7	+0.2
	4.1nm,0.9s,baz=206,slow=6.0,SNR=4.9						
MJAR				LR	LR	20 53 08.0	
	comp=Z,3μm,18.4s,MS4.8,baz=155,slow=36						
MAJO	Matsushiro	24.43	354	eP	P	20 43 30.8	-0.1
MAT	Matsushiro	24.43	354	P	P	20 43 30.9	0.0
MAT				S	S	20 47 50.0	+4.4
MAT	Matsushiro	24.43	354	P	P	20 43 31.0	+0.1
MAT				eS	S	20 47 50.0	+4.4
MAT				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
MAT				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.0						
MAT	Matsushiro	24.43	354	P	P	20 43 31.0	+0.1
	comp=Z,25nm,1.2s,mb4.5						
MAT				eS	S	20 47 50.0	+4.4
MAT				LR	LR		
	comp=Z,5μm,20.0s,MS5.0						
KKM	Kota Kinabalu	25.23	258	eP	P	20 43 38.5	-0.2
KAKA	Kakadu	26.12	199	eP	Px	20 44 08.3	
	comp=Z,131nm,1.0s						
SSE	Sheshan	26.31	319	P	P	20 43 48.5	-0.1
SSE				AP	pP	20 43 59.5	+0.8
SSE				XP	sP	20 44 04.7	+1.6
SSE				PCP	PcP	20 47 13.7	-1.0
SSE				S	S	20 48 16.0	-0.8
SSE				XS		20 48 31.6	
SSE				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.9						
SSE				AMB	AMB		
	comp=Z,670nm,7.9s						
SSE				LR	LR		
	comp=N,3μm,25.5s,MS4.9						
SSE				LR	LR		
	comp=E,2μm,25.5s,MS4.9						
SSE				LR	LR		
	comp=Z,5μm,20.5s,MS5.0						
HKC	Hong Kong	27.54	295	⇑iP	P	20 44 03.0	+3.0
HKC				iS	S	20 48 48.0	+11
HNR	Honiara	28.50	138	P	P	20 44 07.3	-1.5
	comp=Z,19nm,0.4s,mb5.2,baz=230,slow=6.6,SNR=5.2						
HNR	Honiara	28.50	138	eP	P	20 44 08.3	-0.4
HNR				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.1						
HNR	Honiara	28.50	138	eP	P	20 44 08.2	-0.5
	comp=Z,34nm,0.8s,mb5.1						
WHN	Wuhan	30.74	311	eP	P	20 44 30.8	+2.3
WHN				S	S	20 49 33.3	+5.5
WHN				LR	LR		
	comp=N,2μm,9.2s						
WHN				LR	LR		
	comp=E,7μm,13.5s						
WHN				LR	LR		
	comp=Z,11μm,22.0s						
QIZ	Qiongzhong	30.79	287	P	P	20 44 28.7	-0.3
QIZ				PPP	PPP	20 45 51.5	+6.0
QIZ				S	S	20 49 29.1	+0.6
QIZ				AMB	AMB		
	comp=Z,40nm,2.4s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,680nm,5.3s						
QIZ				LR	LR		
	comp=E,2μm,15.1s						
QIZ				LR	LR		
	comp=Z,3μm,17.8s,MS5.0						
DL2	Dalian	31.75	330	P	P	20 44 37.0	-0.3
DL2				XP	sP	20 44 51.1	-1.4
DL2				PP	PP	20 45 42.6	-0.4
DL2				S	S	20 49 44.0	+0.5
DL2				XS		20 49 58.4	
DL2				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.9						
DL2				AMB	AMB		
	comp=Z,670nm,3.7s						
DL2				LR	LR		
	comp=N,2μm,17.8s,MS5.0						
DL2				LR	LR		
	comp=E,3μm,17.7s,MS5.0						
DL2				LR	LR		
	comp=Z,3μm,19.4s,MS5.0						
TIA	Tai'an	32.23	322	eP	P	20 44 41.4	-0.2
TIA				PP	PP	20 45 50.0	+0.7
TIA				eS	S	20 49 53.0	+1.9
TIA				LR	LR		
	comp=N,2μm,13.0s,MS5.2						
TIA				LR	LR		
	comp=E,2μm,13.0s,MS5.2						
KSM	Kuching	32.25	253	eP	P	20 44 40.5	-1.5
CTAO	Charters Tower	32.43	171	eP	P	20 44 43.5	0.0
CTAO				pmax	pmax		
	comp=Z,105nm,1.1s,mb5.6						
CTAO	Charters Tower	32.43	171	eP	P	20 44 43.5	+0.1
	comp=Z,105nm,1.1s,mb5.6						
WRAB	Tennant Creek	32.54	192	d iP	P	20 44 44.5	+0.1
WRAB	Tennant Creek	32.54	192	eP	P	20 44 44.1	-0.3
	comp=Z,153nm,0.9s,mb5.9						
WB2	Warramunga Arr	32.55	192	⇓iP	P	20 44 44.0	-0.5
WRA	Warramunga Arr	32.55	192	P	P	20 44 44.2	-0.3
	comp=Z,82nm,0.8s,mb5.7,baz=10.0,slow=10.0,SNR=283						
WRA				S	S	20 49 55.6	-0.7
	comp=Z,0.8nm,0.7s,baz=184,slow=22,SNR=3.1						
SNY	Shenyang	33.28	336	⇑P	P	20 44 52.3	+1.7
SNY				XP	sP	20 44 59.5	-6.2
SNY				PP	PP	20 46 00.7	-1.8
SNY				S	S	20 50 07.0	-0.3
SNY				LR	LR		
	comp=N,4μm,17.1s,MS5.4						
SNY				LR	LR		
	comp=E,6μm,16.2s,MS5.4						
SNY				LR	LR		
	comp=Z,8μm,23.5s						
MDJ	Mudanjiang	33.82	345	P	P	20 44 54.8	-0.4
MDJ				AP	pP	20 45 02.4	-3.2
MDJ				XP	sP	20 45 07.5	-2.9
MDJ				PP	PP	20 46 11.5	+2.5
MDJ				PCP	PcP	20 47 33.6	-0.3
MDJ				S	S	20 50 17.1	+1.4
MDJ				XS		20 50 32.2	
MDJ				SCP		20 51 15.8	
MDJ				PCS		20 51 19.5	
MDJ				AMB	AMB		
	comp=Z,410nm,5.2s						
MDJ				LR	LR		
	comp=N,4μm,29.4s,MS5.1						
MDJ				LR	LR		
	comp=E,2μm,25.2s,MS5.1						
MDJ				LR	LR		
	comp=Z,7μm,29.4s,MS5.2						
CN2	Changchun	34.30	340	eP	P	20 45 01.4	+2.1
CN2				eAP	pP	20 45 11.8	+2.1
CN2				ePP	PP	20 46 17.4	+2.4
CN2				eS	S	20 50 21.9	-1.2
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
CN2				AMB	AMB		
	comp=Z,830nm,9.0s						
CN2				LR	LR		
	comp=N,4μm,16.0s,MS5.5						
CN2				LR	LR		
	comp=E,5μm,16.0s,MS5.5						
CN2				LR	LR		
	comp=Z,6μm,17.0s,MS5.4						
ENH	Enshi	34.34	307	eP	P	20 44 59.6	-0.2
	comp=Z,222nm,1.7s,mb5.8						
YSS	Yuzh-Sakhalins	34.73	2	P	P	20 45 04.0	+1.0
YSS				e		20 46 23.0	
YSS				eS	S	20 50 30.0	+0.2
YSS				MLR	MLR		
	comp=N,2μm,16.0s,MS5.3						
YSS				MLR	MLR		
	comp=Z,3μm,16.0s,MS5.2						
YSS				MLR	MLR		
	comp=E,3μm,14.0s,MS5.3						
YSS	Yuzh-Sakhalins	34.73	2	eP	P	20 45 01.9	-1.1
GYA	Guiyang	35.30	299	⇓iP	P	20 45 09.5	+1.4
GYA				AP	pP	20 45 18.6	+0.1
GYA				XP	sP	20 45 21.8	-1.4
GYA				S	S	20 50 45.8	+7.1
GYA				SCP		20 51 20.6	
GYA				SS	SS	20 52 59.2	+2.1
GYA				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.4						
GYA				AMB	AMB		

GYA LR LR
comp=N,2μm,15.6s,MS5.2
GYA LR LR
comp=E,2μm,17.7s,MS5.2
GYA LR LR
comp=Z,3μm,20.1s,MS5.0
XAN Xi'an 36.47 312 P **P** **20 45 16.5 -1.4**
XAN AP pP 20 45 29.1 +0.8
XAN AMB AMB
comp=Z,20nm,2.4s,mb4.6
HABR Khabarovsk 36.56 353 *eP* **P** **20 45 19.2 +0.7**
HABR MLR MLR
comp=Z,2μm,19.0s,MS4.9
KKTK Khon Kaen 37.24 281 ⇓P **P** **20 45 24.6 +0.1**
comp=Z,432nm,1.0s,mb6.2
KLR Kul'dur 37.77 350 *eP* **P** **20 45 25.7 -3.0**
KLR *e* 20 45 43.0
KLR *eS* **S** **20 51 15.0 -1.4**
KLR *eSSS* SSS 20 54 23.5 -1.2
KLR pmax pmax
comp=Z,250nm,2.4s,mb5.5
KLR smax
comp=N,5μm,18.0s
KLR smax
comp=E,1μm,18.0s
KLR MLR MLR
comp=N,3μm,13.0s,MS5.3
KLR MLR MLR
comp=E,1μm,13.0s,MS5.3
KLR MLR MLR
comp=Z,4μm,13.0s,MS5.5
KMI Kunming 38.38 295 P **P** **20 45 34.9 +0.9**
KMI AP pP 20 45 45.3 +0.8
KMI XP sP 20 45 49.7 +0.6
KMI PP PP 20 47 08.2 +2.6
KMI PPP PPP 20 47 29.9 +1.6
KMI PCP PcP 20 47 46.6 -1.0
KMI S **S** **20 51 26.2 +0.3**
KMI PCS 20 51 36.6
KMI XS 20 51 43.8
KMI SCS ScS 20 55 39.8 -0.1
KMI AMB AMB
comp=Z,30nm,1.5s,mb4.8
KMI AMB AMB
comp=Z,1μm,4.4s
KMI LR LR
comp=N,3μm,19.1s,MS5.2
KMI LR LR
comp=E,2μm,16.6s,MS5.2
KMI LR LR
comp=Z,3μm,25.5s
HHC Hu-ho-hao-te 38.56 323 *eP* **P** **20 45 36.3 +1.0**
HHC AP pP 20 45 46.0 +0.2
HHC XP sP 20 45 50.2 -0.2
HHC PP PP 20 47 06.4 -1.1
HHC PCP PcP 20 47 49.2 +1.2
HHC S **S** **20 51 28.1 -0.4**
HHC PCS 20 51 37.1
HHC XS 20 51 44.7
HHC SCS ScS 20 55 42.5 +1.7
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
HHC AMB AMB
comp=Z,930nm,5.3s
HHC LR LR
comp=N,3μm,20.2s,MS5.2
HHC LR LR
comp=E,2μm,16.7s,MS5.2
HHC LR LR
comp=Z,4μm,19.0s,MS5.3
CD2 Chengdu 39.14 304 P **P** **20 45 40.3 +0.1**
CD2 S **S** **20 51 36.4 -1.0**
CD2 XS 20 51 56.8
CD2 AMB AMB
comp=Z,60nm,1.4s,mb5.1
CD2 AMB AMB
comp=Z,630nm,4.7s
CD2 LR LR
comp=N,2μm,14.1s
CD2 LR LR
comp=Z,1μm,14.4s,MS5.0
BTO Baotou 39.33 322 *eP* **P** **20 45 42.2 +0.5**
BTO AMB AMB
comp=Z,50nm,1.2s,mb5.1
NST Nakhon Sawan 39.82 280 P **P** **20 45 40.0 -6.0**
SNG Songkhla 40.12 267 P **P** **20 45 49.0 +0.5**
CHRT Chiangrai 40.31 286 ⇑P **P** **20 45 51.5 +1.4**
comp=Z,192nm,1.2s,mb5.7
NNT Nongplab 40.32 275 P **P** **20 45 50.5 +0.3**
KULM Kulim 40.46 264 *eP* **P** **20 45 51.1 -0.2**
HIA Hailar 41.00 339 *eP* **P** **20 45 56.0 +0.5**
HIA pmax pmax
comp=Z,6μm,1.9s
HIA Hailar 41.00 339 *eP* **P** **20 45 56.0 +0.6**
comp=Z,6μm,1.9s
LZH Lanzhou 41.10 312 ⇓P **P** **20 45 57.5 +1.0**
LZH AP pP 20 46 10.1 +3.1
LZH XP sP 20 46 14.2 +2.6
LZH PP PP 20 47 37.0 +2.7
LZH S **S** **20 52 03.2 -3.4**
LZH SS SS 20 55 06.2 +0.7
LZH AMB AMB
comp=Z,160nm,1.7s,mb5.4
LZH AMB AMB
comp=Z,850nm,5.5s
LZH LR LR
comp=E,5μm,16.5s
LZH LR LR
comp=Z,8μm,17.2s,MS5.6
DZM Mont Dzumac 42.15 144 P **P** **20 46 07.5 +2.2**
comp=Z,34nm,0.7s,mb5.1,baz=330,slow=7.5,SNR=45
PSI Prapat 42.72 261 LR LR 21 06 35.7
comp=Z,815nm,18.8s,MS4.6,baz=262,slow=40
PET Petropavlovsk 43.15 16 *eP* **P** **20 46 17.8 +4.7**
PET *eSS* SS 20 56 00.9 +18
PET pmax pmax
comp=Z,700nm,14.0s
PET MLR MLR
comp=Z,2μm,18.0s,MS5.0
STKA Stephens Creek 43.77 179 ⇓*iP* **P** **20 46 18.0 -0.4**
comp=Z,37nm,0.9s,mb5.1
STKA Stephens Creek 43.77 179 P **P** **20 46 18.5 +0.2**
comp=Z,50nm,0.9s,mb5.2,baz=353,slow=7.9,SNR=65
FORT Forrest 44.46 196 ⇓*iP* **P** **20 46 24.8 +0.9**
comp=Z,126nm,0.9s,mb5.7
GTA Gaotai 45.42 314 P **P** **20 46 32.0 +0.5**
GTA AP pP 20 46 42.0 -0.1
GTA XP sP 20 46 46.1 -0.5
GTA PCP PcP 20 48 11.1 +0.4
GTA PP PP 20 48 18.8 +0.4
GTA SCP 20 52 00.1
GTA S **S** **20 53 10.4 +0.9**
GTA XS 20 53 26.0
GTA SS SS 20 56 25.8 +1.4
GTA AMB AMB
comp=Z,30nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,1μm,5.7s
GTA LR LR
comp=N,2μm,17.5s,MS5.3
GTA LR LR
comp=E,2μm,17.9s,MS5.3
GTA LR LR
comp=Z,3μm,23.2s
ULN Ulaanbaatar 45.53 328 *eP* **P** **20 46 32.1 -0.2**
ULN pmax pmax
comp=Z,40nm,1.0s,mb5.3
ULN Ulaanbaatar 45.53 328 *eP* **P** **20 46 32.1 -0.2**
comp=Z,40nm,1.0s,mb5.3
CIT Chita 45.54 336 *eP* **P** **20 46 34.0 +1.7**
CIT *e* 20 48 09.1
CIT *e* 20 53 06.0
CIT pmax pmax
comp=Z,338nm,2.7s,mb5.8
SONM Songino Array 45.86 328 P **P** **20 46 35.1 +0.2**
comp=Z,13nm,1.0s,mb4.8,baz=130,slow=8.0,SNR=47
SONM PcP PcP 20 48 11.4 -0.7
comp=Z,10nm,1.0s,baz=149,slow=3.5,SNR=7.1
CLNS Chul'man 46.30 348 *eP* **P** **20 46 38.8 +0.6**
CLNS pmax pmax
comp=N,35nm,1.2s
CLNS pmax pmax
comp=Z,52nm,1.2s,mb5.3
CLNS pmax pmax
comp=E,17nm,1.1s
MA2 Magadan 47.90 7 P **P** **20 46 51.1 +0.3**
MA2 *e* 20 48 18.2
MA2 *eS* **S** **20 53 49.9 +5.4**
MA2 *e* 20 56 33.0
MA2 *eSSS* SSS 20 58 24.9 +0.2
MA2 MLR MLR
comp=Z,1μm,21.0s,MS4.8
MA2 Magadan 47.90 7⇑*eP* **P** **20 46 49.8 -1.0**
FX1 Attu Island--F 48.08 26 P **P** **20 46 53.3 +1.1**
comp=Z,139nm,1.0s,mb5.9,baz=87,slow=1.2,SNR=5.8
AGT Agartala 48.54 291 *ex* x 20 47 01.0
AGT *ex* x 20 47 48.0
KLBR Kellerberrin 48.88 207⇓*iP* **P** **20 46 58.1 -0.6**
comp=Z,175nm,1.8s,mb5.8
ZAK Zakamensk 49.04 329⇓*iP* **P** **20 47 00.4 +0.7**
ZAK pmax pmax
comp=Z,36nm,1.1s,mb5.3
LSA Lhasa 49.37 299 P **P** **20 47 03.4 +0.9**
LSA AP pP 20 47 15.9 +2.7
LSA PP PP 20 48 53.0 -4.0
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.3
LSA AMB AMB
comp=Z,850nm,5.0s
LSA LR LR
comp=N,650nm,23.0s,MS4.9
LSA LR LR
comp=E,1μm,23.0s,MS4.9
LSA LR LR
comp=Z,2μm,23.0s,MS5.0
LSA Lhasa 49.37 299 *eP* **P** **20 47 03.5 +1.0**
LSA pmax pmax
comp=Z,33nm,0.9s,mb5.4
LSA Lhasa 49.37 299 *eP* **P** **20 47 03.5 +1.0**
comp=Z,33nm,0.9s,mb5.4
TOO Toolangi 49.62 175⇓*iP* **P** **20 47 06.1 +1.8**
comp=Z,40nm,1.3s,mb5.3
TOO Toolangi 49.62 175⇓*iP* **P** **20 47 06.1 +1.8**
TOO pmax pmax
comp=Z,40nm,1.3s,mb5.3
IRK Irkutsk 49.72 331 *eP* **P** **20 47 05.9 +1.0**
IRK pmax pmax
comp=Z,234nm,2.9s,mb5.7
MUN Mundaring 49.90 208 *eP* **P** **20 47 05.8 -0.7**
BOD Bodaibo 50.01 341 *eP* **P** **20 47 06.8 -0.2**
BOD pmax pmax
comp=Z,36nm,2.6s,mb4.9
NWAO Narrogin (SRO) 50.25 206 *eP* **P** **20 47 08.1 -1.1**
NWAO pmax pmax
comp=Z,100nm,1.7s
NWAO Narrogin (SRO) 50.25 206 *eP* **P** **20 47 08.1 -1.1**
comp=Z,103nm,1.7s,mb5.6
YAK Yakutsk 50.48 353 *eP* **P** **20 47 10.9 +0.3**
YAK *e* 20 48 22.1
YAK *eS* **S** **20 54 21.7 +1.2**
YAK pmax pmax
comp=Z,90nm,1.0s,mb5.8
YAK pmax pmax
comp=N,66nm,1.3s
YAK pmax pmax
comp=E,17nm,1.3s
YAK pmax pmax
comp=Z,23nm,0.9s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK smax
comp=N,1μm,17.5s
YAK smax
comp=Z,721nm,11.5s
YAK smax
comp=E,321nm,13.4s
YAK Yakutsk 50.48 353 *i* Pr 20 47 09.8
MOY Mondy 50.97 329 *eP* **P** **20 47 16.1 +1.7**
MOY pmax pmax
comp=Z,309nm,3.7s
SEY Seymchan 51.36 7 *eP* **P** **20 47 17.2 0.0**
SEY *e* 20 49 11.8
SEY *eS* **S** **20 54 35.0 +2.4**
SEY 20 57 06.9
SEY SS SS 20 58 10.5 +4.2
SEY pmax pmax
comp=N,20nm,1.0s
SEY pmax pmax
comp=Z,80nm,1.0s,mb5.6
SEY pmax pmax
comp=E,20nm,1.7s
SEY smax
comp=N,6μm,16.2s
SEY smax
comp=E,3μm,21.3s
SEY Seymchan 51.36 7⇓*iP* **P** **20 47 17.4 +0.2**
JIRN Jiri 53.42 295 *eP* **P** **20 47 33.5 +0.4**
comp=E,657nm,1.6s,mb6.3
BOK Bokaro 53.44 291 *eP* **P** **20 47 33.5 +0.2**
BOK AMb AMB 20 47 36.9
comp=Z,217nm,1.5s,mb5.8
GUN Gumba 53.72 296 *eP* **P** **20 47 35.2 -0.1**
comp=Z,691nm,1.4s,mb6.4
PKI Pulchoki 54.10 295 *eP* **P** **20 47 37.8 -0.4**
comp=Z,409nm,1.4s,mb6.2
PKI Pulchoki 54.10 295 *eP* **P** **20 47 37.8 -0.4**
PKI pmax pmax
comp=Z,205nm,1.4s,mb5.9
KKN Kakani 54.24 296 *eP* **P** **20 47 38.8 -0.3**
comp=Z,326nm,1.4s,mb6.1
KKN Kakani 54.24 296 *eP* **P** **20 47 38.8 -0.3**
KKN pmax pmax
comp=Z,163nm,1.4s,mb5.8
DMN Daman 54.38 295 *eP* **P** **20 47 39.8 -0.3**
comp=Z,375nm,1.4s,mb6.1
GKN Gorkha 54.82 296 *eP* **P** **20 47 42.8 -0.6**
comp=Z,506nm,1.3s,mb6.4
WMQ Urumqi 55.48 315⇓*iP* **P** **20 47 48.1 +0.2**
WMQ AP pP 20 47 58.1 -0.7
WMQ XP sP 20 48 02.1 -1.0
WMQ PCP PcP 20 48 48.1 +0.5
WMQ PP PP 20 49 53.4 0.0
WMQ S **S** **20 55 28.7 +0.1**
WMQ SCS ScS 20 57 31.1 +0.6
WMQ SS SS 20 59 13.2 -0.2
WMQ AMB AMB
comp=Z,80nm,1.4s,mb5.6
WMQ AMB AMB
comp=Z,1μm,6.0s
WMQ LR LR
comp=N,2μm,20.0s,MS5.4
WMQ LR LR
comp=E,3μm,22.0s,MS5.4
WMQ LR LR
comp=Z,3μm,24.0s,MS5.3
KOLN Koldanda 55.72 295 *eP* **P** **20 47 48.3 -1.6**
comp=Z,429nm,1.4s,mb6.3
VIS Vishakhapatnam 55.86 283 *eP* **P** **20 47 50.8 -0.2**
VIS AMb AMB 20 47 54.7
comp=Z,134nm,1.4s,mb5.8
BILL Bilibino 58.24 11*dP* **P** **20 48 06.2 -1.0**
BILL pmax pmax
comp=Z,241nm,1.7s,mb6.0
BILL MLR MLR
comp=Z,700nm,17.0s,MS4.8
BILL Bilibino 58.24 11 *i* Pr 20 48 06.3
MK31 Makanchi Array 59.97 317 P **P** **20 48 19.2 -0.3**
MK31 pmax pmax
comp=Z,156nm,1.3s,mb5.9
MKAR Makanchi Array 59.97 317 P **P** **20 48 19.4 -0.2**
comp=Z,27nm,0.9s,mb5.3,baz=100,slow=7.4,SNR=71
MKAR Makanchi Array 59.97 317 *i* P **P** **20 48 19.3 -0.2**
MKAR pmax pmax
comp=Z,27nm,0.9s
HYB Hyderabad 60.43 283⇑*iP* **P** **20 48 22.0 -1.0**
comp=Z,120nm,1.0s,mb5.9
HYB *eS* **S** **20 56 40.0 +6.2**
HYB Hyderabad 60.43 283⇑*eP* **P** **20 48 22.0 -1.0**
HYB *eS* **S** **20 56 40.0 +6.2**
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.9
HYB Hyderabad 60.43 283⇑*eP* **P** **20 48 22.0 -1.0**
comp=Z,120nm,1.0s,mb5.9
HYB *eS* **S** **20 56 40.0 +6.2**
URZ Urewera 60.43 148 P **P** **20 48 22.7 -0.1**
comp=Z,7.8nm,0.5s,mb5.0,baz=289,slow=5.2,SNR=5.3
ZAL Zalesovo 60.67 326 P **P** **20 48 23.0 -1.2**
comp=Z,8.9nm,0.6s,mb5.0,baz=4.2,slow=6.3,SNR=48
BHPL Bhopal 61.20 290 *eP* **P** **20 48 26.8 -1.4**
BHPL AMb AMB 20 48 30.4
comp=Z,137nm,1.4s,mb5.9
NVS Novosibirsk 61.85 326⇓*iP* **P** **20 48 31.0 -1.1**
NVS *i* 20 49 10.6
NVS *i* S **S** **20 56 56.1 +4.8**
NVS *i* 20 58 20.4
NVS pmax pmax
comp=Z,318nm,2.5s,mb6.0
NVS pmax pmax
comp=N,76nm,2.0s
NVS pmax pmax
comp=E,121nm,2.0s
NVS smax
comp=E,65nm,2.6s
RPZ Rata Peaks 61.96 156 P **P** **20 48 32.1 -0.9**
comp=E,49nm,0.8s,mb5.7,baz=177,slow=1.1,SNR=23
RPZ Rata Peaks 61.96 156 P' **P** **20 48 31.7 -1.3**
KSH Kashi 63.17 308 *i* PR **P** **20 48 43.0 +1.9**
KSH AP pP 20 48 53.0 +0.8
KSH XP sP 20 48 57.3 +0.9
KSH PCP PcP 20 49 20.1 +1.9
KSH PP PP 20 51 03.1 +1.4
KSH *e*PPP PPP 20 52 35.4 +2.5
KSH *e*SCP 20 53 18.0
KSH *e*PCS 20 53 22.2
KSH S **S** **20 57 09.2 +1.1**
KSH XS 20 57 26.2
KSH PS PS 20 57 31.0 -0.5
KSH SCS ScS 20 58 29.3 +2.1
KSH *e*SS SS 21 01 17.0 +0.6
KSH AMB AMB
comp=Z,3μm,4.0s
KSH LR LR
comp=N,2μm,13.2s,MS5.6
KSH LR LR
comp=E,2μm,12.6s,MS5.6
ULHL Ulahol 63.31 311 P **P** **20 48 42.6 +0.6**
SNR=23
KURK Kurchatov 63.31 321 *eP* **P** **20 48 40.8 -1.1**
KURK pmax pmax
comp=Z,175nm,1.1s,mb6.1
KURK Kurchatov 63.31 321 *eP* **P** **20 48 40.8 -1.1**
comp=Z,175nm,1.1s,mb6.1
TNA Tin City 63.52 21 *eP* **P** **20 48 42.3 -0.7**
comp=Z,52nm,1.3s,mb5.4
AJM Ajmer 63.66 294 *eP* **P** **20 48 43.8 -0.8**
AJM AMb AMB 20 48 46.9
comp=Z,229nm,1.4s,mb6.0
TKM2 Tokmak 2 63.87 312 P **P** **20 48 46.8 +1.1**
SNR=30
KZA Kyzart 64.02 311 P **P** **20 48 47.4 +0.8**
SNR=80
KBK Karagaybulak 64.31 312 P **P** **20 48 49.7 +1.1**
SNR=30
CHMS Chumysh 64.50 312 P **P** **20 48 49.5 -0.2**
SNR=46
FRU Bishkek 64.58 312*eP* **P** **20 48 51.3 +1.1**
FRU pmax pmax
comp=Z,310nm,2.2s,mb6.0
FRU MLR MLR
comp=Z,2μm,19.0s,MS5.4
UCH Uchtor 64.58 311 P **P** **20 48 51.5 +1.2**
SNR=122
KAD Karad 64.60 283 *eP* **P** **20 48 49.1 -1.6**
KAD AMb AMB 20 48 53.0
comp=Z,117nm,1.4s,mb5.7
AAK Ala-Archa 64.64 311 P **P** **20 48 51.1 +0.4**
SNR=30
AAK Ala-Archa 64.64 311*dP* **P** **20 48 49.6 -1.1**
AAK pmax pmax
comp=Z,62nm,1.7s,mb5.4
AAK MLR MLR
comp=Z,2μm,18.0s,MS5.2
AAK Ala-Archa 64.64 311 *i* Pr **P** **20 48 49.6 -1.1**
USP Ospenovka 64.72 312 P **P** **20 48 51.8 +0.6**
SNR=31
EKS2 Erkin-Say 65.17 311 P **P** **20 48 53.8 -0.4**
SNR=46
AML Almayashu 65.17 311 P **P** **20 48 55.4 +1.3**
SNR=38
SVW2 Sparrevohn 66.70 28 *eP* **P** **20 49 03.9 +0.4**
TTA Tatalina 67.09 26 *eP* **P** **20 49 06.3 +0.4**
KDAK Kodiak Island 67.27 32 P **P** **20 49 07.7 +0.5**
comp=Z,29nm,1.0s,mb5.3,baz=274,slow=2.0,SNR=5.4
KDAK LR LR 21 19 00.7
comp=Z,1μm,19.4s,MS5.2,baz=247,slow=36
KKAR Karatay Array 67.60 312 *i* P **P** **20 49 09.0 -0.5**
KKAR pmax pmax
comp=Z,261nm,1.5s,mb6.0
BHJ Bhuj 68.34 290 *eP* **P** **20 49 14.2 -0.2**
BHJ AMb AMB 20 49 21.6
comp=Z,111nm,1.6s,mb5.6
VOSK Vostochnaya 68.36 322 P **P** **20 49 12.9 -1.2**
VOSK pmax pmax
comp=Z,91nm,1.4s,mb5.6
BVA0 Borovoye Array 68.76 322 *i* P **P** **20 49 16.3 -0.2**
BVA0 pmax pmax
comp=Z,29nm,1.2s,mb5.1
BVAR Borovoye Array 68.76 322 P **P** **20 49 16.1 -0.4**
comp=Z,24nm,0.4s,mb5.5,baz=107,slow=7.3,SNR=216
BVAR PP PP 20 51 45.7 -5.2
comp=Z,7.9nm,0.8s,baz=123,slow=6.8,SNR=6.2
BRVK Borovoye 68.83 322⇑*iP* **P** **20 49 16.8 -0.2**
IMA2 Indian Mountai 69.05 23 *eP* **P** **20 49 18.5 +0.4**
PMR Palmer 69.83 29 *eP* **P** **20 49 22.0 -1.0**
PMR pmax pmax
comp=Z,43nm,1.2s,mb5.2
PMR Palmer 69.83 29 *eP* **P** **20 49 22.0 -1.0**
comp=Z,43nm,1.2s,mb5.3
MCK McKinley 70.38 26 *eP* **P** **20 49 25.6 -0.7**
MCK pmax pmax
comp=Z,48nm,1.5s,mb5.2
MCK McKinley 70.38 26 *eP* **P** **20 49 25.6 -0.6**
comp=Z,48nm,1.5s,mb5.2
COLA College 71.09 25⇑*iP* **P** **20 49 30.2 -0.3**
ILAR Eielson Array 71.47 25 P **P** **20 49 30.9 -1.9**
comp=Z,7.0nm,0.6s,mb4.8,baz=249,slow=5.6,SNR=128
THY Trims Highway 71.72 27 *eP* **P** **20 49 34.9 +0.6**
PPT Papeete 74.59 112 *eS* S 20 59 27.4 +3.8
PPT *eSS* SS 21 04 09.6 -3.6
PPT *eLQ* 21 09 02.2
PPT *eLR* LR 21 12 17.6
comp=Z,4μm,30.0s,baz=291
PAE Paea 74.61 112 *eP* **P** **20 49 54.7 +2.5**
comp=Z,72nm,1.1s,mb5.5
SVE Sverdlovsk 74.68 326⇓*iP* **P** **20 49 52.0 +0.2**
SVE *e* 20 50 07.7
SVE *e* 20 59 27.0
SVE *e*PS PS 21 00 08.0 +4.1
SVE *e*SS SS 21 04 08.0 -5.8
SVE pmax pmax
comp=Z,288nm,1.7s,mb5.9
SVE MLR MLR
comp=N,400nm,16.0s,MS5.3
SVE MLR MLR
comp=E,1μm,16.0s,MS5.3
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.4
TVO Taravao 74.95 112 *eP* **P** **20 49 57.1 +3.0**
comp=Z,67nm,0.8s,mb5.6
AB31 Akbulak array 75.11 318 *i* P **P** **20 49 53.8 -0.6**
AB31 pmax pmax
comp=Z,20nm,0.6s,mb5.2
PMOR Pomariorio Ree 75.35 109 *eP* **P** **20 49 59.6 +3.2**
comp=Z,50nm,1.0s,mb5.4
ARU Arti 75.83 325*dP* **P** **20 49 58.0 -0.3**
ARU pmax pmax
comp=Z,189nm,1.7s,mb5.8
ARU MLR MLR
comp=Z,3μm,20.0s,MS5.6
ARU Arti 75.83 325 *i* Pr **P** **20 49 58.1 -0.2**
AKTK Aktyubinsk 76.31 319 P **P** **20 50 00.5 -0.7**
AKTO Aktyubinsk 76.31 319 P **P** **20 50 00.5 -0.7**
comp=Z,26nm,0.8s,mb5.2,baz=91,slow=7.7,SNR=52
TBI Tubuai 76.56 118 *eS* S 20 59 49.4 +4.1
TBI *eSS* SS 21 04 43.2 -0.5
TBI *eLQ* 21 10 01.7
TBI *eLR* LR 21 12 52.4
comp=Z,3μm,32.8s,baz=294
SOKR Solikamsk 76.72 329 *i* P **P** **20 50 03.9 +0.6**
SOKR S S 20 59 44.3 -1.9
SOKR pmax pmax
comp=Z,110nm,1.1s,mb5.7
SOKR MLR MLR

comp=Z,3µm,19.0s,MS5.6
INK Inuvik 77.12 22 P **P** **20 50 05.0 -0.5**
comp=Z,24nm,1.1s,mb5.0,baz=264,slow=7.0,SNR=29
DRV Dumont d'Urvil 78.59 180 P **P** **20 50 05.0 -8.5**
DRV Dumont d'Urvil 78.59 180 SKS SKS 21 00 34.0 +14
DLBC Dease Lake 79.21 32 P **P** **20 50 17.6 +0.4**
comp=Z,2.8nm,0.7s,baz=317,slow=10,SNR=5.2
TAOE Nuku Hiva Isla 81.05 101 *e*LR LR 21 15 15.7
comp=Z,2µm,23.2s
CASY Casey 81.38 192 *e*P **P** **20 50 28.5 0.0**
comp=Z,6.1nm,0.9s,mb4.5
CASY *e* 20 50 36.6
PECR Pechory 83.83 326⇓ *e*P **P** **20 50 40.4 -0.8**
PECR *e* pP 20 50 52.4 -0.2
PECR *i* S S 21 01 02.0 +1.7
PECR pmax pmax
comp=Z,2.0nm,1.6s
PECR pmax pmax
comp=Z,1µm,6.0s
PECR smax
comp=N,800nm,7.0s
PECR smax
comp=E,1µm,7.0s
PECR MLR MLR
comp=Z,3µm,20.0s,MS5.6
PECR MLR MLR
comp=N,800nm,19.0s,MS5.4
PECR MLR MLR
comp=E,1µm,20.0s,MS5.4
MAK Makhachkala 84.40 313*c* *i*P **P** **20 50 43.4 -1.0**
MAK *i* 20 50 48.7
MAK *i* S S 21 01 02.8 -3.5
MAK pmax pmax
comp=Z,113nm,0.9s,mb6.0
MAK MLR MLR
comp=Z,2µm,21.0s,MS5.5
LVZ Lovozero 84.89 339 *i* P **P** **20 50 47.0 +0.7**
LVZ *i* S S 21 01 03.9 -6.8
LVZ pmax pmax
comp=Z,84nm,1.1s,mb5.8
LVZ pmax pmax
comp=N,25nm,1.5s
LVZ pmax pmax
comp=E,18nm,1.1s
LVZ smax
comp=N,326nm,10.7s
LVZ smax
comp=Z,96nm,6.8s
LVZ smax
comp=E,508nm,11.1s
LVZ smax
comp=N,1µm,5.2s
LVZ smax
comp=Z,752nm,4.7s
LVZ smax
comp=E,725nm,5.9s
LVZ MLR MLR
comp=Z,1µm,22.0s,MS5.2
LVZ MLR MLR
comp=N,443nm,15.0s
LVZ MLR MLR
comp=E,1µm,25.0s
KLMR Klimovskoe 85.03 331 *e*P **P** **20 50 46.1 -1.0**
KLMR *e* 20 54 01.6
KLMR *e*S S 21 01 05.6 -6.6
KLMR pmax pmax
comp=Z,110nm,2.1s,mb5.6
KLMR pmax pmax
comp=Z,390nm,9.1s
KLMR smax
comp=E,1µm,5.1s
KLMR MLR MLR
comp=Z,4µm,24.0s,MS5.7
KBS Kingsbay 85.08 351 *e*P **P** **20 50 48.5 +1.4**
KBS *e*SKSa 21 01 07.9
KBS AMS AMS 21 25 44.2
comp=Z,438nm,23.4s,MS4.8
KBS Kingsbay 85.08 351 *e*P **P** **20 50 49.2 +2.1**
KBS *e* 21 01 08.7
KBS MLR MLR
comp=Z,438µm,23.4s
APA Apatity 85.45 338⇑ *i*P **P** **20 50 48.0 -1.1**
APA *i* 20 51 04.0
APA *i*S S 21 01 15.0 -1.1
APA *e*PS PS 21 02 08.0 -11
APA pmax pmax
comp=Z,160nm,1.5s,mb5.9
APA pmax pmax
comp=Z,1µm,4.0s
APA MLR MLR
comp=Z,2µm,14.0s,MS5.6
YKA Yellowknife Ar 85.85 27 P **P** **20 50 51.2 +0.1**
comp=Z,1.9nm,0.6s,mb4.5,baz=289,slow=5.3,SNR=18
HASS Wahat al Ahsa' 86.12 295 P **P** **20 50 53.5 +0.1**
DGRG David-gareji 86.26 311 P **P** **20 50 53.3 -0.4**
BJO Bjornoya 86.42 347 AMS AMS 21 30 12.2
comp=Z,1µm,19.7s,MS5.3
VRHR Novokhopersk 86.49 321 *e*P **P** **20 50 54.0 -0.5**
VRHR pmax pmax
comp=Z,30nm,0.7s,mb5.6
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,9.0nm,0.6s
SAMG Sameba 86.61 312 P **P** **20 50 55.7 +0.3**
MTA Mtatsminda 86.63 312 P **P** **20 50 55.2 -0.2**
TI2 Plekhanov 86.65 312 *i* P **P** **20 50 55.6 0.0**
TI2 *i* S S 21 01 28.0 -0.3
TI2 pmax pmax
comp=Z,40nm,0.6s,mb5.8
TBLG Delisi 86.66 312 P **P** **20 50 55.6 0.0**
QRN Al-Qurain 86.95 299 AMb AMB 20 51 00.0
comp=Z,108nm,1.1s,mb6.0
UMR Umm Al-Rimmam 86.95 299 *e*P **P** **20 50 56.9 -0.4**
UMR AMb AMB 20 51 00.2
comp=Z,89nm,1.2s,mb5.9
GNI Garni 87.02 310 P **P** **20 50 57.3 -0.1**
comp=Z,6.1nm,0.8s,mb4.9,baz=177,slow=8.4,SNR=11
GNI Garni 87.02 310*c* *i*P **P** **20 50 58.6 +1.2**
GNI pmax pmax
comp=Z,86nm,1.7s
KBD Kabd 87.05 299 *e*P **P** **20 50 58.0 +0.2**
KBD AMb AMB 20 51 00.6
comp=Z,180nm,0.9s,mb6.3
GOF Gofitskoye 87.08 315 *e*P **P** **20 50 53.7 -3.9**
MIB Mutribah 87.22 300 *e*P **P** **20 50 57.9 -0.7**
MIB AMb AMB 20 51 01.6
comp=Z,135nm,0.9s,mb6.2
RDF Al-Radifah 87.23 299 *e*P **P** **20 50 59.0 +0.3**
RDF AMb AMB 20 51 01.4
comp=Z,88nm,1.1s,mb5.9
ARCES ARCESS Array B 87.29 341 P **P** **20 50 57.5 -0.5**
comp=Z,46nm,0.9s,mb5.7,baz=66,slow=6.2,SNR=92
ARE0 ARCESS Array S 87.29 341 *e*P **P** **20 50 57.7 -0.3**
ONI Oni 87.39 313 P **P** **20 50 59.4 +0.3**
NAY Al-Naaiem 87.42 299 *e*P **P** **20 50 58.7 -0.9**
NAY AMb AMB 20 51 02.4
comp=Z,108nm,1.1s,mb6.0
MOS Moscow 87.48 327*c* *i*P **P** **20 50 58.6 -0.6**
MOS *e* pP 20 51 07.8 -2.9
MOS *e*S S 21 01 42.1 +6.3
MOS pmax pmax
comp=Z,100nm,1.4s,mb5.8
MOS MLR MLR
comp=N,1µm,20.0s,MS5.5
MOS MLR MLR
comp=E,1µm,20.0s,MS5.5
MOS MLR MLR
comp=Z,4µm,20.0s,MS5.9
KIV Kislovodsk 87.60 314⇑ *e*P **P** **20 50 59.7 -0.4**
KIV pmax pmax
comp=Z,21nm,1.3s,mb5.2
KIV MLR MLR
comp=Z,2µm,21.0s,MS5.4
VOR Voronezh 87.77 322 *e*P **P** **20 51 00.0 -0.7**
VOR *e**SP sP 20 51 12.0 -4.0
VOR pmax pmax
comp=Z,100nm,2.3s,mb5.6
VRSR Storozhevoye 87.93 322 *e*P **P** **20 51 00.7 -0.8**
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
VRSR pmax pmax
comp=N,6.0nm,2.1s
VRSR pmax pmax
comp=E,7.0nm,1.1s
JOF Joensuu 88.01 334 *e*p **P** **20 50 59.5 -2.1**
comp=E,52nm,1.0s,mb5.7
OBN Obninsk 88.25 326*d* *i*P **P** **20 51 02.1 -0.8**
OBN *e**PP pP 20 51 17.8 +3.4
OBN *e* 21 01 22.9
OBN *e*SS SS 21 07 33.5 -2.5
OBN pmax pmax
comp=Z,144nm,1.7s,mb5.9
OBN MLR MLR
comp=Z,3µm,19.0s,MS5.8
OBN Obninsk 88.25 326 *i* Pr 20 51 02.2
OBN LR LR
comp=Z,3µm,19.0s,MS5.8
MOD Modoc 88.33 48 *e*P **P** **20 51 03.5 -0.2**
comp=Z,22nm,1.3s,mb5.2
NEW Newport 88.78 41 P **P** **20 51 05.9 +0.3**
comp=Z,5.6nm,1.0s,mb4.9,baz=276,slow=2.9,SNR=8.0
BHD Baghdad 88.91 304 *ex* x 20 51 06.5
MSL Mosul 89.20 307 *ex* x 20 51 09.0
TRO Tromso 89.21 343 *e*P **P** **20 51 06.7 -0.6**
TRO *e*SKS SKS 21 01 49.3 +17
TRO *e*SS SS 21 07 51.7 +2.2
TRO AMS AMS 21 34 38.5
comp=Z,2µm,21.6s,MS5.5
TRO Tromso 89.21 343 *e*P **P** **20 51 06.7 -0.5**
TRO *e* 21 01 51.9
TRO MLR MLR
comp=Z,1817µm,21.6s
CMB Columbia Colle 89.25 51 *e*P **P** **20 51 08.5 +0.3**
CMB pmax pmax
comp=Z,13nm,1.3s,mb5.1
CMB Columbia Colle 89.25 51 *e*P **P** **20 51 08.5 +0.4**
comp=Z,12nm,1.3s,mb5.1
RKT Rikitea 89.27 114 *e*SKSac 21 01 35.2
RKT *e*SS SS 21 07 55.2 +3.8
RKT *e*LQ 21 15 16.1
RKT *e*LR LR 21 19 08.1
comp=Z,2µm,30.8s,baz=291
PUL Pulkovo 89.71 332 *i* P **P** **20 51 10.2 +0.5**
PUL *i* 20 54 49.5
PUL pmax pmax
comp=Z,109nm,0.6s,mb6.4
PUL pmax pmax
comp=N,85nm,0.7s
PUL pmax pmax
comp=E,140nm,0.8s
PUL MLR MLR
comp=Z,2µm,20.0s,MS5.6
PUL MLR MLR
comp=N,1µm,21.0s,MS5.6
PUL MLR MLR
comp=E,2µm,21.0s,MS5.6
PUL Pulkovo 89.71 332⇑ *i*P **P** **20 51 10.3 +0.6**
SOC Sochi 89.77 315 *e*P **P** **20 51 08.5 -1.9**
SOC *e* 20 54 44.1
SOC *e*S S 21 01 35.9 -21
SOC *e* 21 01 56.1
SOC *e*SS SS 21 07 50.9 -7.5
SOC pmax pmax
comp=Z,21nm,0.9s,mb5.5
SOC MLR MLR
comp=Z,2µm,22.0s,MS5.5
VNDA Vanda 90.29 176 *e*P **P** **20 51 12.9 +0.7**
MZLS Mizel 90.36 295 P **P** **20 51 13.9 +0.3**
DAG Danmarks Havn 90.45 355⇑ *i*P **P** **20 51 12.5 -0.4**
comp=Z,19nm,1.1s,mb5.3
DAG Danmarks Havn 90.45 355⇑ *e*P **P** **20 51 12.5 -0.4**
DAG pmax pmax
comp=Z,19nm,1.1s,mb5.3
DAG Danmarks Havn 90.45 355⇑ *e*P **P** **20 51 12.5 -0.4**
comp=Z,19nm,1.1s,mb5.3
KAF Kangasniemi 90.46 335 *e*p **P** **20 51 11.4 -1.8**
comp=Z,56nm,0.9s,mb5.9
KAF Kangasniemi 90.46 335 *e*P **P** **20 51 11.4 -1.8**
KAF pmax pmax
comp=Z,56nm,0.9s,mb5.9
NVAR Mina Array Bea 90.73 51 P **P** **20 51 15.0 -0.1**
comp=Z,2.8nm,0.7s,mb4.7,baz=260,slow=4.3,SNR=14
MNV Mina 90.84 50 *e*P **P** **20 51 16.0 +0.4**
MNV pmax pmax
comp=Z,11nm,1.2s,mb5.1
MNV Mina 90.84 50 *e*P **P** **20 51 15.9 +0.3**
comp=Z,11nm,1.2s,mb5.1
FINES FINESS Array B 90.86 334 P **P** **20 51 13.8 -1.3**
comp=Z,19nm,0.5s,mb5.7,baz=66,slow=5.7,SNR=68
FINES PKIKP 20 56 08.1
comp=Z,2.0nm,0.7s,baz=37,slow=6.9,SNR=4.8
FINES FINESS Array B 90.86 334 *i* P **P** **20 51 13.8 -1.3**
FINES pmax pmax
comp=Z,19nm,0.5s
FINES FINESS Array B 90.86 334 P **P** **20 51 13.8 -1.4**
ANN Anapa 90.98 316 *e*P **P** **20 51 14.7 -1.4**
ANN *e* 21 01 49.5
ANN *e*PS PS 21 03 22.3 -2.7
ANN *e*SS SS 21 08 14.2 -1.3
ANN pmax pmax
comp=Z,76nm,1.1s,mb5.9
ANN MLR MLR
comp=N,876nm,25.0s,MS5.4
ANN MLR MLR
comp=E,2µm,25.0s,MS5.4
ANN MLR MLR
comp=Z,2µm,25.0s,MS5.4
TPH Tonopah 91.65 51 *e*P **P** **20 51 20.2 +0.9**
VSU Vasula 91.94 331*d* *i*P **P** **20 51 19.4 -0.8**
VSU Vasula 91.94 331 *i* Pr **P** **20 51 19.5 -0.7**
HLID Hailey 92.01 45 *e*P **P** **20 51 21.9 +1.1**
comp=Z,5.4nm,1.1s,mb4.8
ELK Elko 92.32 48 P **P** **20 51 23.2 +0.9**
comp=Z,2.7nm,0.9s,mb4.6,baz=278,slow=3.5,SNR=9.4
ELK Elko 92.32 48 *e*P **P** **20 51 22.8 +0.5**
MOR8 Moi Rana 92.64 341⇓ *i*P **P** **20 51 21.3 -1.9**
MOR8 AMb AMB 20 51 24.3
comp=Z,40nm,1.1s,mb5.8
MOR8 Moi Rana 92.64 341⇓ *i*P **P** **20 51 21.3 -1.9**
comp=Z,40nm,1.1s,mb5.8
TPNV Topopah Spring 92.72 51 *e*P **P** **20 51 24.9 +0.6**
TPNV pmax pmax
comp=Z,27nm,1.8s,mb5.4
TPNV Topopah Spring 92.72 51 *e*P **P** **20 51 24.9 +0.6**
comp=Z,27nm,1.8s,mb5.4
TATS Tathlith 92.97 291 P **P** **20 51 27.1 +1.3**
MNK Minsk 93.16 328 *e*P **P** **20 51 23.0 -2.8**
QLMT Earthquake Lak 93.60 43 *e*P **P** **20 51 29.4 +1.3**
AKASG Malin Array Be 94.00 324 *i* P **P** **20 51 27.9 -1.8**
comp=Z,6.6nm,0.9s,mb5.1,baz=55,slow=4.4,SNR=30
AKASG Malin Array Be 94.00 324 *i* P **P** **20 51 28.2 -1.5**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
LDFC Landfair 94.16 53 *e*P **P** **20 51 32.1 +1.3**
DUG Dugway 94.25 48 *e*P **P** **20 51 30.7 -0.4**
DUG pmax pmax
comp=Z,6.0nm,1.2s,mb4.9
DUG Dugway 94.25 48 *e*P **P** **20 51 30.7 -0.4**
comp=Z,6.1nm,1.2s,mb4.9
NSS Namsos 94.48 340 AMS AMS 21 37 05.2
comp=Z,2µm,18.2s,MS5.6
ARUT Antelope Range 94.58 50 *e*P pP 20 51 41.3 -2.9
BRTR Keskin Array B 95.31 312 P **P** **20 51 34.1 -1.9**
comp=Z,2.7nm,1.0s,mb4.6,baz=90,slow=3.7,SNR=13
SUMG Summit 95.47 360 *e*P **P** **20 51 35.0 -1.0**
comp=Z,10nm,1.0s,mb5.2
PDAR Pinedale Array 95.62 44 P **P** **20 51 38.3 +1.0**
comp=Z,0.4nm,0.8s,baz=270,slow=1.5,SNR=4.6
PDAR PP PP 20 55 28.8 -2.3
comp=Z,5.2nm,1.3s,baz=297,slow=3.3,SNR=10
SUW Suwalki 95.80 328 *e*P **P** **20 51 37.2 -0.6**
SUW *e*pP pP 20 51 48.5 -0.9
SUW *e*SKS SKS 21 02 14.5 +4.7
SUW MLR MLR 21 36 06.2
comp=Z,2µm,20.7s,MS5.6
HFS Hagfors 96.66 336 P **P** **20 51 40.0 -1.6**
comp=Z,3.3nm,0.8s,mb4.8,baz=90,slow=1.4,SNR=8.0
NB2 NORSAR Subarra 97.03 338 P **P** **20 51 41.3 -2.0**
comp=Z,32nm,1.7s,mb5.5,baz=51,slow=4.6
NB2 NORSAR Subarra 97.03 338 P **P** **20 51 41.3 -2.0**
baz=51,slow=4.8
NB2 NORSAR Subarra 97.03 338 P **P** **20 51 41.3 -2.0**
NB2 pmax pmax
comp=Z,33nm,1.7s,mb5.5
NOA NORSAR Array B 97.03 338 P **P** **20 51 41.7 -1.6**
comp=Z,4.0nm,0.8s,mb4.9,baz=50,slow=4.8,SNR=9.1
KWP Kalwaria 98.22 325 *e*P **P** **20 51 49.2 +0.3**
KWP *e*S S 21 03 13.7 +3.5
KWP MLR MLR 21 36 29.8
comp=Z,3µm,22.9s,MS5.8
KWP Kalwaria 98.22 325 *e*P **P** **20 51 49.2 +0.2**
KWP *e*S S 21 03 13.7 +3.5
KWP MLR MLR
comp=Z,3µm,22.9s,MS5.8
MLR Muntele Rosu 98.23 320 P **P** **20 51 48.4 -0.7**
comp=Z,2.0nm,0.6s,mb4.8,baz=81,slow=6.5,SNR=3.5
KONO Kongsberg 98.55 337 *e* Px 20 43 52.9
KONO *e*SS SS 21 10 00.4 -1.8
KOLS Kolonicke sedl 98.82 324 *e*P **P** **20 51 51.1 -0.6**
STHS Stebnicka Huta 99.16 325 *e*P **P** **20 51 52.9 -0.3**
STHS *e* 20 52 17.2
CRVS Cervenica-Dubn 99.30 324 *i* P **P** **20 51 54.0 +0.2**
BER Bergen 99.58 339 *e*SS SS 21 10 18.8 +2.3
BER AMS AMS 21 38 26.5
comp=Z,1µm,17.5s,MS5.5
KECS Kecovo 100.06 324 *e*P P 20 51 57.5 +0.1
OKC Ostrava-Krasne 100.64 326 *e*PDIF P 20 52 00.5 +0.6
OKC AMS AMS 21 40 20.0
comp=Z,3µm,18.2s
VYHS Vyhne 100.99 325 *e*P P 20 52 01.2 -0.3
KSP Ksiaz 101.06 328 *e*P P 20 52 01.7 0.0
KSP *e*SKS SKS 21 02 36.4 -0.2
KSP MLR MLR 21 41 21.9
comp=Z,4µm,18.5s,MS6.0
KSP Ksiaz 101.06 328 *e*P P 20 52 01.2 -0.6
KSP *e*PP PP 20 56 10.0 -3.4
KSP *e*SP SP 21 05 07.0 -2.2
KSP *e*SS SS 21 10 33.0 -4.5
KSP LR LR
comp=Z,5µm,18.5s,MS6.0
DPC Dobruska-Polom 101.33 328 *e*PDIF P 20 52 03.9 +0.9
UPC Upice 101.40 328 *e*PDIF P 20 52 04.2 +0.9
VRAC Vranov 101.78 327 P P 20 52 04.8 -0.2
comp=Z,2.0nm,0.3s,baz=104,slow=20,SNR=5.2
PVCC Panska Ves 102.13 328 *e*PDIF Pdif 20 52 06.5 -0.1
BRG Berggiesshubel 102.24 329 *e*P Pdif 20 52 06.7 -0.4
BRG 20 56 28.0
BRG pmax pmax
comp=Z,12nm,1.3s
BRG MLR MLR
comp=Z,2µm,22.0s,MS5.7
BRG Berggiesshubel 102.24 329 *e*Pdif Pdif 20 52 06.7 -0.4
comp=Z,12nm,1.3s
BRG PP PP 20 56 28.0 +6.1
BRG *e* 21 05 24.0
BRG SS SS 21 11 00.0 +5.9
BRG LR LR
comp=Z,2µm,22.0s,MS5.7
TREC Trest 102.38 327 *e*PDIF Pdif 20 52 08.5 +0.8
CLL Collm 102.45 330 *i* PDIF Pdif 20 52 07.4 -0.6
CLL *e* 20 52 22.0
CLL *e* 20 55 24.0
CLL *e*PP PP 20 56 18.0 -5.5
CLL *e*PS PS 21 05 21.0 -7.0
CLL *e*PPS PPS 21 06 13.0 -7.0
CLL *e* 21 07 10.0
CLL *e*SS SS 21 11 03.0 +6.0
CLL Collm 102.45 330 *i* P Pdif 20 52 07.4 -0.6
CLL *e* 20 56 18.0
CLL pmax pmax
comp=Z,15nm,1.3s
CLL MLR MLR
comp=Z,2µm,18.4s,MS5.8
CLL Collm 102.45 330 *i* Pdif Pdif 20 52 07.4 -0.6
comp=Z,15nm,1.3s
CLL *e*pP 20 52 22.0
CLL *e*PP PP 20 56 18.0 -5.5
CLL LR LR
comp=Z,2µm,18.4s,MS5.8
PRU Pruhonice 102.47 328 *e*PDIF Pdif 20 52 08.7 +0.6
PRU AMS AMS 21 42 10.0
comp=Z,2µm,17.6s
NKC Novy Kostel 103.39 329 *e*PDIF Pdif 20 52 12.3 +0.1
NKC AMS AMS 21 38 40.0
comp=Z,3µm,25.2s
KHC Kasperske Hory 103.48 328 *e*PDIF Pdif 20 52 11.0 -1.6
KHC AMS AMS 21 42 40.0
comp=Z,3µm,19.5s
GERES GERESS Array B 103.59 327 Pdiff Pdif 20 52 12.4 -0.7
comp=Z,1.8nm,0.9s,baz=34,slow=4.8,SNR=9.4
MBAR Mbarara 109.96 274 *e*P Pdif 20 52 48.1 +6.1
EBR Ebro Roquetas 115.91 328 *e*P Pdif 20 53 04.0 -3.5
SNAA Sanae 116.62 192 *e* PKPdf 20 56 59.3 +5.1
SNAA Sanae 116.62 192 *e* PKPdf 20 57 11.4 +17
SNAA Sanae 116.62 192 PKPdf PKPdf 20 56 51.8 -2.4
SNAA *e* 20 56 59.3
SNAA *e* 20 57 11.4
VNA2 Neumayer--Watz 118.11 191 *e* PKPdf 20 57 07.7 +11
VNA2 Neumayer--Watz 118.11 191 *e* PKPdf 20 57 18.6 +22
VNA2 Neumayer--Watz 118.11 191 PKPdf PKPdf 20 56 58.3 +1.2
VNA2 *e* 20 57 07.7
VNA2 *e* 20 57 18.6
VNA3 Neumayer Olymp 118.27 190 *e* PKPdf 20 57 05.0 +7.6
VNA3 Neumayer Olymp 118.27 190 *e* PKPdf 20 57 15.1 +18
VNA3 Neumayer Olymp 118.27 190 PKPdf PKPdf 20 56 56.1 -1.3
VNA3 *e* 20 57 05.0
VNA3 *e* 20 57 15.1
ESDC Sonseca Array 119.04 330 PP PP 20 58 21.7 -2.8
comp=Z,4.6nm,1.1s,baz=19,slow=7.0,SNR=6.0
TORD Torodi Ar. Bea 132.49 301 PKP PKPdf 20 57 25.8 -0.4
comp=Z,0.7nm,0.7s,baz=25,slow=2.1,SNR=6.7
TORD PP PP 20 59 44.8 -9.1
comp=Z,1.7nm,0.9s,baz=68,slow=4.5,SNR=6.3
PLCA Paso Flores 140.25 141 PKP PKPdf 20 57 39.1 -0.6
comp=Z,7.5nm,1.0s,baz=153,slow=2.3,SNR=4.1
SDV Santo Domingo 142.22 58 *e*PKP PKPdf 20 57 41.6 -2.4
TRQA Tornquist 147.01 145 *e*PKP PKPdf 20 57 51.9 +0.4
TRQA *e*PKPbc PKPdf 20 57 55.1 +3.6
ARE Arequipa 148.21 102 *e*PKP2 PKPab 20 57 58.0 -4.5
LPAZ La Paz 151.44 102 PKP PKPdf 20 58 02.5 +3.4
comp=Z,11nm,1.2s,baz=330,slow=1.9,SNR=20
LPAZ PKPbc PKPdf 20 58 08.8 +10
comp=Z,40nm,0.9s,baz=280,slow=2.2,SNR=88
LPAZ La Paz 151.44 102 *e*PKIKP PKPdf 20 58 02.6 +3.5
LPAZ *e* 20 58 08.1
SAML Samuel 155.98 85 *e*PKPdf PKPdf 20 58 06.7 +1.3
SAML *e* 20 58 16.3

*IDC **03** 20:59:12.2±1.1, 12.26N×140.86E, mb4.9/7, mb1 5.0/7, mb1mx4.6/19, mbtmp4.9/7, Error ellipse: s-maj=70.4km s-min=23.9km az=65.0*
ISC 03 20:39:15.8±0.9, 12.1N±0.2×140.4E±0.2, h33km, n8, σ1§24/8, mb4.8/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BALP	**Baler**	**18.63**	**284**	*e*P	**P**		**20 43 31.1**	**-2.1**
WRA	**Warramunga Arr**	**32.34**	**191**	P	**P**		**20 45 46.0**	**+1.5**
	17nm,0.9s,mb4.9,baz=9.9,slow=10.0,SNR=2.2							
DZM	**Mont Dzumac**	**42.46**	**143**	P	**P**		**20 47 08.3**	**-1.4**
	12nm,0.7s,mb4.6,baz=306,slow=7.1,SNR=2.1							
BVAR	**Borovoye Array**	**68.45**	**322**	P	**P**		**20 50 18.0**	**+1.5**
	11nm,0.7s,mb5.0,baz=108,slow=7.0,SNR=1.6							
AKTO	**Aktyubinsk**	**75.97**	**319**	P	**P**		**20 51 02.5**	**+1.3**
	5.7nm,0.7s,mb4.6,baz=83,slow=13,SNR=1.9							
ARCES	**ARCESS Array B**	**87.17**	**341**	P	**P**		**20 51 59.4**	**0.0**
	9.6nm,0.8s,mb5.1,baz=68,slow=7.5,SNR=4.0							
FINES	**FINESS Array B**	**90.67**	**334**	P	**P**		**20 52 15.6**	**-0.6**
	9.1nm,0.7s,mb5.2,baz=72,slow=6.0,SNR=3.4							
NOA	**NORSAR Array B**	**96.87**	**338**	P	**P**		**20 52 43.9**	**-0.6**
	0.9nm,0.7s,mb4.3,baz=51,slow=4.7,SNR=2.0							

*IDC **03** 20:52:30.5±1.8, 33.75N×46.93E, mb3.8/9, mb1 3.9/11, mb1mx3.7/22, mbtmp3.8/11, Error ellipse: s-maj=38.8km s-min=20.5km az=165.0*
*TEH **03** 20:52:33.3, 34.05N×47.11E, h10km, Mn3.8*
*NEIC **03** 20:52:33.0, 34.05N×47.11E, h10km, MN3.8(TEH), After TEH.*
*CSEM **03** 20:52:34.6±0.1, 34.08N×46.96E, h25km, mb4.6/6, ML4.4/2, Error ellipse: s-maj=2.6km s-min=1.9km az=95.0*
*THR **03** 20:52:35.8±0.9, 34.14N×47.14E, h15km, ML3.6*
*KISR **03** 20:52:35.5±0.9, 33.74N×47.23E, h4km, 999km, ML3.5*
*MOS **03** 20:52:37.4±1.0, 34.27N×46.87E, h33km, mb4.6/6, Error ellipse: s-maj=22.6km s-min=15.1km az=106.0*
ISC 03 20:52:35.4±0.8, 34.06N±0.02×46.93E±0.05, h32km±7km, n61, σ1§05/69, mb3.7/9, 1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.40**	**312**	Pg	**Pb**		**20 52 44.6**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
IKOM	Komasi	0.50	77	Pg	Pb	20 52 40.0	-6.0
IDHR	Dehrash	0.78	325	Pg	Pb	20 52 49.7	-0.8
ILIN	Laeen	0.85	2	Pg	Pn	20 52 49.8	-1.5
BHD	Baghdad	2.27	250	*e*x	x	20 53 20.0	
BHD				*e*x	x	20 53 45.0	
SHGR	Shooshtar-Gavs	2.50	141	*e*Pn	Pn	20 53 17.3	+2.4
SHGR				Sn	Sn	20 53 47.6	+2.9
SHGR				AML	AML	20 54 09.2	
	comp=N,258nm,0.5s						
SHGR	Shooshtar-Gavs	2.50	141	*e*Pn	Pn	20 53 17.3	+2.4
	SNR=52						
SHGR				Sn	Sn	20 53 47.6	+2.9
	comp=N,258nm,0.5s,SNR=52						
ASAO	Ashtian	2.61	78	*e*Pn	Pn	20 53 17.9	+1.4
ASAO				*e*Sg	Sn	20 53 51.9	+4.6
ASAO				AML	AML	20 54 00.8	
	comp=N,359nm,0.6s						
ASAO	Ashtian	2.61	78	*e*Pn	Pn	20 53 17.9	+1.5
	SNR=52						
ASAO				*e*Sg	Sn	20 53 51.9	+4.6
	comp=N,359nm,0.6s,SNR=90						
IRAZ	Razeghan	2.81	61	Pn	Pn	20 53 22.3	+3.0
IMHD	Mahdasht	3.48	61	Pn	Pn	20 53 29.4	+0.7
IPIR	Pirpir	3.59	111	Pn	Pn	20 53 29.0	-1.3
IBST	Bostanabad	3.63	360	Pn	Pn	20 53 32.8	+1.9
IAZR	Azarshahr	3.69	348	Pn	Pn	20 53 30.7	-1.0
THKV	Tehran--Karaj	3.73	59	*e*Pn	Pn	20 53 32.6	+0.2
MSL	Mosul	3.85	306	*e*x	x	20 53 51.0	
MSL				*e*x	x	20 54 23.0	
CHTH	Charan	3.91	61	*e*Pn	Pn	20 53 34.9	+0.1
IKLH	Kalahroud	3.95	100	Pn	Pn	20 53 34.4	-1.0
IVRN	Varamin	4.07	75	Pn	Pn	20 53 36.9	-0.3
ITBZ	Tabriz	4.21	352	Pn	Pn	20 53 41.1	+2.0
MIB	Mutribah	4.26	175	*e*P	Pn	20 53 41.0	+1.1
MIB				*e*S	Sn	20 54 29.1	0.0
IAFJ	Afjeh	4.32	64	Pn	Pn	20 53 40.9	+0.2
ISFB	Sefidab	4.41	85	Pn	Pn	20 53 41.2	-0.8
DAMV	Damavand	4.43	68	*e*Pn	Pn	20 53 41.5	-0.8
IDMV	Damavand	4.46	69	Pn	Pn	20 53 42.4	-0.3
UMR	Umm Al-Rimmam	4.55	171	*e*P	Pn	20 53 44.5	+0.6
UMR				AML	AML	20 54 36.2	
	comp=Z,29nm,0.3s						
IZEF	Zefreh	4.66	103	Pn	Pn	20 53 44.1	-1.4
IMRD	Marand	4.75	348	Pn	Pn	20 53 50.3	+3.6
NAY	Al-Naaiem	4.81	177	*e*P	Pn	20 53 48.0	+0.4
NAY				AML	AML	20 54 41.5	
	comp=Z,17nm,0.5s						
NAY				*e*S	Sn	20 54 42.7	-0.1
NAY	Al-Naaiem	4.81	177	*e*P	Pn	20 53 48.0	+0.4
NAY				*e*S	Sn	20 54 42.7	-0.2
KBD	Kabd	4.92	172	*e*P	Pn	20 53 49.4	+0.3
KBD				*e*S	Sn	20 54 45.4	-0.2
KBD				AML	AML	20 54 46.3	
	comp=Z,135nm,0.3s						
IFIR	Firoozkooh	5.04	70	Pn	Pn	20 53 50.4	-0.5
RDF	Al-Radifah	5.15	174	*e*P	Pn	20 53 52.7	+0.4
RDF				*e*S	Sn	20 54 50.7	-0.8
RDF				AML	AML	20 54 52.0	
	comp=Z,44nm,0.3s						
QRN	Al-Qurain	5.37	171	*e*P	Pn	20 53 55.5	0.0
QRN				*e*S	Sn	20 54 56.0	-0.9
QRN				AML	AML	20 54 56.7	
	comp=Z,31nm,0.2s						
IPAR	Pars	6.69	127	Pn	Pn	20 54 09.5	-4.6
IMOK	Mook	7.03	134	Pn	Pn	20 54 13.7	-5.2
ISRV	Sarvestan	7.04	130	Pn	Pn	20 54 14.1	-4.9
BRTR	Keskin Array B	12.04	302	Pn	P	20 55 25.8	-2.1
	baz=104,slow=5.1,SNR=5.9						
AKTK	Aktyubinsk	18.27	23	P	P	20 56 47.7	-0.5
AKTO	Aktyubinsk	18.27	23	P	P	20 56 47.7	-0.5
	comp=Z,0.2nm,0.3s,baz=196,slow=12,SNR=5.3						
VOIR		20.23	311	⇓P	P	20 57 12.2	+1.7
VOIR		20.23	311	P	P	20 57 12.2	+1.7
AKASG	Malin Array Be	21.06	327	P	P	20 57 19.4	+0.4
	comp=Z,0.3nm,0.3s,mb3.2,baz=139,slow=10,SNR=4.4						
BVAR	Borovoye Array	25.27	34	P	P	20 58 00.5	+0.3
	comp=Z,0.6nm,0.4s,mb3.5,baz=211,slow=9.0,SNR=4.4						
BVAR	Borovoye Array	25.27	34	P	P	20 58 00.5	+0.3
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
GERES	GERESS Array B	28.68	311	P	P	20 58 31.9	+0.5
	comp=Z,0.2nm,0.5s,mb3.1,baz=118,slow=9.0,SNR=3.3						
MKAR	Makanchi Array	29.52	54	P	P	20 58 38.5	-0.5
	comp=Z,2.0nm,0.6s,mb4.0,baz=252,slow=9.1,SNR=26						
MKAR	Makanchi Array	29.52	54	P	P	20 58 38.5	-0.5
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	29.52	54	P	P	20 58 38.5	-0.5
FINES	FINESS Array B	30.49	340	P	P	20 58 47.3	-0.1
	comp=Z,3.9nm,1.1s,mb4.1,baz=140,slow=11,SNR=3.2						
FINES	FINESS Array B	30.49	340	P	P	20 58 47.3	-0.1
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HYB	Hyderabad	32.78	112	*i* P	P	20 59 13.0	+5.1
HYB	Hyderabad	32.78	112	*e*P	P	20 59 13.0	+5.1
ZAL	Zalesovo	33.17	42	P	P	20 59 10.8	-0.1
	comp=Z,0.5nm,0.5s,mb3.7,baz=186,slow=10,SNR=2.1						
ZAL	Zalesovo	33.17	42	P	P	20 59 10.8	-0.1
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAL	Zalesovo	33.17	42	P	P	20 59 10.8	-0.1
HFS	Hagfors	33.88	331	P	P	20 59 16.9	-0.2
	comp=Z,4.3nm,1.0s,mb4.3,baz=127,slow=7.4,SNR=6.9						
HFS	Hagfors	33.88	331	P	P	20 59 16.9	-0.2
HFS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TORD	Torodi Ar. Bea	45.93	254	P	P	21 00 54.4	-2.8
	comp=Z,2.1nm,1.1s,mb4.0,baz=55,slow=8.1,SNR=2.6						
YKA	Yellowknife Ar	82.64	351	P	P	21 04 56.4	0.0
	comp=Z,0.7nm,0.8s,mb3.7,baz=10,slow=5.9,SNR=4.0						
YKA	Yellowknife Ar	82.64	351	P	P	21 04 56.4	0.0
YKA				pmax	pmax		
	comp=Z,10.0nm,0.8s						

CASC 03 20:57:22.2±1.9**, 13.64N**×**90.64W, h32**km±8km**, MD3.7, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.56	18	*e*P	Pb	20 57 33.6	-0.2
IXG				*e*S	Sb	20 57 42.4	+0.7
NBG	Las Nubes	0.99	17	*e*P	Pn	20 57 39.7	-0.2
NBG				*e*S	Sn	20 57 54.8	+2.0
LFRS	El Faro	1.53	90	*e*P	Pn	20 57 57.3	+10
LFRS				*e*S	Sn	20 58 17.7	+11
LCBS	La Ceiba	1.61	89	*e*P	Pn	20 58 02.3	+13
LCBS				*e*S	Sn	20 58 21.2	+12
BLLM	Bellamira	2.34	94	*e*P	Pn	20 57 58.6	-0.7

IDC 03 21:00:27.1±2.6**, 12.20N**×**140.56E, mb4.1**/4**, mb1 4.2**/4**, mb1mx3.7**/17**, mbtmp4.1**/4**, Error ellipse: s-maj=155.4km s-min=25.3km az=79.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.52	191	P	P	21 07 00.4	-1.6
	2.0nm,0.9s,baz=9.8,slow=9.9,SNR=9.0						
STKA	Stephens Creek	43.84	179	P	P	21 08 34.5	-2.3
	3.6nm,1.0s,slow=10,SNR=4.2						
BVAR	Borovoye Array	68.43	322	P	P	21 11 31.7	-1.1
	0.4nm,0.5s,baz=114,slow=9.2,SNR=4.1						
FINES	FINESS Array B	90.60	334	P	P	21 13 29.6	-2.7
	5.5nm,1.2s,baz=63,slow=3.1,SNR=4.9						

IDC 03 21:00:55.5±1.1**, 12.27N**×**141.33E, mb4.0**/7**, mb1 4.2**/7**, mb1mx3.9**/17**, mbtmp4.0**/7**, Error ellipse: s-maj=58.7km s-min=21.8km az=86.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.74	192	P	P	21 07 30.2	-2.2
	1.1nm,0.6s,baz=14,slow=8.5,SNR=9.8						
STKA	Stephens Creek	43.89	180	P	P	21 09 03.9	-1.8
	1.5nm,0.8s,baz=354,slow=9.2,SNR=3.0						
MKAR	Makanchi Array	60.07	317	P	P	21 11 05.2	-1.6
	0.5nm,0.6s,baz=100,slow=8.8,SNR=3.4						
BVAR	Borovoye Array	68.84	322	P	P	21 12 02.4	-1.4
	0.7nm,0.5s,baz=108,slow=8.0,SNR=5.3						
ILAR	Eielson Array	71.23	25	P	P	21 12 16.9	-1.3
	0.2nm,0.7s,baz=240,slow=6.1,SNR=4.2						
ARCES	ARCESS Array B	87.26	342	P	P	21 13 42.8	-2.0
	4.1nm,1.0s,baz=39,slow=7.8,SNR=4.6						
FINES	FINESS Array B	90.87	334	P	P	21 13 59.6	-2.4
	5.3nm,1.0s,baz=45,slow=2.7,SNR=6.1						

*TEH **03** 21:34:55.0, 34.15N×47.13E, h10km, Mn4.3*
*NEIC **03** 21:34:55.0, 34.15N×47.13E, h10km, mb4.5/17, ML4.3(TEH), After TEH.*
*MOS **03** 21:34:56.5±1.3, 33.95N×47.07E, h33km, mb4.8/24, Error ellipse: s-maj=8.0km s-min=5.1km az=115.6*
*THR **03** 21:34:58.6±1.4, 34.23N×47.21E, h14km±14km, ML3.5*
*IDC **03** 21:35:02.2±4.0, 34.21N×46.94E, h61km±34km, mb3.9/18, mb1 4.0/23, mb1mx3.9/28, mbtmp4.1/23, ML4.1/2, Error ellipse: s-maj=27.1km s-min=12.6km az=162.0*
ISC 03 21:34:54.0±0.2**, 33.98N**±0.03×**47.06E**±0.03**, h10**km**, n170, σ1§43**/173**, mb4.4**/44**, MS4.1**/2**, 11C-8D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	Komasi	0.42	63	Pg	Pg	21 35 02.6	0.0
IGHG	Ghaleghazi	0.53	310	Pg	Pg	21 35 05.9	+1.1
IDHR	Dehrash	0.91	322	Pg	Pg	21 35 11.6	-0.6
ILIN	Laeen	0.94	355	Pg	Pg	21 35 11.1	-1.7
SNGE	Sanandaj	1.13	12	*e*Pg	Pg	21 35 14.6	-2.1
BHD	Baghdad	2.35	253	*e*x	x	21 35 36.5	
BHD				*e*x	x	21 35 42.0	
BHD				*i* x	x	21 36 05.5	
BHD				*i* x	x	21 36 12.0	
ASAO	Ashtian	2.52	76	*e*Pn	Pn	21 35 39.6	+3.9
ASAO				*e*Sg	Sg	21 36 12.9	-5.0
IRAZ	Razeghan	2.76	58	Pn	Pn	21 35 44.7	+5.6
IMHD	Mahdasht	3.42	59	Pn	Pn	21 35 50.5	+2.0
IPIR	Pirpir	3.46	111	Pn	Pn	21 35 50.1	+1.0
THKV	Tehran--Karaj	3.68	57	*e*Pn	Pn	21 35 54.0	+1.7
THKV				*e*Sg	Sg	21 36 46.4	-10
THKV				AML	AML	21 37 08.2	
	comp=N,146nm,0.6s						
IBST	Bostanabad	3.71	358	Pn	Pn	21 35 54.3	+1.6
IAZR	Azarshahr	3.79	347	Pn	Pn	21 35 56.2	+2.4
IKLH	Kalahroud	3.83	99	Pn	Pn	21 35 56.0	+1.7
CHTH	Charan	3.85	59	*e*Pn	Pn	21 35 56.2	+1.6
CHTH				*e*Pg	Pg	21 36 03.8	-7.1
SEMD	Semdilli	3.94	329	PN	Pn	21 35 57.6	+1.7
IVRN	Varamin	3.98	74	Pn	Pn	21 35 58.1	+1.6
MSL	Mosul	3.98	306	*e*x	x	21 36 00.5	
MSL				*i* x	x	21 36 44.5	
MSL				*i* x	x	21 36 58.5	
MSL				*i* x	x	21 37 02.5	
IAFJ	Afjeh	4.25	63	Pn	Pn	21 36 02.1	+1.7
ITBZ	Tabriz	4.30	350	Pn	Pn	21 36 03.1	+2.0
ISFB	Sefidab	4.31	84	Pn	Pn	21 36 02.0	+0.9
DAMV	Damavand	4.36	66	*e*Pn	Pn	21 36 03.2	+1.3
DAMV				*e*Pg	Pg	21 36 12.7	-8.4
DAMV				AML	AML	21 36 59.2	
	comp=N,56nm,0.8s						
IDMV	Damavand	4.39	67	Pn	Pn	21 36 03.7	+1.4
ISHB	Shabestar	4.45	345	Pn	Pn	21 36 04.6	+1.5
UMR	Umm Al-Rimmam	4.45	173	*e*P	Pn	21 36 05.7	+2.5
UMR				AML	AML	21 36 57.6	
	comp=Z,80nm,0.3s						
HKR	Hakkari	4.49	324	PN	Pn	21 36 03.7	0.0
IZEF	Zefreh	4.54	102	Pn	Pn	21 36 05.5	+1.1
IGAR	Garneh	4.65	111	Pn	Pn	21 36 03.9	-2.1
NAY	Al-Naaiem	4.72	178	*e*P	Pn	21 36 09.3	+2.2
KBD	Kabd	4.82	173	*e*P	Pn	21 36 10.7	+2.2
KBD				AML	AML	21 37 07.6	
	comp=Z,234nm,0.3s						
IMRD	Marand	4.84	347	Pn	Pn	21 36 10.8	+2.0
GRMI	Germi	4.86	8	*e*Pn	Pn	21 36 10.8	+1.8
GRMI				AML	AML	21 36 55.7	
	comp=N,35nm,0.4s						
IFIR	Firoozkooh	4.97	69	Pn	Pn	21 36 11.5	+1.0
RDF	Al-Radifah	5.06	175	*e*P	Pn	21 36 13.9	+2.1
QRN	Al-Qurain	5.28	172	*e*P	Pn	21 36 16.7	+1.9
QRN				AML	AML	21 37 16.5	
	comp=Z,58nm,0.3s						
VANB	Van	5.47	328	*e*PN	Pn	21 36 17.8	+0.2
MAKU	Maku	5.69	341	*e*Pn	Pn	21 36 23.1	+2.4
CLDR	Caldiran	5.74	335	*e*PN	Pn	21 36 23.6	+2.2
BTMT	Batman	6.16	315	*e*PN	Pn	21 36 28.0	+0.6
GNI	Garni	6.43	344	*e*PN	Pn	21 36 37.8	+6.7
GNI	Garni	6.43	344	P	Pn	21 36 31.8	+0.7
	comp=Z,0.4nm,0.3s,baz=63,slow=2.3,SNR=3.7						
GNI				Lg		21 38 22.2	
	comp=Z,0.3nm,0.3s,baz=58,slow=19,SNR=1.7						
GNI	Garni	6.43	344	*e*P	Pn	21 36 36.2	+5.1
GNI				pmax	pmax		
	comp=Z,62nm,0.8s						
GNI	Garni	6.43	344	*e*P	Pn	21 36 36.2	+5.1
	comp=Z,62nm,0.8s						
GNI				Lg		21 38 22.2	
IPAR	Pars	6.55	127	Pn	Pn	21 36 31.6	-1.3
DIY	Diyarbakir	6.78	307	*e*PN	Pn	21 36 38.4	+2.3
IMOK	Mook	6.89	134	Pn	Pn	21 36 33.3	-4.3
ISRV	Sarvestan	6.90	130	Pn	Pn	21 36 35.0	-2.8
EZM	Erzurum	7.46	324	*e*PN	Pn	21 36 46.3	+0.6
URFA	Urfa	7.54	300	*e*PN	Pn	21 36 52.8	+6.1
PTK	Pertek	7.88	311	*e*PN	Pn	21 36 49.7	-1.8
MYA	Malataya	8.22	304	*e*PN	P	21 36 55.8	-0.4
GAZ	Gaziantep	8.63	294	*e*P	P	21 37 00.2	-1.7
FKH	Fakeheh	8.84	275	*e*Pn	P	21 37 07.4	+2.6
HWQ	Hawqa	9.22	275	*e*Pn	P	21 37 12.4	+2.3
BHL	Bhannes	9.48	273	*e*Pn	P	21 37 12.9	-0.7
KIV	Kislovodsk	10.52	342	⇓*e*P	P	21 37 32.9	+5.0
BANOM	Banah	11.34	133	P	P	21 37 37.5	-1.6
	SNR=6.8						
ASHO	Ashiyiah	12.14	137	P	P	21 37 48.2	-1.8
	SNR=13						
BR131	Keskin Array S	12.18	302	*e*Pn	P	21 37 53.5	+3.0
	comp=Z,5.1nm,0.9s						
BRTR	Keskin Array B	12.18	302	P	P	21 37 49.8	-0.7
	comp=Z,0.0nm,0.3s,baz=122,slow=14,SNR=6.8						
ANN	Anapa	13.11	328	*e*P	P	21 38 06.4	+3.5
ANN				pmax	pmax		
	comp=Z,75nm,1.1s						
BSY	Bisya	14.31	139	P	P	21 38 17.1	-1.7
	SNR=9.6						
WHFO	Wadi Hawf	17.09	158	P	P	21 38 51.6	-3.0
	SNR=7.1						
APE	Apeiranthos	17.79	286	⇑P	P	21 39 02.7	-0.6
TIRR	Tirgusor	17.80	311	⇓P	P	21 39 03.4	+0.1
AB31	Akbulak array	18.00	28	*i* P	P	21 39 05.1	-0.8
AB31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VRSR	Storozhevoye	18.15	344	*e*P	P	21 39 06.4	-1.3
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,3.0nm,0.9s						
IDI	Anoyia	18.29	280	P	P	21 39 09.2	-0.4
	comp=E,1.6nm,0.3s,baz=117,slow=13,SNR=9.7						
AKTK	Aktyubinsk	18.30	23	P	P	21 39 08.7	-0.9
AKTO	Aktyubinsk	18.30	23	P	P	21 39 08.7	-0.9
	comp=E,0.2nm,0.3s,baz=207,slow=12,SNR=13						
CFR	Carcaliu	18.33	313	⇑P	P	21 39 08.2	-1.8
VOR	Voronezh	18.63	345	P	P	21 39 12.5	-1.1
VOR				pmax	pmax		
	comp=N,70nm,1.4s						
VOR				pmax	pmax		
	comp=Z,70nm,1.4s						
KIS	Kishinev	18.95	319	*e*P	P	21 39 24.0	+6.5
MLR	Muntele Rosu	19.83	312	P	P	21 39 27.1	-0.6
	comp=Z,0.6nm,0.3s,baz=176,slow=11,SNR=9.2						
MLR	Muntele Rosu	19.83	312	⇑P	P	21 39 27.8	+0.1
VOIR		20.36	311	⇓P	P	21 39 33.7	+0.4
KKAR	Karatay Array	20.43	57	P	P	21 39 33.6	-0.4
KKAR				pmax	pmax		
	comp=Z,50nm,0.8s						
VTS	Vitosha	20.55	302	⇑P	P	21 39 35.6	+0.3
AKASG	Malin Array Be	21.19	327	P	P	21 39 39.4	-2.4
	comp=Z,3.0nm,0.7s,mb3.8,baz=132,slow=13,SNR=9.5						
AKASG	Malin Array Be	21.19	327	*i* P	P	21 39 42.0	+0.2
AKASG				pmax	pmax		
	comp=Z,30nm,0.7s						
BURAR	Bucovina Array	21.33	316	⇑P	P	21 39 43.0	-0.2
BURAR	Bucovina Array	21.33	316	⇑P	P	21 39 43.0	-0.2
OBN	Obninsk	22.36	344	⇓*i*P	P	21 39 54.1	+0.6
OBN				*e*		21 40 01.1	
OBN				*e*		21 40 21.7	
OBN				*e*S	S	21 43 51.7	-2.5
OBN				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.6						
DRGR		22.42	312	⇓P	P	21 39 49.4	-4.8
BZS	Buzias	22.64	308	⇑P	P	21 39 58.1	+1.8
MOS	Moscow	22.72	346	*e*P	P	21 39 56.9	0.0
MOS				*e*		21 40 07.5	
MOS				pmax	pmax		
	comp=Z,50nm,1.1s,mb4.9						
AAK	Ala-Archa	23.12	60	⇑*i*P	P	21 40 02.9	+1.9
AAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.8						
KOLS	Kolonicke sedl	23.69	317	*e*P	P	21 40 07.5	+1.0
KOLS				*e*		21 40 13.2	
ARU	Arti	23.80	16	⇑*i*P	P	21 40 07.2	-0.3
ARU				*e*PPP	PPP	21 40 43.2	-7.6
ARU				*e*S	S	21 44 14.3	-5.3
ARU				*e*SS	SS	21 45 04.0	-5.1
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
ARU	Arti	23.80	16	*e*P	P	21 40 07.9	+0.5
	comp=Z,11nm,1.0s,mb4.2						
CRVS	Cervenica-Dubn	24.14	316	*e*P	P	21 40 11.3	+0.4
CRVS				*e*pP		21 40 14.6	
STHS	Stebnicka Huta	24.52	317	*e*P	P	21 40 15.9	+1.4
STHS				*e*		21 40 25.0	
KECS	Kecovo	24.52	314	*e*P	P	21 40 15.5	+0.9
PSZ	Piszkesteto	24.64	313	*e*P	P	21 40 16.1	+0.4
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
PSZ	Piszkesteto	24.64	313	*e*P	P	21 40 16.1	+0.4
	comp=Z,6.5nm,0.9s,mb4.2						
SVE	Sverdlovsk	24.66	18	*e*P	P	21 40 18.0	+2.2
SVE				*e*		21 40 46.5	
SVE				MLR	MLR		
	comp=N,100nm,11.0s,MS3.9						
SVE				MLR	MLR		
	comp=E,200nm,11.0s,MS3.9						
SVE				MLR	MLR		
	comp=Z,400nm,11.0s,MS4.2						
BRVK	Borovoye	25.24	34	*e*P	P	21 40 21.5	+0.1
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
BRVK	Borovoye	25.24	34	*e*P	P	21 40 21.5	0.0
	comp=Z,6.9nm,1.0s,mb4.1						
BVA0	Borovoye Array	25.27	34	*i* P	P	21 40 21.7	0.0
BVA0				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
BVAR	Borovoye Array	25.27	34	P	P	21 40 20.6	-1.1
	comp=Z,2.8nm,0.6s,mb4.0,baz=225,slow=10,SNR=17						
BVAR	Borovoye Array	25.27	34	P	P	21 40 20.6	-1.1
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VOSK	Vostochnaya	25.36	35	P	P	21 40 22.5	-0.1
VOSK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
VYHS	Vyhne	25.52	313	*e*P	P	21 40 25.6	+1.5
VYHS				*e*pP	pP	21 40 29.9	+2.9
SRO	Srobarova	25.57	311	*e*sP	sP	21 40 29.6	+0.8
ZST	Bratislava	26.47	311	*e*P	P	21 40 35.5	+2.6
MORC	Moravsky Berou	26.82	315	⇓P	P	21 40 35.2	-1.0
VRAC	Vranov	27.20	313	P	P	21 40 38.0	-1.6
	comp=Z,2.3nm,0.7s,mb3.8,baz=133,slow=6.3,SNR=3.0						
VRAC	Vranov	27.20	313	⇓P	P	21 40 39.2	-0.4
KLMR	Klimovskoe	27.33	352	*e*P	P	21 40 38.3	-2.3
KLMR				pmax	pmax		
	comp=Z,20nm,1.9s,mb4.3						
DPC	Dobruska-Polom	27.78	315	*e*P	P	21 40 49.4	+4.6
DPC				x	x	21 40 55.0	
DPC	Dobruska-Polom	27.78	315	*e*P	P	21 40 49.4	+4.6
DPC				*e*		21 40 55.0	
KURK	Kurchatov	28.41	44	⇓*i*P	P	21 40 49.5	-1.0
GERES	GERESS Array B	28.82	311	P	P	21 40 52.0	-2.2
	comp=Z,0.7nm,0.7s,mb3.5,baz=108,slow=8.4,SNR=6.7						
GERES	GERESS Array B	28.82	311	P	P	21 40 52.0	-2.2
GERES				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KHC	Kasperske Hory	28.98	312	*i* P	P	21 40 57.8	+2.1
MKAR	Makanchi Array	29.47	54	P	P	21 41 00.1	-0.1
	comp=Z,2.8nm,0.6s,mb4.2,baz=252,slow=12,SNR=52						
MKAR	Makanchi Array	29.47	54	P	P	21 41 00.1	-0.1
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	FINESS Array B	30.60	340	P	P	21 41 08.1	-1.9
	comp=Z,0.7nm,0.4s,mb3.9,baz=148,slow=7.4,SNR=7.9						
FINES	FINESS Array B	30.60	340	*i* P	P	21 41 11.3	+1.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	Joensuu	30.60	346	*e*p	P	21 41 07.5	-2.5
DAVOX	Davos	30.78	306	P	P	21 41 11.3	-0.4
	comp=Z,2.1nm,0.6s,mb4.1,baz=158,slow=16,SNR=4.9						
KOLN	Koldanda	31.85	91	*e*P	P	21 41 20.5	-0.9
	comp=Z,12nm,1.1s,mb4.6						
SBF	Sospel	32.10	300	*e*P	P	21 41 22.3	-1.1
	comp=Z,45nm,0.8s,mb5.1						
SBF	Sospel	32.10	300	*e*P	P	21 41 22.3	-1.1
SBF				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.1						
GKN	Gorkha	32.63	90	*e*P	P	21 41 26.8	-1.4
	comp=Z,5.9nm,0.4s,mb4.9						
MBDF	Montbardon	32.65	301	*e*P	P	21 41 27.6	-0.5
	comp=Z,11nm,0.7s,mb4.6						
MBDF	Montbardon	32.65	301	*e*P	P	21 41 27.6	-0.5
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
NVS	Novosibirsk	32.66	39	*e*P	P	21 41 26.9	-1.3
LPG	La Plagne	32.74	303	*e*P	P	21 41 28.8	-0.1
	comp=Z,7.0nm,0.6s,mb4.5						
LPG	La Plagne	32.74	303	*e*P	P	21 41 28.8	-0.1
LPG				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LPL	La Plagne	32.75	303	*e*P	P	21 41 28.0	-1.0
	comp=Z,3.6nm,0.5s,mb4.3						
LPL	La Plagne	32.75	303	*e*P	P	21 41 28.0	-1.0
LPL				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
HINF	Hinteralfeld	32.99	307	*e*P	P	21 41 29.9	-1.2
	comp=Z,5.7nm,0.6s,mb4.4						
HINF	Hinteralfeld	32.99	307	*e*P	P	21 41 29.9	-1.2
HINF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZAL	Zalesovo	33.15	41	P	P	21 41 31.1	-1.3
	comp=Z,1.0nm,0.5s,mb4.0,baz=242,slow=9.2,SNR=5.7						
ZAL	Zalesovo	33.15	41	P	P	21 41 31.1	-1.3
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DMN	Daman	33.16	91	*e*P	P	21 41 31.5	-1.2
	comp=Z,8.9nm,0.7s,mb4.8						
KKN	Kakani	33.24	90	*e*P	P	21 41 31.6	-1.9
	comp=Z,7.9nm,0.5s,mb4.9						
KKN	Kakani	33.24	90	*e*P	P	21 41 31.6	-1.9
KKN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
ORIF	Oris-en-Rattie	33.30	302	*e*P	P	21 41 31.8	-2.0
CABF	La Chapelle	33.33	305	*e*P	P	21 41 32.2	-1.8
	comp=Z,19nm,0.8s,mb4.8						
CABF	La Chapelle	33.33	305	*e*P	P	21 41 32.2	-1.8
CABF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
PKI	Pulchoki	33.42	90	*e*P	P	21 41 33.7	-1.4
	comp=Z,7.5nm,0.6s,mb4.8						
PKI	Pulchoki	33.42	90	*e*P	P	21 41 33.7	-1.4
PKI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
GUN	Gumba	33.70	90	*e*P	P	21 41 36.2	-1.2
	comp=Z,13nm,0.6s,mb5.0						
JIRN	Jiri	34.04	90	*e*P	P	21 41 39.4	-1.0
	comp=Z,11nm,0.5s,mb5.0						
SMF	Signal de Mont	34.87	304	*e*P	P	21 41 46.3	-1.1
	comp=Z,11nm,0.8s,mb4.6						
SMF	Signal de Mont	34.87	304	*e*P	P	21 41 46.3	-1.1
SMF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
NB2	NORSAR Subarra	35.53	331	P	P	21 41 44.8	-8.0
	comp=Z,3.2nm,1.1s,mb4.2,baz=123,slow=8.6						
NOA	NORSAR Array B	35.53	331	P	P	21 41 50.1	-2.7
	comp=Z,1.4nm,0.8s,mb3.9,baz=122,slow=8.5,SNR=4.7						
NOA	NORSAR Array B	35.53	331	P	P	21 41 50.1	-2.7
NOA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARCES	ARCESS Array B	37.57	348	P	P	21 42 07.8	-2.1
	comp=Z,4.2nm,1.0s,mb4.1,baz=315,slow=15,SNR=4.4						
ARCES	ARCESS Array B	37.57	348	P	P	21 42 07.8	-2.1
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ESDC	Sonseca Array	40.78	293	P	P	21 42 36.8	-0.2

	comp=Z,3.2nm,0.9s,mb4.0,baz=76,slow=7.5,SNR=8.0						
MDT	Midelt	42.78	283	P	P	21 42 53.7	+0.3
	comp=Z,2.2nm,0.8s,mb3.9,baz=63,slow=2.3,SNR=3.1						
SONM	Songino Array	45.84	54	P	P	21 43 17.9	+0.1
	comp=Z,0.6nm,0.6s,mb3.7,baz=297,slow=11,SNR=3.0						
SONM	Songino Array	45.84	54	P	P	21 43 17.9	+0.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	Torodi Ar. Bea	46.02	254	P	P	21 43 19.2	-0.4
	comp=Z,2.8nm,1.1s,mb4.1,baz=59,slow=6.4,SNR=17						
ULN	Ulaanbaatar	46.28	54⇑	*i*P	P	21 43 21.3	0.0
LSZ	Lusaka	52.18	203	*e*P	P	21 44 10.3	+3.1
LSZ				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
LSZ	Lusaka	52.18	203	*e*P	P	21 44 10.3	+3.0
	comp=Z,6.0nm,1.4s,mb4.3						
DBIC	Dimbokro	55.02	253	P	P	21 44 26.8	-1.5
	comp=Z,3.0nm,0.5s,mb4.6,baz=31,slow=7.2,SNR=14						
DBIC	Dimbokro	55.02	253	P	P	21 44 26.8	-1.5
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
DBIC	Dimbokro	55.02	253	P	P	21 44 26.8	-1.5
LIC	Lamto	55.42	252	*e*P	P	21 44 30.7	-0.5
	comp=Z,5.2nm,0.3s,mb4.7						
YAK	Yakutsk	57.25	34⇑	*e*P	P	21 44 41.4	-2.2
YAK				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0						
YAK				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.2						
JNU	Nakatsue	67.81	64	P	P	21 45 55.1	+0.8
	comp=Z,6.7nm,0.4s,mb5.1,baz=178,slow=2.3,SNR=7.5						
SCHQ	Schefferville	74.99	327	P	P	21 46 35.2	-1.7
	comp=Z,5.0nm,1.0s,mb4.4,baz=63,slow=13,SNR=7.2						
YKA	Yellowknife Ar	82.73	352	P	P	21 47 18.0	-0.8
	comp=Z,2.2nm,0.8s,mb4.2,baz=14,slow=5.9,SNR=14						
YKA	Yellowknife Ar	82.73	352	P	P	21 47 18.0	-0.8
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

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*NIED **03** 21:37:00, 29.20N×130.50E, h23km, Mw4.5 Best double couple: M₀5.79×10¹⁵ NP1:φs206°, δ87°, λ-69°. NP2: φs305°, δ21°, λ-170°.*
*MOS **03** 21:37:08.5±0.8, 29.23N×130.49E, h33km, mb4.8/4, Error ellipse: s-maj=19.7km s-min=9.9km az=123.0*
*JMA **03** 21:37:10.8±0.1, 29.20N×130.48E, h65km, M4.4*
*IDC **03** 21:37:12.2±1.9, 29.22N×130.37E, h47km±18km, mb3.9/13, mb1 4.0/16, mb1mx3.8/27, mbtmp4.1/16, ML3.6/3, MS3.7/6, Ms1 3.7/6, ms1mx3.3/35, Error ellipse: s-maj=31.3km s-min=14.7km az=95.0*
*NEIC **03** 21:37:12.4±0.8, 29.21N×130.48E, h53km±8km, mb4.6/8, MW4.4(NIED), Error ellipse: s-maj=11.3km s-min=7.5km az=113.0*
*BJI **03** 21:37:13.6, 28.97N×130.22E, h45km, mB4.8, mb4.3, Ms4.3, Msz4.0*
ISC 03 21:37:10.8±0.6, **29.19N**±0.04×**130.56E**±0.07, **h57**km±4km, **n59**, σ**0.83**/64, **mb4.3**/30, **MS4.2**/4, **1C, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.88	318	P	P	21 37 26.8	-0.5
JNN				S	S	21 37 39.1	-0.5
JZK	Kikaishima	1.01	211	P	P	21 37 29.1	0.0
JAM	Amami Oshima	1.14	227	P	P	21 37 30.2	-0.7
JAM				S	S	21 37 46.3	+0.5
JKC	Kuchinoerabu	1.31	346	P	P	21 37 33.3	-0.1
JKC				S	S	21 37 51.6	+1.6
JTN	Tanegashima 3	1.50	14	P	P	21 37 36.1	0.0
JTK	Tokunoshima	1.99	226	P	P	21 37 42.3	-0.5
JTSR	Tashiro 2	2.00	9	P	P	21 37 43.5	+0.7
JTSR				S	S	21 38 06.4	-0.2
JSU	Suzuyama	2.31	358	P	P	21 37 46.9	-0.4
JNAR	Kushima--Naru	2.41	15	P	P	21 37 49.7	+1.0
JOW	Kunigami	3.10	221	P	P	21 37 57.3	-1.2
	9.3nm,0.3s,baz=92,slow=17,SNR=11						
JOW				LR	LR	21 39 19.0	
	comp=Z,567nm,20.9s,baz=293,slow=42						
JNU	Nakatsue	3.93	4	P	P	21 38 10.8	+0.6
	5.3nm,0.3s,baz=218,slow=28,SNR=26						
JNU				S	S	21 38 55.0	-0.4
	9.1nm,0.3s,baz=205,slow=12,SNR=6.9						
JNU				LR	LR	21 39 42.5	
	comp=Z,289nm,18.6s,baz=218,slow=38						
MJAR	Matsushiro Arr	9.75	39	P	P	21 39 30.5	-0.5
	0.8nm,0.3s,baz=233,slow=14,SNR=11						
CBIJ	Chichi jima	10.47	99	LR	LR	21 42 43.4	
	comp=Z,266nm,22.0s,baz=178,slow=31						
CN2	Changchun	15.14	346	⇑P	P	21 40 49.0	+6.4
CN2				AMB	AMB		
	comp=Z,20nm,0.6s						
ASAJ	Asahikawa	17.72	30	LR	LR	21 48 29.6	
	comp=Z,216nm,20.8s,baz=196,slow=38						
ENH	Enshi	18.33	279	*e*P	P	21 41 23.0	+0.3
XAN	Xi'an	19.04	290	P	P	21 41 29.6	-1.4
GYA	Guiyang	21.30	268	P	P	21 41 55.6	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
CD2	Chengdu	23.25	281	P	P	21 42 15.1	+1.3
LZH	Lanzhou	23.48	294	*e*P	P	21 42 18.0	+2.0
LZH				AP		21 42 30.6	
LZH				XP		21 42 36.8	
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.3						
KMI	Kunming	25.06	267	P	P	21 42 32.7	+1.3
KMI				AP	pP	21 42 40.7	-4.5
KMI				XP	sP	21 42 44.6	-7.5
KMI				PP	PP	21 43 09.1	-1.5
KMI				S	S	21 46 47.9	-1.1
KMI				SS	SS	21 47 46.8	-5.0
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
KMI				LR	LR		
	comp=N,280nm,11.9s						
KMI				LR	LR		
	comp=E,320nm,9.9s						
KMI				LR	LR		
	comp=Z,450nm,10.8s,MS4.2						
SONM	Songino Array	26.36	322	P	P	21 42 42.6	-0.7
	comp=Z,1.0nm,0.6s,mb3.5,baz=142,slow=11,SNR=7.3						
SONM				LR	LR	21 54 21.6	
	comp=Z,423nm,18.1s,MS4.0,baz=268,slow=39						
GTA	Gaotai	27.25	300	*e*P	P	21 42 56.2	+4.6
GTA				AP	pP	21 43 03.0	-2.6
GTA				PP	PP	21 43 39.6	-0.4
GTA				S	S	21 47 25.5	+0.5
GTA				AMB	AMB		
	comp=Z,290nm,4.6s						
GTA				LR	LR		
	comp=N,250nm,12.9s,MS4.2						
GTA				LR	LR		
	comp=E,350nm,13.3s,MS4.2						
GTA				LR	LR		
	comp=Z,320nm,16.7s,MS4.0						
JIRN	Jiri	38.88	279	*e*P	P	21 44 32.6	+0.2
	comp=Z,6.3nm,0.5s,mb4.6						
GUN	Gumba	39.09	279	*e*P	P	21 44 35.1	+1.0
	comp=Z,22nm,0.5s,mb5.2						
PKI	Pulchoki	39.57	279	*e*P	P	21 44 38.3	+0.2
	comp=Z,21nm,0.7s,mb5.0						
PKI	Pulchoki	39.57	279	*e*P	P	21 44 38.3	+0.2
PKI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
KKN	Kakani	39.63	279	*e*P	P	21 44 39.0	+0.3
	comp=Z,18nm,0.5s,mb5.1						
KKN	Kakani	39.63	279	*e*P	P	21 44 39.0	+0.3
KKN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
DMN	Daman	39.83	279	*e*P	P	21 44 40.7	+0.5
	comp=Z,7.8nm,0.4s,mb4.8						
GKN	Gorkha	40.14	280	*e*P	P	21 44 43.3	+0.4
	comp=Z,11nm,0.4s,mb4.9						
KOLN	Koldanda	41.09	280	*e*P	P	21 44 50.8	+0.1
	comp=Z,7.5nm,0.6s,mb4.5						
MKAR	Makanchi Array	41.20	309	P	P	21 44 49.7	-1.7
	comp=Z,1.6nm,0.7s,mb3.8,baz=83,slow=10.0,SNR=18						
ZAL	Zalesovo	41.24	320	P	P	21 44 50.3	-1.3
	comp=Z,0.9nm,0.3s,mb3.9,baz=343,slow=8.8,SNR=3.9						
KURK	Kurchatov	44.17	314	P	P	21 45 16.0	+0.4
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
KURK	Kurchatov	44.17	314	*e*P	P	21 45 15.9	+0.3
	comp=Z,7.7nm,0.7s,mb4.5						
WRAB	Tennant Creek	48.97	175	*e*P	P	21 45 54.0	+0.3
WRA	Warramunga Arr	48.98	175	P	P	21 45 54.2	+0.4
	comp=Z,0.9nm,0.4s,mb4.1,baz=355,slow=8.6,SNR=8.7						
VOSK	Vostochnaya	49.12	316	P	P	21 45 54.0	-0.5
VOSK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
KKAR	Karatay Array	49.45	303	*i* P	P	21 45 58.0	+0.9
BVA0	Borovoye Array	49.50	316	*i* P	P	21 45 56.4	-1.0
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BVAR	Borovoye Array	49.50	316	P	P	21 45 57.0	-0.4
	comp=Z,4.8nm,0.6s,mb4.7,baz=92,slow=9.6,SNR=44						
BRVK	Borovoye	49.57	316	*e*P	P	21 45 56.9	-1.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BRVK	Borovoye	49.57	316	*e*P	P	21 45 56.9	-1.0
	comp=Z,4.4nm,0.6s,mb4.7						
AB31	Akbulak array	56.17	312	*i* P	P	21 46 46.6	-0.4
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
ARU	Arti	56.39	321	*e*P	P	21 46 47.7	-0.7
ARU	Arti	56.39	321	*e*P	P	21 46 47.7	-0.8
AKTK	Aktyubinsk	57.26	314	P	P	21 46 53.8	-0.9
AKTK				LR	LR	22 13 27.2	
AKTO	Aktyubinsk	57.26	314	P	P	21 46 53.8	-0.9
	comp=Z,3.3nm,0.8s,mb4.4,baz=73,slow=13,SNR=11						
AKTO				LR	LR	22 13 27.2	
	comp=Z,209nm,18.7s,MS4.3,baz=40,slow=38						
JOF	Joensuu	68.46	331	*e*p	P	21 48 07.6	-0.9
	comp=Z,1.7nm,0.6s,mb4.2						
KAF	Kangasniemi	70.91	331	*e*p	P	21 48 22.4	-1.1
	comp=Z,3.6nm,1.0s,mb4.3						
KAF	Kangasniemi	70.91	331	*e*P	P	21 48 22.4	-1.1
KAF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
FINES	FINESS Array B	71.31	331	P	P	21 48 25.4	-0.5
	comp=Z,1.0nm,0.5s,mb4.0,baz=61,slow=6.3,SNR=18						
AKASG	Malin Array Be	74.62	320	P	P	21 48 46.1	+0.6
	comp=Z,3.1nm,0.4s,mb4.6,baz=60,slow=6.1,SNR=14						
BRTR	Keskin Array B	76.84	308	P	P	21 48 59.8	+1.4
	comp=Z,2.3nm,0.7s,mb4.2,baz=99,slow=5.3,SNR=16						
HFS	Hagfors	77.16	333	P	P	21 48 59.6	-0.1
	comp=Z,3.0nm,1.0s,mb4.2,baz=63,slow=3.3,SNR=7.2						
NOA	NORSAR Array B	77.57	334	P	P	21 49 02.1	+0.1
	comp=Z,1.5nm,0.8s,mb4.0,baz=50,slow=5.6,SNR=3.1						
GERES	GERESS Array B	84.07	324	P	P	21 49 38.3	+1.8
	comp=Z,0.4nm,0.6s,mb3.7,baz=33,slow=6.7,SNR=3.1						
EKA	Eskdalemuir Ar	86.97	336	P	P	21 49 50.9	+0.3
	comp=Z,2.6nm,0.8s,mb4.5,baz=22,slow=4.5,SNR=4.1						

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*CSEM **03** 21:55:48.9±0.7, 12.08N×43.42E, h7km, ML4.0, Error ellipse: s-maj=14.5km s-min=13.5km az=79.0, After DHMR*
DHMR 03 21:55:48.9±1.6, **12.08N**×**43.42E**, **h7**km±10km, **ML4.0**, **2C-3D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.33	31⇓	*i*P	Pb	21 56 13.7	0.0
TRBA				*i* S	Sb	21 56 32.1	+1.4
TRBA				AML	AML	21 56 36.7	
	comp=E,2μm,0.6s						
UDYN	Al 'Udayn	1.95	16	*i* P	Pn	21 56 24.4	+1.7
UDYN				*i* S	Sn	21 56 51.4	+3.7
UDYN				AML	AML	21 57 00.3	
	comp=N,2μm,0.4s						
UDYN	Al 'Udayn	1.95	16	*i* P	Pn	21 56 24.4	+1.7
	comp=N,1μm,0.4s						
UDYN				*i* S	Sn	21 56 51.4	+3.7
LBOS		2.52	45	*i* P	Pn	21 56 32.0	+1.1
LBOS				*i* S	Sn	21 57 07.0	+4.9
DHBB	Dhamar BB	2.65	21⇓	*i*P	Pn	21 56 34.7	+2.0
DHBB				*i* S	Sn	21 57 10.7	+5.2
DHBB	Dhamar BB	2.65	21⇓	*i*P	Pn	21 56 34.7	+1.9
DHBB				*i* S	Sn	21 57 10.6	+5.2
BDHA	Al Bayda'	2.81	48⇑	*i*P	Pn	21 56 36.8	+1.7
BDHA				*i* S	Sn	21 57 15.5	+5.8
BDHA				AML	AML	21 57 26.3	
	comp=N,950nm,0.5s						
BDHA	Al Bayda'	2.81	48⇑	*i*P	Pn	21 56 36.8	+1.7
	comp=N,475nm,0.5s						
BDHA				*i* S	Sn	21 57 15.5	+5.8
HAJJ	Hajjah	3.60	3	*i* P	Pn	21 56 48.1	+1.8
HAJJ				*i* S	Sn	21 57 32.9	+3.3
HAJJ				AML	AML	21 57 54.1	
	comp=E,514nm,0.5s						
HAJJ	Hajjah	3.60	3	*i* P	Pn	21 56 48.1	+1.8
HAJJ				*i* S	Sn	21 57 32.9	+3.3
	comp=E,257nm,0.5s						

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*BJI **03** 22:13:44.7, 11.98N×141.82E, h73km, mB5.4, mb4.6*
*MOS **03** 22:13:45.6±0.7, 12.14N×140.91E, h33km, mb5.0/7, Error ellipse: s-maj=16.4km s-min=10.5km az=124.6*
*IDC **03** 22:13:51.0±3.7, 12.20N×141.12E, h67km±35km, mb4.0/11, mb1 4.2/12, mb1mx4.0/19, mbtmp4.3/12, ML4.3/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/20, Error ellipse: s-maj=27.0km s-min=17.1km az=83.0*
*NEIC **03** 22:13:51.3±1.4, 12.16N×141.12E, h74km±15km, mb4.9/11, Error ellipse: s-maj=12.8km s-min=8.1km az=93.0*
ISC 03 22:13:49.2±2.3, **12.15N**±0.09×**141.1E**±0.1, **h70**km±23km, **n47**, σ**0.45**/44, **mb4.5**/27, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.96	68	P	P	22 14 49.0	0.0
	19nm,0.3s,baz=194,slow=20,SNR=8.3						
JHJ	Hachijo jima 2	20.91	357	LR	LR	22 24 51.5	
	comp=Z,192nm,20.0s,baz=3.5,slow=32						
HNR	Honiara	28.48	138	LR	LR	22 28 13.9	
	comp=Z,122nm,20.9s,baz=325,slow=30						
WRAB	Tennant Creek	32.56	192	*e*P	P	22 20 15.7	-0.4
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
WRAB	Tennant Creek	32.56	192	*e*P	P	22 20 15.7	-0.5
	comp=Z,8.6nm,0.9s,mb4.6						
WRA	Warramunga Arr	32.57	192	P	P	22 20 16.0	-0.3
	comp=Z,3.5nm,0.6s,mb4.3,baz=10.0,slow=9.9,SNR=34						
STKA	Stephens Creek	43.77	179	P	P	22 21 50.6	+0.7
	comp=Z,1.5nm,0.4s,mb4.0,baz=25,slow=14,SNR=7.4						
GTA	Gaotai	45.44	314	*e*P	P	22 22 03.7	+0.6
ULN	Ulaanbaatar	45.55	328	*e*P	P	22 22 04.0	+0.2
SONM	Songino Array	45.87	328	P	P	22 22 06.8	+0.5
	comp=Z,1.1nm,0.8s,mb3.6,baz=129,slow=9.5,SNR=4.9						
ZAK	Zakamensk	49.06	329	*e*P	P	22 22 31.1	-0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
YAK	Yakutsk	50.48	353	*e*P	P	22 22 41.0	-1.0
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
YAK	Yakutsk	50.48	353	*e*P	P	22 22 41.4	-0.6
	comp=N,13nm,0.8s,mb4.9						
JIRN	Jiri	53.46	295	*e*P	P	22 23 05.0	+0.2
GUN	Gumba	53.76	296	*e*P	P	22 23 07.2	+0.3
	comp=N,59nm,1.3s,mb5.5						
PKI	Pulchoki	54.14	295	*e*P	P	22 23 09.4	-0.3
	comp=N,32nm,1.4s,mb5.2						
PKI	Pulchoki	54.14	295	*e*P	P	22 23 09.4	-0.3
PKI				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
KKN	Kakani	54.27	295	*e*P	P	22 23 10.2	-0.5
DMN	Daman	54.41	295	*e*P	P	22 23 11.3	-0.4
	comp=Z,15nm,1.0s,mb5.0						
GKN	Gorkha	54.86	296	*e*P	P	22 23 14.5	-0.5
	comp=Z,39nm,1.3s,mb5.3						
KOLN	Koldanda	55.76	295	*e*P	P	22 23 21.3	-0.2
	comp=Z,21nm,0.9s,mb5.2						
BILL	Bilibino	58.23	11	*e*P	P	22 23 38.7	+0.3
BILL				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
BILL	Bilibino	58.23	11	*e*P	P	22 23 38.7	+0.3
	comp=Z,2.7nm,0.3s,mb4.8						
MKAR	Makanchi Array	60.00	317	P	P	22 23 51.2	+0.3
	comp=Z,2.3nm,0.7s,mb4.3,baz=94,slow=9.2,SNR=19						
HYB	Hyderabad	60.47	283	*i* P	P	22 23 55.0	+0.5
HYB	Hyderabad	60.47	283	*e*P	P	22 23 55.0	+0.5
ZAL	Zalesovo	60.69	326	P	P	22 23 55.0	-0.5
	comp=Z,1.1nm,0.5s,mb4.1,baz=21,slow=4.7,SNR=7.2						
KURK	Kurchatov	63.33	321	*e*P	P	22 24 13.1	-0.1
KURK				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
KURK	Kurchatov	63.33	321	*e*P	P	22 24 13.1	-0.2
	comp=Z,18nm,1.0s,mb5.0						
KKAR	Karatay Array	67.63	312	*i* P	P	22 24 40.7	-0.1
KKAR				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
VOSK	Vostochnaya	68.38	322	P	P	22 24 45.0	-0.3
VOSK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
BVA0	Borovoye Array	68.78	322	*i* P	P	22 24 48.0	+0.2
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
BVAR	Borovoye Array	68.78	322	P	P	22 24 48.4	+0.6
	comp=Z,9.2nm,0.8s,mb4.7,baz=106,slow=7.7,SNR=48						
BRVK	Borovoye	68.85	322	*e*P	P	22 24 48.1	-0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
BRVK	Borovoye	68.85	322	*e*P	P	22 24 48.0	-0.2
	comp=Z,4.5nm,0.8s,mb4.3						
ILAR	Eielson Array	71.45	25	P	P	22 25 03.1	-0.7
	comp=Z,1.3nm,0.7s,mb3.9,baz=264,slow=5.1,SNR=18						
AB31	Akbulak array	75.13	318	*i* P	P	22 25 26.0	+0.4
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
ARU	Arti	75.84	325	*e*P	P	22 25 29.5	0.0
ARU	Arti	75.84	325	*e*P	P	22 25 29.5	0.0
AKTK	Aktyubinsk	76.33	319	P	P	22 25 32.6	+0.2
AKTO	Aktyubinsk	76.33	319	P	P	22 25 32.6	+0.2
	comp=Z,3.6nm,0.6s,mb4.3,baz=100,slow=7.8,SNR=17						
YKA	Yellowknife Ar	85.82	27	P	P	22 26 22.4	+0.4
	comp=Z,0.2nm,0.5s,mb3.4,baz=186,slow=33,SNR=5.1						
ARCES	ARCESS Array B	87.29	341	P	P	22 26 29.9	+0.9
	comp=Z,2.8nm,0.6s,mb4.3,baz=67,slow=7.3,SNR=20						
KAF	Kangasniemi	90.47	335	*e*p	P	22 26 43.1	-1.0
	comp=Z,6.7nm,0.8s,mb4.8						
KAF	Kangasniemi	90.47	335	*e*P	P	22 26 43.1	-1.0
KAF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
FINES	FINESS Array B	90.87	334	P	P	22 26 45.8	-0.3
	comp=Z,4.0nm,0.6s,mb4.7,baz=69,slow=5.5,SNR=38						
LPAZ	La Paz	151.40	102	PKPbc	PKPdf	22 33 40.3	+11
	comp=Z,2.3nm,0.6s,baz=282,slow=1.5,SNR=9.5						

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*JMA **03** 22:25:57.2±0.2, 29.26N×130.72E, h21km, M2.8*
*IDC **03** 22:26:48.2±1.4, 35.82N×133.56E, mb3.7/3, mb1 4.0/3, mb1mx3.4/21, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/29, Error ellipse: s-maj=43.7km s-min=32.1km az=78.0*
ISC 03 22:25:59.4±0.9, **29.28N**±0.05×**130.63E**±0.10, **h33**km, **n11**, σ**0.84**/13, **mb3.7**/1, **MS3.4**/1, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.86	310	P	P	22 26 14.6	-0.5
JNN				S	S	22 26 26.9	+0.2
JKC	Kuchinoerabu	1.24	342	P	P	22 26 19.7	-0.7
JKC				S	S	22 26 37.1	+0.9
JAM	Amami Oshima	1.25	226	P	P	22 26 20.3	-0.3
JAM				S	S	22 26 37.5	+0.9
JTN	Tanegashima 3	1.40	12	P	P	22 26 22.5	-0.4
JTSR	Tashiro 2	1.90	8	P	P	22 26 30.2	+0.3
JTSR				S	S	22 26 53.2	+0.3
JTK	Tokunoshima	2.10	225	P	P	22 26 32.1	-0.8
JSU	Suzuyama	2.22	356	P	P	22 26 33.5	-1.1
JNAR	Kushima--Naru	2.31	14	P	P	22 26 35.5	-0.3
PSI	Prapat	40.01	235	LR	LR	22 53 33.4	
	comp=Z,61nm,20.7s,MS3.4,baz=264,slow=35						
MKAR	Makanchi Array	41.19	309	P	Px	22 34 19.6	
	0.5nm,0.4s,baz=79,slow=9.0,SNR=11						
ILAR	Eielson Array	60.75	29	P	P	22 36 12.4	+2.5
	0.6nm,1.0s,mb3.7,baz=261,slow=8.3,SNR=4.5						

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*NIED **03** 22:27:00, 29.20N×130.50E, h29km, Mw4.2 Best double couple: M₀2.64×10¹⁵ NP1:φs198°, δ81°, λ-73°. NP2: φs314°, δ20°, λ-152°.*
*MOS **03** 22:27:27.9±1.1, 29.14N×130.52E, h33km, mb4.6/4, Error ellipse: s-maj=22.0km s-min=12.9km az=126.7*
*JMA **03** 22:27:30.4±0.1, 29.18N×130.47E, h66km, M3.5*
*BJI **03** 22:27:32.5, 29.20N×130.50E, h58km, mB5.0, mb4.2*
*NEIC **03** 22:27:32.6±0.9, 29.23N×130.54E, h58km±10km, mb4.3/6, Error ellipse: s-maj=16.4km s-min=9.0km az=117.0*
*IDC **03** 22:27:32.9±2.1, 29.24N×130.73E, h64km±18km, mb3.6/9, mb1 3.7/12, mb1mx3.5/24, mbtmp3.9/12, MS3.3/2, Ms1 3.3/2, ms1mx2.6/30, Error ellipse: s-maj=26.8km s-min=14.0km az=110.0*
ISC 03 22:27:30.7±0.7, **29.16N**±0.04×**130.55E**±0.08, **h58**km±4km, **n45**, σ**0.84**/51, **mb4.2**/19, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.90	319	P	P	22 27 46.6	-0.9
JNN				S	S	22 27 59.4	-0.6
JZK	Kikaishima	0.98	211	P	P	22 27 48.5	-0.1
JAM	Amami Oshima	1.12	228	P	P	22 27 49.9	-0.5
JAM				S	S	22 28 05.5	+0.4
JKC	Kuchinoerabu	1.34	347	P	P	22 27 52.9	-0.7
JKC				S	S	22 28 11.2	+0.6
JTN	Tanegashima 3	1.54	14	P	P	22 27 55.8	-0.6
JTN				S	S	22 28 15.8	+0.5
JTK	Tokunoshima	1.96	226	P	P	22 28 02.3	0.0
JTSR	Tashiro 2	2.03	9	P	P	22 28 03.2	+0.1
JTSR				*e*S	S	22 28 28.0	+0.8
JSU	Suzuyama	2.34	358	P	P	22 28 06.8	-0.8
JSU				S	S	22 28 35.9	+0.7
JNAR	Kushima--Naru	2.44	15	P	P	22 28 09.3	+0.3
JNAR				*e*S	S	22 28 39.7	+2.0
JOW	Kunigami	3.07	222	P	P	22 28 19.9	+2.0
	5.3nm,0.3s,baz=151,slow=19,SNR=3.7						
JOW				S	S	22 28 59.4	+5.7
	7.4nm,0.3s,baz=4.7,slow=28,SNR=3.7						
JOW				LR	LR	22 29 39.5	
	comp=Z,284nm,18.9s,baz=36,slow=39						
JNU	Nakatsue	3.96	4	P	P	22 28 29.0	-1.5
	2.7nm,0.3s,baz=95,slow=4.7,SNR=7.6						
MJAR	Matsushiro Arr	9.78	39	P	P	22 29 50.1	-1.0
	0.1nm,0.3s,baz=223,slow=13,SNR=2.7						
CN2	Changchun	15.18	346	*e*P	P	22 31 08.8	+6.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
ASAJ	Asahikawa	17.75	30	LR	LR	22 38 50.9	
	comp=Z,144nm,20.9s,baz=303,slow=38						
XAN	Xi'an	19.05	290	P	P	22 31 49.5	-1.3
GYA	Guiyang	21.30	268	P	P	22 32 16.7	+2.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
SONM	Songino Array	26.38	322	P	P	22 33 05.0	+1.8
	comp=Z,1.0nm,0.8s,mb3.4,baz=136,slow=9.9,SNR=5.7						
SONM	Songino Array	26.38	322	P	P	22 33 05.1	+1.8
GTA	Gaotai	27.26	300	*e*P	P	22 33 17.3	+5.8
GTA				AP	pP	22 33 23.5	-2.2
JIRN	Jiri	38.88	279	*e*P	P	22 34 52.6	+0.5
	comp=Z,5.9nm,0.6s,mb4.5						
GUN	Gumba	39.09	279	*e*P	P	22 34 54.3	+0.4
	comp=Z,10.0nm,0.4s,mb4.9						
PKI	Pulchoki	39.57	279	*e*P	P	22 34 58.0	+0.1
	comp=Z,7.8nm,0.7s,mb4.5						
PKI	Pulchoki	39.57	279	*e*P	P	22 34 58.0	+0.1
PKI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
KKN	Kakani	39.63	279	*e*P	P	22 34 58.3	-0.1
	comp=Z,8.1nm,0.5s,mb4.7						
KKN	Kakani	39.63	279	*e*P	P	22 34 58.3	-0.1
KKN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
DMN	Daman	39.83	279	*e*P	P	22 34 59.9	-0.1
GKN	Gorkha	40.14	280	*e*P	P	22 35 02.6	0.0
	comp=Z,4.7nm,0.4s,mb4.6						
KOLN	Koldanda	41.09	280	*e*P	P	22 35 09.9	-0.5
	comp=Z,3.3nm,0.5s,mb4.2						
MKAR	Makanchi Array	41.21	309	P	P	22 35 11.3	+0.1
	comp=Z,1.0nm,0.8s,mb3.5,baz=88,slow=9.4,SNR=5.9						
KURK	Kurchatov	44.19	314	*e*P	P	22 35 34.8	-0.7
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
KURK	Kurchatov	44.19	314	*e*P	P	22 35 34.8	-0.7
	comp=Z,2.6nm,0.6s,mb4.1						
WRA	Warramunga Arr	48.95	175	P	pP	22 36 24.7	-3.7
	comp=Z,1.5nm,1.0s,baz=355,slow=8.4,SNR=6.6						
WRA	Warramunga Arr	48.95	175	P	P	22 36 13.3	0.0
	comp=Z,0.6nm,0.6s,mb3.8,baz=355,slow=8.6,SNR=11						
BVA0	Borovoye Array	49.52	316	*i* P	P	22 36 16.5	-0.8
BVAR	Borovoye Array	49.52	316	P	P	22 36 16.4	-0.9
	comp=Z,2.5nm,0.6s,mb4.4,baz=92,slow=9.9,SNR=16						
BRVK	Borovoye	49.59	316	*e*P	P	22 36 17.5	-0.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRVK	Borovoye	49.59	316	eP	P	22 36 17.5	-0.4
	comp=Z,2.0nm,0.6s,mb4.3						
AB31	Akbulak array	56.19	312	i P	P	22 37 06.4	-0.5
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AKTK	Aktyubinsk	57.28	314	P	P	22 37 14.3	-0.3
AKTO	Aktyubinsk	57.28	314	P	P	22 37 14.3	-0.3
	comp=Z,1.7nm,0.8s,mb4.2,baz=66,slow=12,SNR=7.5						
AKTO	Aktyubinsk	57.28	314	P	P	22 37 16.0	+1.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
FINES	FINESS Array B	71.34	331	P	P	22 38 45.2	-0.6
	comp=Z,0.7nm,0.7s,mb3.7,baz=77,slow=7.6,SNR=8.1						
AKASG	Malin Array Be	74.64	320	P	P	22 39 05.6	+0.3
	comp=Z,1.4nm,0.5s,mb4.2,baz=60,slow=6.2,SNR=8.1						
BRTR	Keskin Array B	76.86	308	P	P	22 39 19.4	+1.2
	comp=Z,1.0nm,0.7s,mb3.9,baz=96,slow=5.0,SNR=7.6						
NOA	NORSAR Array B	77.59	334	P	P	22 39 21.3	-0.5
	comp=Z,1.0nm,0.8s,mb3.8,baz=78,slow=15,SNR=2.9						

*IDC **03** 22:32:36.0±1.1, 44.62N×152.20E, mb3.9/9, mb1 4.0/10, mb1mx3.8/21, mbtmp3.9/10, ML3.9/1, Error ellipse: s-maj=27.0km s-min=22.1km az=157.0*

*NEIC **03** 22:32:41.5±0.9, 44.70N×152.11E, h35^{km}, mb4.4/4, Error ellipse: s-maj=21.9km s-min=18.3km az=153.0*

*MOS **03** 22:32:41.5±1.7, 44.78N×151.51E, h33^{km}, mb4.3/10, Error ellipse: s-maj=32.0km s-min=14.8km az=114.4*

ISC 03 22:32:35.6±8.5**, 44.7N**±0.2×**152.2E**±0.2**, h9**^{km}±52^{km}**, n33, σ0ˢ89**/31**, mb4.0**/15**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	6.87	269	Pn	Pn	22 34 19.5	+0.6
	2.4nm,0.3s,baz=78,slow=20,SNR=12						
YAK	Yakutsk	21.77	331	eP	P	22 37 27.2	-2.0
YAK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.5						
YAK	Yakutsk	21.77	331	eP	P	22 37 27.2	-2.0
	comp=Z,10.0nm,0.5s,mb4.5						
SONM	Songino Array	31.45	292	P	P	22 38 59.4	+0.3
	comp=Z,0.6nm,0.8s,mb3.5,baz=82,slow=10,SNR=3.0						
SONM	Songino Array	31.45	292	P	P	22 38 59.4	+0.3
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	38.62	37	P	P	22 39 59.3	-1.0
	comp=Z,0.4nm,0.9s,mb3.2,baz=262,slow=8.0,SNR=4.1						
INK	Inuvik	43.79	31	P	P	22 40 44.2	+1.7
	comp=Z,1.8nm,0.9s,mb3.8,baz=292,slow=6.3,SNR=5.7						
INK	Inuvik	43.79	31	P	P	22 40 44.3	+1.7
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	47.33	299	P	P	22 41 11.7	+0.6
	comp=Z,2.0nm,0.7s,mb4.2,baz=80,slow=6.8,SNR=16						
MKAR	Makanchi Array	47.33	299	P	P	22 41 11.7	+0.6
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	Kurchatov	47.99	305	eP	P	22 41 15.1	-1.1
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
KURK	Kurchatov	47.99	305	eP	P	22 41 15.1	-1.1
	comp=Z,2.6nm,0.8s,mb4.3						
BVAR	Borovoye Array	51.69	310	P	P	22 41 45.0	+0.5
	comp=Z,1.2nm,0.9s,mb3.8,baz=57,slow=7.4,SNR=4.1						
BVAR	Borovoye Array	51.69	310	P	P	22 41 45.0	+0.5
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AB31	Akbulak array	59.26	310	eP	P	22 42 39.4	+0.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
AKTK	Aktyubinsk	59.63	312	P	P	22 42 41.3	-0.5
AKTO	Aktyubinsk	59.63	312	P	P	22 42 41.3	-0.5
	comp=Z,0.8nm,0.5s,mb4.0,baz=65,slow=8.3,SNR=4.9						
AKTO	Aktyubinsk	59.63	312	P	P	22 42 41.3	-0.5
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	FINESS Array B	65.65	335	P	P	22 43 21.4	-0.2
	comp=Z,2.0nm,0.6s,mb4.3,baz=32,slow=8.6,SNR=20						
FINES	FINESS Array B	65.65	335	P	P	22 43 21.4	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	66.31	198	P	P	22 43 25.7	-0.8
	comp=Z,0.4nm,0.6s,mb3.6,baz=20,slow=7.0,SNR=6.4						
RSSD	Black Hills	68.71	49	eP	P	22 43 47.4	+6.2
RSSD				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
RSSD	Black Hills	68.71	49	eP	P	22 43 47.4	+6.2
	comp=Z,15nm,0.6s,mb5.1						
NB2	NORSAR Subarra	69.99	341	P	P	22 43 48.9	+0.2
	comp=Z,2.8nm,0.8s,mb4.2,baz=30,slow=6.2						
NB2	NORSAR Subarra	69.99	341	P	P	22 43 48.9	+0.2
NB2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
NOA	NORSAR Array B	69.99	341	P	P	22 43 49.4	+0.7
	comp=Z,0.6nm,0.5s,mb3.8,baz=27,slow=6.5,SNR=2.7						
NOA	NORSAR Array B	69.99	341	P	P	22 43 49.4	+0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	72.91	326	P	P	22 44 06.9	+0.6
	comp=Z,0.5nm,0.4s,mb3.8,baz=36,slow=6.2,SNR=6.3						
AKASG	Malin Array Be	72.91	326	P	P	22 44 06.9	+0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KHC	Kasperske Hory	79.83	334	eP	P	22 44 46.5	+1.2
GERES	GERESS Array B	80.04	334	P	P	22 44 51.7	+5.3
	comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=5.7,SNR=4.2						
PLCA	Paso Flores	148.64	98	PKPbc	PKPdf	22 52 24.9	+3.3
	comp=Z,1.3nm,0.7s,baz=95,slow=3.0,SNR=3.3						
PLCA	Paso Flores	148.64	98	PKIKP	PKPdf	22 52 24.9	+3.3
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 03 22:37:54.5±1.3**, 12.26N×141.18E, mb4.0**/5**, mb1 4.2**/5**, mb1mx3.8**/16**, mbtmp4.0**/5**, Error ellipse: s-maj=66.0km s-min=28.4km az=94.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.70	192	P	P	22 44 29.0	-2.1
	0.5nm,0.6s,baz=10,slow=9.9,SNR=12						
BVAR	Borovoye Array	68.75	322	P	P	22 49 01.8	-0.5
	1.0nm,0.6s,baz=101,slow=7.3,SNR=7.7						
ILAR	Eielson Array	71.30	25	P	P	22 49 15.8	-1.9
	0.2nm,0.5s,baz=242,slow=4.8,SNR=4.5						
ARCES	ARCESS Array B	87.22	341	P	P	22 50 41.3	-2.3
	2.6nm,1.0s,baz=56,slow=6.5,SNR=3.8						
FINES	FINESS Array B	90.82	334	P	P	22 50 58.5	-2.2
	1.2nm,0.7s,baz=76,slow=7.9,SNR=6.7						

CASC 03 22:46:48.6±2.8**, 13.80N×92.46W, h13**^{km}±50^{km}**, MD4.2, ML3.9, 2C-1D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.69	68⇓	iP	Pn	22 47 17.5	-0.7
PCG	Pacaya	1.89	72	eP	Pn	22 47 21.1	+0.2
IXG	Ixpaco	1.98	79⇑	eP	Pn	22 47 21.3	-0.9
IXG				AML	AML	22 47 55.8	
	comp=E,5μm,0.5s						
NBG	Las Nubes	2.19	69	eP	Pn	22 47 26.1	+0.8
NBG				eS	Sn	22 47 52.9	+0.5
RBDL	Robledal	2.71	83	eP	Pn	22 47 46.6	+14
RBDL				eS	Sn	22 48 21.5	+16
RTR	El Retiro	2.73	88	eP	Pn	22 47 43.9	+11
RTR				eS	Sn	22 48 19.9	+14
SNJE	San Jose	2.77	88	eP	Pn	22 47 43.5	+10
SNJE				eS	Sn	22 48 18.1	+11
MRL	Marmol	2.96	65⇑	eP	Pn	22 47 36.5	+0.3
MRL				eS	Sn	22 48 11.1	-0.8
MRL				AML	AML	22 48 16.8	
	comp=E,149nm,0.5s						
LBRS	Las Brisas	3.32	91	eP	Pn	22 47 53.0	+12
LBRS				eS	Sn	22 48 33.3	+12
SNVI	San Vicente	3.52	93	eP	Pn	22 47 56.7	+12
SNVI				eS	Sn	22 48 36.8	+11

*TEH **03** 23:18:27.3, 32.87N×48.45E, h10^{km}, Mn3.3*

*CSEM **03** 23:18:27.6±0.1, 33.33N×48.47E, h2^{km}, ML3.0, Error ellipse: s-maj=3.4km s-min=2.5km az=104.0*

*KISR **03** 23:18:28.9±0.9, 33.20N×48.79E, h33^{km}, ML3.1*

*THR **03** 23:18:29.3±1.5, 33.34N×48.46E, h15^{km}±11^{km}, ML3.0*

ISC 03 23:18:27.9±1.0**, 33.23N**±0.03×**48.54E**±0.05**, h2**^{km}±7^{km}**, n28, σ1ˢ25**/37**, Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.14	169	ePg	Pg	23 18 52.5	+1.8
SHGR				eSg	Sg	23 19 10.3	+4.4
SHGR				AML	AML	23 19 27.0	
	comp=N,284nm,0.4s						
SHGR	Shooshtar-Gavs	1.14	169	ePg	Pg	23 18 52.5	+1.8
	SNR=96						
SHGR				eSg	Sg	23 19 10.3	+4.4
	SNR=96						
IKOM	Komasi	1.27	318	Pn	Pn	23 18 50.1	-2.6
ASAO	Ashtian	1.80	43	ePg	Pg	23 19 01.2	-2.6
ASAO				eSg	Sg	23 19 26.3	-1.6
ASAO				AML	AML	23 19 32.5	
	comp=N,144nm,0.5s						
IGHG	Ghaleghazi	1.98	304	Pn	Pn	23 19 03.2	+0.5
IPIR	Pirpir	2.05	105	Pn	Pn	23 19 02.1	-1.7
SNGE	Sanandaj	2.10	332	ePg	Pg	23 19 05.7	-4.3
ILIN	Laeen	2.13	322	Pn	Pn	23 19 06.1	+1.1
IDHR	Dehrash	2.31	310	Pn	Pn	23 19 07.6	+0.1
IRAZ	Razeghan	2.45	28	Pn	Pn	23 19 16.0	+6.5
IKLH	Kalahroud	2.54	87	Pn	Pn	23 19 08.5	-2.3
IVRN	Varamin	3.17	55	Pn	Pn	23 19 20.8	+1.0
IVRN				Sn	Sn	23 20 00.5	+1.7
IZEF	Zefreh	3.20	95	Pn	Pn	23 19 17.7	-2.4
IGAR	Garneh	3.23	107	Pn	Pn	23 19 15.9	-4.8
ISFB	Sefidab	3.27	69	Pn	Pn	23 19 21.3	+0.1
CHTH	Charan	3.42	38	ePn	Pn	23 19 23.9	+0.7
NASN	Na'in	3.61	96	ePn	Pn	23 19 27.3	+1.3
IAFJ	Afjeh	3.70	44	Pn	Pn	23 19 28.2	+0.9
DAMV	Damavand	3.71	49	ePn	Pn	23 19 27.7	+0.3
IDMV	Damavand	3.71	50	Pn	Pn	23 19 28.2	+0.7
KBD	Kabd	4.11	190	eP	Pn	23 19 33.5	+0.3
KBD				AML	AML	23 20 19.9	
	comp=Z,42nm,0.4s						
KBD	Kabd	4.11	190	eP	Pn	23 19 34.1	+1.0
KBD				eS	Sn	23 20 22.6	+0.2
NAY	Al-Naaiem	4.12	196	eP	Pn	23 19 33.4	+0.1
NAY				AML	AML	23 20 18.6	
	comp=Z,6.5nm,0.5s						
NAY				eS	Sn	23 20 22.3	-0.5
NAY	Al-Naaiem	4.12	196	eP	Pn	23 19 33.0	-0.3
IFIR	Firoozkooh	4.23	54	Pn	Pn	23 19 35.1	+0.3
IFIR				Sn	Sn	23 20 25.4	-0.1
RDF	Al-Radifah	4.38	191	eP	Pn	23 19 37.1	+0.2
RDF				eS	Sn	23 20 28.9	-0.4
RDF				AML	AML	23 20 32.8	
	comp=Z,25nm,0.5s						
RDF	Al-Radifah	4.38	191	eP	Pn	23 19 37.5	+0.6
QRN	Al-Qurain	4.51	187	eP	Pn	23 19 38.8	+0.1
QRN				eS	Sn	23 20 30.6	-1.9
QRN				AML	AML	23 20 32.8	
	comp=Z,26nm,0.3s						

IDC 03 23:42:51.8±1.2**, 12.39N×140.59E, mb4.1**/3**, mb1 4.4**/4**, mb1mx3.9**/16**, mbtmp4.2**/4**, ML3.9**/1**, Error ellipse: s-maj=48.1km s-min=28.2km az=112.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.34	74	Pn	Pn	23 43 59.2	-1.4
	6.4nm,0.3s,baz=255,slow=7.3,SNR=4.1						
WRA	Warramunga Arr	32.71	191	P	P	23 49 26.2	-2.2
	2.7nm,0.7s,baz=10.0,slow=9.9,SNR=21						
ILAR	Eielson Array	71.44	26	P	P	23 54 13.2	-2.5
	0.3nm,0.8s,baz=243,slow=5.8,SNR=6.0						
FINES	FINESS Array B	90.45	334	P	P	23 55 55.9	-0.5
	2.3nm,0.7s,baz=76,slow=5.7,SNR=7.2						
LPAZ	La Paz	151.92	101	PKPbc	PKPdf	00 02 50.5	+5.6
	1.2nm,0.7s,baz=239,slow=1.8,SNR=4.2						

MAN 03 23:42:55.2, 17.95N×121.03E, h32^{km}**, mb4.2, ML3.0, MS2.8, Luzon**

IDC 03 23:43:11.8±1.2**, 12.42N×140.63E, mb3.9**/3**, mb1 4.2**/3**, mb1mx3.7**/15**, mbtmp3.9**/3**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.4**/28**, Error ellipse: s-maj=84.3km s-min=30.0km az=102.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	20.61	358	LR	LR	23 55 10.3	
	comp=Z,105nm,19.9s,baz=146,slow=35						
WRA	Warramunga Arr	32.75	191	P	P	23 49 46.5	-2.3
	2.1nm,0.7s,baz=9.8,slow=9.9,SNR=10						
ILAR	Eielson Array	71.39	26	P	P	23 54 32.9	-2.5
	0.2nm,0.6s,baz=252,slow=5.3,SNR=3.7						
FINES	FINESS Array B	90.44	334	P	P	23 56 16.0	-0.3
	1.4nm,0.9s,baz=114,slow=6.0,SNR=4.7						
LPAZ	La Paz	151.88	101	PKPbc	PKPdf	00 03 10.5	+5.7
	1.1nm,0.7s,baz=236,slow=7.3,SNR=4.2						

*BJI **04** 00:09:07.3, 11.92N×141.17E, h32^{km}, mB5.2, mb4.7, Ms4.7, Msz4.3*

*MOS **04** 00:09:09.0±0.8, 12.21N×140.97E, h33^{km}, mb5.0/19, Error ellipse: s-maj=14.9km s-min=7.9km az=116.2*

*IDC **04** 00:09:11.1±5.0, 12.19N×140.95E, h35^{km}±41^{km}, mb4.5/15, mb1 4.5/15, mb1mx4.5/18, mbtmp4.6/15, ML5.2/1, MS4.3/17, Ms1 4.3/17, ms1mx4.2/22, Error ellipse: s-maj=26.4km s-min=13.7km az=70.0*

*HRVD **04** 00:09:12.9±0.3, 12.21N×140.87E, h12^{km}, MW5.0/77, Centroid moment Tensor Solution. LP body waves: s40,c53;Mantle waves: s77,c117; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.55±.11; $M_{\theta\theta}$3.26±.09; $M_{\phi\phi}$0.29±.12; $M_{r\theta}$1.38±.31; $M_{\theta\phi}$1.22±.10; $M_{\phi r}$0.20±.41; Best double couple: $M_0$3.883×10^{16} NP1: ϕ_s66°,δ35°,λ-97°. NP2:ϕ_s255°,δ55°,λ-85°. Principal axes: T 3.947, Plg10°, Azm341°; N -.127, Plg4°, Azm72°; P -3.819, Plg79°, Azm183°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 00:09:12.9±1.6, 12.21N×141.01E, h52^{km}±15^{km}, mb5.0/16 Error ellipse: s-maj=10.8km s-min=7.3km az=72.0*

ISC 04 00:09:09.6±1.6**, 12.15N**±0.06×**140.99E**±0.08**, h39**^{km}±15^{km}**, h30**^{km}±4.8^{km}**:pP-P, n97, σ1ˢ01**/90**, mb4.9**/49**, MS4.4**/23**, 2C-3D, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.05	69	Pn	P	00 10 11.3	+0.5
	160nm,0.3s,baz=196,slow=6.7,SNR=55						
GUMO				LR	LR	00 11 30.6	
	comp=Z,2μm,18.0s,baz=302,slow=34						
GUMO	Guam	4.05	69	eP	P	00 10 11.3	+0.5
CBIJ	Chichi jima	14.91	4	LR	LR	00 17 44.0	
	comp=Z,663nm,18.6s,baz=317,slow=34						
JOW	Kunigami	18.87	323	LR	LR	00 18 59.6	
	comp=Z,926nm,20.6s,baz=102,slow=31						
JHJ	Hachijo jima 2	20.90	357	LR	LR	00 20 05.3	
	comp=Z,1μm,18.9s,MS4.3,baz=202,slow=31						
PMG	Port Moresby	22.28	164	P	P	00 14 05.2	+0.2
	16nm,0.9s,mb4.4,baz=22,slow=6.2,SNR=8.2						
PMG				LR	LR	00 23 03.1	
	comp=Z,740nm,18.3s,MS4.1,baz=318,slow=37						
PMG	Port Moresby	22.28	164	eP	P	00 14 05.9	+0.9
PMG				pmax	pmax		
	comp=Z,41nm,1.1s						
PMG	Port Moresby	22.28	164	eP	P	00 14 05.9	+0.8
	comp=Z,41nm,1.1s,mb4.8						
MJAR	Matsushiro Arr	24.41	355	P	P	00 14 23.8	-2.0
	comp=Z,2.2nm,0.8s,baz=179,slow=10,SNR=4.5						
MJAR				LR	LR	00 23 51.9	
	comp=Z,326nm,18.0s,MS3.9,baz=190,slow=36						
WAKE	Wake Island	25.68	71	P	P	00 14 40.4	+2.3
	comp=Z,42nm,0.7s,mb5.1						
NJ2	Nanjing	28.40	318	eP	P	00 15 05.9	+3.1
NJ2				AP	pP	00 15 12.3	-1.1
NJ2				XP	sP	00 15 15.6	-2.6
NJ2				PP	PP	00 15 56.3	+1.5
NJ2				S	S	00 19 51.0	+5.4
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,250nm,3.9s						
NJ2				LR	LR		
	comp=N,1μm,13.2s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,15.1s,MS4.9						
NJ2				LR	LR		
	comp=Z,720nm,21.3s						
HNR	Honiara	28.55	138	LR	LR	00 24 48.6	
	comp=Z,394nm,20.9s,MS4.0,baz=322,slow=33						
QIZ	Qiongzhong	30.73	287	P	P	00 15 25.8	+2.1
QIZ				eS	S	00 20 22.8	+0.1
QIZ				LR	LR		
	comp=Z,460nm,18.7s,MS4.2						
ASAJ	Asahikawa	31.88	2	LR	LR	00 26 31.3	
	comp=Z,456nm,21.4s,MS4.1,baz=154,slow=33						
CTAO	Charters Tower	32.45	171	eP	P	00 15 39.5	+0.7
CTAO				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
CTAO	Charters Tower	32.45	171	eP	P	00 15 39.5	+0.8
	comp=Z,12nm,0.9s,mb4.7						
WRAB	Tennant Creek	32.54	192	eP	P	00 15 39.0	-0.5
WRAB				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.3						
WRAB	Tennant Creek	32.54	192	eP	P	00 15 39.0	-0.5
	comp=Z,44nm,1.2s,mb5.3						
WB2	Warramunga Arr	32.55	192	eP	P	00 15 39.0	-0.6
WRA	Warramunga Arr	32.55	192	P	P	00 15 39.1	-0.5
	comp=Z,13nm,0.8s,mb4.9,baz=10,slow=9.5,SNR=45						
MDJ	Mudanjiang	33.80	345	P	P	00 15 52.1	+2.0
MDJ				AP	pP	00 15 58.5	-2.4
MDJ				XP	sP	00 16 01.2	-4.7
MDJ				PP	PP	00 17 08.5	+4.6
MDJ				PCP	PcP	00 18 29.4	+0.5
MDJ				S	S	00 21 17.2	+6.9
MDJ				PCS		00 22 16.1	
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,180nm,4.7s						
MDJ				LR	LR		
	comp=N,500nm,29.3s,MS4.1						
MDJ				LR	LR		
	comp=E,190nm,28.1s,MS4.1						
MDJ				LR	LR		
	comp=Z,640nm,27.6s,MS4.2						
CN2	Changchun	34.27	340	eP	P	00 15 58.0	+3.8
CN2				LR	LR		
	comp=N,640nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=E,700nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=Z,710nm,19.0s,MS4.4						
ENH	Enshi	34.29	307	eP	P	00 15 55.1	+0.6
	comp=Z,13nm,0.8s,mb4.9						
KLR	Kul'dur	37.75	350	eP	P	00 16 21.2	-2.4
KMI	Kunming	38.33	295	P	P	00 16 29.8	+1.1
KMI				AP	pP	00 16 38.3	-1.3
KMI				XP	sP	00 16 41.8	-2.6
KMI				PP	PP	00 18 01.0	+0.8
KMI				PPP	PPP	00 18 23.5	+0.7
KMI				S	S	00 22 21.9	+1.8
KMI				SCP		00 22 27.9	
KMI				PCS		00 22 31.4	
KMI				AMB	AMB		
	comp=Z,220nm,5.1s						
KMI				LR	LR		
	comp=N,290nm,13.7s,MS4.4						
KMI				LR	LR		
	comp=E,320nm,15.9s,MS4.4						
KMI				LR	LR		
	comp=Z,380nm,21.6s						
HHC	Hu-ho-hao-te	38.52	323	eP	P	00 16 34.4	+4.3
HHC				AP	pP	00 16 46.6	+5.6
HHC				PP	PP	00 18 07.5	+5.3
HHC				PCP	PcP	00 18 44.4	+1.4
HHC				S	S	00 22 26.8	+4.0
HHC				SCP		00 22 28.0	
HHC				PCS		00 22 33.4	
HHC				XS		00 22 48.5	
HHC				SS	SS	00 25 13.3	+8.8
HHC				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,190nm,5.8s						
HHC				LR	LR		
	comp=N,300nm,21.4s						
HHC				LR	LR		
	comp=E,330nm,15.5s						
HHC				LR	LR		
	comp=Z,530nm,14.3s						
CD2	Chengdu	39.09	304	eP	P	00 16 36.2	+1.2
CD2				PP	PP	00 18 10.6	+1.7
CD2				S	S	00 22 33.7	+2.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				LR	LR		
	comp=N,270nm,16.2s						
CD2				LR	LR		
	comp=Z,220nm,20.4s,MS4.0						
LZH	Lanzhou	41.06	312	eP	P	00 16 51.6	+0.4
LZH				AP	pP	00 17 00.7	-1.5
LZH				XP	sP	00 17 04.9	-2.0
LZH				PP	PP	00 18 29.6	+0.6
LZH				eS	S	00 23 01.5	+0.6
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,110nm,5.1s						
LZH				LR	LR		
	comp=E,740nm,14.1s						
LZH				LR	LR		
	comp=Z,1μm,17.2s,MS4.8						
DZM	Mont Dzumac	42.19	144	P	P	00 17 01.4	+0.6
	comp=Z,9.1nm,0.8s,mb4.5,baz=330,slow=12,SNR=10						
STKA	Stephens Creek	43.78	179	eP	P	00 17 14.0	+0.4
	comp=Z,5.5nm,0.6s,mb4.5						
STKA	Stephens Creek	43.78	179	P	P	00 17 13.6	0.0
	comp=Z,9.6nm,0.8s,mb4.6,baz=354,slow=8.3,SNR=13						
STKA				LR	LR	00 36 12.3	
	comp=Z,605nm,18.9s,MS4.5,baz=270,slow=37						
ULN	Ulaanbaatar	45.50	328	eP	P	00 17 27.1	0.0
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
ULN	Ulaanbaatar	45.50	328	eP	P	00 17 27.1	0.0
	comp=Z,8.5nm,0.8s,mb4.6						
SONM	Songino Array	45.82	328	P	P	00 17 30.5	+0.8
	comp=Z,3.8nm,0.9s,mb4.3,baz=139,slow=7.8,SNR=16						
SONM				PcP	PcP	00 19 06.8	-0.3
	comp=Z,2.6nm,0.9s,baz=133,slow=2.9,SNR=4.3						
SONM				LR	LR	00 37 10.3	
	comp=Z,498nm,18.5s,MS4.5,baz=298,slow=37						
FX1	Attu Island--F	48.09	26	LR	LR	00 36 58.6	
	comp=Z,28nm,20.2s,baz=253,slow=35						
ZAK	Zakamensk	49.01	329	eP	P	00 17 54.5	0.0
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
LSA	Lhasa	49.32	299	eP	P	00 17 58.0	+0.8
LSA	Lhasa	49.32	299	eP	P	00 17 59.0	+1.8
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
LSA	Lhasa	49.32	299	eP	P	00 17 59.0	+1.7
	comp=Z,9.4nm,0.9s,mb4.8						
BOD	Bodaibo	49.98	342	eP	P	00 18 00.6	-1.3
BOD				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.4						
YAK	Yakutsk	50.47	353	eP	P	00 18 05.2	-0.4
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK	Yakutsk	50.47	353	eP	P	00 18 04.5	-1.0
	comp=N,40nm,0.7s,mb5.5						
JIRN	Jiri	53.37	295	eP	P	00 18 28.2	+0.3
	comp=N,66nm,1.3s,mb5.4						
BOK	Bokaro	53.39	291	eP	P	00 18 29.4	+1.3
BOK				AMb	AMB	00 18 30.5	
	comp=Z,37nm,0.8s,mb5.4						
GUN	Gumba	53.67	296	eP	P	00 18 30.6	+0.5
	comp=Z,114nm,1.2s,mb5.7						
PKI	Pulchoki	54.05	295	eP	P	00 18 32.6	-0.3
KKN	Kakani	54.19	296	eP	P	00 18 33.8	-0.1
	comp=Z,32nm,1.0s,mb5.2						
KKN	Kakani	54.19	296	eP	P	00 18 33.8	-0.1
KKN				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
DMN	Daman	54.33	295	eP	P	00 18 35.4	+0.5
GKN	Gorkha	54.77	296	eP	P	00 18 38.1	0.0
	comp=Z,95nm,1.3s,mb5.7						

KOLN	**Kolodanda**	**55.67**	**295**	*e*P		**P**		**00 18 44.7**	**+0.1**
	comp=Z,38nm,0.9s,mb5.4								
VIS	**Vishakhapatnam**	**55.81**	**283**	*e*P		**P**		**00 18 43.8**	**-1.9**
BILL	**Bilibino**	**58.24**	**11**	*oe*P		**P**		**00 19 02.0**	**-0.3**
BILL				*e*		pP		00 19 14.2	+0.6
BILL				pmax		pmax			
	comp=E,11nm,1.0s,mb4.8								
BILL	**Bilibino**	**58.24**	**11**	*e*P		**P**		**00 19 01.5**	**-0.8**
	comp=Z,8.9nm,0.8s,mb4.8								
MDRS	**Chennai**	**59.15**	**278**	*e*P		**P**		**00 19 07.8**	**-1.6**
MDRS				AMb		AMB		00 19 14.0	
	comp=Z,30nm,0.4s,mb5.7								
MK31	**Makanchi Array**	**59.93**	**317**	P		**P**		**00 19 14.6**	**+0.3**
MK31				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
MKAR	**Makanchi Array**	**59.93**	**317**	P		**P**		**00 19 14.1**	**-0.3**
	comp=Z,9.5nm,0.8s,mb4.9,baz=90,slow=8.5,SNR=48								
HYB	**Hyderabad**	**60.38**	**283**	*i* P		**P**		**00 19 18.5**	**+0.7**
HYB	**Hyderabad**	**60.38**	**283**	*e*P		**P**		**00 19 18.5**	**+0.7**
ZAL	**Zalesovo**	**60.63**	**326**	LR		LR		00 46 27.0	
	comp=Z,403nm,19.8s,MS4.6,baz=16,slow=37								
BHPL	**Bhopal**	**61.15**	**290**	*e*P		**P**		**00 19 22.2**	**-0.7**
BHPL				AMb		AMB		00 19 24.1	
	comp=Z,23nm,0.7s,mb5.4								
NVS	**Novosibirsk**	**61.81**	**326**	*i* P		**P**		**00 19 23.0**	**-3.9**
NVS				pmax		pmax			
	comp=N,8.0nm,2.0s								
NVS				pmax		pmax			
	comp=Z,28nm,2.0s,mb5.0								
NVS				pmax		pmax			
	comp=E,18nm,1.7s								
KURK	**Kurchatov**	**63.27**	**321**	*e*P		**P**		**00 19 36.3**	**-0.4**
KURK				pmax		pmax			
	comp=Z,36nm,0.8s,mb5.5								
KURK	**Kurchatov**	**63.27**	**321**	*e*P		**P**		**00 19 36.3**	**-0.4**
	comp=Z,36nm,0.8s,mb5.5								
AJM	**Ajmer**	**63.61**	**294**	*e*P		**P**		**00 19 37.6**	**-1.7**
AJM				AMb		AMB		00 19 40.7	
	comp=Z,37nm,1.2s,mb5.3								
KAD	**Karad**	**64.55**	**283**	*e*P		**P**		**00 19 44.5**	**-1.1**
KAD				AMb		AMB		00 19 46.0	
	comp=Z,21nm,0.6s,mb5.3								
POO	**Poona**	**64.75**	**285**	*e*P		**P**		**00 19 45.5**	**-1.4**
POO				AMb		AMB		00 19 54.4	
	comp=Z,25nm,0.4s,mb5.6								
VOSK	**Vostochnaya**	**68.32**	**322**	P		**P**		**00 20 08.0**	**-0.9**
VOSK				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.7								
BVA0	**Borovoye Array**	**68.72**	**322**	*i* P		**P**		**00 20 11.0**	**-0.4**
BVA0				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.2								
BVAR	**Borovoye Array**	**68.72**	**322**	P		**P**		**00 20 11.5**	**+0.2**
	comp=Z,16nm,0.7s,mb5.1,baz=105,slow=7.8,SNR=65								
BRVK	**Borovoye**	**68.79**	**322**	*e*P		**P**		**00 20 11.7**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,13nm,0.8s,mb4.9								
BRVK	**Borovoye**	**68.79**	**322**	*e*P		**P**		**00 20 11.7**	**-0.1**
	comp=Z,14nm,0.8s,mb4.9								
ILAR	**Eielson Array**	**71.48**	**25**	LR		LR		00 50 14.3	
	comp=Z,186nm,19.6s,MS4.3,baz=313,slow=34								
PPT	**Papeete**	**74.64**	**112**	LR		LR		00 46 19.4	
	comp=Z,120nm,20.3s,MS4.2,baz=271,slow=30								
AB31	**Akbulak array**	**75.06**	**318**	P		**P**		**00 20 49.1**	**-0.1**
AB31				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
ARU	**Arti**	**75.79**	**325**	*i*P		**P**		**00 20 52.8**	**-0.4**
ARU				pmax		pmax			
	comp=Z,14nm,0.8s,mb4.9								
ARU	**Arti**	**75.79**	**325**	*e*P		**P**		**00 20 52.9**	**-0.3**
	comp=Z,16nm,0.8s,mb5.0								
AKTO	**Aktyubinsk**	**76.27**	**319**	P		**P**		**00 20 55.9**	**-0.2**
	comp=Z,9.3nm,0.7s,mb4.8,baz=89,slow=7.6,SNR=46								
SOKR	**Solikamsk**	**76.68**	**329**	*i* P		**P**		**00 20 58.6**	**+0.4**
SOKR				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
SOKR				MLR		MLR			
	comp=Z,300nm,20.0s,MS4.6								
YKA	**Yellowknife Ar**	**85.86**	**27**	LR		LR		01 00 39.1	
	comp=Z,162nm,19.2s,MS4.4,baz=270,slow=36								
KEV	**Kevo**	**86.69**	**341**	*e*pkp		**P**		**00 21 50.8**	**+0.6**
ARCES	**ARCESS Array B**	**87.26**	**341**	P		**P**		**00 21 53.0**	**0.0**
	comp=Z,7.1nm,0.7s,mb5.0,baz=67,slow=7.9,SNR=18								
ARCES				LR		LR		01 02 07.4	
	comp=Z,243nm,20.6s,MS4.6,baz=35,slow=36								
ARCES	**ARCESS Array B**	**87.26**	**341**	P		**P**		**00 21 53.0**	**0.0**
ARCES				LR		LR		01 02 07.4	
JOF	**Joensuu**	**87.98**	**334**	*e*pkp		**P**		**00 21 55.9**	**-0.6**
OBN	**Obninsk**	**88.21**	**326**K	*i*P		**P**		**00 21 58.1**	**+0.3**
OBN				*e*SS		SS		00 38 29.6	-0.8
OBN				pmax		pmax			
	comp=Z,17nm,0.9s,mb5.3								
OBN				MLR		MLR			
	comp=Z,300nm,18.0s,MS4.8								
KAF	**Kangasniemi**	**90.42**	**335**	*e*pkp		**P**		**00 22 07.2**	**-0.9**
NVAR	**Mina Array Bea**	**90.76**	**51**	P		**P**		**00 22 11.4**	**+1.1**
	comp=Z,1.2nm,0.7s,mb4.3,baz=262,slow=6.4,SNR=15								
FINES	**FINESS Array B**	**90.83**	**334**	P		**P**		**00 22 09.2**	**-0.9**
	comp=Z,14nm,0.7s,mb5.4,baz=72,slow=6.0,SNR=38								
FINES				LR		LR		01 07 27.7	
	comp=Z,129nm,18.2s,MS4.4,baz=159,slow=38								
AKASG	**Malin Array Be**	**93.97**	**324**	P		**P**		**00 22 23.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=55,slow=5.3,SNR=5.9								
BRTR	**Keskin Array B**	**95.26**	**312**	P		**P**		**00 22 30.2**	**-0.6**
	comp=Z,0.7nm,0.8s,mb4.1,baz=45,slow=2.0,SNR=3.3								
NB2	**NORSAR Subarra**	**97.00**	**338**	P		**P**		**00 22 37.4**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.7,baz=55,slow=4.6								
NOA	**NORSAR Array B**	**97.00**	**338**	P		**P**		**00 22 37.7**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.6,baz=54,slow=4.8,SNR=4.4								
NOA				LR		LR		01 11 21.7	
	comp=Z,184nm,19.3s,MS4.6,baz=45,slow=38								
NOA	**NORSAR Array B**	**97.00**	**338**	P		**P**		**00 22 37.7**	**-0.5**
NOA				LR		LR		01 11 21.7	
GERES	**GERESS Array B**	**103.55**	**327**	Pdiff		Pdif		00 23 08.6	+0.6
	comp=Z,0.6nm,0.7s,baz=68,slow=7.2,SNR=4.4								
TRQA	**Tornquist**	**147.05**	**146**	*e*PKP		PKPdf		00 28 50.4	+3.7
LPAZ	**La Paz**	**151.49**	**102**	PKPbc		PKPdf		00 29 03.7	+9.5
	comp=Z,8.6nm,0.7s,baz=253,slow=3.1,SNR=30								
LPAZ				PKPab		PKPab		00 29 11.7	+0.5
	comp=Z,6.2nm,0.9s,baz=7.1,slow=8.1,SNR=8.7								
LPAZ	**La Paz**	**151.49**	**102**	*e*PKIKP		PKPdf		00 29 03.4	+9.2

*ISK **04** 00:13:32.2, 38.15N×26.56E, h6km, MD3.2*
*ATH **04** 00:13:33.6, 38.11N×26.45E, h23km, MD3.1/3*
*CSEM **04** 00:13:33.1±0.1, 38.15N×26.61E, h10km, MD3.2, Error ellipse: s-maj=2.6km s-min=2.2km az=94.0*
*NEIC **04** 00:13:33.6, 38.12N×26.54E, h30km, MD3.2(ISK), MD3.1(ATH), After ATH.*
ISC 04 00:13:32.7±0.6, 38.15N±0.02×26.55E±0.04, h5km±4km, n25, σ0°90/39, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
URLA	**Izmir**	**0.21**	**10**	*i* P		**Pg**	**00 13 37.3**	**+0.2**
URLA				*i* S		**Sg**	**00 13 40.7**	**+0.7**
BLCB	**Balcova**	**0.46**	**59**	PG		**Pg**	**00 13 41.5**	**-0.3**
BLCB				SG		**Sg**	**00 13 47.7**	**-0.2**
SMG	**Samos**	**0.49**	**152**	*e*PN		**Pg**	**00 13 43.9**	**+1.3**
SMG				*e*SN		**Sg**	**00 13 51.5**	**+2.2**
IZM	**Izmir**	**0.61**	**66**	*i* PG		**Pg**	**00 13 45.1**	**+0.1**
IZM				*i* SG		**Sg**	**00 13 53.1**	**-0.1**
KDAG	**Bornova**	**0.62**	**66**	*i* P		**Pg**	**00 13 44.2**	**-1.0**
KDAG				*i* S		**Sg**	**00 13 51.9**	**-1.5**
PRK	**Paraskevi**	**1.12**	**349**	*e*PN		**Pn**	**00 13 55.3**	**+0.3**
PRK				*e*SN		**Sn**	**00 14 11.3**	**+0.4**
PRK	**Paraskevi**	**1.12**	**349**	*e*Pn		**Pn**	**00 13 55.3**	**+0.3**
PRK				*e*Sn		**Sn**	**00 14 10.2**	**-0.7**
AYDN	**Tasoluk**	**1.16**	**114**	*i* P		**Pb**	**00 13 55.4**	**+0.5**
AYDN				*i* S		**Sb**	**00 14 10.4**	**+0.3**
AYVA	**Ayvalik**	**1.16**	**5**	*i* P		**Pb**	**00 13 50.2**	**-4.8**
AYVA				*i* S		**Sb**	**00 14 11.3**	**+1.1**
AKS	**Akhisar**	**1.23**	**53**	PN		**Pn**	**00 13 56.4**	**-0.2**
BODT	**Bodrum**	**1.24**	**151**	PN		**Pn**	**00 13 55.5**	**-1.3**
BODT				SN		**Sn**	**00 14 14.0**	**-0.1**
MLSB	**Milas**	**1.29**	**131**	*e*PN		**Pn**	**00 13 57.3**	**-0.2**
BDRM	**Kayabasi**	**1.29**	**146**	*i* P		**Pb**	**00 13 57.7**	**+0.5**
BDRM				*i* S		**Sb**	**00 14 12.8**	**-1.3**
APE	**Apeiranthos**	**1.35**	**217**	PN		**Pn**	**00 13 57.2**	**-1.1**
APE	**Apeiranthos**	**1.35**	**217**	*e*Pn		**Pn**	**00 13 58.0**	**-0.3**
MANT	**Manisa**	**1.62**	**77**	*i* P		**Pn**	**00 14 04.1**	**+2.0**
MANT				*i* S		**Sb**	**00 14 22.6**	**-0.8**
DAT	**Datca**	**1.64**	**150**	*e*PN		**Pn**	**00 14 02.8**	**+0.4**
YER	**Yerkesik**	**1.71**	**126**	*e*PN		**Pn**	**00 14 03.6**	**+0.1**
BALB	**Balikesir**	**1.82**	**35**	*e*PN		**Pn**	**00 14 05.0**	**0.0**
LIA	**Limnos Island**	**2.04**	**329**	*e*PN		**Pn**	**00 14 08.8**	**+0.5**
PTL	**Penteli**	**2.12**	**268**	*e*PG		**Pg**	**00 14 14.5**	**-0.5**
PTL				*e*SG		**Sg**	**00 14 17.0**	**+2.0**
DST	**Dursunbey**	**2.18**	**48**	*e*PN		**Pn**	**00 14 10.4**	**+0.2**
MPAR	**Parnis Oros**	**2.22**	**271**	*i*PG		**Pg**	**00 14 13.6**	**-3.4**
MPAR				*e*SG		**Pg**	**00 14 15.5**	**-1.5**
ATH	**Athens Observa**	**2.24**	**266**	*e*PG		**Pg**	**00 14 16.0**	**-1.5**
BNT	**Bandirma**	**2.45**	**25**	*e*PN		**Pn**	**00 14 14.1**	**+0.1**

*NEIC **04** 00:15:03.6, 36.84N×11.07W, MN2.5(MDD), After MDD.*
*IGIL **04** 00:15:05.8, 36.85N×10.97W, h2km, ML1.9*
MDD 04 00:15:03.9±2.5, 36.80N×11.05W, mbLg2.5/3, Error ellipse: s-maj=21.9km s-min=18.3km az=82.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MORF	**Marmelete**	**1.98**	**75**	*e*P		Pn	00 15 37.6	-1.5
MORF				*e*S		Sn	00 16 00.6	-4.4
MORF				*e*S		Sn	00 16 00.6	-4.4
MORF				AML		AML	00 16 04.1	
	comp=N,9.3nm,0.1s							
PTEO	**Sao Teotonio**	**2.00**	**67**	*e*Pn		Pn	00 15 37.8	-1.5
PTEO				*e*Sn		Sn	00 16 02.7	-2.8
PLOU	**Loures**	**2.57**	**35**	*e*Sn		Sn	00 16 16.9	-3.0
PBEJ	**Beja**	**2.81**	**63**	*e*Pn		Pn	00 15 49.7	-1.3
PBEJ				*e*Sn		Sn	00 16 22.2	-3.9
EGRO	**El Granado**	**2.94**	**74**	P		Pn	00 15 51.0	-1.8
	comp=N,0.2nm,0.1s,SNR=7.9							
EGRO				S		Sn	00 16 24.9	-4.4
	comp=N,1.6nm,0.1s,SNR=6.4							
EMIN	**Mina Concepcio**	**3.62**	**73**	P		Pn	00 15 59.9	-2.5
	comp=N,0.2nm,0.1s,SNR=7.9							
EMIN				S		Sn	00 16 41.0	-5.5
	comp=N,0.7nm,0.1s,SNR=5.8							
EBAD	**Badajoz**	**3.75**	**57**	P		Pn	00 16 01.7	-2.5
	comp=N,0.4nm,0.2s,SNR=7.9							
EBAD				S		Sn	00 16 44.0	-5.8
	comp=N,2.3nm,0.2s,SNR=7.9							
PCBR	**Castelo Branco**	**4.14**	**42**	*e*Sn		Sn	00 16 54.4	-5.2
ESPR	**Espera**	**4.17**	**88**	P		Pn	00 16 06.4	-3.8
	comp=N,2.5nm,0.2s,SNR=7.9							
ESPR				S		Sn	00 16 54.0	-6.3
	comp=N,7.3nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**4.62**	**31**	*e*Sn		Sn	00 17 05.8	-6.1
EADA	**Adamuz**	**5.33**	**73**	P		Pn	00 16 23.6	-3.0
	comp=N,0.1nm,0.3s,SNR=7.9							
EADA				S		Sn	00 17 22.3	-7.3
	comp=N,0.3nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.56**	**24**	P		Pn	00 16 25.6	-4.5
	comp=N,0.3nm,0.1s,SNR=4.0							
ELOB				S		Sn	00 17 26.5	-9.1
	comp=N,0.3nm,0.0s,SNR=7.9							

*NEIC **04** 00:15:08.1±0.5, 48.14N×153.08E, h100km, mb4.2/4, Error ellipse: s-maj=15.0km s-min=10.2km az=187.0*
*IDC **04** 00:15:17.7±3.9, 48.15N×153.09E, h188km±38km, mb3.6/16, mb1 3.8/17, mb1mx3.7/26, mbtmp4.1/17, Error ellipse: s-maj=23.1km s-min=17.4km az=15.0*
ISC 04 00:15:17.5±3.0, 48.2N±0.2×153.0E±0.2, h201km±30km, n26, σ0°84/26, mb3.7/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.29**	**245**	P		**P**	**00 17 15.6**	**+0.2**
	1.7nm,0.3s,baz=90,slow=7.1,SNR=11							
MKAR	**Makanchi Array**	**46.26**	**296**	P		**P**	**00 23 24.2**	**+0.3**
	1.4nm,0.6s,mb3.5,baz=62,slow=7.2,SNR=12							
KURK	**Kurchatov**	**46.55**	**302**	*e*P		**P**	**00 23 26.0**	**-0.2**
	2.1nm,0.4s,mb3.8							
BVAR	**Borovoye Array**	**49.93**	**308**	P		**P**	**00 23 51.9**	**-0.2**
	3.4nm,0.5s,mb4.0,baz=60,slow=7.3,SNR=23							
BRVK	**Borovoye**	**49.97**	**309**	*e*P		**P**	**00 23 52.0**	**-0.5**
AAK	**Ala-Archa**	**53.17**	**295**	*e*P		**P**	**00 24 15.3**	**-1.1**
	0.8nm,0.6s,mb3.3							
ARCES	**ARCESS Array B**	**56.51**	**340**	P		**P**	**00 24 39.5**	**-0.6**
	4.5nm,1.1s,mb4.0,baz=34,slow=7.8,SNR=6.4							
AKTO	**Aktyubinsk**	**57.76**	**311**	P		**P**	**00 24 48.6**	**-0.5**
	1.1nm,0.7s,mb3.6,baz=34,slow=5.7,SNR=3.5							
JOF	**Joensuu**	**60.05**	**333**	*e*p		**P**	**00 25 03.4**	**-1.4**
	1.8nm,0.5s,mb4.0							
NVAR	**Mina Array Bea**	**61.84**	**63**	P		**P**	**00 25 16.3**	**-0.8**
	0.4nm,0.7s,mb3.2,baz=284,slow=7.4,SNR=2.7							
KAF	**Kangasniemi**	**62.15**	**335**	*e*p		**P**	**00 25 17.8**	**-1.0**
	baz=34,slow=6.0							
FINES	**FINESS Array B**	**62.75**	**334**	P		**P**	**00 25 21.7**	**-1.1**
	2.0nm,0.3s,mb4.2,baz=34,slow=8.4,SNR=41							
BW06	**Boulder Array**	**63.98**	**54**	*e*P		**P**	**00 25 30.8**	**-0.1**
	0.7nm,0.7s,mb4.4							
PDAR	**Pinedale Array**	**63.98**	**54**	P		**P**	**00 25 31.2**	**+0.2**
	0.7nm,0.8s,mb3.4,baz=309,slow=5.8,SNR=2.9							
NB2	**NORSAR Subarra**	**66.89**	**341**	P		**P**	**00 25 48.9**	**-0.3**
	1.2nm,0.4s,mb3.9,baz=30,slow=6.2							
NOA	**NORSAR Array B**	**66.89**	**341**	P		**P**	**00 25 49.0**	**-0.2**
	1.7nm,0.8s,mb3.7,baz=27,slow=6.3,SNR=4.3							
HFS	**Hagfors**	**67.13**	**339**	P		**P**	**00 25 50.7**	**0.0**
	2.1nm,0.5s,mb4.0,baz=56,slow=5.3,SNR=19							
WRA	**Warramunga Arr**	**69.82**	**199**	P		**P**	**00 26 07.5**	**-0.5**
	0.3nm,0.4s,mb3.3,baz=16,slow=6.4,SNR=5.5							
AKASG	**Malin Array Be**	**70.35**	**326**	P		**P**	**00 26 10.1**	**-0.6**
	0.6nm,0.4s,mb3.6,baz=31,slow=5.9,SNR=5.8							
EKA	**Eskdalemuir Ar**	**74.97**	**346**	P		**P**	**00 26 38.3**	**+0.8**
	0.8nm,0.5s,mb3.6,baz=14,slow=5.1,SNR=6.1							
VRAC	**Vranov**	**75.88**	**332**	P		**P**	**00 26 44.0**	**+1.3**
	2.7nm,0.6s,mb4.1,baz=35,slow=4.9,SNR=4.3							
MLR	**Muntele Rosu**	**75.89**	**325**	P		**P**	**00 26 44.1**	**+1.2**
	2.4nm,0.5s,mb4.1,baz=268,slow=5.2,SNR=6.4							
KHC	**Kasperske Hory**	**76.95**	**334**	*e*P		**P**	**00 26 50.0**	**+1.3**
GRF	**Grafenberg Arr**	**77.12**	**336**	*e*P		**P**	**00 26 51.0**	**+1.4**
	5.0nm,0.9s,mb4.1							
GERES	**GERESS Array B**	**77.17**	**334**	P		**P**	**00 26 50.9**	**+1.0**
	1.0nm,0.5s,mb3.7,baz=36,slow=6.1,SNR=14							
BRTR	**Keskin Array B**	**77.33**	**316**	P		**P**	**00 26 52.3**	**+1.3**
	0.9nm,0.8s,mb3.4,baz=76,slow=5.1,SNR=3.7							

*MOS **04** 00:16:50.2±0.8, 57.13N×156.71W, h73km, mb5.1/51, MS4.5/5, Error ellipse: s-maj=10.5km s-min=3.9km az=83.7*
*BJI **04** 00:16:51.2, 57.10N×156.60W, h76km, mB5.4, mb4.8, Ms4.9, Msz4.7*
*NEIC **04** 00:16:52.2±0.1, 57.09N×156.63W, mb4.7/63, Error ellipse: s-maj=2.9km s-min=1.8km az=144.0*
*IDC **04** 00:16:53.0±0.7, 57.26N×156.54W, h78km±5km, mb4.3/28, mb1 4.5/34, mb1mx4.5/36, mbtmp4.7/34, MS3.3/7, Ms1 3.3/7, ms1mx3.0/32, Error ellipse: s-maj=12.2km s-min=7.9km az=3.0*
ISC 04 00:16:50.6±0.1, 57.09N±0.02×156.64W±0.03, h76km, h76km±1.5km:pP-P, n371, σ1s03/368, mb4.6/118, 24C-8D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ANPK	**Aniakchak Peak**	**0.85**	**254**	P		**P**	**00 17 09.3**	**+1.6**
KJL	**Kejulik**	**1.13**	**30**	P		**P**	**00 17 13.1**	**+1.9**
CAHL	**Cahill**	**1.21**	**36**	P		**P**	**00 17 13.9**	**+1.6**
CNTC	**Contact Creek**	**1.25**	**19**	P		**P**	**00 17 15.0**	**+2.2**
ANCK	**Angle Creek**	**1.27**	**29**	P		**P**	**00 17 15.2**	**+2.1**
ACHA	**Angle Creek He**	**1.33**	**32**	P		**P**	**00 17 15.7**	**+1.7**
ACHA				S		**S**	**00 17 33.2**	**+1.9**
MGLS	**Mageik LS**	**1.33**	**32**	P		**P**	**00 17 15.4**	**+1.3**
KABR	**Katmai Barrier**	**1.38**	**40**	P		**P**	**00 17 15.8**	**+1.1**
KAWH	**Katmai**	**1.63**	**37**	P		**P**	**00 17 19.2**	**+1.2**
KAWH				S		**S**	**00 17 40.2**	**+2.0**
KARR	**Katmai Rainbow**	**1.75**	**35**	P		**P**	**00 17 21.5**	**+1.9**
KAHG	**Katmai Hook Gl**	**1.80**	**38**	P		**P**	**00 17 21.9**	**+1.6**
KAPH	**Katmai Pasha**	**1.95**	**38**	P		**P**	**00 17 24.0**	**+1.7**
KDAK	**Kodiak Island**	**2.30**	**71**	P		**P**	**00 17 26.8**	**-0.4**
	282nm,0.3s,baz=240,slow=7.1,SNR=1557							
KDAK				S		**S**	**00 17 52.5**	**-1.9**
	377nm,0.3s,baz=262,slow=10,SNR=9.2							
KDAK				LR		LR	00 17 58.8	
	comp=Z,841nm,19.1s,baz=253,slow=30							
KDAK	**Kodiak Island**	**2.30**	**71**	P		**P**	**00 17 26.8**	**-0.4**
KDAK				S		**S**	**00 17 52.9**	**-1.6**
BGM	**Big Mountain**	**2.43**	**17**	P		**P**	**00 17 31.1**	**+2.1**
SDPT	**Sand Point**	**2.76**	**232**	P		**P**	**00 17 34.2**	**+0.5**
AUW	**Augustine West**	**2.84**	**35**	P		**P**	**00 17 36.7**	**+2.0**
AUH	**Augustine H**	**2.84**	**35**	P		**P**	**00 17 36.9**	**+2.2**
AUL	**Augustine Lava**	**2.86**	**35**	P		**P**	**00 17 37.1**	**+2.1**
OPT	**Oil Point**	**3.14**	**34**	P		**P**	**00 17 40.7**	**+1.8**
BLHA	**Black Hill**	**3.32**	**248**	P		**P**	**00 17 42.2**	**+0.8**
BLHA				S		**S**	**00 18 20.6**	**+0.7**
PVV	**Pavlof Volcano**	**3.35**	**241**	P		**P**	**00 17 42.7**	**+0.8**
PN6	**Pavlof North-6**	**3.37**	**243**	P		**P**	**00 17 43.7**	**+1.6**
HAG	**Hague Volcano**	**3.43**	**241**	P		**P**	**00 17 44.0**	**+1.0**
IVS	**Iliamna South**	**3.47**	**31**	P		**P**	**00 17 45.5**	**+1.9**
ILW	**Iliamna West**	**3.50**	**30**	P		**P**	**00 17 45.7**	**+1.8**
DOL	**Dolgoi Island**	**3.51**	**239**	P		**P**	**00 17 44.1**	**0.0**
DOL				S		**S**	**00 18 24.5**	**-0.1**
INE	**Iliamna NE**	**3.52**	**31**	P		**P**	**00 17 46.1**	**+1.9**
DTNA	**Dutton South F**	**3.69**	**241**	P		**P**	**00 17 47.1**	**+0.5**
DT1	**Dutton Round H**	**3.73**	**240**	P		**P**	**00 17 47.4**	**+0.2**
CNPM	**China Poot**	**3.76**	**47**	P		**P**	**00 17 47.8**	**+0.3**
DRIA	**Deer Island**	**3.80**	**238**	P		**P**	**00 17 48.0**	**-0.1**
BALA	**Baldy Mountain**	**3.93**	**244**	P		**P**	**00 17 51.1**	**+1.3**
RSO	**Redoubt South**	**3.94**	**29**	P		**P**	**00 17 52.1**	**+2.0**
SVW2	**Sparrevohn**	**4.06**	**7**	P		**P**	**00 17 53.1**	**+1.4**
RDT	**Redoubt**	**4.13**	**30**	P		**P**	**00 17 54.3**	**+1.6**
CKL	**Chakachamna La**	**4.68**	**26**	P		**P**	**00 18 01.9**	**+1.6**
SPU	**Mount Spurr**	**4.74**	**28**	P		**P**	**00 18 02.5**	**+1.4**
SLKM	**Skilak Lake**	**4.79**	**42**	*e*P		**P**	**00 18 01.2**	**-0.6**
SEW	**Seward**	**4.83**	**48**	P		**P**	**00 18 01.3**	**-1.0**
STLK	**Strandline Lak**	**5.06**	**27**	P		**P**	**00 18 07.2**	**+1.6**
MPA	**Moose Pass**	**5.09**	**45**	P		**P**	**00 18 05.2**	**-0.9**
WESN	**West Dahl Nort**	**5.14**	**244**	P		**P**	**00 18 07.1**	**+0.4**
WPOG	**Pogromni**	**5.20**	**245**	P		**P**	**00 18 07.8**	**+0.3**
FIB	**Fire Island**	**5.27**	**36**	P		**P**	**00 18 09.9**	**+1.4**
RC01	**Rabbit Creek A**	**5.36**	**39**	P		**P**	**00 18 09.2**	**-0.5**
TT01	**Tatalina**	**5.85**	**3**	P		**P**	**00 18 17.8**	**+1.4**
TTA	**Tatalina**	**5.87**	**3**	*e*P		**P**	**00 18 17.5**	**+0.8**
PMR	**Palmer**	**5.93**	**37**	P		**P**	**00 18 17.4**	**-0.1**
AHB	**Akutan Harbor**	**5.99**	**244**	P		**P**	**00 18 18.3**	**-0.1**
LVA	**Lava Point**	**6.07**	**245**	P		**P**	**00 18 19.9**	**+0.4**
GHO	**Glory Hole Cre**	**6.13**	**37**	P		**P**	**00 18 19.5**	**-0.8**
GLI	**Glacier Island**	**6.23**	**48**	P		**P**	**00 18 19.5**	**-2.2**
HIN	**Hinchinbrook I**	**6.23**	**54**	P		**P**	**00 18 20.6**	**-1.2**
SML	**Sawmill**	**6.35**	**38**	P		**P**	**00 18 22.8**	**-0.6**
FID	**Port Fidalgo**	**6.42**	**51**	P		**P**	**00 18 21.8**	**-2.6**
UNV	**Unalaska Valle**	**6.48**	**244**	P		**P**	**00 18 24.4**	**-0.8**
MTBL	**Makushin Table**	**6.50**	**245**	P		**P**	**00 18 25.8**	**+0.3**
MNAT	**Makushin Natee**	**6.55**	**245**	P		**P**	**00 18 25.8**	**-0.4**
MCIR	**Makushin Cirqu**	**6.61**	**246**	P		**P**	**00 18 27.3**	**+0.2**
EYAK	**Cordova Ski Ar**	**6.63**	**54**	P		**P**	**00 18 25.8**	**-1.7**
SCM	**Sheep Creek Mo**	**6.72**	**41**	P		**P**	**00 18 27.5**	**-1.1**
DIV	**Divide**	**6.91**	**50**	P		**P**	**00 18

MNV Mina 31.32 110 *e*P P **00 23 05.8 +0.2**
comp=Z,6.5nm,1.0s,mb4.3
LOHW Long Hollow 31.66 95 *e*P P **00 23 09.0 +0.5**
comp=Z,4.3nm,1.1s,mb4.1
AHID Auburn Hatcher 31.96 97 P P **00 23 12.0 +1.0**
comp=Z,5.2nm,0.3s,mb4.7
HWUT Hardware Ranch 32.51 99 *e*P P **00 23 16.2 +0.4**
comp=Z,5.5nm,1.0s,mb4.3
PDAR Pinedale Array 32.80 95 P P **00 23 18.4 0.0**
comp=Z,1.4nm,0.7s,mb3.9,baz=317,slow=5.5,SNR=9.2
PDAR pP pP 00 23 37.8 +1.3
comp=Z,7.5nm,0.6s,baz=322,slow=5.0,SNR=22
TPNV Topopah Spring 33.43 110 *e*P P **00 23 24.5 +0.6**
TPNV pmax pmax
comp=Z,15nm,1.0s,mb4.8
TPNV Topopah Spring 33.43 110 *e*P P **00 23 24.5 +0.6**
comp=Z,14nm,1.0s,mb4.8
DAU Daniels Canyon 33.51 100 *e*P P **00 23 24.6 +0.1**
ARUT Antelope Range 34.26 106 *e*P P **00 23 31.5 +0.6**
MVU Marysvale 34.38 103 *e*P P **00 23 33.3 +1.4**
comp=Z,13nm,1.2s,mb4.6
MSU Marysvale 34.39 103 *e*P P **00 23 32.4 +0.3**
RWWY Rawlins 34.81 95 *e*P P **00 23 35.1 -0.5**
comp=Z,21nm,0.8s,mb5.0
RWWY *e*pP pP 00 23 53.1 -0.8
SRU San Rafael 34.84 101 *e*P P **00 23 36.6 +0.8**
SRU pmax pmax
comp=Z,30nm,1.1s,mb5.0
SRU San Rafael 34.84 101 *e*P P **00 23 36.5 +0.7**
comp=Z,30nm,1.1s,mb5.0
RSSD Black Hills 34.91 89 *e*P P **00 23 36.3 -0.1**
RSSD pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
RSSD Black Hills 34.91 89 *e*P P **00 23 36.3 -0.1**
comp=Z,8.3nm,0.6s,mb4.7
NEN Nelson 35.16 109 *e*P P **00 23 39.3 +0.7**
NEN *e*pP pP 00 23 57.0 0.0
ULM Lac du Bonnet 35.56 74 P P **00 23 41.7 -0.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=309,slow=10.0,SNR=10
ULM pP pP 00 23 59.7 -0.5
comp=Z,2.6nm,0.4s,baz=300,slow=9.1,SNR=4.7
ULM LR LR 00 37 39.9
comp=Z,45nm,19.1s,baz=23,slow=35
ULM Lac du Bonnet 35.56 74 P P **00 23 41.7 -0.2**
ULM pP pP 00 23 59.7 -0.5
ULM LR LR 00 37 39.9
YAK Yakutsk 35.78 309⇑ *e*P P **00 23 42.3 -1.4**
YAK pmax pmax
comp=Z,30nm,0.6s,mb5.4
ISCO Idaho Springs 37.00 96 P P **00 23 55.0 +0.9**
ISCO pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
ISCO Idaho Springs 37.00 96 P P **00 23 55.0 +0.9**
comp=Z,2.5nm,0.3s,mb4.6
SDCO Great Sand Dun 38.53 98 *e*P P **00 24 08.0 +1.1**
comp=Z,4.7nm,0.9s,mb4.3
EYMN Ely 39.24 75 *e*P P **00 24 12.4 -0.2**
comp=Z,10.0nm,0.6s,mb4.8
ASAJ Asahikawa 39.35 278 P P **00 24 13.6 0.0**
comp=Z,5.4nm,0.6s,mb4.6,baz=202,slow=33,SNR=6.2
ANMO Albuquerque 40.10 102 P P **00 24 19.0 -0.9**
comp=Z,0.6nm,0.6s,mb3.6,baz=316,slow=11,SNR=2.4
ANMO pP pP 00 24 39.9 +1.5
comp=Z,1.3nm,0.5s,baz=340,slow=10,SNR=3.8
ANMO PcP PcP 00 26 24.1 +0.2
comp=Z,1.3nm,0.7s,baz=290,slow=2.3,SNR=3.9
BNM Barren Site 40.62 103 *e*P P **00 24 24.5 +0.3**
KLR Kul'dur 41.79 291 *e*P P **00 24 30.4 -3.1**
MNTX Cornudas Mount 43.17 104 *e*P P **00 24 45.1 0.0**
comp=Z,4.4nm,0.9s,mb4.2
MNTX *e*pP pP 00 25 02.9 -0.8
DAG Danmarks Havn 43.79 13⇓ *i*P P **00 24 48.5 -1.0**
comp=Z,15nm,0.5s,mb5.0
DAG Danmarks Havn 43.79 13⇓ *e*P P **00 24 48.5 -1.0**
DAG pmax pmax
comp=Z,15nm,0.5s,mb5.0
DAG Danmarks Havn 43.79 13⇓ *e*P P **00 24 48.5 -1.0**
comp=Z,16nm,0.5s,mb5.0
SUMG Summit 43.85 23 *e*P P **00 24 49.7 -0.4**
comp=Z,8.6nm,0.8s,mb4.5
WMOK Wichita Mounta 44.41 95 *e*P P **00 24 54.6 -0.4**
WMOK pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
WMOK Wichita Mounta 44.41 95 *e*P P **00 24 54.6 -0.4**
comp=Z,10nm,1.2s,mb4.4
SFJD Kangerlussuaq 44.67 33 P P **00 24 57.2 +0.5**
comp=Z,30nm,0.7s,mb5.1,baz=307,slow=9.5,SNR=16
SFJD Kangerlussuaq 44.67 33⇑ *i*P P **00 24 56.8 +0.1**
comp=Z,24nm,0.6s,mb5.1
SFJD Kangerlussuaq 44.67 33⇑ *i*P P **00 24 56.8 +0.1**
SFJD pmax pmax
comp=Z,24nm,0.6s,mb5.1
BOD Bodaibo 44.68 310 *e*P P **00 24 55.7 -1.2**
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
MDJ Mudanjiang 45.94 287 P P **00 25 12.3 +5.2**
MDJ AMB AMB
comp=Z,410nm,4.9s
TXAR Lajitas Array 45.94 104 P P **00 25 07.6 +0.3**
comp=Z,3.1nm,0.7s,mb4.1,baz=314,slow=5.6,SNR=43
TXAR pP pP 00 25 28.3 +2.3
comp=Z,2.4nm,0.6s,baz=283,slow=6.0,SNR=7.6
TXAR PcP PcP 00 26 43.0 -0.5
comp=Z,0.9nm,0.5s,baz=172,slow=0.6,SNR=8.3
TXAR ScP 00 30 29.1
comp=Z,1.1nm,1.1s,baz=270,slow=2.5,SNR=4.2
SCHQ Schefferville 46.81 53 P P **00 25 13.7 -0.1**
comp=Z,5.7nm,0.6s,mb4.5,baz=314,slow=7.7,SNR=14
SCHQ LR LR 00 45 43.8
comp=Z,63nm,19.5s,baz=78,slow=37
MJAR Matsushiro Arr 47.04 273 P P **00 25 15.8 -0.1**
comp=Z,1.6nm,0.5s,mb4.0,baz=44,slow=6.9,SNR=8.0
JCT Junction City 47.11 99 *e*P P **00 25 15.5 -1.0**
JCT *e**PP pP 00 25 34.6 -0.7
JCT pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
JCT Junction City 47.11 99 *e*P P **00 25 15.5 -1.0**
comp=Z,6.4nm,0.6s,mb4.5
JCT *e*pP pP 00 25 34.6 -0.7
CN2 Changchun 48.65 289 *e*P P **00 25 34.4 +6.1**
CN2 *e*AP pP 00 25 44.5 -2.7
CN2 *e*S S **00 32 33.4 +10**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 LR LR
comp=N,740nm,15.0s
CN2 LR LR
comp=E,700nm,15.0s
CN2 LR LR
comp=Z,710nm,19.0s
SCO Scoresbysund 48.70 19 *i*P P **00 25 27.5 -0.8**
OXF Oxford 49.69 87 *e*P P **00 25 34.8 -1.6**
OXF pmax pmax
comp=Z,52nm,1.2s,mb5.3
OXF Oxford 49.69 87 *e*P P **00 25 34.8 -1.6**
comp=Z,52nm,1.2s,mb5.3
SWET Sewanee 51.05 84 P P **00 25 45.0 -1.8**
ELN Prospectdale 52.34 78 *e*P P **00 25 55.0 -1.4**
KEV Kevo 53.43 358 *e*p P **00 26 02.5 -1.6**
comp=Z,8.9nm,0.4s,mb5.2
KEV Kevo 53.43 358 *e*P P **00 26 02.5 -1.6**
KEV pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
TRO Tromso 53.54 2 *e*P P **00 26 03.1 -1.8**
ARCES ARCESS Array B 53.67 359 P P **00 26 04.5 -1.4**
comp=Z,5.2nm,0.5s,mb4.8,baz=14,slow=7.5,SNR=51
ARE0 ARCESS Array S 53.67 359 *e*P P **00 26 04.0 -1.9**
KTK1 Kautokeino 54.21 0 *e*P P **00 26 08.5 -1.3**
KTK1 AMb AMB 00 26 14.5
comp=Z,49nm,1.6s,mb5.3
KTK1 *e*pP pP 00 26 28.9 -0.2
KTK1 Kautokeino 54.21 0 *e*P P **00 26 08.5 -1.3**
comp=Z,49nm,1.6s,mb5.3
ULN Ulaanbaatar 54.62 305 *e*P P **00 26 12.4 -0.7**
SONM Songino Array 54.93 305 P P **00 26 15.0 -0.4**
comp=Z,4.8nm,0.6s,mb4.7,baz=40,slow=5.9,SNR=31
SONM PcP PcP 00 27 16.3 0.0
comp=Z,3.2nm,0.6s,baz=113,slow=2.2,SNR=5.4
SONM ScP 00 31 08.4
comp=Z,1.1nm,1.0s,baz=11,slow=7.6,SNR=3.7
NHSC New Hope 55.76 81 P P **00 26 20.4 -1.2**
MOR8 Moi Rana 56.88 4 *e*P P **00 26 26.9 -2.2**
HHC Hu-ho-hao-te 57.80 296 *e*P P **00 26 36.3 +0.4**
HHC AP pP 00 26 55.6 +0.2
HHC XP sP 00 27 04.9 +0.9
HHC PCP PcP 00 27 29.1 +1.6
HHC PP PP 00 28 46.4 +0.1
HHC PCS 00 31 31.8
HHC S **S** **00 34 26.5 -0.9**
HHC XS 00 34 59.8
HHC SCS ScS 00 36 14.3 -0.1
HHC SS SS 00 38 17.7 -2.8
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,220nm,5.0s
HHC LR LR
comp=N,240nm,13.1s
HHC LR LR
comp=E,510nm,11.9s
HHC LR LR
comp=Z,200nm,11.9s
NVS Novosibirsk 58.34 324 *e*P P **00 26 37.4 -2.0**
NSS Namsos 58.40 6 *e*P P **00 26 37.7 -2.1**
ZAL Zalesovo 58.58 323 P P **00 26 39.8 -1.3**
comp=Z,2.0nm,0.8s,mb4.2,baz=82,slow=7.9,SNR=15
JOF Joensuu 60.17 356 *e*p P **00 26 50.6 -1.4**
comp=Z,6.5nm,0.3s,mb5.1
SSE Sheshan 60.37 282 P P **00 26 51.1 -2.7**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,200nm,4.5s
KAF Kangasniemi 61.11 358 *e*p P **00 26 56.8 -1.6**
comp=Z,9.1nm,0.4s,mb5.2,baz=357,slow=6.5
KAF Kangasniemi 61.11 358 *e*P P **00 26 56.8 -1.6**
KAF pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
KLMR Klimovskoe 61.71 351 *e*P P **00 27 00.9 -1.5**
KLMR pmax pmax
comp=Z,30nm,1.4s,mb5.1
FINES FINESS Array B 61.79 359 P P **00 27 01.5 -1.4**
comp=Z,13nm,0.7s,mb5.1,baz=15,slow=8.4,SNR=50
NB2 NORSAR Subarra 61.83 7 P P **00 27 02.2 -1.0**
comp=Z,15nm,0.7s,mb5.1,baz=353,slow=7.0
NB2 NORSAR Subarra 61.83 7 P P **00 27 02.2 -1.0**
baz=353,slow=6.9
NOA NORSAR Array B 61.83 7 P P **00 27 02.2 -1.0**
comp=Z,14nm,0.7s,mb5.1,baz=353,slow=6.8,SNR=44
NAO01 NORSAR Array S 62.00 7 *e*P P **00 27 02.8 -1.5**
comp=Z,12nm,0.8s,mb5.0
HFS Hagfors 62.87 5 P P **00 27 09.0 -1.2**
comp=Z,17nm,0.7s,mb5.1,baz=18,slow=4.7,SNR=38
KURK Kurchatov 63.32 324⇑ *i*P P **00 27 11.8 -1.5**
KURK Kurchatov 63.32 324 *e*P P **00 27 11.3 -2.0**
comp=Z,2.2nm,0.4s,mb4.4
ARU Arti 63.33 339⇑ *i*P P **00 27 11.6 -1.7**
ARU *e*S S **00 35 41.9 +4.0**
ARU *e*SS SS 00 39 40.0 -7.5
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ARU MLR MLR
comp=Z,300nm,20.0s
ARU MLR MLR
comp=N,200nm,19.0s
ARU MLR MLR
comp=E,200nm,20.0s
BRVK Borovoye 63.71 331 *e*P P **00 27 13.9 -1.7**
BRVK pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
BRVK Borovoye 63.71 331 *e*P P **00 27 13.9 -1.7**
comp=Z,3.3nm,0.4s,mb4.5
BVA0 Borovoye Array 63.71 330 *i*P P **00 27 14.1 -1.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
BVAR Borovoye Array 63.71 330 P P **00 27 14.7 -0.9**
comp=Z,6.9nm,0.5s,mb4.7,baz=29,slow=6.0,SNR=46
VOSK Vostochnaya 63.82 330 P P **00 27 14.8 -1.6**
VOSK pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
GTA Gaotai 64.49 303 *e*P P **00 27 20.6 -0.3**
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
VSU Vasula 64.77 358⇑ *i*P P **00 27 21.4 -1.0**
LZH Lanzhou 65.28 298 *e*P P **00 27 25.4 -0.7**
LZH AP pP 00 27 44.6 -1.4
LZH XP sP 00 27 53.2 -1.1
LZH *e*PP PP 00 29 51.3 -1.3
LZH *e*S S 00 36 00.5 -1.6
LZH *e*SS SS 00 40 24.5 +6.6
LZH AMB AMB
comp=Z,20nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,80nm,6.1s
LZH LR LR
comp=N,410nm,15.2s
LZH LR LR
comp=Z,750nm,17.8s
MK31 Makanchi Array 65.47 320 P P **00 27 25.5 -1.6**
MK31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
MKAR Makanchi Array 65.47 320 P P **00 27 26.1 -1.1**
comp=Z,2.1nm,0.6s,mb4.2,baz=45,slow=6.9,SNR=17
EKA Eskdalemuir Ar 65.89 16 P P **00 27 29.6 0.0**
comp=Z,15nm,0.7s,mb5.0,baz=331,slow=5.7,SNR=105
WMQ Urumqi 65.99 314 *e*P P **00 27 31.1 +0.6**
WMQ AP pP 00 27 50.8 +0.4
WMQ XP sP 00 27 59.4 +0.7
WMQ PP PP 00 29 59.5 +0.7
WMQ AMB AMB
comp=Z,60nm,5.2s
WMQ LR LR
comp=N,340nm,18.6s
WMQ LR LR
comp=E,340nm,18.4s
WMQ LR LR
comp=Z,450nm,18.0s
DCN Croghan 67.12 19 *e*P P **00 27 37.0 -0.4**
OBN Obninsk 67.64 352 *ce*P P **00 27 39.3 -1.4**
OBN *e*SS SS 00 40 48.6 -5.4
OBN pmax pmax
comp=Z,27nm,1.0s,mb5.0
OBN Obninsk 67.64 352 *e*P P **00 27 38.8 -1.9**
comp=Z,9.7nm,0.6s,mb4.8
BSEG Bad Segeberg 68.83 8 *e*P P **00 27 48.4 +0.4**
BSEG pmax pmax
comp=Z,38nm,1.2s,mb5.1
AKTO Aktyubinsk 69.09 337 P P **00 27 48.6 -1.1**
comp=Z,3.5nm,0.4s,mb4.5,baz=18,slow=5.6,SNR=16
SUW Suwalki 69.26 0 *e*P P **00 27 49.9 -0.8**
AB31 Akbulak array 69.77 335 *i*P P **00 27 52.9 -1.0**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
CLZ Clausthal 70.91 8 *e*P P **00 28 01.4 +0.7**
CLZ pmax pmax
comp=Z,42nm,1.5s,mb5.0
CLZ Clausthal 70.91 8 *e*P P **00 28 01.4 +0.7**
comp=Z,42nm,1.5s,mb5.0
CHMS Chumysh 71.37 323 P P **00 28 04.2 +0.5**
SNR=5.1
KBK Karagaybulak 71.61 322 P P **00 28 05.8 +0.7**
SNR=8.6
CLL Collm 71.63 7 P P **00 28 04.8 -0.3**
comp=Z,logA/T=1.1,mb4.7
CLL *i* 00 28 07.4
CLL Collm 71.63 7 *i*P P **00 28 04.8 -0.3**
CLL pmax pmax
comp=Z,18nm,1.3s,mb4.7
CLL Collm 71.63 7 *i*P P **00 28 04.8 -0.3**
comp=Z,18nm,1.3s,mb4.7
CLL *i* 00 28 07.4
GYA Guiyang 71.69 290 P P **00 28 05.6 -0.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
AAK Ala-Archa 71.78 323 P P **00 28 06.6 +0.5**
SNR=5.6
AAK Ala-Archa 71.78 323 *d*P P **00 28 05.4 -0.8**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AAK Ala-Archa 71.78 323 *e*P P **00 28 05.0 -1.1**
comp=Z,2.1nm,0.5s,mb4.2
EKS2 Erkin-Say 71.99 323 P P **00 28 07.9 +0.5**
SNR=6.8
BAIF Baives 72.05 13 *e*P P **00 28 07.8 +0.2**
comp=Z,15nm,0.5s,mb4.8
BAIF Baives 72.05 13 *e*P P **00 28 07.8 +0.2**
BAIF pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
GIVF Givet 72.08 12 *e*P P **00 28 08.1 +0.3**
BRG Berggiesshubel 72.12 6 *e*P P **00 28 07.9 -0.1**
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.6
BRG MLR MLR
comp=N,278nm,21.8s
BRG MLR MLR
comp=E,143nm,20.4s
BRG MLR MLR
comp=Z,384nm,22.3s
BRG Berggiesshubel 72.12 6 *e*P P **00 28 07.9 -0.2**
comp=Z,11nm,1.0s,mb4.7
BRG LR LR
comp=Z,380nm,22.3s
MOX Moxa 72.20 8 *i*P P **00 28 08.7 +0.3**
comp=Z,logA/T=1.6,mb5.2
MOX L 01 14 22.0
MOX Moxa 72.20 8 *e*P P **00 28 08.7 +0.3**
MOX pmax pmax
comp=Z,73nm,1.8s,mb5.2
MOX MLR MLR
comp=Z,200nm,19.0s
MOX Moxa 72.20 8 *e*P P **00 28 08.7 +0.3**
comp=Z,73nm,1.8s,mb5.2
MOX LR LR
comp=Z,200nm,19.0s
KSP Ksiaz 72.28 5 *e*P P **00 28 09.0 +0.1**
TNS Taunus Mts 72.35 10 *e*P P **00 28 09.8 +0.5**
TNS pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
TNS Taunus Mts 72.35 10 *e*P P **00 28 09.8 +0.5**
comp=Z,7.0nm,0.6s,mb4.7
AKASG Malin Array Be 72.47 356 P P **00 28 09.0 -1.1**
comp=Z,9.5nm,0.4s,mb5.0,baz=5.7,slow=5.7,SNR=105
AML Almayashu 72.50 323 P P **00 28 11.4 +1.0**
SNR=6.2
PVCC Panska Ves 72.50 6 *e*P P **00 28 10.2 +0.1**
PVCC *ex* x 00 28 13.0
UPC Upice 72.60 5 *e*P P **00 28 11.0 +0.3**
KKAR Karatay Array 72.63 326 *i*P P **00 28 10.7 -0.3**
NKC Novy Kostel 72.67 7 *e*P P **00 28 11.6 +0.5**
FLN La Foliniere 72.68 16 *e*P P **00 28 11.2 0.0**
comp=Z,53nm,1.1s,mb5.0
FLN La Foliniere 72.68 16 *e*P P **00 28 11.2 0.0**
FLN pmax pmax
comp=Z,27nm,1.1s,mb5.0
DPC Dobruska-Polom 72.77 5 *e*P P **00 28 12.3 +0.6**
PRU Pruhonice 73.04 6 *e*P P **00 28 13.4 +0.2**
PRU *ex* x 00 28 15.5
GRA1 Grafenberg Arr 73.11 8 *e*P P **00 28 14.6 +0.9**
comp=Z,15nm,0.6s,mb5.0
GRA1 LR LR
comp=Z,300nm,21.8s
GRF Grafenberg Arr 73.11 8 *e*P P **00 28 14.6 +0.9**
GRF pmax pmax
comp=Z,15nm,0.6s,mb5.0
GRF MLR MLR
comp=Z,300nm,21.8s
GRF Grafenberg Arr 73.11 8 *e*P P **00 28 14.6 +0.9**
comp=Z,15nm,0.6s,mb5.0
GRF LR LR
comp=Z,300nm,21.8s
OKC Ostrava-Krasne 73.35 4 *e*P P **00 28 15.1 0.0**
MORC Moravsky Berou 73.39 4⇑ P P **00 28 15.5 +0.2**
KWP Kalwaria 73.65 0 *e*P P **00 28 17.2 +0.4**
WET Wettzell 73.78 7 *e*P P **00 28 18.3 +0.7**
WET pmax pmax
comp=Z,13nm,1.4s,mb4.5
WET Wettzell 73.78 7 *e*P P **00 28 18.3 +0.7**
comp=Z,13nm,1.4s,mb4.5
TREC Trest 73.78 5 *e*P P **00 28 17.7 +0.1**
VRAC Vranov 73.82 5 P P **00 28 18.4 +0.5**
comp=Z,5.4nm,0.5s,mb4.6,baz=321,slow=6.6,SNR=9.5
VRAC Vranov 73.82 5⇓ P P **00 28 18.5 +0.6**
KHC Kasperske Hory 73.84 7 *e*P P **00 28 18.6 +0.6**
KHC Kasperske Hory 73.84 7⇑ *i*P P **00 28 18.8 +0.8**
STHS Stebnicka Huta 73.85 1 *i*P P **00 28 18.8 +0.8**
STHS *e* 00 28 29.7
CDF Champ du Feu 74.02 11 *e*P P **00 28 19.5 +0.4**
comp=Z,9.2nm,0.6s,mb4.4
CDF Champ du Feu 74.02 11 *e*P P **00 28 19.5 +0.4**
CDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
GEC2 GERESS Array S 74.13 7 *e*P P **00 28 20.1 +0.4**
GEC2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
GEC2 GERESS Array S 74.13 7 *e*P P **00 28 20.1 +0.4**
comp=Z,7.0nm,0.7s,mb4.5
GERES GERESS Array B 74.13 7 P P **00 28 20.1 +0.4**
comp=Z,4.7nm,0.6s,mb4.4,baz=354,slow=4.6,SNR=50
BFO Black Forest 74.21 10 *e*P P **00 28 20.6 +0.5**
HAU Haudompre 74.32 12 *e*P P **00 28 21.1 +0.3**
comp=Z,18nm,0.7s,mb4.6
HAU Haudompre 74.32 12 *e*P P **00 28 21.1 +0.3**
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
KOLS Kolonicke sedl 74.34 1 *e*P P **00 28 21.3 +0.4**
KOLS *e* 00 28 25.8
CRVS Cervenica-Dubn 74.37 1 *e*P P **00 28 20.9 -0.1**
HINF Hinteralfeld 74.56 11 *e*P P **00 28 22.3 +0.1**
comp=Z,12nm,0.7s,mb4.4
HINF Hinteralfeld 74.56 11 *e*P P **00 28 22.3 +0.1**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
HYF Humbligny 74.59 14 *e*P P **00 28 23.1 +0.8**
FUR Furstenfeldbru 74.63 8 *e*P P **00 28 23.2 +0.6**
FUR pmax pmax
comp=Z,18nm,0.7s,mb4.9
FUR Furstenfeldbru 74.63 8 *e*P P **00 28 23.2 +0.6**
comp=Z,18nm,0.7s,mb4.9
VYHS Vyhne 74.72 3 *e*P P **00 28 22.9 -0.2**
LOR Lormes 74.75 14 *e*P P **00 28 23.6 +0.3**
comp=Z,11nm,0.7s,mb4.4
LOR Lormes 74.75 14 *e*P P **00 28 23.6 +0.3**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
KECS Kecovo 74.77 2 *e*P P **00 28 23.5 +0.2**
MFF Saint Martin d 74.83 17 *e*P P **00 28 23.9 +0.2**
SSF Saint Saulge 74.91 14 *e*P P **00 28 24.7 +0.5**
comp=Z,13nm,0.7s,mb4.5
SSF Saint Saulge 74.91 14 *e*P P **00 28 24.7 +0.5**
SSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ZST Bratislava 74.95 4 *e*P P **00 28 24.6 +0.2**
AVF Avril sur Loir 75.15 14 *e*P P **00 28 25.8 +0.2**
comp=Z,11nm,0.6s,mb4.4
AVF Avril sur Loir 75.15 14 *e*P P **00 28 25.8 +0.2**
AVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
BGF Bois d'Agland 75.31 14 *e*P P **00 28 26.8 +0.3**
SMF Signal de Mont 75.36 14 *e*P P **00 28 27.0 +0.3**
comp=Z,23nm,0.9s,mb4.6
SMF Signal de Mont 75.36 14 *e*P P **00 28 27.0 +0.3**
SMF pmax pmax
comp=Z,11nm,0.9s,mb4.6
MOTA Moosalm 75.44 9⇓ *i*P P **00 28 27.7 +0.5**
comp=Z,5.8nm,1.0s,mb4.2,SNR=5.4
TCF Toulx Ste Croi 75.49 15 *e*P P **00 28 27.9 +0.4**
WTTA Wattenberg 75.56 8⇑ *i*P P **00 28 28.9 +1.1**
comp=Z,14nm,0.5s,mb4.9
SQTA Sankt Quirin 75.57 9⇑ *i*P P **00 28 28.8 +0.9**
comp=Z,4.1nm,0.7s,mb4.3,SNR=8.6
BURAR Bucovina Array 75.65 359⇑ P P **00 28 28.9 +0.5**
BURAR Bucovina Array B 75.65 359⇑ P P **00 28 28.9 +0.5**
CABF La Chapelle 75.67 12 *e*P P **00 28 29.2 +0.7**
KBA Koelnbreinsper 75.87 7 *i*P P **00 28 30.9 +1.2**
comp=Z,15nm,0.5s,mb5.0,SNR=14
DAVOX Davos 75.89 10 P P **00 28 31.2 +1.4**
comp=Z,8.3nm,0.5s,mb4.7,baz=163,slow=22,SNR=38
RJF Les Rejaudoux 76.35 16 *e*P P **00 28 32.5 +0.1**
comp=Z,4.2nm,0.5s,mb4.2
RJF Les Rejaudoux 76.35 16 *e*P P **00 28 32.5 +0.1**
RJF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
PERS Pernice 76.42 6 *i*P P **00 28 33.5 +0.8**
DRGR 76.49 0⇑ P P **00 28 32.3 -0.9**
LSA Lhasa 76.50 304 *e*P P **00 28 34.7 +1.1**
LSA Lhasa 76.50 304 *e*P P **00 28 34.4 +0.8**
LSA pmax pmax
comp=Z,13nm,0.8s,mb4.7
LSA Lhasa 76.50 304 *e*P P **00 28 34.4 +0.8**
comp=Z,13nm,0.8s,mb4.7
OBKA Obir 76.51 6 *i*P P **00 28 34.0 +0.8**
comp=Z,27nm,0.5s,mb5.2,SNR=26
LFF La Frestale 76.59 16 *e*P P **00 28 34.3 +0.5**
comp=Z,64nm,0.9s,mb5.0
LFF La Frestale 76.59 16 *e*P P **00 28 34.3 +0.5**
LFF pmax pmax
comp=Z,32nm,0.9s,mb5.0

GROS	**Grobnik**	**76.61**	**6**	*i* P		**P**	**00 28 34.2**	**+0.3**
CADS	**Cadrg**	**76.74**	**7**	*e*P		**P**	**00 28 34.2**	**-0.4**
CAF	**Calviac**	**76.80**	**15**	*e*P		**P**	**00 28 35.3**	**+0.3**
LPL	**La Plagne**	**76.82**	**12**	*e*P		**P**	**00 28 35.6**	**+0.5**
LPG	**La Plagne**	**76.84**	**12**	*e*P		**P**	**00 28 35.7**	**+0.5**
GOF	**Gofitskoye**	**76.90**	**346**	*e*P		**P**	**00 28 35.1**	**-0.4**
GOF				*i*	pP		00 28 53.7	-2.2
GOF				pmax	pmax			
	comp=Z,20nm,0.8s,mb4.9							
JAVS	**Javornik**	**77.09**	**7**	*i* P		**P**	**00 28 36.3**	**-0.3**
VIVF	**Saint-Julien-l**	**77.23**	**14**	*e*P		**P**	**00 28 37.6**	**+0.3**
ORIF	**Oris-en-Rattie**	**77.31**	**13**	*e*P		**P**	**00 28 37.9**	**+0.1**
	comp=Z,16nm,1.0s,mb4.4							
ORIF	**Oris-en-Rattie**	**77.31**	**13**	*e*P		**P**	**00 28 37.9**	**+0.1**
ORIF				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.4							
MBDF	**Montbardon**	**77.61**	**12**	*e*P		**P**	**00 28 39.8**	**+0.4**
	comp=Z,14nm,0.7s,mb4.5							
MBDF	**Montbardon**	**77.61**	**12**	*e*P		**P**	**00 28 39.8**	**+0.4**
MBDF				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.5							
BZS	**Buzias**	**77.65**	**1**	⇑P		**P**	**00 28 39.8**	**+0.1**
MLR	**Muntele Rosu**	**77.77**	**358**	P		**P**	**00 28 41.4**	**+1.2**
	comp=Z,2.8nm,0.5s,mb4.2,baz=327,slow=8.7							
MLR	**Muntele Rosu**	**77.77**	**358**	⇓P		**P**	**00 28 40.2**	**-0.1**
ANN	**Anapa**	**77.80**	**350**	*e*P		**P**	**00 28 37.9**	**-2.6**
ANN				pmax	pmax			
	comp=Z,149nm,1.2s,mb5.6							
ANN				MLR	MLR			
	comp=Z,316nm,20.0s							
CFR	**Carcaliu**	**78.03**	**357**	⇑P		**P**	**00 28 40.8**	**-0.9**
KIV	**Kislovodsk**	**78.03**	**346**	*e*P		**P**	**00 28 41.6**	**-0.1**
KIV				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.4							
KIV	**Kislovodsk**	**78.03**	**346**	*e*P		**P**	**00 28 41.4**	**-0.4**
	comp=Z,6.4nm,0.7s,mb4.5							
ETSF	**Etsaut**	**78.37**	**18**	*e*P		**P**	**00 28 44.3**	**+0.6**
	comp=Z,17nm,0.8s,mb4.5							
ETSF	**Etsaut**	**78.37**	**18**	*e*P		**P**	**00 28 44.3**	**+0.6**
ETSF				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.5							
MTLF	**Montolieu**	**78.38**	**16**	*e*P		**P**	**00 28 43.9**	**+0.2**
	comp=Z,8.8nm,0.7s,mb4.3							
MTLF	**Montolieu**	**78.38**	**16**	*e*P		**P**	**00 28 43.9**	**+0.2**
MTLF				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.3							
HARR	**Harsova**	**78.52**	**357**	⇑P		**P**	**00 28 43.6**	**-0.8**
SBF	**Sospel**	**78.53**	**12**	*e*P		**P**	**00 28 45.1**	**+0.6**
	comp=Z,23nm,0.6s,mb4.8							
SBF	**Sospel**	**78.53**	**12**	*e*P		**P**	**00 28 45.1**	**+0.6**
SBF				pmax	pmax			
	comp=Z,11nm,0.6s,mb4.9							
TIRR	**Tirgusor**	**78.73**	**356**	⇑P		**P**	**00 28 45.7**	**+0.1**
FRF	**La Foret Royal**	**78.74**	**12**	*e*P		**P**	**00 28 46.2**	**+0.5**
LMR	**La Mourre**	**78.95**	**12**	*e*P		**P**	**00 28 46.8**	**0.0**
	comp=Z,25nm,1.1s,mb4.7							
LMR	**La Mourre**	**78.95**	**12**	*e*P		**P**	**00 28 46.8**	**0.0**
LMR				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.6							
PGF	**Pioggiola**	**80.00**	**11**	*e*P		**P**	**00 28 52.4**	**-0.1**
GUN	**Gumba**	**80.38**	**307**	*e*P		**P**	**00 28 55.5**	**+0.7**
	comp=Z,30nm,0.8s,mb5.2							
JIRN	**Jiri**	**80.46**	**307**	*e*P		**P**	**00 28 55.9**	**+0.6**
	comp=Z,72nm,0.7s,mb5.6							
PMG	**Port Moresby**	**80.58**	**236**	P		**P**	**00 28 56.2**	**0.0**
	comp=Z,6.7nm,0.7s,mb4.6,baz=31,slow=6.1,SNR=5.3							
PMG	**Port Moresby**	**80.58**	**236**	⇑*i*P		**P**	**00 28 55.5**	**-0.7**
KKN	**Kakani**	**80.74**	**308**	*e*P		**P**	**00 28 57.3**	**+0.5**
	comp=Z,9.2nm,0.4s,mb4.9							
GKN	**Gorkha**	**80.83**	**308**	*e*P		**P**	**00 28 57.4**	**+0.2**
	comp=Z,26nm,0.8s,mb5.1							
PKI	**Pulchoki**	**80.87**	**307**	*e*P		**P**	**00 28 57.9**	**+0.4**
ESDC	**Sonseca Array**	**80.89**	**21**	P		**P**	**00 28 58.3**	**+1.0**
	comp=Z,1.4nm,0.4s,mb4.1,baz=346,slow=5.7,SNR=22							
ESDC				pP	pP		00 29 17.0	-0.8
	comp=Z,1.4nm,0.6s,baz=343,slow=4.6,SNR=3.9							
DMN	**Daman**	**80.97**	**308**	*e*P		**P**	**00 28 58.7**	**+0.7**
	comp=Z,14nm,0.5s,mb5.1							
EVO	**Evora**	**81.13**	**24**	*e*P		**P**	**00 28 59.0**	**+0.4**
KOLN	**Koldanda**	**81.48**	**309**	*e*P		**P**	**00 29 00.9**	**+0.3**
	comp=Z,22nm,0.8s,mb5.0							
BR131	**Keskin Array S**	**83.16**	**352**	*e*P		**P**	**00 29 09.4**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.7							
BRTR	**Keskin Array B**	**83.16**	**352**	P		**P**	**00 29 10.0**	**+1.0**
	comp=Z,2.0nm,0.8s,mb4.0,baz=37,slow=1.0,SNR=11							
WRAB	**Tennant Creek**	**95.73**	**242**	*i* P		**P**	**00 30 08.0**	**-0.9**
WRA	**Warramunga Arr**	**95.75**	**242**	P		**P**	**00 30 08.2**	**-0.7**
	comp=Z,0.6nm,0.6s,mb4.2,baz=33,slow=5.6,SNR=7.5							
LIC	**Lamto**	**112.78**	**31**	*e*P	Pdif		00 31 25.4	+0.6
	comp=Z,49nm,1.6s							
KMBO	**Kilima Mbogo**	**123.11**	**343**	PKP	PKPdf		00 35 40.5	+2.1
	comp=Z,1.0nm,0.7s,baz=241,slow=23,SNR=5.3							
TSUM	**Tsumeb**	**141.93**	**9**	PKhKP			00 36 09.6	
	comp=Z,0.5nm,0.4s,baz=356,slow=7.8,SNR=7.7							
QSPA	**South Pole Qui**	**146.87**	**180**	*e*PKPbc	PKPbc		00 36 23.3	+1.6
LBTB	**Lobatse**	**147.91**	**356**	*e*PKP2	PKPab		00 36 28.0	-3.4
VNA3	**Neumayer Olymp**	**160.20**	**149**	⇑*i*P	PKPab		00 37 20.3	-1.6
VNA3	**Neumayer Olymp**	**160.20**	**149**	*e*	PKPab		00 37 22.4	+0.5
VNA3	**Neumayer Olymp**	**160.20**	**149**	*e*	Px		00 37 29.9	
VNA3	**Neumayer Olymp**	**160.20**	**149**	*e*			00 37 42.6	
VNA2	**Neumayer--Watz**	**161.00**	**149**	⇑*i*P	PKPab		00 37 23.8	-1.5
VNA2	**Neumayer--Watz**	**161.00**	**149**	*e*	PKPab		00 37 26.3	+1.0
VNA2	**Neumayer--Watz**	**161.00**	**149**	*e*	Px		00 37 31.5	
VNA2	**Neumayer--Watz**	**161.00**	**149**	*e*	Px		00 38 04.4	
SNAA	**Sanae**	**161.76**	**153**	⇑*i*P	PKPab		00 37 26.7	-2.0
SNAA	**Sanae**	**161.76**	**153**	*e*	PKPab		00 37 28.9	+0.2
SNAA	**Sanae**	**161.76**	**153**	*e*	Px		00 38 09.1	

GUC 04 00:22:08.5±1.0,36.18S×71.17W,h120km±9km,MD3.4, ML3.7,6C-3D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.84**	**240**	⇑*i*P	P	00 22 29.3	0.0
CCHI				*i* S	S	00 22 44.4	-0.4
CCHI				AMP		00 22 45.1	
	comp=N,1μm,0.1s						
TALC	**Talca**	**0.87**	**334**	⇑*i*P	P	00 22 30.3	+0.8
TALC				*i* S	S	00 22 45.6	+0.4
TALC				AMP		00 22 46.5	
	comp=N,9μm,0.1s						
COCH	**Cobquecura**	**1.31**	**272**	⇑*i*P	P	00 22 34.4	+0.2
COCH				*i* S	S	00 22 53.1	-0.6
COCH				AMP		00 22 58.3	
	comp=N,69nm,0.6s						
SFDO	**San Fernando**	**1.57**	**5**	⇓*i*P	P	00 22 37.5	+0.4
SFDO				*i* S	S	00 22 59.2	+0.5
CICH	**Cipreses**	**1.95**	**18**	*e*P	P	00 22 43.1	+1.3
CICH				*i* S	S	00 23 08.7	+1.8
LNV	**Longovilo**	**2.23**	**355**	⇑*i*P	P	00 22 45.5	+0.2
LNV				*i* S	S	00 23 13.0	-0.2
CHCH	**Chadas Angostu**	**2.28**	**11**	*i* P	P	00 22 46.3	+0.2
CHCH				*i* S	S	00 23 14.6	+0.1
TACH	**Talagante**	**2.53**	**4**	⇓*i*P	P	00 22 49.0	-0.4
PCH	**Pirque**	**2.61**	**12**	⇓*i*P	P	00 22 50.5	+0.1
ANTU	**Antumapu**	**2.64**	**10**	AMP		00 23 25.3	
	comp=E,251nm,0.2s						
RCDM	**Rinconada Maip**	**2.70**	**6**	*i* P	P	00 22 51.0	-0.6
RCDM				*i* S	S	00 23 23.9	-0.5
RCDM				AMP		00 23 26.5	
	comp=N,552nm,0.1s						
LCCH	**Las Cruces**	**2.72**	**353**	⇑*i*P	P	00 22 51.1	-0.8
FCH	**Farellones**	**2.94**	**15**	*i* P	P	00 22 54.7	-0.1
FCH				*i* S	S	00 23 30.5	+0.6
FCH				AMP		00 23 33.3	
	comp=E,215nm,0.2s						
PEL	**Peldehue**	**3.06**	**8**	⇑*i*P	P	00 22 55.8	-0.7
PEL				*i* S	S	00 23 32.0	-0.7
PEL				AMP		00 23 34.6	
	comp=N,412nm,0.3s						

JMA 04 00:22:18.3±0.4,29.21N×130.68E,h11km±5km,M2.7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.94**	**312**	P	Pb	00 22 36.2	0.0
JNN				S	Sb	00 22 48.4	0.0
JAM	**Amami Oshima**	**1.23**	**230**	P	Pb	00 22 41.0	-0.2
JAM				S	Sb	00 22 56.7	-0.2
JKC	**Kuchinoerabu**	**1.32**	**341**	P	Pb	00 22 42.8	+0.2
JKC				S	Sb	00 23 00.8	+1.5

2005 DEC

*NIED **04** 00:22:00,29.20N×130.70E,h23km,Mw3.9 Best double couple: M₀8.69×10¹⁴ NP1:φs58°,δ66°,λ129°. NP2:φs175°, δ45°,λ35°.*

JMA 04 00:22:49.4±0.1,29.17N×130.67E,h32km,M3.5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.96**	**314**	P	Pn	00 22 06.8	0.0
JNN				S	Sn	00 23 19.0	-0.5
JZK	**Kikaishima**	**1.05**	**216**	S	Sn	00 23 20.8	-0.9
JAM	**Amami Oshima**	**1.20**	**231**	P	Pn	00 23 10.5	+0.2
JAM				S	Sn	00 23 26.3	+0.7
JKC	**Kuchinoerabu**	**1.35**	**342**	P	Pn	00 23 13.2	+0.8
JKC				S	Sn	00 23 30.0	+0.6
JTN	**Tanegashima 3**	**1.50**	**10**	P	Pn	00 23 15.0	+0.4
JTN				S	Sn	00 23 34.1	+0.9
JTSR	**Tashiro 2**	**2.00**	**6**	P	Pn	00 23 22.2	+0.5
JTSR				S	Sn	00 23 45.9	0.0
JTK	**Tokunoshima**	**2.05**	**228**	P	Pn	00 23 22.8	+0.4
JSU	**Suzuyama**	**2.33**	**355**	P	Pn	00 23 26.1	-0.4
JNAR	**Kushima--Naru**	**2.41**	**12**	P	Pn	00 23 28.2	+0.7
JSJ	**Shimokoshiki**	**2.63**	**342**	P	Pn	00 23 30.6	-0.1
JTZ	**Takazaki**	**2.75**	**7**	P	Pn	00 23 32.8	+0.5
JTZ				eS	Sn	00 24 05.5	+0.7
JZO	**Okuchi**	**2.96**	**359**	P	Pn	00 23 35.4	0.0
JZO				eS	Sn	00 24 10.2	0.0
JTSN	**Tsuno**	**3.15**	**13**	P	Pn	00 23 37.5	-0.5
JTSN				eS	Sn	00 24 14.8	-0.1
JKIT	**Kitakata**	**3.51**	**11**	P	Pn	00 23 42.7	-0.4

*IDC **04** 00:37:16.8±1.3,4.01S×135.37E,mb3.9/6,mb1 4.0/6, mb1mx4.0/9,mbtmp3.9/6,MS3.5/2,Ms1 3.4/2, ms1mx2.9/15,Error ellipse: s-maj=61.8km s-min=28.9km az=76.0*

*NEIC **04** 00:37:21.0±0.5,4.23S×135.32E,h35km,mb4.0/4,Error ellipse: s-maj=19.8km s-min=9.4km az=79.0*

ISC 04 00:37:21.7±3.4,4.38S±0.07×135.0E±0.2,h57km±34km, n19,σ1§13/18,mb3.8/8,MS3.4/2,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.66**	**197**	*e*P	Px	00 39 50.6	
	25nm,0.5s						
KAKA				eS	Sx	00 41 24.3	
PMG	**Port Moresby**	**13.06**	**113**	Pn	**P**	**00 40 26.1**	**-0.4**
	0.8nm,0.3s,baz=285,slow=16,SNR=2.6						
PMG	**Port Moresby**	**13.06**	**113**	*e*P	**P**	**00 40 20.6**	**-5.9**
WRAB	**Tennant Creek**	**15.47**	**182**	*e*P	**P**	**00 40 58.6**	**+0.7**
	35nm,0.8s						
WB2	**Warramunga Arr**	**15.48**	**182**	*e*P	**P**	**00 40 58.2**	**+0.2**
WB2				*e*		00 41 06.8	
WB2				eS	**S**	**00 43 47.5**	**-0.5**
WRA	**Warramunga Arr**	**15.48**	**182**	Pn	**P**	**00 40 57.7**	**-0.3**
	0.5nm,0.3s,baz=6.7,slow=13,SNR=25						
WRA				Sn	**S**	**00 43 46.8**	**-1.2**
	1.0nm,0.3s,baz=8.0,slow=23,SNR=5.1						
WRA				Lg		00 45 44.1	
	0.3nm,0.3s,slow=29,SNR=6.3						
CTAO	**Charters Tower**	**19.08**	**146**	*e*P	**P**	**00 41 45.4**	**+3.0**
	4.4nm,0.8s						
STKA	**Stephens Creek**	**28.05**	**168**	P	**P**	**00 43 12.5**	**+2.6**
	1.6nm,0.9s,mb3.6,baz=349,slow=10,SNR=2.0						
STKA				LR	LR	00 55 52.5	
	comp=Z,98nm,18.1s,MS3.4,baz=25,slow=39						
STKA	**Stephens Creek**	**28.05**	**168**	P	**P**	**00 43 12.5**	**+2.6**
STKA				LR	LR	00 55 52.5	
CBIJ	**Chichi jima**	**32.05**	**12**	LR	LR	00 56 05.9	
	comp=Z,61nm,19.7s,MS3.3,baz=130,slow=36						
MJAR	**Matsushiro Arr**	**40.82**	**4**	P	**P**	**00 44 57.1**	**-2.2**
	0.6nm,0.6s,mb3.4,baz=186,slow=11,SNR=2.6						
SONM	**Songino Array**	**57.74**	**338**	P	**P**	**00 47 07.9**	**-1.2**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**58.90**	**324**	P	**P**	**00 48 23.1**	**+0.6**
	1.2nm,0.6s,mb4.0,baz=104,slow=8.7,SNR=19						
KURK	**Kurchatov**	**72.99**	**326**	*e*P	**P**	**00 48 47.1**	**0.0**
	1.2nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**78.59**	**326**	P	**P**	**00 49 19.9**	**+1.1**
	1.2nm,0.7s,mb3.9,baz=121,slow=8.6,SNR=8.3						
BRVK	**Borovoye**	**78.66**	**326**	P	**P**	**00 49 20.1**	**+0.9**
	1.0nm,0.6s,mb3.9						
RKT	**Rikitea**	**88.33**	**113**	*e*LR	LR	00 49 55.8	
	206nm,31.5s						
ILAR	**Eielson Array**	**88.88**	**25**	P	**P**	**00 50 10.2**	**-0.5**
	0.4nm,0.7s,mb3.9,baz=266,slow=4.2,SNR=8.1						
ILAR	**Eielson Array**	**88.88**	**25**	P	**P**	**00 50 10.2**	**-0.5**

*IDC **04** 00:44:27.7±1.4,29.02N×130.43E,mb3.6/4,mb1 3.7/6, mb1mx3.5/23,mbtmp3.6/6,ML3.2/2,MS3.3/1,Ms1 3.3/1, ms1mx2.4/28,Error ellipse: s-maj=42.1km s-min=25.2km az=81.0*

*NEIC **04** 00:44:28.8±1.0,29.05N×130.49E,h10km,mb3.9/1,Error ellipse: s-maj=21.1km s-min=14.7km az=130.0*

*JMA **04** 00:44:31.8±0.1,29.22N×130.46E,h75km±5km,M3.3*

ISC 04 00:44:31.7±0.7,29.17N±0.05×130.62E±0.09,h52km±9km, n19,σ0§61/23,mb3.7/5,MS3.2/1,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.93**	**316**	P	**P**	**00 44 48.3**	**-0.4**
JNN				S	**S**	**00 45 01.0**	**-0.4**
JZK	**Kikaishima**	**1.03**	**214**	P	**P**	**00 44 50.9**	**+0.9**
JAM	**Amami Oshima**	**1.17**	**230**	P	**P**	**00 44 51.8**	**-0.2**
JAM				eS	**S**	**00 45 06.6**	**-0.5**
JKC	**Kuchinoerabu**	**1.34**	**344**	P	**P**	**00 44 54.3**	**-0.2**
JKC				S	**S**	**00 45 11.7**	**+0.2**
JTN	**Tanegashima 3**	**1.51**	**12**	P	**P**	**00 44 56.9**	**0.0**
JTN				S	**S**	**00 45 16.2**	**+0.6**
JTSR	**Tashiro 2**	**2.01**	**7**	P	**P**	**00 45 04.0**	**+0.2**
JTK	**Tokunoshima**	**2.02**	**227**	P	**P**	**00 45 04.1**	**+0.2**
JSU	**Suzuyama**	**2.33**	**357**	P	**P**	**00 45 08.2**	**-0.2**
JNAR	**Kushima--Naru**	**2.41**	**13**	P	**P**	**00 45 10.5**	**+0.9**
JNU	**Nakatsue**	**3.94**	**3**	Pn	**P**	**00 45 31.8**	**+0.6**
	1.3nm,0.3s,baz=42,slow=27,SNR=7.8						
JNU				Sn	**S**	**00 46 16.2**	**-0.5**
	2.0nm,0.3s,baz=93,slow=41,SNR=5.6						
MAJO	**Matsushiro**	**9.73**	**39**	*e*P	**P**	**00 46 50.5**	**-1.1**
MJAR	**Matsushiro Arr**	**9.73**	**39**	Pn	**P**	**00 46 51.1**	**-0.6**
	0.5nm,0.3s,baz=236,slow=14,SNR=7.4						
SONM	**Songino Array**	**26.41**	**322**	LR	LR	01 02 10.8	
	comp=Z,69nm,21.1s,MS3.2,baz=229,slow=40						
MKAR	**Makanchi Array**	**41.25**	**309**	P	**P**	**00 52 13.7**	**+0.6**
	0.2nm,0.5s,mb3.0,baz=90,slow=9.9,SNR=3.6						
WRA	**Warramunga Arr**	**48.96**	**175**	P	**P**	**00 53 14.7**	**-0.3**
	0.5nm,0.7s,mb3.7,baz=354,slow=8.5,SNR=4.8						
BVAR	**Borovoye Array**	**49.55**	**316**	P	**P**	**00 53 19.2**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=101,slow=11,SNR=4.5						
BRVK	**Borovoye**	**49.62**	**316**	P	**P**	**00 53 19.1**	**-0.5**
	0.7nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**71.35**	**331**	P	**P**	**00 55 51.0**	**+3.5**
	1.7nm,0.9s,mb4.0,baz=63,slow=4.3,SNR=5.3						
FINES	**FINESS Array B**	**71.35**	**331**	P	**P**	**00 55 51.0**	**+3.5**

KRSC 04 01:06:45.3±0.1,50.29N×154.85E,ML4.3,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.71**	**46**	*e*S	Sb	01 07 44.6	+5.2
PAU				Smax			
	270nm,0.2s						
PET	**Petropavlovsk**	**3.62**	**39**	*e*P	Pn	01 07 45.5	+1.7
PET				eS	Sn	01 08 29.4	+1.5
AVH	**Avacha**	**3.83**	**38**	*e*P	Pn	01 07 48.2	+1.3
SPN	**Mys Shipunski**	**4.27**	**47**	*e*P	Pn	01 07 54.9	+1.8

*IDC **04** 01:06:52.4±1.7,13.39S×111.30W,mb4.1/9,mb1 4.4/9, mb1mx4.3/15,mbtmp4.1/9,MS4.5/18,Ms1 4.5/18, ms1mx4.4/24,Error ellipse: s-maj=48.9km s-min=20.6km az=52.0*

*BJI **04** 01:06:53.6, 13.50S×111.30W,h10km,mB5.5,Ms5.2, Msz5.0*

*NEIC **04** 01:06:53.7±0.6, 13.50S×111.27W,h10km,mb4.8/18, Error ellipse: s-maj=18.9km s-min=9.2km az=62.0*

ISC 04 01:06:52.1±0.8,13.5S±0.1×111.3W±0.1,h10km,n65, σ0§93/36,mb4.5/25,MS4.6/20,Central East Pacific Rise

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

RPN	**Rapa Nui**	**13.71**	**173**	LR	LR	01 14 03.3		
	comp=Z,3μm,18.2s,baz=339,slow=31							
OTAV	**Otavalo**	**35.26**	**70**	*e*P	**P**	**01 13 48.4**	**-0.8**
	7.6nm,1.3s,mb4.5							
PPT	**Papeete**	**37.09**	**259**	*e*S	**S**	**01 19 38.4**	**-12**
PPT				*e*LQ		01 22 31.6		
PPT				*e*LR	LR	01 23 47.8		
	1μm,27.8s,baz=91							
PPT	**Papeete**	**37.09**	**259**	LR	LR	01 24 41.6		
	comp=Z,796nm,19.9s,MS4.5,baz=86,slow=29							
ROSC	**El Rosal**	**40.95**	**66**	P	**P**	**01 14 38.2**	**+1.4**	
	2.3nm,0.4s,mb4.1,baz=114,slow=19,SNR=3.9							
ROSC				LR	LR	01 27 46.9		
	comp=Z,308nm,21.9s,MS4.1,baz=94,slow=31							
LPAZ	**La Paz**	**41.74**	**99**	P	**P**	**01 14 44.8**	**+1.5**	
	6.1nm,0.9s,mb4.2,baz=322,slow=8.0,SNR=11							
LPAZ				LR	LR	01 27 56.1		
	comp=Z,352nm,21.6s,MS4.2,baz=74,slow=30							
LPAZ	**La Paz**	**41.74**	**99**	*e*P	**P**	**01 14 44.3**	**+0.9**	
	14nm,1.3s,mb4.4							
TXAR	**Lajitas Array**	**43.17**	**10**	P	**P**	**01 14 56.2**	**+1.2**	
	4.2nm,1.2s,mb4.1,baz=190,slow=7.6,SNR=19							
TXAR				LR	LR	01 29 39.2		
	comp=Z,480nm,18.7s,MS4.4,baz=135,slow=32							
TXAR	**Lajitas Array**	**43.17**	**10**	P	**P**	**01 14 56.2**	**+1.2**	
TXAR				LR	LR	01 29 39.2		
CFAA	**Coronel Fontan**	**43.33**	**122**	P	**P**	**01 14 55.6**	**-0.6**	
	0.9nm,0.9s,mb3.5,baz=283,slow=6.4,SNR=9.1							
CFAA				LR	LR	01 28 30.7		
	comp=Z,161nm,18.2s,MS4.0,baz=278,slow=30							
PLCA	**Paso Flores**	**44.71**	**135**	LR	LR	01 29 21.4		
	comp=Z,2μm,18.3s,MS5.0,baz=261,slow=30							
PLCA	**Paso Flores**	**44.71**	**135**	P	**P**	**01 15 08.3**	**+1.0**	
	27nm,1.5s,mb4.8							
JCT	**Junction City**	**45.06**	**14**	*e*P	**P**	**01 15 11.1**	**+0.8**	
	26nm,1.2s,mb4.9							
MNTX	**Cornudas Mount**	**45.26**	**7**	*e*P	**P**	**01 15 11.6**	**-0.2**	
	15nm,1.2s,mb4.7							
SDV	**Santo Domingo**	**46.06**	**63**	P	**P**	**01 15 17.7**	**-0.6**	
	6.8nm,0.9s,mb4.6,baz=284,slow=3.0,SNR=7.5							
SDV				LR	LR	01 30 35.2		
	comp=Z,280nm,20.0s,MS4.2,baz=15,slow=31							
SDV	**Santo Domingo**	**46.06**	**63**	*e*P	**P**	**01 15 18.0**	**-0.3**	
	19nm,1.0s,mb5.0							
CPRX	**Cap Rock**	**46.77**	**9**	*e*P	**P**	**01 15 23.8**	**+0.1**	
RAR	**Rarotonga**	**46.78**	**254**	LR	LR	01 29 18.6		
	comp=Z,970nm,21.7s,MS4.7,baz=266,slow=29							
SAML	**Samuel**	**47.33**	**90**	*e*P	**P**	**01 15 26.8**	**-1.5**	
	24nm,1.1s,mb5.0							
LENM	**Lemitar**	**47.54**	**5**	*e*P	**P**	**01 15 30.3**	**+0.6**	
BNM	**Barren Site**	**47.55**	**5**	*e*P	**P**	**01 15 31.7**	**+1.8**	
LAZ	**Ladron**	**47.76**	**5**	*e*P	**P**	**01 15 32.4**	**+0.9**	
ANMO	**Albuquerque**	**48.36**	**5**	*e*P	**P**	**01 15 36.2**	**0.0**	
	19nm,1.9s,mb4.8							
WUAZ	**Wupatki**	**48.71**	**360**	*e*P	**P**	**01 15 39.0**	**+0.2**	
	19nm,1.5s,mb4.9							
ARUT	**Antelope Range**	**51.02**	**358**	*e*P	**P**	**01 15 56.6**	**+0.2**	
SDCO	**Great Sand Dun**	**51.22**	**6**	*e*P	**P**	**01 15 57.2**	**-0.8**	
	13nm,1.0s,mb4.8							
NVAR	**Mina Array Bea**	**52.04**	**353**	P	**P**	**01 16 03.7**	**-0.5**	
	2.7nm,1.0s,mb4.1,baz=168,slow=9.0,SNR=13							
NVAR				LR	LR	01 33 00.1		
	comp=Z,684nm,21.5s,MS4.7,baz=195,slow=30							
ISCO	**Idaho Springs**	**53.25**	**5**	*e*P	**P**	**01 16 13.0**	**-0.2**	
	5.7nm,0.9s,mb4.5							
DUG	**Dugway**	**53.40**	**359**	*e*P	**P**	**01 16 14.6**	**+0.3**	
	11nm,1.4s,mb4.6							
HWUT	**Hardware Ranch**	**54.79**	**360**	*e*P	**P**	**01 16 24.0**	**-0.5**	
	4.9nm,1.1s,mb4.5							
PDAR	**Pinedale Array**	**55.97**	**2**	P	**P**	**01 16 31.0**	**-2.0**	
	1.4nm,0.9s,mb4.0,baz=172,slow=6.8,SNR=9.5							
PDAR				LR	LR	01 36 56.5		
	comp=Z,462nm,18.2s,MS4.6,baz=196,slow=32							
IMW	**Indian Meadow**	**57.08**	**0**	*e*P	**P**	**01 16 41.5**	**+0.5**	
	7.0nm,0.9s,mb4.7							
RSSD	**Black Hills**	**57

ISC 04 01:19:51.0±0.9, 38.28N±0.09×26.82E±0.05, h11km±8km, n7, σ0°56/12, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**295**	*i* P	**Pg**	**01 19 54.9**	**-0.5**
URLA				*i* S	**Sg**	**01 19 58.8**	**+0.4**
BLCB	**Balcova**	**0.20**	**58**	PG	**Pg**	**01 19 55.7**	**+0.2**
IZM	**Izmir**	**0.36**	**71**	PG	**Pg**	**01 19 58.6**	**+0.1**
IZM				SG	**Sg**	**01 20 04.0**	**+0.4**
KDAG	**Bornova**	**0.37**	**70**	*i* P	**Pg**	**01 19 57.9**	**-0.7**
KDAG				*i* S	**Sg**	**01 20 03.5**	**-0.2**
AKS	**Akhisar**	**0.98**	**52**	*e*PN	**Pn**	**01 20 09.6**	**-1.0**
AYDN	**Tasoluk**	**1.04**	**126**	*i* P	**Pb**	**01 20 10.7**	**+0.3**
AYDN				*i* S	**Sb**	**01 20 23.4**	**-0.4**
MANT	**Manisa**	**1.38**	**81**	*i* P	**Pn**	**01 20 17.4**	**+1.2**
MANT				*i* S	**Sb**	**01 20 33.9**	**+0.1**

*IDC **04** 01:22:50.0±0.9, 15.96N×46.62W, mb4.1/11, mb1 4.2/11, mb1mx4.0/24, mbtmp4.1/11, MS3.7/5, Ms1 3.7/5, ms1mx3.4/26, Error ellipse: s-maj=29.0km s-min=18.9km az=7.0*

*NEIC **04** 01:22:51.3±0.4, 15.91N×46.64W, h10km, mb4.3/5, Error ellipse: s-maj=11.1km s-min=10.8km az=143.0*

ISC 04 01:22:49.7±0.6, 15.9N±0.1×46.66W±0.10, h10km, n21, σ0°48/18, mb4.1/15, MS3.7/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAML	**Samuel** 1.9nm,0.9s,mb3.8	**29.64**	**215**	*e*P	**P**	**01 28 57.1**	**-0.7**
LPAZ	**La Paz** 1.5nm,0.8s,mb3.8,baz=23,slow=10,SNR=5.8	**38.38**	**214**	P	**P**	**01 30 14.2**	**+1.2**
LPAZ				LR	LR	01 47 00.0	
	comp=Z,77nm,18.7s,MS3.5,baz=279,slow=38						
LPAZ	**La Paz** 1.7nm,0.9s,mb3.8	**38.38**	**214**	*e*P	**P**	**01 30 13.6**	**+0.5**
SCHQ	**Schefferville** 12nm,1.0s,mb4.5	**41.85**	**343**	P	**P**	**01 30 40.9**	**-0.4**
DBIC	**Dimbokro** 3.5nm,0.9s,mb4.0,baz=312,slow=9.1,SNR=3.1	**41.94**	**98**	P	**P**	**01 30 42.3**	**-0.3**
TORD	**Torodi Ar. Bea** 4.1nm,0.9s,mb4.4,baz=284,slow=8.1,SNR=19	**46.81**	**87**	P	**P**	**01 31 21.4**	**-0.4**
ULM	**Lac du Bonnet** 4.6nm,0.9s,mb4.4,baz=90,slow=5.7,SNR=6.2	**52.22**	**322**	P	**P**	**01 32 02.8**	**-0.2**
TXAR	**Lajitas Array** 0.7nm,0.9s,mb3.6,baz=113,slow=9.5,SNR=5.8	**53.81**	**295**	P	**P**	**01 32 15.1**	**+0.1**
TXAR				PcP	PcP	01 33 21.2	+0.4
TXAR				LR	LR	01 54 09.9	
	1.0nm,0.9s,baz=121,slow=7.3,SNR=6.3						
TXAR				LR	LR	01 54 09.9	
	comp=Z,54nm,20.3s,MS3.6,baz=325,slow=35						
TXAR	**Lajitas Array**	**53.81**	**295**	P	**P**	**01 32 15.1**	**+0.1**
TXAR				PcP	PcP	01 33 21.2	+0.4
TXAR				LR	LR	01 54 09.9	
MNTX	**Cornudas Mount** 17nm,2.1s,mb4.7	**55.36**	**298**	*e*P	**P**	**01 32 26.1**	**-0.2**
CLL	**Collm**	**58.85**	**39**	P	**P**	**01 32 51.0**	**+0.2**
PDAR	**Pinedale Array** 0.8nm,1.0s,mb3.7,baz=104,slow=6.1,SNR=6.1	**59.52**	**310**	P	**P**	**01 32 55.5**	**0.0**
PDAR				LR	LR	01 55 23.4	
	comp=Z,98nm,18.1s,MS4.0,baz=303,slow=33						
HWUT	**Hardware Ranch** 2.9nm,1.0s,mb4.4	**60.89**	**309**	*e*P	**P**	**01 33 05.0**	**0.0**
NVAR	**Mina Array Bea** 0.7nm,0.8s,baz=103,slow=5.6,SNR=4.4	**66.00**	**305**	PcP	PcP	01 34 10.7	+1.4
IDI	**Anoyia** comp=Z,47nm,21.5s,MS3.7,baz=124,slow=35	**66.06**	**58**	LR	LR	02 01 47.1	
AKASG	**Malin Array Be** 1.2nm,0.8s,mb3.9,baz=275,slow=5.1,SNR=6.3	**68.92**	**41**	P	**P**	**01 33 56.3**	**-0.6**
BRTR	**Keskin Array B** 2.5nm,1.0s,mb4.1,baz=252,slow=3.9,SNR=9.4	**72.63**	**53**	P	**P**	**01 34 19.9**	**+0.4**
INK	**Inuvik** 2.0nm,0.9s,mb4.1,baz=71,slow=7.9,SNR=6.9	**74.17**	**337**	P	**P**	**01 34 27.7**	**-0.1**
ILAR	**Eielson Array** 3.0nm,0.9s,mb4.2,baz=52,slow=3.8,SNR=22	**80.03**	**335**	P	**P**	**01 35 01.1**	**+0.5**
ATD	**Arta Tunnel** comp=Z,29nm,19.2s,MS3.7,baz=123,slow=35	**86.43**	**79**	LR	LR	02 12 36.0	
AKTO	**Aktyubinsk** 1.0nm,0.8s,mb4.1,baz=282,slow=6.2,SNR=3.9	**86.92**	**38**	P	**P**	**01 35 37.0**	**+1.0**

IDC 04 01:38:52.1±1.8, 18.06S×178.95E, mb4.2/3, mb1 4.5/3, mb1mx4.0/11, mbtmp4.2/3, Error ellipse: s-maj=154.3km s-min=32.8km az=156.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 5.1nm,1.0s,baz=80,slow=11,SNR=4.0	**36.36**	**241**	P	P	01 45 57.8	-2.1
WB2	**Warramunga Arr**	**42.12**	**260**	*e*P	P	01 46 46.1	-1.9
WRA	**Warramunga Arr** 3.2nm,0.3s,baz=93,slow=8.3,SNR=59	**42.13**	**260**	P	P	01 46 46.6	-1.5
KAKA	**Kakadu** 4.0nm,0.8s	**45.07**	**270**	*e*P	Px	01 47 37.7	
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=217,slow=6.3,SNR=5.5	**88.21**	**58**	P	P	01 51 45.6	-1.2
AKASG	**Malin Array Be** 0.4nm,0.3s,baz=40,slow=4.1,SNR=7.4	**139.49**	**330**	PKhKP		01 58 15.3	
BRTR	**Keskin Array B** 0.7nm,0.6s,baz=78,slow=2.7,SNR=4.9	**143.07**	**313**	PKP	PKPdf	01 58 28.4	-1.6

IDC 04 01:54:59.9±1.6, 1.85N×99.59E, h174km±14km, mb3.2/3, mb1 3.4/3, mb1mx3.0/16, mbtmp3.7/3, Error ellipse: s-maj=105.8km s-min=19.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 5.6nm,0.3s,baz=162,slow=9.6,SNR=12	**1.16**	**325**	P	P	01 55 27.8	-0.7
PSI				S	S	01 55 49.3	-1.3
	baz=184,slow=19,SNR=3.7						
WRA	**Warramunga Arr** 1.3nm,0.5s,baz=302,slow=9.1,SNR=20	**40.39**	**124**	P	P	02 02 21.0	-1.5
SONM	**Songino Array** 0.2nm,0.5s,baz=192,slow=11,SNR=2.3	**46.19**	**6**	P	P	02 03 07.2	-1.8
MKAR	**Makanchi Array** 0.5nm,0.3s,baz=159,slow=7.2,SNR=14	**47.24**	**344**	P	P	02 03 15.3	-1.8

*ATH **04** 01:56:12.3, 38.17N×26.34E, h28km±3km, MD3.0/3*
*ISK **04** 01:56:12.6, 38.29N×26.56E, h19km, MD3.0*
*CSEM **04** 01:56:13.2±0.1, 38.31N×26.60E, h20km, MD3.0, Error ellipse: s-maj=2.7km s-min=1.7km az=98.0*

ISC 04 01:56:12.0±0.8, 38.26N±0.03×26.50E±0.05, h6km±5km, n18, σ0°78/28, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.13**	**37**	*i* P	**Pg**	**01 56 14.6**	**-0.1**
URLA				*i* S	**Sg**	**01 56 17.1**	**+0.6**
BLCB	**Balcova**	**0.45**	**73**	*i* PG	**Pg**	**01 56 21.1**	**+0.1**
BLCB				*i* SG	**Sg**	**01 56 26.7**	**-0.3**
SMG	**Samos**	**0.61**	**154**	*e*PN	**Pg**	**01 56 24.6**	**+0.3**
SMG				*e*SN	**Sg**	**01 56 33.8**	**+1.3**
IZM	**Izmir**	**0.62**	**77**	*i* PG	**Pg**	**01 56 24.4**	**0.0**
IZM				*i* SG	**Sg**	**01 56 33.0**	**+0.4**
KDAG	**Bornova**	**0.62**	**76**	*i* P	**Pg**	**01 56 23.3**	**-1.2**
KDAG				*i* S	**Sg**	**01 56 31.7**	**-1.1**
PRK	**Paraskevi**	**1.00**	**350**	⇑*i*PN	**Pn**	**01 56 32.8**	**+0.3**
PRK				*e*SN	**Sn**	**01 56 47.8**	**+0.7**
AYVA	**Ayvalik**	**1.06**	**8**	*i* P	**Pb**	**01 56 32.7**	**+0.3**
AYVA				*i* S	**Sb**	**01 56 49.7**	**+3.4**
AKS	**Akhisar**	**1.20**	**59**	PN	**Pn**	**01 56 34.0**	**-1.4**
AYDN	**Tasoluk**	**1.24**	**118**	*i* P	**Pb**	**01 56 35.5**	**0.0**
AYDN				*i* S	**Sb**	**01 56 51.8**	**+0.1**
BODT	**Bodrum**	**1.36**	**151**	*e*PN	**Pn**	**01 56 37.9**	**+0.3**
MLSB	**Milas**	**1.40**	**133**	*e*PN	**Pn**	**01 56 38.0**	**-0.2**
APE	**Apeiranthos**	**1.42**	**213**	*e*PN	**Pn**	**01 56 38.3**	**-0.1**
APE				*e*SN	**Sn**	**01 56 57.3**	**-0.3**
APE	**Apeiranthos**	**1.42**	**213**	*e*PN	**Pn**	**01 56 36.2**	**-2.2**
EZN	**Ezine**	**1.57**	**355**	*e*PN	**Pn**	**01 56 40.1**	**-0.6**
MANT	**Manisa**	**1.64**	**81**	*i* P	**Pn**	**01 56 43.0**	**+1.4**
MANT				*i* S	**Sb**	**01 57 03.3**	**+0.2**
BALB	**Balikesir**	**1.75**	**38**	*e*PN	**Pn**	**01 56 42.2**	**-1.0**
DAT	**Datca**	**1.75**	**150**	*e*PN	**Pn**	**01 56 43.3**	**0.0**
YER	**Yerkesik**	**1.81**	**128**	*e*PN	**Pn**	**01 56 44.1**	**+0.1**

IDC 04 02:09:14.4±8.5, 20.80S×68.04W, h190km±59km, mb3.0/2, mb1 3.2/3, mb1mx2.9/13, mbtmp3.4/3, Error ellipse: s-maj=91.5km s-min=52.2km az=31.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.4nm,0.3s,baz=172,slow=7.1,SNR=12	**4.49**	**359**	P	P	02 10 22.8	0.0
LPAZ				S	S	02 11 16.8	+1.1
	0.0nm,0.3s,baz=90,slow=20,SNR=3.2						
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=251,slow=5.2,SNR=5.2	**76.36**	**70**	P	P	02 20 43.2	-1.5
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=132,slow=5.0,SNR=5.3	**90.80**	**340**	P	P	02 21 55.5	-1.2
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=333,slow=5.4,SNR=3.8	**144.60**	**36**	PKP	PKPdf	02 28 27.6	-0.5

*ISK **04** 02:17:15.3, 38.18N×26.55E, h15km, MD3.5*
*ATH **04** 02:17:16.3, 38.21N×26.58E, h30km±1km, MD3.7/11, ML3.8*
*CSEM **04** 02:17:16.8±0.1, 38.21N×26.66E, h20km, MD3.5, Error ellipse: s-maj=1.4km s-min=1.3km az=145.0*
*NEIC **04** 02:17:16.6, 38.21N×26.58E, h32km, MD3.6(ISK), ML3.8(ATH), After ATH.*
*THE **04** 02:17:18.1, 38.16N×26.65E, h20km, ML3.4*

ISC 04 02:17:15.8±0.5, 38.19N±0.02×26.57E±0.02, h12km±4km, n82, σ0°65/94, 3C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**7**	*i* P	**Pg**	**02 17 19.3**	**-0.5**
URLA				*i* S	**Sg**	**02 17 22.0**	**-0.4**
BLCB	**Balcova**	**0.42**	**62**	*i* PG	**Pg**	**02 17 24.5**	**+0.1**
SMG	**Samos**	**0.53**	**156**	⇑*i*PN	**Pn**	**02 17 27.5**	**-1.3**
SMG				*e*SN	**Sn**	**02 17 35.8**	**-1.8**
SMG	**Samos**	**0.53**	**156**	⇑*i*Pn	**Pn**	**02 17 27.5**	**-1.3**
SMG				*e*Sn	**Sn**	**02 17 37.3**	**-0.3**
IZM	**Izmir**	**0.58**	**69**	*i* PG	**Pg**	**02 17 27.7**	**+0.1**
IZM				*i* SG	**Sg**	**02 17 36.4**	**+0.9**
KDAG	**Bornova**	**0.59**	**69**	*i* P	**Pb**	**02 17 26.9**	**-0.6**
KDAG				*i* S	**Sb**	**02 17 35.2**	**-0.3**
PRK	**Paraskevi**	**1.08**	**348**	*e*PN	**Pn**	**02 17 36.3**	**-0.3**
PRK				*e*SN	**Sn**	**02 17 51.3**	**-0.3**
AYVA	**Ayvalik**	**1.12**	**5**	*i* P	**Pb**	**02 17 37.2**	**+0.6**
AYVA				*i* S	**Sb**	**02 17 50.2**	**-0.7**
AKS	**Akhisar**	**1.19**	**55**	*i* PN	**Pn**	**02 17 38.3**	**0.0**
BODT	**Bodrum**	**1.27**	**152**	*i* PN	**Pn**	**02 17 38.9**	**-0.5**
MLSB	**Milas**	**1.31**	**133**	PN	**Pn**	**02 17 40.0**	**0.0**
BDRM	**Kayabasi**	**1.32**	**148**	*i* P	**Pb**	**02 17 40.8**	**+0.7**
BDRM				*i* S	**Sb**	**02 17 58.3**	**+1.5**
APE	**Apeiranthos**	**1.39**	**217**	PN	**Pn**	**02 17 40.4**	**-0.7**
APE	**Apeiranthos**	**1.39**	**217**	*e*PB	**Pb**	**02 17 41.2**	**0.0**
APE				*e*SN	**Sn**	**02 18 00.2**	**+0.7**
APE	**Apeiranthos**	**1.39**	**217**	⇑*i*Pb	**Pb**	**02 17 40.8**	**-0.4**
MANT	**Manisa**	**1.59**	**79**	*i* P	**Pn**	**02 17 44.1**	**+0.1**
MANT				*i* S	**Sn**	**02 18 06.3**	**+1.6**
EZN	**Ezine**	**1.64**	**353**	PN	**Pn**	**02 17 44.6**	**-0.1**
DAT	**Datca**	**1.67**	**151**	PN	**Pn**	**02 17 44.8**	**-0.3**
YER	**Yerkesik**	**1.72**	**127**	PN	**Pn**	**02 17 46.2**	**+0.3**
BALB	**Balikesir**	**1.77**	**35**	PN	**Pn**	**02 17 46.6**	**0.0**
BTOK	**Tokmak**	**1.94**	**36**	*i* P	**Pn**	**02 17 51.6**	**+2.7**
BTOK				*i* S	**Sn**	**02 18 12.4**	**-1.0**
DENT	**Denizli**	**2.00**	**102**	PN	**Pn**	**02 17 50.0**	**+0.2**
THR3	**Thira Island,**	**2.01**	**208**	*e*Pn	**Pn**	**02 17 49.6**	**-0.4**
THR3				*e*Sn	**Sn**	**02 18 14.5**	**-0.7**
LIA	**Limnos Island**	**2.02**	**328**	*e*PN	**Pn**	**02 17 50.3**	**+0.2**
SANT	**Santorini**	**2.02**	**206**	*e*P	**Pn**	**02 17 49.6**	**-0.5**
SANT				*e*		02 17 52.2	
THR1	**Thera Island**	**2.02**	**206**	*e*Pn	**Pn**	**02 17 49.7**	**-0.5**
LOS	**Limnos**	**2.09**	**327**	*e*Pn	**Pn**	**02 17 52.1**	**+0.9**
PTL	**Penteli**	**2.14**	**267**	*e*PB	**Pb**	**02 17 52.5**	**-1.5**
DST	**Dursunbey**	**2.14**	**48**	PN	**Pn**	**02 17 51.5**	**-0.3**
DALT	**Dalyan (Mudla)**	**2.17**	**130**	PN	**Pn**	**02 17 52.2**	**-0.1**
LPK	**Lapseki**	**2.18**	**4**	PN	**Pn**	**02 17 52.7**	**+0.2**
MPAR	**Parnis Oros**	**2.23**	**270**	*e*PN	**Pn**	**02 17 54.0**	**+0.8**
MPAR	**Parnis Oros**	**2.23**	**270**	*e*Pb	**Pb**	**02 17 56.5**	**+0.9**
ATH	**Athens Observa**	**2.26**	**265**	*e*PN	**Pn**	**02 17 54.4**	**+0.8**
ATH	**Athens Observa**	**2.26**	**265**	*e*Pb	**Pb**	**02 17 55.4**	**-0.7**
AOS	**Alonnisos**	**2.32**	**296**	*e*Pn	**Pn**	**02 17 55.1**	**+0.7**
KHL	**Karahalli**	**2.33**	**86**	PN	**Pn**	**02 17 54.9**	**+0.3**
ARG	**Arkhangelos**	**2.33**	**147**	*e*PN	**Pn**	**02 17 55.2**	**+0.6**
EDC	**Edincik**	**2.38**	**25**	PN	**Pn**	**02 17 54.3**	**-0.9**
BNT	**Bandirma**	**2.40**	**25**	*e*PN	**Pn**	**02 17 55.3**	**-0.3**
KCT	**Karacabey**	**2.49**	**33**	PN	**Pn**	**02 17 57.2**	**+0.3**
FETY	**Fethiye**	**2.54**	**127**	PN	**Pn**	**02 17 57.3**	**-0.2**
MRMT	**Marmara Adasi**	**2.54**	**18**	PN	**Pn**	**02 17 57.1**	**-0.4**
ORLT	**Orhaneli**	**2.59**	**44**	*e*PN	**Pn**	**02 17 57.9**	**-0.4**
MFT	**Murefte**	**2.65**	**12**	*e*PN	**Pn**	**02 17 58.8**	**-0.3**
KARP	**Karpathos**	**2.68**	**170**	*e*PN	**Pn**	**02 17 59.4**	**-0.2**
ALN	**Alexandroupoli**	**2.73**	**352**	*e*Pn	**Pn**	**02 17 59.7**	**-0.6**
PAIG	**Paliouri**	**2.84**	**309**	*e*Pn	**Pn**	**02 18 02.6**	**+0.8**
NEO	**Neokhori**	**2.84**	**294**	*e*PN	**Pn**	**02 18 02.4**	**+0.5**
XOR	**Xorichti**	**2.89**	**295**	*e*Pn	**Pn**	**02 18 03.2**	**+0.7**
ALT	**Altintas**	**2.91**	**72**	*e*PN	**Pn**	**02 18 02.6**	**-0.2**
OUR	**Ouranopolis**	**2.93**	**318**	*e*Pn	**Pn**	**02 18 03.4**	**+0.2**
ELL	**Elmali**	**3.02**	**117**	*e*PN	**Pn**	**02 18 03.8**	**-0.6**
NPS	**Neapolis**	**3.02**	**195**	*e*PN	**Pn**	**02 18 04.7**	**+0.3**
NPS	**Neapolis**	**3.02**	**195**	*e*Pn	**Pn**	**02 18 03.3**	**-1.1**
RDO	**Rodhopi**	**3.06**	**345**	*e*PN	**Pn**	**02 18 04.7**	**-0.2**
ISP	**Isparta**	**3.13**	**95**	*e*P	**Pn**	**02 18 06.5**	**+0.5**
YLV	**Yalova**	**3.22**	**42**	*e*PN	**Pn**	**02 18 06.9**	**-0.3**
VLI	**Veliai**	**3.24**	**244**	*e*PN	**Pn**	**02 18 07.2**	**-0.4**
CTT	**Catalca**	**3.28**	**25**	*e*PN	**Pn**	**02 18 07.8**	**-0.3**
BADT	**Buyukada**	**3.31**	**36**	*e*PN	**Pn**	**02 18 08.1**	**-0.1**
VAM	**Vamos**	**3.37**	**215**	*e*PN	**Pn**	**02 18 09.7**	**+0.4**
VAM	**Vamos**	**3.37**	**215**	*e*Pn	**Pn**	**02 18 08.4**	**-0.9**
AGG	**Agios Georgios**	**3.42**	**285**	*e*Pn	**Pn**	**02 18 10.7**	**+0.6**
ISK	**Istanbul-Kandi**	**3.46**	**33**	*e*PN	**Pn**	**02 18 11.1**	**+0.5**
ANTB	**Antalya**	**3.49**	**110**	*e*PN	**Pn**	**02 18 11.3**	**+0.2**
HRT	**Hereke**	**3.56**	**41**	*e*PN	**Pn**	**02 18 11.5**	**-0.5**
GPA	**Golpazari**	**3.58**	**53**	*e*PN	**Pn**	**02 18 12.2**	**-0.2**
ESKT	**Eskisehir**	**3.60**	**67**	*e*PN	**Pn**	**02 18 12.7**	**+0.1**
EDRB	**Edirne**	**3.65**	**2**	*e*PN	**Pn**	**02 18 13.2**	**-0.2**
SRS	**Serrai**	**3.72**	**323**	*e*Pn	**Pn**	**02 18 14.5**	**+0.2**
RZN	**Rozhen**	**3.77**	**338**	*e*P	**Pn**	**02 18 15.0**	**-0.1**
NVR	**Nevrokopi**	**3.78**	**327**	*e*PN	**Pn**	**02 18 15.1**	**-0.1**
ITM	**Ithomi**	**3.82**	**256**	*e*PN	**Pn**	**02 18 16.8**	**+1.1**
ITM	**Ithomi**	**3.82**	**256**	*e*Pn	**Pn**	**02 18 17.0**	**+1.3**
MMB	**Musomiste**	**4.04**	**328**	*e*P	**Pn**	**02 18 18.0**	**-0.8**
KNT	**Kendrikon**	**4.10**	**317**	*e*Pn	**Pn**	**02 18 20.5**	**+0.8**
KIZT	**Kizilcal**	**4.22**	**79**	*e*PN	**Pn**	**02 18 21.3**	**-0.2**
GRG	**Griva**	**4.24**	**312**	*e*Pn	**Pn**	**02 18 22.8**	**+1.0**
KKB	**Krupnik**	**4.54**	**325**	*e*P	**Pn**	**02 18 25.0**	**-1.0**
VTS	**Vitosha**	**5.09**	**331**	*i* P	**Pn**	**02 18 34.0**	**+0.2**
BR131	**Keskin Array S** 2.7nm,0.7s	**5.72**	**72**	*e*P	**Pn**	**02 18 43.0**	**+0.3**

WEL 04 02:22:33.8±0.1, 41.79S×173.84E, h37km±1km, ML3.6/12, 3C-8D, Error ellipse: s-maj=1.4km s-min=1.1km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.08**	**22**	⇑P*	P	02 22 39.5	-0.4
BSWZ				S*	S	02 22 44.3	0.0
CMWZ	**Cape Campbell**	**0.28**	**82**	P*	P	02 22 42.6	+0.9
CMWZ				S*	S	02 22 49.3	+2.1
TUWZ	**Tuamarina**	**0.36**	**13**	⇓P*	P	02 22 41.8	-0.8
TUWZ				S*	S	02 22 48.2	-0.6
TCW	**Tory Channel**	**0.66**	**30**	P*	P	02 22 46.2	-0.5
TCW				S*	S	02 22 56.2	+0.1
NNZ	**Nelson**	**0.66**	**329**	⇓PN	P	02 22 45.1	-1.6
NNZ				SN	S	02 22 55.0	-1.1
KHZ	**Kahutara**	**0.67**	**199**	⇑P*	P	02 22 46.7	-0.1
KHZ				S*	S	02 22 56.6	+0.4
THZ	**Tophouse**	**0.70**	**272**	⇓P*	P	02 22 45.5	-1.7
THZ				S*	S	02 22 55.8	-1.1
SNZO	**South Karori**	**0.81**	**54**	⇓P*	P	02 22 48.9	+0.1
SNZO				S*	S	02 22 59.6	-0.1
MRW	**Makara Radio**	**0.85**	**50**	⇓P*	P	02 22 49.4	0.0
MRW				S*	S	02 23 01.2	+0.3
WEL	**Wellington**	**0.86**	**55**	P*	P	02 22 49.6	+0.1
WEL				S*	S	02 23 01.2	+0.2
BHW	**Baring Head**	**0.86**	**64**	⇓P*	P	02 22 49.3	-0.2
BHW				S*	S	02 23 01.2	+0.1
DUWZ	**D'Urville Isla**	**0.99**	**4**	P*	P	02 22 50.4	-0.9
MSWZ	**Moikau Station**	**1.12**	**71**	⇓PN	P	02 22 52.5	-0.7
CAW	**Cannon Point**	**1.15**	**54**	⇓PN	P	02 22 53.2	-0.4
KIW	**Kapiti Island**	**1.23**	**42**	PN	P	02 22 54.7	0.0
PAWZ	**Paruwai Farm**	**1.26**	**72**	PN	P	02 22 54.0	-1.1
QRZ	**Quartz Range**	**1.38**	**314**	⇑PN	P	02 22 56.5	-0.4
QRZ				SN	S	02 23 13.7	-0.5
DSZ	**Denniston Nort**	**1.52**	**271**	PN	P	02 22 58.4	-0.6
DSZ				SN	S	02 23 16.8	-1.0
LTZ	**Lake Taylor**	**1.53**	**229**	PN	P	02 22 58.3	-0.8
MRZ	**Mangatainoka R**	**1.73**	**50**	PN	P	02 23 00.6	-1.3
MQZ	**McQueen's Vall**	**2.11**	**204**	PN	P	02 23 04.0	-3.4
MQZ				SN	S	02 23 27.8	-4.8
WAZ	**Wanganui**	**2.21**	**24**	*e*PN	P	02 23 09.5	+0.8
NRZ	**Ngariki Road**	**2.45**	**2**	*e*PN	P	02 23 13.2	+1.0
PKE	**Pukeiti**	**2.59**	**3**	PN	P	02 23 15.5	+1.2
WVZ	**Waitaha Valley**	**2.63**	**240**	*e*PN	P	02 23 13.9	-0.9
VRZ	**Vera Road**	**2.75**	**15**	*e*PN	P	02 23 17.4	+0.9
TRVZ	**Turoa**	**2.81**	**28**	*e*PN	P	02 23 19.3	+2.0
HIZ	**Hauiti**	**3.36**	**14**	*e*PN	P	02 23 24.8	-0.4

*ISK **04** 02:33:51.8, 38.22N×26.72E, h19km, MD3.2*
*ATH **04** 02:33:52.2, 38.12N×26.50E, h19km±4km, MD3.2/3*
*NEIC **04** 02:33:52.2, 38.12N×26.50E, h19km, MD3.2(ATH), MD3.2(ISK), After ATH.*
*CSEM **04** 02:33:53.0±0.1, 38.19N×26.84E, h20km, MD3.2, Error ellipse: s-maj=2.7km s-min=1.6km az=87.0*

ISC 04 02:33:51.8±0.6, 38.17N±0.02×26.70E±0.04, h8km±4km, n21, σ0°84/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**337**	*i* P	**Pg**	**02 33 55.8**	**-0.4**
URLA				*i* S	**Sg**	**02 33 59.3**	**+0.3**
BLCB	**Balcova**	**0.34**	**52**	*i* PG	**Pg**	**02 33 59.0**	**+0.2**
BLCB				*i* SG	**Sg**	**02 34 03.6**	**+0.1**
SMG	**Samos**	**0.48**	**167**	*e*PB	**Pg**	**02 34 02.0**	**+0.6**
SMG				*e*SB	**Sg**	**02 34 09.4**	**+1.5**
IZM	**Izmir**	**0.50**	**63**	*i* PG	**Pg**	**02 34 02.1**	**+0.2**
IZM				*i* SG	**Sg**	**02 34 08.9**	**+0.3**
KDAG	**Bornova**	**0.50**	**63**	*i* P	**Pg**	**02 34 01.1**	**-0.9**
KDAG				*i* S	**Sg**	**02 34 07.6**	**-1.1**
AYDN	**Tasoluk**	**1.06**	**118**	*i* P	**Pb**	**02 34 12.5**	**+0.4**
AYDN				*i* S	**Sb**	**02 34 26.7**	**+0.7**
PRK	**Paraskevi**	**1.12**	**343**	*e*PB	**Pb**	**02 34 12.9**	**-0.2**
PRK				*e*SN	**Sn**	**02 34 30.0**	**+0.5**
AKS	**Akhisar**	**1.12**	**51**	PN	**Pn**	**02 34 13.2**	**-0.6**
AYVA	**Ayvalik**	**1.13**	**360**	*i* P	**Pb**	**02 34 14.0**	**+0.7**
AYVA				*i* S	**Sb**	**02 34 30.1**	**+2.1**
BODT	**Bodrum**	**1.21**	**156**	PN	**Pn**	**02 34 15.5**	**+0.4**
BODT				SN	**Sn**	**02 34 31.8**	**0.0**
MLSB	**Milas**	**1.23**	**135**	PN	**Pn**	**02 34 14.8**	**-0.5**
APE	**Apeiranthos**	**1.44**	**220**	PN	**Pn**	**02 34 17.4**	**-0.9**
APE				SN	**Sn**	**02 34 37.5**	**-0.1**
APE	**Apeiranthos**	**1.44**	**220**	*e*PN	**Pn**	**02 34 17.0**	**-1.3**
MANT	**Manisa**	**1.50**	**77**	*i* P	**Pn**	**02 34 20.3**	**+1.1**
MANT				*i* S	**Sb**	**02 34 39.5**	**+1.0**
DAT	**Datca**	**1.60**	**154**	*e*PN	**Pn**	**02 34 20.0**	**-0.7**
YER	**Yerkesik**	**1.63**	**129**	*e*PN	**Pn**	**02 34 20.6**	**-0.5**
BALB	**Balikesir**	**1.73**	**32**	*e*PN	**Pn**	**02 34 20.1**	**-2.4**
DST	**Dursunbey**	**2.08**	**46**	*e*PN	**Pn**	**02 34 26.1**	**-1.4**
DALT	**Dalyan (Mudla)**	**2.08**	**132**	*e*PN	**Pn**	**02 34 26.8**	**-0.8**
LIA	**Limnos Island**	**2.09**	**326**	*e*PN	**Pn**	**02 34 28.0**	**+0.4**
FETY	**Fethiye**	**2.44**	**128**	*e*PN	**Pn**	**02 34 32.6**	**-0.1**

*IDC **04** 02:49:19.1±0.4, 23.38S×176.09W, mb5.0/21, mb1 5.2/23, mb1mx5.2/24, mbtmp5.1/23, ML5.6/1, MS4.4/17, Ms1 4.4/17, ms1mx4.2/25, Error ellipse: s-

comp=N,940nm,19.3s,MS4.4,baz=132,slow=33
CTAO Charters Tower 34.95 268 *e*P **P 02 56 14.3 +1.0**
CTAO pmax pmax
comp=Z,59nm,0.4s,mb5.9
CTAO MLR MLR
comp=Z,468nm,20.0s,MS4.2
CTAO Charters Tower 34.95 268 *e*P **P 02 56 14.3 +0.9**
comp=Z,59nm,0.4s,mb5.9
CTAO LR LR
comp=Z,468nm,20.0s,MS4.2
TOO Toolangi 35.57 238 *e*P **P 02 56 21.0 +2.6**
comp=Z,12nm,0.9s,mb4.8
TAOE Nuku Hiva Isla 37.45 73 *e*LR LR 03 06 55.0
comp=Z,2µm,23.8s
PMG Port Moresby 37.70 286 P **P 02 56 37.5 +1.0**
comp=Z,425nm,0.9s,mb6.2,baz=101,slow=4.7,SNR=64
PMG Port Moresby 37.70 286 *d*P **P 02 56 36.9 +0.3**
PMG Port Moresby 37.70 286 *e*P **P 02 56 36.9 +0.3**
comp=Z,480nm,0.9s,mb6.2
RKT Rikitea 37.78 98 *e*LQ 03 05 08.1
RKT *e*LR LR 03 06 24.9
comp=Z,1µm,24.2s,baz=262
STKA Stephens Creek 38.07 248 *e*P **P 02 56 40.1 +0.5**
comp=Z,13nm,0.5s,mb4.9
STKA Stephens Creek 38.07 248 P **P 02 56 40.1 +0.6**
comp=Z,15nm,0.5s,mb5.0,baz=99,slow=10,SNR=53
STKA LR LR 03 10 01.6
comp=Z,1µm,21.0s,MS4.7,baz=81,slow=32
WB2 Warramunga Arr 45.88 265 ⇓*i*P **P 02 57 42.4 -1.1**
WB2 *e*S **S 03 04 18.8 -6.0**
WB2 *e*SCS ScS 03 07 38.9 +4.7
WRAB Tennant Creek 45.88 265 *c i*P **P 02 57 42.7 -0.8**
WRAB Tennant Creek 45.88 265 *e*P **P 02 57 42.7 -0.8**
comp=Z,85nm,0.9s,mb5.7
WRAB LR LR
comp=Z,213nm,19.0s,MS4.1
WRA Warramunga Arr 45.89 265 P **P 02 57 42.6 -1.0**
comp=Z,46nm,0.8s,mb5.5,baz=96,slow=8.3,SNR=102
WRA SCP 03 03 18.4
comp=Z,4.9nm,1.0s,baz=102,slow=4.1,SNR=5.8
WRA S **S 03 04 22.3 -2.7**
comp=Z,4.8nm,1.0s,baz=106,slow=14,SNR=5.5
WRA ScS ScS 03 07 40.9 +6.7
comp=Z,2.2nm,1.1s,baz=96,slow=8.9,SNR=5.9
WRA Warramunga Arr 45.89 265 P **P 02 57 42.6 -1.0**
WRA 03 07 40.9
WRA pmax pmax
comp=Z,46nm,0.8s
WRA pmax pmax
comp=N,5.0nm,1.0s
WRA pmax pmax
comp=N,2.0nm,1.1s
FORT Forrest 49.68 249 *e*P **P 02 58 11.6 -1.5**
comp=N,56nm,0.6s,mb5.8
KAKA Kakadu 49.74 273 ⇓*i*P Px 02 58 33.8
comp=N,42nm,0.6s
GUMO Guam 53.01 310 P **P 02 58 39.4 +1.0**
comp=N,180nm,0.9s,mb6.0,baz=166,slow=6.7,SNR=4.3
GUMO Guam 53.01 310 P **P 02 58 39.4 +1.0**
GUMO pmax pmax
comp=Z,180nm,0.9s,mb6.0
GUMO Guam 53.01 310 P **P 02 58 39.4 +1.0**
SBA Scott Base 54.97 184 *e*P **P 02 58 54.9 +2.8**
comp=Z,30nm,0.7s,mb5.4
VNDA Vanda 55.06 186 *e*P **P 02 58 53.9 +1.2**
comp=Z,9.6nm,0.8s,mb4.9
KLBR Kellerberrin 58.32 246 *e*P **P 02 59 15.0 -1.4**
comp=Z,63nm,0.7s,mb5.8
MUN Mundaring 59.55 246 *e*P **P 02 59 24.2 -0.8**
CASY Casey 61.96 206 *e*P **P 02 59 40.8 -0.1**
comp=Z,67nm,0.9s,mb5.8
CBIJ Chichi jima 64.41 319 LR LR 03 22 16.0
comp=Z,412nm,21.4s,MS4.6,baz=135,slow=31
MJAR Matsushiro Arr 73.62 323 P **P 03 00 53.2 -1.1**
comp=Z,5.9nm,0.8s,mb4.6,baz=160,slow=5.9,SNR=15
MJAR LR LR 03 28 16.3
comp=Z,308nm,21.3s,MS4.6,baz=130,slow=32
MAT Matsushiro 73.62 323 P **P 03 00 52.9 -1.4**
MAT Matsushiro 73.62 323 *e*P **P 03 00 54.0 -0.3**
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAT Matsushiro 73.62 323 *e*P **P 03 00 54.0 -0.3**
comp=Z,10nm,0.8s,mb4.8
KSM Kuching 75.47 278 *e*P **P 03 01 05.4 0.0**
ASAJ Asahikawa 77.17 331 P **P 03 01 14.9 +0.6**
comp=Z,24nm,0.8s,mb5.2,baz=222,slow=2.4,SNR=8.6
ASAJ Asahikawa 77.17 331 P **P 03 01 15.0 +0.7**
ASAJ pmax pmax
comp=Z,24nm,0.8s
SAO San Andreas Ge 79.13 42 *e*P **P 03 01 25.1 -0.1**
SAO pmax pmax
comp=Z,21nm,1.0s,mb5.0
SAO San Andreas Ge 79.13 42 *e*P **P 03 01 25.1 -0.2**
comp=Z,21nm,1.0s,mb5.0
LRV Little Rabbit 79.18 42 *e*P **P 03 01 25.1 -0.4**
YSS Yuzh-Sakhalins 79.34 333 ⇑*i*P **P 03 01 27.0 +0.9**
YSS *e* 03 01 40.6
YSS Yuzh-Sakhalins 79.34 333 ⇑*i*P **P 03 01 26.3 +0.2**
HOPS Hopland 79.62 39 *e*P **P 03 01 27.5 -0.3**
comp=Z,27nm,1.0s,mb5.1
PFO Pinyon Flat Ob 80.39 47 *e*P **P 03 01 32.0 0.0**
PFO pmax pmax
comp=Z,20nm,0.8s,mb5.1
PFO Pinyon Flat Ob 80.39 47 *e*P **P 03 01 32.0 0.0**
comp=Z,20nm,0.8s,mb5.1
CMB Columbia Colle 80.59 41 *e*P **P 03 01 32.5 -0.5**
CMB pmax pmax
comp=Z,19nm,0.9s,mb5.0
CMB Columbia Colle 80.59 41 *e*P **P 03 01 32.5 -0.6**
comp=Z,18nm,0.9s,mb5.0
SSE Sheshan 80.89 310 P **P 03 01 32.7 -2.1**
SSE AP pP 03 01 42.2 -3.0
SSE S S 03 11 35.5 -4.1
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,330nm,5.1s
SSE LR LR
comp=N,150nm,22.2s,MS4.5
SSE LR LR
comp=E,170nm,22.2s,MS4.5
SSE LR LR
comp=Z,180nm,20.7s,MS4.4
WDC Whiskeytown Da 80.98 38 *e*P **P 03 01 34.5 -0.5**
WDC pmax pmax
comp=Z,17nm,1.0s,mb4.9
WDC Whiskeytown Da 80.98 38 *e*P **P 03 01 34.5 -0.5**
comp=Z,17nm,1.0s,mb4.9
YBH Yreka Blue Hor 81.65 37 *e*P **P 03 01 38.6 +0.1**
YBH pmax pmax
comp=Z,15nm,1.0s
YBH Yreka Blue Hor 81.65 37 *e*P **P 03 01 38.6 +0.2**
comp=Z,15nm,1.0s,mb4.9
HUMO Hull Mountain 82.10 37 *e*P **P 03 01 40.8 0.0**
comp=Z,17nm,1.0s,mb4.9
NVAR Mina Array Bea 82.12 42 P **P 03 01 41.4 +0.5**
comp=Z,13nm,0.9s,mb4.9,baz=231,slow=12,SNR=66
NVAR LR LR 03 29 13.9
comp=Z,178nm,20.2s,MS4.4,baz=270,slow=29
NVAR Mina Array Bea 82.12 42 P **P 03 01 41.4 +0.4**
NVAR LR LR 03 29 13.9
MNV Mina 82.21 42 *e*P **P 03 01 41.2 -0.3**
MNV pmax pmax
comp=Z,20nm,0.9s,mb5.0
MNV Mina 82.21 42 *e*P **P 03 01 41.2 -0.3**
comp=Z,20nm,0.9s,mb5.0
TPNV Topopah Spring 82.51 44 *e*P **P 03 01 42.9 -0.1**
TPNV pmax pmax
comp=Z,13nm,0.8s,mb5.0
TPNV MLR MLR
comp=Z,597nm,19.0s,MS5.0
TPNV Topopah Spring 82.51 44 *e*P **P 03 01 42.9 -0.1**
comp=Z,13nm,0.8s,mb5.0
TPNV LR LR
comp=Z,597nm,19.0s,MS5.0
TPH Tonopah 82.57 43 *e*P **P 03 01 43.4 +0.1**
TPH pmax pmax
comp=Z,39nm,1.5s,mb5.2
TPH Tonopah 82.57 43 *e*P **P 03 01 43.4 +0.1**
comp=Z,39nm,1.5s,mb5.2
NJ2 Nanjing 83.08 309 *e*P **P 03 01 45.6 -0.5**
NJ2 AP pP 03 01 56.2 -0.4
NJ2 XP sP 03 02 00.0 0.0
NJ2 PP PP 03 04 57.5 -1.5
NJ2 S S 03 12 01.0 -0.9
NJ2 XS 03 12 18.0
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
NJ2 LR LR
comp=Z,300nm,15.1s,MS4.8
MOD Modoc 83.12 39 *e*P **P 03 01 45.9 -0.2**
comp=Z,25nm,1.1s,mb5.2
KDAK Kodiak Island 83.39 12 P **P 03 01 47.1 0.0**
comp=Z,14nm,0.8s,mb5.0,baz=18,slow=6.3,SNR=4.9
MDJ Mudanjiang 83.94 324 P **P 03 01 51.7 +1.5**
MDJ AP pP 03 02 01.4 +0.7
MDJ XP sP 03 02 04.8 +0.7
MDJ PP PP 03 05 07.4 +1.7
MDJ S S 03 12 15.2 +4.9
MDJ SCS ScS 03 12 25.7 +4.7
MDJ AMB AMB
comp=Z,10.0nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,210nm,4.7s
MDJ LR LR
comp=N,230nm,28.0s,MS4.5
MDJ LR LR
comp=E,190nm,29.3s,MS4.5
MDJ LR LR
comp=Z,150nm,22.6s
MDJ Mudanjiang 83.94 324 *e*P **P 03 01 50.0 -0.2**
comp=Z,19nm,0.9s,mb5.2
SYO Syowa Base 84.13 192 ⇑P **P 03 01 48.3 -2.3**
SYO Syowa Base 84.13 192 ⇑*e*P **P 03 01 48.3 -2.3**
WVOR Wild Horse Val 84.41 39 *e*P **P 03 01 52.4 -0.2**
WVOR pmax pmax
comp=Z,30nm,1.0s,mb5.4
WVOR Wild Horse Val 84.41 39 *e*P **P 03 01 52.4 -0.3**
comp=Z,30nm,1.0s,mb5.4
VIPM Ingram Point 84.63 36 P **P 03 01 53.9 +0.2**
ARUT Antelope Range 84.81 45 *e*P **P 03 01 54.9 +0.1**
OOW Octopus West 84.94 32 P **P 03 01 56.4 +1.3**
SNAA Sanae 84.94 178 P **P 03 01 55.6 +1.0**
comp=Z,4.1nm,0.7s,mb4.7,baz=205,slow=4.6,SNR=35
SNAA Sanae 84.94 178 ⇑*i*P **P 03 01 55.0 +0.4**
SNAA *e* 03 02 09.4
SNAA *e* 03 02 13.4
SNAA *e* 03 05 14.0
SNAA *e* 03 13 23.3
SNAA *e* 03 16 51.4
SNAA *e* 03 23 22.9
TDL Tradedollar La 84.99 34 P **P 03 01 56.4 +1.0**
VNA3 Neumayer Olymp 85.01 176 ⇑*i*P **P 03 01 55.7 +0.7**
VNA3 Neumayer Olymp 85.01 176 *e* P **P 03 01 58.4 +3.4**
VNA3 Neumayer Olymp 85.01 176 *e* pP 03 02 05.4 -0.1
VNA3 Neumayer Olymp 85.01 176 *e* sP 03 02 09.3 +0.5
ELK Elko 85.40 42 P **P 03 01 57.5 -0.2**
comp=Z,14nm,1.0s,mb5.0,baz=232,slow=4.5,SNR=32
ELK Elko 85.40 42 *e*P **P 03 01 57.3 -0.3**
ELK pmax pmax
comp=Z,17nm,1.0s
ELK Elko 85.40 42 *e*P **P 03 01 57.3 -0.3**
comp=Z,17nm,1.0s,mb5.1
HDW Hoodsport 85.44 33 P **P 03 01 58.5 +0.9**
VNA2 Neumayer--Watz 85.47 176 *e* P **P 03 02 00.8 +3.5**
VNA2 Neumayer--Watz 85.47 176 *e* pP 03 02 07.4 -0.4
VNA2 Neumayer--Watz 85.47 176 *e* sP 03 02 11.8 +0.7
VNA2 Neumayer--Watz 85.47 176 ⇑*i*P **P 03 01 58.3 +1.0**
VNA2 *e* 03 02 00.8
VNA2 *e* pP 03 02 07.4 -0.4
VNA2 *e* 03 02 11.8
VNA2 *e* 03 05 09.1
VNA2 *e* 03 13 24.6
VNA2 *e* 03 16 49.1
VNA2 *e* 03 23 24.4
WHN Wuhan 85.56 306 *e*P **P 03 02 01.5 +2.8**
VNA1 Neumayer--Stat 85.69 176 *e* pP 03 02 09.4 +0.5
VNA1 Neumayer--Stat 85.69 176 ⇑*i*P **P 03 02 01.1 +2.7**
VNA1 *e* 03 02 09.4
VNA1 *e* 03 05 19.6
CN2 Changchun 85.70 322 *e*P **P 03 02 00.1 +1.1**
CN2 *e*AP pP 03 02 12.2 +2.7
CN2 *e*S S 03 12 29.1 +1.5
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.3
CN2 LR LR
comp=Z,240nm,23.0s,MS4.5
RMW Rattlesnake Mo 85.94 34 P **P 03 02 00.6 +0.5**
SVW2 Sparrevohn 85.97 10 *e*P **P 03 01 58.4 -1.6**
PLCA Paso Flores 86.00 133 P **P 03 02 02.1 +1.5**
comp=Z,9.8nm,1.2s,mb4.9,baz=195,slow=12,SNR=3.7
PLCA LR LR 03 30 32.9
comp=Z,160nm,20.6s,MS4.4,baz=51,slow=29
MVU Marysvale 86.02 45 *e*P **P 03 02 01.9 +1.2**
comp=Z,25nm,1.4s,mb5.3
MSU Marysvale 86.05 45 *e*P **P 03 02 01.5 +0.6**
BBB Bella Bella 86.30 27 PKKPbc 03 20 05.1
comp=Z,17nm,0.9s,baz=158,slow=5.7,SNR=3.2
TBM Table Mountain 86.37 34 P **P 03 02 02.6 +0.4**
SLKM Skilak Lake 86.38 13 *e*P **P 03 02 01.3 -0.7**
PSI Prapat 86.40 275 P **P 03 02 04.7 +1.5**
comp=Z,10nm,0.7s,mb5.2,baz=180,slow=8.9,SNR=8.1
PSI Prapat 86.40 275 P **P 03 02 04.7 +1.5**
PSI pmax pmax
comp=Z,11nm,0.7s,mb5.2
HAWA Hanford 86.43 35 *e*P **P 03 02 02.3 -0.3**
GBL Gable Mountain 86.60 35 P **P 03 02 03.8 +0.4**
BMO Blue Mountains 86.67 38 *e*P **P 03 02 02.9 -0.9**
BMO pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
BMO Blue Mountains 86.67 38 *e*P **P 03 02 02.9 -0.9**
comp=Z,4.2nm,0.9s,mb4.7
WTV Waterville 87.05 34 P **P 03 02 05.5 0.0**
TMUT Trail Mountain 87.11 45 *e*P **P 03 02 06.5 +0.4**
MNTX Cornudas Mount 87.18 54 *e*P **P 03 02 06.4 -0.2**
comp=Z,14nm,0.9s,mb5.2
MNTX LR LR
comp=Z,274nm,19.0s,MS4.7
MPU Maple Canyon 87.23 44 *e*P **P 03 02 07.0 +0.3**
comp=Z,6.1nm,0.8s,mb4.9
LENM Lemitar 87.26 51 *e*P **P 03 02 07.0 +0.1**
LTX Lajitas 87.32 57 *e*P **P 03 02 07.2 -0.1**
LTX pmax pmax
comp=Z,17nm,0.9s,mb5.3
LTX Lajitas 87.32 57 *e*P **P 03 02 07.2 -0.1**
comp=Z,17nm,0.9s,mb5.3
TXAR Lajitas Array 87.32 57 P **P 03 02 07.5 +0.2**
comp=Z,13nm,0.8s,mb5.2,baz=214,slow=7.8,SNR=90
TXAR PKKP PKKP 03 19 52.5 +9.1
comp=Z,0.2nm,0.8s,baz=162,slow=4.0,SNR=3.5
TXAR PKKPbc 03 20 03.0
comp=Z,0.2nm,0.5s,baz=90,slow=5.0,SNR=3.5
TXAR LR LR 03 35 09.0
comp=Z,227nm,18.6s,MS4.6,baz=260,slow=32
SRU San Rafael 87.45 45 *e*P **P 03 02 07.6 -0.1**
SRU pmax pmax
comp=Z,26nm,0.8s,mb5.5
SRU San Rafael 87.45 45 *e*P **P 03 02 07.6 -0.1**
comp=Z,26nm,0.8s,mb5.5
OD2 Odessa Site #2 87.50 35 P **P 03 02 07.9 +0.2**
HLID Hailey 87.56 40 *e*P **P 03 02 07.7 -0.4**
comp=Z,6.2nm,0.8s,mb4.9
LPM Los Pinos Moun 87.58 51 *e*P **P 03 02 09.0 +0.5**
PMR Palmer 87.59 13 *e*P **P 03 02 07.4 -0.4**
PMR pmax pmax
comp=Z,21nm,1.1s,mb5.3
PMR Palmer 87.59 13 *e*P **P 03 02 07.4 -0.4**
comp=Z,21nm,1.1s,mb5.3
TTA Tatalina 87.65 9 *e*P **P 03 02 08.7 +0.6**
DAU Daniels Canyon 87.70 44 *e*P **P 03 02 08.5 -0.4**
DIV Divide 87.89 14 *e*P **P 03 02 09.0 -0.2**
comp=Z,68nm,1.0s,mb5.8
TCUT Toone Canyon 87.99 43 *e*P **P 03 02 09.7 -0.5**
ANMO Albuquerque 88.03 50 P **P 03 02 10.9 +0.3**
comp=Z,9.6nm,0.9s,mb5.0,baz=214,slow=5.2,SNR=22
ANMO Albuquerque 88.03 50 *e*P **P 03 02 10.6 0.0**
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 88.03 50 *e*P **P 03 02 10.6 0.0**
comp=Z,9.2nm,0.9s,mb5.0
HWUT Hardware Ranch 88.17 43 *e*P **P 03 02 09.7 -1.4**
comp=Z,5.6nm,0.9s,mb4.8
GDL2 Guadalupe Moun 88.18 54 *e*P **P 03 02 11.4 +0.1**
KKTK Khon Kaen 88.43 288 P **P 03 02 18.0 +5.1**
comp=Z,432nm,0.5s
NEW Newport 88.88 35 P **P 03 02 13.8 -0.5**
comp=Z,7.6nm,0.8s,mb5.1,baz=245,slow=5.1,SNR=16
NEW LR LR 03 36 51.8
comp=Z,402nm,18.3s,MS4.9,baz=232,slow=32
ENH Enshi 89.10 304 *e*P **P 03 02 16.5 +0.7**
comp=Z,33nm,1.0s,mb5.6
MCMT McKenzie Canyo 89.21 40 *e*P **P 03 02 15.7 -0.2**
GYA Guiyang 89.58 299 P **P 03 02 24.3 +6.2**
GYA AP pP 03 02 35.4 +6.8
GYA XP sP 03 02 39.8 +7.8
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.4
GYA AMB AMB
comp=Z,180nm,4.8s
GYA LR LR
comp=Z,790nm,18.9s,MS5.2
MCK McKinley 89.58 12 *e*P **P 03 02 16.3 -0.9**
MCK pmax pmax
comp=Z,14nm,1.0s,mb5.2
MCK McKinley 89.58 12 *e*P **P 03 02 16.3 -0.9**
comp=Z,14nm,1.0s,mb5.3
REDW Red Top Meadow 89.58 42 *e*P **P 03 02 17.1 -0.7**
comp=Z,13nm,1.4s,mb5.1
TPAW Teton Pass 89.59 41 *e*P **P 03 02 17.6 -0.2**
comp=Z,8.9nm,1.2s,mb5.0
DLMT Dillon 89.66 39 *e*P **P 03 02 17.7 -0.4**
comp=Z,14nm,1.0s,mb5.2
SNOW Snow King Moun 89.69 41 *e*P **P 03 02 18.6 +0.3**
comp=Z,7.1nm,0.8s,mb5.0
SEY Seymchan 89.70 346 *e*P **P 03 02 18.4 +0.6**
SEY *e* 03 12 44.7
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.8
SEY Seymchan 89.70 346 ⇓*i*P **P 03 02 17.0 -0.8**
MSO Missoula 89.74 37 *e*P **P 03 02 15.8 -2.6**
comp=Z,5.0nm,0.9s,mb4.8
IMW Indian Meadow 89.82 41 *e*P **P 03 02 19.2 +0.4**
comp=Z,12nm,1.1s,mb5.1
MENT Mentasta 89.94 14 *e*P **P 03 02 19.6 +0.6**
QLMT Earthquake Lak 90.05 40 *e*P **P 03 02 20.4 +0.6**
PDAR Pinedale Array 90.05 43 P **P 03 02 19.2 -0.8**
comp=Z,4.7nm,0.8s,mb4.8,baz=214,slow=2.7,SNR=34
PDAR PKKPbc 03 20 04.8
comp=Z,0.9nm,1.1s,baz=80,slow=5.5,SNR=3.5
PDAR LR LR 03 35 52.8
comp=Z,123nm,18.1s,MS4.4,baz=246,slow=31
SDCO Great Sand Dun 90.10 48 *e*P **P 03 02 19.9 -0.5**
comp=Z,6.8nm,0.9s,mb5.0
DLBC Dease Lake 90.20 22 P **P 03 02 21.3 +1.0**
comp=Z,12nm,0.9s,mb5.2,baz=226,slow=8.6,SNR=12
BOZ Bozeman (W) 90.38 39 *e*P **P 03 02 21.1 -0.3**
BOZ pmax pmax
comp=Z,25nm,1.0s,mb5.5
BOZ Bozeman (W) 90.38 39 *e*P **P 03 02 21.1 -0.4**
comp=Z,25nm,1.0s,mb5.5
COLA College 90.82 12 ⇑*i*P **P 03 02 22.1 -0.8**
COLA College 90.82 12 *e*P **P 03 02 21.5 -1.5**
comp=Z,17nm,0.8s,mb5.4
COLA LR LR
comp=Z,385nm,22.0s,MS4.8
JCT Junction City 90.82 57 *e*P **P 03 02 23.1 -0.7**
JCT pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
JCT Junction City 90.82 57 *e*P **P 03 02 23.1 -0.7**
comp=Z,7.0nm,1.0s,mb5.0
HRY Holter Researc 90.86 38 *e*P **P 03 02 23.2 -0.4**
ILAR Eielson Array 90.91 12 P **P 03 02 22.4 -0.9**
comp=Z,6.3nm,0.8s,mb5.0,baz=218,slow=5.8,SNR=43
ILAR PP PP 03 06 04.8 +2.9
comp=Z,2.2nm,0.8s,baz=224,slow=7.8,SNR=5.0
ILAR ScS ScS 03 13 21.8 +3.7
comp=Z,1.2nm,1.2s,baz=212,slow=7.3,SNR=4.2
ILAR LR LR 03 42 30.4
comp=Z,57nm,19.0s,MS4.0,baz=354,slow=35
ILAR Eielson Array 90.91 12 P **P 03 02 22.5 -0.9**
ILAR 03 06 04.9
ILAR pmax pmax
comp=Z,6.0nm,0.9s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR pmax pmax
comp=N,1.0nm,1.2s
ILAR MLR MLR
comp=Z,57nm,19.0s
IMA2 Indian Mountai 90.96 9 *e*P **P 03 02 22.5 -1.1**
XAN Xi'an 91.27 307 P **P 03 02 27.0 +1.2**
XAN AMB AMB
comp=Z,20nm,1.1s,mb5.4
GCMT Greycliff 91.61 40 *e*P **P 03 02 26.9 -0.1**
HIA Hailar 92.11 324 *e*P **P 03 02 29.7 +0.4**
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA Hailar 92.11 324 *e*P **P 03 02 29.7 +0.4**
comp=Z,9.4nm,0.9s,mb5.1
KMI Kunming 92.19 296 P **P 03 02 34.2 +4.0**
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
BILL Bilibino 92.22 353 ⇑*e*P **P 03 02 29.3 0.0**
BILL *e* 03 02 44.5
BILL pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
BILL Bilibino 92.22 353 *e*P **P 03 02 28.7 -0.7**
comp=Z,5.3nm,0.6s,mb5.0
HHC Hu-ho-hao-te 92.64 314 *e*P **P 03 02 34.2 +2.3**
HHC AP pP 03 02 44.2 +1.8
HHC XP sP 03 02 48.7 +2.9
HHC PP PP 03 06 18.5 +2.1
HHC SKS SKS 03 13 02.9 -7.4
HHC S S 03 13 35.0 +3.7
HHC XS 03 13 52.5
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
HHC LR LR
comp=Z,340nm,14.3s,MS4.9
EGMT Eagleton 92.77 38 *e*P **P 03 02 31.9 -0.4**
comp=Z,4.9nm,0.9s,mb4.9
CHG Chiang Mai 92.81 289 ⇑P **P 03 02 35.4 +2.2**
LAO LASA Array 94.12 40 *e*P **P 03 02 39.2 +0.6**
comp=Z,30nm,0.9s,mb5.7
RSSD Black Hills 94.20 43 *e*P **P 03 02 38.5 -0.5**
RSSD pmax pmax
comp=Z,24nm,0.8s,mb5.7
RSSD Black Hills 94.20 43 *e*P **P 03 02 38.5 -0.5**
comp=Z,24nm,0.8s,mb5.7
YAK Yakutsk 95.54 337 ⇑*i*P **P 03 02 44.5 -0.2**
YAK pmax pmax
comp=Z,12nm,0.8s,mb5.4
YAK Yakutsk 95.54 337 ⇑*i*P **P 03 02 44.6 -0.1**
LZH Lanzhou 95.91 307 *e*P **P 03 02 47.5 +0.4**
LZH AP pP 03 02 59.3 +1.7
LZH XP sP 03 03 03.6 +2.6
LZH PP PP 03 06 42.4 +0.7
LZH SKS SKS 03 13 19.2 -9.2
LZH *e*S S 03 13 59.5 0.0
LZH XS 03 14 19.7
LZH PS PS 03 15 28.6 +0.4
LZH *e*SS SS 03 20 35.0 +0.8
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,70nm,7.6s
LZH LR LR
comp=N,310nm,16.2s
LZH LR LR
comp=Z,590nm,19.0s,MS5.1
INK Inuvik 96.77 15 P **P 03 02 49.4 -0.8**
comp=Z,2.3nm,0.8s,mb4.6,baz=189,slow=3.9,SNR=7.2
INK PP PP 03 06 45.5 -2.3
comp=Z,2.4nm,0.9s,baz=226,slow=7.1,SNR=4.1
INK Inuvik 96.77 15 P **P 03 02 49.4 -0.8**
INK 03 06 45.5
INK pmax pmax
comp=Z,2.0nm,0.8s
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 96.77 15 P **P 03 02 49.4 -0.8**
INK PP PP 03 06 45.5 -2.3
YKA Yellowknife Ar 98.57 24 P **P 03 02 57.9 -0.5**
comp=Z,1.7nm,0.8s,mb4.6,baz=240,slow=4.2,SNR=10
YKA PP PP 03 06 56.2 -5.5
comp=Z,0.6nm,0.8s,baz=231,slow=8.7,SNR=4.7
YKA LR LR 03 39 26.5
comp=Z,124nm,20.9s,MS4.4,baz=225,slow=31
YKA Yellowknife Ar 98.57 24 P **P 03 02 57.9 -0.5**
YKA 03 06 56.2
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 98.73 318 *c i*P **P 03 03 00.3 +0.8**

ULN	**Ulaanbaatar**	**98.73**	**318**	⇑*iP*	**P**	**03 03 00.4**	**+0.9**
SONM	**Songino Array**	**99.11**	**318**	P	**P**	**03 03 03.3**	**+2.1**
	comp=Z,1.4nm,1.0s,mb4.4,baz=18,slow=9.4,SNR=3.6						
SONM				PP	PP	03 07 13.2	+7.2
	comp=Z,1.5nm,0.9s,baz=127,slow=5.7,SNR=4.2						
SONM				LR	LR	03 42 03.0	
	comp=Z,166nm,21.0s,MS4.5,baz=131,slow=32						
LPAZ	**La Paz**	**99.38**	**112**	P	**P**	**03 03 05.7**	**+2.6**
	comp=Z,0.8nm,0.7s,mb4.4,baz=175,slow=2.0,SNR=3.8						
LPAZ				LR	LR	03 42 28.0	
	comp=Z,135nm,18.1s,MS4.5,baz=150,slow=32						
SIV	**San Ignacio**	**105.45**	**115**	PKKPbc		03 19 10.4	
	comp=Z,0.7nm,0.8s,baz=18,slow=6.4,SNR=3.0						
WMQ	**Urumqi**	**110.15**	**310**	*e*PDIF	Pdif	03 03 51.8	+1.7
WMQ				PP	PP	03 08 30.5	+1.3
WMQ				SKS	SKS	03 14 59.7	+25
WMQ				SS	SS	03 23 50.5	+0.4
WMQ				PP	PP		
	comp=Z,110nm,7.0s						
WMQ				LR	LR		
	comp=Z,530nm,24.0s,MS5.0						
ZAL	**Zalesovo**	**113.89**	**320**	PKiKP		03 07 58.7	
	comp=Z,0.9nm,0.6s,baz=292,slow=4.0,SNR=4.4						
ZAL	**Zalesovo**	**113.89**	**320**	*i* PKIKP	PKPdf	03 07 58.7	-4.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**113.89**	**320**	PKPdf	PKPdf	03 07 58.7	-4.1
MKAR	**Makanchi Array**	**114.47**	**312**	PKP	PKPdf	03 08 00.1	-4.0
	comp=Z,1.0nm,0.6s,baz=248,slow=0.5,SNR=6.2						
MKAR	**Makanchi Array**	**114.47**	**312**	PKIKP	PKPdf	03 08 00.1	-3.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**117.33**	**316**	⇑*i* PKIKP	PKPdf	03 08 05.5	-4.0
KURK	**Kurchatov**	**117.33**	**316**	*e*PKPdf	PKPdf	03 08 04.9	-4.6
AAK	**Ala-Archa**	**119.45**	**307**	⇑*i* PKIKP	PKPdf	03 08 09.6	-4.2
AAK	**Ala-Archa**	**119.45**	**307**	*e*PKPdf	PKPdf	03 08 08.9	-4.9
VOSK	**Vostochnaya**	**122.11**	**319**	PKIKP	PKPdf	03 08 14.2	-4.5
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**122.41**	**307**	*i* PKIKP	PKPdf	03 08 15.5	-4.0
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVA0	**Borovoye Array**	**122.45**	**319**	*i* PKIKP	PKPdf	03 08 13.4	-6.0
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**122.45**	**319**	PKP	PKPdf	03 08 15.0	-4.3
	comp=Z,1.5nm,0.4s,baz=114,slow=3.0,SNR=17						
BVAR	**Borovoye Array**	**122.45**	**319**	PKIKP	PKPdf	03 08 15.0	-4.4
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**122.51**	**319**	*e*PKIKP	PKPdf	03 08 15.5	-4.0
BRVK				MLR	MLR		
	comp=Z,49nm,22.0s,MS4.1						
SUMG	**Summit**	**125.69**	**14**	*e*PKPdf	PKPdf	03 08 20.9	-4.2
SOKR	**Solikamsk**	**128.53**	**329**	*i* PKIKP	PKPdf	03 08 28.4	-2.5
SOKR				*e*		03 08 35.4	
SOKR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ARU	**Arti**	**128.63**	**324**	*i* PKIKP	PKPdf	03 08 27.1	-4.1
ARU				*e*		03 15 29.3	
ARU	**Arti**	**128.63**	**324**	*e*PKPdf	PKPdf	03 08 26.9	-4.2
AB31	**Akbulak array**	**129.41**	**315**	*i* PKIKP	PKPdf	03 08 29.0	-3.9
AB31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MATP	**Matopo**	**130.10**	**211**	PKhKP		03 08 29.2	
	comp=Z,2.9nm,1.1s,baz=121,slow=1.1,SNR=2.1						
MATP				SKP		03 12 10.6	
	comp=Z,2.3nm,0.7s,baz=129,slow=6.1,SNR=5.9						
AKTO	**Aktyubinsk**	**130.42**	**317**	PKP	PKPdf	03 08 31.8	-2.9
	comp=Z,1.4nm,0.5s,baz=58,slow=5.0,SNR=6.3						
AKTO	**Aktyubinsk**	**130.42**	**317**	PKIKP	PKPdf	03 08 31.8	-3.0
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KEV	**Kevo**	**131.75**	**349**	*ep*	PKPdf	03 08 34.4	-2.4
ARCES	**ARCESS Array B**	**132.19**	**350**	PKhKP		03 08 28.6	
	comp=Z,4.4nm,1.0s,baz=41,slow=0.4,SNR=7.7						
ARCES				PKP	PKPdf	03 08 33.7	-3.9
	comp=Z,6.1nm,0.8s,baz=27,slow=1.7,SNR=15						
ARCES				SKPbc		03 12 03.7	
	comp=Z,8.6nm,0.9s,baz=90,slow=1.2,SNR=6.7						
ARCES	**ARCESS Array B**	**132.19**	**350**	PKIKP	PKPdf	03 08 33.7	-3.9
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARCES				pmax	pmax		
	comp=N,9.0nm,0.9s						
ARCES	**ARCESS Array B**	**132.19**	**350**	PKP	PKPdf	03 08 28.6	-9.0
ARCES				PKP	PKPdf	03 08 33.7	-3.9
ARCES				SKPbc		03 12 03.7	
LSZ	**Lusaka**	**134.64**	**214**	PKP	PKPdf	03 08 40.7	-2.9
	comp=N,2.2nm,0.8s,baz=194,slow=4.3,SNR=4.4						
LSZ	**Lusaka**	**134.64**	**214**	*e*PKIKP	PKPdf	03 08 41.0	-2.6
KLMR	**Klimovskoe**	**135.31**	**336**	*e*PKIKP	PKPdf	03 08 46.8	+3.2
KLMR				pmax	pmax		
	comp=Z,20nm,1.7s						
JOF	**Joensuu**	**136.51**	**342**	*ep*	PKPdf	03 08 42.5	-3.2
KAF	**Kangasniemi**	**138.51**	**344**	*ep*	PKPdf	03 08 43.1	-6.4
FINES	**FINESS Array B**	**139.14**	**344**	PKhKP		03 08 37.3	
	comp=Z,1.1nm,0.6s,baz=45,slow=3.9,SNR=12						
FINES				PKP	PKPdf	03 08 48.1	-2.5
	comp=Z,2.2nm,0.6s,baz=62,slow=2.0,SNR=8.6						
FINES	**FINESS Array B**	**139.14**	**344**	PKIKP	PKPdf	03 08 48.2	-2.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	**Kilima Mbogo**	**139.26**	**238**	PKP	PKPdf	03 08 50.5	-1.6
	comp=Z,2.8nm,1.0s,baz=340,slow=2.6,SNR=5.6						
KMBO				SKPbc		03 12 28.1	
	comp=Z,3.1nm,0.9s,baz=51,slow=4.8,SNR=2.8						
KMBO	**Kilima Mbogo**	**139.26**	**238**	PKIKP	PKPdf	03 08 50.5	-1.7
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO				pmax	pmax		
	comp=N,3.0nm,1.0s						
OBN	**Obninsk**	**140.20**	**331**	⇑*i* PKIKP	PKPdf	03 08 54.0	+1.3
OBN				*e*		03 08 59.9	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
OBN	**Obninsk**	**140.20**	**331**	⇑*i* PKP	PKPdf	03 08 52.9	+0.2
OBN				LR	LR		
	comp=Z,100nm,18.0s,MS4.6						
TRKR	**Terskaya**	**140.90**	**311**	⇓*e*PKHKP		03 08 38.7	
TRKR				*eS*	PKPdf	03 08 52.0	-2.3
PRTR	**Priterechnaya**	**141.20**	**311**	⇑*e*PKHKP		03 08 43.3	
KMSR	**Komsomolskaya**	**141.31**	**311**	⇓*e*PKHKP		03 08 42.7	
ARNR	**Ardon**	**141.38**	**310**	⇑*e*PKHKP		03 08 43.1	
LACR	**Lac**	**141.47**	**310**	⇑*e*PKHKP		03 08 44.5	
KORR	**Kora**	**141.56**	**310**	⇑*e*PKHKP		03 08 45.5	
LSNR	**Lesken**	**141.67**	**311**	⇓*e*PKHKP		03 08 47.7	
GNI	**Garni**	**141.84**	**306**	*i* PKIKP	PKPdf	03 08 55.4	-0.6
GNI	**Garni**	**141.84**	**306**	*e*PKP	PKPdf	03 08 55.4	-0.6
NB2	**NORSAR Subarra**	**142.17**	**354**	PKPabc		03 08 46.5	
	comp=Z,3.5nm,0.8s,baz=10.0,slow=3.1						
NOA	**NORSAR Array B**	**142.17**	**354**	PKhKP		03 08 47.0	
	comp=Z,2.9nm,0.8s,baz=7.9,slow=3.7,SNR=9.2						
NOA	**NORSAR Array B**	**142.17**	**354**	PKHKP		03 08 47.1	
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**142.23**	**312**	*d* PKIKP	PKPdf	03 08 53.4	-3.2
KIV				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.5						
KIV	**Kislovodsk**	**142.23**	**312**	*i* PKPr		03 08 53.4	
SEMD	**Semdilli**	**142.57**	**301**	*eP*	PKPdf	03 08 50.5	-6.8
MNK	**Minsk**	**144.23**	**336**	*e*PKHKP		03 08 51.0	
EZM	**Erzurum**	**144.41**	**306**	*eP*	PKPbc	03 08 55.1	+0.5
ANN	**Anapa**	**145.36**	**316**	*e*PKIKP	PKPdf	03 09 11.2	+9.2
ANN				pmax	pmax		
	comp=Z,160nm,1.1s						
GUMT	**Gumushane**	**145.63**	**308**	P	PKPbc	03 09 00.3	+2.4
PTK	**Pertek**	**146.16**	**305**	*eP*	PKPbc	03 09 00.4	+1.1
SUW	**Suwalki**	**146.25**	**339**	⇓*e*PKP	PKPdf	03 09 01.0	-2.2
SUW				*e*		03 09 05.9	
SUW				*e*		03 09 26.9	
SUW	**Suwalki**	**146.25**	**339**	⇓*e*PKP	PKPdf	03 09 01.0	-2.2
SUW				*e*		03 09 05.9	
SUW				*e*		03 09 26.9	
AKASG	**Malin Array Be**	**146.46**	**330**	PKPbc	PKPbc	03 09 00.8	+1.2
	comp=Z,15nm,0.5s,baz=42,slow=4.0,SNR=87						
AKASG	**Malin Array Be**	**146.46**	**330**	PKP2	PKPab	03 09 00.8	-1.9
AKASG				pmax	pmax		
	comp=Z,15nm,0.5s						
MUD	**Monsted U'grnd**	**146.88**	**355**	*i* P	PKPbc	03 09 01.7	+1.4
	comp=Z,91nm,1.1s						
	comp=Z,250nm,17.0s						
MUD	**Monsted U'grnd**	**146.88**	**355**	*i* PKIKP	PKPdf	03 09 01.7	-2.5
MUD				pmax	pmax		
	comp=Z,91nm,1.1s						
	comp=Z,250nm,17.0s,MS5.1						
URFA	**Urfa**	**146.98**	**303**	*eP*	PKPdf	03 09 02.7	-2.2
SIM	**Simferopol'**	**147.36**	**318**	*e*PKP2	PKPab	03 09 07.8	+1.4
SIM				pmax	pmax		
	comp=Z,128nm,0.8s						
BSD	**Bornholm Skovb**	**147.39**	**348**	*i* P	PKPdf	03 09 07.5	+2.5
	comp=Z,49nm,1.1s						
BSD	**Bornholm Skovb**	**147.39**	**348**	*i* PKP2	PKPab	03 09 07.5	+1.3
BSD				pmax	pmax		
	comp=Z,49nm,1.1s						
KBRS	**Khaybar**	**147.74**	**281**	P	PKPdf	03 09 07.2	+0.7
GAZ	**Gaziantep**	**148.29**	**303**	*eP*	PKPdf	03 09 07.6	+0.5
BYBT	**Boyabat**	**148.57**	**312**	*eP*	PKPdf	03 09 07.5	+0.2
BNN	**Bunyan**	**148.81**	**307**	*eP*	PKPdf	03 09 11.5	+3.7
KIS	**Kishinev**	**149.17**	**326**	*e*PKIKP	PKPdf	03 09 09.0	+0.9
KIS				*e*		03 09 19.0	
CORM	**Corum**	**149.19**	**310**	P	PKPdf	03 09 09.2	+0.8
KOZT	**Kozan**	**149.26**	**304**	*eP*	PKPdf	03 09 10.2	+1.5
TOS	**Tosya**	**149.26**	**312**	*eP*	PKPdf	03 09 09.8	+1.3
QURS	**Qurayyt al Mil**	**149.32**	**292**	P	PKPdf	03 09 11.7	+2.8
UMJS	**Umm Lajj**	**149.46**	**280**	P	PKPdf	03 09 12.2	+2.9
KARA	**Karaisali**	**149.91**	**304**	*eP*	PKPdf	03 09 10.7	+1.0
KWP	**Kalwaria**	**150.02**	**335**	*e*PKP	PKPdf	03 09 11.3	+1.9
KWP				*e*		03 09 17.6	
BR131	**Keskin Array S**	**150.07**	**310**	*e*PKPbc	PKPdf	03 09 11.5	+1.7
BRTR	**Keskin Array B**	**150.07**	**310**	PKPbc	PKPdf	03 09 11.7	+1.9
	comp=Z,5.9nm,0.8s,baz=139,slow=4.9,SNR=11						
BRTR				PKPab	PKPab	03 09 18.6	+1.1
	comp=Z,15nm,0.8s,baz=140,slow=3.8,SNR=23						
SAFT	**Safranbolu**	**150.08**	**313**	*eP*	PKPdf	03 09 11.0	+1.2
RUE	**Ruedersdorf**	**150.11**	**348**	*e*PKPbc	PKPdf	03 09 11.3	+1.8
KAMT	**Kaman**	**150.16**	**309**	*eP*	PKPdf	03 09 11.7	+1.7
TBKS	**Tabuk**	**150.21**	**286**	P	PKPdf	03 09 13.2	+2.8
MERS	**Mersin**	**150.44**	**304**	*eP*	PKPdf	03 09 11.9	+1.4
BURAR	**Bucovina Array**	**150.51**	**330**	⇓P	PKPdf	03 09 14.3	+4.1
OJC	**Ojcow**	**150.58**	**339**	*e*PKP	PKPdf	03 09 12.1	+1.9
ANTO	**Ankara**	**150.61**	**310**	*eP*	PKPdf	03 09 12.7	+2.1
LOD	**Lodumlu**	**150.62**	**311**	*eP*	PKPdf	03 09 12.6	+2.3
CFR	**Carcaliu**	**150.70**	**323**	⇓P	PKPdf	03 09 12.9	+2.3
STHS	**Stebnicka Huta**	**150.75**	**336**	*e*PKP	PKPdf	03 09 13.2	+2.7
STHS				*e*		03 09 21.5	
STHS				*e*		03 09 29.7	
KOLS	**Kolonicke sedl**	**150.75**	**335**	*e*PKP	PKPdf	03 09 13.1	+2.6
KOLS				*e*		03 09 23.0	
KOLS				*e*		03 09 30.3	
MMLI	**Mount Malkishu**	**150.78**	**295**	P	PKPdf	03 09 13.7	+2.6
MZDA	**Masada**	**150.99**	**292**	P	PKPdf	03 09 14.4	+2.9
TIRR	**Tirgusor**	**151.00**	**322**	⇓P	PKPdf	03 09 18.1	+7.1
TIRR	**Tirgusor**	**151.00**	**322**	PKPbc	PKPdf	03 09 13.3	+2.2
TIRR				⇓P		03 09 18.1	
KSP	**Ksiaz**	**151.06**	**344**	*e*PKP	PKPdf	03 09 14.0	+3.1
KSP	**Ksiaz**	**151.06**	**344**	*i* PKHKP		03 09 13.5	
KSP				*e*		03 09 21.7	
KSP	**Ksiaz**	**151.06**	**344**	*e*PKPdf	PKPdf	03 09 13.5	+2.6
KSP				*e*		03 09 21.7	
NIE	**Niedzica**	**151.08**	**337**	⇓*e*PKP	PKPdf	03 09 14.3	+3.3
CRVS	**Cervenica-Dubn**	**151.09**	**336**	*e*PKP	PKPdf	03 09 13.8	+2.8
OFRI	**'Ofer**	**151.11**	**295**	P	PKPdf	03 09 14.1	+2.5
HARR	**Harsova**	**151.12**	**323**	⇓P	PKPdf	03 09 14.2	+3.0
SLTI	**Sal'it**	**151.13**	**294**	P	PKPdf	03 09 14.3	+2.7
ZFRI	**Zfri**	**151.24**	**291**	P	PKPdf	03 09 15.0	+3.1
IKL	**Isikli**	**151.27**	**303**	*eP*	PKPdf	03 09 13.6	+1.9
AYUS	**'Aynunah**	**151.34**	**286**	P	PKPdf	03 09 14.7	+2.7
CLL	**Collm**	**151.37**	**348**	*e*PKIKP	PKPdf	03 09 09.0	-2.4
	comp=Z,logA/T=1.0						
CLL				*i* PKP1	PKPdf	03 09 13.9	+2.5
CLL				*i* PKP2	PKPab	03 09 20.6	-2.0
CLL				*i* *PPKP		03 09 24.0	
CLL	**Collm**	**151.37**	**348**	⇓*e*PKIKP	PKPdf	03 09 09.0	-2.4
CLL				*i*		03 09 13.9	
CLL				*i*		03 09 20.6	
CLL				*i*		03 09 24.0	
CLL				pmax	pmax		
	comp=Z,15nm,1.5s						
CLL				pmax	pmax		
	comp=Z,65nm,1.4s						
CLL				pmax	pmax		
	comp=Z,36nm,0.9s						
MDU	**Mudurnu**	**151.43**	**313**	*eP*	PKPdf	03 09 14.2	+2.4
JMOS	**Jabal al Moall**	**151.43**	**288**	P	PKPdf	03 09 15.4	+3.2
AQBJ	**Aqaba**	**151.44**	**289**	P	PKPdf	03 09 15.5	+3.3
OKC	**Ostrava-Krasne**	**151.44**	**340**	⇓*e*PKPB	PKPdf	03 09 14.4	+2.9
UPC	**Upice**	**151.44**	**344**	⇓*e*PKPB	PKPdf	03 09 14.5	+3.0
ALWS	**Ilw as Safayha**	**151.46**	**288**	P	PKPdf	03 09 15.5	+3.3
BDAS	**Al Bad'**	**151.48**	**287**	P	PKPdf	03 09 15.1	+2.8
DPC	**Dobruska-Polom**	**151.50**	**343**	⇑*e*PKPB	PKPdf	03 09 14.3	+2.7
EIL	**Elat**	**151.53**	**289**	P	PKPdf	03 09 15.6	+3.3
MBH	**Mount Berech**	**151.55**	**289**	P	PKPdf	03 09 15.8	+3.5
HAQS	**Haql**	**151.59**	**288**	P	PKPdf	03 09 15.5	+3.0
BRG	**Berggiesshubel**	**151.59**	**346**	*i* PKIKP	PKPdf	03 09 14.8	+3.1
BRG				*i*		03 09 22.8	
BRG				*i*		03 09 30.2	
MLR	**Muntele Rosu**	**151.66**	**326**	⇑P	PKPdf	03 09 14.0	+2.0
KIZT	**Kizilcal**	**151.66**	**309**	*eP*	PKPdf	03 09 14.5	+2.3
MORC	**Moravsky Berou**	**151.67**	**341**	⇓P	PKPdf	03 09 11.3	-0.5
MORC				*e*PKPbc	PKPdf	03 09 14.8	+2.9
PVCC	**Panska Ves**	**151.78**	**345**	⇑*e*PKPB	PKPdf	03 09 15.2	+3.2
KECS	**Kecovo**	**151.80**	**336**	*e*PKP	PKPdf	03 09 26.7	+15
KECS				*e*		03 09 44.8	
KECS	**Kecovo**	**151.80**	**336**	*e*PKIKP	PKPdf	03 09 17.0	+4.9
KECS				*e*		03 09 26.7	
KZIT	**Kziot**	**151.87**	**292**	P	PKPdf	03 09 16.3	+3.5
CSS	**Prodhromos**	**151.92**	**301**	*e*PKPbc	PKPdf	03 09 15.2	+2.5
CSS				*e*PKPab	PKPab	03 09 25.1	-0.3
ESKT	**Eskisehir**	**152.11**	**311**	*eP*	PKPdf	03 09 16.2	+3.3
VOIR		**152.15**	**327**	⇓P	PKPdf	03 09 17.1	+4.4
DRGR		**152.25**	**331**	⇑P	PKPdf	03 09 15.7	+2.9
MOX	**Moxa**	**152.26**	**349**	*e*PKIKP	PKPdf	03 09 16.9	+4.2
MOX				pmax	pmax		
	comp=Z,63nm,1.9s						
PRU	**Pruhonice**	**152.29**	**345**	⇑*e*PKPB	PKPdf	03 09 16.0	+3.2
VRAC	**Vranov**	**152.37**	**342**	⇓*e*PKIKP	PKPdf	03 09 16.0	+3.1
VYHS	**Vyhne**	**152.38**	**338**	*e*PKP	PKPdf	03 09 17.6	+4.6
VYHS				*e*		03 09 27.0	
PSZ	**Piszkesteto**	**152.49**	**336**	*e*pPKP/F		03 09 21.4	
PSZ	**Piszkesteto**	**152.49**	**336**	*e*PKIKP	PKPdf	03 09 17.4	+4.3
PSZ				*e*		03 09 27.5	
NKC	**Novy Kostel**	**152.51**	**348**	⇑*e*PKPB	PKPdf	03 09 24.9	+12
YLV	**Yalova**	**152.60**	**314**	*eP*	PKPdf	03 09 16.3	+2.8
TREC	**Trest**	**152.69**	**343**	⇑*e*PKPB	PKPdf	03 09 17.5	+4.1
SMOL	**Smolenice**	**152.83**	**340**	*e*PKP	PKPdf	03 09 19.8	+6.2
SMOL				*e*		03 09 29.2	
SRO	**Srobarova**	**153.15**	**338**	*e*PKP	PKPdf	03 09 20.5	+6.5
SRO				*e*		03 09 31.2	
ZIMR		**153.20**	**324**	⇓P	PKPdf	03 09 21.7	+7.4
ZST	**Bratislava**	**153.21**	**340**	*e*	PKPdf	03 09 24.1	+10
ZST				*eL*		03 30 38.2	
JMB	**Yambol**	**153.27**	**320**	*eP*	PKPdf	03 09 20.0	+5.6
KHC	**Kasperske Hory**	**153.31**	**346**	*e*PKPDF	PKPdf	03 09 11.5	-2.7
KHC				⇑*e*PKPB	PKPdf	03 09 18.1	+3.9
KHC				pPKP		03 09 25.0	
KHC	**Kasperske Hory**	**153.31**	**346**	*e*PKIKP	PKPdf	03 09 11.5	-2.7
KHC				*e*		03 09 18.1	
KHC				*e*		03 09 25.0	
KHC	**Kasperske Hory**	**153.31**	**346**	*i* PKIKP	PKPdf	03 09 19.3	+5.1
GIVF	**Givet**	**153.47**	**359**	*e*PKP1	PKPdf	03 09 13.1	-1.3
BAIF	**Baives**	**153.53**	**359**	*e*PKP1	PKPdf	03 09 12.8	-1.7
	comp=Z,44nm,1.3s						
GERES	**GERESS Array B**	**153.55**	**345**	PKP	PKPdf	03 09 12.2	-2.4
	comp=Z,1.0nm,0.9s,baz=166,slow=4.0,SNR=4.5						
GERES				PKPbc	PKPdf	03 09 19.7	+5.1
	comp=Z,3.3nm,1.0s,baz=225,slow=1.9,SNR=4.8						
GERES				PKPab	PKPab	03 09 29.1	-2.7
	comp=Z,4.5nm,0.6s,baz=27,slow=2.2,SNR=14						
BZS	**Buzias**	**153.64**	**331**	⇓P	PKPdf	03 09 21.1	+6.3
AKS	**Akhisar**	**154.49**	**312**	*eP*	PKPdf	03 09 25.8	+10
FETY	**Fethiye**	**154.60**	**307**	*eP*	PKPdf	03 09 20.3	+3.9
LDF	**La Druitiere**	**154.80**	**6**	*e*PKP1	PKPdf	03 09 16.0	-0.3
	comp=Z,156nm,1.7s						
SGMF	**Saint Gilles**	**154.82**	**10**	*e*PKP1	PKPdf	03 09 16.1	-0.2
	comp=Z,241nm,1.7s						
RZN	**Rozhen**	**154.84**	**321**	*eP*	PKPdf	03 09 18.0	+1.5
GRR	**Gorron**	**154.93**	**7**	*e*PKP1	PKPdf	03 09 16.4	0.0
	comp=Z,44nm,1.2s						
CDF	**Champ du Feu**	**155.02**	**354**	*e*PKP1	PKPdf	03 09 16.7	+0.2
	comp=Z,16nm,1.0s						
MEZF	**Maizieres J'vi**	**155.06**	**358**	*e*PKP1	PKPdf	03 09 16.4	-0.2
	comp=Z,39nm,1.3s						
VTS	**Vitosha**	**155.08**	**324**	*eP*	PKPdf	03 09 20.0	+3.2
VTS	**Vitosha**	**155.08**	**324**	⇑P	PKPdf	03 09 21.1	+4.3
MMB	**Musomiste**	**155.47**	**322**	*eP*	PKPdf	03 09 23.0	+5.6
HAU	**Haudompre**	**155.50**	**356**	*e*PKP1	PKPdf	03 09 17.2	0.0
KKB	**Krupnik**	**155.65**	**323**	*eP*	PKPdf	03 09 25.0	+7.4
HINF	**Hinteralfeld**	**155.65**	**355**	*e*PKP1	PKPdf	03 09 17.1	-0.3
ESDC	**Sonseca Array**	**162.62**	**20**	PKPab	PKPab	03 10 10.2	-1.0
	comp=Z,3.3nm,0.9s,baz=334,slow=4.1,SNR=6.9						
MDT	**Midelt**	**168.16**	**37**	PKPab	PKPab	03 10 35.1	-0.4
	comp=Z,5.2nm,0.9s,baz=313,slow=5.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**169.48**	**169**	PKP	PKPdf	03 09 28.1	-3.7
	comp=Z,2.4nm,0.9s,baz=310,slow=1.5,SNR=8.1						
TORD				PKPab	PKPab	03 10 42.5	+0.8
	comp=Z,4.5nm,0.8s,baz=180,slow=5.0,SNR=8.3						

IDC ***04*** *03:01:59.6±1.8, 0.77N×96.98E, mb4.2/5, mb1 4.3/6, mb1mx3.9/16, mbtmp4.1/6, ML3.2/1, Error ellipse: s-maj=52.0km s-min=26.0km az=53.0*
NEIC ***04*** *03:02:04.3±0.8, 0.84N×97.05E, h30km, mb4.1/3, Error ellipse: s-maj=16.3km s-min=12.7km az=50.0*
ISC 04 03:02:02.5±1.0, 0.9N±0.1×97.1E±0.1, h30km, n12,
σ0§51/12, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.68**	**44**	Pn	**Pn**	**03 02 45.5**	**+0.8**
	4.1nm,0.3s,baz=216,slow=8.2,SNR=5.7						
PSI	**Prapat**	**2.68**	**44**	Pn	**Pg**	**03 02 45.5**	**+0.8**
KULM	**Kulim**	**5.67**	**39**	*eP*	**Pn**	**03 03 26.3**	**-0.8**
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**03 09 52.9**	**-0.1**
	1.8nm,0.8s,mb3.8,baz=302,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**41.99**	**122**	*eP*	**P**	**03 09 53.0**	**-0.1**
	1.9nm,0.5s,mb4.0						
AAK	**Ala-Archa**	**46.25**	**337**	P	**P**	**03 10 26.3**	**-0.8**
	3.9nm,1.3s,mb4.2						
SONM	**Songino Array**	**47.48**	**9**	P	**P**	**03 10 36.6**	**-0.2**
	0.6nm,0.4s,mb3.9,baz=189,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**47.53**	**346**	P	**P**	**03 10 37.7**	**+0.6**
	1.4nm,0.5s,mb4.3,baz=161,slow=9.1,SNR=15						
MKAR	**Makanchi Array**	**47.53**	**346**	P	**P**	**03 10 37.7**	**+0.6**
KURK	**Kurchatov**	**52.08**	**345**	P	**P**	**03 11 12.2**	**+0.3**
	2.1nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**53.85**	**351**	P	**P**	**03 11 24.8**	**-0.2**
	2.9nm,0.5s,mb4.5,baz=290,slow=5.9,SNR=8.6						
ARCES	**ARCESS Array B**	**82.80**	**340**	P	**P**	**03 14 25.4**	**+0.5**
	4.3nm,1.0s,mb4.4,baz=101,slow=4.6,SNR=4.1						

ISK ***04*** *03:03:16.4, 39.80N×33.17E, h7km, MD3.5*
CSEM ***04*** *03:03:16.4, 39.80N×33.17E, h7km, MD3.5, After ISK*
ISC 04 03:03:16.8±0.3, 39.81N±0.03×33.19E±0.03, h7km, n27,
**σ0

BUM	**Brajici-Budva**	**2.48**	**327**	⇑ *i* Pn		**Pn**	**04 14 37.4**	**+0.2**
BUM				*e*Sn		**Sn**	**04 15 09.7**	**+1.9**
OUR	**Ouranopolis**	**2.49**	**87**	*e*Pn		**Pn**	**04 14 38.1**	**+0.6**
NVR	**Nevrokopi**	**2.62**	**64**	*e*PB		**Pb**	**04 14 39.4**	**-3.5**
AOS	**Alonnisos**	**2.66**	**113**	*e*Pn		**Pn**	**04 14 40.5**	**+0.7**
IVA	**Berane**	**2.70**	**347**	⇑ *i* Pn		**Pn**	**04 14 43.0**	**+2.6**
IVA				*e*Sn		**Sn**	**04 15 17.6**	**+4.1**
HCY	**Herceg Novi**	**2.77**	**323**	⇑ *i* Pn		**Pn**	**04 14 41.9**	**+0.5**
HCY				*e*Sn		**Sn**	**04 15 15.8**	**+0.5**
NKY	**Niksic**	**2.88**	**334**	⇑ *i* Pn		**Pn**	**04 14 43.8**	**+0.8**
NKY				*e*Sn		**Sn**	**04 15 20.1**	**+2.1**
BRY	**Bratogost**	**3.12**	**329**	⇑ *i* Pn		**Pn**	**04 14 47.0**	**+0.6**
BRY				*e*Sn		**Sn**	**04 15 25.6**	**+1.5**
ITM	**Ithomi**	**3.20**	**163**	*e*PN		**Pn**	**04 14 49.0**	**+1.5**
ITM	**Ithomi**	**3.20**	**163**	*e*Pb		**Pb**	**04 14 50.0**	**-2.7**
PLE	**Pljevlja**	**3.24**	**343**	⇑ *i* Pn		**Pn**	**04 14 49.9**	**+1.7**
PLE				*e*Sn		**Sn**	**04 15 30.1**	**+2.9**
ATH	**Athens Observa**	**3.25**	**133**	*e*PN		**Pn**	**04 14 49.0**	**+0.8**
UPM	**Unac-Piva**	**3.26**	**336**	⇑ *i* Pn		**Pn**	**04 14 49.5**	**+1.1**
UPM				*e*Sn		**Sn**	**04 15 29.3**	**+1.7**
RDO	**Rodhopi**	**3.77**	**75**	*e*PN		**Pn**	**04 14 55.0**	**-0.6**
VLI	**Veliai**	**3.92**	**153**	*e*PN		**Pn**	**04 14 59.7**	**+1.9**
ALN	**Alexandroupoli**	**4.10**	**79**	*e*Pn		**Pn**	**04 15 00.1**	**-0.3**
APE	**Apeiranthos**	**4.92**	**129**	*e*PN		**Pn**	**04 15 12.9**	**+1.0**
AQU	**L'Aquila**	**5.91**	**293**	*e*P		**Pn**	**04 15 24.1**	**-1.7**
MLR	**Muntele Rosu**	**6.50**	**34**	Pn		**Pn**	**04 15 33.9**	**-0.2**
	0.3nm,0.3s,baz=284,slow=4.2,SNR=3.7							
BOJS	**Bojanci**	**6.62**	**324**	*i* Pn		**Pn**	**04 15 33.9**	**-2.1**
JAVS	**Javornik**	**7.46**	**321**	*i* Pn		**Pn**	**04 15 44.9**	**-2.8**
JAVS				*i* Sn		**Sn**	**04 17 07.3**	**-6.0**
PSZ	**Piszkesteto**	**7.70**	**356**	*e*P		**Pn**	**04 15 49.8**	**-1.2**
GERES	**GERESS Array B**	**9.95**	**332**	Pn		**P**	**04 16 20.5**	**-1.7**
	0.1nm,0.3s,baz=158,slow=14,SNR=4.8							
GERES				Sn		**Sn**	**04 18 12.2**	**-2.8**
	0.1nm,0.3s,baz=157,slow=26,SNR=3.6							
DAVOX	**Davos**	**10.23**	**313**	Pn		**P**	**04 16 26.1**	**0.0**
	0.3nm,0.3s,baz=162,slow=19,SNR=4.6							
FINES	**FINESS Array B**	**21.48**	**7**	P		**P**	**04 18 44.0**	**-2.8**
	0.9nm,0.6s,mb3.3,baz=169,slow=9.7,SNR=5.8							
NB2	**NORSAR Subarra**	**21.64**	**347**	P		**P**	**04 18 46.0**	**-2.3**
	0.4nm,0.5s,mb3.1,baz=147,slow=10							
NOA	**NORSAR Array B**	**21.64**	**347**	P		**P**	**04 18 45.5**	**-2.7**
	0.6nm,0.6s,mb3.2,baz=154,slow=10.0,SNR=2.6							
TORD	**Torodi Ar. Bea**	**31.75**	**217**	P		**P**	**04 20 22.8**	**+0.2**
	0.9nm,0.8s,mb3.6,baz=30,slow=9.2,SNR=7.5							
MKAR	**Makanchi Array**	**44.11**	**60**	P		**P**	**04 22 04.9**	**-1.1**
	0.4nm,0.5s,mb3.4,baz=287,slow=6.5,SNR=9.2							

BJI ***04*** *04:14:29.4, 72.00N×0.60W, h10km, mB5.0, mb4.7*
IDC ***04*** *04:14:29.7±0.5, 71.99N×0.69W, mb4.1/21, mb1 4.3/26, mb1mx4.2/33, mbtmp4.1/26, ML3.7/1, MS3.9/24, Ms1 3.9/24, ms1mx3.7/38, Error ellipse: s-maj=15.7km s-min=10.4km az=45.0*
MOS ***04*** *04:14:30.0±1.2, 72.00N×0.93W, h10km, mb4.5/24, Error ellipse: s-maj=25.8km s-min=6.1km az=100.7*
NEIC ***04*** *04:14:31.5±0.3, 72.04N×0.64W, h10km, mb4.4/11, MS3.6/3, Error ellipse: s-maj=9.9km s-min=5.2km az=54.0*
CSEM ***04*** *04:14:34.3, 72.10N×0.17W, h35km, mb4.5*
BER ***04*** *04:14:34.4±7.4, 72.08N×0.23W, h9km±45km, MD2.8, ML2.8, ML2.9(NAO)*
NAO ***04*** *04:14:35.8±4.6, 72.18N×0.89E, h7km±41km, ML2.9*
ISC 04 04:14:29.7±0.2, 72.13N±0.03×0.16W±0.10, h10km, n169, σ1?49/175, mb4.3/38, MS3.9/28, 7C-6D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JMIC	**Jan Mayen**	**2.89**	**251**	Pn		**Pg**	**04 15 28.3**	**+0.8**
JMIC	**Jan Mayen**	**2.89**	**251**	*e*P		**Pn**	**04 15 15.9**	**-0.9**
JMIC				*e*S		**Sn**	**04 15 50.6**	**-1.4**
LOF	**Lofoten**	**6.15**	**124**	*e*P		**Pn**	**04 16 03.2**	**+0.4**
LOF				*e*S		**Sn**	**04 17 08.5**	**-5.5**
LOF				AML		AML	04 17 11.8	
	comp=Z,11nm,0.5s							
LOF				*e*			04 21 11.6	
LOF	**Lofoten**	**6.15**	**124**	*e*P		**Pn**	**04 16 03.2**	**+0.4**
LOF				*e*S		**Sn**	**04 17 08.5**	**-5.5**
LOF				*e*			04 21 11.6	
HSP	**Hornsund**	**6.42**	**33**	*e*P		**Pn**	**04 16 06.6**	**-0.2**
TRO	**Tromso**	**6.73**	**103**	*e*P		**Pn**	**04 16 08.6**	**-2.6**
TRO				*e*S		**Sn**	**04 17 19.1**	**-10**
TRO				AML		AML	04 17 23.5	
	comp=Z,12nm,0.5s							
TRO	**Tromso**	**6.73**	**103**	*e*P		**Pn**	**04 16 08.4**	**-2.8**
TRO				*e*S		**Sn**	**04 17 19.8**	**-9.0**
DAG	**Danmarks Havn**	**6.78**	**322**	⇓ *i*P		**Pn**	**04 16 07.1**	**-4.7**
	comp=Z,20nm,0.5s							
DAG				*i*			04 17 14.2	
DAG	**Danmarks Havn**	**6.78**	**322**	⇓ *e*P		**Pn**	**04 16 07.1**	**-4.7**
DAG				pmax		pmax		
	comp=Z,20nm,0.5s							
DAG	**Danmarks Havn**	**6.78**	**322**	⇓ *e*P		**Pn**	**04 16 07.1**	**-4.7**
	comp=Z,20nm,0.5s							
DAG				*i*			04 17 14.2	
SCO	**Scoresbysund**	**7.18**	**267**	*i* P		**Pn**	**04 16 12.3**	**-5.1**
SPA0	**Spitsbergen Ar**	**7.37**	**27**	Pn		**Pn**	**04 16 19.6**	**-0.5**
	baz=220,slow=12							
SPA0				Sn		**Sn**	**04 17 41.3**	**-3.4**
	baz=167,slow=18							
KBS	**Kingsbay**	**7.45**	**18**	Pn		**Pn**	**04 16 20.1**	**-1.1**
KBS				Sn		**Sn**	**04 17 43.6**	**-3.0**
KBS	**Kingsbay**	**7.45**	**18**	*e*P		**Pn**	**04 16 20.2**	**-1.0**
STOK	**Stokkvaagen**	**7.45**	**135**	*e*P		**Pn**	**04 16 19.7**	**-1.4**
STOK				*e*S		**Sn**	**04 17 36.5**	**-10**
MOR8	**Moi Rana**	**7.91**	**132**	*e*P		**Pn**	**04 16 26.3**	**-1.2**
MOR8				*e*S		**Sn**	**04 17 50.0**	**-7.9**
MOR8				AML		AML	04 17 52.6	
	comp=Z,18nm,0.6s							
HOPEN	**Hopen**	**8.04**	**46**	*e*P		**P**	**04 16 32.1**	**+2.6**
KTK1	**Kautokeino**	**8.37**	**100**	*e*P		**P**	**04 16 32.6**	**-1.3**
ARA0	**ARCESS Array S**	**8.79**	**95**	Pn		**P**	**04 16 37.8**	**-2.0**
	baz=298,slow=12							
ARA0				Sn		**Sn**	**04 18 13.2**	**-6.9**
	baz=309,slow=22							
ARCES	**ARCESS Array B**	**8.79**	**95**	Pn		**P**	**04 16 38.0**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=303,slow=12,SNR=106							
ARCES				Sn		**Sn**	**04 18 14.4**	**-5.6**
	baz=300,slow=18,SNR=2.4							
ARCES				LR		LR	04 19 48.2	
	comp=Z,555nm,20.3s,baz=303,slow=36							
ARCES	**ARCESS Array B**	**8.79**	**95**	P		**P**	**04 16 38.0**	**-1.9**
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ARCES				MLR		MLR		
	comp=Z,555nm,20.3s							
ARE0	**ARCESS Array S**	**8.79**	**95**	*e*P		**P**	**04 16 38.4**	**-1.4**
NSS	**Namsos**	**8.83**	**144**	*e*P		**P**	**04 16 36.5**	**-3.8**
NSS				*e*S		**Sn**	**04 18 08.9**	**-12**
NSS				AML		AML	04 18 15.9	
	comp=Z,14nm,0.7s							
KEV	**Kevo**	**9.15**	**92**	*e*p		**P**	**04 16 42.4**	**-2.4**
	comp=Z,4.0nm,0.5s							
FOO	**Floro**	**10.77**	**167**	*e*P		**P**	**04 17 03.6**	**-3.3**
SUMG	**Summit**	**11.49**	**290**	*e*P		**P**	**04 17 12.7**	**-4.0**
	comp=Z,47nm,0.8s							
NB2	**NORSAR Subarra**	**11.98**	**152**	Pn		**P**	**04 17 21.1**	**-2.3**
	baz=343,slow=14							
NOA	**NORSAR Array B**	**11.98**	**152**	Pn		**P**	**04 17 20.9**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=330,slow=12,SNR=6.8							
NOA				Sn		**S**	**04 19 28.4**	**-10**
	comp=Z,0.2nm,0.3s,baz=331,slow=22,SNR=3.1							
NOA				LR		LR	04 21 51.9	
	comp=Z,407nm,18.6s,baz=340,slow=37							
NOA	**NORSAR Array B**	**11.98**	**152**	Pn		**P**	**04 17 20.9**	**-2.4**
NOA				Sn		**S**	**04 19 28.4**	**-10**
NOA				LR		LR	04 21 51.9	
APA0	**Apatity Array**	**12.15**	**95**	Pn		**P**	**04 17 23.2**	**-2.4**
	baz=314,slow=12							
HFS	**Hagfors**	**13.22**	**148**	Pn		**P**	**04 17 37.7**	**-2.2**
	baz=358,slow=9.3							
HFS	**Hagfors**	**13.22**	**148**	Pn		**P**	**04 17 38.3**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=352,slow=10,SNR=16							
HFS				Sn		**S**	**04 19 56.1**	**-12**
	comp=Z,0.1nm,0.3s,baz=3.8,slow=22,SNR=3.8							
HFS				LR		LR	04 22 31.9	
	comp=Z,372nm,19.1s,baz=342,slow=36							
KAF	**Kangasniemi**	**14.21**	**121**	*e*p		**P**	**04 17 50.7**	**-2.0**
	comp=Z,4.6nm,0.7s							
FIA0	**FINESS Array S**	**14.71**	**123**	Pn		**P**	**04 17 54.6**	**-4.7**
	baz=333,slow=9.3							
FINES	**FINESS Array B**	**14.71**	**123**	Pn		**P**	**04 17 57.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=315,slow=8.1,SNR=8.1							
FINES				LR		LR	04 23 07.8	
	comp=Z,639nm,18.5s,baz=342,slow=35							
JOF	**Joensuu**	**14.94**	**112**	*e*p		**P**	**04 18 00.2**	**-2.0**
	comp=Z,4.8nm,0.8s							
VSU	**Vasula**	**17.47**	**128**	⇑ *i*P		**P**	**04 18 36.0**	**+1.4**
VSU	**Vasula**	**17.47**	**128**	*i* P		**P**	**04 18 36.0**	**+1.4**
SFJD	**Kangerlussuaq**	**17.85**	**279**	P		**P**	**04 18 37.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=56,slow=7.3,SNR=2.0							
KLMR	**Klimovskoe**	**18.97**	**106**	*e*P		**P**	**04 18 52.4**	**-0.7**
KLMR				pmax		pmax		
	comp=Z,50nm,1.4s							
SUW	**Suwalki**	**20.75**	**139**	*e*P		**P**	**04 19 13.2**	**+0.5**
MNK	**Minsk**	**21.31**	**131**	*e*P		**P**	**04 19 15.0**	**-3.5**
CLL	**Collm**	**21.70**	**157**	P		**P**	**04 19 21.0**	**-1.4**
	comp=Z,logA/T=0.9,mb4.1							
CLL				*e*			04 19 33.0	
CLL				*e*PPP		PPP	04 19 52.0	-4.9
CLL				*e*S		**S**	**04 23 24.0**	**+6.5**
CLL	**Collm**	**21.70**	**157**	*e*P		**P**	**04 19 21.0**	**-1.4**
CLL				pmax		pmax		
	comp=Z,11nm,1.3s,mb4.1							
CLL				MLR		MLR		
	comp=Z,400nm,19.0s,MS3.8							
CLL	**Collm**	**21.70**	**157**	*e*P		**P**	**04 19 21.0**	**-1.4**
	comp=Z,11nm,1.3s,mb4.1							
CLL				*e*			04 19 33.0	
CLL				LR		LR		
	comp=Z,400nm,19.0s,MS3.8							
MOX	**Moxa**	**22.20**	**160**	*i* P		**P**	**04 19 28.5**	**+1.1**
	comp=Z,logA/T=1.3,mb4.5							
MOX				L			04 28 42.0	
MOX	**Moxa**	**22.20**	**160**	*e*P		**P**	**04 19 28.5**	**+1.1**
MOX				pmax		pmax		
	comp=Z,38nm,1.8s,mb4.5							
MOX				MLR		MLR		
	comp=Z,200nm,18.0s,MS3.6							
MOX	**Moxa**	**22.20**	**160**	*e*P		**P**	**04 19 28.5**	**+1.1**
	comp=Z,38nm,1.8s,mb4.5							
MOX				LR		LR		
	comp=Z,200nm,18.0s,MS3.6							
BRG	**Berggiesshubel**	**22.24**	**156**	*e*P		**P**	**04 19 26.2**	**-1.6**
BRG				pmax		pmax		
	comp=Z,29nm,1.5s,mb4.5							
BRG	**Berggiesshubel**	**22.24**	**156**	*e*P		**P**	**04 19 26.2**	**-1.6**
	comp=Z,29nm,1.5s,mb4.5							
BRG				*e*			04 19 42.6	
BRG	**Berggiesshubel**	**22.24**	**156**	*e*P		**P**	**04 19 26.2**	**-1.6**
	comp=Z,29nm,1.5s,mb4.5							
KSP	**Ksiaz**	**22.59**	**152**	*e*P		**P**	**04 19 31.2**	**+0.1**
KSP	**Ksiaz**	**22.59**	**152**	*e*P		**P**	**04 19 30.9**	**-0.2**
PVCC	**Panska Ves**	**22.66**	**155**	*e*P		**P**	**04 19 30.7**	**-1.1**
NKC	**Novy Kostel**	**22.69**	**159**	*e*P		**P**	**04 19 32.7**	**+0.6**
MOS	**Moscow**	**22.72**	**116**	*e*P		**P**	**04 19 34.6**	**+2.3**
MOS				*e*			04 20 00.0	
MOS				pmax		pmax		
	comp=Z,59nm,1.3s,mb4.9							
MOS				MLR		MLR		
	comp=Z,1μm,18.8s,MS4.4							
MOS	**Moscow**	**22.72**	**116**	*e*P		**P**	**04 19 34.6**	**+2.3**
	comp=Z,59nm,1.3s,mb4.9							
UPC	**Upice**	**22.88**	**153**	*e*P		**P**	**04 19 34.2**	**+0.3**
OBN	**Obninsk**	**22.98**	**118**	*e*P		**P**	**04 19 36.9**	**+2.1**
OBN				*e*			04 19 41.3	
OBN				pmax		pmax		
	comp=Z,38nm,1.7s,mb4.5							
OBN				MLR		MLR		
	comp=Z,700nm,18.0s,MS4.2							
OBN	**Obninsk**	**22.98**	**118**	*e*P		**P**	**04 19 37.8**	**+3.0**
	comp=Z,84nm,1.5s,mb5.0							
OBN	**Obninsk**	**22.98**	**118**	*e*P		**P**	**04 19 36.9**	**+2.1**
	comp=Z,38nm,1.7s,mb4.5							
DPC	**Dobruska-Polom**	**23.07**	**152**	*e*P		**P**	**04 19 36.5**	**+0.7**
GRA1	**Grafenberg Arr**	**23.10**	**161**	*e*P		**P**	**04 19 36.9**	**+0.8**
	comp=Z,19nm,1.8s,mb4.2							
GRF	**Grafenberg Arr**	**23.10**	**161**	*e*P		**P**	**04 19 36.9**	**+0.8**
	comp=Z,19nm,1.8s,mb4.2							
GRF				LR		LR		
	comp=Z,200nm,21.9s,MS3.5							
PRU	**Pruhonice**	**23.18**	**155**	*e*P		**P**	**04 19 37.5**	**+0.6**
OKC	**Ostrava-Krasne**	**23.84**	**150**	*e*P		**P**	**04 19 45.3**	**+2.0**
KHC	**Kasperske Hory**	**23.91**	**157**	*e*P		**P**	**04 19 45.3**	**+1.3**
KHC				x		x	04 19 55.0	
KHC	**Kasperske Hory**	**23.91**	**157**	*e*P		**P**	**04 19 45.3**	**+1.3**
KHC				*e*			04 19 55.0	
TREC	**Trest**	**23.99**	**154**	*e*P		**P**	**04 19 46.6**	**+1.9**
VRAC	**Vranov**	**24.13**	**153**	P		**P**	**04 19 47.5**	**+1.4**
	comp=Z,4.7nm,0.7s,mb4.0,baz=354,slow=13,SNR=6.1							
VRAC				LR		LR	04 28 45.1	
	comp=Z,250nm,20.5s,MS3.7,baz=351,slow=36							
VRAC	**Vranov**	**24.13**	**153**	P		**P**	**04 19 47.5**	**+1.4**
VRAC				pmax		pmax		
	comp=Z,5.0nm,0.7s							
VRAC				MLR		MLR		
	comp=Z,250nm,20.5s							
GERES	**GERESS Array B**	**24.20**	**157**	P		**P**	**04 19 47.6**	**+0.8**
	comp=Z,2.6nm,0.8s,mb3.7,baz=352,slow=9.4,SNR=26							
GERES				LR		LR	04 29 37.6	
	comp=Z,269nm,18.8s,MS3.8,baz=330,slow=38							
GERES	**GERESS Array B**	**24.20**	**157**	P		**P**	**04 19 47.6**	**+0.7**
GERES				pmax		pmax		
	comp=Z,30nm,0.8s							
GERES				MLR		MLR		
	comp=Z,269nm,18.8s							
NIE	**Niedzica**	**24.60**	**147**	*e*P		**P**	**04 19 52.4**	**+1.7**
STHS	**Stebnicka Huta**	**24.76**	**145**	*e*P		**P**	**04 19 52.6**	**+0.3**
STHS				*e*			04 20 16.9	
KWP	**Kalwaria**	**24.82**	**143**	*e*P		**P**	**04 19 56.3**	**+3.5**
SMOL	**Smolenice**	**25.02**	**152**	*e*P		**P**	**04 19 57.9**	**+3.1**
AKASG	**Malin Array Be**	**25.16**	**133**	P		**P**	**04 19 55.6**	**-0.4**
	comp=Z,3.8nm,0.6s,mb4.1,baz=332,slow=10.0,SNR=18							
AKASG				PcP		PcP	04 23 28.6	-2.3
	comp=Z,0.1nm,0.3s,baz=343,slow=2.0,SNR=4.0							
AKASG	**Malin Array Be**	**25.16**	**133**	P		**P**	**04 19 55.7**	**-0.3**
AKASG							04 23 28.6	
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.6s							
AKASG	**Malin Array Be**	**25.16**	**133**	PcP		PcP	04 23 28.6	-2.3
CRVS	**Cervenica-Dubn**	**25.30**	**145**	*e*P		**P**	**04 20 00.0**	**+2.6**
CRVS				*e*			04 20 15.2	
KOLS	**Kolonicke sedl**	**25.41**	**144**	*e*		**P**	**04 19 57.0**	**-1.4**
FRB	**Frobisher Bay**	**25.52**	**286**	LR		LR	04 29 18.6	
	comp=Z,261nm,18.3s,MS3.8,baz=128,slow=35							
KECS	**Kecovo**	**25.54**	**147**	*e*P		**P**	**04 19 59.7**	**+0.1**
DAVOX	**Davos**	**25.86**	**164**	LR		LR	04 29 37.3	
	comp=Z,191nm,20.2s,MS3.6,baz=321,slow=35							
ARU	**Arti**	**28.37**	**92**	⇓ *i*P		**P**	**04 20 29.4**	**+4.0**
ARU				*e*			04 21 18.6	
ARU				*e*			04 23 37.2	
ARU				*e*S		**S**	**04 25 16.0**	**+5.4**
ARU				*e*SS		SS	04 26 35.6	+0.9
ARU				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.0							
ARU	**Arti**	**28.37**	**92**	*e*PcP		PcP	04 23 37.2	-1.1
ARU				*e*S		**S**	**04 25 16.0**	**+5.4**
MLR	**Muntele Rosu**	**29.41**	**141**	P		**P**	**04 20 36.0**	**+1.0**
	comp=Z,2.8nm,0.8s,mb4.0,baz=100,slow=4.3,SNR=3.8							
MLR				LR		LR	04 32 38.3	
	comp=Z,592nm,18.0s,MS4.2,baz=170,slow=37							
MLR	**Muntele Rosu**	**29.41**	**141**	P		**P**	**04 20 36.0**	**+1.0**
MLR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
MLR				MLR		MLR		
	comp=Z,592nm,18.0s							
SCHQ	**Schefferville**	**32.17**	**274**	LR		LR	04 32 49.1	
	comp=Z,149nm,19.5s,MS3.7,baz=30,slow=34							
ESDC	**Sonseca Array**	**32.59**	**185**	P		**P**	**04 21 01.6**	**-1.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=354,slow=8.6,SNR=7.4							
ANN	**Anapa**	**32.63**	**126**	*e*P		**P**	**04 20 56.1**	**-7.3**
ANN				MLR		MLR		
	comp=Z,394nm,16.0s,MS4.2							
AKTK	**Aktyubinsk**	**33.35**	**99**	P		**P**	**04 21 10.4**	**+0.9**
	comp=Z,248nm,18.4s							
AKTO	**Aktyubinsk**	**33.35**	**99**	P		**P**	**04 21 10.4**	**+0.9**
	comp=Z,1.1nm,0.8s,mb3.8,baz=330,slow=14,SNR=3.1							
AKTO				LR		LR	04 34 43.3	
	comp=Z,248nm,18.4s,MS4.0,slow=36							
AKTO	**Aktyubinsk**	**33.35**	**99**	P		**P**	**04 21 10.4**	**+0.9**
AKTO				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
AKTO				MLR		MLR		
	comp=Z,248nm,18.4s,MS4.0							
GOF	**Gofitskoye**	**33.85**	**119**	*e*P		**P**	**04 21 15.0**	**+1.1**
SOC	**Sochi**	**34.35**	**124**	*c i*P		**P**	**04 21 22.6**	**+4.3**
SOC				*e*			04 23 57.0	
SOC				*e*S		**S**	**04 26 50.7**	**+6.0**
SOC				*e*SS		SS	04 28 55.4	+0.9
SOC				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.9							
SOC				MLR		MLR		
	comp=Z,305nm,16.0s,MS4.1							
KIV	**Kislovodsk**	**34.78**	**121**	*e*P		**P**	**04 21 22.9**	**+1.0**
KIV				*e*S		**S**	**04 26 50.2**	**-1.2**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.6							
KIV				MLR		MLR		
	comp=Z,261nm,17.0s,MS4.0							
KIV	**Kislovodsk**	**34.78**	**121**	*e*P		**P**	**04 21 22.9**	**+1.0**
	comp=Z,8.0nm,1.1s,mb4.6							
BVAR	**Borovoye Array**	**34.90**	**85**	P		**P**	**04 21 24.5**	**+1.6**
	comp=Z,1.1nm,0.8s,mb3.8,baz=323,slow=7.2,SNR=4.7							
BVAR	**Borovoye Array**	**34.90**	**85**	P		**P**	**04 21 24.5**	**+1.6**
BVAR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
INK	**Inuvik**	**36.47**	**333**	P		**P**	**04 21 36.2**	**+0.2**
	comp=Z,12nm,1.2s,mb4.7,baz=26,slow=11,SNR=11							
INK				LR		LR	04 38 06.4	
	comp=Z,54nm,18.3s,MS3.4,baz=22,slow=39							
INK	**Inuvik**	**36.47**	**333**	P		**P**	**04 21 36.2**	**+0.1**
INK				pmax		pmax		
	comp=Z,12nm,1.2s							
INK				MLR		MLR		
	comp=Z,54nm,18.3s							
INK	**Inuvik**	**36.47**	**333**	*e*P		**P**	**04 21 35.5**	**-0.6**
	comp=Z,17nm,1.3s,mb4.8							
BRTR	**Keskin Array B**	**36.55**	**134**	P		**P**	**04 21 38.0**	**+1.0**
	comp=Z,1.1nm,0.8s,mb3.8,baz=0.4,slow=8.2,SNR=6.3							
BRTR	**Keskin Array B**	**36.55**	**134**	P		**P**	**04 21 38.0**	**+1.0**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ZAL	**Zalesovo**	**38.45**	**71**	P		**P**	**04 21 55.4**	**+2.6**
	comp=Z,1.1nm,0.3s,mb4.1,baz=170,slow=4.6,SNR=5.0							
ZAL				PcP		PcP	04 24 06.2	-0.4
	comp=Z,0.7nm,0.2s,baz=126,slow=5.3,SNR=3.2							
ZAL				LR		LR	04 40 06.3	
	comp=Z,110nm,19.3s,MS3.7,baz=130,slow=40							
ZAL	**Zalesovo**	**38.45**	**71**	P		**P**	**04 21 55.4**	**+2.6**
ZAL							04 24 06.2	
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZAL				MLR		MLR		
	comp=Z,110nm,19.3s							
ZAL	**Zalesovo**	**38.45**	**71**	P		**P**	**04 21 55.4**	**+2.6**
ZAL				PcP		PcP	04 24 06.2	-0.4
ZAL				LR		LR	04 40 06.3	
ZAL	**Zalesovo**	**38.45**	**71**	PcP		PcP	04 24 06.2	-0.4
	comp=Z,110nm,19.3s							
YKA	**Yellowknife Ar**	**38.46**	**317**	P		**P**	**04 21 51.9**	**-0.9**
	comp=Z,7.3nm,1.1s,mb4.3,baz=24,slow=9.0,SNR=14							
YKA				PcP		PcP	04 24 06.4	0.0
	comp=Z,0.9nm,0.8s,baz=27,slow=3.1,SNR=3.9							
YKA				LR		LR	04 37 10.5	
	comp=Z,177nm,18.6s,MS3.9,baz=65,slow=35							
YKA	**Yellowknife Ar**	**38.46**	**317**	P		**P**	**04 21 51.9**	**-0.9**
YKA							04 24 06.4	
YKA				pmax		pmax		
	comp=Z,7.0nm,1.2s							
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YKA				MLR		MLR		
	comp=Z,177nm,18.6s							
YKA	**Yellowknife Ar**	**38.46**	**317**	PcP		PcP	04 24 06.4	-0.1
	comp=Z,177nm,18.6s							
GNI	**Garni**	**38.88**	**120**	P		**P**	**04 21 57.2**	**+0.7**
	comp=Z,0.9nm,0.3s,mb4.0,baz=351,slow=18,SNR=2.9							
GNI				LR		LR	04 37 59.7	
	comp=Z,146nm,18.8s,MS3.8,baz=348,slow=36							
GNI	**Garni**	**

ELK	**Elko**	**58.74**	**306**	LR	LR	04 50 00.1		
	comp=Z,151nm,18.6s,MS4.2,baz=26,slow=36							
TORD	**Torodi Ar. Bea**	**58.96**	**178**	P	**P**	**04 24 29.6**	**-1.9**	
	comp=Z,9.3nm,0.8s,mb4.9,baz=356,slow=7.0,SNR=62							
MSU	**Maryssvale**	**60.07**	**303**	*eP*	**P**	**04 24 40.3**	**+1.6**	
NVAR	**Mina Array Bea**	**61.69**	**308**	P	**P**	**04 24 49.2**	**-0.6**	
	comp=Z,0.8nm,0.9s,mb3.8,baz=0.7,slow=3.4,SNR=4.1							
NVAR				LR	LR	04 52 22.4		
	comp=Z,66nm,18.7s,MS3.8,baz=320,slow=37							
ANMO	**Albuquerque**	**61.89**	**297**	⇓*iP*	**P**	**04 24 50.9**	**-0.3**	
ANMO	**Albuquerque**	**61.89**	**297**	*i* P	**P**	**04 24 50.9**	**-0.3**	
DBIC	**Dimbokro**	**65.45**	**185**	P	**P**	**04 25 12.7**	**-2.1**	
	comp=Z,1.6nm,0.6s,mb4.2,baz=326,slow=7.3,SNR=3.9							
DBIC	**Dimbokro**	**65.45**	**185**	P	**P**	**04 25 12.7**	**-2.1**	
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TXAR	**Lajitas Array**	**66.39**	**292**	P	**P**	**04 25 19.4**	**-1.1**	
	comp=Z,1.0nm,1.0s,mb3.8,baz=44,slow=5.5,SNR=7.4							
TXAR				LR	LR	04 55 05.1		
	comp=Z,92nm,18.5s,MS4.0,baz=340,slow=37							
TXAR	**Lajitas Array**	**66.39**	**292**	P	**P**	**04 25 19.4**	**-1.1**	
TXAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
TXAR				MLR	MLR			
	comp=Z,92nm,18.5s							
MJAR	**Matsushiro Arr**	**67.79**	**35**	P	**P**	**04 25 30.2**	**+0.9**	
	comp=Z,2.0nm,0.9s,mb4.1,baz=338,slow=5.1,SNR=4.2							
MJAR	**Matsushiro Arr**	**67.79**	**35**	P	**P**	**04 25 30.2**	**+0.9**	
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MJAR	**Matsushiro Arr**	**67.79**	**35**	P	**P**	**04 25 30.2**	**+0.9**	
NJ2	**Nanjing**	**67.97**	**53**	*eP*	**P**	**04 25 34.1**	**+3.6**	
NJ2				AP	pP	04 25 44.2	+11	
NJ2				PP	PP	04 28 07.5	+5.1	
NJ2				S	S	04 34 33.0	+5.1	
NJ2				AMB	AMB			
	comp=Z,20nm,1.2s,mb5.0							
NJ2				AMB	AMB			
	comp=Z,120nm,8.8s							
SSE	**Sheshan**	**69.45**	**51**	P	**P**	**04 25 38.6**	**-1.0**	
SSE				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1							
SSE				AMB	AMB			
	comp=Z,160nm,5.1s							
WRA	**Warramunga Arr**	**121.74**	**52**	PKP	PKPdf	04 33 23.0	-3.6	
	comp=Z,0.9nm,1.1s,baz=320,slow=2.6,SNR=5.1							
WRA	**Warramunga Arr**	**121.74**	**52**	PKIKP	PKPdf	04 33 23.0	-3.6	
WRA				pmax	pmax			
	comp=Z,1.0nm,1.1s							

BJI **04** *04:17:17.3, 11.63N×141.46E, h31km, mB5.3, mb4.6, Ms4.7, Msz4.1*
MOS **04** *04:17:23.0±0.9, 12.14N×140.85E, h33km, mb5.1/8, Error ellipse: s-maj=15.3km s-min=9.7km az=116.0*
NEIC **04** *04:17:24.3±0.4, 12.20N×140.89E, mb4.8/9, Error ellipse: s-maj=11.7km s-min=8.5km az=68.0*
IDC **04** *04:17:25.6±3.6, 12.20N×140.85E, h43km±35km, mb4.1/12, mb1 4.2/13, mb1mx4.0/22, mbtmp4.3/13, ML4.4/1, MS3.9/12, Ms1 3.9/12, ms1mx3.6/30, Error ellipse: s-maj=25.0km s-min=16.5km az=81.0*
ISC 04 04:17:24.7±2.0, 12.13N±0.06×140.9E±0.1, h50km±19km, **h31**km±1.2km**; pP-P, n64, σ088/55, mb4.5/25, MS4.1/13, 5C-2D, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.10**	**69**	P		**P**	**P**	**04 18 26.9**	**+0.4**
	21nm,0.3s,baz=181,slow=15,SNR=5.9								
GUMO				LR		LR	LR	04 19 43.0	
	comp=Z,684nm,18.0s,baz=324,slow=33								
CBIJ	**Chichi jima**	**14.93**	**4**	LR		LR	LR	04 26 01.9	
	comp=Z,260nm,19.9s,baz=140,slow=35								
JHJ	**Hachijo jima 2**	**20.92**	**357**	LR		LR	LR	04 28 23.1	
	comp=Z,389nm,20.2s,MS3.8,baz=128,slow=32								
PMG	**Port Moresby**	**22.27**	**164**	P		**P**	**P**	**04 22 19.2**	**+0.2**
	18nm,1.1s,mb4.4,baz=302,slow=5.8,SNR=8.1								
PMG				LR		LR	LR	04 30 55.8	
	comp=Z,244nm,20.0s,MS3.6,baz=28,slow=36								
PMG	**Port Moresby**	**22.27**	**164**	*eP*		**P**	**P**	**04 22 19.2**	**+0.2**
PMG				*e*				04 22 28.1	
PMG				pmax		pmax			
	comp=Z,29nm,1.0s								
PMG	**Port Moresby**	**22.27**	**164**	*eP*		**P**	**P**	**04 22 19.1**	**+0.1**
	comp=Z,28nm,1.0s,mb4.7								
PMG				*e*				04 22 28.1	
PMG				LR		LR	LR	04 30 55.8	
KAKA	**Kakadu**	**26.08**	**199**	*eP*		Px		04 23 18.4	
	comp=Z,20nm,1.0s								
SSE	**Sheshan**	**26.25**	**319**	P		**P**	**P**	**04 22 57.9**	**+0.7**
SSE				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.4								
NJ2	**Nanjing**	**28.38**	**318**	*eP*		**P**	**P**	**04 23 16.3**	**-0.3**
NJ2				PP		PP		04 24 11.5	+2.4
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.5								
NJ2				AMB		AMB			
	comp=Z,440nm,4.9s								
NJ2				LR		LR			
	comp=N,750nm,14.2s,MS4.6								
NJ2				LR		LR			
	comp=E,940nm,16.0s,MS4.6								
CTAO	**Charters Tower**	**32.44**	**171**	*eP*		**P**	**P**	**04 23 53.1**	**+0.5**
CTAO				*e*		pP		04 24 02.2	-3.4
CTAO				pmax		pmax			
	comp=Z,22nm,1.1s,mb4.9								
CTAO	**Charters Tower**	**32.44**	**171**	*eP*		**P**	**P**	**04 23 53.1**	**+0.5**
	comp=Z,22nm,1.1s,mb4.9								
CTAO				*e*		pP		04 24 02.2	-3.4
WRAB	**Tennant Creek**	**32.52**	**192**	*eP*		**P**	**P**	**04 23 52.9**	**-0.3**
WRAB				*e*		pP		04 24 01.8	-4.4
WRAB				pmax		pmax			
	comp=Z,45nm,1.3s,mb5.2								
WRAB	**Tennant Creek**	**32.52**	**192**	*eP*		**P**	**P**	**04 23 52.9**	**-0.4**
	comp=Z,44nm,1.3s,mb5.2								
WRAB				*e*		pP		04 24 01.8	-4.5
WB2	**Warramunga Arr**	**32.52**	**192**	*eP*		**P**	**P**	**04 23 53.4**	**+0.1**
WRA	**Warramunga Arr**	**32.53**	**192**	P		**P**	**P**	**04 23 53.1**	**-0.3**
	comp=Z,10nm,1.0s,mb4.7,baz=11,slow=9.7,SNR=41								
HHC	**Hu-ho-hao-te**	**38.51**	**323**	*eP*		**P**	**P**	**04 24 45.0**	**+1.1**
HHC				AP		pP		04 24 54.8	-2.3
HHC				XP		sP		04 24 58.5	-4.7
HHC				PP		PP		04 26 18.1	+2.0
HHC				S		**S**	**S**	**04 30 37.4**	**+1.8**
HHC				XS				04 30 55.2	
HHC				LR		LR			
	comp=N,150nm,14.3s,MS4.5								
HHC				LR		LR			
	comp=E,480nm,11.9s,MS4.5								
HHC				LR		LR			
	comp=Z,180nm,13.1s,MS4.1								
PSI	**Prapat**	**42.62**	**261**	P		P	**P**	**04 25 17.3**	**-1.0**
	comp=Z,5.8nm,0.6s,mb4.5,baz=80,slow=17,SNR=5.4								
STKA	**Stephens Creek**	**43.76**	**179**	*eP*		**P**	**P**	**04 25 27.7**	**+0.4**
	comp=Z,6.7nm,0.8s,mb4.4								
STKA	**Stephens Creek**	**43.76**	**179**	P		**P**	**P**	**04 25 27.8**	**+0.4**
	comp=Z,3.6nm,0.7s,mb4.2,baz=25,slow=10,SNR=5.6								
ULN	**Ulaanbaatar**	**45.49**	**328**	⇑*iP*		**P**	**P**	**04 25 41.8**	**+0.9**
ULN	**Ulaanbaatar**	**45.49**	**328**	*eP*		**P**	**P**	**04 25 41.2**	**+0.3**
	comp=Z,19nm,1.4s,mb4.7								
SONM	**Songino Array**	**45.81**	**328**	P		**P**	**P**	**04 25 42.6**	**-0.9**
	comp=Z,2.0nm,1.0s,mb4.0,baz=134,slow=3.9,SNR=5.0								
SONM				LR		LR	LR	04 45 25.7	
	comp=Z,166nm,18.0s,MS4.0,baz=154,slow=37								
ZAK	**Zakamensk**	**49.00**	**329**	*eP*		**P**	**P**	**04 26 09.4**	**+1.1**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.3s,mb4.3								
YAK	**Yakutsk**	**50.48**	**353**	⇑*iP*		**P**	**P**	**04 26 19.8**	**+0.2**
YAK				pmax		pmax			
	comp=Z,42nm,1.7s,mb5.2								
JIRN	**Jiri**	**53.34**	**295**	*eP*		**P**	**P**	**04 26 42.6**	**+1.1**
AFI	**Afiamalu**	**53.54**	**117**	LR		LR	LR	04 44 25.2	
	comp=Z,277nm,19.8s,MS4.3,baz=71,slow=30								
GUN	**Gumba**	**53.64**	**296**	*eP*		**P**	**P**	**04 26 44.4**	**+0.7**
	comp=Z,55nm,1.2s,mb5.4								
DMN	**Daman**	**54.29**	**295**	*eP*		**P**	**P**	**04 26 49.2**	**+0.7**
	comp=Z,15nm,0.8s,mb5.0								
GKN	**Gorkha**	**54.74**	**296**	*eP*		**P**	**P**	**04 26 51.6**	**-0.2**
KOLN	**Koldanda**	**55.64**	**295**	*eP*		**P**	**P**	**04 26 57.1**	**-1.1**
BILL	**Bilibino**	**58.27**	**11**	⇑P		**P**	**P**	**04 27 16.0**	**-0.3**
BILL				*e*				04 27 23.5	
MKAR	**Makanchi Array**	**59.91**	**317**	P		**P**	**P**	**04 27 26.5**	**-1.6**
	comp=Z,4.5nm,1.0s,mb4.4,baz=100,slow=7.4,SNR=8.9								
HYB	**Hyderabad**	**60.34**	**283**	*i* P		**P**	**P**	**04 27 31.0**	**-0.3**
HYB	**Hyderabad**	**60.34**	**283**	*eP*		**P**	**P**	**04 27 31.0**	**-0.3**
ZAL	**Zalesovo**	**60.62**	**326**	P		P	**P**	**04 27 31.1**	**-1.7**
	comp=Z,1.0nm,0.7s,mb4.1,baz=15,slow=8.1,SNR=4.3								
ZAL				LR		LR	LR	04 54 54.1	
	comp=Z,110nm,18.4s,MS4.0,baz=269,slow=37								
NVS	**Novosibirsk**	**61.80**	**326**	*eP*			**P**	**04 27 41.6**	**+0.9**
KURK	**Kurchatov**	**63.26**	**321**	⇑*iP*			**P**	**04 27 50.4**	**-0.1**
KURK	**Kurchatov**	**63.26**	**321**	*eP*			**P**	**04 27 48.8**	**-1.7**
	comp=Z,0.5nm,0.4s,mb4.0								
AAK	**Ala-Archa**	**64.57**	**311**	*d iP*			**P**	**04 27 58.4**	**-0.8**
AAK				pmax		pmax			
	comp=Z,3.0nm,1.2s,mb4.2								
BVAR	**Borovoye Array**	**68.71**	**322**	P			**P**	**04 28 24.6**	**-0.5**
	comp=Z,1.3nm,0.4s,mb4.2,baz=111,slow=7.4,SNR=10								
BRVK	**Borovoye**	**68.78**	**322**	*eP*			**P**	**04 28 25.2**	**-0.3**
BRVK				pmax		pmax			
	comp=Z,10.0nm,1.3s,mb4.6								
BRVK	**Borovoye**	**68.78**	**322**	*eP*			**P**	**04 28 25.2**	**-0.3**
	comp=Z,10nm,1.3s,mb4.6								
ARU	**Arti**	**75.78**	**325**	⇓*iP*			**P**	**04 29 06.6**	**-0.3**
ARU				*e*				04 31 54.9	
ARU				*eS*		S		04 38 39.5	-4.2
ARU				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
AKTO	**Aktyubinsk**	**76.26**	**319**	P		P	**P**	**04 29 09.2**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=88,slow=9.7,SNR=7.0								
INK	**Inuvik**	**77.17**	**22**	P		P	**P**	**04 29 13.7**	**-0.9**
	comp=Z,2.2nm,1.0s,mb4.0,baz=251,slow=9.4,SNR=4.5								
KRNR	**Karanay**	**84.79**	**313**	*eP*			**P**	**04 29 55.8**	**+0.6**
DBC	**Dubki**	**84.80**	**313**	*eP*			**P**	**04 29 56.3**	**+1.0**
UNCR	**Uncukul**	**84.89**	**312**	*i* P			**P**	**04 29 57.0**	**+1.3**
YKA	**Yellowknife Ar**	**85.90**	**27**	LR		LR	LR	05 09 10.5	
	comp=Z,51nm,19.6s,MS3.9,baz=255,slow=36								
GNI	**Garni**	**86.95**	**310**	⇑*iP*			**P**	**04 30 07.6**	**+1.7**
GNI				pmax		pmax			
	comp=Z,19nm,1.7s								
ARCES	**ARCESS Array B**	**87.26**	**341**	LR		LR	LR	05 12 28.4	
	comp=Z,79nm,19.1s,MS4.1,baz=189,slow=38								
KIV	**Kislovodsk**	**87.53**	**314**	*i* P			**P**	**04 30 09.5**	**+0.9**
JOF	**Joensuu**	**87.98**	**334**	*ep*			**P**	**04 30 09.0**	**-1.3**
OBN	**Obninsk**	**88.20**	**326**	P			**P**	**04 30 12.0**	**+0.5**
OBN				MLR		MLR			
	comp=Z,100nm,18.0s,MS4.3								
NEW	**Newport**	**88.84**	**41**	LR		LR	LR	05 02 42.1	
	comp=Z,80nm,20.0s,MS4.1,baz=354,slow=31								
KAF	**Kangasniemi**	**90.42**	**335**	*ep*			**P**	**04 30 19.9**	**-1.9**
NVAR	**Mina Array Bea**	**90.81**	**51**	P			**P**	**04 30 24.8**	**+0.5**
	comp=Z,0.1nm,0.3s,mb3.6,baz=256,slow=3.5,SNR=3.6								
NVAR	**Mina Array Bea**	**90.81**	**51**	P			**P**	**04 30 24.8**	**+0.5**
FINES	**FINESS Array B**	**90.83**	**334**	P			**P**	**04 30 22.7**	**-1.1**
	comp=Z,4.7nm,0.9s,mb4.8,baz=53,slow=5.2,SNR=16								
FINES				LR		LR	LR	05 09 54.6	
	comp=Z,66nm,19.9s,MS4.1,baz=348,slow=35								
FINES	**FINESS Array B**	**90.83**	**334**	*i* P			**P**	**04 30 23.1**	**-0.7**
FINES				pmax		pmax			
	comp=Z,5.0nm,0.9s								
FINES	**FINESS Array B**	**90.83**	**334**	P			**P**	**04 30 22.7**	**-1.1**
FINES				LR		LR	LR	05 09 54.6	
NOA	**NORSAR Array B**	**97.00**	**338**	LR		LR	LR	05 13 31.4	
	comp=Z,45nm,19.4s,MS4.0,baz=70,slow=35								
LPAZ	**La Paz**	**151.53**	**102**	PKPbc		PKPdf		04 37 17.4	+9.5
	comp=Z,2.6nm,0.8s,baz=344,slow=2.1,SNR=9.9								
LPAZ	**La Paz**	**151.53**	**102**	*e*PKIKP		PKPdf		04 37 17.2	+9.3

JMA 04 04:31:21.3±0.1, 28.17N×130.34E, h44km±1km**, M3.7, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.35**	**294**	P		P		04 31 30.4	-0.1
JZK				S		S		04 31 37.1	+0.2
JAM	**Amami Oshima**	**0.69**	**291**	P		P		04 31 34.8	+0.1
JAM				S		S		04 31 44.0	-0.6
JTK	**Tokunoshima**	**1.29**	**253**	P		P		04 31 43.8	+0.6
JTK				S		S		04 31 58.9	-0.6
JNN	**Nakanoshima**	**1.71**	**346**	*eS*		S		04 32 10.5	+0.4
JOW	**Kunigami**	**2.27**	**234**	P		P		04 31 57.5	+0.4
JKC	**Kuchinoerabu**	**2.29**	**357**	*eS*		S		04 32 24.2	-0.3
JIH	**Iheya**	**2.39**	**242**	S		S		04 32 25.0	-2.1
JTN	**Tanegashima 3**	**2.54**	**13**	P		P		04 32 02.0	+1.0
JTN				*eS*		S		04 32 31.3	+0.4

BJI **04** *04:32:47.4, 33.10S×177.98W, h13km, mB5.5, mb5.4, Ms5.7, Msz4.9*
HRVD **04** *04:32:51.7±0.6, 33.63S×178.68W, h49km±4km, MW4.9/45, Centroid moment Tensor Solution. LP body waves: s12,c15; Mantle waves: s45,c64; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.30±.35; Mθθ 1.15±.25; Mφφ -2.45±.19; Mrθ 1.80±.23; Mrφ 0.50±.20; Mθφ 0.79±.17; Best double couple: Mo 2.895×10^16 NP1: φ139°, δ51°, λ30°. NP2: φ29°, δ68°, λ137°. Principal axes: T 3.175, Plg46°, Azm347°; N -.56, Plg42°, Azm187°; P -2.615, Plg10°, Azm87°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC **04** *04:32:51.5±3.0, 33.72S×178.83W, h33km±20km, mb4.3/6, mb1 4.5/7, mb1mx4.4/11, mbtmp4.6/7, ML5.0/1, MS3.9/11, Ms1 3.9/11, ms1mx3.8/15 Error ellipse: s-maj=24.3km s-min=19.3km az=129.0*
NEIC **04** *04:32:51.7±0.4, 33.69S×178.59W, h35km, mb5.2/8, Error ellipse: s-maj=12.0km s-min=6.6km az=123.0*
MOS **04** *04:32:51.5±1.3, 33.47S×178.91W, h33km, mb5.5/5, Error ellipse: s-maj=17.9km s-min=12.8km az=83.2*
ISC 04 04:32:52.8±1.3, 33.87S±0.08×179.13W±0.09, h48km±10km**, h24**km±5.6km**; pP-P, n257, σ1s63/133, mb4.9/17, MS4.0/10, 13C-3D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.24**	**209**	PN		P		**04 33 57.9**	**+1.4**
MXZ				SN		S		**04 34 49.6**	**+4.3**
MXZ	**Matakaoa Point**	**4.24**	**209**	P		P		**04 33 58.0**	**+1.5**
MXZ				S		S		**04 34 49.6**	**+4.3**
PUZ	**Puketiti**	**4.70**	**206**	PN		P		**04 34 04.1**	**+1.1**
PUZ				SN		S		**04 35 02.5**	**+5.6**
PUZ	**Puketiti**	**4.70**	**206**	P		P		**04 34 04.2**	**+1.1**
RAO	**Raoul Island**	**4.72**	**13**	Pn		P		**04 33 53.8**	**-9.4**
	90nm,0.3s,baz=253,slow=20,SNR=3.8								
RAO				Sn		S		**04 34 46.0**	**-11**
	362nm,0.3s,baz=105,slow=24,SNR=12								
RAO				LR		LR		04 34 52.1	
	comp=Z,313nm,19.2s,baz=197,slow=27								
RAO	**Raoul Island**	**4.72**	**13**	*eP*		P		**04 33 54.1**	**-9.2**
RAO				*eS*		S		**04 34 45.8**	**-12**
WIZ	**White Island**	**4.72**	**218**	PN		P		**04 34 06.3**	**+2.9**
WIZ	**White Island**	**4.72**	**218**	P		P		**04 34 06.3**	**+2.9**
MYRZ	**Mayor Island**	**5.08**	**227**	PN		P		**04 34 13.1**	**+4.7**
KUZ	**Kuaotunu**	**5.10**	**234**	PN		P		**04 34 13.7**	**+5.1**
KUZ	**Kuaotunu**	**5.10**	**234**	*eP*		P		**04 34 13.6**	**+5.0**
MWZ	**Matawai**	**5.22**	**210**	PN		P		**04 34 11.4**	**+1.2**
MWZ				SN		S		**04 35 15.5**	**+5.6**
MWZ	**Matawai**	**5.22**	**210**	P		P		**04 34 11.4**	**+1.2**
MWZ				S		S		**04 35 15.4**	**+5.5**
URZ	**Urewera**	**5.34**	**214**	Pn		P		**04 34 11.5**	**-0.4**
	48nm,0.3s,baz=322,slow=3.5,SNR=77								
URZ				Sn		S		**04 35 16.0**	**+3.1**
	284nm,0.3s,baz=296,slow=16,SNR=14								
URZ	**Urewera**	**5.34**	**214**	PN		P		**04 34 13.1**	**+1.2**
URZ				SN		S		**04 35 17.8**	**+4.9**
URZ	**Urewera**	**5.34**	**214**	*eP*		P		**04 34 13.1**	**+1.2**
EDRZ	**Edgecumbe**	**5.40**	**217**	PN		P		**04 34 15.3**	**+2.6**
TAZ	**Tarawera**	**5.61**	**218**	PN		P		**04 34 19.0**	**+3.3**
TAZ	**Tarawera**	**5.61**	**218**	P		P		**04 34 19.0**	**+3.3**
WZV	**Waipu Caves**	**5.75**	**247**	PN		P		**04 34 23.8**	**+6.2**
WCZ	**Waipu Caves**	**5.75**	**247**	*eP*		P		**04 34 23.8**	**+6.2**
KNZ	**Kokohu**	**5.75**	**206**	PN		P		**04 34 17.2**	**-0.5**
KNZ				SN		S		**04 35 25.7**	**+2.4**
KNZ	**Kokohu**	**5.75**	**206**	*eP*		P		**04 34 17.1**	**-0.6**
KNZ				S		S		**04 35 25.8**	**+2.5**
OUZ	**Omahuta**	**6.15**	**255**	PN		P		**04 34 29.1**	**+5.8**
OUZ	**Omahuta**	**6.15**	**255**	*eP*		P		**04 34 29.1**	**+5.8**
BKZ	**Black Stump Fm**	**6.36**	**212**	PN		P		**04 34 25.8**	**-0.4**
BKZ	**Black Stump Fm**	**6.36**	**212**	*eP*		P		**04 34 25.9**	**-0.3**
HIZ	**Hauiti**	**6.72**	**225**	PN		P		**04 34 34.4**	**+3.1**
HIZ	**Hauiti**	**6.72**	**225**	P		P		**04 34 34.3**	**+3.0**
OTVZ	**Oturere**	**6.75**	**217**	PN		P		**04 34 31.8**	**+0.1**
FWVZ	**Far West T-bar**	**6.87**	**217**	PN		P		**04 34 34.0**	**+0.6**
FWVZ	**Far West T-bar**	**6.87**	**217**	*eP*		P		**04 34 34.5**	**+1.1**
MOVZ	**Moawhango**	**6.89**	**215**	PN		P		**04 34 32.9**	**-0.8**
MOVZ				SN		S		**04 35 52.6**	**+1.0**
MOVZ	**Moawhango**	**6.89**	**215**	P		P		**04 34 32.9**	**-0.8**
MOVZ				S		S		**04 35 52.8**	**+1.2**
WNVZ	**Wahianoa**	**6.91**	**216**	PN		P		**04 34 34.3**	**+0.4**
PXZ	**Pawanui**	**6.94**	**206**	PN		P		**04 34 32.0**	**-2.4**
TSZ	**Takapari Road**	**7.32**	**211**	PN		P		**04 34 38.1**	**-1.6**
TSZ	**Takapari Road**	**7.32**	**211**	*eP*		P		**04 34 38.1**	**-1.6**
WAZ	**Wanganui**	**7.54**	**217**	PN		P		**04 34 45.3**	**+2.7**
WAZ	**Wanganui**	**7.54**	**217**	*eP*		P		**04 34 43.4**	**+0.8**
MRZ	**Mangatainoka R**	**7.99**	**210**	PN		P		**04 34 46.7**	**-2.2**
MRZ	**Mangatainoka R**	**7.99**	**210**	*eP*		P		**04 34 46.6**	**-2.3**
KIW	**Kapiti Island**	**8.44**	**212**	PN		P		**04 34 52.6**	**-2.5**
KIW	**Kapiti Island**	**8.44**	**212**	P		P		**04 34 52.5**	**-2.6**
CAW	**Cannon Point**	**8.57**	**211**	PN		P		**04 34 54.6**	**-2.3**
CAW	**Cannon Point**	**8.57**	**211**	P		P		**04 34 54.6**	**-2.4**
SNZO	**South Karori**	**8.89**	**212**	SN		S		**04 36 36.6**	**-4.7**
SNZO	**South Karori**	**8.89**	**212**	*eP*		P		**04 34 59.2**	**-2.2**
BHW	**Baring Head**	**8.90**	**211**	SN		S		**04 36 36.4**	**-5.1**
TCW	**Tory Channel**	**9.01**	**214**	SN		S		**04 36 38.8**	**-5.3**
NNZ	**Nelson**	**9.44**	**217**	*ePN*		P		**04 35 06.5**	**-2.4**
NNZ	**Nelson**	**9.44**	**217**	*eP*		P		**04 35 06.8**	**-2.1**
QRZ	**Quartz Range**	**9.61**	**221**	*eP*		P		**04 35 08.7**	**-2.5**
THZ	**Tophouse**	**10.09**	**216**	*ePN*		P		**04 35 12.7**	**-5.0**
THZ	**Tophouse**	**10.09**	**216**	*eP*		P		**04 35 13.3**	**-4.5**
KHZ	**Kahutara**	**10.30**	**212**	*ePN*		P		**04 35 16.4**	**-4.3**
KHZ	**Kahutara**	**10.30**	**212**	*eP*		P		**04 35 18.1**	**-2.6**
LTZ	**Lake Taylor**	**11.17**	**215**	*ePN*		P		**04 35 29.5**	**-2.9**
LTZ				SN		S		**04 37 29.5**	**-7.3**
LTZ	**Lake Taylor**	**11.17**	**215**	*eP*		P		**04 35 31.2**	**-1.3**
MQZ	**McQueen's Vall**	**11.72**	**211**	*eP*		P		**04 35 34.5**	**-5.5**
WVZ	**Waitaha Valley**	**12.14**	**218**	*ePN*		P		**04 35 40.5**	**-5.1**
WVZ				SN		S		**04 37 51.4**	**-8.9**
WVZ	**Waitaha Valley**	**12.14**	**218**	*eP*		P		**04 35 45.4**	**-0.5**
RPZ	**Rata Peaks**	**12.45**	**215**	Pn		P		**04 35 46.0**	**-3.8**
	15nm,0.3s,baz=352,slow=1.3,SNR=25								
RPZ				Sn		S		**04 37 58.9**	**-9.0**
	11nm,0.3s,baz=182,slow=22,SNR=14								
FOZ	**Fox Glacier**	**13.03**	**219**	*ePN*		P		**04 35 51.7**	**-5.6**
FOZ				SN		S		**04 38 08.5**	**-13**
FOZ	**Fox Glacier**	**13.03**	**219**	*eP*		P		**04 35 53.2**	**-4.1**
LBZ	**Lake Benmore**	**13.37**	**215**	*eP*		P		**04 35 58.5**	**-3.4**
ODZ	**Otahua Downs**	**13.66**	**212**	*eP*		P		**04 36 01.1**	**-4.5**
JCZ	**Jackson Bay**	**13.86**	**219**	*ePN*		P		**04 36 05.0**	**-3.3**
JCZ				SN		S		**04 38 30.6**	**-11**
JCZ	**Jackson Bay**	**13.86**	**219**	P		P		**04 36 04.3**	**-4.0**
WKZ	**Wanaka**	**14.26**	**216**	*eP*		P		**04 36 11.0**	**-2.5**
DZM	**Mont Dzumac**	**17.31**	**309**	P		P		**04 36 56.6**	**+4.0**
	3.0nm,0.3s,baz=126,slow=12,SNR=64								
DZM				LR		LR		04 42 11.7	
	comp=Z,1μm,21.3s,baz=203,slow=32								
AFI	**Afiamalu**	**20.96**	**20**	P		P		**04 37 29.0**	**-5.0**
	100nm,0.7s,baz=216,slow=1.1,SNR=10								
AFI				S		S		**04 41 05.1**	**-15**
	13nm,0.5s,baz=68,slow=24,SNR=3.1								
AFI	**Afiamalu**	**20.96**	**20**	*eP*		P		**04 37 29.0**	**-5.0**
AFI				pmax		pmax			
	comp=Z,74nm,0.6s								
AFI	**Afiamalu**	**20.96**	**20**	*eP*		P		**04 37 29.0**	**-5.1**
	comp=Z,74nm,0.6s								
**R

SSE AMB AMB
comp=Z,240nm,5.8s
NJ2 Nanjing 87.79 311 *e*P **P** **04 45 36.4 -1.6**
NJ2 AP pP 04 45 41.2 -11
NJ2 PP PP 04 49 04.7 -1.8
NJ2 S S 04 56 16.0 +1.1
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,20nm,3.8s
NJ2 LR LR
comp=N,3μm,32.9s
NJ2 LR LR
comp=E,770nm,26.1s
NJ2 LR LR
comp=Z,230nm,13.6s
WHN Wuhan 89.68 308 *e*P **P** **04 45 52.0 +5.0**
MDJ Mudanjiang 90.95 326 P **P** **04 45 53.8 +1.2**
MDJ PP PP 04 49 25.2 -6.3
MDJ S S 04 56 51.7 +8.2
MDJ AMB AMB
comp=Z,10.0nm,2.1s,mb4.8
MDJ AMB AMB
comp=Z,360nm,5.8s
NVAR Mina Array Bea 91.42 43 P **P** **04 45 54.3 -0.6**
comp=Z,0.4nm,0.6s,mb3.9,baz=255,slow=1.5,SNR=6.4
NVAR LR LR 05 19 14.6
comp=Z,31nm,20.2s,MS3.8,baz=130,slow=30
CN2 Changchun 92.33 323 *e*P **P** **04 45 58.9 -0.1**
CN2 *e*XP sP 04 46 04.0 -14
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.5
KMI Kunming 94.53 297 P **P** **04 46 13.8 +4.3**
KMI AMB AMB
comp=Z,10.0nm,0.5s,mb5.5
TXAR Lajitas Array 95.05 58 P **P** **04 46 09.4 -2.3**
comp=Z,0.5nm,0.8s,mb4.0,baz=202,slow=6.7,SNR=5.2
TXAR PKKPbc 05 03 08.2
comp=Z,0.3nm,0.8s,baz=90,slow=1.3,SNR=3.4
TXAR LR LR 05 17 43.4
comp=Z,70nm,20.7s,MS4.1,baz=195,slow=28
ANMO Albuquerque 96.47 52⇓*i*P **P** **04 46 18.2 +0.1**
LPAZ La Paz 97.57 115 LR LR 05 19 50.7
comp=Z,63nm,21.4s,MS4.1,baz=258,slow=29
COLA College 101.42 13 *e*P P 04 46 42.0 +2.3
BILL Bilibino 102.18 354 *i*P Pdif 04 46 41.2 -1.9
INK Inuvik 107.37 16 PP PP 04 51 28.9 -8.0
comp=Z,3.0nm,1.1s,baz=155,slow=3.6,SNR=3.4
YKA Yellowknife Ar 108.97 26 PP PP 04 51 39.2 -10
comp=Z,0.8nm,0.8s,baz=259,slow=1.7,SNR=5.0
WMQ Urumqi 114.59 307 *e*PKP PKPdf 04 51 29.2 +1.6
WMQ LR LR
comp=N,440nm,22.0s
WMQ LR LR
comp=Z,330nm,22.0s,MS4.9
MKAR Makanchi Array 119.23 309 PKP PKPdf 04 51 36.0 -0.5
comp=Z,3.5nm,0.5s,baz=53,slow=0.4,SNR=22
ZAL Zalesovo 119.96 317 PKP PKPdf 04 51 36.4 -1.3
comp=Z,2.2nm,0.5s,baz=346,slow=2.8,SNR=9.1
NVS Novosibirsk 121.09 318 *e*PKIKP PKPdf 04 51 38.3 -1.6
ULHL Ulahol 121.84 302 P PKPdf 04 51 42.8 +1.1
SNR=8.2
KZA Kyzart 122.49 302 P PKPdf 04 51 44.7 +1.8
SNR=10
TKM2 Tokmak 2 122.50 303 P PKPdf 04 51 43.6 +0.7
SNR=10
KURK Kurchatov 122.71 312*c i*PKIKP PKPdf 04 51 42.8 -0.3
KURK Kurchatov 122.71 312 *e*PKPdf PKPdf 04 51 42.8 -0.3
KBK Karagaybulak 122.88 302 P PKPdf 04 51 44.5 +0.9
SNR=8.6
UCH Uchtor 123.05 302 P PKPdf 04 51 45.9 +1.9
SNR=22
CHMS Chumysh 123.12 303 P PKPdf 04 51 44.5 +0.4
SNR=7.5
FRU Bishkek 123.16 302 *e*PKIKP PKPdf 04 51 46.0 +1.8
AAK Ala-Archa 123.19 302 P PKPdf 04 51 45.3 +1.1
SNR=8.3
AAK Ala-Archa 123.19 302⇓*i*PKIKP PKPdf 04 51 44.1 -0.1
AAK Ala-Archa 123.19 302 *e*PKPdf PKPdf 04 51 44.1 -0.1
USP Ospenovka 123.37 303 P PKPdf 04 51 45.2 +0.6
SNR=10
AML Almayashu 123.61 301 P PKPdf 04 51 46.7 +1.7
SNR=17
EKS2 Erkin-Say 123.70 302 P PKPdf 04 51 47.0 +1.8
SNR=9.8
LSZ Lusaka 124.63 213 *e*PKIKP PKPdf 04 51 50.0 +2.4
BVAR Borovoye Array 128.16 314 PKP PKPdf 04 51 54.3 +0.8
comp=Z,6.5nm,0.5s,baz=141,slow=1.9,SNR=48
BRVK Borovoye 128.23 314 *e*PKIKP PKPdf 04 51 54.0 +0.4
KMBO Kilima Mbogo 131.22 232 PKP PKPdf 04 52 02.3 +1.9
comp=Z,0.6nm,0.5s,baz=36,slow=16,SNR=3.6
KMBO SKPbc 04 55 23.4
comp=Z,2.8nm,0.9s,baz=60,slow=2.8,SNR=8.7
ARU Arti 135.09 318 *i*PKIKP PKPdf 04 52 04.9 -1.5
ARU Arti 135.09 318 *e*PKPdf PKPdf 04 52 08.1 +1.7
QRN Al-Qurain 139.75 276 *e*P PKPdf 04 52 17.2 +1.5
RDF Al-Radifah 140.11 276 *e*P PKPdf 04 52 17.5 +1.1
UMR Umm Al-Rimmam 140.18 277 *e*P PKPdf 04 52 17.7 +1.3
UMR AMb AMB 04 52 20.9
comp=Z,27nm,0.6s
NAY Al-Naaiem 140.47 276 *e*P PKPdf 04 52 17.8 +0.8
NAY AMb AMB 04 52 22.1
comp=Z,10nm,1.2s
BLJS Baljurashi 141.34 259 P PKPdf 04 52 24.6 +5.8
ARCES ARCESS Array B 141.74 346 PKhKP 04 52 13.2
comp=Z,4.6nm,0.7s,baz=27,slow=2.7,SNR=23
KLMR Klimovskoe 143.30 329 *e*PKHKP 04 52 16.9
KLMR pmax pmax
comp=Z,40nm,1.5s
GNI Garni 144.69 293⇓*i*PKIKP PKPdf 04 52 24.7 +0.7
GNI Garni 144.69 293 *e*PKPdf PKPdf 04 52 24.1 +0.2
JOF Joensuu 145.24 336 *e*pkp PKPdf 04 52 24.0 -0.2
HAKT HAKKARI 145.24 289 *i*P PKPdf 04 52 21.9 -3.2
VRHR Novokhopersk 145.89 313 *e*PKP2 PKPab 04 52 27.0 -2.0
VRHR pmax pmax
comp=Z,120nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.6s
GOF Gofitskoye 145.94 302 *e*PKIKP PKPdf 04 52 26.9 +0.9
GOF pmax pmax
comp=Z,50nm,0.7s
KIV Kislovodsk 146.25 300 *i*PKP2 PKPab 04 52 29.5 -1.1
KIV *e* 04 55 48.5
KIV *e*SS SS 05 14 41.2 -2.5
KIV pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 146.25 300 *e*PKPdf PKPdf 04 52 28.2 +1.6
MOS Moscow 146.56 322⇓*i*PKP2 PKPab 04 52 28.0 -3.4
MOS pmax pmax
comp=Z,150nm,0.9s
MOR8 Moi Rana 146.66 350 *e*P PKPdf 04 52 27.7 +1.1
MOR8 AMb AMB 04 52 31.7
comp=Z,82nm,1.9s
STOK Stokkvaagen 146.70 351 *e*P PKPdf 04 52 28.9 +2.3
STOK AMb AMB 04 52 32.7
comp=Z,218nm,1.7s
VOR Voronezh 147.17 315 PKP2 PKPab 04 52 30.0 -3.9
VOR pmax pmax
comp=Z,170nm,1.9s
ERZM Erzurum 147.26 293 *i*P PKPdf 04 52 31.4 +3.1
UMJS Umm Lajj 147.29 265 P PKPdf 04 52 33.8 +5.0
VRSR Storozhevoye 147.33 314 *e*PKP2 PKPab 04 52 31.2 -3.4
VRSR pmax pmax
comp=N,5.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 147.37 322*c i*PKP2 PKPab 04 52 31.0 -3.6
OBN pmax pmax
comp=Z,67nm,0.7s
OBN Obninsk 147.37 322 *e*PKPdf PKPdf 04 52 30.5 +2.5
KAF Kangasniemi 147.44 338 *e*pkp PKPdf 04 52 30.6 +2.7
baz=37,slow=2.4
FINES FINESS Array B 148.01 337 PKPbc PKPdf 04 52 32.5 +3.6
comp=Z,39nm,0.5s,baz=41,slow=5.0,SNR=641
NSS Namsos 148.56 351 *e*P PKPdf 04 52 32.8 +3.1
TBKS Tabuk 149.02 269 P PKPdf 04 52 37.8 +6.2
ELZG Elazig 149.04 290 *i*P PKPdf 04 52 36.2 +5.0
QURS Qurayyt al Mil 149.30 276 P PKPdf 04 52 39.0 +7.1
ANN Anapa 149.92 302 *e*PKHKP 04 52 38.2
ANN pmax pmax
comp=Z,95nm,0.9s

VSU Vasula 149.93 333*c i*PKP2 PKPab 04 52 37.7 -7.2
AYUS 'Aynunah 150.07 269 P PKPdf 04 52 39.9 +6.7
BDAS Al 'Bad' 150.29 269 P PKPdf 04 52 40.5 +6.9
JMOS Jabal al Moall 150.52 270 P PKPdf 04 52 41.2 +7.3
ALWS Ilw as Safayha 150.60 271 P PKPdf 04 52 41.5 +7.4
HAQS Haql 150.64 270 P PKPdf 04 52 41.5 +7.5
SVST Sivas 150.66 292 *i*P PKPdf 04 52 42.0 +8.2
MKRJ Makawir 150.73 275 P PKPdf 04 52 41.7 +7.6
AQBJ Aqaba 150.74 271 P PKPdf 04 52 41.8 +7.6
EIL Elat 150.80 271 P PKPdf 04 52 41.8 +7.5
ZFRI Zfri 150.86 273 P PKPdf 04 52 42.0 +7.6
MBH Mount Berech 150.87 271 P PKPdf 04 52 42.1 +7.7
COBT Iskenderun 151.06 285 *i*P PKPdf 04 52 41.0 +6.6
KSM1 Kefar Szold 151.07 278 P PKPdf 04 52 42.4 +7.8
MMLI Mount Malkishu 151.11 277 P PKPdf 04 52 42.9 +8.2
BHL Bhannes 151.20 280 *e*P PKPdf 04 52 42.6 +7.8
SLTI Sal'it 151.39 276 P PKPdf 04 52 43.2 +8.1
KZIT Kziot 151.60 273 P PKPdf 04 52 43.5 +8.1
LIC Lamto 151.96 167 *e*PKP1 PKPdf 04 52 44.8 +8.3
comp=Z,20nm,0.5s
NB2 NORSAR Subarra 152.00 349 PKPabc PKPdf 04 52 42.2 +7.1
comp=Z,40nm,1.2s,baz=18,slow=2.6
NB2 NORSAR Subarra 152.00 349 PKPa 04 52 42.2
baz=18,slow=2.6
NOA NORSAR Array B 152.00 349 PKPbc PKPdf 04 52 42.7 +7.7
comp=Z,8.6nm,0.8s,baz=8.5,slow=4.0,SNR=41
MNK Minsk 152.02 326 *e*PKIKP PKPdf 04 52 41.0 +5.7
FOO Floro 152.12 356 *e* PKPdf 04 52 43.6 +8.3
SIM Simferopol' 152.21 303 PKIKP PKPdf 04 52 44.1 +8.2
SIM pmax pmax
comp=Z,44nm,0.7s
NAO01 NORSAR Array S 152.24 349 *e*PKPbc PKPdf 04 52 42.9 +7.5
NAO01 *e*PKPab PKPab 04 52 52.1 -2.3
DBIC Dimbokro 152.42 168 PKPbc PKPdf 04 52 45.5 +8.3
comp=Z,3.2nm,0.5s,baz=154,slow=3.5,SNR=16
DBIC PKPab PKPab 04 52 54.3 -2.4
comp=Z,2.7nm,0.3s,baz=80,slow=2.0,SNR=3.8
CDAG Cicekdag 152.65 292 *i*P PKPdf 04 52 40.1 +3.4
MEST Erdemli 152.76 285 *i*P PKPdf 04 52 43.9 +7.0
BR131 Keskin Array S 153.21 292 *e*PKPbc PKPdf 04 52 45.7 +8.3
BRTR Keskin Array B 153.21 292 PKPbc PKPdf 04 52 45.9 +8.4
comp=Z,18nm,0.8s,baz=131,slow=3.6,SNR=99
CSS Prodhromos 153.26 282 *e*PKPbc PKPdf 04 52 46.1 +8.4
ELDT Eldivan 153.33 294 *i*P PKPdf 04 52 42.9 +5.3
AKASG Malin Array Be 153.34 318 PKPbc PKPdf 04 52 45.2 +7.9
comp=Z,16nm,0.7s,baz=64,slow=2.6,SNR=89
AKASG PKPab PKPab 04 52 57.5 -2.0
comp=Z,8.4nm,0.7s,baz=47,slow=4.7,SNR=10
ANTO Ankara 153.85 293 *e*PKIKP PKPdf 04 52 47.4 +9.1
KWP Kalwaria 157.46 321 *e*PKP2 PKPab 04 53 15.9 -1.1
MLR Muntele Rosu 157.57 309 PKP PKPdf 04 52 43.9 +0.8
comp=Z,1.7nm,1.0s,baz=136,slow=20,SNR=2.2
MLR PKPab PKPab 04 53 16.0 -1.6
comp=Z,1.7nm,0.5s,baz=217,slow=6.0,SNR=5.6
KOLS Kolonicke sedl 158.10 320 *e*PKP PKPdf 04 52 46.2 +2.6
KOLS *e* 04 53 18.4
STHS Stebnicka Huta 158.35 322 *e*PKP PKPdf 04 52 43.6 -0.3
STHS *e* 04 53 13.6
CRVS Cervenica-Dubn 158.55 321 *e*PKP PKPab 04 53 21.1 -0.6
KECS Kecovo 159.32 321 *e*PKP PKPab 04 53 23.9 -1.1
TORD Torodi Ar. Bea 159.36 182 PKP PKPdf 04 52 47.0 +0.9
comp=Z,2.0nm,1.1s,baz=223,slow=0.7,SNR=5.5
TORD PKPab PKPab 04 53 24.9 -1.3
comp=Z,4.9nm,0.8s,baz=175,slow=3.5,SNR=11
DPC Dobruska-Polom 160.00 330 *e*PKPab PKPab 04 53 26.5 -1.4
UPC Upice 160.01 331 *e*PKPab PKPab 04 53 26.4 -1.5
VYHS Vyhne 160.16 323 *e*PKP PKPab 04 53 26.9 -1.8
CLL Collm 160.46 337 *e* 04 53 01.0
CLL *i* PKP2 PKPab 04 53 27.9 -2.0
PVCC Panska Ves 160.56 333 *e*PKPab PKPab 04 53 28.6 -1.7
PRU Pruhonice 161.00 332 *e*PKPab PKPab 04 53 30.8 -1.4
TREC Trest 161.15 329 *e*PKPab PKPab 04 53 31.4 -1.5
NKC Novy Kostel 161.56 336 *e*PKPab PKPab 04 53 33.2 -1.5
KHC Kasperske Hory 162.06 332 *e*PKPab PKPab 04 53 34.9 -2.0
GERES GERESS Array B 162.24 331 PKP PKPdf 04 52 48.1 0.0
comp=Z,0.6nm,0.9s,baz=225,slow=1.9,SNR=4.4
GERES PKPab PKPab 04 53 35.3 -2.4
comp=Z,1.8nm,0.7s,baz=34,slow=4.8,SNR=13
BAIF Baives 163.63 352 *e*PKP2 PKPab 04 53 41.2 -2.5
comp=Z,35nm,1.2s
CDF Champ du Feu 164.70 344 *e*PKP2 PKPab 04 53 45.9 -2.5
MEZF Maizieres J'vi 165.05 349 *e*PKP2 PKPab 04 53 47.6 -2.3
comp=Z,42nm,1.2s
FLN La Foliniere 165.08 3 *e*PKP2 PKPab 04 53 47.8 -2.2
comp=Z,67nm,1.2s
SSF Saint Saulge 166.67 352 *e*PKP2 PKPab 04 53 54.7 -2.3
comp=Z,38nm,1.0s
AVF Avril sur Loir 166.95 352 *e*PKP2 PKPab 04 53 55.7 -2.5
comp=Z,33nm,1.1s
SMF Signal de Mont 167.04 351 *e*PKP2 PKPab 04 53 56.3 -2.3
comp=Z,38nm,1.0s
LPL La Plagne 167.53 341 *e*PKP2 PKPab 04 53 59.4 -1.4
comp=Z,25nm,1.1s
LPG La Plagne 167.54 340 *e*PKP2 PKPab 04 53 59.6 -1.2
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 167.55 356 *e*PKP2 PKPab 04 53 58.3 -2.6
MBDF Montbardon 168.24 339 *e*PKP2 PKPab 04 54 01.6 -2.3
comp=Z,26nm,1.1s
ORIF Oris-en-Rattie 168.31 342 *e*PKP2 PKPab 04 54 02.6 -1.6
comp=Z,16nm,0.7s
SBF Sospel 168.79 335 *e*PKP2 PKPab 04 54 05.2 -1.2
comp=Z,28nm,0.8s
PGF Pioggiola 169.23 326 *e*PKP2 PKPab 04 54 05.0 -3.4
comp=Z,111nm,1.3s
FRF La Foret Royal 169.32 337 *e*PKP2 PKPab 04 54 07.6 -1.2
comp=Z,48nm,1.3s

NIED ***04*** *04:37:00, 42.30N×144.60E, h23km, Mw4.1 Best double couple: Ms1.46×10*^{15} *NP1:*ϕ_s*36°,* δ*63°,* λ*80°. NP2:*ϕ_s*236°,* δ*29°,* λ*108°.*
SKHL ***04*** *04:37:47.9*$\pm$*0.2, 42.23N×144.77E, h61km*$\pm$*8km, mb4.4/1*
MOS ***04*** *04:37:47.7*$\pm$*0.7, 42.28N×144.47E, h48km, mb4.5/17, Error ellipse: s-maj=14.5km s-min=8.6km az=86.4*
BJI ***04*** *04:37:48.6, 42.30N×144.40E, h58km, mB4.6, mb4.5*
JMA ***04*** *04:37:48.3, 42.35N×144.64E, h35km*$\pm$*1km, M4.1*
IDC ***04*** *04:37:50.8*$\pm$*2.5, 42.35N×144.43E, h56km*$\pm$*20km, mb3.9/14, mb1 4.1/16, mb1mx3.9/24, mbtmp4.1/16, ML4.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/22, Error ellipse: s-maj=28.6km s-min=16.2km az=175.0*
NEIC ***04*** *04:37:50.7*$\pm$*0.7, 42.28N×144.43E, h59km*$\pm$*7km, mb4.4/7, Error ellipse: s-maj=7.6km s-min=6.3km az=137.0*
ISC 04 04:37:47.4$\pm$0.7**, 42.30N**$\pm$0.05×**144.62E**$\pm$0.06**, h48**km$\pm$5km**, n71,**σ**1**^{S}**02/77, mb4.2/23, 5D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.70**	**4**	⇓P		**P**	**S**	**04 38 01.2**	**+0.1**
JAK				*e*S		**S**	**S**	**04 38 10.3**	**-0.8**
JOB	**Onbets**	**0.84**	**316**	⇓P		**P**	**S**	**04 38 03.7**	**+0.7**
JCH	**Churui**	**0.98**	**289**	⇓P		**P**	**S**	**04 38 06.1**	**+1.0**
JCH				*e*S		**S**	**S**	**04 38 19.5**	**+1.4**
JAR	**Ashorobuto**	**1.18**	**328**	⇓P		**P**	**S**	**04 38 08.0**	**+0.3**
JNK	**Nakash**	**1.28**	**3**	⇓P		**P**	**S**	**04 38 09.2**	**-0.2**
JNK				*e*S		**S**	**S**	**04 38 24.7**	**-1.0**
NEM2	**Nemuro 2**	**1.34**	**37**	P		**P**	**S**	**04 38 10.4**	**+0.1**
NEM2				*e*S		**S**	**S**	**04 38 27.2**	**+0.0**
JNBK	**Urakawa-nobuka**	**1.39**	**270**	P		**P**	**S**	**04 38 11.9**	**+1.0**
JRA	**Rausu**	**1.68**	**12**	P		**P**	**S**	**04 38 15.1**	**+0.2**
JRA				*e*S		**S**	**S**	**04 38 34.8**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**1.95**	**27**	*e*P		**P**	**S**	**04 38 19.3**	**+0.5**
YUK				*e*S		**S**	**S**	**04 38 43.0**	**+0.8**
YUK				A				04 38 45.0	
	2μm,0.5s								
YUK				A				04 38 45.0	
	2μm,0.5s								
YUK				A				04 38 45.0	
	5μm,1.0s								
YUK				A				04 38 45.0	
	5μm,1.0s								
ASAJ	**Asahikawa**	**2.34**	**321**	P		**P**	**S**	**04 38 25.6**	**+1.2**
	38nm,0.3s,baz=180,slow=12,SNR=60								
ASAJ				S		**S**	**S**	**04 38 57.7**	**+5.7**
	37nm,0.3s,baz=247,slow=32,SNR=10								
ASAJ				LR		LR		04 39 37.7	
	comp=Z,385nm,20.2s,baz=317,slow=48								
KUR	**Kuril'sk**	**3.75**	**38**	*e*P		**P**	**S**	**04 38 42.0**	**-2.4**
KUR				AMB		AMB		04 38 50.8	
	80nm,0.6s								
KUR				*e*S		**S**	**S**	**04 39 25.8**	**-2.0**
YSS	**Yuzh-Sakhalins**	**4.84**	**345**	*e*P		**P**	**S**	**04 39 00.0**	**+0.3**
YSS				*e*rx		rx		04 39 46.0	

YSS Yuzh-Sakhalins 4.84 345 *e*P **P** **04 39 01.0 +1.3**
MAJO Matsushiro 7.60 223 *e*PN **P** **04 39 37.1 -1.1**
MAJO pmax pmax
comp=Z,8.0nm,0.6s
MAJO Matsushiro 7.60 223 *e*P **P** **04 39 37.1 -1.1**
comp=Z,7.9nm,0.6s
MAT Matsushiro 7.60 223 P **P** **04 39 36.9 -1.3**
MAT Matsushiro 7.60 223 *e*PN **P** **04 39 37.0 -1.2**
MAT pmax pmax
comp=Z,8.0nm,0.8s
MAT Matsushiro 7.60 223 *e*P **P** **04 39 37.0 -1.2**
comp=Z,8.2nm,0.8s
MAT *e*S **S** **04 40 51.0 -13**
MJAR Matsushiro Arr 7.60 223 P **P** **04 39 37.2 -1.0**
comp=Z,1.0nm,0.3s,baz=32,slow=14,SNR=13
MJAR Matsushiro Arr 7.60 223 PN **P** **04 39 37.2 -1.0**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 7.60 223 P **P** **04 39 37.2 -1.0**
JHJ Hachijo jima 2 9.93 204 LR LR 04 43 58.3
comp=Z,127nm,18.6s,baz=126,slow=37
HHC Hu-ho-hao-te 24.69 278 *e*P **P** **04 43 01.0 -4.2**
SONM Songino Array 27.36 295 P **P** **04 43 29.0 -0.9**
comp=Z,3.3nm,0.6s,mb4.0,baz=96,slow=8.0,SNR=25
SONM Songino Array 27.36 295 P **P** **04 43 29.0 -0.9**
SONM pmax pmax
comp=Z,3.0nm,0.6s
ZAK Zakamensk 29.34 300 *e*P **P** **04 43 44.1 -3.5**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
ZAL Zalesovo 40.42 308 P **P** **04 45 22.1 -0.3**
comp=Z,2.7nm,0.7s,mb4.1,baz=20,slow=9.2,SNR=18
ZAL PcP PcP 04 47 25.8 +0.5
comp=Z,0.9nm,0.9s,baz=290,slow=1.1,SNR=3.5
ZAL Zalesovo 40.42 308 P **P** **04 45 22.1 -0.3**
ZAL 04 47 25.8
ZAL pmax pmax
comp=Z,3.0nm,0.7s
ZAL pmax pmax
comp=Z,1.0nm,0.9s
COLA College 43.33 35 *e*P **P** **04 45 46.5 +0.6**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
COLA College 43.33 35 *e*P **P** **04 45 46.5 +0.6**
comp=Z,3.1nm,0.7s,mb4.2
MKAR Makanchi Array 43.62 298 P **P** **04 45 48.6 0.0**
comp=Z,2.6nm,0.8s,mb4.0,baz=72,slow=11,SNR=17
MKAR PcP PcP 04 47 35.4 -0.5
comp=Z,0.5nm,0.6s,baz=63,slow=3.2,SNR=2.8
MKAR Makanchi Array 43.62 298 P **P** **04 45 48.6 0.0**
MKAR 04 47 35.4
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 43.62 298 P **P** **04 45 48.6 0.0**
MKAR PcP PcP 04 47 35.4 -0.5
ILAR Eielson Array 43.74 35 P **P** **04 45 50.4 +1.0**
comp=Z,2.4nm,0.9s,mb3.9,baz=268,slow=7.6,SNR=9.3
ILAR ScP 04 51 21.8
comp=Z,0.3nm,0.6s,baz=270,slow=2.9,SNR=4.6
KURK Kurchatov 44.81 305 *e*P **P** **04 45 57.9 -0.2**
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
KURK Kurchatov 44.81 305 *e*P **P** **04 45 57.9 -0.2**
comp=Z,3.5nm,0.6s,mb4.4
INK Inuvik 48.58 29 P **P** **04 46 28.3 +0.8**
comp=Z,2.1nm,0.7s,mb4.3,baz=287,slow=5.2,SNR=21
INK Inuvik 48.58 29 P **P** **04 46 28.3 +0.8**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 48.58 29 P **P** **04 46 28.3 +0.8**
BVAR Borovoye Array 48.99 310 P **P** **04 46 30.1 -0.8**
comp=Z,3.2nm,0.4s,mb4.7,baz=76,slow=8.2,SNR=27
BVAR Borovoye Array 48.99 310 P **P** **04 46 30.1 -0.8**
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 49.04 310 *e*P **P** **04 46 31.2 -0.1**
BRVK pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BRVK Borovoye 49.04 310 *e*P **P** **04 46 31.2 -0.1**
comp=Z,1.1nm,0.4s,mb4.2
ARU Arti 54.14 317 *e*P **P** **04 47 09.1 -0.5**
ARU Arti 54.14 317 *e*P **P** **04 47 08.8 -0.7**
comp=Z,6.8nm,0.8s,mb4.6
YKA Yellowknife Ar 58.03 33 P **P** **04 47 37.8 +0.5**
comp=Z,0.5nm,0.5s,mb3.8,baz=304,slow=7.1,SNR=5.0
YKA Yellowknife Ar 58.03 33 P **P** **04 47 37.9 +0.6**
ARCES ARCESS Array B 59.95 339 P **P** **04 47 49.2 -1.4**
comp=Z,2.7nm,0.9s,mb4.3,baz=22,slow=6.5,SNR=4.4
ARCES ARCESS Array B 59.95 339 P **P** **04 47 49.2 -1.4**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 59.95 339 P **P** **04 47 49.2 -1.4**
JOF Joensuu 62.49 332 *e*p **P** **04 48 06.6 -1.2**
comp=Z,1.7nm,0.5s,mb4.4
KAF Kangasniemi 64.77 333 *e*p **P** **04 48 22.0 -0.6**
comp=Z,3.1nm,0.6s,mb4.5,baz=43,slow=6.0
KAF Kangasniemi 64.77 333 *e*P **P** **04 48 22.0 -0.6**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
FINES FINESS Array B 65.31 332 P **P** **04 48 25.9 -0.2**
comp=Z,3.8nm,0.5s,mb4.7,baz=48,slow=8.0,SNR=66
FINES FINESS Array B 65.31 332 P **P** **04 48 25.9 -0.2**
FINES pmax pmax
comp=Z,4.0nm,0.5s
BOZ Bozeman (W) 69.25 47 *e*P **P** **04 48 53.0 +1.9**
BOZ *e* pP 04 49 05.2 +0.4
BOZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BOZ Bozeman (W) 69.25 47 P **P** **04 48 53.0 +1.9**
comp=Z,10nm,1.1s,mb4.7
BOZ *e* pP 04 49 05.2 +0.3
NVAR Mina Array Bea 69.92 56 P **P** **04 48 56.5 +1.1**
comp=Z,0.6nm,0.5s,mb3.8,baz=297,slow=7.0,SNR=5.6
NB2 NORSAR Subarra 70.27 338 P **P** **04 48 57.2 +0.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=34,slow=6.2
NOA NORSAR Array B 70.27 338 P **P** **04 48 57.1 +0.1**
comp=Z,1.8nm,0.6s,mb4.2,baz=35,slow=6.2,SNR=8.0
NOA NORSAR Array B 70.27 338 P **P** **04 48 57.1 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 71.63 323 P **P** **04 49 05.2 -0.2**
comp=Z,1.4nm,0.4s,mb4.2,baz=42,slow=6.2,SNR=20
AKASG Malin Array Be 71.63 323 P **P** **04 49 05.2 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.63 323 P **P** **04 49 05.2 -0.2**
BW06 Boulder Array 72.26 48 *e*P **P** **04 49 10.5 +1.2**
comp=Z,1.0nm,0.6s,mb3.9
PDAR Pinedale Array 72.27 48 P **P** **04 49 10.8 +1.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=256,slow=1.7,SNR=8.3
KHC Kasperske Hory 79.30 330 *e*SG **P** **04 49 47.0 -2.1**
TXAR Lajitas Array 85.00 55 P **P** **04 50 21.0 +2.0**
comp=Z,0.7nm,0.6s,mb4.0,baz=294,slow=3.9,SNR=15
TXAR Lajitas Array 85.00 55 P **P** **04 50 21.0 +2.0**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
BDFB Brasilia 151.29 26 PKPbc PKPdf 04 57 38.6 +8.7
comp=Z,2.5nm,0.7s,baz=211,slow=5.7,SNR=4.6
BDFB Brasilia 151.29 26 PKIKP PKPdf 04 57 38.6 +8.8
BDFB pmax pmax
comp=Z,3.0nm,0.7s

IDC 04 05:03:30.9$\pm$2.7**, 5.64N×94.79E, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=112.0km s-min=29.1km az=58.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.40**	**347**	P		P	P	05 11 27.6	-1.2
	0.7nm,0.6s,baz=158,slow=7.9,SNR=5.2								
SONM	**Songino Array**	**43.20**	**11**	P		P	P	05 11 33.9	-1.4
	0.5nm,0.7s,baz=191,slow=9.1,SNR=4.4								
WRA	**Warramunga Arr**	**46.46**	**124**	P		P	P	05 11 60.0	-1.8
	0.6nm,0.5s,baz=306,slow=8.9,SNR=7.7								
ARCES	**ARCESS Array B**	**77.58**	**340**	P		P	P	05 15 27.8	-2.3
	2.3nm,1.1s,baz=104,slow=7.4,SNR=3.5								

FUNV ***04*** *05:06:36.8, 9.89N×62.88W, h31km, MW2.5*
TRN ***04*** *05:06:38.6, 10.12N×62.70W, h6km, MD3.5*
ISC 04 05:06:36.2$\pm$0.6**, 9.94N**$\pm$0.04×**62.98W**$\pm$0.04**, h46**km$\pm$9km**,**

n12,σ1§00/23, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.23**	**9**	*e*P	**P**	**05 06 43.4**	**-0.9**
GUNV				*e*S	**S**	**05 06 49.4**	**-0.7**
CRUV	**Carupano**	**0.78**	**341**	*e*P	**P**	**05 06 51.2**	**+0.3**
CRUV				*e*S	**S**	**05 07 02.7**	**+1.0**
ORIV	**Oritupano**	**0.96**	**206**	*e*P	**P**	**05 06 54.2**	**+0.7**
ORIV				*e*S	**S**	**05 07 07.3**	**+1.1**
GUIV	**Guiria**	**1.03**	**46**	*e*P	**P**	**05 06 54.7**	**+0.3**
GUIV				*e*S	**S**	**05 07 07.8**	**-0.1**
ITEV	**Isla Los Testi**	**1.42**	**354**	*e*P	**P**	**05 07 00.3**	**+0.2**
ITEV				*e*S	**S**	**05 07 18.2**	**+0.5**
TPP	**Pointe-a-Pierr**	**1.55**	**76**	*e*P	**P**	**05 07 04.3**	**+2.4**
TPP				*e*S	**S**	**05 07 26.9**	**+5.9**
TRN	**Trinidad (W)**	**1.70**	**65**	*e*P	**P**	**05 07 04.2**	**+0.1**
TRN				*e*S	**S**	**05 07 23.6**	**-1.2**
TPR	**Prospect**	**2.50**	**60**	*e*P	**P**	**05 07 14.8**	**-0.5**
GRW	**Mount Saint Ca**	**2.56**	**30**	*e*P	**P**	**05 07 17.2**	**+1.0**
GRW				*e*S	**S**	**05 07 45.7**	**-0.6**
CUPV	**Cœpira**	**2.77**	**273**	*e*P	**P**	**05 07 20.1**	**+0.9**
CUPV				*e*S	**S**	**05 07 51.5**	**-0.2**
CAOV	**Caicara del Or**	**4.20**	**232**	*e*P	**P**	**05 07 37.6**	**-1.8**
CAOV				*e*S	**S**	**05 08 23.2**	**-4.7**
BAUV	**El Baul**	**5.09**	**259**	*e*P	**P**	**05 07 49.9**	**-2.1**
BAUV				*e*S	**S**	**05 08 45.6**	**-4.7**

ATH ***04*** *05:22:41.8, 39.11N×24.22E, h33km±2km, MD3.4/13, ML3.2*
THE ***04*** *05:22:41.9, 39.08N×24.26E, h5km, ML3.2*
CSEM ***04*** *05:22:41.8±0.1, 39.06N×24.24E, h10km, ML3.2, Error ellipse: s-maj=1.6km s-min=1.5km az=56.0*
NEIC ***04*** *05:22:41.8, 39.12N×24.22E, h34km, ML3.2(ATH), After ATH.*

ISC 04 05:22:40.5±0.7, 39.09N±0.03×24.25E±0.04, h6km±5km, n29,σ0§86/37, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.30**	**287**	*e*Pg	**Pg**	**05 22 47.9**	**+1.4**
NEO	**Neokhori**	**0.82**	**286**	*e*PN	**Pn**	**05 22 57.5**	**-0.9**
NEO				*e*SN	**Sn**	**05 23 09.2**	**-1.7**
XOR	**Xorichti**	**0.87**	**289**	*e*Pg	**Pg**	**05 22 58.6**	**+0.8**
XOR				*e*Sg	**Sg**	**05 23 11.2**	**+1.8**
PAIG	**Paliouri**	**0.95**	**333**	*e*Pg	**Pg**	**05 22 59.5**	**+0.1**
MPAR	**Parnis Oros**	**1.01**	**203**	*e*PN	**Pn**	**05 23 01.2**	**+0.1**
LKR	**Lokris**	**1.07**	**246**	*e*PN	**Pn**	**05 23 01.6**	**-0.2**
LKR				*e*SN	**Sn**	**05 23 16.9**	**-0.1**
LOS	**Limnos**	**1.07**	**37**	*e*Pg	**Pg**	**05 23 02.0**	**+0.3**
LIA	**Limnos Island**	**1.09**	**41**	*e*PN	**Pn**	**05 23 02.1**	**0.0**
ATH	**Athens Observa**	**1.19**	**201**	*e*PN	**Pn**	**05 23 04.0**	**+0.5**
ATH				*e*SN	**Sn**	**05 23 20.4**	**+0.3**
OUR	**Ouranopolis**	**1.26**	**351**	*e*Pg	**Pg**	**05 23 04.7**	**-1.1**
PLG	**Polygyros**	**1.43**	**335**	*e*PN	**Pn**	**05 23 06.6**	**-0.4**
AGG	**Agios Georgios**	**1.49**	**268**	*e*Pg	**Pg**	**05 23 08.3**	**-1.9**
AGG				*e*Sg	**Sg**	**05 23 29.2**	**-1.0**
PRK	**Paraskevi**	**1.58**	**84**	*e*PN	**Pn**	**05 23 10.1**	**+0.9**
LIT	**Litokhoron**	**1.69**	**307**	*e*Pb	**Pb**	**05 23 10.9**	**-0.7**
THE	**Thessaloniki**	**1.83**	**328**	*e*Pb	**Pb**	**05 23 13.1**	**-0.9**
THE				*e*Sb	**Sb**	**05 23 37.3**	**+0.2**
SOH	**Sokhos**	**1.86**	**339**	*e*Pb	**Pb**	**05 23 13.5**	**-1.0**
EVR	**Evrytania**	**1.91**	**266**	*e*PN	**Pn**	**05 23 13.1**	**-0.7**
SRS	**Serrai**	**2.09**	**346**	*e*Pn	**Pn**	**05 23 16.4**	**0.0**
APE	**Apeiranthos**	**2.25**	**153**	*e*PN	**Pn**	**05 23 19.0**	**+0.2**
ALN	**Alexandroupoli**	**2.28**	**37**	*e*Pn	**Pn**	**05 23 19.2**	**+0.1**
NVR	**Nevrokopi**	**2.28**	**353**	*e*PN	**Pn**	**05 23 18.8**	**-0.4**
RDO	**Rodhopi**	**2.28**	**25**	*e*PN	**Pn**	**05 23 18.4**	**-0.8**
KNT	**Kendrikon**	**2.32**	**334**	*e*Pn	**Pn**	**05 23 20.1**	**+0.4**
GRG	**Griva**	**2.34**	**323**	*e*Pn	**Pn**	**05 23 20.8**	**+0.7**
GRG				*e*Sn	**Sn**	**05 23 51.1**	**+1.6**
VLI	**Veliai**	**2.58**	**204**	*e*PN	**Pn**	**05 23 23.5**	**0.0**
ITM	**Ithomi**	**2.64**	**225**	*e*PN	**Pn**	**05 23 24.9**	**+0.6**
ITM	**Ithomi**	**2.64**	**225**	*e*Pn	**Pn**	**05 23 25.6**	**+1.3**
FNA	**Florina**	**2.78**	**308**	*e*Pn	**Pn**	**05 23 26.9**	**+0.5**
FNA				*e*Sn	**Sn**	**05 24 01.9**	**+1.3**
THR3	**Thira Island,**	**2.82**	**161**	*e*Pn	**Pn**	**05 23 26.6**	**-0.4**

THR ***04*** *05:45:18.1±0.5, 35.75N×48.86E, h15km, ML2.9*
CSEM ***04*** *05:45:19.4±1.1, 35.99N×48.65E, h30km, ML3.9/1, Error ellipse: s-maj=41.3km s-min=7.3km az=163.0*
TEH ***04*** *05:45:23.2, 36.19N×48.82E, h28km, Mn3.2*

ISC 04 05:45:21.4±1.2, 35.9N±0.2×48.75E±0.06, h33km, n16, σ1§33/24, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**1.10**	**118**	Pg	**P**	**05 45 50.0**	**+9.5**
IRAZ				Sg	**S**	**05 46 01.3**	**+6.6**
SNGE	**Sanandaj**	**1.42**	**234**	*e*Pg	**P**	**05 45 43.9**	**-1.1**
SNGE				*e*Sg	**S**	**05 46 02.7**	**0.0**
SNGE				AML	AML	05 46 04.4	
	comp=N,221nm,0.5s						
SNGE	**Sanandaj**	**1.42**	**234**	*e*Pg	**P**	**05 45 43.9**	**-1.2**
	SNR=90						
SNGE				*e*Sg	**S**	**05 46 02.7**	**0.0**
	comp=N,221nm,0.5s,SNR=90						
IMHD	**Mahdasht**	**1.58**	**98**	Pn	**Pn**	**05 45 45.5**	**-2.1**
THKV	**Tehran--Karaj**	**1.73**	**90**	*e*Pg	**P**	**05 45 48.5**	**-1.1**
THKV				AML	AML	05 46 25.8	
	comp=N,101nm,0.7s						
ASAO	**Ashtian**	**1.73**	**142**	*e*Pg	**P**	**05 45 46.5**	**-3.1**
ASAO				*e*Sg	**S**	**05 46 06.9**	**-3.9**
ILIN	**Laeen**	**1.77**	**236**	Pn	**Pn**	**05 45 50.8**	**+0.4**
CHTH	**Charan**	**1.93**	**90**	*e*Pg	**P**	**05 45 51.7**	**-0.8**
CHTH				*e*Sg	**S**	**05 46 17.0**	**+1.2**
IKOM	**Komasi**	**2.02**	**210**	Pn	**Pn**	**05 45 53.7**	**-0.3**
IDHR	**Dehrash**	**2.29**	**238**	Pn	**Pn**	**05 46 01.5**	**+3.8**
IGHG	**Ghaleghazi**	**2.40**	**229**	Pn	**Pn**	**05 46 03.2**	**+3.9**
IAFJ	**Afjeh**	**2.41**	**91**	Pn	**Pn**	**05 46 00.0**	**+0.5**
IAFJ				Sn	**Sn**	**05 46 27.3**	**-0.9**
IVRN	**Varamin**	**2.61**	**110**	Pn	**Pn**	**05 46 03.8**	**+1.5**
IVRN				Sn	**Sn**	**05 46 34.0**	**+0.8**
IDMV	**Damavand**	**2.70**	**97**	Pn	**Pn**	**05 46 04.2**	**+0.6**
ISFB	**Sefidab**	**3.27**	**118**	Pn	**Pn**	**05 46 12.9**	**+1.2**
IFIR	**Firoozkooh**	**3.27**	**94**	Pn	**Pn**	**05 46 14.0**	**+2.3**
IFIR				Sn	**Sn**	**05 46 47.9**	**-2.1**

IDC 04 05:55:49.8±6.3, 14.23S×167.15E, h232km±67km, mb3.5/5, mb1 3.6/6, mb1mx3.5/13, mbtmp4.0/6, MS3.6/1, Ms1 3.6/1, ms1mx2.8/13, Error ellipse: s-maj=58.6km s-min=30.1km az=153.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.82**	**185**	P	P	05 57 41.9	+0.3
	0.2nm,0.3s,baz=40,slow=16,SNR=3.8						
DZM				S	S	05 59 08.9	-0.1
	0.1nm,0.3s,baz=94,slow=21,SNR=1.7						
STKA	**Stephens Creek**	**29.22**	**229**	P	P	06 01 31.0	-1.3
	1.9nm,0.4s,baz=53,slow=11,SNR=6.3						
WRA	**Warramunga Arr**	**31.83**	**255**	P	P	06 01 52.6	-2.7
	1.5nm,0.5s,baz=86,slow=9.4,SNR=23						
GUMO	**Guam**	**35.36**	**320**	LR	LR	06 15 11.9	
	comp=Z,93nm,21.7s,baz=228,slow=33						
SONM	**Songino Array**	**82.03**	**324**	P	P	06 07 45.3	0.0
	0.2nm,0.5s,baz=130,slow=5.2,SNR=4.1						
ILAR	**Eielson Array**	**86.09**	**18**	P	P	06 08 03.4	-2.0
	0.5nm,0.8s,baz=243,slow=4.4,SNR=4.8						
MKAR	**Makanchi Array**	**96.76**	**316**	P	P	06 08 53.9	-1.3
	0.9nm,0.8s,baz=90,slow=2.4,SNR=5.0						
ARCES	**ARCESS Array B**	**119.74**	**345**	PKP	PKPdf	06 14 11.5	-0.3
	6.3nm,1.1s,baz=40,slow=1.6,SNR=6.8						

IDC ***04*** *06:31:22.8±3.3, 7.03S×155.83E, h55km±30km, mb3.8/4, mb1 4.1/6, mb1mx3.9/13, mbtmp4.2/6, ML4.1/2, Error ellipse: s-maj=34.1km s-min=21.3km az=174.0*
NEIC ***04*** *06:31:22.6±1.8, 6.89S×155.79E, h51km±16km, mb4.2/1, Error ellipse: s-maj=21.0km s-min=12.1km az=183.0*

ISC 04 06:31:19.9±2.5, 6.8S±0.2×155.73E±0.05, h36km±25km, n18,σ0§87/14, mb4.0/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.91**	**122**	P	**P**	**06 32 31.5**	**-1.8**
	16nm,0.3s,baz=241,slow=10,SNR=3.3						
HNR				S	**S**	**06 33 30.4**	**+0.7**
	10nm,0.3s,baz=208,slow=11,SNR=3.2						
PMG	**Port Moresby**	**8.86**	**253**	P	**P**	**06 33 29.6**	**+1.2**
	5.6nm,0.3s,baz=49,slow=9.0,SNR=26						
PMG				S	**S**	**06 35 08.2**	**0.0**
	0.5nm,0.3s,baz=4.9,slow=14,SNR=6.7						
PMG	**Port Moresby**	**8.86**	**253**	*e*P	**P**	**06 33 29.3**	**+0.9**
PMG				S	**S**	**06 35 08.2**	**0.0**
DZM	**Mont Dzumac**	**18.35**	**147**	P	**P**	**06 35 34.7**	**+1.2**
	0.5nm,0.3s,baz=312,slow=22,SNR=5.9						
KAKA	**Kakadu**	**23.67**	**254**	*e*P	Px	06 36 50.7	
	3.6nm,0.4s						
WRAB	**Tennant Creek**	**24.50**	**236**	*e*P	**P**	**06 36 36.6**	**-0.7**
	6.0nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**24.50**	**236**	*e*P	**P**	**06 36 37.0**	**-0.4**
WRA	**Warramunga Arr**	**24.51**	**236**	P	**P**	**06 36 36.7**	**-0.7**
	3.5nm,0.8s,mb3.9,baz=60,slow=9.6,SNR=15						
SONM	**Songino Array**	**69.59**	**327**	P	**P**	**06 42 28.3**	**+0.9**
	1.8nm,0.7s,mb4.1,baz=141,slow=6.6,SNR=14						
ILAR	**Eielson Array**	**82.95**	**21**	P	**P**	**06 43 41.6**	**-0.6**
	0.4nm,0.4s,mb3.8,baz=246,slow=5.1,SNR=16						
MKAR	**Makanchi Array**	**83.76**	**319**	P	**P**	**06 43 47.2**	**+0.4**
	1.1nm,0.6s,mb4.2,baz=93,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**83.76**	**319**	P	**P**	**06 43 47.2**	**+0.4**
ARCES	**ARCESS Array B**	**109.64**	**343**	PKiKP		06 49 47.6	
	1.4nm,0.9s,baz=27,slow=2.0,SNR=6.2						
FINES	**FINESS Array B**	**114.08**	**336**	PKP	PKPdf	06 49 55.8	+0.5
	1.4nm,0.8s,baz=108,slow=4.4,SNR=6.7						
NOA	**NORSAR Array B**	**119.78**	**341**	PKP	PKPdf	06 50 07.0	+0.7
	0.9nm,0.7s,baz=34,slow=2.9,SNR=2.8						
GERES	**GERESS Array B**	**127.28**	**329**	PKP	PKPdf	06 50 22.2	+1.1
	0.5nm,0.7s,baz=180,slow=1.3,SNR=4.4						
BDFB	**Brasilia**	**147.58**	**134**	PKPbc	PKPdf	06 51 01.5	+2.8
	3.5nm,0.9s,baz=78,slow=5.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**153.68**	**286**	PKPbc	PKPdf	06 51 16.7	+8.7
	0.8nm,0.7s,baz=70,slow=2.4,SNR=5.3						

IDC ***04*** *06:59:02.2±0.9, 13.50N×143.80E, h193km±15km, mb3.3/6, mb1 3.5/6, mb1mx3.4/17, mbtmp3.8/6, Error ellipse: s-maj=41.3km s-min=20.1km az=85.0*
NEIC ***04*** *06:59:02.4±0.9, 13.51N×143.77E, h195km±12km, mb4.0/2, Error ellipse: s-maj=29.1km s-min=16.1km az=83.0*

ISC 04 06:59:00.5±1.3, 13.5N±0.2×143.6E±0.3, h191km±17km, n11,σ0§51/13, mb3.7/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.20**	**85**	P	**P**	**06 59 31.6**	**+0.5**
	38nm,0.3s,baz=233,slow=1.6,SNR=27						
GUMO				S	**S**	**06 59 54.3**	**-0.4**
	180nm,0.3s,baz=48,slow=22,SNR=77						
GUMO	**Guam**	**1.20**	**85**	*e*P	**P**	**06 59 32.2**	**+1.1**
GUMO				*e*S	**S**	**06 59 53.9**	**-0.8**
MJAR	**Matsushiro Arr**	**23.47**	**349**	P	**P**	**07 03 53.6**	**-0.4**
	0.9nm,0.5s,mb3.5,baz=170,slow=5.5,SNR=4.4						
WRA	**Warramunga Arr**	**34.46**	**196**	P	**P**	**07 05 32.0**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=15,slow=10,SNR=7.0						
SONM	**Songino Array**	**46.13**	**326**	P	**P**	**07 07 08.4**	**+0.9**
	1.0nm,0.7s,mb3.6,baz=138,slow=6.9,SNR=10						
MKAR	**Makanchi Array**	**60.73**	**316**	P	**P**	**07 08 54.1**	**0.0**
	0.4nm,0.4s,mb3.6,baz=95,slow=8.2,SNR=7.9						
ZAL	**Zalesovo**	**61.02**	**325**	P	**P**	**07 08 55.4**	**-0.5**
	0.6nm,0.3s,mb3.9,baz=342,slow=11,SNR=3.1						
ZAL	**Zalesovo**	**61.02**	**325**	P	**P**	**07 08 55.4**	**-0.5**
KURK	**Kurchatov**	**63.89**	**320**	*e*P	**P**	**07 09 14.8**	**-0.2**
	2.7nm,0.7s,mb4.2						
BRVK	**Borovoye**	**69.33**	**322**	*e*P	**P**	**07 09 49.0**	**-0.1**
	1.4nm,0.6s,mb3.9						
NVAR	**Mina Array Bea**	**87.91**	**51**	P	**P**	**07 11 30.2**	**+0.3**
	0.4nm,0.7s,mb3.4,baz=288,slow=5.5,SNR=3.6						

SKHL 04 07:05:25.7±0.2, 52.80N×142.70E, h10km, mb4.3/2, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.76**	**10**	*e*Pg	Pg	07 05 41.9	+0.8
OKH				*e*Sg	Sg	07 05 53.0	+1.7
OKH				A		07 05 55.1	
	2μm,0.5s						
OKH				A		07 05 55.1	
	1μm,0.5s						
NKL	**Nikolayevsk**	**1.27**	**287**	*e*Pg	Pg	07 05 50.5	-0.6
NKL				AMB	AMB	07 05 51.3	
	47nm,0.3s						
NKL				AMB	AMB	07 05 51.3	
	90nm,0.3s						
NKL				AMB	AMB	07 05 51.3	
	94nm,0.3s						
NKL				*e*Sg	Sg	07 06 08.0	-0.1
NKL				A		07 06 10.0	
	480nm,0.4s						
NKL				A		07 06 10.0	
	530nm,0.4s						
TYV	**Tymovskoe**	**1.94**	**181**	*e*Pg	Pg	07 06 04.6	+0.1
TYV				AMB	AMB	07 06 11.8	
	35nm,1.0s						
TYV				AMB	AMB	07 06 11.8	
	802nm,2.5s						
TYV				*e*Sn	Sn	07 06 21.3	-2.4
TYV				*e*Sg	Sg	07 06 31.3	+0.9
TYV				A		07 06 35.0	
	41nm,0.3s						
TYV				A		07 06 35.0	
	67nm,0.3s						
GRNR	**Gornyy**	**4.40**	**245**	*e*Sb	Sb	07 07 38.0	+1.7
GRNR				*e*Sg	Sg	07 07 53.0	+0.9
GRNR				A		07 07 54.0	
	46nm,0.3s						
GRNR				A		07 07 54.0	
	20nm,0.3s						
EKMR	**Ekimchan**	**5.90**	**277**	*e*Pg	Pg	07 07 22.4	-1.2
EKMR				*e*Sg	Sg	07 08 43.2	+0.9
EKMR				A		07 08 47.0	
	30nm,0.3s						

MOS ***04*** *08:13:45.7±2.2, 50.19N×87.61E, h10km, mb4.3/2, Error ellipse: s-maj=41.8km s-min=24.9km az=114.0*
IDC ***04*** *08:13:46.5±2.2, 50.23N×87.39E, mb3.7/1, mb1 3.5/4, mb1mx3.3/22, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=27.1km s-min=10.4km az=99.0*
NEIC ***04*** *08:13:46.4±1.3, 50.17N×87.68E, h10km, mb4.3/1, Error ellipse: s-maj=23.4km s-min=16.8km az=79.0*
NNC ***04*** *08:13:49.0±3.3, 50.29N×87.07E, mpv3.3, Error ellipse: s-maj=32.5km s-min=17.6km az=96.0*

ISC 04 08:13:45.7±1.2, 50.23N±0.05×87.4E±0.1, h10km, n16, σ1§33/25, mb4.0/2, 3C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**4.05**	**337**	Pn	**Pn**	**08 14 51.1**	**+1.9**
	2.2nm,0.3s,baz=318,slow=10,SNR=15						
ZAL				Sn	**Sn**	**08 15 39.2**	**+2.0**
	1.8nm,0.3s,baz=237,slow=22,SNR=6.3						
ZAL				Lg		08 15 53.8	
	3.4nm,0.3s,baz=219,slow=20,SNR=10						
ZAL	**Zalesovo**	**4.05**	**337**	PN	**Pn**	**08 14 51.1**	**+1.9**
ZAL						08 15 39.2	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL				smax			
	comp=N,2.0nm,0.3s						
MK31	**Makanchi Array**	**4.84**	**227**	Pn	**Pn**	**08 15 01.6**	**+1.1**
	comp=N,2.0nm,0.5s,baz=50,slow=13,SNR=81						
MK31				⇑Pg	**Pg**	**08 15 14.8**	**-7.6**
	comp=N,16nm,0.9s,baz=55,slow=15,SNR=9.7						
MK31				⇑Sn	**Sn**	**08 15 58.2**	**+0.9**
	comp=N,1.9nm,0.3s						
MK31				⇓Lg		08 16 18.3	
	comp=N,12nm,0.6s						
MKAR	**Makanchi Array**	**4.84**	**227**	Pn	**Pn**	**08 15 01.4**	**+0.9**
	comp=N,2.5nm,0.3s,baz=46,slow=13,SNR=35						
MKAR				Pg	**Pg**	**08 15 13.5**	**-8.9**
	comp=N,2.9nm,0.3s,baz=54,slow=12,SNR=14						
MKAR				Sn	**Sn**	**08 15 57.6**	**+0.3**
	comp=N,2.1nm,0.3s,baz=42,slow=15,SNR=6.1						
MKAR				Lg		08 16 16.0	
	comp=N,5.2nm,0.3s,baz=50,slow=32,SNR=11						
MKAR	**Makanchi Array**	**4.84**	**227**	PN	**Pg**	**08 15 13.5**	**-8.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR	**Makanchi Array**	**4.84**	**227**	Pn	**Pn**	**08 15 01.4**	**+0.9**
MKAR				Pg	**Pg**	**08 15 13.5**	**-8.9**
MKAR				Sn	**Sn**	**08 15 57.6**	**+0.3**
MKAR				Lg		08 16 16.0	
NVS	**Novosibirsk**	**5.28**	**333**	*e*PN	**Pg**	**08 15 24.3**	**-6.7**
NVS				*e*		08 16 09.5	
KURK	**Kurchatov**	**5.64**	**278**	⇑Pn	**Pn**	**08 15 10.7**	**-1.0**
	comp=Z,1.3nm,0.7s						
KURK				⇓Lg		08 16 40.2	
	comp=Z,14nm,0.8s						
KURK	**Kurchatov**	**5.64**	**278**	*e*PN	**Pn**	**08 15 10.2**	**-1.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURK	**Kurchatov**	**5.64**	**278**	*e*P	**Pn**	**08 15 10.2**	**-1.5**
	comp=Z,2.1nm,0.4s						
KURK				*e*S	**Sn**	**08 16 15.9**	**-1.4**
BVAR	**Borovoye Array**	**10.95**	**291**	Pn	**P**	**08 16 24.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=108,slow=14,SNR=3.4						
BVAR				Sn	**S**	**08 18 20.5**	**-8.5**
	comp=Z,0.1nm,0.3s,baz=29,slow=38,SNR=2.6						
FINES	**FINESS Array B**	**34.90**	**313**	P	**P**	**08 20 38.7**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=80,slow=8.5,SNR=4.4						
FINES	**FINESS Array B**	**34.90**	**313**	P	**P**	**08 20 38.7**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**34.90**	**313**	P	**P**	**08 20 38.7**	**-0.3**
WRAB	**Tennant Creek**	**81.20**	**136**	*e*P	**P**	**08 26 01.0**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**81.20**	**136**	*e*P	**P**	**08 26 00.9**	**-2.1**
	comp=Z,2.4nm,0.8s,mb4.2						

THE ***04*** *08:18:18.0, 40.23N×23.87E, h2km, ML2.4*
SOF ***04*** *08:18:18.7, 40.30N×23.96E, h15km, MD2.6*
CSEM ***04*** *08:18:18.6±0.1, 40.22N×23.86E, h12km, ML2.4, Error ellipse: s-maj=2.1km s-min=1.5km az=78.0*
ATH ***04*** *08:18:19.5, 40.27N×23.57E, h39km±1km, MD3.1/4*
NEIC ***04*** *08:18:19.5, 40.27N×23.57E, h39km, MD3.1(ATH), After ATH.*

ISC 04 08:18:17.7±0.4, 40.22N±0.02×23.87E±0.04, h10km±5km, n23,σ0§93/31, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.14**	**36**	*e*Pg	**Pg**	**08 18 21.4**	**+0.3**
PAIG	**Paliouri**	**0.33**	**207**	*e*Pg	**Pg**	**08 18 24.9**	**+0.4**
PAIG				*e*Sg	**Sg**	**08 18 29.9**	**+0.9**
PLG	**Polygyros**	**0.36**	**296**	*e*PB	**Pb**	**08 18 25.8**	**0.0**
PLG				*e*SB	**Sb**	**08 18 31.0**	**-0.2**
SOH	**Sokhos**	**0.72**	**327**	*e*Pg	**Pg**	**08 18 32.5**	**+0.3**
SOH				*e*Sg	**Sg**	**08 18 42.7**	**+0.7**
SOH	**Sokhos**	**0.72**	**327**	*e*Pg	**Pg**	**08 18 32.5**	**+0.2**
SOH				*e*Sg	**Sg**	**08 18 42.7**	**+0.8**
THE	**Thessaloniki**	**0.81**	**301**	*e*Pg	**Pg**	**08 18 34.8**	**+0.8**
SRS	**Serrai**	**0.92**	**347**	*e*Pg	**Pg**	**08 18 36.0**	**-0.2**
SRS	**Serrai**	**0.92**	**347**	*e*Pg	**Pg**	**08 18 36.0**	**-0.3**
LOS	**Limnos**	**0.97**	**107**	*e*Pg	**Pg**	**08 18 36.8**	**-0.4**
LOS				*e*Sg	**Sg**	**08 18 50.4**	**+0.2**
XOR	**Xorichti**	**1.00**	**212**	*e*Pg	**Pg**	**08 18 37.2**	**-0.5**
XOR				*e*Sg	**Sg**	**08 18 51.6**	**+0.5**
NEO	**Neokhori**	**1.04**	**209**	*e*PN	**Pn**	**08 18 38.5**	**+0.2**
AOS	**Alonnisos**	**1.05**	**180**	*e*Pg	**Pg**	**08 18 37.8**	**-0.9**
AOS				*e*Sg	**Sg**	**08 18 53.0**	**+0.3**
NVR	**Nevrokopi**	**1.13**	**360**	*e*PN	**Pn**	**08 18 40.0**	**+0.4**
KNT	**Kendrikon**	**1.20**	**322**	*e*Pg	**Pg**	**08 18 39.7**	**-2.1**
MMB	**Musomiste**	**1.37**	**355**	*i* P	**Pn**	**08 18 44.0**	**+0.9**
RDO	**Rodhopi**	**1.57**	**53**	*e*PN	**Pn**	**08 18 48.9**	**+3.0**
RZN	**Rozhen**	**1.60**	**23**	*e*P	**Pn**	**08 18 46.5**	**+0.2**
AGG	**Agios Georgios**	**1.69**	**225**	*e*Pb	**Pb**	**08 18 48.1**	**-0.3**
KKB	**Krupnik**	**1.75**	**340**	*i* P	**Pn**	**08 18 49.0**	**+0.5**
KKB				*i* Pg	**Pg**	**08 18 51.0**	**-1.8**
ALN	**Alexandroupoli**	**1.79**	**67**	*e*Pb	**Pb**	**08 18 48.9**	**-1.4**
PGB	**Panagyurishte**	**2.34**	**5**	*e*P	**Pn**	**08 19 01.5**	**+4.6**
VTS	**Vitosha**	**2.42**	**348**	*e*P	**Pn**	**08 18 59.0**	**+0.9**
LKD	**Levkas**	**2.91**	**240**	*e*Pn	**Pn**	**08 19 02.9**	**-2.2**

NIED ***04*** *08:31:00, 32.30N×141.90E, h5km, Mw3.7 Best double couple: M0 4.35×10^14 NP1:φs 40°, δ76°, λ111°. NP2:φs 162°, δ26°, λ35°.*
IDC ***04*** *08:31:09.7±1.8, 32.20N×141.78E, mb3.8/3, mb1 3.9/6, mb1mx3.6/22, mbtmp3.9/6, ML3.5/3, Error ellipse: s-maj=48.2km s-min=16.8km az=66.0*
JMA ***04*** *08:31:11.6±0.3, 32.32N×141.93E, h37km, M3.5*

ISC 04 08:31:11.1±0.7, 32.29N±0.05×141.97E±0.09, h33km, n15, σ0§98/20, mb3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.00**	**295**	P	**P**	**08 31 43.5**	**+0.5**
JHJ2				*e*S	**S**	**08 32 07.2**	**+0.1**
JHJ	**Hachijo jima 2**

JTS				*e*Pg	**Pg**	**08 50 13.4**	**-1.9**
JTS				Lg		08 50 47.0	
BLLM	**Bellamira**	**2.63**	**336**	*e*P	Px	08 50 29.0	
BLLM				*e*S	Sx	08 51 01.0	
LCBS	**La Ceiba**	**3.17**	**326**	*e*P	Px	08 50 36.3	
LCBS				*e*S	Sx	08 51 11.4	
LFRS	**El Faro**	**3.19**	**324**	*e*P	Px	08 50 36.5	
LFRS				*e*S	Sx	08 51 11.5	
LFU	**La Fuente**	**3.32**	**325**	*e*P	Px	08 50 38.8	
LFU				*e*S	Sx	08 51 19.3	
ROSC	**El Rosal**	**14.09**	**115**	LR	LR	08 58 25.7	
	comp=Z,31nm,18.9s,baz=348,slow=38						
TXAR	**Lajitas Array**	**23.87**	**322**	P	**P**	**08 54 46.7**	**+1.5**
	comp=Z,1.0nm,0.7s,mb3.4,baz=134,slow=10,SNR=19						
TXAR				PcP	PcP	08 58 31.5	+1.6
	comp=Z,0.2nm,0.6s,baz=149,slow=7.3,SNR=3.7						
TXAR	**Lajitas Array**	**23.87**	**322**	P	**P**	**08 54 46.7**	**+1.5**
TXAR				PcP	PcP	08 58 31.5	+1.6
SAML	**Samuel**	**31.02**	**129**	*e*P	**P**	**08 55 50.7**	**-0.2**
	comp=Z,1.5nm,0.8s,mb3.9						
SDCO	**Great Sand Dun**	**31.30**	**331**	*e*P	**P**	**08 55 53.1**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.7						
BW06	**Boulder Array**	**37.17**	**332**	*e*P	**P**	**08 56 43.2**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.4						
PDAR	**Pinedale Array**	**37.17**	**332**	P	**P**	**08 56 43.2**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.6,baz=122,slow=9.9,SNR=7.1						
ULM	**Lac du Bonnet**	**39.77**	**351**	P	**P**	**08 57 01.3**	**-4.0**
	comp=Z,2.8nm,0.7s,mb4.1,baz=146,slow=14,SNR=3.6						
HLID	**Hailey**	**40.11**	**329**	P	**P**	**08 57 08.8**	**+0.7**
YKA	**Yellowknife Ar**	**55.06**	**345**	P	**P**	**08 59 01.8**	**-2.9**
	comp=Z,0.5nm,0.8s,mb3.6,baz=143,slow=7.1,SNR=4.2						
ILAR	**Eielson Array**	**67.44**	**336**	P	**P**	**09 00 27.1**	**-1.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=142,slow=4.6,SNR=3.5						

*ATH **04** 08:51:23.0, 40.22N×23.89E, h16km±1km, MD3.3/5*
*THE **04** 08:51:23.2, 40.21N×23.90E, h1km, ML2.7*
*CSEM **04** 08:51:23.0±0.1, 40.22N×23.89E, h15km, ML2.7, Error ellipse: s-maj=2.3km s-min=1.6km az=68.0*
*NEIC **04** 08:51:23.0, 40.22N×23.89E, h16km, MD3.3(ATH), After ATH.*

ISC 04 08:51:22.3±0.5, 40.22N±0.02×23.88E±0.04, h8km±5km, n19, σ0§69/29, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.14**	**33**	*e*Pg	**Pg**	**08 51 25.9**	**+0.4**
PAIG	**Paliouri**	**0.33**	**208**	*e*Pg	**Pg**	**08 51 29.2**	**+0.3**
PAIG				*e*Sg	**Sg**	**08 51 34.3**	**+0.9**
PAIG	**Paliouri**	**0.33**	**208**	*e*Pg	**Pg**	**08 51 29.2**	**+0.2**
PAIG				*e*Sg	**Sg**	**08 51 34.3**	**+0.9**
PLG	**Polygyros**	**0.37**	**296**	*i*PB	**Pb**	**08 51 30.2**	**-0.4**
PLG				*e*SB	**Sb**	**08 51 35.4**	**-0.8**
SOH	**Sokhos**	**0.73**	**327**	*e*Pg	**Pg**	**08 51 36.7**	**-0.2**
SOH				*e*Sg	**Sg**	**08 51 46.7**	**+0.1**
THE	**Thessaloniki**	**0.81**	**301**	*e*Pg	**Pg**	**08 51 38.9**	**+0.3**
SRS	**Serrai**	**0.93**	**346**	*e*Pg	**Pg**	**08 51 40.3**	**-0.6**
LOS	**Limnos**	**0.96**	**107**	*e*Pg	**Pg**	**08 51 41.0**	**-0.6**
LOS				*e*Sg	**Sg**	**08 51 54.4**	**0.0**
XOR	**Xorichti**	**1.00**	**212**	*e*Pg	**Pg**	**08 51 42.1**	**-0.2**
XOR				*e*Sg	**Sg**	**08 51 56.1**	**+0.4**
NEO	**Neokhori**	**1.04**	**209**	*e*PN	**Pn**	**08 51 42.9**	**-0.1**
NEO				*e*SN	**Sn**	**08 51 57.0**	**-0.8**
AOS	**Alonnisos**	**1.04**	**180**	*e*Pg	**Pg**	**08 51 42.6**	**-0.5**
AOS				*e*Sg	**Sg**	**08 51 57.4**	**+0.2**
AOS	**Alonnisos**	**1.04**	**180**	*e*Pg	**Pg**	**08 51 42.7**	**-0.5**
AOS				*e*Sg	**Sg**	**08 51 57.3**	**+0.2**
LIA	**Limnos Island**	**1.05**	**107**	*e*PN	**Pn**	**08 51 42.8**	**-0.4**
NVR	**Nevrokopi**	**1.13**	**359**	*e*PN	**Pn**	**08 51 44.4**	**0.0**
KNT	**Kendrikon**	**1.21**	**322**	*e*Pg	**Pg**	**08 51 46.0**	**-0.5**
GRG	**Griva**	**1.35**	**304**	*e*Pg	**Pg**	**08 51 48.4**	**-0.9**
VAY	**Valandovo**	**1.49**	**318**	*e*PN	**Pn**	**08 51 51.6**	**+2.1**
VAY				*i* Sn	**Sn**	**08 52 10.0**	**+0.8**
RDO	**Rodhopi**	**1.57**	**53**	*e*PN	**Pn**	**08 51 52.1**	**+1.5**
ALN	**Alexandroupoli**	**1.79**	**67**	*e*Pb	**Pb**	**08 51 54.4**	**-0.5**

*NIED **04** 08:54:00, 29.20N×130.60E, h20km, Mw4.8 Best double couple: M0 1.99×10^16 NP1:φs199°, δ86°, λ-76°. NP2: φs304°, δ14°, λ-165°.*
*BJI **04** 08:54:36.9, 28.54N×131.15E, h36km, mB4.8, mb4.5, Ms4.6, Msz4.4*
*MOS **04** 08:54:41.9±1.2, 29.24N×130.60E, h33km, mb4.9/10, MS4.7/4, Error ellipse: s-maj=13.3km s-min=9.4km az=100.5*
*JMA **04** 08:54:42.9±0.1, 29.23N×130.57E, h34km, M4.7*
JMA Felt I J1.
*IDC **04** 08:54:44.0±2.6, 29.25N×130.51E, h35km±20km, mb3.9/17, mb1 4.1/21, mb1mx4.0/27, mbtmp4.2/21, ML4.0/4, MS4.2/17, Ms1 4.2/17, ms1mx4.0/26, Error ellipse: s-maj=16.7km s-min=14.7km az=112.0*
*HRVD **04** 08:54:44.1±1.2, 28.99N×130.25E, h68km±10km, MW4.7/40, Centroid moment Tensor Solution. LP body waves: s4,c4;Mantle waves: s40,c48; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.00±.34; Mθθ-1.17±.22; Mφφ 1.17±.28; Mrθ-0.02±.10; Mrφ-0.45±.23; Mθφ 0.86±.10; Best double couple: M0 1.479×10^16 NP1: φs301°, δ65°, λ166°. NP2:φs37°, δ77°, λ25°. Principal axes: T 1.686, Plg27°, Azm261°; N -.411, Plg62°, Azm62°; P -1.273, Plg8°, Azm167°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 08:54:44.1±0.7, 29.20N×130.53E, h37km±6km, mb4.6/14, MS4.8/2, MW4.8(NIED) Error ellipse: s-maj=7.8km s-min=5.4km az=135.0*

ISC 04 08:54:42.9±0.5, 29.20N±0.03×130.61E±0.04, h41km±4km, h32km±4.5km:pP-P, n87, σ1§06/90, mb4.3/37, MS4.3/21, 2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.90**	**315**	P	**P**	**08 54 58.5**	**-0.7**
JNN				S	**S**	**08 55 10.2**	**-1.0**
JZK	**Kikaishima**	**1.04**	**212**	S	**S**	**08 55 14.6**	**-0.3**
JAM	**Amami Oshima**	**1.18**	**228**	P	**P**	**08 55 03.6**	**+0.5**
JKC	**Kuchinoerabu**	**1.30**	**344**	P	**P**	**08 55 05.2**	**+0.2**
JKC				S	**S**	**08 55 22.0**	**+0.5**
JTN	**Tanegashima 3**	**1.48**	**13**	P	**P**	**08 55 08.0**	**+0.4**
JTN				*e*S	**S**	**08 55 27.2**	**+1.3**
JTSR	**Tashiro 2**	**1.98**	**8**	P	**P**	**08 55 14.9**	**+0.4**
JTK	**Tokunoshima**	**2.03**	**226**	P	**P**	**08 55 15.9**	**+0.6**
JSU	**Suzuyama**	**2.30**	**357**	P	**P**	**08 55 18.9**	**-0.3**
JSU				S	**S**	**08 55 45.9**	**-0.5**
JNAR	**Kushima--Naru**	**2.39**	**14**	P	**P**	**08 55 21.1**	**+0.7**
JOW	**Kunigami**	**3.13**	**222**	Pn	**P**	**08 55 30.6**	**-0.5**
	20nm,0.3s,baz=91,slow=18,SNR=10						
JOW				Sn	**S**	**08 56 07.5**	**-0.2**
	61nm,0.3s,baz=36,slow=26,SNR=4.7						
JOW				LR	LR	08 56 55.1	
	comp=Z,2μm,20.1s,baz=98,slow=42						
JNU	**Nakatsue**	**3.91**	**3**	Pn	**P**	**08 55 42.2**	**+0.1**
	9.4nm,0.3s,baz=171,slow=10.0,SNR=26						
JNU				Sn	**S**	**08 56 26.6**	**-0.8**
	16nm,0.3s,baz=186,slow=31,SNR=7.8						
JHJ	**Hachijo jima 2**	**8.78**	**61**	Pn	**P**	**08 56 50.5**	**+0.3**
	18nm,0.3s,baz=250,slow=23,SNR=4.7						
JHJ				LR	LR	08 59 50.7	
	comp=Z,1μm,20.4s,baz=95,slow=35						
YHNB	**Yeheng**	**9.39**	**243**	*e*Pn	**P**	**08 56 55.1**	**-3.5**
NACB	**Ninganchiao**	**9.48**	**240**	P	**P**	**08 56 56.3**	**-3.6**
MAJO	**Matsushiro**	**9.71**	**39**	*e*P	**P**	**08 57 02.3**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s						
MAJO	**Matsushiro**	**9.71**	**39**	*e*P	**P**	**08 57 02.3**	**-0.7**
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**9.71**	**39**	P	**P**	**08 57 02.2**	**-0.9**
MAT	**Matsushiro**	**9.71**	**39**	*e*P	**P**	**08 57 02.0**	**-1.1**
MJAR	**Matsushiro Arr**	**9.71**	**39**	Pn	**P**	**08 57 02.4**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=237,slow=15,SNR=15						
CBIJ	**Chichi jima**	**10.43**	**99**	LR	LR	09 00 37.9	
	comp=Z,893nm,20.9s,baz=311,slow=34						
CN2	**Changchun**	**15.14**	**346**	*e*P	**P**	**08 58 20.7**	**+5.2**
CN2				*e*XP		08 58 33.0	
CN2				AMB	AMB		
	comp=Z,80nm,0.8s						
CN2				LR	LR		
	comp=N,2μm,14.0s						
CN2				LR	LR		
	comp=E,550nm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,17.0s						
ENH	**Enshi**	**18.37**	**279**	*e*P	**P**	**08 58 57.2**	**+0.9**
	comp=Z,40nm,1.1s						
XAN	**Xi'an**	**19.07**	**290**	P	**P**	**08 59 04.0**	**-0.7**
XAN				AMB	AMB		
	comp=Z,140nm,1.0s						
HHC	**Hu-ho-hao-te**	**19.40**	**312**	*e*P	**P**	**08 59 09.6**	**+1.4**
HHC				AP		08 59 16.9	
HHC				XP		08 59 22.2	
HHC				PP	PP	08 59 27.4	+1.3
HHC				PCP	PcP	09 03 29.8	+1.4
HHC				SCP		09 07 01.5	
HHC				PCS		09 07 05.5	
HHC				AMB	AMB		
	comp=Z,20nm,0.8s						
HHC				AMB	AMB		
	comp=Z,320nm,4.2s						
HHC				LR	LR		
	comp=N,610nm,17.5s						
HHC				LR	LR		
	comp=E,1μm,15.9s						
HHC				LR	LR		
	comp=Z,1μm,15.9s						
GUMO	**Guam**	**20.41**	**137**	LR	LR	09 05 27.0	
	comp=Z,408nm,21.9s,MS3.7,baz=306,slow=31						
GYA	**Guiyang**	**21.34**	**268**	P	**P**	**08 59 30.7**	**+2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
CD2	**Chengdu**	**23.28**	**281**	P	**P**	**08 59 47.6**	**-0.2**
CD2				PP	PP	09 00 17.8	-1.8
CD2				S	**S**	**09 03 51.8**	**-1.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
CD2				LR	LR		
	comp=E,520nm,16.8s						
CD2				LR	LR		
	comp=Z,670nm,15.6s,MS4.2						
LZH	**Lanzhou**	**23.51**	**294**	*e*P	**P**	**08 59 52.5**	**+2.6**
LZH				AP		09 00 01.1	
LZH				XP		09 00 05.2	
LZH				PP	PP	09 00 23.6	+0.9
LZH				*e*S	**S**	**09 03 58.2**	**+0.8**
LZH				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,240nm,4.7s						
LZH				LR	LR		
	comp=E,1μm,13.6s						
LZH				LR	LR		
	comp=Z,2μm,15.2s,MS4.6						
ULN	**Ulaanbaatar**	**26.03**	**322**	*e*P	**P**	**09 00 14.4**	**+0.4**
SONM	**Songino Array**	**26.37**	**322**	P	**P**	**09 00 15.3**	**-1.7**
	comp=Z,2.8nm,0.7s,mb3.9,baz=135,slow=9.3,SNR=19						
SONM				LR	LR	09 11 53.8	
	comp=Z,1μm,20.5s,MS4.4,baz=142,slow=39						
GTA	**Gaotai**	**27.28**	**300**	*e*P	**P**	**09 00 27.6**	**+2.1**
GTA				AP	pP	09 00 34.5	-2.0
GTA				XP	sP	09 00 37.7	-3.8
GTA				PP	PP	09 01 13.0	-0.2
GTA				S	**S**	**09 04 58.8**	**-1.5**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,170nm,6.9s						
GTA				LR	LR		
	comp=N,540nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=E,910nm,16.3s,MS4.5						
GTA				LR	LR		
	comp=Z,1μm,17.5s,MS4.5						
ZAK	**Zakamensk**	**29.52**	**323**	*e*P	**P**	**09 00 46.3**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
JIRN	**Jiri**	**30.91**	**279**	*e*P	**P**	**09 02 07.5**	**+1.1**
	comp=Z,8.7nm,0.5s,mb4.7						
GUN	**Gumba**	**39.13**	**279**	*e*P	**P**	**09 02 08.9**	**+0.7**
	comp=Z,23nm,0.5s,mb5.2						
PKI	**Pulchoki**	**39.61**	**279**	*e*P	**P**	**09 02 12.6**	**+0.4**
KKN	**Kakani**	**39.67**	**279**	*e*P	**P**	**09 02 13.8**	**+1.1**
DMN	**Daman**	**39.86**	**279**	*e*P	**P**	**09 02 14.7**	**+0.4**
PSI	**Prapat**	**39.94**	**235**	LR	LR	09 21 32.5	
	comp=Z,136nm,18.9s,MS3.8,baz=261,slow=40						
GKN	**Gorkha**	**40.18**	**280**	*e*P	**P**	**09 02 16.6**	**-0.3**
	comp=Z,7.3nm,0.3s,mb4.9						
KOLN	**Koldanda**	**41.12**	**280**	*e*P	**P**	**09 02 24.3**	**-0.4**
MKAR	**Makanchi Array**	**41.22**	**309**	P	**P**	**09 02 24.4**	**-0.9**
	comp=Z,0.6nm,0.4s,mb3.6,baz=91,slow=11,SNR=27						
MKAR				PcP	PcP	09 04 26.2	+1.8
	comp=Z,0.9nm,0.9s,baz=94,slow=5.8,SNR=3.3						
MKAR				ScP		09 08 11.4	
	comp=Z,0.9nm,0.9s,baz=90,slow=4.3,SNR=4.5						
MKAR				LR	LR	09 21 12.3	
	comp=Z,205nm,18.8s,MS4.0,baz=79,slow=39						
MKAR	**Makanchi Array**	**41.22**	**309**	P	**P**	**09 02 24.4**	**-0.9**
MKAR				PcP	PcP	09 04 26.2	+1.8
MKAR				ScP		09 08 11.4	
MKAR				LR	LR	09 21 12.3	
ZAL	**Zalesovo**	**41.25**	**320**	P	**P**	**09 02 26.5**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.5,baz=350,slow=11,SNR=4.7						
ZAL				LR	LR	09 22 14.1	
	comp=Z,644nm,19.0s,MS4.5,baz=359,slow=40						
KURK	**Kurchatov**	**44.19**	**314**	*e*P	**P**	**09 02 47.9**	**-1.6**
KURK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
KURK	**Kurchatov**	**44.19**	**314**	*e*P	**P**	**09 02 47.9**	**-1.5**
	comp=Z,14nm,1.1s,mb4.6						
BILL	**Bilibino**	**44.20**	**18**	*i*P	pP	09 02 59.6	-1.2
BILL				*e*		09 03 07.4	
BILL				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.8						
WRAB	**Tennant Creek**	**48.98**	**175**	*e*P	**P**	**09 03 27.4**	**-0.2**
WRAB				*e*	pP	09 03 39.0	-0.1
WRAB				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
WRAB	**Tennant Creek**	**48.98**	**175**	*e*P	**P**	**09 03 27.4**	**-0.2**
	comp=Z,18nm,1.2s,mb5.0						
WRAB				*e*	pP	09 03 39.0	-0.1
WRA	**Warramunga Arr**	**48.99**	**175**	P	**P**	**09 03 27.5**	**-0.1**
	comp=Z,3.5nm,0.8s,mb4.4,baz=352,slow=8.3,SNR=22						
WB2	**Warramunga Arr**	**48.99**	**175**	*e*P	**P**	**09 03 25.8**	**-1.9**
BVAR	**Borovoye Array**	**49.52**	**316**	P	**P**	**09 03 30.1**	**-1.2**
	comp=Z,2.1nm,0.5s,mb4.4,baz=94,slow=9.6,SNR=21						
BRVK	**Borovoye**	**49.59**	**316**	*e*P	**P**	**09 03 30.8**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**49.59**	**316**	*e*P	**P**	**09 03 30.8**	**-1.0**
	comp=Z,4.6nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**51.28**	**161**	P	**P**	**09 03 46.0**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CTAO	**Charters Tower**	**51.28**	**161**	P	**P**	**09 03 46.0**	**+0.9**
	comp=Z,9.7nm,1.2s,mb4.6						
TNA	**Tin City**	**52.04**	**28**	*e*P	**P**	**09 03 50.5**	**+0.3**
	comp=Z,22nm,2.0s,mb4.7						
TNA				*e*	pP	09 03 59.7	-2.1
ARU	**Arti**	**56.40**	**321**	*i*P	**P**	**09 04 24.6**	**+2.3**
ARU				*e*		09 05 24.0	
ARU				*e*		09 06 28.2	
ARU				*e*S	**S**	**09 12 02.9**	**-5.5**
ARU				*e*SS	SS	09 15 55.0	-1.2
ARU				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
ARU				MLR	MLR		
	comp=Z,700nm,17.0s,MS4.8						
ARU				MLR	MLR		
	comp=N,100nm,16.0s,MS4.7						
ARU				MLR	MLR		
	comp=E,500nm,17.0s,MS4.7						
ARU	**Arti**	**56.40**	**321**	*e*P	**P**	**09 04 20.2**	**-2.1**
	comp=E,15nm,1.3s,mb4.9						
AKTO	**Aktyubinsk**	**57.28**	**314**	P	**P**	**09 04 27.4**	**-1.3**
	comp=E,2.3nm,0.8s,mb4.3,baz=78,slow=4.7,SNR=7.1						
AKTO				LR	LR	09 31 07.9	
	comp=E,894nm,18.2s,MS4.9,baz=275,slow=38						
KDAK	**Kodiak Island**	**58.89**	**38**	P	**P**	**09 04 39.1**	**-0.7**
	comp=E,4.9nm,0.5s,mb4.8,baz=131,slow=6.3,SNR=9.1						
ILAR	**Eielson Array**	**60.83**	**29**	P	**P**	**09 04 52.1**	**-0.9**
	comp=E,1.3nm,0.9s,mb4.1,baz=268,slow=5.1,SNR=12						
STKA	**Stephens Creek**	**61.63**	**169**	P	**P**	**09 04 57.9**	**-1.0**
	comp=E,1.8nm,0.7s,mb4.3,baz=349,slow=12,SNR=2.9						
STKA				LR	LR	09 33 33.1	
	comp=E,90nm,19.8s,MS3.9,baz=24,slow=38						
INK	**Inuvik**	**65.33**	**24**	P	**P**	**09 05 22.1**	**-0.5**
	comp=E,1.5nm,0.7s,mb4.1,baz=295,slow=6.6,SNR=11						
ARCES	**ARCESS Array B**	**68.02**	**339**	LR	LR	09 40 41.1	
	comp=E,334nm,18.1s,MS4.6,baz=50,slow=41						
OBN	**Obninsk**	**68.78**	**322**	P	**P**	**09 05 52.0**	**+7.5**
OBN				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
KIV	**Kislovodsk**	**68.98**	**309**	*e*P	**P**	**09 05 47.5**	**+1.6**
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
FINES	**FINESS Array B**	**71.32**	**331**	P	**P**	**09 05 58.5**	**-1.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=63,slow=6.6,SNR=17						
FINES				LR	LR	09 40 14.5	
	comp=Z,187nm,20.7s,MS4.3,baz=96,slow=38						
AKASG	**Malin Array Be**	**74.64**	**320**	P	**P**	**09 06 18.4**	**-1.1**
	comp=Z,2.0nm,0.4s,mb4.4,baz=59,slow=6.4,SNR=9.3						
AKASG	**Malin Array Be**	**74.64**	**320**	P	**P**	**09 06 18.4**	**-1.1**
YKA	**Yellowknife Ar**	**74.95**	**26**	P	**P**	**09 06 21.4**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=301,slow=6.0,SNR=6.0						
BR131	**Keskin Array S**	**76.87**	**308**	*e*P	**P**	**09 06 32.6**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**76.87**	**308**	P	**P**	**09 06 33.0**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.1,baz=104,slow=4.2,SNR=7.5						
NB2	**NORSAR Subarra**	**77.57**	**334**	P	**P**	**09 06 34.5**	**-1.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=49,slow=5.6						
NOA	**NORSAR Array B**	**77.57**	**334**	P	**P**	**09 06 34.7**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=50,slow=5.5,SNR=2.6						
NOA				LR	LR	09 46 29.7	
	comp=Z,179nm,19.1s,MS4.4,baz=50,slow=40						
BMO	**Blue Mountains**	**83.84**	**42**	*e*P	**P**	**09 07 10.4**	**+1.1**
BMO				*e*	pP	09 07 21.1	-0.6
BMO				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
BMO	**Blue Mountains**	**83.84**	**42**	*e*P	**P**	**09 07 10.3**	**+1.0**
	comp=Z,8.0nm,1.3s,mb4.7						
BMO				*e*	pP	09 07 21.1	-0.6
GERES	**GERESS Array B**	**84.08**	**324**	P	**P**	**09 07 15.0**	**+4.5**
	comp=Z,0.4nm,0.6s,mb3.8,baz=51,slow=6.3,SNR=3.3						
GERES				LR	LR	09 48 39.6	
	comp=Z,342nm,19.3s,MS4.7,baz=252,slow=38						
GRA1	**Grafenberg Arr**	**84.81**	**325**	*e*P	**P**	**09 07 17.9**	**+3.8**
	comp=Z,7.0nm,1.4s,mb4.6						
GRA1				LR	LR		
	comp=Z,400nm,20.3s,MS4.8						
GRF	**Grafenberg Arr**	**84.81**	**325**	*e*P	**P**	**09 07 17.9**	**+3.8**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.6						
GRF				MLR	MLR		
	comp=Z,400nm,20.3s,MS4.8						
GRF	**Grafenberg Arr**	**84.81**	**325**	*e*P	**P**	**09 07 17.9**	**+3.8**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.6						
GRF				MLR	MLR		
	comp=Z,400nm,20.3s,MS4.8						
GRF	**Grafenberg Arr**	**84.81**	**325**	*e*P	**P**	**09 07 17.9**	**+3.8**
	comp=Z,7.0nm,1.4s,mb4.6						
GRF				LR	LR		
	comp=Z,400nm,20.3s,MS4.8						
HLID	**Hailey**	**86.28**	**41**	*e*P	**P**	**09 07 23.6**	**+2.1**
	comp=Z,3.8nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**86.94**	**47**	P	**P**	**09 07 27.0**	**+2.2**
	comp=Z,0.9nm,0.6s,mb4.2,baz=293,slow=5.6,SNR=8.5						
NVAR				LR	LR	09 49 05.6	
	comp=Z,35nm,18.4s,MS3.8,baz=315,slow=38						
NVAR	**Mina Array Bea**	**86.94**	**47**	P	**P**	**09 07 27.0**	**+2.2**
NVAR				LR	LR	09 49 05.6	
PDAR	**Pinedale Array**	**89.54**	**40**	P	**P**	**09 07 37.0**	**-0.2**
	comp=Z,0.7nm,0.9s,mb4.0,slow=1.5,SNR=6.4						
KMBO	**Kilima Mbogo**	**93.47**	**271**	LR	LR	09 53 46.8	
	comp=Z,87nm,19.5s,MS4.2,baz=89,slow=38						
SCHQ	**Scheffervill**	**94.97**	**10**	LR	LR	09 49 20.2	
	comp=Z,115nm,19.0s,MS4.4,baz=214,slow=34						

JMA 04 08:56:48.0±0.2, 39.71N×144.15E, h46km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.77**	**278**	P	P	08 57 16.9	+0.1
MIYJ	**Miyakonagasawa**	**1.80**	**267**	P	P	08 57 17.7	+0.5
MIYJ				*e*S	S	08 57 39.3	+0.3
OFUJ	**Ofunato**	**2.02**	**253**	P	P	08 57 20.3	0.0
JANG	**Nango**	**2.13**	**289**	P	P	08 57 22.0	+0.2
JANG				*e*S	S	08 57 46.8	-0.3
JOM	**Ohasama**	**2.22**	**265**	P	P	08 57 23.8	+0.6
JOM				S	S	08 57 50.3	+0.8
JMK	**Ichinoseki**	**2.40**	**253**	P	P	08 57 25.8	+0.1
JMK				S	S	08 57 53.2	-0.7
JNBK	**Urakawa-nobuka**	**2.78**	**338**	P	P	08 57 31.5	+0.4
JNBK				*e*S	S	08 58 04.5	+0.9
JOT	**Ohata**	**2.89**	**306**	P	P	08 57 33.6	+0.8
JOT				*e*S	S	08 58 07.3	+0.7
JCH	**Churui**	**2.96**	**349**	P	P	08 57 32.9	-0.8
JCH				*e*S	S	08 58 07.7	-0.6
JKB	**Kayabe**	**3.21**	**314**	P	P	08 57 37.9	+0.6
NEM2	**Nemuro 2**	**3.84**	**18**	P	P	08 57 43.1	-3.1
NEM2				*e*S	S	08 58 24.7	-5.9
JTKR	**Abashiri--Toko**	**4.26**	**358**	P	P	08 57 51.1	-1.0
JTKR				*e*S	S	08 58 37.9	-3.3

JMA 04 08:57:27.9±0.3, 29.27N×130.58E, h23km±5km, M3.9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.84**	**313**	P	Pb	08 57 43

EVO	**Evora**	**0.80**	**60**	*e*Sg		Sg		09 07 44.6	-3.4
	61nm,0.2s								
EVO	**Evora**	**0.80**	**60**	*e*Pg		Pg		09 07 34.4	-2.9
PBEJ	**Beja**	**0.82**	**97**	*e*P		Pg		09 07 36.4	-1.4
PBEJ				*e*S		Sg		09 07 48.8	0.0
	80nm,0.3s								
PBEJ	**Beja**	**0.82**	**97**	Pg		Pg		09 07 36.6	-1.2
PBEJ				Lg				09 07 48.8	
MORF	**Marmelete**	**0.85**	**166**	*e*P		Pg		09 07 36.7	-1.6
MORF				*e*S		Sg		09 07 47.7	-2.0
MORF				*e*S		Sg		09 07 47.7	-2.0
MORF				AML		AML		09 07 52.0	
	comp=N,128nm,0.1s								
ALMR	**Almeirim**	**1.05**	**14**	*e*P		Pb		09 07 40.4	-1.6
ALMR				*e*S		Sb		09 07 54.5	-1.7
ALMR				*e*S		Sb		09 07 54.5	-1.7
ALMR				AML		AML		09 07 56.5	
	comp=N,206nm,0.1s								
EGRO	**El Granado**	**1.27**	**118**	Pg		Pg		09 07 44.0	-2.8
	comp=N,9.4nm,0.1s,SNR=77								
EGRO				Lg				09 08 02.8	
	comp=N,53nm,0.2s,SNR=14								
PTOM	**Tomar**	**1.53**	**14**	*e*P		Pn		09 07 48.5	-1.5
PTOM				*e*S		Sb		09 08 08.0	-2.1
	comp=N,49nm,0.3s								
PTOM	**Tomar**	**1.53**	**14**	Pn		Pn		09 07 48.5	-1.5
PTOM				Sn		Sn		09 08 07.8	-3.0
EBAD	**Badajoz**	**1.61**	**67**	Pn		Pn		09 07 48.3	-2.8
	comp=N,0.9nm,0.1s,SNR=7.9								
EBAD				Pg		Pg		09 07 50.0	-3.4
	comp=N,8.6nm,0.1s,SNR=78								
EBAD				Lg				09 08 11.7	
	comp=N,57nm,0.2s,SNR=7.5								
EBAD	**Badajoz**	**1.61**	**67**	Pn		Pn		09 07 48.3	-2.8
EBAD				Pg		Pg		09 07 50.0	-3.4
EBAD				Lg				09 08 11.7	
EMIN	**Mina Concepcio**	**1.80**	**101**	Pn		Pn		09 07 52.1	-1.7
	comp=N,1.8nm,0.1s,SNR=25								
EMIN				Sn		Sn		09 08 13.8	-3.9
	comp=N,2.1nm,0.1s								
EMIN				Lg				09 08 17.9	
	comp=N,16nm,0.2s,SNR=7.9								
PCBR	**Castelo Branco**	**2.03**	**33**	*e*Sg		Sg		09 08 23.6	-5.3
	comp=N,13nm,0.4s								
PCBR	**Castelo Branco**	**2.03**	**33**	Pn		Pn		09 07 55.3	-1.9
PCBR				Sn		Sn		09 08 21.1	-2.5
PCBR				Lg				09 08 23.6	
	comp=N,6.6nm,0.4s								
MTE	**Manteigas**	**2.49**	**25**	*e*Pn		Pn		09 08 00.3	-3.5
MTE				*e*Sn		Sn		09 08 31.5	-3.9
	comp=N,16nm,0.7s								
MTE	**Manteigas**	**2.49**	**25**	Pn		Pn		09 08 00.3	-3.5
MTE				Sn		Sn		09 08 31.5	-3.9
	comp=N,7.9nm,0.7s								
MTE	**Manteigas**	**2.49**	**25**	*e*P		Pn		09 08 07.9	+4.1
MTE				*e*S		Sn		09 08 37.0	+1.6
PVIS	**Viseu**	**2.69**	**17**	*e*Pn		Pn		09 08 04.3	-2.3
	comp=N,8.5nm,0.3s								
PVIS	**Viseu**	**2.69**	**17**	Pn		Pn		09 08 04.2	-2.4
ESPR	**Espera**	**2.73**	**117**	Pn		Pn		09 08 03.5	-3.7
	comp=N,0.7nm,0.1s,SNR=4.0								
ESPR				Pg		Pg		09 08 11.0	-4.9
	comp=N,0.7nm,0.1s,SNR=7.9								
ESPR				Sn		Sn		09 08 38.7	-2.7
	comp=N,16nm,0.2s,SNR=4.9								
ESPR				Lg				09 08 50.1	
	comp=N,13nm,0.3s								
ECAB	**El Cabril**	**2.75**	**90**	Pn		Pn		09 08 05.2	-2.2
	comp=N,1.2nm,0.2s,SNR=9.5								
ECAB				Pg		Pg		09 08 11.5	-4.6
	comp=N,1.2nm,0.2s,SNR=7.9								
ECAB				Sn		Sn		09 08 37.5	-4.3
	comp=N,1.6nm,0.1s,SNR=4.6								
ECAB				Lg				09 08 48.4	
	comp=N,12nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**2.75**	**90**	Pn		Pn		09 08 05.2	-2.2
ECAB				Pg		Pg		09 08 11.6	-4.6
ECAB				Sn		Sn		09 08 37.5	-4.3
ECAB				Lg				09 08 48.4	
PVRL	**Vila Real**	**3.27**	**16**	*e*Pn		Pn		09 08 12.0	-2.8
PVRL				*e*Sn		Sn		09 08 49.7	-5.2
	comp=N,5.9nm,0.3s								
PVRL	**Vila Real**	**3.27**	**16**	Pn		Pn		09 08 11.9	-2.9
PVRL				Sn		Sn		09 08 49.7	-5.2
EADA	**Adamuz**	**3.41**	**88**	Pn		Pn		09 08 14.1	-2.7
	comp=N,0.1nm,0.1s,SNR=4.0								
EADA				Sn		Sn		09 08 53.7	-4.8
	comp=N,0.9nm,0.1s,SNR=5.1								
EADA				Lg				09 09 10.0	
	comp=N,8.9nm,0.3s,SNR=8.2								
EMIJ	**Mijas**	**3.65**	**114**	Pn		Pn		09 08 17.9	-2.3
	comp=N,0.5nm,0.1s,SNR=4.0								
EMIJ				Sn		Sn		09 09 00.0	-4.5
	comp=N,0.7nm,0.2s,SNR=7.9								
EMIJ				Lg				09 09 17.5	
	comp=N,3.8nm,0.4s,SNR=4.0								
ELUQ	**Luque**	**3.71**	**97**	Lg				09 09 19.2	
	comp=N,2.6nm,0.4s,SNR=4.0								
ELOB	**Lobios**	**3.78**	**10**	Pn		Pn		09 08 18.4	-3.7
	comp=N,1.1nm,0.1s,SNR=7.9								
ELOB				Sn		Sn		09 08 57.6	-10
	comp=N,0.1nm,0.1s,SNR=7.9								
ELOB				Lg				09 09 18.9	
	comp=N,0.8nm,0.3s,SNR=7.9								
ELOB	**Lobios**	**3.78**	**10**	Pn		Pn		09 08 18.4	-3.8
ELOB				Sn		Sn		09 08 57.6	-10
ELOB				Lg				09 09 18.9	
EBAN	**Banos Encina**	**4.03**	**88**	Sn		Sn		09 09 07.2	-7.1
	comp=N,0.6nm,0.1s,SNR=4.0								
EBAN				Lg				09 09 29.6	
	comp=N,6.4nm,0.4s,SNR=4.0								
ECAL	**Calabor**	**4.15**	**23**	Lg				09 09 31.6	
	comp=N,6.4nm,0.3s,SNR=4.0								
ESDC	**Sonseca Array**	**4.15**	**67**	Pn		Pn		09 08 23.4	-3.9
	comp=N,2.4nm,0.1s,baz=252,slow=13,SNR=7.6								
ESDC				Pg		Pg		09 08 36.2	-7.9
	comp=N,0.7nm,0.1s,baz=254,slow=13,SNR=4.1								
ESDC				Sn		Sn		09 09 09.7	-7.6
	baz=253,slow=23,SNR=7.9								
ESDC				Lg				09 09 32.2	
	comp=N,2.1nm,0.5s,baz=255,slow=28,SNR=7.9								
GUD	**Guadarrama**	**4.45**	**54**	Lg				09 09 44.1	
	comp=N,2.3nm,0.3s,SNR=4.0								
EQES	**Quesada**	**4.62**	**92**	Pn		Pn		09 08 29.7	-4.3
	comp=N,0.3nm,0.2s,SNR=4.0								
EQES				Sn		Sn		09 09 22.7	-6.5
	comp=N,0.4nm,0.3s,SNR=4.0								
EQES				Lg				09 09 48.5	
	SNR=4.0								
STS	**Santiago**	**4.75**	**3**	Sn		Sn		09 09 22.2	-10
	comp=N,5.7nm,0.1s,SNR=4.0								

MAN 04 09:12:28.5, 18.70N×120.92E, h14km, mb4.6, ML3.5, MS3.4, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.47**	**218**	↑*i*P	Pb	09 12 38.4	+0.4
PIP				*e*S	Sb	09 12 46.2	+1.7
APYP	**Conner**	**0.88**	**160**	*e*P	Pb	09 12 45.0	-0.2
APYP				*e*S	Sb	09 12 58.0	+1.5
ABRA	**Dolores**	**1.06**	**191**	*e*P	Pb	09 12 47.2	-0.9
SGCP	**Mt. Cagua**	**1.16**	**113**	*e*P	Pb	09 12 49.0	-0.8
CVP	**Callao Caves**	**1.30**	**139**	*e*P	Pb	09 12 52.0	-0.3
CVP				*e*S	Sb	09 13 10.0	+1.2
CAUP	**Cauayan**	**1.94**	**154**	*e*P	Pn	09 13 03.6	+2.1
BCPH	**Baguio City Da**	**2.33**	**188**	↑*e*P	Pn	09 13 06.5	-0.5
BCPH				*e*S	Sn	09 13 45.7	+10
BOLP	**Bolinao**	**2.50**	**203**	*e*P	Pn	09 13 09.0	-0.4
BALP	**Baler**	**3.00**	**168**	*e*P	Pn	09 13 19.5	+2.8

IDC 04 09:27:42.5±1.1, 1.50N×126.35E, mb3.9/5, mb1 4.1/5, mb1mx3.9/13, mbtmp4.0/5, Error ellipse: s-maj=141.2km s-min=19.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.70**	**160**	P	P	09 32 46.1	-1.2
	5.1nm,0.4s,baz=339,slow=11,SNR=10						
WB2	**Warramunga Arr**	**22.70**	**160**	*e*P	P	09 32 45.8	-1.5
STKA	**Stephens Creek**	**36.20**	**158**	P	P	09 34 47.0	-2.1
	2.4nm,0.8s,baz=337,slow=8.5,SNR=6.5						
SONM	**Songino Array**	**49.29**	**342**	P	P	09 36 33.3	-1.8
	0.4nm,0.7s,baz=154,slow=5.6,SNR=3.9						
MKAR	**Makanchi Array**	**59.18**	**326**	P	P	09 37 45.5	-2.2
	0.8nm,0.4s,baz=121,slow=8.0,SNR=24						
ZAL	**Zalesovo**	**62.40**	**334**	P	P	09 38 06.7	-2.8
	0.7nm,0.5s,baz=349,slow=4.0,SNR=3.5						

IDC 04 09:54:23.3±2.0, 20.18S×177.63W, h488km±31km, mb2.9/3, mb1 3.2/6, mb1mx3.1/14, mbtmp4.0/6, Error ellipse: s-maj=40.2km s-min=18.4km az=134.0

NEIC 04 09:54:24.4±1.2, 20.25S×177.68W, h500km±18km, mb3.5/1, Error ellipse: s-maj=31.3km s-min=15.3km az=141.0

ISC 04 09:54:23.6±1.3, 20.2S±0.2×177.6W±0.2, h511km±25km, n11, σ0s85/10, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.36**	**43**	P	P	09 56 25.3	+0.2
	3.8nm,0.3s,baz=190,slow=18,SNR=6.5						
AFI				S	S	09 58 00.1	-1.6
	4.2nm,0.3s,baz=148,slow=22,SNR=4.9						
AFI	**Afiamalu**	**8.36**	**43**	*e*P	P	09 56 25.7	+0.6
AFI				*e*S	S	09 58 02.2	+0.5
DZM	**Mont Dzumac**	**14.99**	**260**	P	P	09 57 34.6	+0.9
	0.2nm,0.3s,baz=90,slow=18,SNR=4.2						
URZ	**Urewera**	**18.60**	**193**	P	P	09 58 08.9	-0.1
	1.1nm,0.3s,baz=309,slow=13,SNR=8.9						
STKA	**Stephens Creek**	**38.25**	**244**	P	P	10 01 01.1	+0.5
	2.2nm,1.0s,mb3.6,baz=75,slow=12,SNR=3.5						
WRAB	**Tennant Creek**	**44.99**	**262**	P	P	10 01 53.1	-1.4
	0.7nm,0.4s,mb3.5						
WRA	**Warramunga Arr**	**45.00**	**262**	P	P	10 01 53.9	-0.7
	0.4nm,0.3s,mb3.4,baz=97,slow=7.6,SNR=10						
ILAR	**Eielson Array**	**87.91**	**13**	P	P	10 06 19.7	+0.8
	0.3nm,0.6s,mb3.2,baz=222,slow=5.2,SNR=6.1						
FINES	**FINESS Array B**	**135.55**	**344**	PKP	PKPdf	10 12 48.3	+3.5
	0.9nm,0.7s,baz=63,slow=3.1,SNR=3.9						
AKASG	**Malin Array Be**	**142.89**	**332**	PKhKP		10 12 57.0	
	1.1nm,0.3s,baz=44,slow=4.0,SNR=15						
AKASG	**Malin Array Be**	**142.89**	**332**	PKP	PKPdf	10 12 57.0	-1.1

NIED 04 10:03:00, 29.30N×130.60E, h32km, Mw4.9 Best double couple: M0 2.13×10^16 NP1:φs196°, δ84°, λ-89°. NP2:φs5°, δ6°, λ-101°.

BJI 04 10:03:18.6, 28.70N×131.02E, h20km, mB5.0, mb4.6, Ms4.6, Msz4.5

MOS 04 10:03:24.5±1.0, 29.38N×130.54E, h33km, mb5.0/15, MS4.6/5, Error ellipse: s-maj=13.6km s-min=7.7km az=114.3

JMA 04 10:03:26.0±0.1, 29.27N×130.59E, h62km, M4.7

HRVD 04 10:03:27.4±0.7, 29.34N×130.81E, h44km±4km, MW4.7/40, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s40,c51; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.84±.25; Mθθ0.35±.15; Mφφ-1.20±.15; Mrθ0.41±.09; Mθφ-0.10±.12; Mφr0.62±.10; Best double couple: M0 1.288×10^16 NP1:φs159°, δ34°, λ50°. NP2:φs24°, δ65°, λ114°. Principal axes: T 1.18, Plg63°, Azm333°; N .212, Plg21°, Azm194°; P -1.395, Plg16°, Azm97°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC 04 10:03:27.8±1.3, 29.31N×130.43E, h43km±12km, mb4.0/20, mb1 4.2/24, mb1mx4.1/31, mbtmp4.3/24, ML4.0/4, MS4.3/9, Ms1 4.3/9, ms1mx3.8/27 Error ellipse: s-maj=14.6km s-min=8.6km az=109.0

NEIC 04 10:03:27.4±0.6, 29.33N×130.47E, h40km±6km, mb4.8/16, MS4.8/1, MW4.8(NIED), Error ellipse: s-maj=6.3km s-min=5.3km az=114.0

ISC 04 10:03:26.1±0.5, 29.27N±0.03×130.61E±0.04, h50km±4km, n97, σ1s00/105, mb4.5/45, MS4.5/14, 1C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.85**	**312**	P	P	10 03 42.0	0.0
JNN				*e*S	S	10 03 54.7	+1.0
JAM	**Amami Oshima**	**1.23**	**226**	P	P	10 03 47.2	0.0
JAM				*e*S	S	10 04 03.7	+0.8
JKC	**Kuchinoerabu**	**1.24**	**343**	P	P	10 03 47.8	+0.4
JTN	**Tanegashima 3**	**1.42**	**13**	P	P	10 03 49.9	-0.1
JTSR	**Tashiro 2**	**1.91**	**8**	P	P	10 03 57.6	+0.8
JTSR				*e*S	S	10 04 20.1	+0.4
JTK	**Tokunoshima**	**2.08**	**225**	P	P	10 03 59.7	+0.5
JSU	**Suzuyama**	**2.23**	**357**	P	P	10 04 01.0	-0.4
JNAR	**Kushima--Naru**	**2.32**	**14**	P	P	10 04 03.1	+0.4
JSJ	**Shimokoshiki**	**2.52**	**342**	P	P	10 04 05.5	0.0
JTZ	**Takazaki**	**2.65**	**9**	P	P	10 04 07.9	+0.4
JOW	**Kunigami**	**3.19**	**221**	P	P	10 04 14.7	-0.3
	16nm,0.3s,baz=30,slow=17,SNR=9.1						
JOW				S	S	10 04 50.8	-1.3
	58nm,0.3s,baz=100,slow=28,SNR=6.4						
JOW				LR	LR	10 05 46.6	
	comp=Z,4μm,18.3s,baz=264,slow=45						
JNU	**Nakatsue**	**3.84**	**3**	P	P	10 04 24.5	+0.2
	11nm,0.3s,baz=318,slow=8.3,SNR=17						
JNU				S	S	10 05 08.8	0.0
	14nm,0.3s,baz=81,slow=38,SNR=3.3						
SSE	**Sheshan**	**8.35**	**285**	P	P	10 05 27.6	+0.4
SSE				AMB	AMB		
	comp=Z,30nm,1.0s						
SSE				AMB	AMB		
	comp=Z,430nm,4.9s						
SSE				LR	LR		
	comp=N,800nm,23.9s						
SSE				LR	LR		
	comp=E,950nm,23.9s						
SSE				LR	LR		
	comp=Z,1μm,20.6s						
JHJ	**Hachijo jima 2**	**8.74**	**62**	P	P	10 05 32.9	+0.2
	comp=Z,49nm,0.3s,baz=235,slow=22,SNR=11						
JHJ				LR	LR	10 08 32.7	
	comp=Z,898nm,19.5s,baz=287,slow=34						
YHNB	**Yeheng**	**9.42**	**243**	*e*P	P	10 05 39.4	-2.5
MAJO	**Matsushiro**	**9.66**	**39**	*e*P	P	10 05 43.7	-1.5
MAJO				pmax	pmax		
	comp=Z,14nm,0.4s						
MAJO	**Matsushiro**	**9.66**	**39**	*e*P	P	10 05 43.7	-1.5
	comp=Z,14nm,0.4s						
MAJO				*e*		10 05 53.7	
MJAR	**Matsushiro Arr**	**9.66**	**39**	P	P	10 05 44.0	-1.3
	comp=Z,1.1nm,0.3s,baz=255,slow=13,SNR=11						
CBIJ	**Chichi jima**	**10.44**	**99**	P	P	10 05 54.4	-1.6
	comp=Z,25nm,0.3s,baz=277,slow=20,SNR=7.8						
CBIJ				LR	LR	10 09 19.6	
	comp=Z,973nm,21.5s,baz=292,slow=33						
NJ2	**Nanjing**	**10.49**	**288**	*e*P	P	10 05 56.9	+0.3
NJ2				AP		10 06 04.0	
NJ2				PP	PP	10 06 05.6	+0.9
NJ2				XP		10 06 08.7	
NJ2				S	S	10 07 59.0	+5.3
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,30nm,4.3s						
NJ2				LR	LR		
	comp=N,2μm,16.7s						
NJ2				LR	LR		
	comp=E,4μm,15.6s						
NJ2				LR	LR		
	comp=Z,2μm,14.2s						
CN2	**Changchun**	**15.08**	**346**	*e*P	P	10 07 02.2	+4.8
CN2				*e*XP		10 07 15.2	
CN2				*e*S	S	10 09 47.5	+4.1
CN2				AMB	AMB		
	comp=Z,100nm,0.9s						
CN2				LR	LR		
	comp=N,920nm,13.0s						
CN2				LR	LR		
	comp=E,2μm,13.0s						
CN2				LR	LR		
	comp=Z,2μm,13.0s						
ASAJ	**Asahikawa**	**17.63**	**30**	LR	LR	10 14 33.0	
	comp=Z,874nm,21.5s,baz=218,slow=38						
ENH	**Enshi**	**18.36**	**278**	*e*P	P	10 07 38.5	-0.3
	comp=Z,18nm,0.6s						
XAN	**Xi'an**	**19.05**	**290**	P	P	10 07 46.0	-0.9
XAN				AMB	AMB		
	comp=Z,40nm,1.0s						
HHC	**Hu-ho-hao-te**	**19.36**	**312**	*e*P	P	10 07 51.9	+1.7
HHC				AP		10 07 59.8	
HHC				XP		10 08 04.3	
HHC				PP	PP	10 08 08.5	+0.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s						
HHC				AMB	AMB		
	comp=Z,180nm,4.6s						
HHC				LR	LR		
	comp=N,810nm,14.3s						
HHC				LR	LR		
	comp=E,1μm,13.4s						
HHC				LR	LR		
	comp=Z,2μm,16.1s						
KLR	**Kul'dur**	**19.95**	**2**	*e*P	P	10 07 53.0	-3.6
KLR				MLR	MLR		
	comp=N,900nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
GUMO	**Guam**	**20.45**	**137**	LR	LR	10 14 48.8	
	comp=Z,410nm,18.2s,MS3.8,baz=309,slow=33						
GYA	**Guiyang**	**21.34**	**268**	↑*i*P	P	10 08 11.4	+0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
CD2	**Chengdu**	**23.27**	**281**	*e*P	P	10 08 30.6	+0.6
CD2				PP	PP	10 09 08.4	+6.2
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
CD2				AMB	AMB		
	comp=Z,110nm,6.8s						
CD2				LR	LR		
	comp=E,960nm,13.2s						
CD2				LR	LR		
	comp=Z,870nm,13.2s,MS4.4						
LZH	**Lanzhou**	**23.48**	**294**	*e*P	P	10 08 33.5	+1.5
LZH				AP		10 08 43.0	
LZH				XP		10 08 47.5	
LZH				PP	PP	10 09 04.5	-0.7
LZH				*e*S	S	10 12 38.5	-0.1
LZH				AMB	AMB		
	comp=Z,50nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,320nm,5.2s						
LZH				LR	LR		
	comp=E,2μm,13.8s						
LZH				LR	LR		
	comp=Z,2μm,15.3s,MS4.7						
ULN	**Ulaanbaatar**	**25.98**	**322**	*e*P	P	10 08 53.9	-1.9
ULN				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.4						
ULN	**Ulaanbaatar**	**25.98**	**322**	*e*P	P	10 08 53.9	-1.9
	comp=Z,15nm,1.3s,mb4.3						
SONM	**Songino Array**	**26.32**	**321**	P	P	10 08 57.4	-1.5
	comp=Z,3.7nm,0.7s,mb4.0,baz=140,slow=10,SNR=16						
SONM				LR	LR	10 20 25.3	
	comp=Z,1μm,19.9s,MS4.4,baz=136,slow=39						
GTA	**Gaotai**	**27.25**	**300**	*e*P	P	10 09 09.4	+1.8
GTA				AP	pP	10 09 16.4	-3.8
GTA				XP	sP	10 09 19.7	-6.6
GTA				PP	PP	10 09 56.0	+0.5
GTA				S	S	10 13 44.2	+2.8
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,80nm,5.0s						
GTA				LR	LR		
	comp=N,720nm,18.3s,MS4.6						
GTA				LR	LR		
	comp=E,1μm,16.3s,MS4.6						
GTA				LR	LR		
	comp=Z,2μm,16.7s,MS4.7						
ZAK	**Zakamensk**	**29.47**	**323**	*e*P	P	10 09 22.0	-5.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.6						
JIRN	**Jiri**	**38.91**	**279**	*e*Pg	P	10 10 48.5	-0.1
	comp=Z,9.8nm,0.5s,mb4.8						
GUN	**Gumba**	**39.12**	**279**	*e*P	P	10 10 51.1	+0.7
	comp=Z,55nm,0.5s,mb5.6						
PKI	**Pulchoki**	**39.60**	**279**	*e*P	P	10 10 54.6	+0.2
	comp=Z,58nm,1.0s,mb5.2						
PKI	**Pulchoki**	**39.60**	**279**	*e*P	P	10 10 54.6	+0.2
PKI				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.0						
KKN	**Kakani**	**39.66**	**279**	*e*P	P	10 10 55.1	+0.2
	comp=Z,49nm,0.9s,mb5.2						
KKN	**Kakani**	**39.66**	**279**	*e*P	P	10 10 55.1	+0.2
KKN				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.9						
DMN	**Daman**	**39.85**	**279**	*e*P	P	10 10 55.9	-0.6
	comp=Z,16nm,0.5s,mb5.0						
GKN	**Gorkha**	**40.17**	**280**	*e*P	P	10 10 59.1	0.0
	comp=Z,14nm,0.4s,mb5.1						
KOLN	**Koldanda**	**41.11**	**280**	*e*P	P	10 11 06.8	-0.1
MKAR	**Makanchi Array**	**41.18**	**309**	P	P	10 11 07.6	+0.4
	comp=Z,2.4nm,0.4s,mb4.2,baz=91,slow=10,SNR=82						
MKAR				PcP	PcP	10 13 08.0	+1.6
	comp=Z,0.7nm,0.7s,baz=84,slow=3.1,SNR=2.7						
MKAR				LR	LR	10 28 33.5	
	comp=Z,232nm,20.2s,MS4.0,baz=59,slow=37						
ZAL	**Zalesovo**	**41.20**	**320**	P	P	10 11 07.3	0.0
	comp=Z,1.9nm,0.5s,mb4.0,baz=14,slow=8.2,SNR=8.4						
ZAL				LR	LR	10 30 30.2	
	comp=Z,942nm,18.2s,MS4.7,baz=354,slow=40						
PMG	**Port Moresby**	**41.63**	**155**	P	P	10 11 12.4	+1.0
	comp=Z,3.1nm,0.7s,mb4.1,baz=352,slow=9.9,SNR=3.5						
PMG	**Port Moresby**	**41.63**	**155**	*e*P	P	10 11 12.5	+1.1
PMG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PMG	**Port Moresby**	**41.63**	**155**	*e*P	P	10 11 12.5	+1.1
	comp=Z,7.4nm,1.1s,mb4.2						
BILL	**Bilibino**	**44.13**	**18**	P	P	10 11 34.0	+3.0
BILL				*e*	pP	10 11 42.8	-1.6
BILL				MLR	MLR		
	comp=Z,100nm,11.0s,MS4.0						
KURK	**Kurchatov**	**44.15**	**314**	*e*P	P	10 11 31.1	-0.3
KURK				pmax	pmax		
	comp=Z,12nm,0.4s,mb5.0						
KURK	**Kurchatov**	**44.15**	**314**	*e*P	P	10 11 31.1	-0.3
	comp=Z,12nm,0.4s,mb5.0						
TKM2	**Tokmak 2**	**45.73**	**303**	P	P	10 11 43.9	-0.2
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
AAK	**Ala-Archa**	**46.55**	**302**	*e*P	P	10 11 49.7	-0.9
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**46.55**	**302**	*e*P	P	10 11 49.7	-0.9
	comp=Z,1.0nm,0.4s,mb4.1						
WRAB	**Tennant Creek**	**49.05**	**175**	*e*P	P	10 12 10.9	+0.5
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**49.05**	**175**	*e*P	P	10 12 10.9	+0.5
	comp=Z,9.6nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**49.06**	**175**	P	P	10 12 10.4	0.0
	comp=Z,2.2nm,0.7s,mb4.3,baz=352,slow=8.2,SN

comp=Z,20nm,1.1s,mb5.1
SOKR MLR MLR

comp=Z,420nm,15.0s,MS4.7
AKTO Aktyubinsk 57.24 313 P **P 10 13 09.4 -1.2**
comp=Z,4.5nm,0.8s,mb4.6,baz=74,slow=8.2,SNR=15
AKTO LR LR 10 39 51.0

comp=Z,1μm,18.4s,MS5.0,baz=298,slow=38
KDAK Kodiak Island 58.83 38 P **P 10 13 22.4 +0.8**
comp=Z,3.7nm,0.5s,mb4.7,baz=300,slow=22,SNR=14
ILAR Eielson Array 60.77 29 P **P 10 13 34.8 0.0**
comp=Z,0.6nm,0.5s,mb4.0,baz=272,slow=5.9,SNR=17
DZM Mont Dzumac 61.62 142 P **P 10 13 42.2 +1.0**
comp=Z,6.4nm,1.0s,mb4.7,baz=295,slow=21,SNR=5.0
ARCES ARCESS Array B 67.96 339 P **P 10 14 20.2 -1.1**
comp=Z,2.8nm,0.9s,mb4.3,baz=62,slow=7.6,SNR=6.4
ARCES ARCESS Array B 67.96 339 P **P 10 14 20.3 -1.1**
JOF Joensuu 68.41 331 *ep* **P 10 14 20.2 -4.1**
OBN Obninsk 68.73 322 P **P 10 14 37.0 +11**
OBN *e* 10 14 43.6
OBN MLR MLR

comp=Z,500nm,18.0s,MS4.8
KIV Kislovodsk 68.94 309 *e*P **P 10 14 27.1 -0.8**
KIV pmax pmax

comp=Z,24nm,1.1s,mb5.0
KIV MLR MLR

comp=Z,179nm,17.0s,MS4.4
KIV Kislovodsk 68.94 309 *e*P **P 10 14 27.8 -0.1**
comp=Z,45nm,1.3s,mb5.2
KAF Kangasniemi 70.86 331 *ep* **P 10 14 38.1 -1.2**
FINES FINESS Array B 71.26 331 P **P 10 14 40.7 -1.0**
comp=Z,2.5nm,0.4s,mb4.5,baz=57,slow=6.2,SNR=29
AKASG Malin Array Be 74.59 320 P **P 10 15 01.0 -0.3**
comp=Z,5.3nm,0.4s,mb4.8,baz=58,slow=6.6,SNR=21
AKASG Malin Array Be 74.59 320 P **P 10 15 01.0 -0.3**
YKA Yellowknife Ar 74.89 26 P **P 10 15 04.3 +1.5**
comp=Z,0.4nm,0.5s,mb3.6,baz=304,slow=6.1,SNR=6.6
BRTR Keskin Array B 76.83 308 P **P 10 15 14.9 +0.5**
comp=Z,2.1nm,0.6s,mb4.3,baz=105,slow=4.5,SNR=9.2
HFS Hagfors 77.10 333 P **P 10 15 15.3 -0.1**
comp=Z,1.4nm,0.5s,mb4.2,baz=90,slow=5.9,SNR=12
NB2 NORSAR Subarra 77.51 334 P **P 10 15 17.6 -0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=48,slow=5.6
NOA NORSAR Array B 77.51 334 P **P 10 15 17.5 -0.2**
comp=Z,1.2nm,0.5s,mb4.1,baz=50,slow=5.6,SNR=7.2
MLR Muntele Rosu 79.04 316 P **P 10 15 28.5 +2.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=349,slow=16,SNR=3.6
GERES GERESS Array B 84.03 324 P **P 10 15 53.0 +0.6**
comp=Z,3.8nm,1.2s,mb4.4,baz=56,slow=3.5,SNR=3.8
GRA1 Grafenberg Arr 84.75 325 *e*P **P 10 15 57.8 +1.9**
comp=Z,8.0nm,1.2s,mb4.7
GRA1 LR LR

comp=Z,400nm,21.0s,MS4.8
GRF Grafenberg Arr 84.75 325 *e*P **P 10 15 57.8 +1.9**
GRF pmax pmax

comp=Z,8.0nm,1.2s,mb4.7
GRF MLR MLR

comp=Z,400nm,21.0s,MS4.8
GRF Grafenberg Arr 84.75 325 *e*P **P 10 15 57.8 +1.9**
GRF pmax pmax

comp=Z,8.0nm,1.2s,mb4.7
GRF Grafenberg Arr 84.75 325 *e*P **P 10 15 57.8 +1.9**
comp=Z,8.0nm,1.2s,mb4.7
NVAR Mina Array Bea 86.89 47 P **P 10 16 09.8 +3.1**
comp=Z,0.5nm,0.5s,mb4.0,baz=291,slow=7.2,SNR=6.2
NVAR Mina Array Bea 86.89 47 P **P 10 16 09.8 +3.1**
EKA Eskdalemuir Ar 86.91 336 P **P 10 16 06.8 +0.3**
comp=Z,1.0nm,0.4s,mb4.4,baz=46,slow=4.8,SNR=12

JMA ***04*** *10:11:35.9±0.1,29.30N×130.53E,h65km,M3.2*
IDC ***04*** *10:11:36.8±3.0,29.29N×130.47E,h36km±29km,mb3.4/7, mb1 3.6/11,mb1mx3.5/27,mbtmp3.7/11,ML3.1/3,Error ellipse: s-maj=27.5km s-min=19.8km az=114.0*
NEIC ***04*** *10:11:37.1±0.8,29.28N×130.46E,h43km±8km,mb4.0/1, Error ellipse: s-maj=13.9km s-min=8.2km az=109.0*
ISC 04 10:11:35.6±0.7,29.27N±0.05×130.60E±0.08,h52km±7km, n21,σ0°67/24,mb3.6/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JNN	**Nakanoshima**	**0.85**	**313**	P		**P**	**10 11 51.5**	**+0.1**
JNN				*e*S		**S**	**10 12 03.2**	**0.0**
JAM	**Amami Oshima**	**1.22**	**226**	P		**P**	**10 11 56.9**	**+0.4**
JAM				*e*S		**S**	**10 12 13.3**	**+1.1**
JKC	**Kuchinoerabu**	**1.24**	**344**	P		**P**	**10 11 57.6**	**+0.7**
JTK	**Tokunoshima**	**2.07**	**225**	P		**P**	**10 12 08.8**	**+0.2**
JNAR	**Kushima--Naru**	**2.33**	**14**	P		**P**	**10 12 12.5**	**+0.2**
JTZ	**Takazaki**	**2.66**	**9**	P		**P**	**10 12 17.4**	**+0.4**
JOW	**Kunigami**	**3.18**	**221**	Pn		**P**	**10 12 23.6**	**-0.7**
	2.7nm,0.3s,baz=160,slow=15,SNR=2.3							
JOW				Sn		**S**	**10 12 59.7**	**-1.6**
	5.7nm,0.3s,baz=289,slow=29,SNR=2.8							
JNU	**Nakatsue**	**3.85**	**4**	Pn		**P**	**10 12 34.1**	**+0.3**
	2.3nm,0.3s,baz=48,slow=2.5,SNR=5.8							
KS15	**Wonju Array Si**	**8.46**	**345**	*e*P		**P**	**10 13 37.1**	**-1.0**
JHJ	**Hachijo jima 2**	**8.76**	**62**	Pn		**P**	**10 13 41.6**	**-0.6**
	14nm,0.3s,baz=35,slow=23,SNR=5.2							
MJAR	**Matsushiro Arr**	**9.67**	**39**	Pn		**P**	**10 13 53.9**	**-0.8**
	0.2nm,0.3s,baz=249,slow=14,SNR=2.7							
SONM	**Songino Array**	**26.32**	**321**	P		**P**	**10 17 08.0**	**-0.2**
	0.4nm,0.6s,mb3.1,baz=135,slow=8.1,SNR=3.3							
MKAR	**Makanchi Array**	**41.17**	**309**	P		**P**	**10 19 16.2**	**-0.2**
	0.3nm,0.4s,mb3.3,baz=90,slow=10.0,SNR=8.9							
KURK	**Kurchatov**	**44.14**	**314**	*e*P		**P**	**10 19 40.0**	**-0.6**
	1.2nm,0.4s,mb4.0							
WRA	**Warramunga Arr**	**49.05**	**175**	P		**P**	**10 20 20.5**	**+0.8**
	0.2nm,0.8s,mb3.2,baz=354,slow=8.1,SNR=3.0							
BVAR	**Borovoye Array**	**49.47**	**316**	P		**P**	**10 20 22.5**	**+0.1**
	1.0nm,0.5s,mb4.1,baz=99,slow=9.3,SNR=12							
BRVK	**Borovoye**	**49.53**	**316**	*e*P		**P**	**10 20 22.3**	**-0.6**
AKTO	**Aktyubinsk**	**57.23**	**313**	P		**P**	**10 21 19.9**	**0.0**
	0.4nm,0.5s,mb3.7,baz=76,slow=15,SNR=3.0							
INK	**Inuvik**	**65.28**	**24**	P		**P**	**10 22 14.8**	**+1.1**
	1.0nm,1.1s,mb3.7,baz=270,slow=3.0,SNR=3.7							
INK	**Inuvik**	**65.28**	**24**	P		**P**	**10 22 14.8**	**+1.1**
BRTR	**Keskin Array B**	**76.82**	**308**	P		**P**	**10 23 24.5**	**+0.9**
	0.6nm,0.7s,mb3.6,baz=91,slow=4.2,SNR=4.1							

IDC ***04*** *10:12:12.6±2.6,50.05N×18.96E,mb1 3.5/4, mb1mx3.3/20,mbtmp3.3/4,ML3.1/4,Error ellipse: s-maj=43.5km s-min=9.2km az=135.0*
IPEC ***04*** *10:12:12.9±0.2,50.31N×18.81E,ML2.1/4,Error ellipse: s-maj=2.3km s-min=0.8km az=170.0*
NEIC ***04*** *10:12:12.4±0.6,50.38N×18.78E,h5km,ML2.8(CLL),Error ellipse: s-maj=7.9km s-min=6.1km az=189.0*
WAR ***04*** *10:12:13.3,50.29N×18.84E,ML2.6,Mining Induced*
CSEM ***04*** *10:12:13.4±0.2,50.33N×18.82E,h2km,ML3.2/5,Error ellipse: s-maj=4.5km s-min=2.5km az=9.0*
PRU ***04*** *10:12:14.4,50.28N×18.73E*
VIE ***04*** *10:12:15.9±1.0,50.05N×18.72E,mb2.2/3,ML2.6/3,Error ellipse: s-maj=15.7km s-min=6.6km az=150.0,Suspected Mining induced.*
ISC 04 10:12:11.8±0.4,50.27N±0.03×18.72E±0.03,n39,σ1°33/72, 2C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RAC	**Raciborz**	**0.39**	**241**	*e*PG		**Pg**	**10 12 23.0**	**+3.5**
RAC				*e*SG		**Sg**	**10 12 30.0**	**+5.3**
RAC	**Raciborz**	**0.39**	**241**	*e*Pg		**Pg**	**10 12 23.1**	**+3.6**
RAC				*e*Sg		**Sg**	**10 12 29.7**	**+5.0**
OKC	**Ostrava-Krasne**	**0.57**	**221**	*e*PG		**Pg**	**10 12 25.6**	**+2.4**
OJC	**Ojcow**	**0.69**	**94**	*e*PG		**Pg**	**10 12 26.0**	**+0.4**
OJC				*e*SG		**Sg**	**10 12 34.0**	**-0.8**
OJC	**Ojcow**	**0.69**	**94**	*e*Pg		**Pg**	**10 12 25.4**	**-0.2**
OJC				*e*Sg		**Sg**	**10 12 33.3**	**-1.5**
MORC	**Moravsky Berou**	**0.91**	**237**	*e*P		**Pg**	**10 12 31.4**	**+1.5**
MORC				*e*S		**Sg**	**10 12 44.6**	**+2.6**
MORC	**Moravsky Berou**	**0.91**	**237**	*e*Pg		**Pg**	**10 12 31.5**	**+1.6**
MORC				*e*Sg		**Sg**	**10 12 44.1**	**+2.1**
	30nm,0.2s							
LIKS	**Likavka**	**1.25**	**168**	*e*PN		**Pn**	**10 12 37.8**	**+1.4**
LIKS				*e*SN		**Sn**	**10 12 55.0**	**+0.8**
NIE	**Niedzica**	**1.34**	**129**	*e*PG		**Pg**	**10 12 38.0**	**-0.5**
NIE				*e*SG		**Sg**	**10 12 56.0**	**-0.3**
DPC	**Dobruska-Polom**	**1.54**	**274**	*e*PG		**Pg**	**10 12 41.9**	**-0.6**
DPC				*e*SG		**Sg**	**10 13 03.1**	**0.0**
	21nm,0.2s							
DPC	**Dobruska-Polom**	**1.54**	**274**	*e*Pn		**Pn**	**10 12 42.0**	**+1.4**
DPC				*e*Sg		**Sg**	**10 13 03.3**	**+0.2**
JAVC	**Velka Javorina**	**1.57**	**206**	*e*Sg		**Sg**	**10 13 04.9**	**+0.8**
	18nm,0.4s							
KSP	**Ksiaz**	**1.65**	**291**	*e*PN		**Pn**	**10 12 43.0**	**+0.8**
KSP				*i* PG		**Pg**	**10 12 45.3**	**+0.6**
KSP				*e*SG		**Sg**	**10 13 08.3**	**+1.5**
KSP	**Ksiaz**	**1.65**	**291**	*e*Pn		**Pn**	**10 12 42.9**	**+0.8**
KSP				*e*Pg		**Pg**	**10 12 45.6**	**+0.8**
KSP				*e*Sg		**Sg**	**10 13 08.9**	**+2.1**
KSP	**Ksiaz**	**1.65**	**291**	*e*Pn		**Pn**	**10 12 42.9**	**+0.7**
KSP				*e*			10 12 43.7	
KSP				*i* Pg		**Pg**	**10 12 45.3**	**+0.6**
KSP				*e*Sg		**Sg**	**10 13 08.3**	**+1.5**
KSP	**Ksiaz**	**1.65**	**291**	*i* Pg		**Pg**	**10 12 45.3**	**+0.6**
KSP				*e*Sg		**Sg**	**10 13 08.3**	**+1.5**
VRAC	**Vranov**	**1.68**	**236**	Pg		**Pg**	**10 12 44.2**	**-1.2**
	5.1nm,0.3s,baz=55,slow=16,SNR=29							
VRAC				Lg			10 13 08.3	
	7.4nm,0.3s,baz=145,slow=19,SNR=15							
VRAC	**Vranov**	**1.68**	**236**	*e*Pn		**Pn**	**10 12 44.0**	**+1.4**
VRAC				*e*Sg		**Sg**	**10 13 08.0**	**+0.2**
	12nm,0.2s							
UPC	**Upice**	**1.75**	**279**	*e*SG		**Sg**	**10 13 10.8**	**+0.7**
VYHS	**Vyhne**	**1.78**	**178**	*e*PN		**Pn**	**10 12 44.6**	**+0.6**
VYHS				*e*SN		**Sn**	**10 13 07.2**	**-0.5**
STHS	**Stebnicka Huta**	**1.84**	**117**	*e*PN		**Pn**	**10 12 47.1**	**+2.2**
STHS				*e*SN		**Sn**	**10 13 13.0**	**+3.7**
KRUC	**Moravsky**	**1.94**	**232**	*e*Pn		**Pn**	**10 12 47.0**	**+0.7**
KRUC				*e*Sg		**Sg**	**10 13 14.8**	**-1.5**
	8.8nm,0.2s							
KECS	**Kecovo**	**2.13**	**147**	*e*PG		**Pg**	**10 12 52.5**	**-1.8**
KECS				*e*			10 13 14.6	
KECS	**Kecovo**	**2.13**	**147**	*e*P		**Pn**	**10 12 48.8**	**-0.2**
KECS				*e*Pg		**Pg**	**10 12 52.5**	**-1.8**
KECS				*e*			10 13 14.6	
CRVS	**Cervenica-Dubn**	**2.25**	**127**	*e*PN		**Pn**	**10 12 52.0**	**+1.3**
CRVS				*e*PG		**Pg**	**10 12 54.8**	**-1.8**
CRVS				*e*SN		**Sn**	**10 13 23.8**	**+4.2**
PSZ	**Piszkesteto**	**2.48**	**161⇑**	*e*Pn		**Pn**	**10 12 52.6**	**-1.4**
PSZ				*e*Sn		**Sn**	**10 13 24.6**	**-0.8**
PSZ	**Piszkesteto**	**2.48**	**161**	P		**Pn**	**10 12 51.5**	**-2.5**
KOLS	**Kolonicke sedl**	**2.67**	**119**	*e*		**Pn**	**10 12 56.8**	**0.0**
KOLS				*e*			10 13 01.9	
PRU	**Pruhonice**	**2.71**	**266**	*e*SG		**Sg**	**10 13 39.9**	**-1.9**
BRG	**Berggiesshubel**	**3.11**	**283**	Pg		**Pg**	**10 13 11.9**	**-1.9**
BRG				Sg		**Sg**	**10 13 54.1**	**-1.1**
KHC	**Kasperske Hory**	**3.53**	**253**	*e*PN		**Pn**	**10 13 09.0**	**0.0**
KHC				*e*PG		**Pg**	**10 13 19.5**	**-2.7**
KHC				*e*SG		**Sg**	**10 14 06.7**	**-2.6**
GERES	**GERESS Array B**	**3.57**	**248**	Pn		**Pn**	**10 13 11.2**	**+1.7**
	0.2nm,0.3s,baz=67,slow=15,SNR=6.4							
GERES				Pg		**Pg**	**10 13 17.8**	**-5.2**
	0.9nm,0.3s,baz=65,slow=16,SNR=10.0							
GERES				Lg			10 14 05.7	
	0.9nm,0.3s,baz=71,slow=24,SNR=4.7							
CLL	**Collm**	**3.77**	**288**	P		**Pn**	**10 13 12.8**	**+0.3**
CLL	**Collm**	**3.77**	**288**	*i* PG		**Pg**	**10 13 25.5**	**-1.6**
CLL				*e*SG		**Sg**	**10 14 17.0**	**-0.5**
CLL	**Collm**	**3.77**	**288**	*i* P		**Pn**	**10 13 12.8**	**+0.3**
CLL				*i* Pg		**Pg**	**10 13 25.5**	**-1.6**
CLL				*e*Sg		**Sg**	**10 14 17.0**	**-0.5**
MOA	**Molln**	**3.80**	**232⇑**	*i*Pn		**Pn**	**10 13 13.6**	**+0.7**
MOA				⇓ *i*Sg		**Sg**	**10 14 16.4**	**-2.0**
	comp=E,7.3nm,0.5s							
NOA	**NORSAR Array B**	**11.59**	**342**	Pn		**P**	**10 14 57.3**	**-4.0**
	0.1nm,0.3s,baz=150,slow=12,SNR=2.6							
FINES	**FINESS Array B**	**11.92**	**17**	Pn		**P**	**10 15 00.6**	**-5.3**
	0.3nm,0.3s,baz=192,slow=11,SNR=11							
ARCES	**ARCESS Array B**	**19.60**	**7**	Pn		**P**	**10 16 39.1**	**-4.9**
	0.1nm,0.3s,baz=189,slow=12,SNR=5.9							

NIED ***04*** *10:15:00,29.30N×130.50E,h35km,Mw4.8 Best double couple: M0 1.93×10¹⁶ NP1:φs 21°,δ 79°,λ 85°. NP2:φs 226°,δ 12°,λ 115°.*
BJI ***04*** *10:15:20.8,29.08N×131.05E,h47km,mB5.1,mb4.5, Ms4.6,Msz4.4*
JMA ***04*** *10:15:23.6±0.1,29.27N×130.55E,h76km,M4.6*
JMA Felt I J1.
MOS ***04*** *10:15:23.3±0.9,29.39N×130.46E,h33km,mb5.2/22,Error ellipse: s-maj=10.1km s-min=6.6km az=94.6*
IDC ***04*** *10:15:24.1±5.3,29.35N×130.41E,h27km±36km,mb4.3/21, mb1 4.4/26,mb1mx4.4/30,mbtmp4.5/26,ML3.7/4,MS3.8/1, Ms1 3.8/1,ms1mx2.7/21,Error ellipse: s-maj=15.2km s-min=14.0km az=126.0*
HRVD ***04*** *10:15:26.6±0.7,29.40N×130.75E,h31km±1km,MW4.8/35, Centroid moment Tensor Solution. LP body waves: s18,c22;Mantle waves: s35,c41; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.91±.24; Mθθ -0.31±.15; Mφφ -1.59±.17; Mrθ -0.04±.25; Mrφ -1.03±.11; Mθφ 0.32±.19; Best double couple: M0 2.064×10¹⁶ NP1:φs 216°,δ 42°,λ 100°. NP2:φs 23°,δ 49°,λ 82°. Principal axes: T 1.948, Plg 83°, Azm 238°; N .238, Plg 6°, Azm 28°; P -2.18, Plg 4°, Azm 119°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *10:15:26.6±0.3,29.36N×130.46E,mb4.9/33, MW4.8(NIED) Error ellipse: s-maj=7.6km s-min=4.9km az=146.0*
ISC 04 10:15:24.1±0.5,29.27N±0.03×130.58E±0.04,h44km±3km, h46km±2.2km:pP-P,n159,σ1°15/169,mb4.7/65,MS4.5/9, 5C-5D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JNN	**Nakanoshima**	**0.84**	**313**	P		**P**	**10 15 40.3**	**+0.7**
JNN				S		**S**	**10 15 53.3**	**+2.3**
JAM	**Amami Oshima**	**1.21**	**225**	P		**P**	**10 15 44.9**	**0.0**
JAM				*e*S		**S**	**10 16 01.6**	**+1.2**
JKC	**Kuchinoerabu**	**1.23**	**344**	P		**P**	**10 15 45.6**	**+0.4**
JKC				*e*S		**S**	**10 16 03.2**	**+2.2**
JTN	**Tanegashima 3**	**1.42**	**14**	P		**P**	**10 15 48.0**	**0.0**
JTN				*e*S		**S**	**10 16 07.3**	**+1.6**
JTSR	**Tashiro 2**	**1.91**	**9**	P		**P**	**10 15 55.3**	**+0.4**
JTSR				*e*S		**S**	**10 16 18.5**	**+0.6**
JTK	**Tokunoshima**	**2.06**	**225**	P		**P**	**10 15 57.4**	**+0.4**
JSU	**Suzuyama**	**2.23**	**357**	P		**P**	**10 15 59.0**	**-0.4**
JNAR	**Kushima--Naru**	**2.33**	**15**	P		**P**	**10 16 01.1**	**+0.3**
JOW	**Kunigami**	**3.17**	**221**	Pn		**P**	**10 16 12.2**	**-0.7**
	20nm,0.3s,baz=81,slow=17,SNR=11							
JOW				Sn		**S**	**10 16 48.1**	**-1.7**
	38nm,0.3s,baz=71,slow=19,SNR=4.3							
JOW	**Kunigami**	**3.17**	**221**	P		**P**	**10 16 12.0**	**-0.8**
JNU	**Nakatsue**	**3.85**	**4**	Pn		**P**	**10 16 22.4**	**+0.1**
	9.0nm,0.3s,baz=167,slow=12,SNR=39							
JNU				Sn		**S**	**10 17 05.6**	**-1.3**
	38nm,0.3s,baz=19,slow=21,SNR=8.2							
JKE	**Kume jima 2**	**4.46**	**230**	P		**P**	**10 16 29.4**	**-1.7**
SSE	**Sheshan**	**8.34**	**285**	P		**P**	**10 17 26.5**	**+1.3**
SSE				XP			10 17 47.5	
SSE				AMB	AMB			
	comp=Z,30nm,0.8s							
SSE				AMB	AMB			
	comp=Z,220nm,5.2s							
SSE				LR	LR			
	comp=N,600nm,22.7s							
SSE				LR	LR			
	comp=E,460nm,22.7s							
SSE				LR	LR			
	comp=Z,870nm,16.5s							
JHJ	**Hachijo jima 2**	**8.76**	**62**	Pn		**P**	**10 17 30.9**	**-0.2**
	comp=Z,86nm,0.3s,baz=186,slow=11,SNR=21							
JHJ				LR		LR	10 20 25.9	
	comp=Z,670nm,20.7s,baz=147,slow=34							
YHNB	**Yeheng**	**9.40**	**243**	P		**P**	**10 17 40.1**	**+0.2**
MAJO	**Matsushiro**	**9.67**	**39**	*e*P		**P**	**10 17 41.6**	**-2.1**
MAJO				pmax	pmax			
	comp=Z,19nm,0.7s							
MAJO	**Matsushiro**	**9.67**	**39**	*e*P		**P**	**10 17 41.6**	**-2.1**
	comp=Z,19nm,0.7s							
MAT	**Matsushiro**	**9.67**	**39**	P		**P**	**10 17 41.4**	**-2.3**
MAT	**Matsushiro**	**9.67**	**39**	*e*P		**P**	**10 17 42.0**	**-1.7**
MAT				*e*S		Px	10 17 53.0	
MJAR	**Matsushiro Arr**	**9.68**	**39**	Pn		**P**	**10 17 41.8**	**-1.9**
	comp=Z,1.9nm,0.3s,baz=187,slow=12,SNR=27							
NJ2	**Nanjing**	**10.47**	**288**	*e*P		**P**	**10 17 55.3**	**+0.7**
NJ2				AP			10 18 02.4	
NJ2				PP		PP	10 18 04.0	+1.4
NJ2				AMB	AMB			
	comp=Z,30nm,1.2s							
NJ2				AMB	AMB			
	comp=Z,300nm,4.4s							
NJ2				LR	LR			
	comp=N,1μm,15.6s							
NJ2				LR	LR			
	comp=E,4μm,15.5s							
NJ2				LR	LR			
	comp=Z,1μm,17.7s							
CN2	**Changchun**	**15.07**	**346**	*e*P		**P**	**10 19 00.0**	**+4.3**
CN2				*e*AP			10 19 06.0	
CN2				*e*S		**S**	**10 21 45.4**	**+3.5**
CN2				AMB	AMB			
	comp=Z,70nm,1.2s							
CN2				AMB	AMB			
	comp=Z,500nm,4.0s							
CN2				LR	LR			
	comp=N,2μm,14.0s							
CN2				LR	LR			
	comp=E,650nm,14.0s							
CN2				LR	LR			
	comp=Z,2μm,16.0s							
MDJ	**Mudanjiang**	**15.34**	**357**	P		**P**	**10 18 57.8**	**-1.3**
MDJ				S		**S**	**10 21 48.1**	**+0.1**
MDJ				AMB	AMB			
	comp=Z,10.0nm,2.4s							
MDJ				AMB	AMB			
	comp=Z,330nm,6.5s							
MDJ				LR	LR			
	comp=Z,370nm,20.8s							
ASAJ	**Asahikawa**	**17.64**	**30**	P		**P**	**10 19 26.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=16,slow=28,SNR=3.4							
ENH	**Enshi**	**18.34**	**278**	*e*P		**P**	**10 19 37.8**	**+0.8**
	comp=Z,15nm,0.6s							
HHC	**Hu-ho-hao-te**	**19.34**	**312**	*e*P		**P**	**10 19 48.4**	**-0.2**
HHC				PP		PP	10 20 05.9	-0.5
HHC				AMB	AMB			
	comp=Z,10.0nm,0.9s							
HHC				AMB	AMB			
	comp=Z,200nm,4.5s							
HHC				LR	LR			
	comp=N,540nm,14.3s							
HHC				LR	LR			
	comp=E,1μm,16.7s							
HHC				LR	LR			
	comp=Z,1μm,13.5s							
HABR	**Khabarovsk**	**19.48**	**9**	*e*P		**P**	**10 19 44.0**	**-6.1**
KLR	**Kul'dur**	**19.95**	**2**	*e*P		**P**	**10 19 48.9**	**-6.3**
KLR				MLR	MLR			
	comp=N,900nm,14.0s							
KLR				MLR	MLR			
	comp=Z,2μm,14.0s							
YSS	**Yuzh-Sakhalins**	**20.04**	**25**	*e*P		**P**	**10 19 56.4**	**+0.3**
YSS				pmax	pmax			
	comp=Z,37nm,1.0s							
YSS	**Yuzh-Sakhalins**	**20.04**	**25**	*e*P		**P**	**10 19 53.5**	**-2.6**
GYA	**Guiyang**	**21.32**	**268⇑**	*i*P		**P**	**10 20 10.5**	**+1.1**
GYA				XP			10 20 27.6	
GYA				AMB	AMB			
	comp=Z,20nm,0.6s,mb4.6							
GYA				LR	LR			
	comp=N,870nm,11.8s,MS4.5							
GYA				LR	LR			
	comp=E,940nm,12.8s,MS4.5							
GYA				LR	LR			
	comp=Z,840nm,13.7s,MS4.3							
QIZ	**Qiongzhong**	**21.46**	**246**	*e*P		**P**	**10 20 11.6**	**+0.8**
CD2	**Chengdu**	**23.25**	**281⇑**	*i*P		**P**	**10 20 29.4**	**+0.9**
CD2				PP		PP	10 21 00.0	-0.3
CD2				S		**S**	**10 24 33.4**	**-0.3**
CD2				AMB	AMB			
	comp=Z,20nm,1.3s,mb4.4							
CD2				LR	LR			
	comp=E,600nm,12.0s							
CD2				LR	LR			
	comp=Z,600nm,13.2s,MS4.2							
LZH	**Lanzhou**	**23.47**	**294**	*e*P		**P**	**10 20 31.0**	**+0.5**
LZH				AP			10 20 41.5	
LZH				XP			10 20 45.8	
LZH				PP		PP	10 21 03.2	0.0
LZH				*e*S		**S**	**10 24 37.3**	**-0.1**
LZH				AMB	AMB			
	comp=Z,40nm,1.3s,mb4.7							
LZH				AMB	AMB			
	comp=Z,230nm,5.0s							
LZH				LR	LR			
	comp=E,1μm,12.6s							
LZH				LR	LR			
	comp=Z,2μm,15.0s,MS4.7							
KMI	**Kunming**	**25.08**	**267**	P		**P**	**10 20 47.1**	**+0.9**
KMI				S		**S**	**10 25 06.7**	**+1.6**
KMI				LR	LR			
	comp=N,370nm,13.9s,MS4.5							
KMI				LR	LR			
	comp=E,1μm,13.6s,MS4.5							
KMI				LR	LR			
	comp=Z,1μm,13.9s,MS4.5							
ULN	**Ulaanbaatar**	**25.97**	**322**	*e*P		**P**	**10 20 54.0**	**-0.3**
ULN	**Ulaanbaatar**	**25.97**	**322**	*e*P		**P**	**10 20 53.1**	**-1.3**
	comp=Z,8.3nm,0.8s,mb4.3							
CIT	**Chita**	**26.02**	**336**	*e*P		**P**	**10 20 54.2**	**-0.5**
CIT				pmax	pmax			
	comp=Z,37nm,1.1s,mb4.8							
SONM	**Songino Array**	**26.31**	**321**	P		**P**	**10 20 55.1**	**-2.4**
	comp=Z,3.8nm,0.9s,mb3.9,baz=136,slow=9.0,SNR=19							
GTA	**Gaotai**	**27.23**	**300**	*e*P		**P**	**10 21 10.9**	**+4.9**
GTA				AP		pP	10 21 22.5	+5.0
GTA				XP		sP	10 21 28.1	+5.2
GTA				PP		PP	10 21 57.9	+4.3
GTA				S		**S**	**10 25 45.3**	**+5.1**
GTA				XS			10 26 05.5	
GTA				LR	LR			
	comp=N,610nm,18.3s,MS4.5							
GTA				LR	LR			
	comp=E,900nm,15.2s,MS4.5							
GTA				LR	LR			
	comp=Z,960nm,15.6s,MS4.5							
ZAK	**Zakamensk**	**29.46**	**323**	*e*P		**P**	**10 21 24.6**	**-1.3**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s,mb3.7							
PET	**Petropavlovsk**	**31.42**	**33**	*e*P		**P**	**10 21 39.6**	**-3.7**
PET				pmax	pmax	

comp=Z,300nm,19.0s,MS4.2
BILL Bilibino 44.14 18 *e*P **P 10 23 29.2 -0.6**
comp=Z,22nm,1.0s,mb4.8
AAK Ala-Archa 46.53 302 *i* P **P 10 23 47.7 -1.4**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
AAK Ala-Archa 46.53 302 *e*P **P 10 23 47.6 -1.5**
comp=Z,0.8nm,0.6s,mb3.8
WRAB Tennant Creek 49.05 175 *e*P **P 10 24 09.1 0.0**
WRAB Tennant Creek 49.05 175 *e*P **P 10 24 07.9 -1.2**
comp=Z,7.4nm,0.8s,mb4.8
WRA Warramunga Arr 49.06 175 P **P 10 24 08.9 -0.2**
comp=Z,4.5nm,0.9s,mb4.5,baz=350,slow=8.2,SNR=19
WB2 Warramunga Arr 49.06 175 *e*P **P 10 24 08.9 -0.2**
BVAR Borovoye Array 49.46 316 P **P 10 24 10.7 -1.0**
comp=Z,9.3nm,0.7s,mb4.9,baz=92,slow=9.2,SNR=73
BVAR PcP PcP 10 25 33.7 0.0
comp=Z,1.7nm,0.7s,baz=115,slow=3.5,SNR=2.7
BRVK Borovoye 49.53 316 *e*P **P 10 24 10.8 -1.5**
BRVK pmax pmax
comp=Z,18nm,0.8s,mb5.2
BRVK Borovoye 49.53 316 *e*P **P 10 24 10.8 -1.4**
comp=Z,18nm,0.8s,mb5.2
TNA Tin City 51.99 28 *e*P **P 10 24 30.8 0.0**
comp=Z,11nm,1.0s,mb4.7
ARU Arti 56.34 321 ⇓ *i*P **P 10 25 01.3 -1.5**
ARU *e* pP 10 25 16.7 +1.5
ARU *e* 10 25 57.0
ARU *e* 10 27 03.5
ARU *e*SS **S 10 32 46.9 -1.3**
ARU *e*SS SS 10 36 35.1 -0.7
ARU pmax pmax
comp=Z,25nm,1.0s,mb5.2
ARU MLR MLR
comp=N,100nm,16.0s,MS4.6
ARU MLR MLR
comp=Z,500nm,16.0s,MS4.7
ARU MLR MLR
comp=E,400nm,16.5s,MS4.6
ARU Arti 56.34 321 *e*P **P 10 25 00.8 -2.0**
comp=E,23nm,0.9s,mb5.2
SOKR Solikamsk 57.12 324 *e*P **P 10 25 07.2 -1.2**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
AKTO Aktyubinsk 57.23 313 P **P 10 25 07.5 -1.7**
comp=Z,7.8nm,0.9s,mb4.8,baz=85,slow=3.7,SNR=21
IMA2 Indian Mountai 57.86 28 *e*P **P 10 25 13.3 -0.2**
KDAK Kodiak Island 58.84 38 P **P 10 25 19.6 -0.8**
comp=Z,20nm,0.8s,mb5.2,baz=257,slow=2.7,SNR=15
FIB Fire Island 59.70 33 *e*P **P 10 25 26.5 +0.2**
FIB pmax pmax
comp=Z,17nm,0.8s,mb5.1
FIB Fire Island 59.70 33 *e*P **P 10 25 26.5 +0.2**
comp=Z,17nm,0.8s,mb5.1
MCK McKinley 60.01 30 *e*P **P 10 25 27.9 -0.5**
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MCK McKinley 60.01 30 *e*P **P 10 25 27.9 -0.5**
comp=Z,5.5nm,0.8s,mb4.6
PMR Palmer 60.15 33 *e*P **P 10 25 28.1 -1.3**
PMR pmax pmax
comp=Z,25nm,1.2s,mb5.1
PMR Palmer 60.15 33 *e*P **P 10 25 28.1 -1.3**
comp=Z,25nm,1.2s,mb5.1
COLA College 60.36 29 *e*P **P 10 25 30.8 +0.1**
comp=Z,7.4nm,0.8s,mb4.8
ILAR Eielson Array 60.78 29 P **P 10 25 32.6 -1.0**
comp=Z,5.1nm,0.8s,mb4.7,baz=269,slow=5.9,SNR=41
STKA Stephens Creek 61.70 169 P **P 10 25 40.1 -0.2**
comp=Z,1.5nm,0.8s,mb4.2,baz=144,slow=17,SNR=3.1
INK Inuvik 65.28 24 P **P 10 26 02.9 -0.3**
comp=Z,5.5nm,0.8s,mb4.7,baz=271,slow=6.4,SNR=24
ARCES ARCESS Array B 67.95 339 P **P 10 26 19.1 -0.9**
comp=Z,1.1nm,0.7s,mb4.0,baz=45,slow=6.9,SNR=5.2
GOF Gofitskoye 68.31 310 *e*P **P 10 26 21.9 -0.8**
GOF pmax pmax
comp=Z,20nm,1.0s,mb5.1
JOF Joensuu 68.41 331 *e*p **P 10 26 21.4 -1.6**
OBN Obninsk 68.72 322 P **P 10 26 24.0 -1.0**
OBN *e* pP 10 26 38.2 +0.4
OBN pmax pmax
comp=Z,18nm,1.7s,mb4.7
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.5
GNI Garni 68.84 305 *e*P **P 10 26 26.5 +0.4**
GNI pmax pmax
comp=Z,11nm,1.3s
KIV Kislovodsk 68.92 309 *e*P **P 10 26 25.5 -1.0**
KIV pmax pmax
comp=Z,39nm,1.2s,mb5.2
KIV Kislovodsk 68.92 309 *e*P **P 10 26 26.4 -0.1**
comp=Z,34nm,1.3s,mb5.1
KAF Kangasniemi 70.85 331 *e*p **P 10 26 37.0 -1.0**
FINES FINESS Array B 71.25 331 P **P 10 26 38.8 -1.6**
comp=Z,1.5nm,0.5s,mb4.2,baz=50,slow=5.0,SNR=19
FINES FINESS Array B 71.25 331 *i* P **P 10 26 38.7 -1.7**
FINES pmax pmax
comp=Z,2.0nm,0.5s
ANN Anapa 72.10 312 *e*P **P 10 26 44.7 -1.0**
ANN *e**PP pP 10 27 06.2 +7.8
ANN *e*S S 10 36 00.7 -2.5
ANN pmax pmax
comp=Z,35nm,1.0s,mb5.2
DAG Danmarks Havn 72.52 353 ⇑ *i*P **P 10 26 47.0 -0.5**
comp=Z,2.2nm,0.8s,mb4.1
DAG Danmarks Havn 72.52 353 ⇑ *e*P **P 10 26 47.0 -0.5**
DAG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
DAG Danmarks Havn 72.52 353 ⇑ *e*P **P 10 26 47.0 -0.5**
comp=Z,2.2nm,0.8s,mb4.1
AKASG Malin Array Be 74.58 320 P **P 10 26 59.0 -1.1**
comp=Z,2.7nm,0.4s,mb4.5,baz=60,slow=6.2,SNR=12
AKASG Malin Array Be 74.58 320 *i* P **P 10 26 59.0 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
MZLS Mizel 74.85 289 P **P 10 27 02.4 +0.2**
YKA Yellowknife Ar 74.90 26 P **P 10 27 02.4 +0.8**
comp=Z,3.7nm,0.8s,mb4.4,baz=303,slow=5.6,SNR=23
YKA Yellowknife Ar 74.90 26 *i* P **P 10 27 02.4 +0.8**
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 74.90 26 P **P 10 27 02.4 +0.8**
HILS Ha'il 76.18 294 P **P 10 27 10.5 +0.8**
AFFS 'Afif 76.71 290 P **P 10 27 12.8 0.0**
BR131 Keskin Array S 76.81 308 *e*P **P 10 27 13.6 +0.6**
comp=Z,3.9nm,0.7s,mb4.5
BRTR Keskin Array B 76.81 308 P **P 10 27 13.6 +0.6**
comp=Z,3.8nm,0.7s,mb4.4,baz=105,slow=4.5,SNR=20
NB2 NORSAR Subarra 77.50 334 P **P 10 27 14.6 -1.8**
comp=Z,2.1nm,0.7s,mb4.2,baz=48,slow=5.6
NOA NORSAR Array B 77.50 334 P **P 10 27 14.9 -1.6**
comp=Z,1.5nm,0.7s,mb4.0,baz=49,slow=5.4,SNR=3.6
TATS Tathilth 78.27 286 P **P 10 27 22.0 +0.5**
STHS Stebnicka Huta 79.67 321 *e*P **P 10 27 33.0 +4.5**
CRVS Cervenica-Dubn 79.83 321 *e*P **P 10 27 31.8 +2.4**
JMQS Jabal Moqyreh 80.16 297 P **P 10 27 32.0 +0.4**
ALWS Ilw as Safayha 80.59 298 P **P 10 27 34.7 +0.8**
KECS Kecovo 80.60 321 *e*P **P 10 27 29.8 -3.7**
JMOS Jabal al Moall 80.62 298 P **P 10 27 34.3 +0.2**
HAQS Haql 80.81 298 P **P 10 27 35.3 +0.3**
BDAS Al Bad' 80.97 297 P **P 10 27 35.8 -0.1**
VYHS Vyhne 81.50 321 *e*P **P 10 27 39.5 +1.3**
CLL Collm 82.83 326 ⇓ P **P 10 27 45.5 +0.5**
comp=Z,logA/T=1.3,mb5.1
CLL Collm 82.83 326 ⇓ *i*P **P 10 27 45.5 +0.5**
CLL pmax pmax
comp=Z,36nm,1.8s,mb5.1
CLL MLR MLR
comp=Z,173μm,0.6s
CLL Collm 82.83 326 ⇓ *i*P **P 10 27 45.5 +0.5**
comp=Z,36nm,1.8s,mb5.1
BMO Blue Mountains 83.80 42 *e*P **P 10 27 51.3 +1.2**
BMO pmax pmax
comp=Z,12nm,1.3s,mb4.9
BMO Blue Mountains 83.80 42 *e*P **P 10 27 51.3 +1.3**
comp=Z,12nm,1.3s,mb4.8
KHC Kasperske Hory 83.91 324 *i* P **P 10 27 51.0 +0.5**
GERES GERESS Array B 84.02 324 P **P 10 27 51.5 +0.4**
comp=Z,1.1nm,0.9s,mb4.0,baz=63,slow=3.0,SNR=7.9
GRA1 Grafenberg Arr 84.74 325 *e*P **P 10 27 56.0 +1.3**
comp=Z,15nm,1.3s,mb5.0
GRA1 *e*pP pP 10 28 10.0 +2.3
GRF Grafenberg Arr 84.74 325 *e*P **P 10 27 56.0 +1.3**
GRF *e**PP pP 10 28 10.0 +2.3
GRF pmax pmax
comp=Z,15nm,1.3s,mb5.0
GRF Grafenberg Arr 84.74 325 *e*P **P 10 27 56.0 +1.3**
comp=Z,15nm,1.3s,mb5.0
GRF *e*pP pP 10 28 10.0 +2.3
CMB Columbia Colle 85.79 48 *e*P **P 10 28 01.0 +0.9**
CMB pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
CMB Columbia Colle 85.79 48 *e*P **P 10 28 01.0 +0.9**
comp=Z,7.5nm,0.8s,mb5.0
DLMT Dillon 86.16 39 *e*P **P 10 28 03.1 +1.4**
comp=Z,16nm,0.9s,mb5.3
HLID Hailey 86.24 41 *e*P **P 10 28 04.2 +2.0**
comp=Z,8.6nm,0.9s,mb5.0
BOZ Bozeman (W) 86.51 38 *e*P **P 10 28 05.0 +1.6**
BOZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
BOZ Bozeman (W) 86.51 38 *e*P **P 10 28 05.0 +1.6**
comp=Z,2.8nm,0.9s,mb4.5
EKA Eskdalemuir Ar 86.91 336 P **P 10 28 04.5 -0.6**
comp=Z,2.6nm,0.9s,mb4.4,baz=27,slow=3.2,SNR=3.7
NVAR Mina Array Bea 86.91 47 P **P 10 28 07.7 +2.1**
comp=Z,3.1nm,0.7s,mb4.7,baz=283,slow=7.4,SNR=32
NVAR Mina Array Bea 86.91 47 P **P 10 28 07.7 +2.1**
ELK Elko 87.46 44 *e*P **P 10 28 09.6 +1.4**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 87.46 44 *e*P **P 10 28 09.6 +1.4**
comp=Z,4.9nm,1.0s,mb4.7
YMR Madison River 87.49 39 *e*P **P 10 28 10.8 +2.6**
comp=Z,5.5nm,0.8s,mb4.8
IMW Indian Meadow 88.00 39 *e*P **P 10 28 13.5 +2.8**
comp=Z,8.9nm,1.0s,mb5.0
TPAW Teton Pass 88.25 40 *e*P **P 10 28 14.8 +2.9**
comp=Z,5.8nm,0.8s,mb4.9
HWUT Hardware Ranch 89.10 42 *e*P **P 10 28 17.9 +1.9**
comp=Z,1.1nm,1.1s,mb5.1
PDAR Pinedale Array 89.50 40 P **P 10 28 19.4 +1.5**
comp=Z,2.8nm,0.8s,mb4.6,baz=323,slow=2.3,SNR=25
ARUT Antelope Range 90.37 45 *e*P **P 10 28 23.5 +1.4**
ARUT *e* pP 10 28 37.7 +2.4
MSU Marysvale 90.69 44 *e*P **P 10 28 25.9 +2.3**
ULM Lac du Bonnet 90.77 28 P **P 10 28 24.6 +0.9**
comp=Z,4.4nm,0.9s,mb4.8,baz=318,slow=10,SNR=4.9
SRU San Rafael 91.31 43 *e*P **P 10 28 28.5 +2.1**
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
SRU San Rafael 91.31 43 *e*P **P 10 28 28.5 +2.0**
comp=Z,7.5nm,0.9s,mb5.0
WUAZ Wupatki 93.08 46 *e*P **P 10 28 37.0 +2.4**
comp=Z,10.0nm,1.0s,mb5.2
TXAR Lajitas Array 102.04 46 P Pdif 10 29 17.2 +1.8
comp=Z,0.5nm,0.8s,baz=284,slow=3.7,SNR=6.8
TORD Torodi Ar. Bea 115.11 303 PKP PKPdf 10 34 01.8 +0.6
comp=Z,0.9nm,1.1s,baz=45,slow=2.0,SNR=3.5
LPAZ La Paz 158.48 57 PKP PKPdf 10 35 21.3 +4.1
comp=Z,0.9nm,0.8s,baz=304,slow=3.6,SNR=3.5
LPAZ PKPab PKPab 10 35 55.8 +1.4
comp=Z,1.0nm,0.8s,baz=326,slow=7.3,SNR=4.9
LPAZ La Paz 158.48 57 PKP PKPdf 10 35 21.3 +4.1
LPAZ PKPab PKPab 10 35 55.8 +1.4
BDFB Brasilia 166.38 354 PKP PKPdf 10 35 27.8 +2.7
comp=Z,2.0nm,0.6s,baz=129,slow=4.0,SNR=3.0

JMA 04 10:23:08.6±0.1, 29.34N×130.56E, h55km, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.78**	**310**	P	P	10 23 23.8	+0.1
JAM	**Amami Oshima**	**1.25**	**222**	P	P	10 23 30.2	+0.1
JTN	**Tanegashima 3**	**1.36**	**15**	P	P	10 23 31.6	-0.2
JNAR	**Kushima--Naru**	**2.26**	**16**	P	P	10 23 45.0	+0.6
JTZ	**Takazaki**	**2.59**	**10**	P	P	10 23 49.3	+0.2

*NIED **04** 10:23:00,29.30N×130.50E,h20km,Mw5.0 Best double couple: M₀3.31×10¹⁶ NP1:φs37°,δ68°,λ105°. NP2:φs181°,δ27°,λ57°.*
*BJI **04** 10:23:14.1,29.10N×130.94E,h27km,mB5.0,mb5.1,Ms4.9,Msz4.7*
*HRVD **04** 10:23:19.7±0.3,29.17N×130.72E,h35km,MW5.0/61,Centroid moment Tensor Solution. LP body waves: s38,c53;Mantle waves: s61,c93; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.59±.21; Mθθ-1.08±.12; Mφφ-2.50±.14; Mrθ 1.21±.13; Mθφ-1.51±.08; Mφr 1.32±.13; Best double couple: M₀3.953×10¹⁶ NP1:φs208°,δ32°,λ83°. NP2:φs37°,δ58°,λ95°. Principal axes: T 4.029, Plg76°, Azm320°; N -.143, Plg4°, Azm214°; P -3.876, Plg13°, Azm124°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 10:23:19.7±0.2,29.38N×130.37E,mb5.2/94,MS4.8/6, MW4.9(NIED) Error ellipse: s-maj=4.9km s-min=3.7km az=149.0*
NEIC Recorded [1 JMA] on Amami-oshima.
*JMA **04** 10:23:19.9±0.1,29.28N×130.55E,h63km±4km,M5.0*
JMA Felt II J1.
*MOS **04** 10:23:20.6±0.9,29.69N×130.35E,h33km,mb5.4/71, MS5.0/13,Error ellipse: s-maj=7.6km s-min=4.2km az=114.9*
*IDC **04** 10:23:22.0±1.3,29.38N×130.42E,h45km±13km,mb4.8/27, mb1 4.9/33,mb1mx4.9/34,mbtmp5.0/33,ML4.3/5,MS4.4/16, Ms1 4.4/16,ms1mx4.1/33,Error ellipse: s-maj=13.1km s-min=9.4km az=122.0*

ISC 04 10:23:19.7±0.4, 29.36N±0.02×130.47E±0.03, h38km±3km, h27km±2.6km:pP-P,n496,σ1s08/492,mb5.2/162,MS4.7/37, 27C-16D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.71**	**313**	P	P	**10 23 35.4**	**+2.2**
JNN				S	S	**10 23 48.1**	**+5.1**
JKC	**Kuchinoerabu**	**1.12**	**348**	P	P	**10 23 41.4**	**+2.3**
JZK	**Kikaishima**	**1.13**	**203**	P	P	**10 23 39.6**	**+0.4**
JZK				*e*S	S	**10 23 53.3**	**-0.5**
JAM	**Amami Oshima**	**1.22**	**219**	P	P	**10 23 41.0**	**+0.6**
JTN	**Tanegashima 3**	**1.36**	**19**	P	P	**10 23 43.8**	**+1.2**
JTSR	**Tashiro 2**	**1.84**	**12**	P	P	**10 23 50.9**	**+1.5**
JTK	**Tokunoshima**	**2.06**	**221**	P	P	**10 23 53.1**	**+0.5**
JSU	**Suzuyama**	**2.14**	**360**	P	P	**10 23 55.0**	**+1.4**
JNAR	**Kushima--Naru**	**2.26**	**18**	P	P	**10 23 56.8**	**+1.4**
JSJ	**Shimokoshiki**	**2.40**	**344**	P	P	**10 23 59.2**	**+1.8**
JTZ	**Takazaki**	**2.58**	**12**	P	P	**10 24 01.3**	**+1.3**
JZO	**Okuchi**	**2.77**	**2**	P	P	**10 24 04.0**	**+1.3**
JTSN	**Tsuno**	**3.01**	**17**	P	P	**10 24 06.2**	**+0.1**
JOW	**Kunigami**	**3.18**	**218**	P	P	**10 24 08.2**	**-0.3**
JOW				S	S	**10 24 47.5**	**+1.8**
JKIT	**Kitakata**	**3.36**	**14**	P	P	**10 24 11.7**	**+0.7**
JNU	**Nakatsue**	**3.76**	**5**	P	P	**10 24 18.2**	**+1.5**
JNU				S	S	**10 25 01.6**	**+1.2**
JJT2	**Tamagusuku 2**	**4.02**	**218**	P	P	**10 24 20.6**	**+0.2**
UWA2	**Uwa jima 2**	**4.26**	**25**	P	P	**10 24 22.0**	**-1.8**
JFA	**Akaike**	**4.34**	**4**	P	P	**10 24 26.1**	**+1.1**
JKE	**Kume jima 2**	**4.45**	**228**	P	P	**10 24 25.4**	**-1.1**
JAJ2	**Tsuna**	**6.28**	**36**	P	P	**10 24 51.5**	**-0.8**
JKN2	**Miekihoku**	**6.93**	**44**	P	P	**10 24 59.6**	**-1.7**
JIE	**Ise**	**7.29**	**45**	P	P	**10 25 04.9**	**-1.5**
JFM	**Mihama**	**7.71**	**36**	P	P	**10 25 11.2**	**-1.0**
SSE	**Sheshan**	**8.22**	**284**	P	P	**10 25 20.9**	**+1.6**
SSE				AMB	AMB		
SSE				AMB	AMB		
SSE				LR	LR		
SSE				LR	LR		
SSE				LR	LR		
KS15	**Wonju Array Si**	**8.34**	**346**	*e*P	P	**10 25 20.3**	**-0.7**
JSG	**Sagara**	**8.42**	**49**	P	P	**10 25 20.9**	**-1.2**
JKG	**Kaga**	**8.47**	**34**	P	P	**10 25 22.2**	**-0.6**
SHZ3	**Shizuoka 3**	**8.68**	**47**	P	P	**10 25 24.0**	**-1.6**
INCN	**Inchon**	**8.71**	**339**	P	P	**10 25 23.5**	**-2.6**
INCN				*e*		10 25 28.9	
JHJ	**Hachijo jima 2**	**8.80**	**62**	P	P	**10 25 25.9**	**-1.4**
	comp=Z,63nm,0.3s,baz=126,slow=8.7,SNR=18						
JGN	**Niukaw**	**8.94**	**38**	P	P	**10 25 27.9**	**-1.4**
JYN	**Shimob**	**9.16**	**46**	P	P	**10 25 31.5**	**-0.8**
YHNB	**Yeheng**	**9.36**	**242**	*e*P	P	**10 25 31.7**	**-3.4**
JOD2	**Odawara 2**	**9.37**	**49**	P	P	**10 25 33.8**	**-1.3**
MAJO	**Matsushiro**	**9.66**	**40**	*e*P	P	**10 25 36.7**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,70nm,0.9s						
MAJO	**Matsushiro**	**9.66**	**40**	*e*P	P	**10 25 36.7**	**-2.6**
	comp=Z,70nm,0.9s						
MAT	**Matsushiro**	**9.66**	**40**	P	P	**10 25 37.1**	**-2.2**
MAT	**Matsushiro**	**9.66**	**40**	P	P	**10 25 37.8**	**-1.5**
MAT	**Matsushiro**	**9.66**	**40**	*e*P	P	**10 25 38.0**	**-1.3**
MAT				*e*S	Px	10 25 56.0	
MJAR	**Matsushiro Arr**	**9.66**	**40**	P	P	**10 25 38.4**	**-0.9**
	comp=Z,6.0nm,0.3s,baz=242,slow=14,SNR=64						
NJ2	**Nanjing**	**10.36**	**288**	*e*P	P	**10 25 50.2**	**+1.4**
NJ2				AP		10 25 57.3	
NJ2				PP	PP	10 25 58.9	+2.3
NJ2				XP		10 26 02.1	
NJ2				AMB	AMB		
	comp=Z,140nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,220nm,8.0s						
NJ2				LR	LR		
	comp=N,5μm,19.0s						
NJ2				LR	LR		
	comp=E,8μm,14.6s						
NJ2				LR	LR		
	comp=Z,4μm,14.7s						
CBIJ	**Chichi jima**	**10.57**	**100**	P	P	**10 25 47.8**	**-4.0**
	comp=Z,36nm,0.3s,baz=294,slow=17,SNR=9.4						
TIA	**Tai'an**	**13.14**	**305**	P	P	**10 26 27.2**	**+1.0**
TIA				LR	LR		
	comp=N,4μm,13.0s						
TIA				LR	LR		
	comp=E,6μm,14.0s						
SNY	**Shenyang**	**13.64**	**338**	⇑P	P	**10 26 35.3**	**+2.5**
SNY				S	S	**10 29 18.0**	**+14**
SNY				LR	LR		
	comp=N,4μm,13.9s						
SNY				LR	LR		
	comp=E,2μm,11.4s						
SNY				LR	LR		
	comp=Z,6μm,12.7s						
CN2	**Changchun**	**14.96**	**346**	*e*P	P	**10 26 53.0**	**+2.9**
CN2				*e*AP		10 27 00.9	
CN2				*e*S	S	**10 29 39.5**	**+4.3**
CN2				AMB	AMB		
	comp=Z,260nm,0.7s						
CN2				AMB	AMB		
	comp=Z,820nm,5.0s						
CN2				LR	LR		
	comp=N,4μm,15.0s						
CN2				LR	LR		
	comp=E,2μm,15.0s						
CN2				LR	LR		
	comp=Z,4μm,16.0s						
MDJ	**Mudanjiang**	**15.24**	**358**	P	P	**10 26 53.8**	**+0.1**
MDJ				S	S	**10 29 41.9**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,300nm,5.7s						
MDJ				LR	LR		
	comp=N,1μm,15.5s						
MDJ				LR	LR		
	comp=E,330nm,10.0s						
MDJ				LR	LR		
	comp=Z,2μm,17.4s						
MDJ	**Mudanjiang**	**15.24**	**358**	*e*P	P	**10 26 52.4**	**-1.3**
	comp=Z,19nm,0.9s						
GZH	**Guangzhou**	**16.59**	**252**	P	P	**10 27 05.5**	**-5.5**
GZH				LR	LR		
	comp=N,2μm,21.1s						
GZH				LR	LR		
	comp=E,910nm,22.4s						
GZH				LR	LR		
	comp=Z,2μm,19.9s						
TGY	**Tagaytay City**	**17.57**	**212**	P	P	**10 27 22.9**	**-0.5**
	comp=Z,39nm,0.3s,baz=162,slow=8.7,SNR=4.1						
ASAJ	**Asahikawa**	**17.61**	**30**	P	P	**10 27 23.4**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=223,slow=16,SNR=11						
ENH	**Enshi**	**18.24**	**278**	*e*P	P	**10 27 31.7**	**+0.1**
	comp=Z,98nm,0.8s						
XAN	**Xi'an**	**18.91**	**290**	P	P	**10 27 39.0**	**-0.8**
XAN				AP		10 27 45.5	
XAN				AMB	AMB		
	comp=Z,250nm,0.8s						
HHC	**Hu-ho-hao-te**	**19.21**	**312**	*e*P	P	**10 27 40.3**	**-2.8**
HHC				AP		10 27 48.1	
HHC				XP		10 27 52.4	
HHC				PCP	PcP	10 32 04.7	-0.5
HHC				SCP		10 35 37.0	
HHC				PCS		10 35 40.5	
HHC				AMB	AMB		
	comp=Z,40nm,0.7s						
HHC				AMB	AMB		
	comp=Z,1μm,4.9s						
HHC				LR	LR		
	comp=N,1μm,14.3s						
HHC				LR	LR		
	comp=E,2μm,13.4s						
HHC				LR	LR		
	comp=Z,3μm,13.4s						
KLR	**Kul'dur**	**19.86**	**2**	*e*P	P	**10 27 44.9**	**-5.3**
KLR				pmax	pmax		
	comp=Z,60nm,0.8s						
KLR				MLR	MLR		
	comp=N,2μm,13.0s						
KLR				MLR	MLR		
	comp=E,700nm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s						
YSS	**Yuzh-Sakhalins**	**20.00**	**25** ⇑ *i*P		P	**10 27 52.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**20.00**	**25**	*e*P	P	**10 27 51.1**	**-0.6**
	comp=Z,94nm,1.1s						
BTO	**Baotou**	**20.12**	**309**	*e*P	P	**10 27 52.4**	**-0.6**
BTO				AMB	AMB		
	comp=Z,20nm,0.6s						
GUMO	**Guam**	**20.60**	**137**	P	P	**10 27 57.0**	**-1.1**
	comp=Z,272nm,0.8s,baz=191,slow=17,SNR=9.4						
GUMO				LR	LR	10 34 44.7	
	comp=Z,603nm,20.0s,MS4.0,baz=297,slow=33						
GUMO	**Guam**	**20.60**	**137**	*e*P	P	**10 27 57.1**	**-1.1**
GUMO				pmax	pmax		
	comp=Z,240nm,0.9s						
GUMO	**Guam**	**20.60**	**137**	*e*P	P	**10 27 57.1**	**-1.1**
	comp=Z,240nm,0.9s						
GYA	**Guiyang**	**21.23**	**268** ⇑ *i*P		P	**10 28 05.1**	**+0.5**
GYA				AP		10 28 12.7	
GYA				XP		10 28 15.8	
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,170nm,3.8s						
GYA				LR	LR		
	comp=N,1μm,11.4s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,13.8s,MS4.8						
GYA				LR	LR		
	comp=Z,3μm,14.4s,MS4.8						
QIZ	**Qiongzhong**	**21.41**	**246**	P	P	**10 28 07.0**	**+0.6**
QIZ				*e*S	S	**10 32 02.9**	**+6.0**
QIZ				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.0						
QIZ				LR	LR		
	comp=N,1μm,17.1s,MS4.5						
QIZ				LR	LR		
	comp=E,1μm,17.1s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,13.4s,MS4.5						
HIA	**Hailar**	**21.50**	**341**	*e*P	P	**10 28 05.4**	**-1.7**
HIA				pmax	pmax		
	comp=Z,23nm,0.6s						
HIA				MLR	MLR		
	comp=Z,2μm,20.0s						
HIA	**Hailar**	**21.50**	**341**	*e*P	P	**10 28 05.4**	**-1.7**
	comp=Z,23nm,0.6s,mb4.8						
HIA				LR	LR		
	comp=Z,2μm,20.0s,MS4.4						

CD2	**Chengdu**	**23.14**	**281**	P	**P**	**10 28 24.4**	**+0.9**		
CD2				PP	PP	10 28 54.9	+0.4		
CD2				S	**S**	**10 32 29.4**	**+1.2**		
CD2				AMB	AMB				
	comp=Z,140nm,1.1s,mb5.3								
CD2				LR	LR				
	comp=E,1μm,14.4s								
CD2				LR	LR				
	comp=Z,1μm,13.2s,MS4.6								
LZH	**Lanzhou**	**23.34**	**294**	⇓P	**P**	**10 28 27.0**	**+1.6**		
LZH				AP		10 28 34.5			
LZH				XP		10 28 37.8			
LZH				PP	PP	10 28 58.2	+0.9		
LZH				*e*S	**S**	**10 32 31.9**	**+0.2**		
LZH				AMB	AMB				
	comp=Z,100nm,1.3s,mb5.1								
LZH				AMB	AMB				
	comp=Z,330nm,5.0s								
LZH				LR	LR				
	comp=N,2μm,12.3s								
LZH				LR	LR				
	comp=Z,3μm,15.0s,MS4.9								
KMI	**Kunming**	**24.99**	**267**	P	**P**	**10 28 41.7**	**+0.2**		
KMI				AP		10 28 49.3			
KMI				XP		10 28 52.4			
KMI				PP	PP	10 29 18.6	-0.9		
KMI				S	**S**	**10 33 00.3**	**+0.2**		
KMI				XS		10 33 13.3			
KMI				AMB	AMB				
	comp=Z,160nm,0.8s,mb5.6								
KMI				LR	LR				
	comp=N,880nm,12.6s,MS4.9								
KMI				LR	LR				
	comp=E,2μm,13.6s,MS4.9								
KMI				LR	LR				
	comp=Z,3μm,13.6s,MS4.9								
ULN	**Ulaanbaatar**	**25.84**	**322**	*e*P	**P**	**10 28 48.3**	**-0.9**		
ULN	**Ulaanbaatar**	**25.84**	**322**	*e*P	**P**	**10 28 47.9**	**-1.3**		
	comp=Z,18nm,0.6s,mb4.8								
ULN				LR	LR				
	comp=Z,2μm,21.0s,MS4.6								
CIT	**Chita**	**25.89**	**336**	*e*P	**P**	**10 28 49.8**	**+0.1**		
CIT				*e*	pP	10 28 58.1	-1.9		
CIT				pmax	pmax				
	comp=Z,110nm,1.0s,mb5.3								
SONM	**Songino Array**	**26.18**	**321**	P	**P**	**10 28 51.5**	**-0.8**		
	comp=Z,15nm,0.5s,mb4.8,baz=140,slow=9.8,SNR=76								
SONM				PcP	PcP	10 32 19.0	-0.3		
	comp=Z,1.4nm,0.6s,baz=186,slow=3.3,SNR=5.1								
SONM				LR	LR	10 40 37.5			
	comp=Z,3μm,18.1s,MS4.8,baz=150,slow=40								
SONM	**Songino Array**	**26.18**	**321**	P	**P**	**10 28 51.5**	**-0.8**		
SONM				PcP	PcP	10 32 19.0	-0.3		
SONM				LR	LR	10 40 37.5			
GTA	**Gaotai**	**27.10**	**300**	*e*P	**P**	**10 29 00.5**	**-0.4**		
GTA				AP	pP	10 29 12.4	+1.1		
GTA				XP	sP	10 29 18.2	+2.2		
GTA				PP	PP	10 29 47.3	-0.5		
GTA				PCP	PcP	10 32 21.9	+0.4		
GTA				S	**S**	**10 33 32.9**	**-1.8**		
GTA				XS		10 33 53.3			
GTA				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb4.4								
GTA				AMB	AMB				
	comp=Z,410nm,5.7s								
GTA				LR	LR				
	comp=N,1μm,14.4s,MS4.9								
GTA				LR	LR				
	comp=E,2μm,14.8s,MS4.9								
GTA				LR	LR				
	comp=Z,3μm,15.6s,MS4.9								
CLNS	**Chul'man**	**27.74**	**353**	*e*P	**P**	**10 29 03.6**	**-3.0**		
CLNS				*e**PP	pP	10 29 10.0	-7.0		
CLNS				*e*PPP	PPP	10 29 50.0	-18		
CLNS				*e*S	**S**	**10 33 34.7**	**-10**		
CLNS				pmax	pmax				
	comp=Z,11nm,0.8s,mb4.5								
CLNS				pmax	pmax				
	comp=N,15nm,1.0s								
CLNS				pmax	pmax				
	comp=E,7.0nm,0.9s								
CLNS				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.4								
CLNS				pmax	pmax				
	comp=N,7.0nm,0.8s								
CLNS				pmax	pmax				
	comp=E,12nm,1.1s								
CLNS				smax					
	comp=N,168nm,10.8s								
CLNS				smax					
	comp=Z,121nm,13.5s								
CLNS				smax					
	comp=E,136nm,12.6s								
CLNS				MLR	MLR				
	comp=Z,900nm,12.0s,MS4.6								
CLNS				MLR	MLR				
	comp=N,400nm,13.0s,MS4.4								
CLNS				MLR	MLR				
	comp=E,600nm,15.0s,MS4.4								
ZAK	**Zakamensk**	**29.33**	**323**	*e*P	**P**	**10 29 19.7**	**-1.1**		
ZAK				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.3								
ZAK				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.2								
IRK	**Irkutsk**	**29.97**	**327**	*e*P	**P**	**10 29 26.0**	**-0.5**		
IRK				pmax	pmax				
	comp=Z,73nm,0.8s,mb5.5								
BOD	**Bodaibo**	**30.67**	**343**	*e*P	**P**	**10 29 30.9**	**-1.8**		
BOD				pmax	pmax				
	comp=Z,11nm,0.8s,mb4.7								
MOY	**Mondy**	**31.25**	**324**	*e*P	**P**	**10 29 35.5**	**-2.3**		
PET	**Petropavlovsk**	**31.40**	**33**	*e*P	**P**	**10 29 42.8**	**+3.7**		
PET				pmax	pmax				
	comp=Z,76nm,1.7s,mb5.2								
PET	**Petropavlovsk**	**31.40**	**33**	*e*P	**P**	**10 29 42.9**	**+3.8**		
YAK	**Yakutsk**	**32.68**	**359**	*e*P	**P**	**10 29 48.1**	**-2.1**		
YAK				pmax	pmax				
	comp=Z,13nm,1.0s,mb4.8								
YAK				pmax	pmax				
	comp=N,7.0nm,1.1s								
YAK	**Yakutsk**	**32.68**	**359**	*e*P	**P**	**10 29 47.5**	**-2.7**		
	comp=N,22nm,0.4s,mb5.4								
MA2	**Magadan**	**33.22**	**19**	*e*P	**P**	**10 29 54.2**	**-0.7**		
MA2				*e*		10 31 06.3			
MA2				pmax	pmax				
	comp=Z,10.0nm,0.7s,mb4.8								
MA2	**Magadan**	**33.22**	**19**	*e*P	**P**	**10 29 53.8**	**-1.1**		
	comp=Z,37nm,0.7s,mb5.4								
KSM	**Kuching**	**33.73**	**218**	*e*P	**P**	**10 29 59.5**	**-0.3**		
LSA	**Lhasa**	**34.10**	**280**	*e*P	**P**	**10 30 03.4**	**+0.5**		
LSA				pmax	pmax				
	comp=Z,46nm,0.9s,mb5.4								
LSA	**Lhasa**	**34.10**	**280**	*e*P	**P**	**10 30 03.4**	**+0.5**		
	comp=Z,46nm,0.9s,mb5.4								
SEY	**Seymchan**	**36.46**	**17**	*e*P	**P**	**10 30 23.3**	**+0.7**		
SEY				*e*		10 32 46.3			
SEY				*e*		10 36 03.9			
SEY				pmax	pmax				
	comp=Z,20nm,0.7s,mb5.2								
WMQ	**Urumqi**	**36.84**	**305**	*e*P	**P**	**10 30 26.5**	**+0.5**		
WMQ				AP	pP	10 30 33.8	-2.9		
WMQ				XP	sP	10 30 37.2	-4.3		
WMQ				PP	PP	10 31 52.4	+0.3		
WMQ				PCP	PcP	10 32 48.6	+0.9		
WMQ				*e*S	**S**	**10 36 08.7**	**+1.5**		
WMQ				SCS	ScS	10 40 37.2	+1.3		
WMQ				AMB	AMB				
	comp=Z,60nm,1.0s,mb5.4								
WMQ				AMB	AMB				
	comp=Z,520nm,5.2s								
WMQ				LR	LR				
	comp=N,2μm,19.2s,MS5.1								
WMQ				LR	LR				
	comp=E,2μm,18.2s,MS5.1								
WMQ				LR	LR				
	comp=Z,2μm,20.4s,MS5.0								
KULM	**Kulim**	**36.98**	**235**	*e*P	**P**	**10 30 27.5**	**0.0**		
JIRN	**Jiri**	**38.78**	**279**	*e*P	**P**	**10 30 42.5**	**+0.1**		
	comp=Z,74nm,0.5s,mb5.7								
GUN	**Gumba**	**38.99**	**279**	*e*P	**P**	**10 30 43.9**	**-0.2**		
	comp=Z,398nm,0.4s								
FX1	**Attu Island--F**	**39.02**	**41**	P	**P**	**10 30 45.3**	**+1.2**		
	comp=Z,42nm,0.7s,mb5.3,baz=239,slow=21,SNR=3.5								
PKI	**Pulchoki**	**39.47**	**279**	*e*P	**P**	**10 30 46.8**	**-1.3**		
	comp=Z,259nm,0.8s,mb6.0								
PKI	**Pulchoki**	**39.47**	**279**	*e*P	**P**	**10 30 46.8**	**-1.3**		
PKI				pmax	pmax				
	comp=Z,130nm,0.8s,mb5.7								
KKN	**Kakani**	**39.53**	**279**	*e*P	**P**	**10 30 48.4**	**-0.2**		
	comp=Z,358nm,0.9s,mb6.1								
KKN	**Kakani**	**39.53**	**279**	*e*P	**P**	**10 30 48.4**	**-0.2**		
KKN				pmax	pmax				
	comp=Z,179nm,0.9s,mb5.8								
DMN	**Daman**	**39.73**	**279**	*e*P	**P**	**10 30 50.1**	**-0.1**		
	comp=Z,171nm,0.9s,mb5.8								
PSI	**Prapat**	**39.94**	**234**	P	**P**	**10 30 52.1**	**0.0**		
	comp=Z,9.2nm,0.7s,mb4.7,baz=25,slow=10,SNR=5.8								
GKN	**Gorkha**	**40.04**	**280**	*e*P	**P**	**10 30 52.5**	**-0.3**		
	comp=Z,186nm,0.6s,mb6.0								
BOK	**Bokaro**	**40.08**	**273**	*e*P	**P**	**10 30 53.6**	**+0.5**		
BOK				AMb	AMB	10 30 54.5			
	comp=Z,37nm,0.6s,mb5.3								
KOLN	**Koldanda**	**40.98**	**280**	*e*P	**P**	**10 30 58.7**	**-2.0**		
	comp=Z,167nm,0.8s,mb5.7								
MKAR	**Makanchi Array**	**41.03**	**309**	P	**P**	**10 31 00.8**	**-0.1**		
	comp=Z,15nm,0.4s,mb5.0,baz=87,slow=11,SNR=344								
MKAR				PcP	PcP	10 33 00.1	-0.8		
	comp=Z,4.8nm,0.6s,baz=72,slow=3.8,SNR=5.5								
MKAR				LR	LR	10 49 56.0			
	comp=Z,541nm,18.0s,MS4.5,baz=87,slow=39								
MKAR	**Makanchi Array**	**41.03**	**309**	P	**P**	**10 31 00.8**	**-0.1**		
MKAR				PcP	PcP	10 33 00.1	-0.8		
MKAR				LR	LR	10 49 56.0			
ZAL	**Zalesovo**	**41.06**	**320**	P	**P**	**10 30 59.6**	**-1.4**		
	comp=Z,13nm,0.6s,mb4.8,baz=9.0,slow=8.5,SNR=62								
ZAL				PcP	PcP	10 32 57.6	-3.3		
	comp=Z,3.6nm,0.5s,baz=25,slow=5.5,SNR=3.4								
ZAL				LR	LR	10 50 39.9			
	comp=Z,2μm,18.0s,MS5.0,baz=358,slow=40								
PMG	**Port Moresby**	**41.76**	**155**	*e*P	**P**	**10 31 06.1**	**-1.2**		
NVS	**Novosibirsk**	**42.20**	**321**	⇓*i*P	**P**	**10 31 09.1**	**-1.2**		
NVS				pmax	pmax				
	comp=Z,19nm,0.9s,mb4.7								
NVS				pmax	pmax				
	comp=N,8.0nm,1.1s								
NVS				pmax	pmax				
	comp=E,15nm,1.1s								
KURK	**Kurchatov**	**44.00**	**314**	*e*P	**P**	**10 31 23.3**	**-1.7**		
KURK				pmax	pmax				
	comp=Z,112nm,0.6s,mb5.8								
KURK	**Kurchatov**	**44.00**	**314**	*e*P	**P**	**10 31 23.3**	**-1.7**		
	comp=Z,112nm,0.6s,mb5.8								
BILL	**Bilibino**	**44.08**	**18**	*i*P	**P**	**10 31 26.7**	**+1.2**		
VIS	**Vishakhapatnam**	**44.48**	**266**	*e*P	**P**	**10 31 29.0**	**-0.3**		
VIS				AMb	AMB	10 31 29.9			
	comp=Z,22nm,0.5s,mb5.2								
TKM2	**Tokmak 2**	**45.58**	**303**	P	**P**	**10 31 38.2**	**+0.5**		
	SNR=40								
TKM2	**Tokmak 2**	**45.58**	**303**	P	**P**	**10 31 37.6**	**-0.2**		
TKM2				pmax	pmax				
	comp=Z,63nm,1.3s,mb5.4								
KZA	**Kyzart**	**45.86**	**302**	P	**P**	**10 31 41.4**	**+1.4**		
	SNR=15								
KBK	**Karagaybulak**	**46.06**	**302**	P	**P**	**10 31 41.9**	**+0.3**		
	SNR=15								
CHMS	**Chumysh**	**46.20**	**303**	P	**P**	**10 31 42.8**	**+0.1**		
	SNR=19								
FRU	**Bishkek**	**46.30**	**303**	*e*P	**P**	**10 31 44.0**	**+0.5**		
FRU				pmax	pmax				
	comp=Z,51nm,1.0s,mb5.4								
FRU				MLR	MLR				
	comp=Z,1μm,16.0s,MS4.9								
USP	**Ospenovka**	**46.37**	**303**	P	**P**	**10 31 43.9**	**-0.1**		
	SNR=30								
AAK	**Ala-Archa**	**46.40**	**302**	P	**P**	**10 31 45.0**	**+0.8**		
	SNR=17								
AAK	**Ala-Archa**	**46.40**	**302**	*d*iP	**P**	**10 31 43.3**	**-0.9**		
AAK				pmax	pmax				
	comp=Z,13nm,0.8s,mb4.9								
AAK	**Ala-Archa**	**46.40**	**302**	*e*P	**P**	**10 31 42.5**	**-1.7**		
	comp=Z,9.4nm,0.8s,mb4.8								
UCH	**Uchtor**	**46.40**	**302**	P	**P**	**10 31 45.7**	**+1.4**		
	SNR=73								
EKS2	**Erkin-Say**	**46.93**	**302**	P	**P**	**10 31 48.6**	**+0.3**		
	SNR=10								
AML	**Almayashu**	**47.02**	**302**	P	**P**	**10 31 49.7**	**+0.6**		
	SNR=6.2								
BHPL	**Bhopal**	**47.62**	**276**	*e*P	**P**	**10 31 52.8**	**-1.3**		
BHPL				AMb	AMB	10 31 53.9			
	comp=Z,28nm,0.8s,mb5.3								
HYB	**Hyderabad**	**48.77**	**268**	*i*P	**P**	**10 32 03.0**	**0.0**		
HYB	**Hyderabad**	**48.77**	**268**	*e*P	**P**	**10 32 03.0**	**0.0**		
VOSK	**Vostochnaya**	**48.95**	**316**	P	**P**	**10 32 01.8**	**-2.2**		
VOSK				pmax	pmax				
	comp=Z,32nm,0.8s,mb5.4								
WRAB	**Tennant Creek**	**49.15**	**175**	*e*P	**P**	**10 32 03.9**	**-2.1**		
WRAB				pmax	pmax				
	comp=Z,26nm,0.9s,mb5.3								
WRAB				MLR	MLR				
	comp=Z,105nm,20.0s,MS3.8								
WRAB	**Tennant Creek**	**49.15**	**175**	*e*P	**P**	**10 32 03.9**	**-2.1**		
	comp=Z,26nm,0.9s,mb5.3								
WRAB				LR	LR				
	comp=Z,105nm,20.0s,MS3.8								
WRA	**Warramunga Arr**	**49.16**	**175**	P	**P**	**10 32 04.4**	**-1.7**		
	comp=Z,4.0nm,0.8s,mb4.5,baz=352,slow=8.2,SNR=50								
KKAR	**Karatay Array**	**49.29**	**303**	*i*P	**P**	**10 32 06.4**	**-0.4**		
KKAR				pmax	pmax				
	comp=Z,10.0nm,0.5s,mb5.1								
BVA0	**Borovoye Array**	**49.33**	**316**	*i*P	**P**	**10 32 06.2**	**-0.7**		
BVA0				pmax	pmax				
	comp=Z,9.0nm,0.7s,mb4.9								
BVAR	**Borovoye Array**	**49.33**	**316**	P	**P**	**10 32 05.3**	**-1.6**		
	comp=Z,102nm,0.7s,mb6.0,baz=96,slow=9.4,SNR=429								
BVAR				PcP	PcP	10 33 28.7	-0.8		
	comp=Z,16nm,0.7s,baz=86,slow=2.5,SNR=5.7								
BRVK	**Borovoye**	**49.39**	**316**	*e*P	**P**	**10 32 05.8**	**-1.6**		
BRVK				pmax	pmax				
	comp=Z,85nm,0.6s,mb6.0								
BRVK	**Borovoye**	**49.39**	**316**	*e*P	**P**	**10 32 05.8**	**-1.6**		
	comp=Z,85nm,0.6s,mb6.0								
PALK	**Pallekele**	**51.64**	**255**	*e*P	**P**	**10 32 23.7**	**-1.3**		
	comp=Z,17nm,0.8s,mb5.0								
TNA	**Tin City**	**51.95**	**28**	*e*P	**P**	**10 32 26.8**	**+0.1**		
	comp=Z,36nm,1.2s,mb5.2								
POO	**Poona**	**52.43**	**272**	*e*P	**P**	**10 32 32.1**	**+1.3**		
KAD	**Karad**	**52.62**	**270**	*e*P	**P**	**10 32 31.0**	**-1.3**		
KAD				AMb	AMB	10 32 32.6			
	comp=Z,27nm,0.5s,mb5.5								
AB31	**Akbulak array**	**56.00**	**312**	*i*P	**P**	**10 32 55.0**	**-1.6**		
AB31				pmax	pmax				
	comp=Z,58nm,0.6s,mb5.8								
ARU	**Arti**	**56.21**	**321**	*e*P	**P**	**10 32 56.6**	**-1.4**		
	comp=Z,163nm,0.9s,mb6.1								
SOKR	**Solikamsk**	**56.99**	**324**	*c i*P	**P**	**10 33 01.6**	**-2.0**		
SOKR				pmax	pmax				
	comp=Z,110nm,0.8s,mb5.9								
SOKR				MLR	MLR				
	comp=Z,960nm,16.0s,MS5.0								
AKTO	**Aktyubinsk**	**57.09**	**313**	P	**P**	**10 33 03.5**	**-0.9**		
	comp=Z,40nm,0.7s,mb5.5,baz=88,slow=6.6,SNR=78								
IMA2	**Indian Mountai**	**57.83**	**28**	*e*P	**P**	**10 33 09.2**	**-0.2**		
KDAK	**Kodiak Island**	**58.83**	**38**	P	**P**	**10 33 15.7**	**-0.8**		
	comp=Z,36nm,0.5s,mb5.6,baz=284,slow=4.2,SNR=59								
FIB	**Fire Island**	**59.68**	**33**	*e*P	**P**	**10 33 21.6**	**-0.7**		
FIB				pmax	pmax				
	comp=Z,43nm,0.7s,mb5.6								
FIB	**Fire Island**	**59.68**	**33**	*e*P	**P**	**10 33 21.6**	**-0.7**		
	comp=Z,43nm,0.7s,mb5.6								
SLKM	**Skilak Lake**	**59.73**	**34**	P	**P**	**10 33 21.3**	**-1.4**		
MCK	**McKinley**	**59.98**	**30**	*e*P	**P**	**10 33 23.7**	**-0.6**		
MCK				pmax	pmax				
	comp=Z,11nm,0.7s,mb5.0								
MCK	**McKinley**	**59.98**	**30**	*e*P	**P**	**10 33 23.7**	**-0.6**		
	comp=Z,11nm,0.7s,mb5.0								
PMR	**Palmer**	**60.13**	**33**	*e*P	**P**	**10 33 24.5**	**-0.9**		
PMR				pmax	pmax				
	comp=Z,39nm,1.1s,mb5.3								
PMR	**Palmer**	**60.13**	**33**	*e*P	**P**	**10 33 24.5**	**-0.9**		
	comp=Z,39nm,1.1s,mb5.3								
COLA	**College**	**60.33**	**29**	*e*P	**P**	**10 33 25.7**	**-1.0**		
COLA				pmax	pmax				
	comp=Z,18nm,0.7s,mb5.2								
COLA	**College**	**60.33**	**29**	*e*P	**P**	**10 33 25.7**	**-1.0**		
	comp=Z,18nm,0.7s,mb5.2								
SML	**Sawmill**	**60.48**	**33**	*e*P	**P**	**10 33 26.6**	**-1.2**		
ILAR	**Eielson Array**	**60.75**	**29**	P	**P**	**10 33 28.2**	**-1.4**		
	comp=Z,8.1nm,0.6s,mb5.0,baz=265,slow=5.2,SNR=158								
ILAR				LR	LR	11 02 30.8			
	comp=Z,130nm,18.4s,MS4.1,baz=190,slow=39								
THY	**Trims Highway**	**61.43**	**31**	*e*P	**P**	**10 33 33.3**	**-0.9**		
DIV	**Divide**	**61.80**	**33**	*e*P	**P**	**10 33 35.9**	**-0.8**		
	comp=Z,98nm,0.7s,mb6.0								
STKA	**Stephens Creek**	**61.81**	**169**	*e*P	**P**	**10 33 35.6**	**-1.6**		
	comp=Z,5.0nm,0.6s,mb4.8								
STKA	**Stephens Creek**	**61.81**	**169**	P	**P**	**10 33 35.8**	**-1.4**		
	comp=Z,3.9nm,0.7s,mb4.6,baz=75,slow=0.8,SNR=7.7								
STKA				LR	LR	10 59 17.7			
	comp=Z,239nm,19.9s,MS4.3,baz=17,slow=35								
WBK	**Wadi Bani Khal**	**63.74**	**282**	P	**P**	**10 33 50.1**	**-0.1**		
	SNR=11								
BIDO	**Bidbid**	**64.11**	**284**	P	**P**	**10 33 53.0**	**+0.4**		
	SNR=6.1								
SMDO	**Samad**	**64.36**	**283**	P	**P**	**10 33 54.3**	**+0.2**		
	SNR=7.6								
JMDO	**Jabal Madar**	**64.58**	**282**	P	**P**	**10 33 55.6**	**0.0**		
	SNR=14								
BANOM	**Banah**	**64.75**	**287**	P	**P**	**10 33 57.6**	**+0.9**		
	SNR=10								
BSY	**Bisya**	**65.20**	**283**	P	**P**	**10 33 59.7**	**+0.1**		
	SNR=9.6								
INK	**Inuvik**	**65.23**	**24**	P	**P**	**10 33 58.9**	**-0.1**		
	comp=Z,16nm,0.6s,mb5.2,baz=301,slow=6.1,SNR=193								
KLMR	**Klimovskoe**	**65.28**	**327**	*e*P	**P**	**10 33 56.9**	**-2.5**		
KLMR				pmax	pmax				
	comp=Z,40nm,1.3s,mb5.3								
KLMR				MLR	MLR				
	comp=Z,2μm,16.0s,MS5.3								
ASHO	**Ashiyiah**	**65.42**	**286**	P	**P**	**10 34 01.2**	**+0.2**		
	SNR=18								
ARQ	**Araqi**	**65.55**	**284**	⇓P	**P**	**10 34 01.3**	**-0.6**		
APA	**Apatity**	**65.84**	**335**	⇓*e*P	**P**	**10 34 02.0**	**-1.0**		
APA				*i*		10 34 10.0			
APA				MLR	MLR				
	comp=Z,800nm,17.0s,MS5.0								
KEV	**Kevo**	**67.26**	**338**	*e*p	**P**	**10 34 10.4**	**-1.5**		
MOS	**Moscow**	**67.80**	**322**	*e*P	**P**	**10 34 12.6**	**-2.9**		
MOS				pmax	pmax				
	comp=Z,64nm,1.0s,mb5.6								
MOS				MLR	MLR				
	comp=Z,2μm,17.1s,MS5.3								
ARCES	**ARCESS Array B**	**67.83**	**338**	P	**P**	**10 34 14.1**	**-1.4**		
	comp=Z,5.3nm,0.7s,mb4.7,baz=60,slow=7.6,SNR=34								
ARCES				LR	LR	11 09 06.2			
	comp=Z,902nm,19.7s,MS5.0,baz=162,slow=40								
ARCES	**ARCESS Array B**	**67.83**	**338**	P	**P**	**10 34 14.1**	**-1.4**		
ARCES				LR	LR	11 09 06.2			
ARE0	**ARCESS Array S**	**67.83**	**338**	*e*P	**P**	**10 34 14.0**	**-1.4**		
TI2	**Plekhanov**	**68.15**	**306**	⇓*i*P	**P**	**10 34 17.0**	**-0.9**		
TI2				*e*		10 34 24.2			
TI2				*i*		10 34 34.6			
GOF	**Gofitskoye**	**68.18**	**310**	*e*P	**P**	**10 34 17.2**	**-0.8**		
GOF				pmax	pmax				
	comp=Z,80nm,1.3s,mb5.6								
JOF	**Joensuu**	**68.28**	**331**	*e*p	**P**	**10 34 16.8**	**-1.6**		
	comp=Z,14nm,0.4s,mb5.3								
VOR	**Voronezh**	**68.29**	**318**	*e*P	**P**	**10 34 17.0**	**-1.6**		
VOR				pmax	pmax				
	comp=Z,120nm,1.0s,mb5.9								
VRSR	**Storozhevoye**	**68.47**	**317**	*d i*P	**P**	**10 34 18.9**	**-0.9**		
VRSR				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.8								
VRSR				pmax	pmax				
	comp=N,8.0nm,1.1s								
VRSR				pmax	pmax				
	comp=E,9.0nm,0.9s								
OBN	**Obninsk**	**68.59**	**322**	κ *i*P	**P**	**10 34 19.6**	**-0.8**		
OBN						10 34 43.0			
OBN				pmax	pmax				
	comp=Z,59nm,1.6s,mb5.3								
OBN				MLR	MLR				
	comp=Z,800nm,16.0s,MS5.0								
OBN	**Obninsk**	**68.59**	**322**	*e*P	**P**	**10 34 18.9**	**-1.5**		
GNI	**Garni**	**68.71**	**305**	P	**P**	**10 34 21.3**	**-0.2**		
GNI	**Garni**	**68.71**	**305**	*e*P	**P**	**10 34 22.6**	**+1.2**		
GNI				pmax	pmax				
	comp=Z,52nm,0.9s								
GNI	**Garni**	**68.71**	**305**	*e*P	**P**	**10 34 22.6**	**+1.2**		
	comp=Z,52nm,0.9s,mb5.5								
KTK1	**Kautokeino**	**68.78**	**338**	*e*P	**P**	**10 34 20.2**	**-1.2**		
KIV	**Kislovodsk**	**68.79**	**309**	*e*P	**P**	**10 34 22.0**	**+0.1**		
KIV				pmax	pmax				
	comp=Z,103nm,1.1s,mb5.7								
KIV	**Kislovodsk**	**68.79**	**309**	*e*P	**P**	**10 34 22.0**	**+0.1**		
	comp=Z,103nm,1.1s,mb5.7								
SEMD	**Semdilli**	**69.89**	**302**	P	**P**	**10 34 29.3**	**+0.5**		
RBK	**Rabkut**	**69.91**	**279**	P	**P**	**10 34 28.7**	**-0.4**		
	SNR=8.4								
PUL	**Pulkovo**	**69.95**	**328**	*e*P	**P**	**10 34 27.7**	**-1.0**		
WHFO	**Wadi Hawf**	**70.10**	**280**	⇑P	**P**	**10 34 29.4**	**-0.9**		
HKR	**Hakkari**	**70.38**	**303**	P	**P**	**10 34 32.4**	**+0.7**		
UMR	**Umm Al-Rimmam**	**70.41**	**293**	*e*P	**P**	**10 34 31.3**	**-0.7**		
UMR				AMb	AMB	10 34 32.5			
	comp=Z,134nm,0.6s,mb6.0								
HAKT	**HAKKARI**	**70.41**	**303**	*i*P	**P**	**10 34 30.3**	**-1.6**		
QRN	**Al-Qurain**	**70.57**	**293**	*e*P	**P**	**10 34 32.0**	**-1.0**		
QRN				AMb	AMB	10 34 34.1			
	comp=Z,91nm,0.8s,mb5.8								
KBD	**Kabd**	**70.58**	**293**	*e*P	**P**	**10 34 32.2**	**-0.8**		
KBD				A

AKASG **Malin Array Be** 74.44 320 *i* P P 10 34 54.7 -0.8
AKASG pmax pmax
comp=Z,41nm,0.5s
AKASG **Malin Array Be** 74.44 320 P P 10 34 54.7 -0.8
MZLS **Mizel** 74.73 289 P P 10 34 57.8 +0.1
YKA **Yellowknife Ar** 74.86 26 P P 10 34 58.0 +0.4
comp=Z,12nn,0.8s,mb4.9,baz=303,slow=5.6,SNR=66
YKA LR LR 11 14 10.4
comp=Z,99nm,19.0s,MS4.1,baz=325,slow=41
YKA **Yellowknife Ar** 74.86 26 *i* P P 10 34 58.0 +0.4
YKA pmax pmax
comp=Z,12nn,0.8s
YKA **Yellowknife Ar** 74.86 26 P P 10 34 58.0 +0.4
YKA LR LR 11 14 10.3
NSS **Namsos** 74.95 337 *e*P P 10 34 56.4 -1.7
KAHT **Ahir Dag** 75.34 305 *i* P P 10 35 01.6 +0.6
CORM **Corum** 75.80 308 P P 10 35 03.8 +0.3
HILS **Ha'il** 76.05 294 P P 10 35 05.5 +0.4
SUW **Suwalki** 76.08 325 *e*P P 10 35 04.6 -0.1
KOZT **Kozan** 76.15 305 P P 10 35 06.1 +0.6
AVNT **Avonos** 76.26 307 *i* P P 10 35 06.5 +0.4
COBT **Iskenderun** 76.27 304 *i* P P 10 35 05.8 -0.5
CEYT **Ceyhan** 76.42 305 *e*P P 10 35 07.2 +0.1
ELDT **Eldivan** 76.48 309 *i* P P 10 35 05.5 -1.8
AFFS **'Afif** 76.59 290 P P 10 35 08.6 +0.3
BR131 **Keskin Array S** 76.68 308 *e*P P 10 35 08.3 -0.2
comp=Z,22nn,0.6s,mb5.3
BRTR **Keskin Array B** 76.68 308 P P 10 35 08.5 0.0
comp=Z,30nn,0.7s,mb5.3,baz=99,slow=4.3,SNR=141
KARA **Karaisali** 76.80 305 *e*P P 10 35 09.3 0.0
KAMS **Al Khamasin** 76.88 286 P P 10 35 09.9 -0.1
ANTO **Ankara** 77.19 309 *e*P P 10 35 11.5 +0.1
ANTO pmax pmax
comp=Z,24nn,0.8s,mb5.2
ANTO **Ankara** 77.19 309 *e*P P 10 35 11.5 +0.1
comp=Z,24nn,0.8s,mb5.2
MERS **Mersin** 77.36 305 *e*P P 10 35 11.6 -0.8
SGKT **Sivrigoynuk** 77.37 309 *i* P P 10 35 11.4 -1.0
NB2 **NORSAR Subarra** 77.38 334 P P 10 35 10.6 -1.4
comp=Z,9.0nn,0.6s,mb4.9,baz=48,slow=5.6
NB2 **NORSAR Subarra** 77.38 334 P P 10 35 10.6 -1.4
baz=48,slow=5.6
NOA **NORSAR Array B** 77.38 334 P P 10 35 10.7 -1.3
comp=Z,6.1nn,0.4s,mb4.8,baz=50,slow=5.6,SNR=33
NOA PP PP 10 38 04.1 -4.1
comp=Z,2.5nn,0.6s,baz=48,slow=8.6,SNR=6.8
NOA LR LR 11 15 05.1
comp=Z,368nm,18.4s,MS4.7,baz=50,slow=40
NOA **NORSAR Array B** 77.38 334 P P 10 35 10.7 -1.3
NOA PP PP 10 38 04.1 -4.1
NOA LR LR 11 15 05.1
DOMB **Dombas** 77.53 336 *e*P P 10 35 12.2 -0.6
DOMB AMb AMB 10 35 14.1
comp=Z,39nm,1.4s,mb5.2
DOMB **Dombas** 77.53 336 *e*P P 10 35 12.2 -0.6
comp=Z,39nn,1.4s,mb5.1
NAO01 **NORSAR Array S** 77.63 334 *e*P P 10 35 12.0 -1.3
comp=Z,2.1nn,0.4s,mb4.4
CFR **Carcaliu** 77.71 315⇓ *i*P P 10 35 14.5 +0.4
QURS **Qurayyat al Mil** 77.77 299 P P 10 35 16.0 +1.2
TIRR **Tirgusor** 77.89 314 ⇓P P 10 35 15.7 +0.6
TIRR **Tirgusor** 77.89 314 *e*P P 10 35 15.2 +0.1
SUMG **Summit** 78.05 357 *e*P P 10 35 16.2 +0.8
comp=Z,19nn,0.8s,mb5.1
HARR **Harsova** 78.07 315⇓ *i*P P 10 35 16.7 +0.6
TATS **Tathlith** 78.15 286 P P 10 35 17.4 +0.3
VRI **Vrincioaia** 78.23 316⇓ *i*P P 10 35 17.9 +1.0
PSN **Preselentsi** 78.41 314 *i* P P 10 35 19.0 +1.0
KWP **Kalwaria** 78.61 321 *e*P P 10 35 20.0 +1.0
KWP **Kalwaria** 78.61 321 *e* P 10 35 19.9 +0.9
KWP **Kalwaria** 78.61 321 *e*P P 10 35 20.0 +1.0
ISR **Istrita** 78.72 316⇓ *i*P P 10 35 21.1 +1.5
KBRS **Khaybar** 78.79 293 P P 10 35 21.3 +0.9
MLR **Muntele Rosu** 78.89 316 P P 10 35 21.0 +0.4
comp=Z,12nn,0.7s,mb5.0,baz=66,slow=3.5,SNR=18
MLR **Muntele Rosu** 78.89 316⇑ *i*P P 10 35 21.2 +0.6
DJNS **Zahran al Janu** 78.93 284 P P 10 35 21.2 -0.1
CSS **Prodhromos** 79.10 304 *e*P P 10 35 22.0 0.0
comp=Z,34nn,0.6s,mb5.5
PRD **Provadia** 79.14 314 *i* P P 10 35 23.5 +1.5
KOLS **Kolonicke sedl** 79.23 320 *e*P P 10 35 22.5 +0.1
ULDT **Uludag** 79.53 310 *i* P P 10 35 23.1 -1.1
STHS **Stebnicka Huta** 79.53 321 *e*P P 10 35 24.4 +0.4
BLJS **Baljurashi** 79.57 287 P P 10 35 25.6 +0.8
CRVS **Cervenica-Dubn** 79.69 321 *e*P P 10 35 25.1 +0.2
OJC **Ojcow** 79.87 322 *e*P P 10 35 26.0 +0.2
JMQS **Jabal Moqyreh** 80.03 297 P P 10 35 27.3 +0.2
JMB **Yambol** 80.03 313 *i* P P 10 35 28.0 +1.2
SZH **Strazhica** 80.03 314 *i* P P 10 35 27.0 +0.2
NIE **Niedzica** 80.04 322 *e*P P 10 35 27.5 +0.8
DRGR 80.13 318 ⇓P P 10 35 26.9 -0.3
ZIMR 80.19 315 ⇓P P 10 35 29.0 +1.4
LTHS **Al Lith** 80.38 288 P P 10 35 29.7 +0.6
ALWS **Ilw as Safayha** 80.46 298 P P 10 35 29.6 +0.2
KECS **Kecovo** 80.47 321 *e*P P 10 35 29.8 +0.8
YNBS **Yanbu' al Bahr** 80.48 292 P P 10 35 30.4 +0.9
JMOS **Jabal al Moall** 80.49 298 P P 10 35 29.8 +0.2
UMJS **Umm Lajj** 80.61 294 P P 10 35 31.5 +1.2
HAQS **Haql** 80.69 298 P P 10 35 30.9 +0.3
MANT **Manisa** 80.74 309 *i* P P 10 35 30.0 -0.7
DNZL **Cakiroluk** 80.81 308 *i* P P 10 35 30.7 -0.4
AYUS **'Aynunah** 80.83 297 P P 10 35 31.4 0.0
BDAS **Al Bad'** 80.85 297 P P 10 35 31.6 +0.1
DIM **Dimitrovgrad** 80.92 313 *i* P P 10 35 33.0 +1.5
OKC **Ostrava-Krasne** 80.97 323 *e*P P 10 35 31.4 -0.2
PSZ **Piszkesteto** 81.11 320⇑ *e*P P 10 35 33.8 +1.4
PSZ **Piszkesteto** 81.11 320 P P 10 35 32.1 -0.3
PSZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PSZ **Piszkesteto** 81.11 320 P P 10 35 32.1 -0.3
comp=Z,9.2nn,0.8s,mb4.8
KDZ **Kurdzhali** 81.20 313 *e*P P 10 35 34.5 +1.5
MORC **Moravsky Berou** 81.32 323 *e*P P 10 35 33.5 0.0
MORC pmax pmax
comp=Z,14nn,0.8s,mb4.9
MORC **Moravsky Berou** 81.32 323 *e*P P 10 35 33.5 0.0
comp=Z,14nn,0.8s,mb4.9
KSP **Ksiaz** 81.34 324 *e*P P 10 35 34.1 +0.5
KSP **Ksiaz** 81.34 324 *e*P P 10 35 34.0 +0.4
KSP MLR MLR
comp=Z,2µm,19.0s,MS5.5
VYHS **Vyhne** 81.37 321 *e*P P 10 35 34.3 +0.6
DPC **Dobruska-Polom** 81.62 324 *e*P P 10 35 35.8 +0.8
RZN **Rozhen** 81.62 313 *i* P P 10 35 36.0 +0.8
HAWA **Hanford** 81.63 41 *e*P P 10 35 35.7 +0.5
comp=Z,0.6nn,0.8s
UPC **Upice** 81.69 324 *e*P P 10 35 36.2 +0.8
SRO **Srobarova** 82.04 321 *e*P P 10 35 38.8 +1.5
VTS **Vitosha** 82.09 315 *i* P P 10 35 39.5 +1.9
SMOL **Smolenice** 82.12 322 *e*P P 10 35 39.4 +1.8
BSEG **Bad Segeberg** 82.29 329 *e*P P 10 35 38.9 +0.5
BSEG pmax pmax
comp=Z,56nn,1.6s,mb5.2
MMB **Musomiste** 82.30 314 *i* P P 10 35 39.0 +0.3
PVCC **Panska Ves** 82.41 325 *e*P P 10 35 39.4 +0.3
ZST **Bratislava** 82.48 322 *e*P P 10 35 40.4 +0.9
ZST *e* 10 54 54.4
ZST *e* 11 07 57.2
BRG **Berggiesshubel** 82.51 325 *e*P P 10 35 39.9 +0.3
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
BRG **Berggiesshubel** 82.51 325 *e*P P 10 35 39.9 +0.3
comp=Z,9.3nm,1.1s,mb4.7
KKB **Krupnik** 82.56 314 *i* P P 10 35 40.5 +0.5
TREC **Trest** 82.69 323 *e*P P 10 35 41.3 +0.8
CLL **Collm** 82.70 326 ⇑P P 10 35 40.7 +0.1
comp=Z,logA/T=1.4,mb5.2
CLL *i* *PP pP 10 35 49.7 -2.5
CLL *i* 10 35 58.3
CLL **Collm** 82.70 326⇑ *i*P P 10 35 40.7 +0.1
CLL *i* *PP pP 10 35 49.7 -2.5
CLL *i* 10 35 58.3
CLL pmax pmax
comp=Z,16nm,0.7s,mb5.2
CLL **Collm** 82.70 326⇑ *i*P P 10 35 40.7 +0.1
comp=Z,16nn,0.7s,mb5.2
CLL *i* pP pP 10 35 49.7 -2.5
CLL *i* 10 35 58.3
PRU **Pruhonice** 82.75 324 *e*P P 10 35 41.4 +0.6
CLZ **Clausthal** 83.63 327 *e*P P 10 35 46.2 +1.0
CLZ pmax pmax
comp=Z,59nm,1.3s,mb5.6
CLZ **Clausthal** 83.63 327 *e*P P 10 35 46.2 +1.0
comp=Z,59nn,1.3s,mb5.6
NKC **Novy Kostel** 83.66 325 *e*P P 10 35 46.0 +0.6
MOD **Modoc** 83.68 45 *e*P P 10 35 46.6 +0.8
comp=Z,6.0nm,0.8s,mb4.8
KHC **Kasperske Hory** 83.78 324 *e*P P 10 35 46.5 +0.5
KHC x x 10 36 03.0
KHC **Kasperske Hory** 83.78 324 *e*P P 10 35 46.6 +0.6
KHC **Kasperske Hory** 83.78 324 *e*P P 10 35 46.5 +0.5
KHC *e* 10 36 03.0
BMO **Blue Mountains** 83.80 41 *e*P P 10 35 46.9 +0.7
BMO pmax pmax
comp=Z,15nn,1.1s,mb5.0
BMO **Blue Mountains** 83.80 41 *e*P P 10 35 46.9 +0.6
comp=Z,15nn,1.1s,mb5.0
MOX **Moxa** 83.80 326 *i* P P 10 35 46.5 +0.4
comp=Z,logA/T=1.3,mb5.2
MOX LQ 10 57 18.0
MOX L 11 17 09.0
MOX **Moxa** 83.80 326 *e*P P 10 35 46.5 +0.4
MOX pmax pmax
comp=Z,28nn,1.5s,mb5.2
MOX MLR MLR
comp=Z,600nn,19.0s,MS5.0
MOX **Moxa** 83.80 326 *e*P P 10 35 46.5 +0.4
comp=Z,28nn,1.5s,mb5.2
MOX LR LR
comp=Z,600nn,19.0s,MS5.0
GEC2 **GERESS Array S** 83.89 324 *e*P P 10 35 47.1 +0.5
GEC2 pmax pmax
comp=Z,16nn,1.1s,mb5.1
GEC2 **GERESS Array S** 83.89 324 *e*P P 10 35 47.1 +0.5
comp=Z,16nn,1.1s,mb5.1
GERES **GERESS Array B** 83.89 324 P P 10 35 47.0 +0.4
comp=Z,4.8nn,0.8s,mb4.7,baz=45,slow=3.8,SNR=25
GERES LR LR 11 17 04.7
comp=Z,702nm,18.7s,MS5.1,baz=162,slow=38
RAR **Rarotonga** 83.89 118 LR LR 11 07 41.1
comp=Z,48nn,19.3s,MS3.9,baz=273,slow=32
ARSA **Arzberg** 83.90 322⇑ *i*P P 10 35 47.5 +0.8
comp=Z,18nn,0.8s,mb5.2,SNR=17
SFJD **Kangerlussuaq** 83.94 0⇑ *i*P P 10 35 46.7 +0.2
comp=Z,30nn,0.6s,mb5.6
SFJD **Kangerlussuaq** 83.94 0⇑ *i*P P 10 35 46.7 +0.2
SFJD pmax pmax
comp=Z,30nn,0.6s,mb5.6
WET **Wettzell** 84.12 324 *e*P P 10 35 48.6 +0.8
WET pmax pmax
comp=Z,18nn,1.5s,mb5.0
WET **Wettzell** 84.12 324 *e*P P 10 35 48.6 +0.8
comp=Z,18nn,1.5s,mb5.0
MOA **Molln** 84.21 323⇑ *i*P P 10 35 49.2 +1.0
comp=Z,17nn,1.0s,mb5.1,SNR=16
WVOR **Wild Horse Val** 84.40 44 *e*P P 10 35 49.9 +0.5
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
WVOR **Wild Horse Val** 84.40 44 *e*P P 10 35 49.9 +0.6
comp=Z,9.3nm,0.9s,mb4.9
PERS **Pernice** 84.50 321 *e*P P 10 35 50.3 +0.6
MSO **Missoula** 84.50 38 *e*P P 10 35 50.0 +0.2
comp=Z,15nn,1.6s,mb4.9
GOLS **Golise** 84.60 321 *e*P P 10 35 50.6 +0.4
GRA1 **Grafenberg Arr** 84.61 325 *e*P P 10 35 51.2 +1.0
comp=Z,43nn,1.3s,mb5.4
GRF **Grafenberg Arr** 84.61 325 *e*P P 10 35 51.2 +1.0
GRF pmax pmax
comp=Z,43nn,1.3s,mb5.4
GRF **Grafenberg Arr** 84.61 325 *e*P P 10 35 51.2 +1.0
GRF pmax pmax
comp=Z,43nn,1.3s,mb5.4
GRF **Grafenberg Arr** 84.61 325 *e*P P 10 35 51.2 +1.0
comp=Z,43nn,1.3s,mb5.4
OBKA **Obir** 84.88 321⇑ *i*P P 10 35 52.4 +0.7
comp=Z,14nn,0.9s,mb5.1,SNR=7.9
FFC **Flin Flon** 84.91 28 *e*P P 10 35 51.9 +0.3
FFC pmax pmax
comp=Z,23nn,0.9s,mb5.3
FFC **Flin Flon** 84.91 28 *e*P P 10 35 51.9 +0.3
comp=Z,23nn,0.9s,mb5.3
KBA **Koelnbreinsper** 85.18 322 *i* P P 10 35 54.2 +1.1
comp=Z,17nn,0.7s,mb5.3,SNR=19
LJU **Ljubljana** 85.18 321 *e*P P 10 35 53.3 +0.2
CEY **Cerknica** 85.42 321 *e*P P 10 35 54.4 0.0
VOY **Vojsko** 85.54 321 *e*P P 10 35 55.3 +0.4
FUR **Furstenfeldbru** 85.57 324 *e*P P 10 35 55.2 +0.2
PTCC **Patocco-Chiusa** 85.60 322 P P 10 35 54.8 -0.4
TNS **Taunus Mts** 85.61 327 *e*P P 10 35 55.4 +0.2
TNS *e*PP pP 10 36 13.6 +6.8
TNS pmax pmax
comp=Z,13nn,0.9s,mb5.2
TNS **Taunus Mts** 85.61 327 *e*P P 10 35 55.4 +0.2
comp=Z,13nn,0.9s,mb5.2
TNS *e*pP pP 10 36 13.6 +6.8
HRY **Holter Researc** 85.71 38 *e*P P 10 35 56.8 +1.1
CMB **Columbia Colle** 85.80 48 *e*P P 10 35 56.5 +0.1
CMB pmax pmax
comp=Z,11nn,0.6s,mb5.3
CMB **Columbia Colle** 85.80 48 *e*P P 10 35 56.5 +0.2
comp=Z,11nn,0.6s,mb5.3
WATA **Walderalm** 85.95 323⇑ *i*P P 10 35 57.6 +0.8
comp=Z,2.7nn,0.9s,mb4.5
EGMT **Eagleton** 85.95 36 *e*P P 10 35 57.8 +0.9
comp=Z,15nn,0.9s,mb5.2
WTTA **Wattenberg** 85.96 323⇑ *i*P P 10 35 57.9 +1.0
comp=Z,10.0nm,0.7s,mb5.2
SEST **Monte Rota** 85.99 323 P P 10 35 57.7 +0.6
DLMT **Dillon** 86.14 39 *e*P P 10 35 59.2 +1.3
comp=Z,35nn,1.0s,mb5.5
MOTA **Moosalm** 86.19 324 *i* P P 10 35 58.7 +0.7
comp=Z,3.2nn,1.0s,mb4.5,SNR=7.3
SQTA **Sankt Quirin** 86.21 323⇑ *i*P P 10 35 57.9 -0.3
comp=Z,2.2nn,0.8s,mb4.5
HLID **Hailey** 86.23 41 *e*P P 10 36 00.1 +1.7
comp=Z,10nn,0.7s,mb5.2
BRES **Bressanone** 86.27 323 P P 10 35 59.1 +0.6
BOZ **Bozeman (W)** 86.49 38 *e*P P 10 36 00.5 +0.9
BOZ pmax pmax
comp=Z,9.0nn,1.0s,mb5.0
BOZ **Bozeman (W)** 86.49 38 *e*P P 10 36 00.5 +1.0
comp=Z,8.6nn,1.0s,mb4.9
CTI **Castel Tesino** 86.74 322 P P 10 36 00.7 -0.1
CTI pmax pmax
comp=Z,10.0nm,0.5s,mb5.3
CTI **Castel Tesino** 86.74 322 P P 10 36 00.7 -0.1
comp=Z,10nn,0.5s,mb5.3
NVAR **Mina Array Bea** 86.92 47 P P 10 36 03.5 +1.7
comp=Z,5.3nn,0.6s,mb4.9,baz=286,slow=7.4,SNR=57
NVAR LR LR 11 12 58.3
comp=Z,44nn,19.1s,MS3.9,baz=180,slow=34
QLMT **Earthquake Lak** 87.12 39 *e*P P 10 36 04.4 +1.7
QLMT *e* pP 10 36 15.5 +1.1
BRMO **Bormio** 87.13 323 P P 10 36 03.1 +0.4
GIVF **Givet** 87.39 328 *e*P P 10 36 03.0 -0.8
CDF **Champ du Feu** 87.40 326 *e*P P 10 36 03.3 -0.6
comp=Z,16nn,0.9s,mb5.0
CDF **Champ du Feu** 87.40 326 *e*P P 10 36 03.3 -0.6
CDF pmax pmax
comp=Z,8.0nn,0.9s,mb5.0
GCMT **Greycliff** 87.45 37 *e*P P 10 36 05.6 +1.4
ELK **Elko** 87.46 44 *e*P P 10 36 05.7 +1.3
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK **Elko** 87.46 44 *e*P P 10 36 05.7 +1.3
comp=Z,2.2nn,0.7s,mb4.5
YMR **Madison River** 87.48 39 *e*P P 10 36 06.8 +2.4
comp=Z,20nn,1.0s,mb5.3
FSSB **Fossombrone** 87.62 320 P P 10 36 06.6 +1.5
ARV **Arcevia** 87.65 320 P P 10 36 06.4 +1.1
comp=Z,12nn,0.8s,mb5.2
YFT **Old Faithful** 87.69 39 P P 10 36 06.5 +1.1
BAIF **Baives** 87.70 329 *e*P P 10 36 04.5 -0.8
comp=Z,22nn,1.0s,mb5.0
BAIF **Baives** 87.70 329 *e*P P 10 36 04.5 -0.8
BAIF pmax pmax
comp=Z,11nn,1.0s,mb5.0
SNTG **Esanatoglia** 87.81 320 P P 10 36 06.9 +0.9
TPH **Tonopah** 87.82 47 P P 10 36 07.1 +0.9
IMW **Indian Meadow** 87.99 39 *e*P P 10 36 08.8 +1.9
comp=Z,12nn,0.9s,mb5.1
HINF **Hinteralfeld** 88.02 326 *e*P P 10 36 05.5 -1.4
comp=Z,7.7nn,0.6s,mb4.8
HINF **Hinteralfeld** 88.02 326 *e*P P 10 36 05.5 -1.4
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
RRI2 **Red Ridge** 88.13 40 *e*P P 10 36 09.5 +1.9
comp=Z,7.5nn,0.7s,mb5.0
HAU **Haudompre** 88.13 326 *e*P P 10 36 06.3 -1.1
HAU *e*R
comp=Z,1µm,17.5s
VMG **Vicchio** 88.14 321 P P 10 36 09.4 +1.8
TPAW **Teton Pass** 88.24 40 *e*P P 10 36 10.3 +2.2
comp=Z,10nn,0.8s,mb5.1
HVU **Hansel Valley** 88.29 42 *e*P P 10 36 09.6 +1.3
HVU pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
HVU **Hansel Valley** 88.29 42 *e*P P 10 36 09.6 +1.3
comp=Z,8.2nm,0.9s,mb5.0
LOHW **Long Hollow** 88.36 39 P P 10 36 10.3 +1.7
comp=Z,7.1nn,1.1s,mb4.8
MEZF **Maizieres J'vi** 88.41 327 *e*P P 10 36 08.1 -0.6
comp=Z,6.0nm,0.4s,mb4.8
LAO **LASA Array** 88.63 35 *e*P P 10 36 10.6 +0.8
comp=Z,7.1nm,0.7s,mb5.1
HWUT **Hardware Ranch** 89.10 41 *e*P P 10 36 13.9 +1.7
comp=Z,15nn,1.1s,mb5.2
TPNV **Topopah Spring** 89.11 47 *e*P P 10 36 13.1 +0.7
TPNV pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
TPNV **Topopah Spring** 89.11 47 *e*P P 10 36 13.1 +0.7
comp=Z,7.3nm,0.8s,mb5.1
CABF **La Chapelle** 89.23 325 *e*P P 10 36 11.6 -1.1
DUG **Dugway** 89.25 43 *e*P P 10 36 14.3 +1.3
DUG pmax pmax
comp=Z,21nm,1.8s,mb5.2
DUG **Dugway** 89.25 43 *e*P P 10 36 14.3 +1.3
comp=Z,21nn,1.8s,mb5.2
PDAR **Pinedale Array** 89.49 40 P P 10 36 15.0 +1.0
comp=Z,5.0nm,0.7s,mb5.0,baz=341,slow=1.0,SNR=47
TCUT **Toone Canyon** 89.50 42 *e*P P 10 36 16.3 +2.2
CTU **Camp Tracy** 89.57 42 *e*P P 10 36 15.9 +1.4
LPL **La Plagne** 89.66 324 *e*P P 10 36 14.1 -0.7
comp=Z,11nm,0.8s,mb5.0
LPL **La Plagne** 89.66 324 *e*P P 10 36 14.1 -0.7
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
LPG **La Plagne** 89.66 324 *e*P P 10 36 14.2 -0.6
comp=Z,14nn,0.7s,mb5.1
LPG **La Plagne** 89.66 324 *e*P P 10 36 14.2 -0.6
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
LOR **Lormes** 89.85 327 *e*P P 10 36 14.3 -1.3
comp=Z,6.2nn,0.5s,mb4.9
LOR *e*R
comp=Z,805nm,17.0s
LOR **Lormes** 89.85 327 *e*P P 10 36 14.3 -1.3
LOR pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
LOR MLR MLR
comp=Z,800nm,17.0s,MS5.2
DAU **Daniels Canyon** 90.04 42 *e*P P 10 36 18.8 +2.1
PPT **Papeete** 90.06 110 LR LR 11 10 47.8
comp=Z,156nn,22.0s,MS4.4,baz=254,slow=32
MPU **Maple Canyon** 90.07 43 *e*P P 10 36 18.4 +1.6
comp=Z,10.0nm,1.0s,mb5.1
SSF **Saint Saulge** 90.17 327 *e*P P 10 36 16.1 -1.0
MBDF **Montbardon** 90.18 324 *e*P P 10 36 16.3 -0.9
SMF **Signal de Mont** 90.30 326 *e*P P 10 36 16.5 -1.3
comp=Z,47nn,1.3s,mb5.4
SMF **Signal de Mont** 90.30 326 *e*P P 10 36 16.5 -1.3
SMF pmax pmax
comp=Z,24nn,1.3s,mb5.4
ARUT **Antelope Range** 90.37 45 *e*P P 10 36 20.0 +1.7
ARUT *e**PP pP 10 36 29.2 -0.9
HYF **Humbligny** 90.43 327 *e*P P 10 36 17.8 -0.5
AVF **Avril sur Loir** 90.43 327 *e*P P 10 36 17.2 -1.2
comp=Z,8.8nn,0.6s,mb5.0
AVF **Avril sur Loir** 90.43 327 *e*P P 10 36 17.2 -1.2
AVF pmax pmax
comp=Z,4.0nn,0.6s,mb4.9
PGF **Pioggiola** 90.47 321 *e*P P 10 36 17.1 -1.5
ORIF **Oris-en-Rattie** 90.51 324 *e*P P 10 36 17.2 -1.6
comp=Z,21nn,1.1s,mb5.1
ORIF *e*R
comp=Z,519nm,18.8s
MVU **Marysvale** 90.68 44 *e*P P 10 36 22.2 +2.5
comp=Z,3.7nm,0.7s,mb4.8
MVU *e*pP pP 10 36 31.4 -0.1
MSU **Marysvale** 90.69 44 *e*P P 10 36 21.7 +1.9
LDF **La Druitiere** 90.71 330 *e*P P 10 36 18.1 -1.5
comp=Z,20nn,0.6s,mb5.3
LDF **La Druitiere** 90.71 330 *e*P P 10 36 18.1 -1.5
LDF pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
ULM **Lac du Bonnet** 90.73 28 P P 10 36 20.2 +0.5
comp=Z,5.0nm,0.7s,mb5.0,baz=315,slow=5.7,SNR=7.7
FLN **La Foliniere** 90.74 330 *e*P P 10 36 18.1 -1.6
comp=Z,12nn,0.6s,mb5.1
FLN *e*R
comp=Z,636nm,21.8s
FLN **La Foliniere** 90.74 330 *e*P P 10 36 18.1 -1.6
FLN pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
FLN MLR MLR
comp=Z,640nm,21.8s,MS5.0
FRF **La Foret Royal** 91.05 323 *e*P P 10 36 19.2 -2.1
VIVF **Saint-Julien-l** 91.16 325 *e*P P 10 36 20.3 -1.5
GRR **Gorron** 91.18 330 *e*P P 10 36 20.9 -0.9
comp=Z,14nn,0.6s,mb5.2
GRR **Gorron** 91.18 330 *e*P P 10 36 20.9 -0.9
GRR pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
LMR **La Mourre** 91.28 323 *e*P P 10 36 21.2 -1.2
SRU **San Rafael** 91.31 43 *e*P P 10 36 23.7 +1.1
SRU pmax pmax
comp=Z,11nn,0.9s,mb5.2
SRU **San Rafael** 91.31 43 *e*P P 10 36 23.7 +1.1
comp=Z,11nn,0.9s,mb5.2
SMRF **Simiane la Rot** 91.32 324 *e*P P 10 36 21.3 -1.3
RSSD **Black Hills** 91.52 36 *e*P P 10 36 24.1 +0.6
RSSD pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
RSSD **Black Hills** 91.52 36 *e*P P 10 36 24.1 +0.6
comp=Z,8.3nm,0.7s,mb5.2
MFF **Saint Martin d** 92.21 328 *e*P P 10 36 25.7 -0.9
comp=Z,17nn,0.6s,mb5.2
MFF **Saint Martin d** 92.21 328 *e*P P 10 36 25.7 -0.9
MFF pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
ROSF **Rostrenen** 92.26 331 *e*P P 10 36 26.2 -0.6
RJF **Les Rejaudoux** 92.39 327 *e*P P 10 36 26.9 -0.6
WUAZ **Wupatki** 93.09 46 *e*P P 10 36 32.4 +1.4
comp=Z,17nn,1.3s,mb5.3
KMBO **Kilima Mbogo** 93.36 271 P P 10 36 32.7 +0.1
comp=Z,1.4nm,0.7s,mb4.5,baz=58,slow=9.7,SNR=4.1
KMBO LR LR 11 21 00.9
comp=Z,130nn,20.0s,MS4.4,baz=90,slow=37
KMBO **Kilima Mbogo** 93.36 271 *i* P P 10 36 33.2 +0.6
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO **Kilima Mbogo** 93.36 271 P P 10 36 32.7 +0.1
KMBO LR LR 11 21 00.9
EPF **Esparros** 94.64 326 *e*P P 10 36 36.1 -1.7
SCHQ **Schefferville** 94.84 10 P P 10 36 38.6 +0.2
comp=Z,3.5nm,0.7s,mb4.9,baz=27,slow=7.2,SNR=4.5
SCHQ LR LR 11 23 03.8
comp=Z,262nn,20.9s,MS4.7,baz=316,slow=38
SDCO **Great Sand Dun** 95.16 41 *e*P P 10 36 41.5 +1.2
TUC **Tucson** 95.51 48 *e*P P 10 36 43.2 +1.2
TUC *e**PP pP 10 36 50.7 -3.1
TUC pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
TUC **Tucson** 95.51 48 *e*P P 10 36 43.2 +1.2
comp=Z,2.2nn,0.8s,mb4.6
TUC *e*pP pP 10 36 50.7 -3.1
ESDC **Sonseca Array** 99.29 326 P P 10 36 58.6 -0.4
comp=Z,0.4nn,0.5s,mb4.2,baz=38,slow=3.4,SNR=4.4
ESDC PP PP 10 40 56.7 -7.8
comp=Z,1.0nn,0.7s,baz=39,slow=8.3,SNR=4.7
TXAR **Lajitas Array** 102.05 46 P Pdif 10 37 12.7 +1.0
comp=Z,0.4nn,0.7s,baz=285,slow=3.3,SNR=5.4
TXAR PKKPbc 10 53 15.5
comp=Z,0.2nn,0.7s,baz=168,slow=5.7,SNR=4.3
TXAR **Lajitas Array** 102.05 46 P Pdif 10 37 12.7 +1.0
TXAR PKKPbc 10 53 15.5
EVO **Evora** 102.12 328 *e*P Pdif 10 37 10.1 -1.7
comp=Z,53nn,1.5s
EVO *e*R
comp=Z,559nm,18.2s
TORD **Torodi Ar. Bea** 114.98 303 PKP PKPdf 10 41 58.4 +1.1
comp=Z,1.9nn,0.7s,baz=60,slow=1.2,SNR=14
TORD PP PP 10 42 48.2 -13
comp=Z,0.8nn,0.7s,baz=44,slow=8.1,SNR=3.3
DBIC **Dimbokro** 124.08 303 PKP PKPdf 10 42 16.2 +1.3

comp=Z,6.4nm,0.7s,baz=351,slow=1.7,SNR=11
LIC Lamto 124.50 302 *e*PKIKP PKPdf 10 42 16.6 +0.8
comp=Z,18nm,0.8s
SNAA Sanae 130.71 198⇑*i*PKPdf PKPdf 10 42 28.0 +1.8
SNAA *e* 10 43 07.0
SNAA *e* 10 43 16.6
VNA2 Neumayer--Watz 132.34 197⇑*i*PKPdf PKPdf 10 42 31.9 +2.6
VNA2 *e* 10 43 07.5
VNA2 *e* 10 43 17.5
VNA3 Neumayer Olymp 132.72 196⇑*i*P PKPdf 10 42 35.5 +1.5
VNA3 Neumayer Olymp 132.72 196 *e* PKPdf 10 43 06.9 +37
VNA3 Neumayer Olymp 132.72 196 *e* PKPdf 10 43 16.5 +46
SDV Santo Domingo 136.88 31 *e*PKPdf PKPdf 10 42 40.0 +0.8
NNA Nana 149.27 61 *e*PKPbc PKPdf 10 43 05.9 +5.3
LPAZ La Paz 158.51 57 PKP PKPdf 10 43 15.7 +2.2
comp=Z,0.8nm,0.7s,baz=298,slow=11,SNR=4.0
LPAZ La Paz 158.51 57 *e*PKIKP PKPdf 10 43 15.5 +2.1
BDFB Brasilia 166.27 354 PKP PKPdf 10 43 23.4 +2.2
comp=Z,1.4nm,0.6s,baz=160,slow=5.9,SNR=5.6
BDFB PKPab PKPab 10 44 23.6 -0.9
comp=Z,5.3nm,0.7s,baz=28,slow=2.5,SNR=7.5

JMA 04 10:29:15.6±0.1, 29.26N×130.45E, h63km±5km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JNN	**Nakanoshima**	**0.77**	**319**	P		P	10 29 30.7	-0.2
JNN				S		S	10 29 41.9	-0.4
JAM	**Amami Oshima**	**1.12**	**221**	P		P	10 29 35.5	-0.2
JKC	**Kuchinoerabu**	**1.22**	**350**	P		P	10 29 37.1	+0.2
JKC				*e*S		S	10 29 52.6	-0.2
JTSR	**Tashiro 2**	**1.94**	**12**	*e*S		S	10 30 10.2	0.0
JTK	**Tokunoshima**	**1.97**	**222**	P		P	10 29 47.3	-0.1
JNAR	**Kushima--Naru**	**2.37**	**17**	P		P	10 29 53.4	+0.4
JSJ	**Shimokoshiki**	**2.49**	**345**	P		P	10 29 54.8	+0.1

NIED ***04*** *10:46:00,29.20N×130.70E,h14km,Mw4.3 Best double couple: M₀3.52×10¹⁵ NP1:φs46°,δ63°,λ122°. NP2:φs171°, δ41°,λ44°.*
BJI ***04*** *10:46:38.3,28.92N×131.19E,h74km,mB4.7,mb4.2, Ms4.3,Msz4.0*
JMA ***04*** *10:46:40.3±0.1,29.21N×130.69E,h29km,M4.1*
MOS ***04*** *10:46:40.3±0.8,29.35N×130.49E,h33km,mb5.1/5,Error ellipse: s-maj=13.4km s-min=9.9km az=98.0*
IDC ***04*** *10:46:43.8±1.2,29.33N×130.45E,h46km±11km,mb3.8/13, mb1 4.0/17,mb1mx4.0/24,mbtmp4.1/17,ML3.8/4,MS3.7/7, Ms1 3.7/7,ms1mx3.3/38,Error ellipse: s-maj=18.6km s-min=8.5km az=114.0*
NEIC ***04*** *10:46:43.4±0.7,29.31N×130.51E,h45km±7km,mb4.6/10, MW4.3(NIED),Error ellipse: s-maj=10.3km s-min=5.9km az=144.0*

ISC 04 10:46:41.3±0.5, 29.23N±0.03×130.63E±0.05, h47km±4km, n66, σ0s97/73, mb4.3/25, MS3.8/4, 1C-3D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JNN	**Nakanoshima**	**0.90**	**313**	P		**P**	**10 46 57.7**	**0.0**
JNN				S		**S**	**10 47 09.7**	**-0.2**
JZK	**Kikaishima**	**1.08**	**213**	P		**P**	**10 46 58.9**	**-1.5**
JZK				S		**S**	**10 47 11.2**	**-3.3**
JAM	**Amami Oshima**	**1.22**	**228**	P		**P**	**10 47 03.2**	**+0.9**
JAM				S		**S**	**10 47 18.3**	**+0.4**
JKC	**Kuchinoerabu**	**1.28**	**343**	P		**P**	**10 47 03.3**	**+0.1**
JKC				S		**S**	**10 47 20.3**	**+0.8**
JTN	**Tanegashima 3**	**1.45**	**12**	P		**P**	**10 47 05.7**	**+0.1**
JTN				S		**S**	**10 47 24.2**	**+0.6**
JTSR	**Tashiro 2**	**1.94**	**7**	P		**P**	**10 47 13.0**	**+0.5**
JTSR				S		**S**	**10 47 35.9**	**+0.1**
JTK	**Tokunoshima**	**2.07**	**226**	P		**P**	**10 47 15.5**	**+1.2**
JSU	**Suzuyama**	**2.27**	**356**	P		**P**	**10 47 17.0**	**-0.2**
JNAR	**Kushima--Naru**	**2.35**	**13**	P		**P**	**10 47 19.2**	**+0.8**
JNAR				S		**S**	**10 47 46.2**	**+0.1**
JOW	**Kunigami**	**3.17**	**222**	P		**P**	**10 47 30.0**	**-0.1**
	8.5nm,0.3s,baz=112,slow=21,SNR=5.6							
JOW				S		**S**	**10 48 07.7**	**+0.7**
	18nm,0.3s,baz=354,slow=30,SNR=4.0							
JOW				LR		LR	10 49 10.7	
	comp=Z,772nm,18.5s,baz=47,slow=47							
JOW	**Kunigami**	**3.17**	**222**	P		**P**	**10 47 28.6**	**-1.5**
JIH	**Iheya**	**3.22**	**228**	P		**P**	**10 47 29.3**	**-1.4**
JMZ	**Minamidaito 2**	**3.44**	**171**	S		**S**	**10 48 09.2**	**-4.6**
JNU	**Nakatsue**	**3.88**	**3**	P		**P**	**10 47 40.6**	**+0.6**
	8.1nm,0.3s,baz=179,slow=9.4,SNR=133							
JNU				S		**S**	**10 48 24.5**	**-0.4**
	2.4nm,0.3s,baz=212,slow=19,SNR=2.6							
JNU				LR		LR	10 48 26.6	
	comp=Z,266nm,21.7s,baz=16,slow=27							
JHJ	**Hachijo jima 2**	**8.74**	**61**	P		**P**	**10 48 48.2**	**+0.3**
	16nm,0.3s,baz=68,slow=18,SNR=4.2							
MAJO	**Matsushiro**	**9.68**	**39**	*e*P		**P**	**10 49 00.0**	**-0.7**
MAT	**Matsushiro**	**9.68**	**39**	P		**P**	**10 48 59.8**	**-0.9**
MJAR	**Matsushiro Ar**	**9.68**	**39**	P		**P**	**10 48 60.0**	**-0.8**
	0.9nm,0.3s,baz=253,slow=13,SNR=12							
CBIJ	**Chichi jima**	**10.41**	**99**	P		**P**	**10 49 10.1**	**-0.9**
	13nm,0.3s,baz=277,slow=22,SNR=4.3							
CN2	**Changchun**	**15.12**	**345**	*e*P		**P**	**10 50 19.3**	**+6.0**
CN2				*e*AP			10 50 26.5	
CN2				*e*S		**S**	**10 52 55.0**	**-4.8**
CN2				AMB		AMB		
	comp=Z,30nm,0.7s							
CN2				LR		LR		
	comp=N,710nm,12.0s							
CN2				LR		LR		
	comp=E,620nm,12.0s							
CN2				LR		LR		
	comp=Z,660nm,14.0s							
ASAJ	**Asahikawa**	**17.65**	**29**	LR		LR	10 57 55.7	
	comp=Z,214nm,18.2s,baz=0.4,slow=38							
ENH	**Enshi**	**18.39**	**278**	*e*P		**P**	**10 50 55.7**	**+1.2**
	comp=Z,7.2nm,0.6s							
HHC	**Hu-ho-hao-te**	**19.40**	**312**	*e*P		**P**	**10 51 03.0**	**-3.1**
HHC				AMB		AMB		
	comp=Z,110nm,5.6s							
HHC				LR		LR		
	comp=N,390nm,8.7s							
HHC				LR		LR		
	comp=E,460nm,8.7s							
HHC				LR		LR		
	comp=Z,450nm,8.7s							
KLR	**Kul'dur**	**19.99**	**2**	*e*P		**P**	**10 51 07.9**	**-4.5**
GUMO	**Guam**	**20.41**	**137**	LR		LR	10 57 01.9	
	comp=Z,104nm,20.7s,MS3.2,baz=72,slow=30							
GYA	**Guiyang**	**21.37**	**268**	⇓*i*P		**P**	**10 51 28.3**	**+1.6**
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.5							
CD2	**Chengdu**	**23.30**	**281**	*e*P		**P**	**10 51 46.0**	**+0.2**
CD2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.2							
ULN	**Ulaanbaatar**	**26.02**	**322**	*e*P		**P**	**10 52 10.6**	**-1.1**
ULN				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb3.9							
ULN	**Ulaanbaatar**	**26.02**	**322**	*e*P		**P**	**10 52 10.6**	**-1.1**
	comp=Z,3.2nm,0.8s,mb3.9							
SONM	**Songino Array**	**26.36**	**321**	P		**P**	**10 52 13.0**	**-1.8**
	comp=Z,3.2nm,0.8s,mb3.9,baz=137,slow=8.7,SNR=20							
SONM				LR		LR	11 03 39.8	
	comp=Z,225nm,20.4s,MS3.7,baz=142,slow=39							
GTA	**Gaotai**	**27.29**	**300**	*e*P		**P**	**10 52 25.9**	**+2.5**
GTA				PCP		PcP	10 55 42.2	-0.2
JIRN	**Jiri**	**38.94**	**279**	*e*P		**P**	**10 54 04.7**	**+0.4**
	comp=Z,9.0nm,0.6s,mb4.7							
GUN	**Gumba**	**39.15**	**279**	*e*P		**P**	**10 54 06.5**	**+0.4**
	comp=Z,40nm,0.6s,mb5.3							
PKI	**Pulchoki**	**39.63**	**279**	*e*P		**P**	**10 54 10.1**	**0.0**
KKN	**Kakani**	**39.69**	**279**	*e*P		**P**	**10 54 10.6**	**0.0**
DMN	**Daman**	**39.88**	**279**	*e*P		**P**	**10 54 12.2**	**0.0**
GKN	**Gorkha**	**40.20**	**280**	*e*P		**P**	**10 54 14.6**	**-0.2**
	comp=Z,15nm,0.6s,mb4.9							
KOLN	**Koldanda**	**41.14**	**280**	*e*P		**P**	**10 54 22.4**	**-0.2**
MKAR	**Makanchi Array**	**41.22**	**309**	P		**P**	**10 54 22.9**	**-0.1**
	comp=Z,1.5nm,0.6s,mb3.8,baz=89,slow=10.0,SNR=19							
MKAR				PcP		PcP	10 56 22.3	+0.3
	comp=Z,0.9nm,0.8s,baz=76,slow=5.9,SNR=3.7							
ZAL	**Zalesovo**	**41.24**	**320**	P		**P**	**10 54 22.2**	**-0.9**
	comp=Z,1.6nm,0.8s,mb3.7,baz=356,slow=9.9,SNR=11							
ZAL				PcP		PcP	10 56 21.9	-0.1
	comp=Z,0.6nm,0.3s,baz=285,slow=2.8,SNR=3.5							
BILL	**Bilibino**	**44.16**	**18**	⇓*e*P		**P**	**10 54 47.9**	**+1.1**
BILL				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.5							
BILL	**Bilibino**	**44.16**	**18**	*e*P		**P**	**10 54 47.5**	**+0.7**
	comp=Z,2.7nm,0.6s,mb4.2							
KURK	**Kurchatov**	**44.19**	**314**	*e*P		**P**	**10 54 46.9**	**-0.3**
KURK				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.8							
KURK	**Kurchatov**	**44.19**	**314**	*e*P		**P**	**10 54 46.9**	**-0.3**
	comp=Z,18nm,0.9s,mb4.8							
WRA	**Warramunga Arr**	**49.02**	**175**	P		**P**	**10 55 26.6**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.7,baz=355,slow=8.4,SNR=6.2							
BRVK	**Borovoye**	**49.58**	**316**	*e*P		**P**	**10 55 28.1**	**-1.4**
BRVK				pmax		pmax		
	comp=Z,14nm,0.9s,mb5.0							
BRVK	**Borovoye**	**49.58**	**316**	*e*P		**P**	**10 55 28.1**	**-1.5**
	comp=Z,14nm,0.9s,mb5.0							
ARU	**Arti**	**56.40**	**321**	⇓*i*P		**P**	**10 56 19.0**	**-1.0**
ARU				*e*			10 58 20.6	
ARU				*e*S		**S**	**11 04 03.5**	**-1.9**
ARU				pmax		pmax		
	comp=Z,14nm,0.9s,mb5.0							
ARU	**Arti**	**56.40**	**321**	*e*P		**P**	**10 56 15.9**	**-4.1**
	comp=Z,12nm,0.9s,mb4.9							
SOKR	**Solikamsk**	**57.18**	**324**	⇑*i*P		**P**	**10 56 25.1**	**-0.5**
SOKR				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.9							
AKTO	**Aktyubinsk**	**57.28**	**313**	LR		LR	11 22 33.5	
	comp=Z,274nm,18.4s,MS4.4,baz=85,slow=38							
ILAR	**Eielson Array**	**60.79**	**29**	P		**P**	**10 56 50.2**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.2,baz=269,slow=5.3,SNR=14							
DZM	**Mont Dzumac**	**61.58**	**142**	LR		LR	11 18 10.0	
	comp=Z,128nm,20.1s,MS4.1,baz=21,slow=30							
JOF	**Joensuu**	**68.46**	**331**	*e*p		**P**	**10 57 39.1**	**-1.0**
KIV	**Kislovodsk**	**68.98**	**309**	*e*P		**P**	**10 57 42.9**	**-0.8**
KIV				pmax		pmax		
	comp=Z,18nm,1.1s,mb4.9							
FINES	**FINESS Array B**	**71.30**	**331**	P		**P**	**10 57 56.2**	**-1.2**
	comp=Z,0.8nm,0.3s,mb4.1,baz=56,slow=6.9,SNR=17							
AKASG	**Malin Array Be**	**74.63**	**320**	P		**P**	**10 58 17.1**	**0.0**
	comp=Z,2.9nm,0.5s,mb4.5,baz=59,slow=6.3,SNR=12							
YKA	**Yellowknife Ar**	**74.91**	**26**	P		**P**	**10 58 19.9**	**+1.5**
	comp=Z,1.0nm,0.7s,mb3.8,baz=305,slow=5.5,SNR=9.1							
BR131	**Keskin Array S**	**76.87**	**308**	*e*P		**P**	**10 58 31.0**	**+0.8**
	comp=Z,2.9nm,0.7s,mb4.3							
BRTR	**Keskin Array B**	**76.87**	**308**	P		**P**	**10 58 31.1**	**+1.0**
	comp=Z,2.8nm,0.7s,mb4.3,baz=97,slow=5.2,SNR=15							
NB2	**NORSAR Subarra**	**77.56**	**334**	P		**P**	**10 58 32.6**	**-0.9**
	comp=Z,3.3nm,1.1s,mb4.2,baz=46,slow=5.6							
NOA	**NORSAR Array B**	**77.56**	**334**	P		**P**	**10 58 33.2**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=50,slow=5.4,SNR=3.7							
GERES	**GERESS Array B**	**84.08**	**324**	P		**P**	**10 59 09.3**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.8,baz=27,slow=3.0,SNR=4.3							
HLID	**Hailey**	**86.24**	**41**	*e*P		**P**	**10 59 19.9**	**+0.9**
NVAR	**Mina Array Bea**	**86.90**	**47**	P		**P**	**10 59 25.6**	**+3.2**
	comp=Z,0.7nm,0.7s,mb4.0,baz=279,slow=8.9,SNR=6.5							
PDAR	**Pinedale Array**	**89.50**	**40**	P		**P**	**10 59 36.5**	**+1.9**
	comp=Z,0.9nm,0.8s,mb4.1,baz=336,slow=1.5,SNR=6.8							

BGR ***04*** *10:56:56.9±0.4,49.34N×6.84E,h1km,ML2.3,Error ellipse: s-maj=6.7km s-min=4.4km az=54.0*
LDG ***04*** *10:56:57.9±0.1,49.32N×6.80E,h1km,Md2.7/1,Ml3.0/12, Error ellipse: s-maj=1.6km s-min=1.3km az=98.0, Suspected Mining induced.*
CSEM ***04*** *10:56:57.7±0.1,49.33N×6.82E,h2km,ML2.9/11,Error ellipse: s-maj=1.2km s-min=0.9km az=96.0*
NEIC ***04*** *10:56:57.9,49.32N×6.80E,h1km,ML3.0(LDG), ML2.4(STR),ML2.3(SZGRF),After LDG.*
BNS ***04*** *10:56:58.8±0.3,49.36N×6.86E,h1km,ML2.0*

ISC 04 10:56:56.0±0.2, 49.30N±0.01×6.77E±0.03, n51, σ1s07/100, 1D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op		ISC		
RUP	**Ruppelstein**	**0.44**	**26**	Pg		**Pg**	**10 57 05.6**	**+0.8**
RUP				Sg		**Sg**	**10 57 12.8**	**+2.0**
WLF	**Walferdange**	**0.54**	**312**	*e*Pg		**Pg**	**10 57 08.7**	**+2.0**
WLF				*e*Sg		**Sg**	**10 57 14.6**	**+0.6**
WLF	**Walferdange**	**0.54**	**312**	*e*P		**Pg**	**10 57 08.7**	**+1.9**
LANF	**Langenberg**	**0.76**	**115**	*e*(Pg)		**Pg**	**10 57 11.4**	**+0.3**
LANF	**Langenberg**	**0.76**	**115**	Pg		**Pg**	**10 57 11.3**	**+0.2**
ABH	**Alteburg**	**0.77**	**41**	*e*(Pg)		**Pg**	**10 57 11.4**	**0.0**
KTD	**Kalmit**	**0.86**	**88**	Pg		**Pg**	**10 57 14.5**	**+1.3**
CDF	**Champ du Feu**	**0.95**	**159**	*e*Pn		**Pn**	**10 57 16.5**	**+0.1**
CDF				*e*Sg		**Sg**	**10 57 28.1**	**+0.3**
	60nm,0.2s							
CDF	**Champ du Feu**	**0.95**	**159**	*e*Pg		**Pg**	**10 57 15.3**	**+0.3**
CDF				*e*Pn		**Pn**	**10 57 16.5**	**+0.1**
CDF				*e*Sg		**Sg**	**10 57 28.1**	**+0.3**
CDF	**Champ du Feu**	**0.95**	**159**	*e*Pn		**Pn**	**10 57 16.5**	**+0.1**
CDF				*e*Sg		**Sg**	**10 57 28.1**	**+0.3**
	30nm,0.2s							
BGG	**Burgeitz**	**0.98**	**22**	⇓*e*Pg		**Pg**	**10 57 15.8**	**+0.3**
HILG	**Hillesheim**	**0.99**	**357**	*e*Pg		**Pg**	**10 57 16.5**	**+0.7**
HILG				*e*Sg		**Sg**	**10 57 29.7**	**+0.7**
RFYF	**Reffroy**	**1.09**	**232**	*e*Pg		**Pg**	**10 57 18.9**	**+1.2**
	baz=51							
RFYF				*e*Sg		**Sg**	**10 57 33.4**	**+1.2**
	58nm,0.2s							
ECH	**Echery**	**1.12**	**166**	*e*(Pg)		**Pg**	**10 57 19.3**	**+0.9**
ECH	**Echery**	**1.12**	**166**	Pg		**Pg**	**10 57 19.3**	**+1.0**
ECH				Sg		**Sg**	**10 57 35.1**	**+1.8**
THEF	**They Montfort**	**1.19**	**206**	Pg		**Pg**	**10 57 20.5**	**+0.7**
THEF				Sg		**Sg**	**10 57 37.0**	**+1.2**
STB	**Steinbach**	**1.29**	**2**	*e*Pg		**Pg**	**10 57 21.6**	**-0.2**
STB				*e*Sg		**Sg**	**10 57 38.2**	**-0.9**
	29nm,0.4s							
HAU	**Haudompre**	**1.33**	**192**	*e*Pg		**Pg**	**10 57 23.2**	**+0.7**
HAU				*e*Sg		**Sg**	**10 57 40.6**	**+0.4**
	41nm,0.3s							
HAU	**Haudompre**	**1.33**	**192**	*e*Pn		**Pn**	**10 57 22.1**	**+0.3**
HAU				*e*Pg		**Pg**	**10 57 23.2**	**+0.7**
HAU				*e*Sg		**Sg**	**10 57 40.6**	**+0.4**
HAU	**Haudompre**	**1.33**	**192**	*e*Pg		**Pg**	**10 57 23.2**	**+0.7**
HAU				*e*Sg		**Sg**	**10 57 40.6**	**+0.4**
	21nm,0.3s							
TOD	**Tromm**	**1.36**	**76**	Pg		**Pg**	**10 57 22.4**	**-0.8**
KLL	**Kalltalsperre**	**1.38**	**348**	*e*Pg		**Pg**	**10 57 22.8**	**-0.7**
KLL				*e*Sg		**Sg**	**10 57 40.9**	**-1.0**
	20nm,0.6s							
MEZF	**Maizieres J'vi**	**1.39**	**235**	*e*Pn		**Pn**	**10 57 23.7**	**+1.1**
	baz=50							
MEZF				*e*Sn		**Sn**	**10 57 41.4**	**-0.5**
MEZF				*e*Sg		**Sg**	**10 57 43.2**	**+1.1**
	13nm,0.2s							
MEM	**Membach**	**1.40**	**340**	P		**Pb**	**10 57 23.5**	**+0.8**
MEM				S		**Sb**	**10 57 41.3**	**+0.4**
BFO	**Black Forest**	**1.42**	**133**	*e*Pg		**Pg**	**10 57 24.7**	**+0.3**
BFO				*e*Sg		**Sg**	**10 57 41.3**	**-2.0**
BFO	**Black Forest**	**1.42**	**133**	*e*Pg		**Pg**	**10 57 24.7**	**+0.3**
BFO				*e*Sg		**Sg**	**10 57 41.3**	**-2.0**
TNS	**Taunus Mts**	**1.43**	**49**	*e*Pn		**Pn**	**10 57 22.3**	**-1.0**
TNS				*e*Sg		**Sg**	**10 57 42.1**	**-1.4**
TNS	**Taunus Mts**	**1.43**	**49**	*e*Pn		**Pn**	**10 57 22.3**	**-0.9**
TNS				*e*Sg		**Sg**	**10 57 42.1**	**-1.4**
MOF	**Molkenrain**	**1.47**	**170**	Pg		**Pg**	**10 57 25.7**	**+0.3**
MOF				Sg		**Sg**	**10 57 45.7**	**+0.7**
HINF	**Hinteralfeld**	**1.49**	**178**	*e*Pg		**Pg**	**10 57 25.8**	**+0.1**
HINF				*e*Sg		**Sg**	**10 57 45.7**	**+0.1**
	57nm,0.2s							
HINF	**Hinteralfeld**	**1.49**	**178**	*e*Pn		**Pn**	**10 57 23.8**	**-0.3**
HINF				*e*Pg		**Pg**	**10 57 25.8**	**+0.1**
HINF				*e*Sg		**Sg**	**10 57 45.7**	**+0.1**
HINF	**Hinteralfeld**	**1.49**	**178**	*e*Pg		**Pg**	**10 57 25.8**	**+0.1**
HINF				*e*Sg		**Sg**	**10 57 45.7**	**+0.1**
	29nm,0.2s							
GIVF	**Givet**	**1.49**	**303**	*e*Pn		**Pn**	**10 57 24.9**	**+0.7**
GIVF				*e*Sg		**Sg**	**10 57 45.5**	**-0.2**
	19nm,0.3s							
HGN	**Heimansgroeve**	**1.56**	**340**	*e*Pg		**Pg**	**10 57 26.9**	**-0.2**
	10nm,0.2s							
HGN				*e*Sg		**Sg**	**10 57 46.1**	**-1.8**
SFTF	**Sexfontaines**	**1.58**	**227**	*e*Pg		**Pg**	**10 57 26.2**	**-1.5**
	baz=52							
SFTF				*e*Sg		**Sg**	**10 57 49.1**	**+0.3**
	21nm,0.3s							
DOU	**Dourbes**	**1.62**	**300**	P		**Pn**	**10 57 26.2**	**+0.3**
DOU				S		**Sb**	**10 57 47.3**	**0.0**
BEBN	**Eben Emael**	**1.65**	**335**	P		**Pn**	**10 57 28.4**	**+2.0**
BEBN				S		**Sb**	**10 57 49.7**	**+1.4**
BAIF	**Baives**	**1.82**	**295**	*e*Pg		**Pg**	**10 57 32.3**	**-0.1**
BAIF				*e*Sn		**Sn**	**10 57 51.3**	**-1.8**
BAIF				*e*Sg		**Sg**	**10 57 55.9**	**-0.9**
	14nm,0.4s							
BAIF	**Baives**	**1.82**	**295**	*e*Pn		**Pn**	**10 57 29.7**	**+0.8**
BAIF				*e*Pg		**Pg**	**10 57 32.3**	**-0.1**
BAIF				*e*Sn		**Sn**	**10 57 51.3**	**-1.8**
BAIF				*e*Sg		**Sg**	**10 57 55.9**	**-0.9**
BAIF	**Baives**	**1.82**	**295**	*e*Pg		**Pg**	**10 57 32.3**	**-0.1**
BAIF				*e*Sn		**Sn**	**10 57 51.3**	**-1.8**
BAIF				*e*Sg		**Sg**	**10 57 55.9**	**-0.9**
	6.8nm,0.4s							
BUG	**Bochum--Univer**	**2.16**	**8**	*e*Sg		**Sg**	**10 58 04.4**	**-3.6**
CABF	**La Chapelle**	**2.73**	**190**	*e*Pg		**Pg**	**10 57 49.3**	**-1.2**
CABF				*e*Sg		**Sg**	**10 58 24.7**	**-2.3**
	5.0nm,0.3s							
CABF	**La Chapelle**	**2.73**	**190**	*e*Pn		**Pn**	**10 57 41.6**	**-0.3**
CABF				*e*Pg		**Pg**	**10 57 49.3**	**-1.2**
CABF				*e*Sg		**Sg**	**10 58 24.7**	**-2.3**
CABF	**La Chapelle**	**2.73**	**190**	*e*Pg		**Pg**	**10 57 49.3**	**-1.2**
CABF				*e*Sg		**Sg**	**10 58 24.7**	**-2.3**
	2.5nm,0.3s							
LOR	**Lormes**	**2.81**	**225**	*e*Pn		**Pn**	**10 57 42.4**	**-0.6**
	baz=49							
LOR				*e*Sn		**Sn**	**10 58 15.2**	**-3.0**
LOR				*e*Sg		**Sg**	**10 58 27.1**	**-2.5**
	9.6nm,0.3s							
SSF	**Saint Saulge**	**3.13**	**225**	*e*Pn		**Pn**	**10 57 46.6**	**-0.9**
SMF	**Signal de Mont**	**3.31**	**218**	*e*Pn		**Pn**	**10 57 48.7**	**-1.4**
SMF				*e*Sn		**Sn**	**10 58 26.6**	**-4.0**
SMF				*e*Sg		**Sg**	**10 58 42.2**	**-3.9**
	4.6nm,0.3s							
AVF	**Avril sur Loir**	**3.40**	**224**	*e*Pn		**Pn**	**10 57 49.9**	**-1.5**
NKC	**Novy Kostel**	**3.80**	**74**	*e*SN		**Sn**	**10 58 36.8**	**-6.3**
NKC	**Novy Kostel**	**3.80**	**74**	*e*Sn		**Sn**	**10 58 36.8**	**-6.3**
KHC	**Kasperske Hory**	**4.47**	**90**	*e*PN		**Pn**	**10 58 05.6**	**-1.0**
KHC				*e*SN		**Sn**	**10 58 54.5**	**-5.6**

IDC 04 11:05:39.0±4.0, 5.37S×151.56E, h56km±28km, mb3.6/3, mb1 4.0/4, mb1mx3.7/12, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=66.8km s-min=22.1km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op		ISC		
PMG	**Port Moresby**	**5.93**	**227**	P		P	11 07 05.3	-0.9
	3.8nm,0.3s,baz=39,slow=8.2,SNR=12							
PMG				S		S	11 08 12.2	-1.4
	5.6nm,0.3s,baz=104,slow=8.8,SNR=9.7							
WRA	**Warramunga Arr**	**22.15**	**228**	P		P	11 10 29.3	-2.2
	11nm,0.7s,baz=52,slow=9.8,SNR=84							
WRA				ScP			11 17 59.2	
	0.3nm,0.7s,baz=46,slow=2.9,SNR=7.4							
SONM	**Songino Array**	**66.15**	**329**	P		P	11 16 21.0	-1.8
	0.4nm,0.6s,baz=127,slow=8.2,SNR=3.2							
ILAR	**Eielson Array**	**83.15**	**22**	P		P	11 17 59.0	-1.1
	0.6nm,0.6s,baz=251,slow=5.2,SNR=14							
TORD	**Torodi Ar. Bea**	**149.29**	**287**	PKPbc		PKPdf	11 25 21.3	+3.1
	0.8nm,0.5s,baz=65,slow=2.2,SNR=6.9							

JMA ***04*** *11:11:55.5±0.1,29.30N×130.55E,h69km,M3.2*
IDC ***04*** *11:11:57.5±2.8,29.40N×130.43E,h42km±26km,mb3.6/8, mb1 3.6/10,mb1mx3.5/24,mbtmp3.8/10,ML2.8/2,Error ellipse: s-maj=31.3km s-min=17.3km az=80.0*
NEIC ***04*** *11:11:57.6±1.2,29.37N×130.36E,h43km±11km,mb4.2/1, Error ellipse: s-maj=19.0km s-min=9.7km az=93.0*

ISC 04 11:11:56.2±0.9, 29.32N±0.06×130.6E±0.1, h54km±7km, n17, σ0s79/18, mb3.8/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op		ISC		
JNN	**Nakanoshima**	**0.79**	**312**	P		**P**	**11 12 11.5**	**+0.2**
JNN				S		**S**	**11 12 23.8**	**+1.2**
JAM	**Amami Oshima**	**1.23**	**223**	P		**P**	**11 12 16.9**	**-0.5**
JTN	**Tanegashima 3**	**1.39**	**15**	P		**P**	**11 12 19.5**	**-0.2**
JNAR	**Kushima--Naru**	**2.29**	**16**	P		**P**	**11 12 32.3**	**-0.1**
JOW	**Kunigami**	**3.19**	**220**	P		**P**	**11 12 44.0**	**-1.1**
	1.1nm,0.3s,baz=94,slow=19,SNR=2.7							
JNU

comp=Z,423nm,20.4s,baz=280,slow=35
NACB Ninganchiao 9.51 240 P **P** **11 16 07.4 -4.9**
MAJO Matsushiro 9.69 39 *eP* **P** **11 16 13.5 -1.3**
MAT Matsushiro 9.69 39 P **P** **11 16 13.6 -1.2**
MJAR Matsushiro Arr 9.69 39 Pn **P** **11 16 13.7 -1.1**
comp=Z,0.7nm,0.3s,baz=228,slow=14,SNR=7.7
CBIJ Chichi jima 10.43 99 Pn **P** **11 16 23.7 -1.2**
comp=Z,20nm,0.3s,baz=307,slow=18,SNR=6.0
CBIJ LR LR 11 19 36.5
comp=Z,383nm,19.8s,baz=348,slow=32
CN2 Changchun 15.12 346 *eP* **P** **11 17 31.2 +4.0**
CN2 *e*AP 11 17 38.2
CN2 *e*S **S** **11 20 17.0 +3.3**
CN2 AMB AMB
comp=Z,60nm,0.8s
CN2 LR LR
comp=N,940nm,15.0s
CN2 LR LR
comp=E,780nm,15.0s
CN2 LR LR
comp=Z,860nm,12.0s
ENH Enshi 18.38 278 P **P** **11 18 09.1 +0.8**
comp=Z,24nm,0.8s
HHC Hu-ho-hao-te 19.39 312 *eP* **P** **11 18 18.8 -1.1**
HHC PP PP 11 18 35.9 -2.1
HHC AMB AMB
comp=Z,10.0nm,0.8s
HHC AMB AMB
comp=Z,140nm,5.1s
HHC LR LR
comp=N,360nm,9.8s
HHC LR LR
comp=E,520nm,10.7s
HHC LR LR
comp=Z,640nm,14.3s
KLR Kul'dur 20.00 2 *eP* **P** **11 18 21.6 -4.7**
GUMO Guam 20.41 137 LR LR 11 25 11.5
comp=Z,250nm,20.9s,MS3.5,baz=252,slow=33
GYA Guiyang 21.35 266 ⇓*iP* **P** **11 18 41.0 +0.6**
GYA AMB AMB
comp=Z,20nm,0.7s,mb4.6
GYA AMB AMB
comp=Z,200nm,5.4s
CD2 Chengdu 23.29 281 P **P** **11 19 00.4 +0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
CD2 AMB AMB
comp=Z,110nm,10.8s
CD2 LR LR
comp=E,380nm,13.2s
CD2 LR LR
comp=Z,430nm,13.2s,MS4.1
KMI Kunming 25.11 267 P **P** **11 19 18.5 +1.4**
KMI AMB AMB
comp=Z,40nm,0.9s,mb5.0
ULN Ulaanbaatar 26.02 322 *i*P **P** **11 19 25.6 +0.1**
ULN Ulaanbaatar 26.02 322 *eP* **P** **11 19 23.5 -2.0**
comp=Z,4.7nm,0.8s,mb4.1
SONM Songino Array 26.36 321 P **P** **11 19 27.0 -1.5**
comp=Z,4.2nm,0.8s,mb4.0,baz=139,slow=9.7,SNR=23
SONM LR LR 11 31 14.0
comp=Z,528nm,19.2s,MS4.1,baz=128,slow=40
GTA Gaotai 27.28 300 *eP* **P** **11 19 38.1 +1.0**
GTA S **S** **11 24 08.4 -2.8**
GTA AMB AMB
comp=Z,120nm,5.7s
GTA LR LR
comp=N,380nm,15.2s,MS4.3
GTA LR LR
comp=E,530nm,16.3s,MS4.3
GTA LR LR
comp=Z,600nm,15.2s,MS4.3
ZAK Zakamensk 29.51 323 *eP* **P** **11 19 55.0 -2.0**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.5
LSA Lhasa 34.25 281 *eP* **P** **11 20 37.5 -1.2**
LSA pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
LSA Lhasa 34.25 281 *eP* **P** **11 20 37.5 -1.2**
comp=Z,3.0nm,0.4s,mb4.6
JIRN Jiri 38.92 279 *eP* **P** **11 21 18.5 +0.5**
comp=Z,32nm,0.8s,mb5.1
FX1 Attu Island--F 39.05 41 LR LR 11 36 22.2
comp=Z,4.1nm,21.8s,baz=246,slow=34
GUN Gumba 39.13 279 *eP* **P** **11 21 20.2 +0.4**
comp=Z,53nm,0.4s,mb5.6
PKI Pulchoki 39.62 279 *eP* **P** **11 21 23.8 0.0**
comp=Z,54nm,0.8s,mb5.3
PKI Pulchoki 39.62 279 *eP* **P** **11 21 23.8 0.0**
PKI pmax pmax
comp=Z,27nm,0.8s,mb5.0
KKN Kakani 39.68 279 *eP* **P** **11 21 24.3 0.0**
comp=Z,78nm,0.9s,mb5.4
KKN Kakani 39.68 279 *eP* **P** **11 21 24.3 0.0**
KKN pmax pmax
comp=Z,39nm,0.9s,mb5.1
DMN Daman 39.87 279 *eP* **P** **11 21 25.0 -0.9**
GKN Gorkha 40.18 280 *eP* **P** **11 21 28.4 -0.1**
comp=Z,34nm,0.6s,mb5.2
KOLN Koldanda 41.13 280 *eP* **P** **11 21 36.5 +0.2**
comp=Z,40nm,0.8s,mb5.1
MKAR Makanchi Array 41.21 309 P **P** **11 21 36.7 -0.1**
comp=Z,1.7nm,0.4s,mb4.0,baz=91,slow=10.0,SNR=43
MKAR PcP PcP 11 23 35.9 +0.2
comp=Z,1.4nm,0.8s,baz=63,slow=2.7,SNR=5.2
MKAR LR LR 11 40 32.4
comp=Z,116nm,18.7s,MS3.8,baz=71,slow=39
MKAR Makanchi Array 41.21 309 P **P** **11 21 36.7 -0.1**
MKAR PcP PcP 11 23 35.9 +0.1
MKAR LR LR 11 40 32.4
ZAL Zalesovo 41.24 320 P **P** **11 21 36.2 -0.7**
comp=Z,1.9nm,0.7s,mb3.8,baz=12,slow=8.9,SNR=13
ZAL LR LR 11 41 25.6
comp=Z,361nm,18.4s,MS4.3,baz=358,slow=40
ZAL Zalesovo 41.24 320 P **P** **11 21 36.2 -0.7**
ZAL LR LR 11 41 25.6
BILL Bilibino 44.17 18 P **P** **11 22 02.0 +1.4**
BILL *e* pP 11 22 11.6 -2.1
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
BILL MLR MLR
comp=Z,100nm,16.0s,MS3.8
BILL Bilibino 44.17 18 *eP* **P** **11 22 01.5 +0.9**
comp=Z,3.9nm,0.7s,mb4.2
KURK Kurchatov 44.18 314 *c iP* **P** **11 22 01.1 +0.1**
KURK Kurchatov 44.18 314 *eP* **P** **11 22 00.8 -0.1**
comp=Z,24nm,0.8s,mb5.0
AAK Ala-Archa 46.58 302 *eP* **P** **11 22 19.1 -1.0**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
WRAB Tennant Creek 49.00 175 *eP* **P** **11 22 46.7 +7.4**
WRAB Tennant Creek 49.00 175 *eP* **P** **11 22 39.8 +0.5**
comp=Z,6.7nm,0.8s,mb4.7
WRA Warramunga Arr 49.01 175 P **P** **11 22 39.6 +0.3**
comp=Z,0.7nm,0.4s,mb4.0,baz=355,slow=8.2,SNR=15
BVAR Borovoye Array 49.51 316 P **P** **11 22 41.8 -1.0**
comp=Z,14nm,0.6s,mb5.2,baz=92,slow=9.4,SNR=80
BVAR PcP PcP 11 24 04.0 -0.5
comp=Z,2.7nm,0.7s,baz=98,slow=2.7,SNR=4.4
BRVK Borovoye 49.58 316 *eP* **P** **11 22 42.7 -0.6**
BRVK pmax pmax
comp=Z,14nm,0.7s,mb5.1
BRVK Borovoye 49.58 316 *eP* **P** **11 22 42.7 -0.6**
comp=Z,14nm,0.7s,mb5.1
TNA Tin City 52.02 28 *eP* **P** **11 23 02.5 +1.0**
comp=Z,8.9nm,1.3s,mb4.5
ARU Arti 56.39 321 ⇑*iP* **P** **11 23 32.9 -0.9**
ARU *e* 11 24 26.7
ARU *e* 11 25 35.1
ARU *e*S **S** **11 31 10.7 -8.4**
ARU *e*SS SS 11 35 02.6 -4.4
ARU pmax pmax
comp=Z,15nm,0.8s,mb5.1
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.5
ARU MLR MLR
comp=E,200nm,16.0s
ARU Arti 56.39 321 *eP* **P** **11 23 32.6 -1.2**
comp=E,14nm,0.8s,mb5.0
SOKR Solikamsk 57.18 324 *eP* **P** **11 23 38.4 -0.9**
SOKR *e* pP 11 23 49.9 -2.9
SOKR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
AKTO Aktyubinsk 57.28 314 P **P** **11 23 39.2 -0.9**
comp=Z,8.2nm,0.8s,mb4.8,baz=78,slow=11,SNR=26
KDAK Kodiak Island 58.86 38 P **P** **11 23 51.2 +0.1**
comp=Z,4.6nm,0.6s,mb4.7,baz=296,slow=12,SNR=6.3
COLA College 60.38 29 *eP* **P** **11 24 03.2 +1.7**
ILAR Eielson Array 60.80 29 P **P** **11 24 04.2 -0.2**
comp=Z,1.3nm,0.7s,mb4.2,baz=266,slow=5.3,SNR=32
KEV Kevo 67.43 339 *ep* **P** **11 24 46.3 -1.1**
ARCES ARCESS Array B 68.00 339 P **P** **11 24 49.4 -1.6**
comp=Z,1.1nm,0.7s,mb4.0,baz=63,slow=5.4,SNR=5.0
ARCES LR LR 11 59 12.0
comp=Z,143nm,18.8s,MS4.2,baz=297,slow=40
JOF Joensuu 68.46 331 *ep* **P** **11 24 52.7 -1.2**
GNI Garni 68.89 305 *eP* **P** **11 24 58.0 +1.1**
GNI pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 68.97 309 *eP* **P** **11 24 57.7 +0.3**
KIV pmax pmax
comp=Z,13nm,0.6s,mb5.0
KIV MLR MLR
comp=Z,104nm,17.0s,MS4.1
FINES FINESS Array B 71.30 331 P **P** **11 25 10.3 -1.0**
comp=Z,1.4nm,0.4s,mb4.3,baz=58,slow=5.3,SNR=24
FINES LR LR 11 59 46.0
comp=Z,86nm,20.0s,MS4.0,baz=26,slow=39
FINES FINESS Array B 71.30 331 P **P** **11 25 10.3 -1.0**
FINES LR LR 11 59 46.0
ANN Anapa 72.15 312 *eP* **P** **11 25 14.7 -1.8**
ANN *e* 11 25 43.5
ANN pmax pmax
comp=Z,19nm,0.9s,mb5.0
RES Resolute Bay 72.21 11 *eP* **P** **11 25 17.3 +0.9**
RES pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
RES Resolute Bay 72.21 11 *eP* **P** **11 25 17.3 +0.8**
comp=Z,7.1nm,0.7s,mb4.7
BBB Bella Bella 73.89 39 LR LR 11 53 42.5
comp=Z,41nm,20.3s,MS3.7,baz=225,slow=32
AKASG Malin Array Be 74.63 320 P **P** **11 25 30.5 -0.4**
comp=Z,6.9nm,0.5s,mb4.9,baz=59,slow=6.2,SNR=23
YKA Yellowknife Ar 74.92 26 P **P** **11 25 33.4 +1.1**
comp=Z,1.6nm,0.7s,mb4.0,baz=305,slow=5.4,SNR=15
YKA Yellowknife Ar 74.92 26 *i*P **P** **11 25 34.0 +1.6**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 74.92 26 P **P** **11 25 33.4 +1.1**
BR131 Keskin Array S 76.86 308 *eP* **P** **11 25 44.9 +1.0**
comp=Z,4.8nm,0.7s,mb4.5
BRTR Keskin Array B 76.86 308 P **P** **11 25 45.0 +1.1**
comp=Z,5.5nm,0.7s,mb4.6,baz=102,slow=5.1,SNR=31
HFS Hagfors 77.15 333 P **P** **11 25 44.9 -0.2**
comp=Z,1.9nm,0.7s,mb4.2,baz=63,slow=3.3,SNR=7.8
NB2 NORSAR Subarra 77.56 334 P **P** **11 25 46.8 -0.5**
comp=Z,3.4nm,1.0s,mb4.2,baz=52,slow=5.8
NOA NORSAR Array B 77.56 334 P **P** **11 25 47.1 -0.2**
comp=Z,1.5nm,0.6s,mb4.1,baz=50,slow=5.6,SNR=6.5
NOA LR LR 12 06 07.9
comp=Z,58nm,19.3s,MS3.9,baz=45,slow=40
MLR Muntele Rosu 79.08 316 P **P** **11 25 57.9 +1.9**
comp=Z,1.9nm,0.7s,mb4.2,baz=84,slow=10,SNR=4.9
KOLS Kolonicke sedl 79.41 320 *eP* **P** **11 25 57.8 +0.1**
STHS Stebnicka Huta 79.72 321 *eP* **P** **11 25 58.8 -0.5**
CRVS Cervenica-Dubn 79.88 321 *eP* **P** **11 26 01.7 +1.5**
OJC Ojcow 80.06 322 *eP* **P** **11 26 02.1 +1.0**
VYHS Vyhne 81.55 321 *eP* **P** **11 26 09.9 +0.9**
VRAC Vranov 82.28 323 P **P** **11 26 14.3 +1.5**
comp=Z,3.3nm,0.7s,mb4.4,baz=26,slow=3.3,SNR=6.6
KHC Kasperske Hory 83.96 324 *eP* **P** **11 26 21.1 -0.2**
GERES GERESS Array B 84.07 324 P **P** **11 26 20.8 -1.1**
comp=Z,0.6nm,0.6s,mb3.9,baz=56,slow=4.8,SNR=4.7
HLID Hailey 86.25 41 *eP* **P** **11 26 36.0 +3.2**
comp=Z,1.8nm,0.9s,mb4.3
NVAR Mina Array Bea 86.92 47 P **P** **11 26 39.1 +3.0**
comp=Z,0.7nm,0.7s,mb4.0,baz=279,slow=7.3,SNR=5.4
EKA Eskdalemuir Ar 86.96 336 P **P** **11 26 36.1 +0.2**
comp=Z,2.3nm,0.9s,mb4.4,baz=49,slow=4.6,SNR=5.5
PDAR Pinedale Array 89.52 40 P **P** **11 26 50.9 +2.4**
comp=Z,0.8nm,0.8s,mb4.1,baz=330,slow=2.1,SNR=7.3
SCHQ Schefferville 94.95 10 LR LR 12 16 33.6
comp=Z,83nm,18.1s,MS4.2,baz=93,slow=40

NIED ***04*** *11:21:00,29.20N×130.70E,h17km,Mw4.0 Best double couple: M₀1.06×10¹⁵ NP1:φs248°,δ82°,λ-148°. NP2: φs154°,δ59°,λ-9°.*
JMA ***04*** *11:21:24.5±0.2,29.20N×130.73E,h18km,M3.5*
IDC ***04*** *11:21:28.0±7.6,29.19N×130.51E,h48km±65km,mb3.4/6, mb1 3.5/7,mb1mx3.4/22,mbtmp3.7/7,Error ellipse: s-maj=66.5km s-min=26.4km az=72.0*
NEIC ***04*** *11:21:28.1±0.8,29.21N×130.54E,h50km,mb4.0/2,Error ellipse: s-maj=24.5km s-min=9.9km az=80.0*
ISC 04 11:21:26.3±1.0,**29.21N**±0.05×**130.6E**±0.1,**h53**km±8km, **n16**,σ0**861/20**,**mb3.7/8**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.91**	**314**	P	**P**	**11 21 42.8**	**-0.3**
JNN				S	**S**	**11 21 55.2**	**-0.4**
JAM	**Amami Oshima**	**1.20**	**229**	P	**P**	**11 21 47.1**	**+0.1**
JAM				*e*S	**S**	**11 22 03.8**	**+1.3**
JKC	**Kuchinoerabu**	**1.31**	**344**	P	**P**	**11 21 48.9**	**+0.1**
JKC				*e*S	**S**	**11 22 06.1**	**+0.7**
JTN	**Tanegashima 3**	**1.48**	**12**	P	**P**	**11 21 50.6**	**-0.5**
JTK	**Tokunoshima**	**2.04**	**227**	P	**P**	**11 21 59.5**	**+0.5**
JNAR	**Kushima--Naru**	**2.38**	**13**	P	**P**	**11 22 03.7**	**-0.1**
JOW	**Kunigami**	**3.15**	**222**	P	**P**	**11 22 14.4**	**-0.3**
	baz=236,slow=8.1						
JOW				S	**S**	**11 22 49.8**	**-1.6**
	6.3nm,0.3s,baz=108,slow=28,SNR=2.9						
SONM	**Songino Array**	**26.38**	**322**	P	**P**	**11 26 58.8**	**-0.6**
	0.3nm,0.6s,mb3.0,baz=124,slow=5.2,SNR=2.2						
MKAR	**Makanchi Array**	**41.23**	**309**	P	**P**	**11 29 07.9**	**+0.4**
	0.3nm,0.6s,mb3.1,baz=87,slow=11,SNR=5.0						
KURK	**Kurchatov**	**44.20**	**314**	*eP*	**P**	**11 29 31.9**	**+0.2**
	1.5nm,0.6s,mb3.9						
WRAB	**Tennant Creek**	**48.98**	**175**	P	**P**	**11 30 10.0**	**+0.3**
WRA	**Warramunga Arr**	**48.99**	**175**	P	**P**	**11 30 09.7**	**0.0**
	0.4nm,0.7s,mb3.5,baz=355,slow=8.3,SNR=3.6						
BVAR	**Borovoye Array**	**49.53**	**316**	P	**P**	**11 30 13.4**	**-0.1**
	1.5nm,0.6s,mb4.2,baz=93,slow=9.1,SNR=14						
BRVK	**Borovoye**	**49.60**	**316**	*eP*	**P**	**11 30 13.5**	**-0.5**
	1.4nm,0.6s,mb4.2						
AKASG	**Malin Array Be**	**74.65**	**320**	P	**P**	**11 33 01.2**	**-0.3**
	1.1nm,0.5s,mb4.0,baz=58,slow=6.1,SNR=4.3						
BRTR	**Keskin Array B**	**76.88**	**308**	P	**P**	**11 33 15.6**	**+1.1**
	0.6nm,0.7s,mb3.7,baz=94,slow=4.4,SNR=4.1						

NIED ***04*** *11:27:00,29.20N×130.60E,h41km,Mw4.6 Best double couple: M₀7.68×10¹⁵ NP1:φs16°,δ89°,λ78°. NP2:φs279°, δ12°,λ173°.*
BJI ***04*** *11:27:12.9,28.90N×130.76E,h37km,mB4.7,mb4.4, Ms4.1,Msz3.9*
JMA ***04*** *11:27:16.0±0.1,29.24N×130.58E,h69km,M3.7*
IDC ***04*** *11:27:17.5±2.8,29.28N×130.42E,h39km±24km,mb3.8/14, mb1 3.9/17,mb1mx3.9/26,mbtmp4.0/17,ML3.4/3,MS3.6/4, Ms1 3.6/4,ms1mx3.1/25,Error ellipse: s-maj=22.2km s-min=17.6km az=114.0*
NEIC ***04*** *11:27:17.0±0.8,29.27N×130.50E,h37km±7km,mb4.4/10, Error ellipse: s-maj=9.5km s-min=6.4km az=132.0*
ISC 04 11:27:16.0±0.7,**29.23N**±0.04×**130.63E**±0.07,**h50**km±5km, **n50**,σ0**885/50**,**mb4.3/24**,**MS3.6/3**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.90**	**313**	P	**P**	**11 27 32.8**	**+0.3**
JNN				S	**S**	**11 27 45.3**	**+0.5**
JAM	**Amami Oshima**	**1.21**	**228**	P	**P**	**11 27 37.0**	**+0.1**
JAM				*e*S	**S**	**11 27 53.5**	**+1.1**
JKC	**Kuchinoerabu**	**1.29**	**343**	P	**P**	**11 27 38.8**	**+0.8**
JTN	**Tanegashima 3**	**1.46**	**12**	P	**P**	**11 27 40.7**	**+0.3**
JTK	**Tokunoshima**	**2.06**	**226**	P	**P**	**11 27 48.5**	**-0.4**
JSU	**Suzuyama**	**2.28**	**356**	P	**P**	**11 27 52.2**	**+0.2**
JNAR	**Kushima--Naru**	**2.36**	**13**	P	**P**	**11 27 53.5**	**+0.4**
JTZ	**Takazaki**	**2.70**	**8**	P	**P**	**11 27 58.4**	**+0.5**
JZO	**Okuchi**	**2.91**	**359**	P	**P**	**11 28 00.8**	**-0.1**
JOW	**Kunigami**	**3.17**	**222**	Pn	**P**	**11 28 04.0**	**-0.7**
	11nm,0.3s,baz=102,slow=21,SNR=6.5						
JOW				Sn	**S**	**11 28 40.0**	**-1.4**
	25nm,0.3s,baz=106,slow=30,SNR=5.7						
JNU	**Nakatsue**	**3.89**	**3**	Pn	**P**	**11 28 15.1**	**+0.2**
	1.8nm,0.3s,baz=218,slow=14,SNR=7.6						
JHJ	**Hachijo jima 2**	**8.75**	**61**	LR	LR	11 32 21.4	
	comp=Z,215nm,18.1s,baz=67,slow=34						
MAJO	**Matsushiro**	**9.68**	**39**	P	**P**	**11 29 33.3**	**-2.1**
MJAR	**Matsushiro Arr**	**9.68**	**39**	Pn	**P**	**11 29 34.2**	**-1.2**
	0.5nm,0.3s,baz=250,slow=13,SNR=6.4						
CN2	**Changchun**	**15.13**	**345**	*e*P	**P**	**11 30 53.5**	**+5.6**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s						
ENH	**Enshi**	**18.39**	**278**	P	**P**	**11 31 28.1**	**-1.0**
	comp=Z,6.6nm,0.5s						
HHC	**Hu-ho-hao-te**	**19.40**	**312**	*e*P	**P**	**11 31 38.8**	**-1.8**
HHC				AP		11 31 46.8	
HHC				XP		11 31 52.0	
HHC				PP	PP	11 31 55.4	-3.5
HHC				PCP	PcP	11 35 56.4	-4.0
HHC				PCS		11 39 38.5	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s						
HHC				AMB	AMB		
	comp=Z,180nm,5.1s						
HHC				LR	LR		
	comp=N,430nm,8.9s						
HHC				LR	LR		
	comp=E,630nm,13.4s						
HHC				LR	LR		
	comp=Z,370nm,16.9s						
GUMO	**Guam**	**20.41**	**137**	LR	LR	11 38 30.1	
	comp=Z,79nm,20.6s,MS3.1,baz=47,slow=33						
GYA	**Guiyang**	**21.37**	**268**	P	**P**	**11 32 02.3**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
GYA				AMB	AMB		
	comp=Z,200nm,5.4s						
ULN	**Ulaanbaatar**	**26.03**	**322**	*eP*	**P**	**11 32 43.9**	**-2.2**
	comp=Z,1.8nm,0.5s,mb3.9						
SONM	**Songino Array**	**26.37**	**321**	P	**P**	**11 32 47.9**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.5,baz=141,slow=10,SNR=11						
SONM				LR	LR	11 44 15.1	
	comp=Z,139nm,20.0s,MS3.5,baz=165,slow=39						
JIRN	**Jiri**	**38.94**	**279**	*eP*	**P**	**11 34 39.3**	**+0.6**
	comp=Z,11nm,0.6s,mb4.8						
GUN	**Gumba**	**39.15**	**279**	*eP*	**P**	**11 34 41.3**	**+0.8**
	comp=Z,20nm,0.4s,mb5.2						
PKI	**Pulchoki**	**39.63**	**279**	*eP*	**P**	**11 34 44.5**	**0.0**
KKN	**Kakani**	**39.69**	**279**	*eP*	**P**	**11 34 45.2**	**+0.2**
	comp=Z,17nm,0.5s,mb5.0						
DMN	**Daman**	**39.88**	**279**	*eP*g	**P**	**11 34 47.2**	**+0.6**
	comp=Z,12nm,0.5s,mb4.8						
GKN	**Gorkha**	**40.20**	**280**	*eP*	**P**	**11 34 49.0**	**-0.2**
	comp=Z,16nm,0.6s,mb5.0						
KOLN	**Koldanda**	**41.15**	**280**	*eP*	**P**	**11 34 56.7**	**-0.3**
MKAR	**Makanchi Array**	**41.23**	**309**	P	**P**	**11 34 58.0**	**+0.5**
	comp=Z,1.0nm,0.4s,mb3.8,baz=91,slow=10,SNR=40						
ZAL	**Zalesovo**	**41.25**	**320**	P	**P**	**11 34 57.3**	**-0.3**
	comp=Z,0.9nm,0.5s,mb3.6,baz=51,slow=8.0,SNR=3.6						
KURK	**Kurchatov**	**44.20**	**314**	*eP*	**P**	**11 35 21.6**	**0.0**
	comp=Z,7.1nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**49.00**	**175**	*eP*	**P**	**11 36 00.2**	**+0.4**
WRAB				*e*	pP	11 36 11.8	-1.6
WRA	**Warramunga Arr**	**49.01**	**175**	P	**P**	**11 36 00.5**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.9,baz=354,slow=8.4,SNR=8.2						
BVAR	**Borovoye Array**	**49.52**	**316**	P	**P**	**11 36 02.9**	**-0.5**
	comp=Z,5.5nm,0.5s,mb4.8,baz=93,slow=9.8,SNR=47						
BVAR				PcP	PcP	11 37 25.2	+0.2
	comp=Z,0.5nm,0.5s,baz=90,slow=1.5,SNR=3.6						
BRVK	**Borovoye**	**49.59**	**316**	*eP*	**P**	**11 36 03.7**	**-0.3**
	comp=Z,4.4nm,0.6s,mb4.7						
AKTO	**Aktyubinsk**	**57.29**	**314**	LR	LR	12 03 41.7	
	comp=Z,156nm,18.8s,MS4.1,baz=258,slow=38						
COLA	**College**	**60.38**	**29**	*eP*	**P**	**11 37 22.7**	**+0.7**
	comp=Z,2.2nm,1.0s,mb4.1						
ILAR	**Eielson Array**	**60.80**	**29**	P	**P**	**11 37 25.2**	**+0.4**
	comp=Z,0.4nm,0.8s,mb3.6,baz=283,slow=6.2,SNR=6.0						
INK	**Inuvik**	**65.30**	**24**	P	**P**	**11 37 55.5**	**+1.0**
	comp=Z,1.0nm,0.5s,mb4.1,baz=335,slow=5.4,SNR=19						
INK	**Inuvik**	**65.30**	**24**	*eP*	**P**	**11 37 55.0**	**+0.5**
	comp=Z,0.9nm,0.5s,mb4.1						
ARCES	**ARCESS Array B**	**68.01**	**339**	P	**P**	**11 38 11.2**	**-0.3**
	comp=Z,1.9nm,0.9s,mb4.1,baz=45,slow=7.7,SNR=2.6						
JOF	**Joensuu**	**68.46**	**331**	*ep*	**P**	**11 38 13.6**	**-0.9**
FINES	**FINESS Array B**	**71.31**	**331**	P	**P**	**11 38 30.9**	**-0.9**
	comp=Z,1.3nm,0.5s,mb4.1,baz=135,slow=5.4,SNR=17						
AKASG	**Malin Array Be**	**74.64**	**320**	P	**P**	**11 38 51.8**	**+0.2**
	comp=Z,4.0nm,0.5s,mb4.6,baz=59,slow=6.4,SNR=15						
YKA	**Yellowknife Ar**	**74.92**	**26**	P	**P**	**11 38 55.7**	**+2.9**
	comp=Z,0.3nm,0.7s,mb3.4,baz=298,slow=6.2,SNR=3.5						
YKA	**Yellowknife Ar**	**74.92**	**26**	P	**P**	**11 38 55.7**	**+2.9**
BR131	**Keskin Array S**	**76.87**	**308**	*eP*	**P**	**11 39 05.5**	**+1.0**
	comp=Z,2.5nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**76.87**	**308**	P	**P**	**11 39 05.8**	**+1.3**
	comp=Z,2.2nm,0.6s,mb4.2,baz=99,slow=5.0,SNR=13						
NOA	**NORSAR Array B**	**77.56**	**334**	P	**P**	**11 39 07.9**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=50,slow=5.7,SNR=3.5						
EKA	**Eskdalemuir Ar**	**86.96**	**336**	P	**P**	**11 39 57.2**	**+0.7**
	comp=Z,3.1nm,1.0s,mb4.5,baz=54,slow=4.7,SNR=4.5						

IDC ***04*** *11:58:21.9±1.6,40.40N×77.47E,mb3.7/6,mb1 3.7/9, mb1mx3.6/22,mbtmp3.6/9,ML3.1/3,MS3.0/1,Ms1 3.0/1, ms1mx2.6/23,Error ellipse: s-maj=36.6km s-min=16.1km az=138.0*
NEIC ***04*** *11:58:23.3±0.5,40.39N×77.47E,h10km,Error ellipse: s-maj=14.5km s-min=6.4km az=69.0*
BJI ***04*** *11:58:25.3,40.60N×77.53E,h13km,mb4.5,ML3.9*
MOS ***04*** *11:58:26.1±2.6,40.34N×77.57E,h33km,mb4.5/3,Error ellipse: s-maj=18.1km s-min=10.0km az=100.0*
NNC ***04*** *11:58:27.1±1.1,40.65N×77.36E,mpv4.0,Error ellipse: s-maj=9.7km s-min=6.2km az=5.0*
ISC 04 11:58:22.3±0.4,**40.38N**±0.03×**77.75E**±0.05,**h10**km,**n48**, σ1§**24/53**,**mb3.9/8**,**MS3.0/1**,**7C-4D**,**Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.62**	**238**	⇓*i*PG	**Pg**	**11 58 53.8**	**-0.8**
KSH				SG	**Sg**	**11 59 16.4**	**+0.2**
KSH				Smax			
	comp=N,1μm,0.5s						
KSH				Smax			
	comp=E,1μm,0.5s						
ULHL	**Ulahol**	**2.18**	**329**	P	**Pn**	**11 58 59.9**	**+0.7**
	SNR=63						
KZA	**Kyzart**	**2.54**	**313**	P	**Pn**	**11 59 05.8**	**+1.6**
	SNR=109						
TKM2	**Tokmak 2**	**3.01**	**328**	P	**Pn**	**11 59 15.4**	**+4.4**
	SNR=12						
TKM2	**Tokmak 2**	**3.01**	**328**	⇑Pg	**Pb**	**11 59 15.0**	**-0.6**
	comp=E,397nm,1.1s						
TKM2				⇑Lg		11 59 50.8	
	comp=E,418nm,1.1s						
TKM2	**Tokmak 2**	**3.01**	**328**	PN	**Pn**	**11 59 15.0**	**+4.0**
TKM2				S	**Sn**	**11 59 50.8**	**+3.4**
TKM2				pmax	pmax		
	comp=Z,275nm,0.8s						
UCH	**Uchtor**	**3.06**	**308**	P	**Pn**	**11 59 12.3**	**+0.6**
	SNR=13						
KBK	**Karagaybulak**	**3.10**	**318**	P	**Pn**	**11 59 16.2**	**+3.9**
	SNR=23						
AAK	**Ala-Archa**	**3.32**	**314**	P	**Pn**	**11 59 20.2**	**+4.8**
	SNR=28						
AAK	**Ala-Archa**	**3.32**	**314**	*e*PN	**Pn**	**11 59 14.7**	**-0.8**
AAK				*e*		11 59 23.3	
AAK				*e*S	**Sn**	**11 59 58.0**	**+2.6**
AAK	**Ala-Archa**	**3.32**	**314**	*e*Pn	**Pn**	**11 59 14.7**	**-0.8**
AAK				*e*Pb	**Pb**	**11 59 18.5**	**-2.5**
AAK				*e*Pg	**Pg**	**11 59 23.3**	**-5.3**
AAK				*e*Sn	**Sn**	**11 59 50.4**	**-5.0**
AAK				*e*S	**Sn**	**11 59 58.0**	**+2.6**
CHMS	**Chumysh**	**3.45**	**320**	P	**Pb**	**11 59 22.2**	**-1.0**
	SNR=39						
AML	**Almayashu**	**3.52**	**301**	P	**Pb**	**11 59 25.1**	**+0.6**
	SNR=10						
EKS2	**Erkin-Say**	**3.75**	**309**	P	**Pn**	**11 59 22.6**	**+1.0**
	SNR=11						
USP	**Ospenovka**	**3.77**	**321**	P	**Pb**	**11 59 28.0**	**-0.7**
	SNR=94						
KK31	**Karatay Array**	**6.06**	**299**	⇑Pg	**Pb**	**12 00 10.1**	**+2.3**
	comp=Z,6.7nm,0.7s,baz=113,slow=16,S

comp=Z,0.2nm,0.3s,baz=205,slow=15,SNR=9.3
MKAR Sn **Sn** **12 01 32.1 -1.0**
comp=Z,0.5nm,0.3s,baz=205,slow=21,SNR=3.2
MKAR Lg 12 02 10.6
comp=Z,0.5nm,0.3s,baz=207,slow=26,SNR=3.9
KURK Kurchatov 10.35 3 ⇓Pn **P** **12 00 54.3 +0.4**
comp=Z,4.0nm,1.7s
KURK ⇑Lg 12 03 47.4
comp=Z,13nm,1.2s
KURK Kurchatov 10.35 3 P **P** **12 00 57.5 +3.6**
KURK pmax pmax
comp=Z,7.0nm,1.7s
VOSK Vostochnaya 13.19 342 ⇑Lg 12 05 13.1
comp=Z,39nm,1.4s
KOLN Koldanda 13.47 157 *e*P **P** **12 01 36.1 +0.1**
comp=Z,5.8nm,0.4s
GKN Gorkha 13.59 153 *e*P **P** **12 01 38.5 +0.9**
comp=Z,12nm,0.4s
BVA0 Borovoye Array 13.61 341 ⇓Lg 12 05 26.5
comp=Z,5.1nm,1.4s
BVAR Borovoye Array 13.61 341 Pn **P** **12 01 32.8 -4.8**
comp=Z,0.1nm,0.3s,baz=144,slow=12,SNR=2.8
BVAR Lg 12 05 19.9
baz=146,slow=26,SNR=3.2
KKN Kakani 14.01 151 *e*P **P** **12 01 43.4 +0.2**
comp=Z,8.4nm,0.5s
KKN Kakani 14.01 151 *e*P **P** **12 01 43.4 +0.2**
KKN pmax pmax
comp=Z,4.0nm,0.5s
DMN Daman 14.12 152 *e*P **P** **12 01 44.3 -0.2**
GUN Gumba 14.13 149 *e*P **P** **12 01 45.3 +0.6**
comp=Z,7.5nm,0.4s
ZAL Zalesovo 14.37 17 Pn **P** **12 01 47.1 -0.6**
comp=Z,0.3nm,0.3s,baz=249,slow=14,SNR=1.9
ZAL LR LR 12 08 14.6
comp=Z,60nm,18.4s,baz=326,slow=41
JIRN Jiri 14.48 149 *e*P **P** **12 01 49.5 +0.3**
comp=Z,11nm,0.5s
AKTO Aktyubinsk 17.07 313 Pn **P** **12 02 21.4 -1.0**
comp=Z,0.0nm,0.3s,baz=121,slow=5.9,SNR=3.5
SONM Songino Array 21.79 60 P **P** **12 03 19.1 +3.0**
comp=Z,0.9nm,0.8s,mb3.2,baz=270,slow=13,SNR=3.2
SONM Songino Array 21.79 60 P **P** **12 03 19.1 +3.0**
SONM pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 22.23 61 *e*P **P** **12 03 27.1 +6.6**
KIV Kislovodsk 26.11 289 *e*P **P** **12 04 02.5 +4.6**
KIV pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
KIV MLR MLR
comp=Z,45nm,19.0s,MS3.0
BRTR Keskin Array B 33.51 284 P **P** **12 05 02.4 -1.5**
comp=Z,0.7nm,0.8s,mb3.6,baz=45,slow=8.2,SNR=2.8
BRTR Keskin Array B 33.51 284 P **P** **12 05 02.4 -1.5**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
NJ2 Nanjing 33.94 91 *e*P **P** **12 05 14.1 +6.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
FINES FINESS Array B 37.48 322 P **P** **12 05 34.9 -2.5**
comp=Z,6.2nm,1.2s,mb4.3,baz=101,slow=14,SNR=3.4
FINES FINESS Array B 37.48 322 P **P** **12 05 34.9 -2.6**
FINES pmax pmax
comp=Z,6.0nm,1.2s
FINES FINESS Array B 37.48 322 P **P** **12 05 34.9 -2.5**
INK Inuvik 69.13 12 P **P** **12 09 28.8 -1.3**
comp=Z,0.9nm,0.9s,mb3.7,baz=7.2,slow=4.5,SNR=3.9
INK Inuvik 69.13 12 *e*P P **12 09 29.7 -0.4**
ILAR Eielson Array 69.51 19 P **P** **12 09 31.4 -1.0**
comp=Z,0.4nm,0.8s,mb3.4,baz=327,slow=5.3,SNR=6.6
TORD Torodi Ar. Bea 71.03 271 P **P** **12 09 40.0 -2.5**
comp=Z,1.4nm,0.7s,mb4.0,baz=43,slow=5.4,SNR=9.7
TORD pP pP 12 09 45.8 +0.1
comp=Z,1.4nm,0.6s,baz=43,slow=5.4,SNR=8.3
YKA Yellowknife Ar 76.99 6 pP pP 12 10 21.2 +1.8
comp=Z,0.2nm,0.5s,baz=343,slow=5.9,SNR=3.1

*IDC **04** 12:03:24.2±2.1,35.82S×106.19W,mb3.7/4,mb1 4.1/4, mb1mx3.9/13,mbtmp3.7/4,MS3.7/3,Ms1 3.7/3, ms1mx3.3/17,Error ellipse: s-maj=65.9km s-min=40.7km az=18.0*

NEIC 04 12:03:25.4±1.4,35.89S×106.16W,h10km,mb4.3/1,Error ellipse: s-maj=46.6km s-min=28.5km az=200.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**39.02**	**70**	P	P	12 10 53.5	-0.6
	0.3nm,0.2s,baz=278,slow=7.1,SNR=3.1						
LPAZ				LR	LR	12 23 32.2	
	comp=Z,59nm,19.6s,baz=220,slow=31						
ROSC	**El Rosal**	**50.33**	**43**	LR	LR	12 30 15.4	
	comp=Z,63nm,19.3s,baz=19,slow=32						
URZ	**Urewera**	**59.56**	**243**	LR	LR	12 34 06.9	
	comp=Z,108nm,20.6s,baz=7.7,slow=31						
TXAR	**Lajitas Array**	**64.92**	**2**	P	P	12 14 05.2	-2.2
	0.1nm,0.7s,baz=180,slow=11,SNR=2.6						
NVAR	**Mina Array Bea**	**74.80**	**350**	P	P	12 15 06.5	-1.1
	1.4nm,1.1s,baz=174,slow=8.8,SNR=5.0						
NVAR	**Mina Array Bea**	**74.80**	**350**	P	P	12 15 06.5	-1.1
PDAR	**Pinedale Array**	**78.34**	**357**	P	P	12 15 25.0	-2.3
	1.8nm,1.1s,baz=180,slow=4.4,SNR=7.3						
PDAR	**Pinedale Array**	**78.34**	**357**	P	P	12 15 25.0	-2.3
HLID	**Hailey**	**79.44**	**354**	*e*P	P	12 15 31.8	-1.5
	2.7nm,0.9s						
BRTR	**Keskin Array B**	**148.20**	**71**	PKPbc	PKPdf	12 23 11.0	-0.1
	0.4nm,0.6s,baz=270,slow=2.5,SNR=3.7						
SONM	**Songino Array**	**153.18**	**307**	PKPbc	PKPdf	12 23 23.8	+5.4
	0.4nm,0.6s,baz=82,slow=3.6,SNR=3.2						

*IDC **04** 12:19:11.2±3.9, 10.96S×120.02E,mb4.0/3,mb1 4.0/4, mb1mx3.8/10,mbtmp3.9/4,ML3.4/1,Error ellipse: s-maj=186.3km s-min=42.7km az=47.0*

NEIC 04 12:19:19.7±0.9,10.41S×120.78E,h50km,mb3.6/1,Error ellipse: s-maj=51.7km s-min=10.3km az=46.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.14**	**128**	Pn	P	12 23 03.4	-1.5
	0.2nm,0.3s,baz=297,slow=13,SNR=8.9						
WRA				Sn	S	12 25 54.6	-7.4
	0.1nm,0.3s,baz=301,slow=22,SNR=3.7						
WRAB	**Tennant Creek**	**16.15**	**127**	*e*P	P	12 23 03.5	-1.4
	5.0nm,0.9s						
HYB	**Hyderabad**	**50.05**	**303**	*i* P	P	12 28 10.0	-1.9
HYB	**Hyderabad**	**50.05**	**303**	*e*P	P	12 28 10.0	-1.9
ULN	**Ulaanbaatar**	**59.28**	**349**	*e*P	P	12 29 15.8	-2.9
SONM	**Songino Array**	**59.38**	**349**	P	P	12 29 17.9	-1.5
	1.3nm,0.6s,baz=167,slow=8.7,SNR=14						
MKAR	**Makanchi Array**	**66.51**	**332**	P	P	12 30 04.1	-2.3
	0.6nm,0.7s,baz=129,slow=7.8,SNR=5.1						
ZAL	**Zalesovo**	**70.98**	**338**	P	P	12 30 31.8	-2.2
	1.0nm,0.5s,baz=345,slow=3.9,SNR=7.1						
ZAL	**Zalesovo**	**70.98**	**338**	P	P	12 30 31.8	-2.2

*NNC **04** 12:20:01.1±0.8,35.67N×74.46E,mpv3.3,Error ellipse: s-maj=19.2km s-min=7.4km az=75.0*

ISC 04 12:19:55.9±1.6,35.7N±0.1×75.6E±0.5,h33km,n8, σ1§16/13,2C-1D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**3.12**	**174**	*e*P	**P**	**12 20 44.0**	**+0.1**
DLH				*e*S	**S**	**12 21 19.0**	**-1.5**
THN	**Thein Dam**	**3.22**	**178**	*e*P	**P**	**12 20 43.8**	**-1.4**
THN				*e*S	**S**	**12 21 24.6**	**+1.7**
PONG	**Pong**	**3.71**	**175**	*e*P	**P**	**12 20 58.0**	**+5.8**
PONG				*e*S	**S**	**12 21 42.0**	**+6.7**
BHK	**Bhakra**	**4.29**	**170**	*ex*	**S**	**12 22 05.9**	**+16**
SDNR	**Sundarnagar**	**4.31**	**164**	*e*P	**P**	**12 21 01.2**	**+0.5**
SDNR				*e*SB	**Sb**	**12 22 08.2**	**+5.5**
DDI	**Dehra Dun**	**5.71**	**158**	*ex*	**S**	**12 22 10.0**	**-16**
KK31	**Karatay Array**	**8.40**	**334**	⇑P	**P**	**12 21 59.0**	**+0.8**
	0.7nm,0.4s,baz=156,slow=12,SNR=16						
KK31				⇓S	**S**	**12 23 31.7**	**-1.3**
	1.9nm,0.3s,baz=165,slow=23						
AB31	**Akbulak array**	**17.77**	**325**	⇑P	**P**	**12 24 03.3**	**+1.1**
	0.4nm,0.6s,baz=134,slow=13,SNR=3.8						

*IDC **04** 12:44:46.5±1.9, 10.18S×120.70E,mb4.4/4,mb1 4.4/5, mb1mx4.1/11,mbtmp4.3/5,ML3.9/1,Error ellipse: s-maj=145.3km s-min=24.2km az=56.0*

*NEIC **04** 12:44:53.2±1.3, 10.08S×121.11E,h50km,mb4.1/2,Error ellipse: s-maj=82.4km s-min=10.6km az=52.0*

ISC 04 12:44:54.8±5.0,9.9S±0.4×121.4E±0.5,h81km±49km,n9, σ0§78/10,mb4.2/5,Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.97**	**130**	Pn	**P**	**12 48 35.9**	**-0.1**
	0.4nm,0.3s,baz=309,slow=14,SNR=23						
WRA				Sn	**S**	**12 51 29.9**	**-0.5**
	0.1nm,0.3s,baz=278,slow=23,SNR=3.4						
WRAB	**Tennant Creek**	**15.97**	**130**	*e*P	**P**	**12 48 36.0**	**-0.1**
	11nm,0.8s						
STKA	**Stephens Creek**	**28.75**	**142**	P	**P**	**12 50 48.5**	**+1.5**
	3.6nm,1.0s,mb4.0,baz=327,slow=9.3,SNR=4.4						
STKA	**Stephens Creek**	**28.75**	**142**	P	**P**	**12 50 47.9**	**+0.8**
ULN	**Ulaanbaatar**	**58.93**	**349**	*e*P	**P**	**12 54 48.4**	**+0.5**
SONM	**Songino Array**	**59.03**	**348**	P	**P**	**12 54 49.9**	**+1.3**
	4.3nm,0.6s,mb4.6,baz=166,slow=8.8,SNR=46						
MKAR	**Makanchi Array**	**66.37**	**332**	P	**P**	**12 55 36.3**	**-1.0**
	1.5nm,0.7s,mb3.9,baz=139,slow=7.7,SNR=11						
ZAL	**Zalesovo**	**70.76**	**338**	P	**P**	**12 56 03.9**	**-0.4**
	2.3nm,0.5s,mb4.3,baz=350,slow=3.1,SNR=10.0						
KURK	**Kurchatov**	**70.88**	**333**	*e*P	**P**	**12 56 04.2**	**-0.8**
	1.8nm,0.8s,mb4.0						

*NIED **04** 13:03:00,38.50N×142.70E,h8km,Mw3.5 Best double couple: Mo1.83×10¹⁴ NP1:φ₀=327°,δ75°,λ67°. NP2:φ₀=206°,δ27°,λ146°.*

JMA 04 13:03:33.6±0.1,38.45N×142.66E,h20km±2km,M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.00**	**309**	P	Pb	13 03 52.0	-0.1
OFUJ				S	Sb	13 04 05.2	+0.4
JIO	**Ouri**	**1.03**	**271**	P	Pb	13 03 52.3	-0.3
JIO				S	Sb	13 04 05.6	-0.1
JMK	**Ichinoseki**	**1.23**	**294**	P	Pn	13 03 55.6	-0.3
JMK				S	Sb	13 04 11.8	+0.2
JOM	**Ohasama**	**1.48**	**314**	P	Pn	13 03 59.6	+0.2
JOM				S	Sn	13 04 19.1	+0.8
JOU	**Okura**	**1.57**	**268**	P	Pn	13 04 01.0	+0.3
JMM	**Marumori**	**1.58**	**249**	P	Pn	13 04 00.0	-0.9
JMM				*e*S	Sn	13 04 19.9	-1.1
JFK	**Kawauchi**	**1.78**	**233**	P	Pn	13 04 02.1	-1.6
JFK				*e*S	Sn	13 04 24.2	-1.7
JYK	**Kaneyama**	**1.86**	**285**	P	Pn	13 04 05.5	+0.6
JYS	**Shirataka**	**2.05**	**264**	P	Pn	13 04 09.1	+1.4
JFT	**Otama**	**2.06**	**244**	P	Pn	13 04 07.7	0.0
JFT				*e*S	Sn	13 04 33.3	+0.3
JANG	**Nango**	**2.12**	**336**	P	Pn	13 04 10.1	+1.5
MAT	**Matsushiro**	**4.02**	**243**	P	Pn	13 04 37.8	+2.1

*IDC **04** 13:05:02.2±1.1,34.19N×73.63E,mb3.6/8,mb1 3.9/11, mb1mx3.7/22,mbtmp3.7/11,ML3.8/3,MS3.0/1,Ms1 3.1/1, ms1mx2.5/19,Error ellipse: s-maj=25.1km s-min=23.0km az=16.0*

*NDI **04** 13:05:04.0±3.2,34.41N×73.47E,h10km,ML3.4*

*NNC **04** 13:05:09.4±5.1,34.29N×73.35E,h37km±48km,mpv4.0, Error ellipse: s-maj=44.7km s-min=29.7km az=109.0*

ISC 04 13:05:02.2±0.3,34.15N±0.02×73.45E±0.05,h10km,n45, σ1§25/59,mb3.6/8,MS3.0/1,7C,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**0.52**	**197**	P	**Sg**	**13 05 20.0**	**+0.3**
CEP	**Cherat**	**1.32**	**256**	⇑P	**Pg**	**13 05 34.7**	**+6.1**
CEP				S	**Sg**	**13 05 56.0**	**+10**
SARP	**Sargodha**	**2.32**	**196**	P	**Pn**	**13 05 47.5**	**+6.4**
THN	**Thein Dam**	**2.56**	**131**	*e*P	**Pb**	**13 05 47.8**	**-0.1**
THN				*ex*	**Sb**	**13 06 24.3**	**+4.8**
DLH	**Dalhousie**	**2.65**	**127**	*e*P	**Pn**	**13 05 48.0**	**+2.1**
DLH				*ex*	**Sn**	**13 06 25.0**	**+6.6**
SBDP	**Sheikh Budin**	**2.88**	**231**	P	**Pg**	**13 05 56.7**	**-3.1**
PONG	**Pong**	**3.04**	**136**	*e*P	**Pn**	**13 05 57.0**	**+5.6**
PONG				*e*SB	**Sb**	**13 06 42.0**	**+8.6**
BHK	**Bhakra**	**3.70**	**137**	*ex*	**Sg**	**13 07 04.1**	**-1.4**
SDNR	**Sundarnagar**	**3.98**	**131**	*e*P	**Pn**	**13 06 07.4**	**+2.7**
SDNR				*e*S	**Sn**	**13 06 52.2**	**+0.3**
SMLA	**Simla**	**4.35**	**133**	*e*P	**Pn**	**13 06 11.9**	**+1.9**
SMLA				*e*S	**Sn**	**13 07 00.9**	**-0.6**
KLP	**Kalpa**	**4.81**	**122**	*e*P	**Pn**	**13 06 18.5**	**+1.9**
KLP				*e*S	**Sn**	**13 07 14.1**	**+1.0**
KLP				AML	AML	13 07 47.9	
	comp=E,192nm,0.4s						
KLP				AML	AML	13 07 49.7	
	comp=N,172nm,0.5s						
DDI	**Dehra Dun**	**5.46**	**133**	*ex*	**Pn**	**13 06 33.0**	**+7.3**
BHGR	**Bahadurgarh**	**6.21**	**150**	*ex*	x	13 08 00.8	
NDI	**New Delhi**	**6.33**	**148**	*ex*	**Pn**	**13 06 45.0**	**+7.0**
NDI				*ex*	**Sn**	**13 07 45.5**	**-6.2**
KHET	**Khetri**	**6.39**	**161**	*e*P	**Pn**	**13 06 40.5**	**+1.7**
KHET				*e*S	**Sn**	**13 07 50.0**	**-2.6**
KHET				*ex*	x	13 07 54.5	
KHET				AML	AML	13 08 43.3	
	comp=E,14nm,0.7s						
KHET				AML	AML	13 08 43.3	
	comp=N,17nm,0.3s						
KALG	**Kalgarh**	**6.47**	**134**	*ex*	**Pb**	**13 06 53.8**	**-1.0**
KALG				*ex*	x	13 08 09.3	
AYAN	**Aya Nagar**	**6.47**	**150**	*e*P	**Pn**	**13 06 41.8**	**+1.9**
AYAN				*e*S	**Sn**	**13 07 52.6**	**-2.0**
AYAN				AML	AML	13 08 32.2	
	comp=Z,16nm,0.4s						
BISR	**Bishrakh**	**6.53**	**147**	*e*S	**Sn**	**13 07 55.2**	**-0.9**
KUDL	**Kundal**	**6.53**	**156**	*e*P	**Pn**	**13 06 41.5**	**+0.7**
KUDL				*i* S	**Sn**	**13 07 55.6**	**-0.6**
KUDL				AML	AML	13 08 34.7	
	comp=Z,16nm,0.4s						
AJM	**Ajmer**	**7.72**	**172**	*e*P	**Pn**	**13 06 59.2**	**+1.8**
AJM				*e*S	**Sn**	**13 08 24.2**	**-1.6**
AJM				AML	AML	13 08 44.6	
	comp=N,23nm,0.2s						
AJM				AML	AML	13 08 45.0	
	comp=E,21nm,0.3s						
AGRA	**Agra**	**7.91**	**150**	*e*P	**Pn**	**13 07 01.6**	**+1.5**
AGRA				*e*S	**Sn**	**13 08 28.2**	**-2.5**
AGRA				AML	AML	13 09 26.7	
	comp=E,56nm,0.4s						
AGRA				AML	AML	13 09 27.0	
	comp=N,42nm,0.3s						
AML	**Almayashu**	**7.97**	**1**	P	**Pn**	**13 07 01.7**	**+0.8**
	SNR=13						
KZA	**Kyzart**	**8.04**	**10**	P	**P**	**13 07 02.7**	**+0.8**
	SNR=7.8						
UCH	**Uchtor**	**8.11**	**6**	P	**P**	**13 07 03.6**	**+0.8**
	SNR=19						
EKS2	**Erkin-Say**	**8.50**	**2**	P	**P**	**13 07 09.1**	**+0.7**
	SNR=20						
AAK	**Ala-Archa**	**8.51**	**5**	P	**P**	**13 07 09.4**	**+0.9**
	SNR=5.6						
CHMS	**Chumysh**	**8.89**	**6**	P	**P**	**13 07 14.4**	**+0.6**
	SNR=5.3						
TKM2	**Tokmak 2**	**8.91**	**10**	⇑P	**P**	**13 07 14.1**	**0.0**
TKM2	comp=N,9.5nm,1.5s			⇑S	**Sn**	**13 08 54.1**	**-1.6**
	comp=N,6.7nm,0.6s						
KK31	**Karatay Array**	**9.23**	**346**	P	**P**	**13 07 18.2**	**-0.2**
	comp=N,4.8nm,0.5s,baz=166,slow=13,SNR=71						
KK31				⇑S	**Sn**	**13 08 58.5**	**-4.8**
	comp=N,14nm,0.8s,baz=165,slow=23						
BHPL	**Bhopal**	**11.42**	**161**	*e*S	**S**	**13 09 50.6**	**-6.6**
MKAR	**Makanchi Array**	**14.29**	**25**	Pn	**P**	**13 08 25.1**	**-1.6**
	comp=N,0.1nm,0.3s,baz=211,slow=13,SNR=3.3						
AB31	**Akbulak array**	**18.10**	**331**	⇑P	**P**	**13 09 15.8**	**+0.5**
	comp=N,1.4nm,0.6s,baz=136,slow=14,SNR=27						
VOSK	**Vostochnaya**	**18.65**	**355**	⇑P	**P**	**13 09 20.9**	**-1.2**
	comp=N,1.1nm,0.6s						
BVA0	**Borovoye Array**	**18.99**	**354**	P	**P**	**13 09 25.6**	**-0.6**
	comp=N,0.5nm,0.7s,baz=254,slow=33,SNR=13						
BVAR	**Borovoye Array**	**18.99**	**354**	P	**P**	**13 09 25.4**	**-0.8**
	comp=N,0.6nm,0.3s,baz=163,slow=11,SNR=16						
AKTO	**Aktyubinsk**	**19.81**	**330**	⇑P	**P**	**13 09 35.7**	**+0.1**
	comp=N,1.1nm,0.7s						
AKTO	**Aktyubinsk**	**19.81**	**330**	P	**P**	**13 09 35.3**	**-0.3**
	comp=N,1.2nm,0.3s,baz=133,slow=11,SNR=31						
ZAL	**Zalesovo**	**21.34**	**19**	P	**P**	**13 09 49.3**	**-2.3**
	comp=N,2.0nm,0.5s,mb3.7,baz=246,slow=9.8,SNR=9.1						
SONM	**Songino Array**	**28.14**	**51**	P	**P**	**13 10 55.5**	**-0.9**
	comp=N,0.6nm,0.8s,mb3.3,baz=256,slow=9.5,SNR=5.9						
AKASG	**Malin Array Be**	**35.98**	**311**	P	**P**	**13 12 04.2**	**-0.8**
	comp=N,0.2nm,0.3s,mb3.5,baz=90,slow=7.5,SNR=4.2						
ARCES	**ARCESS Array B**	**44.07**	**338**	P	**P**	**13 13 12.0**	**+0.4**
	comp=N,6.8nm,1.2s,mb4.2,baz=108,slow=7.7,SNR=7.5						
NOA	**NORSAR Array B**	**47.45**	**324**	P	**P**	**13 13 38.2**	**-0.4**
	comp=N,0.9nm,0.7s,mb3.8,baz=96,slow=7.6,SNR=3.5						
NOA				LR	LR	13 33 54.5	
	comp=N,16nm,18.1s,MS3.0,baz=205,slow=36						
TORD	**Torodi Ar. Bea**	**67.71**	**271**	P	**P**	**13 16 03.2**	**+0.9**
	comp=N,0.5nm,0.4s,mb3.9,baz=48,slow=5.6,SNR=12						
ILAR	**Eielson Array**	**76.47**	**17**	P	**P**	**13 16 52.6**	**-0.7**
	comp=N,0.2nm,0.5s,mb3.3,baz=301,slow=5.7,SNR=5.2						
WRA	**Warramunga Arr**	**79.05**	**123**	P	**P**	**13 17 07.7**	**-0.8**
	comp=N,0.1nm,0.4s,mb3.1,baz=322,slow=5.0,SNR=5.1						

*NDI **04** 13:32:32.4±4.9,34.48N×73.01E,h10km,MD3.7,ML3.5*

*IDC **04** 13:32:33.2±1.3,34.24N×73.33E,mb3.6/5,mb1 3.7/6, mb1mx3.5/20,mbtmp3.6/6,ML2.8/1,Error ellipse: s-maj=31.8km s-min=29.5km az=81.0*

*NNC **04** 13:32:45.0±18.0,34.60N×73.28E,h69km±187km,mpv3.9, Error ellipse: s-maj=205.4km s-min=138.6km az=111.0*

ISC 04 13:32:36.3±0.5,34.19N±0.04×73.24E±0.08,h33km,n21, σ1§10/28,mb3.6/5,2C-3D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**2.71**	**129**	*e*P	**P**	**13 33 21.2**	**+2.8**
THN				*e*S	**S**	**13 34 00.0**	**+10**
DLH	**Dalhousie**	**2.81**	**125**	*e*P	**P**	**13 33 21.0**	**+1.2**
DLH				*e*S	**S**	**13 34 01.0**	**+8.1**
SDNR	**Sundarnagar**	**4.12**	**129**	*e*P	**P**	**13 33 40.2**	**+1.6**
SDNR				*e*S	**S**	**13 34 26.8**	**+0.5**
KLP	**Kalpa**	**4.97**	**121**	*e*P	**P**	**13 33 51.9**	**+1.2**
KLP				*e*S	**S**	**13 34 46.8**	**-1.0**
KLP				AML	AML	13 35 21.8	
	comp=N,90nm,0.5s						
KLP				AML	AML	13 35 22.3	
	comp=E,103nm,0.7s						
DDI	**Dehra Dun**	**5.61**	**132**	*e*S	**S**	**13 35 04.0**	**+0.3**
NDI	**New Delhi**	**6.45**	**147**	*ex*	**S**	**13 35 23.0**	**-1.7**
KHET	**Khetri**	**6.48**	**159**	*e*P	**P**	**13 34 12.1**	**+0.4**
KHET				*e*S	**S**	**13 35 25.0**	**-0.3**
KHET				AML	AML	13 35 27.6	
	comp=N,16nm,0.3s						
KHET				AML	AML	13 35 27.6	
	comp=E,12nm,0.2s						
AYAN	**Aya Nagar**	**6.58**	**149**	*e*S	**S**	**13 35 26.5**	**-1.5**
KUDL	**Kundal**	**6.63**	**154**	*e*P	**P**	**13 34 14.5**	**+0.6**
SONA	**Sohna**	**6.77**	**150**	*e*S	**S**	**13 35 31.5**	**-1.1**
SONA				AML	AML	13 35 34.0	
	comp=N,127nm,0.1s						
SONA				AML	AML	13 35 34.1	
	comp=E,147nm,0.1s						
AJM	**Ajmer**	**7.78**	**171**	*ex*	**S**	**13 35 57.8**	**+0.1**
TKM2	**Tokmak 2**	**8.91**	**11**	⇓P	**P**	**13 34 46.8**	**+1.1**
	comp=E,7.7nm,1.6s						
TKM2				⇑S	**S**	**13 36 21.7**	**-4.3**
	comp=E,2.4nm,0.6s						
KK31	**Karatay Array**	**9.16**	**347**	P	**P**	**13 34 47.5**	**-1.5**
	comp=E,2.2nm,0.5s,baz=154,slow=12,SNR=49						
KK31				⇑S	**S**	**13 36 25.9**	**-6.1**
	comp=E,3.5nm,0.5s,baz=161,slow=23						
MKAR	**Makanchi Array**	**14.34**	**26**	Pn	**P**	**13 35 58.2**	**-0.6**
	comp=E,0.0nm,0.3s,baz=208,slow=11,SNR=2.7						
AB31	**Akbulak array**	**17.99**	**331**	⇓P	**P**	**13 36 46.4**	**+1.1**
	comp=E,0.6nm,0.6s,baz=145,slow=11,SNR=8.6						
AKTO	**Aktyubinsk**	**19.70**	**330**	⇓P	**P**	**13 37 04.7**	**-0.7**
	comp=E,0.3nm,0.6s						
ZAL	**Zalesovo**	**21.37**	**19**	P	**P**	**13 37 20.7**	**-2.0**
	comp=E,0.8nm,0.4s,mb3.4,baz=281,slow=8.6,SNR=3.4						
ARCES	**ARCESS Array B**	**43.98**	**338**	P	**P**	**13 40 41.6**	**-0.1**
	comp=E,1.3nm,0.8s,mb3.7,baz=117,slow=8.1,SNR=5.4						
NOA	**NORSAR Array B**	**47.33**	**324**	P	**P**	**13 41 08.0**	**-0.3**
	comp=E,1.6nm,1.1s,mb3.9,baz=97,slow=7.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**67.54**	**271**	P	**P**	**13 43 32.4**	**+0.7**
	comp=E,0.4nm,0.4s,mb3.8,baz=48,slow=5.6,SNR=8.2						
WRA	**Warramunga Arr**	**79.20**	**123**	P	**P**	**13 44 40.2**	**+0.3**
	comp=E,0.5nm,0.9s,mb3.5,baz=321,slow=4.9,SNR=5.9						

*NEIC **04** 13:44:56.5,31.77S×69.28W,h24km,ML3.8(GUC),After GUC.*

GUC 04 13:44:56.5±0.9,31.77S×69.28W,h24km±5km,MD4.2, ML3.8,7C-6D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDZ	**Mendoza**	**1.17**	**162**	*e*P	Pn	13 45 17.0	-0.6
MDZ				*i*		13 45 30.8	
MDZ				S	Sb	13 45 34.8	+2.2
JACH	**Jahuel**	**1.44**	**230**	⇓*i*P	Pn	13 45 21.1	-0.3
CMCH	**Combarbala**	**1.59**	**292**	⇑*i*P	Pn	13 45 23.8	+0.3
CMCH				*i* S	Sn	13 45 44.4	+0.9
CMCH				AMP		13 45 48.3	
	comp=E,8μm,0.7s						
ILCH	**Illapel**	**1.61**	**274**	⇑*i*P	Pn	13 45 23.9	-0.1
ILCH				*i* S	Sn	13 45 44.6	+0.4
ILCH				AMP		13 45 45.4	
	comp=N,2μm,0.3s						
FCH	**Farellones**	**1.77**	**208**	⇑*i*P	Pn	13 45 27.3	+1.1
FCH				*i* S	Sn	13 45 50.2	+2.0
FCH				AMP		13 45 53.2	
	comp=N,505nm,0.2s						
PEL	**Peldehue**	**1.81**	**221**	⇓*i*P	Pn	13 45 27.3	+0.5
PEL				*i* S	Sn	13 45 51.2	+1.9
PEL				AMP		13 45 55.6	
	comp=E,731nm,0.7s						
CHNG	**Los Chungos**	**1.89**	**266**	⇓*i*P	Pn	13 45 27.4	-0.6
CHNG				*i* S	Sn	13 45 52.0	+0.7
CHNG				AMP		13 45 53.4	
	comp=N,1μm,0.6s						
ROCH	**El Roble**	**1.89**	**230**	⇑*i*P	Pn	13 45 28.5

JAM	**Amami Oshima**	**1.25**	**226**	P		**P**		**14 00 33.2**	**-0.6**
JAM				S		**S**		**14 00 50.7**	**+1.0**
JTN	**Tanegashima 3**	**1.41**	**12**	P		**P**		**14 00 36.0**	**-0.1**
JTSR	**Tashiro 2**	**1.90**	**8**	P		**P**		**14 00 43.8**	**+0.8**
JTK	**Tokunoshima**	**2.10**	**225**	P		**P**		**14 00 45.4**	**-0.3**
JTK				*e*S		**S**		**14 01 11.7**	**+1.1**
JSU	**Suzuyama**	**2.23**	**356**	P		**P**		**14 00 47.5**	**-0.1**
JNAR	**Kushima--Naru**	**2.31**	**14**	P		**P**		**14 00 49.4**	**+0.6**
JOW	**Kunigami**	**3.20**	**221**	Pn		**P**		**14 01 00.2**	**-1.3**
	14nm,0.3s,baz=90,slow=11,SNR=11								
JOW				Sn		**S**		**14 01 38.2**	**-0.5**
	25nm,0.3s,baz=59,slow=30,SNR=6.3								
JOW	**Kunigami**	**3.20**	**221**	P		**P**		**14 01 00.4**	**-1.1**
JIH	**Iheya**	**3.24**	**227**	P		**P**		**14 01 00.5**	**-1.5**
JNU	**Nakatsue**	**3.84**	**3**	Pn		**P**		**14 01 08.2**	**-2.2**
	1.4nm,0.3s,baz=226,slow=31,SNR=23								
JNU				Sn		**S**		**14 01 53.4**	**-1.4**
	4.7nm,0.3s,baz=276,slow=10,SNR=3.4								
JNU				LR		LR		14 02 25.0	
	comp=Z,945nm,19.2s,baz=282,slow=36								
CN2	**Changchun**	**15.07**	**345**	*e*P		**P**		**14 03 49.3**	**+5.9**
CN2				AMB		AMB			
	comp=Z,30nm,0.8s								
ASAJ	**Asahikawa**	**17.62**	**30**	LR		LR		14 11 47.0	
	comp=Z,87nm,18.4s,baz=179,slow=40								
ENH	**Enshi**	**18.38**	**278**	P		**P**		**14 04 25.8**	**+0.7**
	comp=Z,6.2nm,0.4s								
GYA	**Guiyang**	**21.36**	**268**	⇓*i*P		**P**		**14 04 57.8**	**+0.6**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.3								
CD2	**Chengdu**	**23.29**	**281**	⇑*i*P		**P**		**14 05 17.2**	**+1.1**
CD2				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.2								
SONM	**Songino Array**	**26.32**	**321**	P		**P**		**14 05 43.7**	**-1.3**
	comp=Z,1.1nm,0.5s,mb3.6,baz=136,slow=8.3,SNR=11								
GTA	**Gaotai**	**27.26**	**300**	*e*P		**P**		**14 05 59.1**	**+5.5**
GTA				AP		pP		14 06 06.2	-0.6
GTA				PP		PP		14 06 46.1	+4.3
GTA				S		**S**		**14 10 33.8**	**+6.5**
GTA				SS		SS		14 11 47.6	+1.4
GTA				AMB		AMB			
	comp=Z,180nm,5.3s								
GTA				LR		LR			
	comp=N,210nm,16.0s,MS4.0								
GTA				LR		LR			
	comp=E,220nm,15.2s,MS4.0								
GTA				LR		LR			
	comp=Z,250nm,15.6s,MS3.9								
JIRN	**Jiri**	**38.92**	**279**	*e*P		**P**		**14 07 34.9**	**+0.2**
	comp=Z,7.2nm,0.5s,mb4.7								
GUN	**Gumba**	**39.13**	**279**	*e*P		**P**		**14 07 36.7**	**+0.3**
	comp=Z,28nm,0.4s,mb5.3								
PKI	**Pulchoki**	**39.62**	**279**	*e*P		**P**		**14 07 40.0**	**-0.5**
KKN	**Kakani**	**39.68**	**279**	*e*P		**P**		**14 07 41.1**	**+0.1**
	comp=Z,18nm,0.6s,mb5.0								
KKN	**Kakani**	**39.68**	**279**	*e*P		**P**		**14 07 41.1**	**+0.1**
KKN				pmax		pmax			
	comp=Z,9.0nm,0.6s,mb4.7								
DMN	**Daman**	**39.87**	**279**	*e*P		**P**		**14 07 42.8**	**+0.2**
	comp=Z,5.1nm,0.4s,mb4.6								
GKN	**Gorkha**	**40.19**	**280**	*e*P		**P**		**14 07 44.9**	**-0.3**
	comp=Z,9.5nm,0.4s,mb4.9								
KOLN	**Koldanda**	**41.13**	**280**	*e*P		**P**		**14 07 52.0**	**-1.0**
	comp=Z,7.0nm,0.6s,mb4.5								
MKAR	**Makanchi Array**	**41.19**	**309**	P		**P**		**14 07 53.5**	**+0.3**
	comp=Z,0.7nm,0.4s,mb3.6,baz=90,slow=11,SNR=28								
ZAL	**Zalesovo**	**41.21**	**320**	P		**P**		**14 07 52.9**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.5,baz=53,slow=7.5,SNR=4.5								
WRA	**Warramunga Arr**	**49.06**	**175**	P		**P**		**14 08 56.6**	**+0.2**
	comp=Z,0.7nm,0.8s,mb3.7,baz=354,slow=8.3,SNR=10.0								
BVAR	**Borovoye Array**	**49.48**	**316**	P		**P**		**14 08 58.7**	**-0.5**
	comp=Z,3.4nm,0.6s,mb4.6,baz=95,slow=10,SNR=29								
BVAR		PcP		PcP				14 10 20.9	0.0
	comp=Z,0.7nm,0.6s,baz=82,slow=2.6,SNR=3.1								
ARU	**Arti**	**56.36**	**321**	⇑*i*P		**P**		**14 09 48.2**	**-2.0**
ARU				*e*				14 11 50.8	
ARU				*e*S		**S**		**14 17 34.0**	**-0.9**
ARU				*e*SS		SS		14 21 29.1	+6.3
ARU				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.6								
AKTO	**Aktyubinsk**	**57.25**	**313**	P		**P**		**14 09 55.6**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=78,slow=12,SNR=6.8								
ILAR	**Eielson Array**	**60.76**	**29**	P		**P**		**14 10 19.8**	**-0.9**
	comp=Z,0.9nm,0.8s,mb4.0,baz=268,slow=5.2,SNR=9.7								
FINES	**FINESS Array B**	**71.26**	**331**	P		**P**		**14 11 28.1**	**+0.5**
	comp=Z,2.2nm,0.9s,mb4.1,baz=198,slow=24,SNR=8.8								
AKASG	**Malin Array Be**	**74.59**	**320**	P		**P**		**14 11 47.4**	**0.0**
	comp=Z,1.4nm,0.4s,mb4.2,baz=60,slow=6.6,SNR=5.3								
YKA	**Yellowknife Ar**	**74.87**	**26**	P		**P**		**14 11 48.7**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=308,slow=5.3,SNR=6.4								
BRTR	**Keskin Array B**	**76.84**	**308**	P		**P**		**14 12 01.3**	**+1.0**
	comp=Z,1.6nm,0.9s,mb4.0,baz=101,slow=6.3,SNR=7.1								
NOA	**NORSAR Array B**	**77.51**	**334**	P		**P**		**14 12 03.4**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=50,slow=5.7,SNR=3.1								
HLID	**Hailey**	**86.21**	**41**	*e*P		**P**		**14 12 51.2**	**+2.0**
	comp=Z,1.9nm,1.0s,mb4.3								
NVAR	**Mina Array Bea**	**86.88**	**47**	P		**P**		**14 12 53.6**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.9,baz=289,slow=6.0,SNR=4.4								
PDAR	**Pinedale Array**	**89.47**	**40**	P		**P**		**14 13 07.5**	**+2.7**
	comp=Z,0.6nm,0.7s,mb4.0,baz=315,slow=2.1,SNR=5.0								

HEL ***04*** *14:04:34.7±0.1, 60.22N×25.21E, ML1.7, ML1.7(UPP), Explosion*
IDC ***04*** *14:04:34.2±1.8, 60.22N×25.34E, mb1 3.2/3, mb1mx3.0/21, mbtmp3.2/3, ML2.4/3, Error ellipse: s-maj=19.7km s-min=7.5km az=142.0*
ISC 04 14:04:33.3±0.5, 60.22N±0.03×25.16E±0.06, n21, σ1s17/33, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.48**	**46**	*e*P		**Pg**		**14 04 42.8**	**0.0**
PVF				*e*S		**Sg**		**14 04 48.9**	**-0.3**
VJF	**Virojoki**	**1.23**	**74**	*e*P		**Pb**		**14 04 55.9**	**-1.2**
VJF				*e*S		**Sb**		**14 05 12.1**	**-1.3**
FIA0	**FINESS Array S**	**1.31**	**20**	*e*P		**Pb**		**14 04 57.9**	**-0.5**
FIA0				*e*S		**Sb**		**14 05 14.4**	**-1.2**
FINES	**FINESS Array B**	**1.31**	**20**	Pg		**Pg**		**14 04 58.1**	**-1.2**
	2.4nm,0.3s,baz=194,slow=17,SNR=93								
FINES				Pn		**Pn**		**14 05 00.7**	**+2.0**
	2.4nm,0.3s,baz=196,slow=11,SNR=53								
FINES				Lg				14 05 14.4	
	0.7nm,0.3s,baz=183,slow=28,SNR=11								
FINES				Sn		**Sn**		**14 05 20.0**	**+2.8**
	2.7nm,0.3s,baz=195,slow=22,SNR=22								
FINES				Rg				14 05 22.1	
	11nm,0.8s,baz=192,slow=33,SNR=9.7								
VSU	**Vasula**	**1.94**	**155**	*e*P		**Pn**		**14 05 08.9**	**+1.1**
VSU				*e*S		**Sn**		**14 05 33.4**	**+0.2**
KEF	**Keuruu**	**1.96**	**356**	*e*P		**Pn**		**14 05 09.6**	**+1.5**
KEF				*e*S		**Sn**		**14 05 35.2**	**+1.4**
KEF				MSG				14 05 38.6	
	comp=Z,6.0nm,0.1s								
KAF	**Kangasniemi**	**1.98**	**16**	*e*P		**Pn**		**14 05 09.6**	**+1.2**
KAF				*e*S		**Sn**		**14 05 34.7**	**+0.5**
KAF				MSG				14 05 39.2	
	comp=Z,2.9nm,0.1s								
SUF	**Sumiainen**	**2.55**	**10**	*e*PB		**Pb**		**14 05 18.9**	**-0.8**
SUF				*e*SB		**Sb**		**14 05 51.7**	**-0.1**
SUF				MSG				14 05 54.1	
	comp=Z,2.0nm,0.1s								
AAL	**Aland**	**2.58**	**271**	*e*P		**Pn**		**14 05 18.0**	**+0.9**
GRAU	**Graesoe**	**3.30**	**275**	*e*P		**Pn**		**14 05 27.3**	**+0.1**
NRTU	**Norrtaelje**	**3.33**	**263**	*e*P		**Pn**		**14 05 28.5**	**+0.8**
NYNU	**Nynaeshamn**	**3.84**	**255**	*e*P		**Pn**		**14 05 35.5**	**+0.7**
IGGU	**Iggoen**	**3.93**	**283**	*e*P		**Pn**		**14 05 35.9**	**-0.3**
ARNU	**Arnoeviken**	**4.07**	**295**	*e*P		**Pn**		**14 05 38.9**	**+0.7**
ARNU				*e*S		**Sn**		**14 06 25.0**	**-2.3**
HEMU	**Hemsoen**	**4.21**	**309**	*e*P		**Pn**		**14 05 41.3**	**+1.1**
HASU	**Hassela**	**4.57**	**299**	*e*P		**Pn**		**14 05 45.4**	**+0.1**
FALU	**Falun**	**4.64**	**277**	*e*P		**Pn**		**14 05 46.3**	**0.0**
ROTU	**Roteberg**	**4.73**	**289**	*e*P		**Pn**		**14 05 46.7**	**-0.9**
HFS	**Hagfors**	**5.73**	**274**	Pn		**Pn**		**14 05 59.8**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=102,slow=13,SNR=4.1								
HFS				Sn		**Sn**		**14 07 05.2**	**-3.8**
	comp=Z,0.0nm,0.3s,baz=84,slow=29,SNR=4.1								
NOA	**NORSAR Array B**	**6.91**	**283**	Pn		**Pn**		**14 06 15.4**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=74,slow=9.7,SNR=2.7								
NOA				Sn		**Sn**		**14 07 31.4**	**-7.3**
	comp=Z,0.1nm,0.3s,baz=35,slow=19,SNR=3.5								
ARCES	**ARCESS Array B**	**9.36**	**1**	Pn		**P**		**14 06 48.3**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=179,slow=12,SNR=7.9								

BJI ***04*** *14:09:21.3, 0.82N×97.62E, h22km, mB5.2, mb5.1, Ms4.9, Msz4.7*
HRVD ***04*** *14:09:23.4±1.3, 0.65N×97.43E, h39km±2km, MW4.8/38, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s38,c49; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.68±.21; Mθθ-0.84±.13; Mφφ0.16±.18; Mrθ0.71±.15; Mθφ2.06±.13; Mφr-0.73±.23; Best double couple: M◎2.279×10^16 NP1:◎s261°,δ72°,λ-6°. NP2:◎s353°,δ85°,λ-162°. Principal axes: T 1.801, Plg9°, Azm126°; N .957, Plg71°, Azm9°; P -2.757, Plg16°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***04*** *14:09:23.3±0.6, 0.86N×97.48E, h23km±2km, mb4.6/22, mb1 4.7/23, mb1mx4.6/26, mbtmp4.8/23, ML3.9/1, MS4.3/10, Ms1 4.3/10, ms1mx4.0/19 Error ellipse: s-maj=17.5km s-min=11.6km az=37.0*
NEIC ***04*** *14:09:23.4±0.3, 0.79N×97.46E, mb5.0/21, Error ellipse: s-maj=8.4km s-min=6.3km az=202.0*
NEIC Felt [IV] at Telukdalem and [II] at Gunungsitoli.
MOS ***04*** *14:09:23.0±1.0, 0.86N×97.50E, h33km, mb5.0/25, Error ellipse: s-maj=11.1km s-min=6.3km az=108.4*
ISC 04 14:09:22.0±0.3, 0.82N±0.04×97.50E±0.04, h25km, h25km±.7km: pP-P, n170, σ1s07/168, mb4.9/79, MS4.5/26, 9C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.42**	**36**	Pn		**Pn**		**14 10 01.8**	**+1.0**
	32nm,0.3s,baz=194,slow=9.3,SNR=98								
PSI				Sn		**Sn**		**14 10 26.4**	**-3.6**
	50nm,0.3s,baz=180,slow=7.9,SNR=11								
IPM	**Ipoh**	**5.13**	**43**	P		**Pn**		**14 10 40.5**	**+1.2**
KULM	**Kulim**	**5.44**	**35**	*e*P		**Pn**		**14 10 44.3**	**+0.7**
KGM	**Kluang**	**5.93**	**78**	P		**Pn**		**14 10 51.9**	**+1.4**
NNT	**Nongplab**	**11.90**	**11**	P		**P**		**14 12 12.0**	**-1.2**
KSM	**Kuching**	**12.82**	**87**	*e*P		**P**		**14 12 26.8**	**+1.3**
NST	**Nakhon Sawan**	**14.98**	**10**	P		**P**		**14 12 54.2**	**+0.1**
UBT	**Ubonrachathani**	**16.14**	**27**	P		**P**		**14 13 12.0**	**+3.0**
KKTK	**Khon Kaen**	**16.28**	**19**	P		**P**		**14 13 12.0**	**+1.1**
	340nm,0.6s								
CHG	**Chiang Mai**	**17.93**	**4**	⇑P		**P**		**14 13 30.3**	**-1.2**
	45nm,0.9s								
CHRT	**Chiangrai**	**19.06**	**7**	⇑P		**P**		**14 13 44.5**	**-0.8**
	224nm,0.9s								
KKM	**Kota Kinabalu**	**19.38**	**74**	P		**P**		**14 13 50.9**	**+1.9**
KKM	**Kota Kinabalu**	**19.38**	**74**	*e*P		**P**		**14 13 48.8**	**-0.2**
TSM	**Tawau**	**20.64**	**80**	P		**P**		**14 14 03.1**	**+0.6**
MDRS	**Chennai**	**20.98**	**306**	*ex*		x		14 16 07.0	
QIZ	**Qiongzhong**	**21.77**	**33**	P		**P**		**14 14 12.4**	**-1.5**
QIZ				S		**S**		**14 18 13.5**	**+5.3**
QIZ				AMB		AMB			
	comp=Z,40nm,1.4s,mb4.7								
QIZ				LR		LR			
	comp=N,830nm,12.8s								
QIZ				LR		LR			
	comp=Z,1μm,13.4s,MS4.4								
VIS	**Vishakhapatnam**	**21.82**	**321**	*e*P		**P**		**14 14 16.7**	**+2.3**
VIS				AMb		AMB		14 14 28.1	
	comp=Z,115nm,1.5s,mb5.1								
VIS				*ex*		x		14 16 26.3	
KMI	**Kunming**	**24.68**	**11**	P		**P**		**14 14 44.0**	**+1.5**
KMI				AP				14 14 50.9	
KMI				XP				14 14 53.6	
KMI				PP		PP		14 15 20.5	+1.4
KMI				PPP		PPP		14 15 31.3	+1.6
KMI				PCP		PcP		14 18 22.6	+2.1
KMI				S		**S**		**14 19 01.2**	**+1.5**
KMI				XS				14 19 12.7	
KMI				SS		SS		14 19 57.5	+0.8
KMI				SCP				14 21 58.4	
KMI				PCS				14 22 01.2	
KMI				AMB		AMB			
	comp=Z,70nm,1.0s,mb5.2								
KMI				LR		LR			
	comp=N,1μm,13.0s,MS4.8								
KMI				LR		LR			
	comp=E,1μm,13.3s,MS4.8								
KMI				LR		LR			
	comp=Z,2μm,13.3s,MS4.8								
HYB	**Hyderabad**	**24.89**	**313**	*i* P		**P**		**14 14 54.0**	**+9.5**
HYB				*e*S		**S**		**14 19 16.0**	**+13**
HYB	**Hyderabad**	**24.89**	**313**	*e*P		**P**		**14 14 54.0**	**+9.5**
HYB				*e*S		**S**		**14 19 16.0**	**+13**
SHL	**Shillong**	**25.19**	**348**	*e*P		**P**		**14 14 49.0**	**+1.7**
	comp=Z,110nm,1.0s,mb5.3								
SHL				*e*S		**S**		**14 19 11.0**	**+2.8**
BOK	**Bokaro**	**25.46**	**335**	*e*P		**P**		**14 14 51.5**	**+1.6**
BOK				AMb		AMB		14 14 56.7	
	comp=Z,54nm,1.1s,mb5.0								
GYA	**Guiyang**	**26.97**	**18**	⇑*i*P		**P**		**14 15 03.2**	**-0.6**
GYA				AP		pP		14 15 12.4	+1.2
GYA				XP		sP		14 15 16.8	+2.2
GYA				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.6								
GYA				LR		LR			
	comp=N,950nm,14.4s,MS4.7								
GYA				LR		LR			
	comp=E,1μm,13.2s,MS4.7								
GYA				LR		LR			
	comp=Z,730nm,13.8s,MS4.4								
DAV	**Davao City (W)**	**28.67**	**77**	P		**P**		**14 15 18.6**	**-0.7**
JIRN	**Jiri**	**28.81**	**339**	*e*P		**P**		**14 15 21.3**	**+0.9**
	comp=Z,75nm,0.9s,mb5.4								
PKI	**Pulchoki**	**29.02**	**337**	*e*P		**P**		**14 15 24.7**	**+2.4**
GUN	**Gumba**	**29.15**	**339**	*e*P		**P**		**14 15 23.9**	**+0.4**
	comp=Z,117nm,0.8s,mb5.6								
DMN	**Daman**	**29.17**	**337**	*e*P		**P**		**14 15 25.8**	**+2.2**
	comp=Z,39nm,0.7s,mb5.2								
KKN	**Kakani**	**29.26**	**337**	*e*P		**P**		**14 15 24.8**	**+0.3**
	comp=Z,98nm,1.0s,mb5.5								
KKN	**Kakani**	**29.26**	**337**	*e*P		**P**		**14 15 24.8**	**+0.3**
KKN				pmax		pmax			
	comp=Z,49nm,1.0s,mb5.2								
LSA	**Lhasa**	**29.35**	**349**	*e*P		**P**		**14 15 25.8**	**+0.5**
LSA				pmax		pmax			
	comp=Z,23nm,0.8s,mb5.0								
LSA	**Lhasa**	**29.35**	**349**	*e*P		**P**		**14 15 25.8**	**+0.6**
	comp=Z,23nm,0.8s,mb5.0								
GKN	**Gorkha**	**29.70**	**337**	*e*P		**P**		**14 15 28.6**	**+0.1**
	comp=Z,102nm,1.1s,mb5.5								
KOLN	**Koldanda**	**29.93**	**335**	*e*P		**P**		**14 15 30.9**	**+0.5**
	comp=Z,43nm,0.7s,mb5.3								
CD2	**Chengdu**	**30.51**	**11**	⇑*i*P		**P**		**14 15 34.0**	**-1.5**
CD2				PP		PP		14 16 35.2	-0.5
CD2				S		**S**		**14 20 33.0**	**-1.2**
CD2				SS		SS		14 22 17.0	+1.8
CD2				AMB		AMB			
	comp=Z,10.0nm,1.1s,mb4.6								
CD2				LR		LR			
	comp=N,1μm,13.2s								
CD2				LR		LR			
	comp=Z,1μm,14.4s,MS4.6								
ENH	**Enshi**	**31.43**	**20**	*e*P		**P**		**14 15 41.8**	**-1.8**
	comp=Z,44nm,1.0s,mb5.2								
WHN	**Wuhan**	**33.61**	**27**	*e*P		**P**		**14 16 02.9**	**+0.2**
AJM	**Ajmer**	**33.68**	**321**	*e*P		**P**		**14 16 03.8**	**+0.5**
AJM				AMb		AMB		14 16 15.3	
	comp=Z,28nm,1.4s,mb5.0								
XAN	**Xi'an**	**34.73**	**17**	P		**P**		**14 16 10.6**	**-1.7**
XAN				AP		pP		14 16 16.9	-3.0
XAN				AMB		AMB			
	comp=Z,60nm,0.9s,mb5.5								
LZH	**Lanzhou**	**35.58**	**9**	*e*P		**P**		**14 16 19.5**	**0.0**
LZH				AP		pP		14 16 27.5	+0.5
LZH				XP		sP		14 16 31.1	+0.8
LZH				PP		PP		14 17 41.5	+1.5
LZH				*e*S		**S**		**14 21 54.7**	**+1.7**
LZH				XS				14 22 07.6	
LZH				*e*SS		SS		14 24 16.8	+4.0
LZH				AMB		AMB			
	comp=Z,30nm,1.2s,mb5.1								
LZH				AMB		AMB			
	comp=Z,160nm,6.1s								
LZH				LR		LR			
	comp=E,950nm,13.1s								
LZH				LR		LR			
	comp=Z,1μm,15.2s,MS4.9								
NJ2	**Nanjing**	**37.03**	**31**	*e*P		**P**		**14 16 32.3**	**+0.6**
NJ2				AP		pP		14 16 40.0	+0.7
NJ2				XP		sP		14 16 46.0	+3.5
NJ2				PP		PP		14 17 59.1	+0.6
NJ2				S		**S**		**14 22 14.0**	**-1.3**
NJ2				XS				14 22 32.0	
NJ2				AMB		AMB			
	comp=Z,20nm,0.9s,mb5.0								
NJ2				AMB		AMB			
	comp=Z,90nm,3.9s								
NJ2				LR		LR			
	comp=N,890nm,19.2s,MS4.8								
NJ2				LR		LR			
	comp=E,1μm,16.1s,MS4.8								
NJ2				LR		LR			
	comp=Z,790nm,14.7s,MS4.6								
MUN	**Mundaring**	**37.12**	**153**	*e*P		pP		14 16 41.9	+1.8
KAKA	**Kakadu**	**37.18**	**112**	*e*P		**P**		**14 16 52.8**	**+20**
	comp=Z,11nm,0.8s,mb4.7								
SSE	**Sheshan**	**37.55**	**34**	P		**P**		**14 16 35.9**	**-0.2**
SSE				AP		pP		14 16 44.7	+1.0
SSE				XP		sP		14 16 48.2	+1.3
SSE				S		**S**		**14 22 24.8**	**+1.5**
SSE				XS				14 22 38.3	
SSE				SCS		ScS		14 26 46.8	+1.1
SSE				AMB		AMB			
	comp=Z,50nm,0.9s,mb5.2								
SSE				LR		LR			
	comp=N,300nm,15.8s,MS4.3								
SSE				LR		LR			
	comp=E,240nm,15.8s,MS4.3								
SSE				LR		LR			
	comp=Z,520nm,14.6s,MS4.5								
GTA	**Gaotai**	**38.46**	**3**	⇑P		**P**		**14 16 43.7**	**0.0**
GTA				AP		pP		14 16 50.5	-0.8
GTA				XP		sP		14 16 54.5	0.0
GTA				PP		PP		14 18 19.4	+4.0
GTA				AMB		AMB			
	comp=Z,30nm,0.9s,mb5.0								
GTA				AMB		AMB			
	comp=Z,160nm,6.1s								
GTA				LR		LR			
	comp=N,410nm,13.3s,MS4.5								
GTA				LR		LR			
	comp=E,390nm,13.7s,MS4.5								
GTA				LR		LR			
	comp=Z,520nm,12.2s,MS4.6								
JOW	**Kunigami**	**39.28**	**46**	LR		LR		14 32 23.2	
	comp=Z,401nm,18.7s,MS4.3,baz=256,slow=35								
WRA	**Warramunga Arr**	**41.58**	**122**	P		**P**		**14 17 09.1**	**-0.6**
	comp=Z,19nm,0.8s,mb4.8,baz=303,slow=8.9,SNR=112								
WRA				pP		pP		14 17 16.8	-0.5
	comp=Z,41nm,0.8s,baz=306,slow=9.1,SNR=33								
WRAB	**Tennant Creek**	**41.58**	**122**	*e*P		**P**		**14 17 09.7**	**-0.1**
HHC	**Hu-ho-hao-te**	**41.83**	**16**	*e*P		**P**		**14 17 12.6**	**+1.0**
HHC				AP		pP		14 17 20.7	+1.5
HHC				XP		sP		14 17 23.5	+1.2
HHC				PP		PP		14 18 53.2	+1.7
HHC				PCP		PcP		14 19 09.0	+1.1
HHC				S		**S**		**14 23 26.7**	**-0.8**
HHC				XS				14 23 40.3	
HHC				SS		SS		14 26 28.7	-0.1
HHC				SCS		ScS		14 27 12.9	+2.3
HHC				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.7								
HHC				AMB		AMB			
	comp=Z,210nm,4.4s								
HHC				LR		LR			
	comp=N,690nm,15.5s,MS4.8								
HHC				LR		LR			
	comp=E,760nm,14.3s,MS4.8								
HHC				LR		LR			
	comp=Z,850nm,13.1s,MS4.8								
FORT	**Forrest**	**42.79**	**140**	*e*P		**P**		**14 17 21.8**	**+2.2**
	comp=Z,53nm,0.7s,mb5.4								
KSH	**Kashi**	**43.24**	**336**	*e*P		**P**		**14 17 24.6**	**+1.5**
KSH				*e*AP		pP		14 17 33.4	+2.7
KSH				*e*XP		sP		14 17 38.6	+4.7
KSH				*e*PP		PP		14 19 07.0	+1.3
KSH				*e*PCP		PcP		14 19 14.6	+2.0
KSH				*e*PPP		PPP		14 19 42.7	+1.5
KSH				*e*SCP				14 23 02.4	
KSH				*e*PCS				14 23 06.0	
KSH				*e*S		**S**		**14 23 49.1**	**+1.0**
KSH				*e*XS				14 24 05.1	
KSH				*e*SS		SS		14 26 55.5	+0.7
KSH				*e*SCS		ScS		14 27 19.6	+0.4
KSH				AMB		AMB			
	comp=Z,90nm,6.3s								
KSH				LR		LR			
	comp=N,270nm,5.5s								
KSH				LR		LR			
	comp=E,250nm,5.8s								
WMQ	**Urumqi**	**43.70**	**350**	P		**P**		**14 17 27.2**	**+0.5**
WMQ				AP		pP		14 17 37.2	+2.9
WMQ				XP		sP		14 17 41.2	+3.7
WMQ				PP		PP		14 19 10.8	+0.6
WMQ				PCP		PcP		14 19 15.1	+1.0
WMQ				PPP		PPP		14 19 47.7	+0.6
WMQ				S		**S**		**14 23 54

CN2					*e*S	**S**	14 25 17.7	+0.4	
CN2					AMB	AMB			
	comp=Z,30nm,1.0s,mb5.3								
CN2					AMB	AMB			
	comp=Z,200nm,4.0s								
CN2					LR	LR			
	comp=N,950nm,14.0s,MS5.0								
CN2					LR	LR			
	comp=E,580nm,14.0s,MS5.0								
CN2					LR	LR			
	comp=Z,970nm,13.0s,MS5.0								
ZAK	**Zakamensk**	**49.62**	**5**	*e*P	**P**		14 18 11.2	-2.1	
ZAK				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.5								
PMG	**Port Moresby**	**50.47**	**103**	P	**P**		14 18 20.1	-0.2	
	comp=Z,30nm,0.9s,mb5.3,baz=248,slow=13,SNR=11								
PMG	**Port Moresby**	**50.47**	**103**	⇑*i*P	**P**		14 18 20.0	-0.3	
PMG	**Port Moresby**	**50.47**	**103**	*e*P	**P**		14 18 19.6	-0.7	
	comp=Z,30nm,0.8s,mb5.4								
MAT	**Matsushiro**	**51.76**	**42**	P	**P**		14 18 27.5	-2.3	
MAT	**Matsushiro**	**51.76**	**42**	*e*P	**P**		14 18 28.0	-1.8	
MJAR	**Matsushiro Arr**	**51.76**	**42**	P	**P**		14 18 28.0	-1.9	
	comp=Z,11nm,0.9s,mb4.8,baz=220,slow=6.4,SNR=22								
MJAR				LR	LR		14 41 07.4		
	comp=Z,245nm,19.6s,MS4.2,baz=240,slow=37								
HIA	**Hailar**	**51.90**	**18**	*e*P	**P**		14 18 30.4	-0.3	
HIA				pmax	pmax				
	comp=Z,13nm,0.8s								
HIA	**Hailar**	**51.90**	**18**	*e*P	**P**		14 18 30.4	-0.2	
	comp=Z,13nm,0.8s,mb4.9								
MDJ	**Mudanjiang**	**52.05**	**29**	P	**P**		14 18 32.1	+0.2	
MDJ				AP	pP		14 18 41.3	+1.7	
MDJ				XP	sP		14 18 45.6	+2.9	
MDJ				PCP	PcP		14 19 43.3	-0.6	
MDJ				PP	PP		14 20 31.8	+1.1	
MDJ				SCP			14 23 36.6		
MDJ				PCS			14 23 41.7		
MDJ				S	**S**		14 25 50.4	-2.0	
MDJ				SCS	ScS		14 28 20.6	+3.7	
MDJ				AMB	AMB				
	comp=Z,280nm,4.0s								
MDJ				LR	LR				
	comp=E,260nm,19.7s,MS4.4								
MDJ				LR	LR				
	comp=N,210nm,17.2s,MS4.4								
MDJ				LR	LR				
	comp=Z,410nm,16.6s,MS4.5								
CTAO	**Charters Tower**	**52.06**	**116**	*e*P	**P**		14 18 31.9	-0.4	
CTAO				pmax	pmax				
	comp=Z,23nm,1.3s,mb5.0								
CTAO	**Charters Tower**	**52.06**	**116**	*e*P	**P**		14 18 31.9	-0.4	
	comp=Z,23nm,1.3s,mb5.0								
KURK	**Kurchatov**	**52.23**	**345**	*c*P	**P**		14 18 32.7	-0.5	
CIT	**Chita**	**52.77**	**12**	*e*P	**P**		14 18 36.0	-1.2	
CIT				*e*	pP		14 18 44.2	-0.8	
STKA	**Stephens Creek**	**52.88**	**132**	*e*P	**P**		14 18 38.7	+0.4	
	comp=Z,12nm,0.6s,mb5.0								
STKA	**Stephens Creek**	**52.88**	**132**	P	**P**		14 18 38.1	-0.1	
	comp=Z,14nm,0.8s,mb4.9,baz=296,slow=7.4,SNR=23								
OPO	**Ambohidratompo**	**53.05**	**246**	P	**P**		14 18 40.3	+0.6	
	comp=Z,5.8nm,0.9s,mb4.5,baz=57,slow=9.1,SNR=9.4								
ZAL	**Zalesovo**	**53.97**	**351**	P	**P**		14 18 45.2	-0.7	
	comp=Z,15nm,0.7s,mb5.0,baz=313,slow=5.6,SNR=83								
ZAL				LR	LR		14 45 56.0		
	comp=Z,239nm,19.4s,MS4.3,baz=297,slow=41								
ZAL	**Zalesovo**	**53.97**	**351**	P	**P**		14 18 45.2	-0.7	
ZAL				LR	LR		14 45 56.0		
NVS	**Novosibirsk**	**55.10**	**350**	⇑*i*P	**P**		14 18 52.4	-1.8	
NVS				*e*S	**S**		14 26 32.3	-1.2	
NVS				pmax	pmax				
	comp=Z,25nm,1.2s,mb5.1								
NVS				pmax	pmax				
	comp=N,19nm,1.3s								
NVS				pmax	pmax				
	comp=E,14nm,1.4s								
NVS				smax					
	comp=E,22nm,1.8s								
VOSK	**Vostochnaya**	**56.26**	**341**	P	**P**		14 19 00.3	-2.3	
VOSK				pmax	pmax				
	comp=Z,12nm,1.0s,mb4.9								
KLR	**Kul'dur**	**56.45**	**26**	*e*P	**P**		14 19 00.0	-4.1	
KLR				MLR	MLR				
	comp=N,1μm,13.0s								
KLR				MLR	MLR				
	comp=Z,2μm,13.0s,MS5.5								
BVA0	**Borovoye Array**	**56.70**	**341**	*i* P	**P**		14 19 04.0	-1.8	
BVA0				pmax	pmax				
	comp=Z,6.0nm,1.3s,mb4.5								
BVAR	**Borovoye Array**	**56.70**	**341**	P	**P**		14 19 04.4	-1.4	
	comp=Z,7.1nm,0.8s,mb4.8,baz=142,slow=8.6,SNR=44								
BVAR				pP	pP		14 19 11.4	-2.3	
	comp=Z,8.5nm,0.7s,baz=140,slow=8.3,SNR=18								
AB31	**Akbulak array**	**57.99**	**332**	*i* P	**P**		14 19 13.0	-1.9	
AB31				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.7								
BOD	**Bodaibo**	**58.32**	**10**	*e*P	**P**		14 19 16.3	-0.8	
BOD				pmax	pmax				
	comp=Z,23nm,0.9s,mb5.2								
ASAJ	**Asahikawa**	**58.78**	**37**	P	**P**		14 19 20.0	-0.5	
	comp=Z,7.1nm,0.4s,mb5.0,baz=326,slow=4.4,SNR=12								
AKTO	**Aktyubinsk**	**59.70**	**332**	P	**P**		14 19 25.1	-1.7	
	comp=Z,3.6nm,0.8s,mb4.5,baz=145,slow=6.7,SNR=12								
KMBO	**Kilima Mbogo**	**60.28**	**268**	P	**P**		14 19 31.3	+0.1	
	comp=Z,0.6nm,0.5s,mb3.9,baz=52,slow=18,SNR=4.3								
KMBO				LR	LR		14 43 39.5		
	comp=Z,176nm,18.5s,MS4.2,baz=93,slow=34								
YSS	**Yuzh-Sakhalins**	**60.49**	**34**	*d* *i*P	**P**		14 19 32.4	+0.2	
YSS				pmax	pmax				
	comp=Z,44nm,1.0s,mb5.4								
HNR	**Honiara**	**62.99**	**101**	P	**P**		14 19 49.2	-0.2	
	comp=Z,67nm,0.8s,mb5.8,baz=227,slow=2.5,SNR=4.9								
ARU	**Arti**	**63.65**	**337**	⇓*i*P	**P**		14 19 51.9	-1.3	
ARU				*e*			14 22 11.3		
ARU				*e*PPP	PPP		14 23 40.0	-6.5	
ARU				*e*S	**S**		**14 28 24.7**	**+0.6**	
ARU				*e*SS	SS		14 32 30.7	-2.8	
ARU				pmax	pmax				
	comp=Z,14nm,1.1s,mb4.9								
KIV	**Kislovodsk**	**64.79**	**319**	*e*P	**P**		14 20 00.1	-0.8	
KIV				pmax	pmax				
	comp=Z,12nm,1.0s,mb4.9								
YAK	**Yakutsk**	**65.70**	**16**	*e*P	**P**		14 20 04.6	-1.8	
YAK				pmax	pmax				
	comp=Z,35nm,0.9s,mb5.4								
YAK				pmax	pmax				
	comp=N,11nm,1.1s								
YAK				pmax	pmax				
	comp=E,9.0nm,1.1s								
YAK	**Yakutsk**	**65.70**	**16**	*e*P	**P**		14 20 04.8	-1.6	
	comp=E,94nm,1.0s,mb5.8								
SOKR	**Solikamsk**	**66.54**	**339**	*i* P	**P**		14 20 10.6	-1.2	
SOKR				pmax	pmax				
	comp=Z,20nm,1.0s,mb5.1								
SOKR				MLR	MLR				
	comp=Z,440nm,22.0s,MS4.6								
SOC	**Sochi**	**66.60**	**318**	*e*P	**P**		14 20 11.6	-0.9	
SOC				*e*			14 20 42.4		
SOC				*e*			14 22 47.1		
SOC				*e*PPP	PPP		14 24 12.5	-4.8	
SOC				*e*S	S		14 29 02.1	+1.5	
SOC				*e**SS			14 29 17.8		
SOC				*e*SS	SS		14 33 18.2	-1.4	
SOC				pmax	pmax				
	comp=Z,10.0nm,0.7s,mb5.0								
BR131	**Keskin Array S**	**69.59**	**312**	*e*P	**P**		14 20 29.7	-1.5	
	comp=Z,3.9nm,0.9s,mb4.3								
BRTR	**Keskin Array B**	**69.59**	**312**	P	**P**		14 20 29.8	-1.4	
	comp=Z,1.5nm,0.6s,mb4.1,baz=134,slow=7.9,SNR=12								
BRTR				pP	pP		14 20 37.9	-1.3	
	comp=Z,3.7nm,0.8s,baz=135,slow=7.0,SNR=12								
VRSR	**Storozhevoye**	**70.04**	**325**	*e*P	**P**		14 20 31.8	-1.9	
MA2	**Magadan**	**71.54**	**25**	*e*P	**P**		**14 20 42.7**	**0.0**	
PET	**Petropavlovsk**	**72.37**	**34**	*e*P	**P**		14 20 48.4	+0.7	
PET				pmax	pmax				
	comp=Z,30nm,1.3s,mb5.1								
MOS	**Moscow**	**72.81**	**329**	*e*P	**P**		**14 20 54.7**	**+4.4**	
OBN	**Obninsk**	**73.10**	**328**	⇓*e*P	**P**		**14 20 51.4**	**-0.6**	
OBN				*e*	pP		14 20 58.6	-1.3	
OBN				*e*			14 21 05.7		
OBN				pmax	pmax				
	comp=Z,12nm,1.0s,mb4.8								
OBN				MLR	MLR				
	comp=Z,100nm,22.0s,MS4.0								
SEY	**Seymchan**	**73.99**	**23**	*e*P	**P**		**14 20 57.2**	**+0.2**	
KLMR	**Klimovskoe**	**74.22**	**334**	*e*P	**P**		**14 20 56.7**	**-1.7**	
KLMR				pmax	pmax				
	comp=Z,20nm,1.7s,mb4.8								
AKASG	**Malin Array Be**	**75.74**	**322**	P	**P**		**14 21 06.1**	**-1.2**	
	comp=Z,10.0nm,0.8s,mb4.8,baz=88,slow=5.2,SNR=26								
AKASG				pP	pP		14 21 13.5	-1.8	
	comp=Z,1.1nm,0.4s,baz=88,slow=5.3,SNR=4.4								
AKASG	**Malin Array Be**	**75.74**	**322**	P	**P**		**14 21 06.1**	**-1.2**	
AKASG				pP	pP		14 21 13.5	-1.8	
MLR	**Muntele Rosu**	**76.55**	**317**	P	**P**		**14 21 11.9**	**-0.1**	
	comp=Z,5.8nm,0.8s,mb4.6,baz=210,slow=2.0,SNR=9.9								
JOF	**Joensuu**	**78.61**	**335**	*ep*	**P**		**14 21 22.4**	**-0.6**	
	comp=Z,2.7nm,0.5s,mb4.4								
KWP	**Kalwaria**	**79.55**	**320**	*e*P	**P**		**14 21 29.0**	**+0.7**	
KOLS	**Kolonicke sedl**	**79.70**	**320**	*e*P	**P**		**14 21 29.4**	**+0.2**	
SYO	**Syowa Base**	**79.74**	**198**	⇓PcP	PcP		14 21 36.0	-1.1	
SUW	**Suwalki**	**80.16**	**325**	*e*P	**P**		**14 21 31.0**	**-0.5**	
CRVS	**Cervenica-Dubn**	**80.22**	**319**	*e*P	**P**		**14 21 32.5**	**+0.5**	
STHS	**Stebnicka Huta**	**80.45**	**320**	*e*P	**P**		**14 21 33.9**	**+0.7**	
STHS				*e*pP	pP		14 21 40.9	-0.4	
FINES	**FINESS Array B**	**80.47**	**332**	P	**P**		**14 21 32.5**	**-0.6**	
	comp=Z,4.9nm,0.8s,mb4.5,baz=106,slow=6.0,SNR=22								
FINES				pP	pP		14 21 39.7	-1.4	
	comp=Z,4.6nm,0.9s,baz=102,slow=5.4,SNR=4.3								
FINES				LR	LR		15 00 13.2		
	comp=Z,148nm,19.5s,MS4.3,baz=146,slow=38								
FINES	**FINESS Array B**	**80.47**	**332**	P	**P**		**14 21 32.5**	**-0.6**	
FINES				pP	pP		14 21 39.7	-1.4	
FINES				LR	LR		15 00 13.2		
KAF	**Kangasniemi**	**80.56**	**333**	*ep*	**P**		**14 21 33.1**	**-0.4**	
	baz=104,slow=4.7								
TSUM	**Tsumeb**	**80.75**	**251**	*e*P	**P**		**14 21 35.9**	**+0.6**	
	comp=Z,6.7nm,1.1s,mb4.5								
KECS	**Kecovo**	**80.79**	**319**	*e*P	**P**		**14 21 34.7**	**-0.3**	
KECS				*e*pP	pP		14 21 41.0	-2.1	
BILL	**Bilibino**	**81.41**	**21**	*e*P	**P**		**14 21 38.9**	**+1.1**	
BILL				pmax	pmax				
	comp=Z,2.0nm,1.0s,mb4.0								
OJC	**Ojcow**	**81.51**	**321**	*e*P	**P**		**14 21 38.9**	**+0.2**	
VYHS	**Vyhne**	**81.88**	**319**	*e*P	**P**		**14 21 40.1**	**-0.5**	
MORC	**Moravsky Berou**	**82.89**	**320**	*e*P	**P**		**14 21 45.7**	**-0.2**	
MORC				*e*	pP		14 21 52.9	-1.1	
MORC				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.5								
MORC	**Moravsky Berou**	**82.89**	**320**	*e*P	**P**		**14 21 45.7**	**-0.2**	
	comp=Z,3.8nm,0.8s,mb4.5								
MORC				*e*	pP		14 21 52.9	-1.1	
ARCES	**ARCESS Array B**	**82.99**	**340**	P	**P**		**14 21 46.5**	**+0.4**	
	comp=Z,10nm,1.0s,mb4.8,baz=98,slow=4.5,SNR=29								
ARCES				pP	pP		14 21 54.2	0.0	
	comp=Z,2.1nm,0.5s,baz=99,slow=5.2,SNR=4.0								
KSP	**Ksiaz**	**83.81**	**321**	*e*P	**P**		**14 21 51.3**	**+0.8**	
GERES	**GERESS Array B**	**85.30**	**319**	P	**P**		**14 21 58.9**	**+0.8**	
	comp=Z,3.4nm,0.9s,mb4.5,baz=104,slow=5.5,SNR=21								
GERES				pP	pP		14 22 07.3	+1.1	
	comp=Z,3.1nm,0.9s,baz=90,slow=4.0,SNR=9.8								
VNDA	**Vanda**	**85.40**	**169**	LR	LR		14 57 35.8		
	comp=Z,170nm,18.1s,MS4.5,baz=296,slow=34								
KHC	**Kasperske Hory**	**85.40**	**319**	*e*P	**P**		**14 21 59.5**	**+0.9**	
KHC				pP	pP		14 22 07.5	+0.8	
KHC	**Kasperske Hory**	**85.40**	**319**	*e*P	**P**		**14 21 59.5**	**+0.9**	
KHC				*e*	pP		14 22 07.5	+0.8	
CLL	**Collm**	**85.92**	**321**	P	**P**		**14 22 01.0**	**-0.1**	
	comp=Z,logA/T=0.8,mb4.8								
HFS	**Hagfors**	**86.20**	**330**	P	**P**		**14 22 02.7**	**+0.4**	
	comp=Z,12nm,1.0s,mb5.1,baz=108,slow=4.7,SNR=9.6								
GRA1	**Grafenberg Arr**	**86.97**	**320**	*e*P	**P**		**14 22 06.6**	**+0.3**	
	comp=Z,4.0nm,1.0s,mb4.6								
GRF	**Grafenberg Arr**	**86.97**	**320**	*e*P	**P**		**14 22 06.6**	**+0.3**	
GRF				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.6								
GRF	**Grafenberg Arr**	**86.97**	**320**	*e*P	**P**		**14 22 06.6**	**+0.3**	
GRF				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.6								
GRF	**Grafenberg Arr**	**86.97**	**320**	*e*P	**P**		**14 22 06.6**	**+0.3**	
	comp=Z,4.0nm,1.0s,mb4.6								
NB2	**NORSAR Subarra**	**87.48**	**331**	P	**P**		**14 22 08.6**	**+0.1**	
	comp=Z,2.7nm,0.8s,mb4.5,baz=95,slow=4.8								
NOA	**NORSAR Array B**	**87.48**	**331**	P	**P**		**14 22 08.2**	**-0.3**	
	comp=Z,4.6nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=12								
NOA				LR	LR		15 04 34.6		
	comp=Z,126nm,18.1s,MS4.4,baz=110,slow=38								
DAVOX	**Davos**	**87.77**	**317**	P	**P**		**14 22 10.5**	**+0.2**	
	comp=Z,2.3nm,0.5s,mb4.7,baz=99,slow=9.4,SNR=5.3								
NVL	**N'lazarevskaya**	**89.34**	**199**	*e*P	pP		14 22 28.2	+2.9	
NVL				pmax	pmax				
	comp=Z,2.0nm,1.1s,mb4.4								
LPG	**La Plagne**	**89.95**	**315**	*e*P	**P**		**14 22 20.4**	**-0.2**	
	comp=Z,21nm,1.2s,mb5.0								
LPG	**La Plagne**	**89.95**	**315**	*e*P	**P**		**14 22 20.4**	**-0.2**	
LPG				pmax	pmax				
	comp=Z,11nm,1.2s,mb5.1								
IMA2	**Indian Mountai**	**96.81**	**23**	P	**P**		**14 22 52.8**	**+1.2**	
ILAR	**Eielson Array**	**99.92**	**23**	PP	PP		14 27 14.7	+1.4	
	comp=Z,0.9nm,1.1s,baz=293,slow=7.9,SNR=4.4								
ILAR				PKKPbc			14 39 28.0		
	comp=Z,0.2nm,0.7s,baz=126,slow=1.1,SNR=3.6								
TBI	**Tubuai**	**111.42**	**115**	*e*LR	LR		15 01 15.1		
	comp=Z,450nm,33.2s								
PPT	**Papeete**	**112.07**	**109**	*e*LR	LR		15 01 33.2		
	comp=Z,130nm,25.5s								
RKT	**Rikitea**	**124.49**	**118**	*e*LR	LR		15 07 18.3		
NVAR	**Mina Array Bea**	**128.91**	**36**	PKP	PKPdf		14 28 30.7	-2.2	
	comp=Z,1.4nm,0.8s,baz=263,slow=2.3,SNR=8.9								
NVAR	**Mina Array Bea**	**128.91**	**36**	PKP	PKPdf		14 28 30.7	-2.2	
PDAR	**Pinedale Array**	**130.25**	**26**	PKP	PKPdf		14 28 30.4	-4.8	
	comp=Z,0.5nm,0.8s,baz=180,slow=0.9,SNR=3.3								
MNTX	**Cornudas Mount**	**141.06**	**32**	PKP	PKPdf		14 28 53.0	-2.6	
TXAR	**Lajitas Array**	**143.83**	**32**	PKP	PKPdf		14 28 55.8	-4.6	
	comp=Z,1.9nm,0.8s,baz=264,slow=1.2,SNR=19								
JCT	**Junction City**	**144.78**	**26**	*e*PKIKP	PKPdf		14 28 57.7	-4.3	
CPUP	**Villa Florida**	**144.93**	**222**	*e*PKIKP	PKPdf		14 28 58.7	-3.7	
GOGA	**Godfrey**	**145.94**	**1**	*e*PKP2	PKPab		14 29 00.8	-1.7	

*ATH **04** 15:18:19.3,38.11N×26.59E,h35km±3km, MD3.2/3*
*ISK **04** 15:18:19.9,38.19N×26.69E,h21km, MD3.2*
*CSEM **04** 15:18:20.0±0.2,38.19N×26.71E,h19km±1km, MD3.2,*
Error ellipse: s-maj=3.8km s-min=2.5km az=94.0
ISC 04 15:18:18.7±0.9,38.18N±0.03×26.60E±0.05,h4km±7km,
n18,σ0ᵎ80/29,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**359**	*i*	P	**Pg**		**15 18 22.2**	**-0.3**
URLA				*i*	S	**Sg**		**15 18 25.6**	**+0.6**
SMG	**Samos**	**0.50**	**158**	*e*	PB	**Pb**		**15 18 29.3**	**-0.3**
SMG				*e*	SB	**Sb**		**15 18 37.0**	**0.0**
IZM	**Izmir**	**0.57**	**67**	*i*	PG	**Pg**		**15 18 30.4**	**+0.4**
IZM				*i*	SG	**Sg**		**15 18 38.4**	**+0.8**
KDAG	**Bornova**	**0.57**	**66**	*i*	P	**Pg**		**15 18 29.1**	**-1.0**
KDAG				*i*	S	**Sg**		**15 18 37.2**	**-0.6**
PRK	**Paraskevi**	**1.10**	**347**	*e*	PN	**Pn**		**15 18 40.9**	**+0.2**
PRK				*e*	SN	**Sn**		**15 18 56.8**	**+0.4**
AYDN	**Tasoluk**	**1.14**	**117**	*i*	P	**Pb**		**15 18 40.7**	**+0.3**
AYDN				*i*	S	**Sb**		**15 18 55.6**	**+0.2**
AKS	**Akhisar**	**1.18**	**53**	PN		**Pn**		**15 18 40.9**	**-1.0**
BODT	**Bodrum**	**1.25**	**153**	PN		**Pn**		**15 18 41.8**	**-1.0**
BODT				SN		**Sn**		**15 18 58.7**	**-1.5**
MLSB	**Milas**	**1.28**	**133**	PN		**Pn**		**15 18 42.9**	**-0.4**
BDRM	**Kayabasi**	**1.30**	**149**	*i*	P	**Pb**		**15 18 45.0**	**+1.8**
BDRM				*i*	S	**Sb**		**15 19 01.2**	**+1.2**
APE	**Apeiranthos**	**1.39**	**218**	PN		**Pn**		**15 18 45.1**	**+0.2**
APE				SN		**Sn**		**15 19 04.7**	**+0.8**
APE	**Apeiranthos**	**1.39**	**218**	*e*	PN	**Pn**		**15 18 43.5**	**-1.4**
MANT	**Manisa**	**1.57**	**78**	*i*	P	**Pn**		**15 18 48.5**	**+1.0**
MANT				*i*	S	**Sb**		**15 19 08.6**	**+0.5**
EZN	**Ezine**	**1.66**	**353**	PN		**Pn**		**15 18 49.0**	**+0.3**
YER	**Yerkesik**	**1.69**	**127**	PN		**Pn**		**15 18 49.0**	**-0.2**
BALB	**Balikesir**	**1.77**	**34**	*e*	PN	**Pn**		**15 18 48.9**	**-1.4**
DNZL	**Cakiroluk**	**2.00**	**103**	*i*	P	**Pn**		**15 18 59.5**	**+6.0**
DNZL				*i*	S	**Sn**		**15 19 24.0**	**+4.8**
DALT	**Dalyan (Mudla)**	**2.15**	**130**	*e*	PN	**Pn**		**15 18 55.7**	**0.0**

*NEIC **04** 15:25:58.2±1.0,20.52S×178.86W,h586km±12km, mb4.1/3,*
Error ellipse: s-maj=17.9km s-min=11.9km az=132.0
*IDC **04** 15:25:59.1±1.6,20.42S×178.87W,h590km±18km, mb3.2/9,*
mb1 3.5/11,mb1mx3.4/14, mbtmp4.2/11, Error ellipse:
s-maj=22.2km s-min=15.1km az=144.0
ISC 04 15:25:57.4±1.0,20.6S±0.1×178.8W±0.1,h585km±14km,
n24,σ0ᵎ82/20,mb3.7/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.44**	**47**	P		**P**		**15 28 11.1**	**+0.4**
	8.3nm,0.3s,baz=50,slow=11,SNR=15								
AFI				S		**S**		**15 29 57.2**	**-0.3**
	1.7nm,0.3s,baz=215,slow=24,SNR=4.3								
AFI	**Afiamalu**	**9.44**	**47**	*e*P		**P**		**15 28 11.1**	**+0.4**
AFI				*e*S		**S**		**15 29 57.2**	**-0.2**
DZM	**Mont Dzumac**	**13.81**	**261**	P		**P**		**15 28 54.9**	**+0.7**
	0.1nm,0.3s,baz=88,slow=18,SNR=4.4								
URZ	**Urewera**	**17.99**	**190**	P		**P**		**15 29 32.4**	**-1.8**
	0.6nm,0.3s,baz=169,slow=5.2,SNR=4.3								
STKA	**Stephens Creek**	**37.07**	**244**	P		**P**		**15 32 21.1**	**+0.9**
	1.7nm,0.6s,mb3.8,baz=75,slow=10,SNR=5.3								
STKA	**Stephens Creek**	**37.07**	**244**	*e*P		**P**		**15 32 21.6**	**+1.4**
WRA	**Warramunga Arr**	**43.83**	**262**	P		**P**		**15 33 14.1**	**-0.4**
	0.7nm,0.4s,mb3.6,baz=97,slow=7.7,SNR=41								
VNDA	**Vanda**	**57.78**	**185**	P		**P**		**15 34 55.3**	**+0.3**
	0.8nm,0.5s,mb3.1,baz=358,slow=6.4,SNR=9.6								
QSPA	**South Pole Qui**	**69.51**	**180**	*e*P		**P**		**15 36 08.7**	**-0.3**
	5.6nm,0.9s,mb4.0								
MJAR	**Matsushiro Arr**	**69.80**	**324**	P		**P**		**15 36 10.9**	**-0.6**
	1.2nm,0.5s,mb3.5,baz=158,slow=6.4,SNR=6.8								
NVAR	**Mina Array Bea**	**81.60**	**44**	P		**P**		**15 37 16.6**	**+0.5**
	0.7nm,0.5s,mb3.4,baz=226,slow=8.2,SNR=7.6								
MCK	**McKinley**	**87.20**	**13**	*e*P		**P**		**15 37 42.1**	**-0.7**
	2.9nm,0.9s,mb4.0								
TXAR	**Lajitas Array**	**87.74**	**58**	P		**P**		**15 37 47.4**	**+1.2**
	0.6nm,0.8s,mb3.4,baz=223,slow=5.5,SNR=6.8								
COLA	**College**	**88.43**	**13**	*e*P		**P**		**15 37 47.7**	**-0.9**
	5.2nm,0.9s,mb4.3								
ILAR	**Eielson Array**	**88.54**	**13**	P		**P**		**15 37 48.1**	**-1.0**
	1.9nm,0.9s,mb3.9,baz=215,slow=5.2,SNR=22								
PDAR	**Pinedale Array**	**89.54**	**44**	P		**P**		**15 37 55.0**	**+0.7**
	0.8nm,0.6s,mb3.7,baz=221,slow=4.3,SNR=5.7								
PLCA	**Paso Flores**	**89.79**	**134**	P		**P**		**15 37 56.0**	**+0.5**
	2.6nm,1.0s,mb4.0,baz=213,slow=19,SNR=3.3								
PLCA	**Paso Flores**	**89.79**	**134**	*e*P		**P**		**15 37 56.5**	**+1.0**
MKAR	**Makanchi Array**	**110.68**	**313**	PKiKP				15 43 24.5	
	0.2nm,0.4s,baz=156,slow=0.9,SNR=5.0								
ARCES	**ARCESS Array B**	**128.84**	**349**	PKP		PKPdf		15 43 57.5	-0.9
	0.8nm,0.6s,baz=90,slow=1.2,SNR=7.7								
FINES	**FINESS Array B**	**135.61**	**343**	PKP		PKPdf		15 44 10.8	-0.4
	0.9nm,0.6s,baz=135,slow=2.7,SNR=4.5								
FINES				SKPbc				15 46 47.7	
	2.0nm,0.8s,baz=135,slow=3.9,SNR=5.0								
AKASG	**Malin Array Be**	**142.69**	**330**	PKhKP				15 44 21.7	
	2.6nm,0.3s,baz=44,slow=4.3,SNR=25								
BRTR	**Keskin Array B**	**146.30**	**312**	PKPbc		PKPbc		15 44 33.9	+1.2
	0.8nm,0.4s,baz=124,slow=4.1,SNR=5.3								
GERES	**GERESS Array B**	**150.04**	**343**	PKPbc		PKPdf		15 44 42.9	+6.5
	0.5nm,0.4s,slow=1.0,SNR=5.7								

*IDC **04** 15:34:42.8±1.4, 16.45N×94.69E,mb3.8/6,mb1 4.0/6,*
mb1mx3.7/18,mbtmp3.8/6, Error ellipse: s-maj=86.2km
s-min=26.1km az=55.0
ISC 04 15:34:43.6±1.1,16.9N±0.2×95.1E±0.1,h10km,n9,
**σ1ᵎ38

MKAR	**Makanchi Array**	**37.69**	**347**	P	P	16 00 06.3	-1.6
	0.2nm,0.3s,baz=169,slow=9.3,SNR=5.2						
SONM	**Songino Array**	**39.00**	**14**	P	P	16 00 17.2	-1.6
	0.3nm,0.5s,baz=204,slow=8.5,SNR=4.5						
WRA	**Warramunga Arr**	**50.08**	**127**	P	P	16 01 45.4	-2.2
	0.8nm,0.5s,baz=305,slow=8.5,SNR=32						
STKA	**Stephens Creek**	**62.12**	**134**	P	P	16 03 11.4	-2.1
	1.1nm,0.5s,baz=281,slow=9.3,SNR=5.4						

NEIC ***04*** *16:57:38.7, 34.77S×71.69W, h39km, MD3.7(GUC), After GUC.*

GUC 04 16:57:38.7±0.7, 34.77S×71.69W, h39km±3km, MD3.7, ML2.8, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.58**	**74**	⇑*i*P	P	16 57 51.1	+0.6
TALC	**Talca**	**0.62**	**176**	⇓*i*P	P	16 57 51.4	+0.3
TALC				*i* S	S	16 58 00.6	+0.5
TALC				AMP		16 58 02.1	
	comp=E,2μm,0.1s						
LNV	**Longovilo**	**0.85**	**16**	⇑*i*P	P	16 57 54.4	+0.1
LNV				*i* S	S	16 58 06.3	+0.7
CACH	**El Canelo**	**1.11**	**54**	*e*P	P	16 57 58.7	+0.7
CACH				*i* S	S	16 58 14.4	+2.0
CICH	**Cipreses**	**1.14**	**67**	⇓*i*P	P	16 57 59.2	+0.8
CICH				*i* S	S	16 58 14.7	+1.5
CHCH	**Chadas Angostu**	**1.20**	**46**	⇑*i*P	P	16 57 60.0	+0.8
CHCH				*i* S	S	16 58 16.7	+2.1
TACH	**Talagante**	**1.28**	**29**	⇓*i*P	P	16 58 01.3	+0.9
TACH				*i* S	S	16 58 19.4	+2.7
RCDM	**Rinconada Maip**	**1.48**	**30**	*e*P	P	16 58 03.3	+0.1
RCDM				*e*S	S	16 58 23.2	+1.6
RCDM				AMP		16 58 26.6	
	comp=E,201nm,0.2s						
ANTU	**Antumapu**	**1.49**	**36**	*e*P	P	16 58 04.9	+1.5
ANTU				*e*S	S	16 58 23.5	+1.7
ANTU				AMP		16 58 27.9	
	comp=N,180nm,0.3s						
PCH	**Pirque**	**1.51**	**41**	⇑*i*P	P	16 58 04.6	+0.9
PCH				*i* S	S	16 58 24.8	+2.4
FCH	**Farellones**	**1.85**	**39**	⇑*i*P	P	16 58 09.7	+1.1
FCH				*i* S	S	16 58 33.5	+2.5
FCH				AMP		16 58 38.1	
	comp=N,85nm,0.2s						

ATH ***04*** *16:58:58.7, 38.25N×26.81E, h39km±7km, MD3.1/3*
CSEM ***04*** *16:59:00.3±0.1, 38.26N×26.74E, h25km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.6km az=94.0*
ISK ***04*** *16:59:01.0, 38.21N×26.77E, h19km, MD2.7*

ISC 04 16:59:00.2±0.5, 38.25N±0.03×26.64E±0.04, h17km±5km, n14, σ1§00/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.11**	**343**	*i* P	**Pb**	**16 59 03.9**	**0.0**
URLA				*i* S	**Sb**	**16 59 07.3**	**+1.0**
BLCB	**Balcova**	**0.35**	**67**	PG	**Pb**	**16 59 07.3**	**-0.2**
BLCB				SG	**Sb**	**16 59 11.8**	**-0.6**
IZM	**Izmir**	**0.51**	**73**	PG	**Pb**	**16 59 10.3**	**0.0**
IZM				SG	**Sb**	**16 59 17.7**	**+0.4**
KDAG	**Bornova**	**0.52**	**73**	*i* P	**Pb**	**16 59 09.5**	**-0.9**
KDAG				*i* S	**Sb**	**16 59 16.5**	**-0.9**
SMG	**Samos**	**0.56**	**164**	*e*PN	**Pn**	**16 59 10.4**	**-2.8**
PRK	**Paraskevi**	**1.03**	**344**	*e*PN	**Pn**	**16 59 18.9**	**-1.0**
PRK				*e*SN	**Sn**	**16 59 33.6**	**-0.4**
PRK	**Paraskevi**	**1.03**	**344**	*e*Pb	**Pb**	**16 59 18.8**	**-0.4**
AKS	**Akhisar**	**1.11**	**55**	PG	**Pb**	**16 59 21.4**	**+0.8**
AYDN	**Tasoluk**	**1.15**	**121**	*i* P	**Pb**	**16 59 21.2**	**+0.1**
AYDN				*i* S	**Sb**	**16 59 35.4**	**-0.2**
BODT	**Bodrum**	**1.30**	**156**	*e*PN	**Pn**	**16 59 23.1**	**-0.6**
BODT				*e*SN	**Sn**	**16 59 40.1**	**-0.7**
BDRM	**Kayabasi**	**1.35**	**151**	*i* P	**Pn**	**16 59 27.1**	**+2.7**
BDRM				*i* S	**Sb**	**16 59 41.5**	**+0.2**
APE	**Apeiranthos**	**1.47**	**217**	*e*PB	**Pb**	**16 59 25.7**	**-1.0**
APE				*e*SN	**Sn**	**16 59 45.2**	**+0.1**
APE	**Apeiranthos**	**1.47**	**217**	*e*Pn	**Pn**	**16 59 28.3**	**+2.1**
MANT	**Manisa**	**1.53**	**80**	*i* P	**Pn**	**16 59 28.7**	**+1.7**
MANT				*i* S	**Sn**	**16 59 47.5**	**+0.9**

IDC ***04*** *17:21:36.5±1.0, 20.21N×144.47E, mb3.6/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.6/6, MS3.6/1, Ms1 3.6/1, ms1mx2.5/30, Error ellipse: s-maj=45.4km s-min=23.3km az=96.0*
NEIC ***04*** *17:21:40.4±0.8, 20.20N×144.44E, h25km, Error ellipse: s-maj=32.9km s-min=16.7km az=92.0*

ISC 04 17:21:39.5±0.9, 20.2N±0.1×144.4E±0.3, h33km, n8, σ0§71/7, mb3.6/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**16.19**	**297**	LR	LR	17 29 54.5	
	comp=Z,240nm,21.1s,baz=66,slow=31						
WRA	**Warramunga Arr**	**41.11**	**194**	P	**P**	**17 29 22.0**	**-0.2**
	0.7nm,0.7s,mb3.4,baz=10,slow=9.0,SNR=7.2						
STKA	**Stephens Creek**	**51.86**	**183**	P	**P**	**17 30 46.9**	**0.0**
	0.8nm,0.5s,mb3.9,baz=352,slow=7.1,SNR=3.4						
STKA	**Stephens Creek**	**51.86**	**183**	*e*P	**P**	**17 30 47.0**	**+0.1**
ZAL	**Zalesovo**	**56.09**	**322**	P	**P**	**17 31 17.3**	**-0.4**
	0.5nm,0.6s,mb3.7,baz=20,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**56.55**	**313**	P	**P**	**17 31 21.4**	**+0.3**
	0.2nm,0.6s,mb3.3,baz=90,slow=14,SNR=3.2						
ILAR	**Eielson Array**	**62.84**	**27**	P	**P**	**17 32 03.0**	**-1.1**
	0.7nm,0.9s,mb3.8,baz=253,slow=6.8,SNR=5.7						
YKA	**Yellowknife Ar**	**77.23**	**28**	P	**P**	**17 33 32.9**	**+1.3**
	0.4nm,0.5s,mb3.6,baz=293,slow=5.4,SNR=5.3						

IDC ***04*** *17:39:02.0±1.0, 0.96S×137.25E, mb3.9/6, mb1 4.2/7, mb1mx4.2/13, mbtmp4.0/7, ML4.3/1, MS3.6/1, Ms1 3.5/1, ms1mx2.5/18, Error ellipse: s-maj=65.8km s-min=19.1km az=78.0*
NEIC ***04*** *17:39:04.1±0.5, 0.97S×137.06E, h10km, mb4.8/8, Error ellipse: s-maj=20.5km s-min=8.4km az=71.0*

ISC 04 17:39:05.7±0.7, 1.0S±0.1×137.0E±0.2, h33km, n19, σ0§56/18, mb4.5/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.46**	**201**	*e*P	Px	17 42 22.4	
	6.5nm,0.4s						
WRA	**Warramunga Arr**	**18.98**	**188**	P	**P**	**17 43 26.8**	**-0.4**
	1.0nm,0.3s,baz=9.9,slow=12,SNR=58						
WRA				S	**S**	**17 46 45.6**	**-8.4**
	0.1nm,0.3s,baz=12,slow=23,SNR=5.3						
STKA	**Stephens Creek**	**31.00**	**172**	*e*P	**P**	**17 45 21.9**	**-0.6**
	2.9nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**31.00**	**172**	P	**P**	**17 45 21.7**	**-0.8**
	3.5nm,0.8s,mb4.3,baz=342,slow=8.2,SNR=12						
STKA				LR	LR	17 59 48.6	
	comp=Z,107nm,20.3s,baz=23,slow=40						
LSA	**Lhasa**	**53.33**	**309**	*e*P	**P**	**17 48 23.2**	**-1.0**
	3.3nm,0.6s,mb4.4						
SONM	**Songino Array**	**55.48**	**335**	P	**P**	**17 48 39.2**	**-0.4**
	0.1nm,0.4s,mb3.2,baz=147,slow=7.6,SNR=3.3						
GUN	**Gumba**	**56.83**	**305**	*e*P	**P**	**17 48 50.1**	**+0.5**
	12nm,0.8s,mb5.0						
KKN	**Kakani**	**57.28**	**304**	*e*P	**P**	**17 48 53.1**	**+0.3**
	16nm,0.9s,mb5.0						
DMN	**Daman**	**57.36**	**304**	*e*P	**P**	**17 48 53.2**	**-0.2**
	15nm,0.8s,mb5.1						
GKN	**Gorkha**	**57.88**	**304**	*e*P	**P**	**17 48 57.4**	**+0.3**
	36nm,1.0s,mb5.3						
KOLN	**Koldanda**	**58.66**	**304**	*e*P	**P**	**17 49 02.7**	**+0.2**
YAK	**Yakutsk**	**63.13**	**356**	*e*P	**P**	**17 49 32.5**	**+0.2**
	7.1nm,0.6s,mb5.0						
MKAR	**Makanchi Array**	**67.42**	**323**	P	**P**	**17 50 00.4**	**+0.4**
	1.0nm,0.4s,mb4.2,baz=103,slow=8.7,SNR=24						
ZAL	**Zalesovo**	**69.63**	**330**	P	**P**	**17 50 13.2**	**-0.5**
	0.9nm,0.7s,mb3.8,baz=24,slow=7.5,SNR=7.0						
VNDA	**Vanda**	**77.61**	**175**	P	**P**	**17 50 59.5**	**-0.4**
	0.9nm,0.7s,mb3.8,baz=350,slow=6.1,SNR=3.8						
VNDA	**Vanda**	**77.61**	**175**	*e*P	**P**	**17 51 00.7**	**+0.8**
ILAR	**Eielson Array**	**85.02**	**25**	P	**P**	**17 51 38.6**	**-0.2**
	1.3nm,0.9s,mb4.1,baz=259,slow=4.5,SNR=6.1						
QSPA	**South Pole Qui**	**88.91**	**180**	*e*P	**P**	**17 51 58.7**	**+1.3**
	5.7nm,0.9s,mb4.9						
CPUP	**Villa Florida**	**149.49**	**154**	*e*PKPbc	PKPdf	17 58 54.7	+6.9

BJI ***04*** *17:46:11.7, 0.49N×97.45E, h30km, mB5.0, mb4.5, Ms4.8, Msz4.5*
IDC ***04*** *17:46:15.7±1.2, 1.30N×96.80E, mb4.0/6, mb1 4.1/7, mb1mx3.8/18, mbtmp4.0/7, ML3.0/1, Error ellipse: s-maj=41.8km s-min=25.6km az=41.0*
NEIC ***04*** *17:46:20.7±1.1, 1.42N×96.98E, h30km, mb4.4/3, Error ellipse: s-maj=21.1km s-min=15.7km az=185.0*

ISC 04 17:46:19.1±1.2, 1.4N±0.2×97.0E±0.1, h30km, n13, σ0§93/14, mb4.2/10, MS4.4/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.37**	**55**	Pn	**Pn**	**17 46 57.1**	**+0.4**
	3.0nm,0.3s,baz=258,slow=3.1,SNR=12						
KULM	**Kulim**	**5.29**	**44**	*e*P	**Pn**	**17 47 37.6**	**-0.7**
LSA	**Lhasa**	**28.64**	**349**	*e*P	**P**	**17 52 16.6**	**+1.2**
	1.6nm,0.6s,mb3.9						
ENH	**Enshi**	**31.04**	**21**	*e*P	**P**	**17 52 34.7**	**-1.9**
	5.3nm,0.7s,mb4.5						
ENH				*e*		17 52 41.0	
HHC	**Hu-ho-hao-te**	**41.39**	**17**	*e*P	**P**	**17 54 04.9**	**+0.5**
HHC				AP	pP	17 54 14.4	+1.0
HHC				XP	sP	17 54 18.2	+1.1
HHC				PP	PP	17 55 43.7	+0.7
HHC				S	**S**	**18 00 12.5**	**-4.5**
HHC				SCS	ScS	18 04 05.6	+1.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.2s,mb5.1						
HHC				AMB	AMB		
	comp=Z,180nm,6.9s						
HHC				LR	LR		
	comp=N,390nm,12.7s,MS4.5						
HHC				LR	LR		
	comp=E,230nm,16.4s,MS4.5						
HHC				LR	LR		
	comp=Z,380nm,15.5s,MS4.4						
WRA	**Warramunga Arr**	**42.35**	**122**	P	**P**	**17 54 12.8**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.2,baz=298,slow=9.4,SNR=3.2						
SONM	**Songino Array**	**46.93**	**9**	P	**P**	**17 54 49.3**	**+0.4**
	comp=Z,5.3nm,0.9s,mb4.5,baz=189,slow=8.3,SNR=32						
MKAR	**Makanchi Array**	**46.96**	**346**	P	**P**	**17 54 49.7**	**+0.5**
	comp=Z,4.7nm,0.8s,mb4.5,baz=160,slow=8.2,SNR=25						
MKAR	**Makanchi Array**	**46.96**	**346**	P	**P**	**17 54 49.7**	**+0.5**
ULN	**Ulaanbaatar**	**47.06**	**9**	*e*P	**P**	**17 54 50.2**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**53.28**	**351**	P	**P**	**17 55 37.3**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.1,baz=296,slow=5.1,SNR=8.0						
BRTR	**Keskin Array B**	**68.79**	**312**	P	**P**	**17 57 20.7**	**-2.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=121,slow=7.2,SNR=3.9						
ARCES	**ARCESS Array B**	**82.24**	**340**	P	**P**	**17 58 39.1**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=68,slow=6.5,SNR=3.6						

NIED ***04*** *18:03:00, 40.20N×142.60E, h38km, Mw5.0 Best double couple: M0 3.42×10^16 NP1:φs28°, δ67°, λ95°. NP2:φs196°, δ24°, λ78°.*
BJI ***04*** *18:03:15.1, 40.09N×142.68E, h54km, mB5.3, mb5.0, Ms4.6, Msz4.4*
MOS ***04*** *18:03:15.7±0.9, 40.35N×142.48E, h33km, mb5.3/66, MS4.7/22, Error ellipse: s-maj=8.2km s-min=4.2km az=108.0*
JMA ***04*** *18:03:15.3±0.1, 40.17N×142.64E, h30km±1km, M5.0 Broadband fault plane solution: P waves. NP1:φs210°, δ47°, λ67°. NP2:φs62°, δ48°, λ113°. Principal axes: T Plg73°, Azm45°; N Plg17°, Azm226°; P Plg0°, Azm136°;*
JMA Felt II J1.
IDC ***04*** *18:03:16.8±2.7, 40.09N×142.62E, h43km±24km, mb4.5/29, mb1 4.6/31, mb1mx4.6/32, mbtmp4.8/31, ML4.3/2, MS4.4/13, Ms1 4.4/13, ms1mx4.0/29 Error ellipse: s-maj=14.8km s-min=13.7km az=154.0*
HRVD ***04*** *18:03:17.6±0.4, 40.22N×142.75E, h42km±1km, MW5.0/65, Centroid moment Tensor Solution. LP body waves: s48,c72;Mantle waves: s65,c113; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.43±.18; Mθθ-0.19±.12; Mφφ-3.25±.14; Mrθ1.23±.10; Mrφ-1.14±.09; Mθφ1.73±.10; Best double couple: M0 4.12×10^16 NP1: φs189°, δ31°, λ74°. NP2:φs27°, δ61°, λ99°. Principal axes: T 4.066, Plg73°, Azm320°; N .104, Plg8°, Azm203°; P -4.175, Plg15°, Azm111°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *18:03:17.6±0.2, 40.14N×142.64E, mb5.1/64, MS4.7/6, MW5.0(NIED) Error ellipse: s-maj=5.3km s-min=3.3km az=149.0*
NEIC Recorded [2 JMA] in Aomori, Iwate and Miyagi; [1 JMA] in Akita Prefectures.

ISC 04 18:03:16.3±0.4, 40.19N±0.03×142.58E±0.03, h45km±3km, h47km±1.0km: pP-P, n400, σ0§98/406, mb5.1/141, MS4.6/42, 55C-28D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.60**	**246**	⇓P	**P**	**18 03 27.8**	**-0.8**
JTH				*e*S	**S**	**18 03 37.0**	**-0.6**
JANG	**Nango**	**0.83**	**283**	⇓P	**P**	**18 03 31.4**	**-0.4**
JANG				*e*S	**S**	**18 03 42.9**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.85**	**224**	⇓P	**P**	**18 03 30.9**	**-1.0**
MIYJ				*e*S	**S**	**18 03 42.2**	**-1.2**
JKZ	**Kuzumaki**	**0.98**	**258**	⇓P	**P**	**18 03 33.6**	**-0.2**
JKZ				*e*S	**S**	**18 03 47.1**	**+0.3**
JOM	**Ohasama**	**1.22**	**235**	⇓P	**P**	**18 03 37.2**	**0.0**
JOM				*e*S	**S**	**18 03 53.2**	**+0.3**
JTM	**Tenmabayashi**	**1.30**	**298**	⇓P	**P**	**18 03 38.8**	**+0.4**
OFUJ	**Ofunato**	**1.31**	**213**	⇓P	**P**	**18 03 38.2**	**-0.4**
OFUJ				*e*S	**S**	**18 03 55.6**	**+0.4**
JAH	**Hinai**	**1.49**	**271**	⇓P	**P**	**18 03 41.8**	**+0.7**
JAH				S	**S**	**18 04 01.4**	**+1.9**
JMK	**Ichinoseki**	**1.62**	**221**	⇓P	**P**	**18 03 43.2**	**+0.2**
JOT	**Ohata**	**1.66**	**316**	⇓P	**P**	**18 03 43.8**	**+0.2**
JRG	**Rokugo**	**1.69**	**243**	⇓P	**P**	**18 03 44.6**	**+0.6**
JSI2	**Shiura 2**	**1.86**	**298**	⇓P	**P**	**18 03 47.2**	**+0.8**
JYW	**Yuwa**	**1.94**	**251**	⇓P	**P**	**18 03 48.5**	**+1.1**
JIO	**Ouri**	**1.98**	**209**	P	**P**	**18 03 48.0**	**0.0**
JNS	**Sasagawa**	**3.47**	**228**	P	**P**	**18 04 10.7**	**+1.4**
ASAJ	**Asahikawa**	**3.92**	**0**	P	**P**	**18 04 15.2**	**-0.5**
	10nm,0.3s,baz=207,slow=22,SNR=78						
ASAJ				S	**S**	**18 05 08.4**	**+7.5**
	16nm,0.3s,baz=129,slow=31,SNR=3.6						
ASAJ				LR	LR	18 06 12.5	
	comp=Z,7μm,21.3s,baz=193,slow=44						
JSD	**Sado**	**3.99**	**239**	P	**P**	**18 04 17.4**	**+0.9**
JHK	**Hiroka**	**4.05**	**225**	P	**P**	**18 04 18.8**	**+1.4**
JAG	**Ashikaga**	**4.49**	**214**	⇑P	**P**	**18 04 23.7**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**4.55**	**31**	*i* P	**P**	**18 04 22.0**	**-2.5**
YUK				*i* S	**S**	**18 05 11.5**	**-5.3**
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,13μm,1.0s						
YUK				smax			
	comp=E,8μm,1.0s						
YUK				MLR	MLR		
	comp=Z,8μm,15.0s						
YUK				MLR	MLR		
	comp=N,7μm,13.0s						
JGK	**Kuni**	**4.76**	**222**	⇑P	**P**	**18 04 28.8**	**+1.3**
MAJO	**Matsushiro**	**5.00**	**225**	⇑*e*P	**P**	**18 04 31.8**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,325nm,0.8s						
MAJO	**Matsushiro**	**5.00**	**225**	⇑*e*P	**P**	**18 04 31.8**	**+0.9**
	comp=Z,325nm,0.8s						
MAT	**Matsushiro**	**5.00**	**225**	P	**P**	**18 04 31.8**	**+0.9**
MAT	**Matsushiro**	**5.00**	**225**	P	**P**	**18 04 31.9**	**+1.0**
MAT	**Matsushiro**	**5.00**	**225**	*e*P	**P**	**18 04 32.0**	**+1.1**
MAT				pmax	pmax		
	comp=Z,400nm,1.0s						
MAT	**Matsushiro**	**5.00**	**225**	*e*P	**P**	**18 04 32.0**	**+1.1**
	comp=Z,400nm,1.0s						
MAT				*e*S	**S**	**18 05 41.0**	**+13**
MJAR	**Matsushiro Arr**	**5.00**	**225**	P	**P**	**18 04 32.1**	**+1.2**
	comp=Z,14nm,0.3s,baz=35,slow=13,SNR=382						
MJAR	**Matsushiro Arr**	**5.00**	**225**	P	**P**	**18 04 32.1**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,14nm,0.3s						
JTT	**Ttatey**	**5.46**	**231**	P	**P**	**18 04 39.0**	**+1.8**
JGN	**Niukaw**	**5.73**	**228**	⇓P	**P**	**18 04 42.7**	**+1.7**
JNY	**Yasuok**	**6.10**	**219**	P	**P**	**18 04 46.1**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZS	**Izushimoda**	**6.20**	**209**	P	**P**	**18 04 45.6**	**-2.0**
KUR	**Kuril'sk**	**6.37**	**36**	*e*P	**P**	**18 04 45.6**	**-4.4**
KUR				*i* S	**S**	**18 05 53.2**	**-9.1**
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				smax			
	comp=N,510nm,0.8s						
KUR				smax			
	comp=E,260nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.76**	**1**	⇓*i*P	**P**	**18 04 54.0**	**-1.5**
YSS				*e*S	**S**	**18 06 07.0**	**-5.1**
YSS				pmax	pmax		
	comp=Z,110nm,1.1s						
YSS				pmax	pmax		
	comp=Z,120nm,1.1s						
YSS				MLR	MLR		
	comp=N,2μm,20.0s						
YSS				MLR	MLR		
	comp=Z,3μm,20.0s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.76**	**1**	*e*P	**P**	**18 04 54.6**	**-0.9**
	comp=E,150nm,1.1s						
JHJ	**Hachijo jima 2**	**7.41**	**199**	P	**P**	**18 05 01.9**	**-2.5**
	comp=E,36nm,0.3s,baz=81,slow=23,SNR=5.2						
JHJ				S	**S**	**18 06 18.9**	**-9.1**
	comp=E,85nm,0.3s,baz=271,slow=24,SNR=7.4						
HABR	**Khabarovsk**	**9.88**	**329**	*e*P	**P**	**18 05 48.4**	**+10**
MDJ	**Mudanjiang**	**10.57**	**299**	P	**P**	**18 05 48.6**	**+0.6**
MDJ				S	**S**	**18 07 45.0**	**-1.0**
MDJ				PCP	PcP	18 11 48.0	-0.9
MDJ				SCP		18 15 15.0	
MDJ				PCS		18 15 21.6	
MDJ				SCS	ScS	18 18 50.1	+0.2
MDJ				AMB	AMB		
	comp=Z,40nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,280nm,3.7s						
MDJ				LR	LR		
	comp=N,1μm,15.4s						
MDJ				LR	LR		
	comp=E,2μm,18.5s						
MDJ				LR	LR		
	comp=Z,3μm,18.5s						
MDJ	**Mudanjiang**	**10.57**	**299**	*e*P	**P**	**18 05 49.2**	**+1.3**
	comp=Z,85nm,1.0s						
KS15	**Wonju Array Si**	**11.79**	**261**	*e*P	**P**	**18 06 07.6**	**+3.1**
KLR	**Kul'dur**	**11.86**	**323**	*e*P	**P**	**18 06 02.8**	**-2.6**
KLR				MLR	MLR		
	comp=Z,4μm,13.0s						
CN2	**Changchun**	**13.24**	**291**	*e*P	**P**	**18 06 26.4**	**+2.6**
CN2				*e*XP		18 06 45.1	
CN2				*e*S	**S**	**18 08 52.2**	**+1.7**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,18.0s						
CN2				LR	LR		
	comp=E,1μm,18.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
DL2	**Dalian**	**16.21**	**272**	P	**P**	**18 07 04.3**	**+2.0**
DL2				AMB	AMB		
	comp=Z,40nm,1.1s						
PET	**Petropavlovsk**	**16.88**	**35**	*e*P	**P**	**18 07 10.5**	**-0.1**
PET				pmax	pmax		
	comp=Z,199nm,2.2s						
HIA	**Hailar**	**18.53**	**307**	*e*P	**P**	**18 07 27.6**	**-3.6**
HIA				pmax	pmax		
	comp=Z,56nm,1.3s						
HIA	**Hailar**	**18.53**	**307**	*e*P	**P**	**18 07 27.6**	**-3.6**
	comp=Z,56nm,1.3s						
SSE	**Sheshan**	**19.57**	**249**	P	**P**	**18 07 40.5**	**-2.6**
SSE				AP		18 07 51.7	
SSE				XP		18 07 58.3	
SSE				S	**S**	**18 11 11.8**	**-4.4**
SSE				XS		18 11 33.1	
SSE				AMB	AMB		
	comp=Z,30nm,0.8s						
SSE				AMB	AMB		
	comp=Z,300nm,5.9s						
SSE				LR	LR		
	comp=N,360nm,22.5s						
SSE				LR	LR		
	comp=E,220nm,22.6s						
SSE				LR	LR		
	comp=Z,260nm,17.4s						
MA2	**Magadan**	**20.08**	**12**	P	**P**	**18 07 46.3**	**-2.1**
MA2				pmax	pmax		
	comp=Z,50nm,1.7s						
CLNS	**Chul'man**	**20.26**	**331**	*e*P	**P**	**18 07 46.9**	**-3.4**
CLNS				pmax	pmax		
	comp=Z,40nm,0.8s						
CLNS				pmax	pmax		
	comp=N,35nm,0.9s						
CLNS				pmax	pmax		
	comp=E,19nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,16.0s,MS4.4						
CLNS				MLR	MLR		
	comp=N,400nm,12.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,700nm,15.0s,MS4.2						
NJ2	**Nanjing**	**20.77**	**254**	*e*P	**P**	**18 07 54.4**	**-1.4**
NJ2				AP		18 08 08.0	
NJ2				XP		18 08 15.7	
NJ2				PP	PP	18 08 18.7	+0.2
NJ2				S	**S**	**18 11 31.0**	**-9.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=N,2μm,16.1s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,13.7s,MS4.7						
NJ2				LR	LR		
	comp=Z,760nm,16.0s,MS4.2						
CIT	**Chita**	**23.18**	**310**	*e*P	**P**	**18 08 17.4**	**-2.0**
CIT				*e*		18 08 32.3	
CIT				pmax	pmax		
	comp=Z,211nm,1.4s,mb5.4						
YAK	**Yakutsk**	**23.23**	**345**	*e*P	**P**	**18 08 18.1**	**-1.7**
YAK				*e*S	**S**	**18 12 27.0**	**+2.2**
YAK				pmax	pmax		
	comp=Z,40nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,18nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				smax			
	comp=E,10.0nm,1.1s						
YAK	**Yakutsk**	**23.23**	**345**	*e*P	**P**	**18 08 16.9**	**-2.9**
	comp=E,74nm,0.8s,mb5.2						
SEY	**Seymchan**	**23.52**	**11**	*e*P	**P**	**18 08 24.4**	**+1.8**

comp=N,200nm,8.6s
HHC LR LR
comp=E,1µm,14.9s
HHC LR LR
comp=Z,1µm,17.2s,MS4.4
FX1 Attu Island--F 24.36 48 LR LR 18 17 40.6
comp=Z,12nn,19.0s,baz=173,slow=35
BTO Baotou 24.73 282 *e*P **P** **18 08 32.9 -1.7**
BTO AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
WHN Wuhan 24.86 256 ⇓P **P** **18 08 35.1 -0.9**
WHN LR LR
comp=N,1µm,13.5s
WHN LR LR
comp=E,1µm,6.2s
WHN LR LR
comp=Z,2µm,16.2s,MS4.7
BOD Bodaibo 25.44 323 *e*P **P** **18 08 40.1 -1.1**
BOD *e* 18 12 57.9
BOD pmax pmax
comp=Z,53nm,0.9s,mb5.1
ULN Ulaanbaatar 26.49 299 *e*P **P** **18 08 50.6 -0.4**
GUMO Guam 26.57 175 LR LR 18 17 28.2
comp=Z,513nm,21.9s,MS4.0,baz=12,slow=32
SONM Songino Array 26.93 299 P **P** **18 08 54.7 -0.4**
comp=Z,6.7nm,0.9s,mb4.2,baz=160,slow=0.4,SNR=37
SONM LR LR 18 20 07.7
comp=Z,1µm,18.7s,MS4.5,baz=275,slow=37
SONM Songino Array 26.93 299 P **P** **18 08 54.7 -0.4**
SONM pmax pmax
comp=Z,7.0nm,0.9s
SONM MLR MLR
comp=Z,1µm,18.7s
XAN Xi'an 27.42 268 P **P** **18 08 57.1 -2.6**
XAN AP pP 18 09 13.2 +1.6
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb4.2
ENH Enshi 28.64 260 *e*P **P** **18 09 09.2 -1.5**
comp=Z,20nm,0.7s,mb5.0
ZAK Zakamensk 29.15 304⇑ *e*P **P** **18 09 14.4 -0.7**
ZAK pmax pmax
comp=Z,12nm,1.1s,mb4.5
LZH Lanzhou 30.57 275 *e*P **P** **18 09 27.2 -0.6**
LZH AP pP 18 09 42.5 +2.6
LZH XP sP 18 09 49.6 +4.0
LZH PP PP 18 10 29.5 +0.4
LZH *e*S **S** **18 14 23.0 -2.3**
LZH XS 18 14 48.5
LZH SCP 18 15 59.6
LZH SS SS 18 16 06.5 -1.9
LZH SCS ScS 18 19 55.2 -2.9
LZH AMB AMB
comp=Z,40nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,120nm,5.2s
LZH LR LR
comp=N,980nm,13.1s
LZH LR LR
comp=Z,2µm,17.2s,MS4.8
MOY Mondy 30.71 306 *e*P **P** **18 09 28.6 -0.3**
BILL Bilibino 30.75 17 *c i*P **P** **18 09 27.7 -1.3**
BILL pmax pmax
comp=Z,23nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,400nm,16.0s,MS4.2
BILL Bilibino 30.75 17 *e*P **P** **18 09 27.9 -1.2**
comp=Z,20nm,1.0s,mb4.9
GTA Gaotai 32.63 283 P **P** **18 09 45.5 -0.4**
GTA AP pP 18 09 56.9 -1.1
GTA XP sP 18 10 02.7 -1.1
GTA PP PP 18 10 53.9 -1.8
GTA PCP PcP 18 12 31.7 +0.4
GTA S **S** **18 14 56.1 -1.4**
GTA XS 18 15 16.2
GTA PCS 18 16 16.2
GTA SS SS 18 16 52.4 -4.2
GTA AMB AMB
comp=Z,20nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,230nm,5.3s
GTA LR LR
comp=N,430nm,19.0s,MS4.6
GTA LR LR
comp=E,980nm,17.9s,MS4.6
GTA LR LR
comp=Z,1µm,18.3s,MS4.6
CD2 Chengdu 32.70 266 ⇓ *i*P **P** **18 09 44.6 -1.9**
CD2 AP pP 18 09 58.9 +0.2
CD2 PP PP 18 10 55.5 -1.1
CD2 PPP PPP 18 11 11.8 -0.6
CD2 S **S** **18 14 55.6 -3.0**
CD2 SS SS 18 16 56.6 -1.6
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,130nm,9.8s
CD2 LR LR
comp=N,380nm,15.6s
CD2 LR LR
comp=Z,290nm,13.2s,MS4.2
GYA Guiyang 32.75 256⇑ *i*P **P** **18 09 45.5 -1.5**
GYA AP pP 18 10 01.2 +2.0
GYA XP sP 18 10 07.8 +2.9
GYA PP PP 18 10 55.6 -1.7
GYA S **S** **18 14 53.9 -5.6**
GYA SCP 18 16 09.4
GYA AMB AMB
comp=Z,50nm,0.9s,mb5.4
GYA LR LR
comp=N,390nm,15.9s,MS4.5
GYA LR LR
comp=E,600nm,16.7s,MS4.5
GYA LR LR
comp=Z,1µm,14.1s,MS4.7
QIZ Qiongzhong 35.12 243 P **P** **18 10 06.0 -1.5**
QIZ S **S** **18 15 38.9 +2.7**
QIZ LR LR
comp=Z,360nm,23.2s,MS4.1
KMI Kunming 36.43 258 P **P** **18 10 17.9 -0.6**
KMI AP pP 18 10 32.8 +2.1
KMI XP sP 18 10 37.8 +1.4
KMI PP PP 18 11 43.8 +0.8
KMI PPP PPP 18 12 04.8 +1.6
KMI S **S** **18 15 56.5 +0.2**
KMI XS 18 16 21.8
KMI SS SS 18 18 25.5 +2.1
KMI SSS SSS 18 18 56.6 +3.2
KMI AMB AMB
comp=Z,30nm,1.0s,mb5.2
KMI AMB AMB
comp=Z,170nm,4.5s
KMI LR LR
comp=N,670nm,15.3s,MS4.6
KMI LR LR
comp=E,510nm,15.7s,MS4.6
KMI LR LR
comp=Z,740nm,15.5s,MS4.6
TNA Tin City 37.67 31 *e*P **P** **18 10 28.7 +0.2**
comp=Z,14nm,1.0s,mb4.7
WMQ Urumqi 40.32 294 P **P** **18 10 51.0 +0.3**
WMQ AP pP 18 11 03.4 +0.3
WMQ XP sP 18 11 08.0 -0.6
WMQ PP PP 18 12 28.5 +1.1
WMQ *e*S **S** **18 16 55.9 +0.9**
WMQ AMB AMB
comp=Z,40nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,360nm,4.8s
WMQ LR LR
comp=N,990nm,18.0s,MS4.9
WMQ LR LR
comp=E,1µm,19.5s,MS4.9
WMQ LR LR
comp=Z,1µm,19.5s,MS4.8
ZAL Zalesovo 40.55 310 P **P** **18 10 52.3 -0.2**
comp=Z,9.6nm,0.6s,mb4.6,baz=25,slow=9.1,SNR=67
ZAL LR LR 18 29 11.4
comp=Z,1µm,18.8s,MS4.8,baz=30,slow=38
ZAL Zalesovo 40.55 310 *i* P **P** **18 10 52.2 -0.3**
ZAL pmax pmax
comp=Z,10.0nm,0.6s
NVS Novosibirsk 41.39 311⇑ *i*P **P** **18 10 58.2 -1.2**
NVS pmax pmax
comp=Z,55nm,1.9s,mb4.9
NVS pmax pmax
comp=E,34nm,1.6s
CHRT Chiangrai 41.73 254 PG **P** **18 11 04.0 +1.4**
CHRT SG pP 18 11 11.5 -3.5
KKTK Khon Kaen 41.83 247 P **P** **18 11 02.0 -1.4**
comp=E,309nm,0.6s,mb6.1
LSA Lhasa 42.91 272 P **P** **18 11 13.4 +1.2**
LSA S **S** **18 17 34.7 +1.3**
LSA AMB AMB
comp=Z,80nm,1.0s,mb5.4
LSA LR LR
comp=N,160nm,15.0s,MS4.4
LSA LR LR
comp=E,380nm,16.0s,MS4.4
LSA LR LR
comp=Z,650nm,17.0s,MS4.6
LSA Lhasa 42.91 272 *e*P **P** **18 11 13.1 +0.9**
LSA pmax pmax
comp=Z,26nm,1.3s,mb4.8
LSA Lhasa 42.91 272 *e*P **P** **18 11 13.1 +0.9**
comp=Z,26nm,1.3s,mb4.8
CHG Chiang Mai 43.01 253⇑P **P** **18 11 12.9 -0.2**
comp=Z,20nm,0.9s,mb4.9
MKAR Makanchi Array 43.29 300 P **P** **18 11 14.6 -0.5**
comp=Z,26nm,1.0s,mb4.9,baz=79,slow=5.6,SNR=15
MKAR LR LR 18 30 05.6
comp=Z,730nm,19.7s,MS4.6,baz=79,slow=37
MKAR Makanchi Array 43.29 300 P **P** **18 11 13.4 -1.6**
MKAR pmax pmax
comp=Z,25nm,0.9s
IMA2 Indian Mountai 43.52 32 *e*P **P** **18 11 16.7 +0.1**
KDAK Kodiak Island 44.17 44 P **P** **18 11 20.8 -1.2**
comp=Z,10nm,0.9s,mb4.6,baz=76,slow=2.6,SNR=4.6
KURK Kurchatov 44.77 306 *c i*P **P** **18 11 25.8 -1.0**
PMR Palmer 45.57 38 *e*P **P** **18 11 32.5 -0.6**
PMR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
PMR Palmer 45.57 38 *e*P **P** **18 11 32.5 -0.7**
comp=Z,8.6nm,1.0s,mb4.6
COLA College 45.94 34 ⇓ *i*P **P** **18 11 36.5 +0.5**
COLA College 45.94 34 *e*P **P** **18 11 36.1 +0.1**
comp=Z,19nm,1.1s,mb4.9
ILAR Eielson Array 46.36 34 P **P** **18 11 38.7 -0.6**
comp=Z,7.2nm,0.8s,mb4.7,baz=269,slow=6.3,SNR=60
ILAR LR LR 18 32 24.7
comp=Z,141nm,18.5s,MS4.0,baz=355,slow=38
ILAR Eielson Array 46.36 34 P **P** **18 11 38.7 -0.6**
ILAR pmax pmax
comp=Z,7.0nm,0.8s
ILAR MLR MLR
comp=Z,141nm,18.5s
NNT Nongplab 46.56 246 P **P** **18 11 41.0 -0.6**
DIV Divide 47.23 39 *e*P **P** **18 11 46.0 -0.2**
comp=Z,94nm,1.3s,mb5.6
JIRN Jiri 47.70 273 *e*P **P** **18 11 50.6 +0.2**
comp=Z,40nm,0.6s,mb5.6
GUN Gumba 47.82 273 *e*P **P** **18 11 51.2 -0.1**
comp=Z,100nm,0.7s,mb6.0
KKN Kakani 48.34 274 *e*P **P** **18 11 54.8 -0.5**
comp=Z,79nm,0.8s,mb5.8
KKN Kakani 48.34 274 *e*P **P** **18 11 54.8 -0.5**
KKN pmax pmax
comp=Z,39nm,0.8s,mb5.5
KSM Kuching 48.40 226 *e*P **P** **18 11 55.3 -0.7**
DMN Daman 48.56 274 *e*P **P** **18 11 56.4 -0.6**
comp=Z,132nm,1.4s,mb5.8
GKN Gorkha 48.72 274 *e*P **P** **18 11 57.7 -0.5**
VOSK Vostochnaya 48.91 310 P **P** **18 11 58.4 -0.9**
VOSK pmax pmax
comp=Z,34nm,1.0s,mb5.3
TKM2 Tokmak 2 48.99 296 P **P** **18 12 00.6 +0.4**
SNR=42
TKM2 Tokmak 2 48.99 296 P **P** **18 11 59.9 -0.2**
TKM2 pmax pmax
comp=Z,49nm,0.9s,mb5.5
BVA0 Borovoye Array 49.17 311 *i* P **P** **18 12 00.5 -0.9**
BVA0 pmax pmax
comp=Z,11nm,1.3s,mb4.7
BVAR Borovoye Array 49.17 311 P **P** **18 12 01.0 -0.4**
comp=Z,32nm,0.8s,mb5.4,baz=77,slow=8.4,SNR=148
BVAR Borovoye Array 49.17 311 P **P** **18 12 01.0 -0.4**
BVAR pmax pmax
comp=Z,32nm,0.8s
KBK Karagaybulak 49.53 296 P **P** **18 12 04.4 +0.1**
SNR=65
KZA Kyzart 49.54 295 P **P** **18 12 05.5 +1.2**
SNR=12
CHMS Chumysh 49.54 297 P **P** **18 12 04.0 -0.4**
SNR=6.9
USP Ospenovka 49.62 297 P **P** **18 12 04.6 -0.4**
SNR=15
KOLN Koldanda 49.63 275 *e*P **P** **18 12 05.0 -0.3**
comp=Z,104nm,1.1s,mb5.8
FRU Bishkek 49.69 297 *e*P **P** **18 12 06.0 +0.4**
FRU *i* pP 18 12 18.0 -0.1
FRU pmax pmax
comp=Z,37nm,1.4s,mb5.2
AAK Ala-Archa 49.85 296 P **P** **18 12 06.4 -0.4**
SNR=12
AAK Ala-Archa 49.85 296 *c i*P **P** **18 12 05.1 -1.7**
AAK pmax pmax
comp=Z,20nm,1.3s,mb5.0
BOK Bokaro 49.97 269 *e*P **P** **18 12 08.4 +0.5**
UCH Uchtor 49.99 296 P **P** **18 12 08.1 +0.2**
SNR=9.1
KSH Kashi 50.01 292 P **P** **18 12 09.6 +1.6**
KSH AP pP 18 12 25.0 +4.4
KSH XP sP 18 12 32.4 +6.5
KSH *e*PCP PcP 18 13 30.7 +3.0
KSH *e*PP PP 18 14 05.5 +1.4
KSH *e*PPP PPP 18 15 00.0 -0.5
KSH *e*SCP 18 17 18.2
KSH *e*S **S** **18 19 12.5 -1.7**
KSH *e*XS 18 19 38.5
KSH *e*SCS ScS 18 21 53.0 +0.8
KSH *e*SS SS 18 22 40.2 -4.0
KSH AMB AMB
comp=Z,150nm,5.6s
KSH LR LR
comp=N,570nm,14.8s,MS4.8
KSH LR LR
comp=E,380nm,15.6s,MS4.8
EKS2 Erkin-Say 50.33 297 P **P** **18 12 10.5 +0.1**
SNR=21
AML Almayashu 50.59 296 P **P** **18 12 12.8 +0.4**
SNR=30
KULM Kulim 51.22 239 *e*P **P** **18 12 16.4 -1.2**
KLP Kalpa 51.84 282 *e*P **P** **18 12 22.0 +0.1**
KLP AMb AMB 18 12 24.4
comp=Z,100nm,1.0s,mb5.7
KKAR Karatay Array 52.38 298 *i* P **P** **18 12 24.3 -1.6**
KKAR pmax pmax
comp=Z,30nm,1.0s,mb5.2
KAKA Kakadu 53.47 192 *e*P **P** **18 12 54.0 +20**
comp=Z,15nm,0.8s,mb5.0
PSI Prapat 54.21 238 P **P** **18 12 38.2 -1.6**
comp=Z,18nm,1.1s,mb4.9,baz=0.5,slow=3.4,SNR=4.5
PSI Prapat 54.21 238 P **P** **18 12 38.2 -1.6**
PSI pmax pmax
comp=Z,19nm,1.1s,mb4.9
SOKR Solikamsk 54.41 321 *i* P **P** **18 12 40.4 -0.3**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.4
SOKR MLR MLR
comp=Z,440nm,16.0s,MS4.6
ARU Arti 54.63 317⇑ *i*P **P** **18 12 41.0 -1.3**
ARU *e* 18 13 45.3
ARU *e* 18 14 41.4
ARU *e*S **S** **18 20 17.2 +0.1**
ARU *e*SS SS 18 24 02.0 +2.1
ARU pmax pmax
comp=Z,73nm,1.0s,mb5.7
ARU MLR MLR
comp=N,400nm,16.0s,MS5.0
ARU MLR MLR
comp=Z,1µm,16.0s,MS5.0
ARU MLR MLR
comp=E,900nm,16.5s,MS5.0
KUDL Kundal 54.84 279 *e*P **P** **18 12 43.2 -1.1**
KUDL AMb AMB 18 12 45.0
comp=Z,15nm,1.1s,mb4.9
KHET Khetri 55.40 279 *e*P **P** **18 12 47.3 -1.0**
KHET AMb AMB 18 12 48.6
AB31 Akbulak array 56.64 309 *i* P **P** **18 12 55.3 -1.6**
AB31 pmax pmax
comp=Z,38nm,0.9s,mb5.4
BHPL Bhopal 56.75 274 *e*P **P** **18 12 56.5 -1.6**
BHPL AMb AMB 18 12 58.3
comp=Z,29nm,1.0s,mb5.2
AJM Ajmer 57.11 278 *e*P **P** **18 12 59.7 -0.9**
AJM AMb AMB 18 13 01.1
comp=Z,36nm,0.8s,mb5.5
AKTO Aktyubinsk 57.28 311 P **P** **18 13 00.3 -1.1**
comp=Z,25nm,0.8s,mb5.3,baz=67,slow=12,SNR=49
AKTO Aktyubinsk 57.28 311 P **P** **18 13 00.4 -1.0**
AKTO pmax pmax
comp=Z,25nm,0.9s,mb5.2
HYB Hyderabad 59.23 267 *i* P **P** **18 13 14.0 -1.5**
HYB Hyderabad 59.23 267 *e*P **P** **18 13 14.0 -1.5**
APA Apatity 60.20 335⇑ *i*P **P** **18 13 20.0 -1.5**
APA *i* pP 18 13 33.3 -1.0
APA pmax pmax
comp=Z,54nm,1.4s,mb5.4
APA MLR MLR
comp=Z,600nm,17.0s,MS4.8
WRAB Tennant Creek 60.30 189 *e*P **P** **18 13 20.3 -2.5**
WRA Warramunga Arr 60.31 189 P **P** **18 13 20.5 -2.4**
comp=Z,11nm,0.9s,mb4.9,baz=6.5,slow=7.2,SNR=60
WRA Warramunga Arr 60.31 189 P **P** **18 13 20.5 -2.4**
WRA pmax pmax
comp=Z,11nm,0.9s
YKA Yellowknife Ar 60.63 31 P **P** **18 13 23.3 -1.1**
comp=Z,3.6nm,0.8s,mb4.5,baz=300,slow=6.6,SNR=19
YKA Yellowknife Ar 60.63 31 *i* P **P** **18 13 23.2 -1.3**
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 60.63 31 P **P** **18 13 23.3 -1.1**
ARCES ARCESS Array B 61.37 339 P **P** **18 13 28.6 -0.8**
comp=Z,7.0nm,1.0s,mb4.8,baz=76,slow=5.0,SNR=10
ARCES ARCESS Array B 61.37 339 P **P** **18 13 28.6 -0.8**
ARCES pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 61.59 327 *e*P **P** **18 13 29.9 -1.1**
KLMR *e* 18 15 44.3
KLMR pmax pmax
comp=Z,80nm,1.4s,mb5.7
KLMR pmax pmax
comp=Z,60nm,5.7s
KLMR MLR MLR
comp=Z,600nm,19.0s,MS4.8
DAG Danmarks Havn 62.71 355⇑ *i*P **P** **18 13 37.7 -0.6**
comp=Z,10.0nm,0.9s,mb5.0
DAG Danmarks Havn 62.71 355⇑ *e*P **P** **18 13 37.7 -0.6**
DAG pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
DAG Danmarks Havn 62.71 355⇑ *e*P **P** **18 13 37.7 -0.6**
comp=Z,10nm,0.9s,mb5.0
MOS Moscow 65.27 323 *e*P **P** **18 13 53.1 -2.0**
MOS *e* pP 18 14 05.8 -2.4
MOS pmax pmax
comp=Z,200nm,1.7s,mb5.9
MOS pmax pmax
comp=Z,91nm,1.4s,mb5.6
MOS MLR MLR
comp=Z,1µm,16.5s,MS5.1
VRHR Novokhopersk 65.98 317 *e*P **P** **18 13 58.9 -0.8**
VRHR pmax pmax
comp=Z,30nm,1.0s,mb5.3
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
OBN Obninsk 66.13 323⇑ *e*P **P** **18 13 59.6 -1.0**
OBN *e**PP pP 18 14 13.1 -0.6
OBN 18 16 34.0
OBN pmax pmax
comp=Z,79nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,800nm,17.0s,MS5.0
FINES FINESS Array B 66.46 332 P **P** **18 14 02.0 -0.6**
comp=Z,14nm,0.8s,mb5.0,baz=45,slow=8.1,SNR=38
FINES LR LR 18 45 30.2
comp=Z,427nm,18.4s,MS4.7,baz=154,slow=38
FINES FINESS Array B 66.46 332 P **P** **18 14 02.0 -0.6**
FINES pmax pmax
comp=Z,14nm,0.8s
FINES MLR MLR
comp=Z,427nm,18.4s
VRSR Storozhevoye 67.16 318 *c i*P **P** **18 14 06.5 -0.7**
VRSR *e**PP pP 18 14 18.4 -1.9
VRSR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,7.0nm,0.8s
VRSR pmax pmax
comp=E,5.0nm,0.8s
VRSR MLR MLR
comp=Z,100nm,19.0s,MS4.0
VRSR MLR MLR
comp=N,80nm,16.0s
VRSR MLR MLR
comp=E,100nm,23.0s
SUMG Summit 67.53 0 *e*P **P** **18 14 09.5 +0.3**
comp=E,44nm,1.2s,mb5.4
VSU Vasula 68.20 329 *e*P **P** **18 14 11.9 -1.7**
GOF Gofitskoye 68.69 311 *e*P **P** **18 14 15.7 -1.1**
GOF *i* pP 18 14 27.9 -2.1
GOF pmax pmax
comp=Z,60nm,1.0s,mb5.5
MOD Modoc 69.10 52 *e*P **P** **18 14 19.5 +0.1**
comp=Z,4.9nm,0.9s,mb4.4
BMO Blue Mountains 69.14 49 *e*P **P** **18 14 19.6 0.0**
BMO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BMO Blue Mountains 69.14 49 *e*P **P** **18 14 19.6 0.0**
comp=Z,6.0nm,1.1s,mb4.4
KIV Kislovodsk 69.54 311 *e*P **P** **18 14 21.9 -0.2**
KIV pmax pmax
comp=Z,79nm,0.9s,mb5.6
MSO Missoula 69.84 45 *e*P **P** **18 14 22.9 -0.9**
comp=Z,6.0nm,1.1s,mb4.4
OHCM Honcut 69.86 55 *e*P **P** **18 14 23.3 -0.8**
CHMT Chamberlain Mo 70.16 45 *e*P **P** **18 14 26.0 +0.2**
MNK Minsk 70.42 326 *e*P **P** **18 14 26.0 -1.2**
GNI Garni 70.56 306 *e*P **P** **18 14 29.0 +0.6**
GNI pmax pmax
comp=Z,47nm,1.3s
GNI Garni 70.56 306 *e*P **P** **18 14 29.0 +0.7**
comp=Z,47nm,1.3s,mb5.3
HRY Holter Researc 71.05 44 *e*P **P** **18 14 31.7 +0.5**
WBK Wadi Bani Khal 71.06 284 P **P** **18 14 32.4 +0.8**
SNR=10
BANOM Banah 71.08 288 P **P** **18 14 31.6 -0.2**
SNR=26
BANOM P 18 16 57.4
SNR=546
BIDO Bidbid 71.15 285 P **P** **18 14 33.0 +0.8**
SNR=7.3
EGMT Eagleton 71.32 42 *e*P **P** **18 14 33.0 +0.2**
comp=Z,11nm,0.8s,mb4.8
CMB Columbia Colle 71.32 56 *e*P **P** **18 14 32.8 -0.2**
CMB pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
CMB Columbia Colle 71.32 56 *e*P **P** **18 14 32.8 -0.2**
comp=Z,6.2nm,1.2s,mb4.4
DLMT Dillon 71.48 46 *e*P **P** **18 14 34.4 +0.6**
comp=Z,20nm,1.0s,mb5.0
SOC Sochi 71.48 312 *c i*P **P** **18 14 32.2 -1.6**
SOC *e**PP pP 18 14 47.2 +0.2
SOC *e*S S 18 23 45.5 -2.2
SOC *e* 18 24 36.4
SOC *e*SS SS 18 28 30.7 +5.6
SOC pmax pmax
comp=Z,39nm,1.4s,mb5.1
SOC MLR MLR
comp=Z,296nm,17.0s,MS4.6
HFS Hagfors 71.59 336 P **P** **18 14 33.4 -0.8**
comp=Z,4.5nm,0.4s,mb4.8,baz=36,slow=7.4,SNR=38
HFS Hagfors 71.59 336 P **P** **18 14 33.4 -0.8**
HFS pmax pmax
comp=Z,5.0nm,0.4s
NB2 NORSAR Subarra 71.63 337 P **P** **18 14 33.9 -0.5**
comp=Z,28nm,0.9s,mb5.2,baz=38,slow=6.2
NB2 NORSAR Subarra 71.63 337 P **P** **18 14 33.9 -0.5**
baz=38,slow=6.2
NOA NORSAR Array B 71.63 337 P **P** **18 14 33.9 -0.6**
comp=Z,17nm,0.9s,mb5.0,baz=38,slow=6.0,SNR=40
NOA LR LR 18 48 43.1
comp=Z,275nm,21.3s,MS4.5,baz=20,slow=38
NOA NORSAR Array B 71.63 337 P **P** **18 14 33.9 -0.5**
NOA pmax pmax
comp=Z,17nm,0.9s
NOA MLR MLR

comp=Z,275nm,21.3s
STKA Stephens Creek 71.71 181 P **P** **18 14 32.9 -2.5**
comp=Z,1.5nm,0.9s,baz=333,slow=16,SNR=2.9
HOQ Hoqain 71.72 286 P **P** **18 14 35.6 +0.1**
SNR=6.9
BOZ Bozeman (W) 71.83 45 *e*P **P** **18 14 36.2 +0.4**
BOZ pmax pmax
comp=Z,16nm,1.1s,mb4.9
BOZ Bozeman (W) 71.83 45 *e*P **P** **18 14 36.2 +0.3**
comp=Z,16nm,1.1s,mb4.9
JMDO Jabal Madar 71.85 284 P **P** **18 14 36.4 +0.1**
SNR=7.5
ASHO Ashiyiah 71.99 287 P **P** **18 14 36.9 -0.2**
SNR=25
ASHO P 18 17 15.4
SNR=44
ANN Anapa 72.01 314 *e*P **P** **18 14 35.4 -1.5**
ANN *e*S S 18 23 50.5 -3.3
ANN pmax pmax
comp=Z,71nm,1.7s,mb5.3
ANN MLR MLR
comp=Z,428nm,18.0s,MS4.8
BSY Bisya 72.30 285 P **P** **18 14 39.3 +0.3**
SNR=7.8
AKASG Malin Array Be 72.36 322 P **P** **18 14 38.2 -0.7**
comp=Z,20nm,1.0s,mb5.0,baz=43,slow=6.2,SNR=53
AKASG Malin Array Be 72.36 322 P **P** **18 14 38.2 -0.7**
AKASG pmax pmax
comp=Z,21nm,1.0s
AKASG Malin Array Be 72.36 322 P **P** **18 14 38.2 -0.7**
NVAR Mina Array Bea 72.39 54 P **P** **18 14 39.7 +0.4**
comp=Z,3.4nm,1.0s,mb4.2,baz=291,slow=5.1,SNR=21
NVAR LR LR 18 40 04.8
comp=Z,46nm,21.6s,MS3.7,baz=315,slow=30
QLMT Earthquake Lak 72.45 46 *e*P **P** **18 14 40.6 +1.1**
SUW Suwaiki 72.73 327 *e*P **P** **18 14 40.8 -0.1**
IMW Indian Meadow 73.32 46 *e*P **P** **18 14 45.0 +0.4**
comp=Z,18nm,1.4s,mb4.8
FRB Frobisher Bay 73.50 14 P **P** **18 14 44.4 -0.9**
comp=Z,37nm,0.9s,mb5.3,baz=342,slow=4.2,SNR=6.1
FRB Frobisher Bay 73.50 14 P **P** **18 14 44.4 -0.9**
FRB pmax pmax
comp=Z,37nm,0.9s
SIM Simferopol' 73.72 315 *ce*P **P** **18 14 46.8 -0.2**
SIM pmax pmax
comp=Z,28nm,1.0s,mb5.2
SIM MLR MLR
comp=Z,500nm,21.0s,MS4.8
LAO LASA Array 74.01 42 *e*P **P** **18 14 49.5 +0.9**
comp=Z,10nm,0.8s,mb4.8
TPNV Topopah Spring 74.59 55 *e*P **P** **18 14 51.7 -0.4**
TPNV pmax pmax
comp=Z,11nm,1.1s,mb4.7
TPNV Topopah Spring 74.59 55 *e*P **P** **18 14 51.6 -0.5**
comp=Z,11nm,1.1s,mb4.7
PDAR Pinedale Array 74.82 47 P **P** **18 14 53.5 +0.1**
comp=Z,1.6nm,0.6s,mb4.1,baz=281,slow=1.0,SNR=12
KIS Kishinev 75.09 320 *e*P **P** **18 14 54.0 -0.8**
KIS *e* pP 18 15 11.0 +2.9
KIS MLR MLR
comp=N,300nm,16.0s,MS4.8
KIS MLR MLR
comp=E,300nm,16.0s,MS4.8
KIS MLR MLR
comp=Z,600nm,16.0s,MS5.0
KIS MLR MLR
comp=Z,500nm,16.0s
MIB Mutribah 75.11 296 *e*P **P** **18 14 54.2 -1.0**
MIB AMb AMB 18 14 55.6
comp=Z,59nm,0.9s,mb5.5
QRN Al-Qurain 75.35 295 *e*P **P** **18 14 55.9 -0.8**
QRN AMb AMB 18 14 57.1
comp=Z,62nm,0.6s,mb5.7
RDF Al-Radifah 75.50 296 *e*P **P** **18 14 56.7 -0.9**
RDF AMb AMB 18 14 58.1
comp=Z,90nm,1.0s,mb5.7
NAY Al-Naaiem 75.51 296 *e*P **P** **18 14 56.5 -1.1**
NAY AMb AMB 18 14 57.9
comp=Z,32nm,1.1s,mb5.2
MSU Marysvale 76.08 51 *e*P **P** **18 15 01.6 +0.9**
MSU *e* pP 18 15 14.5 +0.6
KWP Kalwaria 76.10 324 *e*P **P** **18 15 01.8 +1.2**
KWP *e* pP 18 15 15.1 +1.3
KWP Kalwaria 76.10 324 *e*P **P** **18 15 01.7 +1.2**
KWP *e* pP 18 15 15.1 +1.3
ULM Lac du Bonnet 76.38 34 P **P** **18 15 00.8 -1.3**
comp=Z,2.8nm,0.8s,mb4.3,baz=298,slow=2.3,SNR=4.1
BURAR Bucovina Array 76.40 322 ⇓P **P** **18 15 03.1 +0.8**
KOLS Kolonicke sedl 76.80 324 *e*P **P** **18 15 04.3 -0.2**
RSSD Black Hills 76.88 43 *e*P **P** **18 15 05.0 -0.1**
RSSD pmax pmax
comp=Z,33nm,1.8s,mb5.0
RSSD Black Hills 76.88 43 *e*P **P** **18 15 05.0 -0.1**
comp=Z,33nm,1.8s,mb5.0
STHS Stebnicka Huta 76.90 325 *e*P **P** **18 15 06.0 +0.9**
STHS *e*pP pP 18 15 19.4 +1.0
OJC Ojcow 76.93 326 *e*P **P** **18 15 05.4 +0.2**
CRVS Cervenica-Dubn 77.19 325 *e*P **P** **18 15 07.1 +0.4**
CRVS *e*pP pP 18 15 20.4 +0.4
CRVS *e* 18 15 30.4
NIE Niedzica 77.31 326 *e*P **P** **18 15 08.6 +1.3**
BR131 Keskin Array S 77.44 312 *e*P **P** **18 15 08.6 +0.3**
comp=Z,19nm,1.3s,mb4.9
BRTR Keskin Array B 77.44 312 P **P** **18 15 08.9 +0.6**
comp=Z,6.7nm,1.0s,mb4.5,baz=72,slow=3.9,SNR=30
BRTR Keskin Array B 77.44 312 P **P** **18 15 08.9 +0.6**
BRTR pmax pmax
comp=Z,7.0nm,1.0s
MLR Muntele Rosu 77.57 320 P **P** **18 15 09.1 +0.2**
comp=Z,9.7nm,1.2s,mb4.6,baz=76,slow=5.2,SNR=6.5
MLR Muntele Rosu 77.57 320 ⇑P **P** **18 15 08.4 -0.5**
MLR Muntele Rosu 77.57 320 P **P** **18 15 09.1 +0.2**
MLR pmax pmax
comp=Z,10.0nm,1.2s
BSEG Bad Segeberg 77.66 333 *e*P **P** **18 15 09.4 +0.2**
BSEG *e**PP pP 18 15 23.2 +0.7
BSEG pmax pmax
comp=Z,33nm,1.2s,mb5.1
ANTO Ankara 77.83 312 *e*P **P** **18 15 10.8 +0.4**
ANTO pmax pmax
comp=Z,36nm,1.1s,mb5.2
ANTO Ankara 77.83 312 *e*P **P** **18 15 10.8 +0.4**
comp=Z,36nm,1.1s,mb5.2
KSP Ksiaz 77.90 328 *e*P **P** **18 15 11.7 +1.2**
KSP *e* pP 18 15 25.1 +1.3
KSP Ksiaz 77.90 328 *e*P **P** **18 15 10.9 +0.4**
KSP *e**PP pP 18 15 24.1 +0.2
OKC Ostrava-Krasne 77.91 327 ⇓*i*P **P** **18 15 11.6 +0.9**
OKC *e*pP pP 18 15 24.7 +0.7
OKC AMS AMS 18 52 20.0
comp=Z,500nm,16.8s
KECS Kecovo 77.93 325 *i* P **P** **18 15 11.3 +0.5**
MORC Moravsky Berou 78.21 327 *e*P **P** **18 15 12.7 +0.4**
MORC pmax pmax
comp=Z,16nm,1.0s,mb4.9
MORC Moravsky Berou 78.21 327 *e*P **P** **18 15 12.7 +0.4**
comp=Z,16nm,1.0s,mb4.9
DPC Dobruska-Polom 78.27 328 ⇓*i*P **P** **18 15 13.8 +1.2**
DPC *e*pP pP 18 15 26.9 +1.0
DPC AMS AMS 18 52 30.0
comp=Z,400nm,16.9s
UPC Upice 78.27 328 ⇓*i*P **P** **18 15 13.5 +0.9**
UPC *e*pP pP 18 15 26.5 +0.6
WUAZ Wupatki 78.52 53 *e*P **P** **18 15 14.8 +0.5**
comp=Z,11nm,0.9s,mb4.8
PSZ Piszkesteto 78.62 325 ⇑*i*P **P** **18 15 15.3 +0.7**
PSZ Piszkesteto 78.62 325 *e*P **P** **18 15 15.2 +0.6**
PSZ *e* pP 18 15 27.8 -0.1
PSZ pmax pmax
comp=Z,21nm,1.3s,mb4.9
PSZ Piszkesteto 78.62 325 *e*P **P** **18 15 15.2 +0.6**
comp=Z,21nm,1.3s,mb4.9
PSZ *e* pP 18 15 27.8 -0.1
VYHS Vyhne 78.64 326 *e*P **P** **18 15 15.0 +0.3**
VYHS *e*pP pP 18 15 28.3 +0.3
BRG Berggiesshubel 78.80 330 *e*P **P** **18 15 15.5 0.0**
BRG *e* pP 18 15 29.2 +0.4
BRG pmax pmax
comp=Z,18nm,1.3s,mb4.8
BRG MLR MLR
comp=N,208nm,14.9s
BRG MLR MLR
comp=E,26µm,1.1s
BRG Berggiesshubel 78.80 330 *e*P **P** **18 15 15.5 0.0**
comp=E,18nm,1.3s,mb4.8

BRG *e* pP 18 15 29.2 +0.4
BRG LR LR
comp=Z,510nm,15.4s,MS5.0
CLL Collm 78.81 330 ⇑P **P** **18 15 15.1 -0.5**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 18 15 28.4 -0.5
CLL Collm 78.81 330 ⇑*i*P **P** **18 15 15.1 -0.5**
CLL *i* *PP pP 18 15 28.4 -0.5
CLL pmax pmax
comp=Z,20nm,1.0s,mb5.0
CLL Collm 78.81 330 ⇑*i*P **P** **18 15 15.1 -0.5**
comp=Z,20nm,1.0s,mb5.0
CLL *i* pP pP 18 15 28.4 -0.5
PVCC Panska Ves 78.83 329 ⇓*i*P **P** **18 15 16.6 +0.9**
PVCC *e*pP pP 18 15 29.7 +0.7
PVCC AMS AMS 18 53 10.0
comp=Z,700nm,21.1s
VRAC Vranov 78.97 327 P **P** **18 15 16.8 +0.3**
comp=Z,10nm,0.9s,mb4.8,baz=36,slow=5.3,SNR=13
VRAC Vranov 78.97 327 P **P** **18 15 17.8 +1.3**
SMOL Smolenice 79.23 326 *e*P **P** **18 15 19.1 +1.2**
PRU Pruhonice 79.27 329 ⇓*i*P **P** **18 15 18.8 +0.7**
PRU *e*pP pP 18 15 32.0 +0.6
PRU AMS AMS 18 53 00.0
comp=Z,500nm,20.5s
CLZ Clausthal 79.35 332 *e*P **P** **18 15 18.7 +0.2**
CLZ pmax pmax
comp=Z,31nm,1.2s,mb5.1
CLZ Clausthal 79.35 332 *e*P **P** **18 15 18.7 +0.2**
comp=Z,31nm,1.2s,mb5.1
SRO Srobarova 79.39 325 *e*P **P** **18 15 20.1 +1.3**
JMB Yambol 79.40 317 *e*P **P** **18 15 20.0 +1.0**
TREC Trest 79.43 326 ⇓*i*P **P** **18 15 19.9 +0.9**
TREC *e*pP pP 18 15 33.4 +1.1
TREC AMS AMS 18 53 20.0
comp=Z,700nm,16.3s
BZS Buzias 79.56 322 P **P** **18 15 20.2 +0.5**
ZST Bratislava 79.62 326 *e*P **P** **18 15 19.5 -0.5**
ZST *e*L 18 54 01.2
MOX Moxa 79.87 331 *e*P **P** **18 15 22.0 +0.7**
MOX L 18 55 05.0
NKC Novy Kostel 79.89 330 ⇓*i*P **P** **18 15 22.4 +1.0**
NKC *e*pP pP 18 15 35.2 +0.4
NKC AMS AMS 18 52 50.0
MZLS Mizel 80.19 293 P **P** **18 15 23.6 0.0**
DIM Dimitrovgrad 80.24 318 *e*P **P** **18 15 24.5 +1.0**
KHC Kasperske Hory 80.33 329 ⇓*i*P **P** **18 15 24.5 +0.7**
KHC *e*pP pP 18 15 37.8 +0.6
KHC AMS AMS 18 53 40.0
comp=Z,400nm,14.6s
HILS Ha'il 80.41 298 P **P** **18 15 24.9 +0.2**
EKA Eskdalemuir Ar 80.46 341 P **P** **18 15 24.4 0.0**
comp=Z,4.8nm,0.8s,mb4.5,baz=27,slow=5.1,SNR=8.4
EKA Eskdalemuir Ar 80.46 341 P **P** **18 15 24.4 0.0**
EKA pmax pmax
comp=Z,5.0nm,0.8s
PKSM Moragy 80.47 324 P **P** **18 15 24.8 +0.2**
GEC2 GERESS Array S 80.51 329 *e*P **P** **18 15 24.7 -0.1**
GEC2 pmax pmax
comp=Z,16nm,1.2s,mb4.8
GEC2 GERESS Array S 80.51 329 *e*P **P** **18 15 24.7 -0.1**
comp=Z,16nm,1.2s,mb4.8
GERES GERESS Array B 80.51 329 P **P** **18 15 25.2 +0.5**
comp=Z,4.3nm,0.8s,mb4.4,baz=34,slow=4.8,SNR=38
GERES LR LR 18 54 13.6
comp=Z,336nm,20.1s,MS4.7,baz=40,slow=38
GERES GERESS Array B 80.51 329 P **P** **18 15 25.2 +0.4**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES MLR MLR
comp=Z,336nm,20.1s
ISP Isparta 80.51 312 *e*P **P** **18 15 25.1 +0.1**
ISP Isparta 80.51 312 *e*P **P** **18 15 24.8 -0.2**
comp=Z,12nm,1.0s,mb4.8
WET Wettzell 80.59 329 *e*P **P** **18 15 25.6 +0.4**
WET *e**PP pP 18 15 39.5 +0.9
WET pmax pmax
comp=Z,28nm,1.2s,mb5.1
WET Wettzell 80.59 329 *e*P **P** **18 15 25.6 +0.4**
comp=Z,28nm,1.2s,mb5.1
WET *e*pP pP 18 15 39.5 +0.9
QURS Qurayyt al Mil 80.75 303 P **P** **18 15 27.4 +1.0**
GRA1 Grafenberg Arr 80.79 330 *e*P **P** **18 15 26.8 +0.6**
comp=Z,42nm,1.1s,mb5.3
GRA1 *e*pP pP 18 15 40.7 +1.1
GRA1 LR LR
comp=Z,200nm,21.5s,MS4.4
GRF Grafenberg Arr 80.79 330 *e*P **P** **18 15 26.8 +0.6**
GRF *e**PP pP 18 15 40.7 +1.1
GRF pmax pmax
comp=Z,42nm,1.1s,mb5.3
GRF MLR MLR
comp=Z,200nm,21.5s,MS4.4
GRF Grafenberg Arr 80.79 330 *e*P **P** **18 15 26.8 +0.6**
GRF *e**PP pP 18 15 40.7 +1.1
GRF pmax pmax
comp=Z,42nm,1.1s,mb5.3
GRF MLR MLR
comp=Z,200nm,21.5s,MS4.4
GRF Grafenberg Arr 80.79 330 *e*P **P** **18 15 26.8 +0.6**
comp=Z,42nm,1.1s,mb5.3
GRF *e*pP pP 18 15 40.7 +1.1
GRF LR LR
comp=Z,200nm,21.5s,MS4.4
RZN Rozhen 80.92 318 *e*P **P** **18 15 28.5 +1.4**
ARSA Arzberg 81.02 327 ⇑*i*P **P** **18 15 28.2 +0.7**
comp=Z,7.3nm,0.8s,mb4.6
VTS Vitosha 81.03 319 *e*P **P** **18 15 28.5 +0.9**
VTS Vitosha 81.03 319 P **P** **18 15 29.0 +1.3**
MOA Molln 81.07 328 ⇓*i*P **P** **18 15 28.3 +0.6**
comp=Z,13nm,1.4s,mb4.7
TNS Taunus Mts 81.37 332 *e*P **P** **18 15 30.1 +0.8**
TNS pmax pmax
comp=Z,30nm,1.6s,mb5.0
TNS Taunus Mts 81.37 332 *e*P **P** **18 15 30.1 +0.8**
comp=Z,30nm,1.6s,mb5.0
MMB Musomiste 81.50 318 *i* P **P** **18 15 31.0 +0.9**
KKB Krupnik 81.62 319 *e*P **P** **18 15 32.0 +1.2**
PERS Pernice 81.68 326 *e*P **P** **18 15 31.2 +0.2**
PERS *i* pP pP 18 15 44.7 +0.4
AFFS 'Afif 81.80 294 P **P** **18 15 32.5 +0.4**
ANMO Albuquerque 81.87 51 *e*P **P** **18 15 34.0 +1.8**
ANMO Albuquerque 81.87 51 *e*P **P** **18 15 33.2 +1.0**
comp=Z,7.7nm,1.1s,mb4.5
FUR Furstenfeldbru 82.01 329 *e*P **P** **18 15 33.3 +0.7**
FUR pmax pmax
comp=Z,40nm,0.9s,mb5.3
FUR Furstenfeldbru 82.01 329 *e*P **P** **18 15 33.3 +0.7**
comp=Z,40nm,0.9s,mb5.3
SCHQ Schefferville 82.06 17 P **P** **18 15 32.9 +0.2**
comp=Z,5.6nm,1.1s,mb4.4,baz=51,slow=8.7,SNR=3.6
SCHQ LR LR 18 57 22.4
comp=Z,125nm,18.6s,MS4.3,baz=106,slow=40
KBA Koelnbreinsper 82.06 328 *i* P **P** **18 15 34.4 +1.5**
comp=Z,20nm,1.0s,mb5.0,SNR=12
LEGS Legarje 82.13 326 *i* P **P** **18 15 33.1 -0.2**
LJU Ljubljana 82.40 326 *e*P **P** **18 15 33.9 -0.7**
WTTA Wattenberg 82.60 329 ⇑*i*P **P** **18 15 36.7 +1.0**
comp=Z,12nm,0.9s,mb4.9
CEY Cerknica 82.68 326 *e*P **P** **18 15 36.4 +0.2**
JAVS Javornik 82.71 327 *e*P **P** **18 15 35.3 -1.0**
GIVF Givet 82.73 334 *e*P **P** **18 15 36.1 -0.1**
MOTA Moosalm 82.75 329 ⇑*i*P **P** **18 15 37.0 +0.6**
comp=Z,21nm,1.1s,mb5.1,SNR=9.6
SQTA Sankt Quirin 82.81 329 ⇑*i*P **P** **18 15 36.8 +0.1**
comp=Z,24nm,1.4s,mb5.0
BAIF Baives 82.97 334 ⇑*i*P **P** **18 15 37.4 -0.1**
comp=Z,51nm,1.4s,mb5.1
BAIF Baives 82.97 334 ⇑*i*P **P** **18 15 37.4 -0.1**
BAIF pmax pmax
comp=Z,26nm,1.4s,mb5.1
BFO Black Forest 82.99 331 *e*P **P** **18 15 38.0 +0.4**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BFO Black Forest 82.99 331 *e*P **P** **18 15 38.0 +0.4**
comp=Z,10.0nm,1.0s,mb4.8
KAMS Al Khamasin 83.01 291 P **P** **18 15 37.8 -0.5**
KBRS Khaybar 83.16 298 P **P** **18 15 40.0 +1.1**
DAVA Damuels 83.27 330 ⇑*i*P **P** **18 15 39.7 +0.6**
comp=Z,25nm,1.4s,mb5.0
CDF Champ du Feu 83.31 332 ⇑*i*P **P** **18 15 39.5 +0.3**
comp=Z,28nm,1.0s,mb5.0
CDF Champ du Feu 83.31 332 ⇑*i*P **P** **18 15 39.5 +0.3**
CDF pmax pmax
comp=Z,14nm,1.0s,mb5.0

TBKS Tabuk 83.35 301 P **P** **18 15 41.0 +1.1**
ALWS Ilw as Safayha 83.59 303 P **P** **18 15 42.1 +1.1**
JMOS Jabal al Moall 83.65 303 P **P** **18 15 42.4 +1.0**
DAVOX Davos 83.69 329 P **P** **18 15 42.0 +0.9**
comp=Z,12nm,1.0s,mb5.0,baz=2.4,slow=4.8,SNR=12
HAQS Haql 83.84 303 P **P** **18 15 43.3 +1.0**
HAU Haudompre 83.99 332 *e*P **P** **18 15 42.8 +0.2**
comp=Z,32nm,1.1s,mb5.1
HAU *e*R
comp=Z,360nm,22.5s
HAU Haudompre 83.99 332 *e*P **P** **18 15 42.8 +0.2**
HAU pmax pmax
comp=Z,16nm,1.1s,mb5.1
HAU MLR MLR
comp=Z,360nm,22.5s,MS4.7
MEZF Maizieres J'vi 84.02 333 ⇑*i*P **P** **18 15 42.8 0.0**
BDAS Al Bad' 84.16 302 P **P** **18 15 45.1 +1.2**
TATS Tathlith 84.29 291 P **P** **18 15 45.4 +0.6**
UMJS Umm Lajj 84.85 299 P **P** **18 15 48.7 +1.2**
YNBS Yanbu' al Bahr 84.98 298 P **P** **18 15 49.3 +1.1**
GDL2 Guadalupe Moun 85.04 52 P **P** **18 15 49.1 +0.8**
PPT Papeete 85.25 118 *e*LR LR 18 41 58.5
baz=324
PPT Papeete 85.25 118 LR LR 18 49 30.0
comp=Z,306nm,18.2s,MS4.7,baz=261,slow=33
CABF La Chapelle 85.26 332 *e*P **P** **18 15 51.1 +2.1**
comp=Z,105nm,1.7s,mb5.4
CABF La Chapelle 85.26 332 *e*P **P** **18 15 51.1 +2.1**
CABF pmax pmax
comp=Z,53nm,1.7s,mb5.4
BLJS Baljurashi 85.41 292 P **P** **18 15 51.4 +1.0**
LOR Lormes 85.49 333 ⇑*i*P **P** **18 15 50.4 +0.3**
comp=Z,53nm,1.0s,mb5.3
LOR *e*R
comp=Z,356nm,21.8s
LOR Lormes 85.49 333 ⇑*i*P **P** **18 15 50.4 +0.3**
LOR pmax pmax
comp=Z,27nm,1.0s,mb5.3
LOR MLR MLR
comp=Z,360nm,21.8s,MS4.7
FLN La Foliniere 85.60 336 ⇑*i*P **P** **18 15 50.9 +0.3**
FLN *e*R
comp=Z,308nm,21.5s
SSF Saint Saulge 85.79 333 ⇑*i*P **P** **18 15 51.8 +0.2**
comp=Z,34nm,0.9s,mb5.3
SSF Saint Saulge 85.79 333 ⇑*i*P **P** **18 15 51.8 +0.2**
SSF pmax pmax
comp=Z,17nm,0.9s,mb5.3
HYF Humbligny 85.91 334 *e*P **P** **18 15 53.0 +0.9**
LTHS Al Lith 86.00 293 P **P** **18 15 54.1 +0.8**
SMF Signal de Mont 86.03 333 ⇑*i*P **P** **18 15 53.3 +0.5**
comp=Z,66nm,1.1s,mb5.5
SMF Signal de Mont 86.03 333 ⇑*i*P **P** **18 15 53.3 +0.5**
SMF pmax pmax
comp=Z,33nm,1.1s,mb5.5
GRR Gorron 86.04 337 *e*P **P** **18 15 53.3 +0.5**
comp=Z,130nm,1.4s,mb5.7
GRR Gorron 86.04 337 *e*P **P** **18 15 53.3 +0.5**
GRR pmax pmax
comp=Z,65nm,1.4s,mb5.7
TAOE Nuku Hiva Isla 86.07 105 *e*LR LR 18 42 21.7
comp=Z,1µm,31.7s
AVF Avril sur Loir 86.08 333 ⇑*i*P **P** **18 15 53.6 +0.6**
comp=Z,80nm,0.9s,mb5.7
AVF Avril sur Loir 86.08 333 ⇑*i*P **P** **18 15 53.6 +0.6**
AVF pmax pmax
comp=Z,40nm,0.9s,mb5.7
BGF Bois d'Agland 86.45 333 *e*P **P** **18 15 55.3 +0.5**
comp=Z,24nm,1.0s,mb5.1
BGF Bois d'Agland 86.45 333 *e*P **P** **18 15 55.3 +0.5**
BGF pmax pmax
comp=Z,12nm,1.0s,mb5.1
SGMF Saint Gilles 86.67 338 *e*P **P** **18 15 56.6 +0.7**
comp=Z,350nm,1.7s,mb6.0
SGMF Saint Gilles 86.67 338 *e*P **P** **18 15 56.6 +0.7**
SGMF pmax pmax
comp=Z,175nm,1.7s,mb6.0
ORIF Oris-en-Rattie 86.78 331 *e*P **P** **18 15 57.1 +0.6**
ORIF *e*R
comp=Z,264nm,22.2s
ROSF Rostrenen 86.81 338 ⇑*i*P **P** **18 15 57.3 +0.8**
comp=Z,80nm,1.1s,mb5.6
ROSF Rostrenen 86.81 338 ⇑*i*P **P** **18 15 57.3 +0.8**
ROSF pmax pmax
comp=Z,40nm,1.1s,mb5.6
TCF Toulx Ste Croi 86.91 334 *e*P **P** **18 15 57.7 +0.6**
comp=Z,77nm,1.4s,mb5.5
TCF Toulx Ste Croi 86.91 334 *e*P **P** **18 15 57.7 +0.6**
TCF pmax pmax
comp=Z,39nm,1.4s,mb5.4
VIVF Saint-Julien-l 87.28 331 *e*P **P** **18 15 59.5 +0.6**
comp=Z,58nm,1.3s,mb5.4
VIVF Saint-Julien-l 87.28 331 *e*P **P** **18 15 59.5 +0.6**
VIVF pmax pmax
comp=Z,29nm,1.3s,mb5.3
MFF Saint Martin d 87.41 335 ⇑*i*P **P** **18 16 00.3 +0.8**
comp=Z,129nm,1.3s,mb5.7
MFF Saint Martin d 87.41 335 ⇑*i*P **P** **18 16 00.3 +0.8**
MFF pmax pmax
comp=Z,65nm,1.3s,mb5.7
SADO Sadowa 87.49 28 LR LR 18 55 05.5
comp=Z,142nm,18.5s,MS4.4,baz=72,slow=36
TXAR Lajitas Array 87.49 53 P **P** **18 16 00.4 +0.1**
comp=Z,1.8nm,0.9s,mb4.3,baz=288,slow=4.0,SNR=15
TXAR Lajitas Array 87.49 53 P **P** **18 16 00.4 +0.1**
TXAR pmax pmax
comp=Z,2.0nm,0.9s
CCM Cathedral Cave 87.84 40 *e*P **P** **18 16 01.9 +0.1**
CCM pmax pmax
comp=Z,18nm,1.0s,mb5.3
CCM Cathedral Cave 87.84 40 *e*P **P** **18 16 01.9 +0.1**
comp=Z,18nm,1.0s,mb5.3
RJF Les Rejaudoux 88.00 334 ⇑*i*P **P** **18 16 03.0 +0.6**
comp=Z,59nm,1.2s,mb5.4
RJF Les Rejaudoux 88.00 334 ⇑*i*P **P** **18 16 03.0 +0.6**
RJF pmax pmax
comp=Z,30nm,1.2s,mb5.4
CAF Calviac 88.14 333 ⇑*i*P **P** **18 16 03.8 +0.7**
comp=Z,21nm,0.9s,mb5.1
CAF Calviac 88.14 333 ⇑*i*P **P** **18 16 03.8 +0.7**
CAF pmax pmax
comp=Z,11nm,0.9s,mb5.1
LFF La Frestale 88.58 334 ⇑*i*P **P** **18 16 05.2 0.0**
comp=Z,145nm,1.4s,mb5.8
LFF La Frestale 88.58 334 ⇑*i*P **P** **18 16 05.2 0.0**
LFF pmax pmax
comp=Z,73nm,1.4s,mb5.8
TBI Tubuai 89.38 122 *e*LR LR 18 43 53.0
comp=Z,231nm,26.2s,baz=318
MTLF Montolieu 89.47 332 *e*P **P** **18 16 09.8 +0.4**
ESDC Sonseca Array 94.85 335 P **P** **18 16 34.3 0.0**
comp=Z,1.8nm,0.8s,mb4.5,baz=35,slow=4.8,SNR=7.5
RKT Rikitea 99.11 112 *e*LR LR 18 48 24.0
comp=Z,232nm,24.5s,baz=316
KMBO Kiima Mbogo 102.42 279 P Pdif 18 17 08.8 -0.3
comp=Z,0.2nm,0.3s,baz=241,slow=24,SNR=3.6
TORD Torodi Ar. Bea 115.70 317 PKP PKPdf 18 21 54.6 +0.5
comp=Z,1.2nm,1.0s,baz=4.7,slow=2.1,SNR=5.2
TORD PP PP 18 22 46.7 -15
comp=Z,2.2nm,1.1s,baz=41,slow=4.5,SNR=2.9
SNAA Sanae 144.03 198 P PKPbc 18 22 44.8 0.0
SNAA Sanae 144.03 198 PKPbc 18 22 54.9 +10
SNAA Sanae 144.03 198 PKPbc 18 23 27.7 +43
LPAZ La Paz 144.26 57 PKP PKPdf 18 22 48.0 +0.5
comp=Z,1.9nm,0.8s,baz=23,slow=8.2,SNR=7.7
LPAZ La Paz 144.26 57 *e*PKIKP PKPdf 18 22 47.4 -0.1
VNA2 Neumayer--Watz 145.60 197 ⇑*i*P PKPdf 18 22 49.9 +1.6
VNA2 Neumayer--Watz 145.60 197 PKPdf 18 23 03.6 +15
VNA2 Neumayer--Watz 145.60 197 PKPdf 18 23 13.3 +25
VNA3 Neumayer Olymp 145.84 196 P PKPdf 18 22 51.3 +2.6
VNA3 Neumayer Olymp 145.84 196 PKPdf 18 22 54.0 +5.3
VNA3 Neumayer Olymp 145.84 196 PKPdf 18 23 04.2 +15
VNA3 Neumayer Olymp 145.84 196 PKPdf 18 23 33.6 +45
BDFB Brasilia 153.86 24 PKPbc PKPdf 18 23 12.0 +9.3
comp=Z,4.4nm,0.8s,baz=252,slow=4.3,SNR=6.9
BDFB Brasilia 153.86 24 PKIKP PKPdf 18 23 12.0 +9.3
BDFB pmax pmax
comp=Z,4.0nm,0.8s

*NEIC **04** 18:09:59.2±0.9, 5.01N×94.22E, h30km, Error ellipse: s-maj=24.6km s-min=13.2km az=221.0*
*IDC **04** 18:10:04.1±6.8, 5.09N×94.54E, h70km±53km, mb3.3/4, mb1 3.5/5, mb1mx3.2/20, mbtmp3.6/5, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.1/11, Error ellipse: s-maj=94.1km*

s-min=23.5km az=55.0

ISC 04 18:10:02.4±4.8, 5.1N±0.3×94.5E±0.3, h71km±39km, n7, σ0§65/7, mb3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.99**	**117**	P	**P**	**18 11 16.4**	**0.0**
	1.9nm,0.3s,baz=328,slow=15,SNR=7.1						
PSI				S	**S**	**18 12 13.7**	**+0.4**
	baz=85,slow=22,SNR=2.8						
PSI				LR	LR	18 13 16.8	
	comp=Z,95nm,19.3s,baz=217,slow=39						
KULM	**Kulim**	**6.13**	**88**	*e*P	**P**	**18 11 31.8**	**-0.5**
MKAR	**Makanchi Array**	**42.83**	**348**	P	**P**	**18 17 55.9**	**+0.9**
	0.4nm,0.5s,mb3.4,baz=169,slow=8.2,SNR=8.3						
MKAR				pP	pP	18 18 09.6	-3.1
	0.7nm,0.5s,baz=163,slow=7.9,SNR=3.5						
SONM	**Songino Array**	**43.76**	**12**	P	**P**	**18 18 02.5**	**0.0**
	0.5nm,0.6s,mb3.4,baz=185,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**46.42**	**124**	P	**P**	**18 18 23.7**	**-0.4**
	1.1nm,0.7s,mb3.7,baz=299,slow=9.5,SNR=9.3						
BVAR	**Borovoye Array**	**51.69**	**342**	P	**P**	**18 19 03.8**	**-0.5**
	0.6nm,0.7s,mb3.8,baz=83,slow=12,SNR=3.0						
GERES	**GERESS Array B**	**80.10**	**319**	pP	pP	18 22 20.7	-4.9
	0.4nm,0.6s,baz=124,slow=4.8,SNR=3.7						

LDG 04 18:10:16.9±0.2,51.60N×6.87E,h1km,Ml2.8/5,Error ellipse: s-maj=3.0km s-min=2.0km az=23.0,Suspected Mining induced.
BUG 04 18:10:16.2,51.54N×6.84E,h1km,ML1.5
BNS 04 18:10:17.6±0.8,51.55N×6.87E,h1km,ML2.2
BGR 04 18:10:18.6±0.8,51.45N×6.99E,h1km,Ml2.0/4,Error ellipse: s-maj=11.1km s-min=4.4km az=132.0

ISC 04 18:10:15.1±0.5, 51.58N±0.03×6.74E±0.04, n29, σ1§25/53, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BZER	**Hinxe**	**0.09**	**62**	Pg	**Pg**	**18 10 17.3**	**+0.4**
BZER				Sg	**Sg**	**18 10 18.7**	**+0.6**
LAUG	**Laupendahl**	**0.26**	**151**	*e*Pg	**Pg**	**18 10 21.4**	**+1.1**
BUG	**Bochum--Univer**	**0.36**	**113**	⇓*i*Pg	**Pg**	**18 10 22.6**	**+0.3**
BUG				Sg	**Sg**	**18 10 27.2**	**+0.2**
WTSB	**Winterswijk**	**0.39**	**5**	*e*Pg	**Pg**	**18 10 24.5**	**+1.6**
	50nm,0.2s						
RODG	**Roetgen-Dahlhe**	**0.56**	**219**	*e*Sg	**Sg**	**18 10 37.1**	**+3.3**
BNS	**Bensberg**	**0.67**	**156**	*e*Pg	**Pg**	**18 10 29.3**	**+0.7**
BNS				*e*Sg	**Sg**	**18 10 38.4**	**+0.8**
HOBG	**Hohbusch**	**0.70**	**148**	*e*Pg	**Pg**	**18 10 29.8**	**+0.6**
HOBG				*e*Sg	**Sg**	**18 10 38.4**	**-0.1**
	124nm,0.7s						
HGN	**Heimansgroeve**	**0.96**	**212**	*e*Pg	**Pg**	**18 10 36.3**	**+1.9**
	14nm,0.2s,baz=40						
HGN				*e*Sg	**Sg**	**18 10 50.0**	**+2.7**
KLL	**Kalltalsperre**	**0.97**	**196**	*e*Pg	**Pg**	**18 10 35.9**	**+1.3**
KLL				*e*Sg	**Sg**	**18 10 49.9**	**+2.3**
	52nm,0.4s						
STB	**Steinbach**	**0.99**	**176**	*e*Pg	**Pg**	**18 10 35.9**	**+1.0**
STB				*e*Sg	**Sg**	**18 10 49.4**	**+1.3**
	65nm,0.3s						
HILG	**Hillesheim**	**1.29**	**182**	*e*Pg	**Pg**	**18 10 41.4**	**+0.5**
HILG				*e*Sg	**Sg**	**18 10 58.1**	**0.0**
BGG	**Burgeitz**	**1.43**	**165**	*e*Pg	**Pg**	**18 10 42.6**	**-1.0**
BGG				*e*Sg	**Sg**	**18 11 01.4**	**-1.2**
TNS	**Taunus Mts**	**1.73**	**141**	*e*Pg	**Pg**	**18 10 47.7**	**-2.1**
	SNR=3.6						
TNS				*e*Sg	**Sg**	**18 11 07.3**	**-5.6**
GIVF	**Givet**	**1.92**	**220**	*e*Pn	**Pn**	**18 10 49.9**	**+0.6**
GIVF	**Givet**	**1.92**	**220**	*e*Pg	**Pg**	**18 10 53.8**	**+0.4**
GIVF				*e*Sn	**Sn**	**18 11 14.5**	**0.0**
GIVF				*e*Sg	**Sg**	**18 11 19.4**	**+0.5**
	28nm,0.4s						
GIVF	**Givet**	**1.92**	**220**	*e*Pg	**Pg**	**18 10 53.8**	**+0.4**
GIVF				*e*Sn	**Sn**	**18 11 14.5**	**0.0**
GIVF				*e*Sg	**Sg**	**18 11 19.4**	**+0.5**
	14nm,0.4s						
WLF	**Walferdange**	**1.95**	**191**	*e*Pg	**Pg**	**18 10 54.0**	**-0.2**
	SNR=2.2						
WLF				*e*Sg	**Sg**	**18 11 17.5**	**-2.7**
BAIF	**Baives**	**2.21**	**228**	*e*Pn	**Pn**	**18 10 53.6**	**0.0**
BAIF	**Baives**	**2.21**	**228**	*e*Pg	**Pg**	**18 10 59.6**	**+0.2**
BAIF				*e*Sn	**Sn**	**18 11 21.3**	**-0.8**
BAIF				*e*Sg	**Sg**	**18 11 28.2**	**-0.7**
	7.7nm,0.2s						
BAIF	**Baives**	**2.21**	**228**	*e*Pg	**Pg**	**18 10 59.6**	**+0.2**
BAIF				*e*Sn	**Sn**	**18 11 21.3**	**-0.8**
BAIF				*e*Sg	**Sg**	**18 11 28.2**	**-0.7**
	3.8nm,0.2s						
CLZ	**Clausthal**	**2.27**	**82**	*e*Pn	**Pn**	**18 10 54.0**	**-0.5**
CLZ				*e*Pg	**Pg**	**18 10 59.0**	**-1.5**
	SNR=2.7						
CLZ				*e*Sg	**Sg**	**18 11 26.3**	**-4.5**
CDF	**Champ du Feu**	**3.19**	**174**	*e*Pn	**Pn**	**18 11 07.1**	**-0.4**
CDF				*e*Sg	**Sg**	**18 11 57.4**	**-3.9**
	4.9nm,0.4s						
MEZF	**Maizieres J'vi**	**3.27**	**200**	*e*Sg	**Sg**	**18 12 00.0**	**-4.0**
	6.9nm,0.5s						
SFTF	**Sexfontaines**	**3.55**	**199**	*e*Sg	**Sg**	**18 12 09.9**	**-3.6**
	3.7nm,0.3s						
BRG	**Berggiesshubel**	**4.58**	**96**	*e*Sg	**Sg**	**18 12 42.1**	**-5.5**
LOR	**Lormes**	**4.71**	**205**	*e*Pn	**Pn**	**18 11 27.3**	**-1.8**
	baz=30						
LOR				*e*Sn	**Sn**	**18 12 20.3**	**-5.0**
SSF	**Saint Saulge**	**4.99**	**206**	*e*Pn	**Pn**	**18 11 31.4**	**-1.8**
AVF	**Avril sur Loir**	**5.28**	**206**	*e*Pn	**Pn**	**18 11 35.0**	**-2.2**
GRR	**Gorron**	**5.85**	**240**	*e*Pn	**Pn**	**18 11 43.4**	**-1.9**
GRR				*e*Sn	**Sn**	**18 12 47.7**	**-6.3**

IDC 04 18:34:57.6±3.3,0.02N×123.61E,h116km±29km,mb4.1/12, mb1 4.3/12,mb1mx4.1/16,mbtmp4.4/12,Error ellipse: s-maj=32.9km s-min=13.2km az=65.0
BJI 04 18:35:04.1,0.00N×123.60E,h181km,mB5.1,mb4.6
NEIC 04 18:35:04.2±2.0,0.04S×123.64E,h181km±19km,mb4.4/3, Error ellipse: s-maj=20.0km s-min=11.4km az=225.0

ISC 04 18:35:02.1±1.6, 0.0N±0.1×123.6E±0.1, h175km±15km, n35, σ1§04/35, mb4.3/15, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSM	**Tawau**	**7.17**	**307**	P	**P**	**18 36 44.4**	**-1.0**
KKM	**Kota Kinabalu**	**9.54**	**309**	P	**P**	**18 37 18.1**	**+1.5**
KKM	**Kota Kinabalu**	**9.54**	**309**	*e*P	**P**	**18 37 17.3**	**+0.7**
KKM				S	**S**	**18 39 01.9**	**+0.1**
KSM	**Kuching**	**13.41**	**276**	*e*P	**P**	**18 38 09.7**	**+3.1**
KAKA	**Kakadu**	**15.35**	**146**	⇑*i*P	Px	18 38 48.8	
	23nm,0.5s						
WRA	**Warramunga Arr**	**22.42**	**153**	P	**P**	**18 39 46.2**	**-0.7**
	11nm,0.7s,mb4.4,baz=334,slow=10,SNR=85						
WRA				PcP	PcP	18 43 39.2	+2.2
	0.4nm,0.5s,baz=318,slow=2.4,SNR=4.7						
WRA				ScP		18 47 04.1	
	0.6nm,0.7s,baz=337,slow=2.9,SNR=5.8						
PMG	**Port Moresby**	**25.21**	**112**	P	**P**	**18 40 13.5**	**0.0**
	8.5nm,0.8s,mb4.3,baz=277,slow=2.4,SNR=4.5						
STKA	**Stephens Creek**	**35.97**	**153**	*e*P	**P**	**18 41 47.8**	**-0.1**
	3.0nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**35.97**	**153**	P	**P**	**18 41 47.4**	**-0.4**
	4.7nm,0.5s,mb4.4,baz=331,slow=8.2,SNR=26						
STKA				PcP	PcP	18 44 11.9	+0.9
	1.6nm,0.9s,baz=332,slow=5.2,SNR=3.0						
MAT	**Matsushiro**	**38.79**	**19**	P	**P**	**18 42 11.2**	**-0.2**
MAT	**Matsushiro**	**38.79**	**19**	*e*P	**P**	**18 42 11.0**	**-0.4**
	14nm,0.9s,mb4.6						
MJAR	**Matsushiro Arr**	**38.79**	**19**	P	**P**	**18 42 11.4**	**0.0**
	14nm,0.7s,mb4.7,baz=189,slow=9.3,SNR=42						
HHC	**Hu-ho-hao-te**	**42.11**	**346**	*e*P	**P**	**18 42 37.1**	**-1.5**
HHC				AP	pP	18 43 22.1	+5.2
HHC				XP	sP	18 43 37.6	+0.2
HHC				PP	PP	18 44 19.8	-1.3
HHC				S	**S**	**18 48 39.6**	**-4.8**
HHC				XS		18 49 51.7	
HHC				AMB	AMB		
	comp=Z,180nm,4.9s						
JIRN	**Jiri**	**45.24**	**311**	*e*P	**P**	**18 43 02.3**	**-1.6**
GUN	**Gumba**	**45.60**	**311**	*e*P	**P**	**18 43 04.9**	**-1.9**
	comp=Z,12nm,0.6s,mb4.7						
KKN	**Kakani**	**46.00**	**310**	*e*P	**P**	**18 43 09.5**	**-0.4**
DMN	**Daman**	**46.04**	**310**	*e*P	**P**	**18 43 10.2**	**0.0**
GKN	**Gorkha**	**46.60**	**310**	*e*P	**P**	**18 43 14.5**	**0.0**
KOLN	**Koldanda**	**47.28**	**309**	*e*P	**P**	**18 43 21.5**	**+1.6**
SONM	**Songino Array**	**49.95**	**345**	P	**P**	**18 43 40.2**	**+0.1**
	comp=Z,1.6nm,0.7s,mb3.7,baz=158,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**58.95**	**328**	P	**P**	**18 44 45.7**	**+0.4**
	comp=Z,3.9nm,0.6s,mb4.4,baz=125,slow=8.3,SNR=58						
MKAR				PcP	PcP	18 45 33.1	+0.8
	comp=Z,1.9nm,0.6s,baz=137,slow=4.1,SNR=7.4						
YAK	**Yakutsk**	**62.04**	**3**	*e*P	**P**	**18 45 05.9**	**-0.1**
	comp=Z,44nm,0.6s						
ZAL	**Zalesovo**	**62.58**	**335**	P	**P**	**18 45 08.0**	**-1.7**
	comp=Z,1.5nm,0.3s,mb4.3,baz=345,slow=7.0,SNR=9.1						
ZAL	**Zalesovo**	**62.58**	**335**	P	**P**	**18 45 08.0**	**-1.7**
IMA2	**Indian Mountai**	**87.01**	**24**	*e*P	**P**	**18 47 31.0**	**+2.6**
ILAR	**Eielson Array**	**89.77**	**25**	P	**P**	**18 47 41.7**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=248,slow=4.8,SNR=19						
JOF	**Joensuu**	**91.06**	**333**	*e*p	**P**	**18 47 47.9**	**+0.3**
	comp=Z,3.0nm,0.4s,mb4.7						
KEV	**Kevo**	**92.30**	**340**	*e*p	**P**	**18 47 55.9**	**+2.8**
AKASG	**Malin Array Be**	**92.81**	**321**	P	**P**	**18 47 55.6**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.9,baz=70,slow=5.1,SNR=4.3						
ARCES	**ARCESS Array B**	**92.85**	**340**	P	**P**	**18 47 56.0**	**+0.3**
	comp=Z,1.1nm,0.4s,mb4.3,baz=88,slow=6.4,SNR=18						
KAF	**Kangasniemi**	**93.44**	**332**	*e*p	**P**	**18 47 58.7**	**+0.2**
FINES	**FINESS Array B**	**93.63**	**331**	P	**P**	**18 47 59.0**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.2,baz=96,slow=4.9,SNR=8.9						
FINES	**FINESS Array B**	**93.63**	**331**	P	**P**	**18 47 59.0**	**-0.4**
INK	**Inuvik**	**94.74**	**21**	P	**P**	**18 48 05.2**	**+1.0**
	comp=Z,1.3nm,0.5s,mb4.5,baz=269,slow=5.4,SNR=21						
TORD	**Torodi Ar. Bea**	**121.03**	**285**	PKP	PKPdf	18 53 38.0	+3.3
	comp=Z,0.6nm,0.4s,baz=91,slow=1.8,SNR=11						

CSEM 04 19:08:15.5±1.6,38.68N×29.67W,ML2.8,Error ellipse: s-maj=23.8km s-min=13.1km az=18.0,After PDA
PDA 04 19:08:15.5±1.6,38.68N×29.67W,MD3.4,ML2.8,Error ellipse: s-maj=23.8km s-min=13.1km az=18.0

SVSA 04 19:08:15.5±1.6, 38.68N×29.67W, MD3.4, ML2.8, Error ellipse: s-maj=23.8km s-min=13.1km az=18.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.69**	**98**	*e*S	Sg	19 08 37.4	-1.2
	101nm,0.3s						
PTCA	**Ponta do Capel**	**0.69**	**98**	*e*S	Sg	19 08 37.4	-1.2
	101nm,0.3s						
PCED	**Cedros**	**0.76**	**94**	*e*P	Pg	19 08 28.5	-2.2
PCED				*e*S	Sg	19 08 38.0	-2.9
	178nm,0.3s						
PCED	**Cedros**	**0.76**	**94**	*e*P	Pg	19 08 28.5	-2.2
PCED				*e*S	Sg	19 08 38.0	-2.9
	178nm,0.3s						
CALA	**Caldeira**	**0.77**	**97**	*e*S	Sg	19 08 38.1	-2.9
HOR	**Horta**	**0.83**	**100**	*e*S	Sg	19 08 39.9	-3.3
PCND	**Candelaria**	**0.97**	**102**	*e*S	Sg	19 08 44.3	-3.5
	137nm,0.3s						
PICO	**Pico**	**0.99**	**100**	*e*P	Pb	19 08 32.0	-3.3
PICO				*e*S	Sg	19 08 44.0	-4.6
PBOI	**Pico dos Bois**	**1.05**	**103**	*e*S	Sb	19 08 46.5	-3.8
	156nm,0.3s						
ROSA	**Rosais**	**1.12**	**88**	*e*P	Pb	19 08 33.5	-3.9
ROSA				*e*S	Sb	19 08 46.5	-5.9
PMAN	**Manadas**	**1.24**	**92**	*e*S	Sb	19 08 49.9	-6.0
	68nm,0.2s						
PMAN	**Manadas**	**1.24**	**92**	*e*S	Sb	19 08 49.9	-6.0
	68nm,0.2s						
PVIA	**Vitoria**	**1.32**	**73**	*e*rx		19 08 50.8	
STGR	**Santa Cruz**	**1.36**	**73**	*e*P	Pb	19 08 36.8	-4.8
STGR				*e*S	Sb	19 08 51.7	-7.7
	36nm,0.2s						
PPAD	**Pico dos Padre**	**1.87**	**89**	*e*S	Sn	19 09 05.7	-7.9
	18nm,0.2s						
RIB2	**Ribeirinha**	**1.96**	**90**	*e*S	Sn	19 09 07.7	-8.2
	17nm,0.1s						
PVNV	**Vila Nova**	**1.97**	**87**	*e*S	Sn	19 09 08.0	-8.2
	12nm,0.2s						

CSEM 04 19:15:40.1±1.4,38.51N×29.69W,h10km,ML2.7,Error ellipse: s-maj=14.2km s-min=9.6km az=178.0,After PDA
PDA 04 19:15:40.1±1.4,38.51N×29.69W,h10km,MD3.6,ML2.7, Error ellipse: s-maj=14.2km s-min=9.6km az=178.0

SVSA 04 19:15:40.1±1.4, 38.51N×29.69W, h10km, MD3.6, ML2.7, Error ellipse: s-maj=14.2km s-min=9.6km az=178.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.71**	**84**	*e*P	Pb	19 15 52.8	-1.2
PTCA				*e*S	Sb	19 16 00.9	-2.6
	82nm,0.2s						
PTCA	**Ponta do Capel**	**0.71**	**84**	*e*P	Pb	19 15 52.8	-1.2
PTCA				*e*S	Sb	19 16 00.9	-2.6
	82nm,0.2s						
CALA	**Caldeira**	**0.78**	**85**	*e*S	Sb	19 16 01.5	-4.2
PCED	**Cedros**	**0.79**	**81**	*e*P	Pb	19 15 52.0	-3.4
PCED				*e*S	Sb	19 16 01.6	-4.2
	168nm,0.5s						
PCED	**Cedros**	**0.79**	**81**	*e*P	Pb	19 15 52.0	-3.4
PCED				*e*S	Sb	19 16 01.6	-4.2
	168nm,0.5s						
HOR	**Horta**	**0.83**	**89**	*e*S	Sb	19 16 03.4	-3.8
PCND	**Candelaria**	**0.97**	**92**	*e*S	Sb	19 16 07.4	-3.7
	128nm,0.3s						
PICO	**Pico**	**0.99**	**90**	*e*P	Pb	19 15 55.4	-3.5
PICO				*e*S	Sb	19 16 06.8	-5.1
PBOI	**Pico dos Bois**	**1.04**	**94**	*e*S	Sb	19 16 09.4	-3.7
	172nm,0.3s						
ROSA	**Rosais**	**1.16**	**79**	*e*P	Pb	19 15 57.1	-4.6
PMAN	**Manadas**	**1.26**	**84**	*e*S	Sb	19 16 13.6	-6.1
	42nm,0.4s						
PMAN	**Manadas**	**1.26**	**84**	*e*S	Sb	19 16 13.6	-6.1
	42nm,0.4s						
PVIA	**Vitoria**	**1.40**	**66**	*e*P	Pn	19 16 01.1	-4.7
PVIA				*e*S	Sb	19 16 16.3	-7.3
	11nm,0.1s						
STGR	**Santa Cruz**	**1.44**	**66**	*e*P	Pn	19 16 01.9	-4.4
STGR				*e*S	Sb	19 16 17.8	-6.9
	41nm,0.2s						
PPAD	**Pico dos Padre**	**1.89**	**84**	*e*S	Sn	19 16 29.2	-7.8
	13nm,0.1s						

ATH 04 19:27:57.6,38.20N×26.58E,h37km,MD3.0/3
ISK 04 19:27:57.8,38.24N×26.60E,h20km,MD3.0
CSEM 04 19:27:58.6±0.1,38.21N×26.69E,h20km,MD3.0,Error ellipse: s-maj=3.1km s-min=2.4km az=118.0

ISC 04 19:27:56.5±0.9, 38.25N±0.03×26.48E±0.05, h4km±5km, n14, σ0§84/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.14**	**40**	*i* P	**Pg**	**19 27 59.2**	**-0.2**
URLA				*i* S	**Sg**	**19 28 01.2**	**-0.1**
BLCB	**Balcova**	**0.46**	**73**	PG	**Pg**	**19 28 05.4**	**-0.3**
BLCB				SG	**Sg**	**19 28 11.9**	**0.0**
SMG	**Samos**	**0.61**	**152**	*e*PN	**Pg**	**19 28 09.2**	**+0.5**
SMG				*e*SN	**Sg**	**19 28 17.7**	**+0.8**
IZM	**Izmir**	**0.63**	**76**	*i* PG	**Pg**	**19 28 09.0**	**-0.1**
IZM				*i* SG	**Sg**	**19 28 18.0**	**+0.4**
KDAG	**Bornova**	**0.64**	**76**	*i* P	**Pg**	**19 28 08.1**	**-1.1**
KDAG				*i* S	**Sg**	**19 28 16.9**	**-0.8**
PRK	**Paraskevi**	**1.01**	**351**	*e*PN	**Pn**	**19 28 17.7**	**+0.5**
PRK				*e*SN	**Sn**	**19 28 32.4**	**+0.5**
AKS	**Akhisar**	**1.22**	**59**	PN	**Pn**	**19 28 19.5**	**-0.7**
AYDN	**Tasoluk**	**1.25**	**118**	P	**Pb**	**19 28 20.6**	**+0.3**
AYDN				*i* S	**Sb**	**19 28 37.2**	**+0.6**
BODT	**Bodrum**	**1.36**	**151**	*e*PN	**Pn**	**19 28 21.8**	**-0.4**
BODT				*e*SN	**Sn**	**19 28 38.4**	**-2.4**
APE	**Apeiranthos**	**1.40**	**213**	*e*PN	**Pn**	**19 28 22.6**	**-0.2**
APE				*e*SN	**Sn**	**19 28 40.9**	**-1.0**
APE	**Apeiranthos**	**1.40**	**213**	*e*Pn	**Pn**	**19 28 24.2**	**+1.4**
BDRM	**Kayabasi**	**1.41**	**147**	*i* P	**Pn**	**19 28 23.8**	**+0.9**
BDRM				*i* S	**Sb**	**19 28 41.9**	**+0.7**
MANT	**Manisa**	**1.65**	**81**	*i* P	**Pn**	**19 28 28.1**	**+1.7**
MANT				*i* S	**Sb**	**19 28 48.4**	**+0.3**
YER	**Yerkesik**	**1.81**	**127**	*e*PN	**Pn**	**19 28 27.4**	**-1.3**

IDC 04 19:34:08.5±0.6,20.32N×146.22E,mb4.2/14,mb1 4.3/15, mb1mx4.3/24,mbtmp4.2/15,ML3.6/1,MS3.5/7,Ms1 3.6/7, ms1mx3.2/37,Error ellipse: s-maj=24.5km s-min=15.6km az=82.0
NEIC 04 19:34:10.0±0.3,20.31N×146.27E,h10km,mb4.4/6,Error ellipse: s-maj=9.2km s-min=6.6km az=63.0

MOS 04 19:34:11.6±0.9,20.31N×146.22E,h33km,mb5.0/4,Error ellipse: s-maj=22.3km s-min=10.7km az=112.2

ISC 04 19:34:07.5±7.1, 20.27N±0.08×146.2E±0.1, h5km±44km, n42, σ0§82/34, mb4.3/21, MS3.6/6, 1C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**17.66**	**338**	P	**P**	**19 38 15.9**	**0.0**
	0.2nm,0.3s,baz=163,slow=10,SNR=9.3						
MAJO	**Matsushiro**	**17.67**	**338**	*e*P	**P**	**19 38 16.1**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAJO	**Matsushiro**	**17.67**	**338**	*e*P	**P**	**19 38 16.1**	**0.0**
	comp=Z,9.0nm,0.8s						
JOW	**Kunigami**	**17.70**	**295**	LR	LR	19 44 09.9	
	comp=Z,198nm,19.1s,baz=332,slow=34						
ASAJ	**Asahikawa**	**23.97**	**354**	LR	LR	19 48 24.0	
	comp=Z,78nm,20.7s,MS3.2,baz=354,slow=36						
PMG	**Port Moresby**	**29.50**	**178**	P	**P**	**19 40 14.9**	**-0.3**
	comp=Z,15nm,1.3s,mb4.6,baz=342,slow=6.0,SNR=4.3						
WRA	**Warramunga Arr**	**41.62**	**197**	P	**P**	**19 41 59.0**	**+0.5**
	comp=Z,3.8nm,1.1s,mb4.0,baz=24,slow=8.3,SNR=26						
ULN	**Ulaanbaatar**	**41.87**	**320**	*e*P	**P**	**19 42 00.5**	**+0.4**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**41.87**	**320**	*e*P	**P**	**19 42 00.5**	**+0.3**
	comp=Z,1.3nm,0.6s,mb3.7						
SONM	**Songino Array**	**42.25**	**320**	P	**P**	**19 42 03.2**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.6,baz=112,slow=7.7,SNR=6.7						
DZM	**Mont Dzumac**	**46.49**	**154**	P	**P**	**19 42 38.0**	**+0.2**
	comp=Z,3.2nm,0.7s,mb4.3,baz=350,slow=12,SNR=3.9						
BILL	**Bilibino**	**49.39**	**10**	⇑*e*P	**P**	**19 43 00.1**	**+0.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
LSA	**Lhasa**	**50.40**	**292**	*e*P	**P**	**19 43 09.8**	**+1.7**
LSA				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
LSA	**Lhasa**	**50.40**	**292**	*e*P	**P**	**19 43 09.8**	**+1.8**
	comp=Z,1.8nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**52.04**	**185**	P	**P**	**19 43 19.1**	**-1.3**
	comp=Z,1.6nm,0.9s,mb4.0,baz=23,slow=7.7,SNR=3.0						
JIRN	**Jiri**	**54.90**	**290**	*e*P	**P**	**19 43 41.1**	**-0.6**
	comp=Z,20nm,0.9s,mb5.1						
GUN	**Gumba**	**55.15**	**290**	*e*P	**P**	**19 43 44.7**	**+1.2**
PKI	**Pulchoki**	**55.60**	**290**	*e*P	**P**	**19 43 46.8**	**0.0**
KKN	**Kakani**	**55.69**	**290**	*e*P	**P**	**19 43 47.5**	**+0.1**
	comp=Z,9.3nm,0.8s,mb4.9						
KKN	**Kakani**	**55.69**	**290**	*e*P	**P**	**19 43 47.5**	**+0.1**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
DMN	**Daman**	**55.86**	**290**	*e*P	**P**	**19 43 48.9**	**+0.3**
GKN	**Gorkha**	**56.23**	**291**	*e*P	**P**	**19 43 51.4**	**+0.1**
ZAL	**Zalesovo**	**57.09**	**322**	P	**P**	**19 43 56.1**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=16,slow=8.7,SNR=11						
KOLN	**Koldanda**	**57.17**	**291**	*e*P	**P**	**19 43 57.8**	**-0.2**
	comp=Z,13nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**57.75**	**313**	P	**P**	**19 44 01.7**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=89,slow=8.1,SNR=9.4						
ILAR	**Eielson Array**	**62.02**	**27**	P	**P**	**19 44 29.1**	**-1.8**
	comp=Z,1.4nm,0.8s,mb4.1,baz=261,slow=5.9,SNR=14						
ILAR				LR	LR	20 07 43.2	
	comp=Z,44nm,19.7s,MS3.6,baz=0.8,slow=32						
ILAR	**Eielson Array**	**62.02**	**27**	P	**P**	**19 44 29.1**	**-1.8**
ILAR				LR	LR	20 07 43.2	
BBB	**Bella Bella**	**71.63**	**40**	LR	LR	20 17 59.3	
	comp=Z,27nm,18.1s,MS3.5,baz=230,slow=37						
ARU	**Arti**	**72.08**	**324**	*e*P	**P**	**19 45 32.1**	**-2.5**
YKA	**Yellowknife Ar**	**76.38**	**28**	P	**P**	**19 45 59.1**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=288,slow=5.4,SNR=7.9						
NEW	**Newport**	**79.42**	**42**	LR	LR	20 17 27.6	
	comp=Z,51nm,18.7s,MS3.9,baz=115,slow=33						
ARCES	**ARCESS Array B**	**81.16**	**342**	P	**P**	**19 46 25.6**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.3,baz=53,slow=6.1,SNR=7.6						
NVAR	**Mina Array Bea**	**81.79**	**52**	P	**P**	**19 46 30.5**	**+1.5**
	comp=Z,1.5nm,0.9s,mb3.9,baz=268,slow=4.2,SNR=10						
JOF	**Joensuu**	**82.81**	**335**	*e*p	**P**	**19 46 33.5**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.5						
ELK	**Elko**	**83.22**	**49**	P	**P**	**19 46 37.5**	**+1.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=292,slow=5.7,SNR=7.2

ISC 04 19:48:42.1±0.5,**39.90N**±0.02×**23.43E**±0.05,**h13**km±5km, **n14**,σ0**974**/22,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.20**	**82**	*e*Pg		**Pg**	**19 48 46.5**	**-0.1**
PAIG				*e*Sg		**Sg**	**19 48 49.5**	**-0.2**
PLG	**Polygyros**	**0.47**	**2**	*e*PB		**Pb**	**19 48 51.4**	**-0.3**
PLG				*e*SB		**Sb**	**19 48 58.0**	**-0.3**
XOR	**Xorichti**	**0.56**	**199**	*e*Pg		**Pg**	**19 48 54.4**	**+0.8**
OUR	**Ouranopolis**	**0.61**	**44**	*e*Pg		**Pg**	**19 48 54.3**	**-0.1**
OUR				*e*Sg		**Sg**	**19 49 03.0**	**+0.2**
NEO	**Neokhori**	**0.61**	**195**	*e*PN		**Pn**	**19 48 55.7**	**-0.4**
NEO				*e*SN		**Sn**	**19 49 04.6**	**-1.2**
AOS	**Alonnisos**	**0.81**	**154**	*e*Pg		**Pg**	**19 48 58.1**	**-0.3**
THE	**Thessaloniki**	**0.81**	**334**	*e*Pg		**Pg**	**19 48 58.1**	**-0.3**
THE				*e*Sg		**Sg**	**19 49 09.6**	**+0.2**
SOH	**Sokhos**	**0.92**	**357**	*e*Pg		**Pg**	**19 49 00.5**	**-0.1**
AGG	**Agios Georgios**	**1.22**	**224**	*e*Pg		**Pg**	**19 49 06.1**	**-0.4**
AGG				*e*Sg		**Sg**	**19 49 24.1**	**+1.3**
SRS	**Serrai**	**1.22**	**6**	*e*Pg		**Pg**	**19 49 05.9**	**-0.7**
GRG	**Griva**	**1.31**	**324**	*e*Pg		**Pg**	**19 49 08.0**	**-0.4**
GRG				*e*Sg		**Sg**	**19 49 25.9**	**0.0**
KNT	**Kendrikon**	**1.32**	**343**	*e*Pg		**Pg**	**19 49 07.5**	**-1.1**
KNT				*e*Sg		**Sg**	**19 49 26.7**	**+0.5**
NVR	**Nevrokopi**	**1.49**	**13**	*e*PN		**Pn**	**19 49 09.8**	**+1.2**
RDO	**Rodhopi**	**2.04**	**52**	*e*PN		**Pn**	**19 49 18.9**	**+2.4**

NIED ***04*** *20:04:00.24.80N×122.30E,h17km,Mw4.0 Best double couple: M0 1.3×10^15 NP1:ϕs130°,δ86°,λ11°. NP2:ϕs39°, δ79°,λ176°.*

JMA 04 20:04:30.7±0.2,**24.84N×122.34E,h33km,M3.8,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.72**	**122**	P		P	20 04 44.1	-0.2
YOJ				S		S	20 04 53.6	-0.7
IRIF	**Iriomote-Funau**	**1.36**	**111**	P		P	20 04 53.8	+0.2
IRIF				S		S	20 05 11.1	+0.5
HATJ	**Hateruma jima**	**1.55**	**120**	P		P	20 04 56.6	+0.4
HATJ				S		S	20 05 16.6	+1.3
JKRS	**Kuro-shima**	**1.63**	**111**	P		P	20 04 58.1	+0.6
JKRS				S		S	20 05 18.5	+1.0
JIJ	**Ishigaki jima**	**1.71**	**106**	P		P	20 04 58.7	+0.2
JIJ				S		S	20 05 19.9	+0.5
JTJ	**Tarama**	**2.16**	**95**	P		P	20 05 06.5	+1.6

JMA ***04*** *21:07:31.7±0.1,29.19N×130.41E,h76km±5km,M3.3*
IDC ***04*** *21:07:34.4±3.5,29.25N×130.21E,h43km±27km,mb3.6/7, mb1 3.6/9,mb1mx3.5/24,mbtmp3.8/9,ML3.1/2,MS3.2/2, Ms1 3.2/2,ms1mx2.7/32,Error ellipse: s-maj=82.2km s-min=17.4km az=115.0*
NEIC ***04*** *21:07:34.4±1.5,29.28N×130.33E,h47km±13km,mb4.4/4, Error ellipse: s-maj=39.0km s-min=10.2km az=117.0*

ISC 04 21:07:32.1±0.8,**29.17N**±0.04×**130.50E**±0.09,**h51**km±5km, **n26**,σ0**970/33**,**mb4.0**/12,**MS3.4**/1,**1D**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.86**	**321**	P		**P**	**21 07 48.0**	**-0.1**
JNN				S		**S**	**21 08 00.4**	**+0.4**
JZK	**Kikaishima**	**0.96**	**209**	P		**P**	**21 07 50.2**	**+0.7**
JAM	**Amami Oshima**	**1.08**	**226**	P		**P**	**21 07 50.8**	**-0.4**
JAM				S		**S**	**21 08 06.5**	**+1.1**
JKC	**Kuchinoerabu**	**1.32**	**349**	P		**P**	**21 07 54.9**	**+0.3**
JKC				S		**S**	**21 08 11.7**	**+0.4**
JTN	**Tanegashima 3**	**1.54**	**16**	P		**P**	**21 07 57.4**	**-0.3**
JTN				S		**S**	**21 08 17.0**	**+0.3**
JTK	**Tokunoshima**	**1.93**	**225**	P		**P**	**21 08 03.1**	**-0.1**
JTK				S		**S**	**21 08 24.9**	**-1.4**
JTSR	**Tashiro 2**	**2.03**	**10**	P		**P**	**21 08 04.8**	**+0.3**
JTSR				S		**S**	**21 08 28.1**	**-0.6**
JSU	**Suzuyama**	**2.33**	**359**	P		**P**	**21 08 08.1**	**-0.8**
JOW	**Kunigami**	**3.04**	**221**	P		**P**	**21 08 19.8**	**+0.8**
	5.2nm,0.3s,baz=121,slow=19,SNR=3.5							
JOW				S		**S**	**21 08 53.2**	**-1.2**
	18nm,0.3s,baz=283,slow=28,SNR=2.7							
JOW				LR		LR	21 09 40.6	
	comp=Z,200nm,21.0s,baz=104,slow=43							
JNU	**Nakatsue**	**3.96**	**5**	P		**P**	**21 08 31.7**	**-0.2**
	1.9nm,0.3s,baz=179,slow=1.3,SNR=5.8							
SONM	**Songino Array**	**26.34**	**322**	P		**P**	**21 13 02.9**	**-2.1**
	0.6nm,0.8s,mb3.2,baz=138,slow=7.4,SNR=4.1							
SONM				LR		LR	21 24 52.5	
	comp=Z,110nm,18.1s,MS3.4,baz=319,slow=40							
JIRN	**Jiri**	**38.83**	**279**	*e*P		**P**	**21 14 55.2**	**+1.3**
GUN	**Gumba**	**39.04**	**279**	*e*P		**P**	**21 14 56.5**	**+0.9**
	5.8nm,0.4s,mb4.7							
PKI	**Pulchoki**	**39.52**	**279**	*e*P		**P**	**21 14 59.5**	**-0.1**
	9.3nm,0.7s,mb4.6							
KKN	**Kakani**	**39.58**	**279**	*e*P		**P**	**21 15 00.2**	**+0.1**
	6.1nm,0.6s,mb4.5							
DMN	**Daman**	**39.77**	**279**	*e*P		**P**	**21 15 02.3**	**+0.6**
GKN	**Gorkha**	**40.09**	**280**	*e*P		**P**	**21 15 03.9**	**-0.4**
	3.8nm,0.5s,mb4.4							
KOLN	**Koldanda**	**41.04**	**280**	*e*P		**P**	**21 15 12.3**	**+0.1**
MKAR	**Makanchi Array**	**41.17**	**309**	P		**P**	**21 15 13.2**	**+0.1**
	0.6nm,0.8s,mb3.3,baz=101,slow=8.1,SNR=4.8							
KAKA	**Kakadu**	**41.67**	**177**	*e*P		**P**	**21 15 17.8**	**+0.2**
	1.7nm,0.7s,mb3.8							
KAKA	**Kakadu**	**41.67**	**177**	⇓*i*P		**P**	**21 15 17.8**	**+0.2**
	7.6nm,0.5s,mb4.6							
BVAR	**Borovoye Array**	**49.48**	**316**	P		**P**	**21 16 18.7**	**-0.5**
	1.3nm,0.6s,mb4.2,baz=94,slow=9.3,SNR=17							
AKTO	**Aktyubinsk**	**57.24**	**314**	P		**P**	**21 17 16.3**	**-0.2**
	2.1nm,0.7s,mb4.3,baz=64,slow=15,SNR=6.3							
FINES	**FINESS Array B**	**71.30**	**331**	P		**P**	**21 18 47.3**	**-0.5**
	1.0nm,0.8s,mb3.8,baz=63,slow=6.2,SNR=5.5							
BRTR	**Keskin Array B**	**76.81**	**308**	P		**P**	**21 19 20.5**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=100,slow=7.5,SNR=6.0							
NOA	**NORSAR Array B**	**77.56**	**334**	P		**P**	**21 19 24.8**	**+0.8**
	1.0nm,0.8s,mb3.8,baz=15,slow=5.7,SNR=3.3							

NEIC ***04*** *21:10:17.1±5.3,4.24S×152.60E,h130km±40km,mb3.7/1, Error ellipse: s-maj=57.8km s-min=48.7km az=107.0*
IDC ***04*** *21:10:20.4±7.3,4.50S×152.65E,h151km±57km,mb3.7/2, mb1 3.8/3,mb1mx3.4/14,mbtmp4.1/3,Error ellipse: s-maj=51.8km s-min=37.0km az=46.0*

ISC 04 21:10:18.4±3.1,**4.3S**±0.6×**152.6E**±0.4,**h150**km,**n8**, σ0**953/7**,**mb4.0**/2,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.37**	**227**	P		P	**21 12 05.1**	**+0.8**
	1.8nm,0.3s,baz=58,slow=13,SNR=4.4							
PMG				S		**S**	**21 13 26.7**	**-0.2**
	1.1nm,0.3s,baz=113,slow=21,SNR=4.8							
PMG	**Port Moresby**	**7.37**	**227**	P		**P**	**21 12 03.1**	**-1.2**
PMG				*e*S		**S**	**21 13 27.2**	**+0.3**
WRA	**Warramunga Arr**	**23.59**	**227**	P		**P**	**21 15 16.8**	**+0.1**
	4.2nm,0.4s,mb4.3,baz=54,slow=10.0,SNR=71							
VNDA	**Vanda**	**73.30**	**178**	P		**P**	**21 21 34.7**	**0.0**
	1.3nm,0.8s,mb3.7,baz=340,slow=6.4,SNR=5.4							
VNDA	**Vanda**	**73.30**	**178**	*e*P		**P**	**21 21 34.7**	**0.0**
	1.0nm,0.6s,mb3.7							
GERES	**GERESS Array B**	**123.55**	**329**	PKP		PKPdf	21 28 59.5	+1.4
	0.4nm,0.6s,baz=135,slow=1.4,SNR=3.9							
TORD	**Torodi Ar. Bea**	**149.95**	**289**	PKPbc		PKPdf	21 29 54.0	+7.2
	4.2nm,0.7s,baz=70,slow=2.3,SNR=84							
TORD				PKPab		PKPab	21 30 00.8	+0.5
	2.9nm,1.0s,baz=50,slow=1.3,SNR=6.9							
BDFB	**Brasilia**	**151.54**	**135**	PKPbc		PKPdf	21 29 56.9	+7.8
	1.3nm,0.5s,baz=191,slow=5.2,SNR=3.2							
BDFB				PKPab		PKPab	21 30 05.4	-1.6
	1.2nm,0.5s,baz=243,slow=6.8,SNR=2.5							

MOS ***04*** *21:13:18.2±0.8,5.94S×154.39E,h33km,mb5.1/7,Error ellipse: s-maj=14.1km s-min=13.2km az=147.1*
BJI ***04*** *21:13:20.0,6.10S×154.40E,h56km,mB5.3,mb4.9,Ms4.9, Msz4.5*
IDC ***04*** *21:13:21.0±1.8,5.95S×154.33E,h44km±16km,mb4.1/13, mb1 4.3/16,mb1mx4.3/20,mbtmp4.4/16,ML4.5/3,MS3.8/9, Ms1 3.8/9,ms1mx3.6/26,Error ellipse: s-maj=16.9km s-min=14.0km az=10.0*
NEIC ***04*** *21:13:22.1±1.3,6.07S×154.42E,h56km±12km,mb5.0/16, Error ellipse: s-maj=10.8km s-min=8.3km az=188.0*

ISC 04 21:13:20.1±1.8,**6.12S**±0.09×**154.42E**±0.05,**h52**km±17km, **n74**,σ0**997/70**,**mb4.8**/40,**MS4.1**/8,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.39**	**121**	P		**P**	**21 14 54.9**	**+1.0**
	20nm,0.3s,baz=207,slow=1.0,SNR=7.5							
HNR				S		**S**	**21 16 12.2**	**+5.9**
	7.3nm,0.3s,baz=240,slow=14,SNR=3.7							
HNR				LR		LR	21 17 18.9	
	comp=Z,582nm,21.3s,baz=132,slow=36							
PMG	**Port Moresby**	**7.90**	**245**	P		**P**	**21 15 15.2**	**+0.3**
	16nm,0.3s,baz=52,slow=9.2,SNR=67							
PMG				S		**S**	**21 16 43.1**	**-0.7**
	3.4nm,0.3s,baz=341,slow=23,SNR=12							
PMG				LR		LR	21 18 08.8	
	comp=Z,730nm,20.5s,baz=98,slow=36							
PMG	**Port Moresby**	**7.90**	**245**	*e*P		**P**	**21 15 13.2**	**-1.7**
PMG				*e*S		**S**	**21 16 41.2**	**-2.6**
PMG				S		**S**	**21 16 43.1**	**-0.7**
CTAO	**Charters Tower**	**15.99**	**209**	*e*P		**P**	**21 17 04.4**	**+1.2**
CTAO				pmax		pmax		
	comp=Z,22nm,0.9s							
CTAO	**Charters Tower**	**15.99**	**209**	*e*P		**P**	**21 17 04.4**	**+1.2**
	comp=Z,22nm,0.9s							
NOUC	**Port Laguerre**	**19.60**	**145**	*e*P		**P**	**21 17 45.8**	**-1.1**
DZM	**Mont Dzumac**	**19.66**	**145**	*e*P		**P**	**21 17 46.2**	**-1.3**
DZM	**Mont Dzumac**	**19.66**	**145**	P		**P**	**21 17 46.8**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=351,slow=11,SNR=14							
DZM				LR		LR	21 24 21.5	
	comp=Z,244nm,19.5s,baz=346,slow=33							
DZM	**Mont Dzumac**	**19.66**	**145**	P		**P**	**21 17 46.8**	**-0.7**
DZM				LR		LR	21 24 21.5	
WRA	**Warramunga Arr**	**23.86**	**233**	P		**P**	**21 18 29.6**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.1,baz=58,slow=9.5,SNR=22							
WRA				PcP		PcP	21 22 13.1	-0.2
	comp=Z,5.6nm,0.7s,baz=57,slow=2.4,SNR=17							
WRA				ScP			21 25 49.4	
	comp=Z,1.8nm,1.0s,baz=61,slow=2.9,SNR=6.3							
STKA	**Stephens Creek**	**28.29**	**203**	P		**P**	**21 19 09.6**	**-1.4**
	comp=Z,1.9nm,0.8s,mb3.8,baz=20,slow=4.8,SNR=4.7							
STKA				PcP		PcP	21 22 22.6	-0.6
	comp=Z,5.3nm,0.8s,baz=5.3,slow=4.0,SNR=6.0							
STKA				ScP			21 26 02.5	
	comp=Z,2.9nm,0.8s,baz=129,slow=16,SNR=3.4							
STKA				LR		LR	21 30 12.3	
	comp=Z,228nm,19.4s,MS3.8,baz=26,slow=36							
STKA	**Stephens Creek**	**28.29**	**203**	*e*P		**P**	**21 19 09.9**	**-1.1**
STKA				PcP		PcP	21 22 22.6	-0.6
STKA				ScP			21 26 02.5	
STKA				LR		LR	21 30 12.3	
AFI	**Afiamalu**	**34.14**	**106**	LR		LR	21 30 26.8	
	comp=Z,518nm,19.2s,MS4.3,baz=144,slow=30							
URZ	**Urewera**	**38.04**	**150**	P		**P**	**21 20 38.0**	**+2.8**
	comp=Z,5.8nm,0.4s,mb4.7,baz=250,slow=4.4,SNR=5.4							
KSM	**Kuching**	**44.68**	**278**	*e*P		**P**	**21 21 29.5**	**-0.7**
MJAR	**Matsushiro Ar**	**45.08**	**341**	LR		LR	21 36 36.3	
	comp=Z,81nm,21.8s,MS3.6,baz=210,slow=31							
ENH	**Enshi**	**56.23**	**313**	*e*P		**P**	**21 22 57.3**	**-0.4**
	comp=Z,25nm,1.0s,mb5.2							
KMI	**Kunming**	**59.06**	**304**	P		**P**	**21 23 18.6**	**+1.0**
KMI				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.2							
CD2	**Chengdu**	**60.82**	**310**	P		**P**	**21 23 30.1**	**+0.5**
CD2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.3							
HHC	**Hu-ho-hao-te**	**61.06**	**324**	*e*P		**P**	**21 23 30.7**	**-0.3**
HHC				AP		pP	21 23 46.9	+1.4
HHC				XP		sP	21 23 53.8	+2.3
HHC				PP		PP	21 25 46.7	-1.3
HHC				S		**S**	**21 31 43.5**	**-0.7**
HHC				XS			21 32 08.5	
HHC				SS		SS	21 35 43.7	-2.2
HHC				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.9							
HHC				AMB		AMB		
	comp=Z,180nm,5.1s							
HHC				LR		LR		
	comp=N,210nm,13.1s,MS4.6							
HHC				LR		LR		
	comp=E,230nm,14.3s,MS4.6							
HHC				LR		LR		
	comp=Z,130nm,15.5s,MS4.2							
HIA	**Hailar**	**62.90**	**335**	*e*P		**P**	**21 23 42.8**	**-0.4**
HIA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
HIA	**Hailar**	**62.90**	**335**	*e*P		**P**	**21 23 42.8**	**-0.5**
	comp=Z,6.9nm,0.8s,mb4.8							
LZH	**Lanzhou**	**63.30**	**316**	*e*P		**P**	**21 23 44.5**	**-1.6**
LZH				AMB		AMB		
	comp=Z,20nm,1.1s,mb5.2							
LZH				AMB		AMB		
	comp=Z,40nm,5.4s							
LZH				LR		LR		
	comp=E,390nm,13.5s							
LZH				LR		LR		
	comp=Z,590nm,17.3s,MS4.8							
GTA	**Gaotai**	**67.72**	**317**	*e*P		**P**	**21 24 15.4**	**+1.1**
SONM	**Songino Array**	**68.30**	**327**	P		**P**	**21 24 18.3**	**+0.5**
	comp=Z,2.4nm,0.9s,mb4.2,baz=146,slow=5.7,SNR=10.0							
LSA	**Lhasa**	**70.31**	**304**	*e*P		**P**	**21 24 31.6**	**+1.1**
LSA	**Lhasa**	**70.31**	**304**	*e*P		**P**	**21 24 31.3**	**+0.8**
LSA				pmax		pmax		
	comp=Z,24nm,0.8s,mb5.2							
LSA	**Lhasa**	**70.31**	**304**	*e*P		**P**	**21 24 31.3**	**+0.8**
	comp=Z,24nm,0.8s,mb5.2							
ZAK	**Zakamensk**	**71.46**	**328**	*e*P		**P**	**21 24 37.1**	**+0.1**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.0							
BOK	**Bokaro**	**73.09**	**297**	*e*P		**P**	**21 24 49.2**	**+1.9**
BOK				AMb		AMB	21 24 50.0	
	comp=Z,21nm,1.4s,mb4.9							
JIRN	**Jiri**	**73.85**	**301**	*e*P		**P**	**21 24 52.4**	**+0.8**
	comp=Z,41nm,0.8s,mb5.4							
GUN	**Gumba**	**74.18**	**301**	*e*P		**P**	**21 24 54.5**	**+1.0**
	comp=Z,89nm,0.8s,mb5.8							
PKI	**Pulchoki**	**74.49**	**301**	*e*P		**P**	**21 24 55.8**	**+0.5**
KKN	**Kakani**	**74.66**	**301**	*e*P		**P**	**21 24 56.8**	**+0.5**
	comp=Z,52nm,0.7s,mb5.5							
KKN	**Kakani**	**74.66**	**301**	*e*P		**P**	**21 24 56.8**	**+0.5**
KKN				pmax		pmax		
	comp=Z,26nm,0.7s,mb5.3							
DMN	**Daman**	**74.76**	**301**	*e*P		**P**	**21 24 57.6**	**+0.7**
	comp=Z,113nm,0.8s,mb5.9							
GKN	**Gorkha**	**75.26**	**301**	*e*P		**P**	**21 25 00.3**	**+0.6**
	comp=Z,94nm,0.8s,mb5.8							
KOLN	**Koldanda**	**76.09**	**300**	*e*P		**P**	**21 25 04.8**	**+0.3**
	comp=Z,88nm,0.8s,mb5.8							
BHPL	**Bhopal**	**80.55**	**295**	*e*P		**P**	**21 25 28.9**	**-0.1**
BHPL				AMb		AMB	21 25 29.3	
	comp=Z,22nm,0.7s,mb5.2							
IMA2	**Indian Mountai**	**81.17**	**19**	*e*P		**P**	**21 25 31.2**	**-0.2**
MCK	**McKinley**	**81.47**	**22**	*e*P		**P**	**21 25 32.1**	**-0.9**
MCK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
MCK	**McKinley**	**81.47**	**22**	*e*P		**P**	**21 25 32.1**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.2							
KLP	**Kalpa**	**81.50**	**303**	*e*P		**P**	**21 25 35.0**	**+1.2**
KLP				AMb		AMB	21 25 35.5	
	comp=Z,13nm,0.7s,mb5.0							
BISR	**Bishrakh**	**81.57**	**300**	*e*P		**P**	**21 25 34.1**	**-0.2**
BISR				AMb		AMB	21 25 35.9	
	comp=Z,13nm,0.6s,mb5.0							
AYAN	**Aya Nagar**	**81.82**	**300**	*e*P		**P**	**21 25 35.1**	**-0.5**
KUDL	**Kundal**	**82.31**	**299**	*e*P		**P**	**21 25 37.7**	**-0.4**
KUDL				AMb		AMB	21 25 39.1	
	comp=Z,13nm,0.8s,mb4.9							
MKAR	**Makanchi Array**	**82.38**	**319**	P		**P**	**21 25 38.2**	**+0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=93,slow=7.7,SNR=8.3							
COLA	**College**	**82.48**	**21**	*e*P		**P**	**21 25 36.7**	**-1.5**
COLA				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
COLA	**College**	**82.48**	**21**	*e*P		**P**	**21 25 36.7**	**-1.5**
	comp=Z,2.7nm,0.8s,mb4.2							
ILAR	**Eielson Array**	**82.78**	**22**	P		**P**	**21 25 38.3**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.2,baz=252,slow=5.6,SNR=18							
KHET	**Khetri**	**82.88**	**299**	*e*P		**P**	**21 25 41.2**	**+0.2**
KHET				AMb		AMB	21 25 41.8	
	comp=Z,33nm,0.6s,mb5.6							
ZAL	**Zalesovo**	**83.15**	**326**	P		**P**	**21 25 41.1**	**-0.7**
	comp=Z,0.8nm,0.5s,mb4.0,baz=325,slow=4.3,SNR=4.4							
AJM	**Ajmer**	**83.62**	**297**	*e*P		**P**	**21 25 44.9**	**+0.1**
AJM				AMb		AMB	21 25 46.4	
	comp=Z,41nm,1.0s,mb5.5							
QSPA	**South Pole Qui**	**83.85**	**180**	*e*P		**P**	**21 25 44.9**	**+0.1**
	comp=Z,6.9nm,0.4s,mb5.1							
KSH	**Kashi**	**85.02**	**310**	*e*P		**P**	**21 25 54.4**	**+2.8**
KSH				*e*AP		pP	21 26 04.6	-2.1
KSH				*e*XP		sP	21 26 10.0	-2.3
KSH				AMB		AMB		
	comp=Z,250nm,5.0s							
INK	**Inuvik**	**89.11**	**21**	P		**P**	**21 26 08.6**	**-2.1**
	comp=Z,0.6nm,0.5s,mb4.2,baz=223,slow=9.8,SNR=3.4							
BVAR	**Borovoye Array**	**91.26**	**323**	P		**P**	**21 26 19.8**	**-1.3**
	comp=Z,0.7nm,0.6s,mb4.2,baz=108,slow=4.6,SNR=5.6							
NVAR	**Mina Array Bea**	**91.63**	**52**	P		**P**	**21 26 24.8**	**+1.5**
	comp=Z,3.5nm,0.9s,mb4.7,baz=254,slow=9.4,SNR=24							
NVAR				LR		LR	22 03 32.7	
	comp=Z,31nm,20.4s,MS3.7,baz=220,slow=33							
MNV	**Mina**	**91.75**	**52**	*e*P		**P**	**21 26 24.3**	**+0.6**
MNV				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.8							
MNV	**Mina**	**91.75**	**52**	*e*P		**P**	**21 26 24.3**	**+0.6**
	comp=Z,4.3nm,0.9s,mb4.8							
TPNV	**Topopah Spring**	**93.10**	**53**	P		**P**	**21 26 29.4**	**-0.6**
TPNV				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.7							
TPNV	**Topopah Spring**	**93.10**	**53**	P		**P**	**21 26 29.4**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.7							
HLID	**Hailey**	**95.02**	**47**	*e*P		**P**	**21 26 38.6**	**0.0**
	comp=Z,0.7nm,0.7s,mb4.2							
YKA	**Yellowknife Ar**	**95.84**	**28**	P		**P**	**21 26 41.9**	**+0.1**
	comp=Z,0.5nm,0.8s,mb4.0,baz=268,slow=4.5,SNR=4.3							
PDAR	**Pinedale Array**	**98.54**	**48**	P		**P**	**21 26 54.2**	**-0.3**
	comp=Z,1.5nm,1.0s,mb4.5,baz=166,slow=6.1,SNR=4.1							
PDAR				LR		LR	22 03 24.0	
	comp=Z,80nm,20.4s,MS4.2,baz=248,slow=30							
PDAR	**Pinedale Array**	**98.54**	**48**	P		**P**	**21 26 54.2**	**-0.3**
PDAR				LR		LR	22 03 23.9	
AKTO	**Aktyubinsk**	**98.77**	**320**	P		**P**	**21 26 54.4**	**-0.9**
	comp=Z,0.9nm,0.7s,mb4.4,baz=286,slow=7.4,SNR=4.9							
AKTO				LR		LR	22 09 37.7	
	comp=Z,33nm,18.7s,MS3.9,baz=144,slow=34							
MATP	**Matopo**	**120.69**	**242**	PKP		PKPdf	21 32 08.6	+1.4
	comp=Z,4.6nm,0.6s,baz=75,slow=1.6,SNR=23							
LBTB	**Lobatse**	**121.40**	**236**	PKP		PKPdf	21 32 10.0	+1.5
	comp=Z,2.5nm,0.6s,baz=114,slow=2.9,SNR=8.6							
LSZ	**Lusaka**	**122.65**	**248**	PKP		PKPdf	21 32 12.1	+1.0
	comp=Z,2.0nm,0.5s,baz=140,slow=2.5,SNR=6.8							
TSUM	**Tsumeb**	**130.60**	**238**	PKP		PKPdf	21 32 28.7	+2.3
	comp=Z,3.7nm,0.8s,baz=102,slow=2.2,SNR=7.8							
BDFB	**Brasilia**	**149.00**	**134**	PKPbc		PKPdf	21 33 04.4	+5.2
	comp=Z,3.7nm,0.6s,baz=324,slow=2.9,SNR=6.0							
TORD	**Torodi Ar. Bea**	**152.24**	**287**	PKPbc		PKPdf	21 33 11.8	+7.6
	comp=Z,5.2nm,0.6s,baz=93,slow=2.1,SNR=92							
TORD				PKPab		PKPab	21 33 22.5	-0.8
	comp=Z,2.2nm,0.8s,baz=95,slow=2.9,SNR=4.7							
DBIC	**Dimbokro**	**159.40**	**273**	PKPab		PKPab	21 33 53.8	-0.1
	comp=Z,1.5nm,0.5s,baz=200,slow=14,SNR=5.8							

CSEM ***04*** *21:48:43.1,23.15S×179.35E,h33km,mb5.5*
BJI ***04*** *21:49:34.8,23.89S×179.52E,h550km,mB5.1,mb4.9*
MOS ***04*** *21:49:34.9±2.7,24.30S×179.25E,h543km,mb5.0/6,Error ellipse: s-maj=13.1km s-min=11.7km az=78.5*
IDC ***04*** *21:49:35.3±0.6,24.00S×179.22E,h537km±6km,mb4.0/13, mb1 4.2/15,mb1mx4.2/17,mbtmp4.8/15,Error ellipse: s-maj=10.6km s-min=9.6km az=142.0*
NEIC ***04*** *21:49:35.7±0.2,24.08S×179.23E,mb4.7/20,Error ellipse: s-maj=6.9km s-min=5.3km az=134.0*

ISC 04 21:49:33.9±0.2,**24.21S**±0.04×**179.26E**±0.05,**h538**km, **h538**km±3.4km:**pP-P**,**n213**,σ0**996**/108,**mb4.7**/38,**19C-18D**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.62**	**154**	P		**P**	**21 51 11.2**	**+2.0**
	86nm,0.3s,baz=240,slow=24,SNR=8.0							
RAO				S		**S**	**21 52 28.4**	**+3.6**
	61nm,0.3s,baz=110,slow=21,SNR=3.8							
RAO	**Raoul Island**	**5.62**	**154**	*e*P		**P**	**21 51 10.3**	**+1.1**
RAO				p

WRA PcP PcP 21 58 21.3 -0.3
WRA ScP 22 01 22.2
WRA S **S** **22 02 14.5 -1.8**
FORT Forrest 45.57 250⇓*i*P **P** **21 57 06.5 -0.8**
comp=Z,178nm,0.6s
KAKA Kakadu 45.67 276⇓*i*P Px 21 57 28.6
comp=Z,44nm,0.4s
VNDA Vanda 54.02 185 P **P** **21 58 10.2 +1.2**
comp=Z,2.0nm,0.8s,baz=348,slow=8.6,SNR=7.6
VNDA PcP PcP 21 59 06.0 +0.4
comp=Z,1.5nm,0.6s,baz=348,slow=3.7,SNR=6.2
VNDA Vanda 54.02 185 *e*P **P** **21 58 09.2 +0.2**
SBA Scott Base 54.03 183 P **P** **21 58 09.2 +0.1**
SBA pmax pmax
comp=Z,16nm,1.0s,mb4.3
SBA Scott Base 54.03 183 P **P** **21 58 09.2 +0.1**
comp=Z,16nm,1.0s,mb4.3
KLBR Kellerberrin 54.25 248⇓*i*P **P** **21 58 10.1 -1.1**
comp=Z,37nm,0.7s,mb4.8
MUN Mundaring 55.49 247⇑*i*P **P** **21 58 19.4 -0.5**
CASY Casey 59.54 206 *e*P **P** **21 58 46.0 -0.8**
comp=Z,28nm,0.9s,mb4.6
QSPA South Pole Qui 65.87 180 *e*P **P** **21 59 28.5 +1.2**
comp=Z,28nm,1.2s,mb4.7
KKM Kota Kinabalu 68.35 287 *e*P **P** **21 59 42.7 -0.9**
KSM Kuching 71.50 280 *e*P **P** **22 00 01.2 -0.9**
MJAR Matsushiro Arr 71.78 326 P **P** **22 00 02.3 -1.1**
comp=Z,18nm,0.8s,mb4.5,baz=160,slow=5.5,SNR=32
MAW Mawson 77.22 201 P **P** **22 00 34.6 +1.5**
comp=Z,7.7nm,0.2s,mb4.7,baz=130,slow=7.6,SNR=16
SSE Sheshan 78.19 312 P **P** **22 00 38.5 -0.6**
SSE AMB AMB
comp=Z,20nm,0.9s,mb4.5
SSE AMB AMB
comp=Z,280nm,4.1s
NJ2 Nanjing 80.36 311 *e*P **P** **22 00 50.8 +0.4**
NJ2 AP pP 22 02 47.6 +0.8
NJ2 XP sP 22 03 41.5 +0.6
NJ2 PP PP 22 04 05.2 +1.7
NJ2 S S 22 10 11.0 -0.8
NJ2 XS 22 13 35.0
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,260nm,4.6s
MDJ Mudanjiang 82.15 327 P **P** **22 00 59.7 +0.5**
MDJ AP pP 22 02 54.4 -1.8
MDJ XP sP 22 03 48.3 -1.8
MDJ S S 22 10 32.1 +2.7
MDJ AMB AMB
comp=Z,30nm,1.3s,mb4.6
MDJ AMB AMB
comp=Z,210nm,3.6s
MDJ Mudanjiang 82.15 327 *e*P **P** **22 00 59.5 +0.3**
comp=Z,12nm,1.2s,mb4.2
HABR Khabarovsk 82.47 332 *i*P **P** **22 00 54.6 -6.1**
SYO Syowa Base 82.55 194 ⇓P **P** **22 01 01.0 +0.2**
SYO Syowa Base 82.55 194 ⇓PcP PcP 22 01 05.5 +0.7
WHN Wuhan 82.66 308 P **P** **22 01 07.5 +0.3**
CN2 Changchun 83.74 324 *e*P **P** **22 01 07.5 +0.3**
CN2 *e*AP pP 22 03 04.5 -0.2
CN2 *e*S S 22 10 45.3 +0.4
CN2 AMB AMB
comp=Z,50nm,0.9s,mb5.0
CMB Columbia Colle 83.89 44 *e*P **P** **22 01 08.0 -0.1**
CMB pmax pmax
comp=Z,11nm,0.9s,mb4.4
CMB Columbia Colle 83.89 44 *e*P **P** **22 01 08.0 0.0**
comp=Z,11nm,0.9s,mb4.4
OHCM Honcut 84.00 42 *e*P **P** **22 01 08.6 0.0**
SNAA Sanae 84.37 179⇑*i*P **P** **22 01 09.9 +0.3**
SNAA Sanae 84.37 179⇑*i*P **P** **22 01 09.9 +0.3**
VNA2 Neumayer--Watz 85.01 178⇑*i*P **P** **22 01 14.0 +1.2**
VNA2 Neumayer--Watz 85.01 178⇑*i*P **P** **22 01 14.0 +1.2**
NVAR Mina Array Bea 85.44 44 P **P** **22 01 16.3 +0.7**
comp=Z,2.5nm,0.7s,mb3.8,baz=227,slow=10,SNR=21
NVAR pP pP 22 03 12.9 -0.7
comp=Z,1.1nm,1.0s,baz=202,slow=5.3,SNR=3.5
NVAR PP PP 22 04 43.5 -0.8
comp=Z,1.1nm,1.0s,baz=225,slow=10,SNR=4.2
TPNV Topopah Spring 85.93 46 *e*P **P** **22 01 18.2 +0.2**
TPNV pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
TPNV Topopah Spring 85.93 46 *e*P **P** **22 01 18.2 +0.2**
comp=Z,4.4nm,0.7s,mb4.2
ENH Enshi 86.07 306 *e*P **P** **22 01 18.1 -0.7**
comp=Z,38nm,1.4s,mb4.8
MOD Modoc 86.27 41 *e*P **P** **22 01 19.6 +0.1**
comp=Z,4.3nm,0.7s,mb4.2
GYA Guiyang 86.33 301⇑*i*P **P** **22 01 20.5 +0.4**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
WVOR Wild Horse Val 87.58 41 *e*P **P** **22 01 25.8 +0.2**
WVOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
WVOR Wild Horse Val 87.58 41 *e*P **P** **22 01 25.8 +0.2**
comp=Z,8.9nm,1.0s,mb4.5
XAN Xi'an 88.40 309 P **P** **22 01 29.9 +0.2**
XAN AMB AMB
comp=Z,30nm,1.1s,mb4.9
ELK Elko 88.71 44 *e*P **P** **22 01 31.2 +0.2**
ELK *e**PP pP 22 03 32.5 +2.6
ELK pmax pmax
comp=Z,5.0nm,1.1s
ELK Elko 88.71 44 *e*P **P** **22 01 31.1 +0.2**
comp=Z,5.4nm,1.1s,mb4.3
ELK *e*pP pP 22 03 32.5 +2.5
MSU Marysvale 89.49 47 *e*P **P** **22 01 35.7 +1.1**
HHC Hu-ho-hao-te 90.16 315 *e*P **P** **22 01 38.5 +0.8**
HHC AP pP 22 03 38.3 +1.3
HHC XP sP 22 04 31.5 +1.4
HHC PP PP 22 05 23.4 +0.9
HHC SKS SKS 22 11 16.7 -0.2
HHC S S 22 11 44.0 0.0
HHC XS 22 15 16.1
HHC SS SS 22 18 03.0 -0.6
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
HHC AMB AMB
comp=Z,190nm,3.7s
TMUT Trail Mountain 90.54 47 *e*P **P** **22 01 40.3 +0.8**
MPU Maple Canyon 90.63 46 *e*P **P** **22 01 40.1 +0.2**
comp=Z,5.9nm,0.8s,mb4.6
CD2 Chengdu 90.69 304⇓*i*P **P** **22 01 41.2 +0.9**
CD2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
SRU San Rafael 90.90 47 *e*P **P** **22 01 41.3 +0.2**
SRU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SRU San Rafael 90.90 47 *e*P **P** **22 01 41.3 +0.2**
comp=Z,4.1nm,0.7s,mb4.5
TXAR Lajitas Array 91.17 58 P **P** **22 01 43.5 +0.9**
comp=Z,3.5nm,0.7s,mb4.4,baz=212,slow=6.5,SNR=46
TXAR pP pP 22 03 41.3 -0.8
comp=Z,0.4nm,0.8s,baz=207,slow=6.0,SNR=3.7
TXAR PKKPbc 22 19 03.4
comp=Z,0.3nm,0.9s,baz=56,slow=4.5,SNR=5.3
TCUT Toone Canyon 91.35 45 *e*P **P** **22 01 43.4 +0.3**
ANMO Albuquerque 91.68 52 P **P** **22 01 45.1 +0.3**
comp=Z,1.3nm,0.6s,mb4.2,baz=200,slow=5.6,SNR=6.7
ANMO Albuquerque 91.68 52 *d*/*i*P **P** **22 01 45.4 +0.6**
BILL Bilibino 92.48 355 *e*P **P** **22 01 47.9 +0.2**
BILL pmax pmax
comp=Z,14nm,2.5s,mb4.5
ILAR Eielson Array 92.49 14 P **P** **22 01 46.0 -1.8**
comp=Z,0.3nm,0.6s,baz=225,slow=5.5,SNR=9.9
ILAR pP pP 22 03 47.8 +0.4
comp=Z,0.1nm,0.5s,baz=319,slow=33,SNR=3.3
ILAR PP PP 22 05 39.6 -0.4
comp=Z,0.7nm,1.1s,baz=212,slow=7.7,SNR=4.6
PDAR Pinedale Array 93.38 44 P **P** **22 01 52.4 0.0**
comp=Z,1.4nm,0.8s,mb4.1,baz=198,slow=2.8,SNR=11
PDAR pP pP 22 03 52.7 +0.6
comp=Z,0.9nm,0.9s,baz=225,slow=4.2,SNR=5.1
PDAR PP PP 22 05 42.0 -5.5
comp=Z,0.8nm,0.9s,baz=243,slow=6.6,SNR=5.2
ULN Ulaanbaatar 96.53 320 *e*P **P** **22 02 06.0 -0.6**
SONM Songino Array 96.90 320 P **P** **22 02 08.0 -0.3**
comp=Z,0.9nm,0.7s,mb4.1,baz=155,slow=3.7,SNR=7.9
INK Inuvik 98.51 16 P **P** **22 02 14.5 -0.6**
comp=Z,1.2nm,1.0s,mb4.2,baz=242,slow=6.8,SNR=2.6
ZAL Zalesovo 111.77 321 PKiKP 22 07 07.0
comp=Z,0.6nm,0.6s,baz=14,slow=2.4,SNR=4.9
MKAR Makanchi Array 111.87 313 PKiKP 22 07 07.5
comp=Z,0.8nm,0.6s,baz=208,slow=1.1,SNR=11

BVAR Borovoye Array 120.23 319 PKP PKPdf 22 07 23.7 +0.3
comp=Z,3.4nm,0.7s,baz=110,slow=1.2,SNR=26
ARU Arti 126.73 323 *i* PKIKP PKPdf 22 07 36.2 +0.4
ARU *e* 22 09 45.1
SFJD Kangerlussuaq 127.32 22 PKP PKPdf 22 07 37.0 +0.4
comp=Z,5.5nm,0.6s,baz=50,slow=7.9,SNR=3.3
AKTO Aktyubinsk 128.05 316 PKP PKPdf 22 07 39.2 +0.8
comp=Z,3.2nm,0.8s,baz=80,slow=2.1,SNR=12
ARCES ARCESS Array B 132.05 349 PKhKP 22 07 37.0
comp=Z,1.2nm,0.8s,slow=1.2,SNR=5.0
ARCES PKP PKPdf 22 07 45.9 +0.3
comp=Z,3.6nm,0.7s,baz=66,slow=1.7,SNR=16
ARCES SKPbc 22 10 23.3
comp=Z,11nm,0.8s,baz=29,slow=3.5,SNR=25
KMBO Kilima Mbogo 135.36 241 PKP PKPdf 22 07 55.1 +1.9
comp=Z,1.5nm,1.0s,baz=58,slow=17,SNR=3.5
KMBO SKPbc 22 10 36.6
comp=Z,1.5nm,0.9s,baz=58,slow=19,SNR=4.4
JOF Joensuu 135.79 340 *ep* PKPdf 22 07 53.9 +1.2
KAF Kangasniemi 137.93 341 *ep* PKPdf 22 07 58.4 +1.8
FINES FINESS Array B 138.52 341 PKhKP 22 07 49.5
comp=Z,1.0nm,0.6s,baz=52,slow=4.8,SNR=10
FINES PKP PKPdf 22 07 57.9 +0.2
comp=Z,1.5nm,0.5s,baz=84,slow=5.1,SNR=14
FINES SKPbc 22 10 42.6
comp=Z,9.0nm,0.7s,baz=45,slow=3.7,SNR=22
FINES FINESS Array B 138.52 341 PKP 22 07 49.5
FINES PKP PKPdf 22 07 57.9 +0.2
FINES SKPbc 22 10 42.6
ERZM Erzurum 141.41 304 *i* P PKPdf 22 07 58.0 -4.5
NB2 NORSAR Subarra 142.28 351 PKPabc PKPdf 22 08 01.1 -3.1
comp=Z,3.6nm,1.0s,baz=16,slow=3.1
NOA NORSAR Array B 142.28 351 PKhKP 22 08 01.6
comp=Z,4.7nm,0.8s,baz=16,slow=4.7,SNR=13
NOA SKPbc 22 10 52.5
comp=Z,2.0nm,0.6s,baz=15,slow=4.2,SNR=7.7
MARD Mardin 142.30 300 *i* P PKPdf 22 08 01.9 -3.1
HFS Hagfors 142.72 348 PKhKP 22 08 02.9
comp=Z,12nm,0.4s,baz=52,slow=3.3,SNR=123
HFS SKPbc 22 10 53.9
comp=Z,3.6nm,0.7s,baz=315,slow=2.1,SNR=3.5
ANN Anapa 142.89 313 *e*PKHKP 22 08 04.2
ANN pmax pmax
comp=Z,59nm,1.3s
GRSN GIRESUNGRSN 143.49 307 *i* P PKPbc 22 08 05.0 -1.1
ELZG Elazig 143.50 303 *i* P PKPbc 22 08 07.3 +1.1
SVST Sivas 144.76 305 *i* P PKPdf 22 08 12.0 +2.8
GZT Gaziantep 144.82 301 *i* P PKPdf 22 08 10.9 +1.6
AKASG Malin Array Be 144.86 327 PKP PKPdf 22 08 09.8 +0.8
comp=Z,11nm,0.5s,baz=42,slow=4.4,SNR=62
AKASG SKPbc 22 10 58.9
comp=Z,5.2nm,0.6s,baz=48,slow=2.8,SNR=12
AKASG Malin Array Be 144.86 327 PKP PKPdf 22 08 09.8 +0.8
AKASG SKPbc 22 10 58.9
SIM Simferopol' 145.00 315 *ce*PKIKP PKPdf 22 08 11.5 +2.0
SIM pmax pmax
comp=Z,47nm,0.9s
SUW Suwalki 145.27 335 *e*PKIKP PKPdf 22 08 11.4 +1.8
KAHT Ahir Dag 145.31 302 *i* P PKPdf 22 08 13.0 +2.8
BOYT Boyabat 145.78 309 *i* P PKPdf 22 08 13.3 +2.4
COBT Iskenderun 146.01 300 *i* P PKPdf 22 08 14.2 +2.8
CTKT Corum 146.11 308 *i* P PKPdf 22 08 14.3 +2.8
CDAG Cicekdag 146.71 306 *i* P PKPdf 22 08 15.1 +2.7
ELDT Eldivan 147.14 308 *i* P PKPdf 22 08 16.5 +3.4
BR131 Keskin Array S 147.22 306 *e*PKPbc PKPdf 22 08 17.6 +4.3
BR131 *e*PKPab PKPab 22 08 21.8 -0.7
BRTR Keskin Array B 147.22 306 *e*PKPbc PKPdf 22 08 17.6 +4.3
comp=Z,19nm,0.6s,baz=132,slow=3.9,SNR=44
BRTR PKPab PKPab 22 08 21.8 -0.7
comp=Z,20nm,0.6s,baz=99,slow=3.5,SNR=54
MMLI Mount Malkishu 147.25 293 P PKPdf 22 08 19.0 +5.4
MZDA Masada 147.39 291 P PKPdf 22 08 19.0 +5.2
ZFRI Zfri 147.58 289 P PKPdf 22 08 19.6 +5.4
SLTI Sal'it 147.59 292 P PKPdf 22 08 19.6 +5.5
OFRI 'Ofer 147.60 293 P PKPdf 22 08 19.9 +5.8
AQBJ Aqaba 147.72 288 P PKPdf 22 08 19.9 +5.5
ANTO Ankara 147.80 307 *e*PKHKP 22 08 19.2
ANTO *e* 22 08 24.0
EIL Elat 147.81 288 P PKPdf 22 08 20.1 +5.6
MBH Mount Berech 147.84 288 P PKPdf 22 08 20.3 +5.7
SGKT Sivrigoynuk 148.09 309 *i* P PKPdf 22 08 18.7 +4.0
KZIT Kziot 148.24 290 P PKPdf 22 08 21.1 +5.9
ERMK Ermenek 148.61 301 *i* P PKPdf 22 08 18.6 +3.0
CFR Carcaliu 148.63 319 ⇓P PKPdf 22 08 20.3 +4.9
CSS Prodhromos 148.63 298 *e*PKPbc PKPdf 22 08 21.4 +5.7
CSS *e*PKPab PKPab 22 08 27.2 -1.1
KWP Kalwaria 148.71 330 *e*PKP PKPdf 22 08 21.2 +5.9
KWP Kalwaria 148.71 330 *e*PKHKP 22 08 21.2
KDHN Kadinhani 148.72 305 *i* P PKPdf 22 08 24.4 +8.7
BURAR Bucovina Array 148.84 325⇑P PKPdf 22 08 21.5 +5.9
BURAR Bucovina Array 148.84 325⇑P PKPdf 22 08 21.6 +5.9
EKA Eskdalemuir Ar 148.86 3 PKPbc PKPdf 22 08 20.6 +5.3
comp=Z,2.1nm,0.4s,baz=343,slow=2.7,SNR=22
HARR Harsova 149.01 318 ⇓P PKPdf 22 08 21.1 +5.1
BSEG Bad Segeberg 149.18 347 *e*PKHKP 22 08 22.1
ESKT Eskisehir 149.33 307 *i* P PKPdf 22 08 21.6 +4.9
KOLS Kolonicke sedl 149.41 330 *i* PKP PKPdf 22 08 23.4 +6.9
BORA Eskisehir 149.48 308 *i* P PKPdf 22 08 22.7 +5.8
STHS Stebnicka Huta 149.52 331 *i* PKP PKPdf 22 08 23.8 +7.2
OJC Ojcow 149.52 334 *e*PKP PKPdf 22 08 23.0 +6.4
MLR Muntele Rosu 149.74 321 PKPbc PKPdf 22 08 22.6 +5.4
comp=Z,5.0nm,0.6s,baz=294,slow=7.8,SNR=5.1
CRVS Cervenica-Dubn 149.80 330 *i* PKP PKPdf 22 08 24.4 +7.3
NIE Niedzica 149.92 332 *e*PKP PKPdf 22 08 25.1 +7.8
ISP Isparta 150.13 304 *e*PKIKP PKPdf 22 08 24.1 +6.1
ISP *e* 22 08 32.6
TKTP Tekketepe 150.21 305 *i* P PKPdf 22 08 23.5 +5.4
ULDT Uludag 150.32 310 *i* P PKPdf 22 08 24.4 +6.2
KSP Ksiaz 150.33 338 *e*PKP PKPdf 22 08 25.4 +7.6
KSP Ksiaz 150.33 338 *i* PKIKP PKPdf 22 08 25.2 +7.3
KSP *e* 22 08 34.0
KSP Ksiaz 150.33 338 *e*PKPdf PKPdf 22 08 25.2 +7.3
KSP *e* 22 08 34.0
OKC Ostrava-Krasne 150.48 335⇑*e*PKPB PKPdf 22 08 25.4 +7.3
OKC *e*PKPAB PKPab 22 08 34.8 -0.6
KECS Kecovo 150.54 331 *e*PKP PKPdf 22 08 25.5 +7.2
KECS *e* 22 08 34.0
DRGR 150.68 326 ⇓P PKPdf 22 08 24.8 +6.3
UPC Upice 150.71 338⇑*e*PKPB PKPdf 22 08 26.3 +7.9
DPC Dobruska-Polom 150.73 337⇑*e*PKPB PKPdf 22 08 26.6 +8.1
DPC *e*PKPAB PKPab 22 08 36.0 -0.4
MORC Moravsky Berou 150.76 335 *e*PKIKP PKPdf 22 08 26.2 +7.7
CLL Collm 150.95 342 *i*/*i*PKP1 PKPdf 22 08 26.2 +7.4
CLL *i* 22 08 28.9
CLL *e*PKP2 PKPab 22 08 36.0 -1.3
CLL *e**PPKP 22 10 30.0
CLL Collm 150.95 342 *i*/*i*PKIKP PKPdf 22 08 26.2 +7.4
CLL *e* 22 08 36.0
CLL pmax pmax
comp=Z,34nm,0.7s
BRG Berggiesshubel 151.06 341 *i* PKIKP PKPdf 22 08 26.6 +7.7
BRG *e* 22 08 37.0
CLZ Clausthal 151.13 346 *e*PKIKP PKPdf 22 08 26.9 +7.9
PVCC Panska Ves 151.17 340⇑*e*PKPB PKPdf 22 08 27.4 +8.3
PVCC *e*PKPAB PKPab 22 08 37.8 -0.5
PSZ Piszkesteto 151.23 330 *e*PKIKP PKPdf 22 08 27.0 +7.7
VYHS Vyhne 151.25 332 *i* PKP PKPdf 22 08 27.5 +8.2
VYHS *e* 22 08 37.5
DNZL Cakiroluk 151.28 305 *i* P PKPdf 22 08 28.0 +8.3
MANT Manisa 151.36 307 *i* P PKPdf 22 08 27.6 +7.8
VRAC Vranov 151.50 336 PKPbc PKPdf 22 08 27.9 +8.2
comp=Z,3.2nm,0.8s,baz=270,slow=4.0,SNR=3.6
VRAC PKPab PKPab 22 08 37.2 -2.5
comp=Z,3.4nm,0.6s,baz=82,slow=5.4,SNR=4.2
VRAC Vranov 151.50 336⇑PKIKP PKPdf 22 08 28.1 +8.5
PRU Pruhonice 151.64 339⇑*e*PKPB PKPdf 22 08 28.2 +8.4
PRU *e*PKPAB PKPab 22 08 39.4 -0.9
TREC Trest 151.91 337⇑*e*PKPB PKPdf 22 08 28.5 +8.3
TREC *e*PKPAB PKPab 22 08 40.7 -0.7
MOX Moxa 151.93 343 *e*PKIKP PKPdf 22 08 28.6 +8.4
MOX pmax pmax
comp=Z,10.0nm,1.4s
NKC Novy Kostel 152.07 342⇑*e*PKPB PKPdf 22 08 29.1 +8.7
NKC *e*PKPAB PKPab 22 08 41.9 -0.2
KHC Kasperske Hory 152.70 339 *e*PKPDF PKPdf 22 08 24.0 +2.7
KHC ⇑*e*PKPB PKPdf 22 08 30.5 +9.2
KHC *e*PKPAB PKPab 22 08 44.0 -0.7
GRF Grafenberg Arr 152.90 343 *e*PKP2 PKPab 22 08 44.9 -0.7
GRF Grafenberg Arr 152.90 343 *e*PKIKP PKPdf 22 08 30.3 +8.7
GRF *e* 22 08 44.9
GEC2 GERESS Array S 152.91 339 *e*PKIKP PKPdf 22 08 30.8 +9.2
GERES GERESS Array B 152.91 339 PKP PKPdf 22 08 23.1 +1.5
comp=Z,0.2nm,0.4s,baz=315,slow=1.9,SNR=3.8
GERES PKPbc PKPdf 22 08 30.8 +9.2
comp=Z,3.0nm,0.8s,baz=45,slow=1.9,SNR=17
GERES PKPab PKPab 22 08 44.2 -1.4
comp=Z,1.7nm,0.8s,baz=63,slow=3.0,SNR=8.7
WET Wettzell 152.91 340 *e*PKP2 PKPab 22 08 45.2 -0.4
GIVF Givet 153.79 352 *e*PKP2 PKPab 22 08 47.8 -1.5
BAIF Baives 153.91 353 *e*PKP2 PKPab 22 08 48.4 -1.4
APE Apeiranthos 154.12 306⇑PKP2 PKPab 22 08 48.7 -2.4
BFO Black Forest 154.88 346 *e*PKIKP PKPdf 22 08 36.7 +12
CDF Champ du Feu 155.03 347 *e*PKP2 PKPab 22 08 53.4 -1.1
MEZF Maizieres J'vi 155.33 351 *e*PKP2 PKPab 22 08 54.6 -1.2
HAU Haudompre 155.60 348 *e*PKP2 PKPab 22 08 55.6 -1.4
DAVOX Davos 155.92 342 PKP PKPdf 22 08 26.9 +1.2
comp=Z,2.3nm,0.8s,baz=198,slow=7.9,SNR=3.7
DAVOX PKPab PKPab 22 08 57.6 -0.8
comp=Z,5.4nm,0.9s,baz=18,slow=7.8,SNR=5.2
LOR Lormes 156.70 352 *e*PKP2 PKPab 22 09 01.3 -0.5
SSF Saint Saulge 156.95 353 *e*PKP2 PKPab 22 09 01.6 -1.2
comp=Z,31nm,1.1s
AVF Avril sur Loir 157.23 353 *e*PKP2 PKPab 22 09 03.6 -0.5
SMF Signal de Mont 157.31 352 *e*PKP2 PKPab 22 09 03.2 -1.2
comp=Z,30nm,1.1s
TCF Toulx Ste Croi 157.84 355 *e*PKP2 PKPab 22 09 04.6 -2.1
comp=Z,22nm,1.3s
MBDF Montbardon 158.64 345 *e*PKP2 PKPab 22 09 09.5 -0.7
comp=Z,34nm,1.3s
ORIF Oris-en-Rattie 158.65 347 *e*PKP2 PKPab 22 09 11.5 +1.3
comp=Z,20nm,0.9s
TORD Torodi Ar. Bea 168.76 192 PKP PKPdf 22 08 39.7 +0.6
comp=Z,2.8nm,1.1s,baz=24,slow=0.7,SNR=9.1
TORD PKPab PKPab 22 09 55.1 +0.1
comp=Z,5.9nm,0.8s,baz=170,slow=4.2,SNR=28
TORD PP PP 22 13 45.4 -0.5
comp=Z,1.5nm,1.1s,baz=157,slow=5.4,SNR=4.3

JMA 04 22:19:56.0±0.2**, 41.07N**×**139.12E, h18**km±5km**, M1.7, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.82**	**125**	P	P	Pb	22 20 11.4	-0.1
JIW				*e*S	S	Sb	22 20 22.4	+0.3
JSI2	**Shiura 2**	**0.98**	**90**	P	P	Pb	22 20 13.9	-0.2
JSI2				*e*S	S	Sb	22 20 26.8	+0.3

NIED ***04*** *22:20:00, 37.90N*×*142.60E, h29*km*, Mw5.2 Best double couple: M*₀*6.5*×*10*¹⁶ *NP1:*φ*₁31°, δ56°, λ105°. NP2:*φ*₂186°, δ36°, λ69°.*

CSEM ***04*** *22:20:22.3, 37.88N*×*142.46E, h10*km*, mb5.6*

JMA ***04*** *22:20:23.0*±*0.1, 37.87N*×*142.66E, h25*km*±3*km*, M5.5*

JMA Felt III J1.

BJI ***04*** *22:20:24.9, 37.90N*×*142.38E, h32*km*, mB5.4, mb5.5, Ms5.1, Msz5.0*

ORF ***04*** *22:20:26.8, 37.49N*×*142.45E, h30*km*, mb5.7*

MOS ***04*** *22:20:26.6*±*0.8, 38.10N*×*142.40E, h33*km*, mb5.8/126, MS5.0/41, Error ellipse: s-maj=6.3km s-min=3.6km az=106.4*

HRVD ***04*** *22:20:27.5*±*0.2, 38.00N*×*142.62E, h31*km*, MW5.2/81, Centroid moment Tensor Solution. LP body waves: s58,c105;Mantle waves: s81,c158; Half duration: 1*±*0 Moment tensor: Scale 10*¹⁷*Nm; M*ᵣᵣ*0.63*±*.02; M*ᵩᵩ*0.08*±*.02; M*ᵩᵩ*-0.70*±*.02; M*ᵩᵩ*0.33*±*.02; M*ᵩᵩ*-0.26*±*.01; M*ᵣᵣ*0.38*±*.02; Best double couple: M*₀*.877×10*¹⁷ *NP1:*φ*₁78°, δ31°, λ60°. NP2:*φ*₂33°, δ64°, λ107°. Principal axes: T .825, Plg67°, Azm334°; N .105, Plg15°, Azm205°; P -.93, Plg17°, Azm110°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***04*** *22:20:27.3*±*3.3, 37.89N*×*142.42E, h34*km*±25km, mb5.2/29, mb1 5.3/34, mb1mx5.3/35, mbtmp5.4/34, ML4.8/5, MS4.6/20, Ms1 4.6/20, ms1mx4.5/33 Error ellipse: s-maj=12.6km s-min=10.8km az=98.0*

NEIC ***04*** *22:20:27.5*±*0.1, 37.88N*×*142.44E, mb5.5/153, MS5.0/16, MW5.1(NIED), Error ellipse: s-maj=3.5km s-min=2.2km az=163.0*

NEIC Felt strongly in Fukushima and Miyagi Prefectures. Felt lightly at Tokyo. Recorded [3 JMA] in Fukushima and Miyagi; [2 JMA] in Aomori, Chiba, Ibaraki, Iwate, Tochigi and Yamagata; [1 JMA] in Akita, Kanagawa, Nagano, Niigata, Saitama and Tokyo Prefectures.

BGS ***04*** *22:20:38.7*±*2.1, 39.22N*×*139.06E, h33*km*, mb5.9*

ISC 04 22:20:26.4±0.1**, 37.89N**±0.02×**142.45E**±0.02**, h38**km**, h38**km±1.2km**; pP-P, n809,** σ**0.83/801, mb5.6/245, MS5.0/68, 137C-34D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**1.31**	**269**	⇓P	P	S	22 20 48.3	-0.4
JMM				*e*S	S	S	22 21 01.0	+1.8
OFUJ	**Ofunato**	**1.33**	**333**	⇓P	P	S	22 20 47.8	-1.2
OFUJ				*e*S	S	S	22 21 05.7	0.0
JFK	**Kawauchi**	**1.36**	**248**	⇓P	P	S	22 20 48.8	-0.5
JMK	**Ichinoseki**	**1.43**	**318**	⇓P	P	S	22 20 49.9	-0.5
JMK				*e*S	S	S	22 21 09.6	+1.4
JOU	**Okura**	**1.48**	**289**	⇓P	P	S	22 20 51.4	+0.3
JOU				*e*S	S	S	22 21 12.0	+2.5
ONAJ	**Iwakimizuishiy**	**1.53**	**239**	⇓P	P	S	22 20 51.3	-0.5
JFT	**Otama**	**1.72**	**258**	⇓P	P	S	22 20 55.0	+0.6
JFT				*e*S	S	S	22 21 17.4	+2.1
JOM	**Ohasama**	**1.82**	**330**	⇓P	P	S	22 20 55.4	-0.5
JOM				*e*S	S	S	22 21 19.4	+1.5
JYS	**Shirataka**	**1.91**	**281**	⇓P	P	S	22 20 57.4	+0.2
JYK	**Kaneyama**	**1.93**	**303**	⇓P	P	S	22 20 57.6	+0.1
JHO	**Hitachi**	**1.97**	**230**	⇓P	P	S	22 20 57.1	-1.0
JRG	**Rokugo**	**2.07**	**317**	⇓P	P	S	22 20 59.4	0.0
JSB	**Shiboa**	**2.21**	**246**	⇓P	P	S	22 21 02.1	+0.6
JKZ	**Kuzumaki**	**2.26**	**338**	⇓P	P	S	22 21 02.1	-0.1
JYA	**Atsumi**	**2.26**	**289**	⇓P	P	S	22 21 02.4	+0.2
JNS	**Sasagawa**	**2.48**	**269**	⇓P	P	S	22 21 05.4	+0.1
JANG	**Nango**	**2.58**	**344**	⇑P	P	S	22 21 05.5	-1.2
JAW	**Awa shima**	**2.58**	**284**	⇓P	P	S	22 21 07.3	+0.5
JKT	**Katashina**	**2.79**	**247**	⇓P	P	S	22 21 10.8	+1.1
JHK	**Hiroka**	**2.80**	**258**	⇓P	P	S	22 21 10.1	+0.2
JAG	**Ashikaga**	**2.81**	**239**	⇓P	P	S	22 21 09.6	-0.4
JGK	**Kuni**	**3.32**	**248**	P	P	S	22 21 18.2	+1.0
BSO4	**Boso 4**	**3.36**	**211**	⇓P	P	S	22 21 18.3	+0.4
BSO3	**Boso 3**	**3.46**	**207**	⇓P	P	S	22 21 19.0	-0.3
MJAR	**Matsushiro Arr**	**3.64**	**250**	Pn	P	S	22 21 22.3	+0.5
MJAR	88nm,0.3s,baz=57,slow=9.5,SNR=293			LR	LR		22 22 58.0	
	comp=Z,15μm,18.5s,baz=70,slow=42							
MAJO	**Matsushiro**	**3.65**	**250**	*e*P	P	S	22 21 22.7	+0.8
MAT	**Matsushiro**	**3.65**	**250**	P	P	S	22 21 22.6	+0.7
MAT				*e*S	S	S	22 22 05.8	+1.6
MAT	**Matsushiro**	**3.65**	**250**	P	P	S	22 21 22.5	+0.6
JOD2	**Odawara 2**	**3.77**	**227**	⇑P	P	S	22 21 23.8	+0.2
JNG	**Nsakai**	**3.78**	**248**	⇓P	P	S	22 21 24.4	+0.6
JNT	**Takato**	**4.00**	**241**	P	P	S	22 21 27.9	+1.0
JIZS	**Izushimoda**	**4.29**	**223**	P	P	S	22 21 30.0	-1.0
SHZ3	**Shizuoka 3**	**4.43**	**232**	P	P	S	22 21 34.2	+1.2
JGN	**Niukaw**	**4.43**	**249**	P	P	S	22 21 35.3	+2.3
JNY	**Yasuok**	**4.47**	**237**	P	P	S	22 21 35.2	+1.6
HMMJ	**Hamamatsu 2**	**4.87**	**233**	P	P	S	22 21 40.0	+0.7
JGM	**Miyama**	**5.09**	**246**	P	P	S	22 21 43.7	+1.3
JHJ	**Hachijo jima 2**	**5.24**	**205**	Pn	P	S	22 21 42.5	-1.9
JHJ	582nm,0.3s,baz=235,slow=21,SNR=28			Sn		S	**22 22 38.7**	**-5.6**
	1μm,0.3s,baz=230,slow=24,SNR=12							
JHJ				LR	LR		22 24 13.0	
	comp=Z,9μm,18.4s,baz=74,slow=43							
JFM	**Mihama**	**5.71**	**248**	P	P		**22 21 52.5**	**+1.6**
ASAJ	**Asahikawa**	**6.22**	**1**	Pn	P		**22 21 55.5**	**-2.6**
	9.5nm,0.3s,baz=221,slow=14,SNR=25							
ASAJ				Sn		S	**22 23 07.9**	**-1.0**
	17nm,0.3s,baz=24,slow=18,SNR=3.

YUK pmax pmax
comp=E,210nm,0.5s
YUK pmax pmax
comp=Z,240nm,0.5s
YUK pmax pmax
comp=N,230nm,0.6s
YUK pmax pmax
comp=N,4μm,1.0s
YUK pmax pmax
comp=Z,4μm,1.0s
YUK pmax pmax
comp=E,4μm,2.0s
YUK smax
comp=N,3μm,0.6s
YUK smax
comp=E,3μm,0.6s
YUK smax
comp=N,9μm,1.0s
YUK smax
comp=E,10μm,2.0s
JAD Aida 7.30 249 P **P** **22 22 13.5 +0.2**
KUR Kuril'sk 8.38 27 *i* P **P** **22 22 29.0 +0.7**
KUR *i* S **S** **22 23 50.0 -13**
KUR pmax pmax
comp=E,240nm,0.9s
KUR pmax pmax
comp=Z,430nm,0.9s
KUR pmax pmax
comp=Z,4μm,4.0s
KUR smax
comp=N,990nm,0.9s
KUR smax
comp=E,1μm,0.9s
KUR smax
comp=N,6μm,4.0s
YSS Yuzh-Sakhalins 9.06 1 ⇑*i* P **P** **22 22 33.7 -3.9**
YSS *e*S **S** **22 24 14.0 -5.5**
YSS pmax pmax
comp=Z,530nm,1.0s
YSS pmax pmax
comp=Z,360nm,1.0s
YSS MLR MLR
comp=N,6μm,20.0s
YSS MLR MLR
comp=Z,6μm,20.0s
YSS MLR MLR
comp=E,4μm,15.0s
YSS Yuzh-Sakhalins 9.06 1 *e*P **P** **22 22 34.2 -3.5**
comp=E,384nm,0.8s
JTY Toyota 9.90 252 P **P** **22 22 51.2 +1.9**
JKIT Kitakata 10.41 243 P **P** **22 22 55.8 -0.5**
JNU Nakatsue 10.56 247 Pn **P** **22 22 56.5 -1.9**
comp=E,7.3nm,0.3s,baz=65,slow=9.9,SNR=30
CBIJ Chichi jima 10.77 181 Pn **P** **22 22 55.7 -5.5**
comp=E,77nm,0.3s,baz=105,slow=17,SNR=11
CBIJ Sn **S** **22 24 47.0 -14**
comp=E,70nm,0.3s,baz=296,slow=23,SNR=6.0
JFI Itaya 10.78 249 P **P** **22 23 01.8 +0.6**
UGL Uglegorsk 11.18 359 P **P** **22 23 03.0 -3.7**
UGL pmax pmax
comp=Z,83nm,0.7s
UGL MLR MLR
comp=N,7μm,22.0s
UGL MLR MLR
comp=Z,6μm,22.0s
UGL MLR MLR
comp=E,6μm,18.0s
KS15 Wonju Array Si 11.55 272 *e*P **P** **22 23 12.5 +0.7**
MDJ Mudanjiang 11.77 309 P **P** **22 23 14.7 0.0**
MDJ S **S** **22 25 25.6 -0.2**
MDJ PCP PcP 22 28 58.3 -2.9
MDJ SCP 22 32 28.3
MDJ PCS 22 32 33.9
MDJ SCS ScS 22 36 05.7 +1.7
MDJ AMB AMB
comp=Z,80nm,1.1s
MDJ AMB AMB
comp=Z,930nm,6.8s
MDJ LR LR
comp=N,2μm,19.0s
MDJ LR LR
comp=E,3μm,16.8s
MDJ LR LR
comp=Z,7μm,15.1s
MDJ Mudanjiang 11.77 309 *e*P **P** **22 23 14.1 -0.6**
comp=Z,254nm,1.0s
HABR Khabarovsk 11.87 335 *i* P **P** **22 23 13.4 -2.5**
HABR *e*S **S** **22 25 28.2 +0.2**
HABR pmax pmax
comp=Z,197nm,1.2s
HABR MLR MLR
comp=Z,5μm,14.0s
INCN Inchon 12.54 273 *e*P **P** **22 23 25.4 +0.4**
comp=Z,162nm,1.0s
KLR Kul'dur 13.71 329 *e*P **P** **22 23 34.0 -6.4**
KLR *e* 22 26 14.5
KLR MLR MLR
comp=E,3μm,13.0s
KLR MLR MLR
comp=Z,21μm,13.0s
CN2 Changchun 14.15 300 *e*P **P** **22 23 48.3 +2.2**
CN2 *e*S **S** **22 26 25.5 +2.8**
CN2 AMB AMB
comp=Z,60nm,1.0s
CN2 AMB AMB
comp=Z,1μm,6.0s
CN2 LR LR
comp=N,3μm,16.0s
CN2 LR LR
comp=E,4μm,16.0s
CN2 LR LR
comp=Z,5μm,17.0s
SNY Shenyang 15.01 291 ⇓P **P** **22 23 57.0 -0.5**
SNY S **S** **22 26 43.8 +0.6**
SNY AMB AMB
comp=Z,70nm,1.0s
SNY LR LR
comp=E,7μm,15.3s
SNY LR LR
comp=Z,8μm,15.6s
JOW Kunigami 16.26 231 Pn **P** **22 24 12.6 -1.0**
comp=Z,5.2nm,0.3s,baz=127,slow=8.6,SNR=2.4
JOW LR LR 22 30 20.2
comp=Z,1μm,21.0s,baz=92,slow=36
DL2 Dalian 16.36 280 P **P** **22 24 13.6 -1.1**
DL2 *e*S **S** **22 27 16.1 +1.7**
DL2 AMB AMB
comp=Z,190nm,1.0s
DL2 AMB AMB
comp=Z,790nm,5.4s
DL2 LR LR
comp=N,1μm,13.7s
DL2 LR LR
comp=E,1μm,17.4s
DL2 LR LR
comp=Z,2μm,16.6s
SSE Sheshan 18.77 255 P **P** **22 24 44.0 -0.9**
SSE AP 22 24 51.4
SSE XP 22 24 56.1
SSE S **S** **22 28 08.1 -1.2**
SSE AMB AMB
comp=Z,90nm,1.3s
SSE LR LR
comp=N,1μm,22.1s
SSE LR LR
comp=E,1μm,22.1s
SSE LR LR
comp=Z,2μm,22.2s
PET Petropavlovsk 18.85 31 *e*P **P** **22 24 44.3 -1.4**
PET pmax pmax
comp=Z,122nm,1.1s
PET pmax pmax
comp=Z,200nm,9.2s
PET MLR MLR
comp=Z,2μm,19.0s
PET Petropavlovsk 18.85 31 *e*P **P** **22 24 44.2 -1.4**
comp=Z,176nm,1.2s
HIA Hailar 19.91 312 *e*P **P** **22 24 52.5 -4.9**
HIA pmax pmax
comp=Z,156nm,0.7s
HIA Hailar 19.91 312 *e*P **P** **22 24 52.5 -5.0**
comp=Z,156nm,0.7s
HIA *e* 22 24 59.2
NJ2 Nanjing 20.17 260 *e*P **P** **22 24 58.1 -2.2**
NJ2 AP 22 25 08.8
NJ2 XP 22 25 14.7
NJ2 PP PP 22 25 19.2 -1.4
NJ2 S **S** **22 28 31.0 -8.7**
NJ2 XS 22 28 48.0
NJ2 AMB AMB
comp=Z,40nm,0.6s
NJ2 AMB AMB
comp=Z,160nm,3.6s
NJ2 LR LR
comp=N,3μm,18.6s,MS5.0
NJ2 LR LR
comp=E,6μm,18.0s,MS5.0
NJ2 LR LR
comp=Z,3μm,15.9s,MS4.8
TIA Tai'an 20.27 273 *e*P **P** **22 24 57.9 -3.4**
TIA AMB AMB
comp=Z,160nm,0.9s
CLNS Chul'man 22.25 334 *e*P **P** **22 25 18.0 -3.2**
YHNB Yeheng 22.25 240 *e*P **P** **22 25 19.1 -2.3**
MA2 Magadan 22.35 11 *c i*P **P** **22 25 21.5 -0.6**
MA2 *e*S **S** **22 29 22.2 +1.8**
MA2 pmax pmax
comp=N,80nm,0.8s
MA2 pmax pmax
comp=Z,200nm,0.8s,mb5.6
MA2 MLR MLR
comp=N,2μm,17.9s
MA2 MLR MLR
comp=Z,2μm,17.9s,MS4.6
MA2 Magadan 22.35 11 *e*P **P** **22 25 21.3 -0.8**
comp=Z,213nm,0.8s,mb5.6
MA2 LR LR
comp=Z,1μm,20.0s,MS4.2
NACB Ninganchiao 22.44 238 *e*P **P** **22 25 21.1 -2.2**
HHC Hu-ho-hao-te 24.00 287 *e*P **P** **22 25 36.0 -2.3**
HHC AP 22 25 45.8
HHC XP 22 25 49.7
HHC PP PP 22 26 08.2 -4.9
HHC PCP PcP 22 29 21.7 +0.5
HHC S **S** **22 29 44.2 -5.5**
HHC XS 22 29 59.2
HHC SCP 22 32 55.8
HHC PCS 22 33 00.0
HHC AMB AMB
comp=Z,60nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,410nm,3.6s
HHC LR LR
comp=N,1μm,13.4s,MS5.0
HHC LR LR
comp=E,3μm,11.6s,MS5.0
HHC LR LR
comp=Z,3μm,14.3s,MS4.9
QZH Quanzhou 24.03 244 P **P** **22 25 38.2 -0.6**
QZH S **S** **22 29 42.0 -8.4**
QZH LR LR
comp=N,2μm,11.0s,MS5.1
QZH LR LR
comp=E,2μm,11.5s,MS5.1
QZH LR LR
comp=Z,4μm,9.5s
GUMO Guam 24.30 174 P **P** **22 25 42.8 +1.2**
comp=Z,41nm,0.5s,mb5.2,baz=355,slow=11,SNR=2.5
GUMO LR LR 22 34 40.4
comp=Z,913nm,19.3s,MS4.3,baz=178,slow=35
GUMO Guam 24.30 174 P **P** **22 25 42.8 +1.3**
GUMO pmax pmax
comp=Z,41nm,0.5s,mb5.1
GUMO MLR MLR
comp=Z,913nm,19.3s,MS4.3
GUMO Guam 24.30 174 P **P** **22 25 42.8 +1.2**
GUMO LR LR 22 34 40.4
WHN Wuhan 24.30 261 ⇑P **P** **22 25 41.1 -0.3**
WHN S **S** **22 29 58.7 +3.6**
WHN LR LR
comp=N,1μm,13.0s,MS5.3
WHN LR LR
comp=E,7μm,14.4s,MS5.3
WHN LR LR
comp=Z,7μm,16.8s,MS5.2
CIT Chita 24.65 314 *e*P **P** **22 25 43.3 -1.2**
CIT *e* 22 30 07.2
CIT *e* 22 30 53.9
CIT pmax pmax
comp=Z,2μm,1.2s,mb6.5
BTO Baotou 25.18 286 *e*P **P** **22 25 48.4 -1.4**
BTO AMB AMB
comp=Z,70nm,1.1s,mb5.1
YAK Yakutsk 25.42 346 *c i*P **P** **22 25 50.2 -1.6**
YAK pmax pmax
comp=Z,493nm,0.7s,mb6.2
YAK MLR MLR
comp=Z,3μm,15.0s,MS4.9
YAK Yakutsk 25.42 346 *e*P **P** **22 25 50.1 -1.7**
comp=Z,416nm,0.7s,mb6.1
YAK LR LR
comp=Z,883nm,19.0s,MS4.3
SEY Seymchan 25.79 10 *e*P **P** **22 25 55.7 +0.4**
SEY 22 26 41.5
SEY *e*S **S** **22 30 24.0 +4.4**
SEY *e*SS SS 22 31 44.7 +19
SEY pmax pmax
comp=Z,140nm,0.8s,mb5.5
SEY pmax pmax
comp=N,130nm,1.1s
SEY pmax pmax
comp=E,60nm,1.1s
SEY smax
comp=N,270nm,6.0s
SEY smax
comp=E,550nm,6.5s
SEY MLR MLR
comp=N,2μm,17.0s,MS4.8
SEY MLR MLR
comp=Z,3μm,17.0s,MS4.9
SEY MLR MLR
comp=E,670nm,16.0s,MS4.8
SEY Seymchan 25.79 10 *i* Pr 22 25 56.1
FX1 Attu Island--F 26.01 45 P **P** **22 25 58.6 +1.2**
comp=E,95nm,0.9s,mb5.3,baz=278,slow=23,SNR=5.4
FX1 PcP PcP 22 29 25.0 -0.4
comp=E,23nm,0.6s,baz=312,slow=14,SNR=2.8
FX1 LR LR 22 34 40.4
comp=E,34nm,19.0s,baz=3.3,slow=33
FX1 Attu Island--F 26.01 45 *e*P **P** **22 25 58.7 +1.3**
BOD Bodaibo 27.26 326 *e*P **P** **22 26 07.1 -1.7**
BOD pmax pmax
comp=Z,169nm,0.9s,mb5.6
XAN Xi'an 27.32 272 P **P** **22 26 07.5 -2.2**
XAN PP PP 22 27 00.8 +3.4
XAN S **S** **22 30 40.9 -4.0**
XAN AMB AMB
comp=Z,70nm,0.9s,mb5.2
XAN LR LR
comp=N,830nm,15.8s,MS4.5
XAN LR LR
comp=E,390nm,12.7s,MS4.5
XAN LR LR
comp=Z,2μm,15.4s,MS4.8
ULN Ulaanbaatar 27.57 303 *e*P **P** **22 26 11.3 -0.5**
ULN *e* 22 29 28.1
ULN pmax pmax
comp=Z,85nm,0.8s,mb5.4
ULN MLR MLR
comp=Z,2μm,19.0s,MS4.7
ULN Ulaanbaatar 27.57 303 *e*P **P** **22 26 11.3 -0.5**
comp=Z,84nm,0.8s,mb5.4
ULN *e*PcP PcP 22 29 28.1 -1.1
ULN LR LR
comp=Z,2μm,19.0s,MS4.7
SONM Songino Array 28.00 302 P **P** **22 26 15.5 -0.2**
comp=Z,75nm,0.7s,mb5.4,baz=120,slow=8.8,SNR=276
SONM PcP PcP 22 29 29.8 -0.4
comp=Z,7.7nm,0.7s,baz=110,slow=2.1,SNR=4.5
SONM LR LR 22 37 44.0
comp=Z,2μm,19.3s,MS4.7,baz=157,slow=37
SONM Songino Array 28.00 302 P **P** **22 26 15.5 -0.2**
SONM 22 29 29.8
SONM pmax pmax
comp=Z,75nm,0.7s
SONM MLR MLR
comp=Z,2μm,19.3s
ENH Enshi 28.23 264 *e*P **P** **22 26 16.7 -1.2**
comp=Z,295nm,0.8s,mb6.0
IRK Irkutsk 30.15 311 *e*P **P** **22 26 33.5 -1.2**
IRK *e* 22 27 48.1
IRK *e* 22 29 41.4
IRK pmax pmax
comp=Z,123nm,2.1s,mb5.3
ZAK Zakamensk 30.40 307 ⇑*e*P **P** **22 26 36.6 -0.4**
ZAK *e* 22 29 31.6
ZAK pmax pmax
comp=Z,53nm,1.0s,mb5.2
ZAK pmax pmax
comp=Z,7.0nm,0.9s
LZH Lanzhou 30.74 279 ⇑P **P** **22 26 39.0 -1.2**
LZH AP pP 22 26 51.4 +0.5
LZH XP sP 22 26 56.5 +0.6
LZH PP PP 22 27 40.5 -1.3
LZH PCP PcP 22 29 37.0 -0.3
LZH S **S** **22 31 36.5 -2.8**
LZH XS 22 31 57.2
LZH SCP 22 33 14.2
LZH PCS 22 33 18.9
LZH SS SS 22 33 21.2 -1.9
LZH SCS ScS 22 37 09.1 -1.6
LZH AMB AMB
comp=Z,130nm,1.4s,mb5.6
LZH AMB AMB
comp=Z,430nm,5.3s
LZH LR LR
comp=N,2μm,13.0s
LZH LR LR
comp=Z,4μm,17.2s,MS5.1
MOY Mondy 32.03 309 *e*P **P** **22 26 50.2 -1.1**
MOY pmax pmax
comp=Z,101nm,2.6s,mb5.2
GYA Guiyang 32.18 260 ⇑*i*P **P** **22 26 51.3 -1.6**
GYA AP pP 22 27 02.8 -0.9
GYA XP sP 22 27 08.9 +0.3
GYA PP PP 22 28 01.9 +1.4
GYA PCP PcP 22 29 35.7 -5.5
GYA S **S** **22 32 03.8 +1.8**
GYA SCP 22 33 14.8
GYA SCS ScS 22 37 13.2 -4.7
GYA AMB AMB
comp=Z,220nm,0.8s,mb6.0
GYA AMB AMB
comp=Z,290nm,4.5s
GYA LR LR
comp=N,1μm,13.2s,MS4.9
GYA LR LR
comp=E,2μm,16.8s,MS4.9
GYA LR LR
comp=Z,2μm,16.8s,MS4.8
CD2 Chengdu 32.50 269 P **P** **22 26 54.0 -1.7**
CD2 AP pP 22 27 05.9 -0.5
CD2 PP PP 22 28 04.6 -0.1
CD2 S **S** **22 32 07.0 +0.1**
CD2 SS SS 22 34 07.1 +2.6
CD2 AMB AMB
comp=Z,110nm,0.8s,mb5.8
CD2 LR LR
comp=E,1μm,14.4s
CD2 LR LR
comp=Z,1μm,18.0s,MS4.6
BILL Bilibino 32.97 16 *α i*P **P** **22 26 57.8 -1.6**
BILL *e* pP 22 27 07.7 -2.4
BILL *i* 22 29 42.5
BILL pmax pmax
comp=Z,122nm,1.2s,mb5.7
BILL MLR MLR
comp=Z,900nm,17.0s,MS4.5
BILL Bilibino 32.97 16 *e*P **P** **22 26 57.6 -1.8**
comp=Z,109nm,1.1s,mb5.7
BILL *e*PcP PcP 22 29 42.6 -0.4
GTA Gaotai 33.11 286 ⇑P **P** **22 27 00.3 -0.6**
GTA AP pP 22 27 13.2 +1.6
GTA PP PP 22 28 11.5 -0.8
GTA PCP PcP 22 29 43.9 +0.3
GTA S **S** **22 32 11.8 -4.5**
GTA PCS 22 33 28.7
GTA SS SS 22 34 13.4 -4.9
GTA AMB AMB
comp=Z,190nm,1.0s,mb6.0
GTA AMB AMB
comp=Z,460nm,6.1s
GTA LR LR
comp=N,1μm,16.4s,MS5.0
GTA LR LR
comp=E,2μm,17.9s,MS5.0
GTA LR LR
comp=Z,3μm,18.6s,MS5.1
QIZ Qiongzhong 34.03 246 P **P** **22 27 08.8 -0.2**
QIZ XP sP 22 27 21.0 -3.7
QIZ PPP PPP 22 28 40.0 -1.7
QIZ S **S** **22 32 35.5 +4.7**
QIZ XS 22 32 46.0
QIZ SCP 22 33 27.0
QIZ LR LR
comp=N,1μm,17.2s,MS4.8
QIZ LR LR
comp=E,790nm,16.1s,MS4.8
QIZ LR LR
comp=Z,2μm,15.5s,MS4.9
KMI Kunming 35.91 261 ⇑P **P** **22 27 24.4 -0.6**
KMI AP pP 22 27 35.7 -0.1
KMI XP sP 22 27 40.2 -0.5
KMI PP PP 22 28 46.4 -0.7
KMI PPP PPP 22 29 06.0 -0.9
KMI PCP PcP 22 29 51.9 +0.1
KMI S **S** **22 32 58.0 -1.7**
KMI XS 22 33 17.2
KMI SCP 22 33 33.5
KMI PCS 22 33 38.1
KMI SS SS 22 35 19.8 -3.0
KMI SSS SSS 22 35 48.8 -2.2
KMI SCS ScS 22 37 37.2 -0.3
KMI AMB AMB
comp=Z,90nm,1.0s,mb5.7
KMI LR LR
comp=N,1μm,14.6s,MS5.0
KMI LR LR
comp=E,1μm,16.4s,MS5.0
KMI LR LR
comp=Z,2μm,17.4s,MS4.9
KKM Kota Kinabalu 39.67 224 P **P** **22 27 58.7 +2.2**
KKM Kota Kinabalu 39.67 224 *e*P **P** **22 27 56.9 +0.4**
TNA Tin City 39.70 30 *e*P **P** **22 27 57.0 +0.7**
comp=Z,52nm,1.0s,mb5.2
TNA *e*PcP PcP 22 30 02.5 -0.6
TSM Tawau 40.27 220 P **P** **22 28 02.2 +0.7**
KKTK Khon Kaen 40.88 249 P **P** **22 28 05.5 -1.1**
comp=Z,556nm,0.5s,mb6.5
CHRT Chiangrai 41.05 256 ⇑P **P** **22 28 06.5 -1.4**
comp=Z,900nm,1.0s,mb6.3
WMQ Urumqi 41.20 296 ⇑*i*P **P** **22 28 09.8 +1.0**
WMQ AP pP 22 28 19.8 0.0
WMQ XP sP 22 28 23.8 -0.7
WMQ PP PP 22 29 48.6 +1.6
WMQ PCP PcP 22 30 09.1 +1.0
WMQ PPP PPP 22 30 18.3 +0.8
WMQ S **S** **22 34 20.9 +1.4**
WMQ SS SS 22 37 20.0 +1.2
WMQ SCS ScS 22 38 09.3 +1.6
WMQ AMB AMB
comp=Z,80nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,510nm,4.0s
WMQ LR LR
comp=N,5μm,20.0s,MS5.4
WMQ LR LR
comp=E,4μm,22.0s,MS5.4
WMQ LR LR
comp=Z,4μm,22.0s,MS5.2
ZAL Zalesovo 41.97 312 P **P** **22 28 14.6 -0.4**
comp=Z,79nm,0.9s,mb5.3,baz=23,slow=7.2,SNR=333
ZAL PcP PcP 22 30 09.4 -1.1
comp=Z,20nm,0.7s,baz=19,slow=2.1,SNR=4.1
ZAL LR LR 22 46 30.8
comp=Z,1μm,21.1s,MS4.7,baz=28,slow=37
ZAL Zalesovo 41.97 312 P **P** **22 28 14.6 -0.4**
ZAL 22 30 09.4
ZAL pmax pmax
comp=Z,79nm,0.9s
ZAL pmax pmax
comp=Z,20nm,0.7s
ZAL Zalesovo 41.97 312 P **P** **22 28 14.6 -0.4**
ZAL PcP PcP 22 30 09.4 -1.1
ZAL LR LR 22 46 30.8
CHG Chiang Mai 42.30 256 ⇑P **P** **22 28 18.1 -0.1**

comp=Z,46nm,0.7s,mb5.2
NVS Novosibirsk 42.85 313⇑ *i*P P **22 28 21.3 -0.9**
NVS *e*S S **22 34 42.7 -0.9**
NVS pmax pmax
comp=Z,156nm,1.4s,mb5.5
NVS pmax pmax
comp=E,136nm,1.3s
NVS smax
comp=E,45nm,1.9s
LSA Lhasa 42.95 275 P P **22 28 23.8 +0.3**
LSA Lhasa 42.95 275 *e*P P **22 28 24.6 +1.1**
LSA pmax pmax
comp=Z,90nm,0.9s,mb5.5
LSA MLR MLR
comp=Z,813nm,20.0s,MS4.6
LSA Lhasa 42.95 275 *e*P P **22 28 24.6 +1.2**
comp=Z,90nm,0.9s,mb5.5
LSA LR LR
comp=Z,813nm,20.0s,MS4.6
NST Nakhon Sawan 43.30 251 P P **22 28 26.8 +0.4**
TTA Tatalina 44.25 35 *e*P P **22 28 33.4 0.0**
SVW2 Sparrevohn 44.34 38 *e*P P **22 28 34.9 +0.7**
MKAR Makanchi Array 44.37 302 P P **22 28 34.5 -0.2**
comp=Z,56nm,0.7s,mb5.4,baz=86,slow=9.1,SNR=214
MKAR PcP PcP 22 30 17.5 -1.2
comp=Z,9.0nm,0.8s,baz=72,slow=4.6,SNR=2.4
MKAR LR LR 22 48 33.0
comp=Z,533nm,18.3s,MS4.5,baz=79,slow=38
MKAR Makanchi Array 44.37 302 P P **22 28 34.5 -0.1**
MKAR 22 30 17.5
MKAR pmax pmax
comp=Z,56nm,0.7s
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR MLR MLR
comp=Z,533nm,18.3s
IMA2 Indian Mountai 45.53 31 *e*P P **22 28 43.7 +0.1**
AGT Agartala 45.57 267 *ex* P **22 28 49.0 +4.4**
AGT *ex* x 22 29 28.0
NNT Nongplab 45.58 248 P P **22 28 45.0 +0.3**
KDAK Kodiak Island 45.91 43 P P **22 28 46.0 -0.8**
comp=Z,205nm,0.8s,mb6.1,baz=284,slow=3.4,SNR=108
KDAK PcP PcP 22 30 23.5 -0.3
comp=Z,24nm,0.8s,baz=45,slow=1.4,SNR=2.7
KURK Kurchatov 46.06 308*c i*P P **22 28 47.2 -0.8**
KSM Kuching 46.74 227 P P **22 28 51.6 -2.3**
KSM *e*PcP PcP 22 30 26.9 -0.5
FIB Fire Island 46.96 38 *e*P P **22 28 54.4 -0.6**
FIB *e* 22 30 26.6
FIB pmax pmax
comp=Z,58nm,0.6s,mb5.7
FIB Fire Island 46.96 38 *e*P P **22 28 54.4 -0.6**
comp=Z,58nm,0.6s,mb5.7
FIB *e*PcP PcP 22 30 26.6 -0.8
SLKM Skilak Lake 46.97 39 *e*P P **22 28 53.9 -1.1**
SLKM *e* 22 30 26.6
PMG Port Moresby 47.26 174 P P **22 28 55.3 -2.6**
comp=Z,9.5nm,0.7s,mb4.8,baz=5.4,slow=14,SNR=6.6
PMG PcP PcP 22 30 28.5 -0.6
comp=Z,27nm,0.8s,baz=355,slow=1.3,SNR=4.2
PMG Port Moresby 47.26 174 *e*P P **22 28 55.7 -2.3**
PMG *e* 22 30 27.8
PMG pmax pmax
comp=Z,10.0nm,0.8s
PMG Port Moresby 47.26 174 *e*P P **22 28 55.7 -2.3**
comp=Z,9.9nm,0.8s,mb4.8
PMG *e*PcP PcP 22 30 27.8 -1.3
PMR Palmer 47.44 37 *e*P P **22 28 58.0 -0.8**
PMR pmax pmax
comp=Z,136nm,1.5s,mb5.7
PMR Palmer 47.44 37 *e*P P **22 28 58.0 -0.8**
comp=Z,136nm,1.5s,mb5.7
MCK McKinley 47.46 34 *e*P P **22 28 58.1 -0.8**
MCK pmax pmax
comp=Z,19nm,0.9s,mb5.0
MCK McKinley 47.46 34 *e*P P **22 28 58.1 -0.8**
comp=Z,19nm,0.9s,mb5.0
JIRN Jiri 47.76 275 *e*P P **22 29 02.1 +0.3**
comp=Z,158nm,0.8s,mb6.1
SML Sawmill 47.81 37 *e*P P **22 29 00.9 -0.8**
GUN Gumba 47.89 275 *e*P P **22 29 03.0 +0.2**
comp=Z,300nm,0.7s,mb6.4
COLA College 47.91 33⇑ *i*P P **22 29 02.1 -0.3**
COLA College 47.91 33 *e*P P **22 29 02.0 -0.5**
comp=Z,29nm,0.8s,mb5.3
ILAR Eielson Array 48.33 33 P P **22 29 04.6 -1.0**
comp=Z,40nm,0.7s,mb5.5,baz=264,slow=6.2,SNR=501
ILAR Eielson Array 48.33 33 P P **22 29 04.6 -1.0**
ILAR pmax pmax
comp=Z,40nm,0.7s
PKI Pulchoki 48.42 275 *e*P P **22 29 06.7 -0.2**
comp=Z,260nm,1.1s,mb6.2
PKI Pulchoki 48.42 275 *e*P P **22 29 06.7 -0.2**
PKI pmax pmax
comp=Z,130nm,1.1s,mb5.9
KKN Kakani 48.42 276 *e*P P **22 29 06.7 -0.2**
comp=Z,283nm,0.7s,mb6.4
KKN Kakani 48.42 276 *e*P P **22 29 06.7 -0.2**
KKN pmax pmax
comp=Z,142nm,0.7s,mb6.1
DMN Daman 48.64 275 *e*P P **22 29 08.4 -0.2**
comp=Z,109nm,1.0s,mb5.8
GKN Gorkha 48.83 276 *e*P P **22 29 09.8 -0.2**
comp=Z,390nm,1.0s,mb6.4
AAA Alma-Ata 48.90 298 *i*P P **22 29 11.2 +0.8**
AAA pmax pmax
comp=Z,545nm,7.4s
DIV Divide 49.09 38 *e*P P **22 29 11.6 0.0**
comp=Z,393nm,1.2s,mb6.3
ULHL Ulahol 49.71 297 P P **22 29 17.1 +0.5**
SNR=9.0
KOLN Koldanda 49.75 276 *e*P P **22 29 16.0 -1.1**
MENT Mentasta 49.86 35 *e*P P **22 29 17.6 +0.1**
TKM2 Tokmak 2 49.95 298 P P **22 29 19.1 +0.6**
SNR=113
TKM2 Tokmak 2 49.95 298 P P **22 29 18.7 +0.2**
TKM2 pmax pmax
comp=Z,76nm,0.8s,mb5.8
KULM Kulim 49.96 240 *e*P P **22 29 18.2 -0.7**
KULM *e*PcP PcP 22 30 38.3 -0.6
IPM Ipoh 50.29 239 P P **22 29 21.0 -0.4**
VOSK Vostochnaya 50.33 311 P P **22 29 19.8 -1.4**
VOSK pmax pmax
comp=Z,90nm,1.0s,mb5.8
KZA Kyzart 50.46 297 P P **22 29 23.7 +1.3**
SNR=32
KBK Karagaybulak 50.49 298 P P **22 29 22.8 +0.2**
SNR=99
CHMS Chumysh 50.52 298 P P **22 29 22.5 -0.2**
SNR=21
KGM Kluang 50.60 235 P P **22 29 24.5 +0.7**
USP Ospenovka 50.60 299 P P **22 29 23.3 -0.2**
SNR=30
BVA0 Borovoye Array 50.61 312 *i*P P **22 29 22.2 -1.1**
BVA0 pmax pmax
comp=Z,28nm,1.4s,mb5.0
FRU Bishkek 50.66 298⇑ *i*P P **22 29 24.5 +0.6**
FRU pmax pmax
comp=Z,137nm,1.8s,mb5.6
BRVK Borovoye 50.66 312⇑ *i*P P **22 29 23.1 -0.6**
AAK Ala-Archa 50.81 298 P P **22 29 24.9 -0.1**
SNR=33
AAK Ala-Archa 50.81 298*c i*P P **22 29 23.7 -1.3**
AAK pmax pmax
comp=Z,51nm,1.3s,mb5.3
AAK MLR MLR
comp=Z,2μm,20.0s,MS5.1
AAK Ala-Archa 50.81 298⇑ *i*P P **22 29 23.7 -1.3**
KSH Kashi 50.81 294 P P **22 29 26.0 +0.9**
KSH AP pP 22 29 38.4 +2.3
KSH PCP PcP 22 30 44.0 +2.3
KSH PP PP 22 31 23.4 +1.3
KSH *e*SCP 22 34 35.0
KSH PCS 22 34 40.0
KSH S S **22 36 35.2 -1.6**
KSH PS PS 22 36 50.0 -0.7
KSH XS 22 36 56.3
KSH SCS ScS 22 39 10.0 +0.6
KSH AMB AMB
comp=Z,260nm,1.3s,mb6.0
KSH LR LR
comp=N,1μm,14.2s,MS5.4
KSH LR LR
comp=E,2μm,13.9s,MS5.4
UCH Uchtor 50.93 298 P P **22 29 26.5 +0.5**
SNR=27
KAKA Kakadu 51.20 193⇑ *i*P Px 22 29 48.9
comp=E,101nm,0.6s
EKS2 Erkin-Say 51.30 298 P P **22 29 28.6 -0.1**
SNR=32
AML Almayashu 51.54 298 P P **22 29 31.3 +0.8**
SNR=57
KKAR Karatay Array 53.41 300 *i*P P **22 29 43.2 -1.3**
KKAR pmax pmax
comp=Z,110nm,1.0s,mb5.7
KIP Kipapa 53.43 90 *e*P P **22 29 45.6 +0.7**
NDI New Delhi 54.32 281 *e*P P **22 29 50.0 -1.4**
NDI *ex* x 22 30 00.0
VIS Vishakhapatnam 55.11 266 *e*P P **22 29 56.7 -0.5**
VIS AMb AMB 22 29 58.3
comp=Z,41nm,1.3s,mb5.3
KUDL Kundal 55.14 281 *e*P P **22 29 56.0 -1.3**
KUDL AMb AMB 22 29 58.8
comp=Z,36nm,1.9s,mb5.1
KHET Khetri 55.70 281 *e*P P **22 30 00.2 -1.2**
KHET AMb AMB 22 30 02.2
comp=Z,60nm,2.1s,mb5.2
SOKR Solikamsk 56.16 322 *i*P P **22 30 02.8 -1.4**
SOKR *i*S S **22 37 55.2 +6.2**
SOKR SS SS 22 41 32.8 -3.0
SOKR pmax pmax
comp=Z,70nm,1.1s,mb5.6
SOKR MLR MLR
comp=Z,810nm,15.0s,MS4.9
ARU Arti 56.26 318⇑ *i*P P **22 30 03.9 -1.1**
ARU *e* 22 30 59.5
ARU *e* 22 32 10.1
ARU *e*PPP PPP 22 33 21.5 -7.6
ARU *e*S S **22 37 53.4 +3.0**
ARU *e*SS SS 22 41 43.1 +5.4
ARU pmax pmax
comp=Z,106nm,0.8s,mb5.9
ARU MLR MLR
comp=E,2μm,17.0s,MS5.4
ARU MLR MLR
comp=Z,3μm,17.0s,MS5.5
ARU MLR MLR
comp=N,600nm,18.0s,MS5.4
ARU Arti 56.26 318⇑ *i*P P **22 30 03.0 -2.0**
BHPL Bhopal 56.82 275 *e*P P **22 30 08.2 -1.3**
BHPL AMb AMB 22 30 08.9
comp=Z,49nm,1.7s,mb5.2
AJM Ajmer 57.38 280 *e*P P **22 30 12.0 -1.5**
AJM AMb AMB 22 30 13.1
comp=Z,80nm,0.4s,mb6.1
DLBC Dease Lake 57.44 39 LR LR 22 53 09.8
comp=Z,312nm,20.9s,MS4.4,baz=248,slow=34
CTAO Charters Tower 57.78 176 P P **22 30 14.6 -1.7**
CTAO pmax pmax
comp=Z,30nm,1.4s,mb5.1
CTAO Charters Tower 57.78 176 P P **22 30 14.6 -1.7**
comp=Z,30nm,1.4s,mb5.1
AB31 Akbulak array 58.02 310 *i*P P **22 30 16.1 -1.4**
AB31 pmax pmax
comp=Z,47nm,0.7s,mb5.6
WRAB Tennant Creek 58.02 189*c i*P P **22 30 16.3 -1.6**
WRA Warramunga Arr 58.03 189 P P **22 30 15.9 -2.1**
comp=Z,132nm,0.7s,mb6.1,baz=7.2,slow=7.1,SNR=454
WRA PKPPKP 22 59 59.6
comp=Z,1.2nm,1.0s,baz=167,slow=2.7,SNR=4.7
WRA Warramunga Arr 58.03 189 *i*P P **22 30 13.5 -4.5**
WRA pmax pmax
comp=Z,132nm,0.7s
AKTO Aktyubinsk 58.72 312 P P **22 30 20.8 -1.6**
AKTO pmax pmax
comp=Z,100nm,0.8s,mb5.9
HYB Hyderabad 59.05 269⇑ *i*P P **22 30 24.0 -1.2**
comp=Z,80nm,1.0s,mb5.7
HYB *e*S S **22 38 32.0 +4.5**
HYB Hyderabad 59.05 269⇑ *e*P P **22 30 24.0 -1.2**
HYB *e*S S **22 38 32.0 +4.5**
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.7
HYB Hyderabad 59.05 269⇑ *e*P P **22 30 24.0 -1.2**
comp=Z,80nm,1.0s,mb5.7
HYB *e*S S **22 38 32.0 +4.5**
KBS Kingsbay 59.95 350 *e*P P **22 30 30.0 -0.7**
KBS AMb AMB 22 30 32.2
comp=Z,87nm,0.7s,mb5.9
KBS *e*S S **22 38 39.5 +1.1**
KBS AMS AMS 22 59 20.2
comp=Z,342nm,17.9s,MS4.5
KBS Kingsbay 59.95 350*c i*P P **22 30 30.1 -0.5**
KBS Kingsbay 59.95 350 *e*P P **22 30 30.0 -0.7**
comp=Z,87nm,0.7s,mb5.9
KBS LR LR
comp=Z,342μm,17.9s
JASL Jaisalmer 60.06 282 *e*P P **22 30 31.6 -0.5**
LATR Latur 60.07 271 *e*P P **22 30 30.6 -1.6**
HSP Hornsund 60.77 348 *e*P P **22 30 35.6 -0.6**
LVZ Lovozero 61.66 336 *i*P P **22 30 41.4 -0.9**
LVZ *i* 22 32 59.0
LVZ *i*S S **22 38 55.0 -5.4**
LVZ *i*SS SS 22 42 55.3 -8.4
LVZ pmax pmax
comp=Z,55nm,1.0s,mb5.6
LVZ pmax pmax
comp=N,14nm,0.9s
LVZ pmax pmax
comp=E,6.0nm,0.9s
LVZ smax
comp=E,74nm,12.1s
LVZ smax
comp=Z,10.0nm,4.9s
LVZ smax
comp=N,116nm,15.1s
LVZ MLR MLR
comp=Z,1μm,18.0s,MS5.1
LVZ MLR MLR
comp=N,320nm,16.0s,MS5.0
LVZ MLR MLR
comp=E,746nm,17.0s,MS5.0
LVZ Lovozero 61.66 336 *i*Pr P **22 30 41.4 -0.9**
BJO Bjornoya 61.81 345 AMS AMS 23 00 31.8
comp=Z,752nm,18.6s,MS4.9
POO Poona 62.16 272 AMb AMB 22 30 52.5
comp=Z,85nm,0.9s,mb5.9
APA Apatity 62.24 336⇓ *i*P P **22 30 44.6 -1.6**
APA *i* pP 22 30 57.4 -0.2
APA *i* 22 33 06.5
APA *e*S S **22 38 56.0 -12**
APA *e*SS SS 22 43 12.0 -0.9
APA pmax pmax
comp=Z,90nm,0.9s,mb5.9
YKA Yellowknife Ar 62.65 31 P P **22 30 47.7 -1.2**
comp=Z,16nm,0.7s,mb5.3,baz=302,slow=6.6,SNR=102
YKA LR LR 22 57 08.1
comp=Z,214nm,21.8s,MS4.3,baz=260,slow=35
YKA PKPPKP 22 59 51.6
comp=Z,1.6nm,0.8s,baz=125,slow=2.6,SNR=7.2
BHJ Bhuj 62.91 279 *e*P P **22 30 50.6 -0.7**
KEV Kevo 62.93 339 *ep* P **22 30 49.5 -1.3**
comp=Z,44nm,0.9s,mb5.6
KEV Kevo 62.93 339 *e*P P **22 30 49.5 -1.3**
KEV pmax pmax
comp=Z,44nm,0.9s,mb5.6
KLMR Klimovskoe 63.47 328*c i*P P **22 30 53.2 -1.2**
KLMR *e* 22 33 10.9
KLMR pmax pmax
comp=Z,120nm,1.3s,mb5.9
KLMR pmax pmax
comp=Z,640nm,4.6s
KLMR MLR MLR
comp=Z,2μm,19.0s,MS5.4
ARCES ARCESS Array B 63.48 339 P P **22 30 53.0 -1.4**
comp=Z,27nm,0.8s,mb5.4,baz=51,slow=7.8,SNR=45
ARCES ARCESS Array B 63.48 339 P P **22 30 53.0 -1.4**
ARCES pmax pmax
comp=Z,27nm,0.9s
ARE0 ARCESS Array S 63.48 339 *e*P P **22 30 53.4 -1.0**
PECR Pechory 63.66 322 *i*P P **22 30 54.0 -1.6**
PECR pmax pmax
comp=Z,200nm,2.0s,mb5.8
DZM Mont Dzumac 63.77 155 *e*P P **22 30 57.3 +0.4**
KTK1 Kautokeino 64.44 340⇑ *i*P P **22 31 00.7 +0.2**
KTK1 AMb AMB 22 31 02.8
comp=Z,118nm,1.3s,mb5.8
KTK1 Kautokeino 64.44 340⇑ *i*P P **22 31 00.7 +0.2**
comp=Z,118nm,1.3s,mb5.8
OTR Olympics--Tyee 64.91 48 P P **22 31 04.8 +0.9**
DAG Danmarks Havn 64.99 355⇓ *i*P P **22 31 01.8 -2.2**
comp=Z,79nm,0.9s,mb5.7
DAG Danmarks Havn 64.99 355⇓ *i*P P **22 31 01.8 -2.2**
DAG pmax pmax
comp=Z,79nm,0.9s,mb5.7
TRO Tromso 65.17 341⇑ *i*P P **22 31 03.3 -1.9**
TRO AMb AMB 22 31 07.6
comp=Z,80nm,1.9s,mb5.4
TRO *e*S S 22 39 46.4 +2.6
TRO AMS AMS 23 04 30.1
comp=Z,565nm,17.4s,MS4.8
TRO Tromso 65.17 341⇑ *i*P P **22 31 03.3 -1.9**
TRO pmax pmax
comp=Z,80nm,1.9s,mb5.4
TRO MLR MLR
comp=Z,57μm,17.4s
TRO Tromso 65.17 341⇑ *i*P P **22 31 03.3 -1.9**
comp=Z,80nm,1.9s,mb5.4
TRO LR LR
comp=Z,565μm,17.4s
JOF Joensuu 65.59 332 *ep* P **22 31 07.0 -1.0**
JCW Jim Creek 66.25 47 P P **22 31 12.5 +0.1**
MOS Moscow 67.05 324 *e*P P **22 31 14.5 -2.8**
MOS *e* pP 22 31 27.5 -1.4
MOS *e* 22 31 43.6
MOS pmax pmax
comp=Z,400nm,2.0s,mb6.1
MOS pmax pmax
comp=Z,218nm,1.6s,mb5.9
MOS MLR MLR
comp=Z,2μm,15.0s,MS5.4
MOS MLR MLR
comp=N,800nm,14.5s,MS5.2
MOS MLR MLR
comp=E,500nm,14.0s,MS5.2
COR Corvallis 67.29 51 *e*P P **22 31 19.8 +0.7**
COR pmax pmax
comp=Z,48nm,0.9s,mb5.5
COR Corvallis 67.29 51 *e*P P **22 31 19.8 +0.8**
comp=Z,48nm,0.9s,mb5.5
KEBM Edson Butte 67.54 53 *e*P P **22 31 20.9 +0.3**
VRHR Novokhopersk 67.60 318 *e*P P **22 31 19.7 -1.2**
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.6
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR MLR MLR
comp=Z,3μm,16.0s,MS5.6
VRHR MLR MLR
comp=N,2μm,20.0s,MS5.5
VRHR MLR MLR
comp=E,2μm,15.0s,MS5.5
PUL Pulkovo 67.87 330 *i*P P **22 31 21.3 -1.1**
PUL pmax pmax
comp=Z,150nm,0.7s,mb6.1
PUL pmax pmax
comp=N,67nm,0.6s
PUL pmax pmax
comp=E,180nm,1.2s
PUL pmax pmax
comp=N,221nm,0.9s
PUL pmax pmax
comp=E,227nm,1.3s
PUL MLR MLR
comp=E,890nm,17.0s,MS5.1
PUL MLR MLR
comp=Z,1μm,17.0s,MS5.2
PUL MLR MLR
comp=N,505nm,16.0s,MS5.1
PUL Pulkovo 67.87 330 *e*P P **22 31 22.1 -0.3**
OBN Obninsk 67.90 323⍺ *i*P P **22 31 22.0 -0.7**
OBN *e* pP 22 31 33.2 -1.1
OBN *e* 22 31 52.0
OBN *e* 22 33 51.6
OBN *e*S S 22 40 22.0 +4.9
OBN *e* 22 41 07.8
OBN SS SS 22 44 38.0 -2.6
OBN pmax pmax
comp=Z,145nm,1.2s,mb5.9
OBN MLR MLR
comp=Z,2μm,17.0s,MS5.3
OBN Obninsk 67.90 323⇑ *i*P P **22 31 21.9 -0.8**
OBN LR LR
comp=Z,2μm,17.0s,MS5.3
KAF Kangasniemi 67.92 333 *ep* P **22 31 21.9 -0.8**
comp=Z,58nm,0.7s,mb5.7
KAF Kangasniemi 67.92 333 *e*P P **22 31 21.9 -0.8**
KAF pmax pmax
comp=Z,59nm,0.7s,mb5.7
BROR Big Rock Looko 67.98 51 P P **22 31 23.5 +0.1**
FRIS Frissel Point 68.22 50 P P **22 31 25.3 +0.3**
FINES FINESS Array B 68.44 332 P P **22 31 25.2 -0.7**
comp=Z,74nm,0.7s,mb5.8,baz=45,slow=8.4,SNR=195
FINES PP PP 22 33 52.5 -6.8
comp=Z,6.9nm,0.8s,baz=56,slow=15,SNR=3.2
FINES LR LR 23 05 26.3
comp=Z,865nm,18.1s,MS5.0,baz=227,slow=39
FINES FINESS Array B 68.44 332 P P **22 31 25.2 -0.7**
FINES 22 33 52.6
FINES pmax pmax
comp=Z,74nm,0.7s
FINES pmax pmax
comp=Z,7.0nm,0.8s
FINES MLR MLR
comp=Z,865nm,18.1s
FINES FINESS Array B 68.44 332 P P **22 31 25.2 -0.7**
FINES PP PP 22 33 52.5 -6.8
FINES LR LR 23 05 26.2
ARMA Armidale 68.50 171 *e*P P **22 31 26.8 -0.1**
HUMO Hull Mountain 68.55 52 *e*P P **22 31 27.1 +0.2**
comp=Z,16nm,1.2s,mb4.8
HAWA Hanford 68.59 47 *e*P P **22 31 26.8 -0.4**
comp=Z,2.0nm,1.4s
VRSR Storozhevoye 68.82 319 *e*P P **22 31 27.7 -0.8**
VRSR pmax pmax
comp=Z,200nm,0.9s,mb6.0
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR MLR MLR
comp=E,200nm,16.0s,MS4.6
VRSR MLR MLR
comp=Z,370nm,16.0s,MS4.7
VRSR MLR MLR
comp=N,200nm,18.0s,MS4.6
MOR8 Moi Rana 68.84 340⇑ *i*P P **22 31 26.4 -2.0**
MOR8 AMb AMB 22 31 27.4
comp=Z,113nm,0.8s,mb5.8
MOR8 Moi Rana 68.84 340⇑ *i*P P **22 31 26.4 -2.0**
comp=Z,113nm,0.8s,mb5.8
KHMM Horse Mountain 68.98 54 *e*P P **22 31 30.4 +0.7**
YBH Yreka Blue Hor 69.17 53 *e*P P **22 31 31.3 +0.5**
YBH pmax pmax
comp=Z,26nm,1.2s
YBH Yreka Blue Hor 69.17 53 *e*P P **22 31 31.3 +0.4**
comp=Z,26nm,1.2s,mb5.0
STKA Stephens Creek 69.42 181⇑ *i*P P **22 31 31.7 -0.8**
comp=Z,22nm,0.8s,mb5.1
STKA Stephens Creek 69.42 181 P P **22 31 31.9 -0.6**
comp=Z,24nm,0.8s,mb5.2,baz=339,slow=7.4,SNR=47
STKA LR LR 22 59 09.1
comp=Z,372nm,21.7s,MS4.6,baz=16,slow=34
FORT Forrest 69.63 193⇑ *i*P P **22 31 33.2 -0.6**
comp=Z,129nm,0.6s,mb6.0
KIPM Iron Peak 69.71 55 *e*P P **22 31 34.5 +0.3**
KCPM Cahto Peak 69.71 55 *e*P P **22 31 34.5 +0.4**
SUMG Summit 69.83 0 *e*P P **22 31 34.6 +0.3**
comp=Z,108nm,0.8s,mb5.8
WDC Whiskeytown Da 69.90 54 *e*P P **22 31 35.2 -0.1**
WDC pmax pmax
comp=Z,22nm,1.0s,mb5.0
WDC Whiskeytown Da 69.90 54 *e*P P **22 31 35.2 -0.1**
comp=Z,22nm,1.0s,mb5.0
LASM Arnica Sink 69.95 53 P P **22 31 36.1 +0.5**
VSU Vasula 70.13 330*c i*P P **22 31 36.2 -0.2**
VSU Vasula 70.13 330⇑ *i*P P **22 31 36.2 -0.2**
GOF Gofitskoye 70.14 312⇑ *i*P P **22 31 36.6 -0.1**
GOF pmax pmax
comp=Z,240nm,0.8s,mb6.2
LTIM Timbered Crate 70.24 53 P P **22 31 37.7 +0.4**
LBCM Butte Creek Ri 70.52 53 P P **22 31 39.2 +0.1**
MOD Modoc 70.58 52 *e*P P **22 31 39.5 0.0**
comp=Z,26nm,0.8s,mb5.2
DGRG David-gareji 70.73 308 P P **22 31 39.8 -0.5**
BMO Blue Mountains 70.74 48 *e*P P **22 31 40.0 -0.3**

comp=Z,20nm,0.9s,mb5.0
MTA Mtatsminda 70.95 308 P P 22 31 41.2 -0.5
TI2 Plekhanov 70.96 308⇑ *iP* P **22 31 41.0 -0.7**
KIV Kislovodsk 70.97 311 *c iP* P **22 31 41.8 +0.1**
KIV pmax pmax
comp=Z,302nm,1.0s,mb6.2
KIV MLR MLR
comp=Z,1μm,22.0s,MS5.1
KIV Kislovodsk 70.97 311⇑ *iP* P **22 31 41.8 +0.1**
TBLG Delisi 70.97 308 P P **22 31 41.7 -0.1**
OHCM Honcut 71.26 55 *eP* P **22 31 43.2 -0.4**
ONI Oni 71.28 310 P P **22 31 44.2 +0.5**
WVOR Wild Horse Val 71.31 51 *eP* P **22 31 43.8 0.0**
WVOR pmax pmax
comp=Z,27nm,1.0s,mb5.1
WVOR Wild Horse Val 71.31 51 *eP* P **22 31 43.8 -0.1**
comp=Z,26nm,1.0s,mb5.1
SCO Scoresbysund 71.34 355 *i* P P **22 31 42.2 -1.3**
MSO Missoula 71.53 45 *eP* P **22 31 44.4 -0.6**
comp=Z,14nm,1.2s,mb4.8
WBK Wadi Bani Khal 71.53 285 P P **22 31 45.8 +0.3**
SNR=30
BIDO Bidbid 71.67 286 P P **22 31 46.8 +0.5**
SNR=34
BANOM Banah 71.71 289 P P **22 31 46.7 +0.2**
SNR=33
GNI Garni 71.85 307 *c iP* P **22 31 47.9 +0.9**
GNI pmax pmax
comp=Z,67nm,1.3s
GNI MLR MLR
comp=Z,900nm,16.0s
GNI Garni 71.85 307 *eP* P **22 31 47.6 +0.5**
comp=Z,71nm,1.0s,mb5.5
CHMT Chamberlain Mo 71.86 44 *eP* P **22 31 46.8 -0.2**
SMDO Samad 71.98 285 P P **22 31 49.1 +1.1**
SNR=19
IZAR Zarasai 72.12 328 *eP* P **22 31 48.2 -0.2**
IZAR AMb AMB 22 31 49.4
comp=Z,23nm,0.8s,mb5.1
IZAR *ep*P pP 22 31 59.7 -0.2
IDID Didziasalis 72.20 327 *eP* P **22 31 48.9 0.0**
IDID AMb AMB 22 31 50.0
comp=Z,33nm,0.9s,mb5.3
IDID *ep*P pP 22 32 00.4 0.0
HOQ Hoqain 72.25 286 P P **22 31 49.9 +0.2**
SNR=18
MNK Minsk 72.27 326⇑ *eP* P **22 31 47.0 -2.2**
MNK pmax pmax
comp=Z,63nm,1.0s,mb5.5
ISAL Salakas 72.29 328 *eP* P **22 31 49.4 0.0**
ISAL AMb AMB 22 31 51.2
comp=Z,51nm,1.0s,mb5.4
JMDO Jabal Madar 72.33 285 P P **22 31 50.2 0.0**
SNR=30
IIGN Ignalina 72.40 327 *eP* P **22 31 50.0 0.0**
IIGN AMb AMB 22 31 51.2
comp=Z,34nm,0.7s,mb5.4
IIGN *ep*P pP 22 32 01.6 +0.1
ASHO Ashiyiah 72.58 288 P P **22 31 51.6 -0.1**
SNR=37
CMB Columbia Colle 72.70 55 *eP* P **22 31 51.9 -0.2**
CMB pmax pmax
comp=Z,32nm,0.9s,mb5.2
CMB Columbia Colle 72.70 55 *eP* P **22 31 51.9 -0.2**
comp=Z,32nm,0.9s,mb5.2
BSY Bisya 72.81 286 P P **22 31 52.9 -0.1**
SNR=22
SOC Sochi 72.94 312 *c iP* P **22 31 53.1 -0.3**
SOC *e* 22 34 42.3
SOC *eS* S 22 41 20.6 +4.6
SOC *e* 22 41 59.2
SOC pmax pmax
comp=Z,76nm,0.8s,mb5.7
SOC MLR MLR
comp=Z,1μm,17.0s,MS5.2
ARQ Araqi 72.99 287 P P **22 31 54.5 +0.4**
SNR=21
ARTV Artvin 73.01 309 *i* P P **22 31 53.4 -0.5**
EGMT Eagleton 73.08 42 *eP* P **22 31 53.9 -0.3**
comp=Z,28nm,0.8s,mb5.2
DLMT Dillon 73.15 45 *eP* P **22 31 54.5 -0.2**
comp=Z,48nm,1.0s,mb5.4
HLID Hailey 73.19 48 *eP* P **22 31 55.0 +0.1**
comp=Z,18nm,0.9s,mb5.0
MCMT McKenzie Canyo 73.33 46 *eP* P **22 31 55.4 -0.3**
BOZ Bozeman (W) 73.52 45 *eP* P **22 31 57.0 +0.2**
BOZ pmax pmax
comp=Z,34nm,0.9s,mb5.3
BOZ Bozeman (W) 73.52 45 *eP* P **22 31 57.0 +0.2**
comp=Z,34nm,0.9s,mb5.3
ANN Anapa 73.53 314⇑ *iP* P **22 31 55.8 -1.0**
ANN *eS* S 22 41 24.1 +1.5
ANN pmax pmax
comp=Z,123nm,1.2s,mb5.7
ANN MLR MLR
comp=Z,969nm,23.0s,MS5.0
MOL Molde 73.53 340⇑ *iP* P **22 31 56.6 +0.1**
MOL AMb AMB 22 31 58.8
comp=Z,77nm,1.6s,mb5.4
MOL Molde 73.53 340⇑ *iP* P **22 31 56.6 +0.1**
comp=Z,77nm,1.6s,mb5.4
DOMB Dombas 73.54 339⇑ *iP* P **22 31 56.5 -0.1**
TVAN Van 73.63 306 *iP* P **22 31 56.7 -0.9**
NB2 NORSAR Subarra 73.71 338 P P **22 31 57.2 -0.4**
comp=Z,68nm,0.7s,mb5.7,baz=39,slow=5.8
NB2 NORSAR Subarra 73.71 338 P P **22 31 57.2 -0.4**
baz=39,slow=6.2
NOA NORSAR Array B 73.71 338 P P **22 31 57.4 -0.2**
comp=Z,59nm,0.7s,mb5.6,baz=39,slow=5.9,SNR=171
NOA PP PP 22 34 38.9 -5.1
comp=Z,4.5nm,0.8s,baz=44,slow=8.2,SNR=4.3
NOA LR LR 23 07 11.7
comp=Z,1μm,19.6s,MS5.1,baz=30,slow=38
NOA NORSAR Array B 73.71 338 P P **22 31 57.4 -0.2**
NOA 22 34 38.9
NOA pmax pmax
comp=Z,59nm,0.7s
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA MLR MLR
comp=Z,1μm,19.7s
NVAR Mina Array Bea 73.82 54 P P **22 31 59.4 +0.7**
comp=Z,16nm,0.8s,mb5.0,baz=290,slow=5.1,SNR=117
NVAR LR LR 22 59 41.9
comp=Z,205nm,19.0s,MS4.4,baz=300,slow=32
MNV Mina 73.91 54 *eP* P **22 31 59.3 +0.1**
MNV pmax pmax
comp=Z,24nm,1.3s,mb5.0
MNV Mina 73.91 54 *eP* P **22 31 59.3 +0.1**
comp=Z,24nm,1.3s,mb5.0
NAO01 NORSAR Array S 73.96 338 *eP* P **22 31 58.6 -0.4**
comp=Z,31nm,0.6s,mb5.4
HAKT HAKKARI 74.00 305 *i* P P **22 31 58.7 -1.1**
ERZM Erzurum 74.11 308 *iP* P **22 32 00.2 -0.1**
AKASG Malin Array Be 74.12 323 P P **22 31 59.7 -0.4**
comp=Z,75nm,0.6s,mb5.8,baz=46,slow=6.1,SNR=361
AKASG Malin Array Be 74.12 323 P P **22 31 59.7 -0.4**
AKASG pmax pmax
comp=Z,75nm,0.6s
QLMT Earthquake Lak 74.13 45 *eP* P **22 32 00.2 -0.1**
ELK Elko 74.37 50 P P **22 32 02.2 +0.4**
comp=Z,8.2nm,0.8s,mb4.7,baz=310,slow=7.5,SNR=19
ELK Elko 74.37 50 *eP* P **22 32 02.4 +0.6**
ELK pmax pmax
comp=Z,14nm,0.9s
ELK Elko 74.37 50 *eP* P **22 32 02.4 +0.6**
comp=Z,14nm,0.9s,mb4.9
YMR Madison River 74.49 45 *eP* P **22 32 03.0 +0.6**
comp=Z,22nm,0.8s,mb5.1
SUW Suwalki 74.61 328⇑ *eP* P **22 32 02.4 -0.5**
SUW MLR MLR 23 07 28.4
comp=Z,1μm,17.3s,MS5.2
YFT Old Faithful 74.70 45 *eP* P **22 32 05.6 +2.0**
TPH Tonopah 74.71 54 *eP* P **22 32 04.2 +0.3**
TPH pmax pmax
comp=Z,45nm,1.3s,mb5.2
TPH Tonopah 74.71 54 *eP* P **22 32 04.2 +0.4**
comp=Z,45nm,1.3s,mb5.2
BNGL BINGOL 74.81 308 *iP* P **22 32 04.7 +0.3**
SFJD Kangerlussuaq 74.96 5⇑ *iP* P **22 32 04.4 -0.3**
comp=Z,46nm,0.8s,mb5.5
SFJD *e* 22 41 56.3
comp=Z,570nm,20.0s
SFJD Kangerlussuaq 74.96 5⇑ *iP* P **22 32 04.4 -0.3**
SFJD pmax pmax
comp=Z,46nm,0.8s,mb5.5
SFJD MLR MLR
comp=Z,570nm,20.0s,MS4.9
IMW Indian Meadow 74.98 46 *eP* P **22 32 06.6 +1.3**
comp=Z,52nm,0.8s,mb5.5
RRI2 Red Ridge 75.11 46 *eP* P **22 32 07.0 +1.0**
comp=Z,45nm,1.0s,mb5.3
MSL Mosul 75.14 304 *ex* x 22 32 07.5
TOO Toolangi 75.14 178 *eP* P **22 32 06.4 +0.1**
comp=Z,7.7nm,0.7s,mb4.7
TOO Toolangi 75.14 178 *eP* P **22 32 06.4 +0.1**
TOO pmax pmax
comp=Z,80nm,0.7s,mb5.8
MOOW Moose Ponds 75.19 46 *eP* P **22 32 07.5 +1.0**
comp=Z,27nm,0.9s,mb5.2
HVU Hansel Valley 75.22 48 *eP* P **22 32 07.4 +0.7**
HVU pmax pmax
comp=Z,32nm,1.0s,mb5.2
HVU Hansel Valley 75.22 48 *eP* P **22 32 07.3 +0.6**
comp=Z,32nm,1.0s,mb5.2
TPAW Teton Pass 75.23 46 *eP* P **22 32 07.8 +1.1**
comp=Z,20nm,0.7s,mb5.2
SIM Simferopol' 75.29 316 *ceP* P **22 32 06.9 -0.1**
SIM *eS* S 22 41 44.0 +1.7
SIM pmax pmax
comp=Z,81nm,0.8s,mb5.7
SIM MLR MLR
comp=Z,700nm,17.0s,MS5.0
KONO Kongsberg 75.31 337 *eP* P **22 32 06.6 -0.2**
REDW Red Top Meadow 75.37 46 *eP* P **22 32 08.0 +0.5**
comp=Z,40nm,1.1s,mb5.3
GRSN GIRESUNGRSN 75.39 311 *i* P P **22 32 05.4 -2.2**
DAC Darwin (Calif) 75.54 55 *eP* P **22 32 08.5 -0.1**
DAC pmax pmax
comp=Z,18nm,0.9s,mb5.0
DAC Darwin (Calif) 75.54 55 *eP* P **22 32 08.4 -0.2**
comp=Z,18nm,0.9s,mb5.0
BGU Big Grassy Mou 75.59 49 *eP* P **22 32 08.8 -0.1**
DGMT Dagmar 75.65 39 *eP* P **22 32 08.4 -0.6**
comp=Z,62nm,0.9s,mb5.5
LAO LASA Array 75.79 41 *eP* P **22 32 10.0 +0.2**
comp=Z,62nm,1.1s,mb5.5
LAO *e* pP 22 32 20.6 -0.8
ASK Askoy 75.90 340 *eP* P **22 32 10.6 +0.5**
ASK AMb AMB 22 32 12.9
comp=Z,238nm,2.0s,mb5.8
ASK Askoy 75.90 340 *eP* P **22 32 10.6 +0.5**
comp=Z,238nm,2.0s,mb5.8
UMR Umm Al-Rimmam 75.92 296 *eP* P **22 32 10.2 -0.8**
UMR AMb AMB 22 32 11.3
comp=Z,151nm,0.6s,mb6.1
BER Bergen 75.94 340 *eP* P **22 32 11.1 +0.7**
BER AMb AMB 22 32 12.7
comp=Z,121nm,1.4s,mb5.6
BER AMS AMS 23 09 23.9
comp=Z,1μm,18.2s,MS5.2
BER Bergen 75.94 340 *eP* P **22 32 11.1 +0.7**
comp=Z,121nm,1.4s,mb5.6
BER LR LR
comp=Z,1037μm,18.2s
TPNV Topopah Spring 76.00 54 *eP* P **22 32 11.4 +0.1**
TPNV pmax pmax
comp=Z,33nm,0.9s,mb5.3
TPNV Topopah Spring 76.00 54 *eP* P **22 32 11.4 +0.2**
comp=Z,33nm,0.9s,mb5.3
MARD Mardin 76.02 306 *iP* P **22 32 11.0 -0.4**
HWUT Hardware Ranch 76.04 48 *eP* P **22 32 11.7 +0.3**
comp=Z,40nm,1.1s,mb5.3
HWUT *e* pP 22 32 22.7 -0.3
MIB Mutribah 76.04 297 *eP* P **22 32 10.9 -0.7**
MIB AMb AMB 22 32 12.1
comp=Z,225nm,0.7s,mb6.2
EGD Espegrend 76.07 340 *eP* P **22 32 11.7 +0.5**
EGD AMb AMB 22 32 12.4
comp=Z,130nm,1.2s,mb5.7
EGD Espegrend 76.07 340 *eP* P **22 32 11.7 +0.5**
comp=Z,130nm,1.2s,mb5.7
KBD Kabd 76.16 296 *eP* P **22 32 11.8 -0.5**
KBD AMb AMB 22 32 12.9
comp=Z,524nm,0.7s,mb6.6
DUG Dugway 76.17 50 *eP* P **22 32 12.7 +0.6**
DUG pmax pmax
comp=Z,34nm,0.8s,mb5.3
DUG Dugway 76.17 50 *eP* P **22 32 12.7 +0.6**
comp=Z,34nm,0.8s,mb5.3
QRN Al-Qurain 76.25 296 *eP* P **22 32 12.4 -0.5**
QRN AMb AMB 22 32 13.4
comp=Z,433nm,0.6s,mb6.5
NOQ North Oquirrh 76.31 49 *eP* P **22 32 13.5 +0.6**
comp=Z,94nm,1.2s,mb5.6
RDF Al-Radifah 76.40 296 *eP* P **22 32 13.2 -0.5**
RDF AMb AMB 22 32 14.5
comp=Z,419nm,1.0s,mb6.3
ELZG Elazig 76.43 308 *i* P P **22 32 13.5 -0.1**
NAY Al-Naaiem 76.43 296 *eP* P **22 32 13.1 -0.7**
NAY AMb AMB 22 32 15.6
comp=Z,126nm,1.0s,mb5.8
TCUT Toone Canyon 76.44 48 *eP* P **22 32 14.1 +0.5**
MWC Mount Wilson 76.45 57 *eP* P **22 32 13.8 -0.1**
PDAR Pinedale Array 76.48 46 P P **22 32 14.1 +0.2**
comp=Z,22nm,0.7s,mb5.2,baz=270,slow=2.7,SNR=73
CTU Camp Tracy 76.50 49 *eP* P **22 32 14.5 +0.5**
comp=Z,24nm,1.0s,mb5.1
NLU North Lily Min 76.77 50 *eP* P **22 32 16.0 +0.4**
KIS Kishinev 76.77 320 *eP* P **22 32 15.0 -0.4**
KIS *e* pP 22 32 26.0 -1.0
KIS *e* 22 32 33.0
KIS *e* 22 35 09.0
KIS pmax pmax
comp=Z,150nm,1.0s,mb5.9
DAU Daniels Canyon 76.97 49 *eP* P **22 32 17.4 +0.7**
MPU Maple Canyon 76.99 49 *eP* P **22 32 17.4 +0.6**
comp=Z,38nm,0.9s,mb5.3
HASS Wahat al Ahsa' 77.03 292 P P **22 32 15.8 -1.6**
BOYT Boyabat 77.07 313 *iP* P **22 32 16.4 -0.8**
BSD Bornholm Skovb 77.08 332⇑ *iP* P **22 32 16.7 -0.2**
comp=Z,63nm,1.0s,mb5.5
BSD *i* pP 22 32 28.6 0.0
comp=Z,510nm,19.0s
BSD Bornholm Skovb 77.08 332⇑ *iP* P **22 32 16.7 -0.2**
BSD *i* pP 22 32 28.6 0.0
BSD pmax pmax
comp=Z,63nm,1.0s,mb5.5
BSD MLR MLR
comp=Z,510nm,19.0s,MS4.9
LVV L'vov 77.17 324 *eP* P **22 32 19.0 +1.4**
ARUT Antelope Range 77.27 52 *eP* P **22 32 18.6 +0.2**
IAS Iasi 77.28 321 P P **22 32 18.3 +0.1**
ATAB Bozova 77.49 308 *iP* P **22 32 20.0 +0.4**
COP Copenhagen 77.53 334 *iS* S 22 42 23.5 +17
comp=Z,610nm,16.0s
COP Copenhagen 77.53 334⇑ *iP* P **22 32 19.7 +0.3**
COP *i* S SKS 22 42 23.5 -0.9
COP pmax pmax
comp=Z,44nm,0.5s,mb5.6
COP MLR MLR
comp=Z,610nm,16.0s,MS5.0
COP Copenhagen 77.53 334⇑ *iP* P **22 32 19.7 +0.3**
comp=Z,44nm,0.5s,mb5.6
COP *i* S SKS 22 42 23.5 -0.9
COP LR LR
comp=Z,610nm,16.0s,MS5.0
MVU Marysvale 77.58 51 *eP* P **22 32 21.9 +1.8**
comp=Z,22nm,1.0s,mb5.0
MSU Marysvale 77.60 51 *eP* P **22 32 21.2 +1.0**
CTKT Corum 77.64 312 *iP* P **22 32 20.3 -0.1**
TMUT Trail Mountain 77.70 50 *eP* P **22 32 20.9 +0.1**
BALT Daday 77.88 313 *iP* P **22 32 21.5 -0.2**
KWP Kalwaria 77.91 325⇑ *eP* P **22 32 22.4 +0.8**
KWP MLR MLR 23 10 11.5
comp=Z,3μm,16.5s,MS5.6
MUD Monsted U'grnd 78.02 336 *i* S SKS 22 42 39.1 +11
comp=Z,1μm,18.0s
MUD Monsted U'grnd 78.02 336 *iP* P **22 32 22.5 +0.4**
MUD *i* S SKS 22 42 39.1 +11
MUD pmax pmax
comp=Z,41nm,0.9s,mb5.4
MUD MLR MLR
comp=Z,1μm,18.0s,MS5.3
MUD Monsted U'grnd 78.02 336 *iP* P **22 32 22.5 +0.4**
comp=Z,41nm,0.9s,mb5.3
MUD *i* S SKS 22 42 39.1 +11
GZT Gaziantep 78.02 308 *iP* P **22 32 22.8 +0.2**
BURAR Bucovina Array 78.14 322 ||P P **22 32 24.1 +1.1**
BURAR Bucovina Array 78.14 322 ||P P **22 32 24.1 +1.1**
WHFO Wadi Hawf 78.20 283 P P **22 32 23.1 -0.8**
SNR=8.8
SRU San Rafael 78.23 49 *eP* P **22 32 24.0 +0.4**
SRU pmax pmax
comp=Z,48nm,0.8s,mb5.5
SRU San Rafael 78.23 49 *eP* P **22 32 24.0 +0.3**
comp=Z,48nm,0.8s,mb5.5
KAHT Ahir Dag 78.28 309 *iP* P **22 32 24.6 +0.7**
BAR Barrett 78.30 58 *eP* P **22 32 23.8 -0.4**
ULM Lac du Bonnet 78.33 34 P P **22 32 23.3 -0.6**
comp=Z,20nm,0.8s,mb5.1,baz=311,slow=6.1,SNR=26
ULM LR LR 23 10 52.4
comp=Z,138nm,18.1s,MS4.3,baz=346,slow=39
CFR Carcaliu 78.35 319 ||P P **22 32 23.2 -1.0**
RWWY Rawlins 78.50 46 *eP* P **22 32 24.6 -0.5**
comp=Z,44nm,0.8s,mb5.4
ELDT Eldivan 78.53 313 *iP* P **22 32 24.9 -0.3**
CDAG Cicekdag 78.53 311 *iP* P **22 32 24.7 -0.6**
KOLS Kolonicke sedl 78.61 324 *iP* P **22 32 25.8 +0.3**
KOLS *e*PP PP 22 35 17.9 -7.5
RSSD Black Hills 78.64 42 *eP* P **22 32 25.3 -0.5**
RSSD pmax pmax
comp=Z,14nm,0.6s,mb5.1
RSSD Black Hills 78.64 42 *eP* P **22 32 25.3 -0.5**
comp=Z,14nm,0.6s,mb5.1
TIRR Tirgusor 78.69 318⇑ P P **22 32 26.1 0.0**
TIRR Tirgusor 78.69 318 *eP* P **22 32 26.0 -0.1**
STHS Stebnicka Huta 78.73 325 *iP* P **22 32 27.0 +0.8**
STHS *e* 22 35 15.9
AVNT Avonos 78.78 311 *iP* P **22 32 27.0 +0.3**
OJC Ojcow 78.78 327⇑ *iP* P **22 32 27.0 +0.6**
OJC *e* pP 22 32 37.6 -0.5
HARR Harsova 78.78 319⇑ P P **22 32 26.0 -0.6**
UZH Uzhgorod 78.81 324 *iP* P **22 32 26.0 -0.7**
UZH Uzhgorod 78.81 324 *i* Pr P **22 32 26.0 -0.7**
BR131 Keskin Array S 78.90 312 *eP* P **22 32 27.1 -0.2**
comp=Z,15nm,0.8s,mb5.0
BRTR Keskin Array B 78.90 312 P P **22 32 27.6 +0.3**
comp=Z,15nm,0.7s,mb5.0,baz=90,slow=3.7,SNR=75
BRTR PP PP 22 35 23.4 -4.5
comp=Z,5.7nm,1.0s,baz=76,slow=5.1,SNR=4.6
BRTR PKKPbc 22 51 18.6
comp=Z,0.6nm,0.8s,baz=213,slow=3.5,SNR=4.5
ABTO Aybut 78.90 283 P P **22 32 27.1 -0.7**
SNR=7.0
CRVS Cervenica-Dubn 79.00 325 *iP* P **22 32 28.2 +0.5**
CRVS *e* 22 35 36.6
NIE Niedzica 79.14 326⇑ *iP* P **22 32 29.4 +1.0**
MLR Muntele Rosu 79.26 320 P P **22 32 29.6 +0.4**
comp=Z,16nm,0.5s,mb5.2,baz=346,slow=2.8,SNR=15
MLR Muntele Rosu 79.26 320⇑ P P **22 32 28.8 -0.3**
SGKT Sivrigoynuk 79.27 313 *iP* P **22 32 28.7 -0.6**
ANTO Ankara 79.30 312⇑ P P **22 32 30.1 +0.6**
ANTO Ankara 79.30 312 P P **22 32 30.2 +0.7**
PSN Preselentsi 79.34 318 *iP* P **22 32 30.8 +1.2**
COBT Iskenderun 79.36 308 *iP* P **22 32 29.8 -0.1**
RUE Ruedersdorf 79.54 331 *eP* P **22 32 30.6 +0.1**
comp=Z,110nm,1.4s,mb5.6
RAC Raciborz 79.58 327 *eP* P **22 32 31.4 +0.6**
RAC MLR MLR 23 10 37.5
comp=Z,2μm,16.3s,MS5.4
BSEG Bad Segeberg 79.66 334 *eP* P **22 32 31.2 +0.1**
BSEG pmax pmax
comp=Z,102nm,1.1s,mb5.7
VOIR 79.75 321 ||P P **22 32 32.7 +0.9**
KECS Kecovo 79.75 325 *iP* P **22 32 32.0 +0.3**
KECS *e*PP PP 22 35 32.3 -2.2
HENT Hendek 79.76 314 *iP* P **22 32 30.2 -1.7**
OKC Ostrava-Krasne 79.78 327⇑ *iP* P **22 32 32.3 +0.4**
OKC *ep*P pP 22 32 41.6 -2.0
OKC AMS AMS 23 10 30.0
comp=Z,1μm,16.6s
KSP Ksiaz 79.80 329⇑ *iP* P **22 32 32.7 +0.8**
KSP MLR MLR 23 10 27.7
comp=Z,2μm,18.8s,MS5.5
KSP Ksiaz 79.80 329⇑ *iP* P **22 32 32.4 +0.4**
KSP MLR MLR
comp=Z,2μm,18.8s,MS5.5
DRGR 79.94 323 ||P P **22 32 32.3 -0.5**
WUAZ Wupatki 79.98 53 *eP* P **22 32 33.7 +0.4**
comp=Z,44nm,1.0s,mb5.3
PRD Provadia 80.08 318 *eP* P **22 32 34.5 +0.9**
MORC Moravsky Berou 80.09 327 *eP* P **22 32 33.9 +0.4**
MORC pmax pmax
comp=Z,65nm,0.9s,mb5.6
MORC Moravsky Berou 80.09 327 *eP* P **22 32 33.9 +0.4**
comp=Z,65nm,0.9s,mb5.6
DPC Dobruska-Polom 80.17 328⇑ *iP* P **22 32 34.8 +0.9**
DPC AMS AMS 23 11 00.0
comp=Z,900nm,14.6s
UPC Upice 80.17 329⇑ *iP* P **22 32 34.6 +0.6**
UPC *ep*P pP 22 32 46.7 +1.1
PSZ Piszkesteto 80.43 325⇑ *iP* P **22 32 36.1 +0.7**
PSZ Piszkesteto 80.43 325 *eP* P **22 32 35.3 -0.1**
PSZ pmax pmax
comp=Z,81nm,0.9s,mb5.7
PSZ Piszkesteto 80.43 325 *eP* P **22 32 35.3 -0.1**
comp=Z,81nm,0.9s,mb5.7
VYHS Vyhne 80.48 326 *iP* P **22 32 36.2 +0.6**
VYHS *e*PP PP 22 35 39.5 -1.4
KDHN Kadinhani 80.58 312 *iP* P **22 32 39.9 +3.5**
MEST Erdemli 80.62 309 *iP* P **22 32 36.7 +0.1**
BORA Eskisehir 80.64 314 *iP* P **22 32 36.4 -0.3**
ESKT Eskisehir 80.66 313 *iP* P **22 32 35.5 -1.3**
ISCO Idaho Springs 80.66 46 *eP* P **22 32 36.5 -0.3**
ISCO pmax pmax
comp=Z,14nm,1.0s,mb4.8
ISCO Idaho Springs 80.66 46 *eP* P **22 32 36.5 -0.3**
comp=Z,14nm,1.0s,mb4.8
BRG Berggiesshubel 80.73 330 *iP* P **22 32 37.2 +0.3**
comp=Z,48nm,0.9s,mb5.4
BRG *i* 22 35 39.3
BRG LR LR
comp=Z,2μm,15.9s,MS5.6
PVCC Panska Ves 80.75 329⇑ *iP* P **22 32 37.8 +0.8**
PVCC AMS AMS 23 11 10.0
comp=Z,2μm,16.5s
CLL Collm 80.76 331 ⇑P P **22 32 37.1 +0.1**
comp=Z,logA/T=2.0,mb5.7
CLL *e**PP pP 22 32 46.0 -2.7
CLL *e**SP sP 22 32 49.0 -4.0
CLL Collm 80.76 331⇑ *iP* P **22 32 37.1 +0.1**
CLL *e* pP 22 32 46.0 -2.7
CLL pmax pmax
comp=Z,98nm,1.0s,mb5.7
CLL Collm 80.76 331⇑ *iP* P **22 32 37.1 +0.1**
comp=Z,98nm,1.0s,mb5.7
CLL *e* pP 22 32 46.0 -2.7
ZIMR 80.83 319 ⇑P P **22 32 38.0 +0.4**
VRAC Vranov 80.84 327 ⇑P P **22 32 38.6 +1.1**
VRAC Vranov 80.84 327 P P **22 32 38.4 +0.9**
MZLS Mizel 81.00 293 P P **22 32 39.0 +0.1**
SMOL Smolenice 81.09 327 *iP* P **22 32 40.0 +1.2**
PRA Prague 81.16 329 ⇑P P **22 32 40.0 +0.8**
PRU Pruhonice 81.18 329⇑ *iP* P **22 32 39.8 +0.5**
PRU AMS AMS 23 11 10.0
comp=Z,1μm,19.1s
ULDT Uludag 81.22 315 *iP* P **22 32 38.8 -0.9**
SRO Srobarova 81.22 326 *iP* P **22 32 40.7 +1.1**
SRO2 Moca 81.23 326 *eP* P **22 32 40.3 +0.7**
SRO1 Iza 81.30 326 *eP* P **22 32 41.1 +1.1**
BZS Buzias 81.31 322 ⇑P P **22 32 40.3 +0.2**
TREC Trest 81.32 328⇑ *iP* P **22 32 40.7 +0.7**
TREC *ep*P pP 22 32 51.2 -0.6
TREC AMS AMS 23 11 20.0
comp=Z,1μm,18.2s
CLZ Clausthal 81.33 332 *eP* P **22 32 40.2 +0.2**
CLZ pmax pmax
comp=Z,112nm,1.3s,mb5.6
CLZ Clausthal 81.33 332 *eP* P **22 32 40.2 +0.2**
comp=Z,112nm,1.3s,mb5.6
ERMK Ermenek 81.34 310 *iP* P **22 32 37.3 -3.1**
HILS Ha'il 81.39 298 P P **22 32 41.3 +0.4**
BHL Bhannes 81.41 306 *eP* P **22 32 41.1 +0.3**
ZST Bratislava 81.47 327 *eP* P **22 32 41.6 +0.8**
GDZ Gediz 81.73 314 *iP* P **22 32 41.7 -0.7**
MOX Moxa 81.82 331 *iP* P **22 32 42.7 +0.1**
comp=Z,logA/T=1.6,mb5.3
MOX L 23 11 46.0
MOX Moxa 81.82 331 *eP* P **22 32 42.7 +0.1**
MOX pmax pmax
comp=Z,60nm,1.4s,mb5.3
MOX MLR MLR
comp=Z,1μm,19.0s,MS5.2
MOX Moxa 81.82 331 *eP* P **22 32 42.7 +0.1**

comp=Z,60nm,1.4s,mb5.3
MOX LR LR
comp=Z,1µm,19.0s,MS5.2
NKC Novy Kostel 81.82 330⇑ *i*P **P 22 32 43.2 +0.6**
NKC AMS AMS 23 11 50.0
comp=Z,1µm,14.4s
DIM Dimitrovgrad 81.87 318 *e*P **P 22 32 44.0 +0.9**
QURS Qurayyt al Mil 81.93 304 P **P 22 32 44.5 +0.9**
TKTP Tekketepe 81.95 312 *i*P **P 22 32 42.1 -1.5**
EYMN Ely 81.97 33 *e*P **P 22 32 42.9 -0.5**
comp=Z,25nm,0.7s,mb5.3
ISP Isparta 81.97 312 P **P 22 32 43.9 +0.2**
ISP Isparta 81.97 312 *e*P **P 22 32 43.0 -0.6**
comp=Z,30nm,0.8s,mb5.3
BTOK Tokmak 82.09 315 *i*P **P 22 32 44.2 -0.1**
SOP Sopron 82.10 326⇑ *i*P **P 22 32 45.2 +1.1**
SDCO Great Sand Dun 82.10 48 *e*P **P 22 32 45.0 +0.7**
comp=Z,14nm,1.0s,mb4.9
MAMC Mammari 82.11 309 P **P 22 32 44.3 -0.1**
CSS Prodhromos 82.18 308 P **P 22 32 45.1 +0.3**
comp=Z,0.9nm,0.6s
CSS Prodhromos 82.18 308 *e*P **P 22 32 44.8 0.0**
comp=Z,65nm,0.6s,mb5.7
KHC Kasperske Hory 82.24 329⇑ *i*P **P 22 32 45.4 +0.6**
KHC *ep*P pP 22 32 56.1 -0.4
KHC AMS AMS 23 11 40.0
comp=Z,1µm,19.5s
HNTI Hanita 82.24 306 P **P 22 32 45.8 +0.7**
PKSM Moragy 82.28 324 P **P 22 32 45.3 +0.3**
ALN Alexandroupoli 82.40 317 *e*P **P 22 32 46.0 +0.2**
TUC Tucson 82.41 55 *e*P **P 22 32 46.4 +0.4**
TUC pmax pmax
comp=Z,17nm,1.3s,mb4.8
TUC Tucson 82.41 55 *e*P **P 22 32 46.4 +0.4**
comp=Z,17nm,1.3s,mb4.8
GEC2 GERESS Array S 82.41 329 *e*P **P 22 32 45.6 -0.1**
GEC2 pmax pmax
comp=Z,35nm,1.1s,mb5.2
GEC2 GERESS Array S 82.41 329 *e*P **P 22 32 45.6 -0.1**
comp=Z,35nm,1.1s,mb5.2
GERES GERESS Array B 82.41 329 P **P 22 32 45.9 +0.3**
comp=Z,11nm,0.6s,mb5.0,baz=39,slow=5.3,SNR=110
GERES PP PP 22 35 58.1 +1.3
comp=Z,2.9nm,0.9s,baz=50,slow=10,SNR=4.1
GERES PKKPbc 22 51 10.9
comp=Z,0.9nm,0.6s,baz=225,slow=1.9,SNR=9.1
GERES LR LR 23 12 27.9
comp=Z,960nm,18.4s,MS5.2,baz=23,slow=38
BOLS Boljevac 82.44 321⇓ *i*P **P 22 32 45.0 -0.9**
MMLI Mount Malkishu 82.50 305 P **P 22 32 47.4 +0.9**
ALFC Alevga 82.50 309 P **P 22 32 46.0 -0.4**
comp=Z,1.1nm,0.6s
WET Wettzell 82.51 329 *e*P **P 22 32 46.6 +0.4**
WET pmax pmax
comp=Z,38nm,1.1s,mb5.3
WET Wettzell 82.51 329 *e*P **P 22 32 46.6 +0.4**
comp=Z,38nm,1.1s,mb5.3
RZN Rozhen 82.56 318 *i*P **P 22 32 48.0 +1.4**
EKA Eskdalemuir Ar 82.59 341 P **P 22 32 47.0 +0.6**
comp=Z,27nm,0.8s,mb5.3,baz=32,slow=4.1,SNR=48
EKA Eskdalemuir Ar 82.59 341 P **P 22 32 47.1 +0.6**
EKA pmax pmax
comp=Z,27nm,0.8s
AFFS 'Afif 82.66 294 P **P 22 32 47.6 +0.2**
OFRI 'Ofer 82.66 306 P **P 22 32 47.8 +0.5**
MANT Manisa 82.67 314 *i*P **P 22 32 47.5 +0.2**
VTS Vitosha 82.70 319 *i*P **P 22 32 48.5 +1.2**
VTS Vitosha 82.70 319 P **P 22 32 48.5 +1.2**
GRA1 Grafenberg Arr 82.73 331 *e*P **P 22 32 48.0 +0.7**
comp=Z,92nm,0.9s,mb5.8
GRA1 *ep*P pP 22 33 00.7 +1.6
GRA1 LR LR
comp=Z,1µm,19.2s,MS5.3
GRF Grafenberg Arr 82.73 331 *e*P **P 22 32 48.0 +0.7**
GRF *e**PP pP 22 33 00.7 +1.6
GRF pmax pmax
comp=Z,92nm,0.9s,mb5.8
GRF MLR MLR
comp=Z,1µm,19.2s,MS5.3
GRF Grafenberg Arr 82.73 331 *e*P **P 22 32 48.0 +0.7**
GRF *e**PP pP 22 33 00.7 +1.6
GRF pmax pmax
comp=Z,92nm,0.9s,mb5.8
GRF MLR MLR
comp=Z,1µm,19.2s,MS5.3
GRF Grafenberg Arr 82.73 331 *e*P **P 22 32 48.0 +0.7**
comp=Z,92nm,0.9s,mb5.8
GRF *ep*P pP 22 33 00.7 +1.6
GRF LR LR
comp=Z,1µm,19.2s,MS5.3
PPCY Paphos 82.84 309 P **P 22 32 47.9 -0.3**
SLTI Sal'it 82.87 305 P **P 22 32 49.3 +0.9**
ARSA Arzberg 82.88 327 *i*P **P 22 32 48.8 +0.7**
comp=Z,215nm,3.6s,SNR=16
DNZL Cakiroluk 82.93 313 *i*P **P 22 32 49.3 +0.7**
GOLH Golhisar 82.94 312 *i*P **P 22 32 47.5 -1.1**
MOA Molln 82.95 328⇑ *i*P **P 22 32 49.0 +0.6**
comp=Z,137nm,1.9s,mb5.7,SNR=11
MMB Musomiste 83.15 319 *i*P **P 22 32 50.5 +0.9**
KOGS Kog 83.18 326 *e*P **P 22 32 49.4 -0.2**
GMK Mull of Kintyr 83.19 342⇑ *e*P **P 22 32 50.1 +0.6**
DIVS Divcibare 83.21 322⇑ *i*P **P 22 32 48.9 -1.0**
BARS Barje 83.24 320⇓ *i*P **P 22 32 50.2 +0.2**
MZDA Masada 83.26 305 P **P 22 32 51.0 +0.6**
KKB Krupnik 83.29 319 *i*P **P 22 32 51.5 +1.2**
LAZ Ladron 83.35 51 *e*P **P 22 32 51.6 +0.8**
TNS Taunus Mts 83.36 332 *e*P **P 22 32 50.8 +0.4**
TNS pmax pmax
comp=Z,29nm,0.9s,mb5.3
TNS Taunus Mts 83.36 332 *e*P **P 22 32 50.8 +0.4**
comp=Z,29nm,0.9s,mb5.3
ANMO Albuquerque 83.40 50 P **P 22 32 52.2 +1.2**
comp=Z,21nm,1.0s,mb5.1,baz=311,slow=7.0,SNR=40
ANMO Albuquerque 83.40 50 *e*P **P 22 32 51.7 +0.7**
ANMO *e**PP pP 22 33 02.9 +0.1
ANMO pmax pmax
comp=Z,29nm,1.0s
ANMO MLR MLR
comp=Z,213nm,20.0s
ANMO Albuquerque 83.40 50 *e*P **P 22 32 51.7 +0.6**
comp=Z,29nm,1.0s,mb5.3
ANMO *ep*P pP 22 33 02.9 +0.1
ANMO LR LR
comp=Z,213nm,20.0s,MS4.5
GAL1 Galloway 83.41 342⇑ *e*P **P 22 32 51.0 +0.4**
KDAG Bornova 83.46 314 *i*P **P 22 32 50.4 -0.9**
GROS Grobnik 83.50 326 *e*P **P 22 32 51.4 +0.1**
SRS Serrai 83.56 318 *e*P **P 22 32 51.6 -0.1**
GCL Cushendall 83.56 342⇑ *e*P **P 22 32 52.2 +0.9**
AKAS Kas 83.59 311 *i*P **P 22 32 50.4 -1.6**
LOS Limnos 83.60 317 *e*P **P 22 32 52.2 +0.3**
LENM Lemitar 83.61 51 *e*P **P 22 32 52.9 +0.9**
AYDN Tasoluk 83.62 313 *i*P **P 22 32 53.4 +1.3**
SIND Sindeldorf 83.63 331⇑ *e*P **P 22 32 52.0 +0.2**
BBLS Bajina Basta - 83.66 322 *i*P **P 22 32 53.7 +1.6**
LPM Los Pinos Moun 83.72 51 *e*P **P 22 32 53.5 +0.9**
KAMS Al Khamasin 83.72 291 P **P 22 32 52.6 -0.4**
TOD Tromm 83.73 332⇑ *e*P **P 22 32 52.9 +0.6**
BNM Barren Site 83.83 51 *e*P **P 22 32 54.1 +0.9**
SWS Schriesheim 83.87 332⇑ *e*P **P 22 32 53.4 +0.4**
ZFRI Zfri 83.87 304 P **P 22 32 54.3 +0.8**
KNT Kendrikon 83.89 319 *e*P **P 22 32 53.7 +0.4**
SOH Sokhos 83.90 318 *e*P **P 22 32 53.7 +0.4**
OUR Ouranopolis 83.91 317 *e*P **P 22 32 53.8 +0.3**
FUR Furstenfeldbru 83.94 330 *e*P **P 22 32 53.8 +0.4**
FUR pmax pmax
comp=Z,105nm,1.1s,mb5.9
FUR Furstenfeldbru 83.94 330 *e*P **P 22 32 53.8 +0.4**
comp=Z,105nm,1.1s,mb5.9
KBA Koelnbreinsper 83.95 328⇑ *i*P **P 22 32 53.9 +0.4**
comp=Z,68nm,1.4s,mb5.6,SNR=24
ABH Alteburg 83.97 333⇑ *e*P **P 22 32 53.8 +0.3**
CRES Cresnjev 84.01 326 *i*P **P 22 32 53.8 0.0**
HDH Heidenheim 84.02 330⇑ *e*P **P 22 32 54.0 +0.2**
PLE Pljevlja 84.07 322⇑ *i*P **P 22 32 55.4 +1.2**
KZIT Kziot 84.15 305 P **P 22 32 55.5 +0.6**
IVA Berane 84.17 321⇑ *i*P **P 22 32 55.6 +0.9**
THE Thessaloniki 84.24 318 *e*P **P 22 32 54.6 -0.5**
LJU Ljubljana 84.25 326 *e*P **P 22 32 55.0 -0.1**
STU Stuttgart 84.26 331 *e*P **P 22 32 55.5 +0.5**
STU pmax pmax
comp=Z,93nm,1.4s,mb5.7
STU Stuttgart 84.26 331 *e*P **P 22 32 55.5 +0.5**
comp=Z,93nm,1.4s,mb5.7

GMM Mts of Mourne 84.28 342⇑ *e*P **P 22 32 55.6 +0.6**
SCHQ Schefferville 84.28 17 P **P 22 32 55.4 +0.4**
comp=Z,26nm,0.8s,mb5.4,baz=351,slow=5.1,SNR=18
SCHQ LR LR 23 11 38.3
comp=Z,235nm,18.6s,MS4.6,baz=267,slow=36
SCHQ Schefferville 84.28 17 *e*P **P 22 32 55.1 +0.2**
comp=Z,39nm,0.9s,mb5.5
PPT Papeete 84.29 117 *e*S S 22 43 22.8 +5.7
PPT *e*LR LR 22 58 47.8
comp=Z,714nm,24.5s,baz=315
PPT Papeete 84.29 117 LR LR 23 06 13.3
comp=Z,480nm,18.3s,MS4.9,baz=324,slow=33
GRG Griva 84.30 319 *e*P **P 22 32 55.6 +0.2**
PVY Plav 84.33 321⇑ *i*P **P 22 32 55.8 +0.2**
BOJS Bojanci 84.35 326 *e*P **P 22 32 55.7 +0.1**
PAIG Paliouri 84.36 317 *e*P **P 22 32 55.9 +0.1**
UPM Unac-Piva 84.40 322⇑ *i*P **P 22 32 55.9 +0.1**
BUCH Bad Urach 84.46 331⇑ *e*P **P 22 32 56.6 +0.6**
TBKS Tabuk 84.46 302 P **P 22 32 57.2 +0.7**
PTCC Patocco-Chiusa 84.47 327 P **P 22 32 55.5 -0.6**
WATA Walderalm 84.48 329⇑ *i*P **P 22 32 56.6 +0.5**
comp=Z,12nm,0.9s,mb5.0,SNR=8.3
AQBJ Aqaba 84.49 304 P **P 22 32 57.4 +0.7**
LBG Lerchenberg 84.50 331⇑ *e*P **P 22 32 56.8 +0.6**
WTTA Wattenberg 84.51 329⇑ *i*P **P 22 32 56.8 +0.5**
comp=Z,127nm,2.4s,mb5.6
CEY Cerknica 84.53 326 *e*P **P 22 32 56.2 -0.3**
VOY Vojsko 84.53 327 *e*P **P 22 32 55.8 -0.7**
MBH Mount Berech 84.54 304 P **P 22 32 57.6 +0.7**
EIL Elat 84.60 304 P **P 22 32 57.7 +0.5**
GMNA Gemona 84.63 327 P **P 22 32 56.3 -0.6**
NKY Niksic 84.65 322⇑ *i*P **P 22 32 56.8 -0.4**
MOTA Moosalm 84.66 329⇑ *i*P **P 22 32 57.6 +0.5**
comp=Z,56nm,1.2s,mb5.6,SNR=26
GIVF Givet 84.75 334 *e*P **P 22 32 57.0 -0.4**
ALWS Ilwas Safayha 84.75 303 P **P 22 32 58.6 +0.7**
UBR Uberruh 84.79 330⇑ *e*P **P 22 32 57.8 +0.1**
SBD1 Bryn Du 84.79 340⇑ *e*P **P 22 32 58.6 +1.0**
SBD1 AMb AMB 22 32 59.5
comp=Z,195nm,1.1s,mb6.2
AOS Alonnisos 84.80 317 *e*P **P 22 32 58.0 0.0**
BRY Bratogost 84.81 322⇑ *i*P **P 22 32 57.4 -0.5**
TTG Podgorica 84.81 322⇑ *i*P **P 22 32 58.0 +0.1**
JMOS Jabal al Moall 84.82 303 P **P 22 32 59.0 +0.8**
GUT Gutenstein 84.86 331⇑ *e*P **P 22 32 58.3 +0.3**
LIT Litokhoron 84.87 318 *e*P **P 22 32 58.2 -0.1**
BFO Black Forest 84.95 331 *e*P **P 22 32 58.7 +0.2**
BFO pmax pmax
comp=Z,87nm,1.0s,mb5.8
BFO Black Forest 84.95 331 *e*P **P 22 32 58.7 +0.2**
comp=Z,87nm,1.0s,mb5.8
FNA Florina 84.96 319 *e*P **P 22 32 58.6 -0.1**
BAIF Baives 85.00 334 *e*P **P 22 32 58.3 -0.3**
comp=Z,68nm,1.0s,mb5.4
BAIF Baives 85.00 334 *e*P **P 22 32 58.3 -0.3**
BAIF pmax pmax
comp=Z,34nm,1.0s,mb5.4
HAQS Haql 85.01 303 P **P 22 32 59.7 +0.5**
XOR Xorichti 85.03 317 *e*P **P 22 32 58.8 -0.3**
HLM1 Long Mynd 85.04 340 *e*P **P 22 32 58.9 +0.1**
BUM Brajici-Budva 85.08 322⇑ *i*P **P 22 32 59.5 +0.2**
ULC Ulcinj 85.16 321⇑ *i*P **P 22 32 59.9 +0.2**
HCY Herceg Novi 85.17 322⇑ *i*P **P 22 32 59.9 +0.2**
SSP1 Stoney Pound 85.19 340 *e*P **P 22 33 00.2 +0.7**
DAVA Damuels 85.20 330⇑ *i*P **P 22 33 00.3 +0.5**
comp=Z,136nm,1.3s,mb5.9,SNR=16
CDF Champ du Feu 85.28 332 *e*P **P 22 33 00.2 +0.1**
comp=Z,225nm,1.4s,mb5.8
CDF Champ du Feu 85.28 332 *e*P **P 22 33 00.2 +0.1**
CDF pmax pmax
comp=Z,112nm,1.4s,mb5.8
DLF Lyons Farm 85.29 342 *e*P **P 22 33 01.0 +1.0**
DSB Dublin 85.29 342 *e*P **P 22 33 01.1 +1.1**
comp=Z,37nm,0.8s,mb5.6
APE Apeiranthos 85.38 314*c* *i*P **P 22 32 59.6 -1.3**
APE Apeiranthos 85.38 314 P **P 22 33 00.7 -0.1**
KIZ Kirchzarten 85.42 331⇑ *e*P **P 22 33 01.0 +0.2**
DCN Croghan 85.42 342 *e*P **P 22 33 01.8 +1.1**
FELD Feldberg 85.45 331⇑ *e*P **P 22 33 01.2 +0.3**
CTI Castel Tesino 85.48 328 P **P 22 33 00.7 -0.4**
CTI pmax pmax
comp=Z,19nm,0.6s,mb5.4
CTI Castel Tesino 85.48 328 P **P 22 33 00.7 -0.4**
comp=Z,19nm,0.6s,mb5.4
MCH1 Michaelchurch 85.53 339⇑ *e*P **P 22 33 02.0 +0.8**
MCH1 AMb AMB 22 33 03.0
comp=Z,123nm,0.7s,mb6.2
HTR Trewern Hill 85.54 340⇑ *e*P **P 22 33 02.2 +0.9**
HTR AMb AMB 22 33 04.2
comp=Z,122nm,1.4s,mb6.0
FUORN Ofenpass 85.59 329 P **P 22 33 02.6 +1.0**
DAVOX Davos 85.61 329 P **P 22 33 02.5 +0.7**
comp=Z,25nm,0.9s,mb5.5,baz=16,slow=3.1,SNR=29
BRMO Bormio 85.66 329 P **P 22 33 02.8 +0.8**
AGG Agios Georgios 85.74 317 *e*P **P 22 33 02.1 -0.5**
HGH Gray Hill 85.80 339⇑ *e*P **P 22 33 03.1 +0.5**
HGH AMb AMB 22 33 04.1
comp=Z,151nm,0.8s,mb6.3
HINF Hinteralfeld 85.94 332 *e*P **P 22 33 03.2 -0.1**
comp=Z,58nm,1.1s,mb5.4
HINF Hinteralfeld 85.94 332 *e*P **P 22 33 03.2 -0.1**
HINF pmax pmax
comp=Z,29nm,1.1s,mb5.4
HAU Haudompre 85.97 332 *e*P **P 22 33 03.6 +0.2**
comp=Z,45nm,0.7s,mb5.5
HAU *e*R
comp=Z,808nm,20.5s
HAU Haudompre 85.97 332 *e*P **P 22 33 03.6 +0.2**
HAU pmax pmax
comp=Z,22nm,0.7s,mb5.5
HAU MLR MLR
comp=Z,810nm,20.5s,MS5.1
BBS Basel-Blauen 85.98 331⇑ *e*P **P 22 33 03.9 +0.4**
MEZF Maizieres J'vi 86.02 333 *e*P **P 22 33 03.8 +0.1**
comp=Z,116nm,1.0s,mb5.8
TUE Stuetta 86.08 330 P **P 22 33 04.5 +0.5**
KSU1 Kansas State U 86.12 42 *e*P **P 22 33 04.1 -0.3**
MNTX Cornudas Mount 86.25 52 *e*P **P 22 33 05.4 +0.1**
comp=Z,8.6nm,0.8s,mb5.0
CPRX Cap Rock 86.28 50 *e*P **P 22 33 05.8 +0.5**
SAL Salo 86.30 328 P **P 22 33 05.4 +0.3**
SAL pmax pmax
comp=Z,71nm,0.8s,mb6.0
SAL Salo 86.30 328 P **P 22 33 05.4 +0.3**
comp=Z,71nm,0.8s,mb6.0
IGT Igoumenitsa 86.42 319 *e*P **P 22 33 05.7 -0.2**
VAI Varese 86.80 330 P **P 22 33 07.4 -0.2**
VAI pmax pmax
comp=Z,49nm,0.8s,mb5.8
VAI Varese 86.80 330 P **P 22 33 07.4 -0.2**
comp=Z,49nm,0.8s,mb5.8
LKD Levkas 86.86 318 *e*P **P 22 33 07.9 -0.2**
FSSB Fossombrone 86.87 326 P **P 22 33 08.3 +0.3**
ARV Arcevia 86.95 326 P **P 22 33 08.6 +0.2**
comp=Z,56nm,1.4s,mb5.6
IDI Anoyia 87.00 313 P **P 22 33 09.1 +0.2**
comp=Z,36nm,0.6s,mb5.8,baz=27,slow=9.8,SNR=29
MCGN Macugnaga 87.04 330 P **P 22 33 09.3 +0.5**
SFI Santa Sofia 87.11 327 P **P 22 33 10.8 +1.7**
SFI pmax pmax
comp=Z,102nm,1.6s,mb5.8
SFI Santa Sofia 87.11 327 P **P 22 33 10.8 +1.7**
comp=Z,102nm,1.6s,mb5.8
SNTG Esanatoglia 87.14 326 P **P 22 33 09.7 +0.4**
RGNG Rignano Grg 87.16 323 P **P 22 33 09.3 -0.2**
PGD Poggio Sodo 87.19 327 P **P 22 33 10.8 +1.3**
PGD pmax pmax
comp=Z,118nm,1.4s,mb5.9
PGD Poggio Sodo 87.19 327 P **P 22 33 10.8 +1.3**
comp=Z,118nm,1.4s,mb5.9
VMG Vicchio 87.19 327 P **P 22 33 11.3 +1.7**
CABF La Chapelle 87.23 332 *e*P **P 22 33 09.2 -0.5**
comp=Z,119nm,1.4s,mb5.6
CABF La Chapelle 87.23 332 *e*P **P 22 33 09.2 -0.5**
CABF pmax pmax
comp=Z,59nm,1.4s,mb5.6
LOR Lormes 87.49 333 *e*P **P 22 33 10.7 -0.2**
comp=Z,144nm,1.0s,mb5.8
LOR *e*R
comp=Z,517nm,20.8s
LOR Lormes 87.49 333 *e*P **P 22 33 10.7 -0.2**
LOR pmax pmax
comp=Z,72nm,1.0s,mb5.9
LOR MLR MLR

comp=Z,520nm,20.8s,MS4.9
AQU L'Aquila 87.64 325 *e*P **P 22 33 12.7 +0.9**
AQU pmax pmax
comp=Z,25nm,0.8s,mb5.5
AQU L'Aquila 87.64 325 *e*P **P 22 33 12.7 +1.0**
comp=Z,25nm,0.8s,mb5.5
FLN La Foliniere 87.66 336 *e*P **P 22 33 11.6 -0.1**
comp=Z,94nm,0.8s,mb5.8
FLN *e*R
comp=Z,1µm,18.8s
FLN La Foliniere 87.66 336 *e*P **P 22 33 11.6 -0.1**
FLN pmax pmax
comp=Z,47nm,0.8s,mb5.8
FLN MLR MLR
comp=Z,1µm,18.8s,MS5.4
LDF La Druitiere 87.69 336 *e*P **P 22 33 12.0 +0.2**
comp=Z,45nm,0.6s,mb5.5
LDF La Druitiere 87.69 336 *e*P **P 22 33 12.0 +0.2**
LDF pmax pmax
comp=Z,23nm,0.6s,mb5.6
SSF Saint Saulge 87.79 333 *e*P **P 22 33 12.1 -0.3**
comp=Z,77nm,1.0s,mb5.6
SSF Saint Saulge 87.79 333 *e*P **P 22 33 12.1 -0.3**
SSF pmax pmax
comp=Z,39nm,1.0s,mb5.6
PTQR Pietraquaria 87.91 325 P **P 22 33 13.4 +0.4**
HYF Humbligny 87.92 334 *e*P **P 22 33 13.2 +0.2**
SMF Signal de Mont 88.03 333 *e*P **P 22 33 13.8 +0.3**
comp=Z,134nm,1.4s,mb5.7
SMF Signal de Mont 88.03 333 *e*P **P 22 33 13.8 +0.3**
SMF pmax pmax
comp=Z,67nm,1.4s,mb5.7
AVF Avril sur Loir 88.08 333 *e*P **P 22 33 14.1 +0.4**
comp=Z,114nm,0.8s,mb5.8
AVF Avril sur Loir 88.08 333 *e*P **P 22 33 14.1 +0.4**
AVF pmax pmax
comp=Z,57nm,0.8s,mb5.8
WMOK Wichita Mounta 88.09 46 *e*P **P 22 33 13.8 -0.3**
WMOK pmax pmax
comp=Z,25nm,0.9s,mb5.4
WMOK Wichita Mounta 88.09 46 *e*P **P 22 33 13.8 -0.3**
comp=Z,25nm,0.9s,mb5.5
GRR Gorron 88.11 337 *e*P **P 22 33 14.4 +0.6**
comp=Z,168nm,1.0s,mb5.9
GRR Gorron 88.11 337 *e*P **P 22 33 14.4 +0.6**
GRR pmax pmax
comp=Z,84nm,1.0s,mb5.9
TDS Terranova Siba 88.35 321 P **P 22 33 15.8 +0.6**
TDS pmax pmax
comp=Z,87nm,0.8s,mb6.0
TDS Terranova Siba 88.35 321 P **P 22 33 15.8 +0.6**
comp=Z,87nm,0.8s,mb6.0
BGF Bois d'Agland 88.46 333 *e*P **P 22 33 15.9 +0.3**
comp=Z,40nm,1.1s,mb5.3
BGF Bois d'Agland 88.46 333 *e*P **P 22 33 15.9 +0.3**
BGF pmax pmax
comp=Z,20nm,1.1s,mb5.3
MBDF Montbardon 88.54 330 *e*P **P 22 33 15.7 -0.3**
comp=Z,23nm,0.8s,mb5.2
MBDF Montbardon 88.54 330 *e*P **P 22 33 15.7 -0.3**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb5.2
ORIF Oris-en-Rattie 88.73 331 *e*P **P 22 33 17.2 +0.3**
comp=Z,29nm,0.8s,mb5.4
ORIF *e*R
comp=Z,740nm,21.2s
SGMF Saint Gilles 88.75 337 *e*P **P 22 33 17.3 +0.4**
comp=Z,66nm,0.7s,mb5.8
SGMF Saint Gilles 88.75 337 *e*P **P 22 33 17.3 +0.4**
SGMF pmax pmax
comp=Z,33nm,0.7s,mb5.8
ROSF Rostrenen 88.89 338 *e*P **P 22 33 17.3 -0.3**
comp=Z,164nm,1.3s,mb5.9
ROSF Rostrenen 88.89 338 *e*P **P 22 33 17.3 -0.3**
ROSF pmax pmax
comp=Z,82nm,1.3s,mb5.9
TCF Toulx Ste Croi 88.92 334 *e*P **P 22 33 17.9 +0.1**
comp=Z,54nm,1.2s,mb5.5
TCF Toulx Ste Croi 88.92 334 *e*P **P 22 33 17.9 +0.1**
TCF pmax pmax
comp=Z,27nm,1.2s,mb5.5
LTX Lajitas 88.95 53 *e*P **P 22 33 18.4 +0.1**
LTX pmax pmax
comp=Z,11nm,0.8s,mb5.2
LTX Lajitas 88.95 53 *e*P **P 22 33 18.4 +0.1**
comp=Z,11nm,0.8s,mb5.2
TXAR Lajitas Array 88.95 53 P **P 22 33 18.8 +0.4**
comp=Z,13nm,0.8s,mb5.3,baz=298,slow=3.2,SNR=146
TXAR PKKPbc 22 50 57.9
comp=Z,0.6nm,0.5s,baz=151,slow=6.5,SNR=11
TXAR LR LR 23 10 35.0
comp=Z,198nm,19.4s,MS4.5,baz=35,slow=34
TXAR Lajitas Array 88.95 53 P **P 22 33 18.8 +0.4**
TXAR PKKPbc 22 50 57.9
TXAR LR LR 23 10 35.0
SBF Sospel 88.99 329 *e*P **P 22 33 17.9 -0.3**
QUIF Quistinic 89.23 338 *e*P **P 22 33 19.0 -0.2**
comp=Z,41nm,0.8s,mb5.5
QUIF Quistinic 89.23 338 *e*P **P 22 33 19.0 -0.2**
QUIF pmax pmax
comp=Z,21nm,0.8s,mb5.5
VIVF Saint-Julien-l 89.24 331 *e*P **P 22 33 19.3 0.0**
comp=Z,87nm,1.3s,mb5.6
VIVF Saint-Julien-l 89.24 331 *e*P **P 22 33 19.3 0.0**
VIVF pmax pmax
comp=Z,44nm,1.3s,mb5.6
MFF Saint Martin d 89.45 335 *e*P **P 22 33 20.2 -0.1**
comp=Z,125nm,1.1s,mb5.9
MFF Saint Martin d 89.45 335 *e*P **P 22 33 20.2 -0.1**
MFF pmax pmax
comp=Z,63nm,1.1s,mb5.9
SADO Sadowa 89.55 28 LR LR 23 15 40.0
comp=Z,318nm,19.3s,MS4.8,baz=74,slow=37
SMRF Simiane la Rot 89.64 330 *e*P **P 22 33 21.1 -0.1**
CCM Cathedral Cave 89.68 40 *e*P **P 22 33 20.7 -0.9**
CCM pmax pmax
comp=Z,60nm,1.0s,mb5.9
CCM Cathedral Cave 89.68 40 *e*P **P 22 33 20.7 -0.9**
comp=Z,60nm,1.0s,mb5.9
SOI Samo 89.71 321 P **P 22 33 21.9 +0.2**
SOI pmax pmax
comp=Z,87nm,0.7s,mb6.2
SOI Samo 89.71 321 P **P 22 33 21.9 +0.2**
comp=Z,87nm,0.7s,mb6.2
SLM Saint Louis 89.73 39 *e*P **P 22 33 21.9 +0.1**
SLM pmax pmax
comp=Z,18nm,0.4s,mb5.8
SLM Saint Louis 89.73 39 *e*P **P 22 33 21.9 +0.1**
comp=Z,18nm,0.4s,mb5.8
LMR La Mourre 89.81 330 *e*P **P 22 33 21.8 -0.2**
AAM Ann Arbor 89.82 32 *e*P **P 22 33 22.5 +0.4**
AAM pmax pmax
comp=Z,13nm,0.7s,mb5.4
AAM Ann Arbor 89.82 32 *e*P **P 22 33 22.5 +0.4**
comp=Z,13nm,0.7s,mb5.4
MTTG Motta San Giov 89.94 321 P **P 22 33 22.3 -0.5**
RJF Les Rejaudoux 90.01 334 *e*P **P 22 33 22.8 -0.1**
comp=Z,52nm,0.9s,mb5.5
RJF Les Rejaudoux 90.01 334 *e*P **P 22 33 22.8 -0.1**
RJF pmax pmax
comp=Z,26nm,0.9s,mb5.6
FVM French Village 90.14 39 *e*P **P 22 33 23.5 -0.2**
FVM pmax pmax
comp=Z,33nm,1.1s,mb5.6
FVM French Village 90.14 39 *e*P **P 22 33 23.5 -0.2**
comp=Z,33nm,1.1s,mb5.6
CAF Calviac 90.14 333 *e*P **P 22 33 23.3 -0.3**
comp=Z,107nm,1.2s,mb5.7
CAF Calviac 90.14 333 *e*P **P 22 33 23.3 -0.3**
CAF pmax pmax
comp=Z,53nm,1.2s,mb5.8
LASF Ste Croix 90.21 332 *e*P **P 22 33 23.9 0.0**
JCT Junction City 90.53 50 *e*P **P 22 33 24.9 -0.9**
JCT pmax pmax
comp=Z,25nm,0.7s,mb5.7
JCT Junction City 90.53 50 *e*P **P 22 33 24.9 -0.9**
comp=Z,26nm,0.7s,mb5.7
LFF La Frestale 90.60 334 *e*P **P 22 33 25.4 -0.3**
comp=Z,26nm,0.6s,mb5.4
LFF La Frestale 90.60 334 *e*P **P 22 33 25.4 -0.3**
LFF pmax pmax
comp=Z,13nm,0.6s,mb5.4
MIAR Mount Ida 91.13 43 *e*P **P 22 33 28.5 0.0**
MIAR pmax pmax
comp=Z,24nm,0.9s,mb5.5
MIAR Mount Ida 91.13 43 *e*P **P 22 33 28.5 0.0**

	comp=Z,24nm,0.9s,mb5.5								
MTLF	**Montolieu**	**91.45**	**332**	*e*P		**P**		**22 33 29.1**	**-0.6**
PARMO	**Parma**	**91.50**	**39**	*e*P		**P**		**22 33 30.6**	**+0.5**
WCI	**Wyandotte Cave**	**91.95**	**36**	*e*P		**P**		**22 33 31.9**	**-0.2**
WCI				pmax		pmax			
	comp=Z,27nm,1.1s,mb5.5								
WCI	**Wyandotte Cave**	**91.95**	**36**	*e*P		**P**		**22 33 31.9**	**-0.2**
	comp=Z,27nm,1.1s,mb5.5								
EPF	**Esparros**	**92.41**	**333**	*e*P		**P**		**22 33 33.3**	**-0.8**
ETSF	**Etsaut**	**92.84**	**334**	*e*P		**P**		**22 33 35.9**	**-0.2**
WVT	**Waverly**	**92.88**	**39**	*e*P		**P**		**22 33 36.3**	**-0.2**
WVT				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb5.2								
WVT	**Waverly**	**92.88**	**39**	*e*P		**P**		**22 33 36.3**	**-0.1**
	comp=Z,7.6nm,0.8s,mb5.2								
MCWV	**Mont Chateau**	**93.61**	**31**	*e*P		**P**		**22 33 40.3**	**+0.6**
	comp=Z,41nm,1.1s,mb5.8								
SWET	**Sewanee**	**94.54**	**38**	*e*P		**P**		**22 33 42.5**	**-1.5**
ELN	**Prospectdale**	**95.27**	**33**	*e*P		**P**		**22 33 47.2**	**-0.1**
BLA	**Blacksburg**	**95.43**	**33**	*e*P		**P**		**22 33 48.2**	**+0.2**
BLA				pmax		pmax			
	comp=Z,14nm,0.9s,mb5.4								
BLA	**Blacksburg**	**95.43**	**33**	*e*P		**P**		**22 33 48.2**	**+0.2**
	comp=Z,14nm,0.9s,mb5.4								
PBRG	**Braganca**	**95.85**	**337**	*e*P		**P**		**22 33 50.6**	**+0.8**
ESDC	**Sonseca Array**	**96.88**	**335**	P		**P**		**22 33 54.6**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.9,baz=22,slow=3.9,SNR=17								
ESDC				PP		PP		22 37 50.1	-2.6
	comp=Z,6.0nm,1.1s,baz=24,slow=7.9,SNR=6.7								
MTE	**Manteigas**	**97.38**	**337**	*e*P		**P**		**22 33 57.0**	**+0.2**
KMBO	**Kilima Mbogo**	**102.67**	**279**	P		Pdif		22 34 20.9	-0.3
	comp=Z,1.6nm,0.7s,baz=48,slow=6.2,SNR=5.6								
KMBO				PP		PP		22 38 38.0	+0.4
	comp=Z,0.8nm,0.3s,baz=40,slow=13,SNR=4.9								
KMBO	**Kilima Mbogo**	**102.67**	**279**	P		Pdif		22 34 20.9	-0.4
KMBO								22 38 38.1	
KMBO				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KMBO	**Kilima Mbogo**	**102.67**	**279**	P		Pdif		22 34 20.9	-0.4
KMBO				PP		PP		22 38 38.0	+0.4
VNDA	**Vanda**	**115.76**	**175**	PKP		PKPdf		22 39 04.8	+0.9
	comp=Z,5.7nm,0.7s,baz=308,slow=3.7,SNR=28								
VNDA	**Vanda**	**115.76**	**175**	*e*PKIKP		PKPdf		22 39 04.2	+0.3
TORD	**Torodi Ar. Bea**	**117.30**	**316**	PKP		PKPdf		22 39 08.5	+0.3
	comp=Z,3.7nm,0.6s,baz=30,slow=1.2,SNR=62								
TORD				PP		PP		22 40 11.2	-13
	comp=Z,4.4nm,1.0s,baz=21,slow=7.4,SNR=4.6								
LSZ	**Lusaka**	**118.29**	**272**	*e*PKIKP		PKPdf		22 39 11.1	+1.0
MAW	**Mawson**	**120.67**	**206**	PKP		PKPdf		22 39 14.5	+0.9
	comp=Z,11nm,0.7s,baz=336,slow=2.3,SNR=14								
MAW	**Mawson**	**120.67**	**206**	PKIKP		PKPdf		22 39 14.5	+0.9
MAW				pmax		pmax			
	comp=Z,11nm,0.7s								
SDV	**Santo Domingo**	**124.14**	**41**	*e*P		PKPdf		22 39 20.8	-0.7
ROSC	**El Rosal**	**125.45**	**47**	PKP		PKPdf		22 39 25.2	+1.1
	comp=Z,17nm,1.0s,baz=118,slow=2.8,SNR=9.5								
LBTB	**Lobatse**	**125.55**	**264**	*e*PKIKP		PKPdf		22 39 25.3	+1.3
LBTB				*e*				22 39 36.2	
DBIC	**Dimbokro**	**126.21**	**318**	PKP		PKPdf		22 39 26.4	+0.9
	comp=Z,14nm,0.7s,baz=10,slow=2.1,SNR=31								
DBIC	**Dimbokro**	**126.21**	**318**	PKIKP		PKPdf		22 39 26.4	+0.8
DBIC				pmax		pmax			
	comp=Z,14nm,0.7s								
DBIC	**Dimbokro**	**126.21**	**318**	PKP		PKPdf		22 39 26.4	+0.8
OTAV	**Otavalo**	**126.55**	**55**	*e*PKPdf		PKPdf		22 39 27.5	+1.3
LIC	**Lamto**	**126.68**	**318**	*e*PKIKP		PKPdf		22 39 25.9	-0.6
	comp=Z,32nm,0.8s								
LIC				*e*R					
	comp=Z,636nm,20.8s								
QSPA	**South Pole Qui**	**127.64**	**180**	*e*PKPdf		PKPdf		22 39 27.0	+0.4
NVL	**N'lazarevskaya**	**138.40**	**202**	⇑*i*PKIKP		PKPdf		22 39 50.2	+3.3
NVL				pmax		pmax			
	comp=Z,10.0nm,0.9s								
SNAA	**Sanae**	**141.81**	**197**	*e*PKHKP				22 39 47.6	
SAML	**Samuel**	**143.06**	**45**	*e*PKPpre				22 39 53.9	
ARE	**Arequipa**	**143.32**	**64**	*e*PKIKP		PKPdf		22 39 59.0	+2.0
VNA2	**Neumayer--Watz**	**143.37**	**196**	⇑*i*		PKPbc		22 39 58.3	+4.4
VNA2	**Neumayer--Watz**	**143.37**	**196**	⇑*i*		PKPbc		22 40 06.9	+13
VNA2	**Neumayer--Watz**	**143.37**	**196**	⇑*i*		PKPbc		22 40 13.6	+20
VNA2	**Neumayer--Watz**	**143.37**	**196**	⇑*i*		PKPdf		22 39 54.3	-1.2
VNA2				⇑*iP*				22 39 58.3	
VNA3	**Neumayer Olymp**	**143.61**	**195**	⇑*iP*		PKPbc		22 39 55.0	+0.4
VNA3	**Neumayer Olymp**	**143.61**	**195**	⇑*i*		PKPbc		22 39 59.0	+4.4
VNA3	**Neumayer Olymp**	**143.61**	**195**			PKPbc		22 40 12.3	+18
VNA1	**Neumayer--Stat**	**143.77**	**196**			PKPbc		22 40 02.9	+7.8
VNA1	**Neumayer--Stat**	**143.77**	**196**			PKPbc		22 40 08.7	+14
VNA1	**Neumayer--Stat**	**143.77**	**196**	PKPdf		PKPdf		22 39 57.1	+0.9
VNA1				P				22 40 02.9	
LPAZ	**La Paz**	**145.55**	**60**	PKPbc		PKPbc		22 40 03.0	+1.4
	comp=Z,63nm,0.8s,baz=344,slow=4.4,SNR=228								
LPAZ	**La Paz**	**145.55**	**60**	*e*PKIKP		PKPdf		22 40 02.8	+1.9
RCBR	**Riachuelo**	**148.05**	**357**	*e*PKPdf		PKPdf		22 40 06.6	+1.4
RCBR				*e*PKPbc		PKPdf		22 40 09.7	+4.5
PLCA	**Paso Flores**	**154.39**	**107**	PKP		PKPdf		22 40 15.8	+2.0
	comp=Z,1.1nm,0.6s,baz=223,slow=4.3,SNR=3.3								
PLCA				PKPbc		PKPdf		22 40 24.4	+11
	comp=Z,5.3nm,1.0s,baz=234,slow=3.8,SNR=8.6								
PLCA				PKPab		PKPab		22 40 38.8	-0.1
	comp=Z,15nm,0.8s,baz=235,slow=3.1,SNR=8.3								
PLCA	**Paso Flores**	**154.39**	**107**	PKP		PKPdf		22 40 15.8	+2.0
PLCA				*e*PKPbc		PKPdf		22 40 24.2	+10
PLCA				PKPbc		PKPdf		22 40 24.4	+11
PLCA				PKPab		PKPab		22 40 38.8	-0.1
PLCA				*e*PKPab		PKPab		22 40 39.2	+0.3
BDFB	**Brasilia**	**155.98**	**25**	PKP		PKPdf		22 40 18.3	+1.7
	comp=Z,1.2nm,0.4s,baz=273,slow=4.0,SNR=3.1								
BDFB				PKPab		PKPab		22 40 45.4	-0.9
	comp=Z,11nm,0.8s,baz=284,slow=5.5,SNR=3.9								
BDFB	**Brasilia**	**155.98**	**25**	PKP2		PKPab		22 40 45.4	-1.0
BDFB				pmax		pmax			
	comp=Z,11nm,0.8s								
BAO	**Brasilia Array**	**155.98**	**25**	PKPdf		PKPdf		22 40 18.0	+1.4

*CSEM **04** 23:12:15.3±0.6,39.44N×29.77W,h10km,ML2.7,Error ellipse: s-maj=14.1km s-min=5.6km az=53.0,After PDA*
*PDA **04** 23:12:15.3±0.6,39.44N×29.77W,h10km,MD3.4,ML2.7, Error ellipse: s-maj=14.1km s-min=5.6km az=53.0*
SVSA 04 23:12:15.3±0.6,39.44N×29.77W,h10km,MD3.4,ML2.7, Error ellipse: s-maj=14.1km s-min=5.6km az=53.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.16**	**134**	*e*S	Sb	23 12 46.0	-5.9
	28nm,0.4s						
PCED	**Cedros**	**1.16**	**134**	*e*S	Sb	23 12 46.0	-5.9
	28nm,0.4s						
CALA	**Caldeira**	**1.19**	**136**	*e*P	Pb	23 12 33.7	-3.9
CALA				*e*S	Sb	23 12 46.9	-6.0
ROSA	**Rosais**	**1.39**	**121**	*e*P	Pn	23 12 35.9	-4.9
ROSA				*e*S	Sb	23 12 51.6	-7.0
PICO	**Pico**	**1.41**	**131**	*i* P	Pn	23 12 36.2	-4.9
PICO				*e*S	Sb	23 12 52.4	-6.6

*CSEM **04** 23:18:22.0±0.2,38.58N×29.73W,h5km,ML3.0,Error ellipse: s-maj=5.1km s-min=4.5km az=13.0,After PDA*
*PDA **04** 23:18:22.0±1.3,38.58N×29.73W,h5km,MD3.5,ML3.0, Error ellipse: s-maj=12.0km s-min=8.8km az=6.0*
SVSA 04 23:18:22.0±1.3,38.58N×29.73W,h5km,MD3.5,ML3.0, Error ellipse: s-maj=12.0km s-min=8.8km az=6.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.73**	**89**	*e*S	Sg	23 18 43.2	-3.1
	193nm,0.3s						
PTCA	**Ponta do Capel**	**0.73**	**89**	*e*S	Sg	23 18 43.2	-3.1
	193nm,0.3s						
CALA	**Caldeira**	**0.80**	**90**	*e*P	Pb	23 18 35.1	-3.0
CALA				*e*S	Sg	23 18 44.4	-4.4
PCED	**Cedros**	**0.81**	**86**	*e*P	Pb	23 18 35.1	-3.0
PCED				*e*S	Sg	23 18 44.6	-4.2
	339nm,0.2s						
PCED	**Cedros**	**0.81**	**86**	*e*P	Pb	23 18 35.1	-3.0
PCED				*e*S	Sg	23 18 44.6	-4.2
	339nm,0.2s						
HOR	**Horta**	**0.86**	**93**	*e*S	Sb	23 18 46.0	-4.7
PCND	**Candelaria**	**1.00**	**96**	*e*S	Sb	23 18 50.2	-4.4
	313nm,0.3s						
PICO	**Pico**	**1.02**	**94**	*e*P	Pb	23 18 38.3	-3.5
PICO				*e*S	Sb	23 18 50.3	-5.1
PBOI	**Pico dos Bois**	**1.07**	**97**	*e*S	Sb	23 18 52.1	-4.6
	168nm,0.3s						
ROSA	**Rosais**	**1.17**	**83**	*e*P	Pb	23 18 39.9	-4.5
ROSA				*e*S	Sb	23 18 52.9	-6.8
PMAN	**Manadas**	**1.28**	**87**	*e*P	Pb	23 18 41.5	-4.8
SRBC	**Serra Branca**	**1.39**	**70**	*erx*		23 18 58.1	
SRBC	**Serra Branca**	**1.39**	**70**	*e-*		23 18 58.1	
PVIA	**Vitoria**	**1.40**	**69**	*e*P	Pb	23 18 44.3	-3.9
PVIA				*e*S	Sb	23 18 59.5	-6.7
	22nm,0.1s						
PGRA	**Graciosa**	**1.44**	**71**	*e*P	Pn	23 18 43.9	-4.9
PGRA				*e*S	Sb	23 18 59.6	-7.7
	59nm,0.4s						
PGRA	**Graciosa**	**1.44**	**71**	*e*P	Pn	23 18 43.9	-4.9
PGRA				*e*S	Sb	23 18 59.6	-7.7
	59nm,0.4s						
STGR	**Santa Cruz**	**1.44**	**69**	*e*P	Pn	23 18 44.2	-4.6
STGR				*e*S	Sb	23 18 59.7	-7.7
	65nm,0.2s						
STGR	**Santa Cruz**	**1.44**	**69**	*e*P	Pn	23 18 44.2	-4.6
STGR				*e*S	Sb	23 18 59.7	-7.7
	65nm,0.2s						
ASBA	**Santa Barbara**	**1.89**	**85**	*e*S	Sn	23 19 11.3	-8.3
	51nm,0.3s						
PSBA	**Serra de Santa**	**1.89**	**84**	*e*S	Sn	23 19 10.2	-10
	32nm,0.3s						
PPAD	**Pico dos Padre**	**1.91**	**86**	*e*S	Sn	23 19 12.2	-8.2
	30nm,0.2s						
PBIS	**Biscoitos**	**1.94**	**84**	*e*S	Sn	23 19 12.9	-8.2
	27nm,0.3s						
ADH	**Angra Heroismo**	**1.95**	**87**	*e*S	Sn	23 19 13.0	-8.4
RIB2	**Ribeirinha**	**2.00**	**87**	*e*S	Sn	23 19 14.0	-8.6
	50nm,0.2s						
PVNV	**Vila Nova**	**2.02**	**84**	*e*S	Sn	23 19 14.7	-8.4
	10nm,0.2s						
PFAV	**Pico das Favas**	**2.07**	**86**	*e*S	Sn	23 19 16.7	-7.7
	12nm,0.2s						

*NEIC **04** 23:23:25.2±1.5,21.54S×178.96W,h533km±19km,mb3.8/1, Error ellipse: s-maj=27.5km s-min=16.1km az=128.0*
*IDC **04** 23:23:26.3±2.7,21.35S×179.07W,h538km±32km,mb2.8/4, mb1 3.2/5,mb1mx3.1/14,mbtmp3.8/5,Error ellipse: s-maj=30.1km s-min=20.4km az=132.0*
ISC 04 23:23:24.2±1.8,21.5S±0.2×179.0W±0.2,h526km±27km, n14,σ0°54/9,mb3.3/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.25**	**43**	P	**P**	**23 25 45.7**	**+0.2**
	3.1nm,0.3s,baz=245,slow=10,SNR=4.1						
AFI	**Afiamalu**	**10.25**	**43**	*e*P	**P**	**23 25 45.3**	**-0.1**
URZ	**Urewera**	**17.00**	**190**	P	**P**	**23 26 53.1**	**-0.4**
	1.5nm,0.3s,baz=337,slow=11,SNR=6.9						
CTAO	**Charters Tower**	**32.46**	**266**	*e*P	**P**	**23 29 12.9**	**+0.5**
	1.5nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**43.53**	**263**	P	**P**	**23 30 42.4**	**-0.3**
	0.5nm,0.4s,mb3.4,baz,94,slow=7.7,SNR=18						
VNDA	**Vanda**	**56.80**	**185**	P	**P**	**23 32 19.9**	**+0.4**
	0.4nm,0.6s,mb2.8,baz=15,slow=8.2,SNR=3.9						
VNDA	**Vanda**	**56.80**	**185**	P	**P**	**23 32 19.9**	**+0.4**
NVAR	**Mina Array Bea**	**82.42**	**44**	P	**P**	**23 34 52.8**	**+0.7**
	0.2nm,0.4s,mb2.9,baz=220,slow=7.0,SNR=2.8						
ILAR	**Eielson Array**	**89.53**	**13**	P	**P**	**23 35 24.6**	**-1.0**
	0.4nm,0.6s,mb3.4,baz=219,slow=5.1,SNR=6.3						
ARCES	**ARCESS Array B**	**129.76**	**349**	PKP	PKPdf	23 41 32.4	-0.5
	1.0nm,0.7s,baz=18,slow=2.9,SNR=7.2						
ARCES	**ARCESS Array B**	**129.76**	**349**	PKP	PKPdf	23 41 32.4	-0.5
AKASG	**Malin Array Be**	**143.44**	**330**	PKhKP		23 41 56.1	
	0.6nm,0.3s,baz=42,slow=4.5,SNR=7.6						
BRTR	**Keskin Array B**	**146.81**	**311**	PKPbc	PKPbc	23 42 07.3	+1.0
	0.6nm,0.6s,baz=90,slow=1.4,SNR=3.7						
GERES	**GERESS Array B**	**150.92**	**343**	PKPbc	PKPdf	23 42 17.4	+7.0
	0.5nm,0.6s,baz=45,slow=1.9,SNR=5.2						

*IDC **04** 23:34:24.7±1.1,14.96N×55.41E,mb3.7/8,mb1 3.9/8, mb1mx3.7/18,mbtmp3.7/8,MS3.1/3,Ms1 3.1/3, ms1mx2.9/21,Error ellipse: s-maj=34.3km s-min=22.6km az=149.0*
*NEIC **04** 23:34:26.2±0.6,14.97N×55.49E,h10km,mb4.0/3,Error ellipse: s-maj=20.0km s-min=12.2km az=132.0*
ISC 04 23:34:24.6±0.7,15.1N±0.1×55.4E±0.1,h10km,n14, σ0°78/12,mb3.8/11,MS3.1/2,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**12.73**	**256**	LR	LR	23 41 17.7	
	comp=Z,40nm,19.7s,baz=53,slow=32						
KMBO	**Kilima Mbogo**	**24.11**	**230**	P	**P**	**23 39 42.0**	**+0.3**
	0.9nm,0.9s,mb3.2,baz=52,slow=19,SNR=3.4						
KMBO				LR	LR	23 48 24.9	
	comp=Z,59nm,21.4s,MS3.0,baz=52,slow=35						
MKAR	**Makanchi Array**	**38.77**	**30**	P	**P**	**23 41 52.0**	**+1.0**
	0.4nm,0.5s,mb3.4,baz=217,slow=9.5,SNR=4.9						
ZAL	**Zalesovo**	**45.10**	**24**	P	**P**	**23 42 42.8**	**+0.1**
	0.6nm,0.6s,mb3.6,baz=263,slow=9.7,SNR=4.1						
LBTB	**Lobatse**	**49.31**	**217**	*e*P	**P**	**23 43 15.7**	**-0.4**
	0.6nm,0.6s,mb3.8						
FINES	**FINESS Array B**	**50.88**	**342**	P	**P**	**23 43 28.2**	**+0.6**
	1.1nm,0.6s,mb3.9,baz=153,slow=4.3,SNR=3.9						
FINES				LR	LR	00 05 21.7	
	comp=Z,25nm,18.7s,MS3.2,baz=139,slow=36						
FINES	**FINESS Array B**	**50.88**	**342**	P	**P**	**23 43 28.2**	**+0.6**
FINES				LR	LR	00 05 21.7	
TORD	**Torodi Ar. Bea**	**52.04**	**275**	P	**P**	**23 43 36.0**	**-1.0**
	0.8nm,0.9s,mb3.6,baz=94,slow=6.9,SNR=9.3						
SONM	**Songino Array**	**53.09**	**41**	P	**P**	**23 43 43.5**	**-0.9**
	0.4nm,0.9s,mb3.3,baz=250,slow=5.9,SNR=2.6						
ULN	**Ulaanbaatar**	**53.52**	**41**	P	**P**	**23 43 46.1**	**-1.5**
	2.1nm,0.4s,mb4.4						
ESDC	**Sonseca Array**	**57.06**	**308**	P	**P**	**23 44 13.6**	**+0.2**
	1.2nm,0.7s,mb4.0,baz=81,slow=6.7,SNR=8.5						
ESLA	**Sonseca Array**	**57.06**	**308**	*e*P	**P**	**23 44 13.8**	**+0.4**
	1.3nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**85.00**	**112**	P	**P**	**23 47 03.2**	**+1.1**
	1.0nm,0.8s,mb4.0,baz=300,slow=4.1,SNR=5.3						
NVAR	**Mina Array Bea**	**126.48**	**354**	PKP	PKPdf	23 53 29.9	-1.6
	0.4nm,0.8s,baz=356,slow=1.6,SNR=4.1						

IDC 04 23:47:44.5±2.0,7.46S×126.85E,mb3.5/3,mb1 3.7/4, mb1mx3.6/12,mbtmp3.6/4,ML3.9/1,1D,Error ellipse: s-maj=188.9km s-min=42.2km az=62.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.59**	**134**	⇓*i*P	Pn	23 49 59.7	+21
	6.8nm,0.1s						
KAKA				*i* S	Sn	23 51 10.9	+4.1
WRA	**Warramunga Arr**	**14.38**	**150**	Pn	P	23 51 09.3	-2.3
	0.6nm,0.3s,baz=326,slow=13,SNR=13						
WRA				Sn	S	23 53 31.5	-21
	1.2nm,0.3s,baz=323,slow=24,SNR=9.5						
SONM	**Songino Array**	**57.95**	**344**	P	P	23 57 38.4	-2.6
	0.2nm,0.4s,baz=150,slow=7.0,SNR=5.3						
MKAR	**Makanchi Array**	**66.93**	**328**	P	P	23 58 38.7	-2.3
	0.4nm,0.6s,baz=122,slow=7.3,SNR=6.7						
BVAR	**Borovoye Array**	**76.81**	**329**	P	P	23 59 38.5	-1.2
	0.2nm,0.5s,baz=135,slow=8.2,SNR=3.3						

*IDC **05** 00:01:43.2±0.9,53.10N×167.05W,mb3.9/13,mb1 4.1/14, mb1mx4.0/27,mbtmp3.9/14,ML3.0/1,MS3.5/6,Ms1 3.5/6, ms1mx3.0/34,Error ellipse: s-maj=25.9km s-min=15.8km az=4.0*
*NEIC **05** 00:01:49.0±0.8,53.15N×166.94W,h39km±6km,mb4.3/3, ML4.0(AEIC),Error ellipse: s-maj=10.6km s-min=5.5km az=172.0*
ISC 05 00:01:48.4±0.8,53.15N±0.08×166.89W±0.07,h49km±7km, n46,σ0°66/46,mb3.9/16,MS3.8/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGOD	**Makushin Gods**	**0.65**	**1**	P	**P**	**00 02 01.3**	**-0.1**
UNV	**Unalaska Valle**	**0.73**	**18**	P	**P**	**00 02 01.9**	**-0.7**
UNV				S	**S**	**00 02 12.4**	**-0.7**
MNAT	**Makushin Natee**	**0.74**	**9**	P	**P**	**00 02 02.9**	**+0.2**
MNAT				S	**S**	**00 02 13.9**	**+0.6**
OKCD	**Okmok Cone D**	**0.79**	**291**	P	**P**	**00 02 03.7**	**+0.4**
OKCD				S	**S**	**00 02 14.7**	**+0.3**
MTBL	**Makushin Table**	**0.83**	**8**	P	**P**	**00 02 04.4**	**+0.5**
LVA	**Lava Point**	**1.13**	**26**	P	**P**	**00 02 08.3**	**+0.1**
AKLV	**Akutan Long Va**	**1.16**	**28**	P	**P**	**00 02 08.2**	**-0.3**
AKLV				S	**S**	**00 02 24.1**	**+0.7**
AKUT	**Akutan**	**1.19**	**33**	P	**P**	**00 02 08.5**	**-0.4**
AKUT				S	**S**	**00 02 23.9**	**-0.3**
NIKO	**Nikolski**	**1.20**	**262**	P	**P**	**00 02 08.7**	**-0.4**
NIKO				S	**S**	**00 02 24.4**	**-0.1**
WPOG	**Pogromni**	**1.93**	**40**	P	**P**	**00 02 19.7**	**+0.3**
WESN	**West Dahl Nort**	**1.97**	**43**	P	**P**	**00 02 20.4**	**+0.4**
DTNA	**Dutton South F**	**3.38**	**52**	P	**P**	**00 02 39.9**	**-0.2**
DOL	**Dolgoi Island**	**3.57**	**54**	P	**P**	**00 02 42.3**	**-0.4**
HAG	**Hague Volcano**	**3.64**	**51**	P	**P**	**00 02 43.6**	**-0.1**
KDAK	**Kodiak Island**	**9.35**	**55**	Pn	**P**	**00 03 57.7**	**-5.6**
	0.6nm,0.3s,baz=297,slow=11,SNR=6.3						
KDAK				Sn	**S**	**00 05 41.4**	**-6.8**
	0.5nm,0.3s,baz=107,slow=22,SNR=3.6						
TNA	**Tin City**	**12.46**	**358**	*e*P	**P**	**00 04 45.9**	**+0.5**
IMA2	**Indian Mountai**	**14.53**	**22**	P	**P**	**00 05 13.8**	**+1.5**
ILAR	**Eielson Array**	**15.46**	**33**	Pn	**P**	**00 05 22.7**	**-1.7**
	0.0nm,0.3s,baz=226,slow=13,SNR=4.6						
ILAR				LR	LR	00 11 46.6	
	comp=Z,104nm,19.1s,baz=352,slow=39						
DLBC	**Dease Lake**	**21.19**	**61**	P	**P**	**00 06 30.6**	**-1.0**
	1.8nm,0.8s,mb3.4,baz=266,slow=15,SNR=3.0						
INK	**Inuvik**	**21.86**	**33**	P	**P**	**00 06 37.7**	**-0.5**
	4.4nm,0.6s,mb4.1,baz=236,slow=8.3,SNR=17						
INK				LR	LR	00 16 07.2	
	comp=Z,98nm,18.4s,MS3.2,baz=286,slow=39						
INK	**Inuvik**	**21.86**	**33**	P	**P**	**00 06 37.7**	**-0.5**
INK				LR	LR	00 16 07.2	
YKA	**Yellowknife Ar**	**28.59**	**50**	P	**P**	**00 07 41.2**	**-0.4**
	0.7nm,0.5s,mb3.7,baz=272,slow=8.2,SNR=8.6						
YKA	**Yellowknife Ar**	**28.59**	**50**	P	**P**	**00 07 41.2**	**-0.4**
NEW	**Newport**	**31.36**	**79**	P	**P**	**00 08 06.5**	**+0.1**
	3.6nm,0.7s,mb4.3,baz=303,slow=7.4,SNR=11						
NEW	**Newport**	**31.36**	**79**	P	**P**	**00 08 06.5**	**+0.1**
MOD	**Modoc**	**32.84**	**91**	*e*P	**P**	**00 08 20.2**	**+0.9**
	2.7nm,0.7s,mb4.3						
HLID	**Hailey**	**35.42**	**84**	*e*P	**P**	**00 08 41.3**	**-0.1**
	2.1nm,0.8s,mb4.1						
EGMT	**Eagleton**	**35.80**	**75**	*e*P	**P**	**00 08 44.4**	**-0.2**
	6.3nm,0.7s,mb4.7						
NVAR	**Mina Array Bea**	**36.19**	**94**	P	**P**	**00 08 49.2**	**+1.2**
	0.8nm,0.7s,mb3.8,baz=294,slow=9.8,SNR=8.7						
NVAR	**Mina Array Bea**	**36.19**	**94**	P	**P**	**00 08 49.2**	**+1.2**
ELK	**Elko**	**36.59**	**89**	P	**P**	**00 08 52.2**	**+0.9**
	0.3nm,0.3s,mb3.6,baz=32,slow=19,SNR=5.3						
ELK	**Elko**	**36.59**	**89**	P	**P**	**00 08 52.2**	**+0.9**
PDAR	**Pinedale Array**	**38.78**	**82**	P	**P**	**00 09 10.2**	**+0.6**
	1.5nm,0.8s,mb3.8,baz=322,slow=4.2,SNR=8.5						
JHJ	**Hachijo jima 2**	**42.61**	**264**	LR	LR	00 24 11.1	
	comp=Z,1μm,19.6s,MS4.9,baz=91,slow=32						
TXAR	**Lajitas Array**	**51.24**	**92**	P	**P**	**00 10 48.6**	**-0.5**
	1.7nm,0.7s,mb4.1,baz=297,slow=5.2,SNR=23						
SONM	**Songino Array**	**52.19**	**302**	P	**P**	**00 10 56.1**	**+0.2**
	0.1nm,0.6s,mb3.0,baz=34,slow=10,SNR=3.6						
BVAR	**Borovoye Array**	**63.93**	**326**	P	**P**	**00 12 17.6**	**-0.4**
	0.5nm,0.5s,mb3.9,baz=63,slow=5.2,SNR=6.8						
FINES	**FINESS Array B**	**65.29**	**353**	P	**P**	**00 12 25.3**	**-1.4**
	0.8nm,0.8s,mb3.8,baz=34,slow=10.0,SNR=3.9						
FINES				LR	LR	00 40 26.3	
	comp=Z,31nm,19.1s,MS3.5,baz=331,slow=36						
NOA	**NORSAR Array B**	**66.15**	**1**	LR	LR	00 43 49.8	
	comp=Z,15nm,19.7s,MS3.2,baz=35,slow=38						
HFS	**Hagfors**	**67.07**	**360**	LR	LR	00 40 45.2	
	comp=Z,36nm

TCF				*e*Sg	Sg	00 23 03.4	-4.5
	0.8nm,0.2s						
SFTF	**Sexfontaines**	**2.49 351**		*e*Pg	Pg	00 22 32.2	-3.9
	baz=164						
SFTF				*e*Sg	Sg	00 23 04.3	-5.0
	3.2nm,0.2s						
LMR	**La Mourre**	**2.49 165**		*e*Pn	Pn	00 22 25.8	-2.4
LMR				*e*Sn	Sn	00 22 55.0	-4.3
	2.0nm,0.2s						
HYF	**Humbligny**	**2.57 307**		*e*Pg	Pg	00 22 34.1	-3.6
HYF				*e*Sg	Sg	00 23 07.4	-4.5
CAF	**Calviac**	**2.65 253**		*e*Pn	Pn	00 22 27.8	-2.6
CAF				*e*Sn	Sn	00 22 58.6	-4.7
CAF				*e*Sg	Sg	00 23 08.2	-6.5
	1.7nm,0.2s						
MEZF	**Maizieres J'vi**	**2.78 352**		*e*Pg	Pg	00 22 37.8	-4.2
	baz=170						
MEZF				*e*Sg	Sg	00 23 13.7	-5.4
	3.5nm,0.4s						
CDF	**Champ du Feu**	**2.89 22**		*e*Pg	Pg	00 22 40.2	-3.9
CDF				*e*Sn	Sn	00 23 04.5	-4.8
CDF				*e*Sg	Sg	00 23 17.5	-5.1
	1.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.93 263**		*e*Sg	Sg	00 23 17.0	-7.0
	3.4nm,0.3s						
MTLF	**Montolieu**	**3.43 227**		*e*Pn	Pn	00 22 38.5	-3.0
MTLF	**Montolieu**	**3.43 227**		*e*Pg	Pg	00 22 49.9	-5.0
MTLF				*e*Sn	Sn	00 23 17.1	-5.9
MTLF				*e*Sg	Sg	00 23 33.5	-7.1
	2.4nm,0.4s						

IDC 05 00:29:20.1±12.0,**30.17N**×**130.28E**,**h109**km±64km,
mb3.5/9,**mb1 3.6**/10,**mb1mx3.5**/23,**mbtmp3.9**/10,
MS3.5/1,**Ms1 3.5**/1,**ms1mx2.3**/18,**Error ellipse:**
s-maj=149.2km s-min=26.7km az=173.0,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**2.99**	**10**	P	P	00 30 05.4	-1.6
	16nm,0.3s,baz=185,slow=3.0,SNR=7.8						
JNU				LR	LR	00 31 10.3	
	comp=Z,733nm,20.6s,slow=37						
SONM	**Songino Array**	**25.44**	**321**	P	P	00 34 38.1	-1.1
	0.3nm,0.4s,baz=139,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**40.40**	**308**	P	P	00 36 48.4	-0.4
	0.7nm,0.4s,baz=90,slow=10,SNR=13						
ILAR	**Eielson Array**	**60.13**	**29**	P	P	00 39 16.3	-1.8
	0.2nm,0.5s,baz=267,slow=6.0,SNR=4.4						
INK	**Inuvik**	**64.58**	**24**	P	P	00 39 45.8	-1.7
	0.9nm,0.5s,baz=334,slow=3.3,SNR=14						
FINES	**FINESS Array B**	**70.34**	**330**	P	P	00 40 21.1	-2.4
	0.9nm,0.5s,baz=72,slow=6.0,SNR=16						
AKASG	**Malin Array Be**	**73.72**	**319**	P	P	00 40 42.0	-1.6
	2.0nm,0.4s,baz=59,slow=6.5,SNR=14						
BRTR	**Keskin Array B**	**76.05**	**308**	P	P	00 40 56.2	-1.0
	0.5nm,0.6s,baz=114,slow=4.1,SNR=5.5						
NOA	**NORSAR Array B**	**76.58**	**334**	P	P	00 40 57.9	-1.8
	0.3nm,0.4s,baz=49,slow=5.5,SNR=2.5						
EKA	**Eskdalemuir Ar**	**85.98**	**335**	P	P	00 41 46.9	-2.1
	3.0nm,1.2s,baz=40,slow=5.5,SNR=4.2						

CSEM ***05*** *00:29:30.9±0.3,51.39N×15.94E,h1km,ML2.9/2, Error ellipse: s-maj=5.7km s-min=5.2km az=34.0*
IPEC ***05*** *00:29:30.7±0.3,51.44N×16.43E,ML1.8/3, Error ellipse: s-maj=3.3km s-min=1.9km az=93.0*
NEIC ***05*** *00:29:30.6±1.5,51.43N×16.26E,h5km,ML2.5(PRU), Error ellipse: s-maj=16.3km s-min=6.4km az=207.0*
WAR ***05*** *00:29:31.8,51.41N×16.24E,ML2.7, Mining Induced*
IDC ***05*** *00:29:32.0±1.1,51.28N×16.32E,mb1 3.4/3, mb1mx3.2/20, mbtmp3.3/3,ML2.6/3, Error ellipse: s-maj=16.7km s-min=9.8km az=109.0*
PRU ***05*** *00:29:32.2,51.36N×16.21E*
VIE ***05*** *00:29:33.9±0.5,51.18N×16.45E,mb1.9/2,ML2.5/3, Error ellipse: s-maj=6.4km s-min=2.7km az=118.0,Suspected Mining induced.*
ISC 05 00:29:29.9±0.7,**51.35N**±0.04×**16.22E**±0.04,**n26**,σ1§**29**/53,
3C-3D,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.51**	**175**	⇓*i*PG	**Pg**	**00 29 42.2**	**+2.2**
KSP				⇓*i*SG	**Sg**	**00 29 49.9**	**+3.1**
KSP	**Ksiaz**	**0.51**	**175**	⇓*e*Pg	**Pg**	**00 29 42.3**	**+2.2**
KSP				*e*Sg	**Sg**	**00 29 49.9**	**+3.1**
KSP	**Ksiaz**	**0.51**	**175**	*e*Pg	**Pg**	**00 29 42.1**	**+2.1**
KSP				*e*Sg	**Sg**	**00 29 49.9**	**+3.1**
UPC	**Upice**	**0.85**	**189**	*e*PG	**Pg**	**00 29 48.5**	**+1.6**
DPC	**Dobruska-Polom**	**1.00**	**176**	*e*PG	**Pg**	**00 29 51.2**	**+1.3**
DPC				*e*SG	**Sg**	**00 30 05.2**	**+1.9**
	13nm,0.2s						
DPC	**Dobruska-Polom**	**1.00**	**176**	*e*Pg	**Pg**	**00 29 51.1**	**+1.2**
DPC				*e*Sg	**Sg**	**00 30 04.9**	**+1.6**
PVCC	**Panska Ves**	**1.33**	**232**	*e*PG	**Pg**	**00 29 57.2**	**+0.8**
PVCC				*e*SG	**Sg**	**00 30 15.9**	**+1.8**
	75nm,0.2s						
BRG	**Berggiesshubel**	**1.51**	**252**	Pn	**Pn**	**00 29 59.1**	**+0.8**
BRG				Pg	**Pg**	**00 30 00.6**	**+0.6**
BRG				Sg	**Sg**	**00 30 29.6**	**+9.5**
PRU	**Pruhonice**	**1.73**	**219**	*e*PG	**Pg**	**00 30 03.8**	**-0.6**
PRU				*e*SG	**Sg**	**00 30 27.8**	**+0.3**
MORC	**Moravsky Berou**	**1.79**	**151**	*e*Pn	**Pn**	**00 30 03.0**	**+0.8**
MORC				*e*Sn	**Sn**	**00 30 26.4**	**+0.5**
MORC	**Moravsky Berou**	**1.79**	**151**	*e*Pn	**Pn**	**00 30 03.0**	**+0.8**
MORC				*e*Sg	**Sg**	**00 30 27.5**	**-1.9**
OKC	**Ostrava-Krasne**	**1.95**	**140**	*e*PG	**Pg**	**00 30 07.7**	**-1.1**
OKC				*e*SG	**Sg**	**00 30 33.3**	**-1.5**
CLL	**Collm**	**2.02**	**270**	*e*PG	**Pg**	**00 30 09.0**	**-1.2**
CLL				*e*SG	**Sg**	**00 30 36.0**	**-1.0**
VRAC	**Vranov**	**2.06**	**173**	Pn	**Pn**	**00 30 06.9**	**+0.8**
	1.5nm,0.3s,baz=346,slow=14,SNR=12						
VRAC				Pg	**Pg**	**00 30 09.4**	**-1.6**
	1.9nm,0.3s,baz=349,slow=15,SNR=13						
VRAC				Sn	**Sn**	**00 30 28.7**	**-4.2**
	1.1nm,0.3s,baz=270,slow=22,SNR=5.0						
VRAC				Lg		00 30 36.3	
	2.2nm,0.3s,baz=250,slow=23,SNR=8.9						
VRAC	**Vranov**	**2.06**	**173**	*e*Pn	**Pn**	**00 30 07.7**	**+1.6**
VRAC				*e*Sg	**Sg**	**00 30 37.3**	**-1.1**
	4.7nm,0.1s						
TREC	**Trest**	**2.11**	**193**	*e*PN	**Pn**	**00 30 07.9**	**+1.0**
TREC				*e*PG	**Pg**	**00 30 11.2**	**-0.8**
KRUC	**Moravsky**	**2.29**	**177**	*e*Pn	**Pn**	**00 30 11.6**	**+2.1**
KRUC				*e*Sg	**Sg**	**00 30 45.8**	**-0.4**
	2.8nm,0.2s						
OJC	**Ojcow**	**2.54**	**115**	*e*PG	**Pg**	**00 30 20.0**	**-0.6**
OJC				*e*SG	**Sg**	**00 30 54.0**	**-0.4**
NKC	**Novy Kostel**	**2.64**	**246**	*e*PN	**Pn**	**00 30 15.2**	**+0.8**
NKC				*e*PG	**Pg**	**00 30 21.1**	**-1.5**
NKC				*e*SG	**Sg**	**00 30 56.1**	**-1.7**
KHC	**Kasperske Hory**	**2.79**	**218**	*e*PN	**Pn**	**00 30 17.7**	**+1.1**
KHC				*e*PG	**Pg**	**00 30 23.6**	**-2.0**
KHC				*ex*	x	00 30 48.0	
KHC				*e*SG	**Sg**	**00 31 01.1**	**-1.8**
GERES	**GERESS Array B**	**2.98**	**214**	Pn	**Pn**	**00 30 20.5**	**+1.2**
	0.3nm,0.3s,baz=34,slow=14,SNR=9.3						
GERES				Pg	**Pg**	**00 30 26.4**	**-3.0**
	2.1nm,0.3s,baz=36,slow=17,SNR=43						
GERES				Sn	**Sn**	**00 30 55.5**	**-0.9**
	0.9nm,0.3s,baz=36,slow=27,SNR=5.6						
GERES				Lg		00 31 06.2	
	2.1nm,0.3s,baz=35,slow=28,SNR=11						
MOA	**Molln**	**3.73**	**201**	⇑*i*Pn	**Pn**	**00 30 31.0**	**+1.1**
MOA				⇑*i*Sg	**Sg**	**00 31 33.9**	**0.0**
	comp=E,4.5nm,0.5s						
MOA	**Molln**	**3.73**	**201**	⇑Pn	**Pn**	**00 30 31.0**	**+1.1**
MOA				Sg	**Sg**	**00 31 33.9**	**0.0**
STHS	**Stebnicka Huta**	**3.75**	**119**	*e*SG	**Sg**	**00 31 34.3**	**-0.5**
FINES	**FINESS Array B**	**11.48**	**24**	Pn	**P**	**00 32 13.4**	**-4.6**
	0.1nm,0.3s,baz=209,slow=14,SNR=3.6						
ARCES	**ARCESS Array B**	**18.77**	**10**	Pn	**P**	**00 33 47.1**	**-5.2**
	0.1nm,0.3s,baz=193,slow=12,SNR=4.1						

JMA 05 00:39:05.7±0.1,**38.12N**×**144.67E**,**h44**km,**M3.9**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.54**	**293**	P	P	00 39 45.9	+0.5
JIO	**Ouri**	**2.63**	**278**	P	P	00 39 47.0	+0.2
JIO				S	S	00 40 17.5	-0.2
MIYJ	**Miyakonagasawa**	**2.66**	**304**	P	P	00 39 47.3	+0.2
MIYJ				*e*S	S	00 40 18.3	0.0
JMK	**Ichinoseki**	**2.83**	**288**	S	S	00 40 23.9	+1.2

NIED ***05*** *00:55:00,38.30N×141.90E,h65km,Mw4.7 Best double couple: M0 1.37×10^16 NP1:φs37°,δ89°,λ80°. NP2:φs303°, δ10°,λ177°.*
JMA 05 00:55:31.2±0.1,**38.29N**×**141.86E**,**h48**km±2km,**M3.6**,**8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.43**	**292**	⇓P	P	00 55 41.6	0.0
JIO				S	S	00 55 48.6	-0.4
OFUJ	**Ofunato**	**0.80**	**349**	⇓P	P	00 55 46.2	-0.1
OFUJ				S	S	00 55 56.6	-0.8
JMK	**Ichinoseki**	**0.83**	**323**	⇓P	P	00 55 46.9	+0.2
JMK				S	S	00 55 57.5	-0.6
JMM	**Marumori**	**0.94**	**244**	⇓P	P	00 55 47.7	-0.5
JOU	**Okura**	**0.94**	**275**	⇓P	P	00 55 48.5	+0.2
JFK	**Kawauchi**	**1.21**	**221**	⇓P	P	00 55 51.3	-0.7
JOM	**Ohasama**	**1.26**	**340**	⇓P	P	00 55 52.9	+0.1
JYK	**Kaneyama**	**1.33**	**299**	⇓P	P	00 55 54.0	+0.1
JYS	**Shirataka**	**1.41**	**268**	S	S	00 56 14.2	+1.5
JFT	**Otama**	**1.43**	**238**	P	P	00 55 55.2	0.0

IDC ***05*** *01:09:16.1±2.9, 16.27N×143.47E, mb4.0/4,mb1 4.1/4, mb1mx3.6/19,mbtmp4.0/4,MS2.9/1,Ms1 2.9/1, ms1mx2.2/20, Error ellipse: s-maj=153.0km s-min=29.5km az=87.0*
NEIC ***05*** *01:09:32.9±1.2, 16.00N×144.10E,h157km±14km,mb4.6/6, Error ellipse: s-maj=23.2km s-min=11.8km az=82.0*
MOS ***05*** *01:09:32.3±2.5, 15.96N×143.83E,h156km,mb5.0/6, Error ellipse: s-maj=44.9km s-min=11.5km az=96.8*
ISC 05 01:09:32.3±1.4,**16.00N**±0.10×**144.2E**±0.2,**h167**km±16km,
n27,σ1§**26**/26,**mb4.4**/12,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.49**	**165**	LR	LR	01 11 09.6	
	comp=Z,224nm,20.9s,baz=261,slow=38						
GUMO	**Guam**	**2.49**	**165**	*e*P	**P**	**01 10 14.3**	**-0.3**
MAJO	**Matsushiro**	**21.14**	**347**	*e*P	**P**	**01 14 08.6**	**+3.5**
NACB	**Ninganchiao**	**22.70**	**295**	*e*P	**P**	**01 14 21.5**	**+1.0**
TATO	**Taipei**	**23.04**	**296**	*e*Pn	**P**	**01 14 24.2**	**+0.5**
	71nm,0.9s,mb5.1						
PMG	**Port Moresby**	**25.41**	**173**	*e*P	**P**	**01 14 47.1**	**+0.8**
PMG				pmax	pmax		
	comp=Z,16nm,1.4s						
PMG	**Port Moresby**	**25.41**	**173**	*e*P	**P**	**01 14 47.1**	**+0.8**
	comp=Z,16nm,1.4s,mb4.3						
KS15	**Wonju Array Si**	**25.77**	**329**	*e*P	**P**	**01 14 49.2**	**-0.2**
YSS	**Yuzh-Sakhalins**	**30.89**	**358**	P	**P**	**01 15 38.5**	**+3.3**
MDJ	**Mudanjiang**	**31.08**	**340**	P	**P**	**01 15 35.1**	**-1.8**
KLR	**Kul'dur**	**34.66**	**346**	*e*P	**P**	**01 16 11.8**	**+4.2**
CTAO	**Charters Tower**	**35.92**	**177**	*e*P	**P**	**01 16 22.8**	**+4.3**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
CTAO	**Charters Tower**	**35.92**	**177**	*e*P	**P**	**01 16 22.8**	**+4.4**
	comp=Z,3.4nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**37.01**	**196**	P	**P**	**01 16 28.2**	**+0.6**
	comp=Z,0.6nm,1.2s,mb3.1,baz=12,slow=8.7,SNR=3.4						
MA2	**Magadan**	**43.77**	**5**	P	**P**	**01 17 23.4**	**+0.7**
MA2				pmax	pmax		
	comp=Z,114nm,1.7s,mb5.2						
MA2	**Magadan**	**43.77**	**5**	P	**P**	**01 17 23.4**	**+0.8**
	comp=Z,114nm,1.7s,mb5.2						
ULN	**Ulaanbaatar**	**44.05**	**324**	*e*P	**P**	**01 17 18.0**	**-7.0**
ULN				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**44.05**	**324**	*e*P	**P**	**01 17 18.0**	**-7.0**
	comp=Z,16nm,1.0s,mb4.6						
YAK	**Yakutsk**	**47.11**	**351**	P	**P**	**01 17 45.4**	**-3.6**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s,mb4.8						
YAK	**Yakutsk**	**47.11**	**351**	P	**P**	**01 17 45.4**	**-3.7**
	comp=Z,14nm,0.5s,mb4.8						
BILL	**Bilibino**	**53.91**	**10**	P	**P**	**01 18 39.8**	**-0.5**
BILL				pmax	pmax		
	comp=Z,27nm,2.1s,mb4.6						
BILL	**Bilibino**	**53.91**	**10**	P	**P**	**01 18 39.8**	**-0.5**
	comp=Z,27nm,2.1s,mb4.6						
NWAO	**Narrogin (SRO)**	**55.06**	**208**	*e*P	**P**	**01 18 46.4**	**-2.7**
NWAO				pmax	pmax		
	comp=Z,91nm,1.6s						
NWAO	**Narrogin (SRO)**	**55.06**	**208**	*e*P	**P**	**01 18 46.4**	**-2.7**
	comp=Z,91nm,1.6s,mb5.3						
BVAR	**Borovoye Array**	**67.64**	**321**	P	**P**	**01 20 11.4**	**-1.8**
	comp=Z,0.8nm,0.3s,mb3.9,baz=103,slow=8.1,SNR=10						
ARCES	**ARCESS Array B**	**84.60**	**342**	P	**P**	**01 21 48.4**	**+0.8**
	comp=Z,1.2nm,0.7s,mb3.7,baz=72,slow=8.0,SNR=6.4						
FINES	**FINESS Array B**	**88.71**	**335**	P	**P**	**01 22 08.3**	**+0.7**
	comp=Z,3.0nm,0.9s,mb4.2,baz=45,slow=5.9,SNR=4.5						

ATH ***05*** *01:21:07.3,38.58N×26.66E,h52km±8km,MD3.2/3*
CSEM ***05*** *01:21:08.7±0.3,38.50N×26.26E,h15km,MD2.9, Error ellipse: s-maj=9.1km s-min=4.0km az=68.0*
ISK ***05*** *01:21:15.6,38.19N×26.79E,h19km,MD2.9*
ISC 05 01:21:14.9±0.7,**38.17N**±0.03×**26.67E**±0.05,**h10**km,**n12**,
σ1§**11**/21,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.37**	**54**	PG	**Pg**	**01 21 21.9**	**-0.6**
BLCB				SG	**Sg**	**01 21 27.3**	**-0.2**
SMG	**Samos**	**0.48**	**163**	*e*P	**Pg**	**01 21 24.5**	**-0.2**
SMG				*e*S	**Sg**	**01 21 36.8**	**+5.7**
IZM	**Izmir**	**0.52**	**64**	PG	**Pg**	**01 21 25.0**	**-0.5**
IZM				SG	**Sg**	**01 21 31.6**	**-1.0**
KDAG	**Bornova**	**0.53**	**64**	*i* P	**Pg**	**01 21 24.1**	**-1.5**
KDAG				*i* S	**Sg**	**01 21 29.2**	**-3.5**
AYDN	**Tasoluk**	**1.09**	**117**	*i* P	**Pb**	**01 21 35.7**	**+0.4**
AYDN				*i* S	**Sb**	**01 21 50.8**	**+1.4**
AYVA	**Ayvalik**	**1.14**	**1**	*i* P	**Pb**	**01 21 36.5**	**+0.2**
AYVA				*i* S	**Sb**	**01 21 52.7**	**+1.8**
AKS	**Akhisar**	**1.15**	**51**	PG	**Pg**	**01 21 36.0**	**-1.9**
BODT	**Bodrum**	**1.22**	**155**	*e*PN	**Pn**	**01 21 38.3**	**+0.3**
BODT				*e*SN	**Sn**	**01 21 54.0**	**-0.6**
MLSB	**Milas**	**1.24**	**134**	*e*PN	**Pn**	**01 21 38.5**	**+0.2**
APE	**Apeiranthos**	**1.42**	**220**	*e*P	**Pn**	**01 21 36.6**	**-4.3**
APE				*e*S	**Sb**	**01 21 58.3**	**-0.8**
APE	**Apeiranthos**	**1.42**	**220**	*e*Pn	**Pn**	**01 21 42.1**	**+1.2**
MANT	**Manisa**	**1.52**	**77**	*i* P	**Pn**	**01 21 43.7**	**+1.3**
MANT				*i* S	**Sb**	**01 22 04.2**	**+2.1**

IDC ***05*** *01:22:30.6±2.8, 19.83S×175.56W,h97km±30km,mb4.0/4, mb1 4.1/6,mb1mx3.8/17,mbtmp4.4/6, Error ellipse: s-maj=38.0km s-min=17.4km az=114.0*
NEIC ***05*** *01:22:31.3±1.7, 19.89S×175.30W,h109km±18km,mb4.6/4, Error ellipse: s-maj=17.6km s-min=15.0km az=125.0*
ISC 05 01:22:29.5±2.5,**19.9S**±0.1×**175.3W**±0.1,**h105**km±30km,
n16,σ0§**94**/16,**mb4.4**/8,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.88**	**30**	P	**P**	**01 24 10.6**	**+1.2**
	1.4nm,0.3s,baz=255,slow=16,SNR=2.2						
AFI				S	**S**	**01 25 26.2**	**-0.5**
	11nm,0.3s,baz=20,slow=23,SNR=7.3						
AFI	**Afiamalu**	**6.88**	**30**	*e*Pn	**P**	**01 24 08.8**	**-0.5**
AFI				S	**S**	**01 25 26.2**	**-0.5**
DZM	**Mont Dzumac**	**17.17**	**260**	*e*P	**P**	**01 26 29.3**	**+5.1**
DZM	**Mont Dzumac**	**17.17**	**260**	P	**P**	**01 26 25.6**	**+1.3**
	0.9nm,0.3s,baz=79,slow=16,SNR=22						
URZ	**Urewera**	**19.41**	**198**	P	**P**	**01 26 49.4**	**-0.4**
	2.7nm,0.3s,baz=34,slow=2.7,SNR=11						
RPZ	**Rata Peaks**	**26.32**	**203**	P	**P**	**01 27 56.9**	**-0.2**
	14nm,0.8s,mb4.4,baz=336,slow=2.9,SNR=5.3						
CTAO	**Charters Tower**	**36.06**	**263**	P	**P**	**01 29 23.7**	**+0.9**
	15nm,1.7s,mb4.6						
PMG	**Port Moresby**	**37.70**	**281**	P	**P**	**01 29 38.0**	**+1.4**
	11nm,1.2s,mb4.6						
STKA	**Stephens Creek**	**40.30**	**244**	P	**P**	**01 29 56.2**	**-1.8**
	1.7nm,0.8s,mb4.0,baz=82,slow=12,SNR=3.6						
WB2	**Warramunga Arr**	**47.17**	**261**	*e*P	**P**	**01 30 52.4**	**-1.1**
WRA	**Warramunga Arr**	**47.18**	**261**	P	**P**	**01 30 52.6**	**-1.0**
	2.1nm,0.3s,mb4.4,baz=96,slow=7.5,SNR=78						
WRA				PcP	PcP	01 32 22.6	-1.3
	1.1nm,0.7s,baz=100,slow=3.4,SNR=5.4						
VNDA	**Vanda**	**58.71**	**186**	P	**P**	**01 32 18.1**	**+0.1**
	1.6nm,0.9s,mb4.1,baz=13,slow=11,SNR=4.5						
QSPA	**South Pole Qui**	**70.13**	**180**	*e*P	**P**	**01 33 32.7**	**+0.7**
	8.4nm,0.8s,mb4.6						
SNAA	**Sanae**	**88.49**	**178**	*e*P	**P**	**01 35 11.3**	**+0.7**
	4.0nm,1.2s,mb4.3						
BRTR	**Keskin Array B**	**148.28**	**315**	PKPbc	PKPdf	01 42 04.1	+4.1
	1.0nm,0.8s,baz=124,slow=3.0,SNR=6.2						
GERES	**GERESS Array B**	**150.26**	**348**	PKPbc	PKPdf	01 42 10.3	+7.5
	1.2nm,0.7s,baz=45,slow=1.4,SNR=12						

ATH ***05*** *01:24:50.9,38.15N×26.48E,h14km±1km,MD3.1/3*
ISK ***05*** *01:24:51.1,38.23N×26.66E,h17km,MD3.2*
CSEM ***05*** *01:24:51.3±0.2,38.23N×26.68E,h20km,MD3.2, Error ellipse: s-maj=4.7km s-min=2.2km az=118.0*
ISC 05 01:24:50.6±0.8,**38.18N**±0.02×**26.61E**±0.04,**h3**km±6km,
n19,σ0§**86**/32,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.40**	**59**	PG	**Pg**	**01 24 58.4**	**-0.1**
BLCB				SG	**Sg**	**01 25 04.2**	**+0.4**
SMG	**Samos**	**0.51**	**159**	*e*PB	**Pg**	**01 25 01.1**	**+0.4**
SMG				*e*SB	**Sg**	**01 25 08.6**	**+1.1**
IZM	**Izmir**	**0.56**	**67**	PG	**Pg**	**01 25 01.7**	**0.0**
IZM				SG	**Sg**	**01 25 09.8**	**+0.6**
KDAG	**Bornova**	**0.56**	**67**	*i* P	**Pg**	**01 25 00.6**	**-1.2**
KDAG				*i* S	**Sg**	**01 25 08.9**	**-0.5**
PRK	**Paraskevi**	**1.09**	**346**	*e*PB	**Pb**	**01 25 11.9**	**+0.2**
PRK				*e*SB	**Sb**	**01 25 27.2**	**+1.0**
AYVA	**Ayvalik**	**1.12**	**3**	*i* P	**Pb**	**01 25 12.6**	**+0.3**
AYVA				*i* S	**Sb**	**01 25 28.9**	**+1.8**
AYDN	**Tasoluk**	**1.13**	**117**	*i* P	**Pb**	**01 25 12.5**	**0.0**
AYDN				*i* S	**Sb**	**01 25 27.7**	**+0.3**
AKS	**Akhisar**	**1.17**	**53**	PN	**Pn**	**01 25 12.6**	**-1.2**
BODT	**Bodrum**	**1.25**	**153**	*e*PN	**Pn**	**01 25 15.0**	**+0.1**
MLSB	**Milas**	**1.28**	**133**	PN	**Pn**	**01 25 14.5**	**-0.8**
MLSB				SN	**Sn**	**01 25 32.2**	**-1.0**
BDRM	**Kayabasi**	**1.30**	**149**	*i* P	**Pb**	**01 25 16.2**	**+0.9**
BDRM				*i* S	**Sb**	**01 25 33.5**	**+1.3**
APE	**Apeiranthos**	**1.40**	**218**	*e*PN	**Pn**	**01 25 16.9**	**-0.1**
APE				*e*SN	**Sn**	**01 25 37.1**	**+0.9**
APE	**Apeiranthos**	**1.40**	**218**	*e*PB	**Pb**	**01 25 15.9**	**-1.1**
APE				*e*SB	**Sb**	**01 25 34.1**	**-1.1**
APE	**Apeiranthos**	**1.40**	**218**	*e*Pn	**Pn**	**01 25 16.9**	**-0.1**
APE				*e*Sn	**Sn**	**01 25 37.1**	**+0.9**
MANT	**Manisa**	**1.56**	**78**	*i* P	**Pn**	**01 25 20.3**	**+0.9**
MANT				*i* S	**Sb**	**01 25 39.8**	**-0.1**
DAT	**Datca**	**1.65**	**152**	*e*PN	**Pn**	**01 25 20.3**	**-0.2**
YER	**Yerkesik**	**1.69**	**128**	*e*PN	**Pn**	**01 25 21.6**	**+0.4**
BALB	**Balikesir**	**1.76**	**34**	*e*PN	**Pn**	**01 25 20.9**	**-1.3**
DST	**Dursunbey**	**2.12**	**47**	*e*PN	**Pn**	**01 25 25.5**	**-1.8**

CSEM ***05*** *01:36:26.8±0.2,35.18N×22.32E,h10km,ML3.1, Error ellipse: s-maj=6.3km s-min=2.5km az=87.0*
HLW ***05*** *01:36:36.9,35.00N×22.88E,h33km,Mb3.1*
ATH ***05*** *01:36:38.7,35.93N×23.52E,h30km,MD3.2/3*
ISC 05 01:36:29.7±0.7,**35.27N**±0.05×**22.8E**±0.1,**h30**km,**n13**,
σ1§**06**/16,**3C-2D**,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**1.03**	**12**	*e*PN	**Pn**	**01 36 50.0**	**+1.7**
KYTH				*e*SN	**Sn**	**01 36 58.0**	**-3.8**
VAM	**Vamos**	**1.18**	**83**	*e*PN	**Pn**	**01 36 54.0**	**+3.6**
VAM				*e*SN	**Sn**	**01 37 05.0**	**-0.6**
VLI	**Veliai**	**1.45**	**6**	*e*PN	**Pn**	**01 36 57.1**	**+2.2**
AGG	**Agios Georgios**	**3.76**	**355**	*e*P	**Pn**	**01 37 27.3**	**+0.1**
SLUM		**4.29**	**151**	⇑P	**Pn**	**01 37 35.2**	**+0.6**
SLUM				S	**Sn**	**01 38 18.6**	**-5.7**
IGT	**Igoumenitsa**	**4.67**	**336**	*e*P	**Pn**	**01 37 39.1**	**-1.0**
PAIG	**Paliouri**	**4.71**	**9**	*e*P	**Pn**	**01 37 40.1**	**-0.4**
HMAT	**Matruh**	**5.53**	**138**	⇓P	**Pn**	**01 37 52.4**	**+0.3**
FNA	**Florina**	**5.61**	**349**	*e*P	**Pn**	**01 37 52.2**	**-1.2**
SWA2		**6.43**	**158**	⇑P	**Pn**	**01 38 04.9**	**+0.1**
SWA1		**6.49**	**157**	P	**Pn**	**01 38 06.2**	**+0.5**
AWBH		**8.68**	**141**	⇓P	**P**	**01 38 35.3**	**-1.0**
**HFR

QSPA	**South Pole Qui**	**66.81**	**180**	*eP*		**P**		**02 36 47.9**	**-0.2**
	7.5nm,0.6s,mb4.4								
NVAR	**Mina Array Bea**	**84.17**	**44**	P		**P**		**02 38 25.1**	**+0.8**
	0.4nm,0.5s,mb3.2,baz=237,slow=8.7,SNR=4.9								
TXAR	**Lajitas Array**	**89.94**	**58**	P		**P**		**02 38 52.5**	**+0.7**
	0.5nm,0.7s,mb3.5,baz=202,slow=6.7,SNR=5.8								
ILAR	**Eielson Array**	**91.38**	**13**	P		**P**		**02 38 56.5**	**-1.1**
	0.3nm,0.6s,mb3.4,baz=224,slow=5.7,SNR=6.5								
PDAR	**Pinedale Array**	**92.11**	**44**	P		**P**		**02 39 01.5**	**0.0**
	0.3nm,0.5s,mb3.6,baz=225,slow=2.1,SNR=3.6								
MKAR	**Makanchi Array**	**111.86**	**313**	PKiKP				02 44 21.7	
	0.3nm,0.6s,baz=75,slow=0.8,SNR=4.3								
ARCES	**ARCESS Array B**	**131.31**	**348**	PKP		PKPdf		02 44 59.4	+0.5
	2.2nm,1.0s,baz=36,slow=1.6,SNR=10								
LSZ	**Lusaka**	**132.91**	**218**	PKP		PKPdf		02 45 04.2	+0.9
	0.4nm,0.4s,baz=154,slow=7.3,SNR=3.6								
NB2	**NORSAR Subarra**	**141.49**	**351**	PKPabc		PKPdf		02 45 13.4	-4.1
	0.5nm,0.6s,baz=16,slow=3.1								
AKASG	**Malin Array Be**	**144.54**	**328**	PKP		PKPdf		02 45 23.9	+0.7
	1.2nm,0.4s,baz=45,slow=4.1,SNR=14								
BRTR	**Keskin Array B**	**147.34**	**308**	PKPbc		PKPdf		02 45 32.8	+4.6
	0.6nm,0.7s,baz=145,slow=5.3,SNR=5.2								
TORD	**Torodi Ar. Bea**	**169.83**	**188**	PKP		PKPdf		02 45 54.7	+0.3
	0.9nm,1.1s,baz=270,slow=4.3,SNR=5.0								
TORD				PKPab		PKPab		02 47 12.8	-1.9
	1.5nm,0.8s,baz=160,slow=4.3,SNR=10								

JMA 05 02:53:44.2±0.1, 29.16N×130.79E, h30km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**1.05**	**311**	P		Pn	02 54 03.0	0.0
JAM	**Amami Oshima**	**1.28**	**235**	P		Pn	02 54 06.4	+0.1
JKC	**Kuchinoerabu**	**1.40**	**338**	P		Pn	02 54 08.0	0.0
JTN	**Tanegashima 3**	**1.50**	**6**	P		Pn	02 54 09.8	+0.3
JTSR	**Tashiro 2**	**2.00**	**3**	P		Pn	02 54 17.1	+0.4
JTSR				*eS*		Sn	02 54 41.9	+0.9
JNAR	**Kushima--Naru**	**2.40**	**10**	P		Pn	02 54 23.4	+1.1
JTZ	**Takazaki**	**2.74**	**5**	P		Pn	02 54 27.9	+0.6

*GUC **05** 02:55:47.3±0.9,29.57S×69.54W,h134km±17km,ML4.6*
*NEIC **05** 02:55:47.4±0.4,29.54S×69.27W,h99km±5km,mb4.3/3, Error ellipse: s-maj=8.4km s-min=5.8km az=89.0*
*IDC **05** 02:55:48.5±1.4,29.54S×69.28W,h109km±13km,mb4.1/11, mb1 4.0/15,mb1mx4.0/20,mbtmp4.3/15,Error ellipse: s-maj=21.0km s-min=12.6km az=72.0*
ISC 05 02:55:47.2±0.5, 29.59S±0.03×69.39W±0.06, h114km±6km, n49, σ0≟94/58, mb4.2/14, 7C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.36**	**245**	⇑*iP*		**P**	**02 56 14.2**	**+1.1**
TLL				*i* S		**S**	**02 56 34.0**	**+1.4**
TLL				AMP			02 56 36.3	
	comp=E,17μm,0.6s							
LSCH	**La Serena**	**1.65**	**258**	⇑*iP*		**P**	**02 56 16.2**	**-0.3**
LSCH				*i* S		**S**	**02 56 37.5**	**-1.0**
LSCH				AMP			02 56 39.1	
	comp=N,6μm,0.2s							
OVCH	**Ovalle**	**1.87**	**237**	⇑*iP*		**P**	**02 56 19.4**	**+0.2**
OVCH				*i* S		**S**	**02 56 43.2**	**-0.1**
OVCH				AMP			02 56 44.1	
	comp=E,6μm,0.4s							
CMCH	**Combarbala**	**2.11**	**221**	⇓*iP*		**P**	**02 56 22.2**	**0.0**
CMCH				*i* S		**S**	**02 56 49.0**	**+0.3**
CMCH				AMP			02 56 50.2	
	comp=E,15μm,0.7s							
CFAA	**Coronel Fontan**	**2.24**	**154**	P		**P**	**02 56 25.3**	**+1.2**
	comp=E,6.6nm,0.3s,baz=331,slow=13,SNR=555							
CFAA				S		**S**	**02 56 53.0**	**+1.2**
	comp=E,36nm,0.3s,baz=323,slow=16,SNR=31							
CFAA	**Coronel Fontan**	**2.24**	**154**	P		**P**	**02 56 25.3**	**+1.2**
CFAA				S		**S**	**02 56 53.0**	**+1.2**
ILCH	**Illapel**	**2.55**	**217**	⇓*iP*		**P**	**02 56 28.1**	**-0.1**
ILCH				*i* S		**S**	**02 56 59.0**	**-0.2**
ILCH				AMP			02 57 00.3	
	comp=E,2μm,0.3s							
CDCH	**Caldera**	**2.81**	**333**	⇑*iP*		**P**	**02 56 30.8**	**-0.9**
CDCH				AMP			02 57 10.6	
	comp=N,497nm,0.6s							
CHNG	**Los Chungos**	**2.92**	**218**	⇓*iP*		**P**	**02 56 32.6**	**-0.6**
CHNG				*i* S		**S**	**02 57 07.1**	**-0.8**
CHNG				AMP			02 57 14.3	
	comp=E,2μm,0.8s							
JACH	**Jahuel**	**3.25**	**198**	*eP*		**P**	**02 56 38.3**	**+0.6**
MDZ	**Mendoza**	**3.31**	**172**	*eP*		**P**	**02 56 41.0**	**+2.5**
ROCH	**El Roble**	**3.65**	**202**	*iP*		**P**	**02 56 42.1**	**-0.9**
PEL	**Peldehue**	**3.71**	**197**	⇓*iP*		**P**	**02 56 43.5**	**-0.4**
FCH	**Farellones**	**3.81**	**191**	⇑*iP*		**P**	**02 56 46.2**	**+1.1**
FCH				*i* S		**S**	**02 57 32.2**	**+2.8**
FSR	**Penalolen**	**4.00**	**194**	*eP*		**P**	**02 56 47.8**	**+0.1**
FSR				*eS*		**S**	**02 57 33.6**	**-0.3**
RCDM	**Rinconada Maip**	**4.07**	**197**	⇑*iP*		**P**	**02 56 48.2**	**-0.5**
RCDM				*eS*		**S**	**02 57 34.9**	**-0.9**
ANTU	**Antumapu**	**4.11**	**195**	*eP*		**P**	**02 56 49.1**	**-0.1**
ANTU				*i* S		**S**	**02 57 36.2**	**-0.4**
LMEL	**Las Melosas**	**4.30**	**189**	*eP*		**P**	**02 56 52.1**	**+0.2**
CHCH	**Chadas Angostu**	**4.46**	**194**	⇑*iP*		**P**	**02 56 53.0**	**-1.0**
CACH	**El Canelo**	**4.63**	**193**	*eP*		**P**	**02 56 55.9**	**-0.4**
CICH	**Cipreses**	**4.80**	**190**	*eP*		**P**	**02 56 58.1**	**-0.5**
TRQA	**Tornquist**	**10.45**	**146**	*ePn*		**P**	**02 58 13.9**	**-0.9**
	comp=E,7.9nm,0.5s							
TRQA				*eSn*		**S**	**03 00 09.4**	**-1.0**
CPUP	**Villa Florida**	**11.14**	**76**	*ePn*		**P**	**02 58 19.7**	**-4.4**
	comp=E,56nm,0.4s							
PLCA	**Paso Flores**	**11.16**	**185**	P		**P**	**02 58 23.7**	**-0.6**
	comp=E,0.1nm,0.3s,baz=332,slow=4.3,SNR=2.9							
ARE	**Arequipa**	**13.21**	**351**	*eP*		**P**	**02 58 52.0**	**+0.7**
LPAZ	**La Paz**	**13.29**	**5**	P		**P**	**02 58 50.9**	**-1.4**
	comp=E,0.3nm,0.3s,baz=207,slow=6.3,SNR=5.3							
LPAZ	**La Paz**	**13.29**	**5**	P		**P**	**02 58 50.9**	**-1.4**
SIV	**San Ignacio**	**15.54**	**31**	P		**P**	**02 59 18.8**	**-2.5**
	comp=E,0.2nm,0.3s,baz=214,slow=10,SNR=5.5							
SAML	**Samuel**	**21.34**	**17**	*eP*		**P**	**03 00 27.9**	**+1.3**
	comp=E,6.2nm,0.8s,mb4.0							
SAML				*ep*P			03 00 45.0	
BDFB	**Brasilia**	**24.07**	**59**	P		**P**	**03 00 52.8**	**-0.2**
	comp=E,4.3nm,0.4s,mb4.1,baz=240,slow=6.6,SNR=13							
ROSC	**El Rosal**	**34.58**	**351**	P		**P**	**03 02 27.6**	**+0.5**
	comp=E,3.4nm,0.5s,mb4.4,baz=99,slow=21,SNR=6.2							
JTS	**JuntasAbangare**	**42.39**	**337**	P		**P**	**03 03 33.3**	**+1.2**
	comp=E,4.7nm,0.5s,mb4.5,baz=128,slow=20,SNR=5.0							
SNAA	**Sanae**	**54.85**	**159**	P		**P**	**03 05 07.2**	**-0.2**
	comp=E,2.9nm,0.5s,mb4.5,baz=281,slow=8.5,SNR=66							
TXAR	**Lajitas Array**	**67.11**	**328**	P		**P**	**03 06 30.9**	**+0.2**
	comp=E,1.9nm,0.7s,mb4.0,baz=154,slow=8.4,SNR=20							
TXAR	**Lajitas Array**	**67.11**	**328**	P		**P**	**03 06 30.9**	**+0.2**
GDL2	**Guadalupe Moun**	**69.85**	**329**	*eP*		**P**	**03 06 45.6**	**-1.9**
MNTX	**Cornudas Mount**	**69.89**	**328**	*eP*		**P**	**03 06 47.1**	**-0.7**
	comp=E,3.9nm,0.8s,mb4.3							
DBIC	**Dimbokro**	**71.62**	**71**	P		**P**	**03 06 58.3**	**-0.2**
	comp=E,6.3nm,0.5s,mb4.7,baz=199,slow=6.1,SNR=26							
LAZ	**Ladron**	**72.95**	**328**	*eP*		**P**	**03 07 07.6**	**+1.6**
WUAZ	**Wupatki**	**75.88**	**326**	*eP*		**P**	**03 07 24.3**	**+1.6**
	comp=E,7.4nm,0.9s,mb4.4							
MAW	**Mawson**	**76.74**	**163**	P		**P**	**03 07 27.6**	**+0.6**
	comp=E,1.9nm,0.4s,mb4.2,baz=207,slow=6.8,SNR=5.9							
TORD	**Torodi Ar. Bea**	**80.56**	**69**	P		**P**	**03 07 48.7**	**-0.1**
	comp=E,9.3nm,0.6s,mb4.8,baz=280,slow=5.8,SNR=208							
PDAR	**Pinedale Array**	**80.92**	**331**	P		**P**	**03 07 50.5**	**+0.4**
	comp=E,1.2nm,0.7s,mb3.8,baz=128,slow=6.6,SNR=12							
NVAR	**Mina Array Bea**	**81.64**	**323**	P		**P**	**03 07 54.8**	**+0.8**
	comp=E,0.6nm,0.5s,mb3.6,baz=164,slow=6.1,SNR=9.7							
ULM	**Lac du Bonnet**	**82.89**	**343**	P		**P**	**03 07 59.6**	**-0.6**
	comp=E,2.3nm,0.8s,mb4.1,baz=153,slow=9.0,SNR=3.0							
WRA	**Warramunga Arr**	**125.70**	**208**	PKP		PKPdf		03 14 37.2	+1.3
	comp=E,1.0nm,0.4s,baz=156,slow=1.8,SNR=24								
ZAL	**Zalesovo**	**149.29**	**30**	PKPbc		PKPdf		03 15 23.9	+6.5
	comp=E,6.9nm,0.4s,baz=157,slow=2.3,SNR=20								
ZAL	**Zalesovo**	**149.29**	**30**	PKPbc		PKPdf		03 15 23.9	+6.5
MKAR	**Makanchi Array**	**152.10**	**44**	PKPbc		PKPdf		03 15 30.3	+8.4
	comp=E,2.4nm,0.7s,baz=298,slow=1.5,SNR=23								
MKAR				PKPab		PKPab		03 15 40.3	-0.7
	comp=E,3.8nm,0.7s,baz=293,slow=3.2,SNR=17								

*NNC **05** 02:56:09.3×7.9,41.95N×72.15E,h0km±84km,mpv3.4, Error ellipse: s-maj=117.3km s-min=18.0km az=19.0*
*KNET **05** 02:56:12.0,42.14N×72.51E,h9km,ml2.8*
ISC 05 02:56:11.0±1.2, 42.1N±0.1×72.27E±0.06, h10km, n12, σ1≟29/21, 14C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**1.06**	**85**	P		**Pb**	**02 56 29.1**	**-1.9**
	31nm,0.1s,SNR=80							
AML				⇑S		**Sb**	**02 56 42.9**	**-1.8**
	56nm,0.2s							
EKS2	**Erkin-Say**	**1.27**	**61**	⇑P		**Pb**	**02 56 32.4**	**-2.2**
	5.2nm,0.1s,SNR=9.7							
EKS2				⇑S		**Sb**	**02 56 48.8**	**-2.1**
	12nm,0.2s							
KK31	**Karatay Array**	**1.67**	**310**	⇓P		**Pn**	**02 56 39.9**	**-0.7**
	24nm,0.4s,baz=125,slow=14,SNR=532							
KK31				⇑S		**Sn**	**02 57 02.5**	**+0.2**
	8.8nm,0.2s,baz=129,slow=28,SNR=14							
UCH	**Uchtor**	**1.68**	**83**	⇑P		**Pn**	**02 56 40.2**	**-0.5**
	11nm,0.2s,SNR=52							
UCH				⇑S		**Sn**	**02 57 01.7**	**-0.6**
	177nm,0.3s							
AAK	**Ala-Archa**	**1.75**	**70**	⇓P		**Pn**	**02 56 41.2**	**-0.4**
	7.3nm,0.2s,SNR=9.1							
AAK				⇑S		**Sn**	**02 57 04.4**	**+0.3**
	34nm,0.4s							
USP	**Ospenovka**	**2.04**	**53**	⇑P		**Pn**	**02 56 45.5**	**-0.4**
	8.2nm,0.2s,SNR=8.0							
USP				⇓S		**Sn**	**02 57 12.6**	**+0.9**
	38nm,0.2s							
CHMS	**Chumysh**	**2.06**	**62**	⇑P		**Pn**	**02 56 46.9**	**+0.7**
	13nm,0.3s,SNR=7.3							
CHMS				⇑S		**Sn**	**02 57 13.2**	**+1.0**
	15nm,0.2s							
KBK	**Karagaybulak**	**2.07**	**72**	⇓P		**Pn**	**02 56 47.2**	**+0.9**
	10nm,0.2s,SNR=13							
KZA	**Kyzart**	**2.22**	**88**	⇓P		**Pn**	**02 56 49.7**	**+1.3**
	18nm,0.2s,SNR=16							
KZA				⇑S		**Sn**	**02 57 18.7**	**+2.6**
	88nm,0.3s							
TKM2	**Tokmak 2**	**2.61**	**69**	⇑P		**Pn**	**02 56 55.0**	**+1.0**
	6.6nm,0.2s,SNR=13							
TKM2	**Tokmak 2**	**2.61**	**69**	⇑P		**Pn**	**02 56 55.1**	**+1.1**
	7.0nm,0.6s							
TKM2				⇑S		**Sn**	**02 57 29.2**	**+3.2**
	20nm,0.5s							
AB31	**Akbulak array**	**11.23**	**314**	Pn		**P**	**02 58 48.9**	**-5.8**
	0.2nm,0.4s,baz=118,slow=14,SNR=4.9							

*ATH **05** 03:09:18.3,39.98N×23.85E,h12km±2km, MD2.9/4*
*THE **05** 03:09:18.6,39.95N×23.90E,h2km, ML2.5*
*CSEM **05** 03:09:18.5±0.1,39.95N×23.90E,h15km,ML2.5,Error ellipse: s-maj=2.9km s-min=2.1km az=87.0*
ISC 05 03:09:17.9±0.6, 39.97N±0.03×23.86E±0.06, h14km±6km, n12, σ0≟69/17, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.14**	**254**	*ePg*		**Pg**	**03 09 21.6**	**0.0**
PAIG				*eSg*		**Sg**	**03 09 24.6**	**+0.5**
OUR	**Ouranopolis**	**0.38**	**15**	*ePg*		**Pg**	**03 09 26.4**	**+0.6**
PLG	**Polygyros**	**0.51**	**322**	*ePB*		**Pb**	**03 09 27.7**	**-0.5**
PLG				*eSB*		**Sb**	**03 09 34.4**	**-0.8**
XOR	**Xorichti**	**0.79**	**221**	*ePg*		**Pg**	**03 09 34.1**	**+0.3**
AOS	**Alonnisos**	**0.80**	**179**	*ePg*		**Pg**	**03 09 33.1**	**-0.9**
AOS				*eSg*		**Sg**	**03 09 44.9**	**+0.2**
NEO	**Neokhori**	**0.82**	**217**	*ePB*		**Pb**	**03 09 34.0**	**+0.6**
SOH	**Sokhos**	**0.94**	**336**	*ePg*		**Pg**	**03 09 36.7**	**0.0**
LOS	**Limnos**	**0.94**	**92**	*ePg*		**Pg**	**03 09 35.4**	**-1.4**
LIA	**Limnos Island**	**1.02**	**93**	*ePB*		**Pb**	**03 09 37.8**	**+1.0**
SRS	**Serrai**	**1.17**	**350**	*ePg*		**Pg**	**03 09 41.0**	**-0.3**
SRS				*eSg*		**Sg**	**03 09 57.6**	**+0.7**
NVR	**Nevrokopi**	**1.38**	**0**	*ePB*		**Pb**	**03 09 44.1**	**+1.1**
KNT	**Kendrikon**	**1.40**	**329**	*ePg*		**Pg**	**03 09 44.9**	**-1.0**
KNT				*eSg*		**Sg**	**03 10 04.5**	**-0.1**

IDC 05 03:37:20.5±2.7, 16.76S×174.94W, h145km±23km, mb3.4/4, mb1 3.8/5, mb1mx3.6/14, mbtmp4.0/5, Error ellipse: s-maj=118.9km s-min=18.8km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.16**	**47**	P		P	03 38 24.7	+1.1
	57nm,0.3s,baz=171,slow=1.8,SNR=17							
AFI				S		S	03 39 10.9	-1.3
	67nm,0.3s,baz=44,slow=22,SNR=12							
STKA	**Stephens Creek**	**42.08**	**241**	P		P	03 44 57.9	-1.8
	1.3nm,0.3s,baz=71,slow=11,SNR=8.2							
WRA	**Warrarunga Arr**	**48.11**	**258**	P		P	03 45 45.6	-2.1
	0.6nm,0.6s,baz=93,slow=8.3,SNR=5.6							
NVAR	**Mina Array Bea**	**76.32**	**42**	P		P	03 48 53.6	-1.6
	0.6nm,0.8s,baz=218,slow=10,SNR=4.4							
ILAR	**Eielson Array**	**84.06**	**12**	P		P	03 49 34.8	-0.8
	0.4nm,0.5s,baz=224,slow=5.4,SNR=12							

*NNC **05** 04:21:34.8±3.0,42.14N×72.49E,h5km±32km,mpv3.0, Error ellipse: s-maj=66.2km s-min=7.7km az=11.0*
*KNET **05** 04:21:35.3,42.20N×72.77E,h11km,ml2.3*
ISC 05 04:21:34.5±1.0, 42.15N±0.09×72.58E±0.05, h10km, n11, σ1≟21/22, 12C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.83**	**91**	⇑P		**Pb**	**04 21 49.0**	**-1.6**
	12nm,0.1s,SNR=39							
AML				⇑S		**Sb**	**04 21 59.8**	**-1.8**
	49nm,0.1s							
EKS2	**Erkin-Say**	**1.03**	**60**	P		**Pb**	**04 21 52.2**	**-1.6**
	7.4nm,0.2s,SNR=31							
EKS2				⇓S		**Sb**	**04 22 06.1**	**-1.1**
	15nm,0.2s							
UCH	**Uchtor**	**1.44**	**86**	⇑P		**Pn**	**04 21 59.9**	**-0.9**
	4.5nm,0.1s,SNR=7.5							
UCH				⇓S		**Sb**	**04 22 19.0**	**-0.4**
	14nm,0.1s							
AAK	**Ala-Archa**	**1.50**	**71**	⇑P		**Pn**	**04 22 00.9**	**-0.8**
	4.5nm,0.1s,SNR=17							
AAK				⇓S		**Sb**	**04 22 20.4**	**-0.6**
	9.1nm,0.2s							
KK31	**Karatay Array**	**1.80**	**303**	⇑P		**Pn**	**04 22 05.6**	**-0.2**
	6.6nm,0.4s,baz=116,slow=17,SNR=74							
KK31				⇑S		**Sn**	**04 22 28.9**	**0.0**
	12nm,0.2s,baz=125,slow=27,SNR=20							
USP	**Ospenovka**	**1.81**	**51**	⇓P		**Pn**	**04 22 05.9**	**-0.1**
	13nm,0.3s,SNR=7.5							
USP				⇑S		**Sn**	**04 22 29.6**	**+0.5**
	42nm,0.2s							
CHMS	**Chumysh**	**1.82**	**61**	⇓P		**Pn**	**04 22 06.1**	**0.0**
	3.5nm,0.1s,SNR=5.7							
CHMS				⇑S		**Sn**	**04 22 30.0**	**+0.6**
	18nm,0.2s							
KBK	**Karagaybulak**	**1.83**	**73**	⇓P		**Pn**	**04 22 07.0**	**+0.7**
	8.2nm,0.1s							
KBK				⇓S		**Sn**	**04 22 31.8**	**+2.1**
	28nm,0.2s							
KZA	**Kyzart**	**1.99**	**91**	P		**Pn**	**04 22 10.4**	**+1.7**
	8.3nm,0.2s,SNR=7.4							
KZA				⇓S		**Sn**	**04 22 36.5**	**+2.7**
	24nm,0.2s							
TKM2	**Tokmak 2**	**2.36**	**70**	⇑P		**Pn**	**04 22 15.2**	**+1.3**
	3.8nm,0.1s,SNR=7.9							
TKM2				⇑S		**Sn**	**04 22 47.0**	**+3.8**
	20nm,0.1s							
TKM2	**Tokmak 2**	**2.36**	**70**	⇑P		**Pn**	**04 22 15.2**	**+1.3**
	5.5nm,0.6s							
TKM2				⇑S		**Sn**	**04 22 46.6**	**+3.3**
	6.7nm,0.3s							

*BJI **05** 04:46:46.9,3.35N×95.27E,h36km,mB5.1,mb5.2,Ms4.7, Msz4.4*
*MOS **05** 04:46:46.8±1.4,3.48N×95.20E,h33km,mb5.5/59,Error ellipse: s-maj=10.2km s-min=5.5km az=117.6*
*HRVD **05** 04:46:48.9±0.4,3.29N×95.19E,h24km±1km,MW5.0/67, Centroid moment Tensor Solution. LP body waves: s37,c52;Mantle waves: s67,c110; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.89±.17; Mθθ0.09±.13; Mφφ0.80±.15; Mrθ0.99±.20; Mφθ-4.12±.12; Mφr-1.03±.23; Best double couple: M0 4.311×10^16^ NP1: φs183°, δ80°, λ9°. NP2:φs92°, δ81°, λ170°. Principal axes: T 4.931, Plg14°, Azm47°; N -1.24, Plg76°, Azm231°; P -3.691, Plg1°, Azm138°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **05** 04:46:48.4±0.5,3.37N×95.09E,h32km±2km,mb4.3/16, mb1 4.4/17,mb1mx4.4/20,mbtmp4.5/17,ML4.5/1,MS4.1/15, Ms1 4.1/15,ms1mx3.9/28 Error ellipse: s-maj=16.4km s-min=13.1km az=53.0*
*NEIC **05** 04:46:48.9±0.3,3.40N×95.27E,mb5.2/50,Error ellipse: s-maj=10.7km s-min=5.8km az=71.0*
ISC 05 04:46:46.7±0.2, 3.41N±0.03×95.22E±0.03, h32km, h32km±.4km: pP-P, n281, σ1≟24/209, mb5.1/108, MS4.3/36, 14C-20D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.75**	**99**	Pn		**Pn**	**04 47 46.6**	**+2.7**
	32nm,0.3s,baz=274,slow=9.0,SNR=137							
PSI				Sn		**Sn**	**04 48 27.4**	**-0.1**
	18nm,0.3s,baz=335,slow=15,SNR=5.9							
KULM	**Kulim**	**5.73**	**71**	*ePn*		**Pn**	**04 48 13.7**	**+1.8**
KULM				*eSn*		**Sn**	**04 49 14.0**	**-3.4**
IPM	**Ipoh**	**5.89**	**79**	P		**Pn**	**04 48 16.4**	**+2.2**
KGM	**Kluang**	**8.21**	**100**	P		**P**	**04 48 48.2**	**+1.5**
PBA	**Port Blair**	**8.55**	**343**	*ex*		x	04 51 28.3	
KSM	**Kuching**	**15.20**	**97**	*ePn*		**P**	**04 50 27.0**	**+5.9**
VIS	**Vishakhapatnam**	**18.39**	**321**	*eP*		**P**	**04 51 01.1**	**-0.3**
VIS				AMb		AMB	04 51 02.6	
	comp=Z,57nm,0.8s							
VIS				*ex*		**S**	**04 54 08.5**	**-14**
SALM	**Salem**	**18.74**	**297**	*eP*		**P**	**04 51 08.0**	**+2.4**
SALM				*ex*		**S**	**04 54 18.0**	**-12**
KKM	**Kota Kinabalu**	**21.08**	**82**	P		**P**	**04 51 32.5**	**+1.4**
KKM	**Kota Kinabalu**	**21.08**	**82**	*eP*		**P**	**04 51 30.1**	**-1.0**
KKM				*ep*P			04 51 40.5	
QIZ	**Qiongzhong**	**21.10**	**42**	P		**P**	**04 51 31.8**	**+0.6**
QIZ				S		**S**	**04 55 23.3**	**+3.9**
QIZ				AMB		AMB		
	comp=Z,410nm,5.5s							
QIZ				LR		LR		
	comp=E,1μm,16.0s							
QIZ				LR		LR		
	comp=Z,1μm,17.0s,MS4.4							
IMP	**Imphal**	**21.29**	**357**	*eP*		**P**	**04 51 31.0**	**-2.0**
IMP				*ex*		**S**	**04 55 24.0**	**+1.2**
HYB	**Hyderabad**	**21.47**	**312**	*i* P		**P**	**04 51 35.0**	**+0.1**
	comp=Z,80nm,1.0s,mb5.0							
HYB				*es*P			04 51 51.0	
HYB				*e*			04 55 16.0	
HYB				*eS*		**S**	**04 55 36.0**	**+10**
HYB	**Hyderabad**	**21.47**	**312**	*eP*		**P**	**04 51 35.0**	**+0.1**
HYB				*e*			04 51 44.0	
HYB				*eS*		**S**	**04 55 36.0**	**+10**
HYB				pmax		pmax		
	comp=Z,80nm,1.0s,mb5.0							
HYB	**Hyderabad**	**21.47**	**312**	*eP*		**P**	**04 51 35.0**	**+0.1**
	comp=Z,80nm,1.0s,mb5.0							
HYB				*e*			04 51 44.0	
HYB				*eS*		**S**	**04 55 36.0**	**+10**
BOK	**Bokaro**	**22.18**	**337**	*eP*		**P**	**04 51 42.6**	**+0.6**
BOK				*ex*		x	04 51 52.6	
BOK				AMb		AMB	04 51 53.6	
	comp=Z,331nm,0.8s,mb5.8							
BOK				*ex*		x	04 55 30.5	
SHL	**Shillong**	**22.26**	**352**	*eP*		**P**	**04 51 39.5**	**-3.3**
SHL				*ex*		**S**	**04 55 38.5**	**-2.3**
TSM	**Tawau**	**22.62**	**87**	P		**P**	**04 51 47.2**	**+0.7**
KMI	**Kunming**	**22.77**	**18**	P		**P**	**04 51 49.7**	**+1.8**
KMI				AP			04 51 59.9	
KMI				XP			04 52 04.1	
KMI				AMB		AMB		
	comp=Z,60nm,0.9s,mb5.0							
KMI				AMB		AMB		
	comp=Z,280nm,3.8s							
KMI				LR		LR		
	comp=N,1μm,14.3s,MS4.6							
KMI				LR		LR		
	comp=E,560nm,13.8s,MS4.6							
KMI				LR		LR		
	comp=Z,1μm,14.7s,MS4.5							
LATR	**Latur**	**23.58**	**311**	*eS*		**S**	**04 56 13.0**	**+8.6**
KAD	**Karad**	**24.83**	**305**	*eP*		**P**	**04 52 09.3**	**+1.3**
KAD				AMb		AMB	04 52 23.1	
	comp=Z,59nm,1.7s,mb4.8							
KAD				*ex*		**S**	**04 56 39.4**	**+14**
JIRN	**Jiri**	**25.61**	**341**	*eP*		**P**	**04 52 16.1**	**+0.9**
	comp=Z,216nm,1.1s,mb5.6							
PKI	**Pulchoki**	**25

GTA LR LR
comp=Z,470nm,19.0s,MS4.3
NJ2 Nanjing 36.12 35 *e*P **P** **04 53 47.0 -1.0**
NJ2 AP pP 04 53 56.1 -1.3
NJ2 XP sP 04 54 01.8 +0.4
NJ2 PP PP 04 55 10.3 -0.4
NJ2 S **S** **04 59 24.0 -0.8**
NJ2 XS 04 59 38.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,450nm,4.2s
NJ2 LR LR
comp=N,930nm,16.8s,MS4.8
NJ2 LR LR
comp=E,1μm,16.4s,MS4.8
NJ2 LR LR
comp=Z,540nm,14.8s,MS4.5
FITZ Fitzroy Crossi 36.82 127 *e*P **P** **04 53 52.4 -1.7**
comp=Z,32nm,0.9s,mb5.2
SSE Sheshan 36.84 39 *e*P **P** **04 53 52.4 -1.7**
SSE AP pP 04 54 01.9 -1.7
SSE XP sP 04 54 05.1 -2.5
SSE PP PP 04 55 14.9 -5.2
SSE PCP PcP 04 56 15.5 -0.5
SSE S **S** **04 59 33.7 -2.2**
SSE XS 04 59 50.5
SSE SCS ScS 05 04 07.8 +3.0
SSE AMB AMB
comp=Z,30nm,0.4s,mb5.5
SSE AMB AMB
comp=Z,270nm,6.4s
SSE LR LR
comp=N,350nm,22.8s,MS4.1
SSE LR LR
comp=E,150nm,22.9s,MS4.1
SSE LR LR
comp=Z,190nm,16.8s
JOW Kunigami 39.27 50 P **P** **04 54 15.9 +1.4**
comp=Z,31nm,0.4s,mb5.4,baz=225,slow=5.7,SNR=4.5
BTO Baotou 39.36 18 *e*P **P** **04 54 15.6 +0.4**
BTO AMB AMB
comp=Z,40nm,0.9s,mb5.2
HHC Hu-ho-hao-te 40.08 19 ⇑P **P** **04 54 22.4 +1.4**
HHC AP pP 04 54 32.3 +1.8
HHC XP sP 04 54 36.5 +2.0
HHC PP PP 04 56 00.5 +3.6
HHC S **S** **05 00 25.8 +1.0**
HHC XS 05 00 42.4
HHC SS SS 05 03 16.3 -0.5
HHC SCS ScS 05 04 26.0 +2.8
HHC AMB AMB
comp=Z,70nm,1.0s,mb5.3
HHC AMB AMB
comp=Z,250nm,3.8s
HHC LR LR
comp=N,510nm,19.0s,MS4.9
HHC LR LR
comp=E,1μm,16.7s,MS4.9
HHC LR LR
comp=Z,900nm,15.5s,MS4.7
KAKA Kakadu 40.29 114 ⇓*i*P Px 04 54 43.1
comp=Z,19nm,0.9s
MUN Mundaring 40.45 152 *e*P **P** **04 54 24.9 +0.7**
WMQ Urumqi 40.79 352 P **P** **04 54 28.0 +1.1**
WMQ AP pP 04 54 38.0 +1.7
WMQ XP sP 04 54 42.0 +1.7
WMQ PP PP 04 56 06.0 +2.0
WMQ PCP PcP 04 56 29.3 +1.1
WMQ S **S** **05 00 36.5 +1.1**
WMQ SS SS 05 03 33.4 +1.2
WMQ SCS ScS 05 04 28.4 +1.0
WMQ AMB AMB
comp=Z,30nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,170nm,4.8s
WMQ LR LR
comp=N,2μm,21.4s,MS5.2
WMQ LR LR
comp=E,2μm,20.0s,MS5.2
WMQ LR LR
comp=Z,2μm,22.0s,MS5.0
NWAO Narrogin (SRO) 41.72 152 P **P** **04 54 34.3 -0.4**
comp=Z,40nm,1.1s,mb5.0,baz=317,slow=11,SNR=4.2
ULHL Ulahol 42.22 339 P pP 04 54 49.3 +1.1
SNR=7.5
KZA Kyzart 42.44 338 P **P** **04 54 41.8 +1.3**
SNR=5.7
DL2 Dalian 42.73 31 P **P** **04 54 44.4 +1.5**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
UCH Uchtor 42.85 337 P **P** **04 54 45.0 +1.1**
SNR=20
TKM2 Tokmak 2 43.05 339 P **P** **04 54 46.6 +1.2**
SNR=8.3
KBK Karagaybulak 43.05 338 P **P** **04 54 46.6 +1.2**
SNR=16
AML Almayashu 43.09 336 P **P** **04 54 47.1 +1.4**
SNR=10
AAK Ala-Archa 43.21 338 P **P** **04 54 48.9 +2.2**
SNR=9.0
AAK Ala-Archa 43.21 338 *e*P **P** **04 54 46.9 +0.2**
AAK pmax pmax
comp=Z,11nm,1.3s,mb4.4
FRU Bishkek 43.33 338 *e*P **P** **04 54 51.0 +3.3**
FRU *i* pP 04 55 00.0 +2.8
FRU pmax pmax
comp=Z,120nm,1.9s,mb5.3
FRU MLR MLR
comp=Z,500nm,20.0s,MS4.4
CHMS Chumysh 43.42 338 P pP 04 54 58.8 +0.9
SNR=7.3
EKS2 Erkin-Say 43.51 337 P **P** **04 54 50.3 +1.2**
SNR=9.9
USP Ospenovka 43.75 338 P **P** **04 54 51.7 +0.6**
SNR=18
MKAR Makanchi Array 44.65 347 P **P** **04 54 58.4 +0.1**
comp=Z,6.0nm,0.4s,mb4.8,baz=162,slow=8.3,SNR=105
MKAR pP pP 04 55 08.6 +0.7
comp=Z,74nm,0.9s,baz=168,slow=7.4,SNR=43
MKAR LR LR 05 17 12.9
comp=Z,169nm,20.7s,MS4.0,baz=11,slow=41
MKAR Makanchi Array 44.65 347 *e*P **P** **04 54 58.4 +0.1**
MKAR pmax pmax
comp=Z,55nm,0.8s
MKAR Makanchi Array 44.65 347 P **P** **04 54 58.4 +0.1**
MKAR pP pP 04 55 08.6 +0.7
MKAR LR LR 05 17 12.9
WRA Warramunga Arr 44.88 123 P **P** **04 55 00.0 -0.6**
comp=Z,56nm,0.9s,mb5.4,baz=301,slow=9.0,SNR=122
WRA Warramunga Arr 44.88 123 *i* P **P** **04 55 00.0 -0.6**
WRA pmax pmax
comp=Z,56nm,1.0s
WRAB Tennant Creek 44.89 123 *d i*P **P** **04 54 59.9 -0.7**
WB2 Warramunga Arr 44.89 123 ⇓*i*P **P** **04 55 00.0 -0.6**
KS15 Wonju Array Si 45.20 37 *e*P **P** **04 55 02.7 -0.1**
KS15 *e*pP pP 04 55 13.2 +0.9
KKAR Karatay Array 45.22 334 *i* P **P** **04 55 02.6 -0.3**
KKAR pmax pmax
comp=Z,60nm,1.0s,mb5.4
SONM Songino Array 45.29 11 P **P** **04 55 03.4 0.0**
comp=Z,31nm,0.9s,mb5.2,baz=190,slow=8.3,SNR=161
SONM PP PP 04 56 48.7 -1.3
comp=Z,1.9nm,0.8s,baz=193,slow=9.8,SNR=2.4
ULN Ulaanbaatar 45.45 11 *e*P **P** **04 55 04.6 0.0**
ULN *e**PP pP 04 55 13.2 -0.9
ULN *e* 04 56 51.5
ULN pmax pmax
comp=Z,19nm,0.9s,mb4.9
ULN Ulaanbaatar 45.45 11 *e*P **P** **04 55 04.6 0.0**
comp=Z,19nm,0.9s,mb4.9
ULN *e*pP pP 04 55 13.2 -0.9
ULN *e*PP PP 04 56 51.5 0.0
SNY Shenyang 45.91 30 ⇑*i*P **P** **04 55 08.6 +0.2**
SNY AMB AMB
comp=Z,40nm,0.9s,mb5.3
SNY AMB AMB
comp=Z,250nm,4.7s
SNY LR LR
comp=N,1μm,16.7s
SNY LR LR
comp=Z,600nm,14.2s,MS4.7
FORT Forrest 46.23 140 *e*P **P** **04 55 11.1 0.0**
comp=Z,75nm,0.7s,mb5.7
ZAK Zakamensk 47.30 7 *e*P **P** **04 55 18.5 -0.8**
ZAK *e* 04 57 01.6
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ZAK pmax pmax
comp=Z,2.0nm,1.0s
CN2 Changchun 48.30 29 *e*P **P** **04 55 27.2 +0.1**
CN2 AMB AMB
comp=Z,40nm,0.7s,mb5.6
KURK Kurchatov 49.17 346 *e*P **P** **04 55 34.1 +0.3**
GUMO Guam 50.04 75 LR LR 05 13 37.3
comp=Z,127nm,21.6s,MS3.9,baz=260,slow=32
HIA Hailar 50.24 21 *e*P **P** **04 55 42.2 +0.2**
HIA *e**PP pP 04 55 52.2 +0.5
HIA pmax pmax
comp=Z,43nm,0.8s
HIA Hailar 50.24 21 *e*P **P** **04 55 42.2 +0.2**
comp=Z,43nm,0.8s,mb5.5
HIA *e*pP pP 04 55 52.2 +0.6
MDJ Mudanjiang 50.96 31 P **P** **04 55 48.9 +1.4**
MDJ AP pP 04 55 57.8 +0.6
MDJ XP sP 04 56 01.5 +0.5
MDJ PCP PcP 04 57 01.3 -2.4
MDJ PP PP 04 57 46.7 +1.9
MDJ S **S** **05 03 05.5 +4.7**
MDJ SCS ScS 05 05 34.9 +2.4
MDJ AMB AMB
comp=Z,20nm,1.6s,mb4.8
MDJ AMB AMB
comp=Z,190nm,3.5s
MDJ LR LR
comp=N,180nm,25.5s,MS4.1
MDJ LR LR
comp=E,160nm,24.9s,MS4.1
MDJ LR LR
comp=Z,190nm,22.6s,MS4.1
MDJ Mudanjiang 50.96 31 *e*P **P** **04 55 47.0 -0.5**
MAJO Matsushiro 51.46 45 *e*P **P** **04 55 52.6 +1.2**
MAJO pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
MAJO Matsushiro 51.46 45 *e*P **P** **04 55 52.5 +1.1**
comp=Z,7.2nm,0.6s,mb4.8
MJAR Matsushiro Arr 51.46 45 P **P** **04 55 52.4 +0.9**
comp=Z,4.0nm,0.6s,mb4.5,baz=236,slow=8.8,SNR=10
MJAR LR LR 05 19 48.0
comp=Z,362nm,18.8s,MS4.4,baz=250,slow=38
QRN Al-Qurain 51.48 304 *e*P pP 04 56 00.4 -1.0
QRN AMb AMB 04 56 03.0
comp=Z,114nm,0.9s,mb5.8
KBD Kabd 51.82 305 *e*P pP 04 56 03.5 -0.4
KBD AMb AMB 04 56 05.7
comp=Z,300nm,0.9s,mb6.2
RDF Al-Radifah 51.85 305 *e*P pP 04 56 04.1 -0.1
RDF AMb AMB 04 56 06.0
comp=Z,194nm,0.8s,mb6.1
UMR Umm Al-Rimmam 51.93 305 *e*P pP 04 56 04.7 -0.1
UMR AMb AMB 04 56 06.3
comp=Z,99nm,0.9s,mb5.7
OPO Ambohidratompo 52.08 243 P **P** **04 55 55.4 -1.0**
comp=Z,1.6nm,0.7s,baz=45,slow=4.3,SNR=2.7
OPO *e*pP pP 04 56 05.4 -0.7
comp=Z,13nm,1.0s,baz=66,slow=9.1,SNR=11
NVS Novosibirsk 52.19 351 *e*P **P** **04 55 55.0 -1.7**
NVS *i* pP 04 56 04.8 -1.6
NVS *e*S **S** **05 03 14.7 -2.9**
NVS pmax pmax
comp=Z,18nm,1.0s,mb5.0
NVS pmax pmax
comp=N,19nm,1.2s
NVS smax
comp=N,72nm,2.1s
NVS smax
comp=E,44nm,2.1s
MIB Mutribah 52.33 305 *e*P pP 04 56 07.4 -0.4
MIB AMb AMB 04 56 09.6
comp=Z,278nm,0.7s
VOSK Vostochnaya 53.09 342 P **P** **04 56 02.2 -1.2**
VOSK pmax pmax
comp=Z,33nm,1.2s,mb5.1
PMG Port Moresby 53.30 104 *e*P **P** **04 56 04.9 -0.6**
PMG *e**PP pP 04 56 15.3 +0.1
PMG pmax pmax
comp=Z,5.0nm,0.6s
PMG Port Moresby 53.30 104 *e*P **P** **04 56 04.9 -0.6**
comp=Z,5.0nm,0.6s,mb4.6
PMG *e*pP pP 04 56 15.3 +0.1
BVA0 Borovoye Array 53.53 342 *i* P **P** **04 56 05.4 -1.3**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRVK Borovoye 53.59 342 P **P** **04 56 05.8 -1.3**
BRVK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CHKZ Chkalovo 54.02 342 *e*P **P** **04 56 09.7 -0.5**
CHKZ *e**PP pP 04 56 19.5 -0.4
CHKZ pmax pmax
comp=Z,46nm,1.0s,mb5.4
CHKZ Chkalovo 54.02 342 *e*P **P** **04 56 09.7 -0.5**
comp=Z,46nm,1.0s,mb5.4
CHKZ *e*pP pP 04 56 19.5 -0.4
AB31 Akbulak array 54.65 332 *i* P **P** **04 56 14.0 -0.9**
AB31 pmax pmax
comp=Z,18nm,0.9s,mb5.1
KLR Kul'dur 55.22 28 *e*P **P** **04 56 16.2 -2.9**
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,72nm,2.0s,mb5.4
CTA Charters Tower 55.26 117 *e*P **P** **04 56 19.4 -0.4**
comp=Z,22nm,0.9s,mb5.2
CTA Charters Tower 55.26 117 LR LR 05 21 43.9
comp=Z,361nm,20.2s,MS4.4,baz=143,slow=38
CTA Charters Tower 55.26 117 *e*P **P** **04 56 19.4 -0.4**
CTA pmax pmax
comp=Z,22nm,0.9s
CTAO Charters Tower 55.26 117 *e*P **P** **04 56 19.5 -0.3**
CTAO *e**PP pP 04 56 30.3 +0.8
CTAO pmax pmax
comp=Z,65nm,1.2s,mb5.5
CTAO Charters Tower 55.26 117 *e*P **P** **04 56 19.5 -0.3**
comp=Z,65nm,1.2s,mb5.5
CTAO *e*pP pP 04 56 30.2 +0.8
BOD Bodaibo 56.24 12 *e*P **P** **04 56 23.9 -2.4**
BOD *e* pP 04 56 35.4 -0.6
BOD pmax pmax
comp=Z,22nm,1.3s,mb5.0
BOD pmax pmax
comp=Z,14nm,1.5s,mb4.8
STKA Stephens Creek 56.30 132 ⇓*i*P **P** **04 56 25.9 -1.2**
comp=Z,15nm,0.9s,mb5.0
STKA Stephens Creek 56.30 132 P **P** **04 56 26.2 -0.9**
comp=Z,26nm,1.1s,mb5.2,baz=312,slow=6.5,SNR=22
STKA LR LR 05 20 43.3
comp=Z,151nm,21.5s,MS4.0,baz=112,slow=36
STKA Stephens Creek 56.30 132 *e*P **P** **04 56 26.0 -1.1**
AKTO Aktyubinsk 56.37 332 P **P** **04 56 25.9 -1.4**
AKTO pmax pmax
comp=Z,26nm,1.6s,mb5.0
KMBO Kilima Mbogo 58.12 267 LR LR 05 19 35.1
comp=Z,199nm,18.2s,MS4.3,baz=94,slow=34
GNI Garni 58.34 316 *e*P **P** **04 56 39.5 -1.9**
GNI pmax pmax
comp=Z,8.0nm,1.3s
YSS Yuzh-Sakhalins 59.69 36 *e*P **P** **04 56 49.7 -0.9**
YSS pmax pmax
comp=Z,119nm,1.7s,mb5.7
YSS MLR MLR
comp=Z,200nm,19.0s,MS4.3
ARU Arti 60.39 338 ⇓*i*P **P** **04 56 54.1 -1.3**
ARU *e* 04 57 36.6
ARU *e* 04 59 05.4
ARU *e*S **S** **05 05 09.3 +3.0**
ARU *e*SS SS 05 09 08.8 +3.4
ARU pmax pmax
comp=Z,46nm,1.1s,mb5.4
ARU MLR MLR
comp=N,200nm,21.0s,MS4.4
ARU MLR MLR
comp=E,200nm,21.0s,MS4.4
ARU MLR MLR
comp=Z,200nm,21.0s,MS4.2
KIV Kislovodsk 61.35 319 *e*P **P** **04 57 04.3 +2.3**
KIV pmax pmax
comp=Z,30nm,1.0s,mb5.4
KIV MLR MLR
comp=Z,108nm,18.0s,MS4.0
SOC Sochi 63.16 318 *e*P pP 04 57 22.3 -1.7
SOC *e*S **S** **05 05 53.8 +12**
SOC pmax pmax
comp=Z,26nm,0.8s,mb5.4
SOC MLR MLR
comp=Z,244nm,25.0s,MS4.3
SOKR Solikamsk 63.32 339 *d i*P **P** **04 57 14.6 -0.3**
SOKR *e* pP 04 57 24.3 -0.5
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
SOKR MLR MLR
comp=Z,180nm,19.0s,MS4.3
ARMA Armidale 63.43 126 *e*P **P** **04 57 17.2 +1.2**
YAK Yakutsk 63.88 17 *e*P **P** **04 57 16.3 -2.3**
YAK *e* pP 04 57 26.0 -2.4
YAK pmax pmax
comp=Z,25nm,1.0s,mb5.2
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,21nm,0.9s,mb5.2
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
ANN Anapa 65.14 318 *e*P **P** **04 57 16.3 -11**
ANN pmax pmax
comp=Z,17nm,0.9s,mb5.1
HNR Honiara 65.74 102 *e*P **P** **04 57 29.7 -1.7**
HNR pmax pmax
comp=Z,167nm,0.8s,mb6.1
HNR Honiara 65.74 102 *e*P **P** **04 57 29.7 -1.7**
comp=Z,167nm,0.8s,mb6.1
BR131 Keskin Array S 66.17 312 *e*P pP 04 57 41.3 -2.3
comp=Z,11nm,1.0s
BRTR Keskin Array B 66.17 312 P **P** **04 57 33.1 -0.6**
comp=Z,2.0nm,1.1s,mb4.1,baz=108,slow=3.9,SNR=7.1
BRTR pP pP 04 57 42.0 -1.6
comp=Z,10nm,1.1s,baz=129,slow=7.4,SNR=24
SIM Simferopol' 67.41 318 *e*P pP 04 57 49.9 -1.5
SIM pmax pmax
comp=Z,38nm,1.0s,mb5.4
ISP Isparta 68.06 309 *e*P **P** **04 57 45.3 -0.4**
ISP Isparta 68.06 309 *e*P pP 04 57 55.5 -0.1
comp=Z,18nm,1.0s
LSZ Lusaka 68.87 252 *e*P **P** **04 57 51.9 +0.8**
LSZ *e**PP pP 04 58 00.0 -0.9
LSZ pmax pmax
comp=Z,71nm,1.2s,mb5.5
LSZ Lusaka 68.87 252 *e*P **P** **04 57 51.9 +0.8**
comp=Z,71nm,1.2s,mb5.5
LSZ *e*pP pP 04 58 00.0 -0.9
MOS Moscow 69.43 329 *e*P pP 04 58 02.3 -1.4
MOS pmax pmax
comp=Z,119nm,1.4s,mb5.6
OBN Obninsk 69.71 328 *d i*P **P** **04 57 54.3 -1.2**
OBN *i* pP 04 58 04.3 -1.1
OBN *i* 04 58 14.6
OBN pmax pmax
comp=Z,28nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,200nm,23.0s,MS4.3
MA2 Magadan 70.23 26 *e*P **P** **04 57 57.6 -1.0**
MA2 pmax pmax
comp=Z,32nm,1.3s,mb5.1
MA2 Magadan 70.23 26 *e*P **P** **04 57 57.8 -0.8**
CASY Casey 70.40 173 *e*P **P** **04 57 59.0 -0.5**
comp=Z,37nm,1.7s,mb5.0
KLMR Klimovskoe 70.92 335 *e*P pP 04 58 11.7 -1.0
KLMR pmax pmax
comp=Z,90nm,1.5s,mb5.5
TIXI Tiksi 71.38 11 *c i*P **P** **04 58 04.3 -1.1**
TIXI pmax pmax
comp=Z,41nm,1.3s,mb5.2
CFR Carcaliu 71.54 317 ⇓P pP 04 58 15.6 -1.1
KIS Kishinev 71.54 319 *e*P pP 04 58 16.0 -0.7
KIS *e* 04 58 21.0
KIS *e* 04 58 27.0
HARR Harsova 71.56 316 ⇑P pP 04 58 15.7 -1.1
SANT Santorini 71.72 307 P **P** **04 58 10.1 +2.0**
AKASG Malin Array Be 72.31 322 P **P** **04 58 09.5 -1.8**
comp=Z,0.6nm,0.5s,baz=86,slow=5.4,SNR=7.1
AKASG pP pP 04 58 19.2 -2.0
comp=Z,16nm,1.0s,baz=90,slow=5.1,SNR=22
AKASG Malin Array Be 72.31 322 *i* P **P** **04 58 09.5 -1.8**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG Malin Array Be 72.31 322 P **P** **04 58 09.5 -1.8**
AKASG pP pP 04 58 19.2 -2.0
SEY Seymchan 72.53 24 *e*P **P** **04 58 12.3 -0.1**
LBTB Lobatse 73.11 243 *e*P **P** **04 58 15.9 -0.7**
LBTB *e**PP pP 04 58 25.6 -0.9
LBTB pmax pmax
comp=Z,24nm,0.9s,mb5.1
LBTB Lobatse 73.11 243 *e*P **P** **04 58 15.8 -0.7**
comp=Z,24nm,0.9s,mb5.1
LBTB *e*pP pP 04 58 25.6 -0.9
MLR Muntele Rosu 73.11 317 LR LR 05 33 29.6
comp=Z,106nm,20.3s,MS4.1,baz=227,slow=38
MLR Muntele Rosu 73.11 317 ⇓P pP 04 58 25.5 -0.6
VOIR 73.72 316 ⇓P sP 04 58 33.9 +0.8
DZM Mont Dzumac 73.98 114 LR LR 05 30 04.0
comp=Z,174nm,20.7s,MS4.3,baz=23,slow=35
BURAR Bucovina Array 74.07 319 ⇑P pP 04 58 32.3 +0.7
MAW Mawson 74.42 192 LR LR 05 24 14.5
comp=Z,126nm,18.1s,MS4.2,baz=255,slow=30
VTS Vitosha 74.48 313 ⇑P pP 04 58 33.4 -0.7
PUL Pulkovo 74.62 332 *i* P pP 04 58 34.6 +0.1
PUL pmax pmax
comp=Z,127nm,0.8s,mb5.9
PUL pmax pmax
comp=N,54nm,0.6s
PUL pmax pmax
comp=E,79nm,0.7s
JOF Joensuu 75.31 335 *e*p **P** **04 58 25.8 -2.7**
DRGR 75.58 317 ⇓P pP 04 58 39.5 -0.8
LVZ Lovozero 76.09 340 *i* P pP 04 58 42.3 -0.5
LVZ *i* S 05 08 11.9 -0.9
LVZ pmax pmax
comp=Z,33nm,1.4s,mb5.1
LVZ pmax pmax
comp=N,4.0nm,1.0s
LVZ pmax pmax
comp=E,1.0nm,0.8s
LVZ smax
comp=N,27nm,8.1s
LVZ smax
comp=Z,23nm,9.1s
LVZ smax
comp=E,12nm,7.5s
LVZ MLR MLR
comp=N,141nm,20.0s,MS4.5
LVZ MLR MLR
comp=E,229nm,20.0s,MS4.5
LVZ MLR MLR
comp=Z,209nm,20.0s,MS4.4
KWP Kalwaria 76.12 320 *e*P pP 04 58 43.3 0.0
KWP Kalwaria 76.12 320 *e*P **P** **04 58 33.9 +0.6**
KWP *e**PP pP 04 58 43.5 +0.2
KWP pmax pmax
comp=Z,36nm,1.0s,mb5.3
KWP Kalwaria 76.12 320 *e*P **P** **04 58 33.9 +0.6**
comp=Z,36nm,1.0s,mb5.2
KWP *e*pP pP 04 58 43.5 +0.2
BZS Buzias 76.12 316 ⇑P pP 04 58 43.3 -0.1
KOLS Kolonicke sedl 76.26 320 *e*P **P** **04 58 35.6 +1.4**
KOLS *e*pP pP 04 58 44.8 +0.7
APA Apatity 76.38 340 ⇑*i*P **P** **04 58 33.7 -0.7**
APA *i* pP 04 58 44.2 -0.2
APA pmax pmax
comp=Z,18nm,1.1s,mb4.9
SUW Suwalki 76.74 325 *e*P pP 04 58 46.0 -0.7
SUW Suwalki 76.74 325 *e*P **P** **04 58 36.3 -0.4**
SUW *e**PP pP 04 58 46.1 -0.6
SUW pmax pmax
comp=Z,153nm,1.1s,mb5.8
SUW Suwalki 76.74 325 *e*P **P** **04 58 36.3 -0.4**
comp=Z,153nm,1.1s,mb5.8
SUW *e*pP pP 04 58 46.1 -0.7
CRVS Cervenica-Dubn 76.78 319 *e*P **P** **04 58 38.6 +1.5**
CRVS *e*pP pP 04 58 48.6 +1.5
STHS Stebnicka Huta 77.01 320 *e*P **P** **04 58 39.3 +1.0**
STHS *e*pP pP 04 58 49.4 +1.1
FINES FINESS Array B 77.14 333 P **P** **04 58 38.1 -0.7**

comp=Z,3.2nm,0.7s,mb4.4,baz=94,slow=6.1,SNR=19
FINES pP pP 04 58 47.4 -1.4
comp=Z,12nm,0.8s,baz=90,slow=5.7,SNR=12
FINES LR LR 05 35 49.4
comp=Z,144nm,21.7s,MS4.2,baz=159,slow=38
KAF Kangasniemi 77.23 333 *e*p **P** **04 58 38.5 -0.8**
KECS Kecovo 77.35 319 *e*P **P** **04 58 40.6 +0.4**
KECS epP pP 04 58 50.8 +0.6
NIE Niedzica 77.61 320 *e*P pP 04 58 52.6 +0.9
PSZ Piszkesteto 77.65 318⇓ epP pP 04 58 51.7 -0.2
PSZ Piszkesteto 77.65 318 *e*P **P** **04 58 39.6 -2.3**
PSZ *e**PP pP 04 58 51.8 -0.1
PSZ pmax pmax
comp=Z,19nm,1.0s,mb5.0
PSZ Piszkesteto 77.65 318 *e*P **P** **04 58 39.6 -2.3**
comp=Z,19nm,1.0s,mb5.0
PSZ epP pP 04 58 51.8 -0.1
OJC Ojcow 78.07 321 *e*P pP 04 58 54.3 +0.1
VYHS Vyhne 78.44 319 *e*P **P** **04 58 44.7 -1.5**
VYHS epP pP 04 58 56.0 -0.2
OKC Ostrava-Krasne 79.07 320 *e*P **P** **04 58 50.6 +1.0**
OKC epP pP 04 58 59.8 +0.1
KEV Kevo 79.38 341 *e*p **P** **04 58 48.2 -2.7**
MORC Moravsky Berou 79.45 320 *e*P **P** **04 58 52.7 +1.0**
MORC *e**PP pP 04 59 01.7 0.0
MORC pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
MORC Moravsky Berou 79.45 320 *e*P **P** **04 58 52.7 +1.1**
comp=Z,4.8nm,1.2s,mb4.3
MORC epP pP 04 59 01.7 0.0
TSUM Tsumeb 79.47 250 *e*P **P** **04 58 53.0 +0.6**
comp=Z,13nm,1.0s,mb4.8
TSUM epP pP 04 59 02.9 +0.4
ZST Bratislava 79.55 318 *e*P **P** **04 58 53.5 +1.3**
ZST *e* pP 04 59 02.6 +0.3
ARCES ARCESS Array B 79.80 340 P **P** **04 58 52.9 -0.3**
comp=Z,8.6nm,0.9s,mb4.7,baz=100,slow=5.9,SNR=14
ARCES pP pP 04 59 03.4 +0.1
comp=Z,15nm,0.9s,baz=95,slow=5.7,SNR=10
BILL Bilibino 79.82 21 *e*P **P** **04 58 53.4 +0.1**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
BILL MLR MLR
comp=Z,800nm,23.0s,MS5.0
BILL Bilibino 79.82 21 *e*P **P** **04 58 54.1 +0.8**
KOGS Kog 79.94 316 *e*P pP 04 59 04.6 +0.2
VRAC Vranov 80.01 319 LR LR 05 35 02.1
comp=Z,56nm,19.2s,MS3.9,baz=276,slow=36
DPC Dobruska-Polom 80.30 320 *e*P **P** **04 58 57.2 +1.0**
DPC epP pP 04 59 06.4 +0.1
KSP Ksiaz 80.37 321 *e*P pP 04 59 07.3 +0.6
KSP Ksiaz 80.37 321 *e*P pP 04 59 06.9 +0.2
GROS Grobnik 80.45 316 *i* P pP 04 59 07.7 +0.5
UPC Upice 80.51 321 *e*P **P** **04 58 57.7 +0.3**
UPC epP pP 04 59 07.5 +0.1
BOJS Bojanci 80.54 315 *e*P pP 04 59 07.7 0.0
TREC Trest 80.73 319 *e*P **P** **04 58 58.6 +0.1**
TREC epP pP 04 59 08.8 +0.2
PERS Pernice 80.73 317 *e*P pP 04 59 09.3 +0.6
LJU Ljubljana 81.09 316 *e*P pP 04 59 11.3 +0.7
PRU Pruhonice 81.40 320 *e*P **P** **04 59 03.0 +1.0**
PRU epP pP 04 59 12.2 +0.1
PVCC Panska Ves 81.43 320 *e*P **P** **04 59 00.1 -2.1**
PVCC epP pP 04 59 11.7 -0.6
AQU L'Aquila 81.66 312 *e*P pP 04 59 14.3 +0.7
AQU pmax pmax
comp=Z,43nm,1.0s,mb5.3
AQU L'Aquila 81.66 312 *e*P pP 04 59 14.3 +0.7
comp=Z,43nm,1.0s
BRG Berggiesshubel 81.86 321 *e*P pP 04 59 14.7 +0.2
BRG pmax pmax
comp=Z,13nm,1.0s,mb4.8
BRG Berggiesshubel 81.86 321 *e*P pP 04 59 14.8 +0.3
comp=Z,13nm,1.0s
GEC2 GERESS Array S 81.86 319 *e*P pP 04 59 14.8 +0.3
GEC2 pmax pmax
comp=Z,35nm,1.1s,mb5.2
GEC2 GERESS Array S 81.86 319 *e*P pP 04 59 14.8 +0.3
comp=Z,35nm,1.1s
GERES GERESS Array B 81.86 319 P **P** **04 59 05.6 +1.2**
comp=Z,3.3nm,1.0s,mb4.2,baz=90,slow=4.0,SNR=16
GERES pP pP 04 59 15.0 +0.5
comp=Z,20nm,1.0s,baz=90,slow=5.3,SNR=42
GERES LR LR 05 36 51.8
comp=Z,37nm,18.0s,MS3.8,baz=100,slow=37
KHC Kasperske Hory 81.96 319 *e*P **P** **04 59 04.6 -0.3**
KHC epP pP 04 59 14.9 -0.1
KBA Koelnbreinsper 81.98 317⇑ *i*P pP 04 59 15.4 +0.3
comp=Z,11nm,1.1s
KBA Koelnbreinsper 81.98 317 ⇑P pP 04 59 15.4 +0.2
KBA pmax pmax
comp=Z,11nm,1.1s,mb4.7
WET Wettzell 82.42 319 *e*P pP 04 59 17.6 +0.2
WET pmax pmax
comp=Z,14nm,1.1s,mb4.8
WET Wettzell 82.42 319 *e*P pP 04 59 17.6 +0.2
comp=Z,14nm,1.1s
CLL Collm 82.48 321 P pP 04 59 17.2 -0.5
comp=Z,logA/T=1.1
CLL *e* 04 59 33.0
CLL Collm 82.48 321 *i*P pP 04 59 17.2 -0.5
CLL *e* 04 59 33.0
CLL pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLL Collm 82.48 321 *i*P pP 04 59 17.2 -0.5
comp=Z,12nm,1.0s
CLL *e* 04 59 33.0
NKC Novy Kostel 82.76 320 *e*P **P** **04 59 08.8 -0.3**
NKC epP pP 04 59 19.5 +0.3
WTTA Wattenberg 83.15 317⇓ *i*P pP 04 59 20.8 -0.5
comp=Z,25nm,0.9s
WTTA Wattenberg 83.15 317 ⇓P pP 04 59 20.8 -0.5
WTTA pmax pmax
comp=Z,25nm,0.9s,mb5.2
WATA Walderalm 83.19 317⇓ *e*P pP 04 59 21.0 -0.5
comp=Z,16nm,1.2s
WATA Walderalm 83.19 317⇓ *e*P pP 04 59 21.0 -0.5
WATA pmax pmax
comp=Z,16nm,1.2s,mb4.9
WATA Walderalm 83.19 317⇓ *e*P pP 04 59 21.0 -0.5
comp=Z,16nm,1.2s
MOX Moxa 83.32 320 *i* P pP 04 59 22.6 +0.6
comp=Z,logA/T=1.1
MOX Moxa 83.32 320 *e*P pP 04 59 22.6 +0.6
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.9
MOX Moxa 83.32 320 *e*P pP 04 59 22.6 +0.6
comp=Z,16nm,1.3s
SQTA Sankt Quirin 83.44 317⇓ *e*P pP 04 59 22.5 -0.2
comp=Z,14nm,1.2s
SQTA Sankt Quirin 83.44 317⇓ *e*P pP 04 59 22.5 -0.3
SQTA pmax pmax
comp=Z,14nm,1.2s,mb4.9
MOTA Moosalm 83.52 317⇑ *i*P pP 04 59 23.1 0.0
comp=Z,17nm,1.0s
MOTA Moosalm 83.52 317 ⇑P pP 04 59 23.1 -0.1
MOTA pmax pmax
comp=Z,17nm,1.0s,mb5.1
GRA1 Grafenberg Arr 83.53 319 *e*P pP 04 59 23.8 +0.6
comp=Z,31nm,1.1s
GRF Grafenberg Arr 83.53 319 *e*P pP 04 59 23.8 +0.6
GRF pmax pmax
comp=Z,31nm,1.1s,mb5.3
GRF Grafenberg Arr 83.53 319 *e*P pP 04 59 23.8 +0.6
comp=Z,31nm,1.1s
NB2 NORSAR Subarra 84.12 331 P pP 04 59 25.7 -0.2
comp=Z,14nm,1.0s,baz=96,slow=5.0
NB2 NORSAR Subarra 84.12 331 P pP 04 59 25.7 -0.2
baz=96,slow=5.1
NB2 NORSAR Subarra 84.12 331 P pP 04 59 25.7 -0.2
NB2 pmax pmax
comp=Z,14nm,1.0s,mb5.0
NOA NORSAR Array B 84.12 331 P **P** **04 59 15.9 +0.1**
comp=Z,1.5nm,0.9s,mb4.1,baz=90,slow=5.8,SNR=2.6
NOA pP pP 04 59 25.7 -0.2
comp=Z,9.5nm,1.0s,baz=94,slow=5.5,SNR=14
NOA LR LR 05 39 26.7
comp=Z,124nm,21.3s,MS4.3,baz=30,slow=38
NOA NORSAR Array B 84.12 331 P **P** **04 59 15.9 +0.1**
NOA pP pP 04 59 25.7 -0.2
NOA LR LR 05 39 26.7
CLZ Clausthal 84.15 322 *e*P pP 04 59 26.6 +0.3
CLZ pmax pmax
comp=Z,28nm,1.1s,mb5.3
CLZ Clausthal 84.15 322 *e*P pP 04 59 26.6 +0.3
comp=Z,28nm,1.1s
BSEG Bad Segeberg 84.25 324 *e*P pP 04 59 26.9 +0.2
BSEG pmax pmax
comp=Z,29nm,1.1s,mb5.3
DAVOX Davos 84.34 317 LR LR 05 39 30.0
comp=Z,59nm,20.9s,MS4.0,baz=82,slow=38
DAVA Damuels 84.35 317⇑ *i*P pP 04 59 28.2 +0.8
comp=Z,24nm,1.1s
SNZO South Karori 84.35 132 P **P** **04 59 17.4 0.0**
TNS Taunus Mts 85.33 320 *e*P pP 04 59 32.3 +0.1
TNS pmax pmax
comp=Z,20nm,1.1s,mb5.2
TNS Taunus Mts 85.33 320 *e*P pP 04 59 32.3 +0.1
comp=Z,20nm,1.1s
BFO Black Forest 85.40 318 *e*P pP 04 59 32.7 +0.1
CDF Champ du Feu 86.11 318 *e*P **P** **04 59 22.5 -3.5**
HAU Haudompre 86.73 318 *e*P **P** **04 59 25.6 -3.5**
comp=Z,44nm,1.1s,mb5.3
HAU Haudompre 86.73 318 *e*P **P** **04 59 25.6 -3.5**
HAU pmax pmax
comp=Z,22nm,1.1s,mb5.3
CABF La Chapelle 86.95 316 *e*P **P** **04 59 27.3 -2.9**
comp=Z,50nm,1.2s,mb5.3
CABF La Chapelle 86.95 316 *e*P **P** **04 59 27.3 -2.9**
CABF pmax pmax
comp=Z,25nm,1.2s,mb5.3
GIVF Givet 87.66 320 *e*P **P** **04 59 30.5 -3.0**
VNDA Vanda 88.37 168 P **P** **04 59 36.1 -0.2**
comp=Z,3.8nm,1.0s,mb4.6,baz=252,slow=4.1,SNR=5.9
VNDA Vanda 88.37 168 *e*P **P** **04 59 36.3 0.0**
VNDA *e**PP pP 04 59 46.1 -0.4
VNDA pmax pmax
comp=Z,11nm,1.5s
VNDA Vanda 88.37 168 *e*P **P** **04 59 36.3 0.0**
comp=Z,11nm,1.5s,mb4.9
VNDA *e*pP pP 04 59 46.1 -0.4
LOR Lormes 88.45 317 *e*P **P** **04 59 34.3 -3.0**
SMF Signal de Mont 88.49 316 *e*P **P** **04 59 34.3 -3.3**
SSF Saint Saulge 88.70 317 *e*P **P** **04 59 35.7 -2.8**
comp=Z,56nm,1.6s,mb5.3
SSF Saint Saulge 88.70 317 *e*P **P** **04 59 35.7 -2.8**
SSF pmax pmax
comp=Z,28nm,1.6s,mb5.3
AVF Avril sur Loir 88.82 317 *e*P **P** **04 59 34.8 -4.3**
comp=Z,80nm,1.6s,mb5.5
AVF Avril sur Loir 88.82 317 *e*P **P** **04 59 34.8 -4.3**
AVF pmax pmax
comp=Z,40nm,1.6s,mb5.5
SBA Scott Base 89.47 168 *e*P **P** **04 59 42.7 +1.1**
SBA *e**PP pP 04 59 52.8 +1.1
SBA pmax pmax
comp=Z,21nm,1.2s,mb5.3
SBA Scott Base 89.47 168 *e*P **P** **04 59 42.7 +1.1**
comp=Z,21nm,1.2s,mb5.3
SBA *e*pP pP 04 59 52.8 +1.1
TORD Torodi Ar. Bea 92.66 283 P **P** **04 59 57.5 -0.1**
comp=Z,1.4nm,1.2s,mb4.3,baz=76,slow=5.4,SNR=5.3
TORD pP pP 05 00 08.0 +0.2
comp=Z,1.4nm,0.8s,baz=77,slow=3.9,SNR=7.3
QSPA South Pole Qui 93.34 180 *e*P **P** **05 00 00.6 +1.2**
QSPA *e*pP pP 05 00 12.0 +2.5
ESDC Sonseca Array 94.90 310 P **P** **05 00 08.0 +0.6**
comp=Z,0.1nm,0.3s,baz=100,slow=5.3,SNR=2.9
ESDC pP pP 05 00 18.8 +1.2
comp=Z,0.8nm,0.7s,baz=60,slow=3.8,SNR=5.2
IMA2 Indian Mountai 95.31 22 *e*P **P** **05 00 10.4 +1.8**
SNAA Sanae 95.76 198 *e*P **P** **05 00 13.0 +2.4**
ILAR Eielson Array 98.44 23 P **P** **05 00 23.8 +1.0**
comp=Z,0.3nm,1.0s,baz=302,slow=4.4,SNR=3.1
ILAR pP pP 05 00 34.1 +1.1
comp=Z,0.3nm,0.8s,baz=314,slow=4.7,SNR=2.8
ILAR PP PP 05 04 24.6 -1.1
comp=Z,0.7nm,0.9s,baz=285,slow=7.2,SNR=4.5
DBIC Dimbokro 99.59 277 LR LR 05 44 34.6
comp=Z,83nm,18.6s,MS4.3,baz=340,slow=35
TBI Tubuai 114.56 114 *e*LR LR 05 39 31.4
comp=Z,130nm,26.5s
PPT Papeete 115.04 108 *e*LR LR 05 39 45.1
comp=Z,164nm,25.5s
ULM Lac du Bonnet 125.70 9 PKP PKPdf 05 05 45.8 -4.9
comp=Z,2.4nm,1.0s,baz=287,slow=4.6,SNR=2.3
ULM pPKP 05 05 57.0
comp=Z,3.6nm,0.7s,baz=51,slow=2.5,SNR=3.6
RKT Rikitea 127.69 117 *e*LR LR 05 45 36.4
comp=Z,132nm,31.8s
NVAR Mina Array Bea 128.10 33 PKP PKPdf 05 05 53.6 -2.1
comp=Z,0.2nm,0.3s,baz=333,slow=3.2,SNR=3.7
NVAR pPKP 05 06 04.4
comp=Z,1.0nm,0.7s,baz=341,slow=1.1,SNR=5.8
PDAR Pinedale Array 128.86 23 PKP PKPdf 05 05 54.0 -3.0
comp=Z,0.5nm,0.8s,baz=117,slow=2.0,SNR=3.0
PDAR pPKP 05 06 05.2
comp=Z,0.6nm,0.6s,baz=258,slow=0.7,SNR=4.8
TXAR Lajitas Array 142.74 28 PKP PKPdf 05 06 19.7 -3.2
comp=Z,0.7nm,0.9s,baz=199,slow=1.7,SNR=5.7
TXAR pPKP 05 06 30.4
comp=Z,1.0nm,0.7s,baz=54,slow=0.8,SNR=6.9
CPUP Villa Florida 145.19 226 *e*PKIKP PKPdf 05 06 22.5 -4.8
CPUP *e* 05 06 33.0
LPAZ La Paz 159.22 231 PKPab PKPab 05 07 21.5 -0.7
comp=Z,2.0nm,0.8s,baz=117,slow=6.1,SNR=9.4

*NEIC **05** 04:51:34.4,36.92N×11.13W,MN2.6(MDD),After MDD.*
*INMG **05** 04:51:36.1±0.7,36.76N×11.12W,h10km,ML2.2, Error ellipse: s-maj=5.1km s-min=3.7km az=83.0*
MDD 05 04:51:34.7±2.2,**36.89N**×**11.11W**,**mb3.7**/4,**Error ellipse: s-maj=19.0km s-min=13.3km az=56.0**,**PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**2.02**	**70**	*e*Pn	Pn		04 52 08.9	-1.5
PTEO				*e*Sn	Sn		04 52 33.5	-3.1
	12nm,0.2s							
PTEO	**Sao Teotonio**	**2.02**	**70**	Pn	Pn		04 52 08.9	-1.5
PTEO				Sn	Sn		04 52 33.5	-3.1
	6.1nm,0.2s							
PBEJ	**Beja**	**2.82**	**65**	*e*Pn	Pn		04 52 20.5	-1.4
PBEJ				*e*Sn	Sn		04 52 53.2	-3.9
	3.7nm,0.2s							
PBEJ	**Beja**	**2.82**	**65**	Pn	Pn		04 52 20.5	-1.4
PBEJ				Sn	Sn		04 52 53.2	-3.9
	1.9nm,0.2s							
EGRO	**El Granado**	**2.97**	**76**	P	Pn		04 52 21.7	-2.3
	0.6nm,0.1s,SNR=8.7							
EGRO				S	Sn		04 52 57.0	-3.8
	3.6nm,0.2s,SNR=11							
EMIN	**Mina Concepcio**	**3.65**	**75**	P	Pn		04 52 30.9	-2.7
	1.0nm,0.2s,SNR=21							
EMIN				S	Sn		04 53 12.6	-5.4
	2.7nm,0.3s,SNR=16							
EBAD	**Badajoz**	**3.74**	**59**	P	Pn		04 52 32.9	-2.1
	0.8nm,0.1s,SNR=9.9							
EBAD				S	Sn		04 53 15.8	-4.6
	2.5nm,0.5s,SNR=7.5							
PCBR	**Castelo Branco**	**4.11**	**43**	*e*Pn	Pn		04 52 38.3	-1.8
PCBR				*e*Sn	Sn		04 53 24.8	-4.8
	1.7nm,0.4s							
PCBR	**Castelo Branco**	**4.11**	**43**	Pn	Pn		04 52 38.3	-1.8
PCBR				Sn	Sn		04 53 24.8	-4.8
	0.9nm,0.4s							
ESPR	**Espera**	**4.21**	**89**	P	Pn		04 52 38.5	-3.2
	0.1nm,0.1s,SNR=9.9							
ESPR				S	Sn		04 53 26.0	-6.3
	2.2nm,0.3s,SNR=4.8							
MTE	**Manteigas**	**4.48**	**37**	*e*Sn	Sn		04 53 34.3	-4.9
PVIS	**Viseu**	**4.58**	**32**	*e*Pn	Pn		04 52 44.5	-2.3
PVIS				*e*Sn	Sn		04 53 36.0	-5.5
	4.0nm,0.1s							
PVIS	**Viseu**	**4.58**	**32**	Pn	Pn		04 52 44.5	-2.3
PVIS				Sn	Sn		04 53 36.0	-5.5
	2.0nm,0.1s							
EADA	**Adamuz**	**5.35**	**74**	P	Pn		04 52 54.6	-3.1
	0.7nm,0.1s,SNR=8.9							
EADA				S	Sn		04 53 53.0	-8.0
	2.0nm,0.4s,SNR=7.2							
ELOB	**Lobios**	**5.51**	**24**	P	Pn		04 52 56.2	-3.8
	2.0nm,0.7s,SNR=7.9							
ELOB				S	Sn		04 53 56.8	-8.2
	7.3nm,0.9s,SNR=6.6							
EZAM	**Zamans**	**5.58**	**19**	S	Sn		04 53 57.9	-8.8
	8.2nm,0.4s,SNR=4.0							
EBAN	**Banos Encina**	**5.96**	**75**	P	Pn		04 53 02.9	-3.5
	1.1nm,0.2s,SNR=4.0							
EBAN				S	Sn		04 54 07.0	-9.3
	0.7nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**5.97**	**33**	*e*Sn	Sn		04 54 09.2	-7.3
ECAL	**Calabor**	**6.08**	**33**	S	Sn		04 54 09.3	-10
	6.1nm,0.5s,SNR=7.9							
EMAZ	**Mazaricos**	**6.27**	**14**	S	Sn		04 54 12.7	-11
	3.0nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**6.27**	**61**	P	Pn		04 53 06.0	-4.8
	0.9nm,0.2s,baz=247,slow=13,SNR=4.5							
EQES	**Quesada**	**6.47**	**79**	S	Sn		04 54 19.3	-10
	1.6nm,0.3s,SNR=8.9							
EPON	**Pontenova**	**7.11**	**24**	P	Pn		04 53 18.7	-3.9
	1.6nm,0.3s,SNR=7.9							
EPON				S	Sn		04 54 34.8	-10
	1.9nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**7.78**	**74**	S	Sn		04 54 50.9	-11
	1.7nm,0.5s,SNR=4.0							

*ATH **05** 04:56:21.9,38.25N×26.75E,h26km,MD2.9/3*
*ISK **05** 04:56:21.8,38.23N×26.62E,h15km,MD2.7*
*CSEM **05** 04:56:23.3±0.1,38.23N×26.76E,h20km,MD2.7, Error ellipse: s-maj=4.0km s-min=2.4km az=124.0*
ISC 05 04:56:22.9±0.8,**38.22N**±0.04×**26.67E**±0.07,**h22**km±9km,
n8,σ0**99**/15,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.34**	**60**	PG		**Pb**	**04 56 29.5**	**-0.9**
BLCB				SG		**Sb**	**04 56 35.3**	**-0.2**
IZM	**Izmir**	**0.50**	**69**	PG		**Pb**	**04 56 32.9**	**-0.2**
IZM				SG		**Sb**	**04 56 41.4**	**+1.4**
SMG	**Samos**	**0.53**	**165**	*e*PN		**Pn**	**04 56 33.4**	**-1.5**
SMG				*e*SN		**Sn**	**04 56 41.1**	**-2.1**
PRK	**Paraskevi**	**1.07**	**343**	*e*PN		**Pn**	**04 56 42.5**	**-0.3**
PRK				*e*SN		**Sn**	**04 56 57.0**	**0.0**
AKS	**Akhisar**	**1.12**	**53**	PN		**Pn**	**04 56 43.7**	**+0.3**
BODT	**Bodrum**	**1.26**	**156**	*e*PN		**Pn**	**04 56 45.4**	**-0.1**
BODT				*e*SN		**Sn**	**04 57 03.6**	**+1.8**
APE	**Apeiranthos**	**1.46**	**219**	*e*PN		**Pn**	**04 56 48.2**	**-0.1**
APE				*e*SN		**Sn**	**04 57 08.2**	**+1.4**
APE	**Apeiranthos**	**1.46**	**219**	*e*Pb		**Pb**	**04 56 49.5**	**+0.2**
APE				*e*Sn		**Sn**	**04 57 08.2**	**+1.4**

*NEIC **05** 05:04:02.1±1.2,20.28S×178.20W,h571km±14km,mb4.6/3, Error ellipse: s-maj=21.0km s-min=10.5km az=151.0*
*IDC **05** 05:04:04.5±5.4,20.39S×178.24W,h598km±64km,mb3.2/9, mb1 3.5/9,mb1mx3.4/14,mbtmp4.1/9,Error ellipse: s-maj=51.7km s-min=26.8km az=156.0*
ISC 05 05:04:00.8±1.6,**20.4S**±0.2×**178.2W**±0.1,**h565**km±22km,
n20,σ0**58**/17,**mb3.7**/10,**1d,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.90**	**45**	Pn		**P**	**05 06 08.2**	**-0.2**
CTA	**Charters Tower**	**33.28**	**264**	*e*P		**P**	**05 09 54.1**	**+0.5**
	6.6nm,0.4s,mb4.5							
CTA	**Charters Tower**	**33.28**	**264**	P		**P**	**05 09 54.5**	**+1.0**
	11nm,0.6s,mb4.6,baz=93,slow=11,SNR=21							
CTAO	**Charters Tower**	**33.28**	**264**	*e*P		**P**	**05 09 54.2**	**+0.6**
	8.2nm,0.4s,mb4.6							
PMG	**Port Moresby**	**35.09**	**283**	*e*P		**P**	**05 10 09.4**	**+0.7**
	6.8nm,0.8s,mb4.2							
STKA	**Stephens Creek**	**37.65**	**244**	P		**P**	**05 10 30.1**	**+0.6**
	2.2nm,0.9s,mb3.7,baz=45,slow=10.0,SNR=2.9							
WB2	**Warramunga Arr**	**44.39**	**262**⇓	*i*P		**P**	**05 11 22.6**	**-0.8**
WRA	**Warramunga Arr**	**44.40**	**262**	P		**P**	**05 11 23.0**	**-0.4**
	3.9nm,0.6s,mb4.1,baz=96,slow=8.4,SNR=21							
FITZ	**Fitzroy Crossi**	**52.83**	**262**	P		**P**	**05 12 26.0**	**-0.2**
	1.7nm,0.5s,mb3.6,baz=88,slow=3.6							
VNDA	**Vanda**	**58.03**	**185**	*e*P		**P**	**05 13 02.1**	**+0.6**
CASY	**Casey**	**64.00**	**205**	*e*P		**P**	**05 13 39.4**	**-1.1**
MJAR	**Matsushiro Arr**	**69.96**	**324**	P		**P**	**05 14 17.2**	**-0.2**
	3.5nm,0.6s,mb4.1,baz=161,slow=6.5,SNR=6.3							
NVAR	**Mina Array Bea**	**81.07**	**43**	P		**P**	**05 15 18.8**	**+0.3**
	0.3nm,0.3s,mb3.2,baz=236,slow=11,SNR=4.2							
TXAR	**Lajitas Array**	**87.17**	**57**	P		**P**	**05 15 49.2**	**+0.6**
	0.3nm,0.8s,mb3.0,baz=211,slow=7.3,SNR=5.4							
TXAR	**Lajitas Array**	**87.17**	**57**	P		**P**	**05 15 49.2**	**+0.6**
ILAR	**Eielson Array**	**88.22**	**13**	P		**P**	**05 15 52.0**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=214,slow=5.5,SNR=8.0							
PDAR	**Pinedale Array**	**89.01**	**43**	P		**P**	**05 15 56.9**	**0.0**
	0.4nm,0.6s,mb3.5,baz=225,slow=4.2,SNR=4.0							
AKASG	**Malin Array Be**	**142.78**	**331**	PKP		PKPdf	05 22 28.1	-1.5
	2.6nm,0.5s,baz=42,slow=4.0,SNR=23							
BRTR	**Keskin Array B**	**146.58**	**312**	PKPbc		PKPbc	05 22 40.6	+2.1
	1.3nm,0.7s,baz=132,slow=4.4,SNR=8.1							
GERES	**GERESS Array B**	**150.00**	**344**	PKPbc		PKPdf	05 22 48.4	+6.8
	0.9nm,0.8s,baz=45,slow=3.8,SNR=5.1							

*ISK **05** 05:12:00.5,38.49N×26.89E,h19km,MD2.7*
*CSEM **05** 05:12:00.6±0.2,38.49N×26.90E,h20km,MD2.7, Error ellipse: s-maj=5.4km s-min=2.6km az=139.0*
*ATH **05** 05:12:02.7,37.97N×26.10E,h30km±7km,MD3.1/3*
ISC 05 05:12:00.2±1.0,**38.46N**±0.03×**26.79E**±0.05,**h5**km±6km,
n11,σ0**85**/20,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.22**	**111**	PG		**Pg**	**05 12 05.3**	**+0.6**
BLCB				SG		**Sg**	**05 12 08.1**	**+0.5**
IZM	**Izmir**	**0.38**	**100**	PG		**Pg**	**05 12 08.4**	**+0.5**
IZM				SG		**Sg**	**05 12 13.2**	**+0.2**
KDAG	**Bornova**	**0.38**	**99**	*i* P		**Pg**	**05 12 07.1**	**-0.8**
KDAG				*i* S		**Sg**	**05 12 13.4**	**+0.3**
SMG	**Samos**	**0.76**	**177**	*e*PN		**Pg**	**05 12 15.7**	**+0.3**
SMG				*e*SN		**Sg**	**05 12 25.4**	**0.0**
AYVA	**Ayvalik**	**0.85**	**355**	*i* P		**Pb**	**05 12 20.8**	**+3.7**
AYVA				*i* S		**Sb**	**05 12 29.0**	**+0.5**
AKS	**Akhisar**	**0.91**	**62**	PG		**Pg**	**05 12 17.0**	**-1.3**
AKS				SG		**Sg**	**05 12 28.5**	**-1.9**
AYDN	**Tasoluk**	**1.18**	**133**	*i* P		**Pb**	**05 12 23.7**	**+1.0**
AYDN				*i* S		**Sb**	**05 12 38.3**	**+0.2**
MANT	**Manisa**	**1.39**	**88**	*i* P		**Pb**	**05 12 27.3**	**+0.9**
MANT				*i* S		**Sb**	**05 12 44.8**	**+0.4**
BODT	**Bodrum**	**1.46**	**163**	*e*PN		**Pn**	**05 12 26.5**	**-0.9**
BODT				*e*SN		**Sn**	**05 12 45.9**	**-1.2**
APE	**Apeiranthos**	**1.71**	**216**	*e*PN		**Pn**	**05 12 30.8**	**-0.2**
APE	**Apeiranthos**	**1.71**	**216**	*e*Pn		**Pn**	**05 12 30.8**	**-0.2**

*NEIC **05** 05:28:15.4±2.0,52.41N×173.03E,h37km±13km,mb3.7/1, Error ellipse: s-maj=25.4km s-min=9.6km az=185.0*
*IDC **05** 05:28:16.9±2.2,52.63N×173.00E,h42km±12km,mb3.6/8, mb1 3.9/8,mb1mx3.6/23,mbtmp3.9/8, Error ellipse: s-maj=39.1km s-min=20.6km az=165.0*
ISC 05 05:28:15.4±2.0,**52.5N**±0.2×**173.0E**±0.2,**h52**km±10km,**n19**,
σ0**74**/19,**mb3.8**/8,**Near Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**0.40**	**11**	P		**P**	**05 28 26.7**	**+1.0**
	271nm,0.3s,baz=189,slow=5.1,SNR=254							
FX1				S		**S**	**05 28 33.0**	**-0.2**
	669nm,0.3s,baz=258,slow=19,SNR=43							
FX1	**Attu Island--F**	**0.40**	**11**	*e*P		**P**	**05 28 26.5**	**+0.8**
SMY	**Shemya**	**0.69**	**69**	*e*P		**P**	**05 28 28.5**	**-0.7**
KDAK	**Kodiak Island**	**20.20**	**61**	P		**P**	**05 32 46.5**	**-1.5**
	4.5nm,0.4s,baz=286,slow=9.4,SNR=9.4							
IMA2	**Indian Mountai**	**21.41**	**38**	*e*P		**P**	**05 33 00.1**	**-0.3**
ILAR	**Eielson Array**	**23.73**	**43**	P		**P**	**05 33 24.2**	**+1.3**
	1.5nm,0.7s,mb3.5,baz=251,slow=9.0,SNR=31							
INK	**Inuvik**	**29.55**	**37**	P		**P**	**05 34 16.3**	**-0.4**
	0.8nm,0.8s,mb3.5,baz=258,slow=5.5,SNR=4.6							
INK	**Inuvik**	**29.55**	**37**	P		**P**	**05 34 16.3**	**-0.4**
YKA	**Yellowknife Ar**	**38.11**	**46**	P		**P**	**05 35 30.9**	**+0.5**
	0.7nm,0.6s,mb3.6,baz=289,slow=7.7,SNR=6.4							
YKA	**Yellowknife Ar**	**38.11**	**46**	P		**P**	**05 35 30.9**	**+0.5**
SONM	**Songino Array**	**41.58**	**291**	P

TXAR	**Lajitas Array**	**63.39**	**76**	P		**P**		**05 38 41.6**	**0.0**	
	1.7nm,0.5s,mb4.4,baz=302,slow=5.6,SNR=35									
MAW	**Mawson**	**144.26**	**218**	PKP		PKPdf		05 47 43.7	-0.2	
	2.6nm,0.6s,baz=149,slow=2.3,SNR=6.6									

*IDC **05** 05:30:51.9±2.3,22.56S×68.09W,h86km±20km,mb4.1/3, mb1 3.7/7,mb1mx3.5/16,mbtmp4.0/7,MS4.8/4,Ms1 4.8/4, ms1mx3.7/20,Error ellipse: s-maj=40.1km s-min=16.1km az=109.0*

*GUC **05** 05:30:53.4±0.5,22.63S×68.62W,h120km±4km,MD4.2, ML3.9*

*NEIC **05** 05:30:53.4,22.63S×68.62W,h120km,MD4.2(GUC),After GUC.*

ISC 05 05:30:52.8±0.6,**22.54S**±0.08×**68.48W**±0.07,**h130**km±6km, **n20,σ1$01/21,mb4.2/2,1C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPCH	**San Pedro de A**	**0.45**	**144**	⇓*i*P		**P**	**05 31 12.0**	**+0.2**
SPCH				*i* S		**S**	**05 31 26.4**	**+0.3**
SPCH				AMP			05 31 27.5	
	comp=N,3μm,0.7s							
CEN1	**Los Morros**	**1.79**	**242**	⇑*i*P		**P**	**05 31 25.8**	**+1.1**
CEN1				*i* S		**S**	**05 31 50.0**	**+1.0**
CEN1				AMP			05 31 55.0	
	comp=N,1μm,0.7s							
ANCH	**Antofagasta**	**2.11**	**237**	*e*P		**P**	**05 31 29.7**	**+1.1**
ANCH				*i* S		**S**	**05 31 55.2**	**-0.6**
CPN1	**Cerro Paranal**	**2.72**	**220**	*e*P		**P**	**05 31 35.9**	**-0.7**
CPN1				*i* S		**S**	**05 32 08.1**	**-1.7**
CPN1				AMP			05 32 20.6	
	comp=E,697nm,0.5s							
LPAZ	**La Paz**	**6.23**	**3**	P		**P**	**05 32 22.3**	**-1.2**
	comp=E,0.7nm,0.3s,baz=195,slow=9.3,SNR=27							
CFAA	**Coronel Fontan**	**9.03**	**179**	P		**P**	**05 32 59.8**	**-1.4**
	baz=350,slow=15							
CFAA				S		**S**	**05 34 36.4**	**-5.0**
	comp=E,0.1nm,0.3s,baz=236,slow=21,SNR=6.0							
CFAA	**Coronel Fontan**	**9.03**	**179**	P		**P**	**05 32 59.8**	**-1.4**
CFAA				S		**S**	**05 34 36.4**	**-5.0**
SIV	**San Ignacio**	**9.56**	**48**	P		**P**	**05 33 03.8**	**-4.5**
	comp=E,1.8nm,0.3s,baz=254,slow=11,SNR=38							
SIV				S		**S**	**05 34 43.5**	**-11**
	comp=E,0.8nm,0.3s,baz=286,slow=16,SNR=6.6							
CPUP	**Villa Florida**	**10.84**	**113**	*e*Pn		**P**	**05 33 25.6**	**+0.4**
PLCA	**Paso Flores**	**18.22**	**185**	P		**P**	**05 35 00.1**	**+1.8**
	comp=E,0.2nm,0.3s,baz=11,slow=14,SNR=6.4							
BDFB	**Brasilia**	**20.51**	**74**	P		**P**	**05 35 21.6**	**-0.9**
	comp=E,6.0nm,0.7s,baz=247,slow=15,SNR=13							
DBIC	**Dimbokro**	**68.66**	**73**	P		**P**	**05 41 44.9**	**+0.5**
	comp=E,9nm,0.8s,mb4.2,baz=248,slow=12,SNR=5.0							
DBIC	**Dimbokro**	**68.66**	**73**	P		**P**	**05 41 44.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**77.33**	**70**	P		**P**	**05 42 35.5**	**+0.4**
	comp=E,2.9nm,0.5s,mb4.2,baz=256,slow=5.4,SNR=50							
YKA	**Yellowknife Ar**	**92.30**	**340**	pP		pP	05 44 19.4	-3.3
	comp=E,0.3nm,0.5s,baz=133,slow=4.4,SNR=5.1							
URZ	**Urewera**	**93.77**	**226**	LR		LR	06 19 04.5	
	comp=E,388nm,18.7s,baz=9.4,slow=31							
RPZ	**Rata Peaks**	**94.44**	**219**	LR		LR	06 19 51.9	
	comp=E,337nm,18.8s,baz=82,slow=31							
RAO	**Raoul Island**	**94.79**	**236**	LR		LR	06 19 35.3	
	comp=E,452nm,20.0s,baz=62,slow=31							
AFI	**Afiamalu**	**96.63**	**252**	LR		LR	06 18 51.3	
	comp=E,372nm,19.2s,baz=63,slow=30							
MKAR	**Makanchi Array**	**146.23**	**37**	PKPbc		PKPbc	05 50 20.4	+2.6
	comp=E,1.8nm,0.8s,baz=342,slow=3.8,SNR=6.9							

*ISK **05** 05:31:04.6,38.22N×26.58E,h5km,MD3.2*

*ATH **05** 05:31:05.3,38.34N×26.84E,h24km±1km,MD3.1/3*

*CSEM **05** 05:31:06.7±0.2,38.27N×26.71E,h20km,MD3.2,Error ellipse: s-maj=4.4km s-min=2.5km az=83.0*

ISC 05 05:31:05.2±0.9,**38.28N**±0.03×**26.55E**±0.05,**h7**km±5km, **n22,σ0$95/32,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BLCB	**Balcova**	**0.40**	**75**	PG		**Pg**	**05 31 12.8**	**-0.4**
BLCB				SG		**Sg**	**05 31 18.7**	**+0.1**
IZM	**Izmir**	**0.57**	**78**	PG		**Pg**	**05 31 16.3**	**-0.3**
IZM				SG		**Sg**	**05 31 24.9**	**+0.7**
KDAG	**Bornova**	**0.57**	**78**	*i* P		**Pg**	**05 31 15.4**	**-1.3**
KDAG				*i* S		**Sg**	**05 31 23.6**	**-0.8**
SMG	**Samos**	**0.61**	**159**	*e*PN		**Pg**	**05 31 17.8**	**+0.3**
SMG				*e*SN		**Sg**	**05 31 27.2**	**+1.5**
PRK	**Paraskevi**	**0.99**	**347**	*e*PN		**Pn**	**05 31 24.7**	**-0.7**
PRK				*e*SN		**Sn**	**05 31 38.7**	**-1.0**
AYVA	**Ayvalik**	**1.03**	**6**	*i* P		**Pb**	**05 31 24.1**	**-0.9**
AYVA				*i* S		**Sb**	**05 31 41.2**	**+2.6**
AKS	**Akhisar**	**1.15**	**58**	PN		**Pn**	**05 31 27.0**	**-0.7**
AYDN	**Tasoluk**	**1.22**	**120**	*i* P		**Pb**	**05 31 27.4**	**-0.8**
AYDN				*i* S		**Sb**	**05 31 43.9**	**0.0**
BODT	**Bodrum**	**1.36**	**154**	*e*PN		**Pn**	**05 31 29.6**	**-1.1**
BODT				*e*SN		**Sn**	**05 31 48.1**	**-1.0**
MLSB	**Milas**	**1.38**	**135**	*e*PN		**Pn**	**05 31 30.6**	**-0.4**
BDRM	**Kayabasi**	**1.41**	**150**	*i* P		**Pn**	**05 31 32.0**	**+0.7**
BDRM				*i* S		**Sb**	**05 31 50.4**	**+1.0**
APE	**Apeiranthos**	**1.46**	**214**	*e*PN		**Pn**	**05 31 31.6**	**-0.5**
APE	**Apeiranthos**	**1.46**	**214**	*e*Pb		**Pb**	**05 31 35.0**	**+2.7**
MANT	**Manisa**	**1.59**	**82**	*i* P		**Pn**	**05 31 35.6**	**+1.6**
MANT				*i* S		**Sb**	**05 31 55.4**	**+0.7**
DAT	**Datca**	**1.75**	**152**	*e*PN		**Pn**	**05 31 35.6**	**-0.7**
YER	**Yerkesik**	**1.79**	**129**	*e*PN		**Pn**	**05 31 35.8**	**-1.0**
DST	**Dursunbey**	**2.09**	**50**	*e*PN		**Pn**	**05 31 41.8**	**+0.7**
DALT	**Dalyan (Mudla)**	**2.24**	**132**	*e*PN		**Pn**	**05 31 42.4**	**-0.9**
KHL	**Karahalli**	**2.34**	**88**	*e*PN		**Pn**	**05 31 44.8**	**+0.1**
MRMT	**Marmara Adasi**	**2.46**	**19**	*e*PN		**Pn**	**05 31 47.0**	**+0.6**
ORLT	**Orhaneli**	**2.53**	**45**	*e*PN		**Pn**	**05 31 48.1**	**+0.6**
MFT	**Murefte**	**2.56**	**12**	*e*PN		**Pn**	**05 31 48.6**	**+0.7**

*IDC **05** 05:59:44.4±0.6,5.49S×141.86E,mb4.8/13,mb1 4.8/15, mb1mx4.8/17,mbtmp4.8/15,ML3.8/2,MS5.1/12,Ms1 5.1/12, ms1mx4.9/17,Error ellipse: s-maj=23.6km s-min=14.6km az=71.0*

*BJI **05** 05:59:45.5,5.67S×142.29E,h34km,mB5.5,mb5.1,Ms5.3, Msz5.0*

*HRVD **05** 05:59:45.6±0.1,5.45S×141.98E,h12km,MW5.5/92, Centroid moment Tensor Solution. LP body waves: s89,c167;Mantle waves: s92,c189; Half duration: 1s4 Moment tensor: Scale 10^17^Nm; Mrr1.71±.02; Mθθ-1.33±.02; Mφφ-0.38±.03; Mrθ0.97±.06; Mθφ0.85±.02; Mφr-0.18±.06; Best double couple: M₀2.029×10^17^ NP1: φs311°,δ32°,λ108°. NP2:φs111°,δ60°,λ79°. Principal axes: T 1.995, Plg73°, Azm354°; N .065, Plg9°, Azm116°; P -2.063, Plg14°, Azm208°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 05:59:45.6±0.2,5.41S×142.01E,h10km,mb5.5/29, MS5.3/120,MW5.5 Error ellipse: s-maj=8.1km s-min=5.6km az=62.0,Moment Tensor Solution. s14 Moment tensor: Scale 10^17^Nm; Mrr1.57; Mθθ-1.34; Mφφ-0.23; Mrθ1.46; Mθφ0.70; Mφr-1.43; Best double couple: M₀2.6×10^17^ NP1:φs282°,δ21°,λ63°. NP2:φs130°, δ71°,λ100°. Principal axes: T 2.61, Plg63°, Azm56°; N -.01, Plg10°, Azm307°; P -2.61, Plg26°, Azm212°;*

*CSEM **05** 05:59:46.8,5.41S×142.09E,h33km,mb5.6*

*MOS **05** 05:59:47.9±1.2,5.32S×142.00E,h33km,mb5.5/21, MS5.1/29,Error ellipse: s-maj=13.1km s-min=6.8km az=107.8*

ISC 05 05:59:47.1±0.2,**5.41S**±0.04×**142.16E**±0.04,**h31**km, **h31**km±1.5km**:pP-P,n317,σ1$28/190,mb5.3/67,MS5.3/147, 6C-6D,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.35**	**129**	Pn		**Pn**	**06 01 20.6**	**-0.5**
	5.3nm,0.3s,baz=26,slow=1.2,SNR=11							
PMG				Sn		**Sn**	**06 02 32.6**	**-0.9**
	4.0nm,0.3s,baz=324,slow=5.0,SNR=4.3							
PMG	**Port Moresby**	**6.35**	**129**	*e*P		**Pn**	**06 01 19.4**	**-1.7**
PMG				pmax		pmax		
	comp=Z,497nm,1.1s							
PMG	**Port Moresby**	**6.35**	**129**	*e*P		**Pn**	**06 01 19.4**	**-1.7**
	comp=Z,497nm,1.1s							
KAKA	**Kakadu**	**12.03**	**232**	*e*P		Px	06 02 54.9	
	comp=Z,180nm,0.4s							
CTA	**Charters Tower**	**15.13**	**165**	⇑*i*P		**P**	**06 03 23.9**	**+3.4**
	comp=Z,32nm,1.0s							
CTA				*e*S		**S**	**06 06 17.1**	**+10**
CTA	**Charters Tower**	**15.13**	**165**	Pn		**P**	**06 03 23.8**	**+3.3**
	comp=Z,0.5nm,0.3s,baz=335,slow=10.0,SNR=7.8							
CTA				LR		LR	06 09 22.2	
	comp=Z,11μm,20.3s,baz=352,slow=38							
CTA	**Charters Tower**	**15.13**	**165**	⇑*i*P		**P**	**06 03 23.9**	**+3.4**
CTA				*e*S		**S**	**06 06 17.1**	**+10**
CTA				pmax		pmax		
	comp=Z,32nm,1.0s							
CTAO	**Charters Tower**	**15.13**	**165**	*e*P		**P**	**06 03 22.3**	**+1.8**
CTAO				pmax		pmax		
	comp=Z,200nm,1.6s							
CTAO	**Charters Tower**	**15.13**	**165**	*e*P		**P**	**06 03 22.3**	**+1.8**
	comp=Z,200nm,1.6s							
WRAB	**Tennant Creek**	**16.32**	**207**	*i* P		**P**	**06 03 30.1**	**-5.7**
WB2	**Warramunga Arr**	**16.32**	**207**	*e*P		**P**	**06 03 30.1**	**-5.8**
WB2				*e*S		**S**	**06 06 48.8**	**+13**
WRA	**Warramunga Arr**	**16.33**	**207**	Pn		**P**	**06 03 28.8**	**-7.1**
	comp=Z,2.2nm,0.3s,baz=32,slow=14,SNR=22							
WRA				Sn		**S**	**06 06 44.8**	**+9.3**
	comp=Z,3.4nm,0.3s,baz=23,slow=23,SNR=5.0							
HNR	**Honiara**	**18.09**	**104**	LR		LR	06 10 58.9	
	comp=Z,3μm,18.6s,baz=266,slow=37							
HNR	**Honiara**	**18.09**	**104**	P		**P**	**06 03 58.9**	**+0.9**
GUMO	**Guam**	**19.06**	**8**	P		**P**	**06 04 11.5**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=213,slow=22,SNR=2.9							
GUMO				LR		LR	06 10 44.7	
	comp=Z,3μm,19.0s,baz=192,slow=34							
MATI	**Mati**	**20.06**	**308**	*e*P		**P**	**06 04 21.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**20.48**	**231**	P		**P**	**06 04 22.7**	**-2.6**
	comp=Z,86nm,0.9s,baz=87,slow=12							
FITZ				LR		LR	06 12 57.1	
	comp=Z,17μm,18.6s,MS5.5,baz=58,slow=39							
DAV	**Davao City (W)**	**20.67**	**307**	*e*P		**P**	**06 04 32.0**	**+4.8**
DAV	**Davao City (W)**	**20.67**	**307**	PFAKE			06 04 40.0	+13
DAV				LR		LR		
	comp=Z,1μm,19.0s,MS4.4							
BUKP	**Musuan**	**21.56**	**308**	*e*P		**P**	**06 04 38.8**	**+2.6**
BUTP	**Butuan**	**21.81**	**311**	*e*P		**P**	**06 04 41.8**	**+3.1**
PAGZ	**Pagadian**	**22.89**	**305**	*e*P		**P**	**06 04 50.7**	**+1.1**
MSLP	**Maasin**	**23.14**	**312**	*e*P		**P**	**06 04 53.1**	**+1.2**
IPIL	**Ipil**	**23.53**	**304**	*e*P		**P**	**06 04 54.9**	**-0.9**
TBP	**Tagbilaran**	**23.61**	**309**	*e*P		**P**	**06 04 57.9**	**+1.4**
GUIM	**Jordan**	**25.17**	**309**	*e*P		**P**	**06 05 11.8**	**+0.3**
RCP	**Roxas**	**25.63**	**311**	⇑*e*P		**P**	**06 05 18.1**	**+2.2**
PVCP	**Virac**	**26.00**	**317**	*e*P		**P**	**06 05 22.2**	**+2.9**
TSM	**Tawau**	**26.10**	**291**	P		**P**	**06 05 19.1**	**-1.1**
STKA	**Stephens Creek**	**26.34**	**181**	*e*P		**P**	**06 05 21.3**	**-1.0**
	comp=Z,25nm,1.6s,mb4.5							
STKA				*e*S		**S**	**06 09 56.1**	**+4.9**
STKA	**Stephens Creek**	**26.34**	**181**	P		**P**	**06 05 20.0**	**-2.3**
	comp=Z,19nm,1.1s,mb4.5,baz=5.2,slow=9.1,SNR=13							
STKA				LR		LR	06 16 27.4	
	comp=Z,7μm,19.4s,MS5.2,baz=357,slow=38							
ARMA	**Armidale**	**26.43**	**161**	*e*P		**P**	**06 05 26.0**	**+2.8**
CUYO	**Cuyo Island**	**26.53**	**308**	*e*P		**P**	**06 05 23.0**	**-1.2**
OTRP	**Odiongan**	**26.69**	**312**	*e*P		**P**	**06 05 31.8**	**+6.1**
MBWA	**Marble Bar**	**26.80**	**232**	*e*P		**P**	**06 05 26.8**	**+0.2**
	comp=Z,128nm,1.3s,mb5.3							
MBWA				*e*pP		pP	06 05 36.4	+0.7
MBWA				*e*S		**S**	**06 10 00.2**	**+1.4**
MBWA				LR		LR		
	comp=Z,7μm,19.0s,MS5.2							
SJMP	**San Jose**	**27.43**	**310**	*e*P		**P**	**06 05 30.5**	**-2.0**
PPR	**Puerto Princes**	**27.79**	**303**	*e*P		**P**	**06 05 40.1**	**+4.4**
BUSP	**Coron**	**27.86**	**308**	*e*P		**P**	**06 05 28.4**	**-7.9**
ENPP	**El Nido**	**28.00**	**306**	*e*P		**P**	**06 05 36.7**	**-0.9**
BATP	**Bataraza**	**28.09**	**300**	*e*P		**P**	**06 05 38.7**	**+0.3**
KKM	**Kota Kinabalu**	**28.29**	**293**	P		**P**	**06 05 38.4**	**-1.8**
KKM	**Kota Kinabalu**	**28.29**	**293**	*e*P		**P**	**06 05 37.7**	**-2.5**
FORT	**Forrest**	**28.51**	**206**	*e*P		**P**	**06 05 44.6**	**+2.6**
	comp=Z,27nm,0.8s,mb5.0							
DZM	**Mont Dzumac**	**28.75**	**128**	P		**P**	**06 05 45.7**	**+1.5**
	comp=Z,3.6nm,0.8s,baz=296,slow=14,SNR=2.9							
KSM	**Kuching**	**32.54**	**281**	*e*P		**P**	**06 06 16.4**	**-1.4**
WAKE	**Wake Island**	**34.41**	**44**	PFAKE			06 06 50.0	+16
WAKE				LR		LR		
	comp=Z,6μm,22.0s,MS5.3							
NACB	**Ninganchiao**	**35.58**	**327**	P		**P**	**06 06 41.8**	**-2.2**
NWAO	**Narrogin (SRO)**	**35.91**	**217**	*e*P		**P**	**06 06 40.9**	**-5.7**
NWAO				MLR		MLR		
	comp=Z,6μm,20.0s							
TATO	**Taipei**	**36.28**	**327**	PFAKE			06 07 00.0	+10
TATO				LR		LR		
	comp=Z,2μm,20.0s,MS4.9							
GZH	**Guangzhou**	**39.93**	**316**	P		**P**	**06 07 19.5**	**-0.9**
GZH				S		**S**	**06 13 23.2**	**0.0**
GZH				LR		LR		
	comp=N,1μm,22.4s,MS4.8							
GZH				LR		LR		
	comp=E,830nm,18.7s,MS4.8							
GZH				LR		LR		
	comp=Z,1μm,18.0s,MS4.9							
QIZ	**Qiongzhong**	**40.03**	**308**	P		**P**	**06 07 21.6**	**+0.3**
QIZ				PP		PP	06 09 00.1	+3.0
QIZ				AMB		AMB		
	comp=Z,60nm,1.5s,mb5.1							
QIZ				AMB		AMB		
	comp=Z,460nm,5.1s							
QIZ				LR		LR		
	comp=N,1μm,18.1s							
QIZ				LR		LR		
	comp=Z,1μm,19.0s,MS4.8							
QIZ	**Qiongzhong**	**40.03**	**308**	*e*P		**P**	**06 07 20.0**	**-1.3**
QIZ				LR		LR		
	comp=Z,1μm,20.0s,MS4.7							
SSE	**Sheshan**	**41.46**	**332**	*e*P		**P**	**06 07 33.1**	**+0.2**
SSE				AP		pP	06 07 41.5	-0.7
SSE				XP		sP	06 07 45.9	-0.2
SSE				PP		PP	06 09 11.1	-0.6
SSE				PCP		PcP	06 09 30.1	-0.8
SSE				S		**S**	**06 13 48.6**	**+2.7**
SSE				XS			06 14 03.5	
SSE				SCS		ScS	06 17 35.7	+3.7
SSE				AMB		AMB		
	comp=Z,20nm,0.3s,mb5.2							
SSE				AMB		AMB		
	comp=Z,170nm,3.5s							
SSE				LR		LR		
	comp=N,1μm,29.3s,MS4.8							
SSE				LR		LR		
	comp=E,2μm,29.3s,MS4.8							
SSE				LR		LR		
	comp=Z,2μm,18.9s							
MJAR	**Matsushiro Arr**	**41.89**	**355**	P		**P**	**06 07 37.1**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=171,slow=4.4,SNR=5.0							
MJAR				LR		LR	06 23 22.6	
	comp=Z,2μm,21.6s,MS4.9,baz=170,slow=34							
MAJO	**Matsushiro**	**41.89**	**355**	*e*P		**P**	**06 07 36.6**	**+0.2**
MAJO				MLR		MLR		
	comp=Z,2μm,21.0s,MS5.1							
MAT	**Matsushiro**	**41.89**	**355**	P		**P**	**06 07 37.3**	**+0.9**
MAT				S		**S**	**06 13 52.0**	**-0.3**
MAT	**Matsushiro**	**41.89**	**355**	P		**P**	**06 07 37.0**	**+0.6**
MAT				*e*S		**S**	**06 13 53.0**	**+0.7**
MAT				MLR		MLR		
	comp=Z,2μm,20.0s,MS4.9							
IPM	**Ipoh**	**42.24**	**283**	P		**P**	**06 07 42.6**	**+3.0**
KULM	**Kulim**	**42.79**	**284**	*e*P		**P**	**06 07 41.8**	**-2.3**
NJ2	**Nanjing**	**43.36**	**331**	*e*P		**P**	**06 07 50.2**	**+1.7**
NJ2				PP		PP	06 09 37.6	+6.3
NJ2				S		**S**	**06 14 18.0**	**+4.2**
NJ2				XS			06 14 30.0	
NJ2				AMB		AMB		
	comp=Z,70nm,1.4s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,620nm,5.6s							
NJ2				LR		LR		
	comp=N,3μm,16.4s,MS5.4							
NJ2				LR		LR		
	comp=E,3μm,16.6s,MS5.4							
NJ2				LR		LR		
	comp=Z,1μm,18.9s,MS4.9							
PSI	**Prapat**	**43.95**	**280**	P		**P**	**06 07 51.8**	**-1.7**
	comp=Z,40nm,0.9s,mb5.2,baz=176,slow=5.6,SNR=8.0							
RAO	**Raoul Island**	**44.54**	**127**	PFAKE			06 08 10.0	+12
RAO				LR		LR		
	comp=Z,2μm,19.0s,MS5.0							
INCN	**Inchon**	**45.06**	**342**	P		**P**	**06 08 02.9**	**+0.8**
INCN				LR		LR		
	comp=Z,2μm,21.0s,MS5.1							
RPZ	**Rata Peaks**	**45.85**	**151**	P		**P**	**06 08 10.5**	**+2.2**
	comp=Z,12nm,0.8s,mb4.8,baz=84,slow=12,SNR=2.4							
SNZO	**South Karori**	**46.07**	**146**	*e*P		**P**	**06 08 15.7**	**+5.6**
SNZO				LR		LR		
	comp=Z,3μm,19.0s,MS5.2							
AFI	**Afiamalu**	**46.12**	**104**	PFAKE			06 08 20.0	+9.2
AFI				LR		LR		
	comp=Z,3μm,22.0s,MS5.2							
GYA	**Guiyang**	**46.75**	**314**	⇓*i*P		**P**	**06 08 17.1**	**+1.5**
GYA				XP		sP	06 08 28.2	-0.6
GYA				PCP		PcP	06 09 42.4	-6.7
GYA				PP		PP	06 10 09.1	+3.9
GYA				S		**S**	**06 15 07.9**	**+5.3**
GYA				AMB		AMB		
	comp=Z,40nm,0.8s,mb5.4							
GYA				AMB		AMB		
	comp=Z,190nm,4.2s							
GYA				LR		LR		
	comp=N,1μm,17.3s,MS5.1							
GYA				LR		LR		
	comp=E,1μm,18.0s,MS5.1							
GYA				LR		LR		
	comp=Z,2μm,17.8s,MS5.0							
ENH	**Enshi**	**47.30**	**321**	*e*P		**P**	**06 08 18.9**	**-1.1**
	comp=Z,48nm,1.0s,mb5.4							
ENH				LR		LR		
	comp=Z,1μm,22.0s,MS4.9							
DL2	**Dalian**	**48.02**	**338**	*e*P		**P**	**06 08 30.0**	**+4.6**
DL2				S		**S**	**06 15 30.0**	**+10**
DL2				AMB		AMB		
	comp=Z,20nm,1.1s,mb5.1							
DL2				AMB		AMB		
	comp=Z,350nm,5.7s							
DL2				LR		LR		
	comp=N,780nm,19.3s,MS4.9							
DL2				LR		LR		
	comp=E,1μm,17.8s,MS4.9							
DL2				LR		LR		
	comp=Z,640nm,16.1s,MS4.7							
KMI	**Kunming**	**48.88**	**310**	P		**P**	**06 08 32.9**	**+0.7**
KMI				AP		pP	06 08 40.9	-0.8
KMI				XP		sP	06 08 44.5	-0.9
KMI				PCP		PcP	06 09 56.9	+0.2
KMI				PP		PP	06 10 26.8	+1.3
KMI				PPP		PPP	06 11 20.1	+1.0
KMI				SCP			06 13 48.6	
KMI				PCS			06 13 51.8	
KMI				S		**S**	**06 15 34.6**	**+2.0**
KMI				XS			06 15 48.1	
KMI				SCS		ScS	06 18 20.4	+1.2
KMI				AMB		AMB		
	comp=Z,30nm,1.1s,mb5.2							
KMI				LR		LR		
	comp=N,1μm,16.4s,MS5.0							
KMI				LR		LR		
	comp=E,950nm,19.1s,MS5.0							
KMI				LR		LR		
	comp=Z,2μm,20.0s,MS5.0							
SNY	**Shenyang**	**49.97**	**342**	⇑P		**P**	**06 08 38.0**	**-2.5**
SNY				S		**S**	**06 15 54.8**	**+7.1**
SNY				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.2							
SNY				LR		LR		
	comp=N,2μm,21.1s							
SNY				LR		LR		
	comp=Z,2μm,19.3s,MS5.1							
XAN	**Xi'an**	**50.26**	**324**	P		**P**	**06 08 41.8**	**-0.9**
XAN				AP		pP	06 08 54.0	+1.7
XAN				AMB		AMB		
	comp=Z,120nm,1.0s,mb5.9							
MDJ	**Mudanjiang**	**51.06**	**348**	P		**P**	**06 08 49.9**	**+1.2**
MDJ				AP		pP	06 08 58.9	+0.7
MDJ				PCP		PcP	06 10 04.3	-0.1
MDJ				PP		PP	06 10 46.9	+0.9
MDJ				PCS			06 14 02.1	
MDJ				S		**S**	**06 16 03.9**	**+1.3**
MDJ				AMB		AMB		
	comp=Z,20nm,1.8s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,390nm,4.6s							
MDJ				LR		LR		
	comp=N,1μm,30.1s,MS4.9							
MDJ				LR		LR		
	comp=E,1μm,28.1s,MS4.9							
MDJ				LR		LR		
	comp=Z,2μm,20.1s							
MDJ	**Mudanjiang**	**51.06**	**348**	*e*P		**P**	**06 08 47.6**	**-1.1**
	comp=Z,16nm,0.9s,mb5.0							
MDJ				LR		LR		
	comp=Z,2μm,22.0s,MS5.2							
CN2	**Changchun**	**51.25**	**345**	*e*P		**P**	**06 08 49.0**	**-1.2**
CN2				*e*AP		pP	06 08 57.6	-2.1
CN2				*e*S		**S**	**06 16 06.7**	**+1.4**
CN2				SCS		ScS	06 18 34.0	-1.0
CN2				*e*SS		SS	06 19 40.5	+1.8
CN2				AMB		AMB		
	comp=Z,30nm,1.0s,mb5.2							
CN2				AMB		AMB		
	comp=Z,920nm,5.0s							
CN2				LR		LR		
	comp=N,2μm,17.0s,MS5.3							
CN2				LR		LR		
	comp=E,2μm,17.0s,MS5.3							
CN2				LR		LR		
	comp=Z,2μm,19.0s,MS5.2							
MIDW	**Midway**	**51.37**	**47**	PFAKE			06 09 00.0	+8.8
MIDW				LR		LR		
	comp=Z,3μm,20.0s,MS5.3							
CD2	**Chengdu**	**51.48**	**317**	*e*P		**P**	**06 08 51.0**	**-1.1**
CD2				PP		PP	06 10 47.7	-2.3
CD2				PPP		PPP	06 11 51.8	-0.1
CD2				S		**S**	**06 16 09.7**	**+1.1**
CD2				AMB		AMB		
	comp=Z,60nm,1.1s,mb5.4							
CD2				AMB		AMB		
	comp=Z,290nm,5.9s							
CD2				LR		LR		
	comp=N,970nm,16.8s							
C

comp=Z,2µm,20.0s
HIA Hailar 57.85 343 *e*P **P** **06 09 36.7 -1.5**
comp=Z,73nm,1.5s,mb5.5
HIA LR LR
comp=Z,2µm,20.0s,MS5.2
GTA Gaotai 59.28 323 P **P** **06 09 47.8 -0.5**
GTA AP pP 06 09 57.2 -0.8
GTA XP sP 06 10 01.6 +0.1
GTA PP PP 06 12 02.2 +1.1
GTA S **S** **06 17 56.9 +4.3**
GTA XS 06 18 14.4
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,540nm,6.5s
GTA LR LR
comp=N,530nm,16.7s,MS4.9
GTA LR LR
comp=E,640nm,20.2s,MS4.9
GTA LR LR
comp=Z,880nm,15.6s,MS5.0
CAL Calcutta 59.49 300 *ex* **P** **06 09 53.4 +3.4**
PET Petropavlovsk 59.86 11 *e*P **P** **06 10 00.5 +8.3**
PET *e*S **S** **06 18 15.2 +15**
PET pmax pmax
comp=Z,300nm,11.9s
PET pmax pmax
comp=Z,200nm,15.7s
PET smax
comp=N,500nm,11.4s
LSA Lhasa 60.07 309 P **P** **06 09 54.4 +0.5**
LSA S **S** **06 18 04.2 +1.2**
LSA AMB AMB
comp=Z,20nm,1.1s,mb5.1
LSA AMB AMB
comp=Z,300nm,6.0s
LSA LR LR
comp=N,250nm,19.0s,MS4.8
LSA LR LR
comp=E,600nm,21.0s,MS4.8
LSA LR LR
comp=Z,570nm,21.0s,MS4.7
LSA Lhasa 60.07 309 *e*P **P** **06 09 54.2 +0.3**
LSA pmax pmax
comp=Z,63nm,1.0s,mb5.6
LSA MLR MLR
comp=Z,687nm,21.0s,MS4.8
LSA Lhasa 60.07 309 *e*P **P** **06 09 54.2 +0.3**
comp=Z,63nm,1.0s,mb5.6
LSA LR LR
comp=Z,687nm,21.0s,MS4.8
DRV Dumont d'Urvil 61.17 181 P Px 06 10 18.0
DRV S **S** **06 18 17.0 +0.5**
DRV SS SS 06 22 19.0 +0.9
DRV L 06 25 00.0
DRV R 06 29 00.0
ULN Ulaanbaatar 61.36 334⇑ *e*P **P** **06 10 01.9 -0.5**
ULN Ulaanbaatar 61.36 334 *e*P **P** **06 10 00.9 -1.5**
comp=Z,41nm,1.0s,mb5.5
ULN LR LR
comp=Z,2µm,19.0s,MS5.2
SONM Songino Array 61.63 333 P **P** **06 10 03.6 -0.7**
comp=Z,18nm,1.1s,mb5.1,baz=156,slow=5.3,SNR=31
SONM LR LR 06 37 57.6
comp=Z,2µm,19.4s,MS5.3,baz=142,slow=37
BOK Bokaro 62.04 300 *e*P **P** **06 10 07.5 +0.1**
BOK AMb AMB 06 10 15.2
comp=Z,50nm,2.2s,mb5.2
CIT Chita 62.19 340 *e*P **P** **06 10 07.9 -0.1**
VIS Vishakhapatnam 62.43 293 *e*P **P** **06 10 10.6 +0.6**
VIS AMb AMB 06 10 19.5
comp=Z,82nm,1.4s,mb5.7
JIRN Jiri 63.19 305 *e*P **P** **06 10 14.6 -0.3**
comp=Z,198nm,1.2s,mb6.1
GUN Gumba 63.54 305 *e*P **P** **06 10 16.8 -0.5**
comp=Z,526nm,1.4s
CLNS Chul'man 63.62 350 *e*P **P** **06 10 16.3 -1.0**
CLNS pmax pmax
comp=Z,42nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,0.8s
PKI Pulchoki 63.80 304 *e*P **P** **06 10 19.1 +0.1**
SMY Shemya 63.93 21 PFAKE 06 10 30.0 +11
SMY LR LR
comp=Z,7µm,20.0s,MS5.8
KKN Kakani 63.99 304 *e*P **P** **06 10 19.6 -0.6**
comp=Z,249nm,1.1s,mb6.2
KKN Kakani 63.99 304 *e*P **P** **06 10 19.6 -0.6**
KKN pmax pmax
comp=Z,125nm,1.1s,mb5.9
DMN Daman 64.06 304 *e*P **P** **06 10 20.2 -0.5**
comp=Z,221nm,1.0s,mb6.1
GKN Gorkha 64.59 304 *e*P **P** **06 10 23.5 -0.7**
comp=Z,298nm,1.1s,mb6.2
CASY Casey 64.62 194 *e*P **P** **06 10 22.5 -1.2**
CASY *i* S **S** **06 19 05.5 +5.8**
ZAK Zakamensk 64.89 334 *e*P **P** **06 10 24.9 -0.8**
ZAK pmax pmax
comp=Z,25nm,1.2s,mb5.1
MA2 Magadan 65.14 5 *e*P **P** **06 10 34.1 +7.0**
MA2 Magadan 65.14 5 PFAKE 06 10 40.0 +13
MA2 LR LR
comp=Z,1µm,20.0s,MS5.1
KOLN Koldanda 65.37 304 *e*P **P** **06 10 28.5 -0.7**
comp=Z,229nm,1.1s,mb6.1
IRK Irkutsk 65.84 336 *e*P **P** **06 10 34.5 +2.8**
IRK pmax pmax
comp=Z,92nm,2.7s,mb5.3
ALBI Allahabad 66.05 301 *e*P **P** **06 10 33.0 -0.5**
POHA Pohakuloa 66.15 66 PFAKE 06 10 50.0 +16
POHA LR LR
comp=Z,2µm,20.0s,MS5.3
HYB Hyderabad 66.75 291 *i* P **P** **06 10 37.5 -0.7**
HYB Hyderabad 66.75 291 *e*P **P** **06 10 37.5 -0.7**
MOY Mondy 66.82 334 *e*P **P** **06 10 38.9 +0.8**
MOY pmax pmax
comp=Z,136nm,3.0s
BOD Bodaibo 67.00 344 *e*P **P** **06 10 36.6 -2.5**
BOD pmax pmax
comp=Z,20nm,1.4s,mb5.0
PPT Papeete 67.68 107 *e*S S 06 19 40.6 +2.9
PPT *e*SS SS 06 24 07.6 +7.3
PPT *e*LR LR 06 31 24.9
comp=Z,2µm,25.2s,baz=281
PPT Papeete 67.68 107 LR LR 06 35 13.4
comp=Z,1µm,21.9s,MS5.0,baz=16,slow=31
YAK Yakutsk 67.93 354 *i* P **P** **06 10 43.2 -1.6**
YAK pmax pmax
comp=Z,22nm,0.5s,mb5.4
YAK Yakutsk 67.93 354 *e*P **P** **06 10 43.2 -1.6**
comp=Z,76nm,1.1s,mb5.6
YAK LR LR
comp=Z,3µm,22.0s,MS5.5
TBI Tubuai 68.04 113 *e*S S 06 19 45.1 +3.2
TBI *e*SS SS 06 24 06.1 +0.4
TBI *e*LQ 06 28 46.0
TBI *e*LR LR 06 31 39.4
comp=Z,965nm,26.8s
SEY Seymchan 68.59 5 *e*P **P** **06 10 47.1 -1.9**
SEY *e* 06 11 01.6
SEY *e* 06 13 21.8
SEY *e*PPP PPP 06 14 54.9 -5.2
SEY *e*S S 06 19 49.6 +1.8
SEY SS SS 06 24 16.4 +2.5
SEY pmax pmax
comp=Z,40nm,1.3s,mb5.2
SEY smax
comp=N,890nm,16.4s
SEY smax
comp=E,390nm,17.5s
SEY MLR MLR
comp=Z,960nm,19.0s,MS5.0
SEY MLR MLR
comp=N,600nm,18.0s,MS4.9
SEY MLR MLR
comp=E,60nm,15.0s,MS4.9
WMQ Urumqi 69.25 321 *e*P **P** **06 10 52.7 -0.6**
WMQ AP pP 06 11 02.7 -0.3
WMQ XP sP 06 11 06.7 +0.2
WMQ PCP PcP 06 11 16.5 -0.4
WMQ PP PP 06 13 28.0 -0.6
WMQ S S 06 19 54.9 -1.1
WMQ SCS ScS 06 20 47.3 -0.8
WMQ AMB AMB
comp=Z,70nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,460nm,5.6s
WMQ LR LR
comp=N,3µm,19.0s,MS5.7
WMQ LR LR
comp=E,2µm,18.6s,MS5.7
WMQ LR LR
comp=Z,2µm,18.0s,MS5.5
BHPL Bhopal 69.26 297 *e*P **P** **06 10 54.1 +0.4**
BHPL AMb AMB 06 11 02.7
comp=Z,74nm,2.3s,mb5.2
KAD Karad 70.79 290 *e*P **P** **06 11 03.7 +0.6**
KAD AMb AMB 06 11 15.9
comp=Z,50nm,1.9s,mb5.1
NDI New Delhi 70.98 303 *e*P **P** **06 11 03.5 -0.7**
POO Poona 71.36 292 *e*P **P** **06 11 07.4 +0.8**
POO AMb AMB 06 11 13.7
comp=Z,54nm,1.1s,mb5.4
AJM Ajmer 72.56 300 *e*P **P** **06 11 14.3 +0.6**
AJM AMb AMB 06 11 19.4
comp=Z,68nm,1.1s,mb5.5
VNDA Vanda 72.83 176 P **P** **06 11 14.9 +0.6**
comp=Z,5.0nm,0.8s,mb4.5,baz=318,slow=9.7,SNR=5.9
VNDA LR LR 06 43 43.7
comp=Z,3µm,18.8s,MS5.5,baz=351,slow=36
VNDA Vanda 72.83 176 *e*P **P** **06 11 13.2 -1.1**
VNDA pmax pmax
comp=Z,11nm,1.0s
VNDA MLR MLR
comp=Z,3µm,20.0s
VNDA Vanda 72.83 176 *e*P **P** **06 11 13.2 -1.1**
comp=Z,11nm,1.0s,mb4.8
VNDA LR LR
comp=Z,3µm,20.0s,MS5.5
UNV Unalaska Valle 72.95 29 P **P** **06 11 16.1 +0.7**
comp=Z,514nm,1.4s,mb6.3
UNV LR LR
comp=Z,5µm,21.0s,MS5.8
SBA Scott Base 73.55 175 P **P** **06 11 18.2 -0.3**
SBA MLR MLR
comp=Z,2µm,22.0s,MS5.3
MKAR Makanchi Array 74.02 322 P **P** **06 11 21.4 -0.3**
comp=Z,16nm,0.8s,mb5.0,baz=100,slow=7.4,SNR=18
MKAR Makanchi Array 74.02 322 *i* P **P** **06 11 21.8 +0.1**
MKAR pmax pmax
comp=Z,91nm,1.1s
MKAR Makanchi Array 74.02 322 P **P** **06 11 21.4 -0.3**
BILL Bilibino 75.22 9⇓ *e*P **P** **06 11 28.0 -0.3**
BILL *i* 06 11 47.2
BILL *e*S S 06 21 04.6 +0.9
BILL *e*SS SS 06 25 53.4 -2.4
BILL pmax pmax
comp=Z,16nm,1.1s,mb4.9
BILL Bilibino 75.22 9 *e*P **P** **06 11 27.9 -0.3**
comp=Z,42nm,1.3s,mb5.2
BILL LR LR
comp=Z,947nm,22.0s,MS5.0
KSH Kashi 75.42 313 *e*P **P** **06 11 31.8 +1.8**
KSH AP pP 06 11 39.2 -0.6
KSH XP sP 06 11 43.6 +0.4
KSH *e*PCP PcP 06 11 45.0 +1.7
KSH *e*PP PP 06 14 21.5 +0.4
KSH S S 06 21 07.2 +0.7
KSH SKS SKS 06 21 32.1 -8.8
KSH SCS ScS 06 21 38.6 +1.2
KSH AMB AMB
comp=Z,190nm,5.3s
KSH LR LR
comp=N,570nm,16.5s,MS5.2
KSH LR LR
comp=E,720nm,16.4s,MS5.2
BHJ Bhuj 76.20 295 *e*P **P** **06 11 35.4 +0.7**
BHJ AMb AMB 06 11 41.7
comp=Z,143nm,1.3s,mb5.7
TKM2 Tokmak 2 76.86 316 P **P** **06 11 37.8 -0.3**
SNR=7.0
TAOE Nuku Hiva Isla 77.06 98 *e*LR LR 06 35 33.2
comp=Z,4µm,23.7s
NVS Novosibirsk 77.24 329 *i* P **P** **06 11 38.2 -1.6**
NVS *e* 06 21 31.1
NVS pmax pmax
comp=Z,108nm,1.6s,mb5.5
NVS pmax pmax
comp=N,77nm,1.7s
NVS pmax pmax
comp=E,96nm,1.7s
UCH Uchtor 77.37 315 P **P** **06 11 41.7 +0.8**
SNR=14
TIXI Tiksi 77.40 356 *e*P **P** **06 11 36.3 -4.2**
TIXI *e* 06 14 36.6
TIXI *e*S S 06 21 26.3 -1.1
TIXI *e*SS SS 06 26 28.4 -0.8
TIXI *e*SSS SSS 06 29 41.1 -4.9
TIXI pmax pmax
comp=Z,11nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,596nm,17.0s,MS5.0
TIXI Tiksi 77.40 356 PFAKE 06 11 50.0 +10
TIXI LR LR
comp=Z,1µm,22.0s,MS5.1
FRU Bishkek 77.50 316 *e*P **P** **06 11 44.0 +2.4**
FRU *e* 06 11 48.0
FRU *e* 06 11 56.0
FRU *e* 06 21 46.0
FRU pmax pmax
comp=Z,90nm,2.1s,mb5.3
FRU MLR MLR
comp=Z,500nm,20.0s,MS4.8
AAK Ala-Archa 77.52 316 P **P** **06 11 43.8 +2.1**
SNR=10
AAK Ala-Archa 77.52 316 *i* P **P** **06 11 40.6 -1.1**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AAK MLR MLR
comp=Z,500nm,19.0s,MS4.9
USP Ospenovka 77.73 316 P **P** **06 11 42.6 -0.2**
SNR=9.9
KURK Kurchatov 77.89 324 P **P** **06 11 42.7 -0.8**
KURK pmax pmax
comp=Z,141nm,2.4s,mb5.5
AML Almayashu 77.92 315 P **P** **06 11 44.5 +0.6**
SNR=9.5
EKS2 Erkin-Say 78.03 315 P **P** **06 11 45.0 +0.5**
SNR=10
TNA Tin City 79.54 19 *e*P **P** **06 11 51.4 -0.8**
comp=Z,32nm,1.2s,mb5.1
TNA LR LR
comp=Z,860nm,22.0s,MS5.0
KKAR Karatay Array 80.45 315 P **P** **06 11 57.1 -0.5**
KKAR pmax pmax
comp=Z,24nm,1.1s,mb5.0
MAW Mawson 80.94 202 *e*P **P** **06 12 01.0 +1.3**
comp=Z,8.9nm,0.4s,mb5.0
MAW Mawson 80.94 202 P **P** **06 11 59.6 -0.1**
comp=Z,20nm,1.1s,mb5.0,baz=70,slow=1.1,SNR=6.3
MAW LR LR 06 47 16.3
comp=Z,3µm,18.5s,MS5.6,baz=69,slow=35
MAW Mawson 80.94 202 *e*P **P** **06 12 01.0 +1.3**
MAW pmax pmax
comp=Z,9.0nm,0.4s
RKT Rikitea 81.35 112 *e*S S 06 22 13.0 +3.0
RKT *e*SS SS 06 27 35.3 +5.8
RKT *e*LQ 06 34 07.8
RKT *e*LR LR 06 37 36.2
comp=Z,1µm,29.8s
VOSK Vostochnaya 83.05 325 P **P** **06 12 10.1 -0.8**
VOSK pmax pmax
comp=Z,60nm,1.6s,mb5.4
BVA0 Borovoye Array 83.48 325 P **P** **06 12 13.0 -0.1**
BVA0 pmax pmax
comp=Z,13nm,1.1s,mb4.9
BVAR Borovoye Array 83.48 325 P **P** **06 12 13.2 +0.1**
comp=Z,22nm,0.8s,mb5.2,baz=104,slow=6.1,SNR=53
CHKZ Chkalovo 83.55 325 *e*P **P** **06 12 12.5 -1.0**
CHKZ pmax pmax
comp=Z,156nm,1.5s,mb5.9
CHKZ Chkalovo 83.55 325 *e*P **P** **06 12 12.5 -1.0**
comp=Z,156nm,1.5s,mb5.9
FIB Fire Island 84.17 27 PFAKE 06 12 30.0 +14
FIB LR LR
comp=Z,1µm,21.0s,MS5.3
QSPA South Pole Qui 84.56 180 *e*P **P** **06 12 18.2 +0.2**
QSPA *e*pP pP 06 12 30.7 +2.7
QSPA LR LR
comp=Z,3µm,20.0s,MS5.7
PMR Palmer 84.80 27 PFAKE 06 12 30.0 +10
PMR LR LR
comp=Z,4µm,22.0s,MS5.7
SML Sawmill 85.23 27 *e*P **P** **06 12 21.7 0.0**
MCK McKinley 85.66 25 PFAKE 06 12 40.0 +16
MCK LR LR
comp=Z,972nm,22.0s,MS5.2
DIV Divide 86.16 28 PFAKE 06 12 40.0 +14
DIV LR LR
comp=Z,3µm,21.0s,MS5.7
COLA College 86.51 24 *i* P **P** **06 12 30.7 +2.7**
COLA College 86.51 24 PFAKE 06 12 40.0 +12
COLA LR LR
comp=Z,1µm,22.0s,MS5.3
ILAR Eielson Array 86.87 24 LR LR 06 47 20.4
comp=Z,842nm,20.7s,MS5.1,baz=245,slow=33
AB31 Akbulak array 88.99 320 P **P** **06 12 38.5 -1.8**
AB31 pmax pmax
comp=Z,15nm,1.1s,mb5.2
SYO Syowa Base 89.47 201⇓ P **P** **06 12 40.9 -1.2**
SYO Syowa Base 89.47 201⇓ *e*P pP 06 12 53.1 +1.0
SYO Syowa Base 89.47 201⇓ *e*P **P** **06 12 40.9 -1.2**
SYO ⇓ *e*P pP 06 12 53.1 +1.0
AKTO Aktyubinsk 90.40 320 P **P** **06 12 45.7 -1.1**
comp=Z,4.1nm,1.0s,mb4.7,baz=91,slow=6.9,SNR=11
AKTO LR LR 06 53 00.5
comp=Z,261nm,18.9s,MS4.7,baz=143,slow=35
SIT Sitka 90.43 33 PFAKE 06 13 00.0 +13
SIT LR LR
comp=Z,2µm,20.0s,MS5.5
ARU Arti 90.92 326⇑ *i* P **P** **06 12 47.1 -2.0**
ARU *e* 06 16 23.0
ARU *e*S 06 23 15.4
ARU *e*SP SP 06 24 45.3 -7.3
ARU *e*PS PS 06 24 56.5 -0.8
ARU *e*SS SS 06 29 44.4 -4.0
ARU *e*SSS SSS 06 33 24.8 -0.5
ARU pmax pmax
comp=Z,20nm,1.0s,mb5.4
ARU MLR MLR
comp=Z,800nm,19.0s,MS5.2
ARU MLR MLR
comp=N,100nm,18.0s,MS5.1
ARU MLR MLR
comp=E,700nm,19.0s,MS5.1
INK Inuvik 92.88 22 P **P** **06 12 59.9 +2.1**
comp=E,4.3nm,1.0s,mb4.8,baz=278,slow=5.3,SNR=5.9
OCWA Octopus Mounta 96.43 43 PFAKE 06 13 30.0 +15
OCWA LR LR
comp=Z,1µm,19.0s,MS5.3
COR Corvallis 97.00 46 PFAKE 06 13 30.0 +13
COR LR LR
comp=Z,1µm,21.0s,MS5.3
HOPS Hopland 97.08 51 PFAKE 06 13 30.0 +12
HOPS LR LR
comp=Z,1µm,22.0s,MS5.3
NVL N'lazarevskaya 97.19 195 *e*P **P** **06 13 20.3 +2.8**
NVL *e**SP sP 06 13 28.5 -2.2
NVL *e* 06 17 17.3
NVL *e*S 06 23 50.6
NVL *e* 06 24 27.2
NVL pmax pmax
comp=Z,1.0nm,0.9s,mb4.2
NVL MLR MLR
comp=Z,335nm,18.8s,MS4.8
HUMO Hull Mountain 97.22 48 *e*P **P** **06 13 18.3 0.0**
comp=Z,18nm,1.3s,mb5.3
HUMO LR LR
comp=Z,835nm,20.0s,MS5.2
YBH Yreka Blue Hor 97.40 49 PFAKE 06 13 30.0 +11
YBH LR LR
comp=Z,2µm,22.0s,MS5.4
WDC Whiskeytown Da 97.51 50 PFAKE 06 13 30.0 +10
WDC LR LR
comp=Z,836nm,21.0s,MS5.2
SAO San Andreas Ge 98.33 54 PFAKE 06 13 40.0 +17
SAO LR LR
comp=Z,2µm,21.0s,MS5.5
GNI Garni 99.13 310 PFAKE 06 13 40.0 +13
GNI LR LR
comp=Z,366nm,21.0s,MS4.8
CMB Columbia Colle 99.17 52 P **P** **06 13 27.7 +0.5**
CMB MLR MLR
comp=Z,1µm,21.0s,MS5.3
MOD Modoc 99.19 49 PFAKE 06 13 40.0 +13
MOD LR LR
comp=Z,696nm,21.0s,MS5.1
HAWA Hanford 99.62 44 PFAKE 06 13 40.0 +11
HAWA LR LR
comp=Z,43nm,19.0s
SNAA Sanae 99.74 191 *i* P **P** **06 13 28.6 -0.4**
SNAA Sanae 99.74 191 *e*P **P** **06 13 28.9 -0.1**
comp=Z,8.7nm,1.0s,mb5.1
SNCC San Nicolas Is 99.89 57 PFAKE 06 13 40.0 +9.4
SNCC LR LR
comp=Z,1µm,19.0s,MS5.5
WVOR Wild Horse Val 100.42 48 *e*P P 06 13 32.6 -0.2
WVOR pmax pmax
comp=Z,15nm,1.2s
WVOR MLR MLR
comp=Z,1µm,20.0s,MS5.3
WVOR Wild Horse Val 100.42 48 *e*P P 06 13 32.6 -0.2
comp=Z,15nm,1.2s
WVOR LR LR
comp=Z,1µm,20.0s,MS5.3
ISA Isabella 100.74 55 PFAKE 06 13 50.0 +16
ISA LR LR
comp=Z,386nm,22.0s,MS4.9
NVAR Mina Array Bea 100.81 52 P P 06 13 37.8 +3.1
comp=Z,0.8nm,0.8s,baz=257,slow=4.5,SNR=5.9
YKA Yellowknife Ar 100.88 27 P P 06 13 36.3 +2.0
comp=Z,0.7nm,0.9s,baz=284,slow=5.0,SNR=3.8
YKA Yellowknife Ar 100.88 27 P P 06 13 36.4 +2.1
MNV Mina 100.92 52 PFAKE 06 13 50.0 +15
MNV LR LR
comp=Z,1µm,22.0s,MS5.4
BMO Blue Mountains 101.26 45 *e*P P 06 13 37.3 +0.8
BMO pmax pmax
comp=Z,17nm,1.5s
BMO MLR MLR
comp=Z,754nm,22.0s,MS5.2
BMO Blue Mountains 101.26 45 *e*Pdif P 06 13 37.3 +0.8
comp=Z,17nm,1.5s
BMO LR LR
comp=Z,754nm,22.0s,MS5.2
DAC Darwin (Calif) 101.44 54 PFAKE 06 13 50.0 +13
DAC LR LR
comp=Z,2µm,22.0s,MS5.5
TPH Tonopah 101.67 52 PFAKE 06 13 50.0 +11
TPH LR LR
comp=Z,895nm,21.0s,MS5.3
APA Apatity 102.08 338 *e*P Pdif 06 13 47.8 +8.3
APA *e* 06 27 00.0
APA *e* 06 32 30.0
KBS Kingsbay 102.48 351 *e*PP PP 06 17 54.5 -2.2
KBS *e*SKSa 06 24 24.9
KBS *e* 06 27 07.4
KBS AMS AMS 06 56 12.4
comp=Z,316nm,22.4s,MS4.8
KBS Kingsbay 102.48 351 PFAKE 06 13 50.0 +8.9
KBS LR LR
comp=Z,517nm,22.0s,MS5.0
TPNV Topopah Spring 102.49 53 P Pdif 06 13 42.5 +0.4
TPNV MLR MLR
comp=Z,2µm,21.0s,MS5.5
ELK Elko 103.06 50 P Pdif 06 13 45.1 +0.6
ELK pmax pmax
comp=Z,10.0nm,1.6s
ELK MLR MLR
comp=Z,694nm,20.0s
ELK Elko 103.06 50 Pdif Pdif 06 13 45.1 +0.6
comp=Z,9.5nm,1.6s
ELK LR LR
comp=Z,694nm,20.0s,MS5.2
OBN Obninsk 103.32 325 *e*P Pdif 06 13 44.7 -0.5
OBN *e* 06 18 08.5
OBN *e* 06 24 28.1
OBN *e*S S 06 25 29.7 +2.9
OBN *e*PS PS 06 27 15.7 +5.2
OBN *e*SS SS 06 32 46.5 +3.9
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,900nm,22.0s,MS5.3

MSO	**Missoula**	**103.43**	**43**	PFAKE		06 14 00.0	+14		
MSO				LR	LR				
	comp=Z,360nm,20.0s,MS4.9								
HLID	**Hailey**	**103.44**	**47**	*e*Pdif	Pdif	06 13 47.1	+1.0		
	comp=Z,13nm,1.6s								
HLID				LR	LR				
	comp=Z,1μm,21.0s,MS5.4								
KEV	**Kevo**	**103.59**	**341**	PFAKE		06 14 00.0	+14		
KEV				LR	LR				
	comp=Z,770nm,22.0s,MS5.2								
ARCES	**ARCESS Array B**	**104.16**	**341**	Pdiff	Pdif	06 13 47.9	-0.8		
	comp=Z,6.2nm,1.1s,baz=78,slow=8.3,SNR=4.1								
KMBO	**Kilima Mbogo**	**104.73**	**267**	PFAKE		06 14 00.0	+7.5		
KMBO				LR	LR				
	comp=Z,419nm,19.0s,MS5.0								
DUG	**Dugway**	**104.95**	**50**	PFAKE		06 18 20.0			
DUG				LR	LR				
	comp=Z,551nm,22.0s,MS5.0								
BOZ	**Bozeman (W)**	**105.17**	**44**	PFAKE		06 18 20.0			
BOZ				LR	LR				
	comp=Z,814nm,22.0s,MS5.2								
MVU	**Marysvale**	**105.58**	**52**	PFAKE		06 18 20.0			
MVU				LR	LR				
	comp=Z,1μm,21.0s,MS5.3								
HWUT	**Hardware Ranch**	**105.73**	**48**	*e*PKiKP		06 18 05.2			
HWUT				LR	LR				
	comp=Z,1μm,21.0s,MS5.4								
YMR	**Madison River**	**105.77**	**45**	PFAKE		06 18 20.0			
YMR				LR	LR				
	comp=Z,1μm,20.0s,MS5.4								
MPU	**Maple Canyon**	**105.87**	**50**	PFAKE		06 18 20.0			
MPU				LR	LR				
	comp=Z,1μm,21.0s,MS5.4								
AHID	**Auburn Hatcher**	**105.93**	**47**	PFAKE		06 18 20.0			
AHID				LR	LR				
	comp=Z,731nm,20.0s,MS5.2								
TRO	**Tromso**	**106.18**	**342**	*e*PP	PP	06 18 21.6	-2.8		
TRO				*e*SKSa		06 24 37.9			
TRO				*e*		06 28 47.6			
TRO				AMS	AMS	07 04 23.2			
	comp=Z,680nm,19.2s,MS5.2								
TRO	**Tromso**	**106.18**	**342**	*e*P	PP	06 18 22.4	-2.1		
WUAZ	**Wupatki**	**106.52**	**55**	PFAKE		06 18 20.0			
WUAZ				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
BW06	**Boulder Array**	**107.06**	**47**	PFAKE		06 18 20.0			
BW06				LR	LR				
	comp=Z,760nm,20.0s,MS5.2								
TUC	**Tucson**	**107.28**	**58**	*e*PKiKP		06 18 15.6			
TUC				LR	LR				
	comp=Z,786nm,19.0s,MS5.3								
PMSA	**Palmer Station**	**107.35**	**169**	*e*PKiKP		06 18 11.4			
PMSA				LR	LR				
	comp=Z,734nm,21.0s,MS5.2								
BR131	**Keskin Array S**	**107.67**	**310**	*e*PKiKP		06 18 13.7			
BR131				LR	LR				
	comp=Z,269nm,20.0s,MS4.8								
ANTO	**Ankara**	**108.29**	**310**	PFAKE		06 18 30.0			
ANTO				LR	LR				
	comp=Z,382nm,20.0s,MS5.0								
LAO	**LASA Array**	**108.69**	**43**	PFAKE		06 18 30.0			
LAO				LR	LR				
	comp=Z,747nm,22.0s,MS5.2								
ISCO	**Idaho Springs**	**110.48**	**50**	PFAKE		06 18 30.0	+8.3		
ISCO				LR	LR				
	comp=Z,860nm,19.0s,MS5.3								
ANMO	**Albuquerque**	**110.58**	**55**	PFAKE		06 18 30.0	+7.9		
ANMO				LR	LR				
	comp=Z,768nm,22.0s,MS5.2								
SDCO	**Great Sand Dun**	**110.92**	**52**	*e*PKiKP		06 18 20.2			
SDCO				LR	LR				
	comp=Z,2μm,22.0s,MS5.6								
NSS	**Namsos**	**111.24**	**339**	AMS	AMS	07 07 37.6			
	comp=Z,1μm,19.4s,MS5.4								
LBTB	**Lobatse**	**111.38**	**241**	*e*PKIKP	PKPdf	06 18 20.0	-3.8		
LBTB				MLR	MLR				
	comp=Z,1μm,21.0s,MS5.5								
LSZ	**Lusaka**	**111.46**	**251**	PFAKE		06 18 30.0	+5.9		
LSZ				LR	LR				
	comp=Z,2μm,20.0s,MS5.7								
JMIC	**Jan Mayen**	**111.89**	**350**	*e*PP	PP	06 19 00.8	-5.4		
MNTX	**Cornudas Mount**	**111.91**	**58**	*e*PKiKP		06 18 23.5			
MNTX				LR	LR				
	comp=Z,806nm,19.0s,MS5.3								
LTX	**Lajitas**	**113.68**	**60**	PFAKE		06 18 40.0	+12		
LTX				LR	LR				
	comp=Z,1μm,21.0s,MS5.4								
TXAR	**Lajitas Array**	**113.68**	**60**	PKiKP		06 18 26.5			
	comp=Z,0.8nm,1.0s,baz=180,slow=1.3,SNR=3.7								
TXAR				PKKPbc		06 29 06.3			
	comp=Z,0.2nm,0.3s,baz=49,slow=2.9,SNR=11								
TXAR				PKKP	PKKP	06 29 24.5	+2.7		
	comp=Z,0.5nm,0.8s,baz=129,slow=5.8,SNR=3.7								
TXAR	**Lajitas Array**	**113.68**	**60**	PKPdf	PKPdf	06 18 26.5	-1.8		
TXAR				PKKPbc		06 29 06.3			
TXAR				PKKP	PKKP	06 29 24.5	+2.7		
KONO	**Kongsberg**	**115.00**	**336**	*e*PP	PP	06 19 24.0	-5.2		
KONO				*i*		06 29 08.0			
KONO	**Kongsberg**	**115.00**	**336**	PFAKE		06 18 40.0	+10		
KONO				LR	LR				
	comp=Z,1μm,19.0s,MS5.5								
BER	**Bergen**	**116.22**	**338**	*e*	PP	06 19 18.7	-19		
BER				*e*		06 29 24.4			
BER				AMS	AMS	07 12 24.2			
	comp=Z,766nm,20.0s,MS5.3								
JCT	**Junction City**	**116.83**	**59**	PFAKE		06 18 40.0	+5.6		
JCT				LR	LR				
	comp=Z,731nm,19.0s,MS5.3								
WMOK	**Wichita Mounta**	**116.83**	**54**	PFAKE		06 18 40.0	+5.7		
WMOK				LR	LR				
	comp=Z,602nm,20.0s,MS5.2								
BRG	**Berggiesshubel**	**117.56**	**326**	*e*PKIKP	PKPdf	06 18 43.0	+7.8		
BRG				*e*		06 18 52.1			
BRG				MLR	MLR				
	comp=Z,740nm,17.7s,MS5.4								
BRG	**Berggiesshubel**	**117.56**	**326**	*e*PKP	PKPdf	06 18 43.0	+7.7		
BRG				*e*		06 18 52.1			
BRG				*i*		06 29 35.0			
BRG				LR	LR				
	comp=Z,740nm,17.7s,MS5.4								
EYMN	**Ely**	**117.78**	**38**	PFAKE		06 18 40.0	+4.3		
EYMN				LR	LR				
	comp=Z,2μm,22.0s,MS5.7								
CLL	**Collm**	**117.87**	**327**	*e*PKP	PKPdf	06 18 32.0	-3.8		
CLL				LR	LR				
	comp=Z,1μm,19.4s,MS5.5								
GERES	**GERESS Array B**	**118.64**	**324**	PKP	PKPdf	06 18 33.3	-4.1		
	comp=Z,0.9nm,0.7s,baz=45,slow=1.9,SNR=6.8								
GERES				PP	PP	06 19 59.1	+4.1		
	comp=Z,0.6nm,0.7s,baz=117,slow=4.4,SNR=2.6								
TSUM	**Tsumeb**	**120.22**	**244**	*e*PKPdf	PKPdf	06 18 35.7	-5.4		
TSUM				LR	LR				
	comp=Z,1μm,19.0s,MS5.5								
NATX	**Nacogdoches**	**120.88**	**56**	PFAKE		06 18 50.0	+7.8		
NATX				LR	LR				
	comp=Z,911nm,20.0s,MS5.4								
MIAR	**Mount Ida**	**121.04**	**53**	PFAKE		06 18 50.0	+7.5		
MIAR				LR	LR				
	comp=Z,941nm,20.0s,MS5.4								
CCM	**Cathedral Cave**	**121.74**	**48**	PFAKE		06 18 50.0	+6.3		
CCM				LR	LR				
	comp=Z,794nm,22.0s,MS5.3								
GIVF	**Givet**	**122.89**	**329**	*e*PKIKP	PKPdf	06 18 41.6	-4.0		
HINF	**Hinteralfeld**	**123.10**	**326**	*e*PKIKP	PKPdf	06 18 41.9	-4.2		
BAIF	**Baives**	**123.23**	**329**	*e*PKIKP	PKPdf	06 18 41.8	-4.5		
HAU	**Haudompre**	**123.28**	**326**	*e*PKIKP	PKPdf	06 18 42.2	-4.2		
CABF	**La Chapelle**	**124.20**	**325**	*e*PKIKP	PKPdf	06 18 43.9	-4.4		
	comp=Z,75nm,1.4s								
OXF	**Oxford**	**124.32**	**52**	PFAKE		06 19 00.0	+11		
OXF				LR	LR				
	comp=Z,944nm,22.0s,MS5.4								
WVT	**Waverly**	**124.97**	**49**	PFAKE		06 19 00.0	+10		
WVT				LR	LR				
	comp=Z,1μm,21.0s,MS5.6								
LOR	**Lormes**	**125.08**	**326**	*e*PKIKP	PKPdf	06 18 45.3	-4.7		
PLCA	**Paso Flores**	**125.15**	**150**	PKP	PKPdf	06 18 47.0	-3.3		
	comp=Z,4.1nm,1.1s,baz=211,slow=9.1,SNR=4.3								
PLCA	**Paso Flores**	**125.15**	**150**	PKIKP	PKPdf	06 18 47.0	-3.3		
PLCA				MLR	MLR				
	comp=Z,510nm,20.0s								
AAM	**Ann Arbor**	**125.28**	**41**	PFAKE		06 19 00.0	+10		
AAM				LR	LR				
	comp=Z,1μm,22.0s,MS5.5								
WCI	**Wyandotte Cave**	**125.29**	**46**	PFAKE		06 19 00.0	+9.4		
WCI				LR	LR				
	comp=Z,1μm,20.0s,MS5.5								
SSF	**Saint Saulge**	**125.40**	**326**	*e*PKIKP	PKPdf	06 18 46.4	-4.2		
	comp=Z,51nm,1.5s								
SMF	**Signal de Mont**	**125.46**	**326**	*e*PKIKP	PKPdf	06 18 46.2	-4.5		
	comp=Z,93nm,1.6s								
SCHQ	**Schefferville**	**125.46**	**20**	PFAKE		06 19 00.0	+10		
SCHQ				LR	LR				
	comp=Z,828nm,20.0s,MS5.4								
AVF	**Avril sur Loir**	**125.65**	**326**	*e*PKIKP	PKPdf	06 18 47.2	-3.8		
	comp=Z,41nm,1.5s								
BGF	**Bois d'Agland**	**126.06**	**326**	*e*PKIKP	PKPdf	06 18 47.5	-4.3		
TCF	**Toulx Ste Croi**	**126.58**	**326**	*e*PKIKP	PKPdf	06 18 48.1	-4.7		
	comp=Z,81nm,1.4s								
ACSO	**Alum Creek Sta**	**126.72**	**43**	PFAKE		06 19 00.0	+6.7		
ACSO				LR	LR				
	comp=Z,465nm,19.0s,MS5.2								
PAYG	**Puerto Ayora**	**127.28**	**95**	PFAKE		06 19 00.0	+4.9		
PAYG				LR	LR				
	comp=Z,573nm,21.0s,MS5.2								
ERPA	**Erie**	**127.72**	**39**	PFAKE		06 19 00.0	+4.8		
ERPA				LR	LR				
	comp=Z,1μm,19.0s,MS5.5								
MCWV	**Mont Chateau**	**129.10**	**42**	PFAKE		06 19 10.0	+12		
MCWV				LR	LR				
	comp=Z,892nm,19.0s,MS5.5								
GOGA	**Godfrey**	**129.32**	**51**	PFAKE		06 19 10.0	+11		
GOGA				LR	LR				
	comp=Z,1μm,22.0s,MS5.5								
BLA	**Blacksburg**	**129.92**	**45**	PFAKE		06 19 10.0	+10		
BLA				LR	LR				
	comp=Z,825nm,20.0s,MS5.4								
NCB	**Newcomb**	**130.05**	**34**	PFAKE		06 19 10.0	+10		
NCB				LR	LR				
	comp=Z,1μm,19.0s,MS5.6								
LBNH	**Lisbon**	**131.13**	**32**	PFAKE		06 19 10.0	+8.4		
LBNH				LR	LR				
	comp=Z,2μm,21.0s,MS5.8								
TRQA	**Tornquist**	**131.28**	**155**	*e*PKPdf	PKPdf	06 18 59.8	-2.3		
TRQA				LR	LR				
	comp=Z,1μm,19.0s,MS5.6								
TRIS	**Tristan da Cun**	**131.49**	**207**	PFAKE		06 19 10.0	+7.5		
TRIS				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
CBN	**Corbin**	**131.50**	**42**	PFAKE		06 19 10.0	+7.5		
CBN				LR	LR				
	comp=Z,2μm,21.0s,MS5.7								
NHSC	**New Hope**	**131.96**	**49**	PFAKE		06 19 10.0	+6.5		
NHSC				LR	LR				
	comp=Z,1μm,19.0s,MS5.6								
HRV	**Harvard--Oak R**	**132.49**	**34**	PFAKE		06 19 10.0	+5.7		
HRV				LR	LR				
	comp=Z,1μm,19.0s,MS5.7								
WES	**Weston**	**132.70**	**34**	PFAKE		06 19 10.0	+5.3		
WES				LR	LR				
	comp=Z,2μm,19.0s,MS5.8								
DWPF	**Disney**	**132.91**	**56**	PFAKE		06 19 10.0	+4.5		
DWPF				LR	LR				
	comp=Z,508nm,20.0s,MS5.2								
ESDC	**Sonseca Array**	**134.22**	**323**	PP	PP	06 21 39.2	+1.1		
	comp=Z,1.5nm,0.8s,baz=46,slow=6.5,SNR=5.0								
ESLA	**Sonseca Array**	**134.22**	**323**	PFAKE		06 19 20.0	+12		
ESLA				LR	LR				
	comp=Z,5μm,20.0s,MS6.2								
MDT	**Midelt**	**138.74**	**316**	PP	PP	06 22 09.8	+3.3		
	comp=Z,2.1nm,0.9s,baz=38,slow=7.4,SNR=3.8								
OTAV	**Otavalo**	**139.13**	**96**	PFAKE		06 19 30.0	+13		
OTAV				LR	LR				
	comp=Z,397nm,20.0s,MS5.2								
TORD	**Torodi Ar. Bea**	**140.28**	**284**	PKhKP		06 19 11.6			
	comp=Z,1.2nm,0.8s,baz=72,slow=2.3,SNR=5.8								
TORD				PKP	PKPdf	06 19 16.7	-2.5		
	comp=Z,2.8nm,0.7s,baz=72,slow=1.9,SNR=11								
TORD				PP	PP	06 22 20.9	+4.9		
	comp=Z,2.2nm,1.1s,baz=45,slow=2.0,SNR=3.9								
LPAZ	**La Paz**	**143.09**	**126**	PKhKP		06 19 18.8			
	comp=Z,2.6nm,1.0s,baz=20,slow=3.0,SNR=7.2								
LPAZ				PKP	PKPdf	06 19 22.8	-1.4		
	comp=Z,4.5nm,1.1s,baz=210,slow=15,SNR=8.6								
LPAZ	**La Paz**	**143.09**	**126**	*e*PKIKP	PKPdf	06 19 17.3	-6.9		
LPAZ						06 19 22.8			
LPAZ				MLR	MLR				
	comp=Z,335nm,19.0s								
CPUP	**Villa Florida**	**143.23**	**150**	*e*PKIKP	PKPdf	06 19 17.4	-6.8		
CPUP				MLR	MLR				
	comp=Z,205nm,20.0s								
BBSR	**BB Station**	**143.28**	**40**	PFAKE		06 19 30.0	+13		
BBSR				LR	LR				
	comp=Z,844nm,20.0s,MS5.5								
ROSC	**El Rosal**	**143.66**	**89**	PKhKP		06 19 19.8			
	comp=Z,8.2nm,0.7s,baz=100,slow=6.1,SNR=9.6								
ROSC				PKP	PKPdf	06 19 23.5	-1.7		
	comp=Z,15nm,0.9s,baz=267,slow=5.9,SNR=9.0								
DBIC	**Dimbokro**	**147.18**	**274**	PKPbc	PKPdf	06 19 29.2	-2.1		
	comp=Z,23nm,0.8s,baz=74,slow=3.8,SNR=23								
DBIC	**Dimbokro**	**147.18**	**274**	*e*PKIKP	PKPdf	06 19 26.6	-4.7		
DBIC				MLR	MLR				
	comp=Z,981nm,20.0s								
SDV	**Santo Domingo**	**147.29**	**82**	*e*PKPdf	PKPdf	06 19 27.8	-3.7		
SDV				LR	LR				
	comp=Z,775nm,20.0s,MS5.5								
LIC	**Lamto**	**147.35**	**273**	*e*PKIKP	PKPdf	06 19 28.4	-3.2		
	comp=Z,245nm,1.3s								
SJG	**San Juan**	**149.61**	**63**	PKHKP		06 19 32.1			
SJG				MLR	MLR				
	comp=Z,766nm,20.0s								
CPD	**Cerro la Pandu**	**149.84**	**63**	PKHKP		06 19 33.1			
SAML	**Samuel**	**150.99**	**119**	*e*PKPdf	PKPdf	06 19 33.8	-3.5		
SAML				*e*PKPbc	PKPdf	06 19 39.2	+1.9		
SAML				LR	LR				
	comp=Z,860nm,19.0s,MS5.6								
CAM4	**Nova Friburgo**	**152.02**	**171**	(P)	PKPdf	06 19 33.7	-4.9		
CAM4				*i*		06 19 48.5			
CAM4				*i*		06 19 58.1			
CAM4				*i*		06 20 02.2			
CAM4				*i*		06 20 08.8			
BDFB	**Brasilia**	**156.79**	**154**	PKP	PKPdf	06 19 41.6	-3.7		
	comp=Z,1.7nm,0.8s,baz=12,slow=5.5,SNR=2.1								
BAO	**Brasilia Array**	**156.80**	**154**	PKPdf	PKPdf	06 19 39.0	-6.2		
RCBR	**Riachuelo**	**168.67**	**190**	PFAKE		06 20 00.0	+3.2		
RCBR				LR	LR				
	comp=Z,1μm,20.0s								

*NEIC **05** 06:11:21.1, 18.49N×92.86W, h70km, mb3.8/3, MD4.2(MEX), After MEX.*

MEX 05 06:11:21.1±0.4, 18.49N×92.86W, h71km±20km, MD4.2, 1C, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**1.55**	**253**	*i* P	P	06 11 45.5	-1.8
TUIG				*i* S	S	06 12 04.1	-2.5
SCX	**San Cristobal**	**1.76**	**173**	*i* P	P	06 11 48.0	-2.1
SCX				*i* S	S	06 12 10.0	-1.4
SCX	**San Cristobal**	**1.76**	**173**	*i* P	P	06 11 48.0	-2.1
SCX				*i* S	S	06 12 13.8	+2.4
CCIG	**Comitan**	**2.30**	**162**	⇑*i* P	P	06 11 55.8	-1.8
CCIG				*i* S	S	06 12 22.6	-2.1
CMIG	**Matias Romero**	**2.38**	**235**	*i* P	P	06 11 56.3	-2.4
CMIG				*i* S	S	06 12 24.6	-2.1
OXX	**Oaxaca**	**3.94**	**250**	*i* P	P	06 12 19.0	-1.5
OXX				*i* S	S	06 13 03.0	-2.8
VHO	**Vista Hermosa**	**3.95**	**250**	*e*P	P	06 12 18.1	-2.6
VHO				*i* S	S	06 13 03.6	-2.5
JCT	**Junction City**	**13.50**	**333**	*e*Pn	P	06 14 32.1	+1.2
	8.1nm,0.3s						
JCT				*e*Sn	S	06 16 51.7	-8.0
WMOK	**Wichita Mounta**	**17.02**	**343**	*e*Pn	P	06 15 13.8	-2.1
	1.7nm,0.4s						
TUC	**Tucson**	**21.21**	**314**	*e*P	P	06 16 03.0	+0.2
	29nm,2.4s						
SDV	**Santo Domingo**	**23.59**	**111**	*e*P	P	06 16 24.3	-1.9
	2.5nm,0.8s						
DUG	**Dugway**	**27.63**	**326**	P	P	06 17 01.8	-2.3

*NEIC **05** 06:32:43.5±0.7, 37.91N×74.20E, h36km±8km, mb4.0/4, Error ellipse: s-maj=11.5km s-min=4.9km az=59.0*
*NNC **05** 06:32:46.2±3.8, 38.16N×73.42E, h25km±21km, mpv3.8, Error ellipse: s-maj=45.4km s-min=25.5km az=44.0*
*IDC **05** 06:32:46.2±5.7, 38.06N×74.17E, h55km±45km, mb3.6/9, mb1 3.7/12, mb1mx3.6/22, mbtmp3.8/12, ML3.4/3, Error ellipse: s-maj=44.8km s-min=20.8km az=170.0*
*BJI **05** 06:32:52.1, 38.36N×74.78E, h26km, ML3.7*

ISC 05 06:32:41.1±1.1, 37.80N±0.05×74.03E±0.09, h35km±11km, n44, σ1§09/51, mb3.9/10, 4C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.29**	**41**	P	P	**06 33 17.0**	**-0.3**
KSH				*e*S	S	**06 33 46.2**	**+1.6**
KSH				Smax			
	comp=N,290nm,0.7s						
KSH				Smax			
	comp=E,480nm,0.8s						
AML	**Almayashu**	**4.34**	**357**	P	P	**06 33 47.9**	**+1.5**
	SNR=6.7						
KZA	**Kyzart**	**4.38**	**12**	P	P	**06 33 46.2**	**-0.7**
	SNR=13						
UCH	**Uchtor**	**4.44**	**5**	P	P	**06 33 49.4**	**+1.5**
	SNR=18						
ULHL	**Ulahol**	**4.76**	**20**	P	P	**06 33 59.9**	**+7.5**
	SNR=11						
AAK	**Ala-Archa**	**4.84**	**4**	P	P	**06 33 55.0**	**+1.5**
	SNR=7.2						
EKS2	**Erkin-Say**	**4.86**	**358**	P	P	**06 33 54.2**	**+0.4**
	SNR=13						
KBK	**Karagaybulak**	**4.90**	**8**	P	P	**06 33 55.9**	**+1.5**
	SNR=20						
CHMS	**Chumysh**	**5.22**	**6**	P	Px	06 34 09.6	
	SNR=8.3						
TKM2	**Tokmak 2**	**5.26**	**13**	P	P	**06 33 58.6**	**-0.7**
	SNR=13						
TKM2	**Tokmak 2**	**5.26**	**13**	⇑Pn	P	**06 33 58.6**	**-0.7**
	comp=E,52nm,1.1s						
USP	**Ospenovka**	**5.47**	**4**	P	Px	06 34 14.3	
	SNR=18						
KK31	**Karatay Array**	**5.94**	**334**	Pn	P	**06 34 08.2**	**-0.7**
	comp=E,1.9nm,0.3s,baz=132,slow=12,SNR=64						
KK31				⇓Pg	P	**06 34 24.9**	**+16**
	comp=E,7.5nm,0.8s,baz=151,slow=17,SNR=7.1						
KK31				⇓Sn	S	**06 35 14.3**	**-2.4**
	comp=E,9.1nm,0.6s,baz=155,slow=21,SNR=5.0						
KK31				⇓Lg		06 35 38.0	
	comp=E,14nm,0.7s						
KK31	**Karatay Array**	**5.94**	**334**	Pn	P	**06 34 08.2**	**-0.7**
KK31				Pg	P	**06 34 24.9**	**+16**
KK31				Sn	S	**06 35 14.3**	**-2.4**
KK31				Lg		06 35 38.0	
MKAR	**Makanchi Array**	**10.87**	**32**	P	P	**06 35 15.2**	**-2.1**
	comp=E,0.1nm,0.3s,baz=216,slow=14,SNR=6.1						
KOLN	**Koldanda**	**12.83**	**138**	*e*Pn	P	**06 35 44.5**	**+0.8**
GKN	**Gorkha**	**13.21**	**135**	*e*Pn	P	**06 35 48.3**	**-0.5**
GKN				*e*Sn	S	**06 38 14.5**	**-0.9**
	comp=E,12nm,0.4s						
GKN	**Gorkha**	**13.21**	**135**	*e*Pn	P	**06 35 48.3**	**-0.5**
	comp=E,6.3nm,0.4s						
GKN				*e*Sn	S	**06 38 14.5**	**-0.9**
KKN	**Kakani**	**13.74**	**133**	*e*Pn	P	**06 35 55.0**	**-0.7**
DMN	**Daman**	**13.78**	**134**	*e*Pn	P	**06 35 55.9**	**-0.3**
GUN	**Gumba**	**14.00**	**131**	*e*Pn	P	**06 35 59.0**	**-0.1**
JIRN	**Jiri**	**14.37**	**131**	*e*Pn	P	**06 36 03.8**	**-0.2**
AB31	**Akbulak array**	**15.32**	**323**	⇑Pn	P	**06 36 13.0**	**-3.2**
	comp=E,0.9nm,0.6s,baz=128,slow=14,SNR=11						
AB31				⇑Sn	S	**06 38 53.3**	**-12**
	comp=E,1.7nm,0.8s						
AB31	**Akbulak array**	**15.32**	**323**	Pn	P	**06 36 13.0**	**-3.2**
AB31				Sn	S	**06 38 53.3**	**-12**
BVA0	**Borovoye Array**	**15.44**	**352**	⇓Pn	P	**06 36 16.8**	**-0.9**
	comp=E,0.5nm,0.8s,baz=161,slow=11,SNR=12						
BVAR	**Borovoye Array**	**15.44**	**352**	P	P	**06 36 15.8**	**-1.9**
	comp=E,0.2nm,0.3s,baz=157,slow=11,SNR=4.0						
CHKZ	**Chkalovo**	**16.05**	**353**	*e*Pn	P	**06 36 24.8**	**-0.8**
	comp=E,2.0nm,1.0s						
LSA	**Lhasa**	**16.36**	**115**	Pn	P	**06 36 30.2**	**+0.6**
AKTO	**Aktyubinsk**	**17.03**	**323**	⇑Pn	P	**06 36 38.5**	**+0.5**
	comp=E,0.6nm,0.8s						
AKTO	**Aktyubinsk**	**17.03**	**323**	P	P	**06 36 37.8**	**-0.2**
	comp=E,0.3nm,0.3s,baz=122,slow=14,SNR=9.4						
SONM	**Songino Array**	**25.61**	**57**	P	P	**06 38 08.7**	**+0.1**
	comp=E,1.0nm,0.7s,mb3.5,baz=264,slow=9.9,SNR=8.8						
BR131	**Keskin Array S**	**31.37**	**286**	*e*P	P	**06 39 02.7**	**+2.0**
	comp=E,0.5nm,0.4s,mb3.7						
BRTR	**Keskin Array B**	**31.37**	**286**	P	P	**06 39 03.2**	**+2.6**
	comp=E,0.6nm,0.6s,mb3.6,baz=79,slow=6.3,SNR=4.1						
AKASG	**Malin Array Be**	**34.06**	**307**	P	P	**06 39 24.3**	**+0.4**
	comp=E,0.8nm,0.4s,mb4.0,baz=80,slow=8.4,SNR=7.3						
FINES	**FINESS Array B**	**37.80**	**324**	P	P	**06 39 55.9**	**+0.4**
	comp=E,1.2nm,0.4s,mb4.0,baz=116,slow=9.1,SNR=15						
ARCES	**ARCESS Array B**	**40.90**	**336**	P	P	**06 40 21.2**	**0.0**
	comp=E,1.1nm,0.6s,mb3.7,baz=109,slow=8.7,SNR=11						
ARCES	**ARCESS Array B**	**40.90**	**336**	P	P	**06 40 21.2**	**0.0**
NB2	**NORSAR Subarra**	**44.82**	**322**	P	P	**06 40 52.9**	**-0.2**
	comp=E,1.8nm,0.5s,mb4.2,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.82**	**322**	P	P	**06 40 53.2**	**+0.2**
	comp=E,1.9nm,0.5s,mb4.2,baz=91,slow=7.9,SNR=6.6						
NOA	**NORSAR Array B**	**44.82**	**322**	P	P	**06 40 53.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**68.15**	**270**	P	P	**06 43 41.2**	**+1.2**
	comp=E,1.4n

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.46**	**252**	*e*Pg	**Pg**	**07 06 00.6**	**-0.1**
LKD				*e*Sg	**Sg**	**07 06 07.9**	**+1.1**
EVR	**Evrytania**	**0.48**	**82**	*e*PG	**Pg**	**07 06 01.5**	**+0.4**
EVR				*e*SB	**Sb**	**07 06 09.0**	**+0.2**
EVR	**Evrytania**	**0.48**	**82**	*e*Pg	**Pg**	**07 06 01.5**	**+0.4**
EVR				*e*Sb	**Sb**	**07 06 10.0**	**+1.2**
RLS	**Riolos of Patr**	**0.82**	**165**	*e*PB	**Pb**	**07 06 08.2**	**+0.6**
RLS	**Riolos of Patr**	**0.82**	**165**	*e*Pn	**Pn**	**07 06 09.4**	**+0.2**
VLS	**Valsamata**	**0.82**	**216**	*e*PG	**Pg**	**07 06 06.8**	**-1.2**
VLS				*e*SB	**Sb**	**07 06 18.9**	**0.0**
VLS	**Valsamata**	**0.82**	**216**	*e*Pg	**Pg**	**07 06 06.8**	**-1.2**
VLS				*e*Sb	**Sb**	**07 06 20.0**	**+1.1**
JAN	**Janina**	**0.85**	**341**	*e*PB	**Pb**	**07 06 06.3**	**-1.9**
JAN				*e*SB	**Sb**	**07 06 18.9**	**-0.8**
JAN	**Janina**	**0.85**	**341**	*e*Pb	**Pb**	**07 06 05.0**	**-3.2**
AGG	**Agios Georgios**	**0.90**	**78**	*e*Pg	**Pg**	**07 06 09.0**	**-0.4**
AGG				*e*Sg	**Sg**	**07 06 22.7**	**+1.3**
MEV	**Metsovon**	**0.94**	**1**	*e*Pg	**Pg**	**07 06 11.2**	**+0.9**
KEK	**Kerkira**	**1.39**	**309**	*e*PB	**Pb**	**07 06 16.5**	**-1.0**
KEK	**Kerkira**	**1.39**	**309**	*e*Pb	**Pb**	**07 06 17.3**	**-0.2**
LKR	**Lokris**	**1.42**	**97**	*e*PB	**Pb**	**07 06 19.7**	**+1.8**
LIT	**Litokhoron**	**1.60**	**38**	*e*Pb	**Pb**	**07 06 20.0**	**-1.0**
LIT				*e*Sb	**Sb**	**07 06 42.2**	**+0.9**
XOR	**Xorichti**	**1.63**	**71**	*e*Pb	**Pb**	**07 06 19.9**	**-1.7**
XOR				*e*Sb	**Sb**	**07 06 40.8**	**-1.4**
NEO	**Neokhori**	**1.64**	**73**	*e*PB	**Pb**	**07 06 23.0**	**+1.3**
ITM	**Ithomi**	**1.76**	**161**	*e*PG	**Pg**	**07 06 24.9**	**-1.8**
ITM	**Ithomi**	**1.76**	**161**	*e*Pn	**Pn**	**07 06 26.3**	**+3.6**
FNA	**Florina**	**1.94**	**4**	*e*Pn	**Pn**	**07 06 25.4**	**+0.2**
FNA				*e*Sn	**Sn**	**07 06 50.8**	**+0.7**
AOS	**Alonnisos**	**2.11**	**80**	*e*Pn	**Pn**	**07 06 25.6**	**-2.2**
BIA	**Bitola**	**2.17**	**2**	*e*Pn	**Pn**	**07 06 30.8**	**+2.2**
BIA				*e*Sn	**Sn**	**07 06 54.9**	**-1.1**
PAIG	**Paliouri**	**2.20**	**60**	*e*Pn	**Pn**	**07 06 28.6**	**-0.4**
OHR	**Ohrid**	**2.28**	**352**	*e*Pn	**Pn**	**07 06 34.1**	**+3.9**
OHR				*e*Sn	**Sn**	**07 07 00.1**	**+1.3**
GRG	**Griva**	**2.30**	**23**	*e*Pn	**Pn**	**07 06 30.1**	**-0.4**
OUR	**Ouranopolis**	**2.61**	**54**	*e*Pn	**Pn**	**07 06 34.5**	**-0.4**
KNT	**Kendrikon**	**2.65**	**29**	*e*Pn	**Pn**	**07 06 35.3**	**-0.2**
VAY	**Valandovo**	**2.68**	**23**	*e*Pn	**Pn**	**07 06 35.8**	**-0.1**
VAY				*e*Sn	**Sn**	**07 07 04.0**	**-5.0**
SRS	**Serrai**	**2.92**	**38**	*e*Pn	**Pn**	**07 06 39.1**	**-0.2**
STIP	**Stip**	**2.94**	**14**	*e*Pn	**Pn**	**07 06 39.9**	**+0.3**

*IDC **05** 08:12:34.6±2.8,20.17S×69.38W,h101km±21km,mb3.8/5, mb1 3.8/8,mb1mx3.6/18,mbtmp4.1/8,MS2.8/1,Ms1 2.9/1, ms1mx2.4/21,Error ellipse: s-maj=30.9km s-min=18.3km az=80.0*

*GUC **05** 08:12:36.6±0.5,20.19S×70.02W,h75km,ML4.1*

*NEIC **05** 08:12:36.8±1.0,20.12S×69.29W,h120km±11km,mb3.9/3, Error ellipse: s-maj=16.9km s-min=10.7km az=104.0*

ISC 05 08:12:35.2±0.7,20.16S±0.05×69.3W±0.1,h119km±9km, n23,σ1§20/30,mb4.0/5,1C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**2.93**	**159**	*e*P	**P**	**08 13 26.4**	**+5.0**
SPCH				*i* S	**S**	**08 14 04.1**	**+7.7**
SPCH				AMP		08 14 24.6	
	comp=N,378nm,0.6s						
SPCH	**San Pedro de A**	**2.93**	**159**	⇓*i*P	**P**	**08 13 26.5**	**+5.1**
SPCH				*i* S	**S**	**08 14 04.0**	**+7.6**
CEN1	**Los Morros**	**3.31**	**194**	⇑*i*P	**P**	**08 13 30.4**	**+3.9**
CEN1				*i* S	**S**	**08 14 09.6**	**+4.1**
CEN1				AMP		08 14 13.0	
	comp=E,304nm,0.3s						
ANCH	**Antofagasta**	**3.64**	**196**	*e*P	**P**	**08 13 31.6**	**+0.7**
ANCH				*i* S	**S**	**08 14 12.3**	**-1.2**
ANCH	**Antofagasta**	**3.64**	**196**	*i* P	**P**	**08 13 31.7**	**+0.8**
ANCH				*i* S	**S**	**08 14 12.5**	**-1.0**
LPAZ	**La Paz**	**4.02**	**17**	P	**P**	**08 13 36.9**	**+0.9**
	comp=E,3.3nm,0.3s,baz=187,slow=5.3,SNR=118						
LPAZ				S	**S**	**08 14 21.3**	**-1.3**
	comp=E,1.3nm,0.3s,baz=334,slow=24,SNR=7.7						
LPAZ				LR	LR	08 15 25.1	
	comp=E,108nm,19.0s,baz=141,slow=42						
LPAZ	**La Paz**	**4.02**	**17**	*e*Pn	**P**	**08 13 37.9**	**+1.8**
LPAZ				*e*Sn	**S**	**08 14 23.3**	**+0.7**
CPN1	**Cerro Paranal**	**4.55**	**192**	*e*P	**P**	**08 13 43.6**	**+0.4**
CPN1				*i* S	**S**	**08 14 34.9**	**-0.5**
CDCH	**Caldera**	**7.01**	**191**	*i* S	**S**	**08 15 30.7**	**-4.7**
SIV	**San Ignacio**	**8.88**	**63**	P	**P**	**08 14 40.3**	**-1.5**
	comp=E,3.0nm,0.3s,baz=259,slow=10,SNR=145						
CFAA	**Coronel Fontan**	**11.44**	**175**	P	**P**	**08 15 14.2**	**-1.7**
	comp=E,0.2nm,0.3s,baz=355,slow=14,SNR=12						
TRQA	**Tornquist**	**18.94**	**162**	*e*Pn	**P**	**08 16 51.7**	**+2.4**
	comp=E,2.0nm,0.6s						
BDFB	**Brasilia**	**20.78**	**81**	P	**P**	**08 17 08.9**	**+0.4**
	comp=E,3.2nm,0.4s,baz=242,slow=10,SNR=7.8						
SDV	**Santo Domingo**	**28.89**	**357**	P	**P**	**08 18 25.4**	**+0.3**
	comp=E,1.4nm,0.4s,mb3.9,baz=146,slow=7.3,SNR=5.8						
SDV	**Santo Domingo**	**28.89**	**357**	*e*P	**P**	**08 18 23.8**	**-1.3**
	comp=E,1.4nm,0.6s,mb3.8						
PMSA	**Palmer Station**	**44.73**	**177**	P	**P**	**08 20 31.1**	**-6.7**
SRU	**San Rafael**	**70.44**	**327**	*e*P	**P**	**08 23 39.2**	**+0.6**
	comp=E,6.7nm,0.7s,mb4.6						
ARUT	**Antelope Range**	**71.01**	**324**	*e*P	**P**	**08 23 41.5**	**-0.5**
ULM	**Lac du Bonnet**	**73.93**	**343**	P	**P**	**08 23 57.5**	**-1.4**
	comp=E,1.2nm,0.4s,mb4.0,baz=131,slow=9.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**77.29**	**71**	P	**P**	**08 24 18.6**	**0.0**
	comp=E,0.3nm,0.3s,mb3.5,baz=246,slow=5.4,SNR=6.7						
YKA	**Yellowknife Ar**	**89.80**	**341**	P	**P**	**08 25 21.6**	**+0.6**
	comp=E,0.9nm,0.6s,mb4.1,baz=130,slow=4.7,SNR=10						
YKA	**Yellowknife Ar**	**89.80**	**341**	P	**P**	**08 25 21.6**	**+0.6**
MKAR	**Makanchi Array**	**144.78**	**34**	PKP	PKPdf	08 31 59.4	+1.6
	comp=E,0.2nm,0.4s,baz=320,slow=2.7,SNR=4.6						

*HLW **05** 08:12:51.2,35.99N×23.09E,h33km,Mb3.1*

*CSEM **05** 08:12:53.5±0.3,35.54N×23.15E,h15km,MD3.4,Error ellipse: s-maj=12.4km s-min=4.3km az=68.0*

*ATH **05** 08:12:54.2,35.74N×23.46E,h26km,MD3.4/5*

*NEIC **05** 08:12:54.1,35.73N×23.47E,h5km,MD3.4(ATH),After ATH.*

ISC 05 08:12:53.8±0.7,35.64N±0.04×23.35E±0.06,h26km±7km, n20,σ1§02/28,1C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.69**	**338**	*e*PN	**Pb**	**08 13 07.0**	**-0.1**
KYTH				*e*SN	**Sn**	**08 13 16.5**	**-1.1**
KYTH	**Kithira**	**0.69**	**338**	*e*Pb	**Pb**	**08 13 07.0**	**-0.1**
KYTH				*e*Sb	**Sb**	**08 13 16.0**	**-0.2**
VAM	**Vamos**	**0.73**	**109**	*e*PN	**Pn**	**08 13 08.1**	**-0.3**
VAM				*e*SN	**Sn**	**08 13 17.9**	**-0.8**
VAM	**Vamos**	**0.73**	**109**	*e*Pb	**Pb**	**08 13 08.3**	**+0.5**
VAM				*e*Sb	**Sb**	**08 13 17.2**	**-0.3**
GVD	**Gavdhos**	**1.00**	**143**	*e*PN	**Pn**	**08 13 14.0**	**+1.7**
GVD	**Gavdhos**	**1.00**	**143**	*e*Pg	**Pn**	**08 13 13.5**	**+1.2**
VLI	**Veliai**	**1.12**	**343**	*e*PN	**Pb**	**08 13 15.0**	**+0.5**
VLI				*e*SN	**Sn**	**08 13 29.5**	**+0.8**
VLI	**Veliai**	**1.12**	**343**	*e*Pb	**Pb**	**08 13 15.0**	**+0.5**
VLI				*e*Sb	**Sb**	**08 13 28.6**	**-0.1**
SANT	**Santorini**	**1.86**	**66**	*e*Pn	**Pn**	**08 13 25.1**	**+0.6**
SANT				*e*Sn	**Sn**	**08 13 47.1**	**-0.2**
NPS	**Neapolis**	**1.88**	**101**	*e*PN	**Pn**	**08 13 25.6**	**+0.7**
NPS	**Neapolis**	**1.88**	**101**	*e*Pn	**Pn**	**08 13 28.0**	**+3.1**
ITM	**Ithomi**	**1.92**	**324**	*e*PN	**Pn**	**08 13 27.0**	**+1.6**
ITM	**Ithomi**	**1.92**	**324**	*e*Pn	**Pn**	**08 13 30.5**	**+5.1**
XRY	**Khrisi**	**2.06**	**111**	*e*Pn	**Pn**	**08 13 32.7**	**+5.2**
NAIG	**Nisos Aigina**	**2.12**	**3**	*e*Pn	**Pn**	**08 13 31.5**	**+3.3**
MPAR	**Parnis Oros**	**2.52**	**7**	*e*Pb	**Pb**	**08 13 35.5**	**-2.8**
EVR	**Evrytania**	**3.49**	**340**	*e*Pn	**Pn**	**08 13 47.0**	**-0.8**
HMAT	**Matruh**	**5.51**	**144**	⇑P	**Pn**	**08 14 16.9**	**+0.5**
SWA2		**6.62**	**164**	⇓P	**Pn**	**08 14 32.0**	**0.0**
SWA1		**6.67**	**162**	⇓P	**Pn**	**08 14 32.8**	**+0.1**
SWA1				S	**Sn**	**08 15 46.5**	**-2.0**

*IDC **05** 08:13:17.0±1.0,46.65N×151.80E,mb3.9/13,mb1 4.1/13, mb1mx4.0/21,mbtmp3.9/13,Error ellipse: s-maj=28.2km s-min=20.7km az=4.0*

*MOS **05** 08:13:19.8±1.7,46.50N×151.50E,h33km,mb4.3/11,Error ellipse: s-maj=20.2km s-min=12.9km az=74.6*

*NEIC **05** 08:13:21.6±0.8,46.45N×151.75E,h35km,mb4.4/3,Error ellipse: s-maj=23.3km s-min=13.7km az=118.0*

ISC 05 08:13:14.7±7.5,46.4N±0.1×151.6E±0.2,h3km±47km,n34, σ1§16/34,mb4.0/16,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.76**	**254**	PN	**Pn**	**08 14 57.0**	**-0.3**
	0.9nm,0.3s,baz=197,slow=27,SNR=4.0						
ASAJ	**Asahikawa**	**6.76**	**254**	PN	**Pn**	**08 14 57.0**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**14.04**	**230**	*e*P	**P**	**08 16 40.9**	**+4.3**
MJAR	**Matsushiro Arr**	**14.04**	**230**	Pn	**P**	**08 16 35.9**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=39,slow=10.0,SNR=5.5						
BILL	**Bilibino**	**23.00**	**14**	*e*P	**P**	**08 18 22.5**	**+1.4**
BILL				pmax	pmax		
	comp=Z,33nm,2.3s,mb4.4						
BILL	**Bilibino**	**23.00**	**14**	*e*P	**P**	**08 18 22.5**	**+1.4**
	comp=Z,32nm,2.3s,mb4.3						
SONM	**Songino Array**	**30.49**	**289**	P	**P**	**08 19 31.1**	**+0.4**
	comp=Z,1.3nm,0.9s,mb3.7,baz=73,slow=7.2,SNR=7.3						
SONM	**Songino Array**	**30.49**	**289**	P	**P**	**08 19 31.1**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GUMO	**Guam**	**33.17**	**192**	P	**P**	**08 19 56.3**	**+1.8**
CHKZ	**Chkalovo**	**49.89**	**310**	*e*P	**P**	**08 22 09.9**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
CHKZ	**Chkalovo**	**49.89**	**310**	*e*P	**P**	**08 22 09.9**	**-0.9**
	comp=Z,1.2nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**50.30**	**309**	P	**P**	**08 22 13.6**	**-0.5**
	comp=Z,0.3nm,0.5s,mb3.6,baz=27,slow=6.4,SNR=2.4						
YKA	**Yellowknife Ar**	**51.84**	**36**	P	**P**	**08 22 25.0**	**-0.6**
	comp=Z,1.3nm,0.9s,mb3.9,baz=298,slow=7.3,SNR=5.7						
YKA	**Yellowknife Ar**	**51.84**	**36**	P	**P**	**08 22 25.0**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**57.87**	**340**	P	**P**	**08 23 10.1**	**+0.7**
	comp=Z,2.2nm,0.9s,mb4.2,baz=60,slow=7.3,SNR=4.9						
ARCES	**ARCESS Array B**	**57.87**	**340**	P	**P**	**08 23 10.1**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SUMG	**Summit**	**61.15**	**3**	*e*P	**P**	**08 23 34.3**	**+2.4**
	comp=Z,8.6nm,0.9s,mb4.9						
NVAR	**Mina Array Bea**	**63.52**	**61**	P	**P**	**08 23 48.0**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.3,baz=288,slow=5.7,SNR=3.7						
FINES	**FINESS Array B**	**63.94**	**334**	P	**P**	**08 23 50.0**	**-0.6**
	comp=Z,3.3nm,0.7s,mb4.5,baz=45,slow=8.1,SNR=9.3						
FINES	**FINESS Array B**	**63.94**	**334**	P	**P**	**08 23 50.0**	**-0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PDAR	**Pinedale Array**	**65.80**	**53**	P	**P**	**08 24 02.0**	**-0.9**
	comp=Z,0.7nm,0.9s,mb3.7,baz=90,slow=3.0,SNR=5.0						
WRA	**Warramunga Arr**	**67.83**	**198**	P	**P**	**08 24 19.6**	**+3.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=16,slow=6.7,SNR=5.9						
WRA	**Warramunga Arr**	**67.83**	**198**	P	**P**	**08 24 19.6**	**+3.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**68.25**	**340**	P	**P**	**08 24 16.9**	**-1.2**
	comp=Z,3.6nm,1.0s,mb4.3,baz=29,slow=6.3,SNR=3.3						
NOA	**NORSAR Array B**	**68.25**	**340**	P	**P**	**08 24 16.9**	**-1.2**
NOA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	**Malin Array Be**	**71.28**	**325**	P	**P**	**08 24 36.5**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.3,baz=33,slow=6.2,SNR=11						
AKASG	**Malin Array Be**	**71.28**	**325**	P	**P**	**08 24 36.6**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MBWA	**Marble Bar**	**73.15**	**211**	*e*P	**P**	**08 24 47.4**	**-1.0**
BRTR	**Keskin Array B**	**77.95**	**316**	P	**P**	**08 25 15.4**	**+0.1**
	comp=Z,1.2nm,1.0s,mb3.8,baz=45,slow=1.7,SNR=3.9						
BRTR	**Keskin Array B**	**77.95**	**316**	P	**P**	**08 25 15.4**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GERES	**GERESS Array B**	**78.34**	**333**	P	**P**	**08 25 19.5**	**+2.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=348,slow=9.0,SNR=2.4						
TXAR	**Lajitas Array**	**78.57**	**60**	P	**P**	**08 25 17.3**	**-1.7**
	comp=Z,0.8nm,0.9s,mb3.6,baz=307,slow=6.3,SNR=4.9						
TXAR	**Lajitas Array**	**78.57**	**60**	P	**P**	**08 25 17.3**	**-1.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**78.57**	**60**	P	**P**	**08 25 17.3**	**-1.7**

*NIED **05** 08:21:00,24.70N×122.30E,h41km,Mw4.3 Best double couple: M₀3.2×10¹⁵ NP1:φs279°,δ87°,λ-88°. NP2:φs62°, δ3°,λ-127°.*

JMA 05 08:21:12.6±0.2,24.74N×122.33E,h36km,M3.6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.68**	**114**	P	P	08 21 25.6	-0.1
YOJ				S	S	08 21 34.8	-0.4
IRIF	**Iriomote-Funau**	**1.34**	**107**	P	P	08 21 35.3	+0.1
IRIF				S	S	08 21 52.5	+0.5
HATJ	**Hateruma jima**	**1.51**	**117**	P	P	08 21 37.9	+0.3
HATJ				S	S	08 21 57.3	+1.1
JKRS	**Kuro-shima**	**1.61**	**108**	P	P	08 21 39.5	+0.5
JKRS				S	S	08 21 59.2	+0.4
JIJ	**Ishigaki jima**	**1.69**	**102**	P	P	08 21 40.1	-0.1
JIJ				S	S	08 22 00.8	-0.1
JTJ	**Tarama**	**2.16**	**92**	P	P	08 21 48.4	+1.5

*THE **05** 08:50:55.9,36.85N×21.54E,h5km,ML4.2*

*ATH **05** 08:51:02.2,37.61N×20.91E,h8km±1km,MD3.9/11,ML3.9*

*NEIC **05** 08:51:02.3,37.63N×20.91E,h5km,ML3.9(THE), ML3.9(ATH),After ATH.*

*HLW **05** 08:51:05.2,37.45N×20.84E,h33km,Mb3.6*

*IDC **05** 08:51:07.6±2.9,37.34N×20.96E,h81km±34km,mb3.5/6, mb1 3.6/9,mb1mx3.4/25,mbtmp3.7/9,Error ellipse: s-maj=26.1km s-min=17.4km az=80.0*

*CSEM **05** 08:51:08.7±0.3,37.77N×21.45E,h10km,ML3.9,Error ellipse: s-maj=10.2km s-min=4.5km az=71.0*

ISC 05 08:50:59.7±0.8,37.43N±0.03×20.74E±0.05,h10km±5km, n51,σ1§37/70,mb3.6/6,4C-2D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.75**	**351**	⇑*i*PG	**Pg**	**08 51 14.1**	**-0.7**
VLS				*e*SB	**Sb**	**08 51 23.5**	**-1.0**
RLS	**Riolos of Patr**	**0.85**	**43**	⇑*i*PG	**Pb**	**08 51 14.1**	**-2.0**
RLS				*e*SB	**Sb**	**08 51 23.3**	**-4.0**
ITM	**Ithomi**	**0.98**	**105**	*e*PB	**Pb**	**08 51 19.9**	**+1.5**
LKD	**Levkas**	**1.27**	**357**	*e*Pn	**Pg**	**08 51 28.6**	**+3.4**
LKD				*e*Sn	**Sg**	**08 51 56.1**	**+14**
EVR	**Evrytania**	**1.70**	**29**	*e*PB	**Pb**	**08 51 30.1**	**-0.6**
VLI	**Veliai**	**1.90**	**111**	*e*PN	**Pg**	**08 51 36.3**	**-1.3**
VLI				*e*SN	**Sg**	**08 52 00.9**	**-2.1**
VLI	**Veliai**	**1.90**	**111**	*e*Pn	**Pg**	**08 51 38.3**	**+0.7**
VLI				*e*Sn	**Sg**	**08 52 02.8**	**-0.2**
AGG	**Agios Georgios**	**2.02**	**38**	*e*Pn	**Pn**	**08 51 33.9**	**-0.4**
AGG				*e*Sn	**Sn**	**08 52 02.6**	**+2.8**
IGT	**Igoumenitsa**	**2.12**	**351**	*e*Pn	**Pg**	**08 51 41.5**	**-0.6**
IGT				*e*Sn	**Sg**	**08 52 16.3**	**+5.9**
LKR	**Lokris**	**2.16**	**55**	*e*PN	**Pb**	**08 51 37.9**	**-0.6**
LKR				*e*SN	**Sb**	**08 52 03.8**	**-1.6**
LKR	**Lokris**	**2.16**	**55**	*e*Pg	**Pb**	**08 51 37.9**	**-0.6**
LKR				*e*Sn	**Sb**	**08 52 05.2**	**-0.2**
KYTH	**Kithira**	**2.17**	**121**	*e*PN	**Pg**	**08 51 41.0**	**-2.1**
KYTH	**Kithira**	**2.17**	**121**	*e*Pn	**Pg**	**08 51 42.0**	**-1.1**
NAIG	**Nisos Aigina**	**2.21**	**81**	*e*PG	**Pb**	**08 51 40.0**	**+0.6**
MEV	**Metsovon**	**2.38**	**9**	*e*Pn	**Pb**	**08 51 43.5**	**+1.2**
MEV				*e*Sn	**Sg**	**08 52 19.8**	**+0.9**
ATH	**Athens Observa**	**2.42**	**76**	*e*PN	**Pn**	**08 51 42.1**	**+2.0**
ATH	**Athens Observa**	**2.42**	**76**	*e*Pg	**Pg**	**08 51 44.8**	**-3.3**
MPAR	**Parnis Oros**	**2.48**	**72**	*e*PN	**Pn**	**08 51 42.6**	**+1.7**
MPAR	**Parnis Oros**	**2.48**	**72**	*e*Pg	**Pg**	**08 51 45.0**	**-4.3**
PTL	**Penteli**	**2.55**	**75**	*e*PN	**Pn**	**08 51 43.5**	**+1.6**
PTL	**Penteli**	**2.55**	**75**	*e*Pg	**Pg**	**08 51 47.0**	**-3.7**
NEO	**Neokhori**	**2.70**	**45**	*e*PN	**Pn**	**08 51 45.2**	**+1.1**
XOR	**Xorichti**	**2.73**	**44**	*e*Pn	**Pn**	**08 51 40.8**	**-3.7**
XOR				*e*Sn	**Sn**	**08 52 16.6**	**-1.2**
XOR	**Xorichti**	**2.73**	**44**	*e*Pn	**Pn**	**08 51 40.8**	**-3.6**
XOR				*e*Sn	**Sn**	**08 52 16.5**	**-1.3**
LIT	**Litokhoron**	**3.00**	**27**	*e*Pn	**Pn**	**08 51 49.0**	**+0.8**
AOS	**Alonnisos**	**3.02**	**54**	*e*Pn	**Pn**	**08 51 42.7**	**-5.9**
AOS				*e*Sn	**Sn**	**08 52 19.8**	**-5.3**
FNA	**Florina**	**3.38**	**8**	*e*Pn	**Pn**	**08 51 56.5**	**+2.7**
PAIG	**Paliouri**	**3.39**	**42**	*e*Pn	**Pn**	**08 51 51.5**	**-2.4**
BIA	**Bitola**	**3.61**	**7**	*e*Pn	**Pn**	**08 51 56.6**	**-0.4**
BIA				*e*Sn	**Sn**	**08 52 32.8**	**-7.3**
OHR	**Ohrid**	**3.67**	**1**	*e*Pn	**Pn**	**08 51 57.3**	**-0.6**
OHR				*e*Sn	**Sn**	**08 52 34.3**	**-7.4**
GRG	**Griva**	**3.75**	**20**	*e*Pn	**Pn**	**08 52 00.3**	**+1.4**
OUR	**Ouranopolis**	**3.85**	**40**	*e*Pn	**Pn**	**08 51 57.1**	**-3.2**
IDI	**Anoyia**	**3.98**	**121**	P	**Pn**	**08 52 04.6**	**+2.5**
	0.5nm,0.3s,baz=312,slow=16,SNR=3.2						
IDI				S	**Sn**	**08 52 46.7**	**-2.7**
	2.2nm,0.3s,baz=134,slow=22,SNR=3.2						
KNT	**Kendrikon**	**4.08**	**24**	*e*Pn	**Pn**	**08 52 03.6**	**-0.1**
VAY	**Valandovo**	**4.13**	**20**	*e*Pn	**Pn**	**08 52 04.2**	**-0.2**
VAY				*e*Sn	**Sn**	**08 52 46.2**	**-7.2**
SRS	**Serrai**	**4.29**	**30**	*e*Pn	**Pn**	**08 52 06.1**	**-0.6**
STIP	**Stip**	**4.40**	**14**	*e*Pn	**Pn**	**08 52 07.4**	**-0.8**
SKO	**Skopje**	**4.56**	**7**	*e*Pn	**Pn**	**08 52 10.0**	**-0.5**
SLUM		**6.98**	**147**	⇓P	**Pn**	**08 52 45.3**	**+0.6**
SLUM				S	**Sn**	**08 53 58.6**	**-6.4**
HMAT	**Matruh**	**8.22**	**138**	⇑P	**P**	**08 53 02.3**	**+0.3**
HMAT				S	**Sn**	**08 54 27.9**	**-8.0**
MLR	**Muntele Rosu**	**8.95**	**24**	P	**P**	**08 53 14.8**	**+2.8**
	0.3nm,0.3s,baz=168,slow=17,SNR=2.3						
SWA2		**9.07**	**153**	⇑P	**P**	**08 53 13.8**	**+0.1**
SWA1		**9.15**	**152**	⇓P	**P**	**08 53 15.0**	**+0.2**
AKASG	**Malin Array Be**	**14.58**	**22**	P	**P**	**08 54 31.2**	**+3.3**
	0.6nm,0.3s,baz=213,slow=10,SNR=5.3						
HFS	**Hagfors**	**23.16**	**351**	P	**P**	**08 56 05.9**	**-1.1**
	2.9nm,0.6s,mb3.9,baz=158,slow=8.0,SNR=7.6						
EKA	**Eskdalemuir Ar**	**24.14**	**326**	P	**P**	**08 56 17.4**	**+1.0**
	4.0nm,0.8s,mb3.9,baz=122,slow=7.9,SNR=9.2						
FINES	**FINESS Array B**	**24.27**	**6**	P	**P**	**08 56 18.3**	**+0.6**
	2.6nm,0.8s,mb3.7,baz=170,slow=12,SNR=3.3						
NB2	**NORSAR Subarra**	**24.38**	**349**	P	**P**	**08 56 18.2**	**-0.6**
	0.9nm,0.6s,mb3.4,baz=154,slow=9.3						
NOA	**NORSAR Array B**	**24.38**	**349**	P	**P**	**08 56 18.2**	**-0.6**
	1.7nm,0.8s,mb3.5,baz=154,slow=9.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**29.57**	**220**	P	**P**	**08 57 05.3**	**-1.7**
	0.4nm,0.8s,mb3.2,baz=27,slow=7.7,SNR=3.2						
MKAR	**Makanchi Array**	**45.55**	**58**	P	**P**	**08 59 19.1**	**-2.2**
	0.4nm,0.4s,mb3.7,baz=263,slow=8.9,SNR=5.0						

*CSEM **05** 09:10:34.0±0.1,36.00N×26.05E,h100km,ML3.7,Error ellipse: s-maj=3.1km s-min=1.7km az=81.0*

*HLW **05** 09:10:35.5,35.95N×26.34E,h33km,Mb3.7*

*ATH **05** 09:10:39.1,35.89N×26.09E,h43km±7km,MD3.0/3*

ISC 05 09:10:42.2±1.1,35.38N±0.09×26.38E±0.08,h43km,n9, σ1§11/14,3C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.64**	**260**	*e*P	**P**	**09 10 54.0**	**-0.9**
NPS				*e*S	**S**	**09 11 04.3**	**+0.1**
KARP	**Karpathos**	**0.66**	**75**	*e*P	**P**	**09 10 56.3**	**+1.1**
KARP				*e*S	**S**	**09 11 10.4**	**+5.8**
XRY	**Khrisi**	**0.76**	**228**	*e*P	**P**	**09 10 59.5**	**+3.0**
XRY				*e*S	**S**	**09 11 12.5**	**+5.5**
XRY	**Khrisi**	**0.76**	**228**	*e*Pn	**P**	**09 10 59.5**	**+3.0**
XRY		

VLI	**Veliai**	**2.56**	**218**	*e*PN	**Pn**	**10 03 44.0**	**-0.4**

*MOS **05** 10:05:22.2±0.7, 33.93N×136.69E, h371km, mb4.6/7, Error ellipse: s-maj=29.4km s-min=11.8km az=80.3*
*IDC **05** 10:05:24.0±1.3, 33.95N×136.71E, h367km±13km, mb3.2/12, mb1 3.4/15, mb1mx3.3/26, mbtmp4.0/15, Error ellipse: s-maj=17.1km s-min=13.9km az=123.0*
*JMA **05** 10:05:23.7±0.2, 33.90N×136.74E, h365km±2km, M3.1*
*NEIC **05** 10:05:23.5±0.6, 33.93N×136.74E, h364km±5km, mb4.6/4, Error ellipse: s-maj=12.9km s-min=7.6km az=145.0*
ISC 05 10:05:22.6±0.4, **33.90N**±0.08×**136.76E**±0.07, **h371**km±2km, **n50**, σ0**87**/59, **mb3.8**/16, **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIE	**Ise**	**0.49**	**355**	P		**P**	**10 06 10.0**	**+0.6**
JIE				S		**S**	**10 06 45.9**	**-0.2**
JKN2	**Miekihoku**	**0.53**	**310**	P		**P**	**10 06 09.8**	**+0.3**
JKN2				S		**S**	**10 06 45.4**	**-0.9**
JWZ	**Kozaga**	**0.95**	**247**	P		**P**	**10 06 10.6**	**0.0**
JWZ				S		**S**	**10 06 48.0**	**-0.3**
JWY	**Kouya**	**1.02**	**288**	P		**P**	**10 06 11.5**	**+0.6**
JWY				*e*S		**S**	**10 06 48.7**	**-0.1**
JWT	**Wachi**	**1.78**	**321**	P		**P**	**10 06 16.0**	**+1.2**
JGM	**Miyama**	**1.80**	**359**	P		**P**	**10 06 13.0**	**-1.9**
JAI	**Aioi**	**1.93**	**267**	P		**P**	**10 06 15.8**	**+0.1**
JYN	**Shimob**	**2.17**	**42**	P		**P**	**10 06 18.2**	**+0.8**
JOD2	**Odawara 2**	**2.35**	**54**	P		**P**	**10 06 19.7**	**+1.0**
JIM2	**Oshima 3**	**2.35**	**69**	P		**P**	**10 06 19.5**	**+0.8**
JRY	**Ryogami san**	**2.75**	**39**	P		**P**	**10 06 22.4**	**+0.6**
JRY				*e*S		**S**	**10 07 10.1**	**+1.8**
MAJO	**Matsushiro**	**2.89**	**24**	*e*P		**P**	**10 06 23.0**	**0.0**
MAT	**Matsushiro**	**2.89**	**24**	P		**P**	**10 06 22.1**	**-0.9**
MAT				S		**S**	**10 07 09.6**	**-0.8**
MAT	**Matsushiro**	**2.89**	**24**	P		**P**	**10 06 22.8**	**-0.2**
MAT				*e*S		**S**	**10 07 09.6**	**-0.8**
MAT	**Matsushiro**	**2.89**	**24**	*e*P		**P**	**10 06 22.0**	**-1.0**
MAT				*e*S		**S**	**10 07 10.0**	**-0.4**
MJAR	**Matsushiro Arr**	**2.89**	**24**	P		**P**	**10 06 23.2**	**+0.2**
	4.2nm,0.3s,baz=187,slow=9.6,SNR=42							
MJAR	**Matsushiro Arr**	**2.89**	**24**	P		**P**	**10 06 23.2**	**+0.2**
MJAR				pmax		pmax		
	comp=Z,4.0nm,0.3s							
MJAR	**Matsushiro Arr**	**2.89**	**24**	P		**P**	**10 06 23.2**	**+0.2**
JHS	**Saijyo**	**3.21**	**291**	P		**P**	**10 06 25.9**	**+0.1**
BSO1	**Boso 1**	**3.57**	**77**	P		**P**	**10 06 27.5**	**-1.6**
BSO1				*e*S		**S**	**10 07 20.3**	**-1.1**
JNU	**Nakatsue**	**4.98**	**263**	P		**P**	**10 06 44.1**	**+0.6**
	comp=Z,3.2nm,0.3s,baz=68,slow=13,SNR=9.6							
KS15	**Wonju Array Si**	**8.04**	**299**	*e*Pn		**P**	**10 07 18.4**	**0.0**
ASAJ	**Asahikawa**	**11.16**	**22**	P		**P**	**10 07 54.5**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=211,slow=5.9,SNR=29							
ASAJ	**Asahikawa**	**11.16**	**22**	P		**P**	**10 07 54.5**	**-0.8**
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**13.81**	**17**	*e*P		**P**	**10 08 23.9**	**-1.9**
ENH	**Enshi**	**23.36**	**269**	P		**P**	**10 10 00.8**	**-0.1**
	comp=Z,7.6nm,0.3s,mb4.4							
SONM	**Songino Array**	**26.65**	**311**	P		**P**	**10 10 30.0**	**-0.5**
	comp=Z,0.4nm,0.5s,mb2.9,baz=114,slow=8.9,SNR=3.9							
QIZ	**Qiongzhong**	**28.18**	**245**	*e*P		**P**	**10 10 43.0**	**-1.3**
	comp=Z,191nm,1.9s,mb5.0							
BILL	**Bilibino**	**38.12**	**17**	*e*P		**P**	**10 12 09.3**	**+1.0**
BILL				pmax		pmax		
	comp=Z,30nm,0.6s,mb4.7							
BILL	**Bilibino**	**38.12**	**17**	*e*P		**P**	**10 12 09.3**	**+1.0**
	comp=Z,3.3nm,0.6s,mb3.7							
MKAR	**Makanchi Array**	**42.66**	**304**	P		**P**	**10 12 45.6**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.1,baz=84,slow=11,SNR=8.1							
MKAR	**Makanchi Array**	**42.66**	**304**	P		**P**	**10 12 45.6**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KDAK	**Kodiak Island**	**51.95**	**40**	P		**P**	**10 13 56.2**	**-0.2**
	comp=Z,7.1nm,0.8s,mb4.0,baz=225,slow=2.9,SNR=4.8							
WRA	**Warramunga Arr**	**53.59**	**183**	P		**P**	**10 14 08.8**	**-0.1**
	comp=Z,0.5nm,0.3s,mb3.3,baz=359,slow=7.6,SNR=16							
WRA	**Warramunga Arr**	**53.59**	**183**	P		**P**	**10 14 08.8**	**-0.1**
WRA				pmax		pmax		
	comp=Z,10.0nm,0.3s							
ILAR	**Eielson Array**	**54.15**	**31**	P		**P**	**10 14 12.3**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.1,baz=259,slow=5.1,SNR=14							
ILAR	**Eielson Array**	**54.15**	**31**	P		**P**	**10 14 12.4**	**+0.1**
ILAR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
INK	**Inuvik**	**58.88**	**26**	P		**P**	**10 14 44.2**	**-0.9**
	comp=Z,1.3nm,0.3s,mb3.9,baz=307,slow=15,SNR=24							
INK	**Inuvik**	**58.88**	**26**	P		**P**	**10 14 44.3**	**-0.8**
INK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ARCES	**ARCESS Array B**	**65.57**	**339**	P		**P**	**10 15 28.3**	**-0.3**
	comp=Z,1.2nm,0.7s,mb3.7,baz=56,slow=8.7,SNR=7.8							
ARCES	**ARCESS Array B**	**65.57**	**339**	P		**P**	**10 15 28.3**	**-0.4**
ARCES				pmax		pmax		
	comp=Z,10.0nm,0.7s							
YKA	**Yellowknife Ar**	**68.39**	**28**	P		**P**	**10 15 45.8**	**-0.4**
	comp=Z,0.1nm,0.3s,mb3.1,baz=137,slow=31,SNR=7.1							
NWAO	**Narrogin (SRO)**	**68.96**	**198**	P		**P**	**10 15 49.8**	**-0.4**
NWAO				pmax		pmax		
	comp=Z,16nm,1.0s							
NWAO	**Narrogin (SRO)**	**68.96**	**198**	P		**P**	**10 15 49.8**	**-0.4**
	comp=Z,16nm,1.0s,mb4.7							
FINES	**FINESS Array B**	**69.78**	**331**	P		**P**	**10 15 54.5**	**-0.2**
	comp=Z,3.3nm,1.0s,mb4.0,baz=66,slow=6.6,SNR=13							
FINES	**FINESS Array B**	**69.78**	**331**	P		**P**	**10 15 54.5**	**-0.2**
FINES				pmax		pmax		
	comp=Z,3.0nm,1.0s							
NOA	**NORSAR Array B**	**75.55**	**336**	P		**P**	**10 16 28.6**	**+0.5**
	comp=Z,1.4nm,1.0s,mb3.6,baz=62,slow=6.6,SNR=3.0							
NOA	**NORSAR Array B**	**75.55**	**336**	P		**P**	**10 16 28.6**	**+0.5**
NOA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
NVAR	**Mina Array Bea**	**79.90**	**50**	P		**P**	**10 16 54.4**	**+2.2**
	comp=Z,0.3nm,0.5s,mb3.3,baz=280,slow=5.5,SNR=4.5							
PDAR	**Pinedale Array**	**82.55**	**43**	P		**P**	**10 17 07.4**	**+1.7**
	comp=Z,0.8nm,0.8s,mb3.6,baz=272,slow=2.1,SNR=6.5							

*NEIC **05** 10:13:57.2±2.7, 27.28N×67.78E, h35km, mb3.9/1, Error ellipse: s-maj=33.3km s-min=19.4km az=83.0*
*NDI **05** 10:14:15.9±3.1, 23.19N×70.33E, h12km±21km, ML3.5*
ISC 05 10:14:11.5±0.7, **23.15N**±0.04×**70.55E**±0.04, **h10**km, **n19**, σ1**52**/28, **Southern India**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BHJ	**Bhuj**	**0.83**	**278**	*e*P		**Pb**	**10 14 27.1**	**-0.5**
BHJ				*e*S		**Sb**	**10 14 37.1**	**-1.5**
BHJ				AML		AML	10 14 37.9	
	comp=E,1μm,0.1s							
BHJ				AML		AML	10 14 38.0	
	comp=N,4μm,0.2s							
JASL	**Jaisalmer**	**3.77**	**5**	*e*P		**Pn**	**10 15 13.2**	**+2.1**
JASL				*e*S		**Sn**	**10 15 56.7**	**+0.6**
BOM	**Bombay**	**4.73**	**153**	*e*P		**Pn**	**10 15 32.4**	**+7.7**
BOM				*e*S		**Sn**	**10 16 24.8**	**+4.6**
AJM	**Ajmer**	**4.98**	**47**	*e*P		**Pn**	**10 15 33.2**	**+4.9**
AJM				*e*S		**Sn**	**10 16 26.8**	**+0.2**
AJM				AML		AML	10 16 55.2	
	comp=E,144nm,0.5s							
AJM				AML		AML	10 16 55.6	
	comp=N,86nm,0.5s							
POO	**Poona**	**5.53**	**146**	*e*S		**Sn**	**10 16 41.6**	**+1.2**
BHPL	**Bhopal**	**6.33**	**88**	*e*P		**Pn**	**10 15 51.8**	**+4.6**
BHPL				*e*S		**Sn**	**10 16 59.8**	**-0.5**
BHPL				AML		AML	10 17 33.7	
	comp=E,20nm,0.8s							
BHPL				AML		AML	10 17 34.5	
	comp=N,39nm,0.5s							
BHPL				AML		AML	10 17 42.0	
	comp=N,55nm,0.4s							
BHPL				AML		AML	10 17 42.7	
	comp=E,23nm,0.5s							
KAD	**Karad**	**6.74**	**149**	*e*S		**Sn**	**10 17 08.7**	**-1.8**
LATR	**Latur**	**7.33**	**129**	*e*S		**Sn**	**10 17 26.0**	**+0.6**
SONA	**Sohna**	**7.78**	**48**	AML		AML	10 18 17.9	
	comp=E,32nm,0.6s							
SONA				AML		AML	10 18 19.1	
	comp=N,28nm,0.4s							
NDI	**New Delhi**	**8.15**	**46**	*e*S		**Sn**	**10 17 42.0**	**-3.9**
KOLN	**Koldanda**	**12.65**	**66**	*e*Pn		**P**	**10 17 14.2**	**-0.3**
KOLN				*e*Sn		**S**	**10 19 32.1**	**-4.4**
	comp=N,15nm,0.7s							
KOLN	**Koldanda**	**12.65**	**66**	*e*Pn		**P**	**10 17 14.2**	**-0.3**
	comp=N,7.4nm,0.7s							
KOLN				*e*Sn		**S**	**10 19 32.1**	**-4.4**
GKN	**Gorkha**	**13.60**	**66**	*e*Pn		**P**	**10 17 25.3**	**-1.8**
GKN				*e*Sn		**S**	**10 19 53.9**	**-5.3**
	comp=N,64nm,1.0s							
GKN	**Gorkha**	**13.60**	**66**	*e*Pn		**P**	**10 17 25.3**	**-1.8**
	comp=N,32nm,1.0s							
GKN				*e*Sn		**S**	**10 19 53.9**	**-5.3**
DMN	**Daman**	**13.89**	**68**	*e*Pn		**P**	**10 17 32.3**	**+1.5**
KKN	**Kakani**	**14.08**	**68**	*e*Pn		**P**	**10 17 34.6**	**+1.2**
GUN	**Gumba**	**14.63**	**68**	*e*Pn		**P**	**10 17 41.3**	**+0.8**
GUN				*e*Sn		**S**	**10 20 20.4**	**-3.2**
JIRN	**Jiri**	**14.83**	**69**	*e*Pn		**P**	**10 17 44.3**	**+1.1**
LSA	**Lhasa**	**19.56**	**66**	*e*P		**P**	**10 18 34.1**	**-8.2**
	comp=N,2.2nm,0.4s							

*IDC **05** 10:43:19.0±0.6, 31.96S×57.30E, mb4.1/13, mb1 4.2/14, mb1mx4.1/23, mbtmp4.1/14, MS3.7/15, Ms1 3.7/15, ms1mx3.6/27, Error ellipse: s-maj=23.1km s-min=16.4km az=38.0*
*HRVD **05** 10:43:20.5±0.9, 32.01S×57.29E, h12km, MW4.8/30, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s30,c35; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.26±.14; Mθθ 0.42±.13; Mφφ 0.84±.14; Mrθ-1.55±.57; Mrφ-0.40±.14; Mθφ-0.87±.58; Best double couple: M0 1.918×10^16 NP1:φ=255°, δ11°, λ=-78°. NP2:φ=63°, δ79°, λ=-92°. Principal axes: T 1.38, Plg34°, Azm155°; N 1.08, Plg2°, Azm64°; P -2.457, Plg56°, Azm330°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 10:43:20.5±0.3, 31.92S×57.29E, h10km, mb5.0/8 Error ellipse: s-maj=11.3km s-min=10.1km az=57.0*
ISC 05 10:43:18.6±0.5, **31.94S**±0.09×**57.3E**±0.1, **h10**km, **n43**, σ0**77**/26, **mb4.4**/20, **MS3.7**/15, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OPO	**Ambohidratompo**	**16.14**	**323**	Pn		**P**	**10 47 07.4**	**0.0**
	2.7nm,0.3s,baz=154,slow=9.8,SNR=16							
MATP	**Matopo**	**28.20**	**287**	P		**P**	**10 49 13.3**	**-0.3**
	1.5nm,0.5s,mb3.9,baz=138,slow=6.9,SNR=7.3							
MATP				LR		LR	10 58 44.7	
	comp=Z,111nm,19.2s,MS3.5,baz=313,slow=33							
LBTB	**Lobatse**	**28.65**	**276**	P		**P**	**10 49 15.9**	**-1.7**
	1.5nm,0.7s,mb3.8,baz=107,slow=11,SNR=2.6							
LBTB				LR		LR	10 59 08.7	
	comp=Z,104nm,18.2s,MS3.5,baz=302,slow=33							
LSZ	**Lusaka**	**31.28**	**295**	LR		LR	11 00 57.1	
	comp=Z,91nm,18.3s,MS3.5,baz=69,slow=34							
MAW	**Mawson**	**35.85**	**176**	LR		LR	11 01 17.3	
	comp=Z,102nm,18.7s,MS3.6,baz=67,slow=30							
MAW	**Mawson**	**35.85**	**176**	P		**P**	**10 50 12.3**	**-7.8**
	10nm,0.4s,mb5.1							
KMBO	**Kilima Mbogo**	**36.03**	**324**	P		**P**	**10 50 22.3**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=212,slow=19,SNR=3.0							
KMBO				LR		LR	11 02 45.2	
	comp=Z,38nm,20.2s,MS3.2,baz=90,slow=32							
TSUM	**Tsumeb**	**37.81**	**280**	P		**P**	**10 50 38.4**	**+1.3**
	1.8nm,0.5s,mb4.0,baz=216,slow=13,SNR=6.2							
TSUM	**Tsumeb**	**37.81**	**280**	P		**P**	**10 50 38.4**	**+1.3**
ATD	**Arta Tunnel**	**45.39**	**340**	LR		LR	11 06 51.1	
	comp=Z,74nm,19.4s,MS3.6,baz=45,slow=31							
NWAO	**Narrogin (SRO)**	**49.97**	**108**	LR		LR	11 07 44.8	
	comp=Z,109nm,21.2s,MS3.8,baz=103,slow=29							
SNAA	**Sanae**	**50.71**	**201**	P		**P**	**10 52 20.0**	**-0.1**
	1.8nm,0.9s,mb4.0,baz=94,slow=5.8,SNR=12							
QSPA	**South Pole Qui**	**58.23**	**180**	P		**P**	**10 53 15.6**	**+0.6**
	12nm,0.8s,mb5.0							
VNDA	**Vanda**	**62.13**	**166**	P		**P**	**10 53 41.9**	**+0.2**
	2.0nm,1.0s,mb4.2,baz=233,slow=8.8,SNR=2.5							
VNDA				LR		LR	11 17 48.0	
	comp=Z,96nm,19.1s,MS4.0,baz=253,slow=33							
FITZ	**Fitzroy Cossi**	**62.53**	**95**	LR		LR	11 14 05.8	
	comp=Z,55nm,21.5s,MS3.7,baz=297,slow=30							
KOLN	**Koldanda**	**64.44**	**26**	*e*P		**P**	**10 53 57.4**	**-0.2**
	12nm,0.9s,mb4.9							
DMN	**Daman**	**64.86**	**27**	*e*P		**P**	**10 53 59.9**	**-0.4**
	23nm,1.0s,mb5.2							
GKN	**Gorkha**	**65.04**	**27**	*e*P		**P**	**10 54 00.8**	**-0.7**
	10nm,0.7s,mb5.0							
KKN	**Kakani**	**65.09**	**27**	*e*P		**P**	**10 54 01.1**	**-0.7**
JIRN	**Jiri**	**65.34**	**28**	*e*P		**P**	**10 54 03.2**	**-0.2**
GUN	**Gumba**	**65.44**	**28**	*e*P		**P**	**10 54 03.9**	**-0.1**
	22nm,1.0s,mb5.1							
WRA	**Warramunga Arr**	**69.02**	**101**	P		**P**	**10 54 27.1**	**+0.4**
	2.4nm,0.8s,mb4.2,baz=241,slow=5.5,SNR=15							
STKA	**Stephens Creek**	**69.59**	**115**	P		**P**	**10 54 28.6**	**-1.4**
	3.0nm,0.8s,mb4.3,baz=296,slow=6.9,SNR=4.9							
STKA	**Stephens Creek**	**69.59**	**115**	P		**P**	**10 54 28.6**	**-1.5**
TORD	**Torodi Ar. Bea**	**69.59**	**301**	P		**P**	**10 54 30.2**	**-0.1**
	2.0nm,0.8s,mb4.1,baz=131,slow=5.0,SNR=14							
DBIC	**Dimbokro**	**70.52**	**291**	LR		LR	11 22 58.8	
	comp=Z,49nm,18.1s,MS3.8,baz=64,slow=34							
BR131	**Keskin Array S**	**74.61**	**341**	*e*P		**P**	**10 54 59.8**	**+0.1**
	1.9nm,0.8s,mb4.1							
BRTR	**Keskin Array B**	**74.61**	**341**	P		**P**	**10 54 59.9**	**+0.2**
	2.4nm,0.8s,mb4.2,baz=166,slow=8.0,SNR=16							
CTA	**Charters Tower**	**78.78**	**107**	LR		LR	11 25 20.0	
	comp=Z,114nm,21.6s,MS4.2,baz=230,slow=32							
MKAR	**Makanchi Array**	**81.55**	**17**	P		**P**	**10 55 39.6**	**+1.9**
	1.2nm,0.7s,mb3.9,baz=217,slow=6.1,SNR=5.6							
MKAR				LR		LR	11 31 39.6	
	comp=Z,25nm,18.3s,MS3.6,baz=222,slow=36							
AKASG	**Malin Array Be**	**85.95**	**343**	P		**P**	**10 55 59.8**	**-0.1**
	0.3nm,0.2s,mb4.1,baz=157,slow=4.8,SNR=5.0							
CHKZ	**Chkalovo**	**86.04**	**8**	*e*P		**P**	**10 56 00.6**	**+0.3**
	20nm,1.6s,mb5.1							
ZAL	**Zalesovo**	**88.77**	**16**	LR		LR	11 33 42.4	
	comp=Z,43nm,20.9s,MS3.8,baz=97,slow=34							
SONM	**Songino Array**	**90.79**	**31**	P		**P**	**10 56 24.3**	**+1.2**
	0.6nm,0.7s,mb4.0,baz=213,slow=5.7,SNR=5.6							
PLCA	**Paso Flores**	**93.12**	**217**	LR		LR	11 28 48.7	
	comp=Z,54nm,20.9s,MS4.0,baz=178,slow=29							
BDFB	**Brasilia**	**94.33**	**249**	LR		LR	11 33 40.1	
	comp=Z,76nm,19.2s,MS4.2,baz=298,slow=32							
ILAR	**Eielson Array**	**143.90**	**17**	PKP		PKPdf	11 02 52.6	-3.8
	1.2nm,0.8s,baz=309,slow=4.1,SNR=17							
THY	**Trims Highway**	**145.29**	**18**	*e*PKPdf		PKPdf	11 02 58.4	-0.5
PMR	**Palmer**	**145.73**	**22**	*e*PKPdf		PKPdf	11 02 59.3	-0.3
DAWY	**Dawson**	**146.19**	**13**	*e*PKPdf		PKPdf	11 03 00.8	+0.4
YKA	**Yellowknife Ar**	**148.99**	**353**	PKPbc		PKPdf	11 03 08.2	+3.2
	4.7nm,0.7s,baz=8.4,slow=2.5,SNR=32							
YKA	**Yellowknife Ar**	**148.99**	**353**	PKPbc		PKPdf	11 03 08.2	+3.2
ULM	**Lac du Bonnet**	**152.97**	**320**	PKPbc		PKPdf	11 03 17.7	+6.4
	5.6nm,0.9s,baz=358,slow=2.0,SNR=5.8							

*IDC **05** 10:52:51.1±1.5, 1.82N×96.50E, mb4.1/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.1/8, ML2.8/1, Error ellipse: s-maj=45.5km s-min=22.4km az=41.0*
*NEIC **05** 10:52:55.5±0.6, 1.77N×96.58E, h30km, mb4.4/5, Error ellipse: s-maj=13.2km s-min=8.8km az=194.0*
ISC 05 10:52:53.5±4.9, **1.8N**±0.1×**96.61E**±0.07, **h29**km±35km, **n24**, σ0**89**/26, **mb4.3**/13, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**2.52**	**66**	Pn		**Pn**	**10 53 33.4**	**0.0**
	1.8nm,0.3s,baz=274,slow=9.7,SNR=9.0							
PSI				Sn		**Sn**	**10 54 03.0**	**-0.5**
	3.5nm,0.3s,baz=259,slow=8.7,SNR=5.2							
KULM	**Kulim**	**5.32**	**49**	*e*Pn		**Pn**	**10 54 11.9**	**-1.3**
KULM				*e*Sn		**Sn**	**10 55 21.6**	**+7.3**
KKM	**Kota Kinabalu**	**20.00**	**77**	*e*P		**P**	**10 57 27.6**	**+0.7**
JIRN	**Jiri**	**27.59**	**340**	*e*P		**P**	**10 58 40.9**	**+0.4**
	10nm,0.6s,mb4.6							
PKI	**Pulchoki**	**27.79**	**338**	*e*P		**P**	**10 58 44.0**	**+1.7**
GUN	**Gumba**	**27.93**	**339**	*e*P		**P**	**10 58 43.8**	**+0.3**
	13nm,0.6s,mb4.7							
DMN	**Daman**	**27.94**	**338**	*e*P		**P**	**10 58 44.6**	**+1.0**
KKN	**Kakani**	**28.04**	**338**	*e*P		**P**	**10 58 45.0**	**+0.5**
LSA	**Lhasa**	**28.24**	**350**	*e*P		**P**	**10 58 43.0**	**-3.3**
GKN	**Gorkha**	**28.47**	**337**	*e*P		**P**	**10 58 49.3**	**+0.9**
KOLN	**Koldanda**	**28.68**	**335**	*e*P		**P**	**10 58 51.2**	**+0.9**
	8.0nm,0.7s,mb4.6							
WRA	**Warramunga Arr**	**42.84**	**122**	P		**P**	**11 00 52.4**	**+1.3**
	1.4nm,0.6s,mb3.9,baz=301,slow=9.2,SNR=18							
MKAR	**Makanchi Array**	**46.53**	**346**	P		**P**	**11 01 20.6**	**+0.2**
	2.2nm,0.6s,mb4.3,baz=159,slow=9.5,SNR=20							
SONM	**Songino Array**	**46.64**	**9**	P		**P**	**11 01 20.8**	**-0.4**
	2.7nm,1.1s,mb4.1,baz=192,slow=7.6,SNR=12							
ZAL	**Zalesovo**	**52.88**	**351**	P		**P**	**11 02 08.5**	**-0.5**
	2.4nm,0.6s,mb4.3,baz=298,slow=5.9,SNR=12							
BVAR	**Borovoye Array**	**55.51**	**341**	P		**P**	**11 02 27.5**	**-0.7**
	1.4nm,0.7s,mb4.1,baz=127,slow=7.4,SNR=8.4							
CHKZ	**Chkalovo**	**55.99**	**342**	*e*P		**P**	**11 02 31.4**	**-0.2**
	2.3nm,0.8s,mb4.3							
KMBO	**Kilima Mbogo**	**59.42**	**268**	P		**P**	**11 02 55.3**	**-1.1**
HNR	**Honiara**	**64.05**	**101**	*e*P		**P**	**11 03 28.4**	**+0.8**
LBTB	**Lobatse**	**73.62**	**243**	P		**P**	**11 04 25.7**	**-0.9**
SANT	**Santorini**	**73.81**	**307**	*e*P		**P**	**11 04 26.2**	**-1.2**
	7.1nm,0.4s,mb5.0							
AKASG	**Malin Array Be**	**74.44**	**322**	P		**P**	**11 04 29.6**	**-1.1**
	0.1nm,0.2s,mb3.3,baz=97,slow=5.2,SNR=4.3							
FINES	**FINESS Array B**	**79.21**	**333**	P		**P**	**11 04 57.1**	**-0.1**
	2.1nm,0.8s,mb4.1,baz=114,slow=14,SNR=3.0							
ARCES	**ARCESS Array B**	**81.79**	**340**	P		**P**	**11 05 11.1**	**+0.3**
	3.4nm,1.1s,mb4.2,baz=124,slow=4.4,SNR=5.5							

*CNRM **05** 11:25:24.3, 34.96N×3.53W, h2km, MD3.2*
*CSEM **05** 11:25:25.0±0.2, 34.93N×3.84W, h12km, MD3.2, Error ellipse: s-maj=6.0km s-min=3.5km az=111.0*
*MDD **05** 11:25:26.6±0.4, 34.93N×3.87W, mbLg2.1/7, Error ellipse: s-maj=4.0km s-min=3.5km az=132.0, PRXIMO SOLUCIN POBRE*
ISC 05 11:25:25.6±0.7, **34.98N**±0.02×**3.94W**±0.04, **h9**km±4km, **n22**, σ1**08**/41, **Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TOU	**Touzarine**	**0.15**	**96**	P		**Pg**	**11 25 28.0**	**-1.1**
TOU				S		**Sg**	**11 25 30.0**	**-1.4**
TOU	**Touzarine**	**0.15**	**96**	*i* P		**Pg**	**11 25 28.0**	**-1.1**
MPAL	**Palemas**	**0.25**	**359**	P		**Pg**	**11 25 33.5**	**+2.7**
MPAL				S		**Sg**	**11 25 36.0**	**+1.7**
MPAL	**Palemas**	**0.25**	**359**	*i* P		**Pg**	**11 25 33.5**	**+2.7**
EMEL	**Melilla**	**0.86**	**68**	P		**Pb**	**11 25 42.3**	**-0.1**
	90nm,0.1s,SNR=4.0							
EMEL				S		**Sb**	**11 25 53.8**	**0.0**
	59nm,0.1s,SNR=4.0							
EMLI	**Melilla**	**0.87**	**68**	P		**Pb**	**11 25 42.3**	**-0.1**
	90nm,0.1s,SNR=4.0							
EMLI				S		**Sb**	**11 25 53.8**	**-0.1**
	59nm,0.1s,SNR=4.0							
TZK	**Tazeka**	**0.91**	**193**	*i* P		**Pb**	**11 25 43.0**	**-0.1**
TZK				*i* S		**Sb**	**11 25 56.0**	**+0.9**
EMIJ	**Mijas**	**1.72**	**337**	P		**Pn**	**11 25 56.9**	**+0.8**
	1.2nm,0.1s,SNR=7.9							
EMIJ				S		**Sn**	**11 26 19.0**	**+0.8**
	3.6nm,0.2s,SNR=7.9							
MIF	**Mishlifen**	**1.90**	**215**	*e*P		**Pn**	**11 25 58.0**	**-0.5**
MIF				*i* S		**Sn**	**11 26 24.0**	**+1.3**
EBER	**Berja**	**2.10**	**24**	P		**Pn**	**11 26 01.7**	**+0.3**
	2.3nm,0.3s,SNR=7.9							
EBER				S		**Sn**	**11 26 28.4**	**+0.6**
	2.4nm,0.2s,SNR=5.3							
EBER	**Berja**	**2.10**	**24**	P		**Pn**	**11 26 01.7**	**+0.3**
	2.3nm,0.3s,SNR=7.9							
EBER				S		**Sn**	**11 26 28.4**	**+0.6**
	2.4nm,0.2s,SNR=5.3							
CZD	**Col de Zad**	**2.15**	**206**	*e*P		**Pn**	**11 26 01.0**	**-1.1**
CZD				*i* S		**Sn**	**11 26 30.0**	**+0.9**
EQES	**Quesada**	**2.90**	**14**	P		**Pn**	**11 26 12.9**	**-0

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.44**	**24**	Pg	**Pg**	**11 49 30.2**	**+0.8**
RUP				Sg	**Sg**	**11 49 37.0**	**+1.8**
WLF	**Walferdange**	**0.55**	**311**	*e*Pg	**Pg**	**11 49 33.5**	**+1.9**
	SNR=2.4						
WLF				*e*Sg	**Sg**	**11 49 40.7**	**+1.8**
LANF	**Langenberg**	**0.74**	**115**	Pg	**Pg**	**11 49 35.5**	**0.0**
ABH	**Alteburg**	**0.76**	**40**	Pg	**Pg**	**11 49 35.8**	**-0.1**
CDF	**Champ du Feu**	**0.95**	**160**	*e*Pn	**Pn**	**11 49 41.0**	**-0.1**
CDF				*e*Sg	**Sg**	**11 49 52.7**	**+0.4**
	32nm,0.2s						
CDF	**Champ du Feu**	**0.95**	**160**	*e*Pg	**Pg**	**11 49 39.8**	**+0.2**
CDF				*e*Pn	**Pn**	**11 49 41.0**	**-0.1**
CDF				*e*Sg	**Sg**	**11 49 52.7**	**+0.4**
CDF	**Champ du Feu**	**0.95**	**160**	*e*Pn	**Pn**	**11 49 41.0**	**-0.1**
CDF				*e*Sg	**Sg**	**11 49 52.7**	**+0.4**
	16nm,0.2s						
WLS	**Welschbruch**	**0.97**	**157**	Pg	**Pg**	**11 49 41.2**	**+1.2**
RFYF	**Reffroy**	**1.10**	**232**	*e*Pg	**Pg**	**11 49 43.5**	**+0.9**
	baz=53						
RFYF				*e*Sg	**Sg**	**11 49 57.9**	**+0.7**
	24nm,0.2s						
ECH	**Echery**	**1.12**	**167**	Pg	**Pg**	**11 49 44.0**	**+1.0**
ECH				Sg	**Sg**	**11 49 59.1**	**+1.2**
THEF	**They Montfort**	**1.20**	**206**	Pg	**Pg**	**11 49 44.7**	**0.0**
THEF				Sg	**Sg**	**11 50 01.9**	**+1.2**
HAU	**Haudompre**	**1.33**	**193**	*e*Pg	**Pg**	**11 49 47.7**	**+0.4**
HAU				*e*Sg	**Sg**	**11 50 05.3**	**+0.3**
	23nm,0.3s						
HAU	**Haudompre**	**1.33**	**193**	*e*Pn	**Pn**	**11 49 46.6**	**+0.1**
HAU				*e*Pg	**Pg**	**11 49 47.7**	**+0.4**
HAU				*e*Sg	**Sg**	**11 50 05.3**	**+0.3**
HAU	**Haudompre**	**1.33**	**193**	*e*Pg	**Pg**	**11 49 47.7**	**+0.4**
HAU				*e*Sg	**Sg**	**11 50 05.3**	**+0.3**
	11nm,0.3s						
TOD	**Tromm**	**1.35**	**76**	Pg	**Pg**	**11 49 47.0**	**-0.7**
TOD				Sg	**Sg**	**11 50 05.0**	**-0.7**
MEZF	**Maizieres J'vi**	**1.40**	**236**	*e*Pn	**Pn**	**11 49 48.3**	**+0.8**
	baz=55						
MEZF				*e*Sg	**Sg**	**11 50 08.1**	**+0.9**
	8.8nm,0.3s						
BFO	**Black Forest**	**1.41**	**133**	*e*Pg	**Pg**	**11 49 49.4**	**+0.5**
	SNR=2.0						
BFO				*e*Sg	**Sg**	**11 50 07.3**	**-0.3**
TNS	**Taunus Mts**	**1.42**	**49**	*e*Pg	**Pg**	**11 49 48.0**	**-0.9**
	SNR=3.9						
TNS				*e*Sg	**Sg**	**11 50 06.6**	**-1.3**
MOF	**Molkenrain**	**1.47**	**171**	Pg	**Pg**	**11 49 50.4**	**+0.3**
MOF				Sg	**Sg**	**11 50 10.2**	**+0.5**
HINF	**Hinteralfeld**	**1.49**	**178**	*e*Pg	**Pg**	**11 49 50.3**	**-0.1**
HINF				*e*Sg	**Sg**	**11 50 10.4**	**+0.1**
	32nm,0.2s						
HINF	**Hinteralfeld**	**1.49**	**178**	*e*Pn	**Pn**	**11 49 48.3**	**-0.5**
HINF				*e*Pg	**Pg**	**11 49 50.3**	**-0.1**
HINF				*e*Sg	**Sg**	**11 50 10.4**	**+0.1**
HINF	**Hinteralfeld**	**1.49**	**178**	*e*Pg	**Pg**	**11 49 50.3**	**-0.1**
HINF				*e*Sg	**Sg**	**11 50 10.4**	**+0.1**
	16nm,0.2s						
GIVF	**Givet**	**1.50**	**303**	*e*Pn	**Pn**	**11 49 49.4**	**+0.4**
GIVF				*e*Sg	**Sg**	**11 50 10.0**	**-0.8**
	12nm,0.3s						
SFTF	**Sexfontaines**	**1.60**	**227**	*e*Pn	**Pn**	**11 49 50.3**	**0.0**
	baz=53						
SFTF				*e*Sg	**Sg**	**11 50 13.7**	**-0.1**
	6.1nm,0.2s						
BAIF	**Baives**	**1.84**	**295**	*e*Pg	**Pg**	**11 49 56.8**	**-0.6**
BAIF				*e*Sg	**Sg**	**11 50 20.5**	**-1.4**
	5.8nm,0.3s						
BAIF	**Baives**	**1.84**	**295**	*e*Pn	**Pn**	**11 49 54.2**	**+0.4**
BAIF				*e*Pg	**Pg**	**11 49 56.8**	**-0.6**
BAIF				*e*Sg	**Sg**	**11 50 20.5**	**-1.4**
BAIF	**Baives**	**1.84**	**295**	*e*Pg	**Pg**	**11 49 56.8**	**-0.6**
BAIF				*e*Sg	**Sg**	**11 50 20.5**	**-1.4**
	2.9nm,0.3s						
CABF	**La Chapelle**	**2.73**	**190**	*e*Pn	**Pn**	**11 50 06.3**	**-0.3**
CABF				*e*Sg	**Sg**	**11 50 49.4**	**-2.3**
	2.2nm,0.2s						
LOR	**Lormes**	**2.82**	**225**	*e*Pn	**Pn**	**11 50 06.8**	**-1.1**
	baz=49						
LOR				*e*Sn	**Sn**	**11 50 39.9**	**-3.2**
LOR				*e*Sg	**Sg**	**11 50 51.7**	**-3.0**
	5.0nm,0.3s						
SSF	**Saint Saulge**	**3.14**	**226**	*e*Pn	**Pn**	**11 50 11.1**	**-1.3**
SMF	**Signal de Mont**	**3.31**	**218**	*e*Pn	**Pn**	**11 50 13.2**	**-1.7**
SMF				*e*Sn	**Sn**	**11 50 51.1**	**-4.5**
SMF				*e*Sg	**Sg**	**11 51 06.8**	**-4.3**
	1.4nm,0.3s						
AVF	**Avril sur Loir**	**3.41**	**224**	*e*Pn	**Pn**	**11 50 14.6**	**-1.6**
GEC2	**GERESS Array S**	**4.57**	**93**	*e*Pn	**Pn**	**11 50 32.4**	**-0.3**
	SNR=1.9						

MAN 05 11:54:46.3, 10.78N×124.92E, h1km, mb3.6, ML2.3, MS1.8, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.64**	**185**	*e*P	Pg	11 54 59.5	+0.4
MSLP				*e*S	Sg	11 55 13.4	+5.8
BESP	**Borongan**	**0.96**	**32**	*e*P	Pb	11 55 04.7	-0.8
BESP				*e*S	Sg	11 55 21.3	+2.8
SCPH	**Surigao**	**1.14**	**150**	*e*P	Pb	11 55 09.6	+1.2
CNP	**Catarman**	**1.74**	**352**	*e*P	Pn	11 55 18.2	+0.2
CNP				*e*S	Sn	11 55 51.0	+10

*IDC **05** 12:16:40.6±0.8, 39.02N×29.90W, mb3.9/16, mb1 4.1/16, mb1mx4.0/28, mbtmp3.9/16, MS4.4/1, Ms1 4.4/1, ms1mx4.0/33, Error ellipse: s-maj=26.6km s-min=15.9km az=8.0*

*SVSA **05** 12:16:42.0±1.2, 38.68N×29.66W, MD3.5, ML3.5, Error ellipse: s-maj=13.9km s-min=4.7km az=179.0*

*CSEM **05** 12:16:42.0±1.2, 38.68N×29.66W, ML3.5, Error ellipse: s-maj=13.9km s-min=4.7km az=179.0, After PDA*

*PDA **05** 12:16:42.0±1.2, 38.68N×29.66W, MD3.5, ML3.5, Error ellipse: s-maj=13.9km s-min=4.7km az=179.0*

ISC 05 12:16:39.3±0.5, 38.80N±0.06×29.62W±0.04, h10km, n61, σ1§16/83, mb3.9/16, MS4.4/1, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.68**	**108**	*e*P	**Pb**	**12 16 54.6**	**+1.8**
PTCA				*e*S	**Sb**	**12 17 03.5**	**+1.5**
	594nm,0.3s						
PTCA	**Ponta do Capel**	**0.68**	**108**	*e*P	**Pb**	**12 16 54.6**	**+1.8**
PTCA				*e*S	**Sb**	**12 17 03.5**	**+1.5**
	594nm,0.3s						
CALA	**Caldeira**	**0.75**	**107**	*e*P	**Pb**	**12 16 54.6**	**+0.6**
CALA				*e*S	**Sb**	**12 17 04.8**	**+0.7**
HOR	**Horta**	**0.82**	**109**	*e*P	**Pb**	**12 16 55.0**	**-0.2**
HOR				*e*S	**Sb**	**12 17 06.2**	**+0.1**
PCND	**Candelaria**	**0.97**	**110**	*e*P	**Pb**	**12 16 58.4**	**+0.7**
PCND				*e*S	**Sb**	**12 17 09.9**	**-0.4**
	1µm,0.3s						
PICO	**Pico**	**0.98**	**107**	*e*P	**Pb**	**12 16 58.0**	**0.0**
PICO				*e*S	**Sb**	**12 17 10.5**	**-0.3**
PBOI	**Pico dos Bois**	**1.04**	**110**	*e*P	**Pb**	**12 16 59.4**	**+0.4**
PBOI				*e*S	**Sb**	**12 17 12.1**	**-0.4**
	853nm,0.2s						
ROSA	**Rosais**	**1.08**	**94**	*e*P	**Pb**	**12 17 00.1**	**+0.4**
PAMA	**Santo Amaro**	**1.13**	**96**	*e*P	**Pb**	**12 17 01.8**	**+1.3**
PVIA	**Vitoria**	**1.25**	**77**	*e*P	**Pb**	**12 17 04.2**	**+1.6**
PVIA				*e*S	**Sb**	**12 17 19.5**	**+0.9**
	115nm,0.4s						
PIED	**Piedade**	**1.29**	**107**	*e*P	**Pb**	**12 17 03.0**	**-0.2**
STGR	**Santa Cruz**	**1.29**	**77**	*e*P	**Pb**	**12 17 05.2**	**+1.9**
STGR				*e*S	**Sb**	**12 17 20.9**	**+1.1**
	270nm,0.2s						
STGR	**Santa Cruz**	**1.29**	**77**	*e*P	**Pb**	**12 17 05.2**	**+1.9**
STGR				*e*S	**Sb**	**12 17 20.9**	**+1.1**
	270nm,0.2s						
ASBA	**Santa Barbara**	**1.80**	**92**	*e*P	**Pn**	**12 17 10.7**	**0.0**
ASBA				*e*S	**Sn**	**12 17 31.9**	**-1.8**
	180nm,0.2s						
ASBA	**Santa Barbara**	**1.80**	**92**	*e*P	**Pn**	**12 17 10.7**	**0.0**
ASBA				*e*S	**Sn**	**12 17 31.9**	**-1.8**
	180nm,0.2s						
PPAD	**Pico dos Padre**	**1.83**	**92**	*e*P	**Pn**	**12 17 11.2**	**+0.1**
PPAD				*e*S	**Sn**	**12 17 32.4**	**-2.1**
	99nm,0.2s						
PPAD	**Pico dos Padre**	**1.83**	**92**	*e*P	**Pn**	**12 17 11.2**	**+0.1**
PPAD				*e*S	**Sn**	**12 17 32.4**	**-2.1**
	99nm,0.2s						
PBIS	**Biscoitos**	**1.85**	**90**	*e*P	**Pn**	**12 17 11.6**	**+0.1**
PBIS				*e*S	**Sn**	**12 17 33.3**	**-1.8**
	88nm,0.2s						
PBIS	**Biscoitos**	**1.85**	**90**	*e*P	**Pn**	**12 17 11.6**	**+0.1**
PBIS				*e*S	**Sn**	**12 17 33.3**	**-1.8**
	88nm,0.2s						
ADH	**Angra Heroismo**	**1.87**	**94**	*e*P	**Pn**	**12 17 11.2**	**-0.5**
ADH				*e*S	**Sn**	**12 17 33.0**	**-2.6**
RIB2	**Ribeirinha**	**1.92**	**93**	*e*P	**Pn**	**12 17 12.5**	**+0.1**
RIB2				*e*S	**Sn**	**12 17 34.7**	**-2.1**
	99nm,0.2s						
RIB2	**Ribeirinha**	**1.92**	**93**	*e*P	**Pn**	**12 17 12.5**	**+0.1**
RIB2				*e*S	**Sn**	**12 17 34.7**	**-2.1**
	99nm,0.2s						
PVNV	**Vila Nova**	**1.93**	**90**	*e*S	**Sn**	**12 17 33.6**	**-3.4**
	39nm,0.2s						
PVNV	**Vila Nova**	**1.93**	**90**	*e*S	**Sn**	**12 17 33.6**	**-3.4**
	39nm,0.2s						
PSCM	**Serra do Cume**	**1.96**	**92**	*e*P	**Pn**	**12 17 12.4**	**-0.6**
PSCM				*e*S	**Sn**	**12 17 34.4**	**-3.5**
	244nm,0.3s						
PSCM	**Serra do Cume**	**1.96**	**92**	*e*P	**Pn**	**12 17 12.4**	**-0.6**
PSCM				*e*S	**Sn**	**12 17 34.4**	**-3.5**
	244nm,0.3s						
PFAV	**Pico das Favas**	**1.99**	**92**	*e*P	**Pn**	**12 17 14.4**	**+1.0**
PFAV				*e*S	**Sn**	**12 17 37.6**	**-0.9**
	71nm,0.2s						
PFAV	**Pico das Favas**	**1.99**	**92**	*e*P	**Pn**	**12 17 14.4**	**+1.0**
PFAV				*e*S	**Sn**	**12 17 37.6**	**-0.9**
	71nm,0.2s						
SET4	**Mosteiros**	**3.15**	**106**	*e*P	**Pn**	**12 17 30.0**	**+0.1**
SET2	**Ginetes**	**3.15**	**106**	*e*P	**Pn**	**12 17 30.1**	**+0.1**
PSAN	**Santo Antonio**	**3.21**	**106**	*e*P	**Pn**	**12 17 30.9**	**+0.1**
PSET	**Sete Cidades**	**3.22**	**106**	*e*P	**Pn**	**12 17 29.0**	**-2.0**
PSET				*e*S	**Sn**	**12 18 04.5**	**-5.3**
	184nm,0.4s						
FAC	**Faja de Cima**	**3.29**	**107**	*e*P	**Pn**	**12 17 32.9**	**+0.9**
CML	**Cha da Macela**	**3.37**	**107**	*e*P	**Pn**	**12 17 33.2**	**+0.1**
PMAT	**Coroa da Mata**	**3.41**	**105**	*erx*		12 17 34.5	
LFA	**Lagoa do Fogo**	**3.41**	**106**	*e*P	**Pn**	**12 17 33.8**	**+0.1**
PRCH	**Ribeira Ch**	**3.43**	**107**	*e*P	**Pn**	**12 17 34.1**	**+0.1**
MESC	**Monte Escuro**	**3.44**	**106**	*e*P	**Pn**	**12 17 34.0**	**-0.1**
VIF	**Vila Franca**	**3.46**	**106**	*e*P	**Pn**	**12 17 34.8**	**+0.5**
PCNG	**Congro**	**3.48**	**106**	*e*P	**Pn**	**12 17 35.2**	**+0.5**
PFAD	**Fenais da Ajud**	**3.51**	**105**	*e*P	**Pn**	**12 17 34.5**	**-0.7**
FRA1	**Furnas**	**3.52**	**106**	*e*P	**Pn**	**12 17 34.8**	**-0.4**
MIRA	**Miradouro**	**3.56**	**105**	*e*P	**Pn**	**12 17 35.5**	**-0.4**
PSMN	**Pico do Norte,**	**4.03**	**115**	*e*P	**Pn**	**12 17 40.1**	**-2.3**
MDT	**Midelt**	**21.11**	**99**	P	**P**	**12 21 27.8**	**+1.4**
	2.3nm,1.0s,mb3.5,baz=328,slow=9.5,SNR=3.7						
JMIC	**Jan Mayen**	**34.06**	**12**	LR	LR	12 34 23.0	
	comp=Z,744nm,21.6s,MS4.4,baz=62,slow=31						
TORD	**Torodi Ar. Bea**	**37.69**	**124**	P	**P**	**12 24 00.4**	**+3.7**
	1.0nm,0.9s,mb3.5,baz=315,slow=6.1,SNR=4.9						
AKASG	**Malin Array Be**	**42.38**	**54**	P	**P**	**12 24 36.4**	**+1.2**
	0.1nm,0.3s,mb3.0,baz=281,slow=7.9,SNR=4.5						
BRTR	**Keskin Array B**	**48.06**	**68**	P	**P**	**12 25 24.0**	**+3.3**
	0.7nm,0.6s,mb3.9,baz=259,slow=7.3,SNR=3.1						
YKA	**Yellowknife Ar**	**54.24**	**325**	P	**P**	**12 26 05.1**	**-1.9**
	0.6nm,0.9s,mb3.5,baz=78,slow=6.6,SNR=5.1						
PDAR	**Pinedale Array**	**58.48**	**302**	P	**P**	**12 26 36.0**	**-1.7**
	1.4nm,1.0s,mb4.0,baz=53,slow=7.4,SNR=6.4						
INK	**Inuvik**	**59.37**	**335**	P	**P**	**12 26 42.7**	**-0.8**
	1.6nm,0.8s,mb4.1,baz=54,slow=5.7,SNR=5.6						
AKTO	**Aktyubinsk**	**59.98**	**48**	P	**P**	**12 26 50.1**	**+2.2**
	1.4nm,0.9s,mb4.0,baz=297,slow=13,SNR=3.9						
TXAR	**Lajitas Array**	**60.55**	**285**	P	**P**	**12 26 51.3**	**-0.9**
	3.8nm,0.8s,mb4.6,baz=78,slow=7.6,SNR=40						
NEW	**Newport**	**60.85**	**310**	P	**P**	**12 26 53.1**	**-0.8**
	2.7nm,0.7s,mb4.5,baz=55,slow=4.7,SNR=6.1						
LPAZ	**La Paz**	**65.59**	**221**	P	**P**	**12 27 27.6**	**+1.9**
	1.5nm,1.1s,mb4.0,baz=320,slow=7.4,SNR=3.6						
ILAR	**Eielson Array**	**65.77**	**335**	P	**P**	**12 27 24.4**	**-1.6**
	0.6nm,0.9s,mb3.6,baz=52,slow=7.0,SNR=5.9						
NVAR	**Mina Array Bea**	**66.40**	**301**	P	**P**	**12 27 29.5**	**-1.0**
	0.5nm,0.9s,mb3.5,baz=68,slow=9.7,SNR=3.2						
ZAL	**Zalesovo**	**71.80**	**35**	P	**P**	**12 28 04.7**	**+1.0**
	0.6nm,0.3s,mb4.0,baz=160,slow=10.0,SNR=4.4						
MKAR	**Makanchi Array**	**75.34**	**41**	P	**P**	**12 28 25.4**	**+1.2**
	1.1nm,0.7s,mb3.9,baz=315,slow=6.9,SNR=5.5						
SONM	**Songino Array**	**85.28**	**28**	P	**P**	**12 29 18.0**	**+0.9**
	1.2nm,0.9s,mb4.0,baz=322,slow=4.8,SNR=7.5						

*IDC **05** 12:17:14.2±1.3, 19.23N×121.64E, mb3.5/4, mb1 3.7/4, mb1mx3.6/18, mbtmp3.5/4, Error ellipse: s-maj=75.6km s-min=26.1km az=66.0*

*MAN **05** 12:17:22.8, 18.89N×121.15E, h8km, mb4.7, ML3.6, MS3.5*

ISC 05 12:17:16.4±0.8, 19.33N±0.05×121.17E±0.07, h10km, n11, σ1§21/17, mb3.4/4, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.13**	**208**	⇓*i*P	**Pb**	**12 17 37.5**	**0.0**
PIP				*e*S	**Sb**	**12 17 50.9**	**-1.1**
SGCP	**Mt. Cagua**	**1.36**	**142**	*e*P	**Pn**	**12 17 42.1**	**+0.6**
SGCP				*e*S	**Sb**	**12 17 58.9**	**+0.1**
APYP	**Conner**	**1.46**	**177**	*e*P	**Pn**	**12 17 42.6**	**-0.3**
APYP				*e*S	**Sb**	**12 17 59.9**	**-1.8**
ABRA	**Dolores**	**1.73**	**195**	*e*P	**Pn**	**12 17 48.0**	**+1.3**
ABRA				*e*S	**Sn**	**12 18 10.0**	**+1.1**
CVP	**Callao Caves**	**1.73**	**159**	*e*P	**Pn**	**12 17 47.5**	**+0.7**
CVP				*e*S	**Sn**	**12 18 08.0**	**-1.1**
CAUP	**Cauayan**	**2.45**	**165**	*e*P	**Pn**	**12 17 59.7**	**+2.6**
BCPH	**Baguio City Da**	**2.98**	**191**	⇓*e*P	**Pn**	**12 18 04.0**	**-0.7**
BCPH				*e*S	**Sn**	**12 18 44.2**	**+3.3**
SONM	**Songino Array**	**30.87**	**340**	P	**P**	**12 23 34.9**	**-0.1**
	0.3nm,0.6s,mb3.3,baz=162,slow=9.1,SNR=2.7						
WRA	**Warramunga Arr**	**41.11**	**161**	P	**P**	**12 24 58.2**	**-4.1**
	0.4nm,0.9s,mb3.1,baz=342,slow=9.1,SNR=5.8						
MKAR	**Makanchi Array**	**41.92**	**320**	P	**P**	**12 25 09.1**	**+0.4**
	0.6nm,0.7s,mb3.4,baz=127,slow=7.2,SNR=3.1						
YKA	**Yellowknife Ar**	**87.43**	**23**	P	**P**	**12 30 02.6**	**-2.2**
	0.5nm,0.7s,mb3.9,baz=310,slow=4.9,SNR=7.5						

*IDC **05** 12:19:52.4±0.3, 6.15S×29.79E, mb5.5/33, mb1 5.6/34, mb1mx5.5/35, mbtmp5.5/34, ML5.3/1, MS6.8/25, Ms1 6.8/25, ms1mx6.8/27, Error ellipse: s-maj=10.1km s-min=7.5km az=78.0*

*MOS **05** 12:19:52.9±1.1, 6.11S×29.76E, h10km, mb6.6/76, MS6.9/48, Error ellipse: s-maj=8.9km s-min=3.3km az=97.9*

*CRAAG **05** 12:19:53.4, 6.15S×29.69E, Ms6.9*

*IGIL **05** 12:19:56.3, 6.20S×29.60E, h10km, MS7.0*

*BGS **05** 12:19:56.2±3.2, 5.83S×30.52E, h22km, mb6.0, MS6.8*

*NEIC **05** 12:19:56.6±0.1, 6.22S×29.83E, h22km, mb6.4/173, ME6.4, MS7.2/132, MW6.7, Error ellipse: s-maj=4.9km s-min=3.3km az=71.0 Broadband fault plane solution: P waves. NP1:φs135°, δ60°, λ-90°. NP2:φs315°, δ30°, λ-90°. Principal axes: T Plg15°, Azm225°; N Plg0°, Azm0°; P Plg75°, Azm45°; Moment Tensor Solution. s17 Moment tensor: Scale 10^19 Nm; Mrr-1.06; Mθθ 0.02; Mφφ 1.04; Mrθ-0.04; Mrφ-0.54; Mθr-0.09; Best double couple: M0 1.2×10^19 NP1:φs152°, δ44°, λ-97°. NP2:φs342°, δ47°, λ-83°. Principal axes: T 1.27, Plg2°, Azm67°; N -.2, Plg5°, Azm157°; P -1.07, Plg85°, Azm319°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least six people killed, 300 houses destroyed and a church collapsed at Kalemie, Congo. Felt [IV] at Arusha, Tanzania and Kigali, Rwanda; [III] at Kampala, Uganda and Nairobi, Kenya. Also felt at Bujumbura and Kirundo, Burundi; Bukavu and Lubumbashi, Congo; Lilongwe, Malawi; Molo, Kenya; Kigoma, Masumbwe and Mwanza, Tanzania; Kireka, Uganda.

*DHMR **05** 12:19:56.8±3.4, 6.29S×29.87E, h4km±999km, mb6.4*

*HRVD **05** 12:19:56.6±0.1, 6.23S×29.60E, h18km, MW6.8/94, Centroid moment Tensor Solution. LP body waves: s94,c245;Mantle waves: s92,c446; Half duration: 6s0 Moment tensor: Scale 10^19Nm; Mrr-1.56±.01; Mθθ-0.14±.01; Mφφ 1.69±.01; Mrθ-0.74±.02; Mθφ-0.29±.01; Mθr-0.12±.02; Best double couple: M0 1.814×10^19 NP1: φs149°, δ50°, λ-122°. NP2:φs13°, δ50°, λ-58°. Principal axes: T 1.736, Plg0°, Azm81°; N .147, Plg24°, Azm171°; P -1.891, Plg66°, Azm351°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s.*

*BJI **05** 12:19:59.8, 5.45S×30.32E, h22km, mB6.6, mb5.9, Ms7.1, Msz6.7*

ISC 05 12:19:53.7±0.2, 6.24S±0.02×29.68E±0.02, h16km, h16km±1.2km:pP-P, n1282, σ1§04/1128, mb6.2/301, MS7.0/198, 67C-146D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**9.10**	**189**	Pn	**P**	**12 22 02.1**	**-5.4**
	50nm,0.3s,baz=9.7,slow=11,SNR=128						
LSZ				Sn	**Sn**	**12 23 37.8**	**-13**
	360nm,0.3s,baz=33,slow=16,SNR=2.5						
LSZ				Lg		12 24 35.6	
	777nm,0.3s,baz=290,slow=22,SNR=13						
LSZ				LR	LR	12 25 30.5	
	comp=Z,439µm,19.7s,baz=15,slow=37						
LSZ	**Lusaka**	**9.10**	**189**	*e*Pn	**P**	**12 22 01.4**	**-6.0**
	138nm,4.4s						
KMBO	**Kilima Mbogo**	**9.10**	**56**	Pn	**P**	**12 22 02.5**	**-5.0**
	31nm,0.3s,baz=227,slow=16,SNR=214						
KMBO				Sn	**Sn**	**12 23 38.6**	**-12**
	127nm,0.3s,baz=37,slow=24,SNR=3.8						
KMBO				Lg		12 24 36.6	
	1µm,0.3s,baz=156,slow=21,SNR=13						
KMBO				LR	LR	12 25 54.2	
	comp=Z,771µm,19.6s,baz=339,slow=40						
KMBO	**Kilima Mbogo**	**9.10**	**56**	Pn	**P**	**12 22 02.5**	**-5.1**
KMBO				Sn	**Sn**	**12 23 38.6**	**-12**
KMBO				Lg		12 24 36.6	
KMBO				LR	LR	12 25 54.2	
MATP	**Matopo**	**14.15**	**185**	Pn	**P**	**12 23 07.9**	**-8.0**
	6.5nm,0.3s,baz=11,slow=14,SNR=67						
MATP				Sn	**S**	**12 25 37.8**	**-16**
	73nm,0.3s,baz=349,slow=15,SNR=2.4						
MATP				Lg		12 27 11.9	
	119nm,0.3s,baz=256,slow=21,SNR=3.9						
MATP				LR	LR	12 29 09.0	
	comp=Z,113µm,21.0s,baz=9.3,slow=39						
TSUM	**Tsumeb**	**17.45**	**221**	P	**P**	**12 23 51.7**	**-6.7**
	40nm,0.3s,baz=22,slow=12,SNR=200						
TSUM				S	**S**	**12 27 00.3**	**-10**
	26nm,0.3s,baz=271,slow=7.0,SNR=6.0						
TSUM				LR	LR	12 30 53.8	
	comp=Z,307µm,19.6s,baz=34,slow=38						
TSUM	**Tsumeb**	**17.45**	**221**	*e*Pn	**P**	**12 23 52.0**	**-6.4**
	51nm,2.1s						
TSUM				*e*Sn	**S**	**12 27 00.0**	**-10**
LBTB	**Lobatse**	**19.07**	**191**	P	**P**	**12 24 14.4**	**-3.8**
	8.7nm,0.3s,baz=22,slow=13,SNR=62						
LBTB				S	**S**	**12 27 47.7**	**+0.6**
	22nm,0.3s,baz=287,slow=16,SNR=2.4						
LBTB				Lg		12 29 51.6	
	44nm,0.3s,baz=106,slow=19,SNR=5.6						
LBTB				LR	LR	12 30 58.0	
	comp=Z,149µm,19.9s,baz=28,slow=35						
LBTB	**Lobatse**	**19.07**	**191**	*e*P	**P**	**12 24 12.5**	**-5.7**
LBTB				pmax	pmax		
	comp=Z,6.0nm,1.3s						
LBTB	**Lobatse**	**19.07**	**191**	*e*P	**P**	**12 24 12.5**	**-5.8**
	comp=Z,6.2nm,1.3s						
OPO	**Ambohidratompo**	**21.01**	**127**	P	**P**	**12 24 37.9**	**-1.3**
	comp=Z,18nm,0.9s,baz=295,slow=9.2,SNR=16						
OPO				S	**S**	**12 28 32.8**	**+5.1**
	comp=Z,67nm,0.9s,baz=291,slow=3.6,SNR=1.5						
OPO				LR	LR	12 32 48.2	
	comp=Z,328µm,19.1s,MS6.7,baz=309,slow=37						
MRKH	**Merkhyat**	**21.96**	**7**	⇓*i*P	**P**	**12 24 49.9**	**+1.1**
	baz=174,slow=14						
MRKH				⇑*e*P		12 24 49.9	
MRKH				*i* P		12 24 50.3	
MRKH				⇓*i*S	**S**	**12 29 00.5**	**+15**
MRKH				⇑*i*S	**S**	**12 29 01.0**	**+15**
	comp=Z,321µm,18.7s						
MRKH				⇓*i*S	**S**	**12 29 02.4**	**+17**
MRKH	**Merkhyat**	**21.96**	**7**	*e*P	**P**	**12 24 48.4**	**-0.4**
MRKH				*e*		12 25 00.3	
	baz=176,slow=14						
MRKH				AMb	AMB	12 25 01.0	
	comp=Z,2µm,2.0s,mb6.1						
MRKH				*e*S	**S**	**12 29 05.0**	**+19**
MRKH				AMS	AMS	12 33 53.1	
	comp=Z,375µm,17.3s,MS6.9						
ATD	**Arta Tunnel**	**21.98**	**37**	P	**P**	**12 24 50.1**	**+1.0**
	comp=Z,96nm,1.0s,mb5.2,baz=245,slow=5.2,SNR=20						
ATD				S	**S**	**12 28 60.0**	**+14**
	comp=Z,95nm,1.0s,baz=118,slow=6.5,SNR=1.9						
ATD				Lg		12 31 26.6	
	comp=Z,393nm,1.1s,baz=303,slow=22,SNR=7.8						
ATD				LR	LR	12 32 59.5	
	comp=Z,131µm,21.2s,MS6.3,baz=203,slow=36						
SLAT	**Slait**	**22.15**	**8**	*i* P	**P**	**12 24 51.5**	**+0.8**
SLAT				AMb

MMLI Mount Malkishu 38.85 8 P **P** 12 27 20.7 +0.6
QRN Al-Qurain 38.97 26 *e*P **P** 12 27 21.8 +0.6
QRN AMb AMB 12 27 40.2
comp=Z,1µm,1.5s,mb6.4
RDF Al-Radifah 38.97 25 *e*P **P** 12 27 20.7 -0.4
RDF AMb AMB 12 27 38.1
comp=Z,1µm,1.1s,mb6.5
OFRI 'Ofer 38.97 7 P **P** 12 27 21.0 -0.1
NAY Al-Naaiem 39.12 25 *e*P **P** 12 27 22.4 0.0
NAY AMb AMB 12 27 35.6
comp=Z,197nm,1.1s,mb5.7
KBD Kabd 39.25 25 *e*P **P** 12 27 23.3 -0.2
KBD AMb AMB 12 27 37.1
comp=Z,2µm,1.0s,mb6.7
ARQ Araqi 39.39 41 P **P** 12 27 27.0 +2.3
SNR=30
BSY Bisya 39.43 42 P **P** 12 27 25.1 +0.1
SNR=105
HNTI Hanita 39.45 7 P **P** 12 27 25.3 +0.2
UMR Umm Al-Rimmam 39.59 25 *e*P **P** 12 27 27.2 +1.0
UMR AMb AMB 12 27 43.1
comp=Z,655nm,1.2s,mb6.2
KSDI Kefar Szold 39.62 8 P **P** 12 27 26.7 +0.2
KSDI Kefar Szold 39.62 8 P **P** 12 27 26.6 +0.1
MIB Mutribah 39.65 24 *e*P **P** 12 27 26.7 0.0
MIB AMb AMB 12 27 43.5
comp=Z,690nm,1.3s,mb6.2
JMDO Jabal Madar 39.79 44 P **P** 12 27 29.0 +1.0
SNR=30
ASHO Ashiyiah 40.06 39 P **P** 12 27 30.7 +0.5
SNR=91
HOQ Hoqain 40.08 41 P **P** 12 27 30.7 +0.3
SNR=78
SMDO Samad 40.21 43 P **P** 12 27 31.6 +0.1
SNR=115
BHL Bhannes 40.32 8 *e*P **P** 12 27 32.3 0.0
WBK Wadi Bani Khal 40.54 44 P **P** 12 27 35.1 +0.9
SNR=57
BIDO Bidbid 40.58 42 P **P** 12 27 36.8 +2.3
SNR=40
FKH Fakeheh 40.76 9 *e*P **P** 12 27 37.1 +1.2
SZAC Souni-Zanaja 40.89 4 P **P** 12 27 37.6 +0.7
PPCY Paphos 40.98 3 P **P** 12 27 38.9 +1.2
XRY Khrisi 41.07 355 *e*P **P** 12 27 39.5 +1.1
BANOM Banah 41.11 38 P **P** 12 27 39.0 +0.2
SNR=118
CSS Prodhromos 41.12 5 P **P** 12 27 39.7 +0.9
comp=Z,18nm,1.2s
CSS Prodhromos 41.12 5 *e*P **P** 12 27 39.1 +0.2
comp=Z,1µm,1.2s,mb6.4
CSS *e*PP PP 12 29 13.2 -3.7
GVD Gavdhos 41.20 353 ⇓ *i*P **P** 12 27 39.5 +0.1
comp=Z,396nm,1.1s,mb6.0
PHNC Paralimni 41.23 5 P **P** 12 27 41.0 +1.3
ALFC Alevga 41.27 4 P **P** 12 27 40.2 +0.2
comp=Z,6.8nm,0.8s
NPS Neapolis 41.46 355 *e*P **P** 12 27 42.5 +0.9
IDI Anoyia 41.55 354 P **P** 12 27 42.5 +0.1
comp=Z,185nm,1.0s,mb5.7,baz=181,slow=12,SNR=49
IDI S **S** 12 33 55.8 -1.5
comp=Z,25nm,0.8s,baz=176,slow=17,SNR=1.5
KARP Karpathos 41.63 357 *e*P **P** 12 27 44.5 +1.4
BHD Baghdad 41.70 19 *i* x x 12 27 42.0
BHD *i* x x 12 29 28.0
BHD *i* x x 12 30 16.0
BHD *i* x x 12 34 17.0
BHD *i* x x 12 42 10.0
VAM Vamos 41.74 353 *e*P **P** 12 27 45.0 +1.0
KSL Kastellorizon 42.17 360 *e*P **P** 12 27 48.5 +1.1
AKAS Kas 42.25 360 *i* P **P** 12 27 47.7 -0.4
ARG Arkhangelos 42.26 358 *e*P **P** 12 27 49.5 +1.3
IKL Isikli 42.42 5 P **P** 12 27 49.4 -0.2
DGAR Diego Garcia 42.47 94 ⇑ *i*P **P** 12 27 48.1 -2.1
HTY Hatay 42.57 8 P **P** 12 27 50.9 +0.2
SANT Santorini 42.57 355 ⇓ *i*P **P** 12 27 50.1 -0.7
comp=Z,641nm,1.2s,mb6.2
FETY Fethiye 42.65 359 P **P** 12 27 50.8 -0.6
NISR Nisiros 42.69 357 *e*P **P** 12 27 53.0 +1.2
KYTH Kithira 42.75 352 *e*P **P** 12 27 53.5 +1.2
ELL Elmali 42.76 0 P **P** 12 27 53.5 +1.1
ERMK Ermenek 42.76 4 *i* P **P** 12 27 52.5 +0.2
DAT Datca 42.79 358 P **P** 12 27 51.9 -0.7
DALT Dalyan (Mudla) 42.80 359 P **P** 12 27 52.2 -0.4
MEST Erdemli 42.81 5 *i* P **P** 12 27 53.5 +0.8
COBT Iskenderun 42.98 8 *i* P **P** 12 27 52.5 -1.6
MERS Mersin 43.12 6 P **P** 12 27 55.3 +0.1
BODT Bodrum 43.13 357 P **P** 12 27 54.2 -1.1
YER Yerkesik 43.17 358 P **P** 12 27 56.6 +1.0
VLI Veliai 43.20 352 *e*P **P** 12 27 56.5 +0.6
GOLH Golhisar 43.25 360 *i* P **P** 12 28 01.1 +4.9
APE Apeiranthos 43.26 355 P **P** 12 27 55.8 -0.6
APE Apeiranthos 43.26 355 *e*P **P** 12 27 56.5 +0.2
APE Apeiranthos 43.26 355 ⇓ P **P** 12 27 57.2 +0.9
APE Apeiranthos 43.26 355 P **P** 12 27 56.6 +0.3
MLSB Milas 43.35 358 P **P** 12 27 57.4 +0.3
CEYT Ceyhan 43.40 7 P **P** 12 27 58.1 +0.6
BCK Bucak 43.42 0 P **P** 12 27 59.1 +1.0
KARA Karaisali 43.56 6 P **P** 12 27 59.1 +0.3
AYDN Tasoluk 43.71 358 *i* P **P** 12 27 59.2 -0.7
DNZL Cakiroluk 43.71 359 *i* P **P** 12 28 02.1 +2.1
GAZ Gaziantep 43.76 9 P **P** 12 28 00.8 +0.4
DENT Denizli 43.77 359 P **P** 12 28 01.4 +0.9
ITM Ithomi 43.80 351 *e*P **P** 12 28 01.5 +0.8
SMG Samos 43.80 357 *e*P **P** 12 28 02.0 +1.3
ISP Isparta 43.86 1 P **P** 12 28 00.7 -0.5
ISP Isparta 43.86 1 *e*P **P** 12 28 01.0 -0.2
comp=Z,614nm,0.9s,mb6.3
KOZT Kozan 43.87 7 P **P** 12 28 01.4 +0.1
GZT Gaziantep 43.99 9 *i* P **P** 12 28 02.1 -0.2
TKTP Tekketepe 44.06 1 *i* P **P** 12 28 02.1 -0.7
MSL Mosul 44.14 16 *ex* x 12 28 06.0
MSL *ex* x 12 28 13.5
MSL *ex* x 12 29 59.5
MSL *ex* x 12 34 47.0
NAIG Nisos Aigina 44.15 353 *e*P **P** 12 28 04.0 +0.4
ATAB Bozova 44.22 10 *i* P **P** 12 28 05.0 +0.8
WDD Wield Dalam 44.24 342 P **P** 12 28 04.8 +0.5
URFA Urfa 44.28 10 P **P** 12 28 04.3 -0.3
ATH Athens Observa 44.34 353 *e*P **P** 12 28 05.5 +0.4
KHL Karahalli 44.34 360 P **P** 12 28 06.3 +1.2
NIG Nigde 44.36 6 P **P** 12 28 06.5 +1.2
PTL Penteli 44.39 353 *e*P **P** 12 28 06.0 +0.5
IZM Izmir 44.47 357 P **P** 12 28 05.2 -0.9
KDAG Bornova 44.47 357 *i* P **P** 12 28 06.9 +0.7
MPAR Parnis Oros 44.51 353 *e*P **P** 12 28 07.0 +0.5
MANT Manisa 44.52 359 *i* P **P** 12 28 05.9 -0.6
MARD Mardin 44.55 13 *i* P **P** 12 28 04.0 -2.8
AKS Akhisar 44.92 358 P **P** 12 28 08.5 -1.3
KIZT Kizilcal 44.94 2 P **P** 12 28 10.1 +0.1
AVNT Avonos 45.05 6 *i* P **P** 12 28 12.7 +1.9
ALT Altintas 45.07 0 P **P** 12 28 11.6 +0.6
PZI Palazzolo 45.22 343 P **P** 12 28 13.2 +1.0
BNN Bunyan 45.23 7 P **P** 12 28 12.9 +0.7
SSY Sortino 45.28 344 P **P** 12 28 12.7 +0.1
AGST Augusta-Monte 45.33 344 P **P** 12 28 13.6 +0.6
AYVA Ayvalik 45.40 357 *i* P **P** 12 28 13.6 0.0
HAKT HAKKARI 45.50 16 *i* P **P** 12 28 11.7 -2.7
AOS Alonnisos 45.50 354 *e*P **P** 12 28 13.6 -0.8
EVR Evrytania 45.52 351 *e*P **P** 12 28 15.5 +1.0
SEMD Semdilli 45.52 17 P **P** 12 28 15.4 +0.8
KAMT Kaman 45.53 4 P **P** 12 28 14.7 +0.1
ESKT Eskisehir 45.54 1 *i* P **P** 12 28 13.6 -1.1
AGG Agios Georgios 45.55 352 *e*P **P** 12 28 13.9 -0.8
BTMT Batman 45.55 13 P **P** 12 28 16.2 +1.4
DST Dursunbey 45.63 359 P **P** 12 28 16.9 +1.6
BALB Balikesir 45.68 358 P **P** 12 28 16.6 +0.8
NEO Neokhori 45.71 353 *e*P **P** 12 28 16.0 0.0
VAE Valguarnera 45.77 343 P **P** 12 28 17.8 +1.3
comp=Z,58nm,0.7s,mb5.6,baz=133,slow=1.8,SNR=11
VAE S **S** 12 35 04.6 +6.0
comp=Z,16nm,0.6s,baz=230,slow=15,SNR=1.7
VAE Valguarnera 45.77 343 P **P** 12 28 17.8 +1.3
VAE S **S** 12 35 04.6 +6.0
XOR Xorichti 45.77 353 *e*P **P** 12 28 15.6 -0.9
FAVR Favara 45.80 342 P **P** 12 28 19.3 +2.6
PTK Pertek 45.80 11 P **P** 12 28 16.6 -0.2
CDAG Cicekdag 45.84 5 *i* P **P** 12 28 15.5 -1.5
SOI Samo 45.88 345 P **P** 12 28 17.3 0.0
BR131 Keskin Array S 45.88 4 *e*P **P** 12 28 17.5 +0.1
comp=Z,0.5nm,1.2s
BR131 LR LR
comp=Z,48µm,20.0s,MS6.4

BRTR Keskin Array B 45.88 4 P **P** 12 28 17.4 +0.1
comp=Z,179nm,0.7s,mb6.1,baz=180,slow=9.1,SNR=167
BRTR S **S** 12 35 01.0 +0.8
comp=Z,15nm,1.1s,baz=173,slow=12,SNR=2.2
BORA Eskisehir 45.90 1 *i* P **P** 12 28 17.4 0.0
MTTG Motta San Giov 45.90 345 P **P** 12 28 18.0 +0.4
PTS Pantelleria 45.91 340 P **P** 12 28 19.0 +1.3
EZN Ezine 45.94 356 P **P** 12 28 18.6 +0.8
ANTO Ankara 45.97 3 P **P** 12 28 17.7 -0.4
ANTO Ankara 45.97 3 *e*P **P** 12 28 18.6 +0.5
comp=Z,3µm,1.9s,mb6.9
ANTO *e*PP PP 12 30 07.8 +1.6
ANTO LR LR
comp=Z,66µm,19.0s,MS6.6
LOD Lodumlu 45.99 3 P **P** 12 28 19.2 +1.1
ORLT Orhaneli 46.06 359 P **P** 12 28 19.4 +0.6
CEL Celeste 46.09 345 P **P** 12 28 20.0 +0.9
MNO Monte Soro 46.11 344 P **P** 12 28 20.5 +1.3
MSI Messina ING 46.13 345 P **P** 12 28 21.0 +1.6
SCLL Scilla 46.14 345 P **P** 12 28 20.1 +0.7
LOS Limnos 46.14 355 *e*P **P** 12 28 19.9 +0.5
BNGL BINGOL 46.20 12 *i* P **P** 12 28 22.2 +2.3
CLTB Caltabellotta 46.22 342 P **P** 12 28 21.3 +1.2
PAIG Paliouri 46.27 354 *e*P **P** 12 28 19.7 -0.7
CSLB Castelbuono 46.30 343 P **P** 12 28 21.5 +0.8
GPA Golpazari 46.30 1 P **P** 12 28 21.4 +0.8
GIB Gibilmanna 46.36 343 P **P** 12 28 22.5 +1.4
MMGO Monte Magaggia 46.37 342 P **P** 12 28 20.7 -0.6
VANB Van 46.39 15 P **P** 12 28 22.3 +0.9
VANB Van 46.39 15 P **P** 12 28 22.2 +0.8
JAN Janina 46.39 351 *e*P **P** 12 28 23.0 +1.6
BNT Bandirma 46.39 358 P **P** 12 28 22.2 +0.8
CORM Corum 46.41 5 P **P** 12 28 20.8 -0.8
CRJA Costa Raja 46.49 342 P **P** 12 28 24.5 +2.3
MDU Mudurnu 46.50 2 P **P** 12 28 22.7 +0.5
YLV Yalova 46.58 360 P **P** 12 28 22.7 -0.1
LIT Litokhoron 46.59 352 *e*P **P** 12 28 22.2 -0.8
KEK Kerkira 46.63 350 *e*P **P** 12 28 24.0 +0.7
OUR Ouranopolis 46.64 354 *e*P **P** 12 28 22.7 -0.6
MRMT Marmara Adasi 46.65 358 *e*P **P** 12 28 23.1 -0.3
SLNA Salina 46.66 344 P **P** 12 28 25.0 +1.5
CANT Cankiri 46.76 4 *e*P **P** 12 28 24.9 +0.6
TOKT Tokat 46.76 7 *e*P **P** 12 28 24.8 +0.5
STR5 Stromboli 5 46.77 344 P **P** 12 28 24.6 +0.2
ERC Erice 46.84 341 P **P** 12 28 26.3 +1.4
BADT Buyukada 46.86 359 *e*P **P** 12 28 25.3 +0.2
KZN Kozani 46.89 352 *e*P **P** 12 28 25.8 +0.5
ALN Alexandroupoli 47.02 356 *e*P **P** 12 28 25.9 -0.5
CLDR Caldiran 47.04 15 *e*P **P** 12 28 26.7 +0.1
THE Thessaloniki 47.05 353 *e*P **P** 12 28 26.2 -0.4
EZM Erzurum 47.16 12 *e*P **P** 12 28 29.0 +1.5
ELBA Catalca 47.17 359 *i* P **P** 12 28 28.0 +0.5
SOH Sokhos 47.19 353 *e*P **P** 12 28 27.3 -0.4
TOS Tosya 47.21 4 *e*P **P** 12 28 26.9 -1.0
CMER Merouana 47.27 333 P **P** 12 28 30.0 +1.6
USI Ustica 47.27 342 P **P** 12 28 28.9 +0.5
TDS Terranova Siba 47.31 346 P **P** 12 28 29.4 +0.8
CGMA Guelma 47.32 335 P **P** 12 28 30.0 +1.2
SAFT Safranbolu 47.33 3 *e*P **P** 12 28 27.7 -1.1
GUMT Gumushane 47.34 16 *e*P **P** 12 28 29.3 +0.4
FNA Florina 47.41 351 *e*P **P** 12 28 29.2 -0.3
CTEI Djebel Teioual 47.42 334 P **P** 12 28 31.0 +1.4
GRG Griva 47.44 353 *e*P **P** 12 28 29.4 -0.3
KVT Kavak 47.45 7 *e*P **P** 12 28 28.2 -1.5
CMAH Djebel Manchou 47.47 336 P **P** 12 28 29.0 -1.0
CASM Ain Smara 47.55 334 P **P** 12 28 31.0 +0.4
LCI Lecce 47.55 348 P **P** 12 28 31.2 +0.6
comp=Z,381nm,1.1s,mb6.3
CKFL Kef-Lekhel 47.57 335 P **P** 12 28 32.0 +1.2
KNT Kendrikon 47.58 353 *e*P **P** 12 28 30.4 -0.4
ORI Oriolo Calabro 47.66 346 P **P** 12 28 32.0 +0.5
comp=Z,4µm,1.8s,mb7.1
BYBT Boyabat 47.70 5 *e*P **P** 12 28 31.1 -0.6
CUC Castrocucco 47.75 346 P **P** 12 28 31.2 -0.9
CKHR Kef el Ahmar 47.77 333 P **P** 12 28 32.0 -0.3
KDZ Kurdzhali 47.82 356 *i* P **P** 12 28 32.5 -0.1
CAEH 'Ain El Ouahch 47.84 335 P **P** 12 28 31.0 -1.9
MMB Musomiste 47.91 354 *i* P **P** 12 28 32.3 -1.1
RZN Rozhen 47.91 355 *i* P **P** 12 28 33.2 -0.2
EDRB Edirne 47.93 357 *e*P **P** 12 28 33.1 -0.4
SET Setif 47.97 333 P **P** 12 28 34.0 +0.1
DFRA Djebel Bou Aff 48.05 334 P **P** 12 28 33.5 -1.0
BZK Bozkurt 48.13 4 *e*P **P** 12 28 36.8 +1.8
GNI Garni 48.20 15 P **P** 12 28 37.1 +1.4
comp=Z,56nm,0.8s,mb5.6,baz=142,slow=3.2,SNR=45
GNI Garni 48.20 15 P **P** 12 28 37.3 +1.7
GNI pmax pmax
comp=Z,190nm,0.4s
GNI Garni 48.20 15 *e*P **P** 12 28 37.1 +1.5
comp=Z,19nm,0.3s,mb5.6
GNI LR LR
comp=Z,109µm,20.0s,MS6.8
TIR Tirane 48.20 350 P **P** 12 28 36.4 +0.8
KKB Krupnik 48.25 353 *i* P **P** 12 28 35.5 -0.5
BRT Bari-Castellan 48.27 347 P **P** 12 28 36.4 +0.3
comp=Z,2µm,1.8s,mb6.8
PLD Plovdiv 48.33 355 *i* P **P** 12 28 37.0 +0.4
SGO Sicignano 48.41 345 P **P** 12 28 36.7 -0.6
comp=Z,482nm,1.0s,mb6.5
ARTV Artvin 48.51 12 *i* P **P** 12 28 37.6 -0.4
JMB Yambol 48.56 357 P **P** 12 28 39.0 +0.7
JMB Yambol 48.56 357 P **P** 12 28 39.1 +0.8
SKO Skopje 48.57 352 P **P** 12 28 40.4 +2.0
CSSN Cassano Irpino 48.77 345 P **P** 12 28 40.7 +0.7
PGB Panagyurishte 48.82 355 *i* P **P** 12 28 40.0 -0.3
BHJ Bhuj 48.83 52 *e*P **P** 12 28 41.5 +0.8
BHJ AMb AMB 12 28 56.0
comp=Z,441nm,1.5s,mb6.3
FG4 Candela 48.90 346 P **P** 12 28 42.3 +1.3
ULC Ulcinj 48.91 350 *e*P **P** 12 28 42.0 +0.9
VTS Vitosha 48.95 354 *i* P **P** 12 28 42.3 +0.9
VTS Vitosha 48.95 354 P **P** 12 28 41.2 -0.2
TRIS Tristan da Cun 49.02 225 *e*P **P** 12 28 43.0 +1.0
comp=Z,710nm,1.2s,mb6.6
TRIS LR LR
comp=Z,42µm,21.0s,MS6.4
AKH Akhalkalaki 49.08 14 P **P** 12 28 41.7 -0.7
EMHD Djebel Mahouad 49.10 331 P **P** 12 28 48.2 +5.6
CGL Cagliari Serpe 49.14 339 P **P** 12 28 44.4 +1.5
VSL Villasalto 49.23 339 *e*P **P** 12 28 43.5 -0.1
comp=Z,695nm,1.1s,mb6.6
PRD Provadia 49.25 358 *i* P **P** 12 28 43.5 -0.2
ETRT Tiaret 49.28 329 P **P** 12 28 45.8 +1.8
BUM Brajici-Budva 49.30 349 ⇑ *i*P **P** 12 28 45.0 +0.9
BARS Barje 49.35 352 ⇑ *i*P **P** 12 28 44.1 -0.3
TTG Podgorica 49.36 350 ⇑ *i*P **P** 12 28 45.1 +1.0
PVL Pavlikeni 49.38 356 *i* P **P** 12 28 44.2 -0.5
SZH Strazhica 49.39 356 *i* P **P** 12 28 45.0 +0.2
RGNG Rignano Grg 49.40 346 P **P** 12 28 44.8 0.0
PVY Plav 49.40 351 ⇑ *i*P **P** 12 28 46.3 +1.4
RFI Roccamonfina 49.45 344 P **P** 12 28 46.7 +1.5
HCY Herceg Novi 49.52 349 ⇑ *i*P **P** 12 28 47.2 +1.4
DGRG David-gareji 49.59 15 P **P** 12 28 45.3 -1.0
DGRG S **S** 12 35 46.3 -6.3
FG2 Serracapriola 49.62 346 P **P** 12 28 47.6 +1.0
OJGS Djebel Guires 49.65 329 P **P** 12 28 48.0 +1.1
MTA Mtatsminda 49.67 15 P **P** 12 28 46.3 -0.6
MTA S **S** 12 35 59.5 +5.9
IVA Berane 49.68 351 ⇑ *i*P **P** 12 28 48.0 +1.0
TBLG Delisi 49.69 15 P **P** 12 28 48.1 +1.1
TI2 Plekhanov 49.69 15 ⇓ *i*P **P** 12 28 47.0 -0.1
TI2 pmax pmax
comp=Z,300nm,1.0s,mb6.3
TI2 pmax pmax
comp=Z,3µm,2.0s,mb7.0
MIDA Miranda 49.70 345 P **P** 12 28 47.5 +0.4
PSN Preselentsi 49.71 359 *i* P **P** 12 28 47.5 +0.3
CII Carovilli 49.76 345 P **P** 12 28 49.1 +1.5
NKY Niksic 49.78 350 ⇑ *i*P **P** 12 28 48.6 +0.8
RNI2 Rionero Sannit 49.78 345 P **P** 12 28 48.6 +0.8
KAD Karad 49.80 61 *e*P **P** 12 28 47.1 -1.2
KAD AMb AMB 12 29 02.6
comp=Z,193nm,1.0s,mb6.1
EANR 'Ain N'Sour 49.82 329 P **P** 12 28 47.2 -0.9
ECHA Ech Chlef 49.84 330 P **P** 12 28 50.0 +0.7
EBNR Beni Rached 49.87 330 P **P** 12 28 50.5 +2.0
DGI Dorgali Grotta 49.88 340 P **P** 12 28 49.0 +0.4
OJBR Djebel Berber 49.92 329 P **P** 12 28 50.0 +1.1
BRY Bratogost 49.95 349 ⇑ *i*P **P** 12 28 50.0 +1.0
POO Poona 50.02 60 *e*P **P** 12 28 46.5 -3.4
POO AMb AMB 12 29 03.9
comp=Z,258nm,1.5s,mb6.0
STON Ston 50.08 349 *i* P **P** 12 28 48.5 -1.5
OKGL Djebel Kef Gue 50.12 329 P **P** 12 28 51.0 +0.6
INTR Introdacqua 50.14 345 P **P** 12 28 50.4 -0.1
UPM Unac-Piva 50.17 350 ⇑ *i*P **P** 12 28 51.1 +0.4
ONI Oni 50.18 13 P **P** 12 28 51.2 +0.4
ONI S **S** 12 36 14.2 +13
PLE Pljevlja 50.21 350 ⇑ *i*P **P** 12 28 52.0 +1.0
PTQR Pietraquaria 50.28 344 P **P** 12 28 52.2 +0.6
OTSS Djebel Tessala 50.29 327 P **P** 12 28 55.0 +3.2
BOLS Boljevac 50.33 353 ⇑ *i*P **P** 12 28 51.4 -0.5
CERT Cerreto 50.33 344 P **P** 12 28 52.6 +0.7
SOC Sochi 50.42 9 *d* *i*P **P** 12 28 51.3 -1.3
SOC *e*PP pP 12 28 56.5 -0.9
SOC *e* 12 30 10.9
SOC *i* 12 30 50.5
SOC *e*PPP PPP 12 31 41.9 -4.5
SOC *i* S **S** 12 36 07.4 +3.4
SOC *e*SS 12 36 11.6
SOC *i* 12 38 40.1
SOC pmax pmax
comp=Z,239nm,1.2s,mb6.1
SOC MLR MLR
comp=Z,75µm,14.0s,MS6.9
SOC Sochi 50.42 9 ⇓ *i*P **P** 12 28 51.1 -1.5
BUC1 Bucharest 50.46 357 P **P** 12 28 53.9 +1.0
TIRR Tirgusor 50.48 359 ⇓ P **P** 12 28 53.1 0.0
USTO Oran 50.50 328 P **P** 12 29 03.0 +10
FIAM Fiamignano 50.59 344 P **P** 12 28 55.0 +1.1
AQU L'Aquila 50.59 344 *e*P **P** 12 28 54.1 +0.2
comp=Z,531nm,1.2s,mb6.3
MDT Midelt 50.70 322 P **P** 12 28 55.1 +0.2
comp=Z,55nm,0.9s,mb5.5,baz=126,slow=8.8,SNR=65
MDT PP PP 12 30 50.7 -1.2
comp=Z,39nm,0.8s,baz=138,slow=9.3,SNR=1.8
MDT S **S** 12 36 11.8 +3.7
comp=Z,35nm,1.3s,baz=150,slow=11,SNR=2.3
TOLF Tolfa 50.71 343 P **P** 12 28 55.3 +0.4
HARR Harsova 50.72 358 ⇓ P **P** 12 28 55.0 +0.1
HARR Harsova 50.72 358 ⇓ P **P** 12 28 55.0 +0.1
TERO Teramo 50.79 345 P **P** 12 28 54.7 -0.7
MNS Montasola 50.81 344 P **P** 12 28 55.1 -0.5
DIVS Divcibare 50.86 351 ⇑ *i*P **P** 12 28 56.8 +0.8
DJES Djerdap 51.05 353 *e*P **P** 12 28 56.7 -0.7
SIM Simferopol' 51.11 4 *d* *i*P **P** 12 28 57.3 -0.5
SIM *e* 12 30 48.0
SIM *e*S **S** 12 36 11.0 -2.5
SIM pmax pmax
comp=Z,5µm,12.0s
SIM Simferopol' 51.11 4 ⇑ *e*P **P** 12 28 57.1 -0.7
CFR Carcaliu 51.20 359 ⇑ P **P** 12 28 57.4 -1.1
ISR Istrita 51.20 357 ⇓ P **P** 12 28 59.7 +1.2
ANN Anapa 51.28 7 *d* *i*P **P** 12 28 59.2 0.0
ANN *i* 12 30 18.5
ANN *i* 12 31 01.0
ANN *i* S **S** 12 36 19.5 +3.6
ANN pmax pmax
comp=Z,397nm,1.8s,mb6.0
ANN MLR MLR
comp=Z,34µm,15.0s,MS6.5
ANN Anapa 51.28 7 ⇓ *i*P **P** 12 28 57.2 -2.0
MAON Monte Argentar 51.30 342 P **P** 12 28 59.5 +0.2
VAN Vannovskaya 51.31 29 P **P** 12 28 58.0 -1.5
VAN S **S** 12 36 16.0 -0.4
KIV Kislovodsk 51.33 12 *d* *i*P **P** 12 28 59.4 -0.1
KIV *e* 12 30 15.9
KIV *e* 12 30 57.4
KIV *e*S **S** 12 36 18.0 +1.5
KIV *e*SS SS 12 39 52.6 +2.3
KIV pmax pmax
comp=Z,648nm,1.2s,mb6.4
KIV pmax pmax
comp=Z,5µm,9.8s
KIV MLR MLR
comp=Z,110µm,19.0s,MS6.9
KIV Kislovodsk 51.33 12 *i* Pr **P** 12 28 59.3 -0.2
MTUR Matau 51.40 356 ⇓ P **P** 12 29 00.1 +0.1
SALM Salem 51.43 70 *ex* x 12 29 08.0
BEO Belgrade 51.50 352 ⇑ *i*P **P** 12 29 01.8 +1.0
BEO Belgrade 51.50 352 Pn **P** 12 29 03.2 +2.4
SNTG Esanatoglia 51.55 344 P **P** 12 29 01.1 -0.1
MAK Makhachkala 51.58 17 *c* *i*P **P** 12 28 52.1 -9.3
MAK *i* 12 30 10.1
MAK *i* 12 30 50.8
MAK *i* PPP PPP 12 31 53.6 -7.9
MAK *e*S **S** 12 36 15.3 -4.7
MAK *e*SS SS 12 39 53.0 -1.3
MAK pmax pmax
comp=Z,4µm,6.8s
MAK smax
comp=N,22µm,9.4s
MAK smax
comp=E,15µm,10.5s
MAK MLR MLR
comp=Z,148µm,12.0s,MS7.2
MAK Makhachkala 51.58 17 ⇑ *i*P **P** 12 29 01.0 -0.4
MLR Muntele Rosu 51.61 357 P **P** 12 29 01.2 -0.4
comp=Z,47nm,0.9s,mb5.4,baz=199,slow=4.1,SNR=41
MLR Muntele Rosu 51.61 357 ⇓ P **P** 12 29 01.1 -0.5
MLR Muntele Rosu 51.61 357 ⇓ P **P** 12 29 01.1 -0.5
VOIR 51.61 356 ⇑ P **P** 12 29 01.2 -0.4
VOIR 51.61 356 ⇑ P **P** 12 29 01.2 -0.4
ARV Arcevia 51.78 345 P **P** 12 29 02.7 -0.2
VRI Vrincioaia 51.94 357 ⇑ P **P** 12 29 04.3 +0.2
VRI Vrincioaia 51.94 357 ⇑ P **P** 12 29 04.3 +0.2
BADI Badiali 51.98 344 P **P** 12 29 05.2 +0.8
ETOS Mallorca 52.07 334 ⇓ P **P** 12 29 04.7 -0.4
comp=Z,116nm,1.1s,mb5.7
PGF Pioggiola 52.08 341 *e*P **P** 12 29 04.1 -1.1
comp=Z,834nm,1.4s,mb6.2
BZS Buzias 52.13 353 ⇓ P **P** 12 29 05.2 -0.3
EIBI Ibiza 52.13 332 ⇓ P **P** 12 29 07.3 +1.6
comp=Z,265nm,1.1s,mb6.1
CRE Caprese Michel 52.16 344 P **P** 12 29 04.6 -1.2
CSNT Castellina Chi 52.21 343 P **P** 12 29 05.2 -1.0
LATR Latur 52.32 61 *e*P **P** 12 29 08.3 +1.0
SFI Santa Sofia 52.45 344 P **P** 12 29 07.8 -0.2
EMUR La Murta 52.47 329 P **P** 12 29 07.9 -0.3
comp=Z,100nm,1.0s,mb5.7
VMG Vicchio 52.59 344 P **P** 12 29 10.4 +1.4
EBER Berja 52.62 327 ⇓ P **P** 12 29 10.6 +1.2
comp=Z,156nm,1.2s,mb5.8
EBEN Beniarda 52.62 331 ⇓ P **P** 12 29 08.9 -0.5
comp=Z,374nm,1.7s,mb6.0
PII Pisa 52.66 343 P **P** 12 29 08.9 -0.7
EGUA Guajares 52.94 327 P **P** 12 29 13.4 +1.6
comp=Z,3.5nm,0.6s
BOJS Bojanci 53.11 347 ⇓ *e*P **P** 12 29 12.6 -0.3
BOJS *e*PP PP 12 31 21.2 +6.7
BOJS *e*S **S** 12 36 49.3 +8.5
BOJS *e*SS SS 12 40 36.6 +17
ZCCA Zocca 53.11 343 P **P** 12 29 12.9 0.0
PKSM Moragy 53.14 350 P **P** 12 29 12.7 -0.4
DRGR 53.16 354 ⇑ P **P** 12 29 12.7 -0.5
DRGR 53.16 354 ⇑ P **P** 12 29 12.7 -0.6
ERON Agron 53.21 327 P **P** 12 29 14.8 +1.1
comp=Z,107nm,1.0s,mb5.7
GSCL Gusciola 53.22 343 P **P** 12 29 13.3 -0.4
IAS Iasi 53.23 358 P **P** 12 29 14.1 +0.3
ETOB Tobarra 53.23 330 ⇓ P **P** 12 29 14.9 +1.0
comp=Z,80nm,1.4s,mb5.5
ECOG Cogollos-Vega 53.27 327 P **P** 12 29 14.6 +0.4
comp=Z,148nm,1.1s,mb5.8
CRES Cresnjev 53.37 348 *i* P **P** 12 29 14.8 0.0
EQES Quesada 53.39 328 ⇓ P **P** 12 29 15.0 0.0
comp=Z,237nm,1.4s,mb5.9
EMIJ Mijas 53.42 325 ⇓ P **P** 12 29 12.8 -2.5
comp=Z,127nm,1.2s,mb5.7
VISS Visnje 53.48 347 *i* P **P** 12 29 14.8 -0.8
ELOJ Sierra Loja 53.49 326 ⇓ P **P** 12 29 16.7 +0.9
comp=Z,86nm,0.8s,mb5.7
LMR La Mourre 53.63 339 *e*P **P** 12 29 15.5 -1.2
comp=Z,874nm,1.4s,mb6.2
TRI Trieste 53.64 346 P **P** 12 29 16.0 -0.8
AKL Akola 53.64 59 *ex* x 12 36 02.6
IMI Imperia 53.66 341 P **P** 12 29 17.6 +0.6
ECHE Chera 53.68 331 ⇓ P **P** 12 29 17.9 +0.8
comp=Z,86nm,0.9s,mb5.7
REVF Revere 53.69 340 *e*P **P** 12 29 17.7 +0.6
HYB Hyderabad 53.69 63 ⇓ *i*P **P** 12 29 15.0 -2.5
comp=Z,130nm,1.0s,mb5.8
HYB *e*PcP PcP 12 30 25.0 +1.3
HYB *e*PP PP 12 31 22.0 +2.0

HYB eS S 12 36 50.0 +0.9
HYB LR LR 12 52 28.0
comp=Z,77nm,18.0s
HYB Hyderabad 53.69 63⇓ *e*P P 12 29 15.0 -2.5
comp=Z,130nm,1.0s,mb5.8
HYB *e* 12 30 25.0
HYB eS S 12 36 50.0 +0.9
PDKS Podkum 53.69 347 *i* P P 12 29 16.4 -0.7
EVIA Vianos 53.72 329 P P 12 29 17.6 +0.2
comp=Z,180nm,1.0s,mb6.0
EJIF Jimena Fronter 53.74 325 P P 12 29 18.2 +0.6
comp=Z,37nm,0.9s,mb5.3
BURAR Bucovina Array 53.77 356 ⇓P P 12 29 18.5 +0.8
SBF Sospel 53.77 340 *e*P P 12 29 16.7 -1.1
comp=Z,1μm,1.4s,mb6.4
FRF La Foret Royal 53.78 339 *e*P P 12 29 16.7 -1.1
comp=Z,2μm,1.7s,mb6.4
LJU Ljubljana 53.78 347⇓ *e*P P 12 29 16.6 -1.2
LJU *e*PP PP 12 31 27.5 +7.0
LJU eSS SS 12 40 49.3 +19
FIN Finale Ligure 53.82 341 P P 12 29 18.6 +0.5
ELUQ Luque 53.86 327 P P 12 29 19.5 +1.0
comp=Z,42nm,0.7s,mb5.5
AUTN L'Aution 53.89 340 *e*P P 12 29 19.6 +1.0
MVIF Mont Vial 53.90 340 *e*P P 12 29 19.5 +0.8
BERF Bertagne 53.90 338 *e*P P 12 29 18.9 +0.2
VOY Vojsko 53.91 346 *e*P P 12 29 18.7 0.0
VOY *e* 12 29 29.1
BOB Bobbio (Coli) 53.94 342 P P 12 29 19.2 +0.3
EBR Ebro Roquetas 53.96 333 *i* P P 12 29 21.0 +1.9
TOUF Mont Tournerai 53.97 340 *e*P P 12 29 19.8 +0.6
TLI Talmassons 54.00 346⇑ *e*P P 12 29 22.0 +2.6
TAVF Tavernes 54.03 339 *e*P P 12 29 20.6 +0.9
EBAN Banos Encina 54.04 328 P P 12 29 19.2 -0.6
comp=Z,116nm,1.0s,mb5.8
EMOS Mosqueruela 54.04 332 ⇓P P 12 29 20.4 +0.6
comp=Z,219nm,1.4s,mb5.9
GELF Grande-Etoile 54.06 338 *e*P P 12 29 20.8 +0.9
DRE Drenchia 54.11 346⇑ *e*P P 12 29 20.0 -0.1
EPOB Poblet 54.12 334 ⇓P P 12 29 20.7 +0.4
comp=Z,184nm,1.1s,mb5.9
COLI Coloredo 54.13 346⇑ *e*P P 12 29 20.0 -0.3
ERTA Horta de San J 54.14 333 ⇓P P 12 29 21.4 +0.9
comp=Z,6μm,7.3s
SFS San Fernando 54.17 324 *e*P P 12 29 19.6 -1.2
comp=Z,1μm,1.2s,mb6.8
ROBS Robic 54.20 346⇓ *e*P P 12 29 20.7 -0.2
PERS Pernice 54.21 348⇓ *e*P P 12 29 21.2 +0.3
PERS *e*pP pP 12 29 34.2 +8.5
PERS eS S 12 37 05.4 +10
PERS *e* 12 39 16.8
OBKA Obir 54.22 347⇑ *i*P P 12 29 21.1 +0.1
comp=Z,6μm,6.5s,SNR=22
OBKA Obir 54.22 347⇑ *i*P P 12 29 21.1 +0.1
comp=Z,6μm,6.5s
ESPR Espera 54.25 325 ⇓P P 12 29 21.3 -0.1
comp=Z,185nm,0.7s,mb6.1
EJON La Jonquera 54.25 336 ⇓P P 12 29 21.7 +0.4
comp=Z,194nm,1.8s,mb5.7
BAD Bernadia 54.26 346⇑ *e*P P 12 29 21.0 -0.3
GMNA Gemona 54.30 346 P P 12 29 21.7 +0.1
BUD Budapest 54.32 351⇑ *e*P P 12 29 21.9 +0.2
BUD Budapest 54.32 351 P P 12 29 21.1 -0.6
MPRI Monte Prat 54.33 346⇑ *e*P P 12 29 22.0 +0.2
VILF Villemus 54.36 339 *e*P P 12 29 22.9 +0.8
AJM Ajmer 54.37 51 *e*P P 12 29 21.5 -0.8
AJM AMb AMB 12 29 34.3
comp=Z,449nm,1.5s,mb6.2
EMIR Miracle 54.38 334 ⇓P P 12 29 22.5 +0.3
comp=Z,275nm,1.1s,mb6.1
SAL Salo 54.39 344 P P 12 29 21.4 -0.8
PTCC Patocco-Chiusa 54.39 346 P P 12 29 22.2 -0.1
DOI San Damiano 54.40 340 P P 12 29 21.1 -1.3
LSR Lussari 54.42 346⇑ *i*P P 12 29 23.0 +0.6
STOF St-Etienne Org 54.42 339 *e*P P 12 29 22.0 -0.5
EFAM Famara 54.43 313 P P 12 29 23.7 +0.9
comp=Z,640nm,2.2s,mb6.2
CFTV Fuerteventura 54.46 312 P P 12 29 23.7 +0.7
comp=Z,119nm,1.2s,mb5.7
EADA Adamuz 54.46 327 P P 12 29 23.2 +0.3
comp=Z,230nm,2.0s,mb5.8
FILF Fillols 54.48 336 *e*P P 12 29 23.3 +0.3
CTI Castel Tesino 54.49 345 P P 12 29 23.1 +0.1
PRAF Pradon 54.52 338 *e*P P 12 29 22.7 -0.5
SMRF Simiane la Rot 54.52 339 *e*P P 12 29 22.9 -0.3
comp=Z,815nm,1.4s,mb6.3
SURF Saint Ours 54.53 340 *e*P P 12 29 24.5 +1.2
VALF Valcebollere 54.58 335 *e*P P 12 29 24.6 +0.9
PLRO Paularo 54.58 346⇓ *e*P P 12 29 23.0 -0.6
PSZ Piszkesteto 54.61 352⇓ *i*P P 12 29 23.6 -0.3
PSZ *i* SP SP 12 37 08.8 -2.8
PSZ Piszkesteto 54.61 352⇓ *i*P P 12 29 22.7 -1.1
comp=Z,656nm,1.4s,mb6.5
ZOU Zoufplan 54.62 346⇓ *e*P P 12 29 24.0 0.0
FVI Forni Avoltri 54.71 346 P P 12 29 24.2 -0.4
ARSA Arzberg 54.72 348⇓ *i*P P 12 29 24.5 -0.1
comp=Z,3μm,2.1s,mb6.9,SNR=41
ARSA Arzberg 54.72 348⇓ *i*P P 12 29 24.5 -0.1
comp=Z,3μm,2.1s,mb6.9
SRO Srobarova 54.75 351 *e*P P 12 29 25.9 +1.0
MBDF Montbardon 54.76 340 *e*P P 12 29 24.6 -0.4
comp=Z,957nm,1.2s,mb6.4
CARF Carcanieres 54.80 335 *e*P P 12 29 25.9 +0.6
MABI Malga Bissina 54.80 344 P P 12 29 24.6 -0.7
ECAB El Cabril 54.86 326 ⇓P P 12 29 25.7 -0.1
comp=Z,54nm,0.8s,mb5.6
SOP Sopron 54.93 349 ⇓*i*P P 12 29 25.9 -0.3
SOP Sopron 54.93 349 P P 12 29 26.1 -0.1
SOP Pn P 12 29 26.5 +0.3
SEST Monte Rota 54.99 345 P P 12 29 27.5 +0.8
APPI Appiano 55.00 345 P P 12 29 26.5 -0.2
UZH Uzhgorod 55.02 354 *i* P P 12 29 29.0 +2.1
KBA Koelnbreinsper 55.03 346⇑ *i*P P 12 29 26.6 -0.3
comp=Z,3μm,3.8s,SNR=34
BRES Bressanone 55.07 345 P P 12 29 26.7 -0.5
BHPL Bhopal 55.07 56 *e*P P 12 29 26.1 -1.5
BHPL AMb AMB 12 29 43.0
comp=Z,953nm,1.5s,mb6.6
BNI Bardonecchia 55.08 340⇓ *i*P P 12 29 26.8 -0.5
comp=Z,346nm,1.1s,mb6.3
KECS Kecovo 55.09 353 *e*P P 12 29 26.6 -0.8
ESAC San Caprasio 55.11 333 ⇓P P 12 29 27.6 0.0
comp=Z,481nm,0.8s,mb6.6
EGRA Graus 55.14 334 P P 12 29 27.6 -0.3
comp=Z,363nm,1.1s,mb6.3
BRMO Bormio 55.23 344 P P 12 29 28.4 0.0
ORIF Oris-en-Rattie 55.23 340 *e*P P 12 29 27.7 -0.8
comp=Z,1μm,1.6s,mb6.4
ORIF *e*R
comp=Z,261μm,17.2s
LASF Ste Croix 55.24 338 *e*P P 12 29 28.1 -0.5
comp=Z,2μm,1.4s,mb6.7
ESDC Sonseca Array 55.24 329 P P 12 29 28.0 -0.6
comp=Z,49nm,0.8s,mb5.6,baz=141,slow=6.6,SNR=111
ESDC S S 12 37 14.9 +5.2
comp=Z,4.5nm,0.9s,baz=163,slow=6.5,SNR=2.5
ESDC Sonseca Array 55.24 329 P P 12 29 28.2 -0.5
comp=Z,44nm,0.8s,mb5.5
ESLA Sonseca Array 55.24 329 *e*P P 12 29 28.4 -0.3
comp=Z,1.9nm,0.6s
ESLA LR LR
comp=Z,1651μm,21.0s,MS8.1
MTLF Montolieu 55.27 336 *e*P P 12 29 27.8 -1.0
comp=Z,2μm,1.8s,mb6.4
KOLS Kolonicke sedl 55.32 354 *i* P P 12 29 29.3 +0.2
ZST Bratislava 55.32 350 *i* P P 12 29 28.6 -0.5
ZST *e* 12 29 41.3
ZST *e*PP PP 12 31 34.1 -0.2
ZST eS S 12 37 16.2 +5.6
ZST eL 12 58 54.2
VYHS Vyhne 55.33 351 *e*P P 12 29 28.1 -1.0
VYHS eS S 12 37 17.1 +6.4
EMIN Mina Concepcio 55.34 325 ⇓P P 12 29 29.3 0.0
comp=Z,134nm,1.0s,mb5.9
CRVS Cervenica-Dubn 55.38 353 *e*P P 12 29 29.0 -0.5
CRVS eS S 12 37 19.5 +8.1
EOSO Osorio 55.38 310 P P 12 29 33.2 +3.4
GDM Grand'Maison 55.40 340 *e*P P 12 29 30.0 +0.3
MLS Moulis 55.42 335 *e*P P 12 29 29.8 -0.1
LPG La Plagne 55.44 341 *e*P P 12 29 28.7 -1.3
comp=Z,1μm,1.3s,mb6.5
MCGN Macugnaga 55.46 342 P P 12 29 28.4 -1.7
LPL La Plagne 55.47 341 *e*P P 12 29 28.8 -1.4
comp=Z,1μm,1.3s,mb6.4

VDL Val di Lei 55.49 343 ⇑P P 12 29 29.7 -0.6
MELF Melles 55.49 334 *e*P P 12 29 31.0 +0.6
TUE Stuetta 55.51 343 P P 12 29 27.5 -3.0
VKA Vienna 55.53 349⇓ *i*P P 12 29 29.8 -0.8
MMK Mattmark 55.55 342 ⇓P P 12 29 29.6 -1.1
MOA Molln 55.55 347 *i* P P 12 29 29.9 -0.8
comp=Z,4μm,4.5s,SNR=166
GRN Grenoble 55.56 340 *e*P P 12 29 30.8 0.0
SMOL Smolenice 55.57 350 *e*P P 12 29 30.0 -0.9
SMOL *e*sP sP 12 29 40.9 +3.3
VIVF Saint-Julien-l 55.61 339 *e*P P 12 29 30.8 -0.4
comp=Z,3μm,1.6s,mb6.7
EBIE Bielsa 55.61 334 P P 12 29 30.6 -0.7
comp=Z,166nm,0.9s,mb6.1
WTTA Wattenberg 55.62 345⇑ *i*P P 12 29 30.7 -0.5
comp=Z,4μm,3.8s,SNR=60
RESF Ens 55.62 334 *e*P P 12 29 32.4 +1.1
DAVOX Davos 55.64 344 P P 12 29 31.0 -0.3
comp=Z,85nm,0.8s,mb5.8,baz=135,slow=11,SNR=63
DAVOX S S 12 37 12.0 -2.9
comp=Z,18nm,0.9s,baz=226,slow=18,SNR=1.8
EGRO El Granado 55.65 324 ⇓P P 12 29 31.3 -0.3
comp=Z,189nm,1.0s,mb6.1
SQTA Sankt Quirin 55.69 345⇓ *i*P P 12 29 30.7 -1.0
comp=Z,2μm,2.6s,mb6.7,SNR=66
WATA Walderalm 55.70 345⇓ *i*P P 12 29 31.6 -0.2
comp=Z,1μm,1.6s,mb6.6,SNR=14
DIX Grande Dixence 55.75 341 ⇓P P 12 29 30.8 -1.4
EPF Esparros 55.80 334 *e*P P 12 29 32.3 -0.3
comp=Z,1μm,1.1s,mb6.5
EPF Esparros 55.80 334 *e*P P 12 29 32.3 -0.3
EPF pmax pmax
comp=Z,564nm,1.1s,mb6.5
MOTA Moosalm 55.83 345 *i* P P 12 29 31.8 -0.9
comp=Z,431nm,1.4s,mb6.3,SNR=36
MOTA Moosalm 55.83 345 *i* P P 12 29 31.8 -0.9
comp=Z,431nm,1.4s,mb6.3
LIKS Likavka 55.83 352 *e*P P 12 29 33.6 +0.9
JAVC Velka Javorina 55.87 350 P P 12 29 32.1 -0.9
EMV Vieux Emosson 55.90 341 ⇑P P 12 29 31.7 -1.5
STHS Stebnicka Huta 55.91 353 *e*P P 12 29 32.6 -0.7
STHS *e* pP 12 29 37.8 -0.4
STHS *e* 12 31 31.8
LABF Labassere 55.93 334 *e*P P 12 29 33.8 +0.3
LLS Linth-Limmern 55.95 343 ⇓P P 12 29 32.3 -1.3
LKBD Leukerbad 55.95 342 ⇓P P 12 29 32.7 -0.9
KWP Kalwaria 55.97 355 *e*P P 12 29 33.3 -0.4
KWP *e*pP pP 12 29 37.2 -1.3
KWP eS S 12 37 29.0 +10
KWP MLR MLR 12 54 21.8
comp=Z,123μm,22.9s,MS6.9
NIE Niedzica 56.03 353 *e*P P 12 29 34.1 0.0
LVV L'vov 56.05 356 *i* P P 12 29 32.3 -1.9
LVV L'vov 56.05 356 *i* Pr 12 29 32.3
GUD Guadarrama 56.06 329 P P 12 29 34.3 -0.2
GUD pmax pmax
comp=Z,68nm,0.8s,mb5.7
GUD Guadarrama 56.06 329 P P 12 29 34.2 -0.2
comp=Z,68nm,0.8s,mb5.7
ETSF Etsaut 56.09 334 *e*P P 12 29 34.4 -0.3
comp=Z,707nm,1.0s,mb6.3
ETSF Etsaut 56.09 334 *e*P P 12 29 34.4 -0.3
ETSF pmax pmax
comp=Z,354nm,1.0s,mb6.3
DAVA Damuels 56.10 344⇓ *i*P P 12 29 33.6 -1.1
comp=Z,2μm,2.3s,mb6.7,SNR=103
DAVA Damuels 56.10 344⇓ *i*P P 12 29 33.6 -1.1
comp=Z,2μm,2.3s,mb6.7
MUO Muotathal 56.17 343 ⇓P P 12 29 33.5 -1.7
MORF Marmelete 56.18 323 *e*P P 12 29 34.1 -1.3
MORF eS S 12 37 27.5 +5.3
MORF eS S 12 37 27.6 +5.4
MORF AMS AMS 12 56 42.6
comp=Z,73μm,14.5s,MS6.9
PBEJ Beja 56.20 325 *e*P P 12 29 35.6 0.0
comp=Z,79nm,0.9s,mb5.7
PBEJ Beja 56.20 325 *e*P P 12 29 35.0 -0.6
EBAJ Bajamar 56.22 310 ⇓P P 12 29 36.3 +0.5
EBAD Badajoz 56.22 326 ⇓P P 12 29 36.2 +0.5
comp=Z,273nm,1.9s,mb6.0
CCAN Las Canadas 56.26 310 P P 12 29 36.6 +0.5
comp=Z,24nm,0.9s,mb5.2
KRUC Moravsky 56.28 350 P P 12 29 33.8 -2.2
ATE Arette 56.30 334 *e*P P 12 29 37.3 +1.1
PTEO Sao Teotonio 56.38 324 *e*P P 12 29 37.7 +0.9
comp=Z,297nm,1.2s,mb6.2
PTEO Sao Teotonio 56.38 324 *e*P P 12 29 37.4 +0.6
LARF Larrau 56.39 333 *e*P P 12 29 36.9 +0.1
UBR Uberruh 56.40 344 *e*P P 12 29 36.0 -0.8
UBR Uberruh 56.40 344 P P 12 29 37.1 +0.3
LBL Lubilhac 56.45 338 *e*P P 12 29 37.3 +0.1
VRAC Vranov 56.49 350 P P 12 29 36.0 -1.4
comp=Z,328nm,1.2s,mb6.2,baz=165,slow=6.7,SNR=88
VRAC S S 12 37 22.2 -3.9
comp=Z,11nm,0.8s,baz=184,slow=9.7,SNR=1.8
VRAC Vranov 56.49 350 P P 12 29 36.2 -1.2
ORDF Ordiarp 56.51 333 *e*P P 12 29 38.3 +0.6
COLF Collangettes 56.53 338 *e*P P 12 29 37.9 +0.1
FUR Furstenfeldbru 56.54 345 *e*P P 12 29 36.2 -1.6
FUR pmax pmax
comp=Z,1μm,1.5s,mb6.7
FUR Furstenfeldbru 56.54 345 *e*P P 12 29 36.2 -1.6
comp=Z,1μm,1.5s,mb6.7
ZUR Zurich 56.55 343 ⇓P P 12 29 37.0 -0.9
SJPF Ste Jean 56.56 333 *e*P P 12 29 37.7 -0.3
comp=Z,987nm,1.1s,mb6.4
SJPF Ste Jean 56.56 333 *e*P P 12 29 37.7 -0.3
SJPF pmax pmax
comp=Z,494nm,1.1s,mb6.5
GEC2 GERESS Array S 56.61 347 *e*P P 12 29 37.2 -1.1
GEC2 pmax pmax
comp=Z,169nm,1.9s,mb5.8
GEC2 GERESS Array S 56.61 347 *e*P P 12 29 37.2 -1.1
comp=Z,2μm,1.9s,mb6.8
GERES GERESS Array B 56.61 347 P P 12 29 37.3 -1.0
comp=Z,137nm,1.0s,mb5.9,baz=158,slow=7.2,SNR=173
GERES S S 12 37 26.7 -1.1
comp=Z,2.8nm,0.9s,baz=94,slow=35,SNR=2.1
GERES LR LR 12 56 33.9
comp=Z,180μm,19.9s,MS7.2,baz=164,slow=39
GERES PKP2bc 12 59 41.6
comp=Z,0.2nm,0.2s,baz=270,slow=2.7,SNR=4.4
GERES GERESS Array B 56.61 347 P P 12 29 37.3 -1.0
GERES S S 12 37 26.7 -1.1
GERES LR LR 12 56 33.9
GERES ⇑*e* 12 59 41.6
EVO Evora 56.63 325 *e*P P 12 29 37.9 -0.7
comp=Z,520nm,1.3s,mb6.1,baz=123
EVO *e*R
comp=Z,165μm,19.5s
CABF La Chapelle 56.64 341 *e*P P 12 29 37.3 -1.3
comp=Z,233nm,0.8s,mb6.0
CABF La Chapelle 56.64 341 *e*P P 12 29 37.3 -1.3
CABF pmax pmax
comp=Z,116nm,0.8s,mb6.0
CAF Calviac 56.65 337 *e*P P 12 29 38.1 -0.5
comp=Z,3μm,1.8s,mb6.7
CAF Calviac 56.65 337 *e*P P 12 29 38.1 -0.5
CAF pmax pmax
comp=Z,2μm,1.8s,mb6.7
TREC Trest 56.68 349⇓ *i*P P 12 29 37.8 -1.0
TREC *e*pP pP 12 29 49.5 +5.8
TREC eS S 12 37 25.5 -3.1
TREC AMS AMS 12 58 00.0
comp=Z,115μm,16.3s
TREC Trest 56.68 349⇓ *i*P P 12 29 37.8 -1.0
TREC eS S 12 37 25.5 -3.1
TREC MLR MLR
comp=Z,153μm,16.3s,MS7.2
OSSF Osses 56.69 333 *e*P P 12 29 38.7 -0.2
EGOM La Gomera 56.69 310 P P 12 29 39.7 +0.5
AKASG Malin Array Be 56.71 360 P P 12 29 35.5 -3.6
comp=Z,72nm,0.8s,mb5.7,baz=183,slow=6.4,SNR=25
AKASG S S 12 37 23.4 -5.7
comp=Z,8.1nm,0.9s,baz=199,slow=6.9,SNR=2.6
AKASG PKPPKP 12 59 29.1
comp=Z,0.4nm,0.6s,baz=13,slow=2.8,SNR=3.7
SISB Singen-Sch Ber 56.72 343 P P 12 29 39.9 +0.7
OKC Ostrava-Krasne 56.74 351⇓ *i*P P 12 29 37.8 -1.4
OKC *e*pP pP 12 29 50.4 +6.3
OKC *e*PP PP 12 31 45.8 -1.3
OKC *e*PPP PPP 12 33 13.0 +7.5
OKC eS S 12 37 26.9 -2.6
OKC AMS AMS 12 59 10.0
comp=Z,106μm,15.1s

OKC Ostrava-Krasne 56.74 351⇓ *i*P P 12 29 37.8 -1.4
OKC *e* 12 31 45.8
OKC eS S 12 37 26.9 -2.6
OKC MLR MLR
comp=Z,106μm,15.1s,MS7.1
ECRI Cripan 56.75 332 P P 12 29 40.5 +1.1
ECRI pmax pmax
comp=Z,129nm,1.1s,mb5.9
ECRI Cripan 56.75 332 P P 12 29 40.5 +1.1
comp=Z,129nm,1.1s,mb5.9
EALK Alkurruntz 56.77 333 ⇓P P 12 29 39.9 +0.4
comp=Z,81nm,0.9s,mb5.8
MORC Moravsky Berou 56.78 351 P P 12 29 38.6 -0.9
MORC Moravsky Berou 56.78 351 *e*P P 12 29 38.2 -1.3
comp=Z,641nm,1.4s,mb6.5
SULZ Sulz-Cheisache 56.83 343 ⇓P P 12 29 38.7 -1.2
OJC Ojcow 56.88 352 *e*P P 12 29 38.9 -1.3
OJC *e*PP PP 12 31 48.1 -0.2
OJC eS S 12 37 29.9 -1.4
OJC eSS SS 12 41 34.7 +14
OJC MLR MLR 12 58 46.2
comp=Z,107μm,19.3s,MS7.0
OJC Ojcow 56.88 352 *e*P P 12 29 38.9 -1.3
OJC *e* 12 31 48.1
OJC eS S 12 37 29.9 -1.4
OJC MLR MLR
comp=Z,107μm,19.3s,MS7.0
KHC Kasperske Hory 56.91 347⇓ *i*P P 12 29 38.9 -1.6
KHC *e*x x 12 29 51.0
KHC *e*PP PP 12 31 45.7 -2.9
KHC *e*PPP PPP 12 33 08.3 +0.6
KHC eS S 12 37 33.9 +2.2
KHC AMS AMS 12 56 00.0
comp=Z,187μm,20.2s
KHC Kasperske Hory 56.91 347⇓ *i*P P 12 29 38.9 -1.6
KHC *e* 12 31 45.7
KHC *e*PPP PPP 12 33 08.3 +0.6
KHC eS S 12 37 33.9 +2.2
KHC MLR MLR
comp=Z,187μm,20.2s,MS7.2
SLE Schleitheim 56.93 343 ⇓P P 12 29 39.2 -1.4
PLDF La Plantade 56.94 339 *e*P P 12 29 41.3 +0.6
BBS Basel-Blauen 56.95 342 *e*P P 12 29 40.5 -0.3
BBS Basel-Blauen 56.95 342 *e*P P 12 29 41.4 +0.6
RAC Raciborz 56.97 351 *e*P P 12 29 39.9 -1.0
RAC eS S 12 37 33.5 +1.0
RAC MLR MLR
comp=Z,82μm,21.5s,MS6.8
RAC MLR MLR
comp=N,108μm,18.5s,MS7.2
RAC MLR MLR
comp=E,152μm,16.9s,MS7.2
RAC MLR MLR
comp=Z,131μm,16.4s
GUT Gutenstein 57.03 344 *e*P P 12 29 41.0 -0.3
GUT Gutenstein 57.03 344 P P 12 29 40.9 -0.4
LOMF Lomont 57.06 342 *e*P P 12 29 40.9 -0.7
WET Wettzell 57.08 347 *e*P P 12 29 40.2 -1.5
WET *e* 12 31 47.6
WET pmax pmax
comp=Z,1μm,1.8s,mb6.6
WET Wettzell 57.08 347 *e*P P 12 29 40.2 -1.5
comp=Z,1μm,1.8s,mb6.6
WET *e*PP PP 12 31 47.6 -2.5
WET *e*PPP PPP 12 33 17.8 +8.0
SPAK Spaichingen 57.15 343 *e*P P 12 29 42.1 -0.1
SPAK Spaichingen 57.15 343 *e*P P 12 29 41.9 -0.3
FELD Feldberg 57.17 343 *e*P P 12 29 42.1 -0.3
FELD Feldberg 57.17 343 *e*P P 12 29 42.6 +0.2
VERF Verneugheol 57.18 338 *e*P P 12 29 42.6 +0.2
RJF Les Rejaudoux 57.18 337 *e*P P 12 29 41.8 -0.6
comp=Z,3μm,1.8s,mb6.8
RJF Les Rejaudoux 57.18 337 *e*P P 12 29 41.8 -0.6
RJF pmax pmax
comp=Z,2μm,1.8s,mb6.8
LFF La Frestale 57.19 336 *e*P P 12 29 42.0 -0.5
comp=Z,1μm,1.0s,mb6.6
LFF La Frestale 57.19 336 *e*P P 12 29 42.0 -0.5
LFF pmax pmax
comp=Z,651nm,1.0s,mb6.6
AGO Saint Agoulin 57.19 338 *e*P P 12 29 43.0 +0.5
HDH Heidenheim 57.21 345 *e*P P 12 29 42.0 -0.6
HDH Heidenheim 57.21 345 P P 12 29 42.5 -0.1
PCBR Castelo Branco 57.24 326 *e*P P 12 29 43.4 +0.5
comp=Z,97nm,1.3s,mb5.7
PCBR Castelo Branco 57.24 326 *e*P P 12 29 43.2 +0.3
KIZ Kirchzarten 57.27 343 *e*P P 12 29 42.5 -0.5
KIZ Kirchzarten 57.27 343 P P 12 29 43.6 +0.6
BUCH Bad Urach 57.31 344 *e*P P 12 29 43.3 0.0
EHIG Higuera 57.34 310 P P 12 29 45.2 +1.4
comp=Z,55nm,0.3s,mb6.1
LIS Lisbon 57.41 324 *e*P P 12 29 43.2 -1.0
LIS eS S 12 37 44.0 +5.5
LIS eS S 12 37 44.0 +5.5
LIS AMS AMS 12 56 28.4
comp=Z,116μm,13.4s,MS7.2
LIS Lisbon 57.41 324 *e*P P 12 29 43.2 -1.0
LIS eS S 12 37 43.9 +5.4
MOF Molkenrain 57.41 342 *e*P P 12 29 43.1 -0.9
NDI New Delhi 57.44 50 *e*P P 12 29 44.0 -0.5
NDI ex x 12 37 52.0
SMF Signal de Mont 57.44 339 *e*P P 12 29 43.1 -1.2
comp=Z,1μm,1.4s,mb6.5
SMF Signal de Mont 57.44 339 *e*P P 12 29 43.1 -1.2
SMF pmax pmax
comp=Z,601nm,1.4s,mb6.4
HINF Hinteralfeld 57.47 342 *e*P P 12 29 43.1 -1.3
comp=Z,419nm,1.1s,mb6.1
HINF Hinteralfeld 57.47 342 *e*P P 12 29 43.1 -1.3
HINF pmax pmax
comp=Z,210nm,1.1s,mb6.1
BFO Black Forest 57.49 343 *e*P P 12 29 43.4 -1.2
BFO pmax pmax
comp=Z,969nm,2.0s,mb6.5
BFO Black Forest 57.49 343 *e*P P 12 29 43.4 -1.2
comp=Z,969nm,2.0s,mb6.5
PRU Pruhonice 57.52 348⇓ *i*P P 12 29 42.7 -2.1
PRU *e*pP pP 12 29 54.0 +4.3
PRU *e*PP PP 12 31 51.0 -3.1
PRU *e*PPP PPP 12 33 16.7 +1.5
PRU eS S 12 37 41.8 +2.0
PRU AMS AMS 12 56 00.0
comp=Z,130μm,21.0s
PRU Pruhonice 57.52 348⇓ *i*P P 12 29 42.7 -2.1
PRU *e* 12 31 51.0
PRU *e*PPP PPP 12 33 16.7 +1.5
PRU eS S 12 37 41.8 +2.0
PRU MLR MLR
comp=Z,130μm,21.0s,MS7.0
PLOU Loures 57.53 325 *e*P P 12 29 45.5 +0.5
comp=Z,155nm,1.1s,mb6.0
PLOU Loures 57.53 325 *e*P P 12 29 44.7 -0.3
DPC Dobruska-Polom 57.54 350⇓ *i*P P 12 29 43.3 -1.6
DPC ex x 12 29 55.3
DPC *e*PP PP 12 31 54.9 +0.7
DPC *e*PPP PPP 12 33 10.5 -4.8
DPC eS S 12 37 44.6 +4.6
DPC AMS AMS 12 59 50.0
comp=Z,94μm,14.0s
DPC Dobruska-Polom 57.54 350⇓ *i*P P 12 29 43.3 -1.6
DPC *e* 12 31 54.9
DPC *e*PPP PPP 12 33 10.5 -4.8
DPC eS S 12 37 44.6 +4.6
DPC MLR MLR
comp=Z,94μm,14.0s,MS7.0
LIBD Limburg 57.54 343 *e*P P 12 29 44.9 0.0
LIBD Limburg 57.54 343 *e*P P 12 29 44.2 -0.7
PTOM Tomar 57.60 326 *e*P P 12 29 46.3 +0.8
comp=Z,78nm,0.9s,mb5.7
PTOM Tomar 57.60 326 *e*P P 12 29 46.2 +0.7
PRA Prague 57.62 348 ⇓P P 12 29 44.0 -1.5
PRA *e*x x 12 29 49.0
PRA pP pP 12 29 57.0 +6.6
PRA *e*x x 12 32 00.0
PRA AMS AMS 12 58 45.0
STU Stuttgart 57.65 344 *e*P P 12 29 46.2 +0.5
STU pmax pmax
comp=Z,370nm,1.0s,mb6.4
STU Stuttgart 57.65 344 *e*P P 12 29 46.2 +0.6
comp=Z,370nm,1.0s,mb6.4
LBG Lerchenberg 57.66 344 *e*P P 12 29 45.6 -0.2
LBG Lerchenberg 57.66 344 P P 12 29 46.2 +0.4
ELAN Lanestosa 57.66 332 P P 12 29 46.6 +0.8

comp=Z,249nm,0.9s,mb6.2
MTE Manteigas 57.67 327 *e*P **P** **12 29 44.5 -1.4**
comp=Z,101nm,1.1s,mb5.8
MTE *e*S **S** **12 37 41.2 -0.6**
MTE *e*SS SS 12 41 44.8 +11
MTE *e*LR LR 12 50 47.4
comp=Z,135µm,18.0s
MTE Manteigas 57.67 327 *e*P **P** **12 29 45.4 -0.5**
comp=Z,159nm,1.0s,mb6.0
BGF Bois d'Agland 57.73 338 *e*P **P** **12 29 45.5 -0.7**
comp=Z,2µm,1.7s,mb6.5
BGF Bois d'Agland 57.73 338 *e*P **P** **12 29 45.5 -0.7**
BGF pmax pmax
comp=Z,954nm,1.7s,mb6.5
ECH Echery 57.73 342 *e*P **P** **12 29 45.2 -1.0**
TCF Toulx Ste Croi 57.73 338 *e*P **P** **12 29 46.1 -0.2**
comp=Z,3µm,1.4s,mb6.7
TCF Toulx Ste Croi 57.73 338 *e*P **P** **12 29 46.1 -0.2**
TCF pmax pmax
comp=Z,1µm,1.4s,mb6.8
AVF Avril sur Loir 57.74 339 *e*P **P** **12 29 45.4 -0.9**
comp=Z,3µm,1.7s,mb6.7
AVF Avril sur Loir 57.74 339 *e*P **P** **12 29 45.4 -0.9**
AVF pmax pmax
comp=Z,1µm,1.7s,mb6.7
UPC Upice 57.74 350⇓ *i*P **P** **12 29 44.8 -1.5**
UPC *ex* x 12 29 56.8
UPC *e*PP PP 12 31 59.2 +3.1
UPC Upice 57.74 350⇓ *i*P **P** **12 29 44.8 -1.5**
UPC *e* 12 31 59.2
HAU Haudompre 57.79 342 *e*P **P** **12 29 45.5 -1.2**
comp=Z,1µm,1.6s,mb6.3
HAU *e*R
comp=Z,161µm,18.5s
HAU Haudompre 57.79 342 *e*P **P** **12 29 45.5 -1.2**
HAU pmax pmax
comp=Z,558nm,1.6s,mb6.3
HAU MLR MLR
comp=Z,161µm,18.5s,MS7.2
VRSR Storozhevoye 57.81 7*d i*P **P** **12 29 45.2 -1.6**
VRSR *e*S **S** **12 37 44.0 +0.5**
VRSR *e* 12 39 36.2
VRSR pmax pmax
comp=N,40nm,1.0s
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.1
VRSR pmax pmax
comp=E,8.0nm,1.1s
VRSR smax
comp=N,160nm,4.2s
VRSR smax
comp=Z,80nm,3.7s
VRSR smax
comp=E,630nm,9.8s
WLS Welschbruch 57.85 343 *e*P **P** **12 29 46.4 -0.7**
CDF Champ du Feu 57.87 343 *e*P **P** **12 29 45.8 -1.4**
comp=E,805nm,1.3s,mb6.3
CDF Champ du Feu 57.87 343 *e*P **P** **12 29 45.8 -1.4**
CDF pmax pmax
comp=Z,402nm,1.3s,mb6.3
SSF Saint Saulge 57.92 339 *e*P **P** **12 29 46.2 -1.4**
comp=Z,1µm,1.7s,mb6.3
SSF Saint Saulge 57.92 339 *e*P **P** **12 29 46.2 -1.4**
SSF pmax pmax
comp=Z,503nm,1.7s,mb6.3
LOR Lormes 57.97 340 *e*P **P** **12 29 46.7 -1.2**
comp=Z,804nm,1.3s,mb6.3
LOR *e*R
comp=Z,176µm,20.0s
LOR Lormes 57.97 340 *e*P **P** **12 29 46.7 -1.2**
LOR pmax pmax
comp=Z,402nm,1.3s,mb6.3
LOR MLR MLR
comp=Z,176µm,20.0s,MS7.2
GRA1 Grafenberg Arr 57.98 346 *e*P **P** **12 29 46.7 -1.2**
comp=Z,2µm,1.3s,mb6.9
GRA1 *e*PPP PPP 12 33 26.0 +5.4
GRA1 *e*S **S** **12 37 52.2 +6.5**
GRA1 LR LR
comp=Z,137µm,18.4s,MS7.1
GRF Grafenberg Arr 57.98 346 *e*P **P** **12 29 46.7 -1.2**
GRF *e*PPP PPP 12 33 26.0 +5.4
GRF *e*S **S** **12 37 52.2 +6.5**
GRF pmax pmax
comp=Z,2µm,1.3s,mb6.9
GRF MLR MLR
comp=Z,137µm,18.4s,MS7.1
GRF Grafenberg Arr 57.98 346 *e*P **P** **12 29 46.7 -1.2**
GRF *e*PPP PPP 12 33 26.0 +5.4
GRF *e*S **S** **12 37 52.2 +6.5**
GRF pmax pmax
comp=Z,2µm,1.3s,mb6.9
GRF MLR MLR
comp=Z,137µm,18.4s,MS7.1
GRF Grafenberg Arr 57.98 346 *e*P **P** **12 29 46.7 -1.2**
comp=Z,2µm,1.3s,mb6.9
GRF *e*PPP PPP 12 33 26.0 +5.4
GRF *e*S **S** **12 37 52.2 +6.5**
GRF LR LR
comp=Z,137µm,18.4s,MS7.1
KSP Ksiaz 58.02 350 *e*P **P** **12 29 47.4 -0.8**
KSP *e*pP pP 12 29 52.0 -1.1
KSP *e*PP PP 12 31 59.3 +0.8
KSP *e*S **S** **12 37 50.1 +3.8**
KSP MLR MLR 12 58 29.5
comp=Z,183µm,20.1s,MS7.2
KSP Ksiaz 58.02 350⇓ *e*P **P** **12 29 47.2 -1.0**
KSP *e**PP pP 12 29 51.4 -1.7
KSP *e* 12 31 56.5
KSP *e*PPP PPP 12 33 15.0 -6.1
KSP *e*S **S** **12 37 49.0 +2.7**
KSP MLR MLR
comp=Z,211µm,20.1s,MS7.2
KSP Ksiaz 58.02 350⇓ *e*P **P** **12 29 47.2 -1.0**
KSP *e*pP pP 12 29 51.4 -1.7
KSP *e*PP PP 12 31 56.5 -2.0
KSP *e*PPP PPP 12 33 15.0 -6.1
KSP *e*S **S** **12 37 49.0 +2.7**
KSP *e*SS SS 12 41 46.0 +6.8
KSP LR LR
comp=Z,211µm,20.1s,MS7.2
VRHR Novokhopersk 58.03 9 *e*P **P** **12 29 46.5 -1.8**
VRHR *e**PP pP 12 29 49.6 -3.6
VRHR *e*S **S** **12 37 52.7 +6.3**
VRHR pmax pmax
comp=Z,550nm,0.9s,mb6.6
VRHR pmax pmax
comp=N,590nm,1.4s
VRHR pmax pmax
comp=E,180nm,1.0s
VRHR smax
comp=N,5µm,10.1s
VRHR smax
comp=Z,980nm,4.9s
VRHR smax
comp=E,5µm,7.6s
VRHR MLR MLR
comp=N,13µm,15.0s,MS6.4
VRHR MLR MLR
comp=Z,29µm,15.0s,MS6.5
VRHR MLR MLR
comp=E,20µm,19.0s,MS6.4
PVCC Panska Ves 58.03 349⇓ *i*P **P** **12 29 47.0 -1.3**
PVCC *e*pP pP 12 29 59.8 +6.6
PVCC *e*PP PP 12 32 02.2 +3.5
PVCC *e*PPP PPP 12 33 28.3 +7.1
PVCC AMS AMS 12 58 20.0
comp=E,99µm,17.8s
PVCC Panska Ves 58.03 349⇓ *i*P **P** **12 29 47.0 -1.3**
PVCC *e* 12 32 02.2
PVCC MLR MLR
comp=Z,99µm,17.8s,MS7.0
VIS Vishakhapatnam 58.06 65 *e*P **P** **12 29 45.7 -3.2**
VIS AMb AMB 12 30 03.8
comp=Z,126nm,1.6s,mb5.7
SIND Sindeldorf 58.06 345 *e*P **P** **12 29 48.1 -0.5**
SIND Sindeldorf 58.06 345 P **P** **12 29 47.8 -0.8**
PVIS Viseu 58.08 327 *e*P **P** **12 29 49.0 +0.2**
comp=Z,95nm,1.2s,mb5.7
PVIS Viseu 58.08 327 *e*P **P** **12 29 48.3 -0.5**
THEF They Montfort 58.10 342 *e*P **P** **12 29 48.3 -0.5**
NKC Novy Kostel 58.20 347⇓ *i*P **P** **12 29 48.8 -0.7**
NKC *e*PP PP 12 31 58.2 -2.0
NKC *e*PPP PPP 12 33 31.1 +8.1
NKC AMS AMS 12 59 50.0
comp=Z,142µm,16.1s
NKC Novy Kostel 58.20 347⇓ *i*P **P** **12 29 48.8 -0.7**
NKC *e* 12 31 58.2
NKC MLR MLR
comp=Z,142µm,16.1s,MS7.2
PBRG Braganca 58.24 329 *e*P **P** **12 29 50.0 +0.1**
comp=Z,153nm,1.6s,mb5.8
VOR Voronezh 58.32 7 *e*P **P** **12 29 50.0 -0.3**
VOR pmax pmax
comp=Z,1µm,1.6s,mb6.7
VOR pmax pmax
comp=N,2µm,1.5s
VOR pmax pmax
comp=E,480nm,1.5s
MATF Mathat 58.34 336 *e*P **P** **12 29 52.0 +1.5**
ECAL Calabor 58.34 329 P **P** **12 29 50.6 0.0**
comp=E,116nm,1.0s,mb5.9
PVRL Vila Real 58.38 327 *e*P **P** **12 29 50.9 0.0**
comp=E,162nm,1.1s,mb6.0
SFTF Sexfontaines 58.38 341⇓ *i*P **P** **12 29 50.0 -0.8**
comp=E,2µm,1.2s,mb6.7,baz=153
HYF Humbligny 58.40 339 *e*P **P** **12 29 50.1 -0.8**
SWS Schriesheim 58.43 344 *e*P **P** **12 29 50.9 -0.2**
SWS Schriesheim 58.43 344 P **P** **12 29 52.2 +1.1**
KTD Kalmit 58.45 344 *e*P **P** **12 29 51.2 -0.1**
KTD Kalmit 58.45 344 *e*P **P** **12 29 51.9 +0.6**
BRG Berggiesshubel 58.48 348⇑ *i*P **P** **12 29 50.4 -1.1**
BRG 12 32 02.0
BRG S **S** **12 38 00.0 +7.6**
BRG pmax pmax
comp=Z,212nm,1.4s,mb6.0
BRG MLR MLR
comp=N,118µm,21.3s,MS7.1
BRG MLR MLR
comp=E,95µm,16.6s,MS7.1
BRG MLR MLR
comp=Z,169µm,20.6s,MS7.2
BRG Berggiesshubel 58.48 348⇑ *i*P **P** **12 29 50.5 -1.0**
comp=Z,212nm,1.4s,mb6.0
BRG *i* 12 30 03.0
BRG PP PP 12 32 02.0 -0.7
BRG *i* 12 33 33.0
BRG S **S** **12 38 00.0 +7.6**
BRG SS SS 12 41 58.0 +11
BRG *e*pPKP 12 59 40.2
BRG LR LR
comp=Z,169µm,20.6s,MS7.2
TOD Tromm 58.51 344 *e*P **P** **12 29 51.6 -0.1**
TOD Tromm 58.51 344 *e*P **P** **12 29 51.0 -0.7**
EARI Arriondas 58.57 331 P **P** **12 29 52.0 -0.2**
comp=Z,107nm,0.8s,mb5.9
BLSP Bilaspur 58.58 59 *ex* x 12 29 55.0
RFYF Reffroy 58.62 341⇓ *i*P **P** **12 29 51.8 -0.6**
comp=Z,1µm,1.4s,mb6.5,baz=152
MEZF Maizieres J'vi 58.64 341 *e*P **P** **12 29 52.1 -0.5**
comp=Z,1µm,1.3s,mb6.5,baz=150
WAR Warsaw 58.72 354 *e*P **P** **12 29 56.2 +3.1**
WAR *e*S **S** **12 38 01.1 +5.6**
WAR MLR MLR 12 58 02.5
comp=Z,116µm,18.3s,MS7.0
MOX Moxa 58.77 347 *i* P **P** **12 29 52.5 -1.0**
comp=Z,logA/T=2.6,mb6.4
MOX S **S** **12 38 07.0 +11**
MOX SS SS 12 42 14.0 +23
MOX L 12 58 13.0
MOX Moxa 58.77 347 *e*P **P** **12 29 52.5 -1.0**
MOX pmax pmax
comp=Z,647nm,1.6s,mb6.4
MOX Moxa 58.77 347 *e*P **P** **12 29 52.5 -1.0**
comp=Z,647nm,1.6s,mb6.4
OLEF Ile d'Oleron 58.87 335 *e*P **P** **12 29 55.2 +1.0**
ERUA La Rua 58.87 329 P **P** **12 29 54.6 +0.3**
MFF Saint Martin d 58.91 336 *e*P **P** **12 29 53.8 -0.7**
comp=Z,1µm,1.4s,mb6.5
MFF Saint Martin d 58.91 336 *e*P **P** **12 29 53.8 -0.7**
MFF pmax pmax
comp=Z,670nm,1.4s,mb6.5
ELOB Lobios 58.98 328 P **P** **12 29 55.0 0.0**
CLL Collm 59.09 348⇓ *i*P **P** **12 29 55.1 -0.6**
comp=Z,logA/T=2.3,mb6.1
CLL *i* *PP pP 12 29 59.5 -1.1
CLL *e* 12 30 08.0
CLL *e*PP PP 12 32 00.0 -8.2
CLL *e* 12 33 43.0
CLL *e*S **S** **12 38 06.0 +5.7**
CLL *e*SS SS 12 42 05.0 +8.7
CLL *e* 12 44 48.0
CLL *e* 12 59 25.0
CLL *e* 12 59 50.0
CLL Collm 59.09 348⇓ *i*P **P** **12 29 55.1 -0.6**
CLL *i* pP 12 29 59.5 -1.1
CLL *e*S **S** **12 38 06.0 +5.7**
CLL pmax pmax
comp=Z,258nm,1.3s,mb6.1
CLL MLR MLR
comp=Z,134µm,19.9s,MS7.1
CLL Collm 59.09 348⇓ *i*P **P** **12 29 55.1 -0.6**
comp=Z,258nm,1.3s,mb6.1
CLL *i* pP 12 29 59.5 -1.1
CLL *e* 12 30 08.0
CLL *e*S **S** **12 38 06.0 +5.7**
CLL *e*PP' 12 59 25.0
CLL LR LR
comp=Z,134µm,19.9s,MS7.1
RUP Ruppelstein 59.09 343 *e*P **P** **12 29 55.5 -0.2**
RUP Ruppelstein 59.09 343 *e*P **P** **12 29 55.2 -0.5**
ABH Alteburg 59.11 344 *e*P **P** **12 29 55.6 -0.3**
ABH Alteburg 59.11 344 *e*P **P** **12 29 55.7 -0.2**
TNS Taunus Mts 59.17 344 *e*P **P** **12 29 55.3 -1.0**
TNS pmax pmax
comp=Z,506nm,1.0s,mb6.5
TNS Taunus Mts 59.17 344 *e*P **P** **12 29 55.3 -1.0**
comp=Z,506nm,1.0s,mb6.5
LCHF La Chataignera 59.20 336 *e*P **P** **12 29 58.3 +1.8**
WLF Walferdange 59.32 342 *e*P **P** **12 29 57.5 +0.2**
WLF pmax pmax
comp=Z,412nm,1.2s,mb6.3
WLF Walferdange 59.32 342 *e*P **P** **12 29 57.5 +0.1**
comp=Z,412nm,1.2s,mb6.3
LRYF La Roche-sur-Y 59.45 335 *e*P **P** **12 29 58.3 0.0**
EZAM Zamans 59.51 328 P **P** **12 29 58.7 0.0**
EZAM pmax pmax
comp=Z,860nm,1.0s,mb6.7
EZAM Zamans 59.51 328 P **P** **12 29 58.7 0.0**
comp=Z,86nm,1.0s,mb5.7
EPON Pontenova 59.55 330 P **P** **12 30 00.0 +1.0**
comp=Z,205nm,1.0s,mb6.1
ALBI Allahabad 59.57 56 *e*P **P** **12 30 00.0 +0.6**
TAS Tashkent 59.62 34 *e*P **P** **12 29 58.4 -1.1**
TAS *e*S **S** **12 38 10.1 +2.8**
TAS pmax pmax
comp=Z,6µm,6.0s
STS Santiago 59.95 328 P **P** **12 30 01.5 -0.3**
STS pmax pmax
comp=Z,106nm,1.0s,mb5.8
STS Santiago 59.95 328 P **P** **12 30 01.5 -0.3**
comp=Z,106nm,1.0s,mb5.8
RUE Ruedersdorf 60.04 349 *e*P **P** **12 30 02.3 0.0**
comp=Z,3µm,0.4s
GIVF Givet 60.12 342 *e*P **P** **12 30 01.6 -1.2**
comp=Z,786nm,1.3s,mb6.3
GIVF Givet 60.12 342 *e*P **P** **12 30 01.6 -1.2**
GIVF pmax pmax
comp=Z,393nm,1.3s,mb6.3
CLZ Clausthal 60.17 346 *e*P **P** **12 30 02.4 -0.7**
CLZ *e*S **S** **12 38 21.2 +7.0**
CLZ pmax pmax
comp=Z,1µm,1.9s,mb6.6
CLZ Clausthal 60.17 346 *e*P **P** **12 30 02.4 -0.7**
comp=Z,1µm,1.9s,mb6.6
CLZ *e*S **S** **12 38 21.2 +7.0**
EMAZ Mazaricos 60.22 328 P **P** **12 30 02.4 -1.2**
comp=Z,73nm,0.9s,mb5.7
BAIF Baives 60.27 341 *e*P **P** **12 30 02.6 -1.2**
comp=Z,796nm,1.4s,mb6.2
BAIF Baives 60.27 341 *e*P **P** **12 30 02.6 -1.2**
BAIF pmax pmax
comp=Z,398nm,1.4s,mb6.2
SUW Suwalki 60.28 356 *e*P **P** **12 30 03.2 -0.6**
SUW *e*S **S** **12 38 19.0 +3.4**
SUW MLR MLR 12 56 30.6
comp=Z,95µm,23.1s,MS6.9
HGN Heimansgroeve 60.37 343⇓ *i*P **P** **12 30 04.4 -0.1**
comp=Z,241nm,0.9s,mb6.2
HGN *ex* x 12 30 16.6
HGN *ex* x 12 30 25.6
HGN *ex* x 12 30 47.8
HGN *e*PP PP 12 32 28.3 +8.6
HGN *e*PPP PPP 12 33 50.6 +4.2
HGN *e*S **S** **12 38 30.9 +14**
HGN *e*SS SS 12 42 43.7 +28
LDF La Druitiere 60.53 338 *e*P **P** **12 30 04.5 -1.1**
comp=Z,1µm,1.4s,mb6.5
LDF La Druitiere 60.53 338 *e*P **P** **12 30 04.5 -1.1**
LDF pmax pmax
comp=Z,573nm,1.4s,mb6.5
MNK Minsk 60.54 359 *e*P **P** **12 30 02.0 -3.6**
MNK *e* 12 32 20.0
MNK *e*PPP PPP 12 33 50.0 +1.8
MNK *e*S **S** **12 38 18.0 -0.9**
MNK *e*PS PS 12 38 40.0 +3.8
MNK *e*SSS SSS 12 44 54.0 +0.8
MNK pmax pmax
comp=Z,980nm,1.2s,mb6.8
BUG Bochum--Univer 60.59 344 P **P** **12 30 06.1 +0.1**
GRR Gorron 60.64 337 *e*P **P** **12 30 05.3 -1.1**
comp=Z,831nm,1.3s,mb6.4
GRR Gorron 60.64 337 *e*P **P** **12 30 05.3 -1.1**
GRR pmax pmax
comp=Z,415nm,1.3s,mb6.4
FLN La Foliniere 60.80 338 *e*P **P** **12 30 06.1 -1.4**
comp=Z,328nm,1.0s,mb6.1,baz=151
FLN *e*R
comp=Z,151µm,21.2s
FLN La Foliniere 60.80 338 *e*P **P** **12 30 06.1 -1.4**
FLN pmax pmax
comp=Z,164nm,1.0s,mb6.1
FLN MLR MLR
comp=Z,151µm,21.3s,MS7.1
QUIF Quistinic 61.19 335 *e*P **P** **12 30 09.2 -0.9**
comp=Z,1µm,1.3s,mb6.5
WTSB Winterswijk 61.20 344⇓ *e*P **P** **12 30 09.7 -0.4**
comp=Z,544nm,1.5s,mb6.5
WTSB *ex* x 12 30 21.0
SGMF Saint Gilles 61.21 336 *e*P **P** **12 30 08.9 -1.3**
comp=Z,1µm,1.5s,mb6.5
SGMF Saint Gilles 61.21 336 *e*P **P** **12 30 08.9 -1.3**
SGMF pmax pmax
comp=Z,664nm,1.5s,mb6.5
AB31 Akbulak array 61.25 22 *i* P **P** **12 30 08.8 -1.7**
AB31 pmax pmax
comp=Z,3µm,2.1s,mb7.0
IDID Didziasalis 61.38 358 *i* P **P** **12 30 10.7 -0.6**
IDID AMb AMB 12 30 18.0
comp=Z,132nm,1.3s,mb5.9
OBN Obninsk 61.40 5*d i*P **P** **12 30 10.0 -1.4**
OBN *i* 12 32 24.8
OBN *i* S **S** **12 38 30.8 +0.9**
OBN *i* 12 38 59.4
OBN *i* SS SS 12 42 34.1 +1.8
OBN pmax pmax
comp=Z,433nm,1.4s,mb6.4
OBN MLR MLR
comp=Z,54µm,20.0s,MS6.7
OBN Obninsk 61.40 5 *i* Pr 12 30 10.0
OBN LR LR
comp=Z,54µm,20.0s,MS6.7
IIGN Ignalina 61.44 358 *i* P **P** **12 30 11.1 -0.6**
IIGN AMb AMB 12 30 18.5
comp=Z,211nm,1.4s,mb6.1
AKTO Aktyubinsk 61.54 20 P **P** **12 30 10.5 -1.9**
comp=Z,84nm,1.1s,mb5.8,baz=203,slow=6.6,SNR=88
AKTO S **S** **12 38 29.4 -2.3**
comp=Z,8.5nm,1.1s,baz=268,slow=4.0,SNR=2.7
AKTO Aktyubinsk 61.54 20 P **P** **12 30 10.8 -1.6**
AKTO pmax pmax
comp=Z,195nm,1.5s,mb6.0
ROSF Rostrenen 61.56 336 *e*P **P** **12 30 11.3 -1.3**
comp=Z,642nm,1.3s,mb6.3
ROSF Rostrenen 61.56 336 *e*P **P** **12 30 11.3 -1.3**
ROSF pmax pmax
comp=Z,321nm,1.3s,mb6.3
ISAL Salakas 61.66 358 *i* P **P** **12 30 12.6 -0.6**
ISAL AMb AMB 12 30 16.6
comp=Z,80nm,1.3s,mb5.7
IZAR Zarasai 61.84 358 *i* P **P** **12 30 13.8 -0.6**
IZAR AMb AMB 12 30 17.7
comp=Z,92nm,1.4s,mb5.7
KOLN Koldanda 62.05 54 *e*P **P** **12 30 14.0 -2.2**
RGN Rugen 62.10 349 *e*P **P** **12 30 16.8 +0.6**
comp=Z,755nm,1.3s,mb6.7
MOS Moscow 62.11 5κ *i*P **P** **12 30 15.5 -0.7**
MOS *e* 12 30 55.9
MOS *e* 12 32 36.0
MOS *e*PPP PPP 12 33 57.2 -7.2
MOS *e*S **S** **12 38 38.1 -0.7**
MOS *e*SS SS 12 42 41.8 -1.8
MOS *e*SSS SSS 12 45 27.5 +2.1
MOS pmax pmax
comp=Z,3µm,1.9s,mb7.2
MOS pmax pmax
comp=Z,2µm,1.7s,mb6.9
MOS smax
comp=E,5µm,11.1s
MOS smax
comp=N,7µm,10.7s
MOS MLR MLR
comp=N,41µm,15.4s
MOS MLR MLR
comp=Z,63µm,15.4s,MS6.9
MOS Moscow 62.11 5⇓ *i*P **P** **12 30 15.6 -0.6**
BSEG Bad Segeberg 62.13 347 *e*P **P** **12 30 15.4 -1.0**
BSEG *e*S **S** **12 38 47.9 +8.8**
BSEG pmax pmax
comp=Z,957nm,1.4s,mb6.7
BSD Bornholm Skovb 62.36 350⇓ *i*P **P** **12 30 16.7 -1.2**
comp=Z,517nm,1.3s,mb6.5
BSD *i* 12 32 32.0
BSD *e* 12 34 12.4
BSD *i* S **S** **12 38 43.5 +1.5**
BSD *i* 12 39 25.5
comp=Z,60µm,17.0s
BSD Bornholm Skovb 62.36 350⇓ *i*P **P** **12 30 16.7 -1.2**
BSD *i* 12 32 32.0
BSD *e* 12 34 12.4
BSD *i* S **S** **12 38 43.5 +1.5**
BSD pmax pmax
comp=Z,520nm,1.3s,mb6.5
BSD MLR MLR
comp=Z,60µm,17.0s,MS6.8
BOK Bokaro 62.41 59 *e*P **P** **12 30 17.2 -1.4**
KSH Kashi 62.42 39 *i* PR 12 30 18.0
KSH AP pP 12 30 23.3 -0.2
KSH XP sP 12 30 25.3 0.0
KSH PCP PcP 12 30 58.3 +0.6
KSH SCP 12 34 58.3
KSH PCS 12 35 00.4
KSH S **S** **12 38 41.2 -1.8**
KSH XS 12 38 48.2
KSH SCS ScS 12 40 06.4 -0.1
KSH AMB AMB
comp=Z,2µm,6.5s
KSH LR LR
comp=N,98µm,16.6s,MS7.1
KSH LR LR
comp=E,67µm,18.0s,MS7.1
AML Almayashu 62.63 36 P **P** **12 30 19.5 -0.4**
SNR=22
GKN Gorkha 62.98 54 *e*P **P** **12 30 20.6 -1.7**
comp=E,2µm,1.3s,mb7.0
EKS2 Erkin-Say 63.02 35 P **P** **12 30 21.9 -0.5**
SNR=13
SYO Syowa Base 63.02 176⇑ P **P** **12 30 20.5 -1.6**
SYO Syowa Base 63.02 176⇓ *e*P P 12 30 28.6 +1.6
SYO Syowa Base 63.02 176⇑ *e*P **P** **12 30 20.5 -1.6**
SYO ⇓ *i*pP pP 12 30 28.6 +1.6
UCH Uchtor 63.17 36 P **P** **12 30 23.1 -0.3**
SNR=34
DMN Daman 63.20 55 *e*P **P** **12 30 21.4 -2.4**
comp=E,668nm,1.2s,mb6.7
COP Copenhagen 63.34 349⇓ *i*P **P** **12 30 24.1 -0.2**
comp=E,174nm,1.1s,mb6.1
COP *i* 12 32 45.1
COP *i* S **S** **12 39 04.2 +10**
COP *i* 12 43 04.7
comp=Z,57µm,17.0s
COP Copenhagen 63.34 349⇓ *i*P **P** **12 30 24.1 -0.2**
COP *i* 12 32 45.1
COP *i* S **S** **12 39 04.2 +10**

COP *i* 12 43 04.7
COP pmax pmax
comp=Z,170nm,1.1s,mb6.1
COP MLR MLR
comp=Z,57µm,17.0s,MS6.8
SKP1 Kophill 63.36 339 *e*P **P 12 30 23.6 -0.9**
AAK Ala-Archa 63.41 36 P **P 12 30 25.1 +0.1**
SNR=15
AAK Ala-Archa 63.41 36 *d i*P **P 12 30 22.4 -2.6**
AAK pmax pmax
comp=Z,610nm,2.1s,mb6.4
AAK MLR MLR
comp=Z,188µm,22.0s,MS7.2
AAK Ala-Archa 63.41 36 *i* Pr 12 30 23.2
SWK Warminster 63.41 338 *e*P **P 12 30 24.4 -0.4**
KKN Kakani 63.41 55 *e*P **P 12 30 23.7 -1.5**
PKI Pulchoki 63.43 55 *e*P **P 12 30 22.9 -2.4**
comp=Z,901nm,1.4s,mb6.7
PKI Pulchoki 63.43 55 *e*P **P 12 30 22.9 -2.4**
PKI pmax pmax
comp=Z,451nm,1.4s,mb6.4
PECR Pechory 63.46 9⇑ *i*P **P 12 30 23.0 -2.1**
PECR *e* 12 32 50.0
PECR *e*S **S 12 38 59.0 +3.2**
PECR *e* 12 40 10.0
PECR *e* 12 43 01.0
PECR pmax pmax
comp=Z,770nm,2.0s,mb6.5
PECR smax
comp=E,10µm,12.0s
PECR MLR MLR
comp=E,17µm,19.0s
PECR MLR MLR
comp=Z,37µm,19.0s,MS6.6
KZA Kyzart 63.51 36 P **P 12 30 27.3 +1.6**
SNR=8.8
SWN1 Swindon 63.55 339 *e*P **P 12 30 26.2 +0.5**
FRU Bishkek 63.61 35⇓ *i*P **P 12 30 25.5 -0.8**
FRU *e*S **S 12 38 58.0 +0.1**
FRU pmax pmax
comp=Z,1µm,2.1s,mb6.5
FRU MLR MLR
comp=E,155µm,18.0s
CGH1 Goonhilly 63.68 336 *e*P **P 12 30 26.1 -0.5**
KBK Karagaybulak 63.69 36 P **P 12 30 26.6 -0.2**
SNR=25
CGW Gweek 63.74 336 *e*P **P 12 30 26.5 -0.6**
CRQ2 Rosemanowes 2 63.77 336 *e*P **P 12 30 27.5 +0.2**
CHMS Chumysh 63.79 35 P **P 12 30 27.0 -0.5**
SNR=12
USP Ospenovka 63.81 35 P **P 12 30 27.1 -0.5**
SNR=27
CCA1 Carnmenellis 63.81 336 *e*P **P 12 30 27.1 -0.5**
SSW Stow on the Wo 63.93 339 *e*P **P 12 30 27.8 -0.5**
HEX Exmoor 63.93 337 *e*P **P 12 30 25.8 -2.5**
GUN Gumba 63.95 55 *e*P **P 12 30 26.8 -2.0**
comp=E,2µm,1.2s,mb7.0
HGH Gray Hill 64.02 338 *e*P **P 12 30 29.1 +0.2**
HGH AMb AMB 12 30 34.9
comp=Z,349nm,1.6s,mb6.1
CAL Calcutta 64.08 61 *e*P **P 12 30 30.5 +0.7**
CAL *ex* x 12 39 09.9
JIRN Jiri 64.11 55 *e*P **P 12 30 28.4 -1.5**
comp=Z,1µm,1.2s,mb6.8
HTL Hartland 64.14 337 *e*P **P 12 30 26.1 -3.6**
HTL *e*S **S 12 39 04.4 0.0**
HTL AMS AMS 13 03 33.2
comp=Z,41µm,17.9s,MS6.7
ULHL Ulahol 64.20 37 P **P 12 30 31.4 +1.2**
SNR=11
TKM2 Tokmak 2 64.23 36 P **P 12 30 29.8 -0.6**
SNR=26
HAE Alders End 64.24 339 *e*P **P 12 30 28.9 -1.4**
HAE AMb AMB 12 30 36.2
comp=Z,686nm,1.4s,mb6.5
MCH1 Michaelchurch 64.38 338 *e*P **P 12 30 28.8 -2.4**
MCH1 AMb AMB 12 30 37.6
comp=Z,532nm,1.2s,mb6.4
MCH1 AMS AMS 13 00 15.5
comp=Z,69µm,20.6s,MS6.8
VSU Vasula 64.53 358 *d i*P **P 12 30 31.2 -0.9**
VSU Vasula 64.53 358 *i* Pr **P 12 30 31.3 -0.8**
HTR Trewern Hill 64.54 338 *e*P **P 12 30 30.7 -1.6**
HTR AMb AMB 12 30 37.2
comp=Z,222nm,1.8s,mb5.9
HSA Swansea 64.61 337 *e*P **P 12 30 31.6 -1.1**
MUD Monsted U'grnd 64.71 348⇓ *i*P **P 12 30 33.8 +0.5**
comp=Z,647nm,1.1s,mb6.6
MUD *i* 12 33 00.2
MUD *i* S **S 12 39 18.2 +6.9**
comp=Z,54µm,17.0s
MUD Monsted U'grnd 64.71 348⇓ *i*P **P 12 30 33.8 +0.5**
MUD *i* 12 33 00.2
MUD *i* S **S 12 39 18.2 +6.9**
MUD pmax pmax
comp=Z,650nm,1.1s,mb6.6
MUD MLR MLR
comp=Z,54µm,17.0s,MS6.8
HLM1 Long Mynd 64.75 339 *e*P **P 12 30 33.3 -0.4**
HLM1 AMb AMB 12 30 39.5
comp=Z,311nm,1.2s,mb6.2
SSP1 Stoney Pound 64.75 338 *e*P **P 12 30 32.0 -1.6**
SSP1 AMb AMB 12 30 35.8
comp=Z,193nm,1.6s,mb5.9
KWE Weaver Farm 64.79 340 *e*P **P 12 30 32.6 -1.2**
KBI1 Birley Grange 64.88 340 *e*P **P 12 30 34.0 -0.5**
RCBR Riachuelo 65.18 266 *e*P **P 12 30 37.7 +0.6**
comp=Z,612nm,1.4s,mb6.4
RCBR LR LR
comp=Z,83µm,22.0s,MS6.9
SBD1 Bryn Du 65.20 339 *e*P **P 12 30 35.6 -0.9**
SBD1 AMb AMB 12 30 39.1
comp=Z,373nm,1.8s,mb6.1
LHO Holmfirth 65.23 340 *e*P **P 12 30 34.5 -2.2**
AAA Alma-Ata 65.23 36 *e*P **P 12 30 34.0 -2.9**
AAA *e*S S 12 39 20.0 +2.1
AAA pmax pmax
comp=Z,6µm,9.0s
AAA smax
comp=E,9µm,15.0s
AAA Alma-Ata 65.23 36 *i* Pr 12 30 34.4
MAW Mawson 65.26 167 P **P 12 30 35.6 -1.1**
comp=E,18nm,0.7s,mb5.2,baz=317,slow=5.9,SNR=14
MAW S S 12 39 22.1 +4.3
comp=E,11nm,1.0s,baz=13,slow=8.9,SNR=2.4
MAW LR LR 12 58 46.2
comp=E,21µm,18.2s,MS6.4,baz=331,slow=36
MAW PKP2bc 12 59 22.7
comp=E,23nm,1.3s,baz=134,slow=8.3,SNR=2.6
MAW Mawson 65.26 167⇑ *i*P **P 12 30 35.8 -0.8**
MAW *e**PP pP 12 30 42.9 +1.3
MAW pmax pmax
comp=Z,312nm,1.5s
MAW Mawson 65.26 167⇑ *i*P **P 12 30 35.8 -0.8**
comp=Z,312nm,1.5s,mb6.1
MAW *e*pP pP 12 30 42.9 +1.3
NVL N'lazarevskaya 65.45 186⇑ *i*P **P 12 30 38.8 +1.0**
NVL *e**PP pP 12 30 43.7 +0.9
NVL *e**SP sP 12 30 45.6 +1.1
NVL *e* 12 31 16.4
NVL *e* 12 40 34.4
NVL *e*SS SS 12 43 41.2 +5.8
NVL pmax pmax
comp=Z,350nm,1.5s,mb6.2
MAIT Maitri 65.47 186 *e*P **P 12 30 26.5 -11**
MAIT *e*S S 12 39 23.4 +3.0
WPM1 Penmaenmawr 65.72 339 *e*P **P 12 30 40.2 +0.4**
YLL Llanberis 65.72 338 *e*P **P 12 30 40.4 +0.5**
PUL Pulkovo 65.80 0 *i* P **P 12 30 39.8 -0.4**
PUL *i* PPP PPP 12 34 46.6 +4.4
PUL *i* S S 12 39 29.4 +4.8
PUL *i* SS SS 12 43 38.9 -1.9
PUL pmax pmax
comp=Z,263nm,1.0s,mb6.2
PUL pmax pmax
comp=N,650nm,1.3s
PUL pmax pmax
comp=E,154nm,0.8s
PUL smax
comp=E,13µm,15.6s
PUL smax
comp=Z,3µm,13.6s
PUL smax
comp=N,4µm,12.6s
PUL Pulkovo 65.80 0⇓ *e*P **P 12 30 39.0 -1.2**

WLF1 Llynfaes 65.92 338 *e*P **P 12 30 41.1 0.0**
WME Myndd Eilian 65.97 338 *e*P **P 12 30 40.8 -0.6**
GTK Gangtok 65.98 57 *ex* x 12 30 25.0
DSB Dublin 66.63 337 *e*P **P 12 30 46.0 +0.4**
comp=N,243nm,1.3s,mb6.1
WIM Isle of Man 66.70 339 *e*P **P 12 30 46.6 +0.5**
DLF Lyons Farm 66.73 337⇑ *i*P **P 12 30 46.8 +0.5**
PSMN Pico do Norte, 66.76 315 *e*P pP 12 31 00.0 +8.3
ARU Arti 66.81 17⇓ *i*P **P 12 30 45.2 -1.5**
ARU *e* 12 31 10.6
ARU *e*PPP PPP 12 34 48.3 -4.1
ARU *e*S S 12 39 36.7 -0.2
ARU *e*SS SS 12 43 54.4 -2.4
ARU pmax pmax
comp=Z,493nm,1.3s,mb6.4
ARU MLR MLR
comp=E,56µm,20.0s,MS6.9
ARU MLR MLR
comp=Z,79µm,20.0s,MS6.9
ARU MLR MLR
comp=N,31µm,17.0s,MS6.9
ARU Arti 66.81 17 *i* Pr 12 30 45.1
SNART Snartemo 66.87 347 *e*P **P 12 30 48.2 +1.1**
SNART AMb AMB 12 30 54.5
comp=Z,353nm,1.4s,mb6.2
SNART Snartemo 66.87 347 *e*P **P 12 30 48.2 +1.1**
comp=Z,353nm,1.4s,mb6.2
ECK Cauldkaine Hil 67.00 340 *e*P **P 12 30 47.7 -0.2**
ECK AMb AMB 12 30 55.2
comp=Z,467nm,1.6s,mb6.3
DCN Croghan 67.05 337⇑ *i*P **P 12 30 49.0 +0.7**
AGT Agartala 67.06 61 *ex* x 12 30 53.0
AGT *ex* x 12 31 33.0
EKA Eskdalemuir Ar 67.13 340 P **P 12 30 48.4 -0.4**
comp=Z,34nm,0.7s,mb5.5,baz=122,slow=6.3,SNR=35
VAL Valentia 67.22 334 *e*P **P 12 30 49.0 -0.4**
VAL *i* S S 12 39 46.8 +4.8
GAL1 Galloway 67.29 339 *e*P **P 12 30 49.5 -0.3**
KLMR Klimovskoe 67.33 5*d i*P **P 12 30 48.3 -1.7**
KLMR *i* 12 33 15.4
KLMR *i* S S 12 39 43.9 +0.8
KLMR *i* SS SS 12 44 05.0 +0.2
KLMR pmax pmax
comp=Z,770nm,0.9s,mb6.7
KLMR smax
comp=E,10µm,10.4s
HFS Hagfors 67.37 351 P **P 12 30 48.7 -1.5**
comp=E,165nm,1.1s,mb6.0,baz=166,slow=6.1,SNR=39
HFS S S 12 39 46.4 +2.9
comp=E,9.9nm,1.0s,baz=128,slow=16,SNR=2.5
VIF Vila Franca 67.37 315 *e*P **P 12 30 54.2 +3.6**
comp=E,380nm,1.6s,mb6.2
PRCH Ribeira Ch 67.39 315 *e*P **P 12 30 54.2 +3.5**
comp=E,474nm,1.4s,mb6.3
LFA Lagoa do Fogo 67.41 315 *e*P **P 12 30 52.9 +2.0**
PVER Pico Vermelho 67.44 315 *e*P **P 12 30 52.7 +1.6**
comp=E,479nm,1.3s,mb6.4
EBL Broad Law 67.45 341 *e*P **P 12 30 48.9 -1.9**
EBL AMb AMB 12 30 58.3
comp=Z,411nm,1.6s,mb6.2
CML Cha da Macela 67.45 315 *e*P **P 12 30 53.5 +2.3**
PDA Ponta Delgada 67.52 315 *i* P **P 12 30 53.2 +1.6**
PDA Ponta Delgada 67.52 315 *e*PP PP 12 33 26.0 +3.6
PDA *e*S S 12 40 07.0 +21
PDA *i* SS SS 12 44 26.0 +18
PDA *i* LR LR 12 51 07.6
FINES FINESS Array B 67.54 358 P **P 12 30 50.1 -1.2**
comp=Z,22nm,0.5s,mb5.5,baz=150,slow=3.3,SNR=52
FINES S S 12 39 43.6 -2.0
comp=Z,7.2nm,1.1s,baz=31,slow=11,SNR=2.0
FINES LR LR 13 05 51.8
comp=Z,64µm,18.2s,MS6.9,baz=358,slow=41
FINES FINESS Array B 67.54 358 P **P 12 30 50.1 -1.2**
FINES S S 12 39 43.6 -2.0
FINES LR LR 13 05 51.8
KONO Kongsberg 67.60 349⇓ *i*P **P 12 30 49.8 -1.9**
KONO *e*PP PP 12 33 22.0 -0.6
KONO *e*S S 12 39 50.2 +3.9
EDI Edinburgh 67.62 341 *e*P **P 12 30 47.6 -4.3**
EDI AMb AMB 12 30 58.6
comp=Z,678nm,1.4s,mb6.5
EDI *e*S S 12 39 47.1 +0.4
EDI AMS AMS 12 59 59.5
comp=Z,89µm,20.9s,MS7.0
EAU Auchinoon 67.64 341 *e*P **P 12 30 52.5 +0.5**
EAU AMb AMB 12 30 59.6
comp=Z,597nm,1.6s,mb6.4
OSL Oslo 67.66 350 *e*P **P 12 30 51.4 -0.6**
OSL AMb AMB 12 30 58.4
comp=Z,592nm,1.6s,mb6.4
OSL Oslo 67.66 350 *e*P **P 12 30 51.4 -0.6**
comp=Z,592nm,1.6s,mb6.4
SVE Sverdlovsk 67.76 18⇓ *i*P **P 12 30 51.3 -1.4**
SVE *e* 12 31 16.0
SVE *e*PPP PPP 12 35 00.0 -1.1
SVE *e*S S 12 39 48.0 -0.3
SVE *e*SS SS 12 44 08.0 -3.3
SVE pmax pmax
comp=Z,476nm,2.0s,mb6.2
SVE pmax pmax
comp=N,2µm,10.0s
SVE pmax pmax
comp=E,1µm,10.0s
SVE pmax pmax
comp=Z,6µm,10.0s
GCL Cushendall 67.96 339 *e*P **P 12 30 53.5 -0.6**
GMK Mull of Kintyr 67.98 339 *e*P **P 12 30 52.8 -1.3**
BLS5 Blasjo 68.02 347 *e*P **P 12 30 55.7 +1.3**
BLS5 AMb AMB 12 31 10.0
comp=Z,254nm,1.5s,mb6.0
BLS5 Blasjo 68.02 347 *e*P **P 12 30 55.7 +1.3**
comp=Z,254nm,1.5s,mb6.0
KMY Karmoy 68.10 347 *e*P **P 12 30 54.5 -0.3**
KMY AMb AMB 12 31 10.2
comp=Z,585nm,1.4s,mb6.4
KMY Karmoy 68.10 347 *e*P **P 12 30 54.5 -0.3**
comp=Z,585nm,1.4s,mb6.4
KAF Kangasniemi 68.20 358 *e*p **P 12 30 54.0 -1.4**
comp=Z,92nm,0.8s,mb5.9,baz=177,slow=6.0
KAF Kangasniemi 68.20 358 *e*P **P 12 30 54.0 -1.4**
KAF pmax pmax
comp=Z,92nm,0.8s,mb5.9
EAB Aberfoyle 68.22 340 *e*P **P 12 30 53.7 -1.9**
EAB AMb AMB 12 31 11.6
comp=Z,338nm,1.8s,mb6.1
BRVK Borovoye 68.31 25 *i* P **P 12 30 54.5 -1.8**
BRVK Borovoye 68.31 25 *i* Pr 12 30 54.5
BVA0 Borovoye Array 68.34 25 P **P 12 30 55.2 -1.2**
BVA0 pmax pmax
comp=Z,72nm,1.5s,mb5.5
BVAR Borovoye Array 68.34 25 P **P 12 30 55.2 -1.2**
comp=Z,25nm,0.8s,mb5.3,baz=207,slow=3.3,SNR=93
BVAR PP PP 12 33 26.0 -3.4
comp=Z,18nm,0.9s,baz=225,slow=4.1,SNR=2.8
BVAR S S 12 39 50.5 -4.8
comp=Z,18nm,1.2s,baz=225,slow=4.1,SNR=2.7
BVAR PKP2bc 12 59 11.9
comp=Z,0.9nm,0.9s,baz=27,slow=3.2,SNR=3.3
BVAR Borovoye Array 68.34 25 P **P 12 30 55.2 -1.2**
BVAR PP PP 12 33 26.0 -3.4
BVAR S S 12 39 50.5 -4.8
BVAR ⇑ *e* 12 59 11.9
VOSK Vostochnaya 68.37 26 P **P 12 30 55.1 -1.5**
VOSK pmax pmax
comp=Z,1µm,2.3s,mb6.5
SNAA Sanae 68.43 191 P **P 12 30 56.6 -0.1**
comp=Z,18nm,1.2s,baz=52,slow=6.1,SNR=23
SNAA Sanae 68.43 191 *e*P **P 12 30 56.0 -0.7**
SNAA pmax pmax
comp=Z,793nm,1.6s
SNAA Sanae 68.43 191 *e*P **P 12 30 56.0 -0.7**
comp=Z,794nm,1.6s,mb6.5
ODD1 Odda 68.43 348⇑ *i*P **P 12 30 56.8 -0.1**
ODD1 AMb AMB 12 31 03.4
comp=Z,473nm,1.3s,mb6.3
ODD1 Odda 68.43 348⇑ *i*P **P 12 30 56.8 -0.1**
comp=Z,473nm,1.3s,mb6.4
NAO01 NORSAR Array S 68.49 350 *e*P **P 12 30 56.2 -1.0**
comp=Z,502nm,1.0s,mb6.5
NAO01 LR LR
comp=Z,25µm,22.0s,MS6.4
NB2 NORSAR Subarra 68.62 350 P **P 12 30 57.0 -1.0**
comp=Z,477nm,1.1s,mb6.3,baz=162,slow=5.8
NB2 NORSAR Subarra 68.62 350 P **P 12 30 57.0 -1.0**
baz=162,slow=5.9

NB2 NORSAR Subarra 68.62 350 P **P 12 30 57.0 -1.0**
NB2 pmax pmax
comp=Z,477nm,1.1s,mb6.3
NOA NORSAR Array B 68.62 350 P **P 12 30 56.5 -1.6**
comp=Z,261nm,1.1s,mb6.1,baz=162,slow=5.8,SNR=93
NOA S S 12 40 01.7 +3.3
comp=Z,4.2nm,0.9s,baz=159,slow=9.4,SNR=2.7
NOA LR LR 13 03 58.0
comp=Z,55µm,21.0s,MS6.8,baz=195,slow=39
CHKZ Chkalovo 68.90 25 *e*P **P 12 30 57.2 -2.7**
CHKZ pmax pmax
comp=Z,120nm,0.6s,mb6.0
CHKZ Chkalovo 68.90 25 *e*P **P 12 30 57.2 -2.7**
comp=Z,12nm,0.6s
LSA Lhasa 68.91 55 P **P 12 31 00.7 +0.4**
LSA PP PP 12 33 27.1 -7.8
LSA S S 12 40 02.3 -0.2
LSA AMB AMB
comp=Z,70nm,1.0s,mb5.5
LSA LR LR
comp=N,18µm,19.0s
LSA LR LR
comp=E,21µm,25.0s
LSA LR LR
comp=Z,42µm,23.0s,MS6.6
LSA Lhasa 68.91 55 *e*P **P 12 31 00.7 +0.4**
LSA *e* 12 33 32.3
LSA pmax pmax
comp=Z,866nm,1.5s,mb6.5
LSA MLR MLR
comp=Z,46µm,22.0s,MS6.7
LSA Lhasa 68.91 55 *e*P **P 12 31 00.7 +0.3**
comp=Z,866nm,1.5s,mb6.5
LSA *e*PP PP 12 33 32.3 -2.6
LSA LR LR
comp=Z,46µm,22.0s,MS6.7
JOF Joensuu 68.97 1 *e*p **P 12 30 58.6 -1.6**
RIB2 Ribeirinha 69.00 315 *e*P **P 12 31 04.0 +3.2**
comp=Z,454nm,1.4s,mb6.2
PVNV Vila Nova 69.03 316 *e*P **P 12 31 03.8 +2.8**
comp=Z,234nm,1.3s,mb6.0
ADH Angra Heroismo 69.04 315 *e*P **P 12 31 07.5 +6.5**
ADH Angra Heroismo 69.04 315 *i* PP PP 12 33 45.0 +9.1
ADH *i* S S 12 40 30.0 +26
ADH *e*SS SS 12 44 25.0 -6.8
ADH *i* LR LR 12 51 45.0
SOKR Solikamsk 69.05 14⇑ *i*P **P 12 30 59.9 -0.8**
SOKR *i* S S 12 39 56.0 -7.7
SOKR pmax pmax
comp=Z,159nm,2.0s,mb5.6
SOKR MLR MLR
comp=Z,37µm,17.0s,MS6.7
EGD Espegrend 69.06 347 *e*P **P 12 31 02.4 +1.6**
PPAD Pico dos Padre 69.10 315 *e*P **P 12 31 03.8 +2.4**
comp=Z,212nm,1.3s,mb5.9
PBIS Biscoitos 69.10 315 *e*P **P 12 31 03.9 +2.5**
comp=Z,302nm,1.1s,mb6.1
ASBA Santa Barbara 69.13 315 *e*P **P 12 31 03.7 +2.1**
comp=Z,324nm,1.3s,mb6.1
BER Bergen 69.14 347⇓ *i*P **P 12 31 01.2 0.0**
BER *e*P 12 31 01.6
BER AMb AMB 12 31 16.0
comp=Z,680nm,2.3s,mb6.2
BER AMb AMB 12 31 18.2
comp=Z,670nm,1.6s,mb6.3
BER *e* 12 40 07.9
BER AMS AMS 13 04 27.1
comp=Z,66µm,19.0s,MS6.9
BER Bergen 69.14 347⇓ *i*P **P 12 31 01.2 0.0**
BER pmax pmax
comp=Z,680nm,2.3s,mb6.2
BER Bergen 69.14 347⇓ *i*P **P 12 31 01.2 0.0**
comp=Z,680nm,2.3s,mb6.2
CAM3 Guarapari 69.32 250 *e*P **P 12 31 14.6 +12**
CAM3 *i* pP 12 31 19.5 +12
CAM3 *i* 12 31 28.9
CAM3 *i* 12 31 38.0
CAM3 *i* 12 31 57.9
IMP Imphal 69.66 61 *e*P **P 12 31 06.0 +0.9**
PAMA Santo Amaro 69.71 315 *e*P pP 12 31 18.7 +8.6
comp=Z,256nm,1.5s
PSI Prapat 69.72 85 P **P 12 31 04.1 -1.4**
comp=Z,31nm,1.0s,mb5.2,baz=252,slow=9.1,SNR=7.9
PSI S S 12 40 13.3 +1.1
comp=Z,4.8nm,0.8s,baz=101,slow=7.3,SNR=5.3
PSI LR LR 12 56 46.5
comp=Z,61µm,20.6s,MS6.8,baz=260,slow=32
PSI PKPPKP 12 59 10.7
comp=Z,7.4nm,1.1s,baz=165,slow=2.0,SNR=6.9
PBOI Pico dos Bois 69.74 315 *e*P **P 12 31 11.4 +6.1**
comp=Z,223nm,1.4s,mb5.9
STGR Santa Cruz 69.77 315 *e*P **P 12 31 12.3 +6.9**
comp=Z,262nm,1.2s,mb6.0
PVIA Vitoria 69.79 315 *e*P **P 12 31 12.0 +6.4**
comp=Z,181nm,1.4s,mb5.8
PCND Candelaria 69.82 315 *e*P **P 12 31 11.7 +5.9**
comp=Z,305nm,1.4s,mb6.0
SUE Sulen 69.87 347 *e*P **P 12 31 06.5 +0.9**
SUE AMb AMB 12 31 12.9
comp=Z,511nm,1.5s,mb6.2
SUE Sulen 69.87 347 *e*P **P 12 31 06.5 +0.9**
comp=Z,511nm,1.5s,mb6.2
DOMB Dombas 69.92 350 *e*P **P 12 31 07.0 +1.0**
DOMB AMb AMB 12 31 22.9
comp=Z,587nm,1.3s,mb6.3
DOMB Dombas 69.92 350 *e*P **P 12 31 07.0 +1.0**
comp=Z,587nm,1.3s,mb6.3
PTCA Ponta do Capel 70.11 315 *e*P **P 12 31 14.8 +7.3**
comp=Z,224nm,1.1s,mb6.0
FOO Floro 70.29 348⇑ *i*P **P 12 31 08.8 +0.6**
FOO AMb AMB 12 31 15.3
comp=Z,439nm,1.4s,mb6.2
FOO Floro 70.29 348⇑ *i*P **P 12 31 08.8 +0.6**
comp=Z,439nm,1.4s,mb6.2
MKAR Makanchi Array 70.35 35 P **P 12 31 08.1 -0.7**
comp=Z,27nm,0.8s,mb5.2,baz=236,slow=6.1,SNR=65
MKAR PKP2bc 12 59 12.3
comp=Z,2.8nm,1.1s,baz=18,slow=3.8,SNR=5.1
MKAR LR LR 13 05 05.0
comp=Z,88µm,19.8s,MS7.0,baz=254,slow=39
MKAR Makanchi Array 70.35 35 *i* P **P 12 31 08.1 -0.7**
MKAR pmax pmax
comp=Z,27nm,0.8s
MKAR Makanchi Array 70.35 35 P **P 12 31 08.1 -0.7**
MKAR ⇑ *e* 12 59 12.3
MKAR LR LR 13 05 05.0
LRW Lerwick 70.51 344 *e*P **P 12 31 07.0 -2.6**
LRW *e*S S 12 40 21.1 +0.3
LRW AMS AMS 13 07 39.8
comp=Z,42µm,16.3s,MS6.8
KURK Kurchatov 70.62 31*d i*P **P 12 31 09.3 -1.1**
MOL Molde 70.69 349 *e*P **P 12 31 10.9 +0.3**
MOL AMb AMB 12 31 18.2
comp=Z,871nm,1.6s,mb6.4
MOL Molde 70.69 349 *e*P **P 12 31 10.9 +0.3**
comp=Z,871nm,1.6s,mb6.4
CAM4 Nova Friburgo 71.25 249 *e*P **P 12 31 14.6 -0.1**
CAM4 *i* 12 31 28.8
CAM4 *i* 12 31 38.0
CAM4 *i* 12 31 57.8
KULM Kulim 71.76 82 *e*P **P 12 31 19.2 +1.3**
NSS Namsos 71.81 352⇓ *i*P **P 12 31 15.6 -1.8**
NSS AMb AMB 12 31 33.5
comp=Z,1µm,1.8s,mb6.5
NSS AMS AMS 13 06 41.7
comp=Z,70nm,23.4s,MS6.9
NSS Namsos 71.81 352⇓ *i*P **P 12 31 15.6 -1.8**
comp=Z,1µm,1.8s,mb6.5
IPM Ipoh 72.02 83 P **P 12 31 23.7 +4.2**
WMQ Urumqi 72.14 40 P **P 12 31 19.1 -0.6**
WMQ AP pP 12 31 23.8 -0.9
WMQ XP sP 12 31 26.1 -0.3
WMQ PCP PcP 12 31 37.6 -0.7
WMQ PP PP 12 34 01.3 -0.5
WMQ PPP PPP 12 35 43.5 -0.4
WMQ S S 12 40 40.0 +0.1
WMQ SCS ScS 12 41 21.3 -0.4
WMQ AMB AMB
comp=Z,350nm,1.2s,mb6.2
WMQ AMB AMB
comp=Z,7µm,6.0s
WMQ LR LR
comp=N,123µm,22.6s,MS7.2
WMQ LR LR
comp=E,56µm,21.4s,MS7.2

WMQ LR LR
comp=Z,70µm,21.0s,MS6.9
MOR8 Moi Rana 73.08 354 *e*P **P 12 31 24.3 -0.5**
MOR8 AMb AMB 12 31 39.9
comp=Z,471nm,1.8s,mb6.1
MOR8 Moi Rana 73.08 354 *e*P **P 12 31 24.3 -0.5**
comp=Z,471nm,1.8s,mb6.1
APA Apatity 73.68 1⇓*i*P **P 12 31 27.6 -0.7**
APA *i* 12 31 41.0
APA *i* S S 12 41 02.0 +5.1
APA *i* SS SS 12 45 40.0 -2.8
APA pmax pmax
comp=Z,620nm,1.4s,mb6.3
APA pmax pmax
comp=Z,10µm,14.0s
MIR Mirnyy 73.89 158 *e*P **P 12 31 34.0 +4.5**
MIR *e* 12 34 16.0
MIR *e*S S 12 41 08.0 +8.8
MIR pmax pmax
comp=Z,6µm,7.0s
MIR pmax pmax
comp=N,900nm,5.2s
MIR pmax pmax
comp=E,2µm,6.8s
MIR smax
comp=E,5µm,18.0s
MIR smax
comp=N,4µm,16.0s
KGM Kluang 73.97 86 P **P 12 31 37.6 +6.5**
LVZ Lovozero 74.05 2*d i*P **P 12 31 29.9 -0.5**
LVZ *i* 12 34 23.7
LVZ *i* PPP PPP 12 35 59.8 -2.7
LVZ *i* S S 12 41 02.0 +1.0
LVZ *i* SS SS 12 45 42.8 -5.5
LVZ pmax pmax
comp=Z,246nm,1.4s,mb5.9
LVZ pmax pmax
comp=N,23nm,0.9s
LVZ pmax pmax
comp=E,23nm,0.9s
LVZ smax
comp=E,10µm,15.6s
LVZ smax
comp=Z,2µm,17.4s
LVZ smax
comp=N,2µm,12.6s
LVZ Lovozero 74.05 2 *i* Pr 12 31 30.0
LOF Lofoten 75.07 354⇑*i*P **P 12 31 38.7 +2.4**
LOF AMb AMB 12 31 53.2
comp=Z,611nm,1.6s,mb6.3
LOF Lofoten 75.07 354⇑*i*P **P 12 31 38.7 +2.4**
comp=Z,611nm,1.6s,mb6.3
KTK1 Kautokeino 75.22 358 *e*P **P 12 31 37.4 +0.2**
KTK1 AMb AMB 12 31 45.3
comp=Z,672nm,1.4s,mb6.4
KTK1 Kautokeino 75.22 358 *e*P **P 12 31 37.4 +0.2**
comp=Z,672nm,1.4s,mb6.4
NVS Novosibirsk 75.31 29⇑*i*P **P 12 31 37.0 -0.9**
NVS *e* 12 34 24.9
NVS *e*S S 12 41 24.6 +9.3
NVS pmax pmax
comp=N,1µm,1.8s
NVS pmax pmax
comp=Z,2µm,1.8s,mb6.8
NVS pmax pmax
comp=E,502nm,1.9s
NVS pmax pmax
comp=Z,718nm,3.0s
NVS pmax pmax
comp=N,402nm,2.6s
NVS pmax pmax
comp=E,319nm,2.6s
NVS smax
comp=N,75nm,2.0s
NVS smax
comp=E,98nm,2.0s
ZAL Zalesovo 75.58 30 P **P 12 31 38.3 -1.1**
comp=E,16nm,0.9s,baz=218,slow=5.1,SNR=66
ZAL PP PP 12 34 27.9 -3.0
comp=E,17nm,1.0s,baz=276,slow=9.8,SNR=2.0
ZAL S S 12 41 22.0 +3.7
comp=E,2.2nm,0.9s,baz=244,slow=12,SNR=2.0
ZAL LR LR 13 08 41.9
comp=E,90µm,18.6s,MS7.1,baz=237,slow=39
ZAL Zalesovo 75.58 30 P **P 12 31 38.3 -1.1**
ZAL PP PP 12 34 27.9 -3.0
ZAL S S 12 41 22.0 +3.7
ZAL LR LR 13 08 41.9
ARCES ARCESS Array B 75.66 358 P **P 12 31 39.0 -0.6**
comp=E,68nm,0.8s,mb5.7,baz=180,slow=6.1,SNR=92
ARCES LR LR 13 11 20.5
comp=E,78µm,18.2s,MS7.0,baz=188,slow=41
ARE0 ARCESS Array S 75.66 358 *e*P **P 12 31 39.1 -0.6**
KEV Kevo 75.85 359 *e*p **P 12 31 40.1 -0.6**
TRO Tromso 76.07 356⇓*i*P **P 12 31 40.1 -1.8**
TRO AMb AMB 12 31 57.5
comp=Z,639nm,0.8s,mb6.6
TRO AMS AMS 13 11 04.2
comp=Z,58µm,18.4s,MS6.9
TRO Tromso 76.07 356⇓*i*P **P 12 31 40.1 -1.8**
comp=Z,639nm,0.8s,mb6.6
BAO Brasilia Array 76.50 255 P **P 12 31 42.2 -3.2**
BDFB Brasilia 76.52 255 P **P 12 31 45.7 +0.1**
comp=Z,53nm,0.9s,mb5.5,baz=85,slow=6.6,SNR=19
BDFB S S 12 41 29.9 +0.5
comp=Z,23nm,1.2s,baz=97,slow=4.3,SNR=2.4
BDFB LR LR 13 02 39.6
comp=Z,55µm,19.2s,MS6.9,baz=112,slow=34
BDFB Brasilia 76.52 255 P **P 12 31 45.7 +0.1**
BDFB S S 12 41 29.9 +0.5
BDFB LR LR 13 02 39.6
KMI Kunming 77.47 63⇓P **P 12 31 50.6 -0.1**
KMI AP pP 12 31 54.7 -1.0
KMI PP PP 12 34 48.0 +0.8
KMI S S 12 41 42.0 +2.6
KMI XS 12 41 48.7
KMI SKS SKS 12 41 59.1 -5.1
KMI SCS ScS 12 42 06.4 +1.5
KMI AMB AMB
comp=Z,250nm,2.0s,mb5.8
KMI AMB AMB
comp=Z,5µm,8.5s
KMI LR LR
comp=N,14µm,19.9s,MS6.5
KMI LR LR
comp=E,17µm,19.3s,MS6.5
KMI LR LR
comp=Z,20µm,18.3s,MS6.5
GTA Gaotai 78.85 48⇓P **P 12 31 57.9 0.0**
GTA AP pP 12 32 02.0 -1.0
GTA XP sP 12 32 04.6 -0.1
GTA PP PP 12 34 57.3 -1.1
GTA S S 12 41 53.3 -0.7
GTA XS 12 42 00.9
GTA SKS SKS 12 42 07.4 -6.3
GTA AMB AMB
comp=Z,5µm,8.0s
GTA LR LR
comp=N,42µm,17.5s,MS7.0
GTA LR LR
comp=E,34µm,16.0s,MS7.0
GTA LR LR
comp=Z,36µm,19.0s,MS6.7
CD2 Chengdu 79.68 57⇑*i*P **P 12 32 03.2 +0.6**
CD2 PP PP 12 35 04.4 -0.8
CD2 S S 12 42 04.8 +1.9
CD2 AMB AMB
comp=Z,110nm,1.2s,mb5.7
CD2 LR LR
comp=N,20µm,18.0s
CD2 LR LR
comp=Z,18µm,21.6s,MS6.4
BORG Borgarnes 80.17 340 P **P 12 32 06.8 +2.3**
comp=Z,52nm,1.1s,mb5.4,baz=227,slow=2.7,SNR=4.4
BORG LR LR 13 07 00.3
comp=Z,62µm,21.3s,MS6.9,baz=139,slow=35
BORG Borgarnes 80.17 340 P **P 12 32 06.8 +2.3**
BORG LR LR 13 07 00.3
CASY Casey 80.64 156 *e*P **P 12 32 07.5 +0.5**
KSM Kuching 80.85 88 *e*P **P 12 32 10.1 +1.0**
KSM *e*PcP PcP 12 32 16.9 +0.7
KSM *e*PP PP 12 35 14.9 -0.9
BJO Bjornoya 80.86 357⇓*i*P Px 12 32 21.9
BJO AMb AMB 12 32 39.4
comp=Z,898nm,1.7s,mb6.4
BJO AMS AMS 13 11 40.7
comp=Z,47µm,19.5s,MS6.8
LZH Lanzhou 81.00 52⇓P **P 12 32 10.0 +0.5**
LZH AP pP 12 32 13.2 -1.4
LZH S S 12 42 18.5 +1.9
LZH SKS SKS 12 42 23.3 -5.8
LZH XS 12 42 25.8
LZH AMB AMB
comp=Z,640nm,1.1s,mb6.5
LZH AMB AMB
comp=Z,6µm,7.4s
LZH LR LR
comp=N,46µm,16.5s
LZH LR LR
comp=Z,47µm,18.5s,MS6.9
JMIC Jan Mayen 81.14 348 P **P 12 32 11.2 +1.6**
comp=Z,40nm,0.4s,mb5.8,baz=157,slow=6.6,SNR=2.7
JMIC Jan Mayen 81.14 348 *e*P **P 12 32 10.8 +1.2**
JMIC AMb AMB 12 32 28.9
comp=Z,1µm,2.1s,mb6.4
JMIC AMS AMS 13 13 58.6
comp=Z,40µm,18.8s,MS6.8
JMIC Jan Mayen 81.14 348 *e*P **P 12 32 10.8 +1.2**
comp=Z,1µm,2.1s,mb6.4
JMIC LR LR
comp=Z,40353µm,18.8s
GYA Guiyang 81.21 62⇓*i*P **P 12 32 11.1 +0.3**
GYA AP pP 12 32 15.8 -0.1
GYA XP sP 12 32 18.4 +0.9
GYA PP PP 12 35 18.1 -0.5
GYA S S 12 42 18.6 -0.3
GYA SKS SKS 12 42 24.7 -6.1
GYA AMB AMB
comp=Z,410nm,1.1s,mb6.3
GYA AMB AMB
comp=Z,5µm,8.1s
GYA LR LR
comp=N,15µm,19.5s,MS6.6
GYA LR LR
comp=E,24µm,20.1s,MS6.6
GYA LR LR
comp=Z,18µm,19.2s,MS6.5
QIZ Qiongzhong 82.78 70 P **P 12 32 19.8 +0.7**
QIZ XP sP 12 32 27.0 +1.2
QIZ S S 12 42 38.3 +3.2
QIZ AMB AMB
comp=Z,4µm,10.1s
QIZ LR LR
comp=E,19µm,18.9s
QIZ LR LR
comp=Z,26µm,19.6s,MS6.6
QIZ Qiongzhong 82.78 70 *e*P **P 12 32 22.0 +2.9**
QIZ LR LR
comp=Z,27µm,20.0s,MS6.6
MOY Mondy 83.46 36 *e*P **P 12 32 23.5 +1.5**
MOY pmax pmax
comp=Z,1µm,2.2s,mb6.6
HSP Hornsund 83.52 357 P **P 12 32 23.9 +2.2**
HSP Hornsund 83.52 357 *e*P **P 12 32 23.9 +2.2**
MUN Mundaring 83.79 121 *e*P **P 12 32 28.8 +4.6**
QSPA South Pole Qui 83.83 180 PFAKE 12 32 40.0 +17
QSPA LR LR
comp=Z,30µm,20.0s,MS6.7
SCO Scoresbysund 83.93 345⇓*i*P **P 12 32 24.8 +0.8**
comp=Z,120nm,1.5s,mb5.8
SCO Scoresbysund 83.93 345⇓*i*P **P 12 32 24.8 +0.8**
SCO pmax pmax
comp=Z,1µm,1.5s,mb6.8
ENH Enshi 84.37 59 *e*P **P 12 32 26.8 -0.3**
comp=Z,1µm,1.9s,mb6.7
ENH *e*PcP PcP 12 32 33.4 +2.1
ENH *e*PP PP 12 35 41.8 -2.1
ENH LR LR
comp=Z,25µm,19.0s,MS6.6
ZAK Zakamensk 84.45 38 *e*P **P 12 32 28.1 +1.1**
ZAK pmax pmax
comp=Z,1µm,1.2s,mb6.8
LPA La Plata 84.52 236*de*P **P 12 32 28.0 +0.3**
LPA *e*PCP PcP 12 32 32.0 +0.1
LPA *e*PP PP 12 35 44.0 -1.0
LPA PKIKP 12 37 41.0
LPA *e*S S 12 42 53.0 +0.7
LPA *e*SKKS 12 42 56.0
comp=Z,77µm,21.0s
CPUP Villa Florida 84.60 244 *e*P **P 12 32 28.1 -0.2**
CPUP pmax pmax
comp=Z,570nm,0.8s
CPUP Villa Florida 84.60 244 *e*P **P 12 32 28.1 -0.2**
comp=Z,57nm,0.8s,mb5.8
NWAO Narrogin (SRO) 84.60 122 P **P 12 32 31.1 +2.9**
comp=Z,151nm,1.2s,mb6.0,baz=288,slow=2.0,SNR=6.7
NWAO Narrogin (SRO) 84.60 122 *e*P **P 12 32 29.7 +1.5**
NWAO *e* pP 12 32 33.6 +0.3
NWAO pmax pmax
comp=Z,530nm,1.4s
NWAO MLR MLR
comp=Z,22µm,20.0s
NWAO Narrogin (SRO) 84.60 122 *e*P **P 12 32 29.7 +1.5**
comp=Z,530nm,1.4s,mb6.5
NWAO *e*PcP PcP 12 32 33.6 +1.3
NWAO LR LR
comp=Z,22µm,20.0s,MS6.5
XAN Xi'an 84.61 55 P **P 12 32 28.4 +0.2**
XAN AP pP 12 32 34.2 +0.9
XAN PP PP 12 35 39.3 -6.4
XAN AMB AMB
comp=Z,4µm,10.0s
XAN LR LR
comp=N,32µm,20.3s,MS6.8
XAN LR LR
comp=E,36µm,22.4s,MS6.8
XAN LR LR
comp=Z,26µm,18.2s,MS6.7
KLBR Kellerberrin 85.13 121 *e*P **P 12 32 29.3 -1.6**
comp=Z,293nm,1.7s,mb6.1
IRK Irkutsk 85.57 36 *e*P **P 12 32 33.6 +1.1**
IRK pmax pmax
comp=Z,778nm,2.2s,mb6.5
KBS Kingsbay 85.58 357⇓*i*P **P 12 32 33.4 +1.4**
KBS AMb AMB 12 32 50.9
comp=Z,589nm,0.9s,mb6.8
KBS *e*PP PP 12 35 52.7 +0.2
KBS AMS AMS 13 14 32.8
comp=Z,25µm,18.7s,MS6.6
KBS Kingsbay 85.58 357*d i*P **P 12 32 33.2 +1.1**
KBS Kingsbay 85.58 357⇓*i*P **P 12 32 33.4 +1.4**
comp=Z,589nm,0.9s,mb6.8
KBS LR LR
comp=Z,25306µm,18.7s
SONM Songino Array 85.75 41 P **P 12 32 33.8 +0.2**
comp=Z,19nm,1.0s,mb5.3,baz=243,slow=2.5,SNR=64
SONM PP PP 12 35 53.2 -1.3
comp=Z,16nm,1.1s,baz=326,slow=5.2,SNR=2.8
SONM S S 12 43 05.2 +1.3
comp=Z,0.8nm,1.0s,baz=102,slow=26,SNR=2.1
SONM PKKPbc 12 50 34.8
comp=Z,1.4nm,0.9s,baz=135,slow=1.8,SNR=3.0
SONM PKPPKP 12 58 42.3
comp=Z,0.9nm,0.9s,baz=90,slow=1.5,SNR=4.5
SONM LR LR 13 15 37.3
comp=Z,88µm,18.3s,MS7.2,baz=276,slow=39
PMSA Palmer Station 85.99 205 *e*P **P 12 32 36.7 +2.3**
comp=Z,280nm,1.4s,mb6.3
PMSA LR LR
comp=Z,40µm,20.0s,MS6.8
ULN Ulaanbaatar 86.19 41 P **P 12 32 37.1 +1.4**
ULN pmax pmax
comp=Z,340nm,1.3s,mb6.4
ULN Ulaanbaatar 86.19 41 *e*P **P 12 32 36.9 +1.2**
comp=Z,343nm,1.4s,mb6.4
ULN LR LR
comp=Z,30µm,20.0s,MS6.7
GZH Guangzhou 86.62 66 P **P 12 32 42.5 +4.1**
GZH LR LR
comp=N,6µm,16.0s
GZH LR LR
comp=E,6µm,22.2s
GZH LR LR
comp=Z,20µm,19.0s,MS6.5
BTO Baotou 86.73 49 *e*P **P 12 32 40.1 +1.5**
BTO AMB AMB
comp=Z,120nm,1.8s,mb5.8
BTO LR LR
comp=N,2µm,4.1s
BTO LR LR
comp=E,7µm,9.6s
KKM Kota Kinabalu 87.22 84 P **P 12 32 41.8 +0.2**
KKM Kota Kinabalu 87.22 84 *e*P **P 12 32 42.8 +1.3**
HKC Hong Kong 87.27 67⇓*i*P **P 12 32 44.0 +2.4**
HKC *i* S S 12 43 26.0 +6.9
DAG Danmarks Havn 87.30 350⇑*i*P **P 12 32 40.0 -0.5**
comp=E,286nm,1.5s,mb6.3
comp=Z,54µm,18.0s
DAG Danmarks Havn 87.30 350⇑*e*P **P 12 32 40.0 -0.5**
DAG pmax pmax
comp=Z,290nm,1.5s,mb6.3
DAG MLR MLR
comp=Z,54µm,18.0s,MS7.0
DAG MLR MLR
comp=N,31µm,20.0s,MS6.9
DAG MLR MLR
comp=E,40µm,19.0s,MS6.9
DAG Danmarks Havn 87.30 350⇑*e*P **P 12 32 40.0 -0.5**
comp=E,286nm,1.5s,mb6.3
DAG LR LR
comp=Z,54µm,18.0s,MS7.0
TRQA Tornquist 87.50 232 *e*P **P 12 32 43.4 +1.1**
comp=Z,161nm,1.2s,mb6.1
TRQA *e*PP PP 12 36 07.7 -2.1
TRQA LR LR
comp=Z,51µm,20.0s,MS6.9
MBWA Marble Bar 87.83 111 PFAKE 12 33 00.0 +16
MBWA LR LR
comp=Z,24µm,20.0s,MS6.6
HHC Hu-ho-hao-te 87.93 49 *e*P **P 12 32 45.6 +1.3**
HHC AP pP 12 32 54.0 +4.6
HHC XP sP 12 32 57.1 +6.0
HHC PP PP 12 36 14.3 +1.2
HHC SKS SKS 12 43 09.3 -6.5
HHC S S 12 43 24.8 -0.1
HHC XS 12 43 37.8
HHC AMB AMB
comp=Z,50nm,1.6s,mb5.5
HHC AMB AMB
comp=Z,6µm,5.1s
HHC LR LR
comp=N,51µm,17.8s,MS7.0
HHC LR LR
comp=E,27µm,20.2s,MS7.0
HHC LR LR
comp=Z,39µm,17.8s,MS6.9
TIY Taiyuan 88.07 52⇑P **P 12 32 43.0 -2.1**
TIY LR LR
comp=N,31µm,17.0s
WHN Wuhan 88.56 59 PR 12 32 46.6
WHN PP PP 12 36 17.1 -1.3
WHN SKS SKS 12 43 14.6 -5.4
WHN S S 12 43 34.7 +3.6
WHN AMB AMB
comp=Z,7µm,9.2s
WHN LR LR
comp=N,23µm,18.7s,MS7.0
WHN LR LR
comp=E,48µm,20.4s,MS7.0
WHN LR LR
comp=Z,65µm,17.7s,MS7.1
TSM Tawau 88.67 86 P **P 12 32 54.2 +5.7**
SIV San Ignacio 89.03 254 P **P 12 32 50.4 +0.3**
comp=Z,45nm,1.0s,mb5.8,baz=109,slow=6.3,SNR=88
BATP Bataraza 89.09 81 *e*P **P 12 32 51.2 +0.7**
SUMG Summit 89.51 344 *e*P **P 12 32 51.5 +0.4**
comp=Z,204nm,1.0s,mb6.4
SUMG *e*PP PP 12 36 25.4 +0.3
USHA Ushuaia 89.61 215 P **P 12 32 53.9 +1.9**
comp=Z,50nm,1.1s,mb5.8,baz=49,slow=1.4,SNR=4.1
PPR Puerto Princes 90.11 80⇑*e*P **P 12 32 58.7 +3.4**
ENPP El Nido 90.94 79 *e*P **P 12 33 03.8 +4.7**
CIT Chita 91.11 38 *e*P **P 12 32 58.2 -0.8**
CIT *e* 12 36 31.0
CIT *e* 12 38 30.1
CIT pmax pmax
comp=Z,490nm,2.0s,mb6.5
TIA Tai'an 91.58 54 P **P 12 32 58.5 -3.1**
TIA LR LR
comp=N,15µm,17.0s,MS6.9
TIA LR LR
comp=E,34µm,16.0s,MS6.9
QZH Quanzhou 91.61 65 *i* PR **P 12 33 01.8 -0.2**
QZH PP PP 12 36 43.0 0.0
QZH SKS SKS 12 43 27.0 -11
QZH S S 12 43 58.0 -0.8
QZH AMB AMB
comp=Z,200nm,1.1s,mb6.4
QZH AMB AMB
comp=Z,4µm,6.5s
QZH LR LR
comp=N,53µm,19.8s,MS7.0
QZH LR LR
comp=E,25µm,21.2s,MS7.0
QZH LR LR
comp=Z,43µm,17.2s,MS7.0
BUSP Coron 91.78 78 *e*P **P 12 33 08.5 +5.5**
SAML Samuel 91.86 261 *e*P **P 12 33 03.1 -0.2**
comp=Z,233nm,1.3s,mb6.3
SAML LR LR
comp=Z,73µm,19.0s,MS7.1
SFJD Kangerlussuaq 91.92 337 P **P 12 33 01.3 -1.1**
comp=Z,33nm,1.2s,mb5.5,baz=292,slow=5.4,SNR=3.3
SFJD LR LR 13 14 45.7
comp=Z,85µm,20.0s,MS7.2,baz=86,slow=36
SFJD Kangerlussuaq 91.92 337 *i* P **P 12 33 04.1 +1.7**
comp=Z,82nm,1.2s,mb5.9
SFJD *i* 12 36 44.2
SFJD *i* S S 12 43 41.2 -19
SFJD *i* 12 44 17.1
comp=Z,54µm,17.0s
SFJD Kangerlussuaq 91.92 337 *i* P **P 12 33 04.1 +1.7**
SFJD *i* 12 36 44.2
SFJD pmax pmax
comp=Z,82nm,1.2s,mb5.9
SFJD MLR MLR
comp=Z,54µm,17.0s,MS7.1
DRV Dumont d'Urvil 92.21 158 P **P 12 33 07.0 +3.3**
BOD Bodaibo 92.21 32 *e*P **P 12 33 02.3 -1.6**
BOD pmax pmax
comp=Z,163nm,1.5s,mb6.1
VNDA Vanda 92.28 171 P **P 12 33 04.7 +0.9**
comp=Z,3.9nm,0.7s,baz=246,slow=7.4,SNR=6.9
VNDA LR LR 13 15 32.5
comp=Z,22µm,18.0s,MS6.6,baz=227,slow=36
VNDA Vanda 92.28 171 *e*P **P 12 33 05.2 +1.3**
VNDA pmax pmax
comp=Z,239nm,1.9s
VNDA MLR MLR
comp=Z,19µm,21.0s
VNDA Vanda 92.28 171 *e*P **P 12 33 05.2 +1.3**
comp=Z,239nm,1.9s,mb6.2
VNDA LR LR
comp=Z,19µm,21.0s,MS6.5
NJ2 Nanjing 92.57 58 *e*P **P 12 33 08.1 +1.9**
NJ2 AP pP 12 33 13.0 +1.7
NJ2 XP sP 12 33 16.4 +3.5
NJ2 PP PP 12 36 50.0 -0.5
NJ2 XS 12 44 20.0
NJ2 AMB AMB
comp=Z,100nm,1.3s,mb6.1
NJ2 AMB AMB
comp=Z,2µm,10.4s
NJ2 LR LR
comp=N,92µm,19.8s,MS7.3
NJ2 LR LR
comp=E,58µm,22.2s,MS7.3
NJ2 LR LR
comp=Z,18µm,21.2s,MS6.5
SBA Scott Base 92.79 172 *e*P **P 12 33 07.6 +1.4**
SBA *e* 12 36 55.0
SBA pmax pmax
comp=Z,485nm,1.9s,mb6.6
SBA MLR MLR
comp=Z,33µm,21.0s,MS6.8
SBA Scott Base 92.79 172 *e*P **P 12 33 07.6 +1.4**
comp=Z,485nm,1.9s,mb6.6
SBA *e*PP PP 12 36 55.0 +3.8
SBA LR LR
comp=Z,33µm,21.0s,MS6.8
CFAA Coronel Fontan 93.47 238 P **P 12 33 11.1 +0.7**
comp=Z,3.9nm,1.1s,baz=98,slow=5.4,SNR=23
PLCA Paso Flores 93.67 229 P **P 12 33 11.2 +0.2**
comp=Z,16nm,1.1s,mb5.3,baz=110,slow=6.3,SNR=9.9
PLCA PP PP 12 36 51.9 -7.2
comp=Z,8.8nm,0.9s,baz=85,slow=5.3,SNR=3.0
PLCA S S 12 43 52.5 -24

comp=Z,1.9nm,0.9s,baz=121,slow=7.9,SNR=1.7
PLCA LR LR 13 13 54.5
comp=Z,42µm,18.0s,MS6.9,baz=93,slow=35
PLCA Paso Flores 93.67 229 P **P 12 33 12.9 +1.9**
PLCA pmax pmax
comp=Z,290nm,1.9s
PLCA Paso Flores 93.67 229 *eP* **P 12 33 12.7 +1.6**
comp=Z,286nm,1.9s,mb6.4
PLCA LR LR
comp=Z,41µm,19.0s,MS6.9
FITZ Fitzroy Crossi 93.72 109 P **P 12 33 10.7 -1.1**
comp=Z,11nm,0.8s,mb5.3,baz=253,slow=6.0,SNR=21
FORT Forrest 94.00 121 *eP* **P 12 33 14.1 +1.3**
comp=Z,92nm,0.9s,mb6.2
YHNB Yeheng 94.10 66 *eP* **P 12 33 13.9 +0.5**
TATO Taipei 94.23 65 PFAKE 12 33 30.0 +16
TATO LR LR
comp=Z,20µm,20.0s,MS6.6
NACB Ninganchiao 94.26 66 *eP* **P 12 33 22.2 +8.0**
SSE Sheshan 94.47 59 *eP* **P 12 33 15.6 +0.6**
SSE PCP PcP 12 33 16.0 +0.3
SSE PP PP 12 37 02.6 -2.6
SSE S S 12 44 26.8 +3.3
SSE XS 12 44 33.6
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.8
SSE AMB AMB
comp=Z,2µm,8.2s
SSE LR LR
comp=N,23µm,19.4s,MS6.8
SSE LR LR
comp=E,18µm,19.4s,MS6.8
SSE LR LR
comp=Z,19µm,20.4s,MS6.6
HIA Hailar 94.72 41 *eP* **P 12 33 17.0 +1.3**
HIA pmax pmax
comp=Z,166nm,1.4s
HIA MLR MLR
comp=Z,85µm,20.0s
HIA Hailar 94.72 41 *eP* **P 12 33 17.0 +1.3**
comp=Z,166nm,1.4s,mb6.3
HIA LR LR
comp=Z,85µm,20.0s,MS7.2
FCH Farellones 94.88 236 *eP* **P 12 33 19.2 +2.4**
TBP Tagbilaran 95.14 81 *eP* **P 12 33 20.5 +2.1**
DL2 Dalian 95.39 52 *i* PR **P 12 33 18.4 -0.6**
DL2 SKS SKS 12 43 51.4 -7.6
DL2 S S 12 44 32.5 +1.4
DL2 PS PS 12 45 58.8 +2.4
DL2 SS SS 12 50 57.0 -5.7
DL2 AMB AMB
comp=Z,60nm,1.1s,mb5.9
DL2 AMB AMB
comp=Z,750nm,7.2s
DL2 LR LR
comp=N,13µm,15.7s,MS6.6
DL2 LR LR
comp=E,10µm,16.3s,MS6.6
DL2 LR LR
comp=Z,17µm,17.4s,MS6.6
LPAZ La Paz 95.72 253 P **P 12 33 21.3 +0.3**
comp=Z,13nm,1.0s,mb5.3,baz=92,slow=6.0,SNR=14
LPAZ S 12 43 59.0
comp=Z,1.3nm,0.8s,baz=132,slow=17,SNR=1.8
LPAZ LR LR 13 17 11.5
comp=Z,31µm,18.2s,MS6.8,baz=86,slow=36
LPAZ La Paz 95.72 253 *eP* **P 12 33 22.1 +1.1**
LPAZ pmax pmax
comp=Z,251nm,1.3s
LPAZ MLR MLR
comp=Z,31µm,21.0s
LPAZ La Paz 95.72 253 *eP* **P 12 33 22.1 +1.1**
comp=Z,251nm,1.3s,mb6.5
LPAZ LR LR
comp=Z,31µm,21.0s,MS6.8
TLL Tololo Astrono 95.89 239 *eP* **P 12 33 20.4 -1.1**
MSLP Maasin 96.16 80 *eP* **P 12 33 29.9 +6.9**
DAV Davao City (W) 96.58 84 PFAKE 12 33 40.0 +15
DAV LR LR
comp=Z,6µm,20.0s,MS6.1
BBSR BB Station 96.99 302 PFAKE 12 33 40.0 +14
BBSR LR LR
comp=Z,129µm,20.0s,MS7.4
SNY Shenyang 97.02 49 ||P **P 12 33 25.3 -1.0**
SNY PP PP 12 37 20.6 -4.2
SNY SKS SKS 12 44 00.3 -7.3
SNY AMB AMB
comp=Z,40nm,2.1s,mb5.5
SNY LR LR
comp=E,46µm,20.2s
SNY LR LR
comp=Z,57µm,21.0s,MS7.0
SJG San Juan 97.44 287 LR LR 13 12 55.4
comp=Z,116µm,20.5s,MS7.3,baz=96,slow=33
SJG San Juan 97.44 287 PFAKE 12 33 40.0 +11
SJG LR LR
comp=Z,100µm,20.0s,MS7.3
CLNS Chul'man 98.04 34 *eP* **P 12 33 27.4 -3.1**
CLNS pmax pmax
comp=Z,29nm,1.5s,mb5.6
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=E,15nm,0.9s
CN2 Changchun 98.44 47 *eP* **P 12 33 34.8 +2.1**
CN2 *e*XP sP 12 33 42.0 +2.6
CN2 PP PP 12 37 37.4 +1.7
CN2 SKS SKS 12 44 11.0 -3.9
CN2 *e*S S 12 44 59.6 +2.8
CN2 AMB AMB
comp=Z,80nm,1.5s,mb6.0
CN2 AMB AMB
comp=Z,2µm,9.0s
CN2 LR LR
comp=N,78µm,21.0s,MS7.2
CN2 LR LR
comp=E,21µm,21.0s,MS7.2
CN2 LR LR
comp=Z,71µm,21.0s,MS7.1
TIXI Tiksi 98.78 18 PFAKE 12 33 50.0 +16
TIXI LR LR
comp=Z,42µm,19.0s,MS7.0
SCHQ Schefferville 98.82 324 LR LR 13 19 28.8
comp=Z,64µm,19.0s,MS7.1,baz=102,slow=36
SCHQ Schefferville 98.82 324 PFAKE 12 33 50.0 +16
SCHQ LR LR
comp=Z,7µm,22.0s,MS6.1
ARE Arequipa 98.88 252 *eP* **P 12 33 35.0 -0.3**
ARE *e* 12 45 12.0
ARE *e* 12 46 32.0
ARE *e* 12 51 49.0
ARE Arequipa 98.88 252 *eP* **P 12 33 35.0 -0.3**
ARE *e* 12 44 30.0
ARE *e* 12 45 12.0
ARE *e* 12 46 32.0
ARE *e* 12 51 49.0
ARE *e* 13 01 32.0
INCN Inchon 99.27 53 PFAKE 12 33 50.0 +13
INCN LR LR
comp=Z,24µm,20.0s,MS6.7
YAK Yakutsk 100.17 28 *eP* P 12 33 38.6 -1.5
YAK *i* 12 37 46.7
YAK *i* S S 12 45 15.3 +4.5
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,25nm,1.0s
YAK smax
comp=N,2µm,17.7s
YAK Yakutsk 100.17 28 *e*Pdif P 12 33 38.2 -1.9
comp=N,52nm,0.8s
YAK LR LR
comp=Z,36µm,19.0s,MS6.9
KAKA Kakadu 100.99 104 *eP* Px 12 34 05.6
comp=Z,21nm,1.0s
SDV Santo Domingo 101.10 278 P P 12 33 47.0 +1.6
comp=Z,3.5nm,1.0s,baz=259,slow=4.8,SNR=2.7
SDV PP PP 12 37 52.4 -4.5
comp=Z,2.4nm,0.7s,baz=316,slow=15,SNR=2.3
SDV Santo Domingo 101.10 278 P P 12 33 47.0 +1.6
SDV PP PP 12 37 52.4 -4.5
SDV LR LR
comp=Z,22µm,19.0s,MS6.7
MDJ Mudanjiang 101.41 46 P P 12 33 46.8 +0.7
MDJ S S 12 45 25.7 +4.1
MDJ AMB AMB
comp=Z,10.0nm,2.3s
MDJ AMB AMB
comp=Z,1µm,9.6s
MDJ LR LR
comp=N,57µm,20.2s,MS7.1
MDJ LR LR
comp=E,26µm,20.2s,MS7.1
MDJ LR LR
comp=Z,38µm,21.3s,MS6.9
MDJ Mudanjiang 101.41 46 PFAKE 12 34 00.0 +14
MDJ LR LR
comp=Z,44µm,20.0s,MS7.0
WRA Warramunga Arr 101.54 112 P P 12 33 46.0 -1.3
comp=Z,2.8nm,0.8s,baz=261,slow=2.8,SNR=20
WRA PP PP 12 38 01.2 +1.3
comp=Z,17nm,1.2s,baz=268,slow=7.9,SNR=6.7
WRA PKKPbc 12 49 53.4
comp=Z,5.2nm,0.8s,baz=80,slow=3.9,SNR=13
WB2 Warramunga Arr 101.55 112 *eP* P 12 33 48.7 +1.4
WRAB Tennant Creek 101.55 112 *i* P P 12 33 49.3 +2.0
WES Weston 102.31 312 PFAKE 12 34 00.0 +10
WES LR LR
comp=Z,123µm,19.0s,MS7.5
HRV Harvard--Oak R 102.47 312 PFAKE 12 34 00.0 +9.0
HRV LR LR
comp=Z,99µm,19.0s,MS7.4
KLR Kul'dur 102.58 41 *eP* Pdif 12 33 50.8 -0.5
KLR *e* 12 45 30.5
LBNH Lisbon 102.64 314 PFAKE 12 34 00.0 +8.3
LBNH LR LR
comp=Z,87µm,20.0s,MS7.3
JNU Nakatsue 102.75 58 P Pdif 12 33 53.5 +1.0
comp=Z,12nm,1.1s,baz=336,slow=11,SNR=2.8
NCB Newcomb 104.31 314 PFAKE 12 34 10.0 +11
NCB LR LR
comp=Z,48µm,19.0s,MS7.1
ROSC El Rosal 104.41 273 PP PP 12 38 18.6 -3.0
comp=Z,4.9nm,0.5s,baz=104,slow=19,SNR=1.8
HABR Khabarovsk 104.83 42 *eP* Pdif 12 34 08.9 +7.7
HABR *i* 12 38 21.7
HABR pmax pmax
comp=Z,61nm,1.3s
HABR MLR MLR
comp=Z,31µm,29.0s,MS6.7
STKA Stephens Creek 105.00 125 PKKPbc 12 49 45.5
comp=Z,6.9nm,1.0s,baz=343,slow=5.3,SNR=6.0
MOAC Moa 105.86 290 *eP* 12 38 19.9
RCC Rio Carpintero 106.54 289 *eP* 12 38 24.8
CBN Corbin 107.23 308 PFAKE 12 38 30.0
CBN LR LR
comp=Z,255µm,20.0s,MS7.8
SADO Sadowa 107.72 315 PP PP 12 38 37.2 -8.4
comp=Z,12nm,0.9s,baz=42,slow=1.8,SNR=3.0
LMGC Las Mercedes 107.77 289 *eP* Pdif 12 34 21.8 +7.0
OTAV Otavalo 108.05 268 PFAKE 12 38 40.0
OTAV LR LR
comp=Z,33µm,20.0s,MS6.9
MAT Matsushiro 108.57 54 PDIF Pdif 12 34 17.4 -0.5
MAJO Matsushiro 108.57 54 PKiKP 12 38 25.2
MAJO LR LR
comp=Z,24µm,20.0s,MS6.8
MJAR Matsushiro Arr 108.57 54 Pdiff Pdif 12 34 18.5 +0.5
comp=Z,2.2nm,0.9s,baz=230,slow=9.8,SNR=3.6
ERPA Erie 108.73 312 PFAKE 12 38 40.0
ERPA LR LR
comp=Z,159µm,20.0s,MS7.6
MCWV Mont Chateau 108.98 310 PFAKE 12 38 40.0
MCWV LR LR
comp=Z,133µm,20.0s,MS7.5
BLA Blacksburg 109.74 307 PFAKE 12 38 40.0
BLA LR LR
comp=Z,159µm,19.0s,MS7.6
NHSC New Hope 110.01 303 PFAKE 12 38 40.0 +11
NHSC LR LR
comp=Z,107µm,20.0s,MS7.4
YSS Yuzh-Sakhalins 110.22 42 PFAKE 12 38 40.0 +11
YSS LR LR
comp=Z,59µm,19.0s,MS7.2
MGV Manicaragua 110.52 291 *eP* PKPdf 12 38 32.9 +3.1
MA2 Magadan 110.75 28 PFAKE 12 38 40.0 +11
MA2 LR LR
comp=Z,51µm,20.0s,MS7.1
ACSO Alum Creek Sta 111.27 311 PFAKE 12 38 40.0 +9.2
ACSO LR LR
comp=Z,110µm,21.0s,MS7.4
AAM Ann Arbor 111.38 313 PFAKE 12 38 40.0 +9.1
AAM LR LR
comp=Z,128µm,19.0s,MS7.5
DWPF Disney 111.53 298 PFAKE 12 38 40.0 +8.5
DWPF LR LR
comp=Z,112µm,19.0s,MS7.5
BILL Bilibino 111.82 16 *eP* Pdif 12 34 39.1 +7.6
BILL *i* 12 39 11.3
BILL *i* SS SS 12 54 46.7 -0.6
BILL pmax pmax
comp=Z,400nm,20.3s
BILL MLR MLR
comp=Z,49µm,22.0s,MS7.0
BILL Bilibino 111.82 16 *e*PKPdf PKPdf 12 38 29.4 -1.8
BILL LR LR
comp=Z,36µm,22.0s,MS6.9
CTA Charters Tower 112.40 115 *e*PKP PKPdf 12 38 33.2 -0.2
comp=Z,18nm,1.2s
CTA *e*PP PP 12 39 14.5 -5.9
CTA *e*SKS SKS 12 45 17.1 -0.9
CTAO Charters Tower 112.40 115 *e*PKP PKPdf 12 38 31.9 -1.5
CTAO LR LR
comp=Z,43µm,20.0s,MS7.0
GOGA Godfrey 112.71 304 P Pdif 12 34 51.5 +15
GOGA Godfrey 112.71 304 *e*PKiKP 12 38 29.3
GOGA LR LR
comp=Z,68µm,20.0s,MS7.2
SOR Soroa 113.30 292 *eP* PP 12 39 18.2 -9.0
WCI Wyandotte Cave 114.17 309 PFAKE 12 38 50.0 +13
WCI LR LR
comp=Z,134µm,20.0s,MS7.5
EYMN Ely 115.21 321 PFAKE 12 38 50.0 +12
EYMN LR LR
comp=Z,168µm,20.0s,MS7.7
PMG Port Moresby 115.79 104 *e*PKPdf PKPdf 12 38 42.9 +2.6
PMG LR LR
comp=Z,15µm,20.0s,MS6.6
WVT Waverly 115.80 307 *e*PKP PKPdf 12 38 40.6 +0.8
WVT LR LR
comp=Z,163µm,20.0s,MS7.6
GUMO Guam 115.89 78 *e*PKPdf PKPdf 12 38 38.8 -1.6
GUMO LR LR
comp=Z,5µm,20.0s,MS6.2
SIUC Southern Illin 116.54 309 *e*PKPdf PKPdf 12 38 38.7 -2.5
ULM Lac du Bonnet 117.00 324 PKP PKPdf 12 38 39.5 -2.3
comp=Z,9.4nm,1.1s,baz=97,slow=6.3,SNR=5.9
INK Inuvik 117.01 353 *e*PKPdf PKPdf 12 38 39.9 -1.4
OXF Oxford 117.39 306 PFAKE 12 38 50.0 +7.1
OXF LR LR
comp=Z,117µm,20.0s,MS7.5
FVM French Village 117.40 310 *e*PKPdf PKPdf 12 38 40.2 -2.6
FVM *e*PP PP 12 39 55.3 -0.2
PET Petropavlovsk 117.63 32 *e*P Pdif 12 35 09.7 +12
PET *e* 12 39 56.0
PET *e*PPP PPP 12 42 19.1 -7.3
PET *e* 12 45 41.5
PET *e*SS SS 12 56 01.9 -2.2
PET pmax pmax
comp=Z,400nm,28.3s
PET Petropavlovsk 117.63 32 PFAKE 12 38 50.0 +7.1
PET LR LR
comp=Z,31µm,20.0s,MS6.9
CCM Cathedral Cave 118.01 310 *e*PKPdf PKPdf 12 38 42.5 -1.5
CCM LR LR
comp=Z,141µm,19.0s,MS7.6
YKA Yellowknife Ar 118.06 342 PKP PKPdf 12 38 40.7 -2.7
comp=Z,3.3nm,0.7s,baz=32,slow=1.6,SNR=19
YKA PP PP 12 39 56.4 -3.1
comp=Z,1.5nm,0.7s,baz=59,slow=6.5,SNR=5.3
YKA PKKPbc 12 49 01.6
comp=Z,1.1nm,0.8s,baz=212,slow=2.9,SNR=2.9
YKA Yellowknife Ar 118.06 342 PKP PKPdf 12 38 40.7 -2.7
YKA PP PP 12 39 56.4 -3.1
YKA PKKPbc 12 49 01.6
TNA Tin City 119.50 8 *e*PKPdf PKPdf 12 38 44.3 -1.9
TNA *e*PP PP 12 40 06.9 -2.2
TNA LR LR
comp=Z,17µm,20.0s,MS6.7
PAYG Puerto Ayora 119.69 266 PFAKE 12 39 00.0 +12
PAYG LR LR
comp=Z,75µm,20.0s,MS7.3
IMA2 Indian Mountai 120.23 2 *e*PKPdf PKPdf 12 38 45.5 -2.1
IMA2 *e*PP PP 12 40 11.3 -2.3
MIAR Mount Ida 120.73 307 *e*PKPdf PKPdf 12 38 45.6 -3.8
MIAR LR LR
comp=Z,82µm,20.0s,MS7.4
COLA College 121.45 359 *e*PKPdf PKPdf 12 38 43.8 -6.3
COLA LR LR
comp=Z,35µm,19.0s,MS7.0
ILAR Eielson Array 121.53 358 PKP PKPdf 12 38 46.0 -4.3
comp=Z,6.0nm,0.9s,baz=320,slow=2.4,SNR=15
ILAR PP PP 12 40 18.8 -4.0
comp=Z,4.6nm,0.9s,baz=324,slow=3.3,SNR=2.6
ILAR PKKPbc 12 48 48.2
comp=Z,6.3nm,1.1s,baz=186,slow=3.8,SNR=7.6
KSU1 Kansas State U 121.72 312 *e*PKPdf PKPdf 12 38 48.8 -2.4
KSU1 *e*PP PP 12 40 21.6 -3.1
DAWY Dawson 121.75 354 *e*PKPdf PKPdf 12 38 48.5 -2.1
NATX Nacogdoches 122.30 304 PKPdf PKPdf 12 38 53.9 +1.4
NATX LR LR
comp=Z,109µm,20.0s,MS7.5
MCK McKinley 122.61 359 *e*PKPdf PKPdf 12 38 50.5 -1.7
MCK *e*PP PP 12 40 28.0 -2.4
MCK LR LR
comp=Z,15µm,19.0s,MS6.7
DGMT Dagmar 122.63 325 *e*PKPdf PKPdf 12 38 51.6 -1.0
DGMT LR LR
comp=Z,92µm,20.0s,MS7.4
SNZO South Karori 122.86 149 *e*PKPdf PKPdf 12 38 49.3 -3.9
SNZO LR LR
comp=Z,12µm,19.0s,MS6.6
TTA Tatalina 123.27 3 PKIKP PKPdf 12 39 06.3 +13
TTA Tatalina 123.27 3 *e*PKPdf PKPdf 12 38 52.6 -1.0
EDM Edmonton 124.33 334 *e*PKPdf PKPdf 12 38 54.6 -1.2
SML Sawmill 124.53 359 PKIKP PKPdf 12 38 59.0 +2.9
SML Sawmill 124.53 359 *e*PKPdf PKPdf 12 38 54.7 -1.3
RSSD Black Hills 124.73 321 *e*P PKPdf 12 38 55.6 -1.4
RSSD *e*PP PP 12 40 39.7 -5.3
RSSD LR LR
comp=Z,137µm,19.0s,MS7.6
LAO LASA Array 124.74 324 *e*PKPdf PKPdf 12 38 55.8 -1.0
LAO LR LR
comp=Z,131µm,20.0s,MS7.6
PMR Palmer 124.76 359 PKIKP PKPdf 12 39 08.1 +12
PMR Palmer 124.76 359 *e*PKPdf PKPdf 12 38 55.4 -1.1
PMR *e*PP PP 12 40 40.1 -4.6
PMR LR LR
comp=Z,19µm,20.0s,MS6.8
WMOK Wichita Mounta 124.79 308 *e*PKPdf PKPdf 12 38 54.7 -2.7
WMOK LR LR
comp=Z,131µm,20.0s,MS7.6
CMIG Matias Romero 124.82 286 *i* P PKPdf 12 38 55.5 -2.3
DIV Divide 125.13 357 *e*PKPdf PKPdf 12 38 56.0 -1.2
DIV LR LR
comp=Z,79µm,19.0s,MS7.4
FIB Fire Island 125.20 360 *e*PKIKP PKPdf 12 38 58.0 +0.7
FIB MLR MLR
comp=Z,12µm,19.0s,MS6.6
SMY Shemya 125.27 26 PFAKE 12 39 10.0 +12
SMY LR LR
comp=Z,46µm,21.0s,MS7.1
DLBC Dease Lake 125.61 347 *e*PKPdf PKPdf 12 38 57.7 -0.5
DLBC *e*PP PP 12 40 46.2 -4.3
EGMT Eagleton 125.95 327 *e*PKPdf PKPdf 12 38 58.5 -0.7
OXX Oaxaca 126.57 287 *eP* 12 39 01.0 -0.1
JCT Junction City 126.89 304 PKIKP PKPdf 12 38 58.9 -2.5
JCT Junction City 126.89 304 *e*PKPdf PKPdf 12 38 58.7 -2.7
JCT LR LR
comp=Z,100µm,20.0s,MS7.5
PHWY Pilot Hill 127.01 318 *e*PKPdf PKPdf 12 38 59.9 -1.4
GCMT Greycliff 127.22 325 *e*PKPdf PKPdf 12 38 56.0 -5.6
ISCO Idaho Springs 127.82 317 *e*PKIKP PKPdf 12 39 02.6 -0.4
ISCO *e* 12 41 03.3
ISCO MLR MLR
comp=Z,28µm,20.0s,MS7.0
HRY Holter Researc 127.87 327 *e*PKPdf PKPdf 12 39 01.6 -1.3
SIT Sitka 127.96 350 PFAKE 12 39 10.0 +7.2
SIT LR LR
comp=Z,76µm,20.0s,MS7.4
HNR Honiara 128.05 107 *e*PKIKP PKPdf 12 39 02.5 -1.6
HNR MLR MLR
comp=Z,12µm,21.0s,MS6.6
PPM Popocatepetl 128.17 289 *i* PKIKP PKPdf 12 39 03.3 -0.9
BOZ Bozeman (W) 128.41 326 *e*PKIKP PKPdf 12 39 03.0 -1.0
BOZ MLR MLR
comp=Z,87µm,19.0s,MS7.5
BOZ Bozeman (W) 128.41 326 *e*PKPdf PKPdf 12 39 03.0 -1.0
BOZ *e*PP PP 12 41 00.1 -9.3
BOZ LR LR
comp=Z,87µm,19.0s,MS7.5
CHMT Chamberlain Mo 128.50 328 *e*PKPdf PKPdf 12 39 03.2 -0.9
YMR Madison River 128.62 325 *e*PKPdf PKPdf 12 39 03.2 -1.2
YMR LR LR
comp=Z,109µm,20.0s,MS7.5
SDCO Great Sand Dun 128.67 314 *e*PKPdf PKPdf 12 39 03.4 -1.4
SDCO LR LR
comp=Z,178µm,22.0s,MS7.7
YFT Old Faithful 128.68 324 *e*PKPdf PKPdf 12 39 05.5 +1.0
YFT *e*PP PP 12 41 14.2 +2.8
QLMT Earthquake Lak 128.79 325 *e*PKPdf PKPdf 12 39 03.2 -1.6
BW06 Boulder Array 128.87 322 *e*PKPdf PKPdf 12 39 03.5 -1.5
BW06 LR LR
comp=Z,143µm,19.0s,MS7.7
PDAR Pinedale Array 128.87 322 PKP PKPdf 12 39 00.9 -4.0
comp=Z,4.5nm,0.8s,slow=1.5,SNR=4.3
MSO Missoula 128.91 328 *e*PKPdf PKPdf 12 39 03.8 -1.1
MSO LR LR
comp=Z,45µm,20.0s,MS7.2
MOOW Moose Ponds 129.03 324 *e*PKPdf PKPdf 12 39 03.6 -1.7
MOOW *e*PP PP 12 41 06.7 -7.1
IMW Indian Meadow 129.06 324 *e*PKPdf PKPdf 12 39 04.8 -0.4
PLIG Platanillo 129.07 289 *i* P PKPdf 12 39 04.1 -1.8
DLMT Dillon 129.12 326 *e*PKPdf PKPdf 12 39 05.3 0.0
DZM Mont Dzumac 129.16 125 *e*P PKPdf 12 39 05.1 -1.0
TPAW Teton Pass 129.30 323 *e*PKPdf PKPdf 12 39 05.4 -0.3
REDW Red Top Meadow 129.32 323 *e*PKPdf PKPdf 12 39 05.1 -0.7
MCMT McKenzie Canyo 129.59 326 *e*PKPdf PKPdf 12 39 06.5 +0.2
MCMT *e*PP PP 12 41 12.1 -5.1
RRI2 Red Ridge 129.61 323 *e*PKPdf PKPdf 12 39 06.0 -0.3
AHID Auburn Hatcher 129.81 323 *e*PKPdf PKPdf 12 39 03.1 -3.6
AHID LR LR
comp=Z,84µm,21.0s,MS7.4
CAIG El Cayaco 129.95 287 *i* P PKPdf 12 39 05.9 -1.7
LTX Lajitas 130.43 303 *e*PKIKP PKPdf 12 39 05.2 -3.1
LTX MLR MLR
comp=Z,130µm,19.0s,MS7.7
TXAR Lajitas Array 130.43 303 PKhKP 12 38 54.2
comp=Z,1.1nm,1.0s,baz=76,slow=5.2,SNR=5.1
TXAR PKP PKPdf 12 39 05.4 -2.9
comp=Z,0.8nm,0.4s,baz=127,slow=3.4,SNR=9.8
TXAR Lajitas Array 130.43 303 PKP 12 38 54.2
TXAR PKP PKPdf 12 39 05.4 -2.9
MOIG Morelia 130.48 290 *i* P PKPdf 12 39 11.1 +2.5
ANMO Albuquerque 130.57 311 *e*PKPdf PKPdf 12 39 07.3 -1.1
ANMO *e*PP PP 12 41 15.2 -8.8
ANMO LR LR
comp=Z,153µm,20.0s,MS7.7
UNV Unalaska Valle 130.75 13 *e*PKPdf PKPdf 12 39 08.9 +0.8
UNV LR LR
comp=Z,87µm,19.0s,MS7.5
HWUT Hardware Ranch 130.76 322 *e*PKPdf PKPdf 12 39 06.8 -1.8
HWUT LR LR
comp=Z,128µm,20.0s,MS7.6
TCUT Toone Canyon 130.94 321 *e*PKPdf PKPdf 12 39 08.1 -0.8
LPM Los Pinos Moun 130.97 311 *e*PKPdf PKPdf 12 39 07.9 -1.3
MNTX Cornudas Mount 131.02 307 *e*PKPdf PKPdf 12 39 08.2 -1.1
MNTX LR LR
comp=Z,123µm,20.0s,MS7.6
BNM Barren Site 131.03 311 *e*PKPdf PKPdf 12 39 08.4 -0.9
DAU Daniels Canyon 131.23 320 PKIKP PKPdf 12 39 08.8 -0.7
DAU Daniels Canyon 131.23 320 *e*PKPdf PKPdf 12 39 08.5 -1.0
HLID Hailey 131.26 325 *e*PKPdf PKPdf 12 39 09.1 -0.4
HLID *e*PP PP 12 41 31.5 +3.3
HLID LR LR
comp=Z,141µm,21.0s,MS7.6
LENM Lemitar 131.29 311 *e*PKPdf PKPdf 12 39 10.1 +0.3
LAZ Ladron 131.31 311 *e*PKPdf PKPdf 12 39 08.9 -0.9
CTU Camp Tracy 131.39 321 *e*PKPdf PKPdf 12 39 07.7 -2.1
HVU Hansel Valley 131.40 323 PKIKP PKPdf 12 39 09.2 -0.6

HVU	**Hansel Valley**	**131.40**	**323**	*e*PKPdf	PKPdf	12 39 08.7	-1.1
SRU	**San Rafael**	**131.46**	**318**	*e*PKIKP	PKPdf	12 39 08.4	-1.6
SPUT	**South Promonto**	**131.47**	**322**	*e*PKPdf	PKPdf	12 39 13.0	+3.0
NOQ	**North Oquirrh**	**131.65**	**321**	*e*PKPdf	PKPdf	12 39 08.6	-1.7
MPU	**Maple Canyon**	**131.69**	**320**	*e*PKPdf	PKPdf	12 39 08.5	-1.9
MPU				LR	LR		
	comp=Z,149μm,19.0s,MS7.7						
TMUT	**Trail Mountain**	**131.81**	**319**	*e*PKPdf	PKPdf	12 39 08.6	-2.0
TMUT				eSKPbc		12 42 36.6	
BMO	**Blue Mountains**	**131.98**	**329**	PKHKP		12 39 04.3	
BMO	**Blue Mountains**	**131.98**	**329**	*e*PKPdf	PKPdf	12 39 09.3	-1.4
BMO				*e*PP	PP	12 41 27.0	-5.5
BMO				LR	LR		
	comp=Z,122μm,19.0s,MS7.6						
PGC	**Sidney**	**131.99**	**336**	*e*PKPdf	PKPdf	12 39 09.5	-1.2
HAWA	**Hanford**	**132.00**	**332**	*e*PKPdf	PKPdf	12 39 09.4	-1.4
HAWA				*e*PP	PP	12 41 36.6	+4.0
HAWA				LR	LR		
	comp=Z,7μm,19.0s,MS6.4						
NLU	**North Lily Min**	**132.01**	**320**	*e*PKPdf	PKPdf	12 39 10.5	-0.5
BGU	**Big Grassy Mou**	**132.05**	**322**	*e*PKPdf	PKPdf	12 39 10.0	-1.0
SFJM	**Santa Fe**	**132.06**	**292**	*e*P	PKPdf	12 39 06.0	-5.6
DUG	**Dugway**	**132.34**	**321**	*e*PKIKP	PKPdf	12 39 10.0	-1.6
DUG				*e*		12 41 31.3	
DUG				MLR	MLR		
	comp=Z,92μm,20.0s,MS7.5						
MSU	**Marysvale**	**132.87**	**319**	*e*PKIKP	PKPdf	12 39 08.2	-4.5
MVU	**Marysvale**	**132.90**	**319**	*e*PKPdf	PKPdf	12 39 03.6	-9.1
MVU				LR	LR		
	comp=Z,121μm,20.0s,MS7.6						
OCWA	**Octopus Mounta**	**133.00**	**336**	*e*PKPdf	PKPdf	12 39 13.3	+0.6
OCWA				*e*PP	PP	12 41 35.2	-3.4
OCWA				LR	LR		
	comp=Z,74μm,19.0s,MS7.4						
ELK	**Elko**	**133.50**	**323**	*e*PKIKP	PKPdf	12 39 06.1	-7.6
ELK				*e*		12 41 36.6	
ELK				MLR	MLR		
	comp=Z,128μm,20.0s						
WUAZ	**Wupatki**	**133.89**	**315**	*e*PKPdf	PKPdf	12 39 10.5	-4.1
WUAZ				LR	LR		
	comp=Z,113μm,20.0s,MS7.6						
ARUT	**Antelope Range**	**134.10**	**319**	*e*PKPdf	PKPdf	12 39 15.6	+0.7
ARUT				*e*PP	PP	12 41 36.2	-10
WVOR	**Wild Horse Val**	**134.34**	**327**	PKHKP		12 39 03.9	
WVOR	**Wild Horse Val**	**134.34**	**327**	*e*PKPdf		12 39 03.6	
WVOR				LR	LR		
	comp=Z,70μm,20.0s,MS7.4						
TUC	**Tucson**	**134.97**	**310**	PKHKP		12 39 04.3	
TUC	**Tucson**	**134.97**	**310**	*e*PKPdf		12 39 05.3	
TUC				LR	LR		
	comp=Z,110μm,20.0s,MS7.6						
COR	**Corvallis**	**135.11**	**333**	*e*PKIKP	PKPdf	12 39 17.8	+1.2
COR				*e*		12 41 52.3	
COR				MLR	MLR		
	comp=Z,53μm,19.0s,MS7.3						
MOD	**Modoc**	**135.60**	**328**	*e*PKPdf	PKPdf	12 39 08.7	-8.9
MOD				LR	LR		
	comp=Z,66μm,19.0s,MS7.4						
RAO	**Raoul Island**	**135.84**	**144**	PFAKE		12 39 30.0	+12
RAO				LR	LR		
	comp=Z,12μm,20.0s,MS6.6						
WAKE	**Wake Island**	**136.21**	**69**	PFAKE		12 39 30.0	+11
WAKE				LR	LR		
	comp=Z,13μm,22.0s,MS6.6						
NEN	**Nelson**	**136.22**	**317**	*e*PKPdf	PKPdf	12 39 18.7	-0.1
NEN				*e*PP	PP	12 41 53.3	-5.9
TPH	**Tonopah**	**136.35**	**321**	*e*PKIKP	PKPdf	12 39 18.9	-0.1
TPH				MLR	MLR		
	comp=Z,134μm,20.0s,MS7.7						
TPNV	**Topopah Spring**	**136.42**	**319**	*e*PKIKP	PKPdf	12 39 16.0	-3.2
TPNV				MLR	MLR		
	comp=Z,145μm,20.0s,MS7.7						
TPNV	**Topopah Spring**	**136.42**	**319**	*e*PKPdf	PKPdf	12 39 16.0	-3.1
TPNV				*e*PP	PP	12 41 46.5	-14
TPNV				LR	LR		
	comp=Z,145μm,20.0s,MS7.7						
HUMO	**Hull Mountain**	**136.44**	**330**	*e*PKPdf		12 39 07.9	
HUMO				LR	LR		
	comp=Z,64μm,19.0s,MS7.4						
MNV	**Mina**	**136.70**	**322**	PKHKP		12 39 09.6	
MNV	**Mina**	**136.70**	**322**	*e*PKPdf		12 39 09.3	
MNV				*e*PP	PP	12 42 00.6	-1.4
MNV				LR	LR		
	comp=Z,100μm,20.0s,MS7.5						
LDFC	**Landfair**	**136.72**	**316**	*e*PKPdf	PKPdf	12 39 19.2	-0.5
NVAR	**Mina Arroyo Bea**	**136.79**	**323**	PKhKP		12 39 06.9	
	comp=Z,2.8nm,0.8s,baz=57,slow=3.0,SNR=12						
NVAR				PKP	PKPdf	12 39 16.9	-2.9
	comp=Z,8.3nm,0.8s,baz=72,slow=2.9,SNR=22						
YBH	**Yreka Blue Hor**	**136.97**	**329**	PKIKP	PKPdf	12 39 11.9	-8.1
YBH	**Yreka Blue Hor**	**136.97**	**329**	*e*PKPdf	PKPdf	12 39 11.8	-8.2
YBH				LR	LR		
	comp=Z,66μm,19.0s,MS7.4						
KBO	**Bosley Butte**	**137.36**	**331**	*e*PKPdf	PKPdf	12 39 12.0	-8.7
DAC	**Darwin (Calif)**	**137.68**	**320**	*e*PKIKP	PKPdf	12 39 13.1	-8.5
DAC	**Darwin (Calif)**	**137.68**	**320**	*e*PKPdf	PKPdf	12 39 12.1	-9.5
DAC				*e*PP	PP	12 42 04.6	-4.0
DAC				LR	LR		
	comp=Z,95μm,19.0s,MS7.5						
WDC	**Whiskeytown Da**	**137.72**	**328**	PKIKP	PKPdf	12 39 12.3	-9.2
WDC	**Whiskeytown Da**	**137.72**	**328**	*e*PKPdf	PKPdf	12 39 11.8	-10
WDC				*e*PP	PP	12 42 07.5	-1.4
WDC				LR	LR		
	comp=Z,57μm,19.0s,MS7.3						
KHMM	**Horse Mountain**	**138.12**	**329**	*e*PKPdf	PKPdf	12 39 17.9	-4.4
KHMM				*e*PP	PP	12 42 04.0	-7.5
CMB	**Columbia Colle**	**138.29**	**324**	PKIKP	PKPdf	12 39 16.4	-6.3
CMB	**Columbia Colle**	**138.29**	**324**	*e*PKPdf	PKPdf	12 39 14.7	-8.0
CMB				LR	LR		
	comp=Z,89μm,20.0s,MS7.5						
ISA	**Isabella**	**138.62**	**319**	PKHKP		12 39 09.8	
ISA	**Isabella**	**138.62**	**319**	*e*PKPdf	PKPdf	12 39 13.4	-10
ISA				*e*PP	PP	12 42 08.1	-6.5
ISA				LR	LR		
	comp=Z,28μm,19.0s,MS7.0						
KIPM	**Iron Peak**	**138.78**	**328**	*e*PKPdf	PKPdf	12 39 15.1	-8.4
KIPM				*e*PP	PP	12 42 02.7	-13
KCPM	**Cahto Peak**	**138.92**	**328**	*e*PKPdf	PKPdf	12 39 17.5	-6.3
KCPM				*e*PP	PP	12 42 06.1	-10
BAR	**Barrett**	**139.11**	**314**	*e*PKPdf	PKPdf	12 39 17.6	-6.6
HOPS	**Hopland**	**139.15**	**327**	*e*PKPdf	PKPdf	12 39 18.2	-6.0
HOPS				*e*PP	PP	12 41 58.5	-19
HOPS				LR	LR		
	comp=Z,68μm,20.0s,MS7.4						
MWC	**Mount Wilson**	**139.21**	**317**	PKIKP	PKPdf	12 39 22.9	-1.5
MWC	**Mount Wilson**	**139.21**	**317**	*e*PKPdf	PKPdf	12 39 15.7	-8.7
MWC				*e*PP	PP	12 42 09.0	-9.2
PTRM	**Twissleman Ran**	**139.74**	**321**	*e*PKPdf	PKPdf	12 39 16.6	-8.8
LRV	**Little Rabbit**	**139.74**	**322**	*e*PKPdf	PKPdf	12 39 23.8	-1.5
SAO	**San Andreas Ge**	**139.77**	**323**	*e*PKIKP	PKPdf	12 39 25.1	-0.3
SAO				MLR	MLR		
	comp=Z,118μm,20.0s,MS7.6						
SAC	**San Andreas**	**139.78**	**325**	*e*PKIKP	PKPdf	12 39 28.1	+2.8
SNCC	**San Nicolas Is**	**140.77**	**317**	PFAKE		12 39 40.0	+13
SNCC				LR	LR		
	comp=Z,102μm,19.0s,MS7.6						
PTCN	**Pitcairn Islan**	**143.18**	**212**	PFAKE		12 39 40.0	+14
PTCN				LR	LR		
	comp=Z,1.0nm,20.0s						
FUNA	**Funafuti**	**146.25**	**115**	*e*PKPdf	PKPdf	12 39 37.8	+0.5
MIDW	**Midway**	**146.32**	**46**	*e*PKPdf	PKPdf	12 39 38.8	+1.7
MIDW				LR	LR		
	comp=Z,21μm,19.0s,MS6.9						
RKT	**Rikitea**	**147.19**	**207**	*e*LQ		13 21 24.5	
RKT	**Rikitea**	**147.19**	**207**	*e*PP	PP	12 42 56.2	-10
RKT	**Rikitea**	**147.19**	**207**	*e*SS	SS	13 02 09.6	+5.1
RKT				*e*LR	LR	13 28 13.7	
	comp=Z,18μm,25.5s						
TBI	**Tubuai**	**150.58**	**182**	*e*LQ		13 22 30.7	
TBI	**Tubuai**	**150.58**	**182**	*e*PKPab	PKPab	12 39 48.1	-6.7
	comp=Z,233nm,1.1s						
TBI	**Tubuai**	**150.58**	**182**	*e*PP	PP	12 43 15.3	-10
TBI	**Tubuai**	**150.58**	**182**	*e*SS	SS	13 02 47.9	+6.1
TBI				*e*LR	LR	13 29 55.1	
	comp=Z,32μm,29.8s						
AFI	**Afiamalu**	**150.77**	**133**	PKP	PKPdf	12 39 41.3	-3.2
	comp=Z,21nm,0.8s,baz=227,slow=23,SNR=2.7						
AFI				PKPbc	PKPdf	12 39 48.1	+3.6
	comp=Z,152nm,1.1s,baz=299,slow=3.0,SNR=3.7						
AFI	**Afiamalu**	**150.77**	**133**	PKIKP	PKPdf	12 39 41.3	-3.2
AFI				*e*		12 39 45.0	
AFI						12 39 48.1	
AFI				MLR	MLR		
	comp=Z,12μm,20.0s,MS6.7						
RAR	**Rarotonga**	**151.18**	**161**	PKPbc	PKPdf	12 39 48.9	+3.9
	comp=Z,59nm,1.1s,baz=228,slow=7.5,SNR=3.3						
RAR	**Rarotonga**	**151.18**	**161**	PKPbc	PKPdf	12 39 48.9	+3.9
RAR				LR	LR		
	comp=Z,1.0nm,20.0s						
PPT	**Papeete**	**156.33**	**182**	*e*PKIKP	PKPdf	12 39 43.6	-8.5
	comp=Z,2μm,29.0s						
PPT	**Papeete**	**156.33**	**182**	*e*PP	PP	12 43 55.1	-3.0
PPT	**Papeete**	**156.33**	**182**	*e*SS	SS	13 03 49.2	+4.4
PPT				*e*LR	LR	13 32 21.1	
	comp=Z,32μm,25.8s						
PPT	**Papeete**	**156.33**	**182**	PKP	PKPdf	12 39 51.0	-1.1
	comp=Z,12nm,0.6s,baz=280,slow=6.1,SNR=2.3						
PPT				PKPbc	PKPdf	12 40 00.5	+8.4
	comp=Z,38nm,0.9s,baz=214,slow=16,SNR=4.5						
TAOE	**Nuku Hiva Isla**	**161.90**	**214**	*e*PKIKP	PKPdf	12 39 50.3	-8.4
	comp=Z,4μm,26.6s						
TAOE	**Nuku Hiva Isla**	**161.90**	**214**	*e*PP	PP	12 44 16.5	-12
TAOE	**Nuku Hiva Isla**	**161.90**	**214**	*e*SS	SS	13 04 35.9	-7.6
TAOE				*e*LR	LR	13 35 10.6	
	comp=Z,69μm,23.4s						
KIP	**Kipapa**	**163.17**	**26**	PFAKE		12 40 10.0	+10
KIP				LR	LR		
	comp=Z,23μm,20.0s						
HON	**Honolulu**	**163.26**	**26**	*e*PKIKP	PKPdf	12 39 58.7	-1.1
POHA	**Pohakuloa**	**165.64**	**20**	PFAKE		12 40 10.0	+7.8
POHA				LR	LR		
	comp=Z,54μm,20.0s						

*IDC **05** 12:21:35.6±0.9,38.66N×29.81W,mb4.0/15,mb1 4.2/15, mb1mx4.2/28,mbtmp4.0/15,Error ellipse: s-maj=26.1km s-min=14.4km az=159.0*

*NEIC **05** 12:21:37.2±0.4,38.61N×29.79W,h10km,mb4.9/21,Error ellipse: s-maj=11.2km s-min=4.8km az=172.0*

*SVSA **05** 12:21:38.5±1.8,38.60N×29.70W,h5km,MD3.7,ML4.3, Error ellipse: s-maj=21.4km s-min=6.7km az=1.0*

*PDA **05** 12:21:38.5±1.8,38.60N×29.70W,h5km,MD3.7,ML4.3, Error ellipse: s-maj=21.4km s-min=6.7km az=1.0*

*CSEM **05** 12:21:39.7±0.1,38.60N×29.35W,h20km,mb4.9/12,Error ellipse: s-maj=4.7km s-min=2.5km az=30.0*

ISC 05 12:21:35.4±0.3,38.53N±0.05×29.67W±0.03,h10km,n110, σ1ᵍ04/139,mb4.4/31,1C,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.69**	**85**	*e*P		**Pb**		**12 21 50.8**	**+1.8**
PTCA				*i* S		**Sb**		**12 21 59.9**	**+1.6**
	4μm,0.4s								
PTCA	**Ponta do Capel**	**0.69**	**85**	*e*P		**Pb**		**12 21 50.8**	**+1.8**
PTCA				*i* S		**Sb**		**12 21 59.9**	**+1.6**
	4μm,0.4s								
PLUZ	**Luz**	**0.73**	**48**	*e*P		**Sg**		**12 22 01.3**	**+1.5**
CALA	**Caldeira**	**0.76**	**86**	*e*P		**Pb**		**12 21 50.9**	**+0.6**
CALA				*e*S		**Sb**		**12 22 00.1**	**-0.4**
HOR	**Horta**	**0.82**	**90**	*e*P		**Pb**		**12 21 52.1**	**+0.8**
HOR				*e*S		**Sb**		**12 22 02.3**	**+0.2**
PCND	**Candelaria**	**0.95**	**93**	*e*P		**Pb**		**12 21 54.6**	**+1.1**
PCND				*i* S		**Sb**		**12 22 06.7**	**+0.8**
	5μm,0.4s								
PICO	**Pico**	**0.98**	**91**	*e*P		**Pb**		**12 21 54.3**	**+0.3**
PICO				*e*S		**Sb**		**12 22 06.2**	**-0.5**
PBOI	**Pico dos Bois**	**1.02**	**95**	*e*P		**Pb**		**12 21 55.7**	**+0.9**
PBOI				*i* S		**Sb**		**12 22 08.0**	**0.0**
	5μm,0.3s								
ROSA	**Rosais**	**1.14**	**80**	*e*rx		rx		12 20 16.6	
ROSA	**Rosais**	**1.14**	**80**	*e*P		**Pb**		**12 21 56.1**	**-0.6**
ROSA				*e*S		**Sb**		**12 22 09.4**	**-1.9**
PAMA	**Santo Amaro**	**1.18**	**82**	*e*P		**Pb**		**12 21 57.7**	**+0.3**
PIED	**Piedade**	**1.27**	**95**	*e*P		**Pb**		**12 21 59.4**	**+0.3**
PVIA	**Vitoria**	**1.38**	**67**	*e*P		**Pn**		**12 22 00.6**	**-0.2**
STGR	**Santa Cruz**	**1.41**	**67**	*e*P		**Pn**		**12 22 01.3**	**0.0**
STGR				*e*S		**Sb**		**12 22 17.6**	**-1.8**
	938nm,0.3s								
STGR	**Santa Cruz**	**1.41**	**67**	*e*P		**Pn**		**12 22 01.3**	**0.0**
STGR				*e*S		**Sb**		**12 22 17.6**	**-1.8**
	938nm,0.3s								
ASBA	**Santa Barbara**	**1.85**	**83**	*e*P		**Pn**		**12 22 07.1**	**-0.4**
ASBA				*e*S		**Sn**		**12 22 28.1**	**-3.0**
	610nm,0.3s								
ASBA	**Santa Barbara**	**1.85**	**83**	*e*P		**Pn**		**12 22 07.1**	**-0.4**
ASBA				*e*S		**Sn**		**12 22 28.1**	**-3.0**
	610nm,0.3s								
PPAD	**Pico dos Padre**	**1.87**	**84**	*e*P		**Pn**		**12 22 07.5**	**-0.4**
PPAD				*e*S		**Sn**		**12 22 28.8**	**-3.0**
	459nm,0.4s								
PPAD	**Pico dos Padre**	**1.87**	**84**	*e*P		**Pn**		**12 22 07.5**	**-0.4**
PPAD				*e*S		**Sn**		**12 22 28.8**	**-3.0**
	459nm,0.4s								
PBIS	**Biscoitos**	**1.91**	**82**	*e*P		**Pn**		**12 22 08.0**	**-0.4**
PBIS				*e*S		**Sn**		**12 22 28.4**	**-4.2**
	274nm,0.3s								
PBIS	**Biscoitos**	**1.91**	**82**	*e*P		**Pn**		**12 22 08.0**	**-0.4**
PBIS				*e*S		**Sn**		**12 22 28.4**	**-4.2**
	274nm,0.3s								
ADH	**Angra Heroismo**	**1.91**	**86**	*e*P		**Pn**		**12 22 07.5**	**-1.0**
ADH				*e*S		**Sn**		**12 22 29.3**	**-3.5**
RIB2	**Ribeirinha**	**1.96**	**85**	*e*P		**Pn**		**12 22 08.8**	**-0.4**
RIB2				*e*S		**Sn**		**12 22 30.8**	**-3.2**
	482nm,0.3s								
RIB2	**Ribeirinha**	**1.96**	**85**	*e*P		**Pn**		**12 22 08.8**	**-0.4**
RIB2				*e*S		**Sn**		**12 22 30.8**	**-3.2**
	482nm,0.3s								
PVNV	**Vila Nova**	**1.98**	**83**	*e*P		**Pn**		**12 22 08.8**	**-0.7**
PVNV				*e*S		**Sn**		**12 22 31.2**	**-3.4**
	174nm,0.4s								
PVNV	**Vila Nova**	**1.98**	**83**	*e*P		**Pn**		**12 22 08.8**	**-0.7**
PVNV				*e*S		**Sn**		**12 22 31.2**	**-3.4**
	174nm,0.4s								
PSCM	**Serra do Cume**	**2.01**	**84**	*e*P		**Pn**		**12 22 08.5**	**-1.3**
PSCM				*e*S		**Sn**		**12 22 31.6**	**-3.6**
	1μm,0.3s								
PSCM	**Serra do Cume**	**2.01**	**84**	*e*P		**Pn**		**12 22 08.5**	**-1.3**
PSCM				*e*S		**Sn**		**12 22 31.6**	**-3.6**
	1μm,0.3s								
PFAV	**Pico das Favas**	**2.03**	**84**	*e*P		**Pn**		**12 22 10.8**	**+0.6**
PFAV				*e*S		**Sn**		**12 22 32.8**	**-3.1**
	492nm,0.2s								
PFAV	**Pico das Favas**	**2.03**	**84**	*e*P		**Pn**		**12 22 10.8**	**+0.6**
PFAV				*e*S		**Sn**		**12 22 32.8**	**-3.1**
	492nm,0.2s								
SET4	**Mosteiros**	**3.12**	**101**	*e*P		**Pn**		**12 22 25.7**	**0.0**
SET2	**Ginetes**	**3.12**	**102**	*e*P		**Pn**		**12 22 26.2**	**+0.5**
PFET	**Feteiras**	**3.14**	**102**	*e*P		**Pn**		**12 22 26.0**	**0.0**
PSAN	**Santo Antonio**	**3.18**	**101**	*e*P		**Pn**		**12 22 26.9**	**+0.3**
PSET	**Sete Cidades**	**3.19**	**102**	*e*P		**Pn**		**12 22 25.1**	**-1.6**
PSET				*e*S		**Sn**		**12 23 00.3**	**-4.9**
	603nm,0.3s								
PSET	**Sete Cidades**	**3.19**	**102**	*e*P		**Pn**		**12 22 25.1**	**-1.6**
PSET				*e*S		**Sn**		**12 23 00.3**	**-4.9**
	603nm,0.3s								
PDA	**Ponta Delgada**	**3.25**	**103**	*e*P		**Pn**		**12 22 26.5**	**-1.1**
FAC	**Faja de Cima**	**3.26**	**102**	*e*P		**Pn**		**12 22 28.3**	**+0.6**
CML	**Cha da Macela**	**3.34**	**102**	*e*P		**Pn**		**12 22 29.3**	**+0.5**
PVER	**Pico Vermelho**	**3.36**	**101**	*e*P		**Pn**		**12 22 29.0**	**-0.1**
PMAT	**Coroa da Mata**	**3.38**	**101**	*e*P		**Pn**		**12 22 29.9**	**+0.4**
LFA	**Lagoa do Fogo**	**3.39**	**102**	*e*P		**Pn**		**12 22 29.4**	**-0.1**
PRCH	**Ribeira Ch**	**3.40**	**102**	*e*P		**Pn**		**12 22 30.3**	**+0.6**
MESC	**Monte Escuro**	**3.41**	**101**	*e*P		**Pn**		**12 22 30.3**	**+0.5**
VIF	**Vila Franca**	**3.43**	**102**	*e*P		**Pn**		**12 22 30.9**	**+0.8**
PCNG	**Congro**	**3.46**	**101**	*e*P		**Pn**		**12 22 31.1**	**+0.6**
FRA1	**Furnas**	**3.49**	**102**	*e*P		**Pn**		**12 22 30.6**	**-0.4**
FRA1				*i* S		**Sn**		**12 23 09.1**	**-3.7**
PFAD	**Fenais da Ajud**	**3.49**	**100**	*e*P		**Pn**		**12 22 30.9**	**-0.1**
MIRA	**Miradouro**	**3.54**	**101**	*e*P		**Pn**		**12 22 31.4**	**-0.3**
MIRA				*i* S		**Sn**		**12 23 09.3**	**-4.8**
PSMN	**Pico do Norte,**	**3.96**	**111**	*e*P		**Pn**		**12 22 36.2**	**-1.4**
PSMN				*e*S		**Sn**		**12 23 19.7**	**-4.8**
EVO	**Evora**	**16.95**	**83**	*e*P		**P**		**12 25 35.8**	**+1.7**
	52nm,1.3s								
MTE	**Manteigas**	**17.18**	**77**	*e*Pn		**P**		**12 25 32.3**	**-4.8**
	24nm,1.1s								
SFS	**San Fernando**	**18.73**	**89**	*e*P		**P**		**12 25 57.2**	**+0.9**
	181nm,1.1s								
ESDC	**Sonseca Array**	**19.97**	**79**	P		**P**		**12 26 08.5**	**-2.1**
	0.3nm,0.3s,baz=273,slow=6.0,SNR=5.0								
ESLA	**Sonseca Array**	**19.97**	**79**	*e*P		**P**		**12 26 08.7**	**-1.9**
	0.9nm,0.8s								
MDT	**Midelt**	**21.11**	**98**	P		**P**		**12 26 23.2**	**+0.7**
	3.5nm,1.0s,mb3.7,baz=352,slow=7.1,SNR=4.3								
QUIF	**Quistinic**	**21.38**	**55**	*e*P		**P**		**12 26 25.3**	**+0.1**
ROSF	**Rostrenen**	**21.43**	**54**	*e*P		**P**		**12 26 26.2**	**+0.5**
SGMF	**Saint Gilles**	**21.87**	**55**	*e*P		**P**		**12 26 30.3**	**+0.2**
	142nm,1.4s,mb4.9								
ETSF	**Etsaut**	**22.44**	**70**	*e*P		**P**		**12 26 36.8**	**+1.0**
	185nm,1.8s,mb4.9								
MFF	**Saint Martin d**	**23.09**	**60**	*e*P		**P**		**12 26 42.5**	**+0.4**
	67nm,1.2s,mb4.7								
EPF	**Esparros**	**23.10**	**69**	*e*P		**P**		**12 26 43.3**	**+1.1**
	114nm,1.3s,mb4.8								
LFF	**La Frestale**	**23.49**	**64**	*e*P		**P**		**12 26 46.8**	**+0.8**
EKA	**Eskdalemuir Ar**	**24.47**	**38**	P		**P**		**12 26 56.0**	**+0.5**
	4.3nm,0.9s,mb3.9,baz=240,slow=6.7,SNR=6.1								
MTLF	**Montolieu**	**24.48**	**68**	*e*P		**P**		**12 26 57.0**	**+1.4**
TCF	**Toulx Ste Croi**	**24.66**	**61**	*e*P		**P**		**12 26 58.1**	**+0.8**
	102nm,1.4s,mb4.9								
BGF	**Bois d'Agland**	**25.13**	**61**	*e*P		**P**		**12 27 03.2**	**+1.4**
	40nm,0.8s,mb4.7								
AVF	**Avril sur Loir**	**25.50**	**60**	*e*P		**P**		**12 27 06.3**	**+1.0**
SSF	**Saint Saulge**	**25.64**	**60**	*e*P		**P**		**12 27 07.6**	**+1.0**
	22nm,1.2s,mb4.5								
LASF	**Ste Croix**	**25.67**	**67**	*e*P		**P**		**12 27 07.7**	**+0.7**
	140nm,1.7s,mb4.9								
SMF	**Signal de Mont**	**25.82**	**61**	*e*P		**P**		**12 27 09.4**	**+1.1**
	85nm,1.2s,mb4.9								
VIVF	**Saint-Julien-l**	**26.27**	**65**	*e*P		**P**		**12 27 13.0**	**+0.4**
	63nm,1.3s,mb4.7								
BAIF	**Baives**	**26.62**	**53**	*e*P		**P**		**12 27 15.9**	**+0.3**
MEZF	**Maizieres J'vi**	**26.87**	**57**	*e*P		**P**		**12 27 18.7**	**+0.7**
SMRF	**Simiane la Rot**	**26.91**	**67**	*e*P		**P**		**12 27 19.8**	**+1.4**
GIVF	**Givet**	**27.02**	**53**	*e*P		**P**		**12 27 19.5**	**+0.2**
ORIF	**Oris-en-Rattie**	**27.14**	**65**	*e*P		**P**		**12 27 21.4**	**+1.0**
	73nm,1.4s,mb4.7								
CABF	**La Chapelle**	**27.36**	**61**	*e*P		**P**		**12 27 23.8**	**+1.4**
	114nm,1.6s,mb4.8								
HAU	**Haudompre**	**27.66**	**58**	*e*P		**P**		**12 27 25.9**	**+0.7**
HINF	**Hinteralfeld**	**27.98**	**59**	*e*P		**P**		**12 27 28.8**	**+0.7**
CDF	**Champ du Feu**	**28.33**	**58**	*e*P		**P**		**12 27 31.4**	**+0.2**
GRA1	**Grafenberg Arr**	**31.04**	**56**	*e*P		**P**		**12 27 56.2**	**+0.8**
	16nm,1.2s,mb4.7								
GRF	**Grafenberg Arr**	**31.04**	**56**	*e*P		**P**		**12 27 56.2**	**+0.8**
	16nm,1.2s,mb4.7								
GERES	**GERESS Array B**	**32.61**	**57**	P		**P**		**12 28 09.0**	**-0.1**
	1.0nm,0.7s,mb3.9,baz=248,slow=7.2,SNR=7.6								
NB2	**NORSAR Subarra**	**33.85**	**35**	P		**P**		**12 28 20.6**	**+0.8**
	1.3nm,0.7s,mb4.0,baz=246,slow=7.9								
NOA	**NORSAR Array B**	**33.85**	**35**	P		**P**		**12 28 20.7**	**+0.9**
	2.2nm,0.7s,mb4.2,baz=248,slow=9.5,SNR=4.9								
NOA	**NORSAR Array B**	**33.85**	**35**	P		**P**		**12 28 20.7**	**+0.9**
SUMG	**Summit**	**34.41**	**355**	*e*P		**P**		**12 28 23.8**	**-0.7**
	3.3nm,0.6s,mb4.4								
HFS	**Hagfors**	**34.67**	**37**	P		**P**		**12 28 27.3**	**+0.5**
	5.3nm,1.0s,mb4.4,baz=221,slow=15,SNR=3.0								
SJG	**San Juan**	**37.68**	**248**	*e*P		**P**		**12 28 52.3**	**-0.4**
	19nm,0.3s,mb5.3								
SVIS	**Svilajnac**	**38.09**	**65**	⇑*i*P		**P**		**12 28 56.1**	**+0.1**
FINES	**FINESS Array B**	**40.87**	**37**	P		**P**		**12 29 18.1**	**-0.7**
	2.1nm,0.7s,mb3.9,baz=256,slow=7.9,SNR=7.2								
ARCES	**ARCESS Array B**	**42

GRL	**Gorelyy**	**2.87**	**232**	*eP*	P	12 23 29.5	+0.1
GRL				*eS*	S	12 24 02.9	-0.3
APC	**Apacha**	**3.11**	**244**	*eP*	P	12 23 33.2	+0.4
APC				*eS*	S	12 24 09.6	+0.3
APC				Smax			
	comp=N,60nm,0.9s						
PAU	**Pauzhetka**	**4.18**	**228**	*eP*	P	12 23 48.6	+0.5
PAU				Smax			
	comp=N,150nm,1.1s						
SKR	**Severo-Kuril's**	**5.06**	**225**	*eP*	P	12 24 04.5	+4.0

*NEIC **05** 12:42:08.6, 19.52N×66.77W, h80km, MD3.6(RSPR), After RSPR.*

RSPR 05 12:42:08.6, 19.52N×66.77W, h80km±20km, MD3.6/5, MD3.6/5, 3C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.17**	**179**⇑	*eP*	P		12 42 28.8	-1.2
LSP	**Las Mesas**	**1.37**	**193**	*eS*	S		12 42 50.3	-0.3
CBYP	**Canovanas**	**1.52**	**145**⇓	*eP*	P		12 42 33.1	-1.5
CBYP				*eS*	S		12 43 53.2	-0.7
MGP	**Maguayo**	**1.54**	**191**⇑	*eP*	P		12 42 34.0	-1.0
MGP				*eS*	S		12 42 52.9	-1.4
CRPR	**Cabo Rojo, PR**	**1.54**	**192**⇑	*eP*	P		12 42 34.8	-0.2
CRPR				*eS*	S		12 42 53.1	-1.3
CPD	**Cerro la Pandu**	**1.69**	**151**	*eS*	S		12 42 57.4	-0.3
MTP	**Monte Pirata**	**1.83**	**141**⇓	*eP*	P		12 42 37.6	-1.2
MTP				*eS*	S		12 43 00.4	-0.6

*IDC **05** 12:50:40.6±1.7, 26.48N×125.01E, h188km±19km, mb3.6/13, mb1 3.7/15, mb1mx3.6/25, mbtmp4.2/15, MS3.8/1, Ms1 3.8/1, ms1mx3.2/19, Error ellipse: s-maj=22.3km s-min=11.8km az=70.0*

*NEIC **05** 12:50:42.0±0.7, 26.46N×125.18E, h204km±7km, mb4.4/7, Error ellipse: s-maj=13.9km s-min=9.0km az=140.0*

*JMA **05** 12:50:44.3±0.4, 26.63N×124.80E, h169km, M4.3*

ISC 05 12:50:41.8±0.3, 26.39N±0.06×125.08E±0.05, h214km±5km, n48, σ1§23/66, mb4.0/20, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.53**	**92**	P	P		**12 51 19.1**	**+1.7**
JKE				S	S		**12 51 44.7**	**-0.2**
JMJ	**Miyako jima 2**	**1.58**	**173**	P	P		**12 51 19.7**	**+1.9**
JMJ				S	S		**12 51 45.5**	**-0.1**
JOGS	**Gusukube**	**1.65**	**170**	P	P		**12 51 20.6**	**+2.2**
JOGS				S	S		**12 51 46.6**	**-0.1**
JTJ	**Tarama**	**1.77**	**191**	P	P		**12 51 20.9**	**+1.3**
JTJ				S	S		**12 51 47.6**	**-1.1**
JAGN	**Aguni-jima**	**1.94**	**84**	P	P		**12 51 22.7**	**+1.5**
JAGN				*eS*	S		**12 51 51.1**	**-0.4**
JIJ	**Ishigaki jima**	**2.19**	**203**	P	P		**12 51 24.0**	**+0.3**
JIJ				S	S		**12 51 53.3**	**-2.7**
NAH1	**Naha**	**2.35**	**94**	P	P		**12 51 27.4**	**+2.0**
NAH1				*eS*	S		**12 51 58.7**	**-0.4**
JKRS	**Kuro-shima**	**2.35**	**205**	P	P		**12 51 25.8**	**+0.4**
JKRS				*eS*	S		**12 51 56.8**	**-2.3**
IRIF	**Iriomote-Funau**	**2.38**	**211**	P	P		**12 51 25.8**	**0.0**
JJT2	**Tamagusuku 2**	**2.41**	**95**	P	P		**12 51 28.4**	**+2.4**
JJT2				*eS*	S		**12 52 00.8**	**+0.6**
HATJ	**Hateruma jima**	**2.59**	**207**	P	P		**12 51 28.6**	**+0.5**
HATJ				*eS*	S		**12 52 01.9**	**-2.0**
JIH	**Iheya**	**2.66**	**75**	P	P		**12 51 30.3**	**+1.5**
JIH				S	S		**12 52 03.7**	**-1.5**
YOJ	**Yonaguni jima**	**2.68**	**225**	P	P		**12 51 29.3**	**+0.2**
YOJ				S	S		**12 52 03.6**	**-2.0**
JOW	**Kunigami**	**2.89**	**80**	P	P		**12 51 29.4**	**-2.1**
	31nm,0.3s,baz=247,slow=9.8,SNR=31							
JOW				LR	LR		12 52 06.8	
	comp=Z,2μm,20.8s,baz=231,slow=29							
JOW				S	S		**12 52 07.7**	**-2.1**
	553nm,0.3s,baz=132,slow=25,SNR=54							
JOW	**Kunigami**	**2.89**	**80**	P	P		**12 51 32.9**	**+1.5**
JOW				S	S		**12 52 07.9**	**-1.9**
TATO	**Taipei**	**3.54**	**247**	*eP*n	P		**12 51 40.5**	**+1.5**
JTK	**Tokunoshima**	**3.72**	**67**	P	P		**12 51 41.6**	**+0.3**
JTK				S	S		**12 52 24.3**	**-3.0**
YHNB	**Yeheng**	**3.76**	**244**	*eP*n	P		**12 51 43.3**	**+1.5**
YHNB				*eS*n	S		**12 52 29.3**	**+1.1**
NACB	**Ninganchiao**	**3.85**	**236**	*eP*n	P		**12 51 42.1**	**-0.8**
NACB				*eS*n	S		**12 52 29.7**	**-0.4**
JAM	**Amami Oshima**	**4.50**	**62**	P	P		**12 51 50.8**	**-0.1**
JAM				S	S		**12 52 41.5**	**-3.0**
JZK	**Kikaishima**	**4.75**	**65**	*eS*	S		**12 52 50.5**	**+0.3**
JNU	**Nakatsue**	**8.39**	**36**	P	P		**12 52 36.6**	**-4.3**
	7.1nm,0.3s,baz=166,slow=6.0,SNR=22							
KS15	**Wonju Array Si**	**11.28**	**11**	Pn	P		**12 53 18.3**	**+0.3**
MAJO	**Matsushiro**	**15.08**	**45**	*ePn*	P		**12 54 09.3**	**+3.8**
	8.6nm,0.4s							
GUMO	**Guam**	**22.49**	**121**	*eP*	P		**12 55 32.9**	**+8.8**
	94nm,1.0s,mb5.3							
ASAJ	**Asahikawa**	**22.67**	**34**	P	P		**12 55 24.8**	**-0.8**
	7.8nm,0.7s,mb4.4,baz=262,slow=7.1,SNR=6.4							
SONM	**Songino Array**	**25.96**	**330**	P	P		**12 55 55.4**	**-0.9**
	0.2nm,0.4s,mb3.1,baz=150,slow=12,SNR=6.0							
LSA	**Lhasa**	**30.07**	**284**	*eP*	P		**12 56 31.4**	**-1.9**
	3.8nm,0.7s,mb4.1							
PSI	**Prapat**	**34.35**	**231**	P	P		**12 57 09.2**	**-1.1**
	1.4nm,0.4s,mb3.8,baz=247,slow=6.4,SNR=2.7							
JIRN	**Jiri**	**34.58**	**281**	*eP*	P		**12 57 13.3**	**+1.2**
GUN	**Gumba**	**34.82**	**282**	*eP*	P		**12 57 16.5**	**+2.3**
	4.7nm,0.3s,mb4.5							
KKN	**Kakani**	**35.36**	**281**	*eP*	P		**12 57 19.7**	**+0.9**
	5.1nm,0.3s,mb4.5							
DMN	**Daman**	**35.54**	**281**	*eP*	P		**12 57 20.1**	**-0.1**
GKN	**Gorkha**	**35.90**	**282**	*eP*	P		**12 57 24.2**	**+0.9**
	5.6nm,0.4s,mb4.4							
KOLN	**Koldanda**	**36.84**	**282**	*eP*	P		**12 57 31.6**	**+0.4**
MA2	**Magadan**	**37.63**	**21**	*eP*	P		**12 57 38.2**	**+0.7**
	25nm,1.0s,mb4.7							
MKAR	**Makanchi Array**	**39.34**	**313**	P	P		**12 57 51.0**	**-0.8**
	1.6nm,0.4s,mb3.9,baz=100,slow=10,SNR=21							
ZAL	**Zalesovo**	**40.44**	**324**	P	P		**12 57 59.2**	**-1.5**
	1.4nm,0.4s,mb3.7,baz=350,slow=9.3,SNR=6.2							
WRA	**Warramunga Arr**	**46.92**	**168**	P	P		**12 58 53.5**	**+0.7**
	4.1nm,0.5s,mb4.0,baz=350,slow=8.6,SNR=65							
WRA				PcP	PcP		13 00 22.5	+0.2
	0.7nm,0.5s,baz=348,slow=3.6,SNR=7.0							
CHKZ	**Chkalovo**	**48.28**	**320**	*eP*	P		**12 59 03.4**	**+0.4**
	137nm,2.0s,mb4.9							
BVAR	**Borovoye Array**	**48.29**	**319**	P	P		**12 59 02.4**	**-0.5**
	0.7nm,0.3s,mb3.4,baz=108,slow=8.4,SNR=9.0							
BVAR				PcP	PcP		13 00 26.1	-0.6
	2.0nm,1.0s,baz=118,slow=3.4,SNR=4.4							
STKA	**Stephens Creek**	**60.04**	**164**	P	P		**13 00 28.6**	**+0.2**
	1.7nm,0.7s,mb3.8,baz=290,slow=5.6,SNR=5.2							
ARCES	**ARCESS Array B**	**68.82**	**338**	P	P		**13 01 23.6**	**-0.7**
	1.5nm,0.8s,mb3.7,baz=236,slow=3.3,SNR=3.9							
FINES	**FINESS Array B**	**71.33**	**330**	P	P		**13 01 38.4**	**-1.2**
	0.7nm,0.4s,mb3.7,baz=62,slow=6.0,SNR=10							
AKASG	**Malin Array Be**	**73.57**	**319**	P	P		**13 01 51.8**	**-1.2**
	0.9nm,0.5s,mb3.6,baz=61,slow=6.8,SNR=4.2							
BRTR	**Keskin Array B**	**74.70**	**307**	P	P		**13 01 59.9**	**+0.2**
	0.8nm,0.7s,mb3.4,baz=90,slow=4.3,SNR=3.2							
NB2	**NORSAR Subarra**	**77.91**	**333**	P	P		**13 02 16.7**	**-0.3**
	0.8nm,0.5s,mb3.6,baz=55,slow=5.6							
NOA	**NORSAR Array B**	**77.91**	**333**	P	P		**13 02 16.4**	**-0.7**
	0.5nm,0.7s,mb3.3,baz=56,slow=5.6,SNR=4.1							

JMA 05 12:52:31.1±0.2, 32.07N×138.57E, h24km, M4.2, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.48**	**45**	P	P		12 52 56.7	+0.1
JHJ2				*eS*	S		12 53 15.5	+0.2
TK01	**Tokai 1**	**1.88**	**334**	P	P		12 53 02.6	+0.3
TK01				S	S		12 53 25.6	+0.1
TK02	**Tokai 2**	**1.99**	**340**	P	P		12 53 04.1	+0.2
TK02				S	S		12 53 29.0	+0.6
TK03	**Tokai 3**	**2.15**	**347**	P	P		12 53 06.7	+0.5
TK03				S	S		12 53 32.6	+0.2
JKO	**Kozu shima**	**2.16**	**13**	*eS*	S		12 53 35.0	+2.3
TK04	**Tokai 4**	**2.38**	**346**	P	P		12 53 09.9	+0.4
TK04				S	S		12 53 38.5	+0.3
JIE	**Ise**	**2.79**	**327**	P	P		12 53 15.6	+0.2
JIE				S	S		12 53 47.6	-1.1
JWZ	**Kozaga**	**2.81**	**302**	P	P		12 53 16.0	+0.4
JWZ				*eS*	S		12 53 46.8	-2.3
JOD2	**Odawara 2**	**3.21**	**8**	P	P		12 53 23.2	+1.8
JOD2				*eS*	S		12 54 02.1	+2.8
JWY	**Kouya**	**3.29**	**311**	P	P		12 53 23.1	+0.7
JWY				*eS*	S		12 53 59.4	-1.9
JYN	**Shimob**	**3.42**	**360**	⇓P	P		12 53 24.7	+0.4
JYN				*eS*	S		12 54 04.5	0.0
JAI	**Aioi**	**3.87**	**297**	P	P		12 53 31.5	+0.9
JAI				*eS*	S		12 54 13.5	-2.3
JGM	**Miyama**	**3.93**	**337**	P	P		12 53 31.7	+0.1
JGM				*eS*	S		12 54 15.6	-1.9
JRY	**Ryogami san**	**3.95**	**4**	P	P		12 53 33.4	+1.6
JRY				*eS*	S		12 54 19.5	+1.6
JWT	**Wachi**	**4.15**	**321**	P	P		12 53 35.4	+0.7
JWT				*eS*	S		12 54 21.8	-1.3
JMN	**Monobe**	**4.28**	**294**	P	P		12 53 37.2	+0.7
JMN				*eS*	S		12 54 24.3	-2.0
MAT	**Matsushiro**	**4.47**	**356**	P	P		12 53 40.2	+1.0
MAT				S	S		12 54 30.2	-1.0
MAT	**Matsushiro**	**4.47**	**356**	P	P		12 53 40.4	+1.2
MAT				S	S		12 54 30.9	-0.3
JKG	**Kaga**	**4.59**	**337**	*eS*	S		12 54 32.4	-1.7

*IDC **05** 12:55:37.0±0.8, 16.88N×46.39W, mb4.1/14, mb1 4.4/14, mb1mx4.2/25, mbtmp4.1/14, Error ellipse: s-maj=27.2km s-min=16.6km az=166.0*

*NEIC **05** 12:55:38.4±0.7, 16.79N×46.27W, h10km, mb5.2/10, Error ellipse: s-maj=18.4km s-min=10.7km az=161.0*

*MOS **05** 12:55:39.9±1.2, 17.46N×46.40W, h10km, mb5.3/3, Error ellipse: s-maj=22.3km s-min=16.3km az=44.6*

ISC 05 12:55:37.2±0.7, 16.9N±0.1×46.32W±0.08, h10km, n40, σ1§00/40, mb4.5/25, 1D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**18.39**	**277**	P	P		**12 59 55.7**	**+1.5**
SDV	**Santo Domingo**	**24.98**	**254**	P	P		**13 01 02.1**	**-0.6**
	5.8nm,0.8s,mb4.2,baz=77,slow=4.3,SNR=9.0							
LPAZ	**La Paz**	**39.37**	**214**	P	P		**13 03 08.1**	**-0.8**
	1.8nm,0.7s,mb3.9,baz=36,slow=8.2,SNR=7.7							
TORD	**Torodi Ar. Bea**	**46.44**	**88**	P	P		**13 04 07.0**	**+0.6**
	5.1nm,1.1s,mb4.3,baz=286,slow=3.4,SNR=3.5							
KSU1	**Kansas State U**	**48.89**	**307**	*eP*	P		**13 04 24.7**	**-0.6**
TXAR	**Lajitas Array**	**53.71**	**294**	P	P		**13 05 00.9**	**-0.9**
	1.9nm,1.0s,mb4.0,baz=112,slow=6.7,SNR=10							
SUMG	**Summit**	**55.85**	**3**	*eP*	P		**13 05 16.9**	**0.0**
	7.0nm,0.8s,mb4.7							
ANMO	**Albuquerque**	**56.19**	**301**	P	P		**13 05 19.9**	**0.0**
	2.0nm,1.0s,mb4.1,baz=96,slow=5.6,SNR=4.9							
DGMT	**Dagmar**	**56.32**	**317**	*eP*	P		**13 05 20.0**	**-0.5**
	38nm,1.1s,mb5.3							
LAZ	**Ladron**	**56.73**	**300**	*eP*	P		**13 05 24.4**	**+0.7**
LAO	**LASA Array**	**57.31**	**315**	*eP*	P		**13 05 27.9**	**+0.3**
	21nm,1.0s,mb5.1							
GERES	**GERESS Array B**	**57.80**	**43**	P	P		**13 05 29.6**	**-1.4**
	0.2nm,0.3s,mb3.6,baz=256,slow=5.5,SNR=4.7							
PDAR	**Pinedale Array**	**59.14**	**310**	P	P		**13 05 39.1**	**-1.4**
	6.7nm,1.1s,mb4.6,baz=103,slow=5.3,SNR=20							
REDW	**Red Top Meadow**	**60.13**	**311**	*eP*	P		**13 05 46.9**	**-0.5**
	15nm,1.2s,mb4.9							
DAU	**Daniels Canyon**	**60.24**	**307**	*eP*	P		**13 05 48.5**	**+0.4**
RRI2	**Red Ridge**	**60.47**	**311**	*eP*	P		**13 05 49.1**	**-0.5**
	28nm,0.9s,mb5.3							
HWUT	**Hardware Ranch**	**60.54**	**309**	*eP*	P		**13 05 49.5**	**-0.6**
	19nm,1.0s,mb5.2							
QLMT	**Earthquake Lak**	**60.67**	**312**	*eP*	P		**13 05 52.3**	**+1.3**
MSU	**Marysvale**	**60.89**	**305**	*eP*	P		**13 05 53.9**	**+1.3**
MVU	**Marysvale**	**60.92**	**305**	*eP*	P		**13 05 54.4**	**+1.7**
	8.1nm,1.1s,mb4.8							
HRY	**Holter Researc**	**61.13**	**314**	*eP*	P		**13 05 53.3**	**-0.8**
SPUT	**South Promonto**	**61.19**	**308**	*eP*	P		**13 05 54.0**	**-0.6**
DUG	**Dugway**	**61.42**	**307**	*eP*	P		**13 05 56.0**	**-0.1**
DUG				pmax	pmax			
	comp=Z,60nm,2.0s,mb5.4							
DUG	**Dugway**	**61.42**	**307**	*eP*	P		**13 05 56.0**	**-0.1**
	comp=Z,60nm,2.0s,mb5.4							
MCMT	**McKenzie Canyo**	**61.68**	**312**	*eP*	P		**13 05 56.0**	**-1.8**
ARUT	**Antelope Range**	**61.88**	**304**	*eP*	P		**13 06 00.0**	**+0.7**
EDM	**Edmonton**	**62.90**	**322**	*eP*	P		**13 06 05.7**	**-0.1**
NEN	**Nelson**	**63.05**	**302**	*eP*	P		**13 06 08.0**	**+1.0**
ELK	**Elko**	**63.28**	**307**	*eP*	P		**13 06 08.3**	**-0.2**
ELK				pmax	pmax			
	comp=Z,19nm,1.1s							
ELK	**Elko**	**63.28**	**307**	*eP*	P		**13 06 08.3**	**-0.2**
	comp=Z,19nm,1.1s,mb5.1							
YKA	**Yellowknife Ar**	**65.14**	**332**	P	P		**13 06 19.3**	**-1.0**
	comp=Z,1.0nm,0.8s,mb3.9,baz=97,slow=7.6,SNR=8.7							
NVAR	**Mina Array Bea**	**65.70**	**305**	P	P		**13 06 23.4**	**-0.9**
	comp=Z,1.4nm,1.0s,mb4.0,baz=104,slow=9.0,SNR=7.2							
MOD	**Modoc**	**67.08**	**309**	*eP*	P		**13 06 33.9**	**+0.9**
	comp=Z,27nm,1.8s,mb5.0							
ARCES	**ARCESS Array B**	**67.94**	**21**	P	P		**13 06 36.7**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=243,slow=5.4,SNR=5.1							
AKASG	**Malin Array Be**	**67.98**	**42**	P	P		**13 06 37.8**	**-0.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=270,slow=6.2,SNR=6.3							
BRTR	**Keskin Array B**	**71.78**	**53**	P	P		**13 07 02.2**	**+0.3**
	comp=Z,3.3nm,1.1s,mb4.2,baz=288,slow=3.9,SNR=8.6							
OBN	**Obninsk**	**72.26**	**37**⇓	*eP*	P		**13 07 07.7**	**+3.1**
OBN				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.8							
ILAR	**Eielson Array**	**79.29**	**335**	P	P		**13 07 44.7**	**+0.6**
	comp=Z,5.0nm,0.9s,mb4.5,baz=74,slow=4.6,SNR=64							
IMA2	**Indian Mountai**	**81.53**	**337**	P	P		**13 07 57.4**	**+1.4**
BVAR	**Borovoye Array**	**91.70**	**33**	P	P		**13 08 48.5**	**+2.6**
	comp=Z,0.9nm,0.7s,mb4.2,baz=297,slow=3.3,SNR=5.5							

*IDC **05** 13:02:33.5±1.0, 6.38S×29.67E, mb4.0/9, mb1 4.1/12, mb1mx4.0/23, mbtmp4.0/12, ML4.0/1, Error ellipse: s-maj=31.9km s-min=20.5km az=103.0*

*NEIC **05** 13:02:34.7±0.4, 6.41S×29.63E, h10km, mb4.0/2, Error ellipse: s-maj=13.6km s-min=7.4km az=109.0*

ISC 05 13:02:31.8±0.5, 6.59S±0.05×29.7E±0.1, h10km, n24, σ1§31/33, mb3.9/10, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**8.77**	**190**	Pn	P		**13 04 45.9**	**+4.2**
	2.2nm,0.3s,baz=11,slow=10,SNR=7.5							
LSZ				Sn	Sn		**13 06 21.3**	**-0.3**
	3.9nm,0.3s,baz=326,slow=16,SNR=6.4							
LSZ				Lg			13 07 16.1	
	9.3nm,0.3s,baz=119,slow=22,SNR=4							
LSZ	**Lusaka**	**8.77**	**190**	*ePn*	P		**13 04 48.1**	**+6.5**
LSZ				Sn	Sn		**13 06 21.3**	**-0.3**
LSZ				Lg			13 07 16.1	
KMBO	**Kilima Mbogo**	**9.26**	**54**	Pn	P		**13 04 47.3**	**-1.2**
	1.4nm,0.3s,baz=234,slow=18,SNR=5.1							
KMBO				Sn	Sn		**13 06 23.8**	**-10**
	3.7nm,0.3s,baz=141,slow=24,SNR=7.7							
KMBO				Lg			13 07 17.3	
	6.0nm,0.3s,baz=329,slow=22,SNR=16							
KMBO	**Kilima Mbogo**	**9.26**	**54**	Pn	P		**13 04 47.3**	**-1.2**
KMBO				Sn	Sn		**13 06 23.8**	**-10**
KMBO				Lg			13 07 17.3	
MATP	**Matopo**	**13.81**	**185**	Pn	P		**13 05 53.3**	**+3.1**
	0.4nm,0.3s,baz=351,slow=17,SNR=3.4							
MATP				Sn	S		**13 08 21.0**	**-3.6**
	0.5nm,0.3s,baz=226,slow=23,SNR=3.5							
MATP				Lg			13 09 53.2	
	0.8nm,0.3s,baz=253,slow=10,SNR=2.8							
TSUM	**Tsumeb**	**17.23**	**222**	Pn	P		**13 06 34.5**	**+0.2**
	0.4nm,0.3s,baz=70,slow=15,SNR=2.8							
TSUM				Sn	S		**13 09 38.0**	**-6.6**
	1.0nm,0.3s,baz=274,slow=13,SNR=4.1							
TSUM	**Tsumeb**	**17.23**	**222**	*ePn*	P		**13 06 36.6**	**+2.2**
	4.4nm,0.5s							
TSUM				Sn	S		**13 09 38.0**	**-6.5**
LBTB	**Lobatse**	**18.75**	**192**	P	P		**13 06 53.2**	**0.0**
	0.1nm,0.3s,baz=307,slow=14,SNR=1.9							
LBTB				S	S		**13 10 16.6**	**-2.4**
	0.2nm,0.3s,baz=296,slow=20,SNR=2.2							
LBTB	**Lobatse**	**18.75**	**192**	P	P		**13 06 54.9**	**+1.7**
LBTB				S	S		**13 10 16.6**	**-2.4**
TORD	**Torodi Ar. Bea**	**34.06**	**305**	P	P		**13 09 18.9**	**+0.2**
	2.8nm,1.0s,mb4.2,baz=63,slow=3.2,SNR=11							
DBIC	**Dimbokro**	**36.94**	**290**	*eP*	P		**13 09 43.5**	**+0.4**
	3.1nm,0.6s,mb4.3							
BRTR	**Keskin Array B**	**46.22**	**4**	P	P		**13 10 59.8**	**+0.7**
	2.2nm,0.6s,mb4.2,baz=182,slow=9.4,SNR=11							
SFS	**San Fernando**	**54.48**	**324**	*eP*	P		**13 12 00.3**	**-1.7**
GERES	**GERESS Array B**	**56.96**	**347**	P	P		**13 12 18.8**	**-1.1**
	0.7nm,0.6s,mb3.9,baz=158,slow=7.2,SNR=5.5							
AKASG	**Malin Array Be**	**57.06**	**360**	P	P		**13 12 19.4**	**-1.0**
	0.1nm,0.3s,mb3.4,baz=182,slow=7.1,SNR=4.4							
AKTO	**Aktyubinsk**	**61.84**	**20**	P	P		**13 12 53.1**	**-0.4**
	0.6nm,0.5s,mb4.0,baz=226,slow=7.6,SNR=6.7							
SNAA	**Sanae**	**68.10**	**191**	P	P		**13 13 34.9**	**+1.3**
BVAR	**Borovoye Array**	**68.63**	**25**	P	P		**13 13 37.3**	**+0.1**
	0.9nm,0.7s,mb3.8,baz=226,slow=7.0,SNR=7.2							
MKAR	**Makanchi Array**	**70.60**	**35**	P	P		**13 13 50.7**	**+1.3**
	1.1nm,0.8s,mb3.8,baz=236,slow=4.4,SNR=4.1							
MKAR	**Makanchi Array**	**70.60**	**35**	P	P		**13 13 50.7**	**+1.3**
ARCES	**ARCESS Array B**	**76.01**	**358**	P	P		**13 14 19.9**	**-0.7**
	1.0nm,0.6s,mb3.9,baz=170,slow=7.4,SNR=7.3							
ARCES	**ARCESS Array B**	**76.01**	**358**	P	P		**13 14 19.9**	**-0.7**
CASY	**Casey**	**80.31**	**156**	*eP*	P		**13 14 47.9**	**+3.6**
SONM	**Songino Array**	**85.98**	**41**	P	P		**13 15 15.8**	**+2.1**
	0.7nm,1.0s,mb3.9,baz=278,slow=10,SNR=4.2							

*IDC **05** 13:02:58.1±0.6, 16.73N×46.64W, mb4.0/17, mb1 4.2/17, mb1mx4.1/27, mbtmp4.0/17, Error ellipse: s-maj=21.8km s-min=15.4km az=126.0*

*MOS **05** 13:02:58.2±1.3, 16.69N×46.59W, h10km, mb5.2/2, Error ellipse: s-maj=26.1km s-min=21.8km az=84.2*

*NEIC **05** 13:02:59.6±0.6, 16.66N×46.51W, h10km, mb5.1/2, Error ellipse: s-maj=17.2km s-min=12.8km az=111.0*

ISC 05 13:02:58.0±0.5, 16.66N±0.09×46.54W±0.10, h10km, n29, σ1§14/29, mb4.1/19, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**24.71**	**255**	P	P		**13 08 22.5**	**+1.5**
	5.5nm,1.1s,mb4.0,baz=84,slow=15,SNR=4.0							
SIV	**San Ignacio**	**35.46**	**205**	P	P		**13 09 56.5**	**-0.4**
	0.4nm,0.4s,mb3.7,baz=20,slow=12,SNR=2.4							
LPAZ	**La Paz**	**39.05**	**214**	P	P		**13 10 26.7**	**-0.3**
	1.5nm,0.7s,mb3.8,baz=17,slow=9.1,SNR=5.5							
CCM	**Cathedral Cave**	**44.55**	**308**	*eP*	P		**13 11 13.1**	**+1.2**
CCM				pmax	pmax			
	comp=Z,45nm,1.7s,mb5.0							
CCM	**Cathedral Cave**	**44.55**	**308**	*eP*	P		**13 11 13.1**	**+1.2**
	comp=Z,45nm,1.7s,mb5.0							
TORD	**Torodi Ar. Bea**	**46.66**	**87**	P	P		**13 11 28.6**	**-0.3**
	comp=Z,1.7nm,1.0s,mb3.9,baz=282,slow=3.3,SNR=2.9							
CFAA	**Coronel Fontan**	**52.31**	**203**	P	P		**13 12 10.8**	**-1.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=42,slow=7.0,SNR=4.1							
TXAR	**Lajitas Array**	**53.62**	**294**	P	P		**13 12 22.0**	**0.0**
	comp=Z,0.8nm,0.9s,mb3.6,baz=101,slow=6.4,SNR=4.9							
LAZ	**Ladron**	**56.68**	**300**	*eP*	P		**13 12 44.8**	**+0.6**
PDAR	**Pinedale Array**	**59.14**	**310**	P	P		**13 12 59.1**	**-2.2**
	comp=Z,4.6nm,1.0s,mb4.5,baz=101,slow=7.6,SNR=15							
NOA	**NORSAR Array B**	**60.15**	**28**	P	P		**13 13 07.9**	**-0.1**
	comp=Z,1.7nm,1.0s,mb4.0,baz=244,slow=11,SNR=2.6							
DAU	**Daniels Canyon**	**60.23**	**307**	*eP*	P		**13 13 09.2**	**+0.4**
QLMT	**Earthquake Lak**	**60.69**	**312**	*eP*	P		**13 13 07.0**	**-4.9**
PLCA	**Paso Flores**	**61.30**	**201**	P	P		**13 13 17.1**	**+1.0**
	comp=Z,2.3nm,0.9s,mb4.3,baz=341,slow=8.7,SNR=3.1							
DUG	**Dugway**	**61.41**	**307**	*eP*	P		**13 13 13.4**	**-3.5**
DUG				pmax	pmax			
	comp=Z,21nm,1.5s,mb5.0							
DUG	**Dugway**	**61.41**	**307**	*eP*	P		**13 13 13.4**	**-3.4**
	comp=Z,21nm,1.5s,mb5.0							
MCMT	**McKenzie Canyo**	**61.69**	**312**	*eP*	P		**13 13 19.6**	**+0.9**
ARUT	**Antelope Range**	**61.85**	**304**	P	P		**13 13 12.6**	**-7.3**
NEN	**Nelson**	**63.01**	**302**	*eP*	P		**13 13 28.4**	**+0.8**
YKA	**Yellowknife Ar**	**65.26**

MCMT	**McKenzie Canyo**	**61.67**	**312**	*eP*		**P**		**13 15 07.2**	**+1.0**
ARUT	**Antelope Range**	**61.84**	**304**	*eP*		**P**		**13 15 08.4**	**+1.0**
EDM	**Edmonton**	**62.94**	**322**	*eP*		**P**		**13 15 14.2**	**-0.3**
NEN	**Nelson**	**62.99**	**302**	*eP*		**P**		**13 15 15.7**	**+0.6**
YKA	**Yellowknife Ar**	**65.23**	**332**	*i* P		**P**		**13 15 27.0**	**-2.3**
	comp=Z,2.1nm,1.0s,mb4.1,baz=103,slow=6.8,SNR=8.8								
YKA	**Yellowknife Ar**	**65.23**	**332**	*i* P		**P**		**13 15 27.6**	**-1.7**
YKA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
NVAR	**Mina Array Bea**	**65.66**	**305**	P		**P**		**13 15 31.6**	**-0.9**
	comp=Z,1.1nm,0.8s,mb3.9,baz=85,slow=5.3,SNR=6.9								
MLR	**Muntele Rosu**	**66.05**	**47**	P		**P**		**13 15 35.6**	**+0.7**
	comp=Z,4.0nm,0.6s,mb4.6,baz=348,slow=5.3,SNR=3.4								
MLR	**Muntele Rosu**	**66.05**	**47**	P		**P**		**13 15 35.6**	**+0.7**
MLR				pmax		pmax			
	comp=Z,4.0nm,0.6s								
LRV	**Little Rabbit**	**67.94**	**303**	*eP*		**P**		**13 15 48.8**	**+1.8**
AKASG	**Malin Array Be**	**68.26**	**42**	P		**P**		**13 15 48.6**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=274,slow=5.9,SNR=6.9								
BRTR	**Keskin Array B**	**72.06**	**53**	P		**P**		**13 16 11.4**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.1,baz=315,slow=5.2,SNR=7.2								
BRTR	**Keskin Array B**	**72.06**	**53**	P		**P**		**13 16 11.5**	**-0.6**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
OBN	**Obninsk**	**72.55**	**37**⇓	*eP*		**P**		**13 16 15.9**	**+1.2**
OBN				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
INK	**Inuvik**	**73.52**	**337**	*eP*		**P**		**13 16 17.4**	**-2.7**
INK				pmax		pmax			
	comp=Z,16nm,1.3s								
INK	**Inuvik**	**73.52**	**337**	*eP*		**P**		**13 16 17.4**	**-2.7**
	comp=Z,16nm,1.3s,mb4.8								
DAWY	**Dawson**	**76.39**	**333**	*eP*		**P**		**13 16 35.7**	**-0.9**
KIV	**Kislovodsk**	**78.06**	**48**	*i* P		**P**		**13 16 49.4**	**+3.1**
KIV				pmax		pmax			
	comp=Z,2.0nm,0.3s,mb4.5								
ILAR	**Eielson Array**	**79.39**	**335**	P		**P**		**13 16 53.4**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.4,baz=74,slow=4.9,SNR=23								
ILAR	**Eielson Array**	**79.39**	**335**	P		**P**		**13 16 53.4**	**+0.3**
ILAR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
COLA	**College**	**79.75**	**335**⇑	*eP*		**P**		**13 16 56.0**	**+0.9**
GNI	**Garni**	**80.38**	**51**	P		**P**		**13 17 00.4**	**+1.4**
	comp=Z,1.9nm,0.3s,mb4.5,baz=205,slow=14,SNR=3.8								
GNI	**Garni**	**80.38**	**51**	*i* P		**P**		**13 17 02.1**	**+3.1**
GNI				pmax		pmax			
	comp=Z,13nm,1.0s								
ARU	**Arti**	**84.33**	**33**⇓	*i* P		**P**		**13 17 21.0**	**+2.0**
ARU				*e*				13 20 34.4	
ARU				*e*S		S		13 27 40.4	-2.9
ARU				*e*SS		SS		13 33 09.0	-7.1
ARU				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.7								
AKTO	**Aktyubinsk**	**86.24**	**38**	P		**P**		**13 17 29.0**	**+0.3**
	comp=Z,1.6nm,0.8s,mb4.3,baz=320,slow=5.6,SNR=3.5								
AKTO	**Aktyubinsk**	**86.24**	**38**	P		**P**		**13 17 29.0**	**+0.3**
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.4								
BVAR	**Borovoye Array**	**91.98**	**33**	P		**P**		**13 17 55.1**	**-0.7**
	comp=Z,0.6nm,0.8s,mb4.0,baz=252,slow=4.6,SNR=2.5								
BVAR	**Borovoye Array**	**91.98**	**33**	P		**P**		**13 17 55.1**	**-0.6**
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BILL	**Bilibino**	**92.20**	**348**	*eP*		**P**		**13 17 57.9**	**+1.5**
BILL				pmax		pmax			
	comp=Z,5.0nm,1.3s,mb4.7								

IDC 05 13:06:36.1±2.3,**16.65N**×**46.74W**,**mb3.8**/8,**mb1 4.1**/8,
mb1mx3.9/22,**mbtmp3.8**/8,**Error ellipse: s-maj=77.2km s-min=22.9km az=9.0,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**46.85**	**87**	P	P	13 15 08.7	-1.4
	1.7nm,1.0s,baz=300,slow=6.9,SNR=3.0						
TXAR	**Lajitas Array**	**53.45**	**294**	P	P	13 15 57.1	-3.3
	0.1nm,0.4s,baz=79,slow=9.2,SNR=3.1						
PDAR	**Pinedale Array**	**58.99**	**310**	P	P	13 16 38.8	-1.2
	1.7nm,1.0s,baz=90,slow=10,SNR=4.5						
YKA	**Yellowknife Ar**	**65.17**	**332**	P	P	13 17 19.1	-1.9
	0.5nm,0.6s,baz=105,slow=7.0,SNR=4.5						
ARCES	**ARCESS Array B**	**68.33**	**21**	P	P	13 17 38.2	-2.7
	1.5nm,0.9s,baz=281,slow=6.2,SNR=3.6						
AKASG	**Malin Array Be**	**68.44**	**42**	P	P	13 17 39.5	-2.4
	0.2nm,0.3s,baz=280,slow=5.6,SNR=4.0						
BRTR	**Keskin Array B**	**72.25**	**53**	P	P	13 18 03.5	-1.7
	0.7nm,0.5s,baz=270,slow=2.9,SNR=3.1						
ILAR	**Eielson Array**	**79.35**	**335**	P	P	13 18 44.5	-0.5
	2.6nm,0.9s,baz=72,slow=5.0,SNR=7.3						

IDC 05 13:06:54.6±3.6,**16.83N**×**46.64W**,**mb4.0**/7,**mb1 4.3**/7,
mb1mx4.0/23,**mbtmp4.0**/7,**Error ellipse: s-maj=122.6km s-min=27.1km az=16.0,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**46.74**	**88**	P	P	13 15 25.4	-2.3
	1.4nm,0.9s,baz=300,slow=6.8,SNR=2.5						
PDAR	**Pinedale Array**	**58.96**	**310**	P	P	13 16 56.1	-2.1
	0.4nm,0.9s,baz=84,slow=9.1,SNR=4.6						
YKA	**Yellowknife Ar**	**65.07**	**332**	P	P	13 17 35.5	-3.3
	0.7nm,0.7s,baz=102,slow=6.9,SNR=4.6						
YKA	**Yellowknife Ar**	**65.07**	**332**	P	P	13 17 35.5	-3.3
AKASG	**Malin Array Be**	**68.24**	**42**	P	P	13 17 56.6	-2.6
	0.2nm,0.3s,baz=270,slow=5.3,SNR=4.2						
BRTR	**Keskin Array B**	**72.07**	**53**	P	P	13 18 21.8	-0.9
	0.6nm,0.6s,baz=259,slow=6.3,SNR=3.7						
ILAR	**Eielson Array**	**79.23**	**335**	P	P	13 19 02.5	-0.4
	4.6nm,1.0s,baz=73,slow=4.8,SNR=7.0						
AKTO	**Aktyubinsk**	**86.20**	**38**	P	P	13 19 38.4	-0.7
	1.4nm,0.7s,baz=288,slow=7.2,SNR=4.0						

IDC ***05*** *13:16:28.0±0.5,16.67N×46.61W,mb4.2/26,mb1 4.3/26, mb1mx4.3/31,mbtmp4.2/26,Error ellipse: s-maj=17.2km s-min=12.3km az=143.0*

MOS ***05*** *13:16:28.1±0.9,16.62N×46.59W,h10km,mb5.2/10,Error ellipse: s-maj=12.0km s-min=10.6km az=58.1*

NEIC ***05*** *13:16:29.8±0.3,16.61N×46.55W,h10km,mb5.1/13,Error ellipse: s-maj=7.4km s-min=6.7km az=150.0*

ISC 05 13:16:28.0±0.3,**16.61N**±0.07×**46.57W**±0.05,**h10**km,
(h19km±4km**:pP-P),n74,**σ**0.96**/74,**mb4.6**/42,**3C-3D,**
Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPD	**Cerro la Pandu**	**18.53**	**277**	*eP*	**P**	**13 20 46.6**	**-0.1**
SDV	**Santo Domingo**	**24.68**	**255**	P	**P**	**13 21 52.7**	**+2.1**
	17nm,0.9s,mb4.6,baz=62,slow=3.7,SNR=20						
SAML	**Samuel**	**30.25**	**214**	*eP*	**P**	**13 22 41.1**	**-0.4**
	4.3nm,1.1s,mb4.1						
SIV	**San Ignacio**	**35.41**	**205**	P	**P**	**13 23 25.0**	**-1.4**
	0.9nm,0.9s,mb3.7,baz=53,slow=10,SNR=4.9						
LPAZ	**La Paz**	**39.00**	**214**	P	**P**	**13 23 57.0**	**+0.5**
	2.6nm,0.7s,mb4.1,baz=25,slow=6.0,SNR=8.5						
SWET	**Sewanee**	**39.64**	**306**	*eP*	**P**	**13 23 58.7**	**-3.0**
DBIC	**Dimbokro**	**41.95**	**99**	P	**P**	**13 24 21.9**	**+0.9**
	11nm,1.2s,mb4.4,baz=261,slow=8.6,SNR=3.1						
ESDC	**Sonseca Array**	**43.51**	**49**	P	**P**	**13 24 34.2**	**+0.8**
	0.4nm,0.5s,baz=233,slow=6.4,SNR=3.8						
CPUP	**Villa Florida**	**43.94**	**194**	*eP*	**P**	**13 24 37.0**	**-0.1**
CPUP				pmax	pmax		
	comp=Z,55nm,0.9s						
CPUP	**Villa Florida**	**43.94**	**194**	*eP*	**P**	**13 24 37.0**	**-0.1**
	comp=Z,55nm,0.9s,mb5.3						
TORD	**Torodi Ar. Bea**	**46.69**	**87**	P	**P**	**13 24 57.9**	**-1.2**
	comp=Z,4.4nm,0.8s,mb4.4,baz=278,slow=7.3,SNR=9.9						
WMOK	**Wichita Mounta**	**49.84**	**302**	*eP*	**P**	**13 25 22.9**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
WMOK	**Wichita Mounta**	**49.84**	**302**	*eP*	**P**	**13 25 22.9**	**-0.5**
	comp=Z,13nm,1.1s,mb4.9						
ULM	**Lac du Bonnet**	**51.75**	**322**	P	**P**	**13 25 36.4**	**-1.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=88,slow=8.7,SNR=5.6						
CFAA	**Coronel Fontan**	**52.26**	**203**	P	**P**	**13 25 41.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=40,slow=9.4,SNR=5.6						
TXAR	**Lajitas Array**	**53.62**	**294**	P	**P**	**13 25 51.1**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.5,baz=108,slow=7.9,SNR=5.8						
MNTX	**Cornudas Mount**	**55.13**	**297**	*eP*	**P**	**13 26 02.5**	**-0.6**
	comp=Z,12nm,1.1s,mb4.8						
ISCO	**Idaho Springs**	**55.87**	**307**	*eP*	**P**	**13 26 09.6**	**+1.3**
ISCO				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
ISCO	**Idaho Springs**	**55.87**	**307**	*eP*	**P**	**13 26 09.6**	**+1.4**
	comp=Z,25nm,1.1s,mb5.2						
ANMO	**Albuquerque**	**56.15**	**301**⇓	*eP*	**P**	**13 26 12.0**	**+1.7**
LAZ	**Ladron**	**56.68**	**300**	*eP*	**P**	**13 26 15.3**	**+1.1**
LAO	**LASA Array**	**57.35**	**315**	*eP*	**P**	**13 26 18.7**	**0.0**
	comp=Z,29nm,0.8s,mb5.4						
NKC	**Novy Kostel**	**57.67**	**41**	*eP*	**P**	**13 26 21.4**	**+0.5**
NKC				*ep*P	pP	13 26 27.5	+3.5
KHC	**Kasperske Hory**	**58.15**	**42**	*eP*	**P**	**13 26 24.4**	**+0.1**
KHC				*ep*P	pP	13 26 30.0	+2.6
GERES	**GERESS Array B**	**58.17**	**42**	P	**P**	**13 26 22.5**	**-1.9**
	comp=Z,0.3nm,0.3s,mb3.8,baz=262,slow=9.4,SNR=6.0						
CLL	**Collm**	**58.27**	**40**	P	**P**	**13 26 25.0**	**-0.1**
CLL				*i*		13 26 31.4	
CLL				*e*		13 26 37.0	
CLL				*e*		13 26 41.0	
CLL	**Collm**	**58.27**	**40**⇓	*eP*	**P**	**13 26 25.0**	**-0.1**
CLL				*i*		13 26 31.4	
BW06	**Boulder Array**	**59.15**	**310**	*eP*	**P**	**13 26 30.7**	**-0.7**
	comp=Z,21nm,1.3s,mb5.0						
PDAR	**Pinedale Array**	**59.15**	**310**	P	**P**	**13 26 30.1**	**-1.2**
	comp=Z,2.1nm,0.8s,mb4.2,baz=124,slow=7.3,SNR=14						
EGMT	**Eagleton**	**59.94**	**316**	*eP*	**P**	**13 26 36.7**	**-0.1**
	comp=Z,14nm,0.9s,mb5.0						
UPC	**Upice**	**59.96**	**41**	*eP*	**P**	**13 26 37.4**	**+0.6**
UPC				*ep*P	pP	13 26 43.3	+3.3
VRAC	**Vranov**	**60.13**	**42**	P	**P**	**13 26 37.4**	**-0.5**
	comp=Z,2.5nm,0.5s,mb4.5,baz=330,slow=9.2,SNR=3.1						
DPC	**Dobruska-Polom**	**60.13**	**41**	*eP*	**P**	**13 26 37.0**	**-1.0**
NOA	**NORSAR Array B**	**60.20**	**28**	P	**P**	**13 26 37.7**	**-0.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=251,slow=6.8,SNR=2.7						
DAU	**Daniels Canyon**	**60.24**	**307**	*eP*	**P**	**13 26 39.7**	**+0.8**
IMW	**Indian Meadow**	**60.26**	**311**	*eP*	**P**	**13 26 38.9**	**0.0**
	comp=Z,37nm,0.8s,mb5.5						
AHID	**Auburn Hatcher**	**60.28**	**310**	*eP*	**P**	**13 26 38.6**	**-0.5**
	comp=Z,26nm,1.2s,mb5.1						
RRI2	**Red Ridge**	**60.49**	**311**	*eP*	**P**	**13 26 40.5**	**0.0**
	comp=Z,54nm,0.9s,mb5.6						
HWUT	**Hardware Ranch**	**60.54**	**309**	*eP*	**P**	**13 26 40.5**	**-0.4**
	comp=Z,18nm,0.8s,mb5.2						
QLMT	**Earthquake Lak**	**60.70**	**312**	*eP*	**P**	**13 26 43.0**	**+1.1**
MSU	**Marysvale**	**60.87**	**305**	*eP*	**P**	**13 26 43.0**	**-0.2**
HFS	**Hagfors**	**61.05**	**30**	P	**P**	**13 26 43.2**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.5,baz=135,slow=2.1,SNR=3.6						
HRY	**Holter Researc**	**61.17**	**314**	*eP*	**P**	**13 26 45.0**	**-0.1**
SPUT	**South Promonto**	**61.19**	**308**	*eP*	**P**	**13 26 44.7**	**-0.6**
PLCA	**Paso Flores**	**61.24**	**201**	P	**P**	**13 26 45.3**	**-0.4**
	comp=Z,3.2nm,1.0s,mb4.4,baz=335,slow=7.6,SNR=3.3						
BGU	**Big Grassy Mou**	**61.61**	**308**	*eP*	**P**	**13 26 47.8**	**-0.4**
MCMT	**McKenzie Canyo**	**61.70**	**312**	*eP*	**P**	**13 26 50.3**	**+1.6**
ARUT	**Antelope Range**	**61.86**	**304**	*eP*	**P**	**13 26 50.8**	**+0.9**
EDM	**Edmonton**	**62.98**	**322**	*eP*	**P**	**13 26 56.8**	**-0.3**
NEN	**Nelson**	**63.01**	**302**	*eP*	**P**	**13 26 58.2**	**+0.7**
YKA	**Yellowknife Ar**	**65.29**	**332**	P	**P**	**13 27 09.5**	**-2.5**
	comp=Z,1.0nm,0.7s,mb4.0,baz=102,slow=7.4,SNR=13						
YKA	**Yellowknife Ar**	**65.29**	**332**	*i* P	**P**	**13 27 10.5**	**-1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
IDI	**Anoyia**	**65.62**	**58**	P	**P**	**13 27 14.1**	**-0.5**
	comp=Z,12nm,1.0s,mb4.9,baz=326,slow=7.4,SNR=4.0						
NVAR	**Mina Array Bea**	**65.68**	**305**	P	**P**	**13 27 14.2**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.9,baz=84,slow=5.5,SNR=8.1						
FINES	**FINESS Array B**	**67.26**	**30**	P	**P**	**13 27 24.5**	**-0.1**
	comp=Z,3.5nm,1.1s,mb4.3,baz=297,slow=9.3,SNR=3.5						
ARCES	**ARCESS Array B**	**68.30**	**21**	P	**P**	**13 27 30.7**	**-0.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=256,slow=5.0,SNR=6.4						
AKASG	**Malin Array Be**	**68.35**	**42**	P	**P**	**13 27 30.5**	**-1.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=271,slow=5.9,SNR=8.2						
BRTR	**Keskin Array B**	**72.14**	**53**	P	**P**	**13 27 55.2**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=321,slow=7.9,SNR=5.7						
OBN	**Obninsk**	**72.64**	**37**⇓	*eP*	**P**	**13 27 58.2**	**+0.6**
OBN				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
INK	**Inuvik**	**73.58**	**337**	*eP*	**P**	**13 28 01.8**	**-1.0**
INK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
INK	**Inuvik**	**73.58**	**337**	*eP*	**P**	**13 28 01.8**	**-1.0**
	comp=Z,8.8nm,0.8s,mb4.7						
DAWY	**Dawson**	**76.45**	**333**	*eP*	**P**	**13 28 19.2**	**-0.1**
KIV	**Kislovodsk**	**78.14**	**48**	*i* P	**P**	**13 28 28.9**	**-0.2**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**79.45**	**335**	P	**P**	**13 28 36.0**	**+0.1**
	comp=Z,4.4nm,0.7s,mb4.5,baz=74,slow=4.7,SNR=38						
COLA	**College**	**79.82**	**335**⇑	*eP*	**P**	**13 28 38.5**	**+0.7**
GNI	**Garni**	**80.47**	**51**	P	**P**	**13 28 42.6**	**+0.8**
	comp=Z,3.4nm,0.4s,mb4.6,baz=335,slow=22,SNR=3.3						
GNI	**Garni**	**80.47**	**51**	*i* P	**P**	**13 28 43.8**	**+2.0**
GNI				pmax	pmax		
	comp=Z,14nm,1.2s						
IMA2	**Indian Mountai**	**81.71**	**337**	*eP*	**P**	**13 28 46.9**	**-0.8**
ARU	**Arti**	**84.42**	**33**⇑	*i* P	**P**	**13 29 03.3**	**+1.5**
ARU				*e*		13 32 16.1	
ARU				*e*S	S	13 39 22.4	-4.2
ARU				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.8						
AKTO	**Aktyubinsk**	**86.33**	**38**	P	**P**	**13 29 12.4**	**+0.9**
	comp=Z,3.2nm,0.8s,mb4.6,baz=309,slow=5.2,SNR=13						
TIXI	**Tiksi**	**91.91**	**1**⇑	*eP*	**P**	**13 29 38.1**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**92.07**	**33**	P	**P**	**13 29 39.9**	**+1.5**
	comp=Z,1.1nm,0.9s,mb4.2,baz=288,slow=4.7,SNR=6.2						
BILL	**Bilibino**	**92.28**	**348**	*eP*	**P**	**13 29 41.9**	**+2.8**
BILL				pmax	pmax		
	comp=Z,36nm,2.7s,mb5.2						
KURK	**Kurchatov**	**97.58**	**32**	*i* P	**P**	**13 30 07.1**	**+3.4**

CSEM ***05*** *13:21:19.4±0.7,38.75N×29.57W,h5km,ML2.3,Error ellipse: s-maj=13.4km s-min=6.8km az=16.0,After PDA*

PDA ***05*** *13:21:19.4±0.7,38.75N×29.57W,h5km,MD3.4,ML2.3, Error ellipse: s-maj=13.4km s-min=6.8km az=16.0*

SVSA 05 13:21:19.4±0.7,**38.75N**×**29.57W,h5**km,**MD3.4,ML2.3,**
Error ellipse: s-maj=13.4km s-min=6.8km az=16.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.62**	**105**	*e*S	Sg	13 21 38.1	-2.1
	32nm,0.1s						
PTCA	**Ponta do Capel**	**0.62**	**105**	*e*S	Sg	13 21 38.1	-2.1
	32nm,0.1s						
PCED	**Cedros**	**0.69**	**100**	*e*S	Sg	13 21 39.2	-3.1
	59nm,0.2s						
PCED	**Cedros**	**0.69**	**100**	*e*S	Sg	13 21 39.2	-3.1
	59nm,0.2s						
CALA	**Caldeira**	**0.70**	**103**	*er*x	rx	13 37 48.8	
CALA	**Caldeira**	**0.70**	**103**	*e*P	Pg	13 21 31.1	-2.2
CALA				*e*S	Sg	13 21 39.5	-3.1
HOR	**Horta**	**0.77**	**106**	*er*x	rx	13 37 46.4	
HOR	**Horta**	**0.77**	**106**	*e*P	Pg	13 21 31.9	-2.8
HOR				*e*S	Sg	13 21 41.2	-3.7
PICO	**Pico**	**0.93**	**105**	*e*P	Pb	13 21 34.0	-3.5
PICO				*e*S	Sb	13 21 45.0	-4.9
PBOI	**Pico dos Bois**	**0.98**	**108**	*e*S	Sb	13 21 46.7	-4.9
	36nm,0.2s						
ROSA	**Rosais**	**1.03**	**91**	*e*S	Sb	13 21 47.9	-5.2
PMAN	**Manadas**	**1.16**	**95**	*er*x		13 21 47.5	
PSBA	**Serra de Santa**	**1.75**	**89**	*er*x		13 22 03.4	

CSEM ***05*** *13:22:34.9±0.1,44.12N×10.71E,h10km,ML2.6/4,Error ellipse: s-maj=1.9km s-min=1.3km az=17.0*

NEIC ***05*** *13:22:35.3,44.13N×10.69E,h12km,ML2.7(LDG), ML2.5(ROM),After ROM.*

LDG ***05*** *13:22:36.8±0.4,44.05N×10.68E,h10km,Ml2.7/4,Error ellipse: s-maj=8.2km s-min=6.0km az=90.0*

ROM 05 13:22:35.3±0.1,**44.13N**×**10.69E,h12**km,**Md2.2**/6,**Ml2.5**/4,
Error ellipse: s-maj=1.6km s-min=1.3km az=14.0,
Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDI	**Bagni Di Lucca**	**0.10**	**223**	Pg	Pg	13 22 38.8	+0.6
BDI				Sg	Sg	13 22 41.2	+1.0
	8µm,0.2s						
VLC	**Villacollemand**	**0.22**	**277**	Pg	Pg	13 22 40.6	+0.4
VLC				Sg	Sg	13 22 44.0	+0.5
	725nm,0.2s						
GSCL	**Gusciola**	**0.23**	**342**	Pg	Pg	13 22 40.8	+0.4
GSCL				Sg	Sg	13 22 44.6	+0.8
ZCCA	**Zocca**	**0.30**	**44**	Pg	Pg	13 22 42.8	+1.1
	42nm,0.4s						
FNVD	**Fontana Vidola**	**0.32**	**84**	Pg	Pg	13 22 41.9	-0.1
FNVD				Sg	Sg	13 22 47.1	+0.6
	968nm,0.5s						
ERBM	**Eremo**	**0.35**	**326**	Pg	Pg	13 22 43.1	+0.5
	65nm,0.2s						
PII	**Pisa**	**0.43**	**196**	Pg	Pg	13 22 44.1	0.0
VMG	**Vicchio**	**0.64**	**105**	Pg	Pg	13 22 48.7	+0.4
	36nm,0.2s						
CSNT	**Castellina Chi**	**0.79**	**146**	Pg	Pg	13 22 51.1	-0.2
	127nm,0.6s						
SFI	**Santa Sofia**	**0.87**	**105**	Pg	Pg	13 22 52.7	-0.1
	24nm,0.3s						
PGF	**Pioggiola**	**2.01**	**218**	*e*Pn	Pn	13 23 08.6	-0.8
PGF				*e*Sn	Sn	13 23 30.8	-3.7
	7.0nm,0.2s						
SBF	**Sospel**	**2.36**	**265**	*e*Pg	Pg	13 23 20.0	-2.5
SBF				*e*Sn	Sn	13 23 41.9	-1.7
	33nm,0.6s						
SBF	**Sospel**	**2.36**	**265**	*e*Pn	Pn	13 23 13.6	-0.9
SBF				*e*Pg	Pg	13 23 20.0	-2.5
SBF				*e*Sn	Sn	13 23 41.9	-1.7
SBF	**Sospel**	**2.36**	**265**	*e*Pg	Pg	13 23 20.0	-2.5
SBF				*e*Sn	Sn	13 23 41.9	-1.7
	17nm,0.6s						
MBDF	**Montbardon**	**2.87**	**283**	*e*Pn	Pn	13 23 21.6	-0.1
FRF	**La Foret Royal**	**2.98**	**260**	*e*Pg	Pg	13 23 31.3	-3.5
FRF				*e*Sn	Sn	13 23 55.9	-3.3
	2.8nm,0.2s						
FRF	**La Foret Royal**	**2.98**	**260**	*e*Pn	Pn	13 23 22.6	-0.7
FRF				*e*Pg	Pg	13 23 31.3	-3.5
FRF				*e*Sn	Sn	13 23 55.9	-3.3
FRF	**La Foret Royal**	**2.98**	**260**	*e*Pg	Pg	13 23 31.3	-3.5
FRF				*e*Sn	Sn	13 23 55.9	-3.3
	1.4nm,0.2s						
LPG	**La Plagne**	**3.12**	**297**	*e*Pn	Pn	13 23 24.8	-0.4
LMR	**La Mourre**	**3.13**	**257**	*e*Pg	Pg	13 23 34.3	-3.6
LMR				*e*Sn	Sn	13 23 59.3	-3.8
	2.1nm,0.2s						
LMR	**La Mourre**	**3.13**	**257**	*e*Pn	Pn	13 23 23.6	-1.8
LMR				*e*Pg	Pg	13 23 34.3	-3.6
LMR				*e*Sn	Sn	13 23 59.3	-3.8
ORIF	**Oris-en-Rattie**	**3.53**	**285**	*e*Pn	Pn	13 23 31.1	0.0
SMRF	**Simiane la Rot**	**3.69**	**269**	*e*P	P	13 23 35.2	+1.8
SMRF				*e*Pg	Pg	13 23 45.0	-4.0
VIVF	**Saint-Julien-l**	**4.36**	**282**	*e*Pn	Pn	13 23 41.3	-1.7

IDC 05 13:51:31.1±15.0,**6.75S**×**29.82E,mb3.9**/2,**mb1 3.9**/3,
mb1mx3.6/18,**mbtmp3.9**/3,**ML3.6**/1,**Error ellipse: s-maj=322.5km s-min=38.3km az=167.0,Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.28**	**53**	Pn	P	13 53 46.7	-2.6
	0.6nm,0.3s,baz=227,slow=19,SNR=4.0						
KMBO				Sn	Sn	13 55 23.2	-12
	3.2nm,0.3s,baz=183,slow=23,SNR=3.7						
KMBO				Lg		13 56 14.9	
	3.1nm,0.3s,baz=177,slow=24,SNR=16						
TORD	**Torodi Ar. Bea**	**34.23**	**305**	P	P	13 58 18.9	-2.1
	3.4nm,0.9s,baz=118,slow=8.0,SNR=11						
BRTR	**Keskin Array B**	**46.38**	**4**	P	P	13 59 59.2	-1.8
	1.3nm,0.7s,baz=180,slow=7.4,SNR=5.9						

NEIC ***05*** *13:59:28.3,37.37S×178.86E,h20km,ML4.0(WEL),After WEL.*

WEL 05 13:59:29.4±0.3,**37.41S**×**178.80E,h22**km,**ML3.8**/5,**1D,**
**Error ellipse: s-maj=2.1km s-

SPCH	**San Pedro de A**	**0.91**	**152**	*i* P		P	14 00 20.7	+0.2
SPCH				*i* S		S	14 00 39.0	+1.7
SPCH				AMP			14 00 53.6	
	comp=N,457nm,0.6s							
CEN1	**Los Morros**	**1.91**	**228**	*e*P		P	14 00 35.1	+3.4
CEN1				*i* S		S	14 01 02.0	+5.1
CEN1				AMP			14 01 12.9	
	comp=N,329nm,0.5s							
ANCH	**Antofagasta**	**2.25**	**225**	*e*P		P	14 00 36.4	+0.4
ANCH				*i* S		S	14 01 05.0	+0.5
CPN1	**Cerro Paranal**	**2.98**	**212**	*e*P		P	14 01 46.7	+1.1
CPN1				*i* S		S	14 01 23.2	+1.8
CPN1				AMP			14 01 36.8	
	comp=E,264nm,0.7s							
LPAZ	**La Paz**	**5.81**	**5**	*e*Pn		P	14 01 20.7	-2.8
SAML	**Samuel**	**14.10**	**23**	*e*Pn		P	14 03 14.3	+0.7
PLCA	**Paso Flores**	**18.64**	**184**	*e*Pn		P	14 04 08.0	-0.7
PAYG	**Puerto Ayora**	**29.95**	**312**	*e*P		P	14 05 51.0	-6.1

IDC 05 14:09:03.5±14.0, 6.42S×29.76E, mb3.7/2, mb1 3.8/3, mb1mx3.6/18, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=304.6km s-min=39.0km az=169.0, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**9.14**	**55**	Pn	P	14 11 17.0	-2.7
	1.6nm,0.3s,baz=227,slow=19,SNR=9.7						
KMBO				Sn	Sn	14 12 50.8	-14
	5.1nm,0.3s,baz=280,slow=22,SNR=8.9						
KMBO				Lg		14 13 40.5	
	3.2nm,0.3s,baz=239,slow=21,SNR=4.5						
TORD	**Torodi Ar. Bea**	**33.99**	**305**	P	P	14 15 49.1	-2.1
	0.6nm,0.7s,baz=116,slow=7.4,SNR=6.4						
BRTR	**Keskin Array B**	**46.05**	**4**	P	P	14 17 29.1	-1.8
	0.8nm,0.8s,baz=180,slow=7.4,SNR=4.5						

*IDC **05** 14:35:59.9±2.0,26.88N×55.80E, mb3.8/10, mb1 3.9/10, mb1mx3.8/22, mbtmp3.8/10, Error ellipse: s-maj=44.5km s-min=21.8km az=160.0*
*CSEM **05** 14:35:59.5±0.3,26.74N×55.81E, h2km, ML3.4, Error ellipse: s-maj=8.4km s-min=2.8km az=151.0*
*THR **05** 14:36:01.6±0.8,26.76N×55.97E, h18km±11km, ML3.4*
*KISR **05** 14:36:04.6±1.0,26.97N×55.52E, h33km, ML3.6*
ISC 05 14:36:00.9±0.4, 26.87N±0.03×55.71E±0.04, h10km, n24, σ1§41/30, mb3.7/10, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.67**	**38**	*e*PG	**Pg**	**14 36 14.5**	**+0.2**
BNDS				*e*SG	**Sg**	**14 36 24.0**	**+0.7**
BNDS				AML	AML	14 36 36.2	
	comp=N,2μm,0.4s						
BANOM	**Banah**	**1.08**	**151**	P	**Pb**	**14 36 21.5**	**+0.3**
	SNR=397						
BANOM				P		14 36 21.5	
	SNR=922						
BANOM				⇑S	**Sb**	**14 36 35.7**	**+0.5**
ASHO	**Ashiyiah**	**2.20**	**172**	P	**Pn**	**14 36 39.7**	**+1.7**
	SNR=65						
ASHO				P		14 36 39.8	
	SNR=107						
GHIR	**Ghir-Karzin**	**2.80**	**301**	*e*PN	**Pn**	**14 36 51.3**	**+4.7**
GHIR				*e*SG	**Sg**	**14 37 37.0**	**+2.9**
GHIR				AML	AML	14 37 51.1	
	comp=N,119nm,0.4s						
KRBR	**Kerman**	**3.24**	**16**	*e*PN	**Pn**	**14 36 54.9**	**+2.1**
ARQ	**Araqi**	**3.59**	**168**	P	**Pn**	**14 36 57.7**	**-0.2**
	SNR=20						
SMDO	**Samad**	**4.35**	**150**	⇓P	**Pn**	**14 37 09.2**	**+0.6**
	SNR=13						
NASN	**Na'in**	**6.42**	**338**	*e*Pn	**Pn**	**14 37 39.7**	**+1.8**
RDF	**Al-Radifah**	**7.50**	**288**	*e*P	**Pn**	**14 37 54.3**	**+1.2**
RDF				*e*S	**Sn**	**14 39 17.2**	**-1.9**
RDF				AML	AML	14 39 19.1	
	comp=Z,6.9nm,0.2s						
UMR	**Umm Al-Rimmam**	**7.54**	**293**	*e*P	**Pn**	**14 37 54.8**	**+1.2**
UMR				AML	AML	14 39 19.6	
	comp=Z,11nm,0.3s						
NAY	**Al-Naaiem**	**7.85**	**290**	*e*P	**Pn**	**14 37 59.1**	**+1.3**
NAY				*e*S	**Sn**	**14 39 24.3**	**-3.3**
NAY				AML	AML	14 39 25.7	
	comp=Z,3.3nm,0.3s						
MIB	**Mutribah**	**7.93**	**294**	*e*P	**Pn**	**14 38 00.5**	**+1.4**
MIB				*e*S	**Sn**	**14 39 27.4**	**-2.5**
MIB				AML	AML	14 39 30.5	
	comp=Z,9.0nm,0.3s						
WHFO	**Wadi Hawf**	**9.09**	**192**	P	**P**	**14 38 14.2**	**-0.9**
	SNR=9.4						
RBK	**Rabkut**	**9.43**	**189**	P	**P**	**14 38 19.5**	**-0.3**
	SNR=6.4						
BRTR	**Keskin Array B**	**22.39**	**310**	P	**P**	**14 41 02.4**	**+1.5**
	comp=Z,0.6nm,0.6s,mb3.2,baz=135,slow=15,SNR=3.4						
AKTO	**Aktyubinsk**	**23.60**	**4**	P	**P**	**14 41 12.6**	**0.0**
	comp=Z,1.1nm,0.5s,mb3.5,baz=199,slow=9.2,SNR=4.3						
BVAR	**Borovoye Array**	**28.33**	**19**	P	**P**	**14 41 54.2**	**-2.5**
	comp=Z,1.5nm,0.6s,mb3.8,baz=202,slow=8.0,SNR=10						
MKAR	**Makanchi Array**	**28.90**	**40**	P	**P**	**14 42 00.4**	**-1.5**
	comp=Z,0.5nm,0.6s,mb3.4,baz=218,slow=8.8,SNR=4.8						
AKASG	**Malin Array Be**	**31.20**	**327**	P	**P**	**14 42 20.4**	**-2.0**
	comp=Z,1.2nm,0.6s,mb3.9,baz=134,slow=8.4,SNR=9.4						
ZAL	**Zalesovo**	**34.50**	**30**	P	**P**	**14 42 48.9**	**-2.2**
	comp=Z,1.8nm,0.4s,mb4.3,baz=228,slow=7.6,SNR=7.2						
FINES	**FINESS Array B**	**39.88**	**338**	P	**P**	**14 43 35.0**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=145,slow=9.6,SNR=11						
SONM	**Songino Array**	**44.48**	**48**	P	**P**	**14 44 13.4**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.4,baz=248,slow=8.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**52.20**	**266**	P	**P**	**14 45 13.3**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=66,slow=7.3,SNR=23						
ILAR	**Eielson Array**	**86.98**	**9**	P	**P**	**14 48 46.1**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.8,baz=315,slow=4.1,SNR=9.2						

MAN 05 14:44:04.8, 6.24N×123.73E, h27km, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**1.11**	**28**	⇓P	Pn	14 44 22.8	-2.0
CTBH				*i* S	Sn	14 44 36.5	-2.8
PAGZ	**Pagadian**	**1.64**	**348**	*e*P	Pn	14 44 32.1	-0.2
PAGZ				*e*S	Sn	14 44 52.4	-0.3
IPIL	**Ipil**	**1.92**	**323**	*e*P	Pn	14 44 37.0	+0.6
IPIL				*e*S	Sn	14 45 00.1	+0.1
BUKP	**Musuan**	**2.10**	**39**	*e*P	Pn	14 44 38.6	-0.4
BUKP				*e*S	Sn	14 45 04.9	+0.4
MATI	**Mati**	**2.61**	**74**	*e*P	Pn	14 44 34.2	-12

*IDC **05** 14:49:15.8±3.2,7.49S×127.92E, h108km±29km, mb4.2/13, mb1 4.2/15, mb1mx4.2/20, mbtmp4.5/15, Error ellipse: s-maj=26.0km s-min=11.6km az=55.0*
*MOS **05** 14:49:15.2±1.0,7.56S×127.70E, h113km, mb5.0/4, Error ellipse: s-maj=22.1km s-min=11.2km az=125.7*
*NEIC **05** 14:49:16.6±1.5,7.54S×127.93E, h116km±15km, mb4.7/8, Error ellipse: s-maj=14.8km s-min=6.7km az=51.0*
ISC 05 14:49:15.7±1.9, 7.55S±0.08×127.90E±0.09, h123km±19km, n46, σ1§11/44, mb4.5/21, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.80**	**139**	*e*P	Px	14 51 18.3	
	855nm,0.7s						
KAKA				*e*S	Sx	14 52 28.2	
FITZ	**Fitzroy Crossi**	**10.72**	**192**	P	**P**	**14 51 45.5**	**-1.3**
	1.6nm,0.3s,baz=39,slow=14,SNR=53						
FITZ				S	**S**	**14 53 37.9**	**-7.1**
	6.4nm,0.3s,baz=43,slow=9.9,SNR=4.1						
WRA	**Warramunga Arr**	**13.81**	**154**	P	**P**	**14 52 26.5**	**-0.9**
	4.0nm,0.3s,baz=326,slow=13,SNR=157						
WRA				S	**S**	**14 54 47.2**	**-11**
	11nm,0.3s,baz=328,slow=24,SNR=13						
WB2	**Warramunga Arr**	**13.82**	**154**	*e*P	**P**	**14 52 26.3**	**-1.1**
WB2				*e*		14 52 34.2	
WB2				*e*S	**S**	**14 54 48.3**	**-10**
KKM	**Kota Kinabalu**	**17.84**	**319**	*e*Pn	**P**	**14 53 20.5**	**+2.8**
PMG	**Port Moresby**	**19.14**	**97**	P	**P**	**14 53 34.9**	**+3.0**
	3.4nm,0.3s,baz=269,slow=5.5,SNR=14						
KSM	**Kuching**	**19.70**	**296**	*e*Pn	**P**	**14 53 40.4**	**+2.6**
CTA	**Charters Tower**	**21.72**	**127**	⇑iP	**P**	**14 54 00.6**	**+2.6**
	13nm,1.1s,mb4.2						
CTA	**Charters Tower**	**21.72**	**127**	P	**P**	**14 53 59.5**	**+1.5**
	21nm,1.0s,mb4.4,baz=302,slow=12,SNR=24						
CTA	**Charters Tower**	**21.72**	**127**	⇑iP	**P**	**14 54 00.6**	**+2.6**
CTA				pmax	pmax		
	comp=Z,13nm,1.1s						
CTAO	**Charters Tower**	**21.72**	**127**	*e*P	**P**	**14 54 00.5**	**+2.5**
CTAO				pmax	pmax		
	comp=Z,53nm,1.3s,mb4.7						
CTAO	**Charters Tower**	**21.72**	**127**	*e*P	**P**	**14 54 00.5**	**+2.4**
	comp=Z,53nm,1.3s,mb4.7						
TGY	**Tagaytay City**	**22.59**	**342**	P	**P**	**14 54 07.1**	**+0.4**
	comp=Z,72nm,0.3s,mb5.4,baz=190,slow=13,SNR=2.7						
FORT	**Forrest**	**23.11**	**180**	*e*P	**P**	**14 54 13.5**	**+1.9**
	comp=Z,46nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**27.12**	**200**	P	**P**	**14 54 49.8**	**+0.6**
STKA	**Stephens Creek**	**27.36**	**154**	*e*P	**P**	**14 54 51.6**	**+0.1**
	comp=Z,11nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**27.36**	**154**	P	**P**	**14 54 51.3**	**-0.2**
	comp=Z,12nm,0.4s,mb4.8,baz=323,slow=8.2,SNR=32						
STKA	**Stephens Creek**	**27.36**	**154**	*e*P	**P**	**14 54 51.5**	**0.0**
STKA				*e*		14 55 27.1	
KULM	**Kulim**	**30.03**	**294**	*e*P	**P**	**14 55 15.5**	**0.0**
PSI	**Prapat**	**30.68**	**289**	P	**P**	**14 55 21.1**	**-0.2**
	comp=Z,42nm,0.8s,mb5.2,baz=157,slow=4.3,SNR=43						
HNR	**Honiara**	**31.75**	**96**	*e*P	**P**	**14 55 28.2**	**-2.3**
DZM	**Mont Dzumac**	**39.82**	**115**	P	**P**	**14 56 38.3**	**-0.4**
	comp=Z,9.7nm,0.7s,mb4.7,baz=232,slow=5.4,SNR=7.9						
LSA	**Lhasa**	**51.18**	**318**	*e*P	**P**	**14 58 09.6**	**+1.0**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
LSA	**Lhasa**	**51.18**	**318**	*e*P	**P**	**14 58 09.6**	**+1.0**
	comp=Z,6.5nm,0.6s,mb4.8						
RPZ	**Rata Peaks**	**52.10**	**141**	P	**P**	**14 58 16.1**	**+0.8**
	comp=Z,15nm,0.7s,mb5.1,baz=29,slow=8.6,SNR=6.0						
JIRN	**Jiri**	**53.40**	**313**	*e*P	**P**	**14 58 24.6**	**-0.6**
GUN	**Gumba**	**53.77**	**313**	*e*P	**P**	**14 58 26.8**	**-1.1**
	comp=Z,20nm,0.8s,mb5.2						
KKN	**Kakani**	**54.14**	**312**	*e*P	**P**	**14 58 29.3**	**-1.3**
	comp=Z,14nm,1.0s,mb4.9						
KKN	**Kakani**	**54.14**	**312**	*e*P	**P**	**14 58 29.3**	**-1.3**
KKN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
DMN	**Daman**	**54.16**	**312**	*e*P	**P**	**14 58 30.0**	**-0.8**
GKN	**Gorkha**	**54.73**	**312**	*e*P	**P**	**14 58 34.4**	**-0.5**
	comp=Z,7.2nm,0.3s,mb5.2						
KOLN	**Koldanda**	**55.37**	**311**	*e*P	**P**	**14 58 38.9**	**-0.6**
	comp=Z,13nm,0.7s,mb5.1						
SONM	**Songino Array**	**58.33**	**343**	P	**P**	**14 58 59.5**	**-0.6**
	comp=Z,1.3nm,1.0s,mb3.9,baz=153,slow=5.7,SNR=5.6						
MKAR	**Makanchi Array**	**67.56**	**328**	P	**P**	**15 00 01.1**	**+0.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=117,slow=8.7,SNR=8.3						
ZAL	**Zalesovo**	**71.17**	**335**	P	**P**	**15 00 22.1**	**-0.8**
	comp=Z,1.5nm,0.3s,mb4.3,baz=334,slow=4.6,SNR=9.3						
VNDA	**Vanda**	**72.16**	**173**	P	**P**	**15 00 28.4**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.1,baz=318,slow=5.7,SNR=7.5						
MAW	**Mawson**	**73.68**	**201**	P	**P**	**15 00 38.4**	**+1.0**
	comp=Z,1.8nm,0.4s,mb4.2,baz=31,slow=12,SNR=2.0						
BVAR	**Borovoye Array**	**77.43**	**329**	P	**P**	**15 00 59.0**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.7,baz=127,slow=9.1,SNR=8.0						
CHKZ	**Chkalovo**	**77.65**	**329**	*e*P	**P**	**15 00 59.9**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
CHKZ	**Chkalovo**	**77.65**	**329**	*e*P	**P**	**15 00 59.9**	**-0.2**
	comp=Z,1.6nm,0.8s,mb3.8						
AKTO	**Aktyubinsk**	**83.24**	**323**	P	**P**	**15 01 29.5**	**-0.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=114,slow=5.1,SNR=6.9						
SNAA	**Sanae**	**94.64**	**194**	P	**P**	**15 02 22.9**	**-0.4**
	comp=Z,0.5nm,0.7s,mb4.1,baz=122,slow=4.5,SNR=4.0						
YKA	**Yellowknife Ar**	**109.16**	**26**	PKiKP		15 07 31.4	
	comp=Z,0.2nm,0.4s,baz=291,slow=1.8,SNR=4.0						
YKA	**Yellowknife Ar**	**109.16**	**26**	PKPdf		15 07 31.4	
PDAR	**Pinedale Array**	**118.76**	**45**	PKP	PKPdf	15 07 49.5	-0.1
	comp=Z,0.3nm,0.4s,baz=90,slow=3.0,SNR=3.5						
LPAZ	**La Paz**	**151.49**	**146**	PKPbc	PKPdf	15 08 58.8	+9.1
	comp=Z,1.8nm,0.7s,baz=41,slow=4.3,SNR=9.6						
LPAZ				PKPab	PKPab	15 09 08.7	+1.5
	comp=Z,6.9nm,0.8s,baz=227,slow=3.4,SNR=23						

MAN 05 14:56:12.7, 14.84N×123.35E, h32km, mb3.8, ML2.6, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POLP	**Polilio Island**	**1.37**	**266**	*e*P	Pn	14 56 35.1	-0.8
POLP				*e*S	Sn	14 56 53.0	-0.1
PVCP	**Virac**	**1.46**	**148**	*e*P	Pn	14 56 36.7	-0.5
AUQP	**San Andres**	**1.64**	**204**	*e*P	Pn	14 56 40.8	+1.0
BALP	**Baler**	**1.93**	**298**	*e*P	Pn	14 56 44.0	0.0
BOAC	**Boac**	**2.00**	**227**	*e*P	Pn	14 56 44.9	-0.2
CAUP	**Cauayan**	**2.56**	**325**	*e*P	Pn	14 56 54.0	+1.0
PGP	**Puerto Galera**	**2.68**	**241**	*e*P	Pn	14 56 58.0	+3.4
LUBP	**Lubang**	**3.20**	**250**	*e*P	Pn	14 57 01.2	-0.9
SJMP	**San Jose**	**3.21**	**223**	*e*P	Pn	14 57 04.2	+2.1
APYP	**Conner**	**3.62**	**326**	*e*P	Pn	14 57 07.2	-0.9

IDC 05 15:07:58.4±0.9, 13.79N×144.94E, h132km±6km, mb3.0/3, mb1 3.3/3, mb1mx3.1/18, mbtmp3.4/3, Error ellipse: s-maj=53.5km s-min=27.4km az=104.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.22**	**200**	P	P	15 08 18.1	+1.5
	242nm,0.3s,baz=250,slow=1.5,SNR=128						
GUMO				S	S	15 08 31.5	+1.0
	158nm,0.3s,baz=320,slow=22,SNR=31						
WRA	**Warramunga Arr**	**35.11**	**198**	P	P	15 14 38.8	-2.3
	0.1nm,0.4s,baz=13,slow=8.4,SNR=5.0						
MKAR	**Makanchi Array**	**61.40**	**316**	P	P	15 18 01.0	-1.8
	0.1nm,0.3s,baz=96,slow=9.3,SNR=4.6						
ILAR	**Eielson Array**	**68.35**	**25**	P	P	15 18 44.3	-2.9
	0.2nm,0.5s,baz=249,slow=5.7,SNR=6.4						

*IDC **05** 15:37:11.5±2.5,26.69N×55.72E, mb3.6/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=54.3km s-min=31.1km az=157.0*
*KISR **05** 15:37:13.8±0.8,26.85N×55.62E, h33km, ML3.8*
*CSEM **05** 15:37:13.8±1.1,26.91N×55.62E, h8km, ML3.4, Error ellipse: s-maj=29.2km s-min=7.5km az=167.0*
*THR **05** 15:37:14.6±0.6,26.86N×55.80E, h15km±7km, ML3.4*
ISC 05 15:37:14.4±2.1, 26.9N±0.1×55.65E±0.06, h22km±13km, n17, σ0§99/25, mb3.7/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.70**	**42**	*e*PG	**Pb**	**15 37 26.9**	**-0.9**
BNDS				*e*SG	**Sb**	**15 37 36.0**	**-0.9**
BNDS				AML	AML	15 37 44.0	
	comp=N,2μm,0.4s						
BNDS	**Bandar-Abbas**	**0.70**	**42**	*e*Pg	**Pb**	**15 37 26.9**	**-0.9**
	SNR=91						
BNDS				*e*Sg	**Sb**	**15 37 36.0**	**-1.0**
	comp=N,2μm,0.4s,SNR=91						
GHIR	**Ghir-Karzin**	**2.75**	**301**	*e*PN	**Pn**	**15 38 02.1**	**+3.8**
GHIR				*e*SG	**Sn**	**15 38 44.3**	**+13**
GHIR				AML	AML	15 38 59.2	
	comp=N,149nm,0.5s						
KRBR	**Kerman**	**3.24**	**17**	*e*PN	**Pn**	**15 38 07.2**	**+1.8**
NASN	**Na'in**	**6.40**	**338**	*e*Pn	**Pn**	**15 38 51.2**	**+1.3**
QRN	**Al-Qurain**	**7.10**	**287**	*e*P	**Pn**	**15 39 00.5**	**+0.8**
QRN				*e*S	**Sn**	**15 40 19.5**	**-1.1**
KBD	**Kabd**	**7.40**	**290**	*e*P	**Pn**	**15 39 04.3**	**+0.3**
RDF	**Al-Radifah**	**7.45**	**288**	*e*P	**Pn**	**15 39 05.4**	**+0.6**
RDF				*e*S	**Sn**	**15 40 29.3**	**-0.3**
RDF				AML	AML	15 40 29.6	
	comp=Z,12nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.49**	**293**	*e*P	**Pn**	**15 39 05.7**	**+0.4**
UMR				*e*S	**Sn**	**15 40 29.5**	**-1.0**
UMR				AML	AML	15 40 31.9	
	comp=Z,15nm,0.3s						
MIB	**Mutribah**	**7.88**	**294**	*e*P	**Pn**	**15 39 11.3**	**+0.5**
MIB				AML	AML	15 40 38.3	
	comp=Z,9.0nm,0.5s						
MIB				*e*S	**Sn**	**15 40 40.0**	**-0.3**
MIB	**Mutribah**	**7.88**	**294**	*e*P	**Pn**	**15 39 11.3**	**+0.5**
MIB				*e*S	**Sn**	**15 40 40.0**	**-0.3**
BRTR	**Keskin Array B**	**22.35**	**311**	P	**P**	**15 42 14.4**	**+2.0**
	comp=Z,0.6nm,0.6s,mb3.2,baz=108,slow=9.1,SNR=4.8						
MKAR	**Makanchi Array**	**28.92**	**40**	P	**P**	**15 43 14.5**	**+0.4**
	comp=Z,2.1nm,1.1s,mb3.8,baz=218,slow=9.0,SNR=4.0						
AKASG	**Malin Array Be**	**31.17**	**327**	P	**P**	**15 43 32.9**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=133,slow=8.6,SNR=8.5						
FINES	**FINESS Array B**	**39.86**	**338**	P	**P**	**15 44 47.6**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.7,baz=131,slow=13,SNR=6.7						

TORD	**Torodi Ar. Bea**	**52.15**	**266**	P		**P**	**15 46 24.6**	**-1.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=59,slow=7.2,SNR=9.9							
ILAR	**Eielson Array**	**86.98**	**9**	P		**P**	**15 49 57.9**	**-0.8**
	comp=Z,0.2nm,0.6s,mb3.5,baz=326,slow=4.7,SNR=4.1							

*IDC **05** 15:41:25.8±1.5,6.47S×29.77E, mb3.5/2, mb1 3.9/7, mb1mx3.7/23, mbtmp3.9/7, ML3.9/4, Error ellipse: s-maj=41.5km s-min=19.6km az=101.0*
*NEIC **05** 15:41:27.8±1.1,6.51S×30.03E, h10km, mb3.6/1, Error ellipse: s-maj=39.9km s-min=11.4km az=113.0*
ISC 05 15:41:24.7±0.8, 6.49S±0.08×29.9E±0.1, h10km, n9, σ1§18/11, mb3.5/2, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**8.89**	**191**	Pn	**P**	**15 43 38.0**	**+1.8**
	2.3nm,0.3s,baz=13,slow=11,SNR=13						
LSZ				Sn	**Sn**	**15 45 14.2**	**-3.2**
	7.0nm,0.3s,baz=30,slow=11,SNR=6.2						
LSZ				Lg		15 46 05.8	
	9.2nm,0.3s,baz=313,slow=6.7,SNR=5.5						
LSZ	**Lusaka**	**8.89**	**191**	*e*Pn	**P**	**15 43 37.9**	**+1.7**
LSZ				*e*Sn	**Sn**	**15 45 12.3**	**-5.1**
KMBO	**Kilima Mbogo**	**9.09**	**54**	Pn	**P**	**15 43 38.0**	**-1.1**
	0.7nm,0.3s,baz=237,slow=22,SNR=3.9						
KMBO				Lg		15 46 08.9	
	12nm,0.3s,baz=157,slow=22,SNR=10						
MATP	**Matopo**	**13.92**	**185**	Pn	**P**	**15 44 44.4**	**-0.2**
	0.9nm,0.3s,baz=6.5,slow=12,SNR=13						
MATP				Lg		15 48 43.8	
	1.3nm,0.3s,baz=83,slow=16,SNR=4.7						
TSUM	**Tsumeb**	**17.39**	**222**	P	**P**	**15 45 28.2**	**-1.1**
	0.4nm,0.3s,baz=31,slow=11,SNR=5.4						
LBTB	**Lobatse**	**18.87**	**192**	P	**P**	**15 45 48.3**	**+0.8**
	0.2nm,0.3s,baz=36,slow=17,SNR=3.8						
LBTB	**Lobatse**	**18.87**	**192**	*e*P	**P**	**15 45 48.1**	**+0.6**
	2.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**34.12**	**305**	P	**P**	**15 48 11.6**	**-0.6**
	0.4nm,0.7s,mb3.4,baz=121,slow=7.6,SNR=3.0						
BRTR	**Keskin Array B**	**46.11**	**4**	P	**P**	**15 49 52.5**	**+1.4**
	0.3nm,0.4s,mb3.6,baz=191,slow=8.3,SNR=2.9						

*IDC **05** 15:42:42.9±1.1,6.40S×29.73E, mb4.1/8, mb1 4.2/12, mb1mx4.1/23, mbtmp4.2/12, ML4.2/4, Error ellipse: s-maj=33.1km s-min=21.2km az=103.0*
*NEIC **05** 15:42:44.3±0.4,6.44S×29.89E, h10km, mb4.1/2, Error ellipse: s-maj=19.2km s-min=7.3km az=107.0*
ISC 05 15:42:41.0±0.5, 6.60S±0.05×29.9E±0.1, h10km, n19, σ1§17/28, mb4.1/8, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**8.77**	**191**	Pn	**P**	**15 44 55.5**	**+4.6**
	3.9nm,0.3s,baz=11,slow=11,SNR=3.2						
LSZ				Sn	**Sn**	**15 46 31.0**	**+0.2**
	11nm,0.3s,baz=130,slow=21,SNR=3.7						
LSZ				Lg		15 47 21.8	
	11nm,0.3s,baz=287,slow=20,SNR=3.4						
KMBO	**Kilima Mbogo**	**9.17**	**54**	Pn	**P**	**15 44 54.8**	**-1.6**
	3.7nm,0.3s,baz=47,slow=24,SNR=6.0						
KMBO				Sn	**Sn**	**15 46 34.7**	**-5.9**
	11nm,0.3s,baz=243,slow=23,SNR=4.4						
KMBO				Lg		15 47 23.1	
	9.8nm,0.3s,baz=260,slow=22,SNR=2.6						
MATP	**Matopo**	**13.80**	**185**	Pn	**P**	**15 46 01.0**	**+1.7**
	1.9nm,0.3s,baz=0.1,slow=13,SNR=5.1						
MATP				Sn	**S**	**15 48 33.1**	**-0.5**
	1.9nm,0.3s,baz=237,slow=16,SNR=4.3						
MATP				Lg		15 50 04.8	
	1.0nm,0.3s,baz=306,slow=18,SNR=6.3						
MATP	**Matopo**	**13.80**	**185**	Pn	**P**	**15 46 01.0**	**+1.7**
MATP				Sn	**S**	**15 48 33.1**	**-0.5**
MATP				Lg		15 50 04.8	
TSUM	**Tsumeb**	**17.30**	**222**	P	**P**	**15 46 44.1**	**-0.3**
	0.3nm,0.3s,baz=38,slow=13,SNR=3.1						
TSUM				S	**S**	**15 49 42.9**	**-12**
	0.7nm,0.3s,baz=298,slow=8.3,SNR=2.8						
TSUM	**Tsumeb**	**17.30**	**222**	*e*Pn	**P**	**15 46 47.8**	**+3.4**
	6.7nm,0.4s						
TSUM				S	**S**	**15 49 42.9**	**-12**
LBTB	**Lobatse**	**18.75**	**192**	P	**P**	**15 47 05.3**	**+2.8**

LSZ	**Lusaka**	**9.06**	**192**	*e*Pn		**P**	**16**	**14**	**04.0** **+1.2**
	13nm,0.4s								
LSZ				*e*Sn		**Sn**	**16**	**15**	**45.4** **-0.6**
MATP	**Matopo**	**14.07**	**186**	Pn		**P**	**16**	**15**	**10.4** **-0.4**
	1.0nm,0.3s,baz=6.9,slow=12,SNR=10								
MATP				Sn		**S**	**16**	**17**	**39.4** **-8.6**
	0.6nm,0.3s,baz=100,slow=18,SNR=3.2								
MATP				Lg			16	19	11.2
	0.9nm,0.3s,baz=281,slow=18,SNR=8.9								
TSUM	**Tsumeb**	**17.64**	**222**	*e*Pn		**P**	**16**	**15**	**55.9** **-0.7**
	3.6nm,0.5s								
TSUM				*e*Sn		**S**	**16**	**18**	**54.3** **-17**
LBTB	**Lobatse**	**19.05**	**193**	P		**P**	**16**	**16**	**13.7** **-0.2**
	0.3nm,0.3s,baz=19,slow=12,SNR=4.6								
LBTB				S		**S**	**16**	**19**	**37.2** **-5.8**
	0.4nm,0.3s,baz=68,slow=19,SNR=3.0								
LBTB	**Lobatse**	**19.05**	**193**	P		**P**	**16**	**16**	**13.7** **-0.2**
LBTB				*e*Pn		**P**	**16**	**16**	**15.3** **+1.4**
LBTB				S		**S**	**16**	**19**	**37.2** **-5.8**
TORD	**Torodi Ar. Bea**	**34.22**	**305**	P		**P**	**16**	**18**	**37.1** **-0.1**
	1.5nm,0.7s,mb4.0,baz=117,slow=8.2,SNR=5.9								
BRTR	**Keskin Array B**	**45.96**	**4**	P		**P**	**16**	**20**	**17.7** **+3.6**
	1.7nm,0.8s,mb4.0,baz=172,slow=8.7,SNR=10								
GERES	**GERESS Array B**	**56.81**	**347**	P		**P**	**16**	**21**	**35.6** **-0.2**
	0.6nm,0.6s,mb3.8,baz=169,slow=6.8,SNR=4.9								
KHC	**Kasperske Hory**	**57.10**	**347**	*e*P		**P**	**16**	**21**	**37.5** **-0.5**

NNC 05 16:33:52.6±1.5, 44.75N×81.42E, mpv3.4, 7C-5D, Error ellipse: s-maj=14.0km s-min=3.3km az=134.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.13**	**16**	⇑Pn	Pn	16 34 31.7	+1.8
	8.2nm,0.3s,baz=199,slow=14,SNR=260						
MK31				⇑Lg		16 34 59.7	
	10nm,0.3s,baz=197,slow=26,SNR=9.2						
TKM2	**Tokmak 2**	**4.59**	**249**	⇑Pg	Pg	16 35 17.0	-7.3
	4.6nm,0.8s						
TKM2				⇓Lg		16 36 17.1	
	22nm,0.7s						
KURK	**Kurchatov**	**6.26**	**343**	⇑Pn	Pn	16 35 29.2	+0.7
	2.1nm,0.7s						
KURK				⇓Lg		16 37 10.1	
	8.4nm,0.9s						
KK31	**Karatay Array**	**8.05**	**262**	⇓Lg		16 38 05.0	
	4.0nm,0.7s,baz=68,slow=28,SNR=6.2						
VOSK	**Vostochnaya**	**10.54**	**323**	⇑Pn	P	16 36 33.6	+5.8
	4.7nm,1.4s						
VOSK				⇑Lg		16 39 29.0	
	8.9nm,1.4s						
BVA0	**Borovoye Array**	**11.01**	**323**	⇓Lg		16 39 40.8	
	0.8nm,0.8s,baz=131,slow=24,SNR=4.0						
CHKZ	**Chkalovo**	**11.38**	**326**	⇑Pn	P	16 36 38.9	-0.5
	1.3nm,0.7s						
CHKZ				⇓Lg		16 39 52.4	
	6.7nm,1.4s						

*IDC **05** 16:42:26.0±4.5, 36.75N×75.46E, mb3.9/3, mb1 3.9/4, mb1mx3.5/19, mbtmp3.8/4, Error ellipse: s-maj=96.2km s-min=38.9km az=15.0*
*NEIC **05** 16:42:29.9±1.8, 37.12N×75.48E, h10km, mb3.3/2, Error ellipse: s-maj=42.4km s-min=12.8km az=45.0*
*BJI **05** 16:42:36.6, 38.00N×75.82E, h31km, ML3.8*
*NNC **05** 16:42:40.7±3.5, 38.29N×75.11E, mpv3.2, Error ellipse: s-maj=33.9km s-min=30.2km az=76.0*
ISC 05 16:42:33.8±1.6, 38.0N±0.1×75.7E±0.2, h10km, n10, σ1§22/12, mb3.7/3, 4C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.52**	**8**	PG	**Pg**	**16**	**43**	**03.3** **-1.0**
KSH				SG	**Sg**	**16**	**43**	**23.3** **-1.4**
KSH				Smax				
	comp=N,340nm,0.3s							
KSH				Smax				
	comp=E,410nm,0.3s							
TKM2	**Tokmak 2**	**4.91**	**359**	⇑Pn	**Pn**	**16**	**43**	**53.7** **+4.2**
	comp=E,4.4nm,0.5s							
TKM2				⇑Lg		16 45 07.0		
	comp=E,13nm,0.6s							
KK31	**Karatay Array**	**6.45**	**324**	Pn	**Pn**	**16**	**44**	**12.5** **+1.3**
	comp=E,0.3nm,0.2s,baz=127,slow=13,SNR=60							
KK31				⇑Sn	**Sn**	**16**	**45**	**25.8** **+0.2**
	comp=E,1.3nm,0.5s,baz=128,slow=22,SNR=3.3							
LSA	**Lhasa**	**15.26**	**118**	Pn	**P**	**16**	**46**	**03.0** **-8.0**
	comp=E,1.5nm,0.5s							
BVAR	**Borovoye Array**	**15.47**	**348**	Pn	**P**	**16**	**46**	**18.2** **+4.6**
	comp=E,0.1nm,0.3s,baz=152,slow=8.8,SNR=4.3							
AB31	**Akbulak array**	**15.98**	**320**	⇑Pn	**P**	**16**	**46**	**19.1** **-1.1**
	comp=E,0.5nm,0.7s,baz=125,slow=13,SNR=6.9							
CHKZ	**Chkalovo**	**16.06**	**349**	*e*Pn	**P**	**16**	**46**	**27.6** **+6.5**
	comp=E,0.6nm,0.6s							
SONM	**Songino Array**	**24.39**	**56**	P	**P**	**16**	**47**	**53.8** **+0.7**
	comp=E,1.1nm,0.5s,mb3.5,baz=255,slow=10.0,SNR=9.9							
FINES	**FINESS Array B**	**38.41**	**324**	P	**P**	**16**	**49**	**56.1** **-0.6**
	comp=E,5.1nm,1.0s,mb4.2,baz=100,slow=8.5,SNR=4.9							
YKA	**Yellowknife Ar**	**79.50**	**5**	P	**P**	**16**	**54**	**41.1** **-0.4**
	comp=E,0.2nm,0.5s,mb3.3,baz=352,slow=5.1,SNR=4.8							

*NEIC **05** 17:00:39.0±0.5, 55.93S×27.68W, h35km, mb4.7/5, Error ellipse: s-maj=20.1km s-min=12.7km az=88.0*
*IDC **05** 17:00:49.0±6.4, 56.05S×27.55W, h124km±58km, mb4.0/6, mb1 4.1/7, mb1mx3.9/15, mbtmp4.4/7, Error ellipse: s-maj=22.9km s-min=19.5km az=107.0*
ISC 05 17:00:34.4±0.7, 55.95S±0.10×27.5W±0.3, h10km, n17, σ0§52/12, mb4.6/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.91**	**156**	P	**P**	**17**	**04**	**58.3** **+1.1**
	1.6nm,0.3s,baz=305,slow=11,SNR=253							
SNAA	**Sanae**	**18.91**	**156**	*e*Pn	**P**	**17**	**04**	**58.1** **+1.0**
	17nm,0.7s							
QSPA	**South Pole Qui**	**34.30**	**180**	*e*P	**P**	**17**	**07**	**22.5** **+0.2**
	14nm,0.4s,mb5.2							
SBA	**Scott Base**	**46.17**	**184**	*e*P	**P**	**17**	**08**	**59.5** **-0.6**
	26nm,1.3s,mb5.0							
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**17**	**09**	**04.0** **0.0**
	5.4nm,0.7s,mb4.6,baz=164,slow=4.4,SNR=42							
VNDA	**Vanda**	**46.66**	**183**	*e*P	**P**	**17**	**09**	**03.5** **-0.6**
	4.3nm,0.6s,mb4.6							
LBTB	**Lobatse**	**49.17**	**74**	P	**P**	**17**	**09**	**24.2** **0.0**
	2.9nm,0.7s,mb4.4,baz=216,slow=12,SNR=3.9							
TSUM	**Tsumeb**	**49.80**	**61**	P	**P**	**17**	**09**	**29.4** **+0.1**
	1.5nm,0.5s,mb4.3,baz=191,slow=9.2,SNR=2.7							
LPAZ	**La Paz**	**50.16**	**306**	P	**P**	**17**	**09**	**32.6** **+0.6**
	1.4nm,0.3s,mb4.4,baz=148,slow=4.8,SNR=16							
CASY	**Casey**	**54.07**	**160**	*e*P	**P**	**17**	**09**	**59.9** **-0.7**
	4.9nm,0.9s,mb4.4							
DBIC	**Dimbokro**	**65.16**	**25**	P	**P**	**17**	**11**	**17.4** **-0.4**
	1.9nm,0.5s,mb4.3,baz=197,slow=14,SNR=4.9							
TORD	**Torodi Ar. Bea**	**73.06**	**30**	P	**P**	**17**	**12**	**06.5** **0.0**
	4.2nm,0.5s,mb4.6,baz=200,slow=6.4,SNR=36							
WRA	**Warramunga Arr**	**102.86**	**163**	P	Pdif	17	14	31.0	-2.8
	0.2nm,0.7s,baz=197,slow=4.5,SNR=5.0							
FINES	**FINESS Array B**	**124.39**	**28**	PKP	PKPdf	17	19	31.1	-4.7
	2.2nm,1.1s,baz=135,slow=2.7,SNR=4.7							
YKA	**Yellowknife Ar**	**135.97**	**318**	PKP	PKPdf	17	19	53.4	-4.1
	0.4nm,0.5s,baz=131,slow=2.3,SNR=8.9							
ILAR	**Eielson Array**	**149.90**	**312**	PKPbc	PKPdf	17	20	22.8	+1.4
	2.8nm,0.7s,baz=129,slow=2.9,SNR=44							
SONM	**Songino Array**	**150.91**	**87**	PKPbc	PKPdf	17	20	25.9	+2.5
	0.9nm,0.4s,baz=223,slow=3.5,SNR=21							

*MEX **05** 17:27:34.6±1.0, 15.97N×98.95W, h18km±30km, MD4.6*
*IDC **05** 17:27:36.8±1.1, 16.66N×98.40W, mb4.3/14, mb1 4.5/17, mb1mx4.4/26, mbtmp4.3/17, ML4.3/2, MS3.8/7, Ms1 3.9/7, ms1mx3.6/25, Error ellipse: s-maj=35.9km s-min=13.4km az=49.0*
*BJI **05** 17:27:39.9, 16.50N×98.50W, h26km, mB5.5, Ms5.2, Msz4.9*
*NEIC **05** 17:27:40.0±0.3, 16.49N×98.53W, mb4.8/38, MD4.6(MEX), Error ellipse: s-maj=6.7km s-min=3.4km az=219.0*
*MOS **05** 17:27:39.8±1.2, 16.58N×98.50W, h33km, mb5.0/14, Error ellipse: s-maj=13.6km s-min=6.5km az=95.3*
ISC 05 17:27:36.7±1.0, 16.29N±0.04×98.72W±0.03, h24km±7km, h26km±1.9km: pP-P, n138, σ1§17/150, mb4.6/46, MS4.1/11, 3C-2D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.58**	**80**	⇑*i*P	**Pb**	**17**	**27**	**48.4** **+0.2**
PNIG				*i* S	**Sb**	**17**	**27**	**58.8** **+2.7**
ACX	**Acapulco**	**1.28**	**297**	*i* P	**Pn**	**17**	**27**	**53.5** **-5.9**
ACX				*i* S	**Sn**	**17**	**28**	**10.0** **-5.9**
CAIG	**El Cayaco**	**1.66**	**297**	*i* P	**Pn**	**17**	**27**	**59.9** **-4.9**
CAIG				*i* S	**Sn**	**17**	**28**	**18.4** **-7.2**
VHO	**Vista Hermosa**	**2.06**	**68**	*i* P	**Pn**	**17**	**28**	**10.9** **+0.4**
VHO				*i* S	**Sn**	**17**	**28**	**38.1** **+2.4**
OXX	**Oaxaca**	**2.07**	**67**	*i* P	**Pn**	**17**	**28**	**11.0** **+0.3**
OXX				*i* S	**Sn**	**17**	**28**	**37.0** **+1.1**
PLIG	**Platanillo**	**2.22**	**340**	*i* P	**Pn**	**17**	**28**	**12.2** **-0.6**
PLIG				*i* S	**Sn**	**17**	**28**	**41.9** **+2.2**
HUIG	**Huatulco**	**2.57**	**101**	*e*P	**Pn**	**17**	**28**	**15.6** **-2.2**
HUIG				*i* S	**Sn**	**17**	**28**	**50.2** **+1.7**
HUIG	**Huatulco**	**2.57**	**101**	*e*P	**Pn**	**17**	**28**	**15.6** **-2.2**
HUIG				*i* S	**Sn**	**17**	**28**	**53.6** **+5.0**
YAIG	**Yautepec**	**2.58**	**353**	*e*P	**Pn**	**17**	**28**	**16.8** **-1.1**
YAIG				*i* S	**Sn**	**17**	**28**	**51.2** **+2.4**
PPM	**Popocatepetl**	**2.76**	**2**	*e*P	**Pn**	**17**	**28**	**20.7** **+0.1**
PPM				*e*P		17	28	21.0	
PPM				*e*P		17	28	21.6	
PPM				*i* S	**Sn**	**17**	**28**	**56.9** **+3.4**
PPM	**Popocatepetl**	**2.76**	**2**	*e*P	**Pn**	**17**	**28**	**20.7** **+0.1**
PPM				*i* S	**Sn**	**17**	**28**	**56.9** **+3.4**
IIZ	**Mezontepec**	**2.92**	**350**	*i* P	**Pn**	**17**	**28**	**22.3** **-0.6**
ZIIG	**Zihuatanejo**	**2.93**	**297**	*e*P	**Pn**	**17**	**28**	**17.6** **-5.3**
ZIIG				*i* S	**Sn**	**17**	**28**	**49.2** **-8.6**
RFVM	**Rio Frio**	**3.03**	**359**	*i* P	**Pn**	**17**	**28**	**29.7** **+5.4**
RFVM				*i* S	**Sn**	**17**	**29**	**01.4** **+1.2**
UNM	**Universidad Na**	**3.05**	**352**	*e*P	**Pn**	**17**	**28**	**24.5** **-0.2**
UNM				*i* S	**Sn**	**17**	**29**	**02.9** **+2.0**
MDVM	**Presa Madin**	**3.27**	**351**	*e*P	**Pn**	**17**	**28**	**28.6** **+0.9**
MDVM				*i* S	**Sn**	**17**	**29**	**10.0** **+3.7**
PTVM	**Pico Tres Padr**	**3.31**	**354**	*e*P	**Pn**	**17**	**28**	**28.0** **-0.2**
PTVM				*i* S	**Sn**	**17**	**29**	**07.8** **+0.5**
CMIG	**Matias Romero**	**3.76**	**77**	*e*P	**Pn**	**17**	**28**	**32.4** **-2.4**
CMIG				*i* S	**Sn**	**17**	**29**	**17.7** **-1.1**
MOIG	**Morelia**	**4.11**	**325**	*e*P	**Pn**	**17**	**28**	**39.9** **+0.2**
MOIG				*i* S	**Sn**	**17**	**29**	**26.5** **-1.0**
TUIG	**Tuzandepetl**	**4.46**	**67**	*e*P	**Pn**	**17**	**28**	**42.3** **-2.4**
SFJM	**Santa Fe**	**5.85**	**316**	*e*P	**Pn**	**17**	**29**	**03.0** **-1.3**
SFJM				*i* S	**Sn**	**17**	**30**	**10.0** **-1.3**
ZAIG	**Zacatecas**	**7.39**	**331**	*e*P	**Pn**	**17**	**29**	**22.7** **-3.3**
ZAIG				*i* S	**Sn**	**17**	**30**	**49.5** **-0.5**
TXAR	**Lajitas Array**	**13.76**	**342**	Pn	**P**	**17**	**30**	**52.2** **-0.6**
	0.5nm,0.3s,baz=160,slow=15,SNR=11							
JCT	**Junction City**	**14.16**	**356**	*e*P	**P**	**17**	**30**	**56.7** **-1.4**
JCT				pmax	pmax			
	comp=Z,57nm,1.1s							
JCT	**Junction City**	**14.16**	**356**	*e*P	**P**	**17**	**30**	**56.7** **-1.4**
	comp=Z,57nm,1.1s							
JTS	**JuntasAbangare**	**14.66**	**112**	Pn	**P**	**17**	**31**	**05.7** **+0.9**
	comp=Z,0.8nm,0.3s,baz=311,slow=20,SNR=4.0							
NATX	**Nacogdoches**	**15.84**	**13**	P	**P**	**17**	**31**	**17.8** **-2.1**
	comp=Z,38nm,0.3s							
MNTX	**Cornudas Mount**	**16.49**	**340**	*e*P	**P**	**17**	**31**	**27.7** **-0.6**
	comp=Z,26nm,1.2s							
GDL2	**Guadalupe Moun**	**16.65**	**343**	*e*P	**P**	**17**	**31**	**30.9** **+0.7**
CPRX	**Cap Rock**	**17.30**	**345**	*e*P	**P**	**17**	**31**	**39.7** **+1.3**
WMOK	**Wichita Mounta**	**18.37**	**360**	*e*P	**P**	**17**	**31**	**48.8** **-3.0**
WMOK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
WMOK	**Wichita Mounta**	**18.37**	**360**	*e*P	**P**	**17**	**31**	**48.8** **-3.0**
	comp=Z,5.8nm,0.7s							
MIAR	**Mount Ida**	**18.76**	**13**	*e*P	**P**	**17**	**31**	**53.2** **-3.2**
MIAR				pmax	pmax			
	comp=Z,21nm,1.0s							
MIAR	**Mount Ida**	**18.76**	**13**	*e*P	**P**	**17**	**31**	**53.1** **-3.3**
	comp=Z,21nm,1.0s							
PAYG	**Puerto Ayora**	**18.80**	**153**	P	**P**	**17**	**31**	**57.9** **+0.8**
BNM	**Barren Site**	**19.15**	**340**	*e*P	**P**	**17**	**32**	**01.2** **+0.1**
LENM	**Lemitar**	**19.29**	**339**	*e*P	**P**	**17**	**32**	**02.2** **-0.4**
LPM	**Los Pinos Moun**	**19.30**	**340**	*e*P	**P**	**17**	**32**	**02.4** **-0.5**
TUC	**Tucson**	**19.34**	**328**	*e*P	**P**	**17**	**32**	**02.9** **-0.4**
TUC				pmax	pmax			
	comp=Z,11nm,0.9s							
TUC	**Tucson**	**19.34**	**328**	*e*P	**P**	**17**	**32**	**02.9** **-0.4**
	comp=Z,11nm,0.9s							
LAZ	**Ladron**	**19.56**	**339**	*e*P	**P**	**17**	**32**	**05.6** **-0.1**
ANMO	**Albuquerque**	**19.83**	**341**	P	**P**	**17**	**32**	**08.4** **-0.4**
	baz=154,slow=12,SNR=12							
ANMO	**Albuquerque**	**19.83**	**341**	*c iP*	**P**	**17**	**32**	**08.4** **-0.4**
ANMO	**Albuquerque**	**19.83**	**341**	*e*P	**P**	**17**	**32**	**07.8** **-1.0**
	comp=Z,17nm,0.9s							
OXF	**Oxford**	**19.98**	**23**	*e*P	**P**	**17**	**32**	**06.7** **-3.7**
OXF				pmax	pmax			
	comp=Z,49nm,1.2s							
OXF	**Oxford**	**19.98**	**23**	*e*P	**P**	**17**	**32**	**06.7** **-3.7**
	comp=Z,49nm,1.2s							
GNAR	**Gosnell**	**21.07**	**20**	P	**P**	**17**	**32**	**20.1** **-1.6**
	comp=Z,546nm,1.3s,mb5.7							
PARMO	**Parma**	**21.80**	**20**	P	**P**	**17**	**32**	**27.1** **-1.9**
UTMT	**University of**	**21.81**	**22**	P	**P**	**17**	**32**	**27.2** **-1.9**
GOGA	**Godfrey**	**21.91**	**36**	*e*P	**P**	**17**	**32**	**28.3** **-1.8**
GOGA				pmax	pmax			
	comp=Z,23nm,0.9s,mb4.6							
GOGA	**Godfrey**	**21.91**	**36**	*e*P	**P**	**17**	**32**	**28.3** **-1.8**
	comp=Z,23nm,0.9s,mb4.6							
WVT	**Waverly**	**22.01**	**24**	*e*P	**P**	**17**	**32**	**29.5** **-1.6**
WVT				pmax	pmax			
	comp=Z,55nm,1.0s,mb4.9							
WVT	**Waverly**	**22.01**	**24**	*e*P	**P**	**17**	**32**	**29.5** **-1.6**
	comp=Z,55nm,1.0s,mb4.9							
SDCO	**Great Sand Dun**	**22.19**	**346**	*e*P	**P**	**17**	**32**	**33.2** **+0.4**
	comp=Z,23nm,1.2s,mb4.5							
WUAZ	**Wupatki**	**22.23**	**332**	*e*P	**P**	**17**	**32**	**34.9** **+1.6**
	comp=Z,87nm,1.1s,mb5.1							
WUAZ				*e*pP		17	32	43.0	
CCM	**Cathedral Cave**	**22.66**	**15**	*e*P	**P**	**17**	**32**	**36.8** **-0.7**
CCM				*e**PP		17	32	47.1	
CCM				pmax	pmax			
	comp=Z,25nm,0.9s,mb4.6							
CCM	**Cathedral Cave**	**22.66**	**15**	*e*P	**P**	**17**	**32**	**36.8** **-0.8**
	comp=Z,25nm,0.9s,mb4.6							
CCM				*e*pP		17	32	47.1	
KSU1	**Kansas State U**	**22.80**	**4**	*e*P	**P**	**17**	**32**	**38.9** **0.0**
KSU1				*e*pP		17	32	47.4	
FVM	**French Village**	**22.81**	**17**	*e*P	**P**	**17**	**32**	**37.5** **-1.6**
FVM				pmax	pmax			
	comp=Z,49nm,0.9s,mb4.9							
FVM	**French Village**	**22.81**	**17**	*e*P	**P**	**17**	**32**	**37.5** **-1.6**
	comp=Z,49nm,0.9s,mb4.9							
CPCT	**Cooper Cave**	**22.91**	**31**	*e*P	**P**	**17**	**32**	**39.6** **-0.4**
CPCT				*e*pP		17	32	49.8	
SLM	**Saint Louis**	**23.48**	**17**	*e*P	**P**	**17**	**32**	**45.7** **+0.2**
SLM				*e**PP		17	32	55.1	
SLM				pmax	pmax			
	comp=Z,24nm,0.5s,mb4.9							
SLM	**Saint Louis**	**23.48**	**17**	*e*P	**P**	**17**	**32**	**45.7** **+0.3**
	comp=Z,24nm,0.5s,mb4.9							
SLM				*e*pP		17	32	55.1	
LDFC	**Landfair**	**23.77**	**325**	*e*P	**P**	**17**	**32**	**50.6** **+2.3**
NEN	**Nelson**	**24.05**	**326**	*e*P	**P**	**17**	**32**	**52.3** **+1.1**
ISCO	**Idaho Springs**	**24.18**	**347**	*e*P	**P**	**17**	**32**	**53.6** **+1.3**
ISCO				pmax	pmax			
	comp=Z,157nm,1.9s,mb5.1							
ISCO	**Idaho Springs**	**24.18**	**347**	*e*P	**P**	**17**	**32**	**53.6** **+1.2**
	comp=Z,157nm,1.9s,mb5.1							
TZTN	**Tazewell**	**24.26**	**31**	*e*P	**P**	**17**	**32**	**52.6** **-0.5**
WCI	**Wyandotte Cave**	**24.44**	**24**	*e*P	**P**	**17**	**32**	**54.9** **0.0**
WCI				pmax	pmax			
	comp=Z,55nm,0.9s,mb5.0							
WCI	**Wyandotte Cave**	**24.44**	**24**	*e*P	**P**	**17**	**32**	**54.9** **0.0**
	comp=Z,55nm,0.9s,mb5.0							
SRU	**San Rafael**	**24.97**	**338**	*e*P	**P**	**17**	**33**	**00.3** **+0.3**
SRU				pmax	pmax			
	comp=Z,36nm,1.0s,mb4.9							
SRU	**San Rafael**	**24.97**	**338**	*e*P	**P**	**17**	**33**	**00.3** **+0.4**
	comp=Z,36nm,1.0s,mb4.9							
ARUT	**Antelope Range**	**25.04**	**332**	*e*P	**P**	**17**	**33**	**02.2** **+1.6**
MSU	**Marysvale**	**25.09**	**335**	*e*P	**P**	**17**	**33**	**03.0** **+1.9**
MVU	**Marysvale**	**25.10**	**334**	*e*P	**P**	**17**	**33**	**02.5** **+1.2**
	comp=Z,16nm,1.0s,mb4.5							
TPNV	**Topopah Spring**	**25.78**	**326**	*e*P	**P**	**17**	**33**	**08.4** **+0.8**
TPNV				pmax	pmax			
	comp=Z,37nm,1.2s,mb4.8							
TPNV	**Topopah Spring**	**25.78**	**326**	*e*P	**P**	**17**	**33**	**08.4** **+0.9**
	comp=Z,37nm,1.2s,mb4.8							
DAC	**Darwin (Calif)**	**26.03**	**323**	*e*P	**P**	**17**	**33**	**09.7** **-0.2**
DAC				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.8							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAC	**Darwin (Calif)**	**26.03**	**323**	*e*P	**P**	**17**	**33**	**09.7** **-0.2**
	comp=Z,2.0nm,0.6s,mb3.8							
NLU	**North Lily Min**	**26.29**	**336**	*e*P	**P**	**17**	**33**	**13.5** **+1.2**
DAU	**Daniels Canyon**	**26.39**	**338**	*e*P	**P**	**17**	**33**	**14.0** **+0.9**
DAU				*e**PP	pP	17	33	20.9	+0.6
DUG	**Dugway**	**26.79**	**336**	*e*P	**P**	**17**	**33**	**17.5** **+0.7**
DUG				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.2							
DUG	**Dugway**	**26.79**	**336**	*e*P	**P**	**17**	**33**	**17.5** **+0.7**
	comp=Z,8.9nm,1.0s,mb4.2							
TCUT	**Toone Canyon**	**27.06**	**339**	*e*P	**P**	**17**	**33**	**20.1** **+0.8**
TCUT				*e*pP	pP	17	33	26.9	+0.4
HWUT	**Hardware Ranch**	**27.55**	**339**	*e*P	**P**	**17**	**33**	**24.0** **+0.2**
	comp=Z,15nm,1.1s,mb4.5							
HWUT				*e*pP	pP	17	33	31.0	+0.1
MNV	**Mina**	**27.89**	**326**	*e*P	**P**	**17**	**33**	**27.5** **+0.6**
MNV				*e**PP	pP	17	33	34.4	+0.4
MNV				pmax	pmax			
	comp=Z,39nm,1.4s,mb4.8							
MNV	**Mina**	**27.89**	**326**	*e*P	**P**	**17**	**33**	**27.5** **+0.6**
	comp=Z,39nm,1.4s,mb4.8							
MNV				*e*pP	pP	17	33	34.4	+0.4
BW06	**Boulder Array**	**27.97**	**343**	*e*P	**P**	**17**	**33**	**27.8** **+0.2**
	comp=Z,36nm,1.2s,mb4.9							
NVAR	**Mina Array Bea**	**27.97**	**326**	P	**P**	**17**	**33**	**28.8** **+1.2**
	comp=Z,5.0nm,0.9s,mb4.2,baz=145,slow=11,SNR=40							
NVAR	**Mina Array Bea**	**27.97**	**326**	P	**P**	**17**	**33**	**28.8** **+1.2**
PDAR	**Pinedale Array**	**27.97**	**343**	P	**P**	**17**	**33**	**27.5** **0.0**
	comp=Z,11nm,0.9s,mb4.5,baz=142,slow=7.8,SNR=47							
PDAR				LR	LR	17	46	31.8	
	comp=Z,438nm,18.1s,MS4.1,baz=339,slow=39							
HVU	**Hansel Valley**	**28.14**	**337**	*e*P	**P**	**17**	**33**	**29.2** **+0.1**
HVU				*e**PP	pP	17	33	40.2	+4.0
HVU				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.6							
HVU	**Hansel Valley**	**28.14**	**337**	*e*P	**P**	**17**	**33**	**29.2** **+0.2**
	comp=Z,12nm,0.8s,mb4.6							
HVU				*e*pP	pP	17	33	40.2	+4.0
ELK	**Elko**	**28.26**	**333**	P	**P**	**17**	**33**	**31.1** **+0.9**
	comp=Z,2.2nm,1.0s,mb3.8,baz=154,slow=8.1,SNR=5.9							
SDV	**Santo Domingo**	**28.36**	**102**	P	**P**	**17**	**33**	**31.2** **-0.1**
	comp=Z,8.8nm,0.8s,mb4.4,baz=321,slow=5.4,SNR=14							
SDV				LR	LR	17	45	20.0	
	comp=Z,145nm,21.3s,MS3.5,baz=7.3,slow=38							
SDV	**Santo Domingo**	**28.36**	**102**	*e*P	**P**	**17**	**33**	**31.0** **-0.4**
	comp=Z,9.4nm,0.9s,mb4.4							
REDW	**Red Top Meadow**	**28.89**	**342**	*e*P	**P**	**17**	**33**	**35.9** **+0.1**
	comp=Z,43nm,1.5s,mb5.0							
REDW				*e*pP	pP	17	33	45.6	+2.6
TPAW	**Teton Pass**	**29.04**	**341**	*e*P	**P**	**17**	**33**	**38.3** **+1.1**
	comp=Z,18nm,1.0s,mb4.8							
TPAW				*e*pP	pP	17	33	47.5	+3.1
IMW	**Indian Meadow**	**29.41**	**342**	*e*P	**P**	**17**	**33**	**40.4** **-0.1**
	comp=Z,8.0nm,0.8s,mb4.5							
IMW				*e*pP	pP	17	33	48.0	+0.3
IMW				*e*sP	sP	17	33	52.0	+1.1
HLID	**Hailey**	**30.28**	**337**	*e*P	**P**	**17**	**33**	**48.4** **+0.1**
	comp=Z,12nm,1.1s,mb4.5							
HLID				*e*pP	pP	17

couple: M≈4.7×10¹⁴ NP1:φ≈18°,δ59°,λ90°. NP2:φ≈198°, δ31°,λ90°.
*IDC **05** 17:49:02.8±1.4,36.03N×141.97E,h31km±7km,mb3.5/4, mb1 3.7/7,mb1mx3.5/23,mbtmp3.8/7,ML3.4/3,Error ellipse: s-maj=32.3km s-min=18.1km az=76.0*
*JMA **05** 17:49:02.3±0.2,36.22N×141.82E,h67km±4km,M3.5*
*NEIC **05** 17:49:02.4,36.22N×141.82E,h68km,MG3.5(JMA),After JMA.*

ISC 05 17:49:01.7±1.0,36.16N±0.04×141.97E±0.08,h37km±11km, h31km±.9km:pP-P,n21,σ0≡92/31,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOJ	**Chosi**	**1.01**	**243**	P		**P**	**17 49 20.0**	**+0.5**
CHOJ				S		**S**	**17 49 33.9**	**+1.2**
JHO	**Hitachi**	**1.21**	**292**	P		**P**	**17 49 21.5**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.33**	**315**	P		**P**	**17 49 23.4**	**-0.8**
JYT	**Yasato**	**1.43**	**273**	P		**P**	**17 49 25.1**	**-0.6**
JYT				S		**S**	**17 49 42.4**	**-1.1**
JFK	**Kawauchi**	**1.49**	**324**	P		**P**	**17 49 26.2**	**-0.2**
JFK				S		**S**	**17 49 44.4**	**-0.5**
BSO1	**Boso 1**	**1.71**	**208**	P		**P**	**17 49 31.0**	**+1.5**
BSO1				S		**S**	**17 49 53.5**	**+3.2**
BSO3	**Boso 3**	**1.80**	**222**	P		**P**	**17 49 31.9**	**+1.0**
JFT	**Otama**	**1.88**	**317**	P		**P**	**17 49 32.4**	**+0.4**
JFT				S		**S**	**17 49 55.7**	**+0.9**
JMM	**Marumori**	**1.94**	**332**	P		**P**	**17 49 32.5**	**-0.4**
JAG	**Ashikaga**	**2.05**	**278**	P		**P**	**17 49 33.9**	**-0.5**
MJAR	**Matsushiro Arr**	**3.06**	**278**	Pn		**P**	**17 49 48.8**	**0.0**
	11nm,0.3s,baz=104,slow=8.5,SNR=128							
MJAR				Sn		**S**	**17 50 24.7**	**+0.1**
	3.4nm,0.3s,baz=100,slow=7.6,SNR=4.8							
MJAR	**Matsushiro Arr**	**3.06**	**278**	Pn		**P**	**17 49 48.8**	**0.0**
MJAR				Sn		**S**	**17 50 24.7**	**+0.1**
MAJO	**Matsushiro**	**3.06**	**278**	*e*Pn		**P**	**17 49 49.1**	**+0.2**
MAT	**Matsushiro**	**3.06**	**278**	*e*P		**P**	**17 49 49.2**	**+0.4**
MAT				S		**S**	**17 50 24.7**	**+0.1**
MAT	**Matsushiro**	**3.06**	**278**	*e*P		**P**	**17 49 49.0**	**+0.2**
MAT				*e*S		**S**	**17 50 25.0**	**+0.4**
JHJ	**Hachijo jima 2**	**3.53**	**211**	Pn		**P**	**17 49 54.6**	**-0.9**
	16nm,0.3s,baz=72,slow=19,SNR=3.0							
JHJ				Sn		**S**	**17 50 34.1**	**-2.4**
	43nm,0.3s,baz=233,slow=22,SNR=6.0							
ASAJ	**Asahikawa**	**7.96**	**3**	Pn		**P**	**17 50 58.4**	**+0.6**
	0.4nm,0.3s,baz=205,slow=17,SNR=4.3							
SONM	**Songino Array**	**28.64**	**305**	P		**P**	**17 54 57.0**	**+0.1**
	1.1nm,0.6s,mb3.7,baz=102,slow=8.7,SNR=8.6							
SONM				pP		pP	17 55 06.5	-0.6
	1.0nm,0.7s,baz=100,slow=7.8,SNR=5.9							
MKAR	**Makanchi Array**	**44.96**	**303**	P		**P**	**17 57 15.5**	**+0.6**
	0.5nm,0.6s,mb3.5,baz=94,slow=9.2,SNR=4.7							
MKAR				pP		pP	17 57 25.2	-0.3
	1.0nm,1.0s,baz=68,slow=6.5,SNR=1.8							
WRA	**Warramunga Arr**	**56.26**	**189**	P		**P**	**17 58 39.2**	**-1.8**
	0.2nm,0.5s,mb3.4,baz=5.2,slow=7.3,SNR=5.2							
WRA				pP		pP	17 58 48.6	-3.3
	0.7nm,0.8s,baz=2.8,slow=7.7,SNR=9.0							
AKASG	**Malin Array Be**	**75.26**	**323**	P		**P**	**18 00 42.9**	**+0.6**
	0.1nm,0.2s,mb3.3,baz=44,slow=5.8,SNR=4.4							

MAN 05 17:52:10.8,9.45N×126.01E,h82km,mb4.0,ML2.8,MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUTP	**Butuan**	**0.61**	**219**	*e*P		P	17 52 27.7	+1.8
BUTP				*e*S		S	17 52 40.3	+3.2
SCPH	**Surigao**	**0.61**	**303**	*e*P		P	17 52 27.3	+1.3
SCPH				*e*S		S	17 52 40.0	+2.9
MSLP	**Maasin**	**1.32**	**301**	*e*P		P	17 52 34.0	-0.4
MSLP				*e*S		S	17 52 52.7	+0.7
BUKP	**Musuan**	**1.82**	**211**	*e*P		S	17 52 56.8	-6.2
OCLP	**Ormoc**	**2.11**	**319**	*e*P		P	17 52 44.8	0.0
BESP	**Borongan**	**2.21**	**345**	*e*P		P	17 52 46.9	+0.6

IDC 05 17:58:58.1±2.3,18.76N×144.24E,h212km±27km,mb3.5/4, mb1 3.6/6,mb1mx3.2/21,mbtmp4.1/6,Error ellipse: s-maj=128.6km s-min=16.2km az=83.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**5.18**	**173**	P		P	18 00 16.8	+1.1
	6.0nm,0.3s,baz=114,slow=18,SNR=5.1							
GUMO				S		S	18 01 15.1	-1.0
	8.3nm,0.3s,slow=20,SNR=3.3							
MJAR	**Matsushiro Arr**	**18.49**	**345**	P		P	18 02 58.1	-2.4
	0.4nm,0.3s,baz=167,slow=9.6,SNR=4.2							
WB2	**Warramunga Arr**	**39.67**	**195**	*e*P		P	18 06 09.7	-1.5
WRA	**Warramunga Arr**	**39.67**	**195**	P		P	18 06 10.1	-1.1
	4.2nm,0.6s,baz=3.0,slow=9.1,SNR=62							
STKA	**Stephens Creek**	**50.41**	**183**	P		P	18 07 33.4	-2.6
	1.2nm,0.5s,baz=355,slow=7.4,SNR=3.6							
BVAR	**Borovoye Array**	**65.55**	**320**	P		P	18 09 19.3	-1.4
	0.3nm,0.5s,baz=79,slow=7.3,SNR=3.3							
FINES	**FINESS Array B**	**86.25**	**335**	P		P	18 11 13.9	-2.6
	1.9nm,0.8s,baz=56,slow=5.0,SNR=3.6							

*IDC **05** 18:05:22.0±1.6,4.43N×94.67E,mb3.9/8,mb1 4.0/9, mb1mx3.8/20,mbtmp3.9/9,ML3.1/1,Error ellipse: s-maj=64.1km s-min=21.4km az=48.0*
*NEIC **05** 18:05:27.3±1.1,4.60N×94.83E,h30km,mb4.4/1,Error ellipse: s-maj=34.4km s-min=11.9km az=224.0*

ISC 05 18:05:25.4±1.2,4.6N±0.2×94.9E±0.2,h30km,n12, σ0≡89/14,mb3.9/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**4.40**	**114**	Pn		**Pn**	**18 06 34.8**	**+2.8**
	1.0nm,0.3s,baz=309,slow=14,SNR=3.2							
PSI				Sn		**Sn**	**18 07 22.3**	**-0.6**
	1.2nm,0.3s,baz=42,slow=20,SNR=5.7							
PSI	**Prapat**	**4.40**	**114**	Pn		**Pn**	**18 06 34.8**	**+2.8**
PSI				Sn		**Sn**	**18 07 22.3**	**-0.6**
ENH	**Enshi**	**28.99**	**27**	*e*P		**P**	**18 11 24.2**	**-0.7**
MKAR	**Makanchi Array**	**43.41**	**347**	P		**P**	**18 13 28.5**	**+1.3**
	1.4nm,0.5s,mb4.0,baz=164,slow=7.7,SNR=19							
SONM	**Songino Array**	**44.11**	**1**	P		**P**	**18 13 33.1**	**-0.3**
	0.3nm,0.5s,mb3.3,baz=188,slow=7.5,SNR=3.3							
SONM				PcP		PcP	18 15 17.9	-0.4
	0.2nm,0.5s,baz=188,slow=3.6,SNR=4.2							
WRA	**Warramunga Arr**	**45.80**	**124**	P		**P**	**18 13 46.2**	**-0.5**
	0.8nm,0.6s,mb3.8,baz=302,slow=9.1,SNR=8.7							
ZAL	**Zalesovo**	**49.85**	**352**	P		**P**	**18 14 17.9**	**0.0**
	1.2nm,0.3s,mb4.4,baz=222,slow=5.2,SNR=4.5							
BVAR	**Borovoye Array**	**52.30**	**342**	P		**P**	**18 14 36.6**	**+0.2**
	1.0nm,0.6s,mb4.0,baz=140,slow=10.0,SNR=9.3							
CHKZ	**Chkalovo**	**52.78**	**342**	*e*P		**P**	**18 14 40.3**	**+0.2**
	3.1nm,0.6s,mb4.4							
AKASG	**Malin Array Be**	**71.17**	**322**	P		**P**	**18 16 42.4**	**-1.0**
	0.3nm,0.3s,mb3.6,baz=90,slow=5.6,SNR=4.5							
FINES	**FINESS Array B**	**75.93**	**332**	P		**P**	**18 17 10.2**	**-0.8**
	1.7nm,0.8s,mb4.0,baz=101,slow=7.1,SNR=3.9							
ARCES	**ARCESS Array B**	**78.57**	**340**	P		**P**	**18 17 26.1**	**+0.7**
	1.8nm,0.9s,mb4.0,baz=101,slow=6.2,SNR=4.4							

*CSEM **05** 18:21:56.1,34.67N×25.04E,h18km,MD3.5/6,After ATH*
*NEIC **05** 18:21:56.1,34.67N×25.04E,h18km,MD3.4(ATH),After ATH.*

ATH 05 18:21:56.3,34.72N×25.07E,h16km±5km,MD3.4/6,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
XRY	**Khrisi**	**0.54**	**73**	*e*PN		Pn	18 22 07.0	-2.0
NPS	**Neapolis**	**0.70**	**39**	*e*PN		Pn	18 22 09.8	-1.5
NPS				*e*SN		Sn	18 22 18.9	-2.9
NPS	**Neapolis**	**0.70**	**39**	*e*Pb		Pb	18 22 09.8	+0.1
NPS				*e*Sn		Sn	18 22 21.3	-0.5
GVD	**Gavdhos**	**0.82**	**279**	*e*PN		Pn	18 22 12.0	-1.0
VAM	**Vamos**	**0.99**	**314**	*e*PB		Pb	18 22 14.4	-0.2
VAM				*e*SN		Sn	18 22 29.8	+0.7
SANT	**Santorini**	**1.68**	**11**	*e*Pn		Pn	18 22 25.9	+0.6
SANT				*e*Sn		Sn	18 22 48.4	+1.8
KARP	**Karpathos**	**1.90**	**64**	*e*PN		Pn	18 22 31.1	+2.6
KARP	**Karpathos**	**1.90**	**64**	*e*Pn		Pn	18 22 31.6	+3.1
APE	**Apeiranthos**	**2.37**	**9**	*e*PB		Pb	18 22 36.5	-1.7
APE	**Apeiranthos**	**2.37**	**9**	*e*Pb		Pb	18 22 36.3	-1.9

JMA 05 18:27:12.8±0.2,38.07N×144.52E,h56km,M3.8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OFUJ	**Ofunato**	**2.45**	**295**	P		P	18 27 51.5	+0.2
OFUJ				*e*S		S	18 28 20.8	+0.7
JIO	**Ouri**	**2.53**	**280**	P		P	18 27 52.4	0.0
JIO				*e*S		S	18 28 22.3	+0.3
MIYJ	**Miyakonagasawa**	**2.59**	**306**	P		P	18 27 53.0	-0.3
MIYJ				*e*S		S	18 28 23.5	-0.2
JMK	**Ichinoseki**	**2.73**	**290**	P		P	18 27 55.7	+0.4
JMK				*e*S		S	18 28 28.3	+1.0
JCH	**Churui**	**4.62**	**349**	P		P	18 28 19.7	-2.2
JCH				*e*S		S	18 29 10.4	-4.5
JRY	**Ryogami san**	**4.94**	**247**	P		P	18 28 25.5	-0.8
JRY				*e*S		S	18 29 19.8	-3.0

MAN 05 18:29:33.9,6.89N×124.29E,h8km,mb4.0,ML2.8,MS2.5, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTBH	**Cotabato--PC H**	**0.34**	**352**	*i*P		Pg	18 29 41.2	+0.5
CTBH				*i*S		Sg	18 29 46.2	+0.9
PAGZ	**Pagadian**	**1.32**	**317**	*e*P		Pb	18 29 58.3	-0.1
PAGZ				*e*S		Sb	18 30 16.2	+0.9
IPIL	**Ipil**	**1.93**	**298**	*e*P		Pn	18 30 06.1	-1.2
IPIL				*e*S		Sn	18 30 33.0	+1.0

*ATH **05** 18:32:30.6,38.16N×26.56E,h31km±12km,MD2.9/3*
*ISK **05** 18:32:30.4,38.16N×26.66E,h18km,MD2.8*
*CSEM **05** 18:32:31.3±0.2,38.19N×26.69E,h25km,MD2.8,Error ellipse: s-maj=7.5km s-min=4.8km az=102.0*

ISC 05 18:32:30.1±1.0,38.21N±0.03×26.57E±0.05,h7km±6km, n14,σ1≡14/25,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMG	**Samos**	**0.54**	**157**	*e*PN		**Pg**	**18 32 41.3**	**+0.3**
SMG				*e*SN		**Sg**	**18 32 49.3**	**+1.0**
SMG	**Samos**	**0.54**	**157**	*e*Pn		**Pg**	**18 32 41.3**	**+0.3**
SMG				*e*Sn		**Sg**	**18 32 49.5**	**+1.2**
IZM	**Izmir**	**0.57**	**71**	PG		**Pg**	**18 32 41.6**	**0.0**
IZM				SG		**Sg**	**18 32 49.5**	**+0.2**
KDAG	**Bornova**	**0.58**	**70**	*i*P		**Pg**	**18 32 40.4**	**-1.4**
KDAG				*i*S		**Sg**	**18 32 48.4**	**-1.1**
PRK	**Paraskevi**	**1.06**	**347**	*e*PN		**Pn**	**18 32 51.6**	**+0.3**
PRK				*e*SN		**Sn**	**18 33 06.6**	**+0.1**
AYVA	**Ayvalik**	**1.10**	**5**	*i*P		**Pb**	**18 32 51.8**	**+0.7**
AYVA				*i*S		**Sb**	**18 33 08.8**	**+3.4**
AYDN	**Tasoluk**	**1.17**	**118**	*i*P		**Pb**	**18 32 52.3**	**0.0**
AYDN				*i*S		**Sb**	**18 33 07.6**	**+0.1**
AKS	**Akhisar**	**1.18**	**55**	PN		**Pn**	**18 32 52.4**	**-0.6**
AKS				SN		**Sn**	**18 33 08.4**	**-1.1**
BODT	**Bodrum**	**1.29**	**153**	PN		**Pn**	**18 32 53.3**	**-1.3**
BODT				SN		**Sn**	**18 33 09.2**	**-3.0**
BDRM	**Kayabasi**	**1.34**	**149**	*i*P		**Pb**	**18 32 57.7**	**+2.6**
BDRM				*i*S		**Sb**	**18 33 13.5**	**+1.2**
APE	**Apeiranthos**	**1.41**	**216**	*e*PN		**Pn**	**18 32 54.9**	**-1.4**
APE	**Apeiranthos**	**1.41**	**216**	*e*Pn		**Pn**	**18 32 55.5**	**-0.8**
MANT	**Manisa**	**1.59**	**79**	*i*P		**Pn**	**18 32 59.8**	**+0.9**
MANT				*i*S		**Sb**	**18 33 20.9**	**+1.4**
DAT	**Datca**	**1.68**	**151**	*e*PN		**Pn**	**18 32 59.3**	**-0.9**

*MOS **05** 18:42:39.8±1.4,57.33N×120.74E,h7km,mb4.3/1,Error ellipse: s-maj=20.4km s-min=14.1km az=50.4*

BYKL 05 18:42:38.4±0.4,57.42N×120.82E,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRS	**Chara**	**1.48**	**251**	*e*Pg		Pg	18 43 05.7	-2.3
CRS				*e*Pb		Pb	18 43 07.8	+1.2
CRS				*i* Sg		Sg	18 43 24.1	-3.7
CRS				max				
	175nm,0.9s							
CRS				Smax				
	349nm,0.9s							
CRS	**Chara**	**1.48**	**251**	*e*P		Pn	18 43 05.7	-0.7
CRS				*e*			18 43 24.1	
CRS				pmax		pmax		
	comp=Z,179nm,0.7s							
CRS				smax				
	comp=E,342nm,0.5s							
NRGR	**Nerungri**	**2.27**	**108**	*e*P		Pn	18 43 19.3	+1.7
NRGR				S		Sn	18 43 48.4	+1.7
CLNS	**Chul'man**	**2.30**	**103**	*e*Pg		Pg	18 43 20.0	-4.2
CLNS				*e*Sg		Sg	18 43 50.3	-4.6
CLNS				Pmax				
	comp=E,447nm,0.3s							
CLNS				Smax				
	comp=E,4μm,0.3s							
CLNS	**Chul'man**	**2.30**	**103**	*e*P		Pn	18 43 19.9	+1.9
CLNS				*e*S		Sn	18 43 49.6	+2.2
CLNS				pmax	pmax			
	comp=Z,23nm,0.3s							
CLNS				pmax	pmax			
	comp=N,1.0nm,0.1s							
CLNS				pmax	pmax			
	comp=E,5.0nm,0.2s							
CLNS				pmax	pmax			
	comp=Z,55nm,0.3s							
CLNS				pmax	pmax			
	comp=N,51nm,0.4s							
CLNS				pmax	pmax			
	comp=E,28nm,0.3s							
CLNS				smax				
	comp=E,30nm,0.2s							
CLNS				smax				
	comp=Z,13nm,0.2s							
CLNS				smax				
	comp=N,63nm,0.3s							
CLNS				smax				
	comp=E,521nm,0.3s							
CLNS				smax				
	comp=Z,285nm,0.4s							
CLNS				smax				
	comp=N,652nm,0.5s							
CLNS				MLR	MLR			
	comp=Z,100nm,12.0s							
IENR	**Ienga**	**2.52**	**117**	*e*Pg		Pg	18 43 25.5	-3.3
IENR				*e*Sg		Sg	18 43 57.5	-4.9
ALDR	**Aldan**	**2.72**	**62**	*e*Pn		Pn	18 43 24.4	+0.3
ALDR				*e*Pg		Pg	18 43 27.5	-5.2
ALDR				*e*Sg		Sg	18 44 03.8	-5.1
ALDR				Pmax				
	comp=Z,223nm,0.3s							
ALDR				Smax				
	comp=Z,2μm,0.3s							
NLYR	**Nelyaty**	**2.95**	**254**	*e*Pn		Pn	18 43 26.8	-0.6
NLYR				*e*Pg		Pg	18 43 31.8	-5.6
NLYR				*e*Sg		Sg	18 44 08.6	-8.1
NLYR				Pmax				
	comp=Z,124nm,1.0s							
NLYR				Smax				
	comp=Z,341nm,0.7s							
NLYR	**Nelyaty**	**2.95**	**254**	*e*P		Pn	18 43 25.2	-2.2
TUP	**Tupik**	**3.04**	**190**	*e*Pn		Pn	18 43 27.3	-1.4
TUP				*e*Pg		Pg	18 43 32.2	-6.9
TUP				*e*Sg		Sg	18 44 10.9	-8.8
TUP				Pmax				
	comp=Z,186nm,0.7s							
TUP				Smax				
	comp=Z,479nm,1.0s							
TUP	**Tupik**	**3.04**	**190**	*e*P		Pn	18 43 27.5	-1.2
TUP				*e*S		Sn	18 44 03.0	-3.4
TUP				pmax	pmax			
	comp=Z,188nm,0.6s							
TUP				smax				
	comp=E,441nm,0.9s							
TNDR	**Tynda**	**3.15**	**135**	*e*Pn		Pn	18 43 29.2	-1.0
TNDR				*e*Pg		Pg	18 43 34.1	-7.2
TNDR				*e*Sn		Sn	18 44 06.8	-2.3
TNDR				*e*Sg		Sg	18 44 14.9	-8.4
TNDR				Pmax				
	comp=E,337nm,0.4s							
TNDR				Smax				
	comp=E,2μm,0.4s							
BOD	**Bodaibo**	**3.69**	**279**	*e*Pn		Pn	18 43 37.2	-0.7
BOD				*e*Pg		Pg	18 43 45.5	-6.5
BOD				*e*Sn		Sn	18 44 19.0	-3.7
BOD				*e*Sg		Sg	18 44 31.1	-10
BOD				Pmax				
	comp=E,36nm,0.7s							
BOD				Smax				
	comp=E,157nm,0.8s							
BOD	**Bodaibo**	**3.69**	**279**	*e*P		Pn	18 43 36.8	-1.1
SVKR	**Severomuysk**	**4.20**	**255**	*e*Pn		Pn	18 43 43.6	-1.6
SVKR				*e*Pg		Pg	18 43 54.8	-7.5
SVKR				*e*Sg		Sg	18 44 49.1	-9.2
SVKR				Pmax				
	comp=E,30nm,0.4s							
SVKR				Smax				
	comp=E,300nm,1.1s							
UKT	**Uakit**	**4.43**	**247**	*e*Pg		Pg	18 43 59.0	-7.9
UKT				*e*Sg		Sg	18 44 54.3	-12
UKT				Pmax				
	comp=E,21nm,1.3s							
UKT				Smax				
	comp=E,86nm,0.8s							
UKT	**Uakit**	**4.43**	**247**	*e*P		Pn	18 43 59.4	+11
UKT				pmax	pmax			
	comp=Z,13nm,0.5s							
KROS	**Kirovskiy**	**4.57**	**128**	*e*Pg		Pg	18 44 00.5	-9.2
KROS				*e*Sg		Sg	18 44 59.6	-11
YOA	**Uoyan**	**5.17**	**259**	*e*Pg		Pg	18 44 11.6	-10
YOA				*e*Sg		Sg	18 45 18.5	-12
YOA				Pmax				
	comp=Z,39nm,0.5s							
YOA				Smax				
	comp=Z,403nm,0.9s							
YOA	**Uoyan**	**5.17**	**259**	*e*P		Pn	18 44 13.2	+14
ZEA	**Zeya**	**5.19**	**133**	*e*Sg		Sg	18 45 17.4	-14
KMO	**Kumora**	**5.53**	**258**	*e*Pg		Pg	18 44 18.2	-11
KMO				*e*Sg		Sg	18 45 28.4	-14
KMO				Pmax				
	comp=Z,7.0nm,0.6s							
KMO				Smax				
	comp=Z,136nm,1.0s							
KMO	**Kumora**	**5.53**	**258**	*e*P		Pn	18 44 02.2	-1.7
KMO				pmax	pmax			
	comp=Z,19nm,0.9s							
YLYR	**Ulyunkhan**	**5.97**	**249**	*e*Pg		Pg	18 44 26.5	-11
YLYR				*e*Sg		Sg	18 45 43.1	-14
YLYR				Pmax				
	comp=Z,25nm,1.9s							
YLYR				Smax				
	comp=Z,92nm,1.5s							
YLYR	**Ulyunkhan**	**5.97**	**249**	*e*P		Pn	18 44 09.8	-0.4
TBGR	**Tabaga**	**6.28**	**42**	*e*Pg		Pg	18 44 30.2	-14
TBGR				*e*Sn		Sn	18 45 20.3	-7.7
TBGR				*e*Sg		Sg	18 45 50.0	-18
YAK	**Yakutsk**	**6.44**	**40**	*e*Sg		Sg	18 45 55.5	-17
YAK				Smax				
	comp=Z,819nm,0.5s							
YAK	**Yakutsk**	**6.44**	**40**	*e*P		Pn	18 44 09.6	-7.2
YAK				*e*S		Sn	18 45 26.9	-5.0
YAK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.3s							
YAK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,6.0nm,1.1s							
YAK				smax				
	comp=E,9.0nm,0.8s							
YAK				smax				
	comp=Z,7.0nm,0.9s							
YAK				smax				
	comp=N,11nm,0.7s							
YAK				smax				
	comp=N,84nm,0.9s							
YAK				smax				
	comp=E,55nm,0.9s							
YAK				smax				
	comp=Z,45nm,0.9s							
YAK				MLR	MLR			
	comp=Z,72nm,21.0s							
NIZ	**Nizh Angarsk**	**6.44**	**260**	*e*Sg		Sg	18 45 56.8	-16
NIZ				Smax				
	comp=Z,45nm,1.6s							
CIT	**Chita**	**6.85**	**221**	*e*Sg		Sg	18 46 08.3	-18
CIT				Smax				
	comp=Z,128nm,1.2s							
SYVR	**Suvo**	**7.20**	**243**	*e*Sg		Sg	18 46 20.8	-17
SYVR				Smax				
	comp=Z,115nm,1.6s							
OGRR	**Ongureny**	**8.40**	**249**	*e*Sg		Sg	18 46 57.9	-20
OGRR				Smax				
	comp=Z,61nm,1.8s							
KPC	**Khapcheranga**	**9.21**	**217**	*e*Sg		Sg	18 47 22.3	-23
KPC				Smax				
	comp=Z,63nm,1.4s							
ZAK	**Zakamensk**	**12.49**	**243**	*e*Sg		S	18 49 05.5	+64
ZAK				Smax				
	comp=Z,8.0nm,1.7s							
TIXI	**Tiksi**	**14.68**	**10**	*i* P		P	18 46 13.0	+4.2

MAN 05 18:44:59.6,12.28N×123.81E,h10km,mb4.3,ML3.1, MS2.9,2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNP	**Catarman**	**0.87**	**75**	*e*P		Pb	18 45 16.2	-0.1
CNP				*e*S		Sb	18 45 29.8	+2.1
RCP	**Roxas**	**1.26**	**236**	*e*P		Pb	18 45 22.5	-0.6
RCP				*e*S		Sb	18 45 39.6	+0.4
PVCP	**Virac**	**1.35**	**14**	*e*P		Pb	18 45 22.8	-1.8
AUQP	**San Andres**	**1.52**	**313**	*e*P		Pn	18 45 26.5	-0.4
AUQP				*e*S		Sb	18 45 48.6	+2.1
KALP	**Kalibo**	**1.56**	**248**	*e*P		Pn	18 45 33.2	+5.6
KALP				*e*S		Sb	18 45 45.0	-2.7
PLP	**Palo**	**1.59**	**134**	*e*P		Pn	18 45 28.1	0.0
PLP				*i* S		Sb	18 45 50.3	+1.5
BESP	**Borongan**	**1.73**	**113**	*e*P		Pn	18 45 30.1	0.0
OTRP	**Odiongan**	**1.75**	**273**	*e*P		Pn	18 45 28.5	-1.7
LLP	**Lapu-Lapu**	**1.96**	**175**	*e*P		Pn	18 45 32.2	-1.1
LLP				*e*S		Sn	18 45 52.4	-5.7
GUIM	**Jordan**	**2.03**	**216**	*e*P		Pn	18 45 34.2	-0.2
BOAC	**Boac**	**2.24**	**302**	*e*P		Pn	18 45 34.8	-2.6
MSLP	**Maasin**	**2.37**	**154**	*e*P		Pn	18 45 39.5	+0.3
SNPH	**Sibulan**	**2.97**	**191**	*e*P		Pn	18 45 48.0	+0.2
CUYO	**Cuyo Island**	**3.08**	**243**	*e*P		Pn	18 45 48.8	-0.6
BUKP	**Musuan**	**4.54**	**164**	*e*P		Pn	18 46 10.9	+0.8

**WEL 05 19:13:18.0±0.1,40.38S×174.71E,h97km±1km,ML3.6/11, Error

NNZ	**Nelson**	**1.31**	**230**	PN	P	19 13 41.2 -1.0
CNZ	**Chateau**	**1.34**	**29**	PN	P	19 13 41.8 -0.7
OTVZ	**Oturere**	**1.42**	**32**	PN	P	19 13 42.9 -0.5
TWVZ	**Taurewa**	**1.42**	**24**	PN	P	19 13 42.4 -1.1
PXZ	**Pawanui**	**1.68**	**79**	PN	P	19 13 45.6 -1.2
QRZ	**Quartz Range**	**1.72**	**254**	PN	P	19 13 45.7 -1.6
BKZ	**Black Stump Fm**	**1.83**	**49**	PN	P	19 13 47.3 -1.4
HIZ	**Hauiti**	**1.86**	**3**	PN	P	19 13 48.7 -0.4
THZ	**Tophouse**	**1.94**	**224**	PN	P	19 13 49.7 -0.5
DSZ	**Denniston Nort**	**2.59**	**237**	PN	P	19 13 57.2 -1.8
MQZ	**McQueen's Vall**	**3.66**	**204**	PN	P	19 14 10.0 -3.7

MAN 05 19:13:38.5, 11.09N×124.76E, h16km, mb4.9, ML3.9, MS3.9, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.23**	**71**	*e*P	Pb	19 13 44.2	+0.3
PLP				*i* S	Sb	19 13 47.5	0.0
BESP	**Borongan**	**0.84**	**53**	*e*P	Pb	19 13 54.6	+0.4
BESP				*e*S	Sb	19 14 07.6	+2.5
MSLP	**Maasin**	**0.96**	**174**	*e*P	Pb	19 13 56.8	+0.5
MSLP				*e*S	Sb	19 14 16.8	+8.4
LLP	**Lapu-Lapu**	**1.09**	**225**	*e*P	Pb	19 13 56.8	-1.8
LLP				*e*S	Sb	19 14 11.9	-0.4
CNP	**Catarman**	**1.41**	**356**	*e*P	Pn	19 14 03.0	-0.7
CNP				*e*S	Sb	19 14 22.3	+0.6
SCPH	**Surigao**	**1.49**	**151**	*e*P	Pn	19 14 07.4	+2.6
TBP	**Tagbilaran**	**1.65**	**212**	*e*P	Pn	19 14 06.6	-0.4
TBP				*e*S	Sn	19 14 28.3	+0.4
RCP	**Roxas**	**2.03**	**283**ĵ	*e*P	Pn	19 14 12.8	+0.3
GUIM	**Jordan**	**2.18**	**258**	*e*P	Pn	19 14 14.4	-0.3
GUIM				*e*S	Sn	19 14 44.6	+3.2
BUTP	**Butuan**	**2.27**	**158**	*e*P	Pn	19 14 20.7	+4.6
SNPH	**Sibulan**	**2.29**	**221**	*e*P	Pn	19 14 09.0	-7.3
KALP	**Kalibo**	**2.44**	**284**	*e*P	Pn	19 14 29.2	+11
PVCP	**Virac**	**2.56**	**347**	*e*P	Pn	19 14 20.9	+0.8
BUKP	**Musuan**	**3.21**	**175**	*e*P	Pn	19 14 31.3	+1.9
CUYO	**Cuyo Island**	**3.68**	**267**	*e*P	Pn	19 14 34.9	-1.1
IPIL	**Ipil**	**3.93**	**213**	*e*P	Pn	19 14 39.3	-0.3

IDC 05 19:28:01.1±9.3, 6.11S×29.97E, mb3.7/2, mb1 3.8/3, mb1mx3.5/18, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=195.4km s-min=25.7km az=164.0, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**8.79**	**56**	Pn	P	19 30 10.3	-2.1
	0.9nm,0.3s,baz=230,slow=17,SNR=7.5						
KMBO				Sn		19 31 48.9	-4.5
	4.2nm,0.3s,baz=308,slow=18,SNR=11						
KMBO				Lg		19 32 38.6	
	2.9nm,0.3s,baz=216,slow=21,SNR=3.7						
TORD	**Torodi Ar. Bea**	**33.98**	**304**	P	P	19 34 45.9	-2.9
	1.0nm,0.8s,baz=113,slow=8.5,SNR=8.0						
BRTR	**Keskin Array B**	**45.73**	**4**	P	P	19 36 25.4	-0.6
	1.1nm,0.8s,baz=181,slow=8.6,SNR=4.1						

*CSEM **05** 19:44:57.5±0.1, 32.80N×6.92W, h25km, MD3.3, Error ellipse: s-maj=3.9km s-min=2.7km az=59.0*
*MDD **05** 19:44:59.0±1.1, 32.82N×6.91W, h17km±11km, mbLg2.3/5, Error ellipse: s-maj=8.1km s-min=7.0km az=60.0, PRXIMO*
*CNRM **05** 19:44:58.3, 32.83N×6.92W, h8km, MD3.3*
*NEIC **05** 19:45:04.1, 33.29N×6.78W, MG3.4(MDD), After MDD.*
ISC 05 19:44:55.3±0.5, 32.95N±0.03×6.96W±0.05, h10km, n25, σ1§58/41, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TZC	**Tazercounte**	**0.89**	**154**	*i* P	**Pb**	**19 45 12.0**	**-0.4**
TZC				*i* S	**Sb**	**19 45 23.5**	**-0.6**
RTC	**Rabat Centre**	**1.04**	**5**	*i* P	**Pb**	**19 45 19.0**	**+4.0**
RTC				*i* S	**Sb**	**19 45 34.0**	**+5.6**
CZD	**Col de Zad**	**1.61**	**87**	*i* P	**Pn**	**19 45 25.0**	**+1.0**
CZD				*i* S	**Sn**	**19 45 45.5**	**+0.5**
CIA	**Chichaoua**	**2.06**	**228**	*e*P	**Pn**	**19 45 31.0**	**+0.6**
CIA				*i* S	**Sn**	**19 45 55.0**	**-1.3**
ZFT	**Errachidia**	**2.38**	**112**	*e*P	**Pn**	**19 45 35.0**	**-0.1**
ZFT				*i* S	**Sn**	**19 46 03.0**	**-1.6**
TZK	**Tazeka**	**2.58**	**63**	*i* P	**Pn**	**19 45 41.0**	**+3.1**
TZK				*i* S	**Sn**	**19 46 09.0**	**-0.7**
ESPR	**Espera**	**4.01**	**13**	S	**Sn**	**19 46 43.6**	**-2.3**
	1.1nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**4.03**	**26**	P	**Pn**	**19 46 01.5**	**+2.9**
	0.3nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**19 46 42.8**	**-3.5**
	1.0nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.59**	**355**	P	**Pn**	**19 46 09.1**	**+2.6**
	0.9nm,0.1s,SNR=16						
EGRO				S	**Sn**	**19 46 58.1**	**-2.5**
	1.0nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.59**	**355**	P	**Pn**	**19 46 09.2**	**+2.6**
EGRO				S	**Sn**	**19 46 58.1**	**-2.5**
EGRO	**El Granado**	**4.59**	**355**	P	**Pn**	**19 46 09.1**	**+2.6**
	0.9nm,0.1s,SNR=16						
PTEO	**Sao Teotonio**	**4.81**	**343**	*e*Pn	**Pn**	**19 46 13.4**	**+3.8**
PTEO				*e*Sn	**Sn**	**19 47 06.0**	**0.0**
EMIN	**Mina Concepcio**	**4.81**	**3**	P	**Pn**	**19 46 11.7**	**+2.1**
	0.6nm,0.3s,SNR=9.3						
EMIN				S	**Sn**	**19 47 04.8**	**-1.3**
	0.5nm,0.1s						
EMIN	**Mina Concepcio**	**4.81**	**3**	P	**Pn**	**19 46 11.7**	**+2.1**
EMIN				S	**Sn**	**19 47 00.7**	**-5.4**
EMIN	**Mina Concepcio**	**4.81**	**3**	P	**Pn**	**19 46 11.7**	**+2.1**
	0.6nm,0.3s,SNR=9.3						
ELUQ	**Luque**	**5.10**	**25**	S	**Sn**	**19 47 08.4**	**-5.0**
	0.9nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**5.12**	**352**	*e*Sn	**Sn**	**19 47 12.4**	**-1.5**
EADA	**Adamuz**	**5.56**	**20**	P	**Pn**	**19 46 20.8**	**+0.7**
	0.5nm,0.2s,SNR=8.1						
EADA				S	**Sn**	**19 47 19.3**	**-5.6**
	0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.56**	**20**	P	**Pn**	**19 46 20.9**	**+0.7**
EADA				S	**Sn**	**19 47 18.5**	**-6.3**
EADA	**Adamuz**	**5.56**	**20**	P	**Pn**	**19 46 20.8**	**+0.7**
	0.5nm,0.2s,SNR=8.1						
EQES	**Quesada**	**5.79**	**32**	P	**Pn**	**19 46 25.8**	**+2.4**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**19 47 24.1**	**-6.6**
	0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.79**	**32**	P	**Pn**	**19 46 25.8**	**+2.4**
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.79**	**360**	P	**Pn**	**19 46 25.3**	**+1.8**
	0.2nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**19 47 25.6**	**-5.2**
	1.0nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.79**	**360**	P	**Pn**	**19 46 25.3**	**+1.8**
	0.2nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**5.81**	**26**	S	**Sn**	**19 47 25.7**	**-5.5**
	1.3nm,0.2s,SNR=7.9						

MAN 05 19:55:06.8, 11.29N×124.58E, h23km, mb4.4, ML3.2, MS3.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.41**	**107**	*e*P	Pb	19 55 16.2	+0.8
PLP				*i* S	Sb	19 55 24.6	+3.4
BESP	**Borongan**	**0.90**	**70**	*e*P	Pb	19 55 23.2	-0.4
BESP				*e*S	Sb	19 55 37.0	+1.8
LLP	**Lapu-Lapu**	**1.13**	**212**	*e*P	Pn	19 55 26.9	-0.5
LLP				*e*S	Sb	19 55 42.3	+0.4
MSLP	**Maasin**	**1.18**	**166**	*e*P	Pn	19 55 29.5	+1.4
MSLP				*e*S	Sb	19 55 49.5	+6.4
GUIM	**Jordan**	**2.06**	**252**	*e*P	Pn	19 55 40.3	-0.4
GUIM				*e*S	Sn	19 56 06.2	+0.3
PAGZ	**Pagadian**	**3.61**	**199**	*e*P	Pn	19 56 01.3	-1.5

*IDC **05** 20:06:03.3±2.5, 43.39N×105.30W, mb4.2/1, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=57.3km s-min=8.6km az=154.0*
*NEIC **05** 20:06:06.5±0.5, 43.71N×105.21W, ML3.1, Error ellipse: s-maj=7.1km s-min=4.5km az=126.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 05 20:06:04.8±0.6, 43.72N±0.05×105.22W±0.08, n26, σ0§91/26, mb4.4/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.95**	**64**	*e*P	**Pg**	**20 06 24.8**	**+1.1**
RWWY	**Rawlins**	**2.50**	**217**	P	**Pn**	**20 06 48.0**	**+0.7**
LAO	**LASA Array**	**3.06**	**347**	*e*P	**Pn**	**20 06 55.9**	**+0.6**
PDAR	**Pinedale Array**	**3.31**	**255**	Pn	**Pn**	**20 06 58.6**	**-0.3**
	2.8nm,0.3s,baz=70,slow=15,SNR=47						
PDAR				Lg		20 07 41.8	
	11nm,0.3s,baz=82,slow=20,SNR=14						
ISCO	**Idaho Springs**	**3.92**	**184**	*e*P	**Pn**	**20 07 07.8**	**+0.2**
REDW	**Red Top Meadow**	**4.11**	**267**	P	**Pn**	**20 07 11.4**	**+1.2**
IMW	**Indian Meadow**	**4.14**	**274**	*e*P	**Pn**	**20 07 11.2**	**+0.5**
TPAW	**Teton Pass**	**4.17**	**269**	P	**Pn**	**20 07 11.7**	**+0.6**
YMR	**Madison River**	**4.24**	**285**	P	**Pn**	**20 07 14.4**	**+2.3**
AHID	**Auburn Hatcher**	**4.40**	**260**	P	**Pn**	**20 07 15.6**	**+1.2**
RRI2	**Red Ridge**	**4.45**	**267**	*e*P	**Pn**	**20 07 15.1**	**+0.1**
DGMT	**Dagmar**	**4.81**	**8**	*e*P	**Pn**	**20 07 20.8**	**+0.6**
BOZ	**Bozeman (W)**	**4.96**	**295**	P	**Pn**	**20 07 21.2**	**-1.1**
HWUT	**Hardware Ranch**	**5.13**	**248**	*e*P	**Pn**	**20 07 24.6**	**-0.1**
EGMT	**Eagleton**	**5.34**	**325**	*e*P	**Pn**	**20 07 27.2**	**-0.6**
HRY	**Holter Researc**	**5.55**	**305**	*e*P	**Pn**	**20 07 29.9**	**-0.7**
DAU	**Daniels Canyon**	**5.57**	**236**	*e*P	**Pn**	**20 07 31.3**	**+0.4**
HVU	**Hansel Valley**	**5.89**	**253**	P	**Pn**	**20 07 34.3**	**-1.1**
SRU	**San Rafael**	**6.09**	**223**	P	**Pn**	**20 07 37.7**	**-0.5**
TMUT	**Trail Mountain**	**6.30**	**228**	P	**Pn**	**20 07 41.0**	**-0.2**
DUG	**Dugway**	**6.66**	**241**	*e*P	**Pn**	**20 07 45.0**	**-1.4**
MSU	**Marysvale**	**7.39**	**228**	P	**Pn**	**20 07 55.9**	**-0.7**
MVU	**Marysvale**	**7.41**	**228**	P	**Pn**	**20 07 57.3**	**+0.4**
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**P**	**20 08 17.2**	**-3.6**
	1.5nm,0.3s,baz=227,slow=11,SNR=14						
ULM				Lg		20 10 55.6	
	0.3nm,0.3s,baz=324,slow=22,SNR=2.7						
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**P**	**20 10 36.4**	**-0.7**
	0.1nm,0.3s,baz=159,slow=11,SNR=3.8						
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**	**20 16 23.0**	**-1.6**
	2.9nm,0.9s,mb4.4,baz=326,slow=6.5,SNR=5.0						

IDC 05 20:47:25.8±4.8, 15.03S×174.05W, h71km±75km, mb3.5/3, mb1 3.9/4, mb1mx3.6/15, mbtmp4.0/4, Error ellipse: s-maj=188.3km s-min=26.9km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.47**	**63**	P	P	20 48 03.9	-0.8
	212nm,0.3s,baz=326,slow=11,SNR=179						
AFI				S	S	20 48 29.5	-4.1
	215nm,0.3s,baz=55,slow=23,SNR=7.8						
STKA	**Stephens Creek**	**43.68**	**239**	P	P	20 55 23.9	-1.6
	0.8nm,0.6s,baz=61,slow=13,SNR=2.5						
WB2	**Warramunga Arr**	**49.31**	**257**	*e*P	P	20 56 07.9	-2.1
WRA	**Warramunga Ar**	**49.32**	**257**	P	P	20 56 08.0	-2.1
	1.0nm,0.3s,baz=94,slow=7.6,SNR=55						
ILAR	**Eielson Array**	**82.21**	**11**	P	P	20 59 38.8	-1.5
	0.3nm,0.6s,baz=210,slow=6.0,SNR=7.6						

*CSEM **05** 20:54:54.2±0.3, 30.17N×56.64E, ML3.4, Error ellipse: s-maj=3.7km s-min=2.4km az=47.0*
*THR **05** 20:54:55.9±0.3, 30.17N×56.64E, h15km, ML3.2*
*TEH **05** 20:54:57.8, 30.17N×56.82E, h10km, Mn3.4*
ISC 05 20:54:58.6±0.8, 30.23N±0.05×56.67E±0.08, h33km, n21, σ1§13/23, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBAF	**Bafgh**	**1.66**	**325**	Pn	**Pn**	**20 55 26.4**	**+0.5**
IMEH	**Mehriz**	**2.11**	**304**	Pn	**Pn**	**20 55 33.0**	**+0.5**
ICHK	**Chekchek**	**2.79**	**317**	Pn	**Pn**	**20 55 42.3**	**+0.2**
BNDS	**Bandar-Abbas**	**2.85**	**189**	*e*Pn	**Pn**	**20 55 42.0**	**-1.0**
BNDS				AML	AML	20 56 24.7	
	comp=N,127nm,0.4s						
ISAD	**Sadrabad**	**3.06**	**304**	Pn	**Pn**	**20 55 46.3**	**+0.4**
IPAR	**Pars**	**3.16**	**264**	Pn	**Pn**	**20 55 49.0**	**+1.6**
ISRV	**Sarvestan**	**3.20**	**256**	Pn	**Pn**	**20 55 49.1**	**+1.2**
ZHSF	**Zahedan**	**3.62**	**99**	*e*Pn	**Pn**	**20 55 53.9**	**+0.1**
IMOK	**Mook**	**3.64**	**252**	Pn	**Pn**	**20 55 55.2**	**+1.1**
GHIR	**Ghir-Karzin**	**3.75**	**240**	*e*Pn	**Pn**	**20 55 54.8**	**-1.0**
GHIR				AML	AML	20 57 02.4	
	comp=N,29nm,0.5s						
NASN	**Na'in**	**4.18**	**309**	*e*Pn	**Pn**	**20 56 01.6**	**-0.1**
IGAR	**Garneh**	**4.33**	**299**	Pn	**Pn**	**20 56 10.6**	**+6.7**
IZEF	**Zefreh**	**4.56**	**307**	Pn	**Pn**	**20 56 09.3**	**+2.1**
IKLH	**Kalahroud**	**5.32**	**307**	Pn	**Pn**	**20 56 19.4**	**+1.5**
IPIR	**Pirpir**	**5.51**	**298**	Pn	**Pn**	**20 56 24.4**	**+3.8**
ISFB	**Sefidab**	**5.57**	**319**	Pn	**Pn**	**20 56 21.7**	**+0.3**
ISFB				Sn	**Sn**	**20 57 24.1**	**-1.0**
IFIR	**Firoozkooh**	**6.32**	**330**	Pn	**Pn**	**20 56 31.6**	**-0.5**
IFIR				Sn	**Sn**	**20 57 41.2**	**-2.7**
IDMV	**Damavand**	**6.61**	**325**	Pn	**Pn**	**20 56 35.8**	**-0.3**
RDF	**Al-Radifah**	**8.05**	**263**	*e*P	**P**	**20 56 54.5**	**-1.5**
MIB	**Mutribah**	**8.10**	**269**	*e*P	**P**	**20 56 55.4**	**-1.4**
NAY	**Al-Naaiem**	**8.25**	**266**	*e*P	**P**	**20 56 57.6**	**-1.3**

IDC 05 21:10:30.4±0.9, 0.51N×24.99W, mb3.9/5, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, MS3.7/4, Ms1 3.7/4, ms1mx3.2/28, Error ellipse: s-maj=50.7km s-min=24.3km az=147.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**21.00**	**73**	LR	LR	21 21 22.4	
	comp=Z,124nm,21.8s,baz=156,slow=31						
BDFB	**Brasilia**	**27.83**	**234**	LR	LR	21 26 20.1	
	comp=Z,172nm,19.5s,baz=276,slow=34						
TORD	**Torodi Ar. Bea**	**29.27**	**63**	P	P	21 16 35.0	-1.8
	1.4nm,0.8s,baz=244,slow=9.1,SNR=4.0						
LPAZ	**La Paz**	**45.71**	**247**	P	P	21 18 54.4	-1.0
	2.2nm,0.9s,baz=78,slow=6.2,SNR=9.7						
LPAZ				LR	LR	21 37 39.2	
	comp=Z,128nm,18.4s,baz=289,slow=36						
KMBO	**Kilima Mbogo**	**62.26**	**92**	LR	LR	21 45 31.5	
	comp=Z,44nm,18.5s,baz=81,slow=34						
BRTR	**Keskin Array B**	**65.98**	**46**	P	P	21 21 19.1	-1.8
	1.0nm,0.8s,baz=252,slow=4.6,SNR=6.3						
AKASG	**Malin Array Be**	**67.75**	**34**	P	P	21 21 29.8	-2.2
	0.1nm,0.3s,baz=241,slow=6.5,SNR=6.7						
PDAR	**Pinedale Array**	**85.66**	**313**	P	P	21 23 11.6	-0.9
	0.5nm,0.7s,baz=104,slow=6.1,SNR=3.8						
STKA	**Stephens Creek**	**146.32**	**159**	PKPbc	PKPbc	21 30 13.8	+0.1
	5.7nm,0.9s,baz=188,slow=3.9,SNR=9.6						
WRA	**Warramunga Arr**	**152.03**	**135**	PKPbc	PKPdf	21 30 27.6	+3.9
	0.9nm,0.8s,baz=242,slow=2.4,SNR=8.8						

*CSEM **05** 21:16:26.0±0.3, 37.15N×24.64W, h5km, ML2.5, Error ellipse: s-maj=10.0km s-min=2.7km az=87.0, After PDA*
*PDA **05** 21:16:26.0±0.7, 37.15N×24.64W, h5km, MD2.7, ML2.5, Error ellipse: s-maj=4.8km s-min=2.3km az=91.0*
SVSA 05 21:16:26.0±0.7, 37.15N×24.64W, h5km, MD2.7, ML2.5, Error ellipse: s-maj=4.8km s-min=2.3km az=91.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.37**	**247**	*e*P	Pg	21 16 32.5	-0.9
PSMN				*e*S	Sg	21 16 37.8	-0.6
MIRA	**Miradouro**	**0.81**	**322**	*e*P	Pb	21 16 38.9	-3.4
MIRA				*e*S	Sg	21 16 49.0	-4.2
FRA1	**Furnas**	**0.82**	**316**	*e*S	Sg	21 16 49.1	-4.4
PCNG	**Congro**	**0.86**	**316**	*e*S	Sb	21 16 50.1	-4.6
	68nm,0.2s						
VIF	**Vila Franca**	**0.87**	**313**	*e*P	Pb	21 16 40.2	-3.0
VIF				*e*S	Sb	21 16 50.6	-4.4
	71nm,0.1s						
PFAD	**Fenais da Ajud**	**0.88**	**322**	*e*P	Pb	21 16 40.1	-3.2
PRCH	**Ribeira Ch**	**0.89**	**311**	*e*P	Pb	21 16 40.4	-3.1
PRCH				*e*S	Sb	21 16 51.1	-4.3
	100nm,0.1s						
MESC	**Monte Escuro**	**0.91**	**315**	*e*P	Pb	21 16 40.7	-3.2
MESC				*e*S	Sb	21 16 51.5	-4.6
LFA	**Lagoa do Fogo**	**0.92**	**313**	*e*P	Pb	21 16 40.9	-3.1
PMAT	**Coroa da Mata**	**0.94**	**315**	*e*S	Sb	21 16 52.3	-4.6
	35nm,0.2s						
PVER	**Pico Vermelho**	**0.95**	**313**	*e*S	Sb	21 16 52.6	-4.7
	36nm,0.4s						
CML	**Cha da Macela**	**0.95**	**311**	*e*P	Pb	21 16 41.1	-3.5
CML				*e*S	Sb	21 16 52.4	-4.9
FAC	**Faja de Cima**	**1.02**	**308**	*e*S	Sb	21 16 54.3	-4.9
SET2	**Ginetes**	**1.16**	**307**	*e*P	Pb	21 16 44.2	-3.9
SET4	**Mosteiros**	**1.17**	**309**	*e*P	Pb	21 16 43.8	-4.6

ROSA	**Rosais**	**3.25**	**300**	*e*P	Pn	21 17 12.9 -5.8
PICO	**Pico**	**3.29**	**295**	*e*P	Pn	21 17 13.6 -5.6
PICO				*e*S	Sn	21 17 48.9 -10
CALA	**Caldeira**	**3.52**	**295**	*e*P	Pn	21 17 16.1 -6.4

*BUG **05** 21:33:05.8, 51.52N×6.79E, h1km, ML1.7*
*LDG **05** 21:33:07.1±0.2, 51.60N×6.88E, h1km, Ml2.8/6, Error ellipse: s-maj=3.5km s-min=3.0km az=44.0, Suspected Mining induced.*
*NEIC **05** 21:33:07.1, 51.60N×6.88E, h1km, ML2.8(LDG), After LDG.*
*BGR **05** 21:33:08.3±0.8, 51.50N×6.93E, h1km, ML2.1/4, Error ellipse: s-maj=10.0km s-min=4.4km az=156.0*
ISC 05 21:33:05.0±0.5, 51.49N±0.02×6.89E±0.04, n23, σ1§18/46, 2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZER	**Hlnxe**	**0.13**	**354**	Pg	**Pg**	**21 33 07.5**	**-0.2**
BZER				Sg	**Sg**	**21 33 08.8**	**-0.7**
BUG	**Bochum--Univer**	**0.24**	**101**ĵ	*e*Pg	**Pg**	**21 33 12.7**	**+2.9**
BUG				Sg	**Sg**	**21 33 17.8**	**+4.8**
WTSB	**Winterswijk**	**0.48**	**353**ĵ	*e*Pg	**Pg**	**21 33 14.6**	**0.0**
	62nm,0.3s						
HGN	**Heimansgroeve**	**0.94**	**220**	*e*Pg	**Pg**	**21 33 26.2**	**+2.4**
	15nm,0.1s						
HGN				*e*Sg	**Sg**	**21 33 39.8**	**+3.4**
HGN	**Heimansgroeve**	**0.94**	**220**	*e*Pg	**Pg**	**21 33 26.2**	**+2.4**
HGN				*e*Sg	**Sg**	**21 33 39.9**	**+3.5**
TNS	**Taunus Mts**	**1.60**	**141**	*e*Pg	**Pg**	**21 33 37.9**	**+0.9**
TNS				*e*Sg	**Sg**	**21 33 59.2**	**+0.7**
WLF	**Walferdange**	**1.89**	**195**	*e*Sg	**Sg**	**21 34 07.8**	**0.0**
GIVF	**Givet**	**1.91**	**224**	*e*Pg	**Pg**	**21 33 44.0**	**+0.9**
GIVF				*e*Sn	**Sn**	**21 34 04.7**	**+0.5**
GIVF				*e*Sg	**Sg**	**21 34 10.0**	**+1.5**
	17nm,0.2s						
GIVF	**Givet**	**1.91**	**224**	*e*Pn	**Pn**	**21 33 40.2**	**+1.1**
GIVF				*e*Pg	**Pg**	**21 33 44.0**	**+0.9**
GIVF				*e*Sn	**Sn**	**21 34 04.7**	**+0.5**
GIVF				*e*Sg	**Sg**	**21 34 10.0**	**+1.5**
GIVF	**Givet**	**1.91**	**224**	*e*Pg	**Pg**	**21 33 44.0**	**+0.9**
GIVF				*e*Sn	**Sn**	**21 34 04.7**	**+0.5**
GIVF				*e*Sg	**Sg**	**21 34 10.0**	**+1.5**
	8.6nm,0.2s						
CLZ	**Clausthal**	**2.20**	**79**	*e*(Pg)	**Pg**	**21 33 49.1**	**+0.3**
BAIF	**Baives**	**2.22**	**231**	*e*Pg	**Pg**	**21 33 50.0**	**+0.6**
BAIF				*e*Sn	**Sn**	**21 34 11.4**	**-0.8**
BAIF				*e*Sg	**Sg**	**21 34 18.4**	**-0.6**
	8.7nm,0.3s						
BAIF	**Baives**	**2.22**	**231**	*e*Pn	**Pn**	**21 33 44.0**	**+0.4**
BAIF				*e*Pg	**Pg**	**21 33 50.0**	**+0.6**
BAIF				*e*Sn	**Sn**	**21 34 11.4**	**-0.8**
BAIF				*e*Sg	**Sg**	**21 34 18.4**	**-0.6**
BAIF	**Baives**	**2.22**	**231**	*e*Pg	**Pg**	**21 33 50.0**	**+0.6**
BAIF				*e*Sn	**Sn**	**21 34 11.4**	**-0.8**
BAIF				*e*Sg	**Sg**	**21 34 18.4**	**-0.6**
	4.3nm,0.3s						
CDF	**Champ du Feu**	**3.09**	**175**	*e*Pn	**Pn**	**21 33 57.4**	**+1.5**
CDF				*e*Sg	**Sg**	**21 34 47.7**	**-0.1**
	2.1nm,0.2s						
MOX	**Moxa**	**3.10**	**104**	*e*Sg	**Sg**	**21 34 46.2**	**-1.9**
MEZF	**Maizieres J'vi**	**3.22**	**202**	*e*Sg	**Sg**	**21 34 50.5**	**-1.5**
	8.4nm,0.4s						
SFTF	**Sexfontaines**	**3.50**	**201**	*e*Sg	**Sg**	**21 35 00.2**	**-1.2**
	4.7nm,0.3s						
BRG	**Berggiesshubel**	**4.48**	**95**	*e*Sg	**Sg**	**21 35 33.6**	**-0.4**
LOR	**Lormes**	**4.66**	**206**	*e*Pn	**Pn**	**21 34 17.6**	**-0.7**
LOR				*e*Sn	**Sn**	**21 35 10.3**	**-3.7**
LOR				*e*Sg	**Sg**	**21 35 36.8**	**-3.5**
	3.0nm,0.3s						
SSF	**Saint Saulge**	**4.95**	**208**	*e*Pn	**Pn**	**21 34 21.8**	**-0.6**
AVF	**Avril sur Loir**	**5.24**	**208**	*e*Pn	**Pn**	**21 34 25.3**	**-1.2**
GRR	**Gorron**	**5.89**	**241**	*e*Pn	**Pn**	**21 34 33.9**	**-1.7**
GRR				*e*Sn	**Sn**	**21 35 38.1**	**-6.6**

*IDC **05** 21:34:52.8±2.7, 12.28N×140.39E, mb4.1/4, mb1 4.2/4, mb1mx3.6/17, mbtmp4.1/4, Error ellipse: s-maj=246.2km s-min=28.5km az=85.0*
*NEIC **05** 21:34:54.3±0.7, 12.22N×140.46E, h10km, mb4.6/2, Error ellipse: s-maj=43.3km s-min=17.1km az=98.0*
**ISC 05 21:34:57.7±0.8, 12.2N±0.1×140.0E±0.3, h33km, n10

ϕ_s80°, δ32°, λ-165°. NP2:ϕ_s337°, δ82°, λ-59°. Principal axes: T 6.599, Plg30°, Azm42°; N 1.542, Plg31°, Azm152°; P 5.054, Plg44°, Azm278°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*MEX **05** 21:40:37.8±0.7, 14.39N×92.20W, h66km±9km, MD4.9*
*MOS **05** 21:40:38.3±1.0, 14.71N×91.48W, h120km, mb5.5/41, Error ellipse: s-maj=8.2km s-min=5.1km az=97.1*

ISC 05 21:40:34.6±0.2, 14.53N±0.03×91.94W±0.02, h91km, h91km±2.3km:pP-P, n339, σ1§65/313, mb4.7/90, 10C-9D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.06**	**94**	*e*P		**P**		**21 40 55.8**	**+0.4**
PCG	**Pacaya**	**1.30**	**96**	*e*P		**P**		**21 40 59.3**	**+1.0**
PCG				*e*S		**S**		**21 41 18.2**	**+2.1**
GCG	**Guatemala City**	**1.36**	**87↑**	*e*P		**P**		**21 41 20.3**	**+1.2**
GCG				*e*S		**S**		**21 41 20.6**	**+3.3**
IXG	**Ixpaco**	**1.48**	**104↓**	*e*P		**P**		**21 41 01.4**	**+0.8**
IXG				*e*S		**S**		**21 41 21.9**	**+2.0**
IXG				AML		AML		21 41 29.5	
	comp=E,365μm,0.6s								
NBG	**Las Nubes**	**1.54**	**88**	*e*P		**P**		**21 41 03.4**	**+2.0**
NBG				*e*S		**S**		**21 41 26.3**	**+5.1**
CCIG	**Comitan**	**1.75**	**354**	*i* P		**P**		**21 41 06.4**	**+2.3**
CCIG				*i* S		**S**		**21 41 28.7**	**+2.8**
MRL	**Marmol**	**2.24**	**76↑**	*e*P		**P**		**21 41 12.4**	**+1.8**
MRL				*e*S		**S**		**21 41 40.7**	**+3.3**
MRL				AML		AML		21 41 59.8	
	comp=E,3μm,0.8s								
SCX	**San Cristobal**	**2.30**	**343**	*i* P		**P**		**21 41 14.1**	**+2.7**
SCX				*i* S		**S**		**21 41 41.7**	**+2.9**
RTR	**El Retiro**	**2.31**	**105**	*e*P		Px		21 41 41.6	
RTR				*e*S		Sx		21 42 12.6	
SBLS	**San Blas**	**2.35**	**107**	*e*P		Px		21 41 41.9	
SBLS				*e*S		Sx		21 42 12.4	
SNJE	**San Jose**	**2.35**	**106↓**	*e*P		Px		21 41 42.1	
SNJE				*e*S		Sx		21 42 13.6	
MTO2	**Montecristo 2**	**2.50**	**93**	*e*P		Px		21 41 44.1	
MTO2				*e*S		Sx		21 42 15.1	
SNET	**Serv Nac Est T**	**2.76**	**107**	*e*P		**P**		**21 41 18.0**	**+0.2**
SNET				*e*S		**S**		**21 41 52.4**	**+2.2**
LBRS	**Las Brisas**	**2.92**	**105**	*e*P		Px		21 41 49.9	
LBRS				*e*S		Sx		21 42 26.5	
LFRS	**El Faro**	**2.93**	**107**	*e*P		Px		21 41 49.6	
LFRS				*e*S		Sx		21 42 25.8	
SNVI	**San Vicente**	**3.14**	**106**	*e*P		Px		21 41 53.1	
SNVI				*e*S		Sx		21 42 32.8	
CAHU	**Cacacuatique**	**3.69**	**101**	*e*P		Px		21 42 08.6	
CAHU				*e*S		Sx		21 42 55.8	
VSM	**San Miguel**	**3.72**	**107**	*e*P		Px		21 42 01.5	
VSM				*e*S		Sx		21 42 49.0	
BLLM	**Bellamira**	**3.75**	**106**	*e*P		Px		21 42 01.6	
BLLM				*e*S		Sx		21 42 46.3	
CMIG	**Matias Romero**	**3.81**	**312**	*e*P		**P**		**21 41 31.7**	**-0.7**
CMIG				*i* S		**S**		**21 42 15.4**	**-0.9**
CNCH	**Conchagua**	**4.18**	**107**	*e*P		Px		21 42 07.3	
CNCH				*e*S		Sx		21 42 57.0	
HUIG	**Huatulco**	**4.21**	**288**	*i* P		**P**		**21 41 35.1**	**-2.7**
HUIG				*i* S		**S**		**21 42 20.3**	**-5.8**
TUIG	**Tuzandepetl**	**4.22**	**326**	*i* P		**P**		**21 41 37.4**	**-0.6**
TUIG				*i* S		**S**		**21 42 25.7**	**-0.8**
CRIN	**San Cristobal**	**5.09**	**110**	*e*P		**P**		**21 41 52.3**	**+2.5**
CRIN				*e*S		**S**		**21 42 50.1**	**+2.2**
OXX	**Oaxaca**	**5.26**	**300**	*e*P		**P**		**21 41 52.0**	**-0.2**
OXX				*i* S		**S**		**21 42 50.0**	**-2.1**
VHO	**Vista Hermosa**	**5.26**	**299↓**	*i* P		**P**		**21 41 52.6**	**+0.4**
VHO				*i* S		**S**		**21 42 49.0**	**-3.1**
TEL3	**Telica 3**	**5.32**	**111**	*e*P		**P**		**21 41 54.5**	**+1.5**
TELN	**Telica**	**5.32**	**110**	*e*P		**P**		**21 41 54.4**	**+1.3**
LEON	**Leon**	**5.34**	**113**	*e*P		**P**		**21 41 53.5**	**+0.3**
CNGN	**Cerro Negro**	**5.48**	**111↑**	*e*P		**P**		**21 41 56.3**	**+1.1**
MIRN	**Miramar**	**5.49**	**112**	*e*P		**P**		**21 41 56.4**	**+1.1**
MOMJ	**Momotombo**	**5.66**	**111**	*e*P		**P**		**21 41 59.0**	**+1.4**
COPN	**Copaltepe**	**5.70**	**114**	*e*P		**P**		**21 41 59.2**	**+1.0**
XAVN	**Gruta Xavier**	**5.95**	**113**	*e*P		**P**		**21 42 02.8**	**+1.1**
MGAN	**Managua**	**6.02**	**112**	*e*P		**P**		**21 42 04.4**	**+1.7**
WILN	**Americas 2**	**6.07**	**112**	*e*P		**P**		**21 42 04.2**	**+0.9**
TICN	**Ticuantepe**	**6.08**	**113**	*e*P		**P**		**21 42 05.2**	**+1.7**
PNIG	**Pinotepa**	**6.25**	**288**	*i* P		**P**		**21 42 04.4**	**-1.4**
PNIG				*i* S		**S**		**21 43 10.6**	**-5.8**
SSNN	**San Juan del S**	**6.75**	**118**	*e*P		**P**		**21 42 13.5**	**+0.6**
CONN	**Concepcion**	**6.82**	**115**	*e*P		**P**		**21 42 14.1**	**+0.4**
MADN	**Villa Maderas**	**6.97**	**116**	*e*P		**P**		**21 42 16.2**	**+0.4**
VCR	**Vista de Mar**	**7.56**	**125**	*e*P		**P**		**21 42 24.7**	**+0.9**
PPM	**Popocatepetl**	**7.83**	**306**	*e*P		**P**		**21 42 30.0**	**+2.4**
PPM				*e*P				21 42 30.0	
PPM				*i* S		**S**		**21 43 58.4**	**+3.0**
PPM	**Popocatepetl**	**7.83**	**306**	*e*P		**P**		**21 42 30.0**	**+2.4**
PPM				*i* S		**S**		**21 43 58.4**	**+3.0**
JTS	**JuntasAbangare**	**8.02**	**121**	P		**P**		**21 42 29.2**	**-0.9**
	comp=E,6.8nm,0.3s,baz=310,slow=18,SNR=28								
JTS				S		**S**		**21 43 57.1**	**-2.7**
	comp=E,4.8nm,0.3s,baz=322,slow=14,SNR=2.0								
JTS	**JuntasAbangare**	**8.02**	**121**	*d* P		**P**		**21 42 31.3**	**+1.2**
JTS	**JuntasAbangare**	**8.02**	**121**	P		**P**		**21 42 29.2**	**-0.9**
JTS				S		**S**		**21 43 57.1**	**-2.7**
ACX	**Acapulco**	**8.03**	**288**	*e*P		**P**		**21 42 28.3**	**-0.2**
PLIG	**Platanillo**	**8.21**	**299**	*i* P		**P**		**21 42 33.6**	**+0.9**
PLIG				*i* S		**S**		**21 44 03.9**	**-0.7**
CAIG	**El Cayaco**	**8.40**	**288**	*e*P		**P**		**21 42 34.6**	**-0.7**
CAIG				*i* S		**S**		**21 44 05.8**	**-3.4**
VPS2	**Volcan Poas 2**	**8.67**	**119**	*e*P		**P**		**21 42 40.3**	**+1.4**
PRS1	**Puriscal**	**8.71**	**120↓**	*e*P		**P**		**21 42 41.4**	**+1.9**
LAJ	**Bijagual**	**8.94**	**120↑**	*e*P		**P**		**21 42 39.8**	**-2.7**
LCR2	**La Lucha 2**	**9.10**	**121**	*e*P		**P**		**21 42 45.4**	**+0.6**
BUS	**Buena Vista**	**9.40**	**121↑**	*e*P		**P**		**21 42 50.5**	**+1.6**
ZIIG	**Zihuatanejo**	**9.65**	**290**	*i* P		**P**		**21 42 52.6**	**+0.3**
ZIIG				*i* S		**S**		**21 44 37.4**	**-2.4**
MOIG	**Morelia**	**10.22**	**301**	*i* P		**P**		**21 43 02.2**	**+2.3**
ACR	**Cerro Adams**	**10.39**	**123↓**	*e*P		**P**		**21 43 03.4**	**+1.2**
SFJM	**Santa Fe**	**12.13**	**301**	*e*P		**P**		**21 43 26.0**	**+0.5**
DWPF	**Disney**	**16.67**	**34**	*e*Pn		**P**		**21 44 27.3**	**+3.5**
	comp=E,417nm,1.0s								
NATX	**Nacogdoches**	**17.33**	**352**	*e*Pn		**P**		**21 44 33.8**	**+1.7**
	comp=E,44nm,0.3s								
JCT	**Junction City**	**17.45**	**337**	*e*P		**P**		**21 44 36.8**	**+3.3**
JCT				*e*				21 47 40.4	
JCT				pmax		pmax			
	comp=Z,54nm,1.1s								
JCT	**Junction City**	**17.45**	**337**	*e*Pn		**P**		**21 44 36.8**	**+3.3**
	comp=Z,54nm,1.1s								
JCT				*e*Sn		**S**		**21 47 40.4**	**-2.0**
LTX	**Lajitas**	**18.29**	**326**	*e*P		**P**		**21 44 46.1**	**+2.4**
LTX				pmax		pmax			
	comp=Z,23nm,0.9s								
LTX	**Lajitas**	**18.29**	**326**	*e*P		**P**		**21 44 46.1**	**+2.4**
	comp=Z,22nm,0.9s								
TXAR	**Lajitas Array**	**18.29**	**326**	P		**P**		**21 44 46.0**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=51								
TXAR				PcP		PcP		21 49 12.9	+1.0
	comp=Z,0.1nm,0.3s,baz=180,slow=3.8,SNR=7.3								
TXAR				ScP				21 52 43.4	
	comp=Z,0.5nm,0.3s,baz=180,slow=3.6,SNR=4.8								
OTAV	**Otavalo**	**19.48**	**136**	*e*P		**P**		**21 44 54.9**	**-1.9**
	comp=Z,30nm,1.3s								
ROSC	**El Rosal**	**19.82**	**117**	P		**P**		**21 44 59.9**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=252,slow=3.8,SNR=14								
MIAR	**Mount Ida**	**19.99**	**356**	*e*P		**P**		**21 45 01.8**	**-0.2**
MIAR				*e*S		**S**		**21 48 35.5**	**-1.2**
MIAR				pmax		pmax			
	comp=Z,135nm,1.3s								
MIAR	**Mount Ida**	**19.99**	**356**	*e*P		**P**		**21 45 01.8**	**-0.3**
	comp=Z,135nm,1.3s								
MIAR				*e*S		**S**		**21 48 35.5**	**-1.2**
OXF	**Oxford**	**20.03**	**6**	*e*P		**P**		**21 45 01.8**	**-0.7**
OXF				*e*S		**S**		**21 48 35.4**	**-2.1**
OXF				pmax		pmax			
	comp=Z,249nm,1.1s								
OXF	**Oxford**	**20.03**	**6**	*e*P		**P**		**21 45 01.8**	**-0.7**
	comp=Z,249nm,1.1s								
OXF				*e*S		**S**		**21 48 35.4**	**-2.2**
GOGA	**Godfrey**	**20.31**	**21**	*e*P		**P**		**21 45 05.3**	**-0.1**
GOGA				pmax		pmax			
	comp=Z,65nm,0.8s								
GOGA	**Godfrey**	**20.31**	**21**	*e*P		**P**		**21 45 05.3**	**-0.1**
	comp=Z,65nm,0.8s								
GDL2	**Guadalupe Moun**	**20.93**	**329**	*e*P		**P**		**21 45 13.8**	**+2.0**
WMOK	**Wichita Mounta**	**21.05**	**344**	*e*P		**P**		**21 45 11.8**	**-1.1**
WMOK				pmax		pmax			
	comp=Z,22nm,0.8s,mb4.5								
WMOK	**Wichita Mounta**	**21.05**	**344**	*e*P		**P**		**21 45 11.8**	**-1.1**
	comp=Z,22nm,0.8s,mb4.5								
MNTX	**Cornudas Mount**	**21.06**	**327**	*e*P		**P**		**21 45 14.1**	**+1.1**
	comp=Z,44nm,0.8s,mb4.8								
SWET	**Sewanee**	**21.30**	**14**	*e*P		**P**		**21 45 14.8**	**-0.6**
NHSC	**New Hope**	**21.36**	**28**	*e*P		**P**		**21 45 17.1**	**+1.0**
	comp=Z,181nm,1.0s,mb5.4								
CPRX	**Cap Rock**	**21.38**	**332**	*e*P		**P**		**21 45 17.7**	**+1.5**
SDV	**Santo Domingo**	**21.59**	**103**	P		**P**		**21 45 16.2**	**-2.2**
	comp=Z,41nm,0.7s,mb4.9,baz=310,slow=7.6,SNR=33								
SDV				S		**S**		**21 49 10.6**	**+3.7**
	comp=Z,3.0nm,0.6s,baz=31,slow=22,SNR=3.0								
SDV				PcP		PcP		21 49 17.2	-0.9
	comp=Z,9.8nm,0.9s,baz=24,slow=7.6,SNR=4.2								
SDV				LR		LR		21 53 59.3	
	comp=Z,155nm,21.8s,baz=131,slow=38								
SDV	**Santo Domingo**	**21.59**	**103**	*e*P		**P**		**21 45 16.1**	**-2.4**
	comp=Z,38nm,0.7s,mb4.8								
SDV				*e*PcP		PcP		21 49 16.7	-1.3
GLAT	**Glass**	**21.78**	**6**	*e*P		**P**		**21 45 20.5**	**+0.3**
WVT	**Waverly**	**21.82**	**9**	*e*P		**P**		**21 45 19.5**	**-1.1**
WVT				*e*				21 49 18.1	
WVT				pmax		pmax			
	comp=Z,48nm,0.8s,mb4.9								
WVT	**Waverly**	**21.82**	**9**	*e*P		**P**		**21 45 19.5**	**-1.1**
	comp=Z,48nm,0.8s,mb4.9								
WVT				*e*PcP		PcP		21 49 18.1	-0.3
CPCT	**Cooper Cave**	**21.87**	**16**	*e*P		**P**		**21 45 21.9**	**+0.8**
CPCT				*e*pP				21 45 39.3	
JSC	**Jenkinsville**	**21.91**	**24**	*e*P		**P**		**21 45 22.4**	**+1.0**
JSC				*e**PP				21 45 43.8	
TZTN	**Tazewell**	**23.17**	**17**	*e*P		**P**		**21 45 34.7**	**+1.0**
TZTN				*e*pP				21 45 55.0	
FVM	**French Village**	**23.40**	**3**	*e*P		**P**		**21 45 35.5**	**-0.4**
FVM				*e**PP				21 45 57.6	
FVM				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.2								
FVM	**French Village**	**23.40**	**3**	*e*P		**P**		**21 45 35.5**	**-0.4**
	comp=Z,6.8nm,0.6s,mb4.2								
FVM				*e*pP				21 45 57.6	
CCM	**Cathedral Cave**	**23.44**	**1**	*e*P		**P**		**21 45 36.0**	**-0.3**
CCM				pmax		pmax			
	comp=Z,71nm,1.1s,mb4.9								
CCM	**Cathedral Cave**	**23.44**	**1**	*e*P		**P**		**21 45 36.0**	**-0.3**
	comp=Z,71nm,1.1s,mb4.9								
BNM	**Barren Site**	**23.63**	**328**	*e*P		**P**		**21 45 41.5**	**+3.4**
BNM				*e*pP				21 46 04.4	
LPM	**Los Pinos Moun**	**23.76**	**329**	*e*P		**P**		**21 45 42.7**	**+3.4**
LENM	**Lemitar**	**23.82**	**328**	*e*P		**P**		**21 45 43.2**	**+3.3**
SLM	**Saint Louis**	**24.06**	**3**	*e*P		**P**		**21 45 42.9**	**+0.7**
SLM				*e**PP				21 46 09.7	
SLM				pmax		pmax			
	comp=Z,98nm,0.9s,mb5.1								
SLM	**Saint Louis**	**24.06**	**3**	*e*P		**P**		**21 45 42.9**	**+0.6**
	comp=Z,98nm,0.9s,mb5.1								
SLM				*e*pP				21 46 09.7	
LAZ	**Ladron**	**24.09**	**328**	*e*P		**P**		**21 45 46.4**	**+3.8**
LAZ				*e*pP				21 46 10.2	
WCI	**Wyandotte Cave**	**24.13**	**11**	*e*P		**P**		**21 45 42.8**	**-0.1**
WCI				pmax		pmax			
	comp=Z,158nm,0.9s,mb5.3								
WCI	**Wyandotte Cave**	**24.13**	**11**	*e*P		**P**		**21 45 42.8**	**-0.2**
	comp=Z,158nm,0.9s,mb5.3								
WCI				*e*				21 45 57.8	
ANMO	**Albuquerque**	**24.18**	**330**	P		**P**		**21 45 46.3**	**+2.8**
	comp=Z,7.4nm,0.7s,mb4.1,baz=150,slow=11,SNR=12								
ANMO				PcP		PcP		21 49 23.7	+0.4
	comp=Z,5.8nm,0.9s,baz=156,slow=5.6,SNR=4.7								
ANMO	**Albuquerque**	**24.18**	**330**	*d* P		**P**		**21 45 46.6**	**+3.1**
ANMO	**Albuquerque**	**24.18**	**330**	*e*P		**P**		**21 45 46.4**	**+2.9**
	comp=Z,6.4nm,0.9s,mb4.0								
ELN	**Prospectdale**	**24.71**	**22**	*e*P		**P**		**21 45 48.3**	**-0.3**
BLA	**Blacksburg**	**24.81**	**22**	*e*P		**P**		**21 45 49.7**	**+0.1**
BLA				*e**PP				21 46 19.4	
BLA				pmax		pmax			
	comp=Z,35nm,0.8s,mb4.8								
BLA	**Blacksburg**	**24.81**	**22**	*e*P		**P**		**21 45 49.7**	**+0.1**
	comp=Z,35nm,0.8s,mb4.8								
BLA				*e*pP				21 46 19.4	
KSU1	**Kansas State U**	**24.82**	**351**	*e*P		**P**		**21 45 49.5**	**-0.2**
SJG	**San Juan**	**25.00**	**78**	P		**P**		**21 45 48.6**	**-2.9**
	comp=Z,6.1nm,0.3s,mb4.5,baz=340,slow=20,SNR=3.1								
SJG				PcP		PcP		21 49 23.8	-1.4
	comp=Z,25nm,0.8s,baz=35,slow=4.3,SNR=7.0								
SJG				LR		LR		21 54 48.1	
	comp=Z,384nm,21.9s,baz=260,slow=35								
SDCO	**Great Sand Dun**	**26.07**	**335**	*e*P		**P**		**21 46 02.4**	**+1.1**
	comp=Z,7.0nm,1.3s,mb3.9								
ACSO	**Alum Creek Sta**	**26.78**	**15**	*e*P		**P**		**21 46 07.0**	**-0.8**
	comp=Z,16nm,0.6s,mb4.7								
ACSO				*e*pP		pP		21 46 30.0	+1.7
CBN	**Corbin**	**26.88**	**26**	*e*P		**P**		**21 46 08.5**	**-0.3**
	comp=Z,39nm,0.8s,mb5.0								
CBN				*e*pP		pP		21 46 30.0	+0.7
WUAZ	**Wupatki**	**27.23**	**324**	*e*P		**P**		**21 46 14.0**	**+2.0**
	comp=Z,11nm,0.8s,mb4.5								
WUAZ				*e*PcP		PcP		21 49 31.3	+1.3
SDMD	**Soldier's Deli**	**28.12**	**25**	*e*P		**P**		**21 46 12.4**	**-7.6**
LDFC	**Landfair**	**29.21**	**319**	*e*P		**P**		**21 46 33.1**	**+3.3**
NEN	**Nelson**	**29.40**	**320**	*e*P		**P**		**21 46 33.4**	**+1.9**
MSU	**Marysvale**	**29.84**	**327**	*e*P		**P**		**21 46 37.7**	**+2.3**
MSU				*e*				21 47 15.4	
MVU	**Marysvale**	**29.85**	**327**	*e*P		**P**		**21 46 38.8**	**+3.3**
	comp=Z,7.2nm,0.9s,mb4.3								
TMUT	**Trail Mountain**	**29.93**	**329**	*e*P		**P**		**21 46 38.2**	**+2.0**
ARUT	**Antelope Range**	**30.01**	**325**	*e*P		**P**		**21 46 39.7**	**+2.9**
ARUT				*e*				21 49 39.3	
DAU	**Daniels Canyon**	**30.82**	**330**	*e*P		**P**		**21 46 46.1**	**+2.1**
DAU				*e**PP		pP		21 47 11.9	+6.9
TPNV	**Topopah Spring**	**31.11**	**320**	*e*P		**P**		**21 46 49.3**	**+2.8**
TPNV				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.5								
TPNV	**Topopah Spring**	**31.11**	**320**	*e*P		**P**		**21 46 49.3**	**+2.8**
	comp=Z,9.5nm,0.9s,mb4.5								
RSSD	**Black Hills**	**31.25**	**343**	*e*P		**P**		**21 46 41.7**	**-6.0**
DUG	**Dugway**	**31.42**	**328**	*e*P		**P**		**21 46 51.2**	**+2.0**
DUG				pmax		pmax			
	comp=Z,8.0nm,1.1s,mb4.4								
DUG	**Dugway**	**31.42**	**328**	*e*P		**P**		**21 46 51.2**	**+2.0**
	comp=Z,8.1nm,1.1s,mb4.4								
DAC	**Darwin (Calif)**	**31.54**	**318**	*e*P		**P**		**21 46 52.3**	**+2.0**
DAC				*e*				21 49 43.3	
DAC				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.4								
DAC	**Darwin (Calif)**	**31.54**	**318**	*e*P		**P**		**21 46 52.3**	**+1.9**
	comp=Z,6.5nm,0.9s,mb4.4								
DAC				*e*PcP		PcP		21 49 43.3	+2.3
HWUT	**Hardware Ranch**	**31.90**	**332**	*e*P		**P**		**21 46 54.5**	**+1.1**
	comp=Z,5.6nm,0.8s,mb4.3								
PDAR	**Pinedale Array**	**31.97**	**335**	P		**P**		**21 46 53.9**	**-0.1**
	comp=Z,1.5nm,0.6s,mb3.9,baz=136,slow=10,SNR=12								
PDAR				PcP		PcP		21 49 42.5	+0.4
	comp=Z,3.6nm,0.6s,baz=153,slow=3.3,SNR=9.3								
PDAR				ScP				21 53 20.8	
	comp=Z,3.4nm,1.0s,baz=150,slow=3.8,SNR=13								
PDAR				PKiKP				21 57 10.4	
	comp=Z,0.6nm,0.8s,baz=104,slow=3.7,SNR=4.2								
SADO	**Sadowa**	**32.04**	**17**	P		**P**		**21 46 52.2**	**-2.4**
	comp=Z,26nm,0.7s,mb5.1,baz=214,slow=7.1,SNR=8.4								
SADO				LR		LR		22 01 14.4	
	comp=Z,577nm,18.6s,baz=227,slow=39								
SADO	**Sadowa**	**32.04**	**17**	P		**P**		**21 46 52.2**	**-2.4**
SADO				LR		LR		22 01 14.4	
QUA2	**Belchertown**	**32.41**	**28**	*e*P		**P**		**21 46 56.2**	**-1.7**
	comp=Z,26nm,0.6s,mb5.1								
HVU	**Hansel Valley**	**32.60**	**330**	*e*P		**P**		**21 47 01.3**	**+1.8**
HVU				*e*				21 49 40.2	
HVU				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.6								
HVU	**Hansel Valley**	**32.60**	**330**	*e*P		**P**		**21 47 01.3**	**+1.8**
	comp=Z,8.5nm,0.8s,mb4.6								
HVU				*e*PcP		PcP		21 49 40.1	-3.7
REDW	**Red Top Meadow**	**32.99**	**334**	*e*P		**P**		**21 47 03.5**	**+0.7**
	comp=Z,15nm,0.8s,mb4.9								
REDW				*e*PcP		PcP		21 49 46.5	+1.6
NCB	**Newcomb**	**33.01**	**24**	*e*P		**P**		**21 47 01.4**	**-1.6**
	comp=Z,16nm,1.0s,mb4.8								
NCB				*e*pP		pP		21 47 22.2	-2.1
ELK	**Elko**	**33.09**	**327**	P		**P**		**21 47 06.2**	**+2.5**
	comp=Z,8.2nm,0.8s,mb4.6,baz=132,slow=5.7,SNR=35								
ELK				PcP		PcP		21 49 47.1	+1.9
	comp=Z,6.6nm,0.8s,baz=300,slow=0.7,SNR=10								
ELK				ScP				21 53 25.0	
	comp=Z,2.5nm,0.9s,baz=117,slow=4.2,SNR=7.6								
ELK				LR		LR		22 02 09.4	
	comp=Z,235nm,18.4s,baz=307,slow=39								
ELK	**Elko**	**33.09**	**327**	*e*P		**P**		**21 47 06.1**	**+2.4**
ELK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
ELK	**Elko**	**33.09**	**327**	*e*P		**P**		**21 47 06.1**	**+2.4**
	comp=Z,10.0nm,0.8s,mb4.7								
TPAW	**Teton Pass**	**33.14**	**334**	*e*P		**P**		**21 47 05.3**	**+1.1**
	comp=Z,6.0nm,0.7s,mb4.5								
TPAW				*e*PcP		PcP		21 49 45.6	+0.3
MNV	**Mina**	**33.21**	**321**	*e*P		**P**		**21 47 07.8**	**+3.0**
MNV				pmax		pmax			
	comp=Z,18nm,0.8s,mb5.0								
MNV	**Mina**	**33.21**	**321**	*e*P		**P**		**21 47 07.8**	**+3.0**
	comp=Z,18nm,0.8s,mb5.0								
NVAR	**Mina Array Bea**	**33.30**	**321**	P		**P**		**21 47 08.6**	**+3.1**
	comp=Z,25nm,0.7s,mb5.1,baz=129,slow=9.6,SNR=156								
NVAR				PcP		PcP		21 49 48.4	+2.6
	comp=Z,8.9nm,0.8s,baz=123,slow=4.4,SNR=18								
NVAR				ScP				21 53 26.4	
	comp=Z,1.5nm,0.7s,baz=127,slow=5.2,SNR=6.8								
NVAR	**Mina Array Bea**	**33.30**	**321**	P		**P**		**21 47 08.6**	**+3.1**
NVAR				PcP		PcP		21 49 48.4	+2.6
NVAR				ScP				21 53 26.4	
MIV	**Mineville/With**	**33.37**	**24**	*e*P		**P**		**21 47 04.5**	**-1.6**
LOZ	**Lake Ozonia**	**33.43**	**23**	*e*P		**P**		**21 47 04.7**	**-1.9**
LOZ				*e*pP		pP		21 47 26.2	-1.6
MDV	**Middlebury**	**33.45**	**25**	*e*P		**P**		**21 47 05.2**	**-1.7**
CMB	**Columbia Colle**	**34.38**	**318**	*e*P		**P**		**21 47 17.3**	**+2.5**
CMB				*e*				21 49 51.3	
CMB				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.4								
CMB	**Columbia Colle**	**34.38**	**318**	*e*P		**P**		**21 47 17.3**	**+2.5**
	comp=Z,5.8nm,0.9s,mb4.4								
CMB				*e*PcP		PcP		21 49 51.3	+2.4
HLID	**Hailey**	**34.74**	**331**	*e*P		**P**		**21 47 19.5**	**+1.7**
	comp=Z,10nm,0.9s,mb4.7								
BOZ	**Bozeman (W)**	**35.19**	**336**	*e*P		**P**		**21 47 22.2**	**+0.6**
BOZ				pmax		pmax			
	comp=Z,2.0nm,0.5s,mb4.2								
BOZ	**Bozeman (W)**	**35.19**	**336**	*e*P		**P**		**21 47 22.2**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.3								
DLMT	**Dillon**	**35.35**	**335**	*e*P		**P**		**21 47 23.3**	**+0.3**
	comp=Z,13nm,1.0s,mb4.7								
ULM	**Lac du Bonnet**	**35.77**	**356**	P		**P**		**21 47 24.1**	**-2.5**
	comp=Z,4.6nm,0.7s,mb4.5,baz=174,slow=7.4,SNR=6.9								
ULM				PcP		PcP		21 49 51.8	-1.0
	comp=Z,9.0nm,0.8s,baz=255,slow=3.1,SNR=7.9								
ULM				ScP				21 53 32.0	
	comp=Z,4.1nm,0.9s,baz=171,slow=6.7,SNR=4.5								
ULM				LR		LR		22 02 50.8	
	comp=Z,163

comp=Z,580nm,28.2s
PLCA Paso Flores 58.45 161 P **P** **21 50 23.4 +0.2**
comp=Z,3.5nm,1.0s,mb4.3,baz=338,slow=11,SNR=3.3
PLCA LR LR 22 11 20.4
comp=Z,52nm,18.4s,baz=359,slow=32
PLCA Paso Flores 58.45 161 P **P** **21 50 23.4 +0.2**
PLCA LR LR 22 11 20.4
DAWY Dawson 59.21 338 *e*P **P** **21 50 28.1 -0.1**
INK Inuvik 59.95 343 P **P** **21 50 32.5 -0.7**
comp=Z,14nm,0.9s,mb5.0,baz=125,slow=6.6,SNR=37
CAM4 Nova Friburgo 60.69 126 *e*P **P** **21 50 35.7 -3.2**
CAM4 *i* 21 50 37.7
CAM4 *i* 21 50 39.2
CAM4 *i* 21 50 43.1
CAM3 Guarapari 61.47 124 *e*P **P** **21 50 36.2 -8.0**
CAM3 *i* 21 50 39.2
CAM3 *i* 21 50 43.0
CAM3 *i* pP 21 50 58.1 -9.2
CAM3 Guarapari 61.47 124 *e*P **P** **21 50 43.6 -0.6**
CAM3 *i* 21 50 44.9
CAM3 *i* 21 50 50.5
KDAK Kodiak Island 62.30 328 P **P** **21 50 50.2 +1.0**
comp=Z,18nm,0.7s,mb5.2,baz=111,slow=4.3,SNR=11
ILAR Eielson Array 62.38 337 P P **21 50 49.2 -0.4**
comp=Z,24nm,0.9s,mb5.2,baz=129,slow=4.6,SNR=112
ILAR LR LR 22 20 17.5
comp=Z,97nm,18.5s,baz=177,slow=38
MCK McKinley 62.74 335 *e*P **P** **21 50 52.7 +0.6**
MCK pmax pmax
comp=Z,15nm,1.1s,mb4.8
MCK McKinley 62.74 335 *e*P **P** **21 50 52.7 +0.5**
comp=Z,15nm,1.1s,mb4.8
COLA College 62.80 337 *c i*P **P** **21 50 52.2 -0.3**
COLA College 62.80 337 *e*P **P** **21 50 52.2 -0.2**
comp=Z,17nm,0.8s,mb5.0
IMA2 Indian Mountai 65.51 337 *e*P **P** **21 51 10.2 +0.1**
TBI Tubuai 67.68 237 *e*LR LR 22 11 30.5
comp=Z,365nm,30.2s
TNA Tin City 71.08 335 *e*P **P** **21 51 45.6 +1.1**
comp=Z,15nm,1.0s,mb4.8
QUIF Quistinic 78.56 43 *e*P **P** **21 52 24.7 -2.9**
ESDC Sonseca Array 79.34 52 P P **21 52 29.8 -2.2**
comp=Z,3.8nm,0.8s,mb4.3,baz=288,slow=5.3,SNR=15
ESDC pP pP 21 52 52.8 -3.4
comp=Z,1.7nm,0.8s,baz=301,slow=6.6,SNR=2.7
GRR Gorron 80.00 43 *e*P **P** **21 52 32.9 -2.5**
comp=Z,34nm,0.6s,mb5.0
GRR Gorron 80.00 43 *e*P **P** **21 52 32.9 -2.5**
GRR pmax pmax
comp=Z,17nm,0.6s,mb5.0
FLN La Foliniere 80.18 42 *e*P **P** **21 52 33.8 -2.5**
comp=Z,39nm,0.8s,mb5.0
FLN *e*R
comp=Z,92nm,22.2s
FLN La Foliniere 80.18 42 *e*P **P** **21 52 33.8 -2.5**
FLN pmax pmax
comp=Z,20nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,90nm,22.3s
LDF La Druitiere 80.44 42 *e*P **P** **21 52 35.2 -2.5**
comp=Z,28nm,0.9s,mb4.8
LDF La Druitiere 80.44 42 *e*P **P** **21 52 35.2 -2.5**
LDF pmax pmax
comp=Z,14nm,0.9s,mb4.8
SJPF Ste Jean 80.74 48 *e*P **P** **21 52 36.5 -2.9**
MFF Saint Martin d 80.81 44 *e*P **P** **21 52 36.9 -2.9**
BILL Bilibino 81.00 338 *c i*P **P** **21 52 41.2 +0.9**
BILL *e* 21 53 23.3
BILL pmax pmax
comp=Z,38nm,0.9s,mb5.2
BILL Bilibino 81.00 338 *e*P **P** **21 52 40.6 +0.4**
comp=Z,44nm,1.0s,mb5.2
ETSF Etsaut 81.26 48 *e*P **P** **21 52 39.3 -2.9**
LFF La Frestale 81.76 46 *e*P **P** **21 52 42.1 -2.6**
comp=Z,21nm,0.8s,mb4.7
LFF La Frestale 81.76 46 *e*P **P** **21 52 42.1 -2.6**
LFF pmax pmax
comp=Z,11nm,0.8s,mb4.7
EPF Esparros 81.88 48 *e*P **P** **21 52 42.3 -3.1**
RJF Les Rejaudoux 82.22 45 *e*P **P** **21 52 44.4 -2.7**
TCF Toulx Ste Croi 82.47 44 *e*P **P** **21 52 45.5 -2.9**
comp=Z,11nm,0.7s,mb4.5
TCF Toulx Ste Croi 82.47 44 *e*P **P** **21 52 45.5 -2.9**
TCF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
HYF Humbligny 82.54 43 *e*P **P** **21 52 46.4 -2.3**
BGF Bois d'Agland 82.84 44 *e*P **P** **21 52 47.5 -2.7**
comp=Z,71nm,1.2s,mb5.1
BGF Bois d'Agland 82.84 44 *e*P **P** **21 52 47.5 -2.7**
BGF pmax pmax
comp=Z,35nm,1.2s,mb5.1
BAIF Baives 82.89 40 *e*P **P** **21 52 47.6 -2.8**
AVF Avril sur Loir 83.12 44 *e*P **P** **21 52 48.6 -3.0**
comp=Z,12nm,0.8s,mb4.5
AVF Avril sur Loir 83.12 44 *e*P **P** **21 52 48.6 -3.0**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
MTLF Montolieu 83.15 47 *e*P **P** **21 52 49.3 -2.6**
SSF Saint Saulge 83.16 43 *e*P **P** **21 52 49.2 -2.6**
comp=Z,19nm,0.8s,mb4.7
SSF Saint Saulge 83.16 43 *e*P **P** **21 52 49.2 -2.6**
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
GIVF Givet 83.27 40 *e*P **P** **21 52 50.0 -2.3**
LOR Lormes 83.34 43 *e*P **P** **21 52 50.3 -2.5**
comp=Z,31nm,1.0s,mb4.8
LOR *e*R
comp=Z,115nm,21.5s
LOR Lormes 83.34 43 *e*P **P** **21 52 50.3 -2.5**
LOR pmax pmax
comp=Z,16nm,1.0s,mb4.8
LOR MLR MLR
comp=Z,110nm,21.5s
SMF Signal de Mont 83.48 44 *e*P **P** **21 52 50.5 -3.0**
comp=Z,11nm,0.7s,mb4.5
SMF Signal de Mont 83.48 44 *e*P **P** **21 52 50.5 -3.0**
SMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
NB2 NORSAR Subarra 83.66 28 P P **21 52 53.5 -0.5**
comp=Z,1.9nm,0.9s,mb3.9,baz=290,slow=5.0
NOA NORSAR Array B 83.66 28 P P **21 52 53.5 -0.4**
comp=Z,4.1nm,0.9s,mb4.2,baz=289,slow=5.2,SNR=6.1
NOA LR LR 22 28 25.0
comp=Z,66nm,21.1s,baz=260,slow=34
MEZF Maizieres J'vi 83.81 42 *e*P **P** **21 52 53.1 -2.0**
LASF Ste Croix 84.13 46 *e*P **P** **21 52 54.4 -2.4**
VIVF Saint-Julien-l 84.50 45 *e*P **P** **21 52 56.0 -2.6**
comp=Z,34nm,1.2s,mb4.8
VIVF Saint-Julien-l 84.50 45 *e*P **P** **21 52 56.0 -2.6**
VIVF pmax pmax
comp=Z,17nm,1.2s,mb4.8
HAU Haudompre 84.78 42 *e*P **P** **21 52 57.9 -2.0**
comp=Z,17nm,0.7s,mb4.8
HAU *e*R
comp=Z,83nm,19.0s
HAU Haudompre 84.78 42 *e*P **P** **21 52 57.9 -2.0**
HAU pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
HAU MLR MLR
comp=Z,80nm,19.0s
CABF La Chapelle 84.99 43 *e*P **P** **21 52 58.5 -2.5**
HINF Hinteralfeld 85.16 42 *e*P **P** **21 52 59.7 -2.1**
comp=Z,7.0nm,0.6s,mb4.5
HINF Hinteralfeld 85.16 42 *e*P **P** **21 52 59.7 -2.1**
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CDF Champ du Feu 85.27 41 *e*P **P** **21 53 00.4 -1.9**
ORIF Oris-en-Rattie 85.31 45 *e*P **P** **21 53 00.1 -2.5**
ORIF *e*R
comp=Z,82nm,19.8s
BSEG Bad Segeberg 85.44 35 *e*P **P** **21 53 02.0 -1.0**
BSEG pmax pmax
comp=Z,30nm,1.0s,mb5.2
TNS Taunus Mts 85.47 39 *e*P **P** **21 53 02.0 -1.3**
TNS pmax pmax
comp=Z,24nm,1.1s,mb5.0
TNS Taunus Mts 85.47 39 *e*P **P** **21 53 02.0 -1.3**
comp=Z,24nm,1.1s,mb5.0
LIC Lamto 85.48 85 *e*P **P** **21 53 01.2 -3.0**
comp=Z,19nm,1.0s,mb4.7
LIC *e*R
comp=Z,84nm,22.0s
DBIC Dimbokro 85.54 84 P **P** **21 53 02.2 -2.2**
comp=Z,3.9nm,0.8s,mb4.4,baz=266,slow=14,SNR=7.4
DBIC LR LR 22 25 23.0
comp=Z,78nm,20.4s,baz=291,slow=32

ARCES ARCESS Array B 85.62 18 P **P** **21 53 02.5 -1.1**
comp=Z,2.0nm,0.6s,mb4.2,baz=276,slow=5.3,SNR=13
LPL La Plagne 85.72 44 *e*P **P** **21 53 02.4 -2.2**
LPG La Plagne 85.74 44 *e*P **P** **21 53 02.7 -2.0**
MBDF Montbardon 85.97 45 *e*P **P** **21 53 03.9 -2.0**
comp=Z,29nm,1.0s,mb4.8
MBDF Montbardon 85.97 45 *e*P **P** **21 53 03.9 -2.0**
MBDF pmax pmax
comp=Z,14nm,1.0s,mb4.8
CLZ Clausthal 86.14 37 *e*P **P** **21 53 05.9 -0.6**
CLZ pmax pmax
comp=Z,21nm,1.2s,mb4.9
CLZ Clausthal 86.14 37 *e*P **P** **21 53 05.9 -0.6**
comp=Z,21nm,1.2s,mb4.9
FRF La Foret Royal 86.21 46 *e*P **P** **21 53 04.7 -2.4**
SBF Sospel 86.67 46 *e*P **P** **21 53 07.0 -2.3**
MOX Moxa 87.27 38 *i* P **P** **21 53 10.9 -1.1**
GRA1 Grafenberg Arr 87.34 39 *e*P **P** **21 53 11.4 -1.0**
comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 87.34 39 *e*P **P** **21 53 11.4 -1.0**
GRF pmax pmax
comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 87.34 39 *e*P **P** **21 53 11.4 -1.0**
GRF pmax pmax
comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 87.34 39 *e*P **P** **21 53 11.4 -1.0**
comp=Z,26nm,1.2s,mb5.0
NKC Novy Kostel 87.91 38 *e*P **P** **21 53 14.8 -0.3**
SEY Seymchan 88.30 336 *i* P **P** **21 53 18.6 +1.9**
WET Wettzell 88.55 39 *e*P **P** **21 53 17.9 -0.3**
WET pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
WET Wettzell 88.55 39 *e*P **P** **21 53 17.9 -0.3**
comp=Z,9.0nm,1.2s,mb4.7
BRG Berggiesshubel 88.57 38 P **P** **21 53 17.2 -1.0**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRG Berggiesshubel 88.57 38 P **P** **21 53 17.2 -1.1**
comp=Z,5.3nm,1.0s,mb4.5
KHC Kasperske Hory 88.98 39 *e*P **P** **21 53 19.5 -0.7**
KHC Kasperske Hory 88.98 39‖ *e*P **P** **21 53 19.7 -0.5**
PVCC Panska Ves 89.07 38 *e*P **P** **21 53 20.2 -0.4**
GERES GERESS Array B 89.16 40 P **P** **21 53 19.9 -1.2**
comp=Z,24nm,0.9s,mb4.2,baz=315,slow=3.8,SNR=16
GERES PP PP 21 56 50.5 -4.0
comp=Z,0.6nm,0.8s,baz=281,slow=6.8,SNR=4.3
GERES LR LR 22 31 28.7
comp=Z,65nm,20.4s,baz=134,slow=34
PRU Pruhonice 89.25 38 *e*P **P** **21 53 20.7 -0.8**
TIXI Tiksi 89.76 348‖ *e*P **P** **21 53 22.7 -0.7**
TIXI pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
TIXI MLR MLR
comp=Z,100nm,20.0s
UPC Upice 89.93 37 *e*P **P** **21 53 24.4 -0.2**
FINES FINESS Array B 90.00 25 LR LR 22 34 56.8
comp=Z,53nm,18.5s,baz=150,slow=36
TREC Trest 90.08 39 *e*P **P** **21 53 25.1 -0.3**
DPC Dobruska-Polom 90.17 37 *e*P **P** **21 53 25.1 -0.7**
TORD Torodi Ar. Bea 90.20 76 P **P** **21 53 23.5 -3.2**
comp=Z,0.5nm,0.5s,mb3.9,baz=293,slow=4.0,SNR=17
MORC Moravsky Berou 91.12 38 *e*P **P** **21 53 29.6 -0.6**
MORC pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
MORC Moravsky Berou 91.12 38 *e*P **P** **21 53 29.6 -0.6**
comp=Z,5.7nm,1.1s,mb4.6
OKC Ostrava-Krasne 91.45 37 *e*P **P** **21 53 31.3 -0.5**
STHS Stebnicka Huta 93.45 37 *e*P **P** **21 53 40.2 -0.7**
CRVS Cervenica-Dubn 93.81 37 *e*P **P** **21 53 41.8 -0.8**
AKASG Malin Array Be 97.26 33 PP PP 21 57 54.1 -4.0
comp=Z,1.3nm,0.7s,baz=298,slow=7.0,SNR=5.8
ZAL Zalesovo 111.76 2 PKiKP
comp=Z,1.1nm,0.5s,baz=172,slow=4.5,SNR=6.2
KURK Kurchatov 114.51 7*c i*PKIKP PKPdf 21 59 05.6 +1.7
SONM Songino Array 115.80 346 PKP PKPdf 21 59 08.9 +2.4
comp=Z,1.3nm,0.8s,baz=330,slow=2.2,SNR=7.5
SONM PKKPbc 22 09 43.4
comp=Z,0.3nm,0.5s,baz=183,slow=4.6,SNR=4.8
MKAR Makanchi Array 118.75 5 PKP PKPdf 21 59 13.4 +1.2
comp=Z,2.9nm,0.7s,baz=315,slow=3.1,SNR=19
USP Ospenovka 121.16 12 P PKPdf 21 59 19.6 +2.6
SNR=15
EKS2 Erkin-Say 121.60 12 P PKPdf 21 59 20.8 +2.9
SNR=6.8
TKM2 Tokmak 2 121.70 11 P PKPdf 21 59 20.6 +2.6
SNR=5.9
AAK Ala-Archa 121.77 12 P PKPdf 21 59 19.9 +1.7
SNR=6.2
AAK Ala-Archa 121.77 12‖ *i*PKIKP PKPdf 21 59 19.7 +1.5
AAK MLR MLR
comp=Z,100nm,17.0s
KBK Karagaybulak 121.84 11 P PKPdf 21 59 20.9 +2.6
SNR=7.9
WMQ Urumqi 121.94 0 *e*PKP PKPdf 21 59 20.0 +1.6
WMQ LR LR
comp=N,120nm,22.0s
WMQ LR LR
comp=E,190nm,21.0s
WMQ LR LR
comp=Z,190nm,22.0s
AML Almayashu 122.09 13 P PKPdf 21 59 22.4 +3.7
SNR=5.7
UCH Uchtor 122.17 12 P PKPdf 21 59 22.5 +3.6
SNR=14
MZLS Mizel 123.25 48 P PKPdf 21 59 22.9 +1.5
MAW Mawson 124.47 169 PKP PKPdf 21 59 26.9 +4.1
comp=Z,2.8nm,0.5s,baz=140,slow=6.3,SNR=7.7
MAW SKP 22 02 53.3
comp=Z,7.5nm,0.9s,baz=214,slow=3.6,SNR=5.5
TATS Tathlith 124.58 54 P PKPdf 21 59 26.2 +2.0
SSE Sheshan 124.59 325 *e*PKP PKPdf 21 59 28.9 +4.9
SSE PP PP
comp=Z,170nm,3.7s
KSH Kashi 125.07 11 PKP PKPdf 21 59 28.0 +3.4
KSH PP PP
comp=Z,70nm,4.5s
NJ2 Nanjing 125.09 328 *e*PKP PKPdf 21 59 30.0 +5.1
NJ2 PP PP 22 01 23.0 +3.7
NJ2 PKS PKS 22 03 02.0 +1.4
NJ2 PPP PPP 22 04 02.0 +1.9
NJ2 SKS SKS 22 06 35.0 +16
NJ2 PP PP
comp=Z,360nm,8.6s
NJ2 LR LR
comp=N,1μm,25.6s
NJ2 LR LR
comp=E,1μm,25.6s
NJ2 LR LR
comp=Z,490nm,24.8s
GTA Gaotai 125.23 349 *e*PKP PKPdf 21 59 27.5 +2.5
DJNS Zahran al Janu 125.65 55 P PKPdf 21 59 28.9 +2.6
LZH Lanzhou 127.50 344 *e*PKP PKPdf 21 59 31.5 +2.1
LZH *e*PP PP 22 01 37.5 +2.5
LZH PP PP
comp=Z,50nm,8.1s
LZH LR LR
comp=N,170nm,18.0s
LZH LR LR
comp=Z,250nm,20.1s
KMBO Kilima Mbogo 128.08 80 PKP PKPdf 21 59 34.6 +3.5
comp=Z,2.2nm,0.7s,baz=156,slow=0.8,SNR=5.9
STKA Stephens Creek 128.37 241 PKP PKPdf 21 59 33.7 +2.4
comp=Z,3.0nm,0.8s,baz=348,slow=3.1,SNR=6.2
STKA pPKP 21 59 56.6
comp=Z,7.1nm,0.8s,baz=103,slow=3.0,SNR=8.3
STKA Stephens Creek 128.37 241 PKP PKPdf 21 59 33.7 +2.4
STKA pPKP 21 59 56.6
WRAB Tennant Creek 135.57 256‖ *i*PKIKP PKPdf 21 59 50.9 +5.9
WRA Warramunga Arr 135.58 256 PKhKP 21 59 37.9
comp=Z,0.6nm,0.6s,baz=94,slow=0.8,SNR=5.8
WRA PKP PKPdf 21 59 50.3 +5.3
comp=Z,4.5nm,0.9s,baz=82,slow=1.7,SNR=20
WRA SKPab 22 03 21.2
comp=Z,1.1nm,1.2s,baz=90,slow=2.7,SNR=4.5
WRA Warramunga Arr 135.58 256 PKP PKPdf 21 59 50.3 +5.3
WRA SKPab 22 03 21.2
LSA Lhasa 135.93 356 *e*PKP PKPdf 21 59 48.6 +3.1
GKN Gorkha 137.59 4 *e*P PKPdf 21 59 46.6 -2.0
comp=Z,34nm,0.9s
KOLN Koldanda 137.73 6 *e*P PKPdf 21 59 46.5 -2.3
comp=Z,20nm,0.9s
GUN Gumba 137.76 3 *e*P PKPdf 21 59 46.1 -2.8
comp=Z,17nm,0.7s
KKN Kakani 137.85 4 *e*P PKPdf 21 59 46.4 -2.7
comp=Z,30nm,0.6s
DMN Daman 138.02 4 *e*P PKPdf 21 59 46.7 -2.7
comp=Z,17nm,0.7s
JIRN Jiri 138.03 2 *e*P PKPdf 21 59 45.5 -3.9
PKI Pulchoki 138.07 4 *e*P PKPdf 21 59 47.2 -2.3
comp=Z,26nm,0.7s
HYB Hyderabad 146.90 17 *i* PKP PKPdf 22 00 07.5 +2.3

MAN 05 21:55:19.6, 17.89N×121.58E, h32km, mb4.0, ML2.8, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.30**	**129**	*e*P		Pb	21 55 28.5	+1.2
APYP	**Conner**	**0.32**	**264**	*e*P		Pb	21 55 29.3	+1.8
APYP				*e*S		Sb	21 55 35.6	+2.7
ABRA	**Dolores**	**0.86**	**254**	*e*P		Pn	21 55 35.7	+0.1
ABRA				*e*S		Sn	21 55 46.3	-0.7
CAUP	**Cauayan**	**0.97**	**166**	*e*P		Pn	21 55 37.5	+0.3
CAUP				*e*S		Sn	21 55 51.2	+1.3

IDC ***05*** *22:17:35.4±2.2, 26.88N×55.80E, mb3.7/7, mb1 3.8/7, mb1mx3.6/20, mbtmp3.7/7, Error ellipse: s-maj=52.5km s-min=23.3km az=162.0*
CSEM ***05*** *22:17:35.5±1.1, 26.86N×55.55E, h6km±10km, ML3.6, Error ellipse: s-maj=8.7km s-min=5.9km az=71.0*
THR ***05*** *22:17:37.5±0.4, 26.78N×55.95E, h18km±5km, ML3.4*
KISR ***05*** *22:17:40.4±0.5, 27.26N×55.55E, h33km, ML3.6*
ISC 05 22:17:37.2±1.0, 26.88N±0.03×55.64E±0.04, h25km±10km, n43,σ1°22/49, mb3.6/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.71**	**42**	*e*PG		**Pb**	**22 17 50.1**	**-0.7**
BNDS				*e*SG		**Sb**	**22 17 59.3**	**-0.9**
BNDS				AML		AML	22 18 07.4	
	comp=N,3μm,0.7s							
BANOM	**Banah**	**1.12**	**148**	P		**Pn**	**22 17 57.5**	**+0.1**
	SNR=1373							
ASHO	**Ashiyiah**	**2.22**	**170**	P		**Pn**	**22 18 15.4**	**+2.2**
	SNR=62							
ASHO	**Ashiyiah**	**2.22**	**170**	P		**Pn**	**22 18 15.4**	**+2.2**
	SNR=62							
ASHO	**Ashiyiah**	**2.22**	**170**	P		**Pn**	**22 18 15.4**	**+2.2**
	SNR=62							
GHIR	**Ghir-Karzin**	**2.74**	**301**	*e*PN		**Pn**	**22 18 26.5**	**+5.9**
GHIR				*e*SG		**Sn**	**22 19 12.0**	**+19**
GHIR				AML		AML	22 19 16.6	
	comp=N,77nm,0.5s							
GHIR	**Ghir-Karzin**	**2.74**	**301**	*e*Pn		**Pn**	**22 18 26.5**	**+5.9**
	SNR=52							
GHIR				*e*Sg		**Sn**	**22 19 12.0**	**+19**
	comp=N,77nm,0.5s,SNR=91							
KRBR	**Kerman**	**3.25**	**17**	*e*PN		**Pn**	**22 18 30.4**	**+2.5**
ARQ	**Araqi**	**3.62**	**167**	P		**Pn**	**22 18 34.3**	**+1.2**
	SNR=14							
ARQ	**Araqi**	**3.62**	**167**	P		**Pn**	**22 18 34.3**	**+1.2**
	SNR=14							
ARQ	**Araqi**	**3.62**	**167**	P		**Pn**	**22 18 35.0**	**+2.0**
	SNR=7.4							
BSY	**Bisya**	**4.35**	**161**	P		**Pn**	**22 18 43.7**	**+0.2**
	SNR=14							
BSY	**Bisya**	**4.35**	**161**	P		**Pn**	**22 18 43.7**	**+0.2**
	SNR=14							
BSY	**Bisya**	**4.35**	**161**	P		**Pn**	**22 18 43.7**	**+0.2**
	SNR=14							
BSYO	**Bisya**	**4.38**	**160**	P		**Pn**	**22 18 43.7**	**-0.2**
	SNR=14							
SMDO	**Samad**	**4.39**	**150**	P		**Pn**	**22 18 44.8**	**+0.8**
	SNR=16							
SMDO	**Samad**	**4.39**	**150**	P		**Pn**	**22 18 44.8**	**+0.8**
	SNR=16							
JMDO	**Jabal Madar**	**5.02**	**153**	P		**Pn**	**22 18 53.3**	**+0.4**
	SNR=6.5							
JMDO	**Jabal Madar**	**5.02**	**153**	P		**Pn**	**22 18 53.3**	**+0.4**
	SNR=6.5							
WBK	**Wadi Bani Khal**	**5.22**	**144**	P		**Pn**	**22 18 54.4**	**-1.3**
	SNR=6.4							
WBK	**Wadi Bani Khal**	**5.22**	**144**	P		**Pn**	**22 18 54.4**	**-1.3**
	SNR=6.4							
HASS	**Wahat al Ahsa'**	**5.60**	**254**	P		**Pn**	**22 19 07.4**	**+6.2**
UMR	**Umm Al-Rimmam**	**7.48**	**293**	*e*P		**Pn**	**22 19 29.5**	**+2.0**
UMR				*e*S		**Sn**	**22 20 50.9**	**-1.6**
UMR				AML		AML	22 20 54.1	
	comp=Z,8.5nm,0.3s							
NAY	**Al-Naaiem**	**7.78**	**290**	*e*P		**Pn**	**22 19 33.8**	**+2.0**
NAY				*e*S		**Sn**	**22 20 59.4**	**-0.7**
NAY				AML		AML	22 21 02.0	
	comp=Z,5.7nm,0.6s							
MIB	**Mutribah**	**7.87**	**294**	*e*P		**Pn**	**22 19 34.9**	**+1.8**
MIB				*e*S		**Sn**	**22 21 00.9**	**-1.3**
MIB				AML		AML	22 21 03.9	
	comp=Z,10nm,0.5s							
SHAO	**Shalim**	**8.81**	**180**	P		**P**	**22 19 43.8**	**-2.4**
	SNR=7.5							
SHAO	**Shalim**	**8.81**	**180**	P		**P**	**22 19 43.8**	**-2.4**
	SNR=7.5							
SHAO				P			22 19 43.8	
	SNR=7.5							
WHFO	**Wadi Hawf**	**9.08**	**191**	P		**P**	**22 19 49.8**	**-0.1**
	SNR=11							
RBK	**Rabkut**	**9.42**	**188**	P		**P**	**22 19 54.3**	**-0.3**
	SNR=7.3							
ABTO	**Aybut**	**9.72**	**193**	P		**P**	**22 19 58.1**	**-0.7**
	SNR=9.3							
MZLS	**Mizel**	**9.84**	**256**	P		**P**	**22 20 01.2**	**+0.8**
ARSS	**Ar Rass**	**11.16**	**268**	P		**P**	**22 20 18.6**	**+0.1**
KAMS	**Al Khamasin**	**12.06**	**240**	P		**P**	**22 20 28.3**	**-2.3**
HILS	**Ha'il**	**12.34**	**275**	P		**P**	**22 20 34.4**	**0.0**
TATS	**Tathlith**	**13.35**	**239**	P		**P**	**22 20 47.2**	**-0.5**
DJNS	**Zahran al Janu**	**14.43**	**233**	P		**P**	**22 21 00.7**	**-1.3**
BRTR	**Keskin Array B**	**22.34**	**311**	P		**P**	**22 22 37.3**	**+2.7**
	comp=Z,0.8nm,0.8s,mb3.2,baz=117,slow=11,SNR=5.7							
MKAR	**Makanchi Array**	**28.93**	**40**	P		**P**	**22 23 35.5**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.3,baz=219,slow=7.1,SNR=4.6							
AKASG	**Malin Array Be**	**31.16**	**327**	P		**P**	**22 23 56.0**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.7,baz=134,slow=8.3,SNR=4.4							
ZAL	**Zalesovo**	**34.53**	**31**	P		**P**	**22 24 24.1**	**-1.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=232,slow=8.6,SNR=9.4							
FINES	**FINESS Array B**	**39.85**	**338**	P		**P**	**22 25 10.3**	**+0.1**
	comp=Z,4.0nm,1.1s,mb4.1,baz=130,slow=11,SNR=3.5							
SONM	**Songino Array**	**44.52**	**48**	P		**P**	**22 25 48.5**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.3,baz=263,slow=7.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**52.14**	**266**	P		**P**	**22 26 48.7**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=66,slow=7.5,SNR=16							

NIED ***05*** *22:24:00, 32.90N×141.70E, h5km, Mw4.1 Best double couple: M0 1.37×10^15 NP1:φs358°, δ60°, λ106°. NP2: φs149°, δ34°, λ65°.*
JMA ***05*** *22:24:18.2±0.7, 32.94N×141.71E, M3.8*
MOS ***05*** *22:24:21.8±0.9, 32.91N×141.70E, h33km, mb5.0/10, Error ellipse: s-maj=26.8km s-min=11.1km az=118.9*
NEIC ***05*** *22:24:24.1±0.4, 32.91N×141.61E, h35km, mb4.2/2, Error ellipse: s-maj=12.9km s-min=8.4km az=68.0*
BJI ***05*** *22:24:24.1, 32.90N×141.60E, h35km, mB4.9, mb3.9*
IDC ***05*** *22:24:25.4±0.7, 32.92N×141.65E, h44km±6km, mb3.7/13, mb1 3.9/14, mb1mx3.8/23, mbtmp4.0/14, ML3.5/1, Error ellipse: s-maj=12.9km s-min=9.1km az=13.0*
ISC 05 22:24:20.6±1.7, 32.90N±0.04×141.75E±0.06, h25km±12km, h39km±3.8km:pP-P, n61,σ1°07/73, mb4.0/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.64**	**278**	P		**Pn**	**22 24 49.1**	**+0.8**
JHJ	**Hachijo jima 2**	**1.67**	**278**	P		**Pn**	**22 24 49.2**	**+0.5**
	69nm,0.3s,baz=86,slow=21,SNR=8.2							
JHJ				S		**Sn**	**22 25 10.0**	**+0.5**
	92nm,0.3s,baz=91,slow=19,SNR=4.4							
BSO1	**Boso 1**	**1.86**	**340**	P		**Pn**	**22 24 51.5**	**0.0**
BSO1				*e*S		**Sn**	**22 25 16.0**	**+1.6**
BSO2	**Boso 2**	**2.02**	**336**	*e*S		**Sn**	**22 25 19.9**	**+1.4**
BSO3	**Boso 3**	**2.16**	**332**	P		**Pn**	**22 24 55.5**	**-0.2**
BSO3				*e*S		**Sn**	**22 25 25.7**	**+3.8**
BSO4	**Boso 4**	**2.39**	**331**	P		**Pn**	**22 24 59.3**	**+0.2**
BSO4				*e*S		**Sn**	**22 25 28.7**	**+0.8**
JKO	**Kozu shima**	**2.53**	**301**	P		**Pn**	**22 24 59.0**	**-2.1**
JKO				*e*S		**Sn**	**22 25 31.6**	**+0.2**
JOD2	**Odawara 2**	**3.23**	**318**	P		**Pn**	**22 25 10.4**	**-0.6**
JOD2				*e*S		**Sn**	**22 25 48.2**	**-0.9**
JYT	**Yasato**	**3.56**	**339**	*e*S		**Sn**	**22 25 58.2**	**+0.8**
JHU	**Hanno**	**3.58**	**326**	P		**Pn**	**22 25 15.7**	**-0.3**

JHU					eS		Sn	22 25 56.3	-1.7
JYN	**Shimob**	**3.71**	**315**		P		Pn	22 25 19.0	+1.2
JHO	**Hitachi**	**3.82**	**346**		P		Pn	22 25 18.4	-1.0
JHO					eS		Sn	22 26 00.4	-3.8
JRY	**Ryogami san**	**3.90**	**324**		P		Pn	22 25 20.2	-0.3
JRY					eS		Sn	22 26 07.0	+1.0
JAG	**Ashikaga**	**3.99**	**332**		P		Pn	22 25 21.7	-0.1
JAG					eS		Sn	22 26 06.5	-1.9
JNY	**Yasuok**	**4.05**	**308**		P		Pn	22 25 24.7	+2.0
JNY					eS		Sn	22 26 12.3	+2.4
JIE	**Ise**	**4.46**	**291**		P		Pn	22 25 28.4	-0.1
JFK	**Kawauchi**	**4.51**	**351**		eS		Sn	22 26 15.2	-6.3
MJAR	**Matsushiro Arr**	**4.66**	**322**		P		Pn	22 25 31.2	0.0
	2.4nm,0.3s,baz=147,slow=11,SNR=20								
MJAR					S		Sn	22 26 23.0	-2.2
	2.8nm,0.3s,baz=182,slow=27,SNR=5.2								
MJAR	**Matsushiro Arr**	**4.66**	**322**		P		Pn	22 25 31.2	-0.1
MJAR					S		Sn	22 26 23.0	-2.2
MJAR					pmax	pmax			
	comp=Z,2.0nm,0.3s								
MJAR					smax				
	comp=N,3.0nm,0.3s								
MAT	**Matsushiro**	**4.66**	**322**		P		Pn	22 25 31.0	-0.3
MAT					S		Sn	22 26 23.0	-2.3
MAT	**Matsushiro**	**4.66**	**322**		P		Pn	22 25 31.5	+0.2
MAT	**Matsushiro**	**4.66**	**322**		eP		Pn	22 25 31.0	-0.3
MAT					eS		Sn	22 26 23.0	-2.3
HHC	**Hu-ho-hao-te**	**25.33**	**297**		eP		P	22 29 47.9	+0.9
HHC					AP		pP	22 29 55.4	+1.3
HHC					XP		sP	22 30 02.1	+4.7
ULN	**Ulaanbaatar**	**30.07**	**310**	*i*	P		P	22 30 31.4	+1.4
ULN	**Ulaanbaatar**	**30.07**	**310**		eP		P	22 30 27.4	-2.7
	comp=N,2.9nm,0.7s,mb4.1								
SONM	**Songino Array**	**30.48**	**310**		P		P	22 30 34.1	+0.4
	comp=N,1.5nm,0.8s,mb3.8,baz=115,slow=8.4,SNR=12								
SONM	**Songino Array**	**30.48**	**310**		P		P	22 30 34.1	+0.4
SONM					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ZAL	**Zalesovo**	**44.99**	**315**		P		P	22 32 35.2	-0.3
	comp=Z,0.5nm,0.3s,mb3.8,baz=333,slow=3.4,SNR=3.2								
ZAL	**Zalesovo**	**44.99**	**315**		P		P	22 32 35.2	-0.3
ZAL					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ZAL	**Zalesovo**	**44.99**	**315**		P		P	22 32 35.2	-0.3
MKAR	**Makanchi Array**	**46.65**	**306**		P		P	22 32 48.5	-0.2
	comp=Z,1.1nm,0.4s,mb4.1,baz=85,slow=9.8,SNR=40								
MKAR	**Makanchi Array**	**46.65**	**306**		P		P	22 32 48.5	-0.2
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
KURK	**Kurchatov**	**48.77**	**311**	*i*	P		P	22 33 04.6	-0.7
AAK	**Ala-Archa**	**52.78**	**301**	*i*	P		P	22 33 32.1	-3.8
ILAR	**Eielson Array**	**52.87**	**31**		P		P	22 33 36.2	+0.1
	comp=Z,0.8nm,0.7s,mb3.8,baz=277,slow=6.3,SNR=7.9								
ILAR					pP		pP	22 33 49.0	+5.3
	comp=Z,1.2nm,0.7s,baz=264,slow=5.0,SNR=7.3								
ILAR	**Eielson Array**	**52.87**	**31**		P		P	22 33 36.3	+0.1
ILAR					*PP		pP	22 33 49.1	+5.4
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
FITZ	**Fitzroy Crossi**	**53.01**	**199**		P		P	22 33 37.3	-0.6
	comp=Z,1.5nm,0.6s,mb4.1,baz=8.7,slow=13,SNR=3.8								
WB2	**Warramunga Arr**	**53.02**	**189**		eP		P	22 33 37.2	-0.7
WRA	**Warramunga Arr**	**53.02**	**189**		P		P	22 33 37.3	-0.7
	comp=Z,1.9nm,0.5s,mb4.3,baz=4.7,slow=7.5,SNR=42								
WRA					pP		pP	22 33 49.8	+4.3
	comp=Z,1.5nm,0.4s,baz=5.2,slow=7.6,SNR=11								
WRA	**Warramunga Arr**	**53.02**	**189**		P		P	22 33 37.3	-0.7
WRA					*PP		pP	22 33 49.8	+4.3
WRA					pmax	pmax			
	comp=Z,2.0nm,0.5s								
WRA					pmax	pmax			
	comp=Z,2.0nm,0.4s								
CHKZ	**Chkalovo**	**53.39**	**315**		eP		P	22 33 39.0	-1.2
CHKZ					pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.2								
CHKZ	**Chkalovo**	**53.39**	**315**		eP		P	22 33 39.0	-1.2
	comp=Z,4.0nm,1.3s,mb4.2								
INK	**Inuvik**	**57.95**	**26**		P		P	22 34 13.4	+0.5
	comp=Z,1.0nm,0.7s,mb4.0,baz=301,slow=3.9,SNR=3.3								
INK	**Inuvik**	**57.95**	**26**		P		P	22 34 13.4	+0.5
INK					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ARU	**Arti**	**59.67**	**320**	*i*	P		P	22 34 24.3	-0.7
YKA	**Yellowknife Ar**	**67.25**	**29**		P		P	22 35 14.5	-0.2
	comp=Z,0.3nm,0.6s,mb3.5,baz=314,slow=7.3,SNR=4.3								
NWAO	**Narrogin (SRO)**	**69.44**	**202**		P		P	22 35 29.2	+0.4
	comp=Z,9.5nm,0.8s,mb4.8,baz=49,slow=9.3,SNR=4.3								
NWAO	**Narrogin (SRO)**	**69.44**	**202**		P		P	22 35 29.2	+0.4
NWAO					pmax	pmax			
	comp=Z,10.0nm,0.8s								
NWAO	**Narrogin (SRO)**	**69.44**	**202**		P		P	22 35 29.2	+0.4
MAK	**Makhachkala**	**71.25**	**309**		eP		P	22 35 45.4	+5.7
FINES	**FINESS Array B**	**72.60**	**333**		P		P	22 35 47.1	-0.1
	comp=Z,1.5nm,0.8s,mb4.0,baz=45,slow=5.9,SNR=5.4								
FINES	**FINESS Array B**	**72.60**	**333**		P		P	22 35 47.2	-0.1
FINES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
NVAR	**Mina Array Bea**	**77.26**	**52**		P		P	22 36 16.1	+1.7
	comp=Z,0.2nm,0.5s,mb3.3,baz=320,slow=7.0,SNR=2.9								
NVAR					pP		pP	22 36 29.4	+7.2
	comp=Z,0.3nm,0.6s,baz=284,slow=3.7,SNR=3.0								
NB2	**NORSAR Subarra**	**78.10**	**338**		P		P	22 36 19.0	+0.4
	comp=Z,0.7nm,0.6s,mb3.8,baz=41,slow=5.6								
NOA	**NORSAR Array B**	**78.10**	**338**		P		P	22 36 18.7	+0.1
	comp=Z,1.6nm,0.8s,mb4.0,baz=42,slow=5.5,SNR=4.3								
NOA	**NORSAR Array B**	**78.10**	**338**		P		P	22 36 18.7	+0.1
NOA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
BRTR	**Keskin Array B**	**81.81**	**312**		P		P	22 36 40.3	+1.4
	comp=Z,1.0nm,0.8s,mb3.8,baz=90,slow=3.7,SNR=6.2								
BRTR	**Keskin Array B**	**81.81**	**312**		P		P	22 36 40.3	+1.4
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
ROSC	**El Rosal**	**129.20**	**49**		PKP		PKPdf	22 43 28.8	-3.4
	comp=Z,13nm,0.5s,baz=77,slow=7.4,SNR=6.3								
LPAZ	**La Paz**	**148.34**	**66**		PKPbc		PKPdf	22 44 09.2	+2.8
	comp=Z,0.7nm,0.7s,baz=285,slow=1.6,SNR=4.1								
LPAZ	**La Paz**	**148.34**	**66**		PKP2		PKPab	22 44 09.3	-1.3
LPAZ					pmax	pmax			
	comp=Z,1.0nm,0.7s								

KRSC 05 22:25:12.8±0.7, 54.57N×162.66E, h41km×30km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.64**	**3**	*eP*	P	22 25 40.4	+0.6
KBTR				eS	S	22 26 00.7	+0.8
ZLN	**Zelenaya**	**1.80**	**325**	*i* P	P	22 25 42.5	+0.6
ZLN				*i* S	S	22 26 04.2	+0.5
KMNR	**Kamenistaya**	**1.83**	**312**	*eP*	P	22 25 42.6	+0.2
KMNR				eS	S	22 26 04.0	-0.5
LGNR	**Loginova**	**1.89**	**324**	*eP*	P	22 25 44.0	+0.8
LGNR				eS	S	22 26 06.7	+0.8
CIRR	**Tsirk**	**1.90**	**326**	*eP*	P	22 25 43.8	+0.5
CIRR				eS	S	22 26 06.9	+0.8
KPT	**Kopyto**	**1.98**	**316**	*eP*	P	22 25 45.1	+0.6
KPT				eS	S	22 26 08.5	+0.4
BKI	**Bering**	**2.02**	**70**	eS	S	22 26 07.5	-1.6
KLY	**Klyuchi**	**2.09**	**328**	*eP*	P	22 25 45.5	-0.6
KLY				eS	S	22 26 10.1	-0.9
SMKR	**Semkarok**	**2.13**	**342**	*eP*	P	22 25 47.3	+0.7
SPN	**Mys Shipunski**	**2.15**	**228**	*eP*	P	22 25 46.8	-0.1
SPN				eS	S	22 26 11.6	-0.9
BDR	**Baidarnaya**	**2.17**	**338**	*eP*	P	22 25 48.0	+0.8
BDR				eS	S	22 26 12.4	-0.6
KOZ	**Kozyrevsk**	**2.18**	**314**	*eP*	P	22 25 48.1	+0.7
KOZ				eS	S	22 26 13.8	+0.4
SRKR	**Sorokina**	**2.25**	**339**	*eP*	P	22 25 49.0	+0.6
SRKR				eS	S	22 26 15.4	+0.2
NLC	**Nalytchevo**	**2.41**	**236**	*eP*	P	22 25 50.6	-0.1
NLC				eS	S	22 26 19.0	-0.2
SRDR	**Sredinnyy**	**2.42**	**317**	*eP*	P	22 25 50.8	-0.1
SRDR				eS	S	22 26 19.6	+0.1
SMAR	**Somma**	**2.63**	**242**	*eP*	P	22 25 54.6	+0.8
SMAR				eS	S	22 26 24.3	-0.5
ESO	**Esso**	**2.64**	**303**	*eP*	P	22 25 54.0	0.0
ESO				eS	S	22 26 24.5	-0.6
ESO				Smax			
	40nm,0.8s						
UGLR	**Uglovaya**	**2.65**	**241**	*eP*	P	22 25 54.8	+0.7
UGLR				eS	S	22 26 25.2	0.0
AVH	**Avacha**	**2.66**	**242**	*eP*	P	22 25 55.3	+1.0
AVH				eS	S	22 26 26.2	+0.6
KOK	**Koryaka**	**2.70**	**243**	*eP*	P	22 25 55.8	+1.0
KOK				eS	S	22 26 26.3	-0.3
PET	**Petropavlovsk**	**2.84**	**239**	*eP*	P	22 25 57.5	+0.7
PET				eS	S	22 26 29.4	-0.6
GNL	**Ganaly**	**2.91**	**254**	*eP*	P	22 25 58.4	+0.6
GNL				eS	S	22 26 31.8	-0.1
KRMR	**Karymshinskiy**	**3.21**	**239**	*eP*	P	22 26 02.9	+0.9
GRL	**Gorelyy**	**3.40**	**235**	*eP*	P	22 26 05.1	+0.3
GRL				eS	S	22 26 43.7	-0.6
APC	**Apacha**	**3.66**	**245**	*eP*	P	22 26 09.0	+0.6
APC				eS	S	22 26 50.7	-0.2

IDC ***05*** *22:25:56.2±5.2,2.31N×96.78E,mb3.9/3,mb1 4.0/4, mb1mx3.6/19,mbtmp3.8/4,Error ellipse: s-maj=114.4km s-min=35.5km az=20.0*

NEIC ***05*** *22:25:59.3±0.9,2.13N×96.84E,h30km,mb4.7/2,Error ellipse: s-maj=17.6km s-min=14.7km az=209.0*

ISC 05 22:25:57.6±1.1,2.2N±0.1×96.88E±0.08,h30km,n9, σ0ş78/12,mb4.3/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.13**	**73**	Pn	**Pn**	**22 26 34.0**	**+2.1**
	3.9nm,0.3s,baz=283,slow=9.5,SNR=33						
PSI				Sn	**Sn**	**22 26 56.7**	**-0.9**
	6.0nm,0.3s,baz=266,slow=14,SNR=7.2						
PSI	**Prapat**	**2.13**	**73**	Pn	**Pn**	**22 26 34.0**	**+2.1**
PSI				Sn	**Sn**	**22 26 56.7**	**-0.9**
KULM	**Kulim**	**4.87**	**50**	*e*Pn	**Pn**	**22 27 10.9**	**0.0**
KULM				*e*Sn	**Sn**	**22 28 01.5**	**-5.5**
NWAO	**Narrogin (SRO)**	**39.85**	**153**	*eP*	**P**	**22 33 30.0**	**-0.4**
	66nm,1.6s,mb5.1						
SONM	**Songino Array**	**46.23**	**9**	P	**P**	**22 34 21.7**	**-0.2**
	0.5nm,0.3s,mb3.9,baz=190,slow=9.2,SNR=14						
SONM				PcP	PcP	22 35 58.0	+0.3
	0.4nm,0.5s,baz=178,slow=3.6,SNR=4.5						
MKAR	**Makanchi Array**	**46.23**	**346**	P	**P**	**22 34 21.9**	**0.0**
	0.6nm,0.5s,mb3.6,baz=156,slow=9.8,SNR=7.9						
MKAR	**Makanchi Array**	**46.23**	**346**	P	**P**	**22 34 21.9**	**0.0**
ZAL	**Zalesovo**	**52.55**	**351**	P	**P**	**22 35 10.2**	**-0.2**
	1.4nm,0.4s,mb4.2,baz=306,slow=5.6,SNR=7.3						
CHKZ	**Chkalovo**	**55.72**	**341**	*eP*	**P**	**22 35 33.6**	**0.0**
	2.4nm,0.7s,mb4.3						

BJI ***05*** *23:15:26.2,6.25S×28.78E,h20km,mB5.0,mb5.0,Ms4.9, Msz4.7*

MOS ***05*** *23:15:26.4±0.8,6.05S×29.64E,h10km,mb5.0/12,Error ellipse: s-maj=18.0km s-min=8.0km az=96.8*

IDC ***05*** *23:15:27.9±0.6,6.01S×29.50E,mb4.3/15,mb1 4.5/19, mb1mx4.4/23,mbtmp4.4/19,MS3.9/16,Ms1 3.8/16, ms1mx3.7/25,Error ellipse: s-maj=19.0km s-min=14.7km az=94.0*

NEIC ***05*** *23:15:28.8±0.3,6.09S×29.52E,h10km,mb4.7/14,Error ellipse: s-maj=9.6km s-min=5.6km az=91.0*

NEIC Felt at Kalemie, Congo.

ISC 05 23:15:26.9±0.4,6.08S±0.05×29.44E±0.08,h10km, (h20km±5.1km:pP-P),n76,σ1ş04/79,mb4.5/28,MS4.0/15, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.22**	**58**	Pn	**P**	**23 17 39.2**	**-3.7**
	8.3nm,0.3s,baz=226,slow=16,SNR=30						
KMBO				Sn	**Sn**	**23 19 16.5**	**-11**
	45nm,0.3s,baz=207,slow=21,SNR=13						
KMBO				Lg		23 20 10.9	
	40nm,0.3s,baz=347,slow=19,SNR=9.9						
KMBO				LR	LR	23 21 23.4	
	comp=Z,768nm,18.4s,baz=99,slow=39						
LSZ	**Lusaka**	**9.22**	**188**	Pn	**P**	**23 17 42.0**	**-1.1**
	20nm,0.3s,baz=2.0,slow=12,SNR=90						
LSZ				Sn	**Sn**	**23 19 21.6**	**-6.4**
	21nm,0.3s,baz=103,slow=22,SNR=10.0						
LSZ				Lg		23 20 15.2	
	15nm,0.3s,baz=44,slow=5.6,SNR=4.5						
LSZ				LR	LR	23 21 26.0	
	comp=Z,1μm,18.1s,baz=5.3,slow=38						
LSZ	**Lusaka**	**9.22**	**188**	*eP*	**P**	**23 17 42.1**	**-1.0**
LSZ				pmax	pmax		
	comp=Z,119nm,0.8s						
LSZ	**Lusaka**	**9.22**	**188**	*e*Pn	**P**	**23 17 42.1**	**-1.0**
	comp=Z,119nm,0.8s						
MATP	**Matopo**	**14.29**	**184**	Pn	**P**	**23 18 49.5**	**-2.1**
	comp=Z,3.4nm,0.3s,baz=5.8,slow=14,SNR=51						
MATP				Sn	**S**	**23 21 22.3**	**-8.9**
	comp=Z,6.6nm,0.3s,baz=252,slow=9.7,SNR=5.5						
MATP				Lg		23 22 54.0	
	comp=Z,2.2nm,0.3s,baz=229,slow=22,SNR=2.1						
MATP				LR	LR	23 24 50.1	
	comp=Z,437nm,18.8s,baz=6.3,slow=39						
MATP	**Matopo**	**14.29**	**184**	Pn	**P**	**23 18 49.5**	**-2.1**
MATP				Sn	**S**	**23 21 22.3**	**-8.9**
MATP				Lg		23 22 54.0	
MATP				LR	LR	23 24 50.1	
TSUM	**Tsumeb**	**17.42**	**220**	P	**P**	**23 19 32.6**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=19,slow=14,SNR=15						
TSUM				S	**S**	**23 22 32.2**	**-12**
	comp=Z,4.5nm,0.3s,baz=278,slow=16,SNR=5.9						
TSUM				Lg		23 24 30.4	
	comp=Z,1.7nm,0.3s,baz=196,slow=8.5,SNR=1.8						
TSUM				LR	LR	23 26 37.1	
	comp=Z,332nm,20.0s,baz=97,slow=38						
TSUM	**Tsumeb**	**17.42**	**220**	*e*Pn	**P**	**23 19 32.3**	**+0.4**
	comp=Z,19nm,0.5s						
TSUM				*e*Sn	**S**	**23 22 31.1**	**-13**
LBTB	**Lobatse**	**19.19**	**191**	P	**P**	**23 19 54.1**	**+0.6**
	comp=Z,3.6nm,0.3s,baz=24,slow=13,SNR=66						
LBTB				S	**S**	**23 23 16.6**	**-7.5**
	comp=Z,0.7nm,0.3s,baz=289,slow=5.9,SNR=6.3						
LBTB				Lg		23 25 30.6	
	comp=Z,0.7nm,0.3s,baz=315,slow=19,SNR=3.8						
LBTB				LR	LR	23 27 25.1	
	comp=Z,587nm,20.6s,baz=23,slow=37						
LBTB	**Lobatse**	**19.19**	**191**	*eP*	**P**	**23 19 54.1**	**+0.5**
	comp=Z,0.1nm,0.3s						
LBTB				*e*S	**S**	**23 23 14.9**	**-9.2**
OPO	**Ambohidratompo**	**21.30**	**127**	P	**P**	**23 20 15.4**	**-0.8**
	comp=Z,3.7nm,0.9s,mb3.7,baz=295,slow=11,SNR=4.5						
ATD	**Arta Tunnel**	**22.00**	**37**	Lg		23 26 47.3	
	comp=Z,7.1nm,1.0s,baz=212,slow=8.7,SNR=2.1						
TORD	**Torodi Ar. Bea**	**33.53**	**305**	P	**P**	**23 22 09.2**	**-0.1**
	comp=Z,10.0nm,0.7s,mb4.8,baz=112,slow=7.8,SNR=116						
TORD				Lg		23 32 58.6	
	comp=Z,0.6nm,1.0s,baz=116,slow=36,SNR=3.1						
DBIC	**Dimbokro**	**36.49**	**290**	P	**P**	**23 22 34.9**	**+0.3**
	comp=Z,3.5nm,0.5s,mb4.6,baz=94,slow=6.8,SNR=20						
DBIC				LR	LR	23 37 52.8	
	comp=Z,95nm,19.1s,MS3.6,baz=86,slow=37						
DBIC	**Dimbokro**	**36.49**	**290**	*eP*	**P**	**23 22 34.9**	**+0.3**
LIC	**Lamto**	**36.51**	**289**	*eP*	**P**	**23 22 34.5**	**-0.2**
	comp=Z,7.1nm,0.6s,mb4.4						
LIC				*e*R			
	comp=Z,197nm,20.2s						
BR131	**Keskin Array S**	**45.74**	**5**	*eP*	**P**	**23 23 51.2**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.2						
BR131				*e*pP	pP	23 24 01.6	+8.3
BRTR	**Keskin Array B**	**45.74**	**5**	P	**P**	**23 23 51.0**	**+0.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=183,slow=9.3,SNR=11						
GNI	**Garni**	**48.11**	**16**	*eP*	**P**	**23 24 11.0**	**+2.0**
TRIS	**Tristan da Cun**	**48.97**	**225**	P	**P**	**23 24 20.2**	**+4.5**
SBF	**Sospel**	**53.54**	**340**	*eP*	**P**	**23 24 50.2**	**0.0**
SFS	**San Fernando**	**53.90**	**324**	*eP*	**P**	**23 24 44.7**	**-8.2**
SFS				pmax	pmax		
	comp=Z,148nm,1.0s						
SFS	**San Fernando**	**53.90**	**324**	*eP*	**P**	**23 24 44.7**	**-8.2**
	comp=Z,148nm,1.0s						
MBDF	**Montbardon**	**54.52**	**340**	*eP*	**P**	**23 24 57.4**	**0.0**
	comp=Z,34nm,1.2s,mb5.0						
MBDF	**Montbardon**	**54.52**	**340**	*eP*	**P**	**23 24 57.4**	**0.0**
MBDF				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
ESDC	**Sonseca Array**	**54.98**	**329**	P	**P**	**23 25 01.4**	**+0.6**
	comp=Z,1.6nm,0.5s,mb4.3,baz=142,slow=7.4,SNR=18						
LASF	**Ste Croix**	**55.00**	**338**	*eP*	**P**	**23 25 00.9**	**0.0**
	comp=Z,38nm,1.1s,mb5.0						
MTLF	**Montolieu**	**55.02**	**336**	*eP*	**P**	**23 25 01.1**	**0.0**
LPL	**La Plagne**	**55.23**	**341**	*eP*	**P**	**23 25 02.4**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.4						
LPL	**La Plagne**	**55.23**	**341**	*eP*	**P**	**23 25 02.4**	**-0.2**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
VIVF	**Saint-Julien-l**	**55.37**	**339**	*eP*	**P**	**23 25 03.4**	**-0.2**
	comp=Z,64nm,1.4s,mb5.2						
VIVF	**Saint-Julien-l**	**55.37**	**339**	*eP*	**P**	**23 25 03.4**	**-0.2**
VIVF				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.2						
EPF	**Esparros**	**55.55**	**334**	*eP*	**P**	**23 25 05.1**	**+0.2**
	comp=Z,24nm,1.1s,mb4.8						
EPF	**Esparros**	**55.55**	**334**	*eP*	**P**	**23 25 05.1**	**+0.2**
EPF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
GERES	**GERESS Array B**	**56.40**	**348**	P	**P**	**23 25 10.7**	**-0.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=169,slow=6.8,SNR=9.7						
GERES				LR	LR	23 51 36.8	
	comp=Z,73nm,20.7s,MS3.8,baz=276,slow=38						
GERES	**GERESS Array B**	**56.40**	**348**	P	**P**	**23 25 10.7**	**-0.2**
GERES				LR	LR	23 51 36.8	
CABF	**La Chapelle**	**56.41**	**341**	*eP*	**P**	**23 25 11.2**	**+0.2**
AKASG	**Malin Array Be**	**56.55**	**360**	P	**P**	**23 25 10.8**	**-1.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=186,slow=6.9,SNR=6.6						
KHC	**Kasperske Hory**	**56.70**	**348**	*eP*	**P**	**23 25 12.5**	**-0.6**
KHC				pP	pP	23 25 20.5	+4.3
KHC	**Kasperske Hory**	**56.70**	**348**	*eP*	**P**	**23 25 12.5**	**-0.6**
KHC				*e*		23 25 20.5	
LFF	**La Frestale**	**56.94**	**336**	*eP*	**P**	**23 25 14.8**	**-0.1**
	comp=Z,44nm,1.0s,mb5.2						
LFF	**La Frestale**	**56.94**	**336**	*eP*	**P**	**23 25 14.8**	**-0.1**
LFF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
SMF	**Signal de Mont**	**57.20**	**339**	*eP*	**P**	**23 25 16.1**	**-0.6**
HINF	**Hinteralfeld**	**57.24**	**342**	*eP*	**P**	**23 25 16.7**	**-0.2**
CDF	**Champ du Feu**	**57.64**	**343**	*eP*	**P**	**23 25 19.0**	**-0.8**
SSF	**Saint Saulge**	**57.68**	**339**	*eP*	**P**	**23 25 19.2**	**-0.8**
	comp=Z,30nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**57.68**	**339**	*eP*	**P**	**23 25 19.2**	**-0.8**
SSF				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
LOR	**Lormes**	**57.73**	**340**	*eP*	**P**	**23 25 19.6**	**-0.8**
	comp=Z,19nm,1.2s,mb4.7						
LOR				*e*R			
	comp=Z,59nm,20.6s						
LOR	**Lormes**	**57.73**	**340**	*eP*	**P**	**23 25 19.6**	**-0.8**
LOR				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
LOR				MLR	MLR		
	comp=Z,60nm,20.6s,MS3.7						
GRA1	**Grafenberg Arr**	**57.76**	**346**	*eP*	**P**	**23 25 20.2**	**-0.4**
	comp=Z,7.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**57.76**	**346**	*eP*	**P**	**23 25 20.2**	**-0.4**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**57.76**	**346**	*eP*	**P**	**23 25 20.2**	**-0.4**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**57.76**	**346**	*eP*	**P**	**23 25 20.2**	**-0.4**
	comp=Z,7.0nm,0.9s,mb4.7						
MAW	**Mawson**	**65.47**	**167**	P	**P**	**23 26 13.7**	**+1.5**
	comp=Z,10.0nm,0.7s,mb4.9,baz=316,slow=10,SNR=10						
MAW				LR	LR	23 51 12.5	
	comp=Z,54nm,18.1s,MS3.8,baz=60,slow=33						
ARU	**Arti**	**66.72**	**17**	*eP*	**P**	**23 26 19.9**	**-0.4**
FINES	**FINESS Array B**	**67.37**	**358**	P	**P**	**23 26 23.6**	**-0.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=153,slow=4.3,SNR=3.5						
NB2	**NORSAR Subarra**	**68.42**	**351**	P	**P**	**23 26 30.7**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.5,baz=161,slow=5.8						
NB2	**NORSAR Subarra**	**68.42**	**351**	P	**P**	**23 26 30.7**	**-0.2**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
NOA	**NORSAR Array B**	**68.42**	**351**	P	**P**	**23 26 31.1**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.4,baz=162,slow=5.8,SNR=10						
NOA				LR	LR	23 59 31.1	
	comp=Z,26nm,18.1s,MS3.5,baz=180,slow=39						
SNAA	**Sanae**	**68.54**	**190**	*eP*	**P**	**23 26 34.8**	**+3.3**
SNAA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SNAA	**Sanae**	**68.54**	**190**	*eP*	**P**	**23 26 34.8**	**+3.3**
	comp=Z,4.1nm,1

PCND				*e*S		Sg	23 26 55.2	-3.3
	182nm,0.3s							
PICO	**Pico**	**0.95**	**107**	*i* P		Pg	23 26 42.9	-3.5
PICO				*e*S		Sg	23 26 55.2	-3.9
PBOI	**Pico dos Bois**	**1.01**	**109**	*e*P		Pb	23 26 44.3	-3.2
PBOI				*e*S		Sg	23 26 57.3	-3.7
	196nm,0.3s							
ROSA	**Rosais**	**1.05**	**93**	*e*P		Pb	23 26 44.7	-3.5
ROSA				*e*S		Sb	23 26 57.2	-5.2
PAMA	**Santo Amaro**	**1.11**	**95**	*e*P		Pb	23 26 46.2	-2.9
PAMA				*e*S		Sb	23 26 59.4	-4.5
PVIA	**Vitoria**	**1.23**	**76**	*e*S		Sb	23 27 05.3	-2.3
	15nm,0.2s							
STGR	**Santa Cruz**	**1.27**	**76**	*e*S		Sb	23 27 05.7	-3.0
	49nm,0.3s							
STGR	**Santa Cruz**	**1.27**	**76**	*e*S		Sb	23 27 05.7	-3.0
	49nm,0.3s							
ASBA	**Santa Barbara**	**1.77**	**91**	*e*S		Sn	23 27 16.9	-6.2
	28nm,0.3s							
PPAD	**Pico dos Padre**	**1.80**	**92**	*e*S		Sn	23 27 17.3	-6.5
	20nm,0.2s							
PBIS	**Biscoitos**	**1.83**	**90**	*e*S		Sn	23 27 18.5	-6.0
	16nm,0.3s							
RIB2	**Ribeirinha**	**1.89**	**93**	*e*S		Sn	23 27 19.4	-6.8
	17nm,0.3s							
PVNV	**Vila Nova**	**1.90**	**90**	*e*rx			23 27 19.8	
PFAV	**Pico das Favas**	**1.96**	**91**	*e*S		Sn	23 27 21.2	-6.7
	10nm,0.2s							
SET2	**Ginetes**	**3.12**	**106**	*e*P		Pn	23 27 13.8	-5.0

MAN 05 23:55:47.8, 12.43N×123.52E, h7km, mb3.7, ML2.5, MS2.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.12**	**86**	*e*P	Pb	23 56 08.1	-0.9
CNP				*e*S	Sb	23 56 25.7	+2.0
RCP	**Roxas**	**1.15**	**221⇓**	*e*P	Pb	23 56 08.9	-0.6
RCP				*e*S	Sb	23 56 25.8	+1.4
GUIM	**Jordan**	**2.01**	**207**	*e*P	Pn	23 56 24.0	+1.5
GUIM				*e*S	Sn	23 56 53.7	+5.5

*CSEM **05** 23:58:27.9±0.4, 38.63N×29.76W, h5km, MD3.4, After PDA*
*PDA **05** 23:58:27.9±1.5, 38.63N×29.76W, h5km, MD3.4, ML2.8, Error ellipse: s-maj=28.0km s-min=8.4km az=3.0*
SVSA 05 23:58:27.9±1.5, 38.63N×29.76W, h5km, MD3.4, ML2.8, Error ellipse: s-maj=28.0km s-min=8.4km az=3.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**0.73**	**57**	*e*S	Sg	23 59 07.7	+16
	22nm,0.1s						
PTCA	**Ponta do Capel**	**0.76**	**93**	*e*P	Pg	23 58 40.9	-2.1
PTCA				*e*S	Sg	23 58 50.3	-2.9
	87nm,0.3s						
PTCA	**Ponta do Capel**	**0.76**	**93**	*e*P	Pg	23 58 40.9	-2.1
PTCA				*e*S	Sg	23 58 50.3	-2.9
	87nm,0.3s						
PCED	**Cedros**	**0.83**	**90**	*e*P	Pb	23 58 41.3	-3.1
PCED				*e*S	Sg	23 58 51.1	-4.5
	160nm,0.3s						
PCED	**Cedros**	**0.83**	**90**	*e*P	Pb	23 58 41.3	-3.1
PCED				*e*S	Sg	23 58 51.1	-4.5
	160nm,0.3s						
CALA	**Caldeira**	**0.83**	**93**	*e*S	Sg	23 58 51.7	-3.9
HOR	**Horta**	**0.89**	**96**	*e*S	Sb	23 58 52.9	-4.6
PCND	**Candelaria**	**1.03**	**98**	*e*P	Pb	23 58 44.7	-3.2
PCND				*e*S	Sb	23 58 57.1	-4.4
	135nm,0.3s						
PICO	**Pico**	**1.05**	**96**	*e*P	Pb	23 58 44.7	-3.6
PICO				*e*S	Sb	23 58 57.3	-4.9
PBOI	**Pico dos Bois**	**1.10**	**99**	*e*P	Pb	23 58 47.0	-2.1
PBOI				*e*S	Sb	23 58 59.5	-4.1
	154nm,0.3s						
ROSA	**Rosais**	**1.19**	**85**	*e*P	Pb	23 58 46.6	-4.0
ROSA				*e*S	Sb	23 58 59.7	-6.5
PAMA	**Santo Amaro**	**1.24**	**87**	*e*S	Sb	23 58 58.6	-9.0
PMAN	**Manadas**	**1.31**	**89**	*e*P	Pb	23 58 48.0	-4.6
PMAN				*e*S	Sb	23 59 02.8	-6.8
	56nm,0.3s						
PMAN	**Manadas**	**1.31**	**89**	*e*P	Pb	23 58 48.0	-4.6
PMAN				*e*S	Sb	23 59 02.8	-6.8
	56nm,0.3s						
PVIA	**Vitoria**	**1.41**	**71**	*e*S	Sb	23 59 07.3	-5.1
	26nm,0.2s						
STGR	**Santa Cruz**	**1.45**	**71**	*e*P	Pn	23 58 51.2	-3.6
STGR				*e*S	Sb	23 59 08.2	-5.4
	63nm,0.2s						
STGR	**Santa Cruz**	**1.45**	**71**	*e*P	Pn	23 58 51.2	-3.6
STGR				*e*S	Sb	23 59 08.2	-5.4
	63nm,0.2s						
ASBA	**Santa Barbara**	**1.91**	**86**	*e*S	Sn	23 59 19.4	-6.7
	27nm,0.2s						
PPAD	**Pico dos Padre**	**1.94**	**87**	*e*S	Sn	23 59 19.8	-7.1
	19nm,0.4s						
PBIS	**Biscoitos**	**1.97**	**85**	*e*S	Sn	23 59 20.8	-6.8
	10.0nm,0.1s						
RIB2	**Ribeirinha**	**2.03**	**88**	*e*S	Sn	23 59 21.8	-7.3
	20nm,0.2s						
PVNV	**Vila Nova**	**2.04**	**85**	*e*rx		23 59 21.9	
PFAV	**Pico das Favas**	**2.10**	**87**	*e*S	Sn	23 59 23.4	-7.5
	12nm,0.3s						
SET4	**Mosteiros**	**3.21**	**102**	*e*P	Pn	23 59 16.5	-3.5
SET2	**Ginetes**	**3.21**	**103**	*e*P	Pn	23 59 16.3	-3.7

*NEIC **06** 00:22:27.9±0.7, 26.60N×55.78E, h10km, mb4.3/10, MN3.9(TEH), Error ellipse: s-maj=12.9km s-min=10.9km az=212.0*
*IDC **06** 00:22:27.0±1.3, 26.76N×55.75E, mb4.0/16, mb1 4.1/17, mb1mx4.0/24, mbtmp4.0/17, ML1.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/28, Error ellipse: s-maj=27.8km s-min=17.8km az=173.0*
*CSEM **06** 00:22:30.4±0.1, 26.70N×55.68E, h30km, mb4.4/4, Error ellipse: s-maj=2.8km s-min=1.3km az=67.0*
*TEH **06** 00:22:31.8, 26.74N×55.70E, h10km, Mn3.9*
*MOS **06** 00:22:32.2±2.9, 27.13N×55.77E, h33km, mb4.6/6, Error ellipse: s-maj=18.6km s-min=6.9km az=115.3*
ISC 06 00:22:30.8±0.4, 26.71N±0.03×55.68E±0.05, h41km±6km, n104, σ1⇕07/104, mb4.1/24, MS3.4/1, 5C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**0.96**	**144**	P	**P**	**00 22 47.2**	**-0.8**
	SNR=600						
BANOM	**Banah**	**0.96**	**144**	P	**P**	**00 22 47.5**	**-0.5**
	SNR=524						
BANOM	**Banah**	**0.96**	**144**	P	**P**	**00 22 47.2**	**-0.8**
	SNR=600						
ASHO	**Ashiyiah**	**2.05**	**170**	P	**P**	**00 23 05.9**	**+2.4**
	SNR=129						
ASHO	**Ashiyiah**	**2.05**	**170**	P	**P**	**00 23 05.7**	**+2.2**
	SNR=64						
ASHO	**Ashiyiah**	**2.05**	**170**	P	**P**	**00 23 05.9**	**+2.4**
	SNR=129						
ARQ	**Araqi**	**3.44**	**167**	P	**P**	**00 23 24.3**	**+0.9**
	SNR=14						
ARQ	**Araqi**	**3.44**	**167**	P	**P**	**00 23 24.3**	**+0.9**
	SNR=14						
ARQ	**Araqi**	**3.44**	**167**	P	**P**	**00 23 24.3**	**+0.9**
	SNR=14						
HOQ	**Hoqain**	**3.45**	**154**	P	**P**	**00 23 23.1**	**-0.3**
	SNR=12						
HOQ	**Hoqain**	**3.45**	**154**	P	**P**	**00 23 23.1**	**-0.3**
	SNR=12						
HOQ	**Hoqain**	**3.45**	**154**	P	**P**	**00 23 23.1**	**-0.3**
	SNR=12						
ISRV	**Sarvestan**	**3.50**	**320**	Pn	**P**	**00 23 25.3**	**+1.2**
IMOK	**Mook**	**3.51**	**312**	Pn	**P**	**00 23 25.9**	**+1.7**
BIDO	**Bidbid**	**3.87**	**145**	P	**P**	**00 23 28.9**	**-0.5**
	SNR=23						
BIDO	**Bidbid**	**3.87**	**145**	P	**P**	**00 23 28.9**	**-0.5**
	SNR=23						
BIDO	**Bidbid**	**3.87**	**145**	P	**P**	**00 23 28.9**	**-0.5**
	SNR=23						
IPAR	**Pars**	**3.89**	**324**	Pn	**P**	**00 23 30.2**	**+0.6**
BSY	**Bisya**	**4.18**	**160**	P	**P**	**00 23 34.3**	**+0.5**
	SNR=9.1						
BSY	**Bisya**	**4.18**	**160**	P	**P**	**00 23 34.3**	**+0.5**
	SNR=9.1						
BSYO	**Bisya**	**4.21**	**160**	P	**P**	**00 23 34.3**	**+0.1**
	SNR=9.1						
SMDO	**Samad**	**4.22**	**149**	P	**P**	**00 23 34.8**	**+0.4**
	SNR=28						
SMDO	**Samad**	**4.22**	**149**	P	**P**	**00 23 34.8**	**+0.4**
	SNR=28						
IMEH	**Mehriz**	**4.76**	**349**	Pn	**P**	**00 23 42.0**	**+0.1**
JMDO	**Jabal Madar**	**4.85**	**152**	P	**P**	**00 23 43.5**	**+0.2**
	SNR=10						
IBAF	**Bafgh**	**4.87**	**359**	Pn	**P**	**00 23 43.4**	**-0.1**
WBK	**Wadi Bani Khal**	**5.06**	**143**	P	**P**	**00 23 44.9**	**-1.3**
	SNR=22						
WBK	**Wadi Bani Khal**	**5.06**	**143**	P	**P**	**00 23 44.9**	**-1.3**
	SNR=22						
ISAD	**Sadrabad**	**5.47**	**342**	Pn	**P**	**00 23 52.5**	**+0.6**
HASS	**Wahat al Ahsa'**	**5.59**	**256**	P	**P**	**00 23 55.5**	**+1.9**
ICHK	**Chekchek**	**5.63**	**349**	Pn	**P**	**00 23 54.1**	**0.0**
RDF	**Al-Radifah**	**7.53**	**289**	*e*P	**P**	**00 24 21.2**	**+0.5**
RDF				AML	AML	00 25 48.0	
	comp=Z,17nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.58**	**294**	*e*P	**P**	**00 24 21.7**	**+0.3**
UMR				AML	AML	00 25 47.3	
	comp=Z,14nm,0.3s						
NAY	**Al-Naaiem**	**7.88**	**291**	*e*P	**P**	**00 24 25.5**	**-0.1**
NAY				AML	AML	00 25 53.4	
	comp=Z,8.6nm,0.5s						
MIB	**Mutribah**	**7.97**	**295**	*e*P	**P**	**00 24 27.1**	**+0.2**
MIB				AML	AML	00 25 53.0	
	comp=Z,18nm,0.4s						
ISFB	**Sefidab**	**8.18**	**340**	Pn	**P**	**00 24 29.2**	**-0.5**
SHAO	**Shalim**	**8.64**	**180**	P	**P**	**00 24 34.5**	**-1.7**
	SNR=21						
SHAO				P		00 24 34.5	
	SNR=21						
SHAO				P		00 24 34.5	
	SNR=21						
WHFO	**Wadi Hawf**	**8.92**	**192**	P	**P**	**00 24 40.3**	**+0.3**
	SNR=8.3						
WHFO				P		00 24 40.3	
	SNR=8.3						
WHFO				P		00 24 40.3	
	SNR=8.3						
IVRN	**Varamin**	**8.93**	**339**	Pn	**P**	**00 24 39.7**	**-0.4**
IFIR	**Firoozkooh**	**9.25**	**345**	Sn	**S**	**00 26 21.7**	**-6.8**
RBK	**Rabkut**	**9.26**	**189**	P	**P**	**00 24 45.9**	**+1.1**
	SNR=8.3						
IDMV	**Damavand**	**9.37**	**341**	Pn	**P**	**00 24 45.6**	**-0.7**
IDMV				Sn	**S**	**00 26 23.8**	**-7.8**
ABTO	**Aybut**	**9.57**	**194**	P	**P**	**00 24 48.2**	**-0.8**
	SNR=9.1						
ABTO				P		00 24 48.2	
	SNR=9.1						
ABTO				P		00 24 48.2	
	SNR=9.1						
IAFJ	**Afjeh**	**9.73**	**341**	Pn	**P**	**00 24 50.6**	**-0.6**
MZLS	**Mizel**	**9.84**	**257**	P	**P**	**00 24 51.4**	**-1.3**
IRAZ	**Razeghan**	**9.97**	**332**	Pn	**P**	**00 25 02.8**	**+8.3**
IRAZ	**Razeghan**	**9.97**	**332**	Sn	**S**	**00 26 38.9**	**-7.3**
IKOM	**Komasi**	**10.24**	**319**	Pn	**P**	**00 24 57.8**	**-0.5**
IGHG	**Ghaleghazi**	**10.92**	**316**	Pn	**P**	**00 25 05.4**	**-2.1**
IDHR	**Dehrash**	**11.28**	**317**	Pn	**P**	**00 25 10.7**	**-1.7**
KAMS	**Al Khamasin**	**12.01**	**240**	P	**P**	**00 25 22.1**	**-0.1**
HILS	**Ha'il**	**12.40**	**276**	P	**P**	**00 25 26.6**	**-0.9**
TATS	**Tathlith**	**13.29**	**240**	P	**P**	**00 25 36.4**	**-3.0**
DJNS	**Zahran al Janu**	**14.36**	**234**	P	**P**	**00 25 50.7**	**-2.7**
GNI	**Garni**	**16.20**	**329**	Pn	**P**	**00 26 18.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=173,slow=8.1,SNR=4.3						
LACR	**Lac**	**18.57**	**333**	*e*P	**P**	**00 26 42.0**	**-4.6**
VLKR	**Vladikavkaz**	**18.60**	**334**	*e*P	**P**	**00 26 40.4**	**-6.6**
ARNR	**Ardon**	**18.88**	**333**	*e*P	**P**	**00 26 43.2**	**-7.1**
KORR	**Kora**	**18.88**	**333**	*e*P	**P**	**00 26 44.0**	**-6.3**
KMSR	**Komsomolskaya**	**19.03**	**334**	*e*P	**P**	**00 26 44.6**	**-7.4**
KIV	**Kislovodsk**	**20.16**	**332**	*e*P	**P**	**00 27 05.2**	**+0.8**
KIV				pmax	pmax		
	comp=Z,61nm,1.0s						
KIV	**Kislovodsk**	**20.16**	**332**	*e*P	**P**	**00 27 05.2**	**+0.8**
	comp=Z,61nm,1.0s						
CSS	**Prodhromos**	**20.85**	**299**	*e*P	**P**	**00 27 16.2**	**+4.7**
	comp=Z,10nm,0.9s						
GOF	**Gofitskoye**	**20.93**	**334⇑**	*i*P	**P**	**00 27 12.8**	**+0.5**
GOF				pmax	pmax		
	comp=Z,37nm,1.0s						
GOF	**Gofitskoye**	**20.93**	**334**	*i* P	**P**	**00 27 12.8**	**+0.5**
	comp=Z,37nm,1.0s						
BR131	**Keskin Array S**	**22.48**	**311**	*e*P	**P**	**00 27 29.6**	**+1.9**
	comp=Z,6.6nm,1.0s,mb4.0						
BRTR	**Keskin Array B**	**22.48**	**311**	P	**P**	**00 27 29.8**	**+2.0**
	comp=Z,5.4nm,1.0s,mb3.9,baz=129,slow=11,SNR=19						
AKTO	**Aktyubinsk**	**23.76**	**4**	P	**P**	**00 27 40.8**	**+0.7**
	comp=Z,2.2nm,0.5s,mb3.8,baz=172,slow=10,SNR=12						
IDI	**Anoyia**	**27.66**	**296**	P	**P**	**00 28 15.5**	**-1.4**
	comp=Z,3.4nm,0.7s,mb4.1,baz=90,slow=8.6,SNR=2.4						
GVD	**Gavdhos**	**28.24**	**294**	*e*P	**P**	**00 28 20.5**	**-1.7**
	comp=Z,25nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**28.49**	**19**	P	**P**	**00 28 23.4**	**-0.9**
	comp=Z,3.4nm,0.9s,mb4.0,baz=202,slow=8.0,SNR=15						
MKAR	**Makanchi Array**	**29.04**	**39**	P	**P**	**00 28 27.8**	**-1.3**
	comp=Z,0.3nm,0.6s,mb3.2,baz=217,slow=12,SNR=3.6						
AKASG	**Malin Array Be**	**31.32**	**327**	P	**P**	**00 28 48.9**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.1,baz=135,slow=8.3,SNR=15						
NVS	**Novosibirsk**	**34.57**	**28**	*e*P	**P**	**00 29 24.3**	**+6.8**
NVS				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.2						
NVS				pmax	pmax		
	comp=N,64nm,0.9s						
NVS				pmax	pmax		
	comp=E,87nm,1.3s						
ZAL	**Zalesovo**	**34.66**	**30**	P	**P**	**00 29 15.8**	**-2.4**
	comp=E,1.5nm,0.4s,mb4.2,baz=217,slow=6.9,SNR=9.4						
OJC	**Ojcow**	**36.08**	**320**	*e*P	**P**	**00 29 31.5**	**+1.1**
MORC	**Moravsky Berou**	**37.20**	**319**	*e*P	**P**	**00 29 40.3**	**+0.5**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MORC	**Moravsky Berou**	**37.20**	**319**	*e*P	**P**	**00 29 40.3**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.3						
MORC	**Moravsky Berou**	**37.20**	**319**	*e*P	**P**	**00 29 40.3**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.2						
GERES	**GERESS Array B**	**39.20**	**316**	P	**P**	**00 29 56.4**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.5,baz=111,slow=8.4,SNR=3.8						
KHC	**Kasperske Hory**	**39.37**	**316**	*e*P	**P**	**00 29 56.0**	**-1.9**
KHC				x	x	00 30 01.5	
KHC	**Kasperske Hory**	**39.37**	**316**	*e*P	**P**	**00 29 56.0**	**-1.9**
KHC				*e*		00 30 01.5	
BRG	**Berggiesshubel**	**39.75**	**319**	*e*P	**P**	**00 30 05.2**	**+4.1**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
BRG	**Berggiesshubel**	**39.75**	**319**	*e*P	**P**	**00 30 05.2**	**+4.1**
	comp=Z,8.8nm,1.2s,mb4.4						
FINES	**FINESS Array B**	**40.02**	**338**	P	**P**	**00 30 02.8**	**-0.4**
	comp=Z,2.5nm,0.9s,mb3.9,baz=142,slow=10,SNR=8.4						
SQTA	**Sankt Quirin**	**40.34**	**312⇑**	*i*P	**P**	**00 30 06.8**	**+0.8**
	comp=Z,4.7nm,0.8s,mb4.3						
SQTA	**Sankt Quirin**	**40.34**	**312⇑**	P	**P**	**00 30 06.8**	**+0.8**
SQTA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
GRA1	**Grafenberg Arr**	**41.01**	**316**	*e*P	**P**	**00 30 16.1**	**+4.6**
	comp=Z,5.0nm,0.9s,mb4.1						
GRF	**Grafenberg Arr**	**41.01**	**316**	*e*P	**P**	**00 30 16.1**	**+4.6**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
GRF	**Grafenberg Arr**	**41.01**	**316**	*e*P	**P**	**00 30 16.1**	**+4.6**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
GRF	**Grafenberg Arr**	**41.01**	**316**	*e*P	**P**	**00 30 16.1**	**+4.6**
	comp=Z,5.0nm,0.9s,mb4.1						
DAVA	**Damuels**	**41.23**	**312⇑**	*i*P	**P**	**00 30 14.3**	**+0.9**
	comp=Z,19nm,0.7s,mb4.8						
DAVA	**Damuels**	**41.23**	**312⇑**	P	**P**	**00 30 14.3**	**+0.9**
	comp=Z,19nm,0.7s,mb4.8						
SONM	**Songino Array**	**44.61**	**48**	P	**P**	**00 30 41.9**	**+1.1**
	comp=Z,0.8nm,0.9s,mb3.6,baz=248,slow=6.9,SNR=5.2						
NOA	**NORSAR Array B**	**45.47**	**331**	P	**P**	**00 30 46.7**	**-0.8**
	comp=Z,1.5nm,0.8s,mb3.9,baz=117,slow=7.9,SNR=3.0						
ARCES	**ARCESS Array B**	**46.33**	**346**	P	**P**	**00 30 55.1**	**+0.9**
	comp=Z,2.2nm,0.9s,mb4.1,baz=135,slow=10,SNR=4.1						
ESDC	**Sonseca Array**	**50.71**	**301**	P	**P**	**00 31 29.5**	**+0.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=72,slow=7.5,SNR=8.3						
TORD	**Torodi Ar. Bea**	**52.16**	**266**	P	**P**	**00 31 40.3**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.0,baz=58,slow=6.8,SNR=12						
MATP	**Matopo**	**53.76**	**212**	LR	LR	00 54 11.8	
	comp=Z,31nm,18.4s,MS3.4,baz=277,slow=35						
LBTB	**Lobatse**	**59.05**	**212**	*e*P	**P**	**00 32 30.4**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
LBTB	**Lobatse**	**59.05**	**212**	*e*P	**P**	**00 32 30.4**	**+1.0**
	comp=Z,3.1nm,0.7s,mb4.5						
LBTB	**Lobatse**	**59.05**	**212**	*e*P	**P**	**00 32 30.4**	**+1.1**
	comp=Z,3.0nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**87.14**	**9**	P	**P**	**00 35 13.8**	**+0.6**
	comp=Z,0.6nm,1.0s,mb3.8,baz=306,slow=4.5,SNR=4.4						
WRA	**Warramunga Arr**	**89.20**	**113**	P	**P**	**00 35 25.0**	**+1.0**
	comp=Z,0.6nm,0.8s,mb4.0,baz=310,slow=4.1,SNR=6.8						

*NEIC **06** 00:23:28.0, 32.10S×67.91W, h10km, ML3.8(GUC), After GUC.*
GUC 06 00:23:28.0±0.6, 32.10S×67.91W, h10km, MD4.0, ML3.8, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.86**	**310**	*e*P	Pb	00 23 44.3	-0.2
ZON				*e*S	Sb	00 23 55.8	0.0
MDZ	**Mendoza**	**1.11**	**225**	*e*P	Pb	00 23 47.7	-1.2
MDZ				*i* S	Sb	00 24 06.5	+3.2
JACH	**Jahuel**	**2.34**	**255**	*e*P	Pn	00 24 07.5	+0.3
FCH	**Farellones**	**2.35**	**238**	*e*P	Pn	00 24 08.5	+1.2
FCH				*i* S	Sn	00 24 41.2	+4.8
FCH				AMP		00 24 46.5	
	comp=N,337nm,0.2s						
PEL	**Peldehue**	**2.56**	**245**	*e*P	Pn	00 24 10.5	+0.2
PEL				*i* S	Sn	00 24 46.1	+4.3
PEL				AMP		00 24 52.3	
	comp=N,250nm,0.5s						
ROCH	**El Roble**	**2.76**	**251**	*e*P	Pn	00 24 14.0	+0.8
CMCH	**Combarbala**	**2.79**	**289**	*e*P	Pn	00 24 13.7	0.0
CMCH				*i* S	Sn	00 24 48.8	+1.0
CMCH				AMP		00 24 55.1	
	comp=N,1μm,0.6s						
CHCH	**Chadas Angostu**	**2.94**	**231**	*e*P	Pn	00 24 16.2	+0.5
TLL	**Tololo Astrono**	**3.14**	**307**	*e*P	Pn	00 24 19.2	+0.6
TLL				*i* S	Sn	00 24 58.1	+1.5
TLL				AMP		00 25 04.8	
	comp=E,349nm,0.4s						

*NEIC **06** 00:27:29.1, 32.60S×71.73W, h41km±2km, MD3.8, ML3.0, 4C-1D, Near coast of central Chile*
GUC 06 00:27:29.1±0.8, 32.60S×71.73W, h41km±2km, MD3.8, ML3.0, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.26**	**76**	*i* S	S	00 27 43.1	+0.5
CHNG	**Los Chungos**	**0.74**	**15⇑**	*i*P	P	00 27 43.3	+0.1
CHNG				*i* S	S	00 27 54.2	+0.7
CHNG				AMP		00 27 54.9	
	comp=E,147nm,0.3s						
LCCH	**Las Cruces**	**0.88**	**171⇑**	*i*P	P	00 27 44.0	-1.2
JACH	**Jahuel**	**0.96**	**95**	*e*P	P	00 27 46.9	+0.6
JACH				*i* S	S	00 28 00.3	+1.3
PEL	**Peldehue**	**1.03**	**122⇑**	*i*P	P	00 27 48.0	+0.7
PEL				*i* S	S	00 28 02.6	+1.8
PEL				AMP		00 28 04.0	
	comp=N,2μm,0.2s						
TACH	**Talagante**	**1.24**	**148**	*i* P	P	00 27 50.3	0.0
TACH				*i* S	S	00 28 06.2	0.0
ANTU	**Antumapu**	**1.33**	**137**	*e*P	P	00 27 52.3	+0.6
ANTU				*i* S	S	00 28 10.0	+1.5
ANTU				AMP		00 28 11.2	
	comp=E,361nm,0.5s						
FCH	**Farellones**	**1.41**	**121⇓**	*i*P	P	00 27 53.7	+0.9
FCH				*i* S	S	00 28 12.5	+2.1
FCH				AMP		00 28 13.8	
	comp=N,459nm,0.2s						
PCH	**Pirque**	**1.44**	**135**	*e*P	P	00 27 53.8	+0.6
PCH				*i* S	S	00 28 12.9	+1.7
CMCH	**Combarbala**	**1.55**	**24⇑**	*i*P	P	00 27 55.4	+0.6
CMCH				*i* S	S	00 28 15.6	+1.7
CMCH				AMP		00 28 32.5	
	comp=E,373nm,0.7s						
CHCH	**Chadas Angostu**	**1.61**	**146**	*e*P	P	00 27 55.9	+0.4
CACH	**El Canelo**	**1.78**	**148**	*e*P	P	00 27 59.3	+1.2
LMEL	**Las Melosas**	**1.79**	**135**	*i* P	P	00 27 59.0	+1.0
LMEL				*i* S	S	00 28 21.8	+2.1
LMEL				AMP		00 28 23.5	
	comp=E,327nm,0.1s						

*IDC **06** 00:34:29.7±1.8, 1.75S×99.99E, mb4.0/6, mb1 4.1/6, mb1mx3.8/16, mbtmp4.0/6, ML2.9/1, Error ellipse: s-maj=59.5km s-min=24.2km az=50.0*
ISC 06 00:34:33.4±1.6, 1.6S±0.2×100.1E±0.3, h33km, n9, σ0⇕98/8, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.49**	**345**	Pn	**Pn**	**00 35 40.4**	**-0.7**
	0.5nm,0.3s,baz=152,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**38.14**	**121**	P	**P**	**00 41 51.5**	**-0.1**
	0.5nm,0.4s,mb3.6,baz=303,slow=9.0,SNR=6.7						
SONM	**Songino Array**	**49.50**	**6**	P	**P**	**00 43 25.2**	**+2.4**
	0.8nm,0.6s,mb3.9,baz=190,slow=9.3,SNR=8.4						
MKAR	**Makanchi Array**	**50.63**	**344**	P	**P**	**00 43 32.4**	**+0.9**
	1.2nm,0.5s,mb4.0,baz=157,slow=8.6,SNR=17						
JHJ	**Hachijo jima 2**	**50.89**	**44**	P	**P**	**00 43 32.9**	**-0.8**
	304nm,0.6s,baz=246,slow=20,SNR=3.4						
ZAL	**Zalesovo**	**56.75**	**349**	P	**P**	**00 44 16.6**

SNJE	**San Jose**	**1.29**	**44**⇑	*i*P	Pb	00 50 52.4	+30
SNJE				*e*S	Sb	00 51 10.2	+32
BOQS	**Boqueron**	**1.45**	**57**	*e*P	Pn	00 50 54.8	+30
BOQS				*e*S	Sb	00 51 13.8	+30
PCG	**Pacaya**	**1.45**	**357**	*e*P	Pn	00 50 24.4	-0.6
PCG				*e*S	Sb	00 50 45.3	+1.8
SNET	**Serv Nac Est T**	**1.46**	**59**	*e*P	Pn	00 50 25.0	-0.1
LFRS	**El Faro**	**1.58**	**64**	*e*P	Pn	00 50 56.5	+30
LFRS				*e*S	Sn	00 51 16.5	+29
LFU	**La Fuente**	**1.59**	**59**	*e*P	Pn	00 50 57.3	+30
LFU				*e*S	Sn	00 51 19.1	+32
LBRS	**Las Brisas**	**1.65**	**61**	*e*P	Pn	00 50 58.1	+30
LBRS				*e*S	Sn	00 51 21.0	+32
SNVI	**San Vicente**	**1.77**	**68**⇓	*e*P	Pn	00 50 59.8	+30
SNVI				*e*S	Sn	00 51 24.5	+33
MTO2	**Montecristo 2**	**1.84**	**38**⇑	*e*P	Pn	00 51 00.5	+30
MTO2				*e*S	Sn	00 51 23.5	+30
VSM	**San Miguel**	**2.25**	**77**	*e*P	Pn	00 51 08.4	+32
VSM				*e*S	Sn	00 51 37.2	+33
MRL	**Marmol**	**2.27**	**21**⇑	*e*P	Pn	00 50 36.9	+0.2
CRIN	**San Cristobal**	**3.40**	**94**	*e*P	Pn	00 50 52.4	-0.3
CRIN				*e*S	Sn	00 51 32.0	-1.2
TEL3	**Telica 3**	**3.61**	**95**	*e*P	Pn	00 50 54.7	-1.0
TEL3				*e*S	Sn	00 51 37.4	-1.2
TELN	**Telica**	**3.62**	**95**	*e*P	Pn	00 50 54.6	-1.3
MIRN	**Miramar**	**3.75**	**97**	*e*P	Pn	00 50 56.9	-0.9
MOMJ	**Momotombo**	**3.92**	**97**	*e*P	Pn	00 50 58.7	-1.5

*IDC **06** 01:02:15.8±0.8, 13.39S×166.63E, mb4.4/8, mb1 4.5/10, mb1mx4.3/16, mbtmp4.3/10, ML3.5/2, MS3.8/12, Ms1 3.8/12, ms1mx3.6/24, Error ellipse: s-maj=32.6km s-min=21.2km az=128.0*

*LDG **06** 01:02:17.4±0.1, 13.23S×166.44E, h10km, Mb4.7/4, Error ellipse: s-maj=14.8km s-min=5.0km az=82.0*

*BJI **06** 01:02:20.4, 13.50S×166.60E, h48km, mB5.4, mb4.7, Ms5.3, Msz4.8*

*NEIC **06** 01:02:22.4±1.6, 13.49S×166.60E, h48km±13km, mb4.8/4, Error ellipse: s-maj=11.7km s-min=9.3km az=51.0*

ISC 06 01:02:17.5±4.5, 13.56S±0.08×166.6E±0.1, h19km±30km, n71, σθ99/34, mb4.8/15, MS4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**4.38**	**159**	*i* P	**Pn**	**01 03 31.8**	**+7.1**
HNR	**Honiara**	**7.70**	**302**	LR	LR	01 06 47.4	
	comp=Z,346nm,22.0s,baz=135,slow=36						
DZM	**Mont Dzumac**	**8.47**	**181**	*e*P	**P**	**01 04 22.5**	**+0.3**
DZM				*e*S	**Sn**	**01 05 53.9**	**-4.3**
DZM	**Mont Dzumac**	**8.47**	**181**	Pn	**P**	**01 04 23.6**	**+1.4**
	0.8nm,0.3s,baz=14,slow=19,SNR=6.8						
DZM				Sn	**Sn**	**01 05 57.2**	**-1.0**
	baz=143,slow=20,SNR=2.5						
DZM				LR	LR	01 07 05.0	
	comp=Z,143nm,21.4s,baz=22,slow=34						
NOUC	**Port Laguerre**	**8.50**	**182**	*e*P	**P**	**01 04 23.0**	**+0.4**
NOUC				*e*S	**Sn**	**01 05 55.5**	**-3.5**
PMG	**Port Moresby**	**19.48**	**280**	P	**P**	**01 06 45.0**	**-1.4**
	0.3nm,0.3s,baz=88,slow=7.0,SNR=5.3						
CTA	**Charters Tower**	**20.51**	**249**	P	**P**	**01 06 57.1**	**-0.2**
	19nm,1.3s,baz=74,slow=14,SNR=6.7						
CTA				LR	LR	01 14 07.0	
	comp=Z,340nm,18.1s,MS3.8,baz=51,slow=34						
CTAO	**Charters Tower**	**20.51**	**249**	*e*P	**P**	**01 06 57.8**	**+0.5**
	7.2nm,0.8s						
AFI	**Afiamalu**	**21.02**	**94**	LR	LR	01 13 08.1	
	comp=Z,232nm,21.0s,MS3.5,baz=262,slow=31						
STKA	**Stephens Creek**	**29.27**	**227**	P	**P**	**01 08 22.1**	**+1.2**
	4.3nm,0.9s,mb4.2,baz=60,slow=9.4,SNR=5.2						
STKA				LR	LR	01 19 33.1	
	comp=Z,267nm,18.7s,MS3.9,baz=33,slow=35						
STKA	**Stephens Creek**	**29.27**	**227**	*e*P	**P**	**01 08 21.2**	**+0.3**
WRA	**Warramunga Arr**	**31.49**	**254**	P	**P**	**01 08 38.7**	**-1.9**
	1.5nm,0.8s,mb3.9,baz=84,slow=8.9,SNR=9.9						
WRA				PcP	PcP	01 11 32.4	-1.1
	0.3nm,0.7s,baz=83,slow=2.5,SNR=5.4						
FITZ	**Fitzroy Crossi**	**39.60**	**258**	LR	LR	01 25 41.2	
	comp=Z,151nm,18.8s,MS3.9,baz=97,slow=35						
NWAO	**Narrogin (SRO)**	**48.80**	**238**	LR	LR	01 31 40.4	
	comp=Z,164nm,20.0s,MS4.0,baz=260,slow=36						
MJAR	**Matsushiro Arr**	**56.57**	**333**	P	**P**	**01 12 00.7**	**-0.7**
	0.9nm,0.4s,mb4.2,baz=225,slow=1.8,SNR=4.4						
HHC	**Hu-ho-hao-te**	**74.27**	**320**	*e*P	**P**	**01 13 50.4**	**-5.0**
HHC				AP	pP	01 14 03.5	+2.0
HHC				PCP	PcP	01 14 06.7	-3.8
HHC				XP	sP	01 14 08.8	+5.2
HHC				S	S	01 23 13.4	-13
HHC				SCS	ScS	01 23 51.4	-10
HHC				AMB	AMB		
	comp=Z,270nm,5.6s						
HHC				LR	LR		
	comp=N,260nm,15.5s,MS4.9						
HHC				LR	LR		
	comp=E,380nm,14.3s,MS4.9						
HHC				LR	LR		
	comp=Z,190nm,15.5s,MS4.5						
QSPA	**South Pole Qui**	**76.46**	**180**	*e*P	**P**	**01 14 08.3**	**+1.1**
	comp=Z,9.6nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**80.81**	**324**	*e*P	**P**	**01 14 32.2**	**+0.8**
	comp=Z,27nm,1.5s,mb5.0						
SONM	**Songino Array**	**81.17**	**324**	P	**P**	**01 14 33.4**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.2,baz=156,slow=7.8,SNR=16						
GTA	**Gaotai**	**81.39**	**314**	*e*P	**P**	**01 14 35.9**	**+1.3**
GTA				AP	pP	01 14 42.9	+2.1
MAW	**Mawson**	**82.72**	**202**	LR	LR	01 45 47.5	
	comp=Z,53nm,21.4s,MS3.9,baz=245,slow=32						
COLA	**College**	**85.41**	**18**	*e*P	**P**	**01 14 53.3**	**-1.3**
	comp=Z,4.6nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**85.62**	**18**	P	**P**	**01 14 53.6**	**-2.0**
	comp=Z,2.3nm,0.8s,mb4.5,baz=235,slow=4.4,SNR=16						
ILAR				LR	LR	01 52 42.9	
	comp=Z,63nm,18.3s,MS4.0,baz=358,slow=35						
NVAR	**Mina Array Bea**	**87.01**	**49**	LR	LR	01 49 10.5	
	comp=Z,70nm,18.4s,MS4.1,baz=325,slow=32						
JIRN	**Jiri**	**87.92**	**299**	*e*P	**P**	**01 15 08.9**	**+1.2**
	comp=Z,11nm,0.8s,mb5.1						
GUN	**Gumba**	**88.26**	**299**	*e*P	**P**	**01 15 10.2**	**+0.9**
	comp=Z,16nm,0.9s,mb5.3						
PKI	**Pulchoki**	**88.56**	**299**	*e*P	**P**	**01 15 11.4**	**+0.6**
	comp=Z,18nm,0.7s,mb5.5						
KKN	**Kakani**	**88.73**	**299**	*e*P	**P**	**01 15 12.3**	**+0.7**
DMN	**Daman**	**88.83**	**299**	*e*P	**P**	**01 15 13.0**	**+0.9**
	comp=Z,36nm,0.9s,mb5.7						
GKN	**Gorkha**	**89.34**	**299**	*e*P	**P**	**01 15 14.4**	**-0.1**
	comp=Z,21nm,0.9s,mb5.5						
KOLN	**Koldanda**	**90.16**	**298**	*e*P	**P**	**01 15 18.3**	**-0.1**
SNAA	**Sanae**	**94.67**	**183**		**P**	**01 15 38.0**	**-0.1**
VNA3	**Neumayer Olymp**	**95.37**	**181**		**P**	**01 15 40.5**	**-0.8**
VNA2	**Neumayer--Watz**	**95.62**	**182**		**P**	**01 15 42.9**	**+0.4**
MKAR	**Makanchi Array**	**95.91**	**317**	P	**P**	**01 15 44.4**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.5,baz=79,slow=6.2,SNR=7.4						
ZAL	**Zalesovo**	**96.07**	**324**	P	**P**	**01 15 43.7**	**-1.2**
	comp=Z,1.7nm,0.8s,mb4.5,baz=353,slow=4.5,SNR=13						
ZAL	**Zalesovo**	**96.07**	**324**	P	**P**	**01 15 43.7**	**-1.2**
TXAR	**Lajitas Array**	**96.30**	**61**	LR	LR	01 51 23.7	
	comp=Z,42nm,19.1s,MS3.9,baz=235,slow=31						
YKA	**Yellowknife Ar**	**96.81**	**27**	LR	LR	01 56 52.0	
	comp=Z,42nm,19.1s,MS3.9,baz=95,slow=34						
ARCES	**ARCESS Array B**	**118.96**	**345**	PKP	PKPdf	01 21 04.9	-3.7
	comp=Z,2.6nm,0.6s,baz=63,slow=1.1,SNR=17						
SCHQ	**Schefferville**	**121.69**	**33**	PKP	PKPdf	01 21 12.0	-2.2
	comp=Z,5.9nm,0.9s,baz=218,slow=18,SNR=4.1						
FINES	**FINESS Array B**	**124.40**	**338**	PKP	PKPdf	01 21 15.7	-3.6
	comp=Z,3.6nm,1.1s,baz=90,slow=1.9,SNR=8.9						
FINES	**FINESS Array B**	**124.40**	**338**	PKP	PKPdf	01 21 15.7	-3.6
NB2	**NORSAR Subarra**	**129.33**	**345**	PKPdf	PKPdf	01 21 25.5	-3.2
	comp=Z,3.4nm,1.2s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.33**	**345**	PKP	PKPdf	01 21 25.8	-3.0
	comp=Z,1.0nm,0.7s,baz=32,slow=2.0,SNR=4.0						
AKASG	**Malin Array Be**	**129.40**	**326**	PKP	PKPdf	01 21 25.6	-3.6
	comp=Z,0.4nm,0.3s,baz=54,slow=2.7,SNR=5.7						
HFS	**Hagfors**	**129.42**	**343**	PKP	PKPdf	01 21 25.9	-3.1
	comp=Z,4.1nm,1.0s,baz=117,slow=13,SNR=3.8						
BRTR	**Keskin Array B**	**131.25**	**311**	PKP	PKPdf	01 21 30.1	-2.9
	comp=Z,0.9nm,0.8s,baz=135,slow=1.7,SNR=6.1						
GERES	**GERESS Array B**	**138.31**	**333**	PKP	PKPdf	01 21 42.7	-3.2
	comp=Z,1.0nm,0.8s,SNR=7.9						
FLN	**La Foliniere**	**143.31**	**346**	*e*PKIKP	PKPdf	01 21 51.4	-3.2
	comp=Z,105nm,1.5s						
LDF	**La Druitiere**	**143.38**	**345**	*e*PKIKP	PKPdf	01 21 51.7	-3.0
	comp=Z,93nm,1.5s						
SSF	**Saint Saulge**	**143.72**	**340**	*e*PKIKP	PKPdf	01 21 52.4	-2.9
	comp=Z,28nm,1.4s						
GRR	**Gorron**	**143.75**	**346**	*e*PKIKP	PKPdf	01 21 52.7	-2.6
LPL	**La Plagne**	**143.86**	**336**	*e*PKIKP	PKPdf	01 21 52.6	-3.0
	comp=Z,8.9nm,1.0s						
LPG	**La Plagne**	**143.87**	**336**	*e*PKIKP	PKPdf	01 21 52.9	-2.8
	comp=Z,13nm,1.0s						
MBDF	**Montbardon**	**144.49**	**335**	*e*PKIKP	PKPdf	01 21 52.6	-4.2
	comp=Z,15nm,0.9s						
ORIF	**Oris-en-Rattie**	**144.69**	**336**	*e*PKIKP	PKPdf	01 21 53.3	-3.9
	comp=Z,30nm,1.0s						
TCF	**Toulx Ste Croi**	**144.82**	**341**	*e*PKIKP	PKPdf	01 21 53.7	-3.6
	comp=Z,14nm,0.9s						
SBF	**Sospel**	**144.91**	**333**	*e*PKIKP	PKPdf	01 21 54.1	-3.5
	comp=Z,56nm,0.9s						
VIVF	**Saint-Julien-l**	**145.21**	**337**	*e*PKIKP	PKPdf	01 21 54.8	-3.3
PGF	**Pioggiola**	**145.22**	**330**	*e*PKIKP	PKPdf	01 21 54.8	-3.4
MFF	**Saint Martin d**	**145.22**	**344**	*e*PKIKP	PKPdf	01 21 54.9	-3.1
	comp=Z,29nm,1.0s						
LASF	**Ste Croix**	**146.18**	**337**	*e*PKIKP	PKPdf	01 21 56.1	-3.6
LFF	**La Frestale**	**146.48**	**342**	*e*PKIKP	PKPdf	01 21 57.2	-3.0
MTLF	**Montolieu**	**147.42**	**339**	*e*PKIKP	PKPdf	01 21 58.6	-3.2
	comp=Z,18nm,1.1s						
EPF	**Esparros**	**148.33**	**341**	*e*PKIKP	PKPdf	01 22 00.0	-3.3
ETSF	**Etsaut**	**148.73**	**342**	*e*PKIKP	PKPdf	01 22 00.8	-3.1
SJPF	**Ste Jean**	**148.73**	**343**	*e*PKIKP	PKPdf	01 22 00.6	-3.3
ESDC	**Sonseca Array**	**152.69**	**344**	PKPbc	PKPdf	01 22 14.6	+4.5
	comp=Z,1.4nm,0.7s,baz=5.1,slow=2.5,SNR=10						
ESDC				PKPab	PKPab	01 22 25.1	-1.1
	comp=Z,0.6nm,0.5s,baz=14,slow=4.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**165.30**	**270**	PKP	PKPdf	01 22 22.0	-3.4
	comp=Z,1.0nm,0.8s,baz=81,slow=3.2,SNR=5.3						
LIC	**Lanto**	**168.99**	**229**	*e*PKP2	PKPab	01 23 34.9	-2.5
	comp=Z,8.9nm,0.9s						

*IDC **06** 01:18:18.2±2.6, 40.94N×126.40W, mb3.6/4, mb1 3.8/8, mb1mx3.6/25, mbtmp3.5/8, ML3.1/4, MS3.2/5, Ms1 3.2/5, ms1mx3.0/25, Error ellipse: s-maj=44.3km s-min=15.1km az=40.0*

*NEIC **06** 01:18:19.3, 40.75N×126.35W, h10km, mb3.1/1, MD3.4(NCEDC), After NCEDC.*

ISC 06 01:18:15.1±1.2, 40.63N±0.05×126.5W±0.1, h10km, n49, σ1θ13/49, mb3.4/4, MS3.2/2, 1D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**2.11**	**82**	*e*P	**Pn**	**01 18 51.0**	**+0.1**
KBO	**Bosley Butte**	**2.33**	**46**	*e*P	**Pn**	**01 18 52.9**	**-1.1**
KCPM	**Cahto Peak**	**2.42**	**112**	*e*P	**Pn**	**01 18 56.4**	**+1.1**
KIPM	**Iron Peak**	**2.44**	**109**	*e*Pn	**Pn**	**01 18 56.9**	**+1.2**
KTRM	**Thompson Ridge**	**2.67**	**60**	P	**Pn**	**01 18 58.9**	**-0.1**
KEBM	**Eldred Butte**	**2.76**	**35**	*e*Pn	**Pn**	**01 18 58.1**	**-2.2**
WDC	**Whiskeytown Da**	**3.00**	**90**	*e*Pn	**Pn**	**01 19 03.9**	**+0.2**
YBH	**Yreka Blue Hor**	**3.06**	**68**	*e*Pn	**Pn**	**01 19 05.0**	**+0.5**
HOPS	**Hopland**	**3.10**	**121**	*e*Pn	**Pn**	**01 19 05.9**	**+1.0**
HUMO	**Hull Mountain**	**3.31**	**52**	*e*Pn	**Pn**	**01 19 07.4**	**-0.5**
LHEM	**Herd Peak**	**3.38**	**71**	P	**Pn**	**01 19 10.5**	**+1.5**
DBO	**Dodson Butte**	**3.48**	**43**	P	**Pn**	**01 19 09.5**	**-0.8**
BUOR	**Burton Butte**	**3.59**	**61**	P	**Pn**	**01 19 14.0**	**+2.0**
BBOR	**Butler Butte**	**3.63**	**50**	⇓P	**Pn**	**01 19 12.6**	**0.0**
LAB	**Little Aspen B**	**3.71**	**62**	P	**Pn**	**01 19 15.4**	**+1.7**
VSP	**Spence Mountai**	**3.81**	**62**	P	**Pn**	**01 19 16.4**	**+1.2**
HSO	**Harness Mounta**	**3.84**	**40**	P	**Pn**	**01 19 14.6**	**-1.0**
HOG	**Hogback Mounta**	**3.94**	**64**	P	**Pn**	**01 19 18.0**	**+1.0**
OHCM	**Honcut**	**4.05**	**107**	Pn	**Pn**	**01 19 16.8**	**-1.8**
SAC	**San Andreas**	**4.39**	**133**	Pn	**Pn**	**01 19 22.2**	**-1.1**
HBO	**Huckleberry Mo**	**4.46**	**43**	P	**Pn**	**01 19 24.4**	**-0.1**
COR	**Corvallis**	**4.60**	**30**	Pn	**Pn**	**01 19 19.3**	**-7.1**
IRO	**Indian Ridge**	**4.61**	**42**	P	**Pn**	**01 19 26.1**	**-0.4**
MOD	**Modoc**	**4.83**	**73**	*e*Pn	**Pn**	**01 19 29.7**	**0.0**
FRIS	**Frissel Point**	**4.83**	**41**	P	**Pn**	**01 19 29.2**	**-0.5**
BKCOR	**Black Crater**	**5.10**	**42**	P	**Pn**	**01 19 32.7**	**-0.7**
CMB	**Columbia Colle**	**5.39**	**117**	Pn	**Pn**	**01 19 36.4**	**-1.1**
SAO	**San Andreas Ge**	**5.51**	**133**	*e*Pn	**Pn**	**01 19 38.5**	**-0.8**
LRV	**Little Rabbit**	**6.00**	**133**	Pn	**Pn**	**01 19 45.4**	**-0.7**
WVOR	**Wild Horse Val**	**6.16**	**70**	*e*Pn	**Pn**	**01 19 47.0**	**-1.4**
NVAR	**Mina Array Bea**	**6.70**	**106**	Pn	**Pn**	**01 19 58.5**	**+2.5**
	0.2nm,0.3s,baz=275,slow=15,SNR=4.4						
NVAR				Sn	**Sn**	**01 21 18.4**	**+5.4**
	0.2nm,0.3s,baz=302,slow=24,SNR=2.9						
NVAR	**Mina Array Bea**	**6.70**	**106**	Pn	**Pn**	**01 19 58.5**	**+2.5**
NVAR				Sn	**Sn**	**01 21 18.4**	**+5.4**
JBO	**Jordan Butte**	**6.86**	**43**	P	**Pn**	**01 19 57.7**	**-0.6**
BMO	**Blue Mountains**	**7.97**	**55**	*e*Pn	**Pn**	**01 20 12.9**	**-0.8**
ELK	**Elko**	**8.55**	**86**	Pn	**P**	**01 20 22.5**	**+0.7**
	0.1nm,0.3s,baz=6.3,slow=18,SNR=2.4						
ELK				LR	LR	01 23 58.9	
	comp=Z,66nm,20.7s,baz=137,slow=40						
NEW	**Newport**	**10.15**	**38**	LR	LR	01 24 11.4	
	comp=Z,155nm,20.2s,baz=110,slow=36						
HWUT	**Hardware Ranch**	**11.30**	**80**	Pn	**P**	**01 20 57.3**	**-2.4**
BBB	**Bella Bella**	**11.62**	**355**	LR	LR	01 24 30.0	
	comp=Z,105nm,18.4s,baz=353,slow=33						
QLMT	**Earthquake Lak**	**11.84**	**64**	Pn	**P**	**01 21 06.3**	**-0.7**
PDAR	**Pinedale Array**	**12.84**	**75**	Pn	**P**	**01 21 25.0**	**+4.7**
	0.0nm,0.3s,baz=270,slow=13,SNR=9.5						
LAO	**LASA Array**	**15.85**	**61**	Pn	**P**	**01 22 01.0**	**+1.2**
SDCO	**Great Sand Dun**	**16.52**	**93**	Pn	**P**	**01 22 08.7**	**+0.4**
ANMO	**Albuquerque**	**16.80**	**103**	Pn	**P**	**01 22 16.6**	**+4.6**
	baz=287,slow=19,SNR=1.7						
MNTX	**Cornudas Mount**	**19.19**	**111**	P	**P**	**01 22 39.4**	**-2.1**
	1.0nm,0.9s						
TXAR	**Lajitas Array**	**21.77**	**114**	P	**P**	**01 23 13.6**	**+4.8**
	1.8nm,1.0s,mb3.5,baz=297,slow=6.3,SNR=11						
WMOK	**Wichita Mounta**	**22.65**	**96**	P	**P**	**01 23 17.9**	**+0.4**
YKA	**Yellowknife Ar**	**23.03**	**14**	P	**P**	**01 23 22.5**	**+1.5**
	0.5nm,0.8s,mb3.0,baz=202,slow=9.6,SNR=3.6						
ULM	**Lac du Bonnet**	**23.39**	**55**	P	**P**	**01 23 26.0**	**+1.5**
	5.0nm,0.8s,mb4.0,baz=262,slow=8.8,SNR=7.3						
ULM				LR	LR	01 32 58.3	
	comp=Z,81nm,19.7s,MS3.2,baz=70,slow=38						
ILAR	**Eielson Array**	**26.91**	**341**	P	**P**	**01 23 58.5**	**+0.7**
	0.9nm,1.0s,mb3.2,baz=158,slow=6.8,SNR=5.6						
ILAR				LR	LR	01 32 12.4	
	comp=Z,80nm,19.8s,MS3.3,baz=180,slow=31						

IDC 06 01:21:10.1±1.3, 10.04S×123.22E, mb3.8/2, mb1 4.3/4, mb1mx4.0/12, mbtmp4.1/4, ML4.4/2, Error ellipse: s-maj=100.0km s-min=27.3km az=67.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.35**	**164**	Pn	P	01 23 13.3	-1.9
	2.2nm,0.3s,baz=354,slow=10,SNR=96						
FITZ				Sn	Sn	01 24 38.8	-13
	8.4nm,0.3s,baz=236,slow=22,SNR=14						
WRA	**Warramunga Arr**	**14.56**	**134**	Pn	P	01 24 36.4	-3.1
	2.2nm,0.3s,baz=310,slow=14,SNR=75						
WRA				Sn	S	01 27 05.4	-17
	0.5nm,0.3s,baz=308,slow=22,SNR=4.6						
SONM	**Songino Array**	**59.53**	**347**	P	P	01 31 15.6	-2.0
	0.5nm,0.5s,baz=164,slow=8.1,SNR=7.6						
MKAR	**Makanchi Array**	**67.33**	**331**	P	P	01 32 06.8	-2.3
	0.7nm,0.5s,baz=148,slow=6.7,SNR=12						
TORD	**Torodi Ar. Bea**	**122.74**	**279**	PKP	PKPdf	01 40 08.6	-2.0
	0.8nm,0.5s,baz=66,slow=1.4,SNR=15						

*NEIC **06** 01:23:24.1, 32.26S×71.85W, h39km, MD3.9(GUC), After GUC.*

GUC 06 01:23:24.1±0.6, 32.26S×71.85W, h39km±2km, MD3.9, ML2.7, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**38**	*i* P	P	01 23 34.4	0.0
CHNG				*i* S	S	01 23 41.7	0.0
CHNG				AMP		01 23 42.3	
	comp=E,375nm,0.2s						
ROCH	**El Roble**	**1.00**	**136**	⇓*i* P	P	01 23 42.5	+0.7
ROCH				*i* S	S	01 23 56.8	+1.8
JACH	**Jahuel**	**1.14**	**112**	⇑*i* P	P	01 23 44.7	+0.9
JACH				*i* S	S	01 24 00.1	+1.7
LCCH	**Las Cruces**	**1.24**	**169**	⇓*i* P	P	01 23 45.7	+0.5
CMCH	**Combarbala**	**1.30**	**34**	⇑*i* P	P	01 23 47.2	+1.2
CMCH				*i* S	S	01 24 04.3	+1.8
CMCH				AMP		01 24 05.6	
	comp=E,529nm,0.6s						
PEL	**Peldehue**	**1.32**	**132**	*e*P	P	01 23 47.5	+1.1
PEL				*i* S	S	01 24 05.0	+2.0
PEL				AMP		01 24 08.6	
	comp=N,392nm,0.3s						
TACH	**Talagante**	**1.59**	**152**	⇓*i* P	P	01 23 51.0	+0.7
TACH				*i* S	S	01 24 11.0	+1.2
FCH	**Farellones**	**1.69**	**130**	⇑*i* P	P	01 23 53.2	+1.5
FCH				*i* S	S	01 24 15.1	+2.7
FCH				AMP		01 24 19.2	
	comp=E,93nm,0.2s						

*ISK **06** 01:40:34.8, 38.55N×43.28E, h27km, ML3.9*

*NEIC **06** 01:40:34.6, 38.50N×43.25E, h28km, ML3.9(ISK), After ISK.*

ISC 06 01:40:35.3±0.5, 38.51N±0.04×43.28E±0.04, h28km, n31, σθ97/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.10**	**77**	*i* P	**Pb**	**01 40 38.9**	**-1.4**
TVAN				*i* S	**Sb**	**01 40 42.4**	**-1.3**
VANT	**Van**	**0.10**	**125**	*i* PG	**Pb**	**01 40 39.8**	**-0.5**
VANT	**Van**	**0.10**	**125**	Pg	**Pb**	**01 40 39.7**	**-0.6**
VANB	**Van**	**0.12**	**44**	PG	**Pb**	**01 40 39.9**	**-0.5**
VANB				SG	**Sb**	**01 40 44.2**	**+0.2**
VANB	**Van**	**0.12**	**44**	Pg	**Pb**	**01 40 40.0**	**-0.4**
VANB				Sg	**Sb**	**01 40 44.0**	**+0.1**
CLDR	**Caldiran**	**0.81**	**38**	PG	**Pb**	**01 40 49.2**	**-1.4**
CLDR				SG	**Sb**	**01 41 01.4**	**+0.2**
CLDR	**Caldiran**	**0.81**	**38**	Pg	**Pb**	**01 40 50.0**	**-0.6**
CLDR				Sg	**Sb**	**01 41 02.0**	**+0.8**
HKR	**Hakkari**	**0.99**	**158**	PG	**Pn**	**01 40 54.6**	**+1.1**
HKR	**Hakkari**	**0.99**	**158**	Pg	**Pn**	**01 40 54.4**	**+0.5**
HAKT	**HAKKARI**	**1.00**	**160**	*i* P	**Pn**	**01 40 54.3**	**+0.7**
HAKT				*i* S	**Sb**	**01 41 11.0**	**+4.2**
BEST	**Besiri**	**1.70**	**249**	*i* P	**Pn**	**01 41 04.4**	**+0.9**
BEST				*i* S	**Sn**	**01 41 26.5**	**+1.9**
BNGL	**BINGOL**	**1.72**	**286**	*i* P	**Pn**	**01 41 02.2**	**-1.7**
BNGL				*i* S	**Sn**	**01 41 24.4**	**-0.8**
DIGO	**Kars**	**1.91**	**2**	*i* P	**Pn**	**01 41 07.1**	**+0.5**
DIGO				*i* S	**Sn**	**01 41 34.0**	**+4.1**
ERZM	**Erzurum**	**2.04**	**314**	*i* P	**Pn**	**01 41 07.6**	**-0.9**
ERZM				*i* S	**Sn**	**01 41 34.1**	**+0.9**
EZM	**Erzurum**	**2.04**	**314**	*e*PN	**Pn**	**01 41 08.6**	**+0.1**
EZM	**Erzurum**	**2.04**	**314**	Pn	**Pn**	**01 41 08.5**	**0.0**
KARS	**Kars**	**2.11**	**356**	*e*PN	**Pn**	**01 41 09.7**	**+0.2**
KARS	**Kars**	**2.11**	**356**	Pn	**Pn**	**01 41 09.9**	**+0.4**
MSL	**Mosul**	**2.22**	**184**	*ex*	x	01 41 18.0	
MSL				*ex*	x	01 41 50.5	
MSL				*ix*	x	01 41 54.5	
DIY	**Diyarbakir**	**2.48**	**257**	*e*PN	**Pn**	**01 41 13.9**	**-0.9**
DIY	**Diyarbakir**	**2.48**	**257**	Pn	**Pn**	**01 41 14.1**	**-0.7**
PTK	**Pertek**	**3.07**	**278**	*e*PN	**Pn**	**01 41 22.4**	**-0.7**
PTK	**Pertek**	**3.07**	**278**	Pn	**Pn**	**01 41 22.5**	**-0.5**
DGRG	**David-gareji**	**3.35**	**28**	P	**Pn**	**01 41 28.9**	**+1.7**
DGRG				S	**Sn**	**01 42 21.1**	**+15**
MTA	**Mtatsminda**	**3.39**	**20**	P	**Pn**	**01 41 33.3**	**+5.6**
MTA				S	**Sn**	**01 42 21.9**	**+14**
TBLG	**Delisi**	**3.41**	**19**	P	**Pn**	**01 41 29.0**	**+1.1**
TBLG				S	**Sn**	**01 42 22.4**	**+14**
**G

14nm,0.3s,baz=158,slow=10,SNR=91
MJAR S **S** **02 01 04.9 -1.7**
30nm,0.3s,baz=155,slow=20,SNR=19
MJAR Matsushiro Arr 2.18 323 P **P** **02 00 38.5 +0.3**
MJAR S **S** **02 01 04.9 -1.6**
MJAR pmax pmax
comp=Z,14nm,0.3s
MJAR smax
comp=N,30nm,0.3s
MAJO Matsushiro 2.18 323 ⇓*i*P **P** **02 00 38.8 +0.6**
MAT Matsushiro 2.18 323 P **P** **02 00 38.7 +0.5**
MAT S **S** **02 01 05.8 -0.8**
MAT Matsushiro 2.18 323 *e*P **P** **02 00 39.0 +0.8**
MAT *e*S **S** **02 01 06.0 -0.6**
ASAJ Asahikawa 9.54 12 P **P** **02 02 14.8 -1.3**
comp=N,2.4nm,0.3s,baz=202,slow=7.7,SNR=7.3
ASAJ S **S** **02 03 53.5 -8.2**
comp=N,1.0nm,0.3s,baz=354,slow=15,SNR=4.0
ASAJ Asahikawa 9.54 12 P **P** **02 02 14.8 -1.3**
ASAJ S **S** **02 03 53.5 -8.2**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ smax
comp=N,1.0nm,0.3s
ULN Ulaanbaatar 27.63 308 *e*P **P** **02 05 38.0 +0.6**
ULN pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
ULN Ulaanbaatar 27.63 308 *e*P **P** **02 05 38.0 +0.6**
comp=Z,7.4nm,0.8s,mb4.5
SONM Songino Array 28.05 308 P **P** **02 05 41.1 -0.1**
comp=Z,5.1nm,0.8s,mb4.3,baz=105,slow=8.0,SNR=28
SONM Songino Array 28.05 308 P **P** **02 05 41.1 -0.1**
SONM pmax pmax
comp=Z,5.0nm,0.8s
ZAK Zakamensk 30.71 312 *e*P **P** **02 06 02.9 -1.9**
ZAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
GTA Gaotai 32.05 290 *e*P **P** **02 06 16.3 -0.3**
ZAL Zalesovo 42.52 314 P **P** **02 07 44.9 +1.0**
comp=Z,1.8nm,0.5s,mb4.0,baz=22,slow=7.6,SNR=11
ZAL Zalesovo 42.52 314 P **P** **02 07 44.9 +1.0**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.25 304 P **P** **02 07 58.7 +0.8**
comp=Z,3.1nm,0.5s,mb4.2,baz=88,slow=9.8,SNR=27
MKAR Makanchi Array 44.25 304 P **P** **02 07 58.7 +0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 44.25 304 P **P** **02 07 58.7 +0.8**
VOSK Vostochnaya 50.83 313 P **P** **02 08 48.0 -1.1**
VOSK pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
CHKZ Chkalovo 50.92 314 *e*P **P** **02 08 49.4 -0.3**
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
CHKZ Chkalovo 50.92 314 *e*P **P** **02 08 49.4 -0.3**
comp=Z,3.8nm,0.6s,mb4.2
BVA0 Borovoye Array 51.14 313 *i*P **P** **02 08 51.8 +0.4**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.4
KKAR Karatay Array 53.15 301 *i*P **P** **02 09 06.7 +0.2**
FITZ Fitzroy Crossi 54.31 197 *e*P **P** **02 09 14.6 -0.7**
comp=Z,2.1nm,0.4s,mb4.2
FITZ Fitzroy Crossi 54.31 197 P **P** **02 09 14.4 -0.9**
comp=Z,1.2nm,0.5s,mb3.9,baz=352,slow=5.5,SNR=11
WB2 Warramunga Arr 54.69 186 *e*P **P** **02 09 17.1 -1.0**
WRA Warramunga Ar 54.69 186 P **P** **02 09 17.3 -0.8**
comp=Z,9.3nm,0.5s,mb4.8,baz=1.3,slow=7.7,SNR=161
WRA PcP PcP 02 10 19.4 +0.5
comp=Z,1.0nm,1.0s,baz=360,slow=4.4,SNR=4.8
AB31 Akbulak array 58.40 311 *i*P **P** **02 09 44.1 +0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
AKTO Aktyubinsk 59.22 313 P **P** **02 09 48.5 -1.1**
comp=Z,2.3nm,0.8s,mb4.1,baz=87,slow=11,SNR=12
AKTO Aktyubinsk 59.22 313 P **P** **02 09 48.6 -1.1**
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
ARCES ARCESS Array B 65.63 339 P **P** **02 10 31.4 -0.4**
comp=Z,4.4nm,1.1s,mb4.2,baz=56,slow=7.0,SNR=7.2
ARCES ARCESS Array B 65.63 339 P **P** **02 10 31.4 -0.4**
ARCES pmax pmax
comp=Z,4.0nm,1.1s
STKA Stephens Creek 66.35 178 P **P** **02 10 36.9 -0.1**
comp=Z,3.5nm,0.8s,mb4.3,baz=349,slow=6.7,SNR=6.8
STKA Stephens Creek 66.35 178 *e*P **P** **02 10 36.0 -1.0**
FINES FINESS Array B 70.18 332 P **P** **02 11 00.5 +0.4**
comp=Z,0.5nm,0.4s,mb3.6,baz=65,slow=6.6,SNR=13
FINES FINESS Array B 70.18 332 P **P** **02 11 00.5 +0.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 75.27 322 P **P** **02 11 30.4 +0.4**
comp=Z,0.4nm,0.3s,mb3.5,baz=51,slow=6.0,SNR=5.4
NVAR Mina Array Bea 77.37 52 P **P** **02 11 45.3 +3.4**
comp=Z,0.4nm,0.7s,mb3.2,baz=265,slow=7.5,SNR=5.7
TXAR Lajitas Array 92.51 51 P **P** **02 13 00.1 +2.5**
comp=Z,0.3nm,0.5s,mb3.6,baz=283,slow=2.8,SNR=4.8
LPAZ La Paz 148.92 61 PKPbc PKPdf 02 19 36.6 +8.0
comp=Z,0.7nm,0.5s,baz=17,slow=13,SNR=6.0
LPAZ La Paz 148.92 61 PKP2 PKPdf 02 19 36.6 +8.0
LPAZ pmax pmax
comp=Z,1.0nm,0.5s

*IDC **06** 02:01:32.0±0.6, 1.74S×69.12E, mb4.2/16, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, MS3.7/9, Ms1 3.7/9, ms1mx3.7/12, Error ellipse: s-maj=19.0km s-min=16.7km az=178.0*
*NEIC **06** 02:01:33.9±0.3, 1.79S×69.06E, h10km, mb4.8/6, Error ellipse: s-maj=12.2km s-min=8.1km az=127.0*
ISC 06 02:01:31.8±0.5, 1.74S±0.08×69.10E±0.09, h10km, n46, σ1§07/36, mb4.5/24, MS3.7/9, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HYB	**Hyderabad**	**21.20**	**26**	*i*P	**P**	**02 06 22.0**	**+2.0**
HYB	**Hyderabad**	**21.20**	**26**	*e*P	**P**	**02 06 22.0**	**+2.0**
ATD	**Arta Tunnel**	**29.24**	**297**	LR	LR	02 17 04.2	
	comp=Z,80nm,19.4s,MS3.4,baz=125,slow=32						
KMBO	**Kilima Mbogo**	**31.84**	**271**	P	**P**	**02 08 00.3**	**+0.9**
	3.8nm,0.8s,mb4.3,baz=62,slow=12,SNR=13						
KMBO				LR	LR	02 17 45.7	
	comp=Z,129nm,21.0s,MS3.6,baz=89,slow=31						
KOLN	**Koldanda**	**32.49**	**24**	*e*P	**P**	**02 08 11.2**	**+6.3**
DMN	**Daman**	**33.00**	**27**	*e*P	**P**	**02 08 10.7**	**+1.4**
	33nm,1.0s,mb5.2						
PKI	**Pulchoki**	**33.10**	**27**	*e*P	**P**	**02 08 11.7**	**+1.4**
GKN	**Gorkha**	**33.13**	**26**	*e*P	**P**	**02 08 11.7**	**+1.2**
	43nm,0.9s,mb5.4						
KKN	**Kakani**	**33.23**	**27**	*e*P	**P**	**02 08 12.1**	**+0.7**
	38nm,0.9s,mb5.3						
JIRN	**Jiri**	**33.54**	**28**	*e*P	**P**	**02 08 11.7**	**-2.4**
	12nm,0.6s,mb5.0						
GUN	**Gumba**	**33.61**	**27**	*e*P	**P**	**02 08 13.2**	**-1.5**
	40nm,1.0s,mb5.3						
LSZ	**Lusaka**	**42.53**	**249**	P	**P**	**02 09 29.9**	**+0.3**
	10nm,0.5s,mb4.8,baz=72,slow=7.4,SNR=48						
MATP	**Matopo**	**43.76**	**242**	P	**P**	**02 09 39.4**	**-0.2**
	9.3nm,0.8s,mb4.6,baz=67,slow=9.4,SNR=9.9						
GNI	**Garni**	**47.27**	**335**	P	**P**	**02 10 07.9**	**+0.6**
	5.2nm,0.8s,mb4.5,baz=231,slow=11,SNR=5.2						
GNI	**Garni**	**47.27**	**335**	P	**P**	**02 10 07.9**	**+0.6**
LBTB	**Lobatse**	**47.89**	**237**	*e*P	**P**	**02 10 11.8**	**-0.6**
	5.1nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**49.71**	**12**	P	**P**	**02 10 25.4**	**-0.6**
	1.1nm,0.7s,mb4.0,baz=190,slow=7.4,SNR=5.2						
MKAR				LR	LR	02 33 04.1	
	comp=Z,35nm,20.4s,MS3.4,baz=216,slow=38						
BRTR	**Keskin Array B**	**52.51**	**326**	P	**P**	**02 10 46.9**	**-0.6**
	1.4nm,0.9s,mb3.9,baz=135,slow=8.7,SNR=6.1						
AKTO	**Aktyubinsk**	**52.84**	**351**	P	**P**	**02 10 49.1**	**-0.6**
	4.4nm,0.8s,mb4.5,baz=180,slow=7.8,SNR=21						
TSUM	**Tsumeb**	**53.29**	**247**	*e*P	**P**	**02 10 53.8**	**+0.2**
	5.7nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**57.00**	**11**	P	**P**	**02 11 18.0**	**-2.0**
	1.8nm,0.7s,mb4.2,baz=214,slow=3.6,SNR=9.6						
ZAL				LR	LR	02 36 11.1	
	comp=Z,76nm,20.8s,MS3.8,baz=356,slow=36						
ZAL	**Zalesovo**	**57.00**	**11**	P	**P**	**02 11 18.0**	**-2.0**
ZAL				LR	LR	02 36 11.1	
FITZ	**Fitzroy Crossi**	**57.76**	**110**	P	**P**	**02 11 26.3**	**+0.5**
	4.5nm,1.0s,mb4.5,baz=82,slow=6.6,SNR=3.7						
SONM	**Songino Array**	**59.11**	**28**	P	**P**	**02 11 35.1**	**+0.2**
	2.7nm,0.8s,mb4.3,baz=214,slow=7.8,SNR=19						
SONM				LR	LR	02 36 39.5	
	comp=Z,78nm,18.9s,MS3.9,baz=237,slow=36						

AKASG	**Malin Array Be**	**62.32**	**333**	P	**P**	**02 11 54.9**	**-1.8**
	1.1nm,0.5s,mb4.2,baz=133,slow=5.8,SNR=8.6						
MAW	**Mawson**	**65.88**	**183**	LR	LR	02 33 53.2	
	comp=Z,123nm,20.3s,MS4.1,baz=67,slow=30						
WRA	**Warramunga Ar**	**66.17**	**111**	P	**P**	**02 12 21.1**	**-1.2**
	1.4nm,0.5s,mb4.2,baz=288,slow=5.9,SNR=11						
TORD	**Torodi Ar. Bea**	**68.45**	**285**	P	**P**	**02 12 36.4**	**-0.4**
	1.3nm,0.9s,mb4.0,baz=82,slow=4.2,SNR=7.7						
FINES	**FINESS Array B**	**71.06**	**340**	LR	LR	02 46 54.2	
	comp=Z,39nm,19.0s,MS3.7,baz=151,slow=38						
STKA	**Stephens Creek**	**74.24**	**123**	P	**P**	**02 13 10.2**	**-1.0**
	1.7nm,0.6s,mb4.1,baz=302,slow=7.1,SNR=3.3						
STKA				LR	LR	02 44 02.2	
	comp=Z,90nm,20.7s,MS4.0,baz=208,slow=34						
NOA	**NORSAR Array B**	**76.57**	**335**	LR	LR	02 47 36.2	
	comp=Z,35nm,20.1s,MS3.7,baz=60,slow=36						
ARCES	**ARCESS Array B**	**76.92**	**346**	P	**P**	**02 13 26.1**	**+0.4**
	1.8nm,0.8s,mb4.1,baz=104,slow=5.0,SNR=4.0						
ESDC	**Sonseca Array**	**78.14**	**311**	P	**P**	**02 13 33.5**	**+0.4**
	1.0nm,0.7s,mb3.8,baz=90,slow=4.2,SNR=6.6						
SNAA	**Sanae**	**82.72**	**198**	*e*P	**P**	**02 13 57.7**	**+0.9**
	1.0nm,0.6s,mb4.0						
VNA2	**Neumayer--Watz**	**83.96**	**199**		**P**	**02 14 04.3**	**+1.2**
VNA2	**Neumayer--Watz**	**83.96**	**199**	*e*	**P**	**02 14 07.6**	**+4.5**
VNA2	**Neumayer--Watz**	**83.96**	**199**	*e*	**P**	**02 14 12.4**	**+9.3**
VNA3	**Neumayer Olymp**	**84.75**	**199**		**P**	**02 14 07.7**	**+0.7**
VNA3	**Neumayer Olymp**	**84.75**	**199**	*e*	**P**	**02 14 10.6**	**+3.6**
VNA3	**Neumayer Olymp**	**84.75**	**199**	*e*	**P**	**02 14 15.2**	**+8.2**
YKA	**Yellowknife Ar**	**119.33**	**2**	PKP	PKPdf	02 20 24.0	-0.3
	0.3nm,0.8s,baz=348,slow=1.9,SNR=3.4						
PDAR	**Pinedale Array**	**139.14**	**358**	PKP	PKPdf	02 21 03.0	+0.5
	0.3nm,0.6s,baz=27,slow=4.0,SNR=2.7						
WMOK	**Wichita Mounta**	**145.28**	**342**	*e*PKPdf	PKPdf	02 21 13.4	0.0
ANMO	**Albuquerque**	**146.70**	**353**	PKPbc	PKPbc	02 21 17.3	+3.1
	0.6nm,0.4s,baz=6.9,slow=5.3,SNR=4.9						
MNTX	**Cornudas Mount**	**149.75**	**351**	*e*PKPbc	PKPdf	02 21 26.6	+5.8
TXAR	**Lajitas Array**	**151.71**	**347**	PKPbc	PKPdf	02 21 29.4	+5.5
	1.1nm,0.8s,baz=45,slow=1.8,SNR=14						

CASC 06 02:22:01.2±1.7, 10.52N×86.06W, h7km±7km, MD3.7, 3C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**0.57**	**133**	⇑*e*P	Pg	02 22 12.5	-0.2
VCR				*e*S	Sg	02 22 22.1	+1.7
SSNN	**San Juan del S**	**0.79**	**15**	*e*P	Pb	02 22 16.4	-0.4
SSNN				*e*S	Sb	02 22 29.4	+2.0
LIM1	**Limonal**	**0.81**	**77**	⇓*e*P	Pb	02 22 16.2	-1.0
LIM1				*e*S	Sb	02 22 28.6	+0.6
MADN	**Villa Maderas**	**1.02**	**30**	*e*P	Pb	02 22 20.8	+0.1
MADN				*e*S	Sb	02 22 35.4	+1.2
CONN	**Concepcion**	**1.12**	**22**	⇑*i*P	Pb	02 22 22.1	-0.4
CONN				*e*S	Sb	02 22 37.7	+0.7
FORC	**Fortuna**	**1.36**	**92**	*e*P	Pb	02 22 25.7	-0.9
TICN	**Ticuantepe**	**1.51**	**353**	⇑*e*P	Pn	02 22 27.9	-0.9
MGAN	**Managua**	**1.63**	**353**	*e*P	Pn	02 22 30.5	0.0
MGAN				*e*S	Sb	02 22 52.1	+0.3
COPN	**Copaltepe**	**1.73**	**342**	*e*P	Pn	02 22 31.1	-0.8
COPN				*e*S	Sn	02 22 52.9	-1.6
PRS1	**Puriscal**	**1.80**	**107**	*e*P	Pn	02 22 31.4	-1.5
LAJ	**Bijagual**	**2.01**	**109**	*e*P	Pn	02 22 30.3	-5.7
LCR2	**La Lucha 2**	**2.16**	**111**	⇓*e*P	Pn	02 22 38.3	+0.1
BUS	**Buena Vista**	**2.46**	**113**	*e*P	Pn	02 22 42.4	+0.1

*IDC **06** 02:34:36.5±1.2, 34.54N×73.18E, mb3.7/5, mb1 4.0/8, mb1mx3.6/22, mbtmp3.8/8, ML3.9/3, Error ellipse: s-maj=32.6km s-min=26.1km az=77.0*
*NEIC **06** 02:34:38.3±1.2, 34.56N×73.21E, h10km, mb3.4/1, Error ellipse: s-maj=30.0km s-min=18.6km az=80.0*
*NNC **06** 02:34:48.9±3.0, 35.04N×72.61E, h61km±19km, mpv4.0, Error ellipse: s-maj=27.3km s-min=24.5km az=167.0*
ISC 06 02:34:34.9±1.4, 34.59N±0.07×73.1E±0.1, h0km±9km, n31, σ1§27/39, mb3.8/5, 4C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**3.12**	**130**	*e*P	**Pb**	**02 35 31.0**	**0.0**
DLH				*e*S	**Sg**	**02 36 15.0**	**-3.7**
PONG	**Pong**	**3.52**	**137**	*ex*	**Sg**	**02 36 32.0**	**-0.3**
BHK	**Bhakra**	**4.19**	**138**	*ex*	**Pn**	**02 35 40.4**	**-1.1**
SDNR	**Sundarnagar**	**4.45**	**133**	*e*P	**Pn**	**02 35 48.4**	**+3.2**
SDNR				*ex*	**Pg**	**02 36 04.6**	**+0.9**
SMLA	**Simla**	**4.83**	**134**	*e*P	**Pn**	**02 35 53.1**	**+2.5**
SMLA				*ex*	**Sb**	**02 37 07.8**	**+8.2**
KLP	**Kalpa**	**5.26**	**124**	*e*P	**Pn**	**02 36 03.3**	**+3.7**
KLP				*e*S	**Sn**	**02 36 58.9**	**0.0**
KLP				AML	AML	02 37 24.8	
	comp=N,119nm,0.4s						
KLP				AML	AML	02 37 33.2	
	comp=E,213nm,0.5s						
DDI	**Dehra Dun**	**5.94**	**134**	*ex*	**Sn**	**02 37 18.5**	**+2.4**
TKM2	**Tokmak 2**	**8.54**	**12**	⇑Pn	**P**	**02 36 45.2**	**+2.4**
	comp=E,4.1nm,1.3s						
TKM2				⇑Sn	**Sn**	**02 38 16.5**	**-4.5**
	comp=E,7.5nm,0.5s						
KK31	**Karatay Array**	**8.75**	**347**	⇓Pn	**P**	**02 36 46.8**	**+1.2**
	comp=E,5.6nm,0.3s,baz=157,slow=12,SNR=120						
KK31				⇓Sn	**Sn**	**02 38 20.7**	**-5.4**
	comp=E,2.4nm,0.5s,baz=174,slow=23,SNR=6.0						
KOLN	**Koldanda**	**11.24**	**124**	*e*Pn	**P**	**02 37 19.9**	**0.0**
GKN	**Gorkha**	**11.81**	**121**	*e*Pn	**P**	**02 37 28.0**	**+0.3**
	comp=E,14nm,0.5s						
DMN	**Daman**	**12.38**	**121**	*e*Pn	**P**	**02 37 34.0**	**-1.4**
	comp=E,5.5nm,0.3s						
KKN	**Kakani**	**12.40**	**120**	*e*Pn	**P**	**02 37 34.7**	**-0.9**
PKI	**Pulchoki**	**12.62**	**120**	*e*Pn	**P**	**02 37 37.8**	**-0.8**
	comp=E,15nm,0.6s						
GUN	**Gumba**	**12.76**	**118**	*e*Pn	**P**	**02 37 38.9**	**-1.6**
JIRN	**Jiri**	**13.13**	**118**	*e*Pn	**P**	**02 37 43.8**	**-1.6**
	comp=E,11nm,0.3s						
MK31	**Makanchi Array**	**14.02**	**27**	P	**P**	**02 37 59.7**	**+2.7**
	comp=E,0.2nm,0.4s,baz=206,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**14.02**	**27**	Pn	**P**	**02 37 57.6**	**+0.6**
	comp=E,0.1nm,0.3s,baz=206,slow=14,SNR=5.4						
AB31	**Akbulak array**	**17.60**	**330**	⇑P	**P**	**02 38 41.7**	**-1.3**
	comp=E,0.8nm,0.5s,baz=147,slow=12,SNR=33						
AB31				⇓S	**S**	**02 41 49.2**	**-8.9**
	comp=E,0.6nm,0.6s						
VOSK	**Vostochnaya**	**18.20**	**356**	⇓P	**P**	**02 38 49.3**	**-1.2**
	comp=E,8.2nm,2.9s						
BVA0	**Borovoye Array**	**18.54**	**355**	P	**P**	**02 38 55.4**	**+0.7**
	comp=E,0.4nm,0.5s,baz=161,slow=9.8,SNR=19						
BVA0				S	**S**	**02 42 07.4**	**-12**
	comp=E,0.1nm,0.6s,baz=129,slow=38,SNR=4.7						
BVAR	**Borovoye Array**	**18.54**	**355**	P	**P**	**02 38 55.6**	**+0.9**
	comp=E,0.9nm,0.3s,baz=160,slow=9.5,SNR=26						
CHKZ	**Chkalovo**	**19.17**	**355**	⇑P	**P**	**02 39 01.3**	**-1.0**
	comp=E,5.3nm,1.9s						
CHKZ	**Chkalovo**	**19.17**	**355**	*e*P	**P**	**02 39 02.1**	**-0.2**
	comp=E,1.9nm,0.8s						
AKTO	**Aktyubinsk**	**19.31**	**330**	P	**P**	**02 39 04.1**	**+0.1**
	comp=E,1.0nm,0.3s,baz=131,slow=11,SNR=27						
ZAL	**Zalesovo**	**21.02**	**19**	P	**P**	**02 39 20.9**	**-1.4**
	comp=E,4.9nm,0.4s,mb4.2,baz=259,slow=6.8,SNR=12						
ARCES	**ARCESS Array B**	**43.57**	**338**	P	**P**	**02 42 42.8**	**+0.9**
	comp=E,1.4nm,0.7s,mb3.8,baz=111,slow=8.5,SNR=9.0						
TORD	**Torodi Ar. Bea**	**67.45**	**271**	P	**P**	**02 45 34.2**	**-0.7**
	comp=E,0.2nm,0.4s,mb3.7,baz=47,slow=6.1,SNR=5.5						
WRA	**Warramunga Arr**	**79.49**	**123**	P	**P**	**02 46 45.4**	**+0.2**
	comp=E,0.2nm,0.4s,mb3.5,baz=323,slow=5.2,SNR=7.1						
YKA	**Yellowknife Ar**	**83.06**	**4**	P	**P**	**02 47 03.2**	**+0.2**
	comp=E,0.2nm,0.6s,mb3.5,baz=346,slow=5.2,SNR=5.3						
YKA	**Yellowknife Ar**	**83.06**	**4**	P	**P**	**02 47 03.2**	**+0.1**

*NEIC **06** 02:56:19.9, 31.43S×69.57W, h141km, MD3.7(GUC), After GUC.*
GUC 06 02:56:19.9±0.8, 31.43S×69.57W, h141km±11km, MD3.7, ML3.7, 1C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.77**	**99**	⇑*i*P	P	02 56 43.3	+1.0
ZON				*e*S	S	02 56 55.1	-4.4
CMCH	**Combarbala**	**1.25**	**282**	⇓*i*P	P	02 56 46.6	+0.1
CMCH				*i*S	S	02 57 07.2	+0.2
CMCH				AMP		02 57 09.2	
	comp=N,3μm,0.3s						
ILCH	**Illapel**	**1.38**	**261**	*e*P	P	02 56 48.1	+0.2
ILCH				*i*S	S	02 57 09.3	-0.1
ILCH				AMP		02 57 12.1	
	comp=N,972nm,0.2s						

JACH	**Jahuel**	**1.52**	**215**	*i*P	P	02 56 49.6	+0.2
JACH				*i*S	S	02 57 11.8	-0.2
TLL	**Tololo Astrono**	**1.65**	**320**	*e*P	P	02 56 51.4	+0.6
TLL				*i*S	S	02 57 15.0	+0.5
TLL				AMP		02 57 17.9	
	comp=N,602nm,0.2s						
CHNG	**Los Chungos**	**1.71**	**254**	⇓*i*P	P	02 56 51.3	-0.1
CHNG				*i*S	S	02 57 15.0	-0.6
PEL	**Peldehue**	**1.95**	**209**	⇓*i*P	P	02 56 54.1	-0.2
PEL				*i*S	S	02 57 20.2	-0.3
PEL				AMP		02 57 22.7	
	comp=E,261nm,0.4s						
FCH	**Farellones**	**1.99**	**198**	*e*P	P	02 56 55.4	+0.8
FCH				*i*S	S	02 57 22.8	+1.5
FCH				AMP		02 57 23.6	
	comp=E,180nm,0.3s						
LSCH	**La Serena**	**2.10**	**316**	*e*P	P	02 56 56.0	0.0
LSCH				*i*S	S	02 57 23.0	-0.7
LSCH				AMP		02 57 23.6	
	comp=N,1μm,0.3s						
RCDM	**Rinconada Maip**	**2.30**	**207**	*e*P	P	02 56 58.0	-0.6
RCDM				*i*S	S	02 57 27.3	-0.9
RCDM				AMP		02 57 28.8	
	comp=E,296nm,0.3s						
CHCH	**Chadas Angostu**	**2.66**	**200**	*e*P	P	02 57 02.5	-0.7
CHCH				*i*S	S	02 57 35.1	-1.2

*STR **06** 02:56:49.3±0.2, 43.07N×0.82W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **06** 02:56:49.7±0.1, 43.06N×0.81W, h2km, Md2.6/2, Ml2.6/11, Error ellipse: s-maj=1.1km s-min=0.8km az=5.0*
*NEIC **06** 02:56:49.3, 43.07N×0.82W, h5km, ML2.6(LDG), ML2.2(STR), MN2.1(MDD), After STR.*
*CSEM **06** 02:56:50.1±0.0, 43.08N×0.81W, h2km, ML2.6/14, Error ellipse: s-maj=1.0km s-min=0.8km az=164.0*
MDD 06 02:56:50.2±0.2, 43.09N×0.79W, h5km±3km, mbLg1.9/20, Error ellipse: s-maj=1.9km s-min=1.0km az=8.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.07**	**91**	Pg	Pg	02 56 51.7	-0.1
ATE				Sg	Sg	02 56 53.1	+0.2
ATE	**Arette**	**0.07**	**91**	Pg	Pg	02 56 51.7	-0.1
ATE				Lg		02 56 53.2	
LARF	**Larrau**	**0.15**	**251**	Pg	Pg	02 56 52.6	-0.8
LARF				Sg	Sg	02 56 54.2	-1.3
LARF	**Larrau**	**0.15**	**251**	Pg	Pg	02 56 52.6	-0.8
LARF				Lg		02 56 55.0	
ORDF	**Ordiarp**	**0.17**	**320**	Pg	Pg	02 56 53.2	-0.5
ORDF				Sg	Sg	02 56 55.2	-0.7
ORDF	**Ordiarp**	**0.17**	**320**	Pg	Pg	02 56 53.4	-0.3
ORDF				Lg		02 56 56.4	
ETSF	**Etsaut**	**0.25**	**138**	*e*Pg	Pg	02 56 54.6	-0.8
ETSF				*e*Sg	Sg	02 56 57.4	-1.4
	210nm,0.3s						
REYF	**Montagne du Re**	**0.29**	**93**	Pg	Pg	02 56 55.5	-0.6
REYF				Lg		02 57 00.1	
FDAF	**Les Forges d'A**	**0.31**	**149**	Pg	Pg	02 56 55.6	-0.9
FDAF				Lg		02 56 60.0	
SJPF	**Ste Jean**	**0.32**	**275**	*e*Pg	Pg	02 56 58.5	-0.9
SJPF				*e*Sg	Sg	02 57 00.4	-0.6
	209nm,0.3s						
OSSF	**Osses**	**0.38**	**296**	Pg	Pg	02 56 57.1	-0.9
OSSF				Sg	Sg	02 57 02.3	-0.8
OSSF	**Osses**	**0.38**	**296**	Pg	Pg	02 56 57.1	-0.9
OSSF				Lg		02 57 02.4	
IPRE	**Itoiz**	**0.50**	**236**	Pg	Pg	02 56 59.8	-0.6
	7.4nm,0.3s,SNR=8.4						
IPRE				Lg		02 57 07.0	
	36nm,0.3s,SNR=22						
IPRE	**Itoiz**	**0.50**	**236**	Pg	Pg	02 56 59.8	-0.5
	7.4nm,0.3s,SNR=8.4						
EALK	**Alkurruntz**	**0.54**	**284**	Pg	Pg	02 57 00.2	-0.8
	19nm,0.3s,SNR=29						
EALK				Lg		02 57 07.0	
	54nm,0.3s,SNR=20						
IUSE	**Utxeti**	**0.57**	**256**	Pg	Pg	02 57 00.7	-1.0
	3.8nm,0.2s,SNR=7.9						
IUSE				Lg		02 57 08.4	
	32nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.57**	**256**	Pg	Pg	02 57 00.7	-1.0
	3.8nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.62**	**238**	Pg	Pg	02 57 02.2	-0.4
	1.9nm,0.1s,SNR=7.9						
IUNC				Lg		02 57 10.9	
	18nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.62**	**238**	Pg	Pg	02 57 02.2	-0.4
	1.9nm,0.1s,SNR=7.9						
LABF	**Labassere**	**0.63**	**93**	Pg	Pg	02 57 02.8	-0.1
LABF				Sg	Sg	02 57 11.7	+0.3
LABF	**Labassere**	**0.63**	**93**	Pg	Pg	02 57 02.1	-0.8
LABF				Lg		02 57 12.0	
EARA	**Aranguren**	**0.66**	**242**	Pg	Pg	02 57 02.9	-0.6
	23nm,0.9s,SNR=12						
EARA				Lg		02 57 11.5	
	47nm,0.5s,SNR=9.3						
EBIE	**Bielsa**	**0.79**	**120**	Pg	Pg	02 57

EPOB				Lg			02 58 01.0		
	2.7nm,0.2s,SNR=7.9								
EPOB	**Poblet**	**2.22**	**141**	Pn	Pn		02 57 27.0	-1.2	
	5.1nm,0.8s,SNR=4.0								
EPOB	**Poblet**	**2.22**	**141**	Pg	Pg		02 57 31.0	-3.6	
	0.5nm,0.1s,SNR=7.9								
EPOB				Sn	Sn		02 57 53.2	-3.2	
	1.0nm,0.2s,SNR=7.9								
ERTA	**Horta de San J**	**2.29**	**158**	Pn	Pn		02 57 28.0	-1.2	
	7.7nm,0.7s,SNR=8.3								
ERTA				Pg	Pg		02 57 33.5	-2.4	
	4.7nm,0.6s,SNR=8.1								
ERTA				Sn	Sn		02 57 55.7	-2.4	
	7.9nm,0.4s,SNR=7.2								
ERTA				Lg			02 58 02.3		
	9.7nm,0.4s,SNR=6.2								
ERTA	**Horta de San J**	**2.29**	**158**	Pn	Pn		02 57 28.0	-1.2	
	7.7nm,0.7s,SNR=8.3								
ERTA	**Horta de San J**	**2.29**	**158**	Pg	Pg		02 57 33.5	-2.4	
	4.7nm,0.6s,SNR=8.1								
ERTA				Sn	Sn		02 57 55.7	-2.4	
	7.9nm,0.4s,SNR=7.2								
EBR	**Ebro Roquetas**	**2.46**	**157**	*e*SN	Sn		02 58 02.0	-0.5	
EMOS	**Mosqueruela**	**2.73**	**175**	Pn	Pn		02 57 34.0	-1.5	
	11nm,1.0s,SNR=4.0								
EMOS				Pg	Pg		02 57 38.0	-6.8	
	0.4nm,0.1s,SNR=7.9								
EMOS				Sn	Sn		02 58 06.5	-2.9	
	1.1nm,0.2s,SNR=5.8								
EMOS				Lg			02 58 18.1		
	1.4nm,0.1s,SNR=7.9								
EMOS	**Mosqueruela**	**2.73**	**175**	Pn	Pn		02 57 33.5	-2.0	
EMOS				Pg	Pg		02 57 37.7	-7.0	
EMOS				Sn	Sn		02 58 06.5	-2.9	
EMOS				Lg			02 58 18.1		
EMOS	**Mosqueruela**	**2.73**	**175**	Pn	Pn		02 57 33.5	-2.1	
	11nm,1.0s,SNR=4.0								
EMOS	**Mosqueruela**	**2.73**	**175**	Pg	Pg		02 57 37.7	-7.1	
	0.4nm,0.1s,SNR=7.9								
EMOS				Sn	Sn		02 58 06.5	-2.9	
	1.1nm,0.2s,SNR=5.8								
RJF	**Les Rejaudoux**	**2.77**	**36**	*e*Pg	Pg		02 57 42.0	-3.5	
RJF				*e*Sn	Sn		02 58 06.2	-4.1	
RJF				*e*Sg	Sg		02 58 17.8	-4.6	
	5.9nm,0.3s								
RJF	**Les Rejaudoux**	**2.77**	**36**	Pn	Pn		02 57 33.1	-3.0	
RJF				Pg	Pg		02 57 42.0	-3.5	
RJF				Sn	Sn		02 58 06.2	-4.1	
RJF				Lg			02 58 17.8		
	3.0nm,0.3s								
RJF	**Les Rejaudoux**	**2.77**	**36**	*e*Pn	Pn		02 57 33.1	-3.0	
RJF				*e*Pg	Pg		02 57 42.0	-3.5	
RJF				*e*Sn	Sn		02 58 06.2	-4.1	
RJF				*e*Sg	Sg		02 58 17.8	-4.6	
RJF	**Les Rejaudoux**	**2.77**	**36**	*e*Pg	Pg		02 57 42.0	-3.5	
RJF				*e*Sn	Sn		02 58 06.2	-4.1	
RJF				*e*Sg	Sg		02 58 17.8	-4.6	
	3.0nm,0.3s								
EJON	**La Jonquera**	**2.78**	**102**	Lg			02 58 19.3		
	8.4nm,0.3s,SNR=7.9								
EARI	**Arriondas**	**3.24**	**275**	Pn	Pn		02 57 43.2	+0.4	
	0.2nm,0.1s,SNR=7.9								
EARI				Sn	Sn		02 58 19.8	-2.4	
	0.7nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**3.24**	**275**	Pn	Pn		02 57 43.1	+0.3	
EARI				Sn	Sn		02 58 20.7	-1.6	
EARI	**Arriondas**	**3.24**	**275**	Pn	Pn		02 57 43.1	+0.3	
	0.2nm,0.1s,SNR=7.9								
EARI				Sn	Sn		02 58 20.7	-1.5	
	0.7nm,0.2s,SNR=7.9								
LASF	**Ste Croix**	**3.52**	**72**	*e*Pg	Pg		02 57 55.1	-5.4	
LASF				*e*Sn	Sn		02 58 23.7	-5.6	
LASF				*e*Sg	Sg		02 58 41.0	-6.4	
	2.3nm,0.3s								
LASF	**Ste Croix**	**3.52**	**72**	Pn	Pn		02 57 44.2	-2.5	
LASF				Pg	Pg		02 57 55.1	-5.4	
LASF				Sn	Sn		02 58 23.7	-5.6	
LASF				Lg			02 58 41.0		
	1.1nm,0.3s								
LASF	**Ste Croix**	**3.52**	**72**	*e*Pn	Pn		02 57 44.2	-2.5	
LASF				*e*Pg	Pg		02 57 55.1	-5.4	
LASF				*e*Sn	Sn		02 58 23.7	-5.6	
LASF				*e*Sg	Sg		02 58 41.0	-6.4	
MFF	**Saint Martin d**	**3.54**	**7**	*e*Pg	Pg		02 57 55.9	-5.1	
MFF				*e*Sg	Sg		02 58 41.3	-7.0	
	1.8nm,0.2s								
MFF	**Saint Martin d**	**3.54**	**7**	Pn	Pn		02 57 43.8	-3.3	
MFF				Pg	Pg		02 57 55.9	-5.1	
MFF				Lg			02 58 41.3		
	0.9nm,0.2s								
MFF	**Saint Martin d**	**3.54**	**7**	*e*Pn	Pn		02 57 43.8	-3.3	
MFF				*e*Pg	Pg		02 57 55.9	-5.1	
MFF				*e*Sg	Sg		02 58 41.3	-7.0	
TCF	**Toulx Ste Croi**	**3.85**	**33**	*e*Pg	Pg		02 58 01.6	-5.5	
TCF				*e*Sn	Sn		02 58 32.0	-5.7	
TCF				*e*Sg	Sg		02 58 51.6	-6.8	
	3.6nm,0.3s								
TCF	**Toulx Ste Croi**	**3.85**	**33**	Pn	Pn		02 57 48.5	-2.9	
TCF				Pg	Pg		02 58 01.6	-5.5	
TCF				Sn	Sn		02 58 32.0	-5.7	
TCF				Lg			02 58 51.6		
	1.8nm,0.3s								
TCF	**Toulx Ste Croi**	**3.85**	**33**	*e*Pn	Pn		02 57 48.5	-2.9	
TCF				*e*Pg	Pg		02 58 01.6	-5.5	
TCF				*e*Sn	Sn		02 58 32.0	-5.7	
TCF				*e*Sg	Sg		02 58 51.6	-6.8	
ESDC	**Sonseca Array**	**4.16**	**216**	Pn	Pn		02 57 52.5	-3.4	
	0.2nm,0.3s,baz=39,slow=13,SNR=4.9								
ESDC				Sn	Sn		02 58 39.8	-5.8	
	0.3nm,0.2s,baz=39,slow=24,SNR=4.4								
ESDC				Lg			02 59 02.3		
	0.2nm,0.2s,baz=36,slow=28,SNR=4.2								
BGF	**Bois d'Agland**	**4.33**	**35**	*e*Pg	Pg		02 58 10.4	-6.2	
BGF				*e*Sg	Sg		02 59 05.8	-8.5	
	14nm,0.4s								
BGF	**Bois d'Agland**	**4.33**	**35**	Pn	Pn		02 57 54.9	-3.4	
BGF				Pg	Pg		02 58 10.4	-6.2	
BGF				Lg			02 59 05.8		
	7.2nm,0.4s								
BGF	**Bois d'Agland**	**4.33**	**35**	*e*Pn	Pn		02 57 54.9	-3.4	
BGF				*e*Pg	Pg		02 58 10.4	-6.2	
BGF				*e*Sg	Sg		02 59 05.8	-8.5	
AVF	**Avril sur Loir**	**4.73**	**37**	*e*Pn	Pn		02 58 00.4	-3.5	
AVF				*e*Sg	Sg		02 59 18.9	-8.8	
	1.7nm,0.3s								
SSF	**Saint Saulge**	**5.00**	**36**	*e*Pn	Pn		02 58 04.2	-3.6	
SSF				*e*Sg	Sg		02 59 27.8	-9.1	
	0.3nm,0.3s								
GRR	**Gorron**	**5.30**	**360**	*e*Pn	Pn		02 58 08.2	-3.8	
LOR	**Lormes**	**5.32**	**37**	*e*Sg	Sg		02 59 37.4	-10	
	1.0nm,0.3s								
ROSF	**Rostrenen**	**5.53**	**343**	*e*Pn	Pn		02 58 11.3	-4.0	

NEIC ***06*** *03:05:39.9, 35.01S×70.57W, h20km, ML2.6(GUC), After GUC.*

GUC 06 03:05:39.9±0.6, 35.01S×70.57W, h20km±2km, MD3.8, ML2.6, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.54**	**317**	⇓*i*P	Pb	03 05 50.3	-0.2
SFDO				*i* S	Sb	03 05 58.1	+0.2
CICH	**Cipreses**	**0.70**	**10**	⇓*i*P	Pb	03 05 53.1	-0.2
CICH				*i* S	Sb	03 06 03.2	+0.7
CACH	**El Canelo**	**0.89**	**358**	*i* P	Pb	03 05 56.4	-0.2
CACH				*i* S	Sb	03 06 09.4	+1.3
CHCH	**Chadas Angostu**	**1.08**	**356**	*e*P	Pb	03 05 59.8	+0.1
CHCH				*i* S	Sb	03 06 15.3	+1.9
LMEL	**Las Melosas**	**1.20**	**15**	⇓*i*P	Pn	03 06 02.2	+0.4
LMEL				*i* S	Sb	03 06 18.6	+1.7
LMEL				AMP		03 06 20.0	
	comp=N,286nm,0.1s						
LNV	**Longovilo**	**1.26**	**326**	*i* P	Pn	03 06 02.8	+0.1
LNV				*i* S	Sb	03 06 19.7	+1.0
TACH	**Talagante**	**1.39**	**347**	*e*P	Pn	03 06 04.9	+0.4
TACH				*i* S	Sb	03 06 23.8	+1.4
RCDM	**Rinconada Maip**	**1.53**	**352**	*e*P	Pn	03 06 07.4	+0.9
RCDM				*i* S	Sn	03 06 28.1	+2.0
RCDM				AMP		03 06 30.0	
	comp=E,128nm,0.1s						
FCH	**Farellones**	**1.70**	**8**	⇑*i*P	Pn	03 06 10.6	+1.8
FCH				*i* S	Sn	03 06 33.9	+3.7
FCH				AMP		03 06 35.5	
	comp=N,104nm,0.3s						
LCCH	**Las Cruces**	**1.74**	**331**	*e*P	Pn	03 06 10.6	+1.0

IDC ***06*** *03:05:53.9±7.1, 35.83N×71.44E, h72km±55km, mb3.7/7, mb1 3.8/10, mb1mx3.5/23, mbtmp4.0/10, ML3.4/3, Error ellipse: s-maj=56.3km s-min=26.8km az=150.0*
NNC ***06*** *03:06:05.5±8.4, 36.80N×70.46E, h80km±136km, mpv3.8, Error ellipse: s-maj=62.2km s-min=42.7km az=19.0*

ISC 06 03:05:57.0±1.5, 36.13N±0.07×71.3E±0.1, h99km±18km, n29, σ0.99/33, mb3.8/6, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.29**	**17**	P	**P**	**03 07 29.4**	**+0.7**
	SNR=30						
UCH	**Uchtor**	**6.59**	**22**	P	**P**	**03 07 33.9**	**+0.9**
	SNR=7.4						
EKS2	**Erkin-Say**	**6.81**	**16**	P	**P**	**03 07 36.3**	**+0.4**
	SNR=13						
AAK	**Ala-Archa**	**6.96**	**20**	P	**P**	**03 07 39.0**	**+1.0**
	SNR=9.4						
KK31	**Karatay Array**	**6.99**	**356**	P	**P**	**03 07 37.2**	**-1.2**
	4.7nm,0.4s,baz=177,slow=12,SNR=99						
KK31				⇓S	**S**	**03 08 48.6**	**-8.4**
	16nm,0.5s,baz=185,slow=21						
USP	**Ospenovka**	**7.55**	**18**	P	**P**	**03 07 46.3**	**+0.2**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.57**	**25**	P	**P**	**03 07 47.5**	**+1.3**
	SNR=6.8						
TKM2	**Tokmak 2**	**7.57**	**25**	⇓P	**P**	**03 07 46.5**	**+0.2**
	2.7nm,0.5s						
TKM2				⇑S	**S**	**03 09 09.5**	**-1.5**
	5.9nm,0.6s						
MK31	**Makanchi Array**	**13.48**	**34**	⇓P	**P**	**03 09 13.3**	**+8.2**
	0.7nm,0.5s,slow=0.1,SNR=9.5						
MKAR	**Makanchi Array**	**13.48**	**34**	P	**P**	**03 09 05.0**	**-0.1**
	0.1nm,0.3s,baz=207,slow=9.7,SNR=3.8						
GKN	**Gorkha**	**13.93**	**122**	*e*P	**P**	**03 09 10.2**	**-0.8**
	11nm,0.4s						
DMN	**Daman**	**14.50**	**122**	*e*P	**P**	**03 09 18.1**	**-0.3**
KKN	**Kakani**	**14.51**	**121**	*e*P	**P**	**03 09 18.5**	**0.0**
PKI	**Pulchoki**	**14.73**	**121**	*e*P	**P**	**03 09 21.8**	**+0.4**
GUN	**Gumba**	**14.85**	**119**	*e*P	**P**	**03 09 23.1**	**+0.2**
	3.6nm,0.2s						
JIRN	**Jiri**	**15.22**	**119**	*e*P	**P**	**03 09 27.5**	**-0.1**
	16nm,0.4s						
AB31	**Akbulak array**	**15.51**	**331**	⇑P	**P**	**03 09 28.8**	**-2.3**
	1.6nm,0.5s,baz=139,slow=12,SNR=49						
AB31				⇓S	**S**	**03 12 05.2**	**-15**
	1.1nm,0.5s,baz=152,slow=24,SNR=6.6						
KURK	**Kurchatov**	**15.52**	**18**	P	**P**	**03 09 32.5**	**+1.3**
BVAR	**Borovoye Array**	**16.91**	**358**	P	**P**	**03 09 47.8**	**-0.7**
	0.2nm,0.3s,baz=172,slow=10,SNR=10						
AKTO	**Aktyubinsk**	**17.21**	**330**	⇓P	**P**	**03 09 52.3**	**0.0**
	1.0nm,0.8s						
AKTO				⇑S	**S**	**03 12 46.5**	**-12**
	0.7nm,1.0s						
AKTO	**Aktyubinsk**	**17.21**	**330**	P	**P**	**03 09 51.4**	**-0.9**
	0.3nm,0.3s,baz=138,slow=15,SNR=20						
ZAL	**Zalesovo**	**20.15**	**24**	P	**P**	**03 10 24.1**	**-1.2**
	2.8nm,0.3s,baz=256,slow=6.7,SNR=6.6						
GNI	**Garni**	**21.21**	**289**	P	**P**	**03 10 37.8**	**+1.7**
	3.0nm,0.5s,mb3.9,baz=95,slow=12,SNR=1.9						
FINES	**FINESS Array B**	**37.91**	**326**	P	**P**	**03 13 06.8**	**+1.0**
	2.7nm,1.0s,mb4.0,baz=124,slow=6.9,SNR=6.0						
ARCES	**ARCESS Array B**	**41.57**	**338**	P	**P**	**03 13 37.0**	**+1.1**
	3.1nm,1.0s,mb4.0,baz=113,slow=9.0,SNR=6.3						
NB2	**NORSAR Subarra**	**44.80**	**323**	P	**P**	**03 14 01.9**	**-0.3**
	1.4nm,0.6s,mb3.9,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.80**	**323**	P	**P**	**03 14 02.5**	**+0.3**
	1.3nm,0.6s,mb3.9,baz=96,slow=7.7,SNR=6.3						
TORD	**Torodi Ar. Bea**	**65.92**	**269**	P	**P**	**03 16 32.9**	**-1.9**
	1.0nm,0.6s,mb3.8,baz=47,slow=5.8,SNR=14						
YKA	**Yellowknife Ar**	**81.61**	**3**	P	**P**	**03 18 05.5**	**+0.7**
	0.4nm,0.6s,mb3.4,baz=350,slow=5.4,SNR=6.9						

JMA 06 03:14:56.9±0.5, 45.17N×150.49E, h104km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.86**	**244**	P	P	03 15 55.1	-0.3
NEM2				*e*S	S	03 16 40.3	+0.3
JRA	**Rausu**	**4.03**	**254**	P	P	03 15 58.1	+0.3
JNK	**Nakash**	**4.43**	**251**	P	P	03 16 02.9	-0.3
JAK	**Akkeshi**	**4.71**	**245**	P	P	03 16 06.4	-0.6
JAK				*e*S	S	03 17 00.4	-0.4
JAR	**Ashorobuto**	**5.18**	**251**	P	P	03 16 13.9	+0.5
JAR				*e*S	S	03 17 12.9	+0.5
JOB	**Onbets**	**5.31**	**247**	P	P	03 16 15.2	+0.1
JOB				*e*S	S	03 17 15.5	0.0
JKK2	**Kamakawa 2**	**5.69**	**260**	P	P	03 16 20.1	-0.2
JCH	**Churui**	**5.75**	**246**	P	P	03 16 20.6	-0.5
JCH				*e*S	S	03 17 25.2	-1.2
JEM	**Erimo**	**6.19**	**242**	P	P	03 16 28.4	+1.2
JNBK	**Urakawa-nobuka**	**6.31**	**245**	P	P	03 16 27.8	-1.0
JNBK				*e*S	S	03 17 37.7	-2.3
JKB	**Kayabe**	**7.62**	**248**	*e*S	S	03 18 06.8	-5.2
JANG	**Nango**	**8.16**	**237**	*e*S	S	03 18 20.1	-5.1
JTM	**Tenmabayashi**	**8.18**	**241**	*e*S	S	03 18 20.7	-5.0
OFUJ	**Ofunato**	**8.94**	**230**	*e*S	S	03 18 41.5	-2.8

CSEM ***06*** *03:17:46.8±0.8, 38.77N×29.64W, h5km, ML2.5, Error ellipse: s-maj=8.8km s-min=7.4km az=51.0, After PDA*
PDA ***06*** *03:17:46.8±0.8, 38.77N×29.64W, h5km, MD3.6, ML2.5, Error ellipse: s-maj=8.8km s-min=7.4km az=51.0*

SVSA 06 03:17:46.8±0.8, 38.77N×29.64W, h5km, MD3.6, ML2.5, Error ellipse: s-maj=8.8km s-min=7.4km az=51.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.69**	**105**	*e*S	Sg	03 18 06.8	-2.9
	54nm,0.4s						
PTCA	**Ponta do Capel**	**0.69**	**105**	*e*S	Sg	03 18 06.8	-2.9
	54nm,0.4s						
PCED	**Cedros**	**0.75**	**100**	*e*S	Sg	03 18 08.2	-3.6
	82nm,0.3s						
PCED	**Cedros**	**0.75**	**100**	*e*S	Sg	03 18 08.2	-3.6
	82nm,0.3s						
CALA	**Caldeira**	**0.76**	**104**	*e*P	Pg	03 17 59.5	-2.5
CALA				*e*S	Sg	03 18 08.6	-3.5
HOR	**Horta**	**0.83**	**106**	*e*S	Sg	03 18 09.7	-4.7
PCND	**Candelaria**	**0.97**	**107**	*e*S	Sb	03 18 13.9	-4.7
	38nm,0.3s						
PICO	**Pico**	**0.99**	**105**	*e*P	Pb	03 18 02.2	-3.8
PICO				*e*S	Sb	03 18 14.5	-4.7
PBOI	**Pico dos Bois**	**1.04**	**108**	*e*S	Sb	03 18 15.9	-4.9
	49nm,0.3s						
ROSA	**Rosais**	**1.10**	**92**	*e*P	Pb	03 18 04.0	-3.9
ROSA				*e*S	Sb	03 18 16.9	-5.4
PMAN	**Manadas**	**1.22**	**96**	*e*S	Sb	03 18 19.8	-6.2
	22nm,0.2s						
SRBC	**Serra Branca**	**1.28**	**77**	*e*S	Sb	03 18 21.1	-6.5

CSEM ***06*** *03:43:33.1±0.9, 38.77N×29.66W, ML2.3, Error ellipse: s-maj=15.7km s-min=8.3km az=24.0, After PDA*
PDA ***06*** *03:43:33.1±0.9, 38.77N×29.66W, MD3.4, ML2.3, Error ellipse: s-maj=15.7km s-min=8.3km az=24.0*

SVSA 06 03:43:33.1±0.9, 38.77N×29.66W, MD3.4, ML2.3, Error ellipse: s-maj=15.7km s-min=8.3km az=24.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.70**	**105**	*e*S	Sg	03 43 54.7	-1.6
	34nm,0.2s						
PTCA	**Ponta do Capel**	**0.70**	**105**	*e*S	Sg	03 43 54.7	-1.6
	34nm,0.2s						
PCED	**Cedros**	**0.76**	**100**	*e*S	Sg	03 43 55.6	-2.8
	57nm,0.3s						
PCED	**Cedros**	**0.76**	**100**	*e*S	Sg	03 43 55.6	-2.8
	57nm,0.3s						
CALA	**Caldeira**	**0.77**	**104**	*e*P	Pg	03 43 46.2	-2.3
CALA				*e*S	Sg	03 43 56.1	-2.7
HOR	**Horta**	**0.84**	**106**	*e*S	Sg	03 43 57.5	-3.5
PCND	**Candelaria**	**0.98**	**107**	*e*S	Sg	03 44 01.3	-4.5
	38nm,0.2s						
PICO	**Pico**	**1.00**	**105**	*e*P	Pb	03 43 49.6	-3.4
PICO				*e*S	Sg	03 44 02.0	-4.4
PBOI	**Pico dos Bois**	**1.06**	**108**	*e*S	Sb	03 44 03.5	-4.7
	42nm,0.3s						
ROSA	**Rosais**	**1.11**	**92**	*e*P	Pb	03 43 51.0	-3.8
ROSA				*e*S	Sb	03 44 04.4	-5.3
PMAN	**Manadas**	**1.23**	**96**	*e*S	Sb	03 44 07.4	-5.9
	27nm,0.4s						
PGRA	**Graciosa**	**1.33**	**78**	*e*rx		03 44 11.4	

NIED ***06*** *03:51:00, 38.10N×142.60E, h20km, Mw3.5 Best double couple: M0 2.32×10^14 NP1:φ=191°, δ=52°, λ=82°. NP2:φ=23°, δ=39°, λ=100°.*

JMA 06 03:51:07.5±0.2, 38.09N×142.63E, h23km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.07**	**290**	P	Pb	03 51 27.0	-0.2
JIO				*e*S	Sb	03 51 40.9	+0.1
OFUJ	**Ofunato**	**1.24**	**323**	P	Pn	03 51 29.6	-0.1
JMK	**Ichinoseki**	**1.40**	**308**	P	Pn	03 51 32.8	+0.8
JMK				*e*S	Sn	03 51 50.2	+0.3
JMM	**Marumori**	**1.47**	**262**	P	Pn	03 51 32.9	0.0
JMM				*e*S	Sn	03 51 51.0	-0.6
JFK	**Kawauchi**	**1.57**	**243**	P	Pn	03 51 34.2	-0.2
JFK				*e*S	Sn	03 51 53.0	-1.1
JOU	**Okura**	**1.57**	**281**	P	Pn	03 51 35.1	+0.7
JOM	**Ohasama**	**1.73**	**323**	P	Pn	03 51 37.1	+0.4
JOM				*e*S	Sn	03 51 58.5	+0.2
JFT	**Otama**	**1.90**	**253**	P	Pn	03 51 39.9	+0.7
JFT				*e*S	Sn	03 52 05.2	+2.6
JYK	**Kaneyama**	**1.96**	**296**	P	Pn	03 51 41.1	+1.1

CSEM ***06*** *03:57:02.3±0.6, 38.86N×29.38W, ML1.8, Error ellipse: s-maj=12.6km s-min=7.3km az=88.0, After PDA*
PDA ***06*** *03:57:02.3±0.6, 38.86N×29.38W, MD3.2, ML1.8, Error ellipse: s-maj=12.6km s-min=7.3km az=88.0*

SVSA 06 03:57:02.3±0.6, 38.86N×29.38W, MD3.2, ML1.8, Error ellipse: s-maj=12.6km s-min=7.3km az=88.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.58**	**113**	*e*P	Pg	03 57 12.6	-1.3
PCED				*e*S	Sg	03 57 20.3	-1.4
	23nm,0.4s						
PCED	**Cedros**	**0.58**	**113**	*e*P	Pg	03 57 12.6	-1.3
PCED				*e*S	Sg	03 57 20.3	-1.4
	23nm,0.4s						
CALA	**Caldeira**	**0.60**	**117**	*e*S	Sg	03 57 21.3	-1.0
PCND	**Candelaria**	**0.82**	**118**	*e*S	Sg	03 57 26.8	-2.8
	9.8nm,0.1s						
PICO	**Pico**	**0.83**	**115**	*e*P	Pg	03 57 16.5	-2.4
PICO				*e*S	Sg	03 57 26.8	-3.2
PBOI	**Pico dos Bois**	**0.90**	**118**	*e*P	Pg	03 57 17.2	-3.0
PBOI				*e*S	Sg	03 57 28.5	-3.6
	10nm,0.1s						
ROSA	**Rosais**	**0.90**	**99**	*e*S	Sg	03 57 28.6	-3.8
PMAN	**Manadas**	**1.04**	**102**	*e*S	Sb	03 57 31.8	-5.0
	44nm,0.4s						

IDC ***06*** *04:02:51.0±2.1, 27.30N×55.50E, mb3.7/8, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, MS2.7/2, Ms1 2.7/2, ms1mx2.4/38, Error ellipse: s-maj=50.4km s-min=23.4km az=152.0*
THR ***06*** *04:02:55.5±1.0, 27.27N×55.89E, h14km±8km, ML3.1*
CSEM ***06*** *04:02:55.5, 27.27N×55.89E, h14km, ML3.1, After THR*

ISC 06 04:02:48.4±1.2, 26.89N±0.05×55.71E±0.06, h5km±9km, n19, σ1.33/20, mb3.6/8, MS2.7/1, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.65**	**39**	*e*Pg	**Pg**	**04 03 01.4**	**-0.1**
BNDS				AML	AML	04 03 28.3	
	comp=N,2μm,0.5s						
BANOM	**Banah**	**1.10**	**151**	P	**Pb**	**04 03 08.7**	**-0.9**
	SNR=212						
ASHO	**Ashiyiah**	**2.22**	**172**	P	**Pn**	**04 03 27.4**	**+0.9**
	SNR=45						
GHIR	**Ghir-Karzin**	**2.79**	**301**	*e*Pn	**Pg**	**04 03 41.7**	**-2.3**
GHIR				*e*Sg	**Sg**	**04 04 21.7**	**+0.6**
GHIR				AML	AML	04 04 47.5	
	comp=N,88nm,0.4s						
GHIR	**Ghir-Karzin**	**2.79**	**301**	*e*Pn	**Pg**	**04 03 41.7**	**-2.3**
	SNR=52						
GHIR				*e*Sg	**Sg**	**04 04 21.7**	**+0.5**
	comp=N,88nm,0.4s,SNR=90						
KRBR	**Kerman**	**3.22**	**17**	*e*Pn	**Pn**	**04 03 42.8**	**+2.1**
ARQ	**Araqi**	**3.62**	**168**	P	**Pn**	**04 03 46.3**	**0.0**
	SNR=9.2						
SMDO	**Samad**	**4.37**	**150**	P	**Pn**	**04 03 57.9**	**+0.8**
	SNR=6.7						
NASN	**Na'in**	**6.40**	**338**	*e*Pn	**Pn**	**04 04 27.5**	**+1.7**
NAY	**Al-Naaiem**	**7.84**	**289**	*e*P	**Pn**	**04 04 47.4**	**+1.5**
GNI	**Garni**	**16.06**	**328**	LR	LR	04 12 50.2	
	comp=N,26nm,21.2s,baz=85,slow=38						
BRTR	**Keskin Array B**	**22.38**	**310**	P	**P**	**04 07 45.2**	**-3.8**
	comp=N,0.1nm,0.3s,mb2.7,baz=146,slow=10,SNR=2.3						
AKTO	**Aktyubinsk**	**23.58**	**4**	P	**P**	**04 07 57.9**	**-2.8**
	comp=N,1.1nm,0.3s,mb3.7,baz=207,slow=5.5,SNR=5.9						
AKTO				LR	LR	04 17 25.4	
	comp=N,24nm,19.5s,MS2.7,slow=38						
BVAR	**Borovoye Array**	**28.31**	**19**	P	**P**	**04 08 43.4**	**-1.5**

comp=Z,103nm,20.2s,MS3.5,baz=49,slow=35
CTA Charters Tower 32.55 171 P **P** **04 25 41.2 -0.2**
CTA LR LR 04 38 12.1
CTAO Charters Tower 32.55 171 *eP* **P** **04 25 41.1 -0.3**
6.0nm,0.8s,mb4.6
WRA Warramunga Arr 32.63 192 P **P** **04 25 41.2 -1.0**
6.9nm,0.9s,mb4.6,baz=10,slow=9.5,SNR=30
DZM Mont Dzumac 42.29 144 P **P** **04 27 04.2 +0.8**
7.5nm,0.9s,mb4.3,baz=324,slow=10,SNR=5.2
DZM LR LR 04 41 39.2
comp=Z,770nm,19.6s,MS4.6,baz=202,slow=32
STKA Stephens Creek 43.87 179 P **P** **04 27 15.3 -0.8**
3.8nm,0.6s,mb4.3,baz=347,slow=7.2,SNR=9.1
STKA Stephens Creek 43.87 179 *eP* **P** **04 27 14.7 -1.4**
SONM Songino Array 45.72 328 P **P** **04 27 31.9 +1.2**
0.8nm,1.0s,mb3.6,baz=154,slow=5.5,SNR=3.7
MKAR Makanchi Array 59.83 317 P **P** **04 29 16.1 +0.6**
1.3nm,0.8s,mb4.0,baz=90,slow=8.5,SNR=6.0
MKAR LR LR 04 54 57.2
comp=Z,31nm,19.8s,MS3.5,baz=44,slow=36
BVAR Borovoye Array 68.62 322 P **P** **04 30 13.1 +0.5**
2.0nm,0.6s,mb4.2,baz=117,slow=9.9,SNR=11
ILAR Eielson Array 71.42 25 P **P** **04 30 27.7 -1.7**
0.3nm,0.6s,mb3.4,baz=245,slow=6.2,SNR=7.4
AKTO Aktyubinsk 76.17 319 P **P** **04 30 57.6 +0.3**
1.2nm,0.6s,mb4.0,baz=96,slow=8.2,SNR=4.4
AKTO LR LR 05 03 07.2
comp=Z,34nm,19.5s,MS3.7,baz=244,slow=34
YKA Yellowknife Ar 85.80 27 P **P** **04 31 47.9 +0.2**
0.4nm,0.7s,mb3.8,baz=291,slow=5.1,SNR=4.7
YKA LR LR 05 10 29.8
comp=Z,40nm,19.8s,MS3.8,baz=240,slow=36
YKA Yellowknife Ar 85.80 27 P **P** **04 31 47.9 +0.2**
YKA LR LR 05 10 29.8
ARCES ARCESS Array B 87.16 341 P **P** **04 31 54.3 0.0**
1.4nm,0.6s,mb4.4,baz=63,slow=8.1,SNR=12
JOF Joensuu 87.88 334 *ep* **P** **04 31 56.1 -1.7**
1.6nm,0.7s,mb4.4
KAF Kangasniemi 90.32 335 *ep* **P** **04 32 04.9 -4.5**
1.5nm,0.7s,mb4.4,baz=95,slow=7.1
FINES FINESS Array B 90.73 334 P **P** **04 32 10.7 -0.6**
2.3nm,0.6s,mb4.7,baz=45,slow=4.3,SNR=17
NVAR Mina Array Bea 90.74 51 P **P** **04 32 13.1 +1.1**
0.4nm,0.8s,mb3.8,baz=259,slow=4.5,SNR=3.8
NVAR Mina Array Bea 90.74 51 P **P** **04 32 13.1 +1.1**
NOA NORSAR Array B 96.89 338 LR LR 05 21 04.2
comp=Z,19nm,20.1s,MS3.8,baz=85,slow=38
LPAZ La Paz 151.55 102 PKPbc PKPdf 04 39 05.2 +9.1
3.2nm,0.7s,baz=2.5,slow=2.9,SNR=19
LPAZ La Paz 151.55 102 *e*PKPbc PKPdf 04 39 05.2 +9.1

*IDC **06** 04:20:57.8±6.7,21.86S×68.23W,h106km±47km,mb3.7/2, mb1 3.8/4,mb1mx3.4/16,mbtmp4.0/4,Error ellipse: s-maj=61.1km s-min=33.8km az=37.0*
*NEIC **06** 04:20:59.9,22.17S×68.55W,h148km,MD3.9(GUC),After GUC.*
*GUC **06** 04:20:59.9±0.9,22.17S×68.55W,h148km±10km,MD3.9, ML3.7*
ISC 06 04:20:58.2±0.7,21.84S±0.06×68.6W±0.1,h135km±9km, n13,σ1§07/17,mb3.7/2,1D,Chile-Bolivia border region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SPCH San Pedro de A 1.14 159 *eP* **P** **04 21 23.6 +0.4**
SPCH *i* S **S** **04 21 42.5 +0.2**
SPCH AMP 04 21 56.5
comp=N,700nm,0.7s
CEN1 Los Morros ⇓*iP* **P** **04 21 37.9 +3.7**
CEN1 *i* S **S** **04 22 06.5 +4.9**
CEN1 AMP 04 22 16.0
comp=N,321nm,0.5s
ANCH Antofagasta 2.45 221 *eP* **P** **04 21 39.7 +1.1**
ANCH *i* S **S** **04 22 09.0 -0.4**
CPN1 Cerro Paranal 3.21 210 *eP* **P** **04 21 49.0 +0.5**
CPN1 *i* S **S** **04 22 26.1 -0.9**
CPN1 AMP 04 22 39.4
comp=E,486nm,0.5s
CRCH Chaqaral 4.83 202 *eP* **P** **04 22 08.3 -1.9**
LPAZ La Paz 5.54 5 P **P** **04 22 19.7 +0.1**
comp=E,1.5nm,0.3s,baz=195,slow=7.7,SNR=27
LPAZ S **S** **04 23 21.9 -0.8**
baz=269,slow=22,SNR=2.3
LPAZ La Paz 5.54 5 P **P** **04 22 19.7 +0.1**
LPAZ S **S** **04 23 21.9 -0.8**
SIV San Ignacio 9.23 52 P **P** **04 23 03.4 -5.7**
comp=E,1.9nm,0.3s,baz=241,slow=14,SNR=77
TORD Torodi Ar. Bea 77.24 70 P **P** **04 32 38.6 -0.9**
comp=E,0.6nm,0.4s,mb3.8,baz=254,slow=5.7,SNR=29
YKA Yellowknife Ar 91.59 340 P **P** **04 33 52.0 +1.5**
comp=E,0.5nm,0.5s,mb3.8,baz=134,slow=4.5,SNR=17
YKA Yellowknife Ar 91.59 340 P **P** **04 33 52.0 +1.5**
WRA Warramunga Arr 132.79 210 PKP PKPdf 04 40 00.7 +2.7
comp=E,0.6nm,0.8s,baz=164,slow=1.6,SNR=6.3
MKAR Makanchi Array 145.76 36 PKPbc PKPbc 04 40 24.6 +3.2
comp=E,0.3nm,0.6s,baz=324,slow=2.9,SNR=3.7

*NEIC **06** 04:37:33.4±2.5,22.66S×173.35E,h67km±21km,mb4.7/2, Error ellipse: s-maj=18.9km s-min=13.7km az=95.0*
*IDC **06** 04:37:33.7±5.7,22.64S×173.32E,h67km±46km,mb3.8/8, mb1 4.0/9,mb1mx3.9/14,mbtmp4.1/9,ML3.6/1,MS3.8/6, Ms1 3.8/6,ms1mx3.4/26,Error ellipse: s-maj=35.7km s-min=26.4km az=122.0*
ISC 06 04:37:33.2±3.2,22.6S±0.1×173.3E±0.1,h73km±27km,n42, σ0§85/26,mb4.0/11,4C,Southeast of Loyalty Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 6.33 274 P **P** **04 39 05.4 -0.3**
1.4nm,0.3s,baz=74,slow=20,SNR=20
DZM S **S** **04 40 17.7 +0.4**
2.2nm,0.3s,baz=98,slow=17,SNR=6.4
NOUC Port Laguerre 6.45 273 *eP* **P** **04 39 08.0 +0.5**
NOUC *eS* **S** **04 40 16.7 -3.8**
RAO Raoul Island 10.31 131 LR LR 04 43 04.5
comp=Z,558nm,20.0s,baz=10.0,slow=32
URZ Urewera 15.91 169 LR LR 04 46 02.3
comp=Z,319nm,20.0s,baz=222,slow=32
STKA Stephens Creek 29.52 245 P **P** **04 43 32.3 -0.6**
1.5nm,0.6s,mb3.8,baz=139,slow=9.3,SNR=2.3
STKA LR LR 04 54 28.4
comp=Z,202nm,20.3s,baz=302,slow=34
WRA Warramunga Arr 36.29 267 P **P** **04 44 30.7 -0.9**
0.6nm,0.3s,mb3.9,baz=96,slow=8.5,SNR=11
FITZ Fitzroy Crossi 44.72 267 *eP* **P** **04 45 41.8 +0.7**
9.2nm,0.9s,mb4.5
VNDA Vanda 55.21 183 LR LR 05 06 59.5
comp=Z,80nm,19.3s,baz=345,slow=32
QSPA South Pole Qui 67.43 180 *eP* **P** **04 48 22.4 -0.1**
13nm,1.1s,mb4.7
MJAR Matsushiro Ar 67.53 330 P **P** **04 48 23.6 -0.3**
0.9nm,0.4s,mb4.0,baz=180,slow=7.3,SNR=2.7
MAW Mawson 76.69 202 LR LR 05 20 49.4
comp=Z,59nm,19.1s,baz=252,slow=34
SNAA Sanae 85.90 181 ⇑*i* **P** **04 50 05.7 +0.1**
SNAA Sanae 85.90 181 *e* **P** **04 50 09.7 +4.1**
SNAA Sanae 85.90 181 P **P** **04 50 05.9 +0.4**
1.2nm,0.7s,mb4.0,baz=215,slow=7.1,SNR=36
VNA3 Neumayer Olymp 86.35 179 ⇑*i* **P** **04 50 08.3 +0.5**
VNA3 Neumayer Olymp 86.35 179 *e* **P** **04 50 12.1 +4.3**
VNA3 Neumayer Olymp 86.35 179 *e* pP 04 50 26.3 -1.6
VNA2 Neumayer--Watz 86.69 180 ⇑*i* **P** **04 50 08.9 -0.5**
VNA2 Neumayer--Watz 86.69 180 *e* **P** **04 50 13.1 +3.7**
VNA2 Neumayer--Watz 86.69 180 *e* pP 04 50 26.5 -3.1
VNA1 Neumayer--Stat 86.96 179 ⇑*i* **P** **04 50 10.3 -0.5**
VNA1 Neumayer--Stat 86.96 179 *e* **P** **04 50 14.5 +3.7**
VNA1 Neumayer--Stat 86.96 179 *e* pP 04 50 28.8 -2.1
NVAR Mina Array Bea 88.30 47 P **P** **04 50 18.2 +0.2**
0.7nm,0.8s,mb3.7,baz=225,slow=7.7,SNR=5.2
NVAR Mina Array Bea 88.30 47 P **P** **04 50 18.2 +0.2**
ELK Elko 91.50 46 P **P** **04 50 33.0 +0.1**
1.1nm,0.8s,mb4.1,baz=207,slow=3.6,SNR=3.9
SONM Songino Array 92.19 322 P **P** **04 50 37.5 +1.6**
0.4nm,0.7s,mb3.7,baz=90,slow=4.3,SNR=2.5
SONM Songino Array 92.19 322 P **P** **04 50 37.5 +1.6**
ILAR Eielson Array 92.40 16 P **P** **04 50 35.1 -1.3**
0.5nm,0.4s,mb4.1,baz=238,slow=5.3,SNR=11
TXAR Lajitas Array 95.13 60 P **P** **04 50 44.4 -5.3**
0.6nm,1.0s,mb4.0,baz=214,slow=6.5,SNR=4.5
TXAR LR LR 05 24 07.4
comp=Z,46nm,19.2s,baz=10.0,slow=29
TXAR Lajitas Array 95.13 60 P **P** **04 50 44.4 -5.3**
TXAR LR LR 05 24 07.4

ARCES ARCESS Array B 129.28 346 PKP PKPdf 04 56 32.8 +0.1
0.9nm,0.6s,baz=63,slow=2.7,SNR=5.9
BRG Berggiesshubel 147.54 335 *eP* PKPdf 04 57 11.4 +5.4
CLL Collm 147.54 337 P PKPdf 04 57 11.0 +5.0
logA/T=0.7
CLL *i* 04 57 15.7
CLL *i* 04 57 40.3
CLL *i* 04 58 09.3
CLL Collm 147.54 337 *eP* PKPdf 04 57 11.0 +5.0
PRU Pruhonice 147.99 334 *eP* PKPdf 04 57 13.3 +6.5
MOX Moxa 148.59 337 *iP* PKPdf 04 57 14.8 +7.1
KHC Kasperske Hory 149.06 334 *eP* PKPdf 04 57 15.0 +6.5
GERES GERESS Array B 149.23 333 PKPbc PKPdf 04 57 13.7 +4.9
1.4nm,1.0s,SNR=7.0
DAVOX Davos 152.43 335 PKPbc PKPdf 04 57 22.5 +8.8
1.9nm,0.7s,baz=138,slow=12,SNR=2.5
DAVOX Davos 152.43 335 PKPbc PKPdf 04 57 22.5 +8.8
TORD Torodi Ar. Bea 167.60 222 PKPab PKPab 04 58 39.6 -0.1
1.0nm,0.9s,baz=104,slow=3.4,SNR=8.5

*TEH **06** 04:38:51.5,31.81N×49.82E,h2km,Mn3.0*
*CSEM **06** 04:38:52.7±0.1,32.06N×49.83E,h10km,ML3.0,Error ellipse: s-maj=3.9km s-min=1.5km az=122.0*
*KISR **06** 04:38:53.4±1.2,32.14N×49.72E,h42km±999km,ML2.7*
ISC 06 04:38:52.9±0.4,32.01N±0.05×49.87E±0.07,h10km,n19, σ0§80/24,Western Iran
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IPIR Pirpir 1.10 52 Pg **Pg** **04 39 12.1 -2.8**
IKLH Kalahroud 1.95 47 Pn **Pn** **04 39 25.5 -0.9**
IGAR Garneh 1.99 83 Pn **Pn** **04 39 26.0 -1.0**
IZEF Zefreh 2.26 66 Pn **Pn** **04 39 30.7 -0.2**
IKOM Komasi 2.93 318 Pn **Pn** **04 39 40.3 -0.1**
ISFB Sefidab 3.07 40 Pn **Pn** **04 39 42.9 +0.5**
ISFB Sn **Sn** **04 40 20.9 +1.4**
UMR Umm Al-Rimmam 3.07 218 *eP* **Pn** **04 39 42.8 +0.3**
UMR AML AML 04 40 34.3
comp=Z,24nm,0.3s
MIB Mutribah 3.09 225 *eP* **Pn** **04 39 42.8 0.0**
MIB AML AML 04 40 35.7
comp=Z,15nm,0.4s
IVRN Varamin 3.36 27 Pn **Pn** **04 39 47.0 +0.5**
IVRN Sn **Sn** **04 40 28.5 +1.6**
KBD Kabd 3.39 214 *eP* **Pn** **04 39 47.5 +0.5**
KBD *eS* **Sn** **04 40 27.5 -0.2**
KBD AML AML 04 40 32.9
comp=Z,53nm,0.2s
NAY Al-Naaiem 3.56 220 *eP* **Pn** **04 39 49.6 +0.2**
NAY *eS* **Sn** **04 40 31.3 -0.8**
NAY AML AML 04 40 38.9
comp=Z,4.7nm,0.4s
IGHG Ghaleghazi 3.60 311 Pn **Pn** **04 39 44.1 -5.9**
QRN Al-Qurain 3.67 208 *eP* **Pn** **04 39 51.1 +0.2**
QRN AML AML 04 40 36.1
comp=Z,17nm,0.2s
RDF Al-Radifah 3.67 214 *eP* **Pn** **04 39 51.4 +0.4**
RDF *eS* **Sn** **04 40 35.5 +0.8**
RDF AML AML 04 40 38.4
comp=Z,14nm,0.3s
IDHR Dehrash 3.96 314 Pn **Pg** **04 40 10.7 -1.2**
IDMV Damavand 3.99 26 Lg 04 41 01.8
IDMV Damavand 3.99 26 Pn **Pn** **04 39 55.7 +0.2**
IAFJ Afjeh 4.13 21 Pn **Pn** **04 39 57.3 -0.2**
IFIR Firoozkooh 4.35 33 Pn **Pn** **04 40 00.8 +0.2**
IFIR Sn **Sn** **04 40 51.4 -0.5**

GUC 06 04:46:00.1±0.6,23.72S×70.48W,h42km±4km,MD3.9, ML2.8,1C-1D,Near coast of northern Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ANCH Antofagasta 0.08 60 ⇑*iP* P 04 46 06.8 +0.1
ANCH *i* S S 04 46 11.4 -0.1
ANCH AMP 04 46 11.8
comp=N,3μm,0.1s
CEN1 Los Morros 0.42 38 ⇓*iP* P 04 46 07.1 -2.8
CEN1 *i* S S 04 46 13.1 -3.7
CEN1 AMP 04 46 13.3
comp=N,784nm,0.3s
CPN1 Cerro Paranal 0.90 175 *eP* P 04 46 17.4 +0.9
CPN1 *i* S S 04 46 30.3 +1.7
CPN1 AMP 04 46 31.1
comp=E,774nm,0.2s
SPCH San Pedro de A 2.25 69 *eP* P 04 46 40.8 +5.1
SPCH *i* S S 04 47 08.8 +6.4
SPCH AMP 04 47 16.3
comp=N,49nm,0.2s

JMA 06 04:56:10.1±0.2,38.11N×142.59E,h37km,M3.7,Near east coast of eastern Honshu
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JIO Ouri 1.04 290 P P 04 56 28.6 +0.3
JIO *eS* S 04 56 42.1 +0.3
OFUJ Ofunato 1.21 324 P P 04 56 31.0 +0.3
OFUJ *eS* S 04 56 45.6 -0.6
JMK Ichinoseki 1.36 308 P P 04 56 33.6 +0.5
JMM Marumori 1.44 261 P P 04 56 34.3 +0.2
JMM *eS* S 04 56 52.6 +0.5
JOU Okura 1.54 280 P P 04 56 36.4 +0.9
JFK Kawauchi 1.55 242 P P 04 56 35.7 0.0
JFK *eS* S 04 56 54.3 -0.5
JOM Ohasama 1.70 324 P P 04 56 38.7 +0.9
JOM *eS* S 04 56 59.0 +0.5

IDC 06 05:09:34.9±1.4,2.50S×140.74E,mb3.9/3,mb1 4.2/5, mb1mx3.9/12,mbtmp4.1/5,ML3.8/2,MS3.3/2,Ms1 3.3/2, ms1mx2.9/15,Error ellipse: s-maj=47.2km s-min=26.9km az=110.0,Near north coast of Irian Jaya
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 9.37 137 Pn P 05 11 51.0 -3.2
0.7nm,0.3s,slow=5.1,SNR=2.9
GUMO Guam 16.50 14 LR LR 05 18 30.6
comp=Z,112nm,19.2s,baz=245,slow=32
WB2 Warramunga Arr 18.43 199 *eP* P 05 13 50.2 -3.5
WRA Warramunga Arr 18.43 199 P P 05 13 51.0 -2.7
0.9nm,0.3s,baz=23,slow=12,SNR=56
FITZ Fitzroy Crossi 21.45 223 *eP* P 05 14 24.5 -2.6
5.0nm,0.6s
FITZ Fitzroy Crossi 21.45 223 P P 05 14 25.4 -1.7
3.7nm,0.6s,baz=48,slow=15,SNR=4.1
FITZ LR LR 05 21 52.2
comp=Z,81nm,21.5s,baz=157,slow=34
STKA Stephens Creek 29.23 179 P P 05 15 38.3 -2.5
0.9nm,0.3s,baz=341,slow=18,SNR=3.2
ILAR Eielson Array 84.80 24 P P 05 22 10.5 -1.7
1.0nm,0.7s,baz=242,slow=5.8,SNR=13
LPAZ La Paz 145.91 124 PKPbc PKPbc 05 29 18.5 +0.9
1.2nm,0.6s,baz=311,slow=4.6,SNR=7.9

*NEIC **06** 05:29:50.9, 16.93N×100.51W,h5km,MD4.2(MEX),After MEX.*
MEX 06 05:29:50.9±0.7,16.93N×100.51W,h6km±4km,MD4.2, Near coast of Guerrero
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAIG El Cayaco 0.26 63 *eP* Pg 05 29 55.8 -0.5
CAIG *eS* Sg 05 29 59.4 -0.4
ACX Acapulco 0.57 96 *iP* Pg 05 30 02.0 -0.4
ACX *iS* Sg 05 30 09.0 -1.1
ZIIG Zihuatanejo 1.13 307 *iP* Pb 05 30 09.5 -3.1
ZIIG *iS* Sb 05 30 23.7 -3.7
PLIG Platanillo 1.75 33 *eP* Pn 05 30 19.1 -3.0
PLIG *iS* Sn 05 30 41.1 -3.8
PNIG Pinotepa 2.35 103 *eP* Pn 05 30 30.1 -0.5
PNIG *iS* Sn 05 30 54.6 -5.5
YAIG Yautepec 2.37 35 *iP* Pn 05 30 26.9 -4.0
YAIG *eS* Sn 05 30 56.0 -4.6
UNM Universidad Na 2.70 28 *eP* Pn 05 30 32.7 -3.1
UNM *eS* Sn 05 31 04.8 -4.4
PPM Popocatepetl 2.78 40 *eP* Pn 05 30 33.3 -3.6
PPM *iP* 05 30 34.0
PPM *iS* Sn 05 31 07.1 -4.1
PPM Popocatepetl 2.78 40 *eP* Pn 05 30 33.3 -3.6
PPM *iS* Sn 05 31 07.1 -4.1
MOIG Morelia 2.81 347 *eP* Pn 05 30 33.7 -3.5
MOIG *eS* Sn 05 31 07.4 -4.5
MRX Morelia 2.84 347 *iP* Pn 05 30 37.0 -0.6
MRX *iS* Sn 05 31 10.0 -2.6
VHO Vista Hermosa 3.62 87 *eP* Pn 05 30 45.6 -3.1
VHO *eS* Sn 05 31 26.7 -5.7
OXX Oaxaca 3.63 87 *iP* Pn 05 30 45.0 -3.9
OXX *iS* Sn 05 31 30.0 -2.6
SFJM Santa Fe 4.27 326 *eP* Pn 05 30 53.0 -5.1
SFJM *iS* Sn 05 31 45.0 -4.0
CMIG Matias Romero 5.39 87 *eP* Pn 05 31 11.0 -2.8
CMIG *iS* Sn 05 32 14.1 -2.9
ELN Prospectdale 26.70 37 *eP* P 05 35 32.4 -0.5

*CASC **06** 05:32:17.9±3.1,12.44N×88.82W,h13km±14km,MD4.3, ML3.5,mb4.0(NEIC)*
*NEIC **06** 05:32:23.4±2.4,12.65N×88.50W,h76km±43km,mb4.0/2, Error ellipse: s-maj=104.1km s-min=26.0km az=218.0*
*IDC **06** 05:32:23.9±4.3,12.55N×88.47W,h88km±71km,mb2.3/3, mb1 3.6/4,mb1mx3.3/20,mbtmp3.5/4,ML3.2/1,Error ellipse: s-maj=113.1km s-min=35.4km az=30.0*
ISC 06 05:32:18.7±0.8,12.35N±0.08×88.88W±0.05,h46km±12km, n42,σ1§06/41,mb3.5/4,6C-2D,Off coast of central America
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VSM San Miguel 1.23 29 ⇑*eP* Px 05 33 12.0
VSM *eS* Sx 05 33 27.9
BLLM Bellamira 1.25 30 *eP* Px 05 33 12.2
BLLM *eS* Sx 05 33 31.0
SNVI San Vicente 1.26 2 *eP* Px 05 33 11.4
SNVI *eS* Sx 05 33 26.2
LFRS El Faro 1.28 352 *eP* Px 05 33 11.6
LFRS *eS* Sx 05 33 28.7
SNET Serv Nac Est T 1.37 346 ⇑*eP* Px 05 32 40.2
SNET *eS* Sx 05 32 58.8
SNET *eS* Sx 05 32 59.5
CNCH Conchagua 1.38 48 ⇑*eP* Px 05 33 14.1
CNCH *eS* Sx 05 33 31.3
LBRS Las Brisas 1.39 354 *eP* Px 05 33 13.9
LBRS *eS* Sx 05 33 33.3
BOQS Boqueron 1.43 344 ⇑*eP* Px 05 33 14.3
BOQS *eS* Sx 05 33 33.4
SBLS San Blas 1.65 334 *eP* Px 05 33 17.3
SBLS *eS* Sx 05 33 39.6
SNJE San Jose 1.67 335 *eP* Px 05 33 17.2
SNJE *eS* Sx 05 33 38.6
RTR El Retiro 1.71 334 ⇓*eP* Px 05 33 18.6
RTR *eS* Sx 05 33 43.3
CRIN San Cristobal 1.82 79 *eP* **P** **05 32 47.8 -0.5**
CRIN *eS* **S** **05 33 12.0 +1.8**
RBDL Robledal 1.92 336 ⇑*eP* Px 05 33 13.9
RBDL *eS* Sx 05 33 26.4
LEON Leon 1.94 88 *eP* **P** **05 32 49.5 -0.5**
LEON *eS* **S** **05 33 13.3 +0.1**
TEL3 Telica 3 2.00 83 ⇓*eP* **P** **05 32 50.4 -0.4**
TEL3 *eS* **S** **05 33 16.7 +2.1**
TELN Telica 2.02 83 *eP* **P** **05 32 50.1 -0.9**
MTO2 Montecristo 2 2.09 347 *eP* Px 05 33 24.2
MTO2 *eS* Sx 05 33 50.4
MIRN Miramar 2.12 87 *eP* **P** **05 32 51.8 -0.7**
MIRN *eS* **S** **05 33 17.4 -0.3**
CNGN Cerro Negro 2.14 86 *eP* **P** **05 32 50.0 -2.8**
COPN Copaltepe 2.25 94 *eP* **P** **05 32 53.4 -0.8**
COPN *eS* **S** **05 33 20.6 -0.2**
MOMJ Momotombo 2.29 88 *eP* **P** **05 32 54.2 -0.7**
MOMJ *eS* **S** **05 33 21.7 -0.2**
IXG Ixpaco 2.37 320 *eP* **P** **05 32 55.1 -1.0**
IXG *eS* **S** **05 33 25.2 +1.1**
XAVN Gruta Xavier 2.51 94 *eP* **P** **05 32 57.8 -0.2**
XAVN *eS* **S** **05 33 27.3 -0.1**
MGAN Managua 2.58 94 *eP* **P** **05 32 58.3 -0.7**
MGAN *eS* **S** **05 33 29.3 -0.1**
MGAN *i* 05 33 30.5
comp=N,346nm,0.4s
TICN Ticuantepe 2.61 97 *eP* **P** **05 32 59.4 0.0**
TICN *eS* **S** **05 33 31.1 +0.9**
APON Apoyo 2.79 99 *eP* **P** **05 33 01.9 -0.1**
MRL Marmol 2.81 344 *eP* **P** **05 33 03.0 +0.6**
JTS JuntasAbangare 4.36 118 P **P** **05 33 25.0 +0.7**
comp=N,1.4nm,0.3s,baz=306,slow=22,SNR=16
JTS S **S** **05 34 11.9 -2.5**
comp=N,2.9nm,0.3s,baz=5.7,slow=23,SNR=3.7
JTS JuntasAbangare 4.36 118 P **P** **05 33 25.0 +0.7**
JTS S **S** **05 34 11.9 -2.5**
PRS1 Puriscal 5.06 117 ⇑*eP* **P** **05 33 35.7 +1.6**
LAJ Bijagual 5.29 117 *eP* **P** **05 33 33.5 -3.7**
LCR2 La Lucha 2 5.45 118 *eP* **P** **05 33 40.5 +1.1**
BUS Buena Vista 5.75 118 *eP* **P** **05 33 45.0 +1.4**
ACR Cerro Adams 6.71 123 *eP* **P** **05 33 58.5 +1.3**
JCT Junction City 20.68 332 *eP* **P** **05 36 56.1 -1.3**
comp=N,5.1nm,0.5s
LTX Lajitas 21.79 323 *eP* **P** **05 37 09.1 +0.6**
comp=N,3.7nm,0.8s,mb3.9
TXAR Lajitas Array 21.79 323 P **P** **05 37 09.8 +1.3**
comp=N,2.0nm,0.6s,mb3.7,baz=145,slow=12,SNR=23
TXAR Lajitas Array 21.79 323 P **P** **05 37 09.8 +1.3**
NVAR Mina Array Bea 36.87 320 P **P** **05 39 24.7 0.0**
comp=N,0.1nm,0.3s,mb3.1,baz=135,slow=13,SNR=4.6
NVAR Mina Array Bea 36.87 320 P **P** **05 39 24.7 0.0**
YKA Yellowknife Ar 53.35 345 P **P** **05 41 33.5 -2.0**
comp=N,0.3nm,0.7s,mb3.4,baz=143,slow=7.3,SNR=6.7
YKA Yellowknife Ar 53.35 345 P **P** **05 41 33.5 -2.0**

*BJI **06** 05:40:09.2,2.00N×96.25E,h52km,mB5.1,mb5.2,Ms4.7, Msz4.5*
*IDC **06** 05:40:10.7±0.7,2.43N×96.28E,h24km±4km,mb4.5/15, mb1 4.6/16,mb1mx4.5/19,mbtmp4.7/16,ML4.0/1,MS4.1/7, Ms1 4.1/7,ms1mx3.8/16,Error ellipse: s-maj=21.5km s-min=12.9km az=38.0*
*MOS **06** 05:40:10.3±1.1,2.55N×96.45E,h33km,mb5.2/29,Error ellipse: s-maj=13.8km s-min=6.6km az=111.7*
*NEIC **06** 05:40:11.4±0.3,2.39N×96.28E,h30km,mb5.0/27, MS4.2/4,Error ellipse: s-maj=8.8km s-min=5.4km az=34.0*
*HRVD **06** 05:40:11.4±1.6,2.32N×96.48E,h34km±1km,MW4.8/29, Centroid moment Tensor Solution. LP body waves: s18,c23;Mantle waves: s29,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.40±.24; $M_{\theta\theta}$-1.18±.15; $M_{\phi\phi}$-0.21±.22; $M_{r\theta}$0.77±.16; $M_{\theta\phi}$1.22±.12; $M_{r\phi}$0.09±.28; Best double couple: M_o1.916×10^{16} NP1:φs328°,δ41°, λ128°. NP2:φs103°,δ59°,λ62°. Principal axes: T 1.722, Plg64°, Azm323°; N .393, Plg24°, Azm118°; P -2.11, Plg10°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 05:40:09.9±0.3,2.43N±0.05×96.28E±0.04,h32km, h32km±2.7km:pP-P,n157,σ1§13/164,mb5.0/68,MS4.4/26, 27C-6D,Northern Sumatera
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PSI Prapat 2.66 82 Pn **Pn** **05 40 53.8 +2.1**
26nm,0.3s,baz=270,slow=5.7,SNR=168
PSI LR LR 05 42 13.5
comp=Z,3μm,18.4s,baz=264,slow=46
IPM Ipoh 5.15 67 P **Pn** **05 41 28.5 +1.5**
KULM Kulim 5.20 57 ⇑*iP* **Pn** **05 41 28.8 +1.1**
KGM Kluang 7.04 93 P **Pn** **05 41 54.5 +0.8**
NST Nakhon Sawan 13.69 16 P **P** **05 43 22.0 -2.5**
NST P 05 43 48.8
83nm,0.8s
KSM Kuching 14.05 94 *ePn* **P** **05 43 30.0 +0.7**
KSM *epP* 05 43 37.2
CHG Chiang Mai 16.49 9 P **P** **05 44 00.0 -0.7**
CHRT Chiangrai 17.66 11 ⇓P **P** **05 44 14.0 -1.5**
147nm,0.7s
MDRS Chennai 19.06 304 *ex* **P** **05 44 25.3 -7.2**
VIS Vishakhapatnam 19.81 321 *eP* **P** **05 44 38.7 -2.3**
VIS AMb AMB 05 44 47.5
comp=Z,46nm,1.8s
VIS *ex* **S** **05 48 04.9 -12**
KKM Kota Kinabalu 20.20 79 P **P** **05 44 45.2 +0.1**
KKM Kota Kinabalu 20.20 79 *eP* **P** **05 44 44.8 -0.3**
QIZ Qiongzhong 21.17 38 P **P** **05 44 58.6 +3.5**
QIZ S **S** **05 48 44.5 +0.7**

QIZ LR LR
comp=N,1μm,12.5s
QIZ LR LR
comp=Z,2μm,12.9s,MS4.6
TSM Tawau 21.63 85 P **P** **05 45 00.6 +0.9**
HYB Hyderabad 22.91 312 *i* P **P** **05 45 15.0 +2.5**
HYB *e*S **S** **05 49 24.0 +8.2**
HYB Hyderabad 22.91 312 *e*P **P** **05 45 15.0 +2.5**
HYB *e*S **S** **05 49 24.0 +8.2**
SHL Shillong 23.39 350 *e*P **P** **05 45 15.0 -2.0**
SHL *e*S **S** **05 49 29.0 +4.9**
KMI Kunming 23.40 15 ⇓P **P** **05 45 19.8 +2.6**
KMI S **S** **05 49 29.4 +5.0**
KMI AMB AMB
comp=Z,30nm,1.1s,mb4.6
KMI AMB AMB
comp=Z,260nm,3.6s
KMI LR LR
comp=N,860nm,13.3s,MS4.5
KMI LR LR
comp=E,700nm,15.7s,MS4.5
KMI LR LR
comp=Z,930nm,13.3s,MS4.4
KMI Kunming 23.40 15 ⇓P **P** **05 45 19.8 +2.6**
comp=Z,34nm,1.1s,mb4.7
KMI S **S** **05 49 29.4 +5.0**
KMI LR LR
comp=Z,930nm,13.3s,MS4.4
BOK Bokaro 23.50 336 *e*P **P** **05 45 17.4 -0.7**
BOK AMb AMB 05 45 22.2
comp=Z,295nm,0.9s,mb5.7
GYA Guiyang 25.88 22⇑*i*P **P** **05 45 40.6 -0.3**
GYA AP pP 05 45 52.4 +2.3
GYA XP sP 05 45 57.8 +3.5
GYA PP PP 05 46 26.8 +4.9
GYA S **S** **05 50 17.7 +11**
GYA AMB AMB
comp=Z,80nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,160nm,4.2s
GYA LR LR
comp=N,1μm,15.3s,MS4.8
GYA LR LR
comp=E,1μm,14.8s,MS4.8
GYA LR LR
comp=Z,1μm,12.3s,MS4.6
JIRN Jiri 26.88 340 *e*P **P** **05 45 51.1 +1.0**
comp=Z,219nm,0.9s,mb5.7
PKI Pulchoki 27.07 338 *e*P **P** **05 45 52.3 +0.5**
comp=Z,71nm,0.8s,mb5.2
PKI Pulchoki 27.07 338 *e*P **P** **05 45 52.3 +0.5**
PKI pmax pmax
comp=Z,36nm,0.8s,mb5.0
GUN Gumba 27.21 340 *e*P **P** **05 45 54.0 +0.9**
comp=Z,159nm,0.8s,mb5.6
DMN Daman 27.22 338 *e*P **P** **05 45 53.9 +0.7**
comp=Z,56nm,0.7s,mb5.2
KKN Kakani 27.32 338 *e*P **P** **05 45 54.5 +0.4**
comp=Z,125nm,0.9s,mb5.4
KKN Kakani 27.32 338 *e*P **P** **05 45 54.5 +0.4**
KKN pmax pmax
comp=Z,63nm,0.9s,mb5.2
LSA Lhasa 27.55 350 P **P** **05 45 56.8 +0.6**
LSA Lhasa 27.55 350 *e*P **P** **05 45 57.0 +0.8**
LSA pmax pmax
comp=Z,63nm,1.1s,mb5.2
LSA Lhasa 27.55 350 *e*P **P** **05 45 57.0 +0.8**
comp=Z,63nm,1.1s,mb5.2
BHPL Bhopal 27.60 320 *e*P **P** **05 45 56.6 -0.1**
BHPL AMb AMB 05 45 58.2
comp=Z,13nm,1.0s,mb4.5
GKN Gorkha 27.75 337 *e*P **P** **05 45 58.5 +0.5**
comp=Z,153nm,1.0s,mb5.6
KOLN Koldanda 27.96 335 *e*P **P** **05 46 00.6 +0.7**
comp=Z,82nm,0.7s,mb5.5
CD2 Chengdu 29.19 13 *e*P **P** **05 46 09.3 -1.7**
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
CD2 AMB AMB
comp=Z,120nm,9.6s
CD2 LR LR
comp=E,770nm,14.4s
CD2 LR LR
comp=Z,600nm,14.4s,MS4.3
ENH Enshi 30.39 23 *e*P **P** **05 46 20.1 -1.5**
comp=Z,20nm,1.0s,mb4.8
WHN Wuhan 32.78 30 ⇓P **P** **05 46 42.2 -0.3**
MBWA Marble Bar 32.82 137 *e*P **P** **05 46 42.6 -0.3**
comp=Z,12nm,0.9s,mb4.8
MBWA *e*pP pP 05 46 49.6 -2.7
MBWA LR LR
comp=Z,375nm,20.4s,MS4.1
XAN Xi'an 33.59 19 P **P** **05 46 48.0 -1.5**
XAN AMB AMB
comp=Z,50nm,1.0s,mb5.4
LZH Lanzhou 34.21 11 ⇑P **P** **05 46 54.5 -0.4**
LZH AP pP 05 47 07.4 +3.1
LZH XP sP 05 47 13.6 +5.3
LZH PP PP 05 48 11.5 +1.5
LZH *e*S **S** **05 52 17.6 -0.8**
LZH XS 05 52 39.5
LZH SS SS 05 54 30.7 +2.5
LZH AMB AMB
comp=Z,50nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,160nm,5.6s
LZH LR LR
comp=N,1μm,13.3s
LZH LR LR
comp=Z,2μm,17.0s,MS4.9
LZH Lanzhou 34.21 11 ⇑P **P** **05 46 54.5 -0.4**
LZH *PP pP 05 47 07.4 +3.1
LZH 05 48 11.5
LZH *e*S **S** **05 52 17.6 -0.8**
LZH SS SS 05 54 30.7 +2.5
LZH pmax pmax
comp=Z,53nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,2μm,17.0s,MS4.9
LZH Lanzhou 34.21 11 ⇑P **P** **05 46 54.5 -0.4**
comp=Z,53nm,1.3s,mb5.3
LZH pP pP 05 47 07.4 +3.1
LZH sP sP 05 47 13.6 +5.3
LZH PP PP 05 48 11.5 +1.5
LZH *e*S **S** **05 52 17.6 -0.8**
LZH sS 05 52 39.5
LZH SS SS 05 54 30.7 +2.5
LZH LR LR
comp=Z,2μm,17.0s,MS4.9
FITZ Fitzroy Crossi 35.39 126⇑*i*P **P** **05 47 03.2 -2.0**
comp=Z,13nm,0.6s,mb5.0
FITZ Fitzroy Crossi 35.39 126 P **P** **05 47 03.8 -1.3**
comp=Z,8.0nm,0.6s,mb4.8,baz=308,slow=6.8,SNR=33
NJ2 Nanjing 36.32 33 *e*P **P** **05 47 13.3 +0.4**
NJ2 AP pP 05 47 25.9 +3.6
NJ2 XP sP 05 47 29.6 +3.3
NJ2 PP PP 05 48 37.4 +0.9
NJ2 S **S** **05 52 53.0 +1.9**
NJ2 XS 05 53 15.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,260nm,4.6s
NJ2 LR LR
comp=N,680nm,24.6s,MS4.5
NJ2 LR LR
comp=E,850nm,25.1s,MS4.5
NJ2 LR LR
comp=Z,240nm,28.0s,MS3.8
GTA Gaotai 36.94 5⇑*i*P **P** **05 47 17.9 -0.2**
GTA AP pP 05 47 30.0 +2.5
GTA XP sP 05 47 35.6 +4.1
GTA PP PP 05 48 42.3 -2.2
GTA PPP PPP 05 49 02.5 -2.0
GTA PCP PcP 05 49 42.1 +2.8
GTA S **S** **05 52 59.2 -1.3**
GTA PCS 05 53 28.8
GTA SS SS 05 55 30.8 +0.7
GTA AMB AMB
comp=Z,50nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,140nm,7.3s
GTA LR LR
comp=N,370nm,14.5s,MS4.4
GTA LR LR
comp=E,290nm,15.3s,MS4.4
GTA LR LR
comp=Z,430nm,15.7s,MS4.3
SSE Sheshan 36.96 37 *e*P **P** **05 47 15.6 -2.7**
SSE PCP PcP 05 49 35.7 -3.8
SSE S **S** **05 52 59.7 -1.1**
SSE SCS ScS 05 57 27.8 -0.8
SSE AMB AMB
comp=Z,50nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,120nm,3.5s
SSE LR LR
comp=N,200nm,20.8s,MS3.9
SSE LR LR
comp=E,100nm,20.8s,MS3.9
SSE LR LR
comp=Z,280nm,21.7s,MS4.0
SSE Sheshan 36.96 37 *e*P **P** **05 47 15.6 -2.7**
comp=Z,55nm,0.7s,mb5.5
SSE pP pP 05 47 24.5 -3.2
SSE sP sP 05 47 27.7 -4.0
SSE PP PP 05 48 39.7 -5.1
SSE PcP PcP 05 49 35.7 -3.8
SSE S **S** **05 52 59.7 -1.1**
SSE sS 05 53 14.7
SSE ScS ScS 05 57 27.8 -0.8
SSE LR LR
comp=Z,280nm,21.7s,MS4.0
KAKA Kakadu 38.93 114⇑*i*P Px 05 47 55.0
comp=Z,39nm,0.6s
BTO Baotou 39.98 16 *e*P **P** **05 47 43.6 +0.2**
BTO AMB AMB
comp=Z,20nm,0.7s,mb5.0
HHC Hu-ho-hao-te 40.66 18 ⇑P **P** **05 47 50.4 +1.4**
HHC PP PP 05 49 27.4 +1.5
HHC PCP PcP 05 49 52.7 +1.7
HHC PCS 05 53 41.6
HHC S **S** **05 53 58.5 +1.9**
HHC SS SS 05 56 53.5 +1.0
HHC AMB AMB
comp=Z,50nm,0.9s,mb5.1
HHC AMB AMB
comp=Z,180nm,3.9s
HHC LR LR
comp=N,710nm,14.3s,MS4.7
HHC LR LR
comp=E,360nm,14.3s,MS4.7
HHC LR LR
comp=Z,420nm,11.9s,MS4.5
KSH Kashi 41.28 336 *e*P **P** **05 47 55.0 +0.9**
KSH AP pP 05 48 07.7 +4.2
KSH XP sP 05 48 12.3 +4.8
KSH PP PP 05 49 33.1 +0.8
KSH *e*S **S** **05 54 02.8 -3.0**
KSH *e*SCS ScS 05 57 54.6 +1.1
KSH AMB AMB
comp=Z,140nm,3.8s
KSH LR LR
comp=N,710nm,12.8s,MS5.1
KSH LR LR
comp=E,2μm,14.7s,MS5.1
WMQ Urumqi 41.91 351 P **P** **05 48 00.0 +0.7**
WMQ AP pP 05 48 12.2 +3.5
WMQ XP sP 05 48 17.5 +4.8
WMQ PP PP 05 49 41.1 +1.8
WMQ PCP PcP 05 49 55.6 +0.5
WMQ PPP PPP 05 50 12.0 +0.9
WMQ *e*S **S** **05 54 14.7 -0.5**
WMQ SS SS 05 57 17.9 +1.0
WMQ SCS ScS 05 57 56.3 -1.0
WMQ AMB AMB
comp=Z,10.0nm,1.2s,mb4.3
WMQ AMB AMB
comp=Z,220nm,5.0s
WMQ LR LR
comp=N,2μm,21.0s,MS5.2
WMQ LR LR
comp=E,2μm,20.4s,MS5.2
WMQ LR LR
comp=Z,2μm,20.0s,MS5.0
DL2 Dalian 43.04 29 P **P** **05 48 09.2 +0.6**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
WRA Warramunga Arr 43.47 123 P **P** **05 48 11.8 -0.4**
comp=Z,7.0nm,0.6s,mb4.6,baz=301,slow=9.2,SNR=48
WRA Warramunga Arr 43.47 123 *i* P **P** **05 48 11.8 -0.5**
WRA pmax pmax
comp=Z,7.0nm,0.6s
WRAB Tennant Creek 43.47 123⇓*i*P **P** **05 48 11.1 -1.2**
WB2 Warramunga Arr 43.48 123⇑*i*P **P** **05 48 11.9 -0.4**
ULHL Ulahol 43.52 338 P **P** **05 48 13.3 +0.9**
SNR=13
UCH Uchtor 44.16 337 P **P** **05 48 19.1 +1.5**
SNR=26
TKM2 Tokmak 2 44.34 338 P **P** **05 48 20.1 +1.0**
SNR=15
KBK Karagaybulak 44.36 337 P **P** **05 48 21.0 +1.8**
SNR=12
AML Almayashu 44.41 336 P **P** **05 48 21.3 +1.6**
SNR=17
AAK Ala-Archa 44.51 337 P **P** **05 48 23.0 +2.5**
SNR=8.8
AAK Ala-Archa 44.51 337*c i*P **P** **05 48 20.0 -0.5**
AAK pmax pmax
comp=Z,15nm,1.4s,mb4.6
AAK MLR MLR
comp=Z,300nm,20.0s,MS4.2
FRU Bishkek 44.63 337 *e*P **P** **05 48 23.0 +1.6**
FRU *e* pP 05 48 31.0 +0.1
EKS2 Erkin-Say 44.82 336 P **P** **05 48 24.2 +1.2**
SNR=9.0
USP Ospenovka 45.05 337 P **P** **05 48 25.5 +0.8**
SNR=28
MKAR Makanchi Array 45.83 347 P **P** **05 48 31.0 +0.1**
comp=Z,37nm,0.7s,mb5.4,baz=163,slow=7.8,SNR=219
MKAR LR LR 06 12 30.7
comp=Z,132nm,19.5s,MS3.9,baz=164,slow=42
SONM Songino Array 46.06 9 P **P** **05 48 32.8 +0.2**
comp=Z,16nm,0.5s,mb5.2,baz=191,slow=9.4,SNR=172
SONM PcP PcP 05 50 09.3 +0.1
comp=Z,4.6nm,0.7s,baz=188,slow=3.6,SNR=7.9
ULN Ulaanbaatar 46.20 10 *e*P **P** **05 48 33.8 0.0**
ULN pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ULN MLR MLR
comp=Z,511nm,19.0s,MS4.5
ULN Ulaanbaatar 46.20 10 *e*P **P** **05 48 33.8 0.0**
comp=Z,9.3nm,0.6s,mb4.9
ULN LR LR
comp=Z,511nm,19.0s,MS4.5
KKAR Karatay Array 46.55 334 *i* P **P** **05 48 36.9 +0.3**
KKAR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZAK Zakamensk 48.14 6⇑*i*P **P** **05 48 48.8 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CN2 Changchun 48.64 28 *e*P **P** **05 48 52.3 -0.6**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
MOY Mondy 49.22 4 *e*P **P** **05 48 47.8 -10**
GUMO Guam 49.27 74 LR LR 06 08 49.5
comp=Z,111nm,21.3s,MS3.8,baz=237,slow=35
KURK Kurchatov 50.37 345 P **P** **05 49 05.9 -0.3**
KURK pmax pmax
comp=Z,18nm,1.2s,mb5.0
HIA Hailar 50.78 20 *e*P **P** **05 49 09.4 +0.1**
HIA pmax pmax
comp=Z,28nm,1.2s
HIA Hailar 50.78 20 *e*P **P** **05 49 09.4 +0.1**
comp=Z,28nm,1.2s,mb5.1
MDJ Mudanjiang 51.26 30 P **P** **05 49 13.4 +0.5**
MDJ AP pP 05 49 26.8 +4.2
MDJ XP sP 05 49 33.0 +6.7
MDJ PCP PcP 05 50 27.3 -0.6
MDJ PP PP 05 51 10.8 +0.2
MDJ PCS 05 54 25.5
MDJ S **S** **05 56 29.9 +1.9**
MDJ XS 05 56 53.3
MDJ SS SS 06 00 07.4 +5.9
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,270nm,6.5s
MDJ LR LR
comp=N,110nm,16.9s,MS4.2
MDJ LR LR
comp=E,130nm,16.0s,MS4.2
MDJ LR LR
comp=Z,150nm,18.6s,MS4.0
MJAR Matsushiro Arr 51.42 44 LR LR 06 12 56.2
comp=Z,253nm,19.7s,MS4.2,baz=250,slow=38
CIT Chita 51.48 14 *e*P **P** **05 49 13.8 -0.8**
PMG Port Moresby 52.03 104 P **P** **05 49 18.6 -0.7**
baz=292,slow=6.7
PMG Port Moresby 52.03 104*c i*P **P** **05 49 18.4 -0.8**
PMG Port Moresby 52.03 104 *e*P **P** **05 49 18.7 -0.6**
comp=Z,22nm,0.9s,mb5.1
ZAL Zalesovo 52.20 351 P **P** **05 49 19.4 -0.5**
comp=Z,23nm,0.5s,mb5.3,baz=307,slow=5.4,SNR=69
ZAL Zalesovo 52.20 351 *i* P **P** **05 49 19.5 -0.4**
ZAL pmax pmax
comp=Z,23nm,0.5s
OPO Ambohidratompo 52.61 244 P **P** **05 49 23.7 +0.2**
comp=Z,4.3nm,1.0s,mb4.3,baz=107,slow=5.1,SNR=4.2
RDF Al-Radifah 53.27 305 *e*P **P** **05 49 28.4 +0.1**
RDF AMb AMB 05 49 38.6
comp=Z,34nm,0.8s,mb5.3
NVS Novosibirsk 53.31 351 *e*P **P** **05 49 25.9 -2.3**
NVS pmax pmax
comp=N,22nm,1.0s
NVS pmax pmax
comp=Z,27nm,1.0s,mb5.1
NVS pmax pmax
comp=E,8.0nm,0.6s
NAY Al-Naaiem 53.64 305 *e*P **P** **05 49 30.5 -0.5**
NAY AMb AMB 05 49 31.7
comp=Z,12nm,1.1s,mb4.7
MIB Mutribah 53.76 306 *e*P **P** **05 49 31.7 -0.1**
MIB AMb AMB 05 49 32.9
comp=Z,60nm,0.8s,mb5.6
CTA Charters Tower 53.87 117⇑*i*P **P** **05 49 32.5 -0.3**
comp=Z,10nm,0.9s,mb4.8
CTA Charters Tower 53.87 117 LR LR 06 15 33.9
comp=Z,206nm,18.6s,MS4.2,baz=40,slow=39
CTA Charters Tower 53.87 117⇑*i*P **P** **05 49 32.5 -0.3**
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 53.87 117 *e*P **P** **05 49 32.5 -0.3**
CTAO *e**PP pP 05 49 39.6 -2.8
CTAO pmax pmax
comp=Z,22nm,1.1s,mb5.0
CTAO MLR MLR
comp=Z,339nm,21.0s,MS4.4
CTAO Charters Tower 53.87 117 *e*P **P** **05 49 32.5 -0.3**
comp=Z,22nm,1.1s,mb5.0
CTAO *e*pP pP 05 49 39.6 -2.8
CTAO LR LR
comp=Z,339nm,21.0s,MS4.4
VOSK Vostochnaya 54.35 341 P **P** **05 49 34.8 -1.0**
VOSK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BVA0 Borovoye Array 54.79 341 *i* P **P** **05 49 38.0 -1.1**
STKA Stephens Creek 54.86 132⇑*i*P **P** **05 49 39.4 -0.5**
comp=Z,6.9nm,0.9s,mb4.7
STKA Stephens Creek 54.86 132 P **P** **05 49 39.9 -0.1**
comp=Z,10nm,1.0s,mb4.8,baz=324,slow=6.8,SNR=7.6
STKA LR LR 06 15 48.8
comp=Z,248nm,18.2s,MS4.3,baz=119,slow=39
KLR Kul'dur 55.58 27 *e*P **P** **05 49 41.6 -3.3**
AB31 Akbulak array 56.00 332 P **P** **05 49 46.9 -1.0**
AB31 pmax pmax
comp=Z,15nm,1.0s,mb5.0
BOD Bodaibo 56.98 11 *e*P **P** **05 49 51.7 -3.1**
BOD pmax pmax
comp=Z,19nm,0.9s,mb5.1
KMBO Kilima Mbogo 59.12 267 P **P** **05 50 11.1 +0.7**
comp=Z,4.4nm,1.1s,mb4.4,baz=52,slow=8.4,SNR=5.3
KMBO pP pP 05 50 18.0 -2.2
comp=Z,5.0nm,0.8s,baz=57,slow=9.4,SNR=9.8
KMBO LR LR 06 10 20.7
comp=Z,368nm,18.3s,MS4.5,baz=89,slow=31
KMBO Kilima Mbogo 59.12 267 *i* P **P** **05 50 11.1 +0.7**
KMBO pmax pmax
comp=Z,4.0nm,1.1s
GNI Garni 59.77 316 *e*P **P** **05 50 18.8 +4.3**
GNI pmax pmax
comp=Z,20nm,1.1s
GNI Garni 59.77 316 *e*P **P** **05 50 18.8 +4.3**
comp=Z,20nm,1.1s,mb5.1
SVE Sverdlovsk 61.21 339⇑*e*P **P** **05 50 23.2 -0.9**
SVE *e* 05 50 29.0
SVE pmax pmax
comp=Z,36nm,1.3s,mb5.3
SVE MLR MLR
comp=N,200nm,18.0s,MS4.5
SVE MLR MLR
comp=E,200nm,18.0s,MS4.5
SVE MLR MLR
comp=Z,200nm,18.0s,MS4.3
ARU Arti 61.70 337⇑*i*P **P** **05 50 26.4 -1.0**
ARU *e* 05 51 04.2
ARU *e* 05 52 39.5
ARU *e*S **S** **05 58 46.8 +0.7**
ARU *e*SS SS 06 02 49.0 -0.4
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.9
ARU MLR MLR
comp=N,200nm,18.0s,MS4.4
ARU MLR MLR
comp=Z,200nm,18.0s,MS4.3
ARU MLR MLR
comp=E,100nm,18.5s,MS4.4
KIV Kislovodsk 62.78 319 *e*P **P** **05 50 33.1 -1.6**
KIV *e* 05 51 10.7
KIV *e* 05 52 49.1
KIV *e*S **S** **05 58 59.3 -0.6**
KIV pmax pmax
comp=Z,16nm,1.1s,mb5.1
YAK Yakutsk 64.50 17 *e*P **P** **05 50 44.5 -1.3**
YAK pmax pmax
comp=Z,25nm,0.6s,mb5.4
YAK Yakutsk 64.50 17 *e*P **P** **05 50 44.5 -1.3**
comp=Z,26nm,0.6s,mb5.4
SOKR Solikamsk 64.61 339 *e*P **P** **05 50 46.3 -0.2**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.1
BR131 Keskin Array S 67.61 312 *e*P **P** **05 51 04.9 -1.1**
comp=Z,1.5nm,0.6s,mb4.2
BR131 *e*pP pP 05 51 12.6 -3.3
BRTR Keskin Array B 67.61 312 P **P** **05 51 05.0 -1.0**
comp=Z,1.6nm,0.7s,mb4.2,baz=121,slow=7.2,SNR=11
BRTR pP pP 05 51 12.8 -3.0
comp=Z,2.3nm,0.9s,baz=146,slow=8.9,SNR=6.6
MOS Moscow 70.81 329 *e*P **P** **05 51 22.8 -2.6**
MOS *e* 05 51 30.4
OBN Obninsk 71.09 328⇑*e*P **P** **05 51 26.3 -0.8**
OBN *e* 05 54 11.1
OBN *e*S S 06 00 37.2 -2.9
OBN pmax pmax
comp=Z,41nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.3
TIXI Tiksi 72.14 10⇑*i*P **P** **05 51 31.5 -1.6**
TIXI pmax pmax
comp=Z,31nm,1.4s,mb5.0
TIXI MLR MLR
comp=Z,300nm,19.0s,MS4.6
TIRR Tirgusor 72.60 316 ⇑P pP 05 51 48.1 +1.8
CFR Carcaliu 72.97 317 ⇑P pP 05 51 46.5 -1.9
SEY Seymchan 73.00 23⇑*i*P **P** **05 51 37.9 -0.4**
AKASG Malin Array Be 73.73 322 P **P** **05 51 41.5 -1.2**
comp=Z,4.4nm,0.7s,mb4.5,baz=92,slow=4.8,SNR=18
VRI Vrincioaia 74.09 317 ⇑P **P** **05 51 45.9 +0.9**
VOIR 75.15 316 ⇑P **P** **05 51 52.5 +1.4**
BURAR Bucovina Array 75.50 319 ⇑P **P** **05 51 54.3 +1.3**
BURAR Bucovina Array 75.50 319 ⇑P **P** **05 51 54.4 +1.3**
JOF Joensuu 76.64 335 *e*p **P** **05 51 56.0 -3.2**
comp=Z,2.7nm,0.8s,mb4.2
JOF Joensuu 76.64 335 *e*P **P** **05 51 56.0 -3.2**
JOF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SUW Suwalki 78.14 325 *e*P **P** **05 52 07.3 -0.3**
SUW Suwalki 78.14 325 *e*P **P** **05 52 07.3 -0.3**
FINES FINESS Array B 78.49 333 P **P** **05 52 09.4 0.0**
comp=Z,5.0nm,0.6s,mb4.6,baz=89,slow=4.6,SNR=22
KAF Kangasniemi 78.58 333 *e*p **P** **05 52 09.5 -0.3**
comp=Z,4.8nm,0.6s,mb4.6,baz=106,slow=4.8
KAF Kangasniemi 78.58 333 *e*P **P** **05 52 09.5 -0.3**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BILL Bilibino 80.35 21 *e*P **P** **05 52 19.0 -0.3**

BILL pmax pmax
comp=Z,21nm,2.4s,mb4.6
BILL MLR MLR
comp=Z,500nm,18.0s,MS4.9
MORC Moravsky Berou 80.88 320 ⇓P **P 05 52 23.6 +1.2**
ARCES ARCESS Array B 81.07 340 P **P 05 52 23.9 +0.8**
comp=Z,5.6nm,0.6s,mb4.6,baz=97,slow=5.3,SNR=43
ARE0 ARCESS Array S 81.07 340 *e*P **P 05 52 23.5 +0.4**
GERES GERESS Array B 83.29 319 P **P 05 52 36.0 +1.0**
comp=Z,4.1nm,0.8s,mb4.5,baz=104,slow=5.5,SNR=28
GERES pP pP 05 52 44.4 -0.7
comp=Z,2.6nm,0.8s,baz=90,slow=4.0,SNR=7.5
GRA1 Grafenberg Arr 84.95 319 *e*P **P 05 52 44.8 +1.4**
comp=Z,7.0nm,1.0s,mb4.8
GRF Grafenberg Arr 84.95 319 *e*P **P 05 52 44.8 +1.4**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GRF Grafenberg Arr 84.95 319 *e*P **P 05 52 44.8 +1.4**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GRF Grafenberg Arr 84.95 319 *e*P **P 05 52 44.8 +1.4**
comp=Z,7.0nm,1.0s,mb4.8
NB2 NORSAR Subarra 85.49 331 P **P 05 52 45.6 -0.2**
comp=Z,9.1nm,1.1s,mb4.8,baz=93,slow=5.0
NB2 NORSAR Subarra 85.49 331 P **P 05 52 45.6 -0.2**
NB2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
NOA NORSAR Array B 85.49 331 P **P 05 52 46.2 +0.4**
comp=Z,5.1nm,0.9s,mb4.6,baz=94,slow=5.2,SNR=8.0
TORD Torodi Ar. Bea 93.92 283 P **P 05 53 27.6 +1.0**
comp=Z,1.4nm,1.1s,mb4.3,baz=79,slow=4.9,SNR=6.3
TORD pP pP 05 53 34.4 -2.3
comp=Z,2.5nm,1.1s,baz=85,slow=5.2,SNR=9.6
IMA2 Indian Mountai 95.80 23 *e*P **P 05 53 34.8 +0.8**
ULM Lac du Bonnet 126.49 10 PKP PKPdf 05 59 10.7 -4.7
comp=Z,1.6nm,1.0s,baz=293,slow=5.6,SNR=3.6
NVAR Mina Array Bea 128.31 35 PKP PKPdf 05 59 16.5 -2.7
comp=Z,0.4nm,0.6s,baz=267,slow=1.5,SNR=6.0
NVAR Mina Array Bea 128.31 35 PKP PKPdf 05 59 16.5 -2.7
PDAR Pinedale Array 129.32 25 PKP PKPdf 05 59 17.9 -3.1
comp=Z,0.5nm,0.6s,baz=270,slow=3.0,SNR=4.4
ANMO Albuquerque 137.13 28 PKP PKPdf 05 59 32.5 -3.3
comp=Z,0.4nm,0.3s,baz=138,slow=6.3,SNR=4.6
TXAR Lajitas Array 143.08 30 PKP PKPdf 05 59 41.0 -5.6
comp=Z,1.0nm,0.7s,baz=58,slow=1.0,SNR=12
JCT Junction City 143.85 24 *e*PKIKP PKPdf 05 59 42.5 -5.4
CPUP Villa Florida 145.27 224 *e*PKIKP PKPdf 05 59 46.9 -3.7

CRAAG **06** *05:53:04.6,6.42S×29.52E,Mb5.4*
IDC **06** *05:53:07.4±0.6,6.06S×29.51E,mb4.8/17,mb1 4.9/18, mb1mx4.9/20,mbtmp4.8/18,ML4.9/1,MS4.8/17,Ms1 4.8/17, ms1mx4.7/20,Error ellipse: s-maj=18.9km s-min=15.1km az=90.0*
MOS **06** *05:53:07.3±0.8,5.98S×29.57E,h10km,mb5.6/77, MS4.7/26,Error ellipse: s-maj=10.5km s-min=3.5km az=99.3*
NEIC **06** *05:53:09.0±0.2,6.08S×29.64E,h10km,mb5.3/105, MS5.2/92,Error ellipse: s-maj=4.9km s-min=3.7km az=74.0*
NEIC Felt at Kalemie, Congo.
BJI **06** *05:53:08.3,5.45S×29.24E,h13km,mB5.5,mb5.2,Ms5.4, Msz4.9*
HRVD **06** *05:53:09.0±0.2,6.16S×29.53E,h18km,MW5.2/78, Centroid moment Tensor Solution. LP body waves: s67,c114;Mantle waves: s78,c140; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-6.24±.17; Mθθ-0.71±.13; Mφφ6.95±.14; Mrθ-2.52±.36; Mrφ-0.03±.13; Mθφ2.02±.35; Best double couple: M0 7.367×10^16 NP1: φs19°,δ40°,λ-58°. NP2:φs160°,δ57°,λ-114°. Principal axes: T 7.274, Plg9°, Azm267°; N .185, Plg20°, Azm174°; P -7.461, Plg68°, Azm21°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 05:53:08.2±0.2,6.09S±0.04×29.53E±0.03,h18km, h18km±1.7km:pP-P,n551,σθ90/452,mb5.2/156,MS5.0/117, 12C-42D,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**9.14**	**58**	Pn	**P**	**05 55 17.6**	**-4.8**
	18nm,0.3s,baz=228,slow=15,SNR=64						
KMBO				Sn	**Sn**	**05 56 54.1**	**-12**
	85nm,0.3s,baz=334,slow=23,SNR=19						
KMBO				Lg		05 57 49.0	
	126nm,0.3s,baz=174,slow=24,SNR=16						
KMBO				LR	LR	05 59 03.1	
	comp=Z,8μm,19.9s,baz=224,slow=39						
LSZ	**Lusaka**	**9.23**	**188**	Pn	**P**	**05 55 21.0**	**-2.5**
	12nm,0.3s,baz=4.4,slow=12,SNR=55						
LSZ				Sn	**Sn**	**05 56 58.7**	**-9.2**
	24nm,0.3s,baz=311,slow=20,SNR=4.1						
LSZ				Lg		05 57 50.9	
	60nm,0.3s,baz=93,slow=19,SNR=9.7						
LSZ				LR	LR	05 59 15.9	
	comp=Z,8μm,18.2s,baz=5.5,slow=40						
LSZ	**Lusaka**	**9.23**	**188**	*e*P	**P**	**05 55 21.6**	**-1.9**
LSZ				pmax	pmax		
	comp=Z,198nm,0.9s						
LSZ	**Lusaka**	**9.23**	**188**	*e*Pn	**P**	**05 55 21.6**	**-1.9**
	comp=Z,198nm,0.9s						
LSZ				*e*Sn	**Sn**	**05 56 56.4**	**-12**
MATP	**Matopo**	**14.29**	**184**	Pn	**P**	**05 56 26.7**	**-5.3**
	comp=Z,3.4nm,0.3s,baz=8.5,slow=13,SNR=26						
MATP				Sn	**S**	**05 59 06.0**	**-4.9**
	comp=Z,4.0nm,0.3s,baz=254,slow=22,SNR=3.8						
MATP				Lg		06 00 32.0	
	comp=Z,6.2nm,0.3s,baz=317,slow=14,SNR=5.2						
MATP				LR	LR	06 01 50.4	
	comp=Z,2μm,18.8s,baz=20,slow=36						
MATP	**Matopo**	**14.29**	**184**	Pn	**P**	**05 56 26.7**	**-5.3**
MATP				Sn	**S**	**05 59 06.0**	**-4.8**
MATP				Lg		06 00 32.0	
MATP				LR	LR	06 01 50.4	
TSUM	**Tsumeb**	**17.47**	**221**	P	**P**	**05 57 08.8**	**-4.0**
	comp=Z,1.3nm,0.3s,baz=26,slow=11,SNR=24						
TSUM				S	**S**	**06 00 13.2**	**-12**
	comp=Z,3.3nm,0.3s,baz=273,slow=20,SNR=4.8						
TSUM				Lg		06 02 08.8	
	comp=Z,4.0nm,0.3s,baz=316,slow=20,SNR=3.4						
TSUM				LR	LR	06 04 05.7	
	comp=Z,5μm,18.1s,baz=36,slow=38						
TSUM	**Tsumeb**	**17.47**	**221**	*e*P	**P**	**05 57 08.9**	**-3.9**
	comp=Z,264nm,1.2s						
TSUM				*e*S	**S**	**06 00 12.2**	**-13**
LBTB	**Lobatse**	**19.19**	**191**	P	**P**	**05 57 30.4**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=23,slow=12,SNR=21						
LBTB				Lg		06 03 03.7	
	comp=Z,0.4nm,0.3s,baz=360,slow=12,SNR=4.0						
LBTB				LR	LR	06 05 24.2	
	comp=Z,3μm,19.5s,baz=26,slow=38						
LBTB	**Lobatse**	**19.19**	**191**	*e*P	**P**	**05 57 30.6**	**-3.3**
LBTB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LBTB	**Lobatse**	**19.19**	**191**	*e*P	**P**	**05 57 30.6**	**-3.3**
	comp=Z,0.9nm,0.6s						
OPO	**Ambohidratompo**	**21.22**	**127**	P	**P**	**05 57 56.2**	**+0.7**
	comp=Z,12nm,1.1s,mb4.2,baz=282,slow=10,SNR=9.8						
ATD	**Arta Tunnel**	**21.95**	**37**	P	**P**	**05 58 04.3**	**+1.4**
	comp=Z,75nm,1.3s,mb5.0,baz=251,slow=5.5,SNR=12						
ATD				LR	LR	06 06 38.0	
	comp=Z,2μm,18.4s,MS4.5,baz=28,slow=37						
ATD	**Arta Tunnel**	**21.95**	**37**	P	**P**	**05 58 04.3**	**+1.4**
ATD				LR	LR	06 06 38.0	
DJNS	**Zahran al Janu**	**27.39**	**30**	P	**P**	**05 58 58.1**	**+3.1**
LTHS	**Al Lith**	**28.30**	**22**	P	**P**	**05 59 04.7**	**+1.6**
BLJS	**Baljurashi**	**28.41**	**24**	P	**P**	**05 59 06.9**	**+2.8**
TATS	**Tathlith**	**28.93**	**28**	P	**P**	**05 59 11.6**	**+2.8**
KAMS	**Al Khamasin**	**30.12**	**29**	P	**P**	**05 59 21.2**	**+1.8**
UMJS	**Umm Lajj**	**32.04**	**13**	P	**P**	**05 59 37.3**	**+1.0**
AFFS	**'Afif**	**32.60**	**23**	P	**P**	**05 59 42.1**	**+0.9**
KBRS	**Khaybar**	**33.07**	**16**	P	**P**	**05 59 46.3**	**+1.1**
MZLS	**Mizel**	**33.61**	**27**	P	**P**	**05 59 50.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**33.61**	**305**	P	**P**	**05 59 50.1**	**+0.1**
	comp=Z,42nm,0.9s,mb5.4,baz=115,slow=8.3,SNR=217						
ARSS	**Ar Rass**	**34.45**	**22**	P	**P**	**05 59 58.1**	**+0.9**
AYUS	**'Aynunah**	**34.52**	**9**	P	**P**	**05 59 58.7**	**+0.9**
BDAS	**Al Bad'**	**34.74**	**9**	P	**P**	**06 00 00.7**	**+1.0**
HAQS	**Haql**	**35.32**	**8**	P	**P**	**06 00 06.0**	**+1.4**
HILS	**Ha'il**	**35.32**	**19**	P	**P**	**06 00 05.9**	**+1.3**
JMOS	**Jabal al Moall**	**35.46**	**8**	P	**P**	**06 00 07.0**	**+1.1**
HRFI	**Mount Harif**	**36.30**	**8**	P	**P**	**06 00 12.6**	**-0.3**
DBIC	**Dimbokro**	**36.58**	**290**	P	**P**	**06 00 15.4**	**0.0**
	comp=Z,7.6nm,0.5s,mb4.8,baz=100,slow=8.9,SNR=32						
DBIC				LR	LR	06 15 38.7	
	comp=Z,2μm,18.1s,MS4.9,baz=90,slow=37						
DBIC	**Dimbokro**	**36.58**	**290**	*e*P	**P**	**06 00 15.0**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,29nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,2μm,20.0s						
DBIC	**Dimbokro**	**36.58**	**290**	*e*P	**P**	**06 00 15.0**	**-0.4**
	comp=Z,29nm,0.9s,mb5.1						
DBIC				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
LIC	**Lamto**	**36.60**	**289**	*e*P	**P**	**06 00 14.8**	**-0.7**
	comp=Z,172nm,1.0s,mb5.5						
LIC				*e*R			
	comp=Z,3μm,20.0s						
HASS	**Wahat al Ahsa'**	**36.76**	**31**	P	**P**	**06 00 18.5**	**+1.7**
RDF	**Al-Radifah**	**38.90**	**26**	*e*P	**P**	**06 00 35.0**	**+0.3**
RDF				AMb	AMB	06 00 37.5	
	comp=Z,62nm,1.2s,mb5.2						
QRN	**Al-Qurain**	**38.90**	**26**	*e*P	**P**	**06 00 35.5**	**+0.8**
QRN				AMb	AMB	06 00 38.3	
	comp=Z,69nm,1.3s,mb5.2						
NAY	**Al-Naaiem**	**39.05**	**25**	*e*P	**P**	**06 00 36.2**	**+0.2**
NAY				AMb	AMB	06 00 48.5	
	comp=Z,16nm,0.9s,mb4.7						
KBD	**Kabd**	**39.17**	**26**	*e*P	**P**	**06 00 37.7**	**+0.6**
KBD				AMb	AMB	06 00 39.8	
	comp=Z,189nm,1.3s,mb5.7						
MMB2	**Mount Meron ar**	**39.28**	**8**	P	**P**	**06 00 38.6**	**+0.7**
MMC4	**Mount Meron ar**	**39.28**	**8**	P	**P**	**06 00 38.5**	**+0.6**
MMC6	**Mount Meron ar**	**39.28**	**8**	P	**P**	**06 00 38.7**	**+0.8**
MMA3	**Mount Meron ar**	**39.28**	**8**	P	**P**	**06 00 38.5**	**+0.6**
MMA2	**Mount Meron ar**	**39.28**	**8**	P	**P**	**06 00 38.6**	**+0.7**
MMA4	**Mount Meron ar**	**39.28**	**8**	P	**P**	**06 00 38.6**	**+0.7**
MMA0	**Mount Meron ar**	**39.28**	**8**	P	**P**	**06 00 38.8**	**+0.9**
MMB1	**Mount Meron ar**	**39.29**	**8**	P	**P**	**06 00 38.6**	**+0.7**
MMA1	**Mount Meron ar**	**39.29**	**8**	P	**P**	**06 00 38.9**	**+1.0**
MMC7	**Mount Meron ar**	**39.29**	**8**	P	**P**	**06 00 38.7**	**+0.7**
KSDI	**Kefar Szold**	**39.49**	**8**	P	**P**	**06 00 40.5**	**+0.9**
ASHO	**Ashiyiah**	**40.04**	**39**	P	**P**	**06 00 45.0**	**+0.8**
	SNR=18						
HOQ	**Hoqain**	**40.07**	**42**	P	**P**	**06 00 45.3**	**+0.8**
	SNR=8.9						
CSS	**Prodhromos**	**40.98**	**5**	*e*P	**P**	**06 00 52.7**	**+0.8**
BANOM	**Banah**	**41.08**	**38**	P	**P**	**06 00 53.4**	**+0.6**
	SNR=27						
ERMK	**Ermenek**	**42.62**	**4**	*i* P	**P**	**06 01 04.0**	**-1.4**
COBT	**Iskenderun**	**42.85**	**8**	*i* P	**P**	**06 01 06.5**	**-0.7**
GOLH	**Golhisar**	**43.10**	**0**	*i* P	**P**	**06 01 10.3**	**+1.0**
CEYT	**Ceyhan**	**43.27**	**7**	P	Px	06 00 11.3	
KARA	**Karaisali**	**43.43**	**6**	P	Px	06 00 12.8	
KOZT	**Kozan**	**43.74**	**7**	P	Px	06 00 14.9	
TKTP	**Tekketepe**	**43.91**	**1**	*i* P	**P**	**06 01 15.0**	**-0.7**
KAHT	**Ahir Dag**	**44.03**	**8**	*i* P	**P**	**06 01 18.1**	**+1.3**
ATAB	**Bozova**	**44.10**	**10**	*i* P	**P**	**06 01 17.8**	**+0.4**
URFA	**Urfa**	**44.16**	**11**	P	Px	06 00 17.7	
KDAG	**Bozmova**	**44.31**	**357**	*i* P	**P**	**06 01 18.8**	**-0.3**
MARD	**Mardin**	**44.44**	**13**	*i* P	**P**	**06 01 19.3**	**-0.8**
KIZT	**Kizilcal**	**44.79**	**3**	P	Px	06 00 24.2	
AVNT	**Avonos**	**44.91**	**6**	*i* P	**P**	**06 01 23.8**	**-0.1**
GDZ	**Gediz**	**44.95**	**360**	*i* P	**P**	**06 01 23.7**	**-0.5**
ELZG	**Elazig**	**45.22**	**10**	*i* P	**P**	**06 01 26.4**	**+0.1**
HAKT	**HAKKARI**	**45.39**	**16**	*i* P	**P**	**06 01 25.8**	**-1.9**
KAMT	**Kaman**	**45.39**	**5**	P	Px	06 00 29.0	
ESKT	**Eskisehir**	**45.39**	**1**	P	Px	06 00 28.3	
ESKT	**Eskisehir**	**45.39**	**1**	*i* P	**P**	**06 01 27.1**	**-0.6**
PTK	**Pertek**	**45.68**	**11**	P	Px	06 00 30.0	
CDAG	**Cicekdag**	**45.70**	**5**	*i* P	**P**	**06 01 30.0**	**-0.1**
BRTR	**Keskin Array B**	**45.74**	**4**	P	**P**	**06 01 30.5**	**+1.1**
	comp=Z,30nm,0.9s,mb5.2,baz=180,slow=8.6,SNR=139						
BR131	**Keskin Array S**	**45.74**	**4**	*e*P	**P**	**06 01 31.1**	**+0.7**
	comp=Z,23nm,0.8s,mb5.2						
BR131				*e*	pP	06 01 37.7	+1.9
BR131				LR	LR		
	comp=Z,327nm,19.0s,MS4.3						
BORA	**Eskisehir**	**45.74**	**1**	*i* P	**P**	**06 01 31.2**	**+0.7**
ANTO	**Ankara**	**45.83**	**4**	*e*P	**P**	**06 01 31.7**	**+0.6**
ANTO				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.3						
ANTO				MLR	MLR		
	comp=Z,334nm,20.0s,MS4.3						
ANTO	**Ankara**	**45.83**	**4**	*e*P	**P**	**06 01 31.7**	**+0.6**
	comp=Z,54nm,1.4s,mb5.3						
ANTO				LR	LR		
	comp=Z,334nm,20.0s,MS4.3						
ULDT	**Uludag**	**46.00**	**360**	*i* P	**P**	**06 01 31.8**	**-0.7**
BNGL	**BINGÖL**	**46.09**	**13**	*i* P	**P**	**06 01 33.8**	**+0.6**
BNGL	**BINGOL**	**46.09**	**13**	*i* P	**P**	**06 01 36.6**	**+3.4**
TVAN	**Van**	**46.22**	**15**	*i* P	**P**	**06 01 33.6**	**-0.7**
CORM	**Corum**	**46.27**	**5**	P	Px	06 00 34.7	
VANB	**Van**	**46.28**	**15**	*e*P	Px	06 00 36.5	
ELDT	**Eldivan**	**46.48**	**4**	*i* P	**P**	**06 01 35.5**	**-0.9**
SGKT	**Sivrigoynuk**	**46.49**	**3**	*i* P	**P**	**06 01 36.0**	**-0.4**
MRMT	**Marmara Adasi**	**46.49**	**358**	*e*P	Px	06 00 36.8	
HRT	**Hereke**	**46.68**	**0**	*e*P	Px	06 00 37.5	
HENT	**Hendek**	**46.70**	**1**	*i* P	**P**	**06 01 37.8**	**-0.1**
EZM	**Erzurum**	**47.05**	**12**	*e*P	Px	06 00 42.9	
ERZM	**Erzurum**	**47.05**	**12**	*i* P	**P**	**06 01 41.1**	**+0.4**
CMER	**Merouana**	**47.06**	**334**	P	**P**	**06 01 41.0**	**0.0**
SAFT	**Safranbolu**	**47.19**	**3**	*e*P	Px	06 00 42.4	
CTEI	**Djebel Teioual**	**47.21**	**334**	P	**P**	**06 01 43.0**	**+0.8**
GUMT	**Gumushane**	**47.21**	**10**	*e*P	Px	06 00 42.8	
CMAH	**Djebel Manchou**	**47.27**	**336**	P	**P**	**06 01 44.0**	**+1.4**
CKFL	**Kef-Lekhel**	**47.37**	**335**	P	**P**	**06 01 44.0**	**+0.6**
GRSN	**GIRESUNGRSN**	**47.46**	**9**	*i* P	**P**	**06 01 43.0**	**-1.0**
BALT	**Daday**	**47.52**	**4**	*i* P	**P**	**06 01 43.5**	**-1.0**
BOYT	**Boyabat**	**47.53**	**5**	*i* P	**P**	**06 01 43.1**	**-1.5**
CAEH	**'Ain El Ouahch**	**47.63**	**335**	P	**P**	**06 01 43.5**	**-2.0**
MMB	**Musomiste**	**47.74**	**354**	*e*P	**P**	**06 01 45.0**	**-1.2**
RZN	**Rozhen**	**47.75**	**355**	*i* P	**P**	**06 01 46.0**	**-0.3**
SET	**Setif**	**47.77**	**333**	P	**P**	**06 01 47.0**	**+0.5**
DFRA	**Djebel Bou Aff**	**47.85**	**334**	P	**P**	**06 01 47.0**	**-0.2**
KKB	**Krupnik**	**48.09**	**354**	*e*P	**P**	**06 01 48.0**	**-0.9**
GNI	**Garni**	**48.10**	**16**	*d*iP	**P**	**06 01 50.1**	**+1.1**
GNI				pmax	pmax		
	comp=Z,105nm,1.7s						
GNI				MLR	MLR		
	comp=Z,600nm,13.0s						
GNI	**Garni**	**48.10**	**16**	*e*P	**P**	**06 01 50.3**	**+1.3**
	comp=Z,45nm,1.1s,mb5.4						
GNI				LR	LR		
	comp=Z,562nm,22.0s,MS4.5						
ARTV	**Artvin**	**48.40**	**13**	*i* P	**P**	**06 01 51.1**	**-0.2**
PGB	**Panagyurishte**	**48.65**	**355**	*e*P	**P**	**06 01 53.0**	**-0.2**
VTS	**Vitosha**	**48.79**	**354**	*e*P	**P**	**06 01 54.0**	**-0.3**
EMHD	**Djebel Mahouad**	**48.90**	**331**	P	**P**	**06 01 58.0**	**+2.8**
VSL	**Villasalto**	**49.03**	**339**	*e*P	**P**	**06 01 57.0**	**+0.7**
	comp=Z,70nm,1.2s,mb5.6						
ABA	**Alger-Bouzarea**	**49.34**	**332**	P	**P**	**06 01 51.0**	**-7.7**
MTA	**Mtatsminda**	**49.56**	**15**	P	**P**	**06 02 01.0**	**+0.7**
TI2	**Plekhanov**	**49.58**	**15**	⇓*i*P	**P**	**06 02 00.6**	**+0.2**
TI2				pmax	pmax		
	comp=Z,140nm,1.5s,mb5.8						
TI2				pmax	pmax		
	comp=Z,500nm,3.0s						
TI2				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.2						
EANR	**'Ain N'Sour**	**49.61**	**330**	P	**P**	**06 02 09.0**	**+8.3**
ECHA	**Ech Chlef**	**49.63**	**330**	P	**P**	**06 02 11.0**	**+10**
EBNR	**Beni Rached**	**49.66**	**330**	P	**P**	**06 02 18.0**	**+17**
ONI	**Oni**	**50.07**	**13**	P	**P**	**06 02 04.7**	**+0.5**
POO	**Poona**	**50.07**	**60**	*e*P	**P**	**06 02 04.7**	**+0.2**
POO				AMb	AMB	06 02 13.3	
	comp=Z,37nm,1.0s,mb5.4						
BOLS	**Boljevac**	**50.16**	**353**	⇑*i*P	**P**	**06 02 04.0**	**-0.8**
SOC	**Sochi**	**50.29**	**10**	*e*P	**P**	**06 02 05.3**	**-0.5**
SOC				*e*		06 03 20.2	
SOC				*e*		06 03 59.3	
SOC				*e*PPP	PPP	06 04 56.9	-2.1
SOC				*e*S	S	**06 09 17.9**	**+1.7**
SOC				*e*SS	SS	06 12 42.2	-4.8
SOC				*e*SSS	SSS	06 14 22.6	+4.8
SOC				pmax	pmax		
	comp=Z,66nm,1.3s,mb5.5						
SOC				MLR	MLR		
	comp=Z,463nm,13.0s,MS4.7						
GRUS	**Gruza**	**50.38**	**352**	*e*P	**P**	**06 02 06.4**	**-0.1**
DIVS	**Divcibare**	**50.69**	**351**	⇑*i*P	**P**	**06 02 09.5**	**+0.7**
SVIS	**Svilajnac**	**50.71**	**352**	⇑*i*P	**P**	**06 02 09.2**	**+0.2**
SIM	**Simferopol'**	**50.97**	**4**	P	**P**	**06 02 11.0**	**0.0**
SIM				S	**S**	**06 09 32.0**	**+6.4**
SIM				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
ANN	**Anapa**	**51.15**	**7**	*e*P	**P**	**06 02 10.4**	**-1.9**
ANN				pmax	pmax		
	comp=Z,180nm,10.2s						
KIV	**Kislovodsk**	**51.21**	**12**	*e*P	**P**	**06 02 12.8**	**0.0**
KIV				*e*		06 03 28.9	
KIV				*e*		06 04 11.3	
KIV				*e*S	**S**	**06 09 31.5**	**+2.6**
KIV				pmax	pmax		
	comp=Z,87nm,1.1s,mb5.6						
KIV				pmax	pmax		
	comp=Z,92nm,8.7s						
KIV				MLR	MLR		
	comp=Z,482nm,18.0s,MS4.6						
VRI	**Vrincioaia**	**51.78**	**358**	P	**P**	**06 02 17.2**	**+0.1**
PGF	**Pioggiola**	**51.89**	**341**	*e*P	**P**	**06 02 17.5**	**-0.5**
	comp=Z,227nm,1.5s,mb5.6						
PGF	**Pioggiola**	**51.89**	**341**	*e*P	**P**	**06 02 17.5**	**-0.5**
PGF				pmax	pmax		
	comp=Z,114nm,1.5s,mb5.6						
BZS	**Buzias**	**51.96**	**353**	P	**P**	**06 02 19.0**	**+0.6**
PPE	**Popeni**	**52.13**	**359**	P	**P**	**06 02 18.5**	**-1.3**
EMUR	**La Murta**	**52.26**	**329**	P	**P**	**06 02 22.3**	**+1.4**
	comp=Z,196nm,2.3s,mb5.6						
GOF	**Gofitskoye**	**52.34**	**12**	*e*P	**P**	**06 02 21.2**	**-0.1**
GOF				pmax	pmax		
	comp=Z,96nm,1.3s,mb5.6						
KIS	**Kishinev**	**52.86**	**359**	*e*P	**P**	**06 02 25.0**	**-0.2**
PKSM	**Moragy**	**52.96**	**351**	P	**P**	**06 02 26.6**	**+0.6**
DRGR		**52.99**	**354**	P	**P**	**06 02 26.0**	**-0.2**
ERON	**Agron**	**53.00**	**327**	P	**P**	**06 02 28.2**	**+1.8**
	comp=Z,33nm,1.3s,mb5.1						
ECOG	**Cogollos-Vega**	**53.06**	**327**	P	**P**	**06 02 28.5**	**+1.7**
ECOG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ECOG	**Cogollos-Vega**	**53.06**	**327**	P	**P**	**06 02 28.5**	**+1.7**
	comp=Z,5.8nm,0.8s,mb4.6						
EQES	**Quesada**	**53.18**	**328**	P	**P**	**06 02 28.7**	**+1.0**
	comp=Z,8.7nm,1.0s,mb4.6						
EMIJ	**Mijas**	**53.21**	**325**	P	**P**	**06 02 28.6**	**+0.6**
	comp=Z,14nm,1.1s,mb4.8						
ELOJ	**Sierra Loja**	**53.28**	**326**	P	**P**	**06 02 30.0**	**+1.5**
ELOJ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ELOJ	**Sierra Loja**	**53.28**	**326**	P	**P**	**06 02 30.0**	**+1.5**
	comp=Z,4.9nm,0.7s,mb4.5						
CEY	**Cerknica**	**53.33**	**347**	*e*P	**P**	**06 02 28.7**	**0.0**
LMR	**La Mourre**	**53.43**	**339**	*e*P	**P**	**06 02 29.1**	**-0.4**
EVIA	**Vianos**	**53.51**	**329**	P	**P**	**06 02 31.2**	**+1.1**
EVIA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
EVIA	**Vianos**	**53.51**	**329**	P	**P**	**06 02 31.2**	**+1.1**
	comp=Z,12nm,0.9s,mb4.8						
EJIF	**Jimena Fronter**	**53.53**	**325**	P	**P**	**06 02 31.6**	**+1.3**
EJIF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
EJIF	**Jimena Fronter**	**53.53**	**325**	P	**P**	**06 02 31.6**	**+1.4**
	comp=Z,5.3nm,1.0s,mb4.4						
SBF	**Sospel**	**53.58**	**340**	*e*P	**P**	**06 02 30.0**	**-0.5**
	comp=Z,265nm,1.5s,mb5.7						
SBF	**Sospel**	**53.58**	**340**	*e*P	**P**	**06 02 30.0**	**-0.5**
SBF				pmax	pmax		
	comp=Z,132nm,1.5s,mb5.6						
FRF	**La Foret Royal**	**53.58**	**339**	*e*P	**P**	**06 02 30.0**	**-0.6**
	comp=Z,238nm,1.7s,mb5.5						
FRF	**La Foret Royal**	**53.58**	**339**	*e*P	**P**	**06 02 30.0**	**-0.6**
FRF				pmax	pmax		
	comp=Z,119nm,1.7s,mb5.5						
ELUQ	**Luque**	**53.65**	**327**	P	**P**	**06 02 30.7**	**-0.4**
ELUQ				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
ELUQ	**Luque**	**53.65**	**327**	P	**P**	**06 02 30.7**	**-0.4**
	comp=Z,6.7nm,0.7s,mb4.7						
EBAN	**Banos Encina**	**53.83**	**328**	P	**P**	**06 02 32.1**	**-0.3**
EBAN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
EBAN	**Banos Encina**	**53.83**	**328**	P	**P**	**06 02 32.1**	**-0.3**
	comp=Z,7.4nm,0.9s,mb4.6						
EMOS	**Mosqueruela**	**53.84**	**332**	P	**P**	**06 02 35.5**	**+3.1**
	comp=Z,15nm,1.0s,mb4.9						
EPOB	**Poblet**	**53.92**	**334**	P	**P**	**06 02 33.9**	**+0.9**
	comp=Z,25nm,1.4s,mb5.0						
ROBS	**Robic**	**54.02**	**346**	*e*P	**P**	**06 02 32.4**	**-1.3**
ESPR	**Espera**	**54.04**	**325**	P	**P**	**06 02 34.1**	**+0.1**
	comp=Z,15nm,0.7s,mb5.0						
EMIR	**Miracle**	**54.18**	**334**	P	**P**	**06 02 36.0**	**+1.0**
	comp=Z,24nm,0.9s,mb5.1	

comp=Z,79nm,1.4s,mb5.5
MELF Melles 55.29 335 *e*P **P 06 02 44.3 +1.2**
MOA Molln 55.37 348⇓*i*P **P 06 02 43.7 +0.1**
comp=Z,48nm,1.5s,mb5.3
SMOL Smolenice 55.40 350 *e*P **P 06 02 43.6 -0.2**
EBIE Bielsa 55.41 334 P **P 06 02 44.5 +0.5**
comp=Z,23nm,1.6s,mb5.0
VIVF Saint-Julien-l 55.41 339 *e*P **P 06 02 44.1 +0.2**
comp=Z,165nm,1.4s,mb5.6
VIVF Saint-Julien-l 55.41 339 *e*P **P 06 02 44.1 +0.2**
VIVF pmax pmax
comp=Z,82nm,1.4s,mb5.6
RESF Ens 55.42 334 *e*P **P 06 02 44.3 +0.2**
WTTA Wattenberg 55.43 345⇓*i*P **P 06 02 44.3 +0.2**
comp=Z,38nm,1.1s,mb5.3
WTTA Wattenberg 55.43 345 ⇓P **P 06 02 44.3 +0.2**
WTTA pmax pmax
comp=Z,38nm,1.1s,mb5.3
WTTA Wattenberg 55.43 345 ⇓P **P 06 02 44.3 +0.2**
comp=Z,38nm,1.1s,mb5.3
EGRO El Granado 55.44 324 P **P 06 02 44.7 +0.5**
comp=Z,6.4nm,0.8s,mb4.7
SQTA Sankt Quirin 55.50 345⇓*i*P **P 06 02 44.3 -0.2**
comp=Z,20nm,1.2s,mb5.0
SQTA Sankt Quirin 55.50 345 ⇓P **P 06 02 44.3 -0.3**
SQTA pmax pmax
comp=Z,20nm,1.2s,mb5.0
SQTA Sankt Quirin 55.50 345 ⇓P **P 06 02 44.3 -0.2**
comp=Z,20nm,1.2s,mb5.0
EPF Esparros 55.60 334 *e*P **P 06 02 45.8 +0.5**
comp=Z,154nm,1.3s,mb5.6
EPF Esparros 55.60 334 *e*P **P 06 02 45.8 +0.5**
EPF pmax pmax
comp=Z,77nm,1.3s,mb5.6
MOTA Moosalm 55.64 345⇓*i*P **P 06 02 45.1 -0.5**
comp=Z,18nm,1.1s,mb5.0
MOTA Moosalm 55.64 345 ⇓P **P 06 02 45.1 -0.5**
MOTA pmax pmax
comp=Z,18nm,1.1s,mb5.0
LABF Labassere 55.73 334 *e*P **P 06 02 46.2 -0.1**
STHS Stebnicka Huta 55.74 353 *i* P **P 06 02 46.1 -0.2**
STHS *e* pP 06 02 52.1 +0.4
KWP Kalwaria 55.81 355 *e*P **P 06 02 46.7 0.0**
GUD Guadarrama 55.85 329 P **P 06 02 48.5 +1.3**
GUD pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
GUD Guadarrama 55.85 329 P **P 06 02 48.5 +1.3**
comp=Z,4.6nm,1.0s,mb4.5
NIE Niedzica 55.86 353⇓*e*P **P 06 02 47.0 -0.1**
ETSF Etsaut 55.89 334 *e*P **P 06 02 47.8 +0.4**
comp=Z,257nm,1.6s,mb5.7
ETSF Etsaut 55.89 334 *e*P **P 06 02 47.8 +0.4**
ETSF pmax pmax
comp=Z,129nm,1.6s,mb5.7
DAVA Damuels 55.92 344⇓*i*P **P 06 02 47.2 -0.4**
comp=Z,47nm,1.2s,mb5.4
EBAD Badajoz 56.02 326 P **P 06 02 48.6 +0.2**
comp=Z,6.5nm,1.2s,mb4.5
VRAC Vranov 56.31 350 P **P 06 02 49.8 -0.5**
SJPF Ste Jean 56.35 333 *e*P **P 06 02 51.1 +0.4**
comp=Z,130nm,1.3s,mb5.5
SJPF Ste Jean 56.35 333 *e*P **P 06 02 51.1 +0.4**
SJPF pmax pmax
comp=Z,65nm,1.3s,mb5.5
FUR Furstenfeldbru 56.36 345 *e*P **P 06 02 50.2 -0.5**
GEC2 GERESS Array S 56.43 348 *e*P **P 06 02 50.3 -0.9**
GEC2 *e* 06 04 58.2
GEC2 pmax pmax
comp=Z,82nm,1.6s,mb5.5
GEC2 GERESS Array S 56.43 348 *e*P **P 06 02 50.3 -0.9**
comp=Z,82nm,1.6s,mb5.5
GEC2 *e*PP PP 06 04 58.2 -0.3
GERES GERESS Array B 56.43 348 P **P 06 02 50.8 -0.4**
comp=Z,6.1nm,0.8s,mb4.7,baz=169,slow=6.8,SNR=38
CABF La Chapelle 56.45 341 *e*P **P 06 02 50.6 -0.8**
comp=Z,145nm,1.6s,mb5.5
CABF La Chapelle 56.45 341 *e*P **P 06 02 50.6 -0.8**
CABF pmax pmax
comp=Z,72nm,1.6s,mb5.5
TREC Trest 56.50 349⇓*i*P **P 06 02 50.9 -0.8**
AKASG Malin Array Be 56.56 360 P **P 06 02 50.5 -1.7**
comp=Z,4.9nm,0.5s,mb4.8,baz=183,slow=6.5,SNR=53
OKC Ostrava-Krasne 56.57 351⇓*i*P **P 06 02 51.5 -0.7**
MORC Moravsky Berou 56.60 351 *e*P **P 06 02 51.7 -0.7**
MORC pmax pmax
comp=Z,44nm,1.2s,mb5.4
MORC Moravsky Berou 56.60 351 *e*P **P 06 02 51.7 -0.7**
comp=Z,44nm,1.2s,mb5.4
OJC Ojcow 56.71 353 *e*P **P 06 02 51.9 -1.3**
KHC Kasperske Hory 56.73 348⇓*i*P **P 06 02 52.7 -0.6**
KHC *ex* x 06 03 04.8
KHC AMS AMS 06 29 00.0
comp=Z,700nm,20.5s
KHC Kasperske Hory 56.73 348⇓*i*P **P 06 02 52.7 -0.6**
KHC MLR MLR
comp=Z,700nm,20.5s,MS4.7
PLDF La Plantade 56.75 339 *e*P **P 06 02 53.3 -0.2**
BBS Basel-Blauen 56.76 342 *e*P **P 06 02 53.6 0.0**
LOMF Lomont 56.87 342 *e*P **P 06 02 54.2 -0.2**
WET Wettzell 56.89 347 *e*P **P 06 02 53.5 -1.0**
WET *e* 06 05 02.0
WET pmax pmax
comp=Z,50nm,1.5s,mb5.3
WET Wettzell 56.89 347 *e*P **P 06 02 53.5 -1.0**
comp=Z,50nm,1.5s,mb5.3
WET *e*PP PP 06 05 02.0 -0.6
RJF Les Rejaudoux 56.98 337 *e*P **P 06 02 55.2 0.0**
comp=Z,225nm,1.7s,mb5.6
RJF Les Rejaudoux 56.98 337 *e*P **P 06 02 55.2 0.0**
RJF pmax pmax
comp=Z,112nm,1.7s,mb5.6
FELD Feldberg 56.98 343 *e*P **P 06 02 55.3 +0.1**
LFF La Frestale 56.99 336 *e*P **P 06 02 55.4 +0.1**
comp=Z,121nm,1.1s,mb5.6
LFF La Frestale 56.99 336 *e*P **P 06 02 55.4 +0.1**
LFF pmax pmax
comp=Z,60nm,1.1s,mb5.5
AGO Saint Agoulin 56.99 338 *e*P **P 06 02 55.4 +0.1**
MOF Molkenrain 57.22 342 *e*P **P 06 02 54.9 -2.0**
SMF Signal de Mont 57.25 339 *e*P **P 06 02 56.5 -0.6**
comp=Z,99nm,1.3s,mb5.4
SMF Signal de Mont 57.25 339 *e*P **P 06 02 56.5 -0.6**
SMF pmax pmax
comp=Z,49nm,1.3s,mb5.4
HINF Hinteralfeld 57.28 342 *e*P **P 06 02 56.5 -0.8**
comp=Z,43nm,1.2s,mb5.1
HINF Hinteralfeld 57.28 342 *e*P **P 06 02 56.5 -0.8**
HINF pmax pmax
comp=Z,21nm,1.2s,mb5.0
BFO Black Forest 57.30 343 *e*P **P 06 02 56.1 -1.3**
BFO pmax pmax
comp=Z,31nm,1.4s,mb5.2
BFO Black Forest 57.30 343 *e*P **P 06 02 56.1 -1.3**
comp=Z,31nm,1.4s,mb5.2
PRU Pruhonice 57.34 349⇓*i*P **P 06 02 56.6 -1.1**
PRU AMS AMS 06 28 50.0
comp=Z,500nm,23.3s
DPC Dobruska-Polom 57.36 350⇓*i*P **P 06 02 56.9 -0.9**
DPC *ex* x 06 03 07.7
MTE Manteigas 57.46 327 *e*P **P 06 03 00.8 +2.1**
MTE Manteigas 57.46 327 *e-* 06 21 02.3
MTE eLR LR 06 23 57.6
STU Stuttgart 57.46 344 *e*P **P 06 02 58.8 +0.3**
BGF Bois d'Agland 57.53 338 *e*P **P 06 02 58.8 -0.2**
comp=Z,101nm,1.6s,mb5.3
BGF Bois d'Agland 57.53 338 *e*P **P 06 02 58.8 -0.2**
BGF pmax pmax
comp=Z,50nm,1.5s,mb5.3
TCF Toulx Ste Croi 57.54 338 *e*P **P 06 02 59.5 +0.4**
comp=Z,198nm,1.6s,mb5.6
TCF Toulx Ste Croi 57.54 338 *e*P **P 06 02 59.5 +0.4**
TCF pmax pmax
comp=Z,99nm,1.6s,mb5.6
ECH Echery 57.54 342 *e*P **P 06 02 58.2 -0.9**
AVF Avril sur Loir 57.54 339 *e*P **P 06 02 58.7 -0.4**
comp=Z,157nm,1.5s,mb5.5
AVF Avril sur Loir 57.54 339 *e*P **P 06 02 58.7 -0.4**
AVF pmax pmax
comp=Z,78nm,1.5s,mb5.5
UPC Upice 57.57 350⇓*i*P **P 06 02 58.3 -1.0**
HAU Haudompre 57.60 342 *e*P **P 06 02 59.0 -0.5**
comp=Z,77nm,1.4s,mb5.2
HAU *e*R
comp=Z,583nm,19.2s
HAU Haudompre 57.60 342 *e*P **P 06 02 59.0 -0.5**
HAU pmax pmax
comp=Z,38nm,1.4s,mb5.2
HAU MLR MLR
comp=Z,580nm,19.3s,MS4.7
WLS Welschbruch 57.66 343 *e*P **P 06 02 59.3 -0.6**
VRSR Storozhevoye 57.68 7 *e*P **P 06 02 58.9 -1.1**
VRSR pmax pmax
comp=N,7.0nm,1.4s
VRSR pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
VRSR pmax pmax
comp=E,1.0nm,1.0s
CDF Champ du Feu 57.68 343 *e*P **P 06 02 59.3 -0.8**
comp=E,67nm,1.3s,mb5.2
CDF Champ du Feu 57.68 343 *e*P **P 06 02 59.3 -0.8**
CDF pmax pmax
comp=Z,34nm,1.3s,mb5.2
SSF Saint Saulge 57.72 339 *e*P **P 06 02 59.7 -0.7**
comp=Z,23nm,1.0s,mb4.9
SSF Saint Saulge 57.72 339 *e*P **P 06 02 59.7 -0.7**
SSF pmax pmax
comp=Z,12nm,1.0s,mb4.9
LOR Lormes 57.77 340 *e*P **P 06 03 00.0 -0.8**
comp=Z,134nm,1.6s,mb5.4
LOR *e*R
comp=Z,657nm,20.0s
LOR Lormes 57.77 340 *e*P **P 06 03 00.0 -0.8**
LOR pmax pmax
comp=Z,67nm,1.6s,mb5.4
LOR MLR MLR
comp=Z,660nm,20.0s,MS4.7
GRA1 Grafenberg Arr 57.79 346 *e*P **P 06 02 59.3 -1.5**
comp=Z,75nm,1.2s,mb5.6
GRA1 *e*pP pP 06 03 07.7 +1.4
GRA1 *e*sP sP 06 03 12.2 +3.8
GRA1 *e*PP PP 06 05 09.4 -1.3
GRA1 LR LR
comp=Z,600nm,18.2s,MS4.7
GRF Grafenberg Arr 57.79 346 *e*P **P 06 02 59.3 -1.5**
GRF *e**PP pP 06 03 07.7 +1.4
GRF *e* 06 05 09.4
GRF pmax pmax
comp=Z,75nm,1.2s,mb5.6
GRF MLR MLR
comp=Z,600nm,18.2s,MS4.7
GRF Grafenberg Arr 57.79 346 *e*P **P 06 02 59.3 -1.5**
comp=Z,75nm,1.2s,mb5.6
GRF *e*pP pP 06 03 07.7 +1.4
GRF *e*sP sP 06 03 12.2 +3.8
GRF *e*PP PP 06 05 09.4 -1.3
GRF LR LR
comp=Z,600nm,18.2s,MS4.7
KSP Ksiaz 57.84 350 *e*P **P 06 03 00.5 -0.7**
KSP Ksiaz 57.84 350 *e*P **P 06 03 00.1 -1.1**
KSP MLR MLR
comp=Z,1µm,18.8s,MS5.0
PVIS Viseu 57.87 327 *e*P **P 06 03 02.6 +1.1**
comp=Z,25nm,1.8s,mb4.9
THEF They Montfort 57.91 342 *e*P **P 06 03 01.2 -0.5**
NKC Novy Kostel 58.01 347⇓*i*P **P 06 03 02.3 -0.1**
NKC *ex* x 06 03 14.1
PVRL Vila Real 58.17 328 *e*P **P 06 03 04.0 +0.4**
comp=Z,33nm,2.4s,mb4.9
VOR Voronezh 58.19 7 *e*P **P 06 03 02.0 -1.5**
VOR pmax pmax
comp=Z,170nm,2.0s,mb5.7
VOR pmax pmax
comp=N,110nm,1.7s
HYF Humbligny 58.21 339 *e*P **P 06 03 03.5 -0.3**
BRG Berggiesshubel 58.31 348 *e*P **P 06 03 03.8 -0.6**
BRG 06 03 58.0
BRG S **S 06 11 09.0 +4.9**
BRG pmax pmax
comp=Z,24nm,1.3s,mb5.1
BRG pmax pmax
comp=Z,29nm,1.6s,mb5.1
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRG Berggiesshubel 58.31 348 *e*P **P 06 03 03.8 -0.6**
comp=Z,24nm,1.3s,mb5.1
BRG *e* 06 03 18.0
BRG PcP PcP 06 03 58.0 +2.7
BRG *e* 06 04 34.8
BRG S **S 06 11 09.0 +4.9**
BRG LR LR
comp=Z,680nm,21.7s,MS4.7
TOD Tromm 58.33 344 *e*P **P 06 03 04.6 0.0**
MEZF Maizieres J'vi 58.45 341 *e*P **P 06 03 05.5 +0.1**
MOX Moxa 58.59 347 *i* P **P 06 03 06.3 -0.1**
comp=Z,logA/T=1.6,mb5.4
MOX pP pP 06 03 18.0 +6.1
MOX L 06 30 53.0
MOX Moxa 58.59 347 *e*P **P 06 03 06.3 -0.1**
MOX pmax pmax
comp=Z,58nm,1.6s,mb5.4
MOX MLR MLR
comp=Z,400nm,20.0s,MS4.5
MOX Moxa 58.59 347 *e*P **P 06 03 06.3 -0.1**
comp=Z,58nm,1.6s,mb5.4
MOX *e* 06 03 18.5
MOX LR LR
comp=Z,400nm,20.0s,MS4.5
MFF Saint Martin d 58.71 336 *e*P **P 06 03 07.3 0.0**
comp=Z,198nm,1.7s,mb5.6
MFF Saint Martin d 58.71 336 *e*P **P 06 03 07.3 0.0**
MFF pmax pmax
comp=Z,99nm,1.7s,mb5.6
RUP Ruppelstein 58.90 343 *e*P **P 06 03 08.3 -0.3**
CLL Collm 58.91 348 P **P 06 03 07.9 -0.7**
comp=Z,logA/T=1.5,mb5.3
CLL *i* *PP pP 06 03 13.7 -0.4
CLL *i* 06 03 22.3
CLL *i* PCP PcP 06 03 58.1 +0.5
CLL *i* PP PP 06 05 39.0 +18
CLL *e*PPP PPP 06 06 58.0 +13
CLL Collm 58.91 348 *i* P **P 06 03 07.9 -0.7**
CLL *i* *PP pP 06 03 13.7 -0.4
CLL *i* 06 03 58.1
CLL pmax pmax
comp=Z,43nm,1.5s,mb5.3
CLL MLR MLR
comp=Z,500nm,18.9s,MS4.7
CLL Collm 58.91 348 *i* P **P 06 03 07.9 -0.7**
comp=Z,43nm,1.5s,mb5.3
CLL *i* pP pP 06 03 13.7 -0.4
CLL *i* PcP PcP 06 03 58.1 +0.5
CLL LR LR
comp=Z,500nm,18.9s,MS4.7
TNS Taunus Mts 58.98 344 *e*P **P 06 03 09.1 -0.1**
TNS pmax pmax
comp=Z,48nm,1.1s,mb5.4
TNS Taunus Mts 58.98 344 *e*P **P 06 03 09.1 -0.1**
comp=Z,48nm,1.1s,mb5.4
RUE Ruedersdorf 59.87 349 *e*P **P 06 03 14.5 -0.7**
comp=Z,18nm,0.6s,mb5.3
GIVF Givet 59.92 342 *e*P **P 06 03 14.9 -0.7**
CLZ Clausthal 59.99 346 *e*P **P 06 03 15.8 -0.3**
CLZ pmax pmax
comp=Z,65nm,1.6s,mb5.4
CLZ Clausthal 59.99 346 *e*P **P 06 03 15.8 -0.3**
comp=Z,65nm,1.6s,mb5.4
BAIF Baives 60.08 341 *e*P **P 06 03 16.1 -0.6**
SUW Suwalki 60.11 356⇓*e*P **P 06 03 16.3 -0.6**
LDF La Druitiere 60.33 338 *e*P **P 06 03 18.1 -0.4**
comp=Z,101nm,1.3s,mb5.4
LDF La Druitiere 60.33 338 *e*P **P 06 03 18.1 -0.4**
LDF pmax pmax
comp=Z,50nm,1.3s,mb5.4
GRR Gorron 60.45 337 *e*P **P 06 03 18.5 -0.7**
comp=Z,67nm,1.1s,mb5.3
GRR Gorron 60.45 337 *e*P **P 06 03 18.5 -0.7**
GRR pmax pmax
comp=Z,34nm,1.1s,mb5.3
FLN La Foliniere 60.61 338 *e*P **P 06 03 19.5 -0.8**
comp=Z,230nm,1.8s,mb5.7
FLN *e*R
comp=Z,746nm,22.8s
FLN La Foliniere 60.61 338 *e*P **P 06 03 19.5 -0.8**
FLN pmax pmax
comp=Z,115nm,1.8s,mb5.7
FLN MLR MLR
comp=Z,750nm,22.8s,MS4.8
QUIF Quistinic 60.99 335 *e*P **P 06 03 22.9 0.0**
comp=Z,198nm,1.5s,mb5.7
QUIF Quistinic 60.99 335 *e*P **P 06 03 22.9 0.0**
QUIF pmax pmax
comp=Z,99nm,1.5s,mb5.7
SGMF Saint Gilles 61.01 336 *e*P **P 06 03 22.8 -0.2**
comp=Z,302nm,1.8s,mb5.8
SGMF Saint Gilles 61.01 336 *e*P **P 06 03 22.8 -0.2**
SGMF pmax pmax
comp=Z,151nm,1.8s,mb5.8
AB31 Akbulak array 61.16 22 *e*P **P 06 03 22.8 -1.3**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
OBN Obninsk 61.26 5*d i*P **P 06 03 23.7 -1.0**
OBN *i* 06 04 04.5
OBN pmax pmax
comp=Z,72nm,1.3s,mb5.6
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.3
ROSF Rostrenen 61.36 336 *e*P **P 06 03 25.0 -0.5**
comp=Z,144nm,1.4s,mb5.6
ROSF Rostrenen 61.36 336 *e*P **P 06 03 25.0 -0.5**
ROSF pmax pmax
comp=Z,72nm,1.4s,mb5.6
KKAR Karatay Array 61.44 33 *i* P **P 06 03 25.5 -0.5**
KKAR pmax pmax
comp=Z,66nm,1.1s,mb5.7
BSEG Bad Segeberg 61.95 347 *e*P **P 06 03 28.8 -0.5**
BSEG pmax pmax
comp=Z,77nm,1.3s,mb5.7
MOS Moscow 61.97 5 *e*P **P 06 03 23.1 -6.4**
MOS *e* 06 04 07.2
MOS *e*S **S 06 11 41.8 -9.3**
MOS pmax pmax
comp=Z,400nm,1.9s,mb6.2
MOS pmax pmax
comp=Z,172nm,1.5s,mb6.0
KOLN Koldanda 62.08 54 *e*P **P 06 03 29.3 -1.3**
comp=Z,216nm,1.5s,mb6.1
KSH Kashi 62.40 39 P **P 06 03 32.2 -0.4**
KSH AP pP 06 03 36.6 -1.5
KSH XP sP 06 03 39.3 -0.8
KSH *e*PCP PcP 06 04 12.3 +0.5
KSH PP PP 06 05 50.6 -1.3
KSH PPP PPP 06 07 19.2 -2.5
KSH SCP 06 08 12.4
KSH PCS 06 08 14.5
KSH S **S 06 11 55.0 -1.7**
KSH XS 06 12 02.5
KSH PS PS 06 12 12.7 -3.6
KSH *e*SCS ScS 06 13 20.0 -0.3
KSH *e*SS SS 06 16 00.0 -2.5
KSH AMB AMB
comp=Z,160nm,3.0s
KSH LR LR
comp=N,710nm,12.8s,MS5.4
KSH LR LR
comp=E,2µm,14.7s,MS5.4
BOK Bokaro 62.46 59 *e*P **P 06 03 33.0 -0.2**
BOK AMb AMB 06 03 34.9
comp=Z,32nm,1.5s,mb5.2
AML Almayashu 62.60 36 P **P 06 03 33.7 -0.1**
SNR=10.0
EKS2 Erkin-Say 62.98 35 P **P 06 03 36.4 +0.1**
SNR=6.9
GKN Gorkha 63.01 54 *e*P **P 06 03 35.4 -1.3**
comp=Z,114nm,1.1s,mb5.9
UCH Uchtor 63.13 36 P **P 06 03 37.3 0.0**
SNR=13
SYO Syowa Base 63.19 176 ⇓P **P 06 03 37.5 +0.2**
SYO Syowa Base 63.19 176 ⇓pP pP 06 03 41.6 -1.3
SYO Syowa Base 63.19 176⇓*e*P **P 06 03 37.5 +0.2**
SYO ⇓epP pP 06 03 41.6 -1.3
DMN Daman 63.23 55 *e*P **P 06 03 37.2 -1.0**
comp=Z,107nm,1.1s,mb5.9
AAK Ala-Archa 63.37 36 P **P 06 03 39.3 +0.4**
SNR=5.8
AAK Ala-Archa 63.37 36*d i*P **P 06 03 37.5 -1.4**
AAK pmax pmax
comp=Z,26nm,2.0s,mb5.0
AAK MLR MLR
comp=Z,1µm,21.0s,MS5.1
KKN Kakani 63.45 55 *e*P **P 06 03 38.6 -1.0**
comp=Z,84nm,1.1s,mb5.8
KKN Kakani 63.45 55 *e*P **P 06 03 38.6 -1.0**
KKN pmax pmax
comp=Z,42nm,1.1s,mb5.5
PKI Pulchoki 63.47 55 *e*P **P 06 03 38.6 -1.2**
comp=Z,64nm,1.0s,mb5.7
PKI Pulchoki 63.47 55 *e*P **P 06 03 38.6 -1.2**
PKI pmax pmax
comp=Z,32nm,1.0s,mb5.4
KZA Kyzart 63.48 37 P **P 06 03 39.6 0.0**
SNR=11
FRU Bishkek 63.57 36 *e*P **P 06 03 41.0 +0.8**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,1µm,16.0s,MS5.1
KBK Karagaybulak 63.65 36 P **P 06 03 41.3 +0.5**
SNR=8.3
CHMS Chumysh 63.75 35 P **P 06 03 41.2 -0.2**
SNR=5.6
USP Ospenovka 63.77 35 P **P 06 03 40.7 -0.9**
SNR=10
GUN Gumba 63.98 55 *e*P **P 06 03 42.3 -0.9**
comp=Z,186nm,1.0s,mb6.1
JIRN Jiri 64.14 55 *e*P **P 06 03 43.3 -1.0**
comp=Z,78nm,1.0s,mb5.7
ULHL Ulahol 64.17 37 P **P 06 03 44.5 +0.3**
SNR=16
TKM2 Tokmak 2 64.19 36 P **P 06 03 43.6 -0.8**
SNR=16
RCBR Riachuelo 65.04 266 *e*P **P 06 03 50.9 +0.6**
comp=Z,29nm,1.4s,mb5.1
RCBR LR LR
comp=Z,972nm,22.0s,MS5.0
MAW Mawson 65.44 167 *e*P **P 06 03 52.4 +0.4**
comp=Z,7.0nm,0.9s,mb4.7
MAW Mawson 65.44 167 P **P 06 03 52.9 +0.9**
comp=Z,17nm,1.1s,mb5.0,baz=310,slow=9.6,SNR=11
MAW LR LR 06 32 07.3
comp=Z,329nm,18.3s,MS4.6,baz=293,slow=36
MAW Mawson 65.44 167 *e*P **P 06 03 52.4 +0.4**
MAW pmax pmax
comp=Z,7.0nm,0.9s
NVL N'lazarevskaya 65.58 186 *e*P **P 06 03 53.3 +0.4**
MAIT Maitri 65.60 186 *e*P **P 06 03 54.3 +1.3**
ARU Arti 66.71 17⇓*i*P **P 06 03 59.8 -0.5**
ARU *e* 06 04 28.0
ARU *e* 06 06 21.9
ARU *e*S S 06 12 52.5 +2.8
ARU *e* 06 13 52.9
ARU *e*SS SS 06 17 06.1 -3.0
ARU pmax pmax
comp=Z,110nm,1.3s,mb5.7
ARU MLR MLR
comp=N,200nm,21.0s,MS4.7
ARU MLR MLR
comp=Z,400nm,21.0s,MS4.6
ARU MLR MLR
comp=E,400nm,20.0s,MS4.7
KLMR Klimovskoe 67.20 5*d i*P **P 06 04 02.2 -1.1**
KLMR *e*S S 06 12 54.8 -0.7
KLMR pmax pmax
comp=Z,100nm,1.3s,mb5.7
KLMR pmax pmax
comp=Z,70nm,10.4s
KLMR smax
comp=E,240nm,4.3s
FINES FINESS Array B 67.38 358 P **P 06 04 02.4 -2.1**
comp=E,6.1nm,0.6s,mb4.8,baz=160,slow=5.3,SNR=45
FINES LR LR 06 35 55.9
comp=E,304nm,21.7s,MS4.5,baz=326,slow=38
FINES FINESS Array B 67.38 358⇑*e*P **P 06 04 04.1 -0.4**
KONO Kongsberg 67.42 349 *e*P **P 06 04 03.8 -0.9**
KONO pmax pmax
comp=Z,36nm,1.4s,mb5.2
KONO MLR MLR
comp=Z,362nm,19.0s,MS4.6
KONO Kongsberg 67.42 349 *e*P **P 06 04 03.8 -1.0**
comp=Z,36nm,1.4s,mb5.2

KONO LR LR
comp=Z,362nm,19.0s,MS4.6
SVE Sverdlovsk 67.66 18 ⇓*i*P P 06 04 05.6 -0.7
SVE *e* pP 06 04 10.9 -0.9
SVE *e*S S 06 13 36.0 +35
SVE MLR MLR
comp=N,200nm,20.0s,MS4.6
SVE MLR MLR
comp=E,300nm,20.0s,MS4.6
SVE MLR MLR
comp=Z,400nm,20.0s,MS4.6
KAF Kangasniemi 68.05 358 *e*p **P 06 04 07.3 -1.3**
comp=Z,5.4nm,0.4s,mb4.9,baz=178,slow=6.2
KAF Kangasniemi 68.05 358 *e*P **P 06 04 07.3 -1.3**
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
SHL Shillong 68.19 60 *e*P **P 06 04 10.0 -0.1**
BVA0 Borovoye Array 68.26 25 *i*P **P 06 04 09.0 -1.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
VOSK Vostochnaya 68.30 26 P P **06 04 09.0 -1.4**
VOSK pmax pmax
comp=Z,41nm,1.4s,mb5.3
NAO01 NORSAR Array S 68.31 350 *e*P **P 06 04 10.4 +0.1**
comp=Z,51nm,1.1s,mb5.5
NB2 NORSAR Subarra 68.44 351 P **P 06 04 10.5 -0.6**
comp=Z,76nm,1.2s,mb5.6,baz=163,slow=5.6
NB2 NORSAR Subarra 68.44 351 P **P 06 04 10.5 -0.6**
baz=163,slow=5.9
NB2 NORSAR Subarra 68.44 351 P **P 06 04 10.5 -0.6**
NB2 pmax pmax
comp=Z,76nm,1.2s,mb5.6
NOA NORSAR Array B 68.44 351 P **P 06 04 11.0 -0.1**
comp=Z,21nm,1.0s,mb5.1,baz=163,slow=5.8,SNR=25
SNAA Sanae 68.55 190 ⇓*i*P **P 06 04 12.3 +0.7**
SNAA Sanae 68.55 190 *e* **P 06 04 15.0 +3.4**
SNAA Sanae 68.55 190 *e* **P 06 04 17.3 +5.7**
SNAA Sanae 68.55 190 *e* **P 06 04 21.9 +10**
SNAA Sanae 68.55 190 *e* PcP 06 04 33.6 -3.2
SNAA Sanae 68.55 190 *d i*P **P 06 04 12.5 +0.9**
JOF Joensuu 68.82 1 *ep* **P 06 04 12.3 -1.1**
comp=Z,0.3nm,0.4s
VNA1 Neumayer--Stat 68.82 193 ⇓*i*P **P 06 04 14.8 +1.5**
VNA1 Neumayer--Stat 68.82 193 *e* **P 06 04 17.1 +3.8**
VNA1 Neumayer--Stat 68.82 193 *e* **P 06 04 19.4 +6.1**
VNA1 Neumayer--Stat 68.82 193 *e* **P 06 04 24.2 +11**
VNA1 Neumayer--Stat 68.82 193 *e* PcP 06 04 36.3 -1.6
VNA2 Neumayer--Watz 68.85 192 ⇓*i*P **P 06 04 14.5 +1.0**
VNA2 Neumayer--Watz 68.85 192 *e* **P 06 04 16.6 +3.1**
VNA2 Neumayer--Watz 68.85 192 *e* **P 06 04 19.1 +5.6**
VNA2 Neumayer--Watz 68.85 192 *e* **P 06 04 23.5 +10**
VNA2 Neumayer--Watz 68.85 192 *e* PcP 06 04 35.9 -2.1
LSA Lhasa 68.94 55 P **P 06 04 15.2 +0.5**
LSA Lhasa 68.94 55 *e*P **P 06 04 15.1 +0.4**
LSA pmax pmax
comp=Z,33nm,1.2s,mb5.1
LSA MLR MLR
comp=Z,1μm,22.0s,MS5.1
LSA Lhasa 68.94 55 *e*P **P 06 04 15.1 +0.4**
comp=Z,33nm,1.2s,mb5.1
LSA LR LR
comp=Z,1μm,22.0s,MS5.1
SOKR Solikamsk 68.94 14 *d i*P **P 06 04 13.9 -0.3**
SOKR pmax pmax
comp=Z,100nm,1.3s,mb5.6
VNA3 Neumayer Olymp 69.57 193 ⇓*i*P **P 06 04 18.6 +0.7**
VNA3 Neumayer Olymp 69.57 193 *e* **P 06 04 20.7 +2.8**
VNA3 Neumayer Olymp 69.57 193 *e* **P 06 04 23.1 +5.2**
VNA3 Neumayer Olymp 69.57 193 *e* **P 06 04 27.8 +10**
VNA3 Neumayer Olymp 69.57 193 *e* PcP 06 04 39.6 -1.5
MKAR Makanchi Array 70.31 36 P **P 06 04 22.4 -0.4**
comp=Z,21nm,1.0s,mb5.0,baz=243,slow=5.4,SNR=50
MKAR LR LR 06 38 21.3
comp=Z,730nm,19.5s,MS4.9,baz=248,slow=39
MKAR Makanchi Array 70.31 36 *i*P **P 06 04 22.3 -0.5**
MKAR pmax pmax
comp=Z,82nm,1.2s
KURK Kurchatov 70.57 31⇑*e*P **P 06 04 23.2 -1.1**
CAM4 Nova Friburgo 71.17 249 *e*P **P 06 04 29.2 +0.8**
CAM4 *i* 06 04 37.6
CAM4 *i* 06 04 42.8
CAM4 *i* 06 04 56.7
KULM Kulim 71.89 82 *e*P **P 06 04 32.7 -0.2**
WMQ Urumqi 72.12 40 P **P 06 04 34.0 +0.2**
WMQ AP pP 06 04 38.7 -0.6
WMQ XP sP 06 04 41.0 -0.3
WMQ PCP PcP 06 04 52.5 +0.2
WMQ PP PP 06 07 16.2 +0.4
WMQ PPP PPP 06 08 58.4 +0.5
WMQ *e*S S 06 13 54.9 +1.2
WMQ SCS ScS 06 14 36.2 +0.7
WMQ AMB AMB
comp=Z,30nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,410nm,5.1s
WMQ LR LR
comp=N,1μm,19.4s,MS5.4
WMQ LR LR
comp=E,2μm,20.0s,MS5.4
WMQ LR LR
comp=Z,2μm,19.4s,MS5.3
CHG Chiang Mai 72.69 68 ⇓P **P 06 04 37.4 -0.3**
comp=Z,26nm,1.1s,mb5.1
NST Nakhon Sawan 73.15 72 P **P 06 04 35.0 -5.4**
APA Apatity 73.53 2⇑*i*P **P 06 04 41.3 -0.3**
APA *i* pP 06 04 46.4 -0.8
APA pmax pmax
comp=Z,52nm,1.3s,mb5.3
APA MLR MLR
comp=Z,500nm,15.0s,MS4.9
NVS Novosibirsk 75.25 29 ⇓*i*P **P 06 04 51.0 -0.8**
NVS *e* 06 07 40.5
NVS pmax pmax
comp=N,94nm,1.7s
NVS pmax pmax
comp=E,40nm,1.7s
NVS pmax pmax
comp=Z,173nm,1.7s,mb5.7
ARE0 ARCESS Array S 75.51 359 *e*P **P 06 04 53.0 +0.1**
ARCES ARCESS Array B 75.51 359 P **P 06 04 52.9 -0.1**
comp=Z,4.5nm,0.5s,mb4.7,baz=175,slow=6.2,SNR=53
ZAL Zalesovo 75.52 30 LR LR 06 41 28.8
comp=Z,695nm,18.4s,MS5.0,baz=249,slow=38
KEV Kevo 75.70 359 *e*P **P 06 04 53.5 -0.5**
comp=Z,0.9nm,0.4s
KEV LR LR
comp=Z,293nm,19.0s,MS4.6
BAO Brasilia Array 76.40 255 P **P 06 05 01.0 +2.0**
BDFB Brasilia 76.42 255 P **P 06 05 00.2 +1.0**
comp=Z,6.3nm,0.7s,mb4.7,baz=84,slow=6.2,SNR=8.2
BDFB LR LR 06 34 59.8
comp=Z,614nm,19.3s,MS4.9,baz=279,slow=33
KMI Kunming 77.53 63 P **P 06 05 05.5 +0.3**
KMI AMB AMB
comp=Z,10.0nm,1.7s,mb4.5
KMI LR LR
comp=Z,180nm,27.0s,MS4.3
KMI Kunming 77.53 63 P **P 06 05 05.5 +0.3**
comp=Z,18nm,1.7s,mb4.7
KMI LR LR
comp=Z,180nm,27.0s,MS4.3
GTA Gaotai 78.86 48 *e*P **P 06 05 09.5 -2.7**
GTA PCP PcP 06 05 19.0 -2.3
GTA PP PP 06 08 09.8 -2.9
GTA PPP PPP 06 09 57.7 -4.8
GTA S S 06 15 05.1 -2.9
GTA SCS ScS 06 15 26.0 -3.9
GTA SS SS 06 20 10.9 -5.1
GTA AMB AMB
comp=Z,350nm,6.1s
GTA LR LR
comp=N,150nm,16.1s
GTA LR LR
comp=E,590nm,22.5s
GTA LR LR
comp=Z,690nm,22.2s
CD2 Chengdu 79.72 57 *e*P **P 06 05 17.9 +0.9**
CD2 PP PP 06 08 20.8 +1.1
CD2 PPP PPP 06 10 11.9 +1.4
CD2 PS PS 06 16 05.9 +1.7
CD2 SS SS 06 20 31.4 +2.2
CD2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
CD2 AMB AMB
comp=Z,250nm,10.8s
CD2 LR LR
comp=E,170nm,13.2s
CD2 LR LR
comp=Z,200nm,14.4s,MS4.6
CASY Casey 80.84 156 PFAKE 06 05 30.0 +7.8
CASY LR LR
comp=Z,788nm,20.0s,MS5.1
KSM Kuching 80.99 88 *e*P **P 06 05 24.7 +0.6**
KSM *e*PcP PcP 06 05 30.2 -0.8
LZH Lanzhou 81.02 52 ⇓P **P 06 05 24.9 +1.1**
LZH AP pP 06 05 28.1 -1.4
LZH XP sP 06 05 29.5 -1.9
LZH PP PP 06 08 32.6 +1.5
LZH *e*S S 06 15 33.0 +2.2
LZH SKS SKS 06 15 39.2 -4.4
LZH XS 06 15 40.3
LZH PS PS 06 16 23.1 +2.4
LZH AMB AMB
comp=Z,60nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,310nm,7.2s
LZH LR LR
comp=N,1μm,15.0s
LZH LR LR
comp=Z,1μm,17.8s,MS5.3
LZH Lanzhou 81.02 52 ⇓P **P 06 05 24.9 +1.1**
LZH *PP pP 06 05 28.1 -1.4
LZH *SP sP 06 05 29.5 -1.9
LZH pmax pmax
comp=Z,64nm,1.5s,mb5.3
LZH Lanzhou 81.02 52 ⇓P **P 06 05 24.9 +1.1**
comp=Z,64nm,1.5s,mb5.3
LZH pP pP 06 05 28.1 -1.4
LZH sP sP 06 05 29.5 -1.9
LZH PP PP 06 08 32.6 +1.5
LZH *e*S S 06 15 33.0 +2.2
LZH SKS SKS 06 15 39.2 -4.4
LZH sS 06 15 40.3
LZH PS PS 06 16 23.1 +2.4
LZH SS SS 06 20 51.8 +3.2
LZH LR LR
comp=Z,1μm,17.8s,MS5.4
GYA Guiyang 81.27 62⇑*i*P **P 06 05 25.8 +0.5**
GYA AP pP 06 05 29.9 -1.1
GYA XP sP 06 05 32.8 0.0
GYA PP PP 06 08 34.0 +0.8
GYA S S 06 15 25.2 -8.3
GYA SKS SKS 06 15 40.4 -5.1
GYA PS PS 06 16 25.3 +1.5
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,260nm,5.7s
GYA LR LR
comp=N,940nm,18.6s,MS5.3
GYA LR LR
comp=E,750nm,19.0s,MS5.3
GYA LR LR
comp=Z,730nm,19.4s,MS5.0
MOY Mondy 83.43 36 *e*P **P 06 05 37.7 +1.8**
MOY pmax pmax
comp=Z,129nm,2.3s,mb5.5
QSPA South Pole Qui 83.98 180 PFAKE 06 05 50.0 +12
QSPA LR LR
comp=Z,635nm,20.0s,MS5.0
ZAK Zakamensk 84.42 38 *e*P **P 06 05 42.3 +1.3**
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
ENH Enshi 84.42 59 *e*P **P 06 05 42.2 +0.7**
CPUP Villa Florida 84.53 244 PFAKE 06 05 50.0 +7.8
CPUP LR LR
comp=Z,133nm,19.0s,MS4.3
SONM Songino Array 85.73 41 P **P 06 05 49.3 +1.7**
comp=Z,11nm,1.1s,mb5.0,baz=238,slow=4.5,SNR=45
SONM PP PP 06 09 07.9 -0.6
comp=Z,1.0nm,1.0s,baz=256,slow=3.7,SNR=3.7
SONM LR LR 06 48 42.7
comp=Z,772nm,18.8s,MS5.1,baz=271,slow=39
SONM Songino Array 85.73 41 P **P 06 05 49.3 +1.7**
SONM PP PP 06 09 07.9 -0.6
SONM LR LR 06 48 42.7
PMSA Palmer Station 86.07 205 PFAKE 06 06 00.0 +11
PMSA LR LR
comp=Z,800nm,19.0s,MS5.1
ULN Ulaanbaatar 86.17 41⇑*e*P **P 06 05 50.5 +0.7**
ULN Ulaanbaatar 86.17 41 *e*P **P 06 05 51.0 +1.2**
comp=Z,18nm,1.2s,mb5.2
KKM Kota Kinabalu 87.35 84 *e*P **P 06 05 57.5 +1.1**
TRQA Tornquist 87.48 232 PFAKE 06 06 10.0 +14
TRQA LR LR
comp=Z,710nm,20.0s,MS5.1
HHC Hu-ho-hao-te 87.94 49 *e*P **P 06 06 00.4 +1.8**
HHC AP pP 06 06 05.6 +1.3
HHC XP sP 06 06 07.5 +1.4
HHC PP PP 06 09 29.3 +1.9
HHC SKS SKS 06 16 25.5 -4.7
HHC S S 06 16 41.7 +2.7
HHC XS 06 16 49.7
HHC AMB AMB
comp=Z,30nm,1.5s,mb5.3
HHC AMB AMB
comp=Z,330nm,8.3s
HHC LR LR
comp=N,330nm,15.5s,MS5.1
HHC LR LR
comp=E,480nm,16.7s,MS5.1
HHC LR LR
comp=Z,580nm,17.8s,MS5.0
SUMG Summit 89.32 344 *e*P **P 06 06 05.9 +1.5**
comp=Z,15nm,1.2s,mb5.2
SAML Samuel 91.73 261 *e*P **P 06 06 17.7 +0.8**
comp=Z,25nm,1.5s,mb5.3
SAML *e*PP PP 06 09 56.5 -1.8
SAML LR LR
comp=Z,492nm,21.0s,MS4.9
BOD Bodaibo 92.16 32 *e*P **P 06 06 14.5 -3.3**
BOD pmax pmax
comp=Z,19nm,1.8s,mb5.1
NJ2 Nanjing 92.62 58 *e*P **P 06 06 20.8 +0.2**
NJ2 AP pP 06 06 24.9 -1.4
NJ2 XP sP 06 06 27.4 -0.7
NJ2 PP PP 06 10 05.3 +0.3
NJ2 S S 06 17 24.0 +2.6
NJ2 XS 06 17 33.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,70nm,6.0s
SBA Scott Base 92.96 172 PFAKE 06 06 30.0 +8.8
SBA LR LR
comp=Z,667nm,20.0s,MS5.1
PLCA Paso Flores 93.66 229 P **P 06 06 24.5 -0.7**
comp=Z,0.6nm,0.4s,mb4.4,baz=81,slow=7.1,SNR=3.2
PLCA LR LR 06 44 07.2
comp=Z,547nm,20.1s,MS5.0,baz=102,slow=33
FITZ Fitzroy Crossi 93.91 109 *e*P **P 06 06 27.1 +0.3**
comp=Z,14nm,1.0s,mb5.3
FITZ Fitzroy Crossi 93.91 109 LR LR 06 46 32.0
comp=Z,307nm,19.0s,MS4.8,baz=352,slow=34
SSE Sheshan 94.52 59 *e*P **P 06 06 29.1 -0.3**
SSE AP pP 06 06 32.4 -2.7
SSE PP PP 06 10 14.3 -5.4
SSE S S 06 17 41.8 +3.9
SSE XS 06 17 47.8
SSE AMB AMB
comp=Z,40nm,0.7s,mb6.0
SSE AMB AMB
comp=Z,130nm,5.4s
SSE LR LR
comp=N,60nm,19.8s,MS4.5
SSE LR LR
comp=E,140nm,19.9s,MS4.5
SSE LR LR
comp=Z,170nm,19.2s,MS4.5
SSE Sheshan 94.52 59 *e*P **P 06 06 29.1 -0.3**
comp=Z,43nm,0.7s,mb6.0
SSE pP pP 06 06 32.4 -2.7
SSE sP sP 06 06 33.9 -3.0
SSE PP PP 06 10 14.3 -5.4
SSE S S 06 17 41.8 +3.9
SSE sS 06 17 47.8
SSE SS SS 06 24 15.0 +10
SSE LR LR
comp=Z,170nm,19.2s,MS4.5
HIA Hailar 94.70 41 PFAKE 06 06 40.0 +10
HIA LR LR
comp=Z,898nm,21.0s,MS5.2
LPAZ La Paz 95.62 253 P **P 06 06 36.0 +1.2**
comp=Z,2.4nm,1.1s,mb4.5,baz=88,slow=8.0,SNR=7.9
LPAZ LR LR 06 50 27.5
comp=Z,333nm,18.4s,MS4.8,baz=256,slow=36
LPAZ La Paz 95.62 253 *e*P **P 06 06 36.1 +1.4**
LPAZ *e* pP 06 06 43.5 +3.1
LPAZ pmax pmax
comp=Z,10.0nm,1.3s
LPAZ MLR MLR
comp=Z,357nm,21.0s
LPAZ La Paz 95.62 253 *e*P **P 06 06 36.1 +1.4**
comp=Z,10nm,1.3s,mb5.1
LPAZ *e* pP 06 06 43.5 +3.1
LPAZ LR LR
comp=Z,357nm,21.0s,MS4.8
DAV Davao City (W) 96.71 84 PFAKE 06 06 50.0 +10
DAV LR LR
comp=Z,614nm,20.0s,MS5.1
BBSR BB Station 96.79 302 PFAKE 06 06 50.0 +10
BBSR LR LR
comp=Z,632nm,20.0s,MS5.1
SJG San Juan 97.25 287 PFAKE 06 06 50.0 +8.0
SJG LR LR
comp=Z,678nm,20.0s,MS5.1
SCHQ Schefferville 98.61 324 LR LR 06 51 04.5
comp=Z,381nm,18.3s,MS4.9,baz=139,slow=35
TIXI Tiksi 98.69 18 *e*P **P 06 06 44.0 -3.3**
TIXI pmax pmax
comp=Z,3.0nm,1.4s,mb4.6
TIXI Tiksi 98.69 18 PFAKE 06 07 00.0 +13
TIXI LR LR
comp=Z,430nm,19.0s,MS5.0
YAK Yakutsk 100.11 28 PFAKE 06 07 10.0 +16
YAK LR LR
comp=Z,436nm,19.0s,MS5.0
SDV Santo Domingo 100.93 278 PFAKE 06 07 10.0 +11
SDV LR LR
comp=Z,209nm,20.0s,MS4.7
MDJ Mudanjiang 101.41 46 P P 06 07 00.9 +0.6
MDJ PP PP 06 11 09.0 -3.6
MDJ S S 06 18 41.3 +5.7
MDJ PS PS 06 20 14.0 +0.2
MDJ SS SS 06 25 40.9 0.0
MDJ AMB AMB
comp=Z,150nm,7.0s
MDJ LR LR
comp=N,140nm,23.7s,MS4.6
MDJ LR LR
comp=E,190nm,24.9s,MS4.6
MDJ LR LR
comp=Z,200nm,24.9s,MS4.5
MDJ Mudanjiang 101.41 46 PFAKE 06 07 10.0 +10
MDJ LR LR
comp=Z,467nm,21.0s,MS5.0
WRA Warramunga Arr 101.73 112 P P 06 07 01.4 -0.9
comp=Z,1.6nm,1.0s,baz=263,slow=3.1,SNR=7.6
WRA PP PP 06 11 10.7 -4.8
comp=Z,1.6nm,1.1s,baz=264,slow=7.6,SNR=23
WES Weston 102.09 312 PFAKE 06 07 20.0 +17
WES LR LR
comp=Z,1μm,19.0s,MS5.4
HRV Harvard--Oak R 102.26 312 PFAKE 06 07 20.0 +16
HRV LR LR
comp=Z,813nm,20.0s,MS5.2
BLA Blacksburg 109.53 307 PFAKE 06 11 50.0
BLA LR LR
comp=Z,751nm,19.0s,MS5.3
NHSC New Hope 109.80 303 PFAKE 06 11 50.0
NHSC LR LR
comp=Z,843nm,19.0s,MS5.3
YSS Yuzh-Sakhalins 110.20 42 PFAKE 06 11 50.0 +7.1
YSS LR LR
comp=Z,757nm,21.0s,MS5.2
ACSO Alum Creek Sta 111.06 311 PFAKE 06 11 50.0 +5.2
ACSO LR LR
comp=Z,636nm,22.0s,MS5.2
AAM Ann Arbor 111.17 313 PFAKE 06 12 00.0 +15
AAM LR LR
comp=Z,598nm,20.0s,MS5.2
DWPF Disney 111.33 298 PFAKE 06 12 00.0 +14
DWPF LR LR
comp=Z,762nm,19.0s,MS5.3
BILL Bilibino 111.72 16 *e*P Pdif 06 07 45.3 +0.1
BILL pmax pmax
comp=Z,13nm,2.7s
BILL Bilibino 111.72 16 PFAKE 06 12 00.0 +15
BILL LR LR
comp=Z,355nm,20.0s,MS5.0
CTAO Charters Tower 112.60 115 PFAKE 06 12 00.0 +12
CTAO LR LR
comp=Z,468nm,20.0s,MS5.1
MYNC Murphy 112.81 305 PFAKE 06 12 00.0 +12
MYNC LR LR
comp=Z,806nm,19.0s,MS5.3
WCI Wyandotte Cave 113.96 309 PFAKE 06 12 00.0 +9.5
WCI LR LR
comp=Z,749nm,21.0s,MS5.3
EYMN Ely 115.00 321 PFAKE 06 12 00.0 +7.8
EYMN LR LR
comp=Z,1μm,19.0s,MS5.5
WVT Waverly 115.58 307 PFAKE 06 12 00.0 +6.3
WVT LR LR
comp=Z,773nm,20.0s,MS5.3
PMG Port Moresby 115.97 103 PFAKE 06 12 00.0 +5.0
PMG LR LR
comp=Z,179nm,21.0s,MS4.7
OXF Oxford 117.18 306 PFAKE 06 12 10.0 +13
OXF LR LR
comp=Z,595nm,20.0s,MS5.2
CCM Cathedral Cave 117.80 310 PFAKE 06 12 10.0 +12
CCM LR LR
comp=Z,786nm,19.0s,MS5.3
YKA Yellowknife Ar 117.87 342 PKP PKPdf 06 11 54.8 -2.6
comp=Z,1.0nm,1.0s,baz=36,slow=2.1,SNR=7.2
YKA PP PP 06 13 11.3 -1.1
comp=Z,0.9nm,1.0s,baz=27,slow=7.1,SNR=4.5
YKA PKKPbc 06 22 17.5
comp=Z,0.5nm,0.9s,baz=239,slow=4.1,SNR=4.7
TNA Tin City 119.37 8 PFAKE 06 12 10.0 +10
TNA LR LR
comp=Z,229nm,20.0s,MS4.8
PAYG Puerto Ayora 119.55 266 PFAKE 06 12 10.0 +8.1
PAYG LR LR
comp=Z,866nm,20.0s,MS5.4
MIAR Mount Ida 120.52 307 PFAKE 06 12 10.0 +6.7
MIAR LR LR
comp=Z,829nm,21.0s,MS5.3
ILAR Eielson Array 121.37 358 PKP PKPdf 06 12 01.2 -3.0
comp=Z,1.2nm,1.1s,baz=270,slow=1.9,SNR=5.2
ILAR PKKPbc 06 22 03.9
comp=Z,0.7nm,1.0s,baz=200,slow=4.7,SNR=4.8
NATX Nacogdoches 122.09 304 PFAKE 06 12 20.0 +14
NATX LR LR
comp=Z,989nm,22.0s,MS5.4
DGMT Dagmar 122.42 325 PFAKE 06 12 20.0 +13
DGMT LR LR
comp=Z,798nm,21.0s,MS5.3
MCK McKinley 122.46 359 PFAKE 06 12 20.0 +14
MCK LR LR
comp=Z,184nm,19.0s,MS4.8
WMOK Wichita Mounta 124.58 308 *e*PKIKP PKPdf 06 12 09.6 -1.7
WMOK MLR MLR
comp=Z,759nm,20.0s,MS5.4
EGMT Eagleton 125.74 327 PFAKE 06 12 20.0 +6.9
EGMT LR LR
comp=Z,458nm,20.0s,MS5.1
JCT Junction City 126.68 304 PFAKE 06 12 30.0 +15
JCT LR LR
comp=Z,638nm,21.0s,MS5.3
PHWY Pilot Hill 126.80 318 *e*Pdif Pdif 06 08 54.2 +2.0
BOZ Bozeman (W) 128.20 326 PFAKE 06 12 30.0 +12
BOZ LR LR
comp=Z,421nm,19.0s,MS5.1
YMR Madison River 128.41 325 PFAKE 06 12 30.0 +12
YMR LR LR
comp=Z,1μm,19.0s,MS5.6
SDCO Great Sand Dun 128.46 314 PFAKE 06 12 30.0 +11
SDCO LR LR
comp=Z,1μm,20.0s,MS5.5
PDAR Pinedale Array 128.66 322 PKP PKPdf 06 12 16.6 -2.3
comp=Z,4.7nm,1.0s,baz=90,slow=3.0,SNR=22
BW06 Boulder Array 128.66 322 PFAKE 06 12 30.0 +11
BW06 LR LR

comp=Z,852nm,19.0s,MS5.5
AHID **Auburn Hatcher** **129.60** **323** PFAKE 06 12 30.0 +9.3
AHID LR LR
comp=Z,587nm,20.0s,MS5.3
LTX **Lajitas** **130.22** **304** PFAKE 06 12 30.0 +7.8
LTX LR LR
comp=Z,560nm,19.0s,MS5.3
TXAR **Lajitas Array** **130.22** **304** PKP PKPdf 06 12 20.7 -1.5
comp=Z,2.1nm,0.8s,baz=135,slow=2.3,SNR=16
ANMO **Albuquerque** **130.36** **311** *i*PKIKP PKPdf 06 12 21.8 -0.6
ANMO **Albuquerque** **130.36** **311** PFAKE 06 12 30.0 +7.6
ANMO LR LR
comp=Z,822nm,21.0s,MS5.4
HWUT **Hardware Ranch** **130.54** **322** PFAKE 06 12 30.0 +7.5
HWUT LR LR
comp=Z,1μm,20.0s,MS5.5
LPM **Los Pinos Moun** **130.76** **311** *e*PKPdf PKPdf 06 12 22.3 -0.8
MNTX **Cornudas Mount** **130.81** **307** PFAKE 06 12 30.0 +6.7
MNTX LR LR
comp=Z,597nm,19.0s,MS5.3
BNM **Barren Site** **130.82** **311** *e*PKPdf PKPdf 06 12 22.1 -1.2
DAU **Daniels Canyon** **131.02** **320** *e*PKIKP PKPdf 06 12 22.0 -1.4
HLID **Hailey** **131.05** **325** *e*PKPdf PKPdf 06 12 21.9 -1.5
HLID LR LR
comp=Z,789nm,20.0s,MS5.4
LAZ **Ladron** **131.10** **311** *e*PKPdf PKPdf 06 12 22.6 -1.1
MPU **Maple Canyon** **131.48** **320** PFAKE 06 12 30.0 +5.7
MPU LR LR
comp=Z,812nm,22.0s,MS5.4
BMO **Blue Mountains** **131.77** **329** *e*PKIKP PKPdf 06 12 23.2 -1.5
BMO MLR MLR
comp=Z,685nm,20.0s,MS5.3
DUG **Dugway** **132.13** **321** PFAKE 06 12 40.0 +14
DUG LR LR
comp=Z,663nm,20.0s,MS5.3
MSU **Marysvale** **132.66** **319** *e*PKIKP PKPdf 06 12 26.2 -0.4
MVU **Marysvale** **132.69** **319** PFAKE 06 12 40.0 +13
MVU LR LR
comp=Z,614nm,20.0s,MS5.3
OCWA **Octopus Mounta** **132.80** **336** PFAKE 06 12 40.0 +13
OCWA LR LR
comp=Z,498nm,19.0s,MS5.2
ELK **Elko** **133.29** **323** PFAKE 06 12 40.0 +12
ELK LR LR
comp=Z,589nm,19.0s,MS5.3
WUAZ **Wupatki** **133.67** **315** PFAKE 06 12 40.0 +11
WUAZ LR LR
comp=Z,464nm,19.0s,MS5.2
WVOR **Wild Horse Val** **134.13** **327** PFAKE 06 12 40.0 +11
WVOR LR LR
comp=Z,462nm,19.0s,MS5.2
TUC **Tucson** **134.75** **310** PFAKE 06 12 40.0 +9.3
TUC LR LR
comp=Z,468nm,20.0s,MS5.2
MOD **Modoc** **135.39** **328** PFAKE 06 12 40.0 +8.4
MOD LR LR
comp=Z,390nm,19.0s,MS5.2
TPH **Tonopah** **136.14** **321** PFAKE 06 12 40.0 +7.0
TPH LR LR
comp=Z,654nm,20.0s,MS5.4
TPNV **Topopah Spring** **136.20** **319** PFAKE 06 12 40.0 +6.9
TPNV LR LR
comp=Z,831nm,22.0s,MS5.4
HUMO **Hull Mountain** **136.24** **330** PFAKE 06 12 40.0 +7.0
HUMO LR LR
comp=Z,335nm,21.0s,MS5.0
MNV **Mina** **136.49** **322** PFAKE 06 12 40.0 +6.4
MNV LR LR
comp=Z,691nm,19.0s,MS5.4
NVAR **Mina Array Bea** **136.58** **323** PKP PKPdf 06 12 33.6 -0.2
comp=Z,2.3nm,0.9s,baz=93,slow=3.0,SNR=11
YBH **Yreka Blue Hor** **136.76** **329** PFAKE 06 12 40.0 +6.0
YBH LR LR
comp=Z,316nm,19.0s,MS5.1
DAC **Darwin (Calif)** **137.47** **320** PFAKE 06 12 50.0 +14
DAC LR LR
comp=Z,434nm,19.0s,MS5.2
WDC **Whiskeytown Da** **137.52** **328** PFAKE 06 12 50.0 +15
WDC LR LR
comp=Z,468nm,19.0s,MS5.2
CMB **Columbia Colle** **138.08** **324** PFAKE 06 12 50.0 +13
CMB LR LR
comp=Z,687nm,21.0s,MS5.4
ISA **Isabella** **138.41** **319** PFAKE 06 12 50.0 +13
ISA LR LR
comp=Z,147nm,19.0s,MS4.7
SAO **San Andreas Ge** **139.56** **323** PFAKE 06 12 50.0 +11
SAO LR LR
comp=Z,702nm,20.0s,MS5.4
RKT **Rikitea** **147.26** **207** *e*LR LR 07 01 26.1
comp=Z,238nm,26.5s
TBI **Tubuai** **150.73** **182** *e*LR LR 07 03 01.4
comp=Z,380nm,23.8s
PPT **Papeete** **156.48** **182** *e*LR LR 07 05 41.6
TAOE **Nuku Hiva Isla** **161.94** **215** *e*LR LR 07 08 13.7
comp=Z,866nm,25.4s

BJI ***06*** *06:39:21.3, 22.02S×179.99W, h542km, mB4.6, mb4.6*
NEIC ***06*** *06:39:22.6±0.9, 22.21S×179.57W, h564km±11km, mb4.5/26, Error ellipse: s-maj=12.5km s-min=7.2km az=143.0*
IDC ***06*** *06:39:23.6±1.8, 22.27S×179.55W, h580km±20km, mb3.9/11, mb1 4.1/14, mb1mx4.0/18, mbtmp4.8/14, Error ellipse: s-maj=19.4km s-min=13.8km az=149.0*
ISC 06 06:39:22.5±1.2, 22.33S±0.07×179.58W±0.08, h579km±15km, n105, σ0°82/56, mb4.4/36, 5C-7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**7.05**	**168**	P		**P**	**06 41 05.6**	**-7.1**
	144nm,0.3s,baz=71,slow=23,SNR=4.7							
AFI	**Afiamalu**	**11.18**	**43**	P		**P**	**06 41 52.4**	**-0.8**
	1.7nm,0.3s,baz=176,slow=8.6,SNR=3.5							
AFI				S		**S**	**06 43 46.9**	**-7.2**
	2.0nm,0.3s,baz=232,slow=20,SNR=3.4							
DZM	**Mont Dzumac**	**12.95**	**268**	P		**P**	**06 42 11.3**	**+0.5**
	4.5nm,0.3s,baz=76,slow=19,SNR=25							
URZ	**Urewera**	**16.13**	**189**	P		**P**	**06 42 41.8**	**-0.1**
	6.4nm,0.3s,baz=331,slow=3.7,SNR=35							
URZ				S		**S**	**06 45 20.1**	**-2.5**
	1.3nm,0.3s,baz=181,slow=23,SNR=9.1							
RPZ	**Rata Peaks**	**22.70**	**198**	P		**P**	**06 43 42.8**	**0.0**
	5.5nm,0.6s,mb4.4,baz=283,slow=16,SNR=2.0							
CNB	**Canberra Magne**	**30.00**	**238**	⇓*iP*		**P**	**06 44 48.2**	**+1.5**
	44nm,0.6s,mb5.3							
CTA	**Charters Tower**	**31.89**	**268**	⇓*iP*		**P**	**06 45 03.3**	**+0.4**
	16nm,0.3s,mb5.1							
CTA	**Charters Tower**	**31.89**	**268**	P		**P**	**06 45 03.4**	**+0.5**
	24nm,0.4s,mb5.2,baz=95,slow=11,SNR=63							
CTAO	**Charters Tower**	**31.89**	**268**	⇓*iP*		**P**	**06 45 03.1**	**+0.3**
	42nm,0.8s,mb5.1							
TOO	**Toolangi**	**33.64**	**235**	*e*P		**P**	**06 45 18.5**	**+1.1**
	23nm,0.7s,mb4.9							
PMG	**Port Moresby**	**34.38**	**287**	P		**P**	**06 45 23.8**	**0.0**
	28nm,0.7s,mb5.0,baz=86,slow=5.2,SNR=12							
PMG	**Port Moresby**	**34.38**	**287**	⇓*iP*		**P**	**06 45 23.7**	**-0.1**
	28nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**35.69**	**246**	⇓*iP*		**P**	**06 45 35.5**	**+1.1**
	17nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**35.69**	**246**	P		**P**	**06 45 35.5**	**+1.1**
	21nm,0.5s,mb4.9,baz=93,slow=9.5,SNR=61							
WB2	**Warramunga Arr**	**42.91**	**264**	*e*P		**P**	**06 46 32.0**	**-0.8**
WRA	**Warramunga Arr**	**42.92**	**264**	P		**P**	**06 46 32.1**	**-0.8**
	9.3nm,0.4s,mb4.7,baz=98,slow=8.2,SNR=32							
MJAR	**Matsushiro Arr**	**70.83**	**325**	P		**P**	**06 49 42.4**	**-0.7**
	6.3nm,0.8s,mb4.2,baz=159,slow=5.8,SNR=7.6							
NJ2	**Nanjing**	**79.93**	**311**	*e*P		**P**	**06 50 32.5**	**-0.8**
NJ2				AMB		AMB		
	comp=Z,150nm,0.7s,mb5.4							
PMSA	**Palmer Station**	**80.20**	**157**	*e*P		**P**	**06 50 35.8**	**+1.7**
	comp=Z,12nm,0.7s,mb4.3							
KIPM	**Iron Peak**	**80.97**	**40**	*e*P		**P**	**06 50 39.5**	**+0.9**
MDJ	**Mudanjiang**	**81.18**	**326**	*e*P		**P**	**06 50 30.0**	**-9.5**
	comp=Z,7.5nm,0.5s,mb4.4							
ISA	**Isabella**	**81.66**	**46**	*e*P		**P**	**06 50 42.5**	**+0.4**
	comp=Z,12nm,1.5s,mb4.2							
CMB	**Columbia Colle**	**81.80**	**43**	*e*P		**P**	**06 50 42.8**	**0.0**
	comp=Z,10.0nm,0.9s,mb4.3							
WDC	**Whiskeytown Da**	**82.01**	**40**	*e*P		**P**	**06 50 44.2**	**+0.5**
	comp=Z,16nm,1.2s,mb4.4							
YBH	**Yreka Blue Hor**	**82.63**	**39**	*e*P		**P**	**06 50 47.9**	**+1.1**
	comp=Z,5.3nm,0.8s,mb4.1							
HUMO	**Hull Mountain**	**83.03**	**38**	*e*P		**P**	**06 50 50.0**	**+1.1**
	comp=Z,14nm,1.2s,mb4.4							
NVAR	**Mina Array Bea**	**83.36**	**44**	P		**P**	**06 50 51.4**	**+0.8**
	comp=Z,4.9nm,0.9s,mb4.0,baz=211,slow=6.6,SNR=26							
TPNV	**Topopah Spring**	**83.87**	**46**	*e*P		**P**	**06 50 53.5**	**+0.3**
	comp=Z,2.8nm,0.7s,mb3.9							
MOD	**Modoc**	**84.16**	**40**	*e*P		**P**	**06 50 55.0**	**+0.6**
	comp=Z,4.2nm,0.7s,mb4.1							
MOD				*e*PP		PP	06 54 15.8	-4.3
ARUT	**Antelope Range**	**86.20**	**47**	*e*P		**P**	**06 51 04.5**	**+0.1**
SNAA	**Sanae**	**86.22**	**179**			**P**	**06 51 03.5**	**-0.2**
VNA3	**Neumayer Olymp**	**86.42**	**177**	⇑*i*		**P**	**06 51 04.3**	**-0.4**
ELK	**Elko**	**86.62**	**43**	*e*P		**P**	**06 51 06.5**	**+0.2**
	comp=Z,3.7nm,0.9s,mb4.1							
VNA2	**Neumayer--Watz**	**86.84**	**177**	⇑*i*		**P**	**06 51 06.9**	**+0.3**
VNA1	**Neumayer--Stat**	**87.08**	**177**	⇑*i*		**P**	**06 51 06.3**	**-1.5**
PMR	**Palmer**	**87.13**	**14**	*e*P		**P**	**06 51 07.3**	**-0.9**
	comp=Z,5.0nm,0.4s,mb4.6							
BMO	**Blue Mountains**	**87.66**	**39**	*e*P		**P**	**06 51 11.0**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.0							
HLID	**Hailey**	**88.67**	**41**	*e*P		**P**	**06 51 16.6**	**+0.7**
	comp=Z,6.5nm,0.8s,mb4.5							
MNTX	**Cornudas Mount**	**89.00**	**55**	*e*P		**P**	**06 51 18.2**	**+0.5**
	comp=Z,6.5nm,0.8s,mb4.5							
MCK	**McKinley**	**89.07**	**13**	*e*P		**P**	**06 51 16.3**	**-1.0**
	comp=Z,7.1nm,1.0s,mb4.5							
TXAR	**Lajitas Array**	**89.28**	**58**	P		**P**	**06 51 20.2**	**+1.1**
	comp=Z,4.0nm,0.8s,mb4.3,baz=214,slow=5.7,SNR=38							
HWUT	**Hardware Ranch**	**89.42**	**44**	*e*P		**P**	**06 51 19.2**	**-0.2**
	comp=Z,4.9nm,0.8s,mb4.3							
ANMO	**Albuquerque**	**89.69**	**52**	*e*P		**P**	**06 51 20.8**	**0.0**
	comp=Z,6.8nm,1.2s,mb4.3							
COLA	**College**	**90.31**	**13**	*e*P		**P**	**06 51 21.3**	**-1.6**
	comp=Z,4.6nm,0.6s,mb4.5							
ILAR	**Eielson Array**	**90.42**	**13**	P		**P**	**06 51 22.1**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.1,baz=226,slow=4.1,SNR=26							
BILL	**Bilibino**	**90.70**	**355**	*e*P		**P**	**06 51 24.2**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.3							
BW06	**Boulder Array**	**91.30**	**44**	*e*P		**P**	**06 51 27.7**	**-0.3**
	comp=Z,3.3nm,0.9s,mb4.3							
PDAR	**Pinedale Array**	**91.30**	**44**	P		**P**	**06 51 27.7**	**-0.3**
	comp=Z,2.1nm,0.8s,mb4.1,baz=205,slow=3.5,SNR=15							
DAWY	**Dawson**	**91.62**	**16**	*e*P		**P**	**06 51 28.4**	**-0.6**
SDCO	**Great Sand Dun**	**91.66**	**50**	*e*P		**P**	**06 51 30.0**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.4							
LZH	**Lanzhou**	**92.72**	**308**	*e*P		**P**	**06 51 35.0**	**+0.4**
LZH				PP		PP	06 55 30.2	+1.6
LZH				AMB		AMB		
	comp=Z,20nm,1.3s,mb5.0							
LZH				AMB		AMB		
	comp=Z,40nm,7.4s							
INK	**Inuvik**	**96.42**	**16**	*e*P		**P**	**06 51 49.6**	**-1.0**
GTA	**Gaotai**	**96.99**	**310**	*e*P		**P**	**06 51 54.6**	**+0.7**
GTA				SKS		SKS	07 01 39.1	+3.6
GTA				S		S	07 02 23.3	-1.1
GTA				AMB		AMB		
	comp=Z,120nm,6.9s							
YKA	**Yellowknife Ar**	**98.78**	**25**	P		**P**	**06 52 00.6**	**-0.8**
	comp=Z,0.5nm,0.8s,mb3.9,baz=236,slow=4.8,SNR=6.0							
MKAR	**Makanchi Array**	**111.37**	**313**	PKiKP			06 56 51.1	
	comp=Z,0.8nm,0.5s,baz=200,slow=1.1,SNR=16							
BVAR	**Borovoye Array**	**119.51**	**319**	PKP		PKPdf	06 57 06.7	+0.1
	comp=Z,3.8nm,0.4s,baz=120,slow=2.1,SNR=37							
AKTO	**Aktyubinsk**	**127.42**	**317**	PKP		PKPdf	06 57 22.4	+0.4
	comp=Z,2.1nm,0.6s,baz=122,slow=1.7,SNR=9.8							
KEV	**Kevo**	**129.97**	**348**	*e*pkp		PKPdf	06 57 26.3	-0.1
ARCES	**ARCESS Array B**	**130.43**	**349**	PKP		PKPdf	06 57 27.2	-0.1
	comp=Z,5.1nm,0.7s,baz=45,slow=1.7,SNR=5.0							
JOF	**Joensuu**	**134.39**	**341**	*e*pkp		PKPdf	06 57 26.2	-8.6
KAF	**Kangasniemi**	**136.47**	**343**	*e*pkp		PKPdf	06 57 28.0	-11
FINES	**FINESS Array B**	**137.08**	**342**	PKiKP			06 57 28.6	
	comp=Z,6.8nm,1.2s,baz=63,slow=4.3,SNR=9.4							
FINES				PKP		PKPdf	06 57 39.4	-0.4
	comp=Z,1.8nm,0.6s,baz=79,slow=2.9,SNR=7.9							
NB2	**NORSAR Subarra**	**140.59**	**352**	PKPabc		PKPdf	06 57 40.8	-5.2
	comp=Z,1.2nm,0.5s,baz=34,slow=2.9							
NOA	**NORSAR Array B**	**140.59**	**352**	PKhKP			06 57 40.4	
	comp=Z,1.0nm,0.5s,baz=8.1,slow=3.1,SNR=6.0							
NOA				PKP		PKPdf	06 57 48.1	+2.1
	comp=Z,1.1nm,0.5s,baz=14,slow=3.8,SNR=3.9							
HFS	**Hagfors**	**141.08**	**349**	PKhKP			06 57 42.0	
	comp=Z,5.8nm,0.4s,baz=63,slow=3.3,SNR=48							
BNGL	**BINGOL**	**141.59**	**305**	*i* P		PKPdf	06 57 40.0	-8.4
ELZG	**Elazig**	**143.34**	**305**	*i* P		PKPbc	06 57 51.5	+1.0
AKASG	**Malin Array Be**	**143.85**	**329**	PKP		PKPdf	06 57 51.4	-0.5
	comp=Z,7.7nm,0.4s,baz=43,slow=4.0,SNR=87							
SUW	**Suwalki**	**143.98**	**337**	*e*PKPbc		PKPbc	06 57 52.5	+0.6
GZT	**Gaziantep**	**144.72**	**304**	*i* P		PKPdf	06 57 54.9	+1.1
KAHT	**Ahir Dag**	**145.18**	**304**	*i* P		PKPdf	06 57 57.3	+2.7
BOYT	**Boyabat**	**145.38**	**311**	*i* P		PKPdf	06 57 57.3	+2.4
CTKT	**Corum**	**145.76**	**310**	*i* P		PKPdf	06 57 57.1	+1.6
COBT	**Iskenderun**	**145.94**	**303**	*i* P		PKPdf	06 57 58.9	+2.9
AVNT	**Avonos**	**146.35**	**307**	*i* P		PKPdf	06 58 00.2	+3.6
BALT	**Daday**	**146.38**	**312**	*i* P		PKPdf	06 57 59.0	+2.4
ELDT	**Eldivan**	**146.77**	**311**	*i* P		PKPdf	06 58 00.4	+3.1
BR131	**Keskin Array S**	**146.91**	**309**	*e*PKPdf		PKPdf	06 58 01.4	+3.9
BRTR	**Keskin Array B**	**146.91**	**309**	PKPbc		PKPbc	06 58 01.4	+1.7
	comp=Z,4.0nm,0.7s,baz=142,slow=4.7,SNR=17							
EKA	**Eskdalemuir Ar**	**146.93**	**4**	PKPbc		PKPbc	06 58 00.5	+1.2
	comp=Z,6.0nm,0.7s,baz=359,slow=3.0,SNR=22							
SGKT	**Sivrigoynuk**	**147.69**	**312**	*i* P		PKPdf	06 58 02.1	+3.4
CFR	**Carcaliu**	**147.86**	**322**	⇑P		PKPdf	06 58 02.6	+3.8
KOLS	**Kolonicke sedl**	**148.28**	**332**	*e*PKP		PKPdf	06 58 05.3	+5.9
KOLS				*e*			06 58 11.4	
STHS	**Stebnicka Huta**	**148.35**	**334**	*i* PKP		PKPdf	06 58 05.4	+6.0
STHS				*e*			06 58 08.9	
CRVS	**Cervenica-Dubn**	**148.66**	**333**	*e*PKP		PKPdf	06 58 06.0	+6.1
CRVS				*e*			06 58 09.3	
MLR	**Muntele Rosu**	**148.89**	**324**	PKPbc		PKPdf	06 58 06.6	+6.2
	comp=Z,2.8nm,0.4s,baz=291,slow=6.3,SNR=4.8							
MLR	**Muntele Rosu**	**148.89**	**324**	⇓P		PKPdf	06 58 06.2	+5.8
OKC	**Ostrava-Krasne**	**149.19**	**337**	*e*PKP		PKPdf	06 58 06.6	+5.9
UPC	**Upice**	**149.34**	**340**	*e*PKP		PKPdf	06 58 07.7	+6.7
DPC	**Dobruska-Polom**	**149.37**	**340**	*e*PKP		PKPdf	06 58 08.0	+7.0
KECS	**Kecovo**	**149.39**	**333**	*e*PKP		PKPdf	06 58 07.8	+6.7
KECS				*e*			06 58 13.3	
MORC	**Moravsky Berou**	**149.46**	**338**	⇓P		PKPdf	06 58 07.7	+6.6
CLL	**Collm**	**149.46**	**344**	⇑*i*PKP1		PKPdf	06 58 07.6	+6.5
CLL				*i* PKP2		PKPab	06 58 14.7	-1.5
PVCC	**Panska Ves**	**149.75**	**342**	*e*PKP		PKPdf	06 58 08.8	+7.2
VYHS	**Vyhne**	**150.04**	**335**	*e*PKP		PKPdf	06 58 09.0	+6.9
VYHS				*e*			06 58 17.7	
VRAC	**Vranov**	**150.18**	**338**	PKPbc		PKPdf	06 58 09.3	+7.0
	comp=Z,5.8nm,0.7s,baz=254,slow=3.3,SNR=4.0							
PRU	**Pruhonice**	**150.24**	**342**	*e*PKP		PKPdf	06 58 09.6	+7.2
TREC	**Trest**	**150.56**	**340**	*e*PKP		PKPdf	06 58 10.3	+7.4
NKC	**Novy Kostel**	**150.59**	**344**	*e*PKP		PKPdf	06 58 10.7	+7.8
NKC				*ep*PKP			06 58 19.9	
KHC	**Kasperske Hory**	**151.29**	**342**	*e*PKP		PKPdf	06 58 12.0	+8.0
KHC				*ep*PKP			06 58 23.1	
GERES	**GERESS Array B**	**151.51**	**341**	PKPbc		PKPdf	06 58 12.1	+7.8
	comp=Z,2.9nm,0.4s,baz=19,slow=2.2,SNR=25							
GERES				PKPab		PKPab	06 58 23.7	-1.1
	comp=Z,1.3nm,0.5s,baz=18,slow=4.2,SNR=7.0							
DAVOX	**Davos**	**154.43**	**345**	PKPbc		PKPdf	06 58 18.7	+10
	comp=Z,3.4nm,0.5s,baz=217,slow=5.1,SNR=4.4							
DAVOX				PKPab		PKPab	06 58 36.6	-0.6
	comp=Z,6.5nm,0.6s,baz=18,slow=4.6,SNR=7.0							
ESDC	**Sonseca Array**	**162.31**	**11**	PKPab		PKPab	06 59 10.3	-1.1
	comp=Z,0.4nm,0.4s,baz=356,slow=4.5,SNR=5.3							
DBIC	**Dimbokro**	**163.62**	**161**	PKP		PKPdf	06 58 20.6	+0.8
	comp=Z,3.3nm,0.9s,baz=358,slow=7.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**170.79**	**188**	PKP		PKPdf	06 58 25.7	+0.8
	comp=Z,1.4nm,0.8s,baz=346,slow=1.2,SNR=7.9							

IDC ***06*** *06:41:23.0±3.5, 8.57S×117.74E, h162km±34km, mb3.9/4, mb1 4.0/6, mb1mx3.7/17, mbtmp4.4/6, Error ellipse: s-maj=50.8km s-min=11.1km az=44.0*
NEIC ***06*** *06:41:27.3±1.8, 8.83S×117.73E, h211km±23km, mb4.6/3, Error ellipse: s-maj=33.8km s-min=10.4km az=48.0*
ISC 06 06:41:27.8±1.8, 9.0S±0.1×117.6E±0.2, h245km±24km, n14, σ1°§18/16, mb4.2/5, 1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.94**	**140**	*e*P		**P**	**06 44 10.6**	**-1.3**
	6.8nm,0.3s							
FITZ				*e*S		**S**	**06 46 15.8**	**-5.4**
FITZ	**Fitzroy Crossi**	**11.94**	**140**	P		**P**	**06 44 10.6**	**-1.2**
	0.9nm,0.3s,baz=329,slow=8.3,SNR=40							
FITZ				S		**S**	**06 46 17.5**	**-3.7**
	4.6nm,0.3s,baz=195,slow=23,SNR=10							
MBWA	**Marble Bar**	**12.25**	**171**	*e*Pn		**P**	**06 44 17.3**	**+1.6**
	35nm,0.3s							
MBWA				*e*Sn		**S**	**06 46 26.7**	**-1.4**
KSM	**Kuching**	**12.70**	**325**	*e*Pn		**P**	**06 44 20.9**	**-0.3**
KAKA	**Kakadu**	**15.03**	**105**	*e*P		Px	06 45 05.0	
	22nm,0.6s							
WRA	**Warramunga Arr**	**19.49**	**126**	P		**P**	**06 45 38.7**	**+0.5**
	2.4nm,0.3s,baz=300,slow=12,SNR=93							
WRA				S		**S**	**06 49 13.7**	**+13**
	0.9nm,0.3s,baz=306,slow=21,SNR=8.1							
WB2	**Warramunga Arr**	**19.50**	**126**	⇓*iP*		**P**	**06 45 38.7**	**+0.4**
WB2				*e*S		**S**	**06 49 08.7**	**+8.3**
PSI	**Prapat**	**22.00**	**301**	P		**P**	**06 46 04.7**	**+1.7**
	2.5nm,0.4s,mb4.1,baz=178,slow=8.0,SNR=3.9							
CTA	**Charters Tower**	**29.79**	**115**	P		**P**	**06 47 16.1**	**+1.8**
	3.2nm,0.6s,mb4.2,baz=308,slow=12,SNR=3.1							
ULN	**Ulaanbaatar**	**57.39**	**352**	*e*P		**P**	**06 50 51.8**	**-1.0**
	3.7nm,0.6s,mb4.2							
SONM	**Songino Array**	**57.46**	**351**	P		**P**	**06 50 52.3**	**-0.9**
	6.0nm,0.6s,mb4.4,baz=167,slow=7.8,SNR=58							
MKAR	**Makanchi Array**	**63.84**	**334**	P		**P**	**06 51 35.4**	**-0.8**
	1.4nm,0.4s,mb4.0,baz=149,slow=6.1,SNR=34							
YKA	**Yellowknife Ar**	**114.76**	**24**	PKP		PKPdf	06 59 42.9	+4.1
	0.2nm,0.4s,baz=305,slow=2.0,SNR=7.9							
TORD	**Torodi Ar. Bea**	**117.10**	**280**	PKP		PKPdf	06 59 48.8	+4.3
	0.5nm,0.3s,baz=104,slow=1.3,SNR=9.1							

NEIC ***06*** *06:47:23.2, 37.63N×20.89E, h5km, MD3.6(ATH), After ATH.*
CSEM ***06*** *06:47:23.2, 37.63N×20.89E, h5km, MD3.6/8, After ATH*
ATH 06 06:47:23.2, 37.61N×20.88E, h7km±1km, MD3.6/8, 2C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLS	**Valsamata**	**0.61**	**338**	⇑*iPG*		Pg	06 47 34.8	-0.7
VLS				*e*SB		Sb	06 47 44.1	-0.2
VLS	**Valsamata**	**0.61**	**338**	⇑*ePb*		Pb	06 47 34.8	-1.0
VLS				*e*Sb		Sb	06 47 44.1	-0.2
VLS	**Valsamata**	**0.61**	**338**	*e*Pb		Pb	06 47 34.8	-1.0
VLS				*e*Sb		Sb	06 47 44.1	-0.2
RLS	**Riolos of Patr**	**0.65**	**46**	*e*PB		Pb	06 47 35.0	-1.4
RLS				*e*SB		Sb	06 47 44.6	-0.7
ITM	**Ithomi**	**0.94**	**117**	*e*PB		Pb	06 47 41.1	-0.3
EVR	**Evrytania**	**1.50**	**29**	*e*PB		Pb	06 47 51.2	+0.3
VLI	**Veliai**	**1.87**	**118**	*e*PN		Pn	06 47 57.6	+1.7
VLI	**Veliai**	**1.87**	**118**	*e*Pn		Pn	06 47 58.9	+3.0
MGER	**Gerania Oros**	**1.92**	**78**	*e*PN		Pn	06 47 58.5	+1.8
MGER	**Gerania Oros**	**1.92**	**78**	*e*Pn		Pn	06 47 59.5	+2.8
KYTH	**Kithira**	**2.18**	**127**	*e*PN		Pn	06 48 02.0	+1.6
KYTH	**Kithira**	**2.18**	**127**	*e*Pn		Pn	06 48 03.0	+2.6
MPAR	**Parnis Oros**	**2.32**	**76**	*e*PN		Pn	06 48 04.0	+1.6
MPAR	**Parnis Oros**	**2.32**	**76**	*e*Pg		Pg	06 48 06.0	-3.6
NEO	**Neokhori**	**2.50**	**47**	*e*PN		Pn	06 48 06.2	+1.2

IDC 06 06:52:24.3±1.7, 14.89S×70.32W, h203km±29km, mb3.1/3, mb1 3.3/5, mb1mx3.1/19, mbtmp3.5/5, Error ellipse: s-maj=104.3km s-min=24.5km az=22.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**2.52**	**124**	P		P	06 53 09.4	+0.3
	11nm,0.3s,baz=305,slow=10,SNR=363							
LPAZ				S		S	06 53 44.9	+1.1
	3.8nm,0.3s,baz=23,slow=24,SNR=9.8							
SIV	**San Ignacio**	**8.98**	**98**	P		P	06 54 30.9	-0.2
	0.3nm,0.3s,baz=269,slow=14,SNR=8.8							
TXAR	**Lajitas Array**	**54.49**	**324**	P		P	07 01 30.9	-2.3
	0.1nm,0.4s,baz=153,slow=8.1,SNR=3.4							
TORD	**Torodi Ar. Bea**	**76.52**	**72**	P		P	07 03 52.4	-1.8
	0.5nm,0.3s,baz=242,slow=4.9,SNR=14							
YKA	**Yellowknife Ar**	**84.54**	**341**	P		P	07 04 34.5	-0.8
	0.4nm,0.6s,baz=134,slow=5.0,SNR=12							
SONM	**Songino Array**	**147.04**	**4**	PKPbc		PKPdf	07 11 43.0	+2.5
	0.2nm,0.3s,baz=14,slow=5.9,SNR=4.4

IZM	**Izmir**	**0.57**	**65**	PG	**Pb**	**07 59 29.0**	**-0.2**
IZM				SG	**Sb**	**07 59 37.8**	**+1.0**
PRK	**Paraskevi**	**1.12**	**347**	*e*PN	**Pn**	**07 59 38.9**	**-0.2**
PRK				*e*SN	**Sn**	**07 59 54.5**	**+0.4**
AKS	**Akhisar**	**1.19**	**52**	PN	**Pn**	**07 59 39.5**	**-0.6**
BODT	**Bodrum**	**1.23**	**153**	*e*PN	**Pn**	**07 59 41.2**	**+0.5**
APE	**Apeiranthos**	**1.38**	**219**	*e*PN	**Pn**	**07 59 42.5**	**-0.4**
APE	**Apeiranthos**	**1.38**	**219**	*e*Pn	**Pn**	**07 59 43.3**	**+0.4**

IDC ***06*** *08:21:53.9±0.9, 48.90S×121.18E, mb4.1/4, mb1 4.3/5, mb1mx4.2/11, mbtmp4.2/5, ML2.6/1, MS4.1/10, Ms1 4.1/10, ms1mx4.0/16, Error ellipse: s-maj=53.3km s-min=21.8km az=113.0*

NEIC ***06*** *08:21:55.6±0.4, 48.94S×121.19E, h10km, mb4.9/7, Error ellipse: s-maj=17.9km s-min=9.3km az=99.0*

HRVD ***06*** *08:21:55.6±0.4, 49.09S×121.68E, h12km, MW4.8/58, Centroid moment Tensor Solution. LP body waves: s16,c17;Mantle waves: s58,c86; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.90±.12; Mθθ1.83±.09; Mφφ0.06±.13; Mrθ-1.00±.38; Mrφ-0.94±.08; Mθφ-0.38±.52; Best double couple: M0:2.344×10^16 NP1:φs313°, δ38°, λ-57°. NP2:φs94°, δ58°, λ-113°. Principal axes: T 2.379, Plg11°, Azm200°; N -.073, Plg19°, Azm107°; P -2.31, Plg68°, Azm318°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 08:21:54.0±0.5, 48.90S±0.07×121.2E±0.2, h10km, n46, σ1$22/31, mb4.5/10, MS4.1/9, 3D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.24**	**348**	Pn		**P**		**08 25 44.6**	**+0.9**
	1.0nm,0.3s,baz=191,slow=9.3,SNR=6.4								
NWAO				LR		LR		08 30 45.4	
	comp=Z,876nm,18.5s,baz=149,slow=33								
NWAO	**Narrogin (SRO)**	**16.24**	**348**	*e*Pn		**P**		**08 25 46.1**	**+2.4**
	20nm,1.0s								
NWAO				LR		LR		08 30 45.4	
STKA	**Stephens Creek**	**22.92**	**50**	P		**P**		**08 27 00.2**	**+1.2**
	4.7nm,0.8s,mb4.0,baz=222,slow=13,SNR=6.8								
STKA				LR		LR		08 34 25.3	
	comp=Z,589nm,19.7s,MS4.0,baz=209,slow=33								
STKA	**Stephens Creek**	**22.92**	**50**	*e*P		**P**		**08 27 00.5**	**+1.5**
STKA				*e*				08 27 04.6	
STKA				LR		LR		08 34 25.4	
WRA	**Warramunga Arr**	**30.77**	**25**	P		**P**		**08 28 10.6**	**-1.1**
	3.4nm,1.1s,mb4.1,baz=199,slow=9.6,SNR=6.1								
WRA				PcP		PcP		08 31 07.6	-1.7
	0.3nm,0.3s,baz=206,slow=2.6,SNR=4.6								
FITZ	**Fitzroy Crossi**	**30.93**	**8**	P		**P**		**08 28 12.0**	**-1.2**
	2.4nm,0.8s,mb4.1,baz=161,slow=9.3,SNR=5.2								
FITZ				LR		LR		08 39 43.0	
	comp=Z,302nm,18.8s,MS4.0,baz=195,slow=35								
VNDA	**Vanda**	**32.62**	**165**	*e*P		**P**		**08 28 26.6**	**-0.8**
	16nm,1.2s,mb4.8								
VNDA				*e*				08 28 33.0	
SBA	**Scott Base**	**33.67**	**164**	*e*P		**P**		**08 28 34.9**	**-1.7**
	9.7nm,0.9s,mb4.7								
SBA				*e*				08 28 41.3	
MAW	**Mawson**	**34.23**	**215**	LR		LR		08 40 43.6	
	comp=Z,203nm,18.8s,MS3.9,baz=76,slow=33								
MAW	**Mawson**	**34.23**	**215**	*e*P		**P**		**08 28 43.0**	**+1.5**
	8.2nm,0.4s,mb5.0								
QSPA	**South Pole Qui**	**41.22**	**180**	*e*P		**P**		**08 29 40.7**	**+0.7**
	23nm,1.1s,mb4.7								
QSPA				*e*				08 29 47.5	
RAO	**Raoul Island**	**49.77**	**90**	P		**P**		**08 30 49.4**	**+0.9**
	382nm,0.3s								
HNR	**Honiara**	**50.95**	**53**	LR		LR		08 50 06.3	
	comp=Z,276nm,20.1s,MS4.3,baz=306,slow=33								
SNAA	**Sanae**	**53.42**	**199**	*e*		**P**		**08 31 17.9**	**+2.4**
SNAA	**Sanae**	**53.42**	**199**	*e*		**P**		**08 31 21.7**	**+6.2**
SNAA	**Sanae**	**53.42**	**199**	*e*		**P**		**08 31 27.4**	**+12**
SNAA	**Sanae**	**53.42**	**199**	P		**P**		**08 31 15.1**	**-0.4**
	2.2nm,0.9s,mb4.1,baz=139,slow=7.3,SNR=16								
SNAA	**Sanae**	**53.42**	**199**	*i*P		**P**		**08 31 15.0**	**-0.5**
SNAA				*e*				08 31 21.7	
SNAA				*e*				08 31 27.4	
VNA2	**Neumayer--Watz**	**54.95**	**198**	*e*		**P**		**08 31 29.1**	**+2.4**
VNA2	**Neumayer--Watz**	**54.95**	**198**	*e*		**P**		**08 31 32.9**	**+6.2**
VNA2	**Neumayer--Watz**	**54.95**	**198**	*e*		**P**		**08 31 38.8**	**+12**
VNA2	**Neumayer--Watz**	**54.95**	**198**	*i*P		**P**		**08 31 26.4**	**-0.3**
VNA2				*e*				08 31 32.9	
VNA2				*e*				08 31 38.8	
VNA3	**Neumayer Olymp**	**55.16**	**197**	*e*		**P**		**08 31 30.2**	**+1.9**
VNA3	**Neumayer Olymp**	**55.16**	**197**	*e*		**P**		**08 31 33.8**	**+5.5**
VNA3	**Neumayer Olymp**	**55.16**	**197**	*e*		**P**		**08 31 40.0**	**+12**
VNA3	**Neumayer Olymp**	**55.16**	**197**	*i*P		**P**		**08 31 27.5**	**-0.8**
VNA3				*e*				08 31 33.8	
VNA3				*e*				08 31 40.0	
VNA1	**Neumayer--Stat**	**55.34**	**198**	*e*		**P**		**08 31 30.2**	**+0.6**
VNA1	**Neumayer--Stat**	**55.34**	**198**	*e*		**P**		**08 31 34.2**	**+4.6**
VNA1	**Neumayer--Stat**	**55.34**	**198**	*e*		**P**		**08 31 42.2**	**+13**
VNA1	**Neumayer--Stat**	**55.34**	**198**	P		**P**		**08 31 27.2**	**-2.4**
VNA1				*e*				08 31 34.2	
VNA1				*e*				08 31 42.2	
KULM	**Kulim**	**56.88**	**335**	*e*P		**P**		**08 31 41.2**	**-0.2**
AFI	**Afiamalu**	**64.56**	**82**	LR		LR		08 54 37.5	
	comp=Z,112nm,19.6s,MS4.1,baz=224,slow=30								
GUMO	**Guam**	**65.66**	**25**	LR		LR		08 57 43.3	
	comp=Z,228nm,21.4s,MS4.3,baz=202,slow=33								
LSA	**Lhasa**	**82.73**	**334**	P		**P**		**08 34 18.2**	**-0.9**
	12nm,1.0s,mb4.9								
LSA				*e*				08 34 27.3	
TSUM	**Tsumeb**	**84.33**	**247**	P		**P**		**08 34 26.6**	**-0.9**
	11nm,1.4s,mb4.8								
MJAR	**Matsushiro Arr**	**86.41**	**14**	LR		LR		09 15 50.2	
	comp=Z,125nm,18.4s,MS4.3,baz=165,slow=38								
PLCA	**Paso Flores**	**90.14**	**171**	LR		LR		09 16 51.7	
	comp=Z,107nm,18.2s,MS4.3,baz=187,slow=37								
SONM	**Songino Array**	**97.21**	**350**	LR		LR		09 22 29.4	
	comp=Z,41nm,21.0s,MS3.9,baz=138,slow=37								
TORD	**Torodi Ar. Bea**	**119.10**	**256**	PKP		PKPdf		08 40 44.1	-2.3
	0.6nm,0.7s,baz=68,slow=2.2,SNR=4.3								
ILAR	**Eielson Array**	**133.50**	**36**	PKP		PKPdf		08 41 09.8	-2.8
	0.2nm,0.6s,baz=267,slow=3.4,SNR=6.3								
TXAR	**Lajitas Array**	**140.77**	**103**	PKP		PKPdf		08 41 25.9	-1.0
	0.3nm,0.8s,baz=217,slow=4.5,SNR=3.0								
PDAR	**Pinedale Array**	**144.66**	**80**	PKP		PKPdf		08 41 30.6	-2.7
	1.4nm,1.0s,baz=207,slow=3.3,SNR=9.3								
EKA	**Eskdalemuir Ar**	**146.04**	**302**	PKPbc		PKPbc		08 41 34.5	+1.4
	2.9nm,0.9s,baz=56,slow=3.0,SNR=4.4								
EDM	**Edmonton**	**146.15**	**62**	PKPdf		PKPdf		08 41 34.9	-0.6
EDM				*e*				08 41 41.6	
YKA	**Yellowknife Ar**	**146.90**	**45**	PKPbc		PKPbc		08 41 36.6	+1.7
	2.1nm,0.8s,baz=273,slow=2.4,SNR=22								
RES	**Resolute Bay**	**150.01**	**18**	PKPdf		PKPdf		08 41 44.0	+2.9

NEIC ***06*** *08:46:35.3, 15.70N×95.99W, h16km, mb4.6/27, MD4.7(MEX), After MEX.*

MEX ***06*** *08:46:35.3±0.9, 15.70N×95.99W, h16km±3km, MD4.7*

BJI ***06*** *08:46:35.3, 15.70N×96.00W, h16km, mB5.4, Ms5.0, Msz4.7*

IDC ***06*** *08:46:36.0±0.8, 15.98N×95.62W, h26km±3km, mb4.1/16, mb1 4.3/18, mb1mx4.1/27, mbtmp4.2/18, ML3.6/2, MS3.7/7, Ms1 3.6/7, ms1mx3.4/27, Error ellipse: s-maj=34.0km s-min=9.8km az=52.0*

ISC 06 08:46:33.4±0.4, 15.79N±0.04×95.96W±0.03, h26km, h26km±.4km:pP-P, n98, σ1$31/109, mb4.4/35, MS4.0/10, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.14**	**261**	*i*P		**Pb**		**08 46 37.9**	**-0.6**
HUIG				*i*S		**Sb**		**08 46 40.8**	**-1.2**
VHO	**Vista Hermosa**	**1.47**	**330**	*i*P		**Pn**		**08 46 59.4**	**+0.7**
VHO				*i*S		**Sn**		**08 47 16.2**	**-1.1**
OXX	**Oaxaca**	**1.48**	**331**	*e*P		**Pn**		**08 46 59.5**	**+0.8**
OXX				*i*S		**Sn**		**08 47 18.5**	**+1.2**
CMIG	**Matias Romero**	**1.66**	**39**	*i*P		**Pn**		**08 47 00.8**	**-0.5**
CMIG				*i*S		**Sn**		**08 47 22.4**	**+0.5**
PNIG	**Pinotepa**	**2.16**	**286**	*i*P		**Pn**		**08 47 07.5**	**-1.1**
PNIG				*i*S		**Sn**		**08 47 31.1**	**-3.7**
TUIG	**Tuzandepetl**	**2.67**	**33**	*i*P		**Pn**		**08 47 15.9**	**0.0**
TUIG				*i*S		**Sn**		**08 47 45.8**	**-1.9**
SCX	**San Cristobal**	**3.33**	**73**	*e*P		**Pn**		**08 47 26.5**	**+1.3**
SCX				*i*S		**Sn**		**08 48 05.0**	**+0.6**
CCIG	**Comitan**	**3.71**	**82**	*i*P		**Pn**		**08 47 30.3**	**-0.3**
CCIG				*i*S		**Sn**		**08 48 12.3**	**-1.7**
CCIG	**Comitan**	**3.71**	**82**	*i*P		**Pn**		**08 47 30.3**	**-0.3**
CCIG				*i*S		**Sn**		**08 48 14.0**	**0.0**
ACX	**Acapulco**	**3.94**	**286**	*e*P		**Pn**		**08 47 32.0**	**-1.9**
PPM	**Popocatepetl**	**4.13**	**322**	*e*P		**Pn**		**08 47 36.5**	**-0.1**
PPM				*e*P				08 47 40.0	
PPM				*i*S		**Sn**		**08 48 23.7**	**-1.0**
PPM	**Popocatepetl**	**4.13**	**322**	*e*P		**Pn**		**08 47 36.5**	**-0.1**
PPM				*i*S		**Sn**		**08 48 23.7**	**-1.0**
YAIG	**Yautepec**	**4.26**	**316**	*e*P		**Pn**		**08 47 39.2**	**+0.9**
YAIG				*i*S		**Sn**		**08 48 25.4**	**-2.4**
YAIG	**Yautepec**	**4.26**	**316**	*e*P		**Pn**		**08 47 42.5**	**+4.1**
YAIG				*i*S		**Sn**		**08 48 25.4**	**-2.4**
PLIG	**Platanillo**	**4.26**	**308**	*e*P		**Pn**		**08 47 36.7**	**-1.7**
PLIG				*i*S		**Sn**		**08 48 24.9**	**-3.0**
PLIG	**Platanillo**	**4.26**	**308**	*e*P		**Pn**		**08 47 36.7**	**-1.7**
PLIG				*i*S		**Sn**		**08 48 28.5**	**+0.6**
CAIG	**El Cayaco**	**4.32**	**287**	*e*P		**Pn**		**08 47 37.7**	**-1.5**
CAIG				*i*S		**Sn**		**08 48 25.9**	**-3.4**
CAIG	**El Cayaco**	**4.32**	**287**	*e*P		**Pn**		**08 47 37.7**	**-1.5**
CAIG				*i*S		**Sn**		**08 48 29.3**	**0.0**
UNM	**Universidad Na**	**4.67**	**319**	*e*P		**Pn**		**08 47 44.7**	**+0.5**
UNM				*i*S		**Sn**		**08 48 38.0**	**-0.2**
UNM	**Universidad Na**	**4.67**	**319**	*e*P		**Pn**		**08 47 44.7**	**+0.5**
UNM				*i*S		**Sn**		**08 48 38.6**	**+0.4**
ZIIG	**Zihuatanejo**	**5.57**	**290**	*i*S		**Sn**		**08 48 58.1**	**-2.8**
MOIG	**Morelia**	**6.30**	**309**	*i*P		**Pn**		**08 48 06.7**	**-0.5**
MOIG				*i*S		**Sn**		**08 49 16.1**	**-3.1**
MRX	**Morelia**	**6.32**	**309**	*e*P		**Pn**		**08 48 10.0**	**+2.5**
SFJM	**Santa Fe**	**8.19**	**306**	*e*P		**P**		**08 48 42.0**	**+8.4**
ZAIG	**Zacatecas**	**9.33**	**319**	*e*P		**P**		**08 48 51.8**	**+2.4**
ZAIG				*i*S		**Sn**		**08 50 39.6**	**+5.0**
JTS	**JuntasAbangare**	**12.04**	**116**	Pn		**P**		**08 49 23.1**	**-3.5**
	0.3nm,0.3s,baz=292,slow=19,SNR=1.8								
JCT	**Junction City**	**15.04**	**347**	*e*Pn		**P**		**08 50 06.5**	**+0.3**
	24nm,0.6s								
TXAR	**Lajitas Array**	**15.23**	**334**	Pn		**P**		**08 50 10.2**	**+1.5**
	0.1nm,0.3s,baz=146,slow=11,SNR=10								
MNTX	**Cornudas Mount**	**18.02**	**333**	*e*P		**P**		**08 50 44.5**	**+0.6**
	6.9nm,1.0s								
GDL2	**Guadalupe Moun**	**18.04**	**336**	P		**P**		**08 50 45.6**	**+1.4**
GDL2				*e*				08 50 53.1	
CPRX	**Cap Rock**	**18.60**	**339**	*e*P		**P**		**08 50 51.3**	**+0.2**
MIAR	**Mount Ida**	**18.80**	**6**	*e*P		**P**		**08 50 50.9**	**-2.6**
	41nm,0.9s								
WMOK	**Wichita Mounta**	**19.04**	**353**	*e*P		**P**		**08 50 54.5**	**-1.8**
	24nm,1.1s								
WMOK				*e*pP				08 51 02.0	
OXF	**Oxford**	**19.55**	**16**	*e*P		**P**		**08 50 59.7**	**-2.5**
	35nm,0.6s								
OXF				*e*				08 51 11.1	
BNM	**Barren Site**	**20.65**	**334**	*e*P		**P**		**08 51 14.6**	**+0.7**
BNM				pP				08 51 21.4	
LPM	**Los Pinos Moun**	**20.79**	**334**	*e*P		**P**		**08 51 16.0**	**+0.7**
LPM				*e*pP				08 51 23.4	
LENM	**Lemitar**	**20.81**	**334**	*e*P		**P**		**08 51 16.3**	**+0.8**
LENM				*e*pP				08 51 23.0	
LAZ	**Ladron**	**21.09**	**334**	*e*P		**P**		**08 51 19.2**	**+0.9**
LAZ				*e*pP				08 51 26.3	
TUC	**Tucson**	**21.26**	**323**	*e*P		**P**		**08 51 21.5**	**+1.4**
	11nm,0.9s,mb4.2								
TUC				*e*pP				08 51 28.8	
ANMO	**Albuquerque**	**21.28**	**336**	P		**P**		**08 51 20.1**	**-0.1**
	3.1nm,0.8s,mb3.7,baz=168,slow=12,SNR=16								
ANMO	**Albuquerque**	**21.28**	**336**	*e*P		**P**		**08 51 20.6**	**+0.3**
	8.9nm,0.8s,mb4.2								
SWET	**Sewanee**	**21.33**	**23**	*e*P		**P**		**08 51 15.6**	**-5.2**
SWET				*e*				08 51 26.1	
WVT	**Waverly**	**21.52**	**18**	*e*P		**P**		**08 51 20.2**	**-2.4**
	7.6nm,0.6s,mb4.3								
CCM	**Cathedral Cave**	**22.57**	**10**	*e*P		**P**		**08 51 31.0**	**-2.2**
	15nm,0.6s,mb4.6								
CCM				*e*pP				08 51 38.6	
KSU1	**Kansas State U**	**23.23**	**359**	*e*P		**P**		**08 51 38.2**	**-1.4**
KSU1				*e*pP				08 51 48.0	
USIN	**University of**	**23.27**	**17**	P		**P**		**08 51 39.4**	**-0.6**
	23nm,0.7s,mb4.7								
SDCO	**Great Sand Dun**	**23.44**	**341**	*e*P		**P**		**08 51 43.1**	**+1.5**
	19nm,1.0s,mb4.5								
SDCO				*e*pP				08 51 51.0	
WCI	**Wyandotte Cave**	**23.92**	**19**	*e*P		**P**		**08 51 44.3**	**-2.0**
	39nm,0.8s,mb4.9								
WCI				pP				08 51 51.9	
WUAZ	**Wupatki**	**24.00**	**328**	*e*P		**P**		**08 51 49.3**	**+2.2**
	34nm,0.9s,mb4.8								
WUAZ				pP				08 51 55.9	
ISCO	**Idaho Springs**	**25.36**	**342**	*e*P		**P**		**08 52 00.9**	**+0.7**
	8.1nm,0.8s,mb4.3								
ISCO				*e*pP		pP		08 52 07.0	-0.7
SDV	**Santo Domingo**	**25.66**	**103**	P		**P**		**08 52 03.5**	**+0.4**
	8.4nm,0.7s,mb4.4,baz=287,slow=3.6,SNR=8.8								
LDFC	**Landfair**	**25.76**	**322**	*e*P		**P**		**08 52 05.6**	**+1.7**
NEN	**Nelson**	**26.00**	**323**	*e*P		**P**		**08 52 06.6**	**+0.5**
NEN				*e*pP		pP		08 52 14.5	+0.8
SRU	**San Rafael**	**26.51**	**334**	*e*P		**P**		**08 52 10.5**	**-0.3**
	2.9nm,0.6s,mb4.0								
MSU	**Marysvale**	**26.76**	**331**	*e*P		**P**		**08 52 14.9**	**+1.8**
ARUT	**Antelope Range**	**26.80**	**328**	*e*P		**P**		**08 52 15.8**	**+2.3**
ARUT				*e*pP		pP		08 52 23.1	+2.0
TCUT	**Toone Canyon**	**28.57**	**335**	*e*P		**P**		**08 52 30.7**	**+1.3**
TCUT				*e*pP		pP		08 52 38.1	+1.0
PDAR	**Pinedale Array**	**29.30**	**339**	P		**P**		**08 52 36.1**	**0.0**
	1.9nm,0.8s,mb3.9,baz=140,slow=8.8,SNR=19								
PDAR				pP		pP		08 52 43.9	+0.2
	2.1nm,0.8s,baz=142,slow=9.0,SNR=10								
HVU	**Hansel Valley**	**29.68**	**334**	*e*P		**P**		**08 52 39.3**	**-0.1**
	9.0nm,0.8s,mb4.5								
HVU				*e*pP		pP		08 52 47.6	+0.5
MNV	**Mina**	**29.83**	**323**	*e*P		**P**		**08 52 42.5**	**+1.7**
	11nm,1.0s,mb4.5								
MNV				*e*pP		pP		08 52 50.4	+1.9
NVAR	**Mina Array Bea**	**29.91**	**323**	P		**P**		**08 52 43.5**	**+1.9**
	3.9nm,0.8s,mb4.2,baz=133,slow=11,SNR=27								
NVAR				pP		pP		08 52 50.9	+1.7
	6.0nm,0.8s,baz=139,slow=9.6,SNR=17								
NVAR				LR		LR		09 04 21.0	
	comp=Z,84nm,20.1s,MS3.4,baz=155,slow=36								
ELK	**Elko**	**29.97**	**330**	P		**P**		**08 52 43.0**	**+1.0**
	3.6nm,0.8s,mb4.2,baz=120,slow=7.1,SNR=18								
ELK				pP		pP		08 52 51.1	+1.5
	5.7nm,0.8s,baz=144,slow=6.1,SNR=11								
ELK				LR		LR		09 06 28.8	
	comp=Z,251nm,21.4s,MS3.8,baz=167,slow=40								
ELK	**Elko**	**29.97**	**330**	*e*P		**P**		**08 52 43.0**	**+1.0**
	6.9nm,0.9s,mb4.4								
ELK				*e*pP		pP		08 52 51.1	+1.4
TPAW	**Teton Pass**	**30.42**	**338**	*e*P		**P**		**08 52 47.1**	**+1.1**
	8.0nm,0.7s,mb4.6								
MOOW	**Moose Ponds**	**30.58**	**339**	*e*P		**P**		**08 52 47.9**	**+0.5**
	5.5nm,0.8s,mb4.4								
MOOW				*e*pP		pP		08 52 55.2	+0.2
IMW	**Indian Meadow**	**30.77**	**339**	P		**P**		**08 52 49.8**	**+0.7**
	4.4nm,0.8s,mb4.3								
IMW				pP		pP		08 52 57.3	+0.6
YMR	**Madison River**	**31.46**	**339**	P		**P**		**08 52 52.9**	**-2.2**
	12nm,0.9s,mb4.7								
HLID	**Hailey**	**31.83**	**334**	*e*P		**P**		**08 52 59.2**	**+0.8**
	7.5nm,0.9s,mb4.5								
HLID				*e*pP		pP		08 53 06.3	+0.2
GCMT	**Greycliff**	**32.04**	**342**	P		**P**		**08 53 00.4**	**+0.2**
GCMT				*e*		pP		08 53 08.1	+0.2
SADO	**Sadowa**	**32.20**	**23**	P		**P**		**08 52 58.2**	**-3.3**
	12nm,0.9s,mb4.7,baz=268,slow=8.7,SNR=4.5								
DLMT	**Dillon**	**32.63**	**338**	*e*P		**P**		**08 53 06.8**	**+1.4**
	33nm,1.0s,mb5.2								
DLMT				*e*		pP		08 53 14.6	+1.6
MOD	**Modoc**	**33.41**	**326**	*e*P		**P**		**08 53 13.1**	**+0.9**
	6.3nm,0.8s,mb4.6								
MOD				*e*		pP		08 53 21.0	+1.1
ULM	**Lac du Bonnet**	**34.37**	**0**	P		**P**		**08 53 18.3**	**-2.1**
	10nm,0.8s,mb4.8,baz=181,slow=8.0,SNR=16								
ULM				pP		pP		08 53 26.2	-1.8
	13nm,0.8s,baz=178,slow=8.6,SNR=10								
ULM				LR		LR		09 09 01.3	
	comp=Z,81nm,19.5s,MS3.5,baz=56,slow=39								
ULM	**Lac du Bonnet**	**34.37**	**0**	P		**P**		**08 53 18.3**	**-2.1**
ULM				pP		pP		08 53 26.2	-1.8
ULM				LR		LR		09 09 01.3	
EDM	**Edmonton**	**39.78**	**344**	*e*P		**P**		**08 54 05.5**	**-0.4**
EDM				*e*pP		pP		08 54 13.6	-0.1
LPAZ	**La Paz**	**42.08**	**138**	P		**P**		**08 54 26.0**	**+0.8**
	0.9nm,0.9s,mb3.4,baz=284,slow=5.9,SNR=3.6								
LPAZ				sP		sP		08 54 37.7	+1.5
	3.3nm,0.7s,baz=312,slow=8.5,SNR=12								
LPAZ	**La Paz**	**42.08**	**138**	*e*P		**P**		**08 54 26.2**	**+1.0**
	3.5nm,0.7s,mb4.1								
LPAZ				sP		sP		08 54 37.7	+1.5
LPAZ				*e*				08 54 38.0	
SCHQ	**Schefferville**	**45.00**	**23**	LR		LR		09 17 12.3	
	comp=Z,84nm,19.9s,MS3.7,baz=155,slow=41								
SIV	**San Ignacio**	**46.73**	**131**	P		**P**		**08 55 01.7**	**-0.8**
	0.6nm,0.5s,mb3.8,baz=269,slow=5.9,SNR=6.4								
SIV				pP		pP		08 55 10.0	-0.4
	3.3nm,0.5s,baz=315,slow=7.6,SNR=15								
YKA	**Yellowknife Ar**	**48.47**	**349**	P		**P**		**08 55 14.3**	**-1.3**
	1.0nm,0.6s,mb4.0,baz=153,slow=7.3,SNR=12								
YKA				pP		pP		08 55 22.4	-1.1
	2.0nm,0.7s,baz=155,slow=7.2,SNR=13								
YKA				LR		LR		09 20 14.3	
	comp=Z,43nm,19.3s,MS3.4,baz=160,slow=42								
DLBC	**Dease Lake**	**49.50**	**337**	P		**P**		**08 55 24.4**	**+0.8**
	3.3nm,0.9s,mb4.4,baz=149,slow=9.9,SNR=4.4								
DLBC	**Dease Lake**	**49.50**	**337**	P		**P**		**08 55 24.4**	**+0.8**
BDFB	**Brasilia**	**56.72**	**121**	P		**P**		**08 56 15.8**	**-1.9**
	3.4nm,0.7s,mb4.5,baz=273,slow=5.1,SNR=4.7								
BDFB				pP		pP		08 56 23.3	-2.4
	5.6nm,0.7s,baz=326,slow=4.6,SNR=4.6								
INK	**Inuvik**	**57.67**	**344**	*e*P		**P**		**08 56 23.0**	**-0.8**
	9.0nm,0.9s,mb4.8								
ILAR	**Eielson Array**	**59.71**	**337**	P		**P**		**08 56 37.1**	**-0.8**
	3.4nm,0.9s,mb4.4,baz=128,slow=4.7,SNR=32								
ILAR				pP		pP		08 56 45.7	-0.4
	4.2nm,1.0s,baz=135,slow=3.9,SNR=12								
PPT	**Papeete**	**62.37**	**240**	*e*LR		LR		08 57 13.7	
	75nm,25.6s								
ESDC	**Sonseca Array**	**81.61**	**51**	P		**P**		**08 58 50.7**	**-0.1**
	1.2nm,0.7s,mb3.9,baz=297,slow=5.0,SNR=4.4								
NB2	**NORSAR Subarra**	**84.39**	**28**	P		**P**		**08 59 05.5**	**+1.0**
	2.6nm,0.8s,mb4.4,baz=296,slow=5.0								
NOA	**NORSAR Array B**	**84.39**	**28**	P		**P**		**08 59 05.2**	**+0.7**
	3.5nm,0.8s,mb4.6,baz=297,slow=5.0,SNR=11								
ARCES	**ARCESS Array B**	**85.62**	**18**	P		**P**		**08 59 11.1**	**+0.6**
	3.0nm,0.8s,mb4.6,baz=328,slow=11,SNR=4.2								
HFS	**Hagfors**	**85.87**	**28**	LR		LR		09 35 42.8	
	comp=Z,73nm,20.1s,MS4.1,baz=62,slow=34								
VRAC	**Vranov**	**92.14**	**37**	LR		LR		09 44 30.5	
	comp=Z,39nm,19.0s,MS3.9,baz=148,slow=38								
WMQ	**Urumqi**	**120.59**	**357**	*e*PKP		PKPdf		09 05 25.8	-2.1
WMQ				LR		LR			
	comp=Z,120nm,21.0s,MS4.5								
SSE	**Sheshan**	**121.29**	**323**	*e*PKP		PKPdf		09 05 27.2	-2.4
NJ2	**Nanjing**	**121.89**	**325**	*e*PKP		PKPdf		09 05 27.9	-2.8
NJ2				XPKP				09 05 41.5	
NJ2				PP		PP		09 07 06.0	+1.8
NJ2				PKS		PKS		09 09 02.0	+0.2
NJ2				PP		PP			
	comp=Z,180nm,10.0s						

YBH					pP	pP	09 00 24.5	-5.1
YBH					sP	sP	09 01 19.2	-11
MDJ	**Mudanjiang**	**79.16**	**325**		P	**P**	**08 58 24.8**	**+2.0**
MDJ					AMB	AMB		
	comp=Z,10.0nm,1.9s,mb3.8							
MDJ					AMB	AMB		
	comp=Z,110nm,4.2s							
HUMO	**Hull Mountain**	**79.33**	**38**	*eP*		**P**	**08 58 24.0**	**+0.3**
	comp=Z,6.9nm,1.0s,mb3.9							
NVAR	**Mina Array Bea**	**79.76**	**44**	P		**P**	**08 58 26.2**	**+0.2**
	comp=Z,2.6nm,0.6s,mb3.7,baz=226,slow=9.1,SNR=24							
SLKM	**Skilak Lake**	**82.15**	**13**	P		**P**	**08 58 36.3**	**-1.4**
ELK	**Elko**	**83.00**	**43**	P		**P**	**08 58 42.4**	**-0.1**
	comp=Z,3.1nm,0.8s,mb3.9,baz=272,slow=4.5,SNR=12							
TXAR	**Lajitas Array**	**86.10**	**57**	P		**P**	**08 58 58.6**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.0,baz=218,slow=6.5,SNR=28							
ANMO	**Albuquerque**	**86.30**	**51**	P		**P**	**08 58 59.0**	**+0.4**
	comp=Z,1.7nm,0.9s,mb3.7,baz=198,slow=6.9,SNR=4.6							
ILAR	**Eielson Array**	**86.65**	**13**	P		**P**	**08 58 57.6**	**-1.9**
	comp=Z,3.5nm,0.8s,mb4.1,baz=224,slow=5.1,SNR=47							
PDAR	**Pinedale Array**	**87.69**	**43**	P		**P**	**08 59 04.5**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.0,baz=221,slow=3.0,SNR=18							
SNAA	**Sanae**	**89.70**	**178**	*e*		**P**	**08 59 17.1**	**+3.4**
SNAA	**Sanae**	**89.70**	**178**	*e*		pP	09 01 22.5	-2.8
SNAA	**Sanae**	**89.70**	**178**	*i* Pdif		**P**	**08 59 15.5**	**+1.8**
SNAA				*e*		pP	09 01 22.5	-2.8
VNA3	**Neumayer Olymp**	**89.83**	**176**	P		**P**	**08 59 14.6**	**+0.4**
VNA3	**Neumayer Olymp**	**89.83**	**176**	*e*		**P**	**08 59 16.3**	**+2.1**
VNA3	**Neumayer Olymp**	**89.83**	**176**	*e*		pP	09 01 21.4	-4.5
VNA2	**Neumayer--Watz**	**90.27**	**177**	P		**P**	**08 59 16.8**	**+0.5**
VNA2	**Neumayer--Watz**	**90.27**	**177**	*e*		**P**	**08 59 18.2**	**+1.9**
VNA2	**Neumayer--Watz**	**90.27**	**177**	*e*		pP	09 01 26.3	-1.8
PLCA	**Paso Flores**	**90.40**	**134**	P		**P**	**08 59 18.4**	**+0.9**
	comp=Z,1.1nm,0.8s,mb3.7,baz=254,slow=7.4,SNR=3.3							
LZH	**Lanzhou**	**91.78**	**308**	*eP*		**P**	**08 59 23.5**	**-0.5**
LZH				AP		pP	09 01 33.2	-2.8
LZH				XP		sP	09 02 31.7	-4.0
LZH				PP		PP	09 03 16.5	+0.9
LZH				AMB		AMB		
	comp=Z,20nm,1.4s,mb5.0							
LZH				AMB		AMB		
	comp=Z,40nm,7.6s							
YKA	**Yellowknife Ar**	**94.95**	**25**	P		**P**	**08 59 36.5**	**-1.2**
	comp=Z,0.8nm,0.8s,mb3.9,baz=243,slow=4.3,SNR=7.7							
ARCES	**ARCESS Array B**	**127.26**	**350**	PKP		PKPdf	09 05 14.2	-0.4
	comp=Z,1.0nm,0.4s,slow=3.6,SNR=14							
AKASG	**Malin Array Be**	**141.55**	**332**	PKhKP			09 05 36.0	
	comp=Z,0.5nm,0.5s,baz=45,slow=4.5,SNR=4.2							
CLL	**Collm**	**146.42**	**348**	*e*PKP1		PKPbc	09 05 53.0	+1.4
DPC	**Dobruska-Polom**	**146.52**	**343**	*e*PKP		PKPdf	09 05 53.4	+3.6
KHC	**Kasperske Hory**	**148.34**	**346**	*e*PKP		PKPdf	09 05 58.2	+5.4
GERES	**GERESS Array B**	**148.58**	**345**	PKPbc		PKPdf	09 05 58.7	+5.5
	comp=Z,0.7nm,0.5s,baz=63,slow=3.0,SNR=6.3							

*IDC **06** 08:58:17.8±3.4,59.61N×24.77E,mb1 3.2/2, mb1mx2.9/19,mbtmp3.1/2,ML2.8/2, Error ellipse: s-maj=43.2km s-min=15.0km az=148.0*

HEL 06 08:58:21.6±0.3,59.76N×24.52E,ML1.0,Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**1.04**	**40**	*eP*	Pb	08 58 39.9	-2.2
PVF				*eS*	Sb	08 58 53.5	-2.6
VJF	**Virojoki**	**1.71**	**61**	*eP*	Pn	08 58 52.0	-0.8
VJF				*eS*	Sb	08 59 17.0	+1.4
FIA0	**FINESS Array S**	**1.86**	**24**	*eP*	Pn	08 58 54.0	-0.9
FIA0				*eS*	Sn	08 59 18.3	-1.2
FINES	**FINESS Array B**	**1.86**	**24**	Pn	Pn	08 58 53.7	-1.3
	0.6nm,0.3s,baz=199,slow=15,SNR=45						
FINES				Sn	Sn	08 59 17.4	-2.1
	0.8nm,0.3s,baz=196,slow=25,SNR=14						
KEF	**Keuruu**	**2.43**	**4**	*eP*	Pn	08 59 02.1	-1.0
KEF				*eS*	Sn	08 59 32.5	-1.5
KAF	**Kangasniemi**	**2.52**	**19**	*eP*	Pn	08 59 04.2	-0.3
KAF				*eS*	Sn	08 59 34.9	-1.4
SUF	**Sumiainen**	**3.08**	**14**	*eP*	Pn	08 59 11.7	-0.7
SUF				*eS*	Sn	08 59 48.0	-2.5
SUF				*eSG*	Sg	08 59 55.4	-8.6
SUF				MSG		08 59 56.2	
	comp=Z,0.3nm,0.3s						
NOA	**NORSAR Array B**	**6.72**	**287**	Pn	Pn	08 59 56.5	-7.4
	comp=Z,0.1nm,0.3s,baz=96,slow=17,SNR=2.7						
ARCES	**ARCESS Array B**	**9.83**	**2**	Pn	P	09 00 40.5	-6.6
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=7.1						

*CSEM **06** 09:02:10.8±1.0,38.66N×29.20W,h3km±4km,ML2.4, Error ellipse: s-maj=8.4km s-min=4.8km az=27.0,After PDA*
*PDA **06** 09:02:10.8±1.0,38.66N×29.20W,h3km±4km,MD3.3, ML2.4, Error ellipse: s-maj=8.4km s-min=4.8km az=27.0*

SVSA 06 09:02:10.8±1.0,38.66N×29.20W,h3km±4km,MD3.3, ML2.4,Error ellipse: s-maj=8.4km s-min=4.8km az=27.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.33**	**103**	*eP*	Pg	09 02 17.9	+0.6
PTCA				*eS*	Sg	09 02 22.3	+0.6
	135nm,0.1s						
PTCA	**Ponta do Capel**	**0.33**	**103**	*eP*	Pg	09 02 17.9	+0.6
PTCA				*eS*	Sg	09 02 22.3	+0.6
	135nm,0.1s						
PCED	**Cedros**	**0.39**	**94**	*i* P	Pg	09 02 18.1	-0.6
PCED				*eS*	Sg	09 02 23.3	-0.6
	181nm,0.2s						
PCED	**Cedros**	**0.39**	**94**	*eS*	Sg	09 02 23.3	-0.6
	181nm,0.2s						
CALA	**Caldeira**	**0.40**	**101**	*eP*	Pg	09 02 18.0	-0.8
CALA				*eS*	Sg	09 02 23.3	-0.8
HOR	**Horta**	**0.47**	**106**	*eP*	Pg	09 02 19.0	-1.1
HOR				*eS*	Sg	09 02 25.1	-1.3
PCND	**Candelaria**	**0.61**	**108**	*i* P	Pg	09 02 21.8	-1.2
PCND				*eS*	Sg	09 02 29.7	-1.4
	62nm,0.1s						
PICO	**Pico**	**0.63**	**104**	*i* P	Pg	09 02 21.6	-1.8
PICO				*eS*	Sg	09 02 30.1	-1.6
PICO	**Pico**	**0.63**	**104**	*eS*	Sg	09 02 30.1	-1.6
PBOI	**Pico dos Bois**	**0.69**	**109**	*eP*	Pg	09 02 23.0	-1.5
PBOI				*eS*	Sg	09 02 32.0	-1.6
	42nm,0.2s						
ROSA	**Rosais**	**0.75**	**85**	*i* P	Pg	09 02 23.6	-2.3
ROSA				*eS*	Sg	09 02 32.6	-3.3
PMAN	**Manadas**	**0.87**	**91**	*eS*	Sg	09 02 35.7	-4.1
	49nm,0.1s						
SRBC	**Serra Branca**	**0.98**	**67**	*erx*		09 02 35.3	
PGRA	**Graciosa**	**1.02**	**68**	*eS*	Sb	09 02 39.4	-5.1
	48nm,0.3s						
PSBA	**Serra de Santa**	**1.47**	**85**	*eS*	Sb	09 02 50.1	-7.5
	29nm,0.4s						

*IDC **06** 09:02:31.7±2.9,59.75N×24.48E,mb1 3.6/2, mb1mx3.1/19,mbtmp3.4/2,ML3.3/2, Error ellipse: s-maj=34.9km s-min=11.5km az=158.0*
*HEL **06** 09:02:32.8±0.1,59.80N×24.26E,ML1.9,ML2.5(UPP), ML2.2(NAO),Explosion*
*NAO **06** 09:02:33.2±1.4,59.87N×24.18E,ML2.2*
*BER **06** 09:02:34.6±3.5,59.87N×24.26E,ML2.2(NAO), Suspected explosion*

ISC 06 09:02:30.9±0.5,59.80N±0.04×24.26E±0.06,n24,σ1§43/42, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**1.09**	**46**	*eP*	**Pb**	**09 02 52.0**	**-0.5**
PVF				*eS*	**Sb**	**09 03 05.3**	**-1.8**
VJF	**Virojoki**	**1.81**	**64**	*eP*	**Pn**	**09 03 04.5**	**+0.9**
VJF				*eS*	**Sn**	**09 03 26.5**	**-1.0**
VSU	**Vasula**	**1.85**	**135**	*e*PG	**Pg**	**09 03 06.1**	**-1.7**
VSU				*e*SN	**Sn**	**09 03 30.0**	**+1.4**
FIA0	**FINESS Array S**	**1.88**	**28**	Pn	**Pn**	**09 03 06.1**	**+1.5**
	baz=202,slow=16						
FIA0				Sn	**Sn**	**09 03 29.4**	**0.0**
	baz=203,slow=22						
FIA0	**FINESS Array S**	**1.88**	**28**	*eP*	**Pn**	**09 03 05.8**	**+1.3**
FIA0				*eS*	**Sn**	**09 03 29.5**	**+0.2**
FINES	**FINESS Array B**	**1.88**	**28**	Pn	**Pn**	**09 03 05.9**	**+1.3**
	6.7nm,0.3s,baz=201,slow=14,SNR=281						
FINES				Sn	**Sn**	**09 03 30.3**	**+1.0**
	6.0nm,0.3s,baz=205,slow=26,SNR=19						
AAL	**Aland**	**2.18**	**282**	*eP*	**Pn**	**09 03 10.3**	**+1.4**
KEF	**Keuruu**	**2.39**	**7**	*eP*	**Pn**	**09 03 14.1**	**+2.1**
KEF				*eS*	**Sn**	**09 03 42.9**	**+0.4**
KAF	**Kangasniemi**	**2.53**	**22**	*eP*	**Pn**	**09 03 15.6**	**+1.7**
KAF				*eS*	**Sn**	**09 03 46.5**	**+0.7**
NRTU	**Norrtaelje**	**2.85**	**270**	*eP*	**Pn**	**09 03 19.6**	**+1.0**
GRAU	**Graesoe**	**2.92**	**283**	*eP*	**Pn**	**09 03 19.9**	**+0.4**
SUF	**Sumiainen**	**3.07**	**16**	*eP*	**Pn**	**09 03 23.9**	**+2.2**
SUF				*eS*	**Sn**	**09 03 59.4**	**-0.2**
SUF				*eSG*	**Sg**	**09 04 06.7**	**-6.4**
SUF				MSG		09 04 07.2	
	comp=Z,2.6nm,0.2s						
FLYU	**Flymyra**	**3.23**	**279**	*eP*	**Pn**	**09 03 23.8**	**0.0**
FLYU				*eS*	**Sn**	**09 04 03.9**	**+0.4**
OSTU	**Oestervaala**	**3.60**	**280**	*eP*	**Pn**	**09 03 29.5**	**+0.2**
HFS	**Hagfors**	**5.32**	**278**	Pn	**Pn**	**09 03 53.2**	**-0.3**
	baz=108,slow=12						
HFS				Sn	**Sn**	**09 04 53.8**	**-2.8**
	baz=83,slow=28						
HFS				Lg		09 05 18.4	
	baz=91,slow=37						
HFS	**Hagfors**	**5.32**	**278**	*eP*	**Pn**	**09 03 53.2**	**-0.3**
HFS				*eS*	**Sn**	**09 04 53.8**	**-2.8**
HFS				*eSG*		09 05 18.4	
NB2	**NORSAR Subarra**	**6.58**	**287**	Pn	**Pn**	**09 04 09.6**	**-1.8**
	baz=91,slow=14						
NB2				Sn	**Sn**	**09 05 23.0**	**-5.1**
	baz=96,slow=22						
NB2				Lg		09 05 54.5	
	baz=96,slow=37						
NB2	**NORSAR Subarra**	**6.58**	**287**	*eP*	**Pn**	**09 04 09.6**	**-1.8**
NB2				*eS*	**Sn**	**09 05 23.0**	**-5.1**
NB2				*eSG*		09 05 54.5	
NOA	**NORSAR Array B**	**6.58**	**287**	Pn	**Pn**	**09 04 08.8**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=94,slow=14,SNR=2.5						
NOA				Sn	**Sn**	**09 05 21.6**	**-6.5**
	comp=Z,0.3nm,0.3s,baz=137,slow=16,SNR=2.5						
NOA				Lg		09 05 55.8	
	comp=Z,0.7nm,0.3s,baz=114,slow=15,SNR=3.6						
APA0	**Apatity Array**	**8.73**	**23**	Pn	**P**	**09 04 39.1**	**-2.3**
	baz=204,slow=14						
APA0	**Apatity Array**	**8.73**	**23**	*eP*	**P**	**09 04 39.1**	**-2.3**
ARA0	**ARCESS Array S**	**9.79**	**3**	Pn	**P**	**09 04 52.5**	**-3.4**
	baz=174,slow=16						
ARA0				Sn	**Sn**	**09 06 36.0**	**-12**
	baz=186,slow=28						
ARA0	**ARCESS Array S**	**9.79**	**3**	*eP*	**P**	**09 04 52.5**	**-3.4**
ARA0				*eS*	**Sn**	**09 06 36.0**	**-12**
ARCES	**ARCESS Array B**	**9.79**	**3**	Pn	**P**	**09 04 52.5**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=187,slow=12,SNR=55						

*CSEM **06** 09:08:46.8±0.8,38.60N×29.19W,h2km±7km,ML2.1, Error ellipse: s-maj=12.7km s-min=6.9km az=15.0,After PDA*
*PDA **06** 09:08:46.8±0.8,38.60N×29.19W,h2km±7km,MD3.3, ML2.1, Error ellipse: s-maj=12.7km s-min=6.9km az=15.0*

SVSA 06 09:08:46.8±0.8,38.60N×29.19W,h2km±7km,MD3.3, ML2.1,Error ellipse: s-maj=12.7km s-min=6.9km az=15.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.31**	**93**	*eP*	Pg	09 08 53.6	+0.6
PTCA				*eS*	Sg	09 08 58.0	+0.9
	50nm,0.1s						
PTCA	**Ponta do Capel**	**0.31**	**93**	*eP*	Pg	09 08 53.6	+0.6
PTCA				*eS*	Sg	09 08 58.0	+0.9
	50nm,0.1s						
CALA	**Caldeira**	**0.38**	**93**	*eP*	Pg	09 08 53.7	-0.7
CALA				*eS*	Sg	09 08 58.9	-0.6
PCED	**Cedros**	**0.38**	**86**	*i* P	Pg	09 08 53.9	-0.5
PCED				*eS*	Sg	09 08 59.0	-0.6
	70nm,0.2s						
PCED	**Cedros**	**0.38**	**86**	*eS*	Sg	09 08 59.0	-0.6
	70nm,0.2s						
PCND	**Candelaria**	**0.58**	**103**	*eS*	Sg	09 09 05.4	-0.9
	19nm,0.1s						
PICO	**Pico**	**0.61**	**99**	*i* P	Pg	09 08 57.3	-1.6
PICO				*eS*	Sg	09 09 05.5	-1.5
PBOI	**Pico dos Bois**	**0.66**	**104**	*eS*	Sg	09 09 07.4	-1.3
	12nm,0.2s						
ROSA	**Rosais**	**0.75**	**81**	*eP*	Pg	09 08 59.6	-2.2
ROSA				*eS*	Sg	09 09 08.7	-3.1
PMAN	**Manadas**	**0.86**	**87**	*eS*	Sg	09 09 11.5	-4.0
	86nm,0.2s						
PGRA	**Graciosa**	**1.04**	**65**	*eS*	Sb	09 09 15.7	-5.3
	30nm,0.3s						

*IDC **06** 09:14:42.3±3.0,59.67N×24.56E,mb1 3.2/2, mb1mx3.0/19,mbtmp3.0/2,ML2.9/2, Error ellipse: s-maj=35.3km s-min=11.8km az=157.0*
*HEL **06** 09:14:44.2±0.5,59.72N×24.37E,ML1.3,Explosion*

ISC 06 09:14:41.7±1.5,59.70N±0.09×24.3E±0.1,n9,σ1§24/18, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**1.17**	**43**	*eP*	**Pb**	**09 15 03.4**	**-1.1**
PVF				*eS*	**Sb**	**09 15 18.0**	**-2.1**
VJF	**Virojoki**	**1.86**	**62**	*eP*	**Pn**	**09 15 16.0**	**+1.0**
VJF				*eS*	**Sn**	**09 15 39.3**	**-0.3**
FIA0	**FINESS Array S**	**1.97**	**27**	*eP*	**Pn**	**09 15 18.1**	**+1.5**
FIA0				*eS*	**Sn**	**09 15 42.9**	**+0.5**
FINES	**FINESS Array B**	**1.97**	**27**	Pn	**Pn**	**09 15 17.2**	**+0.6**
	1.7nm,0.3s,baz=204,slow=15,SNR=80						
FINES				Sn	**Sn**	**09 15 42.5**	**+0.1**
	2.0nm,0.3s,baz=201,slow=27,SNR=15						
KEF	**Keuruu**	**2.49**	**7**	*eP*	**Pn**	**09 15 25.2**	**+1.0**
KEF				*eS*	**Sn**	**09 15 56.3**	**+0.5**
KAF	**Kangasniemi**	**2.62**	**22**	*eP*	**Pn**	**09 15 28.0**	**+2.0**
KAF				*eS*	**Sn**	**09 15 57.7**	**-1.3**
SUF	**Sumiainen**	**3.17**	**16**	*eP*	**Pn**	**09 15 34.4**	**+0.6**
SUF				*eS*	**Sn**	**09 16 13.2**	**+0.5**
SUF				*eSG*	**Sg**	**09 16 20.5**	**-6.6**
SUF				MSG		09 16 20.9	
	comp=Z,0.6nm,0.3s						
NOA	**NORSAR Array B**	**6.60**	**287**	Pn	**Pn**	**09 16 20.3**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=96,slow=14,SNR=2.6						
NOA				Sn	**Sn**	**09 17 33.5**	**-5.8**
	comp=Z,0.2nm,0.3s,baz=84,slow=14,SNR=2.2						
ARCES	**ARCESS Array B**	**9.89**	**3**	Pn	**P**	**09 17 04.1**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=20						

*IDC **06** 09:16:54.8±0.6,21.26N×45.89W,mb3.8/17,mb1 4.0/17, mb1mx3.9/26,mbtmp3.8/17,MS3.7/16,Ms1 3.7/16, ms1mx3.6/23,Error ellipse: s-maj=18.0km s-min=15.4km az=148.0*
*NEIC **06** 09:16:56.1±0.4,21.22N×45.85W,h10km,mb4.8/13, MS3.9/2, Error ellipse: s-maj=13.1km s-min=9.8km az=130.0*

ISC 06 09:16:56.6±0.5,21.14N±0.09×46.5W±0.1,h10km,n43, σ1§52/34,mb4.3/27,MS3.7/17,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**26.26**	**246**	LR	LR	09 32 24.9	
	comp=Z,138nm,19.8s,MS3.5,baz=191,slow=35						
ROSC	**El Rosal**	**31.50**	**243**	LR	LR	09 35 03.4	
	comp=Z,104nm,20.7s,MS3.5,baz=191,slow=34						
SAML	**Samuel**	**34.10**	**210**	*eP*	**P**	**09 23 45.3**	**+1.6**
	1.1nm,0.6s,mb4.0						
SAML				*e*		09 23 51.5	
SAML				LR	LR		
	comp=Z,224nm,21.0s,MS3.9						
BDFB	**Brasilia**	**36.58**	**182**	P	**P**	**09 24 04.3**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.1,slow=13,SNR=2.9						
BDFB				LR	LR	09 36 40.1	
	comp=Z,79nm,20.9s,MS3.5,baz=198,slow=32						
SCHQ	**Schefferville**	**36.98**	**340**	LR	LR	09 37 17.2	
	comp=Z,107nm,21.0s,MS3.6,baz=4.8,slow=33						
MDT	**Midelt**	**38.86**	**64**	P	**P**	**09 24 17.5**	**-6.3**
	comp=Z,0.8nm,0.7s,mb3.5,baz=265,slow=12,SNR=2.7						
SIV	**San Ignacio**	**39.58**	**202**	P	**P**	**09 24 29.7**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.6,baz=45,slow=10,SNR=5.6						
ESDC	**Sonseca Array**	**40.63**	**53**	P	**P**	**09 24 32.2**	**-6.2**
	comp=Z,0.1nm,0.3s,baz=252,slow=9.4,SNR=4.1						
DBIC	**Dimbokro**	**42.74**	**104**	P	**P**	**09 24 49.7**	**-6.4**
	comp=Z,6.8nm,0.8s,mb4.4,baz=277,slow=10,SNR=7.5						
DBIC				LR	LR	09 40 04.9	
	comp=Z,147nm,18.4s,MS3.9,baz=356,slow=33						
DBIC	**Dimbokro**	**42.74**	**104**	*eP*	**P**	**09 24 49.4**	**-6.7**
	comp=Z,7.5nm,0.8s,mb4.5						
DBIC				*e*		09 24 55.0	
DBIC				LR	LR	09 40 05.0	
LIC	**Lamto**	**42.76**	**104**	*eP*	**P**	**09 24 47.4**	**-8.9**
	comp=Z,24nm,1.1s,mb4.5						
LIC				*eR*			
	comp=Z,293nm,21.8s						
LPAZ	**La Paz**	**42.83**	**211**	P	**P**	**09 24 59.0**	**+2.3**
	comp=Z,2.1nm,0.8s,mb3.9,baz=28,slow=7.0,SNR=11						
LPAZ				LR	LR	09 42 31.3	
	comp=Z,85nm,19.1s,MS3.7,baz=3.8,slow=36						
LPAZ	**La Paz**	**42.83**	**211**	*eP*	**P**	**09 24 58.1**	**+1.4**
	comp=Z,4.5nm,0.8s,mb4.2						
LPAZ				*e*		09 25 06.1	
MTLF	**Montolieu**	**46.00**	**50**	*eP*	**P**	**09 25 22.8**	**+0.9**
	comp=Z,26nm,1.1s,mb4.8						
TORD	**Torodi Ar. Bea**	**46.58**	**92**	P	**P**	**09 25 19.6**	**-7.2**
	comp=Z,2.3nm,1.1s,mb4.0,baz=287,slow=10,SNR=8.1						
BGF	**Bois d'Agland**	**47.22**	**45**	*eP*	**P**	**09 25 32.6**	**+1.2**
AVF	**Avril sur Loir**	**47.61**	**45**	*eP*	**P**	**09 25 35.8**	**+1.2**
	comp=Z,15nm,0.9s,mb4.7						
SSF	**Saint Saulge**	**47.78**	**45**	*eP*	**P**	**09 25 37.0**	**+1.1**
	comp=Z,25nm,1.0s,mb4.9						
SMF	**Signal de Mont**	**47.90**	**46**	*eP*	**P**	**09 25 36.9**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.5						
VIVF	**Saint-Julien-l**	**48.06**	**48**	*eP*	**P**	**09 25 39.9**	**+1.8**
	comp=Z,34nm,1.2s,mb5.0						
ULM	**Lac du Bonnet**	**48.32**	**319**	LR	LR	09 43 24.1	
	comp=Z,113nm,18.8s,MS3.9,baz=60,slow=33						
CPUP	**Villa Florida**	**48.34**	**193**	*eP*	**P**	**09 25 39.6**	**-1.0**
	comp=Z,25nm,1.0s,mb5.2						
CPUP				*e*		09 25 46.0	
MEZF	**Maizieres J'vi**	**49.16**	**43**	*eP*	**P**	**09 25 47.8**	**+1.2**
	comp=Z,49nm,0.9s,mb5.2						
CABF	**La Chapelle**	**49.40**	**46**	*eP*	**P**	**09 25 47.7**	**-0.7**
	comp=Z,26nm,1.0s,mb4.9						
MBDF	**Montbardon**	**49.50**	**49**	*eP*	**P**	**09 25 49.2**	**0.0**
	comp=Z,29nm,1.1s,mb4.9						
HAU	**Haudompre**	**49.88**	**44**	*eP*	**P**	**09 25 52.8**	**+0.7**
HAU				*eR*			
	comp=Z,70nm,20.0s						
TXAR	**Lajitas Array**	**51.94**	**291**	P	**P**	**09 26 08.2**	**+0.2**
	comp=Z,0.5nm,0.9s,mb3.4,baz=70,slow=11,SNR=2.6						
TXAR				LR	LR	09 48 26.8	
	comp=Z,70nm,20.5s,MS3.7,baz=70,slow=36						
DAVOX	**Davos**	**51.99**	**47**	LR	LR	09 44 27.7	
	comp=Z,85nm,19.8s,MS3.8,baz=265,slow=32						
JMIC	**Jan Mayen**	**54.56**	**14**	LR	LR	09 43 27.3	
	comp=Z,50nm,19.4s,MS3.6,baz=89,slow=29						
GERES	**GERESS Array B**	**54.85**	**45**	P	**P**	**09 26 22.9**	**-6.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=284,slow=4.0,SNR=3.2						
NOA	**NORSAR Array B**	**56.23**	**30**	LR	LR	09 46 01.8	
	comp=Z,81nm,20.3s,MS3.8,baz=240,slow=31						
PDAR	**Pinedale Array**	**56.37**	**308**	P	**P**	**09 26 41.2**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=101,slow=7.5,SNR=6.3						
PDAR				LR	LR	09 48 22.2	
	comp=Z,142nm,19.5s,MS4.1,baz=92,slow=33						
YKA	**Yellowknife Ar**	**61.38**	**331**	P	**P**	**09 27 13.2**	**-1.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=98,slow=6.9,SNR=16						
YKA	**Yellowknife Ar**	**61.38**	**331**	P	**P**	**09 27 13.2**	**-1.6**
NVAR	**Mina Array Bea**	**63.21**	**303**	LR	LR	09 55 04.9	
	comp=Z,43nm,18.0s,MS3.7,baz=325,slow=36						
AKASG	**Malin Array Be**	**64.97**	**43**	P	**P**	**09 27 32.2**	**-6.4**
	comp=Z,2.0nm,0.9s,mb4.1,baz=271,slow=6.1,SNR=5.0						
PLCA	**Paso Flores**	**65.50**	**200**	LR	LR	09 58 40.8	
	comp=Z,29nm,21.2s,MS3.5,baz=137,slow=38						
BRTR	**Keskin Array B**	**69.41**	**54**	P	**P**	**09 28 02.5**	**-4.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=315,slow=4.1,SNR=2.5						
ILAR	**Eielson Array**	**75.42**	**334**	P	**P**	**09 28 41.3**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=67,slow=3.6,SNR=14						
ILAR				LR	LR	10 00 20.3	
	comp=Z,60nm,18.8s,MS3.9,baz=359,slow=34						
AKTO	**Aktyubinsk**	**82.76**	**39**	P	**P**	**09 29 18.4**	**-3.5**
	comp=Z,2.3nm,1.2s,mb4.1,baz=217,slow=10,SNR=3.0						
KMBO	**Kilima Mbogo**	**84.56**	**93**	P	**P**	**09 29 28.7**	**-3.4**
	comp=Z,0.5nm,0.3s,mb4.0,baz=53,slow=21,SNR=3.4						
KMBO				LR	LR	10 07 48.9	
	comp=Z,88nm,19.2s,MS4.2,baz=76,slow=36						
KMBO	**Kilima Mbogo**	**84.56**	**93**	P	**P**	**09 29 28.7**	**-3.4**
KMBO				LR	LR	10 07 48.9	
BVAR	**Borovoye Array**	**88.24**	**33**	P	**P**	**09 29 46.9**	**-2.2**
	comp=Z,0.3nm,0.4s,mb3.9,baz=243,slow=6.4,SNR=3.0						

*CSEM **06** 09:17:55.2±0.8,38.74N×29.12W,h1km±12km,ML1.6, Error ellipse: s-maj=16.9km s-min=5.4km az=65.0,After

OSTU	**Oestervaala**	**3.59**	**279**	*eP*		**Pn**	**09 18 57.8**	**+0.2**
GOTU	**Gotland**	**3.66**	**236**	*eP*		**Pn**	**09 18 59.5**	**+0.8**
ROTU	**Roteberg**	**4.44**	**294**	*eS*		**Sn**	**09 20 01.1**	**-1.9**
VSTU	**Vaestervik**	**4.57**	**245**	*eP*		**Pn**	**09 19 11.8**	**+0.1**
ASKU	**Askersund**	**4.91**	**263**	*eP*		**Pn**	**09 19 16.1**	**-0.3**
OSKU	**Oskarshamn**	**5.03**	**242**	*eP*		**Pn**	**09 19 17.9**	**-0.3**
HFS	**Hagfors**	**5.30**	**278**	Pn		**Pn**	**09 19 22.0**	**0.0**
	baz=132,slow=12							
HFS				Sn		**Sn**	**09 20 21.8**	**-3.0**
	baz=90,slow=37							
HFS				Lg			09 20 42.4	
	baz=90,slow=37							
HFS	**Hagfors**	**5.30**	**278**	*eP*		**Pn**	**09 19 22.0**	**0.0**
HFS				*eS*		**Sn**	**09 20 21.8**	**-3.0**
HFS				*eSG*			09 20 42.4	
NB2	**NORSAR Subarra**	**6.56**	**286**	Pn		**Pn**	**09 19 37.6**	**-2.0**
	baz=90,slow=14							
NB2				Sn		**Sn**	**09 20 50.6**	**-5.6**
	baz=97,slow=22							
NB2	**NORSAR Subarra**	**6.56**	**286**	*eP*		**Pn**	**09 19 37.6**	**-2.0**
NB2				*eS*		**Sn**	**09 20 50.6**	**-5.6**
NOA	**NORSAR Array B**	**6.56**	**286**	Pn		**Pn**	**09 19 36.9**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=94,slow=13,SNR=2.7							
NOA				Sn		**Sn**	**09 20 49.4**	**-6.7**
	comp=Z,0.3nm,0.3s,baz=142,slow=15,SNR=2.2							
MOR8	**Moi Rana**	**7.75**	**329**	*eP*		**Pn**	**09 19 54.8**	**-1.6**
MOR8				*eS*		**Sn**	**09 21 19.7**	**-6.2**
MOR8				AML		AML	09 21 21.3	
	comp=Z,1.6nm,0.2s							
KTK1	**Kautokeino**	**9.21**	**358**	*eP*		**P**	**09 20 16.5**	**-0.3**
ARA0	**ARCESS Array S**	**9.74**	**3**	Pn		**P**	**09 20 21.0**	**-2.9**
	baz=175,slow=16							
ARA0	**ARCESS Array S**	**9.74**	**3**	*eP*		**P**	**09 20 21.0**	**-2.9**
ARCES	**ARCESS Array B**	**9.74**	**3**	Pn		**P**	**09 20 20.6**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=41							

*IDC **06** 09:24:32.3±5.0,6.28N×94.49E,h75km±46km,mb3.6/6, mb1 3.7/7,mb1mx3.5/20,mbtmp3.9/7,ML3.8/1,Error ellipse: s-maj=74.3km s-min=23.2km az=56.0*

ISC 06 09:24:19.3±1.8,5.5N±0.3×93.0E±0.2,h33km,n14, σ1§24/12,mb3.7/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.48**	**114**	P	**P**	**09 25 54.8**	**0.0**
	2.4nm,0.3s,baz=308,slow=14,SNR=11						
PSI				S	**S**	**09 27 08.6**	**+0.2**
	1.5nm,0.3s,baz=107,slow=19,SNR=2.9						
JIRN	**Jiri**	**22.95**	**344**	*eP*	**P**	**09 29 19.9**	**-2.0**
PKI	**Pulchoki**	**23.09**	**343**	*eP*	**P**	**09 29 23.2**	**-0.1**
DMN	**Daman**	**23.21**	**342**	*eP*	**P**	**09 29 25.0**	**+0.5**
GUN	**Gumba**	**23.27**	**344**	*eP*	**P**	**09 29 23.9**	**-1.1**
GKN	**Gorkha**	**23.73**	**341**	*eP*	**P**	**09 29 31.6**	**+2.1**
KOLN	**Koldanda**	**23.86**	**339**	*eP*	**P**	**09 29 34.1**	**+3.3**
MKAR	**Makanchi Array**	**42.14**	**349**	P	**P**	**09 32 12.1**	**+1.8**
	0.9nm,0.6s,mb3.5,baz=158,slow=6.5,SNR=5.8						
SONM	**Songino Array**	**43.68**	**13**	P	**P**	**09 32 22.0**	**-0.8**
	0.7nm,0.8s,mb3.5,baz=190,slow=9.0,SNR=6.8						
WRA	**Warramunga Arr**	**47.86**	**123**	P	**P**	**09 32 56.4**	**0.0**
	1.6nm,0.7s,mb4.2,baz=303,slow=9.1,SNR=15						
AKTO	**Aktyubinsk**	**53.49**	**333**	P	pP	09 33 44.8	-4.0
	0.8nm,0.6s,baz=49,slow=9.3,SNR=4.0						
FINES	**FINESS Array B**	**74.26**	**333**	P	pP	09 36 01.3	-3.7
	1.5nm,0.9s,baz=90,slow=8.3,SNR=4.0						
ARCES	**ARCESS Array B**	**77.09**	**341**	P	pP	09 36 17.5	-3.5
	2.4nm,0.9s,baz=90,slow=7.2,SNR=4.3						
KTK1	**Kautokeino**	**77.69**	**340**	*eP*	**P**	**09 36 12.8**	**-1.3**

*IDC **06** 09:27:16.8±2.5,59.76N×24.54E,mb1 3.2/3, mb1mx3.0/20,mbtmp3.1/3,ML2.6/3,Error ellipse: s-maj=31.4km s-min=9.3km az=155.0*

*HEL **06** 09:27:18.6±0.7,59.78N×24.45E,ML1.2,Explosion*

ISC 06 09:27:15.1±1.2,59.73N±0.08×24.2E±0.1,n10,σ1§43/20, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**1.17**	**45**	*eP*	**Pb**	**09 27 36.0**	**-1.8**
PVF				*eS*	**Sb**	**09 27 50.5**	**-2.8**
VJF	**Virojoki**	**1.86**	**63**	*eP*	**Pn**	**09 27 49.0**	**+0.5**
VJF				*eS*	**Sn**	**09 28 12.7**	**-0.5**
FIA0	**FINESS Array S**	**1.95**	**27**	*eP*	**Pn**	**09 27 50.5**	**+0.7**
FIA0				*eS*	**Sn**	**09 28 15.5**	**+0.1**
FINES	**FINESS Array B**	**1.95**	**27**	Pn	**Pn**	**09 27 50.7**	**+0.9**
	1.1nm,0.3s,baz=203,slow=14,SNR=121						
FINES				Sn	**Sn**	**09 28 15.7**	**+0.2**
	1.6nm,0.3s,baz=201,slow=27,SNR=19						
KEF	**Keuruu**	**2.47**	**7**	*eP*	**Pn**	**09 27 59.1**	**+1.8**
KEF				*eS*	**Sn**	**09 28 29.4**	**+0.8**
KAF	**Kangasniemi**	**2.60**	**22**	*eP*	**Pn**	**09 28 01.1**	**+1.9**
KAF				*eS*	**Sn**	**09 28 32.0**	**0.0**
SUF	**Sumiainen**	**3.15**	**17**	*eP*	**Pn**	**09 28 08.9**	**+2.1**
SUF				*eS*	**Sn**	**09 28 44.2**	**-1.5**
SUF				*eSG*	**Sg**	**09 28 51.5**	**-8.3**
SUF				MSG		09 28 52.8	
	comp=Z,0.4nm,0.2s						
HFS	**Hagfors**	**5.30**	**279**	Pn	**Pn**	**09 28 38.7**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=90,slow=12,SNR=5.8						
HFS				Sn	**Sn**	**09 29 38.9**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=106,slow=26,SNR=4.6						
NOA	**NORSAR Array B**	**6.57**	**287**	Pn	**Pn**	**09 28 53.6**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=2.5						
NOA				Sn	**Sn**	**09 30 07.1**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=78,slow=17,SNR=2.4						
ARCES	**ARCESS Array B**	**9.86**	**3**	Pn	**P**	**09 29 37.4**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=183,slow=14,SNR=20						

*HEL **06** 09:30:30.5±0.2,59.78N×24.32E,ML1.7,ML2.6(UPP), ML2.0(BER), Explosion*

*NAO **06** 09:30:30.7±1.4,59.84N×24.19E,ML2.3*

*IDC **06** 09:30:30.6±1.8,59.82N×24.38E,mb1 3.4/3, mb1mx3.1/20,mbtmp3.3/3,ML3.4/2,Error ellipse: s-maj=21.5km s-min=6.1km az=148.0*

*BER **06** 09:30:32.7±6.1,59.76N×24.13E,ML2.0,ML2.3(NAO), Suspected explosion*

ISC 06 09:30:29.1±0.5,59.84N±0.04×24.31E±0.06,n27,σ1§56/49, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**1.05**	**47**	*eP*	**Pb**	**09 30 49.4**	**-0.4**
PVF				*eS*	**Sb**	**09 31 02.1**	**-1.8**
VJF	**Virojoki**	**1.77**	**65**	*eP*	**Pn**	**09 31 02.1**	**+1.0**
VJF				*eS*	**Sn**	**09 31 24.2**	**-0.5**
FIA0	**FINESS Array S**	**1.83**	**28**	Pn	**Pn**	**09 31 03.5**	**+1.4**
	baz=199,slow=16						
FIA0				Sn	**Sn**	**09 31 26.7**	**+0.4**
	baz=211,slow=22						
FIA0	**FINESS Array S**	**1.83**	**28**	*eP*	**Pn**	**09 31 03.6**	**+1.5**
FIA0				*eS*	**Sn**	**09 31 27.0**	**+0.7**
FINES	**FINESS Array B**	**1.83**	**28**	Pn	**Pn**	**09 31 03.5**	**+1.4**
	6.1nm,0.3s,baz=209,slow=17,SNR=162						
FINES				Pg	**Pg**	**09 31 04.4**	**-1.2**
	6.1nm,0.3s,baz=203,slow=14,SNR=257						
FINES				Lg		09 31 28.0	
	5.9nm,0.3s,baz=204,slow=27,SNR=15						
VSU	**Vasula**	**1.86**	**137**	*eP*	**Pn**	**09 31 03.6**	**+1.1**
VSU				*eS*	**Sn**	**09 31 25.6**	**-1.4**
VSU	**Vasula**	**1.86**	**137**	Pn	**Pn**	**09 31 03.7**	**+1.2**
VSU				Sn	**Sn**	**09 31 28.3**	**+1.3**
AAL	**Aland**	**2.20**	**281**	*eP*	**Pn**	**09 31 08.2**	**+0.9**
AAL				*eS*	**Sn**	**09 31 37.2**	**+1.6**
KEF	**Keuruu**	**2.35**	**6**	*eP*	**Pn**	**09 31 12.1**	**+2.6**
KEF				*eS*	**Sn**	**09 31 41.9**	**+2.4**
KAF	**Kangasniemi**	**2.48**	**22**	*eP*	**Pn**	**09 31 13.5**	**+2.1**
KAF				*eS*	**Sn**	**09 31 44.4**	**+1.6**
NRTU	**Norrtaelje**	**2.88**	**269**	*eP*	**Pn**	**09 31 17.4**	**+0.3**
GRAU	**Graesoe**	**2.94**	**282**	*eP*	**Pn**	**09 31 17.7**	**-0.2**
SUF	**Sumiainen**	**3.02**	**16**	*eP*	**Pn**	**09 31 21.3**	**+2.2**
SUF				*eS*	**Sn**	**09 31 56.8**	**+0.2**
SUF				*eSG*	**Sg**	**09 32 04.6**	**-5.2**
SUF				MSG		09 32 04.9	
	comp=Z,1.7nm,0.3s						
HEMU	**Hemsoen**	**4.16**	**316**	*eP*	**Pn**	**09 31 35.3**	**+0.1**
HEMU				*eS*	**Sn**	**09 32 25.3**	**0.0**
HASU	**Hassela**	**4.41**	**305**	*eP*	**Pn**	**09 31 38.6**	**-0.2**
HFS	**Hagfors**	**5.34**	**278**	Pn	**Pn**	**09 31 50.9**	**-1.1**
	baz=131,slow=12						
HFS				Sn	**Sn**	**09 32 51.3**	**-3.9**
	baz=106,slow=28						
HFS				Lg		09 33 10.8	
	baz=96,slow=28						
HFS	**Hagfors**	**5.34**	**278**	Pn	**Pn**	**09 31 51.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=90,slow=14,SNR=11						
HFS				Pg	**Pg**	**09 32 03.7**	**-12**
	comp=Z,0.1nm,0.3s,baz=86,slow=16,SNR=5.8						
HFS				Sn	**Sn**	**09 32 51.9**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=87,slow=24,SNR=6.3						
HFS				Lg		09 33 16.5	
	comp=Z,0.3nm,0.3s,baz=85,slow=33,SNR=7.6						
HFS	**Hagfors**	**5.34**	**278**	*eP*	**Pn**	**09 31 50.9**	**-1.1**
HFS				*eS*	**Sn**	**09 32 51.3**	**-3.9**
HFS				*eSB*	**Sb**	**09 33 10.8**	**+2.3**
NB2	**NORSAR Subarra**	**6.59**	**286**	Pn	**Pn**	**09 32 07.1**	**-2.6**
	baz=89,slow=14						
NB2				Sn	**Sn**	**09 33 20.1**	**-6.4**
	baz=99,slow=22						
NB2	**NORSAR Subarra**	**6.59**	**286**	*eP*	**Pn**	**09 32 07.1**	**-2.6**
NB2				*eS*	**Sn**	**09 33 20.1**	**-6.4**
NOA	**NORSAR Array B**	**6.59**	**286**	Pn	**Pn**	**09 32 06.7**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=96,slow=14,SNR=2.4						
NOA				Sn	**Sn**	**09 33 18.6**	**-7.9**
	comp=Z,0.4nm,0.3s,baz=132,slow=23,SNR=2.6						
NOA				Lg		09 33 53.0	
	comp=Z,0.8nm,0.3s,baz=114,slow=15,SNR=3.8						
MOR8	**Moi Rana**	**7.77**	**329**	*eP*	**Pn**	**09 32 24.8**	**-1.4**
MOR8				*eS*	**Sn**	**09 33 47.9**	**-8.2**
MOR8				AML	AML	09 33 55.8	
	comp=Z,1.8nm,0.4s						
APA0	**Apatity Array**	**8.69**	**23**	Pn	**P**	**09 32 36.0**	**-2.9**
	baz=212,slow=8.6						
KTK1	**Kautokeino**	**9.22**	**358**	*eP*	**P**	**09 32 45.4**	**-1.0**
ARA0	**ARCESS Array S**	**9.75**	**2**	Pn	**P**	**09 32 50.3**	**-3.1**
	baz=181,slow=14						
ARA0	**ARCESS Array S**	**9.75**	**2**	*eP*	**P**	**09 32 50.3**	**-3.1**
ARCES	**ARCESS Array B**	**9.75**	**2**	Pn	**P**	**09 32 50.3**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=185,slow=12,SNR=40						

IGQ 06 09:53:15.9,1.45S×80.99W,h5km±10km,mb4.0,Error ellipse: s-maj=14.7km s-min=3.6km az=24.4,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.83**	**42**	P	Pn	09 53 50.2	+1.9
MAG1				S	Sn	09 54 13.1	+1.0
QIL1	**Quilotoa**	**2.14**	**74**	P	Pn	09 53 52.1	-0.6
CAMI	**Rancho Maria**	**2.60**	**73**	P	Pn	09 54 01.1	+1.8
PISA	**Pisayambo**	**2.63**	**82**	P	Pn	09 54 02.0	+2.2
JUA2	**San Juan 2**	**2.68**	**63**	P	Pn	09 54 02.2	+1.8
TERV	**Terraza Guagua**	**2.70**	**62**	P	Pn	09 54 02.1	+1.4
PINO	**Pino**	**2.70**	**62**	P	Pn	09 54 01.2	+0.4
GGP	**Refugio Guagua**	**2.71**	**62**	P	Pn	09 54 01.9	+1.1
VC1	**Cotopaxi 1**	**2.71**	**73**	P	Pn	09 54 01.9	+1.0
TAMB	**Tambo**	**2.73**	**74**	P	Pn	09 54 04.3	+3.2
YANA	**Yana**	**2.75**	**61**	P	Pn	09 54 01.9	+0.3
ANTI	**Antisana**	**3.00**	**71**	P	Pn	09 54 06.9	+1.9
COTA	**Cotacachi**	**3.19**	**56**	P	Pn	09 54 10.0	+2.3
CAYR	**Refugio Cayamb**	**3.32**	**64**	P	Pn	09 54 14.2	+4.7
ANGU	**Angureal**	**3.33**	**64**	P	Pn	09 54 12.5	+2.8
ANGU				S	Sn	09 54 51.5	+1.3
CAYA	**Cayambe**	**3.36**	**63**	P	Pn	09 54 13.9	+3.8
CAYA				S	Sn	09 54 53.4	+2.5
CONE	**Cono NE Rev Vo**	**3.62**	**68**	P	Pn	09 54 19.5	+5.7
CONE				S	Sn	09 55 00.8	+3.4

*NAO **06** 10:03:39.6±1.5,59.30N×26.91E,ML2.4*

*BER **06** 10:03:40.0±2.5,59.31N×27.18E,ML2.4(NAO), Suspected explosion*

*IDC **06** 10:03:41.1±2.1,59.37N×27.06E,mb1 3.2/3, mb1mx3.1/20,mbtmp3.1/3,ML2.9/3,Error ellipse: s-maj=17.7km s-min=11.5km az=122.0*

HEL 06 10:03:39.6±0.2,59.31N×27.27E,ML2.4(NAO), Explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.90**	**198**	*i* P	Pg	10 03 55.8	-1.7
VSU				*i* S	Sg	10 04 07.0	-2.5
FIA0	**FINESS Array S**	**2.22**	**345**	Pn	Pn	10 04 17.6	-0.6
	baz=163,slow=16						
FIA0				Pg	Pg	10 04 19.0	-4.9
	baz=164,slow=16						
FIA0				Sn	Sn	10 04 45.3	-1.3
	baz=168,slow=28						
FIA0				Lg		10 04 49.2	
	baz=171,slow=37						
FIA0	**FINESS Array S**	**2.22**	**345**	*eP*	Pn	10 04 17.3	-0.8
FIA0				*eSG*	Sg	10 04 48.2	-5.3
FIA0				*eRG*		10 05 07.8	
FINES	**FINESS Array B**	**2.22**	**345**	Pn	Pn	10 04 17.6	-0.6
	2.1nm,0.3s,baz=163,slow=15,SNR=58						
FINES				Pg	Pg	10 04 18.9	-5.0
	2.1nm,0.3s,baz=165,slow=16,SNR=56						
FINES				Sn	Sn	10 04 46.6	-0.1
	3.5nm,0.3s,baz=166,slow=23,SNR=20						
FINES				Lg		10 04 48.8	
	3.5nm,0.3s,baz=170,slow=27,SNR=23						
HFS	**Hagfors**	**6.92**	**283**	*eS*	Sn	10 06 34.2	-11
HFS				*eSG*		10 07 11.8	
HFS	**Hagfors**	**6.92**	**283**	Sn	Sn	10 06 34.2	-11
	baz=92,slow=28						
HFS				Lg		10 07 11.8	
	baz=85,slow=37						
NB2	**NORSAR Subarra**	**8.19**	**289**	Lg		10 07 51.4	
NB2	**NORSAR Subarra**	**8.19**	**289**	*eSG*		10 07 51.4	
NOA	**NORSAR Array B**	**8.19**	**289**	Pn	P	10 05 36.8	-5.8
	0.1nm,0.3s,baz=88,slow=11,SNR=2.6						
NOA				Sn	Sn	10 07 04.2	-13
	0.2nm,0.3s,baz=126,slow=23,SNR=2.3						
NOA				Lg		10 07 51.1	
	0.3nm,0.3s,baz=160,slow=20,SNR=3.5						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	P	10 06 06.2	-5.2
	baz=174,slow=14						
ARA0				Sn	S	10 07 56.6	-12
	baz=176,slow=28						
ARA0				Lg		10 08 55.0	
	baz=172,slow=37						
ARA0	**ARCESS Array S**	**10.29**	**357**	*eP*	P	10 06 06.2	-5.2
ARA0				*eS*	S	10 07 56.6	-12
ARA0				*eSG*		10 08 55.0	
ARCES	**ARCESS Array B**	**10.29**	**357**	Pn	P	10 06 06.3	-5.1
	0.2nm,0.3s,baz=174,slow=13,SNR=6.1						
ARCES				Sn	S	10 07 55.4	-13
	0.1nm,0.3s,baz=180,slow=24,SNR=2.9						

*IDC **06** 10:05:36.5±6.9,36.04N×71.25E,h100km±60km,mb4.2/10, mb1 4.3/11,mb1mx4.1/18,mbtmp4.5/11,ML3.8/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/16,Error ellipse: s-maj=27.4km s-min=20.0km az=171.0*

*MOS **06** 10:05:38.7±1.3,36.49N×71.23E,h116km,mb4.6/14,Error ellipse: s-maj=13.1km s-min=6.3km az=92.9*

*NNC **06** 10:05:41.6±5.0,36.66N×70.90E,h126km±57km,mpv5.2, Error ellipse: s-maj=40.3km s-min=31.1km az=12.0*

ISC 06 10:05:36.5±0.5,36.15N±0.02×71.52E±0.04,h116km±6km, n101,σ1§36/124,mb4.5/21,11C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.34**	**172**	⇓P	**P**	**10 06 19.1**	**+4.4**
CHCP	**Chirah Chowk**	**2.87**	**149**	⇓P	**P**	**10 06 27.2**	**+5.4**
THW	**Thamme Wali**	**3.35**	**177**	⇑P	**P**	**10 06 31.2**	**+2.9**
SBDP	**Sheikh Budin**	**3.88**	**189**	⇑P	**P**	**10 06 36.8**	**+1.3**
SARP	**Sargodha**	**4.32**	**167**	⇑P	**P**	**10 06 48.8**	**+7.4**
DRP	**Derazinda**	**4.52**	**194**	P	**P**	**10 06 46.0**	**+1.8**
AML	**Almayashu**	**6.21**	**15**	P	**P**	**10 07 06.8**	**-0.2**
	SNR=494						
UCH	**Uchtor**	**6.50**	**20**	P	**P**	**10 07 11.3**	**+0.3**
	SNR=222						
KZA	**Kyzart**	**6.60**	**25**	P	**P**	**10 07 12.7**	**+0.4**
	SNR=88						
EKS2	**Erkin-Say**	**6.74**	**14**	P	**P**	**10 07 13.8**	**-0.5**
	SNR=121						
AAK	**Ala-Archa**	**6.88**	**19**	P	**P**	**10 07 16.4**	**+0.2**
	SNR=312						
AAK	**Ala-Archa**	**6.88**	**19**	*d* iPN	**P**	**10 07 15.2**	**-0.9**
AAK				pmax	pmax		
	comp=Z,57nm,1.0s						
KK31	**Karatay Array**	**6.99**	**354**	⇓P	**P**	**10 07 14.6**	**-3.1**
	comp=Z,134nm,0.3s,baz=176,slow=11,SNR=3168						
KK31				⇑S	**S**	**10 08 25.9**	**-10**
	comp=Z,38nm,0.4s,baz=178,slow=16,SNR=8.0						
KKAR	**Karatay Array**	**6.99**	**354**	*e*PN	**P**	**10 07 14.6**	**-3.1**
KKAR				pmax	pmax		
	comp=Z,53nm,0.3s						
KBK	**Karagaybulak**	**7.02**	**21**	P	**P**	**10 07 18.5**	**+0.3**
	SNR=51						
FRU	**Bishkek**	**7.09**	**19**	*e*PN	**P**	**10 07 20.0**	**+0.9**
FRU				pmax	pmax		
	comp=Z,100nm,1.4s						
ULHL	**Ulahol**	**7.11**	**30**	P	**P**	**10 07 20.0**	**+0.6**
	SNR=38						
KLP	**Kalpa**	**7.25**	**127**	*eP*	**P**	**10 07 24.6**	**+3.3**
KLP				*eS*	**S**	**10 08 43.5**	**+1.1**
KLP				AML	AML	10 08 52.4	
	comp=N,984nm,0.6s						
KLP				AML	AML	10 08 53.8	
	comp=E,662nm,0.4s						
CHMS	**Chumysh**	**7.29**	**19**	P	**P**	**10 07 21.6**	**-0.1**
	SNR=123						
TKM2	**Tokmak 2**	**7.46**	**24**	P	**P**	**10 07 24.6**	**+0.4**
	SNR=32						
TKM2	**Tokmak 2**	**7.46**	**24**	⇓P	**P**	**10 07 24.2**	**+0.1**
	comp=E,36nm,0.4s						
TKM2				⇓S	**S**	**10 08 47.0**	**-0.7**
	comp=E,54nm,0.8s						
USP	**Ospenovka**	**7.47**	**17**	P	**P**	**10 07 23.9**	**-0.3**
	SNR=144						
KHET	**Khetri**	**8.83**	**154**	*eP*	**P**	**10 07 43.8**	**+1.3**
KHET				*eS*	**S**	**10 09 18.7**	**-2.2**
KHET				AML	AML	10 09 22.5	
	comp=E,98nm,0.6s						
KHET				AML	AML	10 09 26.0	
	comp=N,116nm,0.2s						
NDI	**New Delhi**	**8.86**	**145**	*eP*	**P**	**10 07 45.0**	**+2.1**
NDI				*eS*	**S**	**10 09 22.0**	**+0.4**
KALG	**Kalgarh**	**8.99**	**135**	*eP*	**P**	**10 07 43.9**	**-0.8**
KALG				*eS*	**S**	**10 09 22.2**	**-2.6**
AYAN	**Aya Nagar**	**8.99**	**147**	*eP*	**P**	**10 07 45.1**	**+0.4**
AYAN				*eS*	**S**	**10 09 24.7**	**-0.1**
KUDL	**Kundal**	**9.02**	**151**	*eP*	**P**	**10 07 46.2**	**+1.1**
KUDL				*eS*	**S**	**10 09 23.8**	**-1.6**
SONA	**Sohna**	**9.18**	**148**	*eP*	**P**	**10 07 47.6**	**+0.5**
SONA				*eS*	**S**	**10 09 27.5**	**-1.6**
JASL	**Jaisalmer**	**9.21**	**183**	*eP*	**P**	**10 07 45.2**	**-2.3**
AJM	**Ajmer**	**10.00**	**164**	*eP*	**P**	**10 07 59.0**	**+0.8**
AJM				*eS*	**S**	**10 09 47.0**	**-1.9**
AJM				AML	AML	10 09 48.7	
	comp=N,86nm,0.3s						
AJM				AML	AML	10 09 50.6	
	comp=E,99nm,0.2s						
AGRA	**Agra**	**10.44**	**147**	*eP*	**P**	**10 08 02.6**	**-1.4**
AGRA				*eS*	**S**	**10 09 56.6**	**-2.7**
BHJ	**Bhuj**	**12.95**	**188**	*eP*	**P**	**10 08 32.8**	**-4.3**
BHJ				*eS*	**S**	**10 10 46.8**	**-12**
KOLN	**Koldanda**	**13.22**	**126**	*e*Pn	**P**	**10 08 41.8**	**+1.2**
KOLN				*eS*n	**S**	**10 11 04.9**	**-0.3**
	comp=E,78nm,0.5s						
MK31	**Makanchi Array**	**13.34**	**34**	P	**P**	**10 08 42.1**	**0.0**
	comp=E,14nm,1.1s,baz=223,slow=14,SNR=50						
MKAR	**Makanchi Array**	**13.34**	**34**	P	**P**	**10 08 42.9**	**+0.7**
	comp=E,0.5nm,0.3s,baz=224,slow=12,SNR=14						
MKAR	**Makanchi Array**	**13.34**	**34**	P	**P**	**10 08 42.9**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GKN	**Gorkha**	**13.76**	**122**	*e*Pn	**P**	**10 08 49.2**	**+1.6**
GKN				*eS*n	**S**	**10 11 16.2**	**-1.7**
	comp=Z,79nm,0.3s						
BHPL	**Bhopal**	**13.84**	**157**	*eP*	**P**	**10 08 49.3**	**+0.6**
DMN	**Daman**	**14.33**	**123**	*e*Pn	**P**	**10 08 56.9**	**+1.9**
DMN				*eS*n	**S**	**10 11 30.2**	**-1.1**
	comp=Z,134nm,0.7s						
KKN	**Kakani**	**14.34**	**122**	*e*Pn	**P**	**10 08 55.8**	**+0.8**
KKN				*eS*n	**S**	**10 11 29.5**	**-1.9**
	comp=Z,147nm,0.9s						
PKI	**Pulchoki**	**14.56**	**122**	*e*Pn	**P**	**10 09 00.2**	**+2.3**
PKI				*eS*n	**S**	**10 11 35.8**	**-0.8**
GUN	**Gumba**	**14.68**	**120**	*e*Pn	**P**	**10 09 00.5**	**+1.1**
GUN				*eS*n	**S**	**10 11 39.6**	**+0.3**
	comp=Z,117nm,0.8s						
JIRN	**Jiri**	**15.05**	**120**	*e*Pn	**P**	**10 09 05.7**	**+1.6**
JIRN				*eS*n	**S**	**10 11 48.2**	**+0.3**
	comp=Z,134nm,0.6s						
KURK	**Kurchatov**	**15.44**	**17**	*i* P	**P**	**10 09 05.4**	**-3.4**
AB31	**Akbulak array**	**15.59**	**331**	⇑P	**P**	**10 09 05.3**	**-5.5**
	comp=Z,15nm,0.3s,baz=142,slow=12,SNR=819						
AB31				⇑S	**S**	**10 11 42.7**	**-17**
	comp=Z,8.4nm,0.6s,baz=153,slow=23,SNR=8.2						
AB31	**Akbulak array**	**15.59**	**331**	*eP*	**P**	**10 09 05.4**	**-5.4**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
VOSK	**Vostochnaya**	**16.58**	**359**	⇑P	**P**	**10 09 19.5**	**-3.5**
	comp=Z,4.2nm,0.5s						
VOSK	**Vostochnaya**	**16.58**	**359**	P	**P**	**10 09 19.4**	**-3.6**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVA0	**Bor

AKASG	**Malin Array Be**	**33.49**	**309**	P		**P**	**10 12 05.4**	**-1.1**
	comp=Z,4.3nm,0.4s,mb4.6,baz=81,slow=8.0,SNR=20							
AKASG	**Malin Array Be**	**33.49**	**309**	P		**P**	**10 12 05.4**	**-1.1**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.4s							
JOF	**Joensuu**	**36.38**	**330**	*e*p		**P**	**10 12 30.5**	**-0.4**
	comp=Z,8.7nm,0.3s,mb5.2							
JOF	**Joensuu**	**36.38**	**330**	*e*P		**P**	**10 12 30.5**	**-0.4**
JOF				pmax		pmax		
	comp=Z,9.0nm,0.3s,mb5.2							
FINES	**FINESS Array B**	**38.01**	**326**	P		**P**	**10 12 44.5**	**0.0**
	comp=Z,5.0nm,0.4s,mb4.7,baz=117,slow=9.3,SNR=72							
FINES	**FINESS Array B**	**38.01**	**326**	P		**P**	**10 12 44.5**	**0.0**
FINES				pmax		pmax		
	comp=Z,5.0nm,0.4s							
KAF	**Kangasniemi**	**38.15**	**327**	*e*p		**P**	**10 12 44.2**	**-1.4**
	comp=Z,1.4nm,0.3s,mb4.3,baz=112,slow=8.1							
KAF	**Kangasniemi**	**38.15**	**327**	*e*P		**P**	**10 12 44.2**	**-1.4**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb4.1							
KEV	**Kevo**	**41.28**	**338**	*e*p		**P**	**10 13 11.4**	**0.0**
	comp=Z,1.4nm,0.3s,mb4.3							
KEV	**Kevo**	**41.28**	**338**	*e*P		**P**	**10 13 11.4**	**0.0**
KEV				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb4.1							
ARCES	**ARCESS Array B**	**41.63**	**338**	P		**P**	**10 13 14.4**	**+0.2**
	comp=Z,4.2nm,0.6s,mb4.4,baz=113,slow=8.0,SNR=47							
ARCES	**ARCESS Array B**	**41.63**	**338**	P		**P**	**10 13 14.4**	**+0.2**
ARCES				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KTK1	**Kautokeino**	**42.11**	**336**	*e*P		**P**	**10 13 19.6**	**+1.6**
TRO	**Tromso**	**43.76**	**336**	*e*P		**P**	**10 13 31.3**	**-0.2**
TRO				*e*pP		pP	10 13 43.0	-15
MOR8	**Moi Rana**	**44.33**	**331**	*e*P		**P**	**10 13 35.7**	**-0.4**
MOR8				AMb		AMB	10 13 36.3	
	comp=Z,24nm,0.9s,mb4.9							
NB2	**NORSAR Subarra**	**44.91**	**323**	P		**P**	**10 13 40.2**	**-0.6**
	comp=Z,5.5nm,0.5s,mb4.5,baz=98,slow=7.9							
NB2	**NORSAR Subarra**	**44.91**	**323**	P		**P**	**10 13 40.2**	**-0.6**
	baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.91**	**323**	P		**P**	**10 13 40.5**	**-0.3**
	comp=Z,9.6nm,0.7s,mb4.6,baz=97,slow=7.8,SNR=40							
NOA	**NORSAR Array B**	**44.91**	**323**	P		**P**	**10 13 40.5**	**-0.3**
NOA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
LOF	**Lofoten**	**45.15**	**333**	*e*P		**P**	**10 13 45.1**	**+2.5**
TIXI	**Tiksi**	**45.95**	**22**	↑*i*P		**P**	**10 13 49.6**	**+0.7**
TIXI				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.4							
MOL	**Molde**	**46.76**	**325**	*e*P		**P**	**10 13 55.5**	**+0.1**
MOL				AMb		AMB	10 13 58.8	
	comp=Z,29nm,1.8s,mb4.7							
BILL	**Bilibino**	**58.74**	**26**	↑*e*P		**P**	**10 15 23.8**	**-0.2**
BILL				pmax		pmax		
	comp=Z,17nm,1.7s,mb4.8							
BILL				MLR		MLR		
	comp=Z,100nm,14.0s							
TORD	**Torodi Ar. Bea**	**66.13**	**269**	P		**P**	**10 16 11.2**	**-2.6**
	comp=Z,6.0nm,0.6s,mb4.6,baz=42,slow=5.5,SNR=51							
ILAR	**Eielson Array**	**75.00**	**16**	P		**P**	**10 17 07.2**	**+1.0**
	comp=Z,2.1nm,0.8s,mb3.9,baz=332,slow=4.5,SNR=20							
ILAR	**Eielson Array**	**75.00**	**16**	P		**P**	**10 17 07.2**	**+1.0**
ILAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
DBIC	**Dimbokro**	**75.10**	**267**	P		**P**	**10 17 06.3**	**-1.4**
	comp=Z,2.3nm,0.6s,mb4.1,baz=17,slow=7.2,SNR=8.2							
DBIC	**Dimbokro**	**75.10**	**267**	P		**P**	**10 17 06.3**	**-1.4**
DBIC				pmax		pmax		
	comp=Z,2.0nm,0.6s							
WRA	**Warramunga Arr**	**81.45**	**122**	P		**P**	**10 17 44.2**	**+1.8**
	comp=Z,1.7nm,0.4s,mb4.2,baz=323,slow=5.0,SNR=9.0							
WRA	**Warramunga Arr**	**81.45**	**122**	*i*P		**P**	**10 17 45.0**	**+2.7**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.4s							
WB2	**Warramunga Arr**	**81.46**	**122**	*e*P		**P**	**10 17 45.0**	**+2.6**
YKA	**Yellowknife Ar**	**81.58**	**3**	P		**P**	**10 17 43.6**	**+1.5**
	comp=Z,4.1nm,0.6s,mb4.5,baz=350,slow=5.4,SNR=52							
YKA	**Yellowknife Ar**	**81.58**	**3**	*i*P		**P**	**10 17 43.5**	**+1.4**
YKA				pmax		pmax		
	comp=Z,4.0nm,0.6s							

*NNC **06** 11:09:02.5±1.2,43.46N×76.93E,mpv2.9, Error ellipse: s-maj=29.7km s-min=6.8km az=148.0*
*KNET **06** 11:09:03.5,43.44N×76.92E,h4km,ml2.1*
ISC 06 11:09:04.8±1.1,**43.4N**±0.2×**77.0E**±0.1,**h10**km,**n12,**
σ1§10/16,10C-8D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**1.17**	**245**	↑P	**Pb**	**11 09 24.4**	**-2.2**
	25nm,0.2s,SNR=42						
TKM2				↑S	**Sb**	**11 09 41.0**	**-0.7**
	10nm,0.1s						
TKM2	**Tokmak 2**	**1.17**	**245**	↑P	**Pb**	**11 09 24.4**	**-2.3**
	8.4nm,0.2s						
TKM2				↑S	**Sb**	**11 09 38.9**	**-2.8**
	10nm,0.5s						
KBK	**Karagaybulak**	**1.72**	**244**	↓P	**Pn**	**11 09 34.4**	**-0.6**
	24nm,0.2s,SNR=22						
KBK				↓S	**Sn**	**11 09 58.7**	**+1.5**
	31nm,0.4s						
CHMS	**Chumysh**	**1.73**	**257**	↓P	**Pn**	**11 09 34.3**	**-0.8**
	9.4nm,0.2s,SNR=7.3						
CHMS				↓S	**Sn**	**11 09 58.7**	**+1.3**
	13nm,0.2s						
USP	**Ospenovka**	**1.86**	**266**	↑P	**Pn**	**11 09 37.2**	**+0.1**
	11nm,0.2s,SNR=15						
USP				↓S	**Sn**	**11 10 01.3**	**+0.5**
	18nm,0.3s						
AAK	**Ala-Archa**	**2.03**	**248**	↑P	**Pn**	**11 09 39.4**	**-0.1**
	9.4nm,0.2s,SNR=21						
UCH	**Uchtor**	**2.21**	**238**	↓P	**Pn**	**11 09 42.6**	**+0.6**
	18nm,0.3s,SNR=58						
EKS2	**Erkin-Say**	**2.51**	**253**	↓P	**Pn**	**11 09 47.3**	**+0.9**
	4.2nm,0.2s,SNR=11						
AML	**Almayashu**	**2.78**	**244**	↑P	**Pn**	**11 09 51.0**	**+0.8**
	7.6nm,0.2s,SNR=15						
KK31	**Karatay Array**	**4.78**	**268**	↑Pg	**Pb**	**11 10 26.6**	**-1.8**
	0.3nm,0.3s,baz=89,slow=17,SNR=4.0						
KK31				↑Lg		11 11 34.1	
	3.1nm,0.7s,baz=83,slow=27,SNR=8.3						
MK31	**Makanchi Array**	**5.01**	**46**	↓Pn	**Pn**	**11 10 22.3**	**+0.4**
	0.7nm,0.3s,baz=221,slow=14,SNR=18						
MK31				↑Lg		11 11 41.6	
	2.4nm,0.8s,baz=234,slow=27,SNR=4.2						
KURK	**Kurchatov**	**7.38**	**8**	Lg		11 12 55.8	

*ISK **06** 11:21:14.6,38.18N×26.72E,h17km, MD2.9*
*NEIC **06** 11:21:14.0,38.14N×26.77E,h19km, MD2.9(ATH), MD2.6(ISK), After ISK.*
*ATH **06** 11:21:15.7,38.17N×26.72E,h21km±1km, MD2.9/3*
*CSEM **06** 11:21:16.2±0.1,38.20N×26.86E,h22km±1km, MD2.9, Error ellipse: s-maj=3.6km s-min=2.2km az=103.0*
ISC 06 11:21:15.5±0.8,**38.20N**±0.03×**26.73E**±0.05,**h13**km±5km,
n19,σ0§97/33,2C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.31**	**53**	*i* PG	**Pg**	**11 21 22.1**	**0.0**
BLCB				*i* SG	**Sg**	**11 21 26.6**	**0.0**
IZM	**Izmir**	**0.47**	**65**	*i* PG	**Pg**	**11 21 25.2**	**+0.1**
IZM				*i* SG	**Sg**	**11 21 32.1**	**+0.6**
KDAG	**Bornova**	**0.47**	**64**	*i* P	**Pb**	**11 21 23.6**	**-1.5**
KDAG				*i* S	**Sb**	**11 21 30.3**	**-1.3**
SMG	**Samos**	**0.50**	**170**	↑*i*PB	**Pb**	**11 21 25.4**	**-0.1**
SMG				*e*SB	**Sb**	**11 21 32.3**	**0.0**
SMG	**Samos**	**0.50**	**170**	↑*e*Pb	**Pb**	**11 21 25.4**	**-0.1**
SMG				*e*Sb	**Sb**	**11 21 33.0**	**+0.7**
SMG	**Samos**	**0.50**	**170**	*e*Pb	**Pb**	**11 21 25.4**	**-0.1**
SMG				*e*Sb	**Sb**	**11 21 33.0**	**+0.7**
AYDN	**Tasoluk**	**1.06**	**120**	*i* P	**Pb**	**11 21 35.1**	**0.0**
AYDN				*i* S	**Sb**	**11 21 49.2**	**+0.6**
AKS	**Akhisar**	**1.09**	**51**	PN	**Pn**	**11 21 35.5**	**-0.9**
AKS				SN	**Sn**	**11 21 51.8**	**+0.5**
PRK	**Paraskevi**	**1.10**	**341**	*e*PN	**Pn**	**11 21 37.4**	**+0.8**
PRK				*e*SN	**Sn**	**11 21 52.9**	**+1.2**
PRK	**Paraskevi**	**1.10**	**341**	*e*Pn	**Pn**	**11 21 37.4**	**+0.8**
PRK				*e*Sn	**Sn**	**11 21 52.0**	**+0.3**
AYVA	**Ayvalik**	**1.11**	**359**	*i* P	**Pb**	**11 21 34.3**	**-1.7**
AYVA				*i* S	**Sb**	**11 21 50.3**	**+0.2**
BODT	**Bodrum**	**1.23**	**158**	PN	**Pn**	**11 21 36.7**	**-1.6**
BODT				SN	**Sn**	**11 21 54.1**	**-0.6**
BDRM	**Kayabasi**	**1.27**	**153**	*i* P	**Pb**	**11 21 40.5**	**+1.8**
BDRM				*i* S	**Sb**	**11 21 54.9**	**+0.2**
MANT	**Manisa**	**1.47**	**78**	*i* P	**Pn**	**11 21 43.3**	**+1.5**
MANT				*i* S	**Sb**	**11 22 01.8**	**+1.2**
APE	**Apeiranthos**	**1.47**	**220**	*e*PN	**Pn**	**11 21 40.8**	**-1.0**
APE	**Apeiranthos**	**1.47**	**220**	*e*Pn	**Pn**	**11 21 42.8**	**+1.0**
DAT	**Datca**	**1.62**	**155**	*e*PN	**Pn**	**11 21 42.4**	**-1.5**
YER	**Yerkesik**	**1.63**	**130**	*e*PN	**Pn**	**11 21 43.2**	**-0.9**
SANT	**Santorini**	**2.08**	**209**	Pn	**Pn**	**11 21 51.7**	**+1.1**

*IDC **06** 12:01:54.5±2.9,26.76N×55.82E,mb3.9/12,mb1 4.0/12, mb1mx3.8/25,mbtmp3.9/12,Error ellipse: s-maj=59.5km s-min=24.7km az=149.0*
*THR **06** 12:02:00.5±1.1,27.13N×55.70E,h14km±11km,ML3.2*
*CSEM **06** 12:02:00.0±0.3,26.91N×55.62E,h35km,ML3.2,Error ellipse: s-maj=8.3km s-min=3.5km az=166.0*
*NEIC **06** 12:02:01.1±2.6,27.00N×55.78E,h35km,mb4.2/3,Error ellipse: s-maj=51.6km s-min=15.3km az=162.0*
ISC 06 12:01:57.5±1.2,**26.82N**±0.06×**55.70E**±0.05,**h29**km±11km,
n30,σ1§07/36,mb3.9/14,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.72**	**36**	*e*Pg	**Pb**	**12 02 09.9**	**-1.5**
BNDS				AML	AML	12 02 27.2	
	comp=N,1μm,0.3s						
BANOM	**Banah**	**1.04**	**149**	P	**Pn**	**12 02 14.2**	**-2.2**
	SNR=675						
ASHO	**Ashiyiah**	**2.15**	**171**	P	**Pn**	**12 02 33.5**	**+1.2**
	SNR=67						
GHIR	**Ghir-Karzin**	**2.81**	**302**	*e*Pn	**Pn**	**12 02 45.3**	**+3.7**
GHIR				*e*Sg	**Sn**	**12 03 23.7**	**+8.7**
GHIR				AML	AML	12 03 42.5	
	comp=N,131nm,0.4s						
KRBR	**Kerman**	**3.29**	**16**	*e*Pn	**Pn**	**12 02 50.3**	**+1.9**
SMDO	**Samad**	**4.31**	**150**	P	**Pn**	**12 03 03.8**	**+0.9**
	SNR=8.5						
WBK	**Wadi Bani Khal**	**5.14**	**144**	P	**Pn**	**12 03 12.7**	**-2.0**
	SNR=11						
NASN	**Na'in**	**6.46**	**338**	*e*Pn	**Pn**	**12 03 33.7**	**+0.3**
QRN	**Al-Qurain**	**7.15**	**287**	*e*P	**Pn**	**12 03 43.6**	**+0.7**
QRN				*e*S	**Sn**	**12 05 03.8**	**-0.3**
KBD	**Kabd**	**7.45**	**290**	*e*P	**Pn**	**12 03 48.2**	**+1.0**
KBD				*e*S	**Sn**	**12 05 10.5**	**-1.1**
KBD				AML	AML	12 05 11.4	
	comp=Z,27nm,0.4s						
RDF	**Al-Radifah**	**7.51**	**288**	*e*P	**Pn**	**12 03 48.7**	**+0.7**
RDF				*e*S	**Sn**	**12 05 12.2**	**-0.9**
RDF				AML	AML	12 05 13.5	
	comp=Z,12nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.55**	**293**	*e*P	**Pn**	**12 03 49.2**	**+0.7**
NAY	**Al-Naaiem**	**7.85**	**290**	*e*P	**Pn**	**12 03 53.1**	**+0.3**
NAY				*e*S	**Sn**	**12 05 20.1**	**-1.5**
MIB	**Mutribah**	**7.94**	**294**	*e*P	**Pn**	**12 03 54.5**	**+0.4**
MIB				*e*S	**Sn**	**12 05 22.8**	**-1.0**
MIB				AML	AML	12 05 23.3	
	comp=Z,9.9nm,0.4s						
CSS	**Prodhromos**	**20.81**	**298**	*e*P	**P**	**12 06 39.1**	**-0.1**
	comp=Z,7.4nm,0.6s						
BR131	**Keskin Array S**	**22.42**	**311**	P	**P**	**12 06 57.3**	**+2.0**
	comp=Z,0.5nm,0.3s,mb3.4						
BRTR	**Keskin Array B**	**22.42**	**311**	P	**P**	**12 06 57.1**	**+1.8**
	comp=Z,0.8nm,0.5s,mb3.4,baz=113,slow=11,SNR=4.6						
SANT	**Santorini**	**27.36**	**298**	P	**P**	**12 07 42.4**	**+0.2**
	comp=Z,35nm,1.0s,mb4.8						
IDI	**Anoyia**	**27.62**	**295**	P	**P**	**12 07 46.4**	**+1.8**
	comp=Z,3.4nm,0.6s,mb4.2,baz=112,slow=19,SNR=4.1						
BVAR	**Borovoye Array**	**28.38**	**19**	P	**P**	**12 07 50.7**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.6,baz=198,slow=9.4,SNR=5.9						
ZAL	**Zalesovo**	**34.55**	**30**	P	**P**	**12 08 45.1**	**-0.4**
	comp=Z,0.9nm,0.3s,mb4.2,baz=197,slow=3.8,SNR=3.3						
GERES	**GERESS Array B**	**39.13**	**316**	P	**P**	**12 09 24.3**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=102,slow=9.0,SNR=3.2						
JOF	**Joensuu**	**39.51**	**343**	*e*p	**P**	**12 09 24.5**	**-2.7**
	comp=Z,0.4nm,0.3s,mb3.6						
FINES	**FINESS Array B**	**39.93**	**338**	P	**P**	**12 09 30.4**	**-0.2**
	comp=Z,1.4nm,0.6s,mb3.9,baz=135,slow=9.8,SNR=13						
DAVOX	**Davos**	**41.06**	**311**	P	**P**	**12 09 40.4**	**+0.3**
	comp=Z,1.6nm,0.5s,mb3.9,slow=20,SNR=3.0						
HFS	**Hagfors**	**43.87**	**331**	P	**P**	**12 10 02.8**	**0.0**
	comp=Z,1.8nm,0.8s,mb3.9,baz=120,slow=12,SNR=4.2						
ARCES	**ARCESS Array B**	**46.23**	**346**	P	**P**	**12 10 21.6**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=135,slow=10,SNR=5.0						
ESDC	**Sonseca Array**	**50.67**	**301**	P	**P**	**12 10 56.0**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=72,slow=6.7,SNR=4.3						
MDT	**Midelt**	**52.06**	**292**	P	**P**	**12 11 08.1**	**+1.0**
	comp=Z,0.7nm,0.4s,mb3.9,baz=100,slow=6.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**52.19**	**266**	P	**P**	**12 11 07.7**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=60,slow=7.2,SNR=7.9						

*NEIC **06** 12:50:05.3±0.6,1.32S×99.61E,h30km,mb4.6/3,Error ellipse: s-maj=16.9km s-min=7.5km az=53.0*
*IDC **06** 12:50:09.2±4.4,1.09S×99.83E,h58km±37km, mb4.0/8, mb1 4.1/9,mb1mx3.8/18,mbtmp4.3/9,ML3.6/1,MS3.2/1, Ms1 3.2/1,ms1mx2.5/20,Error ellipse: s-maj=55.8km s-min=15.3km az=53.0*
ISC 06 12:50:03.9±0.7,**1.31S**±0.08×**99.58E**±0.09,**h33**km,**n25,**
σ0§78/25,mb4.6/14,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.14**	**351**	P	**P**	**12 51 06.5**	**+0.2**
	4.4nm,0.3s,baz=173,slow=11,SNR=31						
PSI				S	**S**	**12 51 34.5**	**-20**
	11nm,0.3s,baz=148,slow=15,SNR=7.5						
PSI				LR	LR	12 52 55.2	
	comp=Z,333nm,20.8s,baz=314,slow=43						
KGM	**Kluang**	**4.99**	**49**	P	**P**	**12 51 19.7**	**+1.2**
IPM	**Ipoh**	**6.03**	**14**	P	**P**	**12 51 33.3**	**+0.3**
KULM	**Kulim**	**6.64**	**9**	*e*Pn	**Pn**	**12 51 41.6**	**-0.3**
KKM	**Kota Kinabalu**	**18.15**	**66**	P	**P**	**12 54 15.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**30.54**	**125**	P	**P**	**12 56 16.4**	**-0.4**
	1.0nm,0.5s,mb3.9,baz=110,slow=22,SNR=7.0						
JIRN	**Jiri**	**31.55**	**337**	*e*P	**P**	**12 56 26.1**	**+0.4**
	30nm,0.6s,mb5.3						
LSA	**Lhasa**	**31.87**	**346**	*e*P	**P**	**12 56 28.3**	**-0.2**
	3.8nm,0.5s,mb4.5						
LSA				pP	pP	12 56 43.1	+5.0
GUN	**Gumba**	**31.90**	**337**	*e*P	**P**	**12 56 29.1**	**+0.4**
	45nm,0.4s,mb5.7						
DMN	**Daman**	**31.95**	**335**	*e*P	**P**	**12 56 30.0**	**+0.9**
KKN	**Kakani**	**32.03**	**336**	*e*P	**P**	**12 56 29.9**	**0.0**
GKN	**Gorkha**	**32.49**	**335**	*e*P	**P**	**12 56 33.9**	**0.0**
	6.4nm,0.3s,mb5.0						
KOLN	**Koldanda**	**32.74**	**333**	*e*P	**P**	**12 56 36.4**	**+0.3**
WRA	**Warramunga Arr**	**38.70**	**121**	P	**P**	**12 57 27.1**	**+0.4**
	2.5nm,0.3s,mb4.4,baz=303,slow=9.0,SNR=53						
WB2	**Warramunga Arr**	**38.71**	**121**	*e*P	**P**	**12 57 26.7**	**-0.1**
GUMO	**Guam**	**47.27**	**70**	P	**P**	**12 58 34.9**	**-1.4**
	61nm,0.8s,mb5.6,baz=333,slow=20,SNR=2.7						
SONM	**Songino Array**	**49.31**	**6**	P	**P**	**12 58 50.6**	**-1.2**
	0.9nm,0.5s,mb4.1,baz=187,slow=8.4,SNR=8.4						
ULN	**Ulaanbaatar**	**49.41**	**7**	*e*P	**P**	**12 58 51.2**	**-1.4**
	1.1nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**49.92**	**132**	P	**P**	**12 58 57.1**	**+0.4**
	3.4nm,0.7s,mb4.5,baz=294,slow=7.1,SNR=5.3						
MKAR	**Makanchi Array**	**50.26**	**345**	P	**P**	**12 58 58.5**	**-0.6**
	1.6nm,0.3s,mb4.5,baz=159,slow=8.6,SNR=24						
MKAR	**Makanchi Array**	**50.26**	**345**	P	**P**	**12 58 58.5**	**-0.6**
ZAL	**Zalesovo**	**56.41**	**350**	P	**P**	**12 59 42.8**	**-1.7**
	5.2nm,0.4s,mb4.9,baz=310,slow=3.6,SNR=18						
FINES	**FINESS Array B**	**83.31**	**332**	P	**P**	**13 02 29.3**	**+0.8**
	2.2nm,0.9s,mb4.2,baz=117,slow=4.3,SNR=4.2						
ARCES	**ARCESS Array B**	**85.69**	**340**	P	**P**	**13 02 41.6**	**+1.3**
	1.1nm,0.8s,mb4.2,baz=127,slow=4.5,SNR=5.0						
JCT	**Junction City**	**145.65**	**31**	*e*PKPdf	PKPdf	13 09 40.8	+1.2

*MOS **06** 12:59:34.5±0.9,8.71S×79.51W,h33km,mb5.0/7,Error ellipse: s-maj=43.3km s-min=13.0km az=117.0*
*IDC **06** 12:59:37.6±0.6,8.66S×79.46W,h45km±4km,mb4.1/11, mb1 4.2/15,mb1mx4.2/21,mbtmp4.3/15,MS3.8/12, Ms1 3.8/12,ms1mx3.6/25,Error ellipse: s-maj=22.9km s-min=11.4km az=50.0*
*NEIC **06** 12:59:38.1±0.3,8.61S×79.39W,mb4.9/13,Error ellipse: s-maj=15.3km s-min=6.6km az=59.0*
*BJI **06** 12:59:38.0,9.26S×78.92W,h61km,mB5.0,Ms5.2,Msz5.0*
*HRVD **06** 12:59:38.1±0.6,8.83S×79.67W,h44km±1km,MW4.8/30, Centroid moment Tensor Solution. LP body waves: s21,c26;Mantle waves: s30,c37; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.08±.20; Mθθ-0.34±.11; Mφφ-1.74±.13; Mrθ-0.52±.09; Mrφ-0.74±.09; Mθφ-0.04±.13; Best double couple: Mo2.134×10^16^ NP1:φs12°, δ43°, λ72°. NP2:φs215°, δ50°, λ106°. Principal axes: T 2.192, Plg78°, Azm188°; N -.115, Plg12°, Azm25°; P -2.076, Plg3°, Azm294°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 12:59:36.4±0.4,**8.55S**±0.08×**79.3W**±0.1,**h46**km,
h46km±1.0km:**pP-P,n88,σ0§94/54,mb4.6/23,MS4.1/12,**
10C-3D,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**10.98**	**137**	*e*P	**P**	**13 02 19.0**	**+5.2**
ARE				*e*		13 04 25.0	
LPAZ	**La Paz**	**13.38**	**126**	P	**P**	**13 02 45.5**	**-0.3**
	0.3nm,0.3s,baz=328,slow=13,SNR=14						
LPAZ	**La Paz**	**13.38**	**126**	*e*Pn	**P**	**13 02 46.3**	**+0.4**
	13nm,0.6s						
ROSC	**El Rosal**	**14.22**	**21**	LR	LR	13 09 13.6	
	comp=Z,287nm,20.6s,baz=196,slow=40						
SIV	**San Ignacio**	**19.32**	**114**	P	**P**	**13 03 59.8**	**-0.8**
	0.3nm,0.3s,baz=294,slow=12,SNR=6.8						
SDV	**Santo Domingo**	**19.37**	**27**	P	**P**	**13 04 00.2**	**-1.1**
	1.0nm,0.3s,baz=328,slow=3.9,SNR=2.6						
JTS	**JuntasAbangare**	**19.53**	**343**	P	**P**	**13 04 00.4**	**-2.7**
	1.1nm,0.3s,baz=304,slow=18,SNR=3.9						
JTS				LR	LR	13 10 27.1	
	comp=Z,253nm,21.7s,baz=180,slow=33						
JTS	**JuntasAbangare**	**19.53**	**343**	P	**P**	**13 04 00.4**	**-2.6**
JTS				LR	LR	13 10 27.1	
CFAA	**Coronel Fontan**	**25.16**	**157**	P	**P**	**13 04 57.6**	**-1.6**
	1.9nm,0.9s,mb3.6,baz=327,slow=8.5,SNR=17						
CFAA				LR	LR	13 13 52.7	
	comp=Z,12nm,19.4s,baz=34,slow=34						
BDFB	**Brasilia**	**31.41**	**106**	P	**P**	**13 05 55.6**	**-0.1**
	2.2nm,0.5s,mb4.2,baz=276,slow=9.2,SNR=2.7						
BDFB				LR	LR	13 19 17.7	
	comp=Z,440nm,19.9s,MS4.1,baz=283,slow=38						
PLCA	**Paso Flores**	**32.99**	**168**	P	**P**	**13 06 07.3**	**-2.0**
	16nm,1.3s,mb4.8,baz=353,slow=11,SNR=5.6						
PLCA				PcP	PcP	13 08 51.0	-1.5
	2.5nm,0.8s,baz=349,slow=4.8,SNR=5.1						
PLCA				LR	LR	13 16 57.6	
	comp=Z,90nm,20.1s,MS3.5,baz=0.3,slow=32						
PLCA	**Paso Flores**	**32.99**	**168**	*e*P	**P**	**13 06 07.7**	**-1.6**
	17nm,1.2s,mb4.8						
TXAR	**Lajitas Array**	**44.36**	**329**	P	**P**	**13 07 44.6**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=148,slow=8.9,SNR=6.4						
TXAR				pP	pP	13 07 57.5	+0.7
	0.8nm,0.7s,baz=150,slow=8.2,SNR=5.2						
TXAR				PcP	PcP	13 09 27.1	-1.1
	1.9nm,0.8s,baz=153,slow=6.0,SNR=7.9						
HALT	**Halls**	**45.21**	**349**	*e*P	**P**	**13 07 52.5**	**+1.4**
SIUC	**Southern Illin**	**46.94**	**349**	*e*P	**P**	**13 08 04.5**	**-0.2**
	24nm,0.8s,mb5.2						
ANMO	**Albuquerque**	**50.29**	**331**	LR	LR	13 29 19.3	
	comp=Z,87nm,21.4s,MS3.7,baz=341,slow=35						
ANMO	**Albuquerque**	**50.29**	**331**	↑*e*P	**P**	**13 08 30.5**	**-0.1**
SADO	**Sadowa**	**53.07**	**0**	LR	LR	13 32 53.1	
	comp=Z,71nm,19.8s,MS3.7,baz=211,slow=38						
RKT	**Rikitea**	**55.13**	**248**	*e*LR	LR	13 24 55.4	
NEN	**Nelson**	**55.24**	**325**	P	**P**	**13 09 07.0**	**-0.4**
NEN				*e*pP	pP	13 09 20.8	+0.5
SRU	**San Rafael**	**55.56**	**331**	*e*P	**P**	**13 09 09.1**	**-0.6**
SRU				*e**PP	pP	13 09 23.3	+0.7
SRU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
SRU	**San Rafael**	**55.56**	**331**	*e*P	**P**	**13 09 09.1**	**-0.7**
	comp=Z,7.2nm,1.2s,mb4.6						
SRU				*e*pP	pP	13 09 23.3	+0.7
MSU	**Marysvale**	**55.92**	**329**	*e*P	**P**	**13 09 13.3**	**+1.0**
MSU				*e**PP	pP	13 09 26.6	+1.4

SUMG	**Summit**	**85.16**	**11**	*e*P		**P**		**13 12 10.0**	**+1.5**	
	comp=Z,14nm,0.9s,mb5.1									
INK	**Inuvik**	**85.52**	**342**	*e*P		**P**		**13 12 10.4**	**0.0**	
INK				pmax	pmax					
	comp=Z,9.0nm,0.9s									
INK	**Inuvik**	**85.52**	**342**	*e*P		**P**		**13 12 10.4**	**0.0**	
	comp=Z,9.2nm,0.9s,mb5.0									
COLA	**College**	**88.79**	**337**	*e*P		**P**		**13 12 26.8**	**+0.5**	
COLA				pmax	pmax					
	comp=Z,3.0nm,0.5s,mb4.9									
COLA	**College**	**88.79**	**337**	*e*P		**P**		**13 12 26.8**	**+0.5**	
	comp=Z,3.3nm,0.5s,mb4.9									
MAW	**Mawson**	**99.39**	**166**	LR	LR			13 56 06.9		
	comp=Z,64nm,19.0s,MS4.1,baz=239,slow=34									
OBN	**Obninsk**	**111.67**	**34**	*i*PKIKP		PKPdf		13 18 05.0	-0.9	
OBN				*e*				13 18 51.7		
OBN				*e*				13 24 39.7		
OBN				*e*PS		PS		13 28 26.5	+6.3	
OBN				pmax	pmax					
	comp=Z,6.0nm,0.5s									
STKA	**Stephens Creek**	**123.92**	**222**	PKP		PKPdf		13 18 30.5	+0.2	
	comp=Z,2.0nm,0.7s,baz=288,slow=3.2,SNR=6.1									
NVS	**Novosibirsk**	**131.78**	**13**	*i* PKIKP		PKPdf		13 18 44.5	-0.3	
ZAL	**Zalesovo**	**132.97**	**13**	PKP		PKPdf		13 18 48.1	+1.1	
	comp=Z,3.1nm,0.9s,baz=213,slow=2.2,SNR=19									
ZAL				pPKP				13 19 01.5		
	comp=Z,3.6nm,1.1s,baz=160,slow=3.7,SNR=3.4									
KURK	**Kurchatov**	**134.17**	**19**	*i* PKIKP		PKPdf		13 18 50.3	+0.9	
WB2	**Warramunga Arr**	**136.39**	**229**	*e*P		PKPdf		13 18 54.6	+0.4	
WRAB	**Tennant Creek**	**136.40**	**229**	*i* PKIKP		PKPdf		13 18 53.4	-0.9	
WRA	**Warramunga Arr**	**136.40**	**229**	PKP		PKPdf		13 18 54.5	+0.2	
	comp=Z,6.6nm,0.6s,baz=123,slow=2.0,SNR=50									
WRA				pPKP				13 19 08.5		
	comp=Z,2.0nm,0.8s,baz=124,slow=2.0,SNR=4.3									
ZAK	**Zakamensk**	**138.24**	**357**	*e*PKIKP		PKPdf		13 18 55.0	-1.8	
ZAK				pmax	pmax					
	comp=Z,1.0nm,0.9s									
MKAR	**Makanchi Array**	**138.78**	**19**	PKP		PKPdf		13 18 59.0	+1.1	
	comp=Z,2.6nm,0.8s,slow=2.4,SNR=11									
MKAR				pPKP				13 19 12.3		
	comp=Z,1.8nm,1.0s,baz=307,slow=6.1,SNR=4.2									
AAK	**Ala-Archa**	**139.01**	**30**	*i* PKIKP		PKPdf		13 19 00.0	+1.6	
ULN	**Ulaanbaatar**	**140.44**	**353**	*e*PKIKP		PKPdf		13 18 59.5	-1.4	
SONM	**Songino Array**	**140.55**	**354**	PKhKP				13 18 57.4		
	comp=Z,2.0nm,0.7s,baz=322,slow=2.0,SNR=9.2									
WMQ	**Urumqi**	**143.09**	**16**	*e*PKP		PKPdf		13 19 07.0	+1.4	
FITZ	**Fitzroy Crossi**	**143.81**	**223**	*e*P		PKPbc		13 19 04.9	-1.6	
	comp=Z,13nm,0.9s									
HHC	**Hu-ho-hao-te**	**146.40**	**345**	*e*PKP		PKPdf		13 19 14.2	+2.8	
HHC				LR	LR					
	comp=N,120nm,14.3s,MS5.0									
HHC				LR	LR					
	comp=E,120nm,10.7s,MS5.0									
HHC				LR	LR					
	comp=Z,80nm,11.9s,MS4.7									
GTA	**Gaotai**	**149.26**	**1**	PKP		PKPdf		13 19 18.4	+2.3	
GTA				PKS	PKS			13 22 50.9	+0.9	
GTA				SKS	SKS			13 26 20.8	+3.1	
GTA				SKKS				13 29 41.6		
GTA				PP	PP					
	comp=Z,70nm,6.5s									
GTA				LR	LR					
	comp=N,90nm,8.7s									
GTA				LR	LR					
	comp=E,100nm,7.2s									
GTA				LR	LR					
	comp=Z,90nm,6.5s									
SSE	**Sheshan**	**150.51**	**322**	*e*PKP		PKPdf		13 19 17.0	-1.3	
LZH	**Lanzhou**	**152.44**	**354**	*e*PKP		PKPdf		13 19 26.0	+5.0	
LZH				APKP				13 19 40.3		
LZH				XPKP				13 19 45.6		
LZH				PKS	PKS			13 22 59.1	+4.6	
LZH				*e*PP	PP			13 23 19.2	+5.2	
LZH				SKKS				13 30 01.6		
LZH				*e*SS	SS			13 42 41.7	+4.4	
LZH				PP	PP					
	comp=Z,90nm,8.5s									
LZH				LR	LR					
	comp=N,180nm,18.3s									
LZH				LR	LR					
	comp=Z,280nm,20.0s,MS5.1									
GKN	**Gorkha**	**155.44**	**36**	*e*P		PKPab		13 19 54.1	+0.6	
	comp=Z,37nm,0.8s									
KKN	**Kakani**	**155.97**	**35**	*e*P		PKPab		13 19 56.5	+0.7	
PKI	**Pulchoki**	**156.22**	**35**	*e*P		PKPab		13 19 57.2	+0.3	
	comp=Z,27nm,0.8s									
GUN	**Gumba**	**156.22**	**34**	*e*P		PKPab		13 19 57.5	+0.6	
	comp=Z,57nm,1.0s									
JIRN	**Jiri**	**156.59**	**34**	*e*P		PKPab		13 19 59.4	+1.0	
	comp=Z,19nm,1.1s									
GYA	**Guiyang**	**161.30**	**343**	*e*PKP		PKPdf		13 19 34.1	+1.8	
GYA				PP	PP			13 24 01.6	-1.6	
GYA				SKKS				13 30 44.5		
GYA				PP	PP					
	comp=Z,120nm,7.8s									
GYA				LR	LR					
	comp=N,150nm,19.8s									
GYA				LR	LR					
	comp=E,190nm,20.8s									
GYA				LR	LR					
	comp=Z,160nm,21.0s									
KMI	**Kunming**	**163.40**	**353**	PKP		PKPdf		13 19 34.5	0.0	

*NEIC **06** 13:18:34.9±1.4, 13.09N×143.27E, h195km±16km, Error ellipse: s-maj=33.0km s-min=13.0km az=83.0*
*IDC **06** 13:18:34.5±1.4, 13.09N×143.28E, h188km±16km, mb3.6/8, mb1 3.8/8, mb1mx3.7/18, mbtmp4.1/8, Error ellipse: s-maj=30.9km s-min=12.8km az=77.0*

ISC 06 13:18:33.3±1.6, 13.1N±0.1×143.2E±0.2, h193km±18km, n12, σ0 84/14, mb3.8/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.71**	**72**	P	**P**	**13 19 09.4**	**+0.7**
	40nm,0.3s,baz=172,slow=7.1,SNR=58						
GUMO				S	**S**	**13 19 34.5**	**-1.6**
	168nm,0.3s,baz=356,slow=22,SNR=21						
GUMO	**Guam**	**1.71**	**72**	*e*Pn	**P**	**13 19 09.4**	**+0.6**
GUMO				*e*Sn	**S**	**13 19 36.5**	**+0.5**
MJAR	**Matsushiro Arr**	**23.81**	**350**	P	**P**	**13 23 29.0**	**-0.8**
	2.7nm,0.7s,mb4.0,baz=172,slow=10,SNR=4.9						
WB2	**Warramunga Arr**	**33.93**	**195**	*e*P	**P**	**13 25 00.1**	**-0.1**
WRA	**Warramunga Arr**	**33.93**	**195**	P	**P**	**13 25 00.1**	**-0.1**
	6.5nm,0.6s,mb4.3,baz=16,slow=9.3,SNR=94						
DZM	**Mont Dzumac**	**41.69**	**147**	P	**P**	**13 26 05.8**	**+0.9**
	4.2nm,0.4s,mb4.2,baz=246,slow=8.7,SNR=21						
STKA	**Stephens Creek**	**44.70**	**182**	P	**P**	**13 26 28.2**	**-0.8**
	2.7nm,0.5s,mb3.9,baz=25,slow=7.8,SNR=13						
SONM	**Songino Array**	**46.25**	**326**	P	**P**	**13 26 42.7**	**+1.9**
	0.9nm,0.6s,mb3.3,baz=152,slow=8.1,SNR=7.7						
MKAR	**Makanchi Array**	**60.75**	**317**	P	**P**	**13 28 26.5**	**-0.2**
	0.4nm,0.5s,mb3.3,baz=84,slow=6.0,SNR=6.0						
MKAR	**Makanchi Array**	**60.75**	**317**	P	**P**	**13 28 26.5**	**-0.2**
YKA	**Yellowknife Ar**	**84.07**	**27**	P	**P**	**13 30 43.4**	**+0.2**
	0.3nm,0.6s,mb3.2,baz=295,slow=5.5,SNR=4.6						
FINES	**FINESS Array B**	**90.95**	**335**	P	**P**	**13 31 15.2**	**-0.9**
	1.5nm,0.8s,mb4.0,SNR=5.5						

*IDC **06** 13:31:09.4±1.2,5.74N×92.86E,mb3.9/9,mb1 4.1/10, mb1mx3.9/19, mbtmp4.0/10, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.8/19, Error ellipse: s-maj=53.4km s-min=18.1km az=50.0*
*NEIC **06** 13:31:14.1±0.7,5.76N×92.93E,h30km,mb4.3/1, Error ellipse: s-maj=20.8km s-min=7.7km az=221.0*

ISC 06 13:31:12.8±0.9, 5.7N±0.2×93.0E±0.1, h33km, n16, σ0 96/16, mb3.9/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.58**	**116**	Pn	**Pn**	**13 32 50.4**	**+0.5**
	2.4nm,0.3s,baz=328,slow=14,SNR=6.8						
PSI				Sn	**Sn**	**13 34 03.7**	**-0.8**
	1.9nm,0.3s,baz=172,slow=23,SNR=3.9						
PSI				LR	LR	13 35 29.7	
	comp=Z,114nm,18.6s,baz=134,slow=38						
KULM	**Kulim**	**7.61**	**93**	*e*Pn	**Pn**	**13 33 03.5**	**-0.9**
HYB	**Hyderabad**	**18.29**	**311**	*i* P		13 35 35.5	
KKM	**Kota Kinabalu**	**23.08**	**88**	P	**P**	**13 36 19.7**	**+2.9**
LSA	**Lhasa**	**23.89**	**356**	*e*P	**P**	**13 36 26.0**	**+1.5**
	8.0nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**41.93**	**349**	P	**P**	**13 39 01.6**	**-0.4**
	0.8nm,0.7s,mb3.5,baz=171,slow=8.3,SNR=7.9						
SONM	**Songino Array**	**43.48**	**13**	P	**P**	**13 39 14.2**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=193,slow=7.1,SNR=6.6						
SONM				PcP	PcP	13 41 03.1	+0.2
	0.6nm,0.5s,baz=204,slow=2.4,SNR=5.7						
WRA	**Warramunga Arr**	**47.99**	**123**	P	**P**	**13 39 51.8**	**+0.9**
	3.4nm,0.7s,mb4.5,baz=302,slow=9.1,SNR=22						
WB2	**Warramunga Arr**	**48.00**	**123**	*e*P	**P**	**13 39 51.6**	**+0.6**
ZAL	**Zalesovo**	**48.51**	**354**	P	**P**	**13 39 54.3**	**-0.1**
	0.9nm,0.5s,mb4.1,baz=297,slow=8.2,SNR=4.7						
STKA	**Stephens Creek**	**59.48**	**132**	P	**P**	**13 41 14.8**	**-0.5**
	1.3nm,0.5s,mb4.2,baz=334,slow=5.2,SNR=4.8						
STKA	**Stephens Creek**	**59.48**	**132**	P	**P**	**13 41 14.8**	**-0.5**
AKASG	**Malin Array Be**	**69.13**	**322**	P	**P**	**13 42 15.9**	**-1.9**
	0.7nm,0.6s,mb3.8,baz=96,slow=5.2,SNR=4.2						
FINES	**FINESS Array B**	**74.07**	**333**	P	**P**	**13 42 46.5**	**-0.6**
	1.1nm,0.8s,mb3.9,baz=45,slow=5.4,SNR=5.2						
ARCES	**ARCESS Array B**	**76.88**	**341**	P	**P**	**13 43 03.0**	**0.0**
	1.8nm,0.8s,mb4.1,baz=90,slow=6.1,SNR=5.9						
GERES	**GERESS Array B**	**78.67**	**319**	P	**P**	**13 43 14.0**	**+0.7**
	0.6nm,0.5s,mb3.8,baz=90,slow=4.0,SNR=6.7						

*CASC **06** 13:36:18.5±2.2, 12.51N×87.57W, h70km±21km, MD4.1, ML4.0, mb3.9(NEIC)*
*IDC **06** 13:36:24.7±7.3, 12.95N×87.41W, h119km±85km, mb3.3/5, mb1 3.5/6, mb1mx3.3/21, mbtmp3.8/6, ML2.7/1, Error ellipse: s-maj=70.3km s-min=33.6km az=29.0*
*NEIC **06** 13:36:25.6±3.1, 12.92N×87.44W, h131km±33km, mb3.9/1, Error ellipse: s-maj=33.6km s-min=14.4km az=224.0*

ISC 06 13:36:17.8±0.4, 12.61N±0.08×87.48W±0.06, h89km±4km, n39, σ0 80/59, mb3.5/5, 7C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.43**	**78**	*e*P	**P**	**13 36 32.5**	**+0.4**
CRIN				*e*S	**S**	**13 36 43.1**	**+0.4**
LEON	**Leon**	**0.61**	**108**	*e*P	**P**	**13 36 32.4**	**-1.2**
LEON				*e*S	**S**	**13 36 44.9**	**-0.3**
TEL3	**Telica 3**	**0.62**	**93**	*e*P	**P**	**13 36 33.5**	**-0.2**
TELN	**Telica**	**0.64**	**90**	*e*P	**P**	**13 36 33.7**	**-0.2**
TELN				*e*S	**S**	**13 36 46.6**	**+0.8**
CNCH	**Conchagua**	**0.74**	**333**	*e*P	**P**	**13 36 34.9**	**0.0**
CNCH				*e*S	**S**	**13 36 47.1**	**-0.5**
MIRN	**Miramar**	**0.77**	**103**	*e*P	**P**	**13 36 34.9**	**-0.3**
CNGN	**Cerro Negro**	**0.77**	**98**	*e*P	**P**	**13 36 35.2**	**-0.1**
CNGN				*e*S	**S**	**13 36 49.4**	**+1.3**
MOMJ	**Momotombo**	**0.94**	**102**	*e*P	**P**	**13 36 37.1**	**+0.1**
MOMJ				*e*S	**S**	**13 36 51.4**	**0.0**
COPN	**Copaltepe**	**0.97**	**116**	*e*P	**P**	**13 36 36.9**	**-0.5**
COPN				*e*S	**S**	**13 36 50.7**	**-1.3**
BLLM	**Bellamira**	**1.11**	**318**	*e*P	**P**	**13 36 39.1**	**+0.1**
BLLM				*e*S	**S**	**13 36 54.1**	**-0.8**
VSM	**San Miguel**	**1.12**	**317**	*e*P	**P**	**13 36 39.4**	**+0.2**
VSM				*e*S	**S**	**13 36 55.8**	**+0.7**
XAVN	**Gruta Xavier**	**1.22**	**112**	*e*P	**P**	**13 36 40.7**	**+0.3**
XAVN				*e*S	**S**	**13 36 56.9**	**-0.4**
MGAN	**Managua**	**1.29**	**111**	*e*P	**P**	**13 36 41.8**	**+0.4**
MGAN				*e*S	**S**	**13 36 59.0**	**0.0**
MGAN				*i*		13 36 59.4	
	comp=N,2μm,0.4s						
WILN	**Americas 2**	**1.34**	**109**	*e*P	**P**	**13 36 42.3**	**+0.3**
WILN				*e*S	**S**	**13 37 00.5**	**+0.5**
TICN	**Ticuantepe**	**1.35**	**115**	*e*P	**P**	**13 36 42.4**	**+0.3**
TICN				*e*S	**S**	**13 36 59.6**	**-0.5**
MASN	**Masaya**	**1.44**	**115**	*e*P	**P**	**13 36 43.3**	**+0.1**
MASN				*e*S	**S**	**13 37 02.0**	**0.0**
APON	**Apoyo**	**1.55**	**116**	*e*P	**P**	**13 36 45.1**	**+0.5**
APON				*e*S	**S**	**13 37 04.5**	**+0.2**
SNVI	**San Vicente**	**1.65**	**307**	*e*P	**P**	**13 36 45.8**	**-0.1**
SNVI				*e*S	**S**	**13 37 06.2**	**-0.6**
LFRS	**El Faro**	**1.84**	**303**	*e*P	**P**	**13 36 47.8**	**-0.5**
LFRS				*e*S	**S**	**13 37 10.1**	**-0.8**
SSNN	**San Juan del S**	**2.07**	**129**	*e*P	**P**	**13 36 50.7**	**-0.8**
SSNN				*e*S	**S**	**13 37 14.9**	**-1.4**
BOQS	**Boqueron**	**2.08**	**303**	*e*P	**P**	**13 36 51.7**	**+0.1**
BOQS				*e*S	**S**	**13 37 16.6**	**+0.1**
CONN	**Concepcion**	**2.09**	**120**	*e*P	**P**	**13 36 51.5**	**-0.3**
CONN				*e*S	**S**	**13 37 17.9**	**+0.9**
MADN	**Villa Maderas**	**2.25**	**122**	*e*P	**P**	**13 36 52.9**	**-1.1**
RTR	**El Retiro**	**2.46**	**302**	*e*P	**P**	**13 36 57.0**	**0.0**
RTR				*e*S	**S**	**13 37 28.0**	**+1.8**
RIN3	**Volcan Rincon**	**2.74**	**131**	*e*P	**P**	**13 37 02.0**	**+1.2**
CAO	**Cobano**	**3.72**	**141**	*e*P	**P**	**13 37 13.8**	**-0.5**
EPA	**Esparza**	**3.85**	**132**	*e*P	**P**	**13 37 18.6**	**+2.4**
PRS1	**Puriscal**	**4.06**	**130**	*e*P	**P**	**13 37 18.8**	**+1.8**
LAJ	**Bijagual**	**4.28**	**129**	*e*P	**P**	**13 37 20.3**	**-1.8**
LCR2	**La Lucha 2**	**4.45**	**129**	*e*P	**P**	**13 37 24.1**	**-0.2**
ACR	**Cerro Adams**	**5.78**	**132**	*i*P	**P**	**13 37 43.6**	**+1.0**
ROSC	**El Rosal**	**15.10**	**120**	P	**P**	**13 39 53.9**	**+6.2**
	comp=N,0.7nm,0.3s,baz=277,slow=23,SNR=3.1						
SDV	**Santo Domingo**	**16.96**	**101**	Pn	**P**	**13 40 15.7**	**+4.7**
	comp=N,3.8nm,0.6s						
TXAR	**Lajitas Array**	**22.43**	**320**	P	**P**	**13 41 11.3**	**+1.2**
	comp=N,0.5nm,0.5s,mb3.1,baz=135,slow=10,SNR=5.5						
ANMO	**Albuquerque**	**28.11**	**325**	P	**P**	**13 42 04.6**	**+1.1**
	comp=N,0.4nm,0.5s,mb3.2,baz=340,slow=8.4,SNR=2.6						
ULM	**Ulm du Bonnet**	**38.16**	**351**	P	**P**	**13 43 29.0**	**-1.0**
	comp=N,1.6nm,0.7s,mb4.0,baz=156,slow=10.0,SNR=3.3						
SCHQ	**Schefferville**	**45.13**	**17**	P	**P**	**13 44 26.6**	**-0.5**
	comp=N,3.5nm,0.8s,mb4.1,baz=212,slow=9.5,SNR=6.2						
YKA	**Yellowknife Ar**	**53.45**	**345**	P	**P**	**13 45 29.5**	**-1.3**
	comp=N,0.1nm,0.5s,mb3.1,baz=142,slow=7.0,SNR=4.3						
WRA	**Warramunga Arr**	**139.28**	**254**	PKP	PKPdf	13 55 38.2	+2.7
	comp=N,0.5nm,0.8s,baz=89,slow=2.7,SNR=6.2						

PRE 06 13:43:50.6±1.5, 33.21S×26.03E, h5km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKA	**Prieska**	**4.51**	**321**	*e*S	Sn	13 45 32.4	-22
CVNA	**Calvinia**	**5.58**	**286**	*e*S	Sn	13 46 16.1	-5.6
CVNA				AML	AML	13 46 26.2	
	comp=Z,27nm,0.3s						
CER	**Ceres**	**5.65**	**267**	*e*P	Pn	13 45 54.3	+37
CER				*e*S	Sn	13 46 18.7	-4.6
CER				AML	AML	13 46 32.0	
	comp=Z,17nm,0.6s						
SWZ	**Schweizer**	**6.04**	**354**	*e*P	Pn	13 46 07.2	+44
SWZ				*e*S	Sn	13 46 23.8	-9.5
UPI	**Upington**	**6.35**	**318**	*e*P	Pn	13 45 25.5	-1.6
UPI				*e*S	Sn	13 46 35.5	-5.4
UPI				AML	AML	13 46 50.5	
	comp=Z,11nm,0.3s						

*NEIC **06** 13:44:42.4±19.0, 35.55N×6.49W, h35km, MG3.8(MDD), Error ellipse: s-maj=223.0km s-min=25.1km az=5.0*

MDD 06 13:44:04.3±4.4, 32.90N×6.64W, mb3.8/1, Error ellipse: s-maj=59.7km s-min=39.1km az=98.0, PRXIMO SIN SOLUCIN, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**4.67**	**352**	P	Pn	13 45 15.6	-2.2
	SNR=9.5						
EGRO				S	Sn	13 46 07.2	-6.4
	1.8nm,0.4s,SNR=4.0						
EGRO	**El Granado**	**4.67**	**352**	P	Pn	13 45 15.6	-2.2
	0.8nm,0.1s,SNR=9.5						
EGRO				S	Sn	13 46 07.2	-6.4
	1.8nm,0.4s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.86**	**360**	P	Pn	13 45 17.3	-3.0
	1.0nm,0.2s,SNR=7.2						
EMIN				S	Sn	13 46 10.7	-7.4
	0.1nm,0.1s						
EMIN	**Mina Concepcio**	**4.86**	**360**	P	Pn	13 45 17.3	-3.0
	1.0nm,0.2s,SNR=7.2						
EMIN				S	Sn	13 46 10.7	-7.4
	0.1nm,0.1s						
ECAB	**El Cabril**	**5.26**	**11**	P	Pn	13 45 21.9	-4.1
	0.6nm,0.1s,SNR=7.9						
ECAB				S	Sn	13 46 20.9	-7.4
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.26**	**11**	P	Pn	13 45 21.9	-4.1
	0.6nm,0.1s,SNR=7.9						
ECAB				S	Sn	13 46 20.9	-7.3
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.52**	**17**	P	Pn	13 45 27.4	-2.2
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	13 46 27.0	-7.7
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.85**	**357**	P	Pn	13 45 30.3	-4.0
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.85**	**357**	P	Pn	13 45 30.3	-4.0
EBAD				S	Sn	13 46 23.6	-20
EBAD	**Badajoz**	**5.85**	**357**	P	Pn	13 45 30.3	-4.1
	0.5nm,0.1s,SNR=7.9						
ESLA	**Sonseca Array**	**7.10**	**17**	Pn	Pn	13 45 50.5	-1.4

WEL 06 13:44:25.7±0.1, 39.68S×175.73E, h16km±1km, ML3.5/33, 5C-15D, Error ellipse: s-maj=0.7km s-min=0.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.27**	**4**	P	Pb	13 44 31.4	-0.4
MOVZ				S	Sb	13 44 35.6	-0.3
MTVZ	**Mangateitei**	**0.36**	**326**	P	Pb	13 44 33.0	-0.2
MTVZ				S	Sb	13 44 38.6	+0.4
WNVZ	**Wahianoa**	**0.37**	**344**	P	Pb	13 44 33.2	-0.2
WNVZ				S	Sb	13 44 37.9	-0.6
TRVZ	**Turoa**	**0.41**	**340**	P	Pb	13 44 33.9	-0.2
TRVZ				S	Sb	13 44 39.2	-0.5
TUVZ	**Tukino**	**0.42**	**352**	P	Pb	13 44 34.1	-0.1
TUVZ				S	Sb	13 44 39.0	-1.0
TSZ	**Takapari Road**	**0.42**	**155**	P	Pb	13 44 34.0	-0.3
TSZ				S	Sb	13 44 40.1	0.0
DRZ	**Dome Shelter**	**0.42**	**343**	P	Pb	13 44 34.1	-0.2
FWVZ	**Far West T-bar**	**0.45**	**342**	P	Pb	13 44 34.4	-0.3
FWVZ				S	Sb	13 44 40.6	-0.3
PKVZ	**Pokaka**	**0.49**	**323**	P	Pb	13 44 35.1	-0.4
PKVZ				S	Sb	13 44 41.9	-0.2
WPVZ	**Whakapapa**	**0.50**	**344**	P	Pb	13 44 35.4	-0.2
WPVZ				S	Sb	13 44 42.3	0.0
CNZ	**Chateau**	**0.50**	**344**	P	Pb	13 44 35.5	-0.2
NGZ	**Ngauruhoe**	**0.51**	**349**	P	Pb	13 44 35.6	-0.3
OTVZ	**Oturere**	**0.52**	**355**	P	Pb	13 44 35.7	-0.2
OTVZ				S	Sb	13 44 42.6	-0.4
WTVZ	**West Tongariro**	**0.57**	**349**	P	Pb	13 44 36.7	-0.2
WTVZ				S	Sb	13 44 43.9	-0.7
WAZ	**Wanganui**	**0.58**	**262**	P	Pb	13 44 36.7	-0.3
WAZ				S	Sb	13 44 45.1	+0.5
KRVZ	**Karewarewa**	**0.59**	**353**	P	Pb	13 44 36.9	-0.3
TWVZ	**Taurewa**	**0.65**	**340**	P	Pb	13 44 37.7	-0.5
KATZ	**Kakaramea**	**0.70**	**358**	P	Pb	13 44 39.0	-0.2
RIZ	**Rihia Road**	**0.71**	**8**	P	Pb	13 44 38.9	-0.3
BKZ	**Black Stump Fm**	**0.79**	**49**	P	Pb	13 44 39.9	-0.7
RATZ	**Rangitukua**	**0.81**	**2**	P	Pb	13 44 41.0	0.0
HATZ	**Hinemaiaia**	**0.84**	**20**	P	Pb	13 44 40.8	-0.6
VRZ	**Vera Road**	**0.93**	**306**	P	Pb	13 44 42.7	-0.4
PXZ	**Pawanui**	**0.94**	**112**	P	Pb	13 44 44.2	+1.0
WATZ	**Wairara**	**0.97**	**0**	P	Pb	13 44 43.7	0.0
MRZ	**Mangatainoka R**	**0.99**	**187**	P	Pb	13 44 43.4	-0.5
WHTZ	**Whakaora**	**1.03**	**10**	P	Pb	13 44 45.3	+0.6
BFZ	**Birch Farm**	**1.07**	**158**	P	Pb	13 44 46.0	+0.6
RAEZ	**Rainy Point**	**1.10**	**290**	P	Pb	13 44 45.6	-0.4
NEZ	**North Egmont**	**1.33**	**287**	PN	Pn	13 44 49.6	-0.2
KIW	**Kapiti Island**	**1.33**	**208**	PN	Pn	13 44 48.5	-1.4
HIZ	**Hauiti**	**1.35**	**330**	PN	Pn	13 44 48.9	-1.2
NRZ	**Ngariki Road**	**1.43**	**283**	PN	Pn	13 44 50.7	-0.5
MTW	**Mount Morrison**	**1.48**	**187**	PN	Pn	13 44 50.9	-1.1
CAW	**Cannon Point**	**1.51**	**199**	PN	Pn	13 44 51.7	-0.7
PAWZ	**Paruwai Farm**	**1.71**	**188**	PN	Pn	13 44 53.9	-1.4
MRW	**Makara Radio**	**1.73**	**207**	PN	Pn	13 44 54.7	-0.9
WEL	**Wellington**	**1.76**	**204**	PN	Pn	13 44 55.0	-1.0
MSWZ	**Moikau Station**	**1.77**	**192**	PN	Pn	13 44 54.5	-1.6
DUWZ	**D'Urville Isla**	**1.78**	**230**	PN	Pn	13 44 54.6	-1.6
URZ	**Urewera**	**1.78**	**38**	PN	Pn	13 44 56.0	-0.3
SNZO	**South Karori**	**1.80**	**205**	PN	Pn	13 44 55.4	-1.2
BHW	**Baring Head**	**1.84**	**200**	PN	Pn	13 44 55.7	-1.4
TCW	**Tory Channel**	**1.89**	**215**	PN	Pn	13 44 56.7	-1.0
TOZ	**Tahuroa Road**	**1.96**	**355**	PN	Pn	13 45 00.6	+1.8
TUWZ	**Tuamarina**	**2.21**	**217**	PN	Pn	13 45 01.1	-1.4
NNZ	**Nelson**	**2.36**	**229**	PN	Pn	13 45 03.6	-0.9
QRZ	**Quartz Range**	**2.70**	**244**	PN	Pn	13

WATA				Sg		Sg	13 54 42.4	+0.5	
	8.6nm,0.1s								
CTI	**Castel Tesino**	**0.91**	**135**	Pg		Pg	13 54 31.0	-0.3	
CTI				Sg		Sg	13 54 44.8	+1.2	
	101nm,0.2s								
TUE	**Stuetta**	**0.98**	**257**	Pg		Pg	13 54 32.0	-0.6	
TUE				Sg		Sg	13 54 45.8	+0.2	
	25nm,0.2s								
FAU	**Forcella Aurin**	**0.99**	**118**	⇑*i*Pg		Pg	13 54 32.8	0.0	
FAU				*i* Sg		Sg	13 54 45.6	-0.4	
SEST	**Monte Rota**	**1.03**	**87**	Pg		Pg	13 54 33.7	+0.1	
SEST				Sg		Sg	13 54 48.0	+0.7	
	111nm,0.3s								
CGRP	**Cima Grappa**	**1.11**	**137**	*e*Pg		Pg	13 54 35.5	+0.3	
CGRP				*e*Sg		Sg	13 54 50.3	+0.3	
CSMI	**Casera Mimoias**	**1.34**	**97**	*e*Pg		Pg	13 54 39.7	-0.1	
CSMI				*e*Sg		Sg	13 54 57.8	0.0	
FVI	**Forni Avoltri**	**1.42**	**93**	Pg		Pg	13 54 40.6	-0.8	
FVI				Sg		Sg	13 55 01.2	+0.8	
	36nm,0.2s								
TEOL	**Teolo**	**1.49**	**153**	⇑*e*Pg		Pg	13 54 42.6	-0.2	
TEOL				*e*Sg		Sg	13 55 02.9	+0.1	
ZOU	**Zoufplan**	**1.56**	**94**	⇓*e*Pg		Pg	13 54 42.9	-1.2	
ZOU				*e*Sg		Sg	13 55 04.2	-0.7	
PLRO	**Paularo**	**1.68**	**94**	⇓*e*Pg		Pg	13 54 45.0	-1.5	
PLRO				*e*Sg		Sg	13 55 07.8	-1.1	
KBA	**Koelnbreinsper**	**1.84**	**77**	⇑*e*Pg		Pg	13 54 48.8	-0.9	
	comp=Z,13nm,0.2s,SNR=8.2								
KBA	**Koelnbreinsper**	**1.84**	**77**	⇑*e*Pg		Pg	13 54 48.8	-0.9	
KBA				Sg		Sg	13 55 13.7	-0.5	
KBA	**Koelnbreinsper**	**1.84**	**77**	Pg		Pg	13 54 48.8	-0.9	
	13nm,0.2s,SNR=8.2								
KBA				Sg		Sg	13 55 13.7	-0.5	
	9.6nm,0.2s								
MOA	**Molln**	**2.67**	**63**	⇑Pn		Pn	13 55 02.5	+5.6	
	comp=Z,0.2nm,0.1s								
MOA				⇓*i*Pg		Pg	13 55 04.0	-2.3	
	comp=Z,2.3nm,0.2s								
MOA	**Molln**	**2.67**	**63**	⇑Pn		Pn	13 55 02.5	+5.6	
MOA				⇓Pg		Pg	13 55 04.0	-2.3	
MOA				Sg		Sg	13 55 41.8	-0.2	
MOA	**Molln**	**2.67**	**63**	Pg		Pg	13 55 04.0	-2.4	
	2.3nm,0.2s								
MOA				Sg		Sg	13 55 41.8	-0.2	
	5.5nm,0.3s								
KHC	**Kasperske Hory**	**3.10**	**37**	*e*PG		Pg	13 55 11.8	-3.1	
KHC				*e*SN		Sn	13 55 43.6	+3.2	
KHC				*e*SG		Sg	13 55 53.1	-3.1	

*IDC **06** 14:32:17.0±0.9,3.41S×100.91E,mb4.1/7,mb1 4.3/7, mb1mx4.0/17,mbtmp4.1/7,MS3.3/1,Ms1 3.3/1, ms1mx2.6/14,Error ellipse: s-maj=35.9km s-min=20.5km az=53.0*

*NEIC **06** 14:32:21.6±0.7,3.43S×100.91E,h30km,Error ellipse: s-maj=17.4km s-min=13.1km az=61.0*

ISC 06 14:32:18.9±8.7,3.4S±0.2×100.9E±0.2,h22km±61km,n17, σ1§07/15,mb4.4/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.51**	**342**	LR	LR	14 36 59.2	
	comp=Z,231nm,19.2s,baz=196,slow=44						
KULM	**Kulim**	**8.66**	**358**	*e*Pn	P	14 34 25.3	-0.7
KULM				*ep*Pn		14 34 32.8	
KKM	**Kota Kinabalu**	**17.92**	**58**	P	P	14 36 29.5	+0.9
JIRN	**Jiri**	**34.02**	**336**	*e*P	P	14 39 03.6	0.0
	12nm,0.6s,mb5.0						
GUN	**Gumba**	**34.37**	**336**	*e*P	P	14 39 06.7	+0.1
	17nm,0.5s,mb5.3						
KKN	**Kakani**	**34.51**	**335**	*e*P	P	14 39 09.0	+1.2
GKN	**Gorkha**	**34.97**	**334**	*e*P	P	14 39 13.2	+1.4
KOLN	**Koldanda**	**35.23**	**333**	*e*P	P	14 39 19.0	+5.0
WRA	**Warramunga Arr**	**36.47**	**119**	P	P	14 39 24.0	-0.5
	0.8nm,0.4s,mb4.0,baz=304,slow=8.8,SNR=22						
STKA	**Stephens Creek**	**47.50**	**131**	P	P	14 40 54.8	+0.2
	2.9nm,0.6s,mb4.5,baz=307,slow=9.8,SNR=7.2						
SONM	**Songino Array**	**51.27**	**5**	P	P	14 41 22.9	-0.4
	2.4nm,0.6s,mb4.3,baz=186,slow=9.8,SNR=24						
MKAR	**Makanchi Array**	**52.65**	**344**	P	P	14 41 32.2	-1.5
	1.1nm,0.7s,mb3.9,baz=159,slow=8.5,SNR=14						
ZAL	**Zalesovo**	**58.73**	**349**	P	P	14 42 15.3	-2.0
	0.8nm,0.5s,mb4.0,baz=333,slow=6.5,SNR=3.9						
MATP	**Matopo**	**72.36**	**250**	P	P	14 43 45.0	-0.6
	1.8nm,0.6s,mb4.2,baz=109,slow=3.4,SNR=5.6						
MATP	**Matopo**	**72.36**	**250**	P	P	14 43 45.0	-0.7
MLR	**Muntele Rosu**	**81.98**	**317**	P	P	14 44 40.6	+2.0
	2.2nm,0.6s,mb4.3,baz=202,slow=7.5,SNR=3.9						
TXAR	**Lajitas Array**	**145.22**	**40**	PKPbc	PKPbc	14 51 56.6	+0.6
	1.0nm,0.6s,baz=313,slow=2.1,SNR=4.0						

*NEIC **06** 14:33:36.6,46.67N×10.70E,h15km,MD2.6(ROM), ML2.7(LDG),ML2.4(ZUR),After ROM.*

*ZUR **06** 14:33:36.9,46.68N×10.70E,h10km,ML2.5/4*

*ROM **06** 14:33:36.6±0.2,46.67N×10.70E,h15km±6km,Md2.6/9, Ml2.4/7,Error ellipse: s-maj=3.4km s-min=1.8km az=179.0*

*VIE **06** 14:33:37.4±0.4,46.71N×10.71E,h6km,mb1.8/2,ML2.6/5, Error ellipse: s-maj=2.9km s-min=0.9km az=164.0*

*PRU **06** 14:33:38.8,46.76N×10.73E*

*LDG **06** 14:33:40.3±0.2,46.91N×11.00E,h10km,Ml2.7/8,Error ellipse: s-maj=3.5km s-min=1.8km az=81.0*

*CSEM **06** 14:33:40.0±0.1,46.72N×10.99E,h12km,ML2.9/10*

ISC 06 14:33:37.0±0.2,46.71N±0.02×10.75E±0.02,h10km,n73, σ1§14/120,19C-7D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRMO	**Bormio**	**0.35**	**229**	Pg	Pg	14 33 43.7	-0.5
BRMO				Sg	Sg	14 33 47.9	-1.1
	440nm,0.2s						
FUORN	**Ofenpass**	**0.35**	**256**	Pg	Pg	14 33 43.7	-0.5
FUORN				Sg	Sg	14 33 49.9	+1.0
FUORN	**Ofenpass**	**0.35**	**256**	⇑*i*Pg	Pg	14 33 43.7	-0.5
FUORN				*e*Sg	Sg	14 33 48.5	-0.4
APPI	**Appiano**	**0.40**	**125**	Pg	Pg	14 33 46.1	+1.0
APPI				Sg	Sg	14 33 51.8	+1.3
	390nm,0.3s						
BERNI	**Berninapass**	**0.58**	**240**	⇑*i*Pg	Pg	14 33 47.8	-0.9
BERNI				*e*Sg	Sg	14 33 54.9	-1.7
SQTA	**Sankt Quirin**	**0.60**	**31**	*e*Pg	Pg	14 33 49.9	+0.8
	comp=Z,65nm,0.1s,SNR=69						
SQTA	**Sankt Quirin**	**0.60**	**31**	*e*Pg	Pg	14 33 49.9	+0.8
SQTA				Sg	Sg	14 33 57.9	+0.7
SQTA	**Sankt Quirin**	**0.60**	**31**	Pg	Pg	14 33 49.9	+0.8
	65nm,0.1s,SNR=69						
SQTA				Sg	Sg	14 33 57.9	+0.7
	96nm,0.2s						
DAVOX	**Davos**	**0.61**	**277**	Pg	Pg	14 33 48.4	-0.8
DAVOX				Sg	Sg	14 33 56.5	-0.9
DAVOX	**Davos**	**0.61**	**277**	⇑*i*Pg	Pg	14 33 48.4	-0.8
DAVOX				*e*Sg	Sg	14 33 56.2	-1.2
MABI	**Malga Bissina**	**0.67**	**194**	Pg	Pg	14 33 50.0	-0.5
MABI				Sg	Sg	14 33 58.6	-0.9
	85nm,0.2s						
BRES	**Bressanone**	**0.68**	**90**	Pg	Pg	14 33 51.2	+0.6
BRES				Sg	Sg	14 34 00.9	+1.3
	177nm,0.3s						
MOTA	**Moosalm**	**0.68**	**20**	⇑*e*Pg	Pg	14 33 51.3	+0.5
	comp=Z,21nm,0.1s,SNR=52						
MOTA	**Moosalm**	**0.68**	**20**	⇑*e*Pg	Pg	14 33 51.3	+0.5
MOTA				Sg	Sg	14 34 00.3	+0.4
MOTA	**Moosalm**	**0.68**	**20**	Pg	Pg	14 33 51.3	+0.6
	21nm,0.1s,SNR=52						
MOTA				Sg	Sg	14 34 00.3	+0.4
	41nm,0.2s						
SCE	**Schlegeis**	**0.74**	**63**	⇑*i*Pg	Pg	14 33 51.9	+0.1
SCE				*i* Sg	Sg	14 34 02.1	+0.4
WTTA	**Wattenberg**	**0.82**	**47**	⇑*e*Pg	Pg	14 33 53.7	+0.2
	comp=Z,15nm,0.1s,SNR=7.4						
WTTA	**Wattenberg**	**0.82**	**47**	⇑*e*Pg	Pg	14 33 53.7	+0.2
WTTA				Sg	Sg	14 34 05.7	+1.1
WTTA	**Wattenberg**	**0.82**	**47**	Pg	Pg	14 33 53.7	+0.2
	15nm,0.1s,SNR=7.4						
WTTA				Sg	Sg	14 34 05.7	+1.2
	22nm,0.2s						
DAVA	**Damuels**	**0.83**	**315**	⇑Pg	Pg	14 33 52.9	-0.8
	comp=Z,8.5nm,0.2s						
DAVA	**Damuels**	**0.83**	**315**	⇓*i*Sg	Sg	14 34 04.7	-0.2
	comp=E,46nm,0.3s						
DAVA	**Damuels**	**0.83**	**315**	⇑Pg	Pg	14 33 52.9	-0.8
DAVA				Sg	Sg	14 34 04.7	-0.3
WATA	**Walderalm**	**0.84**	**41**	⇑*e*Pg	Pg	14 33 54.2	+0.3
	comp=Z,36nm,0.2s,SNR=25						
WATA	**Walderalm**	**0.84**	**41**	⇑*i*Sg	Sg	14 34 06.0	+0.7
	comp=Z,13nm,0.1s						
WATA	**Walderalm**	**0.84**	**41**	⇑*e*Pg	Pg	14 33 54.2	+0.3
WATA				Sg	Sg	14 34 06.0	+0.7
WATA	**Walderalm**	**0.84**	**41**	Pg	Pg	14 33 54.2	+0.3
	36nm,0.2s,SNR=25						
WATA				Sg	Sg	14 34 06.0	+0.7
	13nm,0.1s						
CTI	**Castel Tesino**	**0.90**	**136**	Pg	Pg	14 33 55.1	0.0
CTI				Sg	Sg	14 34 08.2	+1.0
	178nm,0.2s						
VDL	**Val di Lei**	**0.91**	**257**	*e*Pg	Pg	14 33 53.5	-1.8
FAU	**Forcella Aurin**	**0.97**	**119**	⇑*i*Pg	Pg	14 33 56.4	0.0
AFL	**Alpe Faloria**	**1.00**	**100**	⇑*e*Pg	Pg	14 33 56.6	-0.4
TUE	**Stuetta**	**1.00**	**257**	Pg	Pg	14 33 55.3	-1.7
TUE				Sg	Sg	14 34 09.4	-0.9
	32nm,0.2s						
SEST	**Monte Rota**	**1.01**	**87**	Pg	Pg	14 33 57.2	0.0
SEST				Sg	Sg	14 34 11.7	+1.1
CGRP	**Cima Grappa**	**1.10**	**138**	*e*Pg	Pg	14 33 59.4	+0.5
CGRP				*e*Sg	Sg	14 34 13.9	+0.2
CSO	**Casso**	**1.17**	**111**	⇓*e*Pg	Pg	14 34 00.0	-0.3
CSO				*e*Sg	Sg	14 34 16.2	+0.2
MTLO	**Montello**	**1.29**	**133**	⇓*e*Pg	Pg	14 34 03.0	+0.2
MTLO				*e*Sg	Sg	14 34 21.3	+1.3
CSMI	**Casera Mimoias**	**1.32**	**98**	*e*Pg	Pg	14 34 03.1	-0.3
CSMI				*e*Sg	Sg	14 34 21.2	+0.1
CAE	**Caneva**	**1.36**	**120**	*e*Pg	Pg	14 34 04.8	+0.6
CAE				*e*Sg	Sg	14 34 23.8	+1.5
FVI	**Forni Avoltri**	**1.40**	**94**	Pg	Pg	14 34 04.1	-0.9
	65nm,0.2s						
TEOL	**Teolo**	**1.49**	**154**	*e*Pg	Pg	14 34 06.4	-0.3
TEOL				*e*Sg	Sg	14 34 26.0	-0.6
ZOU	**Zoufplan**	**1.54**	**95**	⇓*i*Pg	Pg	14 34 06.5	-1.1
ZOU				*i* Sg	Sg	14 34 27.7	-0.6
PLRO	**Paularo**	**1.66**	**95**	⇓*e*Pg	Pg	14 34 08.6	-1.5
PLRO				*e*Sg	Sg	14 34 31.4	-0.8
BAD	**Bernadia**	**1.78**	**104**	*e*Pg	Pg	14 34 11.5	-1.1
BAD				*e*Sg	Sg	14 34 35.4	-1.0
KBA	**Koelnbreinsper**	**1.82**	**77**	⇑*i*Pg	Pg	14 34 12.0	-1.3
	comp=Z,18nm,0.2s						
KBA	**Koelnbreinsper**	**1.82**	**77**	⇑Pg	Pg	14 34 11.9	-1.3
KBA				Sg	Sg	14 34 36.4	-1.1
KBA	**Koelnbreinsper**	**1.82**	**77**	Pg	Pg	14 34 12.0	-1.3
	18nm,0.2s						
KBA				Sg	Sg	14 34 36.4	-1.1
	11nm,0.2s						
VOY	**Vojsko**	**2.28**	**106**	*e*Pn	Pn	14 34 19.9	+4.7
VOY				*e*Sn	Sn	14 34 50.0	+6.5
OBKA	**Obir**	**2.62**	**93**	⇑*i*Pg	Pg	14 34 26.7	-2.7
	comp=Z,4.9nm,0.3s						
OBKA	**Obir**	**2.62**	**93**	⇑Pg	Pg	14 34 26.7	-2.7
OBKA				Sg	Sg	14 35 01.3	-3.1
OBKA	**Obir**	**2.62**	**93**	Pg	Pg	14 34 26.7	-2.7
	4.9nm,0.3s						
OBKA				Sg	Sg	14 35 01.3	-3.1
	14nm,0.5s						
MOA	**Molln**	**2.65**	**63**	⇑*e*Pg	Pg	14 34 27.7	-2.3
	comp=Z,3.7nm,0.3s,SNR=8.2						
MOA	**Molln**	**2.65**	**63**	⇓*i*Sg	Sg	14 35 03.9	-1.3
	comp=N,6.8nm,0.2s						
HINF	**Hinteralfeld**	**2.88**	**294**	*e*Pn	Pn	14 34 26.3	+2.5
HINF				*e*Sn	Sn	14 34 59.1	+0.2
	7.4nm,0.3s						
CDF	**Champ du Feu**	**2.91**	**307**	*e*Pn	Pn	14 34 25.4	+1.2
CDF				*e*Sn	Sn	14 34 58.2	-1.4
CDF				*e*Sg	Sg	14 35 12.6	-1.3
	13nm,0.5s						
LPG	**La Plagne**	**3.04**	**248**	*e*Pn	Pn	14 34 30.3	+4.3
LPG				*e*Sn	Sn	14 35 06.6	+3.8
	9.4nm,0.5s						
LPL	**La Plagne**	**3.04**	**248**	*e*Pn	Pn	14 34 30.5	+4.4
LPL				*e*Sn	Sn	14 35 06.6	+3.7
	2.6nm,0.3s						
KHC	**Kasperske Hory**	**3.08**	**37**	*e*PG	Pg	14 34 34.7	-3.8
KHC				x	x	14 35 06.5	
KHC				*e*SG	Sg	14 35 16.4	-3.2
	7.4nm,0.2s						
KHC	**Kasperske Hory**	**3.08**	**37**	*e*Pg	Pg	14 34 34.7	-3.8
KHC				*e*Sg	Sg	14 35 16.4	-3.2
	7.4nm,0.2s						
CABF	**La Chapelle**	**3.21**	**270**	*e*Pn	Pn	14 34 30.1	+1.5
CABF				*e*Sn	Sn	14 35 09.1	+1.7
HAU	**Haudompre**	**3.27**	**295**	*e*Pn	Pn	14 34 30.8	+1.5
HAU				*e*Sn	Sn	14 35 08.6	0.0
	9.7nm,0.3s						
MBDF	**Montbardon**	**3.42**	**236**	*e*Pn	Pn	14 34 35.2	+3.7
SBF	**Sospel**	**3.68**	**221**	*e*Pn	Pn	14 34 39.0	+3.8
NKC	**Novy Kostel**	**3.71**	**17**	*e*SG	Sg	14 35 35.8	-4.6
	5.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.85**	**244**	*e*Pn	Pn	14 34 41.4	+3.8
PRU	**Pruhonice**	**4.14**	**36**	*e*SG	Sg	14 35 49.5	-5.5
	9.0nm,0.5s						
VIVF	**Saint-Julien-l**	**4.64**	**249**	*e*Pn	Pn	14 34 51.5	+2.7
VIVF				*e*Sn	Sn	14 35 44.3	+0.9
	1.1nm,0.2s						
LOR	**Lormes**	**4.75**	**279**	*e*Pn	Pn	14 34 52.0	+1.6
LOR				*e*Sn	Sn	14 35 45.0	-1.3
	1.5nm,0.2s						
SMF	**Signal de Mont**	**4.76**	**272**	*e*Pn	Pn	14 34 52.4	+1.9
AVF	**Avril sur Loir**	**5.09**	**274**	*e*Pn	Pn	14 34 55.2	0.0
DPC	**Dobruska-Polom**	**5.19**	**43**	*e*SG	Sg	14 36 23.5	-6.4
BGF	**Bois d'Agland**	**5.45**	**271**	*e*Pn	Pn	14 35 01.1	+0.8
HYF	**Humbligny**	**5.58**	**279**	*e*Pn	Pn	14 35 03.0	+0.9
TCF	**Toulx Ste Croi**	**5.91**	**269**	*e*Pn	Pn	14 35 08.3	+1.5
MFF	**Saint Martin d**	**7.50**	**273**	*e*Pn	Pn	14 35 29.6	+0.4

*IDC **06** 14:45:35.7±5.4,13.05N×88.83W,mb3.5/3,mb1 4.0/3, mb1mx3.6/19,mbtmp3.6/3,Error ellipse: s-maj=168.0km s-min=72.5km az=32.0*

*CASC **06** 14:45:38.3±2.3,12.37N×89.90W,h36km±999km,MD4.0, ML3.3*

ISC 06 14:45:37.6±1.0,12.31N±0.05×89.88W±0.04,h33km±14km, n23,σ1§01/37,mb3.4/3,3C-2D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.54**	**31**	*e*P	P	14 46 03.0	+0.1
LFRS				*e*S	S	14 46 21.3	-0.6
BOQS	**Boqueron**	**1.54**	**22**	*e*P	P	14 46 03.4	+0.5
BOQS				*e*S	S	14 46 21.9	-0.1
SNJE	**San Jose**	**1.58**	**10**	*e*P	P	14 46 02.9	-0.6
SNJE				*e*S	S	14 46 22.8	-0.2
RTR	**El Retiro**	**1.60**	**8**	*e*P	P	14 46 04.1	+0.3
RTR				*e*S	S	14 46 25.1	+1.6
LFU	**La Fuente**	**1.62**	**28**	⇓*e*P	P	14 46 04.8	+0.7
LBRS	**Las Brisas**	**1.64**	**30**	⇑*e*P	P	14 46 06.0	+1.5
SNVI	**San Vicente**	**1.65**	**38**	*e*P	P	14 46 04.6	0.0
SNVI				*e*S	S	14 46 24.5	-0.4
RBDL	**Robledal**	**1.81**	**6**	*e*P	P	14 46 05.0	-1.8
VSM	**San Miguel**	**1.93**	**54**	*e*P	P	14 46 09.5	+1.0
IXG	**Ixpaco**	**1.94**	**343**	⇓*e*P	P	14 46 07.6	-1.1
IXG				*e*S	S	14 46 30.5	-1.6
MTO2	**Montecristo 2**	**2.14**	**14**	*e*P	P	14 46 12.2	+0.6
MTO2				*e*S	S	14 46 38.7	+1.4
CNCH	**Conchagua**	**2.22**	**64**	*e*P	P	14 46 11.4	-1.3
CNCH				*e*S	S	14 46 38.9	-0.4
TP2	**Tecpan 2**	**2.70**	**336**	⇑*e*P	P	14 46 19.0	-0.6
TP2				*e*S	S	14 46 51.2	-0.3
CRIN	**San Cristobal**	**2.79**	**82**	*e*P	P	14 46 22.1	+1.2
CRIN				*e*S	S	14 46 55.6	+1.8
LEON	**Leon**	**2.92**	**88**	*e*P	P	14 46 22.6	-0.2
LEON				*e*S	S	14 46 55.8	-1.3
TEL3	**Telica 3**	**2.98**	**85**	⇑*e*P	P	14 46 23.6	+0.1
TEL3				*e*S	S	14 46 57.8	-0.8
TELN	**Telica**	**3.00**	**84**	*e*P	P	14 46 23.7	-0.1
MIRN	**Miramar**	**3.10**	**87**	*e*P	P	14 46 25.4	+0.1
MIRN				*i*		14 47 06.1	
	comp=Z,134nm,0.4s						
COPN	**Copaltepe**	**3.22**	**92**	*e*P	P	14 46 27.1	+0.1
COPN				*e*S	S	14 47 04.5	-0.1
MGAN	**Managua**	**3.56**	**92**	*e*P	P	14 46 32.8	+1.0
MGAN				*e*S	S	14 47 12.1	-1.2
TXAR	**Lajitas Array**	**21.25**	**325**	P	P	14 50 23.9	+0.8
	comp=Z,1.7nm,0.7s,mb3.5,baz=149,slow=12,SNR=10						
NVAR	**Mina Array Bea**	**36.28**	**321**	P	P	14 52 42.1	+2.2
	comp=Z,0.3nm,0.5s,mb3.5,baz=130,slow=7.0,SNR=4.9						
YKA	**Yellowknife Ar**	**53.15**	**346**	P	P	14 54 51.4	-2.8
	comp=Z,0.1nm,0.4s,mb3.1,baz=146,slow=7.8,SNR=5.5						
YKA				PcP	PcP	14 56 01.3	-0.8
	comp=Z,0.3nm,0.7s,baz=154,slow=4.1,SNR=4.8						

*NEIC **06** 15:25:19.1,33.72N×136.70E,h387km,MG3.2(JMA), After JMA.*

*JMA **06** 15:25:19.0±0.3,33.72N×136.70E,h387km±3km,M3.2*

*IDC **06** 15:25:20.6±1.3,33.84N×137.08E,h398km±26km,mb2.9/4, mb1 3.0/5,mb1mx2.8/22,mbtmp3.5/5,Error ellipse: s-maj=62.2km s-min=18.2km az=67.0*

ISC 06 15:25:18.6±0.7,33.7N±0.1×136.8E±0.1,h388km±7km,n20, σ0§90/26,mb3.2/4,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**0.71**	**352**	P	P	15 26 08.2	+0.4
JKN2	**Miekihoku**	**0.72**	**320**	P	P	15 26 07.8	0.0
JWZ	**Kozaga**	**0.94**	**261**	P	P	15 26 08.0	-0.5
JNY	**Yasuok**	**1.87**	**27**	P	P	15 26 13.7	+0.6
JWT	**Wachi**	**1.98**	**324**	P	P	15 26 13.1	-0.6
JAI	**Aioi**	**1.98**	**274**	P	P	15 26 13.1	-0.7
JOD2	**Odawara 2**	**2.44**	**49**	P	P	15 26 17.6	+0.7
JKG	**Kaga**	**2.61**	**351**	P	P	15 26 17.8	-0.4
JRY	**Ryogami san**	**2.88**	**36**	P	P	15 26 21.9	+1.6
JRY				*e*S	S	15 27 10.1	+1.3
JHU	**Hanno**	**2.95**	**42**	P	P	15 26 21.8	+0.9
JHU				*e*S	S	15 27 09.5	-0.3
MJAR	**Matsushiro Arr**	**3.06**	**21**	P	P	15 26 21.2	-0.6
	0.8nm,0.3s,baz=197,slow=8.1,SNR=8.8						
MJAR				S	S	15 27 13.1	+1.6
	0.3nm,0.3s,baz=185,slow=15,SNR=5.4						
MJAR	**Matsushiro Arr**	**3.06**	**21**	P	P	15 26 21.2	-0.6
MJAR				S	S	15 27 13.1	+1.6
BSO4	**Boso 4**	**3.18**	**65**	*e*S	S	15 27 14.1	+0.8
BSO3	**Boso 3**	**3.24**	**69**	*e*S	S	15 27 13.5	-0.8
JAG	**Ashikaga**	**3.48**	**38**	P	P	15 26 25.2	-0.3
JAG				*e*S	S	15 27 16.3	-1.7
JYT	**Yasato**	**3.75**	**47**	P	P	15 26 27.4	-0.6
JYT				*e*S	S	15 27 19.6	-2.9
SONM	**Songino Array**	**26.83**	**311**	P	P	15 30 27.0	+0.2
	0.6nm,0.7s,mb3.1,baz=135,slow=8.2,SNR=4.0						
MKAR	**Makanchi Array**	**42.82**	**305**	P	P	15 32 41.4	+0.1
	0.2nm,0.7s,mb2.1,baz=77,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**53.38**	**183**	P	P	15 34 02.4	+0.3
	0.7nm,0.4s,mb3.2,baz=359,slow=7.7,SNR=14						
FINES	**FINESS Array B**	**69.99**	**331**	P	P	15 35 50.1	-0.3
	3.5nm,1.0s,mb3.9,baz=63,slow=6.2,SNR=5.4						

NNC 06 16:03:51.6±3.0,37.13N×69.04E,mpv2.7,1C-1D,Error ellipse: s-maj=33.2km s-min=13.6km az=144.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.07**	**10**	Pn	Pn	16 05 25.5	+0.7
	0.2nm,0.2s,baz=195,slow=15,SNR=21						
KK31				⇑Sn	Sn	16 06 39.3	+3.3
	3.5nm,0.6s,baz=197,slow=25,SNR=10						
TKM2	**Tokmak 2**	**7.66**	**39**	Pn	Pn	16 05 42.7	-4.5
TKM2				Sn	Sn	16 07 14.4	-1.4
AB31	**Akbulak array**	**13.81**	**334**	⇓P	P	16 07 08.5	-2.3
	0.3nm,0.6s,baz=161,slow=12,SNR=5.0						

*NEIC **06** 16:37:38.5,17.11N×100.25W,h40km,MD3.7(MEX),After MEX.*

MEX 06 16:37:38.5±0.8,17.11N×100.25W,h40km±10km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.07**	**191**	*i* P	P	16 37 43.5	-1.5
CAIG				*i* S	S	16 37 47.9	-1.6
ACX	**Acapulco**	**0.41**	**127**	*i* P	P	16 37 46.5	-1.5
ACX				*i* S	S	16 37 53.0	-1.7
PLIG	**Platanillo**	**1.46**	**29**	*e*P	P	16 38 02.1	-0.8
PLIG				*i* S	S	16 38 19.6	-1.4
PPM	**Popocatepetl**	**2.48**	**38**	*e*P	P	16 38 21.0	+3.6
PPM				*i* S	S	16 38 50.0	+3.2
MOD	**Modoc**	**30.09**	**329**	*e*P	P	16 43 44.3	-2.2

JMA 06 16:45:12.9±0.6,32.37N×142.42E,h20km,M3.6, Southeast of Honshu

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

s-min=20.7km az=139.0
BJI **06** *17:36:25.0, 7.00S×154.60E, h126km, mb4.7*
NEIC **06** *17:36:27.1±1.6, 7.03S×154.59E, h127km±15km, mb4.4/6, Error ellipse: s-maj=14.0km s-min=9.6km az=144.0*

ISC 06 17:36:26.4±2.2, 7.1S±0.1×154.62E±0.10, h133km±22km, n31, σ0§94/28, mb4.2/18, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.76**	**114**	P		**P**	**17 37 50.5**	**-0.2**
	3.0nm,0.3s,baz=272,slow=9.2,SNR=4.6							
HNR				LR		LR	17 39 59.7	
	comp=Z,247nm,19.8s,baz=210,slow=36							
HNR	**Honiara**	**5.76**	**114**	*e*Pn		**P**	**17 37 49.9**	**-0.8**
HNR				P			17 37 50.5	
HNR				*e*Sn		**S**	**17 39 00.7**	**+4.5**
HNR				LR		LR	17 39 59.7	
CTA	**Charters Tower**	**15.24**	**211**	P		**P**	**17 39 57.2**	**+1.4**
	0.2nm,0.3s,baz=34,slow=13,SNR=9.7							
CTAO	**Charters Tower**	**15.24**	**211**	*e*P		**P**	**17 39 57.2**	**+1.4**
	8.2nm,0.7s							
DZM	**Mont Dzumac**	**18.75**	**144**	P		**P**	**17 40 37.9**	**+0.2**
	0.3nm,0.3s,baz=348,slow=19,SNR=4.2							
WB2	**Warramunga Arr**	**23.44**	**235**	*e*P		**P**	**17 41 24.7**	**+0.1**
WRA	**Warramunga Arr**	**23.45**	**235**	P		**P**	**17 41 24.6**	**-0.2**
	4.9nm,0.9s,mb4.0,baz=59,slow=9.6,SNR=23							
STKA	**Stephens Creek**	**27.48**	**205**	P		**P**	**17 42 01.6**	**-0.7**
	1.3nm,0.5s,mb3.9,baz=3.8,slow=6.3,SNR=5.8							
STKA				LR		LR	17 52 12.8	
	comp=Z,68nm,19.7s,baz=27,slow=34							
FITZ	**Fitzroy Crossi**	**30.27**	**246**	*e*P		**P**	**17 42 25.8**	**-1.5**
	3.6nm,0.6s,mb4.3							
ENH	**Enshi**	**57.04**	**313**	*e*P		**P**	**17 45 59.4**	**-1.6**
	8.4nm,0.9s,mb4.6							
CD2	**Chengdu**	**61.60**	**311**	*e*P		**P**	**17 46 31.6**	**-0.7**
SONM	**Songino Array**	**69.23**	**327**	P		**P**	**17 47 19.7**	**-1.1**
	0.5nm,0.6s,mb3.4,baz=140,slow=4.8,SNR=4.8							
SBA	**Scott Base**	**71.00**	**177**	*e*P		**P**	**17 47 29.5**	**-1.6**
	105nm,1.9s,mb5.2							
LSA	**Lhasa**	**71.03**	**305**	*e*P		**P**	**17 47 32.2**	**+0.2**
	4.7nm,0.9s,mb4.2							
JIRN	**Jiri**	**74.52**	**301**	*e*P		**P**	**17 47 53.7**	**+1.1**
GUN	**Gumba**	**74.85**	**301**	*e*P		**P**	**17 47 55.7**	**+1.2**
	14nm,0.6s,mb4.8							
KKN	**Kakani**	**75.33**	**301**	*e*P		**P**	**17 47 57.6**	**+0.4**
	11nm,0.8s,mb4.6							
DMN	**Daman**	**75.43**	**301**	*e*P		**P**	**17 47 58.5**	**+0.8**
	16nm,0.7s,mb4.8							
GKN	**Gorkha**	**75.94**	**301**	*e*P		**P**	**17 48 01.5**	**+0.9**
	18nm,0.8s,mb4.7							
KOLN	**Koldanda**	**76.76**	**301**	*e*P		**P**	**17 48 05.9**	**+0.7**
	12nm,0.8s,mb4.6							
MKAR	**Makanchi Array**	**83.24**	**319**	P		**P**	**17 48 39.6**	**+0.3**
	1.1nm,0.6s,mb3.8,baz=94,slow=8.6,SNR=19							
MKAR				LR		LR	18 25 48.3	
	comp=Z,34nm,18.5s,baz=44,slow=36							
ILAR	**Eielson Array**	**83.61**	**22**	P		**P**	**17 48 40.0**	**-0.8**
	0.8nm,0.9s,mb3.4,baz=268,slow=7.2,SNR=5.9							
ILAR				LR		LR	18 22 31.9	
	comp=Z,52nm,18.7s,slow=33							
ZAL	**Zalesovo**	**84.07**	**326**	P		**P**	**17 48 42.3**	**-1.0**
	0.6nm,0.6s,mb3.5,baz=316,slow=7.0,SNR=3.4							
MAW	**Mawson**	**84.15**	**203**	*e*P		**P**	**17 48 43.9**	**+0.5**
	5.3nm,1.0s,mb4.2							
NVAR	**Mina Array Bea**	**92.08**	**52**	P		**P**	**17 49 23.2**	**+1.3**
	1.1nm,0.8s,mb4.0,baz=250,slow=6.0,SNR=8.8							
NVAR				LR		LR	18 25 19.1	
	comp=Z,51nm,20.4s,baz=305,slow=32							
YKA	**Yellowknife Ar**	**96.61**	**28**	P		**P**	**17 49 42.2**	**+0.3**
	0.7nm,0.9s,mb4.0,baz=266,slow=4.8,SNR=6.1							
YKA	**Yellowknife Ar**	**96.61**	**28**	P		**P**	**17 49 42.2**	**+0.3**
PDAR	**Pinedale Array**	**99.05**	**48**	LR		LR	18 35 12.0	
	comp=Z,79nm,18.6s,baz=249,slow=36							
GERES	**GERESS Array B**	**126.95**	**329**	PKP		PKPdf	17 55 17.8	+3.1
	0.8nm,0.6s,SNR=6.5							
TSUM	**Tsumeb**	**130.25**	**238**	*e*PKPdf		PKPdf	17 55 23.5	+1.7
TORD	**Torodi Ar. Bea**	**152.69**	**285**	PKPbc		PKPdf	17 56 10.9	+10
	0.7nm,0.3s,baz=56,slow=2.2,SNR=17							
TORD				PKPab		PKPab	17 56 22.4	+0.6
	4.2nm,0.8s,baz=73,slow=2.7,SNR=17							

NEIC **06** *18:58:13.8, 34.97N×140.10E, h63km, MG3.0(JMA), After JMA.*
JMA **06** *18:58:13.7±0.1, 34.97N×140.10E, h63km±1km, M3.0*
IDC **06** *18:58:21.9±1.3, 35.37N×137.82E, h154km±13km, mb3.1/2, mb1 3.6/3, mb1mx3.0/22, mbtmp3.8/3, Error ellipse: s-maj=32.4km s-min=20.4km az=83.0*

ISC 06 18:58:13.7±0.6, 34.91N±0.04×140.08E±0.04, h63km±5km, n19, σ0§71/33, mb3.6/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.20**	**307**	P		**P**	**18 58 24.2**	**+0.7**
TATJ				*e*S		**S**	**18 58 31.4**	**+0.7**
BSO4	**Boso 4**	**0.23**	**70**	P		**P**	**18 58 24.0**	**+0.3**
BSO4				*e*S		**S**	**18 58 31.3**	**+0.3**
KTR	**Katsuura**	**0.30**	**39**	P		**P**	**18 58 23.9**	**-0.4**
KTR				*e*S		**S**	**18 58 30.6**	**-1.4**
BSO3	**Boso 3**	**0.37**	**107**	P		**P**	**18 58 24.9**	**+0.1**
BSO3				*e*S		**S**	**18 58 33.3**	**+0.3**
JIM2	**Oshima 3**	**0.57**	**250**	P		**P**	**18 58 26.9**	**+0.1**
JIM2				S		**S**	**18 58 35.9**	**-0.4**
BSO2	**Boso 2**	**0.58**	**106**	S		**S**	**18 58 37.3**	**+0.8**
BSO1	**Boso 1**	**0.78**	**109**	P		**P**	**18 58 28.8**	**-0.5**
BSO1				S		**S**	**18 58 40.1**	**-0.8**
JOD2	**Odawara 2**	**0.89**	**294**	P		**P**	**18 58 30.3**	**-0.3**
JOD2				S		**S**	**18 58 42.3**	**-0.8**
JIZS	**Izushimoda**	**1.01**	**259**	P		**P**	**18 58 32.5**	**+0.2**
JIZS				S		**S**	**18 58 45.8**	**-0.2**
JYN	**Shimob**	**1.39**	**295**	P		**P**	**18 58 37.4**	**-0.1**
JYN				S		**S**	**18 58 54.8**	**-0.3**
JRY	**Ryogami san**	**1.46**	**319**	P		**P**	**18 58 38.1**	**-0.4**
JRY				*e*S		**S**	**18 58 55.8**	**-1.1**
JHJ	**Hachijo jima 2**	**1.81**	**188**	P		**S**	**18 59 05.9**	**+0.9**
	238nm,0.3s,baz=236,slow=23,SNR=14							
MJAR	**Matsushiro Arr**	**2.23**	**317**	P		**P**	**18 58 49.1**	**0.0**
	15nm,0.3s,baz=200,slow=21,SNR=96							
MJAR				S		**S**	**18 59 16.9**	**+1.4**
	15nm,0.3s,baz=264,slow=14,SNR=14							
MAJO	**Matsushiro**	**2.23**	**317**	*e*Pn		**P**	**18 58 49.8**	**+0.6**
MAJO				*e*Sn		**S**	**18 59 07.9**	**-7.6**
MAT	**Matsushiro**	**2.23**	**317**	P		**P**	**18 58 49.3**	**+0.2**
MAT				S		**S**	**18 59 16.0**	**+0.5**
MAT	**Matsushiro**	**2.23**	**317**	*e*P		**P**	**18 58 49.0**	**-0.1**
MAT				*e*S		**S**	**18 59 16.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**12.20**	**9**	*e*Pn		**P**	**19 01 10.2**	**+3.6**
ILAR	**Eielson Array**	**51.86**	**31**	P		**P**	**19 07 17.9**	**+0.5**
	0.6nm,0.9s,mb3.5,baz=276,slow=9.1,SNR=4.2							
WRA	**Warramunga Arr**	**54.82**	**187**	P		**P**	**19 07 38.4**	**-1.5**
	0.5nm,0.6s,mb3.8,baz=3.7,slow=7.6,SNR=10							

IDC **06** *19:16:30.0±16.0, 2.80N×128.51E, h187km±161km, mb3.5/7, mb1 3.6/7, mb1mx3.4/18, mbtmp4.0/7, Error ellipse: s-maj=102.7km s-min=22.4km az=61.0*
NEIC **06** *19:16:33.9±2.6, 2.77N×128.63E, h229km±26km, mb3.9/3, Error ellipse: s-maj=20.7km s-min=7.5km az=66.0*

ISC 06 19:16:33.6±3.2, 2.8N±0.1×128.6E±0.2, h242km±33km, n27, σ0§38/25, mb4.0/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.80**	**285**	*e*P		**P**	**19 19 28.3**	**0.0**
KSM	**Kuching**	**18.36**	**266**	*e*P		**P**	**19 20 32.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.97**	**188**	*e*P		**P**	**19 20 59.0**	**+0.2**
	2.8nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.97**	**188**	P		**P**	**19 20 58.5**	**-0.3**
	0.7nm,0.5s,baz=31,slow=23,SNR=8.2							
WRA	**Warramunga Arr**	**23.27**	**166**	P		**P**	**19 21 21.5**	**+0.4**
	1.6nm,0.4s,mb3.9,baz=343,slow=10.0,SNR=31							
WB2	**Warramunga Arr**	**23.27**	**166**	*e*P		**P**	**19 21 21.0**	**-0.2**
MAJO	**Matsushiro**	**34.73**	**14**	*e*P		**P**	**19 23 02.9**	**+0.2**
	19nm,1.3s,mb4.5							
STKA	**Stephens Creek**	**36.60**	**161**	*e*P		**P**	**19 23 18.1**	**-0.4**
	2.1nm,0.3s,mb4.2							
STKA	**Stephens Creek**	**36.60**	**161**	P		**P**	**19 23 18.8**	**+0.3**
	2.7nm,0.3s,mb4.2,baz=5.4,slow=6.0,SNR=32							
STKA	**Stephens Creek**	**36.60**	**161**	*e*P		**P**	**19 23 18.3**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.12**	**196**	*e*P		**P**	**19 23 18.2**	**-4.6**
LSA	**Lhasa**	**44.49**	**311**	*e*P		**P**	**19 24 22.8**	**-0.1**
JIRN	**Jiri**	**47.47**	**306**	*e*P		**P**	**19 24 47.0**	**+0.8**
	11nm,0.3s,mb4.6							
GUN	**Gumba**	**47.82**	**306**	*e*P		**P**	**19 24 49.5**	**+0.6**
	24nm,0.6s,mb4.7							
PKI	**Pulchoki**	**48.07**	**305**	*e*P		**P**	**19 24 50.5**	**-0.3**
KKN	**Kakani**	**48.26**	**305**	*e*P		**P**	**19 24 52.4**	**+0.1**
	7.1nm,0.5s,mb4.2							
DMN	**Daman**	**48.33**	**305**	*e*P		**P**	**19 24 53.1**	**+0.3**
	10nm,0.7s,mb4.3							
ULN	**Ulaanbaatar**	**48.62**	**341**	*e*P		**P**	**19 24 54.8**	**+0.1**
	1.6nm,0.7s,mb3.5							
SONM	**Songino Array**	**48.81**	**340**	P		**P**	**19 24 55.9**	**-0.3**
	0.5nm,0.6s,mb3.0,baz=150,slow=7.2,SNR=4.5							
GKN	**Gorkha**	**48.87**	**305**	*e*P		**P**	**19 24 56.5**	**-0.4**
KOLN	**Koldanda**	**49.62**	**305**	*e*P		**P**	**19 25 03.0**	**+0.3**
	17nm,0.6s,mb4.6							
MKAR	**Makanchi Array**	**59.42**	**325**	P		**P**	**19 26 12.8**	**0.0**
	1.4nm,0.5s,mb3.9,baz=118,slow=8.1,SNR=11							
MKAR	**Makanchi Array**	**59.42**	**325**	P		**P**	**19 26 12.8**	**0.0**
ZAL	**Zalesovo**	**62.30**	**332**	P		**P**	**19 26 31.2**	**-0.8**
	0.6nm,0.4s,mb3.6,baz=118,slow=4.5,SNR=3.7							
BVAR	**Borovoye Array**	**69.15**	**327**	P		**P**	**19 27 15.4**	**-0.1**
	0.8nm,0.4s,mb3.7,baz=76,slow=5.1,SNR=12							
WMOK	**Wichita Mounta**	**121.95**	**46**	*e*PKPdf		PKPdf	19 34 57.2	-2.4
ACSO	**Alum Creek Sta**	**128.32**	**31**	*e*PKPdf		PKPdf	19 35 14.5	+2.8

NEIC **06** *19:25:50.0±1.1, 5.51N×92.96E, h30km, mb4.1/5, Error ellipse: s-maj=28.8km s-min=9.0km az=36.0*
IDC **06** *19:25:56.3±4.6, 5.39N×93.40E, h107km±42km, mb3.6/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.9/8, MS2.9/1, Ms1 2.9/1, ms1mx2.7/16, Error ellipse: s-maj=50.2km s-min=21.5km az=53.0*

ISC 06 19:25:44.8±1.2, 4.9N±0.2×92.9E±0.1, h33km, n17, σ1§28/17, mb4.0/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.40**	**109**	P		**P**	**19 27 25.6**	**+6.5**
	1.0nm,0.3s,baz=340,slow=16,SNR=5.3							
PSI				LR		LR	19 30 11.3	
	comp=Z,116nm,19.6s,baz=96,slow=42							
KULM	**Kulim**	**7.76**	**87**	*e*Pn		**Pn**	**19 27 39.6**	**+1.2**
JIRN	**Jiri**	**23.49**	**345**	*e*P		**P**	**19 30 53.2**	**+0.6**
DMN	**Daman**	**23.75**	**343**	*e*P		**P**	**19 30 55.9**	**+0.8**
GUN	**Gumba**	**23.81**	**345**	*e*P		**P**	**19 30 56.2**	**+0.5**
	12nm,0.7s,mb4.4							
KKN	**Kakani**	**23.86**	**343**	*e*P		**P**	**19 30 56.7**	**+0.5**
	7.2nm,0.8s,mb4.2							
GKN	**Gorkha**	**24.25**	**342**	*e*P		**P**	**19 31 00.3**	**+0.2**
	17nm,0.7s,mb4.6							
KOLN	**Koldanda**	**24.38**	**340**	*e*P		**P**	**19 31 02.0**	**+0.7**
	12nm,0.7s,mb4.5							
MKAR	**Makanchi Array**	**42.71**	**349**	P		**P**	**19 33 39.3**	**-1.1**
	2.0nm,0.6s,mb4.0,baz=168,slow=8.4,SNR=17							
SONM	**Songino Array**	**44.30**	**13**	P		**P**	**19 33 51.0**	**-2.3**
	0.8nm,0.7s,mb3.6,baz=191,slow=8.0,SNR=6.8							
SONM				PcP		PcP	19 35 38.1	+0.4
	0.1nm,0.5s,baz=206,slow=4.0,SNR=4.7							
WRA	**Warramunga Arr**	**47.66**	**123**	P		**P**	**19 34 19.8**	**-0.5**
	1.7nm,0.8s,mb4.1,baz=300,slow=9.1,SNR=9.5							
BVAR	**Borovoye Array**	**51.39**	**343**	P		**P**	**19 34 47.3**	**-1.1**
	1.1nm,0.7s,mb3.9,baz=146,slow=9.5,SNR=11							
BRTR	**Keskin Array B**	**63.43**	**312**	P		**P**	**19 36 15.0**	**+1.3**
	0.6nm,0.8s,mb3.8,baz=112,slow=6.7,SNR=4.2							
JOF	**Joensuu**	**72.97**	**335**	*e*p		**P**	**19 37 09.7**	**-2.9**
	0.3nm,0.3s,mb3.7							
KAF	**Kangasniemi**	**74.84**	**333**	*e*p		**P**	**19 37 21.1**	**-2.4**
	0.4nm,0.4s,mb3.7							
ARCES	**ARCESS Array B**	**77.61**	**341**	P		**P**	**19 37 38.9**	**-0.1**
	1.9nm,0.6s,mb4.2,baz=180,slow=34,SNR=11							
GERES	**GERESS Array B**	**79.18**	**319**	P		**P**	**19 37 50.4**	**+2.3**
	1.5nm,0.7s,mb4.0,baz=108,slow=4.2,SNR=13							

CASC 06 19:35:56.2±2.0, 13.65N×90.53W, h29km±6km, MD3.6, ML3.4, 1C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.53**	**8⇓**	*e*P		Pb	19 36 06.7	-0.4
IXG				*e*S		Sb	19 36 16.9	+2.4
RTR	**El Retiro**	**0.89**	**74**	*e*P		Pn	19 36 13.6	+0.7
RTR				*e*S		Sb	19 36 26.3	+1.7
SBLS	**San Blas**	**0.90**	**77⇑**	*e*P		Pn	19 36 13.2	+0.3
SBLS				*e*S		Sb	19 36 25.4	+0.6
BOQS	**Boqueron**	**1.22**	**86⇓**	*e*P		Pn	19 36 17.7	+0.2
BOQS				*e*S		Sn	19 36 34.0	+1.0
TP2	**Tecpan 2**	**1.23**	**337⇓**	*e*P		Pn	19 36 17.1	-0.5
TP2				*e*S		Sn	19 36 34.8	+1.4
TP2				AML		AML	19 36 37.2	
	comp=N,740nm,0.3s							
SNET	**Serv Nac Est T**	**1.26**	**88**	*e*P		Pn	19 36 17.5	-0.6
MTO2	**Montecristo 2**	**1.36**	**56**	*e*P		Pn	19 36 20.2	+0.7
MTO2				*e*S		Sn	19 36 38.7	+2.1
LFU	**La Fuente**	**1.38**	**86**	*e*P		Pn	19 36 19.7	-0.1
LFU				*e*S		Sn	19 36 36.3	-0.9
LFRS	**El Faro**	**1.43**	**91⇓**	*e*P		Pn	19 36 20.3	-0.1
LFRS				*e*S		Sn	19 36 38.3	-0.1
LBRS	**Las Brisas**	**1.45**	**86**	*e*P		Pn	19 36 20.5	-0.3
LBRS				*e*S		Sn	19 36 40.1	+1.2
SNVI	**San Vicente**	**1.64**	**91**	*e*P		Pn	19 36 24.1	+0.6
SNVI				*e*S		Sn	19 36 44.4	+0.6
BLLM	**Bellamira**	**2.23**	**95**	*e*P		Pn	19 36 32.9	+0.8

NIED **06** *19:42:00, 32.50N×129.10E, h8km, Mw4.1 Best double couple: M0 1.76×10^15 NP1:φs26°, δ85°, λ169°. NP2:φs117°, δ79°, λ5°.*
IDC **06** *19:42:32.5±1.0, 32.49N×129.05E, mb3.9/11, mb1 4.1/12, mb1mx4.0/22, mbtmp3.9/12, ML3.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/22, Error ellipse: s-maj=24.7km s-min=16.7km az=5.0*
JMA **06** *19:42:32.1±0.1, 32.52N×129.06E, h2km±2km, M4.2 Broadband fault plane solution: P waves. NP1:φs308°, δ51°, λ1°. NP2:φs218°, δ89°, λ141°. Principal axes: T Plg27°, Azm166°; N Plg51°, Azm37°; P Plg26°, Azm270°; JMA Felt II J1.*
MOS **06** *19:42:34.5±1.1, 32.32N×129.07E, h33km, mb4.5/11 Error ellipse: s-maj=20.2km s-min=14.5km az=39.8*
NEIC **06** *19:42:35.4±3.8, 32.56N×128.99E, h18km±25km, mb4.5/3, MW4.1(NIED), Error ellipse: s-maj=12.1km s-min=9.1km az=155.0*
BJI **06** *19:42:35.3, 32.60N×129.00E, h17km, mB4.4, mb4.3, Ms4.1, Msz3.8*

ISC 06 19:42:32.3±0.8, 32.53N±0.03×129.03E±0.03, h10km±5km, n54, σ0§98/61, mb4.1/16, MS3.6/6, 4C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFU	**Fukue jima 2**	**0.27**	**299**	⇓P		**Pg**	**19 42 38.3**	**+0.3**
JFU				S		**Sg**	**19 42 42.2**	**+0.4**
NGSJ	**Nagasakinomoza**	**0.66**	**81**	⇓P		**Pb**	**19 42 44.4**	**-1.1**
NGSJ				S		**Sb**	**19 42 53.8**	**-0.6**
JHD	**Hondo**	**0.94**	**93**	⇓P		**Pb**	**19 42 50.0**	**-0.2**
JHD				S		**Sb**	**19 43 02.7**	**+0.2**
JUR	**Ureshino**	**0.96**	**54**	⇓P		**Pb**	**19 42 50.6**	**0.0**
JUR				S		**Sb**	**19 43 03.2**	**+0.1**
JSJ	**Shimokoshiki**	**1.03**	**145**	⇑P		**Pb**	**19 42 51.0**	**-0.8**
JSJ				S		**Sb**	**19 43 05.5**	**+0.4**
JTA	**Tamana**	**1.34**	**71**	⇓P		**Pb**	**19 42 56.6**	**-0.5**
JTA				S		**Sb**	**19 43 14.9**	**+0.7**
JZO	**Okuchi**	**1.39**	**106**	⇑P		**Pn**	**19 42 57.0**	**-0.8**
JII	**Iki**	**1.40**	**25**	⇑P		**Pn**	**19 42 57.5**	**-0.5**
JII				S		**Sb**	**19 43 16.1**	**+0.3**
JNU	**Nakatsue**	**1.67**	**69**	Pn		**Pn**	**19 43 02.8**	**+1.0**
	90nm,0.3s,baz=256,slow=11,SNR=325							
JNU				Sn		**Sn**	**19 43 24.9**	**+1.5**
	95nm,0.3s,baz=23,slow=43,SNR=8.4							
KS15	**Wonju Array Si**	**4.99**	**349**	*e*Pn		**Pn**	**19 43 48.5**	**-0.7**
KS15				*e*Sn		**Sn**	**19 44 45.7**	**-2.0**
INCN	**Inchon**	**5.32**	**339**	Pn		**Pn**	**19 43 52.5**	**-1.3**
JOW	**Kunigami**	**5.71**	**187**	LR		LR	19 46 34.7	
	comp=Z,144nm,21.1s,baz=86,slow=43							
MJAR	**Matsushiro Arr**	**8.57**	**60**	Pn		**P**	**19 44 39.5**	**+0.2**
	0.4nm,0.3s,baz=244,slow=14,SNR=5.7							
YHNB	**Yeheng**	**10.31**	**223**	*e*Pn		**P**	**19 45 03.9**	**+0.4**
GYA	**Guiyang**	**20.37**	**259⇑**	*i*P		**P**	**19 47 14.0**	**+2.2**
GYA				AMB		AMB		
	comp=Z,20nm,1.1s							
LZH	**Lanzhou**	**21.09**	**287**	*e*P		**P**	**19 47 19.3**	**+0.1**
LZH				AP			19 47 27.5	
LZH				XP			19 47 31.4	
LZH				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.1							
LZH				AMB	AMB			
	comp=Z,40nm,5.4s							
LZH				LR	LR			
	comp=E,270nm,13.6s							
LZH				LR	LR			
	comp=Z,530nm,16.5s,MS4.0							
LZH	**Lanzhou**	**21.09**	**287**	*e*P		**P**	**19 47 19.3**	**+0.1**
LZH				*SP			19 47 31.4	
LZH				pmax	pmax			
	comp=Z,19nm,1.1s,mb4.3							
LZH				MLR	MLR			
	comp=Z,530nm,16.5s,MS4.0							
LZH	**Lanzhou**	**21.09**	**287**	*e*P		**P**	**19 47 19.3**	**+0.1**
	comp=Z,19nm,1.1s,mb4.3							
LZH				pP			19 47 27.5	
LZH				sP			19 47 31.4	
LZH				LR	LR			
	comp=Z,530nm,16.5s,MS4.0							
CD2	**Chengdu**	**21.55**	**272**	*e*P		**P**	**19 47 21.6**	**-2.2**
CD2				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.2							
CD2				LR	LR			
	comp=N,390nm,14.0s							
CD2				LR	LR			
	comp=Z,190nm,12.0s,MS3.7							
SONM	**Songino Array**	**22.96**	**318**	P		**P**	**19 47 39.2**	**+1.5**
	comp=Z,1.7nm,0.9s,mb3.5,baz=134,slow=7.7,SNR=10							
SONM				LR		LR	19 57 30.4	
	comp=Z,123nm,18.7s,MS3.4,baz=113,slow=39							
SONM	**Songino Array**	**22.96**	**318**	P		**P**	**19 47 39.2**	**+1.5**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.9s							
SONM				MLR	MLR			
	comp=Z,123nm,18.7s							
GTA	**Gaotai**	**24.55**	**295**	*e*P		**P**	**19 47 53.7**	**+0.4**
GTA				AP			19 47 58.1	
GTA				XP			19 48 01.0	
ZAK	**Zakamensk**	**26.07**	**321**	*e*		**P**	**19 48 10.3**	**+2.7**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb3.7							
JIRN	**Jiri**	**37.20**	**274**	*e*P		**P**	**19 49 45.6**	**+0.1**
	comp=Z,9.6nm,0.3s,mb5.1							
GUN	**Gumba**	**37.38**	**275**	*e*P		**P**	**19 49 47.0**	**-0.1**
	comp=Z,57nm,0.9s							
ZAL	**Zalesovo**	**37.86**	**318**	P		**P**	**19 49 52.2**	**+1.4**
	comp=Z,0.7nm,0.3s,mb3.8,baz=358,slow=11,SNR=4.4							
ZAL				LR		LR	20 06 55.2	
	comp=Z,59nm,20.6s,MS3.4,baz=353,slow=39							
ZAL	**Zalesovo**	**37.86**	**318**	P		**P**	**19 49 52.2**	**+1.4**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZAL				MLR	MLR			
	comp=Z,59nm,20.7s							
ZAL	**Zalesovo**	**37.86**	**318**	P		**P**	**19 49 52.2**	**+1.4**
ZAL				LR		LR	20 06 55.1	
PKI	**Pulchoki**	**37.88**	**274**	*e*P		**P**	**19 49 50.6**	**-0.7**
KKN	**Kakani**	**37.92**	**275**	*e*P		**P**	**19 49 51.2**	**-0.4**
DMN	**Daman**	**38.13**	**274**	*e*P		**P**	**19 49 52.8**	**-0.5**
MKAR	**Makanchi Array**	**38.13**	**306**	P		**P**	**19 49 55.0**	**+1.8**
	comp=Z,1.1nm,0.8s,mb3.6,baz=106,slow=8.8,SNR=8.0							
MKAR	**Makanchi Array**	**38.13**	**306**	P		**P**	**19 49 55.0**	**+1.8**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**38.13**	**306**	P		**P**	**19 49 55.0**	**+1.8**
GKN	**Gorkha**	**38.40**	**275**	*e*P		**P**	**19 49 54.8**	**-0.8**
KOLN	**Koldanda**	**39.34**	**275**	*e*P		**P**	**19 50 03.0**	**-0.5**
	comp=Z,16nm,0.9s,mb4.7							
BVAR	**Borovoye Array**	**46.21**	**314**	P		**P**	**19 50 57.7**	**-1.3**
	comp=Z,3.0nm,0.9s,mb4.2,baz=106,slow=7.4,SNR=15							
BVAR	**Borovoye Array**	**46.21**	**314**	P		**P**	**19 50 57.7**	**-1.3**
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ARU	**Arti**	**53.00**	**319**	*e*P		**P**	**19 51 52.1**	**+1.0**
ILAR	**Eielson Array**	**58.62**	**30**	P		**P**	**19 52 32.2**	**+0.8**
	comp=Z,1.3nm,0.9s,mb4.0,baz=286,slow=6.9,SNR=7.9							
ILAR	**Eielson Array**	**58.62**	**30**	P		**P**	**19 52 32.3**	**+0.9**
ILAR				pmax	pmax			

DHY	**Denali Highway**	**2.05**	**5**	P	Pn	19 46 14.7	-1.9
DHY				S	Sn	19 46 40.8	-1.6
SPU	**Mount Spurr**	**2.10**	**276**	P	Pn	19 46 14.7	-2.6
SPU				S	Sn	19 46 40.9	-2.8
HUR	**Hurricane**	**2.14**	**336**	P	Pn	19 46 16.1	-1.8
PAX	**Paxson**	**2.21**	**28**	P	Pn	19 46 16.9	-2.1
CKL	**Chakachamna La**	**2.24**	**276**	P	Pn	19 46 16.7	-2.6
CKL				S	Sn	19 46 45.0	-2.2
CNPM	**China Poot**	**2.31**	**230**	P	Pn	19 46 18.1	-2.3
RDT	**Redoubt**	**2.33**	**260**	P	Pn	19 46 17.8	-3.0
RDT				S	Sn	19 46 46.8	-2.9
HOM	**Homer**	**2.39**	**236**	P	Pn	19 46 19.6	-1.9
RND	**Reindeer**	**2.43**	**348**	P	Pn	19 46 20.2	-1.8
RDN	**Redoubt North**	**2.52**	**260**	P	Pn	19 46 20.1	-3.3
RDN				S	Sn	19 46 53.0	-1.4
RSO	**Redoubt South**	**2.53**	**259**	P	Pn	19 46 20.6	-2.9
RSO				S	Sn	19 46 52.0	-2.7
XLV	**Seldovia**	**2.55**	**233**	P	Pn	19 46 20.3	-3.5
RED	**Redoubt Volcan**	**2.55**	**258**	P	Pn	19 46 20.7	-3.2
RED				S	Sn	19 46 52.1	-3.1
THY	**Trims Highway**	**2.56**	**20**	P	Pn	19 46 22.6	-1.3
BALM	**Baldy**	**2.62**	**88**	P	Pn	19 46 21.7	-3.2
TRF	**Thorofare Moun**	**2.69**	**335**	P	Pn	19 46 24.0	-1.9
MCK	**McKinley**	**2.75**	**349**	P	Pn	19 46 24.9	-1.8
MCK				S	Sn	19 46 58.5	-1.8
INE	**Iliamna NE**	**2.81**	**252**	P	Pn	19 46 24.0	-3.4
ILW	**Iliamna West**	**2.84**	**252**	P	Pn	19 46 24.5	-3.5
KTH	**Kantishna Hill**	**2.92**	**331**	P	Pn	19 46 27.0	-2.1
KTH				S	Sn	19 47 02.8	-1.9
YAH	**Yahtse**	**3.03**	**100**	P	Pn	19 46 27.7	-2.8
CTGM	**Chitina Glacie**	**3.12**	**89**	P	Pn	19 46 29.8	-2.1
DOT	**Dot Lake**	**3.13**	**32**	P	Pn	19 46 31.1	-0.9
BWN	**Browne**	**3.24**	**347**	P	Pn	19 46 31.3	-2.3
HDA	**Harding Lake**	**3.39**	**6**	P	Pn	19 46 33.2	-2.6
WRH	**Wood River Hil**	**3.44**	**357**	P	Pn	19 46 33.6	-3.0
CCB	**Clear Creek Bu**	**3.62**	**360**	P	Pn	19 46 35.4	-3.6
IL1	**Eielson Array**	**3.76**	**6**	P	Pn	19 46 37.7	-3.3
SVW2	**Sparrevohn**	**3.81**	**274**	P	Pn	19 46 37.2	-4.5
COLA	**College**	**3.84**	**359**	P	Pn	19 46 38.8	-3.4
MDM	**Murphy Dome**	**3.94**	**357**	P	Pn	19 46 40.2	-3.4
KDAK	**Kodiak Island**	**4.10**	**219**	P	Pn	19 46 41.5	-4.4
MLY	**Manley**	**4.23**	**342**	P	Pn	19 46 44.3	-3.4
TT01	**Tatalina**	**4.33**	**299**	P	Pn	19 46 44.4	-4.7
PNL	**Peninsula**	**4.37**	**105**	P	Pn	19 46 45.6	-4.1
DAWY	**Dawson**	**4.91**	**48**	P	Pn	19 46 54.9	-2.4
IM3	**Indian Mountai**	**5.64**	**334**	P	Pn	19 47 04.0	-3.6
IMA2	**Indian Mountai**	**5.70**	**335**	*eP*	Pn	19 47 04.1	-4.3
BM3	**Burnt Mountain**	**6.54**	**11**	P	Pn	19 47 15.5	-4.9

JMA 06 19:53:00.3±0.1,38.07N×144.50E,h55km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.44**	**295**	P		19 53 38.9	+0.3
OFUJ				*e*S	S	19 54 07.9	+0.6
JIO	**Ouri**	**2.51**	**280**	P		19 53 39.8	+0.2
JIO				*e*S	S	19 54 09.1	0.0
MIYJ	**Miyakonagasawa**	**2.58**	**307**	P		19 53 40.3	-0.3
MIYJ				*e*S	S	19 54 10.3	-0.5
JMK	**Ichinoseki**	**2.72**	**290**	P		19 53 42.8	+0.2
JMK				*e*S	S	19 54 15.0	+0.6
JOT	**Ohata**	**4.25**	**322**	P		19 54 04.0	-0.1
JCH	**Churui**	**4.62**	**350**	P		19 54 07.0	-2.4
JCH				*e*S	S	19 54 56.8	-5.6
JRY	**Ryogami san**	**4.92**	**247**	P		19 54 12.8	-0.8
JRY				*e*S	S	19 55 06.6	-3.4

*ATH **06** 20:44:25.3, 38.17N×26.82E, h29km±1km, MD3.0/3*
*ISK **06** 20:44:25.5, 38.23N×26.72E, h27km, MD2.9*
*CSEM **06** 20:44:26.3±0.9, 38.19N×26.82E, h25km, MD2.9, Error ellipse: s-maj=3.7km s-min=2.0km az=109.0*
ISC 06 20:44:26.2±0.9,38.17N±0.03×26.72E±0.08,h19km±9km, n10,σ0§58/16,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.34**	**49**	*i* PG	**Pb**	**20 44 33.0**	**-0.4**
BLCB				*i* SG	**Sb**	**20 44 37.9**	**-0.3**
SMG	**Samos**	**0.47**	**168**	*e*PB	**Pb**	**20 44 35.4**	**-0.2**
SMG				*e*SB	**Sb**	**20 44 42.7**	**+0.7**
IZM	**Izmir**	**0.49**	**62**	*i* PG	**Pb**	**20 44 36.0**	**+0.1**
IZM				*i* SG	**Sb**	**20 44 43.6**	**+1.1**
AKS	**Akhisar**	**1.11**	**50**	PG	**Pb**	**20 44 45.7**	**-0.9**
PRK	**Paraskevi**	**1.13**	**342**	*e*PN	**Pn**	**20 44 47.0**	**-0.1**
PRK				*e*SN	**Sn**	**20 45 02.9**	**+0.7**
BODT	**Bodrum**	**1.20**	**157**	PN	**Pn**	**20 44 48.3**	**+0.2**
BODT				SN	**Sn**	**20 45 03.7**	**-0.2**
MLSB	**Milas**	**1.21**	**136**	*e*PN	**Pn**	**20 44 47.2**	**-1.0**
MLSB				*e*SN	**Sn**	**20 45 04.6**	**+0.4**
APE	**Apeiranthos**	**1.45**	**221**	*e*PN	**Pn**	**20 44 50.9**	**-0.7**
APE	**Apeiranthos**	**1.45**	**221**	*e*Pn	**Pn**	**20 44 52.4**	**+0.8**
DAT	**Datca**	**1.59**	**154**	*e*PN	**Pn**	**20 44 53.5**	**-0.2**

*KISR **06** 20:51:24.9±1.4, 26.68N×55.43E, h33km, ML3.5*
*CSEM **06** 20:51:26.6±0.3, 27.39N×55.76E, h35km, ML3.1, Error ellipse: s-maj=13.3km s-min=4.3km az=1.0*
*THR **06** 20:51:27.3±0.4, 27.61N×55.78E, h14km±6km, ML3.1*
ISC 06 20:51:22.7±0.7,26.93N±0.07×55.63E±0.06,h10km,n10, σ1§22/15,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.67**	**46**	*e*PG	**Pg**	**20 51 35.7**	**-0.5**
BNDS				AML	AML	20 51 54.0	
	comp=N,2μm,0.5s						
BANOM	**Banah**	**1.17**	**149**	P	**Pb**	**20 51 43.5**	**-1.0**
	SNR=744						
ASHO	**Ashiyiah**	**2.27**	**170**	P	**Pn**	**20 52 01.1**	**+0.4**
	SNR=55						
GHIR	**Ghir-Karzin**	**2.71**	**301**	*e*PN	**Pb**	**20 52 10.6**	**-0.2**
GHIR				*e*SG	**Sb**	**20 52 47.3**	**+3.2**
GHIR				AML	AML	20 53 19.0	
	comp=N,66nm,0.4s						
KRBR	**Kerman**	**3.20**	**18**	*e*PN	**Pn**	**20 52 10.1**	**-4.0**
ARQ	**Araqi**	**3.67**	**167**	P	**Pn**	**20 52 20.7**	**0.0**
	SNR=6.1						
QRN	**Al-Qurain**	**7.06**	**287**	*e*P	**Pn**	**20 53 10.2**	**+1.6**
QRN				*e*S	**Sn**	**20 54 29.2**	**-0.6**
RDF	**Al-Radifah**	**7.42**	**287**	*e*P	**Pn**	**20 53 14.6**	**+1.0**
RDF				*e*S	**Sn**	**20 54 36.3**	**-2.4**
RDF				AML	AML	20 54 39.5	
	comp=Z,5.7nm,0.5s						
UMR	**Umm Al-Rimmam**	**7.45**	**292**	*e*P	**Pn**	**20 53 15.3**	**+1.2**
UMR				*e*S	**Sn**	**20 54 39.1**	**-0.4**
UMR				AML	AML	20 54 41.2	
	comp=Z,9.3nm,0.4s						
NAY	**Al-Naaiem**	**7.76**	**289**	*e*P	**Pn**	**20 53 19.8**	**+1.4**
NAY				*e*S	**Sn**	**20 54 45.6**	**-1.6**
NAY				AML	AML	20 54 46.8	
	comp=Z,4.2nm,0.6s						

*LDG **06** 21:05:36.9±0.4, 12.68S×167.86E, h10km, Mb4.6/4, Error ellipse: s-maj=45.0km s-min=11.6km az=90.0*
*IDC **06** 21:05:59.8±1.6, 13.60S×167.25E, h196km±14km, mb3.9/14, mb1 4.0/16, mb1mx3.9/20, mbtmp4.3/16, MS3.6/1, Ms1 3.5/1, ms1mx2.8/27, Error ellipse: s-maj=14.5km s-min=12.9km az=128.0*
*NEIC **06** 21:06:00.6±1.2, 13.58S×167.23E, h205km±10km, mb4.7/11, Error ellipse: s-maj=9.8km s-min=8.2km az=76.0*
ISC 06 21:05:59.6±1.4,13.60S±0.08×167.22E±0.09, h207km±13km,n71,σ1§09/38,mb4.2/19,5C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.24**	**299**	P	**P**	**21 07 57.2**	**+0.4**
	11nm,0.3s,baz=289,slow=4.3,SNR=5.5						
HNR	**Honiara**	**8.24**	**299**	*e*Pn	**P**	**21 07 57.2**	**+0.4**
	98nm,1.2s						
DZM	**Mont Dzumac**	**8.46**	**185**	P	**P**	**21 08 00.7**	**+1.1**
	0.9nm,0.3s,baz=25,slow=16,SNR=7.2						
AFI	**Afiamalu**	**20.41**	**93**	P	**P**	**21 10 21.6**	**-0.4**
	31nm,0.9s,baz=253,slow=17,SNR=3.2						
AFI	**Afiamalu**	**20.41**	**93**	*e*P	**P**	**21 10 21.7**	**-0.4**
	65nm,1.0s						

CTA	**Charters Tower**	**21.06**	**249**	*e*P	**P**	**21 10 28.9**	**+0.4**
	3.3nm,0.6s,mb4.0							
CTA	**Charters Tower**	**21.06**	**249**	P	**P**	**21 10 28.9**	**+0.4**
	3.8nm,0.7s,mb4.1,baz=81,slow=13,SNR=7.5							
CTAO	**Charters Tower**	**21.06**	**249**	*e*P	**P**	**21 10 28.9**	**+0.4**
	4.2nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**29.69**	**228**	*e*P	**P**	**21 11 48.0**	**-0.5**
	7.8nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**29.69**	**228**	P	**P**	**21 11 48.2**	**-0.3**
	13nm,0.7s,mb4.7,baz=54,slow=8.3,SNR=38							
STKA				PcP	PcP	21 14 47.0	-0.4	
	3.6nm,0.7s,baz=5.4,slow=6.6,SNR=5.2							
STKA				ScP		21 18 10.9		
	2.9nm,1.0s,baz=145,slow=23,SNR=3.0							
STKA				LR	LR	21 22 10.0		
	comp=Z,119nm,21.5s,baz=215,slow=33							
STKA	**Stephens Creek**	**29.69**	**228**	*e*P	**P**	**21 11 47.7**	**-0.8**
RPZ	**Rata Peaks**	**30.19**	**174**	P	**P**	**21 11 51.4**	**-1.3**
	4.8nm,0.5s,mb4.4,baz=18,slow=3.2,SNR=3.4							
TOO	**Toolangi**	**30.73**	**215**	*e*P	**P**	**21 11 57.1**	**-0.4**
	11nm,0.7s,mb4.6							
WB2	**Warramunga Arr**	**32.05**	**254**	*e*P	**P**	**21 12 07.3**	**-1.9**
WRA	**Warramunga Arr**	**32.06**	**254**	P	**P**	**21 12 07.8**	**-1.5**
	1.3nm,0.5s,mb3.7,baz=85,slow=9.4,SNR=17							
WRA				PcP	PcP	21 14 53.6	-0.1	
	3.1nm,0.8s,baz=88,slow=3.3,SNR=13							
WRA				S	**S**	**21 17 06.3**	**+1.4**	
	0.3nm,0.5s,baz=86,slow=15,SNR=5.5							
WRA				ScP		21 18 19.5		
	1.1nm,1.2s,baz=87,slow=3.8,SNR=7.9							
FORT	**Forrest**	**39.84**	**238**	*e*P	**P**	**21 13 14.0**	**-0.5**
	16nm,0.7s,mb4.6							
MJAR	**Matsushiro Arr**	**56.89**	**332**	P	**P**	**21 15 23.7**	**-1.4**
	2.6nm,0.9s,mb3.9,baz=168,slow=7.6,SNR=4.2							
VNDA	**Vanda**	**63.98**	**181**	P	**P**	**21 16 11.2**	**-1.3**
	1.8nm,0.7s,mb3.8,baz=6.1,slow=7.4,SNR=7.3							
VNDA	**Vanda**	**63.98**	**181**	*e*P	**P**	**21 16 11.7**	**-0.8**
	17nm,1.7s,mb4.4							
ENH	**Enshi**	**70.61**	**309**	*e*P	**P**	**21 16 54.2**	**-0.4**
	7.0nm,1.2s,mb4.2							
QSPA	**South Pole Qui**	**76.42**	**180**	*e*P	**P**	**21 17 27.6**	**+0.3**
	19nm,0.9s,mb4.7							
LZH	**Lanzhou**	**77.53**	**312**	*e*P	**P**	**21 17 36.2**	**+1.9**
	19nm,1.0s,mb4.7							
BILL	**Bilibino**	**81.42**	**360**	*e*P	**P**	**21 17 54.9**	**+0.5**
	19nm,1.4s,mb4.5							
SONM	**Songino Array**	**81.56**	**324**	P	**P**	**21 17 56.6**	**+1.1**
	0.8nm,0.7s,mb3.5,baz=150,slow=5.3,SNR=9.1							
MAW	**Mawson**	**82.91**	**202**	P	**P**	**21 18 02.7**	**+0.7**
	5.9nm,0.6s,mb4.5,baz=104,slow=6.9,SNR=14							
ILAR	**Eielson Array**	**85.47**	**18**	P	**P**	**21 18 15.1**	**+0.2**
	0.8nm,0.7s,mb3.6,baz=241,slow=4.9,SNR=7.3							
ILAR				pP	pP	21 19 02.6	-2.9	
	2.2nm,0.9s,baz=236,slow=6.4,SNR=7.7							
SNAA	**Sanae**	**94.67**	**183**	*i*	**P**	**21 18 57.0**	**-0.7**
SNAA	**Sanae**	**94.67**	**183**		**P**	**21 18 58.8**	**+1.1**
SNAA	**Sanae**	**94.67**	**183**	P	**P**	**21 18 57.3**	**-0.4**
	1.1nm,0.9s,mb4.0,baz=211,slow=6.0,SNR=7.2							
SNAA	**Sanae**	**94.67**	**183**	P	**P**	**21 18 58.8**	**+1.1**
VNA3	**Neumayer Olymp**	**95.33**	**181**	*i*	**P**	**21 19 02.2**	**+1.5**
VNA3	**Neumayer Olymp**	**95.33**	**181**	*i*	**P**	**21 19 03.5**	**+2.8**
VNA2	**Neumayer--Watz**	**95.60**	**182**	*i*	**P**	**21 19 03.7**	**+1.8**
VNA2	**Neumayer--Watz**	**95.60**	**182**	*i*	**P**	**21 19 05.4**	**+3.5**
MKAR	**Makanchi Array**	**96.36**	**316**	P	**P**	**21 19 06.8**	**+0.9**
	1.5nm,0.7s,mb4.3,baz=90,slow=6.2,SNR=14							
ZAL	**Zalesovo**	**96.47**	**324**	P	**P**	**21 19 06.0**	**-0.2**
	0.8nm,0.6s,mb4.1							
YKA	**Yellowknife Ar**	**96.57**	**27**	P	**P**	**21 19 04.8**	**-1.7**
	0.2nm,0.7s,mb3.4,baz=67,slow=24,SNR=3.7							
ARCES	**ARCESS Array B**	**119.15**	**346**	PKP	PKPdf	21 24 24.1	+0.6	
	2.5nm,0.7s,baz=76,slow=2.2,SNR=17							
JOF	**Joensuu**	**121.83**	**338**	*ep*	PKPdf	21 24 25.5	-3.3	
	1.9nm,0.7s							
SIV	**San Ignacio**	**123.94**	**120**	PKP	PKPdf	21 24 33.9	-0.1	
	0.3nm,0.4s,baz=41,slow=18,SNR=2.5							
FINES	**FINESS Array B**	**124.66**	**338**	PKP	PKPdf	21 24 35.6	+1.4	
	3.0nm,1.0s,SNR=5.5							
NOA	**NORSAR Array B**	**129.53**	**345**	PKP	PKPdf	21 24 45.3	+1.7	
	0.6nm,0.7s,baz=41,slow=4.7,SNR=2.6							
GERES	**GERESS Array B**	**138.62**	**334**	PKP	PKPdf	21 25 03.8	+3.0	
	0.3nm,0.7s,baz=225,slow=1.4,SNR=6.6							
GIVF	**Givet**	**140.86**	**342**	*e*PKP1	PKPdf	21 25 06.0	+1.2	
CDF	**Champ du Feu**	**141.52**	**338**	*e*PKP1	PKPdf	21 25 07.4	+1.4	
MEZF	**Maizieres J'vi**	**142.19**	**341**	*e*PKP1	PKPdf	21 25 07.9	+0.8	
FLN	**La Foliniere**	**143.50**	**346**	*e*PKP1	PKPbc	21 25 07.8	-0.3	
LOR	**Lormes**	**143.66**	**341**	*e*PKP1	PKPbc	21 25 09.3	+0.6	
SSF	**Saint Saulge**	**143.96**	**341**	*e*PKP1	PKPbc	21 25 10.4	+0.8	
	38nm,1.2s							
LPL	**La Plagne**	**144.15**	**336**	*e*PKP1	PKPbc	21 25 11.3	+1.1	
	23nm,1.2s							
LPG	**La Plagne**	**144.16**	**336**	*e*PKP1	PKPbc	21 25 11.7	+1.5	
	9.0nm,0.7s							
SMF	**Signal de Mont**	**144.22**	**340**	*e*PKP1	PKPbc	21 25 11.0	+0.7	
	13nm,1.0s							
AVF	**Avril sur Loir**	**144.25**	**341**	*e*PKP1	PKPbc	21 25 10.9	+0.5	
	7.0nm,0.7s							
SGMF	**Saint Gilles**	**144.42**	**348**	*e*PKP1	PKPbc	21 25 11.4	+0.6	
	23nm,1.0s							
ROSF	**Rostrenen**	**144.48**	**349**	*e*PKP1	PKPbc	21 25 11.5	+0.5	
BGF	**Bois d'Agland**	**144.61**	**341**	*e*PKP1	PKPbc	21 25 12.3	+0.9	
	26nm,0.8s							
MBDF	**Montbardon**	**144.79**	**336**	*e*PKP1	PKPbc	21 25 12.9	+0.9	
	22nm,1.0s							
QUIF	**Quistinic**	**144.86**	**349**	*e*PKP1	PKPbc	21 25 12.7	+0.6	
	18nm,0.7s							
ORIF	**Oris-en-Rattie**	**144.98**	**337**	*e*PKP1	PKPbc	21 25 14.1	+1.6	
	25nm,0.9s							
TCF	**Toulx Ste Croi**	**145.05**	**342**	*e*PKP1	PKPbc	21 25 13.8	+1.1	
	23nm,1.0s							
SBF	**Sospel**	**145.22**	**334**	*e*PKP1	PKPbc	21 25 14.0	+0.8	
	88nm,1.0s							
MFF	**Saint Martin d**	**145.43**	**345**	*e*PKP1	PKPbc	21 25 15.1	+1.5	
VIVF	**Saint-Julien-l**	**145.49**	**338**	*e*PKP1	PKPbc	21 25 14.6	+0.8	
PGF	**Pioggiola**	**145.55**	**331**	*e*PKP1	PKPbc	21 25 14.7	+0.7	
FRF	**La Foret Royal**	**145.80**	**335**	*e*PKP1	PKPbc	21 25 15.9	+1.3	
	35nm,0.8s							
LMR	**La Mourre**	**146.04**	**334**	*e*PKP1	PKPbc	21 25 16.9	+1.7	
RJF	**Les Rejaudoux**	**146.15**	**342**	*e*PKP1	PKPbc	21 25 15.0	-0.4	
LASF	**Ste Croix**	**146.45**	**338**	*e*PKP1	PKPbc	21 25 18.4	+2.3	
	16nm,0.9s							
MTLF	**Montolieu**	**147.67**	**339**	*e*PKP1	PKPdf	21 25 21.7	+5.1	
	34nm,1.0s							
EVO	**Evora**	**154.81**	**351**	*e*PKIKP	PKPdf	21 25 26.4	-0.9	
	4.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**165.90**	**270**	PKP	PKPdf	21 25 41.4	+1.2	
	2.4nm,1.1s,baz=142,slow=1.0,SNR=8.5							
TORD				PKPab	PKPab	21 26 43.2	-0.1	
	1.0nm,0.7s,baz=81,slow=5.6,SNR=5.4							

IDC 06 21:16:29.2±2.2,21.89S×69.50W,mb3.7/3,mb1 3.9/5, mb1mx3.7/15,mbtmp3.8/5,ML3.2/1,Error ellipse: s-maj=55.4km s-min=42.3km az=5.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.72**	**13**	Pn	Pn	21 17 56.5	-1.0
	0.4nm,0.3s,baz=183,slow=8.1,SNR=8.3						
SIV	**San Ignacio**	**9.90**	**55**	Pn	P	21 18 51.8	-4.1
	1.2nm,0.3s,baz=250,slow=13,SNR=24						
BDFB	**Brasilia**	**21.26**	**77**	P	P	21 21 18.5	-0.9
	2.0nm,0.4s,baz=276,slow=9.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**78.00**	**71**	P	P	21 28 29.5	-2.1
	0.2nm,0.4s,baz=255,slow=5.5,SNR=10						
YKA	**Yellowknife Ar**	**91.38**	**341**	P	P	21 29 36.2	-1.6
	0.2nm,0.6s,baz=136,slow=4.9,SNR=4.6						
MKAR	**Makanchi Array**	**146.27**	**36**	PKPbc	PKPbc	21 36 11.6	0.0
	0.3nm,0.6s,baz=344,slow=3.6,SNR=4.1						

NEIC 06 21:49:03.9,51.83N×175.48W,h54km,ML3.6(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSIG	**Igitkin Island**	**0.32**	**300**	P	P	21 49 14.3	+0.6
GSMY	**Great Sitkin M**	**0.42**	**301**	P	P	21 49 14.9	+0.3
GSMY				S	S	21 49 23.6	+1.1
GSTR	**Great Sitkin T**	**0.45**	**307**	P	P	21 49 15.6	+0.6
GSCK	**Great Sitkin C**	**0.46**	**294**	P	P	21 49 15.4	+0.3
GSCK				S	S	21 49 24.0	+0.8
GSTD	**Great Sitkin T**	**0.47**	**299**	P	P	21 49 15.6	+0.4
GSTD				S	S	21 49 24.5	+1.2
GSSP	**Great Sitkin S**	**0.51**	**302**	P	P	21 49 16.1	+0.5
ADAG	**Mount Adagdak**	**0.71**	**283**	P	P	21 49 18.5	+0.5
ADAG				S	S	21 49 28.3	-0.2
ATKA	**Atka Island**	**0.88**	**64**	P	P	21 49 20.2	-0.1
ATKA				S	S	21 49 32.3	-0.1
KIRH	**Kanaga Island**	**1.00**	**275**	P	P	21 49 22.2	+0.2
KINC	**Kanaga Island**	**1.03**	**276**	P	P	21 49 22.3	-0.1
KIKV	**Kanaga Island**	**1.05**	**273**	P	P	21 49 22.9	+0.2
KIKV				S	S	21 49 37.5	+0.9
KICM	**Kanaga Island**	**1.07**	**276**	P	P	21 49 23.1	+0.2
KIMD	**Kanaga Island**	**1.09**	**267**	P	P	21 49 23.1	-0.2
KIMD				S	S	21 49 38.2	+0.6

*NEIC **06** 22:22:34.7, 15.74N×94.92W, h10km, MD3.8(MEX), After MEX.*
MEX 06 22:22:35.2±0.6,15.74N×94.92W,h14km±12km,MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.14**	**271**	*i* P	Pb	22 22 52.7	-3.6
HUIG				*i* S	Sb	22 23 07.0	-3.9
CMIG	**Matias Romero**	**1.34**	**1**	*i* P	Pn	22 22 55.7	-3.9
CMIG				*i* S	Sb	22 23 12.1	-4.4
OXX	**Oaxaca**	**2.18**	**308**	*i* P	Pn	22 23 08.0	-3.7
OXX				*i* S	Sn	22 23 32.0	-6.7
VHO	**Vista Hermosa**	**2.19**	**307**	*e*P	Pn	22 23 09.2	-2.5
VHO				*i* S	Sn	22 23 34.8	-4.0
CCIG	**Comitan**	**2.73**	**78**	*i* P	Pn	22 23 16.1	-3.4
CCIG				*i* S	Sn	22 23 47.9	-4.7

*CSEM **06** 22:24:08.4±1.0, 38.86N×29.20W, ML1.8, Error ellipse: s-maj=16.8km s-min=5.8km az=66.0, After PDA*
*PDA **06** 22:24:08.4±1.0, 38.86N×29.20W, MD3.4, ML1.8, Error ellipse: s-maj=16.8km s-min=5.8km az=66.0*
SVSA 06 22:24:08.4±1.0,38.86N×29.20W,MD3.4,ML1.8,Error ellipse: s-maj=16.8km s-min=5.8km az=66.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.41**	**131**	*e*S	Sg	22 24 22.2	0.0
	29nm,0.1s						
PTCA	**Ponta do Capel**	**0.41**	**131**	*e*S	Sg	22 24 22.2	0.0
	29nm,0.1s						
PCED	**Cedros**	**0.45**	**120**	*e*P	Pg	22 24 16.6	-0.8
PCED				*e*S	Sg	22 24 22.5	-0.9
	52nm,0.1s						
PCED	**Cedros**	**0.45**	**120**	*e*P	Pg	22 24 16.6	-0.8
PCED				*e*S	Sg	22 24 22.5	-0.9
	52nm,0.1s						
CALA	**Caldeira**	**0.47**	**125**	*e*P	Pg	22 24 17.2	-0.7
CALA				*e*S	Sg	22 24 23.6	-0.6
PCND	**Candelaria**	**0.69**	**124**	*e*S	Sg	22 24 29.8	-1.7
	15nm,0.2s						
PICO	**Pico**	**0.70**	**120**	*e*P	Pg	22 24 20.7	-1.7
PICO				*e*S	Sg	22 24 29.8	-1.9
ROSA	**Rosais**	**0.76**	**100**	*e*P	Pg	22 24 21.2	-2.4
ROSA				*e*S	Sg	22 24 31.4	-2.3
PBOI	**Pico dos Bois**	**0.77**	**123**	*e*S	Sg	22 24 31.5	-2.5
	18nm,0.2s						
PMAN	**Manadas**	**0.90**	**104**	*e*S	Sg	22 24 34.7	-3.5
	51nm,0.4s						

*NIED **06** 22:34:00, 23.50N×121.80E, h71km, Mw4.7 Best double couple: M0 1.26×10^16 NP1:φ§60°, δ§82°, λ107°. NP2:φ§176°, δ19°, λ27°.*
*IDC **06** 22:34:18.1±1.1, 23.41N×121.73E, mb3.8/9, mb1 4.0/11, mb1mx3.9/21, mbtmp3.8/11, ML3.7/2, MS3.4/5, Ms1 3.5/5, ms1mx3.1/26, Error ellipse: s-maj=29.9km s-min=24.5km az=43.0*
*JMA **06** 22:34:22.7±0.2, 23.47N×121.83E, h73km, M4.3*
*NEIC **06** 22:34:23.6±0.9, 23.53N×121.79E, h35km, MG4.3(JMA), Error ellipse: s-maj=17.6km s-min=13.8km az=47.0*
*BJI **06** 22:34:35.5, 24.36N×121.12E, h25km, mB4.6, mb4.4, ML3.9, Ms4.2, Msz3.8*
ISC 06 22:34:21.7±1.0,23.46N±0.06×121.79E±0.03,h33km±8km, n32,σ1§08/48,mb3.7/9,MS3.5/4,2C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.73**	**346**	*i* ePn	**P**	**22 34 34.6**	**-1.0**
NACB

comp=Z,0.5nm,0.7s,mb3.6,baz=282,slow=6.3,SNR=4.8
FINES FINESS Array B 72.35 330 P **P** **22 45 46.4 +0.7**
comp=Z,3.3nm,1.1s,mb4.2,baz=53,slow=6.9,SNR=6.3
FINES LR LR 23 20 28.7
comp=Z,41nm,20.2s,MS3.7,baz=91,slow=38
NOA NORSAR Array B 79.12 332 P **P** **22 46 23.4 -0.8**
comp=Z,0.9nm,0.9s,mb3.7,baz=77,slow=9.5,SNR=2.9
NOA LR LR 23 22 31.4
comp=Z,30nm,19.8s,MS3.6,baz=70,slow=37
YKA Yellowknife Ar 83.42 23 P **P** **22 46 47.6 +0.9**
comp=Z,0.9nm,0.7s,mb3.9,baz=314,slow=4.8,SNR=12
GERES GERESS Array B 83.75 321 P **P** **22 46 49.3 +0.7**
comp=Z,0.5nm,0.7s,mb3.8,baz=56,slow=4.8,SNR=5.3

*NEIC **06** 23:10:06.5, 35.74N×0.92W, MG2.8(MDD), After MDD.*
MDD 06 23:10:06.5±3.0, 35.74N×0.92W, mb3.7/1, mbLg1.3/1, Error ellipse: s-maj=28.9km s-min=19.5km az=146.0, PRXIMO SIN SOLUCIN, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBER	**Berja**	**1.97**	**307**	P	Pn	23 10 40.4	-1.1
	SNR=7.9						
EBER				S	Sn	23 11 03.6	-3.7
	0.9nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.12**	**353**	P	Pn	23 10 40.8	-2.8
	0.3nm,0.1s,SNR=7.9						
EMUR				S	Sn	23 11 03.5	-7.5
	1.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.69**	**321**	P	Pn	23 10 51.5	-0.3
	1.3nm,0.1s,SNR=24						
EQES				S	Sn	23 11 23.5	-2.1
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**2.94**	**350**	P	Pn	23 10 53.9	-1.5
	0.4nm,0.1s,SNR=7.6						
ETOB				S	Sn	23 11 26.6	-5.4
	0.5nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**3.23**	**286**	P	Pn	23 10 55.7	-3.8
	0.3nm,0.1s,SNR=7.9						
EMIJ				S	Sn	23 11 30.4	-8.7
	0.8nm,0.2s,SNR=7.9						

*NNC **06** 23:24:35.2±5.0, 44.47N×83.06E, mpv3.4, Error ellipse: s-maj=37.8km s-min=16.1km az=114.0*
BJI 06 23:24:39.8, 44.88N×83.04E, h15km, ML3.6, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.98**	**345**	⇓Pn	Pn	23 25 16.5	+3.3
	4.3nm,0.3s,baz=164,slow=16,SNR=408						
MK31				⇓Lg		23 25 51.5	
	136nm,0.7s,baz=162,slow=28,SNR=26						
WMQ	**Urumqi**	**3.50**	**106**	PG	Pg	23 25 42.5	-7.3
WMQ				SG	Sg	23 26 26.7	-10
WMQ				Smax			
	comp=N,50nm,0.4s						
WMQ				Smax			
	comp=E,60nm,0.4s						
TKM2	**Tokmak 2**	**5.72**	**253**	⇓Pg	Pg	23 26 16.9	-17
	comp=E,7.1nm,0.8s						
TKM2				⇓Lg		23 27 30.5	
	comp=E,12nm,0.7s						
KURK	**Kurchatov**	**6.55**	**335**	⇑Lg		23 28 15.8	
	comp=E,6.3nm,0.8s						
KK31	**Karatay Array**	**9.21**	**263**	⇑Pg	P	23 27 25.8	+31
	comp=E,0.4nm,0.5s,baz=75,slow=16,SNR=4.7						
KK31				⇑Lg		23 29 22.2	
	comp=E,4.0nm,0.8s,baz=71,slow=25,SNR=4.3						
VOSK	**Vostochnaya**	**11.16**	**319**	⇑Lg		23 30 38.8	
	comp=E,7.0nm,1.6s						
BVA0	**Borovoye Array**	**11.63**	**319**	⇑Lg		23 30 48.7	
	comp=E,0.9nm,1.4s,baz=138,slow=29,SNR=3.7						

*IDC **06** 23:36:10.9±0.7, 12.23N×141.00E, h24km±5km, mb4.0/11, mb1 4.2/12, mb1mx4.0/20, mbtmp4.2/12, ML4.1/1, MS3.7/12, Ms1 3.7/12, ms1mx3.6/28, Error ellipse: s-maj=25.2km s-min=13.9km az=94.0*
*NEIC **06** 23:36:11.0±0.3, 12.24N×140.93E, mb4.4/6, Error ellipse: s-maj=12.7km s-min=7.9km az=92.0*
ISC 06 23:36:09.1±0.5, 12.19N±0.08×140.9E±0.1, h25km, h25km±.4km: pP-P, n28, σ0§62/21, mb4.2/15, MS3.8/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.10**	**70**	Pn	**Pn**	**23 37 12.4**	**+0.5**
	11nm,0.3s,baz=206,slow=8.0,SNR=7.9						
CBIJ	**Chichi jima**	**14.87**	**4**	LR	LR	23 44 36.5	
	comp=Z,138nm,21.3s,baz=281,slow=34						
JOW	**Kunigami**	**18.79**	**323**	LR	LR	23 46 32.0	
	comp=Z,145nm,21.5s,baz=228,slow=33						
JHJ	**Hachijo jima 2**	**20.86**	**357**	LR	LR	23 47 52.3	
	comp=Z,275nm,21.0s,MS3.6,baz=133,slow=34						
MJAR	**Matsushiro Arr**	**24.37**	**355**	LR	LR	23 50 14.9	
	comp=Z,117nm,19.7s,MS3.4,baz=205,slow=35						
HNR	**Honiara**	**28.62**	**138**	LR	LR	23 51 28.4	
	comp=Z,143nm,19.1s,MS3.6,baz=68,slow=32						
CTA	**Charters Tower**	**32.51**	**171**	P	**P**	**23 42 40.8**	**+0.5**
	0.7nm,0.3s,mb4.1,baz=326,slow=13,SNR=3.1						
CTA				pP	pP	23 42 48.3	+0.5
	7.6nm,0.9s,baz=348,slow=10,SNR=5.7						
CTA				LR	LR	23 53 24.7	
	comp=Z,140nm,21.2s,MS3.6,baz=46,slow=32						
CTAO	**Charters Tower**	**32.51**	**171**	P	**P**	**23 42 40.9**	**+0.6**
	8.7nm,0.9s,mb4.7						
CTAO				*e*pP	pP	23 42 48.3	+0.5
WB2	**Warramunga Arr**	**32.58**	**192**	*e*P	**P**	**23 42 40.7**	**-0.2**
WB2				*e*	pP	23 42 48.6	+0.2
WRA	**Warramunga Arr**	**32.58**	**192**	P	**P**	**23 42 40.9**	**0.0**
	6.9nm,0.7s,mb4.7,baz=11,slow=9.9,SNR=78						
WRA				pP	pP	23 42 48.3	-0.1
	16nm,0.8s,baz=9.4,slow=9.5,SNR=31						
FITZ	**Fitzroy Crossi**	**33.66**	**207**	*e*P	**P**	**23 42 50.0**	**-0.4**
	4.8nm,0.9s,mb4.4						
FITZ				*e*	pP	23 42 57.0	-0.9
FITZ	**Fitzroy Crossi**	**33.66**	**207**	P	**P**	**23 42 49.6**	**-0.8**
	3.1nm,1.0s,mb4.2,baz=329,slow=22,SNR=4.0						
FITZ				pP	pP	23 42 57.2	-0.7
	3.8nm,0.9s,baz=36,slow=10,SNR=5.4						
DZM	**Mont Dzumac**	**42.27**	**144**	LR	LR	23 58 08.9	
	comp=Z,152nm,21.5s,MS3.9,baz=195,slow=31						
STKA	**Stephens Creek**	**43.82**	**179**	*e*P	**P**	**23 44 15.0**	**0.0**
	4.9nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**43.82**	**179**	P	**P**	**23 44 15.3**	**+0.3**
	4.1nm,0.8s,mb4.2,baz=8.6,slow=9.5,SNR=9.2						
STKA				LR	LR	00 03 32.4	
	comp=Z,172nm,19.8s,MS4.0,baz=24,slow=37						
SONM	**Songino Array**	**45.75**	**328**	P	**P**	**23 44 31.1**	**+0.9**
	0.5nm,0.7s,mb3.5,baz=117,slow=6.6,SNR=4.9						
SONM				LR	LR	00 02 52.9	
	comp=Z,118nm,18.2s,MS3.9,baz=188,slow=35						
BILL	**Bilibino**	**58.21**	**11**	*e*P	**P**	**23 46 02.1**	**-1.2**
	36nm,1.8s,mb5.1						
MKAR	**Makanchi Array**	**59.85**	**317**	P	**P**	**23 46 15.8**	**+0.8**
	1.1nm,0.8s,mb4.0,baz=100,slow=9.6,SNR=11						
MKAR				LR	LR	00 12 39.3	
	comp=Z,64nm,18.1s,MS3.8,baz=48,slow=36						
ZAL	**Zalesovo**	**60.56**	**326**	P	**P**	**23 46 19.8**	**+0.1**
	0.8nm,0.5s,mb4.1,baz=35,slow=8.7,SNR=3.6						
ZAL				LR	LR	00 13 37.9	
	comp=Z,108nm,18.7s,MS4.0,baz=8.5,slow=37						
ZAL	**Zalesovo**	**60.56**	**326**	P	**P**	**23 46 19.8**	**+0.1**
ZAL				LR	LR	00 13 37.9	
ILAR	**Eielson Array**	**71.48**	**25**	P	**P**	**23 47 28.3**	**-1.0**
	0.8nm,0.6s,mb3.8,baz=249,slow=6.0,SNR=19						
ILAR				pP	pP	23 47 36.4	-1.0
	0.7nm,0.7s,baz=249,slow=5.9,SNR=4.0						
KEV	**Kevo**	**86.63**	**341**	*e*p	**P**	**23 48 50.9**	**-0.4**
	0.3nm,0.4s,mb3.9						
ARCES	**ARCESS Array B**	**87.20**	**341**	P	**P**	**23 48 54.8**	**+0.7**
	3.8nm,1.0s,mb4.6,baz=64,slow=7.4,SNR=16						
JOF	**Joensuu**	**87.91**	**334**	*e*p	**P**	**23 48 58.1**	**+0.5**
	0.2nm,0.4s,mb3.7						
KAF	**Kangasniemi**	**90.36**	**335**	*e*p	**P**	**23 49 08.8**	**-0.4**
	0.4nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**90.76**	**334**	P	**P**	**23 49 10.4**	**-0.7**
	2.5nm,0.6s,mb4.7,baz=62,slow=5.2,SNR=25						
FINES				LR	LR	00 28 26.2	
	comp=Z,50nm,19.8s,MS4.0,baz=324,slow=34						
NVAR	**Mina Array Bea**	**90.79**	**50**	P	**P**	**23 49 12.0**	**+0.2**
	0.5nm,0.5s,mb4.1,baz=255,slow=9.3,SNR=4.4						
LPAZ	**La Paz**	**151.57**	**102**	PKPbc	PKPdf	23 56 04.4	+4.0
	2.1nm,0.6s,baz=292,slow=3.5,SNR=7.7						

*NEIC **06** 23:37:48.3, 16.35N×98.44W, h20km, MD3.6(MEX), After MEX.*
MEX 06 23:37:48.5±0.4, 16.36N×98.45W, h16km±11km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.31**	**83**	*e*P	Pb	23 37 54.2	-1.0
PNIG				*i* S	Sb	23 37 58.3	-1.4
ACX	**Acapulco**	**1.50**	**290**	*i* P	Pn	23 38 11.0	-3.9
ACX				*i* S	Sb	23 38 28.0	-6.1
OXX	**Oaxaca**	**1.80**	**66**	*e*P	Pn	23 38 17.0	-2.3
OXX				*i* S	Sn	23 38 40.0	-1.9
JCT	**Junction City**	**14.11**	**355**	Pn	P	23 41 04.6	-5.5
DWPF	**Disney**	**19.59**	**50**	*e*P	P	23 42 15.3	-3.6
LAZ	**Ladron**	**19.59**	**338**	*e*P	P	23 42 09.2	-10

IDC 06 23:39:50.1±3.0, 12.26N×139.07E, mb4.1/3, mb1 4.3/3, mb1mx3.7/17, mbtmp4.1/3, Error ellipse: s-maj=235.2km s-min=33.3km az=87.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.34**	**188**	P	P	23 46 21.4	-2.1
	1.2nm,0.7s,baz=10,slow=9.7,SNR=8.3						
WRA				pP	pP	23 46 29.3	+5.8
	1.5nm,0.7s,baz=11,slow=9.9,SNR=7.6						
ARCES	**ARCESS Array B**	**86.56**	**341**	P	P	23 52 35.0	-1.0
	2.2nm,0.9s,baz=88,slow=6.5,SNR=5.0						
FINES	**FINESS Array B**	**89.91**	**334**	P	P	23 52 50.8	-1.4
	1.0nm,0.7s,baz=63,slow=6.2,SNR=5.2						

*IDC **06** 23:48:09.5±2.3, 6.91S×105.20E, mb3.9/6, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, Error ellipse: s-maj=114.2km s-min=19.1km az=53.0*
*NEIC **06** 23:48:14.7±2.0, 6.80S×105.39E, h30km, Error ellipse: s-maj=90.0km s-min=11.7km az=52.0*
ISC 06 23:48:13.0±2.7, 6.8S±0.5×105.4E±0.7, h33km, n8, σ0§53/7, mb3.9/6, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.74**	**122**	P	**P**	**23 53 14.2**	**+0.5**
	2.3nm,0.8s,mb3.7,baz=303,slow=7.5,SNR=4.8						
WRA	**Warramunga Arr**	**31.00**	**118**	P	**P**	**23 54 29.5**	**-0.5**
	2.7nm,0.8s,mb4.1,baz=286,slow=11,SNR=23						
WRA				PcP	PcP	23 57 24.9	-0.7
	0.5nm,0.7s,baz=296,slow=2.2,SNR=4.7						
WB2	**Warramunga Arr**	**31.01**	**118**	*e*P	**P**	**23 54 29.4**	**-0.7**
STKA	**Stephens Creek**	**42.00**	**131**	P	**P**	**23 56 03.6**	**+0.6**
	9.2nm,1.1s,mb4.3,baz=315,slow=15,SNR=6.7						
SONM	**Songino Array**	**54.36**	**1**	P	**P**	**23 57 39.5**	**+0.7**
	0.4nm,0.5s,mb3.6,baz=183,slow=9.7,SNR=5.4						
SONM				PcP	PcP	23 58 42.3	0.0
	1.0nm,0.8s,baz=180,slow=3.9,SNR=6.0						
MKAR	**Makanchi Array**	**57.12**	**341**	P	**P**	**23 57 58.6**	**-0.2**
	0.5nm,0.6s,mb3.8,baz=152,slow=8.0,SNR=7.1						
ZAL	**Zalesovo**	**62.90**	**346**	P	**P**	**23 58 37.9**	**-0.4**
	0.9nm,0.5s,mb4.1,baz=308,slow=7.2,SNR=5.2						
TXAR	**Lajitas Array**	**144.59**	**47**	PKP	PKPdf	00 07 48.6	+1.7
	0.5nm,0.6s,baz=271,slow=1.2,SNR=5.8						

IDC 06 23:58:34.6±3.8, 5.00S×154.66E, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.9/14, Error ellipse: s-maj=122.5km s-min=40.9km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.84**	**130**	LR	LR	00 02 24.9	
	comp=Z,162nm,18.2s,baz=306,slow=34						
WRA	**Warramunga Arr**	**24.73**	**231**	P	P	00 03 58.6	-0.6
	0.9nm,0.8s,baz=59,slow=9.6,SNR=5.1						
FITZ	**Fitzroy Crossi**	**31.21**	**243**	P	P	00 04 55.4	-2.7
	0.9nm,0.4s,baz=55,slow=9.6,SNR=5.8						
MKAR	**Makanchi Array**	**81.70**	**319**	P	P	00 10 55.0	-1.5
	1.2nm,1.0s,baz=97,slow=6.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**152.13**	**289**	PKP	PKPdf	00 18 26.4	-1.8
	1.2nm,1.0s,baz=78,slow=1.4,SNR=10						

IDC 07 00:10:49.9±2.4, 5.11S×153.59E, mb3.4/3, mb1 3.5/3, mb1mx3.5/13, mbtmp3.4/3, Error ellipse: s-maj=88.7km s-min=38.8km az=107.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**23.83**	**230**	*e*P	P	00 16 08.5	+2.8
WRA	**Warramunga Arr**	**23.84**	**230**	P	P	00 16 04.8	-0.9
	0.5nm,0.7s,baz=53,slow=9.5,SNR=5.3						
WRA				PcP	PcP	00 19 48.7	-2.0
	0.4nm,0.4s,baz=50,slow=2.6,SNR=6.9						
SONM	**Songino Array**	**67.01**	**328**	P	P	00 21 45.0	-1.8
	0.2nm,0.4s,baz=130,slow=5.9,SNR=1.7						
MKAR	**Makanchi Array**	**81.08**	**319**	P	P	00 23 07.8	-0.7
	0.3nm,0.4s,baz=98,slow=7.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**151.15**	**288**	PKPbc	PKPdf	00 30 45.0	+3.1
	1.1nm,0.4s,baz=66,slow=1.6,SNR=47						

*NIED **07** 00:11:00, 38.40N×142.30E, h41km, Mw3.9 Best double couple: M0 7.93×10^14 NP1:φs 18°, δ77°, λ82°. NP2:φs 230°, δ16°, λ121°.*
*MOS **07** 00:11:28.3±1.3, 38.43N×142.65E, h33km, mb4.5/5, Error ellipse: s-maj=18.1km s-min=15.5km az=48.4*
*IDC **07** 00:11:31.8±3.5, 38.43N×142.58E, h46km±28km, mb3.6/6, mb1 3.7/8, mb1mx3.5/21, mbtmp3.8/8, ML3.3/2, Error ellipse: s-maj=33.5km s-min=19.5km az=108.0*
*JMA **07** 00:11:31.7±0.1, 38.36N×142.26E, h35km±2km, M4.0 JMA Felt I J1.*
*NEIC **07** 00:11:32.0±4.2, 38.41N×142.49E, h45km±29km, mb4.4/1, Error ellipse: s-maj=43.5km s-min=20.6km az=74.0*
ISC 07 00:11:31.7±1.4, 38.37N±0.06×142.3E±0.1, h51km±9km, n26, σ1§08/37, mb3.8/8, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.72**	**277**	⇓P	**P**	**00 11 45.5**	**-0.2**
JIO				S	**S**	**00 11 55.0**	**-1.1**
OFUJ	**Ofunato**	**0.84**	**327**	⇓P	**P**	**00 11 47.5**	**+0.1**
OFUJ				S	**S**	**00 11 58.5**	**-0.6**
JMK	**Ichinoseki**	**0.99**	**306**	⇓P	**P**	**00 11 49.8**	**+0.2**
JOU	**Okura**	**1.25**	**270**	⇓P	**P**	**00 11 53.5**	**+0.3**
JOU				S	**S**	**00 12 09.1**	**0.0**
JMM	**Marumori**	**1.26**	**247**	⇓P	**P**	**00 11 52.6**	**-0.7**
JMM				S	**S**	**00 12 07.8**	**-1.6**
JOM	**Ohasama**	**1.33**	**326**	⇓P	**P**	**00 11 54.9**	**+0.5**
JOM				S	**S**	**00 12 11.7**	**+0.5**
MJAR	**Matsushiro Arr**	**3.70**	**242**	P	**P**	**00 12 28.6**	**+0.7**
	4.0nm,0.3s,baz=59,slow=9.2,SNR=20						
MJAR				S	**S**	**00 13 15.8**	**+5.2**
	2.3nm,0.3s,baz=74,slow=31,SNR=5.9						
MJAR	**Matsushiro Arr**	**3.70**	**242**	P	**P**	**00 12 28.6**	**+0.8**
MJAR				S	**S**	**00 13 15.9**	**+5.3**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR				smax			
	comp=N,2.0nm,0.3s						
MAJO	**Matsushiro**	**3.70**	**242**	*e*P	**P**	**00 12 29.2**	**+1.3**
MAT	**Matsushiro**	**3.70**	**242**	P	**P**	**00 12 29.4**	**+1.5**
MAT				S	**S**	**00 13 13.5**	**+2.8**
MAT	**Matsushiro**	**3.70**	**242**	*e*P	**P**	**00 12 30.0**	**+2.1**
MAT				*e*S	**S**	**00 13 21.0**	**+10**
ASAJ	**Asahikawa**	**5.74**	**2**	P	**P**	**00 12 53.9**	**-2.5**
	comp=N,0.6nm,0.3s,baz=171,slow=19,SNR=2.1						
ASAJ				S	**S**	**00 14 03.6**	**+1.7**
	comp=N,0.8nm,0.3s,baz=299,slow=32,SNR=2.7						
ASAJ	**Asahikawa**	**5.74**	**2**	P	**P**	**00 12 53.9**	**-2.5**
ASAJ				S	**S**	**00 14 03.7**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
SONM	**Songino Array**	**27.62**	**302**	P	**P**	**00 17 15.7**	**-0.5**
	comp=N,0.5nm,0.6s,mb3.3,baz=100,slow=8.6,SNR=4.0						
SONM	**Songino Array**	**27.62**	**302**	P	**P**	**00 17 15.7**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ENH	**Enshi**	**28.13**	**263**	*e*P	**P**	**00 17 20.6**	**-0.5**
	comp=Z,7.8nm,0.8s,mb4.4						
ZAK	**Zakamensk**	**29.99**	**306**	*e*P	**P**	**00 17 36.1**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
ZAL	**Zalesovo**	**41.53**	**311**	P	**P**	**00 19 15.7**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.6,baz=13,slow=10,SNR=5.5						
ZAL	**Zalesovo**	**41.53**	**311**	P	**P**	**00 19 15.7**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LSA	**Lhasa**	**42.76**	**274**	P	**P**	**00 19 28.8**	**+3.0**
MKAR	**Makanchi Array**	**43.99**	**301**	P	**P**	**00 19 35.6**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=86,slow=11,SNR=8.3						
MKAR	**Makanchi Array**	**43.99**	**301**	P	**P**	**00 19 35.6**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**58.48**	**189**	P	**P**	**00 21 23.8**	**-1.2**
	comp=Z,0.4nm,0.5s,mb3.7,baz=6.2,slow=7.1,SNR=7.1						
FINES	**FINESS Array B**	**67.94**	**332**	P	**P**	**00 22 26.3**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=45,slow=8.1,SNR=5.3						
FINES	**FINESS Array B**	**67.94**	**332**	P	**P**	**00 22 26.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**73.65**	**322**	P	**P**	**00 23 01.1**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.5,baz=46,slow=6.3,SNR=5.4						

*CASC **07** 00:16:11.3±1.9, 12.50N×88.80W, h18km±10km, MD4.5, ML4.1, mb4.6(NEIC)*
*BJI **07** 00:16:13.5, 12.70N×88.40W, h59km, mB5.2, Ms5.0, Msz4.8*
*NEIC **07** 00:16:15.5±1.4, 12.74N×88.38W, h59km±13km, mb4.6/12, Error ellipse: s-maj=17.8km s-min=6.6km az=50.0*
*IDC **07** 00:16:15.5±2.9, 12.82N×88.33W, h54km±27km, mb4.0/9, mb1 4.2/11, mb1mx3.9/22, mbtmp4.3/11, ML3.8/2, MS3.6/13, Ms1 3.6/13, ms1mx3.5/25, Error ellipse: s-maj=37.4km s-min=13.6km az=51.0*
ISC 07 00:16:12.3±0.7, 12.41N±0.07×88.80W±0.05, h57km±6km, n79, σ1§22/69, mb4.5/19, MS3.9/13, 2C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**1.14**	**27**	*e*P	Px	00 16 37.4	
VSM				*e*S	Sx	00 16 52.7	
CNCH	**Conchagua**	**1.28**	**47**	*e*P	Px	00 16 38.9	
CNCH				*e*S	Sx	00 16 56.7	
SNET	**Serv Nac Est T**	**1.34**	**342**	⇓*e*P	Px	00 16 33.0	
SBLS	**San Blas**	**1.64**	**331**	*e*P	Px	00 16 42.8	
SBLS				*e*S	Sx	00 17 03.8	
SNJE	**San Jose**	**1.65**	**332**	*e*P	Px	00 16 42.9	
SNJE				*e*S	Sx	00 17 03.7	
CRIN	**San Cristobal**	**1.73**	**80**	*e*P	**P**	**00 16 41.2**	**+0.6**
LEON	**Leon**	**1.86**	**90**	*e*P	**P**	**00 16 41.7**	**-0.7**
LEON				*e*S	**S**	**00 17 05.8**	**+1.0**
TEL3	**Telica 3**	**1.92**	**85**	*e*P	**P**	**00 16 42.9**	**-0.3**
TELN	**Telica**	**1.93**	**84**	*e*P	**P**	**00 16 42.3**	**-1.1**
MIRN	**Miramar**	**2.04**	**89**	*e*P	**P**	**00 16 44.3**	**-0.6**
CNGN	**Cerro Negro**	**2.05**	**87**	*e*P	**P**	**00 16 46.0**	**+0.8**
COPN	**Copaltepe**	**2.17**	**96**	*e*P	**P**	**00 16 46.4**	**-0.4**
MOMJ	**Momotombo**	**2.21**	**90**	⇓*e*P	**P**	**00 16 46.9**	**-0.5**
MOMJ				*e*S	**S**	**00 17 15.4**	**+2.0**
IXG	**Ixpaco**	**2.38**	**318**	⇑*e*P	**P**	**00 16 48.1**	**-1.7**
IXG				*e*S	**S**	**00 17 17.5**	**-0.4**
XAVN	**Gruta Xavier**	**2.43**	**96**	*e*P	**P**	**00 16 50.0**	**-0.5**
XAVN				*e*S	**S**	**00 17 21.1**	**+2.1**
MGAN	**Managua**	**2.51**	**96**	*e*P	**P**	**00 16 51.9**	**+0.3**
MGAN				*e*S	**S**	**00 17 21.5**	**+0.5**
MGAN				*i*		00 17 22.3	
	comp=N,749nm,0.6s						
TICN	**Ticuantepe**	**2.54**	**98**	*e*P	**P**	**00 16 52.2**	**+0.2**
TICN				*e*S	**S**	**00 17 23.8**	**+2.0**
TICN				*i*		00 17 27.0	
	comp=Z,1μm,0.4s						
WILN	**Americas 2**	**2.56**	**95**	*e*P	**P**	**00 16 51.8**	**-0.6**
WILN				*e*S	**S**	**00 17 22.9**	**+0.5**
APON	**Apoyo**	**2.71**	**100**	*e*P	**P**	**00 16 54.0**	**-0.6**
SSNN	**San Juan del S**	**3.09**	**111**	*e*P	**P**	**00 16 59.0**	**-1.0**
TP2	**Tecpan 2**	**3.20**	**318**	⇓*e*P	**P**	**00 17 00.9**	**-0.5**
TP2				*e*S	**S**	**00 17 40.0**	**+1.4**
MADN	**Villa Maderas**	**3.35**	**107**	*e*P	**P**	**00 17 00.0**	**-3.4**
MADN				*e*S	**S**	**00 17 40.4**	**-1.8**
JTS	**JuntasAbangare**	**4.32**	**119**	P	**P**	**00 17 17.2**	**0.0**
	comp=Z,6.2nm,0.3s,baz=304,slow=19,SNR=16						
JTS				S	**S**	**00 18 04.7**	**-2.0**
	comp=Z,6.0nm,0.3s,baz=226,slow=14,SNR=4.1						
JTS				LR	LR	00 19 19.5	
	comp=Z,478nm,21.1s,baz=296,slow=44						
JTS	**JuntasAbangare**	**4.32**	**119**	P	**P**	**00 17 17.2**	**+0.1**
JTS				S	**S**	**00 18 04.7**	**-2.0**
JTS				LR	LR	00 19 19.5	
PRS1	**Puriscal**	**5.02**	**118**	*e*P	**P**	**00 17 28.5**	**+1.6**
PRS1				*e*S	**S**	**00 18 24.9**	**+0.7**
LAJ	**Bijagual**	**5.24**	**118**	*e*P	**P**	**00 17 26.5**	**-3.5**
LAJ				*e*S	**S**	**00 18 20.4**	**-9.4**
LCR2	**La Lucha 2**	**5.40**	**119**	*e*P	**P**	**00 17 32.6**	**+0.4**
LCR2				*e*S	**S**	**00 18 31.3**	**-2.5**
BUS	**Buena Vista**	**5.70**	**119**	⇑*e*P	**P**	**00 17 38.1**	**+1.7**
ACR	**Cerro Adams**	**6.67**	**123**	⇓*e*P	**P**	**00 17 51.1**	**+1.1**
ROSC	**El Rosal**	**16.14**	**116**	LR	LR	00 25 59.5	
	comp=Z,74nm,18.0s,baz=28,slow=37						
SDV	**Santo Domingo**

	comp=Z,5.5nm,0.7s,mb4.4,baz=304,slow=8.7,SNR=36								
EDM	**Edmonton**	**45.18**	**339**	*e*P		**P**		**00 24 24.2**	**-0.9**
SCHQ	**Schefferville**	**45.71**	**18**	P		**P**		**00 24 27.5**	**-1.8**
	comp=Z,6.0nm,0.7s,mb4.6,baz=222,slow=12,SNR=7.5								
SCHQ	**Schefferville**	**45.71**	**18**	P		**P**		**00 24 27.5**	**-1.8**
BDFB	**Brasilia**	**49.04**	**124**	LR		LR		00 47 36.0	
	comp=Z,126nm,21.3s,MS3.9,baz=122,slow=38								
FRB	**Frobisher Bay**	**53.21**	**11**	P		**P**		**00 25 24.1**	**-2.7**
	comp=Z,14nm,0.9s,mb4.9,baz=212,slow=8.5								
YKA	**Yellowknife Ar**	**53.31**	**345**	P		**P**		**00 25 26.3**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=141,slow=7.6,SNR=34								
YKA				LR		LR		00 48 59.3	
	comp=Z,71nm,18.0s,MS3.8,baz=235,slow=37								
PLCA	**Paso Flores**	**55.51**	**163**	LR		LR		00 43 53.3	
	comp=Z,40nm,20.0s,MS3.5,baz=0.5,slow=30								
ILAR	**Eielson Array**	**65.53**	**336**	LR		LR		01 00 01.2	
	comp=Z,109nm,18.2s,MS4.1,baz=59,slow=40								
NOA	**NORSAR Array B**	**84.04**	**29**	LR		LR		01 02 05.8	
	comp=Z,33nm,20.1s,MS3.7,baz=290,slow=33								
GERES	**GERESS Array B**	**88.82**	**40**	LR		LR		01 10 48.3	
	comp=Z,54nm,18.2s,MS4.0,baz=318,slow=37								
FINES	**FINESS Array B**	**90.59**	**26**	LR		LR		01 12 16.9	
	comp=Z,39nm,18.0s,MS3.9,baz=325,slow=37								
CN2	**Changchun**	**115.94**	**333**	*e*PKP		PKPdf		00 34 47.8	-1.1
SONM	**Songino Array**	**118.52**	**348**	PKP		PKPdf		00 34 57.9	+4.1
	comp=Z,0.4nm,0.6s,baz=1.8,slow=1.5,SNR=3.3								
MKAR	**Makanchi Array**	**120.53**	**7**	PKP		PKPdf		00 34 59.6	+1.9
	comp=Z,0.9nm,1.1s,baz=312,slow=3.6,SNR=6.5								
WMQ	**Urumqi**	**123.95**	**3**	*e*PKP		PKPdf		00 35 05.3	+0.8
GTA	**Gaotai**	**127.83**	**352**	PKP		PKPdf		00 35 09.0	-3.1
GTA				PKS		PKS		00 38 44.4	-3.3
GTA				PP		PP			
	comp=Z,110nm,6.1s								
GTA				LR		LR			
	comp=N,90nm,7.6s								
GTA				LR		LR			
	comp=E,170nm,7.2s								
GTA				LR		LR			
	comp=Z,130nm,13.3s,MS4.8								
SSE	**Sheshan**	**128.04**	**327**	*e*PKP		PKPdf		00 35 10.3	-2.4
NJ2	**Nanjing**	**128.47**	**330**	*e*PKP		PKPdf		00 35 12.5	-1.0
LZH	**Lanzhou**	**130.31**	**347**	*e*PKP		PKPdf		00 35 16.6	-0.3
LZH				LR		LR			
	comp=N,170nm,18.2s								
LZH				LR		LR			
	comp=Z,220nm,20.0s,MS4.8								
LZH	**Lanzhou**	**130.31**	**347**	*e*PKP		PKPdf		00 35 16.6	-0.3
LZH				pPKP				00 35 37.3	
LZH				sPKP				00 35 46.2	
LZH				LR		LR			
	comp=Z,230nm,20.0s,MS4.9								
WRA	**Warramunga Arr**	**137.99**	**254**	PKP		PKPdf		00 35 35.0	+3.4
	comp=Z,0.6nm,0.8s,baz=93,slow=2.6,SNR=7.7								
FITZ	**Fitzroy Crossi**	**146.33**	**256**	*e*P		PKPdf		00 35 51.0	+4.7
	comp=Z,8.0nm,1.0s								

CSEM ***07*** *00:35:25.3±1.4, 38.75N×29.67W, ML2.2, Error ellipse: s-maj=16.0km s-min=13.0km az=42.0, After PDA*
PDA ***07*** *00:35:25.3±1.4, 38.75N×29.67W, MD3.5, ML2.2, Error ellipse: s-maj=16.0km s-min=13.0km az=42.0*

SVSA 07 00:35:25.3±1.4, 38.75N×29.67W, MD3.5, ML2.2, Error ellipse: s-maj=16.0km s-min=13.0km az=42.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.70**	**103**	*e*S	Sg	00 35 47.1	-1.7
	22nm,0.1s						
PTCA	**Ponta do Capel**	**0.70**	**103**	*e*S	Sg	00 35 47.1	-1.7
	22nm,0.1s						
PCED	**Cedros**	**0.77**	**99**	*e*P	Pg	00 35 38.5	-2.2
PCED				*e*S	Sg	00 35 47.9	-3.0
	32nm,0.3s						
PCED	**Cedros**	**0.77**	**99**	*e*P	Pg	00 35 38.5	-2.2
PCED				*e*S	Sg	00 35 47.9	-3.0
	32nm,0.3s						
CALA	**Caldeira**	**0.78**	**102**	*e*rx	rx	00 36 46.6	
CALA	**Caldeira**	**0.78**	**102**	*e*S	Sg	00 35 48.3	-2.9
HOR	**Horta**	**0.85**	**105**	*e*S	Sg	00 35 49.6	-3.9
PCND	**Candelaria**	**0.99**	**106**	*e*S	Sg	00 35 54.0	-4.2
	17nm,0.1s						
PICO	**Pico**	**1.01**	**104**	*i* P	Pb	00 35 41.5	-3.8
PICO				*e*S	Sg	00 35 54.1	-4.8
PBOI	**Pico dos Bois**	**1.06**	**107**	*e*S	Sb	00 35 56.1	-4.5
	24nm,0.1s						
ROSA	**Rosais**	**1.12**	**91**	*e*rx	rx	00 36 49.4	
ROSA	**Rosais**	**1.12**	**91**	*e*P	Pb	00 35 43.3	-3.9
ROSA				*e*S	Sb	00 35 56.3	-5.9
PMAN	**Manadas**	**1.25**	**95**	*e*S	Sb	00 35 59.6	-6.2
	12nm,0.1s						
PGRA	**Graciosa**	**1.35**	**77**	*e*S	Sb	00 36 02.8	-6.1
	20nm,0.3s						

BJI ***07*** *00:48:07.7, 6.20S×103.80E, h18km, mB5.0, mb4.8*
IDC ***07*** *00:48:09.4±1.2, 6.21S×103.76E, mb4.2/11, mb1 4.3/11, mb1mx4.1/18, mbtmp4.2/11, Error ellipse: s-maj=62.3km s-min=15.5km az=48.0*
NEIC ***07*** *00:48:12.7±8.9, 6.18S×103.85E, h19km±55km, mb4.6/7, Error ellipse: s-maj=30.7km s-min=6.4km az=47.0*

ISC 07 00:48:13.4±0.8, 6.1S±0.2×104.0E±0.2, h33km, n25, σ0≬60/24, mb4.5/18, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.27**	**121**	*e*P		**P**	**00 53 29.1**	**+0.2**
	4.5nm,0.9s,mb3.9							
FITZ	**Fitzroy Crossi**	**24.27**	**121**	P		**P**	**00 53 29.2**	**+0.3**
	1.9nm,0.7s,mb3.6,baz=279,slow=7.3,SNR=4.3							
WRA	**Warramunga Arr**	**32.54**	**118**	P		**P**	**00 54 43.3**	**-0.5**
	0.8nm,0.5s,mb3.9,baz=304,slow=9.3,SNR=15							
WB2	**Warramunga Arr**	**32.55**	**118**	*e*P		**P**	**00 54 43.8**	**-0.1**
JIRN	**Jiri**	**37.67**	**334**	*e*P		**P**	**00 55 28.2**	**+0.7**
	23nm,0.6s,mb5.1							
PKI	**Pulchoki**	**37.95**	**333**	*e*P		**P**	**00 55 30.0**	**+0.2**
GUN	**Gumba**	**38.03**	**333**	*e*P		**P**	**00 55 31.1**	**+0.6**
	43nm,0.6s,mb5.3							
DMN	**Daman**	**38.12**	**332**	*e*P		**P**	**00 55 31.3**	**0.0**
KKN	**Kakani**	**38.20**	**333**	*e*P		**P**	**00 55 32.1**	**+0.2**
	14nm,0.5s,mb4.9							
GKN	**Gorkha**	**38.67**	**332**	*e*P		**P**	**00 55 36.1**	**+0.2**
	8.0nm,0.4s,mb4.8							
KOLN	**Koldanda**	**38.97**	**331**	*e*P		**P**	**00 55 38.9**	**+0.6**
	16nm,0.7s,mb4.8							
CTA	**Charters Tower**	**43.31**	**113**	P		**P**	**00 56 15.0**	**+0.7**
	1.1nm,0.3s,mb4.0,baz=248,slow=5.4,SNR=3.1							
STKA	**Stephens Creek**	**43.49**	**131**	*e*P		**P**	**00 56 15.6**	**0.0**
	3.9nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**43.49**	**131**	P		**P**	**00 56 15.4**	**-0.2**
	3.4nm,0.5s,mb4.3,baz=317,slow=13,SNR=11							
CN2	**Changchun**	**53.27**	**19**	*e*P		**P**	**00 57 31.2**	**0.0**
CN2				AMB		AMB		
	comp=Z,20nm,1.2s,mb4.9							
SONM	**Songino Array**	**53.69**	**2**	P		**P**	**00 57 34.9**	**+0.6**
	comp=Z,6.3nm,0.7s,mb4.6,baz=178,slow=8.7,SNR=61							
ULN	**Ulaanbaatar**	**53.75**	**3**	*e*P		**P**	**00 57 34.7**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.1							
MKAR	**Makanchi Array**	**56.03**	**342**	P		**P**	**00 57 50.4**	**-0.9**
	comp=Z,3.3nm,0.7s,mb4.5,baz=150,slow=8.8,SNR=47							
MKAR	**Makanchi Array**	**56.03**	**342**	P		**P**	**00 57 50.4**	**-0.9**
ZAL	**Zalesovo**	**61.91**	**347**	P		**P**	**00 58 30.6**	**-1.3**
	comp=Z,3.9nm,0.5s,mb4.8,baz=330,slow=2.4,SNR=21							
BVAR	**Borovoye Array**	**65.36**	**338**	P		**P**	**00 58 53.2**	**-1.4**
	comp=Z,1.8nm,0.5s,mb4.3,baz=140,slow=9.1,SNR=18							
BRTR	**Keskin Array B**	**78.99**	**312**	P		**P**	**01 00 15.9**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=153,slow=5.5,SNR=4.8							
AKASG	**Malin Array Be**	**85.11**	**322**	P		**P**	**01 00 46.9**	**-0.5**
	comp=Z,0.4nm,0.3s,mb4.0,baz=83,slow=5.4,SNR=4.3							
FINES	**FINESS Array B**	**89.53**	**332**	P		**P**	**01 01 09.0**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.4,baz=124,slow=5.0,SNR=4.5							
TXAR	**Lajitas Array**	**145.09**	**45**	PKPbc		PKPbc	01 07 50.6	+2.2
	comp=Z,2.8nm,0.7s,baz=290,slow=1.1,SNR=44							

BUG ***07*** *01:13:07.0, 51.50N×6.81E, h1km, ML1.6*
LDG ***07*** *01:13:08.0±0.2, 51.59N×6.88E, h1km, Ml2.7/10, Error ellipse: s-maj=3.0km s-min=2.3km az=63.0, Suspected Mining induced.*
BNS ***07*** *01:13:08.6±0.8, 51.56N×6.86E, h1km, ML2.0*
CSEM ***07*** *01:13:08.0±0.2, 51.59N×6.88E, h2km, ML2.7/9, Error ellipse: s-maj=3.4km s-min=2.3km az=86.0*
BGR ***07*** *01:13:08.6±1.0, 51.51N×6.87E, h1km, ML2.0/4, Error ellipse: s-maj=11.1km s-min=4.4km az=139.0*
NEIC ***07*** *01:13:11.4±4.3, 51.32N×6.55E, h10km, ML2.7(LDG), Error ellipse: s-maj=48.3km s-min=10.2km az=213.0*

ISC 07 01:13:06.2±0.4, 51.52N±0.02×6.74E±0.04, n38, σ1⇟55/83, 1C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.13**	**39**	Pg	**Pg**	**01 13 08.3**	**-0.4**
BZER				Sg	**Sg**	**01 13 09.7**	**-0.8**
LAUG	**Laupendahl**	**0.21**	**143**	*e*Pg	**Pg**	**01 13 12.6**	**+2.1**
LAUG				*e*Sg	**Sg**	**01 13 16.0**	**+2.7**
	153nm,1.0s						
BUG	**Bochum--Univer**	**0.34**	**104**	⇟*e*Pg	**Pg**	**01 13 13.6**	**+0.6**
BUG				Sg	**Sg**	**01 13 18.4**	**+0.9**
WTSB	**Winterswijk**	**0.45**	**5**	⇟*i*Pg	**Pg**	**01 13 15.6**	**+0.5**
	28nm,0.7s,baz=170						
WTSB				*e*Sg	**Sg**	**01 13 22.0**	**+0.9**
	14nm,0.5s						
RODG	**Roetgen-Dahlhe**	**0.52**	**223**	*e*Pg	**Pg**	**01 13 19.7**	**+3.2**
RODG				*e*Sg	**Sg**	**01 13 28.6**	**+5.2**
BNS	**Bensberg**	**0.62**	**154**	*e*Pg	**Pg**	**01 13 20.6**	**+1.9**
BNS				*e*Sg	**Sg**	**01 13 29.5**	**+2.6**
HOBG	**Hohbusch**	**0.66**	**145**	*e*Pg	**Pg**	**01 13 20.7**	**+1.5**
HOBG				*e*Sg	**Sg**	**01 13 30.3**	**+2.3**
HGN	**Heimansgroeve**	**0.91**	**214**	⇟*i*Pg	**Pg**	**01 13 27.4**	**+3.0**
	15nm,0.1s,baz=30						
HGN				*i* Sg	**Sg**	**01 13 40.8**	**+4.2**
KLL	**Kalltalsperre**	**0.92**	**197**	*e*Pg	**Pg**	**01 13 26.8**	**+2.3**
KLL				*e*Sg	**Sg**	**01 13 40.8**	**+4.1**
	52nm,0.3s						
STB	**Steinbach**	**0.93**	**176**	*e*Pg	**Pg**	**01 13 27.2**	**+2.4**
STB				*e*Sg	**Sg**	**01 13 39.9**	**+2.7**
	50nm,0.4s						
HILG	**Hillesheim**	**1.23**	**182**	*e*Pg	**Pg**	**01 13 32.8**	**+2.0**
HILG				*e*Sg	**Sg**	**01 13 48.9**	**+1.7**
TNS	**Taunus Mts**	**1.69**	**140**	*e*Pg	**Pg**	**01 13 38.7**	**-1.3**
	SNR=3.9						
TNS				*e*Sg	**Sg**	**01 14 01.0**	**-1.5**
GIVF	**Givet**	**1.87**	**221**	*e*Pg	**Pg**	**01 13 44.9**	**+1.4**
GIVF				*e*Sn	**Sn**	**01 14 05.2**	**+0.8**
GIVF				*e*Sg	**Sg**	**01 14 11.0**	**+2.5**
	14nm,0.2s						
GIVF	**Givet**	**1.87**	**221**	*e*Pn	**Pn**	**01 13 40.9**	**+1.2**
GIVF				*e*Pg	**Pg**	**01 13 44.9**	**+1.4**
GIVF				*e*Sn	**Sn**	**01 14 05.2**	**+0.8**
GIVF				*e*Sg	**Sg**	**01 14 11.0**	**+2.5**
GIVF	**Givet**	**1.87**	**221**	*e*Pg	**Pg**	**01 13 44.9**	**+1.4**
GIVF				*e*Sn	**Sn**	**01 14 05.2**	**+0.8**
GIVF				*e*Sg	**Sg**	**01 14 11.0**	**+2.5**
	7.2nm,0.2s						
WLF	**Walferdange**	**1.90**	**192**	*e*Pg	**Pg**	**01 13 44.9**	**+0.9**
	SNR=1.8						
WLF				*e*Sg	**Sg**	**01 14 08.6**	**-0.7**
BAIF	**Baives**	**2.17**	**229**	*e*Pg	**Pg**	**01 13 50.5**	**+0.9**
BAIF				*e*Sn	**Sn**	**01 14 11.9**	**-0.2**
BAIF				*e*Sg	**Sg**	**01 14 19.2**	**+0.6**
	6.9nm,0.3s						
BAIF	**Baives**	**2.17**	**229**	*e*Pn	**Pn**	**01 13 44.4**	**+0.3**
BAIF				*e*Pg	**Pg**	**01 13 50.5**	**+0.9**
BAIF				*e*Sn	**Sn**	**01 14 11.9**	**-0.2**
BAIF				*e*Sg	**Sg**	**01 14 19.2**	**+0.6**
BAIF	**Baives**	**2.17**	**229**	*e*Pg	**Pg**	**01 13 50.5**	**+0.9**
BAIF				*e*Sn	**Sn**	**01 14 11.9**	**-0.2**
BAIF				*e*Sg	**Sg**	**01 14 19.2**	**+0.6**
	3.5nm,0.3s						
CLZ	**Clausthal**	**2.28**	**81**	*e*Pg	**Pg**	**01 13 50.0**	**-1.8**
	SNR=2.1						
CLZ				*e*Sg	**Sg**	**01 14 19.1**	**-3.1**
RFYF	**Reffroy**	**3.01**	**196**	*e*Pg	**Pg**	**01 14 05.2**	**-1.1**
RFYF				*e*Sn	**Sn**	**01 14 31.5**	**-1.8**
	baz=21						
RFYF				*e*Sg	**Sg**	**01 14 44.9**	**-1.5**
	5.1nm,0.3s						
RFYF	**Reffroy**	**3.01**	**196**	*e*Pn	**Pn**	**01 13 56.1**	**+0.1**
RFYF				*e*Pg	**Pg**	**01 14 05.2**	**-1.1**
RFYF				*e*Sn	**Sn**	**01 14 31.5**	**-1.8**
RFYF				*e*Sg	**Sg**	**01 14 44.9**	**-1.5**
RFYF	**Reffroy**	**3.01**	**196**	*e*Pg	**Pg**	**01 14 05.2**	**-1.1**
RFYF				*e*Sn	**Sn**	**01 14 31.5**	**-1.8**
RFYF				*e*Sg	**Sg**	**01 14 44.9**	**-1.5**
	2.5nm,0.3s						
CDF	**Champ du Feu**	**3.13**	**173**	*e*Pn	**Pn**	**01 13 58.4**	**+0.6**
CDF				*e*Sg	**Sg**	**01 14 48.5**	**-2.0**
	5.1nm,0.5s						
MOX	**Moxa**	**3.20**	**104**	*e*Sg	**Sg**	**01 14 46.9**	**-5.8**
MEZF	**Maizieres J'vi**	**3.21**	**200**	*e*Pn	**Pn**	**01 13 58.8**	**-0.1**
	baz=22						
MEZF				*e*Sg	**Sg**	**01 14 51.0**	**-2.2**
	4.7nm,0.3s						
SFTF	**Sexfontaines**	**3.50**	**199**	*e*Pg	**Pg**	**01 14 14.0**	**-2.0**
SFTF				*e*Sg	**Sg**	**01 15 01.0**	**-1.6**
	4.1nm,0.3s						
SFTF	**Sexfontaines**	**3.50**	**199**	*e*Pn	**Pn**	**01 14 02.8**	**-0.2**
SFTF				*e*Pg	**Pg**	**01 14 14.0**	**-2.0**
SFTF				*e*Sg	**Sg**	**01 15 01.0**	**-1.6**
HAU	**Haudompre**	**3.53**	**184**	*e*Sg	**Sg**	**01 15 00.9**	**-2.8**
	3.5nm,0.2s						
HINF	**Hinteralfeld**	**3.71**	**179**	*e*Sg	**Sg**	**01 15 06.4**	**-3.3**
	1.6nm,0.2s						
LOR	**Lormes**	**4.65**	**205**	*e*Pn	**Pn**	**01 14 18.6**	**-0.8**
	baz=19						
LOR				*e*Sn	**Sn**	**01 15 11.0**	**-4.0**
LOR				*e*Sg	**Sg**	**01 15 37.6**	**-3.5**
	2.0nm,0.3s,baz=26						
SSF	**Saint Saulge**	**4.94**	**207**	*e*Pn	**Pn**	**01 14 22.6**	**-0.8**
AVF	**Avril sur Loir**	**5.23**	**206**	*e*Pn	**Pn**	**01 14 25.9**	**-1.6**
SMF	**Signal de Mont**	**5.24**	**202**	*e*Pn	**Pn**	**01 14 26.1**	**-1.6**
LDF	**La Druitiere**	**5.30**	**239**	*e*Pn	**Pn**	**01 14 28.1**	**-0.5**
LDF				*e*Sn	**Sn**	**01 15 26.1**	**-5.2**
FLN	**La Foliniere**	**5.40**	**242**	*e*Pn	**Pn**	**01 14 29.2**	**-0.8**
	baz=57						
GRR	**Gorron**	**5.82**	**240**	*e*Pn	**Pn**	**01 14 34.7**	**-1.2**
GRR				*e*Sn	**Sn**	**01 15 38.8**	**-5.5**
TCF	**Toulx Ste Croi**	**6.03**	**211**	*e*Pn	**Pn**	**01 14 37.5**	**-1.3**
TCF				*e*Pg	**Pg**	**01 15 01.2**	**-5.3**

GUC 07 01:39:15.0±0.5, 33.17S×70.03W, h4km±3km, MD3.5, ML2.3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.27**	**234**	*e*P	Pg	01 39 20.8	+0.4
FCH				*i* S	Sg	01 39 25.4	+1.3
FCH				AMP		01 39 25.6	
	comp=N,2μm,0.2s						
CLCH	**Cerro Calan**	**0.48**	**242**	*e*P	Pg	01 39 25.4	+0.8
CLCH				*i* S	Sg	01 39 32.9	+1.7
CLCH				AMP		01 39 36.1	
	comp=N,303nm,0.5s						
PEL	**Peldehue**	**0.55**	**273**	*e*P	Pg	01 39 25.8	-0.2
PEL				*i* S	Sg	01 39 33.9	+0.5
PEL				AMP		01 39 34.3	
	comp=N,293nm,0.3s						
JACH	**Jahuel**	**0.68**	**316**	*e*P	Pg	01 39 28.1	-0.5
JACH				*i* S	Sg	01 39 37.7	0.0
ROCH	**El Roble**	**0.85**	**283**	*e*P	Pb	01 39 31.4	-0.5
ROCH				*i* S	Sg	01 39 43.5	+0.2
TACH	**Talagante**	**0.90**	**237**	*i* S	Sb	01 39 44.4	-0.5
CHCH	**Chadas Angostu**	**0.92**	**214**	*e*P	Pb	01 39 32.6	-0.6
CHCH				*i* S	Sb	01 39 45.4	-0.2
CACH	**El Canelo**	**1.06**	**207**	*e*P	Pb	01 39 35.1	-0.3
CACH				*i* S	Sb	01 39 50.6	+1.0
LCCH	**Las Cruces**	**1.33**	**256**	*e*P	Pb	01 39 39.5	-0.6

NEIC ***07*** *02:18:56.2, 16.22N×98.38W, h11km, MD3.8(MEX), After MEX.*

MEX 07 02:18:56.0±0.8, 16.21N×98.38W, h10km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**53**	*e*P	Pg	02 19 01.7	-0.6
PNIG				*i* S	Sg	02 19 06.0	-0.5
ACX	**Acapulco**	**1.61**	**294**	*i* P	Pn	02 19 20.5	-4.2
ACX				*i* S	Sn	02 19 40.0	-5.7
VHO	**Vista Hermosa**	**1.79**	**61**	*i* P	Pn	02 19 24.2	-3.1
VHO				*i* S	Sn	02 19 44.8	-5.5
OXX	**Oaxaca**	**1.81**	**61**	*e*P	Pn	02 19 25.0	-2.5
OXX				*i* S	Sn	02 19 47.0	-3.7
CAIG	**El Cayaco**	**1.99**	**295**	*i* P	Pn	02 19 27.0	-3.2
CAIG				*i* S	Sn	02 19 51.3	-4.1
HUIG	**Huatulco**	**2.23**	**101**	*e*P	Pn	02 19 31.5	-2.0
HUIG				*i* S	Sn	02 19 55.4	-5.9
PLIG	**Platanillo**	**2.42**	**334**	*e*P	Pn	02 19 34.3	-2.0
PLIG				*i* S	Sn	02 20 00.1	-6.1
PPM	**Popocatepetl**	**2.85**	**355**	*i* P	Pn	02 19 39.4	-3.0
PPM				*e*P		02 19 40.0	
PPM				*i* S	Sn	02 20 13.0	-4.2
PPM				*i* S	Sn	02 20 13.0	-4.2
PPM	**Popocatepetl**	**2.85**	**355**	*i* P	Pn	02 19 39.4	-3.0
PPM				*e*P		02 19 40.0	
PPM				*i* S	Sn	02 20 10.3	-6.9
PPM				*i* S	Sn	02 20 13.0	-4.2

BJI ***07*** *02:19:26.2, 1.22N×97.29E, h39km, mB5.3, mb4.8, Ms5.3, Msz5.1*
MOS ***07*** *02:19:26.8±1.4, 1.38N×97.23E, h33km, mb5.0/23, MS5.0/7, Error ellipse: s-maj=13.2km s-min=6.8km az=105.8*
IDC ***07*** *02:19:28.0±7.3, 1.34N×97.04E, h34km±57km, mb4.1/15, mb1 4.2/16, mb1mx4.1/22, mbtmp4.3/16, ML3.6/1, MS4.7/8, Ms1 4.7/8, ms1mx4.5/16, Error ellipse: s-maj=30.3km s-min=14.9km az=55.0*
NEIC ***07*** *02:19:28.3±0.4, 1.36N×97.20E, h30km, mb5.0/18, Error ellipse: s-maj=10.7km s-min=8.7km az=216.0*
HRVD ***07*** *02:19:28.3±0.4, 1.11N×96.90E, h32km±1km, MW5.1/61, Centroid moment Tensor Solution. LP body waves: s48,c76;Mantle waves: s61,c97; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.72±.22; Mθθ-1.78±.14; Mϕϕ-1.94±.18; Mrθ3.00±.25; Mrϕ3.58±.13; Mθϕ-3.08±.31; Best double couple: M₀6.282×10¹⁶ NP1:ϕs315°, δ23°, λ90°. NP2:ϕs136°, δ67°, λ90°. Principal axes: T 5.422, Plg68°, Azm46°; N 1.721, Plg0°, Azm316°; P -7.143, Plg22°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 02:19:26.0±1.2, 1.36N±0.05×97.19E±0.05, h29km±8km, h31km±1.7km; pP-P, n131, σ1⇟25/122, mb4.8/59, MS5.0/28, 9C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.25**	**50**	Pn	**Pn**	**02 20 03.4**	**+1.2**
	15nm,0.3s,baz=207,slow=9.9,SNR=72						
PSI				LR	LR	02 20 44.4	
	comp=Z,8μm,18.2s,baz=282,slow=33						
PSI	**Prapat**	**2.25**	**50**	Pn	**Pn**	**02 20 03.4**	**+1.2**
PSI				LR	LR	02 20 44.4	
KULM	**Kulim**	**5.22**	**41**	*e*P	**Pn**	**02 20 44.5**	**+0.3**
SNG	**Songkhla**	**6.72**	**30**	P	**Pn**	**02 21 06.0**	**+0.6**
	366nm,0.9s						
CHRT	**Chiangrai**	**18.58**	**8**	⇟P	**P**	**02 23 42.0**	**-1.1**
	110nm,0.8s						
KKM	**Kota Kinabalu**	**19.55**	**76**	*e*P	**P**	**02 23 54.2**	**-0.3**
QIZ	**Qiongzhong**	**21.50**	**34**	P	**P**	**02 24 15.9**	**+1.1**
QIZ				XP		02 24 28.1	
QIZ				PPP	PPP	02 24 51.6	+2.9
QIZ				S	**S**	**02 28 13.1**	**+6.5**
QIZ				XS		02 28 26.8	
KMI	**Kunming**	**24.23**	**12**	P	**P**	**02 24 43.5**	**+1.8**
KMI				AP		02 24 49.6	
KMI				XP		02 24 52.2	
KMI				PP	PP	02 25 18.6	+1.8
KMI				S	**S**	**02 28 58.2**	**+2.9**
KMI				SS	SS	02 29 48.3	-0.5
KMI				AMB	AMB		
	comp=Z,40nm,1.4s,mb4.7						
KMI				AMB	AMB		
	comp=Z,660nm,4.5s						
KMI				LR	LR		
	comp=N,8μm,14.7s,MS5.4						
KMI				LR	LR		
	comp=E,5μm,14.1s,MS5.4						
KMI				LR	LR		
	comp=Z,9μm,14.6s,MS5.4						
KMI	**Kunming**	**24.23**	**12**	P	**P**	**02 24 43.5**	**+1.8**
KMI				*SP		02 24 52.2	
KMI						02 25 18.6	
KMI				S	**S**	**02 28 58.2**	**+2.9**
KMI				SS	SS	02 29 48.3	-0.5
KMI				pmax	pmax		
	comp=Z,27nm,0.5s,mb4.9						
KMI				MLR	MLR		
	comp=Z,9μm,14.6s,MS5.4						
KMI	**Kunming**	**24.23**	**12**	P	**P**	**02 24 43.5**	**+1.8**
	comp=Z,27nm,0.5s,mb4.9						
KMI				pP		02 24 49.6	
KMI				sP		02 24 52.2	
KMI				PP	PP	02 25 18.6	+1.8
KMI				S	**S**	**02 28 58.2**	**+2.9**
KMI				sS		02 29 07.9	
KMI				SS	SS	02 29 48.3	-0.5
KMI				LR	LR		
	comp=Z,9μm,14.6s,MS5.4						
HYB	**Hyderabad**	**24.30**	**312**	*i* P	**P**	**02 24 39.0**	**-3.4**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*		02 24 57.0	
HYB	**Hyderabad**	**24.30**	**312**	*e*P	**P**	**02

XAN LR LR
comp=N,3μm,17.8s,MS5.2
XAN LR LR
comp=E,3μm,15.8s,MS5.2
XAN LR LR
comp=Z,5μm,15.0s,MS5.4
LZH Lanzhou 35.10 9 *eP* **P 02 26 18.2 -0.8**
LZH AP pP 02 26 26.3 -1.4
LZH XP sP 02 26 34.2 +2.8
LZH PP PP 02 27 38.0 +0.1
LZH PPP PPP 02 27 57.0 +0.9
LZH S **S 02 31 47.0 -1.9**
LZH XS 02 32 04.0
LZH *e*SS SS 02 34 05.0 -0.3
LZH AMB AMB
comp=Z,70nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,300nm,4.3s
LZH LR LR
comp=N,6μm,15.8s
LZH LR LR
comp=Z,6μm,18.1s,MS5.4
LZH Lanzhou 35.10 9 *eP* **P 02 26 18.2 -0.8**
comp=Z,70nm,1.3s,mb5.4
LZH pP pP 02 26 26.3 -1.4
LZH sP sP 02 26 34.2 +2.8
LZH PP PP 02 27 38.0 +0.1
LZH PPP PPP 02 27 57.0 +0.9
LZH S **S 02 31 47.0 -1.9**
LZH sS 02 32 04.0
LZH *e*SS SS 02 34 05.0 -0.3
LZH LR LR
comp=Z,6μm,18.1s,MS5.4
NJ2 Nanjing 36.74 32 *eP* **P 02 26 28.9 -3.9**
NJ2 AP pP 02 26 38.7 -2.8
NJ2 XP sP 02 26 42.7 -2.5
NJ2 S **S 02 32 12.0 -2.1**
NJ2 XS 02 32 28.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,180nm,4.9s
NJ2 LR LR
comp=N,5μm,22.8s,MS5.3
NJ2 LR LR
comp=E,4μm,23.8s,MS5.3
NJ2 LR LR
comp=Z,3μm,23.8s,MS4.9
SSE Sheshan 37.29 35 *eP* **P 02 26 36.1 -1.4**
SSE AP pP 02 26 44.9 -1.3
SSE XP sP 02 26 48.4 -1.5
SSE PP PP 02 28 01.9 -3.3
SSE PCP PcP 02 28 56.9 -0.1
SSE S **S 02 32 23.0 +0.4**
SSE XS 02 32 38.4
SSE SCS ScS 02 36 46.7 -0.6
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,150nm,8.4s
SSE LR LR
comp=N,2μm,17.4s,MS5.0
SSE LR LR
comp=E,1μm,17.3s,MS5.0
SSE LR LR
comp=Z,3μm,16.2s,MS5.2
SSE Sheshan 37.29 35 *eP* **P 02 26 36.1 -1.4**
comp=Z,33nm,0.7s,mb5.3
SSE pP pP 02 26 44.9 -1.3
SSE sP sP 02 26 48.4 -1.5
SSE PP PP 02 28 01.9 -3.3
SSE PcP PcP 02 28 56.9 -0.1
SSE S **S 02 32 23.0 +0.4**
SSE sS 02 32 38.4
SSE ScS ScS 02 36 46.7 -0.6
SSE LR LR
comp=Z,3μm,16.2s,MS5.2
JOW Kunigami 39.14 47 P **P 02 26 53.1 +0.1**
comp=Z,13nm,0.4s,mb5.0,baz=205,slow=12,SNR=4.6
HHC Hu-ho-hao-te 41.41 17 *eP* **P 02 27 13.9 +2.3**
HHC AP pP 02 27 23.5 +3.1
HHC XP sP 02 27 27.6 +3.6
HHC PCP PcP 02 29 12.1 +2.2
HHC PCS 02 33 02.3
HHC S **S 02 33 24.9 +0.5**
HHC XS 02 33 41.9
HHC SS SS 02 36 22.4 -1.8
HHC SCS ScS 02 37 13.7 +2.6
HHC AMB AMB
comp=Z,20nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,320nm,4.4s
HHC LR LR
comp=N,4μm,14.3s,MS5.5
HHC LR LR
comp=E,2μm,10.7s,MS5.5
HHC LR LR
comp=Z,3μm,14.3s,MS5.4
WRA Warramunga Arr 42.13 122 P **P 02 27 17.7 0.0**
comp=Z,2.1nm,0.4s,mb4.1,baz=301,slow=9.1,SNR=29
WRAB Tennant Creek 42.13 122 *i* P **P 02 27 17.0 -0.8**
WB2 Warramunga Arr 42.14 122 *eP* **P 02 27 18.2 +0.3**
KSH Kashi 42.62 336 P **P 02 27 21.7 +0.1**
KSH *e*AP pP 02 27 34.0 +3.6
KSH *e*XP sP 02 27 40.4 +6.4
WMQ Urumqi 43.12 350 P **P 02 27 26.4 +0.8**
WMQ AP pP 02 27 36.4 +2.1
WMQ XP sP 02 27 40.4 +2.4
WMQ PP PP 02 29 09.0 +1.1
WMQ PCP PcP 02 29 16.0 +0.4
WMQ PPP PPP 02 29 43.9 +0.7
WMQ S **S 02 33 49.5 0.0**
WMQ SS SS 02 36 54.4 -1.5
WMQ SCS ScS 02 37 22.0 +0.5
WMQ AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
WMQ AMB AMB
comp=Z,360nm,3.6s
WMQ LR LR
comp=N,670nm,20.0s,MS4.8
WMQ LR LR
comp=E,1μm,22.3s,MS4.8
WMQ LR LR
comp=Z,640nm,22.0s,MS4.5
DL2 Dalian 43.55 28 *eP* **P 02 27 27.6 -1.5**
DL2 *e*S **S 02 33 56.8 +1.0**
DL2 AMB AMB
comp=Z,30nm,1.2s,mb4.9
DL2 AMB AMB
comp=Z,240nm,5.9s
DL2 LR LR
comp=N,680nm,14.9s,MS4.8
DL2 LR LR
comp=E,660nm,15.6s,MS4.8
DL2 LR LR
comp=Z,1μm,19.6s,MS4.7
AAK Ala-Archa 45.85 337 *eP* **P 02 27 47.9 +0.4**
AAK pmax pmax
comp=Z,24nm,2.6s,mb4.7
AAK MLR MLR
comp=Z,600nm,16.0s,MS4.6
FRU Bishkek 45.97 337 *eP* **P 02 27 50.5 +2.0**
FRU *e* pP 02 27 58.5 +1.2
FRU pmax pmax
comp=Z,170nm,2.8s,mb5.5
FRU MLR MLR
comp=E,600nm,19.0s
FRU MLR MLR
comp=Z,800nm,19.0s,MS4.7
SONM Songino Array 46.98 8 P **P 02 27 56.6 +0.2**
comp=Z,12nm,0.9s,mb4.8,baz=192,slow=8.6,SNR=38
SONM LR LR 02 50 17.9
comp=Z,3μm,18.2s,MS5.3,baz=189,slow=39
MKAR Makanchi Array 47.09 346 P **P 02 27 57.6 +0.4**
comp=Z,7.3nm,0.6s,mb4.8,baz=158,slow=7.8,SNR=80
MKAR Makanchi Array 47.09 346 *eP* **P 02 27 57.9 +0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
ULN Ulaanbaatar 47.11 9 *i* P **P 02 27 57.6 +0.2**
ULN Ulaanbaatar 47.11 9 *eP* **P 02 27 57.5 0.0**
comp=Z,11nm,1.0s,mb4.7
ZAK Zakamensk 49.12 5 *eP* **P 02 28 13.5 +0.5**
CN2 Changchun 49.17 27 *eP* **P 02 28 14.6 +1.1**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CBIJ Chichi jima 50.14 55 LR LR 02 47 12.9
comp=Z,278nm,18.2s,MS4.3,baz=325,slow=33
HIA Hailar 51.50 19 *eP* **P 02 28 30.1 -1.0**
MJAR Matsushiro Arr 51.58 42 LR LR 02 50 46.8
comp=Z,786nm,21.8s,MS4.7,baz=235,slow=36
KURK Kurchatov 51.64 345 P **P 02 28 31.7 -0.5**
KURK pmax pmax
comp=Z,21nm,1.4s,mb4.9
MDJ Mudanjiang 51.74 29 P **P 02 28 28.4 -4.6**
CIT Chita 52.32 13 *eP* **P 02 28 36.5 -0.8**
OPO Ambohidratompo 52.98 246 P **P 02 28 41.1 -1.6**
comp=Z,2.8nm,0.9s,mb4.2,baz=75,slow=10,SNR=3.1
STKA Stephens Creek 53.47 132 *eP* **P 02 28 47.4 +1.3**
comp=Z,4.1nm,0.8s,mb4.4
STKA Stephens Creek 53.47 132 P **P 02 28 47.5 +1.4**
comp=Z,2.7nm,0.5s,mb4.4,baz=276,slow=7.0,SNR=12
STKA LR LR 02 53 56.9
comp=Z,1μm,21.0s,MS4.9,baz=124,slow=39
NVS Novosibirsk 54.52 350 *i* P **P 02 28 51.1 -2.4**
NVS *e*S **S 02 36 27.4 -1.6**
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
NVS pmax pmax
comp=Z,13nm,1.0s,mb4.9
NVS smax
comp=N,11nm,1.6s
NVS smax
comp=E,27nm,1.6s
RDF Al-Radifah 54.63 305 *eP* **P 02 28 54.5 -0.2**
RDF AMb AMB 02 29 03.7
comp=Z,38nm,1.0s,mb5.4
NAY Al-Naaiem 55.00 305 *eP* **P 02 28 56.3 -1.1**
NAY AMb AMB 02 29 06.0
comp=Z,14nm,0.8s,mb5.0
MIB Mutribah 55.12 306 *eP* **P 02 28 57.8 -0.5**
MIB AMb AMB 02 29 07.3
comp=Z,49nm,0.9s,mb5.5
VOSK Vostochnaya 55.65 341 P **P 02 29 00.3 -1.5**
VOSK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BVA0 Borovoye Array 56.10 341 *i* P **P 02 29 03.3 -1.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 56.10 341 P **P 02 29 03.7 -1.3**
comp=Z,3.1nm,0.6s,mb4.5,baz=142,slow=9.0,SNR=27
KLR Kul'dur 56.12 27 *eP* **P 02 29 02.3 -2.9**
KLR *e*S **S 02 36 51.5 +1.1**
KLR pmax pmax
comp=Z,70nm,2.2s,mb5.3
KLR MLR MLR
comp=N,3μm,13.0s
KLR MLR MLR
comp=Z,7μm,13.0s,MS5.9
AB31 Akbulak array 57.37 332 *i* P **P 02 29 12.7 -1.4**
AB31 pmax pmax
comp=Z,15nm,0.9s,mb5.0
BOD Bodaibo 57.86 11 *eP* **P 02 29 16.7 -0.7**
BOD *e* 02 29 29.9
BOD pmax pmax
comp=Z,13nm,1.3s,mb4.8
BOD pmax pmax
comp=Z,14nm,1.2s,mb4.9
ASAJ Asahikawa 58.55 37 LR LR 02 53 58.4
comp=Z,533nm,20.2s,MS4.7,baz=228,slow=35
AKTO Aktyubinsk 59.09 332 P **P 02 29 24.2 -1.8**
comp=Z,3.7nm,0.8s,mb4.5,baz=138,slow=5.6,SNR=15
KMBO Kilima Mbogo 59.98 268 P **P 02 29 33.7 +0.9**
comp=Z,0.9nm,0.8s,mb3.8,slow=4.0,SNR=2.8
KMBO LR LR 02 50 45.8
comp=Z,490nm,19.9s,MS4.6,baz=278,slow=31
KMBO Kilima Mbogo 59.98 268 P **P 02 29 33.7 +0.9**
KMBO LR LR 02 50 45.8
YSS Yuzh-Sakhalins 60.23 34 P pP 02 29 42.4 -0.7
GNI Garni 61.17 316 *eP* **P 02 29 43.1 +2.6**
GNI pmax pmax
comp=Z,23nm,1.3s
GNI Garni 61.17 316 *eP* **P 02 29 43.1 +2.6**
comp=Z,23nm,1.3s,mb5.2
TI2 Plekhanov 61.85 318 *eP* **P 02 29 43.8 -1.3**
TI2 *i* pP 02 29 52.0 -2.2
SVE Sverdlovsk 62.54 338 *eP* **P 02 29 48.0 -1.4**
SVE *e* 02 30 03.9
SVE *e* 02 38 14.0
SVE pmax pmax
comp=Z,40nm,2.5s,mb5.1
SVE MLR MLR
comp=N,400nm,17.0s,MS4.8
SVE MLR MLR
comp=E,300nm,17.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,17.0s,MS4.8
ARU Arti 63.04 337 *i* P **P 02 29 53.3 +0.6**
ARU *e* 02 30 30.1
ARU *e* 02 32 12.8
ARU *e*PPP PPP 02 33 39.2 -4.7
ARU *e*S **S 02 38 22.8 +3.2**
ARU *e*SS SS 02 42 28.4 +0.9
ARU pmax pmax
comp=Z,14nm,1.2s,mb5.0
ARU MLR MLR
comp=Z,500nm,19.0s,MS4.7
ARU MLR MLR
comp=N,100nm,20.0s,MS4.6
ARU MLR MLR
comp=E,400nm,18.0s,MS4.6
KIV Kislovodsk 64.18 319 *eP* **P 02 30 00.3 -0.2**
KIV *e* 02 32 21.8
KIV *e*S **S 02 38 35.0 +0.9**
KIV *e*SS SS 02 42 43.1 -2.0
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.1
YAK Yakutsk 65.28 16 *eP* **P 02 30 06.7 -0.5**
YAK pmax pmax
comp=Z,46nm,1.2s,mb5.4
YAK MLR MLR
comp=Z,2μm,17.0s,MS5.4
SOKR Solikamsk 65.93 339 *i* P **P 02 30 16.6 +5.2**
SOKR pmax pmax
comp=Z,20nm,1.4s,mb5.0
SOKR MLR MLR
comp=Z,660nm,19.0s,MS4.9
BR131 Keskin Array S 69.00 312 P **P 02 30 36.1 +5.0**
comp=Z,2.4nm,0.6s,mb4.3
BRTR Keskin Array B 69.00 312 P **P 02 30 29.4 -1.7**
comp=Z,1.0nm,0.7s,mb3.9,baz=140,slow=7.4,SNR=8.4
SIM Simferopol' 70.24 318 P pP 02 30 47.1 -0.6
SIM S S 02 39 47.2 +0.2
SIM pmax pmax
comp=Z,13nm,1.1s,mb4.8
MA2 Magadan 71.20 26 *eP* **P 02 30 50.3 +6.2**
MA2 MLR MLR
comp=Z,1μm,20.0s,MS5.1
MOS Moscow 72.19 329 *eP* pP 02 30 59.9 +0.6
OBN Obninsk 72.48 328 *eP* **P 02 30 51.8 0.0**
OBN *e* pP 02 30 59.7 -1.3
OBN pmax pmax
comp=Z,21nm,1.8s,mb4.8
MAW Mawson 72.86 193 LR LR 02 59 32.7
comp=Z,372nm,18.1s,MS4.7,baz=54,slow=33
TIXI Tiksi 73.04 10 *eP* **P 02 30 51.3 -3.5**
TIXI *e*S S 02 40 10.5 -8.1
TIXI pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
TIXI MLR MLR
comp=Z,2μm,15.0s,MS5.5
KLMR Klimovskoe 73.61 334 *eP* pP 02 31 06.1 -1.4
KLMR pmax pmax
comp=Z,30nm,2.0s,mb4.9
KIS Kishinev 74.37 319 *eP* PcP 02 31 20.0 +2.1
HARR Harsova 74.39 316 P pP 02 31 11.2 -1.2
JOF Joensuu 78.00 335 *ep* **P 02 31 23.3 +0.2**
KOLS Kolonicke sedl 79.09 320 *e* **P 02 31 32.1 +2.7**
CRVS Cervenica-Dubn 79.61 319 *eP* pP 02 31 42.3 +0.8
STHS Stebnicka Huta 79.84 320 *e* **P 02 31 34.8 +1.4**
FINES FINESS Array B 79.86 332 P **P 02 31 31.8 -1.5**
comp=Z,1.3nm,0.4s,mb4.2,baz=104,slow=7.9,SNR=25
KAF Kangasniemi 79.94 333 *ep* **P 02 31 33.3 -0.4**
baz=119,slow=5.1
SYO Syowa Base 80.15 198 ⇑PcP PcP 02 31 43.5 +1.2
KECS Kecovo 80.18 319 *e* pP 02 31 43.6 -0.9
VYHS Vyhne 81.27 319 *e* pP 02 31 48.7 -1.6
ZST Bratislava 82.38 318 *eP* **P 02 31 47.4 +0.6**
ARCES ARCESS Array B 82.39 340 P **P 02 31 46.7 +0.3**
comp=Z,1.5nm,0.4s,mb4.3,baz=100,slow=5.1,SNR=49
ARE0 ARCESS Array S 82.39 340 P **P 02 31 49.2 +2.9**
BRG Berggiesshubel 84.68 321 *eP* pP 02 32 07.9 +0.1
BRG S S 02 42 26.0 +3.5
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
BRG MLR MLR
comp=Z,7μm,17.6s,MS6.1
BRG Berggiesshubel 84.68 321 *eP* pP 02 32 07.9 +0.1
comp=Z,4.9nm,1.1s
BRG S S 02 42 26.0 +3.5
BRG LR LR
comp=Z,360nm,17.6s,MS4.8
GERES GERESS Array B 84.69 319 P **P 02 31 59.1 +0.6**
comp=Z,1.2nm,0.9s,mb4.0,baz=76,slow=5.5,SNR=6.7
KHC Kasperske Hory 84.79 319 *eP* **P 02 32 01.5 +2.5**
CLL Collm 85.31 321 *eS* S 02 42 28.0 -0.6
CLL *e* 02 54 42.0
GRA1 Grafenberg Arr 86.36 320 *eP* pP 02 32 16.2 0.0
comp=Z,7.0nm,1.1s
GRF Grafenberg Arr 86.36 320 *eP* pP 02 32 16.2 0.0
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
GRF Grafenberg Arr 86.36 320 *eP* pP 02 32 16.2 0.0
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
GRF Grafenberg Arr 86.36 320 *eP* pP 02 32 16.2 0.0
comp=Z,7.0nm,1.1s
NB2 NORSAR Subarra 86.86 331 P **P 02 32 08.9 -0.1**
comp=Z,3.8nm,0.9s,mb4.6,baz=94,slow=4.6
NOA NORSAR Array B 86.86 331 P **P 02 32 08.4 -0.6**
comp=Z,1.1nm,0.7s,mb4.2,baz=94,slow=4.8,SNR=4.9
TBI Tubuai 111.93 115 *e*LR LR 03 11 28.8
comp=Z,777nm,35.8s
PPT Papeete 112.54 108 *e*PS PS 02 48 33.8 +13
PPT Papeete 112.54 108 *e*LR LR 03 11 45.6
comp=Z,229nm,22.6s
RKT Rikitea 125.01 117 *e*LR LR 03 17 32.6
comp=Z,368nm,25.0s
TXAR Lajitas Array 143.54 32 PKP PKPdf 02 38 57.6 -6.1
comp=Z,0.4nm,0.5s,baz=308,slow=0.5,SNR=14
JCT Junction City 144.44 26 *e*PKIKP PKPdf 02 39 02.4 -2.8
CPUP Villa Florida 145.11 222 *e*PKIKP PKPdf 02 39 03.3 -3.2

IDC 07 02:22:05.2±1.6, 1.21N×96.98E, mb4.1/5, mb1 4.2/6, mb1mx3.9/19, mbtmp4.1/6, ML2.9/1, MS4.8/1, Ms1 4.8/1, ms1mx4.0/16, Error ellipse: s-maj=43.4km s-min=27.0km az=44.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.51**	**51**	Pn	Pn	02 22 46.7	-1.2
	2.5nm,0.3s,baz=276,slow=15,SNR=4.3						
WRA	**Warramunga Arr**	**42.22**	**122**	P	P	02 30 00.3	-1.7
	1.0nm,0.7s,baz=299,slow=9.1,SNR=4.0						
SONM	**Songino Array**	**47.16**	**9**	P	P	02 30 39.3	-2.0
	4.7nm,0.8s,baz=192,slow=7.8,SNR=4.7						
MKAR	**Makanchi Array**	**47.18**	**346**	P	P	02 30 40.1	-1.4
	4.4nm,0.8s,baz=162,slow=7.7,SNR=4.4						
ZAL	**Zalesovo**	**53.51**	**351**	LR	LR	02 58 04.4	
	comp=Z,902nm,19.2s,baz=299,slow=40						
BVAR	**Borovoye Array**	**56.17**	**341**	P	P	02 31 46.4	-2.7
	2.6nm,0.7s,baz=142,slow=8.9,SNR=4.4						
GERES	**GERESS Array B**	**84.67**	**319**	P	P	02 34 41.1	-1.1
	0.6nm,0.7s,baz=124,slow=7.1,SNR=3.5						

*CSEM **07** 02:41:49.1±0.4, 38.65N×29.75W, MD3.3, Error ellipse: s-maj=10.5km s-min=4.3km az=4.0, After PDA*
*PDA **07** 02:41:49.1±0.4, 38.65N×29.75W, MD3.3, Error ellipse: s-maj=10.5km s-min=4.3km az=4.0*
SVSA 07 02:41:49.1±0.4, 38.65N×29.75W, MD3.3, Error ellipse: s-maj=10.5km s-min=4.3km az=4.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.82**	**94**	*eP*	Pg	02 42 02.9	-2.7
CALA				*eS*	Sg	02 42 13.7	-2.9
PICO	**Pico**	**1.05**	**98**	*eP*	Pb	02 42 06.3	-3.5
PICO				*eS*	Sb	02 42 19.1	-4.9
ROSA	**Rosais**	**1.18**	**86**	*eP*	Pb	02 42 08.1	-4.0
ROSA				*eS*	Sb	02 42 22.1	-5.8

*CSEM **07** 02:44:34.9±0.9, 38.74N×29.11W, h10km, MD2.8, Error ellipse: s-maj=12.6km s-min=9.1km az=52.0, After PDA*
*PDA **07** 02:44:34.9±0.9, 38.74N×29.11W, h10km, MD2.8, Error ellipse: s-maj=12.6km s-min=9.1km az=52.0*
SVSA 07 02:44:34.9±0.9, 38.74N×29.11W, h10km, MD2.8, Error ellipse: s-maj=12.6km s-min=9.1km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.36**	**116**	*eP*	Pg	02 44 41.5	-0.8
CALA				*eS*	Sg	02 44 46.4	-0.8
PICO	**Pico**	**0.59**	**114**	*eP*	Pg	02 44 44.3	-2.5
PICO				*eS*	Sg	02 44 51.4	-3.3
ROSA	**Rosais**	**0.68**	**91**	*eP*	Pb	02 44 46.0	-2.4
ROSA				*eS*	Sb	02 44 54.0	-3.6

*IDC **07** 02:46:47.3±0.6, 32.89N×141.67E, mb4.2/14, mb1 4.4/17, mb1mx4.4/22, mbtmp4.2/17, ML4.0/3, Error ellipse: s-maj=16.8km s-min=14.6km az=42.0*
*JMA **07** 02:46:49.3±0.3, 33.06N×141.55E, M4.2*
*MOS **07** 02:46:49.4±1.1, 32.88N×141.55E, h24km, mb4.6/15, Error ellipse: s-maj=15.4km s-min=9.3km az=110.2*
*BJI **07** 02:46:52.4, 32.94N×141.65E, h56km, mB5.0, mb4.2, Ms4.3, Msz4.1*
*NEIC **07** 02:46:54.0±1.4, 32.93N×141.48E, h44km±12km, mb4.6/10, Error ellipse: s-maj=10.6km s-min=7.9km az=136.0*
ISC 07 02:46:50.2±1.5, 32.88N±0.03×141.62E±0.05, h29km±10km, n89, σ1s00/98, mb4.4/27, MS4.1/1, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.53**	**279**	P	**Pn**	**02 47 17.1**	**+1.0**
JHJ2				*eS*	**Sn**	**02 47 37.4**	**+2.1**
JHJ	**Hachijo jima 2**	**1.56**	**279**	Pn	**Pn**	**02 47 17.5**	**+1.0**
	189nm,0.3s,baz=221,slow=21,SNR=12						
JHJ				Sn	**Sn**	**02 47 37.6**	**+1.6**
	289nm,0.3s,baz=95,slow=22,SNR=8.4						
BSO1	**Boso 1**	**1.84**	**343**	P	**Pn**	**02 47 20.0**	**-0.6**
BSO1				*eS*	**Sn**	**02 47 42.9**	**-0.3**
BSO3	**Boso 3**	**2.12**	**334**	P	**Pn**	**02 47 24.3**	**-0.3**
BSO3				*eS*	**Sn**	**02 47 50.4**	**+0.1**
BSO4	**Boso 4**	**2.36**	**333**	P	**Pn**	**02 47 28.3**	**+0.4**
JKO	**Kozu shima**	**2.45**	**303**	*eS*	**Sn**	**02 47 59.7**	**+1.2**
JIM2	**Oshima 3**	**2.58**	**316**	P	**Pn**	**02 47 30.5**	**-0.6**
JIZS	**Izushimoda**	**2.93**	**309**	P	**Pn**	**02 47 36.2**	**+0.2**
JOD2	**Odawara 2**	**3.17**	**319**	P	**Pn**	**02 47 38.5**	**-1.0**
JOD2				*eS*	**Sn**	**02 48 15.7**	**-1.1**
JYN	**Shimob**	**3.65**	**316**	P	**Pn**	**02 47 47.2**	**+0.9**
JRY	**Ryogami san**	**3.85**	**325**	P	**Pn**	**02 47 48.6**	**-0.5**
JRY				*eS*	**Sn**	**02 48 34.1**	**+0.1**
JAG	**Ashikaga**	**3.96**	**334**	P	**Pn**	**02 47 50.1**	**-0.6**
JAG				*eS*	**Sn**	**02 48 35.0**	**-1.7**
MJAR	**Matsushiro Arr**	**4.61**	**323**	Pn	**Pn**	**02 47 59.3**	**-0.6**
	3.0nm,0.3s,baz=148,slow=12,SNR=33						
MJAR				Sn	**Sn**	**02 48 53.0**	**-0.1**
	4.9nm,0.3s,baz=139,slow=22,SNR=5.9						
MJAR	**Matsushiro Arr**	**4.61**	**323**	P	**Pn**	**02 47 59.3**	**-0.6**
MJAR						02 48 53.1	
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR				smax			
	comp=N,5.0nm,0.3s						
MAJO	**Matsushiro**	**4.61**	**323**	*eP*	**Pn**	**02 48 00.1**	**+0.2**
MAT	**Matsushiro**	**4.61**	**323**	P	**Pn**	**02 48 00.1**	**+0.2**
MAT				S	**Sn**	**02 48 53.2**	**0.0**

MAT Matsushiro 4.61 323 *e*P **Pn** **02 48 00.0 +0.1**
MAT *e*S **Sn** **02 48 53.0 -0.2**
CBIJ Chichi jima 5.79 175 Pn **Pn** **02 48 12.7 -3.8**
comp=N,25nm,0.3s,baz=274,slow=21,SNR=3.4
CBIJ Sn **Sn** **02 49 21.9 -0.9**
comp=N,29nm,0.3s,baz=108,slow=23,SNR=3.1
ASAJ Asahikawa 11.24 4 Pn **P** **02 49 27.1 -5.1**
comp=N,0.9nm,0.3s,baz=207,slow=11,SNR=3.4
ASAJ Sn **S** **02 51 29.0 -8.8**
comp=N,0.2nm,0.3s,baz=284,slow=29,SNR=2.1
ASAJ Asahikawa 11.24 4 P **P** **02 49 27.1 -5.1**
ASAJ 02 51 29.0
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
MDJ Mudanjiang 14.99 325 P **P** **02 50 21.6 -0.2**
MDJ AMB AMB
comp=Z,10.0nm,2.2s
MDJ AMB AMB
comp=Z,430nm,7.8s
CN2 Changchun 16.70 315 *e*P **P** **02 50 45.9 +2.2**
ULN Ulaanbaatar 30.00 310 *e*P **P** **02 52 59.2 +0.7**
ULN pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
ULN Ulaanbaatar 30.00 310 *e*P **P** **02 52 59.2 +0.7**
comp=Z,4.5nm,0.7s,mb4.3
SONM Songino Array 30.41 310 P **P** **02 53 02.5 +0.3**
comp=Z,2.6nm,0.6s,mb4.1,baz=111,slow=8.0,SNR=14
SONM Songino Array 30.41 310 P **P** **02 53 02.5 +0.3**
SONM pmax pmax
comp=Z,3.0nm,0.6s
BOD Bodaibo 31.19 331 *e*P **P** **02 53 13.7 +4.8**
BOD pmax pmax
comp=Z,5.0nm,1.5s,mb4.1
GTA Gaotai 34.15 293 *e*P **P** **02 53 34.1 -0.8**
GTA PP PP 02 54 48.1 -1.6
GTA PCP PcP 02 56 12.0 +0.2
GTA S **S** **02 58 56.5 -1.7**
GTA PCS 02 59 56.8
GTA SS SS 03 01 04.5 -3.0
GTA AMB AMB
comp=Z,210nm,8.4s
GTA LR LR
comp=N,190nm,14.1s,MS4.1
GTA LR LR
comp=E,160nm,13.4s,MS4.1
GTA LR LR
comp=Z,290nm,16.1s,MS4.1
BILL Bilibino 37.97 15 ↓*i*P **P** **02 54 04.7 -2.2**
BILL pmax pmax
comp=Z,15nm,1.0s,mb4.7
BILL Bilibino 37.97 15 *e*P **P** **02 54 04.2 -2.7**
comp=Z,20nm,1.2s,mb4.7
ZAL Zalesovo 44.92 316 P **P** **02 55 03.2 -0.9**
comp=Z,1.2nm,0.6s,mb3.9,baz=351,slow=6.7,SNR=5.1
ZAL Zalesovo 44.92 316 P **P** **02 55 03.2 -0.9**
ZAL pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 46.57 306 P **P** **02 55 17.0 -0.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=89,slow=9.9,SNR=13
MKAR Makanchi Array 46.57 306 P **P** **02 55 17.0 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
JIRN Jiri 47.70 279 *e*P **P** **02 55 26.6 +0.2**
comp=Z,21nm,0.7s,mb5.3
GUN Gumba 47.87 280 *e*P **P** **02 55 27.2 -0.6**
comp=Z,14nm,0.7s,mb5.1
PKI Pulchoki 48.38 279 *e*P **P** **02 55 30.2 -1.5**
KKN Kakani 48.41 280 *e*P **P** **02 55 31.3 -0.6**
GKN Gorkha 48.87 280 *e*P **P** **02 55 33.7 -1.7**
KOLN Koldanda 49.81 280 *e*P **P** **02 55 39.3 -3.4**
MCK McKinley 52.02 32 *e*P **P** **02 55 58.6 -0.4**
COLA College 52.53 30 *e*P **P** **02 56 03.6 +0.8**
ILAR Eielson Array 52.94 31 P **P** **02 56 04.3 -1.5**
comp=Z,3.7nm,0.7s,mb4.4,baz=260,slow=5.8,SNR=47
ILAR Eielson Array 52.94 31 P **P** **02 56 04.3 -1.5**
ILAR pmax pmax
comp=Z,4.0nm,0.7s
FITZ Fitzroy Crossi 52.95 199 *e*P **P** **02 56 07.1 +0.6**
comp=Z,5.0nm,0.6s,mb4.6
WB2 Warramunga Arr 52.98 189 *e*P **P** **02 56 05.9 -0.9**
WRA Warramunga Arr 52.99 189 P **P** **02 56 05.9 -0.9**
comp=Z,4.9nm,0.7s,mb4.5,baz=6.0,slow=7.6,SNR=46
WRA Warramunga Arr 52.99 189 P **P** **02 56 05.9 -0.9**
WRA pmax pmax
comp=Z,5.0nm,0.7s
MBWA Marble Bar 57.67 204 *e*P **P** **02 56 40.1 -0.5**
INK Inuvik 58.02 26 *e*P **P** **02 56 41.5 -0.9**
STKA Stephens Creek 64.41 180 P **P** **02 57 25.1 -1.1**
comp=Z,3.9nm,0.9s,mb4.4,baz=335,slow=9.0,SNR=3.0
YKA Yellowknife Ar 67.32 29 P **P** **02 57 43.1 -1.1**
comp=Z,0.9nm,0.7s,mb3.9,baz=294,slow=6.4,SNR=7.8
YKA Yellowknife Ar 67.32 29 P **P** **02 57 43.2 -1.0**
NWAO Narrogin (SRO) 69.38 202 *e*P **P** **02 57 57.8 +0.3**
FINES FINESS Array B 72.57 333 P **P** **02 58 15.6 -0.6**
comp=Z,2.5nm,0.7s,mb4.2,baz=90,slow=7.6,SNR=7.7
FINES FINESS Array B 72.57 333 P **P** **02 58 15.6 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.7s
HRY Holter Researc 76.87 43 *e*P **P** **02 58 42.5 +1.3**
NVAR Mina Array Bea 77.36 52 P **P** **02 58 44.9 +0.8**
comp=Z,1.5nm,0.8s,mb4.0,baz=289,slow=4.5,SNR=14
AKASG Malin Array Be 77.69 323 P **P** **02 58 45.2 -0.4**
comp=Z,1.6nm,0.6s,mb4.2,baz=50,slow=5.6,SNR=15
AKASG Malin Array Be 77.69 323 P **P** **02 58 45.2 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 77.69 323 P **P** **02 58 45.2 -0.4**
MIB Mutribah 77.73 297 *e*P **P** **02 58 45.9 -0.3**
MIB AMb AMB 02 58 47.2
comp=Z,18nm,0.6s,mb5.2
RDF Al-Radifah 78.02 297 *e*P **P** **02 58 47.7 -0.1**
RDF AMb AMB 02 58 49.5
comp=Z,19nm,0.7s,mb5.2
NB2 NORSAR Subarra 78.08 338 P **P** **02 58 47.4 -0.1**
comp=Z,2.8nm,0.7s,mb4.3,baz=40,slow=5.6
NOA NORSAR Array B 78.08 338 P **P** **02 58 47.0 -0.5**
comp=Z,2.7nm,0.7s,mb4.3,baz=40,slow=5.5,SNR=9.4
NOA NORSAR Array B 78.08 338 P **P** **02 58 47.1 -0.4**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NAY Al-Naaiem 78.08 297 *e*P **P** **02 58 47.9 -0.3**
NAY AMb AMB 02 58 48.6
comp=Z,10nm,0.7s,mb4.9
ELK Elko 78.11 49 *e*P **P** **02 58 49.9 +1.8**
ELK pmax pmax
comp=Z,14nm,1.8s
ELK Elko 78.11 49 *e*P **P** **02 58 49.9 +1.8**
comp=Z,14nm,1.8s,mb4.6
QLMT Earthquake Lak 78.16 44 *e*P **P** **02 58 50.0 +1.7**
TPNV Topopah Spring 79.53 53 *e*P **P** **02 58 57.1 +1.2**
TPNV pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
TPNV Topopah Spring 79.53 53 *e*P **P** **02 58 57.1 +1.2**
comp=Z,2.9nm,0.9s,mb4.2
DUG Dugway 79.95 49 *e*P **P** **02 58 59.1 +0.9**
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
DUG Dugway 79.95 49 *e*P **P** **02 58 59.1 +0.9**
comp=Z,4.2nm,0.9s,mb4.4
PDAR Pinedale Array 80.46 45 P **P** **02 59 01.8 +0.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=278,slow=2.3,SNR=9.6
NEN Nelson 81.19 53 *e*P **P** **02 59 06.1 +1.3**
NEN *e* 02 59 17.7
MSU Marysvale 81.32 50 *e*P **P** **02 59 07.4 +2.0**
BR131 Keskin Array S 81.74 312 P **P** **02 59 07.6 0.0**
comp=Z,2.1nm,0.9s,mb4.1
BRTR Keskin Array B 81.74 312 P **P** **02 59 08.3 +0.7**
comp=Z,1.9nm,0.8s,mb4.1,baz=103,slow=4.1,SNR=12
BRTR Keskin Array B 81.74 312 P **P** **02 59 08.3 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
SRU San Rafael 82.02 48 *e*P **P** **02 59 10.5 +1.5**
SRU pmax pmax
comp=Z,12nm,0.7s,mb4.9
SRU San Rafael 82.02 48 *e*P **P** **02 59 10.4 +1.4**
comp=Z,12nm,0.7s,mb4.9
CLL Collm 84.78 330 P **P** **02 59 23.0 +0.2**
CLL *e**PP pP 02 59 36.0 +4.0
TXAR Lajitas Array 92.51 53 P **P** **03 00 01.1 +1.0**
comp=Z,0.8nm,0.7s,mb4.3,baz=298,slow=2.5,SNR=12
TXAR Lajitas Array 92.51 53 P **P** **03 00 01.1 +0.9**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 120.34 313 PKP PKPdf 03 05 40.1 -4.2
comp=Z,0.6nm,0.7s,baz=76,slow=0.9,SNR=8.6

SAML Samuel 146.94 49 *e*PKPdf PKPdf 03 06 32.3 -1.4
LPAZ La Paz 148.45 66 PKPbc PKPdf 03 06 37.2 +1.2
comp=Z,4.4nm,0.9s,baz=6.2,slow=4.5,SNR=12
LPAZ La Paz 148.45 66 *e*PKP2 PKPab 03 06 38.0 -2.1

CSEM ***07*** *03:59:12.9± 1.1, 38.94N× 29.68W, ML2.0, Error ellipse: s-maj=23.9km s-min=11.1km az=26.0, After PDA*
PDA ***07*** *03:59:12.9± 1.1, 38.94N× 29.68W, MD3.4, ML2.0, Error ellipse: s-maj=23.9km s-min=11.1km az=26.0*
SVSA 07 03:59:12.9± 1.1, 38.94N× 29.68W, MD3.4, ML2.0, Error ellipse: s-maj=23.9km s-min=11.1km az=26.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.85**	**115**	*e*P	Pg	03 59 26.9	-2.9
CALA				*e*S	Sg	03 59 37.5	-3.6
PCND	**Candelaria**	**1.06**	**116**	*e*P	Pb	03 59 30.5	-3.4
PCND				*e*S	Sb	03 59 43.5	-4.7
	9.5nm,0.1s						
PICO	**Pico**	**1.08**	**114**	*e*P	Pb	03 59 30.6	-3.5
PICO				*e*S	Sb	03 59 43.3	-5.3
PBOI	**Pico dos Bois**	**1.14**	**116**	*e*S	Sb	03 59 45.5	-4.9
	11nm,0.1s						
ROSA	**Rosais**	**1.15**	**101**	*e*S	Sb	03 59 45.1	-5.5

NIED ***07*** *04:17:00, 39.10N× 143.70E, h23km, Mw4.7 Best double couple: M0 1.31×10^16 NP1: φs 27°, δ54°, λ99°. NP2: φs 193°, δ36°, λ78°.*
JMA ***07*** *04:17:54.8± 0.1, 39.11N× 143.68E, h33km, M4.9*
JMA Felt I J1.
BJI ***07*** *04:17:56.2, 39.17N× 143.26E, h18km, mB5.1, mb5.0, Ms4.7, Msz4.5*
NEIC ***07*** *04:17:59.3± 0.2, 39.13N× 143.45E, mb5.0/46, MW4.7(NIED), Error ellipse: s-maj=6.7km s-min=3.8km az=144.0*
NEIC Recorded [1 JMA] in Iwate Prefecture.
HRVD ***07*** *04:17:59.3± 0.9, 39.32N× 143.61E, h27km± 2km, MW4.8/48, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s48,c65; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.16± .19; Mθθ -0.11± .10; Mφφ -1.06± .12; Mrθ 0.19± .15; Mθφ -0.39± .06; Mφr 1.22± .17; Best double couple: M0 1.707×10^16 NP1: φs 207°, δ22°, λ105°. NP2: φs 12°, δ68°, λ84°. Principal axes: T 1.7, Plg66°, Azm271°; N .006, Plg6°, Azm14°; P -1.714, Plg23°, Azm106°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***07*** *04:18:00.9± 2.7, 39.10N× 143.33E, h39km± 23km, mb4.3/23, mb1 4.5/27, mb1mx4.4/32, mbtmp4.6/27, ML4.3/4, MS4.1/15, Ms1 4.1/15, ms1mx3.9/35 Error ellipse: s-maj=17.6km s-min=15.1km az=155.0*
MOS ***07*** *04:18:00.3± 0.8, 39.41N× 143.17E, h33km, mb5.1/58, MS4.4/25, Error ellipse: s-maj=8.6km s-min=4.6km az=110.9*
ISC 07 04:17:59.1± 0.3, 39.26N± 0.03× 143.31E± 0.04, h32km, h32km± 2.0km: pP-P, n292, σ 0.97/294, mb4.9/88, MS4.4/39, 25C-9D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.20**	**286**	P	**Pn**	**04 18 20.5**	**+0.7**
MIYJ				*e*S	**Sn**	**04 18 39.4**	**+4.3**
OFUJ	**Ofunato**	**1.28**	**263**	P	**Pn**	**04 18 21.3**	**+0.2**
OFUJ				*e*S	**Sn**	**04 18 40.2**	**+2.9**
JTH	**Tanohata**	**1.31**	**302**	*e*S	**Sn**	**04 18 41.8**	**+3.9**
JOM	**Ohasama**	**1.58**	**279**	P	**Pn**	**04 18 26.1**	**+0.8**
JOM				*e*S	**Sn**	**04 18 49.0**	**+4.3**
JMK	**Ichinoseki**	**1.65**	**260**	P	**Pn**	**04 18 26.5**	**+0.1**
JIO	**Ouri**	**1.73**	**243**	P	**Pn**	**04 18 26.4**	**-1.0**
JIO				*e*S	**Sn**	**04 18 50.6**	**+2.1**
JANG	**Nango**	**1.77**	**310**	P	**Pn**	**04 18 28.6**	**+0.5**
JYK	**Kaneyama**	**2.32**	**263**	P	**Pn**	**04 18 36.3**	**+0.4**
JMM	**Marumori**	**2.41**	**236**	P	**Pn**	**04 18 35.7**	**-1.5**
JNBK	**Urakawa-nobuka**	**3.05**	**352**	P	**Pn**	**04 18 46.1**	**-0.2**
JNBK				*e*S	**Sn**	**04 19 22.6**	**+0.5**
JKB	**Kayabe**	**3.15**	**327**	P	**Pn**	**04 18 48.1**	**+0.4**
JAW	**Awa shima**	**3.27**	**257**	P	**Pn**	**04 18 49.7**	**+0.3**
JCH	**Churui**	**3.36**	**1**	P	**Pn**	**04 18 49.7**	**-1.0**
JCH				*e*S	**Sn**	**04 19 29.0**	**-0.9**
MJAR	**Matsushiro Arr**	**4.86**	**238**	Pn	**Pn**	**04 19 11.2**	**-0.8**
	14nm,0.3s,baz=50,slow=11,SNR=267						
MJAR				Sn	**Sn**	**04 20 06.0**	**-1.8**
	baz=61,slow=13,SNR=2.2						
MJAR	**Matsushiro Arr**	**4.86**	**238**	P	**Pn**	**04 19 11.2**	**-0.8**
MJAR						04 20 06.0	
MJAR				pmax	pmax		
	comp=Z,14nm,0.3s						
MAJO	**Matsushiro**	**4.86**	**238**	*e*P	**Pn**	**04 19 11.4**	**-0.6**
MAT	**Matsushiro**	**4.86**	**238**	P	**Pn**	**04 19 11.5**	**-0.5**
MAT				S	**Sn**	**04 20 14.6**	**+6.8**
MAT	**Matsushiro**	**4.86**	**238**	*e*P	**Pn**	**04 19 12.0**	**0.0**
MAT				*e*S	**Sn**	**04 20 22.0**	**+14**
ASAJ	**Asahikawa**	**4.89**	**354**	Pn	**Pn**	**04 19 11.8**	**-0.6**
	comp=Z,10nm,0.3s,baz=214,slow=14,SNR=29						
ASAJ				Sn	**Sn**	**04 20 07.8**	**-0.8**
	comp=Z,6.7nm,0.3s,baz=183,slow=11,SNR=5.7						
ASAJ				LR	LR	04 21 50.5	
	comp=Z,1μm,19.6s,baz=184,slow=46						
ASAJ	**Asahikawa**	**4.89**	**354**	P	**Pn**	**04 19 11.8**	**-0.6**
ASAJ						04 20 07.8	
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,19.6s						
YUK	**Yuzh-Kuril'sk**	**5.14**	**21**	*e*P	**Pn**	**04 19 12.1**	**-3.9**
YUK				*i* S	**Sn**	**04 20 08.3**	**-6.7**
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=N,210nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.7s						
YUK				smax			
	comp=N,8μm,1.2s						
YUK				smax			
	comp=E,5μm,0.8s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,530nm,0.4s						
JHJ	**Hachijo jima 2**	**6.75**	**206**	Pn	**Pn**	**04 19 35.9**	**-2.8**
	comp=N,31nm,0.3s,baz=251,slow=23,SNR=2.3						
JHJ				Sn	**Sn**	**04 20 45.8**	**-9.5**
	comp=N,24nm,0.3s,baz=242,slow=23,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**7.71**	**357**	↑*e*P	**Pn**	**04 19 50.9**	**-1.1**
YSS				*e*S	**Sn**	**04 21 13.3**	**-5.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=N,2μm,13.0s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS				MLR	MLR		
	comp=E,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.71**	**357**	*e*P	**Pn**	**04 19 51.1**	**-0.9**
VLA	**Vladivostok**	**9.43**	**298**	*e*P	**P**	**04 20 14.5**	**-1.4**
VLA				pmax	pmax		
	comp=Z,142nm,1.3s						
VLA				pmax	pmax		
	comp=Z,2μm,14.2s						
HABR	**Khabarovsk**	**10.97**	**330**	*e*P	**P**	**04 20 35.7**	**-1.2**
HABR				pmax	pmax		
	comp=Z,63nm,1.6s						
HABR				MLR	MLR		
	comp=Z,1μm,12.0s						
MDJ	**Mudanjiang**	**11.53**	**302**	P	**P**	**04 20 43.9**	**-0.7**
MDJ				PP	PP	04 20 55.6	+2.5
MDJ				S	**S**	**04 22 51.4**	**-1.8**
MDJ				SS	SS	04 23 06.7	-0.6
MDJ				PCP	PcP	04 26 33.1	-1.3
MDJ				SCS	ScS	04 33 39.0	+1.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,110nm,4.0s						
MDJ				LR	LR		
	comp=N,950nm,15.3s						
MDJ				LR	LR		
	comp=E,1μm,15.3s						
MDJ				LR	LR		
	comp=Z,2μm,15.3s						
MDJ	**Mudanjiang**	**11.53**	**302**	*e*P	**P**	**04 20 44.4**	**-0.2**
	comp=Z,44nm,1.0s						
JNU	**Nakatsue**	**11.75**	**242**	Pn	**P**	**04 20 45.4**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=54,slow=16,SNR=9.7						
CBIJ	**Chichi jima**	**12.16**	**185**	LR	LR	04 24 53.7	
	comp=Z,329nm,20.1s,baz=96,slow=34						
KS15	**Wonju Array Si**	**12.24**	**266**	*e*P	**P**	**04 20 55.4**	**+1.2**
KS15				*e*		04 21 05.2	
KLR	**Kul'dur**	**12.95**	**324**	*e*P	**P**	**04 20 59.2**	**-4.3**
KLR				MLR	MLR		
	comp=Z,7μm,13.0s						
CN2	**Changchun**	**14.12**	**294**	*e*P	**P**	**04 21 20.6**	**+1.6**
CN2				*e*S	**S**	**04 23 56.6**	**+1.2**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s						
CN2				AMB	AMB		
	comp=Z,330nm,6.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s						
CN2				LR	LR		
	comp=E,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
SNY	**Shenyang**	**15.22**	**286**	↑P	**P**	**04 21 36.9**	**+3.6**
SNY				AMB	AMB		
	comp=Z,20nm,1.4s						
SNY				LR	LR		
	comp=E,1μm,15.6s						
SNY				LR	LR		
	comp=Z,1μm,16.8s						
HIA	**Hailar**	**19.55**	**308**	*e*P	**P**	**04 22 22.8**	**-4.1**
HIA				pmax	pmax		
	comp=Z,67nm,1.0s						
HIA	**Hailar**	**19.55**	**308**	*e*P	**P**	**04 22 22.8**	**-4.1**
	comp=Z,67nm,1.0s						
SSE	**Sheshan**	**19.80**	**253**	*e*P	**P**	**04 22 28.0**	**-1.8**
SSE				AP		04 22 35.9	
SSE				XP		04 22 40.5	
SSE				S	**S**	**04 26 08.4**	**+3.0**
SSE				AMB	AMB		
	comp=Z,40nm,1.1s						
SSE				AMB	AMB		
	comp=Z,180nm,3.8s						
SSE				LR	LR		
	comp=N,510nm,15.7s						
SSE				LR	LR		
	comp=E,380nm,15.7s						
SSE				LR	LR		
	comp=Z,730nm,15.1s						
SSE	**Sheshan**	**19.80**	**253**	*e*P	**P**	**04 22 28.0**	**-1.8**
	comp=Z,44nm,1.1s						
SSE				pP		04 22 35.9	
SSE				sP		04 22 40.5	
SSE				S	**S**	**04 26 08.4**	**+3.0**
SSE				sS		04 26 23.1	
MA2	**Magadan**	**20.89**	**11**	*e*P	**P**	**04 22 40.2**	**-0.6**
MA2				*e*		04 23 15.9	
MA2				*e*S	**S**	**04 26 26.6**	**-0.5**
MA2				*e*SS	SS	04 26 58.0	-1.3
MA2				pmax	pmax		
	comp=Z,30nm,0.9s						
MA2				MLR	MLR		
	comp=Z,360nm,19.0s,MS3.8						
MA2	**Magadan**	**20.89**	**11**	*e*P	**P**	**04 22 39.6**	**-1.3**
	comp=Z,42nm,1.0s						
TIA	**Tai'an**	**20.91**	**270**	↑P	**P**	**04 22 37.4**	**-3.8**
TIA				AMB	AMB		
	comp=Z,40nm,1.0s						
TIA				LR	LR		
	comp=N,460nm,11.0s,MS4.0						
TIA				LR	LR		
	comp=E,70nm,15.0s,MS4.0						
NJ2	**Nanjing**	**21.09**	**258**	*e*P	**P**	**04 22 39.6**	**-3.5**
NJ2				AP		04 22 50.8	
NJ2				XP		04 22 56.4	
NJ2				PP	PP	04 23 03.6	-2.8
NJ2				S	**S**	**04 26 31.0**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,190nm,5.8s						
NJ2				LR	LR		
	comp=N,870nm,13.0s,MS4.8						
NJ2				LR	LR		
	comp=E,3μm,15.6s,MS4.8						
NJ2				LR	LR		
	comp=Z,860nm,15.9s,MS4.2						
CLNS	**Chul'man**	**21.35**	**332**	*e*P	**P**	**04 22 45.0**	**-0.5**
CIT	**Chita**	**24.21**	**312**	*e*P	**P**	**04 23 11.1**	**-2.6**
CIT				*e*		04 26 50.8	
CIT				pmax	pmax		
	comp=Z,141nm,1.0s,mb5.3						
YAK	**Yakutsk**	**24.28**	**344**	*e*P	**P**	**04 23 12.9**	**-1.4**
YAK				*e*S	**S**	**04 27 26.7**	**-1.3**
YAK				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,18nm,1.0s						
YAK				pmax	pmax		
	comp=E,15nm,1.1s						
YAK				smax			
	comp=N,5.0nm,1.2s						
YAK				smax			
	comp=E,3.0nm,1.0s						
YAK	**Yakutsk**	**24.28**	**344**	*e*P	**P**	**04 23 13.9**	**-0.3**
	comp=E,93nm,0.8s,mb5.3						
HHC	**Hu-ho-hao-te**	**24.28**	**284**	*e*P	**P**	**04 23 12.8**	**-1.7**
HHC				AP		04 23 22.3	
HHC				XP		04 23 26.3	
HHC				PP	PP	04 23 47.1	-2.7
HHC				PCP	PcP	04 26 56.3	+1.0
HHC				S	**S**	**04 27 24.6**	**-3.7**
HHC				XS		04 27 39.6	
HHC				SCP		04 30 30.1	
HHC				PCS		04 30 33.8	
HHC				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
HHC				AMB	AMB		
	comp=Z,150nm,3.7s						
HHC				LR	LR		
	comp=N,330nm,10.4s,MS4.6						
HHC				LR	LR		
	comp=E,1μm,14.1s,MS4.6						
HHC				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
SEY	**Seymchan**	**24.34**	**10**	*e*P	**P**	**04 23 16.0**	**+1.2**
SEY						04 23 58.1	
SEY				*e*		04 26 52.7	
SEY				*e*S	**S**	**04 27 36.3**	**+7.4**
SEY				SS	SS	04 28 31.2	+7.9
SEY				pmax	pmax		
	comp=N,20nm,1.1s						
SEY				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.6						
SEY				pmax	pmax		
	comp=E,10.0nm,1.0s						
SEY				smax			
	comp=N,250nm,14.5s						
SEY				smax			
	comp=E,570nm,23.8s						
SEY				MLR	MLR		
	comp=N,210nm,19.0s,MS3.9						
SEY				MLR	MLR		
	comp=Z,630nm,19.0s,MS4.1						
SEY				MLR	MLR		
	comp=E,260nm,17.0s,MS3.9						
WHN	**Wuhan**	**25.21**	**259**	↑P	**P**	**04 23 22.5**	**-0.9**
WHN				AP	pP	04 23 32.1	-0.6
WHN				S	**S**	**04 27 44.3**	**+0.4**
WHN				AMB	AMB		
	comp=Z,210nm,1.0s,mb5.6						
WHN				LR	LR		
	comp=N,1μm,15.9s,MS4.8						
WHN				LR	LR		
	comp=E,2μm,12.2s,MS4.8						
WHN				LR	LR		
	comp=Z,2μm,15.9s,MS4.8						
GUMO	**Guam**	**25.60**	**176**	LR	LR	04 32 49.9	
	comp=Z,178nm,18.8s,MS3.6,baz=70,slow=35						
BOD	**Bodaibo**	**26.53**	**324**	*e*P	**P**	**04 23 34.7**	**-0.7**
BOD				pmax	pmax		

comp=Z,28nm,1.0s,mb4.8
ULN Ulaanbaatar 27.43 300⇑ *i*P **P** **04 23 43.0 -0.8**
ULN Ulaanbaatar 27.43 300 *e*P **P** **04 23 43.7 -0.1**
comp=Z,39nm,1.3s,mb4.8
SONM Songino Array 27.88 300 P **P** **04 23 48.0 +0.3**
comp=Z,12nm,0.6s,mb4.7,baz=92,slow=8.9,SNR=54
SONM LR LR 04 35 29.7
comp=Z,820nm,18.9s,MS4.3,baz=208,slow=38
SONM Songino Array 27.88 300 P **P** **04 23 48.0 +0.2**
SONM pmax pmax
comp=Z,12nm,0.6s
SONM MLR MLR
comp=Z,820nm,18.9s
ENH Enshi 29.06 262 *e*P **P** **04 23 56.9 -1.7**
comp=Z,93nm,1.1s,mb5.4
ZAK Zakamensk 30.14 305⇑ *i*P **P** **04 24 07.8 -0.3**
ZAK pmax pmax
comp=Z,13nm,1.0s,mb4.6
LZH Lanzhou 31.23 277 *e*P **P** **04 24 20.1 +2.3**
LZH *e*S **S** **04 29 30.0 +9.2**
LZH AMB AMB
comp=Z,100nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,370nm,4.2s
LZH LR LR
comp=E,2μm,11.5s
LZH LR LR
comp=Z,4μm,14.6s,MS5.2
LZH Lanzhou 31.23 277 *e*P **P** **04 24 20.1 +2.3**
LZH *PP pP 04 24 32.3 +5.1
LZH 04 25 30.0
LZH *e*SS SS 04 31 26.0 +18
LZH pmax pmax
comp=Z,100nm,1.2s,mb5.5
LZH MLR MLR
comp=Z,4μm,14.6s,MS5.2
LZH Lanzhou 31.23 277 *e*P **P** **04 24 20.1 +2.3**
comp=Z,100nm,1.2s,mb5.5
LZH pP pP 04 24 32.3 +5.1
LZH sP sP 04 24 37.2 +5.8
LZH PP PP 04 25 30.0 +8.9
LZH *e*S **S** **04 29 30.0 +9.2**
LZH sS 04 29 47.0
LZH *e*SS SS 04 31 26.0 +18
LZH LR LR
comp=Z,4μm,14.6s,MS5.2
BILL Bilibino 31.48 16⇓ *i*P **P** **04 24 18.4 -1.3**
BILL *i* 04 24 30.0
BILL pmax pmax
comp=Z,11nm,1.1s,mb4.6
BILL Bilibino 31.48 16 *e*P **P** **04 24 18.1 -1.6**
comp=Z,11nm,1.1s,mb4.6
MOY Mondy 31.72 307 *e*P **P** **04 24 22.0 +0.1**
GYA Guiyang 33.10 258⇑ *i*P **P** **04 24 32.5 -1.7**
GYA AP pP 04 24 44.4 +0.7
GYA PP PP 04 25 43.1 -2.3
GYA S **S** **04 29 45.3 -4.8**
GYA SCP 04 30 56.0
GYA AMB AMB
comp=Z,60nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,120nm,3.0s
GYA LR LR
comp=N,680nm,15.4s,MS4.6
GYA LR LR
comp=E,690nm,14.8s,MS4.6
GYA LR LR
comp=Z,730nm,14.6s,MS4.5
CD2 Chengdu 33.21 268 P **P** **04 24 33.7 -1.4**
CD2 AP pP 04 24 42.7 -1.9
CD2 XP sP 04 24 45.7 -3.0
CD2 PP PP 04 25 43.6 -3.1
CD2 S **S** **04 29 44.8 -6.9**
CD2 XS 04 30 04.5
CD2 LR LR
comp=N,450nm,15.0s
CD2 LR LR
comp=Z,480nm,15.0s,MS4.3
TIXI Tiksi 33.29 352⇑ *e*P **P** **04 24 34.8 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
TIXI MLR MLR
comp=Z,300nm,16.0s,MS4.1
GTA Gaotai 33.40 284 P **P** **04 24 36.5 -0.2**
GTA AP pP 04 24 48.5 +2.3
GTA PP PP 04 25 48.9 0.0
GTA PPP PPP 04 26 06.4 +0.7
GTA PCP PcP 04 27 16.9 -1.0
GTA S **S** **04 29 54.1 -0.5**
GTA SCP 04 30 57.9
GTA PCS 04 31 02.7
GTA SS SS 04 31 57.7 -0.6
GTA SCS ScS 04 34 57.2 -0.9
GTA AMB AMB
comp=Z,20nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,220nm,6.8s
GTA LR LR
comp=N,440nm,17.5s,MS4.7
GTA LR LR
comp=E,1μm,18.3s,MS4.7
GTA LR LR
comp=Z,1μm,17.1s,MS4.7
KMI Kunming 36.80 260 P **P** **04 25 05.7 -0.1**
KMI AP pP 04 25 14.7 -0.7
KMI XP sP 04 25 18.6 -0.8
KMI PP PP 04 26 29.0 -2.6
KMI PCP PcP 04 27 28.3 +0.4
KMI S **S** **04 30 46.5 -0.8**
KMI XS 04 31 03.7
KMI SS SS 04 33 15.9 0.0
KMI SCS ScS 04 35 19.2 +2.6
KMI AMB AMB
comp=Z,30nm,1.4s,mb4.9
KMI AMB AMB
comp=Z,160nm,3.5s
KMI LR LR
comp=N,480nm,15.6s,MS4.6
KMI LR LR
comp=E,590nm,15.1s,MS4.6
KMI LR LR
comp=Z,550nm,17.8s,MS4.4
KMI Kunming 36.80 260 P **P** **04 25 05.7 -0.1**
comp=Z,32nm,1.4s,mb5.0
KMI pP pP 04 25 14.7 -0.7
KMI sP sP 04 25 18.6 -0.8
KMI PP PP 04 26 29.0 -2.6
KMI PcP PcP 04 27 28.3 +0.4
KMI S **S** **04 30 46.5 -0.8**
KMI sS 04 31 03.7
KMI SS SS 04 33 15.9 0.0
KMI ScS ScS 04 35 19.2 +2.6
KMI LR LR
comp=Z,560nm,17.8s,MS4.4
WMQ Urumqi 41.21 295 P **P** **04 25 42.8 +0.4**
WMQ AP pP 04 25 55.0 +3.0
WMQ PP PP 04 27 21.8 +1.4
WMQ PCP PcP 04 27 41.9 +0.3
WMQ PPP PPP 04 27 51.9 +1.1
WMQ S **S** **04 31 53.0 -0.7**
WMQ SS SS 04 34 52.5 -0.2
WMQ SCS ScS 04 35 41.6 -0.3
WMQ AMB AMB
comp=Z,60nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,230nm,4.2s
WMQ LR LR
comp=N,1μm,16.0s,MS5.0
WMQ LR LR
comp=E,1μm,16.4s,MS5.0
WMQ LR LR
comp=Z,1μm,16.0s,MS4.8
ZAL Zalesovo 41.58 311 P **P** **04 25 45.2 0.0**
comp=Z,6.3nm,0.7s,mb4.3,baz=23,slow=8.5,SNR=30
ZAL Zalesovo 41.58 311 P **P** **04 25 45.2 0.0**
ZAL pmax pmax
comp=Z,6.0nm,0.7s
NVS Novosibirsk 42.42 312 *i*P **P** **04 25 51.0 -1.1**
NVS pmax pmax
comp=Z,18nm,1.3s,mb4.5
NVS pmax pmax
comp=N,1.0nm,0.6s
NVS pmax pmax
comp=E,15nm,1.0s
LSA Lhasa 43.52 274 P **P** **04 26 03.8 +2.4**
LSA Lhasa 43.52 274 *e*P **P** **04 26 03.0 +1.6**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
LSA Lhasa 43.52 274 *e*P **P** **04 26 03.0 +1.6**
comp=Z,8.4nm,0.6s,mb4.7
IMA2 Indian Mountai 44.02 32 *e*P **P** **04 26 05.6 +0.7**
MKAR Makanchi Array 44.24 301 P **P** **04 26 07.0 0.0**
comp=Z,14nm,1.0s,mb4.7,baz=83,slow=7.8,SNR=41
MKAR LR LR 04 45 27.3
comp=Z,424nm,18.4s,MS4.4,baz=57,slow=37
KURK Kurchatov 45.77 307*c i*P **P** **04 26 18.7 -0.4**
COLA College 46.41 33 *e*P **P** **04 26 24.0 +0.1**
ILAR Eielson Array 46.82 33 P **P** **04 26 27.1 -0.2**
comp=Z,4.6nm,0.8s,mb4.5,baz=266,slow=6.4,SNR=43
ILAR Eielson Array 46.82 33 P **P** **04 26 27.1 -0.1**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
JIRN Jiri 48.32 274 *e*P **P** **04 26 39.2 -0.3**
comp=Z,42nm,0.7s,mb5.5
GUN Gumba 48.44 275 *e*P **P** **04 26 40.2 -0.2**
comp=Z,172nm,1.0s
KKN Kakani 48.96 275 *e*P **P** **04 26 44.3 -0.1**
comp=Z,85nm,0.7s,mb5.9
KKN Kakani 48.96 275 *e*P **P** **04 26 44.3 -0.1**
KKN pmax pmax
comp=Z,43nm,0.7s,mb5.6
PKI Pulchoki 48.97 275 *e*P **P** **04 26 43.0 -1.5**
comp=Z,28nm,0.7s,mb5.4
PKI Pulchoki 48.97 275 *e*P **P** **04 26 43.0 -1.5**
PKI pmax pmax
comp=Z,14nm,0.7s,mb5.1
DMN Daman 49.19 275 *e*P **P** **04 26 46.0 -0.2**
comp=Z,85nm,1.1s,mb5.7
GKN Gorkha 49.36 276 *e*P **P** **04 26 46.9 -0.6**
comp=Z,94nm,1.1s,mb5.7
TKM2 Tokmak 2 49.91 297 P **P** **04 26 52.1 +0.6**
SNR=21
TKM2 Tokmak 2 49.91 297 P **P** **04 26 52.0 +0.5**
TKM2 pmax pmax
comp=Z,36nm,1.0s,mb5.4
VOSK Vostochnaya 49.94 311 P **P** **04 26 50.6 -1.0**
VOSK pmax pmax
comp=Z,18nm,1.1s,mb5.0
BVA0 Borovoye Array 50.21 311 *i* P **P** **04 26 53.1 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 50.21 311 P **P** **04 26 53.3 -0.3**
comp=Z,7.6nm,0.7s,mb4.8,baz=79,slow=7.6,SNR=33
BVAR PcP PcP 04 28 12.4 -0.3
comp=Z,3.8nm,0.7s,baz=100,slow=9.0,SNR=3.5
BVAR Borovoye Array 50.21 311 P **P** **04 26 53.3 -0.3**
BVAR 04 28 12.4
BVAR pmax pmax
comp=Z,8.0nm,0.7s
BVAR pmax pmax
comp=Z,4.0nm,0.7s
KOLN Koldanda 50.27 276 *e*P **P** **04 26 53.9 -0.6**
comp=Z,113nm,1.1s,mb5.8
KZA Kyzart 50.45 296 P **P** **04 26 56.9 +1.3**
SNR=5.3
KBK Karagaybulak 50.45 297 P **P** **04 26 55.9 +0.3**
SNR=23
USP Ospenovka 50.55 298 P **P** **04 26 56.5 +0.1**
SNR=6.0
FRU Bishkek 50.62 298 *e*P **P** **04 26 57.8 +0.9**
FRU *e* 04 27 04.2
AAK Ala-Archa 50.77 297 P **P** **04 26 57.9 -0.2**
SNR=6.2
AAK Ala-Archa 50.77 297⇓ *i*P **P** **04 26 56.5 -1.6**
AAK pmax pmax
comp=Z,14nm,1.8s,mb4.6
AAK MLR MLR
comp=Z,200nm,13.0s,MS4.3
KSH Kashi 50.89 293 *e*P **P** **04 27 00.8 +1.8**
KSH PCP PcP 04 28 18.0 +2.6
KSH *e*PP PP 04 28 58.6 +2.5
KSH AMB AMB
comp=Z,150nm,3.9s
UCH Uchtor 50.91 297 P **P** **04 27 00.1 +1.0**
SNR=5.5
EKS2 Erkin-Say 51.26 298 P **P** **04 27 01.5 -0.3**
SNR=6.8
AML Almayashu 51.51 297 P **P** **04 27 04.3 +0.7**
SNR=5.6
INK Inuvik 51.73 28 P **P** **04 27 05.2 +0.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=285,slow=6.5,SNR=17
INK Inuvik 51.73 28 *e*P **P** **04 27 04.7 -0.3**
INK pmax pmax
comp=Z,15nm,1.3s
INK Inuvik 51.73 28 *e*P **P** **04 27 04.7 -0.4**
comp=Z,15nm,1.3s,mb4.8
KKAR Karatay Array 53.32 299 P **P** **04 27 15.9 -1.3**
KKAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SVE Sverdlovsk 54.49 318⇑ *e*P **P** **04 27 24.6 -1.0**
SVE pmax pmax
comp=Z,40nm,1.3s,mb5.2
SVE MLR MLR
comp=N,300nm,14.0s,MS5.0
SVE MLR MLR
comp=E,1μm,14.0s,MS5.0
SVE MLR MLR
comp=Z,1μm,14.0s,MS5.1
SOKR Solikamsk 55.49 322⇑ *i*P **P** **04 27 31.9 -1.0**
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
SOKR MLR MLR
comp=Z,460nm,16.0s,MS4.7
ARU Arti 55.70 318⇑ *i*P **P** **04 27 33.5 -0.9**
ARU *e* 04 28 30.5
ARU *e* 04 29 36.8
ARU *e*PPP PPP 04 30 51.3 -3.9
ARU *e*S **S** **04 35 18.9 +2.1**
ARU *e*SS SS 04 39 04.0 +1.8
ARU pmax pmax
comp=Z,33nm,0.9s,mb5.4
ARU MLR MLR
comp=N,300nm,16.0s,MS4.8
ARU MLR MLR
comp=E,500nm,16.0s,MS4.8
ARU MLR MLR
comp=Z,700nm,16.0s,MS4.8
AB31 Akbulak array 57.66 310 *i* P **P** **04 27 47.2 -1.3**
AB31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
AKTO Aktyubinsk 58.31 311 P **P** **04 27 52.3 -0.7**
comp=Z,8.9nm,0.7s,mb4.9,baz=75,slow=12,SNR=25
AKTO LR LR 04 54 14.7
comp=Z,160nm,19.1s,MS4.2,baz=303,slow=37
AKTO Aktyubinsk 58.31 311 P **P** **04 27 52.3 -0.7**
AKTO pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
AKTO MLR MLR
comp=Z,160nm,19.1s,MS4.2
WB2 Warramunga Arr 59.48 190 *e*P **P** **04 27 58.4 -3.1**
WRA Warramunga Arr 59.48 190 P **P** **04 27 58.1 -3.5**
comp=Z,1.3nm,0.5s,mb4.2,baz=7.9,slow=6.9,SNR=19
WRA Warramunga Arr 59.48 190 *i* P **P** **04 27 58.5 -3.0**
WRA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 61.14 31 P **P** **04 28 11.4 -0.8**
comp=Z,0.9nm,0.7s,mb4.0,baz=303,slow=6.5,SNR=11
YKA Yellowknife Ar 61.14 31 *i* P **P** **04 28 11.3 -1.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 61.14 31 P **P** **04 28 11.4 -0.8**
ARCES ARCESS Array B 62.45 339 P **P** **04 28 20.4 -0.6**
comp=Z,6.6nm,1.0s,mb4.7,baz=56,slow=8.7,SNR=9.8
ARCES ARCESS Array B 62.45 339 P **P** **04 28 20.4 -0.6**
ARCES pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 62.68 328*c i*P **P** **04 28 21.4 -1.2**
KLMR pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
KLMR MLR MLR
comp=Z,240nm,14.0s,MS4.5
JOF Joensuu 64.71 332 *ep* **P** **04 28 34.6 -1.2**
KAF Kangasniemi 67.02 333 *ep* **P** **04 28 48.7 -1.9**
comp=Z,5.6nm,0.8s,mb4.7,baz=45,slow=5.7
KAF Kangasniemi 67.02 333 *e*P **P** **04 28 48.7 -1.9**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
OBN Obninsk 67.21 323*c i*P **P** **04 28 51.4 -0.5**
OBN *e* 04 31 24.5
OBN pmax pmax
comp=Z,29nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,600nm,20.0s,MS4.8
AFI Afiamalu 67.46 132 LR LR 04 54 43.9
comp=Z,153nm,19.0s,MS4.2,baz=303,slow=33
FINES FINESS Array B 67.54 332 P **P** **04 28 53.4 -0.5**
comp=Z,9.4nm,0.8s,mb4.8,baz=45,slow=8.1,SNR=22
FINES LR LR 05 01 07.9
comp=Z,270nm,18.3s,MS4.5,baz=334,slow=38
FINES FINESS Array B 67.54 332 P **P** **04 28 53.4 -0.5**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES MLR MLR
comp=Z,270nm,18.3s
FINES FINESS Array B 67.54 332 P **P** **04 28 53.4 -0.5**
FINES LR LR 05 01 07.9
JMIC Jan Mayen 68.22 350 LR LR 05 03 03.9
comp=Z,67nm,18.5s,MS3.9,baz=262,slow=40
BMO Blue Mountains 69.34 49 *e*P **P** **04 29 05.0 -0.3**
GOF Gofitskoye 69.73 312 *e*P **P** **04 29 05.1 -2.6**
GOF pmax pmax
comp=Z,60nm,0.8s,mb5.6
KIV Kislovodsk 70.58 311*c i*P **P** **04 29 13.3 +0.4**
KIV *e* 04 29 33.7
KIV *e*S S 04 38 25.3 +2.4
KIV pmax pmax
comp=Z,59nm,1.0s,mb5.5
KIV pmax pmax
comp=Z,23nm,5.6s
GNI Garni 71.57 307 P **P** **04 29 19.5 +0.5**
comp=Z,2.0nm,0.5s,mb4.3,baz=170,slow=4.3,SNR=4.3
GNI LR LR 05 04 09.7
comp=Z,204nm,18.6s,MS4.4,baz=49,slow=39
GNI Garni 71.57 307 *e*P **P** **04 29 19.2 +0.2**
GNI pmax pmax
comp=Z,13nm,1.3s
GNI MLR MLR
comp=Z,200nm,20.0s
DLMT Dillon 71.72 46 *e*P **P** **04 29 20.1 +0.3**
comp=Z,7.1nm,1.2s,mb4.5
HLID Hailey 71.78 48 *e*P **P** **04 29 20.6 +0.5**
NVAR Mina Array Bea 72.48 55 P **P** **04 29 25.0 +0.6**
comp=Z,1.2nm,1.0s,mb3.8,baz=286,slow=6.6,SNR=5.4
SOC Sochi 72.52 312 *e*P **P** **04 29 15.8 -8.7**
SOC pmax pmax
comp=Z,18nm,0.7s,mb5.1
HFS Hagfors 72.67 336 P **P** **04 29 24.9 -0.1**
comp=Z,6.5nm,0.6s,mb4.7,baz=45,slow=6.3,SNR=21
HFS LR LR 05 04 33.4
comp=Z,241nm,19.4s,MS4.5,baz=232,slow=38
HFS Hagfors 72.67 336 P **P** **04 29 24.9 -0.1**
HFS pmax pmax
comp=Z,7.0nm,0.6s
HFS MLR MLR
comp=Z,241nm,19.4s
NB2 NORSAR Subarra 72.71 338 P **P** **04 29 24.9 -0.3**
comp=Z,11nm,0.8s,mb4.8,baz=38,slow=5.8
NOA NORSAR Array B 72.71 338 P **P** **04 29 25.2 0.0**
comp=Z,9.1nm,0.8s,mb4.7,baz=38,slow=6.0,SNR=27
NOA LR LR 05 06 35.1
comp=Z,138nm,19.0s,MS4.2,baz=290,slow=40
NOA NORSAR Array B 72.71 338 P **P** **04 29 25.2 0.0**
NOA pmax pmax
comp=Z,9.0nm,0.9s
NOA MLR MLR
comp=Z,138nm,19.0s
AKASG Malin Array Be 73.45 323 P **P** **04 29 29.1 -0.6**
comp=Z,6.5nm,0.7s,mb4.7,baz=45,slow=6.0,SNR=30
AKASG Malin Array Be 73.45 323 P **P** **04 29 29.2 -0.5**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
TPNV Topopah Spring 74.67 55 *e*P **P** **04 29 34.4 -2.7**
DUG Dugway 74.78 50 *e*P **P** **04 29 37.5 -0.2**
BW06 Boulder Array 75.05 47 *e*P **P** **04 29 39.4 +0.1**
PDAR Pinedale Array 75.05 47 P **P** **04 29 39.4 +0.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=329,slow=1.0,SNR=6.0
KWP Kalwaria 77.18 325 *e*P **P** **04 29 52.1 +1.0**
BURAR Bucovina Array 77.48 322 ⇓P **P** **04 29 53.8 +1.1**
BURAR Bucovina Array 77.48 322 ⇓P **P** **04 29 53.8 +1.0**
KOLS Kolonicke sedl 77.89 325 *e*P **P** **04 29 55.4 +0.5**
KOLS Kolonicke sedl 77.89 325 *e*P **P** **04 29 52.1 -2.8**
KOLS *e* 04 29 55.4
STHS Stebnicka Huta 77.99 326 *i* P **P** **04 29 55.8 +0.3**
STHS *e* 04 30 00.1
OJC Ojcow 78.02 327 *e*P **P** **04 29 56.1 +0.5**
CRVS Cervenica-Dubn 78.27 325 *e*P **P** **04 29 58.3 +1.2**
BR131 Keskin Array S 78.48 312 *e*P **P** **04 29 58.5 +0.1**
comp=Z,5.1nm,1.1s,mb4.4
BRTR Keskin Array B 78.48 312 P **P** **04 29 58.9 +0.5**
comp=Z,6.1nm,1.2s,mb4.4,baz=90,slow=4.9,SNR=17
BRTR Keskin Array B 78.48 312 P **P** **04 29 58.9 +0.5**
BRTR pmax pmax
comp=Z,6.0nm,1.2s
MLR Muntele Rosu 78.64 320 LR LR 05 03 30.9
comp=Z,66nm,20.6s,MS4.0,baz=70,slow=35
BSEG Bad Segeberg 78.74 334 *e*P **P** **04 29 59.5 0.0**
BSEG *e* pP 04 30 08.5 -1.2
BSEG pmax pmax
comp=Z,16nm,1.1s,mb4.9
ANTO Ankara 78.87 313 ⇑P **P** **04 30 01.6 +1.1**
KSP Ksiaz 78.99 329 *e*P **P** **04 30 01.8 +0.8**
KSP Ksiaz 78.99 329 *e*P **P** **04 30 01.4 +0.5**
OKC Ostrava-Krasne 79.00 327 *e*P **P** **04 30 01.7 +0.7**
KECS Kecovo 79.02 325 *e*P **P** **04 30 02.2 +1.0**
KECS *e*sP sP 04 30 15.4 +0.7
VOIR 79.12 321 ⇑P **P** **04 30 03.3 +1.5**
VOIR 79.12 321 ⇓P sP 04 30 14.9 -0.4
MORC Moravsky Berou 79.30 328 ⇓P **P** **04 30 03.7 +1.0**
DPC Dobruska-Polom 79.36 329 *e*P **P** **04 30 04.0 +1.1**
UPC Upice 79.36 329 *e*P **P** **04 30 03.8 +0.8**
UPC *e*pP pP 04 30 13.0 -0.1
VYHS Vyhne 79.73 326 *e*P **P** **04 30 05.8 +0.8**
BRG Berggiesshubel 79.89 330 *e*P **P** **04 30 06.1 +0.3**
BRG *e* pP 04 30 14.5 -1.4
BRG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BRG MLR MLR
comp=Z,340nm,14.2s,MS4.8
BRG Berggiesshubel 79.89 330 *e*P **P** **04 30 06.1 +0.3**
comp=Z,7.3nm,0.8s,mb4.7
BRG *e* pP 04 30 14.5 -1.4
BRG LR LR
comp=Z,340nm,14.2s,MS4.8
CLL Collm 79.90 331 ⇑P **P** **04 30 05.9 +0.1**
comp=Z,logA/T=1.3,mb5.0
CLL *e*PP pP 04 30 15.0 -1.0
CLL *e*SP sP 04 30 23.0 +3.6
CLL Collm 79.90 331 ⇑*i*P **P** **04 30 05.9 +0.1**
CLL *e*PP pP 04 30 15.0 -1.0
CLL pmax pmax
comp=Z,17nm,0.9s,mb5.0
CLL MLR MLR
comp=Z,300nm,15.3s,MS4.8
CLL Collm 79.90 331 ⇑*i*P **P** **04 30 05.9 +0.1**
comp=Z,17nm,0.9s,mb5.0
CLL *e*pP pP 04 30 15.0 -1.0
CLL LR LR
comp=Z,300nm,15.3s,MS4.8
PVCC Panska Ves 79.92 330 *e*P **P** **04 30 06.7 +0.7**
VRAC Vranov 80.06 328 P **P** **04 30 07.9 +1.2**
comp=Z,6.7nm,0.4s,mb4.9,baz=207,slow=18,SNR=11
VRAC Vranov 80.06 328 ⇓P **P** **04 30 07.8 +1.1**
PRU Pruhonice 80.35 329 *e*P **P** **04 30 09.1 +0.8**
PRU *e*pP pP 04 30 16.8 -1.7
CLZ Clausthal 80.44 333 *e*P **P** **04 30 09.3 +0.6**
CLZ pmax pmax
comp=Z,16nm,1.0s,mb4.9
CLZ Clausthal 80.44 333 *e*P **P** **04 30 09.3 +0.6**
comp=Z,16nm,1.0s,mb4.9
TREC Trest 80.52 328 *e*P **P** **04 30 10.1 +0.9**
BZS Buzias 80.64 323 ⇓P **P** **04 30 10.4 +0.5**
SDCO Great Sand Dun 80.70 49 P **P** **04 30 14.3 +4.0**
ZST Bratislava 80.70 327 *e*P **P** **04 30 11.3 +1.1**
MOX Moxa 80.96 331 *i* P **P** **04 30 11.6 +0.1**
comp=Z,logA/T=1.0,mb4.7
MOX PcP PcP 04 30 18.0 -0.2
MOX L 05 09 25.0
MOX Moxa 80.96 331 *e*P **P** **04 30 11.6 +0.1**
MOX pmax pmax
comp=Z,11nm,1.1s,mb4.7
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.5
MOX Moxa 80.96 331 *e*P **P** **04 30 11.6 +0.1**
comp=Z,11nm,1.1s,mb4.7
MOX LR LR
comp=Z,200nm,18.0s,MS4.5

NKC	**Novy Kostel**	**80.97**	**331**	*eP*	**P**	**04 30 12.5**	**+0.9**
MZLS	**Mizel**	**81.07**	**294**	P	**P**	**04 30 13.0**	**+0.4**
HILS	**Ha'il**	**81.34**	**298**	P	**P**	**04 30 14.6**	**+0.6**
KHC	**Kasperske Hory**	**81.42**	**329**	*eP*	**P**	**04 30 14.5**	**+0.6**
KHC				*ep*P	pP	04 30 23.6	-0.5
GEC2	**GERESS Array S**	**81.60**	**329**	*eP*	**P**	**04 30 15.2**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GEC2	**GERESS Array S**	**81.60**	**329**	*eP*	**P**	**04 30 15.2**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.4						
GERES	**GERESS Array B**	**81.60**	**329**	P	**P**	**04 30 15.5**	**+0.6**
	comp=Z,2.6nm,0.7s,mb4.3,baz=38,slow=5.5,SNR=25						
GERES				LR	LR	05 10 01.0	
	comp=Z,193nm,18.5s,MS4.5,baz=155,slow=38						
GERES	**GERESS Array B**	**81.60**	**329**	P	**P**	**04 30 15.5**	**+0.7**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,193nm,18.5s						
WET	**Wettzell**	**81.68**	**330**	*eP*	**P**	**04 30 16.0**	**+0.7**
WET				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
WET	**Wettzell**	**81.68**	**330**	*eP*	**P**	**04 30 16.0**	**+0.7**
	comp=Z,8.0nm,1.1s,mb4.6						
GRA1	**Grafenberg Arr**	**81.88**	**331**	*eP*	**P**	**04 30 17.0**	**+0.7**
	comp=Z,25nm,1.0s,mb5.1						
GRA1				LR	LR		
	comp=Z,100nm,21.9s,MS4.1						
GRF	**Grafenberg Arr**	**81.88**	**331**	*eP*	**P**	**04 30 17.0**	**+0.7**
GRF				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
GRF				MLR	MLR		
	comp=Z,100nm,21.9s,MS4.1						
GRF	**Grafenberg Arr**	**81.88**	**331**	*eP*	**P**	**04 30 17.0**	**+0.7**
	comp=Z,25nm,1.0s,mb5.1						
GRF				LR	LR		
	comp=Z,100nm,21.9s,MS4.1						
ANMO	**Albuquerque**	**82.02**	**51**⇑	*eP*	**P**	**04 30 20.5**	**+3.2**
VTS	**Vitosha**	**82.10**	**320**	⇓P	**P**	**04 30 18.5**	**+0.9**
GROS	**Grobnik**	**82.74**	**327**	*eP*	**P**	**04 30 21.0**	**+0.2**
PERS	**Pernice**	**82.77**	**327**	*eP*	**P**	**04 30 21.3**	**+0.4**
SCHQ	**Schefferville**	**82.79**	**17**	LR	LR	05 14 45.5	
	comp=Z,104nm,20.0s,MS4.2,baz=127,slow=41						
GORS	**Gorjuse**	**83.49**	**327**	*eP*	**P**	**04 30 23.4**	**-1.3**
GIVF	**Givet**	**83.81**	**335**	*eP*	**P**	**04 30 26.6**	**+0.4**
BAIF	**Baives**	**84.05**	**335**	*eP*	**P**	**04 30 27.2**	**-0.2**
BFO	**Black Forest**	**84.08**	**332**	*eP*	**P**	**04 30 28.6**	**+1.0**
BFO				pmax	pmax		
	comp=Z,22nm,1.5s,mb5.1						
BFO	**Black Forest**	**84.08**	**332**	*eP*	**P**	**04 30 28.6**	**+1.0**
	comp=Z,22nm,1.5s,mb5.1						
KBRS	**Khaybar**	**84.10**	**298**	P	**P**	**04 30 29.5**	**+1.3**
PPT	**Papeete**	**84.32**	**118**	*eLR*	LR	04 56 29.4	
	comp=Z,143nm,23.0s						
CDF	**Champ du Feu**	**84.40**	**332**	*eP*	**P**	**04 30 29.5**	**+0.4**
	comp=Z,24nm,1.1s,mb5.0						
CDF	**Champ du Feu**	**84.40**	**332**	*eP*	**P**	**04 30 29.5**	**+0.4**
CDF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
ALWS	**Ilw as Safayha**	**84.57**	**304**	P	**P**	**04 30 31.2**	**+0.7**
JMOS	**Jabal al Moall**	**84.63**	**303**	P	**P**	**04 30 31.0**	**+0.2**
DAVOX	**Davos**	**84.78**	**330**	P	**P**	**04 30 31.9**	**+0.8**
	comp=Z,8.7nm,0.9s,mb4.9						
DAVOX	**Davos**	**84.78**	**330**	P	**P**	**04 30 31.9**	**+0.8**
HINF	**Hinteralfeld**	**85.05**	**332**	*eP*	**P**	**04 30 32.2**	**-0.2**
	comp=Z,13nm,1.2s,mb4.7						
HINF	**Hinteralfeld**	**85.05**	**332**	*eP*	**P**	**04 30 32.2**	**-0.2**
HINF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.6						
HAU	**Haudompre**	**85.07**	**333**	*eP*	**P**	**04 30 32.5**	**0.0**
	comp=Z,6.9nm,0.7s,mb4.6						
HAU				*eR*			
	comp=Z,194nm,17.0s						
HAU	**Haudompre**	**85.07**	**333**	*eP*	**P**	**04 30 32.5**	**0.0**
HAU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
HAU				MLR	MLR		
	comp=Z,190nm,17.0s,MS4.5						
MEZF	**Maizieres J'vi**	**85.11**	**334**	*eP*	**P**	**04 30 32.2**	**-0.5**
AYUS	**'Aynunah**	**85.19**	**303**	P	**P**	**04 30 33.9**	**+0.3**
DJNS	**Zahran al Janu**	**86.27**	**290**	P	**P**	**04 30 40.7**	**+1.5**
BLJS	**Baljurashi**	**86.29**	**293**	P	**P**	**04 30 40.2**	**+1.0**
CABF	**La Chapelle**	**86.35**	**332**	*eP*	**P**	**04 30 39.1**	**+0.2**
IDI	**Anoyia**	**86.55**	**314**	P	**P**	**04 30 39.9**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.8,baz=67,slow=12,SNR=6.4						
LOR	**Lormes**	**86.58**	**334**	*eP*	**P**	**04 30 40.1**	**+0.1**
	comp=Z,31nm,1.0s,mb5.2						
LOR				*eR*			
	comp=Z,140nm,18.5s						
LOR	**Lormes**	**86.58**	**334**	*eP*	**P**	**04 30 40.1**	**+0.1**
LOR				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.2						
LOR				MLR	MLR		
	comp=Z,140nm,18.5s,MS4.4						
FLN	**La Foliniere**	**86.67**	**337**	*eP*	**P**	**04 30 40.2**	**-0.2**
	comp=Z,32nm,1.2s,mb5.1						
FLN				*eR*			
	comp=Z,141nm,19.5s						
FLN	**La Foliniere**	**86.67**	**337**	*eP*	**P**	**04 30 40.2**	**-0.2**
FLN				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.1						
FLN				MLR	MLR		
	comp=Z,140nm,19.5s,MS4.4						
LDF	**La Druitiere**	**86.71**	**337**	*eP*	**P**	**04 30 40.6**	**0.0**
SSF	**Saint Saulge**	**86.88**	**334**	*eP*	**P**	**04 30 41.7**	**+0.2**
	comp=Z,15nm,0.8s,mb4.9						
SSF	**Saint Saulge**	**86.88**	**334**	*eP*	**P**	**04 30 41.7**	**+0.2**
SSF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
HYF	**Humbligny**	**86.99**	**334**	*eP*	**P**	**04 30 42.7**	**+0.7**
LPL	**La Plagne**	**87.04**	**331**	*eP*	**P**	**04 30 42.9**	**+0.6**
	comp=Z,18nm,1.1s,mb4.9						
LPL	**La Plagne**	**87.04**	**331**	*eP*	**P**	**04 30 42.9**	**+0.6**
LPL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.9						
LPG	**La Plagne**	**87.05**	**331**	*eP*	**P**	**04 30 43.0**	**+0.7**
	comp=Z,26nm,1.2s,mb5.0						
LPG	**La Plagne**	**87.05**	**331**	*eP*	**P**	**04 30 43.0**	**+0.7**
LPG				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.0						
SMF	**Signal de Mont**	**87.12**	**333**	*eP*	**P**	**04 30 42.8**	**+0.1**
	comp=Z,35nm,1.1s,mb5.2						
SMF	**Signal de Mont**	**87.12**	**333**	*eP*	**P**	**04 30 42.8**	**+0.1**
SMF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.2						
GRR	**Gorron**	**87.12**	**337**	*eP*	**P**	**04 30 42.9**	**+0.3**
AVF	**Avril sur Loir**	**87.16**	**334**	*eP*	**P**	**04 30 43.2**	**+0.3**
	comp=Z,38nm,0.9s,mb5.3						
AVF	**Avril sur Loir**	**87.16**	**334**	*eP*	**P**	**04 30 43.2**	**+0.3**
AVF				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.3						
BGF	**Bois d'Agland**	**87.54**	**334**	*eP*	**P**	**04 30 44.9**	**+0.2**
	comp=Z,9.6nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**87.54**	**334**	*eP*	**P**	**04 30 44.9**	**+0.2**
BGF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
TXAR	**Lajitas Array**	**87.59**	**54**	P	**P**	**04 30 45.6**	**+0.2**
	comp=Z,0.9nm,0.8s,mb4.0,baz=261,slow=4.0,SNR=5.8						
TXAR	**Lajitas Array**	**87.59**	**54**	P	**P**	**04 30 45.6**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MBDF	**Montbardon**	**87.69**	**331**	*eP*	**P**	**04 30 45.5**	**0.0**
	comp=Z,23nm,1.2s,mb5.0						
MBDF	**Montbardon**	**87.69**	**331**	*eP*	**P**	**04 30 45.5**	**0.0**
MBDF				pmax	pmax		
	comp=Z,12nm,1.2s,mb5.0						
ORIF	**Oris-en-Rattie**	**87.86**	**331**	*eP*	**P**	**04 30 46.4**	**+0.1**
	comp=Z,16nm,1.1s,mb4.9						
ORIF				*eR*			
	comp=Z,155nm,20.0s						
TCF	**Toulx Ste Croi**	**87.99**	**334**	*eP*	**P**	**04 30 46.6**	**-0.2**
VIVF	**Saint-Julien-l**	**88.36**	**332**	*eP*	**P**	**04 30 48.7**	**0.0**
MFF	**Saint Martin d**	**88.49**	**336**	*eP*	**P**	**04 30 49.7**	**+0.5**
	comp=Z,64nm,1.3s,mb5.4						
FRF	**La Foret Royal**	**88.72**	**330**	*eP*	**P**	**04 30 49.8**	**-0.6**
	comp=Z,137nm,1.5s,mb5.8						
RJF	**Les Rejaudoux**	**89.09**	**334**	*eP*	**P**	**04 30 52.2**	**+0.1**
CAF	**Calviac**	**89.23**	**334**	*eP*	**P**	**04 30 53.6**	**+0.8**
	comp=Z,11nm,0.8s,mb4.9						
LFF	**La Frestale**	**89.67**	**334**	*eP*	**P**	**04 30 54.8**	**-0.1**
MTLF	**Montolieu**	**90.56**	**333**	*eP*	**P**	**04 30 59.2**	**+0.2**
RKT	**Rikitea**	**98.23**	**113**	*eLR*	LR	05 02 56.7	
	comp=Z,117nm,27.5s						
TORD	**Torodi Ar. Bea**	**116.77**	**317**	PKP	PKPdf	04 36 40.6	-5.4
	comp=Z,0.4nm,0.7s,baz=15,slow=2.1,SNR=6.0						
TORD				PP	PP	04 37 45.3	-8.7
	comp=Z,1.9nm,1.0s,baz=22,slow=7.2,SNR=7.3						
SNAA	**Sanae**	**143.31**	**197**⇑	*iP*	PKPbc	04 37 25.6	-1.5
SNAA	**Sanae**	**143.31**	**197**	*e*	PKPbc	04 37 28.4	+1.3
SNAA	**Sanae**	**143.31**	**197**	*e*	PKPbc	04 37 36.9	+10
SNAA	**Sanae**	**143.31**	**197**	*e*	PKPbc	04 37 40.6	+13
SNAA	**Sanae**	**143.31**	**197**	*e*	PKPbc	04 37 43.7	+17
VNA2	**Neumayer--Watz**	**144.86**	**196**⇑	*iP*	PKPbc	04 37 30.9	-0.8
VNA2	**Neumayer--Watz**	**144.86**	**196**	*e*	PKPbc	04 37 33.3	+1.6
VNA2	**Neumayer--Watz**	**144.86**	**196**	*e*	PKPbc	04 37 41.9	+10
VNA2	**Neumayer--Watz**	**144.86**	**196**	*e*	PKPbc	04 37 45.9	+14
VNA2	**Neumayer--Watz**	**144.86**	**196**	*e*	PKPbc	04 37 48.7	+17
VNA3	**Neumayer Olymp**	**145.09**	**195**⇑	*iP*	PKPbc	04 37 31.6	-0.7
VNA3	**Neumayer Olymp**	**145.09**	**195**	*e*	PKPbc	04 37 34.4	+2.1
VNA3	**Neumayer Olymp**	**145.09**	**195**	*e*	PKPbc	04 37 42.4	+10
VNA3	**Neumayer Olymp**	**145.09**	**195**	*e*	PKPbc	04 37 46.6	+14
VNA3	**Neumayer Olymp**	**145.09**	**195**	*e*	PKPbc	04 37 49.2	+17
VNA1	**Neumayer--Stat**	**145.26**	**196**⇑	*iP*	PKPbc	04 37 32.3	-0.4
VNA1	**Neumayer--Stat**	**145.26**	**196**	*e*	PKPbc	04 37 34.7	+2.0
VNA1	**Neumayer--Stat**	**145.26**	**196**	*e*	PKPbc	04 37 43.9	+11
VNA1	**Neumayer--Stat**	**145.26**	**196**	*e*	PKPbc	04 37 47.3	+15
VNA1	**Neumayer--Stat**	**145.26**	**196**	*e*	PKPbc	04 37 50.3	+18

*CSEM **07** 04:46:08.0±0.7, 39.01N×29.73W, ML2.0, Error ellipse: s-maj=16.3km s-min=7.2km az=32.0, After PDA*
*PDA **07** 04:46:08.0±0.7, 39.01N×29.73W, MD3.4, ML2.0, Error ellipse: s-maj=16.3km s-min=7.2km az=32.0*
SVSA 07 04:46:08.0±0.7, 39.01N×29.73W, MD3.4, ML2.0, Error ellipse: s-maj=16.3km s-min=7.2km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.91**	**118**	*eP*	Pg	04 46 23.4	-2.7
CALA				*eS*	Sg	04 46 34.7	-3.5
HOR	**Horta**	**0.98**	**119**	*eS*	Sg	04 46 36.0	-4.7
PCND	**Candelaria**	**1.13**	**118**	*eS*	Sb	04 46 39.7	-5.4
	11nm,0.1s						
PICO	**Pico**	**1.14**	**116**	*eP*	Pb	04 46 26.4	-3.8
PICO				*eS*	Sb	04 46 39.9	-5.5
ROSA	**Rosais**	**1.20**	**104**	*eS*	Sb	04 46 41.2	-5.9
PBOI	**Pico dos Bois**	**1.20**	**118**	*eP*	Pb	04 46 26.7	-4.6
PBOI				*eS*	Sb	04 46 41.5	-5.8
	16nm,0.2s						

*NEIC **07** 04:51:53.1±1.0, 17.34S×178.91W, h532km±14km, mb4.2/1, Error ellipse: s-maj=26.0km s-min=10.7km az=147.0*
*IDC **07** 04:51:53.1±2.1, 17.33S×178.93W, h530km±27km, mb3.2/7, mb1 3.6/8, mb1mx3.4/16, mbtmp4.1/8, Error ellipse: s-maj=36.2km s-min=14.3km az=146.0*
ISC 07 04:51:52.0±1.5, 17.4S±0.2×178.9W±0.2, h528km±21km, n13, σ0s57/12, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.71**	**65**	P	**P**	**04 53 47.1**	**0.0**
	6.2nm,0.3s,baz=70,slow=8.0,SNR=7.2						
AFI	**Afiamalu**	**7.71**	**65**	P	**P**	**04 53 47.1**	**0.0**
URZ	**Urewera**	**21.11**	**189**	P	**P**	**04 55 59.8**	**-0.4**
	3.0nm,0.5s,mb4.1,baz=337,slow=7.7,SNR=4.0						
CTAO	**Charters Tower**	**33.04**	**260**	*eP*	**P**	**04 57 45.8**	**+0.9**
	5.1nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**38.45**	**240**	P	**P**	**04 58 29.9**	**+0.3**
	5.3nm,0.5s,mb4.3,baz=88,slow=8.3,SNR=12						
WB2	**Warramunga Arr**	**44.22**	**259**	*eP*	**P**	**04 59 15.2**	**-0.6**
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**04 59 15.7**	**-0.2**
	3.0nm,0.5s,mb4.1,baz=94,slow=7.0,SNR=56						
WRA				PcP	PcP	05 00 48.0	-1.4
	0.4nm,0.5s,baz=90,slow=3.3,SNR=3.5						
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**05 03 04.7**	**+0.4**
	0.8nm,0.8s,mb3.1,baz=214,slow=7.3,SNR=6.1						
ILAR	**Eielson Array**	**85.47**	**13**	P	**P**	**05 03 33.1**	**-1.1**
	0.3nm,0.4s,mb3.2,baz=218,slow=5.2,SNR=12						
TXAR	**Lajitas Array**	**86.14**	**58**	P	**P**	**05 03 39.0**	**+0.7**
	0.9nm,0.8s,mb3.5,baz=219,slow=5.7,SNR=11						
TXAR	**Lajitas Array**	**86.14**	**58**	P	**P**	**05 03 39.0**	**+0.7**
PDAR	**Pinedale Array**	**87.31**	**44**	P	**P**	**05 03 43.5**	**0.0**
	0.5nm,0.6s,mb3.3,baz=232,slow=3.8,SNR=6.6						
GERES	**GERESS Array B**	**146.95**	**345**	PKPbc	PKPbc	05 10 35.6	+1.5
	0.6nm,0.5s,baz=27,slow=3.0,SNR=7.0						

*IDC **07** 05:05:04.8±2.0, 15.64S×176.17W, h330km±40km, mb3.4/3, mb1 3.7/4, mb1mx3.3/14, mbtmp4.2/4, Error ellipse: s-maj=120.8km s-min=22.3km az=143.0*
ISC 07 05:05:04.9±1.4, 16.0S±0.9×175.9W±0.8, h359km±47km, n7, σ0s57/7, mb3.6/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.49**	**63**	P	**P**	**05 06 20.1**	**+0.1**
	24nm,0.3s,baz=24,slow=1.0,SNR=33						
AFI				S	**S**	**05 07 18.7**	**-0.1**
	baz=199,slow=23,SNR=2.7						
STKA	**Stephens Creek**	**41.66**	**240**	P	**P**	**05 12 21.0**	**0.0**
	1.3nm,0.4s,mb3.4,baz=102,slow=11,SNR=5.8						
WB2	**Warramunga Arr**	**47.36**	**257**	*eP*	**P**	**05 13 05.8**	**-0.3**
WRA	**Warramunga Arr**	**47.38**	**257**	P	**P**	**05 13 05.7**	**-0.5**
	4.5nm,0.4s,mb4.0,baz=90,slow=7.0,SNR=120						
FITZ	**Fitzroy Crossi**	**55.74**	**259**	*eP*	**P**	**05 14 08.7**	**+0.9**
	1.3nm,0.4s,mb3.6						
ILAR	**Eielson Array**	**83.54**	**12**	P	**P**	**05 16 54.0**	**0.0**
	0.6nm,0.9s,mb3.4,baz=215,slow=5.2,SNR=8.3						
BRTR	**Keskin Array B**	**145.09**	**318**	PKP	PKPdf	05 24 02.5	+2.5
	1.2nm,0.8s,baz=77,slow=5.2,SNR=6.5						

*CRAAG **07** 05:15:37.3, 36.88N×4.17E, Ml3.1*
*NEIC **07** 05:15:37.3±7.2, 36.79N×4.23E, h10km, MG3.9(MDD), Error ellipse: s-maj=82.6km s-min=13.0km az=133.0*
*MDD **07** 05:15:38.1±0.6, 36.87N×4.17E, mb3.9/7, Error ellipse: s-maj=7.7km s-min=6.0km az=22.0, PRXIMO*
*CSEM **07** 05:15:38.5±0.2, 36.79N×4.17E, h20km, ML2.8/10, Error ellipse: s-maj=5.4km s-min=3.3km az=40.0*
ISC 07 05:15:37.5±0.6, 37.00N±0.04×4.08E±0.05, h10km, n42, σ1s38/73, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABMS	**Boumerdes**	**0.54**	**243**	P	**Pg**	**05 15 48.2**	**-0.2**
ABA	**Alger-Bouzarea**	**0.86**	**257**	P	**Pb**	**05 15 55.0**	**+0.9**
EMHD	**Djebel Mahouad**	**1.21**	**229**	P	**Pb**	**05 16 00.0**	**0.0**
SET	**Setif**	**1.33**	**126**	P	**Pb**	**05 16 00.0**	**-2.0**
DFRA	**Djebel Bou Aff**	**1.51**	**107**	P	**Pn**	**05 16 03.0**	**-1.7**
CMER	**Merouana**	**2.01**	**133**	P	**Pn**	**05 16 19.0**	**+7.1**
CASM	**Ain Smara**	**2.07**	**110**	P	**Pn**	**05 16 09.0**	**-3.8**
ETOS	**Mallorca**	**2.94**	**341**	Pn	**Pn**	**05 16 26.9**	**+1.7**
	1.2nm,0.1s,SNR=6.7						
ETOS				Sn	**Sn**	**05 17 02.4**	**+1.5**
	1.2nm,0.1s,SNR=4.5						
ETOS	**Mallorca**	**2.94**	**341**	Pn	**Pn**	**05 16 26.5**	**+1.4**
ETOS				Sn	**Sn**	**05 17 02.4**	**+1.5**
ETOS	**Mallorca**	**2.94**	**341**	Pn	**Pn**	**05 16 26.9**	**+1.7**
	1.2nm,0.1s,SNR=6.7						
ETOS				Sn	**Sn**	**05 17 02.4**	**+1.5**
	1.2nm,0.1s,SNR=4.5						
EIBI	**Ibiza**	**2.96**	**314**	Pn	**Pn**	**05 16 27.5**	**+2.0**
	4.2nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**05 17 01.8**	**+0.4**
	4.7nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.96**	**314**	Pn	**Pn**	**05 16 28.1**	**+2.6**
EIBI				Sn	**Sn**	**05 17 01.8**	**+0.4**
EIBI	**Ibiza**	**2.96**	**314**	Pn	**Pn**	**05 16 27.5**	**+2.0**
	4.2nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**05 17 01.8**	**+0.3**
	4.7nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.81**	**298**	Pn	**Pn**	**05 16 39.2**	**+1.7**
	0.7nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**05 17 21.6**	**-1.3**
	1.4nm,0.4s,SNR=4.0						
EBEN	**Beniarda**	**3.81**	**298**	Pn	**Pn**	**05 16 39.5**	**+2.0**
EBEN				Sn	**Sn**	**05 17 19.9**	**-3.0**
EBEN	**Beniarda**	**3.81**	**298**	Pn	**Pn**	**05 16 39.2**	**+1.7**
	0.7nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**05 17 19.9**	**-3.0**
	1.4nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**4.32**	**283**	Pn	**Pn**	**05 16 43.7**	**-1.1**
	1.3nm,0.3s,SNR=7.9						
EMUR				Sn	**Sn**	**05 17 30.1**	**-5.7**
	3.2nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**4.32**	**283**	Pn	**Pn**	**05 16 43.7**	**-1.1**
EMUR				Sn	**Sn**	**05 17 32.2**	**-3.6**
EMUR	**La Murta**	**4.32**	**283**	Pn	**Pn**	**05 16 43.7**	**-1.1**
	1.3nm,0.3s,SNR=7.9						
EMUR				Sn	**Sn**	**05 17 32.2**	**-3.6**
	3.2nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.75**	**292**	Pn	**Pn**	**05 16 52.4**	**+1.5**
	1.1nm,0.2s,SNR=15						
ETOB				Sn	**Sn**	**05 17 45.1**	**-1.6**
	0.2nm,0.1s,SNR=5.6						
ETOB	**Tobarra**	**4.75**	**292**	Pn	**Pn**	**05 16 52.4**	**+1.5**
	1.1nm,0.2s,SNR=15						
ETOB				Sn	**Sn**	**05 17 45.1**	**-1.6**
	0.2nm,0.1s,SNR=5.6						
EMOS	**Mosqueruela**	**4.90**	**315**	Pn	**Pn**	**05 16 54.0**	**+1.0**
	0.3nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**05 17 49.0**	**-1.5**
	0.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.90**	**315**	Pn	**Pn**	**05 16 54.0**	**+1.0**
	0.3nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**05 17 49.0**	**-1.4**
	0.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.91**	**325**	Pn	**Pn**	**05 16 54.0**	**+0.8**
	0.3nm,0.2s,SNR=7.9						
ERTA				Sn	**Sn**	**05 17 49.3**	**-1.6**
	0.4nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**4.91**	**325**	Pn	**Pn**	**05 16 54.0**	**+0.8**
	0.3nm,0.2s,SNR=7.9						
ERTA				Sn	**Sn**	**05 17 49.3**	**-1.5**
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.94**	**333**	Pn	**Pn**	**05 16 54.5**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**05 17 49.8**	**-1.6**
	1.7nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**4.94**	**333**	Pn	**Pn**	**05 16 54.5**	**+1.1**
EPOB				Sn	**Sn**	**05 17 50.4**	**-0.9**
EPOB	**Poblet**	**4.94**	**333**	Pn	**Pn**	**05 16 54.5**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**05 17 49.8**	**-1.6**
	1.7nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.29**	**339**	Pn	**Pn**	**05 17 00.2**	**+1.7**
	2.4nm,0.1s,SNR=9.7						
EMIR				Sn	**Sn**	**05 17 58.8**	**-1.6**
	0.1nm,0.0s,SNR=7.9						
EMIR	**Miracle**	**5.29**	**339**	Pn	**Pn**	**05 17 00.4**	**+1.8**
EMIR				Sn	**Sn**	**05 17 58.8**	**-1.6**
EMIR	**Miracle**	**5.29**	**339**	Pn	**Pn**	**05 17 00.2**	**+1.7**
	2.4nm,0.1s,SNR=9.7						
EMIR				Sn	**Sn**	**05 17 58.8**	**-1.6**
	0.1nm,0.0s,SNR=7.9						
EHUE	**Huescar**	**5.38**	**281**	Pn	**Pn**	**05 16 59.7**	**0.0**
	0.2nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**05 18 01.1**	**-1.3**
	0.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.38**	**281**	Pn	**Pn**	**05 16 59.1**	**-0.6**
EHUE				Sn	**Sn**	**05 18 02.5**	**+0.1**
EJON	**La Jonquera**	**5.52**	**351**	Pn	**Pn**	**05 17 02.8**	**+1.0**
	1.2nm,0.2s,SNR=7.9						
EJON				Sn	**Sn**	**05 18 03.4**	**-2.7**
	0.5nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**5.52**	**351**	Pn	**Pn**	**05 17 03.1**	**+1.3**
EJON				Sn	**Sn**	**05 18 04.4**	**-1.7**
EJON	**La Jonquera**	**5.52**	**351**	Pn	**Pn**	**05 17 02.8**	**+1.0**
	1.2nm,0.2s,SNR=7.9						
EJON				Sn	**Sn**	**05 18 03.4**	**-2.7**
	0.5nm,0.1s,SNR=7.9						
EBER	**Berja**	**5.58**	**271**	S	**Sn**	**05 18 03.2**	**-4.5**
	0.3nm,0.3s,SNR=4.0						
EQES	**Quesada**	**5.75**	**280**	Pn	**Pn**	**05 17 06.1**	**+1.1**
	2.3nm,0.3s,SNR=7.6						
EQES				Sn	**Sn**	**05 18 11.4**	**-0.4**
	0.8nm,0.3s,SNR=6.0						
EQES	**Quesada**	**5.75**	**280**	Pn	**Pn**	**05 17 06.5**	**+1.5**
EQES				Sn	**Sn**	**05 18 11.9**	**0.0**
EQES	**Quesada**	**5.75**	**280**	Pn	**Pn**	**05 17 06.1**	**+1.1**
	2.3nm,0.3s,SNR=7.6						
EARA	**Aranguren**	**7.22**	**325**	Sn

GORS	**Gorjuse**	**1.70**	**275**	*i* Pn	**Pn**	**05 22 32.8**	**+1.0**
	comp=Z,51nm,0.4s							
GORS	**Gorjuse**	**1.70**	**275**	*i* Pn	**Pn**	**05 22 32.8**	**+1.0**
	comp=Z,51nm,0.4s							
VOJS	**Vojsko**	**1.78**	**266**	*e*Pn	**Pn**	**05 22 33.6**	**+0.6**
VOJS				*i* Pg	**Pg**	**05 22 36.2**	**-1.3**
PKSG		**1.81**	**47**	*e*Pn	**Pn**	**05 22 36.9**	**+3.6**
CADS	**Cadrg**	**1.88**	**272**	*i* Pn	**Pn**	**05 22 35.0**	**+0.7**
	comp=Z,61nm,0.3s							
CADS	**Cadrg**	**1.88**	**272**	*i* Pn	**Pn**	**05 22 35.0**	**+0.7**
	comp=Z,61nm,0.3s							
DRE	**Drenchia**	**1.94**	**271**	⇑*i*Pg	**Pg**	**05 22 39.1**	**-1.5**
DRE				*i* Sg	**Sg**	**05 23 06.5**	**0.0**
ROBS	**Robic**	**2.03**	**273**	*e*Pn	**Pn**	**05 22 37.2**	**+0.6**
LSR	**Lussari**	**2.04**	**279**	⇓*i*Pg	**Pg**	**05 22 37.9**	**-4.7**
ZST	**Bratislava**	**2.06**	**12**	*e*PN	**Pn**	**05 22 37.0**	**0.0**
ZST				*e*PG	**Pg**	**05 22 41.6**	**-1.5**
ZST				*e*		05 23 09.8		
ZST	**Bratislava**	**2.06**	**12**	*e*Pg	**Pg**	**05 22 41.6**	**-1.5**
ZST				*e*Sn	**Sg**	**05 23 09.8**	**-0.8**
ZST				*e*Sg	**Sg**	**05 23 09.8**	**-0.8**
SRO	**Srobarova**	**2.08**	**38**	*e*Pg	**Pg**	**05 22 42.8**	**-0.5**
SRO				*e*Sg	**Sg**	**05 23 12.7**	**+1.7**
BUD	**Budapest**	**2.20**	**53**	*e*PB	**Pb**	**05 22 46.6**	**+5.3**
BAD	**Bernadia**	**2.22**	**273**	⇑*i*Pg	**Pg**	**05 22 44.0**	**-2.2**
MOA	**Molln**	**2.23**	**319**	⇓*e*Pn	**Pn**	**05 22 41.2**	**+1.8**
	SNR=18							
MOA	**Molln**	**2.23**	**319**	⇓*i*Sn	**Sn**	**05 23 08.5**	**+1.2**
MOA	**Molln**	**2.23**	**319**	⇓Pn	**Pn**	**05 22 41.2**	**+1.8**
MOA				Sn	**Sn**	**05 23 08.5**	**+1.2**
MOA	**Molln**	**2.23**	**319**	Pn	**Pn**	**05 22 41.2**	**+1.8**
	comp=Z,17nm,5.0s							
MOA				Sn	**Sn**	**05 23 08.5**	**+1.2**
KBA	**Koelnbreinsper**	**2.31**	**294**	⇓*e*Pn	**Pn**	**05 22 41.0**	**+0.4**
	SNR=6.2							
KBA	**Koelnbreinsper**	**2.31**	**294**	⇑*i*Sn	**Sn**	**05 23 12.4**	**+3.1**
KBA	**Koelnbreinsper**	**2.31**	**294**	⇓Pn	**Pn**	**05 22 41.0**	**+0.4**
KBA				Sn	**Sn**	**05 23 12.4**	**+3.1**
KBA	**Koelnbreinsper**	**2.31**	**294**	Pn	**Pn**	**05 22 40.9**	**+0.3**
KBA				Sn	**Sn**	**05 23 12.4**	**+3.1**
VYHS	**Vyhne**	**2.83**	**34**	*e*PN	**Pn**	**05 22 47.6**	**-0.4**
VYHS				*e*PG	**Pg**	**05 22 55.5**	**-2.8**
VYHS				*e*		05 23 38.0		
VYHS	**Vyhne**	**2.83**	**34**	*e*Pg	**Pg**	**05 22 55.5**	**-2.8**
VYHS				*e*Sg	**Sg**	**05 23 38.0**	**+1.9**
PSZ	**Piszkesteto**	**2.93**	**52**	*e*P	**Pn**	**05 22 47.5**	**-1.9**
PSZ	**Piszkesteto**	**2.93**	**52**	*e*Pn	**Pn**	**05 22 45.7**	**-3.7**
VRAC	**Vranov**	**3.13**	**2**	⇓P	**Pn**	**05 22 52.4**	**+0.2**
VRAC	**Vranov**	**3.13**	**2**	⇓Pn	**Pn**	**05 22 52.4**	**+0.2**
VRAC				*e*Sn	**Sn**	**05 23 27.1**	**-2.9**
GEC2	**GERESS Array S**	**3.25**	**326**	*e*Pn	**Pn**	**05 22 55.4**	**+1.5**
GEC2				*e*Sn	**Sn**	**05 23 32.1**	**-0.9**
KHC	**Kasperske Hory**	**3.52**	**328**	*e*PN	**Pn**	**05 22 59.6**	**+1.7**
KHC				*e*SN	**Sn**	**05 23 39.5**	**-0.6**
KHC				*x*		05 23 56.0		
KHC	**Kasperske Hory**	**3.52**	**328**	*e*Pn	**Pn**	**05 22 59.6**	**+1.7**
KHC				*e*Sn	**Sn**	**05 23 39.5**	**-0.6**
KHC				*e*		05 23 56.0		
KECS	**Kecovo**	**3.59**	**49**	*e*	**Sn**	**05 23 39.5**	**-2.1**
KECS				*e*		05 24 01.7		
BZS	**Buzias**	**3.66**	**97**	⇑P	**Pn**	**05 22 59.2**	**-0.6**
BZS	**Buzias**	**3.66**	**97**	⇑P	**Pn**	**05 22 59.2**	**-0.5**
MORC	**Moravsky Berou**	**3.67**	**11**	⇓P	**Pn**	**05 23 00.5**	**+0.6**
MORC	**Moravsky Berou**	**3.67**	**11**	*e*Pn	**Pn**	**05 23 00.3**	**+0.4**
WET	**Wettzell**	**3.81**	**322**	*e*Pn	**Pn**	**05 23 02.4**	**+0.4**
WET				*e*Sn	**Sn**	**05 23 46.0**	**-1.4**
DPC	**Dobruska-Polom**	**4.17**	**359**	*e*PN	**Pn**	**05 23 08.7**	**+1.7**
DPC				*ex*	x	05 23 21.6		
UPC	**Upice**	**4.34**	**356**	*e*SG	**Sg**	**05 24 20.9**	**-5.3**
PVCC	**Panska Ves**	**4.52**	**345**	*e*PN	**Pn**	**05 23 12.3**	**+0.3**
NKC	**Novy Kostel**	**4.85**	**328**	*e*PN	**Pn**	**05 23 17.0**	**+0.3**
NKC				*e*SN	**Sn**	**05 24 10.8**	**-2.8**
NKC				*e*SG	**Sg**	**05 24 38.0**	**-5.3**
BRG	**Berggiesshubel**	**4.98**	**341**	*e*P	**Pn**	**05 23 20.2**	**+1.8**
	comp=Z,12nm,0.7s							
BRG				Sg	**Sg**	**05 24 39.0**	**-8.5**
BRG	**Berggiesshubel**	**4.98**	**341**	*e*Pn	**Pn**	**05 23 20.2**	**+1.7**
MOX	**Moxa**	**5.50**	**326**	*i* P	**Pn**	**05 23 26.0**	**+0.2**
MOX				Sg	**Sg**	**05 24 58.0**	**-6.9**
MOX	**Moxa**	**5.50**	**326**	*e*Pn	**Pn**	**05 23 26.0**	**+0.2**
MOX				*e*Sg	**Sg**	**05 24 58.3**	**-6.6**
CLL	**Collm**	**5.61**	**337**	*i* PN	**Pn**	**05 23 27.3**	**-0.1**
CLL				*e*		05 24 44.0		
CLL				*i* SG	**Sg**	**05 25 06.3**	**-2.3**
CLL	**Collm**	**5.61**	**337**	*i* Pn	**Pn**	**05 23 27.3**	**-0.1**
CLL				*i* Sg	**Sg**	**05 25 06.3**	**-2.3**
PGF	**Pioggiola**	**6.45**	**238**	*e*Pn	**Pn**	**05 23 36.2**	**-3.1**
CDF	**Champ du Feu**	**6.62**	**293**	*e*Pg	**Pg**	**05 24 06.9**	**-7.0**
CDF				*e*Sn	**Sn**	**05 24 51.2**	**-6.7**
	comp=Z,2.0nm,0.3s							
CDF	**Champ du Feu**	**6.62**	**293**	*e*Pn	**Pn**	**05 23 40.5**	**-1.1**
CDF				*e*Pg	**Pg**	**05 24 06.9**	**-7.0**
CDF				*e*Sn	**Sn**	**05 24 51.2**	**-6.7**
HINF	**Hinteralfeld**	**6.76**	**287**	*e*Pn	**Pn**	**05 23 42.1**	**-1.4**
HINF				*e*Sn	**Sn**	**05 24 53.1**	**-8.2**
	comp=Z,5.1nm,0.4s							
SBF	**Sospel**	**6.79**	**253**	*e*Pn	**Pn**	**05 23 41.1**	**-2.9**
SBF				*e*Sn	**Sn**	**05 24 53.7**	**-8.5**
	comp=Z,2.2nm,0.3s							
LPG	**La Plagne**	**6.80**	**268**	*e*Pn	**Pn**	**05 23 42.4**	**-1.8**
LPL	**La Plagne**	**6.81**	**268**	*e*Pn	**Pn**	**05 23 42.5**	**-1.8**
MBDF	**Montbardon**	**6.95**	**261**	*e*Pn	**Pn**	**05 23 43.3**	**-3.0**
HAU	**Haudompre**	**7.12**	**288**	*e*Sn	**Sn**	**05 25 02.2**	**-8.4**
	comp=Z,3.9nm,0.3s							
CABF	**La Chapelle**	**7.17**	**277**	*e*Pn	**Pn**	**05 23 47.5**	**-1.9**
FRF	**La Foret Royal**	**7.43**	**253**	*e*Pn	**Pn**	**05 23 50.2**	**-2.9**
ORIF	**Oris-en-Rattie**	**7.52**	**264**	*e*Pn	**Pn**	**05 23 52.9**	**-1.4**
LMR	**La Mourre**	**7.62**	**252**	*e*Pn	**Pn**	**05 23 52.7**	**-3.0**
LMR				*e*Sn	**Sn**	**05 25 13.6**	**-9.3**
	comp=Z,1.1nm,0.3s							
VIVF	**Saint-Julien-l**	**8.37**	**265**	*e*Pn	**P**	**05 24 03.3**	**-2.8**
SMF	**Signal de Mont**	**8.72**	**278**	*e*Pn	**P**	**05 24 08.3**	**-2.7**
AVF	**Avril sur Loir**	**9.05**	**279**	*e*Pn	**P**	**05 24 13.4**	**-2.2**
LASF	**Ste Croix**	**9.14**	**261**	*e*Pn	**P**	**05 24 13.7**	**-3.1**
BGF	**Bois d'Agland**	**9.41**	**277**	*e*Pn	**P**	**05 24 17.1**	**-3.4**

*KNET **07** 05:43:41.4, 40.90N×74.07E, ml2.7*
*NNC **07** 05:43:46.9±3.3, 41.04N×73.99E, mpv3.1, Error ellipse: s-maj=39.7km s-min=15.4km az=163.0*
ISC 07 05:43:41.0±1.6, 40.71N±0.08×73.8E±0.1, h10km, n12, σ1°26/19, 13C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.43**	**356**	⇑P	**Pn**	**05 44 05.5**	**-1.6**
	26nm,0.2s,SNR=68						
AML				⇑S	**Sb**	**05 44 24.6**	**-0.9**
	69nm,0.3s						
UCH	**Uchtor**	**1.60**	**18**	⇑P	**Pn**	**05 44 08.0**	**-1.6**
	57nm,0.2s,SNR=82						
UCH				⇑S	**Sb**	**05 44 28.9**	**-1.7**
	85nm,0.3s						
KZA	**Kyzart**	**1.74**	**37**	⇑P	**Pn**	**05 44 10.0**	**-1.5**
	14nm,0.2s,SNR=9.8						
KZA				⇑S	**Sn**	**05 44 32.3**	**-1.6**
	35nm,0.2s						
EKS2	**Erkin-Say**	**1.96**	**359**	⇓P	**Pn**	**05 44 14.7**	**+0.1**
	9.6nm,0.2s,SNR=13						
AAK	**Ala-Archa**	**1.99**	**14**	⇓P	**Pn**	**05 44 15.1**	**0.0**
	47nm,0.5s,SNR=71						
AAK				⇓S	**Sn**	**05 44 41.2**	**+0.9**
	37nm,0.3s						
KBK	**Karagaybulak**	**2.12**	**23**	⇓P	**Pn**	**05 44 17.7**	**+0.6**
	41nm,0.3s,SNR=29						
KBK				⇑S	**Sn**	**05 44 45.3**	**+1.6**
	201nm,0.5s						
ULHL	**Ulahol**	**2.38**	**49**	⇑P	**Pn**	**05 44 20.4**	**-0.3**
	7.9nm,0.2s,SNR=11						
ULHL				⇓S	**Sn**	**05 44 50.4**	**+0.2**
	25nm,0.2s						
CHMS	**Chumysh**	**2.39**	**16**	⇓P	**Pn**	**05 44 22.3**	**+1.4**
	15nm,0.2s,SNR=15						
CHMS				⇓S	**Sn**	**05 44 53.1**	**+2.5**
	38nm,0.4s						
TKM2	**Tokmak 2**	**2.58**	**30**	⇑P	**Pn**	**05 44 24.6**	**+1.0**
	13nm,0.4s,SNR=6.2						
TKM2	**Tokmak 2**	**2.58**	**30**	⇑Pn	**Pn**	**05 44 25.1**	**+1.6**
	5.0nm,0.3s						
TKM2				⇑Lg		05 44 57.8	
	31nm,0.6s						
USP	**Ospenovka**	**2.61**	**11**	⇑P	**Pn**	**05 44 25.2**	**+1.2**
	16nm,0.3s,SNR=18						
KK31	**Karatay Array**	**3.45**	**315**	⇑Pn	**Pn**	**05 44 42.9**	**+7.0**
	2.8nm,0.4s,baz=136,slow=16,SNR=11						
KK31				⇓Lg		05 45 29.9	
	15nm,0.5s,baz=133,slow=30,SNR=9.7						

*IDC **07** 05:46:43.7±0.7, 14.12S×13.80W, mb4.1/13, mb1 4.1/13, mb1mx4.0/24, mbtmp4.1/13, MS3.7/11, Ms1 3.7/11, ms1mx3.7/16, Error ellipse: s-maj=23.4km s-min=16.4km az=128.0*
*NEIC **07** 05:46:45.5±0.5, 14.12S×13.83W, h10km, mb4.9/1, Error ellipse: s-maj=15.8km s-min=12.4km az=133.0*
*HRVD **07** 05:46:45.5±0.8, 14.08S×13.91W, h12km, MW4.7/35, Centroid moment Tensor Solution. LP body waves: s2,c2; Mantle waves: s35,c47; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.20±.13; Mθθ=0.62±.13; Mφφ 0.82±.07; Mrθ 0.74±.51; Mθφ-0.56±.08; Mφr-0.39±.26; Best double couple: Mo1.251×10¹⁶ NP1:φs204°, δ47°, λ-8°. NP2: φs300°, δ84°, λ-137°. Principal axes: T 1.296, Plg24°, Azm64°; N -.092, Plg46°, Azm306°; P -1.205, Plg34°, Azm172°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 07 05:46:43.6±0.5, 14.1S±0.1×13.8W±0.1, h10km, n23, σ0°99/15, mb4.1/14, MS3.7/11, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**22.48**	**24**	P	**P**	**05 51 45.8**	**+1.1**
	14nm,0.8s,mb4.4,baz=178,slow=10,SNR=14						
DBIC				LR	LR	05 58 23.2	
	comp=Z,107nm,19.1s,MS3.3,baz=92,slow=31						
TSUM	**Tsumeb**	**30.50**	**104**	LR	LR	06 02 28.2	
	comp=Z,197nm,19.3s,MS3.8,baz=69,slow=31						
TORD	**Torodi Ar. Bea**	**31.14**	**30**	P	**P**	**05 53 04.0**	**-0.9**
	4.1nm,0.8s,mb4.3,baz=221,slow=9.7,SNR=18						
BDFB	**Brasilia**	**33.05**	**263**	P	**P**	**05 53 22.5**	**+0.8**
	1.9nm,0.7s,mb4.1,baz=51,slow=6.5,SNR=2.2						
BDFB				LR	LR	06 04 05.4	
	comp=Z,263nm,20.0s,MS3.9,baz=20,slow=32						
LBTB	**Lobatse**	**38.58**	**112**	P	**P**	**05 54 09.6**	**+0.9**
	1.6nm,0.7s,mb3.8,baz=305,slow=12,SNR=2.7						
SIV	**San Ignacio**	**45.59**	**261**	P	**P**	**05 55 05.3**	**-0.7**
	0.4nm,0.8s,mb3.4,baz=102,slow=14,SNR=3.1						
KMBO	**Kilima Mbogo**	**52.11**	**80**	LR	LR	06 15 16.1	
	comp=Z,115nm,19.2s,MS3.9,baz=267,slow=33						
LPAZ	**La Paz**	**52.32**	**260**	LR	LR	06 16 08.5	
	comp=Z,75nm,19.0s,MS3.8,baz=90,slow=34						
CFAA	**Coronel Fontan**	**52.55**	**241**	P	**P**	**05 55 58.5**	**-1.1**
	0.4nm,0.9s,mb3.4,baz=58,slow=7.2,SNR=6.1						
PLCA	**Paso Flores**	**55.80**	**230**	LR	LR	06 14 25.9	
	comp=Z,75nm,21.1s,MS3.8,baz=90,slow=30						
SNAA	**Sanae**	**57.92**	**176**	P	**P**	**05 56 38.2**	**+0.1**
	2.3nm,1.0s,mb4.2,baz=334,slow=7.9,SNR=8.4						
SDV	**Santo Domingo**	**60.80**	**289**	P	**P**	**05 56 59.7**	**+1.0**
	4.1nm,0.8s,mb4.6,baz=106,slow=7.4,SNR=3.9						
ROSC	**El Rosal**	**62.89**	**283**	LR	LR	06 22 12.3	
	comp=Z,123nm,18.3s,MS4.1,baz=172,slow=34						
GERES	**GERESS Array B**	**67.26**	**19**	LR	LR	06 25 50.0	
	comp=Z,58nm,19.9s,MS3.8,baz=126,slow=35						
BRTR	**Keskin Array B**	**69.41**	**37**	P	**P**	**05 57 54.2**	**+0.2**
	2.4nm,0.9s,mb4.1,baz=202,slow=6.7,SNR=12						
MAW	**Mawson**	**71.99**	**157**	P	**P**	**05 58 07.2**	**-1.9**
	3.9nm,0.9s,mb4.3,baz=293,slow=9.1,SNR=5.3						
MAW				LR	LR	06 26 21.4	
	comp=Z,29nm,18.2s,MS3.6,baz=61,slow=33						
AKASG	**Malin Array Be**	**74.70**	**27**	P	**P**	**05 58 24.1**	**-1.2**
	1.6nm,0.6s,mb4.1,baz=224,slow=6.3,SNR=12						
QSPA	**South Pole Qui**	**76.05**	**180**	*e*P	**P**	**05 58 34.1**	**+1.6**
	8.7nm,0.8s,mb4.7						
NOA	**NORSAR Array B**	**77.51**	**12**	P	**P**	**05 58 40.9**	**0.0**
	1.6nm,1.0s,mb3.9,baz=207,slow=6.1,SNR=3.3						
NOA				LR	LR	06 30 37.3	
	comp=Z,21nm,19.1s,MS3.5,baz=260,slow=34						
FINES	**FINESS Array B**	**81.65**	**18**	P	**P**	**05 59 03.0**	**-0.2**
	1.5nm,0.7s,mb4.0,baz=225,slow=2.7,SNR=7.1						
FINES	**FINESS Array B**	**81.65**	**18**	P	**P**	**05 59 03.0**	**-0.2**
VNDA	**Vanda**	**88.52**	**179**	LR	LR	06 34 49.4	
	comp=Z,32nm,21.9s,MS3.7,baz=72,slow=33						
MJAR	**Matsushiro Arr**	**146.48**	**43**	PKPbc	PKPbc	06 06 27.8	+2.4
	4.4nm,1.1s,baz=270,slow=2.4,SNR=7.0						

IDC 07 05:51:24.6±8.1, 0.36S×97.64E, mb3.8/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.7/4, ML3.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/14, Error ellipse: s-maj=200.3km s-min=50.9km az=133.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.39**	**22**	Pn	Pn	05 52 17.4	-2.4
	1.6nm,0.3s,baz=220,slow=6.6,SNR=7.8						
PSI				Sn	Sn	05 52 58.8	-2.6
	2.1nm,0.3s,baz=117,slow=23,SNR=4.1						
JOW	**Kunigami**	**40.00**	**45**	LR	LR	06 14 56.6	
	comp=Z,148nm,19.6s,baz=319,slow=35						
SONM	**Songino Array**	**48.60**	**18**	P	P	06 00 10.3	-1.6
	0.6nm,0.5s,baz=194,slow=9.0,SNR=5.0						
MKAR	**Makanchi Array**	**48.85**	**346**	P	P	06 00 12.2	-1.7
	0.6nm,0.7s,baz=158,slow=9.4,SNR=8.6						
ZAL	**Zalesovo**	**55.15**	**351**	P	P	06 00 58.0	-3.2
	0.7nm,0.3s,baz=46,slow=12,SNR=3.1						

IDC 07 05:53:10.9±3.2, 25.41N×142.55E, h47km±28km, mb3.6/4, mb1 3.8/4, mb1mx3.4/19, mbtmp3.8/4, Error ellipse: s-maj=108.5km s-min=21.7km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.71**	**349**	P	P	05 53 36.4	-2.5
	92nm,0.3s,baz=277,slow=24,SNR=12						
CBIJ				S	S	05 53 59.5	-0.1
	79nm,0.3s,baz=285,slow=22,SNR=14						
WRA	**Warramunga Arr**	**45.78**	**191**	P	P	06 01 28.5	-1.6
	1.1nm,0.6s,baz=8.7,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**51.81**	**311**	P	P	06 02 14.4	-1.9
	0.5nm,0.7s,baz=93,slow=8.4,SNR=4.1						
FINES	**FINESS Array B**	**79.60**	**334**	P	P	06 05 12.5	-1.9
	1.7nm,0.9s,baz=45,slow=5.4,SNR=7.8						
NOA	**NORSAR Array B**	**85.29**	**338**	P	P	06 05 42.5	-1.1
	0.6nm,0.6s,baz=44,slow=4.9,SNR=2.5						

*NIED **07** 05:54:00, 39.10N×143.60E, h23km, Mw3.8 Best double couple: Mo5.24×10¹⁴ NP1:φs18°, δ59°, λ82°. NP2:φs214°, δ32°, λ103°.*
*JMA **07** 05:54:26.6±0.1, 39.10N×143.59E, h33km, M3.8*
*IDC **07** 05:54:27.4±3.0, 39.30N×143.35E, mb3.5/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=72.5km s-min=31.5km az=150.0*
ISC 07 05:54:28.2±2.4, 39.12N±0.06×143.45E±0.10, h28km±21km, n15, σ0°69/20, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.34**	**290**	P	**Pn**	**05 54 51.2**	**-0.2**
OFUJ	**Ofunato**	**1.39**	**269**	P	**Pn**	**05 54 52.0**	**0.0**
JTH	**Tanohata**	**1.47**	**304**	P	**Pn**	**05 54 53.1**	**-0.2**
JOM	**Ohasama**	**1.71**	**283**	P	**Pn**	**05 54 57.0**	**+0.4**
JOM				*e*S	**Sn**	**05 55 18.9**	**+1.1**
JMK	**Ichinoseki**	**1.74**	**265**	P	**Pn**	**05 54 57.4**	**+0.3**
JIO	**Ouri**	**1.77**	**249**	P	**Pn**	**05 54 57.3**	**-0.2**
JIO				*e*S	**Sn**	**05 55 17.9**	**-1.4**
JANG	**Nango**	**1.95**	**311**	P	**Pn**	**05 54 59.5**	**-0.5**
JYK	**Kaneyama**	**2.42**	**266**	*e*S	**Sn**	**05 55 36.7**	**+1.0**
JMM	**Marumori**	**2.43**	**240**	P	**Pn**	**05 55 06.5**	**-0.4**
JMM				*e*S	**Sn**	**05 55 34.8**	**-1.3**
JNBK	**Urakawa-nobuka**	**3.20**	**351**	P	**Pn**	**05 55 17.5**	**-0.4**
JNBK				S	**Sn**	**05 55 54.9**	**-0.7**
MJAR	**Matsushiro Arr**	**4.88**	**240**	Pn	**Pn**	**05 55 42.4**	**+0.6**
	1.4nm,0.3s,baz=53,slow=12,SNR=16						
MAT	**Matsushiro**	**4.88**	**240**	P	**Pn**	**05 55 42.7**	**+0.9**
MAT				*e*S	**Sn**	**05 56 46.6**	**+8.5**
SONM	**Songino Array**	**28.04**	**300**	P	**P**	**06 00 19.1**	**+0.2**
	0.7nm,0.6s,mb3.5,baz=95,slow=7.5,SNR=5.3						
MKAR	**Makanchi Array**	**44.41**	**301**	P	**P**	**06 02 38.0**	**0.0**
	0.4nm,0.7s,mb3.3,baz=90,slow=10,SNR=4.7						
ILAR	**Eielson Array**	**46.88**	**33**	P	**P**	**06 02 58.0**	**+0.7**
	0.4nm,0.7s,mb3.4,baz=257,slow=5.9,SNR=4.5						

*CSEM **07** 06:01:59.1±0.5, 29.45N×16.71W, h80km±35km, mb3.9/12*
*NEIC **07** 06:02:00.7, 29.46N×16.77W, h78km, MG3.9(MDD), After MDD.*
MDD 07 06:02:01.3±0.2, 29.49N×16.77W, h68km±8km, mb4.2/14, 2C-6D, Error ellipse: s-maj=3.6km s-min=1.5km az=0.0, PRXIMO TT-model: canary, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBAJ	**Bajamar**	**1.02**	**158**	⇓P	P	06 02 19.7	-0.5
	SNR=18						
EBAJ				S	S	06 02 32.7	-1.5
	455nm,0.1s						
EBAJ	**Bajamar**	**1.02**	**158**	⇓P	P	06 02 19.8	-0.5
EBAJ				S	S	06 02 31.9	-2.4
EBAJ	**Bajamar**	**1.02**	**158**	P	P	06 02 19.7	-0.5
	89nm,0.2s,SNR=18						
EBAJ				S	S	06 02 32.7	-1.6
	455nm,0.1s						
CICO	**Icod de los Vi**	**1.14**	**178**	⇓P	P	06 02 21.2	-0.6
	3.5nm,0.1s,SNR=18						
CICO				S	S	06 02 33.4	-3.6
	14nm,0.1s,SNR=4.0						
CRAJ	**Montana Rajada**	**1.23**	**173**	⇓P	P	06 02 22.3	-0.8
	71nm,0.1s,SNR=18						
CRAJ				S	S	06 02 36.6	-2.6
	714nm,0.1s,SNR=16						
CRAJ	**Montana Rajada**	**1.23**	**173**	P	P	06 02 22.3	-0.8
	71nm,0.1s,SNR=18						
CRAJ				S	S	06 02 36.6	-2.6
	714nm,0.1s,SNR=16						
CHIO	**Chio**	**1.25**	**182**	⇓P	P	06 02 22.3	-0.9
	90nm,0.1s,SNR=18						
CHIO				S	S	06 02 36.0	-3.6
	157nm,0.1s,SNR=4.0						
CCAN	**Las Canadas**	**1.28**	**173**	⇓P	P	06 02 22.6	-1.0
	20nm,0.1s,SNR=18						
CCAN				S	S	06 02 36.3	-3.9
	119nm,0.1s,SNR=17						
EHIG	**Higuera**	**1.30**	**224**	⇑P	P	06 02 22.3	-1.8
	406nm,0.1s,SNR=18						
EHIG				S	S	06 02 37.1	-3.9
	386nm,0.1s						
EHIG	**Higuera**	**1.30**	**224**	P	P	06 02 22.3	-1.8
	406nm,0.1s,SNR=18						
EHIG				S	S	06 02 37.1	-3.9
	386nm,0.1s						
EGOM	**La Gomera**	**1.38**	**196**	⇑P	P	06 02 23.1	-2.1
	45nm,0.1s,SNR=18						
EGOM				S	S	06 02 39.2	-3.7
	348nm,0.1s						
EGOM	**La Gomera**	**1.38**	**196**	P	P	06 02 23.1	-2.1
	45nm,0.1s,SNR=18						
EGOM				S	S	06 02 39.2	-3.7
	348nm,0.1s						
EOSO	**Osorio**	**1.78**	**143**	P	P	06 02 29.5	-0.9
	5.6nm,0.1s,SNR=7.9						
EOSO				S	S	06 02 48.5	-3.5
	98nm,0.2s,SNR=6.3						
EOSO	**Osorio**	**1.78**	**143**	P	P	06 02 29.5	-0.9
EOSO				S	S	06 02 48.5	-3.4
EOSO	**Osorio**	**1.78**	**143**	P	P	06 02 29.5	-1.0
	5.6nm,0.1s,SNR=7.9						
EOSO				S	S	06 02 48.5	-3.5
	98nm,0.2s,SNR=6.3						
CFTV	**Fuerteventura**	**2.59**	**114**	P	P	06 02 39.9	-2.0
	6.9nm,0.1s,SNR=21						
CFTV				S	S	06 03 07.0	-5.2
	22nm,0.1s,SNR=6.2						
CFTV	**Fuerteventura**	**2.59**	**114**	P	P	06 02 41.0	-0.9
CFTV				S	S	06 03 07.0	-5.2
CFTV	**Fuerteventura**	**2.59**	**114**	P	P	06 02 39.8	-2.1
	6.9nm,0.1s,SNR=21						
CFTV				S	S	06 03 07.0	-5.2
	22nm,0.1s,SNR=6.2						
CFUE	**Fuerteventura**	**2.62**	**108**	P	P	06 02 40.2	-2.1
	18nm,0.1s,SNR=7.9						
CFUE				S	S	06 03 07.7	-5.3
	176nm,0.1s,SNR=7.9						
EFAM	**Famara**	**2.85**	**97**	P	P	06 02 44.9	-0.7
	4.2nm,0.1s,SNR=6.6						
EFAM				S	S	06 03 13.3	-5.6
	14nm,0.2s,SNR=7.9						
EFAM	**Famara**	**2.85**	**97**	P	P	06 02 46.4	+0.8
EFAM				S	S	06 03

*NEIC **07** 06:34:40.4±0.3,11.54N×125.37E,h10km,mb4.6/3,Error ellipse: s-maj=15.0km s-min=7.4km az=58.0*
NEIC Felt [III PIVS] at Borongan. Also felt [III PIVS] at Tacloban, Leyte.
*MOS **07** 06:34:41.6±0.9,11.36N×125.37E,h33km,mb5.0/3,Error ellipse: s-maj=23.3km s-min=11.6km az=109.1*
*MAN **07** 06:34:49.1,11.55N×125.27E,h37km,mb5.3,ML4.3, MS4.5*
MAN BORONGAN E. SAMAR - INTENSITY III PALO LEYTE & TACLOBAN CITY - INTENSITY II.
*IDC **07** 06:34:50.1±2.7,11.49N×125.36E,h88km±23km,mb3.9/14, mb1 4.1/15,mb1mx4.0/21,mbtmp4.3/15,MS3.4/5, Ms1 3.4/5,ms1mx2.9/30,Error ellipse: s-maj=35.8km s-min=11.6km az=69.0*

ISC 07 06:34:48.1±0.5,11.56N±0.03×125.32E±0.05,h82km±4km, n71,σ1§14/71,mb4.3/19,7C-7D,Samar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
BESP	**Borongan**	**0.12**	**72**	*eP*		**P**	**06 34 57.1**	**-2.9**
PLP	**Palo**	**0.52**	**220**	*i P*		**P**	**06 35 00.1**	**-2.3**
OCLP	**Ormoc**	**0.86**	**234**	*eP*		**P**	**06 35 05.3**	**-0.6**
CNP	**Catarman**	**1.14**	**326**	*eP*		**P**	**06 35 08.9**	**-0.3**
CNP				*eS*		**S**	**06 35 24.8**	**-0.3**
MSLP	**Maasin**	**1.49**	**198**	*eP*		**P**	**06 35 15.2**	**+1.3**
MSLP				*eS*		**S**	**06 35 35.6**	**+2.6**
SCPH	**Surigao**	**1.78**	**175**	*eP*		**P**	**06 35 17.2**	**-0.4**
SCPH				*eS*		**S**	**06 35 41.3**	**+1.9**
LLP	**Lapu-Lapu**	**1.82**	**227**	⇓*iP*		**P**	**06 35 18.1**	**-0.1**
LLP				*i* S		**S**	**06 35 39.1**	**-1.2**
MMPH	**Masbate**	**1.84**	**296**	*eP*		**P**	**06 35 19.1**	**+0.6**
PVCP	**Virac**	**2.32**	**331**	*eP*		**P**	**06 35 24.3**	**-0.8**
TBP	**Tagbilaran**	**2.35**	**218**	*eS*		**S**	**06 35 53.0**	**-0.4**
RCP	**Roxas**	**2.52**	**270**	⇑*eP*		**P**	**06 35 28.4**	**+0.4**
RCP				*eS*		**S**	**06 35 57.6**	**-0.1**
BUTP	**Butuan**	**2.60**	**173**	*eP*		**P**	**06 35 29.9**	**+0.9**
GUIM	**Jordan**	**2.84**	**251**	*eP*		**P**	**06 35 31.9**	**-0.5**
KALP	**Kalibo**	**2.92**	**273**	⇓*eP*		**S**	**06 36 06.1**	**-1.6**
SNPH	**Sibulan**	**3.01**	**223**	⇓*iP*		**P**	**06 35 36.5**	**+1.7**
CGP	**Cagayan de Oro**	**3.15**	**191**	⇓*eP*		**P**	**06 35 37.0**	**+0.3**
CGP				*eS*		**S**	**06 36 14.3**	**+1.0**
OTRP	**Odiongan**	**3.33**	**284**	*eP*		**P**	**06 35 38.9**	**-0.3**
DCPH	**Dipolog City**	**3.54**	**213**	⇑*eP*		**P**	**06 35 41.1**	**-1.0**
DCPH				*eS*		**S**	**06 36 16.3**	**-6.7**
BUKP	**Musuan**	**3.67**	**184**	*eP*		**P**	**06 35 44.8**	**+0.9**
BOAC	**Boac**	**3.88**	**299**	*eP*		**P**	**06 35 49.4**	**+2.5**
PAGZ	**Pagadian**	**4.16**	**208**	*eP*		**P**	**06 35 50.5**	**-0.2**
POLP	**Polillo Island**	**4.55**	**314**	*eP*		**P**	**06 35 57.8**	**+1.6**
TGY	**Tagaytay City**	**4.96**	**301**	P		**P**	**06 36 04.6**	**+2.8**
	21nm,0.3s,baz=162,slow=12,SNR=5.2							
CAUP	**Cauayan**	**6.33**	**328**	*eP*		**P**	**06 36 19.7**	**-0.9**
GUMO	**Guam**	**19.18**	**82**	LR		LR	06 45 52.8	
	comp=Z,77nm,21.1s,baz=345,slow=35							
FITZ	**Fitzroy Crossi**	**29.48**	**179**	*eP*		**P**	**06 40 44.4**	**-2.4**
	4.6nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**29.48**	**179**	P		**P**	**06 40 44.9**	**-2.0**
	2.2nm,0.5s,mb4.1,baz=154,slow=6.6,SNR=14							
WRAB	**Tennant Creek**	**32.54**	**164**	⇓*iP*		**P**	**06 41 10.1**	**-3.5**
WRA	**Warramunga Arr**	**32.54**	**164**	P		**P**	**06 41 11.0**	**-2.7**
	0.8nm,0.6s,mb3.8,baz=351,slow=8.7,SNR=48							
WRA				PcP		PcP	06 43 57.6	-1.1
	1.6nm,0.6s,baz=338,slow=3.0,SNR=10.0							
WRA				ScP			06 47 34.6	
	0.4nm,0.6s,baz=347,slow=3.7,SNR=7.1							
WB2	**Warramunga Arr**	**32.55**	**164**	*eP*		**P**	**06 41 11.1**	**-2.6**
CTA	**Charters Tower**	**37.60**	**147**	P		**P**	**06 41 55.9**	**-0.8**
	2.5nm,0.4s,mb4.4,baz=318,slow=11,SNR=6.0							
CTAO	**Charters Tower**	**37.60**	**147**	*eP*		**P**	**06 41 56.3**	**-0.4**
YSS	**Yuzh-Sakhalins**	**38.23**	**19**	⇑*eP*		**P**	**06 42 03.0**	**+1.4**
YSS					pmax	pmax		
	comp=Z,38nm,1.3s,mb5.1							
ULN	**Ulaanbaatar**	**39.30**	**341**	*i* P		**P**	**06 42 12.3**	**+1.8**
SONM	**Songino Array**	**39.49**	**340**	P		**P**	**06 42 12.9**	**+0.8**
	comp=Z,1.5nm,0.9s,mb3.8,baz=154,slow=8.8,SNR=9.9							
SONM					LR	LR	06 58 57.1	
	comp=Z,51nm,18.7s,baz=68,slow=37							
JIRN	**Jiri**	**39.98**	**299**	*eP*		**P**	**06 42 17.2**	**+0.8**
	comp=Z,14nm,0.5s,mb5.1							
HNR	**Honiara**	**40.25**	**120**	LR		LR	06 57 27.6	
	comp=Z,82nm,19.1s,baz=271,slow=34							
GUN	**Gumba**	**40.31**	**300**	*eP*		**P**	**06 42 20.1**	**+1.0**
	comp=Z,32nm,1.0s,mb5.1							
PKI	**Pulchoki**	**40.63**	**299**	*eP*		**P**	**06 42 22.4**	**+0.7**
KKN	**Kakani**	**40.80**	**299**	*eP*		**P**	**06 42 22.2**	**-0.9**
DMN	**Daman**	**40.90**	**299**	*eP*		**P**	**06 42 23.2**	**-0.7**
GKN	**Gorkha**	**41.40**	**299**	*eP*		**P**	**06 42 26.6**	**-1.4**
KOLN	**Koldanda**	**42.23**	**299**	*eP*		**P**	**06 42 35.0**	**0.0**
STKA	**Stephens Creek**	**45.92**	**161**	P		**P**	**06 43 04.3**	**-0.3**
	comp=Z,8.1nm,0.5s,mb4.7,baz=336,slow=6.0,SNR=11							
STKA	**Stephens Creek**	**45.92**	**161**	*eP*		**P**	**06 43 04.2**	**-0.5**
MKAR	**Makanchi Array**	**50.44**	**323**	P		**P**	**06 43 39.9**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=111,slow=6.7,SNR=22							
MKAR	**Makanchi Array**	**50.44**	**323**	⇑*eP*		**P**	**06 43 39.9**	**+0.4**
YAK	**Yakutsk**	**50.48**	**3**	⇓*iP*		**P**	**06 43 39.0**	**-0.6**
YAK					pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7							
ZAL	**Zalesovo**	**53.05**	**331**	P		**P**	**06 43 59.1**	**+0.1**
	comp=Z,1.6nm,0.3s,mb4.6,baz=161,slow=16,SNR=5.0							
KURK	**Kurchatov**	**54.48**	**325**	⇑*eP*		**P**	**06 44 10.3**	**+0.8**
TIXI	**Tiksi**	**60.08**	**1**	*deP*		**P**	**06 44 48.0**	**-0.7**
TIXI					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4							
GNI	**Garni**	**75.47**	**309**	LR		LR	07 21 22.1	
	comp=Z,17nm,18.4s,baz=325,slow=37							
KIV	**Kislovodsk**	**76.79**	**313**	*i* P		**P**	**06 46 32.7**	**+0.1**
MCK	**McKinley**	**77.83**	**27**	*eP*		**P**	**06 46 38.2**	**+0.2**
COLA	**College**	**78.27**	**26**	*eP*		**P**	**06 46 38.3**	**-2.1**
ILAR	**Eielson Array**	**78.69**	**26**	P		**P**	**06 46 42.3**	**-0.3**
	comp=Z,1.2nm,0.6s,mb3.9,baz=242,slow=5.5,SNR=12							
ARCES	**ARCESS Array B**	**82.66**	**340**	P		**P**	**06 47 04.0**	**+0.4**
	comp=Z,1.1nm,0.4s,mb3.8,baz=80,slow=6.7,SNR=24							
INK	**Inuvik**	**83.43**	**22**	*eP*		**P**	**06 47 08.1**	**+0.6**
BRTR	**Keskin Array B**	**84.00**	**309**	P		**P**	**06 47 11.1**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.5,slow=2.5,SNR=3.9							
FINES	**FINESS Array B**	**84.32**	**332**	P		**P**	**06 47 12.4**	**+0.4**
	comp=Z,1.2nm,0.7s,mb3.8,baz=63,slow=4.3,SNR=6.9							
FINES	**FINESS Array B**	**84.32**	**332**	⇑*eP*		**P**	**06 47 12.3**	**+0.3**
AKASG	**Malin Array Be**	**84.98**	**321**	P		**P**	**06 47 15.1**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=72,slow=6.2,SNR=6.0							
AKASG	**Malin Array Be**	**84.98**	**321**	P		**P**	**06 47 15.1**	**-0.5**
VNDA	**Vanda**	**91.32**	**173**	P		**P**	**06 47 45.3**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.8,baz=332,slow=5.5,SNR=5.7							
IDI	**Anoyia**	**91.75**	**306**	LR		LR	07 37 27.5	
	comp=Z,11nm,19.1s,baz=199,slow=41							
YKA	**Yellowknife Ar**	**92.96**	**24**	P		**P**	**06 47 54.2**	**+1.1**
	comp=Z,1.0nm,0.9s,mb4.2,baz=298,slow=4.6,SNR=7.6							
YKA	**Yellowknife Ar**	**92.96**	**24**	⇑*eP*		**P**	**06 47 54.2**	**+1.1**
YKA	**Yellowknife Ar**	**92.96**	**24**	P		**P**	**06 47 54.2**	**+1.1**
TORD	**Torodi Ar. Bea**	**118.92**	**292**	PKP		PKPdf	06 53 28.1	+0.1
	comp=Z,0.2nm,0.4s,baz=80,slow=1.7,SNR=8.7							
PLCA	**Paso Flores**	**147.76**	**157**	PKPbc		PKPdf	06 54 25.5	+4.7
	comp=Z,1.6nm,0.8s,baz=337,slow=3.9,SNR=5.4							
BDFB	**Brasilia**	**172.36**	**237**	PKP		PKPdf	06 54 49.3	+1.2
	comp=Z,1.7nm,0.9s,baz=130,slow=7.9,SNR=3.7							

*IDC **07** 06:46:03.2±1.0,1.50S×134.26E,mb4.0/5,mb1 4.3/7, mb1mx4.1/15,mbtmp4.1/7,ML4.3/2,Error ellipse: s-maj=46.4km s-min=18.7km az=75.0*
*NEIC **07** 06:46:07.9±0.7,1.49S×134.29E,h30km,mb3.9/1,Error ellipse: s-maj=21.1km s-min=10.9km az=79.0*

ISC 07 06:46:06.4±0.8,1.73S±0.07×133.7E±0.2,h33km,n12, σ1§33/15,mb4.0/5,1C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**18.10**	**206**	*eP*		**P**	**06 50 22.9**	**+5.7**
	6.6nm,0.8s							
FITZ				*eS*		**S**	**06 53 35.0**	**0.0**
FITZ	**Fitzroy Crossi**	**18.10**	**206**	P		**P**	**06 50 21.3**	**+4.1**
	0.4nm,0.3s,baz=36,slow=14,SNR=15							
FITZ				S		**S**	**06 53 33.5**	**-1.5**
	0.5nm,0.3s,baz=98,slow=11,SNR=3.9							
WRA	**Warramunga Arr**	**18.11**	**178**	P		**P**	**06 50 19.4**	**+2.1**
	1.5nm,0.3s,baz=359,slow=12,SNR=75							
WRA				S		**S**	**06 53 33.5**	**-1.6**
	0.0nm,0.3s,baz=3.6,slow=20,SNR=2.6							
WB2	**Warramunga Arr**	**18.11**	**178**	⇑*iP*		**P**	**06 50 19.3**	**+2.1**
CTA	**Charters Tower**	**21.97**	**147**	P		**P**	**06 50 59.1**	**-0.1**
	3.7nm,0.9s,mb3.8,baz=351,slow=16,SNR=2.9							
CTAO	**Charters Tower**	**21.97**	**147**	P		**P**	**06 50 59.5**	**+0.3**
MBWA	**Marble Bar**	**23.65**	**214**	P		**P**	**06 51 22.4**	**+6.6**
STKA	**Stephens Creek**	**30.89**	**167**	P		**P**	**06 52 21.6**	**-0.6**
	6.6nm,0.6s,mb4.6,baz=350,slow=10,SNR=7.3							
STKA	**Stephens Creek**	**30.89**	**167**	P		**P**	**06 52 21.6**	**-0.6**
STKA				*eP*			06 52 22.4	
SONM	**Songino Array**	**54.83**	**338**	P		**P**	**06 55 35.8**	**+0.2**
	0.9nm,1.0s,mb3.8,baz=162,slow=9.1,SNR=2.3							
MKAR	**Makanchi Array**	**66.03**	**324**	P		**P**	**06 56 52.4**	**+0.4**
	1.2nm,0.6s,mb4.1,baz=112,slow=7.7,SNR=11							
ILAR	**Eielson Array**	**87.03**	**25**	P		**P**	**06 58 47.6**	**-1.8**
	0.7nm,0.9s,mb3.9,baz=258,slow=5.1,SNR=4.8							

*IDC **07** 07:19:09.9±1.2,34.58N×73.24E,mb3.9/7,mb1 4.1/10, mb1mx3.9/22,mbtmp4.0/10,ML4.1/3,Error ellipse: s-maj=28.8km s-min=25.2km az=79.0*
*NEIC **07** 07:19:11.7±0.7,34.63N×73.25E,h10km,mb4.3/2,Error ellipse: s-maj=19.7km s-min=5.9km az=51.0*
*MOS **07** 07:19:12.3±1.4,34.57N×73.20E,h33km,mb4.3/6,Error ellipse: s-maj=19.5km s-min=8.0km az=99.8*
*NDI **07** 07:19:15.1±4.2,34.48N×73.13E,h10km,MD4.0,ML4.1, mb4.3(NEIC)*
*NNC **07** 07:19:22.7±6.4,35.06N×72.88E,h80km±62km,mpv4.5, Error ellipse: s-maj=48.9km s-min=36.6km az=30.0*

ISC 07 07:19:13.0±0.3,34.62N±0.03×73.40E±0.05,h33km,n72, σ1§33/100,mb3.9/9,9C-3D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
CHCP	**Chirah Chowk**	**0.96**	**187**	⇓*eP*		**P**	**07 19 30.5**	**+0.3**
CEP	**Cherat**	**1.47**	**238**	⇑*eP*		**P**	**07 19 36.2**	**-1.2**
THW	**Thamme Wali**	**2.28**	**218**	⇑*eP*		**P**	**07 19 50.3**	**+1.2**
THN	**Thein Dam**	**2.92**	**138**	*eP*		**P**	**07 20 04.0**	**+5.9**
THN				*eSB*		**Sb**	**07 20 44.7**	**+5.0**
SBDP	**Sheikh Budin**	**3.17**	**224**	⇑*eP*		**P**	**07 20 02.7**	**+1.0**
PONG	**Pong**	**3.41**	**140**	*ePB*		**Pb**	**07 20 14.0**	**+1.4**
PONG				*eSB*		**Sb**	**07 20 58.0**	**+4.0**
DRP	**Derazinda**	**3.92**	**224**	P		**P**	**07 20 12.9**	**+0.5**
BHK	**Bhakra**	**4.08**	**141**	*ePG*		Px	07 20 35.9	
BHK				*ex*		x	07 21 11.5	
SDNR	**Sundarnagar**	**4.32**	**135**	*eP*		**P**	**07 20 22.2**	**+4.1**
SDNR				*eS*		**S**	**07 21 11.5**	**+3.5**
SMLA	**Simla**	**4.71**	**137**	*eP*		**P**	**07 20 25.1**	**+1.5**
SMLA				*ex*		x	07 21 39.4	
KLP	**Kalpa**	**5.10**	**126**	*eP*		**P**	**07 20 34.2**	**+5.1**
KLP				*eS*		**S**	**07 21 32.5**	**+4.8**
KLP					AML	AML	07 22 00.9	
	comp=E,527nm,0.5s							
KLP					AML	AML	07 22 04.8	
	comp=N,252nm,0.6s							
DDI	**Dehra Dun**	**5.82**	**136**	*ex*		x	07 20 57.0	
NDI	**New Delhi**	**6.75**	**150**	*eP*		**P**	**07 20 53.0**	**+0.7**
NDI				*eS*		**S**	**07 22 07.5**	**-1.4**
KHET	**Khetri**	**6.84**	**162**	*eP*		**P**	**07 20 52.9**	**-0.6**
KHET				*eS*		**S**	**07 22 07.9**	**-3.3**
KHET				*eS*		**S**	**07 22 10.1**	**-1.1**
KUDL	**Kundal**	**6.97**	**157**	*eP*		**P**	**07 20 55.7**	**+0.2**
KUDL				*eS*		**S**	**07 22 11.6**	**-2.8**
AML	**Almayashu**	**7.50**	**2**	P		**P**	**07 21 05.1**	**+2.3**
	SNR=20							
KZA	**Kyzart**	**7.59**	**10**	P		**P**	**07 21 06.5**	**+2.5**
	SNR=7.7							
UCH	**Uchtor**	**7.65**	**6**	P		**P**	**07 21 07.9**	**+3.1**
	SNR=14							
EKS2	**Erkin-Say**	**8.04**	**2**	P		**P**	**07 21 13.1**	**+2.9**
	SNR=17							
AAK	**Ala-Archa**	**8.05**	**6**	P		**P**	**07 21 14.9**	**+4.5**
	SNR=7.9							
TKM2	**Tokmak 2**	**8.46**	**11**	P		**P**	**07 21 18.4**	**+2.3**
	SNR=12							
TKM2	**Tokmak 2**	**8.46**	**11**	⇓*eP*		**P**	**07 21 18.3**	**+2.1**
TKM2				⇑*eS*		**S**	**07 22 49.1**	**-2.5**
	comp=N,5.4nm,0.5s							
TKM2				⇑*eS*		**S**	**07 22 49.1**	**-2.5**
	comp=N,13nm,0.6s							
TKM2	**Tokmak 2**	**8.46**	**11**	P		**P**	**07 21 18.3**	**+2.1**
TKM2				S		**S**	**07 22 49.0**	**-2.6**
TKM2					pmax	pmax		
	comp=Z,2.0nm,0.5s							
TKM2					smax			
	comp=Z,7.0nm,0.6s							
KK31	**Karatay Array**	**8.77**	**346**	⇑*eP*		**P**	**07 21 20.0**	**-0.3**
	comp=Z,15nm,0.3s,baz=155,slow=11,SNR=467							
KK31				⇑*eS*		**S**	**07 22 54.0**	**-5.1**
	comp=Z,4.0nm,0.4s,baz=163,slow=19,SNR=6.7							
KKAR	**Karatay Array**	**8.77**	**346**	*eP*		**P**	**07 21 20.0**	**-0.3**
KKAR				S		**S**	**07 22 54.0**	**-5.1**
KKAR					pmax	pmax		
	comp=Z,14nm,0.3s							
KKAR					smax			
	comp=Z,1.0nm,0.2s							
KOLN	**Koldanda**	**11.08**	**125**	*ePn*		**P**	**07 21 53.1**	**+0.9**
KOLN				*eSn*		**S**	**07 23 54.2**	**-1.8**
	comp=Z,20nm,0.5s							
KOLN	**Koldanda**	**11.08**	**125**	*ePn*		**P**	**07 21 53.1**	**+0.9**
	comp=Z,10.0nm,0.5s							
KOLN				*eSn*		**S**	**07 23 54.2**	**-1.8**
GKN	**Gorkha**	**11.65**	**121**	*ePn*		**P**	**07 22 00.4**	**+0.5**
GKN				*eSn*		**S**	**07 24 04.8**	**-5.1**
	comp=Z,18nm,0.4s							
GKN	**Gorkha**	**11.65**	**121**	*ePn*		**P**	**07 22 00.4**	**+0.5**
	comp=Z,8.9nm,0.4s							
GKN				*eSn*		**S**	**07 24 04.8**	**-5.1**
DMN	**Daman**	**12.22**	**122**	*ePn*		**P**	**07 22 07.4**	**-0.2**
DMN				*eSn*		**S**	**07 24 19.8**	**-3.8**
	comp=Z,26nm,0.6s							
DMN	**Daman**	**12.22**	**122**	*ePn*		**P**	**07 22 07.4**	**-0.2**
	comp=Z,13nm,0.6s							
DMN				*eSn*		**S**	**07 24 19.8**	**-3.8**
KKN	**Kakani**	**12.23**	**121**	*ePn*		**P**	**07 22 07.0**	**-0.8**
KKN				*eSn*		**S**	**07 24 19.0**	**-5.0**
	comp=Z,14nm,0.5s							
KKN	**Kakani**	**12.23**	**121**	*eP*		**P**	**07 22 07.0**	**-0.8**
KKN				*e*			07 24 19.0	
KKN					pmax	pmax		
	comp=Z,7.0nm,0.5s							
KKN	**Kakani**	**12.23**	**121**	*ePn*		**P**	**07 22 07.0**	**-0.8**
	comp=Z,6.8nm,0.5s							
KKN				*eSn*		**S**	**07 24 19.0**	**-5.0**
PKI	**Pulchoki**	**12.46**	**121**	*ePn*		**P**	**07 22 11.6**	**+0.8**
PKI				*eSn*		**S**	**07 24 24.9**	**-4.4**
	comp=Z,24nm,0.7s							
PKI	**Pulchoki**	**12.46**	**121**	*eP*		**P**	**07 22 11.6**	**+0.8**
PKI				*e*			07 24 24.9	
PKI					pmax	pmax		
	comp=Z,12nm,0.7s							
PKI	**Pulchoki**	**12.46**	**121**	*ePn*		**P**	**07 22 11.6**	**+0.8**
	comp=Z,12nm,0.7s							
PKI				*eSn*		**S**	**07 24 24.9**	**-4.4**
GUN	**Gumba**	**12.59**	**119**	*ePn*		**P**	**07 22 12.0**	**-0.6**
GUN				*eSn*		**S**	**07 24 27.8**	**-4.8**
	comp=Z,12nm,0.5s							
GUN	**Gumba**	**12.59**	**119**	*ePn*		**P**	**07 22 12.0**	**-0.6**
	comp=Z,6.1nm,0.5s							
GUN				*eSn*		**S**	**07 24 27.8**	**-4.8**
JIRN	**Jiri**	**12.96**	**119**	*ePn*		**P**	**07 22 17.4**	**-0.1**
JIRN				*eSn*		**S**	**07 24 37.1**	**-4.4**
	comp=Z,20nm,0.5s							
JIRN	**Jiri**	**12.96**	**119**	*ePn*		**P**	**07 22 17.4**	**-0.1**
	comp=Z,10nm,0.5s							
JIRN				*eSn*		**S**	**07 24 37.1**	**-4.4**
MK31	**Makanchi Array**	**13.89**	**26**	P		**P**	**07 22 30.1**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=209,slow=13,SNR=10							
MKAR	**Makanchi Array**	**13.89**	**26**	Pn		**P**	**07 22 30.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=210,slow=13,SNR=13							
KURK	**Kurchatov**	**16.53**	**12**	⇑*eP*		**P**	**07 23 04.0**	**+0.3**
	comp=Z,6.5nm,2.0s							
AB31	**Akbulak array**	**17.68**	**330**	P		**P**	**07 23 14.6**	**-3.5**
	comp=Z,1.3nm,0.4s,baz=142,slow=10,SNR=56							
AB31				⇑*eS*		**S**	**07 26 22.6**	**-9.1**
	comp=Z,1.8nm,0.6s,baz=150,slow=23,SNR=6.5							
AB31	**Akbulak array**	**17.68**	**330**	*eP*		**P**	**07 23 14.6**	**-3.5**
AB31				*eS*		**S**	**07 26 22.5**	**-9.2**
AB31					pmax	pmax		
	comp=Z,1.0nm,0.4s							
AB31					smax			
	comp=Z,1.0nm,0.6s							
VOSK	**Vostochnaya**	**18.18**	**355**	⇓*eP*		**P**	**07 23 22.8**	**-1.6**
	comp=Z,3.7nm,1.4s							
VOSK	**Vostochnaya**	**18.18**	**355**	P		**P**	**07 23 22.8**	**-1.6**
VOSK					pmax	pmax		
	comp=Z,4.0nm,1.2s							
BVA0	**Borovoye Array**	**18.52**	**354**	P		**P**	**07 23 28.6**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=163,slow=9.8,SNR=37							
BVA0	**Borovoye Array**	**18.52**	**354**	*i* P		**P**	**07 23 28.6**	**-0.1**
BVA0					pmax	pmax		
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**18.52**	**354**	P		**P**	**07 23 26.7**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=162,slow=10.0,SNR=43							
BVAR	**Borovoye Array**	**18.52**	**354**	P		**P**	**07 23 26.7**	**-2.0**
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**19.39**	**329**	⇑*P*		**P**	**07 23 37.2**	**-1.5**
	comp=Z,1.8nm,0.8s							
AKTO	**Aktyubinsk**	**19.39**	**329**	P		**P**	**07 23 37.7**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=133,slow=11,SNR=31							
AKTO					S	**S**	**07 27 06.5**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=38,slow=19,SNR=3.7							
AKTO	**Aktyubinsk**	**19.39**	**329**	P		**P**	**07 23 37.7**	**-1.0**
AKTO					S	**S**	**07 27 06.5**	**-3.8**
AKTO					pmax	pmax		
	comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**20.92**	**19**	P		**P**	**07 23 54.0**	**-0.9**
	comp=Z,11nm,0.5s,baz=255,slow=9.0,SNR=59							
ZAL	**Zalesovo**	**20.92**	**19**	P		**P**	**07 23 54.1**	**-0.8**
ZAL					pmax	pmax		
	comp=Z,11nm,0.5s							
NVS	**Novosibirsk**	**21.35**	**16**	*eP*		**P**	**07 23 59.0**	**-0.3**
FINES	**FINESS Array B**	**40.13**	**327**	P		**P**	**07 26 47.8**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.7,baz=108,slow=8.8,SNR=3.3							
FINES	**FINESS Array B**	**40.13**	**327**	P		**P**	**07 26 47.8**	**+0.8**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.8s							
ARCES	**ARCESS Array B**	**43.62**	**338**	P		**P**	**07 27 16.2**	**+0.7**
	comp=Z,3.3nm,0.8s,mb4.1,baz=122,slow=8.0,SNR=7.3							
ARCES	**ARCESS Array B**	**43.62**	**338**	P		**P**	**07 27 16.2**	**+0.7**
ARCES					pmax	pmax		
	comp=Z,3.0nm,0.8s							
TIXI	**Tiksi**	**46.80**	**21**	*eP*		**P**	**07 27 37.3**	**-3.5**
TIXI					pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1							
NOA	**NORSAR Array B**	**47.05**	**324**	P		**P**	**07 27 41.8**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=96,slow=7.5,SNR=3.6							
NOA	**NORSAR Array B**	**47.05**	**324**	P		**P**	**07 27 41.8**	**-1.1**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**67.67**	**271**	P		**P**	**07 30 07.9**	**-1.2**
	comp=Z,0.7nm,0.5s,mb4.0,baz=48,slow=5.9,SNR=15							
RES	**Resolute Bay**	**70.70**	**357**	*eP*		**P**	**07 30 26.3**	**-0.5**
RES					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
RES	**Resolute Bay**	**70.70**	**357**	*eP*		**P**	**07 30 26.3**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.3							
INK	**Inuvik**	**75.43**	**10**	*eP*		**P**	**07 30 56.2**	**+1.6**
INK					pmax	pmax		
	comp=Z,2.0nm,0.8s							
INK	**Inuvik**	**75.43**	**10**	*eP*		**P**	**07 30 56.1**	**+1.6**
	comp=Z,1.8nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**79.33**	**123**	P		**P**	**07 31 18.5**	**+1.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=325,slow=5.0,SNR=6.3							
YKA	**Yellowknife Ar**	**83.01**	**4**	P		**P**	**07 31 36.6**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.6,baz=350,slow=5.4,SNR=6.2							

MAN 07 07:35:02.9,6.61N×123.72E,mb3.7,ML2.5,MS2.0,1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
CTBH	**Cotabato--PC H**	**0.80**	**40**	⇑*

GKN eSn S **08 01 28.5 -5.8**
comp=E,141nm,0.4s
GKN Gorkha 12.65 95 ePn P **07 59 12.3 -1.6**
comp=E,71nm,0.4s
GKN eSn S **08 01 28.5 -5.8**
UCH Uchtor 12.71 14 P P **07 59 13.1 -1.6**
SNR=9.8
KZA Kyzart 12.74 17 P P **07 59 13.4 -1.6**
SNR=7.3
AAK Ala-Archa 13.09 14 P P **07 59 18.2 -1.5**
SNR=14
AAK Ala-Archa 13.09 14 *i* P P **07 59 16.7 -3.1**
AAK pmax pmax
comp=Z,8.0nm,0.6s
KK31 Karatay Array 13.14 0 P P **07 59 16.9 -3.5**
comp=Z,11nm,0.8s,baz=177,slow=13,SNR=67
KK31 ⇑S S **08 01 36.9 -9.0**
comp=Z,2.9nm,0.5s,baz=187,slow=26
KKAR Karatay Array 13.14 0 *i* P P **07 59 16.8 -3.5**
KKAR S S **08 01 36.9 -9.1**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR smax
comp=Z,3.0nm,0.5s
DMN Daman 13.14 97 ePn P **07 59 19.6 -0.9**
DMN eSn S **08 01 41.2 -5.0**
comp=Z,63nm,0.6s
DMN Daman 13.14 97 ePn P **07 59 19.6 -0.9**
comp=Z,32nm,0.6s
DMN eSn S **08 01 41.2 -5.0**
KKN Kakani 13.25 96 ePn P **07 59 20.6 -1.3**
KKN eSn S **08 01 42.3 -6.5**
comp=Z,98nm,0.4s
KKN Kakani 13.25 96 eP P **07 59 20.6 -1.3**
KKN e 08 01 42.3
KKN pmax pmax
comp=Z,49nm,0.4s
KKN Kakani 13.25 96 ePn P **07 59 20.6 -1.3**
comp=Z,49nm,0.4s
KKN eSn S **08 01 42.3 -6.5**
FRU Bishkek 13.31 14 eP P **07 59 34.5 +12**
FRU pmax pmax
comp=Z,50nm,2.2s
PKI Pulchoki 13.41 96 ePn P **07 59 22.9 -1.1**
PKI eSn S **08 01 47.4 -5.2**
comp=Z,69nm,0.5s
PKI Pulchoki 13.41 96 eP P **07 59 22.9 -1.1**
PKI e 08 01 47.4
PKI pmax pmax
comp=Z,35nm,0.5s
PKI Pulchoki 13.41 96 ePn P **07 59 22.9 -1.1**
comp=Z,35nm,0.5s
PKI eSn S **08 01 47.4 -5.2**
CHMS Chumysh 13.50 14 P P **07 59 23.2 -1.9**
SNR=5.2
TKM2 Tokmak 2 13.62 17 ⇑P P **07 59 25.2 -1.4**
comp=Z,10nm,1.1s
TKM2 ⇑S S **08 01 55.5 -1.9**
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 13.62 17 P P **07 59 25.1 -1.5**
TKM2 pmax pmax
comp=Z,11nm,1.1s
GUN Gumba 13.74 95 ePn P **07 59 26.6 -1.8**
GUN eSn S **08 01 54.0 -6.6**
comp=Z,118nm,0.6s
GUN Gumba 13.74 95 ePn P **07 59 26.6 -1.8**
comp=Z,59nm,0.6s
GUN eSn S **08 01 54.0 -6.6**
JIRN Jiri 14.06 95 ePn P **07 59 31.2 -1.4**
JIRN eSn S **08 02 02.2 -6.0**
comp=Z,106nm,0.6s
JIRN Jiri 14.06 95 ePn P **07 59 31.2 -1.4**
comp=Z,53nm,0.6s
JIRN eSn S **08 02 02.2 -6.0**
HYB Hyderabad 14.54 147 *i* P S **07 59 40.0 +1.1**
HYB eS S **08 02 25.0 +5.4**
HYB Hyderabad 14.54 147 eP P **07 59 40.0 +1.1**
HYB eS S 08 02 44.0 +24
VIS Vishakhapatnam 16.97 133 ex x 08 00 41.4
LSA Lhasa 18.04 86 P P **08 00 24.4 +1.1**
LSA Lhasa 18.04 86 eP P **08 00 22.6 -0.7**
MK31 Makanchi Array 19.21 26 P P **08 00 36.1 -1.0**
comp=Z,14nm,1.1s,baz=207,slow=12,SNR=23
MKAR Makanchi Array 19.21 26 P P **08 00 36.2 -0.9**
comp=Z,0.4nm,0.3s,baz=212,slow=12,SNR=22
MKAR Makanchi Array 19.21 26⇑ eP P **08 00 36.5 -0.6**
MKAR Makanchi Array 19.21 26 P P **08 00 36.2 -0.9**
WMQ Urumqi 19.55 40 eP P **08 00 42.5 +1.7**
WMQ AP 08 00 47.5
WMQ XP 08 00 49.5
WMQ AMB AMB
comp=Z,10.0nm,0.7s
WMQ AMB AMB
comp=Z,170nm,5.2s
WMQ LR LR
comp=N,110nm,20.8s
WMQ LR LR
comp=E,100nm,20.0s
RDF Al-Radifah 19.89 273 eP P **08 00 43.0 -1.7**
RDF AMb AMB 08 00 49.7
comp=Z,39nm,0.8s
MIB Mutribah 19.96 275 eP P **08 00 44.5 -1.0**
MIB AMb AMB 08 00 45.7
comp=Z,42nm,0.6s
NAY Al-Naaiem 20.11 274 eP P **08 00 45.5 -1.5**
NAY AMb AMB 08 00 48.0
comp=Z,21nm,1.1s
AB31 Akbulak array 20.86 341 P P **08 00 53.6 -1.0**
comp=Z,15nm,0.6s,baz=148,slow=14,SNR=206
AB31 Akbulak array 20.86 341 *i* P P **08 00 53.6 -1.0**
AB31 pmax pmax
comp=Z,9.0nm,0.6s
KURK Kurchatov 21.66 14 ⇑P P **08 01 01.7 -1.0**
comp=Z,8.3nm,1.9s,mb3.8
KURK Kurchatov 21.66 14 *c* *i* P P **08 01 02.2 -0.5**
AKTO Aktyubinsk 22.48 339 ⇓P P **08 01 10.4 -0.4**
comp=Z,1.5nm,0.8s,mb3.5
AKTO Aktyubinsk 22.48 339 P P **08 01 10.8 0.0**
comp=Z,6.6nm,0.7s,mb4.2,baz=151,slow=8.8,SNR=20
AKTO Aktyubinsk 22.48 339 P P **08 01 10.3 -0.5**
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb3.3
VOSK Vostochnaya 22.77 1 P P **08 01 14.2 +0.6**
comp=Z,16nm,1.8s,mb4.2
VOSK Vostochnaya 22.77 1 P P **08 01 14.1 +0.5**
VOSK pmax pmax
comp=Z,30nm,1.8s,mb4.4
BVA0 Borovoye Array 23.06 0 P P **08 01 17.4 +1.0**
comp=Z,2.0nm,0.9s,mb3.5,baz=169,slow=12,SNR=50
BVA0 Borovoye Array 23.06 0 *i* P P **08 01 17.4 +0.9**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb3.5
BVAR Borovoye Array 23.06 0 P P **08 01 17.6 +1.1**
comp=Z,8.0nm,0.7s,mb4.3,baz=172,slow=10,SNR=48
GNI Garni 23.24 303 P P **08 01 18.6 +0.3**
comp=Z,3.4nm,0.4s,mb4.2,baz=72,slow=5.9,SNR=5.7
GNI Garni 23.24 303 *c* *i* P P **08 01 21.8 +3.4**
GNI pmax pmax
comp=Z,19nm,1.3s
GTA Gaotai 25.90 61 eP P **08 01 41.4 -2.5**
KIV Kislovodsk 26.02 310 eP P **08 01 45.1 +0.2**
KIV eS S **08 06 10.3 -0.4**
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.5
ZAL Zalesovo 26.17 20 P P **08 01 46.6 +0.5**
comp=Z,6.4nm,0.5s,mb4.4,baz=248,slow=5.4,SNR=22
ZAL LR LR 08 14 04.5
comp=Z,167nm,18.0s,MS3.6,baz=258,slow=41
ARU Arti 27.76 346 ⇓P P **08 02 02.0 +1.3**
ARU e 08 02 45.8
ARU e 08 05 14.6
ARU eS S **08 06 40.5 +1.7**
ARU eSS SS 08 07 54.4 -6.0
ARU e 08 12 48.9
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.2
BRTR Keskin Array B 31.50 298 P P **08 02 33.5 -0.6**
comp=Z,0.9nm,0.6s,mb3.8,baz=117,slow=8.3,SNR=5.4
SONM Songino Array 32.87 47 P P **08 02 48.6 +2.5**
comp=Z,1.5nm,0.7s,mb4.0,baz=251,slow=9.1,SNR=15
SONM LR LR 08 18 13.4
comp=Z,130nm,19.2s,MS3.6,baz=164,slow=40
AKASG Malin Array Be 36.97 316 P P **08 03 20.4 -0.5**
comp=Z,1.0nm,0.4s,mb4.0,baz=100,slow=7.3,SNR=11
NJ2 Nanjing 41.35 74 eP P **08 03 59.7 +2.2**
NJ2 AP pP 08 04 12.0 +3.0
NJ2 PP PP 08 05 38.5 +2.3
NJ2 S S **08 10 10.0 +1.0**
NJ2 XS 08 10 30.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
NJ2 AMB AMB
comp=Z,200nm,6.7s
NJ2 LR LR
comp=N,480nm,19.1s,MS4.5
NJ2 LR LR
comp=E,330nm,20.1s,MS4.5
NJ2 LR LR
comp=Z,160nm,22.5s,MS3.8
JOF Joensuu 41.41 334 *ep* P **08 03 58.2 +0.5**
FINES FINESS Array B 42.77 330 P P **08 04 09.3 +0.4**
comp=Z,1.0nm,0.5s,mb3.8,baz=101,slow=9.7,SNR=10
FINES LR LR 08 23 21.2
comp=Z,53nm,19.6s,MS3.4,baz=10,slow=38
FINES FINESS Array B 42.77 330 *i* P P **08 04 10.6 +1.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 42.77 330 P P **08 04 09.3 +0.4**
FINES LR LR 08 23 21.2
KAF Kangasniemi 42.98 331 *ep* P **08 04 10.1 -0.5**
comp=Z,2.9nm,0.5s,mb4.3,baz=118,slow=7.8
KAF Kangasniemi 42.98 331 eP P **08 04 10.1 -0.5**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
SSE Sheshan 43.48 75 eP P **08 04 14.4 -0.7**
SSE AMB AMB
comp=Z,30nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,80nm,3.6s
SSE Sheshan 43.48 75 eP P **08 04 14.4 -0.7**
comp=Z,33nm,0.6s,mb5.2
GERES GERESS Array B 46.53 310 P P **08 04 39.7 +0.6**
comp=Z,0.9nm,0.5s,mb3.9,baz=101,slow=6.8,SNR=6.6
KEV Kevo 46.75 341 *ep* P **08 04 40.9 +0.3**
ARCES ARCESS Array B 47.06 340 P P **08 04 43.9 +0.9**
comp=Z,5.9nm,0.5s,mb4.8,baz=130,slow=7.3,SNR=79
NB2 NORSAR Subarra 49.42 327 P P **08 05 01.1 -0.4**
comp=Z,1.9nm,0.5s,mb4.4,baz=104,slow=7.9
NOA NORSAR Array B 49.42 327 P P **08 05 01.4 -0.1**
comp=Z,1.8nm,0.6s,mb4.3,baz=103,slow=7.8,SNR=7.9
NOA LR LR 08 29 37.3
comp=Z,229nm,18.7s,MS4.2,baz=105,slow=41
YAK Yakutsk 49.70 32 ⇓*i* P P **08 05 03.9 +0.3**
YAK pmax pmax
comp=Z,12nm,0.7s,mb5.0
TIXI Tiksi 52.07 20⇑*i* P P **08 05 21.4 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.7s,mb4.2
TIXI MLR MLR
comp=Z,100nm,21.0s,MS3.8
ESDC Sonseca Array 60.21 301 P P **08 06 19.5 -0.8**
comp=Z,1.3nm,0.5s,mb4.2,baz=70,slow=6.9,SNR=7.0
SEY Seymchan 60.22 31⇑ *i* P P **08 06 20.8 +0.9**
TORD Torodi Ar. Bea 65.18 271 P P **08 06 53.1 -0.4**
comp=Z,1.5nm,0.5s,mb4.3,baz=58,slow=5.3,SNR=24
DBIC Dimbokro 73.90 268 P P **08 07 47.6 +0.6**
comp=Z,3.2nm,0.6s,mb4.4,baz=100,slow=6.1,SNR=6.7
WRA Warramunga Arr 79.05 121 P P **08 08 18.4 +2.5**
comp=Z,1.2nm,0.8s,mb3.9,baz=321,slow=5.3,SNR=6.1
WRAB Tennant Creek 79.06 121⇑ *i* P P **08 08 20.4 +4.5**
INK Inuvik 80.45 9 eP P **08 08 23.9 +1.4**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 80.45 9 eP P **08 08 23.9 +1.4**
comp=Z,5.2nm,1.1s,mb4.4
ILAR Eielson Array 81.22 15 P P **08 08 27.4 +0.7**
comp=Z,1.1nm,0.5s,mb4.0,baz=307,slow=4.9,SNR=36
YKA Yellowknife Ar 87.80 2 P P **08 09 01.1 +1.7**
comp=Z,1.0nm,0.5s,mb4.3,baz=348,slow=4.9,SNR=31
YKA LR LR 08 53 51.5
comp=Z,77nm,18.1s,MS4.2,baz=315,slow=39
YKA Yellowknife Ar 87.80 2 P P **08 09 01.1 +1.7**
YKA LR LR 08 53 51.5

*IDC **07** 07:58:31.4±3.7, 11.00N×92.04E, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/24, Error ellipse: s-maj=135.1km s-min=27.6km az=64.0*

ISC 07 07:58:34.4±3.2, 11.0N±0.4×92.0E±0.8, h33km, n6, σ0§36/5, mb3.8/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**10.65**	**139**	LR	LR		08 05 59.3	
comp=Z,93nm,18.6s,baz=126,slow=42								
MKAR	**Makanchi Array**	**36.62**	**349**	P	**P**		**08 05 39.4**	**0.0**
0.4nm,0.6s,mb3.4,baz=166,slow=7.6,SNR=2.7								
SONM	**Songino Array**	**38.67**	**16**	P	**P**		**08 05 56.7**	**0.0**
0.5nm,0.8s,mb3.3,baz=202,slow=7.8,SNR=2.9								
SONM				pP	pP		08 06 03.8	-2.6
0.4nm,0.5s,baz=203,slow=8.1,SNR=4.4								
FITZ	**Fitzroy Crossi**	**44.03**	**131**	eP	**P**		**08 06 41.5**	**+0.4**
4.0nm,0.6s,mb4.3								
WRA	**Warramunga Arr**	**51.79**	**126**	P	**P**		**08 07 41.1**	**-0.4**
0.5nm,0.2s,mb4.0,baz=306,slow=8.6,SNR=24								
WRA				pP	pP		08 07 47.7	-3.7
1.4nm,0.5s,baz=306,slow=8.5,SNR=22								
WB2	**Warramunga Arr**	**51.80**	**126**	eP	**P**		**08 07 41.5**	**0.0**

*SKHL **07** 08:22:45.4±0.4, 46.55N×150.86E, h132km±12km, mb5.4/1, msh5.7/1*
*MOS **07** 08:22:49.2±0.9, 46.77N×150.21E, h198km, mb4.0/11, Error ellipse: s-maj=19.5km s-min=12.2km az=78.5*
*NEIC **07** 08:22:51.2±1.7, 46.71N×150.25E, h204km±16km, mb3.9/1, Error ellipse: s-maj=9.1km s-min=7.6km az=144.0*
*IDC **07** 08:22:51.9±2.5, 46.70N×150.24E, h210km±24km, mb3.5/17, mb1 3.7/19, mb1mx3.6/24, mbtmp4.0/19, Error ellipse: s-maj=15.9km s-min=12.6km az=156.0*
*JMA **07** 08:22:51.2±0.6, 45.83N×150.65E, h153km, M3.9*

ISC 07 08:22:47.3±0.8, 46.56N±0.07×150.34E±0.09, h182km±7km, n81, σ1§40/94, mb4.1/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.17**	**233**	eP	**P**		**08 23 26.2**	**-0.6**
KUR				*i* S	**S**		**08 23 56.5**	**-0.8**
KUR				A			08 24 02.8	
430nm,0.7s								
KUR				A			08 24 02.8	
190nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**4.04**	**233**	eP	**P**		**08 23 51.1**	**+1.4**
YUK				AMB	AMB		08 23 51.4	
YUK	180nm,0.5s			eS	**S**		**08 24 40.7**	**+2.9**
YUK				A			08 24 44.6	
1µm,0.6s								
YUK				A			08 24 48.7	
390nm,0.3s								
YUK				A			08 24 48.7	
180nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**4.04**	**233**	ePN	**P**		**08 23 51.1**	**+1.4**
YUK				eS	**S**		**08 24 40.7**	**+2.9**
YUK				pmax	pmax			
comp=Z,180nm,0.5s								
YUK				smax				
comp=N,1µm,0.6s								
YUK				smax				
comp=N,386nm,0.5s								
YUK				smax				
comp=E,180nm,0.3s								
NEM2	**Nemuro 2**	**4.56**	**227**	P	**P**		**08 23 55.9**	**-0.5**
NEM2				eS	**S**		**08 24 46.1**	**-3.7**
JTKR	**Abashiri--Toko**	**5.22**	**243**	P	**P**		**08 24 07.5**	**+2.6**
JAK	**Akkeshi**	**5.37**	**230**	P	**P**		**08 24 06.4**	**-0.4**
JAK				eS	**S**		**08 25 05.1**	**-3.4**
JMP	**Maruseppu**	**5.54**	**245**	P	**P**		**08 24 11.9**	**+2.8**
JAR	**Ashorobuto**	**5.69**	**237**	P	**P**		**08 24 13.5**	**+2.5**
JOB	**Onbets**	**5.90**	**234**	P	**P**		**08 24 14.5**	**+0.8**
JOB				eS	**S**		**08 25 19.3**	**-1.7**
ASAJ	**Asahikawa**	**5.98**	**249**	P	**P**		**08 24 18.6**	**+3.8**
comp=E,12nm,0.3s,baz=62,slow=11,SNR=62								
ASAJ	**Asahikawa**	**5.98**	**249**	PN	**P**		**08 24 18.6**	**+3.8**
ASAJ				pmax	pmax			
comp=Z,12nm,0.3s								
JKK2	**Kamakawa 2**	**6.00**	**246**	P	**P**		**08 24 18.3**	**+3.3**
JWK2	**Keihoku**	**6.01**	**261**	P	**P**		**08 24 20.5**	**+5.2**
JCH	**Churui**	**6.35**	**234**	P	**P**		**08 24 19.7**	**0.0**
JCH				eS	**S**		**08 25 28.7**	**-2.9**
JFR	**Furan**	**6.46**	**241**	P	**P**		**08 24 23.6**	**+2.4**
JBT2	**Biratori 2**	**6.83**	**239**	P	**P**		**08 24 27.4**	**+1.5**
JBT2				eS	**S**		**08 25 42.0**	**-0.8**
JEM	**Erimo**	**6.87**	**231**	P	**P**		**08 24 27.1**	**+0.6**
JEM				eS	**S**		**08 25 41.6**	**-2.2**
JNBK	**Urakawa-nobuka**	**6.91**	**234**	P	**P**		**08 24 27.0**	**-0.1**
JNBK				eS	**S**		**08 25 40.3**	**-4.5**
JNB	**Noboribetsu**	**7.80**	**242**	P	**P**		**08 24 40.0**	**+1.2**
JNB				eS	**S**		**08 26 03.9**	**-2.0**
JKB	**Kayabe**	**8.15**	**238**	P	**P**		**08 24 42.6**	**-0.8**
JKB				eS	**S**		**08 26 08.7**	**-5.4**
JSH	**Shimam**	**8.32**	**246**	P	**P**		**08 24 47.9**	**+2.3**
JYM2	**Yakumo 2**	**8.41**	**242**	P	**P**		**08 24 47.4**	**+0.6**
JSR	**Shiriuchi**	**8.73**	**238**	P	**P**		**08 24 50.4**	**-0.6**
JTM	**Tenmabayashi**	**8.85**	**233**	P	**P**		**08 24 51.1**	**-1.5**
JTM				eS	**S**		**08 26 23.0**	**-7.5**
JANG	**Nango**	**8.90**	**229**	P	**P**		**08 24 50.8**	**-2.5**
JANG				eS	**S**		**08 26 24.3**	**-7.5**
JTH	**Tanohata**	**9.05**	**226**	eS	**S**		**08 26 29.3**	**-5.9**
JRG	**Rokugo**	**10.08**	**228**	P	**P**		**08 25 07.5**	**-1.1**
JRG				eS	**S**		**08 26 53.9**	**-5.4**
JIO	**Ouri**	**10.46**	**222**	eS	**S**		**08 27 01.1**	**-7.1**
EKMR	**Ekimchan**	**12.96**	**307**	eP	**P**		**08 25 47.5**	**+1.9**
EKMR				AMB	AMB		08 25 47.7	
comp=Z,5.0nm,0.5s								
MJAR	**Matsushiro Arr**	**13.50**	**226**	P	**P**		**08 25 55.4**	**+3.0**
comp=Z,0.7nm,0.3s,baz=28,slow=11,SNR=6.3								
MJAR	**Matsushiro Arr**	**13.50**	**226**	P	**P**		**08 25 55.4**	**+3.0**
MJAR				pmax	pmax			
comp=Z,1.0nm,0.3s								
BMKR	**Bomnak**	**15.84**	**309**	eP	**P**		**08 26 22.0**	**+0.6**
YASR	**Yasnyy**	**15.86**	**303**	eP	**P**		**08 26 21.1**	**-0.5**
YASR				AMB	AMB		08 26 23.3	
comp=Z,6.0nm,0.6s								
KROS	**Kirovskiy**	**16.77**	**307**	eP	**P**		**08 26 30.6**	**-2.1**
KROS				AMB	AMB		08 26 31.2	
comp=Z,3.0nm,0.5s								
TIXI	**Tiksi**	**27.14**	**345**	eP	**P**		**08 28 11.5**	**-3.4**
TIXI				pmax	pmax			
comp=Z,2.0nm,0.7s,mb3.9								
SONM	**Songino Array**	**29.59**	**289**	P	**P**		**08 28 36.6**	**-0.5**
comp=Z,0.3nm,0.5s,mb3.2,baz=86,slow=8.9,SNR=2.9								
IMA2	**Indian Mountai**	**35.08**	**36**	eP	**P**		**08 29 23.6**	**-0.7**
ILAR	**Eielson Array**	**37.89**	**38**	P	**P**		**08 29 47.2**	**-0.6**
comp=Z,0.8nm,0.5s,mb3.6,baz=268,slow=7.2,SNR=28								
ILAR	**Eielson Array**	**37.89**	**38**	P	**P**		**08 29 47.2**	**-0.6**
ILAR				pmax	pmax			
comp=Z,1.0nm,0.5s								
INK	**Inuvik**	**42.83**	**32**	P	**P**		**08 30 28.2**	**+0.1**
comp=Z,1.7nm,0.4s,mb4.1,baz=289,slow=7.2,SNR=32								
INK	**Inuvik**	**42.83**	**32**	eP	**P**		**08 30 28.1**	**-0.1**
INK				pmax	pmax			
comp=Z,2.0nm,0.6s								
INK	**Inuvik**	**42.83**	**32**	eP	**P**		**08 30 28.1**	**0.0**
comp=Z,2.2nm,0.6s,mb4.0								
MKAR	**Makanchi Array**	**45.32**	**296**	P	**P**		**08 30 48.5**	**+0.2**
comp=Z,1.8nm,0.9s,mb3.7,baz=63,slow=5.4,SNR=9.4								
MKAR	**Makanchi Array**	**45.32**	**296**	P	**P**		**08 30 48.5**	**+0.2**
MKAR				pmax	pmax			
comp=Z,2.0nm,0.9s								
BVAR	**Borovoye Array**	**49.49**	**309**	P	**P**		**08 31 19.6**	**-0.9**
comp=Z,0.7nm,0.4s,mb3.7,baz=56,slow=8.8,SNR=5.7								
BVAR	**Borovoye Array**	**49.49**	**309**	P	**P**		**08 31 19.6**	**-0.9**
BVAR				pmax	pmax			
comp=Z,1.0nm,0.4s								
YKA	**Yellowknife Ar**	**52.21**	**36**	P	**P**		**08 31 40.4**	**-0.4**
comp=Z,1.0nm,0.7s,mb3.5,baz=299,slow=7.1,SNR=7.6								
YKA	**Yellowknife Ar**	**52.21**	**36**	P	**P**		**08 31 40.4**	**-0.4**
YKA				pmax	pmax			
comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**52.21**	**36**	P	**P**		**08 31 40.4**	**-0.4**
JIRN	**Jiri**	**53.05**	**273**	eP	**P**		**08 31 49.6**	**+2.1**
comp=Z,14nm,0.5s,mb5.0								
GUN	**Gumba**	**53.11**	**273**	eP	**P**		**08 31 49.8**	**+1.8**
comp=Z,6.7nm,0.4s,mb4.8								
KKN	**Kakani**	**53.59**	**274**	eP	**P**		**08 31 52.6**	**+1.1**
DMN	**Daman**	**53.83**	**273**	eP	**P**		**08 31 54.8**	**+1.6**
comp=Z,10nm,0.6s,mb4.8								
GKN	**Gorkha**	**53.90**	**274**	eP	**P**		**08 31 55.0**	**+1.2**
comp=Z,8.8nm,0.4s,mb4.9								
KOLN	**Koldanda**	**54.76**	**275**	eP	**P**		**08 32 01.3**	**+1.3**
comp=Z,14nm,0.8s,mb4.7								
ARCES	**ARCESS Array B**	**57.39**	**340**	P	**P**		**08 32 16.8**	**-1.4**
comp=Z,1.8nm,0.6s,mb4.1,baz=36,slow=10,SNR=6.6								
ARCES	**ARCESS Array B**	**57.39**	**340**	P	**P**		**08 32 16.8**	**-1.3**
ARCES				pmax	pmax			
comp=Z,2.0nm,0.6s								
JOF	**Joensuu**	**60.64**	**333**	*ep*	**P**		**08 32 38.6**	**-1.9**
comp=Z,0.6nm,0.4s,mb3.8								
JOF	**Joensuu**	**60.64**	**333**	eP	**P**		**08 32 38.6**	**-1.9**
JOF				pmax	pmax			
comp=Z,1.0nm,0.4s,mb4.0								
KAF	**Kangasniemi**	**62.79**	**334**	*ep*	**P**		**08 32 52.9**	**-2.0**
baz=45,slow=6.2								
FINES	**FINESS Array B**	**63.38**	**334**	P	**P**		**08 32 56.7**	**-2.1**
comp=Z,0.9nm,0.3s,mb4.0,baz=39,slow=8.9,SNR=13								
FINES	**FINESS Array B**	**63.38**	**334**	P	**P**		**08 32 56.7**	**-2.1**
FINES				pmax	pmax			
comp=Z,1.0nm,0.3s								
NVAR	**Mina Array Bea**	**64.21**	**61**	P	**P**		**08 33 04.2**	**-0.3**
comp=Z,0.4nm,0.6s,mb3.4,baz=303,slow=7.2,SNR=3.9								
PDAR	**Pinedale Array**	**66.39**	**52**	P	**P**		**08 33 18.4**	**0.0**
comp=Z,0.2nm,0.5s,mb3.2,baz=17,slow=2.0,SNR=4.6								
WRA	**Warramunga Arr**	**67.75**	**196**	P	**P**		**08 33 27.2**	**0.0**
comp=Z,1.0nm,0.7s,mb3.6,baz=14,slow=6.8,SNR=7.0								
WRA	**Warramunga Arr**	**67.75**	**196**	P	**P**		**08 33 27.2**	**0.0**
WRA				pmax	pmax			
comp=Z,1.0nm,0.7s								
NB2	**NORSAR Subarra**	**67.77**	**340**	P	**P**		**08 33 25.1**	**-1.5**
comp=Z,1.2nm,0.3s,mb4.1,baz=29,slow=6.2								
NOA	**NORSAR Array B**	**67.77**	**340**	P	**P**		**08 33 25.3**	**-1.3**
comp=Z,1.2nm,0.5s,mb3.9,baz=28,slow=6.5,SNR=7.1								
NOA	**NORSAR Array B**	**67.77**	**340**	P	**P**		**08 33 25.3**	**-1.3**
NOA				pmax	pmax			
comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**70.62**	**325**	P	**P**		**08 33 42.9**	**-1.3**
comp=Z,4.5nm,0.5s,mb4.5,baz=36,slow=6.2,SNR=13								
AKASG	**Malin Array Be**	**70.62**	**325**	P	**P**		**08 33 42.9**	**-1.2**
AKASG				pmax	pmax			
comp=Z,5.0nm,0.5s								
SCHQ	**Schefferville**	**74.20**	**21**	P	**P**		**08 34 04.4**	**-0.6**
comp=Z,3.8nm,0.8s,mb4.2,baz=311,slow=9.3,SNR=3.5								
MIB	**Mutribah**	**77.11**	**300**	eP	**P**		**08 34 22.9**	**+1.0**
MIB				AMb	AMB		08 34 23.7	
comp=Z,24nm,0.5s,mb5.1								
QRN	**Al-Qurain**	**77.53**	**299**	eP	**P**		**08 34 25.4**	**+1.2**
QRN				AMb	AMB		08 34 26.1	
comp=Z,25nm,0.4s,mb5.2								
NAY	**Al-Naaiem**	**77.57**	**299**	eP	**P**		**08 34 25.2**	**+0.8**
NAY				AMb	AMB		08 34 26.3	
comp=Z,7.6nm,0.6s,mb4.5								
RDF	**Al-Radifah**	**77.62**	**299**	eP	**P**		**08 34 26.0**	**+1.3**
RDF				AMb	AMB		08 34 26.8	
comp=Z,28nm,0.5s,mb5.2								
GERES	**GERESS Array B**	**77.76**	**332**	P	**P**		**08 34 24.4**	**-0.6**
comp=Z,0.4nm,0.4s,mb3.4,baz=31,slow=7.8,SNR=4.2								
STKA	**Stephens Creek**	**78.47**	**188**	P	**P**		**08 34 30.0**	**+0.7**
comp=Z,0.8nm,0.4s,mb3.7,baz=17,slow=11,SNR=3.0								
TXAR	**Lajitas Array**	**79.24**	**59**	P	**P**		**08 34 33.9**	**+0.4**
comp=Z,0.4nm,0.4s,mb3.4,baz=297,slow=4.4,SNR=12								
PLCA	**Paso Flores**	**150.10**	**94**	PKPbc	PKPdf		08 42 17.6	+7.3
comp=Z,1.7nm,0.7s,baz=77,slow=6.5,SNR=4.4								
PLCA	**Paso Flores**	**150.10**	**94**	PKIKP	PKPdf		08 42 17.6	+7.3
PLCA				pmax	pmax			
comp=Z,2.0nm,0.7s								

*IDC **07** 08:33:34.7±0.9, 12.29N×141.17E, mb4.0/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, MS3.5/1, Ms1 3.5/1, ms1mx2.6/18, Error ellipse: s-maj=51.9km s-min=21.2km az=87.0*

ISC 07 08:33:37.6±0.9, 12.2N±0.1×141.2E±0.4, h33km, n9, σ1§05/6, mb4.0/6, MS3.3/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**20.82**	**357**	LR	LR		08 44 31.3	
comp=Z,147nm,20.7s,MS3.3,baz=322,slow=32								
CTA	**Charters Tower**	**32.51**	**171**	P	**P**		**08 40 08.8**	**+1.0**
1.8nm,0.6s,mb4.2,baz=342,slow=13,SNR=2.9								
WRA	**Warramunga Arr**	**32.69**	**192**	P	**P**		**08 40 08.4**	**-1.0**
1.9nm,0.7s,mb4.1,baz=9.6,slow=10.0,SNR=15								
STKA	**Stephens Creek**	**43.87**	**180**	P	**P**		**08 41 42.9**	**0.0**
2.6nm,1.0s,mb3.9,baz=34,slow

MKAR Makanchi Array 60.00 317 P **P** 08 43 44.3 +0.9
0.7nm,0.8s,mb3.8,baz=98,slow=8.6,SNR=4.3
ILAR Eielson Array 71.32 25 P **P** 08 44 55.5 -0.2
0.6nm,0.8s,mb3.6,baz=253,slow=5.7,SNR=6.1
FINES FINESS Array B 90.83 334 P **P** 08 46 38.0 -0.8
1.5nm,0.7s,mb4.4,baz=72,slow=4.4,SNR=5.0
FINES pP pP 08 46 51.5 +2.2
3.2nm,1.0s,baz=65,slow=3.4,SNR=6.2
AKASG Malin Array Be 94.01 324 pP pP 08 47 06.6 +2.5
0.8nm,0.4s,baz=59,slow=6.6,SNR=4.1
LPAZ La Paz 151.32 102 PKPbc PKPdf 08 53 32.7 +10
0.9nm,0.7s,baz=270,slow=2.2,SNR=6.0

IDC 07 08:34:17.3±1.0, 12.40N×140.94E, mb4.1/6, mb1 4.2/6, mb1mx3.8/18, mbtmp4.1/6, Error ellipse: s-maj=73.9km s-min=21.9km az=91.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.70**	**171**	P	P	08 40 52.4	-1.4
	3.4nm,1.0s,baz=11,slow=5.2,SNR=2.7						
WRA	**Warramunga Arr**	**32.79**	**192**	P	P	08 40 52.3	-2.3
	1.3nm,0.7s,baz=11,slow=9.8,SNR=5.0						
STKA	**Stephens Creek**	**44.02**	**179**	P	P	08 42 25.9	-2.7
	1.1nm,0.4s,slow=8.1,SNR=2.3						
ILAR	**Eielson Array**	**71.28**	**26**	P	P	08 45 38.0	-2.2
	0.2nm,0.6s,baz=251,slow=6.4,SNR=4.8						
ARCES	**ARCESS Array B**	**87.01**	**341**	P	P	08 47 04.7	-0.7
	0.4nm,0.5s,baz=82,slow=6.4,SNR=4.5						
FINES	**FINESS Array B**	**90.59**	**334**	P	P	08 47 21.2	-1.2
	2.1nm,0.9s,baz=56,slow=6.9,SNR=4.2						
LPAZ	**La Paz**	**151.58**	**101**	PKPbc	PKPdf	08 54 15.2	+5.4
	0.9nm,0.6s,baz=168,slow=4.0,SNR=3.6						

*NEIC **07** 08:38:16.0, 30.89S×71.70W, h21km, ML3.4(GUC), After GUC.*

GUC 07 08:38:16.0±0.9, 30.89S×71.70W, h21km±4km, MD4.2, ML3.4, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.52**	**57**	⇑*iP*	Pb	08 38 26.6	+0.3
OVCH				*i* S	Sb	08 38 34.1	+0.8
OVCH				AMP		08 38 35.0	
	comp=N,2μm,0.7s						
CMCH	**Combarbala**	**0.67**	**115**	⇑*iP*	Pb	08 38 28.9	+0.1
CMCH				*i* S	Sb	08 38 38.1	+0.5
CMCH				AMP		08 38 38.8	
	comp=N,8μm,0.6s						
ILCH	**Illapel**	**0.87**	**148**	⇑*iP*	Pb	08 38 31.7	-0.6
ILCH				*i* S	Sb	08 38 43.4	-0.1
CHNG	**Los Chungos**	**1.00**	**170**	*eP*	Pb	08 38 33.8	-0.7
CHNG				*i* S	Sb	08 38 47.2	-0.1
CHNG				AMP		08 38 49.7	
	comp=E,584nm,0.3s						
LSCH	**La Serena**	**1.06**	**22**	⇓*iP*	Pb	08 38 34.8	-0.6
LSCH				*i* S	Sb	08 38 48.3	-0.6
LSCH				AMP		08 38 51.6	
	comp=E,938nm,0.4s						
TLL	**Tololo Astrono**	**1.06**	**47**	*eP*	Pb	08 38 35.3	-0.3
TLL				*i* S	Sb	08 38 49.4	+0.4
TLL				AMP		08 38 58.3	
	comp=E,2μm,0.5s						
JACH	**Jahuel**	**2.02**	**152**	*eP*	Pn	08 38 50.1	+0.6
JACH				*i* S	Sn	08 39 15.8	+1.5
ROCH	**El Roble**	**2.16**	**164**	*eP*	Pn	08 38 52.1	+0.7
PEL	**Peldehue**	**2.41**	**159**	*eP*	Pn	08 38 55.2	+0.2
PEL				*i* S	Sn	08 39 25.5	+1.3
PEL				AMP		08 39 30.3	
	comp=E,606nm,0.4s						
RCDM	**Rinconada Maip**	**2.70**	**164**	*eP*	Pn	08 38 59.3	+0.1
FCH	**Farellones**	**2.71**	**154**	*eP*	Pn	08 38 59.9	+0.5
FCH				*i* S	Sn	08 39 34.3	+2.5
FCH				AMP		08 39 44.6	
	comp=E,246nm,0.4s						
CACH	**El Canelo**	**3.35**	**164**	*eP*	Pn	08 39 09.4	+1.0

*BJI **07** 08:38:16.6, 0.11S×97.41E, h35km, mB5.2, mb5.0, Ms4.8, Msz4.6*
*NEIC **07** 08:38:18.3±0.2, 0.15N×97.33E, mb5.1/24, Error ellipse: s-maj=6.1km s-min=4.5km az=46.0*
*HRVD **07** 08:38:18.3±0.9, 0.20N×97.27E, h14km±2km, MW4.7/36, Centroid moment Tensor Solution. LP body waves: s11,c14;Mantle waves: s36,c49; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr 1.38±.17; Mθθ -0.37±.10; Mφφ -1.01±.12; Mrθ 0.42±.24; Mθφ 0.36±.08; Mφr 0.79±.25; Best double couple: M0 1.52×10^16^ NP1:φs 143°, δ 35°, λ 59°. NP2:φs 359°, δ 61°, λ 110°. Principal axes: T 1.737, Plg68°, Azm309°; N -.438, Plg17°, Azm169°; P -1.303, Plg14°, Azm75°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 08:38:18.1±0.5, 0.19N×97.31E, h21km±3km, mb4.6/20, mb1 4.7/21, mb1mx4.7/22, mbtmp4.7/21, ML3.7/1, MS3.9/6, Ms1 3.9/6, ms1mx3.6/14 Error ellipse: s-maj=16.6km s-min=12.0km az=56.0*
*MOS **07** 08:38:18.6±1.2, 0.23N×97.35E, h33km, mb5.3/25, Error ellipse: s-maj=10.3km s-min=5.7km az=110.1*
ISC 07 08:38:16.7±0.3, 0.15N±0.04×97.36E±0.03, h23km, h23km±1.0km:pP-P, n214, σ1§00/203, mb5.0/75, MS4.4/19, 22C-17D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.07**	**31**	Pn	**Pn**	**08 39 04.7**	**-0.2**
	11nm,0.3s,baz=177,slow=9.5,SNR=74						
PSI				Sn	**Sn**	**08 39 38.0**	**-3.2**
	18nm,0.3s,baz=285,slow=23,SNR=7.7						
IPM	**Ipoh**	**5.65**	**40**	P	**Pn**	**08 39 42.4**	**+0.9**
KULM	**Kulim**	**6.08**	**33**	*eP*	**Pn**	**08 39 47.0**	**-0.5**
KGM	**Kluang**	**6.24**	**73**	P	**Pn**	**08 39 49.9**	**0.0**
NST	**Nakhon Sawan**	**15.67**	**10**	P	**P**	**08 42 02.0**	**+4.1**
CHG	**Chiang Mai**	**18.62**	**5**	⇓P	**P**	**08 42 33.9**	**-1.0**
	31nm,0.9s						
KKM	**Kota Kinabalu**	**19.71**	**72**	P	**P**	**08 42 47.8**	**+0.1**
KKM	**Kota Kinabalu**	**19.71**	**72**	*eP*	**P**	**08 42 47.4**	**-0.3**
CHRT	**Chiangrai**	**19.75**	**7**	⇑P	**P**	**08 42 47.0**	**-1.1**
	271nm,0.8s						
TSM	**Tawau**	**20.90**	**78**	P	**P**	**08 42 60.0**	**-0.2**
VIS	**Vishakhapatnam**	**22.26**	**322**	*eP*	**P**	**08 43 15.9**	**+2.1**
VIS				*eS*	**S**	**08 47 14.5**	**+2.0**
BWNR	**Bhubaneshwar**	**23.00**	**331**	*ex*	x	08 42 40.7	
BWNR				AMb	AMB	08 42 48.3	
	comp=Z,135nm,1.3s,mb5.2						
HYB	**Hyderabad**	**25.24**	**314**	⇓*iP*	**P**	**08 43 44.0**	**+1.1**
	comp=Z,40nm,1.0s,mb4.9						
HYB				*e*PP	PP	08 44 27.0	+5.6
HYB	**Hyderabad**	**25.24**	**314**	⇓*eP*	**P**	**08 43 44.0**	**+1.1**
HYB				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
HYB	**Hyderabad**	**25.24**	**314**	⇓*eP*	**P**	**08 43 44.0**	**+1.1**
	comp=Z,40nm,1.0s,mb4.9						
KMI	**Kunming**	**25.37**	**11**	⇓P	**P**	**08 43 46.3**	**+2.3**
KMI				AP	pP	08 43 56.0	+5.2
KMI				XP	sP	08 43 59.7	+5.8
KMI				PP	PP	08 44 27.2	+4.2
KMI				PPP	PPP	08 44 39.0	+4.7
KMI				PCP	PcP	08 47 19.5	+2.5
KMI				S	**S**	**08 48 09.1**	**+2.7**
KMI				XS		08 48 24.4	
KMI				SS	SS	08 49 13.2	+4.6
KMI				SSS	SSS	08 49 29.6	+4.3
KMI				LR	LR		
	comp=Z,800nm,11.2s,MS4.5						
GYA	**Guiyang**	**27.65**	**18**	⇑*iP*	**P**	**08 44 04.9**	**-0.1**
GYA				AP	pP	08 44 14.2	+2.4
GYA				XP	sP	08 44 18.4	+3.5
GYA				PP	PP	08 44 53.6	0.0
GYA				S	**S**	**08 48 42.3**	**-1.5**
GYA				SS	SS	08 50 02.6	-0.8
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,160nm,3.8s						
GYA				LR	LR		
	comp=N,1μm,12.6s,MS4.8						
GYA				LR	LR		
	comp=E,980nm,12.4s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,12.6s,MS4.8						
KAD	**Karad**	**28.48**	**308**	*ex*	x	08 44 04.2	
KAD				AMb	AMB	08 44 20.2	
	comp=Z,20nm,0.8s,mb4.8						
JIRN	**Jiri**	**29.38**	**340**	*eP*	**P**	**08 44 21.4**	**+0.8**
	comp=Z,69nm,0.7s,mb5.5						
PKI	**Pulchoki**	**29.58**	**338**	*eP*	**P**	**08 44 22.7**	**+0.3**
	comp=Z,29nm,0.6s,mb5.2						
PKI	**Pulchoki**	**29.58**	**338**	*eP*	**P**	**08 44 22.7**	**+0.3**
PKI				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9						
GUN	**Gumba**	**29.72**	**339**	*eP*	**P**	**08 44 24.1**	**+0.5**
	comp=Z,117nm,0.7s,mb5.7						
DMN	**Daman**	**29.73**	**338**	*eP*	**P**	**08 44 23.9**	**+0.2**
	comp=Z,57nm,0.8s,mb5.3						
KKN	**Kakani**	**29.83**	**338**	*eP*	**P**	**08 44 24.9**	**+0.3**
	comp=Z,46nm,0.7s,mb5.3						
KKN	**Kakani**	**29.83**	**338**	*eP*	**P**	**08 44 24.9**	**+0.3**
KKN				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.0						
LSA	**Lhasa**	**29.98**	**349**	P	**P**	**08 44 27.0**	**+1.1**
LSA	**Lhasa**	**29.98**	**349**	*eP*	**P**	**08 44 26.1**	**+0.2**
LSA				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0						
LSA				MLR	MLR		
	comp=Z,451nm,21.0s,MS4.1						
LSA	**Lhasa**	**29.98**	**349**	*eP*	**P**	**08 44 26.1**	**+0.2**
	comp=Z,23nm,0.8s,mb5.0						
LSA				LR	LR		
	comp=Z,451nm,21.0s,MS4.1						
BHPL	**Bhopal**	**30.04**	**321**	*eP*	**P**	**08 44 25.6**	**-0.9**
BHPL				AMb	AMB	08 44 27.2	
	comp=Z,13nm,0.3s,mb5.1						
GKN	**Gorkha**	**30.27**	**337**	*eP*	**P**	**08 44 28.7**	**+0.3**
	comp=Z,99nm,0.9s,mb5.6						
MBWA	**Marble Bar**	**30.43**	**135**	*eP*	**P**	**08 44 28.8**	**-1.1**
KOLN	**Koldanda**	**30.48**	**335**	*eP*	**P**	**08 44 30.5**	**+0.2**
	comp=Z,65nm,0.7s,mb5.5						
CD2	**Chengdu**	**31.19**	**11**	P	**P**	**08 44 35.9**	**-0.7**
CD2				AP	pP	08 44 44.6	+1.2
CD2				XP	sP	08 44 51.1	+4.7
CD2				PP	PP	08 45 35.5	-4.1
CD2				S	**S**	**08 49 39.5**	**-0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
CD2				LR	LR		
	comp=N,550nm,17.4s						
CD2				LR	LR		
	comp=Z,470nm,11.4s						
ENH	**Enshi**	**32.10**	**20**	*eP*	**P**	**08 44 43.9**	**-0.7**
	comp=Z,11nm,0.8s,mb4.8						
ENH				*e*	pP	08 44 50.8	-0.7
FITZ	**Fitzroy Crossi**	**33.19**	**125**	*eP*	**P**	**08 44 53.1**	**-1.1**
	comp=Z,21nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.19**	**125**	P	**P**	**08 44 53.4**	**-0.8**
	comp=Z,13nm,0.8s,mb4.9,baz=303,slow=6.1,SNR=24						
AJM	**Ajmer**	**34.12**	**322**	*eP*	**P**	**08 45 00.7**	**-1.4**
AJM				AMb	AMB	08 45 24.7	
	comp=Z,24nm,1.9s,mb4.8						
AYAN	**Aya Nagar**	**34.19**	**327**	*eP*	**P**	**08 45 01.1**	**-1.6**
AYAN				AMb	AMB	08 45 09.6	
	comp=Z,18nm,1.0s,mb5.0						
WHN	**Wuhan**	**34.27**	**27**	⇓P	**P**	**08 45 04.3**	**+0.9**
KUDL	**Kundal**	**34.28**	**326**	*eP*	**P**	**08 45 01.9**	**-1.6**
KUDL				AMb	AMB	08 45 10.5	
	comp=Z,16nm,1.0s,mb4.9						
KHET	**Khetri**	**34.61**	**325**	*eP*	**P**	**08 45 05.0**	**-1.3**
KHET				AMb	AMB	08 45 13.4	
	comp=Z,19nm,1.0s,mb5.0						
XAN	**Xi'an**	**35.42**	**17**	P	**P**	**08 45 13.1**	**-0.1**
XAN				AP	pP	08 45 22.8	+2.7
XAN				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
KLP	**Kalpa**	**36.08**	**332**	*eP*	**P**	**08 45 18.4**	**-0.4**
KLP				AMb	AMB	08 45 47.8	
	comp=Z,27nm,1.0s,mb5.1						
LZH	**Lanzhou**	**36.26**	**9**	*eP*	**P**	**08 45 21.5**	**+1.2**
LZH				AP	pP	08 45 31.0	+3.8
LZH				XP	sP	08 45 34.4	+4.3
LZH				PP	PP	08 46 46.0	+2.5
LZH				*e*S	**S**	**08 51 01.0**	**+2.2**
LZH				XS		08 51 16.0	
LZH				*e*SS	SS	08 53 28.0	+4.6
LZH				AMB	AMB		
	comp=Z,90nm,1.2s,mb5.6						
LZH				AMB	AMB		
	comp=Z,250nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,13.0s						
LZH				LR	LR		
	comp=Z,4μm,18.6s						
LZH	**Lanzhou**	**36.26**	**9**	*eP*	**P**	**08 45 21.5**	**+1.2**
	comp=Z,90nm,1.2s,mb5.6						
LZH				pP	pP	08 45 31.0	+3.8
LZH				sP	sP	08 45 34.4	+4.3
LZH				PP	PP	08 46 46.0	+2.5
LZH				*e*S	**S**	**08 51 01.0**	**+2.2**
LZH				SS		08 51 16.0	
LZH				*e*SS	SS	08 53 28.0	+4.6
LZH				LR	LR		
	comp=Z,4μm,18.6s,MS5.2						
JASL	**Jaisalmer**	**36.83**	**318**	*eP*	**P**	**08 45 24.4**	**-0.7**
JASL				AMb	AMB	08 45 25.1	
NJ2	**Nanjing**	**37.68**	**31**	*eP*	**P**	**08 45 33.1**	**+0.9**
NJ2				AP	pP	08 45 42.9	+3.8
NJ2				XP	sP	08 45 46.9	+4.8
NJ2				PP	PP	08 47 02.8	+1.6
NJ2				S	**S**	**08 51 21.0**	**+0.5**
NJ2				XS		08 51 37.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,160nm,4.5s						
NJ2				LR	LR		
	comp=N,400nm,21.8s,MS4.3						
NJ2				LR	LR		
	comp=E,300nm,21.6s,MS4.3						
NJ2				LR	LR		
	comp=Z,230nm,24.8s,MS3.9						
SSE	**Sheshan**	**38.19**	**34**	*eP*	**P**	**08 45 37.3**	**+0.8**
SSE				AP	pP	08 45 45.5	+2.1
SSE				XP	sP	08 45 50.0	+3.7
SSE				PP	PP	08 47 05.4	-1.9
SSE				PCP	PcP	08 47 50.4	-1.0
SSE				S	**S**	**08 51 30.0**	**+1.8**
SSE				XS		08 51 45.4	
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,140nm,4.9s						
SSE				LR	LR		
	comp=N,460nm,16.7s,MS4.6						
SSE				LR	LR		
	comp=E,550nm,16.7s,MS4.6						
SSE				LR	LR		
	comp=Z,630nm,11.0s						
SSE	**Sheshan**	**38.19**	**34**	*eP*	**P**	**08 45 37.3**	**+0.8**
	comp=Z,30nm,0.8s,mb5.1						
SSE				pP	pP	08 45 45.5	+2.1
SSE				sP	sP	08 45 50.0	+3.7
SSE				PP	PP	08 47 05.4	-1.9
SSE				PcP	PcP	08 47 50.4	-1.0
SSE				S	**S**	**08 51 30.0**	**+1.8**
SSE				sS		08 51 45.4	
SSE				ScS	ScS	08 55 47.8	+3.2
SSE				LR	LR		
	comp=Z,640nm,11.0s,MS4.7						
GTA	**Gaotai**	**39.14**	**3**	*eP*	**P**	**08 45 44.0**	**-0.4**
GTA				AP	pP	08 45 54.3	+2.9
GTA				XP	sP	08 45 58.1	+3.8
GTA				PP	PP	08 47 19.2	+1.0
GTA				PPP	PPP	08 47 42.9	+1.0
GTA				PCP	PcP	08 47 55.2	+0.9
GTA				SCP		08 51 40.2	
GTA				S	**S**	**08 51 41.8**	**-0.7**
GTA				PCS		08 51 44.0	
GTA				XS		08 51 58.3	
GTA				SS	SS	08 54 27.9	+0.2
GTA				SCS	ScS	08 55 50.6	+0.6
GTA				AMB	AMB		
	comp=Z,180nm,4.6s						
GTA				LR	LR		
	comp=N,350nm,16.4s,MS4.5						
GTA				LR	LR		
	comp=E,390nm,14.5s,MS4.5						
GTA				LR	LR		
	comp=Z,460nm,11.5s,MS4.5						
TIA	**Tai'an**	**40.31**	**25**	*eP*	**P**	**08 45 54.0**	**-0.1**
WRA	**Warramunga Arr**	**41.35**	**121**	P	**P**	**08 46 02.6**	**-0.2**
	comp=Z,16nm,0.7s,mb4.7,baz=300,slow=9.0,SNR=110						
WRA				PcP	PcP	08 48 01.6	0.0
	comp=Z,2.3nm,0.6s,baz=314,slow=2.6,SNR=6.9						
WRA				pPcP		08 48 08.1	
	comp=Z,2.1nm,0.8s,baz=305,slow=2.6,SNR=5.0						
WRAB	**Tennant Creek**	**41.36**	**121**	⇑*iP*	**P**	**08 46 01.3**	**-1.5**
WB2	**Warramunga Arr**	**41.36**	**121**	*eP*	**P**	**08 46 03.2**	**+0.3**
BTO	**Baotou**	**41.88**	**14**	*eP*	**P**	**08 46 08.2**	**+1.2**
BTO				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
FORT	**Forrest**	**42.38**	**139**	*eP*	**P**	**08 46 12.8**	**+1.6**
	comp=Z,22nm,0.7s,mb4.9						
HHC	**Hu-ho-hao-te**	**42.52**	**16**	*eP*	**P**	**08 46 13.7**	**+1.5**
HHC				AP	pP	08 46 18.5	-0.7
HHC				PP	PP	08 47 56.0	+2.5
HHC				PCP	PcP	08 48 05.0	-0.3
HHC				SCP		08 51 55.1	
HHC				PCS		08 51 56.2	
HHC				S	**S**	**08 52 36.7**	**+3.9**
HHC				SS	SS	08 55 41.6	+4.8
HHC				SCS	ScS	08 56 11.9	+1.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
HHC				AMB	AMB		
	comp=Z,210nm,3.3s						
HHC				LR	LR		
	comp=N,440nm,14.1s,MS4.8						
HHC				LR	LR		
	comp=E,580nm,12.1s,MS4.8						
HHC				LR	LR		
	comp=Z,380nm,15.5s,MS4.4						
KSH	**Kashi**	**43.79**	**336**	*eP*	**P**	**08 46 23.5**	**+1.0**
KSH				AP	pP	08 46 33.4	+3.9
KSH				XP	sP	08 46 37.0	+4.6
KSH				*e*PP	PP	08 48 06.7	+0.4
KSH				*e*PCP	PcP	08 48 10.0	+0.5
KSH				*e*SCP		08 51 58.0	
KSH				*e*PCS		08 52 02.8	
KSH				*e*S	**S**	**08 52 50.8**	**-0.5**
KSH				*e*XS		08 53 08.5	
KSH				*e*SS	SS	08 55 58.0	-1.8
KSH				*e*SCS	ScS	08 56 17.5	-0.5
KSH				LR	LR		
	comp=N,290nm,5.2s						
KSH				LR	LR		
	comp=E,260nm,5.7s						
WMQ	**Urumqi**	**44.33**	**350**	P	**P**	**08 46 27.6**	**+0.7**
WMQ				AP	pP	08 46 37.6	+3.7
WMQ				XP	sP	08 46 41.6	+4.8
WMQ				PP	PP	08 48 12.3	+0.7
WMQ				PPP	PPP	08 48 51.1	+0.8
WMQ				*e*S	**S**	**08 52 58.8**	**-0.3**
WMQ				SS	SS	08 56 08.1	-1.6
WMQ				SCS	ScS	08 56 21.0	-0.3
WMQ				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,240nm,4.6s						
WMQ				LR	LR		
	comp=N,860nm,20.4s,MS4.8						
WMQ				LR	LR		
	comp=E,930nm,22.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,1μm,22.0s,MS4.7						
JNU	**Nakatsue**	**45.49**	**41**	P	**P**	**08 46 36.0**	**-0.3**
	comp=Z,13nm,0.8s,mb4.8,baz=110,slow=8.3,SNR=5.9						
KZA	**Kyzart**	**46.26**	**337**	P	**P**	**08 46 43.9**	**+1.6**
	SNR=6.9						
KS15	**Wonju Array Si**	**46.59**	**34**	*eP*	**P**	**08 46 44.6**	**-0.3**
UCH	**Uchtor**	**46.67**	**337**	P	**P**	**08 46 46.9**	**+1.4**
	SNR=35						
TKM2	**Tokmak 2**	**46.85**	**338**	P	**P**	**08 46 47.9**	**+1.0**
	SNR=20						
KBK	**Karagaybulak**	**46.87**	**337**	P	**P**	**08 46 48.8**	**+1.7**
	SNR=24						
AML	**Almayashu**	**46.92**	**336**	P	**P**	**08 46 48.7**	**+1.2**
	SNR=16						
AAK	**Ala-Archa**	**47.02**	**337**	P	**P**	**08 46 49.7**	**+1.4**
	SNR=7.9						
AAK	**Ala-Archa**	**47.02**	**337**	*c iP*	**P**	**08 46 48.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.9						
AAK	**Ala-Archa**	**47.02**	**337**	⇑*iP*	**P**	**08 46 48.0**	**-0.3**
FRU	**Bishkek**	**47.15**	**337**	*eP*	**P**	**08 46 49.0**	**-0.2**
FRU				pmax	pmax		
	comp=Z,50nm,2.0s,mb5.1						
CHMS	**Chumysh**	**47.23**	**337**	P	**P**	**08 46 50.7**	**+0.8**
	SNR=6.3						
EKS2	**Erkin-Say**	**47.33**	**336**	P	**P**	**08 46 51.5**	**+0.8**
	SNR=14						
USP	**Ospenovka**	**47.56**	**337**	P	**P**	**08 46 53.0**	**+0.5**
	SNR=37						
SONM	**Songino Array**	**48.14**	**8**	P	**P**	**08 46 56.9**	**-0.1**
	comp=Z,23nm,0.7s,mb5.3,baz=191,slow=8.9,SNR=142						
SONM				PcP	PcP	08 48 24.4	-0.3
	comp=Z,5.5nm,0.7s,baz=184,slow=3.0,SNR=4.9						
SONM				pPcP		08 48 30.9	
	comp=Z,4.8nm,0.7s,baz=191,slow=2.5,SNR=3.8						
ULN	**Ulaanbaatar**	**48.27**	**9**	⇑*iP*	**P**	**08 46 56.0**	**-2.0**
MKAR	**Makanchi Array**	**48.30**	**346**	P	**P**	**08 46 58.1**	**-0.1**
	comp=Z,30nm,0.6s,mb5.5,baz=159,slow=8.6,SNR=275						
MKAR				pP	pP	08 47 05.3	+0.1
	comp=Z,34nm,0.5s,baz=159,slow=8.4,SNR=35						
MKAR				LR	LR	09 09 17.3	
	comp=Z,75nm,18.9s,MS3.7,baz=161,slow=38						
CN2	**Changchun**	**50.17**	**26**	*eP*	**P**	**08 47 12.6**	**0.0**
CN2				*e*S	**S**	**08 54 21.7**	**-0.1**
CN2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
CN2				AMB	AMB		
	comp=Z,170nm,5.0s						
CN2				LR	LR		
	comp=N,270nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=E,670nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=Z,380nm,18.0s,MS4.5						
ZAK	**Zakamensk**	**50.30**	**5**	⇑*iP*	**P**	**08 47 13.9**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MOY	**Mondy**	**51.42**	**3**	*eP*	**P**	**08 47 22.7**	**+0.7**
CTA	**Charters Tower**	**51.90**	**116**	P	**P**	**08 47 26.5**	**+0.4**
	comp=Z,7.4nm,0.8s,mb4.6,baz=289,slow=9.4,SNR=8.8						
CTAO	**Charters Tower**	**51.90**	**116**	*eP*	**P**	**08 47 25.9**	**-0.2**
HASS	**Wahat al Ahsa'**	**52.32**	**302**	P	**P**	**08 47 29.2**	**0.0**
MAT	**Matsushiro**	**52.36**	**42**	P	**P**	**08 47 28.4**	**-0.9**
MAT	**Matsushiro**	**52.36**	**42**	*eP*	**P**	**08 47 28.0**	**-1.3**
MJAR	**Matsushiro Arr**	**52.36**	**42**	P	**P**	**08 47 28.3**	**-1.1**
	comp=Z,4.5nm,0.7s,mb4.5,baz=230,slow=6.2,SNR=12						
MJAR				LR	LR	09 10 27.1	
	comp=Z,147nm,19.6s,MS4.0,baz=230,slow=37						
STKA	**Stephens Creek**	**52.54**	**132**	*eP*	**P**	**08 47 31.3**	**+0.6**
	comp=Z,15nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**52.54**	**132**	P	**P**	**08 47 31.4**	**+0.6**
	comp=Z,18nm,0.7s,mb5.1,baz=329,slow=5.8,SNR=26						
STKA				LR	LR	09 11 15.4	
	comp=Z,232nm,20.3s,MS4.2,baz=323,slow=38						
HIA	**Hailar**	**52.58**	**18**	*eP*	**P**	**08 47 31.1**	**+0

comp=Z,16nm,1.0s,mb4.9
MDJ Mudanjiang 52.71 29 P **P** 08 47 32.2 +0.4
MDJ AP pP 08 47 41.3 +2.4
MDJ XP sP 08 47 45.1 +3.4
MDJ PCP PcP 08 48 40.8 -0.6
MDJ PCS 08 52 39.7
MDJ S **S** **08 54 58.9 +2.3**
MDJ XS 08 55 13.9
MDJ AMB AMB
comp=Z,160nm,7.3s
MDJ LR LR
comp=N,250nm,16.6s,MS4.6
MDJ LR LR
comp=E,350nm,16.6s,MS4.6
MDJ LR LR
comp=Z,650nm,15.9s,MS4.8
MDJ Mudanjiang 52.71 29 *e*P **P** **08 47 31.1 -0.7**
KURK Kurchatov 52.84 345*c i*P **P** **08 47 32.6 -0.2**
CIT Chita 53.46 12 *e*P **P** **08 47 38.6 +1.4**
CIT *e* 08 47 56.2
CIT *e* 08 48 41.0
CIT pmax pmax
comp=Z,50nm,1.4s,mb5.2
ZAL Zalesovo 54.61 351 P **P** **08 47 45.2 -0.4**
comp=Z,35nm,0.8s,mb5.5,baz=309,slow=6.1,SNR=154
ZAL pP pP 08 47 52.4 -0.4
comp=Z,38nm,0.5s,baz=321,slow=5.9,SNR=23
KBD Kabd 55.44 306 *e*P **P** **08 47 51.6 -0.5**
KBD AMb AMB 08 47 59.5
comp=Z,229nm,0.9s
RDF Al-Radifah 55.46 306 *e*P **P** **08 47 51.5 -0.8**
RDF AMb AMB 08 47 59.6
comp=Z,110nm,1.0s,mb5.8
UMR Umm Al-Rimmam 55.57 306 *e*P **P** **08 47 52.2 -0.8**
UMR AMb AMB 08 48 00.2
comp=Z,93nm,0.9s,mb5.8
DJNS Zahran al Janu 55.70 291 P **P** **08 47 55.1 +1.0**
NVS Novosibirsk 55.73 350 *i* P **P** **08 47 52.1 -1.7**
NVS pmax pmax
comp=Z,56nm,1.1s,mb5.5
NVS pmax pmax
comp=N,27nm,0.7s
NVS pmax pmax
comp=E,19nm,0.9s
MZLS Mizel 55.80 299 P **P** **08 47 54.4 -0.4**
NAY Al-Naaiem 55.83 306 *e*P **P** **08 47 53.6 -1.3**
NAY AMb AMB 08 47 55.1
comp=Z,39nm,0.7s,mb5.5
KLR Kul'dur 57.12 26 *e*P **P** **08 48 01.4 -2.5**
BRVK Borovoye 57.35 341⇑*e*P **P** **08 48 04.2 -1.2**
AFFS 'Afif 57.71 298 P **P** **08 48 08.4 0.0**
BLJS Baljurashi 57.97 293 P **P** **08 48 10.8 +0.6**
AB31 Akbulak array 58.51 332⇑*e*P **P** **08 48 11.0 -2.6**
BOD Bodaibo 59.01 10 *e*P **P** **08 48 16.3 -0.6**
KMBO Kilima Mbogo 60.12 269 P **P** **08 48 25.1 -0.1**
comp=Z,1.0nm,0.4s,mb4.2,baz=49,slow=19,SNR=4.3
KMBO pP pP 08 48 31.9 -0.5
comp=Z,1.0nm,0.4s,baz=53,slow=22,SNR=3.5
KMBO LR LR 09 11 43.0
comp=Z,135nm,18.5s,MS4.1,baz=91,slow=33
YSS Yuzh-Sakhalins 61.13 34⇑*i*P **P** **08 48 30.0 -1.6**
YSS pmax pmax
comp=Z,58nm,1.3s,mb5.5
GNI Garni 62.16 316*c i*P **P** **08 48 38.1 -0.6**
GNI pmax pmax
comp=Z,19nm,1.3s
GNI Garni 62.16 316⇑*i*P **P** **08 48 38.2 -0.5**
TI2 Plekhanov 62.86 318 *i*P **P** **08 48 41.0 -2.2**
ARU Arti 64.21 337⇓*i*P **P** **08 48 50.4 -1.5**
ARU *e* 08 49 23.5
ARU *e* 08 51 11.2
ARU *e*S **S** **08 57 26.1 -0.2**
ARU *e*SS SS 09 01 32.1 -5.3
ARU pmax pmax
comp=Z,20nm,1.0s,mb5.1
ARU Arti 64.21 337⇑*i*P **P** **08 48 50.4 -1.5**
JMQS Jabal Moqyreh 65.17 302 P **P** **08 48 58.8 +0.2**
KIV Kislovodsk 65.21 320 *e*P **P** **08 48 56.7 -1.9**
KIV *e* 08 49 30.3
KIV *e*S S 08 57 36.0 -2.8
KIV *e*SS SS 09 01 51.9 -1.4
KIV pmax pmax
comp=Z,31nm,1.2s,mb5.2
KIV MLR MLR
comp=Z,164nm,19.0s,MS4.2
KIV Kislovodsk 65.21 320⇓*i*P **P** **08 48 56.9 -1.7**
GOF Gofitskoye 65.47 321 *e*P **P** **08 48 58.8 -1.5**
BDAS Al Bad' 65.72 301 P **P** **08 49 02.0 -0.2**
JMOS Jabal al Moall 65.89 302 P **P** **08 49 03.2 0.0**
TAYS Tayyib Ism 65.95 301 P **P** **08 49 01.8 -1.8**
YAK Yakutsk 66.38 16 *e*P **P** **08 49 04.2 -1.6**
YAK pmax pmax
comp=Z,30nm,0.9s,mb5.3
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK Yakutsk 66.38 16 *e*P **P** **08 49 05.2 -0.6**
comp=E,40nm,0.9s,mb5.5
YAK LR LR
comp=Z,183nm,20.0s,MS4.3
SOC Sochi 67.00 318 *e*P **P** **08 49 07.6 -2.5**
SOC *e*PPP PPP 08 53 19.1 +2.7
SOC *e*S S 08 58 14.8 +14
SOC pmax pmax
comp=Z,29nm,1.0s,mb5.3
SOKR Solikamsk 67.12 339 *i* P **P** **08 49 10.2 -0.3**
SOKR *e* pP 08 49 16.9 -0.9
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
VRHR Novokhopersk 69.08 326 *e*P **P** **08 49 28.2 +5.3**
VRHR pmax pmax
comp=Z,30nm,0.9s,mb5.2
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
BR131 Keskin Array S 69.94 313 *e*P **P** **08 49 27.0 -1.3**
comp=E,6.3nm,0.7s,mb4.7
BRTR Keskin Array B 69.94 313 P **P** **08 49 27.1 -1.2**
comp=E,7.6nm,0.7s,mb4.7,baz=129,slow=6.9,SNR=37
BRTR pP pP 08 49 33.7 -1.9
comp=E,8.9nm,0.8s,baz=126,slow=7.2,SNR=14
VRSR Storozhevoye 70.51 325 *e*P **P** **08 49 29.9 -1.7**
VRSR *e**PP pP 08 49 36.4 -2.5
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VRSR pmax pmax
comp=N,1.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,1.2s
DZM Mont Dzumac 70.72 113 P **P** **08 49 34.1 +0.7**
comp=E,7.5nm,0.8s,mb4.7,baz=260,slow=8.2,SNR=4.0
SIM Simferopol' 71.25 318⇑*e*P **P** **08 49 36.3 +0.1**
SIM pmax pmax
comp=Z,33nm,0.7s,mb5.4
MAW Mawson 71.73 193 P **P** **08 49 39.7 +1.0**
comp=Z,2.3nm,0.8s,mb4.1,baz=22,slow=5.4,SNR=3.6
MAW LR LR 09 14 45.0
comp=Z,74nm,19.1s,MS4.0,baz=61,slow=30
MAW Mawson 71.73 193 *e*P **P** **08 49 39.1 +0.4**
MOS Moscow 73.31 329 *e*P **P** **08 49 52.7 +4.5**
MOS pmax pmax
comp=Z,77nm,1.2s,mb5.5
LBTB Lobatse 73.57 244 *e*P **P** **08 49 49.9 -0.5**
OBN Obninsk 73.59 328*c i*P **P** **08 49 48.8 -1.1**
OBN *i* pP 08 49 55.9 -1.3
OBN pmax pmax
comp=Z,36nm,1.2s,mb5.2
OBN Obninsk 73.59 328⇓*i*P **P** **08 49 48.8 -1.1**
TIXI Tiksi 74.19 10*c i*P **P** **08 49 52.1 -0.9**
TIXI pmax pmax
comp=Z,22nm,0.8s,mb5.1
TIXI Tiksi 74.19 10⇑*i*P **P** **08 49 52.2 -0.8**
SEY Seymchan 74.66 23⇑*i*P **P** **08 49 56.8 +0.9**
AKASG Malin Array Be 76.19 323 P **P** **08 50 03.5 -1.3**
comp=Z,13nm,0.6s,mb5.1,baz=90,slow=5.2,SNR=52
AKASG pP pP 08 50 10.3 -1.9
comp=Z,16nm,0.7s,baz=91,slow=5.4,SNR=18
AKASG Malin Array Be 76.19 323 P **P** **08 50 03.5 -1.3**
AKASG pP pP 08 50 10.3 -1.9
VRI Vrincioaia 76.50 317⇑⇑P **P** **08 50 07.3 +0.6**
MLR Muntele Rosu 76.94 317⇑⇑P **P** **08 50 08.4 -0.8**
VOIR 77.54 317⇓⇓P **P** **08 50 13.4 +0.9**

BURAR Bucovina Array 77.92 319⇓⇓P **P** **08 50 15.1 +0.6**
BURAR Bucovina Array 77.92 319⇓⇓P **P** **08 50 15.1 +0.5**
VTS Vitosha 78.27 313⇓⇓P **P** **08 50 16.2 -0.3**
SYO Syowa Base 79.06 198⇓⇓PcP PcP 08 50 27.5 -1.7
DRGR 79.41 318⇓⇓P **P** **08 50 22.0 -0.7**
KWP Kalwaria 79.98 320 *e*P **P** **08 50 26.2 +0.5**
KOLS Kolonicke sedl 80.12 320 *e*P **P** **08 50 27.3 +0.8**
KOLS *e*pP pP 08 50 34.0 +0.1
SUW Suwalki 80.62 325 *e*P **P** **08 50 28.9 -0.1**
SUW *e* pP 08 50 35.2 -1.2
CRVS Cervenica-Dubn 80.64 320 *e*P **P** **08 50 30.9 +1.7**
STHS Stebnicka Huta 80.87 320 *i* P **P** **08 50 31.1 +0.7**
STHS *e*pP pP 08 50 37.5 -0.3
FINES FINESS Array B 81.00 333⇑ P **P** **08 50 30.6 -0.2**
comp=Z,4.5nm,0.6s,mb4.6,baz=81,slow=6.7,SNR=20
FINES FINESS Array B 81.00 333⇑*e*P **P** **08 50 30.8 -0.1**
KECS Kecovo 81.20 319 *e*P **P** **08 50 32.4 +0.2**
KECS *e*pP pP 08 50 38.7 -0.9
OJC Ojcow 81.93 321 *e*P **P** **08 50 36.2 +0.3**
VYHS Vyhne 82.28 319 *e*P **P** **08 50 38.1 +0.3**
VYHS *e*pP pP 08 50 44.6 -0.6
OKC Ostrava-Krasne 82.93 320 *e*P **P** **08 50 41.6 +0.5**
OKC *e*pP pP 08 50 48.2 -0.4
OKC Ostrava-Krasne 82.93 320 *e*P pP 08 50 48.2 -0.4
MORC Moravsky Berou 83.31 320 *e*P **P** **08 50 43.6 +0.5**
MORC *e* pP 08 50 49.4 -1.1
MORC pmax pmax
comp=Z,26nm,1.9s,mb4.9
MORC Moravsky Berou 83.31 320 *e*P **P** **08 50 43.6 +0.5**
comp=Z,26nm,1.9s,mb4.9
MORC *e* pP 08 50 49.4 -1.1
ZST Bratislava 83.39 318 *e*pP pP 08 50 50.1 -0.9
ARCES ARCESS Array B 83.58 340 P **P** **08 50 44.8 +0.8**
comp=Z,9.0nm,0.9s,mb4.9,baz=109,slow=4.3,SNR=18
DPC Dobruska-Polom 84.16 320 *e*P **P** **08 50 48.6 +1.2**
DPC *e*pP pP 08 50 55.0 +0.1
KSP Ksiaz 84.24 321 *e*P **P** **08 50 48.5 +0.7**
KSP Ksiaz 84.24 321 *e*P **P** **08 50 48.3 +0.5**
VNDA Vanda 84.77 169 P **P** **08 50 50.7 +0.8**
comp=Z,1.8nm,0.9s,mb4.2,baz=295,slow=6.1,SNR=4.5
PVCC Panska Ves 85.29 321 *e*P **P** **08 50 54.0 +1.0**
PVCC *e*pP pP 08 51 00.3 -0.2
GERES GERESS Array B 85.71 319 P **P** **08 50 56.0 +0.8**
comp=Z,3.1nm,0.9s,mb4.5,baz=104,slow=5.5,SNR=18
GERES pP pP 08 51 02.1 -0.6
comp=Z,6.5nm,1.0s,baz=90,slow=5.3,SNR=8.9
BRG Berggiesshubel 85.72 321 *e*P **P** **08 50 55.3 +0.1**
BRG *e* pP 08 51 02.6 0.0
BRG pmax pmax
comp=Z,8.0nm,1.3s,mb4.8
BRG Berggiesshubel 85.72 321 *e*P **P** **08 50 55.3 +0.2**
comp=Z,8.4nm,1.3s,mb4.8
BRG *e* pP 08 51 02.5 -0.1
KHC Kasperske Hory 85.81 319 *e*P **P** **08 50 56.1 +0.4**
KHC *e*pP pP 08 51 02.5 -0.6
CLL Collm 86.35 321 P **P** **08 50 59.0 +0.7**
CLL Collm 86.35 321 *e*P **P** **08 50 59.0 +0.7**
NKC Novy Kostel 86.62 320 *e*P **P** **08 51 00.8 +1.2**
NKC *e*pP pP 08 51 06.1 -1.0
GRA1 Grafenberg Arr 87.38 320 *e*P **P** **08 51 04.5 +1.2**
comp=Z,13nm,1.5s,mb4.9
GRA1 *e*pP pP 08 51 10.4 -0.4
GRF Grafenberg Arr 87.38 320 *e*P **P** **08 51 04.5 +1.2**
GRF *e**PP pP 08 51 10.4 -0.4
GRF pmax pmax
comp=Z,13nm,1.5s,mb4.9
GRF Grafenberg Arr 87.38 320 *e*P **P** **08 51 04.5 +1.2**
GRF *e**PP pP 08 51 10.4 -0.4
GRF pmax pmax
comp=Z,13nm,1.5s,mb4.9
GRF Grafenberg Arr 87.38 320 *e*P **P** **08 51 04.5 +1.2**
comp=Z,13nm,1.5s,mb4.9
GRF *e*pP pP 08 51 10.4 -0.4
NB2 NORSAR Subarra 88.00 331 P **P** **08 51 05.6 -0.4**
comp=Z,11nm,1.1s,mb5.0,baz=96,slow=5.0
NOA NORSAR Array B 88.00 331 P **P** **08 51 06.4 +0.4**
comp=Z,4.1nm,0.9s,mb4.6,baz=94,slow=4.9,SNR=7.1
NOA pP pP 08 51 12.8 -0.7
comp=Z,5.8nm,1.0s,baz=95,slow=4.9,SNR=9.5
NOA LR LR 09 35 01.3
comp=Z,43nm,18.3s,MS3.9,baz=85,slow=39
NVL N'lazarevskaya 88.66 199⇓*i*P **P** **08 51 17.7 +8.7**
NVL *e**PP pP 08 51 28.2 +12
NVL *e**SP sP 08 51 32.4 +14
NVL pmax pmax
comp=Z,2.0nm,1.1s,mb4.4
LPG La Plagne 90.33 315 *e*P **P** **08 51 17.4 0.0**
comp=Z,2.8nm,1.2s,mb5.2
LPG La Plagne 90.33 315 *e*P **P** **08 51 17.4 0.0**
LPG pmax pmax
comp=Z,14nm,1.2s,mb5.2
TORD Torodi Ar. Bea 95.48 283 P **P** **08 51 42.0 +0.2**
comp=Z,0.4nm,0.8s,baz=89,slow=6.7,SNR=3.8
TORD pP pP 08 51 48.5 -0.8
comp=Z,1.8nm,1.0s,baz=92,slow=5.0,SNR=7.0
TORD PP PP 08 55 36.4 +1.5
comp=Z,1.4nm,1.2s,baz=83,slow=5.9,SNR=3.7
IMA2 Indian Mountai 97.48 23 *e*P **P** **08 51 50.7 +1.1**
YKA Yellowknife Ar 113.06 15 PKiKP 08 56 52.9
comp=Z,0.4nm,0.9s,baz=332,slow=2.0,SNR=3.8
YKA PP PP 08 57 39.7 -6.7
comp=Z,0.1nm,0.4s,baz=319,slow=6.8,SNR=3.8
YKA PKKPbc 09 07 53.9
comp=Z,0.5nm,0.9s,baz=149,slow=4.1,SNR=4.4
YKA Yellowknife Ar 113.06 15 PKPdf PKPdf 08 56 52.9 -3.4
YKA PP PP 08 57 39.7 -6.7
YKA PKKPbc 09 07 53.9
CHMT Chamberlain Mo 126.03 26 *e*PKPdf PKPdf 08 57 19.2 -2.6
MOD Modoc 126.11 34 *e*PKPdf PKPdf 08 57 20.0 -2.2
WVOR Wild Horse Val 126.67 33 *e*PKIKP PKPdf 08 57 21.3 -1.9
ULM Lac du Bonnet 128.54 11 PKP PKPdf 08 57 23.6 -3.1
comp=Z,2.8nm,1.0s,baz=184,slow=4.2,SNR=3.5
NVAR Mina Array Bea 129.53 36 PKP PKPdf 08 57 27.3 -1.5
comp=Z,1.1nm,0.7s,baz=240,slow=0.4,SNR=12
MNV Mina 129.62 36 *e*PKIKP PKPdf 08 57 27.8 -1.2
ELK Elko 129.68 32 *e*PKIKP PKPdf 08 57 28.2 -0.9
PDAR Pinedale Array 130.91 26 PKP PKPdf 08 57 27.8 -3.6
comp=Z,1.3nm,0.7s,baz=232,slow=1.6,SNR=11
DUG Dugway 131.34 31 *e*PKIKP PKPdf 08 57 30.5 -1.8
TMUT Trail Mountain 132.84 30 *e*PKPdf PKPdf 08 57 33.7 -1.4
MSU Marysvale 132.92 32 *e*PKIKP PKPdf 08 57 34.2 -1.1
NEN Nelson 133.45 37 *e*PKPdf PKPdf 08 57 34.9 -1.4
MNTX Cornudas Mount 141.70 32 *e*PKPdf PKPdf 08 57 49.0 -2.5
CPUP Villa Florida 144.33 221 *e*PKIKP PKPdf 08 57 51.1 -5.1
LTX Lajitas 144.47 33 *e*PKIKP PKPdf 08 57 53.0 -3.4
TXAR Lajitas Array 144.47 33 PKP PKPdf 08 57 53.0 -3.4
comp=Z,8.6nm,0.8s,baz=241,slow=1.0,SNR=85
TXAR SKPbc 09 01 30.1
comp=Z,1.2nm,1.1s,slow=1.3,SNR=3.5
CPCT Cooper Cave 144.54 3 *e*PKPpre 08 57 50.9
OXF Oxford 144.94 10 *e*PKIKP PKPdf 08 57 52.8 -4.2
JCT Junction City 145.44 27 *e*PKIKP PKPdf 08 57 55.0 -3.0
JSC Jenkinsville 145.73 358 *e*PKP2 PKPab 08 57 55.5 -1.3
GOGA Godfrey 146.61 1 *e*PKP2 PKPab 08 57 58.5 -1.7
LPAZ La Paz 158.50 221 PKP PKPdf 08 58 16.1 -1.4
comp=Z,0.7nm,0.5s,baz=180,slow=2.0,SNR=2.7

*CSEM **07** 08:46:04.6±0.3,42.50N×46.67E,h40km,mb3.9,Error ellipse: s-maj=10.5km s-min=6.3km az=56.0*
MOS 07 08:46:07.3±2.5,42.43N×46.99E,h22km,mb3.9/1,1D, Error ellipse: s-maj=45.6km s-min=15.3km az=100.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNBR	**Gunib**	**0.04**	**205**	*i* Pg	Pb	08 46 13.2	+2.0
GNBR				*i* S	Sb	08 46 17.0	+3.2
GNBR				pmax	pmax		
	comp=Z,76nm,0.2s						
GNBR	**Gunib**	**0.04**	**205**	*i* Pg	Pb	08 46 13.2	+2.0
	comp=Z,76nm,0.2s						
GNBR				*i* Sg	Sb	08 46 17.0	+3.2
XNZR	**Khunzakh**	**0.24**	**298**	*i* Pg	Pb	08 46 11.5	-1.7
KMKR	**Kumukh**	**0.31**	**165**	*e*Pg	Pb	08 46 16.5	+2.3
KMKR				*e*S	Sb	08 46 22.5	+3.6
KMKR				pmax	pmax		
	comp=Z,32nm,0.2s						
KMKR	**Kumukh**	**0.31**	**165**	*e*Pg	Pb	08 46 16.5	+2.3
	comp=Z,32nm,0.2s						
KMKR				*e*Sg	Sb	08 46 22.5	+3.6
UNCR	**Uncukul**	**0.32**	**333**	*i* Pg	Pb	08 46 12.5	-1.9
UNCR				pmax	pmax		
	comp=Z,50nm,0.2s						
UNCR	**Uncukul**	**0.32**	**333**	*i* Pg	Pb	08 46 12.5	-1.9
	comp=Z,50nm,0.2s						
KRNR	**Karanay**	**0.40**	**351**⇓	*i* PG	Pb	08 46 14.3	-1.4
KRNR				*e*S	Sb	08 46 19.8	-1.6
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
KRNR	**Karanay**	**0.40**	**351**	*i* Pg	Pb	08 46 14.3	-1.4
	comp=Z,25nm,0.2s						
KRNR				*e*Sg	Sb	08 46 19.8	-1.6
DBC	**Dubki**	**0.60**	**349**	*e*PG	Pb	08 46 18.0	-1.0
DBC				*e*S	Sb	08 46 26.5	-0.6

*NEIC **07** 09:02:06.0,18.92N×155.26W,h13km,mb4.0/2, MD3.9(HVO),After HVO.*
*IDC **07** 09:02:11.4±17.0,19.67N×154.96W,mb3.5/4,mb1 3.9/4, mb1mx3.7/20,mbtmp3.5/4,Error ellipse: s-maj=360.3km s-min=57.9km az=35.0*
ISC 07 09:02:04.6±3.5,18.8N±0.5×155.2W±0.1,h10km,n9, σ1$17/9,mb3.6/6,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.46**	**307**	*e*P	**Pg**	**09 02 12.9**	**-1.1**
KKH	**Kailua Kona**	**1.17**	**316**	P	**Pb**	**09 02 27.7**	**+1.3**
CMB	**Columbia Colle**	**35.80**	**50**	P	**P**	**09 09 04.7**	**-1.4**
TPNV	**Topopah Spring**	**38.53**	**54**	P	**P**	**09 09 28.0**	**-1.0**
	1.1nm,0.6s,mb3.8						
SRU	**San Rafael**	**43.47**	**53**	P	**P**	**09 10 09.5**	**-0.2**
	3.7nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**45.18**	**48**	P	**P**	**09 10 24.7**	**+1.2**
	1.8nm,0.9s,mb3.9,baz=248,slow=6.5,SNR=11						
ILAR	**Eielson Array**	**46.26**	**5**	P	**P**	**09 10 31.1**	**-0.6**
	0.3nm,0.7s,mb3.3,baz=192,slow=8.3,SNR=5.1						
TXAR	**Lajitas Array**	**47.84**	**67**	P	**P**	**09 10 47.1**	**+2.4**
	0.4nm,0.8s,mb3.5,baz=253,slow=9.5,SNR=4.0						
YKA	**Yellowknife Ar**	**51.83**	**23**	P	**P**	**09 11 14.5**	**-0.2**
	0.3nm,0.7s,mb3.3,baz=230,slow=7.7,SNR=4.1						

IDC 07 09:18:43.0±3.9,0.11N×97.48E,mb3.6/3,mb1 3.7/3, mb1mx3.5/17,mbtmp3.6/3,Error ellipse: s-maj=155.0km s-min=32.2km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.23**	**121**	P	P	09 26 30.1	-1.4
	0.6nm,0.8s,baz=302,slow=8.9,SNR=4.1						
SONM	**Songino Array**	**48.17**	**8**	P	P	09 27 25.4	-1.6
	0.4nm,0.6s,baz=193,slow=8.7,SNR=4.1						
SONM				pP	pP	09 27 32.2	+5.2
	0.7nm,0.5s,baz=192,slow=9.3,SNR=5.7						
MKAR	**Makanchi Array**	**48.36**	**346**	P	P	09 27 26.6	-2.0
	0.7nm,0.5s,baz=160,slow=9.3,SNR=6.8						
MKAR				pP	pP	09 27 32.6	+4.1
	1.2nm,0.6s,baz=154,slow=8.0,SNR=7.6						
TXAR	**Lajitas Array**	**144.44**	**33**	PKP	PKPdf	09 38 20.3	-3.5
	0.2nm,0.6s,baz=180,slow=1.3,SNR=3.6						

*IGQ **07** 09:32:02.6,1.72S×78.11W,h183km±5km,mb4.4,Error ellipse: s-maj=4.5km s-min=2.7km az=77.3*
*NEIC **07** 09:32:08.6±1.8,1.59S×77.65W,h190km±18km,mb4.3/1, Error ellipse: s-maj=20.8km s-min=8.3km az=56.0*
*IDC **07** 09:32:09.2±2.5,1.57S×77.66W,h196km±24km,mb3.4/11, mb1 3.6/15,mb1mx3.5/24,mbtmp4.0/15,Error ellipse: s-maj=23.3km s-min=11.2km az=55.0*
ISC 07 09:32:04.5±0.5,1.72S±0.07×77.88W±0.08,h164km±5km, n42,σ0$97/43,mb3.6/11,4C-9D,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.83**	**322**	P	**P**	**09 32 29.5**	**-0.2**
TAMB	**Tambo**	**1.13**	**334**⇓⇓	P	**P**	**09 32 32.3**	**+0.3**
VC1	**Cotopaxi 1**	**1.19**	**334**⇓⇓	P	**P**	**09 32 32.6**	**+0.1**
CAMI	**Rancho Maria**	**1.21**	**329**⇓⇓	P	**P**	**09 32 32.8**	**+0.1**
ANTI	**Antisana**	**1.29**	**347**⇓⇓	P	**P**	**09 32 33.6**	**+0.1**
QIL1	**Quilotoa**	**1.36**	**309**⇑⇑	P	**P**	**09 32 33.5**	**-0.7**
LAV3	**Lava3-Reventad**	**1.63**	**9**	P	**P**	**09 32 36.9**	**+0.1**
LAV3				S	**S**	**09 33 02.6**	**+0.7**
JUA2	**San Juan 2**	**1.66**	**334**⇑⇑	P	**P**	**09 32 36.8**	**-0.4**
GGP	**Refugio Guagua**	**1.69**	**335**⇑⇑	P	**P**	**09 32 37.1**	**-0.4**
TERV	**Terraza Guagua**	**1.70**	**335**	P	**P**	**09 32 37.3**	**-0.2**
PINO	**Pino**	**1.71**	**335**⇑⇑	P	**P**	**09 32 37.3**	**-0.4**
CAYR	**Refugio Cayamb**	**1.73**	**356**⇓⇓	P	**P**	**09 32 38.4**	**+0.5**
YANA	**Yana**	**1.73**	**336**	P	**P**	**09 32 37.5**	**-0.5**
ANGU	**Angureal**	**1.76**	**356**⇓⇓	P	**P**	**09 32 38.7**	**+0.5**
CAYA	**Cayambe**	**1.78**	**356**⇓⇓	P	**P**	**09 32 39.0**	**+0.5**
COTA	**Cotacachi**	**2.09**	**347**⇓⇓	P	**P**	**09 32 42.3**	**+0.4**
MAG1	**Magdalena**	**2.50**	**311**⇓⇓	P	**P**	**09 32 44.3**	**-2.6**
MAG1				S	**S**	**09 33 12.6**	**-6.9**
ROSC	**El Rosal**	**7.43**	**28**	P	**P**	**09 33 52.0**	**+0.8**
	1.5nm,0.3s,baz=284,slow=19,SNR=3.3						
SDV	**Santo Domingo**	**12.77**	**34**	P	**P**	**09 35 01.0**	**-0.2**
	1.0nm,0.3s,baz=272,slow=9.9,SNR=9.0						
JTS	**JuntasAbangare**	**13.85**	**330**	P	**P**	**09 35 17.3**	**+2.3**
	1.1nm,0.3s,baz=196,slow=9.5,SNR=6.3						
SAML	**Samuel**	**16.29**	**117**	*e*P	**P**	**09 35 43.3**	**-2.2**
	10.0nm,0.8s						
LPAZ	**La Paz**	**17.37**	**147**	P	**P**	**09 35 59.4**	**+0.9**
	0.6nm,0.3s,baz=337,slow=16,SNR=17						
SIV	**San Ignacio**	**21.80**	**132**	P	**P**	**09 36 45.6**	**+1.4**
	2.6nm,0.5s,mb3.9,baz=320,slow=12,SNR=22						
BDFB	**Brasilia**	**32.53**	**117**	P	**P**	**09 38 21.6**	**-0.6**
	1.9nm,0.4s,mb4.2,baz=285,slow=13,SNR=4.9						
PLCA	**Paso Flores**	**39.40**	**171**	P	**P**	**09 39 20.4**	**+0.6**
	4.4nm,0.8s,mb4.2,baz=328,slow=6.6,SNR=7.8						
PLCA				PcP	PcP	09 41 24.1	-1.1
	1.9nm,0.9s,baz=342,slow=6.4,SNR=3.1						
TXAR	**Lajitas Array**	**39.52**	**323**	P	**P**	**09 39 22.1**	**+1.2**
	0.3nm,0.9s,mb2.9,baz=135,slow=5.1,SNR=2.6						
TXAR				PcP	PcP	09 41 24.6	-1.1
	0.3nm,0.8s,baz=140,slow=7.0,SNR=3.2						
ANMO	**Albuquerque**	**45.25**	**326**	P	**P**	**09 40 07.5**	**+0.1**
	1.3nm,0.8s,mb3.6,baz=129,slow=14,SNR=3.1						
ULM	**Lac du Bonnet**	**54.02**	**346**	P	**P**	**09 41 10.8**	**-3.0**
	1.0nm,0.6s,mb3.7,baz=157,slow=7.7,SNR=3.4						
ULM	**Lac du Bonnet**	**54.02**	**346**	P	**P**	**09 41 10.8**	**-3.0**
NVAR	**Mina Array Bea**	**54.61**	**321**	P	**P**	**09 41 18.2**	**-0.1**
	0.3nm,0.5s,mb3.2,baz=101,slow=4.6,SNR=4.1						
NVAR	**Mina Array Bea**	**54.61**	**321**	P	**P**	**09 41 18.2**	**-0.1**
YKA	**Yellowknife Ar**	**69.78**	**343**	P	**P**	**09 42 59.2**	**+0.6**
	0.2nm,0.6s,mb3.0,baz=141,slow=6.3,SNR=3.1						
YKA	**Yellowknife Ar**	**69.78**	**343**	P	**P**	**09 42 59.2**	**+0.5**
DBIC	**Dimbokro**	**73.35**	**83**	P	**P**	**09 43 19.3**	**-1.5**
	9.0nm,0.9s,mb4.5,baz=224,slow=6.0,SNR=7.5						
TORD	**Torodi Ar. Bea**	**80.24**	**76**	P	**P**	**09 43 57.2**	**-1.8**
	2.0nm,0.8s,mb3.8,baz=283,slow=5.9,SNR=13						
VNA3	**Neumayer Olymp**	**81.48**	**162**	*e*	**P**	**09 44 05.0**	**+0.6**
VNA1	**Neumayer--Stat**	**81.71**	**162**	*e*	**P**	**09 44 07.2**	**+1.6**
VNA2	**Neumayer--Watz**	**82.07**	**162**	*e*	**P**	**09 44 07.7**	**+0.2**
VNA2	**Neumayer--Watz**	**82.07**	**162**	*e*	**P**	**09 44 25.5**	**+18**
ILAR	**Eielson Array**	**82.73**	**336**	P	**P**	**09 44 10.0**	**-0.9**
	0.2nm,0.5s,mb3.1,baz=147,slow=3.8,SNR=7.1						
SNAA	**Sanae**	**83.69**	**162**	*e*	**P**	**09 44 15.3**	**-0.3**
WRA	**Warramunga Arr**	**141.76**	**234**	PKhKP		09 51 12.8	
	0.8nm,0.7s,baz=120,slow=2.4,SNR=11						
WRA				PKP	PKPdf	09 51 17.8	+0.4
	0.9nm,0.7s,baz=110,slow=2.0,SNR=10						

CASC 07 09:34:57.6±2.2,13.41N×89.60W,h59km±22km,MD3.6,3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.43**	**357**	*e*P	P	09 35 18.0	+9.1
SBLS				*e*S	S	09 35 27.2	+10
BOQS	**Boqueron**	**0.45**	**43**⇓	*e*P	S	09 35 17.8	+8.8
BOQS				*e*S	S	09 35 27.3	+10
SNET	**Serv Nac Est T**	**0.46**	**52**	*e*P	P	09 35 08.1	-1.0
SNJE	**San Jose**	**0.46**	**359**	*e*P	P	09 35 18.1	+9.0
SNJE				*e*S	S	09 35 28.3	+11
RTR	**El Retiro**	**0.49**	**355**	*e*P	P	09 35 18.4	+8.9
RTR				*e*S	S	09 35 28.3	+10
LFRS	**El Faro**	**0.57**	**67**

RBDL				*e*S	S	09 35 29.1	+6.5
SNVI	**San Vicente**	**0.77**	**74**	*e*P	P	09 35 21.0	+8.3
SNVI				*e*S	S	09 35 33.2	+9.3
MTO2	**Montecristo 2**	**1.02**	**13**	‖*e*P	P	09 35 25.5	+9.4
MTO2				*e*S	S	09 35 39.5	+10
IXG	**Ixpaco**	**1.13**	**313**	*e*P	P	09 35 17.1	-0.4
IXG				*e*S	S	09 35 32.4	0.0
FUG	**Fuego 3**	**1.59**	**311**	*e*P	P	09 35 24.7	+0.7
FUG				*e*S	S	09 35 44.5	+0.9
CNCH	**Conchagua**	**1.72**	**94**	*e*P	P	09 35 33.5	+7.6
CNCH				*e*S	S	09 35 54.9	+8.1

NEIC ***07*** *09:49:16.6, 18.15N×94.58W, h47km, MD3.8(MEX), After MEX.*

MEX 07 09:49:16.6±0.8, 18.15N×94.58W, h47km±14km, MD3.8, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.19**	**126**	*i* P	P	09 49 22.8	-1.6
TUIG				*i* S	S	09 49 28.6	-1.4
CMIG	**Matias Romero**	**1.09**	**195**	*i* P	P	09 49 34.2	-1.5
CMIG				*i* S	S	09 49 47.0	-2.8
OXX	**Oaxaca**	**2.30**	**243**	*e*P	P	09 49 51.0	-1.9
OXX				*i* S	S	09 50 17.0	-3.1
VHO	**Vista Hermosa**	**2.31**	**243**	*i* P	P	09 49 51.5	-1.6
VHO				*i* S	S	09 50 17.3	-3.1

IDC 07 10:00:55.1±1.1, 12.27N×140.90E, mb4.2/5, mb1 4.3/5, mb1mx3.9/18, mbtmp4.2/5, Error ellipse: s-maj=70.4km s-min=23.2km az=81.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.65**	**191**	P	P	10 07 29.2	-2.0
	1.3nm,0.6s,baz=11,slow=9.8,SNR=15						
STKA	**Stephens Creek**	**43.90**	**179**	P	P	10 09 03.3	-2.0
	3.5nm,0.7s,baz=353,slow=12,SNR=7.3						
BVAR	**Borovoye Array**	**68.58**	**322**	P	P	10 12 00.8	-1.0
	1.0nm,0.6s,baz=112,slow=8.0,SNR=7.0						
ARCES	**ARCESS Array B**	**87.13**	**341**	P	P	10 13 42.5	-1.2
	2.9nm,0.9s,baz=63,slow=5.4,SNR=7.3						
FINES	**FINESS Array B**	**90.69**	**334**	P	P	10 13 58.5	-2.3
	0.9nm,0.6s,baz=45,slow=5.4,SNR=7.5						
LPAZ	**La Paz**	**151.59**	**102**	PKPbc	PKPdf	10 20 52.8	+5.1
	0.7nm,0.6s,baz=222,slow=15,SNR=3.4						

CSEM ***07*** *10:05:26.6±0.3, 38.80N×29.13W, MD3.1, Error ellipse: s-maj=16.5km s-min=2.8km az=68.0, After PDA*
PDA ***07*** *10:05:26.6±0.3, 38.80N×29.13W, MD3.1, Error ellipse: s-maj=16.5km s-min=2.8km az=68.0*

SVSA 07 10:05:26.6±0.3, 38.80N×29.13W, MD3.1, Error ellipse: s-maj=16.5km s-min=2.8km az=68.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.40**	**123**	*e*P	Pg	10 05 34.0	-0.5
CALA				*e*S	Sg	10 05 39.6	-0.3
PICO	**Pico**	**0.63**	**118**	*e*P	Pg	10 05 37.7	-1.4
PICO				*e*S	Sg	10 05 46.1	-1.3
ROSA	**Rosais**	**0.70**	**96**	*e*P	Pg	10 05 38.7	-1.8
ROSA				*e*S	Sg	10 05 47.7	-2.1

NIED ***07*** *10:10:00, 35.90N×141.10E, h32km, Mw3.7 Best double couple: M₀4.57×10¹⁴ NP1:φs360°, δ63°, λ66°. NP2:φs223°, δ35°, λ128°.*
IDC ***07*** *10:10:40.9±2.9, 35.84N×141.08E, h51km±23km, mb3.5/4, mb1 3.7/7, mb1mx3.4/24, mbtmp3.8/7, ML3.8/2, Error ellipse: s-maj=39.8km s-min=13.5km az=87.0*
JMA ***07*** *10:10:40.4±0.1, 35.86N×140.89E, h36km±1km, M3.4*
JMA Felt I J1.

ISC 07 10:10:38.3±0.9, 35.88N±0.05×141.1E±0.1, h44km±7km, n16, σ0§85/20, mb3.7/4, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.27**	**229**	‖P	**P**	**10 10 46.6**	**0.0**
CHOJ				S	**S**	**10 10 51.4**	**-0.9**
JYT	**Yasato**	**0.82**	**295**	‖P	**P**	**10 10 53.1**	**-0.4**
JYT				S	**S**	**10 11 01.9**	**-2.8**
JHO	**Hitachi**	**0.85**	**329**	‖P	**P**	**10 10 55.0**	**+1.1**
BSO4	**Boso 4**	**1.09**	**216**	P	**P**	**10 10 58.6**	**+1.3**
BSO3	**Boso 3**	**1.18**	**205**	P	**P**	**10 10 58.7**	**+0.1**
BSO1	**Boso 1**	**1.23**	**185**	P	**P**	**10 10 59.2**	**-0.1**
JAG	**Ashikaga**	**1.45**	**293**	‖P	**P**	**10 11 01.9**	**-0.6**
MJAR	**Matsushiro Arr**	**2.44**	**287**	P	**P**	**10 11 16.9**	**+0.3**
	8.9nm,0.3s,baz=90,slow=8.8,SNR=51						
MAT	**Matsushiro**	**2.44**	**287**	P	**P**	**10 11 16.8**	**+0.2**
MAT				S	**S**	**10 11 46.3**	**+0.9**
JHJ	**Hachijo jima 2**	**2.96**	**202**	P	**P**	**10 11 24.7**	**+0.7**
	29nm,0.3s,baz=90,slow=20,SNR=3.3						
JHJ				S	**S**	**10 11 59.1**	**+0.4**
	68nm,0.3s,baz=75,slow=23,SNR=4.7						
ASAJ	**Asahikawa**	**8.31**	**7**	P	**P**	**10 12 39.2**	**+0.3**
	1.5nm,0.3s,baz=83,slow=18,SNR=6.3						
SONM	**Songino Array**	**28.25**	**306**	P	**P**	**10 16 29.3**	**+0.1**
	0.2nm,0.5s,mb3.0,baz=106,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**44.53**	**303**	P	**P**	**10 18 47.9**	**+0.6**
	1.0nm,0.6s,mb3.8,baz=86,slow=8.5,SNR=5.4						
BVAR	**Borovoye Array**	**51.17**	**313**	P	**P**	**10 19 38.7**	**-0.2**
	0.4nm,0.4s,mb3.7,baz=79,slow=7.3,SNR=2.6						
WB2	**Warramunga AR**	**55.88**	**188**	*e*P	**P**	**10 20 13.1**	**-1.0**
WRA	**Warramunga Arr**	**55.88**	**188**	P	**P**	**10 20 12.5**	**-1.6**
	2.1nm,1.0s,mb4.1,baz=0.9,slow=7.6,SNR=18						

NEIC ***07*** *10:27:38.4, 32.09S×68.91W, h179km, MD3.8(GUC), After GUC.*

GUC 07 10:27:38.4±0.6, 32.09S×68.91W, h179km±9km, MD3.8, ML3.9, 1C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.57**	**201**	*i*P	P	10 27 58.6	-5.1
ZON				*e*S	S	10 28 13.3	-10
JACH	**Jahuel**	**1.55**	**247**	*e*P	P	10 28 11.3	+0.2
JACH				*i* S	S	10 28 36.1	-0.2
FCH	**Farellones**	**1.70**	**223**	‖*e*P	P	10 28 12.6	-0.1
FCH				*i* S	S	10 28 40.2	+1.2
FCH				AMP		10 28 41.7	
	comp=E,169nm,0.2s						
PEL	**Peldehue**	**1.84**	**234**	*e*P	P	10 28 14.0	0.0
PEL				*i* S	S	10 28 41.4	0.0
ILCH	**Illapel**	**1.98**	**283**	*e*P	P	10 28 16.0	+0.5
ILCH				*i* S	S	10 28 44.2	+0.1
ILCH				AMP		10 28 45.5	
	comp=N,769nm,0.2s						
CMCH	**Combarbala**	**2.01**	**296**	*i* P	P	10 28 15.9	+0.2
CMCH				*i* S	S	10 28 44.9	+0.3
CMCH				AMP		10 28 47.4	
	comp=E,3μm,0.5s						
RCDM	**Rinconada Maip**	**2.13**	**228**	*e*P	P	10 28 17.2	0.0
RCDM				*i* S	S	10 28 47.1	+0.1
CHNG	**Los Chungos**	**2.21**	**275**	*e*P	P	10 28 18.3	+0.1
CHNG				*i* S	S	10 28 48.1	-0.8
CHNG				AMP		10 28 57.3	
	comp=N,196nm,0.5s						
TACH	**Talagante**	**2.32**	**227**	*i* P	P	10 28 19.5	+0.1
TACH				*i* S	S	10 28 50.8	-0.1
CHCH	**Chadas Angostu**	**2.36**	**218**	*i* P	P	10 28 20.2	+0.3
TLL	**Tololo Astrono**	**2.51**	**319**	*e*P	P	10 28 22.4	+0.7
TLL				*i* S	S	10 28 55.6	+0.6
TLL				AMP		10 29 00.3	
	comp=N,643nm,0.5s						

IDC ***07*** *11:14:41.0±3.7, 34.44N×73.37E, mb3.8/3, mb1 3.9/6, mb1mx3.6/22, mbtmp3.8/6, ML3.4/3, Error ellipse: s-maj=83.5km s-min=29.5km az=129.0*
NEIC ***07*** *11:14:44.3±1.4, 34.62N×73.24E, h10km, Error ellipse: s-maj=30.4km s-min=7.6km az=58.0*
NNC ***07*** *11:14:54.7±25.0, 36.07N×74.90E, mpv3.5, Error ellipse: s-maj=597.2km s-min=236.6km az=65.0*

ISC 07 11:14:42.1±0.8, 34.61N±0.08×73.2E±0.1, h10km, n21, σ1§06/29, mb3.8/2, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.00**	**136**	*ex*	**Pb**	**11 15 36.1**	**+0.8**
THN				*ex*	**Sg**	**11 16 20.4**	**-1.6**
PONG	**Pong**	**3.49**	**139**	*e*P	**Pb**	**11 15 44.0**	**+0.3**
PONG				*e*S	**Sg**	**11 16 43.0**	**+4.7**
BHK	**Bhakra**	**4.16**	**139**	*e*S	**Sb**	**11 16 45.3**	**-0.4**
SDNR	**Sundarnagar**	**4.41**	**134**	*e*P	**Pn**	**11 15 54.2**	**+3.5**
SDNR				*ex*	**Sn**	**11 16 45.2**	**+2.5**
SMLA	**Simla**	**4.79**	**135**	*ex*	**Pn**	**11 15 58.9**	**+2.7**
SMLA				*ex*	**Sg**	**11 17 16.1**	**-5.6**
DDI	**Dehra Dun**	**5.90**	**135**	*ex*	Px	11 17 03.0	
KK31	**Karatay Array**	**8.74**	**347**	Pn	**P**	**11 16 52.1**	**+0.5**
	0.9nm,0.3s,baz=157,slow=12,SNR=16						
KK31				⇑Sn	**Sn**	**11 18 25.0**	**-6.3**
	1.4nm,0.4s,baz=152,slow=23,SNR=7.3						
KOLN	**Koldanda**	**11.18**	**125**	*e*Pn	**P**	**11 17 25.6**	**+0.4**
GKN	**Gorkha**	**11.76**	**121**	*e*Pn	**P**	**11 17 32.8**	**-0.2**
GKN				*e*Sn	**S**	**11 19 39.2**	**-6.2**
	16nm,0.3s						
GKN	**Gorkha**	**11.76**	**121**	*e*Pn	**P**	**11 17 32.8**	**-0.2**
	7.9nm,0.3s						
GKN				*e*Sn	**S**	**11 19 39.2**	**-6.2**
DMN	**Daman**	**12.33**	**121**	*e*Pn	**P**	**11 17 40.4**	**-0.3**
PKI	**Pulchoki**	**12.56**	**121**	*e*Pn	**P**	**11 17 43.4**	**-0.4**
GUN	**Gumba**	**12.70**	**118**	*e*Pn	**P**	**11 17 44.8**	**-0.9**
JIRN	**Jiri**	**13.07**	**118**	*e*Pn	**P**	**11 17 49.6**	**-1.0**
JIRN				*e*Sn	**S**	**11 20 10.0**	**-7.1**
	8.0nm,0.3s						
JIRN	**Jiri**	**13.07**	**118**	*e*Pn	**P**	**11 17 49.6**	**-1.0**
	4.0nm,0.3s						
JIRN				*e*Sn	**S**	**11 20 10.0**	**-7.1**
MKAR	**Makanchi Array**	**13.96**	**27**	Pn	**P**	**11 18 03.0**	**+0.7**
	0.0nm,0.3s,baz=203,slow=15,SNR=4.3						
BVAR	**Borovoye Array**	**18.52**	**355**	P	**P**	**11 19 00.9**	**+0.5**
	0.3nm,0.3s,baz=159,slow=9.6,SNR=4.5						
AKTO	**Aktyubinsk**	**19.33**	**330**	P	**P**	**11 19 09.3**	**-0.7**
	0.2nm,0.3s,baz=144,slow=9.0,SNR=5.1						
ZAL	**Zalesovo**	**20.97**	**19**	P	**P**	**11 19 26.2**	**-1.4**
	1.4nm,0.4s,baz=295,slow=0.3,SNR=3.8						
ARCES	**ARCESS Array B**	**43.58**	**338**	P	**P**	**11 22 48.1**	**+0.6**
	2.5nm,0.9s,mb4.0,baz=117,slow=8.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**67.53**	**271**	P	**P**	**11 25 40.2**	**-0.8**
	0.3nm,0.4s,mb3.7,baz=49,slow=5.9,SNR=10						

IDC ***07*** *11:17:08.9±1.5, 5.50S×133.76E, mb4.1/2, mb1 4.2/5, mb1mx4.0/13, mbtmp4.1/5, ML3.9/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/17, Error ellipse: s-maj=57.2km s-min=20.9km az=67.0*
NEIC ***07*** *11:17:11.0±1.3, 5.55S×133.78E, h10km, mb4.1/3, Error ellipse: s-maj=21.0km s-min=17.8km az=58.0*

ISC 07 11:17:16.1±1.9, 6.0S±0.1×133.8E±0.1, h33km, n12, σ0§93/14, mb3.9/2, MS4.2/1, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.88**	**178**	Pn	**P**	**11 20 32.0**	**-0.8**
	0.2nm,0.3s,baz=358,slow=13,SNR=19						
WRA				Sn	**S**	**11 23 07.0**	**+0.3**
	0.4nm,0.3s,baz=1.6,slow=25,SNR=2.8						
WRA				Lg		11 24 46.7	
	0.2nm,0.3s,baz=17,slow=26,SNR=3.6						
WB2	**Warramunga AR**	**13.88**	**178**	*e*P	**P**	**11 20 34.1**	**+1.3**
FITZ	**Fitzroy Crossi**	**14.40**	**213**	*e*P	**P**	**11 20 41.0**	**+1.3**
	5.1nm,0.3s						
FITZ				*e*S	**S**	**11 23 18.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**14.40**	**213**	Pn	**P**	**11 20 41.0**	**+1.3**
	1.0nm,0.3s,baz=41,slow=13,SNR=34						
FITZ				Sn	**S**	**11 23 17.5**	**-1.7**
	1.0nm,0.3s,baz=188,slow=18,SNR=6.6						
FITZ				LR	LR	11 26 36.7	
	comp=Z,96nm,21.9s,baz=172,slow=38						
CTA	**Charters Tower**	**18.54**	**140**	*e*P	**P**	**11 21 31.5**	**-0.8**
	7.0nm,0.8s						
CTA	**Charters Tower**	**18.54**	**140**	P	**P**	**11 21 31.6**	**-0.7**
	0.4nm,0.3s,baz=325,slow=11,SNR=11						
CTA				Lg		11 27 14.1	
	0.3nm,0.3s,baz=218,slow=23,SNR=4.7						
CTA				LR	LR	11 29 43.2	
	comp=Z,156nm,19.7s,baz=44,slow=40						
CTAO	**Charters Tower**	**18.54**	**140**	*e*P	**P**	**11 21 33.1**	**+0.8**
	11nm,0.8s						
MBWA	**Marble Bar**	**20.29**	**221**	P	**P**	**11 21 51.8**	**-0.1**
	13nm,1.2s						
STKA	**Stephens Creek**	**26.77**	**165**	P	**P**	**11 22 54.2**	**-0.8**
	4.1nm,1.0s,mb3.9,baz=338,slow=11,SNR=2.4						
STKA	**Stephens Creek**	**26.77**	**165**	P	**P**	**11 22 54.2**	**-0.8**
MKAR	**Makanchi Array**	**69.49**	**325**	P	**P**	**11 28 17.1**	**-6.2**
	0.8nm,0.4s,mb4.0,baz=114,slow=8.3,SNR=15						
KDAK	**Kodiak Island**	**86.43**	**31**	LR	LR	12 04 47.6	
	comp=Z,93nm,19.2s,MS4.2,baz=100,slow=33						

ISC 07 11:21:47.3±1.2, 38.33N±0.05×26.57E±0.07, h10km, n7, σ1§02/14, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.04**	**30**	*i* P	**Pg**	**11 21 49.1**	**-0.1**
URLA				*i* S	**Sg**	**11 21 50.0**	**-0.6**
BLCB	**Balcova**	**0.38**	**81**	*i* PG	**Pg**	**11 21 54.4**	**-0.6**
BLCB				*i* SG	**Sg**	**11 21 59.7**	**-0.5**
IZM	**Izmir**	**0.55**	**82**	PG	**Pg**	**11 21 57.8**	**-0.5**
IZM				SG	**Sg**	**11 22 06.7**	**+0.9**
KDAG	**Bornova**	**0.55**	**82**	*i* P	**Pg**	**11 21 57.1**	**-1.4**
KDAG				*i* S	**Sg**	**11 22 05.2**	**-0.7**
AYDN	**Tasoluk**	**1.23**	**122**	*i* P	**Pb**	**11 22 09.9**	**-0.2**
AYDN				*i* S	**Sb**	**11 22 25.3**	**-0.6**
BDRM	**Kayabasi**	**1.44**	**151**	*i* P	**Pn**	**11 22 14.9**	**+1.4**
BDRM				*i* S	**Sb**	**11 22 31.4**	**-0.5**
MANT	**Manisa**	**1.57**	**83**	*i* P	**Pn**	**11 22 17.6**	**+2.2**
MANT				*i* S	**Sb**	**11 22 37.7**	**+1.9**

IDC ***07*** *11:36:38.2±0.5, 23.75S×69.57E, mb4.2/21, mb1 4.3/21, mb1mx4.3/27, mbtmp4.2/21, MS4.1/5, Ms1 4.1/5, ms1mx3.6/19, Error ellipse: s-maj=17.4km s-min=15.7km az=35.0*
NEIC ***07*** *11:36:39.8±0.2, 23.73S×69.58E, h10km, mb4.4/2, Error ellipse: s-maj=8.1km s-min=7.3km az=55.0*

ISC 07 11:36:38.0±0.4, 23.77S±0.09×69.60E±0.10, h10km, n41, σ0§49/33, mb4.1/21, MS4.2/5, 4C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**21.52**	**280**	P	**P**	**11 41 29.9**	**+0.5**
	0.7nm,0.3s,mb3.5,baz=126,slow=17,SNR=3.1						
MATP	**Matopo**	**38.14**	**267**	P	**P**	**11 43 59.4**	**+0.2**
	2.9nm,0.8s,mb4.0,baz=98,slow=10,SNR=4.5						
MATP	**Matopo**	**38.14**	**267**	P	**P**	**11 43 59.4**	**+0.1**
KMBO	**Kilima Mbogo**	**38.59**	**301**	P	**P**	**11 44 03.6**	**+0.5**
	1.8nm,0.6s,mb4.0,baz=41,slow=23,SNR=6.4						
KMBO				LR	LR	11 56 09.6	
	comp=Z,108nm,21.5s,MS3.6,baz=86,slow=30						
LSZ	**Lusaka**	**39.82**	**274**	P	**P**	**11 44 13.7**	**+0.3**
	5.3nm,0.8s,mb4.3,baz=111,slow=9.8,SNR=10						
LSZ	**Lusaka**	**39.82**	**274**	*e*P	**P**	**11 44 13.5**	**+0.1**
	5.2nm,0.8s,mb4.3						
MAW	**Mawson**	**44.04**	**184**	P	**P**	**11 44 47.6**	**+0.3**
	7.3nm,1.2s,mb4.3,baz=26,slow=5.4,SNR=5.0						
FITZ	**Fitzroy Crossi**	**52.37**	**95**	*e*P	**P**	**11 45 53.2**	**+0.4**
	8.8nm,1.0s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.37**	**95**	P	**P**	**11 45 53.2**	**+0.5**
	4.8nm,0.9s,mb4.4,baz=238,slow=4.1,SNR=8.5						
WRA	**Warramunga Arr**	**59.75**	**100**	P	**P**	**11 46 45.3**	**-0.5**
	6.4nm,1.1s,mb4.6,baz=255,slow=6.9,SNR=19						
WB2	**Warramunga Arr**	**59.76**	**100**	*e*P	**P**	**11 46 46.4**	**+0.6**
SNAA	**Sanae**	**62.12**	**200**	‖*i*	**P**	**11 47 00.3**	**-0.8**
SNAA	**Sanae**	**62.12**	**200**	*e*	**P**	**11 47 06.0**	**+4.9**
SNAA	**Sanae**	**62.12**	**200**	P	**P**	**11 47 00.2**	**-0.9**
	0.8nm,0.8s,mb3.9,baz=104,slow=5.2,SNR=7.3						
STKA	**Stephens Creek**	**63.15**	**115**	LR	LR	12 11 03.2	
	comp=Z,218nm,19.4s,MS4.3,baz=205,slow=33						
VNA2	**Neumayer--Watz**	**63.49**	**201**	‖*i*	**P**	**11 47 10.2**	**0.0**
VNA2	**Neumayer--Watz**	**63.49**	**201**	*e*	**P**	**11 47 16.3**	**+6.1**
VNA1	**Neumayer--Stat**	**63.76**	**201**	‖*i*	**P**	**11 47 12.2**	**+0.3**
VNA1	**Neumayer--Stat**	**63.76**	**201**	*e*	**P**	**11 47 18.8**	**+6.9**
VNA3	**Neumayer Olymp**	**64.25**	**201**	‖*i*	**P**	**11 47 14.9**	**-0.2**
VNA3	**Neumayer Olymp**	**64.25**	**201**	*e*	**P**	**11 47 21.1**	**+6.0**
VNDA	**Vanda**	**67.46**	**166**	P	**P**	**11 47 35.2**	**-0.3**
	2.1nm,0.9s,mb4.2,baz=263,slow=8.4,SNR=4.6						
MKAR	**Makanchi Array**	**71.16**	**9**	P	**P**	**11 47 58.4**	**-0.5**
	3.1nm,0.7s,mb4.3,baz=206,slow=6.0,SNR=28						

BRTR	**Keskin Array B**	**71.53**	**331**	P	**P**	**11 48 01.1**	**-0.1**
	1.5nm,0.7s,mb4.0,baz=153,slow=8.3,SNR=6.6						
AKTO	**Aktyubinsk**	**74.58**	**352**	P	**P**	**11 48 18.9**	**0.0**
	1.6nm,0.8s,mb4.0,baz=162,slow=3.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**75.81**	**291**	P	**P**	**11 48 25.7**	**-0.9**
	1.3nm,1.1s,mb3.8,baz=149,slow=0.9,SNR=5.8						
BVAR	**Borovoye Array**	**76.47**	**0**	P	**P**	**11 48 29.2**	**-0.3**
	0.8nm,0.6s,mb3.6,baz=149,slow=8.6,SNR=4.9						
ZAL	**Zalesovo**	**78.49**	**9**	P	**P**	**11 48 40.5**	**-0.1**
	1.8nm,0.8s,mb4.0,baz=292,slow=5.1,SNR=10						
SONM	**Songino Array**	**78.57**	**24**	P	**P**	**11 48 42.2**	**+0.9**
	1.8nm,1.0s,mb4.0,baz=226,slow=3.5,SNR=7.7						
SONM				LR	LR	12 22 23.1	
	comp=Z,136nm,18.1s,MS4.3,baz=177,slow=35						
DBIC	**Dimbokro**	**78.60**	**283**	LR	LR	12 21 38.9	
	comp=Z,112nm,18.1s,MS4.2,baz=98,slow=34						
MLR	**Muntele Rosu**	**79.55**	**330**	P	**P**	**11 48 46.2**	**-0.4**
	3.6nm,0.6s,mb4.5,baz=201,slow=4.0,SNR=3.8						
AKASG	**Malin Array Be**	**82.27**	**335**	P	**P**	**11 49 00.6**	**-0.2**
	0.6nm,0.4s,mb3.9,baz=140,slow=4.6,SNR=12						
GERES	**GERESS Array B**	**87.80**	**327**	P	**P**	**11 49 27.6**	**-0.9**
	0.3nm,0.4s,mb3.9,baz=153,slow=9.0,SNR=4.2						
MJAR	**Matsushiro Arr**	**88.19**	**49**	LR	LR	12 24 16.9	
	comp=Z,103nm,20.4s,MS4.2,baz=25,slow=32						
DAVOX	**Davos**	**88.49**	**324**	P	**P**	**11 49 32.3**	**+0.4**
	6.4nm,0.7s,mb5.0,baz=128,slow=10,SNR=6.8						
ESDC	**Sonseca Array**	**93.14**	**312**	P	**P**	**11 49 54.2**	**+0.6**
	0.2nm,0.3s,mb4.0,baz=124,slow=4.6,SNR=4.1						
YKA	**Yellowknife Ar**	**141.19**	**3**	PKP	PKPdf	11 56 08.9	-2.5
	0.2nm,0.6s,baz=344,slow=2.4,SNR=4.9						
ULM	**Lac du Bonnet**	**151.24**	**340**	PKPbc	PKPdf	11 56 32.5	+4.1
	3.0nm,0.6s,baz=19,slow=3.6,SNR=9.2						
PDAR	**Pinedale Array**	**161.04**	**358**	PKP	PKPdf	11 56 40.5	-0.7
	0.5nm,0.8s,baz=153,slow=3.3,SNR=4.1						
NVAR	**Mina Array Bea**	**163.91**	**23**	PKPab	PKPab	11 57 36.8	+0.5
	0.4nm,0.7s,baz=349,slow=2.3,SNR=5.3						
TXAR	**Lajitas Array**	**171.81**	**314**	PKPab	PKPab	11 58 12.2	+0.9
	0.7nm,0.8s,baz=52,slow=4.7,SNR=8.4						

BJI ***07*** *11:42:12.0, 18.90N×155.20W, h28km, mB5.1, mb4.7, Ms4.9, Msz4.5*

NEIC 07 11:42:12.0, 18.92N×155.18W, h28km, MD4.7(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.40**	**295**	*e*P	Pb	11 42 20.1	-0.6
POHA	**Pohakuloa**	**0.90**	**338**	*e*P	Pn	11 42 27.6	-1.2
KKH	**Kailua Kona**	**1.08**	**313**	P	Pn	11 42 30.8	-0.7
HON	**Honolulu**	**3.57**	**312**	P	Pn	11 43 05.6	-1.4
KIP	**Kipapa**	**3.65**	**313**	P	Pn	11 43 05.0	-3.0
MDJ	**Mudanjiang**	**66.55**	**311**	P	P	11 52 58.6	-3.1
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.7s						
MDJ				AMB	AMB		
	comp=Z,140nm,6.1s						
CN2	**Changchun**	**69.59**	**311**	*e*P	P	11 53 20.8	+0.1
CN2				*e*S	S	12 02 26.0	+0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2	**Nanjing**	**76.90**	**300**	*e*P	P	11 54 06.0	+2.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
GTA	**Gaotai**	**89.20**	**312**	*e*P	P	11 55 03.3	-3.5
GTA				PP	PP	11 58 36.6	-3.0
GTA				SKS	SKS	12 05 30.2	-11
GTA				S	S	12 05 49.6	-2.2
GTA				AMB	AMB		
	comp=Z,80nm,5.4s						
GTA				LR	LR		
	comp=N,100nm,8.0s						
GTA				LR	LR		
	comp=E,130nm,6.9s						
GTA				LR	LR		
	comp=Z,70nm,7.6s						
KMI	**Kunming**	**92.50**	**297**	P	P	11 55 21.1	-1.2
KMI				AMB	AMB		
	comp=Z,10.0nm,1.5s						

BJI ***07*** *11:58:06.0, 18.90N×155.20W, h12km, mB4.9, mb4.5, Ms4.6, Msz4.5*
NEIC ***07*** *11:58:08.0, 18.87N×155.18W, h12km, MD4.0(HVO), After HVO.*
IDC ***07*** *11:58:13.5±19.0, 18.75N×154.67W, mb3.5/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.5/3, Error ellipse: s-maj=404.9km s-min=59.9km az=33.0*

ISC 07 11:58:07.9±1.2, 18.7N±0.1×155.6W±0.1, h10km, n11, σ1§07/11, mb3.9/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.39**	**0**	*e*P	**Pg**	**11 58 16.2**	**+0.3**
KKH	**Kailua Kona**	**1.05**	**336**	*e*P	**Pb**	**11 58 28.9**	**+1.1**
HKL	**Haleakala**	**2.11**	**342**	*e*P	**Pn**	**11 58 43.5**	**-0.4**
KIP	**Kipapa**	**3.56**	**320**	P	**Pn**	**11 59 02.4**	**-2.1**
PDAR	**Pinedale Array**	**45.54**	**48**	P	**P**	**12 06 29.8**	**+0.2**
	0.9nm,1.0s,mb3.7,baz=252,slow=4.7,

HOM	**Homer**	**2.33**	**174**	P	**P**	**12 17 25.6**	**-0.1**
OPT	**Oil Point**	**2.38**	**193**	P	**P**	**12 17 26.5**	**+0.1**
DHY	**Denali Highway**	**2.48**	**61**	P	**P**	**12 17 28.3**	**+0.6**
CNPM	**China Poot**	**2.49**	**169**	P	**P**	**12 17 26.9**	**-1.0**
BWN	**Browne**	**2.53**	**28**	P	**P**	**12 17 29.1**	**+0.8**
GLI	**Glacier Island**	**2.66**	**112**	P	**P**	**12 17 28.7**	**-1.3**
AUW	**Augustine West**	**2.69**	**195**	P	**P**	**12 17 30.3**	**-0.1**
AUH	**Augustine H**	**2.69**	**194**	P	**P**	**12 17 30.5**	**+0.1**
FID	**Port Fidalgo**	**2.99**	**112**	P	**P**	**12 17 32.6**	**-1.7**
KLU	**Klutina**	**3.00**	**96**	P	**P**	**12 17 34.1**	**-0.4**
WRH	**Wood River Hil**	**3.11**	**34**	P	**P**	**12 17 36.1**	**+0.1**
MLY	**Manley**	**3.14**	**11**	P	**P**	**12 17 36.8**	**+0.4**
HIN	**Hinchinbrook I**	**3.15**	**117**	P	**P**	**12 17 35.7**	**-0.8**
DIV	**Divide**	**3.16**	**103**	P	**P**	**12 17 35.8**	**-0.9**
PAX	**Paxson**	**3.26**	**69**	P	**P**	**12 17 38.2**	**+0.3**
THY	**Trims Highway**	**3.28**	**61**	*e*P	**P**	**12 17 39.6**	**+1.4**
CCB	**Clear Creek Bu**	**3.33**	**34**	P	**P**	**12 17 38.8**	**0.0**
EYAK	**Cordova Ski Ar**	**3.40**	**112**	P	**P**	**12 17 38.4**	**-1.4**
MDM	**Murphy Dome**	**3.48**	**29**	P	**P**	**12 17 41.0**	**+0.2**
COLA	**College**	**3.50**	**32**	P	**P**	**12 17 41.2**	**+0.1**
GCSA	**Galena City Sc**	**3.51**	**325**	P	**P**	**12 17 41.5**	**+0.2**
ILAR	**Eielson Array**	**3.68**	**38**	P	**P**	**12 17 43.4**	**-0.1**
	20nm,0.3s,baz=221,slow=14,SNR=1808						
ILAR				S	**S**	**12 18 24.8**	**-2.0**
	21nm,0.3s,baz=225,slow=20,SNR=8.9						
IL1	**Eielson Array**	**3.68**	**38**	P	**P**	**12 17 43.4**	**-0.1**
BMRM	**Bremner River**	**3.75**	**102**	P	**P**	**12 17 43.1**	**-1.4**
KAWH	**Katmai**	**3.84**	**201**	P	**P**	**12 17 44.9**	**-0.6**
RAGM	**Ragged Mountai**	**3.95**	**110**	P	**P**	**12 17 46.8**	**-0.3**
GLB	**Gilahina Butte**	**4.00**	**94**	P	**P**	**12 17 47.5**	**-0.3**
MENT	**Mentasta**	**4.03**	**72**	P	**P**	**12 17 48.3**	**+0.1**
DOT	**Dot Lake**	**4.07**	**62**	P	**P**	**12 17 48.8**	**0.0**
MGLS	**Mageik LS**	**4.09**	**204**	P	**P**	**12 17 49.2**	**+0.2**
IM3	**Indian Mountai**	**4.09**	**351**	P	**P**	**12 17 49.3**	**+0.3**
IMA2	**Indian Mountai**	**4.17**	**351**	*e*P	**P**	**12 17 50.0**	**-0.1**
IMA2				*e*P		12 17 50.2	
KDAK	**Kodiak Island**	**4.20**	**183**	P	**P**	**12 17 48.3**	**-2.2**
	5.5nm,0.3s,baz=39,slow=8.6,SNR=119						
KDAK				S	**S**	**12 18 33.8**	**-5.5**
	11nm,0.3s,baz=153,slow=22,SNR=13						
KDAK	**Kodiak Island**	**4.20**	**183**	P	**P**	**12 17 48.5**	**-2.0**
CAHL	**Cahill**	**4.22**	**203**	P	**P**	**12 17 50.7**	**-0.2**
BALM	**Baldy**	**4.78**	**107**	P	**P**	**12 17 57.8**	**-0.5**
DAWY	**Dawson**	**6.17**	**64**	P	**P**	**12 18 16.5**	**-0.4**
BM3	**Burnt Mountain**	**6.35**	**27**	P	**P**	**12 18 19.0**	**-0.3**
INK	**Inuvik**	**10.06**	**43**	P	**P**	**12 19 07.7**	**-1.0**
	1.5nm,0.3s,baz=239,slow=18,SNR=52						
INK				S	**S**	**12 20 58.5**	**-1.3**
	0.2nm,0.3s,baz=241,slow=8.8,SNR=4.5						
INK	**Inuvik**	**10.06**	**43**	P	**P**	**12 19 07.7**	**-1.0**
INK				S	**S**	**12 20 58.5**	**-1.3**
DLBC	**Dease Lake**	**11.53**	**98**	P	**P**	**12 19 29.2**	**+1.0**
	0.3nm,0.3s,baz=99,slow=19,SNR=12						
DLBC	**Dease Lake**	**11.53**	**98**	P	**P**	**12 19 29.2**	**+1.0**
YKA	**Yellowknife Ar**	**17.34**	**72**	P	**P**	**12 20 42.5**	**+0.8**
	0.4nm,0.3s,baz=280,slow=11,SNR=26						
YKA				ScP		12 28 37.6	
	0.0nm,0.3s,baz=294,slow=2.1,SNR=6.5						
YKA	**Yellowknife Ar**	**17.34**	**72**	P	**P**	**12 20 42.5**	**+0.8**
YKA				ScP		12 28 37.6	
NEW	**Newport**	**23.90**	**109**	P	**P**	**12 21 51.4**	**+2.6**
	1.6nm,0.6s,mb3.7,baz=324,slow=8.7,SNR=3.9						
NEW	**Newport**	**23.90**	**109**	P	**P**	**12 21 51.4**	**+2.6**
ELK	**Elko**	**30.67**	**117**	P	**P**	**12 22 51.7**	**+1.0**
	0.7nm,0.6s,mb3.6						
NVAR	**Mina Array Bea**	**31.38**	**123**	P	**P**	**12 22 58.5**	**+1.7**
	1.0nm,0.5s,mb3.8,baz=324,slow=8.1,SNR=13						
PDAR	**Pinedale Array**	**31.52**	**108**	P	**P**	**12 23 00.0**	**+1.9**
	0.6nm,0.5s,mb3.6,baz=336,slow=3.9,SNR=12						
PDAR				ScP		12 29 17.2	
	0.4nm,0.7s,baz=293,slow=0.4,SNR=4.1						
TPNV	**Topopah Spring**	**33.47**	**122**	P	**P**	**12 23 15.7**	**+0.7**
	0.7nm,0.6s,mb3.6						
MSU	**Marysvale**	**33.84**	**115**	P	**P**	**12 23 20.0**	**+1.9**
TXAR	**Lajitas Array**	**45.33**	**113**	P	**P**	**12 24 54.8**	**+1.9**
	0.5nm,0.5s,mb3.4,baz=298,slow=4.8,SNR=14						
ARCES	**ARCESS Array B**	**48.77**	**1**	P	**P**	**12 25 18.3**	**-1.0**
	6.8nm,1.2s,mb4.2,baz=8.1,slow=8.6,SNR=4.8						
SONM	**Songino Array**	**53.98**	**305**	P	**P**	**12 25 59.2**	**+0.5**
	1.8nm,0.7s,mb3.9,baz=56,slow=6.7,SNR=13						
SONM	**Songino Array**	**53.98**	**305**	P	**P**	**12 25 59.2**	**+0.5**
ZAL	**Zalesovo**	**56.06**	**323**	P	**P**	**12 26 12.7**	**-0.9**
	0.9nm,0.3s,mb4.1,baz=79,slow=7.8,SNR=4.8						
NOA	**NORSAR Array B**	**56.66**	**10**	P	**P**	**12 26 16.3**	**-1.4**
	0.5nm,0.7s,mb3.5,baz=347,slow=10,SNR=3.0						
HFS	**Hagfors**	**57.74**	**8**	P	**P**	**12 26 23.5**	**-1.9**
	3.3nm,0.9s,mb4.2,baz=18,slow=4.7,SNR=4.1						
BVAR	**Borovoye Array**	**60.52**	**332**	P	**P**	**12 26 43.6**	**-1.0**
	1.5nm,0.8s,mb3.9,baz=37,slow=7.4,SNR=6.5						
MKAR	**Makanchi Array**	**63.16**	**321**	P	**P**	**12 27 00.9**	**-1.4**
	0.6nm,0.5s,mb3.7,baz=32,slow=5.6,SNR=9.2						

*JMA **07** 12:26:32.1±0.3,44.74N×141.40E,h280km±3km,M2.9*
*IDC **07** 12:26:33.0±0.7,44.64N×141.43E,h273km±8km,mb2.8/4, mb1 3.0/4,mb1mx2.8/20,mbtmp3.4/4,Error ellipse: s-maj=25.4km s-min=22.4km az=171.0*

ISC 07 12:26:32.2±0.6,44.65N±0.07×141.50E±0.10,h280km±5km, n22,σ0$91/31,mb2.9/4,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSS	**Shosan**	**0.35**	**134**	P	**P**	**12 27 08.8**	**+0.4**
JSS				*e*S	**S**	**12 27 37.1**	**+0.3**
JWK2	**Keihoku**	**0.73**	**23**	P	**P**	**12 27 08.6**	**-0.9**
JWK2				*e*S	**S**	**12 27 36.4**	**-2.2**
JHR	**Hokuryu**	**0.92**	**170**	P	**P**	**12 27 11.0**	**+0.8**
ASAJ	**Asahikawa**	**0.95**	**124**	P	**P**	**12 27 10.8**	**+0.5**
	9.3nm,0.3s,baz=270,slow=6.9,SNR=86						
ASAJ				S	**S**	**12 27 40.3**	**+0.1**
	1.3nm,0.3s,baz=102,slow=9.3,SNR=3.2						
ASAJ	**Asahikawa**	**0.95**	**124**	P	**P**	**12 27 10.6**	**+0.2**
JKK2	**Kamakawa 2**	**1.18**	**130**	P	**P**	**12 27 12.2**	**+0.6**
JKK2				*e*S	**S**	**12 27 43.2**	**+0.7**
JSK	**Shakotan**	**1.49**	**210**	P	**P**	**12 27 13.5**	**-0.1**
JFR	**Furan**	**1.68**	**152**	P	**P**	**12 27 15.2**	**+0.3**
JEW	**Eniwo**	**1.81**	**181**	P	**P**	**12 27 16.7**	**+0.8**
JTKR	**Abashiri--Toko**	**1.86**	**111**	P	**P**	**12 27 17.5**	**+1.2**
JAR	**Ashorobuto**	**2.12**	**129**	P	**P**	**12 27 19.8**	**+1.3**
JAR				*e*S	**S**	**12 27 56.6**	**+2.0**
JCH	**Churui**	**2.44**	**146**	P	**P**	**12 27 20.8**	**-0.7**
JCH				*e*S	**S**	**12 27 57.7**	**-2.1**
JNBK	**Urakawa-nobuka**	**2.54**	**158**	P	**P**	**12 27 23.2**	**+0.8**
JNBK				*e*S	**S**	**12 28 02.0**	**+0.6**
JKB	**Kayabe**	**2.78**	**187**	P	**P**	**12 27 24.5**	**-0.2**
JAK	**Akkeshi**	**2.84**	**124**	*e*S	**S**	**12 28 05.6**	**-1.1**
JOSM	**Okushiri--Mats**	**2.96**	**211**	P	**P**	**12 27 26.3**	**-0.2**
JOT	**Ohata**	**3.28**	**186**	P	**P**	**12 27 29.8**	**-0.1**
JOT				*e*S	**S**	**12 28 13.9**	**-1.0**
NEM2	**Nemuro 2**	**3.32**	**111**	P	**P**	**12 27 30.5**	**+0.1**
NEM2				*e*S	**S**	**12 28 13.9**	**-1.8**
SONM	**Songino Array**	**24.36**	**290**	P	**P**	**12 31 25.9**	**-0.3**
	0.7nm,0.5s,mb3.3,baz=85,slow=8.1,SNR=7.0						
MKAR	**Makanchi Array**	**40.54**	**295**	P	**P**	**12 33 45.4**	**-0.3**
	0.4nm,0.8s,mb2.7,baz=90,slow=7.2,SNR=3.0						
ILAR	**Eielson Array**	**43.18**	**36**	P	**P**	**12 34 06.9**	**+0.3**
	0.4nm,0.7s,mb2.8,baz=276,slow=8.9,SNR=8.7						
WRA	**Warramunga Arr**	**64.61**	**187**	P	**P**	**12 36 41.4**	**-0.3**
	0.3nm,0.9s,mb2.9,baz=4.9,slow=7.1,SNR=5.2						

IDC 07 12:46:11.2±9.6,5.33N×95.00E,mb3.6/3,mb1 3.8/3, mb1mx3.5/18,mbtmp3.6/3,Error ellipse: s-maj=455.5km s-min=30.4km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.74**	**347**	P	P	12 54 10.3	-1.5
	0.5nm,0.8s,baz=167,slow=8.3,SNR=6.0						
WRA	**Warramunga Arr**	**46.12**	**124**	P	P	12 54 37.6	-1.8
	0.5nm,0.6s,baz=302,slow=9.4,SNR=5.5						
ZAL	**Zalesovo**	**49.16**	**352**	P	P	12 55 00.3	-2.4
	0.7nm,0.3s,baz=336,slow=8.8,SNR=3.1						

*CSEM **07** 13:01:37.6±0.2,42.32N×1.44E,h3km±2km,ML2.6/4,Error ellipse: s-maj=4.2km s-min=1.6km az=13.0*
*STR **07** 13:01:38.0±0.2,42.35N×1.45E,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 13:01:39.1±0.7,42.34N×1.46E,h15km,Ml2.6/4,Error ellipse: s-maj=17.4km s-min=4.3km az=162.0*

*NEIC **07** 13:01:39.1,42.34N×1.46E,h15km,ML2.6(LDG), ML2.3(STR),After LDG.*

MDD 07 13:01:38.4±0.2,42.35N×1.44E,mbLg1.7/19,Error ellipse: s-maj=1.6km s-min=1.4km az=115.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CORG	**Organya**	**0.15**	**219**	Pg	Pg	13 01 40.3	-1.1
CORG				Lg		13 01 43.0	
	18nm,0.0s						
PAND	**Andorre**	**0.19**	**23**	P	Pg	13 01 41.9	-0.3
PAND				S	Sg	13 01 44.8	+0.1
CSOR	**Sort**	**0.23**	**277**	Pg	Pg	13 01 42.2	-0.8
CSOR				Lg		13 01 46.1	
	83nm,0.2s						
CLLI	**Llivia**	**0.41**	**71**	Pg	Pg	13 01 45.5	-1.1
CLLI				Lg		13 01 52.0	
	1.9nm,0.0s						
VALF	**Valcebollere**	**0.43**	**83**	Pg	Pg	13 01 46.1	-0.8
VALF				Sg	Sg	13 01 52.7	+0.1
VALF	**Valcebollere**	**0.43**	**83**	P	Pg	13 01 45.8	-1.1
VALF				S	Sg	13 01 52.0	-0.7
EMIR	**Miracle**	**0.44**	**172**	Pg	Pg	13 01 46.4	-0.7
	7.2nm,0.4s,SNR=14						
EMIR				Lg		13 01 52.5	
	24nm,0.3s,SNR=14						
SALF	**Salau**	**0.45**	**336**	Pg	Pg	13 01 46.7	-0.7
SALF				Sg	Sg	13 01 53.1	-0.4
SALF	**Salau**	**0.45**	**336**	P	Pg	13 01 46.4	-1.0
SALF				S	Sg	13 01 52.9	-0.6
GRBF	**Gourbit**	**0.50**	**8**	P	Pg	13 01 47.7	-0.7
GRBF				S	Sg	13 01 54.3	-0.7
CBRU	**Bruguera**	**0.55**	**96**	Pg	Pg	13 01 48.1	-1.3
CBRU				Lg		13 01 56.4	
	12nm,0.2s						
CARF	**Carcanieres**	**0.61**	**53**	Pg	Pg	13 01 49.4	-1.2
CARF				Sg	Sg	13 01 58.0	-0.8
CARF	**Carcanieres**	**0.61**	**53**	P	Pg	13 01 49.4	-1.2
CARF				S	Sg	13 01 57.9	-0.8
MLS	**Moulis**	**0.66**	**337**	Pg	Pg	13 01 50.5	-1.1
MLS				Sg	Sg	13 01 59.8	-0.6
MLS	**Moulis**	**0.66**	**337**	P	Pg	13 01 50.5	-1.1
MLS				S	Sg	13 01 59.3	-1.2
CAVN	**Les Avellanes**	**0.69**	**228**	Pg	Pg	13 01 51.0	-1.2
CAVN				Lg		13 02 01.5	
	6.8nm,0.1s						
MELF	**Melles**	**0.73**	**316**	Pg	Pg	13 01 51.7	-1.2
MELF				Sg	Sg	13 02 02.3	-0.3
MELF	**Melles**	**0.73**	**316**	P	Pg	13 01 51.7	-1.3
MELF				S	Sg	13 02 01.6	-1.0
EGRA	**Graus**	**0.85**	**260**	Pg	Pg	13 01 55.4	0.0
	1.8nm,0.3s,SNR=7.1						
EGRA				Lg		13 02 06.6	
	1.7nm,0.2s,SNR=9.9						
CFON	**Fontmartina**	**0.94**	**128**	Pg	Pg	13 01 55.9	-1.3
CFON				Lg		13 02 11.9	
	21nm,0.2s						
EBIE	**Bielsa**	**1.02**	**290**	Pg	Pg	13 01 56.7	-2.1
	1.3nm,0.4s,SNR=13						
EBIE				Lg		13 02 10.7	
	3.8nm,0.1s,SNR=15						
EPOB	**Poblet**	**1.03**	**195**	Pg	Pg	13 01 57.4	-1.5
	1.7nm,0.3s,SNR=9.2						
EPOB				Lg		13 02 10.5	
	3.0nm,0.1s,SNR=5.0						
EJON	**La Jonquera**	**1.07**	**84**	Pg	Pg	13 01 59.1	-0.8
	2.2nm,0.3s,SNR=5.8						
EJON				Lg		13 02 14.0	
	3.4nm,0.2s,SNR=6.4						
CGAR	**Garraf**	**1.08**	**193**	Lg		13 02 15.8	
	1.6nm,0.1s						
MTLF	**Montolieu**	**1.14**	**30**	*e*Pg	Pg	13 02 00.8	-0.4
MTLF				*e*Sg	Sg	13 02 14.4	-2.1
	20nm,0.2s						
MTLF	**Montolieu**	**1.14**	**30**	Pn	Pn	13 01 59.3	-2.2
MTLF				Pg	Pg	13 02 00.8	-0.4
MTLF				Lg		13 02 14.4	
	9.9nm,0.2s						
MTLF	**Montolieu**	**1.14**	**30**	*e*Pn	Pn	13 01 59.3	-2.2
MTLF				*e*Pg	Pg	13 02 00.8	-0.4
MTLF				*e*Sg	Sg	13 02 14.4	-2.1
MTLF	**Montolieu**	**1.14**	**30**	*e*Pg	Pg	13 02 00.8	-0.4
MTLF				*e*Sg	Sg	13 02 14.4	-2.1
	9.9nm,0.2s						
ESAC	**San Caprasio**	**1.56**	**247**	Lg		13 02 28.9	
	26nm,0.3s,SNR=6.7						
ETSF	**Etsaut**	**1.58**	**291**	*e*Pg	Pg	13 02 08.5	-1.4
ETSF				*e*Sg	Sg	13 02 30.7	-0.2
	10nm,0.2s						
ETSF	**Etsaut**	**1.58**	**291**	Pn	Pn	13 02 05.0	-2.8
ETSF				Pg	Pg	13 02 08.5	-1.4
ETSF				Lg		13 02 30.7	
	5.2nm,0.2s						
ETSF	**Etsaut**	**1.58**	**291**	*e*Pn	Pn	13 02 05.0	-2.8
ETSF				*e*Pg	Pg	13 02 08.5	-1.4
ETSF				*e*Sg	Sg	13 02 30.7	-0.2
ETSF	**Etsaut**	**1.58**	**291**	*e*Pg	Pg	13 02 08.5	-1.4
ETSF				*e*Sg	Sg	13 02 30.7	-0.2
	5.2nm,0.2s						
ERTA	**Horta de San J**	**1.62**	**211**	Pg	Pg	13 02 08.6	-2.1
	SNR=7.9						
ERTA				Lg		13 02 29.0	
	6.6nm,0.3s,SNR=10.0						
SJPF	**Ste Jean**	**2.11**	**292**	*e*Sg	Sg	13 02 46.2	-2.4
	2.6nm,0.2s						
EALK	**Alkurruntz**	**2.34**	**293**	Lg		13 02 53.3	
	7.8nm,0.7s,SNR=6.1						
LASF	**Ste Croix**	**2.47**	**45**	*e*Sg	Sg	13 02 56.9	-3.7
	4.4nm,0.4s						

*IDC **07** 13:02:26.3±0.8,28.64N×128.52E,h142km±10km,mb3.3/5, mb1 3.5/6,mb1mx3.3/21,mbtmp3.8/6,MS3.1/1,Ms1 3.1/1, ms1mx2.1/12,Error ellipse: s-maj=26.6km s-min=10.5km az=101.0*
*JMA **07** 13:02:26.6±0.2,28.77N×128.58E,h129km±5km,M3.5*

ISC 07 13:02:25.2±0.4,28.69N±0.05×128.69E±0.08,h146km±6km, n24,σ1$03/38,mb3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.85**	**109**	P	**P**	**13 02 48.8**	**+0.2**
JAM				S	**S**	**13 03 05.4**	**-1.2**
JTK	**Tokunoshima**	**0.93**	**166**	P	**P**	**13 02 50.1**	**+0.9**
JTK				S	**S**	**13 03 07.4**	**-0.2**
JZK	**Kikaishima**	**1.19**	**108**	P	**P**	**13 02 53.1**	**+1.5**
JZK				S	**S**	**13 03 13.5**	**+1.7**
JNN	**Nakanoshima**	**1.54**	**42**	P	**P**	**13 02 55.6**	**+0.3**
JNN				S	**S**	**13 03 17.7**	**-0.7**
JIH	**Iheya**	**1.77**	**201**	P	**P**	**13 02 58.7**	**+1.0**
JIH				S	**S**	**13 03 22.4**	**-0.3**
JOW	**Kunigami**	**1.89**	**191**	P	**P**	**13 02 59.8**	**+0.7**
	18nm,0.3s,baz=94,slow=22,SNR=110						
JOW				S	**S**	**13 03 23.7**	**-1.4**
	98nm,0.3s,baz=163,slow=19,SNR=40						
JOW	**Kunigami**	**1.89**	**191**	P	**P**	**13 02 59.9**	**+0.8**
JOW				S	**S**	**13 03 24.2**	**-0.9**
JKC	**Kuchinoerabu**	**2.20**	**36**	P	**P**	**13 03 02.7**	**-0.2**
JKC				S	**S**	**13 03 31.4**	**-0.4**
JAGN	**Aguni-jima**	**2.46**	**212**	P	**P**	**13 03 07.1**	**+0.9**
JAGN				S	**S**	**13 03 36.8**	**-0.7**
NAH1	**Naha**	**2.63**	**200**	S	**S**	**13 03 40.4**	**-1.0**
JJT2	**Tamagusuku 2**	**2.68**	**198**	P	**P**	**13 03 09.8**	**+0.8**
JJT2				*e*S	**S**	**13 03 42.1**	**-0.3**
JTN	**Tanegashima 3**	**2.79**	**45**	P	**P**	**13 03 10.5**	**0.0**
JTN				S	**S**	**13 03 43.1**	**-1.9**
JKE	**Kume jima 2**	**2.90**	**216**	P	**P**	**13 03 12.1**	**+0.3**
JKE				*e*S	**S**	**13 03 47.2**	**-0.2**
JTSR	**Tashiro 2**	**3.14**	**38**	P	**P**	**13 03 15.0**	**+0.1**
JTSR				*e*S	**S**	**13 03 49.3**	**-3.6**
JSU	**Suzuyama**	**3.20**	**28**	P	**P**	**13 03 16.2**	**+0.5**
JNAR	**Kushima--Naru**	**3.60**	**38**	P	**P**	**13 03 21.1**	**+0.1**
JNAR				*e*S	**S**	**13 04 01.8**	**-2.0**
JMZ	**Minamidaito 2**	**3.64**	**141**	P	**P**	**13 03 21.4**	**-0.1**
JNU	**Nakatsue**	**4.80**	**23**	P	**P**	**13 03 39.4**	**+2.5**
	2.5nm,0.3s,baz=178,slow=11,SNR=9.2						
JNU				S	**S**	**13 04 34.0**	**+2.0**
	baz=338,slow=19,SNR=2.8						
ASAJ	**Asahikawa**	**18.99**	**32**	LR	LR	13 12 55.0	
	comp=Z,54nm,20.9s,baz=234,slow=33						
SONM	**Songino Array**	**25.76**	**324**	P	**P**	**13 07 45.3**	**+1.3**
	0.6nm,0.5s,mb3.5,baz=143,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**40.24**	**310**	P	**P**	**13 09 47.5**	**-1.6**
	0.7nm,0.5s,mb3.5,baz=91,slow=9.9,SNR=14						
WRA	**Warramunga Arr**	**48.65**	**173**	P	**P**	**13 10 55.9**	**-0.6**
	1.2nm,0.6s,mb3.7,baz=353,slow=8.2,SNR=13						
ILAR	**Eielson Array**	**62.09**	**29**	P	**P**	**13 12 32.4**	**-0.1**
	0.4nm,0.9s,mb3.3,baz=281,slow=8.9,SNR=4.4						
FINES	**FINESS Array B**	**70.94**	**330**	P	**P**	**13 13 26.9**	**-1.2**
	0.5nm,0.6s,mb3.4,baz=45,slow=5.4,SNR=3.6						

MEX 07 13:05:44.4±0.8,16.74N×99.59W,h6km±6km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.34**	**292**	*i*P	Pg	13 05 50.5	-0.8
ACX				*i*S	Sg	13 05 56.0	0.0
CAIG	**El Cayaco**	**0.72**	**295**	*i*P	Pg	13 05 57.5	-1.4
CAIG				*i*S	Sg	13 06 06.6	-1.9
PLIG	**Platanillo**	**1.65**	**3**	*i*P	Pn	13 06 11.0	-3.2
PLIG				*i*S	Sb	13 06 31.4	-4.4

IDC 07 13:14:30.5±1.9,1.01N×96.96E,mb3.6/4,mb1 3.7/5, mb1mx3.5/18,mbtmp3.5/5,ML2.9/1,Error ellipse: s-maj=38.7km s-min=28.3km az=51.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.65**	**48**	Pn	Pn	13 15 13.4	-1.9
	2.1nm,0.3s,baz=275,slow=7.0,SNR=11						
PSI				Sn	Sn	13 15 48.2	-0.3
	2.9nm,0.3s,baz=213,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**42.14**	**122**	P	P	13 22 24.9	-1.7
	0.3nm,0.5s,baz=301,slow=9.1,SNR=6.3						
SONM	**Songino Array**	**47.35**	**9**	P	P	13 23 06.2	-1.9
	0.3nm,0.6s,baz=197,slow=7.0,SNR=4.0						
MKAR	**Makanchi Array**	**47.37**	**346**	P	P	13 23 06.8	-1.5
	0.5nm,0.5s,baz=161,slow=9.2,SNR=14						
ZAL	**Zalesovo**	**53.70**	**351**	P	P	13 23 53.4	-3.0
	0.8nm,0.4s,baz=302,slow=5.0,SNR=4.5						

*MOS **07** 13:29:49.5±2.0,56.39N×117.50E,h11km,mb4.4/1,Error ellipse: s-maj=22.5km s-min=19.5km az=140.9*

BYKL 07 13:29:49.4±0.3,56.40N×117.53E,h17km±21km,2C-5D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.65**	**39**	⇓*i*Pg	Pb	13 30 01.7	-0.1
	76nm,0.6s						
CRS				⇓*i*Pg	Pb	13 30 01.7	-0.1
	69nm,0.6s						
CRS				⇓*i*Pg	Pb	13 30 01.7	-0.1
	113nm,0.6s						
CRS				*e*Pb	Pb	13 30 04.9	+3.1
CRS				*e*Sg	Sb	13 30 10.7	+0.4
CRS				*e*Sb	Sb	13 30 12.6	+2.3
CRS				Pmax			
	189nm,0.6s						
CRS				Smax			
	1μm,0.3s						
CRS	**Chara**	**0.65**	**39**	*e*PG	Pb	13 30 01.8	0.0
CRS				*e*		13 30 10.7	
CRS				pmax	pmax		
	comp=Z,178nm,0.2s						
CRS				smax			
	comp=E,1μm,0.3s						
NLYR	**Nelyaty**	**1.02**	**276**	*e*Pg	Pb	13 30 07.3	-0.9
NLYR				*e*Pb	Pb	13 30 09.6	+1.4
NLYR				*e*Sg	Sb	13 30 21.0	-0.1
NLYR				*e*Sb	Sb	13 30 24.8	+3.7
NLYR				max			
	comp=E,476nm,0.4s						
NLYR				max			
	comp=E,3μm,0.7s						
NLYR	**Nelyaty**	**1.02**	**276**	*e*PG	Pb	13 30 07.3	-0.9
NLYR				*e*		13 30 20.9	
NLYR				pmax	pmax		
	comp=Z,487nm,0.3s						
NLYR				smax			
	comp=N,4μm,0.8s						
SVKR	**Severomuysk**	**2.23**	**264**	*e*Pg	Pn	13 30 29.2	+2.9
SVKR				*e*Sg	Sn	13 30 58.8	+5.1
SVKR				Pmax			
	comp=N,173nm,0.5s						
SVKR				Smax			
	comp=N,845nm,0.5s						
SVKR	**Severomuysk**	**2.23**	**264**	*e*PN	Pn	13 30 29.4	+3.1
SVKR				*e*		13 30 58.5	
SVKR				pmax	pmax		
	comp=Z,179nm,1.0s						
SVKR				smax			
	comp=E,837nm,0.6s						
UKT	**Uakit**	**2.38**	**249**	*e*Pg	Pn	13 30 31.5	+3.1
UKT				*e*Sg	Sn	13 31 02.7	+5.4
UKT				Pmax			
	comp=E,84nm,0.6s						
UKT		

YLYR				*e*			13 31 49.0	
YLYR					pmax	pmax		
	comp=Z,32nm,0.6s							
YLYR					smax			
	comp=N,85nm,0.8s							
CLNS	**Chul'man**	**4.09**	**81**	*e*PN		Pn	13 31 02.8	+10
CLNS				*e*			13 31 54.8	
CLNS					pmax	pmax		
	comp=N,4.0nm,0.3s							
CLNS					pmax	pmax		
	comp=E,5.0nm,0.3s							
CLNS					pmax	pmax		
	comp=Z,5.0nm,0.3s							
CLNS					smax			
	comp=E,70nm,0.4s							
CLNS					smax			
	comp=N,28nm,0.3s							
CLNS					smax			
	comp=Z,17nm,0.3s							
NIZ	**Nizh Angarsk**	**4.52**	**265**	*e*Pg		Pn	13 31 11.0	+12
NIZ				*e*Sg		Sn	13 32 09.7	+18
NIZ					Pmax			
	comp=Z,5.0nm,0.7s							
NIZ					Smax			
	comp=Z,59nm,0.9s							
CIT	**Chita**	**4.97**	**210**	*e*Sn		Sn	13 31 59.8	-3.1
CIT				*e*Sg		Sn	13 32 22.7	+20
CIT					Smax			
	comp=Z,232nm,0.8s							
SYVR	**Suvo**	**5.13**	**241**	*e*Pn		Pn	13 31 06.3	-1.1
SYVR				*e*Pg		Pn	13 31 21.8	+14
SYVR				*e*			13 32 06.9	
SYVR				*e*Sg		Sn	13 32 28.1	+21
SYVR					Pmax			
	comp=Z,7.0nm,0.8s							
SYVR					Smax			
	comp=Z,84nm,0.9s							
KROS	**Kirovskiy**	**5.73**	**106**	*e*Pg		Pn	13 31 29.7	+14
KROS				*e*Sg		Sn	13 32 45.5	+24
ZEA	**Zeya**	**6.19**	**111**	*e*Pg		Pn	13 31 39.3	+17
ZEA				*e*Sg		Sn	13 33 00.5	+27
OGRR	**Ongureny**	**6.35**	**248**	*e*Sg		Sn	13 33 05.0	+28
OGRR					Smax			
	comp=Z,100nm,1.9s							
KPC	**Khapcheranga**	**7.39**	**207**	*e*Pn		Pn	13 31 36.0	-3.2
KPC				*e*Sn		Sn	13 32 55.8	-7.7
KPC				*e*Sg		Sn	13 33 38.1	+35
KPC					Smax			
	comp=Z,74nm,1.8s							
TRG	**Tyrgan**	**7.45**	**245**	*e*Sg		Sn	13 33 41.8	+37
TRG					Smax			
	comp=Z,44nm,1.7s							

NEIC ***07*** *13:41:42.8, 33.04S×71.10W, h48km, MD3.5(GUC), After GUC.*

GUC 07 13:41:42.8±0.6, 33.04S×71.10W, h48km±3km, MD3.5, ML2.5, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.10**	**49**	⇓*i*P		P	13 41 51.1	+0.9
ROCH				*i* S		S	13 41 57.0	+1.3
PEL	**Peldehue**	**0.37**	**107**	⇑*e*P		P	13 41 52.7	+0.3
PEL				*i* S		S	13 42 00.6	+1.4
PEL				AMP			13 42 01.2	
	comp=E,467nm,0.4s							
RCDM	**Rinconada Maip**	**0.51**	**151**	*e*P		P	13 41 54.3	+0.2
RCDM				*i* S		S	13 42 03.0	+0.8
RCDM				AMP			13 42 04.2	
	comp=N,661nm,0.1s							
LCCH	**Las Cruces**	**0.58**	**222**	*e*P		P	13 41 55.3	+0.3
LCCH				*i* S		S	13 42 04.5	+0.7
TACH	**Talagante**	**0.63**	**167**	*e*P		P	13 41 56.0	+0.5
TACH				*i* S		S	13 42 06.0	+1.1
FCH	**Farellones**	**0.74**	**113**	⇓*i*P		P	13 41 57.9	+0.8
FCH				*i* S		S	13 42 08.8	+1.3
FCH				AMP			13 42 09.2	
	comp=N,292nm,0.2s							
PCH	**Pirque**	**0.76**	**140**	*i* P		P	13 41 57.8	+0.5
PCH				*i* S		S	13 42 08.9	+0.9
CHCH	**Chadas Angostu**	**0.97**	**157**	*e*P		P	13 42 00.7	+0.5
CHCH				*i* S		S	13 42 14.2	+1.1

IGQ 07 13:57:10.6, 1.34N×80.23W, h14km±14km, mb4.0, 4C-4D, Error ellipse: s-maj=17.2km s-min=5.9km az=19.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.47**	**162**	P		Pn	13 57 38.2	+1.5
JAMA	**Jama**	**1.58**	**179**	P		Pn	13 57 38.8	+0.3
COTA	**Cotacachi**	**2.13**	**118**	P		Pn	13 57 47.2	+0.9
PINO	**Pino**	**2.19**	**132**	⇑P		Pn	13 57 49.2	+2.0
YANA	**Yana**	**2.20**	**131**	P		Pn	13 57 49.3	+2.1
YANA				S		Sn	13 58 15.7	+1.4
TERV	**Terraza Guagua**	**2.21**	**133**	⇓P		Pn	13 57 49.6	+2.3
GGP	**Refugio Guagua**	**2.22**	**133**	⇑P		Pn	13 57 49.5	+2.1
JUA2	**San Juan 2**	**2.23**	**133**	⇓P		Pn	13 57 49.7	+2.0
QIL1	**Quilotoa**	**2.52**	**149**	P		Pn	13 57 53.5	+1.7
ANGU	**Angureal**	**2.56**	**120**	P		Pn	13 57 54.8	+2.4
CAYA	**Cayambe**	**2.56**	**119**	P		Pn	13 57 54.9	+2.4
CAYR	**Refugio Cayamb**	**2.58**	**121**	P		Pn	13 57 55.2	+2.5
CAMI	**Rancho Maria**	**2.64**	**139**	⇓P		Pn	13 57 56.5	+3.0
CAMI				S		Sn	13 58 28.3	+2.9
VC1	**Cotopaxi 1**	**2.68**	**137**	⇓P		Pn	13 57 57.1	+3.1
ANTI	**Antisana**	**2.72**	**131**	⇑P		Pn	13 57 57.9	+3.2
TAMB	**Tambo**	**2.74**	**137**	⇑P		Pn	13 57 58.0	+3.1

NIED ***07*** *14:02:00, 32.90N×141.70E, h5km, Mw4.1 Best double couple: M0 1.52×10^15 NP1:φs138°, δ72°, λ79°. NP2:φs350°, δ21°, λ121°.*
JMA ***07*** *14:02:48.6±0.7, 32.91N×141.73E, M3.7*
NEIC ***07*** *14:02:49.9±0.6, 32.79N×141.79E, h10km, mb4.3/1, Error ellipse: s-maj=15.7km s-min=9.6km az=63.0*
IDC ***07*** *14:02:54.7±0.9, 32.79N×141.58E, h41km±7km, mb3.5/7, mb1 3.7/8, mb1mx3.6/20, mbtmp3.7/8, ML3.0/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/22, Error ellipse: s-maj=15.9km s-min=9.9km az=17.0*

ISC 07 14:02:51.9±0.7, 32.80N±0.05×141.71E±0.07, h42km, h42km±1.6km: pP-P, n28, σ1♀14/36, mb3.6/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.62**	**281**	P		**P**	**14 03 18.8**	**+0.3**
JHJ2				S		**S**	**14 03 39.8**	**+1.5**
JHJ	**Hachijo jima 2**	**1.65**	**282**	P		**P**	**14 03 18.9**	**+0.1**
	68nm,0.3s,baz=253,slow=19,SNR=10							
JHJ				S		**S**	**14 03 37.0**	**-2.0**
	77nm,0.3s,baz=68,slow=22,SNR=4.7							
BSO1	**Boso 1**	**1.94**	**342**	P		**P**	**14 03 22.2**	**-0.9**
BSO1				S		**S**	**14 03 46.6**	**+0.2**
BSO2	**Boso 2**	**2.10**	**338**	S		**S**	**14 03 52.6**	**+2.3**
BSO3	**Boso 3**	**2.23**	**334**	P		**P**	**14 03 27.5**	**+0.4**
BSO3				S		**S**	**14 03 54.6**	**+1.0**
BSO4	**Boso 4**	**2.46**	**333**	S		**S**	**14 04 00.9**	**+1.4**
JIM2	**Oshima 3**	**2.69**	**316**	P		**P**	**14 03 32.4**	**-1.3**
JOD2	**Odawara 2**	**3.28**	**319**	P		**P**	**14 03 40.7**	**-1.4**
JOD2				S		**S**	**14 04 19.2**	**-1.1**
JYN	**Shimob**	**3.75**	**317**	P		**P**	**14 03 50.6**	**+1.8**
JYN				S		**S**	**14 04 36.8**	**+4.5**
JRY	**Ryogami san**	**3.96**	**325**	P		**P**	**14 03 51.4**	**-0.3**
JAG	**Ashikaga**	**4.06**	**333**	P		**P**	**14 03 52.6**	**-0.6**
JAG				S		**S**	**14 04 37.9**	**-2.2**
MJAR	**Matsushiro Arr**	**4.71**	**323**	P		**P**	**14 04 01.7**	**-0.7**
	0.7nm,0.3s,baz=147,slow=11,SNR=16							
MJAR				S		**S**	**14 04 56.7**	**+0.2**
	0.8nm,0.3s,baz=46,slow=6.8,SNR=4.3							
MAJO	**Matsushiro**	**4.71**	**323**	*e*P		**P**	**14 04 01.8**	**-0.6**
MAT	**Matsushiro**	**4.71**	**323**	P		**P**	**14 04 02.0**	**-0.4**
MAT				S		**S**	**14 04 57.2**	**+0.7**
MAT	**Matsushiro**	**4.71**	**323**	*e*P		**P**	**14 04 02.0**	**-0.4**
MAT				*e*S		**S**	**14 04 57.0**	**+0.5**
JMM	**Marumori**	**5.11**	**352**	P		**P**	**14 04 05.2**	**-2.7**
JMM				S		**S**	**14 04 59.7**	**-6.7**
ASAJ	**Asahikawa**	**11.32**	**3**	LR		LR	14 09 37.7	
	comp=Z,39nm,20.6s,baz=206,slow=36							
JOW	**Kunigami**	**13.09**	**246**	LR		LR	14 10 09.7	
	comp=Z,52nm,19.6s,baz=347,slow=34							

SONM	**Songino Array**	**30.52**	**310**	P		**P**	**14 09 03.9**	**+0.7**
	0.5nm,0.6s,mb3.5,baz=119,slow=9.1,SNR=3.8							
MKAR	**Makanchi Array**	**46.67**	**306**	P		**P**	**14 11 18.7**	**+0.7**
	0.7nm,0.7s,mb3.7,baz=86,slow=8.9,SNR=8.1							
MKAR				pP		pP	14 11 30.6	+0.7
	0.7nm,0.5s,baz=85,slow=9.3,SNR=6.7							
WB2	**Warramunga Arr**	**52.92**	**189**	*e*P		**P**	**14 12 05.5**	**-0.7**
WRA	**Warramunga Arr**	**52.92**	**189**	P		**P**	**14 12 06.9**	**+0.7**
	1.9nm,0.8s,mb4.0,baz=4.9,slow=7.4,SNR=14							
WRA				pP		pP	14 12 18.2	-0.1
	1.7nm,0.7s,baz=6.3,slow=7.5,SNR=8.0							
ILAR	**Eielson Array**	**52.97**	**31**	P		**P**	**14 12 06.4**	**+0.4**
	0.8nm,0.9s,mb3.7,baz=275,slow=6.1,SNR=8.2							
ILAR				pP		pP	14 12 19.1	+1.1
	1.0nm,0.9s,baz=267,slow=5.1,SNR=5.6							
INK	**Inuvik**	**58.06**	**26**	P		**P**	**14 12 42.9**	**+0.3**
	0.7nm,0.7s,mb3.8,baz=282,slow=9.6,SNR=4.4							
INK	**Inuvik**	**58.06**	**26**	*e*P		**P**	**14 12 42.7**	**+0.1**
	3.3nm,1.2s,mb4.2							
YKA	**Yellowknife Ar**	**67.36**	**29**	P		**P**	**14 13 44.0**	**-0.2**
	0.1nm,0.7s,mb3.0,baz=302,slow=6.6,SNR=4.1							
FINES	**FINESS Array B**	**72.67**	**333**	pP		pP	14 14 28.7	-0.3
	8.6nm,1.2s,slow=5.7,SNR=2.5							
BRTR	**Keskin Array B**	**81.85**	**312**	P		**P**	**14 15 10.8**	**+2.8**
	0.4nm,0.4s,mb3.7,baz=45,slow=6.1,SNR=2.7							

FUNV ***07*** *14:16:40.9, 10.37N×62.87W, h3km, MW2.7*
TRN ***07*** *14:16:42.8, 10.37N×62.73W, h5km, MD3.6*

ISC 07 14:16:40.6±0.7, 10.40N±0.03×62.94W±0.03, h10km±5km, n15, σ0♀96/24, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.23**	**182**	⇑*i*P		**Pg**	**14 16 45.3**	**-0.3**
GUNV				*i* S		**Sg**	**14 16 48.6**	**-0.3**
CRUV	**Carupano**	**0.41**	**313**	⇓*i*P		**Pg**	**14 16 49.1**	**+0.2**
CRUV				*e*S		**Sg**	**14 16 54.5**	**+0.2**
ITEV	**Isla Los Testi**	**0.97**	**349**	*e*P		**Pb**	**14 16 59.2**	**+0.1**
ORIV	**Oritupano**	**1.40**	**200**	*e*P		**Pn**	**14 17 06.9**	**+0.6**
ORIV				*e*S		**Sb**	**14 17 26.1**	**+1.8**
TPP	**Pointe-a-Pierr**	**1.46**	**93**	*e*P		**Pn**	**14 17 08.2**	**+0.9**
TPP				*e*S		**Sb**	**14 17 29.0**	**+3.0**
TRN	**Trinidad (W)**	**1.53**	**80**	*e*P		**Pn**	**14 17 07.4**	**-0.8**
TRN				*e*S		**Sb**	**14 17 26.4**	**-1.5**
GRW	**Mount Saint Ca**	**2.15**	**35**	*e*P		**Pn**	**14 17 18.2**	**+1.1**
GRW				*e*S		**Sn**	**14 17 44.7**	**+0.6**
TPR	**Prospect**	**2.26**	**70**	*e*P		**Pn**	**14 17 18.3**	**-0.4**
TPR				*e*S		**Sn**	**14 17 45.6**	**-1.3**
BOT	**Bacolet**	**2.31**	**70**	*e*P		**Pn**	**14 17 20.1**	**+0.8**
GURV	**El Guri**	**2.62**	**183**	*e*P		**Pn**	**14 17 23.5**	**-0.4**
CUPV	**Cœpira**	**2.83**	**263**	*e*P		**Pn**	**14 17 27.4**	**+0.6**
CUPV				*e*S		**Sn**	**14 18 01.0**	**-0.3**
BIRV	**Birongo**	**3.28**	**272**	*e*P		**Pn**	**14 17 33.8**	**+0.6**
MERV	**Las Mercedes**	**3.50**	**251**	*e*P		**Pn**	**14 17 35.4**	**-0.9**
CAOV	**Caicara del Or**	**4.53**	**228**	*e*P		**Pn**	**14 17 49.8**	**-1.2**
CAOV				*e*S		**Sn**	**14 18 39.9**	**-4.5**
BAUV	**El Baul**	**5.24**	**254**	*e*P		**Pn**	**14 17 59.6**	**-1.3**

MOS ***07*** *14:23:52.0±1.8, 54.98N×111.66E, h20km, mb4.4/1, Error ellipse: s-maj=17.0km s-min=9.7km az=61.2*

BYKL 07 14:23:52.4±0.2, 55.02N×111.63E, h15km±4km, 10C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.31**	**242**	⇑*i*Pg		Pg	14 23 58.8	-0.3
	177nm,0.5s							
YLYR				⇑*i*Pg		Pg	14 23 58.8	-0.3
	305nm,0.5s							
YLYR				⇓*i*Pg		Pg	14 23 58.8	-0.3
	343nm,0.5s							
YLYR				*i* Sg		Sg	14 24 03.6	+0.1
YLYR					Pmax			
	143nm,0.2s							
YLYR					Smax			
	4μm,0.4s							
YLYR	**Ulyunkhan**	**0.31**	**242**	*e*PG		Pg	14 23 58.8	-0.3
YLYR				*i*			14 24 03.6	
YLYR					pmax	pmax		
	comp=Z,177nm,0.2s							
YLYR					smax			
	comp=E,5μm,0.4s							
KMO	**Kumora**	**0.90**	**344**	⇑*i*Pg		Pg	14 24 08.5	-2.1
	comp=E,11nm,0.5s							
KMO				⇓*i*Pg		Pg	14 24 08.5	-2.1
	comp=E,8.0nm,0.5s							
KMO				⇑*i*Pg		Pg	14 24 08.5	-2.1
	comp=E,90nm,0.5s							
KMO				*i* Sg		Sg	14 24 20.6	-2.2
KMO					Pmax			
	comp=E,85nm,0.4s							
KMO					Smax			
	comp=E,416nm,1.2s							
KMO	**Kumora**	**0.90**	**344**	*e*PG		Pg	14 24 08.6	-2.0
KMO				*e*			14 24 20.7	
KMO					pmax	pmax		
	comp=Z,87nm,0.4s							
KMO					smax			
	comp=E,331nm,0.6s							
YOA	**Uoyan**	**1.12**	**3**	⇓*i*Pg		Pg	14 24 12.9	-2.0
YOA				*i* Sg		Sg	14 24 28.5	-1.3
YOA					Pmax			
	comp=E,222nm,0.2s							
YOA					Smax			
	comp=E,2μm,0.5s							
YOA	**Uoyan**	**1.12**	**3**	⇑*i*PG		Pg	14 24 12.7	-2.2
YOA				*e*			14 24 28.4	
YOA					pmax	pmax		
	comp=Z,124nm,0.4s							
YOA					smax			
	comp=N,2μm,0.5s							
UKT	**Uakit**	**1.24**	**67**	⇑*i*Pg		Pg	14 24 14.3	-2.9
	comp=N,8.0nm,0.5s							
UKT				⇑*i*Pg		Pg	14 24 14.3	-2.9
	comp=N,58nm,0.5s							
UKT				⇑*i*Pg		Pg	14 24 14.3	-2.9
	comp=N,35nm,0.5s							
UKT				*e*Pb		Pb	14 24 16.1	+1.2
UKT				*e*Sg		Sg	14 24 30.8	-3.0
UKT				*e*Sb		Sb	14 24 34.4	+3.9
UKT					max			
	comp=N,132nm,0.4s							
UKT					max			
	comp=N,769nm,0.4s							
UKT	**Uakit**	**1.24**	**67**	*e*PG		Pg	14 24 14.3	-2.9
UKT				*e*			14 24 30.9	
UKT					pmax	pmax		
	comp=Z,121nm,0.2s							
UKT					smax			
	comp=N,700nm,0.4s							
NIZ	**Nizh Angarsk**	**1.41**	**303**	⇑*i*Pg		Pg	14 24 18.1	-2.6
	comp=N,66nm,0.7s							
NIZ				⇓*i*Pg		Pg	14 24 18.1	-2.6
	comp=N,29nm,0.7s							
NIZ				⇑*i*Pg		Pg	14 24 18.1	-2.6
	comp=N,123nm,0.7s							
NIZ				*e*Sg		Sg	14 24 37.1	-2.5
NIZ					Pmax			
	comp=N,182nm,0.4s							
NIZ					Smax			
	comp=N,305nm,0.3s							
NIZ	**Nizh Angarsk**	**1.41**	**303**	*e*PN		Pn	14 24 17.9	+0.2
NIZ				*e*			14 24 37.1	
NIZ					pmax	pmax		
	comp=Z,179nm,0.6s							
NIZ					smax			
	comp=N,278nm,0.4s							
SVKR	**Severomuysk**	**1.55**	**44**	*e*Pg		Pg	14 24 21.0	-2.5
SVKR				*e*Sg		Sg	14 24 42.1	-2.2
SVKR					Pmax			
	comp=N,414nm,0.3s							
SVKR					Smax			
	comp=N,1μm,0.4s							
SVKR	**Severomuysk**	**1.55**	**44**	*e*PN		Pn	14 24 19.4	-0.3
SVKR				*e*			14 24 21.5	
SVKR				*e*			14 24 42.0	
SVKR					pmax	pmax		
	comp=Z,423nm,0.5s							
SVKR					smax			
	comp=E,1μm,0.6s							
SYVR	**Suvo**	**1.67**	**216**	*e*Pn		Pn	14 24 21.8	+0.5
SYVR				*e*Pg		Pg	14 24 22.8	-3.0
SYVR				*e*Sn		Sn	14 24 44.6	+2.1
SYVR				*e*Sg		Sg	14 24 45.5	-2.5
SYVR					Pmax			
	comp=E,49nm,0.7s							
SYVR					Smax			
	comp=E,334nm,0.5s							
SYVR	**Suvo**	**1.67**	**216**	*e*PN		Pn	14 24 22.0	+0.7
SYVR				*e*			14 24 44.0	
SYVR					pmax	pmax		
	comp=Z,36nm,0.2s							
SYVR					smax			
	comp=N,289nm,0.2s							
NLYR	**Nelyaty**	**2.73**	**56**	⇓*i*Pn		Pn	14 24 36.4	-0.2
NLYR				*e*Pg		Pg	14 24 41.2	-5.8
NLYR				*e*Sn		Sn	14 25 08.9	-0.7
NLYR				*i* Sg		Sg	14 25 16.7	-6.8
NLYR					Pmax			
	comp=N,19nm,0.6s							
NLYR					Smax			
	comp=N,291nm,0.9s							
NLYR	**Nelyaty**	**2.73**	**56**	*e*PN		Pn	14 24 36.3	-0.3
NLYR				*e*			14 24 41.5	
NLYR				*e*			14 25 16.8	
NLYR					pmax	pmax		
	comp=Z,20nm,0.3s							
NLYR					smax			
	comp=N,289nm,1.3s							
OGRR	**Ongureny**	**2.74**	**241**	*e*Pn		Pn	14 24 36.9	+0.3
OGRR				*e*Pg		Pg	14 24 41.2	-5.9
OGRR				*e*Sn		Sn	14 25 09.6	-0.1
OGRR				*e*Sg		Sg	14 25 17.0	-6.6
OGRR					Pmax			
	comp=N,11nm,0.4s							
OGRR					Smax			
	comp=N,103nm,0.2s							
OGRR	**Ongureny**	**2.74**	**241**	*e*PN		Pn	14 24 41.8	+5.2
OGRR				*e*			14 25 17.1	
OGRR					pmax	pmax		
	comp=Z,19nm,0.2s							
OGRR					smax			
	comp=E,110nm,0.2s							
BOD	**Bodaibo**	**3.10**	**24**	*e*Pn		Pn	14 24 40.7	-1.1
BOD				*e*Pg		Pg	14 24 46.8	-7.6
BOD				*e*Sn		Sn	14 25 18.1	-0.8
BOD				*e*Sg		Sg	14 25 26.3	-9.4
BOD					Pmax			
	comp=E,18nm,0.5s							
BOD					Smax			
	comp=E,78nm,0.5s							
CIT	**Chita**	**3.22**	**158**	*e*Pg		Pg	14 24 50.3	-6.4
CIT				*e*Sg		Sg	14 25 31.8	-7.8
CIT					Pmax			
	comp=E,15nm,0.6s							
CIT					Smax			
	comp=E,122nm,0.7s							
ZRHB	**Zarechye**	**3.63**	**229**	*e*Sg		Sg	14 25 46.8	-6.4
ZRHB					Smax			
	comp=E,194nm,0.5s							
TRTB	**Turuntaevo**	**3.67**	**222**	*e*Pg		Pg	14 24 59.4	-6.4
TRTB				*e*Sg		Sg	14 25 47.1	-7.6
TRTB					Pmax			
	comp=E,16nm,1.1s							
TRTB					Smax			
	comp=E,103nm,1.0s							
TRG	**Tyrgan**	**3.86**	**236**	*e*Pn		Pn	14 24 52.2	-0.4
TRG				*e*Pg		Pg	14 25 01.4	-8.1
TRG				*e*Sn		Sn	14 25 36.8	-1.3
TRG				*e*Sg		Sg	14 25 50.9	-10
TRG					Pmax			
	comp=E,14nm,0.6s							
TRG					Smax			
	comp=E,94nm,0.3s							
FFNB	**Fofonovo**	**4.16**	**226**	*e*Sg		Sg	14 26 01.3	-10
FFNB					Smax			
	comp=E,236nm,0.5s							
CRS	**Chara**	**4.18**	**60**	*e*Pn		Pn	14 24 56.7	-0.5
CRS				*e*Pg		Pg	14 25 07.9	-8.0
CRS				*e*Sg		Sg	14 26 01.8	-10
CRS					Pmax			
	comp=E,19nm,1.2s							
CRS					Smax			
	comp=E,243nm,1.3s							
CRS	**Chara**	**4.18**	**60**	*e*PN		Pn	14 24 56.5	-0.7
CRS				*e*			14 25 08.3	
CRS				*e*			14 26 01.6	
CRS					pmax	pmax		
	comp=Z,20nm,0.9s							
CRS					smax			
	comp=E,272nm,1.3s							
HRMR	**Khuramsha**	**4.40**	**221**	*e*Pg		Pg	14 25 12.7	-7.7
HRMR				*e*Sg		Sg	14 26 10.0	-9.1
HRMR					Pmax			
	comp=E,15nm,0.4s							
HRMR					Smax			
	comp=E,283nm,0.5s							
TUP	**Tupik**	**4.86**	**94**	*e*Pn		Pn	14 25 05.3	-1.5
TUP				*e*Pg		Pg	14 25 19.0	-11
TUP				*e*			14 26 02.2	
TUP				*e*Sg		Sg	14 26 22.6	-12
TUP					Pmax			
	comp=E,9.0nm,0.7s							
TUP					Smax			
	comp=E,106nm,0.7s							
TUP	**Tupik**	**4.86**	**94**	*e*PN		Pn	14 25 05.3	-1.5
TUP				*e*			14 25 18.6	
TUP				*e*			14 26 21.0	
TUP					pmax	pmax		
	comp=Z,7.0nm,0.6s							
TUP					smax			
	comp=N,107nm,0.7s							
LSTR	**Listvyanka**	**5.14**	**235**	*e*Sg		Sg	14 26 30.3	-13
LSTR					Smax			
	comp=N,46nm,1.3s							
IRK	**Irkutsk**	**5.19**	**241**	*e*PN		Pn	14 25 26.5	+15
IRK				*e*			14 26 32.0	
IRK					pmax	pmax		
	comp=Z,51nm,0.2s							
IRK					smax			
	comp=N,196nm,0.4s							
KPC	**Khapcheranga**	**5.34**	**175**	*e*Pn		Pn	14 25 13.9	+0.3
KPC				*e*Pg		Pg	14 25 27.7	-11
KPC				*e*Sg		Sg	14 26 36.5	-14
KPC					Pmax			
	comp=N,11nm,2.0s							
KPC					Smax			
	comp=N,82nm,1.0s							
TLY	**Talaya**	**5.83**	**238**	*e*Sg		Sg	14 26 50.3	-16
TLY					Smax			
	comp=N,41nm,0.9s							
ARS	**Arshan**	**6.31**	**244**	*e*Pg		Pg	14 25 44.3	-14
ARS				*e*Sg		Sg	14 27 07.0	-16
ARS					Pmax			
	comp=N,11nm,0.4s							
ARS					Smax			
	comp=N,133nm,1.1s							
ZAK	**Zakamensk**	**6.88**	**231**	*e*Sg		Sg	14 27 25.7	-16
ZAK					Smax			
	comp=N,14nm,0.6s							
MOY	**Mondy**	**7.20**	**247**	*e*Pn		Pn	14 25 38.8	-1.0
MOY				*e*Sg		Sg	14 27 34.5	-18
MOY					Smax			
	comp=N,34nm,1.7s							
MOY	**Mondy**	**7.20**	**247**	*e*PG		Pg	14 26 01.0	-15
MOY				*e*			14 27 34.6	
MOY					pmax	pmax		
	comp=Z,3.0nm,0.4s							
MOY					smax			
	comp=E,39nm,1.4s							
ORL	**Orlik**	**7.43**	**255**	*e*Pn		Pn	14 25 41.5	-1.5
ORL				*e*Sn		Sn	14 27 01.6	-6.2
ORL				*e*Sg		Sg	14 27 41.1	-19
ORL					Smax			
	comp=E,30nm,1.3s							
ORL	**Orlik**	**7.43**	**255**	*e*PN	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.53**	**297**	P	S	14 44 21.9	-0.1
JIO	**Ouri**	**2.59**	**282**	S	S	14 44 53.4	+0.2
MIYJ	**Miyakonagasawa**	**2.68**	**307**	*eS*	S	14 44 55.6	0.0
JMK	**Ichinoseki**	**2.81**	**291**	*eS*	S	14 44 59.4	+0.5
JCH	**Churui**	**4.72**	**349**	*eS*	S	14 45 42.6	-4.5
JRY	**Ryogami san**	**4.95**	**248**	P	P	14 44 55.9	-0.3
JRY				*eS*	S	14 45 49.7	-3.1
NEM2	**Nemuro 2**	**5.45**	**9**	*eS*	S	14 45 57.2	-8.2

NEIC **07** *14:46:34.9±3.7, 5.29S×146.91E, h211km±36km, mb4.3/2, Error ellipse: s-maj=34.2km s-min=13.1km az=151.0*
IDC **07** *14:46:36.6±3.7, 5.40S×146.90E, h226km±37km, mb3.7/3, mb1 3.9/6, mb1mx3.5/15, mbtmp4.5/6, Error ellipse: s-maj=35.3km s-min=15.4km az=134.0*
ISC 07 14:46:30.7±3.1, 5.1S±0.2×146.8E±0.2, h183km±31km, n12, σ0§86/14, mb4.0/3, 2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.69**	**109**	P	**P**	**14 49 38.8**	**+0.3**
	5.6nm,0.3s,baz=208,slow=9.1,SNR=3.3						
HNR	**Honiara**	**13.69**	**109**	P	**P**	**14 49 38.8**	**+0.3**
CTA	**Charters Tower**	**14.87**	**182**	*eP*	**P**	**14 49 58.8**	**+5.6**
	2.0nm,0.7s						
CTA	**Charters Tower**	**14.87**	**182**	P	**P**	**14 49 54.2**	**+1.1**
	0.2nm,0.3s,baz=28,slow=14,SNR=4.8						
CTA	**Charters Tower**	**14.87**	**182**	P	**P**	**14 49 54.2**	**+1.1**
CTAO	**Charters Tower**	**14.87**	**182**	*eP*	**P**	**14 49 53.7**	**+0.5**
	1.6nm,0.5s						
WB2	**Warramunga Arr**	**19.07**	**218**	⇓ *iP*	**P**	**14 50 40.7**	**-0.8**
WB2				*eS*	**S**	**14 54 03.5**	**+0.2**
WRA	**Warramunga Arr**	**19.08**	**218**	P	**P**	**14 50 40.7**	**-0.8**
	7.3nm,0.3s,baz=38,slow=11,SNR=342						
WRA				S	**S**	**14 54 04.3**	**+0.8**
	baz=38,slow=20,SNR=11						
FITZ	**Fitzroy Crossi**	**24.39**	**236**	⇓ *iP*	**P**	**14 51 34.0**	**+0.3**
	13nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.39**	**236**	P	**P**	**14 51 34.0**	**+0.3**
	7.0nm,0.4s,mb4.5,baz=63,slow=9.8,SNR=74						
VNDA	**Vanda**	**72.77**	**177**	P	**P**	**14 57 38.5**	**-1.8**
	1.4nm,1.0s,mb3.7,baz=335,slow=6.8,SNR=5.8						
ILAR	**Eielson Array**	**84.77**	**23**	P	**P**	**14 58 46.0**	**+0.9**
	0.9nm,0.7s,mb3.6,baz=262,slow=5.4,SNR=9.5						

IDC **07** *14:51:36.2±1.4, 24.07S×179.86E, h518km±14km, mb3.6/12, mb1 3.8/14, mb1mx3.7/18, mbtmp4.5/14, Error ellipse: s-maj=16.6km s-min=14.2km az=45.0*
NEIC **07** *14:51:37.2±0.9, 24.10S×179.83E, h532km±10km, mb4.5/4, Error ellipse: s-maj=12.3km s-min=9.4km az=215.0*
ISC 07 14:51:35.3±1.4, 24.20S±0.07×179.8E±0.1, h517km±16km, n41, σ1§04/42, mb4.0/12, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.43**	**158**	P	**P**	**14 53 09.5**	**+1.6**
	77nm,0.3s,baz=52,slow=19,SNR=3.6						
DZM	**Mont Dzumac**	**12.46**	**277**	P	**P**	**14 54 21.6**	**+2.2**
	0.4nm,0.3s,baz=103,slow=19,SNR=4.3						
AFI	**Afiamalu**	**12.96**	**39**	P	**P**	**14 54 19.0**	**-5.5**
	2.4nm,0.3s,baz=51,slow=13,SNR=5.7						
AFI				S	**S**	**14 56 30.3**	**-10**
	0.9nm,0.3s,baz=32,slow=19,SNR=2.7						
PUZ	**Puketiti**	**13.90**	**185**	PN	**P**	**14 54 33.8**	**-0.2**
PUZ				SN	**S**	**14 57 02.5**	**+4.4**
URZ	**Urewera**	**14.21**	**189**	P	**P**	**14 54 36.4**	**-0.8**
	19nm,0.3s,baz=353,slow=2.7,SNR=87						
URZ				S	**S**	**14 57 03.5**	**-0.3**
	1.3nm,0.3s,baz=32,slow=23,SNR=12						
URZ	**Urewera**	**14.21**	**189**	PN	**P**	**14 54 34.9**	**-2.3**
URZ				SN	**S**	**14 57 04.5**	**+0.7**
BKZ	**Black Stump Fm**	**15.19**	**190**	PN	**P**	**14 54 45.0**	**-2.0**
BKZ				SN	**S**	**14 57 20.9**	**-1.0**
QRZ	**Quartz Range**	**17.67**	**198**	PN	**P**	**14 55 12.5**	**+1.1**
NNZ	**Nelson**	**17.80**	**196**	PN	**P**	**14 55 12.3**	**-0.5**
THZ	**Tophouse**	**18.43**	**196**	PN	**P**	**14 55 18.3**	**-0.6**
RPZ	**Rata Peaks**	**20.75**	**198**	P	**P**	**14 55 41.5**	**+0.9**
	9.8nm,0.5s,baz=212,slow=2.5,SNR=6.9						
HNR	**Honiara**	**23.96**	**304**	P	**P**	**14 56 10.9**	**+0.7**
	24nm,0.4s,mb5.1,baz=86,slow=2.0,SNR=4.7						
CTA	**Charters Tower**	**31.29**	**271**	*eP*	**P**	**14 57 14.4**	**+0.3**
	4.7nm,0.3s,mb4.5						
CTA	**Charters Tower**	**31.29**	**271**	P	**P**	**14 57 14.4**	**+0.3**
	7.7nm,0.3s,mb4.7,baz=97,slow=11,SNR=21						
CTA				ScP		15 02 47.0	
	2.4nm,0.6s,baz=213,slow=5.8,SNR=4.5						
CTAO	**Charters Tower**	**31.29**	**271**	*eP*	**P**	**14 57 14.2**	**+0.1**
	11nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**34.44**	**248**	*eP*	**P**	**14 57 41.5**	**+1.0**
WB2	**Warramunga Arr**	**42.19**	**267**	*eP*	**P**	**14 58 42.8**	**-1.0**
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**14 58 42.9**	**-0.9**
	4.2nm,0.7s,mb4.1,baz=97,slow=8.4,SNR=47						
WRA				ScP		15 03 28.8	
	1.6nm,0.7s,baz=99,slow=3.7,SNR=14						
WRA				S	**S**	**15 04 20.4**	**-6.7**
	1.8nm,1.2s,baz=99,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**14 58 42.9**	**-0.9**
WRA				ScP		15 03 28.8	
WRA				S	**S**	**15 04 20.4**	**-6.7**
FITZ	**Fitzroy Crossi**	**50.62**	**266**	*eP*	**P**	**14 59 47.6**	**-0.7**
	5.9nm,0.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**50.62**	**266**	P	**P**	**14 59 48.2**	**0.0**
	3.2nm,0.8s,mb3.7,baz=213,slow=7.7,SNR=12						
VNDA	**Vanda**	**54.07**	**185**	P	**P**	**15 00 12.3**	**-0.1**
	1.0nm,0.5s,mb3.4,baz=24,slow=5.4,SNR=6.0						
QSPA	**South Pole Qui**	**65.89**	**180**	*eP*	**P**	**15 01 31.3**	**+0.8**
	18nm,0.9s,mb4.6						
MJAR	**Matsushiro Arr**	**72.03**	**326**	P	**P**	**15 02 06.4**	**-1.6**
	3.5nm,0.8s,mb3.9,baz=158,slow=6.4,SNR=9.2						
MAW	**Mawson**	**77.41**	**200**	P	**P**	**15 02 37.9**	**+0.6**
	4.4nm,0.6s,mb4.1,baz=134,slow=6.6,SNR=6.1						
SNAA	**Sanae**	**84.38**	**179**	⇑ *i*	**P**	**15 03 11.8**	**-1.1**
VNA3	**Neumayer Olymp**	**84.59**	**177**	⇑ *i*	**P**	**15 03 14.6**	**+0.6**
VNA2	**Neumayer--Watz**	**85.01**	**178**	⇑ *i*	**P**	**15 03 16.8**	**+0.8**
NVAR	**Mina Array Bea**	**85.09**	**44**	P	**P**	**15 03 17.1**	**-0.1**
	0.1nm,0.3s,mb2.8,baz=225,slow=8.7,SNR=4.6						
VNA1	**Neumayer--Stat**	**85.25**	**177**	⇑ *i*	**P**	**15 03 18.2**	**+1.0**
TPNV	**Topopah Spring**	**85.57**	**46**	*eP*	**P**	**15 03 19.5**	**0.0**
PLCA	**Paso Flores**	**88.20**	**134**	P	**P**	**15 03 33.0**	**+1.1**
	2.2nm,0.8s,mb3.9,baz=248,slow=5.0,SNR=2.8						
PLCA	**Paso Flores**	**88.20**	**134**	P	**P**	**15 03 33.0**	**+1.1**
TXAR	**Lajitas Array**	**90.75**	**58**	P	**P**	**15 03 44.1**	**+0.2**
	1.4nm,0.8s,mb4.0,baz=218,slow=6.5,SNR=8.9						
PDAR	**Pinedale Array**	**93.03**	**44**	P	**P**	**15 03 53.3**	**-0.8**
	0.3nm,0.7s,mb3.4,baz=286,slow=6.9,SNR=2.7						
ARCES	**ARCESS Array B**	**132.14**	**348**	PKP	PKPdf	15 09 47.8	-1.4
	1.6nm,0.9s,baz=90,slow=1.2,SNR=5.6						
FINES	**FINESS Array B**	**138.66**	**341**	SKPbc		15 12 47.4	
	8.4nm,1.2s,baz=143,slow=9.5,SNR=5.9						
NOA	**NORSAR Array B**	**142.34**	**351**	SKPbc		15 12 56.9	
	1.6nm,0.9s,baz=35,slow=2.0,SNR=3.5						
AKASG	**Malin Array Be**	**145.12**	**327**	PKPbc	PKPbc	15 10 13.4	-0.5
	1.0nm,0.4s,baz=41,slow=4.6,SNR=11						
AKASG				SKPbc		15 13 04.3	
	1.9nm,0.6s,baz=47,slow=3.0,SNR=9.4						
BRTR	**Keskin Array B**	**147.60**	**307**	PKPbc	PKPdf	15 10 22.2	+4.8
	1.0nm,0.7s,baz=124,slow=4.5,SNR=4.6						
BRTR				PKPab	PKPab	15 10 25.8	-1.6
	1.0nm,0.7s,baz=119,slow=4.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**168.86**	**190**	PKPab	PKPab	15 11 58.0	-0.9
	2.2nm,0.8s,baz=162,slow=4.7,SNR=8.9						

IDC **07** *14:52:56.1±19.0, 18.18N×101.24W, mb3.3/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.3/3, Error ellipse: s-maj=372.9km s-min=135.4km az=177.0*
NEIC **07** *14:53:10.6, 18.31N×101.92W, h16km, MD3.9(MEX), After MEX.*
MEX **07** *14:53:10.9±0.8, 18.32N×101.87W, h16km±13km, MD3.9*
ISC 07 14:53:05.0±0.6, 18.35N±0.04×102.04W±0.05, h16km, n14, σ1§47/24, mb3.3/3, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.92**	**143**	*i* P	**Pb**	**14 53 23.9**	**+1.8**
ZIIG				*i* S	**Sb**	**14 53 32.8**	**-1.0**
MOIG	**Morelia**	**1.55**	**31**	*i* P	**Pn**	**14 53 33.9**	**+1.8**
MOIG				*i* S	**Sn**	**14 53 51.1**	**-0.8**
MRX	**Morelia**	**1.57**	**31**	*eP*	**Pn**	**14 53 34.0**	**+1.6**
MRX				*i* S	**Sn**	**14 53 49.5**	**-3.0**
COLM	**Colima**	**1.77**	**298**	*i* P	**Pn**	**14 53 35.2**	**-0.1**
COLM				*i* S	**Sn**	**14 53 56.4**	**-1.2**
CAIG	**El Cayaco**	**2.13**	**127**	*eP*	**Pn**	**14 53 40.6**	**+0.2**
CAIG				*i* S	**Sn**	**14 54 04.5**	**-2.2**
PLIG	**Platanillo**	**2.41**	**89**	*eP*	**Pn**	**14 53 44.0**	**-0.4**
PLIG				*i* S	**Sn**	**14 54 10.6**	**-3.3**
PLIG	**Platanillo**	**2.41**	**89**	*eP*	**Pn**	**14 53 46.0**	**+1.5**
PLIG				*i* S	**Sn**	**14 54 14.4**	**+0.6**
ACX	**Acapulco**	**2.50**	**126**	*eP*	**Pn**	**14 53 48.0**	**+2.2**
ACX				*i* S	**Sn**	**14 54 16.0**	**-0.2**
PPM	**Popocatepetl**	**3.31**	**77**	*i* P	**Pn**	**14 53 58.3**	**+1.0**
PPM				*i* S	**Sn**	**14 54 35.7**	**-1.0**
ZAIG	**Zacatecas**	**4.42**	**354**	*eP*	**Pn**	**14 54 14.6**	**+1.5**
ZAIG				*i* S	**Sn**	**14 55 08.9**	**+4.0**
ZAIG	**Zacatecas**	**4.42**	**354**	*eP*	**Pn**	**14 54 14.0**	**+0.8**
NVAR	**Mina Array Bea**	**24.52**	**328**	P	**P**	**14 58 22.5**	**-2.5**
	0.6nm,0.8s,mb3.2,baz=151,slow=11,SNR=5.4						
YKA	**Yellowknife Ar**	**44.96**	**352**	P	**P**	**15 01 14.6**	**-6.3**
	0.4nm,0.7s,mb3.4,baz=164,slow=7.3,SNR=6.4						
ILAR	**Eielson Array**	**55.16**	**338**	P	**P**	**15 02 33.4**	**-5.4**
	0.2nm,0.5s,mb3.4,baz=153,slow=5.2,SNR=8.0						

NEIC **07** *15:06:02.0±2.4, 17.45S×178.93W, h516km±28km, mb4.1/3, Error ellipse: s-maj=16.6km s-min=13.3km az=96.0*
IDC **07** *15:06:05.9±2.7, 17.54S×179.06W, h563km±33km, mb3.3/15, mb1 3.5/16, mb1mx3.5/20, mbtmp4.2/16, Error ellipse: s-maj=17.5km s-min=13.1km az=157.0*
ISC 07 15:06:06.8±2.5, 17.4S±0.1×179.2W±0.1, h583km±30km, n26, σ0§76/27, mb3.8/15, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.27**	**248**	P	**P**	**15 09 08.1**	**-0.1**
	0.3nm,0.3s,baz=75,slow=18,SNR=3.7						
URZ	**Urewera**	**21.08**	**188**	P	**P**	**15 10 07.4**	**-5.0**
	9.4nm,0.3s,mb4.9,baz=316,slow=2.9,SNR=27						
RPZ	**Rata Peaks**	**27.54**	**195**	P	**P**	**15 11 05.5**	**-4.1**
	12nm,0.8s,mb4.6,baz=15,slow=6.7,SNR=4.6						
CTA	**Charters Tower**	**32.76**	**260**	*eP*	**P**	**15 11 54.9**	**+0.6**
	4.1nm,0.8s,mb4.1						
CTA	**Charters Tower**	**32.76**	**260**	P	**P**	**15 11 54.8**	**+0.5**
	6.3nm,0.8s,mb4.3,baz=89,slow=12,SNR=8.3						
CTAO	**Charters Tower**	**32.76**	**260**	*eP*	**P**	**15 11 54.8**	**+0.5**
STKA	**Stephens Creek**	**38.21**	**240**	*eP*	**P**	**15 12 40.3**	**+1.1**
	5.3nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**38.21**	**240**	P	**P**	**15 12 39.6**	**+0.5**
	3.6nm,0.6s,mb4.0,baz=94,slow=13,SNR=7.9						
WB2	**Warramunga Arr**	**43.95**	**259**	*eP*	**P**	**15 13 24.5**	**-0.4**
WRA	**Warramunga Arr**	**43.96**	**259**	P	**P**	**15 13 24.6**	**-0.4**
	1.9nm,0.6s,mb3.8,baz=93,slow=7.2,SNR=38						
WRA				S	**S**	**15 19 14.6**	**-1.1**
	0.2nm,0.7s,baz=90,slow=14,SNR=3.3						
FITZ	**Fitzroy Crossi**	**52.34**	**260**	*eP*	**P**	**15 14 28.2**	**+0.6**
	3.9nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**52.34**	**260**	P	**P**	**15 14 28.5**	**+0.9**
	1.8nm,0.5s,mb3.7,baz=108,slow=7.2,SNR=15						
VNDA	**Vanda**	**60.93**	**185**	P	**P**	**15 15 24.7**	**-0.8**
	1.8nm,1.0s,mb3.2,baz=26,slow=8.8,SNR=3.8						
MJAR	**Matsushiro Arr**	**66.99**	**324**	P	**P**	**15 16 04.4**	**+0.1**
	1.8nm,0.5s,mb3.7,baz=154,slow=6.6,SNR=6.0						
NVAR	**Mina Array Bea**	**79.58**	**44**	P	**P**	**15 17 15.7**	**+0.4**
	0.8nm,0.7s,mb3.2,baz=222,slow=8.6,SNR=7.2						
ELK	**Elko**	**82.80**	**43**	P	**P**	**15 17 31.2**	**-0.5**
	0.5nm,0.4s,mb3.4,baz=259,slow=6.6,SNR=3.7						
MAW	**Mawson**	**84.11**	**200**	P	**P**	**15 17 37.9**	**+0.4**
	2.9nm,0.7s,mb3.9,baz=187,slow=4.3,SNR=7.5						
ILAR	**Eielson Array**	**85.53**	**13**	P	**P**	**15 17 44.0**	**-0.5**
	0.4nm,0.4s,mb3.4,baz=234,slow=5.4,SNR=9.8						
TXAR	**Lajitas Array**	**86.37**	**58**	P	**P**	**15 17 49.9**	**+0.5**
	0.8nm,0.8s,mb3.4,baz=225,slow=5.1,SNR=6.9						
PDAR	**Pinedale Array**	**87.50**	**44**	P	**P**	**15 17 54.4**	**0.0**
	0.8nm,0.7s,mb3.6,baz=225,slow=4.5,SNR=6.9						
SNAA	**Sanae**	**91.17**	**179**	⇑ *i*	**P**	**15 18 09.9**	**-0.9**
VNA3	**Neumayer Olymp**	**91.34**	**177**		**P**	**15 18 12.7**	**+1.2**
VNA2	**Neumayer--Watz**	**91.77**	**177**	⇑ *i*	**P**	**15 18 14.4**	**+0.9**
YKA	**Yellowknife Ar**	**94.16**	**25**	P	**P**	**15 18 24.2**	**-0.3**
	0.4nm,0.7s,mb3.7,baz=243,slow=4.6,SNR=5.2						
YKA	**Yellowknife Ar**	**94.16**	**25**	P	**P**	**15 18 24.2**	**-0.3**
MIAR	**Mount Ida**	**96.18**	**56**	P	**P**	**15 18 34.1**	**-0.2**
	50nm,0.9s						

NEIC **07** *15:14:01.9±0.4, 14.57N×92.21W, mb4.8/32, MD4.7(MEX), Error ellipse: s-maj=9.2km s-min=5.9km az=45.0*
BJI **07** *15:14:01.9, 14.60N×92.20W, h68km, mB5.1, Ms5.1, Ms24.8*
CASC **07** *15:14:01.8±2.0, 14.49N×92.41W, h22km±21km, MD4.8, ML5.5, mb4.8(NEIC)*
MEX **07** *15:14:02.6±0.8, 14.41N×92.49W, h50km±14km, MD4.8*
IDC **07** *15:14:02.9±0.6, 14.83N×91.89W, h73km±5km, mb4.0/20, mb1 4.2/21, mb1mx4.1/25, mbtmp4.3/21, MS4.1/17, Ms1 4.1/17, ms1mx3.9/28, Error ellipse: s-maj=23.8km s-min=8.8km az=58.0*
ISC 07 15:14:01.1±0.2, 14.48N±0.03×92.49W±0.02, h70km, h70km±1.4km: pP-P, n162, σ1§29/166, mb4.6/40, 3C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**1.45**	**78**	*eP*	**P**	**15 14 26.1**	**+0.1**
TP2				*eS*	**S**	**15 14 45.8**	**+1.5**
TP2				AML	AML	15 14 50.6	
	comp=N,39μm,0.5s						
FUG	**Fuego 3**	**1.59**	**91**	⇓ *eP*	**P**	**15 14 27.0**	**-0.8**
CCIG	**Comitan**	**1.82**	**11**	*i* P	**P**	**15 14 30.7**	**-0.2**
CCIG				*i* S	**S**	**15 14 53.4**	**+0.5**
PCG	**Pacaya**	**1.82**	**92**	*eP*	**P**	**15 14 31.3**	**+0.4**
PCG				*eS*	**S**	**15 14 52.5**	**-0.5**
GCG	**Guatemala City**	**1.90**	**87**	⇑ *eP*	**P**	**15 14 32.9**	**+1.0**
GCG				*eS*	**S**	**15 14 55.0**	**+0.4**
IXG	**Ixpaco**	**1.99**	**99**	*eP*	**P**	**15 14 33.8**	**+0.5**
IXG				*eS*	**S**	**15 14 58.4**	**+1.4**
IXG				AML	AML	15 15 08.3	
	comp=E,219μm,0.4s						
NBG	**Las Nubes**	**2.08**	**87**	*eP*	**P**	**15 14 35.1**	**+0.8**
NBG				*eS*	**S**	**15 15 03.5**	**+4.4**
SCX	**San Cristobal**	**2.25**	**356**	*i* P	**P**	**15 14 38.0**	**+1.2**
SCX				*i* S	**S**	**15 15 04.0**	**+0.6**
MRL	**Marmol**	**2.77**	**77**	*eP*	**P**	**15 14 43.6**	**-0.6**
SBLS	**San Blas**	**2.85**	**103**	⇓ *eP*	Px	15 14 56.3	
SBLS				*eS*	Sx	15 15 30.8	
SNJE	**San Jose**	**2.86**	**102**	*eP*	Px	15 14 56.4	
SNJE				*eS*	Sx	15 15 31.4	
BOQS	**Boqueron**	**3.20**	**103**	*eP*	Px	15 15 01.0	
BOQS				*eS*	Sx	15 15 38.7	
SNET	**Serv Nac Est T**	**3.26**	**104**	⇓ *eP*	**P**	**15 14 51.4**	**+0.3**
SNET				*eS*	**S**	**15 15 30.0**	**+1.3**
CMIG	**Matias Romero**	**3.47**	**319**	*eP*	**P**	**15 14 53.4**	**-0.6**
CMIG				*i* S	**S**	**15 15 33.7**	**-0.5**
SNVI	**San Vicente**	**3.64**	**103**	*eP*	Px	15 15 07.3	
SNVI				*eS*	Sx	15 15 51.3	
HUIG	**Huatulco**	**3.72**	**291**	*eP*	**P**	**15 14 56.9**	**-0.7**
HUIG				*i* S	**S**	**15 15 40.4**	**-0.1**
TUIG	**Tuzandepetl**	**3.99**	**333**	*i* P	**P**	**15 15 00.4**	**-0.9**
TUIG				*i* S	**S**	**15 15 47.6**	**+0.5**
TUIG	**Tuzandepetl**	**3.99**	**333**	*i* P	**P**	**15 15 00.3**	**-1.0**
TUIG				*i* S	**S**	**15 15 47.6**	**+0.5**
VSM	**San Miguel**	**4.22**	**104**	*eP*	Px	15 15 15.3	
VSM				*eS*	Sx	15 15 04.2	
BLLM	**Bellamira**	**4.25**	**104**	*eP*	Px	15 15 15.9	
BLLM				*eS*	Sx	15 16 03.0	
CNCH	**Conchagua**	**4.67**	**104**	*eP*	Px	15 15 21.2	
CNCH				*eS*	Sx	15 16 14.1	
OXX	**Oaxaca**	**4.83**	**303**	*eP*	**P**	**15 15 14.0**	**+1.1**
OXX				*i* S	**S**	**15 16 09.0**	**+0.9**
OXX	**Oaxaca**	**4.83**	**303**	*eP*	**P**	**15 15 14.0**	**+1.1**
OXX				*i* S	**S**	**15 16 04.0**	**-4.1**
VHO	**Vista Hermosa**	**4.83**	**303**	*i* P	**P**	**15 15 12.8**	**-0.2**
VHO				*i* S	**S**	**15 16 05.6**	**-2.6**
VHO	**Vista Hermosa**	**4.83**	**303**	*i* P	**P**	**15 15 12.8**	**-0.2**
VHO				*i* S	**S**	**15 16 06.6**	**-1.6**
CRIN	**San Cristobal**	**5.58**	**108**	*eP*	**P**	**15 15 24.4**	**+1.3**
CRIN				*eS*	**S**	**15 16 26.9**	**+0.3**
TEL3	**Telica 3**	**5.81**	**108**	*eP*	**P**	**15 15 25.7**	**-0.7**
TELN	**Telica**	**5.81**	**108**	*eP*	**P**	**15 15 26.1**	**-0.3**
TELN				*eS*	**S**	**15 16 30.8**	**-1.6**
LEON	**Leon**	**5.82**	**110**	⇓ *eP*	**P**	**15 15 25.8**	**-0.8**
CNGN	**Cerro Negro**	**5.96**	**109**	*eP*	**P**	**15 15 30.0**	**+1.4**
CNGN				*eS*	**S**	**15 16 35.6**	**-0.7**
MIRN	**Miramar**	**5.97**	**109**	*eP*	**P**	**15 15 28.0**	**-0.7**
MIRN				*eS*	**S**	**15 16 35.4**	**-1.1**
MOMJ	**Momotombo**	**6.14**	**109**	*eP*	**P**	**15 15 30.2**	**-0.8**
COPN	**Copaltepe**	**6.18**	**111**	*eP*	**P**	**15 15 30.3**	**-1.2**
XAVN	**Gruta Xavier**	**6.43**	**110**	*eP*	**P**	**15 15 35.1**	**0.0**
XAVN				*eS*	**S**	**15 16 49.9**	**+2.1**
MGAN	**Managua**	**6.50**	**110**	*eP*	**P**	**15 15 36.2**	**+0.1**
MGAN				*eS*	**S**	**15 16 49.0**	**-0.5**
WILN	**Americas 2**	**6.55**	**110**	*eP*	**P**	**15 15 37.7**	**+0.9**
WILN				*eS*	**S**	**15 16 51.2**	**+0.4**
TICN	**Ticuantepe**	**6.56**	**111**	*eP*	**P**	**15 15 37.1**	**+0.2**
TICN				*eS*	**S**	**15 16 48.0**	**-2.9**
TICN				*e*		15 16 54.1	
SSNN	**San Juan del S**	**7.21**	**115**	*eP*	**P**	**15 15 44.7**	**-1.2**
CONN	**Concepcion**	**7.29**	**113**	*eP*	**P**	**15 15 48.2**	**+1.2**
PPM	**Popocatepetl**	**7.44**	**309**	*i* P	**P**	**15 15 49.5**	**+0.4**
PPM				*eP*		15 15 52.0	
PPM				*i* S	**S**	**15 17 12.8**	**+0.1**
PPM	**Popocatepetl**	**7.44**	**309**	*i* P	**P**	**15 15 49.0**	**-0.1**
PPM				*eP*		15 15 52.0	
PPM				*i* S	**S**	**15 17 10.8**	**-1.9**
ACX	**Acapulco**	**7.54**	**289**	*eP*	**P**	**15 15 49.0**	**-1.5**
YAIG	**Yautepec**	**7.66**	**306**	*i* P	**P**	**15 15 52.6**	**+0.4**
YAIG				*i* S	**S**	**15 17 18.6**	**+0.3**
YAIG	**Yautepec**	**7.66**	**306**	*i* P	**P**	**15 15 52.2**	**0.0**
YAIG				*i* S	**S**	**15 17 16.6**	**-1.7**
PLIG	**Platanillo**	**7.77**	**301**	*eP*	**P**	**15 15 53.8**	**+0.1**
PLIG				*i* S	**S**	**15 17 21.2**	**+0.2**
PLIG	**Platanillo**	**7.77**	**301**	*eP*	**P**	**15 15 55.8**	**+2.1**
PLIG				*i* S	**S**	**15 17 17.7**	**-3.3**
CAIG	**El Cayaco**	**7.91**	**290**	*i* P	**P**	**15 15 54.9**	**-0.7**
CAIG				*i* S	**S**	**15 17 25.0**	**+0.6**
VCR	**Vista de Mar**	**7.97**	**122**	*eP*	**P**	**15 15 58.7**	**+2.2**
VCR	**Vista de Mar**	**7.97**	**122**	*eP*	**P**	**15 15 59.9**	**+3.4**
UNM	**Universidad Na**	**8.02**	**308**	*eP*	**P**	**15 16 04.0**	**+7.0**
JTS	**JuntasAbangare**	**8.46**	**119**	P	**P**	**15 16 02.7**	**-0.3**
	comp=E,6.2nm,0.3s,baz=112,slow=24,SNR=29						
JTS				S	**S**	**15 17 34.9**	**-2.9**
	comp=E,1.0nm,0.3s,baz=343,slow=19,SNR=1.7						
FORC	**Fortuna**	**8.61**	**117**	*eP*	**P**	**15 16 08.4**	**+3.2**
VPS2	**Volcan Poas 2**	**9.12**	**117**	*eP*	**P**	**15 16 13.0**	**+0.9**
VPS2	**Volcan Poas 2**	**9.12**	**117**	*eP*	**P**	**15 16 13.6**	**+1.5**
PRS1	**Puriscal**	**9.15**	**118**	*eP*	**P**	**15 16 13.5**	**+0.9**
PRS1	**Puriscal**	**9.15**	**118**	*eP*	**P**	**15 16 13.1**	**+0.6**
LCR2	**La Lucha 2**	**9.54**	**119**	*eP*	**P**	**15 16 18.2**	**+0.3**
LCR2	**La Lucha 2**	**9.54**	**119**	*eP*	**P**	**15 16 18.5**	**+0.6**
URSC	**Urasca**	**9.68**	**117**	*eP*	**P**	**15 16 22.1**	**+2.1**
MOIG	**Morelia**	**9.79**	**303**	*eP*	**P**	**15 16 24.4**	**+3.0**
BUS	**Buena Vista**	**9.84**	**119**	*eP*	**P**	**15 16 23.1**	**+1.0**
BUS				*eS*	**S**	**15 18 14.0**	**+2.2**
BUS	**Buena Vista**	**9.84**	**119**	*eP*	**P**	**15 16 22.3**	**+0.3**
SFJM	**Santa Fe**	**11.70**	**302**	*eP*	**P**	**15 16 46.0**	**-1.1**
PAYG	**Puerto Ayora**	**15.21**	**172**	*eP*	**P**	**15 17 33.8**	**+0.6**
	comp=E,45nm,1.0s						
CCCC	**Cccc**	**15.52**	**62**	*eP*	**P**	**15 17 45.1**	**+8.0**
JCT	**Junction City**	**17.29**	**338**	P	**P

NVAR					pP	pP	15 20 48.8	+0.1
NVAR					PcP	PcP	15 23 14.5	+0.4
NVAR					LR	LR	15 34 39.2	
HLID	**Hailey**	**34.53**	**331**	*eP*	**P**		**15 20 45.0**	**+0.4**
	comp=E,64nm,1.7s,mb5.2							
HLID				*e*pP	pP		15 21 02.1	+0.2
HLID				*e*			15 21 21.6	
MCMT	**McKenzie Canyo**	**34.84**	**334**	*eP*	**P**		**15 20 48.2**	**+1.0**
MCMT				*e*			15 21 24.9	
DLMT	**Dillon**	**35.17**	**335**	*eP*	**P**		**15 20 50.3**	**+0.2**
	comp=E,2.1nm,0.8s,mb4.0							
ULM	**Lac du Bonnet**	**35.78**	**356**	P	**P**		**15 20 51.2**	**-4.0**
	comp=E,1.0nm,0.5s,mb4.0,baz=165,slow=12,SNR=3.1							
ULM				PcP	PcP		15 23 20.6	-1.3
	comp=E,2.4nm,0.7s,baz=168,slow=5.4,SNR=3.7							
ULM				LR	LR		15 37 15.2	
	comp=E,257nm,21.0s,baz=79,slow=39							
ULM	**Lac du Bonnet**	**35.78**	**356**	P	**P**		**15 20 51.2**	**-4.0**
ULM				PcP	PcP		15 23 20.6	-1.3
ULM				LR	LR		15 37 15.2	
HOPS	**Hopland**	**36.34**	**318**	*eP*	**P**		**15 21 06.2**	**+6.2**
	comp=E,16nm,1.0s,mb4.9							
BMO	**Blue Mountains**	**36.87**	**330**	*eP*	**P**		**15 21 04.1**	**-0.3**
	comp=E,50nm,1.7s,mb5.2							
BMO				*e*			15 21 40.4	
SAML	**Samuel**	**37.24**	**127**	*eP*	**P**		**15 21 05.5**	**-2.3**
	comp=E,42nm,1.2s,mb5.2							
SAML				*e*pP	pP		15 21 22.5	-2.7
LPAZ	**La Paz**	**38.90**	**141**	P	**P**		**15 21 21.9**	**+0.3**
	comp=E,2.4nm,0.7s,mb4.1,baz=335,slow=11,SNR=9.6							
LPAZ				pP	pP		15 21 40.9	+1.8
	comp=E,1.2nm,0.3s,baz=326,slow=14,SNR=3.0							
LPAZ				LR	LR		15 36 50.1	
	comp=E,108nm,19.0s,baz=176,slow=35							
LPAZ	**La Paz**	**38.90**	**141**	*eP*	**P**		**15 21 22.1**	**+0.4**
	comp=E,4.2nm,1.0s,mb4.2							
SIV	**San Ignacio**	**43.36**	**133**	P	**P**		**15 21 57.5**	**-0.9**
	comp=E,4.3nm,0.5s,mb4.4,baz=311,slow=8.6,SNR=30							
SIV				pP	pP		15 22 15.5	-0.4
	comp=E,18nm,0.9s,baz=311,slow=9.1,SNR=16							
SIV				PcP	PcP		15 23 46.1	-0.4
	comp=E,3.6nm,0.6s,baz=303,slow=2.8,SNR=5.0							
SCHQ	**Schefferville**	**44.94**	**21**	P	**P**		**15 22 06.4**	**-4.3**
	comp=E,5.3nm,0.8s,mb4.3,baz=220,slow=12,SNR=3.5							
SCHQ				LR	LR		15 41 36.5	
	comp=E,692nm,18.6s,baz=62,slow=37							
YKA	**Yellowknife Ar**	**50.45**	**347**	P	**P**		**15 22 50.8**	**-2.7**
	comp=E,2.0nm,0.5s,mb4.3,baz=147,slow=7.5,SNR=45							
YKA				pP	pP		15 23 08.7	-2.6
	comp=E,2.1nm,0.5s,baz=152,slow=7.4,SNR=7.5							
YKA				LR	LR		15 46 39.8	
	comp=E,159nm,20.8s,baz=140,slow=39							
YKA	**Yellowknife Ar**	**50.45**	**347**	P	**P**		**15 22 50.8**	**-2.7**
YKA				pP	pP		15 23 08.7	-2.6
YKA				LR	LR		15 46 39.8	
CFAA	**Coronel Fontan**	**51.39**	**153**	P	**P**		**15 23 01.1**	**0.0**
	comp=E,0.9nm,0.7s,mb3.9,baz=344,slow=6.4,SNR=12							
CFAA				pP	pP		15 23 18.9	-0.1
	comp=E,1.4nm,0.9s,baz=303,slow=8.3,SNR=4.4							
DLBC	**Dease Lake**	**52.02**	**336**	*eP*	**P**		**15 23 07.2**	**+1.8**
BDFB	**Brasilia**	**53.18**	**123**	P	**P**		**15 23 11.9**	**-2.7**
	comp=E,15nm,0.9s,mb5.0,baz=293,slow=8.3,SNR=11							
BDFB				pP	pP		15 23 30.2	-2.4
	comp=E,13nm,1.0s,baz=36,slow=3.7,SNR=4.4							
BAO	**Brasilia Array**	**53.19**	**122**	P	**P**		**15 23 14.5**	**-0.2**
RKT	**Rikitea**	**55.90**	**229**	*e*LR	LR		15 39 31.2	
	comp=E,928nm,28.8s,baz=41							
PLCA	**Paso Flores**	**58.58**	**161**	P	**P**		**15 23 51.5**	**-1.4**
	comp=E,10nm,1.1s,mb4.8,baz=339,slow=8.9,SNR=6.6							
PLCA				LR	LR		15 43 30.3	
	comp=E,128nm,20.8s,baz=0.2,slow=30							
PLCA	**Paso Flores**	**58.58**	**161**	*eP*	**P**		**15 23 51.4**	**-1.6**
TRQA	**Tornquist**	**59.58**	**152**	*eP*	**P**		**15 23 58.5**	**-1.4**
INK	**Inuvik**	**59.85**	**344**	P	**P**		**15 24 00.0**	**-1.3**
	comp=E,6.9nm,0.6s,mb4.8,baz=133,slow=6.7,SNR=45							
INK	**Inuvik**	**59.85**	**344**	*eP*	**P**		**15 23 58.8**	**-2.6**
	comp=E,22nm,1.1s,mb5.1							
INK				*e*			15 24 34.9	
ILAR	**Eielson Array**	**62.22**	**337**	P	**P**		**15 24 16.5**	**-0.9**
	comp=E,9.8nm,1.0s,mb4.8,baz=117,slow=3.2,SNR=24							
PPT	**Papeete**	**64.69**	**242**	*e*LR	LR		15 43 34.1	
	comp=E,629nm,28.8s,baz=51							
TBI	**Tubuai**	**67.21**	**237**	*e*LR	LR		15 44 44.9	
	comp=E,555nm,30.0s							
ESDC	**Sonseca Array**	**79.79**	**52**	P	**P**		**15 25 59.5**	**-3.9**
	comp=E,1.4nm,0.7s,mb3.9,baz=287,slow=5.8,SNR=9.5							
BILL	**Bilibino**	**80.84**	**338**	*eP*	**P**		**15 26 07.4**	**-1.0**
	comp=E,101nm,1.6s,mb5.4							
BILL				*e*			15 26 45.5	
NOA	**NORSAR Array B**	**83.95**	**28**	P	**P**		**15 26 22.1**	**-2.4**
	comp=E,1.6nm,1.0s,mb3.8,baz=289,slow=4.8,SNR=2.9							
NOA				LR	LR		16 00 58.2	
	comp=E,115nm,21.9s,baz=285,slow=34							
HFS	**Hagfors**	**85.41**	**29**	LR	LR		16 02 15.1	
	comp=E,266nm,21.9s,baz=266,slow=34							
ARCES	**ARCESS Array B**	**85.83**	**18**	P	**P**		**15 26 30.6**	**-3.1**
	comp=E,0.8nm,0.6s,mb3.9,baz=297,slow=5.4,SNR=4.8							
DBIC	**Dimbokro**	**86.08**	**84**	LR	LR		15 58 13.3	
	comp=E,101nm,20.6s,baz=274,slow=31							
DAVOX	**Davos**	**87.83**	**42**	LR	LR		16 03 13.5	
	comp=E,143nm,21.0s,baz=286,slow=34							
GERES	**GERESS Array B**	**89.53**	**39**	LR	LR		16 03 10.0	
	comp=E,157nm,20.0s,baz=166,slow=33							
FINES	**FINESS Array B**	**90.27**	**25**	P	**P**		**15 26 52.1**	**-2.9**
	comp=E,1.0nm,0.7s,mb4.1,baz=214,slow=6.9,SNR=3.6							
FINES				LR	LR		16 06 15.7	
	comp=E,73nm,18.9s,baz=332,slow=35							
TORD	**Torodi Ar. Bea**	**90.72**	**76**	P	**P**		**15 26 54.0**	**-4.2**
	comp=E,0.2nm,0.4s,mb3.6,baz=297,slow=6.4,SNR=3.3							
RAO	**Raoul Island**	**93.06**	**241**	LR	LR		15 59 25.4	
	comp=E,312nm,18.3s,baz=0.2,slow=29							
VAE	**Valguarnera**	**94.21**	**50**	LR	LR		16 03 34.8	
	comp=E,222nm,19.3s,baz=296,slow=32							
CN2	**Changchun**	**112.44**	**331**	*e*PKP	PKPdf		15 32 26.1	-3.0
MKAR	**Makanchi Array**	**118.83**	**4**	PKP	PKPdf		15 32 41.8	+0.3
	comp=E,0.5nm,0.5s,baz=328,slow=2.1,SNR=8.7							
WMQ	**Urumqi**	**121.98**	**360**	*e*PKP	PKPdf		15 32 48.6	+0.9
WMQ				LR	LR			
	comp=N,170nm,18.0s							
WMQ				LR	LR			
	comp=E,130nm,19.0s							
WMQ				LR	LR			
	comp=Z,220nm,18.0s							
SSE	**Sheshan**	**124.32**	**325**	*e*PKP	PKPdf		15 32 49.6	-3.0
SSE				PP	PP			
	comp=Z,100nm,3.5s							
NJ2	**Nanjing**	**124.84**	**327**	*e*PKP	PKPdf		15 32 59.0	+5.4
GTA	**Gaotai**	**125.17**	**348**	PKP	PKPdf		15 32 55.8	+1.8
GTA				PP	PP		15 34 46.1	-2.4
GTA				PKS	PKS		15 36 31.5	+1.8
GTA				PPP	PPP		15 37 25.3	-4.0
GTA				SKS	SKS		15 40 02.3	+12
GTA				SKKS			15 41 33.9	
GTA				SS	SS		15 51 39.5	+2.6
GTA				PP	PP			
	comp=Z,90nm,6.9s							
GTA				LR	LR			
	comp=N,160nm,9.6s							
GTA				LR	LR			
	comp=E,130nm,8.4s							
GTA				LR	LR			
	comp=Z,190nm,9.2s							
STKA	**Stephens Creek**	**127.88**	**241**	PKP	PKPdf		15 33 00.0	+0.5
	comp=Z,6.8nm,1.1s,baz=304,slow=6.0,SNR=3.9							
WRA	**Warramunga Arr**	**135.05**	**256**	PKP	PKPdf		15 33 14.8	+1.6
	comp=Z,1.2nm,0.8s,baz=88,slow=2.9,SNR=8.7							
KMI	**Kunming**	**137.93**	**339**	PKP	PKPdf		15 33 19.9	+1.5
KMI				SS	SS		15 54 12.1	-0.9
KMI				LR	LR			
	comp=N,110nm,30.5s							
KMI				LR	LR			
	comp=E,70nm,37.0s							
KMI				LR	LR			
	comp=Z,110nm,23.1s							
KMI	**Kunming**	**137.93**	**339**	PKP	PKPdf		15 33 19.9	+1.5
KMI				SKKS			15 42 54.8	
KMI				SS	SS		15 54 12.1	-0.9
KMI				LR	LR			
	comp=Z,110nm,23.1s							
FITZ	**Fitzroy Crossi**	**143.27**	**259**	PKP	PKPdf		15 33 27.9	-0.2
	comp=Z,2.3nm,0.7s,baz=189,slow=4.3,SNR=5.3							
HYB	**Hyderabad**	**147.10**	**16**	*i* PKP	PKPdf		15 33 32.0	-2.7
HYB				*e*			15 34 14.0	

*NIED **07** 15:17:00,38.10N×144.80E,h8km,Mw4.2 Best double couple: M₀2.08×10¹⁵ NP1:φs205°,δ63°,λ-93°. NP2:φs32°, δ28°,λ-84°.*

*NEIC **07** 15:17:32.2±0.3,38.00N×145.09E,h10km,mb4.7/3, MW4.1(NIED),Error ellipse: s-maj=9.2km s-min=6.9km az=154.0*

*MOS **07** 15:17:33.7±0.8,38.02N×145.00E,h33km,mb4.5/17,Error ellipse: s-maj=12.1km s-min=9.0km az=101.2*

*BJI **07** 15:17:35.1,38.12N×144.46E,h10km,mB4.7,mb4.4, Ms4.0,Ms2.3.8*

*IDC **07** 15:17:35.4±0.6,38.01N×145.06E,h30km±4km,mb3.9/16, mb1 4.2/19,mb1mx4.1/25,mbtmp4.1/19,ML4.3/3,MS3.6/5, Ms1 3.6/5,ms1mx3.3/31,Error ellipse: s-maj=16.2km s-min=12.1km az=117.0*

*JMA **07** 15:17:35.5±0.2,38.14N×144.81E,h55km,M4.8*

ISC 07 15:17:33.9±1.3,38.13N±0.03×144.87E±0.04,h31km±9km, h30km±1.9km:pP-P,n97,σ1s14/105,mb4.1/24,MS3.7/7, 5C-3D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.68**	**292**	P	**Pn**	**15 18 16.9**	**+0.9**
MIYJ	**Miyakonagasawa**	**2.79**	**302**	P	**Pn**	**15 18 18.1**	**+0.6**
MIYJ				*e*S	**Sn**	**15 18 49.7**	**-0.8**
JIO	**Ouri**	**2.79**	**278**	P	**Pn**	**15 18 18.3**	**+0.7**
JIO				*e*S	**Sn**	**15 18 50.1**	**-0.5**
JMK	**Ichinoseki**	**2.98**	**287**	P	**Pn**	**15 18 21.2**	**+1.0**
JMK				*e*S	**Sn**	**15 18 55.5**	**+0.2**
JOM	**Ohasama**	**3.10**	**297**	P	**Pn**	**15 18 23.1**	**+1.1**
JOM				*e*S	**Sn**	**15 18 58.6**	**+0.2**
JMM	**Marumori**	**3.23**	**267**	P	**Pn**	**15 18 24.2**	**+0.4**
JMM				*e*S	**Sn**	**15 19 00.5**	**-1.3**
JANG	**Nango**	**3.44**	**312**	P	**Pn**	**15 18 26.8**	**+0.1**
JANG				*e*S	**Sn**	**15 19 06.0**	**-0.9**
JOT	**Ohata**	**4.38**	**319**	P	**Pn**	**15 18 40.3**	**+0.1**
JOT				*e*S	**Sn**	**15 19 29.1**	**-1.8**
JCH	**Churui**	**4.62**	**346**	P	**Pn**	**15 18 41.7**	**-1.9**
JKB	**Kayabe**	**4.77**	**323**	P	**Pn**	**15 18 45.9**	**+0.2**
JRY	**Ryogami san**	**5.22**	**248**	P	**Pn**	**15 18 51.0**	**-1.0**
JRY				*e*S	**Sn**	**15 19 47.5**	**-4.4**
NEM2	**Nemuro 2**	**5.27**	**7**	P	**Pn**	**15 18 49.0**	**-3.7**
MJAR	**Matsushiro Arr**	**5.54**	**255**	Pn	**Pn**	**15 18 57.0**	**+0.5**
	11nm,0.3s,baz=79,slow=15,SNR=87						
MJAR				Sn	**Sn**	**15 19 59.2**	**-0.7**
	5.4nm,0.3s,baz=90,slow=14,SNR=4.1						
MJAR	**Matsushiro Arr**	**5.54**	**255**	P	**Pn**	**15 18 57.0**	**+0.5**
MJAR						15 19 59.3	
MJAR				pmax	pmax		
	comp=Z,11nm,0.3s						
MJAR				smax			
	comp=N,5.0nm,0.3s						
MAJO	**Matsushiro**	**5.54**	**255**	*e*P	**Pn**	**15 18 57.1**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,88nm,0.5s						
MAJO	**Matsushiro**	**5.54**	**255**	*e*P	**Pn**	**15 18 57.1**	**+0.6**
	comp=Z,88nm,0.5s						
MAT	**Matsushiro**	**5.54**	**255**	P	**Pn**	**15 18 57.4**	**+0.9**
MAT				S	**Sn**	**15 20 01.3**	**+1.3**
MAT	**Matsushiro**	**5.54**	**255**	*e*P	**Pn**	**15 18 57.0**	**+0.5**
MAT				*e*S	**Sn**	**15 20 01.0**	**+1.0**
MAT				pmax	pmax		
	comp=Z,49nm,0.7s						
MAT	**Matsushiro**	**5.54**	**255**	*e*P	**Pn**	**15 18 57.0**	**+0.5**
	comp=Z,49nm,0.7s						
MAT				*e*S	**Sn**	**15 20 01.0**	**+1.0**
JOSM	**Okushiri--Mats**	**5.72**	**315**	P	**Pn**	**15 18 59.1**	**+0.1**
JTKR	**Abashiri--Toko**	**5.88**	**353**	P	**Pn**	**15 18 59.7**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**5.94**	**7**	*e*P	**Pn**	**15 18 58.5**	**-3.7**
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
JHR	**Hokuryu**	**6.09**	**338**	*e*S	**Sn**	**15 20 11.2**	**-2.5**
ASAJ	**Asahikawa**	**6.22**	**345**	Pn	**Pn**	**15 19 05.8**	**-0.4**
	comp=Z,7.0nm,0.3s,baz=188,slow=11,SNR=36						
ASAJ				Sn	**Sn**	**15 20 15.7**	**-1.2**
	comp=Z,4.4nm,0.3s,baz=81,slow=18,SNR=6.4						
ASAJ				LR	LR	15 22 12.1	
	comp=Z,159nm,21.0s,baz=2.3,slow=43						
ASAJ	**Asahikawa**	**6.22**	**345**	P	**Pn**	**15 19 05.8**	**-0.3**
ASAJ						15 20 15.7	
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,159nm,21.0s						
JHJ	**Hachijo jima 2**	**6.50**	**221**	Pn	**Pn**	**15 19 06.8**	**-3.1**
	comp=Z,14nm,0.3s,baz=74,slow=18,SNR=3.2						
JHJ				Sn	**Sn**	**15 20 15.7**	**-8.1**
	comp=Z,72nm,0.3s,baz=261,slow=23,SNR=6.4						
MDJ	**Mudanjiang**	**13.17**	**304**	P	**P**	**15 20 42.4**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,40nm,4.2s						
MDJ				LR	LR		
	comp=N,170nm,6.2s						
MDJ				LR	LR		
	comp=E,100nm,6.3s						
MDJ				LR	LR		
	comp=Z,170nm,6.3s						
MDJ	**Mudanjiang**	**13.17**	**304**	*e*P	**P**	**15 20 42.7**	**+1.3**
	comp=Z,23nm,1.2s						
KLR	**Kul'dur**	**14.58**	**324**	*e*P	**P**	**15 21 08.8**	**+9.0**
PET	**Petropavlovsk**	**17.69**	**28**	*e*P	**P**	**15 21 42.3**	**+2.8**
PET				pmax	pmax		
	comp=Z,42nm,1.0s						
SSE	**Sheshan**	**20.69**	**257**	*e*P	**P**	**15 22 11.4**	**-2.6**
SSE				AP		15 22 24.9	
SSE				S	**S**	**15 25 59.6**	**+1.1**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s						
SSE				AMB	AMB		
	comp=Z,70nm,3.5s						
SSE				LR	LR		
	comp=N,70nm,21.4s,MS3.0						
SSE				LR	LR		
	comp=E,20nm,21.4s,MS3.0						
SSE				LR	LR		
	comp=Z,50nm,31.9s						
SSE	**Sheshan**	**20.69**	**257**	*e*P	**P**	**15 22 11.4**	**-2.6**
	comp=Z,42nm,0.7s						
SSE				pP		15 22 24.9	
SSE				sP		15 22 33.0	
SSE				S	**S**	**15 25 59.6**	**+1.1**
SSE				sS		15 26 21.7	
SSE				LR	LR		
	comp=Z,60nm,31.9s,MS2.8						
NJ2	**Nanjing**	**22.10**	**262**	*e*P	**P**	**15 22 27.5**	**-0.7**
NJ2				PP	PP	15 22 56.2	+1.6
NJ2				S	**S**	**15 26 25.0**	**0.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,170nm,5.4s						
NJ2				LR	LR		
	comp=N,350nm,14.7s,MS4.1						
NJ2				LR	LR		
	comp=E,350nm,14.2s,MS4.1						
NJ2				LR	LR		
	comp=Z,290nm,11.0s,MS4.0						
SEY	**Seymchan**	**25.25**	**8**	*i* P	**P**	**15 22 59.6**	**+1.1**
YAK	**Yakutsk**	**25.70**	**343**	*i* P	**P**	**15 23 03.2**	**+0.5**
YAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.3						
YAK	**Yakutsk**	**25.70**	**343**	*e*P	**P**	**15 23 03.1**	**+0.5**
	comp=Z,13nm,0.6s,mb4.6						
HHC	**Hu-ho-hao-te**	**25.76**	**287**	*e*P	**P**	**15 23 10.0**	**+6.5**
HHC				AP	pP	15 23 14.5	+2.1
HHC				XP	sP	15 23 16.7	+0.2
HHC				S	**S**	**15 27 25.1**	**-3.1**
HHC				LR	LR		
	comp=N,190nm,10.7s						
HHC				LR	LR		
	comp=E,190nm,9.5s						
HHC				LR	LR		
	comp=Z,180nm,11.9s,MS3.8						
WHN	**Wuhan**	**26.23**	**262**	*e*P	**P**	**15 23 09.5**	**+1.5**
BOD	**Bodaibo**	**28.15**	**324**	*e*P	**P**	**15 23 25.3**	**+0.1**
BOD				*e*	pP	15 23 35.5	+1.4
BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.8						
BOD				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**29.07**	**302**	*e*P	**P**	**15 23 34.3**	**+0.8**
SONM	**Songino Array**	**29.50**	**302**	P	**P**	**15 23 39.5**	**+2.1**
	comp=Z,0.6nm,0.9s,mb3.3,baz=90,slow=7.2,SNR=3.3						
SONM				LR	LR	15 36 23.4	
	comp=Z,72nm,18.2s,MS3.3,baz=124,slow=38						
SONM	**Songino Array**	**29.50**	**302**	P	**P**	**15 23 39.5**	**+2.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,72nm,18.2s						
ENH	**Enshi**	**30.16**	**266**	P	**P**	**15 23 49.2**	**+5.8**
BILL	**Bilibino**	**32.23**	**15**	*i* P	**P**	**15 24 01.1**	**-0.1**
BILL				*i*		15 26 45.1	
BILL				pmax	pmax		
	comp=Z,21nm,2.5s,mb4.5						
TIXI	**Tiksi**	**34.58**	**351**	*e*P	**P**	**15 24 20.4**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
ZAL	**Zalesovo**	**43.24**	**312**	P	**P**	**15 25 35.6**	**+1.8**
	comp=Z,0.9nm,0.9s,mb3.5,baz=359,slow=5.5,SNR=6.0						
ZAL				PcP	PcP	15 27 23.6	+0.4
	comp=Z,1.8nm,0.6s,baz=38,slow=4.3,SNR=5.1						
ZAL	**Zalesovo**	**43.24**	**312**	P	**P**	**15 25 35.6**	**+1.9**
ZAL						15 27 23.6	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**45.87**	**302**	P	**P**	**15 25 56.8**	**+1.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=82,slow=10,SNR=6.6						
MKAR				LR	LR	15 45 02.5	
	comp=Z,40nm,20.7s,MS3.3,baz=61,slow=36						
MKAR	**Makanchi Array**	**45.87**	**302**	*i* P	**P**	**15 25 56.7**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	**College**	**46.68**	**33**	*e*P	**P**	**15 26 01.2**	**+0.1**
ILAR	**Eielson Array**	**47.09**	**33**	P	**P**	**15 26 04.1**	**-0.3**
	comp=Z,4.1nm,0.7s,mb4.4,baz=265,slow=6.3,SNR=15						
ILAR	**Eielson Array**	**47.09**	**33**	P	**P**	**15 26 04.1**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ILAR	**Eielson Array**	**47.09**	**33**	P	**P**	**15 26 04.0**	**-0.3**
KURK	**Kurchatov**	**47.43**	**308**	*i* P	**P**	**15 26 08.9**	**+1.7**
INK	**Inuvik**	**52.15**	**28**	P	**P**	**15 26 42.8**	**-0.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=292,slow=6.6,SNR=5.1						
INK	**Inuvik**	**52.15**	**28**	P	**P**	**15 26 42.8**	**-0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**52.38**	**299**	*e*P	**P**	**15 26 44.4**	**-0.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
ARU	**Arti**	**57.35**	**319**	*i* P	**P**	**15 27 21.8**	**+0.6**
ARU				*e*		15 29 28.7	
ARU				*e*PPP	PPP	15 30 46.6	-4.4
ARU				*e*S	S	**15 35 15.9**	**+2.1**
ARU				*e*SS	SS	15 39 04.9	+0.2
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**58.59**	**192**	*i* P	**P**	**15 27 28.5**	**-1.9**
WB2	**Warramunga Arr**	**58.60**	**192**	*e*P	**P**	**15 27 28.2**	**-2.2**
WRA	**Warramunga Arr**	**58.61**	**192**	P	**P**	**15 27 28.3**	**-2.1**
	comp=Z,5.3nm,0.7s,mb4.7,baz=9.8,slow=7.0,SNR=64						
WRA				pP	pP	15 27 37.9	-2.1
	comp=Z,3.4nm,0.6s,baz=13,slow=7.2,SNR=9.5						
WRA				PcP	PcP	15 28 19.7	-0.5
	comp=Z,1.1nm,1.0s,baz=6.6,slow=4.0,SNR=6.0						
WRA	**Warramunga Arr**	**58.61**	**192**	P	**P**	**15 27 28.3**	**-2.2**
WRA				*PP	pP	15 27 37.9	-2.1
WRA						15 28 19.7	
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**58.78**	**201**	*e*P	**P**	**15 27 31.0**	**-0.7**
	comp=Z,5.5nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**58.78**	**201**	P	**P**	**15 27 30.5**	**-1.2**
	comp=Z,2.8nm,1.0s,mb4.2,baz=31,slow=5.8,SNR=4.3						
FITZ				pP	pP	15 27 39.6	-1.6
	comp=Z,2.0nm,0.7s,baz=50,slow=6.5,SNR=3.4						
YKA	**Yellowknife Ar**	**61.46**	**31**	P	**P**	**15 27 48.7**	**-0.7**
	comp=Z,1.5nm,0.7s,mb4.2,baz=301,slow=6.6,SNR=19						
YKA				pP	pP	15 27 58.0	-1.0
	comp=Z,1.3nm,0.7s,baz=302,slow=6.7,SNR=11						
YKA	**Yellowknife Ar**	**61.46**	**31**	P	**P**	**15 27 48.7**	**-0.8**
YKA				*PP	pP	15 27 58.0	-1.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**61.46**	**31**	P	**P**	**15 27 48.7**	**-0.7**
YKA				pP	pP	15 27 58.0	-1.0
FINES	**FINESS Array B**	**69.10**	**333**	P	**P**	**15 28 38.6**	**0.0**
	comp=Z,2.9nm,0.9s,mb4.2,baz=45,slow=8.1,SNR=4.9						
FINES	**FINESS Array B**	**69.10**	**333**	*i* P	**P**	**15 28 39.5**	**+0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	**Stephens Creek**	**69.72**	**183**	P	**P**	**15 28 41.9**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=315,slow=5.7,SNR=3.4						
NVAR	**Mina Array Bea**	**72.12**	**55**	P	**P**	**15 28 56.9**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=296,slow=6.2,SNR=6.8						
KIV	**Kislovodsk**	**72.24**	**312**	*i* P	**P**	**15 28 58.0**	**+0.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GNI	**Garni**	**73.23**	**308**	*e*P	**P**

CEN1				AMP		15 52 15.5	
	comp=N,155nm,0.5s						
ANCH	**Antofagasta**	**1.50**	**277**	*e*P	P	15 51 54.8	+0.2
ANCH				*i* S	S	15 52 14.4	+0.5
CPN1	**Cerro Paranal**	**1.66**	**242**	*e*P	P	15 51 57.5	+0.8
CPN1				*i* S	S	15 52 19.2	+1.7
CPN1				AMP		15 52 26.8	
	comp=E,157nm,0.3s						

PRU ***07*** *15:56:21.4, 50.29N×18.75E*
WAR 07 15:56:20.6, 50.27N×18.88E, ML2.6, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.59**	**94**	*e*PG	Pg	15 56 32.0	-0.4
OJC				*e*SG	Sg	15 56 40.0	-0.3
OKC	**Ostrava-Krasne**	**0.64**	**228**	*e*PG	Pg	15 56 32.8	-0.5
OKC				*e*SG	Sg	15 56 43.3	+1.5
	42nm,0.6s						
LIKS	**Likavka**	**1.23**	**173**	*e*SN	Sn	15 57 00.5	-1.9
NIE	**Niedzica**	**1.26**	**132**	*e*PG	Pg	15 56 45.0	-0.7
NIE				*e*SG	Sg	15 57 02.0	-0.4
DPC	**Dobruska-Polom**	**1.64**	**274**	*e*PG	Pg	15 56 49.2	-4.2
DPC				*e*SG	Sg	15 57 10.9	-4.4
	29nm,0.4s						
KSP	**Ksiaz**	**1.75**	**290**	⇑*i*PG	Pg	15 56 52.8	-2.7
KSP				⇑*e*SG	Sg	15 57 16.8	-2.0
KSP	**Ksiaz**	**1.75**	**290**	*e*Pg	Pg	15 56 53.0	-2.5
KSP				*e*Sg	Sg	15 57 16.1	-2.8
STHS	**Stebnicka Huta**	**1.75**	**118**	*e*PN	Pn	15 56 52.7	+0.3
STHS				*e*SN	Sn	15 57 18.4	+2.7
VYHS	**Vyhne**	**1.77**	**181**	*e*PN	Pn	15 56 51.2	-1.6
VYHS				*e*SN	Sn	15 57 15.1	-1.2
KECS	**Kecovo**	**2.07**	**149**	*e*PN	Pn	15 56 58.8	+1.8
KECS				*e*		15 57 20.7	
CRVS	**Cervenica-Dubn**	**2.16**	**128**	*e*PN	Pn	15 57 00.4	+2.1
CRVS				*e*SN	Sn	15 57 29.5	+3.2
KOLS	**Kolonicke sedl**	**2.58**	**120**	*e*SN	Sn	15 57 39.0	+2.2
PRU	**Pruhonice**	**2.81**	**266**	*e*PG	Pg	15 57 09.9	-6.7
PRU				*e*SG	Sg	15 57 46.9	-7.1
	7.2nm,0.6s						
KHC	**Kasperske Hory**	**3.62**	**254**	*e*PN	Pn	15 57 15.0	-4.2
KHC				*e*PG	Pg	15 57 24.5	-8.5
KHC				*e*SG	Sg	15 58 14.4	-6.9
	6.7nm,0.4s						
CLL	**Collm**	**3.87**	**288**	*e*SG	Sg	15 58 27.0	-2.6
NKC	**Novy Kostel**	**4.13**	**272**	*e*SG	Sg	15 58 29.5	-8.6

NEIC ***07*** *16:18:55.2, 37.96S×176.16E, h277km, MG4.3(WEL), After WEL.*
WEL 07 16:18:55.3±0.4, 37.79S×176.16E, h264km±3km, ML4.1/8, Error ellipse: s-maj=3.8km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.89**	**123**	PN	P	16 19 30.8	-0.6
URZ				SN	S	16 19 59.1	-0.7
URZ	**Urewera**	**0.89**	**123**	P	P	16 19 31.0	-0.5
MWZ	**Matawai**	**1.21**	**117**	PN	P	16 19 32.8	-0.5
MWZ				SN	S	16 20 02.6	-0.3
MWZ	**Matawai**	**1.21**	**117**	*e*P	P	16 19 30.0	-3.3
HIZ	**Hauiti**	**1.26**	**234**	PN	P	16 19 33.7	0.0
KRVZ	**Karewarewa**	**1.37**	**197**	PN	P	16 19 34.2	-0.1
WTVZ	**West Tongariro**	**1.40**	**199**	PN	P	16 19 34.5	-0.1
WTVZ	**West Tongariro**	**1.40**	**199**	P	P	16 19 34.5	-0.1
BKZ	**Black Stump Fm**	**1.41**	**170**	PN	P	16 19 34.6	0.0
BKZ	**Black Stump Fm**	**1.41**	**170**	P	P	16 19 34.6	0.0
TWVZ	**Taurewa**	**1.41**	**204**	PN	P	16 19 34.5	-0.1
TWVZ	**Taurewa**	**1.41**	**204**	P	P	16 19 34.5	-0.1
OTVZ	**Oturere**	**1.43**	**196**	PN	P	16 19 34.9	+0.1
NGZ	**Ngauruhoe**	**1.46**	**197**	PN	P	16 19 34.9	-0.1
NGZ	**Ngauruhoe**	**1.46**	**197**	P	P	16 19 34.9	-0.1
CNZ	**Chateau**	**1.49**	**199**	PN	P	16 19 35.0	-0.2
CNZ	**Chateau**	**1.49**	**199**	P	P	16 19 35.0	-0.2
WPVZ	**Whakapapa**	**1.50**	**199**	PN	P	16 19 35.1	-0.1
WPVZ	**Whakapapa**	**1.50**	**199**	P	P	16 19 35.1	-0.2
TUVZ	**Tukino**	**1.54**	**195**	PN	P	16 19 35.4	-0.1
TUVZ	**Tukino**	**1.54**	**195**	P	P	16 19 35.4	-0.1
FWVZ	**Far West T-bar**	**1.55**	**198**	PN	P	16 19 35.5	-0.2
FWVZ	**Far West T-bar**	**1.55**	**198**	P	P	16 19 35.5	-0.1
TRVZ	**Turoa**	**1.59**	**197**	PN	P	16 19 35.9	-0.1
WNVZ	**Wahianoa**	**1.60**	**196**	PN	P	16 19 35.8	-0.2
WNVZ	**Wahianoa**	**1.60**	**196**	P	P	16 19 35.8	-0.2
MOVZ	**Moawhango**	**1.65**	**191**	PN	P	16 19 35.8	-0.6
PUZ	**Puketiti**	**1.68**	**101**	PN	P	16 19 36.5	-0.2
PUZ				SN	S	16 20 08.2	-0.5
PUZ	**Puketiti**	**1.68**	**101**	*e*P	P	16 19 36.5	-0.1
KNZ	**Kokohu**	**1.71**	**137**	PN	P	16 19 37.0	+0.1
KNZ	**Kokohu**	**1.71**	**137**	*e*P	P	16 19 37.0	+0.1
MXZ	**Matakaoa Point**	**1.71**	**83**	PN	P	16 19 36.8	-0.1
MXZ				SN	S	16 20 08.7	-0.5
MXZ	**Matakaoa Point**	**1.71**	**83**	*e*P	P	16 19 36.8	-0.1
VRZ	**Vera Road**	**1.73**	**219**	PN	P	16 19 36.5	-0.5
VRZ	**Vera Road**	**1.73**	**219**	P	P	16 19 37.2	+0.2
RAEZ	**Rainy Point**	**2.04**	**222**	PN	P	16 19 40.2	-0.4
WAZ	**Wanganui**	**2.17**	**205**	PN	P	16 19 40.0	-0.8
WAZ	**Wanganui**	**2.17**	**205**	P	P	16 19 40.1	-0.7
NEZ	**North Egmont**	**2.20**	**227**	PN	P	16 19 41.3	+0.3
NEZ	**North Egmont**	**2.20**	**227**	P	P	16 19 41.3	+0.2
PKE	**Pukeiti**	**2.21**	**230**	PN	P	16 19 41.1	-0.1
PKE	**Pukeiti**	**2.21**	**230**	P	P	16 19 41.1	-0.1
TSZ	**Takapari Road**	**2.28**	**184**	P	P	16 19 40.9	-0.9
NWEZ	**Newall Road**	**2.34**	**230**	PN	P	16 19 42.2	-0.1
NWEZ	**Newall Road**	**2.34**	**230**	P	P	16 19 42.2	-0.2
NRZ	**Ngariki Road**	**2.34**	**228**	PN	P	16 19 42.0	-0.3
NRZ	**Ngariki Road**	**2.34**	**228**	P	P	16 19 42.0	-0.4
BFZ	**Birch Farm**	**2.89**	**179**	PN	P	16 19 46.6	-1.3
BFZ	**Birch Farm**	**2.89**	**179**	P	P	16 19 46.7	-1.2
MRZ	**Mangatainoka R**	**2.91**	**189**	PN	P	16 19 46.2	-2.0
MRZ	**Mangatainoka R**	**2.91**	**189**	P	P	16 19 46.3	-1.8
KIW	**Kapiti Island**	**3.22**	**197**	PN	P	16 19 49.2	-2.3
KIW	**Kapiti Island**	**3.22**	**197**	P	P	16 19 49.3	-2.2
MTW	**Mount Morrison**	**3.41**	**188**	PN	P	16 19 50.8	-2.7
MTW	**Mount Morrison**	**3.41**	**188**	P	P	16 19 51.0	-2.6
CAW	**Cannon Point**	**3.43**	**194**	PN	P	16 19 51.3	-2.5
CAW	**Cannon Point**	**3.43**	**194**	P	P	16 19 51.4	-2.4
MRW	**Makara Radio**	**3.62**	**198**	P	P	16 19 53.2	-2.7
PAWZ	**Paruwai Farm**	**3.64**	**189**	P	P	16 19 53.5	-2.6
WEL	**Wellington**	**3.66**	**197**	P	P	16 19 53.8	-2.6
MSWZ	**Moikau Station**	**3.69**	**191**	P	P	16 19 54.1	-2.7
SNZO	**South Karori**	**3.70**	**197**	P	P	16 19 54.0	-2.8
TCW	**Tory Channel**	**3.72**	**203**	P	P	16 19 54.6	-2.5
BHW	**Baring Head**	**3.75**	**195**	P	P	16 19 54.8	-2.6
NNZ	**Nelson**	**4.05**	**211**	P	P	16 19 57.3	-3.5
QRZ	**Quartz Range**	**4.14**	**222**	P	P	16 19 57.7	-4.2
BSWZ	**Blackbirch Sta**	**4.30**	**203**	P	P	16 20 01.0	-2.8
THZ	**Tophouse**	**4.70**	**211**	P	P	16 20 04.3	-4.2
KHZ	**Kahutara**	**5.05**	**203**	P	P	16 20 09.2	-3.4
DSZ	**Denniston Nort**	**5.19**	**219**	*e*P	P	16 20 09.5	-4.9
LTZ	**Lake Taylor**	**5.81**	**210**	*e*P	P	16 20 17.5	-4.5
CRLZ	**Canterbury Las**	**6.38**	**204**	*e*P	P	16 20 24.1	-4.9
MQZ	**McQueen's Vall**	**6.49**	**203**	*e*P	P	16 20 25.2	-5.2
WVZ	**Waitaha Valley**	**6.71**	**216**	*e*P	P	16 20 28.0	-5.2
FOZ	**Fox Glacier**	**7.58**	**218**	P	P	16 20 37.5	-6.6
ODZ	**Otahua Downs**	**8.35**	**208**	*e*P	P	16 20 49.4	-4.4
JCZ	**Jackson Bay**	**8.42**	**219**	*e*P	P	16 20 48.1	-6.5
WKZ	**Wanaka**	**8.85**	**215**	*e*P	P	16 20 53.5	-6.6

IDC ***07*** *17:05:33.1±2.1, 27.01N×55.50E, mb3.7/9, mb1 3.8/9, mb1mx3.6/21, mbtmp3.7/9, Error ellipse: s-maj=53.4km s-min=24.1km az=156.0*
KISR ***07*** *17:05:34.0±1.1, 26.57N×55.47E, h33km, ML3.6*
CSEM ***07*** *17:05:35.5±0.6, 27.16N×55.67E, h20km, ML3.0, Error ellipse: s-maj=18.1km s-min=6.2km az=169.0*
THR ***07*** *17:05:38.7±0.3, 27.28N×55.85E, h14km±5km, ML3.0*
ISC 07 17:05:35.9±0.7, 27.41N±0.07×55.66E±0.03, h10km, n20, σ0s86/29, mb3.6/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.45**	**91**	*e*PG	**Pg**	**17 05 45.4**	**+0.2**
BNDS				*e*SG	**Sg**	**17 05 50.3**	**-1.0**
BNDS				AML	AML	17 06 01.6	
	comp=N,1μm,0.4s						
BNDS	**Bandar-Abbas**	**0.45**	**91**	*e*Pg	**Pg**	**17 05 45.3**	**+0.2**
	SNR=96						
BNDS				*e*Sg	**Sg**	**17 05 50.3**	**-1.0**
	comp=N,1μm,0.4s,SNR=96						
GHIR	**Ghir-Karzin**	**2.52**	**291**	*e*PN	**Pn**	**17 06 24.2**	**+6.5**
GHIR				AML	AML	17 07 21.0	
	comp=N,83nm,0.4s						
KRBR	**Kerman**	**2.74**	**20**	*e*PN	**Pn**	**17 06 25.5**	**+4.7**
KRBR				*e*SG	**Sg**	**17 07 06.8**	**-0.4**
NASN	**Na'in**	**5.92**	**336**	*e*PN	**Pn**	**17 07 10.8**	**+5.1**
UMR	**Umm Al-Rimmam**	**7.31**	**289**	*e*P	**Pn**	**17 07 25.9**	**+0.5**
UMR				*e*S	**Sn**	**17 08 50.1**	**+0.8**
UMR				AML	AML	17 08 50.5	
	comp=Z,7.3nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.31**	**289**	*e*P	**Pn**	**17 07 25.9**	**+0.5**
UMR				*e*S	**Sn**	**17 08 50.7**	**+1.4**
RDF	**Al-Radifah**	**7.32**	**284**	*e*P	**Pn**	**17 07 25.0**	**-0.5**
RDF				*e*S	**Sn**	**17 08 48.6**	**-0.8**
RDF				AML	AML	17 08 51.8	
	comp=Z,8.5nm,0.3s						
NAY	**Al-Naaiem**	**7.64**	**286**	*e*P	**Pn**	**17 07 29.9**	**-0.2**
NAY				*e*S	**Sn**	**17 08 56.0**	**-1.7**
NAY				AML	AML	17 09 01.4	
	comp=Z,3.7nm,0.3s						
MIB	**Mutribah**	**7.70**	**290**	*e*P	**Pn**	**17 07 31.4**	**+0.6**
MIB				*e*S	**Sn**	**17 08 59.6**	**+0.7**
MIB				AML	AML	17 09 01.6	
	comp=Z,11nm,0.5s						
MIB	**Mutribah**	**7.70**	**290**	*e*P	**Pn**	**17 07 31.4**	**+0.6**
MIB				*e*S	**Sn**	**17 08 58.4**	**-0.5**
BRTR	**Keskin Array B**	**22.02**	**310**	P	**P**	**17 10 32.7**	**+0.6**
	comp=Z,0.2nm,0.4s,mb2.9,baz=122,slow=12,SNR=2.6						
AKTO	**Aktyubinsk**	**23.07**	**4**	P	**P**	**17 10 43.7**	**+1.4**
	comp=Z,1.0nm,0.6s,mb3.4,baz=197,slow=15,SNR=2.7						
BVAR	**Borovoye Array**	**27.84**	**19**	P	**P**	**17 11 26.6**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.6,baz=202,slow=8.0,SNR=5.8						
MKAR	**Makanchi Array**	**28.51**	**40**	P	**P**	**17 11 34.1**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.3,baz=225,slow=6.9,SNR=4.1						
ZAL	**Zalesovo**	**34.07**	**31**	P	**P**	**17 12 22.5**	**+0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=247,slow=10,SNR=5.8						
SONM	**Songino Array**	**44.16**	**48**	P	**P**	**17 13 47.9**	**+1.5**
	comp=Z,0.6nm,0.8s,mb3.4,baz=257,slow=8.5,SNR=5.7						
ARCES	**ARCESS Array B**	**45.66**	**346**	P	**P**	**17 13 57.7**	**-0.3**
	comp=Z,2.4nm,1.1s,mb4.0,baz=143,slow=9.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**52.20**	**266**	P	**P**	**17 14 44.4**	**-4.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=57,slow=6.9,SNR=8.0						
ILAR	**Eielson Array**	**86.46**	**9**	P	**P**	**17 18 18.2**	**-1.2**
	comp=Z,0.4nm,0.7s,mb3.8,baz=323,slow=4.3,SNR=5.3						

IDC ***07*** *17:11:09.0±0.7, 25.31S×176.41W, mb4.2/8, mb1 4.5/9, mb1mx4.4/14, mbtmp4.3/9, MS4.0/12, Ms1 4.0/12, ms1mx3.8/22, Error ellipse: s-maj=27.8km s-min=20.4km az=127.0*
NEIC ***07*** *17:11:11.5±0.6, 25.27S×176.50W, h15km, mb4.5/3, Error ellipse: s-maj=16.7km s-min=14.6km az=107.0*
ISC 07 17:11:12.7±0.6, 25.29S±0.07×176.6W±0.1, h33km, n38, σ1s01/25, mb4.3/9, MS4.2/9, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.12**	**196**	P	**Pn**	**17 12 14.1**	**-0.9**
	72nm,0.3s,baz=279,slow=22,SNR=6.2						
RAO				Sn	**Sn**	**17 13 02.5**	**-0.2**
	126nm,0.3s,baz=88,slow=23,SNR=8.0						
RAO				LR	LR	17 13 43.4	
	comp=Z,205nm,19.1s,baz=190,slow=37						
AFI	**Afiamalu**	**12.19**	**23**	Pn	**P**	**17 13 57.8**	**-9.1**
	6.8nm,0.3s,baz=223,slow=2.5,SNR=15						
AFI				Sn	**S**	**17 16 00.9**	**-22**
	3.5nm,0.3s,baz=47,slow=19,SNR=4.1						
AFI	**Afiamalu**	**12.19**	**23**	Pn	**P**	**17 13 57.8**	**-9.1**
AFI				Sn	**S**	**17 16 00.9**	**-22**
URZ	**Urewera**	**13.99**	**201**	Pn	**P**	**17 14 22.5**	**-8.2**
	0.7nm,0.3s,baz=51,slow=17,SNR=4.4						
URZ				Sn	S	17 16 42.2	-24
	1.4nm,0.3s,baz=13,slow=10.0,SNR=4.1						
DZM	**Mont Dzumac**	**15.86**	**278**	Pn	**P**	**17 15 04.0**	**+8.9**
	0.3nm,0.3s,baz=83,slow=18,SNR=7.0						
DZM				LR	LR	17 18 48.6	
	comp=Z,152nm,19.3s,baz=125,slow=29						
RAR	**Rarotonga**	**15.99**	**79**	Pn	**P**	**17 14 45.6**	**-11**
	3.0nm,0.3s,baz=37,slow=7.1,SNR=3.5						
RAR				LR	LR	17 19 35.6	
	comp=Z,676nm,18.8s,baz=306,slow=32						
TBI	**Tubuai**	**24.80**	**91**	*e*LR	LR	17 21 59.0	
	1μm,26.8s,baz=259						
PPT	**Papeete**	**26.27**	**78**	*e*LQ		17 21 37.1	
PPT				*e*LR	LR	17 22 38.0	
	1μm,25.9s,baz=248						
HNR	**Honiara**	**27.30**	**301**	LR	LR	17 26 35.8	
	comp=Z,353nm,18.1s,MS4.0,baz=54,slow=34						
CTA	**Charters Tower**	**34.58**	**271**	*e*P	**P**	**17 18 02.5**	**+1.9**
	7.0nm,1.2s,mb4.5						
CTA	**Charters Tower**	**34.58**	**271**	P	**P**	**17 18 01.7**	**+1.1**
	4.9nm,0.8s,mb4.5,baz=97,slow=10.0,SNR=7.8						
CTAO	**Charters Tower**	**34.58**	**271**	*e*P	**P**	**17 18 02.4**	**+1.8**
STKA	**Stephens Creek**	**37.12**	**250**	*e*P	**P**	**17 18 19.8**	**-2.2**
	3.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**37.12**	**250**	P	**P**	**17 18 23.2**	**+1.2**
	6.3nm,1.1s,mb4.4,baz=117,slow=19,SNR=3.1						
STKA				LR	LR	17 31 56.2	
	comp=Z,597nm,20.2s,MS4.4,baz=279,slow=34						
RKT	**Rikitea**	**37.92**	**96**	*e*LR	LR	17 28 04.6	
	318nm,28.5s						
WB2	**Warramunga Arr**	**45.39**	**266**	*e*P	**P**	**17 19 30.1**	**-0.1**
WRA	**Warramunga Arr**	**45.40**	**266**	P	**P**	**17 19 29.4**	**-0.8**
	2.7nm,0.9s,mb4.1,baz=104,slow=8.1,SNR=13						
WRA				PcP	PcP	17 21 09.6	0.0
	1.1nm,0.8s,baz=102,slow=3.5,SNR=4.8						
VNDA	**Vanda**	**53.29**	**186**	P	**P**	**17 20 28.6**	**-1.5**
	1.6nm,1.0s,mb3.9,baz=348,slow=5.2,SNR=2.2						
VNDA				LR	LR	17 40 47.2	
	comp=Z,59nm,18.8s,MS3.7,baz=290,slow=33						
QSPA	**South Pole Qui**	**64.81**	**180**	*e*P	**P**	**17 21 50.6**	**+0.8**
	7.5nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**74.81**	**324**	LR	LR	17 50 53.5	
	comp=Z,175nm,20.9s,MS4.3,baz=150,slow=32						
MAW	**Mawson**	**77.52**	**200**	P	**P**	**17 23 06.5**	**+0.2**
	3.0nm,0.9s,mb4.2,baz=141,slow=2.2,SNR=4.5						
SNAA	**Sanae**	**83.21**	**178**		**P**	**17 23 36.9**	**+0.5**
SNAA	**Sanae**	**83.21**	**178**		Px	17 23 45.5	
VNA3	**Neumayer Olymp**	**83.30**	**176**	⇑*i*	**P**	**17 23 38.2**	**+1.3**
VNA3	**Neumayer Olymp**	**83.30**	**176**		Px	17 23 49.3	
NVAR	**Mina Array Bea**	**83.64**	**42**	LR	LR	17 52 04.3	
	comp=Z,103nm,19.9s,MS4.2,baz=325,slow=29						
VNA2	**Neumayer--Watz**	**83.75**	**176**		**P**	**17 23 40.6**	**+1.5**
VNA2	**Neumayer--Watz**	**83.75**	**176**		Px	17 23 48.0	
VNA2	**Neumayer--Watz**	**83.75**	**176**		Px	17 23 52.1	
PLCA	**Paso Flores**	**85.07**	**133**	LR	LR	17 52 44.5	
	comp=Z,97nm,20.3s,MS4.2,baz=185,slow=29						
TXAR	**Lajitas Array**	**88.57**	**57**	P	**P**	**17 24 03.4**	**-0.3**
	2.7nm,1.0s,mb4.5,baz=211,slow=7.3,SNR=11						
TXAR				LR	LR	17 55 03.7	
	comp=Z,137nm,18.6s,MS4.4,baz=225,slow=30						
PDAR	**Pinedale Array**	**91.57**	**43**	P	**P**	**17 24 16.9**	**-0.5**
	1.5nm,1.1s,mb4.2,baz=207,slow=3.3,SNR=6.2						
PDAR				LR	LR	17 58 22.5	
	comp=Z,90nm,19.0s,MS4.2,baz=64,slow=31						
ILAR	**Eielson Array**	**92.68**	**12**	P	**P**	**17 24 20.9**	**-1.1**
	0.7nm,1.0s,mb4.0,baz=233,slow=4.5,SNR=3.7						
LPAZ	**La Paz**	**99.04**	**113**	LR	LR	18 00 32.5	
	comp=Z,62nm,19.6s,MS4.1,baz=61,slow=30						
BVAR	**Borovoye Array**	**123.52**	**318**	PKP	PKPdf	17 30 08.5	+1.9
	0.4nm,0.6s,baz=162,slow=4.6,SNR=8.1						
AKASG	**Malin Array Be**	**147.78**	**329**	PKPbc	PKPdf	17 30 56.6	+5.7
	0.9nm,0.5s,baz=38,slow=3.3,SNR=6.5						
BRTR	**Keskin Array B**	**150.88**	**307**	PKPbc	PKPdf	17 31 03.8	+7.6
	1.1nm,0.9s,baz=153,slow=2.8,SNR=5.7						
BRTR				PKPab	PKPab	17 31 12.8	+1.3
	1.7nm,0.8s,baz=114,slow=4.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	**167.82**	**172**	PKPab	PKPab	17 32 24.6	-0.3
	1.6nm,0.9s,baz=191,slow=2.9,SNR=6.2						

HEL ***07*** *17:17:38.8±0.3, 60.22N×25.28E, ML1.6, Explosion*
IDC ***07*** *17:17:38.2±1.7, 60.23N×25.34E, mb1 3.2/3, mb1mx3.0/20, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=18.1km s-min=7.6km az=145.0*
ISC 07 17:17:34.9±1.1, 60.12N±0.07×25.14E±0.09, n10, σ1s52/18, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**0.56**	**39**	*e*P	**Pg**	**17 17 46.6**	**+0.5**
PVF				*e*S	**Sg**	**17 17 52.4**	**-1.2**
VJF	**Virojoki**	**1.27**	**69**	*e*P	**Pb**	**17 17 59.7**	**+0.2**
VJF				*e*S	**Sb**	**17 18 15.1**	**-1.1**
FIA0	**FINESS Array S**	**1.41**	**19**	*e*P	**Pb**	**17 18 01.7**	**0.0**
FIA0				*e*S	**Sb**	**17 18 18.0**	**-2.2**
FINES	**FINESS Array B**	**1.41**	**19**	Pg	**Pg**	**17 18 01.8**	**-1.2**
	2.6nm,0.3s,baz=198,slow=16,SNR=76						
FINES				Pn	**Pn**	**17 18 04.4**	**+2.6**
	2.6nm,0.3s,baz=195,slow=11,SNR=50						
FINES				Lg		17 18 18.6	
	0.8nm,0.3s,baz=198,slow=26,SNR=9.7						
FINES				Sn	**Sn**	**17 18 23.6**	**+2.2**
	3.0nm,0.3s,baz=195,slow=22,SNR=19						
FINES				Rg		17 18 26.1	
	12nm,0.8s,baz=193,slow=31,SNR=11						
KEF	**Keuruu**	**2.06**	**356**	*e*P	**Pn**	**17 18 13.3**	**+2.1**
KEF				*e*S	**Sn**	**17 18 38.3**	**+0.3**
KEF				MSG		17 18 42.2	
	comp=Z,4.7nm,0.2s						
KAF	**Kangasniemi**	**2.08**	**15**	*e*P	**Pn**	**17 18 13.5**	**+2.0**
KAF				*e*S	**Sn**	**17 18 38.8**	**+0.4**
KAF				MSG		17 18 43.5	
	comp=Z,2.2nm,0.2s						
SUF	**Sumiainen**	**2.66**	**10**	MSG		17 18 57.8	
	comp=Z,2.2nm,0.1s						
HFS	**Hagfors**	**5.72**	**275**	Pn	**Pn**	**17 19 04.5**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=101,slow=15,SNR=2.8						
HFS				Sn	**Sn**	**17 20 08.3**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=84,slow=29,SNR=4.3						
NOA	**NORSAR Array B**	**6.92**	**284**	Pn	**Pn**	**17 19 19.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=54,slow=8.9,SNR=2.5						
NOA				Sn	**Sn**	**17 20 36.2**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=225,slow=26,SNR=2.9						
ARCES	**ARCESS Array B**	**9.46**	**1**	Pn	**P**	**17 19 52.5**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=178,slow=13,SNR=7.3						

MEX 07 17:44:57.6±0.5, 16.03N×98.47W, h7km±7km, MD3.7, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.49**	**43**	⇑*i*P	Pg	17 45 06.7	-0.8
PNIG				*i* S	Sg	17 45 13.9	-0.1
ACX	**Acapulco**	**1.61**	**301**	*e*P	Pn	17 45 23.0	-3.7
ACX				*i* S	Sb	17 45 43.0	-4.9
VHO	**Vista Hermosa**	**1.96**	**58**	*i* P	Pn	17 45 28.7	-3.0
VHO				*i* S	Sn	17 45 50.9	-6.0
OXX	**Oaxaca**	**1.98**	**58**	*e*P	Pn	17 45 29.0	-2.9
OXX				*i* S	Sn	17 45 53.0	-4.2
PPM	**Popocatepetl**	**3.02**	**357**	*e*P	Pn	17 45 48.0	+1.2

IDC 07 17:52:08.7±11.0, 4.67S×11.69W, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, MS3.6/7, Ms1 3.7/7, ms1mx3.4/22, Error ellipse: s-maj=423.3km s-min=94.3km az=148.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**13.17**	**31**	LR	LR	17 59 18.4	
	comp=Z,146nm,20.5s,baz=240,slow=33						
TORD	**Torodi Ar. Bea**	**22.14**	**37**	P	P	17 57 06.1	-1.7
	6.5nm,0.9s,baz=221,slow=11,SNR=16						
TSUM	**Tsumeb**	**32.00**	**119**	LR	LR	18 09 01.7	
	comp=Z,151nm,21.2s,baz=320,slow=32						
MDT	**Midelt**	**37.88**	**10**	LR	LR	18 15 37.1	
	comp=Z,38nm,18.9s,baz=248,slow=37						
LSZ	**Lusaka**	**40.59**	**108**	LR	LR	18 13 43.7	
	comp=Z,104nm,21.4s,baz=99,slow=32						
KMBO	**Kilima Mbogo**	**48.99**	**87**	LR	LR	18 19 37.8	
	comp=Z,119nm,19.9s,baz=113,slow=34						
LPAZ	**La Paz**	**56.52**	**254**	LR	LR	18 25

MRZ	**Mangatainoka R**	**3.65**	**206**	P	P	18 05 05.9	-4.2
KIW	**Kapiti Island**	**4.08**	**211**	PN	P	18 05 11.5	-4.4
MTW	**Mount Morrison**	**4.12**	**204**	PN	P	18 05 11.3	-5.2
CAW	**Cannon Point**	**4.23**	**208**	PN	P	18 05 12.9	-5.0
CAW	**Cannon Point**	**4.23**	**208**	P	P	18 05 12.9	-5.1
THZ	**Tophouse**	**5.72**	**219**	PN	P	18 05 33.0	-5.2
KHZ	**Kahutara**	**5.94**	**211**	*e*P	P	18 05 35.1	-6.1

*NEIC **07** 18:21:18.1, 16.10N×98.61W, h28km, MD3.9(MEX), After MEX.*

MEX 07 18:21:17.3±1.0, 16.03N×98.60W, h29km±17km, MD3.9, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.58**	**51**	⇑*i*P	Pb	18 21 27.2	-1.7
PNIG				*i* S	Sb	18 21 34.7	-2.2
ACX	**Acapulco**	**1.52**	**304**	*i* P	Pn	18 21 41.0	-1.9
ACX				*i* S	Sn	18 21 57.5	-4.4
CAIG	**El Cayaco**	**1.90**	**303**	*e*P	Pn	18 21 45.8	-2.6
CAIG				*i* S	Sn	18 22 07.9	-3.6
VHO	**Vista Hermosa**	**2.07**	**60**	*e*P	Pn	18 21 48.1	-2.8
VHO				*i* S	Sn	18 22 13.7	-2.1
VHO	**Vista Hermosa**	**2.07**	**60**	*e*P	Pn	18 21 47.8	-3.0
VHO				*i* S	Sn	18 22 13.7	-2.1
OXX	**Oaxaca**	**2.08**	**59**	*e*P	Pn	18 21 48.0	-3.0
OXX				*i* S	Sn	18 22 14.0	-2.2
HUIG	**Huatulco**	**2.41**	**96**	*e*P	Pn	18 21 54.2	-1.5
HUIG				*i* S	Sn	18 22 17.6	-6.9
HUIG	**Huatulco**	**2.41**	**96**	*e*P	Pn	18 21 54.2	-1.5
HUIG				*i* S	Sn	18 22 15.9	-8.6
PLIG	**Platanillo**	**2.51**	**340**	*e*P	Pn	18 21 54.4	-2.7
PLIG				*i* S	Sn	18 22 26.1	-0.9
PLIG	**Platanillo**	**2.51**	**340**	*e*P	Pn	18 21 53.3	-3.8
PLIG				*i* S	Sn	18 22 26.1	-0.9
YAIG	**Yautepec**	**2.85**	**351**	*e*P	Pn	18 22 01.1	-1.0
YAIG				*i* S	Sn	18 22 34.1	-1.7
YAIG	**Yautepec**	**2.85**	**351**	*e*P	Pn	18 22 03.5	+1.4
YAIG				*i* S	Sn	18 22 36.8	+0.9
PPM	**Popocatepetl**	**3.02**	**359**	*e*P	Pn	18 22 05.0	+0.6
PPM				*e*P		18 22 10.0	
PPM				*i* S	Sn	18 22 37.5	-2.6
PPM				*i* S	Sn	18 22 39.0	-1.1
CMIG	**Matias Romero**	**3.71**	**73**	*e*P	Pn	18 22 11.8	-2.4
CMIG				*i* S	Sn	18 22 55.0	-2.5

JMA 07 18:28:20.1±0.2, 25.51N×123.50E, h176km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.13**	**203**	P	P	18 28 48.8	+0.1
YOJ				*e*S	S	18 29 10.5	-0.3
IRIF	**Iriomote-Funau**	**1.19**	**170**	P	P	18 28 48.6	-0.6
IRIF				S	S	18 29 11.5	-0.2
JIJ	**Ishigaki jima**	**1.28**	**153**	P	P	18 28 49.6	-0.4
JIJ				S	S	18 29 12.0	-1.2
JKRS	**Kuro-shima**	**1.35**	**160**	P	P	18 28 50.5	-0.2
JKRS				S	S	18 29 13.7	-0.6
JTJ	**Tarama**	**1.39**	**128**	P	P	18 28 51.0	-0.1
JTJ				S	S	18 29 14.7	-0.3
HATJ	**Hateruma jima**	**1.47**	**169**	P	P	18 28 51.6	-0.2
HATJ				S	S	18 29 15.4	-0.9
JMJ	**Miyako jima 2**	**1.77**	**113**	P	P	18 28 54.7	-0.1
JMJ				*e*S	S	18 29 20.8	-0.7
JOGS	**Gusukube**	**1.88**	**113**	P	P	18 28 56.1	+0.1
JOGS				S	S	18 29 23.6	0.0
JKE	**Kume jima 2**	**3.07**	**74**	P	P	18 29 08.3	-1.7
JKE				S	S	18 29 45.6	-2.8
JAGN	**Aguni-jima**	**3.53**	**71**	P	P	18 29 13.5	-2.4
JAGN				*e*S	S	18 29 53.7	-5.1
JJT2	**Tamagusuku 2**	**3.88**	**80**	P	P	18 29 18.2	-2.1
JJT2				*e*S	S	18 30 03.0	-3.7
JIH	**Iheya**	**4.29**	**68**	P	P	18 29 22.6	-2.9
JIH				S	S	18 30 09.6	-6.4
JOW	**Kunigami**	**4.49**	**72**	P	P	18 29 24.7	-3.4
JOW				S	S	18 30 13.3	-7.3
JTK	**Tokunoshima**	**5.38**	**64**	P	P	18 29 35.4	-4.3
JTK				S	S	18 30 34.8	-6.6
JMZ	**Minamidaito 2**	**6.97**	**86**	P	P	18 29 56.9	-3.8
JMZ				*e*S	S	18 31 08.6	-10

CASC 07 18:42:31.4±2.6, 13.28N×89.93W, h20km±12km, MD3.5, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.63**	**28**	*e*P	Pb	18 42 55.6	+12
SBLS				*e*S	Sb	18 43 05.5	+14
RTR	**El Retiro**	**0.67**	**24**	*e*P	Pb	18 42 56.7	+12
RTR				*e*S	Sb	18 43 06.1	+13
LFRS	**El Faro**	**0.91**	**68**	*e*P	Pb	18 42 57.8	+9.5
LFRS				*e*S	Sb	18 43 09.1	+9.1
LBRS	**Las Brisas**	**0.97**	**62**	*e*P	Pb	18 42 59.4	+10
LBRS				*e*S	Sb	18 43 12.6	+11
IXG	**Ixpaco**	**1.03**	**330**	⇑*e*P	Pb	18 42 49.4	-0.9
IXG				*e*S	Sb	18 43 03.8	+0.4
IXG				*e*S	Sb	18 43 04.5	+1.1
NBG	**Las Nubes**	**1.36**	**343**	*e*P	Pn	18 42 56.3	+0.8
NBG				*e*S	Sb	18 43 15.9	+2.7
TP2	**Tecpan 2**	**1.83**	**325**	*e*S	Sn	18 43 27.3	+2.2

*SOF **07** 19:11:49.6, 40.20N×24.26E, h2km, MD2.8*
*ATH **07** 19:11:51.0, 40.10N×24.08E, h21km±1km, MD3.5/5*
*THE **07** 19:11:51.4, 40.12N×24.09E, h7km, ML3.3*
*CSEM **07** 19:11:51.6±0.1, 40.12N×24.04E, h15km, ML3.3, Error ellipse: s-maj=1.7km s-min=1.6km az=81.0*
*NEIC **07** 19:11:51.4, 40.12N×24.09E, h8km, ML3.5(THE), ML3.5(ATH), After THE.*

ISC 07 19:11:50.4±0.4, 40.12N±0.02×24.09E±0.03, h8km±3km, n38, σ1§05/56, 2C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.23**	**339**	*e*Pg	**Pg**	**19 11 56.4**	**+1.1**
OUR				*e*Sg	**Sg**	**19 11 59.9**	**+1.4**
PAIG	**Paliouri**	**0.37**	**239**	*e*Pg	**Pg**	**19 11 58.0**	**+0.1**
PAIG				*e*Sg	**Sg**	**19 12 03.5**	**+0.7**
PLG	**Polygyros**	**0.56**	**298**	*e*PN	**Pg**	**19 12 01.7**	**+0.1**
PLG				*e*SN	**Sg**	**19 12 09.3**	**+0.2**
LOS	**Limnos**	**0.78**	**103**	*e*Pg	**Pg**	**19 12 06.9**	**+0.8**
LOS				*e*Sg	**Sg**	**19 12 17.2**	**+0.7**
LIA	**Limnos Island**	**0.87**	**104**	*e*PN	**Pn**	**19 12 08.4**	**-0.3**
LIA				*e*SN	**Sn**	**19 12 19.8**	**-1.8**
SOH	**Sokhos**	**0.90**	**322**	*e*Pg	**Pg**	**19 12 08.9**	**+0.5**
SOH				*e*Sg	**Sg**	**19 12 20.5**	**0.0**
SOH	**Sokhos**	**0.90**	**322**	*e*Pg	**Pg**	**19 12 08.9**	**+0.4**
SOH				*e*Sg	**Sg**	**19 12 20.5**	**0.0**
AOS	**Alonnisos**	**0.96**	**190**	*e*Pg	**Pg**	**19 12 09.5**	**-0.1**
AOS				*e*Sg	**Sg**	**19 12 23.2**	**+0.8**
THE	**Thessaloniki**	**1.00**	**301**	*e*Pg	**Pg**	**19 12 10.7**	**+0.2**
THE	**Thessaloniki**	**1.00**	**301**	P	**Pb**	**19 12 10.2**	**+0.5**
XOR	**Xorichti**	**1.02**	**223**	*e*Pg	**Pg**	**19 12 10.0**	**-0.8**
XOR				*e*Sg	**Sg**	**19 12 24.1**	**-0.3**
XOR	**Xorichti**	**1.02**	**223**	*e*Pg	**Pg**	**19 12 10.0**	**-0.8**
XOR				*e*Sg	**Sg**	**19 12 24.1**	**-0.3**
NEO	**Neokhori**	**1.05**	**220**	*e*PN	**Pn**	**19 12 10.7**	**-0.6**
NEO				*e*SN	**Sn**	**19 12 25.2**	**-1.0**
SRS	**Serrai**	**1.07**	**339**	*e*Pg	**Pg**	**19 12 11.5**	**-0.4**
LIT	**Litokhoron**	**1.23**	**270**	*e*Pg	**Pg**	**19 12 14.1**	**-0.9**
NVR	**Nevrokopi**	**1.25**	**352**	*e*PN	**Pn**	**19 12 14.4**	**+0.3**
KNT	**Kendrikon**	**1.39**	**319**	*e*Pg	**Pg**	**19 12 16.7**	**-1.4**
KNT				*e*Sg	**Sg**	**19 12 33.8**	**-2.8**
MMB	**Musomiste**	**1.50**	**350**	*i* Pg	**Pg**	**19 12 17.5**	**-2.8**
RDO	**Rodhopi**	**1.51**	**46**	*e*PN	**Pn**	**19 12 19.5**	**+1.6**
RDO				*e*SN	**Sn**	**19 12 39.6**	**+1.7**
GRG	**Griva**	**1.54**	**304**	*e*Pg	**Pg**	**19 12 19.3**	**-1.8**
RZN	**Rozhen**	**1.64**	**17**	*i* Pg	**Pg**	**19 12 20.2**	**-3.0**
VAY	**Valandovo**	**1.67**	**317**	*e*Pn	**Pn**	**19 12 21.9**	**+1.7**
VAY				*e*Sn	**Sn**	**19 12 41.8**	**-0.2**
ALN	**Alexandroupoli**	**1.68**	**62**	*e*Pb	**Pb**	**19 12 20.5**	**-0.8**
ALN				*e*Sb	**Sb**	**19 12 41.7**	**-0.8**
LKR	**Lokris**	**1.69**	**210**	*e*PN	**Pn**	**19 12 20.8**	**+0.3**
AGG	**Agios Georgios**	**1.75**	**232**	*e*Pb	**Pb**	**19 12 21.4**	**-0.9**
AGG				*e*Sb	**Sb**	**19 12 46.0**	**+1.7**
KDZ	**Kurdzhali**	**1.83**	**33**	*i* P	**Pn**	**19 12 21.8**	**-0.7**
PRK	**Paraskevi**	**1.89**	**117**	*e*PB	**Pb**	**19 12 23.9**	**-0.9**
KKB	**Krupnik**	**1.91**	**337**	*i* P	**Pn**	**19 12 24.0**	**+0.4**
PLD	**Plovdiv**	**2.04**	**13**	*i* P	**Pn**	**19 12 27.0**	**+1.5**
EVR	**Evrytania**	**2.13**	**237**	*e*PN	**Pn**	**19 12 27.5**	**+0.7**
STIP	**Stip**	**2.14**	**318**	*e*Pn	**Pn**	**19 12 28.4**	**+1.5**
STIP				*e*Sn	**Sn**	**19 12 53.0**	**-0.9**
DIM	**Dimitrovgrad**	**2.22**	**29**	*e*P	**Pn**	**19 12 33.0**	**+4.9**
VTS	**Vitosha**	**2.56**	**345**	*i* P	**Pn**	**19 12 33.5**	**+0.5**
VTS	**Vitosha**	**2.56**	**345**	*e*Pn	**Pn**	**19 12 33.9**	**+0.9**
VTS				*e*Sn	**Sn**	**19 13 04.2**	**-0.5**
VOIR		**5.37**	**7**	⇑P	**Pn**	**19 13 12.7**	**0.0**
VOIR		**5.37**	**7**	⇑P	**Pn**	**19 13 12.7**	**0.0**
MLR	**Muntele Rosu**	**5.54**	**14**	⇓P	**Pn**	**19 13 19.6**	**+4.4**
MLR	**Muntele Rosu**	**5.54**	**14**	⇓P	**Pn**	**19 13 19.6**	**+4.4**

*NEIC **07** 19:21:20.7, 35.32S×70.13W, h183km, MD3.3(GUC), After GUC.*

GUC 07 19:21:20.7±0.4, 35.32S×70.13W, h183km±2km, MD3.3, ML3.6, 2C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**1.01**	**314**	⇓*i*P	P	19 21 48.9	0.0
SFDO				*i* S	S	19 22 10.4	-0.4
CICH	**Cipreses**	**1.02**	**346**	⇓*i*P	S	19 21 49.0	-0.1
CICH				*i* S	S	19 22 10.7	-0.3
CACH	**El Canelo**	**1.26**	**342**	⇑*i*P	P	19 21 51.0	-0.1
CACH				*i* S	S	19 22 14.5	-0.1
CHCH	**Chadas Angostu**	**1.45**	**343**	⇓*i*P	P	19 21 52.6	-0.2
CHCH				*i* S	S	19 22 16.9	-0.7
LNV	**Longovilo**	**1.72**	**322**	⇓*i*P	P	19 21 55.3	-0.2
LNV				*i* S	S	19 22 21.5	-0.7
PCH	**Pirque**	**1.72**	**349**	*i* P	P	19 21 55.6	+0.1
PCH				*i* S	S	19 22 22.1	-0.2
TACH	**Talagante**	**1.79**	**338**	⇑*i*P	P	19 21 56.0	-0.1
TACH				*i* S	S	19 22 23.0	-0.5
RCDM	**Rinconada Maip**	**1.91**	**343**	*i* P	P	19 21 57.4	0.0
RCDM				*i* S	S	19 22 25.0	-0.6
RCDM				AMP		19 22 26.5	
	comp=N,601nm,0.1s						
FCH	**Farellones**	**1.99**	**356**	⇓*i*P	P	19 21 58.8	+0.6
FCH				*i* S	S	19 22 28.2	+1.1
FCH				AMP		19 22 35.6	
	comp=N,106nm,0.1s						
LCCH	**Las Cruces**	**2.19**	**327**	⇓*i*P	P	19 22 00.4	-0.1
LCCH				*i* S	S	19 22 30.3	-0.8
PEL	**Peldehue**	**2.22**	**348**	⇓*i*P	P	19 22 01.2	+0.4
PEL				*i* S	S	19 22 31.5	-0.2
PEL				AMP		19 22 32.0	
	comp=N,320nm,0.2s						
JACH	**Jahuel**	**2.66**	**352**	⇓*i*P	P	19 22 06.2	+0.3
JACH				*i* S	S	19 22 40.7	-0.1

*CSEM **07** 19:27:46.9±0.9, 38.74N×29.62W, h5km, ML2.4, Error ellipse: s-maj=20.7km s-min=9.8km az=17.0, After PDA*
*PDA **07** 19:27:46.9±0.9, 38.74N×29.62W, h5km, MD3.5, ML2.4, Error ellipse: s-maj=20.7km s-min=9.8km az=17.0*

SVSA 07 19:27:46.9±0.9, 38.74N×29.62W, h5km, MD3.5, ML2.4, Error ellipse: s-maj=20.7km s-min=9.8km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.66**	**103**	*e*S	Sg	19 28 07.2	-1.8
	29nm,0.2s						
PTCA	**Ponta do Capel**	**0.66**	**103**	*e*S	Sg	19 28 07.2	-1.8
	29nm,0.2s						
PCED	**Cedros**	**0.73**	**98**	*e*S	Sg	19 28 07.9	-3.2
	36nm,0.4s						
PCED	**Cedros**	**0.73**	**98**	*e*S	Sg	19 28 07.9	-3.2
	36nm,0.4s						
CALA	**Caldeira**	**0.73**	**102**	*e*P	Pg	19 27 59.5	-2.1
CALA				*e*S	Sg	19 28 08.1	-3.3
HOR	**Horta**	**0.80**	**105**	*e*S	Sg	19 28 09.6	-4.1
PCND	**Candelaria**	**0.94**	**106**	*e*S	Sb	19 28 14.3	-3.7
	54nm,0.2s						
PICO	**Pico**	**0.96**	**104**	*e*P	Pb	19 28 01.8	-3.9
PICO				*e*S	Sb	19 28 13.8	-4.8
PBOI	**Pico dos Bois**	**1.02**	**107**	*e*S	Sb	19 28 16.7	-3.5
	53nm,0.3s						
ROSA	**Rosais**	**1.08**	**90**	*e*P	Pb	19 28 03.6	-4.0
ROSA				*e*S	Sb	19 28 16.3	-5.5

*IDC **07** 19:34:14.8±1.3, 16.69S×177.19W, mb4.1/8, mb1 4.4/8, mb1mx4.2/14, mbtmp4.1/8, MS4.8/22, Ms1 4.7/22, ms1mx4.6/33, Error ellipse: s-maj=62.0km s-min=20.7km az=150.0*
*NEIC **07** 19:34:18.7±0.4, 17.13S×176.99W, mb4.9/15, MS4.9/6, Error ellipse: s-maj=16.6km s-min=11.1km az=130.0*
*BJI **07** 19:34:22.1, 17.10S×177.00W, h55km, mB5.3, mb4.6, Ms5.0, Ms4.7*
*HRVD **07** 19:34:22.2±0.2, 17.10S×176.73W, h14km±1km, MW5.4/88, Centroid moment Tensor Solution. LP body waves: s65,c119;Mantle waves: s88,c170; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.18±.02; $M_{\theta\theta}$-1.23±.03; $M_{\phi\phi}$ 1.41±.03; $M_{r\theta}$ 0.02±.04; $M_{\theta\phi}$ 0.47±.02; $M_{\phi r}$ 0.28±.06; Best double couple: $M_0$1.423×10^{17} NP1: ϕ_s55°, δ83°, λ6°. NP2:ϕ_s324°, δ84°, λ173°. Principal axes: T 1.535, Plg9°, Azm280°; N -.229, Plg81°, Azm108°; P -1.311, Plg1°, Azm10°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **07** 19:34:26.3±2.8, 15.46S×178.30W, h33km, mb5.0/8 Error ellipse: s-maj=20.3km s-min=18.2km az=76.6*

ISC 07 19:34:17.8±0.4, 17.06S±0.09×177.12W±0.08, h33km, (h28km±2.1km: pP-P), n111, σ1§27/50, mb4.6/22, MS4.8/31, 6C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.03**	**59**	LR	LR	19 37 06.3	
	comp=Z,2μm,18.6s,baz=66,slow=29						
DZM	**Mont Dzumac**	**16.27**	**250**	*e*P	**P**	**19 38 07.1**	**+1.6**
DZM	**Mont Dzumac**	**16.27**	**250**	Pn	**P**	**19 38 11.6**	**+6.1**
	0.2nm,0.3s,baz=94,slow=14,SNR=13						
NOUC	**Port Laguerre**	**16.40**	**250**	*e*P	**P**	**19 38 14.0**	**+6.8**
URZ	**Urewera**	**21.72**	**192**	P	**P**	**19 39 05.2**	**-2.9**
	29nm,0.9s,mb4.7,baz=14,slow=6.8,SNR=15						
URZ				LR	LR	19 46 15.7	
	comp=Z,6μm,21.4s,MS5.0,baz=149,slow=33						
HNR	**Honiara**	**23.56**	**286**	LR	LR	19 47 18.9	
	comp=Z,4μm,20.2s,MS4.8,baz=118,slow=34						
TBI	**Tubuai**	**26.68**	**108**	*e*LR	LR	19 46 11.0	
	8μm,28.5s,baz=281						
RPZ	**Rata Peaks**	**28.40**	**198**	LR	LR	19 51 03.4	
	comp=Z,6μm,18.1s,MS5.2,baz=36,slow=35						
CTA	**Charters Tower**	**34.81**	**259**	*e*P	**P**	**19 41 09.3**	**+1.5**
	8.0nm,0.8s,mb4.7						
CTA	**Charters Tower**	**34.81**	**259**	P	**P**	**19 41 08.0**	**+0.2**
	10nm,0.8s,mb4.8,baz=79,slow=10.0,SNR=5.4						
CTA	**Charters Tower**	**34.81**	**259**	*e*P	**P**	**19 41 09.3**	**+1.5**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTAO	**Charters Tower**	**34.81**	**259**	*e*P	**P**	**19 41 09.2**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
CTAO	**Charters Tower**	**34.81**	**259**	*e*P	**P**	**19 41 09.2**	**+1.4**
	comp=Z,13nm,0.9s,mb4.9						
RKT	**Rikitea**	**39.94**	**106**	*e*S	**S**	**19 47 53.5**	**-0.1**
RKT				*e*LR	LR	19 52 19.5	
	comp=Z,5μm,28.0s,baz=274						
STKA	**Stephens Creek**	**40.12**	**241**	*e*P	**P**	**19 41 53.6**	**+1.4**
	comp=Z,6.5nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**40.12**	**241**	P	**P**	**19 41 53.8**	**+1.6**
	comp=Z,3.7nm,0.8s,mb4.2,baz=88,slow=9.7,SNR=4.7						
STKA				LR	LR	19 56 55.3	
	comp=Z,869nm,18.4s,MS4.6,baz=70,slow=34						
WB2	**Warramunga Arr**	**45.99**	**259**	*e*P	**P**	**19 42 44.6**	**+4.5**
WRAB	**Tennant Creek**	**45.99**	**259**	⇑*e*P	**P**	**19 42 39.6**	**-0.5**
WRA	**Warramunga Arr**	**46.00**	**259**	P	**P**	**19 42 39.4**	**-0.8**
	comp=Z,3.5nm,0.9s,mb4.3,baz=95,slow=6.3,SNR=14						
FITZ	**Fitzroy Crossi**	**54.38**	**260**	*e*P	**P**	**19 43 44.1**	**-0.1**
	comp=Z,7.7nm,1.5s,mb4.4						
CBIJ	**Chichi jima**	**59.04**	**317**	LR	LR	20 03 17.8	
	comp=Z,523nm,21.6s,MS4.6,baz=121,slow=30						
VNDA	**Vanda**	**61.40**	**185**	LR	LR	20 06 48.9	
	comp=Z,358nm,21.6s,MS4.5,baz=24,slow=32						
JHJ	**Hachijo jima 2**	**64.68**	**321**	LR	LR	20 08 32.0	
	comp=Z,397nm,21.7s,MS4.6,baz=131,slow=32						

MJAR	**Matsushiro Arr**	**67.97**	**322**	P	**P**	**19 45 13.7**	**-2.1**
	comp=Z,4.3nm,1.2s,mb4.4,baz=143,slow=6.3,SNR=5.2						
ASAJ	**Asahikawa**	**71.13**	**331**	LR	LR	20 08 57.9	
	comp=Z,512nm,21.7s,MS4.8,baz=152,slow=29						
QSPA	**South Pole Qui**	**73.00**	**180**	*e*P	**P**	**19 45 45.8**	**+0.4**
	comp=Z,18nm,1.2s,mb4.9						
YSS	**Yuzh-Sakhalins**	**73.22**	**333**	*e*P	**P**	**19 45 49.5**	**+2.1**
YSS				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.0						
YSS	**Yuzh-Sakhalins**	**73.22**	**333**	*e*P	**P**	**19 45 49.5**	**+2.1**
	comp=Z,36nm,1.6s,mb5.0						
SSE	**Sheshan**	**76.15**	**309**	*e*P	**P**	**19 46 02.2**	**-2.4**
	comp=Z,46nm,0.7s,mb5.5						
SSE				pP	pP	19 46 11.5	-3.4
SSE				sP	sP	19 46 15.2	-3.4
SSE				PP	PP	19 48 50.5	-7.0
SSE				S	S	19 55 40.9	-4.0
SSE				sS		19 55 57.3	
SSE				ScS	ScS	19 56 17.3	+3.7
SSE				LR	LR		
	comp=Z,200nm,40.4s,MS4.1						
KDAK	**Kodiak Island**	**77.29**	**13**	LR	LR	20 12 54.8	
	comp=Z,1μm,20.1s,MS5.1,baz=167,slow=30						
NVAR	**Mina Array Bea**	**77.96**	**43**	P	**P**	**19 46 12.8**	**-1.8**
	comp=Z,1.1nm,1.0s,mb3.7,baz=210,slow=9.3,SNR=6.7						
NVAR				LR	LR	20 14 48.6	
	comp=Z,298nm,20.6s,MS4.6,baz=280,slow=31						
SEY	**Seymchan**	**83.23**	**346**	⇑*i*P	**P**	**19 46 41.9**	**0.0**
SRU	**San Rafael**	**83.54**	**46**	P	**P**	**19 46 47.8**	**+3.7**
SRU				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
SRU	**San Rafael**	**83.54**	**46**	P	**P**	**19 46 47.8**	**+3.7**
	comp=Z,10nm,1.2s,mb4.8						
NEW	**Newport**	**84.10**	**36**	LR	LR	20 21 18.6	
	comp=Z,406nm,18.1s,MS4.8,baz=230,slow=34						
LPM	**Los Pinos Moun**	**84.21**	**52**	*e*P	**P**	**19 46 51.2**	**+3.6**
TXAR	**Lajitas Array**	**84.50**	**57**	P	**P**	**19 46 50.1**	**+1.0**
	comp=Z,0.3nm,0.3s,mb3.9,baz=270,slow=1.8,SNR=3.6						
TXAR				LR	LR	20 18 14.7	
	comp=Z,313nm,18.3s,MS4.7,baz=270,slow=31						
DLBC	**Dease Lake**	**84.57**	**23**	LR	LR	20 16 09.7	
	comp=Z,1μm,21.6s,MS5.3,baz=272,slow=30						
ANMO	**Albuquerque**	**84.61**	**51**	⇑*i*P	**P**	**19 46 50.8**	**+1.3**
COLA	**College**	**84.68**	**12**	⇓*i*P	**P**	**19 46 47.7**	**-1.5**
COLA	**College**	**84.68**	**12**	*e*P	**P**	**19 46 48.4**	**-0.8**
	comp=Z,14nm,1.0s,mb5.0						
ILAR	**Eielson Array**	**84.79**	**13**	P	**P**	**19 46 48.8**	**-0.9**
	comp=Z,3.8nm,1.0s,mb4.5,baz=232,slow=7.0,SNR=12						
ILAR				LR	LR	20 17 57.7	
	comp=Z,563nm,20.0s,MS5.0,baz=176,slow=31						
MCMT	**McKenzie Canyo**	**84.80**	**40**	*e*P	**P**	**19 46 51.6**	**+1.4**
ENH	**Enshi**	**84.82**	**304**	*e*P	**P**	**19 46 51.7**	**+1.0**
	comp=Z,43nm,1.5s,mb5.4						
PSI	**Prapat**	**85.04**	**274**	LR	LR	20 27 33.9	
	comp=Z,380nm,18.9s,MS4.8,baz=180,slow=38						
MAW	**Mawson**	**85.07**	**199**	LR	LR	20 20 11.7	
	comp=Z,998nm,20.4s,MS5.2,baz=96,slow=32						
BILL	**Bilibino**	**85.72**	**354**	*e*P	**P**	**19 46 54.3**	**+0.1**
BILL				*i*	pP	19 47 03.0	-1.7
BILL				pmax	pmax		
	comp=Z,30nm,2.7s,mb5.0						
BILL				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.8						
BILL	**Bilibino**	**85.72**	**354**	*e*P	**P**	**19 46 54.3**	**+0.1**
	comp=Z,30nm,2.7s,mb5.0						
BILL				*i*	pP	19 47 03.0	-1.7
BILL				LR	LR		
	comp=Z,400nm,19.0s,MS4.8						
PDAR	**Pinedale Array**	**85.89**	**43**	P	**P**	**19 46 56.5**	**+0.9**
	comp=Z,0.4nm,0.9s,mb3.7,baz=158,slow=4.9,SNR=2.5						
PDAR				LR	LR	20 17 58.9	
	comp=Z,244nm,20.2s,MS4.6,baz=248,slow=31						
DAWY	**Dawson**	**85.94**	**16**	*e*P	**P**	**19 46 56.0**	**+0.6**
XAN	**Xi'an**	**86.73**	**307**	P	**P**	**19 47 06.1**	**+6.1**
	comp=Z,7.0nm,2.0s,mb4.5						
HHC	**Hu-ho-hao-te**	**87.56**	**314**	*e*P	**P**	**19 47 11.0**	**+7.1**
HHC				XP	sP	19 47 24.6	+6.7
HHC				SKS	SKS	19 57 22.6	-4.1
HHC				XS		19 58 11.4	
HHC				SS	SS	20 03 31.3	+0.8
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,110nm,4.5s						
HHC				LR	LR		
	comp=N,200nm,16.7s,MS4.8						
HHC				LR	LR		
	comp=E,220nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=Z,240nm,17.8s,MS4.7						
HHC	**Hu-ho-hao-te**	**87.56**	**314**	*e*P	**P**	**19 47 11.0**	**+7.1**
	comp=Z,10.0nm,1.0s,mb5.0						
HHC

DPC				AMS	AMS	20 51 00.0	
	comp=Z,400nm,22.5s						
DPC	**Dobruska-Polom**	**145.07 345**	*e*PKHKP			19 53 53.0	
DPC				MLR	MLR		
	comp=Z,400nm,22.5s,MS5.1						
TIRR	**Tirgusor**	**145.24 327**	⇓P		PKPdf	19 54 00.2	+8.0
MORC	**Moravsky Berou**	**145.28 343**	*e*PKPdf		PKPdf	19 53 53.0	+0.9
MORC			⇓P			19 54 02.3	
PVCC	**Panska Ves**	**145.31 347**	*e*PKP		PKPdf	19 53 54.9	+2.8
PVCC			*ep*PKP			19 54 11.2	
PVCC				AMS	AMS	20 48 50.0	
KECS	**Kecovo**	**145.51 339**	*e*PKP		PKPdf	19 53 55.5	+3.0
KECS			*e*			19 54 03.6	
MLR	**Muntele Rosu**	**145.72 331**	⇑P		PKPdf	19 54 04.7	+12
MOX	**Moxa**	**145.77 350**	*i* P		PKPdf	19 54 10.4	+18
MOX			L			19 57 10.0	
MOX	**Moxa**	**145.77 350**	*e*PKP		PKPdf	19 54 10.4	+18
MOX			LR	LR			
	comp=Z,200nm,21.0s,MS4.9						
PRU	**Pruhonice**	**145.83 347**	*ep*PKP			19 54 01.7	
PRU				AMS	AMS	20 49 10.0	
	comp=Z,600nm,30.3s						
NKC	**Novy Kostel**	**146.02 349**	*e*PKP		PKPdf	19 53 57.5	+4.2
NKC			*ep*PKP			19 54 13.5	
NKC				AMS	AMS	20 47 30.0	
	comp=Z,600nm,27.0s						
VYHS	**Vyhne**	**146.04 341**	*e*PKP		PKPdf	19 53 58.3	+4.9
VYHS			*e*			19 54 09.7	
DRGR		**146.11 335**	⇑P		PKPdf	19 53 58.3	+4.7
TREC	**Trest**	**146.25 345**	AMS		AMS	20 50 10.0	
	comp=Z,600nm,20.9s						
GRA1	**Grafenberg Arr**	**146.75 350**	*e*PKP		PKPdf	19 54 00.1	+5.5
GRA1			LR	LR			
	comp=Z,200nm,21.6s,MS4.9						
GRF	**Grafenberg Arr**	**146.75 350**	*e*PKIKP		PKPdf	19 54 00.1	+5.5
GRF			MLR	MLR			
	comp=Z,200nm,21.6s,MS4.9						
GRF	**Grafenberg Arr**	**146.75 350**	*e*PKIKP		PKPdf	19 54 00.1	+5.5
GRF			MLR	MLR			
	comp=Z,200nm,21.6s,MS4.9						
KHC	**Kasperske Hory**	**146.85 347**	*e*PKP		PKPdf	19 53 51.2	-3.6
KHC			*ep*PKP			19 54 07.4	
KHC				AMS	AMS	20 49 00.0	
	comp=Z,300nm,18.4s						
KHC	**Kasperske Hory**	**146.85 347**	*e*PKHKP			19 53 51.2	
KHC				MLR	MLR		
	comp=Z,300nm,18.4s,MS5.1						
GERES	**GERESS Array B**	**147.09 347**	PKPbc		PKPdf	19 53 59.6	+4.4
	comp=Z,0.7nm,0.8s,baz=27,slow=3.0,SNR=5.0						
GRR	**Gorron**	**148.60 5**	*e*PKIKP		PKPdf	19 54 06.3	+8.7
LOR	**Lormes**	**149.86 359**	*e*PKIKP		PKPdf	19 54 09.3	+10
SSF	**Saint Saulge**	**150.07 359**	*e*PKIKP		PKPdf	19 54 10.1	+10
CABF	**La Chapelle**	**150.41 356**	*e*PKIKP		PKPdf	19 54 08.8	+8.2
	comp=Z,26nm,0.9s						
TCF	**Toulx Ste Croi**	**150.85 1**	*e*PKIKP		PKPdf	19 54 10.6	+9.4
LPL	**La Plagne**	**151.44 354**	*e*PKIKP		PKPdf	19 54 11.6	+9.5
	comp=Z,7.9nm,0.8s						
LPG	**La Plagne**	**151.46 354**	*e*PKIKP		PKPdf	19 54 11.6	+9.4
	comp=Z,10nm,0.9s						
ORIF	**Oris-en-Rattie**	**152.11 355**	*e*PKIKP		PKPdf	19 54 12.5	+9.4
	comp=Z,30nm,1.2s						
MBDF	**Montbardon**	**152.22 354**	*e*PKIKP		PKPdf	19 54 12.3	+9.0
SBF	**Sospel**	**153.00 353**	*e*PKIKP		PKPdf	19 54 12.9	+8.5
	comp=Z,50nm,1.0s						
TORD	**Torodi Ar. Bea**	**175.95 163**	PKPab		PKPab	19 56 08.1	+1.9
	comp=Z,1.7nm,1.2s,baz=194,slow=3.4,SNR=4.0						

IDC 07 19:53:25.0±2.0, 31.09S×177.14W, mb3.7/1, mb1 4.0/2, mb1mx3.8/13, mbtmp3.8/2, ML3.6/1, MS4.0/1, Ms1 4.0/1, ms1mx3.2/22, Error ellipse: s-maj=54.4km s-min=25.6km az=85.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.95**	**340**	Pn	Pn	19 53 58.5	-1.1
	49nm,0.3s,baz=71,slow=23,SNR=2.8						
RAO				Sn	Sn	19 54 25.7	+0.5
	261nm,0.3s,baz=162,slow=21,SNR=9.5						
URZ	**Urewera**	**8.58**	**212**	Pn	P	19 55 29.6	-3.8
	0.7nm,0.3s,baz=266,slow=4.6,SNR=6.7						
URZ				Sn	Sn	19 57 02.7	-9.3
	2.7nm,0.3s,baz=260,slow=22,SNR=8.2						
WRA	**Warramunga Arr**	**44.86**	**272**	P	P	20 01 41.5	-1.5
	0.6nm,0.5s,baz=113,slow=7.5,SNR=7.7						
GUMO	**Guam**	**57.48**	**315**	LR	LR	20 22 01.8	
	comp=Z,123nm,20.1s,baz=80,slow=30						
FINES	**FINESS Array B**	**146.04**	**340**	PKPbc	PKPbc	20 13 05.6	-0.6
	2.4nm,0.9s,baz=45,slow=5.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**162.11**	**176**	PKPab	PKPab	20 14 14.9	-2.7
	0.4nm,0.7s,baz=172,slow=3.6,SNR=2.7						

IDC 07 19:57:07.2±4.2, 0.90N×97.62E, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=165.3km s-min=27.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.53**	**122**	P	P	20 04 56.5	-1.8
	0.5nm,0.8s,baz=302,slow=8.8,SNR=3.5						
SONM	**Songino Array**	**47.36**	**8**	P	P	20 05 43.5	-1.3
	0.2nm,0.4s,baz=187,slow=9.8,SNR=5.3						
MKAR	**Makanchi Array**	**47.63**	**346**	P	P	20 05 45.0	-2.0
	0.9nm,0.5s,baz=159,slow=8.9,SNR=28						
ZAL	**Zalesovo**	**53.91**	**351**	P	P	20 06 31.6	-2.9
	0.7nm,0.3s,baz=284,slow=5.6,SNR=3.5						

*IDC **07** 19:57:18.9±2.7, 43.04N×105.06W, mb2.4/1, mb1 3.4/3, mb1mx3.2/2, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=53.2km s-min=8.7km az=156.0*
*NEIC **07** 19:57:22.8±0.4, 43.66N×105.24W, ML3.0, Error ellipse: s-maj=5.2km s-min=3.9km az=131.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.
ISC 07 19:57:21.7±0.6, 43.67N±0.05×105.28W±0.07, n31, σ0§91/33, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.00**	**63**	*e*P	**Pb**	**19 57 42.3**	**+0.6**
PHWY	**Pilot Hill**	**2.37**	**183**	*e*P	**Pn**	**19 58 02.5**	**+0.2**
RWWY	**Rawlins**	**2.44**	**216**	*e*P	**Pn**	**19 58 04.4**	**+1.1**
LAO	**LASA Array**	**3.10**	**348**	*e*P	**Pn**	**19 58 13.8**	**+1.1**
PDAR	**Pinedale Array**	**3.26**	**255**	Pn	**Pn**	**19 58 15.4**	**+0.3**
	2.0nm,0.3s,baz=80,slow=16,SNR=40						
PDAR				Pg	**Pg**	**19 58 21.8**	**-4.9**
	6.0nm,0.3s,baz=72,slow=18,SNR=53						
PDAR				Lg		19 59 02.9	
	9.4nm,0.3s,baz=79,slow=32,SNR=14						
PDAR	**Pinedale Array**	**3.26**	**255**	Pn	**Pn**	**19 58 15.4**	**+0.3**
PDAR				Pg	**Pg**	**19 58 21.8**	**-4.9**
PDAR				Lg		19 59 02.9	
BW06	**Boulder Array**	**3.26**	**255**	*e*P	**Pn**	**19 58 16.3**	**+1.2**
GCMT	**Greycliff**	**3.78**	**306**	P	**Pn**	**19 58 23.2**	**+0.7**
LOHW	**Long Hollow**	**3.87**	**271**	P	**Pn**	**19 58 22.9**	**-0.8**
ISCO	**Idaho Springs**	**3.87**	**184**	*e*P	**Pn**	**19 58 23.8**	**0.0**
MOOW	**Moose Ponds**	**3.97**	**273**	P	**Pn**	**19 58 26.0**	**+0.9**
SNOW	**Snow King Moun**	**3.99**	**269**	P	**Pn**	**19 58 25.7**	**+0.2**
REDW	**Red Top Meadow**	**4.07**	**268**	P	**Pn**	**19 58 27.5**	**+0.9**
YFT	**Old Faithful**	**4.08**	**283**	*e*P	**Pn**	**19 58 26.5**	**-0.3**
YMR	**Madison River**	**4.21**	**286**	P	**Pn**	**19 58 28.5**	**-0.2**
RRI2	**Red Ridge**	**4.41**	**268**	*e*P	**Pn**	**19 58 30.9**	**-0.6**
QLMT	**Earthquake Lak**	**4.57**	**287**	P	**Pn**	**19 58 34.2**	**+0.4**
DGMT	**Dagmar**	**4.86**	**9**	*e*P	**Pn**	**19 58 36.6**	**-1.2**
BOZ	**Bozeman (W)**	**4.95**	**296**	P	**Pn**	**19 58 37.7**	**-1.4**
HWUT	**Hardware Ranch**	**5.08**	**248**	P	**Pn**	**19 58 41.4**	**+0.5**
TCUT	**Toone Canyon**	**5.21**	**243**	P	**Pn**	**19 58 42.3**	**-0.4**
EGMT	**Eagleton**	**5.37**	**326**	*e*P	**Pn**	**19 58 44.6**	**-0.3**
DLMT	**Dillon**	**5.50**	**290**	*e*P	**Pn**	**19 58 46.0**	**-0.9**
DAU	**Daniels Canyon**	**5.51**	**236**	P	**Pn**	**19 58 47.0**	**0.0**
MCMT	**McKenzie Canyo**	**5.56**	**285**	P	**Pn**	**19 58 47.2**	**-0.5**
SRU	**San Rafael**	**6.02**	**223**	*e*P	**Pn**	**19 58 52.8**	**-1.4**
TMUT	**Trail Mountain**	**6.24**	**228**	*e*P	**Pn**	**19 58 56.5**	**-0.8**
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**P**	**19 59 35.6**	**-3.1**
	0.7nm,0.3s,baz=229,slow=13,SNR=9.5						
ULM				Lg		20 02 10.3	
	0.3nm,0.3s,baz=325,slow=19,SNR=2.2						
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**P**	**19 59 35.6**	**-3.1**
ULM				Lg		20 02 10.3	
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**P**	**20 01 56.5**	**+2.1**
	0.1nm,0.5s,baz=156,slow=12,SNR=4.0						
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**P**	**20 01 56.5**	**+2.1**

IDC 07 20:31:54.7±2.1, 0.80N×97.19E, mb3.7/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=55.1km s-min=27.4km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.64**	**41**	Pn	Pn	20 32 38.4	-0.9
	2.4nm,0.3s,baz=294,slow=6.1,SNR=8.4						
WRA	**Warramunga Arr**	**41.83**	**122**	P	P	20 39 46.5	-1.8
	0.3nm,0.7s,baz=304,slow=9.2,SNR=3.7						
SONM	**Songino Array**	**47.53**	**8**	P	P	20 40 31.7	-2.0
	0.2nm,0.4s,baz=195,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**47.63**	**346**	P	P	20 40 33.1	-1.5
	0.7nm,0.5s,baz=162,slow=9.2,SNR=19						
ZAL	**Zalesovo**	**53.94**	**351**	P	P	20 41 19.3	-3.1
	1.5nm,0.4s,baz=250,slow=4.0,SNR=7.7						

SKHL 07 20:40:18.0±0.1, 51.45N×138.03E, h9km±9km, mb3.7/2, 1D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRNR	**Gornyy**	**1.22**	**237**	⇓*i* Pg	Pg	20 40 39.9	-2.5
GRNR				AMB	AMB	20 40 40.2	
	96nm,0.5s						
GRNR				*e*Sg	Sg	20 40 56.0	-2.8
GRNR				A		20 40 58.2	
	170nm,0.5s						
GRNR				A		20 40 58.2	
	180nm,0.5s						
NKL	**Nikolayevsk**	**2.35**	**43**	*e*Pg	Pg	20 41 00.5	-4.5
NKL				pPg		20 41 04.0	
NKL				*i* Sg	Sg	20 41 31.5	-5.0
NKL				A		20 41 32.5	
	150nm,0.5s						
NKL				A		20 41 32.5	
	88nm,0.5s						
TYV	**Tymovskoe**	**2.97**	**100**	*e*Pg	Pg	20 41 11.6	-5.7
TYV				AMB	AMB	20 41 14.0	
	9.0nm,0.8s						
TYV				*e*Sg	Sg	20 41 51.0	-6.0
TYV				A		20 41 55.3	
	20nm,0.5s						
UGL	**Uglegorsk**	**3.51**	**131**	*e*rx	rx	20 41 24.0	
UGL				*e*Sg	Sg	20 42 08.0	-7.0
KLR	**Kul'dur**	**4.59**	**244**	*e*rx	rx	20 42 36.2	
YASR	**Yasnyy**	**6.43**	**291**	*e*rx	rx	20 42 22.6	
YASR				*e*Sg	Sg	20 43 39.0	-13
YASR				A		20 43 55.1	
	4.0nm,0.6s						
BMKR	**Bomnak**	**6.43**	**304**	*e*Sg	Sg	20 43 38.0	-14
KROS	**Kirovskiy**	**7.32**	**298**	*e*Sg	Sg	20 44 06.0	-16
KROS				A		20 44 16.8	
	2.0nm,0.6s						

GUC 07 20:48:06.9±0.4, 30.93S×71.40W, h42km±1km, MD3.5, ML2.6, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.42**	**125**	⇓*i* P	P	20 48 17.1	+0.4
CMCH				*i* S	S	20 48 24.7	+1.1
CMCH				AMP		20 48 25.3	
	comp=N,1μm,0.1s						
ILCH	**Illapel**	**0.73**	**164**	⇑*i* P	P	20 48 21.1	+0.3
ILCH				*i* S	S	20 48 31.7	+0.7
ILCH				AMP		20 48 35.5	
	comp=N,485nm,0.3s						
TLL	**Tololo Astrono**	**0.92**	**34**	⇓*i* P	P	20 48 24.4	+0.9
TLL				*i* S	S	20 48 37.7	+2.0
TLL				AMP		20 48 39.4	
	comp=N,358nm,0.5s						
CHNG	**Los Chungos**	**0.95**	**185**	⇓*i* P	P	20 48 24.4	+0.4
CHNG				*i* S	S	20 48 37.5	+0.9
CHNG				AMP		20 48 38.3	
	comp=E,164nm,0.4s						
FCH	**Farellones**	**2.57**	**159**	*i* P	P	20 48 47.7	+0.7
FCH				*i* S	S	20 49 18.7	+1.4
FCH				AMP		20 49 23.8	
	comp=E,37nm,0.2s						

*IDC **07** 20:51:57.1±3.0, 59.70N×24.50E, mb1 3.1/3, mb1mx2.9/20, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=38.6km s-min=10.0km az=154.0*
*HEL **07** 20:51:59.0±0.1, 59.86N×24.23E, ML1.5, ML1.9(UPP), Explosion*
ISC 07 20:51:57.8±0.5, 59.86N±0.04×24.22E±0.06, n18, σ1§21/27, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVF	**Pernaja**	**1.07**	**49**	*e*P	**Pb**	**20 52 18.1**	**-0.7**
PVF				*e*S	**Sb**	**20 52 31.4**	**-1.8**
VJF	**Virojoki**	**1.80**	**66**	*e*P	**Pn**	**20 52 30.7**	**+0.4**
VJF				*e*S	**Sn**	**20 52 53.4**	**-0.8**
VJF				MSG		20 52 57.6	
	comp=Z,2.1nm,0.2s						
FIA0	**FINESS Array S**	**1.83**	**29**	*e*P	**Pn**	**20 52 31.9**	**+1.1**
FIA0				*e*S	**Sn**	**20 52 54.7**	**-0.3**
FINES	**FINESS Array B**	**1.83**	**29**	Pn	**Pn**	**20 52 31.9**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=207,slow=12,SNR=30						
FINES				Sn	**Sn**	**20 52 57.4**	**+2.4**
	comp=Z,1.2nm,0.3s,baz=221,slow=24,SNR=13						
VSU	**Vasula**	**1.91**	**136**	*e*P	**Pn**	**20 52 32.8**	**+0.9**
VSU				*e*S	**Sn**	**20 52 56.8**	**-0.1**
AAL	**Aland**	**2.15**	**280**	*e*P	**Pn**	**20 52 36.0**	**+0.8**
AAL				*e*S	**Sn**	**20 53 03.7**	**+0.7**
KEF	**Keuruu**	**2.34**	**7**	*e*P	**Pn**	**20 52 39.9**	**+1.9**
KEF				*e*S	**Sn**	**20 53 08.3**	**+0.5**
KEF				MSG		20 53 13.8	
	comp=Z,2.2nm,0.2s						
KAF	**Kangasniemi**	**2.48**	**23**	*e*P	**Pn**	**20 52 42.0**	**+2.0**
KAF				*e*S	**Sn**	**20 53 10.9**	**-0.5**
KAF				MSG		20 53 18.9	
	comp=Z,1.1nm,0.2s						
NRTU	**Norrtaelje**	**2.83**	**269**	*e*P	**Pn**	**20 52 45.2**	**+0.1**
GRAU	**Graesoe**	**2.89**	**282**	*e*P	**Pn**	**20 52 45.7**	**-0.2**
SUF	**Sumiainen**	**3.02**	**17**	MSG		20 53 36.2	
	comp=Z,1.2nm,0.1s						
FLYU	**Flymyra**	**3.20**	**278**	*e*P	**Pn**	**20 52 50.4**	**+0.1**
NYNU	**Nynaeshamn**	**3.29**	**258**	*e*P	**Pn**	**20 52 52.3**	**+0.7**
OSTU	**Oestervaala**	**3.58**	**279**	*e*P	**Pn**	**20 52 55.5**	**-0.2**
FALU	**Falun**	**4.24**	**282**	*e*P	**Pn**	**20 53 05.1**	**0.0**
HFS	**Hagfors**	**5.29**	**278**	Pn	**Pn**	**20 53 17.7**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=111,slow=12,SNR=8.0						
HFS				Sn	**Sn**	**20 54 19.1**	**-3.5**
	comp=Z,0.0nm,0.3s,baz=90,slow=28,SNR=5.2						
HFS				Lg		20 54 40.8	
	comp=Z,0.1nm,0.3s,baz=96,slow=28,SNR=4.2						
NOA	**NORSAR Array B**	**6.54**	**286**	Pn	**Pn**	**20 53 34.9**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=86,slow=14,SNR=2.2						
NOA				Sn	**Sn**	**20 54 47.9**	**-6.1**
	comp=Z,0.1nm,0.3s,baz=87,slow=8.0,SNR=2.5						
NOA				Lg		20 55 20.4	
	comp=Z,0.3nm,0.3s,baz=92,slow=12,SNR=2.8						
ARCES	**ARCESS Array B**	**9.73**	**3**	Pn	**P**	**20 54 18.7**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=176,slow=14,SNR=5.8						

GUC 07 21:00:41.0±0.9, 26.02S×70.49W, h24km±38km, MD3.5, ML2.8, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRCH	**Chaqaral**	**0.34**	**200**	⇑*i* P	Pb	21 00 48.3	-0.3
CRCH				*i* S	Sb	21 00 54.1	+0.4
CRCH				AMP		21 00 54.5	
	comp=E,2μm,0.3s						
CDCH	**Caldera**	**1.09**	**196**	*i* P	Pn	21 00 58.3	-2.6
CDCH				*i* S	Sb	21 01 12.4	-2.4
CDCH				AMP		21 01 13.8	
	comp=E,141nm,0.4s						
CPCH	**Copiapo**	**1.33**	**175**	*i* P	Pn	21 01 04.2	-0.2
CPCH				*i* S	Sn	21 01 21.5	-0.1
CPCH				AMP		21 01 22.0	
	comp=E,4μm,0.1s						
CPN1	**Cerro Paranal**	**1.39**	**3**	⇑*i* P	Pn	21 01 03.4	-1.9
CPN1				*i* S	Sn	21 01 21.8	-1.3
CPN1				AMP		21 01 23.7	
	comp=E,244nm,0.5s						
CEN1	**Los Morros**	**2.64**	**6**	AMP		21 01 57.4	
	comp=E,22nm,0.6s						

*IDC **07** 21:12:25.1±1.3, 1.91N×96.39E, mb4.0/8, mb1 4.1/9, mb1mx3.8/21, mbtmp4.0/9, ML3.2/1, Error ellipse: s-maj=41.5km s-min=18.9km az=45.0*
*NEIC **07** 21:12:30.2±0.7, 1.91N×96.54E, h30km, mb4.3/5, Error ellipse: s-maj=17.0km s-min=9.3km az=211.0*
ISC 07 21:12:28.3±0.9, 1.9N±0.1×96.53E±0.10, h30km, n18, σ0§85/18, mb4.2/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.55**	**70**	Pn	**Pn**	**21 13 09.3**	**+0.8**
	4.0nm,0.3s,baz=265,slow=9.9,SNR=12						
KULM	**Kulim**	**5.31**	**51**	*e*P	**Pn**	**21 13 46.8**	**-0.9**
JIRN	**Jiri**	**27.46**	**340**	*e*P	**P**	**21 18 14.3**	**+0.4**
	10.0nm,0.8s,mb4.4						
GUN	**Gumba**	**27.79**	**339**	*e*P	**P**	**21 18 17.5**	**+0.5**
	18nm,1.0s,mb4.7						
DMN	**Daman**	**27.80**	**338**	*e*P	**P**	**21 18 17.9**	**+0.9**
KKN	**Kakani**	**27.90**	**338**	*e*P	**P**	**21 18 18.6**	**+0.7**
LSA	**Lhasa**	**28.11**	**350**	*e*P	**P**	**21 18 20.4**	**+0.6**
	1.5nm,0.6s,mb3.8						
GKN	**Gorkha**	**28.33**	**337**	*e*P	**P**	**21 18 21.8**	**0.0**
	16nm,1.1s,mb4.6						
KOLN	**Koldanda**	**28.54**	**335**	*e*P	**P**	**21 18 25.1**	**+1.4**
	9.2nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**34.88**	**126**	P	**P**	**21 19 19.3**	**-0.1**
	1.6nm,0.9s,mb4.0,baz=309,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**42.97**	**122**	P	**P**	**21 20 27.4**	**+0.5**
	1.7nm,0.7s,mb3.9,baz=301,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**46.40**	**347**	P	**P**	**21 20 53.5**	**-0.5**
	2.4nm,0.7s,mb4.2,baz=163,slow=8.6,SNR=35						
MKAR	**Makanchi Array**	**46.40**	**347**	P	**P**	**21 20 53.5**	**-0.5**
SONM	**Songino Array**	**46.54**	**9**	P	**P**	**21 20 54.6**	**-0.5**
	1.1nm,0.3s,mb4.2,baz=190,slow=9.5,SNR=29						
ZAL	**Zalesovo**	**52.75**	**351**	P	**P**	**21 21 41.8**	**-0.9**
	2.5nm,0.5s,mb4.4,baz=319,slow=5.2,SNR=12						
BVAR	**Borovoye Array**	**55.37**	**341**	P	**P**	**21 21 59.4**	**-2.5**
	0.9nm,0.6s,mb4.0,baz=135,slow=8.4,SNR=5.4						
BRTR	**Keskin Array B**	**68.15**	**312**	P	**P**	**21 23 27.1**	**-0.9**
	0.4nm,0.6s,mb3.6,baz=101,slow=7.3,SNR=3.0						
ARCES	**ARCESS Array B**	**81.65**	**340**	P	**P**	**21 24 44.5**	**-0.3**
	1.9nm,0.9s,mb4.0,baz=90,slow=4.9,SNR=7.6						

IDC 07 21:16:46.7±1.2, 12.76N×92.36E, mb3.8/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, Error ellipse: s-maj=87.6km s-min=20.3km az=51.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**34.97**	**348**	P	P	21 23 40.6	-2.0
	0.5nm,0.5s,baz=172,slow=8.6,SNR=6.1						
FITZ	**Fitzroy Crossi**	**44.93**	**132**	*e*P	P	21 25 03.3	-2.2
	1.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**44.93**	**132**	P	P	21 25 03.3	-2.1
	0.7nm,0.5s,baz=324,slow=13,SNR=5.8						
WRA	**Warramunga Arr**	**52.56**	**128**	P	P	21 26 01.9	-2.6
	0.7nm,0.6s,baz=308,slow=8.2,SNR=25						
WRA				PcP	PcP	21 27 13.7	-1.2
	0.2nm,0.5s,baz=320,slow=3.2,SNR=5.9						
WB2	**Warramunga Arr**	**52.57**	**128**	*e*P	P	21 26 02.2	-2.4
BRTR	**Keskin Array B**	**57.97**	**309**	P	P	21 26 41.1	-2.4
	0.8nm,0.7s,baz=120,slow=7.3,SNR=5.7						
ARCES	**ARCESS Array B**	**70.11**	**340**	P	P	21 28 00.6	-1.9
	1.2nm,0.8s,baz=90,slow=5.4,SNR=3.4						

*CSEM **07** 21:20:59.9±0.2, 36.01N×21.18E, h25km, ML3.8, Error ellipse: s-maj=7.4km s-min=2.2km az=79.0*
*ATH **07** 21:21:01.2, 36.13N×21.09E, h44km±7km, MD3.7/10, ML3.7*
*NEIC **07** 21:21:01.4, 36.15N×21.13E, h67km, After ATH.*
*THE **07** 21:21:05.5, 36.43N×21.10E, h22km, ML3.8*
*HLW **07** 21:21:07.0, 36.07N×21.63E, h32km, Mb3.5*
ISC 07 21:20:59.8±0.7, 36.06N±0.03×20.99E±0.07, h44km, n33, σ1§19/49, 4D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**1.34**	**34**	*e*P	**P**	**21 21 23.5**	**+0.9**
ITM				*e*S	**S**	**21 21 39.7**	**+0.2**
ITM	**Ithomi**	**1.34**	**34**	*e*P	**P**	**21 21 23.7**	**+1.1**
ITM				*e*S	**S**	**21 21 39.7**	**+0.2**
KYTH	**Kithira**	**1.67**	**82**	*e*P	**P**	**21 21 28.0**	**+0.9**
KYTH				*e*S	**S**	**21 21 47.8**	**+0.3**
KYTH	**Kithira**	**1.67**	**82**	*e*P	**P**	**21 21 28.0**	**+0.9**
KYTH				*e*S	**S**	**21 21 46.8**	**-0.7**
VLI	**Veliai**	**1.70**	**67**	*e*P	**P**	**21 21 29.0**	**+1.4**
VLI				*e*S	**S**	**21 21 48.2**	**0.0**
RLS	**Riolos of Patr**	**2.03**	**11**	*e*P	**P**	**21 21 33.9**	**+1.7**
RLS				*e*S	**S**	**21 21 56.1**	**-0.3**
VLS	**Valsamata**	**2.13**	**351**	*e*P	**P**	**21 21 35.1**	**+1.4**
VLS				*e*S	**S**	**21 22 00.0**	**+0.9**
VAM	**Vamos**	**2.69**	**103**	*e*P	**P**	**21 21 42.4**	**+0.7**
GVD	**Gavdhos**	**2.81**	**115**	*e*P	**P**	**21 21 45.0**	**+1.7**
ATH	**Athens Observa**	**2.90**	**48**	*e*P	**P**	**21 21 44.5**

FIA0					*e*S		**Sn**	**21 33 17.8**	**+0.1**
FIA0					MSG			21 33 21.7	
	comp=Z,30nm,0.2s								
FINES	**FINESS Array B**	**1.92**	**31**		Pn		**Pn**	**21 32 53.5**	**+1.1**
	comp=Z,3.3nm,0.3s,baz=204,slow=14,SNR=280								
FINES					Lg			21 33 18.0	
	comp=Z,9.7nm,0.3s,baz=224,slow=30,SNR=6.3								
FINES					Sn		**Sn**	**21 33 20.3**	**+2.7**
	comp=Z,11nm,0.3s,baz=197,slow=23,SNR=40								
VSU	**Vasula**	**1.97**	**133**		*e*P		**Pn**	**21 32 54.1**	**+1.0**
VSU					*e*S		**Sn**	**21 33 17.6**	**-1.2**
AAL	**Aland**	**2.04**	**282**		*e*P		**Pn**	**21 32 56.2**	**+2.2**
AAL					*e*S		**Sn**	**21 33 21.9**	**+1.3**
KEF	**Keuruu**	**2.39**	**10**		*e*P		**Pn**	**21 33 01.1**	**+2.0**
KEF					*e*S		**Sn**	**21 33 31.3**	**+1.8**
KEF					MSG			21 33 35.9	
	comp=Z,7.5nm,0.2s								
KAF	**Kangasniemi**	**2.56**	**25**		*e*P		**Pn**	**21 33 03.6**	**+2.1**
KAF					*e*S		**Sn**	**21 33 34.7**	**+0.9**
KAF					MSG			21 33 38.8	
	comp=Z,12nm,0.2s								
NRTU	**Norrtaelje**	**2.71**	**269**		*e*P		**Pn**	**21 33 04.8**	**+1.0**
NRTU					*e*S		**Sn**	**21 33 41.2**	**+3.4**
GRAU	**Graesoe**	**2.78**	**283**		*e*P		**Pn**	**21 33 05.1**	**+0.5**
FLYU	**Flymyra**	**3.08**	**278**		*e*P		**Pn**	**21 33 09.2**	**+0.2**
SUF	**Sumiainen**	**3.09**	**19**		MSG			21 34 00.9	
	comp=Z,4.0nm,0.2s								
NYNU	**Nynaeshamn**	**3.17**	**258**		*e*P		**Pn**	**21 33 12.1**	**+2.0**
HFS	**Hagfors**	**5.18**	**278**		Pn		**Pn**	**21 33 38.5**	**-0.3**
	baz=96,slow=12								
HFS					Sn		**Sn**	**21 34 37.2**	**-2.9**
	baz=100,slow=28								
HFS					Lg			21 34 58.4	
	baz=72,slow=37								
HFS	**Hagfors**	**5.18**	**278**		Pn		**Pn**	**21 33 39.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=96,slow=13,SNR=26								
HFS					Pg		**Pg**	**21 33 51.5**	**-10**
	comp=Z,0.1nm,0.3s,baz=101,slow=17,SNR=8.6								
HFS					Sn		**Sn**	**21 34 37.4**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=80,slow=26,SNR=7.7								
HFS	**Hagfors**	**5.18**	**278**		*e*P		**Pn**	**21 33 38.5**	**-0.3**
HFS					*e*S		**Sn**	**21 34 37.2**	**-2.9**
HFS					*e*SG		**Sg**	**21 34 58.4**	**-12**
NB2	**NORSAR Subarra**	**6.44**	**286**		Pn		**Pn**	**21 33 54.9**	**-1.7**
	baz=89,slow=14								
NB2					Sn		**Sn**	**21 35 09.3**	**-2.4**
	baz=107,slow=22								
NB2					Lg			21 35 41.2	
NB2	**NORSAR Subarra**	**6.44**	**286**		*e*P		**Pn**	**21 33 54.9**	**-1.7**
NB2					*e*S		**Sn**	**21 35 09.3**	**-2.4**
NB2					*e*SG		**Sg**	**21 35 41.2**	**-11**
NOA	**NORSAR Array B**	**6.44**	**286**		Pn		**Pn**	**21 33 55.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=91,slow=13,SNR=2.9								
NOA					Sn		**Sn**	**21 35 06.2**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=203,slow=17,SNR=2.8								
APA0	**Apatity Array**	**8.76**	**23**		Pn		**P**	**21 34 26.9**	**-2.1**
	baz=197,slow=12								
APA0	**Apatity Array**	**8.76**	**23**		*e*P		**P**	**21 34 26.9**	**-2.1**
ARA0	**ARCESS Array S**	**9.77**	**3**		Pn		**P**	**21 34 40.0**	**-2.8**
	baz=175,slow=16								
ARA0					Sn		**Sn**	**21 36 26.0**	**-8.5**
	baz=178,slow=28								
ARA0	**ARCESS Array S**	**9.77**	**3**		*e*P		**P**	**21 34 40.0**	**-2.8**
ARA0					*e*S		**Sn**	**21 36 26.0**	**-8.5**
ARCES	**ARCESS Array B**	**9.77**	**3**		Pn		**P**	**21 34 40.0**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=179,slow=14,SNR=19								
ARCES					Sn		**Sn**	**21 36 25.2**	**-9.2**
	comp=Z,0.1nm,0.3s,baz=188,slow=18,SNR=3.1								

*MOS **07** 21:36:15.7±1.3,36.97N×71.22E,h73km,mb4.4/13,Error ellipse: s-maj=12.9km s-min=7.3km az=92.6*
*NEIC **07** 21:36:18.5±0.4,36.87N×71.38E,mb4.6/7,Error ellipse: s-maj=11.8km s-min=6.2km az=222.0*
*IDC **07** 21:36:18.9±1.0,36.89N×71.25E,h88km±5km,mb3.7/13, mb1 3.9/15,mb1mx3.8/22,mbtmp4.0/15,Error ellipse: s-maj=24.6km s-min=14.3km az=170.0*
*NNC **07** 21:36:19.7±5.2,37.14N×70.68E,h120km±67km,mpv4.4, Error ellipse: s-maj=41.9km s-min=25.8km az=13.0*
*BJI **07** 21:36:20.0,37.08N×71.21E,h104km,mB4.9,mb4.7*
ISC 07 21:36:16.8±0.3,36.85N±0.02×71.29E±0.05,h88km, h88km±2.5km:pP-P,n101,σ1°25/128,mb4.0/19,6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.07**	**170**	⇓P		**P**	**21 37 10.7**	**+6.4**
CHCP	**Chirah Chowk**	**3.57**	**153**	P		**P**	**21 37 17.9**	**+6.6**
THW	**Thamme Wali**	**4.07**	**175**	⇑P		**P**	**21 37 23.5**	**+5.4**
KSH	**Kashi**	**4.54**	**53**	P		**P**	**21 37 29.0**	**+4.3**
KSH				S		**S**	**21 38 21.2**	**+4.6**
KSH				Smax				
	comp=N,260nm,0.9s							
KSH				Smax				
	comp=E,300nm,1.0s							
SBDP	**Sheikh Budin**	**4.56**	**185**	P		**P**	**21 37 29.4**	**+4.5**
SARP	**Sargodha**	**5.05**	**167**	P		**P**	**21 37 35.5**	**+3.9**
DRP	**Derazinda**	**5.18**	**190**	P		**P**	**21 37 37.5**	**+4.2**
AML	**Almayashu**	**5.59**	**19**	P		**P**	**21 37 39.0**	**+0.1**
	SNR=104							
UCH	**Uchtor**	**5.91**	**24**	P		**P**	**21 37 43.5**	**+0.1**
	SNR=10							
KZA	**Kyzart**	**6.05**	**29**	P		**P**	**21 37 45.8**	**+0.6**
	SNR=10							
EKS2	**Erkin-Say**	**6.11**	**17**	P		**P**	**21 37 46.3**	**+0.2**
	SNR=13							
KK31	**Karatay Array**	**6.27**	**355**	P		**P**	**21 37 46.4**	**-2.0**
	comp=E,12nm,0.3s,baz=176,slow=12,SNR=677							
KK31				⇑S		**S**	**21 38 52.7**	**-6.5**
	comp=E,22nm,0.5s,baz=183,slow=20							
AAK	**Ala-Archa**	**6.28**	**22**	*d*	PN	**P**	**21 37 47.4**	**-1.0**
FRU	**Bishkek**	**6.50**	**22**	*e*	PN	**P**	**21 37 52.0**	**+0.5**
FRU				*e*			21 39 11.0	
FRU				pmax	pmax			
	comp=Z,130nm,1.7s							
FRU				pmax	pmax			
	comp=E,440nm,2.0s							
ULHL	**Ulahol**	**6.60**	**34**	P		**P**	**21 37 54.2**	**+1.2**
	SNR=6.4							
CHMS	**Chumysh**	**6.69**	**22**	P		**P**	**21 37 54.1**	**-0.1**
	SNR=7.1							
USP	**Osepenovka**	**6.86**	**20**	P		**P**	**21 37 56.6**	**0.0**
	SNR=14							
TKM2	**Tokmak 2**	**6.90**	**27**	P		**P**	**21 37 57.2**	**+0.1**
	SNR=16							
TKM2	**Tokmak 2**	**6.90**	**27**	⇓P		**P**	**21 37 57.5**	**+0.3**
	comp=E,34nm,0.9s							
TKM2				S		**S**	**21 39 16.5**	**+1.7**
KLP	**Kalpa**	**7.83**	**131**	*e*P		**P**	**21 38 13.8**	**+3.9**
KLP				*e*S		**S**	**21 39 37.8**	**+0.2**
KLP				AML	AML		21 39 42.7	
	comp=E,923nm,0.8s							
KLP				AML	AML		21 39 50.8	
	comp=N,855nm,0.6s							
KHET	**Khetri**	**9.55**	**155**	*e*P		**P**	**21 38 34.8**	**+1.6**
KHET				*e*S		**S**	**21 40 17.0**	**-2.5**
NDI	**New Delhi**	**9.55**	**147**	*e*P		**P**	**21 38 36.0**	**+2.8**
NDI				*e*S		**S**	**21 40 17.0**	**-2.5**
AYAN	**Aya Nagar**	**9.69**	**148**	*e*P		**P**	**21 38 36.1**	**+1.1**
AYAN				*e*S		**S**	**21 40 20.9**	**-1.9**
KUDL	**Kundal**	**9.73**	**152**	*e*P		**P**	**21 38 36.9**	**+1.3**
KUDL				*e*S		**S**	**21 40 21.2**	**-2.6**
AJM	**Ajmer**	**10.73**	**164**	*e*P		**P**	**21 38 50.7**	**+1.6**
AJM				AMb	AMB		21 38 54.9	
	comp=Z,24nm,0.5s							
AJM				*ex*		x	21 40 46.3	
AJM				AML	AML		21 40 49.3	
	comp=N,52nm,0.3s							
AJM				AML	AML		21 40 49.3	
	comp=E,68nm,0.2s							
AGRA	**Agra**	**11.13**	**148**	*e*S		**S**	**21 40 54.0**	**-3.5**
MK31	**Makanchi Array**	**12.87**	**36**	P		**P**	**21 39 16.6**	**-0.9**
	comp=E,13nm,1.1s,baz=222,slow=14,SNR=14							
MKAR	**Makanchi Array**	**12.87**	**36**	P		**P**	**21 39 16.6**	**-0.8**
	comp=E,0.3nm,0.3s,baz=221,slow=16,SNR=14							
MKAR	**Makanchi Array**	**12.87**	**36**	*i* P		**P**	**21 39 19.7**	**+2.3**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BHJ	**Bhuj**	**13.63**	**186**	*e*P		**P**	**21 39 27.7**	**+0.2**
BHJ				AMb	AMB		21 39 30.3	
	comp=Z,22nm,0.5s							
BHJ				*ex*		**S**	**21 41 56.7**	**-0.3**
KOLN	**Koldanda**	**13.78**	**128**	*e*Pn		**P**	**21 39 29.6**	**+0.2**
KOLN				*e*Sn		**S**	**21 41 55.7**	**-5.0**
	comp=Z,52nm,0.6s							
KOLN	**Koldanda**	**13.78**	**128**	*e*Pn		**P**	**21 39 29.6**	**+0.2**
	comp=Z,26nm,0.6s							
KOLN				*e*Sn		**S**	**21 41 55.7**	**-5.0**
GKN	**Gorkha**	**14.30**	**124**	*e*Pn		**P**	**21 39 36.3**	**+0.2**
GKN				*e*Sn		**S**	**21 42 05.8**	**-7.1**
	comp=Z,128nm,0.7s							
GKN	**Gorkha**	**14.30**	**124**	*e*Pn		**P**	**21 39 36.3**	**+0.2**
	comp=Z,64nm,0.7s							
GKN				*e*Sn		**S**	**21 42 05.8**	**-7.1**
KURK	**Kurchatov**	**14.82**	**18**	⇑*i* P		**P**	**21 39 41.5**	**-1.2**
KKN	**Kakani**	**14.87**	**123**	*e*Pn		**P**	**21 39 42.7**	**-0.8**
KKN				*e*Sn		**S**	**21 42 18.3**	**-8.0**
	comp=Z,100nm,0.9s							
KKN	**Kakani**	**14.87**	**123**	*e*Pn		**P**	**21 39 42.7**	**-0.8**
	comp=Z,50nm,0.9s							
KKN				*e*Sn		**S**	**21 42 18.3**	**-8.0**
DMN	**Daman**	**14.87**	**124**	*e*Pn		**P**	**21 39 43.6**	**+0.1**
DMN				*e*Sn		**S**	**21 42 20.6**	**-5.7**
	comp=Z,111nm,0.8s							
DMN	**Daman**	**14.87**	**124**	*e*Pn		**P**	**21 39 43.6**	**+0.1**
	comp=Z,55nm,0.8s							
DMN				*e*Sn		**S**	**21 42 20.6**	**-5.7**
AB31	**Akbulak array**	**14.89**	**330**	P		**P**	**21 39 38.5**	**-5.1**
	comp=Z,4.4nm,0.6s,baz=142,slow=12,SNR=61							
AB31				⇓S		**S**	**21 42 15.8**	**-11**
	comp=Z,4.1nm,0.7s,baz=151,slow=21,SNR=3.6							
PKI	**Pulchoki**	**15.10**	**124**	*e*Pn		**P**	**21 39 46.0**	**-0.4**
PKI				*e*Sn		**S**	**21 42 25.3**	**-6.3**
	comp=Z,49nm,0.6s							
PKI	**Pulchoki**	**15.10**	**124**	*e*P		**P**	**21 39 46.0**	**-0.4**
PKI				*e*			21 42 25.3	
PKI				pmax	pmax			
	comp=Z,25nm,0.6s							
PKI	**Pulchoki**	**15.10**	**124**	*e*Pn		**P**	**21 39 46.0**	**-0.4**
	comp=Z,24nm,0.6s							
PKI				*e*Sn		**S**	**21 42 25.3**	**-6.3**
GUN	**Gumba**	**15.20**	**122**	*e*Pn		**P**	**21 39 47.3**	**-0.3**
JIRN	**Jiri**	**15.57**	**122**	*e*Pn		**P**	**21 39 51.8**	**-0.5**
JIRN				*e*Sn		**S**	**21 42 35.1**	**-7.2**
	comp=Z,52nm,0.5s							
JIRN	**Jiri**	**15.57**	**122**	*e*Pn		**P**	**21 39 51.8**	**-0.5**
	comp=Z,26nm,0.5s							
JIRN				*e*Sn		**S**	**21 42 35.1**	**-7.2**
VOSK	**Vostochnaya**	**15.87**	**359**	⇑P		**P**	**21 39 52.2**	**-3.7**
	comp=Z,5.9nm,0.9s							
BVA0	**Borovoye Array**	**16.18**	**358**	P		**P**	**21 39 56.3**	**-3.6**
	comp=Z,1.6nm,0.9s,baz=150,slow=5.9,SNR=23							
BVAR	**Borovoye Array**	**16.18**	**358**	P		**P**	**21 39 56.5**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=168,slow=14,SNR=24							
AKTO	**Aktyubinsk**	**16.59**	**329**	⇑P		**P**	**21 40 01.1**	**-3.9**
	comp=Z,4.5nm,0.9s							
AKTO	**Aktyubinsk**	**16.59**	**329**	P		**P**	**21 40 02.0**	**-3.0**
	comp=Z,1.0nm,0.3s,baz=139,slow=13,SNR=18							
AKTO	**Aktyubinsk**	**16.59**	**329**	P		**P**	**21 40 02.0**	**-3.0**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
LSA	**Lhasa**	**18.05**	**108**	P		**P**	**21 40 26.8**	**+3.6**
LSA	**Lhasa**	**18.05**	**108**	*e*P		**P**	**21 40 26.7**	**+3.5**
LSA				pmax	pmax			
	comp=Z,12nm,0.8s							
LSA	**Lhasa**	**18.05**	**108**	*e*P		**P**	**21 40 26.7**	**+3.5**
	comp=Z,12nm,0.8s							
BOK	**Bokaro**	**18.08**	**132**	*e*P		**P**	**21 40 25.8**	**+2.2**
BOK				AMb	AMB		21 40 44.0	
	comp=Z,13nm,1.9s							
BOK				*ex*		**S**	**21 43 38.7**	**-0.3**
ZAL	**Zalesovo**	**19.48**	**24**	P		**P**	**21 40 37.3**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=244,slow=5.0,SNR=14							
ZAL	**Zalesovo**	**19.48**	**24**	*i* P		**P**	**21 40 37.2**	**-1.8**
ZAL				pmax	pmax			
	comp=Z,3.0nm,0.4s							
NVS	**Novosibirsk**	**19.77**	**21**	*e*P		**P**	**21 40 38.8**	**-3.2**
NVS				*e*S		**S**	**21 44 20.6**	**+5.8**
NVS				pmax	pmax			
	comp=Z,9.0nm,1.4s							
NVS				pmax	pmax			
	comp=N,3.0nm,0.9s							
NVS				smax				
	comp=N,10.0nm,1.6s							
NVS				smax				
	comp=E,5.0nm,1.0s							
HYB	**Hyderabad**	**20.40**	**160**	*i* P		**P**	**21 40 51.0**	**+2.2**
HYB				*e*S		**S**	**21 44 31.0**	**+3.7**
HYB	**Hyderabad**	**20.40**	**160**	*e*P		**P**	**21 40 51.0**	**+2.2**
HYB				*e*S		**S**	**21 44 31.0**	**+3.7**
GNI	**Garni**	**21.01**	**287**	P		**P**	**21 40 55.9**	**+1.0**
	comp=E,2.8nm,0.6s,mb3.8,baz=230,slow=23,SNR=2.2							
GNI	**Garni**	**21.01**	**287**	*d*	*i*P	**P**	**21 41 00.3**	**+5.4**
GNI				pmax	pmax			
	comp=Z,11nm,1.3s							
SVE	**Sverdlovsk**	**21.22**	**344**	*e*P			21 41 10.5	
SVE				*e*			21 41 34.2	
SVE				MLR	MLR			
	comp=N,100nm,14.0s							
SVE				MLR	MLR			
	comp=E,100nm,14.0s							
SVE				MLR	MLR			
	comp=Z,200nm,14.0s							
ARU	**Arti**	**21.38**	**340**	*e*P		**P**	**21 40 57.1**	**-1.3**
ARU				*e*			21 41 21.2	
ARU				*e*S		**S**	**21 44 45.9**	**+0.6**
ARU				*e*SS		SS	21 45 14.4	-12
GTA	**Gaotai**	**22.54**	**75**	*e*P		**P**	**21 41 14.1**	**+4.1**
KIV	**Kislovodsk**	**22.84**	**297**	*e*P		**P**	**21 41 19.5**	**+6.7**
KIV				*e*S		**S**	**21 45 19.9**	**+8.4**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.0							
SONM	**Songino Array**	**27.94**	**56**	P		**P**	**21 42 02.3**	**+1.5**
	comp=Z,1.9nm,0.9s,mb3.6,baz=267,slow=9.4,SNR=12							
SONM	**Songino Array**	**27.94**	**56**	P		**P**	**21 42 02.3**	**+1.6**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ULN	**Ulaanbaatar**	**28.38**	**56**	*e*P		**P**	**21 42 06.2**	**+1.6**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.7							
ULN	**Ulaanbaatar**	**28.38**	**56**	*e*P		**P**	**21 42 06.2**	**+1.5**
	comp=Z,1.3nm,0.4s,mb3.8							
BRTR	**Keskin Array B**	**29.55**	**287**	P		**P**	**21 42 16.0**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.3,baz=100,slow=7.5,SNR=5.0							
BRTR				pP	pP		21 42 35.9	+0.6
	comp=Z,0.6nm,0.7s,baz=98,slow=8.7,SNR=3.5							
BRTR	**Keskin Array B**	**29.55**	**287**	P		**P**	**21 42 16.0**	**+0.8**
BRTR				*PP	pP		21 42 35.9	+0.6
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**32.91**	**308**	P		**P**	**21 42 44.1**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.4,baz=38,slow=29,SNR=2.9							
FINES	**FINESS Array B**	**37.32**	**326**	P		**P**	**21 43 21.9**	**0.0**
	comp=Z,4.8nm,1.0s,mb4.4,baz=113,slow=11,SNR=5.0							
FINES	**FINESS Array B**	**37.32**	**326**	P		**P**	**21 43 21.9**	**+0.1**
FINES				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ARCES	**ARCESS Array B**	**40.91**	**337**	P		**P**	**21 43 51.9**	**+0.4**
	comp=Z,1.5nm,0.8s,mb3.9,baz=117,slow=9.0,SNR=6.2							
ARCES	**ARCESS Array B**	**40.91**	**337**	P		**P**	**21 43 51.9**	**+0.5**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SSE	**Sheshan**	**41.39**	**83**	*e*P		**P**	**21 43 54.7**	**-1.1**
SSE				AMB	AMB			
	comp=Z,20nm,0.7s,mb5.1							
SSE				AMB	AMB			
	comp=Z,30nm,5.3s							
SSE	**Sheshan**	**41.39**	**83**	*e*P		**P**	**21 43 54.7**	**-1.1**
	comp=Z,28nm,0.7s,mb5.2							
YAK	**Yakutsk**	**43.54**	**36**	⇓*i* P		**P**	**21 44 12.2**	**-0.8**
YAK				*i* *PP		pP	21 44 38.8	+4.7
YAK				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.4							
NB2	**NORSAR Subarra**	**44.24**	**323**	P		**P**	**21 44 18.5**	**-0.1**
	comp=Z,9.2nm,0.9s,mb4.5,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.24**	**323**	P		**P**	**21 44 18.3**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.5,baz=243,slow=19,SNR=3.3							
NOA				pP	pP		21 44 38.7	-1.1
	comp=Z,5.5nm,0.8s,baz=96,slow=8.0,SNR=9.7							
NOA	**NORSAR Array B**	**44.24**	**323**	P		**P**	**21 44 18.3**	**-0.3**
NOA				*PP	pP		21 44 38.7	-1.0
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
NOA	**NORSAR Array B**	**44.24**	**323**	P		**P**	**21 44 18.3**	**-0.3**
NOA				pP	pP		21 44 38.7	-1.1
TIXI	**Tiksi**	**45.36**	**22**	⇑*i* P		**P**	**21 44 26.3**	**-1.1**
TIXI				*i* *PP		pP	21 44 49.2	+0.6
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.3							
SEY	**Seymchan**	**53.99**	**34**	*e*P		**P**	**21 45 33.1**	**-0.4**
ESDC	**Sonseca Array**	**57.50**	**298**	P		**P**	**21 45 58.8**	**-0.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=57,slow=7.6,SNR=6.8							
ESDC				pP	pP		21 46 19.9	-1.3
	comp=Z,0.9nm,0.6s,baz=55,slow=7.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**65.96**	**269**	P		**P**	**21 46 55.2**	**-0.9**
	comp=Z,1.7nm,0.7s,mb4.0,baz=50,slow=5.8,SNR=20							
INK	**Inuvik**	**73.52**	**9**	P		**P**	**21 47 41.8**	**+0.8**
	comp=Z,4.7nm,0.9s,mb4.2,baz=353,slow=5.7,SNR=9.3							
INK				pP	pP		21 48 04.5	+0.4
	comp=Z,1.3nm,0.6s,baz=6.7,slow=7.1,SNR=2.8							
INK	**Inuvik**	**73.52**	**9**	*e*P		**P**	**21 47 42.2**	**+1.2**
INK				*PP	pP		21 48 04.5	+0.4
INK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
INK	**Inuvik**	**73.52**	**9**	*e*P		**P**	**21 47 42.2**	**+1.2**
	comp=Z,9.5nm,1.2s,mb4.4							
INK				pP	pP		21 48 04.5	+0.4
COLA	**College**	**74.07**	**16**	*e*P		**P**	**21 47 45.3**	**+1.0**
COLA				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.4							
COLA	**College**	**74.07**	**16**	*e*P		**P**	**21 47 45.3**	**+1.0**
	comp=Z,6.4nm,0.8s,mb4.4							
ILAR	**Eielson Array**	**74.38**	**16**	P		**P**	**21 47 46.0**	**-0.1**
	comp=Z,2.0nm,0.9s,mb3.9,baz=322,slow=5.3,SNR=18							
ILAR				pP	pP		21 48 09.1	-0.1
	comp=Z,0.6nm,0.8s,baz=334,slow=3.1,SNR=2.5							
ILAR				sP	sP		21 48 19.6	+0.9
	comp=Z,1.2nm,0.9s,baz=316,slow=5.6,SNR=3.8							
ILAR	**Eielson Array**	**74.38**	**16**	P		**P**	**21 47 46.0**	**-0.1**
ILAR				*PP	pP		21 48 09.1	-0.1
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**80.88**	**3**	P		**P**	**21 48 23.0**	**+1.0**
	comp=Z,2.3nm,0.8s,mb4.1,baz=349,slow=5.5,SNR=27							
YKA				pP	pP		21 48 46.4	+1.0
	comp=Z,0.7nm,0.6s,baz=352,slow=5.5,SNR=4.4							
YKA	**Yellowknife Ar**	**80.88**	**3**	P		**P**	**21 48 23.1**	**+1.1**
YKA				*PP	pP		21 48 46.4	+1.0
NWAO	**Narrogin (SRO)**	**81.60**	**142**	*e*P		**P**	**21 48 21.8**	**-4.6**
WRA	**Warramunga Arr**	**81.98**	**122**	P		**P**	**21 48 29.3**	**+0.7**
	comp=Z,1.1nm,0.8s,mb3.7,baz=327,slow=5.1,SNR=9.1							
WRA	**Warramunga Arr**	**81.98**	**122**	P		**P**	**21 48 29.3**	**+0.7**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							

*IDC **07** 21:48:39.6±0.9,1.47S×134.09E,mb4.2/6,mb1 4.4/8, mb1mx4.3/17,mbtmp4.3/8,ML4.7/2,Error ellipse: s-maj=36.3km s-min=18.4km az=71.0*
*NEIC **07** 21:48:45.0±0.7,1.51S×134.05E,h35km,mb4.6/3,Error ellipse: s-maj=21.3km s-min=12.6km az=74.0*
ISC 07 21:48:42.3±0.9,1.58S±0.08×134.2E±0.2,h33km,n15, σ1°13/17,mb4.3/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.25**	**180**	*e*P		**P**	**21 52 54.8**	**-0.1**
WRA	**Warramunga Arr**	**18.25**	**180**	P		**P**	**21 52 54.8**	**0.0**
	4.4nm,0.3s,baz=359,slow=12,SNR=273							
WRA				S		**S**	**21 56 10.6**	**-3.5**
	0.0nm,0.3s,baz=9.5,slow=20,SNR=3.2							
FITZ	**Fitzroy Crossi**	**18.44**	**207**	*e*P		**P**	**21 52 57.5**	**+0.3**
	5.4nm,0.4s							
FITZ				*e*S		**S**	**21 56 08.9**	**-9.5**
FITZ	**Fitzroy Crossi**	**18.44**	**207**	P		**P**	**21 52 56.8**	**-0.4**
	0.9nm,0.3s,baz=42,slow=11,SNR=18							
FITZ				S		**S**	**21 56 07.2**	**-11**
	0.3nm,0.3s,baz=97,slow=6.9,SNR=4.5							
CTA	**Charters Tower**	**21.85**	**148**	P		**P**	**21 53 37.4**	**+3.5**
	2.6nm,0.5s,mb3.9,baz=346,slow=11,SNR=4.5							
CTAO	**Charters Tower**	**21.85**	**148**	*e*P		**P**	**21 53 37.7**	**+3.8**
MBWA	**Marble Bar**	**24.03**	**215**	*e*P		**P**	**21 53 58.1**	**+2.7**
STKA	**Stephens Creek**	**30.93**	**168**	*e*P		**P**	**21 54 58.6**	**+0.1**
	12nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**30.93**	**168**	P		**P**	**21 54 58.5**	**0.0**
	16nm,0.8s,mb4.9,baz=344,slow=7.1,SNR=27	

ZAL	**Zalesovo**	**54.34**	**349**	P		**P**	**22 44 35.5**	**-1.1**
	2.1nm,0.4s,mb4.0,baz=326,slow=3.2,SNR=8.5							
ZAL	**Zalesovo**	**54.34**	**349**	P		**P**	**22 44 35.5**	**-1.1**
OPO	**Ambohidratompo**	**55.70**	**247**	P		**P**	**22 44 47.7**	**+0.9**
	1.3nm,0.7s,mb3.6,baz=68,slow=3.0,SNR=4.6							
KBD	**Kabd**	**57.41**	**304**	*e*P		**P**	**22 44 58.1**	**-0.7**
RDF	**Al-Radifah**	**57.45**	**304**	*e*P		**P**	**22 44 58.1**	**-1.0**
RDF				AMb		AMB	22 44 58.8	
	comp=Z,9.9nm,0.6s,mb4.6							
NAY	**Al-Naaiem**	**57.81**	**304**	*e*P		**P**	**22 45 00.5**	**-1.0**
NAY				AMb		AMB	22 45 01.1	
	comp=Z,11nm,0.8s,mb4.5							
MIB	**Mutribah**	**57.91**	**305**	*e*P		**P**	**22 45 01.5**	**-0.8**
MIB				AMb		AMB	22 45 02.2	
	comp=Z,24nm,0.6s,mb5.0							
KMBO	**Kilima Mbogo**	**63.12**	**268**	P		**P**	**22 45 38.6**	**+0.9**
	comp=Z,3.6nm,0.6s,mb4.2,baz=60,slow=9.3,SNR=14							
BR131	**Keskin Array S**	**71.60**	**312**	*e*P		**P**	**22 46 29.4**	**-0.8**
	comp=Z,3.9nm,0.6s,mb4.2							
BRTR	**Keskin Array B**	**71.60**	**312**	P		**P**	**22 46 29.2**	**-1.0**
	comp=Z,5.0nm,0.6s,mb4.3,baz=133,slow=7.2,SNR=39							
MAW	**Mawson**	**73.22**	**194**	P		**P**	**22 46 40.2**	**+1.0**
	comp=Z,3.1nm,0.8s,mb4.0,baz=2.2,slow=3.7,SNR=5.4							
AKASG	**Malin Array Be**	**77.37**	**322**	P		**P**	**22 47 01.9**	**-1.0**
	comp=Z,1.3nm,0.5s,mb3.8,baz=83,slow=5.3,SNR=7.1							
MLR	**Muntele Rosu**	**78.40**	**316**	⇑P		**P**	**22 47 08.0**	**-0.7**
MLR	**Muntele Rosu**	**78.40**	**316**	⇑P		**P**	**22 47 08.0**	**-0.7**
BURAR	**Bucovina Array**	**79.28**	**318**	⇓P		**P**	**22 47 14.6**	**+1.2**
BURAR	**Bucovina Array**	**79.28**	**318**	⇓P		**P**	**22 47 14.6**	**+1.1**
BZS	**Buzias**	**81.43**	**316**	⇑P		**P**	**22 47 24.6**	**-0.2**
BZS	**Buzias**	**81.43**	**316**	⇑P		**P**	**22 47 24.6**	**-0.1**
FINES	**FINESS Array B**	**81.67**	**332**	P		**P**	**22 47 25.0**	**-0.7**
	comp=Z,1.9nm,0.6s,mb3.9,baz=124,slow=6.9,SNR=16							
ARCES	**ARCESS Array B**	**83.83**	**340**	P		**P**	**22 47 36.6**	**+0.1**
	comp=Z,2.1nm,1.0s,mb3.8,baz=108,slow=3.8,SNR=5.9							
VNDA	**Vanda**	**84.98**	**169**	P		**P**	**22 47 42.8**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.5,baz=309,slow=7.4,SNR=5.9							
GERES	**GERESS Array B**	**87.06**	**319**	P		**P**	**22 47 53.2**	**+0.4**
	comp=Z,1.1nm,0.6s,mb3.7,baz=90,slow=2.7,SNR=9.9							
KHC	**Kasperske Hory**	**87.16**	**319**	*e*P		**P**	**22 47 53.0**	**-0.2**
BDFB	**Brasilia**	**145.54**	**243**	PKPbc		PKPbc	22 54 46.1	+1.4
	comp=Z,3.7nm,0.6s,baz=122,slow=2.8,SNR=7.6							

KISR ***07*** *22:54:25.7±1.3,26.99N×55.41E,h5km±999km,ML3.0*
CSEM ***07*** *22:54:26.1±1.0,26.94N×55.65E,h12km,ML3.0,Error ellipse: s-maj=32.7km s-min=8.6km az=168.0*
THR ***07*** *22:54:27.5±0.4,26.94N×55.81E,h14km±6km,ML2.7*
ISC 07 22:54:26.2±2.8,26.9N±0.2×55.62E±0.07,h12km±12km,n9, σ0.9s96/14,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.68**	**46**	*e*Pg	**Pg**	**22 54 38.5**	**-1.5**
BNDS				AML	AML	22 54 58.9	
	comp=N,429nm,0.2s						
GHIR	**Ghir-Karzin**	**2.70**	**301**	*e*Pn	**Pn**	**22 55 14.6**	**+4.3**
GHIR				*e*Sg	**Sg**	**22 55 56.4**	**+0.4**
GHIR				AML	AML	22 56 17.6	
	comp=N,24nm,0.4s						
KRBR	**Kerman**	**3.21**	**18**	*e*Pn	**Pn**	**22 55 19.1**	**+1.5**
KRBR	**Kerman**	**3.21**	**18**	*e*Pn	**Pn**	**22 55 19.0**	**+1.5**
	SNR=52						
UMR	**Umm Al-Rimmam**	**7.44**	**292**	*e*P	**Pn**	**22 56 18.2**	**+0.9**
UMR				AMb	AMB	22 56 19.3	
	comp=Z,22nm,0.6s						
UMR				AML	AML	22 57 43.8	
	comp=Z,3.4nm,0.3s						
NAY	**Al-Naaiem**	**7.75**	**289**	*e*P	**Pn**	**22 56 21.6**	**0.0**
NAY				AMb	AMB	22 56 22.8	
	comp=Z,9.2nm,0.3s						
NAY				*e*S	**Sn**	**22 57 49.5**	**-0.7**
NAY				AML	AML	22 57 53.0	
	comp=Z,1.0nm,0.3s						
NAY	**Al-Naaiem**	**7.75**	**289**	*e*P	**Pn**	**22 56 21.6**	**0.0**
NAY				*e*S	**Sn**	**22 57 49.5**	**-0.7**
MIB	**Mutribah**	**7.83**	**293**	*e*P	**Pn**	**22 56 23.2**	**+0.4**
MIB				AMb	AMB	22 56 24.4	
	comp=Z,10nm,0.4s						
MIB				*e*S	**Sn**	**22 57 51.3**	**-1.1**
MIB				AML	AML	22 57 51.6	
	comp=Z,1.4nm,0.2s						
MIB	**Mutribah**	**7.83**	**293**	*e*P	**Pn**	**22 56 23.2**	**+0.4**
MIB				*e*S	**Sn**	**22 57 51.3**	**-1.0**

BJI ***07*** *23:32:49.8,29.43S×177.01W,h19km,mB6.5,mb5.7, Ms6.3,Msz6.0*
IDC ***07*** *23:32:50.8±1.7,29.92S×177.49W,h15km±9km,mb5.5/20, mb1 5.6/20,mb1mx5.6/21,mbtmp5.6/20,MS6.2/18, Ms1 6.2/18,ms1mx6.0/23,Error ellipse: s-maj=12.6km s-min=10.9km az=59.0*
NEIC ***07*** *23:32:51.5±0.1,30.01S×177.64W,h21km,mb6.0/78, ME6.5,MS6.4/13,MW6.3,Error ellipse: s-maj=5.9km s-min=3.5km az=129.0 Broadband fault plane solution: P waves. NP1:φs50°,δ70°,λ35°. NP2:φs307°,δ57°,λ156°. Principal axes: T Plg39°, Azm272°; N Plg0°, Azm0°; P Plg8°, Azm176°; Moment Tensor Solution. s10 Moment tensor: Scale 10^18 Nm; Mrr2.99; Mθθ-0.87; Mφφ-2.12; Mrθ0.85; Mθφ1.56; Mφr-0.77; Best double couple: Mw3.3×10^18 NP1:φs331°,δ35°,λ98°. NP2:φs141°,δ55°, λ84°. Principal axes: T 3.21, Plg79°, Azm29°; N .16, Plg5°, Azm144°; P -3.36, Plg10°, Azm235°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
HRVD ***07*** *23:32:51.5±0.1,29.99S×177.12W,h20km,MW6.4/90, Centroid moment Tensor Solution. LP body waves: s90,c196;Mantle waves: s70,c163; Half duration: 3s8 Moment tensor: Scale 10^18Nm; Mrr3.23±.04; Mθθ0.08±.04; Mφφ-3.32±.04; Mrθ1.26±.07; Mθφ-0.97±.03; Mφr3.40±.07; Best double couple: Mw4.974×10^18 NP1:φs190°,δ22°,λ81°. NP2:φs19°,δ68°,λ93°. Principal axes: T 4.81, Plg66°, Azm295°; N .318, Plg3°, Azm198°; P -5.137, Plg23°, Azm106°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
CRAAG ***07*** *23:32:52.6,29.97S×177.55W,Mb6.1*
MOS ***07*** *23:32:52.4±1.0,29.96S×177.64W,h33km,mb6.2/45, MS6.3/31,Error ellipse: s-maj=11.2km s-min=7.8km az=86.1*
BGS ***07*** *23:33:00.6,30.01S×177.64W,h21km*
ISC 07 23:32:52.0±0.1,30.27S±0.03×177.62W±0.04,h35km, h35km±2.4km:pP-P,n964,σ1°17/392,mb5.9/109,MS6.2/64, 81C-44D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**346**	Pn	**P**	**23 33 07.9**	**-2.5**
	13µm,0.3s,baz=117,slow=9.3,SNR=316						
RAO	**Raoul Island**	**1.05**	**346**	⇓*i*P			
MXZ	**Matakaoa Point**	**8.02**	**204**	*e*PN	**P**	**23 34 47.1**	**-1.9**
MXZ				SN	**S**	**23 36 22.9**	**+3.3**
MXZ	**Matakaoa Point**	**8.02**	**204**	*e*P	**P**	**23 34 47.1**	**-1.9**
MXZ				S	**S**	**23 36 22.9**	**+3.3**
PUZ	**Puketiti**	**8.50**	**203**	*e*PN	**P**	**23 34 53.2**	**-2.5**
PUZ				SN	**S**	**23 36 32.8**	**+1.4**
PUZ	**Puketiti**	**8.50**	**203**	*e*P	**P**	**23 34 53.2**	**-2.4**
PUZ				S	**S**	**23 36 32.8**	**+1.4**
WCZ	**Waipu Caves**	**8.80**	**228**	*e*PN	**P**	**23 35 06.9**	**+7.1**
WCZ	**Waipu Caves**	**8.80**	**228**	*e*P	**P**	**23 35 06.9**	**+7.1**
OUZ	**Omahuta**	**8.89**	**234**	PN	**P**	**23 35 10.0**	**+8.9**
OUZ	**Omahuta**	**8.89**	**234**	P	**P**	**23 35 10.0**	**+8.9**
MWZ	**Matawai**	**8.99**	**205**	*e*PN	**P**	**23 34 59.5**	**-3.0**
MWZ				SN	**S**	**23 36 44.2**	**+0.6**
MWZ	**Matawai**	**8.99**	**205**	*e*P	**P**	**23 34 59.5**	**-2.9**
MWZ				S	**S**	**23 36 44.2**	**+0.6**
URZ	**Urewera**	**9.09**	**207**	Pn	**P**	**23 35 01.4**	**-2.4**
	2.5nm,0.3s,baz=60,slow=3.7,SNR=36						
URZ				Sn	**S**	**23 36 48.0**	**+2.1**
	52nm,0.3s,baz=358,slow=13,SNR=3.7						
URZ	**Urewera**	**9.09**	**207**	*e*PN	**P**	**23 35 00.3**	**-3.4**
URZ				SN	**S**	**23 36 47.1**	**+1.1**
URZ	**Urewera**	**9.09**	**207**	*e*P	**P**	**23 35 00.3**	**-3.4**
KNZ	**Kokohu**	**9.55**	**203**	*e*PN	**P**	**23 35 07.3**	**-2.9**
KNZ				SN	**S**	**23 36 56.7**	**-0.7**
KNZ	**Kokohu**	**9.55**	**203**	*e*P	**P**	**23 35 07.3**	**-2.9**
KNZ				S	**S**	**23 36 56.7**	**-0.8**
BKZ	**Black Stump Fm**	**10.11**	**207**	*e*PN	**P**	**23 35 16.1**	**-1.8**
BKZ				SN	**S**	**23 37 12.1**	**+0.9**
BKZ	**Black Stump Fm**	**10.11**	**207**	*e*P	**P**	**23 35 16.1**	**-1.8**
BKZ				S	**S**	**23 37 12.1**	**+0.9**
HIZ	**Hauiti**	**10.31**	**215**	*e*PN	**P**	**23 35 23.0**	**+2.4**
HIZ	**Hauiti**	**10.31**	**215**	*e*P	**P**	**23 35 23.0**	**+2.4**
NGZ	**Ngauruhoe**	**10.49**	**210**	*e*PN	**P**	**23 35 25.6**	**+2.6**
NGZ				SN	**S**	**23 37 22.8**	**+2.4**
NGZ	**Ngauruhoe**	**10.49**	**210**	*e*P	**P**	**23 35 25.6**	**+2.5**
NGZ				S	**S**	**23 37 22.8**	**+2.4**
TUVZ	**Tukino**	**10.54**	**210**	*e*PN	**P**	**23 35 24.3**	**+0.5**
TUVZ				*e*SN	**S**	**23 37 21.0**	**-0.8**
TUVZ	**Tukino**	**10.54**	**210**	*e*P	**P**	**23 35 24.3**	**+0.5**
TUVZ				*e*S	**S**	**23 37 21.0**	**-0.7**
FWVZ	**Far West T-bar**	**10.57**	**210**	*e*PN	**P**	**23 35 24.9**	**+0.6**
FWVZ	**Far West T-bar**	**10.57**	**210**	*e*P	**P**	**23 35 24.9**	**+0.6**
WNVZ	**Wahianoa**	**10.62**	**210**	*e*PN	**P**	**23 35 26.0**	**+1.2**
WNVZ	**Wahianoa**	**10.62**	**210**	*e*P	**P**	**23 35 26.0**	**+1.2**
MOVZ	**Moawhango**	**10.62**	**209**	*e*PN	**P**	**23 35 23.7**	**-1.1**
MOVZ				*e*SN	**S**	**23 37 21.2**	**-2.3**
MOVZ	**Moawhango**	**10.62**	**209**	*e*P	**P**	**23 35 23.7**	**-1.1**
MOVZ				*e*S	**S**	**23 37 21.2**	**-2.4**
PXZ	**Pawanui**	**10.73**	**203**	*e*PN	**P**	**23 35 21.7**	**-4.7**
TSZ	**Takapari Road**	**11.09**	**207**	*e*PN	**P**	**23 35 25.5**	**-5.8**
TSZ	**Takapari Road**	**11.09**	**207**	*e*P	**P**	**23 35 25.5**	**-5.7**
MRZ	**Mangatainoka R**	**11.75**	**206**	*e*PN	**P**	**23 35 35.4**	**-4.8**
MRZ				*e*SN	**S**	**23 37 47.2**	**-4.1**
MRZ	**Mangatainoka R**	**11.75**	**206**	*e*P	**P**	**23 35 35.4**	**-4.8**
MTW	**Mount Morrison**	**12.21**	**205**	*e*PN	**P**	**23 35 40.7**	**-5.8**
MTW				SN	**S**	**23 37 55.4**	**-6.9**
MTW	**Mount Morrison**	**12.21**	**205**	*e*P	**P**	**23 35 40.7**	**-5.7**
MTW				S	**S**	**23 37 55.4**	**-7.0**
CAW	**Cannon Point**	**12.34**	**207**	SN	**S**	**23 38 01.9**	**-3.4**
MSWZ	**Moikau Station**	**12.53**	**205**	*e*PN	**P**	**23 35 47.3**	**-3.4**
MSWZ	**Moikau Station**	**12.53**	**205**	*e*P	**P**	**23 35 47.3**	**-3.4**
DUWZ	**D'Urville Isla**	**12.56**	**211**	*e*PN	**P**	**23 35 49.7**	**-1.4**
MRW	**Makara Radio**	**12.58**	**208**	*e*PN	**P**	**23 35 49.5**	**-1.9**
MRW				*e*SN	**S**	**23 38 06.0**	**-5.3**
MRW	**Makara Radio**	**12.58**	**208**	*e*P	**P**	**23 35 49.5**	**-1.9**
MRW				*e*S	**S**	**23 38 06.0**	**-5.3**
SNZO	**South Karori**	**12.65**	**207**	*e*P	**P**	**23 35 51.4**	**-0.9**
	191nm,0.7s						
SNZO				*e*S	**S**	**23 38 01.8**	**-11**
TCW	**Tory Channel**	**12.74**	**209**	*e*PN	**P**	**23 35 48.0**	**-5.5**
TCW				SN	**S**	**23 38 10.5**	**-4.6**
TCW	**Tory Channel**	**12.74**	**209**	*e*P	**P**	**23 35 48.0**	**-5.5**
TCW				S	**S**	**23 38 10.5**	**-4.6**
TUWZ	**Tuamarina**	**13.06**	**209**	*e*PN	**P**	**23 35 55.1**	**-2.6**
TUWZ				SN	**S**	**23 38 18.2**	**-4.6**
NNZ	**Nelson**	**13.14**	**211**	*e*PN	**P**	**23 35 53.8**	**-4.9**
NNZ	**Nelson**	**13.14**	**211**	*e*P	**P**	**23 35 53.8**	**-4.9**
QRZ	**Quartz Range**	**13.23**	**215**	*e*SN	**S**	**23 38 24.1**	**-2.7**
THZ	**Tophouse**	**13.79**	**211**	*e*PN	**P**	**23 36 00.9**	**-6.3**
THZ				SN	**S**	**23 38 35.0**	**-5.0**
THZ	**Tophouse**	**13.79**	**211**	*e*P	**P**	**23 36 00.9**	**-6.3**
THZ				S	**S**	**23 38 35.0**	**-5.1**
KHZ	**Kahutara**	**14.05**	**208**	*e*PN	**P**	**23 36 05.3**	**-5.4**
KHZ				SN	**S**	**23 38 42.3**	**-4.1**
KHZ	**Kahutara**	**14.05**	**208**	*e*P	**P**	**23 36 05.3**	**-5.4**
KHZ				S	**S**	**23 38 42.3**	**-4.1**
DSZ	**Denniston Nort**	**14.29**	**214**	PN	**P**	**23 36 13.9**	**+0.1**
DSZ				SN	**S**	**23 38 47.3**	**-4.6**
DSZ	**Denniston Nort**	**14.29**	**214**	P	**P**	**23 36 15.8**	**+2.0**
DSZ				S	**S**	**23 38 47.3**	**-4.6**
LTZ	**Lake Taylor**	**14.88**	**210**	P	**P**	**23 36 22.1**	**+0.5**
MQZ	**McQueen's Vall**	**15.49**	**207**	*e*P	**P**	**23 36 27.9**	**-1.5**
WVZ	**Waitaha Valley**	**15.81**	**213**	*e*P	**P**	**23 36 34.3**	**+0.7**
WVZ				S	**S**	**23 39 19.9**	**-7.7**
RPZ	**Rata Peaks**	**16.16**	**211**	Pn	**P**	**23 36 37.0**	**-1.0**
	16nm,0.3s,baz=38,slow=3.1,SNR=24						
RPZ				Sn	**S**	**23 39 28.7**	**-7.1**
	12nm,0.3s,baz=274,slow=16,SNR=7.4						
RPZ	**Rata Peaks**	**16.16**	**211**	*e*P	**P**	**23 36 37.0**	**-1.1**
DZM	**Mont Dzumac**	**16.46**	**296**	⇑*e*P	**P**	**23 36 47.3**	**+5.4**
DZM	**Mont Dzumac**	**16.46**	**296**	Pn	**P**	**23 36 46.7**	**+4.8**
	2.2nm,0.3s,baz=134,slow=11,SNR=61						
DZM				LR	LR	23 41 48.2	
	comp=Z,195µm,20.2s,baz=122,slow=33						
FOZ	**Fox Glacier**	**16.68**	**214**	*e*P	**P**	**23 36 43.3**	**-1.3**
LBZ	**Lake Benmore**	**17.08**	**211**	*e*P	**P**	**23 36 49.6**	**0.0**
AFI	**Afiamalu**	**17.15**	**20**	Pn	**P**	**23 36 41.1**	**-10**
	5.1nm,0.3s,baz=37,slow=18,SNR=7.2						
AFI				Sn	S	23 39 34.2	-25
	12nm,0.3s,baz=98,slow=18,SNR=3.6						
AFI	**Afiamalu**	**17.15**	**20**	*e*P	**P**	**23 36 38.4**	**-12**
	373nm,0.9s						
ODZ	**Otahua Downs**	**17.41**	**209**	*e*P	**P**	**23 36 50.5**	**-3.2**
JCZ	**Jackson Bay**	**17.51**	**214**	*e*P	**P**	**23 36 55.8**	**+0.8**
WKZ	**Wanaka**	**17.95**	**212**	*e*P	**P**	**23 36 58.1**	**-2.4**
EAZ	**Earnscleugh**	**18.13**	**211**	*e*P	**P**	**23 37 03.9**	**+1.2**
RAR	**Rarotonga**	**18.41**	**65**	P	**P**	**23 36 58.2**	**-8.2**
	9.1nm,0.3S,baz=222,slow=7.7,SNR=12						
RAR				S	S	23 40 01.6	-26
	9.7nm,0.3s,baz=54,slow=12,SNR=5.3						
RAR				LR	LR	23 42 23.0	
	comp=Z,71µm,18.2s,baz=246,slow=32						
TUZ	**Tuapeka**	**18.56**	**209**	*e*P	**P**	**23 37 10.3**	**+2.2**
MLZ	**Mavora Lakes**	**18.73**	**213**	*e*P	**P**	**23 37 12.5**	**+2.3**
WHZ	**Wether Hill Ro**	**19.25**	**212**	*e*P	**P**	**23 37 16.7**	**+0.6**
TBI	**Tubuai**	**26.02**	**81**	eLQ		23 43 23.5	
TBI	**Tubuai**	**26.02**	**81**	*e*P	**P**	**23 38 20.7**	**-3.0**
	264nm,1.2s,mb5.7						
TBI				*e*S	**S**	**23 42 42.4**	**-7.5**
TBI				eLR	LR	23 44 32.3	
	baz=248						
RIV	**Riverview**	**26.65**	**254**	*e*P	**P**	**23 38 34.4**	**+4.9**
CNB	**Canberra Magne**	**28.13**	**251**	*e*P	**P**	**23 38 47.1**	**+4.2**
	558nm,1.3s,mb6.0						
CNB				*e*PCP	PcP	23 41 59.3	+2.6
PAE	**Paea**	**28.44**	**70**	*e*P	**P**	**23 38 42.6**	**-3.3**
	106nm,0.7s,mb5.5						
PPT	**Papeete**	**28.50**	**70**	*e*P	**P**	**23 38 43.5**	**-2.8**
	144nm,1.4s,mb5.4						
PPT	**Papeete**	**28.50**	**70**	*e*S	**S**	**23 43 21.8**	**-8.3**
PPT				eLQ		23 44 19.5	
PPT				eLR	LR	23 45 36.8	
	baz=238						
PPT	**Papeete**	**28.50**	**70**	LR	LR	23 46 19.1	
	comp=Z,4µm,21.8s,MS5.0,baz=304,slow=29						
HNR	**Honiara**	**29.47**	**310**	P	**P**	**23 38 52.5**	**-2.5**
	60nm,0.5s,mb5.6,baz=239,slow=10,SNR=2.2						
HNR				LR	LR	23 48 43.0	
	comp=Z,34µm,21.5s,MS5.9,baz=331,slow=32						
PMOR	**Pomariorio Ree**	**31.24**	**68**	*e*P	**P**	**23 39 07.8**	**-2.9**
	160nm,1.6s,mb5.6						
TOO	**Toolangi**	**31.32**	**247**	⇑*i*P	**P**	**23 39 14.7**	**+3.4**
	211nm,1.1s,mb5.9						
VAH	**Vaihoa**	**31.32**	**68**	*e*P	**P**	**23 39 08.3**	**-3.2**
	113nm,1.0s,mb5.6						
CTA	**Charters Tower**	**34.10**	**279**	⇑*i*P	**P**	**23 39 37.2**	**+1.6**
	405nm,1.4s,mb6.2						
CTA				*e*PP	PP	23 40 58.4	+8.0
CTA				*e*S	S	23 45 22.5	+24
CTA	**Charters Tower**	**34.10**	**279**	P	**P**	**23 39 37.3**	**+1.7**
	211nm,0.9s,mb6.1,baz=100,slow=10,SNR=96						
CTA				S	**S**	**23 45 14.3**	**+16**
	5.6nm,0.7s,baz=317,slow=13,SNR=2.4						
CTA				LR	LR	23 52 28.4	
	comp=Z,119µm,18.0s,MS6.7,baz=124,slow=34						
CTA	**Charters Tower**	**34.10**	**279**	⇑*i*P	**P**	**23 39 37.2**	**+1.6**
CTA				pmax	pmax		
	comp=Z,405nm,1.4s						
CTAO	**Charters Tower**	**34.10**	**279**	*e*P	**P**	**23 39 37.2**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,2µm,1.6s,mb6.8						
CTAO	**Charters Tower**	**34.10**	**279**	*e*P	**P**	**23 39 37.2**	**+1.6**
	comp=Z,2µm,1.6s,mb6.8						
STKA	**Stephens Creek**	**34.83**	**257**	⇑*i*P	**P**	**23 39 44.3**	**+2.6**
	comp=Z,156nm,0.6s,mb6.1						
STKA	**Stephens Creek**	**34.83**	**257**	P	**P**	**23 39 44.7**	**+3.0**
	comp=Z,216nm,0.9s,mb6.1,baz=99,slow=9.1,SNR=88						
STKA				S	**S**	**23 45 23.8**	**+14**
	comp=Z,8.3nm,1.0s,baz=250,slow=22,SNR=2.6						
STKA				LR	LR	23 53 06.1	
	comp=Z,98µm,18.4s,MS6.6,baz=90,slow=35						
RKT	**Rikitea**	**38.59**	**90**	*e*S	**S**	**23 46 01.0**	**-5.9**
RKT				eLQ		23 48 49.3	
RKT				eLR	LR	23 50 21.8	
	baz=257						
TAOE	**Nuku Hiva Isla**	**40.95**	**67**	*e*S	**S**	**23 46 34.8**	**-7.7**
TAOE				eLQ		23 49 38.5	
TAOE				eLR	LR	23 51 21.0	
	comp=Z,213µm,26.6s						
WB2	**Warramunga Arr**	**44.41**	**272**	⇑*i*P	**P**	**23 41 01.6**	**+0.2**
WB2				*e*S	**S**	**23 47 31.4**	**-1.7**
WRA	**Warramunga Arr**	**44.42**	**272**	P	**P**	**23 41 01.7**	**+0.2**
	comp=Z,152nm,0.8s,mb5.8,baz=110,slow=7.5,SNR=145						
WRA				S	**S**	**23 47 36.1**	**+2.8**
	comp=Z,12nm,0.9s,baz=108,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**44.42**	**272**	P	**P**	**23 41 01.7**	**+0.2**
WRA				S	**S**	**23 47 36.1**	**+2.8**
WRA				pmax	pmax		
	comp=Z,152nm,0.8s						
WRA				smax			
	comp=N,12nm,0.9s						
FORT	**Forrest**	**46.40**	**255**	⇑*i*P	**P**	**23 41 17.2**	**+0.1**
	comp=N,187nm,0.6s,mb6.2						
FORT				*e*S	**S**	**23 48 07.2**	**+5.8**
SBA	**Scott Base**	**48.19**	**184**	⇑*e*P	**P**	**23 41 35.4**	**+4.9**
SBA				pmax	pmax		
	comp=Z,230nm,1.1s,mb6.1						
SBA	**Scott Base**	**48.19**	**184**	⇑*e*P	**P**	**23 41 35.4**	**+4.9**
	comp=Z,228nm,1.1s,mb6.1						
VNDA	**Vanda**	**48.26**	**186**	P	**P**	**23 41 33.8**	**+2.7**
	comp=Z,23nm,0.7s,mb5.3,baz=8.3,slow=8.2,SNR=12						
VNDA				S	**S**	**23 48 36.8**	**+10**
	comp=Z,2.2nm,0.9s,baz=17,slow=6.9,SNR=2.1						
VNDA				LR	LR	23 59 58.9	
	comp=Z,13µm,18.4s,MS6.0,baz=43,slow=34						
VNDA	**Vanda**	**48.26**	**186**	P	**P**	**23 41 33.8**	**+2.8**
VNDA				S	**S**	**23 48 36.8**	**+10**
VNDA				pmax	pmax		
	comp=Z,23nm,0.7s						
VNDA				smax			
	comp=N,2.0nm,0.9s						
VNDA				MLR	MLR		
	comp=Z,13µm,18.4s						
VNDA	**Vanda**	**48.26**	**186**	*e*P	**P**	**23 41 35.0**	**+4.0**
WAKE	**Wake Island**	**51.54**	**341**	*e*P	**P**	**23 41 54.7**	**-2.1**
	comp=Z,438nm,1.2s,mb6.3						
FITZ	**Fitzroy Crossi**	**52.69**	**270**	⇑*i*P	**P**	**23 42 05.1**	**-0.4**
	comp=Z,143nm,1.1s,mb5.8						
FITZ				*e*S	**S**	**23 49 30.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**52.69**	**270**	P	**P**	**23 42 05.3**	**-0.2**
	comp=Z,80nm,1.0s,mb5.6,baz=119,slow=8.0,SNR=58						
FITZ				S	**S**	**23 49 41.6**	**+12**
	comp=Z,9.0nm,1.1s,baz=268,slow=22,SNR=2.5						
KLBR	**Kellerberrin**	**54.70**	**251**	*e*P	**P**	**23 42 19.5**	**-0.7**
	comp=Z,565nm,1.4s,mb6.4						
KIP	**Kipapa**	**54.74**	**23**	*e*P	**P**	**23 42 17.7**	**-2.9**
KIP				pmax	pmax		
	comp=Z,284nm,1.1s,mb6.2						
KIP	**Kipapa**	**54.74**	**23**	*e*P	**P**	**23 42 17.7**	**-2.9**
	comp=Z,284nm,1.1s,mb6.2						
NWAO	**Narrogin (SRO)**	**54.75**	**249**	P	**P**	**23 42 20.2**	**-0.3**
	comp=Z,89nm,1.2s,mb5.7,baz=101,slow=7.3,SNR=9.3						
NWAO				S	**S**	**23 50 11.2**	**+14**
	comp=Z,7.0nm,0.9s,baz=252,slow=18,SNR=1.6						
NWAO	**Narrogin (SRO)**	**54.75**	**249**	P	**P**	**23 42 20.2**	**-0.3**
NWAO				S	**S**	**23 50 11.2**	**+14**
NWAO				pmax	pmax		
	comp=Z,89nm,1.2s						
NWAO				smax			
	comp=N,7.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**54.75**	**249**	*e*P	**P**	**23 42 20.2**	**-0.3**
	comp=N,144nm,1.4s,mb5.8						
CASY	**Casey**	**55.41**	**208**	*e*P	**P**	**23 42 27.0**	**+2.2**
MUN	**Mundaring**	**55.85**	**250**	⇑*i*P	**P**	**23 42 28.1**	**-0.4**
MUN				*e*S	**S**	**23 50 22.2**	**+11**
MBWA	**Marble Bar**	**56.57**	**263**	*e*P	**P**	**23 42 33.1**	**-0.6**
	comp=N,486nm,1.5s,mb6.3						
GUMO	**Guam**	**56.62**	**315**	LR	LR	00 03 46.2	
	comp=N,19µm,20.6s,MS6.2,baz=137,slow=33						
RPN	**Rapa Nui**	**59.15**	**105**	LR	LR	00 01 35.5	
	comp=N,16µm,21.4s,MS6.1,baz=246,slow=29						
MIR	**Mirnyy**	**62.39**	**207**	*c*P	**P**	**23 43 14.8**	**+1.6**
MIR				*e*		23 45 42.0	
MIR				*e

VNA2	**Neumayer--Watz**	**78.85**	**177**			pP		23 45 06.7	+3.3
VNA2	**Neumayer--Watz**	**78.85**	**177**			sP		23 45 10.2	+2.9
VNA2	**Neumayer--Watz**	**78.85**	**177**	⇑	*i*P	**P**		**23 44 55.5**	**+2.9**
VNA2					PcP	PcP		23 45 03.4	+1.9
VNA2					pP	pP		23 45 06.7	+3.3
VNA2					sP	sP		23 45 10.2	+2.9
MAIT	**Maitri**	**79.02**	**183**		*e*P	**P**		**23 44 52.0**	**-1.5**
MAIT					*e*S	S		23 55 01.0	+12
NVL	**N'lazarevskaya**	**79.03**	**183**	⇓	*i*P	**P**		**23 44 55.2**	**+1.7**
NVL					*e**PP	pP		23 45 02.1	-2.3
NVL					*e**SP	sP		23 45 04.6	-3.7
NVL					*e*	pP		23 45 08.0	+3.6
NVL					pmax	pmax			
	comp=Z,10.0nm,1.2s								
NVL					MLR	MLR			
	comp=Z,1µm,18.6s,MS5.3								
VNA1	**Neumayer--Stat**	**79.08**	**176**			PcP	PcP	23 45 04.8	+2.3
VNA1	**Neumayer--Stat**	**79.08**	**176**			pP	pP	23 45 08.5	+3.8
VNA1	**Neumayer--Stat**	**79.08**	**176**			sP	sP	23 45 12.2	+3.6
VNA1	**Neumayer--Stat**	**79.08**	**176**	⇑	*i*P	**P**		**23 44 57.3**	**+3.5**
VNA1					PcP	PcP		23 45 04.8	+2.3
VNA1					pP	pP		23 45 08.5	+3.8
VNA1					sP	sP		23 45 12.2	+3.6
VNA1					S	S		23 55 01.7	+13
JNU	**Nakatsue**	**79.68**	**318**		P	**P**		**23 44 57.4**	**-0.5**
	comp=Z,25nm,0.8s,mb5.2,baz=57,slow=7.5,SNR=7.1								
JNU					LR	LR		00 15 33.5	
	comp=Z,8µm,21.7s,MS6.0,baz=114,slow=32								
YUK	**Yuzh-Kuril'sk**	**81.14**	**334**		*e*P	**P**		**23 45 03.0**	**-2.3**
YUK					*e*			23 45 09.0	
YUK					*e*			23 48 10.0	
YUK					*e*S	S		23 55 15.0	+3.9
YUK					*e*PS	PS		23 56 19.0	+16
YUK					pmax	pmax			
	comp=Z,4µm,5.0s								
YUK					pmax	pmax			
	comp=E,2µm,4.0s								
YUK					smax				
	comp=N,5µm,4.0s								
KGM	**Kluang**	**81.58**	**277**		P	**P**		**23 45 09.7**	**+1.5**
QZH	**Quanzhou**	**82.15**	**305**	⇑	*i*P	**P**		**23 45 10.5**	**-0.5**
QZH					S	S		23 55 25.1	+3.2
QZH					AMB	AMB			
	comp=Z,670nm,1.9s,mb6.2								
QZH					LR	LR			
	comp=N,3µm,14.2s,MS6.1								
QZH					LR	LR			
	comp=E,5µm,17.4s,MS6.1								
QZH					LR	LR			
	comp=Z,14µm,23.5s								
PLCA	**Paso Flores**	**82.36**	**133**		P	**P**		**23 45 13.6**	**+1.9**
	comp=Z,38nm,1.1s,mb5.2,baz=242,slow=6.1,SNR=18								
PLCA					S	S		23 55 28.4	+4.7
	comp=Z,1.7nm,1.0s,baz=304,slow=11,SNR=1.8								
PLCA					LR	LR		00 13 07.0	
	comp=Z,15µm,21.8s,MS6.3,baz=244,slow=29								
PLCA	**Paso Flores**	**82.36**	**133**		P	**P**		**23 45 13.6**	**+1.9**
PLCA					S	S		23 55 28.4	+4.7
PLCA					pmax	pmax			
	comp=Z,38nm,1.1s								
PLCA					smax				
	comp=N,2.0nm,1.0s								
PLCA	**Paso Flores**	**82.36**	**133**		*e*P	**P**		**23 45 13.5**	**+1.8**
	comp=N,108nm,1.4s,mb5.6								
ASAJ	**Asahikawa**	**82.48**	**332**		P	**P**		**23 45 12.1**	**-0.2**
	comp=N,127nm,1.0s,mb5.8,baz=228,slow=11,SNR=20								
ASAJ					S	S		23 55 26.9	+2.1
	comp=N,10nm,1.0s,baz=127,slow=18,SNR=2.1								
ASAJ					LR	LR		00 18 01.9	
	comp=N,20µm,20.3s,MS6.5,baz=173,slow=33								
ASAJ	**Asahikawa**	**82.48**	**332**		P	**P**		**23 45 12.1**	**-0.1**
ASAJ					S	S		23 55 27.0	+2.2
ASAJ					pmax	pmax			
	comp=Z,127nm,1.0s								
ASAJ					smax				
	comp=N,11nm,1.0s								
SMY	**Shemya**	**82.96**	**355**		*e*P	**P**		**23 45 14.0**	**-0.5**
SMY					pmax	pmax			
	comp=Z,1µm,1.4s,mb6.7								
SMY	**Shemya**	**82.96**	**355**		*e*P	**P**		**23 45 14.0**	**-0.5**
	comp=Z,1µm,1.4s,mb6.7								
FX1	**Attu Island--F**	**83.19**	**354**		*e*P	**P**		**23 45 14.4**	**-1.3**
HKC	**Hong Kong**	**83.79**	**300**	⇑	*i*P	**P**		**23 45 22.0**	**+2.6**
SSE	**Sheshan**	**84.27**	**311**	⇑	P	**P**		**23 45 21.2**	**-0.5**
SSE					AP	pP		23 45 33.4	+0.7
SSE					XP	sP		23 45 38.3	+1.9
SSE					PP	PP		23 48 38.5	+0.3
SSE					S	S		23 55 45.3	+2.2
SSE					AMB	AMB			
	comp=Z,40nm,0.8s,mb5.6								
SSE					AMB	AMB			
	comp=Z,3µm,12.0s								
SSE					LR	LR			
	comp=N,4µm,38.2s,MS5.7								
SSE					LR	LR			
	comp=E,4µm,38.2s,MS5.7								
SSE					LR	LR			
	comp=Z,6µm,20.6s								
SSE	**Sheshan**	**84.27**	**311**	⇑	P	**P**		**23 45 21.2**	**-0.5**
	comp=Z,47nm,0.8s,mb5.7								
SSE					PcP	PcP		23 45 24.3	-1.5
SSE					pP	pP		23 45 33.4	+0.7
SSE					sP	sP		23 45 38.3	+1.9
SSE					PP	PP		23 48 38.5	+0.3
SSE					S	S		23 55 45.3	+2.2
SSE					ScS	ScS		23 55 55.6	+2.3
SSE					sS			23 56 06.0	
SSE					SS	SS		00 01 17.1	+1.2
SSE					LR	LR			
	comp=Z,6µm,20.6s,MS6.0								
KS15	**Wonju Array Si**	**84.47**	**319**		*e*P	**P**		**23 45 23.2**	**+0.6**
YSS	**Yuzh-Sakhalins**	**84.77**	**334**	α	*i*P	**P**		**23 45 23.2**	**-0.6**
YSS					*i* *SP	sP		23 45 42.0	+3.5
YSS					*e*			23 55 44.0	
YSS					*e*S	S		23 55 50.0	+2.3
YSS					pmax	pmax			
	comp=N,400nm,1.5s								
YSS					pmax	pmax			
	comp=E,460nm,1.5s								
YSS					pmax	pmax			
	comp=Z,910nm,1.5s,mb6.7								
YSS					pmax	pmax			
	comp=N,2µm,10.0s								
YSS					pmax	pmax			
	comp=Z,6µm,10.0s								
YSS					smax				
	comp=N,6µm,14.0s								
YSS	**Yuzh-Sakhalins**	**84.77**	**334**		*e*P	**P**		**23 45 23.7**	**-0.1**
	comp=N,433nm,1.1s,mb6.5								
IPM	**Ipoh**	**84.80**	**278**		P	**P**		**23 45 25.3**	**+0.6**
GZH	**Guangzhou**	**84.87**	**300**		P	**P**		**23 45 26.1**	**+1.3**
GZH					S	S		23 55 54.3	+5.1
GZH					LR	LR			
	comp=N,1µm,24.9s,MS5.7								
GZH					LR	LR			
	comp=E,3µm,20.5s,MS5.7								
GZH					LR	LR			
	comp=Z,5µm,20.5s,MS5.9								
PTRM	**Twissleman Ran**	**84.92**	**44**		*e*P	**P**		**23 45 25.6**	**+0.7**
SAO	**San Andreas Ge**	**84.96**	**42**		*e*P	**P**		**23 45 24.2**	**-0.8**
SAO					pmax	pmax			
	comp=Z,142nm,1.4s,mb5.9								
SAO	**San Andreas Ge**	**84.96**	**42**		*e*P	**P**		**23 45 24.2**	**-0.8**
	comp=Z,142nm,1.4s,mb5.9								
SAC	**San Andreas**	**84.97**	**41**		*e*P	**P**		**23 45 25.6**	**+0.6**
LRV	**Little Rabbit**	**84.97**	**43**		*e*P	**P**		**23 45 25.6**	**+0.5**
BAR	**Barrett**	**85.13**	**48**		*e*P	**P**		**23 45 25.7**	**-0.3**
MWC	**Mount Wilson**	**85.27**	**46**		*e*P	**P**		**23 45 26.3**	**-0.3**
PET	**Petropavlovsk**	**85.48**	**346**		*e*P	**P**		**23 45 26.0**	**-1.1**
PET					*e*			23 48 50.0	
PET					*e*S	S		23 55 55.3	+0.8
PET					*e*SS	SS		00 01 37.5	+3.9
PET					pmax	pmax			
	comp=Z,134nm,1.2s,mb6.0								
PET					pmax	pmax			
	comp=Z,4µm,15.5s								
PET	**Petropavlovsk**	**85.48**	**346**		*e*P	**P**		**23 45 27.1**	**0.0**
	comp=Z,311nm,1.4s,mb6.2								
NSHM	**Saint Helena R**	**85.52**	**40**		*e*P	**P**		**23 45 27.4**	**-0.2**
KULM	**Kulim**	**85.53**	**279**		*e*P	**P**		**23 45 28.6**	**+0.3**
HOPS	**Hopland**	**85.60**	**40**		*e*P	**P**		**23 45 27.8**	**-0.2**
	comp=Z,262nm,1.4s,mb6.3								
PSI	**Prapat**	**85.75**	**276**		P	**P**		**23 45 28.7**	**-0.7**
	comp=Z,103nm,1.2s,mb5.9,baz=186,slow=5.8,SNR=25								
KCPM	**Cahto Peak**	**85.81**	**39**		*e*P	**P**		**23 45 28.6**	**-0.4**
KIPM	**Iron Peak**	**85.95**	**39**		*e*P	**P**		**23 45 30.2**	**+0.5**
NJ2	**Nanjing**	**86.41**	**310**		*e*P	**P**		**23 45 32.8**	**+0.6**
NJ2					AP	pP		23 45 43.3	0.0
NJ2					XP	sP		23 45 48.1	+1.1
NJ2					PP	PP		23 48 55.4	-0.3
NJ2					SKS	SKS		23 55 58.0	+5.0
NJ2					S	S		23 56 08.0	+4.1
NJ2					AMB	AMB			
	comp=Z,60nm,1.0s,mb5.8								
NJ2					AMB	AMB			
	comp=Z,4µm,11.0s								
NJ2					LR	LR			
	comp=N,10µm,32.0s,MS6.1								
NJ2					LR	LR			
	comp=E,9µm,34.0s,MS6.1								
NJ2					LR	LR			
	comp=Z,8µm,33.6s,MS5.9								
CMB	**Columbia Colle**	**86.44**	**42**		*e*P	**P**		**23 45 31.8**	**-0.4**
CMB					pmax	pmax			
	comp=Z,162nm,1.1s,mb6.2								
CMB	**Columbia Colle**	**86.44**	**42**		*e*P	**P**		**23 45 31.8**	**-0.4**
	comp=Z,162nm,1.1s,mb6.2								
VLA	**Vladivostok**	**86.48**	**326**		*i* P	**P**		**23 45 31.5**	**-0.7**
VLA					*e*			23 48 47.3	
VLA					pmax	pmax			
	comp=Z,181nm,1.5s,mb6.1								
VLA					MLR	MLR			
	comp=Z,8µm,17.0s,MS6.2								
SDPT	**Sand Point**	**86.53**	**10**		*e*P	**P**		**23 45 32.7**	**+0.5**
	comp=Z,639nm,1.4s,mb6.7								
SDPT					LR	LR			
	comp=Z,9µm,20.0s,MS6.2								
KHMM	**Horse Mountain**	**86.58**	**38**		*e*P	**P**		**23 45 33.5**	**+0.8**
FCH	**Farellones**	**86.64**	**127**	⇑	*i*P	**P**		**23 45 34.8**	**+1.5**
OHCM	**Honcut**	**86.72**	**40**		*e*P	**P**		**23 45 33.2**	**-0.4**
GSC	**Goldstone**	**86.76**	**46**		*e*P	**P**		**23 45 33.8**	**0.0**
DAC	**Darwin (Calif)**	**86.91**	**45**		*e*P	**P**		**23 45 33.8**	**-0.8**
DAC					pmax	pmax			
	comp=Z,83nm,1.4s,mb5.8								
DAC	**Darwin (Calif)**	**86.91**	**45**		*e*P	**P**		**23 45 33.8**	**-0.7**
	comp=Z,83nm,1.4s,mb5.8								
WDC	**Whiskeytown Da**	**87.00**	**39**		*e*P	**P**		**23 45 34.7**	**-0.2**
WDC					pmax	pmax			
	comp=Z,275nm,1.4s,mb6.3								
WDC	**Whiskeytown Da**	**87.00**	**39**		*e*P	**P**		**23 45 34.7**	**-0.2**
	comp=Z,275nm,1.4s,mb6.3								
UBT	**Ubonrachathani**	**87.04**	**289**		P	**P**		**23 45 35.0**	**-0.6**
MTUM	**Tungsten Hills**	**87.05**	**43**		*e*P	**P**		**23 45 35.4**	**+0.2**
KBO	**Bosley Butte**	**87.27**	**37**		*e*P	**P**		**23 45 36.7**	**+0.5**
KBO					*e*	pP		23 45 48.4	+1.2
KTRM	**Thompson Ridge**	**87.50**	**37**		P	**P**		**23 45 38.1**	**+0.8**
SFJM	**Santa Fe**	**87.64**	**65**		*i* P	**P**		**23 45 39.0**	**+0.6**
LDFC	**Landfair**	**87.67**	**47**		*e*P	**P**		**23 45 38.7**	**+0.4**
KEBM	**Edson Butte**	**87.69**	**36**		*e*P	**P**		**23 45 38.0**	**-0.1**
YBH	**Yreka Blue Hor**	**87.72**	**38**		*e*P	**P**		**23 45 38.4**	**+0.1**
YBH					pmax	pmax			
	comp=Z,100nm,1.4s								
YBH	**Yreka Blue Hor**	**87.72**	**38**		*e*P	**P**		**23 45 38.4**	**+0.1**
	comp=Z,100nm,1.4s,mb5.8								
NVAR	**Mina Array Bea**	**87.92**	**43**		P	**P**		**23 45 39.0**	**-0.3**
	comp=Z,35nm,0.9s,mb5.6,baz=203,slow=4.6,SNR=138								
NVAR					S	S		23 56 07.5	-11
	comp=Z,0.2nm,0.6s,baz=198,slow=8.6,SNR=1.9								
NVAR					PKKPbc			00 03 30.9	
	comp=Z,0.6nm,0.5s,baz=91,slow=1.4,SNR=5.9								
NVAR					PKPPKP			00 11 35.6	
	comp=Z,0.6nm,0.7s,baz=163,slow=0.4,SNR=4.0								
NVAR					LR	LR		00 22 08.7	
	comp=Z,23µm,18.2s,MS6.6,baz=245,slow=34								
CAIG	**El Cayaco**	**87.99**	**69**		*i* P	**P**		**23 45 39.7**	**-0.4**
MNV	**Mina**	**88.01**	**43**		*e*P	**P**		**23 45 39.6**	**-0.2**
MNV					pmax	pmax			
	comp=Z,146nm,1.4s,mb6.0								
MNV	**Mina**	**88.01**	**43**		*e*P	**P**		**23 45 39.6**	**-0.1**
	comp=Z,146nm,1.4s,mb6.0								
TPNV	**Topopah Spring**	**88.17**	**45**		*e*P	**P**		**23 45 40.8**	**+0.2**
TPNV					pmax	pmax			
	comp=Z,80nm,1.0s,mb5.9								
TPNV	**Topopah Spring**	**88.17**	**45**		*e*P	**P**		**23 45 40.8**	**+0.2**
	comp=Z,80nm,1.0s,mb5.9								
ACX	**Acapulco**	**88.18**	**69**		*e*P	**P**		**23 45 40.0**	**-1.0**
NEN	**Nelson**	**88.20**	**46**		*e*P	**P**		**23 45 40.6**	**-0.1**
HUMO	**Hull Mountain**	**88.21**	**37**		*e*P	**P**		**23 45 40.6**	**0.0**
	comp=Z,210nm,1.5s,mb6.2								
TPH	**Tonopah**	**88.32**	**43**		*e*P	**P**		**23 45 41.6**	**+0.3**
TPH					pmax	pmax			
	comp=Z,178nm,1.2s,mb6.2								
TPH	**Tonopah**	**88.32**	**43**		*e*P	**P**		**23 45 41.6**	**+0.3**
	comp=Z,178nm,1.2s,mb6.2								
WHN	**Wuhan**	**88.53**	**307**		P	**P**		**23 45 43.7**	**+1.2**
WHN					S	S		23 56 15.0	-9.0
WHN					AMB	AMB			
	comp=Z,7µm,13.6s								
WHN					LR	LR			
	comp=N,6µm,19.5s,MS6.4								
WHN					LR	LR			
	comp=E,13µm,21.0s,MS6.4								
WHN					LR	LR			
	comp=Z,16µm,18.9s,MS6.5								
VSP	**Spence Mountai**	**88.56**	**38**		P	**P**		**23 45 42.6**	**+0.3**
MDJ	**Mudanjiang**	**88.70**	**325**		P	**P**		**23 45 43.8**	**+0.8**
MDJ					PP	PP		23 49 12.3	-2.0
MDJ					S	S		23 56 18.6	-6.6
MDJ					AMB	AMB			
	comp=Z,140nm,1.5s,mb6.1								
MDJ					AMB	AMB			
	comp=Z,4µm,11.3s								
MDJ					LR	LR			
	comp=N,3µm,20.0s,MS5.9								
MDJ					LR	LR			
	comp=E,4µm,18.3s,MS5.9								
MDJ					LR	LR			
	comp=Z,6µm,18.5s,MS6.1								
MDJ	**Mudanjiang**	**88.70**	**325**		*e*P	**P**		**23 45 43.2**	**+0.2**
	comp=Z,261nm,1.4s,mb6.4								
TUC	**Tucson**	**88.77**	**51**		*e*P	**P**		**23 45 44.2**	**+0.6**
TUC					pmax	pmax			
	comp=Z,98nm,1.3s,mb6.0								
TUC	**Tucson**	**88.77**	**51**		*e*P	**P**		**23 45 44.2**	**+0.6**
	comp=Z,98nm,1.3s,mb6.0								
DL2	**Dalian**	**89.08**	**317**	⇑	*i*P	**P**		**23 45 45.3**	**+0.4**
DL2					SKS	SKS		23 56 05.2	-4.5
DL2					S	S		23 56 27.4	-1.4
DL2					AMB	AMB			
	comp=Z,50nm,0.8s,mb5.9								
DL2					AMB	AMB			
	comp=Z,2µm,8.3s								
DL2					LR	LR			
	comp=N,2µm,17.8s,MS5.9								
DL2					LR	LR			
	comp=E,3µm,17.2s,MS5.9								
DL2					LR	LR			
	comp=Z,4µm,18.9s,MS5.9								
HABR	**Khabarovsk**	**89.09**	**331**		*i* P	**P**		**23 45 45.5**	**+0.8**
HABR					*i*			23 49 15.4	
HABR								23 56 27.6	
HABR					pmax	pmax			
	comp=Z,987nm,1.5s,mb6.9								
MOD	**Modoc**	**89.14**	**39**		*e*P	**P**		**23 45 44.6**	**-0.4**
	comp=Z,123nm,1.3s,mb6.1								
TRQA	**Tornquist**	**89.29**	**135**		*e*P	**P**		**23 45 47.2**	**+1.3**
	comp=Z,78nm,1.4s,mb5.8								
PLIG	**Platanillo**	**89.32**	**68**		*e*P	**P**		**23 45 46.5**	**+0.1**
HBO	**Huckleberry Mo**	**89.42**	**37**		P	**P**		**23 45 46.4**	**+0.1**
COR	**Corvallis**	**89.44**	**35**		*e*P	**P**		**23 45 46.0**	**-0.5**
COR					pmax	pmax			
	comp=Z,247nm,1.5s,mb6.3								
COR	**Corvallis**	**89.44**	**35**		*e*P	**P**		**23 45 46.0**	**-0.5**
	comp=Z,247nm,1.5s,mb6.3								
BROR	**Big Rock Looko**	**89.65**	**36**		P	**P**		**23 45 47.3**	**-0.1**
SNY	**Shenyang**	**89.90**	**320**	⇑	P	**P**		**23 45 48.1**	**-0.6**
SNY					AP	pP		23 45 59.4	-0.4
SNY					XP	sP		23 46 02.1	-1.3
SNY					AMB	AMB			
	comp=Z,110nm,1.6s,mb5.9								
SNY					AMB	AMB			
	comp=Z,3µm,12.5s								
SNY					LR	LR			
	comp=N,4µm,22.2s,MS5.9								
SNY					LR	LR			
	comp=E,3µm,19.8s,MS5.9								
SNY					LR	LR			
	comp=Z,8µm,24.0s,MS6.0								
NNT	**Nongplab**	**90.03**	**284**		P	**P**		**23 45 53.8**	**+3.9**
TIA	**Tai'an**	**90.12**	**313**		P	**P**		**23 45 48.9**	**-1.0**
TIA					AMB	AMB			
	comp=Z,170nm,1.3s,mb6.2								
TIA					AMB	AMB			
	comp=Z,4µm,9.0s								
TIA					LR	LR			
	comp=N,4µm,19.0s,MS6.2								
TIA					LR	LR			
	comp=E,7µm,21.4s,MS6.2								
TIA					LR	LR			
	comp=N,880nm,27.7s								
TIA					LR	LR			
	comp=E,880nm,32.2s								
KDAK	**Kodiak Island**	**90.20**	**13**		P	**P**		**23 45 49.0**	**-0.6**
	comp=E,63nm,1.2s,mb5.8,baz=163,slow=6.8,SNR=2.9								
CN2	**Changchun**	**90.24**	**323**		*e*P	**P**		**23 45 50.6**	**+0.4**
CN2					*e*AP	pP		23 46 00.7	-0.6
CN2					PP	PP		23 49 26.7	+0.1
CN2					SKS	SKS		23 56 15.8	-0.8
CN2					AMB	AMB			
	comp=Z,330nm,1.5s,mb6.4								
CN2					AMB	AMB			
	comp=Z,4µm,10.0s								
CN2					LR	LR			
	comp=N,5µm,21.0s,MS6.0								
CN2					LR	LR			
	comp=E,4µm,21.0s,MS6.0								
CN2					LR	LR			
	comp=Z,7µm,23.0s,MS6.0								
WUAZ	**Wupatki**	**90.33**	**48**		*e*P	**P**		**23 45 51.3**	**+0.4**
	comp=Z,198nm,1.2s,mb6.3								
PPM	**Popocatepetl**	**90.38**	**68**		*e*P	**P**		**23 45 52.1**	**+0.7**
WVOR	**Wild Horse Val**	**90.41**	**39**		*e*P	**P**		**23 45 50.6**	**-0.4**
WVOR					pmax	pmax			
	comp=Z,187nm,1.4s,mb6.2								
WVOR	**Wild Horse Val**	**90.41**	**39**		*e*P	**P**		**23 45 50.6**	**-0.4**
	comp=Z,187nm,1.4s,mb6.2								
ARUT	**Antelope Range**	**90.43**	**45**		*e*P	**P**		**23 45 51.6**	**+0.3**
VIPM	**Ingram Point**	**90.76**	**37**		P	**P**		**23 45 52.8**	**+0.2**
VHO	**Vista Hermosa**	**90.87**	**71**		*i* P	**P**		**23 45 54.2**	**+0.4**
VFP	**Flag Point**	**90.88**	**36**		P	**P**		**23 45 53.3**	**+0.1**
OXX	**Oaxaca**	**90.89**	**71**		*i* P	**P**		**23 45 55.0**	**+1.2**
CROR	**Criterion Ridg**	**90.89**	**36**		P	**P**		**23 45 53.4**	**+0.1**
KLR	**Kul'dur**	**91.09**	**330**	κ	*i*P	**P**		**23 45 51.0**	**-3.1**
KLR					*e*			23 57 54.0	
KLR					pmax	pmax			
	comp=E,56nm,1.8s								
KLR					pmax	pmax			
	comp=Z,280nm,1.8s,mb6.3								
KLR					pmax	pmax			
	comp=N,2µm,11.0s								
KLR					pmax	pmax			
	comp=E,1µm,11.0s								
KLR					pmax	pmax			
	comp=Z,7µm,11.0s								
KLR					MLR	MLR			
	comp=N,24µm,19.0s								
ELK	**Elko**	**91.22**	**42**		S	S		23 56 28.2	-20
	comp=N,1.1nm,0.9s,baz=17,slow=19,SNR=2.1								
ELK	**Elko**	**91.22**	**42**		*e*P	**P**		**23 45 54.5**	**-0.4**
ELK					pmax	pmax			
	comp=Z,87nm,1.4s								
ELK	**Elko**	**91.22**	**42**		*e*P	**P**		**23 45 54.5**	**-0.4**
	comp=Z,87nm,1.4s,mb5.9								
OOW	**Octopus West**	**91.27**	**33**		P	**P**		**23 45 55.8**	**+0.9**
NST	**Nakhon Sawan**	**91.27**	**287**		P	**P**		**23 45 57.0**	**+1.3**
OCWA	**Octopus Mounta**	**91.28**	**33**		*e*P	**P**		**23 45 55.3**	**+0.4**
	comp=Z,335nm,1.4s,mb6.5								
MVU	**Marysvale**	**91.63**	**46**		*e*P	**P**		**23 45 58.6**	**+1.8**
	comp=Z,70nm,1.3s,mb5.8								
MSU	**Marysvale**	**91.66**	**46**		*e*P	**P**		**23 45 57.5**	**+0.6**
GYA	**Guiyang**	**91.77**	**300**	⇑	*i*P	**P**		**23 45 57.6**	**-0.2**
GYA					AP	pP		23 46 06.8	-2.1
GYA					XP	sP		23 46 11.9	-0.6
GYA					PP	PP		23 49 39.9	+0.6
GYA					AMB	AMB			
	comp=Z,50nm,1.2s,mb5.7								
GYA					AMB	AMB			
	comp=Z,3µm,11.9s								
GYA					LR	LR			
	comp=N,5µm,21.0s,MS6.0								
GYA					LR	LR			
	comp=E,3µm,20.6s,MS6.0								
GYA					LR	LR			
	comp=Z,4µm,23.0s,MS5.8								
ENH	**Enshi**	**91.80**	**304**		*e*P	**P**		**23 45 58.4**	**+0.6**
	comp=Z,511nm,1.6s,mb6.6								
LTX	**Lajitas**	**92.04**	**57**		*e*P	**P**		**23 45 58.8**	**-0.1**
LTX					pmax	pmax			
	comp=Z,95nm,1.5s,mb5.9								
LTX	**Lajitas**	**92.04**	**57**		*e*P	**P**		**23 45 58.8**	**-0.1**
	comp=Z,95nm,1.5s,mb5.9								
TXAR	**Lajitas Array**	**92.04**	**57**		P	**P**		**23 45 58.1**	**-0.8**
	comp=Z,34nm,1.2s,mb5.6,baz=214,slow=4.5,SNR=51								
TXAR					PKKPbc			00 03 17.0	
	comp=Z,1.3nm,0.8s,baz=90,slow=1.3,SNR=7.6								
TXAR					PKPPKP			00 11 27.2	
	comp=Z,1.1nm,1.0s,baz=51,slow=5.8,SNR=5.3								
TXAR					LR	LR		00 22 11.1	
	comp=Z,10µm,18.1s,MS6.3,baz=190,slow=32								
MNTX	**Cornudas Mount**	**92.14**	**54**		*e*P	**P**		**23 45 59.0**	**-0.3**
	comp=Z,48nm,1.3s,mb5.7								
PGC	**Sidney**	**92.26**	**33**		*e*P	**P**		**23 45 59.1**	**-0.4**
	comp=Z,201nm,1.4s,mb6.3								
DUG	**Dugway**	**92.31**	**44**		*e*P	**P**		**23 45 59.8**	**-0.1**
DUG					pmax	pmax			
	comp=Z,38nm,1.3s,mb5.6		

LPA eS S 23 57 13.0 +2.1
LPA eSCS ScS 23 57 17.0 +5.0
LPA eSP SP 23 58 31.0 +1.4
comp=Z,13µm,22.0s
CHG Chiang Mai 93.85 289 ⇑P **P 23 46 08.6 +1.2**
comp=Z,27nm,1.1s,mb5.6
HWUT Hardware Ranch 93.92 43 eP **P 23 46 06.9 -0.3**
comp=Z,64nm,1.4s,mb5.9
CPRX Cap Rock 93.94 54 eP **P 23 46 07.4 -0.1**
KMI Kunming 94.06 297 P **P 23 46 09.8 +1.6**
KMI AP pP 23 46 20.9 +1.6
KMI PP PP 23 49 58.8 +1.2
KMI PPP PPP 23 52 02.0 +1.3
KMI SKS SKS 23 56 44.2 +5.5
KMI S S 23 57 14.6 +1.4
KMI XS 23 57 34.7
KMI AMB AMB
comp=Z,10.0nm,1.2s,mb5.1
KMI AMB AMB
comp=Z,2µm,8.7s
KMI LR LR
comp=N,3µm,21.1s,MS6.1
KMI LR LR
comp=E,5µm,20.3s,MS6.1
KMI LR LR
comp=Z,7µm,21.6s,MS6.1
KMI Kunming 94.06 297 P **P 23 46 09.8 +1.6**
KMI *PP pP 23 46 20.9 +1.6
KMI *SP sP 23 46 27.7 +4.8
KMI 23 49 58.8
KMI PPP PPP 23 52 02.0 +1.3
KMI 23 56 44.2
KMI S S 23 57 14.6 +1.4
KMI SS SS 00 03 38.4 +0.6
KMI SSS SSS 00 07 22.4 +3.5
KMI pmax pmax
comp=Z,18nm,1.2s,mb5.4
KMI MLR MLR
comp=Z,7µm,21.6s,MS6.1
KMI Kunming 94.06 297 P **P 23 46 09.8 +1.6**
comp=Z,18nm,1.2s,mb5.4
KMI pP pP 23 46 20.9 +1.6
KMI sP sP 23 46 27.7 +4.8
KMI PP PP 23 49 58.8 +1.2
KMI PPP PPP 23 52 02.0 +1.3
KMI SKS SKS 23 56 44.2 +5.5
KMI S S 23 57 14.6 +1.4
KMI sS 23 57 34.7
KMI SS SS 00 03 38.4 +0.6
KMI SSS SSS 00 07 22.4 +3.5
KMI LR LR
comp=Z,7µm,21.6s,MS6.1
XAN Xi'an 94.30 307 P **P 23 46 09.1 0.0**
XAN AMB AMB
comp=Z,20nm,1.7s,mb5.3
XAN LR LR
comp=N,3µm,27.3s,MS6.0
XAN LR LR
comp=E,5µm,22.8s,MS6.0
XAN LR LR
comp=Z,7µm,27.4s,MS6.0
ARE Arequipa 95.12 112 eP **P 23 46 16.0 +2.7**
ARE e 23 56 50.0
ARE e 23 58 46.0
ARE e 00 16 42.0
RRI2 Red Ridge 95.12 42 eP **P 23 46 13.1 +0.4**
comp=Z,125nm,1.4s,mb6.2
MCMT McKenzie Canyo 95.16 40 eP **P 23 46 13.1 +0.3**
REDW Red Top Meadow 95.41 42 eP **P 23 46 13.8 -0.2**
comp=Z,148nm,1.4s,mb6.2
JCT Junction City 95.48 58 eP **P 23 46 14.3 -0.3**
JCT pmax pmax
comp=Z,55nm,1.5s,mb5.8
JCT Junction City 95.48 58 eP **P 23 46 14.3 -0.3**
comp=Z,55nm,1.5s,mb5.8
SNOW Snow King Moun 95.52 42 eP **P 23 46 14.9 +0.4**
comp=Z,62nm,1.0s,mb6.0
DLMT Dillon 95.63 40 eP **P 23 46 14.8 -0.1**
comp=Z,106nm,1.4s,mb6.1
LOHW Long Hollow 95.70 42 eP **P 23 46 15.0 -0.2**
comp=Z,95nm,1.4s,mb6.0
PDAR Pinedale Array 95.81 43 P **P 23 46 15.2 -0.6**
comp=Z,17nm,1.1s,mb5.4,baz=207,slow=3.3,SNR=36
PDAR PP PP 23 50 16.4 +6.2
comp=Z,2.5nm,1.1s,baz=225,slow=6.3,SNR=4.1
PDAR PKKP PKKP 00 03 07.3 +9.3
comp=Z,2.6nm,0.8s,baz=90,slow=3.0,SNR=9.1
PDAR LR LR 00 26 57.7
comp=Z,17µm,18.1s,MS6.6,baz=239,slow=34
TNA Tin City 95.81 4 eP **P 23 46 13.7 -1.6**
comp=Z,46nm,1.3s,mb5.8
SEY Seymchan 95.92 347 ⇑*i*P **P 23 46 13.2 -2.6**
SEY Seymchan 95.92 347 ⇑*i*P **P 23 46 13.3 -2.5**
QLMT Earthquake Lak 95.96 41 eP **P 23 46 17.3 +0.9**
YFT Old Faithful 96.07 41 eP **P 23 46 18.4 +1.5**
YMR Madison River 96.13 41 eP **P 23 46 17.9 +0.8**
comp=Z,136nm,1.4s,mb6.2
CHMT Chamberlain Mo 96.23 38 eP **P 23 46 16.8 -0.8**
CD2 Chengdu 96.30 302 ⇓*i*P **P 23 46 19.7 +1.4**
CD2 PP PP 23 50 18.8 +4.4
CD2 PPP PPP 23 52 19.2 -0.5
CD2 SKS SKS 23 56 55.3 +4.5
CD2 S S 23 57 33.1 +1.0
CD2 XS 23 57 52.6
CD2 AMB AMB
comp=Z,20nm,1.7s,mb5.3
CD2 AMB AMB
comp=Z,1µm,12.7s
CD2 LR LR
comp=N,2µm,19.2s
CD2 LR LR
comp=Z,3µm,22.2s,MS5.7
BOZ Bozeman (W) 96.34 40 eP **P 23 46 18.0 -0.1**
BOZ pmax pmax
comp=Z,85nm,1.3s,mb6.0
BOZ Bozeman (W) 96.34 40 eP **P 23 46 18.0 -0.1**
comp=Z,85nm,1.3s,mb6.0
HHC Hu-ho-hao-te 96.38 314 eP **P 23 46 18.4 0.0**
HHC AP pP 23 46 26.5 -3.0
HHC XP sP 23 46 29.7 -3.5
HHC PP PP 23 50 14.0 -0.8
HHC S S 23 57 31.6 -1.0
HHC XS 23 57 45.9
HHC AMB AMB
comp=Z,20nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,2µm,9.4s
HHC LR LR
comp=N,5µm,20.2s,MS6.0
HHC LR LR
comp=E,5µm,25.0s,MS6.0
HHC LR LR
comp=Z,11µm,23.8s,MS6.2
MCK McKinley 96.40 12 eP **P 23 46 17.4 -0.5**
MCK pmax pmax
comp=Z,9µm,1.2s
MCK McKinley 96.40 12 eP **P 23 46 17.4 -0.5**
comp=Z,9µm,1.2s
RWWY Rawlins 96.61 45 eP **P 23 46 18.8 -0.6**
comp=Z,88nm,1.4s,mb6.0
THY Trims Highway 96.74 14 eP **P 23 46 19.2 -0.3**
HIA Hailar 96.81 324 eP **P 23 46 19.3 -0.8**
HIA pmax pmax
comp=Z,64nm,1.4s
HIA Hailar 96.81 324 eP **P 23 46 19.3 -0.8**
comp=Z,64nm,1.4s,mb5.9
JTS JuntasAbangare 97.39 82 ⇑eP **P 23 46 21.8 -1.8**
GCMT Greycliff 97.53 41 eP **P 23 46 22.6 -0.9**
COLA College 97.64 12 eP **P 23 46 22.4 -1.1**
COLA pmax pmax
comp=Z,29nm,1.1s,mb5.7
COLA College 97.64 12 eP **P 23 46 22.4 -1.2**
comp=Z,28nm,1.1s,mb5.7
ILAR Eielson Array 97.72 13 P **P 23 46 22.2 -1.7**
comp=Z,6.0nm,1.0s,mb5.1,baz=223,slow=6.1,SNR=22
ILAR PP PP 23 50 26.6 +1.6
comp=Z,3.7nm,1.1s,baz=209,slow=7.4,SNR=5.3
ILAR PKKP PKKP 00 03 02.6 +8.6
comp=Z,1.4nm,0.9s,baz=332,slow=3.3,SNR=4.1
ILAR LR LR 00 31 04.8
comp=Z,4µm,18.4s,MS6.0,baz=335,slow=36
ILAR Eielson Array 97.72 13 P **P 23 46 22.3 -1.6**
ILAR 23 50 26.6
ILAR pmax pmax
comp=Z,6.0nm,1.0s
ILAR pmax pmax
comp=Z,4.0nm,1.1s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR MLR MLR
comp=Z,4µm,18.4s
IMA2 Indian Mountai 97.78 10 eP **P 23 46 24.2 0.0**
LPAZ La Paz 97.90 114 P **P 23 46 27.0 +1.2**
comp=Z,2.8nm,1.1s,baz=218,slow=3.5,SNR=6.6
LPAZ PP PP 23 50 31.4 +3.9
comp=Z,3.2nm,1.1s,baz=242,slow=6.9,SNR=4.4
LPAZ S SKS 23 57 05.0 +5.5
comp=Z,0.5nm,0.6s,baz=59,slow=19,SNR=1.8
LPAZ PKKPbc 00 03 00.5
comp=Z,1.1nm,0.6s,baz=29,slow=0.9,SNR=5.6
LPAZ LR LR 00 21 16.2
comp=Z,4µm,22.0s,MS5.8,baz=52,slow=30
LPAZ La Paz 97.90 114 P **P 23 46 27.0 +1.2**
LPAZ 23 50 31.4
LPAZ 23 57 05.0
LPAZ S
LPAZ pmax pmax
comp=Z,3.0nm,1.1s
LPAZ pmax pmax
comp=Z,3.0nm,1.2s
LPAZ smax
comp=N,1.0nm,0.6s
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 97.90 114 eP **P 23 46 27.7 +1.9**
comp=Z,20nm,1.4s,mb5.5
BILL Bilibino 98.75 354*c i*P **P 23 46 27.4 -1.1**
BILL *i* 23 46 34.7
BILL *e* 23 50 32.8
BILL *i* SS SS 00 04 40.9 -1.5
BILL pmax pmax
comp=Z,58nm,1.6s,mb5.9
BILL MLR MLR
comp=Z,18µm,20.0s,MS6.6
BILL Bilibino 98.75 354 eP **P 23 46 28.2 -0.3**
comp=Z,95nm,1.6s,mb6.1
LZH Lanzhou 98.91 307 eP **P 23 46 32.1 +2.1**
LZH PP PP 23 50 33.0 -1.3
LZH SKS SKS 23 57 09.2 +5.0
LZH S S 23 57 51.0 -3.0
LZH XS 23 58 16.1
LZH AMB AMB
comp=Z,140nm,1.6s,mb6.2
LZH AMB AMB
comp=Z,570nm,5.5s
LZH LR LR
comp=E,8µm,16.8s
LZH LR LR
comp=Z,13µm,18.1s,MS6.5
LZH Lanzhou 98.91 307 eP **P 23 46 32.1 +2.1**
LZH *PP pP 23 46 48.0 +6.9
LZH 23 50 33.0
LZH 23 57 09.2
LZH S S 23 57 51.0 -3.0
LZH PS PS 23 59 30.0 +0.8
LZH SS SS 00 04 44.0 -1.4
LZH pmax pmax
comp=Z,140nm,1.6s,mb6.2
LZH MLR MLR
comp=Z,13µm,18.1s,MS6.5
LZH Lanzhou 98.91 307 eP **P 23 46 32.1 +2.1**
comp=Z,140nm,1.6s,mb6.2
LZH pP pP 23 46 48.0 +6.9
LZH sP sP 23 46 57.9 +13
LZH PP PP 23 50 33.0 -1.3
LZH SKS SKS 23 57 09.2 +5.0
LZH S S 23 57 51.0 -3.0
LZH sS 23 58 16.1
LZH PS PS 23 59 30.0 +0.8
LZH SS SS 00 04 44.0 -1.4
LZH LR LR
comp=Z,13µm,18.1s,MS6.5
CPUP Villa Florida 99.81 128 eP **P 23 46 35.6 +1.3**
CPUP pmax pmax
comp=Z,48nm,1.5s
CPUP Villa Florida 99.81 128 ePdif **P 23 46 35.6 +1.3**
comp=Z,48nm,1.5s,mb5.7
RSSD Black Hills 99.89 45 eP **P 23 46 33.9 -0.4**
RSSD pmax pmax
comp=Z,49nm,1.1s,mb5.8
RSSD Black Hills 99.89 45 ePdif **P 23 46 33.9 -0.4**
comp=Z,49nm,1.1s,mb5.8
EDM Edmonton 100.07 33 eP P 23 46 33.3 -1.6
EDM *e* 23 50 35.8
YAK Yakutsk 101.25 338 eP P 23 46 38.7 -1.3
YAK eSS PP 23 50 49.7 -2.3
YAK pmax pmax
comp=Z,15nm,1.2s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.0s
SHL Shillong 102.83 292 ex x 23 50 13.0
ULN Ulaanbaatar 102.90 318 eP Pdif 23 46 47.8 +0.2
ULN pmax pmax
comp=Z,16nm,1.1s
ULN Ulaanbaatar 102.90 318 ePdif Pdif 23 46 47.8 +0.2
comp=Z,16nm,1.1s
SONM Songino Array 103.27 318 Pdiff Pdif 23 46 48.4 -0.8
comp=Z,3.1nm,1.1s,baz=141,slow=2.6,SNR=8.8
SONM PP PP 23 51 09.4 +2.0
comp=Z,2.2nm,1.0s,baz=127,slow=7.2,SNR=3.0
SONM PKKPbc 00 02 43.0
comp=Z,4.7nm,1.1s,baz=284,slow=2.8,SNR=7.9
SONM Songino Array 103.27 318 P Pdif 23 46 48.4 -0.8
SONM 23 51 09.4
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 103.57 15 PKKPbc 00 02 45.1
comp=Z,1.0nm,0.6s,baz=55,slow=8.2,SNR=3.6
CAL Calcutta 104.34 288 ex x 23 47 01.0
CAL ex x 23 51 02.5
BOD Bodaibo 104.66 329 eP Pdif 23 46 53.7 -1.4
BOD pmax pmax
comp=Z,10.0nm,1.6s
YKA Yellowknife Ar 105.18 25 Pdiff Pdif 23 46 56.7 -0.6
comp=Z,0.8nm,1.0s,baz=224,slow=3.2,SNR=6.1
YKA PP PP 23 51 08.8 -13
comp=Z,0.8nm,1.0s,baz=249,slow=6.5,SNR=3.8
YKA PKKPbc 00 02 37.4
comp=Z,2.5nm,0.9s,baz=38,slow=3.0,SNR=10
YKA PKPPKP 00 11 02.7
comp=Z,0.4nm,0.8s,baz=45,slow=6.0,SNR=4.0
LSA Lhasa 105.27 296 ePKIKP 23 51 14.7
ZAK Zakamensk 106.29 319 eP Pdif 23 47 08.3 +5.8
ZAK pmax pmax
comp=Z,4.0nm,1.1s
VIS Vishakhapatnam 106.35 281 ex x 23 51 34.3
VIS AMb AMB 23 51 35.4
comp=Z,22nm,1.0s
ULM Lac du Bonnet 107.74 42 PKKPbc 00 02 33.1
comp=Z,2.5nm,0.6s,baz=155,slow=1.5,SNR=7.9
TIXI Tiksi 108.23 344 eP Pdif 23 47 08.1 -2.4
TIXI *e* 23 57 45.2
TIXI ePS PS 00 00 53.1 -10
TIXI *e* 00 02 03.7
TIXI eSSS SSS 00 10 47.3 -10
TIXI pmax pmax
comp=Z,5.0nm,1.4s
TIXI pmax pmax
comp=N,2.0nm,1.6s
TIXI pmax pmax
comp=E,3.0nm,1.7s
TIXI pmax pmax
comp=Z,8.0nm,1.1s
TIXI MLR MLR
comp=N,4µm,18.0s,MS6.2
TIXI MLR MLR
comp=E,5µm,18.0s,MS6.2
TIXI MLR MLR
comp=Z,8µm,18.0s,MS6.3
HYB Hyderabad 110.28 279 *i* Pdiff Pdif 23 47 24.0 +3.2
HYB ePKP PKPdf 23 51 24.0 +3.4
HYB ePP PP 23 52 02.0 +1.7
HYB eSKS SKS 23 58 00.0 +3.7
HYB *e* 00 02 32.0
HYB Hyderabad 110.28 279 eP Pdif 23 47 24.0 +3.2
HYB *e* 23 58 00.0
HYB Hyderabad 110.28 279 ePdif Pdif 23 47 24.0 +3.2
HYB ePKP PKPdf 23 51 24.0 +3.4
HYB ePP PP 23 52 24.0 +24
HYB eSKS SKS 23 58 00.0 +3.7
HYB ePS PS 00 01 32.0 +7.9
BDFB Brasilia 113.39 126 PKKPbc 00 02 13.1
comp=Z,4.7nm,1.0s,baz=60,slow=1.9,SNR=4.4
POO Poona 114.79 278 eP PKPdf 23 51 26.1 -3.4
AGRA Agra 114.86 288 eP PKPdf 23 51 29.5 0.0
AGRA AMb AMB 23 51 34.6
comp=Z,48nm,0.7s
OPO Ambohidratompo 115.06 228 PKP PKPdf 23 51 32.9 +2.9
comp=Z,3.3nm,0.7s,baz=235,slow=0.8,SNR=8.1
BOM Bombay 115.84 278 ex x 23 52 35.3
BOM ex x 00 00 23.8
AYAN Aya Nagar 116.00 289 eP PKPdf 23 51 29.8 -1.9
AYAN AMb AMB 23 51 37.0
comp=Z,33nm,1.0s
NDI New Delhi 116.00 289 eP PKPdf 23 51 33.0 +1.4
KLP Kalpa 116.19 293 eP PKPdf 23 51 33.9 +1.9
KLP AMb AMB 23 51 38.2
comp=Z,88nm,1.1s
KUDL Kundal 116.39 289 eP PKPdf 23 51 31.5 -0.9
KUDL AMb AMB 23 51 36.5
comp=Z,44nm,1.4s
KKR Kurukshetra 116.78 291 eP PKPdf 23 51 33.6 +0.5
KKR AMb AMB 23 51 37.3
comp=Z,236nm,0.4s
KHET Khetri 116.93 288 eP PKPdf 23 51 32.7 -0.7
KHET AMb AMB 23 51 38.4
comp=Z,70nm,1.5s
RES Resolute Bay 117.02 17 ePKiKP 23 51 32.3
AJM Ajmer 117.30 286 eP PKPdf 23 51 33.0 -1.2
MKAR Makanchi Array 117.94 310 Pdiff Pdif 23 48 04.6 +11
comp=Z,1.0nm,0.7s,baz=83,slow=5.8,SNR=7.4
MKAR PKP PKPdf 23 51 35.6 +0.7
comp=Z,6.5nm,0.7s,baz=181,slow=0.6,SNR=40
MKAR PKKPbc 00 01 57.8
comp=Z,3.5nm,1.1s,baz=304,slow=4.4,SNR=6.8
MKAR Makanchi Array 117.94 310 P Pdif 23 48 04.6 +11
MKAR 23 51 35.6
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR pmax pmax
comp=Z,4.0nm,1.1s
MKAR Makanchi Array 117.94 310 PKP PKPdf 23 51 35.6 +0.7
MKAR PKKPbc 00 01 57.8
ZAL Zalesovo 118.16 318 PKP PKPdf 23 51 35.2 +0.1
comp=Z,2.9nm,0.6s
ZAL Zalesovo 118.16 318 PKIKP PKPdf 23 51 35.2 +0.1
ZAL pmax pmax
comp=Z,3.0nm,0.6s
NVS Novosibirsk 119.25 319 ePKIKP PKPdf 23 51 37.4 +0.1
NVS *e* 23 58 29.9
NVS eSS SS 00 09 26.6 +8.1
NVS pmax pmax
comp=Z,54nm,1.4s
NVS pmax pmax
comp=N,11nm,1.1s
NVS pmax pmax
comp=E,37nm,1.5s
NVS pmax pmax
comp=N,32nm,1.6s
NVS pmax pmax
comp=E,14nm,1.1s
KSH Kashi 120.46 301 PKP PKPdf 23 51 42.0 +1.9
KSH eSKS SKS 23 58 49.0 +15
KSH PP PP
comp=Z,600nm,6.0s
KSH LR LR
comp=N,3µm,17.6s,MS6.2
KSH LR LR
comp=E,5µm,21.4s,MS6.2
JASL Jaisalmer 120.58 285 eP PKPdf 23 51 41.1 +0.5
LBTB Lobatse 120.70 205 ePKIKP PKPdf 23 51 41.9 +1.1
KURK Kurchatov 121.20 314*d i*PKIKP PKPdf 23 51 39.5 -1.7
TKM2 Tokmak 2 121.59 304 P PKPdf 23 51 43.5 +1.4
SNR=11
KZA Kyzart 121.64 303 P PKPdf 23 51 42.0 -0.2
SNR=26
KBK Karagaybulak 121.99 304 P PKPdf 23 51 44.6 +1.7
SNR=14
UCH Uchtor 122.21 303 P PKPdf 23 51 45.8 +2.4
SNR=34
CHMS Chumysh 122.21 304 P PKPdf 23 51 44.7 +1.3
SNR=23
FRU Bishkek 122.27 304 ePKIKP PKPdf 23 51 44.0 +0.6
FRU *e* 23 53 20.0
FRU ePPP PPP 23 56 06.0 +6.1
FRU ePS PS 00 03 10.0 -4.2
FRU pmax pmax
comp=Z,180nm,1.9s
AAK Ala-Archa 122.31 304*c i*PKIKP PKPdf 23 51 43.3 -0.2
AAK MLR MLR
comp=Z,6µm,19.0s,MS6.3
AAK Ala-Archa 122.31 304 ⇑*i*PKP PKPdf 23 51 43.3 -0.2
USP Ospenovka 122.45 305 P PKPdf 23 51 45.2 +1.4
SNR=18
AML Almayashu 122.78 303 P PKPdf 23 51 46.7 +2.2
SNR=27
EKS2 Erkin-Say 122.83 304 P PKPdf 23 51 46.4 +1.8
SNR=13
SCHQ Schefferville 125.92 42 PKP PKPdf 23 51 50.3 +0.2
comp=Z,17nm,1.0s,baz=16,slow=4.4,SNR=4.8
SCHQ Schefferville 125.92 42 ePKPdf PKPdf 23 51 50.3 +0.2
BRVK Borovoye 126.61 316 ⇑*i*PKIKP PKPdf 23 51 51.6 +0.1
LSZ Lusaka 128.34 212 ePKIKP PKPdf 23 51 58.4 +2.6
TSUM Tsumeb 128.68 199 ePKPdf PKPdf 23 51 59.8 +3.4
TSUM ePP PP 23 54 05.5 -1.6
KBS Kingsbay 131.07 358 eP PKPdf 23 52 05.5 +6.0
KBS ePP PP 23 54 17.4 -3.9
KBS eSS SS 00 11 45.2 -1.3
KBS Kingsbay 131.07 358 ⇑*i*PKIKP PKPdf 23 51 59.0 -0.5
KBS Kingsbay 131.07 358 ⇑ePKP PKPdf 23 51 59.0 -0.5
SFJD Kangerlussuaq 131.74 25 *i* P PKPdf 23 51 55.4 -5.5
comp=Z,29nm,1.1s
SFJD *e* 23 54 08.8
SFJD Kangerlussuaq 131.74 25 ePKIKP PKPdf 23 51 55.4 -5.5
SFJD *i* 00 11 54.7
SFJD pmax pmax
comp=Z,29nm,1.1s
SFJD MLR MLR
comp=Z,10µm,21.0s,MS6.5
SVE Sverdlovsk 132.00 321 *i* PKIKP PKPdf 23 52 01.9 +0.2
SVE ePPP PPP 23 57 24.0 +5.6
DAG Danmarks Havn 132.38 6⇓*i*P PKPdf 23 52 01.6 -0.4
comp=Z,11nm,0.7s
DAG *i* 23 54 19.8
comp=Z,7µm,22.0s
DAG Danmarks Havn 132.38 6⇓ePKIKP PKPdf 23 52 01.6 -0.4
DAG pmax pmax
comp=Z,11nm,0.7s
DAG MLR MLR
comp=Z,7µm,22.0s,MS6.3
DAG MLR MLR
comp=N,8µm,23.0s
DAG Danmarks Havn 132.38 6⇓eP PKPdf 23 52 01.6 -0.4
DAG *i* 23 54 19.8
DAG LR LR
comp=Z,7µm,22.0s,MS6.3
ARU Arti 133.20 321 *i* PKIKP PKPdf 23 52 04.0 0.0
ARU *e* 23 54 27.6
ARU ePS PS 00 04 37.2 -11
ARU Arti 133.20 321 ⇑*i*PKP PKPdf 23 52 03.8 -0.2
SOKR Solikamsk 133.47 325*c i*PKIKP PKPdf 23 52 04.4 0.0
SOKR *i* 23 54 28.8
SOKR *i* PS PS 00 04 45.5 -4.5
SOKR SS SS 00 12 07.8 -8.6
SOKR SSS SSS 00 17 15.8 +1.1
SOKR MLR MLR
comp=Z,13µm,19.0s,MS6.7
KMBO Kilima Mbogo 134.42 233 PKhKP 23 52 06.5
comp=Z,5.3nm,1.0s,baz=65,slow=20,SNR=5.8
KMBO PP PP 23 54 42.1 -1.9
comp=Z,8.1nm,1.3s,baz=138,slow=4.9,SNR=4.6
KMBO SKPbc 23 55 40.8

comp=Z,17nm,1.1s,baz=78,slow=2.9,SNR=8.4
KMBO Kilima Mbogo 134.42 233 *i* PKIKP PKPdf 23 52 06.5 -0.9
KMBO 23 54 42.1
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO pmax pmax
comp=Z,8.0nm,1.3s
KMBO pmax pmax
comp=N,17nm,1.1s
BJO Bjornoya 134.89 354 *e*P PKPdf 23 52 09.3 +2.6
BJO *e*PP PP 23 54 41.0 -4.2
BJO *e*SS SS 00 12 30.8 -2.1
BJO1 Bjornoya 134.91 354 *e*P PKPdf 23 52 09.3 +2.6
BJO1 *e*PP PP 23 54 41.0 -4.3
BJO1 *e*SS SS 00 12 30.8 -2.4
LVZ Lovozero 137.82 342 *i* PKIKP PKPdf 23 52 14.4 +2.2
LVZ *i* 23 54 58.8
LVZ *i* PPP PPP 23 58 07.7 +2.9
LVZ pmax pmax
comp=Z,56nm,1.5s
LVZ pmax pmax
comp=N,13nm,1.6s
LVZ pmax pmax
comp=E,11nm,1.1s
LVZ MLR MLR
comp=Z,7μm,25.0s,MS6.3
LVZ MLR MLR
comp=N,3μm,24.0s,MS6.2
LVZ MLR MLR
comp=E,5μm,23.0s,MS6.2
HASS Wahat al Ahsa' 138.05 275 P PKPdf 23 52 15.8 +2.0
KEV Kevo 138.07 347 *e*PKP PKPdf 23 52 08.4 -4.2
KEV *e*PKPdf PKPdf 23 52 13.7 +1.1
APA Apatity 138.39 343⇓ *i* PKIKP PKPdf 23 52 17.0 +3.8
APA *e* 23 55 00.0
APA pmax pmax
comp=Z,52nm,1.3s
APA pmax pmax
comp=Z,2μm,12.0s
ARCES ARCESS Array B 138.53 348 PKhKP 23 52 06.8
comp=Z,7.8nm,0.6s,baz=45,slow=1.7,SNR=20
ARCES PKP PKPdf 23 52 14.0 +0.6
comp=Z,20nm,0.6s,baz=27,slow=2.0,SNR=16
ARCES ARCESS Array B 138.53 348 *i* PKHKP 23 52 06.8
ARCES 23 52 14.0
ARCES pmax pmax
comp=Z,8.0nm,0.6s
ARCES pmax pmax
comp=Z,20nm,0.6s
ARCES ARCESS Array B 138.53 348 PKP PKPdf 23 52 14.0 +0.6
ARE0 ARCESS Array S 138.53 348 *e*PKPpre 23 52 07.4
JMIC Jan Mayen 138.79 5 *e*SS SS 00 13 18.5 -0.1
JMIC AMS AMS 00 50 26.4
comp=Z,4μm,18.7s,MS6.2
KTK1 Kautokeino 139.30 349 *e*P PKPdf 23 52 09.5 -5.5
KTK1 AMb AMB 23 52 18.8
comp=Z,100nm,1.6s
TRO Tromso 139.48 351 *e*P PKPdf 23 52 11.0 -4.1
TRO AMb AMB 23 52 19.3
comp=Z,74nm,1.3s
TRO *e*PP PP 23 55 09.5 -4.3
TRO *e*SS SS 00 13 18.9 -7.7
RYDS Riyadh 140.37 272 P PKPdf 23 52 21.4 +3.4
DJNS Zahran al Janu 140.58 261 P PKPdf 23 52 22.1 +3.5
KLMR Klimovskoe 140.80 332 *d* PKHKP 23 52 11.1
KLMR *i* SS SS 00 13 46.7 +4.1
KLMR pmax pmax
comp=Z,90nm,1.2s
KBD Kabd 140.83 280 *e*P PKPdf 23 52 16.4 -2.4
KBD AMb AMB 23 52 25.4
comp=Z,600nm,1.2s
UMR Umm Al-Rimmam 140.90 281 *e*P PKPdf 23 52 15.5 -3.4
UMR AMb AMB 23 52 26.8
comp=Z,219nm,1.1s
RDF Al-Radifah 140.90 280 *e*P PKPdf 23 52 15.6 -3.3
RDF AMb AMB 23 52 27.1
comp=Z,491nm,1.6s
PECR Pechory 140.93 324 *e*PKHKP 23 52 11.0
PECR *i* 23 55 15.3
PECR *e* 23 58 34.0
PECR pmax pmax
comp=Z,230nm,2.0s
PECR pmax pmax
comp=Z,2μm,11.0s
PECR MLR MLR
comp=N,4μm,20.0s,MS6.3
PECR MLR MLR
comp=Z,4μm,20.0s,MS6.2
PECR MLR MLR
comp=E,2μm,19.0s,MS6.3
NAY Al-Naaiem 141.23 280 *e*P PKPdf 23 52 16.1 -3.3
NAY AMb AMB 23 52 27.4
comp=Z,76nm,1.6s
MIB Mutribah 141.27 281 *e*P PKPdf 23 52 15.5 -3.9
TATS Tathlith 141.41 264 P PKPdf 23 52 21.1 +1.2
MZLS Mizel 141.56 271 P PKPdf 23 52 20.4 +0.3
MAK Makhachkala 142.06 302 *d* PKIKP PKPdf 23 52 18.2 -2.2
MAK *i* 23 55 24.4
MAK *i* PPP PPP 23 58 31.8 -7.4
MAK pmax pmax
comp=Z,476nm,1.3s
MAK pmax pmax
comp=Z,4μm,6.7s
JOF Joensuu 142.42 339 *e*pkp PKPdf 23 52 15.8 -4.5
BLJS Baljurashi 143.16 263 P PKPbc 23 52 26.5 +5.5
MOR8 Moi Rana 143.32 352 *e*P PKPbc 23 52 19.6 -0.5
MOR8 AMb AMB 23 52 27.8
comp=Z,62nm,1.6s
AFFS 'Afif 143.44 270 P PKPbc 23 52 26.2 +4.4
DGRG David-gareji 143.75 300 P PKPbc 23 52 21.5 -0.7
DGRG S 23 56 06.2
SAMG Sameba 144.15 300 P PKPbc 23 52 22.5 -0.8
MTA Mtatsminda 144.17 300 P PKPbc 23 52 19.8 -3.6
TI2 Plekhanov 144.19 300⇑ PKIKP PKPdf 23 52 23.2 -0.9
TI2 *i* 23 52 30.0
TI2 pmax pmax
comp=Z,60nm,0.8s
TI2 pmax pmax
comp=Z,4μm,5.0s
TI2 pmax pmax
comp=Z,10μm,5.0s
TBLG Delisi 144.20 300 P PKPbc 23 52 21.4 -2.0
GNI Garni 144.30 298 *c* PKIKP PKPdf 23 52 25.5 +1.2
GNI MLR MLR
comp=Z,3μm,19.0s
GNI Garni 144.30 298 *e*PKPpre 23 52 24.3
BHD Baghdad 144.34 286 *i* x x 23 52 23.0
BHD *i* 23 52 34.0
BHD *i* x x 23 55 36.0
BHD *i* x x 23 55 52.0
LTHS Al Lith 144.34 263 P PKPbc 23 52 27.4 +2.8
MOS Moscow 144.41 326 α *i* PKIKP PKPdf 23 52 22.8 -1.2
MOS *i* 23 55 37.2
MOS *e*PPP PPP 23 58 53.3 -4.3
MOS pmax pmax
comp=Z,1μm,1.6s
MOS pmax pmax
comp=Z,703nm,1.6s
MOS MLR MLR
comp=N,2μm,20.8s,MS6.0
MOS MLR MLR
comp=E,2μm,20.8s,MS6.0
MOS MLR MLR
comp=Z,6μm,20.8s,MS6.4
KAF Kangasniemi 144.53 341 *e*pkp PKPdf 23 52 21.5 -2.5
baz=30,slow=3.1
CLDR Caldiran 144.98 296 *e*P PKPdf 23 52 25.7 +0.1
GOF Gofitskoye 144.99 306 *e*PKHKP 23 52 23.4
GOF pmax pmax
comp=Z,236nm,0.7s
PUL Pulkovo 145.02 336 *i* PKIKP PKPdf 23 52 25.4 +0.4
PUL pmax pmax
comp=Z,2μm,1.8s
PUL pmax pmax
comp=N,2μm,1.9s
PUL pmax pmax
comp=E,2μm,1.7s
PUL pmax pmax
comp=Z,1μm,1.7s
PUL pmax pmax
comp=N,1μm,1.5s
PUL pmax pmax
comp=E,2μm,1.6s
PUL MLR MLR
comp=Z,9μm,22.0s,MS6.5
PUL MLR MLR
comp=N,5μm,23.0s,MS6.4
PUL MLR MLR
comp=E,7μm,23.0s,MS6.4
PUL Pulkovo 145.02 336⇑ *i* PKP PKPdf 23 52 25.6 +0.6
ONI Oni 145.07 302 P PKPdf 23 52 26.9 +1.3
HKR Hakkari 145.13 293 *e*P PKPdf 23 52 26.9 +1.0
FINES FINESS Array B 145.13 340 PKP PKPdf 23 52 24.6 -0.6
comp=E,144nm,0.6s,baz=55,slow=3.1,SNR=155
FINES FINESS Array B 145.13 340 PKIKP PKPdf 23 52 24.6 -0.5
FINES pmax pmax
comp=Z,144nm,0.6s
HAKT HAKKARI 145.16 293 *i* P PKPdf 23 52 26.1 +0.2
AKH Akhalkalaki 145.16 300 P PKPdf 23 52 27.3 +1.5
NSS Namsos 145.19 353⇑ *i*P PKPdf 23 52 23.2 -1.9
NSS AMb AMB 23 52 28.5
comp=Z,961nm,2.1s
OBN Obninsk 145.25 326 *c* *i* PKIKP PKPdf 23 52 25.5 0.0
OBN *i* 23 52 36.7
OBN *i* 23 55 53.1
OBN *i* SS SS 00 14 37.3 +3.4
OBN pmax pmax
comp=Z,2μm,1.5s
OBN Obninsk 145.25 326⇑ *i*PKP PKPdf 23 52 25.6 +0.1
OBN LR LR
comp=Z,6μm,20.0s,MS6.4
DIGO Kars 145.33 298 *i* P PKPdf 23 52 23.8 -2.4
TVAN Van 145.39 295 *i* P PKPdf 23 52 27.1 +0.9
VANB Van 145.40 295 *e*P PKPdf 23 52 27.6 +1.3
VANT Van 145.41 295 *e*P PKPdf 23 52 28.8 +2.5
KIV Kislovodsk 145.43 305 *e*PKHKP 23 52 22.3
KIV *i* 23 52 27.1
KIV *e*SS SS 00 14 34.8 -1.4
KIV *e*SSS SSS 00 20 00.2 -5.3
KIV pmax pmax
comp=Z,239nm,1.1s
KIV Kislovodsk 145.43 305⇑ *i*PKP PKPdf 23 52 27.5 +1.3
VOR Voronezh 145.43 319 *e*PKIKP PKPdf 23 52 26.5 +0.6
VOR *e* 23 52 41.5
VOR pmax pmax
comp=N,500nm,1.6s
VOR pmax pmax
comp=E,400nm,1.6s
VOR pmax pmax
comp=Z,1μm,1.6s
HILS Ha'il 145.47 275 P PKPdf 23 52 29.1 +2.3
KARS Kars 145.53 299 *e*P PKPdf 23 52 28.6 +2.2
MSL Mosul 145.63 291 *i* x x 23 52 28.0
MSL *e* 23 52 39.0
MSL *ex* x 23 56 07.0
VRSR Storozhevoye 145.65 318 *e*PKIKP PKPdf 23 52 26.7 +0.4
VRSR pmax pmax
comp=N,20nm,1.2s
VRSR pmax pmax
comp=Z,110nm,1.2s
VRSR pmax pmax
comp=E,40nm,1.0s
ARTV Artvin 146.36 300 *i* P PKPdf 23 52 22.8 -5.0
ERZM Erzurum 146.91 298 *i* P PKPdf 23 52 29.9 +1.1
BTMT Batmun 146.91 294 *e*P PKPdf 23 52 30.9 +2.0
EZM Erzurum 146.91 298 *e*P PKPdf 23 52 31.8 +3.0
BEST Besiri 147.09 294 *i* P PKPdf 23 52 30.3 +1.2
KBRS Khaybar 147.23 271 P PKPdf 23 52 32.9 +3.1
VSU Vasula 147.24 336 *c* *i* PKP2 PKPab 23 52 32.0 -2.9
MARD Mardin 147.49 293 *i* P PKPdf 23 52 30.3 +0.5
MOL Molde 147.51 356 *e*P PKPdf 23 52 39.2 +10
MOL AMb AMB 23 52 44.9
comp=Z,608nm,1.6s
SOC Sochi 147.61 305 *c* *i* PKIKP PKPdf 23 52 30.2 +0.4
SOC *e*SS SS 00 14 55.5 -5.7
SOC pmax pmax
comp=Z,457nm,1.7s
SOC Sochi 147.61 305⇑ *i*P PKPdf 23 52 28.9 -0.9
YNBS Yanbu' al Bahr 147.90 268 P PKPdf 23 52 33.7 +2.8
DIY Diyarbakir 147.91 294 *e*P PKPdf 23 52 33.6 +3.1
DOMB Dombas 147.92 354 *e*P PKPdf 23 52 33.0 +3.3
DOMB AMb AMB 23 52 39.7
comp=Z,360nm,1.5s
MACK Trabzon 148.01 300 *i* P PKPdf 23 52 30.1 -0.4
GUMT Gumushane 148.29 299 *e*P PKPdf 23 52 33.9 +2.8
KELT Kelkit 148.49 298 *i* P PKPdf 23 52 31.4 +0.1
PTK Pertek 148.51 296 *e*P PKPdf 23 52 31.2 -0.2
FOO Floro 148.62 358 *e*P PKPdf 23 52 35.7 +4.8
FOO AMb AMB 23 52 39.2
comp=Z,326nm,1.7s
NB2 NORSAR Subarra 148.67 352 PKPabc PKPdf 23 52 35.5 +4.5
comp=Z,36nm,0.7s,baz=16,slow=3.1
NB2 NORSAR Subarra 148.67 352 PKPa 23 52 35.5
baz=16,slow=3.2
NOA NORSAR Array B 148.67 352 PKP PKPdf 23 52 32.3 +1.3
comp=Z,111nm,1.0s,baz=15,slow=4.4,SNR=53
NOA PKPbc PKPdf 23 52 35.6 +4.7
comp=Z,81nm,0.8s,baz=13,slow=4.4,SNR=77
NOA NORSAR Array B 148.67 352 PKIKP PKPdf 23 52 32.3 +1.3
NOA pmax pmax
comp=Z,111nm,1.0s
NOA pmax pmax
comp=Z,81nm,0.8s
UMJS Umm Lajj 148.76 269 P PKPdf 23 52 35.2 +2.9
ELZG Elazig 148.86 295 *i* P PKPdf 23 52 37.5 +5.5
NAO01 NORSAR Array S 148.90 352 *e*PKPdf PKPdf 23 52 33.0 +1.6
ANN Anapa 148.92 308 *i* PKHKP 23 52 31.8
ANN pmax pmax
comp=Z,532nm,1.6s
ANN Anapa 148.92 308 *e*P PKPdf 23 52 32.3 +0.4
URFA Urfa 149.05 293 *e*P PKPdf 23 52 31.8 -0.5
GRSN GIRESUNGRSN 149.14 300 *i* P PKPdf 23 52 36.2 +3.8
IZAR Zarasai 149.43 333 *i* P PKPdf 23 52 38.5 +6.1
IZAR AMb AMB 23 52 42.0
comp=Z,119nm,1.7s
ATAB Bozova 149.46 293 *i* P PKPdf 23 52 31.9 -1.1
IDID Didziasalis 149.55 332 *i* P PKPdf 23 52 38.5 +5.9
IDID AMb AMB 23 52 41.4
comp=Z,75nm,1.2s
ISAL Salakas 149.61 333 *e*P PKPdf 23 52 38.7 +6.0
ISAL AMb AMB 23 52 41.6
comp=Z,81nm,1.3s
MNK Minsk 149.66 330 *e*PKIKP PKPdf 23 52 32.0 -0.8
IIGN Ignalina 149.73 333 *e*P PKPdf 23 52 38.9 +6.1
IIGN AMb AMB 23 52 41.9
comp=Z,96nm,1.1s
RUND Rundenannen 149.79 357 *e*P PKPdf 23 52 38.6 +5.8
RUND AMb AMB 23 52 42.5
comp=Z,279nm,1.4s
OSL Oslo 149.80 352 *e*P PKPdf 23 52 38.4 +5.6
BER Bergen 149.82 357⇑ *i*P PKPdf 23 52 38.4 +5.6
BER *e*P 23 52 38.9
BER AMb AMB 23 52 52.7
comp=Z,395nm,1.6s
BER AMb AMB 23 52 53.3
comp=Z,366nm,1.4s
BER *e*PP PP 23 56 12.4 -2.6
BER *e*SS SS 00 15 28.2 +3.2
BER Bergen 149.82 357 *e*P PKPdf 23 52 38.9 +6.1
BER *e*PP PP 23 56 12.4 -2.6
BER *e*SS SS 00 15 28.2 +3.2
EGD Espegrend 149.94 357 *e*P PKPdf 23 52 39.0 +6.0
QURS Qurayyt al Mil 150.05 281 P PKPdf 23 52 36.2 +2.1
GZT Gaziantep 150.05 293 *i* P PKPdf 23 52 35.0 +1.1
TBKS Tabuk 150.18 275 P PKPdf 23 52 36.9 +2.5
KONO Kongsberg 150.22 353 *e*P PKPdf 23 52 39.3 +5.8
KONO *e*PP PP 23 56 15.7 -1.7
KONO *e*SS SS 00 15 28.9 -0.5
KONO Kongsberg 150.22 353 PKHKP 23 52 35.6
KONO Kongsberg 150.22 353 *e*P PKPdf 23 52 35.8 +2.3
SVST Sivas 150.30 298 *i* P PKPdf 23 52 42.0 +7.7
GAZ Gaziantep 150.34 293 *e*P PKPdf 23 52 41.1 +6.7
KAHT Ahir Dag 150.58 294 *i* P PKPdf 23 52 42.5 +7.8
BLS5 Blasjo 150.72 356 *e*P PKPdf 23 52 42.0 +7.7
BLS5 AMb AMB 23 52 45.9
comp=Z,142nm,1.4s
FKH Fakeheh 151.04 287 *e*P PKPdf 23 52 44.0 +8.5
SIM Simferopol' 151.12 309⇑ *e*PKIKP PKPdf 23 52 36.3 +1.0
SIM *e* 23 56 23.5
SIM pmax pmax
comp=Z,3μm,20.6s
COBT Iskenderun 151.14 292 *i* P PKPdf 23 52 42.0 +6.4
STAV Stavanger 151.25 356 *e*P PKPdf 23 52 42.4 +7.4
STAV AMb AMB 23 52 53.1
comp=Z,435nm,1.7s
HTY Hatay 151.25 291 *e*P PKPdf 23 52 42.8 +7.0
BNN Bunyan 151.27 296 *e*P PKPdf 23 52 42.1 +6.3
AYUS 'Aynunah 151.28 274 P PKPdf 23 52 38.0 +1.9
AKASG Malin Array Be 151.40 323 PKP PKPdf 23 52 35.4 -0.1
comp=Z,8.4nm,0.9s,baz=40,slow=1.1,SNR=25
AKASG PKPbc PKPdf 23 52 41.9 +6.4
comp=Z,113nm,0.8s,baz=49,slow=2.9,SNR=91
AKASG Malin Array Be 151.40 323 PKIKP PKPdf 23 52 35.4 -0.1
AKASG 23 52 41.9
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKASG pmax pmax
comp=Z,113nm,0.9s
KOZT Kozan 151.42 294 *e*P PKPdf 23 52 43.3 +7.3
BDAS Al Bad' 151.47 275 P PKPdf 23 52 38.2 +1.9
CEYT Ceyhan 151.52 293 *e*P PKPdf 23 52 43.3 +7.1
BOYT Boyabat 151.54 302 *i* P PKPdf 23 52 35.5 -0.5
JMOS Jabal al Moall 151.61 276 P PKPdf 23 52 39.2 +2.7
KSDI Kefar Szold 151.61 285 P PKPdf 23 52 38.8 +2.4
BYBT Boyabat 151.63 302 *e*P PKPdf 23 52 45.0 +8.8
BHL Bhannes 151.65 286 *e*P PKPdf 23 52 37.1 +0.7
ALWS Ilw as Safayha 151.67 276 P PKPdf 23 52 39.0 +2.4
MZDA Masada 151.70 281 P PKPdf 23 52 38.8 +2.2
SNART Snartemo 151.74 355 *e*P PKPdf 23 52 43.7 +7.9
SNART AMb AMB 23 52 47.1
comp=Z,293nm,1.5s
HAQS Haql 151.74 276 P PKPdf 23 52 38.9 +2.2
AQBJ Aqaba 151.75 277 P PKPdf 23 52 39.0 +2.3
MMLI Mount Malkishu 151.76 283 P PKPdf 23 52 39.4 +2.7
ZFRI Zfri 151.77 279 P PKPdf 23 52 39.0 +2.3
CTKT Corum 151.79 300 *i* P PKPdf 23 52 40.3 +3.9
HRFI Mount Harif 151.81 278 P PKPdf 23 52 35.0 -1.8
MMA0 Mount Meron ar 151.82 284 P PKPdf 23 52 41.3 +4.6
MMA3 Mount Meron ar 151.82 284 P PKPdf 23 52 41.1 +4.4
EIL Elat 151.83 277 P PKPdf 23 52 39.2 +2.4
MBH Mount Berech 151.88 277 P PKPdf 23 52 39.4 +2.5
SUW Suwalki 151.91 334⇈ *e*PKPb 23 52 37.0
SUW *e*PKiKP 23 52 44.2
SUW *e*pPKP 23 52 48.1
SUW *e*PP PP 23 56 21.2 -5.7
CORM Corum 151.99 299 *e*P PKPdf 23 52 44.2 +7.4
HNTI Hanita 152.01 284 P PKPdf 23 52 39.3 +2.3
AVNI Avonos 152.04 296 *i* P PKPdf 23 52 44.6 +7.7
KARA Karaisali 152.05 293 *e*P PKPdf 23 52 36.1 -0.8
OFRI 'Ofer 152.14 283 P PKPdf 23 52 39.5 +2.3
MASH Mash'abbe Sade 152.16 280 P PKPdf 23 52 39.7 +2.4
TOS Tosya 152.27 301 *e*P PKPdf 23 52 44.5 +7.3
NIG Nigde 152.32 295 *e*P PKPdf 23 52 44.4 +7.1
KZIT Kziot 152.48 280 P PKPdf 23 52 40.5 +2.8
MERS Mersin 152.51 292 *e*P PKPdf 23 52 39.6 +2.0
BALT Daday 152.62 303 *i* P PKPdf 23 52 44.5 +6.9
CANT Cankiri 152.67 301 *e*P PKPdf 23 52 47.0 +9.3
BR131 Keskin Array S 152.83 299 *e*PKPdf PKPdf 23 52 39.7 +1.8
BR131 *e*PKPbc PKPdf 23 52 46.5 +8.5
BRTR Keskin Array B 152.83 299 PKP PKPdf 23 52 39.1 +1.1
comp=Z,2.1nm,0.9s,baz=135,slow=1.7,SNR=15
BRTR PKPbc PKPdf 23 52 46.4 +8.4
comp=Z,73nm,1.2s,baz=124,slow=1.5,SNR=75
MEST Erdemli 152.83 292 *i* P PKPdf 23 52 46.8 +8.7
KAMT Kaman 152.83 298 *e*P PKPdf 23 52 44.2 +6.2
ELDT Eldivan 152.83 301 *i* P PKPdf 23 52 46.0 +8.1
PHNC Paralimni 153.00 288 P PKPdf 23 52 47.8 +9.5
comp=Z,6.0nm,1.2s
EDR Drumtochty 153.14 6 *e*P PKPdf 23 52 46.9 +9.1
SAFT Safranbolu 153.21 302 *e*P PKPdf 23 52 45.7 +7.3
IKL Isikli 153.23 291 *e*P PKPdf 23 52 46.0 +7.4
MUD Monsted U'grnd 153.39 352 *i* P PKPdf 23 52 44.8 +6.6
comp=Z,162nm,1.3s
MUD *i* 23 53 08.7
MUD *e* 23 56 11.5
MUD *e* 00 03 36.6
MUD *i* 00 06 52.0
MUD *i* 00 16 10.1
comp=Z,5μm,22.0s
ANTO Ankara 153.44 299 *e*P PKPdf 23 52 38.0 -0.8
ANTO Ankara 153.44 299⇑ *i*P PKPdf 23 52 39.0 +0.2
LOD Lodumlu 153.46 299 *e*P PKPdf 23 52 48.0 +9.2
CSS Prodhromos 153.57 288⇓ *i*P PKPdf 23 52 49.3 +10
comp=Z,3.3nm,1.3s
CSS Prodhromos 153.57 288 *e*PKPbc PKPdf 23 52 48.9 +10
BSD Bornholm Skovb 153.60 344 *i* P PKPdf 23 52 38.8 +0.3
BSD *e* 23 52 46.1
BSD *i* 23 56 26.5
BSD *i* 00 03 23.0
BSD *i* 00 11 46.0
BSD *i* 00 16 12.3
BSD *i* 00 22 24.6
comp=Z,6μm,20.0s
COP Copenhagen 153.61 347 *i* P PKPdf 23 52 36.8 -1.7
COP Copenhagen 153.61 347 *i* P PKPdf 23 52 49.3 +11
comp=Z,49nm,0.7s
COP *i* 23 56 20.1
KIS Kishinev 153.62 317 *i* PKIKP PKPdf 23 52 38.0 -0.8
KIS *i* 23 52 49.0
KIS *e* 23 56 32.0
KIS *e* 00 00 05.0
EAB Aberfoyle 153.66 8 *e*P PKPdf 23 52 47.9 +9.3
EAB AMb AMB 23 52 50.1
comp=Z,159nm,1.4s
MAMC Mammari 153.66 289⇓ *i*P PKPdf 23 52 49.8 +11
ERMK Ermenek 153.82 292 *i* P PKPdf 23 52 30.5 -8.9
SGKT Sivrigoynuk 153.83 301 *i* P PKPdf 23 52 38.4 -0.9
SZAC Souni-Zanaja 153.95 288 P PKPdf 23 52 50.2 +11
EDI Edinburgh 154.06 7 *e*P PKPdf 23 52 50.4 +11
EDI AMb AMB 23 52 56.6
comp=Z,127nm,1.7s
EAU Auchinoon 154.10 8 *e*P PKPdf 23 52 49.4 +10
EAU AMb AMB 23 52 52.9
comp=Z,253nm,1.4s
WAR Warsaw 154.10 333 *e*PKP PKPdf 23 52 47.6 +8.3
WAR *e*PKiKP 23 52 53.2
ALFC Alevga 154.17 289 P PKPdf 23 52 50.1 +10
KDHN Kadinhani 154.20 297 *i* P PKPdf 23 52 41.0 +1.1
EBL Broad Law 154.22 7 *e*P PKPdf 23 52 50.1 +11
EBL AMb AMB 23 52 54.0
comp=Z,116nm,1.7s
ADH Angra Heroismo 154.27 63 *e*LR LR 00 45 22.5
PPCY Paphos 154.38 288⇓ P PKPdf 23 52 50.4 +10
MDU Mudurnu 154.48 301 *e*P PKPdf 23 52 48.0 +7.9
HENT Hendek 154.62 302 *i* P PKPdf 23 52 40.5 +0.1
ESKT Eskisehir 154.98 299 *e*P PKPdf 23 52 41.0 +0.1
ESKT Eskisehir 154.98 299 *i* P PKPdf 23 52 40.1 -0.8
TIRR Tirgusor 155.06 312⇑ P PKPdf 23 52 40.7 -0.1
TIRR Tirgusor 155.06 312⇑ P PKPdf 23 52 40.7 -0.1
TIRR *e*PKPdf PKPdf 23 52 45.7 +4.9
KWP Kalwaria 155.31 327 *e*PKPdf 23 52 42.1
*e*PKPab PKPab 23 53 07.7 -1.0
KWP Kalwaria 155.31 327 *e*PKPdf PKPdf 23 52 42.3 +1.3
KWP *e*PKPbc PKPdf 23 52 52.2 +11
KWP *e*PKPab PKPab 23 53 08.2 -0.5
BURAR Bucovina Array 155.34 321⇑ P PKPdf 23 52 42.7 +1.6
BURAR Bucovina Array 155.34 321⇑ P PKPdf 23 52 42.7 +1.7
VRI Vrincioaia 155.44 316⇓ P PKPdf 23 52 41.3 0.0
VRI Vrincioaia 155.44 316⇓ P PKPdf 23 52 41.3 0.0
DBIC Dimbokro 155.56 162 PKP PKPdf 23 52 43.5 +1.1
comp=Z,26nm,1.2s,baz=122,slow=0.7,SNR=8.1
DBIC Dimbokro 155.56 162 *e*PKIKP PKPdf 23 52 45.0 +2.6
DBIC *e* 23 52 54.9
ISP Isparta 155.56 296⇈ *e*PKIKP PKPdf 23 52 50.0 +8.3
ISP Isparta 155.56 296 *e*PKPbc PKPdf 23 52 53.2 +12
ISP *e*PKPab PKPab 23 53 09.6 -0.6
PDA Ponta Delgada 155.65 65 *e*LR LR 00 47 05.0
PDA Ponta Delgada 155.65 65 *e*PKP PKPdf 23 52 36.0 -5.8
BSEG Bad Segeberg 155.66 349 *e*PKPdf PKPdf 23 52 42.2 +0.9
BSEG *e*PKPab PKPab 23 53 09.0 -1.1
BSEG *e*PP PP 23 56 40.2 -8.1
TKTP Tekketepe 155.68 296 *i* P PKPdf 23 52 41.6 -0.2
KOLS Kolonicke sedl 155.99 327 *e*PKP PKPdf 23 52 44.0 +2.1
KOLS *e* 23 53 11.5
KOLS *e* 23 53 21.8
ULDT Uludag 156.10 302 *i* P PKPdf 23 52 39.7 -2.6
MLR Muntele Rosu 156.10 316⇑ P PKPdf 23 52 41.8 -0.3
GDZ Gediz 156.11 299 *i* P PKPdf 23 52 40.1 -2.3
STHS Stebnicka Huta 156.13 329 *e*PKP PKPdf 23 52 44.0 +2.0
STHS *e* 23 53 12.1
STHS *e* 23 53 20.9
OJC Ojcow 156.16 332 *e*PKPdf PKPdf 23 52 42.4 +0.4
OJC *e* 23 53 11.1
OJC *i* PP PP 23 56 40.6 -11
OJC *e*SKSdf 23 59 48.3
OJC *i* SKSP 00 07 00.4
OJC *e*SS SS 00 16 21.2 -14
OJC MLR MLR 01 04 50.9
comp=Z,11μm,21.5s,MS6.7

OJC	**Ojcow**	**156.16**	**332**	*e*PKIKP	PKPdf	23 52 42.4	+0.4
OJC				*e*		23 53 11.1	
OJC				*e*		23 59 48.3	
RUE	**Ruedersdorf**	**156.28**	**343**	*e*PKPdf	PKPdf	23 52 44.1	+2.0
RUE				*e*PKPab	PKPab	23 53 10.8	-2.0
ELBA	**Catalca**	**156.31**	**304**	*i* P	PKPdf	23 52 41.0	-1.5
CRVS	**Cervenica-Dubn**	**156.40**	**327**	*e*PKP	PKPdf	23 52 43.9	+1.5
CRVS				*e*		23 53 12.7	
CRVS				*e*PP	PP	23 56 48.7	-3.8
CRVS	**Cervenica-Dubn**	**156.40**	**327**	*e*PKIKP	PKPdf	23 52 43.9	+1.5
CRVS				*e*		23 56 48.7	
GOLH	**Golhisar**	**156.41**	**294**	*i* P	PKPdf	23 52 38.1	-4.7
AKAS	**Kas**	**156.51**	**292**	*i* P	PKPdf	23 52 41.9	-1.1
LHO	**Holmfirth**	**156.54**	**6**	*e*P	PKPdf	23 52 54.0	+12
NIE	**Niedzica**	**156.54**	**330**	*e*PKP	PKPdf	23 52 45.0	+2.4
NIE				*e*		23 53 13.5	
VOIR		**156.67**	**317**	⇓P	PKPdf	23 52 43.5	+0.6
DNZL	**Cakiroluk**	**156.73**	**296**	*i* P	PKPdf	23 52 45.4	+2.1
KBI1	**Birley Grange**	**156.85**	**6**	*e*P	PKPdf	23 52 52.6	+10
RAC	**Raciborz**	**156.90**	**333**	*e*PKPdf	PKPdf	23 52 44.4	+1.3
RAC				*e*PP	PP	23 56 49.7	-5.3
RAC				LME		01 00 22.5	
RAC				MLR	MLR	01 06 01.0	
RAC				LMN		01 06 14.8	
	comp=Z,14µm,21.0s						
KSP	**Ksiaz**	**156.97**	**337**	*e*PKPdf	PKPdf	23 52 44.7	+1.6
KSP				*e*pPKPdf		23 52 57.1	
KSP				*e*PKPab	PKPab	23 53 14.2	-1.5
KSP				*e*PP	PP	23 56 51.3	-4.0
KSP	**Ksiaz**	**156.97**	**337**	*e*PKPdf	PKPdf	23 52 43.2	0.0
KSP				*e*pPKPdf		23 52 55.4	
KSP				*e*PKPab	PKPab	23 53 12.2	-3.6
KSP				*e*PP	PP	23 56 49.4	-5.8
KSP				*e*SKSP		00 07 11.0	
KSP				*e*PPS	PPS	00 09 50.0	-17
KSP				*e*SS	SS	00 16 48.0	+5.1
KSP				*e*SSS	SSS	00 22 30.0	-15
KSP				LR	LR		
	comp=Z,21µm,21.0s,MS7.0						
KWE	**Weaver Farm**	**157.06**	**7**	*e*P	PKPdf	23 52 54.6	+11
OKC	**Ostrava-Krasne**	**157.12**	**333**	*e*PKPDF	PKPdf	23 52 45.1	+1.7
OKC				*e*PKPAB	PKPab	23 53 16.2	-0.3
OKC				*e*PP	PP	23 56 51.9	-4.3
OKC				AMS	AMS	01 06 10.0	
	comp=Z,8µm,20.1s						
OKC	**Ostrava-Krasne**	**157.12**	**333**	*e*PKIKP	PKPdf	23 52 44.3	+0.9
OKC				*e*		23 56 50.1	
OKC				MLR	MLR		
	comp=Z,8µm,20.1s,MS6.5						
OKC	**Ostrava-Krasne**	**157.12**	**333**	*e*PKP	PKPdf	23 52 44.3	+0.9
OKC				*e*		23 53 14.2	
OKC				*e*PP	PP	23 56 50.1	-6.1
KECS	**Kecovo**	**157.15**	**328**	*e*	PKPdf	23 52 53.8	+10
KECS	**Kecovo**	**157.15**	**328**	*e*PKP	PKPab	23 53 15.8	-0.9
KECS				*e*		23 53 25.2	
DRGR		**157.19**	**322**	⇑P	PKPdf	23 52 43.5	-0.1
SZH	**Strazhica**	**157.20**	**311**	*e*P	PKPab	23 53 17.0	0.0
UPC	**Upice**	**157.34**	**337**	*e*PKPDF	PKPdf	23 52 45.3	+1.6
UPC				*e*PKPAB	PKPab	23 53 17.4	0.0
UPC				*e*PP	PP	23 56 58.8	+1.4
UPC	**Upice**	**157.34**	**337**	*e*PKIKP	PKPdf	23 52 44.3	+0.6
UPC				*e*		23 56 58.9	
UPC	**Upice**	**157.34**	**337**	*e*PKP	PKPdf	23 52 44.3	+0.6
UPC				*e*		23 53 16.3	
UPC				*e*PP	PP	23 56 58.9	+1.4
SART	**Tekirdag**	**157.36**	**304**	*i* P	PKPdf	23 52 42.0	-2.0
DPC	**Dobruska-Polom**	**157.37**	**336**	*e*PKPDF	PKPdf	23 52 45.5	+1.8
DPC				*e*PKPAB	PKPab	23 53 17.7	+0.2
DPC				*e*PP	PP	23 56 51.8	-5.9
DPC				*e*SKKS		00 07 21.1	
DPC				*e*SS	SS	00 16 48.3	+0.9
DPC				*ex*	x	00 23 27.7	
DPC				AMS	AMS	01 06 00.0	
	comp=Z,9µm,19.9s						
DPC	**Dobruska-Polom**	**157.37**	**336**	*e*PKIKP	PKPdf	23 52 44.9	+1.2
DPC				*e*SS	SS	00 16 48.3	+0.9
DPC				MLR	MLR		
	comp=Z,9µm,19.9s,MS6.6						
DPC	**Dobruska-Polom**	**157.37**	**336**	*e*PKP	PKPdf	23 52 44.9	+1.2
DPC				*e*		23 53 15.3	
DPC				*e*PP	PP	23 56 47.2	-10
DPC				*e*SKKS		00 07 21.1	
DPC				*e*SS	SS	00 16 48.3	+0.9
DPC				*e*		00 23 27.7	
DPC				LR	LR		
	comp=Z,9µm,19.9s,MS6.6						
MORC	**Moravsky Berou**	**157.40**	**334**	⇑PKIKP	PKPdf	23 52 45.7	+1.9
CLL	**Collm**	**157.54**	**342**	*e*PKIKP	PKPdf	23 52 45.0	+1.1
	comp=Z,logA/T=1.6						
CLL				*i*		23 52 57.5	
CLL				*i* PKP2	PKPab	23 53 17.0	-1.2
CLL				*i* *PPKP2		23 53 30.4	
CLL				*i*		23 53 38.5	
CLL				*e*PP	PP	23 56 54.0	-4.7
CLL				*e**PPP		23 57 08.0	
CLL				*e*PPP	PPP	00 00 42.0	+4.2
CLL				*e*		00 02 54.0	
CLL				*e*		00 03 45.0	
CLL				*e*SKSP		00 07 05.0	
CLL				*e*		00 08 02.0	
CLL				*e*PPS	PPS	00 10 10.0	-2.4
CLL				*e*SS	SS	00 16 48.0	-1.2
CLL				*e*SSS	SSS	00 23 09.0	+16
CLL				*e*		00 25 24.0	
CLL				*e*		00 26 58.0	
CLL	**Collm**	**157.54**	**342**	*e*PKIKP	PKPdf	23 52 45.0	+1.1
CLL				*i*		23 52 57.5	
CLL				pmax	pmax		
	comp=Z,67nm,1.8s						
CLL				pmax	pmax		
	comp=Z,39nm,1.3s						
CLL				pmax	pmax		
	comp=Z,258nm,1.4s						
CLL				MLR	MLR		
	comp=Z,9µm,20.5s,MS6.6						
PVL	**Pavlikeni**	**157.61**	**312**	*e*P	PKPab	23 53 19.0	+0.2
AYDN	**Tasoluk**	**157.65**	**296**	*i* P	PKPdf	23 52 45.5	+1.0
CLZ	**Clausthal**	**157.65**	**347**	*e*PKPdf	PKPdf	23 52 44.4	+0.4
CLZ				*e*PKPab	PKPab	23 53 17.7	-1.0
CLZ				*e*PP	PP	23 56 52.4	-6.9
BRG	**Berggiesshubel**	**157.68**	**340**	*i* PKIKP	PKPdf	23 52 45.5	+1.4
BRG				*i*		23 56 54.0	
BRG				pmax	pmax		
	comp=Z,55nm,1.5s						
BRG				MLR	MLR		
	comp=N,7µm,22.9s,MS6.5						
BRG				MLR	MLR		
	comp=E,6µm,23.6s,MS6.5						
BRG				MLR	MLR		
	comp=Z,10µm,23.2s,MS6.6						
BRG	**Berggiesshubel**	**157.68**	**340**	*i* PKP	PKPdf	23 52 45.5	+1.5
BRG				*i*		23 53 17.1	
BRG				PP	PP	23 56 54.0	-5.5
BRG				LR	LR		
	comp=Z,10µm,23.2s,MS6.6						
ARG	**Arkhangelos**	**157.70**	**292**	*e*P	PKPdf	23 52 44.5	-0.1
PVCC	**Panska Ves**	**157.79**	**339**	*e*PKPDF	PKPdf	23 52 46.1	+1.8
PVCC				*e*PKPAB	PKPab	23 53 19.2	-0.1
PVCC				*e*PP	PP	23 56 55.8	-4.4
PVCC				*e*SKKS		00 07 18.8	
PVCC				*ex*	x	00 17 05.7	
PVCC				*ex*	x	00 23 31.1	
PVCC				AMS	AMS	01 01 40.0	
	comp=Z,12µm,24.1s						
PVCC	**Panska Ves**	**157.79**	**339**	*e*PKIKP	PKPdf	23 52 45.2	+0.9
PVCC				*e*		23 52 57.0	
PVCC				*e*		23 56 52.3	
PVCC				MLR	MLR		
	comp=Z,12µm,24.1s,MS6.6						
PVCC	**Panska Ves**	**157.79**	**339**	*e*PKP	PKPdf	23 52 45.2	+0.9
PVCC				*e*		23 52 57.0	
PVCC				*e*		23 53 17.3	
PVCC				*e*PP	PP	23 56 52.3	-7.9
PVCC				*e*SKKS		00 07 18.8	
PVCC				*e*SS	SS	00 17 05.7	+14
PVCC				*e*		00 23 31.1	
PVCC				LR	LR		
	comp=Z,12µm,24.1s,MS6.6						
PSZ	**Piszkesteto**	**157.83**	**328**	⇓*e*PKP/p		23 53 18.8	
PSZ	**Piszkesteto**	**157.83**	**328**	*e*PKPdf	PKPdf	23 52 45.3	+0.9
PSZ				*e*PKPab	PKPab	23 53 19.4	-0.2
VYHS	**Vyhne**	**157.88**	**330**	*e*PKP	PKPdf	23 52 44.8	+0.4
VYHS				*e*		23 53 19.4	
VYHS				*e*PP	PP	23 56 55.8	-5.0
WTSB	**Winterswijk**	**158.08**	**353**	*e*PKiKP		23 52 45.4	
	comp=Z,89nm,1.4s						
WTSB				*e*PKPab	PKPab	23 53 18.6	-2.0
	comp=Z,256nm,1.6s						
PRA	**Prague**	**158.24**	**339**	PKPDF	PKPdf	23 52 47.0	+2.2
PRA				PKPAB	PKPab	23 53 20.0	-1.3
PRA				*ex*	x	23 53 26.0	
PRU	**Pruhonice**	**158.27**	**338**	*e*PKPDF	PKPdf	23 52 46.7	+1.8
PRU				*e*PKPAB	PKPab	23 53 21.1	-0.3
PRU				*e*PP	PP	23 56 57.6	-5.2
PRU				*ex*	x	00 07 28.0	
PRU				*e*SS	SS	00 16 59.2	+1.9
PRU				*ex*	x	00 23 40.7	
PRU				AMS	AMS	01 12 20.0	
	comp=Z,9µm,19.0s						
PRU	**Pruhonice**	**158.27**	**338**	*e*PKIKP	PKPdf	23 52 45.1	+0.2
PRU				*e*		23 53 19.8	
PRU				*e*		23 56 54.9	
PRU				*e*SS	SS	00 16 59.2	+1.9
PRU				MLR	MLR		
	comp=Z,9µm,19.0s,MS6.6						
PRU	**Pruhonice**	**158.27**	**338**	*e*PKP	PKPdf	23 52 45.1	+0.2
PRU				*e*		23 53 19.8	
PRU				*e*PP	PP	23 56 54.9	-7.9
PRU				*e*SKKS		00 07 28.0	
PRU				*e*SS	SS	00 16 59.2	+1.9
PRU				*e*		00 23 40.7	
PRU				LR	LR		
	comp=Z,9µm,19.0s,MS6.6						
RDO	**Rodhopi**	**158.35**	**306**	*e*P	PKPdf	23 52 41.2	-4.1
SMG	**Samos**	**158.44**	**297**	*e*P	PKPdf	23 52 46.0	+0.5
SMOL	**Smolenice**	**158.46**	**332**	*e*PKP	PKPab	23 53 23.3	+1.0
PRK	**Paraskevi**	**158.47**	**301**	*e*P	PKPdf	23 52 47.5	+2.0
URLA	**Izmir**	**158.47**	**299**	*i* P	PKPdf	23 52 42.9	-2.6
MOX	**Moxa**	**158.50**	**344**	*i* P	PKPdf	23 52 44.2	-0.9
MOX				PKP2	PKPab	23 53 21.0	-1.4
MOX				PP	PP	23 57 01.2	-2.9
MOX				L		01 11 20.0	
MOX	**Moxa**	**158.50**	**344**	*e*PKIKP	PKPdf	23 52 44.2	-0.9
MOX				*e*		23 53 20.6	
MOX				pmax	pmax		
	comp=Z,283nm,1.6s						
MOX				MLR	MLR		
	comp=Z,7µm,20.0s,MS6.5						
BZS	**Buzias**	**158.52**	**321**	⇑P	PKPdf	23 52 45.8	+0.5
BZS	**Buzias**	**158.52**	**321**	⇑P	PKPdf	23 52 45.8	+0.4
TREC	**Trest**	**158.55**	**336**	*e*PKPDF	PKPdf	23 52 46.6	+1.4
TREC				*e*PKPAB	PKPab	23 53 22.2	-0.5
TREC				*e*PP	PP	23 57 00.3	-3.9
TREC				*ex*	x	00 07 23.1	
TREC				*e*SS	SS	00 17 05.7	+5.3
TREC				*ex*	x	00 23 43.1	
TREC				AMS	AMS	01 18 40.0	
	comp=Z,7µm,18.0s						
TREC	**Trest**	**158.55**	**336**	*e*PKIKP	PKPdf	23 52 45.5	+0.3
TREC				*e*		23 53 21.7	
TREC				*e*SS	SS	00 17 05.7	+5.3
TREC				MLR	MLR		
	comp=Z,7µm,18.0s,MS6.5						
KAP	**Karpathos**	**158.55**	**291**	*e*P	PKPdf	23 52 45.0	-0.7
DJES	**Djerdap**	**158.60**	**318**	*e*PKP	PKPab	23 53 23.1	+0.1
SRO	**Srobarova**	**158.62**	**329**	*e*PKP	PKPab	23 53 22.7	-0.3
SRO2	**Moca**	**158.63**	**329**	*e*PKP	PKPab	23 53 22.3	-0.7
NKC	**Novy Kostel**	**158.67**	**342**	*e*PKPDF	PKPdf	23 52 47.3	+2.0
NKC				*e*PKPAB	PKPab	23 53 23.0	-0.1
NKC				*e*PP	PP	23 57 00.1	-4.7
NKC				*e*SKKS		00 07 24.1	
NKC				*e*SS	SS	00 17 04.3	+2.7
NKC				*ex*	x	00 23 44.0	
NKC				AMS	AMS	01 16 10.0	
	comp=Z,8µm,19.2s						
NKC	**Novy Kostel**	**158.67**	**342**	*e*PKIKP	PKPdf	23 52 46.0	+0.7
NKC				*e*		23 53 22.3	
NKC				*e*		23 56 59.0	
NKC				*e*SS	SS	00 17 04.3	+2.7
NKC				MLR	MLR		
	comp=Z,8µm,19.2s,MS6.6						
NKC	**Novy Kostel**	**158.67**	**342**	*e*PKP	PKPdf	23 52 46.0	+0.7
NKC				*e*		23 53 22.3	
NKC				*e*PP	PP	23 56 59.0	-5.8
NKC				*e*SKKS		00 07 24.1	
NKC				*e*SS	SS	00 17 04.3	+2.7
NKC				*e*		00 23 44.0	
PGB	**Panagyurishte**	**158.68**	**311**	*e*P	PKPab	23 53 23.0	-0.4
SRO1	**Iza**	**158.70**	**330**	*e*PKP	PKPab	23 53 23.1	-0.2
ZST	**Bratislava**	**158.84**	**332**	*e*PKIKP	PKPdf	23 52 47.3	+1.7
ZST				*e*		23 53 23.5	
LIA	**Limnos Island**	**159.06**	**303**	*e*P	PKPdf	23 52 46.5	+0.4
VTS	**Vitosha**	**159.28**	**312**	*e*P	PKPab	23 53 25.0	-1.0
KHC	**Kasperske Hory**	**159.33**	**339**	*e*PKPDF	PKPdf	23 52 47.4	+1.3
KHC				*e*PKPAB	PKPab	23 53 26.2	+0.2
KHC				*x*	x	23 53 37.5	
KHC				*e*PP	PP	23 57 00.8	-7.3
KHC				*ex*	x	00 00 23.0	
KHC				*ex*	x	00 01 52.5	
KHC				*ex*	x	00 07 27.5	
KHC				*e*SS	SS	00 17 12.8	+4.2
KHC				*ex*	x	00 23 47.8	
KHC				AMS	AMS	01 08 20.0	
	comp=Z,10µm,19.0s						
KHC	**Kasperske Hory**	**159.33**	**339**	*e*PKIKP	PKPdf	23 52 46.7	+0.6
KHC				*e*		23 53 24.1	
KHC				*e*SS	SS	00 17 12.8	+4.2
KHC				MLR	MLR		
	comp=Z,10µm,19.0s,MS6.7						
KHC	**Kasperske Hory**	**159.33**	**339**	*e*PKP	PKPdf	23 52 46.7	+0.6
KHC				*e*		23 53 24.1	
KHC				*e*PP	PP	23 56 59.5	-8.6
KHC				*e*		00 00 23.0	
KHC				*e*		00 01 52.5	
KHC				*e*SKKS		00 07 27.5	
KHC				*e*SS	SS	00 17 12.8	+4.2
KHC				*e*		00 23 47.8	
KHC				LR	LR		
	comp=Z,10µm,19.0s,MS6.7						
HGN	**Heimansgroeve**	**159.35**	**354**	PKiKP		23 52 46.9	
	comp=Z,54nm,1.6s						
HGN				*e*PKPab	PKPab	23 53 24.4	-1.6
	comp=Z,200nm,1.6s						
BOLS	**Boljevac**	**159.40**	**316**	⇑*i* PKP	PKPab	23 53 25.6	-0.9
NVR	**Nevrokopi**	**159.42**	**308**	*e*P	PKPdf	23 52 46.0	-0.5
SOP	**Sopron**	**159.47**	**332**	⇑*i* PKP/F		23 52 46.9	
SOP				*i* PKP/p		23 53 26.0	
GRA1	**Grafenberg Arr**	**159.48**	**343**	*e*PKP	PKPdf	23 52 46.4	+0.1
GRA1				*e*PKPab	PKPab	23 53 25.8	-0.8
GRA1				*e*PP	PP	23 57 02.7	-6.2
GRF	**Grafenberg Arr**	**159.48**	**343**	*e*PKIKP	PKPdf	23 52 46.4	+0.1
GRF	**Grafenberg Arr**	**159.48**	**343**	*e*PKIKP	PKPdf	23 52 46.4	+0.1
WET	**Wettzell**	**159.53**	**340**	*e*PKPdf	PKPdf	23 52 44.7	-1.7
WET				*e*PKPab	PKPab	23 53 25.9	-1.0
WET				*e*PP	PP	23 57 04.3	-4.8
GERES	**GERESS Array B**	**159.54**	**338**	PKP	PKPdf	23 52 47.6	+1.2
	comp=Z,3.8nm,1.0s,baz=90,slow=2.7,SNR=19						
GERES				PKPab	PKPab	23 53 25.2	-1.7
	comp=Z,31nm,1.0s,baz=45,slow=1.9,SNR=14						
GERES	**GERESS Array B**	**159.54**	**338**	PKIKP	PKPdf	23 52 47.6	+1.2
GERES						23 53 25.2	
GERES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GERES				pmax	pmax		
	comp=Z,31nm,1.0s						
TNS	**Taunus Mts**	**159.55**	**349**	*e*PKPdf	PKPdf	23 52 46.3	0.0
TNS				*e*PKPab	PKPab	23 53 24.6	-2.3
TNS				*e*PP	PP	23 57 04.3	-4.9
SVIS	**Svilajnac**	**159.55**	**318**	⇓*i* PKP	PKPab	23 53 26.0	-1.2
APE	**Apeiranthos**	**159.60**	**296**	*e*P	PKPdf	23 52 50.0	+3.2
APE	**Apeiranthos**	**159.60**	**296**	⇑P	PKPdf	23 52 44.9	-1.9
KKB	**Krupnik**	**159.71**	**310**	*e*P	PKPab	23 53 27.0	-0.9
NPS	**Neapolis**	**159.85**	**290**	*e*P	PKPdf	23 52 45.5	-1.7
ABH	**Alteburg**	**160.03**	**350**	⇓*e*P	PKPab	23 53 27.2	-1.8
BARS	**Barje**	**160.03**	**314**	⇓*i* PKP	PKPab	23 53 28.0	-1.2
TOD	**Tromm**	**160.08**	**348**	⇓*e*P	PKPab	23 53 27.3	-1.9
GRUS	**Gruza**	**160.09**	**318**	*e*PKP1	PKPdf	23 52 47.6	+0.4
GIVF	**Givet**	**160.10**	**355**	*e*PKIKP	PKPdf	23 52 48.0	+1.1
	comp=Z,128nm,1.4s						
PLG	**Polygyros**	**160.12**	**306**	*e*P	PKPdf	23 52 47.0	-0.3
SIND	**Sindeldorf**	**160.17**	**346**	*e*P	PKPab	23 53 27.8	-1.8
BAIF	**Baives**	**160.18**	**357**	*e*PKIKP	PKPdf	23 52 48.1	+1.1
	comp=Z,138nm,1.5s						
MOA	**Molln**	**160.21**	**336**	*i* X		23 53 29.9	
	comp=Z,268nm,1.6s,SNR=23						
MOA	**Molln**	**160.21**	**336**	⇑*i*P	PKPdf	23 52 47.0	-0.1
	comp=Z,15nm,1.6s						
MOA	**Molln**	**160.21**	**336**	⇑P	PKPdf	23 52 47.0	-0.1
MOA				*e*		23 53 29.9	
SWS	**Schriesheim**	**160.22**	**348**	*e*P	PKPab	23 53 28.2	-1.6
ARSA	**Arzberg**	**160.24**	**333**	⇓*i*X		23 53 28.9	
	comp=Z,148nm,1.7s,SNR=14						
ARSA	**Arzberg**	**160.24**	**333**	⇑*i*P	PKPdf	23 52 47.3	+0.1
	comp=Z,14nm,1.4s						
ARSA	**Arzberg**	**160.24**	**333**	⇑P	PKPdf	23 52 47.3	+0.1
ARSA				*e*		23 53 28.9	
RUP	**Ruppelstein**	**160.27**	**351**	*e*P	PKPab	23 53 28.6	-1.4
DIVS	**Divcibare**	**160.38**	**320**	⇓*i* PKP1	PKPdf	23 52 47.8	+0.3
WLF	**Walferdange**	**160.42**	**353**	PKIKP	PKPdf	23 52 49.3	+2.0
WLF				*e*		23 53 02.7	
WLF	**Walferdange**	**160.42**	**353**	*e*PKPdf	PKPdf	23 52 47.9	+0.6
KTD	**Kalmit**	**160.49**	**349**	*e*P	PKPab	23 53 29.5	-1.5
NEO	**Neokhori**	**160.69**	**303**	*e*P	PKPdf	23 52 47.5	-0.4
HDH	**Heidenheim**	**160.76**	**344**	*e*P	PKPab	23 53 30.8	-1.4
STU	**Stuttgart**	**160.80**	**346**	*e*PKPdf	PKPdf	23 52 48.5	+0.8
STU				*e*PKPab	PKPab	23 53 31.6	-0.8
BBLS	**Bajina Basta -**	**160.84**	**320**	*e*PKP1	PKPdf	23 52 48.3	+0.4
FUR	**Furstenfeldbru**	**160.87**	**342**	*e*PKPdf	PKPdf	23 52 47.2	-0.6
FUR				*e*PKPab	PKPab	23 53 31.8	-0.9
FUR				*e*PP	PP	23 57 11.5	-5.2
GROS	**Grobnik**	**160.88**	**331**	*e*PKPdf	PKPdf	23 52 48.2	+0.3
GROS				*e*PKPab	PKPab	23 53 30.7	-2.1
GROS				*e*PP	PP	23 57 14.2	-2.7
PERS	**Pernice**	**160.90**	**332**	*e*PKPdf	PKPdf	23 52 48.1	+0.2
PERS				*e*PKPab	PKPab	23 53 30.9	-1.9
PERS				*e*PP	PP	23 57 12.8	-4.2
VAM	**Vamos**	**160.98**	**291**	*e*P	PKPdf	23 52 48.5	+0.2
LBG	**Lerchenberg**	**160.99**	**347**	⇓*e*P	PKPab	23 53 31.5	-1.6
BUCH	**Bad Urach**	**161.08**	**346**	*e*P	PKPab	23 53 32.0	-1.5
LKR	**Lokris**	**161.08**	**302**	*e*P	PKPdf	23 52 49.0	+0.7
KBA	**Koelnbreinsper**	**161.19**	**336**	⇑*i*P	PKPdf	23 52 50.0	+1.8
	comp=Z,24nm,1.3s						
KBA	**Koelnbreinsper**	**161.19**	**336**	⇑*i*P	PKPab	23 53 33.6	-0.5
	comp=Z,176nm,1.6s						
KBA	**Koelnbreinsper**	**161.19**	**336**	⇑P	PKPdf	23 52 50.0	+1.8
KBA				*e*		23 53 33.6	
STR	**Strasbourg**	**161.25**	**349**	PKP	PKPab	23 53 31.5	-2.8
KZN	**Kozani**	**161.31**	**308**	*e*P	PKPdf	23 52 48.5	0.0
BFO	**Black Forest**	**161.40**	**347**	*e*PKPdf	PKPdf	23 52 46.3	-2.0
BFO				*e*PKPab	PKPab	23 53 33.1	-1.9
BFO				*e*PP	PP	23 57 13.7	-5.8
FLN	**La Foliniere**	**161.40**	**6**	*e*PKIKP	PKPdf	23 52 49.2	+0.9
	comp=Z,314nm,1.6s						
FLN				*e*R			
	comp=Z,10µm,22.2s						
ROSF	**Rostrenen**	**161.44**	**12**	*e*PKIKP	PKPdf	23 52 49.3	+1.0
WLS	**Welschbnch**	**161.49**	**350**	PKP	PKPab	23 53 33.5	-1.8
GUT	**Gutenstein**	**161.49**	**346**	⇓*e*P	PKPab	23 53 33.6	-1.8
CDF	**Champ du Feu**	**161.50**	**350**	*e*PKIKP	PKPdf	23 52 49.2	+0.8
	comp=Z,83nm,1.5s						
SPAK	**Spaichingen**	**161.53**	**346**	⇓*e*P	PKPab	23 53 33.9	-1.6
WATA	**Walderalm**	**161.54**	**340**	⇑*i*X		23 53 34.2	
	comp=Z,582nm,1.7s,SNR=16						
WATA	**Walderalm**	**161.54**	**340**	⇑*i*P	PKPdf	23 52 50.1	+1.7
	comp=Z,41nm,1.8s						
WATA	**Walderalm**	**161.54**	**340**	⇑PKIKP	PKPdf	23 52 50.1	+1.6
WATA				*e*		23 53 34.2	
WTTA	**Wattenberg**	**161.58**	**340**	*i* X		23 53 35.7	
	comp=Z,316nm,1.5s,SNR=13						
WTTA	**Wattenberg**	**161.58**	**340**	⇓*i*P	PKPdf	23 52 49.9	+1.3
	comp=Z,38nm,1.6s						
WTTA	**Wattenberg**	**161.58**	**340**	⇓P	PKPdf	23 52 49.9	+1.3
WTTA				*e*		23 53 35.7	
LDF	**La Druitiere**	**161.60**	**5**	*e*PKIKP	PKPdf	23 52 49.4	+0.9
	comp=Z,122nm,1.4s						
LJU	**Ljubljana**	**161.62**	**332**	*e*PKPdf	PKPdf	23 52 49.4	+0.8
LJU				*e*PKPab	PKPab	23 53 33.5	-2.5
UBR	**Uberruh**	**161.62**	**343**	⇓*e*P	PKPab	23 53 34.9	-1.1
SGMF	**Saint Gilles**	**161.64**	**11**	*e*PKIKP	PKPdf	23 52 49.5	+1.0
MOTA	**Moosalm**	**161.67**	**341**	⇓*i*X		23 53 34.4	
	comp=Z,387nm,1.4s,SNR=15						
MOTA	**Moosalm**	**161.67**	**341**	⇓*i*P	PKPdf	23 52 50.1	+1.5
	comp=Z,42nm,1.6s						
MOTA	**Moosalm**	**161.67**	**341**	⇓P	PKPdf	23 52 50.1	+1.5
MOTA				*e*		23 53 34.4	
MEZF	**Maizieres J'vi**	**161.68**	**354**	*e*PKIKP	PKPdf	23 52 50.1	+1.5
	comp=Z,239nm,1.4s						
LIBD	**Limburg**	**161.70**	**349**	⇓*e*P	PKPab	23 53 35.0	-1.3
VLI	**Veliai**	**161.70**	**296**	*e*P	PKPdf	23 52 50.0	+1.0
ECH	**Echery**	**161.71**	**350**	PKP	PKPab	23 53 33.5	-2.8
GRR	**Gorron**	**161.74**	**7**	*e*PKIKP	PKPdf	23 52 49.8	+1.2
BOJS	**Bojanci**	**161.75**	**330**

comp=Z,104nm,1.6s
LPG La Plagne 164.41 348 *e*PKIKP PKPdf 23 52 53.1 +1.7
comp=Z,96nm,1.5s
SFI Santa Sofia 164.45 334 PKP PKPdf 23 52 53.2 +1.7
PYM Petit Puy Mans 164.54 358 PKP PKPab 23 53 47.1 -1.6
STS Santiago 164.67 32 PKP PKPdf 23 52 54.8 +3.1
GDM Grand'Maison 164.80 350 PKP PKPab 23 53 50.0 +0.1
GRN Grenoble 164.82 351 PKP PKPab 23 53 49.8 -0.1
BNI Bardonecchia 164.86 348 *e*PKPdf PKPdf 23 52 54.5 +2.6
BNI *e*PKPab PKPab 23 53 50.0 -0.1
EPON Pontenova 164.91 28 PKP PKPdf 23 52 54.8 +2.8
RJF Les Rejaudoux 164.97 2 *e*PKIKP PKPdf 23 52 53.3 +1.3
comp=Z,236nm,1.7s
OG22 Abries 165.03 347 PKP PKPab 23 53 49.9 -1.0
LBL Lubilhac 165.05 358 PKP PKPab 23 53 49.9 -1.0
ORIF Oris-en-Rattie 165.12 350 *e*PKIKP PKPdf 23 52 53.3 +1.2
comp=Z,102nm,1.5s
ORIF *e*R
comp=Z,14µm,20.5s
MBDF Montbardon 165.16 348 *e*PKIKP PKPdf 23 52 53.5 +1.3
comp=Z,130nm,1.5s
EZAM Zamans 165.17 34 PKP PKPdf 23 52 55.5 +3.2
LFF La Frestale 165.30 5 *e*PKIKP PKPdf 23 52 53.6 +1.3
comp=Z,247nm,1.7s
VIVF Saint-Julien-l 165.33 354 *e*PKIKP PKPdf 23 52 53.7 +1.4
comp=Z,100nm,1.4s
MNS Montasola 165.35 328 PKP PKPdf 23 52 53.2 +0.8
CAF Calviac 165.37 1 *e*PKIKP PKPdf 23 52 53.8 +1.5
comp=Z,95nm,1.4s
SURF Saint Ours 165.39 347 PKP PKPab 23 53 51.2 -1.2
CFTV Fuerteventura 165.52 93 PKP PKPdf 23 52 56.5 +3.5
OG26 St.-Nazaire-De 165.53 352 PKP PKPab 23 53 51.8 -1.3
EARI Arriondas 165.65 23 PKP PKPdf 23 52 56.4 +3.7
ERLA La Rua 165.69 30 PKP PKPdf 23 52 54.8 +2.1
ELOB Lobios 165.69 33 PKP PKPdf 23 52 55.0 +2.3
SAOF Saorge 165.71 345 PKP PKPab 23 53 52.9 -1.0
AUTN L'Aution 165.72 345 PKP PKPab 23 53 52.1 -1.9
AUTN L'Aution 165.72 345 PKP PKPab 23 53 51.4 -2.5
TOUF Mont Tournerai 165.75 346 PKP PKPab 23 53 52.1 -1.9
PCAB Cabril 165.82 34 *e*PKPdf PKPdf 23 52 54.9 +2.0
PCAB Cabril 165.82 34 *e*PKPab PKPab 23 53 53.1 -1.4
PCAB Cabril 165.82 34 *e*PP PP 23 57 36.6 -6.2
SBF Sospel 165.85 345 *e*PKIKP PKPdf 23 52 53.3 +0.5
comp=Z,199nm,1.6s
MVIF Mont Vial 165.88 346 PKP PKPab 23 53 53.7 -0.9
REVF Revere 165.98 345 PKP PKPab 23 53 54.4 -0.7
STOF St-Etienne Org 166.01 349 PKP PKPab 23 53 53.8 -1.4
LASF Ste Croix 166.17 356 *e*PKIKP PKPdf 23 52 54.5 +1.4
comp=Z,131nm,1.5s
FRF La Foret Royal 166.31 347 *e*PKIKP PKPdf 23 52 53.9 +0.7
comp=Z,113nm,1.3s
PVRL Vila Real 166.31 34 *e*PKPdf PKPdf 23 52 56.1 +2.8
PVRL Vila Real 166.31 34 *e*PKPab PKPab 23 53 55.1 -1.5
PVRL Vila Real 166.31 34 *e*PP PP 23 57 42.4 -2.9
PRAF Pradon 166.31 351 PKP PKPab 23 53 55.2 -1.3
PBRG Braganca 166.34 30 *e*PKPdf PKPdf 23 52 54.3 +1.0
PBRG Braganca 166.34 30 *e*PKPab PKPab 23 53 54.9 -1.8
PBRG Braganca 166.34 30 *e*PP PP 23 57 42.8 -2.6
TAVF Tavernes 166.36 349 PKP PKPab 23 53 54.0 -2.7
LMR La Mourre 166.55 347 *e*PKIKP PKPdf 23 52 54.5 +1.1
comp=Z,74nm,1.3s
PGF Pioggiola 166.64 338 *e*PKIKP PKPdf 23 52 55.9 +2.4
comp=Z,280nm,1.6s
GELF Grande-Etoile 166.69 350 PKP PKPab 23 53 55.2 -2.9
BERF Bertagne 166.72 349 PKP PKPab 23 53 57.1 -1.2
SJPF Ste Jean 166.86 12 *e*PKIKP PKPdf 23 52 54.4 +0.8
MTLF Montolieu 166.95 1 *e*PKIKP PKPdf 23 52 54.9 +1.3
comp=Z,60nm,1.4s
MTE Manteigas 167.06 36 *e*PKPdf PKPdf 23 52 56.6 +2.8
MTE Manteigas 167.06 36 *e*PP PP 23 57 45.0 -4.0
MTE Manteigas 167.06 36 *e*SS SS 00 18 30.3 +2.1
MTE Manteigas 167.06 36 *e*LQ 00 42 00.4
MTE Manteigas 167.06 36 *e*LR LR 00 52 29.3
comp=Z,7µm,21.7s
MTE Manteigas 167.06 36 *e*PKPdf PKPdf 23 52 56.5 +2.7
PTOM Tomar 167.15 41 *e*PKPdf PKPdf 23 52 56.1 +2.2
PTOM Tomar 167.15 41 *e*PKPab PKPab 23 53 58.4 -1.9
PTOM Tomar 167.15 41 *e*PP PP 23 57 47.9 -1.6
EPF Esparros 167.16 7 *e*PKIKP PKPdf 23 52 55.5 +1.7
comp=Z,162nm,1.6s
ETSF Etsaut 167.18 10 *e*PKIKP PKPdf 23 52 56.0 +2.2
comp=Z,88nm,1.5s
PLOU Loures 167.20 45 *e*PKPdf PKPdf 23 52 54.3 +0.4
PLOU Loures 167.20 45 *e*PKPab PKPab 23 53 59.1 -1.4
EBIE Bielsa 167.48 8 PKP PKPdf 23 52 54.9 +0.9
PCBR Castelo Branco 167.50 38 *e*PKPdf PKPdf 23 52 56.1 +2.0
EGRA Graus 167.98 27 PKP PKPdf 23 52 57.3 +3.0
EVO Evora 168.11 43 *e*PKIKP PKPdf 23 52 55.4 +0.9
comp=Z,165nm,1.4s
EVO *e*R
comp=Z,16µm,19.0s
PTEO Sao Teotonio 168.27 49 *e*PKPdf PKPdf 23 52 57.2 +2.6
PTEO Sao Teotonio 168.27 49 *e*PP PP 23 57 57.7 +2.5
ESAC San Caprasio 168.34 11 PKP PKPdf 23 52 57.0 +2.5
GUD Guadarrama 168.36 25 PKP PKPdf 23 52 58.2 +3.6
PBEJ Beja 168.52 45 *e*PKPdf PKPdf 23 52 57.1 +2.4
PBEJ Beja 168.52 45 *e*PKPab PKPab 23 54 06.0 -0.3
EBAD Badajoz 168.53 40 PKP PKPdf 23 52 55.7 +0.9
EGRO El Granado 169.06 46 PKP PKPdf 23 52 57.7 +2.6
ERTA Horta de San J 169.21 8 PKP PKPdf 23 52 56.6 +1.6
ESDC Sonseca Array 169.27 27 PKP PKPdf 23 52 57.7 +2.6
comp=Z,30nm,1.3s,baz=349,slow=2.4,SNR=46
ESDC PKPab PKPab 23 54 07.7 -2.0
comp=Z,15nm,1.0s,baz=312,slow=3.5,SNR=8.8
ESDC PP PP 23 58 00.1 0.0
comp=Z,8.7nm,1.3s,baz=347,slow=4.9,SNR=4.5
ESDC Sonseca Array 169.27 27 PKP PKPdf 23 52 56.5 +1.4
ESLA Sonseca Array 169.27 27 *e*PKPdf PKPdf 23 52 57.9 +2.7
ESLA *e*PKPab PKPab 23 54 08.5 -1.1
EBR Ebro Roquetas 169.36 8 *e*Ts 23 53 11.0
EMIN Mina Concepcio 169.40 43 PKP PKPdf 23 52 56.2 +0.9
EMOS Mosqueruela 169.66 12 PKP PKPdf 23 52 56.2 +0.9
EADA Adamuz 170.24 34 PKP PKPdf 23 52 56.6 +0.8
ESPR Espera 170.49 44 PKP PKPdf 23 52 57.4 +1.4
EBAN Banos Encina 170.62 31 PKP PKPdf 23 52 57.9 +1.9
EVIA Vianos 170.73 24 PKP PKPdf 23 52 58.6 +2.6
ELUQ Luque 170.87 35 PKP PKPdf 23 52 58.0 +1.8
EJIF Jimena Fronter 171.00 45 PKP PKPdf 23 52 58.9 +2.6
ETOB Tobarra 171.04 20 PKP PKPdf 23 52 57.9 +1.7
EIBI Ibiza 171.22 5 PKP PKPdf 23 52 57.6 +1.2
EQES Quesada 171.23 30 PKP PKPdf 23 52 56.5 +0.1
ELOJ Sierra Loja 171.25 37 PKP PKPdf 23 52 57.7 +1.3
EBEN Beniarda 171.32 14 PKP PKPdf 23 52 58.9 +2.5
EMIJ Mijas 171.33 42 PKP PKPdf 23 52 58.1 +1.6
EHUE Huescar 171.42 27 PKP PKPdf 23 52 58.1 +1.6
ECOG Cogollos-Vega 171.44 34 PKP PKPdf 23 52 58.2 +1.7
ERON Agron 171.52 36 PKP PKPdf 23 52 59.0 +2.4
EGUA Guajares 171.79 36 PKP PKPdf 23 52 58.5 +1.7
EMUR La Murta 171.87 21 PKP PKPdf 23 52 57.9 +1.2
EBER Berja 172.06 32 PKP PKPdf 23 52 57.9 +1.0
CMAH Djebel Manchou 172.39 328 P PKPab 23 54 23.0 -0.5
CAEH 'Ain El Ouahch 172.51 331 P PKPab 23 54 24.0 -0.1
ABSA Djebel Ababsia 172.65 326 P PKPab 23 54 24.5 -0.2
CKFL Kef-Lekhel 172.89 330 P PKPab 23 54 25.5 -0.2
CASM Ain Smara 173.11 331 P PKPab 23 54 26.0 -0.7
CTEI Djebel Teioual 173.31 331 P PKPab 23 54 26.5 -1.1
ABA Alger-Bouzarea 173.46 355 P PKPdf 23 53 15.0 +17
SET Setif 173.57 338 P PKPdf 23 53 02.0 +4.4
CKHR Kef el Ahmar 173.70 336 P PKPab 23 54 28.0 -1.4
EBNR Beni Rached 173.95 7 P PKPdf 23 53 05.0 +7.3
EMHD Djebel Mahouad 174.06 356 P PKPdf 23 53 00.0 +2.3
ECHA Ech Chlef 174.07 8 P PKPdf 23 53 07.0 +9.3
EANR 'Ain N'Sour 174.23 10 P PKPdf 23 53 02.0 +4.2
ETRT Tiaret 174.81 10 P PKPdf 23 53 03.0 +5.0

*NEIC **07** 23:39:46.4±0.6,29.91S×177.15W,h10km,mb5.0/4, Error ellipse: s-maj=21.3km s-min=15.3km az=208.0*
*IDC **07** 23:39:50.8±4.7,29.88S×177.29W,h35km±34km,mb4.5/7, mb1 4.6/8,mb1mx4.4/15,mbtmp4.6/8, Error ellipse: s-maj=28.6km s-min=21.5km az=90.0*
ISC 07 23:39:47.8±1.0,30.28S±0.05×177.4W±0.2,h33km,n35, σ1℗39/25,mb4.6/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.11**	**338**	Pn		**Pn**	**23 40 05.8**	**-1.4**
	2µm,0.3s,baz=117,slow=2.4,SNR=11							
RAO				Sn		**Sn**	**23 40 16.6**	**-4.8**
	3µm,0.3s,baz=74,slow=21,SNR=8.0							
MXZ	**Matakaoa Point**	**8.08**	**205**	PN		**P**	**23 41 43.0**	**-2.6**
PUZ	**Puketiti**	**8.55**	**203**	PN		**P**	**23 41 50.5**	**-1.7**
PUZ				SN		**Sn**	**23 43 29.3**	**+0.6**
MWZ	**Matawai**	**9.05**	**206**	PN		**P**	**23 41 57.8**	**-1.2**
MWZ				SN		**Sn**	**23 43 42.0**	**+1.0**
URZ	**Urewera**	**9.14**	**208**	Pn		**P**	**23 41 58.4**	**-2.1**
	1.7nm,0.3s,baz=354,slow=20,SNR=4.1							
URZ				Sn		**Sn**	**23 43 44.2**	**+0.8**
	10nm,0.3s,baz=163,slow=12,SNR=6.8							
URZ	**Urewera**	**9.14**	**208**	PN		**P**	**23 42 00.3**	**-0.2**
URZ				SN		**Sn**	**23 43 43.7**	**+0.2**
THZ	**Tophouse**	**13.86**	**212**	PN		**P**	**23 43 04.0**	**0.0**
RPZ	**Rata Peaks**	**16.23**	**211**	Pn		**P**	**23 43 34.0**	**-0.9**
	1.8nm,0.3s,baz=50,slow=17,SNR=4.7							
DZM	**Mont Dzumac**	**16.60**	**296**	Pn		**P**	**23 43 40.4**	**+0.7**
	baz=244,slow=17,SNR=2.3							
CTA	**Charters Tower**	**34.26**	**279**	*e*P		**P**	**23 46 35.8**	**+2.8**
	10.0nm,0.4s,mb5.1							
CTA	**Charters Tower**	**34.26**	**279**	P		**P**	**23 46 35.3**	**+2.3**
	17nm,0.5s,mb5.2,baz=98,slow=11,SNR=22							
CTAO	**Charters Tower**	**34.26**	**279**	*e*P		**P**	**23 46 35.8**	**+2.8**
	13nm,0.7s,mb5.0							
STKA	**Stephens Creek**	**34.98**	**257**	*e*P		**P**	**23 46 43.0**	**+4.0**
	13nm,0.6s,mb5.0							
STKA	**Stephens Creek**	**34.98**	**257**	P		**P**	**23 46 42.8**	**+3.8**
	12nm,0.5s,mb5.1,baz=98,slow=9.5,SNR=10							
WRA	**Warramunga Arr**	**44.58**	**272**	P		**P**	**23 47 59.6**	**+0.9**
	14nm,0.5s,mb5.1,baz=111,slow=7.7,SNR=24							
MBWA	**Marble Bar**	**56.72**	**263**	*e*P		**P**	**23 49 30.4**	**-0.5**
	3.8nm,0.7s,mb4.5							
MAW	**Mawson**	**72.59**	**200**	P		**P**	**23 51 16.8**	**+3.8**
	6.2nm,0.9s,mb4.5,baz=141,slow=7.4,SNR=5.3							
SNAA	**Sanae**	**78.26**	**178**	P		**P**	**23 51 48.3**	**+2.9**
	1.5nm,0.9s,mb3.9,baz=230,slow=19,SNR=2.6							
MJAR	**Matsushiro Arr**	**78.42**	**325**	P		**P**	**23 51 46.0**	**-1.0**
	2.6nm,0.7s,mb4.3,baz=163,slow=6.3,SNR=5.0							
NVAR	**Mina Array Bea**	**87.82**	**42**	P		**P**	**23 52 36.0**	**+1.1**
	1.9nm,0.9s,mb4.3,baz=229,slow=9.7,SNR=4.5							
MKAR	**Makanchi Array**	**118.07**	**310**	PKP	PKPdf		23 58 32.8	+1.6
	0.7nm,0.8s,baz=242,slow=3.8,SNR=3.2							
BVAR	**Borovoye Array**	**126.66**	**316**	PKP	PKPdf		23 58 47.9	+0.2
	1.9nm,0.7s,baz=187,slow=0.5,SNR=4.6							
ARCES	**ARCESS Array B**	**138.57**	**348**	PKhKP			23 59 06.5	
	0.9nm,0.6s,baz=90,slow=2.7,SNR=3.1							
GNI	**Garni**	**144.44**	**298**	PKP	PKPdf		23 59 22.2	+1.6
	2.8nm,0.6s,baz=79,slow=10,SNR=3.6							
KAF	**Kangasniemi**	**144.60**	**341**	*e*pkp	PKPdf		23 59 19.4	-0.8
	baz=69,slow=1.6							
KAF	**Kangasniemi**	**144.60**	**341**	*e*p	PKPbc		23 59 19.2	-0.8
	6.6nm,0.9s							
KAF	**Kangasniemi**	**144.60**	**341**	*e*P	PKPbc		23 59 19.2	-0.8
FINES	**FINESS Array B**	**145.20**	**340**	PKP	PKPdf		23 59 22.4	+1.1
	17nm,0.7s,baz=55,slow=3.5,SNR=33							
NB2	**NORSAR Subarra1**	**48.70**	**352**	PKPabc	PKPdf		23 59 32.6	+5.5
	11nm,0.8s,baz=13,slow=2.8							
NOA	**NORSAR Array B**	**148.70**	**352**	PKPbc	PKPdf		23 59 32.8	+5.7
	6.9nm,0.8s,baz=17,slow=4.5,SNR=9.1							
AKASG	**Malin Array Be**	**151.50**	**323**	PKPbc	PKPdf		23 59 39.8	+8.1
	2.4nm,0.4s,baz=49,slow=3.0,SNR=10							
BRTR	**Keskin Array B**	**152.97**	**299**	PKPbc	PKPdf		23 59 43.9	+10
	2.3nm,0.9s,baz=120,slow=3.7,SNR=4.5							
CLL	**Collm**	**157.60**	**343**	P		PKPab	00 00 14.6	+0.1
	logA/T=1.0							
CLL				*i*			00 00 30.0	
GERES	**GERESS Array B**	**159.61**	**339**	PKPab		PKPab	00 00 23.2	0.0
	1.5nm,0.7s,baz=34,slow=4.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**162.93**	**177**	PKPab		PKPab	00 00 40.4	+1.8
	1.0nm,0.5s,baz=182,slow=3.3,SNR=9.8							

*IDC **07** 23:40:45.0±0.9,29.81S×177.27W,mb4.6/5,mb1 4.7/5, mb1mx4.5/13,mbtmp4.6/5, Error ellipse: s-maj=32.5km s-min=19.7km az=44.0*
*NEIC **07** 23:40:48.3±11.0,29.61S×177.08W,h29km±71km,mb4.9/1, Error ellipse: s-maj=44.0km s-min=28.2km az=114.0*
ISC 07 23:40:49.2±1.2,30.32S±0.08×177.4W±0.2,h33km,n24, σ1℗48/19,mb4.6/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.15**	**338**	Pn		**Pn**	**23 41 03.8**	**-5.5**
	3µm,0.3s,baz=255,slow=24,SNR=2.8							
RAO				Sn		**Sn**	**23 41 16.5**	**-7.4**
	4µm,0.3s,baz=244,slow=19,SNR=3.1							
PUZ	**Puketiti**	**8.52**	**204**	PN		**P**	**23 42 51.5**	**-1.5**
PUZ				SN		**Sn**	**23 44 29.6**	**+0.4**
MWZ	**Matawai**	**9.01**	**206**	PN		**P**	**23 42 56.7**	**-3.3**
MWZ				SN		**Sn**	**23 44 43.0**	**+1.5**
URZ	**Urewera**	**9.11**	**208**	Pn		**P**	**23 42 58.0**	**-3.4**
	2.1nm,0.3s,baz=2.8,slow=19,SNR=3.4							
URZ				Sn		**Sn**	**23 44 42.4**	**-1.7**
	5.4nm,0.3s,baz=280,slow=14,SNR=2.9							
URZ	**Urewera**	**9.11**	**208**	PN		**P**	**23 42 59.6**	**-1.8**
URZ				SN		**Sn**	**23 44 42.0**	**-2.0**
THZ	**Tophouse**	**13.83**	**212**	PN		**P**	**23 44 06.1**	**+1.1**
RPZ	**Rata Peaks**	**16.20**	**211**	Pn		**P**	**23 44 37.1**	**+1.3**
	2.0nm,0.3s,baz=235,slow=21,SNR=2.2							
DZM	**Mont Dzumac**	**16.63**	**296**	Pn		**P**	**23 44 49.0**	**+7.6**
	1.0nm,0.3s,baz=74,slow=15,SNR=2.1							
CTA	**Charters Tower**	**34.28**	**279**	P		**P**	**23 47 34.2**	**-0.3**
	4.1nm,0.5s,mb4.7,baz=126,slow=7.0,SNR=2.7							
CTAO	**Charters Tower**	**34.28**	**279**	*e*P		**P**	**23 47 34.5**	**0.0**
	12nm,0.7s,mb4.9							
STKA	**Stephens Creek**	**34.98**	**257**	P		**P**	**23 47 42.0**	**+1.6**
	5.4nm,0.5s,mb4.8,baz=81,slow=13,SNR=2.0							
WRA	**Warramunga Arr**	**44.59**	**272**	P		**P**	**23 48 58.9**	**-1.3**
	4.4nm,0.4s,mb4.7,baz=111,slow=8.0,SNR=5.0							
MAW	**Mawson**	**72.55**	**200**	P		**P**	**23 52 16.8**	**+2.7**
	4.1nm,0.8s,mb4.4,baz=72,slow=6.9,SNR=2.1							
NVAR	**Mina Array Bea**	**87.85**	**42**	P		**P**	**23 53 35.9**	**-0.5**
	1.7nm,0.9s,mb4.3,baz=221,slow=8.3,SNR=3.5							
BVAR	**Borovoye Array**	**126.70**	**316**	PKP	PKPdf		23 59 49.5	+0.3
	0.5nm,0.6s,baz=95,slow=2.0,SNR=1.8							
ARCES	**ARCESS Array B**	**138.62**	**348**	PKhKP			00 00 08.5	
	1.8nm,0.9s,baz=59,slow=5.3,SNR=2.5							
ARCES	**ARCESS Array B**	**138.62**	**348**	PKP			00 00 08.5	
FINES	**FINESS Array B**	**145.24**	**340**	PKP	PKPdf		00 00 21.0	-1.7
	4.7nm,0.6s,baz=45,slow=5.9,SNR=2.6							
NOA	**NORSAR Array B**	**148.75**	**352**	PKPbc	PKPdf		00 00 30.2	+1.6
	2.4nm,0.7s,baz=14,slow=4.2,SNR=2.1							
NOA	**NORSAR Array B**	**148.75**	**352**	PKPbc	PKPdf		00 00 30.2	+1.6
AKASG	**Malin Array Be**	**151.54**	**323**	PKPbc	PKPdf		00 00 38.2	+5.1
	2.6nm,0.6s,baz=46,slow=2.9,SNR=2.3							
AKASG	**Malin Array Be**	**151.54**	**323**	PKPbc	PKPdf		00 00 38.2	+5.0
BRTR	**Keskin Array B**	**153.00**	**299**	PKPbc	PKPdf		00 00 45.6	+10
	1.8nm,0.8s,baz=164,slow=5.7,SNR=2.3							
TORD	**Torodi Ar. Bea**	**162.89**	**177**	PKP	PKPdf		00 00 48.7	+0.5
	2.0nm,0.5s,baz=166,slow=4.0,SNR=9.3							
TORD				PKPab	PKPab		00 01 40.7	+0.8
	2.7nm,0.8s,baz=181,slow=3.7,SNR=4.0							

*IDC **07** 23:41:14.6±1.0,29.80S×176.96W,mb4.9/4,mb1 5.1/4, mb1mx4.6/12,mbtmp4.9/4, Error ellipse: s-maj=37.8km s-min=26.3km az=6.0*
*NEIC **07** 23:41:15.2±1.0,29.83S×176.86W,h10km,mb5.1/1, Error ellipse: s-maj=41.9km s-min=22.7km az=184.0*
ISC 07 23:41:22.6±4.4,29.8S±0.3×177.4W±0.3,h53km±28km,n19, σ0℗95/8,mb4.9/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**0.73**	**323**	Pn		**P**	**23 41 36.0**	**-0.8**
	4µm,0.3s,baz=249,slow=24,SNR=3.3							
RAO				Sn		**S**	**23 41 48.0**	**+0.6**
	6µm,0.3s,baz=39,slow=22,SNR=3.2							
CTA	**Charters Tower**	**34.21**	**278**	P		**P**	**23 48 05.5**	**+0.2**
	20nm,0.7s,mb5.2,baz=104,slow=12,SNR=5.4							
CTAO	**Charters Tower**	**34.21**	**278**	*e*P		**P**	**23 48 05.6**	**+0.3**
	21nm,0.8s,mb5.1							
STKA	**Stephens Creek**	**35.10**	**256**	P		**P**	**23 48 13.5**	**+0.8**
	11nm,0.6s,mb5.0,baz=87,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**44.58**	**271**	P		**P**	**23 49 30.7**	**-0.7**
	18nm,0.6s,mb5.1,baz=111,slow=7.7,SNR=5.5							
MJAR	**Matsushiro Arr**	**78.07**	**325**	P		**P**	**23 53 16.6**	**-0.8**
	6.4nm,0.9s,mb4.6,baz=162,slow=5.5,SNR=6.0							
NVAR	**Mina Array Bea**	**87.48**	**42**	P		**P**	**23 54 06.3**	**+0.7**
	4.3nm,0.9s,mb4.7,baz=207,slow=5.0,SNR=5.3							
BVAR	**Borovoye Array**	**126.35**	**316**	PKP	PKPdf		00 00 16.9	-2.4
	2.6nm,0.8s,baz=90,slow=1.4,SNR=3.6							
ARCES	**ARCESS Array B**	**138.15**	**348**	PKhKP			00 00 37.3	
	4.2nm,1.0s,baz=90,slow=0.9,SNR=2.5							
FINES	**FINESS Array B**	**144.79**	**341**	PKP	PKPdf		00 00 51.1	-1.6
	15nm,0.7s,baz=56,slow=6.9,SNR=9.2							
NOA	**NORSAR Array B**	**148.27**	**352**	PKPbc	PKPdf		00 01 02.7	+4.1
	16nm,1.0s,baz=15,slow=4.3,SNR=4.3							
NOA	**NORSAR Array B**	**148.27**	**352**	PKPbc	PKPdf		00 01 02.7	+4.1
AKASG	**Malin Array Be**	**151.15**	**324**	PKPbc	PKPdf		00 01 10.0	+6.6
	16nm,0.9s,baz=47,slow=2.5,SNR=19							
AKASG				PKPab	PKPab		00 01 17.7	-1.9
	10.0nm,0.5s,baz=53,slow=2.9,SNR=9.4							
AKASG	**Malin Array Be**	**151.15**	**324**	PKPbc	PKPdf		00 01 10.0	+6.6
AKASG				PKPab	PKPab		00 01 17.7	-1.9
BRTR	**Keskin Array B**	**152.77**	**300**	PKPbc	PKPdf		00 01 15.1	+9.0
	5.2nm,1.1s,baz=90,slow=3.7,SNR=5.0							
CLL	**Collm**	**157.18**	**343**	*i* PKP2	PKPab		00 01 43.4	-1.7
CLL				*e*PP	PP		00 05 11.0	-14
CLL				*e*PPP			00 05 30.0	
GERES	**GERESS Array B**	**159.20**	**339**	PKPab	PKPab		00 01 53.2	-0.6
	4.0nm,0.9s,baz=34,slow=4.8,SNR=6.1							
TORD	**Torodi Ar. Bea**	**163.37**	**177**	PKP	PKPdf		00 01 19.4	-0.1
	4.0nm,1.0s,slow=1.4,SNR=3.5							
TORD				PKPab	PKPab		00 02 11.2	-1.8
	1.8nm,0.6s,baz=133,slow=1.5,SNR=2.6							
ESDC	**Sonseca Array**	**168.81**	**27**	PKPab	PKPab		00 02 31.3	-4.7
	4.3nm,1.0s,baz=157,slow=4.0,SNR=8.0							

IDC 07 23:51:23.8±2.3,28.61S×177.63W,mb4.0/3,mb1 4.2/3, mb1mx4.0/13,mbtmp4.0/3,Error ellipse: s-maj=45.0km s-min=20.1km az=87.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**0.69**	**201**	Pn		Pn	23 51 40.5	0.0
	398nm,0.3s,baz=77,slow=19,SNR=18							
RAO				Sn		Sn	23 51 53.7	+1.6
	956nm,0.3s,baz=260,slow=22,SNR=14							
CTA	**Charters Tower**	**33.88**	**276**	P		P	23 58 08.5	-1.9
	1.4nm,0.5s,baz=117,slow=13,SNR=2.3							
STKA	**Stephens Creek**	**35.23**	**254**	P		P	23 58 19.2	-2.8
	1.9nm,1.0s,baz=96,slow=16,SNR=3.3							
WRA	**Warramunga Arr**	**44.38**	**270**	P		P	23 59 37.0	-1.1
	1.1nm,0.4s,baz=110,slow=7.8,SNR=35							
FINES	**FINESS Array B**	**143.57**	**341**	PKP	PKPdf		00 10 57.4	-4.2
	3.6nm,0.9s,baz=45,slow=2.7,SNR=7.2							
TORD	**Torodi Ar. Bea**	**164.60**	**178**	PKPab	PKPab		00 12 25.6	-1.7
	0.3nm,0.7s,baz=162,slow=3.8,SNR=4.5							

*IDC **07** 23:58:14.4±1.9,28.63S×178.01W,mb4.2/2,mb1 4.4/2, mb1mx4.0/12,mbtmp4.2/2,Error ellipse: s-maj=48.8km s-min=16.7km az=66.0*
ISC 07 23:58:11.6±5.1,28.5S±0.3×177.1W±0.8,h33km,n9, σ1℗39/6,mb4.2/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.01**	**223**	Pn		**Pn**	**23 58 30.2**	**+0.6**
	1µm,0.3s,baz=91,slow=14,SNR=24							
RAO				Sn		**Sn**	**23 58 42.6**	**-0.1**
	2µm,0.3s,baz=65,slow=23,SNR=12							
CTA	**Charters Tower**	**34.30**	**276**	P		**P**	**00 05 00.4**	**+3.3**
	2.4nm,0.7s,mb4.3,baz=94,slow=13,SNR=3.5							
STKA	**Stephens Creek**	**35.68**	**254**	P		**P**	**00 05 07.5**	**-1.4**
	1.9nm,0.7s,mb4.1,baz=90,slow=11,SNR=4.1							
WB2	**Warramunga Arr**	**44.81**	**270**	*e*P		**P**	**00 06 24.4**	**0.0**
WRA	**Warramunga Arr**	**44.82**	**270**	P		**P**	**00 06 24.4**	**-0.1**
	1.6nm,0.4s,mb4.2,baz=111,slow=8.0,SNR=42							
FINES	**FINESS Array B**	**143.62**	**341**	PKP	PKPdf		00 17 47.4	+5.1
	3.6nm,0.9s,baz=52,slow=2.8,SNR=10							
NB2	**NORSAR Subarra1**	**46.99**	**353**	PKPabc	PKPdf		00 17 58.5	+10
	2.9nm,1.2s,baz=17,slow=2.6							
AKASG	**Malin Array Be**	**150.22**	**325**	PKPbc	PKPdf		00 18 06.1	+12
	0.4nm,0.5s,baz=47,slow=2.6,SNR=3.3							
TORD	**Torodi Ar. Bea**	**164.68**	**176**	PKPab	PKPab		00 19 16.2	+6.1
	0.4nm,0.7s,baz=169,slow=4.8,SNR=2.7							

IDC 08 00:03:11.6±1.8,28.17S×177.39W,mb4.2/1,mb1 4.6/1, mb1mx3.8/12,mbtmp4.2/1,Error ellipse: s-maj=61.0km s-min=29.2km az=108.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res

0.1nm,0.3s,baz=145,slow=16,SNR=3.1
CTA Charters Tower 34.28 278 P **P 00 32 17.9 +0.7**
3.0nm,0.5s,mb4.5,baz=108,slow=12,SNR=6.4
STKA Stephens Creek 35.06 256 P **P 00 32 25.0 +1.1**
2.0nm,0.6s,mb4.2,baz=110,slow=11,SNR=4.9
STKA Stephens Creek 35.06 256 *eP* **P 00 32 24.6 +0.7**
WB2 Warramunga Arr 44.61 272 *eP* **P 00 33 43.1 0.0**
WRA Warramunga Arr 44.62 272 P **P 00 33 41.7 -1.5**
3.6nm,0.6s,mb4.4,baz=110,slow=7.7,SNR=12
KAF Kangasniemi 144.44 341 *ep* PKPbc 00 45 03.2 -0.9
4.4nm,0.9s
FINES FINESS Array B 145.04 340 PKP PKPdf 00 45 04.8 -3.7
1.4nm,0.5s,baz=60,slow=3.8,SNR=9.3
NOA NORSAR Array B 148.53 352 PKPbc PKPdf 00 45 13.5 -0.7
0.9nm,0.9s,baz=14,slow=4.3,SNR=3.6
AKASG Malin Array Be 151.38 324 PKPbc PKPdf 00 45 20.0 +1.0
0.8nm,0.5s,baz=52,slow=2.6,SNR=5.8
TORD Torodi Ar. Bea 163.11 177 PKPab PKPab 00 46 22.2 -1.8
0.3nm,0.5s,baz=180,slow=3.5,SNR=4.7

IDC 08 00:36:44.7±1.9, 29.89S×177.71W, mb3.9/2, mb1 4.0/3, mb1mx3.9/13, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=42.6km s-min=19.2km az=94.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.66**	**344**	Pn	Pn	00 37 01.0	+0.1
	660nm,0.3s,baz=253,slow=23,SNR=22						
RAO				Sn	Sn	00 37 14.3	+2.1
	1μm,0.3s,baz=261,slow=23,SNR=10						
URZ	**Urewera**	**9.39**	**206**	Pn	P	00 38 56.7	-7.5
	0.6nm,0.3s,baz=210,slow=14,SNR=3.0						
DZM	**Mont Dzumac**	**16.23**	**295**	Pn	P	00 40 35.9	+0.2
	0.2nm,0.3s,baz=334,slow=21,SNR=1.6						
STKA	**Stephens Creek**	**34.84**	**256**	P	P	00 43 38.5	-1.0
	0.7nm,0.4s,baz=20,slow=18,SNR=4.8						
WRA	**Warramunga Arr**	**44.33**	**271**	P	P	00 44 55.3	-3.2
	0.9nm,0.5s,baz=110,slow=7.7,SNR=26						
FINES	**FINESS Array B**	**144.75**	**340**	PKhKP		00 56 18.1	
	2.1nm,0.8s,baz=90,slow=4.2,SNR=4.3						
NOA	**NORSAR Array B**	**148.29**	**352**	PKPbc	PKPdf	00 56 31.3	+0.8
	0.9nm,0.8s,baz=19,slow=19,SNR=2.2						
AKASG	**Malin Array Be**	**151.05**	**323**	PKPbc	PKPdf	00 56 39.8	+4.7
	0.6nm,0.5s,baz=46,slow=2.2,SNR=5.2						

IDC 08 00:37:30.4±1.7, 28.63S×178.82W, mb4.2/2, mb1 4.3/2, mb1mx3.9/12, mbtmp4.2/2, Error ellipse: s-maj=68.5km s-min=22.3km az=23.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.01**	**128**	Pn	Pn	00 37 52.0	+0.3
	1μm,0.3s,baz=94,slow=23,SNR=7.0						
STKA	**Stephens Creek**	**34.22**	**255**	P	P	00 44 17.3	-2.6
	1.2nm,0.4s,baz=237,slow=3.0,SNR=5.1						
WRA	**Warramunga Arr**	**43.34**	**271**	P	P	00 45 35.0	-1.1
	1.8nm,0.5s,baz=111,slow=7.8,SNR=13						
FINES	**FINESS Array B**	**143.24**	**340**	PKhKP		00 56 58.0	
	5.6nm,1.0s,baz=52,slow=3.7,SNR=6.6						
AKASG	**Malin Array Be**	**149.45**	**324**	PKPbc	PKPdf	00 57 20.4	+2.0
	0.8nm,0.5s,baz=50,slow=2.9,SNR=6.3						

JMA 08 00:44:55.6±0.7, 30.67N×141.48E, M4.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**4.00**	**354**	P	Pn	00 46 00.0	+0.6
BSO4	**Boso 4**	**4.41**	**348**	P	Pn	00 46 05.2	-0.2
BSO4				eS	Sn	00 46 58.4	+0.1
JNY	**Yasuok**	**5.58**	**328**	P	Pn	00 46 22.1	+0.3
JRY	**Ryogami san**	**5.75**	**339**	P	Pn	00 46 25.4	+1.1
MAT	**Matsushiro**	**6.46**	**336**	P	Pn	00 46 34.9	+0.6

*IDC **08** 00:55:01.5±0.9, 30.02S×177.22W, mb4.0/6, mb1 4.1/7, mb1mx4.0/15, mbtmp3.9/7, ML3.5/1, Error ellipse: s-maj=25.4km s-min=20.9km az=64.0*
*NEIC **08** 00:55:02.7±0.7, 30.04S×177.23W, h10km, mb4.6/3, Error ellipse: s-maj=16.3km s-min=12.1km az=82.0*
ISC 08 00:55:05.1±0.8, 30.09S±0.06×177.4W±0.1, h33km, n24, σ1§18/22, mb4.3/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.95**	**330**	Pn	**Pn**	**00 55 22.4**	**0.0**
	924nm,0.3s,baz=156,slow=1.1,SNR=17						
RAO				Sn	**Sn**	**00 55 34.7**	**-0.2**
	2μm,0.3s,baz=261,slow=21,SNR=12						
RAO	**Raoul Island**	**0.95**	**330**	*e*Pg	**P**	**00 55 22.1**	**0.0**
RAO				Pn	**Pn**	**00 55 22.4**	**0.0**
RAO				Sn	**Sn**	**00 55 34.7**	**-0.2**
URZ	**Urewera**	**9.34**	**208**	Pn	**P**	**00 57 20.9**	**+0.4**
	0.5nm,0.3s,baz=103,slow=18,SNR=2.7						
URZ				Sn	**Sn**	**00 58 59.8**	**-5.8**
	1.7nm,0.3s,baz=223,slow=8.7,SNR=3.6						
DZM	**Mont Dzumac**	**16.57**	**295**	Pn	**P**	**00 59 08.0**	**+11**
	0.5nm,0.3s,baz=165,slow=20,SNR=3.6						
CTA	**Charters Tower**	**34.28**	**278**	P	**P**	**01 01 52.7**	**+2.3**
	1.4nm,0.4s,mb4.3,baz=102,slow=9.4,SNR=4.8						
CTA	**Charters Tower**	**34.28**	**278**	P	**P**	**01 01 52.7**	**+2.3**
CTAO	**Charters Tower**	**34.28**	**278**	*e*P	**P**	**01 01 52.3**	**+1.9**
	3.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**35.07**	**256**	P	**P**	**01 01 59.1**	**+2.0**
	4.1nm,1.0s,mb4.3,baz=130,slow=24,SNR=5.3						
STKA	**Stephens Creek**	**35.07**	**256**	*e*P	**P**	**01 01 56.1**	**-1.0**
WB2	**Warramunga Arr**	**44.61**	**272**	*e*P	**P**	**01 03 16.6**	**+0.3**
WRA	**Warramunga Arr**	**44.62**	**272**	P	**P**	**01 03 16.1**	**-0.3**
	1.9nm,0.5s,mb4.2,baz=110,slow=7.8,SNR=37						
VNDA	**Vanda**	**48.46**	**186**	P	**P**	**01 03 44.7**	**-1.2**
	0.7nm,0.7s,mb3.8,baz=20,slow=6.6,SNR=2.3						
FITZ	**Fitzroy Crossi**	**52.90**	**269**	P	**P**	**01 04 18.7**	**-1.6**
	0.6nm,0.7s,mb3.6,baz=211,slow=18,SNR=2.3						
CASY	**Casey**	**55.67**	**208**	P	**P**	**01 04 38.4**	**-1.6**
	50nm,1.2s,mb5.4						
QSPA	**South Pole Qui**	**60.02**	**180**	P	**P**	**01 05 13.0**	**+2.6**
CMB	**Columbia Colle**	**86.17**	**42**	P	**P**	**01 07 43.4**	**-0.8**
	4.0nm,1.1s,mb4.6						
NVAR	**Mina Array Bea**	**87.64**	**42**	P	**P**	**01 07 52.4**	**+1.0**
	0.8nm,0.8s,mb4.0,baz=215,slow=7.0,SNR=5.8						
NVAR	**Mina Array Bea**	**87.64**	**42**	P	**P**	**01 07 52.4**	**+1.0**
FINES	**FINESS Array B**	**145.03**	**341**	PKP	PKPdf	01 14 38.5	+0.2
	3.3nm,0.6s,baz=58,slow=4.2,SNR=26						
NB2	**NORSAR Subarra1**	**148.52**	**352**	PKPabc	PKPdf	01 14 48.9	+4.8
	1.0nm,0.7s,baz=13,slow=2.8						
NOA	**NORSAR Array B**	**148.52**	**352**	PKPbc	PKPdf	01 14 49.3	+5.2
	1.4nm,0.7s,baz=17,slow=4.2,SNR=5.6						
AKASG	**Malin Array Be**	**151.37**	**324**	PKPbc	PKPdf	01 14 55.7	+6.9
	1.3nm,0.6s,baz=52,slow=3.1,SNR=7.8						
BRTR	**Keskin Array B**	**152.92**	**299**	PKPbc	PKPdf	01 15 01.1	+10
	0.4nm,0.8s,baz=129,slow=7.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**163.12**	**177**	PKPab	PKPab	01 15 56.9	+0.1
	0.2nm,0.4s,baz=175,slow=3.8,SNR=7.2						

*NNC **08** 01:00:09.0±5.6, 37.75N×72.06E, h28km±48km, mpv3.8, Error ellipse: s-maj=48.9km s-min=28.3km az=167.0*
ISC 08 00:59:59.4±1.1, 37.25N±0.07×72.5E±0.2, h33km, n10, σ0§63/15, 1C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.04**	**346**	Pn	**Pn**	**01 01 28.6**	**-0.4**
	5.0nm,0.6s,baz=171,slow=12,SNR=58						
KK31				⇑Sn	**Sn**	**01 02 31.5**	**-6.3**
	34nm,0.5s,baz=169,slow=23						
TKM2	**Tokmak 2**	**6.14**	**22**	⇓Pn	**Pn**	**01 01 33.7**	**+3.3**
	26nm,2.2s						
TKM2				⇓Sn	**Sn**	**01 02 40.0**	**-0.3**
	50nm,2.1s						
TKM2				⇓Lg		01 03 14.0	
	32nm,1.6s						
KOLN	**Koldanda**	**13.29**	**132**	*e*P	**P**	**01 03 08.2**	**-0.1**
	5.8nm,0.5s						
KOLN				eS	**S**	**01 05 30.3**	**-5.6**
GKN	**Gorkha**	**13.76**	**129**	*e*P	**P**	**01 03 14.2**	**-0.2**
	29nm,0.7s						
GKN				eS	**S**	**01 05 40.6**	**-6.4**
KKN	**Kakani**	**14.31**	**128**	*e*P	**P**	**01 03 21.4**	**-0.3**
	7.2nm,0.4s						
DMN	**Daman**	**14.33**	**128**	*e*P	**P**	**01 03 21.5**	**-0.4**
PKI	**Pulchoki**	**14.54**	**128**	*e*P	**P**	**01 03 25.7**	**+1.0**
	8.2nm,0.4s						
GUN	**Gumba**	**14.61**	**126**	*e*P	**P**	**01 03 25.5**	**-0.1**
	8.4nm,0.5s						
JIRN	**Jiri**	**14.98**	**126**	*e*P	**P**	**01 03 30.4**	**-0.1**
	8.2nm,0.3s						
JIRN				*e*S	**S**	**01 06 10.3**	**-5.7**
AB31	**Akbulak array**	**15.07**	**327**	P	**P**	**01 03 31.5**	**+0.1**
	1.0nm,0.7s,baz=154,slow=11,SNR=9.5						

IDC 08 01:00:03.0±3.6, 28.66S×177.76W, mb3.8/2, mb1 4.0/2, mb1mx3.8/12, mbtmp3.8/2, Error ellipse: s-maj=71.7km s-min=20.3km az=80.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.60**	**193**	Pn	Pn	01 00 18.8	+0.4
	427nm,0.3s,baz=99,slow=4.6,SNR=15						
RAO				Sn	Sn	01 00 30.3	+1.3
	492nm,0.3s,baz=85,slow=23,SNR=10						
STKA	**Stephens Creek**	**35.11**	**254**	P	P	01 06 58.7	-1.5
	1.9nm,0.9s,baz=295,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**44.27**	**270**	P	P	01 08 13.9	-2.4
	0.8nm,0.7s,baz=109,slow=8.0,SNR=10						
FINES	**FINESS Array B**	**143.58**	**341**	PKP	PKPdf	01 19 38.9	-1.9
	4.2nm,0.9s,baz=51,slow=3.4,SNR=9.0						

*IDC **08** 01:05:04.1±0.6, 6.05S×105.35E, mb4.2/13, mb1 4.3/13, mb1mx4.2/19, mbtmp4.2/13, Error ellipse: s-maj=26.7km s-min=14.1km az=51.0*
*NEIC **08** 01:05:07.3±0.3, 5.94S×105.49E, h15km, mb4.7/8, Error ellipse: s-maj=16.1km s-min=8.1km az=48.0*
*BJI **08** 01:05:08.3, 5.73S×106.15E, h3km, mB4.7, mb4.6, Ms4.9, Msz4.7*
*MOS **08** 01:05:08.9±1.5, 5.82S×105.67E, h33km, mb5.0/10, Error ellipse: s-maj=18.9km s-min=9.8km az=118.6*
ISC 08 01:05:08.3±0.4, 5.96S±0.07×105.61E±0.09, h33km, n63, σ1§28/58, mb4.6/26, MS4.8/5, 12C-3D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**20.39**	**139**	P	**P**	**01 09 44.5**	**-0.6**
	26nm,1.3s						
FITZ	**Fitzroy Crossi**	**22.98**	**123**	*e*P	**P**	**01 10 12.0**	**+0.8**
	20nm,1.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**22.98**	**123**	P	**P**	**01 10 12.1**	**+0.9**
	2.0nm,0.5s,mb3.8,baz=317,slow=11,SNR=8.4						
TGY	**Tagaytay City**	**25.07**	**37**	P	**P**	**01 10 31.8**	**+0.3**
	104nm,0.2s,mb5.9,baz=309,slow=6.5,SNR=2.0						
WRA	**Warramunga Arr**	**31.18**	**119**	P	**P**	**01 11 26.3**	**-0.6**
	3.2nm,0.8s,mb4.2,baz=299,slow=9.3,SNR=27						
WRA				PcP	PcP	01 14 21.3	0.0
	0.8nm,0.8s,baz=291,slow=1.9,SNR=5.1						
WRAB	**Tennant Creek**	**31.19**	**119**	⇑*e*P	**P**	**01 11 25.3**	**-1.6**
WB2	**Warramunga Arr**	**31.19**	**119**	*e*P	**P**	**01 11 27.7**	**+0.8**
CD2	**Chengdu**	**36.70**	**357**	*e*P	**P**	**01 12 17.8**	**+3.6**
CD2				PP	PP	01 13 44.4	+4.7
CD2				PPP	PPP	01 14 04.4	+4.7
CD2				S	**S**	**01 18 02.3**	**+7.3**
LSA	**Lhasa**	**38.08**	**339**	P	**P**	**01 12 25.6**	**-0.2**
LSA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
LSA	**Lhasa**	**38.08**	**339**	P	**P**	**01 12 25.6**	**-0.2**
	comp=Z,13nm,1.1s,mb4.6						
SSE	**Sheshan**	**39.74**	**21**	P	**P**	**01 12 39.4**	**-0.2**
SSE				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,170nm,10.6s						
SSE	**Sheshan**	**39.74**	**21**	P	**P**	**01 12 39.4**	**-0.2**
	comp=Z,54nm,0.7s,mb5.4						
NJ2	**Nanjing**	**39.85**	**18**	*e*P	**P**	**01 12 38.5**	**-2.0**
NJ2				PP	PP	01 14 14.6	-1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,70nm,7.4s						
NJ2				LR	LR		
	comp=N,1μm,21.5s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,20.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,530nm,20.1s,MS4.4						
CTA	**Charters Tower**	**41.88**	**113**	P	**P**	**01 12 58.4**	**+1.0**
	comp=Z,5.8nm,0.9s,mb4.2,baz=277,slow=8.8,SNR=5.2						
CTAO	**Charters Tower**	**41.88**	**113**	*e*P	**P**	**01 12 59.1**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,66nm,1.7s,mb5.0						
CTAO	**Charters Tower**	**41.88**	**113**	*e*P	**P**	**01 12 59.1**	**+1.6**
	comp=Z,66nm,1.7s,mb5.0						
STKA	**Stephens Creek**	**42.36**	**132**	*e*P	**P**	**01 13 02.1**	**+0.8**
	comp=Z,7.3nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**42.36**	**132**	P	**P**	**01 13 01.8**	**+0.5**
	comp=Z,7.8nm,0.7s,mb4.4,baz=305,slow=8.5,SNR=14						
STKA	**Stephens Creek**	**42.36**	**132**	*e*P	**P**	**01 13 01.5**	**+0.2**
GTA	**Gaotai**	**45.46**	**354**	*e*P	**P**	**01 13 28.9**	**+2.7**
GTA				PCP	PcP	01 15 09.5	+4.2
GTA				PP	PP	01 15 16.4	+3.3
GTA				PCS		01 19 01.6	
GTA				S	**S**	**01 20 11.7**	**+7.0**
GTA				SS	SS	01 23 27.3	+7.6
GTA				AMB	AMB		
	comp=Z,1μm,9.9s						
GTA				LR	LR		
	comp=N,590nm,19.9s,MS4.7						
GTA				LR	LR		
	comp=E,480nm,16.0s,MS4.7						
GTA				LR	LR		
	comp=Z,1μm,17.2s,MS4.8						
HHC	**Hu-ho-hao-te**	**46.90**	**6**	*e*P	**P**	**01 13 37.8**	**+0.3**
HHC				AP	pP	01 13 45.8	-1.6
HHC				PP	PP	01 15 27.2	-0.3
HHC				S	**S**	**01 20 25.7**	**+0.5**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,360nm,7.1s						
HHC				LR	LR		
	comp=N,670nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=E,500nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=Z,690nm,15.5s,MS4.7						
WMQ	**Urumqi**	**52.13**	**344**	*e*P	**P**	**01 14 19.4**	**+1.8**
WMQ				AMB	AMB		
	comp=Z,40nm,4.6s						
WMQ				LR	LR		
	comp=Z,550nm,21.0s,MS4.6						
CN2	**Changchun**	**52.67**	**18**	*e*P	**P**	**01 14 27.0**	**+5.3**
SONM	**Songino Array**	**53.56**	**1**	P	**P**	**01 14 27.7**	**-0.6**
	comp=Z,2.1nm,1.0s,mb4.0,baz=169,slow=8.4,SNR=10						
SONM				PcP	PcP	01 15 34.5	-0.1
	comp=Z,1.9nm,1.1s,baz=180,slow=3.0,SNR=4.5						
ULN	**Ulaanbaatar**	**53.60**	**1**	*e*P	**P**	**01 14 28.7**	**+0.1**
AAK	**Ala-Archa**	**56.02**	**333**	⇑*e*P	**P**	**01 14 45.4**	**-0.8**
AAK				pmax	pmax		
	comp=Z,19nm,2.5s,mb4.7						
MKAR	**Makanchi Array**	**56.45**	**341**	P	**P**	**01 14 47.0**	**-2.2**
	comp=Z,2.2nm,1.0s,mb4.2,baz=153,slow=8.1,SNR=7.0						
MKAR	**Makanchi Array**	**56.45**	**341**	*i* P	**P**	**01 14 48.0**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**61.06**	**341**	⇑*e*P	**P**	**01 15 20.9**	**-0.4**
ZAL	**Zalesovo**	**62.19**	**346**	P	**P**	**01 15 26.9**	**-1.8**
	comp=Z,2.2nm,0.9s,mb4.3,baz=327,slow=3.5,SNR=11						
BVAR	**Borovoye Array**	**65.88**	**338**	P	**P**	**01 15 51.1**	**-1.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=224,slow=39,SNR=3.2						
YAK	**Yakutsk**	**70.29**	**12**	⇑*e*P	**P**	**01 16 19.9**	**-0.2**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
GNI	**Garni**	**72.25**	**315**	⇑*e*P	**P**	**01 16 32.7**	**+0.5**
GNI				pmax	pmax		
	comp=Z,15nm,2.5s						
SVE	**Sverdlovsk**	**72.50**	**336**	*e*P	**P**	**01 16 35.7**	**+2.3**
ARU	**Arti**	**73.09**	**335**	⇑*i*P	**P**	**01 16 37.3**	**+0.3**
ARU				*e*S	S	01 26 01.5	+0.6
ARU				*e*SS	SS	01 30 47.6	+2.9
ARU				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
KIV	**Kislovodsk**	**75.19**	**318**	*e*P	**P**	**01 16 47.9**	**-1.5**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
MATP	**Matopo**	**75.89**	**251**	P	**P**	**01 16 52.4**	**-1.4**
	comp=Z,7.9nm,1.1s,mb4.5,baz=113,slow=6.7,SNR=5.0						
VNDA	**Vanda**	**77.24**	**169**	P	**P**	**01 16 58.0**	**-2.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=169,slow=8.4,SNR=3.0						
VNDA	**Vanda**	**77.24**	**169**	*e*P	**P**	**01 17 00.1**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,17nm,1.7s						
VNDA	**Vanda**	**77.24**	**169**	*e*P	**P**	**01 17 00.1**	**-0.4**
	comp=Z,17nm,1.7s,mb4.7						
TIXI	**Tiksi**	**78.95**	**7**	⇑*i*P	**P**	**01 17 08.2**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
ANN	**Anapa**	**79.00**	**318**	*e*P	**P**	**01 17 02.5**	**-8.2**
ANN				pmax	pmax		
	comp=Z,106nm,1.7s,mb5.5						
ANN				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.3						
BR131	**Keskin Array S**	**80.11**	**312**	*e*P	**P**	**01 17 15.2**	**-1.6**
	comp=Z,3.6nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**80.11**	**312**	P	**P**	**01 17 15.2**	**-1.5**
	comp=Z,2.3nm,0.9s,mb4.1,baz=133,slow=5.2,SNR=12						
OBN	**Obninsk**	**83.11**	**327**	*e*P	**P**	**01 17 34.5**	**+2.5**
OBN				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
TIRR	**Tirgusor**	**85.07**	**316**	⇓P	**P**	**01 17 44.0**	**+1.8**
AKASG	**Malin Array Be**	**86.03**	**322**	P	**P**	**01 17 45.3**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.5,baz=87,slow=4.9,SNR=10						
VRI	**Vrincioaia**	**86.55**	**317**	⇑P	**P**	**01 17 51.3**	**+1.9**
MLR	**Muntele Rosu**	**87.01**	**316**	⇑P	**P**	**01 17 51.8**	**+0.1**
BURAR	**Bucovina Array**	**87.92**	**318**	⇓P	**P**	**01 17 57.6**	**+1.6**
BURAR	**Bucovina Array**	**87.92**	**318**	⇓P	**P**	**01 17 57.6**	**+1.6**
BZS	**Buzias**	**90.02**	**316**	⇑P	**P**	**01 18 06.1**	**+0.1**
SNAA	**Sanae**	**90.10**	**197**	⇑*i*P	**P**	**01 18 07.2**	**+1.4**
SNAA	**Sanae**	**90.10**	**197**	*e*P	**P**	**01 18 06.1**	**+0.3**
	comp=Z,7.5nm,1.3s,mb4.9						
FINES	**FINESS Array B**	**90.21**	**332**	P	**P**	**01 18 07.6**	**+1.1**
	comp=Z,3.6nm,0.8s,mb4.7,baz=207,slow=4.3,SNR=3.4						
YKA	**Yellowknife Ar**	**116.36**	**20**	PKP	PKPdf	01 23 49.4	+1.0
	comp=Z,0.6nm,0.9s,baz=332,slow=2.2,SNR=4.2						
NVAR	**Mina Array Bea**	**128.80**	**44**	PKP	PKPdf	01 24 16.0	+2.9
	comp=Z,0.1nm,0.3s,baz=315,slow=21,SNR=2.9						
ELK	**Elko**	**129.69**	**40**	PKP	PKPdf	01 24 18.2	+3.5
	comp=Z,0.6nm,0.6s,baz=148,slow=6.2,SNR=4.0						
TXAR	**Lajitas Array**	**143.88**	**46**	PKP	PKPdf	01 24 42.0	+1.0
	comp=Z,2.7nm,1.0s,baz=326,slow=4.5,SNR=6.7						
CPUP	**Villa Florida**	**143.89**	**207**	*e*PKIKP	PKPdf	01 24 44.2	+3.2
JCT	**Junction City**	**145.86**	**41**	*e*PKP2	PKPab	01 24 47.1	-0.3
WVT	**Waverly**	**147.53**	**21**	*e*PKP2	PKPab	01 24 50.4	-3.4
OXF	**Oxford**	**148.37**	**24**	*e*PKP2	PKPab	01 24 52.5	-4.7

IDC 08 01:24:26.9±1.0, 28.56S×177.78W, mb4.2/4, mb1 4.4/4, mb1mx4.1/13, mbtmp4.2/4, MS4.3/1, Ms1 4.3/1, ms1mx3.7/19, Error ellipse: s-maj=29.4km s-min=15.8km az=97.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.70**	**190**	Pn	Pn	01 24 44.1	+0.3
	558nm,0.3s,baz=147,slow=2.3,SNR=17						
RAO				Sn	Sn	01 24 57.3	+1.8
	2μm,0.3s,baz=101,slow=22,SNR=15						
DZM	**Mont Dzumac**	**15.65**	**291**	Pn	P	01 28 27.1	+17
	0.3nm,0.3s,baz=312,slow=24,SNR=2.6						
RPZ	**Rata Peaks**	**17.59**	**208**	LR	LR	01 34 36.4	
	comp=Z,986nm,18.4s,baz=65,slow=35						
CTA	**Charters Tower**	**33.74**	**276**	P	P	01 31 12.1	-0.3
	2.0nm,0.2s,baz=144,slow=8.7,SNR=2.5						
STKA	**Stephens Creek**	**35.12**	**254**	P	P	01 31 21.2	-3.0
	1.2nm,0.5s,baz=65,slow=9.3,SNR=4.6						
WRA	**Warramunga Arr**	**44.26**	**270**	P	P	01 32 37.9	-2.2
	1.5nm,0.6s,baz=111,slow=7.8,SNR=33						
NVAR	**Mina Array Bea**	**86.75**	**43**	P	P	01 37 13.8	-0.5
	1.4nm,0.9s,baz=209,slow=6.6,SNR=7.6						
ARCES	**ARCESS Array B**	**136.83**	**348**	PKP	PKPdf	01 43 50.1	-2.4
	1.3nm,0.8s,baz=38,slow=22,SNR=2.6						
FINES	**FINESS Array B**	**143.48**	**341**	PKP	PKPdf	01 44 00.7	-3.9
	3.1nm,0.6s,baz=53,slow=3.8,SNR=27						
NB2	**NORSAR Subarra1**	**146.96**	**352**	PKPabc	PKPdf	01 44 10.5	-0.1
	2.7nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**146.96**	**352**	PKPbc	PKPbc	01 44 10.8	+0.5
	1.6nm,0.7s,baz=14,slow=4.3,SNR=5.6						
AKASG	**Malin Array Be**	**149.93**	**325**	PKPbc	PKPdf	01 44 17.6	+1.9
	1.4nm,0.6s,baz=55,slow=3.0,SNR=6.7						
BRTR	**Keskin Array B**	**151.85**	**302**	PKPbc	PKPdf	01 44 23.4	+4.5
	0.2nm,0.3s,baz=315,slow=6.1,SNR=3.3						

*SNSN **08** 01:28:07.5, 27.78N×33.14E, Ml3.3*
*CSEM **08** 01:28:10.7±0.0, 27.69N×33.29E, h20km, Mw3.7, Error ellipse: s-maj=1.4km s-min=1.0km az=72.0*
*HLW **08** 01:28:11.5, 27.71N×33.29E, h11km, Mb3.5*
ISC 08 01:28:11.5±0.5, 27.70N±0.02×33.30E±0.03, h29km±5km, n59, σ0§53/68, 15C-21D, Egypt

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

IDC 08 01:36:19.4±18.0, 51.21N×174.02W, mb4.1/3, mb1 4.1/4, mb1mx3.6/22, mbtmp4.0/4, Error ellipse: s-maj=399.0km s-min=53.5km az=167.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**19.57**	**36**	P	P	01 40 49.0	-2.1
	0.2nm,0.3s,baz=231,slow=8.8,SNR=14						
INK	**Inuvik**	**25.91**	**34**	P	P	01 41 52.3	-2.0
	2.0nm,0.7s,baz=220,slow=7.4,SNR=6.2						
ARCES	**ARCESS Array B**	**58.73**	**352**	P	P	01 46 17.6	-2.9
	1.6nm,0.7s,baz=22,slow=6.5,SNR=7.4						
FINES	**FINESS Array B**	**66.56**	**350**	P	P	01 47 11.1	-1.4
	3.8nm,1.1s,baz=21,slow=12,SNR=2.8						

*NEIC **08** 01:48:55.0, 16.85N×94.96W, h118km, MD3.7(MEX), After MEX.*

MEX 08 01:48:55.0±1.1, 16.85N×94.96W, h118km±14km, MD3.7, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.25**	**16**	⇓*i* P	P	01 49 10.5	-1.0
CMIG				*i* S	S	01 49 21.7	-2.4
HUIG	**Huatulco**	**1.54**	**226**	*i* P	P	01 49 20.9	-2.3
HUIG				*i* S	S	01 49 42.7	-1.9
OXX	**Oaxaca**	**1.71**	**278**	*e*P	P	01 49 24.0	-1.2
OXX				*i* S	S	01 49 45.5	-2.5
VHO	**Vista Hermosa**	**1.72**	**278**	*i* P	P	01 49 24.3	-1.0
VHO				*i* S	S	01 49 45.8	-2.4

*IDC **08** 02:01:38.6±0.7, 29.85S×177.19W, mb4.6/8, mb1 4.8/9, mb1mx4.7/14, mbtmp4.7/9, ML4.7/1, MS4.3/1, Ms1 4.3/1, ms1mx3.7/18, Error ellipse: s-maj=20.9km s-min=18.8km az=23.0*

*BJI **08** 02:01:39.5, 29.97S×177.63W, h7km, mB5.2, mb5.2, Ms5.4, Msz5.1*

*NEIC **08** 02:01:40.7±0.4, 29.95S×177.36W, h10km, mb4.9/19, Error ellipse: s-maj=10.7km s-min=10.1km az=90.0*

*MOS **08** 02:01:43.1±1.6, 29.69S×177.32W, h33km, mb5.1/14, Error ellipse: s-maj=16.2km s-min=14.2km az=134.8*

ISC 08 02:01:42.8±2.9, 30.00S±0.06×177.53W±0.09, h31km±19km, n104, σ1§15/64, mb4.9/26, MS5.1/1, 3C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**336**	Pn	Pn	02 01 58.7	+0.5
	4μm,0.3s,baz=121,slow=3.5,SNR=110						
RAO				Sn	Sn	02 02 09.4	+0.1
	10μm,0.3s,baz=217,slow=21,SNR=32						
RAO	**Raoul Island**	**0.82**	**336**	*e*P	Pn	02 01 58.6	+0.4
URZ	**Urewera**	**9.36**	**207**	Pn	P	02 03 55.9	-2.8
	1.1nm,0.3s,baz=248,slow=4.3,SNR=6.9						
URZ					Sn	02 05 39.1	-4.7
	2.9nm,0.3s,baz=282,slow=20,SNR=5.7						
DZM	**Mont Dzumac**	**16.41**	**295**	Pn	P	02 05 39.4	+6.9
	1.0nm,0.3s,baz=93,slow=15,SNR=11						
DZM				LR	LR	02 10 54.7	
	comp=Z,1μm,18.1s,baz=21,slow=34						
RPZ	**Rata Peaks**	**16.43**	**210**	Pn	P	02 05 28.8	-3.9
	1.4nm,0.3s,baz=42,slow=16,SNR=2.6						
RPZ				Sn	S	02 08 25.6	-7.7
	0.9nm,0.3s,baz=161,slow=22,SNR=2.7						
RAR	**Rarotonga**	**18.24**	**65**	P	P	02 05 48.4	-7.0
	2.4nm,0.3s,baz=266,slow=9.7,SNR=3.8						
RAR				S	S	02 08 50.8	-24
	0.9nm,0.3s,baz=205,slow=23,SNR=2.5						
CTA	**Charters Tower**	**34.14**	**278**	*e*P	P	02 08 28.7	+1.5
	19nm,0.9s,mb5.0						
CTA	**Charters Tower**	**34.14**	**278**	P	P	02 08 28.3	+1.1
	24nm,0.8s,mb5.2,baz=95,slow=10,SNR=30						
CTA	**Charters Tower**	**34.14**	**278**	*e*P	P	02 08 28.7	+1.5
CTA				pmax	pmax		
	comp=Z,19nm,0.9s						
CTAO	**Charters Tower**	**34.14**	**278**	*e*P	P	02 08 28.1	+0.9
CTAO				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
CTAO	**Charters Tower**	**34.14**	**278**	*e*P	P	02 08 28.1	+0.9
	comp=Z,20nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**34.96**	**256**	*e*P	P	02 08 36.6	+2.4
	comp=Z,11nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**34.96**	**256**	P	P	02 08 36.3	+2.1
	comp=Z,14nm,0.9s,mb4.9,baz=99,slow=9.8,SNR=17						
STKA	**Stephens Creek**	**34.96**	**256**	*e*P	P	02 08 36.0	+1.8
STKA				*e*		02 08 47.4	
WB2	**Warramunga Arr**	**44.48**	**272**	*e*P	P	02 09 53.0	-0.2
WB2				*e*S	S	02 16 24.1	-1.5
WRA	**Warramunga Arr**	**44.49**	**271**	P	P	02 09 53.4	+0.1
	comp=Z,23nm,0.8s,mb5.0,baz=110,slow=7.7,SNR=116						
SBA	**Scott Base**	**48.46**	**184**	P	P	02 10 28.9	+5.0
SBA				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.2						
SBA	**Scott Base**	**48.46**	**184**	P	P	02 10 28.9	+4.9
	comp=Z,36nm,1.4s,mb5.2						
VNDA	**Vanda**	**48.53**	**186**	P	P	02 10 24.9	+0.5
	comp=Z,1.6nm,0.7s,mb4.2,baz=9.9,slow=4.6,SNR=10.0						
VNDA	**Vanda**	**48.53**	**186**	*e*P	P	02 10 26.5	+2.1
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	**48.53**	**186**	*e*P	P	02 10 26.5	+2.1
	comp=Z,2.3nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.77**	**269**	*e*P	P	02 10 57.5	+0.1
	comp=Z,9.3nm,0.9s,mb4.7						
CASY	**Casey**	**55.68**	**208**	*e*P	P	02 11 17.1	-1.0
	comp=Z,81nm,1.0s,mb5.7						
GUMO	**Guam**	**56.48**	**315**	P	P	02 11 22.5	-2.0
	comp=Z,98nm,0.7s,mb5.9,baz=86,slow=7.3,SNR=3.8						
GUMO	**Guam**	**56.48**	**315**	*e*P	P	02 11 22.1	-2.4
GUMO				pmax	pmax		
	comp=Z,756nm,1.5s						
GUMO	**Guam**	**56.48**	**315**	*e*P	P	02 11 22.1	-2.5
	comp=Z,756nm,1.5s						
MBWA	**Marble Bar**	**56.67**	**263**	*e*P	P	02 11 27.6	+1.8
	comp=Z,3.0nm,0.6s,mb4.5						
QSPA	**South Pole Qui**	**60.11**	**180**	*e*P	P	02 11 50.0	+1.0
	comp=Z,14nm,0.7s,mb5.1						
QSPA				*e*		02 11 57.3	
MAW	**Mawson**	**72.82**	**200**	*e*P	P	02 13 11.0	+1.2
	comp=Z,5.2nm,0.9s,mb4.5						
MAW	**Mawson**	**72.82**	**200**	P	P	02 13 09.7	-0.1
	comp=Z,6.1nm,0.9s,mb4.5,baz=127,slow=8.7,SNR=4.9						
MAW	**Mawson**	**72.82**	**200**	*e*P	P	02 13 10.5	+0.7
MAW				pmax	pmax		
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**72.82**	**200**	*e*P	P	02 13 10.5	+0.7
	comp=Z,13nm,1.1s,mb4.8						
KSM	**Kuching**	**75.34**	**280**	*e*P	P	02 13 24.9	-0.6
KSM				*e*		02 13 30.9	
SYO	**Syowa Base**	**77.59**	**193**	⇑X		02 13 42.9	
MJAR	**Matsushiro Arr**	**78.14**	**325**	P	P	02 13 39.4	-1.3
	comp=Z,4.3nm,0.9s,mb4.4,baz=163,slow=5.8,SNR=7.7						
MAJO	**Matsushiro**	**78.15**	**325**	*e*P	P	02 13 39.2	-1.4
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**78.15**	**325**	*e*P	P	02 13 39.2	-1.5
	comp=Z,7.8nm,0.8s,mb4.7						
SNAA	**Sanae**	**78.54**	**178**	*e*P	P	02 13 42.1	0.0
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SNAA	**Sanae**	**78.54**	**178**	*e*P	P	02 13 42.1	0.0
	comp=Z,7.0nm,1.0s,mb4.5						
PLCA	**Paso Flores**	**82.48**	**133**	P	P	02 14 04.1	+0.5
PLCA				pmax	pmax		
	comp=Z,13nm,1.4s						
PLCA	**Paso Flores**	**82.48**	**133**	P	P	02 14 04.1	+0.5
	comp=Z,13nm,1.4s,mb4.7						
YSS	**Yuzh-Sakhalins**	**84.56**	**334**	P	P	02 14 11.5	-2.6
YSS				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.5						
YSS	**Yuzh-Sakhalins**	**84.56**	**334**	P	P	02 14 11.5	-2.5
	comp=Z,44nm,1.0s,mb5.5						
CMB	**Columbia Colle**	**86.19**	**42**	*e*P	P	02 14 22.0	-0.4
CMB				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9						
CMB	**Columbia Colle**	**86.19**	**42**	*e*P	P	02 14 21.9	-0.5
	comp=Z,8.6nm,1.2s,mb4.9						
NJ2	**Nanjing**	**86.29**	**310**	*e*P	P	02 14 23.4	+0.3
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.2						
MTUM	**Tungsten Hills**	**86.80**	**43**	*e*P	P	02 14 25.8	+0.4
NVAR	**Mina Array Bea**	**87.67**	**42**	P	P	02 14 28.6	-1.0
	comp=Z,2.8nm,0.9s,mb4.5,baz=207,slow=6.4,SNR=21						
TPNV	**Topopah Spring**	**87.93**	**45**	*e*P	P	02 14 31.1	+0.3
TPNV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
TPNV	**Topopah Spring**	**87.93**	**45**	*e*P	P	02 14 31.1	+0.3
	comp=Z,4.5nm,1.0s,mb4.7						
TPH	**Tonopah**	**88.08**	**43**	*e*P	P	02 14 31.4	-0.1
TPH				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.0						
TPH	**Tonopah**	**88.08**	**43**	*e*P	P	02 14 31.4	-0.1
	comp=Z,11nm,1.0s,mb5.0						
CN2	**Changchun**	**90.07**	**323**	*e*P	P	02 14 43.0	+2.2
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.3						
ANMO	**Albuquerque**	**93.01**	**51**	*e*P	P	02 14 54.5	-0.1
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ANMO	**Albuquerque**	**93.01**	**51**	*e*P	P	02 14 54.5	-0.1
	comp=Z,3.4nm,1.2s,mb4.7						
HLID	**Hailey**	**93.24**	**40**	*e*P	P	02 14 55.9	+0.5
	comp=Z,3.2nm,1.1s,mb4.7						
PDAR	**Pinedale Array**	**95.57**	**43**	P	P	02 15 05.7	-0.4
	comp=Z,0.8nm,1.0s,mb4.1,baz=45,slow=2.1,SNR=3.9						
CD2	**Chengdu**	**96.22**	**302**	*e*P	P	02 15 10.0	+0.6
CD2				PP	PP	02 19 06.0	+1.0
CD2				PPP	PPP	02 21 12.0	+1.7
CD2				SKS	SKS	02 25 41.5	-9.4
CD2				S	S	02 26 23.0	-0.1
CD2				SS	SS	02 33 00.0	+0.5
LZH	**Lanzhou**	**98.81**	**307**	*e*P	P	02 15 21.5	+0.6
LZH				PP	PP	02 19 25.6	+0.8
LZH				*e*SKS	SKS	02 25 54.7	-10
LZH				*e*S	S	02 26 44.5	-0.3
LZH				*e*SS	SS	02 33 35.5	-0.1
LZH				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,30nm,4.5s						
LZH				LR	LR		
	comp=N,560nm,19.5s						
LZH				LR	LR		
	comp=Z,650nm,20.3s,MS5.1						
LZH	**Lanzhou**	**98.81**	**307**	*e*P	P	02 15 21.5	+0.6
	comp=Z,10.0nm,1.6s,mb5.1						
LZH				pP	pP	02 15 35.1	+4.0
LZH				sP	sP	02 15 40.2	+6.0
LZH				PP	PP	02 19 25.6	+0.8
LZH				*e*SKS	SKS	02 25 54.7	-10
LZH				*e*S	S	02 26 44.5	-0.3
LZH				sS		02 27 07.5	
LZH				*e*SS	SS	02 33 35.5	-0.1
MKAR	**Makanchi Array**	**117.83**	**310**	PKP	PKPdf	02 20 25.2	-6.0
	comp=Z,0.4nm,0.6s,baz=149,slow=0.8,SNR=5.3						
ARCES	**ARCESS Array B**	**138.28**	**348**	PKhKP		02 20 58.3	
	comp=Z,2.2nm,1.0s,baz=27,slow=5.4,SNR=4.2						
JOF	**Joensuu**	**142.19**	**339**	*e*p	PKPdf	02 21 14.2	-2.3
	comp=Z,3.3nm,0.9s						
JOF	**Joensuu**	**142.19**	**339**	*e*PKIKP	PKPdf	02 21 14.2	-2.3
JOF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GNI	**Garni**	**144.24**	**298**	*e*PKIKP	PKPdf	02 21 14.4	-6.4
KAF	**Kangasniemi**	**144.31**	**341**	*e*p	PKPbc	02 21 12.3	-2.1
	comp=Z,8.7nm,1.0s						
FINES	**FINESS Array B**	**144.91**	**340**	PKP	PKPdf	02 21 15.7	-5.6
	comp=Z,13nm,0.7s,baz=63,slow=4.1,SNR=63						
OBN	**Obninsk**	**145.07**	**326**	*α i* PKIKP	PKPdf	02 21 16.8	-5.0
OBN				*i*		02 21 29.3	
OBN				pmax	pmax		
	comp=Z,69nm,1.1s						
KIV	**Kislovodsk**	**145.33**	**305**	*e*PKIKP	PKPdf	02 21 18.3	-4.3
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
TVAN	**Van**	**145.34**	**295**	*i* P	PKPbc	02 21 15.8	-2.2
VRSR	**Storozhevoye**	**145.50**	**318**	*e*PKIKP	PKPdf	02 21 18.0	-4.6
VRSR				pmax	pmax		
	comp=N,3.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,4.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ERZM	**Erzurum**	**146.84**	**298**	*i* P	PKPbc	02 21 22.4	+0.9
NB2	**NORSAR Subarra**	**148.42**	**352**	PKPabc	PKPdf	02 21 26.0	-1.1
	comp=Z,12nm,0.9s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**148.42**	**352**	PKPbc	PKPdf	02 21 25.9	-1.2
	comp=Z,7.7nm,0.8s,baz=17,slow=4.2,SNR=20						
KELT	**Kelkit**	**148.43**	**299**	*i* P	PKPdf	02 21 26.6	-1.2
GRSN	**GIRESUNGRSN**	**149.06**	**300**	*i* P	PKPdf	02 21 26.2	-2.6
GZT	**Gaziantep**	**150.01**	**294**	*i* P	PKPdf	02 21 29.3	-1.2
COBT	**Iskenderun**	**151.11**	**292**	*i* P	PKPdf	02 21 33.2	+1.1
AKASG	**Malin Array Be**	**151.22**	**324**	PKPbc	PKPdf	02 21 32.8	+0.9
	comp=Z,8.8nm,0.8s,baz=48,slow=2.7,SNR=40						
BOYT	**Boyabat**	**151.46**	**302**	*i* P	PKPdf	02 21 34.0	+1.5
SUW	**Suwalki**	**151.70**	**334**	*e*PKIKP	PKPdf	02 21 33.9	+1.5
CTKT	**Corum**	**151.72**	**301**	*i* P	PKPdf	02 21 34.5	+1.7
BR131	**Keskin Array S**	**152.76**	**299**	*e*PKPbc	PKPdf	02 21 37.7	+3.3
BRTR	**Keskin Array B**	**152.76**	**299**	PKPbc	PKPdf	02 21 37.0	+2.6
	comp=Z,3.0nm,1.0s,baz=135,slow=3.5,SNR=17						
ANTO	**Ankara**	**153.37**	**300**	*e*PKIKP	PKPdf	02 21 39.0	+3.7
KWP	**Kalwaria**	**155.12**	**328**	*e*PKP2	PKPab	02 21 58.3	-0.9
BSEG	**Bad Segeberg**	**155.41**	**349**	*e*PKP2	PKPab	02 21 59.4	-0.9
KOLS	**Kolonicke sedl**	**155.81**	**327**	*e*PKP	PKPab	02 22 00.8	-1.4
STHS	**Stebnicka Huta**	**155.94**	**329**	*e*PKP	PKPab	02 22 02.3	-0.4
CRVS	**Cervenica-Dubn**	**156.21**	**328**	*e*PKP	PKPab	02 22 03.2	-0.7
OKC	**Ostrava-Krasne**	**156.91**	**333**	*e*PKPab	PKPab	02 22 05.4	-1.5
KECS	**Kecovo**	**156.96**	**328**	PKP	PKPab	02 22 06.0	-1.1
UPC	**Upice**	**157.13**	**337**	*e*PKPab	PKPab	02 22 07.5	-0.3
DPC	**Dobruska-Polom**	**157.16**	**337**	*e*PKPab	PKPab	02 22 07.8	-0.1
CLL	**Collm**	**157.31**	**343**	*i* PKP2	PKPab	02 22 07.4	-1.1
CLL				*i*		02 22 15.0	
CLL				*e**PPKP2		02 22 19.0	
PVCC	**Panska Ves**	**157.57**	**339**	*e*PKPab	PKPab	02 22 09.6	-0.1
VYHS	**Vyhne**	**157.69**	**330**	*e*PKP	PKPab	02 22 09.5	-0.8
PRU	**Pruhonice**	**158.05**	**339**	*e*PKPab	PKPab	02 22 11.1	-0.7
MOX	**Moxa**	**158.26**	**344**	*i* P	PKPab	02 22 11.3	-1.4
NKC	**Novy Kostel**	**158.44**	**342**	*e*PKPab	PKPab	02 22 13.1	-0.3
KHC	**Kasperske Hory**	**159.10**	**339**	*e*PKPab	PKPab	02 22 15.9	-0.4
GERES	**GERESS Array B**	**159.32**	**339**	PKPab	PKPab	02 22 16.1	-1.2
	comp=Z,3.0nm,0.9s,baz=34,slow=4.8,SNR=13						
TORD	**Torodi Ar. Bea**	**163.21**	**177**	PKP	PKPdf	02 21 43.9	-3.7
	comp=Z,1.2nm,1.1s,baz=188,slow=0.5,SNR=4.2						
TORD				PKPbc	PKPdf	02 22 33.8	+46
	comp=Z,2.0nm,0.7s,baz=178,slow=3.4,SNR=16						

*BJI **08** 02:26:53.6, 36.02N×70.52E, h35km, ML4.1, Ms4.8, Msz4.6*

*MOS **08** 02:26:59.9±1.3, 36.28N×71.28E, h33km, mb4.0/4, Error ellipse: s-maj=22.2km s-min=14.1km az=111.8*

*IDC **08** 02:27:01.2±6.1, 36.14N×71.36E, h45km±58km, mb3.4/6, mb1 3.5/9, mb1mx3.3/23, mbtmp3.6/9, ML3.3/3, Error ellipse: s-maj=42.0km s-min=25.1km az=10.0*

*NEIC **08** 02:27:02.1±0.6, 36.33N×71.27E, h35km, mb4.6/2, Error ellipse: s-maj=14.0km s-min=6.7km az=225.0*

*NNC **08** 02:27:15.3±8.9, 37.29N×70.23E, mpv3.8, Error ellipse: s-maj=89.1km s-min=68.9km az=111.0*

ISC 08 02:27:04.1±1.7, 36.38N±0.07×71.4E±0.1, h83km±20km, n25, σ0§83/31, mb3.7/6, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.77**	**48**	*e*P	P	02 28 18.3	+3.2
KSH				S	S	02 29 09.2	-0.4
KSH				Smax			
	comp=N,90nm,0.5s						
KSH				Smax			
	comp=E,100nm,0.4s						
KK31	**Karatay Array**	**6.75**	**354**	P	P	02 28 42.8	+0.3
	comp=E,4.1nm,0.4s,baz=180,slow=13,SNR=185						
KK31				⇑S	S	02 29 51.4	-7.2
	comp=E,10nm,0.7s,baz=184,slow=24						
MKAR	**Makanchi Array**	**13.19**	**35**	P	P	02 30 09.3	0.0
	comp=E,0.0nm,0.3s,baz=92,slow=38,SNR=2.8						
KOLN	**Koldanda**	**13.42**	**126**	*e*P	P	02 30 12.0	-0.3
KOLN				*e*S	S	02 32 33.2	-6.5
GKN	**Gorkha**	**13.95**	**123**	*e*P	P	02 30 19.6	+0.4
	comp=E,9.9nm,0.3s						
GKN				*e*S	S	02 32 44.6	-7.8
DMN	**Daman**	**14.52**	**123**	*e*P	P	02 30 27.3	+0.7
	comp=E,12nm,0.4s						
KKN	**Kakani**	**14.53**	**122**	*e*P	P	02 30 26.3	-0.4
PKI	**Pulchoki**	**14.75**	**123**	*e*P	P	02 30 29.0	-0.6
GUN	**Gumba**	**14.86**	**121**	*e*P	P	02 30 31.0	0.0
	comp=E,5.8nm,0.3s						
JIRN	**Jiri**	**15.23**	**121**	*e*P	P	02 30 35.7	-0.1
	comp=E,12nm,0.3s						
JIRN				*e*S	S	02 33 15.2	-7.2
AB31	**Akbulak array**	**15.36**	**331**	⇑P	P	02 30 36.0	-1.1
	comp=E,1.5nm,0.5s,baz=147,slow=20,SNR=6.5						
AB31				⇓S	S	02 33 12.8	-12
	comp=E,1.3nm,0.6s,baz=147,slow=23,SNR=5.5						
BVAR	**Borovoye Array**	**16.66**	**358**	P	P	02 30 53.5	+0.1
	comp=E,0.1nm,0.3s,baz=159,slow=10,SNR=3.3						
AKTO	**Aktyubinsk**	**17.05**	**330**	P	P	02 30 58.3	-0.1
	comp=E,0.4nm,0.3s,baz=141,slow=9.5,SNR=9.4						
ZAL	**Zalesovo**	**19.87**	**24**	P	P	02 31 29.9	-1.0
	comp=E,1.7nm,0.5s,baz=240,slow=9.5,SNR=5.7						
ZAL	**Zalesovo**	**19.87**	**24**	P	P	02 31 29.9	-1.0
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GNI	**Garni**	**21.25**	**288**	P	P	02 31 44.9	-0.2
	comp=Z,0.7nm,0.4s,mb3.3,baz=346,slow=2.2,SNR=1.6						
GNI	**Garni**	**21.25**	**288**	P	P	02 31 44.9	-0.2
GNI				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**37.77**	**326**	P	P	02 34 14.5	+1.1
	comp=Z,2.4nm,0.9s,mb4.0,baz=108,slow=8.8,SNR=3.0						
FINES	**FINESS Array B**	**37.77**	**326**	P	P	02 34 14.6	+1.2
NOA	**NORSAR Array B**	**44.68**	**323**	P	P	02 35 11.0	+1.0
	comp=Z,0.5nm,0.5s,mb3.5,baz=96,slow=7.8,SNR=3.1						
NOA	**NORSAR Array B**	**44.68**	**323**	P	P	02 35 11.0	+1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.05**	**269**	P	P	02 37 42.6	-2.0
	comp=Z,0.6nm,0.4s,mb3.8,baz=50,slow=6.1,SNR=25						
DBIC	**Dimbokro**	**75.03**	**267**	*e*P	P	02 38 39.9	+1.2
DBIC				pmax	pmax		
	comp=Z,19nm,1.2s						
DBIC	**Dimbokro**	**75.03**	**267**	*e*P	P	02 38 39.9	+1.1
	comp=Z,19nm,1.2s,mb4.7						
WRA	**Warramunga Arr**	**81.64**	**122**	P	P	02 39 14.9	+0.1
	comp=Z,0.1nm,0.4s,mb3.0,baz=326,slow=4.6,SNR=5.3						

*IDC **08** 03:16:32.8±0.5, 6.27S×29.59E, mb4.5/17, mb1 4.7/21, mb1mx4.6/25, mbtmp4.6/21, ML3.9/4, MS4.0/12, Ms1 4.0/12, ms1mx3.8/22, Error ellipse: s-maj=18.4km s-min=11.5km az=98.0*

*MOS **08** 03:16:32.7±1.0, 6.15S×29.47E, h10km, mb5.1/39, Error ellipse: s-maj=13.9km s-min=5.0km az=92.1*

*NEIC **08** 03:16:34.0±0.2, 6.28S×29.51E, h10km, mb5.0/46, MS5.1/1, Error ellipse: s-maj=8.2km s-min=5.4km az=88.0*

*BJI **08** 03:16:34.0, 6.30S×29.50E, h10km, mB5.4, mb5.0, Ms5.3, Msz4.8*

*HRVD **08** 03:16:34.0±0.8, 6.06S×29.61E, h22km±2km, MW5.0/37, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s37,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.54±.57; $M_{\theta\theta}$1.14±.35; $M_{\phi\phi}$3.40±.36; $M_{r\theta}$-1.17±.58; $M_{\theta\phi}$1.05±.19; $M_{\phi r}$0.14±.51; Best double couple: $M_0$4.305×10^{16} NP1:ϕ_s190°, δ44°, λ-107°. NP2:ϕ_s33°, δ48°, λ-74°. Principal axes: T 3.824, Plg2°, Azm112°; N .963, Plg12°, Azm203°; P -4.786, Plg78°, Azm12°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 03:16:32.3±0.3, 6.23S±0.04×29.44E±0.06, h10km, (h14km±4km: pP-P), n206, σ1§11/203, mb4.9/72, MS4.4/19, 15C-14D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**9.08**	**188**	Pn	P	03 18 46.0	-0.5
	12nm,0.3s,baz=3.8,slow=11,SNR=86						
LSZ				Sn	Sn	03 20 24.0	-5.7
	39nm,0.3s,baz=109,slow=22,SNR=9.2						
LSZ				Lg		03 21 18.9	
	83nm,0.3s,baz=288,slow=22,SNR=7.2						
LSZ				LR	LR	03 22 09.4	
	comp=Z,357nm,21.1s,baz=26,slow=37						
LSZ	**Lusaka**	**9.08**	**188**	*e*P	P	03 18 46.4	0.0
LSZ				pmax	pmax		
	comp=Z,133nm,0.9s						
LSZ	**Lusaka**	**9.08**	**188**	*e*Pn	P	03 18 46.4	0.0
	comp=Z,133nm,0.9s						
LSZ				*e*Sn	Sn	03 20 17.1	-13
KMBO	**Kilima Mbogo**	**9.29**	**57**	Pn	P	03 18 43.5	-5.9
	comp=Z,9.8nm,0.3s,baz=219,slow=14,SNR=92						
KMBO				Sn	Sn	03 20 21.5	-14
	comp=Z,15nm,0.3s,baz=151,slow=23,SNR=10						
KMBO				Lg		03 21 12.1	
	comp=Z,21nm,0.3s,slow=20,SNR=8.9						
KMBO				LR	LR	03 22 20.6	
	comp=Z,2μm,19.7s,baz=205,slow=38						
KMBO	**Kilima Mbogo**	**9.29**	**57**	Pn	P	03 18 43.5	-5.9
KMBO				Sn	Sn	03 20 21.5	-14
KMBO				Lg		03 21 12.1	
KMBO				LR	LR	03 22 20.6	
MATP	**Matopo**	**14.15**	**184**	Pn	P	03 19 52.5	-2.6
	comp=Z,2.0nm,0.3s,baz=11,slow=14,SNR=30						
MATP				Sn	S	03 22 23.3	-10

CSS Prodhromos 41.13 5 eP P 03 24 17.7 -0.6
comp=Z,12nm,0.8s,mb4.6
ERMK Ermenek 42.76 4 i P P 03 24 30.1 -1.7
ISP Isparta 43.85 1d i P P 03 24 41.6 +1.0
ISP Isparta 43.85 1 eP P 03 24 41.6 +1.1
comp=Z,41nm,0.9s,mb5.2
GZT Gaziantep 44.01 9 i P P 03 24 41.7 -0.2
TKTP Tekketepe 44.04 1 i P P 03 24 42.4 +0.2
KDHN Kadinhani 44.59 3 i P P 03 24 51.4 +4.8
ELZG Elazig 45.37 11 i P P 03 24 53.4 +0.6
ESKT Eskisehir 45.53 2 i P P 03 24 53.7 -0.4
CDAG Cicekdag 45.84 5 i P P 03 24 56.7 +0.1
BR131 Keskin Array S 45.88 5 eP P 03 24 57.7 +0.8
comp=Z,13nm,0.8s,mb4.9
BRTR Keskin Array B 45.88 5 P P 03 24 57.6 +0.8
comp=Z,15nm,0.7s,mb5.0,baz=179,slow=9.2,SNR=130
ANTO Ankara 45.97 4 eP P 03 24 58.0 +0.5
ANTO pmax pmax
comp=Z,26nm,1.4s,mb5.0
ANTO Ankara 45.97 4 eP P 03 24 58.0 +0.5
comp=Z,26nm,1.4s,mb5.0
SGKT Sivrigoynuk 46.63 3 i P P 03 25 01.8 -0.9
HENT Hendek 46.84 2 i P P 03 25 03.9 -0.5
CTKT Corum 46.88 6 i P P 03 25 03.7 -0.9
GRSN GIRESUNGRSN 47.61 9 i P P 03 25 09.3 -1.2
BALT Daday 47.66 4 i P P 03 25 09.9 -1.0
BOYT Boyabat 47.68 6 i P P 03 25 10.1 -0.9
GNI Garni 48.25 16⇓ i P P 03 25 15.6 +0.1
GNI pmax pmax
comp=Z,31nm,1.7s
GNI Garni 48.25 16 eP P 03 25 17.0 +1.5
comp=Z,24nm,1.1s,mb5.1
VSL Villasalto 49.13 339 P P 03 25 21.5 -0.7
comp=Z,78nm,1.4s,mb5.5
KIV Kislovodsk 51.36 12 eP P 03 25 39.5 +0.3
KIV pmax pmax
comp=Z,30nm,1.2s,mb5.1
KIV MLR MLR
comp=Z,178nm,16.0s,MS4.2
MLR Muntele Rosu 51.58 357 ⇓P P 03 25 41.8 +1.0
BZS Buzias 52.08 353 ⇓P P 03 25 45.4 +0.7
GOF Gofitskoye 52.49 12 eP P 03 25 47.5 -0.2
DRGR 53.12 354 ⇓P P 03 25 52.3 -0.1
FRF La Foret Royal 53.68 340 eP P 03 25 53.4 -3.1
comp=Z,52nm,1.2s,mb5.0
FRF La Foret Royal 53.68 340 eP P 03 25 53.4 -3.1
FRF pmax pmax
comp=Z,26nm,1.2s,mb5.0
BURAR Bucovina Array 53.74 356 ⇑P P 03 25 58.8 +1.9
BURAR Bucovina Array 53.74 356 ⇑P P 03 25 58.8 +1.9
PSZ Piszkesteto 54.56 352 eP P 03 26 03.2 +0.2
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
PSZ Piszkesteto 54.56 352 eP P 03 26 03.2 +0.2
comp=Z,5.8nm,0.9s,mb4.6
MBDF Montbardon 54.66 340 eP P 03 26 01.9 -1.9
comp=Z,12nm,0.8s,mb4.7
MBDF Montbardon 54.66 340 eP P 03 26 01.9 -1.9
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BNI Bardonecchia 54.98 340 eP P 03 26 07.0 +0.9
BNI pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BNI Bardonecchia 54.98 340 eP P 03 26 07.0 +0.8
comp=Z,7.3nm,0.8s,mb4.8
KECS Kecovo 55.04 353 eP P 03 26 06.8 +0.3
KECS e 03 26 15.1
ESDC Sonseca Array 55.11 329 P P 03 26 08.7 +1.6
comp=Z,1.9nm,0.9s,mb4.1,baz=143,slow=6.8,SNR=9.3
ORIF Oris-en-Rattie 55.13 340 eP P 03 26 05.5 -1.7
LASF Ste Croix 55.13 338 eP P 03 26 05.5 -1.8
comp=Z,76nm,1.5s,mb5.2
VYHS Vyhne 55.28 351 eP P 03 26 08.5 +0.3
KOLS Kolonicke sedl 55.28 354 eP P 03 26 08.9 +0.6
CRVS Cervenica-Dubn 55.34 354 i P P 03 26 09.4 +0.7
CRVS e 03 26 18.0
LPG La Plagne 55.35 341 eP P 03 26 07.8 -1.0
comp=Z,25nm,1.2s,mb4.8
LPG La Plagne 55.35 341 eP P 03 26 07.8 -1.0
LPG pmax pmax
comp=Z,13nm,1.2s,mb4.8
LPL La Plagne 55.37 341 eP P 03 26 07.2 -1.8
comp=Z,14nm,0.9s,mb4.7
LPL La Plagne 55.37 341 eP P 03 26 07.2 -1.8
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
MOA Molln 55.48 348⇑ i P P 03 26 10.4 +0.7
comp=Z,10.0nm,0.9s,mb4.8
MOA Molln 55.48 348 ⇑P P 03 26 10.3 +0.7
comp=Z,10.0nm,0.9s,mb4.8
EPF Esparros 55.69 334 eP P 03 26 11.3 +0.1
comp=Z,23nm,1.0s,mb4.9
EPF Esparros 55.69 334 eP P 03 26 11.3 +0.1
EPF pmax pmax
comp=Z,12nm,1.0s,mb4.9
MOTA Moosalm 55.75 345⇑ i P P 03 26 12.0 +0.3
comp=Z,5.2nm,1.0s,mb4.5
MOTA Moosalm 55.75 345 ⇑P P 03 26 12.0 +0.4
MOTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
STHS Stebnicka Huta 55.87 354 eP P 03 26 13.0 +0.5
KWP Kalwaria 55.93 355 eP P 03 26 13.5 +0.6
NIE Niedzica 55.98 353 eP P 03 26 14.2 +0.9
DAVA Damuels 56.02 344⇑ i P P 03 26 13.9 +0.3
comp=Z,22nm,1.3s,mb5.0
DAVA Damuels 56.02 344 ⇑P P 03 26 13.9 +0.3
comp=Z,22nm,1.3s,mb5.0
GEC2 GERESS Array S 56.55 348 eP P 03 26 17.8 +0.5
GEC2 pmax pmax
comp=Z,37nm,1.8s,mb5.1
GEC2 GERESS Array S 56.55 348 eP P 03 26 17.8 +0.5
comp=Z,37nm,1.8s,mb5.1
GERES GERESS Array B 56.55 348 P P 03 26 17.6 +0.3
comp=Z,2.4nm,0.6s,mb4.4,baz=163,slow=7.0,SNR=26
TREC Trest 56.62 349 eP P 03 26 17.8 0.0
OKC Ostrava-Krasne 56.69 351 eP P 03 26 18.4 +0.1
AKASG Malin Array Be 56.70 360 P P 03 26 17.3 -1.1
comp=Z,3.4nm,0.5s,mb4.6,baz=183,slow=6.6,SNR=31
AKASG PcP PcP 03 27 14.1 -0.2
comp=Z,1.2nm,0.6s,baz=183,slow=5.2,SNR=5.2
MORC Moravsky Berou 56.72 351 ⇑P P 03 26 18.6 0.0
KHC Kasperske Hory 56.84 348 eP P 03 26 19.7 +0.2
KHC AMS AMS 03 53 20.0
KHC Kasperske Hory 56.84 348⇑ i P P 03 26 17.9 -1.6
WET Wettzell 57.01 347 eP P 03 26 20.4 -0.2
WET pmax pmax
comp=Z,20nm,1.5s,mb4.9
WET Wettzell 57.01 347 eP P 03 26 20.4 -0.2
comp=Z,20nm,1.5s,mb4.9
LFF La Frestale 57.08 336 eP P 03 26 20.3 -0.9
comp=Z,43nm,1.0s,mb5.1
LFF La Frestale 57.08 336 eP P 03 26 20.3 -0.9
LFF pmax pmax
comp=Z,22nm,1.0s,mb5.1
SMF Signal de Mont 57.34 339 eP P 03 26 21.0 -2.0
HINF Hinteralfeld 57.38 342 eP P 03 26 20.3 -3.0
PRU Pruhonice 57.46 349 eP P 03 26 21.5 -2.3
PRU AMS AMS 03 53 10.0
DPC Dobruska-Polom 57.48 350 eP P 03 26 24.0 0.0
STU Stuttgart 57.57 344 P P 03 26 23.0 -1.6
STU pmax pmax
comp=Z,14nm,0.8s,mb5.0
STU Stuttgart 57.57 344 P P 03 26 23.0 -1.6
comp=Z,14nm,0.8s,mb5.1
UPC Upice 57.69 350 eP P 03 26 25.3 -0.1
CDF Champ du Feu 57.78 343 eP P 03 26 24.9 -1.2
comp=Z,14nm,0.9s,mb4.7
CDF Champ du Feu 57.78 343 eP P 03 26 24.9 -1.2
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
GRA1 Grafenberg Arr 57.90 346 eP P 03 26 26.8 -0.1
comp=Z,26nm,1.0s,mb5.2
GRF Grafenberg Arr 57.90 346 eP P 03 26 26.8 -0.1
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.2
GRF Grafenberg Arr 57.90 346 eP P 03 26 26.8 -0.1
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.2
GRF Grafenberg Arr 57.90 346 eP P 03 26 26.8 -0.1
comp=Z,26nm,1.0s,mb5.2
PVCC Panska Ves 57.97 349 eP P 03 26 22.0 -5.4
NKC Novy Kostel 58.13 347 eP P 03 26 29.4 +0.9
BRG Berggiesshubel 58.42 349 eP P 03 26 30.5 0.0
comp=Z,6.4nm,1.0s,mb4.6
MOX Moxa 58.70 347 i P P 03 26 32.3 -0.2
comp=Z,logA/T=1.1,mb4.9
MOX Moxa 58.70 347 eP P 03 26 32.3 -0.2
MOX pmax pmax
comp=Z,17nm,1.4s,mb4.9
MOX Moxa 58.70 347 eP P 03 26 32.3 -0.2
comp=Z,17nm,1.4s,mb4.9
CLL Collm 59.02 348 P P 03 26 34.6 -0.1
comp=Z,logA/T=0.9,mb4.7
CLL i 03 26 50.8
CLL Collm 59.02 348 i P P 03 26 34.6 -0.1
CLL pmax pmax
comp=Z,11nm,1.3s,mb4.7
CLL Collm 59.02 348 i P P 03 26 34.6 -0.1
comp=Z,11nm,1.3s,mb4.7
CLL i 03 26 50.8
TNS Taunus Mts 59.09 344 eP P 03 26 35.6 +0.4
TNS pmax pmax
comp=Z,14nm,0.9s,mb5.0
TNS Taunus Mts 59.09 344 eP P 03 26 35.6 +0.4
comp=Z,14nm,0.9s,mb5.0
RUE Ruedersdorf 59.98 349 P P 03 26 41.4 +0.1
comp=Z,25nm,0.9s,mb5.2
SUW Suwalki 60.24 356 eP P 03 26 42.8 -0.3
OBN Obninsk 61.40 5de P P 03 26 50.1 -0.8
OBN pmax pmax
comp=Z,17nm,1.0s,mb5.1
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.1
BSEG Bad Segeberg 62.06 347 eP P 03 26 55.7 +0.3
BSEG pmax pmax
comp=Z,20nm,1.2s,mb5.1
MOS Moscow 62.11 5 eP P 03 26 54.5 -1.2
MOS pmax pmax
comp=Z,72nm,1.4s,mb5.6
KOLN Koldanda 62.23 54 eP P 03 26 55.4 -1.5
comp=Z,89nm,1.6s,mb5.6
SYO Syowa Base 63.06 176 ⇓P P 03 27 04.1 +2.3
SYO Syowa Base 63.06 176⇓ eP P 03 27 04.1 +2.3
GKN Gorkha 63.16 54 eP P 03 27 01.8 -1.2
comp=Z,82nm,1.3s,mb5.7
DMN Daman 63.39 55 eP P 03 27 02.4 -2.1
AAK Ala-Archa 63.54 36⇑ eP P 03 27 03.6 -1.8
AAK pmax pmax
comp=Z,15nm,2.0s,mb4.7
KKN Kakani 63.60 55 eP P 03 27 04.4 -1.6
PKI Pulchoki 63.62 55 eP P 03 27 04.6 -1.6
GUN Gumba 64.14 55 eP P 03 27 08.3 -1.3
comp=Z,64nm,1.1s,mb5.5
JIRN Jiri 64.29 55 eP P 03 27 09.3 -1.3
comp=Z,25nm,1.1s,mb5.2
MAW Mawson 65.33 167 P P 03 27 16.1 -0.5
comp=Z,6.8nm,0.7s,mb4.8,baz=309,slow=7.8,SNR=11
MAW Mawson 65.33 167 eP P 03 27 19.0 +2.4
MAW pmax pmax
comp=Z,25nm,1.4s
MAW Mawson 65.33 167 eP P 03 27 19.0 +2.4
comp=Z,25nm,1.4s,mb5.0
ARU Arti 66.86 17⇑ i P P 03 27 25.8 -0.8
ARU e 03 27 52.6
ARU e 03 29 53.2
ARU eS S 03 36 21.6 +3.9
ARU eSS SS 03 40 42.3 +4.7
ARU pmax pmax
comp=Z,45nm,0.9s,mb5.5
KLMR Klimovskoe 67.34 5d i P P 03 27 28.7 -0.8
KLMR pmax pmax
comp=Z,30nm,1.5s,mb5.1
FINES FINESS Array B 67.52 358 P P 03 27 30.8 +0.1
comp=Z,4.2nm,0.6s,mb4.7,baz=164,slow=5.7,SNR=20
FINES FINESS Array B 67.52 358 i P P 03 27 30.7 +0.1
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 67.52 358 P P 03 27 30.8 +0.1
SVE Sverdlovsk 67.82 18 eP P 03 27 31.8 -0.8
SVE pmax pmax
comp=Z,44nm,1.1s,mb5.4
SVE MLR MLR
comp=N,200nm,14.0s,MS4.7
SVE MLR MLR
comp=E,200nm,14.0s,MS4.7
SVE MLR MLR
comp=Z,200nm,14.0s,MS4.5
KAF Kangasniemi 68.18 358 ep P 03 27 33.9 -0.9
comp=Z,5.4nm,0.6s,mb4.8,baz=179,slow=6.2
KAF Kangasniemi 68.18 358 eP P 03 27 33.9 -0.9
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
SNAA Sanae 68.40 190 eP P 03 27 36.9 +0.9
SNAA pmax pmax
comp=Z,9.0nm,1.3s
SNAA Sanae 68.40 190 eP P 03 27 36.9 +0.9
comp=Z,8.7nm,1.3s,mb4.6
BVAR Borovoye Array 68.42 25 P P 03 27 35.8 -0.6
comp=Z,5.3nm,0.7s,mb4.7,baz=224,slow=6.1,SNR=24
NAO01 NORSAR Array S 68.43 350 eP P 03 27 36.6 +0.3
NB2 NORSAR Subarra 68.56 351 P P 03 27 37.3 +0.1
comp=Z,18nm,1.0s,mb5.0,baz=163,slow=5.8
NB2 NORSAR Subarra 68.56 351 P P 03 27 37.3 +0.1
baz=163,slow=5.9
NOA NORSAR Array B 68.56 351 P P 03 27 37.4 +0.2
comp=Z,8.7nm,0.9s,mb4.7,baz=163,slow=5.8,SNR=18
NOA LR LR 04 02 30.7
comp=Z,37nm,19.3s,MS3.6,baz=240,slow=40
LSA Lhasa 69.09 55 eP P 03 27 41.5 +0.5
LSA pmax pmax
comp=Z,22nm,1.4s,mb4.9
LSA Lhasa 69.09 55 eP P 03 27 41.5 +0.5
comp=Z,22nm,1.4s,mb4.9
SOKR Solikamsk 69.10 14d i P P 03 27 40.5 0.0
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.1
MKAR Makanchi Array 70.47 36 P P 03 27 48.5 -0.6
comp=Z,9.8nm,1.0s,mb4.7,baz=238,slow=6.4,SNR=33
MKAR LR LR 04 00 43.6
comp=Z,170nm,19.6s,MS4.3,baz=267,slow=38
MKAR Makanchi Array 70.47 36 i P P 03 27 49.0 -0.1
MKAR pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 70.73 31⇓ i P P 03 27 50.3 -0.3
WMQ Urumqi 72.28 40 eP P 03 27 58.0 -2.0
WMQ AMB AMB
comp=Z,50nm,4.6s
WMQ LR LR
comp=N,310nm,19.0s,MS4.7
WMQ LR LR
comp=E,210nm,22.0s,MS4.7
WMQ LR LR
comp=Z,440nm,18.0s,MS4.8
APA Apatity 73.67 2⇓ eP P 03 28 08.7 +1.0
APA pmax pmax
comp=Z,25nm,1.2s,mb5.0
NVS Novosibirsk 75.41 29 i P P 03 28 17.4 -0.6
NVS i 03 28 30.0
NVS pmax pmax
comp=N,28nm,1.6s
NVS pmax pmax
comp=Z,39nm,1.6s,mb5.1
NVS pmax pmax
comp=E,7.0nm,0.6s
ARCES ARCESS Array B 75.64 359 P P 03 28 19.8 +0.8
comp=E,4.4nm,0.6s,mb4.5,baz=180,slow=4.9,SNR=26
ARE0 ARCESS Array S 75.64 359 eP P 03 28 19.5 +0.5
ZAL Zalesovo 75.68 30 P P 03 28 19.0 -0.6
comp=E,2.2nm,0.8s,mb4.2,baz=239,slow=4.1,SNR=18
ZAL Zalesovo 75.68 30 i P P 03 28 19.0 -0.6
ZAL pmax pmax
comp=Z,2.0nm,0.8s
ZAL Zalesovo 75.68 30 P P 03 28 19.0 -0.6
BDFB Brasilia 76.30 255 P P 03 28 26.3 +2.5
comp=Z,2.5nm,0.7s,mb4.2,baz=170,slow=8.0,SNR=3.6
BDFB LR LR 03 58 33.5
comp=Z,125nm,20.9s,MS4.2,baz=119,slow=33
KMI Kunming 77.67 63 P P 03 28 34.9 +3.6
KMI S S 03 38 26.6 +4.8
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
KMI LR LR
comp=Z,70nm,31.6s,MS3.8
KMI Kunming 77.67 63 P P 03 28 34.9 +3.6
comp=Z,11nm,0.6s,mb5.0
KMI S S 03 38 26.6 +4.8
KMI LR LR
comp=Z,80nm,31.6s,MS3.8
GTA Gaotai 79.01 48 eP P 03 28 40.0 +1.6
GTA AP pP 03 28 44.2 +2.7
GTA XP sP 03 28 46.6 +4.0
GTA PCP PcP 03 28 48.9 +1.5
GTA PP PP 03 31 40.0 +0.8
GTA PPP PPP 03 33 30.6 +1.4
GTA S S 03 38 39.0 +3.1
GTA XS 03 38 47.0
GTA SCS ScS 03 38 59.7 +2.3
GTA AMB AMB
comp=Z,130nm,5.7s
GTA LR LR
comp=N,210nm,9.6s
GTA LR LR
comp=E,150nm,9.9s
GTA LR LR
comp=Z,260nm,10.1s,MS4.9
LZH Lanzhou 81.18 52 eP P 03 28 51.0 +1.0
LZH AP pP 03 28 55.7 +2.5
LZH XP sP 03 28 58.1 +3.9
LZH PP PP 03 31 59.1 +1.5
LZH eS S 03 39 00.3 +1.7
LZH XS 03 39 07.6
LZH AMB AMB
comp=Z,20nm,1.6s,mb4.8
LZH AMB AMB
comp=Z,70nm,4.6s
LZH LR LR
comp=E,630nm,17.6s
LZH LR LR
comp=Z,750nm,18.7s,MS5.1
LZH Lanzhou 81.18 52 eP P 03 28 51.0 +1.0
LZH *PP pP 03 28 55.7 +2.5
LZH *SP sP 03 28 58.1 +3.9
LZH 03 31 59.1
LZH eS S 03 39 00.3 +1.7
LZH *SS 03 39 07.6
LZH eSS SS 03 44 18.2 +1.2
LZH pmax pmax
comp=Z,22nm,1.6s,mb4.8
LZH MLR MLR
comp=Z,750nm,18.7s,MS5.1
LZH Lanzhou 81.18 52 eP P 03 28 51.0 +1.0
comp=Z,22nm,1.6s,mb4.8
LZH pP pP 03 28 55.7 +2.5
LZH sP sP 03 28 58.1 +3.9
LZH PP PP 03 31 59.1 +1.5
LZH eS S 03 39 00.3 +1.7
LZH sS 03 39 07.6
LZH eSS SS 03 44 18.2 +1.2
LZH LR LR
comp=Z,750nm,18.7s,MS5.1
GYA Guiyang 81.41 62⇑ i P P 03 28 51.9 +0.5
GYA AP pP 03 28 56.2 +1.6
GYA XP sP 03 28 59.6 +4.0
GYA PP PP 03 32 01.4 +1.7
GYA S S 03 39 01.2 0.0
GYA SKS SKS 03 39 06.8 -4.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA LR LR
comp=N,490nm,18.4s,MS5.1
GYA LR LR
comp=E,530nm,18.6s,MS5.1
GYA LR LR
comp=Z,500nm,19.0s,MS4.9
ZAK Zakamensk 84.58 38 eP P 03 29 08.5 +1.3
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
SONM Songino Array 85.89 41 P P 03 29 15.4 +1.7
comp=Z,3.5nm,0.9s,mb4.6,baz=242,slow=5.4,SNR=18
ULN Ulaanbaatar 86.33 41d i P P 03 29 17.3 +1.4
ULN Ulaanbaatar 86.33 41 eP P 03 29 17.2 +1.3
comp=Z,4.2nm,1.0s,mb4.6
MBWA Marble Bar 88.05 111 eP P 03 29 25.9 +1.0
comp=Z,8.8nm,0.9s,mb5.0
HHC Hu-ho-hao-te 88.10 49 eP P 03 29 26.1 +1.4
HHC AP pP 03 29 30.6 +2.7
HHC XP sP 03 29 34.4 +5.5
HHC PP PP 03 32 55.6 +1.7
HHC SKS SKS 03 39 51.6 -4.3
HHC S S 03 40 07.3 +0.6
HHC PS PS 03 41 14.5 +1.9
HHC AMB AMB
comp=Z,120nm,3.7s
HHC LR LR
comp=N,140nm,14.3s,MS4.8
HHC LR LR
comp=E,230nm,15.5s,MS4.8
HHC LR LR
comp=Z,80nm,16.6s,MS4.2
SUMG Summit 89.43 344 eP P 03 29 32.2 +1.9
comp=Z,10nm,1.0s,mb5.1
SAML Samuel 91.62 261 P P 03 29 40.7 -1.0
comp=Z,5.0nm,1.2s,mb4.7
VNDA Vanda 92.33 171 LR LR 04 13 04.7
comp=Z,100nm,21.8s,MS4.2,baz=189,slow=37
NJ2 Nanjing 92.77 58 eP P 03 29 48.2 +1.6
NJ2 AP pP 03 29 53.0 +3.2
NJ2 XP sP 03 29 55.2 +4.3
NJ2 PP PP 03 33 33.1 +1.6
NJ2 S S 03 40 50.0 +1.1
NJ2 XS 03 40 58.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,310nm,3.7s
NJ2 LR LR
comp=N,1μm,22.8s,MS5.3
NJ2 LR LR
comp=E,420nm,21.4s,MS5.3
NJ2 LR LR
comp=Z,260nm,14.4s
PLCA Paso Flores 93.50 229 LR LR 04 08 11.0
comp=Z,116nm,18.5s,MS4.4,baz=184,slow=33
SSE Sheshan 94.67 59 P P 03 29 55.4 0.0
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.8
SSE AMB AMB
comp=Z,60nm,4.8s
SSE Sheshan 94.67 59 P P 03 29 55.4 0.0
comp=Z,38nm,0.7s,mb5.9
LPAZ La Paz 95.50 253 LR LR 04 13 52.5
comp=Z,79nm,18.6s,MS4.2,baz=234,slow=36
LPAZ La Paz 95.50 253 P P 03 30 00.5 +1.0
LPAZ pmax pmax
comp=Z,3.0nm,1.2s
LPAZ La Paz 95.50 253 P P 03 30 00.5 +1.0
comp=Z,3.2nm,1.2s,mb4.6
CN2 Changchun 98.61 47 eP P 03 30 15.0 +2.1
TIXI Tiksi 98.84 18 i P P 03 30 06.7 -6.7
YAK Yakutsk 100.27 28⇑ eP P 03 30 15.4 -4.7
WRA Warramunga Arr 101.77 112 P P 03 30 28.2 +0.4
comp=Z,1.0nm,1.1s,baz=261,slow=2.7,SNR=8.2
WRAB Tennant Creek 101.78 112⇑ i P P 03 30 15.2 -13
HABR Khabarovsk 104.98 42⇓ i P Pdif 03 30 38.3 -3.0
HABR MLR MLR
comp=Z,90nm,5.1s
BILL Bilibino 111.87 16 PKIKP PKPdf 03 35 12.0 +1.9
BILL e 03 35 52.2
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.5
ILAR Eielson Array 121.50 358 PKP PKPdf 03 35 25.9 -3.2
comp=Z,0.5nm,0.9s,baz=297,slow=2.0,SNR=3.1
WMOK Wichita Mounta 124.59 308 ePKIKP PKPdf 03 35 35.5 -0.3
PDAR Pinedale Array 128.71 322 PKP PKPdf 03 35 43.2 -0.3
comp=Z,1.5nm,0.9s,baz=68,slow=4.5,SNR=9.6
NVAR Mina Array Bea 136.64 322 PKP PKPdf 03 35 58.2 -0.1
comp=Z,0.1nm,0.3s,baz=83,slow=3.3,SNR=3.5
NVAR Mina Array Bea 136.64 322 PKP PKPdf 03 35 58.2 -0.1

*LDG **08** 03:17:49.9±0.0, 45.91N×2.69E, h3km, Md3.2/2, Ml3.0/32, Error ellipse: s-maj=0.6km s-min=0.5km az=129.0*
*NEIC **08** 03:17:49.6, 45.90N×2.68E, h5km, ML3.0(STR), After STR.*
*MDD **08** 03:17:49.9±0.4, 45.90N×2.69E, h11km, mbLg2.3/6, Error ellipse: s-maj=4.5km s-min=2.7km az=121.0*
*CSEM **08** 03:17:49.8±0.0, 45.90N×2.68E, h10km, ML3.0/32, Error ellipse: s-maj=0.8km s-min=0.6km az=119.0*
STR 08 03:17:49.6±0.2, 45.90N×2.68E, h5km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VERF	**Verneugheol**	**0.20**	**222**	Pg	Pg	03 17 53.9	+0.1
VERF				Sg	Sg	03 17 56.7	+0.2

CFF	**Clermont-Ferra**	**0.33**	**114**	Pg		Pg		03 17 56.6	+0.3
CFF				Sg		Sg		03 18 01.1	+0.4
AGO	**Saint Agoulin**	**0.35**	**64**	Pg		Pg		03 17 56.8	+0.2
AGO				Sg		Sg		03 18 00.8	-0.5
TCF	**Toulx Ste Croi**	**0.51**	**320**	*e*Pg		Pg		03 17 59.4	-0.4
TCF				*e*Sg		Sg		03 18 06.4	-0.2
	39nm,0.2s								
TCF	**Toulx Ste Croi**	**0.51**	**320**	Pg		Pg		03 17 59.3	-0.5
FRNF	**Fournols**	**0.52**	**189**	Pg		Pg		03 17 59.8	-0.2
FRNF				Sg		Sg		03 18 06.4	-0.6
PLDF	**La Plantade**	**0.66**	**84**	Pg		Pg		03 18 02.6	-0.2
PLDF				Sg		Sg		03 18 11.4	-0.2
BGF	**Bois d'Agland**	**0.67**	**10**	*e*Pg		Pg		03 18 02.5	-0.5
BGF				*e*Sg		Sg		03 18 11.2	-0.7
	338nm,0.3s								
BGF				*e*Sn		Sn		03 18 14.8	-1.5
BGF	**Bois d'Agland**	**0.67**	**10**	Pg		Pg		03 18 01.8	-1.2
BGF				Lg				03 18 10.3	
BGF	**Bois d'Agland**	**0.67**	**10**	Pg		Pg		03 18 01.8	-1.2
BGF				*e*Pg		Pg		03 18 02.5	-0.5
BGF				Lg				03 18 10.3	
BGF				*e*Sg		Sg		03 18 11.2	-0.7
BGF				Sn		Sn		03 18 12.3	-4.0
BGF				*e*Sn		Sn		03 18 14.8	-1.5
LBL	**Lubilhac**	**0.78**	**149**	Pg		Pg		03 18 04.8	-0.3
LBL				Sg		Sg		03 18 15.2	-0.3
COLF	**Collangettes**	**0.81**	**118**	Pg		Pg		03 18 05.3	-0.4
COLF				Sg		Sg		03 18 15.8	-0.7
AVF	**Avril sur Loir**	**1.00**	**27**	*e*Pg		Pg		03 18 08.6	-1.1
AVF				*e*Sg		Sg		03 18 21.5	-1.6
	80nm,0.3s								
AVF	**Avril sur Loir**	**1.00**	**27**	Pg		Pg		03 18 08.3	-1.4
AVF				Pn		Pn		03 18 08.8	-1.4
AVF				Lg				03 18 21.4	
AVF	**Avril sur Loir**	**1.00**	**27**	Pg		Pg		03 18 08.3	-1.4
AVF				*e*Pg		Pg		03 18 08.6	-1.1
AVF				Pn		Pn		03 18 08.8	-1.4
AVF				Lg				03 18 21.4	
RJF	**Les Rejaudoux**	**1.01**	**234**	*e*Pg		Pg		03 18 08.9	-0.9
RJF	**Les Rejaudoux**	**1.01**	**234**	*e*Pn		Pn		03 18 09.2	-1.1
RJF				*e*Sg		Sg		03 18 22.1	-1.2
RJF				*e*Sn		Sn		03 18 23.4	-1.6
	88nm,0.2s								
RJF	**Les Rejaudoux**	**1.01**	**234**	Pg		Pg		03 18 07.3	-2.5
RJF				Pn		Pn		03 18 08.8	-1.5
RJF				Lg				03 18 19.4	
RJF	**Les Rejaudoux**	**1.01**	**234**	Pg		Pg		03 18 07.3	-2.5
RJF				*e*Pg		Pg		03 18 08.9	-0.9
RJF				*e*Pn		Pn		03 18 09.2	-1.1
RJF				Lg				03 18 19.4	
RJF				*e*Sg		Sg		03 18 22.1	-1.2
RJF				*e*Sn		Sn		03 18 23.4	-1.6
RJF	**Les Rejaudoux**	**1.01**	**234**	*e*Pn		Pn		03 18 09.2	-1.1
RJF				*e*Sg		Sg		03 18 22.1	-1.2
RJF				*e*Sn		Sn		03 18 23.4	-1.6
	44nm,0.2s								
CAF	**Calviac**	**1.07**	**204**	*e*Pn		Pn		03 18 10.0	-1.1
CAF	**Calviac**	**1.07**	**204**	*e*Pg		Pg		03 18 10.2	-0.7
CAF				*e*Sg		Sg		03 18 23.9	-1.2
	146nm,0.2s								
CAF	**Calviac**	**1.07**	**204**	Pg		Pg		03 18 08.3	-2.6
CAF				Pn		Pn		03 18 10.3	-0.8
CAF				Lg				03 18 21.9	
CAF	**Calviac**	**1.07**	**204**	Pg		Pg		03 18 08.3	-2.6
CAF				*e*Pn		Pn		03 18 10.0	-1.1
CAF				Pn		Pn		03 18 10.3	-0.8
CAF				Lg				03 18 21.9	
CAF				*e*Sg		Sg		03 18 23.9	-1.2
CAF	**Calviac**	**1.07**	**204**	*e*Pg		Pg		03 18 10.2	-0.7
CAF				*e*Sg		Sg		03 18 23.9	-1.2
	73nm,0.2s								
SMF	**Signal de Mont**	**1.10**	**47**	*e*Pg		Pg		03 18 10.4	-1.1
SMF				*e*Sg		Sg		03 18 24.4	-1.8
SMF				*e*Sn		Sn		03 18 25.1	-2.1
	110nm,0.2s								
SMF	**Signal de Mont**	**1.10**	**47**	Pg		Pg		03 18 09.8	-1.7
SMF				Lg				03 18 21.9	
SMF	**Signal de Mont**	**1.10**	**47**	Pg		Pg		03 18 09.8	-1.7
SMF				*e*Pg		Pg		03 18 10.4	-1.1
SMF				Lg				03 18 21.9	
SMF				*e*Sg		Sg		03 18 24.4	-1.8
SMF				*e*Sn		Sn		03 18 25.1	-2.1
SSF	**Saint Saulge**	**1.29**	**26**	*e*Pn		Pn		03 18 12.9	-1.4
SSF	**Saint Saulge**	**1.29**	**26**	Pn		Pn		03 18 12.3	-2.0
SSF				Lg				03 18 28.4	
SSF				Sn		Sn		03 18 29.9	-2.3
SSF	**Saint Saulge**	**1.29**	**26**	Pn		Pn		03 18 12.3	-2.0
SSF				*e*Pn		Pn		03 18 12.9	-1.4
SSF				*e*Pg		Pg		03 18 13.9	-1.6
SSF				Lg				03 18 28.4	
SSF				*e*Sn		Sn		03 18 29.7	-2.5
SSF				Sn		Sn		03 18 29.9	-2.3
SSF				*e*Sg		Sg		03 18 30.9	-1.8
SSF	**Saint Saulge**	**1.29**	**26**	*e*Pg		Pg		03 18 13.9	-1.6
SSF				*e*Sn		Sn		03 18 29.7	-2.5
SSF				*e*Sg		Sg		03 18 30.9	-1.8
	20nm,0.2s								
HYF	**Humbligny**	**1.37**	**359**	*e*Pg		Pg		03 18 15.7	-1.2
HYF				*e*Sg		Sg		03 18 33.1	-2.1
HYF	**Humbligny**	**1.37**	**359**	*e*Pn		Pn		03 18 14.0	-1.4
HYF				*e*Pg		Pg		03 18 15.7	-1.2
HYF				*e*Sg		Sg		03 18 33.1	-2.1
HYF	**Humbligny**	**1.37**	**359**	*e*Pg		Pg		03 18 15.7	-1.2
HYF				*e*Sg		Sg		03 18 33.1	-2.1
LOR	**Lormes**	**1.59**	**30**	*e*Pn		Pn		03 18 17.2	-1.4
	baz=213								
LOR	**Lormes**	**1.59**	**30**	*e*Pg		Pg		03 18 19.4	-2.0
	baz=212								
LOR				*e*Sn		Sn		03 18 36.8	-3.0
LOR				*e*Sg		Sg		03 18 39.7	-2.9
	50nm,0.3s								
LOR	**Lormes**	**1.59**	**30**	Pn		Pn		03 18 17.4	-1.2
LOR				Pg		Pg		03 18 19.4	-2.0
LOR				Sn		Sn		03 18 35.4	-4.4
LOR	**Lormes**	**1.59**	**30**	*e*Pn		Pn		03 18 17.2	-1.4
LOR				Pn		Pn		03 18 17.4	-1.2
LOR				Pg		Pg		03 18 19.4	-2.0
LOR				Sn		Sn		03 18 35.4	-4.4
LOR				*e*Sn		Sn		03 18 36.8	-3.0
LOR				*e*Sg		Sg		03 18 39.7	-2.9
LOR	**Lormes**	**1.59**	**30**	*e*Pg		Pg		03 18 19.4	-2.0
LOR				Sn		Sn		03 18 35.4	-4.4
LOR				*e*Sg		Sg		03 18 39.7	-2.9
	25nm,0.3s								
LFF	**La Frestale**	**1.67**	**236**	*e*Pg		Pg		03 18 21.1	-1.9
LFF				*e*Sn		Sn		03 18 38.9	-2.9
LFF				*e*Sg		Sg		03 18 43.2	-2.0
	63nm,0.3s								
LFF	**La Frestale**	**1.67**	**236**	Pg		Pg		03 18 20.4	-2.6
LFF				Sn		Sn		03 18 37.4	-4.3
LFF	**La Frestale**	**1.67**	**236**	*e*Pn		Pn		03 18 18.2	-1.5
LFF				Pg		Pg		03 18 20.4	-2.6
LFF				*e*Pg		Pg		03 18 21.1	-1.9
LFF				Sn		Sn		03 18 37.4	-4.3
LFF				*e*Sn		Sn		03 18 38.9	-2.9
LFF				*e*Sg		Sg		03 18 43.2	-2.0
LFF	**La Frestale**	**1.67**	**236**	*e*Pg		Pg		03 18 21.1	-1.9
LFF				Sn		Sn		03 18 37.4	-4.3
LFF				*e*Sg		Sg		03 18 43.2	-2.0
	32nm,0.3s								
VIVF	**Saint-Julien-l**	**1.75**	**126**	*e*Pg		Pg		03 18 22.4	-2.1
VIVF				*e*Sn		Sn		03 18 40.6	-3.2
VIVF				*e*Sg		Sg		03 18 44.9	-3.0
	20nm,0.2s								
VIVF	**Saint-Julien-l**	**1.75**	**126**	Pn		Pn		03 18 19.9	-1.0
VIVF				Lg				03 18 44.5	
VIVF	**Saint-Julien-l**	**1.75**	**126**	*e*Pn		Pn		03 18 19.6	-1.3
VIVF				Pn		Pn		03 18 19.9	-1.0
VIVF				*e*Pg		Pg		03 18 22.4	-2.1
VIVF				*e*Sn		Sn		03 18 40.6	-3.2
VIVF				Lg				03 18 44.5	
VIVF				*e*Sg		Sg		03 18 44.9	-3.0
VIVF	**Saint-Julien-l**	**1.75**	**126**	*e*Pg		Pg		03 18 22.4	-2.1
VIVF				*e*Sn		Sn		03 18 40.6	-3.2
VIVF				*e*Sg		Sg		03 18 44.9	-3.0
	9.8nm,0.2s								
LASF	**Ste Croix**	**2.01**	**155**	*e*Pg		Pg		03 18 27.2	-2.5
LASF				*e*Sn		Sn		03 18 46.8	-3.5
LASF				*e*Sg		Sg		03 18 52.9	-3.5
	14nm,0.2s								
LASF	**Ste Croix**	**2.01**	**155**	Pn		Pn		03 18 22.9	-1.6
LASF				Lg				03 18 51.0	
LASF	**Ste Croix**	**2.01**	**155**	Pn		Pn		03 18 22.9	-1.6
LASF				*e*Pg		Pg		03 18 27.2	-2.5
LASF				*e*Sn		Sn		03 18 46.8	-3.5
LASF				Lg				03 18 51.0	
LASF				*e*Sg		Sg		03 18 52.9	-3.5
LASF	**Ste Croix**	**2.01**	**155**	*e*Pg		Pg		03 18 27.2	-2.5
LASF				*e*Sn		Sn		03 18 46.8	-3.5
LASF				*e*Sg		Sg		03 18 52.9	-3.5
	6.9nm,0.2s								
MFF	**Saint Martin d**	**2.08**	**291**	*e*Pg		Pg		03 18 28.6	-2.6
MFF				*e*Sg		Sg		03 18 55.2	-3.8
	16nm,0.2s								
MFF	**Saint Martin d**	**2.08**	**291**	Pn		Pn		03 18 25.4	-0.2
MFF	**Saint Martin d**	**2.08**	**291**	*e*Pn		Pn		03 18 24.3	-1.3
MFF				Pn		Pn		03 18 25.4	-0.2
MFF				*e*Pg		Pg		03 18 28.6	-2.6
MFF				*e*Sg		Sg		03 18 55.2	-3.8
MFF	**Saint Martin d**	**2.08**	**291**	*e*Pg		Pg		03 18 28.6	-2.6
MFF				*e*Sg		Sg		03 18 55.2	-3.8
	8.1nm,0.2s								
ORIF	**Oris-en-Rattie**	**2.46**	**112**	*e*Pn		Pn		03 18 29.6	-1.4
ORIF	**Oris-en-Rattie**	**2.46**	**112**	*e*Pg		Pg		03 18 35.8	-2.9
ORIF				*e*Sn		Sn		03 18 58.5	-3.3
ORIF				*e*Sg		Sg		03 19 06.8	-4.7
	4.9nm,0.3s								
ORIF	**Oris-en-Rattie**	**2.46**	**112**	Pn		Pn		03 18 26.9	-4.1
ORIF				Sn		Sn		03 18 58.5	-3.3
ORIF				Lg				03 19 05.6	
ORIF	**Oris-en-Rattie**	**2.46**	**112**	Pn		Pn		03 18 26.9	-4.1
ORIF				*e*Pn		Pn		03 18 29.6	-1.4
ORIF				*e*Pg		Pg		03 18 35.8	-2.9
ORIF				Sn		Sn		03 18 58.5	-3.3
ORIF				Lg				03 19 05.6	
ORIF				*e*Sg		Sg		03 19 06.8	-4.7
ORIF	**Oris-en-Rattie**	**2.46**	**112**	*e*Pg		Pg		03 18 35.8	-2.9
ORIF				*e*Sn		Sn		03 18 58.5	-3.3
ORIF				*e*Sg		Sg		03 19 06.8	-4.7
	2.5nm,0.3s								
CABF	**La Chapelle**	**2.47**	**72**	*e*Pg		Pg		03 18 35.4	-3.5
CABF				*e*Sn		Sn		03 18 57.3	-4.8
CABF				*e*Sg		Sg		03 19 07.3	-4.5
	12nm,0.3s								
CABF	**La Chapelle**	**2.47**	**72**	Sn		Sn		03 18 57.0	-5.1
CABF				Lg				03 19 08.1	
CABF	**La Chapelle**	**2.47**	**72**	*e*Pn		Pn		03 18 29.6	-1.6
CABF				*e*Pg		Pg		03 18 35.4	-3.5
CABF				*e*Sn		Sn		03 18 57.3	-4.8
CABF				*e*Sg		Sg		03 19 07.3	-4.5
CABF	**La Chapelle**	**2.47**	**72**	*e*Pg		Pg		03 18 35.4	-3.5
CABF				Sn		Sn		03 18 57.0	-5.1
CABF				*e*Sg		Sg		03 19 07.3	-4.5
	5.8nm,0.3s								
MTLF	**Montolieu**	**2.58**	**188**	*e*Pn		Pn		03 18 30.1	-2.6
MTLF	**Montolieu**	**2.58**	**188**	*e*Pg		Pg		03 18 37.9	-3.2
MTLF				*e*Sg		Sg		03 19 10.8	-4.7
	12nm,0.2s								
MTLF	**Montolieu**	**2.58**	**188**	Pn		Pn		03 18 29.9	-2.8
MTLF				Lg				03 19 10.1	
MTLF	**Montolieu**	**2.58**	**188**	Pn		Pn		03 18 29.9	-2.8
MTLF				*e*Pn		Pn		03 18 30.1	-2.6
MTLF				*e*Pg		Pg		03 18 37.9	-3.2
MTLF				Lg				03 19 10.1	
MTLF				*e*Sg		Sg		03 19 10.8	-4.7
MTLF	**Montolieu**	**2.58**	**188**	*e*Pg		Pg		03 18 37.9	-3.2
MTLF				*e*Sg		Sg		03 19 10.8	-4.7
	5.8nm,0.2s								
SFTF	**Sexfontaines**	**2.81**	**34**	*e*Pg		Pg		03 18 41.7	-4.1
	baz=215								
SFTF				*e*Sn		Sn		03 19 06.0	-4.8
SFTF				*e*Sg		Sg		03 19 17.9	-5.4
	16nm,0.3s								
SFTF	**Sexfontaines**	**2.81**	**34**	*e*Pn		Pn		03 18 33.7	-2.4
SFTF				*e*Pg		Pg		03 18 41.7	-4.1
SFTF				*e*Sn		Sn		03 19 06.0	-4.8
SFTF				*e*Sg		Sg		03 19 17.9	-5.4
SFTF	**Sexfontaines**	**2.81**	**34**	*e*Pg		Pg		03 18 41.7	-4.1
SFTF				*e*Sn		Sn		03 19 06.0	-4.8
SFTF				*e*Sg		Sg		03 19 17.9	-5.4
	7.8nm,0.3s								
LPL	**La Plagne**	**2.87**	**96**	*e*Pg		Pg		03 18 43.4	-3.4
LPL				*e*Sg		Sg		03 19 19.1	-5.9
	3.0nm,0.2s								
LPL	**La Plagne**	**2.87**	**96**	Pg		Pg		03 18 44.5	-2.3
LPL				Lg				03 19 19.1	
LPL	**La Plagne**	**2.87**	**96**	*e*Pn		Pn		03 18 35.0	-1.8
LPL				*e*Pg		Pg		03 18 43.4	-3.4
LPL				Pg		Pg		03 18 44.5	-2.3
LPL				*e*Sg		Sg		03 19 19.1	-5.9
LPL	**La Plagne**	**2.87**	**96**	*e*Pg		Pg		03 18 43.4	-3.4
LPL				*e*Sg		Sg		03 19 19.1	-5.9
	1.5nm,0.2s								
LPG	**La Plagne**	**2.88**	**97**	*e*Pn		Pn		03 18 35.6	-1.4
LPG				*e*Sg		Sg		03 19 20.6	-4.9
	5.3nm,0.2s								
LPG	**La Plagne**	**2.88**	**97**	Lg				03 19 20.6	
MEZF	**Maizieres J'vi**	**3.06**	**31**	*e*Pg		Pg		03 18 46.8	-4.0
	baz=216								
MEZF				*e*Sg		Sg		03 19 26.1	-5.5
	25nm,0.4s								
MEZF	**Maizieres J'vi**	**3.06**	**31**	Pg		Pg		03 18 47.5	-3.3
MEZF				Lg				03 19 26.6	
MEZF	**Maizieres J'vi**	**3.06**	**31**	*e*Pg		Pg		03 18 46.8	-4.0
MEZF				Pg		Pg		03 18 47.5	-3.3
MEZF				*e*Sg		Sg		03 19 26.1	-5.5
MEZF				Lg				03 19 26.6	
MBDF	**Montbardon**	**3.12**	**111**	*e*Pg		Pg		03 18 47.8	-4.0
MBDF				*e*Sg		Sg		03 19 27.7	-5.6
	2.4nm,0.4s								
MBDF	**Montbardon**	**3.12**	**111**	Lg				03 19 27.7	
MBDF	**Montbardon**	**3.12**	**111**	*e*Pn		Pn		03 18 37.8	-2.6
MBDF				*e*Pg		Pg		03 18 47.8	-4.0
MBDF				*e*Sg		Sg		03 19 27.7	-5.6
HAU	**Haudompre**	**3.28**	**49**	*e*Pn		Pn		03 18 40.5	-2.2
HAU	**Haudompre**	**3.28**	**49**	*e*Pg		Pg		03 18 50.5	-4.6
HAU				*e*Sn		Sn		03 19 17.1	-5.5
HAU				*e*Sg		Sg		03 19 32.4	-6.4
	16nm,0.3s								
HAU	**Haudompre**	**3.28**	**49**	Pn		Pn		03 18 40.5	-2.2
HAU				Pg		Pg		03 18 50.5	-4.6
HAU				Sn		Sn		03 19 17.1	-5.5
HAU				Lg				03 19 30.7	
HAU				*e*Sg		Sg		03 19 32.4	-6.4
LDF	**La Druitiere**	**3.30**	**326**	*e*Pn		Pn		03 18 41.0	-2.0
LDF				*e*Sn		Sn		03 19 17.9	-5.3
LDF				*e*Sg		Sg		03 19 31.7	-7.8
	5.6nm,0.2s								
EPF	**Esparros**	**3.32**	**211**	*e*Pg		Pg		03 18 52.0	-3.9
EPF				*e*Sn		Sn		03 19 18.7	-5.0
EPF				*e*Sg		Sg		03 19 34.2	-6.0
	6.5nm,0.2s								
EPF	**Esparros**	**3.32**	**211**	Pn		Pn		03 18 41.0	-2.3
EPF				Pg		Pg		03 18 52.0	-3.9
EPF				Lg				03 19 34.2	
EPF	**Esparros**	**3.32**	**211**	*e*Pn		Pn		03 18 40.0	-3.3
EPF				Pn		Pn		03 18 41.0	-2.3
EPF				*e*Pg		Pg		03 18 52.0	-3.9
EPF				*e*Sn		Sn		03 19 18.7	-5.0
EPF				*e*Sg		Sg		03 19 34.2	-6.0
RFYF	**Reffroy**	**3.33**	**34**	*e*Sg		Sg		03 19 33.8	-6.6
	20nm,0.2s								
HINF	**Hinteralfeld**	**3.45**	**55**	*e*Pn		Pn		03 18 42.0	-3.1
HINF	**Hinteralfeld**	**3.45**	**55**	*e*Pg		Pg		03 18 52.0	-6.4
HINF				*e*Sn		Sn		03 19 21.1	-5.7
HINF				*e*Sg		Sg		03 19 37.8	-6.5
	11nm,0.2s								
HINF	**Hinteralfeld**	**3.45**	**55**	Pn		Pn		03 18 42.0	-3.1
HINF				Pg		Pg		03 18 53.0	-5.4
HINF				Sn		Sn		03 19 21.1	-5.7
HINF	**Hinteralfeld**	**3.45**	**55**	Pn		Pn		03 18 42.0	-3.1
HINF				*e*Pg		Pg		03 18 52.0	-6.4
HINF				Pg		Pg		03 18 53.0	-5.4
HINF				Sn		Sn		03 19 21.1	-5.7
HINF				*e*Sg		Sg		03 19 37.8	-6.5
HINF	**Hinteralfeld**	**3.45**	**55**	Pg		Pg		03 18 53.0	-5.4
HINF				*e*Sn		Sn		03 19 21.1	-5.7
HINF				*e*Sg		Sg		03 19 37.8	-6.5
	5.4nm,0.2s								
EJON	**La Jonquera**	**3.45**	**177**	Lg				03 19 39.0	
	3.8nm,0.2s,SNR=4.0								
GRR	**Gorron**	**3.47**	**317**	*e*Pn		Pn		03 18 43.5	-1.9
GRR				*e*Sg		Sg		03 19 39.2	-5.9
	5.0nm,0.2s								
GRR	**Gorron**	**3.47**	**317**	Pn		Pn		03 18 44.0	-1.4
GRR				Lg				03 19 39.2	
GRR	**Gorron**	**3.47**	**317**	*e*Pn		Pn		03 18 43.5	-1.9
GRR				Pn		Pn		03 18 44.0	-1.4
GRR				*e*Sg		Sg		03 19 39.2	-5.9
FLN	**La Foliniere**	**3.58**	**324**	*e*Pn		Pn		03 18 44.5	-2.5
	baz=148								
FLN				*e*Sn		Sn		03 19 24.5	-5.7
FLN				*e*Sg		Sg		03 19 42.2	-6.6
	4.2nm,0.2s								
EBIE	**Bielsa**	**3.69**	**210**	Pn		Pn		03 18 51.4	+2.8
	0.7nm,0.4s,SNR=4.0								
EBIE				Sn		Sn		03 19 33.4	+0.3
	3.0nm,0.3s,SNR=5.7								
EBIE				Lg				03 19 46.0	
	2.1nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**3.69**	**210**	Pn		Pn		03 18 49.3	+0.7
EBIE				Pg		Pg		03 18 57.8	-5.5
EBIE				Sn		Sn		03 19 24.0	-9.1
EBIE				Lg				03 19 46.0	
EBIE	**Bielsa**	**3.69**	**210**	Pg		Pg		03 18 57.8	-5.5
	0.7nm,0.4s,SNR=4.0								
EBIE				Sn		Sn		03 19 24.0	-9.1
	3.0nm,0.3s,SNR=5.7								
ETSF	**Etsaut**	**3.79**	**219**	*e*Pn		Pn		03 18 48.0	-2.0
ETSF				*e*Sn		Sn		03 19 29.8	-5.8
ETSF				*e*Sg		Sg		03 19 49.1	-6.8
	3.2nm,0.3s								
SJPF	**Ste Jean**	**3.94**	**226**	*e*Pn		Pn		03 18 49.6	-2.6
SJPF				*e*Sg		Sg		03 19 53.8	-7.1
	1.7nm,0.3s								
EALK	**Alkurruntz**	**4.02**	**230**	Pg		Pg		03 19 02.0	-7.8
EALK				Lg				03 19 56.5	
EALK	**Alkurruntz**	**4.02**	**230**	Pg		Pg		03 19 02.0	-7.8
	1.2nm,0.3s,SNR=5.0								
CDF	**Champ du Feu**	**4.02**	**50**	*e*Pg		Pg		03 19 04.4	-5.4
CDF				*e*Sg		Sg		03 19 55.8	-7.6
	9.0nm,0.4s								
CDF	**Champ du Feu**	**4.02**	**50**	Pg		Pg		03 19 05.1	-4.7
CDF				Lg				03 19 55.8	
CDF	**Champ du Feu**	**4.02**	**50**	*e*Pn		Pn		03 18 50.1	-3.1
CDF				*e*Pg		Pg		03 19 04.4	-5.4
CDF				Pg		Pg		03 19 05.1	-4.7
CDF				*e*Sg		Sg		03 19 55.8	-7.6
EMIR	**Miracle**	**4.07**	**192**	Pn		Pn		03 18 52.6	-1.3
	0.7nm,0.2s,SNR=4.0								
EMIR				Pg		Pg		03 19 04.0	-6.9
	0.7nm,0.4s,SNR=4.0								
EMIR				Sn		Sn		03 19 37.1	-5.5
	SNR=7.9								
EMIR				Lg				03 19 58.7	
	9.8nm,0.4s,SNR=7.9								
EMIR	**Miracle**	**4.07**	**192**	Pn		Pn		03 18 52.6	-1.3
	0.7nm,0.2s,SNR=4.0								
EMIR	**Miracle**	**4.07**	**192**	Pg		Pg		03 19 04.0	-6.9
	0.7nm,0.4s,SNR=4.0								
EMIR				Sn		Sn		03 19 37.1	-5.5
	SNR=7.9								
EGRA	**Graus**	**4.08**	**206**	Pn		Pn		03 18 51.7	-2.3
	0.1nm,0.1s,SNR=7.9								
EGRA				Pg		Pg		03 19 04.6	-6.4
	0.4nm,0.2s,SNR=4.0								
EGRA				Sn		Sn		03 19 35.3	-7.5
	1.0nm,0.2s,SNR=7.9								
EGRA				Lg				03 19 59.9	
	2.0nm,0.4s,SNR=7.9								
IUSE	**Utxeti**	**4.23**	**227**	Sn		Sn		03 19 40.6	-6.0
	0.1nm,0.2s,SNR=7.9								
IUSE	**Utxeti**	**4.23**	**227**	Sn		Sn		03 19 40.6	-6.0
	0.1nm,0.2s,SNR=7.9								
SGMF	**Saint Gilles**	**4.28**	**305**	*e*Pn		Pn		03 18 54.0	-3.0
SGMF				*e*Sn		Sn		03 19 42.2	-5.8
	6.8nm,0.5s								
SGMF				*e*Sg		Sg		03 20 04.5	-7.7
	1.5nm,0.3s								
QUIF	**Quistinic**	**4.49**	**299**	*e*Pn		Pn		03 18 57.4	-2.4
QUIF				*e*Sg		Sg		03 20 10.8	-8.1
	5.0nm,0.3s								
EPOB	**Poblet**	**4.69**	**195**

JFK Kawauchi 1.63 209 ⇑P **P** **04 06 01.3 +0.4**
JFK S **S** **04 06 21.0 0.0**
MJAR Matsushiro Arr 3.67 233 P **P** **04 06 30.9 +1.4**
74nm,0.3s,baz=39,slow=11,SNR=857
MJAR Matsushiro Arr 3.67 233 P P **04 06 30.9 +1.5**
MJAR pmax pmax
comp=Z,74nm,0.3s
MAT Matsushiro 3.68 233 P **P** **04 06 30.9 +1.5**
MAT S **S** **04 07 15.9 +4.1**
MAT Matsushiro 3.68 233 *eP* **P** **04 06 31.0 +1.6**
MAT *eS* **S** **04 07 16.0 +4.2**
ASAJ Asahikawa 5.34 6 P **P** **04 06 51.2 -1.3**
comp=Z,47nm,0.3s,baz=216,slow=9.5,SNR=111
ASAJ S **S** **04 07 49.2 -4.2**
comp=Z,22nm,0.3s,baz=143,slow=31,SNR=5.7
ASAJ Asahikawa 5.34 6 P **P** **04 06 51.2 -1.3**
ASAJ S **S** **04 07 49.2 -4.2**
ASAJ pmax pmax
comp=Z,47nm,0.3s
ASAJ smax
comp=N,23nm,0.3s
JHJ Hachijo jima 2 5.91 197 P **P** **04 06 59.0 -1.4**
comp=N,151nm,0.3s,baz=45,slow=10,SNR=20
JHJ S **S** **04 08 01.4 -6.2**
comp=N,59nm,0.3s,baz=66,slow=19,SNR=3.5
YUK Yuzh-Kuril'sk 6.03 29⇓ *i*P **P** **04 06 58.8 -3.2**
YUK *i*S **S** **04 08 03.9 -6.6**
YUK pmax pmax
comp=Z,870nm,0.3s
YUK pmax pmax
comp=N,490nm,0.4s
YUK pmax pmax
comp=E,190nm,0.3s
YUK pmax pmax
comp=Z,2μm,0.4s
YUK smax
comp=N,3μm,0.4s
YUK smax
comp=E,2μm,0.4s
YUK smax
comp=N,1μm,0.4s
YUK smax
comp=E,470nm,0.5s
KUR Kuril'sk 7.83 33 P **P** **04 07 20.0 -6.9**
KUR *eS* **S** **04 08 45.5 -9.3**
KUR pmax pmax
comp=Z,150nm,0.5s
KUR smax
comp=N,230nm,0.5s
KUR smax
comp=E,210nm,0.5s
YSS Yuzh-Sakhalins 8.18 4⇑ *i*P **P** **04 07 29.6 -2.1**
YSS *eS* **S** **04 08 58.0 -5.4**
YSS pmax pmax
comp=Z,80nm,0.9s
YSS Yuzh-Sakhalins 8.18 4 *eP* **P** **04 07 29.6 -2.2**
comp=Z,46nm,0.5s
JNU Nakatsue 10.55 241 P **P** **04 08 04.8 +0.7**
comp=Z,3.2nm,0.3s,baz=38,slow=7.6,SNR=11
HABR Khabarovsk 10.85 335 *eP* **P** **04 08 12.6 +4.5**
HABR pmax pmax
comp=Z,30nm,0.7s
MDJ Mudanjiang 10.86 306 P **P** **04 08 07.5 -0.7**
MDJ AP 04 08 11.4
MDJ S **S** **04 10 06.0 -2.7**
MDJ PCP PcP 04 14 01.8 -1.3
MDJ SCP 04 17 29.2
MDJ PCS 04 17 37.1
MDJ SCS ScS 04 21 05.1 +3.3
MDJ AMB AMB
comp=Z,100nm,5.4s
MDJ LR LR
comp=N,160nm,8.5s
MDJ LR LR
comp=E,180nm,6.3s
MDJ LR LR
comp=Z,150nm,6.8s
MDJ Mudanjiang 10.86 306 *eP* **P** **04 08 08.1 -0.1**
comp=Z,16nm,0.8s
KS15 Wonju Array Si 11.10 267 *eP* **P** **04 08 02.1 -9.4**
CN2 Changchun 13.31 297 *eP* **P** **04 08 41.4 +0.6**
CN2 *eXP* 04 09 03.6
CN2 *eS* **S** **04 11 05.7 -1.8**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
SSE Sheshan 18.59 252 P **P** **04 09 46.4 -1.0**
SSE AMB AMB
comp=Z,30nm,0.7s
SSE AMB AMB
comp=Z,110nm,6.1s
SSE Sheshan 18.59 252 P **P** **04 09 46.4 -1.0**
comp=Z,39nm,0.7s
HIA Hailar 18.98 311 P **P** **04 09 47.5 -4.1**
HIA pmax pmax
comp=Z,14nm,0.6s
HIA Hailar 18.98 311 P **P** **04 09 47.5 -4.1**
comp=Z,14nm,0.6s
NJ2 Nanjing 19.90 257 *eP* **P** **04 10 03.3 +1.6**
NJ2 AP 04 10 15.3
NJ2 PP PP 04 10 25.1 +2.7
NJ2 XP 04 10 28.4
NJ2 S **S** **04 13 35.0 -1.7**
NJ2 XS 04 14 01.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
NJ2 AMB AMB
comp=Z,20nm,3.5s
NJ2 LR LR
comp=N,540nm,25.6s
NJ2 LR LR
comp=E,1μm,16.3s
NJ2 LR LR
comp=Z,360nm,22.8s
MA2 Magadan 21.56 12 *eP* **P** **04 10 18.9 +0.5**
MA2 pmax pmax
comp=Z,29nm,1.0s,mb4.6
MA2 Magadan 21.56 12 *eP* **P** **04 10 18.9 +0.5**
comp=Z,29nm,1.0s,mb4.6
HHC Hu-ho-hao-te 23.31 285 *eP* **P** **04 10 33.4 -2.2**
HHC AP 04 10 51.0
HHC XP 04 10 59.8
HHC PP PP 04 11 04.9 -4.2
HHC S **S** **04 14 32.8 -6.5**
HHC AMB AMB
comp=Z,10.0nm,0.8s,mb4.2
HHC AMB AMB
comp=Z,140nm,5.8s
HHC LR LR
comp=N,150nm,8.0s
HHC LR LR
comp=E,180nm,8.0s
HHC LR LR
comp=Z,190nm,8.9s
CIT Chita 23.70 313 *eP* **P** **04 10 40.1 +0.9**
YAK Yakutsk 24.44 346 *eP* **P** **04 10 45.9 -0.4**
YAK *e* 04 11 09.7
YAK *eS* **S** **04 15 01.2 +2.9**
YAK pmax pmax
comp=Z,16nm,1.0s,mb4.3
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,17nm,0.9s,mb4.4
YAK smax
comp=N,13nm,1.0s
YAK smax
comp=Z,6.0nm,1.0s
YAK smax
comp=E,12nm,1.2s
YAK Yakutsk 24.44 346 *eP* **P** **04 10 42.2 -4.1**
comp=E,27nm,0.5s,mb4.8
SEY Seymchan 24.99 11⇑ *i*P **P** **04 10 53.2 +1.5**
BOD Bodaibo 26.25 326 *eP* **P** **04 11 02.3 -1.2**
BOD pmax pmax
comp=Z,16nm,0.6s,mb4.6
ULN Ulaanbaatar 26.71 301⇓ *i*P **P** **04 11 07.5 -0.3**
ULN Ulaanbaatar 26.71 301 *eP* **P** **04 11 07.0 -0.8**
comp=Z,7.5nm,0.7s,mb4.3
XAN Xi'an 26.85 270 P **P** **04 11 08.2 -1.0**
XAN AMB AMB
comp=Z,20nm,0.7s,mb4.8
SONM Songino Array 27.14 301 P **P** **04 11 11.3 -0.5**
comp=Z,3.2nm,0.4s,mb4.2,baz=98,slow=9.2,SNR=38
SONM PcP PcP 04 14 30.2 -0.8
comp=Z,0.6nm,0.4s,baz=131,slow=2.5,SNR=5.7
SONM LR LR 04 21 49.0
comp=Z,57nm,19.8s,baz=126,slow=36
SONM Songino Array 27.14 301 P **P** **04 11 11.3 -0.5**
SONM 04 14 30.2
SONM pmax pmax
comp=Z,3.0nm,0.4s
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM MLR MLR
comp=Z,57nm,19.8s
ENH Enshi 27.89 262 *eP* **P** **04 11 17.2 -1.5**
comp=Z,12nm,0.7s,mb4.5
ZAK Zakamensk 29.50 306⇓ *i*P **P** **04 11 32.4 -0.4**
ZAK pmax pmax
comp=Z,11nm,0.8s,mb4.5
LZH Lanzhou 30.17 277 *eP* **P** **04 11 38.5 -0.5**
LZH AP pP 04 11 56.2 0.0
LZH XP sP 04 12 05.3 +0.6
LZH PP PP 04 12 37.6 -2.3
LZH *eS* **S** **04 16 28.5 -3.1**
LZH XS 04 16 59.5
LZH *eSS* SS 04 18 10.5 -3.9
LZH AMB AMB
comp=Z,20nm,1.6s,mb4.5
LZH AMB AMB
comp=Z,70nm,4.5s
LZH LR LR
comp=N,1μm,13.5s
LZH LR LR
comp=Z,2μm,14.8s
LZH Lanzhou 30.17 277 *eP* **P** **04 11 38.5 -0.5**
comp=Z,23nm,1.6s,mb4.6
LZH pP pP 04 11 56.2 0.0
LZH sP sP 04 12 05.3 +0.6
LZH PP PP 04 12 37.6 -2.3
LZH *eS* **S** **04 16 28.5 -3.1**
LZH sS 04 16 59.5
LZH *eSS* SS 04 18 10.5 -3.9
LZH LR LR
comp=Z,2μm,14.8s
MOY Mondy 31.11 308 *eP* **P** **04 11 46.5 -0.6**
GYA Guiyang 31.91 258 P **P** **04 11 53.1 -1.2**
GYA AP pP 04 12 10.8 -0.9
GYA XP sP 04 12 20.0 -0.4
GYA PP PP 04 12 59.2 -2.8
GYA S **S** **04 16 55.6 -3.4**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
GYA AMB AMB
comp=Z,80nm,2.8s,mb5.0
GYA LR LR
comp=N,670nm,14.8s
GYA LR LR
comp=E,520nm,15.0s
GYA LR LR
comp=Z,610nm,14.6s
CD2 Chengdu 32.07 268 P **P** **04 11 54.3 -1.4**
CD2 AP pP 04 12 16.1 +3.0
CD2 XP sP 04 12 21.4 -0.4
CD2 PP PP 04 12 58.8 -5.3
CD2 S **S** **04 16 56.9 -4.5**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
CD2 LR LR
comp=N,160nm,5.9s
CD2 LR LR
comp=Z,130nm,5.9s
BILL Bilibino 32.24 17 *i*P **P** **04 11 56.6 -0.2**
TIXI Tiksi 33.59 353⇑ *i*P **P** **04 12 06.3 -2.2**
TIXI pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
KMI Kunming 35.62 259 P **P** **04 12 26.0 -0.2**
KMI AP pP 04 12 44.2 +0.3
KMI XP sP 04 12 52.8 +0.1
KMI S **S** **04 17 55.5 -0.8**
KMI AMB AMB
comp=Z,90nm,5.6s
KMI LR LR
comp=N,430nm,14.1s
KMI LR LR
comp=E,260nm,13.1s
KMI LR LR
comp=Z,430nm,13.1s
KMI Kunming 35.62 259 P **P** **04 12 26.0 -0.2**
comp=Z,0.1nm,5.6s
KMI pP pP 04 12 44.2 +0.3
KMI sP sP 04 12 52.8 +0.1
KMI S **S** **04 17 55.5 -0.8**
KMI LR LR
comp=Z,440nm,13.1s
WMQ Urumqi 40.39 295 P **P** **04 13 06.5 +0.6**
WMQ AP pP 04 13 24.9 +1.2
WMQ XP sP 04 13 33.9 +1.7
WMQ AMB AMB
comp=Z,40nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,340nm,5.0s
WMQ LR LR
comp=N,650nm,22.0s
WMQ LR LR
comp=E,740nm,20.0s
WMQ LR LR
comp=Z,740nm,18.6s
ZAL Zalesovo 41.03 311 P **P** **04 13 10.9 -0.1**
comp=Z,16nm,0.4s,mb5.2,baz=27,slow=7.5,SNR=57
ZAL PcP PcP 04 15 09.4 -1.0
comp=Z,1.6nm,0.8s,baz=262,slow=0.5,SNR=3.3
ZAL Zalesovo 41.03 311 P **P** **04 13 10.9 -0.1**
ZAL 04 15 09.4
ZAL pmax pmax
comp=Z,16nm,0.4s
ZAL pmax pmax
comp=Z,2.0nm,0.8s
NVS Novosibirsk 41.90 312 *eP* **P** **04 13 17.2 -0.9**
NVS pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
NVS pmax pmax
comp=N,1.0nm,0.5s
NVS pmax pmax
comp=E,8.0nm,0.5s
LSA Lhasa 42.44 274 P **P** **04 13 24.0 +1.2**
LSA Lhasa 42.44 274 *eP* **P** **04 13 24.3 +1.5**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
LSA Lhasa 42.44 274 *eP* **P** **04 13 24.3 +1.5**
comp=Z,10nm,0.6s,mb4.7
MKAR Makanchi Array 43.51 301 P **P** **04 13 31.4 0.0**
comp=Z,15nm,0.8s,mb4.8,baz=84,slow=10,SNR=89
MKAR Makanchi Array 43.51 301 P **P** **04 13 31.4 +0.1**
MKAR pmax pmax
comp=Z,15nm,0.8s
KURK Kurchatov 45.15 307*d* *i*P **P** **04 13 43.7 -0.7**
JIRN Jiri 47.24 274 *eP* **P** **04 14 01.5 +0.2**
comp=Z,22nm,0.6s,mb5.1
GUN Gumba 47.36 274 *eP* **P** **04 14 02.2 0.0**
comp=Z,49nm,0.5s,mb5.5
COLA College 47.40 33 *i*P **P** **04 14 02.0 0.0**
ILAR Eielson Array 47.82 33 P **P** **04 14 04.7 -0.6**
comp=Z,0.9nm,0.6s,mb3.8,baz=273,slow=5.3,SNR=8.3
ILAR pP pP 04 14 21.4 -1.9
comp=Z,3.4nm,0.9s,baz=250,slow=6.1,SNR=8.6
ILAR Eielson Array 47.82 33 P **P** **04 14 04.7 -0.6**
ILAR *PP pP 04 14 21.5 -1.9
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR pmax pmax
comp=Z,3.0nm,0.9s
KKN Kakani 47.89 274 *eP* **P** **04 14 06.2 -0.1**
comp=Z,57nm,0.7s,mb5.5
KKN Kakani 47.89 274 *eP* **P** **04 14 06.2 -0.1**
KKN pmax pmax
comp=Z,29nm,0.7s,mb5.2
PKI Pulchoki 47.89 274 *eP* **P** **04 14 06.1 -0.3**
comp=Z,21nm,0.7s,mb5.0
PKI Pulchoki 47.89 274 *eP* **P** **04 14 06.1 -0.3**
PKI pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
DMN Daman 48.11 274 *eP* **P** **04 14 08.0 0.0**
comp=Z,16nm,0.5s,mb5.1
GKN Gorkha 48.29 275 *eP* **P** **04 14 09.1 -0.3**
comp=Z,43nm,0.7s,mb5.4
KOLN Koldanda 49.20 275 *eP* **P** **04 14 16.3 -0.2**
comp=Z,26nm,0.5s,mb5.4
AAK Ala-Archa 49.99 297⇑ *eP* **P** **04 14 21.0 -1.3**
AAK pmax pmax
comp=Z,33nm,2.5s,mb4.8
INK Inuvik 52.66 28 P **P** **04 14 42.1 0.0**
comp=Z,0.8nm,0.5s,mb4.0,baz=330,slow=7.3,SNR=4.8
INK pP pP 04 14 57.7 -2.8
comp=Z,2.6nm,0.5s,baz=298,slow=10,SNR=7.7
INK Inuvik 52.66 28 P **P** **04 14 42.1 0.0**
INK *PP pP 04 14 57.7 -2.8
INK pmax pmax
comp=Z,1.0nm,0.5s
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 52.66 28 *eP* **P** **04 14 42.0 -0.2**
comp=Z,3.0nm,0.5s,mb4.6
SVE Sverdlovsk 54.07 318⇓ *eP* **P** **04 14 52.0 -0.7**
SVE *e* 04 15 16.0
SVE pmax pmax
comp=Z,32nm,1.0s,mb5.3
ARU Arti 55.29 318*d* *i*P **P** **04 15 00.4 -1.1**
ARU *e**PP pP 04 15 25.2 +5.1
ARU pmax pmax
comp=Z,22nm,1.3s,mb5.0
FITZ Fitzroy Crossi 58.61 198 *eP* **P** **04 15 23.9 -1.6**
comp=Z,5.2nm,1.5s,mb4.3
WRAB Tennant Creek 58.84 188⇓ *i*P **P** **04 15 25.0 -2.1**
WB2 Warramunga Arr 58.85 188 *eP* **P** **04 15 25.4 -1.8**
WRA Warramunga Arr 58.85 188 P **P** **04 15 25.4 -1.8**
comp=Z,3.3nm,0.5s,mb4.6,baz=5.5,slow=7.1,SNR=48
WRA pP pP 04 15 43.3 -2.6
comp=Z,4.4nm,0.7s,baz=4.4,slow=6.9,SNR=9.1
WRA Warramunga Arr 58.85 188 P **P** **04 15 25.4 -1.8**
WRA *PP pP 04 15 43.3 -2.6
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA pmax pmax
comp=Z,4.0nm,0.7s
RES Resolute Bay 60.81 15 *eP* **P** **04 15 38.9 -1.0**
RES *e* pP 04 15 55.0 -3.7
RES pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
RES Resolute Bay 60.81 15 *eP* **P** **04 15 38.9 -1.0**
comp=Z,9.6nm,0.8s,mb4.9
RES *e* pP 04 15 55.0 -3.7
YKA Yellowknife Ar 62.11 31 P **P** **04 15 47.8 -0.9**
comp=Z,0.3nm,0.7s,mb3.4,baz=302,slow=6.5,SNR=4.0
YKA pP pP 04 16 06.0 -1.7
comp=Z,0.4nm,0.5s,baz=306,slow=6.7,SNR=5.5
YKA Yellowknife Ar 62.11 31 P **P** **04 15 47.9 -0.9**
YKA *PP pP 04 16 06.0 -1.6
KLMR Klimovskoe 62.46 327 *eP* **P** **04 15 47.4 -3.8**
KLMR pmax pmax
comp=Z,10.0nm,1.9s,mb4.5
ARCES ARCESS Array B 62.48 339 P **P** **04 15 49.9 -1.2**
comp=Z,1.7nm,0.6s,mb4.3,baz=55,slow=8.1,SNR=18
ARCES ARCESS Array B 62.48 339 P **P** **04 15 49.9 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 62.48 339 P **P** **04 15 49.9 -1.2**
JOF Joensuu 64.58 332 *ep* **P** **04 16 03.0 -1.9**
comp=Z,2.2nm,0.5s,mb4.2
JOF Joensuu 64.58 332 *eP* **P** **04 16 03.0 -1.9**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
OBN Obninsk 66.91 323⇓ *eP* **P** **04 16 18.9 -1.0**
OBN *e* 04 16 44.2
OBN pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
KAF Kangasniemi 66.91 333 *ep* **P** **04 16 18.5 -1.3**
comp=Z,3.3nm,0.5s,mb4.4,baz=45,slow=5.6
KAF Kangasniemi 66.91 333 *eP* **P** **04 16 18.5 -1.3**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
FINES FINESS Array B 67.43 332 P **P** **04 16 22.0 -1.0**
comp=Z,5.1nm,0.6s,mb4.5,baz=31,slow=11,SNR=28
FINES pP pP 04 16 42.1 -0.1
comp=Z,2.0nm,0.4s,baz=57,slow=8.3,SNR=2.7
FINES FINESS Array B 67.43 332 P **P** **04 16 22.0 -1.0**
FINES *PP pP 04 16 42.1 -0.1
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES pmax pmax
comp=Z,2.0nm,0.4s
KIV Kislovodsk 70.03 311 *eP* **P** **04 16 39.2 -0.2**
KIV pmax pmax
comp=Z,24nm,1.1s,mb4.9
GNI Garni 70.95 306 *i*P **P** **04 16 44.3 -0.7**
HFS Hagfors 72.63 336 P **P** **04 16 54.2 -0.3**
comp=Z,4.5nm,0.4s,mb4.7,baz=45,slow=6.3,SNR=42
HFS Hagfors 72.63 336 P **P** **04 16 54.2 -0.3**
HFS pmax pmax
comp=Z,5.0nm,0.4s
NB2 NORSAR Subarra 72.70 337 P **P** **04 16 54.4 -0.5**
comp=Z,5.4nm,0.7s,mb4.5,baz=39,slow=6.2
NOA NORSAR Array B 72.70 337 P **P** **04 16 54.8 -0.2**
comp=Z,5.3nm,0.7s,mb4.5,baz=39,slow=6.0,SNR=17
NOA pP pP 04 17 13.9 -0.4
comp=Z,1.4nm,0.6s,baz=38,slow=6.1,SNR=3.1
NOA LR LR 04 51 09.5
comp=Z,33nm,22.0s,baz=305,slow=38
NOA NORSAR Array B 72.70 337 P **P** **04 16 54.8 -0.1**
NOA *PP pP 04 17 13.9 -0.5
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA MLR MLR
comp=Z,33nm,22.0s
AKASG Malin Array Be 73.13 322 P **P** **04 16 56.9 -0.7**
comp=Z,4.9nm,0.5s,mb4.6,baz=44,slow=6.1,SNR=28
AKASG Malin Array Be 73.13 322 *i*P **P** **04 16 57.2 -0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
PDAR Pinedale Array 76.18 46 P **P** **04 17 16.4 +1.0**
comp=Z,0.8nm,0.6s,mb3.6,baz=276,slow=1.6,SNR=7.4
STHS Stebnicka Huta 77.73 325 *eP* **P** **04 17 24.1 +0.2**
OJC Ojcow 77.78 326 *eP* **P** **04 17 25.0 +0.9**
BRTR Keskin Array B 77.95 311 P **P** **04 17 25.4 +0.1**
comp=Z,1.5nm,0.4s,mb4.1,baz=116,slow=3.2,SNR=18
BRTR Keskin Array B 77.95 311 P **P** **04 17 25.5 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.4s
CRVS Cervenica-Dubn 78.00 324 *eP* **P** **04 17 25.2 -0.2**
BSEG Bad Segeberg 78.65 333 *eP* **P** **04 17 28.5 -0.3**
BSEG pmax pmax
comp=Z,13nm,1.1s,mb4.7
DPC Dobruska-Polom 79.16 328 *eP* **P** **04 17 32.7 +1.0**
comp=Z,6.0nm,0.6s,mb4.6
VYHS Vyhne 79.48 325 *eP* **P** **04 17 34.2 +0.7**
BRG Berggiesshubel 79.72 329 *eP* **P** **04 17 35.2 +0.5**
BRG pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
BRG Berggiesshubel 79.72 329 *eP* **P** **04 17 35.2 +0.5**
comp=Z,5.6nm,0.7s,mb4.5
PVCC Panska Ves 79.74 329 *eP* **P** **04 17 35.6 +0.8**
CLL Collm 79.75 330 P **P** **04 17 35.0 +0.1**
comp=Z,logA/T=1.1,mb4.7
CLL Collm 79.75 330 *i*P **P** **04 17 35.0 +0.1**
CLL pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
CLL Collm 79.75 330 *i*P **P** **04 17 35.0 +0.1**
comp=Z,9.0nm,0.7s,mb4.7
PRU Pruhonice 80.17 329 *eP* **P** **04 17 38.1 +1.0**
TREC Trest 80.31 328 *eP* **P** **04 17 38.8 +0.9**
CLZ Clausthal 80.32 332 *eP* **P** **04 17 38.4 +0.5**
CLZ pmax pmax
comp=Z,17nm,1.2s,mb4.8
CLZ Clausthal 80.32 332 *eP* **P** **04 17 38.4 +0.5**
comp=Z,17nm,1.2s,mb4.8
MOX Moxa 80.81 331 *i*P **P** **04 17 40.8 +0.3**
KHC Kasperske Hory 81.23 329 *eP* **P** **04 17 43.6 +0.8**
KHC pP pP 04 18 06.0 +3.5
KHC Kasperske Hory 81.23 329 *eP* **P** **04 17 43.6 +0.8**
KHC *e* pP 04 18 06.0 +3.5
GEC2 GERESS Array S 81.40 328 *eP* **P** **04 17 43.6 -0.1**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
GEC2 GERESS Array S 81.40 328 *eP* **P** **04 17 43.6 -0.1**
comp=Z,5.0nm,0.9s,mb4.3
GERES GERESS Array B 81.40 328 P **P** **04 17 44.0 +0.3**
comp=Z,1.6nm,0.4s,mb4.2,baz=42,slow=5.6,SNR=19
GERES GERESS Array B 81.40 328 P **P** **04 17 44.0 +0.3**
GERES pmax pmax
comp=Z,2.0nm,0.4s

WET	**Wettzell**	**81.50**	**329**	*e*P		**P**		**04 17 45.0**	**+0.8**
WET				pmax		pmax			
	comp=Z,4.0nm,1.1s,mb4.2								
WET	**Wettzell**	**81.50**	**329**	*e*P		**P**		**04 17 45.0**	**+0.8**
	comp=Z,4.0nm,1.1s,mb4.2								
EKA	**Eskdalemuir Ar**	**81.59**	**341**	P		**P**		**04 17 44.3**	**-0.2**
	comp=Z,1.2nm,0.6s,mb3.9,baz=24,slow=5.1,SNR=5.8								
EKA	**Eskdalemuir Ar**	**81.59**	**341**	P		**P**		**04 17 44.3**	**-0.2**
EKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
GRA1	**Grafenberg Arr**	**81.72**	**330**	*e*P		**P**		**04 17 46.3**	**+1.0**
	comp=Z,16nm,0.9s,mb4.8								
GRF	**Grafenberg Arr**	**81.72**	**330**	*e*P		**P**		**04 17 46.3**	**+1.0**
GRF				pmax		pmax			
	comp=Z,16nm,0.9s,mb4.8								
GRF	**Grafenberg Arr**	**81.72**	**330**	*e*P		**P**		**04 17 46.3**	**+1.0**
GRF				pmax		pmax			
	comp=Z,16nm,0.9s,mb4.8								
GRF	**Grafenberg Arr**	**81.72**	**330**	*e*P		**P**		**04 17 46.3**	**+1.0**
	comp=Z,16nm,0.9s,mb4.8								
TNS	**Taunus Mts**	**82.34**	**332**	*e*P		**P**		**04 17 49.2**	**+0.7**
TNS				pmax		pmax			
	comp=Z,13nm,1.4s,mb4.6								
TNS	**Taunus Mts**	**82.34**	**332**	*e*P		**P**		**04 17 49.2**	**+0.7**
	comp=Z,13nm,1.4s,mb4.6								
ANMO	**Albuquerque**	**83.18**	**50**	*e*P		**P**		**04 17 55.0**	**+1.9**
GIVF	**Givet**	**83.74**	**334**	*e*P		**P**		**04 17 55.7**	**+0.2**
BFO	**Black Forest**	**83.94**	**331**	*e*P		**P**		**04 17 57.9**	**+1.3**
BFO				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.5								
BFO	**Black Forest**	**83.94**	**331**	*e*P		**P**		**04 17 57.9**	**+1.3**
	comp=Z,7.0nm,0.8s,mb4.5								
BAIF	**Baives**	**83.98**	**334**	*e*P		**P**		**04 17 57.2**	**+0.5**
CDF	**Champ du Feu**	**84.27**	**332**	*e*P		**P**		**04 17 59.0**	**+0.8**
	comp=Z,21nm,1.1s,mb4.6								
CDF	**Champ du Feu**	**84.27**	**332**	*e*P		**P**		**04 17 59.0**	**+0.8**
CDF				pmax		pmax			
	comp=Z,10.0nm,1.1s,mb4.6								
HINF	**Hinteralfeld**	**84.92**	**331**	*e*P		**P**		**04 18 01.7**	**+0.2**
HAU	**Haudompre**	**84.95**	**332**	*e*P		**P**		**04 18 02.0**	**+0.4**
	comp=Z,11nm,0.8s,mb4.5								
HAU	**Haudompre**	**84.95**	**332**	*e*P		**P**		**04 18 02.0**	**+0.4**
HAU				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.6								
MEZF	**Maizieres J'vi**	**85.01**	**333**	*e*P		**P**		**04 18 02.5**	**+0.6**
LOR	**Lormes**	**86.48**	**333**	*e*P		**P**		**04 18 09.7**	**+0.6**
	comp=Z,14nm,0.9s,mb4.6								
LOR	**Lormes**	**86.48**	**333**	*e*P		**P**		**04 18 09.7**	**+0.6**
LOR				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
SSF	**Saint Saulge**	**86.78**	**333**	*e*P		**P**		**04 18 10.9**	**+0.3**
	comp=Z,3.9nm,0.6s,mb4.2								
SSF	**Saint Saulge**	**86.78**	**333**	*e*P		**P**		**04 18 10.9**	**+0.3**
SSF				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
LPL	**La Plagne**	**86.89**	**330**	*e*P		**P**		**04 18 12.2**	**+1.0**
	comp=Z,8.9nm,0.6s,mb4.5								
LPL	**La Plagne**	**86.89**	**330**	*e*P		**P**		**04 18 12.2**	**+1.0**
LPL				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
LPG	**La Plagne**	**86.90**	**330**	*e*P		**P**		**04 18 12.4**	**+1.2**
	comp=Z,7.4nm,0.5s,mb4.6								
LPG	**La Plagne**	**86.90**	**330**	*e*P		**P**		**04 18 12.4**	**+1.2**
LPG				pmax		pmax			
	comp=Z,4.0nm,0.5s,mb4.6								
SMF	**Signal de Mont**	**87.02**	**333**	*e*P		**P**		**04 18 12.7**	**+0.9**
AVF	**Avril sur Loir**	**87.07**	**333**	*e*P		**P**		**04 18 12.6**	**+0.6**
	comp=Z,12nm,0.7s,mb4.6								
AVF	**Avril sur Loir**	**87.07**	**333**	*e*P		**P**		**04 18 12.6**	**+0.6**
AVF				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.6								
BGF	**Bois d'Agland**	**87.45**	**333**	*e*P		**P**		**04 18 14.7**	**+0.8**
MBDF	**Montbardon**	**87.53**	**330**	*e*P		**P**		**04 18 15.1**	**+0.8**
ORIF	**Oris-en-Rattie**	**87.72**	**330**	*e*P		**P**		**04 18 16.6**	**+1.4**
TCF	**Toulx Ste Croi**	**87.91**	**333**	*e*P		**P**		**04 18 16.8**	**+0.7**
VIVF	**Saint-Julien-l**	**88.23**	**331**	*e*P		**P**		**04 18 18.5**	**+0.8**
LPAZ	**La Paz**	**145.47**	**58**	PKPbc		PKPbc		04 25 06.3	+2.0
	comp=Z,2.0nm,0.8s,baz=7.8,slow=3.8,SNR=8.2								
LPAZ	**La Paz**	**145.47**	**58**	PKIKP		PKPdf		04 25 06.3	+2.7
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.8s								

MAN 08 04:08:53.8, 6.78N×123.73E, h3km, mb4.4, ML3.3, MS3.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.68**	**49**	⇑*i*P	Pg	04 09 07.4	0.0
CTBH				*i* S	Sg	04 09 20.3	+3.9
PAGZ	**Pagadian**	**1.12**	**342**	*e*P	Pb	04 09 15.8	+0.4
PAGZ				*e*S	Sb	04 09 34.2	+4.0
IPIL	**Ipil**	**1.52**	**311**	*e*P	Pn	04 09 21.1	-0.9
IPIL				*e*S	Sb	04 09 43.0	+1.0
BUKP	**Musuan**	**1.72**	**50**	*e*P	Pn	04 09 23.7	-1.1
BUKP				*e*S	Sn	04 09 49.2	+1.6
DCPH	**Dipolog City**	**1.83**	**348**	⇓*i*P	Pn	04 09 27.0	+0.6
DCPH				*e*S	Sn	04 09 49.9	-0.6

*IDC **08** 04:15:37.0±0.8, 3.17N×95.24E, mb4.1/13, mb1 4.2/14, mb1mx4.1/22, mbtmp4.1/14, ML3.7/1, MS3.8/3, Ms1 3.8/3, ms1mx3.3/27, Error ellipse: s-maj=28.6km s-min=16.9km az=40.0*

*BJI **08** 04:15:39.4, 2.70N×95.00E, h56km, mB4.9, mb4.7, Ms4.7, Msz4.1*

*MOS **08** 04:15:40.1±1.2, 3.15N×95.27E, h33km, mb5.0/6, Error ellipse: s-maj=17.2km s-min=11.5km az=119.8*

*NEIC **08** 04:15:41.6±0.4, 3.11N×95.32E, h30km, mb4.8/11, Error ellipse: s-maj=11.9km s-min=6.5km az=218.0*

ISC 08 04:15:39.6±0.5, 3.08N±0.07×95.30E±0.06, h30km, n47, σ1§10/50, mb4.5/26, MS3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.63**	**94**	Pn	**Pn**	**04 16 36.8**	**+1.5**
	6.4nm,0.3s,baz=293,slow=7.1,SNR=59						
PSI				Sn	**Sn**	**04 17 31.7**	**+14**
	5.5nm,0.3s,baz=211,slow=13,SNR=2.3						
KULM	**Kulim**	**5.77**	**67**	*e*Pn	**Pn**	**04 17 05.3**	**-0.2**
KSM	**Kuching**	**15.08**	**96**	*e*P	**P**	**04 19 11.5**	**-1.2**
KKM	**Kota Kinabalu**	**21.06**	**81**	*e*P	**P**	**04 20 16.6**	**-7.2**
HYB	**Hyderabad**	**21.75**	**312**	*i* P	**P**	**04 20 32.0**	**+1.2**
HYB	**Hyderabad**	**21.75**	**312**	*e*P	**P**	**04 20 32.0**	**+1.2**
KMI	**Kunming**	**23.06**	**17**	P	**P**	**04 20 45.3**	**+1.5**
KMI				S	**S**	**04 24 51.4**	**+3.0**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
KMI				LR	LR		
	comp=Z,180nm,16.6s,MS3.6						
KMI	**Kunming**	**23.06**	**17**	P	**P**	**04 20 45.3**	**+1.5**
	comp=Z,12nm,0.9s,mb4.3						
KMI				S	**S**	**04 24 51.4**	**+3.0**
KMI				LR	LR		
	comp=Z,190nm,16.6s,MS3.6						
JIRN	**Jiri**	**25.95**	**341**	*e*P	**P**	**04 21 12.0**	**+0.6**
	comp=Z,53nm,0.8s,mb5.1						
DMN	**Daman**	**26.26**	**339**	*e*P	**P**	**04 21 15.4**	**+1.1**
GUN	**Gumba**	**26.28**	**341**	*e*P	**P**	**04 21 15.3**	**+0.8**
	comp=Z,61nm,0.7s,mb5.2						
KKN	**Kakani**	**26.37**	**340**	*e*P	**P**	**04 21 15.8**	**+0.5**
	comp=Z,40nm,0.9s,mb4.9						
KKN	**Kakani**	**26.37**	**340**	*e*P	**P**	**04 21 15.8**	**+0.5**
KKN				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.7						
LSA	**Lhasa**	**26.77**	**352**	P	**P**	**04 21 17.0**	**-1.9**
LSA	**Lhasa**	**26.77**	**352**	*e*P	**P**	**04 21 18.7**	**-0.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.5						
LSA	**Lhasa**	**26.77**	**352**	*e*P	**P**	**04 21 18.7**	**-0.2**
	comp=Z,11nm,0.7s,mb4.5						
GKN	**Gorkha**	**26.79**	**339**	*e*P	**P**	**04 21 19.9**	**+0.7**
	comp=Z,49nm,0.8s,mb5.1						
KOLN	**Koldanda**	**26.97**	**337**	*e*P	**P**	**04 21 21.9**	**+1.1**
	comp=Z,38nm,0.7s,mb5.0						
CD2	**Chengdu**	**28.81**	**15**	*e*P	**P**	**04 21 38.0**	**+0.6**
CD2				PP	PP	04 22 32.0	+1.2
CD2				PPP	PPP	04 22 45.2	+1.6
CD2				S	**S**	**04 26 25.0**	**+1.1**
CD2				SS	SS	04 27 55.0	+2.9
CD2				LR	LR		
	comp=N,180nm,15.6s						
CD2				LR	LR		
	comp=Z,200nm,18.0s,MS3.8						
NJ2	**Nanjing**	**36.34**	**35**	*e*P	**P**	**04 22 43.1**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
GTA	**Gaotai**	**36.39**	**6**	*e*P	**P**	**04 22 41.9**	**-1.5**
GTA				PP	PP	04 24 06.5	-0.8
GTA				PPP	PPP	04 24 26.3	-1.0
GTA				PCP	PcP	04 25 06.1	-1.5
GTA				S	**S**	**04 28 20.7**	**-1.5**
GTA				SCP		04 28 48.7	
GTA				PCS		04 28 52.2	
GTA				SCS	ScS	04 32 52.9	-2.6
GTA				AMB	AMB		
	comp=Z,170nm,5.7s						
GTA				LR	LR		
	comp=N,110nm,13.0s,MS4.0						
GTA				LR	LR		
	comp=E,120nm,11.8s,MS4.0						
GTA				LR	LR		
	comp=Z,160nm,12.2s,MS4.0						
FITZ	**Fitzroy Crossi**	**36.56**	**126**	*e*P	**P**	**04 22 44.8**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**36.56**	**126**	P	**P**	**04 22 45.0**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=181,slow=4.1,SNR=5.4						
WMQ	**Urumqi**	**41.12**	**352**	*e*P	**P**	**04 23 22.3**	**-0.4**
WMQ				AP	pP	04 23 32.1	+0.4
WMQ				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,340nm,5.0s						
WMQ				LR	LR		
	comp=N,710nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=E,760nm,21.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,750nm,19.0s,MS4.6						
WRA	**Warramunga Arr**	**44.64**	**123**	P	**P**	**04 23 52.5**	**+0.8**
	comp=Z,3.4nm,0.7s,mb4.3,baz=300,slow=9.0,SNR=27						
WB2	**Warramunga Arr**	**44.65**	**122**	*e*P	**P**	**04 23 52.1**	**+0.3**
MKAR	**Makanchi Array**	**44.99**	**347**	P	**P**	**04 23 53.4**	**-0.7**
	comp=Z,4.0nm,0.7s,mb4.4,baz=166,slow=7.7,SNR=13						
SONM	**Songino Array**	**45.60**	**10**	P	**P**	**04 23 58.3**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.2,baz=187,slow=8.6,SNR=18						
ULN	**Ulaanbaatar**	**45.75**	**11**	*e*P	**P**	**04 23 58.2**	**-2.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**45.75**	**11**	*e*P	**P**	**04 23 58.2**	**-1.9**
	comp=Z,3.9nm,1.0s,mb4.3						
CN2	**Changchun**	**48.55**	**29**	*e*P	**P**	**04 24 23.3**	**+1.2**
HIA	**Hailar**	**50.52**	**21**	P	**P**	**04 24 35.9**	**-1.3**
ZAL	**Zalesovo**	**51.42**	**352**	P	**P**	**04 24 42.5**	**-1.5**
	comp=Z,4.1nm,0.6s,mb4.5,baz=318,slow=5.2,SNR=10						
MJAR	**Matsushiro Arr**	**51.64**	**44**	LR	LR	04 46 30.3	
	comp=Z,104nm,19.4s,MS3.9,baz=75,slow=36						
BVAR	**Borovoye Array**	**53.87**	**342**	P	**P**	**04 25 00.7**	**-1.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=143,slow=7.4,SNR=6.0						
CTA	**Charters Tower**	**55.04**	**117**	LR	LR	04 50 15.9	
	comp=Z,108nm,19.9s,MS3.9,baz=47,slow=38						
CTAO	**Charters Tower**	**55.04**	**117**	*e*P	**P**	**04 25 11.6**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
CTAO	**Charters Tower**	**55.04**	**117**	*e*P	**P**	**04 25 11.6**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9						
KMBO	**Kilima Mbogo**	**58.17**	**267**	P	**P**	**04 25 33.6**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=78,slow=14,SNR=1.9						
KMBO				LR	LR	04 46 45.0	
	comp=Z,43nm,20.2s,MS3.6,baz=81,slow=32						
BRTR	**Keskin Array B**	**66.45**	**312**	P	**P**	**04 26 27.9**	**-0.6**
	comp=Z,1.0nm,0.9s,mb3.8,baz=90,slow=3.7,SNR=5.9						
CASY	**Casey**	**70.06**	**174**	*e*P	**P**	**04 26 50.1**	**-0.5**
	comp=Z,35nm,0.9s,mb5.3						
TIXI	**Tiksi**	**71.69**	**11**	*e*P	**P**	**04 26 57.8**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
AKASG	**Malin Array Be**	**72.62**	**322**	P	**P**	**04 27 04.2**	**-2.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=88,slow=5.4,SNR=3.4						
FINES	**FINESS Array B**	**77.46**	**333**	P	**P**	**04 27 33.5**	**-0.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=104,slow=7.9,SNR=8.3						
ARCES	**ARCESS Array B**	**80.14**	**340**	P	**P**	**04 27 49.9**	**+1.8**
	comp=Z,4.1nm,0.8s,mb4.4,baz=23,slow=9.2,SNR=12						
GERES	**GERESS Array B**	**82.16**	**319**	P	**P**	**04 28 00.2**	**+1.2**
	comp=Z,1.0nm,0.9s,mb3.8,baz=124,slow=4.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**92.81**	**283**	P	**P**	**04 28 51.9**	**+0.4**
	comp=Z,0.5nm,0.8s,mb4.0,baz=101,slow=5.5,SNR=2.7						

*NEIC **08** 04:24:17.0, 30.82S×71.38W, h30km, ML3.8(GUC), After GUC.*

NEIC Felt [III] at Combarbala, Monte Patria, Ovalle and Punitaqui.

GUC 08 04:24:17.0±0.8, 30.82S×71.38W, h30km±5km, MD4.2, ML3.8, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.82**	**38**	⇓*i*P	Pn	04 24 32.7	+0.2
TLL				*i* S	Sb	04 24 44.3	+0.9
TLL				AMP		04 24 47.3	
	comp=E,4μm,0.3s						
LSCH	**La Serena**	**0.92**	**8**	*e*P	Pn	04 24 33.5	-0.5
LSCH				*i* S	Sb	04 24 45.8	-0.3
LSCH				AMP		04 24 51.7	
	comp=E,2μm,0.4s						
CHNG	**Los Chungos**	**1.06**	**185**	⇑*i*P	Pn	04 24 35.8	-0.2
CHNG				*i* S	Sn	04 24 49.9	0.0
JACH	**Jahuel**	**1.98**	**160**	*e*P	Pn	04 24 49.5	+0.4
JACH				*i* S	Sn	04 25 14.9	+1.8
ROCH	**El Roble**	**2.17**	**172**	*i* P	Pn	04 24 53.2	+1.3
PEL	**Peldehue**	**2.39**	**166**	*e*P	Pn	04 24 54.6	-0.5
PEL				*i* S	Sn	04 25 24.1	+0.4
PEL				AMP		04 25 39.6	
	comp=E,1μm,0.4s						
FCH	**Farellones**	**2.67**	**160**	*e*P	Pn	04 24 60.0	+1.0
FCH				*i* S	Sn	04 25 32.9	+2.2
FCH				AMP		04 25 45.9	
	comp=E,375nm,0.3s						
RCDM	**Rinconada Maip**	**2.71**	**170**	*i* P	Pn	04 24 58.9	-0.6
RCDM				*i* S	Sn	04 25 31.6	0.0
RCDM				AMP		04 25 42.9	
	comp=E,511nm,0.7s						
ANTU	**Antumapu**	**2.81**	**167**	*i* P	Pn	04 25 01.2	+0.1
ANTU				AMP		04 25 41.8	
	comp=E,430nm,0.4s						
TACH	**Talagante**	**2.85**	**173**	*e*P	Pn	04 25 01.1	-0.5
TACH				*i* S	Sn	04 25 34.5	-0.8
CHCH	**Chadas Angostu**	**3.17**	**169**	*e*P	Pn	04 25 05.7	-0.4
CACH	**El Canelo**	**3.35**	**169**	*e*P	Pn	04 25 08.6	-0.1
CPCH	**Copiapo**	**3.56**	**15**	*e*P	Pn	04 25 09.2	-2.6
CPCH				*i* S	Sn	04 25 50.7	-2.6
CICH	**Cipreses**	**3.58**	**167**	*e*P	Pn	04 25 11.0	-1.0
SFDO	**San Fernando**	**3.80**	**175**	*e*P	Pn	04 25 14.1	-0.9

*NEIC **08** 04:25:16.5, 38.27S×179.77E, h12km, ML3.9(WEL), After WEL.*

WEL 08 04:25:16.9±0.4, 38.29S×179.73E, h12km, ML3.8/6, 2C, Error ellipse: s-maj=3.5km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.18**	**280**	⇑P*	Pb	04 25 38.4	-0.4
PUZ				S*	Sb	04 25 54.3	+0.5
PUZ	**Puketiti**	**1.18**	**280**	P	Pb	04 25 38.4	-0.3
PUZ				S	Sb	04 25 54.3	+0.5
MXZ	**Matakaoa Point**	**1.34**	**302**	PN	Pn	04 25 40.3	-1.2
MXZ				SN	Sn	04 25 58.5	-0.8
MXZ	**Matakaoa Point**	**1.34**	**302**	P	Pb	04 25 40.3	-1.2
MXZ				S	Sb	04 25 58.5	+0.1
MWZ	**Matawai**	**1.73**	**268**	⇑PN	Pn	04 25 46.2	-0.9
MWZ				SN	Sn	04 26 06.9	-2.3
MWZ	**Matawai**	**1.73**	**268**	*e*P	Pn	04 25 46.2	-0.9
KNZ	**Kokohu**	**1.77**	**245**	PN	Pn	04 25 46.2	-1.4
KNZ				SN	Sn	04 26 08.2	-1.9
KNZ	**Kokohu**	**1.77**	**245**	P	Pn	04 25 46.2	-1.4
URZ	**Urewera**	**2.06**	**270**	PN	Pn	04 25 51.1	-0.7
URZ				SN	Sn	04 26 16.5	-1.2
URZ	**Urewera**	**2.06**	**270**	P	Pn	04 25 51.3	-0.5
BKZ	**Black Stump Fm**	**2.68**	**250**	PN	Pn	04 25 59.6	-1.1
BKZ				SN	Sn	04 26 29.2	-4.0
BKZ	**Black Stump Fm**	**2.68**	**250**	P	Pn	04 25 59.6	-1.0
MOVZ	**Moawhango**	**3.30**	**249**	PN	Pn	04 26 08.1	-1.4
MOVZ				SN	Sn	04 26 45.7	-3.3
TUVZ	**Tukino**	**3.33**	**252**	PN	Pn	04 26 08.9	-1.0
TUVZ				SN	Sn	04 26 45.6	-4.2
TUVZ	**Tukino**	**3.33**	**252**	P	Pn	04 26 08.9	-1.0
NGZ	**Ngauruhoe**	**3.35**	**253**	PN	Pn	04 26 09.0	-1.2
NGZ				SN	Sn	04 26 45.3	-4.9
WNVZ	**Wahianoa**	**3.39**	**251**	PN	Pn	04 26 09.5	-1.2
WNVZ				SN	Sn	04 26 47.4	-3.9
TSZ	**Takapari Road**	**3.42**	**238**	PN	Pn	04 26 08.0	-3.1
TSZ				SN	Sn	04 26 46.0	-6.0
TSZ	**Takapari Road**	**3.42**	**238**	P	Pn	04 26 08.2	-3.0
TSZ				S	Sn	04 26 46.0	-6.0
KUZ	**Kuaotunu**	**3.54**	**295**	PN	Pn	04 26 10.4	-2.5
KUZ				SN	Sn	04 26 50.3	-4.8
KUZ	**Kuaotunu**	**3.54**	**295**	P	Pn	04 26 10.4	-2.5
MRZ	**Mangatainoka R**	**3.99**	**232**	PN	Pn	04 26 15.0	-4.3
MRZ				SN	Sn	04 26 59.6	-6.8
MRZ	**Mangatainoka R**	**3.99**	**232**	P	Pn	04 26 15.0	-4.2
MTW	**Mount Morrison**	**4.34**	**227**	PN	Pn	04 26 18.2	-6.0
MTW				SN	Sn	04 27 07.4	-7.9
KIW	**Kapiti Island**	**4.52**	**234**	PN	Pn	04 26 22.5	-4.3
CAW	**Cannon Point**	**4.56**	**231**	PN	Pn	04 26 22.2	-5.2
TCW	**Tory Channel**	**5.12**	**234**	PN	Pn	04 26 29.6	-5.6
TCW				SN	Sn	04 27 26.6	-8.3

IDC 08 04:39:37.3±1.8, 2.75N×127.10E, mb4.0/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, Error ellipse: s-maj=100.6km s-min=25.0km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.77**	**184**	*e*P	P	04 44 20.6	-2.0
	2.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.77**	**184**	P	P	04 44 20.6	-2.0
	1.9nm,0.6s,baz=15,slow=9.6,SNR=13						
WRA	**Warramunga Arr**	**23.65**	**163**	P	P	04 44 50.0	-1.3
	5.2nm,0.6s,baz=341,slow=11,SNR=69						
WB2	**Warramunga Arr**	**23.65**	**163**	*e*P	P	04 44 50.2	-1.1
STKA	**Stephens Creek**	**37.09**	**159**	P	P	04 46 49.8	-1.5
	6.7nm,0.9s,baz=349,slow=5.8,SNR=8.7						
MKAR	**Makanchi Array**	**58.56**	**325**	P	P	04 49 35.4	-2.7
	0.5nm,0.7s,baz=118,slow=7.9,SNR=4.4						

IGQ 08 04:44:01.1, 1.97S×78.89W, h12km±3km, mb4.2, 6C-5D, Error ellipse: s-maj=4.8km s-min=2.7km az=39.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**0.54**	**28**	⇓P	Pb	04 44 12.0	0.0
ARRY	**Arrayan**	**0.63**	**43**	⇑P	Pb	04 44 13.0	-0.7
PISA	**Pisayambo**	**1.04**	**29**	P	Pb	04 44 21.4	+0.9
PISA				S	Sb	04 44 36.2	+2.3
QIL1	**Quilotoa**	**1.12**	**358**	⇑P	Pb	04 44 23.0	+1.1
CAMI	**Rancho Maria**	**1.34**	**17**	⇓P	Pb	04 44 27.0	+1.3
CAMI				S	Sb	04 44 45.3	+2.6
TAMB	**Tambo**	**1.37**	**22**	⇑P	Pn	04 44 27.5	+1.3
TAMB				S	Sb	04 44 46.9	+3.3
VC1	**Cotopaxi 1**	**1.41**	**20**	P	Pn	04 44 27.8	+1.1
VC1				S	Sb	04 44 48.0	+3.4
ANTI	**Antisana**	**1.68**	**26**	⇑P	Pn	04 44 32.7	+2.1
ANTI				S	Sn	04 44 55.6	+3.5
JUA2	**San Juan 2**	**1.77**	**9**	⇓P	Pn	04 44 34.4	+2.5
TERV	**Terraza Guagua**	**1.81**	**9**	⇓P	Pn	04 44 35.0	+2.6
GGP	**Refugio Guagua**	**1.81**	**9**	⇑P	Pn	04 44 34.6	+2.1
PINO	**Pino**	**1.82**	**9**	⇓P	Pn	04 44 35.3	+2.7
YANA	**Yana**	**1.87**	**10**	⇑P	Pn	04 44 35.6	+2.3
MAG1	**Magdalena**	**2.08**	**335**	P	Pn	04 44 38.8	+2.4
MAG1				S	Sn	04 45 03.2	+0.9
CAYR	**Refugio Cayamb**	**2.16**	**24**	P	Pn	04 44 42.5	+5.0
ANGU	**Angureal**	**2.19**	**24**	P	Pn	04 44 43.3	+5.4
CAYA	**Cayambe**	**2.22**	**24**	P	Pn	04 44 42.2	+3.8
LAV3	**Lava3-Reventad**	**2.25**	**34**	P	Pn	04 44 43.4	+4.7
LAV3				S	Sn	04 45 13.9	+7.3
CONE	**Cono NE Rev Vo**	**2.26**	**33**	P	Pn	04 44 43.6	+4.7
CONE				S	Sn	04 45 13.0	+6.0
COTA	**Cotacachi**	**2.36**	**14**	P	Pn	04 44 46.9	+6.6

IGQ 08 04:48:33.1, 2.03S×78.84W, h12km±1km, mb4.1, 4C-6D, Error ellipse: s-maj=2.8km s-min=1.5km az=34.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**0.57**	**20**	P	Pb	04 48 44.7	+0.2
IGUA				S	Sb	04 48 53.0	+0.7
ARRY	**Arrayan**	**0.64**	**36**	⇑P	Pb	04 48 45.8	0.0
PISA	**Pisayambo**	**1.06**	**25**	P	Pb	04 48 54.4	+1.5
PISA				S	Sb	04 49 08.9	+2.2
QIL1	**Quilotoa**	**1.

NOUC	**Port Laguerre**	**16.47**	**295**	*e*P		**P**	**05 04 06.0**	**+0.1**
AFI	**Afiamalu**	**17.04**	**20**	P		**P**	**05 04 20.5**	**+7.4**
RAR	**Rarotonga**	**18.39**	**65**	LR		LR	05 10 13.4	
	comp=Z,49nm,18.9s,baz=359,slow=33							
HNR	**Honiara**	**29.36**	**310**	P		**P**	**05 06 13.5**	**-5.1**
HNR				pmax		pmax		
	comp=Z,78nm,0.9s,mb5.4							
HNR	**Honiara**	**29.36**	**310**	P		**P**	**05 06 13.5**	**-5.1**
	comp=Z,78nm,0.9s,mb5.4							
CTA	**Charters Tower**	**34.06**	**279**	*e*P		**P**	**05 07 01.5**	**+1.8**
	comp=Z,7.6nm,0.9s,mb4.6							
CTA	**Charters Tower**	**34.06**	**279**	P		**P**	**05 07 01.1**	**+1.4**
	comp=Z,8.4nm,0.7s,mb4.8,baz=100,slow=11,SNR=14							
CTA	**Charters Tower**	**34.06**	**279**	*e*P		**P**	**05 07 01.5**	**+1.8**
CTA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
CTAO	**Charters Tower**	**34.06**	**279**	*e*P		**P**	**05 07 00.9**	**+1.2**
CTAO				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.9							
CTAO	**Charters Tower**	**34.06**	**279**	*e*P		**P**	**05 07 00.9**	**+1.2**
	comp=Z,13nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**34.83**	**257**	*e*P		**P**	**05 07 08.4**	**+2.1**
	comp=Z,6.3nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**34.83**	**257**	P		**P**	**05 07 08.3**	**+2.1**
	comp=Z,8.3nm,0.8s,mb4.7,baz=87,slow=5.9,SNR=8.1							
STKA				LR		LR	05 20 28.7	
	comp=Z,330nm,19.1s,MS4.1,baz=23,slow=34							
WB2	**Warramunga Arr**	**44.38**	**272**	*e*P		**P**	**05 08 25.3**	**-0.4**
WRA	**Warramunga Arr**	**44.39**	**272**	P		**P**	**05 08 25.3**	**-0.4**
	comp=Z,8.2nm,0.8s,mb4.5,baz=111,slow=7.8,SNR=35							
FORT	**Forrest**	**46.40**	**255**	*e*P		**P**	**05 08 41.4**	**-0.3**
	comp=Z,12nm,0.7s,mb4.9							
SBA	**Scott Base**	**48.32**	**184**	P		**P**	**05 08 58.0**	**+1.9**
VNDA	**Vanda**	**48.38**	**186**	P		**P**	**05 08 58.6**	**+2.0**
VNDA				pmax		pmax		
	comp=Z,6.0nm,1.3s							
VNDA	**Vanda**	**48.38**	**186**	P		**P**	**05 08 58.6**	**+2.0**
	comp=Z,6.0nm,1.3s,mb4.5							
FITZ	**Fitzroy Crossi**	**52.66**	**270**	*e*P		**P**	**05 09 29.4**	**-0.6**
	comp=Z,4.7nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**52.66**	**270**	P		**P**	**05 09 29.7**	**-0.3**
	comp=Z,3.5nm,0.9s,mb4.3,baz=134,slow=3.6,SNR=5.4							
CASY	**Casey**	**55.51**	**208**	*e*P		**P**	**05 09 49.1**	**-1.1**
	comp=Z,52nm,1.0s,mb5.5							
GUMO	**Guam**	**56.51**	**315**	LR		LR	05 30 34.1	
	comp=Z,276nm,21.8s,MS4.3,baz=122,slow=32							
QSPA	**South Pole Qui**	**59.97**	**180**	*e*P		**P**	**05 10 21.2**	**-0.2**
	comp=Z,16nm,0.9s,mb5.0							
MAW	**Mawson**	**72.66**	**200**	P		**P**	**05 11 42.8**	**+0.5**
	comp=Z,4.3nm,0.9s,mb4.4,baz=109,slow=4.6,SNR=4.9							
MAW	**Mawson**	**72.66**	**200**	*e*P		**P**	**05 11 42.1**	**-0.2**
MAW				pmax		pmax		
	comp=Z,23nm,1.4s							
MAW	**Mawson**	**72.66**	**200**	*e*P		**P**	**05 11 42.1**	**-0.2**
	comp=Z,23nm,1.4s,mb4.9							
KSM	**Kuching**	**75.27**	**280**	P		**P**	**05 11 56.6**	**-1.9**
SYO	**Syowa Base**	**77.43**	**193**	⇓P		**P**	**05 12 09.2**	**-0.4**
SYO	**Syowa Base**	**77.43**	**193**	⇓pP		pP	05 12 15.4	+3.4
SYO	**Syowa Base**	**77.43**	**193**	⇓*e*P		**P**	**05 12 09.2**	**-0.4**
SYO				⇓epP		pP	05 12 15.4	+3.4
SNAA	**Sanae**	**78.41**	**178**	*e*P		**P**	**05 12 13.9**	**-1.0**
SNAA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SNAA	**Sanae**	**78.41**	**178**	*e*P		**P**	**05 12 13.8**	**-1.0**
	comp=Z,5.5nm,1.1s,mb4.4							
YSS	**Yuzh-Sakhalins**	**84.65**	**334**	*e*P		**P**	**05 12 47.7**	**-0.3**
YSS				pmax		pmax		
	comp=Z,35nm,0.9s,mb5.5							
YSS	**Yuzh-Sakhalins**	**84.65**	**334**	*e*P		**P**	**05 12 47.7**	**-0.4**
	comp=Z,35nm,0.9s,mb5.5							
NJ2	**Nanjing**	**86.31**	**310**	*e*P		**P**	**05 12 57.2**	**+0.5**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb5.2							
NVAR	**Mina Array Bea**	**87.84**	**43**	P		**P**	**05 13 02.0**	**-1.9**
	comp=Z,0.9nm,0.8s,mb4.1,baz=209,slow=6.7,SNR=7.2							
MDJ	**Mudanjiang**	**88.58**	**325**	P		**P**	**05 13 07.6**	**+0.3**
MDJ				AMB		AMB		
	comp=Z,70nm,6.4s							
CFAA	**Coronel Fontan**	**89.15**	**126**	LR		LR	05 45 18.5	
	comp=Z,6.8nm,19.5s,MS3.1,baz=177,slow=30							
CN2	**Changchun**	**90.12**	**323**	*e*P		**P**	**05 13 12.7**	**-1.9**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.5s,mb4.9							
GYA	**Guiyang**	**91.68**	**300**	P		**P**	**05 13 22.8**	**+0.6**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.2							
KMI	**Kunming**	**93.97**	**297**	P		**P**	**05 13 34.0**	**+1.2**
KMI				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.5							
KMI	**Kunming**	**93.97**	**297**	P		**P**	**05 13 34.0**	**+1.2**
	comp=Z,13nm,0.5s,mb5.6							
CD2	**Chengdu**	**96.20**	**302**	*e*P		**P**	**05 13 44.3**	**+1.4**
CD2				SKS		SKS	05 24 18.6	-4.2
HHC	**Hu-ho-hao-te**	**96.27**	**314**	*e*P		**P**	**05 13 46.4**	**+3.4**
HHC				SKS		SKS	05 24 21.1	-1.8
HHC				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb5.3							
HHC				AMB		AMB		
	comp=Z,170nm,6.1s							
HHC				LR		LR		
	comp=N,140nm,15.5s,MS4.8							
HHC				LR		LR		
	comp=E,170nm,14.3s,MS4.8							
HHC				LR		LR		
	comp=Z,200nm,13.1s,MS4.8							
LZH	**Lanzhou**	**98.81**	**307**	*e*P		**P**	**05 13 55.9**	**+1.4**
LZH				AP		pP	05 14 04.0	+7.0
LZH				XP		sP	05 14 07.1	+9.3
LZH				*e*SKS		SKS	05 24 31.3	-4.9
LZH				AMB		AMB		
	comp=Z,10.0nm,1.6s,mb5.1							
LZH				AMB		AMB		
	comp=Z,30nm,4.2s							
LZH				LR		LR		
	comp=N,560nm,19.6s							
LZH				LR		LR		
	comp=Z,760nm,20.6s,MS5.2							
LZH	**Lanzhou**	**98.81**	**307**	*e*P		**P**	**05 13 55.9**	**+1.4**
LZH				*SP		sP	05 14 07.1	+9.3
LZH							05 18 00.2	
LZH				*e*			05 24 31.3	
LZH				*e*S		S	05 25 21.5	+0.5
LZH				*e*SS		SS	05 32 13.1	+1.8
LZH				pmax		pmax		
	comp=Z,13nm,1.6s,mb5.2							
LZH	**Lanzhou**	**98.81**	**307**	*e*P		**P**	**05 13 55.9**	**+1.4**
	comp=Z,13nm,1.6s,mb5.2							
LZH				pP		pP	05 14 04.0	+7.0
LZH				sP		sP	05 14 07.1	+9.3
LZH				PP		PP	05 18 00.2	+1.9
LZH				*e*SKS		SKS	05 24 31.3	-4.9
LZH				*e*S		S	05 25 21.5	+0.5
LZH				sS			05 25 35.1	
LZH				*e*SS		SS	05 32 13.1	+1.8
WMQ	**Urumqi**	**113.30**	**308**	*e*PDIF		Pdif	05 14 56.8	-1.7
WMQ				PP		PP	05 19 43.8	-2.8
WMQ				PP		PP		
	comp=Z,40nm,8.5s							
WMQ				LR		LR		
	comp=N,220nm,21.0s,MS4.9							
WMQ				LR		LR		
	comp=E,280nm,21.0s,MS4.9							
WMQ				LR		LR		
	comp=Z,310nm,22.0s,MS4.9							
MKAR	**Makanchi Array**	**117.84**	**310**	PKP		PKPdf	05 18 58.1	-4.4
	comp=Z,1.1nm,1.1s,baz=108,slow=4.6,SNR=4.7							
ARCES	**ARCESS Array B**	**138.40**	**348**	PKP		PKPdf	05 19 36.3	-4.7
	comp=Z,4.4nm,1.1s,SNR=5.0							
KAF	**Kangasniemi**	**144.41**	**341**	*ep*			05 19 35.2	
	comp=Z,6.9nm,0.9s							
FINES	**FINESS Array B**	**145.01**	**340**	PKP		PKPdf	05 19 47.5	-5.2
	comp=Z,9.0nm,0.7s,baz=44,slow=3.6,SNR=34							
KIV	**Kislovodsk**	**145.33**	**305**	*e*PKP2		PKPab	05 19 50.1	-2.9
KIV				pmax		pmax		
	comp=Z,15nm,1.1s							
NB2	**NORSAR Subarra**	**148.54**	**352**	PKPabc		PKPdf	05 19 58.1	-0.4
	comp=Z,8.3nm,0.9s,baz=15,slow=2.8							
NOA	**NORSAR Array B**	**148.54**	**352**	PKPbc		PKPdf	05 19 58.1	-0.4
	comp=Z,5.4nm,0.9s,baz=15,slow=4.4,SNR=11							
AKASG	**Malin Array Be**	**151.28**	**323**	PKPbc		PKPdf	05 20 05.0	+1.9
	comp=Z,6.3nm,0.8s,baz=48,slow=2.8,SNR=23							
AKASG				PKPab		PKPab	05 20 13.6	-3.1
	comp=Z,7.5nm,0.7s,baz=47,slow=3.4,SNR=20							
BR131	**Keskin Array S**	**152.74**	**299**	*e*PKPdf		PKPdf	05 20 05.3	-0.3
BR131				*e*PKPbc		PKPdf	05 20 10.2	+4.5
BRTR	**Keskin Array B**	**152.74**	**299**	PKPbc		PKPdf	05 20 09.8	+4.2
	comp=Z,1.8nm,0.9s,baz=108,slow=3.9,SNR=9.8							
BRTR				PKPab		PKPab	05 20 21.1	-2.2
	comp=Z,1.1nm,0.7s,baz=135,slow=5.2,SNR=5.2							
KWP	**Kalwaria**	**155.18**	**327**	*e*PKIKP		PKPdf	05 20 14.5	+5.9
KWP				*e*			05 20 30.9	
STHS	**Stebnicka Huta**	**156.01**	**329**	*e*PKP		PKPab	05 20 34.5	-2.2
CRVS	**Cervenica-Dubn**	**156.28**	**328**	*i* PKP		PKPab	05 20 35.9	-2.0
UPC	**Upice**	**157.22**	**337**	*e*PKPab		PKPab	05 20 40.1	-1.8
DPC	**Dobruska-Polom**	**157.24**	**336**	*e*PKPab		PKPab	05 20 40.5	-1.5
BRG	**Berggiesshubel**	**157.55**	**341**	*e*PKP2		PKPab	05 20 41.0	-2.3
BRG				pmax		pmax		
	comp=Z,8.0nm,1.2s							
PRU	**Pruhonice**	**158.15**	**339**	*e*PKPab		PKPab	05 20 44.1	-1.8
KHC	**Kasperske Hory**	**159.20**	**339**	*e*PKPab		PKPab	05 20 48.7	-1.7
GERES	**GERESS Array B**	**159.41**	**338**	PKPab		PKPab	05 20 48.6	-2.7
	comp=Z,2.3nm,1.0s,baz=56,slow=4.8,SNR=9.9							
TORD	**Torodi Ar. Bea**	**163.08**	**178**	PKP		PKPdf	05 20 16.5	-2.2
	comp=Z,0.8nm,1.0s,baz=342,slow=2.2,SNR=3.5							
TORD				PKPab		PKPab	05 21 05.6	-2.6
	comp=Z,0.5nm,0.6s,baz=191,slow=3.1,SNR=5.2							

IDC 08 05:04:07.7±1.6, 28.94S×178.26W, mb4.1/2, mb1 4.3/2, mb1mx4.0/12, mbtmp4.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/20, Error ellipse: s-maj=59.1km s-min=12.8km az=35.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.43**	**137**	Pn	Pn	05 04 20.5	-0.2
	1μm,0.3s,baz=92,slow=6.7,SNR=42						
RAO				Sn	Sn	05 04 32.4	+3.0
	2μm,0.3s,baz=86,slow=16,SNR=11						
AFI	**Afiamalu**	**16.12**	**23**	LR	LR	05 12 05.1	
	comp=Z,177nm,20.4s,baz=235,slow=30						
STKA	**Stephens Creek**	**34.62**	**255**	P	P	05 10 59.0	-1.6
	2.6nm,0.8s,baz=92,slow=11,SNR=3.6						
WB2	**Warramunga Arr**	**43.83**	**271**	*e*P	P	05 12 13.5	-3.8
WRA	**Warramunga Arr**	**43.84**	**271**	P	P	05 12 15.4	-2.0
	1.2nm,0.3s,baz=110,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**143.69**	**340**	PKhKP		05 23 37.5	
	1.3nm,0.5s,baz=72,slow=4.4,SNR=6.3						
FINES				PKP	PKPdf	05 23 42.5	-3.2
	4.8nm,1.0s,baz=45,slow=3.9,SNR=4.4						
AKASG	**Malin Array Be**	**149.99**	**324**	PKPbc	PKPdf	05 24 00.4	+3.9
	0.4nm,0.4s,baz=47,slow=3.2,SNR=4.6						

*IDC **08** 05:19:06.0±0.7, 36.15N×137.46E, h225km±5km, mb3.1/4, mb1 3.4/4, mb1mx3.0/21, mbtmp3.6/4, Error ellipse: s-maj=27.1km s-min=19.5km az=95.0*
*JMA **08** 05:19:05.9±0.1, 36.24N×137.54E, h235km±2km, M3.2*
*NEIC **08** 05:19:06.3±0.7, 36.18N×137.48E, h231km±5km, mb4.3/1, Error ellipse: s-maj=25.9km s-min=19.9km az=115.0*

ISC 08 05:19:05.6±0.5, 36.26N±0.08×137.51E±0.09, h235km±4km, n23, σ0.8 57/32, mb3.4/5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.16**	**258**	P	**P**	**05 19 36.5**	**+0.3**
JGN				S	**S**	**05 20 00.0**	**+0.1**
MAJO	**Matsushiro**	**0.63**	**63**	*e*Pg	**P**	**05 19 37.3**	**-0.1**
MAJO				*e*Sg	**S**	**05 19 57.8**	**-4.4**
MAT	**Matsushiro**	**0.63**	**63**	P	**P**	**05 19 37.6**	**+0.2**
MAT				S	**S**	**05 20 01.8**	**-0.4**
MAT	**Matsushiro**	**0.63**	**63**	P	**P**	**05 19 37.7**	**+0.3**
MAT				S	**S**	**05 20 01.8**	**-0.4**
MAT	**Matsushiro**	**0.63**	**63**	*e*P	**P**	**05 19 38.0**	**+0.6**
MAT				*e*S	**S**	**05 20 02.0**	**-0.2**
MJAR	**Matsushiro Arr**	**0.64**	**63**	P	**P**	**05 19 37.9**	**+0.5**
	12nm,0.3s,baz=241,slow=5.3,SNR=141						
MJAR				S	**S**	**05 20 01.8**	**-0.4**
	2.3nm,0.3s,baz=297,slow=11,SNR=13						
JGM	**Miyama**	**0.85**	**229**	P	**P**	**05 19 38.3**	**0.0**
JGM				S	**S**	**05 20 03.1**	**-0.7**
JYN	**Shimob**	**1.13**	**132**	P	**P**	**05 19 40.3**	**+0.3**
JRY	**Ryogami san**	**1.15**	**102**	P	**P**	**05 19 40.6**	**+0.4**
JRY				S	**S**	**05 20 06.0**	**-1.1**
JAG	**Ashikaga**	**1.58**	**83**	P	**P**	**05 19 42.8**	**-0.6**
JOD2	**Odawara 2**	**1.62**	**127**	P	**P**	**05 19 44.1**	**+0.3**
JOD2				S	**S**	**05 20 14.1**	**+0.8**
JSD	**Sado**	**1.88**	**18**	P	**P**	**05 19 46.0**	**0.0**
JWT	**Wachi**	**1.97**	**241**	P	**P**	**05 19 47.0**	**+0.2**
JIE	**Ise**	**1.97**	**200**	P	**P**	**05 19 47.4**	**+0.6**
JNS	**Sasagawa**	**2.13**	**42**	P	**P**	**05 19 48.5**	**+0.1**
JAW	**Awa shima**	**2.60**	**32**	P	**P**	**05 19 53.4**	**+0.2**
JWZ	**Kozaga**	**3.09**	**209**	P	**P**	**05 19 58.7**	**+0.1**
MKAR	**Makanchi Array**	**41.87**	**302**	P	**P**	**05 26 34.2**	**+0.1**
	0.2nm,0.5s,mb2.8,baz=80,slow=10,SNR=3.7						
ILAR	**Eielson Array**	**51.82**	**32**	P	**P**	**05 27 51.1**	**+0.1**
	0.7nm,0.9s,mb3.1,baz=292,slow=9.6,SNR=5.1						
WRA	**Warramunga Arr**	**55.97**	**184**	P	**P**	**05 28 20.1**	**-1.5**
	1.0nm,0.3s,mb3.8,baz=359,slow=7.7,SNR=25						
INK	**Inuvik**	**56.50**	**26**	P	**P**	**05 28 23.9**	**-0.9**
	11nm,1.5s,mb4.2						
NVAR	**Mina Array Bea**	**77.95**	**51**	P	**P**	**05 30 40.2**	**+1.1**
	0.4nm,0.6s,mb3.2,baz=272,slow=6.1,SNR=3.5						
NVAR	**Mina Array Bea**	**77.95**	**51**	P	**P**	**05 30 40.2**	**+1.1**

*NEIC **08** 05:32:08.5±0.2, 30.14S×177.72W, h10km, mb5.3/33, MS5.1/1, Error ellipse: s-maj=9.8km s-min=5.4km az=117.0*
*BJI **08** 05:32:08.8, 30.20S×176.85W, h35km, mB5.5, mb5.1, Ms5.2, Ms2.5.0*
*HRVD **08** 05:32:08.5±0.2, 29.97S×177.23W, h21km, MW5.4/80, Centroid moment Tensor Solution. LP body waves: s80,c145;Mantle waves: s80,c144; Half duration: 1≤2 Moment tensor: Scale 10^17 Nm; Mrr 1.03±.03; Mθθ-0.05±.02; Mϕϕ-0.98±.02; Mrθ 0.27±.04; Mϕθ-0.34±.02; Mϕr 1.05±.05; Best double couple: M0 1.515×10^17 NP1: ϕs 201°, δ22°, λ95°. NP2: ϕs 15°, δ68°, λ88°. Principal axes: T 1.487, Plg67°, Azm281°; N .06, Plg2°, Azm16°; P -1.544, Plg23°, Azm107°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **08** 05:32:12.0±1.4, 29.84S×177.58W, h33km, mb5.6/21 Error ellipse: s-maj=14.1km s-min=10.9km az=99.8*
*IDC **08** 05:32:14.9±1.3, 29.87S×177.61W, h47km±10km, mb4.1/8, mb1 4.4/8, mb1mx4.3/11, mbtmp4.3/8, MS4.8/17, Ms1 4.8/17, ms1mx4.7/21, Error ellipse: s-maj=18.0km s-min=14.8km az=20.0*
*CSEM **08** 05:32:16.1, 28.71S×178.36W, h33km, mb5.9*

ISC 08 05:32:10.8±0.2, 30.22S±0.03×177.74W±0.07, h34km, h34km±1.2km: pP-P, n248, σ1.9 31/146, mb5.2/42, MS4.9/24, 15C-12D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.97**	**351**	P	**P**	**05 32 27.2**	**-0.9**
	12μm,0.3s,baz=112,slow=1.6,SNR=547						
RAO				S	**S**	**05 32 39.7**	**-1.2**
	17μm,0.3s,baz=61,slow=19,SNR=26						
RAO	**Raoul Island**	**0.97**	**351**	*e*P	**P**	**05 32 27.2**	**-0.9**
MXZ	**Matakaoa Point**	**8.03**	**203**	PN	**P**	**05 34 06.7**	**-1.2**
MXZ				SN	**S**	**05 35 39.1**	**+0.5**
MXZ	**Matakaoa Point**	**8.03**	**203**	P	**P**	**05 34 06.7**	**-1.2**
MXZ				S	**S**	**05 35 39.5**	**+0.9**
PUZ	**Puketiti**	**8.51**	**202**	PN	**P**	**05 34 12.5**	**-2.1**
PUZ				SN	**S**	**05 35 45.3**	**-5.3**
PUZ	**Puketiti**	**8.51**	**202**	*e*P	**P**	**05 34 12.6**	**-2.0**
PUZ				S	**S**	**05 35 45.7**	**-4.8**
WCZ	**Waipu Caves**	**8.76**	**227**	PN	**P**	**05 34 28.5**	**+10**
OUZ	**Omahuta**	**8.84**	**233**	PN	**P**	**05 34 28.8**	**+10**
URZ	**Urewera**	**9.09**	**207**	P	**P**	**05 34 20.9**	**-1.7**
	2.5nm,0.3s,baz=34,slow=21,SNR=13						
URZ				S	**S**	**05 36 06.2**	**+1.4**
	23nm,0.3s,baz=280,slow=14,SNR=11						
URZ	**Urewera**	**9.09**	**207**	PN	**P**	**05 34 20.8**	**-1.8**
URZ				SN	**S**	**05 36 06.2**	**+1.4**
URZ	**Urewera**	**9.09**	**207**	P	**P**	**05 34 21.4**	**-1.2**
KNZ	**Kokohu**	**9.56**	**202**	SN	**S**	**05 36 15.0**	**-1.6**
BKZ	**Black Stump Fm**	**10.11**	**206**	PN	**P**	**05 34 33.3**	**-3.5**
BKZ	**Black Stump Fm**	**10.11**	**206**	*e*P	**P**	**05 34 33.7**	**-3.0**
BFZ	**Birch Farm**	**11.53**	**203**	PN	**P**	**05 34 57.0**	**+0.9**
BFZ				SN	**S**	**05 36 59.3**	**-5.4**
BFZ	**Birch Farm**	**11.53**	**203**	*e*P	**P**	**05 34 57.0**	**+0.9**
MRZ	**Mangatainoka R**	**11.76**	**206**	*e*PN	**P**	**05 34 55.5**	**-3.6**
MRZ				SN	**S**	**05 37 03.5**	**-6.7**
SNZO	**South Karori**	**12.65**	**207**	*e*Pn	**P**	**05 35 18.0**	**+6.9**
THZ	**Tophouse**	**13.78**	**211**	PN	**P**	**05 35 23.9**	**-2.0**
THZ				SN	**S**	**05 37 54.6**	**-4.2**
THZ	**Tophouse**	**13.78**	**211**	*e*P	**P**	**05 35 24.1**	**-1.9**
KHZ	**Kahutara**	**14.05**	**208**	PN	**P**	**05 35 25.8**	**-3.8**
KHZ				SN	**S**	**05 37 58.5**	**-6.8**
KHZ	**Kahutara**	**14.05**	**208**	*e*P	**P**	**05 35 25.8**	**-3.7**
DSZ	**Denniston Nort**	**14.27**	**213**	PN	**P**	**05 35 33.8**	**+1.3**
DSZ				SN	**S**	**05 38 04.4**	**-6.1**
RPZ	**Rata Peaks**	**16.16**	**210**	P	**P**	**05 35 57.4**	**+0.5**
	1.8nm,0.3s,baz=94,slow=13,SNR=8.0						
RPZ				S	**S**	**05 38 48.8**	**-5.8**
	3.5nm,0.3s,baz=108,slow=24,SNR=7.4						
DZM	**Mont Dzumac**	**16.34**	**296**	*e*P	**P**	**05 36 04.0**	**+4.7**
DZM	**Mont Dzumac**	**16.34**	**296**	P	**P**	**05 36 05.8**	**+6.5**
	2.2nm,0.3s,baz=91,slow=16,SNR=21						
DZM				LR	LR	05 41 14.1	
	comp=Z,8μm,18.6s,baz=202,slow=33						
AFI	**Afiamalu**	**17.14**	**20**	P	**P**	**05 35 58.9**	**-10**
	2.4nm,0.3s,baz=85,slow=18,SNR=3.5						
AFI				S	S	05 38 53.6	-24
	3.3nm,0.3s,baz=29,slow=19,SNR=3.9						
AFI	**Afiamalu**	**17.14**	**20**	*e*P	**P**	**05 35 57.4**	**-12**
AFI				pmax	pmax		
	comp=Z,48nm,0.7s						
AFI	**Afiamalu**	**17.14**	**20**	*e*P	**P**	**05 35 57.4**	**-12**
	comp=Z,48nm,0.7s						
RAR	**Rarotonga**	**18.49**	**65**	P	**P**	**05 36 17.5**	**-8.8**
	comp=Z,1.9nm,0.3s,baz=259,slow=5.6,SNR=9.5						
RAR				LR	LR	05 41 43.9	
	comp=Z,2μm,18.6s,baz=249,slow=31						
TBI	**Tubuai**	**26.11**	**82**	*e*LQ		05 42 42.5	
TBI				*e*LR	LR	05 43 51.4	
	comp=Z,6μm,27.8s,baz=246						
CNB	**Canberra Magne**	**28.05**	**251**	*e*P	**P**	**05 38 07.0**	**+5.9**
	comp=Z,60nm,1.3s,mb5.1						
PPT	**Papeete**	**28.58**	**70**	*e*S	**S**	**05 42 39.1**	**-11**
PPT				*e*LQ		05 43 37.3	
PPT				*e*LR	LR	05 44 55.7	
	comp=Z,6μm,26.5s,baz=239						
HNR	**Honiara**	**29.35**	**310**	LR	LR	05 47 48.5	
	comp=Z,1μm,21.6s,MS4.5,baz=332,slow=32						
TOO	**Toolangi**	**31.24**	**246**	*e*P	**P**	**05 38 35.9**	**+6.4**
	comp=Z,14nm,0.7s,mb4.9						
TOO	**Toolangi**	**31.24**	**246**	*e*P	**P**	**05 38 35.9**	**+6.4**
TOO				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.9						
CTA	**Charters Tower**	**33.99**	**279**	*e*P	**P**	**05 38 56.8**	**+3.2**
	comp=Z,30nm,0.8s,mb5.3						
CTA	**Charters Tower**	**33.99**	**279**	*e*P	**P**	**05 38 56.8**	**+3.2**
CTA				pmax	pmax		
	comp=Z,30nm,0.8s						
CTAO	**Charters Tower**	**33.99**	**279**	*e*P	**P**	**05 38 56.0**	**+2.4**
CTAO				pmax	pmax		
	comp=Z,57nm,1.0s,mb5.5						
CTAO	**Charters Tower**	**33.99**	**279**	*e*P	**P**	**05 38 56.0**	**+2.5**
	comp=Z,57nm,1.0s,mb5.5						
STKA	**Stephens Creek**	**34.74**	**257**	*e*P	**P**	**05 39 04.3**	**+4.4**
	comp=Z,16nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**34.74**	**257**	P	**P**	**05 39 03.9**	**+4.0**
	comp=Z,18nm,0.6s,mb5.2,baz=98,slow=9.8,SNR=39						
STKA				LR	LR	05 52 31.0	
	comp=Z,4μm,18.2s,MS5.2,baz=84,slow=35						
STKA	**Stephens Creek**	**34.74**	**257**	*e*P	**P**	**05 39 04.2**	**+4.3**
RKT	**Rikitea**	**38.69**	**90**	*e*S	**S**	**05 45 21.2**	**-6.4**
RKT				*e*LR	LR	05 49 40.4	
	comp=Z,3μm,27.8s						
TAOE	**Nuku Hiva Isla**	**41.03**	**67**	*e*S	**S**	**05 45 53.5**	**-9.2**
TAOE				*e*LR	LR	05 50 40.0	
	comp=Z,8μm,26.3s,baz=238						
WB2	**Warramunga Arr**	**44.30**	**272**	⇓*i*P	**P**	**05 40 21.2**	**+1.8**
WB2				*e*PCS		05 46 01.9	
WRAB	**Tennant Creek**	**44.31**	**272**	⇑*i*P	**P**	**05 40 20.6**	**+1.1**
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**05 40 21.2**	**+1.6**
	comp=Z,26nm,0.4s,mb5.3,baz=110,slow=8.0,SNR=150						
WRA				ScP		05 45 56.9	
	comp=Z,0.5nm,0.8s,baz=127,slow=4.2,SNR=2.7						
WRA				S	**S**	**05 46 52.4**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=108,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**44.31**	**272**	P

comp=Z,19nm,0.9s,mb5.2
SSE PcP PcP 05 44 44.6 +0.4
SSE pP pP 05 44 50.5 -0.2
SSE sP sP 05 44 54.1 -0.2
SSE PP PP 05 47 55.2 -1.0
SSE S S 05 55 03.2 +2.2
SSE ScS ScS 05 55 14.7 +3.2
SSE sS 05 55 20.2
SSE SS SS 06 00 32.7 -0.5
SSE LR LR
comp=Z,210nm,26.0s,MS4.4
YSS Yuzh-Sakhalins 84.68 334 *e*P **P** **05 44 41.6 -0.7**
YSS *e* pP 05 44 54.2 +1.3
YSS Yuzh-Sakhalins 84.68 334 *e*P **P** **05 44 42.3 0.0**
comp=Z,60nm,0.9s,mb5.7
LRV Little Rabbit 85.00 43 P **P** **05 44 41.9 -2.2**
PET Petropavlovsk 85.41 346⇓ *i*P **P** **05 44 43.4 -2.3**
PET pmax pmax
comp=Z,51nm,1.7s,mb5.4
KULM Kulim 85.42 279 *e*P **P** **05 44 44.3 -2.4**
ISA Isabella 86.01 45 *e*P **P** **05 44 48.8 -0.3**
ISA pmax pmax
comp=Z,35nm,1.4s,mb5.4
ISA Isabella 86.01 45 *e*P **P** **05 44 48.8 -0.3**
comp=Z,35nm,1.4s,mb5.4
NJ2 Nanjing 86.29 310 *e*P **P** **05 44 50.8 +0.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.1
CMB Columbia Colle 86.47 42 *e*P **P** **05 44 51.8 +0.5**
CMB pmax pmax
comp=Z,22nm,1.1s,mb5.3
CMB Columbia Colle 86.47 42 *e*P **P** **05 44 51.8 +0.5**
comp=Z,22nm,1.1s,mb5.3
MTUM Tungsten Hills 87.08 43 *e*P **P** **05 44 55.3 +1.0**
MTUM *ep*P pP 05 45 06.2 +1.2
LDFC Landfair 87.71 47 P **P** **05 44 57.8 +0.4**
LDFC *ep*P pP 05 45 08.4 +0.3
YBH Yreka Blue Hor 87.75 38 *e*P **P** **05 44 58.2 +0.8**
YBH *e**PP pP 05 45 10.1 +2.0
YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH Yreka Blue Hor 87.75 38 *e*P **P** **05 44 58.2 +0.8**
comp=Z,9.1nm,1.0s,mb5.0
YBH *ep*P pP 05 45 10.1 +1.9
NVAR Mina Array Bea 87.95 43 P **P** **05 44 59.0 +0.5**
comp=Z,3.5nm,0.9s,mb4.6,baz=208,slow=6.6,SNR=19
NVAR LR LR 06 19 59.8
comp=Z,710nm,18.1s,MS5.1,baz=265,slow=33
MNV Mina 88.04 43 *e*P **P** **05 44 58.5 -0.4**
MNV *e**PP pP 05 45 09.5 -0.1
MNV pmax pmax
comp=Z,14nm,1.0s,mb5.2
MNV Mina 88.04 43 *e*P **P** **05 44 58.5 -0.4**
comp=Z,14nm,1.0s,mb5.1
MNV *ep*P pP 05 45 09.5 -0.1
TPNV Topopah Spring 88.21 45 *e*P **P** **05 45 00.0 +0.3**
TPNV *e**PP pP 05 45 12.0 +1.6
TPNV pmax pmax
comp=Z,16nm,1.0s,mb5.2
TPNV Topopah Spring 88.21 45 *e*P **P** **05 45 00.0 +0.3**
comp=Z,16nm,1.0s,mb5.2
TPNV *ep*P pP 05 45 12.0 +1.5
HUMO Hull Mountain 88.23 37 *e*P **P** **05 44 59.5 -0.2**
comp=Z,23nm,1.3s,mb5.2
NEN Nelson 88.24 46 *e*P **P** **05 44 58.7 -1.2**
NEN *ep*P pP 05 45 10.9 +0.3
TPH Tonopah 88.35 43 *e*P **P** **05 45 00.4 0.0**
TPH *e**PP pP 05 45 11.8 +0.7
TPH pmax pmax
comp=Z,22nm,1.0s,mb5.3
TPH Tonopah 88.35 43 *e*P **P** **05 45 00.4 0.0**
comp=Z,22nm,1.0s,mb5.3
TPH *ep*P pP 05 45 11.8 +0.7
MDJ Mudanjiang 88.60 325 P **P** **05 45 02.2 +0.8**
MDJ AP pP 05 45 11.8 -0.3
MDJ XP sP 05 45 15.6 0.0
MDJ PP PP 05 48 29.7 -2.7
MDJ S S 05 55 44.4 +1.0
MDJ XS 05 56 01.3
MDJ SS SS 06 01 37.4 -0.6
MDJ AMB AMB
comp=Z,10.0nm,1.6s,mb4.9
MDJ AMB AMB
comp=Z,180nm,7.5s
MDJ LR LR
comp=N,290nm,22.7s,MS4.8
MDJ LR LR
comp=E,270nm,20.2s,MS4.8
MDJ LR LR
comp=Z,460nm,20.8s,MS4.9
MDJ Mudanjiang 88.60 325 P **P** **05 45 02.3 +0.9**
comp=Z,42nm,1.4s,mb5.6
HABR Khabarovsk 88.99 331⇑ *i*P **P** **05 45 05.0 +1.8**
HABR pmax pmax
comp=Z,79nm,1.3s,mb5.9
CFAA Coronel Fontan 89.17 126 P **P** **05 45 05.5 +1.1**
comp=Z,0.4nm,1.1s,baz=127,slow=5.1,SNR=2.8
CN2 Changchun 90.13 323 *e*P **P** **05 45 09.7 +1.0**
CN2 *e*AP pP 05 45 20.1 +0.7
CN2 *e*S S 05 55 58.0 +0.5
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.5
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,420nm,17.0s,MS5.0
CN2 LR LR
comp=E,250nm,17.0s,MS5.0
CN2 LR LR
comp=Z,290nm,21.0s,MS4.7
KDAK Kodiak Island 90.18 13 LR LR 06 20 53.9
comp=Z,726nm,19.0s,MS5.1,baz=108,slow=32
WUAZ Wupatki 90.37 48 *e*P **P** **05 45 10.2 +0.2**
comp=Z,31nm,1.1s,mb5.5
WUAZ *ep*P pP 05 45 20.9 +0.1
WVOR Wild Horse Val 90.43 39 *e*P **P** **05 45 09.4 -0.7**
WVOR *e**PP pP 05 45 21.2 +0.3
WVOR pmax pmax
comp=Z,12nm,1.6s,mb5.0
WVOR Wild Horse Val 90.43 39 *e*P **P** **05 45 09.4 -0.8**
comp=Z,12nm,1.6s,mb5.0
WVOR *ep*P pP 05 45 21.2 +0.3
ARUT Antelope Range 90.47 46 *e*P **P** **05 45 10.6 +0.2**
ARUT *e**PP pP 05 45 23.3 +2.1
KLR Kul'dur 90.99 330 *e*P **P** **05 45 09.8 -2.8**
KLR MLR MLR
comp=N,1μm,18.0s,MS5.5
KLR MLR MLR
comp=E,600nm,18.0s,MS5.5
ELK Elko 91.25 42 LR LR 06 20 44.9
comp=E,754nm,18.6s,MS5.2,baz=223,slow=32
ENH Enshi 91.68 304 *e*P **P** **05 45 15.8 -0.5**
comp=E,30nm,1.3s,mb5.5
MSU Marysvale 91.69 46 *e*P **P** **05 45 17.7 +1.6**
MSU *e**PP pP 05 45 27.2 +0.3
TXAR Lajitas Array 92.10 57 P **P** **05 45 18.3 +0.1**
comp=E,0.1nm,0.4s,baz=225,slow=5.1,SNR=3.0
TXAR LR LR 06 22 51.1
comp=E,696nm,18.3s,MS5.1,baz=185,slow=33
LAZ Ladron 92.52 51 *e*P **P** **05 45 21.1 +1.2**
LAZ *ep*P pP 05 45 31.1 +0.3
LPM Los Pinos Moun 92.81 52 P **P** **05 45 21.5 +0.2**
LPM *ep*P pP 05 45 31.5 -0.6
BBB Bella Bella 92.83 28 LR LR 06 22 15.4
comp=E,452nm,18.1s,MS5.0,baz=227,slow=32
MA2 Magadan 93.17 345 *e*P **P** **05 45 20.7 -1.6**
MA2 *e* 05 49 02.2
MA2 *e* 06 06 19.3
ANMO Albuquerque 93.29 51⇑ *i*P **P** **05 45 19.9 -3.6**
ANMO Albuquerque 93.29 51 *e*P **P** **05 45 23.7 +0.2**
comp=E,8.4nm,1.2s,mb5.0
ANMO *ep*P pP 05 45 32.9 -1.3
HLID Hailey 93.52 41 *e*P **P** **05 45 24.7 +0.4**
comp=E,8.5nm,0.9s,mb5.2
HLID *ep*P pP 05 45 35.9 +0.8
KMI Kunming 93.94 297 P **P** **05 45 28.1 +1.5**
KMI AMB AMB
comp=Z,10.0nm,0.5s,mb5.5
KMI Kunming 93.94 297 P **P** **05 45 28.1 +1.5**
comp=Z,12nm,0.5s,mb5.6
NEW Newport 95.09 36 LR LR 06 22 58.0
comp=Z,606nm,18.2s,MS5.1,baz=231,slow=32
MCMT McKenzie Canyo 95.19 40 *e*P **P** **05 45 32.9 +1.0**
MCMT *ep*P pP 05 45 44.0 +1.4
PDAR Pinedale Array 95.85 43 P **P** **05 45 34.5 -0.4**
comp=Z,0.7nm,1.0s,mb4.1,baz=135,slow=4.2,SNR=4.2
PDAR PKKPbc 06 02 27.0
comp=Z,0.5nm,0.5s,baz=102,slow=3.4,SNR=5.1
PDAR LR LR 06 24 40.2
comp=Z,555nm,18.0s,MS5.1,baz=241,slow=33
SEY Seymchan 95.85 347⇓ *i*P **P** **05 45 33.2 -1.2**
QLMT Earthquake Lak 95.99 41 *e*P **P** **05 45 35.9 +0.4**
QLMT *ep*P pP 05 45 47.5 +1.2
CD2 Chengdu 96.18 302 *e*P **P** **05 45 41.3 +4.6**
HHC Hu-ho-hao-te 96.27 314 *e*P **P** **05 45 42.0 +5.2**
HHC AP pP 05 45 50.6 +3.0
HHC XP sP 05 45 53.5 +2.4
HHC S S 05 56 58.5 +7.8
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
HHC AMB AMB
comp=Z,150nm,2.6s,mb6.0
HHC LR LR
comp=N,170nm,15.5s,MS4.8
HHC LR LR
comp=E,250nm,20.2s,MS4.8
HHC LR LR
comp=Z,440nm,23.8s,MS4.9
BOZ Bozeman (W) 96.37 40 *e*P **P** **05 45 36.1 -1.1**
BOZ pmax pmax
comp=Z,14nm,1.5s,mb5.2
BOZ Bozeman (W) 96.37 40 *e*P **P** **05 45 36.1 -1.1**
comp=Z,14nm,1.5s,mb5.2
DLBC Dease Lake 96.86 23 LR LR 06 24 24.1
comp=Z,344nm,19.2s,MS4.8,baz=226,slow=32
ILAR Eielson Array 97.69 13 P **P** **05 45 42.1 -0.7**
comp=Z,1.0nm,0.9s,mb4.3,baz=222,slow=5.5,SNR=9.3
LPAZ La Paz 98.02 114 LR LR 06 20 36.7
comp=Z,151nm,20.8s,MS4.5,baz=49,slow=30
LZH Lanzhou 98.79 307 *e*P **P** **05 45 48.7 +0.3**
LZH AP pP 05 45 59.5 +0.3
LZH XP sP 05 46 03.5 +0.9
LZH PP PP 05 49 52.2 -0.2
LZH *e*SKS SKS 05 56 23.1 +0.4
LZH AMB AMB
comp=Z,10.0nm,1.6s,mb5.1
LZH AMB AMB
comp=Z,30nm,4.5s
LZH LR LR
comp=N,350nm,18.6s
LZH LR LR
comp=Z,560nm,19.8s,MS5.1
LZH Lanzhou 98.79 307 *e*P **P** **05 45 48.7 +0.3**
LZH *PP pP 05 45 59.5 +0.3
LZH *SP sP 05 46 03.5 +0.9
LZH 05 49 52.2
LZH *e* 05 56 23.1
LZH *e*SS SS 06 04 01.5 -1.4
LZH pmax pmax
comp=Z,11nm,1.6s,mb5.1
LZH MLR MLR
comp=Z,560nm,19.8s,MS5.1
YAK Yakutsk 101.16 338 *i* P P 05 46 00.9 +2.4
INK Inuvik 103.54 15 *e*P Pdif 05 46 03.9 -5.1
YKA Yellowknife Ar 105.18 25 PKKPbc 06 01 58.4
comp=Z,0.2nm,0.5s,baz=39,slow=3.0,SNR=4.6
MKAR Makanchi Array 117.83 310 PKP PKPdf 05 50 54.7 +1.1
comp=Z,0.8nm,0.5s,baz=189,slow=0.4,SNR=17
MKAR Makanchi Array 117.83 310 *i* PKIKP PKPdf 05 50 54.7 +1.1
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 117.83 310 PKP PKPdf 05 50 54.7 +1.1
KURK Kurchatov 121.08 314⇑ *i*PKIKP PKPdf 05 50 58.9 -1.0
BVAR Borovoye Array 126.43 316 PKP PKPdf 05 51 11.4 +1.3
comp=Z,1.7nm,0.5s,baz=142,slow=2.0,SNR=14
BRVK Borovoye 126.49 316⇑ *e*PKIKP PKPdf 05 51 10.2 -0.1
SVE Sverdlovsk 131.90 321 *e*PKIKP PKPdf 05 51 21.6 +1.1
ARU Arti 133.09 321 *i* PKIKP PKPdf 05 51 24.9 +2.2
KMBO Kilima Mbogo 134.36 233 PKP PKPdf 05 51 30.9 +4.5
comp=Z,1.5nm,0.9s,baz=82,slow=4.2,SNR=3.0
ARCES ARCESS Array B 138.46 348 PKIKP 05 51 26.1
comp=Z,2.4nm,0.7s,baz=38,slow=1.0,SNR=13
ARCES PKP PKPdf 05 51 35.4 +3.1
comp=Z,2.7nm,0.6s,baz=33,slow=1.8,SNR=9.3
ARE0 ARCESS Array S 138.46 348 *e*PKPpre 05 51 25.0
ARE0 PKPdf PKPdf 05 51 33.3 +1.0
KLMR Klimovskoe 140.70 332 *e*PKIKP PKPdf 05 51 37.5 +1.1
KLMR pmax pmax
comp=Z,10.0nm,1.2s
KLMR MLR MLR
comp=Z,470nm,20.0s,MS5.2
JOF Joensuu 142.33 339 *ep* PKPdf 05 51 38.0 -1.2
comp=Z,1.1nm,0.4s
JOF Joensuu 142.33 339 *e*PKIKP PKPdf 05 51 38.0 -1.2
JOF pmax pmax
comp=Z,1.0nm,0.4s
BLJS Baljurashi 143.06 263 P PKPbc 05 51 47.7 +8.0
DGRG David-gareji 143.63 300 P PKPbc 05 51 41.4 +0.6
GNI Garni 144.18 298⇑ *i*PKIKP PKPdf 05 51 44.7 +1.6
GNI Garni 144.18 298 *e*PKPdf PKPdf 05 51 41.9 -1.2
MOS Moscow 144.31 326 *e*PKIKP PKPdf 05 51 45.0 +2.2
KAF Kangasniemi 144.45 341 *ep* PKPbc 05 51 41.7 -0.8
comp=Z,3.4nm,0.4s
GOF Gofitskoye 144.87 306 *e*PKIKP PKPdf 05 51 49.9 +5.8
HAKT HAKKARI 145.04 293 *i* P PKPdf 05 51 43.8 -0.9
FINES FINESS Array B 145.05 340 PKP PKPdf 05 51 44.1 +0.1
comp=Z,21nm,0.6s,baz=52,slow=4.2,SNR=164
OBN Obninsk 145.15 325*c* *i*PKHKP 05 51 39.1
OBN *i* 05 51 45.0
OBN *e* 05 51 51.7
OBN *e* 05 51 58.0
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN pmax pmax
comp=Z,57nm,0.7s
OBN Obninsk 145.15 325⇑ *i*PKP PKPdf 05 51 45.1 +0.8
DIGO Kars 145.21 298 *i* P PKPdf 05 51 46.3 +1.4
TVAN Van 145.27 295 *i* P PKPdf 05 51 45.8 +0.7
KIV Kislovodsk 145.31 305 *i* PKIKP PKPdf 05 51 46.9 +2.0
KIV pmax pmax
comp=Z,25nm,1.0s
KIV Kislovodsk 145.31 305⇑ *i*PKP PKPdf 05 51 46.8 +1.9
VOR Voronezh 145.32 319 PKP2 PKPab 05 51 45.0 -1.7
VOR pmax pmax
comp=Z,90nm,1.7s
ARTV Artvin 146.24 300 *i* P PKPdf 05 51 46.2 -0.4
ERZM Erzurum 146.79 298 *i* P PKPdf 05 51 50.2 +2.6
VSU Vasula 147.15 336⇓ *i*PKP2 PKPab 05 51 51.5 -2.0
MAID Mardin 147.37 293 *i* P PKPdf 05 51 51.2 +2.6
SOC Sochi 147.49 305 *i* PKP2 PKPab 05 51 53.5 -1.8
SOC *e* 05 55 28.7
SOC pmax pmax
comp=Z,45nm,1.2s
SOC MLR MLR
comp=Z,303nm,19.0s,MS5.1
YNBS Yanbu' al Bahr 147.79 268 P PKPdf 05 51 56.1 +6.4
KELT Kelkit 148.38 298 *i* P PKPdf 05 51 55.2 +5.1
NB2 NORSAR Subarra 148.60 352 PKPabc PKPdf 05 51 54.8 +5.0
comp=Z,22nm,1.2s,baz=10.0,slow=3.1
NOA NORSAR Array B 148.60 352 PKPbc PKPdf 05 51 54.8 +5.0
comp=Z,7.8nm,0.7s,baz=14,slow=4.3,SNR=26
UMJS Umm Lajj 148.66 270 P PKPdf 05 51 58.8 +7.8
ELZG Elazig 148.74 295 *i* P PKPdf 05 51 55.9 +5.1
ANN Anapa 148.80 308 *i* PKP2 PKPab 05 52 01.5 +0.9
ANN pmax pmax
comp=Z,80nm,1.2s
NAO01 NORSAR Array S 148.83 352 *e*PKPdf PKPdf 05 51 48.8 -1.4
GRSN GIRESUNGRSN 149.02 300 *i* P PKPdf 05 51 55.8 +4.7
GZT Gaziantep 149.93 293 *i* P PKPdf 05 51 58.8 +6.1
QURS Qurayyt al Mil 149.93 281 P PKPdf 05 52 02.5 +10
TBKS Tabuk 150.07 275 P PKPdf 05 52 01.5 +8.3
KONO Kongsberg 150.15 353*c* *i*PKHKP 05 51 58.2
KONO Kongsberg 150.15 353 *e*PKPbc PKPdf 05 51 57.8 +5.5
JMQS Jabal Moqyreh 150.78 276 P PKPdf 05 52 03.5 +9.2
SIM Simferopol' 151.00 309 PKIKP PKPab 05 52 08.6 -1.1
SIM pmax pmax
comp=Z,390nm,22.0s
COBT Iskenderun 151.02 292 *i* P PKPdf 05 52 02.4 +8.0
AYUS 'Aynunah 151.17 274 P PKPdf 05 52 03.8 +8.9
AKASG Malin Array Be 151.29 323 PKPbc PKPdf 05 52 02.2 +7.9
comp=Z,6.6nm,0.5s,baz=48,slow=3.0,SNR=50
BDAS Al Bad' 151.36 275 P PKPdf 05 52 04.0 +8.8
BOYT Boyabat 151.42 302 *i* P PKPdf 05 52 02.1 +7.2
JMOS Jabal al Moall 151.50 276 P PKPdf 05 52 04.7 +9.4
BHL Bhannes 151.53 286 *e*P PKPdf 05 52 03.6 +8.4
ALWS Ilw as Safayha 151.56 277 P PKPdf 05 52 05.0 +10
HAQS Haql 151.63 276 P PKPdf 05 52 05.1 +10
CTKT Corum 151.67 300 *i* P PKPdf 05 52 03.1 +7.8
SUW Suwalki 151.81 334 *e*PKP PKPdf 05 52 03.1 +8.1
SUW *e* 05 52 10.2
SUW Suwalki 151.81 334 *e*PKPbc PKPdf 05 52 02.3 +7.3
SUW *e*PKPab PKPab 05 52 10.2 -2.6
CDAG Cicekdag 152.17 298 *i* P PKPdf 05 52 01.3 +5.3
BALT Daday 152.51 303 *i* P PKPdf 05 52 03.4 +7.0
BR131 Keskin Array S 152.71 299 *e*PKPbc PKPdf 05 52 05.8 +9.0
BRTR Keskin Array B 152.71 299 PKPbc PKPdf 05 52 06.2 +9.4
comp=Z,6.1nm,0.9s,baz=135,slow=3.5,SNR=28
ELDT Eldivan 152.72 301 *i* P PKPdf 05 52 05.8 +9.0
ANTO Ankara 153.32 299 *e*PKIKP PKPdf 05 52 06.8 +9.2
CSS Prodhromos 153.46 288 *e*PKPbc PKPdf 05 52 06.5 +8.6
KIS Kishinev 153.51 317 *e*PKIKP PKPdf 05 52 05.0 +7.4
SGKT Sivrigoynuk 153.72 301 *i* P PKPdf 05 52 05.3 +7.1
ESKT Eskisehir 154.86 299 *i* P PKPdf 05 52 07.8 +8.1
KWP Kalwaria 155.20 327 *e*PKP PKPab 05 52 26.9 -0.3
KWP Kalwaria 155.20 327 *e*PKP2 PKPab 05 52 25.7 -1.5
DBIC Dimbokro 155.64 163 PKPbc PKPdf 05 52 18.1 +17
comp=Z,3.2nm,0.6s,baz=82,slow=2.5,SNR=4.5
KOLS Kolonicke sedl 155.89 326 *e*PKP PKPab 05 52 28.5 -1.7
KOLS *e* 05 52 38.5
STHS Stebnicka Huta 156.03 328 *e*PKP PKPab 05 52 31.1 +0.3
STHS *e* 05 52 36.0
CRVS Cervenica-Dubn 156.30 327 *e*PKP PKPab 05 52 32.0 +0.1
CRVS *e* 05 52 37.2
KSP Ksiaz 156.87 337 *e*PKP PKPab 05 52 34.2 -0.1
KSP *e* 05 52 40.1
OKC Ostrava-Krasne 157.02 333 *e*PKPab PKPab 05 52 34.9 -0.1
OKC *ep*PKP 05 52 40.4
KECS Kecovo 157.05 328 *e*PKP PKPab 05 52 34.4 -0.8
UPC Upice 157.25 337 *e*PKPab PKPab 05 52 36.4 +0.4
UPC *ep*PKP 05 52 41.9
DPC Dobruska-Polom 157.28 336 *e*PKPab PKPab 05 52 36.3 +0.2
DPC *ep*PKP 05 52 42.0
CLL Collm 157.46 342 *e*PKP2 PKPab 05 52 35.0 -1.8
CLL *e**PPKP2 05 52 42.0
CLL *i* 05 52 47.0
PVCC Panska Ves 157.71 339 *e*PKPab PKPab 05 52 37.7 -0.2
PVCC *ep*PKP 05 52 43.8
PSZ Piszkesteto 157.73 327⇓ *e*PKP/p PKPab 05 52 38.1 0.0
VYHS Vyhne 157.78 330 *e*PKP PKPab 05 52 38.0 -0.3
VYHS *e* 05 52 43.5
PRU Pruhonice 158.18 338 *e*PKPab PKPab 05 52 40.2 +0.2
PRU *ep*PKP 05 52 45.5
MOX Moxa 158.42 344 *i* P PKPab 05 52 40.4 -0.6
comp=Z,logA/T=1.1
TREC Trest 158.46 336 *e*PKPab PKPab 05 52 41.4 +0.2
TREC *ep*PKP 05 52 46.4
NKC Novy Kostel 158.58 342 *e*PKPab PKPab 05 52 41.3 -0.4
NKC *ep*PKP 05 52 47.7
KHC Kasperske Hory 159.24 339 *e*PKPab PKPab 05 52 44.5 -0.1
KHC *ep*PKP 05 52 50.5
GERES GERESS Array B 159.45 338 PKP PKPdf 05 52 06.9 +1.6
comp=Z,0.5nm,0.7s,baz=169,slow=5.0,SNR=3.4
GERES PKPab PKPab 05 52 45.1 -0.4
comp=Z,6.1nm,0.9s,baz=45,slow=3.8,SNR=19
MOA Molln 160.12 336⇑ *i*P PKPab 05 52 48.7 +0.3
comp=Z,22nm,1.2s
KBA KoelnbreinsperZ 161.10 336⇑ *i*P PKPab 05 52 53.6 +0.9
comp=Z,9.6nm,0.9s
WATA Walderalm 161.45 340⇓ *i*P PKPab 05 52 54.1 -0.1
comp=Z,14nm,1.0s
WTTA Wattenberg 161.50 340⇓ *i*P PKPab 05 52 54.5 +0.1
comp=Z,26nm,0.9s
MOTA Moosalm 161.58 341⇑ *i*P PKPab 05 52 54.6 -0.1
comp=Z,22nm,1.2s
DAVA Damuels 161.96 343⇑ *i*P PKPab 05 52 56.5 0.0
comp=Z,8.8nm,0.8s
DAVOX Davos 162.43 342 PKPab PKPab 05 52 58.5 0.0
comp=Z,4.4nm,0.5s,baz=355,slow=7.9,SNR=8.5
TORD Torodi Ar. Bea 163.01 178 PKP PKPdf 05 52 11.7 +1.9
comp=Z,0.8nm,1.0s,baz=246,slow=26,SNR=4.0
TORD PKPab PKPab 05 53 02.1 +0.2
comp=Z,2.0nm,0.5s,baz=176,slow=3.3,SNR=19
ESDC Sonseca Array 169.27 27 PKP PKPdf 05 52 21.0 +6.9
comp=Z,0.4nm,0.7s,baz=357,slow=2.1,SNR=3.7
ESDC PKPab PKPab 05 53 27.0 -1.5
comp=Z,0.3nm,0.5s,baz=322,slow=3.9,SNR=5.0

WEL 08 05:36:57.4±0.3, 39.95S×174.44E, h106km±3km, ML3.5/6, 3C-1D, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.46**	**66**	PN	P	05 37 14.3	+0.6
RAEZ	**Rainy Point**	**0.66**	**357**	PN	P	05 37 15.2	0.0
RAEZ				SN	S	05 37 27.1	-1.5
NRZ	**Ngariki Road**	**0.72**	**327**	PN	P	05 37 15.4	-0.4
NEZ	**North Egmont**	**0.72**	**338**	PN	P	05 37 15.6	-0.1
PKE	**Pukeiti**	**0.83**	**335**	PN	P	05 37 16.3	-0.5
PKE				SN	S	05 37 30.2	-1.1
VRZ	**Vera Road**	**0.85**	**17**	⇑PN	P	05 37 16.7	-0.4
VRZ				SN	S	05 37 31.4	-0.4
DUWZ	**D'Urville Isla**	**0.95**	**205**	⇓PN	P	05 37 17.9	-0.1
DUWZ				SN	S	05 37 32.4	-1.1
PKVZ	**Pokaka**	**0.95**	**47**	PN	P	05 37 18.0	-0.1
PKVZ				SN	S	05 37 33.4	-0.3
KIW	**Kapiti Island**	**0.98**	**159**	PN	P	05 37 17.7	-0.7
TRVZ	**Turoa**	**1.07**	**53**	PN	P	05 37 19.2	-0.1
FWVZ	**Far West T-bar**	**1.10**	**52**	PN	P	05 37 19.6	-0.1
FWVZ				SN	S	05 37 35.3	-1.1
WPVZ	**Whakapapa**	**1.13**	**49**	PN	P	05 37 19.6	-0.4
CNZ	**Chateau**	**1.13**	**49**	PN	P	05 37 19.6	-0.4
MOVZ	**Moawhango**	**1.14**	**62**	PN	P	05 37 19.4	-0.9
MOVZ				SN	S	05 37 35.7	-1.7
TUVZ	**Tukino**	**1.15**	**55**	PN	P	05 37 19.0	-1.4
TUVZ				SN	S	05 37 37.3	-0.2
TWVZ	**Taurewa**	**1.16**	**42**	PN	P	05 37 19.8	-0.7
TWVZ				SN	S	05 37 36.1	-1.6
TSZ	**Takapari Road**	**1.17**	**96**	PN	P	05 37 20.1	-0.5
NGZ	**Ngauruhoe**	**1.18**	**50**	PN	P	05 37 20.1	-0.6
NGZ				SN	S	05 37 38.1	-0.1
WTVZ	**West Tongariro**	**1.21**	**47**	PN	P	05 37 20.5	-0.5
WTVZ				SN	S	05 37 37.3	-1.5
KRVZ	**Karewarewa**	**1.26**	**48**	PN	P	05 37 20.0	-1.4
KRVZ				SN	S	05 37 38.4	-1.2
CAW	**Cannon Point**	**1.26**	**158**	PN	P	05 37 21.2	-0.3
CAW				SN	S	05 37 37.7	-1.9
TCW	**Tory Channel**	**1.27**	**186**	PN	P	05 37 21.3	-0.4
TCW				SN	S	05 37 37.4	-2.6
MRW	**Makara Radio**	**1.30**	**171**	⇑PN	P	05 37 21.9	-0.1
MRW				SN	S	05 37 38.2	-2.4
SNZO	**South Karori**	**1.38**	**172**	PN	P	05 37 22.6	-0.3
MTW	**Mount Morrison**	**1.46**	**147**	SN	S	05 37 41.6	-2.2
HIZ	**Hauiti**	**1.46**	**13**	⇑PN	P	05 37 23.0	-1.0
HIZ				SN	S	05 37 41.8	-2.1
NNZ	**Nelson**	**1.51**	**212**	PN	P	05 37 23.7	-0.8
NNZ				SN	S	05 37 43.9	-1.0
TUWZ	**Tuamarina**	**1.53**	**194**	PN	P	05 37 24.1	-0.8
PAWZ	**Paruwai Farm**	**1.62**	**153**	SN	S	05 37 44.8	-2.3
QRZ	**Quartz Range**	**1.71**	**238**	PN	P	05 37 25.5	-1.5
QRZ				SN	S	05 37 46.6	-2.5
BSWZ	**Blackbirch Sta**	**1.82**	**193**	PN	P	05 37 28.0	-0.4
THZ	**Tophouse**	**2.16**	**212**	PN	P	05 37 31.7	-1.1
KHZ	**Kahutara**	**2.56**	**195**	PN	P	05 37 36.9	-1.4
DSZ	**Denniston Nort**	**2.69**	**227**	PN	P	05 37 38.1	-2.0
MQZ	**McQueen's Vall**	**3.99**	**199**	SN	S	05 38 28.8	-15
MQZ	**McQueen's Vall**	**3.99**	**199**	PN	P	05 37 53.4	-4.3
MQZ				SN	S	05 38 36.4	-7.4

*STR **08** 06:06:59.4±0.2, 45.90N×2.67E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 06:06:59.7±0.0, 45.91N×2.68E, h3km, Md2.7/3, Ml2.5/15, Error ellipse: s-maj=0.7km s-min=0.6km az=116.0*
*NEIC **08** 06:06:59.4, 45.90N×2.67E, h5km, ML2.5(STR), ML2.5(LDG), After STR.*
*CSEM **08** 06:06:59.6±0.0, 45.91N×2.68E, h5km, ML2.6/15, Error ellipse: s-maj=0.8km s-min=0.6km az=118.0*

ISC 08 06:06:58.0±0.3, 45.90N±0.01×2.68E±0.02, h14km±2km, n37, σ1°06/93, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VERF	**Verneugheol**	**0.21**	**223**	Pg	**Pg**	**06 07 03.7**	**+0.9**
VERF				Sg	**Sg**	**06 07 06.5**	**+0.5**
PYM	**Petit Puy Mans**	**0.27**	**124**	Pg	**Pg**	**06 07 05.3**	**+1.3**
PYM				Sg	**Sg**	**06 07 09.0**	**+1.0**
AGO	**Saint Agoulin**	**0.35**	**64**	Pg	**Pg**	**06 07 06.5**	**+1.2**
AGO				Sg	**Sg**	**06 07 10.9**	**+0.7**

TCF	**Toulx Ste Croi**	**0.51**	**320**	*e*Pg	**Pg**	**06 07 09.1**	**+0.7**
TCF				*e*Sg	**Sg**	**06 07 15.6**	**+0.2**
	7.8nm,0.2s						
FRNF	**Fournols**	**0.52**	**189**	Pg	**Pg**	**06 07 09.6**	**+0.9**
FRNF				Sg	**Sg**	**06 07 16.2**	**+0.3**
PLDF	**La Plantade**	**0.66**	**84**	Pg	**Pg**	**06 07 12.3**	**+0.9**
PLDF				Sg	**Sg**	**06 07 21.3**	**+1.0**
BGF	**Bois d'Agland**	**0.67**	**10**	*e*Pg	**Pg**	**06 07 12.3**	**+0.8**
BGF				*e*Sg	**Sg**	**06 07 20.9**	**+0.4**
	60nm,0.3s						
BGF				*e*Sn	**Sn**	**06 07 24.5**	**+1.5**
LBL	**Lubilhac**	**0.78**	**149**	Pg	**Pg**	**06 07 14.7**	**+1.0**
LBL				Sg	**Sg**	**06 07 24.8**	**+0.6**
COLF	**Collangettes**	**0.81**	**118**	Pg	**Pg**	**06 07 15.1**	**+0.8**
COLF				Sg	**Sg**	**06 07 25.8**	**+0.6**
AVF	**Avril sur Loir**	**1.00**	**27**	*e*Pg	**Pg**	**06 07 18.3**	**+0.1**
AVF				*e*Sg	**Sg**	**06 07 31.2**	**-0.4**
	11nm,0.2s						
RJF	**Les Rejaudoux**	**1.01**	**234**	*e*Pn	**Pn**	**06 07 18.9**	**+1.1**
RJF				*e*Sg	**Sg**	**06 07 31.8**	**-0.2**
RJF				*e*Sn	**Sn**	**06 07 33.1**	**+1.3**
	18nm,0.2s						
RJF	**Les Rejaudoux**	**1.01**	**234**	*e*Pg	**Pg**	**06 07 18.6**	**+0.2**
RJF				*e*Pn	**Pn**	**06 07 18.9**	**+1.1**
RJF				*e*Sg	**Sg**	**06 07 31.8**	**-0.2**
RJF				*e*Sn	**Sn**	**06 07 33.1**	**+1.3**
RJF	**Les Rejaudoux**	**1.01**	**234**	*e*Pn	**Pn**	**06 07 18.9**	**+1.1**
RJF				*e*Sg	**Sg**	**06 07 31.8**	**-0.2**
RJF				*e*Sn	**Sn**	**06 07 33.1**	**+1.3**
	9.1nm,0.2s						
CAF	**Calviac**	**1.07**	**204**	*e*Pg	**Pg**	**06 07 20.0**	**+0.5**
CAF				*e*Sg	**Sg**	**06 07 33.7**	**-0.2**
	22nm,0.2s						
CAF	**Calviac**	**1.07**	**204**	*e*Pn	**Pn**	**06 07 19.7**	**+1.1**
CAF				*e*Pg	**Pg**	**06 07 20.0**	**+0.5**
CAF				*e*Sg	**Sg**	**06 07 33.7**	**-0.2**
CAF	**Calviac**	**1.07**	**204**	*e*Pg	**Pg**	**06 07 20.0**	**+0.5**
CAF				*e*Sg	**Sg**	**06 07 33.7**	**-0.2**
	11nm,0.2s						
SMF	**Signal de Mont**	**1.09**	**47**	*e*Pg	**Pg**	**06 07 20.2**	**+0.2**
SMF				*e*Sn	**Sn**	**06 07 34.9**	**+1.1**
	17nm,0.2s						
SSF	**Saint Saulge**	**1.29**	**26**	*e*Pg	**Pg**	**06 07 23.6**	**-0.3**
SSF				*e*Sn	**Sn**	**06 07 39.5**	**+0.6**
SSF				*e*Sg	**Sg**	**06 07 40.7**	**-0.5**
	4.2nm,0.2s						
HYF	**Humbligny**	**1.37**	**359**	*e*Pg	**Pg**	**06 07 25.4**	**0.0**
HYF				*e*Sg	**Sg**	**06 07 43.0**	**-0.7**
HYF	**Humbligny**	**1.37**	**359**	*e*Pn	**Pn**	**06 07 23.8**	**+1.0**
HYF				*e*Pg	**Pg**	**06 07 25.4**	**0.0**
HYF				*e*Sg	**Sg**	**06 07 43.0**	**-0.7**
HYF	**Humbligny**	**1.37**	**359**	*e*Pg	**Pg**	**06 07 25.4**	**0.0**
HYF				*e*Sg	**Sg**	**06 07 43.0**	**-0.7**
LOR	**Lormes**	**1.59**	**30**	*e*Pg	**Pg**	**06 07 29.0**	**-0.8**
	baz=212						
LOR				*e*Sg	**Sg**	**06 07 49.4**	**-1.7**
	6.7nm,0.2s						
LFF	**La Frestale**	**1.67**	**236**	*e*Pg	**Pg**	**06 07 30.8**	**-0.7**
LFF				*e*Sg	**Sg**	**06 07 53.0**	**-0.9**
	13nm,0.4s						
VIVF	**Saint-Julien-l**	**1.75**	**126**	*e*Pg	**Pg**	**06 07 32.2**	**-0.8**
VIVF				*e*Sn	**Sn**	**06 07 50.4**	**-0.1**
VIVF				*e*Sg	**Sg**	**06 07 54.6**	**-1.8**
	3.7nm,0.2s						
VIVF	**Saint-Julien-l**	**1.75**	**126**	*e*Pn	**Pn**	**06 07 29.3**	**+1.0**
VIVF				*e*Pg	**Pg**	**06 07 32.2**	**-0.8**
VIVF				*e*Sn	**Sn**	**06 07 50.4**	**-0.1**
VIVF				*e*Sg	**Sg**	**06 07 54.6**	**-1.8**
VIVF	**Saint-Julien-l**	**1.75**	**126**	*e*Pg	**Pg**	**06 07 32.2**	**-0.8**
VIVF				*e*Sn	**Sn**	**06 07 50.4**	**-0.1**
VIVF				*e*Sg	**Sg**	**06 07 54.6**	**-1.8**
	1.9nm,0.2s						
LASF	**Ste Croix**	**2.01**	**155**	*e*Pg	**Pg**	**06 07 37.0**	**-1.2**
LASF				*e*Sn	**Sn**	**06 07 56.5**	**-0.5**
LASF				*e*Sg	**Sg**	**06 08 02.6**	**-2.4**
	5.2nm,0.3s						
MFF	**Saint Martin d**	**2.08**	**291**	*e*Pg	**Pg**	**06 07 38.3**	**-1.4**
MFF				*e*Sn	**Sn**	**06 07 58.9**	**-0.1**
MFF				*e*Sg	**Sg**	**06 08 04.9**	**-2.6**
	3.0nm,0.2s						
MFF	**Saint Martin d**	**2.08**	**291**	*e*Pn	**Pn**	**06 07 34.0**	**+0.9**
MFF				*e*Pg	**Pg**	**06 07 38.3**	**-1.4**
MFF				*e*Sn	**Sn**	**06 07 58.9**	**-0.1**
MFF				*e*Sg	**Sg**	**06 08 04.9**	**-2.6**
MFF	**Saint Martin d**	**2.08**	**291**	*e*Pg	**Pg**	**06 07 38.3**	**-1.4**
MFF				*e*Sn	**Sn**	**06 07 58.9**	**-0.1**
MFF				*e*Sg	**Sg**	**06 08 04.9**	**-2.6**
	1.5nm,0.2s						
CABF	**La Chapelle**	**2.46**	**72**	*e*Pg	**Pg**	**06 07 45.1**	**-2.2**
CABF				*e*Sn	**Sn**	**06 08 06.6**	**-2.1**
CABF				*e*Sg	**Sg**	**06 08 17.1**	**-3.1**
	2.7nm,0.3s						
CABF	**La Chapelle**	**2.46**	**72**	*e*Pn	**Pn**	**06 07 39.3**	**+0.8**
CABF				*e*Pg	**Pg**	**06 07 45.1**	**-2.2**
CABF				*e*Sn	**Sn**	**06 08 06.6**	**-2.1**
CABF				*e*Sg	**Sg**	**06 08 17.1**	**-3.1**
CABF	**La Chapelle**	**2.46**	**72**	*e*Pg	**Pg**	**06 07 45.1**	**-2.2**
CABF				*e*Sn	**Sn**	**06 08 06.6**	**-2.1**
CABF				*e*Sg	**Sg**	**06 08 17.1**	**-3.1**
	1.4nm,0.3s						
MTLF	**Montolieu**	**2.58**	**188**	*e*Pg	**Pg**	**06 07 48.0**	**-1.6**
MTLF				*e*Sg	**Sg**	**06 08 20.4**	**-3.7**
	2.7nm,0.2s						
HAU	**Haudompre**	**3.27**	**49**	*e*Sn	**Sn**	**06 08 27.8**	**-1.4**
HAU				*e*Sg	**Sg**	**06 08 42.8**	**-4.3**
	3.8nm,0.3s						
EPF	**Esparros**	**3.33**	**211**	*e*Sn	**Sn**	**06 08 29.3**	**-1.2**
	1.9nm,0.3s						
HINF	**Hinteralfeld**	**3.44**	**55**	*e*Sg	**Sg**	**06 08 47.4**	**-5.3**
	2.5nm,0.3s						

*JMA **08** 06:31:40.0±0.2,38.09N×144.71E,h53km,M4.2*
ISC 08 06:31:40.4±1.4,38.16N±0.06×144.68E±0.10,h33km,n13, σ0§88/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.53**	**292**	P	**P**	**06 32 20.6**	**+0.6**
JIO	**Ouri**	**2.63**	**277**	P	**P**	**06 32 21.7**	**+0.2**
JIO				*e*S	**S**	**06 32 52.7**	**+0.1**
MIYJ	**Miyakonagasawa**	**2.64**	**303**	P	**P**	**06 32 21.8**	**+0.2**
MIYJ				*e*S	**S**	**06 32 53.2**	**+0.4**
JMK	**Ichinoseki**	**2.82**	**287**	P	**P**	**06 32 24.8**	**+0.6**
JMK				*e*S	**S**	**06 32 58.5**	**+1.1**
JOM	**Ohasama**	**2.95**	**297**	P	**P**	**06 32 26.8**	**+0.8**
JOM				*e*S	**S**	**06 33 01.3**	**+0.7**
JMM	**Marumori**	**3.08**	**266**	P	**P**	**06 32 27.7**	**-0.2**
JMM				*e*S	**S**	**06 33 03.0**	**-1.0**
JYK	**Kaneyama**	**3.47**	**284**	P	**P**	**06 32 34.6**	**+1.2**
JOT	**Ohata**	**4.26**	**320**	P	**P**	**06 32 44.8**	**+0.2**
JOT				*e*S	**S**	**06 33 32.3**	**-1.6**
JKB	**Kayabe**	**4.65**	**324**	P	**P**	**06 32 50.8**	**+0.6**
JRY	**Ryogami san**	**5.09**	**247**	P	**P**	**06 32 54.6**	**-1.8**
JRY				*e*S	**S**	**06 33 50.1**	**-4.7**
NEM2	**Nemuro 2**	**5.26**	**9**	P	**P**	**06 32 53.8**	**-4.9**
MAT	**Matsushiro**	**5.40**	**255**	P	**P**	**06 33 00.9**	**+0.2**
MAT				*e*S	**S**	**06 34 01.7**	**-0.9**
JHR	**Hokuryu**	**6.00**	**339**	P	**P**	**06 33 09.1**	**-0.1**
JHR				*e*S	**S**	**06 34 16.0**	**-1.7**

*HLW **08** 06:46:28.7,34.78N×24.23E,h32km,Mb3.0*
*ATH **08** 06:46:29.3,34.64N×24.24E,h19km±2km,MD3.5/7*
*NEIC **08** 06:46:29.3,34.64N×24.24E,h19km,MD3.5(ATH),After ATH.*
*CSEM **08** 06:46:30.1±0.1,34.43N×24.20E,h30km,MD3.5,Error ellipse: s-maj=4.1km s-min=2.2km az=72.0*
ISC 08 06:46:27.7±1.4,34.49N±0.04×24.2E±0.1,h13km±11km, n13,σ1§11/16,3C-3D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.36**	**346**	⇑*i*PB	**Pg**	**06 46 34.8**	**-0.4**
VAM	**Vamos**	**0.91**	**0**	*e*PN	**Pb**	**06 46 43.7**	**-1.2**
VAM				*e*SN	**Sb**	**06 46 55.2**	**-1.5**
XRY	**Khrisi**	**1.29**	**72**	*e*Pn	**Pn**	**06 46 52.5**	**+1.0**
NPS	**Neapolis**	**1.40**	**56**	*e*Pn	**Pn**	**06 46 53.5**	**+0.5**
KYTH	**Kithira**	**2.02**	**332**	*e*Pn	**Pn**	**06 47 03.5**	**+1.6**
VLI	**Veliai**	**2.45**	**336**	*e*Pn	**Pn**	**06 47 09.0**	**+1.0**
KARP	**Karpathos**	**2.65**	**66**	*e*Pn	**Pn**	**06 47 11.8**	**+0.8**
SLUM		**3.11**	**164**	⇓P	**Pn**	**06 47 18.6**	**+1.1**
SLUM				S	**Sn**	**06 47 56.2**	**+1.3**
HMAT	**Matruh**	**4.18**	**143**	⇓P	**Pn**	**06 47 32.6**	**0.0**
DABA	**Dabaa**	**4.89**	**134**	P	**Pn**	**06 47 41.9**	**-0.9**
SWA2		**5.34**	**168**	⇑P	**Pn**	**06 47 49.1**	**0.0**
SWA1		**5.37**	**166**	⇓P	**Pn**	**06 47 49.5**	**0.0**
SWA1				S	**Sn**	**06 48 49.6**	**-2.3**
HFRF	**Wahat Farafira**	**8.13**	**153**	⇑P	**P**	**06 48 26.6**	**-1.7**

IDC 08 06:47:20.7±4.3,29.66S×177.15W,h43km±31km,mb4.0/3, mb1 4.1/3,mb1mx3.7/13,mbtmp4.2/3,Error ellipse: s-maj=66.8km s-min=40.4km az=16.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**301**	P	P	06 47 35.2	-0.2
	734nm,0.3s,baz=117,slow=6.4,SNR=31						
RAO				S	S	06 47 47.0	+0.9
	1µm,0.3s,baz=40,slow=21,SNR=14						
CTA	**Charters Tower**	**34.42**	**278**	P	P	06 54 05.6	-0.6
	1.3nm,0.3s,baz=114,slow=8.2,SNR=3.0						
STKA	**Stephens Creek**	**35.37**	**256**	P	P	06 54 12.3	-2.0
	0.9nm,0.3s,baz=100,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**44.82**	**271**	P	P	06 55 29.2	-3.3
	1.5nm,0.3s,baz=110,slow=8.0,SNR=13						
FINES	**FINESS Array B**	**144.69**	**341**	PKP	PKPdf	07 06 52.2	+0.1
	0.9nm,0.4s,baz=51,slow=3.6,SNR=12						

*NEIC **08** 07:05:30.5,61.08N×150.85W,h12km,ML3.6(PMR), ML3.5(AEIC),After AEIC.*
NEIC Felt [II] at Anchorage. Also felt at Palmer.
*IDC **08** 07:05:33.8±2.6,60.94N×150.66W,h50km±43km,mb3.5/1, mb1 3.5/5,mb1mx3.3/21,mbtmp3.5/5,ML3.3/3,Error ellipse: s-maj=53.5km s-min=24.5km az=121.0*
ISC 08 07:05:29.0±0.2,61.09N±0.02×150.81W±0.04,h12km,n57, σ0§86/67,mb3.8/1,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.32**	**76**	P	**Pg**	**07 05 38.1**	**+2.4**
FIB				S	**Sg**	**07 05 44.2**	**+4.1**
NKA	**Nikishka**	**0.41**	**211**	P	**Pg**	**07 05 40.0**	**+2.5**
RC01	**Rabbit Creek A**	**0.52**	**90**	P	**Pg**	**07 05 40.0**	**+0.3**
RC01				S	**Sg**	**07 05 47.5**	**+0.7**
SPU	**Mount Spurr**	**0.61**	**279**	P	**Pb**	**07 05 41.6**	**+0.4**
STLK	**Strandline Lak**	**0.64**	**310**	P	**Pb**	**07 05 42.6**	**+0.9**
SLKM	**Skilak Lake**	**0.65**	**153**	P	**Pb**	**07 05 41.8**	**-0.1**
CKL	**Chakachamna La**	**0.75**	**279**	P	**Pb**	**07 05 44.0**	**+0.4**
MPA	**Moose Pass**	**0.93**	**130**	P	**Pb**	**07 05 46.8**	**+0.1**
RDT	**Redoubt**	**0.94**	**237**	P	**Pb**	**07 05 46.9**	**+0.1**
RDT				S	**Sb**	**07 05 59.1**	**+0.1**
PMR	**Palmer**	**0.95**	**57**	P	**Pb**	**07 05 46.8**	**-0.3**
PMR				S	**Sb**	**07 05 59.4**	**-0.1**
NNL	**Ninilchik**	**1.08**	**193**	P	**Pb**	**07 05 50.6**	**+1.4**
REF	**Redoubt East F**	**1.11**	**238**	P	**Pb**	**07 05 49.7**	**+0.1**
REF				S	**Sb**	**07 06 03.8**	**-0.1**
GHO	**Glory Hole Cre**	**1.14**	**52**	P	**Pb**	**07 05 50.0**	**-0.2**
GHO				S	**Sb**	**07 06 06.2**	**+1.4**
RSO	**Redoubt South**	**1.14**	**237**	P	**Pb**	**07 05 50.3**	**0.0**
RED	**Redoubt Volcan**	**1.18**	**236**	P	**Pb**	**07 05 50.8**	**-0.1**
RED				S	**Sb**	**07 06 05.9**	**0.0**
KNK	**Knik Glacier**	**1.18**	**73**	P	**Pb**	**07 05 51.5**	**+0.5**
SEW	**Seward**	**1.20**	**145**	P	**Pb**	**07 05 51.5**	**+0.3**
SEW				S	**Sb**	**07 06 05.9**	**-0.6**
CUT	**Chulitna**	**1.34**	**11**	P	**Pb**	**07 05 54.0**	**+0.2**
SML	**Sawmill**	**1.39**	**58**	P	**Pn**	**07 05 54.2**	**-0.2**
SML				S	**Sb**	**07 06 12.3**	**+0.1**
HOM	**Homer**	**1.50**	**196**	P	**Pn**	**07 05 55.7**	**-0.2**
INE	**Iliamna NE**	**1.52**	**228**	P	**Pn**	**07 05 56.1**	**-0.1**
ILW	**Iliamna West**	**1.54**	**229**	P	**Pn**	**07 05 56.6**	**0.0**
CNPM	**China Poot**	**1.58**	**188**	P	**Pn**	**07 05 56.9**	**-0.2**
SCM	**Sheep Creek Mo**	**1.83**	**64**	P	**Pn**	**07 06 01.3**	**+0.6**
OPT	**Oil Point**	**1.88**	**221**	P	**Pn**	**07 06 01.3**	**0.0**
FID	**Port Fidalgo**	**2.14**	**97**	P	**Pn**	**07 06 04.6**	**-0.6**
VLZ	**Valdez**	**2.17**	**87**	P	**Pn**	**07 06 05.3**	**-0.3**
AUI	**Augustine Isla**	**2.19**	**218**	P	**Pn**	**07 06 05.9**	**0.0**
HIN	**Hinchinbrook I**	**2.23**	**106**	P	**Pn**	**07 06 06.3**	**-0.1**
SVW2	**Sparrevohn**	**2.32**	**272**	P	**Pn**	**07 06 06.8**	**-0.8**
TRF	**Thorofare Moun**	**2.38**	**6**	P	**Pn**	**07 06 08.7**	**+0.1**
DIV	**Divide**	**2.45**	**87**	P	**Pn**	**07 06 08.9**	**-0.6**
KTH	**Kantishna Hill**	**2.47**	**359**	P	**Pn**	**07 06 10.9**	**+1.0**
EYAK	**Cordova Ski Ar**	**2.54**	**100**	P	**Pn**	**07 06 10.8**	**0.0**
MCK	**McKinley**	**2.79**	**17**	P	**Pn**	**07 06 13.5**	**-1.0**
SDG	**Sourdough**	**2.89**	**58**	P	**Pn**	**07 06 16.2**	**+0.4**
BMRM	**Bremner River**	**3.02**	**90**	P	**Pn**	**07 06 17.5**	**-0.3**
PAX	**Paxson**	**3.15**	**51**	P	**Pn**	**07 06 20.7**	**+1.2**
THY	**Trims Highway**	**3.32**	**43**	P	**Pn**	**07 06 20.6**	**+1.4**
GLB	**Gilahina Butte**	**3.40**	**81**	P	**Pn**	**07 06 23.0**	**-0.1**
KDAK	**Kodiak Island**	**3.44**	**196**	P	**Pn**	**07 06 23.1**	**-0.5**
	2.4nm,0.3s,baz=31,slow=12,SNR=12						
KDAK	**Kodiak Island**	**3.44**	**196**	P	**Pn**	**07 06 22.4**	**-1.2**
MENT	**Mentasta**	**3.82**	**58**	P	**Pn**	**07 06 27.8**	**-1.3**
CCB	**Clear Creek Bu**	**3.83**	**20**	P	**Pn**	**07 06 29.4**	**+0.3**
MLY	**Manley**	**3.96**	**0**	P	**Pn**	**07 06 31.9**	**+0.8**
COLA	**College**	**4.03**	**18**	P	**Pn**	**07 06 30.7**	**-1.4**
MDM	**Murphy Dome**	**4.06**	**16**	P	**Pn**	**07 06 32.5**	**+0.1**
ILAR	**Eielson Array**	**4.11**	**24**	P	**Pn**	**07 06 34.5**	**+1.3**
	1.3nm,0.3s,baz=212,slow=13,SNR=76						
ILAR				S	**Sn**	**07 07 22.0**	**+0.3**
	3.7nm,0.3s,baz=210,slow=24,SNR=6.0						
IL1	**Eielson Array**	**4.11**	**24**	P	**Pn**	**07 06 30.8**	**-2.3**
BALM	**Baldy**	**4.12**	**87**	P	**Pn**	**07 06 33.0**	**-0.2**
IMA2	**Indian Mountai**	**5.16**	**347**	*e*P	**Pn**	**07 06 47.5**	**-0.6**
DAWY	**Dawson**	**6.06**	**56**	*e*P	**Pn**	**07 06 58.4**	**-2.4**
BM3	**Burnt Mountain**	**6.90**	**20**	P	**Pn**	**07 07 08.8**	**-3.8**
INK	**Inuvik**	**10.31**	**38**	P	**P**	**07 08 01.2**	**+1.4**
	0.1nm,0.3s,baz=241,slow=14,SNR=5.8						
YKA	**Yellowknife Ar**	**17.03**	**69**	P	**P**	**07 09 26.9**	**-1.4**
	baz=278,slow=10,SNR=3.2						
YKA	**Yellowknife Ar**	**17.03**	**69**	P	**P**	**07 09 26.9**	**-1.4**
SONM	**Songino Array**	**55.02**	**307**	P	**P**	**07 15 00.9**	**-1.3**
	0.8nm,0.8s,mb3.8,baz=41,slow=8.3,SNR=5.2						

JMA 08 07:07:10.8±0.2,41.05N×146.02E,h48km±5km,M3.5,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**2.18**	**334**	P	P	07 07 45.9	+0.5
JAK				*e*S	S	07 08 11.4	+0.1
NEM2	**Nemuro 2**	**2.32**	**355**	P	P	07 07 48.1	+0.7
NEM2				*e*S	S	07 08 15.0	+0.1
JEM	**Erimo**	**2.36**	**295**	P	P	07 07 48.4	+0.5
JEM				*e*S	S	07 08 15.1	-0.6
JOB	**Onbets**	**2.47**	**319**	P	P	07 07 50.0	+0.5
JOB				*e*S	S	07 08 18.2	-0.3
JCH	**Churui**	**2.53**	**309**	P	P	07 07 50.5	+0.1
JCH				*e*S	S	07 08 18.1	-2.0
JNK	**Nakash**	**2.71**	**340**	P	P	07 07 52.9	-0.1
JNK				*e*S	S	07 08 23.2	-1.5
JNBK	**Urakawa-nobuka**	**2.74**	**298**	P	P	07 07 54.1	+0.7
JNBK				*e*S	S	07 08 24.6	-0.8
JAR	**Ashorobuto**	**2.80**	**324**	P	P	07 07 54.1	-0.1
JAR				*e*S	S	07 08 25.3	-1.7
JBT2	**Biratori 2**	**3.23**	**304**	*e*S	S	07 08 38.0	+0.1
JFR	**Furan**	**3.31**	**311**	*e*S	S	07 08 36.9	-3.0
JTKR	**Abashiri--Toko**	**3.31**	**333**	P	S	07 08 01.7	+0.2
JTKR				*e*S	S	07 08 39.8	-0.1
JANG	**Nango**	**3.49**	**260**	P	P	07 08 01.7	-2.3
JANG				*e*S	S	07 08 37.5	-7.0
JMP	**Maruseppu**	**3.55**	**327**	*e*S	S	07 08 44.3	-1.7
JOT	**Ohata**	**3.77**	**277**	P	P	07 08 06.8	-1.1
JOT				*e*S	S	07 08 45.2	-6.2

*NIED **08** 07:08:00,33.40N×142.50E,h56km,Mw4.0 Best double couple: M0 1.06×10^15 NP1:φs302°,δ75°,λ102°. NP2:φs84°, δ19°,λ54°.*
*JMA **08** 07:08:47.9±0.5,33.41N×142.50E,h68km,M3.5*
*NEIC **08** 07:08:49.4±1.1,33.33N×142.44E,h35km,mb4.5/1, MW4.0(NIED),Error ellipse: s-maj=24.6km s-min=15.3km az=55.0*
*IDC **08** 07:08:49.4±8.2,33.36N×142.50E,h31km±62km,mb3.5/3, mb1 3.7/5,mb1mx3.5/21,mbtmp3.6/5,ML3.4/2,MS3.4/1, Ms1 3.4/1,ms1mx2.9/13,Error ellipse: s-maj=31.6km s-min=26.3km az=101.0*
ISC 08 07:08:49.0±1.5,33.41N±0.07×142.4E±0.1,h53km±14km, n18,σ0§86/27,mb3.8/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.71**	**317**	P	**P**	**07 09 17.0**	**0.0**
BSO1				S	**S**	**07 09 38.7**	**+0.9**
BSO3	**Boso 3**	**2.10**	**312**	P	**P**	**07 09 22.2**	**-0.2**
BSO3				S	**S**	**07 09 47.3**	**+0.1**
JHJ2	**Mitsune**	**2.19**	**263**	P	**P**	**07 09 23.7**	**+0.1**
JHJ	**Hachijo jima 2**	**2.21**	**263**	Pn	**P**	**07 09 24.3**	**+0.3**
	23nm,0.3s,baz=84,slow=21,SNR=3.7						
JHJ				Sn	**S**	**07 09 50.4**	**+0.2**
	76nm,0.3s,baz=109,slow=22,SNR=4.9						
JHJ				LR	LR	07 09 57.3	
	comp=Z,946nm,20.9s,baz=71,slow=30						
BSO4	**Boso 4**	**2.33**	**313**	P	**P**	**07 09 26.2**	**+0.5**
BSO4				S	**S**	**07 09 55.4**	**+2.3**
JIM2	**Oshima 3**	**2.79**	**299**	P	**P**	**07 09 31.4**	**-0.9**
JYN	**Shimob**	**3.81**	**304**	P	**P**	**07 09 46.9**	**+0.3**
JAG	**Ashikaga**	**3.86**	**322**	P	**P**	**07 09 46.8**	**-0.6**
JRY	**Ryogami san**	**3.88**	**313**	P	**P**	**07 09 47.8**	**+0.1**
JRY				S	**S**	**07 10 31.8**	**-0.7**
MJAR	**Matsushiro Arr**	**4.65**	**313**	Pn	**P**	**07 09 57.7**	**-0.7**
	1.5nm,0.3s,baz=127,slow=12,SNR=8.1						
MJAR				Sn	**S**	**07 10 50.5**	**-1.2**
	1.2nm,0.3s,baz=149,slow=18,SNR=5.6						
MJAR	**Matsushiro Arr**	**4.65**	**313**	Pn	**P**	**07 09 57.7**	**-0.7**
MJAR				Sn	**S**	**07 10 50.5**	**-1.2**
MAJO	**Matsushiro**	**4.65**	**313**	P	**P**	**07 09 58.1**	**-0.4**
MAT	**Matsushiro**	**4.65**	**313**	P	**P**	**07 09 58.7**	**+0.2**
MAT				S	**S**	**07 10 48.0**	**-3.8**
MAT	**Matsushiro**	**4.65**	**313**	P	**P**	**07 09 59.0**	**+0.5**
MAT				*e*S	**S**	**07 10 48.0**	**-3.8**
ENH	**Enshi**	**28.07**	**273**	P	**P**	**07 14 36.5**	**-1.1**
	11nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**46.80**	**305**	P	**P**	**07 17 17.2**	**+2.3**
	0.5nm,0.7s,mb3.5,baz=84,slow=10,SNR=3.8						
ILAR	**Eielson Array**	**52.15**	**31**	P	**P**	**07 17 55.9**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=247,slow=5.4,SNR=5.7						
WRA	**Warramunga Arr**	**53.60**	**189**	P	**P**	**07 18 07.2**	**-0.1**
	1.0nm,0.6s,mb3.9,baz=6.9,slow=7.7,SNR=7.9						

*IDC **08** 08:29:39.4±4.0,16.01S×72.20W,h90km±35km,mb3.9/9, mb1 4.1/11,mb1mx3.9/19,mbtmp4.2/11,Error ellipse: s-maj=36.0km s-min=19.0km az=32.0*
*NEIC **08** 08:29:41.0±1.2,16.01S×72.25W,h108km±11km,mb4.6/18, Error ellipse: s-maj=16.1km s-min=11.0km az=49.0*
NEIC Felt [III] at Aplao and [II] at Arequipa.
*BJI **08** 08:29:40.9,16.00S×72.30W,h107km,mB4.9*
ISC 08 08:29:39.8±0.9,15.99S±0.09×72.23W±0.10,h113km±8km, n45,σ1§04/41,mb4.4/23,1D,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.85**	**123**	⇓*i*P	**P**	**08 30 00.6**	**+0.6**
ARE				*i* S	**S**	**08 30 15.8**	**+0.6**
LPAZ	**La Paz**	**3.95**	**95**	P	**P**	**08 30 44.1**	**+4.4**
	17nm,0.3s,baz=276,slow=11,SNR=538						
LPAZ	**La Paz**	**3.95**	**95**	*e*Pn	**P**	**08 30 44.2**	**+4.6**
SIV	**San Ignacio**	**10.73**	**92**	P	**P**	**08 32 10.1**	**-1.2**
	1.7nm,0.3s,baz=284,slow=9.9,SNR=39						
SAML	**Samuel**	**11.27**	**53**	*e*P	**P**	**08 32 17.4**	**-1.1**
	11nm,1.1s						
CFAA	**Coronel Fontan**	**15.96**	**168**	P	**P**	**08 33 17.9**	**-1.2**
	0.1nm,0.3s,baz=336,slow=12,SNR=16						
CPUP	**Villa Florida**	**17.27**	**129**	*e*P	**P**	**08 33 34.4**	**-1.0**
	10nm,0.8s						
BDFB	**Brasilia**	**23.30**	**92**	P	**P**	**08 34 39.7**	**+1.2**
	18nm,0.7s,mb4.5,baz=263,slow=13,SNR=24						
BAO	**Brasilia Array**	**23.32**	**92**	P	**P**	**08 34 42.0**	**+3.3**
PAYG	**Puerto Ayora**	**23.43**	**309**	*e*P	**P**	**08 34 33.8**	**-6.0**
	42nm,1.2s,mb4.7						
SDV	**Santo Domingo**	**24.77**	**4**	P	**P**	**08 34 54.0**	**+1.3**
	4.1nm,0.9s,mb3.9,baz=265,slow=12,SNR=3.1						
SDV	**Santo Domingo**	**24.77**	**4**	*e*P	**P**	**08 34 52.7**	**+0.1**
	2.6nm,0.4s,mb4.0						
RCBR	**Riachuelo**

SKHL ***08*** *08:37:58.7±0.7, 43.68N×147.22E, h36km±5km, mb5.6/1*
JMA ***08*** *08:37:58.0±0.2, 43.65N×147.26E, h33km, M3.8*
ISC 08 08:37:58.0±1.7,**43.67N**±0.09×**147.2E**±0.1,**h22**km±9km,
n14,σ0°57/21,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.03**	**291**	⇓*i*P	**Pb**	**08 38 16.3**	**-0.7**
YUK	260nm,0.2s			AMB	AMB	08 38 16.8	
YUK	300nm,0.2s			AMB	AMB	08 38 16.8	
YUK	1μm,0.2s			AMB	AMB	08 38 16.8	
YUK				*i* S	**Sb**	**08 38 29.7**	**-0.4**
YUK	4μm,0.3s			A		08 38 33.5	
YUK	3μm,0.3s			A		08 38 33.5	
YUK	6μm,0.8s			A		08 38 35.0	
NEM2	**Nemuro 2**	**1.10**	**254**	P	**Pb**	**08 38 18.2**	**0.0**
NEM2				*e*S	**Sb**	**08 38 33.0**	**+0.9**
JRA	**Rausu**	**1.52**	**281**	P	**Pn**	**08 38 24.3**	**-0.1**
JRA				*e*S	**Sn**	**08 38 43.8**	**+0.1**
JNK	**Nakash**	**1.80**	**268**	P	**Pn**	**08 38 28.0**	**-0.3**
JNK				*e*S	**Sn**	**08 38 50.4**	**-0.3**
JAK	**Akkeshi**	**1.94**	**251**	P	**Pn**	**08 38 30.1**	**-0.2**
JAK				*e*S	**Sn**	**08 38 53.4**	**-0.9**
JTKR	**Abashiri--Toko**	**2.40**	**278**	P	**Pn**	**08 38 37.0**	**+0.1**
JAR	**Ashorobuto**	**2.52**	**263**	P	**Pn**	**08 38 39.0**	**+0.4**
JAR				*e*S	**Sn**	**08 39 10.0**	**+1.0**
JOB	**Onbets**	**2.57**	**254**	P	**Pn**	**08 38 39.3**	**0.0**
JOB				*e*S	**Sn**	**08 39 09.6**	**-0.6**
JMP	**Maruseppu**	**2.80**	**278**	P	**Pn**	**08 38 42.8**	**+0.3**
JCH	**Churui**	**3.00**	**251**	P	**Pn**	**08 38 44.6**	**-0.8**
ASAJ	**Asahikawa**	**3.35**	**279**	P	**Pn**	**08 38 51.4**	**+1.0**
JFR	**Furan**	**3.39**	**263**	P	**Pn**	**08 38 51.8**	**+0.8**
JEM	**Erimo**	**3.40**	**242**	P	**Pn**	**08 38 51.4**	**+0.3**
JNBK	**Urakawa-nobuka**	**3.54**	**248**	P	**Pn**	**08 38 52.5**	**-0.6**

IDC ***08*** *08:39:17.2±6.8, 7.39S×154.46E, h44km±62km, mb4.2/10, mb1 4.4/11, mb1mx4.3/14, mbtmp4.4/11, ML3.1/1, MS3.6/5, Ms1 3.5/5, ms1mx3.5/23, Error ellipse: s-maj=26.2km s-min=23.6km az=69.0*
NEIC ***08*** *08:39:25.5±3.1, 7.42S×154.49E, h120km±29km, mb4.6/14, Error ellipse: s-maj=15.0km s-min=13.1km az=200.0*
BJI ***08*** *08:39:25.4, 7.40S×154.50E, h120km, mB5.2, mb4.5*
ISC 08 08:39:16.5±6.0,**7.4S**±0.1×**154.54E**±0.10,**h53**km±54km,
n40,σ0°94/35,mb4.7/23,MS3.5/2,Bougainville -
Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.74**	**111**	LR	LR	08 42 34.3	
	comp=Z,314nm,21.4s,baz=292,slow=34						
CTA	**Charters Tower**	**14.99**	**212**	P	**P**	**08 42 52.0**	**+5.2**
	0.3nm,0.3s,baz=27,slow=10,SNR=5.4						
CTA				LR	LR	08 47 41.8	
	comp=Z,278nm,21.2s,baz=51,slow=34						
CTAO	**Charters Tower**	**14.99**	**212**	*e*P	**P**	**08 42 51.2**	**+4.5**
	5.6nm,0.9s						
DZM	**Mont Dzumac**	**18.60**	**143**	P	**P**	**08 43 32.6**	**+0.6**
	0.1nm,0.3s,baz=171,slow=6.1,SNR=3.1						
DZM				LR	LR	08 48 57.7	
	comp=Z,130nm,18.5s,baz=359,slow=31						
GUMO	**Guam**	**22.91**	**335**	LR	LR	08 52 08.3	
	comp=Z,161nm,20.9s,MS3.5,baz=78,slow=34						
WB2	**Warramunga Arr**	**23.23**	**235**	*e*P	**P**	**08 44 20.4**	**+0.4**
WRA	**Warramunga Arr**	**23.24**	**235**	P	**P**	**08 44 20.4**	**+0.3**
	8.5nm,0.6s,mb4.3,baz=58,slow=9.2,SNR=59						
STKA	**Stephens Creek**	**27.22**	**205**	*e*P	**P**	**08 44 55.8**	**-1.8**
	5.6nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**27.22**	**205**	P	**P**	**08 44 55.6**	**-2.0**
	4.5nm,0.9s,mb4.0,baz=32,slow=10,SNR=6.6						
STKA				LR	LR	08 55 46.5	
	comp=Z,159nm,18.4s,MS3.6,baz=26,slow=36						
STKA	**Stephens Creek**	**27.22**	**205**	*e*P	**P**	**08 44 55.5**	**-2.2**
FITZ	**Fitzroy Crossi**	**30.09**	**246**	*e*P	**P**	**08 45 21.5**	**-2.0**
	5.6nm,1.3s,mb4.1						
FITZ	**Fitzroy Crossi**	**30.09**	**246**	P	**P**	**08 45 21.3**	**-2.2**
	2.7nm,0.8s,mb4.0,baz=76,slow=8.6,SNR=5.0						
MBWA	**Marble Bar**	**36.31**	**244**	P	**P**	**08 46 12.7**	**-4.6**
	5.6nm,0.8s,mb4.5						
KULM	**Kulim**	**55.21**	**282**	*e*P	**P**	**08 48 49.0**	**+2.1**
CN2	**Changchun**	**57.32**	**335**	*e*PKP	**P**	**08 49 08.8**	**+7.2**
HIA	**Hailar**	**64.06**	**335**	*e*P	**P**	**08 49 46.1**	**-1.1**
	25nm,1.5s,mb5.0						
ULN	**Ulaanbaatar**	**69.06**	**328**	*e*P	**P**	**08 50 18.9**	**0.0**
	4.8nm,0.8s,mb4.5						
SONM	**Songino Array**	**69.39**	**328**	P	**P**	**08 50 21.3**	**+0.4**
	4.6nm,0.7s,mb4.5,baz=130,slow=5.4,SNR=23						
VNDA	**Vanda**	**70.24**	**178**	P	**P**	**08 50 25.1**	**-0.6**
	2.8nm,0.9s,mb4.2,baz=338,slow=5.4,SNR=8.1						
JIRN	**Jiri**	**74.58**	**301**	*e*P	**P**	**08 50 52.4**	**+0.2**
	15nm,0.8s,mb5.0						
GUN	**Gumba**	**74.91**	**301**	*e*P	**P**	**08 50 54.6**	**+0.5**
	43nm,0.8s,mb5.4						
PKI	**Pulchoki**	**75.22**	**301**	*e*P	**P**	**08 50 55.9**	**+0.1**
	31nm,1.1s,mb5.2						
KKN	**Kakani**	**75.39**	**301**	*e*P	**P**	**08 50 56.9**	**+0.1**
	23nm,0.8s,mb5.2						
DMN	**Daman**	**75.48**	**301**	*e*P	**P**	**08 50 57.6**	**+0.2**
	49nm,0.9s,mb5.4						
BILL	**Bilibino**	**75.67**	**5**	P	**P**	**08 50 57.1**	**-0.5**
	7.9nm,1.0s,mb4.6						
GKN	**Gorkha**	**75.99**	**301**	*e*P	**P**	**08 51 00.2**	**-0.1**
	38nm,0.9s,mb5.3						
KOLN	**Koldanda**	**76.81**	**301**	*e*P	**P**	**08 51 04.8**	**-0.1**
	23nm,0.9s,mb5.1						
MCK	**McKinley**	**82.56**	**22**	*e*P	**P**	**08 51 34.3**	**-0.7**
MCK				*e*		08 51 43.7	
QSPA	**South Pole Qui**	**82.62**	**180**	*e*P	**P**	**08 51 35.9**	**+0.9**
	10.0nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**83.37**	**319**	P	**P**	**08 51 39.8**	**+0.3**
	3.6nm,0.7s,mb4.5,baz=103,slow=5.4,SNR=21						
COLA	**College**	**83.58**	**21**	*e*P	**P**	**08 51 38.6**	**-1.5**
	5.7nm,0.8s,mb4.8						
COLA				*e*pP	pP	08 51 48.3	-7.0
ILAR	**Eielson Array**	**83.87**	**22**	P	**P**	**08 51 40.5**	**-1.0**
	3.1nm,0.8s,mb4.5,baz=249,slow=5.6,SNR=34						
DAWY	**Dawson**	**86.41**	**24**	*e*P	**P**	**08 51 54.5**	**+0.3**
NVAR	**Mina Array Bea**	**92.30**	**52**	P	**P**	**08 52 24.2**	**+1.6**
	1.6nm,0.7s,mb4.5,baz=252,slow=5.8,SNR=13						
YKA	**Yellowknife Ar**	**96.87**	**28**	P	**P**	**08 52 43.7**	**+0.9**
	0.4nm,0.5s,mb4.1,baz=264,slow=4.5,SNR=8.5						
YKA	**Yellowknife Ar**	**96.87**	**28**	P	**P**	**08 52 43.7**	**+0.9**
PDAR	**Pinedale Array**	**99.28**	**48**	P	**P**	**08 52 54.2**	**-0.1**
	0.3nm,0.7s,mb3.9,baz=233,slow=4.5,SNR=2.8						
GERES	**GERESS Array B**	**127.12**	**328**	PKP	PKPdf	08 58 17.6	+2.3
	1.2nm,0.7s,SNR=8.6						
BDFB	**Brasilia**	**148.05**	**136**	PKPbc	PKPdf	08 58 59.0	+5.0
	6.5nm,0.9s,baz=336,slow=1.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**152.68**	**284**	PKPbc	PKPdf	08 59 09.8	+8.6
	3.2nm,0.7s,baz=70,slow=2.4,SNR=18						

JMA 08 08:44:20.3±0.2,**43.66N**×**147.23E,h34**km,**M3.7,Kuril**
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.12**	**255**	P	P	08 44 40.1	+0.4
NEM2				*e*S	S	08 44 54.8	+0.6
JRA	**Rausu**	**1.55**	**281**	P	P	08 44 46.4	+0.5
JRA				*e*S	S	08 45 05.5	+0.5
JNK	**Nakash**	**1.82**	**269**	P	P	08 44 50.1	+0.3
JNK				*e*S	S	08 45 12.1	+0.2
JAK	**Akkeshi**	**1.96**	**251**	P	P	08 44 52.0	+0.2
JAK				*e*S	S	08 45 15.5	0.0
JTKR	**Abashiri--Toko**	**2.42**	**279**	P	P	08 44 59.0	+0.6
JAR	**Ashorobuto**	**2.54**	**263**	P	P	08 45 00.8	+0.7
JAR				*e*S	S	08 45 30.8	+0.6
JOB	**Onbets**	**2.59**	**254**	P	P	08 45 01.2	+0.4
JOB				*e*S	S	08 45 31.4	0.0
JMP	**Maruseppu**	**2.82**	**278**	P	P	08 45 04.7	+0.6
JCH	**Churui**	**3.02**	**251**	P	P	08 45 06.7	-0.1
JCH				*e*S	S	08 45 41.6	-0.6
ASAJ	**Asahikawa**	**3.38**	**279**	P	P	08 45 13.5	+1.5
JNBK	**Urakawa-nobuka**	**3.56**	**249**	P	P	08 45 14.6	0.0
JNBK				*e*S	S	08 45 54.6	-1.5

CRAAG ***08*** *09:01:04.9, 5.47S×146.97E, Mb6.1*
BJI ***08*** *09:01:26.2, 5.51S×147.46E, h241km, mB5.8, mb5.4*
MOS ***08*** *09:01:26.4±0.8, 5.40S×147.08E, h218km, mb5.9/39, MS5.2/15, Error ellipse: s-maj=8.4km s-min=5.7km az=92.0*
BGS ***08*** *09:01:27.4, 5.41S×146.95E, h217km*
IDC ***08*** *09:01:27.5±0.5, 5.46S×147.05E, h219km±3km, mb5.4/14, mb1 5.6/18, mb1mx5.6/18, mbtmp6.1/18, Error ellipse: s-maj=7.5km s-min=5.4km az=74.0*
HRVD ***08*** *09:01:27.1±0.1, 5.52S×147.11E, h219km, MW6.1/96, Centroid moment Tensor Solution. LP body waves: s90,c208;Mantle waves: s96,c377; Half duration: 2s7 Moment tensor: Scale 10^18 Nm; Mrr 1.01±.01; Mθθ -1.09±.01; Mφφ 0.08±.01; Mrθ 1.13±.01; Mθφ 0.08±.01; Mφr -0.66±.01; Best double couple: M0 1.679×10^18 NP1: φs256°,δ23°,λ54°. NP2:φs114°,δ71°,λ104°. Principal axes: T 1.707, Plg61°, Azm44°; N -.054, Plg13°, Azm289°; P -1.651, Plg25°, Azm193°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***08*** *09:01:27.1±0.1, 5.41S×146.95E, mb6.0/96, ME5.6, MW6.1 Error ellipse: s-maj=3.7km s-min=3.0km az=80.0 Broadband fault plane solution: P waves. NP1:φs115°, δ70°,λ90°. NP2:φs295°,δ20°,λ90°. Principal axes: T Plg65°, Azm25°; N Plg0°, Azm0°; P Plg25°, Azm205°; Moment Tensor Solution. s26 Moment tensor: Scale 1018 Nm; Mrr 1.29; Mθθ -0.85; Mφφ -0.44; Mrθ 1.21; Mθφ 0.29; Mφr -0.60; Best double couple: M0 1.8×10^18 NP1:φs298°, δ20°,λ91°. NP2:φs116°,δ70°,λ90°. Principal axes: T 1.92, Plg65°, Azm26°; N -.29, Plg0°, Azm117°; P -1.63, Plg25°, Azm207°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Goroka, Kainantu and Madang.
ISC 08 09:01:26.7±0.1,**5.46S**±0.02×**146.99E**±0.03,**h22**km,
h22km±1.9km;**pP-P,n804,σ0°99/390,mb5.7**/115,**62C-39D,**
Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**13.44**	**108**	P	**P**	**09 04 28.0**	**-2.0**
	53nm,0.3s,baz=221,slow=1.6,SNR=36						
HNR				S	**S**	**09 06 56.8**	**+2.0**
	4.0nm,0.3s,baz=34,slow=15,SNR=1.5						
HNR	**Honiara**	**13.44**	**108**	*e*P	**P**	**09 04 26.7**	**-3.3**
HNR				*e*S	**S**	**09 06 54.7**	**0.0**
HNR				pmax	pmax		
	comp=Z,3μm,0.9s						
HNR	**Honiara**	**13.44**	**108**	*e*Pn	**P**	**09 04 26.7**	**-3.3**
	comp=Z,3μm,0.8s						
HNR				*e*Sn	**S**	**09 06 54.8**	**0.0**
CTA	**Charters Tower**	**14.56**	**183**	⇓*i*P	**P**	**09 04 45.5**	**+1.6**
	comp=Z,2μm,1.5s						
CTA				*e*S	**S**	**09 07 27.9**	**+8.0**
CTA	**Charters Tower**	**14.56**	**183**	P	**P**	**09 04 45.3**	**+1.4**
	comp=Z,37nm,0.3s,baz=3.6,slow=13,SNR=214						
CTA				S	**S**	**09 07 26.2**	**+6.4**
	comp=Z,4.0nm,0.3s,baz=211,slow=19,SNR=2.5						
CTA	**Charters Tower**	**14.56**	**183**	⇓*i*P	**P**	**09 04 45.5**	**+1.6**
CTA				*e*S	**S**	**09 07 27.9**	**+8.0**
CTA				pmax	pmax		
	comp=Z,2μm,1.5s						
CTAO	**Charters Tower**	**14.56**	**183**	⇓*i*P	**P**	**09 04 45.5**	**+1.6**
CTAO				*e*S	**S**	**09 07 22.6**	**+2.7**
CTAO				pmax	pmax		
	comp=Z,3μm,1.2s						
CTAO	**Charters Tower**	**14.56**	**183**	⇓*i*P	**P**	**09 04 45.5**	**+1.6**
	comp=Z,3μm,1.3s						
CTAO				*e*S	**S**	**09 07 22.6**	**+2.7**
WRAB	**Tennant Creek**	**18.93**	**219**	*d*⇓P	**P**	**09 05 33.7**	**+0.7**
WB2	**Warramunga Arr**	**18.93**	**219**	⇓*i*P	**P**	**09 05 33.8**	**+0.8**
WB2				*e*		09 05 38.1	
WB2				*e*S	**S**	**09 08 56.3**	**+4.7**
WB2				*e*SCS	ScS	09 16 47.2	+4.3
WRA	**Warramunga Arr**	**18.94**	**219**	P	**P**	**09 05 34.0**	**+0.9**
WRA	comp=Z,194nm,0.3s,baz=45,slow=12,SNR=1476			pP		09 06 10.4	
	comp=Z,35nm,0.3s,baz=36,slow=13,SNR=1.1						
WRA				S	**S**	**09 08 55.8**	**+4.0**
	baz=39,slow=20,SNR=12						
WRA				P3KPbc		09 39 46.9	
	baz=7.2,slow=2.5,SNR=5.3						
WRA	**Warramunga Arr**	**18.94**	**219**	P	**P**	**09 05 34.0**	**+0.9**
WRA				S	**S**	**09 08 55.8**	**+4.0**
GUMO	**Guam**	**19.04**	**354**	P	**P**	**09 05 33.9**	**-0.2**
	comp=Z,55nm,0.3s,baz=176,slow=11,SNR=23						
GUMO				S	**S**	**09 08 56.9**	**+3.3**
	comp=Z,9.3nm,0.3s,baz=62,slow=17,SNR=2.8						
GUMO	**Guam**	**19.04**	**354**	*e*P	**P**	**09 05 33.7**	**-0.5**
	comp=Z,745nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.35**	**237**	⇓*i*P	**P**	**09 06 26.6**	**+0.6**
	comp=Z,4μm,0.4s						
FITZ				*e*pP		09 07 06.7	
FITZ				*e*S	**S**	**09 10 27.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.35**	**237**	P	**P**	**09 06 26.6**	**+0.6**
	comp=Z,2μm,0.5s,baz=55,slow=10,SNR=611						
FITZ				S	**S**	**09 10 29.5**	**+2.9**
	comp=Z,37nm,0.7s,baz=8.7,slow=13,SNR=2.1						
DZM	**Mont Dzumac**	**25.04**	**133**	*e*P	**P**	**09 06 30.8**	**-1.6**
DZM	**Mont Dzumac**	**25.04**	**133**	P	**P**	**09 06 31.0**	**-1.4**
	comp=Z,88nm,0.8s,mb5.5,baz=344,slow=7.5,SNR=39						
DZM				pP	pP	09 07 13.5	-1.9
	comp=Z,93nm,0.8s,baz=291,slow=11,SNR=1.8						
DZM				S	**S**	**09 10 38.4**	**+0.4**
	comp=Z,16nm,1.0s,baz=35,slow=23,SNR=1.9						
DZM				ScP		09 13 20.9	
	comp=Z,17nm,1.0s,baz=38,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**26.77**	**190**	⇓*i*P	**P**	**09 06 47.4**	**-0.7**
	comp=Z,127nm,0.6s,mb5.7						
STKA				*e*pP	pP	09 07 34.2	+2.4
STKA				*e*S	**S**	**09 11 05.0**	**-0.9**
STKA	**Stephens Creek**	**26.77**	**190**	P	**P**	**09 06 47.4**	**-0.7**
	comp=Z,158nm,0.6s,mb5.8,baz=1.7,slow=7.7,SNR=176						
STKA				S	**S**	**09 11 05.5**	**-0.4**
	comp=Z,49nm,0.9s,baz=114,slow=20,SNR=2.1						
STKA				ScP		09 13 24.6	
	comp=Z,30nm,0.8s,baz=76,slow=4.2,SNR=3.1						
TBP	**Tagbilaran**	**27.52**	**303**	*e*P	**P**	**09 06 54.2**	**-0.9**
RIV	**Riverview**	**28.50**	**173**	⇓*i*P	**P**	**09 07 03.0**	**-0.7**
CNB	**Canberra Magne**	**29.80**	**176**	⇓*i*P	**P**	**09 07 14.8**	**-0.3**
	comp=Z,258nm,0.8s,mb5.9						
MBWA	**Marble Bar**	**30.69**	**237**	⇓*i*P	**P**	**09 07 22.6**	**-0.5**
	comp=Z,14nm,1.6s						
MBWA				*e*pP	pP	09 08 06.9	-1.2
MBWA				*e*S	**S**	**09 12 08.4**	**+0.3**
FORT	**Forrest**	**30.84**	**213**	⇓*i*P	**P**	**09 07 24.3**	**0.0**
	comp=Z,2μm,0.7s,mb6.8						
FORT				*e*S	**S**	**09 12 09.1**	**-1.4**
TOO	**Toolangi**	**32.00**	**182**	⇓*i*P	**P**	**09 07 34.1**	**-0.2**
	comp=Z,327nm,1.0s,mb5.8						
TOO				*e*PP	PP	09 08 54.4	+5.5
TOO				*e*SCP		09 13 41.0	
TOO	**Toolangi**	**32.00**	**182**	⇓*i*P	**P**	**09 07 34.1**	**-0.2**
TOO				*e*		09 08 54.4	
TOO				pmax	pmax		
	comp=Z,327nm,1.0s,mb5.8						
FUNA	**Funafuti**	**32.11**	**97**	*e*P	**P**	**09 07 32.9**	**-2.6**
FUNA				*e*		09 07 53.9	
KKM	**Kota Kinabalu**	**32.78**	**290**	P	**P**	**09 07 38.5**	**-2.8**
KSM	**Kuching**	**37.27**	**280**	*e*P	**P**	**09 08 18.8**	**-0.4**
KSM				*e*pP	pP	09 09 04.6	-1.0
KLBR	**Kellerberrin**	**37.76**	**223**	⇓*i*P	**P**	**09 08 23.0**	**-0.1**
	comp=Z,886nm,1.1s,mb6.2						
KLBR				*e*S	**S**	**09 13 55.7**	**-0.9**
OUZ	**Omahuta**	**38.47**	**144**	PN	**P**	**09 08 29.9**	**+1.0**
OUZ				pP	pP	09 09 13.3	-2.2
OUZ	**Omahuta**	**38.47**	**144**	P	**P**	**09 08 29.9**	**+1.0**
NACB	**Ninganchiao**	**38.47**	**321**	*e*P	**P**	**09 08 29.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**38.92**	**222**	*e*P	**P**	**09 08 32.4**	**-0.3**
NWAO				*e*		09 10 05.4	
NWAO				pmax	pmax		
	comp=Z,152nm,0.8s						
NWAO	**Narrogin (SRO)**	**38.92**	**222**	*e*P	**P**	**09 08 32.4**	**-0.3**
	comp=Z,152nm,0.8s,mb5.6						
NWAO				*e*PP	PP	09 10 05.4	-3.3
YHNB	**Yeheng**	**38.97**	**321**	*e*P	**P**	**09 08 34.2**	**+1.1**
YHNB				*e*S	**S**	**09 14 18.4**	**+3.6**
MUN	**Mundaring**	**39.05**	**224**	⇓*i*P	**P**	**09 08 34.2**	**+0.5**
MUN				*e*S	**S**	**09 14 17.7**	**+1.8**
TATO	**Taipei**	**39.12**	**322**	*e*P	**P**	**09 08 35.3**	**+0.9**
	comp=Z,495nm,0.9s,mb6.0						
TATO				*e*pP	pP	09 09 22.1	+1.0
WCZ	**Waipu Caves**	**39.40**	**144**	PN	**P**	**09 08 37.1**	**+0.5**
WCZ				pP	pP	09 09 23.8	+0.4
WCZ				PcP	PcP	09 10 40.3	-0.3
WCZ	**Waipu Caves**	**39.40**	**144**	*e*P	**P**	**09 08 37.1**	**+0.5**
RAO	**Raoul Island**	**40.73**	**130**	P	**P**	**09 08 46.8**	**-0.8**
	comp=Z,159nm,0.4s,mb5.8,baz=72,slow=22,SNR=2.3						
RAO				S	**S**	**09 14 40.1**	**-0.8**
	comp=Z,174nm,0.4s,baz=115,slow=20,SNR=1.6						
RAO	**Raoul Island**	**40.73**	**130**	*e*P	**P**	**09 08 46.7**	**-0.9**
KUZ	**Kuaotunu**	**40.76**	**144**	PN	**P**	**09 08 48.2**	**+0.5**
KUZ	**Kuaotunu**	**40.76**	**144**	*e*P	**P**	**09 08 48.8**	**+1.0**
QZH	**Quanzhou**	**40.94**	**319**	⇑*i*P	**P**	**09 08 50.5**	**+1.2**
QZH				AP	pP	09 09 41.0	+4.7
QZH				S	**S**	**09 14 42.0**	**-2.0**
QZH				XS		09 16 12.0	
QZH				AMB	AMB		
	comp=Z,920nm,1.4s,mb6.0						
QZH				AMB	AMB		
	comp=Z,4μm,9.4s						
QZH				LR	LR		
	comp=N,4μm,12.9s						
QZH				LR	LR		
	comp=E,3μm,11.6s						
QZH				LR	LR		
	comp=Z,4μm,14.6s						
AFI	**Afiamalu**	**41.45**	**105**	P	**P**	**09 08 52.4**	**-1.1**
	comp=Z,1μm,1.1s,mb6.2,baz=99,slow=2.0,SNR=48						
AFI				S	**S**	**09 14 52.7**	**+1.1**
	comp=Z,18nm,0.8s,baz=162,slow=16,SNR=1.9						
AFI	**Afiamalu**	**41.45**	**105**	*e*P	**P**	**09 08 52.5**	**-1.1**
AFI				pmax	pmax		
	comp=Z,2μm,1.2s,mb6.3						
AFI	**Afiamalu**	**41.45**	**105**	*e*P	**P**	**09 08 52.5**	**-1.0**
	comp=Z,2μm,1.2s,mb6.3						
HIZ	**Hauiti**	**41.50**	**146**	PN	**P**	**09 08 55.1**	**+1.4**
HIZ				pP	pP	09 09 38.1	-2.7
HIZ				PcP	PcP	09 10 46.3	-1.1
HIZ				ScS	ScS	09 18 35.1	+4.6
QRZ	**Quartz Range**	**42.00**	**151**	PN	**P**	**09 08 58.8**	**+1.0**
QRZ				pP	pP	09 09 49.2	+4.2
QRZ				PcP	PcP	09 10 48.3	-0.8
QRZ				ScS	ScS	09 18 32.1	-1.4
QRZ	**Quartz Range**	**42.00**	**151**	*e*P	**P**	**09 08 58.8**	**+1.0**
HKC	**Hong Kong**	**42.34**	**312**	⇑*i*P	**P**	**09 09 04.0**	**+3.2**
CNZ	**Chateau**	**42.37**	**147**	PN	**P**	**09 09 02.6**	**+1.8**
CNZ	**Chateau**	**42.37**	**147**	*e*P	**P**	**09 09 02.6**	**+1.8**
NGZ	**Ngauruhoe**	**42.38**	**146**	PN	**P**	**09 09 02.7**	**+1.8**
NGZ	**Ngauruhoe**	**42.38**	**146**	*e*P	**P**	**09 09 02.7**	**+1.8**
MJAR	**Matsushiro Arr**	**42.58**	**350**	P	**P**	**09 09 01.6**	**-1.0**
	comp=Z,124nm,0.9s,mb5.3,baz=173,slow=7.0,SNR=115						
MJAR				PcP	PcP	09 10 49.8	-1.3
	comp=Z,52nm,1.0s,baz=180,slow=3.5,SNR=5.8						
MJAR				ScP		09 14 19.0	
	comp=Z,59nm,1.1s,baz=176,slow=4.7,SNR=16						
MJAR				S	**S**	**09 15 08.4**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=233,slow=50,SNR=2.2						
MJAR	**Matsushiro Arr**	**42.58**	**350**	P	**P**	**09 09 01.6**	**-1.0**
MJAR						09 10 49.8	
MJAR				S	**S**	**09 15 08.4**	**+0.5**
MAJO	**Matsushiro**	**42.58**	**350**	*e*P	**P**	**09 09 01.4**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,323nm,1.0s,mb5.7						
MAJO	**Matsushiro**	**42.58**	**350**	*e*P	**P**	**09 09 01.4**	**-1.1**
	comp=Z,323nm,1.0s,mb5.7						
MAJO				*e*ScP		09 14 19.4	
MAT	**Matsushiro**	**42.58**	**350**	P	**P**	**09 09 01.7**	**-0.9**
MAT				S	**S**	**09 15 09.2**	**+1.4**
MAT	**Matsushiro**	**42.58**	**350**	*e*P	**P**	**09 09 02.0**	**-0.6**
MAT				*e*S	**S**	**09 15 09.0**	**+1.1**
MAT				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0						
MAT				MLR	MLR		
	comp=Z,2μm,20.0s						
MAT	**Matsushiro**	**42.58**	**350**	*e*P	**P**	**09 09 02.0**	**-0.6**
	comp=Z,60nm,1.0s,mb5.0						
MAT				*e*S	**S**	**09 15 09.0**	**+1.1**
MAT				LR	LR		
	comp=Z,2μm,20.0s						
URZ	**Urewera**	**42.60**	**144**	P	**P**	**09 09 02.6**	**-0.2**
	comp=Z,25nm,0.3s,mb5.1,baz=323,slow=1.1,SNR=56						
URZ				S	**S**	**09 15 07.9**	**-0.2**
	comp=Z,17nm,0.8s,baz=358,slow=23,SNR=4.4						
URZ	**Urewera**	**42.60**	**144**	PN	**P**	**09 09 02.7**	**-0.1**
URZ				pP	pP	09 09 56.1	+6.2
URZ				PcP	PcP	09 10 47.3	-3.8
URZ				ScS	ScS	09 18 35.8	-1.5
URZ	**Urewera**	**42.60**	**144**	*e*P	**P**	**09 09 03.0**	**+0.3**
NNZ	**Nelson**	**42.72**	**150**	PN	**P**	**09 09 03.4**	**-0.2**
MXZ	**Matakaoa Point**	**42.85**	**143**	PN	**P**	**09 09 05.7**	**+0.9**
MXZ				PcP	PcP	09 10 50.7	-1.3
MXZ	**Matakaoa Point**	**42.85**	**143**	*e*P	**P**	**09 09 06.3**	**+1.6**
BKZ	**Black Stump Fm**	**42.87**	**146**	PN	**P**	**09 09 04

SSE LR LR
comp=Z,4μm,18.9s
QIZ Qiongzhong 43.94 305 *e*P **P** **09 09 13.7 0.0**
QIZ *e*pP pP 09 10 02.9 +1.7
TUZ Tuapeka 44.88 158 PN **P** **09 09 20.9 +0.2**
TUZ pP pP 09 10 04.5 -3.9
TUZ Tuapeka 44.88 158 P **P** **09 09 20.9 +0.1**
NJ2 Nanjing 45.92 326 *e*P **P** **09 09 30.1 +0.9**
NJ2 AP pP 09 10 18.2 +1.1
NJ2 XP sP 09 10 43.1 +0.6
NJ2 PP PP 09 11 21.6 +2.4
NJ2 S **S** **09 16 00.0 +4.2**
NJ2 XS 09 17 23.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,2μm,5.7s
NJ2 LR LR
comp=N,14μm,21.1s
NJ2 LR LR
comp=E,18μm,19.1s
NJ2 LR LR
comp=Z,2μm,21.6s
KS15 Wonju Array Si 46.24 339 *e*P **P** **09 09 31.4 -0.2**
INCN Inchon 46.74 338 *e*P **P** **09 09 35.5 0.0**
comp=Z,303nm,0.8s,mb5.7
INCN *e*pP pP 09 10 25.6 +2.1
KULM Kulim 47.49 282 *e*P **P** **09 09 40.1 -1.5**
KULM *e*pP pP 09 10 23.7 -6.1
WHN Wuhan 47.51 321 ⇑P **P** **09 09 42.8 +1.3**
WHN AP pP 09 10 35.6 +5.8
WHN S **S** **09 16 21.8 +3.6**
WHN XS 09 17 47.1
WHN AMB AMB
comp=Z,240nm,1.2s,mb5.4
WHN AMB AMB
comp=Z,4μm,8.2s
WHN LR LR
comp=Z,3μm,14.2s
MIDW Midway 47.97 44 *e*P **P** **09 09 44.0 -1.1**
comp=Z,881nm,1.0s,mb6.0
YUK Yuzh-Kuril'sk 49.27 359 ⇑*i*P **P** **09 09 56.0 +1.2**
YUK *e* 09 11 48.0
YUK *e*S **S** **09 16 44.0 +1.4**
YUK pmax pmax
comp=Z,6μm,2.0s,mb6.5
YUK pmax pmax
comp=E,80nm,0.5s
YUK pmax pmax
comp=Z,130nm,0.5s,mb5.5
YUK smax
comp=E,6μm,6.0s
YUK smax
comp=N,4μm,5.0s
DL2 Dalian 50.00 334 ⇑*i*P **P** **09 09 59.7 -0.7**
DL2 AP pP 09 10 50.1 +0.9
DL2 XP sP 09 11 14.3 +0.2
DL2 PP PP 09 12 01.3 +3.3
DL2 PPP PPP 09 12 59.8 -2.2
DL2 SCP 09 14 42.4
DL2 PCS 09 15 13.6
DL2 S **S** **09 16 54.2 +1.5**
DL2 AMB AMB
comp=Z,70nm,0.7s,mb5.1
DL2 AMB AMB
comp=Z,910nm,7.5s
TIA Tai'an 50.01 328 ⇑P **P** **09 09 59.9 -0.7**
TIA *e*S **S** **09 16 58.0 +5.1**
TIA AMB AMB
comp=Z,190nm,1.2s,mb5.3
TIA AMB AMB
comp=Z,2μm,8.0s
TIA LR LR
comp=N,3μm,16.0s
TIA LR LR
comp=E,4μm,16.0s
VLA Vladivostok 50.25 346 *i* P **P** **09 10 00.8 -1.5**
VLA *i* *SP sP 09 11 16.6 +0.7
VLA *i* S **S** **09 16 58.7 +2.6**
VLA *i* *SS 09 18 26.0
VLA pmax pmax
comp=Z,493nm,2.1s,mb5.5
GYA Guiyang 50.32 311 ⇑*i*P **P** **09 10 04.0 +1.0**
GYA AP pP 09 10 53.2 +1.4
GYA XP sP 09 11 17.8 +1.1
GYA PP PP 09 12 03.6 +2.5
GYA PPP PPP 09 13 12.6 +6.3
GYA SCP 09 14 50.4
GYA PCS 09 15 12.5
GYA S **S** **09 17 02.0 +4.7**
GYA XS 09 18 28.6
GYA SCS ScS 09 19 28.0 +0.4
GYA SS SS 09 20 39.8 +8.2
GYA AMB AMB
comp=Z,60nm,1.5s,mb4.7
GYA AMB AMB
comp=Z,1μm,7.1s
GYA LR LR
comp=N,6μm,15.5s
GYA LR LR
comp=E,10μm,13.2s
GYA LR LR
comp=Z,11μm,14.7s
ENH Enshi 50.51 317 *e*P **P** **09 10 04.2 -0.3**
comp=Z,716nm,1.7s,mb5.8
ENH *e*S **S** **09 17 01.8 +1.9**
NST Nakhon Sawan 50.92 295 P **P** **09 10 06.0 -1.6**
SNY Shenyang 51.68 338 ⇑P **P** **09 10 12.5 -0.5**
SNY PCP PcP 09 11 26.4 +2.9
SNY S **S** **09 17 17.4 +1.7**
SNY SS SS 09 20 55.9 +2.1
SNY AMB AMB
comp=Z,160nm,2.6s,mb5.0
SNY LR LR
comp=N,1μm,14.2s
SNY LR LR
comp=E,2μm,15.2s
SNY LR LR
comp=Z,2μm,18.7s
MDJ Mudanjiang 52.24 344 P **P** **09 10 16.5 -0.5**
MDJ AP pP 09 11 05.5 -0.7
MDJ PP PP 09 12 17.2 -1.1
MDJ SCP 09 15 00.8
MDJ S **S** **09 17 22.4 -0.8**
MDJ AMB AMB
comp=Z,60nm,1.5s,mb4.8
MDJ AMB AMB
comp=Z,2μm,7.5s
MDJ Mudanjiang 52.24 344 *e*P **P** **09 10 16.4 -0.7**
comp=Z,84nm,0.9s,mb5.2
MDJ *e*pP pP 09 11 06.2 0.0
MDJ *e*ScP 09 14 58.3
YSS Yuzh-Sakhalins 52.31 356α *i*P **P** **09 10 17.0 -0.6**
YSS *e**PP pP 09 11 05.0 -1.8
YSS *e**SP sP 09 11 26.0 -5.4
YSS *i* PPP PPP 09 13 29.0 -2.5
YSS *e*S **S** **09 17 26.0 +1.8**
YSS *e**SS 09 18 48.0
YSS *e*SSS SSS 09 23 01.0 -3.0
YSS pmax pmax
comp=Z,210nm,1.1s,mb5.5
YSS pmax pmax
comp=N,2μm,6.0s
YSS pmax pmax
comp=Z,2μm,6.0s
YSS pmax pmax
comp=Z,2μm,8.0s
YSS smax
comp=N,2μm,12.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=N,1μm,15.0s
YSS Yuzh-Sakhalins 52.31 356 *e*P **P** **09 10 17.2 -0.4**
comp=N,149nm,0.8s,mb5.5
YSS *e*pP pP 09 11 05.8 -1.0
YSS *e*ScP 09 15 00.3
KMI Kunming 52.66 307 ⇑P **P** **09 10 21.7 +1.3**
KMI AP pP 09 11 12.9 +3.2
KMI PCP PcP 09 11 28.4 +1.1
KMI PP PP 09 12 22.8 0.0
KMI PCS 09 15 26.3
KMI S **S** **09 17 33.7 +4.6**
KMI SCS ScS 09 19 46.5 +2.7
KMI SS SS 09 21 11.3 +1.1
KMI SSS SSS 09 23 16.0 +4.0
KMI AMB AMB
comp=Z,50nm,1.8s
KMI AMB AMB
comp=Z,1μm,7.2s
KMI LR LR
comp=N,990nm,17.5s
KMI LR LR
comp=E,1μm,17.5s
KMI LR LR
comp=Z,1μm,17.0s
KMI Kunming 52.66 307 ⇑P **P** **09 10 21.7 +1.3**
KMI *PP pP 09 11 12.9 +3.2
KMI 09 11 28.4
KMI *SP sP 09 11 35.0 +0.7
KMI 09 12 22.8
KMI S **S** **09 17 33.7 +4.6**
KMI *SS 09 18 56.6
KMI 09 19 46.5
KMI SS SS 09 21 11.3 +1.1
KMI SSS SSS 09 23 16.0 +4.0
KMI pmax pmax
comp=Z,58nm,1.8s,mb4.7
KMI MLR MLR
comp=Z,1μm,17.0s
KMI Kunming 52.66 307 ⇑P **P** **09 10 21.7 +1.3**
comp=Z,58nm,1.8s,mb4.7
KMI pP pP 09 11 12.9 +3.2
KMI PcP PcP 09 11 28.4 +1.1
KMI sP sP 09 11 35.0 +0.7
KMI PP PP 09 12 22.8 0.0
KMI ScP 09 15 05.5
KMI PcS 09 15 26.3
KMI S **S** **09 17 33.7 +4.6**
KMI sS 09 18 56.6
KMI ScS ScS 09 19 46.5 +2.7
KMI SS SS 09 21 11.3 +1.1
KMI SSS SSS 09 23 16.0 +4.0
KMI LR LR
comp=Z,1μm,17.0s
CN2 Changchun 52.75 340 *e*P **P** **09 10 20.0 -0.8**
CN2 *e*AP pP 09 11 13.6 +3.5
CN2 PCP PcP 09 11 27.2 -0.2
CN2 SCP 09 15 02.3
CN2 *e*S **S** **09 17 30.7 +0.7**
CN2 XS 09 18 57.4
CN2 SCS ScS 09 19 43.1 -1.0
CN2 AMB AMB
comp=Z,70nm,0.9s,mb5.1
CN2 AMB AMB
comp=Z,3μm,6.0s
CN2 LR LR
comp=N,2μm,17.0s
CN2 LR LR
comp=E,3μm,17.0s
CN2 LR LR
comp=Z,3μm,21.0s
CHRT Chiangrai 52.80 300 ⇑P **P** **09 10 20.0 -1.5**
comp=Z,382nm,0.9s,mb5.8
CHG Chiang Mai 53.12 298 PG **P** **09 10 22.5 -1.4**
CHG SG pP 09 11 14.0 +0.8
XAN Xi'an 53.26 320 P **P** **09 10 23.9 -0.8**
XAN S **S** **09 17 33.7 -3.4**
XAN AMB AMB
comp=Z,260nm,1.5s,mb5.4
XAN AMB AMB
comp=Z,1μm,13.8s
XAN LR LR
comp=N,960nm,21.6s
XAN LR LR
comp=E,2μm,23.0s
XAN LR LR
comp=Z,2μm,23.4s
RAR Rarotonga 53.85 112 S **S** **09 17 46.0 +0.8**
comp=Z,25nm,0.9s,baz=173,slow=17,SNR=2.6
HABR Khabarovsk 54.71 350 *i* P **P** **09 10 35.0 -0.1**
HABR *e* pP 09 11 27.6 +2.9
HABR 09 11 47.4
HABR *e*S **S** **09 17 46.3 -10**
HABR pmax pmax
comp=Z,722nm,1.7s,mb5.9
CD2 Chengdu 54.89 314 P **P** **09 10 36.6 0.0**
CD2 AP pP 09 11 25.4 -0.8
CD2 PP PP 09 12 40.3 -2.9
CD2 PPP PPP 09 14 05.0 +3.6
CD2 S **S** **09 18 01.3 +2.4**
CD2 SS SS 09 21 47.7 +1.7
CD2 AMB AMB
comp=Z,100nm,1.3s,mb5.2
CD2 AMB AMB
comp=Z,1μm,10.7s
CD2 LR LR
comp=N,1μm,18.4s
CD2 LR LR
comp=Z,660nm,13.0s
KLR Kul'dur 56.06 348*d* *i*P **P** **09 10 41.2 -3.4**
KLR *e* 09 11 42.5
KLR *e*S **S** **09 18 15.0 +0.9**
KLR pmax pmax
comp=E,82nm,2.2s
KLR pmax pmax
comp=Z,450nm,2.2s,mb5.6
KLR pmax pmax
comp=N,2μm,9.0s
KLR pmax pmax
comp=E,700nm,9.0s
KLR pmax pmax
comp=Z,4μm,9.0s
KLR smax
comp=N,2μm,15.5s
KLR smax
comp=E,2μm,15.5s
HHC Hu-ho-hao-te 56.37 328 *e*P **P** **09 10 47.3 +0.4**
HHC AP pP 09 11 38.0 +1.1
HHC PCP PcP 09 11 41.6 +0.2
HHC XP sP 09 12 02.2 +1.0
HHC PP PP 09 12 56.7 +0.4
HHC SCP 09 15 17.3
HHC PCS 09 15 40.2
HHC S **S** **09 18 19.0 +0.8**
HHC SCS ScS 09 20 10.5 +0.6
HHC SS SS 09 22 12.5 +2.8
HHC AMB AMB
comp=Z,110nm,1.2s,mb5.3
HHC AMB AMB
comp=Z,2μm,9.4s
HHC LR LR
comp=N,1μm,22.6s
HHC LR LR
comp=E,2μm,16.7s
HHC LR LR
comp=Z,2μm,17.8s
BTO Baotou 57.02 327 *e*P **P** **09 10 51.5 -0.1**
BTO AMB AMB
comp=Z,140nm,1.3s,mb5.4
LZH Lanzhou 57.79 319 *e*P **P** **09 10 57.6 +0.5**
LZH PCP PcP 09 11 42.0 -5.1
LZH AP pP 09 11 47.1 -0.2
LZH PP PP 09 13 08.2 -1.0
LZH PPP PPP 09 14 38.0 +4.2
LZH SCP 09 15 20.6
LZH PCS 09 15 44.0
LZH S **S** **09 18 40.0 +3.0**
LZH XS 09 20 08.0
LZH *e*SS SS 09 22 35.0 +1.9
LZH AMB AMB
comp=Z,930nm,1.5s,mb6.2
LZH AMB AMB
comp=Z,3μm,5.2s
LZH LR LR
comp=E,2μm,13.9s
LZH LR LR
comp=Z,3μm,15.0s
LZH Lanzhou 57.79 319 *e*P **P** **09 10 57.6 +0.5**
LZH *PP pP 09 11 47.1 -0.2
LZH *SP sP 09 12 08.2 -3.3
LZH 09 13 08.2
LZH PPP PPP 09 14 38.0 +4.2
LZH S **S** **09 18 40.0 +3.0**
LZH 09 20 25.0
LZH *e*SS SS 09 22 35.0 +1.9
LZH pmax pmax
comp=Z,930nm,1.5s,mb6.2
LZH MLR MLR
comp=Z,3μm,15.0s
LZH Lanzhou 57.79 319 *e*P **P** **09 10 57.6 +0.5**
comp=Z,930nm,1.5s,mb6.2
LZH PcP PcP 09 11 42.0 -5.1
LZH pP pP 09 11 47.1 -0.2
LZH sP sP 09 12 08.2 -3.3
LZH PP PP 09 13 08.2 -1.0
LZH PPP PPP 09 14 38.0 +4.2
LZH ScP 09 15 20.6
LZH PcS 09 15 44.0
LZH S **S** **09 18 40.0 +3.0**
LZH sS 09 20 08.0
LZH ScS ScS 09 20 25.0 +4.7
LZH *e*SS SS 09 22 35.0 +1.9
LZH LR LR
comp=Z,3μm,15.0s
PET Petropavlovsk 59.09 8 *e*P **P** **09 11 04.7 -1.1**
PET *e**PP pP 09 11 51.1 -5.1
PET pmax pmax
comp=Z,247nm,0.9s,mb5.8
PET Petropavlovsk 59.09 8 *e*P **P** **09 11 04.7 -1.0**
comp=Z,247nm,0.9s,mb5.8
PET *e*pP pP 09 11 51.1 -5.2
HIA Hailar 59.44 340 *e*P **P** **09 11 07.8 -0.4**
HIA *e**PP pP 09 12 00.7 +1.9
HIA pmax pmax
comp=Z,399nm,1.1s
HIA Hailar 59.44 340 *e*P **P** **09 11 07.8 -0.4**
comp=Z,399nm,1.1s,mb6.0
HIA *e*pP pP 09 12 00.7 +2.0
IMP Imphal 59.70 303 *e*P **P** **09 11 09.0 -1.3**
HON Honolulu 60.13 62 *e*P **P** **09 11 13.5 +0.3**
HON *e**PP pP 09 11 58.2 -5.7
KIP Kipapa 60.15 62 *e*P **P** **09 11 12.9 -0.5**
KIP pmax pmax
comp=Z,475nm,1.1s,mb6.0
KIP Kipapa 60.15 62 *e*P **P** **09 11 12.9 -0.5**
comp=Z,475nm,1.1s,mb6.0
DRV Dumont d'Urvil 61.30 183 P **P** **09 11 27.0 +6.5**
DRV S **S** **09 19 26.0 +4.5**
DRV SS SS 09 23 31.0 +3.5
DRV L 09 27 00.0
DRV R 09 31 00.0
AGT Agartala 61.64 301 *ex* x 09 12 08.0
AGT *ex* x 09 13 50.0
SHL Shillong 61.71 303 *e*P **P** **09 11 24.0 +0.2**
SHL *e*S **S** **09 19 29.0 +1.7**
POHA Pohakuloa 61.81 64 *e*P **P** **09 11 24.3 -0.3**
comp=Z,2μm,0.5s
FX1 Attu Island--F 62.20 18 *e*P **P** **09 11 27.0 +0.3**
GTA Gaotai 62.32 320 ⇓*i*P **P** **09 11 28.2 +0.5**
GTA S **S** **09 19 37.7 +3.1**
GTA AMB AMB
comp=Z,100nm,1.5s,mb5.2
GTA AMB AMB
comp=Z,2μm,8.4s
GTA LR LR
comp=N,1μm,18.4s
GTA LR LR
comp=E,660nm,15.7s
GTA LR LR
comp=Z,1μm,16.4s
SMY Shemya 62.36 18 *e*P **P** **09 11 28.1 +0.4**
SMY pmax pmax
comp=Z,1μm,1.1s,mb6.5
SMY MLR MLR
comp=Z,4μm,23.0s
SMY Shemya 62.36 18 *e*P **P** **09 11 28.1 +0.4**
comp=Z,1μm,1.1s,mb6.5
SMY LR LR
comp=Z,4μm,23.0s
PPT Papeete 63.06 107 *e*P **P** **09 11 32.6 -0.2**
comp=Z,228nm,1.3s,mb5.6
PPT Papeete 63.06 107 *e*S **S** **09 19 44.2 0.0**
PPT *e*LR LR 09 30 40.3
comp=Z,1μm,22.8s
PPT Papeete 63.06 107 P **P** **09 11 32.3 -0.6**
comp=Z,83nm,0.7s,mb5.5,baz=358,slow=5.0,SNR=8.7
PAE Paea 63.06 107 *e*P **P** **09 11 32.2 -0.6**
comp=Z,716nm,1.4s,mb6.1
PAE *e*pP pP 09 12 20.3 -3.8
comp=Z,240nm,1.3s
TVO Taravao 63.38 107 *e*P **P** **09 11 34.7 -0.2**
comp=Z,755nm,1.2s,mb6.2
TBI Tubuai 63.59 113 *e*P **P** **09 11 35.6 -0.7**
comp=Z,1μm,1.2s,mb6.3
TBI Tubuai 63.59 113 *e*S **S** **09 19 50.7 -0.1**
TBI *e*LR LR 09 30 54.9
comp=Z,1μm,31.2s
ULN Ulaanbaatar 63.63 331 *e*P **P** **09 11 36.5 +0.3**
ULN *e* 09 12 10.9
ULN *e**PP pP 09 12 26.8 -0.7
ULN pmax pmax
comp=Z,204nm,1.1s,mb5.7
ULN Ulaanbaatar 63.63 331 *e*P **P** **09 11 36.5 +0.3**
comp=Z,204nm,1.1s,mb5.7
ULN *e*PcP PcP 09 12 10.9 +0.5
ULN *e*pP pP 09 12 26.8 -0.7
CAL Calcutta 63.72 298 *ex* x 09 11 30.7
CAL *ex* x 09 15 59.8
CAL *ex* x 09 19 46.7
LSA Lhasa 63.91 307 P **P** **09 11 38.0 -0.3**
LSA Lhasa 63.91 307 *e*P **P** **09 11 38.6 +0.3**
LSA *e**PP pP 09 12 28.9 -0.7
LSA pmax pmax
comp=Z,68nm,0.8s,mb5.3
LSA Lhasa 63.91 307 *e*P **P** **09 11 38.6 +0.3**
comp=Z,68nm,0.8s,mb5.3
LSA *e*pP pP 09 12 28.9 -0.8
SONM Songino Array 63.92 331 P **P** **09 11 38.3 +0.2**
comp=Z,124nm,1.0s,mb5.5,baz=147,slow=5.0,SNR=217
SONM pP pP 09 12 30.4 +0.9
comp=Z,41nm,1.1s,baz=135,slow=6.3,SNR=2.8
SONM S **S** **09 19 57.5 +3.0**
comp=Z,1.9nm,1.1s,baz=51,slow=2.1,SNR=2.3
SONM PKPPKP 09 40 24.7
comp=Z,2.5nm,1.1s,SNR=5.4
CIT Chita 63.95 338 *e*P **P** **09 11 38.8 +0.6**
CIT *e* pP 09 12 33.5 +4.0
CIT *e* 09 14 00.2
CIT *e* 09 19 59.5
CIT pmax pmax
comp=Z,850nm,1.4s,mb6.2
PMOR Pomariorio Ree 64.59 104 *e*P **P** **09 11 42.3 -0.6**
comp=Z,2μm,1.1s,mb6.5
CLNS Chul'man 64.66 347 *e*P **P** **09 11 43.2 +0.6**
CLNS *e* 09 12 14.6
CLNS *e*S **S** **09 20 19.4 +16**
CLNS *e*SS SS 09 24 26.9 +6.6
CLNS pmax pmax
comp=N,122nm,1.1s
CLNS pmax pmax
comp=E,113nm,1.1s
CLNS pmax pmax
comp=Z,270nm,1.1s,mb5.8
CLNS pmax pmax
comp=Z,24nm,1.4s
CLNS pmax pmax
comp=N,113nm,2.5s
CLNS pmax pmax
comp=E,24nm,0.9s
CLNS smax
comp=N,25nm,1.2s
CLNS smax
comp=Z,12nm,1.8s
CLNS smax
comp=E,23nm,1.6s
CLNS MLR MLR
comp=Z,600nm,13.0s
CLNS MLR MLR
comp=N,200nm,15.0s
CLNS MLR MLR
comp=E,600nm,14.0s
VAH Vaihoa 64.85 104 *e*P **P** **09 11 43.6 -0.9**
comp=E,877nm,1.1s,mb6.3
MA2 Magadan 64.89 2*c* *i*P **P** **09 11 43.5 -0.6**
MA2 *i* *SP sP 09 12 58.5 -0.7
MA2 *i* S **S** **09 20 06.6 +0.5**
MA2 *e*SS SS 09 24 25.4 +1.3
MA2 pmax pmax
comp=N,80nm,0.8s
MA2 pmax pmax
comp=Z,200nm,0.8s,mb5.8
MA2 Magadan 64.89 2 *e*P **P** **09 11 43.5 -0.6**

comp=Z,353nm,0.8s,mb6.0
CASY Casey 65.78 195 ⇓*i*P **P** 09 11 48.9 -0.7
CASY *e*pP pP 09 12 39.3 -2.0
CASY *e*S S 09 20 13.1 -3.5
BOK Bokaro 66.25 299 *e*P **P** **09 11 51.9 -1.5**
VIS Vishakhapatnam 66.89 292 *e*P **P** **09 11 55.2 -2.3**
ZAK Zakamensk 67.16 331 *e*P **P** **09 11 58.7 +0.1**
ZAK *e* pP 09 12 49.3 -1.2
ZAK pmax pmax
comp=Z,146nm,1.0s,mb5.6
ZAK pmax pmax
comp=Z,60nm,1.0s,mb5.2
ZAK pmax pmax
comp=Z,22nm,0.9s,mb4.8
JIRN Jiri 67.22 303 *e*P **P** **09 11 59.1 -0.3**
comp=Z,65nm,0.6s,mb5.5
GUN Gumba 67.56 303 *e*P **P** **09 12 01.3 -0.2**
comp=Z,95nm,0.4s,mb5.8
PKI Pulchoki 67.84 303 *e*P **P** **09 12 02.8 -0.5**
comp=Z,47nm,0.7s,mb5.2
PKI Pulchoki 67.84 303 *e*P **P** **09 12 02.8 -0.5**
PKI pmax pmax
comp=Z,23nm,0.7s,mb4.9
IRK Irkutsk 67.96 333 *e*P **P** **09 12 04.0 +0.5**
IRK pmax pmax
comp=Z,292nm,3.2s
KKN Kakani 68.02 303 *e*P **P** **09 12 03.9 -0.5**
comp=Z,99nm,0.9s,mb5.4
KKN Kakani 68.02 303 *e*P **P** **09 12 03.9 -0.5**
KKN pmax pmax
comp=Z,50nm,0.9s,mb5.1
DMN Daman 68.11 302 *e*P **P** **09 12 04.8 -0.1**
comp=Z,132nm,0.8s,mb5.6
SEY Seymchan 68.32 3⇑*i*P **P** **09 12 05.1 -0.5**
BOD Bodaibo 68.46 342 *e*P **P** **09 12 05.6 -0.9**
BOD pmax pmax
comp=Z,186nm,1.2s,mb5.6
YAK Yakutsk 68.60 351 *e*P **P** **09 12 07.1 -0.2**
YAK *e**PP PcP 09 12 31.3 +0.4
YAK *e* pP 09 12 59.8 +0.4
YAK *e*S S 09 20 52.2 +1.7
YAK *e**SS 09 21 40.0
YAK pmax pmax
comp=Z,293nm,1.0s,mb5.9
YAK pmax pmax
comp=N,117nm,1.1s
YAK pmax pmax
comp=E,22nm,1.1s
YAK pmax pmax
comp=N,30nm,1.1s
YAK pmax pmax
comp=Z,59nm,1.1s,mb5.1
YAK pmax pmax
comp=E,19nm,1.0s
YAK smax
comp=N,12nm,1.2s
YAK smax
comp=Z,3.0nm,0.9s
YAK smax
comp=E,15nm,1.3s
YAK Yakutsk 68.60 351 *e*P **P** **09 12 06.7 -0.7**
comp=E,1μm,1.3s,mb6.3
GKN Gorkha 68.63 303 *e*P **P** **09 12 07.4 -0.7**
comp=E,36nm,0.3s,mb5.4
MOY Mondy 69.09 331 *e*P **P** **09 12 10.8 +0.3**
MOY pmax pmax
comp=Z,430nm,2.8s,mb5.6
NIKO Nikolski 69.10 27 *e*P **P** **09 12 09.6 -0.9**
KOLN Koldanda 69.43 302 *e*P **P** **09 12 12.3 -0.6**
comp=Z,59nm,0.6s,mb5.4
UNV Unalaska Valle 70.74 27 *e*P **P** **09 12 19.2 -1.2**
comp=Z,2μm,1.4s,mb6.5
AKUT Akutan 71.25 27 *e*P **P** **09 12 23.9 +0.4**
comp=Z,658nm,1.0s,mb6.2
AKUT LR LR
comp=Z,1μm,20.0s
HYB Hyderabad 71.26 290 *i* P **P** **09 12 27.0 +2.9**
HYB *e*pP pP 09 13 14.0 -2.5
HYB *e*S S 09 21 20.0 -2.0
HYB Hyderabad 71.26 290 *e*P **P** **09 12 27.0 +2.9**
HYB *e*S S 09 21 20.0 -2.0
HYB Hyderabad 71.26 290 *e*P **P** **09 12 27.0 +2.9**
HYB *e* 09 13 01.0
HYB *e*S S 09 21 20.0 -2.0
MIR Mirnyy 71.28 200 *d*P **P** **09 12 24.2 +0.8**
MIR *e*S S 09 21 23.0 +1.5
MIR *e*PS SP 09 21 50.0 -1.6
MIR *e*SS SS 09 26 00.0 -2.8
MIR *e*SSS SSS 09 29 10.0 -2.5
MIR pmax pmax
comp=Z,770nm,2.2s,mb5.9
MIR pmax pmax
comp=Z,1μm,2.4s,mb6.0
MIR pmax pmax
comp=N,404nm,3.2s
MIR pmax pmax
comp=E,505nm,2.8s
MIR smax
comp=N,2μm,12.0s
MIR smax
comp=E,3μm,14.0s
MIR MLR MLR
comp=N,820nm,18.0s
MIR MLR MLR
comp=E,820nm,18.0s
MIR MLR MLR
comp=Z,3μm,18.0s
TAOE Nuku Hiva Isla 72.28 98 *e*P **P** **09 12 29.3 -1.0**
comp=Z,5μm,1.2s
TAOE Nuku Hiva Isla 72.28 98 *e*S S 09 21 30.8 -2.9
TAOE *e*LR LR 09 34 54.1
comp=Z,4μm,29.8s
WMQ Urumqi 72.37 319⇑*i*P **P** **09 12 30.7 +0.4**
WMQ PCP PcP 09 12 47.5 +0.3
WMQ AP pP 09 13 23.4 +0.5
WMQ XP sP 09 13 47.1 +0.9
WMQ PP PP 09 15 16.6 +1.2
WMQ PPP PPP 09 17 01.0 +1.5
WMQ S S 09 21 34.6 +0.4
WMQ SCS ScS 09 22 12.4 +0.3
WMQ SS SS 09 26 20.4 +0.6
WMQ AMB AMB
comp=Z,140nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,2μm,4.0s
VNDA Vanda 72.45 177 P **P** **09 12 30.1 -0.2**
comp=Z,63nm,0.6s,mb5.4,baz=330,slow=6.6,SNR=352
VNDA pP pP 09 13 20.9 -1.9
comp=Z,57nm,0.9s,baz=336,slow=6.4,SNR=4.3
VNDA S S 09 21 36.1 +1.5
comp=Z,1.2nm,1.0s,baz=331,slow=15,SNR=2.5
VNDA Vanda 72.45 177 *e*P **P** **09 12 29.8 -0.5**
VNDA *e**PP pP 09 13 20.9 -1.9
VNDA *e*S S 09 21 41.5 +6.9
VNDA pmax pmax
comp=Z,56nm,0.6s
VNDA Vanda 72.45 177 *e*P **P** **09 12 29.8 -0.5**
comp=Z,56nm,0.6s,mb5.4
VNDA *e*pP pP 09 13 20.9 -1.9
VNDA *e*S S 09 21 41.5 +6.9
SBA Scott Base 73.10 176 *e*P **P** **09 12 34.5 +0.5**
SBA pmax pmax
comp=Z,530nm,2.0s,mb5.8
SBA Scott Base 73.10 176 *e*P **P** **09 12 34.5 +0.4**
comp=Z,527nm,2.0s,mb5.8
BHPL Bhopal 73.58 296 *e*P **P** **09 12 36.4 -1.5**
AGRA Agra 74.09 300 *e*P **P** **09 12 38.8 -2.0**
AGRA AMb AMB 09 12 41.3
comp=Z,55nm,0.2s,mb5.8
SDPT Sand Point 74.43 28 *e*P **P** **09 12 42.4 +0.3**
comp=Z,934nm,1.0s,mb6.4
SDPT LR LR
comp=Z,1μm,22.0s
BILL Bilibino 74.58 7*c i*P **P** **09 12 42.4 -0.3**
BILL pmax pmax
comp=Z,370nm,1.2s,mb5.9
BILL Bilibino 74.58 7 *e*P **P** **09 12 42.2 -0.4**
comp=Z,309nm,1.0s,mb5.9
KLP Kalpa 74.98 305 *e*P **P** **09 12 45.0 -0.7**
NDI New Delhi 75.09 301 *e*P **P** **09 12 43.5 -2.9**
AYAN Aya Nagar 75.11 301 *e*P **P** **09 12 45.0 -1.5**
KAD Karad 75.33 289 *e*P **P** **09 12 48.4 +0.4**
KUDL Kundal 75.57 301 *e*P **P** **09 12 48.1 -1.0**
KHET Khetri 76.14 301 *e*P **P** **09 12 51.1 -1.1**
AJM Ajmer 76.78 299 *e*P **P** **09 12 53.1 -2.8**

RKT Rikitea 76.89 112 *e*P **P** **09 12 55.7 -0.8**
comp=Z,985nm,1.2s,mb6.3
RKT *e*pP pP 09 13 45.5 -4.0
comp=Z,163nm,1.2s
RKT Rikitea 76.89 112 *e*S S 09 22 26.0 +1.7
RKT *e*LR LR 09 37 04.1
comp=Z,986nm,25.5s
MKAR Makanchi Array 77.07 320 P **P** **09 12 56.9 -0.1**
comp=Z,100nm,1.0s,mb5.4,baz=97,slow=8.5,SNR=174
MKAR pP pP 09 13 48.1 -1.9
comp=Z,18nm,0.8s,baz=98,slow=10,SNR=1.1
MKAR S S 09 22 27.8 +2.0
comp=Z,2.6nm,1.0s,baz=117,slow=8.1,SNR=3.9
MKAR PKKPbc 09 32 02.6
comp=Z,1.2nm,0.8s,baz=333,slow=2.7,SNR=4.4
MKAR PKPPKP 09 39 55.5
comp=Z,1.6nm,0.9s,baz=297,slow=2.7,SNR=4.9
MKAR Makanchi Array 77.07 320⇑*e*P **P** **09 12 56.9 -0.1**
MKAR Makanchi Array 77.07 320 P **P** **09 12 56.9 -0.1**
MKAR pP pP 09 13 48.1 -1.9
MKAR S S 09 22 27.8 +2.0
MKAR PKKPbc 09 32 02.6
MKAR P'P' 09 39 55.5
TIXI Tiksi 77.87 354*c i*P **P** **09 12 59.7 -1.2**
TIXI pmax pmax
comp=Z,114nm,0.8s,mb5.5
TIXI Tiksi 77.87 354⇑*i*P **P** **09 12 59.7 -1.2**
TNA Tin City 78.08 18 *e*P **P** **09 13 01.7 -0.4**
comp=Z,154nm,1.3s,mb5.5
KSH Kashi 79.01 312 ⇑P **P** **09 13 09.2 +1.5**
KSH PCP PcP 09 13 17.5 +1.7
KSH AP pP 09 14 04.7 +3.6
KSH XP sP 09 14 26.0 +1.8
KSH PP PP 09 16 12.8 +1.6
KSH S S 09 22 47.5 +1.1
KSH SKS SKS 09 22 57.2 +0.1
KSH SCS ScS 09 23 06.0 +0.2
KSH SS SS 09 28 00.0 -0.4
KSH AMB AMB
comp=Z,1μm,4.3s
KSH LR LR
comp=N,580nm,10.4s
KSH LR LR
comp=E,730nm,14.5s
AAA Alma-Ata 79.41 316*c i*P **P** **09 13 10.8 +1.0**
AAA *i* S S 09 22 47.6 -3.0
AAA pmax pmax
comp=Z,8μm,8.2s
AAA smax
comp=N,3μm,21.6s
SVW2 Sparrevohn 79.76 25 *e*P **P** **09 13 12.1 +0.9**
NVS Novosibirsk 79.77 328 *i* P **P** **09 13 10.1 -1.3**
NVS *i* *PP pP 09 14 05.0 +0.1
NVS *i* S S 09 22 51.2 -2.8
NVS pmax pmax
comp=N,49nm,1.1s
NVS pmax pmax
comp=E,95nm,1.1s
NVS pmax pmax
comp=Z,117nm,1.1s,mb5.4
NVS pmax pmax
comp=Z,93nm,2.4s,mb5.0
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=E,58nm,2.3s
NVS smax
comp=N,66nm,2.1s
NVS smax
comp=E,202nm,2.1s
TKM2 Tokmak 2 80.25 315 P **P** **09 13 15.7 +1.4**
SNR=5.4
KZA Kyzart 80.26 314 P **P** **09 13 16.7 +2.4**
SNR=11
BHJ Bhuj 80.58 295 *e*P **P** **09 13 14.6 -1.8**
KBK Karagaybulak 80.64 315 P **P** **09 13 16.9 +0.6**
SNR=17
KURK Kurchatov 80.77 323*c i*P **P** **09 13 16.5 -0.3**
UCH Uchtor 80.83 314 P **P** **09 13 18.8 +1.5**
SNR=33
CHMS Chumysh 80.87 315 P **P** **09 13 17.7 +0.2**
SNR=29
FRU Bishkek 80.92 315 *e*P **P** **09 13 19.0 +1.2**
FRU *e* 09 23 10.0
FRU pmax pmax
comp=Z,1μm,7.0s
AAK Ala-Archa 80.95 315 P **P** **09 13 18.6 +0.7**
SNR=22
AAK Ala-Archa 80.95 315*d i*P **P** **09 13 17.2 -0.7**
AAK pmax pmax
comp=Z,64nm,1.1s,mb5.2
AAK MLR MLR
comp=Z,1μm,24.0s
AAK Ala-Archa 80.95 315 *i* Pr **P** **09 13 17.3 -0.6**
USP Ospenovka 81.12 315 P **P** **09 13 18.6 -0.2**
SNR=42
AML Almayashu 81.39 314 P **P** **09 13 21.6 +1.4**
SNR=45
EKS2 Erkin-Say 81.47 314 P **P** **09 13 21.6 +0.9**
SNR=22
SLKM Skilak Lake 81.77 26 *e*P **P** **09 13 20.6 -1.2**
PMR Palmer 82.72 26 *e*P **P** **09 13 26.0 -0.6**
PMR pmax pmax
comp=Z,329nm,1.0s,mb6.0
PMR MLR MLR
comp=Z,2μm,22.0s
PMR Palmer 82.72 26 *e*P **P** **09 13 26.0 -0.6**
comp=Z,329nm,1.0s,mb6.0
PMR LR LR
comp=Z,2μm,22.0s
MAW Mawson 82.74 203 ⇓*i*P **P** **09 13 26.6 0.0**
comp=Z,27nm,0.6s,mb5.2
MAW *e*pP pP 09 14 17.2 -3.3
MAW *e*S S 09 23 22.5 -1.6
MAW Mawson 82.74 203 P **P** **09 13 26.3 -0.3**
comp=Z,32nm,0.6s,mb5.2,baz=96,slow=6.6,SNR=133
MAW pP pP 09 14 19.4 -1.1
comp=Z,44nm,0.8s,baz=98,slow=9.0,SNR=5.1
MAW S S 09 23 25.2 +1.2
comp=Z,2.0nm,1.1s,baz=330,slow=20,SNR=2.3
MAW PKKPbc 09 31 48.8
comp=Z,15nm,0.9s,baz=283,slow=4.4,SNR=15
MAW Mawson 82.74 203 ⇓*i*P **P** **09 13 26.6 0.0**
MAW *e**PP pP 09 14 17.2 -3.3
MAW *e*S S 09 23 22.5 -1.6
MAW pmax pmax
comp=Z,27nm,0.6s
IMA2 Indian Mountai 83.05 21 *e*P **P** **09 13 28.1 -0.2**
SML Sawmill 83.16 26 P **P** **09 13 28.8 -0.1**
SML Sawmill 83.16 26 *e*P **P** **09 13 28.2 -0.7**
MCK McKinley 83.74 24 P **P** **09 13 30.5 -1.2**
MCK pmax pmax
comp=Z,280nm,1.0s,mb6.0
MCK McKinley 83.74 24 *e*P **P** **09 13 30.0 -1.7**
comp=Z,283nm,1.0s,mb6.0
DIV Divide 84.01 27 *e*P **P** **09 13 32.9 -0.3**
comp=Z,1μm,1.1s,mb6.6
COLA College 84.66 23 *e*P **P** **09 13 34.4 -1.9**
COLA pmax pmax
comp=Z,280nm,1.0s,mb6.0
COLA College 84.66 23 *e*P **P** **09 13 34.4 -1.9**
comp=Z,280nm,1.0s,mb6.0
THY Trims Highway 84.91 25 *e*P **P** **09 13 37.9 +0.3**
ILAR Eielson Array 84.99 23 P **P** **09 13 36.0 -2.0**
comp=Z,172nm,0.8s,mb5.8,baz=252,slow=4.5,SNR=398
ILAR PKiKP 09 18 46.9
comp=Z,2.5nm,0.8s,baz=258,slow=4.7,SNR=5.8
ILAR S S 09 23 40.1 -6.1
comp=Z,1.0nm,0.9s,baz=186,slow=7.0,SNR=4.7
BRVK Borovoye 86.39 324⇑*i*P **P** **09 13 44.3 -0.8**
DAWY Dawson 87.79 25 *e*P **P** **09 13 51.0 -0.4**
SIT Sitka 87.89 32 *e*P **P** **09 13 55.4 +3.4**
SIT pmax pmax
comp=Z,171nm,1.1s,mb5.8
SIT MLR MLR
comp=Z,900nm,19.0s
SIT Sitka 87.89 32 *e*P **P** **09 13 55.4 +3.4**
comp=Z,170nm,1.1s,mb5.8
SIT LR LR
comp=Z,900nm,19.0s
DLBC Dease Lake 90.94 31 S SKS 09 24 17.7 +2.7
comp=Z,1.5nm,0.9s,baz=79,slow=24,SNR=2.3
DLBC Dease Lake 90.94 31 *e*P **P** **09 14 05.3 -0.9**
DLBC *e*PP PP 09 17 38.8 -8.4
SYO Syowa Base 91.10 200 ⇓P **P** **09 14 06.5 -0.3**
SYO Syowa Base 91.10 200 ⇓pP pP 09 14 59.4 -2.0

SYO Syowa Base 91.10 200 SKSac 09 24 15.0
SYO Syowa Base 91.10 200 SH S 09 24 44.3 +1.7
SYO Syowa Base 91.10 200 ⇓*e*P **P** **09 14 06.5 -0.3**
SYO ⇓*e*pP pP 09 14 59.4 -2.0
SYO *e*SKSac 09 24 15.0
SYO *e*S S 09 24 44.3 +1.7
BBB Bella Bella 91.14 38 S SKS 09 24 18.6 +2.3
comp=Z,13nm,1.0s,baz=154,slow=13,SNR=2.2
INK Inuvik 91.16 21 S SKS 09 24 16.8 +0.8
comp=Z,16nm,1.2s,baz=53,slow=32,SNR=38
INK PKKP PKKP 09 31 27.7 +30
comp=Z,3.3nm,0.7s,baz=70,slow=4.8,SNR=9.0
INK Inuvik 91.16 21 *e*P **P** **09 14 05.5 -1.6**
INK pmax pmax
comp=Z,150nm,1.0s
INK Inuvik 91.16 21 *e*P **P** **09 14 05.5 -1.5**
comp=Z,150nm,1.0s,mb5.9
SVE Sverdlovsk 92.53 327 *e*P **P** **09 14 12.6 -1.1**
SVE *e*PP PP 09 17 56.7 -3.3
KEBM Edson Butte 92.70 47 *e*P **P** **09 14 16.6 +1.7**
KEBM *e*PP PP 09 17 58.6 -3.2
KBO Bosley Butte 92.73 48 *e*P **P** **09 14 16.8 +1.8**
KHMM Horse Mountain 92.99 49 *e*P **P** **09 14 17.6 +1.3**
KHMM *e*PP PP 09 18 02.4 -1.7
KCPM Cahto Peak 93.00 51 *e*P **P** **09 14 17.0 +0.6**
KCPM *e*PP PP 09 17 59.0 -5.3
KIPM Iron Peak 93.09 50 *e*P **P** **09 14 17.6 +0.9**
OCWA Octopus Mounta 93.21 43 *e*P **P** **09 14 18.3 +1.2**
comp=Z,276nm,1.2s,mb6.2
OCWA *e*PP PP 09 18 04.9 -0.8
HOPS Hopland 93.35 51 *e*P **P** **09 14 19.0 +1.1**
comp=Z,320nm,1.2s,mb6.2
COR Corvallis 93.58 46 *e*P **P** **09 14 20.1 +1.3**
comp=Z,79nm,1.2s,mb5.6
ARU Arti 93.63 326⇑*i*P **P** **09 14 17.0 -1.7**
ARU *e* 09 18 04.7
ARU *e*S SKS 09 24 27.4 -2.8
ARU *e*SP SP 09 26 31.9 +6.8
ARU pmax pmax
comp=Z,36nm,1.1s,mb5.3
ARU Arti 93.63 326⇑*i*P **P** **09 14 17.2 -1.5**
HUMO Hull Mountain 93.69 48 *e*P **P** **09 14 19.9 +0.6**
comp=Z,268nm,1.1s,mb6.2
HUMO *e*PP PP 09 17 57.5 -12
SAC San Andreas 93.76 53 *e*P **P** **09 14 18.6 -1.2**
PGC Sidney 93.76 42 *e*P **P** **09 14 20.2 +0.7**
comp=Z,353nm,1.0s,mb6.3
YBH Yreka Blue Hor 93.82 49 *e*P **P** **09 14 19.8 -0.1**
YBH pmax pmax
comp=Z,301nm,1.1s
YBH Yreka Blue Hor 93.82 49 *e*P **P** **09 14 19.8 -0.1**
comp=Z,301nm,1.1s,mb6.2
WDC Whiskeytown Da 93.87 50 *e*P **P** **09 14 20.6 +0.4**
WDC *e* 09 18 07.4
WDC pmax pmax
comp=Z,285nm,1.1s,mb6.2
WDC Whiskeytown Da 93.87 50 *e*P **P** **09 14 20.6 +0.4**
comp=Z,285nm,1.1s,mb6.2
WDC *e*PP PP 09 18 07.4 -3.7
BUOR Burton Butte 94.20 48 P **P** **09 14 22.6 +0.9**
SAO San Andreas Ge 94.48 54 *e*P **P** **09 14 23.9 +0.8**
comp=Z,96nm,1.1s,mb5.7
SAO *e*PP PP 09 18 13.4 -2.2
SAO *e* 09 18 24.3
OHCM Honcut 94.60 51 *e*P **P** **09 14 23.0 -0.6**
OHCM *e*PP PP 09 18 11.5 -5.0
VDB Vedder Mountai 94.67 41 P **P** **09 14 24.1 +0.5**
JCW Jim Creek 94.75 42 P **P** **09 14 24.6 +0.6**
SOKR Solikamsk 94.76 329⇑*i*P **P** **09 14 23.4 -0.4**
SOKR S SKS 09 24 38.0 +1.8
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.3
SOKR MLR MLR
comp=Z,1μm,16.0s
LRV Little Rabbit 94.81 54 *e*P **P** **09 14 25.3 +0.7**
CMB Columbia Colle 95.39 52 *e*P **P** **09 14 27.1 -0.1**
comp=Z,110nm,1.1s,mb5.9
CMB *e*PP PP 09 18 16.1 -6.2
PTRM Twissleman Ran 95.42 55 *e*P **P** **09 14 28.1 +0.7**
TBM Table Mountain 95.60 43 P **P** **09 14 28.9 +1.0**
MOD Modoc 95.62 49 *e*P **P** **09 14 28.5 +0.4**
comp=Z,127nm,1.1s,mb6.1
MOD *e*PP PP 09 18 18.6 -5.6
ETW Entiat 95.80 43 P **P** **09 14 29.3 +0.5**
EPH Ephrata 96.29 43 P **P** **09 14 31.4 +0.4**
HAWA Hanford 96.31 44 *e*P **P** **09 14 31.5 +0.3**
comp=Z,17nm,1.0s,mb5.2
HAWA *e*PP PP 09 18 27.6 -1.9
MTUM Tungsten Hills 96.81 53 *e*P **P** **09 14 33.5 -0.2**
ISA Isabella 96.83 55 *e*P **P** **09 14 33.0 -0.8**
comp=Z,130nm,1.3s,mb6.0
WVOR Wild Horse Val 96.88 48 *e*P **P** **09 14 33.7 -0.2**
WVOR *e* 09 18 31.6
WVOR pmax pmax
comp=Z,93nm,0.9s,mb6.0
WVOR Wild Horse Val 96.88 48 *e*P **P** **09 14 33.7 -0.2**
comp=Z,93nm,0.9s,mb6.0
WVOR *e*PP PP 09 18 31.6 -2.5
OD2 Odessa Site #2 96.89 43 P **P** **09 14 34.2 +0.4**
NVAR Mina Array Bea 97.05 52 P **P** **09 14 35.8 +1.1**
comp=Z,61nm,0.9s,mb5.8,baz=255,slow=4.7,SNR=192
NVAR PP PP 09 18 25.9 -10
comp=Z,4.6nm,1.1s,baz=243,slow=8.1,SNR=3.4
NVAR PKiKP 09 19 09.9
comp=Z,1.9nm,0.9s,baz=233,slow=4.5,SNR=2.8
NVAR S SKS 09 24 51.8 +2.8
comp=Z,0.6nm,0.7s,baz=64,slow=16,SNR=2.3
MWC Mount Wilson 97.13 56 *e*P **P** **09 14 35.5 +0.3**
MWC *e* 09 18 35.4
MNV Mina 97.16 52 *e*P **P** **09 14 35.4 +0.1**
MNV pmax pmax
comp=Z,94nm,1.0s,mb6.0
MNV Mina 97.16 52 *e*P **P** **09 14 35.4 +0.1**
comp=Z,94nm,1.0s,mb6.0
MNV *e*PP PP 09 18 24.3 -12
DAC Darwin (Calif) 97.56 54 *e*P **P** **09 14 37.2 +0.1**
DAC *e* 09 18 36.9
DAC pmax pmax
comp=Z,181nm,1.1s,mb6.3
DAC Darwin (Calif) 97.56 54 *e*P **P** **09 14 37.2 0.0**
comp=Z,181nm,1.1s,mb6.3
DAC *e*PP PP 09 18 36.9 -2.9
BMO Blue Mountains 97.86 46 *e*P **P** **09 14 37.9 -0.3**
comp=Z,119nm,0.9s,mb6.2
TPH Tonopah 97.89 52 *e*P **P** **09 14 39.3 +0.7**
TPH pmax pmax
comp=Z,67nm,1.1s,mb5.9
TPH Tonopah 97.89 52 *e*P **P** **09 14 39.3 +0.7**
comp=Z,67nm,1.1s,mb5.9
TPH *e*PP PP 09 18 27.6 -15
NEW Newport 97.96 42 S SKS 09 24 55.7 +2.3
comp=Z,1.4nm,0.8s,baz=37,slow=20,SNR=3.1
GSC Goldstone 98.19 55 *e*P **P** **09 14 40.1 +0.1**
BAR Barrett 98.25 58 *e*P **P** **09 14 40.9 +0.5**
TPNV Topopah Spring 98.65 54 *e*P **P** **09 14 42.0 -0.1**
comp=Z,64nm,1.0s,mb5.9
TPNV *e*PP PP 09 18 42.1 -5.7
YKW3 Yellowknife Ar 98.69 28 *e*P **P** **09 14 40.3 -1.3**
YKW3 *e*pP pP 09 15 32.4 -3.9
YKW3 *e*PP PP 09 18 33.1 -14
YKA Yellowknife Ar 98.70 28 P **P** **09 14 40.6 -1.1**
comp=Z,25nm,0.9s,mb5.5,baz=275,slow=4.6,SNR=62
YKA pP pP 09 15 33.4 -2.9
comp=Z,7.3nm,0.9s,baz=273,slow=5.1,SNR=2.3
YKA PP PP 09 18 32.9 -15
comp=Z,3.3nm,0.9s,baz=275,slow=8.5,SNR=4.3
YKA PKiKP 09 19 11.0
comp=Z,2.3nm,0.6s,baz=274,slow=1.5,SNR=9.9
YKA S SKS 09 24 56.9 0.0
comp=Z,1.0nm,0.9s,baz=288,slow=4.4,SNR=3.4
YKA PKKP PKKP 09 31 08.7 +24
comp=Z,2.7nm,0.8s,baz=88,slow=2.7,SNR=15
YKA Yellowknife Ar 98.70 28 P **P** **09 14 40.6 -1.1**
YKA pP pP 09 15 33.4 -2.9
YKA PP PP 09 18 32.9 -15
ELK Elko 99.42 50 *e*P **P** **09 14 45.3 -0.2**
ELK *e* 09 18 48.4
ELK pmax pmax
comp=Z,87nm,1.1s
ELK Elko 99.42 50 *e*Pdif **P** **09 14 45.3 -0.2**
comp=Z,87nm,1.1s,mb6.0
ELK *e*PP PP 09 18 48.4 -5.2
LDFC Landfair 99.57 55 *e*Pdif **P** **09 14 47.0 +0.7**
NEN Nelson 99.79 55 *e*Pdif **P** **09 14 48.1 +0.9**

NEN ePP PP 09 18 48.8 -7.8
GLA Glamis 99.81 58 eP **P 09 14 49.0 +1.6**
HLID Hailey 99.97 47 ePdif **P 09 14 48.0 +0.2**
comp=Z,67nm,1.0s,mb6.0
HLID ePP PP 09 18 52.4 -5.4
EDM Edmonton 100.13 37 ePdif P 09 14 47.6 -0.8
EDM ePP PP 09 18 47.9 -11
MSO Missoula 100.16 44 ePdif P 09 14 48.1 -0.6
comp=Z,12nm,0.9s
MSO ePP PP 09 18 54.0 -5.3
MSO ePKPdf 09 19 05.0
SNAA Sanae 100.53 189 S 09 25 05.2
comp=Z,1.6nm,1.1s,baz=182,slow=21,SNR=3.7
SNAA PKKP PKKP 09 31 02.7 +21
comp=Z,4.3nm,1.0s,baz=258,slow=9.3,SNR=7.7
SNAA Sanae 100.53 189 eP P 09 14 48.4 -1.4
SNAA pmax pmax
comp=Z,25nm,1.3s
SNAA Sanae 100.53 189 ePdif P 09 14 48.4 -1.3
comp=Z,25nm,1.3s
SNAA ePP PP 09 18 52.3 -9.4
CHMT Chamberlain Mo 100.63 43 ePdif P 09 14 50.7 0.0
CHMT ePP PP 09 18 56.5 -6.5
ARUT Antelope Range 100.88 53 ePdif P 09 14 52.8 +0.6
ARUT ePP PP 09 18 52.6 -13
MCMT McKenzie Canyo 101.03 46 ePdif P 09 14 53.3 +0.7
MCMT ePP PP 09 19 01.2 -5.0
BGU Big Grassy Mou 101.09 50 ePdif P 09 14 52.8 -0.2
BGU ePP PP 09 18 59.3 -7.4
DLMT Dillon 101.18 45 ePdif P 09 14 53.6 +0.3
comp=Z,53nm,1.1s
DLMT ePP PP 09 18 58.7 -8.5
HVU Hansel Valley 101.25 49 eP P 09 14 53.8 +0.1
HVU e 09 19 06.6
HVU pmax pmax
comp=Z,122nm,1.0s
HVU Hansel Valley 101.25 49 ePdif P 09 14 53.8 +0.2
comp=Z,122nm,1.0s
HVU ePP PP 09 19 06.6 -1.1
DUG Dugway 101.29 50 eP P 09 14 53.8 -0.1
DUG e 09 19 01.2
DUG pmax pmax
comp=Z,69nm,1.1s
DUG Dugway 101.29 50 ePdif P 09 14 53.8 -0.1
comp=Z,69nm,1.1s
DUG ePP PP 09 19 01.2 -6.8
SPUT South Promonto 101.51 49 ePdif P 09 14 55.2 +0.4
SPUT ePP PP 09 19 08.7 -0.9
HRY Holter Researc 101.62 44 ePdif P 09 14 55.7 +0.5
NOQ North Oquirrh 101.80 50 ePdif P 09 14 56.1 0.0
comp=Z,98nm,1.1s
MVU Marysvale 101.83 52 ePdif P 09 14 57.6 +1.3
comp=Z,19nm,1.1s
MVU ePP PP 09 18 59.7 -12
BOZ Bozeman (W) 101.84 45 eP P 09 14 56.7 +0.5
BOZ pmax pmax
comp=Z,50nm,0.9s
BOZ Bozeman (W) 101.84 45 ePdif P 09 14 56.7 +0.5
comp=Z,50nm,0.9s
BOZ ePP PP 09 19 07.0 -4.8
MSU Marysvale 101.85 52 ePdif P 09 14 57.0 +0.6
MSU ePP PP 09 18 58.5 -14
NLU North Lily Min 101.86 50 ePdif P 09 14 56.7 +0.2
QLMT Earthquake Lak 102.04 45 ePdif Pdif 09 14 58.4 +1.4
QLMT ePP PP 09 19 08.4 -4.8
CTU Camp Tracy 102.07 50 ePdif Pdif 09 14 57.4 0.0
comp=Z,55nm,1.0s
HWUT Hardware Ranch 102.16 49 ePdif Pdif 09 14 57.3 -0.3
comp=Z,46nm,0.9s
HWUT ePP PP 09 19 03.9 -10
MPU Maple Canyon 102.20 50 ePdif Pdif 09 14 58.2 +0.3
comp=Z,71nm,1.0s
MPU ePP PP 09 19 03.5 -11
RRI2 Red Ridge 102.23 47 ePdif Pdif 09 14 57.9 -0.1
comp=Z,58nm,1.0s
RRI2 ePP PP 09 19 06.8 -7.9
TCUT Toone Canyon 102.31 49 ePdif Pdif 09 14 58.5 +0.1
TCUT ePP PP 09 19 01.4 -14
YMR Madison River 102.38 46 ePdif Pdif 09 14 59.5 +0.9
comp=Z,54nm,1.0s
YMR ePP PP 09 19 11.9 -4.0
DAU Daniels Canyon 102.47 50 ePdif Pdif 09 14 59.2 +0.1
DAU ePP PP 09 19 59.9 -17
YFT Old Faithful 102.49 46 ePdif Pdif 09 15 01.9 +2.9
YFT ePP PP 09 19 14.4 -2.4
REDW Red Top Meadow 102.57 47 ePdif Pdif 09 14 59.7 +0.3
comp=Z,63nm,1.2s
REDW ePP PP 09 19 10.1 -7.3
TMUT Trail Mountain 102.57 51 ePdif Pdif 09 15 00.2 +0.6
MOOW Moose Ponds 102.61 47 ePdif Pdif 09 15 00.2 +0.6
comp=Z,24nm,1.0s
MOOW ePP PP 09 18 51.6 -26
WUAZ Wupatki 102.62 55 ePdif Pdif 09 15 00.9 +1.1
comp=Z,29nm,1.0s
WUAZ ePP PP 09 19 09.2 -8.8
SNOW Snow King Moun 102.63 47 ePdif Pdif 09 15 00.5 +0.8
comp=Z,42nm,1.1s
LOHW Long Hollow 102.73 47 ePdif Pdif 09 15 00.3 +0.2
comp=Z,18nm,1.0s
LOHW ePP PP 09 19 11.8 -6.9
EGMT Eagleton 102.90 42 ePdif Pdif 09 15 01.0 +0.3
comp=Z,46nm,1.0s
EGMT ePP PP 09 19 10.2 -10
SRU San Rafael 103.11 51 eP Pdif 09 15 02.0 +0.1
SRU e 09 19 20.4
SRU pmax pmax
comp=Z,56nm,1.1s
SRU San Rafael 103.11 51 eP Pdif 09 15 02.0 +0.1
comp=Z,56nm,1.1s
SRU ePP PP 09 19 15.3 -6.4
SRU ePKPdf PP 09 19 20.4 -1.3
GCMT Greycliff 103.19 44 ePdif Pdif 09 15 04.3 +2.1
TUC Tucson 103.23 58 ePdif Pdif 09 15 03.9 +1.3
comp=Z,14nm,1.0s
TUC ePKPdf 09 19 18.9
PDAR Pinedale Array 103.56 47 Pdiff Pdif 09 15 03.3 -0.5
comp=Z,50nm,1.0s,baz=245,slow=2.2,SNR=81
PDAR PP PP 09 19 04.1 -21
comp=Z,5.9nm,1.0s,baz=233,slow=4.5,SNR=5.0
PDAR PKiKP 09 19 20.9
comp=Z,8.6nm,0.8s,baz=210,slow=1.8,SNR=7.7
PDAR Sdiff 09 25 22.4
comp=Z,0.9nm,0.9s,baz=225,slow=36,SNR=3.8
PDAR PKKPbc 09 30 56.1
comp=Z,0.5nm,0.4s,baz=111,slow=5.5,SNR=8.9
APA Apatity 103.89 339 ⇑*i* P Pdif 09 15 03.8 -0.9
APA *i* 09 19 25.0
APA *i* 09 25 21.0
APA *i* S S 09 26 29.0 -1.8
APA ePS PS 09 28 41.0 +1.4
APA *i* 09 29 43.0
APA pmax pmax
comp=Z,77nm,1.3s
APA MLR MLR
comp=Z,1μm,17.0s
KEV Kevo 105.17 342 ep 09 19 22.5
comp=Z,6.9nm,0.7s
RWWY Rawlins 105.40 48 ePdif Pdif 09 15 10.7 -1.3
comp=Z,130nm,1.0s
RWWY ePKPdf 09 19 24.2
RWWY ePP PP 09 19 37.0 -1.5
LAO LASA Array 105.45 43 ePdif Pdif 09 15 11.6 -0.4
comp=Z,89nm,1.1s
LAO ePKPdf 09 19 24.1
LAO ePP PP 09 19 36.1 -2.5
ARCES ARCESS Array B 105.74 342 Pdiff Pdif 09 15 12.6 -0.1
comp=Z,44nm,1.0s,baz=63,slow=5.4,SNR=29
ARCES PKiKP 09 19 24.0
comp=Z,2.2nm,0.3s,baz=106,slow=1.5,SNR=43
ARCES PKKPbc 09 30 47.1
comp=Z,5.0nm,0.5s,baz=250,slow=1.3,SNR=20
ARCES ARCESS Array B 105.74 342 Pdif Pdif 09 15 12.6 -0.1
ARCES PKPdf 09 19 24.0
ARCES PKKPbc 09 30 47.1
ARE0 ARCESS Array S 105.74 342 ePdif Pdif 09 15 12.2 -0.6
OBN Obninsk 106.07 326 cP Pdif 09 15 14.0 -0.5
OBN *i* 09 19 39.8
OBN *e* 09 25 35.8
OBN *e* 09 28 30.1
OBN SS SS 09 34 27.0 +2.8
OBN pmax pmax
comp=Z,27nm,1.7s
OBN pmax pmax
comp=Z,43nm,1.6s
OBN MLR MLR
comp=Z,900nm,22.0s
LAZ Ladron 106.16 56 ePdif Pdif 09 15 18.4 +3.0
LAZ ePKPdf 09 19 24.5
LAZ ePP PP 09 19 42.3 -1.6
LENM Lemitar 106.31 56 ePdif Pdif 09 15 15.3 -0.8
LENM ePKPdf 09 19 26.6
JOF Joensuu 106.34 335 ep 09 19 25.4
comp=Z,7.7nm,1.0s
JOF Joensuu 106.34 335 ep PKKP 09 30 45.7 +14
comp=Z,8.3nm,0.8s
DGMT Dagmar 106.51 41 ePdif Pdif 09 15 18.8 +2.2
comp=Z,34nm,1.2s
LPM Los Pinos Moun 106.58 56 ePdif Pdif 09 15 19.0 +1.7
LPM ePKPdf 09 19 26.4
LPM ePP PP 09 19 43.9 -3.5
ANMO Albuquerque 106.67 55 PKKPab 09 31 03.1
comp=Z,4.1nm,1.0s,baz=132,slow=5.7,SNR=7.5
PHWY Pilot Hill 106.76 49 ePdif Pdif 09 15 17.7 -0.2
PHWY ePKPdf 09 19 26.9
ISCO Idaho Springs 106.83 50 P Pdif 09 15 19.7 +1.4
ISCO pmax pmax
comp=Z,24nm,1.0s
ISCO Idaho Springs 106.83 50 ePdif Pdif 09 15 19.3 +1.0
comp=Z,24nm,1.0s
RSSD Black Hills 107.38 46 P Pdif 09 15 21.4 +0.8
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 107.38 46 ePKPdf Pdif 09 15 20.9 +0.4
comp=Z,9.6nm,0.8s
RSSD ePKPdf 09 19 27.0
MNTX Cornudas Mount 107.84 59 ePKPdf 09 19 29.1
MNTX ePP PP 09 19 53.3 -3.2
GDL2 Guadalupe Moun 108.66 58 ePdif Pdif 09 15 28.9 +2.4
GDL2 ePKPdf 09 19 29.6
KAF Kangasniemi 108.80 335 ep 09 19 29.2
comp=Z,13nm,0.8s
CPRX Cap Rock 109.00 57 ePKPdf 09 19 48.1
FINES FINESS Array B 109.18 334 Pdiff Pdif 09 15 27.6 -0.5
comp=Z,4.1nm,0.7s,baz=64,slow=6.2,SNR=12
FINES PKiKP 09 19 30.5
comp=Z,6.1nm,0.6s,baz=66,slow=3.0,SNR=23
FINES PKKPbc 09 30 39.6
comp=Z,3.1nm,0.7s,baz=90,slow=3.8,SNR=6.2
FINES PKKPab 09 30 50.8
comp=Z,11nm,1.1s,baz=236,slow=6.9,SNR=4.6
FINES FINESS Array B 109.18 334 P Pdif 09 15 27.6 -0.5
FINES 09 30 39.7
LTX Lajitas 109.51 61 ePKPdf 09 19 32.2
LTX ePP PP 09 20 04.1 -5.0
TXAR Lajitas Array 109.51 61 Pdiff Pdif 09 15 32.2 +1.9
comp=Z,1.4nm,0.8s,baz=270,slow=3.8,SNR=8.9
TXAR PKiKP 09 19 33.0
comp=Z,11nm,0.9s,baz=225,slow=1.8,SNR=18
TXAR PP PP 09 20 02.5 -6.5
comp=Z,6.9nm,0.9s,baz=270,slow=3.6,SNR=5.6
TXAR PKKPbc 09 30 38.5
comp=Z,0.8nm,0.4s,baz=104,slow=4.3,SNR=13
TXAR PKKPab 09 30 50.3
comp=Z,4.8nm,1.0s,baz=122,slow=5.6,SNR=7.8
TXAR Lajitas Array 109.51 61 P Pdif 09 15 32.2 +1.9
TXAR 09 20 02.6
TXAR 09 30 38.5
KMBO Kilima Mbogo 109.53 267 PKiKP 09 19 33.6
comp=Z,1.9nm,0.9s,baz=224,slow=24,SNR=3.5
KMBO PKKPbc 09 30 38.0
comp=Z,2.3nm,0.8s,baz=234,slow=23,SNR=3.1
ULM Lac du Bonnet 111.34 38 Pdiff Pdif 09 15 38.8 +0.9
comp=Z,2.1nm,0.8s,baz=179,slow=16,SNR=3.9
ULM PKiKP 09 19 33.5
comp=Z,17nm,0.7s,baz=316,slow=1.6,SNR=23
ULM PP PP 09 20 15.3 -6.0
comp=Z,10nm,1.0s,baz=305,slow=9.2,SNR=4.7
ULM SKP 09 22 48.4
comp=Z,10nm,1.1s,baz=299,slow=2.3,SNR=3.8
ULM Lac du Bonnet 111.34 38 Pdif Pdif 09 15 38.8 +0.9
ULM PKPdf PKPdf 09 19 33.5 -0.5
ULM PP PP 09 20 15.3 -6.0
ULM SKP 09 22 48.4
BR131 Keskin Array S 111.37 311 ePKPdf PKPdf 09 19 35.1 +0.8
BR131 ePP PP 09 20 19.1 -2.7
BRTR Keskin Array B 111.37 311 PKiKP 09 19 34.8
comp=Z,5.6nm,0.9s,baz=117,slow=2.8,SNR=16
BRTR PP PP 09 20 18.7 -3.1
comp=Z,2.5nm,0.9s,baz=104,slow=5.9,SNR=2.2
BRTR PKKPbc 09 30 32.2
comp=Z,4.1nm,0.8s,baz=207,slow=2.8,SNR=14
AKASG Malin Array Be 111.58 323 Pdiff Pdif 09 15 38.5 -0.4
comp=Z,0.3nm,0.4s,baz=52,slow=5.6,SNR=4.4
AKASG PKiKP 09 19 34.8
comp=Z,8.2nm,0.6s,baz=62,slow=2.5,SNR=24
AKASG PP PP 09 20 17.4 -5.6
comp=Z,7.7nm,0.9s,baz=57,slow=5.6,SNR=4.1
AKASG PKKPbc 09 30 29.1
comp=Z,3.0nm,0.6s,baz=265,slow=4.1,SNR=4.6
AKASG PKKPab 09 30 40.5
comp=Z,2.6nm,0.9s,baz=270,slow=4.0,SNR=5.2
AKASG Malin Array Be 111.58 323 P Pdif 09 15 38.5 -0.4
AKASG 09 19 34.8
AKASG 09 20 17.4
AKASG 09 30 40.5
AKASG Malin Array Be 111.58 323 Pdif Pdif 09 15 38.5 -0.4
AKASG PKPdf PKPdf 09 19 34.8 +0.4
AKASG PP PP 09 20 17.4 -5.6
AKASG PKKPbc 09 30 29.1
AKASG PKKPab 09 30 40.5
ANTO Ankara 111.98 311 ePKPdf PKPdf 09 19 37.3 +1.8
JCT Junction City 112.73 59 P Pdif 09 15 47.7 +3.2
JCT *e* 09 19 37.7
JCT Junction City 112.73 59 ePdif Pdif 09 15 45.1 +0.6
JCT ePKPdf PKPdf 09 19 37.8 +0.6
JCT ePP PP 09 19 38.5 +2.0
SUMG Summit 112.87 2 ePKPdf PKPdf 09 19 38.7 -0.5
WMOK Wichita Mounta 112.96 55 ePKIKP PKPdf 09 19 37.9 +0.3
WMOK *e* 09 20 27.9
SUW Suwalki 113.78 328 ePKP PKPdf 09 19 39.4 +0.7
KSU1 Kansas State U 113.81 50 ePdif Pdif 09 15 50.2 +1.2
KSU1 ePKPdf PKPdf 09 19 38.7 -0.5
CFR Carcaliu 113.99 317 ⇓P PKPdf 09 19 39.2 -0.2
CFR Carcaliu 113.99 317 ⇓P PKPdf 09 19 39.2 -0.2
TIRR Tirgusor 114.01 316 ⇓P PKPdf 09 19 40.3 +0.9
HARR Harsova 114.27 317 ⇑P PKPdf 09 19 40.5 +0.6
MATP Matopo 114.37 245 PKKPbc 09 30 22.2
comp=Z,11nm,0.9s,baz=295,slow=4.2,SNR=13
MATP PKKPab 09 30 29.1
comp=Z,31nm,0.9s,baz=288,slow=4.8,SNR=13
SCO Scoresbysund 114.67 356 *i* P PKPdf 09 19 40.2 +0.1
SCO Scoresbysund 114.67 356 eP PKPdf 09 19 40.2 +0.1
VRI Vrincioaia 114.72 318 ⇑P PKPdf 09 19 40.8 +0.1
EYMN Ely 114.82 39 ePKPdf PKPdf 09 19 40.3 -0.6
EYMN ePP PP 09 20 40.6 -6.1
BURAR Bucovina Array 115.10 321 ⇓P PKPdf 09 19 43.9 +2.5
BURAR Bucovina Array 115.10 321 ⇓P PKPdf 09 19 43.9 +2.5
NB2 NORSAR Subarra 115.45 338 PKPdf PKPdf 09 19 41.4 -0.4
comp=Z,10nm,1.2s,baz=45,slow=1.9
NB2 NORSAR Subarra 115.45 338 PKPdf 09 19 41.4
baz=44,slow=1.9
NB2 NORSAR Subarra 115.45 338 ⇓PKIKP PKPdf 09 19 41.4 -0.4
NOA NORSAR Array B 115.45 338 Pdiff Pdif 09 15 56.0 +0.3
comp=Z,3.5nm,1.0s,baz=50,slow=4.8,SNR=3.8
NOA PKP PKPdf 09 19 41.6 -0.2
comp=Z,28nm,1.1s,baz=54,slow=2.0,SNR=15
NOA PP PP 09 20 45.6 -5.2
comp=Z,3.0nm,0.7s,baz=53,slow=6.7,SNR=4.3
NOA PKKPbc 09 30 18.0
comp=Z,6.4nm,0.8s,baz=37,slow=3.8,SNR=17
NOA NORSAR Array B 115.45 338 Pdif Pdif 09 15 56.0 +0.3
NOA PKP PKPdf 09 19 41.5 -0.2
NOA PP PP 09 20 45.6 -5.2
NOA PKKPbc 09 30 18.0
LBTB Lobatse 115.52 239 PKKPbc 09 30 18.9
comp=Z,14nm,0.9s,baz=304,slow=2.4,SNR=11
LBTB Lobatse 115.52 239 ePKIKP PKPdf 09 19 43.6 +0.8
KWP Kalwaria 115.87 323 ePKP PKPdf 09 19 39.9 -3.0
KWP Kalwaria 115.87 323 ePKP PKPdf 09 19 39.9 -3.0
VOIR 115.97 318 ⇓P PKPdf 09 19 44.1 +0.9
LSZ Lusaka 115.98 250 ePKIKP PKPdf 09 19 45.4 +1.5
KOLS Kolonicke sedl 116.42 323 ePKP PKPdf 09 19 45.3 +1.3
STHS Stebnicka Huta 116.83 324 ePKP PKPdf 09 19 45.7 +1.0
NATX Nacogdoches 116.88 57 ePKPdf PKPdf 09 19 46.0 +0.7
CRVS Cervenica-Dubn 116.92 323 ePKP PKPdf 09 19 46.0 +1.1
DRGR 116.99 320 ⇓P PKPdf 09 19 45.3 +0.2
MIAR Mount Ida 117.21 54 ePKIKP PKPdf 09 19 45.7 -0.1
MIAR *e* 09 20 58.4
MIAR *e* 09 21 05.8
OJC Ojcow 117.32 325 ePKPdf PKPdf 09 19 46.5 +0.9
OJC eP PP 09 21 01.1 -3.1
OJC eSKKS 09 27 35.7
OJC MLR MLR 10 06 58.6
comp=Z,800nm,21.4s
OJC Ojcow 117.32 325 ePKPdf PKPdf 09 19 46.5 +0.9
OJC eP PP 09 21 01.1 -3.1
OJC eSKKSac 09 27 35.7
OJC LR LR
comp=Z,800nm,21.4s
NIE Niedzica 117.38 324 ePKPdf PKPdf 09 19 47.4 +1.6
RZN Rozhen 117.43 314 eP PKPdf 09 19 46.0 -0.1
KECS Kecovo 117.68 323 ePKP PKPdf 09 19 47.1 +0.7
BZS Buzias 118.15 320 ⇑P PKPdf 09 19 48.2 +0.8
BZS Buzias 118.15 320 ⇑P PKPdf 09 19 48.2 +0.8
CCM Cathedral Cave 118.15 50 ePKPdf PKPdf 09 19 47.3 -0.3
MMB Musomiste 118.17 315 eP PKPdf 09 19 47.5 0.0
VTS Vitosha 118.19 316 eP PKPdf 09 19 48.5 +1.0
VTS Vitosha 118.19 316 ⇑P PKPdf 09 19 48.1 +0.6
PSZ Piszkesteto 118.28 322⇑ePKP/D PKPdf 09 19 49.1 +1.5
PSZ Piszkesteto 118.28 322 ePKPdf PKPdf 09 19 48.0 +0.4
SANT Santorini 118.42 309 ePKPdf PKPdf 09 19 47.6 -0.6
OKC Ostrava-Krasne 118.44 325 ePKPDF PKPdf 09 19 49.0 +1.1
OKC eP PP 09 21 11.5 -0.5
OKC ePKPPKP 09 38 46.9
KKB Krupnik 118.53 315 eP PKPdf 09 19 48.2 0.0
VYHS Vyhne 118.66 323 ePKP PKPdf 09 19 48.6 +0.3
VYHS *e* 09 21 07.8
SLM Saint Louis 118.74 49 ePKIKP PKPdf 09 19 48.9 +0.2
SLM *e* 09 21 05.1
FVM French Village 118.79 49 ePKPdf PKPdf 09 19 48.3 -0.6
MORC Moravsky Berou 118.81 325 ⇓P PKPdf 09 19 49.6 +1.0
KSP Ksiaz 118.98 327 ePKP PKPdf 09 19 50.4 +1.5
KSP Ksiaz 118.98 327 ePKP PKPdf 09 19 49.8 +0.9
KSP eP PP 09 21 14.2 -1.6
KSP eSdif 09 28 40.0
DPC Dobruska-Polom 119.22 326 ePKPDF PKPdf 09 19 50.4 +1.0
DPC eP PP 09 21 16.1 -1.1
DPC eSS SS 09 37 22.2 +4.4
SRO Srobarova 119.28 323 ePKP PKPdf 09 19 50.9 +1.4
HBAR Harrisburg 119.28 52 ePKPdf PKPdf 09 19 50.8 +1.0
UPC Upice 119.31 326 ePKPDF PKPdf 09 19 50.6 +1.1
RUE Ruedersdorf 119.44 329 ePKPdf PKPdf 09 19 50.8 +1.1
VRAC Vranov 119.58 325 ⇑PKIKP PKPdf 09 19 51.4 +1.3
GNAR Gosnell 119.67 52 ePKPdf PKPdf 09 19 50.2 -0.4
GNAR eP PP 09 21 14.4 -5.9
PARMO Parma 119.68 51 ePKPdf PKPdf 09 19 49.7 -0.9
PVMO Portageville 119.79 51 ePKPdf PKPdf 09 19 51.0 +0.2
DIVS Divcibare 119.81 318 ⇓*i* PKP PKPdf 09 19 51.2 +0.6
ZST Bratislava 119.82 324 ePKP PKPdf 09 19 51.4 +0.8
ZST *e* 09 21 15.0
PVCC Panska Ves 120.09 327 ePKPDF PKPdf 09 19 52.5 +1.5
PVCC eP PP 09 21 23.8 +1.3
HALT Halls 120.22 51 ePKPdf PKPdf 09 19 50.3 -1.4
TREC Trest 120.22 325 ePKPDF PKPdf 09 19 52.2 +0.9
TREC eP PP 09 21 17.6 -5.9
BRG Berggiesshubel 120.24 328 *i* PKIKP PKPdf 09 19 52.2 +0.9
BRG *e* 09 20 48.7
BRG *i* 09 21 22.3
BRG *e* 09 37 28.0
BRG MLR MLR
comp=Z,920nm,17.2s
BRG Berggiesshubel 120.24 328 *i* PKP PKPdf 09 19 52.2 +0.9
BRG epPKP 09 20 48.7
BRG *e* 09 21 17.0
BRG *i* 09 21 22.3
BRG *e* 09 22 40.0
BRG *i* 09 23 06.2
BRG *e* 09 30 02.0
BRG *i* 09 32 04.9
BRG *e* 09 37 28.0
BRG LR LR
comp=Z,920nm,17.2s
BSEG Bad Segeberg 120.29 332 ePKPdf PKPdf 09 19 52.6 +1.3
BSEG eSKPdf 09 23 09.4
BSEG ePKKPab 09 30 03.5
LRW Lerwick 120.33 342 eP PKPdf 09 19 51.9 +0.6
WAL1 Walls 120.37 342 eP PKPdf 09 19 51.9 +0.5
PRU Pruhonice 120.39 326 ePKPDF PKPdf 09 19 52.7 +1.1
PRU eP PP 09 21 20.7 -4.0
PRU eSS SS 09 37 32.6 -0.4
UTMT University of 120.46 51 ePKPdf PKPdf 09 19 52.3 +0.2
CLL Collm 120.50 328 *i* PKIKP PKPdf 09 19 52.8 +1.0
comp=Z,logA/T=1.9
CLL *i* 09 19 54.7
CLL *e**PPKP 09 20 49.0
CLL eP PP 09 21 21.0 -4.4
CLL *e**PPP 09 22 16.0
CLL *e**SPP 09 22 37.0
CLL *e* 09 26 28.0
CLL *e* 09 28 44.0
CLL *i* PKKP PKKP 09 30 00.3 -4.9
CLL eSKSP 09 31 00.0
CLL ePS PS 09 31 12.0 -4.3
CLL ePPS PPS 09 32 28.0 -14
CLL *i* SKKP 09 33 46.4
CLL eSS SS 09 37 37.0 +2.6
CLL *e**SSS 09 38 47.0
CLL *e* 09 46 48.0
CLL Collm 120.50 328 *i* PKIKP PKPdf 09 19 52.8 +1.0
CLL *e* 09 20 49.0
CLL pmax pmax
comp=Z,53nm,0.6s
CLL pmax pmax
comp=Z,18nm,1.3s
CLL Collm 120.50 328 *i* PKP PKPdf 09 19 52.8 +1.0
CLL epPKP 09 20 49.0
CLL eSdif 09 28 44.0
CLL *i* PKKP PKKP 09 30 00.3 -4.9
CLL *i* SKKP 09 33 46.4
OXF Oxford 120.55 53 ePKIKP PKPdf 09 19 52.0 -0.4
OXF *e* 09 21 21.5
ARSA Arzberg 121.21 323⇑*i* P PKPdf 09 19 53.4 +0.1
comp=Z,20nm,1.1s,SNR=11
WVT Waverly 121.32 51 ePKPdf PKPdf 09 19 52.7 -1.1
WVT eP PP 09 21 27.4 -4.1
KHC Kasperske Hory 121.37 326 ePKPDF PKPdf 09 19 54.5 +0.9
KHC *ex* x 09 20 58.5
KHC eP PP 09 21 29.4 -2.2
KHC eSS SS 09 37 38.8 -6.9
KHC Kasperske Hory 121.37 326 ePKIKP PKPdf 09 19 54.5 +0.9
KHC *e* 09 21 29.4
KHC eSS SS 09 37 38.8 -6.9
NKC Novy Kostel 121.39 328 ePKPDF PKPdf 09 19 54.8 +1.2
NKC *ex* x 09 21 15.0
NKC eSS SS 09 37 51.5 +5.6
GEC2 GERESS Array S 121.45 326 ePKPdf PKPdf 09 19 54.5 +0.7
GEC2 ePKPKPab 09 29 56.4
GERES GERESS Array B 121.45 326 PKP PKPdf 09 19 54.5 +0.7
comp=Z,27nm,0.6s,baz=77,slow=1.6,SNR=180
GERES SKP 09 23 08.4
comp=Z,3.3nm,0.7s,baz=63,slow=3.0,SNR=3.6
GERES PKKPbc 09 29 55.7
comp=Z,4.1nm,0.7s,baz=214,slow=3.5,SNR=13
CLZ Clausthal 121.53 330 ePKPdf PKPdf 09 19 55.1 +1.3
CLZ eP PP 09 21 32.0 -0.6
CLZ eSKPdf 09 23 09.1
CLZ ePKKPab 09 29 57.3
MOX Moxa 121.59 328 *i* P PKPdf 09 19 54.5 +0.5
comp=Z,logA/T=1.6
MOX pPKP 09 21 00.0
MOX PP PP 09 21 30.0 -3.1
MOX *e* 09 31 17.0
MOX L 10 12 15.0
MOX Moxa 121.59 328 ePKIKP PKPdf 09 19 54.5 +0.5
MOX pmax pmax
comp=Z,57nm,1.3s
MOX MLR MLR
comp=Z,600nm,19.0s
MOX Moxa 121.59 328 ePKP PKPdf 09 19 54.5 +0.5
MOX *e* 09 20 59.5
MOX LR LR
comp=Z,600nm,19.0s
MOA Molln 121.65 324⇑*i* P PKPdf 09 19 54.3 +0.1
comp=Z,20nm,0.7s,SNR=9.2
MOA Molln 121.65 324⇑*i* P PKPdf 09 19 54.3 +0.1
WET Wettzell 121.75 326 ePKPdf PKPdf 09 19 55.7 +1.4
WET ePKKPab 09 29 55.5
PERS Pernice 121.76 323 ePKPdf PKPdf 09 19 54.4 0.0
WCI Wyandotte Cave 121.80 48 ePKPdf PKPdf 09 19 54.3 -0.4
AAM Ann Arbor 122.12 43 PKIKP PKPdf 09 19 55.6 +0.4

AAM Ann Arbor 122.12 43 *e*PKPdf PKPdf 09 19 54.6 -0.6
OBKA Obir 122.16 323 *i* P PKPdf 09 19 55.8 +0.6
comp=Z,36nm,1.3s,SNR=10.0
OBKA Obir 122.16 323 P PKPdf 09 19 55.8 +0.6
BOJS Bojanci 122.22 322 *e*PKPdf PKPdf 09 19 55.7 +0.4
GRA1 Grafenberg Arr 122.35 328 *e*PKPdf PKPdf 09 19 56.2 +0.8
GRA1 *e*PP PP 09 21 36.2 -2.2
GRA1 *e*SKPdf 09 23 16.9
GRF Grafenberg Arr 122.35 328 *e*PKP PKPdf 09 19 56.2 +0.8
GRF *e*PP PP 09 21 36.2 -2.2
GRF SKPdf 09 23 16.9
LJU Ljubljana 122.40 323 *i* PKPdf PKPdf 09 19 56.7 +1.1
PAYG Puerto Ayora 122.48 94 *e*PKPdf PKPdf 09 19 59.1 +2.6
PAYG *e*PP PP 09 21 36.5 -3.8
PLCA Paso Flores 122.58 147 PKP PKPdf 09 19 58.3 +2.2
comp=Z,19nm,0.8s,baz=227,slow=2.7,SNR=43
PLCA pPKP 09 20 53.5
comp=Z,5.0nm,0.9s,baz=199,slow=2.1,SNR=1.6
PLCA SKP 09 23 13.4
comp=Z,4.4nm,0.8s,baz=289,slow=2.1,SNR=3.7
PLCA PKKPab 09 29 52.3
comp=Z,6.8nm,1.1s,baz=35,slow=3.6,SNR=4.9
PLCA Paso Flores 122.58 147 *e*PKPdf PKPdf 09 19 57.5 +1.5
PLCA eSKP 09 23 11.4
KBA Koelnbreinsper 122.58 324⇑ *i*P PKPdf 09 19 55.7 -0.2
comp=Z,58nm,1.1s,SNR=15
VOY Vojsko 122.79 323 *e*PKPdf PKPdf 09 19 56.4 0.0
PTCC Patocco-Chiusa 122.93 323 PKP PKPdf 09 19 57.0 +0.4
GMNA Gemona 123.06 323 PKP PKPdf 09 19 57.1 +0.2
SWET Sewanee 123.07 51 *e*PKPdf PKPdf 09 19 55.2 -2.0
SWET *e*PP PP 09 21 33.4 -10
FVI Forni Avoltri 123.17 324 PKP PKPdf 09 19 57.8 +0.7
FUR Furstenfeldbru 123.18 326 *e*PKPdf PKPdf 09 19 58.1 +1.0
WTSB Winterswijk 123.18 332 *e*P PKPdf 09 19 58.2 +1.2
comp=Z,52nm,0.7s
SIND Sindeldorf 123.41 328⇑ *e*P PKPdf 09 19 59.1 +1.6
SEST Monte Rota 123.42 324 PKP PKPdf 09 19 57.9 +0.3
ACSO Alum Creek Sta 123.43 45 *e*PKPdf PKPdf 09 19 57.3 -0.5
ACSO *e*PP PP 09 21 37.4 -8.9
WATA Walderalm 123.47 325⇑ *i*P PKPdf 09 19 57.9 +0.2
comp=Z,123nm,1.5s,SNR=28
WTTA Wattenberg 123.47 325⇑ *i*P PKPdf 09 19 58.4 +0.7
comp=Z,98nm,0.7s,SNR=41
TNS Taunus Mts 123.48 329 *e*PKPdf PKPdf 09 19 58.3 +0.7
TNS *e*PP PP 09 21 44.7 -1.6
TNS *e*SKPdf 09 23 15.8
HDH Heidenheim 123.53 327⇑ *e*P PKPdf 09 19 59.1 +1.3
TOD Tromm 123.67 329⇑ *e*P PKPdf 09 19 59.6 +1.6
TOD Tromm 123.67 329 PKP PKPdf 09 19 59.4 +1.4
BRES Bressanone 123.72 324 PKP PKPdf 09 19 58.8 +0.6
MOTA Moosalm 123.73 325⇓ *i*P PKPdf 09 19 58.4 +0.2
comp=Z,102nm,1.3s,SNR=39
SQTA Sankt Quirin 123.74 325 *i* P PKPdf 09 19 58.9 +0.6
comp=Z,112nm,1.4s,SNR=34
SCHQ Schefferville 123.75 23 PKP PKPdf 09 19 59.0 +1.0
comp=Z,40nm,0.7s,baz=353,slow=1.6,SNR=29
SCHQ PKKPab 09 29 47.1
comp=Z,10nm,0.8s,baz=186,slow=5.8,SNR=7.1
RGNG Rignano Grg 123.77 317 PKP PKPdf 09 19 59.0 +0.6
SWS Schriesheim 123.80 329 *e*P PKPdf 09 19 59.6 +1.3
STU Stuttgart 123.96 328 *e*PKPdf PKPdf 09 19 59.5 +0.9
BUCH Bad Urach 124.07 327⇑ *e*P PKPdf 09 20 00.5 +1.7
CPCT Cooper Cave 124.08 50 *e*PKPdf PKPdf 09 19 58.6 -0.6
CPCT *e*PP PP 09 21 41.2 -10
CPCT *e*SKP 09 23 12.1
UBR Uberruh 124.10 326⇑ *e*P PKPdf 09 20 00.3 +1.4
TDS Terranova Siba 124.10 315 PKP PKPdf 09 20 00.2 +1.1
CTI Castel Tesino 124.12 324 PKP PKPdf 09 19 59.8 +0.8
APPI Appiano 124.14 324 PKP PKPdf 09 19 58.8 -0.2
ABH Alteburg 124.14 329⇑ *e*P PKPdf 09 20 00.9 +2.0
ABH Alteburg 124.14 329 PKP PKPdf 09 20 00.8 +1.9
LBG Lerchenberg 124.24 328 *e*P PKPdf 09 20 00.6 +1.5
EDI Edinburgh 124.35 340⇑ *e*P PKPdf 09 19 59.8 +0.6
EDI AMb AMB 09 20 01.4
comp=Z,77nm,1.5s
HGN Heimansgroeve 124.38 331⇑ *i*P PKPdf 09 20 01.1 +1.7
comp=Z,61nm,1.2s
EBL Broad Law 124.42 340 *e*P PKPdf 09 19 59.6 +0.3
EBL AMb AMB 09 20 03.0
comp=Z,56nm,2.1s
GUT Gutenstein 124.42 327⇑ *e*P PKPdf 09 20 00.7 +1.2
SGO Sicignano 124.44 316 PKP PKPdf 09 20 00.1 +0.4
TZTN Tazewell 124.44 49 *e*PKPdf PKPdf 09 19 59.9 +0.1
DAVA Damuels 124.45 326 *i* P PKPdf 09 20 00.6 +1.0
comp=Z,66nm,0.8s,SNR=22
DAVA Damuels 124.45 326 P PKPdf 09 20 00.6 +1.0
TSUM Tsumeb 124.50 242 PKKPbc 09 29 46.2
comp=Z,32nm,1.0s,baz=239,slow=2.7,SNR=15
TSUM Tsumeb 124.50 242 *e*PKPdf PKPdf 09 20 01.3 +1.0
TSUM *ep*PKPdf 09 21 00.1
EAU Auchinoon 124.50 340 *e*P PKPdf 09 19 59.8 +0.4
EAU AMb AMB 09 20 03.2
comp=Z,180nm,1.1s
CSSN Cassano Irpino 124.50 317 PKP PKPdf 09 20 00.7 +0.8
RUP Ruppelstein 124.50 330⇑ *e*P PKPdf 09 20 01.7 +2.1
RUP Ruppelstein 124.50 330 PKP PKPdf 09 20 01.5 +1.9
EAB Aberfoyle 124.52 341 *e*P PKPdf 09 19 59.6 +0.1
EAB AMb AMB 09 20 02.5
comp=Z,146nm,1.3s
CING Cingoli 124.54 320 PKP PKPdf 09 20 00.6 +0.7
SPAK Spaichingen 124.58 327⇑ *e*P PKPdf 09 20 01.2 +1.4
SPAK Spaichingen 124.58 327 PKP PKPdf 09 20 01.1 +1.3
FUORN Ofenpass 124.61 325 PKP PKPdf 09 20 01.6 +1.7
FSSB Fossombrone 124.65 321 PKP PKPdf 09 20 01.5 +1.4
BFO Black Forest 124.69 328 *e*PKPdf PKPdf 09 20 00.6 +0.6
BFO *e*PP PP 09 21 51.8 -2.3
INTR Introdacqua 124.73 319 PKP PKPdf 09 20 02.0 +1.7
DAVOX Davos 124.74 325 PKKPbc 09 29 43.7
comp=Z,13nm,0.7s,baz=43,slow=1.8,SNR=11
DAVOX SKKP 09 33 38.6
comp=Z,2.4nm,0.5s,baz=300,slow=13,SNR=3.1
DAVOX Davos 124.74 325 PKP PKPdf 09 20 00.8 +0.6
ALLY Alegheny Colle 124.76 42 *e*PKPdf PKPdf 09 19 60.0 -0.4
ALLY *e*PP PP 09 21 48.7 -6.0
SNTG Esanatoglia 124.76 320 PKP PKPdf 09 20 00.5 +0.6
MABI Malga Bissina 124.78 324 PKP PKPdf 09 20 00.4 +0.1
PIEI Pieia 124.88 321 PKP PKPdf 09 20 01.4 +0.9
AQU L'Aquila 124.90 319 *e*PKPdf PKPdf 09 20 00.4 -0.2
ECK Cauldkaine Hil 124.92 340 *e*P PKPdf 09 20 01.4 +1.1
ECK AMb AMB 09 20 03.5
comp=Z,91nm,1.1s
SOI Samo 124.94 313 PKP PKPdf 09 20 01.9 +1.1
WLF Walferdange 124.98 330 *e*PKPdf PKPdf 09 20 02.6 +2.1
MURB Monte Urbino 125.02 320 PKP PKPdf 09 20 02.2 +1.4
BADI Badiali 125.08 321 PKP PKPdf 09 20 00.6 -0.3
FIAM Fiamignano 125.13 319 PKP PKPdf 09 20 01.1 +0.1
KIZ Kirchzarten 125.13 327⇑ *e*P PKPdf 09 20 02.2 +1.3
FELD Feldberg 125.14 327⇑ *e*P PKPdf 09 20 02.4 +1.5
FELD Feldberg 125.14 327 PKP PKPdf 09 20 01.9 +1.0
WLS Welschbruch 125.16 328 PKP PKPdf 09 20 02.2 +1.3
LIBD Limburg 125.19 328 *e*P PKPdf 09 20 02.7 +1.7
CDF Champ du Feu 125.20 328 *e*PKP1 PKPdf 09 20 00.8 -0.2
comp=Z,60nm,1.0s
GIVF Givet 125.35 331 *e*PKP1 PKPdf 09 20 01.7 +0.5
comp=Z,192nm,1.1s
MNS Montasola 125.35 319 PKP PKPdf 09 20 01.5 0.0
ECH Echery 125.38 328 PKP PKPdf 09 20 02.4 +1.1
GOGA Godfrey 125.59 52 *e*PKIKP PKPdf 09 20 01.0 -1.2
GOGA *e* 09 21 55.0
GMK Mull of Kintyr 125.61 341 *e*P PKPdf 09 20 02.2 +0.7
MOF Molkenrain 125.62 328 PKP PKPdf 09 20 02.2 +0.4
BBS Basel-Blauen 125.65 327⇑ *e*P PKPdf 09 20 03.2 +1.3
BBS Basel-Blauen 125.65 327 PKP PKPdf 09 20 01.3 -0.6
BAIF Baives 125.67 331 *e*PKP1 PKPdf 09 20 02.3 +0.4
comp=Z,66nm,0.9s
MUGIO Muggio 125.71 325 PKP PKPdf 09 20 01.5 -0.5
GAL1 Galloway 125.72 340 *e*P PKPdf 09 20 02.2 +0.4
LHO Holmfirth 125.75 338 *e*P PKPdf 09 20 02.3 +0.4
HINF Hinteralfeld 125.79 328 *e*PKP1 PKPdf 09 20 02.1 0.0
comp=Z,247nm,1.1s
KBI1 Birley Grange 125.84 337 *e*P PKPdf 09 20 02.0 -0.1
MCWV Mont Chateau 125.86 44 *e*PKPdf PKPdf 09 20 01.5 -1.0
HAU Haudompre 125.94 328 *e*PKP1 PKPdf 09 20 02.6 +0.2
comp=Z,153nm,0.8s
HAU *e*R
comp=Z,1µm,21.5s
THEF They Montfort 125.98 329 PKP PKPdf 09 20 04.1 +1.6
GCL Cushendall 126.01 341 *e*P PKPdf 09 20 03.1 +0.7
FWV Forest Hill 126.06 47 *e*PKPdf PKPdf 09 20 02.7 -0.3
LOMF Lomont 126.09 327 PKP PKPdf 09 20 03.8 +1.1
KWE Weaver Farm 126.15 337 *e*P PKPdf 09 20 03.6 +1.0
ELN Prospectdale 126.25 47 *e*PKPdf PKPdf 09 20 03.3 0.0

MEZF Maizieres J'vi 126.29 329 *e*PKP1 PKPdf 09 20 03.7 +0.6
comp=Z,126nm,0.9s
BLA Blacksburg 126.50 47 *e*PKIKP PKPdf 09 20 03.9 +0.1
LOZ Lake Ozonia 126.73 36 *e*PKPdf PKPdf 09 20 04.2 +0.2
SBD1 Bryn Du 126.77 338⇑ *e*P PKPdf 09 20 05.0 +1.1
SBD1 AMb AMB 09 20 07.9
comp=Z,203nm,1.1s
HLM1 Long Mynd 126.94 337⇑ *e*P PKPdf 09 20 05.9 +1.7
HLM1 AMb AMB 09 20 08.1
comp=Z,177nm,1.2s
CABF La Chapelle 126.94 327 *e*PKP1 PKPdf 09 20 05.1 +0.7
comp=Z,229nm,1.0s
SSP1 Stoney Pound 127.10 337⇑ *e*P PKPdf 09 20 06.1 +1.6
SSP1 AMb AMB 09 20 07.9
comp=Z,134nm,1.3s
FRNY Flat Rock 127.18 36 *e*PKPdf PKPdf 09 20 04.5 -0.4
FRNY *e*PP PP 09 22 05.7 -4.7
NCB Newcomb 127.31 37 *e*PKPdf PKPdf 09 20 05.5 +0.3
NCB *e*PP PP 09 22 05.3 -6.0
NCB *e*SKP 09 23 01.2
MCH1 Michaelchurch 127.39 337⇑ *e*P PKPdf 09 20 06.7 +1.6
HTR Trewern Hill 127.43 337⇑ *e*P PKPdf 09 20 06.3 +1.1
HTR AMb AMB 09 20 08.3
comp=Z,153nm,1.3s
BNI Bardonecchia 127.56 325 *e*PKPpre 09 20 01.4
BNI *e*PKPdf PKPdf 09 20 07.0 +1.4
HGH Gray Hill 127.59 337⇑ *e*P PKPdf 09 20 07.1 +1.6
HGH AMb AMB 09 20 09.1
comp=Z,454nm,1.2s
PGF Pioggiola 127.61 321 *e*PKP1 PKPdf 09 20 06.0 +0.2
comp=Z,61nm,0.7s
DLF Lyons Farm 127.62 340⇑ *i*P PKPdf 09 20 06.8 +1.3
MIV Mineville/With 127.66 36 *e*PKPdf PKPdf 09 20 06.2 +0.3
MIV *e*PP 09 23 02.4
SAOF Saorge 127.68 324 PKP PKPdf 09 20 06.9 +1.0
LOR Lormes 127.70 329 *e*PKP1 PKPdf 09 20 06.2 +0.3
comp=Z,211nm,1.3s
LOR *e*R
comp=Z,924nm,20.0s
MBDF Montbardon 127.70 325 *e*PKP1 PKPdf 09 20 06.1 +0.1
comp=Z,84nm,1.1s
GDM Grand'Maison 127.79 326 PKP PKPdf 09 20 08.3 +2.2
SBF Sospel 127.82 324 *e*PKP1 PKPdf 09 20 06.1 -0.1
comp=Z,198nm,1.1s
SURF Saint Ours 127.83 325 PKP PKPdf 09 20 08.4 +2.2
DCN Croghan 127.83 341⇑ *i*P PKPdf 09 20 06.9 +1.0
TOUF Mont Tournerai 127.84 324 PKP PKPdf 09 20 06.8 +0.6
MDV Middlebury 127.91 36 *e*PKPdf PKPdf 09 20 06.8 +0.4
REVF Revere 127.93 323 PKP PKPdf 09 20 07.6 +1.2
MVIF Mont Vial 127.97 324 PKP PKPdf 09 20 07.8 +1.3
ACCN Adirondack Com 127.97 37 *e*PKPdf PKPdf 09 20 06.7 +0.2
ACCN *e*PP PP 09 22 02.5 -13
GRN Grenoble 127.97 326 PKP PKPdf 09 20 08.7 +2.2
SSF Saint Saulge 128.02 329 *e*PKP1 PKPdf 09 20 06.9 +0.4
comp=Z,228nm,1.3s
SDMD Soldier's Deli 128.03 43 *e*PKPdf PKPdf 09 20 00.9 -5.9
MVL Millersville 128.07 42 *e*PKPdf PKPdf 09 20 07.4 +0.6
ORIF Oris-en-Rattie 128.10 325 *e*PKP1 PKPdf 09 20 07.0 +0.3
comp=Z,46nm,0.7s
ORIF *e*R
comp=Z,1µm,20.5s
SMF Signal de Mont 128.12 328 *e*PKP1 PKPdf 09 20 06.9 +0.2
comp=Z,288nm,1.3s
CBN Corbin 128.24 45 *e*PKPdf PKPdf 09 20 07.5 +0.3
CBN *e*PP PP 09 22 12.4 -5.5
NHSC New Hope 128.28 52 *e*PKPdf PKPdf 09 20 07.8 +0.4
AVF Avril sur Loir 128.28 329 *e*PKP1 PKPdf 09 20 06.9 -0.1
comp=Z,67nm,1.1s
HYF Humbligny 128.32 330 *e*PKP1 PKPdf 09 20 07.7 +0.6
JTS JuntasÃbangare 128.37 81 PKP PKPdf 09 20 09.0 +0.9
comp=Z,100nm,1.0s,baz=272,slow=3.6,SNR=25
FRF La Foret Royal 128.46 324 *e*PKP1 PKPdf 09 20 07.5 +0.1
comp=Z,124nm,1.0s
LBNH Lisbon 128.49 35 *e*PKPdf PKPdf 09 20 08.7 +1.2
LBNH *e*SKP 09 23 07.4
HNH Hanover 128.60 36 *e*PKPdf PKPdf 09 20 08.8 +1.1
HNH *e*SKP 09 23 05.8
STOF St-Etienne Org 128.63 325 PKP PKPdf 09 20 09.5 +1.7
PLDF La Plantade 128.67 328 PKP PKPdf 09 20 09.7 +1.9
LMR La Mourre 128.68 324 *e*PKP1 PKPdf 09 20 08.0 +0.1
comp=Z,102nm,1.0s
BGF Bois d'Agland 128.69 329 *e*PKP1 PKPdf 09 20 08.3 +0.5
comp=Z,293nm,1.3s
LDF La Druitiere 128.73 332 *e*PKP1 PKPdf 09 20 07.9 +0.1
comp=Z,214nm,1.4s
FLN La Foliniere 128.77 333 *e*PKP1 PKPdf 09 20 08.0 +0.1
comp=Z,232nm,1.3s
FLN *e*R
comp=Z,1µm,20.5s
TAVF Tavernes 128.78 324 PKP PKPdf 09 20 09.2 +1.2
VIVF Saint-Julien-l 128.81 326 *e*PKP1 PKPdf 09 20 08.4 +0.3
comp=Z,161nm,1.2s
AGO Saint Agoulin 128.88 328 PKP PKPdf 09 20 09.0 +0.8
BRNJ Basking Ridge 128.89 40 *e*PKPdf PKPdf 09 20 09.4 +1.0
DWPF Disney 128.90 58 *e*PKPdf PKPdf 09 20 05.4 -3.3
COLF Collangettes 128.93 327 PKP PKPdf 09 20 10.0 +1.7
VSL Villasalto 128.96 318 *e*PKPdf PKPdf 09 20 08.8 +0.3
VSL *e*SKP 09 23 06.9
PAL Palisades 129.14 40 *e*PKPdf PKPdf 09 20 09.2 +0.4
PAL *e*SKP 09 23 07.8
BERF Bertagne 129.17 324 PKP PKPdf 09 20 10.2 +1.4
PRAF Pradon 129.18 325 PKP PKPdf 09 20 09.5 +0.7
TCF Toulx Ste Croi 129.20 329 *e*PKP1 PKPdf 09 20 09.3 +0.5
comp=Z,118nm,0.8s
GRR Gorron 129.21 333 *e*PKP1 PKPdf 09 20 09.1 +0.4
comp=Z,87nm,0.8s
CPNY Central Park 129.23 40 *e*PKPdf PKPdf 09 20 09.6 +0.7
CPNY *e*SKP 09 23 07.9
GELF Grande-Etoile 129.28 324 PKP PKPdf 09 20 09.5 +0.5
LBL Lubilhac 129.35 327 PKP PKPdf 09 20 10.9 +1.8
QUA2 Belchertown 129.40 38 *e*PKPdf PKPdf 09 20 09.4 +0.2
QUA2 *e*SKP 09 23 04.0
VERF Verneugheol 129.42 328 PKP PKPdf 09 20 11.0 +1.8
FRNF Fournols 129.62 328 PKP PKPdf 09 20 11.8 +2.2
HRV Harvard--Oak R 129.74 37 *e*PKPdf PKPdf 09 20 10.5 +0.6
HRV *e*SKP 09 23 11.0
LASF Ste Croix 129.75 326 *e*PKP1 PKPdf 09 20 10.3 +0.4
comp=Z,237nm,1.3s
WES Weston 129.96 37 *e*PKPdf PKPdf 09 20 10.8 +0.5
WES *e*SKP 09 23 11.7
SGMF Saint Gilles 130.07 334 *e*PKP1 PKPdf 09 20 10.6 +0.2
comp=Z,160nm,0.9s
CFAA Coronel Fontan 130.14 140 PKhKP 09 19 54.8
comp=Z,0.1nm,0.4s,baz=236,slow=7.3,SNR=2.5
CFAA PKP PKPdf 09 20 12.3 +1.3
comp=Z,4.1nm,0.8s,baz=223,slow=2.5,SNR=16
CFAA PP PP 09 22 26.0 -4.5
comp=Z,0.5nm,0.6s,baz=225,slow=8.9,SNR=4.3
CFAA SKPab 09 23 17.5
comp=Z,3.5nm,0.9s,baz=237,slow=3.3,SNR=8.6
CFAA Coronel Fontan 130.14 140 PKP 09 19 54.8
CFAA PKP PKPdf 09 20 12.3 +1.3
CFAA PP PP 09 22 26.0 -4.5
CFAA SKPab 09 23 17.5
MFF Saint Martin d 130.16 331 *e*PKP1 PKPdf 09 20 10.9 +0.3
comp=Z,167nm,1.3s
CAF Calviac 130.18 328 *e*PKP1 PKPdf 09 20 11.5 +0.8
comp=Z,135nm,1.3s
RJF Les Rejaudoux 130.22 328 *e*PKP1 PKPdf 09 20 11.3 +0.6
comp=Z,71nm,1.1s
ROSF Rostrenen 130.32 334 *e*PKP1 PKPdf 09 20 11.1 +0.3
comp=Z,65nm,0.9s
QUIF Quistinic 130.60 334 *e*PKP1 PKPdf 09 20 11.7 +0.3
comp=Z,329nm,1.5s
LFF La Frestale 130.87 329 *e*PKP1 PKPdf 09 20 12.8 +0.8
comp=Z,343nm,1.6s
MTLF Montolieu 131.14 326 *e*PKP1 PKPdf 09 20 12.8 +0.3
comp=Z,30nm,0.8s
CMAH Djebel Manchou 131.74 316 P PKPdf 09 20 16.5 +2.6
VALF Valcebollere 131.86 325 PKP PKPdf 09 20 15.7 +1.8
ABSA Djebel Ababsia 131.87 315 P PKPdf 09 20 17.0 +2.9
CAEH Ain El Ouahch 132.05 316 P PKPdf 09 20 18.0 +3.5
CKFL Kef-Lekhel 132.34 316 P PKPdf 09 20 18.0 +3.0
EPF Esparros 132.38 327 *e*PKP1 PKPdf 09 20 15.5 +0.6
comp=Z,40nm,0.9s
CASM Ain Smara 132.57 316 P PKPdf 09 20 18.5 +3.0
CTEI Djebel Teioual 132.73 316 P PKPdf 09 20 19.0 +3.2
DFRA Djebel Bou Aff 132.84 316 P PKPdf 09 20 19.5 +3.5
ETSF Etsaut 132.95 327 *e*PKP1 PKPdf 09 20 15.7 -0.3
comp=Z,73nm,0.9s
SJPF Ste Jean 133.16 328 *e*PKP1 PKPdf 09 20 16.2 -0.2
comp=Z,53nm,0.9s
SET Setif 133.35 316 P PKPdf 09 20 19.0 +2.1
EBR Ebro Roquetas 133.75 325 *e*PKIKP PKPdf 09 20 18.5 +1.0

EMHD Djebel Mahouad 135.01 318 P PKPdf 09 20 22.0 +2.1
ARE Arequipa 136.15 120 *e*P PKPdf 09 20 11.0 -12
ARE *e* 09 23 38.0
EANR 'Ain N'Sour 136.38 319 P PKPdf 09 20 19.0 -3.5
ETRT Tiaret 136.58 318 P PKPdf 09 20 21.0 -1.8
PBRG Braganca 136.90 331 *e*PKP PKPdf 09 20 16.8 -6.4
PBRG Braganca 136.90 331 *e*PP PP 09 23 13.4 +1.5
ESDC Sonseca Array 137.03 327 PKhKP 09 20 17.5
comp=Z,0.8nm,0.5s,baz=46,slow=3.0,SNR=8.3
ESDC PKP PKPdf 09 20 25.0 +1.4
comp=Z,6.0nm,0.8s,baz=19,slow=2.7,SNR=20
ESDC PP PP 09 23 04.0 -8.8
comp=Z,0.7nm,0.5s,baz=47,slow=6.1,SNR=4.8
ESDC SKPbc 09 23 35.2
comp=Z,10nm,0.8s,baz=22,slow=3.5,SNR=9.3
ESDC SKKPbc 09 32 28.4
comp=Z,3.7nm,1.1s,baz=229,slow=5.0,SNR=4.9
ESLA Sonseca Array 137.03 327 *e*PKPdf PKPdf 09 20 24.7 +1.2
ESLA *e*PP PP 09 23 13.6 +0.8
PCAB Cabril 137.58 332 *e*PKP PKPdf 09 20 20.2 -4.3
PVRL Vila Real 137.77 331 *e*PP PP 09 23 19.7 +1.8
MTE Manteigas 138.36 330 *e*PKP PKPdf 09 20 18.2 -7.8
MTE Manteigas 138.36 330 *e*PP PP 09 23 21.5 -0.1
MTE Manteigas 138.36 330 eLQ 09 58 33.6
MTE Manteigas 138.36 330 *e*PKPpre 09 20 14.8
MTE *e*SKP 09 23 40.5
PCBR Castelo Branco 138.76 330 *e*PKP PKPdf 09 20 19.0 -7.7
PCBR Castelo Branco 138.76 330 *e*PP PP 09 23 25.9 +2.0
LPAZ La Paz 139.09 122 PKhKP 09 20 19.2
comp=Z,16nm,0.8s,baz=265,slow=3.2,SNR=32
LPAZ PKP PKPdf 09 20 30.8 +2.9
comp=Z,39nm,0.8s,baz=326,slow=0.6,SNR=26
LPAZ SKPbc 09 23 46.2
comp=Z,30nm,0.9s,baz=257,slow=1.4,SNR=9.3
LPAZ La Paz 139.09 122 *e*PKPpre 09 20 19.1
LPAZ *e*PKPdf PKPdf 09 20 30.6 +2.7
LPAZ PKP PKPdf 09 20 30.8 +2.9
LPAZ *e*SKP 09 23 45.2
LPAZ SKPbc 09 23 46.2
PTOM Tomar 139.39 330 *e*PKP PKPdf 09 20 20.7 -7.2
PTOM Tomar 139.39 330 *e*PP PP 09 23 28.8 +1.1
EVO Evora 140.02 329 *e*PKIKP PKPdf 09 20 30.7 +1.7
comp=Z,129nm,1.4s
EVO *e*R
comp=Z,976nm,19.2s
PBEJ Beja 140.32 328 *e*PP PP 09 23 34.3 +1.1
CPUP Villa Florida 140.58 144 *e*PKPpre 09 20 23.0
CPUP *e*PKPdf PKPdf 09 20 33.4 +3.0
PTEO Sao Teotonio 141.13 329 *e*PP PP 09 23 39.6 +1.4
SDV Santo Domingo 142.53 83 PKhKP 09 20 32.0
comp=Z,148nm,0.8s,baz=307,slow=2.9,SNR=81
SDV PP PP 09 23 45.0 -2.3
comp=Z,6.4nm,0.7s,baz=338,slow=2.9,SNR=1.6
SDV Santo Domingo 142.53 83 *e*PKPpre 09 20 31.6
SDV *e*SKP 09 23 47.7
TORD Torodi Ar. Bea 144.94 285 PKPbc PKPbc 09 20 38.5 -0.1
comp=Z,127nm,0.5s,baz=62,slow=3.2,SNR=343
TORD pPKPbc 09 21 36.1
comp=Z,24nm,0.8s,baz=43,slow=2.6,SNR=2.2
TORD PP PP 09 23 58.6 -3.1
comp=Z,10nm,0.8s,baz=63,slow=6.4,SNR=3.5
TORD SKKPbc 09 32 00.7
comp=Z,18nm,0.8s,baz=284,slow=4.1,SNR=13
SIV San Ignacio 144.99 128 PKP PKPdf 09 20 38.5 +0.3
comp=Z,680nm,0.9s,baz=236,slow=3.3,SNR=843
SJG San Juan 145.29 66 PKPbc PKPbc 09 20 39.0 -0.4
comp=Z,2µm,1.1s,baz=300,slow=1.8,SNR=93
SJG San Juan 145.29 66 *e*PKPdf PKPdf 09 20 38.9 +0.2
SJG *e*SKP 09 23 53.0
CPD Cerro la Pandu 145.52 66 *e*PKPdf PKPdf 09 20 39.2 +0.1
CPD *e*SKP 09 23 52.5
MTP Monte Pirata 145.83 66 *e*PKPdf PKPdf 09 20 41.3 +1.7
MTP *ep*PKPdf 09 21 34.1
MTP *e*SKP 09 23 58.0
STGR Santa Cruz 146.22 353 *e*PKP PKPdf 09 20 45.8 +6.1
PVIA Vitoria 146.24 353 *e*PKP PKPdf 09 20 46.0 +6.2
PGRA Graciosa 146.27 353 *e*PKP PKPdf 09 20 42.5 +2.7
PLUZ Luz 146.39 354 *e*PKP PKPdf 09 20 43.4 +3.4
PVNV Vila Nova 146.42 352 *e*PKP PKPdf 09 20 43.5 +3.4
PBIS Biscoitos 146.44 352 *e*PKP PKPdf 09 20 43.0 +2.9
PSBA Serra de Santa 146.44 352 *e*PKP PKPdf 09 20 43.9 +3.8
PFAV Pico das Favas 146.46 352 *e*PKP PKPdf 09 20 44.3 +4.1
ASBA Santa Barbara 146.49 352 *e*PKP PKPdf 09 20 45.7 +5.5
PPAD Pico dos Padre 146.50 352 *e*PKP PKPdf 09 20 45.4 +5.2
RIB2 Ribeirinha 146.51 352 *e*PKP PKPdf 09 20 42.8 +2.5
ADH Angra Heroismo 146.54 352 *e*PKP PKPdf 09 20 45.8 +5.5
ADH Angra Heroismo 146.54 352 *i* LR 10 12 35.0
ROSA Rosais 146.61 353 *e*PKP PKPdf 09 20 45.2 +4.8
PAMA Santo Amaro 146.64 353 *e*PKP PKPdf 09 20 43.3 +2.8
PMAN Manadas 146.67 353 *e*PKP PKPdf 09 20 45.6 +5.1
PCED Cedros 146.75 354 *e*PKP PKPdf 09 20 45.5 +4.8
CALA Caldeira 146.79 354 *e*PKP PKPdf 09 20 45.9 +5.2
PTCA Ponta do Capel 146.80 354 *e*PKP PKPdf 09 20 46.2 +5.5
PICO Pico 146.84 353 *e*PKP PKPdf 09 20 44.9 +4.1
PPNO Prainha do Nor 146.85 353 *e*PKP PKPdf 09 20 46.2 +5.4
PCND Candelaria 146.88 353 *e*PKP PKPdf 09 20 46.4 +5.5
PBOI Pico dos Bois 146.90 353 *e*PKP PKPdf 09 20 45.7 +4.8
PFAD Fenais da Ajud 147.01 349 *e*PKP PKPdf 09 20 45.5 +4.4
MIRA Miradouro 147.06 349 *e*PKP PKPdf 09 20 43.9 +2.7
PMAT Coroa da Mata 147.06 349 *e*PKP PKPdf 09 20 47.2 +6.0
MESC Monte Escuro 147.08 349 *e*PKP PKPdf 09 20 45.5 +4.3
PCNG Congro 147.10 349 *e*PKP PKPdf 09 20 44.5 +3.2
LFA Lagoa do Fogo 147.11 349 *e*PKP PKPdf 09 20 47.8 +6.5
FRA1 Furnas 147.11 349 *e*PKP PKPdf 09 20 45.4 +4.1
CML Cha da Macela 147.12 349 *e*PKP PKPdf 09 20 46.4 +5.1
VIF Vila Franca 147.13 349 *e*PKP PKPdf 09 20 44.7 +3.4
PRCH Ribeira Ch 147.15 349 *e*PKP PKPdf 09 20 47.4 +6.1
PSMN Pico do Norte, 147.77 348 *e*PKP PKPdf 09 20 44.9 +2.5
CPB Codrington 149.34 64 *e*P PKPdf 09 20 46.3 +0.9
BPA Boggy Peak 149.51 65 *e*P PKPdf 09 20 52.1 +6.4
LZG Guadaloupe-1 149.86 67 *e*P PKPdf 09 20 52.6 +6.3
SCG Saint Claude 149.98 67 *e*P PKPdf 09 20 53.0 +6.6
BCG Bois Riant Cap 150.02 67 *e*P PKPdf 09 20 52.9 +6.3
DOG Dongo Capester 150.04 67 *e*P PKPdf 09 20 53.3 +6.7
TBG Guadaloupe-3 150.07 68 *e*P PKPdf 09 20 53.2 +6.6
BBL Barber's Block 150.32 68 *e*P PKPdf 09 20 54.3 +7.3
MGG Marie-Galante 150.35 67 *e*P PKPdf 09 20 53.4 +6.4
DEG La Desirade 150.46 66 *e*P PKPdf 09 20 47.9 +0.7
CAM4 Nova Friburgo 150.82 162 *e*P PKPdf 09 20 44.4 -3.2
CAM4 *i* 09 20 55.2
CAM4 *i* 09 20 59.2
CAM4 *i* 09 21 05.1
CAM4 *i* 09 21 12.6
CAM4 *i* 09 21 31.5
FDF Fort de France 150.84 69 *e*P PKPdf 09 20 55.0 +7.2
GRW Mount Saint Ca 150.94 75 *e*P PKPdf 09 20 52.9 +4.9
SVB Belmont 151.10 72 *e*P PKPdf 09 20 54.9 +6.7
TPP Pointe-a-Pierr 151.43 78 *e*P PKPdf 09 20 54.3 +5.6
TRN Trinidad (W) 151.43 78 *e*P PKPdf 09 20 52.9 +4.2
TPR Prospect 151.96 76 *e*P PKPdf 09 20 53.7 +4.2
DBIC Dimbokro 151.98 274 PKP PKPdf 09 20 51.5 +2.0
comp=Z,21nm,1.0s,baz=94,slow=2.1,SNR=13
DBIC PKPbc PKPdf 09 20 58.9 +9.4
comp=Z,46nm,0.6s,baz=81,slow=2.1,SNR=42
DBIC PKPab PKPab 09 21 09.2 +0.3
comp=Z,19nm,0.6s,baz=66,slow=4.7,SNR=10
DBIC pPKPab 09 21 57.3
comp=Z,40nm,0.7s,baz=102,slow=2.7,SNR=3.8
DBIC Dimbokro 151.98 274 *e*PKIKP PKPdf 09 20 51.1 +1.5
DBIC *e* 09 21 08.1
DBIC *e* 09 21 44.6
DBIC Dimbokro 151.98 274 *e*PKPdf PKPdf 09 20 51.1 +1.5
DBIC *e*PKPbc PKPdf 09 20 57.0 +7.4
DBIC *e*PKPab PKPab 09 21 08.1 -0.8
DBIC *ep*PKPdf 09 21 44.6
BOT Bacolet 152.02 77 *e*P PKPdf 09 20 54.7 +5.2
LIC Lamto 152.15 273 *e*PKIKP PKPdf 09 20 51.5 +1.7
comp=Z,42nm,0.4s
LIC *e*R
comp=Z,925nm,22.8s
**CAM3 Guar

NEIC ***08*** *09:13:27.5±0.8, 18.43S×177.71W,h566km±9km,mb4.8/40, Error ellipse: s-maj=9.3km s-min=5.6km az=12.0*
IDC ***08*** *09:13:28.0±1.2,18.35S×177.70W,h572km±13km, mb4.0/21,mb1 4.2/23,mb1mx4.2/26,mbtmp4.9/23,Error ellipse: s-maj=15.3km s-min=8.7km az=137.0*
MOS ***08*** *09:13:27.7±1.4, 18.27S×177.82W,h569km,mb5.5/20, Error ellipse: s-maj=13.2km s-min=10.7km az=62.0*
BJI ***08*** *09:13:30.3, 17.58S×178. 13W,h565km,mB4.6,mb4.7*
ISC 08 09:13:26.4±0.7,18.45S±0.05×177.78W±0.06, h566km±9km, h546km±3.9km;pP-P,n316,σ1§03/158, mb4.6/59,34C-16D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.33**	**53**	P	**P**	**09 15 19.5**	**+0.7**
	19nm,0.3s,baz=24,slow=4.9,SNR=33						
AFI				S	**S**	**09 16 48.4**	**+0.1**
	9.6nm,0.3s,baz=40,slow=23,SNR=13						
AFI	**Afiamalu**	**7.33**	**53**	*e*P	**P**	**09 15 19.3**	**+0.5**
AFI				*e*		09 16 47.4	
AFI				pmax	pmax		
	comp=Z,93nm,0.6s						
AFI	**Afiamalu**	**7.33**	**53**	*e*Pn	**P**	**09 15 19.3**	**+0.5**
	comp=Z,93nm,0.6s						
AFI				*e*Sn	**S**	**09 16 47.4**	**-1.0**
RAO	**Raoul Island**	**10.75**	**181**	Pn	**P**	**09 15 45.1**	**-7.6**
DZM	**Mont Dzumac**	**15.23**	**254**	P	**P**	**09 16 40.7**	**+3.2**
	comp=Z,0.9nm,0.3s,baz=92,slow=17,SNR=12						
MTAZ	**Motutapu**	**19.37**	**198**	P	**P**	**09 17 20.0**	**+3.2**
KAAZ	**Kauri Point**	**19.46**	**198**	P	**P**	**09 17 20.4**	**+2.7**
OTAZ	**Otara**	**19.51**	**198**	P	**P**	**09 17 21.1**	**+2.9**
MKAZ	**Moumakai**	**19.60**	**197**	P	**P**	**09 17 21.3**	**+2.3**
WTAZ	**Waiatarua**	**19.60**	**199**	P	**P**	**09 17 21.3**	**+2.3**
PUZ	**Puketiti**	**19.86**	**189**	PN	**P**	**09 17 21.0**	**-0.3**
PUZ	**Puketiti**	**19.86**	**189**	P	**P**	**09 17 21.8**	**+0.4**
MWZ	**Matawai**	**20.23**	**191**	PN	**P**	**09 17 23.1**	**-1.8**
MWZ	**Matawai**	**20.23**	**191**	*e*P	**P**	**09 17 23.2**	**-1.6**
URZ	**Urewera**	**20.23**	**192**	P	**P**	**09 17 23.0**	**-1.8**
	comp=Z,58nm,0.4s,baz=24,slow=0.7,SNR=43						
URZ				S	**S**	**09 20 29.0**	**-7.6**
	comp=Z,16nm,1.1s,baz=238,slow=23,SNR=3.4						
URZ	**Urewera**	**20.23**	**192**	PN	**P**	**09 17 22.1**	**-2.8**
URZ	**Urewera**	**20.23**	**192**	*e*P	**P**	**09 17 22.5**	**-2.4**
HIZ	**Hauiti**	**21.00**	**196**	PN	**P**	**09 17 33.5**	**+1.7**
HNR	**Honiara**	**23.38**	**290**	*e*P	**P**	**09 17 46.6**	**-7.0**
HNR				pmax	pmax		
	comp=Z,175nm,1.1s,mb5.6						
HNR	**Honiara**	**23.38**	**290**	*e*P	**P**	**09 17 46.6**	**-7.0**
	comp=Z,175nm,1.1s,mb5.6						
SNZO	**South Karori**	**23.68**	**194**	*e*P	**P**	**09 17 54.5**	**-1.5**
	comp=Z,62nm,0.7s,mb5.3						
QRZ	**Quartz Range**	**23.80**	**198**	PN	**P**	**09 17 55.2**	**-2.0**
QRZ	**Quartz Range**	**23.80**	**198**	P	**P**	**09 17 57.3**	**+0.1**
NNZ	**Nelson**	**23.92**	**197**	PN	**P**	**09 17 56.1**	**-2.1**
THZ	**Tophouse**	**24.56**	**197**	PN	**P**	**09 18 02.6**	**-1.3**
THZ	**Tophouse**	**24.56**	**197**	P	**P**	**09 18 03.4**	**-0.5**
KHZ	**Kahutara**	**25.00**	**195**	PN	**P**	**09 18 06.2**	**-1.7**
KHZ	**Kahutara**	**25.00**	**195**	*e*P	**P**	**09 18 06.3**	**-1.5**
LTZ	**Lake Taylor**	**25.68**	**197**	PN	**P**	**09 18 11.8**	**-2.0**
LTZ	**Lake Taylor**	**25.68**	**197**	*e*P	**P**	**09 18 12.0**	**-1.8**
WVZ	**Waitaha Valley**	**26.40**	**199**	PN	**P**	**09 18 19.1**	**-1.0**
WVZ	**Waitaha Valley**	**26.40**	**199**	*e*P	**P**	**09 18 19.1**	**-1.0**
RPZ	**Rata Peaks**	**26.89**	**198**	P	**P**	**09 18 24.1**	**-0.3**
	comp=Z,19nm,0.5s,mb5.0,baz=354,slow=3.5,SNR=17						
FOZ	**Fox Glacier**	**27.18**	**200**	PN	**P**	**09 18 25.0**	**-1.9**
FOZ	**Fox Glacier**	**27.18**	**200**	*e*P	**P**	**09 18 25.3**	**-1.6**
MLZ	**Mavora Lakes**	**29.26**	**200**	PN	**P**	**09 18 44.9**	**+0.1**
MLZ	**Mavora Lakes**	**29.26**	**200**	*e*P	**P**	**09 18 45.3**	**+0.4**
CNB	**Canberra Magne**	**33.58**	**233**	*e*P	**P**	**09 19 23.2**	**+1.7**
	comp=Z,66nm,1.3s,mb4.6						
CTA	**Charters Tower**	**33.95**	**261**	*e*P	**P**	**09 19 25.9**	**+1.2**
	comp=Z,34nm,0.7s,mb5.0						
CTA	**Charters Tower**	**33.95**	**261**	P	**P**	**09 19 25.9**	**+1.2**
	comp=Z,49nm,0.7s,mb5.1,baz=88,slow=10,SNR=31						
CTA	**Charters Tower**	**33.95**	**261**	*e*P	**P**	**09 19 25.9**	**+1.2**
CTA				pmax	pmax		
	comp=Z,34nm,0.7s						
CTAO	**Charters Tower**	**33.95**	**261**	*e*P	**P**	**09 19 25.7**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,59nm,0.9s,mb5.1						
CTAO	**Charters Tower**	**33.95**	**261**	*e*P	**P**	**09 19 25.7**	**+1.0**
	comp=Z,59nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**38.90**	**242**	*e*P	**P**	**09 20 07.6**	**+2.4**
	comp=Z,22nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**38.90**	**242**	P	**P**	**09 20 06.5**	**+1.2**
	comp=Z,18nm,0.7s,mb4.7,baz=67,slow=6.2,SNR=28						
STKA				PcP	PcP	09 22 01.5	-0.5
	comp=Z,2.8nm,0.5s,baz=53,slow=20,SNR=5.3						
STKA				ScP		09 24 56.8	
	comp=Z,4.4nm,0.9s,baz=141,slow=2.7,SNR=3.4						
WB2	**Warramunga Arr**	**45.11**	**260**	⇓*i*P	**P**	**09 20 54.5**	**-0.1**
WB2				*e*PCP	PcP	09 22 22.5	-0.8
WB2				*e*S	**S**	**09 26 49.3**	**-4.0**
WB2				*e*SCS	ScS	09 29 48.8	+1.4
WRAB	**Tennant Creek**	**45.11**	**260**	*e*P	**P**	**09 20 53.9**	**-0.7**
WRA	**Warramunga Arr**	**45.12**	**260**	P	**P**	**09 20 54.5**	**-0.2**
	comp=Z,20nm,0.4s,mb5.0,baz=99,slow=6.7,SNR=231						
WRA				PcP	PcP	09 22 22.4	-0.9
	comp=Z,6.2nm,0.4s,baz=90,slow=3.8,SNR=8.3						
WRA				S	**S**	**09 26 49.4**	**-4.0**
	comp=Z,7.6nm,0.9s,baz=95,slow=13,SNR=15						
KAKA	**Kakadu**	**48.17**	**269**	⇓*i*P	Px	09 21 39.3	
	comp=Z,37nm,0.4s						
FORT	**Forrest**	**50.32**	**245**	*e*P	**P**	**09 21 32.7**	**-0.9**
	comp=Z,30nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.53**	**261**	*e*P	**P**	**09 21 57.0**	**+0.3**
	comp=Z,12nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.53**	**261**	P	**P**	**09 21 57.0**	**+0.2**
	comp=Z,4.4nm,0.3s,mb4.2,baz=89,slow=5.1,SNR=37						
MBWA	**Marble Bar**	**58.52**	**256**	*e*P	**P**	**09 22 30.1**	**-1.0**
	comp=Z,64nm,1.2s,mb4.7						
KLBR	**Kellerberrin**	**59.12**	**244**	*e*P	**P**	**09 22 34.5**	**-0.5**
	comp=Z,24nm,0.6s,mb4.6						
SBA	**Scott Base**	**59.92**	**184**	*e*P	**P**	**09 22 41.0**	**+1.3**
SBA				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.4						
SBA	**Scott Base**	**59.92**	**184**	*e*P	**P**	**09 22 41.0**	**+1.3**
	comp=Z,19nm,0.9s,mb4.4						
VNDA	**Vanda**	**59.96**	**185**	P	**P**	**09 22 40.7**	**+0.8**
	comp=Z,3.1nm,0.6s,mb3.8,baz=355,slow=7.6,SNR=13						
VNDA	**Vanda**	**59.96**	**185**	*e*P	**P**	**09 22 40.2**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VNDA	**Vanda**	**59.96**	**185**	*e*P	**P**	**09 22 40.2**	**+0.3**
	comp=Z,3.5nm,0.6s,mb3.9						
MUN	**Mundaring**	**60.41**	**243**	*e*P	**P**	**09 22 43.4**	**-0.1**
MJAR	**Matsushiro Arr**	**68.69**	**323**	P	**P**	**09 23 35.0**	**-0.5**
	comp=Z,20nm,0.7s,mb4.8,baz=155,slow=6.1,SNR=38						
MAJO	**Matsushiro**	**68.70**	**323**	*e*P	**P**	**09 23 34.7**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**68.70**	**323**	*e*P	**P**	**09 23 34.7**	**-0.8**
	comp=Z,22nm,0.8s,mb4.8						
MAT	**Matsushiro**	**68.70**	**323**	P	**P**	**09 23 34.6**	**-0.9**
MAT	**Matsushiro**	**68.70**	**323**	*e*P	**P**	**09 23 35.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,23nm,0.5s,mb5.0						
MAT	**Matsushiro**	**68.70**	**323**	*e*P	**P**	**09 23 35.0**	**-0.5**
	comp=Z,22nm,0.5s,mb5.0						
KKM	**Kota Kinabalu**	**69.45**	**284**	*e*P	**P**	**09 23 40.3**	**0.0**
QSPA	**South Pole Qui**	**71.61**	**180**	*e*P	**P**	**09 23 52.6**	**+0.7**
	comp=Z,43nm,1.0s,mb4.8						
KSM	**Kuching**	**73.34**	**277**	*e*P	**P**	**09 24 03.1**	**+0.1**
YSS	**Yuzh-Sakhalins**	**74.17**	**333**	*e*P	**P**	**09 24 07.4**	**+0.5**
YSS				pmax	pmax		
	comp=Z,47nm,1.0s,mb4.9						
YSS	**Yuzh-Sakhalins**	**74.17**	**333**	*e*P	**P**	**09 24 07.4**	**+0.5**
	comp=Z,47nm,1.0s,mb4.9						
ISA	**Isabella**	**77.76**	**46**	*e*P	**P**	**09 24 27.2**	**+0.4**
ISA				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.3						
ISA	**Isabella**	**77.76**	**46**	*e*P	**P**	**09 24 27.2**	**+0.3**
	comp=Z,17nm,1.0s,mb4.3						
CMB	**Columbia Colle**	**77.83**	**43**	*e*P	**P**	**09 24 27.3**	**+0.2**
CMB				pmax	pmax		
	comp=Z,39nm,1.4s,mb4.5						
CMB	**Columbia Colle**	**77.83**	**43**	*e*P	**P**	**09 24 27.2**	**+0.1**
	comp=Z,39nm,1.4s,mb4.5						
YBH	**Yreka Blue Hor**	**78.57**	**39**	*e*P	**P**	**09 24 31.6**	**+0.6**
YBH				pmax	pmax		
	comp=Z,20nm,1.1s						
YBH	**Yreka Blue Hor**	**78.57**	**39**	*e*P	**P**	**09 24 31.6**	**+0.6**
	comp=Z,20nm,1.1s,mb4.4						
MTUM	**Tungsten Hills**	**78.64**	**44**	*e*P	**P**	**09 24 31.8**	**+0.4**
NJ2	**Nanjing**	**78.74**	**309**	*e*P	**P**	**09 24 30.3**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
HABR	**Khabarovsk**	**78.78**	**330**	⇑*i*P	**P**	**09 24 32.0**	**+0.1**
HABR				pmax	pmax		
	comp=Z,74nm,1.1s,mb4.9						
KDAK	**Kodiak Island**	**78.78**	**13**	P	**P**	**09 24 31.1**	**-0.7**
	comp=Z,11nm,0.7s,mb4.3,baz=140,slow=21,SNR=6.9						
MDJ	**Mudanjiang**	**78.97**	**325**	P	**P**	**09 24 33.9**	**+0.9**
MDJ				AP	pP	09 26 32.1	-1.7
MDJ				XP	sP	09 27 29.7	-0.6
MDJ				PP	PP	09 27 42.5	-0.2
MDJ				S	S	09 33 44.3	-1.4
MDJ				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.6						
MDJ	**Mudanjiang**	**78.97**	**325**	*e*P	**P**	**09 24 33.8**	**+0.7**
	comp=Z,42nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**79.40**	**43**	P	**P**	**09 24 35.7**	**+0.3**
	comp=Z,7.6nm,0.7s,mb4.1,baz=218,slow=7.8,SNR=42						
LDFC	**Landfair**	**79.78**	**48**	*e*P	**P**	**09 24 38.2**	**+0.7**
TPH	**Tonopah**	**79.92**	**44**	*e*P	**P**	**09 24 37.5**	**-0.6**
TPH				pmax	pmax		
	comp=Z,50nm,0.8s,mb4.9						
TPH	**Tonopah**	**79.92**	**44**	*e*P	**P**	**09 24 37.5**	**-0.7**
	comp=Z,5.4nm,0.8s,mb3.9						
MOD	**Modoc**	**80.12**	**40**	*e*P	**P**	**09 24 39.3**	**+0.2**
	comp=Z,11nm,0.7s,mb4.3						
NEN	**Nelson**	**80.26**	**47**	*e*P	**P**	**09 24 39.7**	**-0.3**
BROR	**Big Rock Looko**	**80.26**	**37**	P	**P**	**09 24 39.9**	**+0.1**
WHN	**Wuhan**	**81.40**	**306**	⇑P	**P**	**09 24 47.0**	**+1.1**
WVOR	**Wild Horse Val**	**81.44**	**40**	*e*P	**P**	**09 24 46.3**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.6						
WVOR	**Wild Horse Val**	**81.44**	**40**	*e*P	**P**	**09 24 46.2**	**+0.4**
	comp=Z,26nm,1.0s,mb4.6						
VIPM	**Ingram Point**	**81.46**	**37**	P	**P**	**09 24 46.5**	**+0.6**
MA2	**Magadan**	**81.87**	**344**	*e*P	**P**	**09 24 46.5**	**-1.1**
MA2				pmax	pmax		
	comp=Z,42nm,1.0s,mb4.8						
MA2	**Magadan**	**81.87**	**344**	*e*P	**P**	**09 24 46.5**	**-1.1**
	comp=Z,42nm,1.0s,mb4.8						
VTHM	**Trough**	**81.89**	**37**	P	**P**	**09 24 48.3**	**+0.3**
HDW	**Hoodsport**	**82.02**	**34**	P	**P**	**09 24 49.5**	**+0.8**
ARUT	**Antelope Range**	**82.32**	**46**	*e*P	**P**	**09 24 50.9**	**+0.5**
ARUT				*e*		09 25 09.3	
FMW	**Mount Fremont**	**82.32**	**35**	P	**P**	**09 24 50.7**	**+0.6**
BBB	**Bella Bella**	**82.51**	**28**	P	**P**	**09 24 49.2**	**-1.8**
	comp=Z,41nm,1.1s,mb4.8,baz=234,slow=5.5,SNR=3.1						
BBB	**Bella Bella**	**82.51**	**28**	P	**P**	**09 24 49.2**	**-1.8**
GBL	**Gable Mountain**	**83.34**	**36**	P	**P**	**09 24 55.9**	**+0.6**
ETW	**Entiat**	**83.45**	**35**	P	**P**	**09 24 56.1**	**+0.3**
MAW	**Mawson**	**83.55**	**200**	P	**P**	**09 24 56.4**	**+0.5**
	comp=Z,1.5nm,0.4s,mb3.9,baz=209,slow=5.7,SNR=11						
KULM	**Kulim**	**83.70**	**278**	*e*P	**P**	**09 24 58.4**	**+0.5**
WTV	**Waterville**	**83.72**	**35**	P	**P**	**09 24 57.1**	**0.0**
NLW	**Nelson Butte**	**83.73**	**35**	P	**P**	**09 24 57.2**	**0.0**
OD2	**Odessa Site #2**	**84.22**	**36**	P	**P**	**09 24 59.7**	**+0.2**
TMUT	**Trail Mountain**	**84.58**	**46**	*e*P	**P**	**09 25 01.8**	**+0.3**
MCK	**McKinley**	**84.94**	**12**	*e*P	**P**	**09 25 01.6**	**-1.1**
MCK				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.7						
MCK	**McKinley**	**84.94**	**12**	*e*P	**P**	**09 25 01.6**	**-1.1**
	comp=Z,26nm,1.0s,mb4.7						
SRU	**San Rafael**	**84.96**	**46**	*e*P	**P**	**09 25 03.7**	**+0.3**
SRU				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.2						
SRU	**San Rafael**	**84.96**	**46**	*e*P	**P**	**09 25 03.7**	**+0.2**
	comp=Z,6.1nm,0.7s,mb4.2						
ENH	**Enshi**	**85.07**	**304**	*e*P	**P**	**09 25 05.0**	**+0.8**
	comp=Z,108nm,1.3s,mb5.2						
NEW	**Newport**	**85.60**	**36**	P	**P**	**09 25 05.8**	**-0.5**
	comp=Z,4.2nm,0.7s,mb4.2,baz=247,slow=3.7,SNR=7.7						
TXAR	**Lajitas Array**	**85.78**	**57**	P	**P**	**09 25 09.0**	**+1.3**
	comp=Z,14nm,0.8s,mb4.7,baz=220,slow=6.3,SNR=40						
GYA	**Guiyang**	**85.82**	**299**	⇓*i*P	**P**	**09 25 09.0**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
ANMO	**Albuquerque**	**85.97**	**51**	P	**P**	**09 25 08.6**	**+0.2**
	comp=Z,7.6nm,1.0s,mb4.3,baz=213,slow=5.7,SNR=12						
ANMO	**Albuquerque**	**85.97**	**51**	⇓*i*P	**P**	**09 25 07.4**	**-1.0**
ANMO	**Albuquerque**	**85.97**	**51**	*e*P	**P**	**09 25 08.5**	**+0.1**
	comp=Z,8.9nm,1.0s,mb4.3						
DLBC	**Dease Lake**	**86.09**	**23**	P	**P**	**09 25 08.0**	**-0.4**
	comp=Z,2.4nm,0.7s,mb3.9,baz=184,slow=5.8,SNR=4.7						
COLA	**College**	**86.17**	**12**	*e*P	**P**	**09 25 07.2**	**-1.4**
COLA				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.7						
COLA	**College**	**86.17**	**12**	*e*P	**P**	**09 25 07.2**	**-1.4**
	comp=Z,16nm,0.9s,mb4.7						
MCMT	**McKenzie Canyo**	**86.26**	**40**	*e*P	**P**	**09 25 10.2**	**+0.7**
ILAR	**Eielson Array**	**86.28**	**13**	P	**P**	**09 25 07.9**	**-1.2**
	comp=Z,5.9nm,0.5s,mb4.5,baz=217,slow=4.9,SNR=124						
RRI2	**Red Ridge**	**86.48**	**42**	*e*P	**P**	**09 25 11.1**	**+0.5**
	comp=Z,8.2nm,0.7s,mb4.5						
BILL	**Bilibino**	**87.03**	**354**	⇓P	**P**	**09 25 12.0**	**-0.6**
BILL				pmax	pmax		
	comp=Z,26nm,2.0s,mb4.5						
BILL	**Bilibino**	**87.03**	**354**	*e*P	**P**	**09 25 11.9**	**-0.7**
	comp=Z,5.5nm,0.4s,mb4.5						
CHMT	**Chamberlain Mo**	**87.09**	**38**	*e*P	**P**	**09 25 12.5**	**-0.8**
QLMT	**Earthquake Lak**	**87.14**	**41**	*e*P	**P**	**09 25 14.7**	**+1.0**
HIA	**Hailar**	**87.15**	**324**	⇑*i*P	**P**	**09 25 14.0**	**+0.4**
HIA	**Hailar**	**87.15**	**324**	*e*P	**P**	**09 25 13.4**	**-0.2**
	comp=Z,2.5nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**87.34**	**43**	P	**P**	**09 25 14.5**	**-0.1**
	comp=Z,6.9nm,0.9s,mb4.3,baz=216,slow=3.0,SNR=18						
YMR	**Madison River**	**87.35**	**41**	*e*P	**P**	**09 25 15.4**	**+0.8**
	comp=Z,61nm,1.5s,mb5.0						
SDCO	**Great Sand Dun**	**87.86**	**49**	*e*P	**P**	**09 25 17.1**	**-0.2**
	comp=Z,6.4nm,1.0s,mb4.3						
HHC	**Hu-ho-hao-te**	**88.08**	**314**	*e*P	**P**	**09 25 19.0**	**+0.9**
HHC				AP	pP	09 27 19.6	-2.3
HHC				PP	PP	09 28 56.0	-0.8
HHC				SKS	SKS	09 34 54.1	+1.9
HHC				S	S	09 35 12.9	-0.6
HHC				XS		09 38 42.9	
HHC				SS	SS	09 41 17.8	-5.5
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
KMI	**Kunming**	**88.61**	**297**	P	**P**	**09 25 22.2**	**+1.2**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
KMI	**Kunming**	**88.61**	**297**	P	**P**	**09 25 22.2**	**+1.2**
	comp=Z,12nm,0.9s,mb4.7						
SNAA	**Sanae**	**90.04**	**178**	P	**P**	**09 25 26.5**	**-0.1**
	comp=Z,1.0nm,0.9s,mb3.7,baz=198,slow=19,SNR=4.4						
YAK	**Yakutsk**	**90.30**	**338**	*i*P	**P**	**09 25 26.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.8						
LZH	**Lanzhou**	**91.69**	**307**	*e*P	**P**	**09 25 38.1**	**+3.1**
LZH				AP	pP	09 27 37.9	-1.6
LZH				XP	sP	09 28 31.1	-4.2
LZH				eS	S	09 35 51.1	+5.6
LZH				XS		09 39 23.6	
LZH				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,60nm,4.5s						
LZH	**Lanzhou**	**91.69**	**307**	*e*P	**P**	**09 25 38.1**	**+3.1**
LZH						09 29 29.5	
LZH				*e*		09 35 18.8	
LZH				eS	S	09 35 51.1	+5.6
LZH				eSS	SS	09 42 19.6	+5.5
LZH				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
LZH	**Lanzhou**	**91.69**	**307**	*e*P	**P**	**09 25 38.1**	**+3.1**
	comp=Z,18nm,1.4s,mb4.9						
LZH				pP	pP	09 27 37.9	-1.6
LZH				sP	sP	09 28 31.1	-4.2
LZH				PP	PP	09 29 29.5	+4.2
LZH				eSKS	SKS	09 35 18.8	+5.5
LZH				eS	S	09 35 51.1	+5.6
LZH				sS		09 39 23.6	
LZH				eSS	SS	09 42 19.6	+5.5
INK	**Inuvik**	**92.25**	**15**	P	**P**	**09 25 35.5**	**-1.2**
	comp=Z,11nm,0.9s,mb4.9,baz=278,slow=4.7,SNR=7.7						
INK	**Inuvik**	**92.25**	**15**	*e*P	**P**	**09 25 35.3**	**-1.4**
INK				pmax	pmax		
	comp=Z,14nm,0.9s						
INK	**Inuvik**	**92.25**	**15**	*e*P	**P**	**09 25 35.3**	**-1.5**
	comp=Z,14nm,0.9s,mb5.0						
DGMT	**Dagmar**	**93.23**	**40**	*e*P	**P**	**09 25 41.5**	**-0.1**
	comp=Z,27nm,1.0s,mb5.2						
ULN	**Ulaanbaatar**	**93.95**	**319**	⇓*i*P	**P**	**09 25 44.5**	**-0.5**
ULN	**Ulaanbaatar**	**93.95**	**319**	*e*P	**P**	**09 25 44.5**	**-0.5**
	comp=Z,5.6nm,0.9s,mb4.7						
SONM	**Songino Array**	**94.35**	**319**	P	**P**	**09 25 46.6**	**-0.2**
	comp=Z,0.9nm,0.4s,mb4.2,baz=120,slow=4.1,SNR=7.6						
YKA	**Yellowknife Ar**	**94.57**	**25**	P	**P**	**09 25 46.7**	**-0.7**
	comp=Z,2.7nm,0.6s,mb4.5,baz=241,slow=4.3,SNR=17						
GTA	**Gaotai**	**95.84**	**309**	*e*P	**P**	**09 25 54.2**	**+0.5**
TIXI	**Tiksi**	**96.83**	**345**	*e*P	**P**	**09 25 54.3**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.5						
KURK	**Kurchatov**	**112.62**	**318**	*i* PKIKP	PKPdf	09 30 57.3	-1.2
BVAR	**Borovoye Array**	**117.64**	**321**	PKP	PKPdf	09 31 08.1	0.0
	comp=Z,5.0nm,0.5s,baz=134,slow=1.0,SNR=24						
SFJD	**Kangerlussuaq**	**120.97**	**21**	PKP	PKPdf	09 31 13.7	-0.6
	comp=Z,4.8nm,0.4s,baz=187,slow=7.8,SNR=5.4						
ARU	**Arti**	**123.63**	**326**	*i* PKIKP	PKPdf	09 31 19.7	0.0
ARU				*e*		09 33 12.8	
AKTO	**Aktyubinsk**	**125.67**	**319**	PKP	PKPdf	09 31 23.3	-0.4
	comp=Z,1.8nm,0.5s,baz=64,slow=3.3,SNR=6.6						
ARCES	**ARCESS Array B**	**126.95**	**350**	PKP	PKPdf	09 31 25.5	-0.3
	comp=Z,5.4nm,0.4s,baz=20,slow=1.5,SNR=24						
JOF	**Joensuu**	**131.25**	**343**	*e*p	PKPdf	09 31 33.7	-0.4
	comp=Z,11nm,0.6s						
JOF	**Joensuu**	**131.25**	**343**	*e*PKIKP	PKPdf	09 31 33.7	-0.4
JOF				pmax	pmax		
	comp=Z,11nm,0.6s						
KAF	**Kangasniemi**	**133.24**	**345**	*e*p	PKPdf	09 31 36.4	-1.4
FINES	**FINESS Array B**	**133.87**	**344**	PKhKP		09 31 24.5	
	comp=Z,0.8nm,0.6s,baz=63,slow=8.5,SNR=2.3						
FINES				PKP	PKPdf	09 31 39.5	+0.5
	comp=Z,6.0nm,0.6s,baz=135,slow=5.4,SNR=24						
OBN	**Obninsk**	**135.05**	**333**	⇓*i* PKIKP	PKPdf	09 31 42.0	+0.7
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NB2	**NORSAR Subarra**	**136.98**	**354**	PKPabc	PKPdf	09 31 33.6	-11
	comp=Z,3.1nm,0.8s,baz=21,slow=2.6						
NOA	**NORSAR Array B**	**136.98**	**354**	PKhKP		09 31 34.2	
	comp=Z,1.1nm,0.6s,baz=7.7,slow=4.1,SNR=3.1						
NOA				PKP	PKPdf	09 31 46.8	+2.1
	comp=Z,3.0nm,0.7s,baz=14,slow=4.1,SNR=8.2						
KMBO	**Kilima Mbogo**	**140.44**	**244**	PKhKP		09 31 47.6	
	comp=Z,1.8nm,0.6s,baz=42,slow=8.2,SNR=5.8						
KMBO				PKP	PKPdf	09 31 55.2	+3.0
	comp=Z,4.4nm,0.9s,baz=42,slow=21,SNR=4.7						
ANN	**Anapa**	**140.63**	**320**	*e*P	Pdif	09 29 18.9	+7.7
ANN				pmax	pmax		
	comp=Z,66nm,1.1s						
AKASG	**Malin Array Be**	**141.31**	**332**	PKhKP		09 31 47.8	
	comp=Z,6.7nm,0.4s,baz=43,slow=4.1,SNR=55						
AKASG				PKP	PKPdf	09 31 55.2	+2.6
	comp=Z,1.0nm,0.4s,baz=46,slow=3.0,SNR=4.2						
BLJS	**Baljurashi**	**142.83**	**279**	P	PKPdf	09 31 57.2	+0.9
LTHS	**Al Lith**	**143.97**	**279**	P	PKPbc	09 32 00.0	+2.1
BSEG	**Bad Segeberg**	**144.03**	**352**	*e*PKIKP	PKPdf	09 31 57.8	+0.5
BSEG	**Bad Segeberg**	**144.03**	**352**	*e*PKPbc	PKPbc	09 31 57.8	+0.7
DCN	**Crogh

KZIT	**Kziot**	**148.36**	**299**	P		PKPdf	09 32 11.0	+5.8
BAIF	**Baives**	**148.43**	**358**	*e*PKP1		PKPdf	09 32 09.9	+5.2
	comp=Z,34nm,0.7s							
BZS	**Buzias**	**148.48**	**334**	⇑P		PKPdf	09 32 10.4	+5.5
DIM	**Dimitrovgrad**	**149.22**	**325**	*e*P		PKPdf	09 32 12.5	+6.3
FUR	**Furstenfeldbru**	**149.46**	**348**	*e*PKHKP			09 32 12.9	
FUR	**Furstenfeldbru**	**149.46**	**348**	*e*PKPbc		PKPdf	09 32 12.9	+6.5
KDZ	**Kurdzhali**	**149.56**	**324**	*e*P		PKPdf	09 32 13.0	+6.2
PGB	**Panagyurishte**	**149.60**	**327**	*e*P		PKPdf	09 32 13.0	+6.2
FLN	**La Foliniere**	**149.69**	**4**	*e*PKP1		PKPdf	09 32 12.3	+5.6
	comp=Z,40nm,0.6s							
BFO	**Black Forest**	**149.78**	**352**	*e*PKHKP			09 32 13.4	
BFO	**Black Forest**	**149.78**	**352**	*e*PKPbc		PKPdf	09 32 13.4	+6.5
CDF	**Champ du Feu**	**149.83**	**353**	*e*PKP1		PKPdf	09 32 13.1	+6.1
	comp=Z,77nm,1.0s							
ROSF	**Rostrenen**	**149.86**	**7**	*e*PKP1		PKPdf	09 32 12.5	+5.5
LDF	**La Druitiere**	**149.87**	**3**	*e*PKP1		PKPdf	09 32 12.8	+5.7
	comp=Z,34nm,0.7s							
RZN	**Rozhen**	**149.92**	**325**	*e*P		PKPdf	09 32 14.0	+6.6
MEZF	**Maizieres J'vi**	**149.94**	**356**	*e*PKP1		PKPdf	09 32 13.6	+6.4
	comp=Z,105nm,1.0s							
PERS	**Pernice**	**149.95**	**342**	*e*PKPbc		PKPdf	09 32 12.9	+5.7
KBA	**Koelnbreinsper**	**150.02**	**345**	⇓*i*P		PKPdf	09 32 13.3	+6.0
	comp=Z,26nm,1.1s,SNR=7.7							
SGMF	**Saint Gilles**	**150.02**	**6**	*e*PKP1		PKPdf	09 32 12.9	+5.6
	comp=Z,98nm,1.0s							
GRR	**Gorron**	**150.03**	**4**	*e*PKP1		PKPdf	09 32 13.5	+6.2
	comp=Z,38nm,0.5s							
VTS	**Vitosha**	**150.06**	**328**	*e*P		PKPdf	09 32 14.2	+6.7
VTS	**Vitosha**	**150.06**	**328**	⇓P		PKPdf	09 32 14.4	+6.9
WATA	**Walderalm**	**150.19**	**347**	⇑*i*P		PKPdf	09 32 14.3	+6.7
	comp=Z,31nm,1.1s,SNR=11							
WATA	**Walderalm**	**150.19**	**347**	⇑*i*P		PKPdf	09 32 14.3	+6.7
WTTA	**Wattenberg**	**150.24**	**347**	⇑*i*P		PKPdf	09 32 14.6	+6.9
	comp=Z,49nm,0.6s,SNR=33							
MOTA	**Moosalm**	**150.28**	**348**	⇑*i*P		PKPdf	09 32 14.5	+6.8
	comp=Z,29nm,1.0s							
MOTA	**Moosalm**	**150.28**	**348**	⇑P		PKPdf	09 32 14.5	+6.8
QUIF	**Quistinic**	**150.28**	**7**	*e*PKP1		PKPdf	09 32 14.3	+6.6
HAU	**Haudompre**	**150.33**	**354**	*e*PKP1		PKPdf	09 32 14.1	+6.3
	comp=Z,52nm,0.8s							
SQTA	**Sankt Quirin**	**150.37**	**348**	⇑*i*P		PKPdf	09 32 14.9	+7.0
	comp=Z,23nm,0.9s							
HINF	**Hinteralfeld**	**150.47**	**354**	*e*PKP1		PKPdf	09 32 14.3	+6.3
	comp=Z,30nm,0.7s							
MMB	**Musomiste**	**150.51**	**326**	*e*P		PKPdf	09 32 15.0	+6.7
DAVA	**Damuels**	**150.56**	**349**	⇓*i*P		PKPdf	09 32 15.0	+6.9
	comp=Z,36nm,0.9s							
DAVA	**Damuels**	**150.56**	**349**	⇓P		PKPdf	09 32 15.0	+6.9
KKB	**Krupnik**	**150.65**	**327**	*e*P		PKPdf	09 32 15.5	+7.0
LJU	**Ljubljana**	**150.66**	**342**	*e*PKPdf		PKPdf	09 32 09.1	+0.8
LJU				*e*PKPbc		PKPdf	09 32 15.2	+6.8
VOY	**Vojsko**	**150.84**	**343**	*e*PKPdf		PKPdf	09 32 08.8	+0.2
VOY				*e*PKPbc		PKPdf	09 32 15.4	+6.8
VOY				*e*PKPab		PKPab	09 32 24.5	-2.7
BOJS	**Bojanci**	**150.93**	**341**	*e*PKPdf		PKPdf	09 32 09.8	+1.1
BOJS				*e*PKPbc		PKPdf	09 32 16.1	+7.4
BOJS				*e*PKPab		PKPab	09 32 25.1	-2.5
BOJS				*i*			09 32 39.4	
BOJS				*e*pPKPbc			09 34 32.4	
DAVOX	**Davos**	**151.05**	**349**	PKP		PKPdf	09 32 10.2	+1.3
	comp=Z,3.4nm,0.3s,baz=275,slow=3.5,SNR=3.5							
DAVOX				PKPbc		PKPdf	09 32 16.4	+7.6
	comp=Z,41nm,0.5s,baz=242,slow=2.4,SNR=46							
LOR	**Lormes**	**151.23**	**358**	*e*PKP1		PKPdf	09 32 16.2	+7.1
	comp=Z,64nm,0.9s							
HYF	**Humbligny**	**151.26**	**359**	*e*PKP1		PKPdf	09 32 16.6	+7.4
SSF	**Saint Saulge**	**151.45**	**358**	*e*PKP1		PKPdf	09 32 16.7	+7.3
	comp=Z,75nm,1.0s							
AVF	**Avril sur Loir**	**151.72**	**358**	*e*PKP1		PKPdf	09 32 17.1	+7.3
	comp=Z,6.5nm,0.7s							
CABF	**La Chapelle**	**151.74**	**354**	*e*PKP1		PKPdf	09 32 18.0	+8.1
	comp=Z,101nm,1.1s							
SMF	**Signal de Mont**	**151.85**	**358**	*e*PKP1		PKPdf	09 32 17.2	+7.2
MFF	**Saint Martin d**	**151.86**	**3**	*e*PKP1		PKPdf	09 32 17.3	+7.3
	comp=Z,37nm,0.7s							
BGF	**Bois d'Agland**	**151.97**	**359**	*e*PKP1		PKPdf	09 32 17.8	+7.6
	comp=Z,41nm,0.7s							
TCF	**Toulx Ste Croi**	**152.24**	**0**	*e*PKP1		PKPdf	09 32 18.3	+7.7
	comp=Z,59nm,1.1s							
RJF	**Les Rejaudoux**	**153.22**	**1**	*e*PKP1		PKPdf	09 32 20.4	+8.4
	comp=Z,9.6nm,0.6s							
ORIF	**Oris-en-Rattie**	**153.43**	**354**	*e*PKP1		PKPdf	09 32 21.3	+9.1
	comp=Z,14nm,0.7s							
MBDF	**Montbardon**	**153.53**	**353**	*e*PKP1		PKPdf	09 32 21.5	+9.1
	comp=Z,40nm,1.0s							
VIVF	**Saint-Julien-l**	**153.59**	**356**	*e*PKP1		PKPdf	09 32 21.7	+9.2
	comp=Z,54nm,1.3s							
CAF	**Calviac**	**153.60**	**0**	*e*PKP1		PKPdf	09 32 21.5	+9.0
	comp=Z,10nm,0.7s							
PBRG	**Braganca**	**155.50**	**16**	*e*PKPab		PKPab	09 32 45.6	-1.3
ETSF	**Etsaut**	**155.52**	**5**	*e*PKP1		PKPdf	09 32 27.7	+13
	comp=Z,4.8nm,0.6s							
MTE	**Manteigas**	**156.56**	**19**	*e*PKPab		PKPab	09 32 50.3	-1.3
PTOM	**Tomar**	**156.99**	**21**	*e*PKPab		PKPab	09 32 51.9	-1.5
EVO	**Evora**	**158.09**	**22**	*e*PKP2		PKPab	09 32 56.6	-1.6
	comp=Z,33nm,1.2s							
ESDC	**Sonseca Array**	**158.19**	**13**	PKP		PKPdf	09 32 17.6	-1.1
	comp=Z,0.7nm,0.7s,baz=236,slow=4.6,SNR=4.6							
ESDC				PKPab		PKPab	09 32 57.1	-1.4
	comp=Z,0.6nm,0.4s,baz=350,slow=4.1,SNR=6.7							
MDT	**Midelt**	**164.43**	**22**	PKP		PKPdf	09 32 26.9	+1.7
	comp=Z,7.7nm,1.1s,baz=22,slow=1.9,SNR=6.5							
MDT				PKPab		PKPab	09 33 25.6	-0.3
	comp=Z,3.3nm,0.9s,baz=352,slow=6.6,SNR=4.2							
LIC	**Lamto**	**165.94**	**149**	*e*PKIKP		PKPdf	09 32 24.2	-2.9
	comp=Z,24nm,1.0s							
DBIC	**Dimbokro**	**166.41**	**149**	PKP		PKPdf	09 32 27.8	+0.3
	comp=Z,3.6nm,0.6s,baz=160,slow=0.8,SNR=6.8							
TORD	**Torodi Ar. Bea**	**174.70**	**174**	PKP		PKPdf	09 32 31.7	-0.1
	comp=Z,5.6nm,1.0s,baz=115,slow=1.4,SNR=4.2							

*CSEM **08** 09:25:15.9±1.0,38.95N×29.54W,ML2.7,Error ellipse: s-maj=16.1km s-min=7.3km az=40.0,After PDA*
*PDA **08** 09:25:15.9±1.0,38.95N×29.54W,MD3.4,ML2.7,Error ellipse: s-maj=16.1km s-min=7.3km az=40.0*
SVSA 08 09:25:15.9±1.0,38.95N×29.54W,MD3.4,ML2.7,Error ellipse: s-maj=16.1km s-min=7.3km az=40.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.69**	**122**	*e*S	Sg	09 25 36.9	-1.9
	84nm,0.2s						
PTCA	**Ponta do Capel**	**0.69**	**122**	*e*S	Sg	09 25 36.9	-1.9
	84nm,0.2s						
PCED	**Cedros**	**0.73**	**116**	*e*S	Sg	09 25 38.1	-2.1
	244nm,0.4s						
PCED	**Cedros**	**0.73**	**116**	*e*S	Sg	09 25 38.1	-2.1
	244nm,0.4s						
CALA	**Caldeira**	**0.75**	**119**	*e*P	Pg	09 25 29.2	-1.7
CALA				*e*S	Sg	09 25 38.5	-2.4
HOR	**Horta**	**0.83**	**120**	*e*P	Pg	09 25 29.7	-2.7
HOR				*e*S	Sg	09 25 40.0	-3.5
PCND	**Candelaria**	**0.97**	**119**	*e*P	Pg	09 25 32.1	-3.2
PCND				*e*S	Sg	09 25 44.4	-3.8
	89nm,0.3s						
PICO	**Pico**	**0.98**	**117**	*e*P	Pb	09 25 31.8	-3.7
PICO				*e*S	Sg	09 25 44.0	-4.6
ROSA	**Rosais**	**1.04**	**102**	*e*P	Pb	09 25 32.9	-3.6
ROSA				*e*S	Sb	09 25 45.4	-5.1
PBOI	**Pico dos Bois**	**1.05**	**119**	*e*S	Sb	09 25 46.0	-4.7
	118nm,0.2s						
PPNO	**Prainha do Nor**	**1.11**	**115**	*erx*		09 25 48.2	
SRBC	**Serra Branca**	**1.17**	**85**	*erx*		09 25 43.5	
PMAN	**Manadas**	**1.18**	**105**	*erx*		09 25 49.1	
PGRA	**Graciosa**	**1.22**	**86**	*erx*		09 25 52.0	
PSBA	**Serra de Santa**	**1.74**	**95**	*erx*		09 25 49.3	

*NEIC **08** 09:47:08.8,40.37N×125.09W,h9km,MD3.7(NCEDC), After NCEDC.*
NEIC Felt [II] at Ferndale and Fortuna. Also felt at Arcadia, Eureka and Petrolia.
*IDC **08** 09:47:14.7±2.5,40.52N×124.23W,mb3.1/2,mb1 3.5/6, mb1mx3.4/23,mbtmp3.2/6,ML3.0/3,Error ellipse: s-maj=33.2km s-min=19.2km az=43.0*
ISC 08 09:47:04.5±2.0,40.34N±0.05×125.3W±0.2,h9km,n34, σ0°93/34,mb2.8/1,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.28**	**65**	*e*P	**Pb**	**09 47 29.1**	**+0.7**
KCPM	**Cahto Peak**	**1.45**	**116**	*e*P	**Pn**	**09 47 31.8**	**+0.8**
KIPM	**Iron Peak**	**1.47**	**111**	*e*P	**Pn**	**09 47 31.9**	**+0.6**
KBO	**Bosley Butte**	**2.02**	**22**	*e*P	**Pn**	**09 47 39.9**	**+0.6**
WDC	**Whiskeytown Da**	**2.09**	**83**	*e*P	**Pn**	**09 47 40.5**	**+0.3**
HOPS	**Hopland**	**2.16**	**128**	*e*P	**Pn**	**09 47 41.3**	**+0.1**
YBH	**Yreka Blue Hor**	**2.38**	**53**	*e*P	**Pn**	**09 47 44.7**	**+0.3**
NSHM	**Saint Helena R**	**2.74**	**131**	*e*Pn	**Pn**	**09 47 50.6**	**+1.0**
HUMO	**Hull Mountain**	**2.85**	**37**	*e*Pn	**Pn**	**09 47 51.4**	**+0.3**
OHCM	**Honcut**	**3.08**	**108**	*e*Pn	**Pn**	**09 47 53.5**	**-0.8**
SAC	**San Andreas**	**3.54**	**140**	*e*Pn	**Pn**	**09 48 00.9**	**+0.1**
MOD	**Modoc**	**4.05**	**66**	*e*Pn	**Pn**	**09 48 07.4**	**-0.8**
CMB	**Columbia Colle**	**4.43**	**120**	*e*Pn	**Pn**	**09 48 14.8**	**+1.3**
SAO	**San Andreas Ge**	**4.66**	**139**	*e*Pn	**Pn**	**09 48 15.6**	**-1.2**
LRV	**Little Rabbit**	**5.14**	**138**	*e*Pn	**Pn**	**09 48 23.2**	**-0.3**
WVOR	**Wild Horse Val**	**5.40**	**65**	*e*Pn	**Pn**	**09 48 25.7**	**-1.6**
NVAR	**Mina Array Bea**	**5.72**	**107**	Pn	**Pn**	**09 48 32.5**	**+0.8**
	3.3nm,0.3s,baz=281,slow=15,SNR=80						
NVAR				Lg		09 49 53.4	
	0.8nm,0.3s,baz=179,slow=14,SNR=4.2						
MNV	**Mina**	**5.83**	**107**	*e*Pn	**Pn**	**09 48 33.1**	**-0.2**
MTUM	**Tungsten Hills**	**6.02**	**118**	*e*Pn	**Pn**	**09 48 34.7**	**-1.3**
PTRM	**Twissleman Ran**	**6.15**	**138**	Pn	**Pn**	**09 48 36.9**	**-0.8**
ISA	**Isabella**	**7.11**	**129**	*e*Pn	**Pn**	**09 48 51.4**	**+0.1**
DAC	**Darwin (Calif)**	**7.26**	**122**	*e*Pn	**Pn**	**09 48 53.5**	**0.0**
BMO	**Blue Mountains**	**7.40**	**50**	*e*Pn	**Pn**	**09 48 55.1**	**-0.3**
ELK	**Elko**	**7.64**	**84**	Pn	**Pn**	**09 48 57.7**	**-1.1**
	0.1nm,0.3s,baz=268,slow=14,SNR=4.9						
ELK				Lg		09 50 52.7	
	0.1nm,0.3s,baz=127,slow=9.1,SNR=2.2						
ELK	**Elko**	**7.64**	**84**	Pn	**Pn**	**09 48 57.7**	**-1.1**
ELK				Lg		09 50 52.7	
TPNV	**Topopah Spring**	**7.82**	**113**	*e*Pn	**Pn**	**09 48 59.8**	**-1.5**
MVU	**Marysvale**	**10.26**	**96**	Pn	**P**	**09 49 35.1**	**+0.1**
MSU	**Marysvale**	**10.29**	**96**	*e*Pn	**P**	**09 49 35.8**	**+0.4**
DLMT	**Dillon**	**10.56**	**57**	P	**P**	**09 49 37.7**	**-1.4**
PDAR	**Pinedale Array**	**12.01**	**73**	Pn	**P**	**09 49 59.9**	**+1.0**
	0.0nm,0.3s,baz=246,slow=8.9,SNR=2.2						
ANMO	**Albuquerque**	**15.83**	**104**	Pn	**P**	**09 50 51.4**	**+2.3**
	baz=284,slow=8.3,SNR=3.0						
ANMO	**Albuquerque**	**15.83**	**104**	Pn	**P**	**09 50 51.4**	**+2.3**
TXAR	**Lajitas Array**	**20.80**	**115**	P	**P**	**09 51 52.1**	**+3.5**
	1.9nm,0.8s,baz=307,slow=10.0,SNR=10						
YKA	**Yellowknife Ar**	**23.09**	**13**	P	**P**	**09 52 19.0**	**+7.8**
	0.3nm,0.7s,mb2.8,baz=191,slow=10,SNR=3.1						

*NEIC **08** 10:24:42.0±3.1,6.65N×73.16W,h153km±32km,mb3.7/1, Error ellipse: s-maj=47.0km s-min=16.5km az=67.0*
*IDC **08** 10:24:43.3±4.0,6.79N×72.98W,h159km±37km,mb3.3/5, mb1 3.6/6,mb1mx3.2/21,mbtmp3.8/6,MS3.4/2,Ms1 3.4/2, ms1mx3.2/12,Error ellipse: s-maj=43.5km s-min=36.4km az=66.0*
*FUNV **08** 10:24:43.0,6.81N×73.20W,h170km,MW3.2*
ISC 08 10:24:43.3±1.0,6.84N±0.09×72.86W±0.06,h182km±8km, n20,σ1°07/27,mb3.5/6,2C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.15**	**28**	⇑*i*P	**P**	**10 25 12.6**	**-0.1**
CAPV				*e*S	**S**	**10 25 34.2**	**-1.2**
SOCV	**Socops**	**2.45**	**54**	*e*P	**P**	**10 25 27.6**	**+1.6**
SOCV				*e*S	**S**	**10 25 59.4**	**+0.4**
SDV	**Santo Domingo**	**3.00**	**47**	P	**P**	**10 25 34.2**	**+1.6**
	12nm,0.3s,baz=240,slow=2.3,SNR=116						
SDV				S	**S**	**10 26 10.9**	**+0.3**
	66nm,0.3s,baz=66,slow=20,SNR=48						
SDV				LR	LR	10 26 55.3	
	comp=Z,263nm,19.7s,baz=204,slow=42						
VIRV	**Villa del Rosa**	**3.67**	**7**	⇑P	**P**	**10 25 39.4**	**-1.6**
VIRV				*e*S	**S**	**10 26 20.4**	**-5.1**
SANV	**Sanarito**	**4.22**	**51**	*e*P	**P**	**10 25 49.1**	**+1.1**
SANV				*e*S	**S**	**10 26 37.8**	**-0.1**
DABV	**Dabajuro**	**4.61**	**28**	*e*P	**P**	**10 25 53.1**	**+0.1**
TEPV	**Terepaima**	**4.77**	**49**	*i* P	**P**	**10 25 56.5**	**+1.4**
TEPV				*e*S	**S**	**10 26 50.5**	**-0.3**
SIQV	**Siquisique**	**4.84**	**38**	*i* P	**P**	**10 25 56.4**	**+0.4**
SIQV				*e*S	**S**	**10 26 50.5**	**-1.7**
BAUV	**El Baul**	**5.21**	**66**	*e*P	**P**	**10 26 01.1**	**+0.4**
BAUV				*e*S	**S**	**10 27 00.3**	**-0.5**
CAOV	**Caicara del Or**	**6.50**	**85**	*e*P	**P**	**10 26 18.4**	**+0.6**
CAOV				*e*S	**S**	**10 27 30.1**	**-1.1**
SJG	**San Juan**	**12.97**	**30**	LR	LR	10 32 37.9	
	comp=Z,288nm,18.8s,baz=83,slow=36						
SAML	**Samuel**	**18.41**	**148**	*e*P	**P**	**10 28 45.4**	**-1.8**
TXAR	**Lajitas Array**	**36.65**	**311**	P	**P**	**10 31 34.1**	**0.0**
	0.3nm,0.4s,mb3.3,baz=133,slow=7.7,SNR=5.9						
ULM	**Lac du Bonnet**	**47.36**	**340**	P	**P**	**10 33 00.2**	**-0.4**
	0.8nm,0.4s,mb3.7,baz=141,slow=6.8,SNR=4.7						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**10 33 08.2**	**+1.9**
	2.3nm,0.6s,mb4.0,baz=72,slow=13,SNR=4.7						
PDAR	**Pinedale Array**	**48.22**	**324**	P	**P**	**10 33 08.0**	**+0.6**
	0.2nm,0.5s,mb3.0,baz=144,slow=7.8,SNR=3.0						
PDAR	**Pinedale Array**	**48.22**	**324**	P	**P**	**10 33 08.0**	**+0.6**
HLID	**Hailey**	**51.59**	**322**	*e*P	**P**	**10 33 30.4**	**-2.5**
	1.1nm,0.7s,mb3.6						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	**P**	**10 34 55.1**	**+0.2**
	0.3nm,0.4s,mb3.4,baz=133,slow=6.4,SNR=5.0						
WRA	**Warramunga Arr**	**150.57**	**241**	PKPbc	PKPdf	10 44 16.4	+7.8
	0.4nm,0.4s,baz=106,slow=2.9,SNR=12						

*MOS **08** 10:28:45.5±0.9,16.89N×146.57E,h33km,mb5.0/12,Error ellipse: s-maj=16.8km s-min=9.0km az=90.7*
*NEIC **08** 10:28:49.5±0.2,16.80N×146.53E,mb4.7/16,Error ellipse: s-maj=7.5km s-min=5.2km az=104.0*
*BJI **08** 10:28:49.4,16.80N×146.50E,h58km,mB5.0,mb4.5, Ms4.8,Msz4.4*
*IDC **08** 10:28:49.0±0.6,16.79N×146.43E,h58km±4km,mb4.1/14, mb1 4.3/16,mb1mx4.2/24,mbtmp4.4/16,MS4.0/1, Ms1 4.0/1,ms1mx2.7/32,Error ellipse: s-maj=19.5km s-min=8.1km az=108.0*
ISC 08 10:28:47.5±1.2,16.79N±0.05×146.53E±0.06,h55km±11km, h57km±1.3km:pP-P,n77,σ1°04/81,mb4.6/33,MS4.4/5,1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.56**	**207**	P	**P**	**10 29 43.2**	**+1.4**
	81nm,0.3s,baz=157,slow=1.2,SNR=27						
GUMO				S	**S**	**10 30 21.6**	**-1.4**
	78nm,0.3s,baz=345,slow=23,SNR=8.9						
GUMO	**Guam**	**3.56**	**207**	*e*Pn	**P**	**10 29 42.7**	**+0.9**
GUMO				*e*Sn	**S**	**10 30 19.4**	**-3.6**
JOW	**Kunigami**	**19.66**	**304**	P	**P**	**10 33 14.1**	**-0.6**
	1.0nm,0.3s,baz=135,slow=16,SNR=2.9						
JOW				LR	LR	10 39 25.4	
	comp=Z,433nm,20.3s,baz=126,slow=32						
MJAR	**Matsushiro Ar**	**21.02**	**341**	P	**P**	**10 33 27.8**	**-0.9**
	4.3nm,0.6s,mb3.9,baz=165,slow=9.9,SNR=10						
MAJO	**Matsushiro**	**21.02**	**341**	*e*P	**P**	**10 33 27.7**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.3						
MAJO	**Matsushiro**	**21.02**	**341**	*e*P	**P**	**10 33 27.6**	**-1.1**
	comp=Z,14nm,0.9s,mb4.3						
MAT	**Matsushiro**	**21.02**	**341**	P	**P**	**10 33 29.0**	**+0.2**
MAT	**Matsushiro**	**21.02**	**341**	*e*P	**P**	**10 33 29.0**	**+0.2**
TATO	**Taipei**	**24.75**	**293**	P	**P**	**10 34 08.0**	**+2.5**
	comp=Z,103nm,0.9s,mb5.4						
YHNB	**Yeheng**	**24.77**	**293**	P	**P**	**10 34 06.5**	**+0.8**
ASAJ	**Asahikawa**	**27.45**	**354**	P	**P**	**10 34 29.4**	**-1.0**
	comp=Z,9.7nm,0.9s,mb4.3,baz=216,slow=16,SNR=6.9						
NJ2	**Nanjing**	**29.32**	**306**	*e*P	**P**	**10 34 49.8**	**+2.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
CN2	**Changchun**	**32.31**	**331**	*e*P	**P**	**10 35 16.2**	**+2.7**
CTA	**Charters Tower**	**36.65**	**180**	P	**P**	**10 35 49.5**	**-1.4**
	comp=Z,1.4nm,0.4s,mb4.2,baz=7.5,slow=12,SNR=4.8						
CTAO	**Charters Tower**	**36.65**	**180**	*e*P	**P**	**10 35 51.2**	**+0.4**
CTAO				*e**PP	pP	10 36 05.5	+0.4
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
CTAO	**Charters Tower**	**36.65**	**180**	*e*P	**P**	**10 35 51.2**	**+0.4**
	comp=Z,5.7nm,0.7s,mb4.5						
CTAO				*e*pP	pP	10 36 05.5	+0.4
GYA	**Guiyang**	**38.16**	**292**	*e*P	**P**	**10 36 07.5**	**+4.1**
GYA				AP	pP	10 36 22.5	+4.8
GYA				XP	sP	10 36 29.9	+5.5
GYA				PP	PP	10 37 41.0	+6.4
GYA				S	**S**	**10 41 59.3**	**+6.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,3.4s						
GYA				LR	LR		
	comp=N,530nm,17.3s,MS4.5						
GYA				LR	LR		
	comp=E,510nm,17.4s,MS4.5						
GYA				LR	LR		
	comp=Z,490nm,17.8s,MS4.4						
WB2	**Warramunga Arr**	**38.41**	**199**	*e*P	**P**	**10 36 05.2**	**-0.4**
WRA	**Warramunga Arr**	**38.42**	**199**	P	**P**	**10 36 05.3**	**-0.3**
	comp=Z,5.4nm,0.8s,mb4.4,baz=23,slow=9.4,SNR=39						
WRA				S	**S**	**10 41 55.5**	**-0.8**
	comp=Z,0.6nm,1.0s,slow=15,SNR=3.9						
KSM	**Kuching**	**38.75**	**251**	*e*P	**P**	**10 36 09.4**	**+0.9**
HIA	**Hailar**	**39.01**	**332**	*e*P	**P**	**10 36 09.4**	**-0.9**
HIA				pmax	pmax		
	comp=E,6.0nm,0.6s						
HIA	**Hailar**	**39.01**	**332**	*e*P	**P**	**10 36 09.4**	**-0.8**
	comp=Z,6.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.31**	**212**	*e*P	**P**	**10 36 21.3**	**-0.1**
	comp=Z,4.6nm,0.9s,mb4.2						
CD2	**Chengdu**	**41.32**	**298**	*e*P	**P**	**10 36 30.0**	**+0.5**
CD2				PP	PP	10 38 09.5	+1.0
CD2				PPP	PPP	10 38 40.0	+0.5
CD2				S	**S**	**10 42 39.5**	**-0.2**
CD2				SS	SS	10 45 40.2	+0.1
CD2				LR	LR		
	comp=E,140nm,9.6s						
CD2				LR	LR		
	comp=Z,110nm,13.7s,MS3.9						
LZH	**Lanzhou**	**42.38**	**305**	*e*P	**P**	**10 36 39.2**	**+0.9**
LZH				AP	pP	10 36 54.6	+2.0
LZH				XP	sP	10 37 02.0	+2.8
LZH				PP	PP	10 38 21.2	+1.4
LZH				*e*S	**S**	**10 42 56.1**	**+0.8**
LZH				XS		10 43 22.3	
LZH				*e*SS	SS	10 46 00.2	+0.6
LZH				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.5						
LZH				AMB	AMB		
	comp=Z,90nm,4.5s						
LZH				LR	LR		
	comp=N,830nm,13.6s						
LZH				LR	LR		
	comp=Z,1μm,14.8s,MS4.9						
LZH	**Lanzhou**	**42.38**	**305**	*e*P	**P**	**10 36 39.2**	**+0.9**
LZH				*PP	pP	10 36 54.6	+2.0
LZH						10 38 21.2	
LZH				*e*S	**S**	**10 42 56.1**	**+0.8**
LZH				*e*SS	SS	10 46 00.2	+0.6
LZH				pmax	pmax		
	comp=Z,25nm,1.6s,mb4.6						
LZH				MLR	MLR		
	comp=Z,1μm,14.8s,MS4.9						
LZH	**Lanzhou**	**42.38**	**305**	*e*P	**P**	**10 36 39.2**	**+0.9**
	comp=Z,25nm,1.6s,mb4.6						
LZH				pP	pP	10 36 54.6	+2.0
LZH				sP	sP	10 37 02.0	+2.8
LZH				PP	PP	10 38 21.2	+1.4
LZH				*e*S	**S**	**10 42 56.1**	**+0.8**
LZH				sS		10 43 22.3	
LZH				*e*SS	SS	10 46 00.2	+0.6
LZH				LR	LR		
	comp=Z,1μm,14.8s,MS4.9						
MA2	**Magadan**	**42.84**	**3**	*e*P	**P**	**10 36 41.4**	**-0.3**
MA2				*e**PP	pP	10 36 56.4	+0.4
MA2				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.9						
MA2	**Magadan**	**42.84**	**3**	*e*P	**P**	**10 36 41.4**	**-0.3**
	comp=Z,27nm,1.1s,mb4.9						
MA2				*e*pP	pP	10 36 56.4	+0.4
ULN	**Ulaanbaatar

RES	**Resolute Bay**	**81.08**	**14**	*e*P		**P**	**10 40 57.5**	**-0.3**
	comp=Z,4.6nm,0.8s,mb4.5							
NEW	**Newport**	**81.79**	**42**	P		**P**	**10 41 02.8**	**+0.8**
	comp=Z,3.6nm,0.9s,mb4.3,baz=356,slow=3.5,SNR=5.7							
EDM	**Edmonton**	**82.64**	**37**	*e*P		**P**	**10 41 06.5**	**+0.2**
EDM				*e*'PP		pP	10 41 23.0	+1.0
NVAR	**Mina Array Bea**	**83.69**	**52**	P		**P**	**10 41 13.2**	**+1.3**
	comp=Z,1.6nm,0.6s,mb4.3,baz=265,slow=7.6,SNR=18							
NVAR				pP		pP	10 41 29.7	+2.0
	comp=Z,2.6nm,0.5s,baz=266,slow=5.8,SNR=11							
ARCES	**ARCESS Array B**	**84.55**	**342**	P		**P**	**10 41 13.9**	**-1.6**
	comp=Z,1.3nm,0.6s,mb4.2,baz=72,slow=7.7,SNR=6.6							
MCMT	**McKenzie Canyo**	**85.64**	**45**	P		**P**	**10 41 21.2**	**-0.3**
HRY	**Holter Researc**	**85.68**	**43**	*e*P		**P**	**10 41 22.9**	**+1.3**
HRY				*e*pP		pP	10 41 35.5	-1.9
QLMT	**Earthquake Lak**	**86.59**	**44**	*e*P		**P**	**10 41 27.0**	**+0.8**
QLMT				*e*pP		pP	10 41 44.3	+2.3
DUG	**Dugway**	**87.20**	**49**	*e*P		**P**	**10 41 30.1**	**+0.8**
DUG				*e*'PP		pP	10 41 44.1	-1.0
DUG				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.9							
DUG	**Dugway**	**87.20**	**49**	*e*P		**P**	**10 41 30.1**	**+0.8**
	comp=Z,4.9nm,0.6s,mb4.9							
DUG				*e*pP		pP	10 41 44.1	-1.0
ARUT	**Antelope Range**	**87.54**	**51**	*e*P		**P**	**10 41 32.4**	**+1.5**
ARUT				*e*'PP		pP	10 41 49.7	+2.9
MSU	**Marysvale**	**88.23**	**50**	*e*P		**P**	**10 41 35.6**	**+1.4**
MSU				*e*'PP		pP	10 41 52.7	+2.6
PDAR	**Pinedale Array**	**88.59**	**46**	P		**P**	**10 41 36.0**	**+0.2**
	comp=Z,0.4nm,0.5s,mb4.0,baz=91,slow=1.8,SNR=7.3							
PDAR	**Pinedale Array**	**88.59**	**46**	P		**P**	**10 41 36.0**	**+0.2**
SRU	**San Rafael**	**89.23**	**49**	*e*P		**P**	**10 41 40.1**	**+1.1**
SRU				*e*'PP		pP	10 41 56.5	+1.6
SRU				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb5.0							
SRU	**San Rafael**	**89.23**	**49**	*e*P		**P**	**10 41 40.1**	**+1.1**
	comp=Z,5.8nm,0.7s,mb5.0							
SRU				*e*pP		pP	10 41 56.5	+1.5
ANMO	**Albuquerque**	**93.81**	**52**	pP		pP	10 42 18.1	+1.9
	comp=Z,1.5nm,0.9s,baz=277,slow=7.4,SNR=3.5							
LPAZ	**La Paz**	**146.79**	**94**	PKPbc		PKPbc	10 48 26.6	+2.4
	comp=Z,7.3nm,0.6s,baz=342,slow=4.4,SNR=32							
LPAZ	**La Paz**	**146.79**	**94**	*e*PKPdf		PKPdf	10 48 26.4	+3.8
LPAZ				*e*PKPbc		PKPbc	10 48 28.0	+3.9
LPAZ				*e*pPKPdf			10 48 44.0	
SAML	**Samuel**	**150.03**	**79**	*e*PKPbc		PKPdf	10 48 33.8	+5.9
SAML				*e*pPKPdf			10 48 51.2	
SIV	**San Ignacio**	**153.51**	**92**	PKPbc		PKPdf	10 48 43.0	+10
	comp=Z,2.7nm,0.6s,baz=255,slow=3.5,SNR=20							
SIV				pPKPbc			10 48 59.5	
	comp=Z,1.8nm,0.7s,baz=249,slow=7.6,SNR=4.3							

IDC ***08*** *10:33:05.3±1.8, 8.49S×159.98E, mb4.1/3, mb1 4.2/5, mb1mx3.9/15, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=49.8km s-min=17.9km az=82.0*
NEIC ***08*** *10:33:09.9±3.7, 8.48S×160.10E, h43km±38km, mb4.6/3, Error ellipse: s-maj=36.0km s-min=22.8km az=156.0*
ISC 08 10:33:10.2±2.5, 8.6S±0.2×160.0E±0.2, h58km±23km, n14, σ1°06/16, mb4.3/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**0.87**	**185**	Pn		**P**	**10 33 25.6**	**-0.9**
	341nm,0.3s,baz=124,slow=3.3,SNR=153							
HNR				Sn		**S**	**10 33 40.0**	**+1.2**
	774nm,0.3s,baz=46,slow=21,SNR=106							
HNR	**Honiara**	**0.87**	**185**	Pn		**P**	**10 33 25.6**	**-1.0**
HNR				*e*Sg		**S**	**10 33 34.3**	**-4.5**
DZM	**Mont Dzumac**	**14.78**	**156**	Pn		**P**	**10 36 37.6**	**+0.2**
	0.4nm,0.3s,baz=332,slow=15,SNR=4.7							
CTA	**Charters Tower**	**17.58**	**228**	P		**P**	**10 37 13.5**	**+0.7**
	baz=31,slow=13,SNR=2.0							
CTAO	**Charters Tower**	**17.58**	**228**	*e*P		**P**	**10 37 15.0**	**+2.2**
WB2	**Warramunga Arr**	**27.30**	**243**	*e*P		**P**	**10 38 51.9**	**+0.3**
WRA	**Warramunga Arr**	**27.30**	**243**	P		**P**	**10 38 51.7**	**0.0**
	2.2nm,0.3s,mb4.2,baz=65,slow=8.3,SNR=31							
FITZ	**Fitzroy Crossi**	**34.73**	**251**	*e*P		**P**	**10 39 56.3**	**-0.6**
	4.1nm,0.6s,mb4.5							
MBWA	**Marble Bar**	**40.79**	**248**	*e*P		**P**	**10 40 47.1**	**-0.6**
	33nm,1.4s,mb4.8							
NWAO	**Narrogin (SRO)**	**46.34**	**232**	*e*P		**P**	**10 41 31.3**	**-1.2**
ULN	**Ulaanbaatar**	**73.04**	**326**	P		**P**	**10 44 33.4**	**-2.5**
SONM	**Songino Array**	**73.39**	**326**	P		**P**	**10 44 39.4**	**+1.5**
	1.1nm,0.8s,mb3.8,baz=141,slow=5.0,SNR=6.1							
LSA	**Lhasa**	**76.28**	**303**	P		**P**	**10 44 55.0**	**+0.1**
	7.3nm,1.1s,mb4.5							
MKAR	**Makanchi Array**	**87.89**	**318**	P		**P**	**10 45 56.0**	**+1.2**
	0.7nm,0.7s,mb4.0,baz=90,slow=6.1,SNR=4.5							

NEIC ***08*** *10:46:23.8, 31.64S×72.17W, h3km, ML3.0(GUC), After GUC.*
GUC 08 10:46:23.8±0.8, 31.64S×72.17W, h3km±3km, MD3.7, ML3.0, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CHNG	**Los Chungos**	**0.62**	**114**	⇓*i*P		Pg	10 46 36.4	+0.2
CHNG				*i* S		Sg	10 46 45.8	+1.3
CHNG				AMP			10 46 47.6	
	comp=E,608nm,0.4s							
ILCH	**Illapel**	**0.85**	**90**	*e*P		Pg	10 46 41.4	+0.5
ILCH				*i* S		Sg	10 46 53.4	+1.1
ILCH				AMP			10 46 54.2	
	comp=N,2μm,0.1s							
ROCH	**El Roble**	**1.65**	**144**	*e*P		Pn	10 46 53.8	-0.1
ROCH				*i* S		Sb	10 47 16.6	+0.8
JACH	**Jahuel**	**1.69**	**128**	⇑*i*P		Pn	10 46 54.3	-0.2
JACH				*i* S		Sn	10 47 16.8	-0.2
TLL	**Tololo Astrono**	**1.88**	**39**	⇑*i*P		Pn	10 46 59.0	+1.9
TLL				*i* S		Sn	10 47 24.3	+2.7
TLL				AMP			10 47 33.0	
	comp=N,431nm,0.6s							
LCCH	**Las Cruces**	**1.90**	**165**	⇓*i*P		Pn	10 46 56.7	-0.8
PEL	**Peldehue**	**1.96**	**141**	⇓*i*P		Pn	10 46 58.3	0.0
PEL				*i* S		Sn	10 47 24.5	+0.8
PEL				AMP			10 47 28.9	
	comp=E,402nm,0.5s							
RCDM	**Rinconada Maip**	**2.18**	**148**	*i* P		Pn	10 47 01.5	+0.1
RCDM				AMP			10 47 37.3	
	comp=N,121nm,0.4s							
TACH	**Talagante**	**2.26**	**153**	⇓*i*P		Pn	10 47 02.8	+0.2
FCH	**Farellones**	**2.32**	**137**	⇑*i*P		Pn	10 47 03.7	+0.3
FCH				*i* S		Sn	10 47 34.8	+2.0
FCH				AMP			10 47 38.0	
	comp=E,84nm,0.3s							
CHCH	**Chadas Angostu**	**2.62**	**151**	*e*P		Pn	10 47 07.8	0.0

ISK ***08*** *10:46:26.9, 35.26N×26.95E, h39km, MD3.6*
ATH ***08*** *10:46:30.9, 35.58N×27.13E, h27km±2km, MD3.4/5*
NEIC ***08*** *10:46:30.7, 35.55N×27.13E, h29km, MD3.4(ATH), After ATH.*
CSEM ***08*** *10:46:31.2±0.2, 35.55N×27.17E, h25km, MD3.4, Error ellipse: s-maj=8.4km s-min=4.1km az=149.0*
ISC 08 10:46:31.1±0.8, 35.61N±0.07×27.10E±0.06, h16km±9km, n14, σ0°94/19, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**0.08**	**142**	*e*PB		**Pb**	**10 46 35.5**	**+1.2**
ARG	**Arkhangelos**	**1.03**	**54**	*e*PN		**Pn**	**10 46 51.4**	**+0.6**
ARG				*e*SN		**Sn**	**10 47 05.2**	**+0.4**
DAT	**Datca**	**1.18**	**19**	PN		**Pn**	**10 46 52.1**	**-0.9**
DAT				SN		**Sn**	**10 47 12.1**	**+3.3**
NPS	**Neapolis**	**1.27**	**255**	*e*PN		**Pn**	**10 46 54.6**	**+0.4**
NPS				*e*SN		**Sn**	**10 47 11.7**	**+0.8**
XRY	**Khrisi**	**1.37**	**238**	*e*PN		**Pn**	**10 46 55.6**	**0.0**
XRY	**Khrisi**	**1.37**	**238**	*e*Pb		**Pb**	**10 46 54.5**	**-1.3**
BODT	**Bodrum**	**1.46**	**7**	*e*PN		**Pn**	**10 46 56.9**	**-0.1**
DALT	**Dalyan (Mudla)**	**1.70**	**47**	*e*PN		**Pn**	**10 47 00.2**	**-0.2**
MLSB	**Milas**	**1.77**	**18**	*e*PN		**Pn**	**10 47 00.3**	**-1.1**
YER	**Yerkesik**	**1.80**	**32**	*e*PN		**Pn**	**10 47 02.1**	**+0.3**
FETY	**Fethiye**	**1.90**	**57**	*e*PN		**Pn**	**10 47 02.7**	**-0.6**
APE	**Apeiranthos**	**1.93**	**319**	*e*PN		**Pn**	**10 47 01.9**	**-1.8**
APE	**Apeiranthos**	**1.93**	**319**	*e*PN		**Pb**	**10 47 05.3**	**-0.1**
APE				*e*SN		**Sn**	**10 47 29.1**	**+1.3**
APE	**Apeiranthos**	**1.93**	**319**	*e*Pb		**Pb**	**10 47 05.3**	**-0.1**
APE				*e*Sn		**Sn**	**10 47 29.1**	**+1.3**

IDC ***08*** *10:49:19.0±0.9, 26.76N×140.97E, mb3.9/8, mb1 4.3/8, mb1mx4.1/18, mbtmp3.9/8, MS2.9/2, Ms1 2.9/2, ms1mx2.8/26, Error ellipse: s-maj=26.1km s-min=18.6km az=164.0*
NEIC ***08*** *10:49:36.0±5.2, 26.76N×140.72E, h142km±48km, mb4.5/1, Error ellipse: s-maj=30.6km s-min=20.3km az=102.0*
ISC 08 10:49:18.5±5.2, 26.8N±0.2×140.87E±0.08, h9km±33km, n16, σ0°94/13, mb4.0/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.22**	**74**	Pn		**Pn**	**10 49 42.2**	**+0.3**
	62nm,0.3s,baz=269,slow=22,SNR=16							
CBIJ				Sn		**Sn**	**10 49 57.3**	**-1.3**
	96nm,0.3s,baz=88,slow=22,SNR=10							
MJAR	**Matsushiro Arr**	**10.02**	**348**	LR		LR	10 55 01.5	
	comp=Z,79nm,21.8s,baz=215,slow=34							
JOW	**Kunigami**	**11.25**	**273**	LR		LR	10 54 51.8	
	comp=Z,63nm,20.7s,baz=56,slow=29							
KS15	**Wonju Array Si**	**15.30**	**317**	*e*P		**P**	**10 53 04.3**	**+7.9**
YHNB	**Yeheng**	**17.69**	**268**	P		**P**	**10 53 25.5**	**-1.4**
SONM	**Songino Array**	**34.16**	**317**	P		**P**	**10 56 06.8**	**+0.7**
	0.5nm,0.6s,mb3.6,baz=135,slow=6.8,SNR=3.6							
BILL	**Bilibino**	**44.05**	**13**	*e*P		**P**	**10 57 27.9**	**-0.2**
	20nm,1.5s,mb4.6							
WRA	**Warramunga Arr**	**46.85**	**188**	P		**P**	**10 57 50.8**	**-0.2**
	1.3nm,0.6s,mb4.1,baz=9.4,slow=8.5,SNR=22							
MKAR	**Makanchi Array**	**49.79**	**310**	P		**P**	**10 58 12.9**	**-0.6**
	0.8nm,0.7s,mb3.9,baz=90,slow=8.5,SNR=6.1							
ILAR	**Eielson Array**	**58.57**	**29**	P		**P**	**10 59 17.1**	**-0.6**
	0.4nm,0.7s,mb3.5,baz=280,slow=7.6,SNR=5.4							
YKA	**Yellowknife Ar**	**73.00**	**28**	P		**P**	**11 00 49.6**	**-0.5**
	1.5nm,0.6s,mb4.1,baz=294,slow=6.1,SNR=17							
NVAR	**Mina Array Bea**	**81.65**	**51**	P		**P**	**11 01 40.0**	**+1.4**
	0.4nm,0.9s,mb3.4,baz=274,slow=3.1,SNR=5.8							
PDAR	**Pinedale Array**	**85.28**	**44**	P		**P**	**11 01 58.1**	**+1.1**
	1.7nm,1.0s,mb4.2,baz=249,slow=3.3,SNR=9.6							
TXAR	**Lajitas Array**	**96.74**	**53**	P		**P**	**11 02 52.6**	**+1.4**
	1.1nm,0.9s,mb4.3,baz=297,slow=2.0,SNR=5.5							
LPAZ	**La Paz**	**151.15**	**75**	PKPbc		PKPdf	11 09 15.4	+5.6
	2.6nm,0.7s,baz=287,slow=3.4,SNR=13							
LPAZ				PKPab		PKPab	11 09 21.6	-1.3
	1.8nm,0.7s,baz=318,slow=6.6,SNR=6.1							
SAML	**Samuel**	**151.15**	**57**	*e*PKPbc		PKPdf	11 09 13.8	+3.9
SAML				*e*			11 09 20.2	

NEIC ***08*** *10:52:47.8, 18.10N×102.96W, h24km, MD3.8(MEX), After MEX.*
MEX 08 10:52:47.8±1.0, 18.10N×102.96W, h24km±90km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.51**	**109**	*e*P		Pn	10 53 10.1	-3.6
ZIIG				*i* S		Sn	10 53 29.4	-3.3
MOIG	**Morelia**	**2.30**	**47**	*i* P		Pn	10 53 23.2	-1.8
MOIG				*i* S		Sn	10 53 47.7	-5.1
SFJM	**Santa Fe**	**2.37**	**358**	*i* P		Pn	10 53 22.5	-3.5
SFJM				*i* S		Sn	10 53 52.0	-2.6
PLIG	**Platanillo**	**3.30**	**84**	*e*P		Pn	10 53 36.5	-2.8
PLIG				*i* S		Sn	10 54 14.3	-3.9

IDC 08 11:06:36.6±1.0, 12.27N×144.02E, mb3.8/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.8/7, Error ellipse: s-maj=35.1km s-min=20.0km az=120.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.55**	**32**	Pn		Pn	11 07 06.3	+0.7
	124nm,0.3s,baz=186,slow=9.1,SNR=56							
GUMO				Sn		Sn	11 07 26.5	-0.1
	139nm,0.3s,baz=187,slow=23,SNR=12							
WRA	**Warramunga Arr**	**33.40**	**197**	P		P	11 13 17.2	-2.0
	0.6nm,0.6s,baz=19,slow=9.6,SNR=9.7							
SONM	**Songino Array**	**47.34**	**326**	P		P	11 15 13.3	-0.9
	0.3nm,0.5s,baz=142,slow=6.6,SNR=3.1							
MKAR	**Makanchi Array**	**61.87**	**317**	P		P	11 16 58.2	-1.9
	0.5nm,0.6s,baz=92,slow=8.9,SNR=6.9							
ILAR	**Eielson Array**	**70.11**	**25**	P		P	11 17 49.2	-3.2
	0.5nm,0.7s,baz=247,slow=6.0,SNR=11							
YKA	**Yellowknife Ar**	**84.40**	**27**	P		P	11 19 11.2	-0.7
	0.6nm,0.6s,baz=288,slow=5.5,SNR=5.6							
NVAR	**Mina Array Bea**	**88.38**	**51**	P		P	11 19 32.3	+0.3
	0.8nm,0.6s,baz=266,slow=4.4,SNR=10							
FINES	**FINESS Array B**	**92.00**	**335**	P		P	11 19 45.5	-2.8
	1.3nm,0.6s,baz=72,slow=6.0,SNR=5.3							
DBIC	**Dimbokro**	**143.79**	**300**	PKP		PKPdf	11 26 12.6	-4.0
	3.6nm,1.0s,baz=124,slow=3.6,SNR=5.1							

IDC 08 11:34:30.3±16.0, 5.09S×147.25E, h138km±158km, mb4.0/2, mb1 4.2/3, mb1mx3.6/12, mbtmp4.4/3, ML4.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/18, Error ellipse: s-maj=141.6km s-min=44.8km az=145.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**13.31**	**110**	LR		LR	11 41 59.0	
	comp=Z,106nm,21.9s,baz=91,slow=34							
WB2	**Warramunga Arr**	**19.38**	**219**	*e*P		P	11 38 44.9	-3.0
WRA	**Warramunga Arr**	**19.39**	**219**	P		P	11 38 44.9	-3.0
	1.2nm,0.3s,baz=43,slow=12,SNR=66							
FITZ	**Fitzroy Crossi**	**24.77**	**237**	P		P	11 39 40.1	-0.8
	16nm,0.4s,baz=53,slow=11,SNR=111							
ILAR	**Eielson Array**	**84.55**	**23**	P		P	11 46 47.8	-1.1
	0.4nm,0.6s,baz=258,slow=5.0,SNR=11							
TORD	**Torodi Ar. Bea**	**145.10**	**286**	PKPbc		PKPbc	11 53 51.0	-1.8
	0.5nm,0.5s,baz=62,slow=3.6,SNR=7.5							

IDC ***08*** *11:43:53.3±3.9, 9.49N×88.01W, mb3.5/2, mb1 4.0/3, mb1mx3.6/20, mbtmp3.6/3, ML4.2/1, Error ellipse: s-maj=101.4km s-min=33.7km az=12.0*
CASC ***08*** *11:44:12.0±1.8, 11.37N×85.83W, h186km±6km, MD4.0*
ISC 08 11:44:12.1±0.6, 11.4N±0.1×85.9W±0.1, h188km±4km, n27, σ0°80/43, mb3.3/2, 7C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SSNN	**San Juan del S**	**0.07**	**172**	⇑*e*P		**P**	**11 44 37.1**	**0.0**
SSNN				*e*S		**S**	**11 44 57.3**	**+1.1**
CONN	**Concepcion**	**0.31**	**48**	*e*P		**P**	**11 44 37.2**	**-0.4**
MADN	**Villa Maderas**	**0.32**	**81**	*e*P		**P**	**11 44 37.5**	**0.0**
APON	**Apoyo**	**0.59**	**340**	*e*P		**P**	**11 44 38.5**	**-0.1**
TICN	**Ticuantepe**	**0.77**	**332**	*e*P		**P**	**11 44 39.5**	**+0.1**
TICN				*e*S		**S**	**11 45 02.6**	**+2.2**
WILN	**Americas 2**	**0.86**	**338**	*e*P		**P**	**11 44 40.1**	**+0.2**
WILN				*e*S		**S**	**11 45 01.4**	**0.0**
MGAN	**Managua**	**0.87**	**334**	⇑*e*P		**P**	**11 44 39.9**	**-0.1**
MGAN				*e*P			11 44 40.0	
MGAN				*e*S		**S**	**11 45 01.1**	**-0.5**
LIM1	**Limonal**	**0.88**	**138**	⇑*i*P		**P**	**11 44 40.2**	**+0.2**
LIM1				*e*S		**S**	**11 45 01.1**	**-0.5**
XAVN	**Gruta Xavier**	**0.91**	**330**	*e*P		**P**	**11 44 40.1**	**-0.1**
XAVN				*e*S		**S**	**11 45 03.4**	**+1.4**
COPN	**Copaltepe**	**1.09**	**319**	*e*P		**P**	**11 44 40.9**	**-0.6**
COPN				*e*S		**S**	**11 45 04.5**	**+0.3**
MOMJ	**Momotombo**	**1.24**	**328**	*e*P		**P**	**11 44 42.1**	**-0.7**
MOMJ				*e*S		**S**	**11 45 05.3**	**-1.2**
VCR	**Vista de Mar**	**1.24**	**170**	⇑*e*P		**P**	**11 44 43.3**	**+0.5**
VCR				*e*S		**S**	**11 45 06.6**	**0.0**
MIRN	**Miramar**	**1.36**	**322**	*e*P		**P**	**11 44 43.2**	**-0.6**
MIRN				*e*S		**S**	**11 45 08.6**	**+0.2**
JTS	**JuntasAbangare**	**1.38**	**140**	Pn		**P**	**11 44 43.7**	**-0.3**
	29nm,0.3s,baz=330,slow=12,SNR=56							
JTS				Sn		**S**	**11 45 06.6**	**-2.2**
	38nm,0.3s,baz=319,slow=17,SNR=4.0							
CNGN	**Cerro Negro**	**1.40**	**324**	*e*P		**P**	**11 44 43.3**	**-1.0**
CNGN				*e*S		**S**	**11 45 08.5**	**-0.5**
LEON	**Leon**	**1.46**	**316**	⇑*e*P		**P**	**11 44 44.0**	**-0.7**
TEL3	**Telica 3**	**1.55**	**322**	*e*P		**P**	**11 44 45.3**	**-0.2**
TEL3				*e*S		**S**	**11 45 11.6**	**+0.2**
TELN	**Telica**	**1.56**	**323**	*e*P		**P**	**11 44 45.7**	**0.0**
TELN				*e*S		**S**	**11 45 13.7**	**+2.1**
CRIN	**San Cristobal**	**1.77**	**319**	*e*P		**P**	**11 44 47.3**	**-0.4**
CRIN				*e*S		**S**	**11 45 14.7**	**-0.6**
VPS2	**Volcan Poas 2**	**1.97**	**126**	*e*P		**P**	**11 44 49.1**	**-0.7**
PRS1	**Puriscal**	**2.04**	**132**	⇑*e*P		**P**	**11 44 51.4**	**+0.8**
PRS1				*e*S		**S**	**11 45 20.7**	**+0.5**
LAJ	**Bijagual**	**2.26**	**131**	⇑*e*P		**P**	**11 44 51.5**	**-1.5**
LCR2	**La Lucha 2**	**2.43**	**131**	⇓*e*P		**P**	**11 44 55.3**	**+0.4**
BUS	**Buena Vista**	**2.73**	**131**	⇓*e*P		**P**	**11 44 59.5**	**+1.0**
BUS				*e*S		**S**	**11 45 35.1**	**+0.8**
TXAR	**Lajitas Array**	**24.41**	**320**	P		**P**	**11 49 15.6**	**+0.9**
	0.6nm,0.5s,mb3.4,baz=146,slow=10,SNR=7.2							
NVAR	**Mina Array Bea**	**39.55**	**319**	P		**P**	**11 51 26.7**	**+0.4**
	0.4nm,0.6s,mb3.2,baz=126,slow=8.6,SNR=5.3							
WRA	**Warramunga Arr**	**140.45**	**252**	PKP		PKPdf	12 03 20.3	+0.7
	0.3nm,0.5s,baz=91,slow=2.6,SNR=8.0							

IDC ***08*** *11:46:07.8±4.2, 7.80N×92.15E, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=149.5km s-min=30.1km az=62.0*
NEIC ***08*** *11:46:11.5±2.0, 7.61N×91.97E, h30km, mb4.2/7, Error ellipse: s-maj=69.1km s-min=15.4km az=56.0*
ISC 08 11:46:09.1±2.4, 7.5N±0.3×91.9E±0.5, h30km, n10, σ0°77/10, mb4.1/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JIRN	**Jiri**	**20.72**	**346**	*e*P		**P**	**11 50 49.6**	**-0.2**
	5.5nm,0.3s							
PKI	**Pulchoki**	**20.84**	**344**	*e*P		**P**	**11 50 51.7**	**+0.6**
	14nm,0.5s							
DMN	**Daman**	**20.96**	**343**	*e*P		**P**	**11 50 53.3**	**+1.0**
	15nm,0.6s							
GUN	**Gumba**	**21.04**	**345**	*e*P		**P**	**11 50 52.5**	**-0.6**
	15nm,0.7s,mb4.4							
GKN	**Gorkha**	**21.47**	**342**	*e*P		**P**	**11 50 56.9**	**-0.5**
	12nm,0.3s,mb4.7							
KOLN	**Koldanda**	**21.59**	**340**	*e*P		**P**	**11 50 58.2**	**-0.4**
	19nm,0.8s,mb4.6							
LSA	**Lhasa**	**22.06**	**358**	*e*P		**P**	**11 51 04.8**	**+1.5**
	5.8nm,0.7s,mb4.1							
MKAR	**Makanchi Array**	**39.96**	**350**	P		**P**	**11 53 42.1**	**-0.5**
	1.7nm,0.7s,mb3.9,baz=168,slow=8.2,SNR=12							
SONM	**Songino Array**	**42.02**	**15**	P		**P**	**11 53 58.5**	**-1.1**
	0.9nm,0.7s,mb3.5,baz=202,slow=7.3,SNR=6.1							
WRA	**Warramunga Arr**	**49.94**	**124**	P		**P**	**11 55 02.9**	**+0.2**
	0.4nm,0.9s,mb3.5,baz=305,slow=8.7,SNR=6.5							

MOS ***08*** *11:51:20.9±0.8, 6.52S×29.52E, h10km, mb5.0/8, Error ellipse: s-maj=29.4km s-min=9.9km az=91.1*
IDC ***08*** *11:51:21.2±0.8, 6.52S×29.78E, mb4.2/11, mb1 4.4/15, mb1mx4.3/21, mbtmp4.3/15, ML3.7/4, MS3.4/6, Ms1 3.4/6, ms1mx3.2/23, Error ellipse: s-maj=28.7km s-min=14.1km az=93.0*
NEIC ***08*** *11:51:22.8±0.4, 6.55S×29.51E, h10km, mb4.8/13, MS4.9/1, Error ellipse: s-maj=16.4km s-min=6.4km az=97.0*
BJI ***08*** *11:51:22.8, 6.50S×29.50E, h10km, mB5.1, mb5.1, Ms4.9, Msz4.5*
HRVD ***08*** *11:51:22.8±1.1, 6.12S×29.48E, h35km±1km, MW5.1/32, Centroid moment Tensor Solution. LP body waves: s18,c19;Mantle waves: s32,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.74±.70; $M_{\theta\theta}$0.96±.40; $M_{\phi\phi}$4.78±.45; $M_{r\theta}$-0.10±.37; $M_{r\phi}$0.28±.23; $M_{\theta\phi}$-1.10±.37; Best double couple: $M_0$5.385×10^{16} NP1:ϕs184°, δ39°, λ-90°. NP2:ϕs4°, δ51°, λ-90°. Principal axes: T 4.916, Plg6°, Azm94°; N .941, Plg0°, Azm184°; P -5.854, Plg84°, Azm276°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 08 11:51:21.3±0.3, 6.53S±0.05×29.38E±0.09, h10km, (h15km±2km:pP-P), n57, σ1°13/66, mb4.6/24, MS4.4/5, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LSZ	**Lusaka**	**8.77**	**188**	Pn		**P**	**11 53 31.6**	**+0.5**
	7.5nm,0.3s,baz=7.1,slow=14,SNR=34							
LSZ				Sn		**Sn**	**11 55 03.5**	**-7.5**
	18nm,0.3s,baz=94,slow=18,SNR=7.4							
LSZ				Lg			11 56 01.9	
	34nm,0.3s,baz=124,slow=22,SNR=12							
LSZ				L

	comp=Z,11nm,0.9s,mb4.9									
KWP	**Kalwaria**	**56.23**	**355**	*e*P		**P**		**12 01 04.1**	**+0.1**	
	comp=Z,11nm,0.9s,mb4.9									
GERES	**GERESS Array B**	**56.83**	**348**	P		**P**		**12 01 08.2**	**-0.1**	
	comp=Z,1.8nm,0.6s,mb4.3,baz=170,slow=8.1,SNR=16									
AKASG	**Malin Array Be**	**57.00**	**360**	P		**P**		**12 01 07.7**	**-1.8**	
	comp=Z,1.4nm,0.5s,mb4.2,baz=180,slow=6.7,SNR=13									
KHC	**Kasperske Hory**	**57.12**	**348**	*e*P		**P**		**12 01 09.0**	**-1.4**	
GRA1	**Grafenberg Arr**	**58.18**	**346**	*e*P		**P**		**12 01 17.9**	**+0.1**	
	comp=Z,14nm,1.3s,mb4.8									
GRF	**Grafenberg Arr**	**58.18**	**346**	*e*P		**P**		**12 01 17.9**	**+0.1**	
GRF				pmax		pmax				
	comp=Z,14nm,1.3s,mb4.8									
GRF	**Grafenberg Arr**	**58.18**	**346**	*e*P		**P**		**12 01 17.9**	**+0.1**	
GRF				pmax		pmax				
	comp=Z,14nm,1.3s,mb4.8									
GRF	**Grafenberg Arr**	**58.18**	**346**	*e*P		**P**		**12 01 17.9**	**+0.1**	
	comp=Z,14nm,1.3s,mb4.8									
CLL	**Collm**	**59.31**	**348**	P		**P**		**12 01 25.0**	**-0.6**	
MAW	**Mawson**	**65.05**	**167**	P		**P**		**12 02 02.4**	**-1.4**	
	comp=Z,1.3nm,0.9s,mb4.0,baz=355,slow=12,SNR=2.5									
FINES	**FINESS Array B**	**67.82**	**358**	P		**P**		**12 02 20.9**	**-0.6**	
	comp=Z,3.2nm,0.8s,mb4.4,baz=180,slow=3.8,SNR=10.0									
SNAA	**Sanae**	**68.09**	**190**	P		**P**		**12 02 28.5**	**+5.5**	
SNAA				pmax		pmax				
	comp=Z,3.0nm,0.9s									
SNAA	**Sanae**	**68.09**	**190**	P		**P**		**12 02 28.4**	**+5.4**	
	comp=Z,3.2nm,0.9s,mb4.3									
KAF	**Kangasniemi**	**68.48**	**358**	*e*p		**P**		**12 02 23.8**	**-1.8**	
	comp=Z,2.6nm,0.6s,mb4.4									
KAF	**Kangasniemi**	**68.48**	**358**	*e*P		**P**		**12 02 23.8**	**-1.8**	
KAF				pmax		pmax				
	comp=Z,3.0nm,0.6s,mb4.5									
NB2	**NORSAR Subarra**	**68.85**	**351**	P		**P**		**12 02 27.1**	**-0.8**	
	comp=Z,9.7nm,1.2s,mb4.6,baz=160,slow=5.6									
NOA	**NORSAR Array B**	**68.85**	**351**	P		**P**		**12 02 27.9**	**+0.1**	
	comp=Z,3.4nm,0.8s,mb4.3,baz=162,slow=5.8,SNR=7.4									
MKAR	**Makanchi Array**	**70.76**	**35**	P		**P**		**12 02 37.8**	**-2.0**	
	comp=Z,1.1nm,0.7s,mb3.9,baz=243,slow=8.1,SNR=5.2									
WMQ	**Urumqi**	**72.56**	**40**	*e*P		**P**		**12 02 51.7**	**+1.0**	
WMQ				AP		pP		12 02 56.5	+2.7	
WMQ				XP		sP		12 02 58.7	+3.8	
WMQ				AMB		AMB				
	comp=Z,10.0nm,1.2s,mb4.6									
WMQ				AMB		AMB				
	comp=Z,100nm,5.0s									
WMQ				LR		LR				
	comp=N,280nm,22.6s,MS4.7									
WMQ				LR		LR				
	comp=E,320nm,22.4s,MS4.7									
WMQ				LR		LR				
	comp=Z,300nm,22.0s,MS4.5									
ARCES	**ARCESS Array B**	**75.94**	**359**	P		**P**		**12 03 09.7**	**-0.1**	
	comp=Z,2.3nm,0.7s,mb4.2,baz=162,slow=3.8,SNR=13									
KMI	**Kunming**	**77.87**	**63**	P		**P**		**12 03 24.7**	**+3.4**	
KMI				AMB		AMB				
	comp=Z,10.0nm,0.6s,mb4.9									
GTA	**Gaotai**	**79.26**	**48**	*e*P		**P**		**12 03 28.5**	**-0.2**	
GTA				AP		pP		12 03 33.3	+1.4	
GTA				XP		sP		12 03 36.1	+3.2	
GTA				PCP		PcP		12 03 37.2	-0.2	
GTA				PP		PP		12 06 29.3	-0.9	
GTA				PPP		PPP		12 08 20.6	+0.2	
GTA				S		S		12 13 28.9	+1.4	
GTA				XS				12 13 40.1		
GTA				SCS		ScS		12 13 47.6	-0.8	
GTA				SS		SS		12 18 39.5	+2.4	
GTA				AMB		AMB				
	comp=Z,100nm,5.0s									
GTA				LR		LR				
	comp=N,100nm,8.8s									
GTA				LR		LR				
	comp=E,160nm,9.2s									
GTA				LR		LR				
	comp=Z,100nm,10.3s,MS4.4									
CD2	**Chengdu**	**80.08**	**57**	*e*P		**P**		**12 03 34.0**	**+0.7**	
CD2				PP		PP		12 06 38.1	+1.1	
CD2				PPP		PPP		12 08 29.1	+1.1	
CD2				S		S		12 13 37.2	+0.9	
CD2				SS		SS		12 18 50.9	+1.3	
LZH	**Lanzhou**	**81.42**	**52**	*e*P		**P**		**12 03 41.0**	**+0.8**	
LZH				AP		pP		12 03 45.7	+2.3	
LZH				XP		sP		12 03 48.1	+3.7	
LZH				PP		PP		12 06 49.5	+1.0	
LZH				*e*S		S		12 13 50.8	+0.8	
LZH				XS				12 13 58.8		
LZH				AMB		AMB				
	comp=Z,20nm,1.6s,mb4.8									
LZH				AMB		AMB				
	comp=Z,70nm,4.6s									
LZH				LR		LR				
	comp=N,230nm,17.6s									
LZH				LR		LR				
	comp=Z,560nm,18.8s,MS5.0									
LZH	**Lanzhou**	**81.42**	**52**	*e*P		**P**		**12 03 41.0**	**+0.8**	
	comp=Z,22nm,1.6s,mb4.8									
LZH				pP		pP		12 03 45.7	+2.3	
LZH				sP		sP		12 03 48.1	+3.7	
LZH				PP		PP		12 06 49.5	+1.0	
LZH				*e*S		S		12 13 50.8	+0.8	
LZH				sS				12 13 58.8		
LZH				LR		LR				
	comp=Z,560nm,18.8s,MS5.0									
HHC	**Hu-ho-hao-te**	**88.35**	**49**	*e*P		**P**		**12 04 15.0**	**+0.2**	
HHC				AP		pP		12 04 19.7	+1.7	
HHC				XP		sP		12 04 23.2	+4.1	
HHC				AMB		AMB				
	comp=Z,10.0nm,0.6s,mb5.2									
HHC				AMB		AMB				
	comp=Z,140nm,5.2s									
HHC				LR		LR				
	comp=N,170nm,13.1s,MS4.8									
HHC				LR		LR				
	comp=E,150nm,11.9s,MS4.8									
HHC				LR		LR				
	comp=Z,140nm,14.3s,MS4.5									
NJ2	**Nanjing**	**92.98**	**58**	*e*P		**P**		**12 04 36.9**	**+0.3**	
NJ2				AMB		AMB				
	comp=Z,10.0nm,0.5s,mb5.5									
SSE	**Sheshan**	**94.88**	**59**	P		**P**		**12 04 46.4**	**+1.1**	
SSE				AMB		AMB				
	comp=Z,20nm,0.5s									
SSE				AMB		AMB				
	comp=Z,40nm,5.5s									
SSE	**Sheshan**	**94.88**	**59**	P		**P**		**12 04 46.4**	**+1.1**	
	comp=Z,24nm,0.5s									
CN2	**Changchun**	**98.86**	**47**	*e*P		**P**		**12 05 04.0**	**+1.0**	
MDJ	**Mudanjiang**	**101.83**	**46**	P		P		12 05 15.1	-1.4	
MDJ				AMB		AMB				
	comp=Z,50nm,3.9s									

CSEM ***08*** *12:18:40.9±0.7, 37.78N×25.44W, h5km±1km, ML2.6, Error ellipse: s-maj=1.3km s-min=1.0km az=141.0, After PDA*
PDA ***08*** *12:18:40.9±0.7, 37.78N×25.44W, h5km±1km, ML2.6, Error ellipse: s-maj=1.3km s-min=1.0km az=141.0*

SVSA 08 12:18:40.9±0.7, 37.78N×25.44W, h5km±1km, ML2.6, Error ellipse: s-maj=1.3km s-min=1.0km az=141.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MESC	**Monte Escuro**	**0.02**	**346**	*i* P		Pg	12 18 42.3	+0.5
MESC				*e*S		Sg	12 18 43.6	+1.2
MESC	**Monte Escuro**	**0.02**	**346**	*e*S		Sg	12 18 43.6	+1.2
VIF	**Vila Franca**	**0.03**	**180**	*i* P		Pg	12 18 42.4	+0.5
VIF				*e*S		Sg	12 18 43.7	+1.1
VIF	**Vila Franca**	**0.03**	**180**	*e*S		Sg	12 18 43.7	+1.1
LFA	**Lagoa do Fogo**	**0.03**	**266**	*i* P		Pg	12 18 42.6	+0.6
PCNG	**Congro**	**0.04**	**103**	*i* P		Pg	12 18 42.5	+0.5
PCNG				*e*S		Sg	12 18 43.7	+1.0
PCNG	**Congro**	**0.04**	**103**	*e*S		Sg	12 18 43.7	+1.0
PMAT	**Coroa da Mata**	**0.05**	**329**	*i* P		Pg	12 18 42.6	+0.4
PMAT				*e*S		Sg	12 18 43.8	+0.8
PMAT	**Coroa da Mata**	**0.05**	**329**	*e*S		Sg	12 18 43.8	+0.8
PRCH	**Ribeira Ch**	**0.06**	**214**	*i* P		Pg	12 18 42.7	+0.4
PRCH				*e*S		Sg	12 18 44.1	+0.9
PRCH	**Ribeira Ch**	**0.06**	**214**	*e*S		Sg	12 18 44.1	+0.9
PVER	**Pico Vermelho**	**0.06**	**291**	*i* P		Pg	12 18 42.5	+0.1
PVER				*e*S		Sg	12 18 43.8	+0.4
	6µm,0.3s							
PVER	**Pico Vermelho**	**0.06**	**291**	*e*S		Sg	12 18 43.8	+0.4
	6µm,0.3s							
FRA1	**Furnas**	**0.07**	**116**	*i* P		Pg	12 18 42.9	+0.3
CML	**Cha da Macela**	**0.08**	**267**	*e*P		Pg	12 18 44.0	+1.2
PFAD	**Fenais da Ajud**	**0.11**	**55**	*i* P		Pg	12 18 44.0	+0.7
PFAD				*e*S		Sg	12 18 46.2	+1.3
MIRA	**Miradouro**	**0.13**	**85**	*e*P		Pg	12 18 43.9	+0.3
FAC	**Faja de Cima**	**0.17**	**269**	*e*P		Pg	12 18 46.3	+2.0
PDA	**Ponta Delgada**	**0.18**	**261**	*e*P		Pg	12 18 45.0	+0.4
PDA				*e*S		Sg	12 18 48.0	+1.0
PSET	**Sete Cidades**	**0.23**	**282**	*i* P		Pg	12 18 45.0	-0.5
PSET				*e*S		Sg	12 18 48.8	+0.2
	839nm,0.3s							
PSET	**Sete Cidades**	**0.23**	**282**	*e*S		Sg	12 18 48.8	+0.2
	839nm,0.3s							
PSAN	**Santo Antonio**	**0.24**	**289**	*e*P		Pg	12 18 47.1	+1.4
PFET	**Feteiras**	**0.28**	**279**	*e*P		Pg	12 18 47.8	+1.3
SET2	**Ginetes**	**0.30**	**283**	*e*P		Pg	12 18 48.4	+1.5
SET4	**Mosteiros**	**0.30**	**289**	*e*P		Pg	12 18 48.3	+1.3
PSMN	**Pico do Norte,**	**0.83**	**159**	*e*P		Pb	12 18 54.7	-2.7

CSEM ***08*** *12:21:45.3±0.9, 38.71N×28.35W, h10km, ML1.6, Error ellipse: s-maj=9.2km s-min=4.7km az=59.0, After PDA*
PDA ***08*** *12:21:45.3±0.9, 38.71N×28.35W, h10km, MD3.1, ML1.6, Error ellipse: s-maj=9.2km s-min=4.7km az=59.0*

SVSA 08 12:21:45.3±0.9, 38.71N×28.35W, h10km, MD3.1, ML1.6, Error ellipse: s-maj=9.2km s-min=4.7km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PICO	**Pico**	**0.22**	**196**	*e*P		Pg	12 21 49.6	-0.4
PICO				*e*S		Sg	12 21 52.6	-0.5
PCND	**Candelaria**	**0.26**	**200**	*e*P		Pg	12 21 50.3	-0.4
PCND				*e*S		Sg	12 21 53.6	-0.7
	78nm,0.3s							
PBOI	**Pico dos Bois**	**0.27**	**184**	*e*S		Sg	12 21 53.7	-1.2
	28nm,0.3s							
HOR	**Horta**	**0.29**	**230**	*erx*			12 21 53.0	
CALA	**Caldeira**	**0.30**	**245**	*e*P		Pg	12 21 50.4	-1.2
CALA				*e*S		Sg	12 21 55.0	-0.9

CASC ***08*** *12:23:11.0±2.7, 12.29N×88.82W, h37km±111km, MD4.4, ML3.7, mb4.4(NEIC)*
IDC ***08*** *12:23:11.7±3.4, 12.73N×88.46W, h56km±35km, mb3.7/9, mb1 4.0/11, mb1mx3.8/23, mbtmp4.0/11, ML3.9/2, MS3.6/4, Ms1 3.5/4, ms1mx3.2/24, Error ellipse: s-maj=40.9km s-min=16.4km az=50.0*
NEIC ***08*** *12:23:12.2±1.8, 12.60N×88.60W, h71km±17km, mb4.4/17, Error ellipse: s-maj=21.3km s-min=8.1km az=54.0*
BJI ***08*** *12:23:12.2, 12.60N×88.60W, h71km, mB4.6, Ms5.5, Msz5.0*

ISC 08 12:23:10.8±0.8, 12.36N±0.06×88.77W±0.06, h87km±7km, n67, σ1°26/68, mb4.2/23, 6C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VSM	**San Miguel**	**1.17**	**24**	*e*P		Px	12 23 49.0	
VSM				*e*S		Sx	12 24 07.1	
BLLM	**Bellamira**	**1.20**	**25**	*e*P		Px	12 23 49.1	
BLLM				*e*S		Sx	12 24 06.0	
SNVI	**San Vicente**	**1.25**	**357**	*e*P		Px	12 23 48.3	
SNVI				*e*S		Sx	12 24 06.7	
CNCH	**Conchagua**	**1.29**	**45**	*e*P		Px	12 23 51.1	
CNCH				*e*S		Sx	12 24 08.3	
LFRS	**El Faro**	**1.29**	**347**	*i* P		Px	12 23 48.3	
LFRS				*e*S		Sx	12 24 06.0	
LBRS	**Las Brisas**	**1.40**	**349**	*e*P		Px	12 23 50.0	
LBRS				*e*S		Sx	12 24 07.8	
SBLS	**San Blas**	**1.70**	**331**	*e*P		Px	12 23 53.7	
SBLS				*e*S		Sx	12 24 16.6	
CRIN	**San Cristobal**	**1.71**	**78**	*e*P		**P**	**12 23 40.1**	**+0.4**
LEON	**Leon**	**1.83**	**88**	*e*P		**P**	**12 23 40.1**	**-1.1**
LEON				*e*S		**S**	**12 24 04.0**	**+0.4**
TEL3	**Telica 3**	**1.89**	**83**	*e*P		**P**	**12 23 41.4**	**-0.6**
TELN	**Telica**	**1.90**	**82**	*e*P		**P**	**12 23 41.4**	**-0.8**
TELN				*e*S		**S**	**12 24 05.6**	**+0.3**
RBDL	**Robledal**	**1.96**	**333**	*e*P		Px	12 24 00.7	
RBDL				*e*S		Sx	12 24 26.8	
MIRN	**Miramar**	**2.01**	**87**	*e*P		**P**	**12 23 42.8**	**-0.7**
MIRN				*e*S		**S**	**12 24 10.6**	**+2.8**
CNGN	**Cerro Negro**	**2.02**	**86**	*e*P		**P**	**12 23 42.7**	**-1.1**
CNGN				*e*S		**S**	**12 24 10.4**	**+2.3**
MTO2	**Montecristo 2**	**2.11**	**344**	*i* eP		Px	12 24 00.9	
MTO2				*e*S		Sx	12 24 27.0	
COPN	**Copaltepe**	**2.13**	**94**	*e*P		**P**	**12 23 44.5**	**-0.8**
MOMJ	**Momotombo**	**2.17**	**88**	*i* eP		**P**	**12 23 44.7**	**-1.2**
MOMJ				*e*S		**S**	**12 24 15.1**	**+3.2**
XAVN	**Gruta Xavier**	**2.39**	**95**	*e*P		**P**	**12 23 48.4**	**-0.5**
IXG	**Ixpaco**	**2.44**	**318**	*e*P		**P**	**12 23 43.8**	**-5.9**
IXG				*e*S		**S**	**12 24 18.8**	**+0.2**
MGAN	**Managua**	**2.47**	**95**	*i* eP		**P**	**12 23 49.8**	**-0.2**
MGAN				*e*S		**S**	**12 24 20.5**	**+1.3**
	comp=N,504nm,0.5s							
TICN	**Ticuantepe**	**2.50**	**97**	*e*P		**P**	**12 23 50.1**	**-0.3**
TICN				*e*S		**S**	**12 24 22.1**	**+2.2**
WILN	**Americas 2**	**2.53**	**94**	*e*P		**P**	**12 23 51.1**	**+0.3**
WILN				*e*S		**S**	**12 24 21.5**	**+0.9**
SSNN	**San Juan del S**	**3.04**	**110**	*e*P		**P**	**12 23 56.9**	**-1.2**
SSNN				*e*S		**S**	**12 24 32.4**	**-1.1**
CONN	**Concepcion**	**3.17**	**104**	*e*S		**S**	**12 24 35.2**	**-1.4**
JTS	**JuntasAbangare**	**4.26**	**118**	P		**P**	**12 24 14.3**	**-0.5**
	comp=N,4.3nm,0.3s,baz=316,slow=16,SNR=9.5							
JTS				S		**S**	**12 25 01.3**	**-2.4**
	comp=N,13nm,0.3s,baz=259,slow=21,SNR=9.2							
JTS				LR		LR	12 26 17.4	
	comp=N,241nm,20.4s,baz=291,slow=44							
JTS	**JuntasAbangare**	**4.26**	**118**	P		**P**	**12 24 14.3**	**-0.5**
JTS				S		**S**	**12 25 01.3**	**-2.4**
JTS				LR		LR	12 26 17.4	
PRS1	**Puriscal**	**4.96**	**118**	*e*P		**P**	**12 24 25.7**	**+1.3**
PRS1				*e*S		**S**	**12 25 21.2**	**+0.2**
LAJ	**Bijagual**	**5.19**	**118**	*e*P		**P**	**12 24 23.8**	**-3.6**
LAJ				*e*S		**S**	**12 25 17.9**	**-8.6**
LCR2	**La Lucha 2**	**5.35**	**119**	*e*P		**P**	**12 24 30.5**	**+0.9**
LCR2				*e*S		**S**	**12 25 29.5**	**-1.0**
BUS	**Buena Vista**	**5.65**	**119**	*e*P		**P**	**12 24 34.9**	**+1.1**
ACR	**Cerro Adams**	**6.62**	**123**	*i* eP		**P**	**12 24 48.2**	**+1.0**
SDV	**Santo Domingo**	**18.15**	**99**	P		**P**	**12 27 18.3**	**-0.3**
	comp=N,0.6nm,0.3s,baz=291,slow=8.6,SNR=5.8							
SDV	**Santo Domingo**	**18.15**	**99**	*e*P		**P**	**12 27 18.9**	**+0.3**
	comp=N,5.2nm,0.7s							
JCT	**Junction City**	**20.73**	**332**	*e*P		**P**	**12 27 44.7**	**-1.6**
	comp=N,16nm,0.6s							
JCT				*e*			12 27 49.9	
LTX	**Lajitas**	**21.85**	**323**	*e*P		**P**	**12 27 58.3**	**+0.8**
	comp=N,7.8nm,0.7s,mb4.2							
TXAR	**Lajitas Array**	**21.85**	**323**	P		**P**	**12 27 58.6**	**+1.1**
	comp=N,8.1nm,0.7s,mb4.2,baz=147,slow=12,SNR=82							
MIAR	**Mount Ida**	**22.52**	**350**	*e*P		**P**	**12 28 04.5**	**+0.5**
	comp=N,18nm,0.7s,mb4.5							
SWET	**Sewanee**	**22.91**	**6**	*e*P		**P**	**12 28 07.1**	**-0.7**
WVT	**Waverly**	**23.69**	**2**	*e*P		**P**	**12 28 16.5**	**+1.2**
	comp=N,2.9nm,0.7s,mb3.7							
WMOK	**Wichita Mounta**	**24.07**	**339**	*e*P		**P**	**12 28 17.2**	**-1.8**
	comp=N,4.4nm,0.8s,mb3.8							
CCM	**Cathedral Cave**	**25.69**	**355**	*e*P		**P**	**12 28 33.6**	**-0.8**
	comp=N,35nm,0.7s,mb4.9							
KSU1	**Kansas State U**	**27.53**	**347**	*e*P		**P**	**12 28 49.7**	**-1.7**
SAML	**Samuel**	**33.08**	**129**	*e*P		**P**	**12 29 42.2**	**+1.6**
	comp=N,3.1nm,0.8s,mb4.2							
SADO	**Sadowa**	**33.34**	**13**	P		**P**	**12 29 41.6**	**-0.9**
	comp=N,5.1nm,0.6s,mb4.6,baz=184,slow=8.3,SNR=6.8							
SADO				LR		LR	12 46 23.7	
	comp=N,171nm,18.3s,baz=279,slow=42							
RSSD	**Black Hills**	**34.27**	**340**	*e*P		**P**	**12 29 50.8**	**+0.3**
	comp=N,4.2nm,0.7s,mb4.4							
PDAR	**Pinedale Array**	**35.26**	**333**	P		**P**	**12 30 00.3**	**+1.4**
	comp=N,0.5nm,0.6s,mb3.5,baz=127,slow=10,SNR=4.4							
HWUT	**Hardware Ranch**	**35.30**	**330**	P		**P**	**12 30 00.6**	**+1.3**
	comp=N,1.9nm,0.8s,mb4.0							
NVAR	**Mina Array Bea**	**36.94**	**320**	P		**P**	**12 30 15.2**	**+2.1**
	comp=N,0.6nm,0.7s,mb3.7,baz=130,slow=6.7,SNR=3.5							
YMR	**Madison River**	**37.39**	**334**	*e*P		**P**	**12 30 19.5**	**+2.6**
	comp=N,6.0nm,0.9s,mb4.5							
CMB	**Columbia Colle**	**38.05**	**318**	P		**P**	**12 30 25.5**	**+3.1**
	comp=N,2.9nm,1.1s,mb4.0							
ULM	**Lac du Bonnet**	**38.23**	**353**	P		**P**	**12 30 22.1**	**-1.7**
	comp=N,2.2nm,0.6s,mb4.2,baz=170,slow=10,SNR=6.6							
ULM				LR		LR	12 48 49.1	
	comp=N,113nm,19.4s,baz=77,slow=41							
MCMT	**McKenzie Canyo**	**38.36**	**332**	*e*P		**P**	**12 30 26.4**	**+1.5**
SIV	**San Ignacio**	**39.29**	**135**	P		**P**	**12 30 36.1**	**+3.2**
	comp=N,1.8nm,0.6s,mb4.1,baz=315,slow=7.4,SNR=12							
EDM	**Edmonton**	**45.24**	**339**	*e*P		**P**	**12 31 20.4**	**-0.7**
SCHQ	**Schefferville**	**45.75**	**18**	P		**P**	**12 31 23.9**	**-1.2**
	comp=N,5.9nm,0.9s,mb4.3,baz=160,slow=7.0,SNR=5.9							
SCHQ	**Schefferville**	**45.75**	**18**	*e*P		**P**	**12 31 24.0**	**-1.0**
	comp=N,9.5nm,0.9s,mb4.5							
FCC	**Fort Churchill**	**46.49**	**356**	P		**P**	**12 31 28.5**	**-2.3**
	comp=N,4.5nm,0.9s,mb4.2							
BDFB	**Brasilia**	**48.99**	**124**	LR		LR	12 54 22.4	
	comp=N,76nm,20.6s,baz=19,slow=38							
YKA	**Yellowknife Ar**	**53.37**	**345**	P		**P**	**12 32 22.5**	**-0.8**
	comp=N,1.2nm,0.7s,mb4.1,baz=138,slow=8.0,SNR=17							
TRQA	**Tornquist**	**56.08**	**155**	P		**P**	**12 32 42.7**	**-0.7**
	comp=N,10nm,1.3s,mb4.7							
RES	**Resolute Bay**	**62.41**	**358**	*e*P		**P**	**12 33 22.8**	**-3.7**
	comp=N,2.1nm,0.6s,mb4.3							
INK	**Inuvik**	**62.91**	**343**	*e*P		**P**	**12 33 29.1**	**-0.8**
	comp=N,12nm,1.4s,mb4.6							
ILAR	**Eielson Array**	**65.59**	**336**	P		**P**	**12 33 48.0**	**+0.8**
	comp=N,0.3nm,0.7s,mb3.2,baz=177,slow=4.9,SNR=6.3							
CN2	**Changchun**	**116.01**	**333**	*e*PKP		PKPdf	12 41 47.0	+3.2
WMQ	**Urumqi**	**124.00**	**3**	*e*PKP		PKPdf	12 42 02.7	+3.4
GTA	**Gaotai**	**127.89**	**352**	PKP		PKPdf	12 42 10.1	+3.2
GTA				PP		PP	12 44 13.6	-0.8
GTA				PKS		PKS	12 45 45.5	+3.0
GTA				SKS		SKS	12 49 10.2	+6.2
GTA				PP		PP		
	comp=Z,100nm,7.6s							
GTA				LR		LR		
	comp=N,150nm,8.4s							
GTA				LR		LR		
	comp=E,140nm,8.4s							
GTA				LR		LR		
	comp=Z,120nm,7.6s							
WRA	**Warramunga Arr**	**138.01**	**254**	PKP		PKPdf	12 42 30.8	+4.5
	comp=Z,0.2nm,0.7s,baz=84,slow=2.1,SNR=5.5							

NEIC ***08*** *12:25:11.8, 15.80N×93.75W, h87km, MD3.7(MEX), After MEX.*

MEX 08 12:25:11.5±0.6, 15.85N×93.74W, h95km±37km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCIG	**Comitan**	**1.60**	**74**	*i* P		P	12 25 37.2	-2.0
CCIG				*i* S		S	12 25 58.6	-1.1
CMIG	**Matias Romero**	**1.65**	**319**	*e*P		P	12 25 38.2	-1.6
CMIG				*i* S		S	12 25 58.7	-1.9
CMIG	**Matias Romero**	**1.65**	**319**	*i* P		P	12 25 39.1	-0.7
CMIG				*i* S		S	12 25 58.7	-1.9
HUIG	**Huatulco**	**2.28**	**268**	*i* P		P	12 25 46.8	-1.4
HUIG				*i* S		S	12 26 12.9	-2.6
OXX	**Oaxaca**	**3.11**	**294**	*e*P		P	12 26 02.0	+2.3
OXX				*i* S		S	12 26 34.0	-1.9

CSEM ***08*** *12:39:18.8, 26.76N×56.17E, h18km, ML3.5, After THR*

THR 08 12:39:18.8±0.4, 26.76N×56.17E, h18km±7km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.64**	**0**	*e*PG		Pb	12 39 31.1	0.0
BNDS				*e*SG		Sb	12 39 40.3	+0.8
BNDS				AML		AML	12 39 48.7	
	comp=N,2µm,0.6s							
BNDS	**Bandar-Abbas**	**0.64**	**0**	*e*Pg		Pb	12 39 31.1	0.0
	SNR=90							
BNDS				*e*Sg		Sb	12 39 40.3	+0.8
	comp=N,2µm,0.6s,SNR=90							
GHIR	**Ghir-Karzin**	**3.21**	**299**	*e*PN		Pn	12 40 10.7	+1.1
GHIR				*e*SG		Sn	12 40 56.3	+8.6
GHIR				AML		AML	12 41 09.7	
	comp=N,143nm,0.6s							
GHIR	**Ghir-Karzin**	**3.21**	**299**	*e*Pn		Pn	12 40 10.6	+1.1
	SNR=54							
GHIR				*e*Sg		Sn	12 40 56.3	+8.6
	comp=N,143nm,0.6s,SNR=90							
KRBR	**Kerman**	**3.25**	**9**	*e*PN		Pn	12 40 11.2	+1.1

CSEM ***08*** *12:45:49.2±0.6, 14.66N×42.04E, h8km, ML4.0, Error ellipse: s-maj=13.5km s-min=6.0km az=56.0*
DHMR ***08*** *12:45:50.7±1.3, 14.69N×42.26E, h6km±13km, ML4.0*
SNSN ***08*** *12:46:10.4, 16.08N×42.51E, Ml3.1*

**ISC 08 12:45:50.8±1.2, 14.72N±0.06×42.09E±0.07, h10km, n13, σ0°94/22, 2C-6D, Western Arabian Pe

IDC 08 13:03:16.1±2.2, 4.30S×129.05E, mb4.0/2, mb1 4.1/4, mb1mx3.9/15, mbtmp3.9/4, ML3.6/2, Error ellipse: s-maj=108.9km s-min=31.4km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.12**	**193**	Pn	P	13 06 38.0	-1.7
	0.1nm,0.3s,baz=23,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**16.38**	**162**	Pn	P	13 07 07.2	-2.0
	0.3nm,0.3s,baz=344,slow=13,SNR=16						
WB2	**Warramunga Arr**	**16.38**	**162**	*eP*	P	13 07 07.6	-1.6
SONM	**Songino Array**	**55.60**	**342**	P	P	13 12 54.2	-1.7
	0.6nm,0.8s,baz=163,slow=5.7,SNR=3.8						
MKAR	**Makanchi Array**	**65.47**	**327**	P	P	13 14 00.8	-2.5
	2.6nm,0.7s,baz=119,slow=8.2,SNR=16						

GUC 08 13:13:41.0±0.6, 22.56S×69.29W, h130km±6km, ML3.9, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.07**	**109**	⇑*iP*	P	13 14 05.9	+1.0
SPCH				*i* S	S	13 14 24.2	+1.3
SPCH				AMP		13 14 35.4	
	comp=E,6μm,0.6s						
CEN1	**Los Morros**	**1.18**	**225**	*eP*	P	13 14 08.2	+2.3
CEN1				*i* S	S	13 14 29.5	+4.7
CEN1				AMP		13 14 33.3	
	comp=N,1μm,0.7s						
ANCH	**Antofagasta**	**1.52**	**222**	⇑*iP*	P	13 14 09.9	+0.1
ANCH				*i* S	S	13 14 31.7	0.0
ANCH				AMP		13 14 37.1	
	comp=E,1μm,0.5s						
CPN1	**Cerro Paranal**	**2.30**	**206**	*eP*	P	13 14 20.2	+0.9
CPN1				*i* S	S	13 14 50.1	+1.8
CPN1				AMP		13 15 19.7	
	comp=E,507nm,0.5s						

*IDC **08** 13:37:29.7±2.1, 4.29S×128.92E, mb4.0/2, mb1 4.1/4, mb1mx3.9/15, mbtmp3.9/4, ML3.7/2, Error ellipse: s-maj=107.6km s-min=31.3km az=79.0*
*NEIC **08** 13:37:38.5±6.6, 4.52S×128.99E, h86km±71km, mb4.7/4, Error ellipse: s-maj=47.1km s-min=14.7km az=207.0*
ISC 08 13:37:31.8±0.8, 4.30S±0.10×129.0E±0.2, h33km, n13, σ0$47/13, mb4.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.11**	**193**	Pn	**P**	**13 40 52.7**	**+1.0**
	0.1nm,0.3s,baz=34,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**16.38**	**162**	Pn	**P**	**13 41 20.4**	**-0.5**
	0.4nm,0.3s,baz=343,slow=13,SNR=24						
WB2	**Warramunga Arr**	**16.38**	**162**	*eP*	**P**	**13 41 20.6**	**-0.4**
KSM	**Kuching**	**19.58**	**287**	P	**P**	**13 41 59.5**	**-0.5**
JIRN	**Jiri**	**52.12**	**310**	*eP*	**P**	**13 46 41.7**	**+0.4**
GUN	**Gumba**	**52.48**	**310**	*eP*	**P**	**13 46 44.2**	**+0.2**
	13nm,0.8s,mb4.9						
PKI	**Pulchoki**	**52.67**	**310**	*eP*	**P**	**13 46 45.1**	**-0.3**
KKN	**Kakani**	**52.88**	**310**	*eP*	**P**	**13 46 46.7**	**-0.3**
GKN	**Gorkha**	**53.48**	**310**	*eP*	**P**	**13 46 51.0**	**-0.4**
	11nm,0.7s,mb4.9						
KOLN	**Koldanda**	**54.16**	**309**	*eP*	**P**	**13 46 56.4**	**-0.1**
	10nm,0.6s,mb4.9						
SONM	**Songino Array**	**55.60**	**342**	P	**P**	**13 47 07.3**	**+0.7**
	0.4nm,0.6s,mb3.6,baz=158,slow=8.0,SNR=3.7						
MKAR	**Makanchi Array**	**65.46**	**327**	P	**P**	**13 48 13.9**	**+0.1**
	2.2nm,0.6s,mb4.4,baz=115,slow=7.3,SNR=32						
YAK	**Yakutsk**	**66.15**	**0**	P	**P**	**13 48 18.1**	**+0.2**
	16nm,0.8s,mb5.1						

*NEIC **08** 13:51:35.5±0.5, 30.17S×177.24W, h10km, mb4.7/14, Error ellipse: s-maj=13.5km s-min=10.8km az=83.0*
*BJI **08** 13:51:35.5, 30.20S×177.20W, h10km, mB5.2, mb4.8, Ms5.1, Msz4.8*
*IDC **08** 13:51:41.6±1.6, 29.87S×177.55W, h41km±12km, mb4.3/7, mb1 4.5/7, mb1mx4.3/14, mbtmp4.6/7, MS3.8/8, Ms1 3.8/8, ms1mx3.6/23, Error ellipse: s-maj=19.6km s-min=16.5km az=39.0*
ISC 08 13:51:39.3±1.8, 30.54S±0.06×177.5W±0.1, h40km±16km, n74, σ1$38/57, mb4.8/18, MS4.1/9, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.32**	**346**	P	**P**	**13 51 54.1**	**-7.6**
	1μm,0.3s,baz=106,slow=3.9,SNR=67						
RAO				S	**S**	**13 52 06.1**	**-12**
	4μm,0.3s,baz=90,slow=20,SNR=26						
RAO	**Raoul Island**	**1.32**	**346**	*ePg*	**P**	**13 51 54.3**	**-7.4**
MWZ	**Matawai**	**8.78**	**206**	PN	**P**	**13 53 46.1**	**-0.5**
MWZ				SN	**S**	**13 55 31.2**	**+5.9**
OUZ	**Omahuta**	**8.79**	**236**	PN	**P**	**13 53 55.7**	**+8.9**
URZ	**Urewera**	**8.88**	**208**	P	**P**	**13 53 47.4**	**-0.6**
	0.5nm,0.3s,baz=165,slow=19,SNR=8.5						
URZ				S	**S**	**13 55 33.6**	**+5.8**
	7.2nm,0.3s,baz=290,slow=23,SNR=13						
URZ	**Urewera**	**8.88**	**208**	PN	**P**	**13 53 47.3**	**-0.7**
URZ				SN	**S**	**13 55 30.7**	**+2.9**
BKZ	**Black Stump Fm**	**9.90**	**208**	PN	**P**	**13 54 01.5**	**-0.6**
BKZ				SN	**S**	**13 55 56.2**	**+3.1**
TSZ	**Takapari Road**	**10.88**	**207**	SN	**S**	**13 56 17.5**	**+0.6**
MRZ	**Mangatainoka R**	**11.54**	**207**	SN	**S**	**13 56 31.7**	**-1.4**
SNZO	**South Karori**	**12.44**	**208**	Pn	**P**	**13 54 48.5**	**+12**
SNZO				*e*Sn	**S**	**13 56 49.4**	**-5.4**
TCW	**Tory Channel**	**12.54**	**210**	SN	**S**	**13 56 55.2**	**-1.9**
NNZ	**Nelson**	**12.94**	**212**	SN	**S**	**13 57 05.0**	**-1.8**
THZ	**Tophouse**	**13.59**	**212**	SN	**S**	**13 57 19.1**	**-3.2**
KHZ	**Kahutara**	**13.85**	**209**	PN	**P**	**13 54 51.9**	**-3.1**
LTZ	**Lake Taylor**	**14.69**	**211**	SN	**S**	**13 57 42.3**	**-6.0**
MQZ	**McQueen's Vall**	**15.28**	**208**	SN	**S**	**13 57 56.3**	**-5.8**
RPZ	**Rata Peaks**	**15.97**	**211**	P	**P**	**13 55 25.0**	**+2.4**
	2.7nm,0.3s,baz=341,slow=4.2,SNR=16						
RPZ				S	**S**	**13 58 16.8**	**-1.3**
	0.8nm,0.3s,baz=3.4,slow=17,SNR=6.2						
DZM	**Mont Dzumac**	**16.64**	**297**	*eP*	**P**	**13 55 38.1**	**+7.0**
DZM	**Mont Dzumac**	**16.64**	**297**	P	**P**	**13 55 30.9**	**-0.3**
	0.1nm,0.3s,baz=162,slow=20,SNR=2.3						
DZM				LR	LR	14 00 42.7	
	comp=Z,424nm,18.6s,baz=196,slow=33						
NOUC	**Port Laguerre**	**16.73**	**296**	*eP*	**P**	**13 55 38.8**	**+6.5**
RAR	**Rarotonga**	**18.47**	**64**	LR	LR	14 01 06.1	
	comp=Z,211nm,20.8s,baz=146,slow=31						
TBI	**Tubuai**	**25.99**	**81**	*e*LR	LR	14 03 09.0	
	509nm,32.0s						
PPT	**Papeete**	**28.52**	**70**	*e*LR	LR	14 04 17.7	
	266nm,25.8s						
HNR	**Honiara**	**29.69**	**310**	LR	LR	14 07 16.3	
	comp=Z,127nm,18.1s,MS3.6,baz=123,slow=32						
CTA	**Charters Tower**	**34.21**	**279**	*eP*	**P**	**13 58 24.4**	**+1.1**
	6.7nm,0.6s,mb4.8						
CTA	**Charters Tower**	**34.21**	**279**	P	**P**	**13 58 23.8**	**+0.5**
	11nm,0.8s,mb4.9,baz=97,slow=12,SNR=12						
CTAO	**Charters Tower**	**34.21**	**279**	*eP*	**P**	**13 58 23.9**	**+0.6**
	10nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**34.83**	**257**	*eP*	**P**	**13 58 32.0**	**+3.5**
	5.4nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**34.83**	**257**	P	**P**	**13 58 31.2**	**+2.7**
	6.7nm,0.6s,mb4.7,baz=93,slow=9.3,SNR=13						
STKA				LR	LR	14 12 19.1	
	comp=Z,167nm,19.8s,MS3.8,baz=161,slow=35						
RKT	**Rikitea**	**38.52**	**89**	*e*LR	LR	14 08 59.8	
	210nm,27.0s						
WB2	**Warramunga Arr**	**44.49**	**272**	*eP*	**P**	**13 59 48.3**	**-0.4**
WRA	**Warramunga Arr**	**44.50**	**272**	P	**P**	**13 59 48.7**	**-0.1**
	12nm,0.7s,mb4.8,baz=110,slow=8.0,SNR=122						
WRA				S	**S**	**14 06 20.4**	**-0.3**
	0.9nm,0.8s,baz=110,slow=14,SNR=3.5						
VNDA	**Vanda**	**48.00**	**186**	P	**P**	**14 00 21.4**	**+5.7**
	0.9nm,0.6s,mb4.0,baz=16,slow=6.9,SNR=11						
VNDA				LR	LR	14 16 41.5	
	comp=Z,52nm,19.6s,MS3.5,baz=326,slow=31						
VNDA	**Vanda**	**48.00**	**186**	*eP*	**P**	**14 00 21.1**	**+5.3**
	2.3nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.76**	**270**	*eP*	**P**	**14 00 53.9**	**+1.2**
	7.7nm,1.0s,mb4.6						
CASY	**Casey**	**55.20**	**208**	*eP*	**P**	**14 01 11.4**	**+1.4**
	14nm,0.7s,mb5.1						
MBWA	**Marble Bar**	**56.60**	**264**	*eP*	**P**	**14 01 20.9**	**+0.2**
	6.2nm,1.0s,mb4.6						
QSPA	**South Pole Qui**	**59.57**	**180**	*eP*	**P**	**14 01 45.5**	**+4.7**
	17nm,0.9s,mb5.1						
PMSA	**Palmer Station**	**71.98**	**156**	P	**P**	**14 03 00.9**	**+0.8**
MAW	**Mawson**	**72.32**	**200**	P	**P**	**14 03 05.9**	**+3.8**
	3.0nm,0.8s,mb4.3,baz=122,slow=6.6,SNR=8.0						
MAW	**Mawson**	**72.32**	**200**	*eP*	**P**	**14 03 05.2**	**+3.1**
	2.9nm,0.8s,mb4.3						
SYO	**Syowa Base**	**77.07**	**193**	⇑PcP	PcP	14 03 38.0	-2.6
SNAA	**Sanae**	**78.01**	**178**	P	**P**	**14 03 35.0**	**+0.5**
	5.7nm,1.0s,mb4.5						
ASAJ	**Asahikawa**	**82.75**	**332**	P	**P**	**14 03 59.0**	**-1.3**
	14nm,1.1s,mb4.9,baz=143,slow=20,SNR=2.7						
YSS	**Yuzh-Sakhalins**	**85.04**	**334**	*eP*	**P**	**14 04 11.6**	**-0.2**
	28nm,1.0s,mb5.3						
CMB	**Columbia Colle**	**86.60**	**42**	*eP*	**P**	**14 04 15.3**	**-4.4**
	4.1nm,0.8s,mb4.7						
NJ2	**Nanjing**	**86.64**	**310**	*eP*	**P**	**14 04 19.8**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.2						
NVAR	**Mina Array Bea**	**88.07**	**42**	P	**P**	**14 04 25.8**	**-1.0**
	comp=Z,2.0nm,0.8s,mb4.4,baz=232,slow=11,SNR=19						
NVAR				LR	LR	14 38 10.8	
	comp=Z,47nm,20.1s,MS3.9,baz=180,slow=32						
TPH	**Tonopah**	**88.47**	**43**	P	**P**	**14 04 25.3**	**-3.3**
	comp=Z,7.5nm,1.0s,mb4.9						
MDJ	**Mudanjiang**	**88.96**	**325**	P	**P**	**14 04 31.9**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,50nm,5.5s						
CN2	**Changchun**	**90.49**	**323**	*eP*	**P**	**14 04 38.8**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
TXAR	**Lajitas Array**	**92.13**	**57**	LR	LR	14 41 46.4	
	comp=Z,89nm,18.0s,MS4.2,baz=175,slow=33						
CD2	**Chengdu**	**96.50**	**302**	*eP*	**P**	**14 05 05.6**	**-0.2**
CD2				PP	PP	14 09 02.6	-0.1
CD2				PPP	PPP	14 11 08.2	-0.1
CD2				SKS	SKS	14 15 40.6	+2.6
CD2				S	S	14 16 22.8	+2.8
CD2				SS	SS	14 23 00.8	+2.7
CD2				LR	LR		
	comp=E,100nm,12.0s						
CD2				LR	LR		
	comp=Z,60nm,16.8s,MS4.2						
HHC	**Hu-ho-hao-te**	**96.61**	**314**	*eP*	**P**	**14 05 03.5**	**-2.6**
HHC				AMB	AMB		
	comp=Z,100nm,5.6s						
HHC				LR	LR		
	comp=N,180nm,16.6s,MS4.8						
HHC				LR	LR		
	comp=E,150nm,14.3s,MS4.8						
LPAZ	**La Paz**	**97.73**	**114**	LR	LR	14 44 58.9	
	comp=E,25nm,18.1s,MS3.7,baz=89,slow=33						
LZH	**Lanzhou**	**99.12**	**306**	*eP*	**P**	**14 05 17.5**	**-0.1**
LZH				AP	pP	14 05 22.5	-7.5
LZH				XP	sP	14 05 24.5	-10
LZH				PP	PP	14 09 22.5	-0.1
LZH				*e*SKS	SKS	14 15 54.1	+2.7
LZH				*e*S	S	14 16 44.8	+2.8
LZH				*e*SS	SS	14 23 37.5	+2.7
LZH				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,30nm,4.5s						
LZH				LR	LR		
	comp=N,630nm,19.6s						
LZH				LR	LR		
	comp=Z,750nm,20.3s,MS5.2						
LZH	**Lanzhou**	**99.12**	**306**	*eP*	**P**	**14 05 17.5**	**-0.1**
	comp=Z,13nm,1.6s,mb5.2						
LZH				pP	pP	14 05 22.5	-7.5
LZH				sP	sP	14 05 24.5	-10
LZH				PP	PP	14 09 22.5	-0.1
LZH				*e*SKS	SKS	14 15 54.1	+2.7
LZH				*e*S	S	14 16 44.8	+2.8
LZH				sS		14 16 53.1	
LZH				*e*SS	SS	14 23 37.5	+2.7
BVAR	**Borovoye Array**	**126.78**	**316**	PKP	PKPdf	14 10 38.3	-0.1
	comp=Z,0.6nm,0.6s,baz=90,slow=1.5,SNR=5.5						
AKTO	**Aktyubinsk**	**134.49**	**312**	PKP	PKPdf	14 10 53.6	+0.4
	comp=Z,0.7nm,0.7s,baz=53,slow=5.1,SNR=2.0						
ARCES	**ARCESS Array B**	**138.81**	**348**	PKP	PKPdf	14 11 01.8	+1.2
	comp=Z,2.6nm,0.9s,baz=27,slow=2.7,SNR=6.1						
JOF	**Joensuu**	**142.69**	**339**	*ep*	PKPdf	14 11 07.4	0.0
	comp=Z,1.5nm,0.6s						
HAKT	**HAKKARI**	**145.33**	**293**	*i* P	PKPdf	14 11 14.9	+2.1
FINES	**FINESS Array B**	**145.41**	**340**	PKP	PKPdf	14 11 11.5	-0.7
	comp=Z,7.5nm,0.6s,baz=58,slow=4.4,SNR=44						
ARTV	**Artvin**	**146.55**	**299**	*i* P	PKPdf	14 11 18.4	+3.6
NB2	**NORSAR Subarra**	**148.95**	**352**	PKPabc	PKPdf	14 11 21.6	+3.6
	comp=Z,1.9nm,0.5s,baz=13,slow=2.8						
NOA	**NORSAR Array B**	**148.95**	**352**	PKPbc	PKPdf	14 11 21.9	+3.8
	comp=Z,2.3nm,0.7s,baz=15,slow=4.2,SNR=9.4						
GZT	**Gaziantep**	**150.22**	**293**	*i* P	PKPdf	14 11 26.9	+6.1
AKASG	**Malin Array Be**	**151.65**	**323**	PKPbc	PKPdf	14 11 28.8	+6.3
	comp=Z,1.2nm,0.4s,baz=49,slow=2.9,SNR=13						
UPC	**Upice**	**157.62**	**337**	*e*PKPab	PKPab	14 12 07.2	+1.9
DPC	**Dobruska-Polom**	**157.64**	**336**	*e*PKPab	PKPab	14 12 03.2	-2.2
CLL	**Collm**	**157.82**	**342**	*e*	PKPdf	14 11 46.0	+15
CLL				*e*PKP2	PKPab	14 12 08.0	+1.9
KHC	**Kasperske Hory**	**159.60**	**339**	*e*PKPab	PKPab	14 12 11.4	-2.4
GERES	**GERESS Array B**	**159.81**	**338**	PKPab	PKPab	14 12 12.3	-2.5
	comp=Z,0.7nm,0.6s,baz=45,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**162.68**	**177**	PKPab	PKPab	14 12 29.4	+1.2
	comp=Z,1.0nm,0.5s,baz=179,slow=3.4,SNR=11						

*NEIC **08** 13:54:03.9, 31.71S×71.80W, h29km, ML3.6(GUC), After GUC.*
GUC 08 13:54:03.9±1.0, 31.71S×71.80W, h29km±3km, MD4.0, ML3.6, 5C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.30**	**124**	⇓*iP*	Pb	13 54 11.1	-0.1
CHNG				*i* S	Sb	13 54 16.6	+0.4
CHNG				AMP		13 54 17.6	
	comp=E,4μm,0.6s						
ILCH	**Illapel**	**0.54**	**82**	⇑*iP*	Pb	13 54 14.6	-0.2
ILCH				*i* S	Sb	13 54 22.8	+0.4
ILCH				AMP		13 54 24.9	
	comp=N,5μm,0.2s						
JACH	**Jahuel**	**1.40**	**134**	⇑*iP*	Pn	13 54 28.5	+0.6
JACH				*i* S	Sn	13 54 47.7	+2.1
ROCH	**El Roble**	**1.42**	**152**	⇑*iP*	Pn	13 54 28.8	+0.6
ROCH				*i* S	Sn	13 54 48.3	+2.3
PEL	**Peldehue**	**1.71**	**147**	⇓*iP*	Pn	13 54 33.0	+0.8
PEL				*i* S	Sn	13 54 54.9	+1.6
PEL				AMP		13 54 59.3	
	comp=E,2μm,0.5s						
TLL	**Tololo Astrono**	**1.76**	**29**	*eP*	Pn	13 54 32.7	-0.3
TLL				*i* S	Sn	13 54 57.3	+2.6
TLL				AMP		13 55 05.9	
	comp=E,2μm,0.6s						
LSCH	**La Serena**	**1.86**	**15**	⇓*iP*	Pn	13 54 35.5	+1.0
LSCH				AMP		13 55 03.2	
	comp=N,837nm,0.6s						
RCDM	**Rinconada Maip**	**1.96**	**155**	*eP*	Pn	13 54 36.2	+0.4
RCDM				*i* S	Sn	13 55 00.2	+0.6
RCDM				AMP		13 55 08.5	
	comp=N,685nm,0.5s						
FCH	**Farellones**	**2.05**	**142**	⇑*iP*	Pn	13 54 38.1	+0.9
FCH				*i* S	Sn	13 55 05.2	+3.1
FCH				AMP		13 55 12.6	
	comp=E,481nm,0.2s						
TACH	**Talagante**	**2.06**	**160**	*eP*	Pn	13 54 37.9	+0.5
ANTU	**Antumapu**	**2.09**	**152**	*eP*	Pn	13 54 37.9	+0.1
ANTU				*i* S	Sn	13 55 04.4	+1.3
ANTU				AMP		13 55 13.8	
	comp=N,683nm,0.5s						
PCH	**Pirque**	**2.19**	**151**	⇓*iP*	Pn	13 54 40.0	+0.8
CHCH	**Chadas Angostu**	**2.41**	**157**	*eP*	Pn	13 54 42.9	+0.6
LMEL	**Las Melosas**	**2.52**	**148**	⇓*iP*	Pn	13 54 45.0	+1.2
LMEL				*i* S	Sn	13 55 15.7	+1.9
LMEL				AMP		13 55 28.9	
	comp=N,605nm,0.2s						
CICH	**Cipreses**	**2.84**	**156**	*i* P	Pn	13 54 49.2	+0.7
SFDO	**San Fernando**	**2.97**	**167**	⇑*iP*	Pn	13 54 50.0	-0.2

ISC 08 14:07:52.5±0.8, 41.00N±0.06×40.24E±0.04, h10km, n7, σ1$12/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACK	**Trabzon**	**0.36**	**261**	*i* P	**Pg**	**14 08 01.4**	**+1.4**
MACK				*i* S	**Sg**	**14 08 09.0**	**+4.0**
GUMT	**Gumushane**	**0.79**	**227**	*i* PG	**Pg**	**14 08 07.4**	**-1.1**
KELT	**Kelkit**	**1.14**	**222**	*i* P	**Pb**	**14 08 12.5**	**-1.3**
KELT				*i* S	**Sb**	**14 08 27.0**	**-1.4**
ARTV	**Artvin**	**1.29**	**81**	*i* P	**Pb**	**14 08 15.2**	**-1.2**
ARTV				*i* S	**Sb**	**14 08 32.7**	**-0.1**
EZM	**Erzurum**	**1.39**	**142**	*i* PN	**Pn**	**14 08 18.6**	**+0.6**
EZM				*i* SN	**Sn**	**14 08 37.9**	**+1.4**
ERZM	**Erzurum**	**1.39**	**142**	*i* P	**Pn**	**14 08 17.5**	**-0.6**
ERZM				*i* S	**Sb**	**14 08 36.8**	**+1.0**
GRSN	**GIRESUNGRSN**	**1.50**	**268**	*i* P	**Pn**	**14 08 19.3**	**-0.3**
GRSN				*i* S	**Sb**	**14 08 40.5**	**+1.6**

*NEIC **08** 14:18:03.7, 39.01S×173.97E, h3km, ML3.7(WEL), After WEL.*
NEIC Felt at Oakura.
WEL 08 14:18:03.6±0.2, 39.01S×173.94E, h7km±1km, ML3.6/17, 2C-4D, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKE	**Pukeiti**	**0.19**	**168**	⇑PG	Pg	14 18 07.3	-0.2
PKE				SG	Sg	14 18 10.3	+0.2
PKE	**Pukeiti**	**0.19**	**168**	P	Pg	14 18 07.3	-0.2
PKE				S	Sg	14 18 10.3	+0.2
NWEZ	**Newall Road**	**0.27**	**192**	⇓PG	Pg	14 18 09.3	+0.2
NWEZ	**Newall Road**	**0.27**	**192**	P	Pg	14 18 09.3	+0.2
NEZ	**North Egmont**	**0.29**	**154**	⇓PG	Pg	14 18 09.4	0.0
NEZ				SG	Sg	14 18 14.0	+0.6
NEZ	**North Egmont**	**0.29**	**154**	P	Pg	14 18 09.4	-0.1
NRZ	**Ngariki Road**	**0.32**	**180**	⇓PG	Pg	14 18 10.2	0.0
NRZ				SG	Sg	14 18 14.5	-0.1
NRZ	**Ngariki Road**	**0.32**	**180**	P	Pg	14 18 10.2	0.0
DFE	**Dawson Falls**	**0.34**	**158**	PG	Pg	14 18 10.0	-0.5
RAEZ	**Rainy Point**	**0.45**	**128**	⇑PG	Pg	14 18 12.9	+0.3
RAEZ	**Rainy Point**	**0.45**	**128**	P	Pg	14 18 12.9	+0.3
VRZ	**Vera Road**	**0.65**	**100**	P*	Pb	14 18 16.1	-0.7
VRZ	**Vera Road**	**0.65**	**100**	P	Pg	14 18 16.2	-0.4
HIZ	**Hauiti**	**0.87**	**56**	⇓P*	Pb	14 18 20.2	-0.5
HIZ				S*	Sb	14 18 32.5	+0.1
HIZ	**Hauiti**	**0.87**	**56**	P	Pb	14 18 20.2	-0.5
WAZ	**Wanganui**	**1.10**	**133**	P*	Pb	14 18 24.3	-0.3
WAZ				S*	Sb	14 18 39.2	+0.3
WAZ	**Wanganui**	**1.10**	**133**	P	Pb	14 18 24.4	-0.1
WAZ				S	Sb	14 18 39.2	+0.3
PKVZ	**Pokaka**	**1.13**	**105**	P*	Pb	14 18 24.2	-0.8
PKVZ				S*	Sb	14 18 39.9	+0.1
TWVZ	**Taurewa**	**1.17**	**93**	P*	Pb	14 18 25.0	-0.8
TWVZ				S*	Sb	14 18 40.2	-0.8
TWVZ	**Taurewa**	**1.17**	**93**	P	Pb	14 18 25.0	-0.7
TWVZ				S	Sb	14 18 40.0	-0.9
WPVZ	**Whakapapa**	**1.27**	**99**	P*	Pb	14 18 26.6	-0.8
WPVZ				*e*S*	Sb	14 18 43.8	0.0
WPVZ	**Whakapapa**	**1.27**	**99**	P	Pb	14 18 26.7	-0.7
CNZ	**Chateau**	**1.27**	**99**	P*	Pb	14 18 26.7	-0.7
CNZ				*e*S*	Sb	14 18 44.4	+0.6
CNZ	**Chateau**	**1.27**	**99**	P	Pb	14 18 26.7	-0.7
FWVZ	**Far West T-bar**	**1.28**	**101**	P*	Pb	14 18 27.0	-0.6
FWVZ				S*	Sb	14 18 44.7	+0.6
TRVZ	**Turoa**	**1.29**	**103**	P*	Pb	14 18 27.1	-0.6
TRVZ				S*	Sb	14 18 44.8	+0.5
WTVZ	**West Tongariro**	**1.29**	**95**	P*	Pb	14 18 27.0	-0.8
WTVZ				S*	Sb	14 18 45.4	+1.0
WTVZ	**West Tongariro**	**1.29**	**95**	P	Pb	14 18 27.1	-0.7
DRZ	**Dome Shelter**	**1.29**	**102**	S*	Sb	14 18 43.8	-0.6
DRZ	**Dome Shelter**	**1.29**	**102**	P	Pb	14 18 28.3	+0.5
NGZ	**Ngauruhoe**	**1.31**	**98**	P*	Pb	14 18 27.2	-0.8
NGZ				S*	Sb	14 18 45.4	+0.5
NGZ	**Ngauruhoe**	**1.31**	**98**	P	Pb	14 18 27.7	-0.4
KRVZ	**Karewarewa**	**1.33**	**94**	PN	Pn	14 18 28.1	-0.5
WNVZ	**Wahianoa**	**1.33**	**104**	P	Pb	14 18 27.7	-0.8
OTVZ	**Oturere**	**1.35**	**97**	PN	Pn	14 18 28.5	-0.5
OTVZ				S*	Sb	14 18 46.0	-0.2
TUVZ	**Tukino**	**1.36**	**101**	PN	Pn	14 18 28.3	-0.8
TUVZ	**Tukino**	**1.36**	**101**	P	Pb	14 18 28.6	-0.4
KATZ	**Kakaramea**	**1.37**	**89**	PN	Pn	14 18 28.6	-0.5
KATZ				SN	Sn	14 18 46.5	-1.3
KATZ	**Kakaramea**	**1.37**	**89**	P	Pb	14 18 28.6	-0.6
WATZ	**Wairara**	**1.44**	**78**	PN	Pn	14 18 30.0	-0.1
WATZ				SN	Sn	14 18 48.8	-0.6
WATZ	**Wairara**	**1.44**	**78**	P	Pn	14 18 30.1	0.0
RATZ	**Rangitukua**	**1.44**	**85**	PN	Pn	14 18 29.7	-0.5
RATZ				SN	Sn	14 18 49.6	+0.1
RATZ	**Rangitukua**	**1.44**	**85**	P	Pn	14 18 29.8	-0.4
MOVZ	**Moawhango**	**1.47**	**106**	PN	Pn	14 18 29.6

KOLN	**Koldanda**	**37.67**	**331**	*eP*	**P**	**14 42 35.8**	**+0.8**
	12nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**44.87**	**131**	*eP*	**P**	**14 43 35.1**	**+1.0**
	1.1nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**44.87**	**131**	P	**P**	**14 43 35.0**	**+0.9**
	1.7nm,0.5s,mb4.1,baz=295,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**44.87**	**131**	*eP*	**P**	**14 43 34.5**	**+0.4**
SONM	**Songino Array**	**52.82**	**3**	P	**P**	**14 44 36.1**	**+0.8**
	0.9nm,0.6s,mb3.9,baz=182,slow=8.8,SNR=8.2						
MKAR	**Makanchi Array**	**54.84**	**343**	P	**P**	**14 44 49.1**	**-1.1**
	2.0nm,0.4s,mb4.5,baz=151,slow=9.1,SNR=55						
ZAL	**Zalesovo**	**60.79**	**348**	P	**P**	**14 45 30.7**	**-1.2**
	2.8nm,0.4s,mb4.8,baz=307,slow=2.2,SNR=15						
ARCES	**ARCESS Array B**	**90.40**	**340**	P	**P**	**14 48 18.2**	**-1.6**
	2.1nm,0.9s,mb4.5,baz=90,slow=6.3,SNR=3.8						
TXAR	**Lajitas Array**	**145.15**	**43**	PKPbc	PKPbc	14 54 57.9	+1.9
	1.3nm,0.7s,baz=297,slow=2.8,SNR=8.8						

*IDC **08** 14:59:23.5±1.9,28.43N×95.93E,mb3.3/4,mb1 3.7/4, mb1mx3.4/20,mbtmp3.4/4,Error ellipse: s-maj=79.0km s-min=24.9km az=66.0*

ISC 08 14:59:27.0±1.0,28.63N±0.09×96.3E±0.2,h33km,n5, σ1§80/6,mb3.4/3,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**4.36**	**209**	*eP*	**P**	**15 00 31.0**	**-1.6**
IMP				*eS*	**Sb**	**15 01 37.0**	**+1.7**
SONM	**Songino Array**	**20.73**	**20**	P	**P**	**15 04 08.6**	**+1.5**
	0.5nm,0.6s,baz=203,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**21.18**	**333**	P	**P**	**15 04 10.5**	**-1.2**
	0.2nm,0.4s,mb2.8,baz=143,slow=14,SNR=4.5						
ZAL	**Zalesovo**	**26.65**	**345**	P	**P**	**15 05 05.0**	**+0.6**
	0.7nm,0.3s,mb3.6,baz=66,slow=3.2,SNR=3.6						
WRA	**Warramunga Arr**	**60.70**	**138**	P	**P**	**15 09 37.2**	**-0.5**
	0.6nm,0.6s,mb3.9,baz=326,slow=7.6,SNR=10						

*NEIC **08** 15:33:37.0±7.1,51.09N×178.51E,h13km±43km,mb4.3/4, Error ellipse: s-maj=27.7km s-min=8.6km az=182.0*
*MOS **08** 15:33:37.6±1.2,51.08N×178.57E,h33km,mb4.5/11,Error ellipse: s-maj=24.0km s-min=18.8km az=87.2*
*IDC **08** 15:33:39.8±1.4,51.06N×178.59E,h30km±5km,mb3.8/13, mb1 4.0/15,mb1mx3.8/28,mbtmp4.0/15,ML3.7/2,Error ellipse: s-maj=40.4km s-min=10.3km az=11.0*

ISC 08 15:33:37.9±5.2,51.2N±0.2×178.53E±0.09,h27km±35km, h31km±1.0km:pP-P,n38,σ1§01/39,mb4.0/16,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**3.70**	**299**	Pn	**Pn**	**15 34 35.7**	**+0.9**
	12nm,0.3s,baz=52,slow=18,SNR=7.3						
FX1				Sn	**Sn**	**15 35 18.1**	**0.0**
	7.0nm,0.3s,baz=181,slow=20,SNR=2.1						
FX1	**Attu Island--F**	**3.70**	**299**	P	**Pn**	**15 34 35.7**	**+0.9**
FX1						15 35 18.1	
FX1				pmax	pmax		
	comp=Z,12nm,0.3s						
FX1				smax			
	comp=N,7.0nm,0.3s						
FX1	**Attu Island--F**	**3.70**	**299**	*eP*	**Pn**	**15 34 35.1**	**+0.3**
KDAK	**Kodiak Island**	**17.91**	**57**	P	**P**	**15 37 45.4**	**-1.1**
	comp=N,0.8nm,0.3s,baz=311,slow=11,SNR=10						
SLKM	**Skilak Lake**	**19.66**	**50**	*eP*	**P**	**15 38 05.4**	**-1.9**
IMA2	**Indian Mountai**	**20.46**	**33**	*eP*	**P**	**15 38 15.9**	**+0.1**
ILAR	**Eielson Array**	**22.42**	**40**	P	**P**	**15 38 36.4**	**+0.9**
	comp=N,2.6nm,0.9s,mb3.6,baz=247,slow=8.4,SNR=25						
ILAR	**Eielson Array**	**22.42**	**40**	P	**P**	**15 38 36.4**	**+0.9**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAWY	**Dawson**	**25.36**	**43**	*eP*	**P**	**15 39 06.5**	**+2.6**
INK	**Inuvik**	**28.54**	**35**	P	**P**	**15 39 33.0**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.6,baz=243,slow=7.7,SNR=3.5						
INK	**Inuvik**	**28.54**	**35**	P	**P**	**15 39 33.0**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**36.54**	**46**	P	**P**	**15 40 42.6**	**0.0**
	comp=Z,1.1nm,0.9s,mb3.7,baz=287,slow=8.7,SNR=5.5						
YKA	**Yellowknife Ar**	**36.54**	**46**	P	**P**	**15 40 42.6**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NEW	**Newport**	**40.50**	**68**	P	**P**	**15 41 16.1**	**+0.2**
	comp=Z,1.2nm,0.5s,mb3.9,baz=284,slow=8.3,SNR=3.9						
NEW	**Newport**	**40.50**	**68**	P	**P**	**15 41 16.1**	**+0.3**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HLID	**Hailey**	**44.59**	**72**	P	**P**	**15 41 50.0**	**+0.8**
SONM	**Songino Array**	**45.20**	**295**	P	**P**	**15 41 54.1**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.6,baz=44,slow=7.2,SNR=4.8						
SONM				pP	pP	15 42 03.8	+1.6
	comp=Z,0.9nm,0.7s,baz=53,slow=9.0,SNR=5.5						
SONM	**Songino Array**	**45.20**	**295**	P	**P**	**15 41 54.1**	**+0.1**
SONM				*PP	pP	15 42 03.8	+1.6
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**45.23**	**81**	P	**P**	**15 41 56.0**	**+1.6**
	comp=Z,1.1nm,0.8s,mb3.7,baz=291,slow=5.3,SNR=10.0						
ELK	**Elko**	**45.72**	**76**	P	**P**	**15 41 59.8**	**+1.6**
	comp=Z,2.4nm,0.8s,mb4.2,baz=299,slow=8.2,SNR=12						
ELK	**Elko**	**45.72**	**76**	*eP*	**P**	**15 41 57.8**	**-0.4**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ELK	**Elko**	**45.72**	**76**	*eP*	**P**	**15 41 57.8**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.2						
ELK				P		15 41 59.8	
TPNV	**Topopah Spring**	**47.43**	**81**	*eP*	**P**	**15 42 12.0**	**+0.2**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TPNV	**Topopah Spring**	**47.43**	**81**	*eP*	**P**	**15 42 11.9**	**+0.2**
	comp=Z,3.8nm,0.9s,mb4.3						
BW06	**Boulder Array**	**47.94**	**71**	*eP*	**P**	**15 42 15.8**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**47.94**	**71**	P	**P**	**15 42 15.7**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=314,slow=4.2,SNR=11						
SDCO	**Great Sand Dun**	**53.50**	**73**	*eP*	**P**	**15 42 57.5**	**-0.5**
	comp=Z,4.0nm,1.4s,mb4.2						
MKAR	**Makanchi Array**	**58.80**	**307**	P	**P**	**15 43 34.0**	**-1.8**
	comp=Z,0.9nm,0.9s,mb3.8,baz=45,slow=5.4,SNR=5.2						
MKAR	**Makanchi Array**	**58.80**	**307**	P	**P**	**15 43 34.0**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**59.90**	**318**	P	**P**	**15 43 42.8**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=53,slow=7.4,SNR=13						
BVAR				pP	pP	15 43 52.3	+0.5
	comp=Z,1.0nm,0.5s,baz=55,slow=7.3,SNR=5.4						
BVAR	**Borovoye Array**	**59.90**	**318**	P	**P**	**15 43 42.8**	**-0.6**
BVAR				*PP	pP	15 43 52.3	+0.5
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**60.33**	**79**	P	**P**	**15 43 44.4**	**-2.2**
	comp=Z,0.7nm,0.3s,mb4.2,baz=315,slow=6.4,SNR=5.1						
TXAR	**Lajitas Array**	**60.33**	**79**	P	**P**	**15 43 44.4**	**-2.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TXAR	**Lajitas Array**	**60.33**	**79**	P	**P**	**15 43 44.4**	**-2.2**
AKTO	**Aktyubinsk**	**66.82**	**323**	P	**P**	**15 44 28.6**	**-0.2**
	comp=Z,3.9nm,0.7s,mb4.5,baz=45,slow=5.1,SNR=16						
AKTO				pP	pP	15 44 38.9	+1.6
	comp=Z,3.3nm,0.8s,baz=44,slow=3.1,SNR=5.5						
AKTO	**Aktyubinsk**	**66.82**	**323**	P	**P**	**15 44 28.6**	**-0.2**
AKTO				*PP	pP	15 44 38.9	+1.6
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**84.36**	**334**	P	**P**	**15 46 09.4**	**+1.0**
	comp=Z,1.5nm,0.8s,mb4.2,baz=45,slow=3.5,SNR=6.0						
BRTR				pP	pP	15 46 19.1	+2.0
	comp=Z,1.2nm,0.8s,baz=63,slow=2.8,SNR=4.6						
BRTR	**Keskin Array B**	**84.36**	**334**	P	**P**	**15 46 09.5**	**+1.1**
BRTR				*PP	pP	15 46 19.1	+2.0
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*NEIC **08** 15:39:07.9±6.8,44.90N×137.74E,h195km±61km,mb4.1/6, Error ellipse: s-maj=38.5km s-min=11.0km az=148.0*
*MOS **08** 15:39:14.7±0.6,44.94N×137.69E,h282km,mb4.5/6,Error ellipse: s-maj=32.5km s-min=21.4km az=31.4*
*IDC **08** 15:39:18.3±4.0,46.34N×137.20E,h215km±92km,mb3.1/6, mb1 3.2/7,mb1mx3.0/24,mbtmp3.7/7,Error ellipse: s-maj=135.8km s-min=20.0km az=174.0*
*SKHL **08** 15:39:20.7±1.0,45.00N×137.38E,h320km±18km,mb3.6/1, msha3.9/1*
*JMA **08** 15:39:24.2±0.5,44.83N×137.80E,h313km,M3.3*

ISC 08 15:39:19.5±0.4,45.03N±0.09×137.24E±0.07,h300km,n41, σ1§19/47,mb3.6/11,Primorye

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEY	**Ternei**	**0.45**	**271**	*eP*	**P**	**15 40 00.5**	**+2.2**
TEY				AMB	AMB	15 40 02.1	
	31nm,0.8s						
TEY				*eS*	**S**	**15 40 31.5**	**+2.9**
TEY				A		15 40 32.1	
	67nm,0.9s						
JSK	**Shakotan**	**2.86**	**125**	P	**P**	**15 40 15.8**	**+1.5**
JSH	**Shimam**	**3.13**	**139**	P	**P**	**15 40 18.2**	**+1.2**
JWK2	**Keihoku**	**3.30**	**83**	P	**P**	**15 40 20.6**	**+1.8**
JOSM	**Okushiri--Mats**	**3.36**	**150**	P	**P**	**15 40 21.0**	**+1.6**
JHR	**Hokuryu**	**3.46**	**110**	P	**P**	**15 40 21.5**	**+1.1**
JSE	**Soyaes**	**3.79**	**89**	P	**P**	**15 40 25.0**	**+1.1**
ASAJ	**Asahikawa**	**3.93**	**101**	P	**P**	**15 40 26.1**	**+0.7**
	2.5nm,0.3s,baz=301,slow=12,SNR=29						
JKK2	**Kamakawa 2**	**4.11**	**104**	P	**P**	**15 40 28.0**	**+0.6**
JFR	**Furan**	**4.28**	**114**	P	**P**	**15 40 29.4**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.30**	**61**	*eP*	**P**	**15 40 29.5**	**0.0**
JOT	**Ohata**	**4.58**	**141**	P	**P**	**15 40 33.8**	**+1.1**
JNBK	**Urakawa-nobuka**	**4.85**	**123**	P	**P**	**15 40 35.9**	**+0.1**
JNBK				*eS*	**S**	**15 41 31.6**	**-3.9**
JTKR	**Abashiri--Toko**	**4.88**	**100**	P	**P**	**15 40 36.0**	**-0.2**
JAR	**Ashorobuto**	**5.00**	**108**	P	**P**	**15 40 37.3**	**-0.3**
JCH	**Churui**	**5.04**	**116**	P	**P**	**15 40 36.4**	**-1.6**
JCH				*eS*	**S**	**15 41 34.4**	**-5.1**
JANG	**Nango**	**5.61**	**144**	P	**P**	**15 40 43.5**	**-1.3**
JANG				*eS*	**S**	**15 41 46.0**	**-5.7**
JAK	**Akkeshi**	**5.75**	**108**	P	**P**	**15 40 44.2**	**-2.1**
JAK				*eS*	**S**	**15 41 46.9**	**-7.6**
NEM2	**Nemuro 2**	**6.33**	**102**	P	**P**	**15 40 51.2**	**-2.2**
NEM2				*eS*	**S**	**15 41 59.5**	**-7.6**
JMK	**Ichinoseki**	**6.75**	**153**	P	**P**	**15 40 57.4**	**-1.2**
ULN	**Ulaanbaatar**	**20.93**	**289**	P	**P**	**15 43 39.5**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	**20.93**	**289**	P	**P**	**15 43 39.5**	**-0.3**
	comp=Z,2.4nm,0.9s						
SONM	**Songino Array**	**21.38**	**289**	P	**P**	**15 43 44.1**	**0.0**
	comp=Z,1.3nm,0.7s,mb3.4,baz=89,slow=9.3,SNR=8.4						
SONM	**Songino Array**	**21.38**	**289**	P	**P**	**15 43 44.1**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	**Zalesovo**	**34.49**	**304**	P	**P**	**15 45 40.1**	**-0.9**
	comp=Z,0.9nm,0.5s,mb3.5,baz=18,slow=11,SNR=4.3						
ZAL	**Zalesovo**	**34.49**	**304**	P	**P**	**15 45 40.1**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**37.62**	**293**	P	**P**	**15 46 07.3**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.2,baz=75,slow=9.8,SNR=11						
MKAR	**Makanchi Array**	**37.62**	**293**	P	**P**	**15 46 07.3**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**43.09**	**306**	P	**P**	**15 46 51.3**	**-0.3**
	comp=Z,0.4nm,0.2s,mb3.2,baz=83,slow=10,SNR=5.6						
JIRN	**Jiri**	**43.87**	**265**	*eP*	**P**	**15 46 58.8**	**+0.6**
	comp=Z,10nm,0.6s,mb4.2						
GUN	**Gumba**	**43.93**	**265**	*eP*	**P**	**15 46 59.1**	**+0.4**
	comp=Z,5.7nm,0.3s,mb4.3						
KKN	**Kakani**	**44.43**	**265**	*eP*	**P**	**15 47 02.0**	**-0.7**
	comp=Z,8.6nm,0.8s,mb4.0						
KKN	**Kakani**	**44.43**	**265**	*eP*	**P**	**15 47 02.0**	**-0.7**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.7						
PKI	**Pulchoki**	**44.47**	**265**	*eP*	**P**	**15 47 02.5**	**-0.5**
DMN	**Daman**	**44.66**	**265**	*eP*	**P**	**15 47 03.8**	**-0.7**
ILAR	**Eielson Array**	**44.67**	**36**	P	**P**	**15 47 00.3**	**-3.7**
	comp=Z,0.2nm,0.6s,mb2.5,baz=292,slow=9.6,SNR=5.2						
GKN	**Gorkha**	**44.76**	**266**	*eP*	**P**	**15 47 04.5**	**-0.8**
	comp=Z,5.8nm,0.3s,mb4.2						
KOLN	**Koldanda**	**45.63**	**267**	*eP*	**P**	**15 47 12.3**	**+0.2**
	comp=Z,4.5nm,0.5s,mb4.1						
INK	**Inuvik**	**48.85**	**30**	P	**P**	**15 47 32.2**	**-4.2**
AKTO	**Aktyubinsk**	**51.19**	**306**	P	**P**	**15 47 53.8**	**-0.3**
	comp=Z,0.9nm,0.5s,mb3.4,baz=58,slow=9.5,SNR=3.7						
AKTO	**Aktyubinsk**	**51.19**	**306**	P	**P**	**15 47 53.8**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						

*IDC **08** 15:40:16.2±1.2,1.53N×125.91E,mb3.8/4,mb1 3.9/5, mb1mx3.8/16,mbtmp3.8/5,ML3.9/1,Error ellipse: s-maj=98.0km s-min=19.0km az=70.0*
*NEIC **08** 15:40:21.2±0.8,1.59N×126.12E,h35km,mb4.2/2,Error ellipse: s-maj=60.9km s-min=11.8km az=71.0*

ISC 08 15:40:22.3±4.7,1.4N±0.2×125.7E±0.6,h62km±44km,n9, σ0§34/10,mb3.8/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.41**	**180**	*eP*	**P**	**15 44 46.4**	**+0.2**
	6.0nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.41**	**180**	P	**P**	**15 44 45.8**	**-0.3**
	0.3nm,0.3s,baz=12,slow=14,SNR=6.6						
WRA	**Warramunga Arr**	**22.87**	**159**	P	**P**	**15 45 21.2**	**-0.1**
	1.5nm,0.4s,mb3.7,baz=337,slow=10,SNR=21						
WB2	**Warramunga Ar**	**22.87**	**159**	*eP*	**P**	**15 45 22.0**	**+0.6**
WB2				*eS*	**S**	**15 49 22.3**	**+0.1**
STKA	**Stephens Creek**	**36.39**	**157**	*eP*	**P**	**15 47 22.5**	**-0.1**
	2.4nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**36.39**	**157**	P	**P**	**15 47 22.1**	**-0.5**
	2.6nm,0.7s,mb4.3,baz=344,slow=6.4,SNR=5.1						
STKA	**Stephens Creek**	**36.39**	**157**	*eP*	**P**	**15 47 21.9**	**-0.8**
STKA				*eP*		15 47 22.5	
SONM	**Songino Array**	**49.16**	**343**	P	**P**	**15 49 05.8**	**0.0**
	0.3nm,0.6s,mb3.5,baz=159,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**58.87**	**327**	P	**P**	**15 50 17.1**	**+0.1**
	0.4nm,0.4s,mb3.8,baz=122,slow=7.8,SNR=15						

*NNC **08** 15:45:03.3±33.0,35.31N×73.17E,mpv3.3,Error ellipse: s-maj=382.6km s-min=300.3km az=75.0*

NDI 08 15:44:59.5±2.5,34.90N×73.37E,h10km,ML3.0,2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.15**	**141**	*eP*	Pn	15 45 50.3	+0.2
THN				*eSB*	Sb	15 46 36.8	+3.1
SDNR	**Sundarnagar**	**4.54**	**137**	*ex*	Sn	15 47 01.2	-2.2
KLP	**Kalpa**	**5.29**	**128**	*eP*	Pn	15 46 18.5	-2.1
KLP				*eS*	Sn	15 47 15.4	-6.9
KLP				AML	AML	15 47 52.0	
	comp=E,49nm,0.4s						
KLP				AML	AML	15 47 52.2	
	comp=N,64nm,0.8s						
KHET	**Khetri**	**7.12**	**162**	*eS*	Sn	15 47 58.1	-10
KHET				AML	AML	15 48 03.1	
	comp=N,5.9nm,0.2s						
KHET				AML	AML	15 48 05.6	
	comp=E,6.1nm,0.1s						
KUDL	**Kundal**	**7.24**	**158**	*ex*	Pn	15 46 35.0	-13
KUDL				*eS*	Sn	15 48 02.0	-9.2
KUDL				AML	AML	15 48 04.7	
	comp=Z,4.7nm,0.5s						
KK31	**Karatay Array**	**8.48**	**346**	⇑P	P	15 47 01.5	-3.9
	comp=Z,0.6nm,0.3s,baz=166,slow=12,SNR=20						
KK31				⇑S	Sn	15 48 34.5	-7.7
	comp=Z,2.6nm,0.6s,baz=164,slow=22						

IDC 08 15:47:44.0±2.4,5.66S×151.16E,mb3.5/3,mb1 3.9/3, mb1mx3.6/13,mbtmp3.6/3,Error ellipse: s-maj=135.3km s-min=30.7km az=133.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.66**	**228**	P	P	15 52 35.8	-2.5
	0.7nm,0.7s,baz=53,slow=10,SNR=9.3						
FITZ	**Fitzroy Crossi**	**27.81**	**241**	P	P	15 53 35.5	-1.7
	1.0nm,0.6s,baz=78,slow=9.3,SNR=4.1						
ILAR	**Eielson Array**	**83.57**	**22**	P	P	16 00 13.7	-1.4
	0.4nm,0.7s,baz=230,slow=4.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc	PKPdf	16 07 34.9	+2.1
	0.6nm,0.6s,baz=73,slow=2.2,SNR=4.2						

*ATH **08** 15:55:01.9,36.78N×28.52E,h27km±4km,MD3.1/3*
*ISK **08** 15:55:04.0,35.99N×28.62E,h14km,MD3.3*
*CSEM **08** 15:55:06.9±0.2,36.20N×28.64E,h13km±1km,MD3.3, Error ellipse: s-maj=4.0km s-min=2.7km az=154.0*

ISC 08 15:55:06.9±1.0,36.10N±0.05×28.58E±0.04,h11km±7km, n15,σ1§34/23,1D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.38**	**288**	⇓*i*	PN	**Pg**	**15 55 15.0**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.67**	**4**	*i*	PG	**Pg**	**15 55 18.6**	**-1.9**
DALT				*i*	SG	**Sg**	**15 55 31.0**	**+1.4**
FETY	**Fethiye**	**0.68**	**37**	*i*	PG	**Pg**	**15 55 18.3**	**-2.2**
FETY				*i*	SG	**Sg**	**15 55 29.6**	**0.0**
KSL	**Kastellorizon**	**0.82**	**86**	*e*	PN	**Pb**	**15 55 22.0**	**-0.6**
KSL				*e*	SN	**Sn**	**15 55 37.5**	**+1.3**
AKAS	**Kas**	**0.84**	**80**	*i*	P	**Pb**	**15 55 21.1**	**-2.0**
AKAS				*i*	S	**Sb**	**15 55 36.7**	**+2.6**
DAT	**Datca**	**1.02**	**308**	PN		**Pn**	**15 55 26.5**	**-0.6**
YER	**Yerkesik**	**1.06**	**347**	PN		**Pn**	**15 55 27.2**	**-0.4**
ELL	**Elmali**	**1.26**	**58**	PN		**Pn**	**15 55 28.7**	**-1.7**
KARP	**Karpathos**	**1.27**	**245**	*e*	PN	**Pb**	**15 55 31.8**	**+1.4**
KARP				*e*	SN	**Sg**	**15 55 52.0**	**+2.6**
MLSB	**Milas**	**1.36**	**332**	*e*	PN	**Pn**	**15 55 31.1**	**-0.8**
GOLH	**Golhisar**	**1.39**	**34**	*i*	P	**Pn**	**15 55 32.7**	**+0.4**
GOLH				*i*	S	**Sg**	**15 55 54.3**	**+1.1**
BODT	**Bodrum**	**1.40**	**314**	*e*	PN	**Pn**	**15 55 31.8**	**-0.7**
DNZL	**Cakiroluk**	**1.64**	**13**	*i*	P	**Pn**	**15 55 37.2**	**+1.4**
DNZL				*i*	S	**Sg**	**15 56 03.3**	**+1.9**
AYDN	**Tasoluk**	**1.66**	**341**	*i*	P	**Pg**	**15 55 38.3**	**-1.7**
AYDN				*i*	S	**Sg**	**15 56 02.4**	**+0.1**
DENT	**Denizli**	**1.69**	**12**	*e*	PN	**Pn**	**15 55 35.9**	**-0.8**

*IDC **08** 15:57:53.9±2.1,18.45N×145.65E,h190km±21km,mb3.3/8, mb1 3.6/10,mb1mx3.4/21,mbtmp3.9/10,Error ellipse: s-maj=24.6km s-min=14.3km az=95.0*
*NEIC **08** 15:57:54.4±1.6,18.44N×145.63E,h199km±16km,mb4.0/3, Error ellipse: s-maj=19.7km s-min=11.2km az=91.0*

ISC 08 15:57:53.4±1.7,18.46N±0.09×145.6E±0.2,h204km±17km, n15,σ0§84/16,mb3.5/11,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.89**	**188**	P	**P**	**15 59 06.9**	**-0.2**
	baz=341						
GUMO				S	**S**	**16 00 04.3**	**0.0**
JOW	**Kunigami**	**18.00**	**301**	P	**P**	**16 01 51.5**	**+0.2**
	0.6nm,0.3s,baz=128,slow=16,SNR=3.0						
WB2	**Warramunga Arr**	**39.72**	**197**	*eP*	**P**	**16 05 07.9**	**+0.2**
WRA	**Warramunga Arr**	**39.72**	**197**	P	**P**	**16 05 07.9**	**+0.2**
	1.0nm,0.3s,mb3.7,baz=17,slow=8.3,SNR=42						
FITZ	**Fitzroy Crossi**	**41.28**	**209**	*eP*	**P**	**16 05 21.4**	**+1.0**
	1.6nm,0.2s,mb4.1						
FITZ	**Fitzroy Crossi**	**41.28**	**209**	P	**P**	**16 05 21.6**	**+1.1**
	2.6nm,0.7s,mb3.8,baz=31,slow=9.2,SNR=24						
SONM	**Songino Array**	**43.26**	**322**	P	**P**	**16 05 37.2**	**+1.0**
	0.2nm,0.4s,mb2.9,baz=135,slow=8.2,SNR=2.2						
MBWA	**Marble Bar**	**46.81**	**214**	*eP*	**P**	**16 06 04.7**	**+0.2**
	4.5nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**50.19**	**184**	P	**P**	**16 06 28.9**	**-1.5**
	0.5nm,0.5s,mb3.1,baz=349,slow=10,SNR=3.1						
BILL	**Bilibino**	**51.28**	**10**	*eP*	**P**	**16 06 38.0**	**0.0**
	1.9nm,0.9s,mb3.5						
MKAR	**Makanchi Array**	**58.54**	**314**	P	**P**	**16 07 29.7**	**-0.9**
	0.9nm,1.1s,mb3.3,baz=87,slow=8.3,SNR=4.2						
ILAR	**Eielson Array**	**63.91**	**26**	P	**P**	**16 08 05.5**	**-0.7**
	0.4nm,0.8s,mb3.1,baz=248,slow=5.0,SNR=7.7						
INK	**Inuvik**	**69.64**	**23**	P	**P**	**16 08 42.0**	**0.0**
	1.4nm,0.8s,mb3.7,baz=269,slow=4.1,SNR=4.5						
NVAR	**Mina Array Bea**	**83.38**	**52**	P	**P**	**16 10 00.9**	**+1.8**
	0.6nm,0.7s,mb3.4,baz=265,slow=3.7,SNR=6.7						
FINES	**FINESS Array B**	**87.05**	**335**	P	**P**	**16 10 15.3**	**-1.3**
	2.1nm,0.9s,mb3.8,baz=63,slow=4.3,SNR=4.8						

*BUG **08** 16:01:10.9,51.49N×6.87E,h1km,ML1.6*
*BGR **08** 16:01:10.2±0.7,51.54N×6.82E,h1km,ML2.1/3,Error ellipse: s-maj=8.9km s-min=4.4km az=124.0*
*CSEM **08** 16:01:10.9±0.2,51.60N×6.89E,h1km,ML2.7/7, Error ellipse: s-maj=4.7km s-min=2.6km az=101.0*
*LDG **08** 16:01:11

NEIC ***08*** *16:42:32.6±0.3,51.56N×16.13E,h5km,ML3.1(SZGRF), Error ellipse: s-maj=4.5km s-min=3.5km az=191.0*
BGR ***08*** *16:42:32.9±0.6,51.45N×16.15E,h1km,ML3.1/13,Error ellipse: s-maj=11.1km s-min=4.4km az=165.0*
IDC ***08*** *16:42:33.6±0.7,51.50N×15.95E,mb1 3.5/9, mb1mx3.4/26,mbtmp3.4/9,ML3.3/9,Error ellipse: s-maj=12.6km s-min=6.4km az=103.0*
WAR ***08*** *16:42:34,51.47N×16.11E,ML3.1,Mining Induced*
PRU ***08*** *16:42:34.4,51.42N×16.11E,Felt In Harrachov*
CSEM ***08*** *16:42:34.9±0.1,51.40N×16.05E,h2km,ML3.6/9,Error ellipse: s-maj=2.7km s-min=1.3km az=15.0*
IPEC ***08*** *16:42:34.1±0.3,51.44N×16.56E,ML2.6/4,Error ellipse: s-maj=2.9km s-min=1.9km az=98.0*
VIE ***08*** *16:42:34.7±0.5,51.37N×16.07E,mb2.8/4,ML3.1/4,Error ellipse: s-maj=6.0km s-min=3.4km az=104.0,Suspected Mining induced.*

ISC 08 16:42:32.4±0.4,51.40N±0.02×16.08E±0.02,n72,
σ1s13/127,2C-7D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.57**	**166**	⇓*i*	PG	**16 42 45.9**	**+2.2**
KSP				⇓*i*	SG	**16 42 54.4**	**+3.1**
KSP	**Ksiaz**	**0.57**	**166**	*e*	Pg	**16 42 45.9**	**+2.2**
KSP				*e*	Sg	**16 42 54.5**	**+3.2**
KSP	**Ksiaz**	**0.57**	**166**	⇓*i*	Pg	**16 42 45.9**	**+2.2**
KSP				*e*	Sg	**16 42 54.4**	**+3.1**
KSP				*e*		16 42 59.0	
KSP	**Ksiaz**	**0.57**	**166**	*e*	Pg	**16 42 45.8**	**+2.1**
KSP				*e*	Sg	**16 42 54.2**	**+2.9**
UPC	**Upice**	**0.89**	**183**	*e*	PG	**16 42 52.0**	**+1.9**
DPC	**Dobruska-Polom**	**1.06**	**172**	*e*	PG	**16 42 54.7**	**+1.2**
DPC				*e*	SG	**16 43 09.2**	**+1.6**
	177nm,1.1s						
DPC	**Dobruska-Polom**	**1.06**	**172**	*e*	Pg	**16 42 54.6**	**+1.1**
DPC				*e*	Sg	**16 43 08.9**	**+1.3**
PVCC	**Panska Ves**	**1.29**	**228**	*e*	PG	**16 42 59.1**	**+1.0**
BRG	**Berggiesshubel**	**1.45**	**250**	*e*	Pn	**16 43 00.2**	**+0.4**
BRG				*e*	Sg	**16 43 21.9**	**+1.5**
BRG	**Berggiesshubel**	**1.45**	**250**		Pn	**16 43 00.1**	**+0.3**
BRG					Pg	**16 43 01.6**	**+0.5**
BRG					Sg	**16 43 21.6**	**+1.2**
PRA	**Prague**	**1.69**	**219**		PG	**16 43 06.0**	**-0.1**
PRA					SG	**16 43 30.0**	**+1.4**
PRU	**Pruhonice**	**1.72**	**215**	*e*	PN	**16 43 04.8**	**+1.1**
PRU				*e*	PG	**16 43 06.7**	**+0.1**
PRU				*ex*		16 43 23.4	
PRU				*e*	SG	**16 43 30.0**	**+0.5**
	68nm,0.7s						
FBE	**Freiberg**	**1.78**	**256**	*e*	Pn	**16 43 05.4**	**+0.8**
FBE				*e*	Sg	**16 43 31.3**	**-0.4**
RUE	**Ruedersdorf**	**1.79**	**308**	*e*	Pn	**16 43 03.7**	**-1.1**
RUE				*e*	Sn	**16 43 30.1**	**+1.6**
MORC	**Moravsky Berou**	**1.87**	**150**	⇑*i*	Pn	**16 43 06.5**	**+0.6**
MORC	**Moravsky Berou**	**1.87**	**150**	*e*	Pn	**16 43 06.5**	**+0.6**
MORC				*e*	Sg	**16 43 29.9**	**-4.7**
RAC	**Raciborz**	**1.88**	**134**	*e*	Pn	**16 43 10.0**	**+4.0**
RAC				*e*	Sn	**16 43 35.0**	**+4.2**
CLL	**Collm**	**1.93**	**269**	*e*	Pn	**16 43 06.4**	**-0.4**
CLL				*e*	Sg	**16 43 36.3**	**-0.3**
CLL	**Collm**	**1.93**	**269**	*i*	PN	**16 43 06.4**	**-0.4**
CLL	**Collm**	**1.93**	**269**	*i*	PG	**16 43 10.4**	**-0.5**
CLL				*i*		16 43 13.7	
CLL				*i*		16 43 24.6	
CLL				*i*	SG	**16 43 35.8**	**-0.9**
CLL	**Collm**	**1.93**	**269**	*i*	Pn	**16 43 06.4**	**-0.4**
CLL				*i*	Pg	**16 43 10.4**	**-0.5**
CLL				*i*	Sg	**16 43 35.8**	**-0.9**
OKC	**Ostrava-Krasne**	**2.04**	**139**	*e*	PN	**16 43 08.7**	**+0.4**
OKC				*e*	PG	**16 43 12.3**	**-0.8**
OKC				*e*	SG	**16 43 39.6**	**-0.7**
	57nm,0.5s						
VRAC	**Vranov**	**2.12**	**171**		Pn	**16 43 11.3**	**+1.9**
	3.7nm,0.3s,baz=334,slow=15,SNR=16						
VRAC					Sn	**16 43 41.7**	**+4.9**
	4.2nm,0.3s,baz=268,slow=22,SNR=3.8						
VRAC	**Vranov**	**2.12**	**171**	⇓	Pn	**16 43 11.7**	**+2.3**
VRAC	**Vranov**	**2.12**	**171**	*e*	Pn	**16 43 11.4**	**+2.0**
VRAC				*e*	Sg	**16 43 40.4**	**-2.4**
	24nm,0.2s						
KRUC	**Moravsky**	**2.35**	**175**	*e*	Pn	**16 43 14.1**	**+1.4**
KRUC				*e*	Sg	**16 43 48.9**	**-1.5**
	23nm,0.3s						
TANN	**Tannenbergstha**	**2.49**	**248**	*e*	Pn	**16 43 15.3**	**+0.5**
TANN				*e*	Sg	**16 43 53.1**	**-2.3**
WERD	**Werda**	**2.57**	**250**	*e*	Pn	**16 43 16.1**	**+0.2**
WERD				*e*	Sg	**16 43 56.2**	**-1.7**
NKC	**Novy Kostel**	**2.58**	**245**	*e*	PN	**16 43 17.1**	**+1.0**
NKC				*e*	PG	**16 43 23.3**	**-0.6**
NKC				*e*	SG	**16 43 58.6**	**+0.3**
	81nm,0.3s						
GUNZ	**Gunzen**	**2.59**	**248**	*e*	Pn	**16 43 16.8**	**+0.6**
GUNZ				*e*	Sg	**16 43 56.5**	**-2.1**
WERN	**Wernitzgruen**	**2.60**	**246**	*e*	Pn	**16 43 17.1**	**+0.8**
WERN				*e*	Sg	**16 43 56.8**	**-2.0**
OJC	**Ojcow**	**2.64**	**115**	*e*	PN	**16 43 17.0**	**+0.1**
OJC				*e*	PG	**16 43 24.0**	**-1.0**
OJC				*e*	SG	**16 43 59.0**	**-1.1**
OJC	**Ojcow**	**2.64**	**115**	*e*	Pg	**16 43 24.4**	**-0.6**
OJC				*e*	Sg	**16 43 58.8**	**-1.3**
JAVC	**Velka Javorina**	**2.74**	**157**	*e*	Sg	**16 44 02.6**	**-0.9**
	28nm,0.5s						
KHC	**Kasperske Hory**	**2.78**	**216**	*e*	PN	**16 43 20.0**	**+1.1**
KHC				*e*	PG	**16 43 26.0**	**-1.8**
KHC				*e*	SN	**16 43 54.3**	**+0.7**
KHC				*e*	SG	**16 44 04.3**	**-0.5**
	31nm,0.4s						
MOX	**Moxa**	**2.92**	**257**	*e*	Pn	**16 43 21.1**	**+0.2**
MOX	**Moxa**	**2.92**	**257**	*i*	P	**16 43 21.3**	**+0.4**
MOX					Pg	**16 43 29.0**	**-1.6**
MOX					Sg	**16 44 09.0**	**-0.5**
MOX	**Moxa**	**2.92**	**257**	*e*	Pn	**16 43 21.3**	**+0.4**
MOX				*e*	Pg	**16 43 29.4**	**-1.2**
MOX				*e*	Sg	**16 44 08.8**	**-0.7**
ROTZ	**Rotzenmuhle**	**2.96**	**238**	*e*	Pn	**16 43 22.1**	**+0.6**
GEC2	**GERESS Array S**	**2.98**	**212**	*e*	Pn	**16 43 22.8**	**+1.1**
GEC2	**GERESS Array S**	**2.98**	**212**	*e*	Pn	**16 43 22.8**	**+1.1**
GERES	**GERESS Array B**	**2.98**	**212**		Pn	**16 43 22.4**	**+0.6**
	1.8nm,0.3s,baz=25,slow=12,SNR=46						
GERES					Pg	**16 43 28.8**	**-3.0**
	7.1nm,0.3s,baz=28,slow=17,SNR=44						
GERES					Lg	16 44 10.6	
	7.6nm,0.3s,baz=30,slow=27,SNR=5.0						
NOTT	**Nottersdorf**	**2.98**	**239**	*e*	Pn	**16 43 22.2**	**+0.5**
NOTT				*e*	Sg	**16 44 09.4**	**-2.1**
WET	**Wettzell**	**3.05**	**224**	*e*	Pn	**16 43 22.7**	**0.0**
WET	**Wettzell**	**3.05**	**224**	*e*	Pn	**16 43 22.7**	**-0.1**
ZST	**Bratislava**	**3.27**	**168**	*e*	Pg	**16 43 37.7**	**+0.1**
ZST	**Bratislava**	**3.27**	**168**	*e*	SG	**16 44 20.4**	**-0.8**
NIE	**Niedzica**	**3.35**	**125**	*e*	P	**16 43 37.0**	**-2.3**
NIE				*e*	S	**16 44 20.0**	**-4.0**
VYHS	**Vyhne**	**3.41**	**147**	*e*	Pn	**16 43 27.9**	**+0.1**
VYHS				*e*	P	16 43 39.1	
VYHS				*e*	Sg	**16 44 25.0**	**-0.8**
VYHS	**Vyhne**	**3.41**	**147**	*e*	Pn	**16 43 27.9**	**+0.1**
VYHS				*e*	Sg	**16 44 25.0**	**-0.8**
GRA1	**Grafenberg Arr**	**3.54**	**243**	*e*	Pn	**16 43 30.2**	**+0.5**
GRA1	**Grafenberg Arr**	**3.54**	**243**		Pn	**16 43 30.2**	**+0.5**
GRF	**Grafenberg Arr**	**3.54**	**243**	*e*	Pn	**16 43 30.2**	**+0.5**
GRF	**Grafenberg Arr**	**3.54**	**243**	*e*	Pn	**16 43 30.2**	**+0.5**
MOA	**Molln**	**3.74**	**199**	⇑*i*	Pn	**16 43 33.5**	**+1.0**
MOA					Sg	**16 44 37.4**	**+0.5**
MOA	**Molln**	**3.74**	**199**		Pn	**16 43 33.6**	**+1.0**
MOA					Sg	**16 44 37.4**	**+0.5**
	21nm,0.3s						
STHS	**Stebnicka Huta**	**3.85**	**119**	*e*	Pn	**16 43 34.1**	**0.0**
STHS				*e*		16 43 47.9	
STHS				*e*	Sg	**16 44 40.8**	**+0.2**
STHS	**Stebnicka Huta**	**3.85**	**119**	*e*	Pn	**16 43 34.1**	**0.0**
STHS				*e*	Sg	**16 44 40.8**	**+0.2**
KECS	**Kecovo**	**4.07**	**134**	*e*	PN	**16 43 36.2**	**-1.1**
KECS				*e*		16 43 45.5	
ARSA	**Arzberg**	**4.17**	**185**	⇓*i*	Pn	**16 43 39.5**	**+0.9**
ARSA	**Arzberg**	**4.17**	**185**	⇓	Pn	**16 43 39.5**	**+0.9**
ARSA					Sg	**16 44 51.6**	**+0.6**
ARSA	**Arzberg**	**4.17**	**185**		Pn	**16 43 39.5**	**+0.9**
ARSA					Sg	**16 44 51.6**	**+0.6**
	26nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.27**	**124**	*e*	PN	**16 43 40.3**	**+0.3**
CRVS				*e*		16 43 57.0	
KOLS	**Kolonicke sedl**	**4.68**	**119**	*e*	PN	**16 43 45.0**	**-0.9**
KOLS				*e*		16 44 03.8	
DAVOX	**Davos**	**6.16**	**224**		Pn	**16 44 06.9**	**+0.1**
	0.4nm,0.3s,baz=31,slow=5.9,SNR=4.4						
BURAR	**Bucovina Array**	**7.05**	**119**	⇓	P	**16 44 17.6**	**-1.8**
AKASG	**Malin Array Be**	**8.31**	**90**		Pn	**16 44 32.2**	**-4.9**
	1.5nm,0.3s,baz=282,slow=12,SNR=8.4						
AKASG	**Malin Array Be**	**8.31**	**90**		Pn	**16 44 32.2**	**-4.9**
HFS	**Hagfors**	**8.86**	**352**		Pn	**16 44 39.0**	**-5.6**
	0.0nm,0.3s,baz=158,slow=12,SNR=5.5						
HFS					Sn	**16 46 15.1**	**-11**
	0.1nm,0.3s,baz=173,slow=25,SNR=2.9						
NOA	**NORSAR Array B**	**10.04**	**346**		Pn	**16 44 54.0**	**-6.7**
	0.2nm,0.3s,baz=168,slow=13,SNR=2.5						
FINES	**FINESS Array B**	**11.47**	**25**		Pn	**16 45 13.8**	**-6.6**
	0.2nm,0.3s,baz=211,slow=11,SNR=5.8						
FINES					Sn	**16 47 16.4**	**-14**
	0.3nm,0.3s,baz=216,slow=19,SNR=6.5						
EKA	**Eskdalemuir Ar**	**12.14**	**296**		Pn	**16 45 24.1**	**-5.3**
	0.1nm,0.3s,baz=99,slow=14,SNR=2.7						
ARCES	**ARCESS Array B**	**18.74**	**10**		Pn	**16 46 47.2**	**-7.2**
	0.4nm,0.3s,baz=185,slow=13,SNR=13						

GUC 08 16:43:38.5±0.9,24.00S×70.62W,h38km±2km,ML3.7,2C,
Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**0.37**	**32**	⇑*i*	P	16 43 47.6	+0.1
ANCH				*i*	S	16 43 53.3	-0.5
ANCH					AMP	16 43 53.5	
	comp=N,14μm,0.1s						
CPN1	**Cerro Paranal**	**0.65**	**162**	*e*	P	16 43 52.0	+0.7
CPN1				*i*	S	16 44 01.7	+1.1
CPN1					AMP	16 44 02.2	
	comp=E,6μm,0.3s						
CEN1	**Los Morros**	**0.72**	**33**	*e*	P	16 43 48.8	-3.5
CEN1				*i*	S	16 43 55.5	-6.7
CEN1					AMP	16 43 55.7	
	comp=E,5μm,0.4s						
CRCH	**Chaqaral**	**2.33**	**180**	*e*	P	16 44 16.1	+0.8
CRCH				*i*	S	16 44 44.6	+1.6
CRCH					AMP	16 44 52.6	
	comp=E,509nm,0.4s						
SPCH	**San Pedro de A**	**2.48**	**64**	*e*	P	16 44 18.5	+1.2
SPCH				*i*	S	16 44 49.6	+3.0
SPCH					AMP	16 44 55.6	
	comp=N,1μm,0.5s						
CDCH	**Caldera**	**3.06**	**183**	⇑*i*	P	16 44 24.9	-0.8

IDC 08 17:05:29.2±2.3,13.71S×70.90W,mb3.7/3,mb1 4.1/3,
mb1mx3.7/17,mbtmp3.7/3,ML2.3/1,Error ellipse:
s-maj=112.1km s-min=29.3km az=41.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.71**	**134**		Pn	17 06 28.3	-0.6
	0.2nm,0.3s,baz=322,slow=12,SNR=8.2						
TXAR	**Lajitas Array**	**53.21**	**324**		P	17 14 48.3	-3.5
	0.2nm,0.4s,baz=153,slow=14,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.71**	**73**		P	17 17 22.2	-2.3
	0.9nm,0.9s,baz=252,slow=4.6,SNR=3.9						
YKA	**Yellowknife Ar**	**83.24**	**341**		P	17 17 58.5	-0.1
	0.8nm,0.8s,baz=134,slow=4.9,SNR=8.3						
SONM	**Songino Array**	**145.90**	**3**		PKPbc	PKPbc	17 25 10.6	-0.2
	1.2nm,0.7s,baz=317,slow=2.4,SNR=6.3						
SONM	**Songino Array**	**145.90**	**3**		PKPbc	PKPbc	17 25 10.6	-0.2

IDC ***08*** *17:12:21.4±1.1,17.48S×178.64W,h475km,11km, mb4.1/18,mb1 4.3/21,mb1mx4.2/23,mbtmp4.9/21,Error ellipse: s-maj=11.7km s-min=8.1km az=125.0*
BJI ***08*** *17:12:22.3,16.85S×178.48W,h472km,mB4.8,mb4.3*
MOS ***08*** *17:12:22.5±1.1,17.43S×178.62W,h491km,mb5.0/29, Error ellipse: s-maj=11.7km s-min=9.5km az=54.8*
NEIC ***08*** *17:12:23.1±0.1,17.55S×178.58W,mb4.6/47,Error ellipse: s-maj=7.0km s-min=4.2km az=141.0*

ISC 08 17:12:20.4±0.7,17.50S±0.05×178.59W±0.05,
h472km±8km,h488km±5.5km:pP-P,n278,σ0s82/158,
mb4.6/67,13C-20D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.47**	**62**		P	**17 14 11.1**	**-0.6**
	9.4nm,0.3s,baz=32,slow=5.3,SNR=12						
AFI					S	**17 15 39.5**	**-0.5**
	14nm,0.3s,baz=270,slow=20,SNR=5.4						
AFI	**Afiamalu**	**7.47**	**62**	*e*	P	**17 14 11.1**	**-0.6**
AFI					pmax	pmax	
	comp=Z,220nm,1.0s						
AFI	**Afiamalu**	**7.47**	**62**	*e*	P	**17 14 11.1**	**-0.6**
	comp=Z,220nm,1.0s						
FUNA	**Funafuti**	**9.18**	**346**	*e*	P	**17 14 31.3**	**+1.2**
RAO	**Raoul Island**	**11.72**	**177**		S	**17 17 03.6**	**+0.3**
	comp=Z,152nm,0.3s,baz=258,slow=23,SNR=3.9						
DZM	**Mont Dzumac**	**14.80**	**250**	*e*	P	**17 15 30.9**	**+1.1**
DZM	**Mont Dzumac**	**14.80**	**250**		P	**17 15 30.8**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=80,slow=18,SNR=17						
RAR	**Rarotonga**	**18.14**	**105**		P	**17 16 04.7**	**+1.5**
	comp=Z,2.0nm,0.3s,baz=238,slow=11,SNR=4.4						
URZ	**Urewera**	**21.02**	**189**		P	**17 16 28.7**	**-2.0**
	comp=Z,50nm,0.8s,mb5.1,baz=5.3,slow=5.6,SNR=29						
URZ					S	**17 19 54.3**	**+2.1**
	comp=Z,12nm,0.8s,baz=113,slow=23,SNR=9.0						
HNR	**Honiara**	**22.34**	**288**		P	**17 16 43.9**	**+0.9**
	comp=Z,22nm,0.4s,mb5.0,baz=161,slow=21,SNR=5.6						
SNZO	**South Karori**	**24.42**	**192**	*e*	P	**17 16 58.6**	**-3.0**
	comp=Z,104nm,1.2s,mb5.1						
RPZ	**Rata Peaks**	**27.57**	**196**		P	**17 17 28.8**	**-0.7**
	comp=Z,11nm,0.5s,mb4.5,baz=27,slow=1.8,SNR=9.6						
CTA	**Charters Tower**	**33.34**	**260**	*e*	P	**17 18 20.0**	**+0.6**
	comp=Z,4.1nm,0.6s,mb4.0						
CTA	**Charters Tower**	**33.34**	**260**		ScP	17 23 47.4	
	comp=Z,12nm,0.9s,baz=60,slow=2.9,SNR=9.2						
CTA	**Charters Tower**	**33.34**	**260**	*e*	P	**17 18 20.0**	**+0.6**
CTA					pmax	pmax	
	comp=Z,40nm,0.6s						
CTAO	**Charters Tower**	**33.34**	**260**	*e*	P	**17 18 19.6**	**+0.2**
CTAO					pmax	pmax	
	comp=Z,60nm,0.8s,mb5.1						
CTAO	**Charters Tower**	**33.34**	**260**	*e*	P	**17 18 19.6**	**+0.2**
	comp=Z,5.9nm,0.8s,mb4.1						
CNB	**Canberra Magne**	**33.54**	**232**	*e*	P	**17 18 22.2**	**+1.3**
	comp=Z,25nm,0.7s,mb4.8						
TOO	**Toolangi**	**37.29**	**230**	*e*	P	**17 18 53.1**	**+1.0**
	comp=Z,20nm,0.7s,mb4.7						
TOO	**Toolangi**	**37.29**	**230**	*e*	P	**17 18 53.1**	**+1.0**
TOO					pmax	pmax	
	comp=Z,20nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**38.68**	**241**	*e*	P	**17 19 04.3**	**+0.8**
	comp=Z,11nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**38.68**	**241**		P	**17 19 04.5**	**+1.0**
	comp=Z,15nm,0.5s,mb4.7,baz=85,slow=8.8,SNR=46						
STKA					ScP	17 24 07.1	
	comp=Z,3.5nm,0.8s,baz=61,slow=0.8,SNR=3.8						
POHA	**Pohakuloa**	**43.40**	**32**		P	**17 19 41.9**	**+0.3**
WB2	**Warramunga Ar**	**44.52**	**259**	*e*	P	**17 19 49.6**	**-0.9**
WRAB	**Tennant Creek**	**44.53**	**259**	*i*	P	**17 19 49.8**	**-0.7**
WRA	**Warramunga Arr**	**44.54**	**259**		P	**17 19 49.7**	**-0.9**
	comp=Z,3.0nm,0.6s,mb3.9,baz=96,slow=7.0,SNR=53						
WRA					PcP	PcP	17 21 23.3	-1.0
	comp=Z,3.1nm,0.7s,baz=89,slow=3.7,SNR=8.2						
WRA					ScP	17 24 29.7	
	comp=Z,5.0nm,1.0s,baz=84,slow=4.3,SNR=13						
WRA					S	**17 25 44.7**	**-6.3**
	comp=Z,0.5nm,0.8s,baz=94,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**44.54**	**259**		P	**17 19 49.7**	**-0.9**
WRA						pP	17 21 23.3	+2.8
WRA					S	**17 25 44.8**	**-6.3**
FORT	**Forrest**	**50.03**	**244**	*e*	P	**17 20 31.1**	**-1.2**
	comp=Z,20nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.92**	**260**	*e*	P	**17 20 53.1**	**-0.5**
	comp=Z,12nm,1.8s,mb3.9						
SBA	**Scott Base**	**60.81**	**184**	*e*	P	**17 21 46.3**	**-0.7**
SBA					pmax	pmax	
	comp=Z,20nm,1.5s,mb4.3						
SBA	**Scott Base**	**60.81**	**184**	*e*	P	**17 21 46.3**	**-0.7**
	comp=Z,20nm,1.5s,mb4.3						
VNDA	**Vanda**	**60.84**	**185**		P	**17 21 47.2**	**0.0**
	comp=Z,5.2nm,0.7s,mb4.1,baz=1.9,slow=7.4,SNR=41						
VNDA	**Vanda**	**60.84**	**185**	*e*	P	**17 21 46.4**	**-0.8**
VNDA					pmax	pmax	
	comp=Z,14nm,1.2s						
VNDA	**Vanda**	**60.84**	**185**	*e*	P	**17 21 46.4**	**-0.8**
	comp=Z,14nm,1.2s,mb4.3						
MJAR	**Matsushiro Arr**	**67.47**	**323**		P	**17 22 29.3**	**-0.6**
	comp=Z,13nm,0.6s,mb4.7,baz=152,slow=6.2,SNR=33						
MAT	**Matsushiro**	**67.48**	**323**		P	**17 22 29.4**	**-0.5**
MAT	**Matsushiro**	**67.48**	**323**	*e*	P	**17 22 29.0**	**-0.9**
MAT					pmax	pmax	
	comp=Z,19nm,0.8s,mb4.8						
MAT	**Matsushiro**	**67.48**	**323**	*e*	P	**17 22 29.0**	**-0.9**
	comp=Z,19nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**72.55**	**180**	*e*	P	**17 22 59.3**	**0.0**
	comp=Z,34nm,0.8s,mb4.9						
QSPA				*e*	pP	pP	17 24 42.2	+0.8
SSE	**Sheshan**	**75.34**	**310**		P	**17 23 15.5**	**-0.5**
SSE					AMB	AMB	
	comp=Z,40nm,0.7s,mb5.1						
SSE					AMB	AMB	
	comp=Z,120nm,4.4s						
SSE	**Sheshan**	**75.34**	**310**		P	**17 23 15.5**	**-0.5**
	comp=Z,42nm,0.7s,mb5.1						
SAO	**San Andreas Ge**	**76.25**	**44**	*e*	P	**17 23 20.8**	**-0.1**
SAO					pmax	pmax	
	comp=Z,23nm,0.8s,mb4.8						
SAO	**San Andreas Ge**	**76.25**	**44**	*e*	P	**17 23 20.8**	**-0.1**
	comp=Z,23nm,0.8s,mb4.8						
LRV	**Little Rabbit**	**76.35**	**44**	*e*	P	**17 23 19.9**	**-1.5**
PTRM	**Twissleman Ran**	**76.47**	**46**		P	**17 23 22.4**	**+0.3**
NSHM	**Saint Helena R**	**76.50**	**42**		P	**17 23 21.6**	**-0.6**
MWC	**Mount Wilson**	**77.19**	**48**	*e*	P	**17 23 25.9**	**-0.2**
NJ2	**Nanjing**	**77.54**	**309**	*e*	P	**17 23 27.4**	**-0.6**
NJ2					AMB	AMB	
	comp=Z,10.0nm,0.5s,mb4.5						
HABR	**Khabarovsk**	**77.57**	**330**	⇑*i*	P	**17 23 28.0**	**+0.2**
HABR					pmax	pmax	
	comp=Z,57nm,2.3s,mb4.6						
ISA	**Isabella**	**77.66**	**46**	*e*	P	**17 23 28.7**	**+0.1**
ISA					pmax	pmax	
	comp=Z,39nm,1.6s,mb4.6						
ISA	**Isabella**	**77.66**	**46**	*e*	P	**17 23 28.6**	**+0.1**
	comp=Z,39nm,1.6s,mb4.6						
CMB	**Columbia Colle**	**77.66**	**43**	*e*	P	**17 23 28.2**	**-0.3**
CMB					pmax	pmax	
	comp=Z,30nm,1.4s,mb4.5						
CMB	**Columbia Colle**	**77.66**	**43**	*e*	P	**17 23 28.2**	**-0.4**
	comp=Z,30nm,1.4s,mb4.5						
OHCM	**Honcut**	**77.69**	**42**	*e*	P	**17 23 28.2**	**-0.5**
MDJ	**Mudanjiang**	**77.75**	**325**		P	**17 23 29.8**	**+0.9**
MDJ					AMB	AMB	
	comp=Z,10.0nm,0.9s,mb4.2						
MDJ					AMB	AMB	
	comp=Z,60nm,3.2s						
MDJ	**Mudanjiang**	**77.75**	**325**	*e*	P	**17 23 29.6**	**+0.7**
	comp=Z,11nm,1.0s,mb4.2						
KDAK	**Kodiak Island**	**78.05**	**14**		P	**17 23 29.4**	**-0.8**
	comp=Z,34nm,0.7s,mb4.9,baz=174,slow=2.6,SNR=15						
YBH	**Yreka Blue Hor**	**78.32**	**39**	*e*	P	**17 23 31.9**	**-0.1**
YBH					pmax	pmax	
	comp=Z,6.0nm,0.6s						
YBH	**Yreka Blue Hor**	**78.32**	**39**	*e*	P	**17 23 31.9**	**-0.1**
	comp=Z,5.7nm,0.6s,mb4.2						
MTUM	**Tungsten Hills**	**78.50**	**45**	*e*	P	**17 23 33.7**	**+0.6**
DAC	**Darwin (Calif)**	**78.59**	**46**	*e*	P	**17 23 33.5**	**0.0**
DAC					pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.3						
DAC	**Darwin (Calif)**	**78.59**	**46**	*e*	P	**17 23 33.5**	**0.0**
	comp=Z,8.0nm,0.8s,mb4.3						
HUMO	**Hull Mountain**	**78.69**	**38**	*e*	P	**17 23 33.9**	**0.0**
	comp=Z,12nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**79.25**	**44**		P	**17 23 37.5**	**+0.5**
	comp=Z,14nm,0.7s,mb4.6,baz=215,slow=7.5,SNR=130						
MNV	**Mina**	**79.35**	**44**	*e*	P	**17 23 37.4**	**-0.1**
MNV				*e**	PP	pP	17 25 21.3	-0.5
MNV					pmax	pmax	
	comp=Z,27nm,1.0s,mb4.7						
MNV	**Mina**	**79.35**	**44**	*e*	P	**17 23 37.4**	**-0.1**
	comp=Z,27nm,1.0s,mb4.7						
MNV				*e*	pP	pP	17 25 21.3	-0.5
CN2	**Changchun**	**79.59**	**322**	⇓	P	**17 23 39.3**	**+0.7**
CN2				*e*	S	17 32 59.3	-1.4
CN2					AMB	AMB	
	comp=Z,30nm,1.0s,mb4.8						
LDFC	**Landfair**	**79.72**	**48**	*e*	P	**17 23 39.9**	**+0.4**
TPH	**Tonopah**	**79.78**	**45**	*e*	P	**17 23 39.7**	**0.0**
TPH					pmax	pmax	
	comp=Z,38nm,1.3s,mb4.8						
TPH	**Tonopah**	**79.78**	**45**	*e*	P	**17 23 39.7**	**0.0**
	comp=Z,38nm,1.3s,mb4.8						
TPNV	**Topopah Spring**	**79.86**	**46**	*e*	P	**17 23 40.2**	**0.0**
TPNV					pmax	pmax	
	comp=Z,13nm,0.7s,mb4.6						
TPNV	**Topopah

comp=Z,9.9nm,0.8s,mb4.5
TCUT Toone Canyon 85.19 44 eP P 17 24 07.7 +0.7
LAZ Ladron 85.24 52 eP P 17 24 08.2 +0.8
NEW Newport 85.28 36 P P 17 24 06.8 -0.4
comp=Z,8.1nm,0.7s,mb4.5,baz=199,slow=5.3,SNR=13
IMA2 Indian Mountai 85.40 10 eP P 17 24 06.5 -0.9
COLA College 85.41 13 eP P 17 24 05.9 -1.5
COLA e*PP pP 17 25 55.8 +2.3
COLA pmax pmax
comp=Z,26nm,1.0s,mb4.8
COLA College 85.41 13 eP P 17 24 05.9 -1.5
comp=Z,26nm,1.0s,mb4.8
COLA epP pP 17 25 55.8 +2.3
BNM Barren Site 85.52 52 eP P 17 24 08.9 +0.1
ILAR Eielson Array 85.53 13 P P 17 24 06.8 -1.2
comp=Z,11nm,0.8s,mb4.5,baz=226,slow=5.3,SNR=82
LPM Los Pinos Moun 85.59 52 eP P 17 24 09.5 +0.4
XAN Xi'an 85.87 307 P P 17 24 11.8 +1.4
TXAR Lajitas Array 85.92 58 P P 17 24 12.2 +1.4
comp=Z,8.8nm,0.7s,mb4.5,baz=216,slow=6.2,SNR=67
ANMO Albuquerque 85.98 52 P P 17 24 11.6 +0.7
comp=Z,4.6nm,0.8s,mb4.1,baz=217,slow=6.4,SNR=8.0
ANMO Albuquerque 85.98 52 eP P 17 24 10.8 -0.1
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO Albuquerque 85.98 52 eP P 17 24 10.8 -0.1
comp=Z,3.8nm,0.8s,mb4.1
BILL Bilibino 86.01 354⇓ iP P 17 24 09.9 -0.3
BILL pmax pmax
comp=Z,46nm,1.6s,mb4.9
BILL Bilibino 86.01 354 eP P 17 24 10.0 -0.2
comp=Z,18nm,0.8s,mb4.8
MCMT McKenzie Canyo 86.04 41 eP P 17 24 11.5 +0.5
RRI2 Red Ridge 86.30 42 eP P 17 24 12.6 +0.4
comp=Z,35nm,0.8s,mb5.0
DAWY Dawson 86.74 16 eP P 17 24 12.7 -1.1
CHMT Chamberlain Mo 86.82 39 eP P 17 24 14.0 -0.6
HHC Hu-ho-hao-te 86.86 315 eP P 17 24 15.6 +0.6
HHC PP PP 17 27 51.1 +4.1
HHC SKS SKS 17 33 53.9 -1.4
HHC S S 17 34 10.5 -1.3
HHC AMB AMB
comp=Z,120nm,4.5s
LOHW Long Hollow 86.88 42 eP P 17 24 14.9 -0.1
comp=Z,13nm,0.7s,mb4.8
QLMT Earthquake Lak 86.93 41 eP P 17 24 16.4 +1.2
YFT Old Faithful 87.12 42 P P 17 24 17.1 +0.9
YMR Madison River 87.14 41 eP P 17 24 17.2 +1.0
comp=Z,18nm,0.9s,mb4.8
BW06 Boulder Array 87.17 44 eP P 17 24 15.8 -0.6
comp=Z,22nm,1.1s,mb4.8
PDAR Pinedale Array 87.17 44 P P 17 24 16.4 -0.1
comp=Z,8.5nm,0.7s,mb4.6,baz=215,slow=3.0,SNR=72
PDAR PP PP 17 27 45.8 -3.8
comp=Z,1.6nm,1.1s,baz=243,slow=6.6,SNR=5.7
CPRX Cap Rock 87.19 54 P P 17 24 16.8 +0.1
KMI Kunming 87.49 297 P P 17 24 19.0 +0.7
KMI pmax pmax
comp=Z,8.0nm,1.4s,mb4.3
KMI Kunming 87.49 297 P P 17 24 19.0 +0.7
comp=Z,8.0nm,1.4s,mb4.3
YAK Yakutsk 89.13 338⇑ eP P 17 24 24.1 -1.0
YAK pmax pmax
comp=Z,16nm,1.6s,mb4.6
SYO Syowa Base 89.52 193 ⇑P P 17 24 25.6 -1.2
SYO Syowa Base 89.52 193 ⇓pP pP 17 26 19.9 +6.2
SYO Syowa Base 89.52 193⇑ eP P 17 24 25.6 -1.2
SYO ⇓epP pP 17 26 19.9 +6.2
EDM Edmonton 89.91 33 eP P 17 24 27.8 -1.1
LZH Lanzhou 90.50 308 eP P 17 24 33.5 +1.4
LZH AP pP 17 26 25.0 +5.8
LZH PP PP 17 28 20.0 +3.9
LZH eSKS SKS 17 34 15.7 -1.6
LZH eS S 17 34 43.8 -1.0
LZH eSS SS 17 41 04.5 +1.2
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,40nm,4.6s
LZH Lanzhou 90.50 308 eP P 17 24 33.5 +1.4
LZH *PP pP 17 26 25.0 +5.8
LZH *SP sP 17 27 18.0 +11
LZH 17 28 20.0
LZH e 17 34 15.7
LZH eS S 17 34 43.8 -1.0
LZH eSS SS 17 41 04.5 +1.2
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.8
LZH Lanzhou 90.50 308 eP P 17 24 33.5 +1.4
comp=Z,13nm,1.0s,mb4.8
LZH pP pP 17 26 25.0 +5.8
LZH sP sP 17 27 18.0 +11
LZH PP PP 17 28 20.0 +3.9
LZH eSKS SKS 17 34 15.7 -1.6
LZH eS S 17 34 43.8 -1.0
LZH sS 17 38 05.5
LZH eSS SS 17 41 04.5 +1.2
PLCA Paso Flores 91.74 134 P P 17 24 38.4 +0.7
comp=Z,2.2nm,1.0s,mb4.0,baz=278,slow=4.2,SNR=4.1
ULN Ulaanbaatar 92.73 320⇑ eP P 17 24 42.1 +0.1
ULN Ulaanbaatar 92.73 320 eP P 17 24 42.1 0.0
comp=Z,4.8nm,0.2s,mb5.2
SONM Songino Array 93.13 319 P P 17 24 43.9 +0.1
comp=Z,1.1nm,0.7s,mb4.0,baz=137,slow=5.7,SNR=8.4
SONM Songino Array 93.13 319 P P 17 24 43.9 +0.1
YKA Yellowknife Ar 94.03 25 P P 17 24 46.9 -0.7
comp=Z,5.3nm,0.6s,mb4.7,baz=245,slow=4.5,SNR=55
GTA Gaotai 94.64 310 eP P 17 24 51.3 +0.3
GTA AP pP 17 26 40.0 +1.6
GTA XP sP 17 27 26.8 +1.1
GTA SKS SKS 17 34 37.5 -2.5
GTA S S 17 35 13.0 -7.2
GTA AMB AMB
comp=Z,180nm,6.5s
TIXI Tiksi 95.72 345⇑ eP P 17 24 52.8 -2.3
TIXI pmax pmax
comp=Z,8.0nm,2.3s,mb4.4
ZAK Zakamensk 95.96 321 eP P 17 24 57.2 +0.6
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.3
MKAR Makanchi Array 108.72 314 PKiKP 17 29 54.5
comp=Z,0.6nm,0.6s,baz=218,slow=1.0,SNR=14
ARU Arti 122.41 326 i PKIKP PKPdf 17 30 21.0 +0.2
ARU e 17 32 04.1
ARCES ARCESS Array B 125.88 350 PKP PKPdf 17 30 27.6 +0.5
comp=Z,3.5nm,0.8s,baz=27,slow=2.7,SNR=7.9
FINES FINESS Array B 132.75 344 PKP PKPdf 17 30 40.4 0.0
comp=Z,3.4nm,1.0s,baz=117,slow=4.3,SNR=3.9
NB2 NORSAR Subarra135.95 353 PKPabc PKPdf 17 30 45.1 -1.2
comp=Z,1.5nm,0.7s,baz=16,slow=4.0
NOA NORSAR Array B 135.95 353 PKP PKPdf 17 30 47.9 +1.6
comp=Z,1.5nm,0.8s,baz=18,slow=4.2,SNR=4.9
AKASG Malin Array Be 140.12 332 PKhKP 17 30 47.4
comp=Z,0.4nm,0.3s,baz=45,slow=4.1,SNR=8.5
AKASG PKP PKPdf 17 30 55.9 +1.8
comp=Z,1.2nm,0.5s,baz=43,slow=2.7,SNR=5.7
AKASG SKPbc 17 33 44.5
comp=Z,0.2nm,0.3s,baz=39,slow=3.5,SNR=4.6
AKASG Malin Array Be 140.12 332 PKP PKPdf 17 30 47.4 -6.8
AKASG PKP PKPdf 17 30 55.9 +1.8
AKASG SKPbc 17 33 44.5
BSEG Bad Segeberg 142.98 351 ePKIKP PKPdf 17 30 57.1 -1.9
DCN Croghan 143.59 9⇑ iP PKPbc 17 30 59.8 +0.6
KWP Kalwaria 143.63 337 ePKP PKPdf 17 31 00.2 0.0
DLF Lyons Farm 143.74 8⇑ iP PKPbc 17 30 59.5 -0.2
OJC Ojcow 144.17 340 ePKPdf PKPdf 17 31 01.6 +0.5
BURAR Bucovina Array 144.17 332 ⇓P PKPbc 17 31 02.3 +1.2
BURAR Bucovina Array 144.17 332 ⇓P PKPbc 17 31 02.3 +1.2
STHS Stebnicka Huta 144.35 338 ePKP PKPdf 17 31 02.9 +1.4
KOLS Kolonicke sedl 144.36 336 ePKP PKPdf 17 31 02.7 +1.2
BR131 Keskin Array S 144.37 315 ePKP PKPdf 17 31 02.0 +0.2
BRTR Keskin Array B 144.37 315 PKP PKPdf 17 31 02.4 +0.5
comp=Z,9.2nm,0.9s,baz=124,slow=3.9,SNR=36
CFR Carcaliu 144.50 327 ⇓P PKPdf 17 31 02.6 +0.7
UZH Uzhgorod 144.60 336 ePKIKP PKPdf 17 31 04.0 +2.0
UZH e 17 37 46.0
KSP Ksiaz 144.67 344 ePKP PKPdf 17 31 03.8 +1.8
KSP Ksiaz 144.67 344 ePKIKP PKPdf 17 31 03.6 +1.6
NIE Niedzica 144.68 339⇓ iPKPdf PKPdf 17 31 04.0 +1.9
CRVS Cervenica-Dubn 144.69 337 ePKP PKPdf 17 31 04.1 +2.0
VRI Vrincioaia 144.74 329 ⇓P PKPdf 17 31 04.3 +2.0
VRI Vrincioaia 144.74 329 ⇑P PKPdf 17 31 04.2 +1.9
TIRR Tirgusor 144.83 326 ⇓P PKPdf 17 31 03.0 +0.5
ANTO Ankara 144.87 316 ePKIKP PKPdf 17 31 04.3 +1.6
HARR Harsova 144.94 326 ⇓P PKPdf 17 31 03.8 +1.1
CLZ Clausthal 145.00 350 ePKPbc PKPbc 17 31 04.3 +1.0
CLL Collm 145.03 347⇓ iPKIKP PKPdf 17 31 04.1 +1.5
CLL pmax pmax
comp=Z,69nm,1.1s
OKC Ostrava-Krasne 145.03 341 ePKP PKPdf 17 31 04.5 +1.8
UPC Upice 145.05 344 ePKP PKPdf 17 31 04.6 +1.9
DPC Dobruska-Polom 145.11 343 ePKP PKPdf 17 31 05.1 +2.3
BRG Berggiesshubel 145.23 346 i PKIKP PKPdf 17 31 04.7 +1.7
BRG pmax pmax
comp=Z,19nm,0.8s
MORC Moravsky Berou 145.27 342 ⇓PKIKP PKPdf 17 31 03.9 +0.8
MORC Moravsky Berou 145.27 342 ePKP PKPdf 17 31 04.7 +1.6
WTSB Winterswijk 145.34 354 eP PKPdf 17 31 04.0 +0.9
comp=Z,46nm,1.5s
PVCC Panska Ves 145.40 345 ePKP PKPdf 17 31 05.7 +2.4
KECS Kecovo 145.40 337 ePKP PKPdf 17 31 05.8 +2.4
VOIR 145.87 330 ⇓P PKPdf 17 31 04.8 +0.5
DRGR 145.90 334 ⇑P PKPdf 17 31 06.4 +2.1
PRU Pruhonice 145.91 345 ePKP PKPdf 17 31 07.0 +2.8
MOX Moxa 145.94 348 i P PKPdf 17 31 07.1 +2.9
comp=Z,logA/T=1.2
MOX Moxa 145.94 348 ePKP2 PKPab 17 31 07.1 -2.9
MOX pmax pmax
comp=Z,22nm,1.3s
VRAC Vranov 145.97 342 ⇓PKIKP PKPdf 17 31 05.4 +1.1
VYHS Vyhne 145.97 339 ePKP PKPdf 17 31 07.2 +2.9
PSZ Piszkesteto 146.09 338 ePKP2 PKPab 17 31 07.4 -3.3
NKC Novy Kostel 146.16 347 ePKP PKPdf 17 31 07.9 +3.3
TREC Trest 146.29 343 ePKP PKPdf 17 31 08.1 +3.3
SMOL Smolenice 146.42 341 ePKP PKPdf 17 31 09.4 +4.3
HGN Heimansgroeve 146.62 355 eP PKPdf 17 31 07.7 +2.4
comp=Z,21nm,1.7s
TNS Taunus Mts 146.87 352 ePKP2 PKPab 17 31 09.6 -4.0
GRA1 Grafenberg Arr 146.92 348 ePKPbc PKPbc 17 31 10.0 +2.0
GRF Grafenberg Arr 146.92 348 ePKP2 PKPab 17 31 10.0 -3.8
KHC Kasperske Hory 146.94 345 ePKP PKPdf 17 31 09.9 +4.0
WET Wettzell 147.09 346 ePKP2 PKPab 17 31 10.4 -4.1
GEC2 GERESS Array S 147.17 345 ePKP2 PKPab 17 31 10.3 -4.5
GERES GERESS Array B 147.17 345 PKPbc PKPdf 17 31 10.5 +4.2
comp=Z,9.1nm,0.8s,baz=17,slow=2.8,SNR=70
BZS Buzias 147.29 333 ⇓P PKPdf 17 31 10.7 +4.1
GIVF Givet 147.36 356 ePKP1 PKPdf 17 31 10.6 +4.1
comp=Z,41nm,0.8s
BAIF Baives 147.44 357 ePKP1 PKPdf 17 31 10.9 +4.3
comp=Z,33nm,0.7s
WLF Walferdange 147.69 354 ePKP2 PKPab 17 31 11.9 -4.9
MOA Molln 147.95 344 i P PKPdf 17 31 12.6 +5.1
comp=Z,15nm,1.3s,SNR=6.0
ARSA Arzberg 148.13 342⇓ iP PKPdf 17 31 12.6 +4.8
comp=Z,6.8nm,1.0s
FUR Furstenfeldbru 148.37 347 ePKP2 PKPab 17 31 13.7 -5.9
BFO Black Forest 148.73 351 ePKHKP 17 31 14.0
FLN La Foliniere 148.78 2 ePKP1 PKPdf 17 31 13.9 +5.1
comp=Z,91nm,0.9s
WLS Welschbruch 148.79 352 PKP PKPdf 17 31 14.7 +5.8
CDF Champ du Feu 148.80 352 ePKP1 PKPdf 17 31 14.3 +5.4
comp=Z,52nm,1.1s
PERS Pernice 148.81 342 ePKPbc PKPdf 17 31 14.0 +5.0
KBA Koelnbreinsper 148.90 344 i P PKPdf 17 31 14.3 +5.2
comp=Z,11nm,0.7s,SNR=6.1
MEZF Maizieres J'vi 148.94 355 ePKP1 PKPdf 17 31 14.9 +5.8
comp=Z,61nm,1.2s
LDF La Druitiere 148.96 2 ePKP1 PKPdf 17 31 14.3 +5.2
comp=Z,27nm,0.7s
ECH Echery 149.00 353 PKP PKPdf 17 31 14.8 +5.6
ROSF Rostrenen 149.01 6 ePKP1 PKPdf 17 31 14.1 +4.9
comp=Z,53nm,0.9s
WATA Walderalm 149.09 346⇓ iP PKPdf 17 31 15.1 +5.7
comp=Z,15nm,1.2s
THEF They Montfort 149.12 354 PKP PKPdf 17 31 14.7 +5.3
THEF They Montfort 149.12 354 ePKHKP 17 31 14.7
GRR Gorron 149.14 3 ePKP1 PKPdf 17 31 14.9 +5.5
comp=Z,43nm,0.7s
WTTA Wattenberg 149.14 346 i P PKPdf 17 31 15.6 +6.1
comp=Z,28nm,0.6s,SNR=19
SGMF Saint Gilles 149.16 5 ePKP1 PKPdf 17 31 14.7 +5.2
comp=Z,51nm,0.8s
MOTA Moosalm 149.18 347⇑ iP PKPdf 17 31 15.1 +5.6
comp=Z,15nm,1.0s
SQTA Sankt Quirin 149.28 347 i P PKPdf 17 31 15.7 +6.0
comp=Z,12nm,0.9s,SNR=12
HAU Haudompre 149.31 353 ePKP1 PKPdf 17 31 15.5 +5.8
comp=Z,20nm,0.7s
QUIF Quistinic 149.43 6 ePKP1 PKPdf 17 31 15.3 +5.4
HINF Hinteralfeld 149.44 353 ePKP1 PKPdf 17 31 15.9 +6.0
comp=Z,14nm,0.7s
DAVA Damuels 149.48 349⇓ iP PKPdf 17 31 16.4 +6.4
comp=Z,28nm,1.1s
DAVA Damuels 149.48 349 ⇓P PKPdf 17 31 16.4 +6.4
LJU Ljubljana 149.52 342 ePKPbc PKPdf 17 31 16.1 +6.0
LJU ePKPab PKPab 17 31 22.5 -1.9
BBS Basel-Blauen 149.70 352 ePKIKP PKPdf 17 31 06.5 -3.9
VOY Vojsko 149.71 343 ePKPdf PKPdf 17 31 13.3 +2.9
VOY ePKPbc PKPdf 17 31 16.2 +5.8
BOJS Bojanci 149.78 340 ePKPbc PKPdf 17 31 17.1 +6.6
LOMF Lomont 149.90 353 ePKIKP PKPdf 17 31 10.7 0.0
DAVOX Davos 149.97 348 PKPbc PKPdf 17 31 17.7 +6.9
baz=6.3,slow=9.2
LOR Lormes 150.24 357 ePKP1 PKPdf 17 31 17.8 +6.6
comp=Z,28nm,0.6s
HYF Humbligny 150.29 358 ePKP1 PKPdf 17 31 18.1 +6.8
SSF Saint Saulge 150.47 357 ePKP1 PKPdf 17 31 18.4 +6.8
comp=Z,28nm,0.7s
CABF La Chapelle 150.71 353 ePKP1 PKPdf 17 31 19.3 +7.4
comp=Z,54nm,0.9s
AVF Avril sur Loir 150.75 357 ePKP1 PKPdf 17 31 18.5 +6.5
comp=Z,9.6nm,0.6s
SMF Signal de Mont 150.87 357 ePKP1 PKPdf 17 31 19.0 +6.8
MFF Saint Martin d 150.95 2 ePKP1 PKPdf 17 31 19.3 +7.0
comp=Z,43nm,0.9s
BGF Bois d'Agland 151.00 358 ePKP1 PKPdf 17 31 19.4 +7.0
comp=Z,33nm,0.8s
TCF Toulx Ste Croi 151.28 359 ePKP1 PKPdf 17 31 20.1 +7.3
comp=Z,21nm,0.8s
RJF Les Rejaudoux 152.28 360 ePKP1 PKPdf 17 31 22.2 +8.0
comp=Z,17nm,0.9s
ORIF Oris-en-Rattie 152.41 353 ePKP1 PKPdf 17 31 22.9 +8.5
comp=Z,7.7nm,0.7s
MBDF Montbardon 152.48 352 ePKP1 PKPdf 17 31 23.1 +8.6
comp=Z,12nm,0.7s
VIVF Saint-Julien-l 152.59 355 ePKP1 PKPdf 17 31 23.2 +8.6
comp=Z,14nm,1.1s
LFF La Frestale 152.64 1 ePKP1 PKPdf 17 31 23.5 +8.8
comp=Z,13nm,0.7s
CAF Calviac 152.65 359 ePKP1 PKPdf 17 31 23.3 +8.6
comp=Z,9.0nm,0.7s
SMRF Simiane la Rot 153.37 353 ePKP1 PKPdf 17 31 25.3 +10
LMR La Mourre 153.88 352 ePKP1 PKPdf 17 31 26.1 +10
PCAB Cabril 154.55 17 ePKPab PKPab 17 31 44.9 -0.7
PBRG Braganca 154.79 14 ePKPab PKPab 17 31 45.6 -1.0
PVRL Vila Real 155.04 16 ePKPab PKPab 17 31 47.1 -0.6
MTE Manteigas 155.90 17 ePKPab PKPab 17 31 50.7 -0.7
PTOM Tomar 156.37 19 ePKPab PKPab 17 31 52.4 -1.1
PCBR Castelo Branco 156.44 17 ePKPab PKPab 17 31 52.5 -1.3
ESDC Sonseca Array 157.42 11 PKPab PKPab 17 31 56.8 -1.2
comp=Z,2.4nm,0.8s,baz=336,slow=3.5,SNR=12
DBIC Dimbokro 167.62 150 PKPab PKPab 17 32 42.0 -1.0
comp=Z,1.1nm,0.6s,baz=32,slow=21,SNR=3.5
TORD Torodi Ar. Bea 175.67 184 PKP PKPdf 17 31 35.9 +0.3
comp=Z,0.6nm,0.7s,baz=51,slow=0.5,SNR=4.6
TORD PKPab PKPab 17 33 17.1 -1.4
comp=Z,0.8nm,0.8s,baz=180,slow=3.0,SNR=3.8
TORD PP PP 17 37 10.8 -2.3
comp=Z,0.7nm,0.9s,baz=180,slow=4.4,SNR=3.5

*NIED **08** 17:15:00,33.70N×130.30E,h26km,Mw3.5 Best double couple: M0 1.77×10^14 NP1:φs226°,δ73°,λ152°. NP2: φs324°,δ64°,λ19°.*

JMA 08 17:15:52.6,33.68N×130.31E,h15km,M3.6,1C-3D
Broadband fault plane solution: P waves. NP1:φs340°, δ53°,λ35°. **NP2:**φs226°,δ63°,λ137°. **Principal axes:** T Plg49°, Azm188°; N Plg40°, Azm20°; P Plg6°, Azm285°;
Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.26	165	⇓P		Pb		17 15 58.3	-0.1
JFI				S		Sb		17 16 02.1	-0.3
JFA	Akaike	0.41	85	⇓P		Pb		17 16 00.6	-0.3
JFA				S		Sb		17 16 06.2	-0.4
JII	Iki	0.49	284	⇓P		Pb		17 16 02.4	-0.1
JII				S		Sb		17 16 09.4	+0.2
JTA	Tamana	0.74	165	⇑P		Pb		17 16 06.4	-0.2
JTA				S		Sb		17 16 15.9	-0.3

*IDC **08** 17:20:13.0±2.6,25.41S×179.60E,h529km±28km,mb3.5/6, mb1 3.7/7,mb1mx3.5/14,mbtmp4.4/7 Error ellipse: s-maj=38.6km s-min=16.7km az=168.0*
*NEIC **08** 17:20:14.0±2.7,25.38S×179.53E,h545km±29km,mb4.6/6, Error ellipse: s-maj=27.1km s-min=20.6km az=142.0*

ISC 08 17:20:12.6±2.5,25.5S±0.2×179.5E±0.1,h537km±29km, n20,σ0:90/18,mb4.1/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.45	283	P		P		17 22 56.2	0.0
	0.3nm,0.3s,baz=111,slow=16,SNR=5.2								
CNB	Canberra Magne	27.71	242	eP		P		17 25 20.5	+1.1
	14nm,0.9s,mb4.6								
CTA	Charters Tower	31.09	273	eP		P		17 25 49.1	+0.6
	13nm,0.4s,mb4.8								
CTA	Charters Tower	31.09	273	P		P		17 25 49.2	+0.7
	21nm,0.5s,mb4.9,baz=99,slow=10,SNR=41								
CTAO	Charters Tower	31.09	273	eP		P		17 25 49.0	+0.5
	18nm,0.7s,mb4.7								
STKA	Stephens Creek	33.76	250	eP		P		17 26 11.8	+0.8
	5.6nm,0.4s,mb4.5								
STKA	Stephens Creek	33.76	250	P		P		17 26 11.3	+0.4
	5.4nm,0.4s,mb4.4,baz=91,slow=11,SNR=37								
WB2	Warramunga Arr	41.89	268	eP		P		17 27 16.9	-0.4
WRA	Warramunga Arr	41.90	268	P		P		17 27 17.2	-0.2
	7.3nm,0.4s,mb4.6,baz=103,slow=8.0,SNR=228								
WRA				S		S		17 32 58.8	+1.1
	1.7nm,1.0s,baz=102,slow=15,SNR=6.9								
FITZ	Fitzroy Crossi	50.30	267	eP		P		17 28 22.0	+0.2
	9.6nm,0.9s,mb4.2								
KLBR	Kellerberrin	54.00	248	eP		P		17 28 45.5	-2.7
MBWA	Marble Bar	54.70	261	eP		P		17 28 51.4	-1.8
QSPA	South Pole Qui	64.62	180	eP		P		17 29 57.9	-0.3
	1.6nm,0.8s,mb3.5								
MAW	Mawson	76.13	201	P		P		17 31 06.5	+0.6
	1.2nm,0.7s,mb3.5,baz=151,slow=13,SNR=3.6								
NVAR	Mina Array Bea	86.17	44	P		P		17 31 58.2	+0.3
	0.9nm,1.0s,mb3.4,baz=218,slow=7.3,SNR=4.6								
NVAR	Mina Array Bea	86.17	44	P		P		17 31 58.2	+0.3
TXAR	Lajitas Array	91.62	58	P		P		17 32 23.6	+0.2
	0.4nm,0.7s,mb3.5,baz=231,slow=5.8,SNR=3.4								
NB2	NORSAR Subarra	143.56	350	PKPabc		PKPdf		17 38 44.5	-0.6
	0.6nm,0.6s,baz=16,slow=3.1								
NOA	NORSAR Array B	143.56	350	PKP		PKPdf		17 38 44.9	-0.3
	1.2nm,0.8s,baz=22,slow=3.8,SNR=4.5								
BRTR	Keskin Array B	148.15	305	PKPbc		PKPdf		17 38 59.2	+5.7
	0.4nm,0.5s,baz=90,slow=2.9,SNR=2.3								

*IDC **08** 17:34:29.7±1.9,3.05S×139.63E,mb3.7/3,mb1 4.1/4, mb1mx3.9/12,mbtmp3.9/4,ML4.2/1,Error ellipse: s-maj=71.3km s-min=39.7km az=98.0*

ISC 08 17:34:33.2±1.4,3.2S±0.1×139.5E±0.4,h33km,n6,σ1:90/7, mb3.6/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	17.37	196	eP		P		17 38 35.7	+0.9
WRA	Warramunga Arr	17.37	196	P		P		17 38 35.8	+1.0
	0.9nm,0.3s,baz=18,slow=13,SNR=26								
WRA				S		S		17 41 41.9	-3.3
	0.2nm,0.3s,baz=15,slow=22,SNR=3.5								
FITZ	Fitzroy Crossi	20.08	222	eP		P		17 39 07.3	+0.5
	9.1nm,1.0s								
MKAR	Makanchi Array	70.67	322	P		P		17 45 47.1	-0.5
	0.4nm,0.7s,mb3.5,baz=104,slow=5.9,SNR=8.0								
BVAR	Borovoye Array	80.18	325	P		P		17 46 41.9	+0.1
	0.5nm,0.5s,mb3.7,baz=100,slow=7.2,SNR=4.8								
ILAR	Eielson Array	85.96	24	P		P		17 47 10.6	-0.5
	0.4nm,0.9s,mb3.6,baz=252,slow=7.2,SNR=4.7								

*IDC **08** 18:45:28.5±0.9,28.63S×177.99W,mb4.1/3,mb1 4.4/3, mb1mx4.1/12,mbtmp4.1/3,MS3.5/1,Ms1 3.4/1, ms1mx2.9/16,Error ellipse: s-maj=31.3km s-min=14.7km az=79.0*

ISC 08 18:45:32.4±1.2,28.6S±0.1×178.1W±0.2,h33km,n10, σ0:90/7,mb4.1/3,MS3.4/1,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.70	167	Pn		Pn		18 45 44.4	-1.7
	356nm,0.3s,baz=280,slow=23,SNR=16								
RAO				Sn		Sn		18 45 56.8	+1.0
	1µm,0.3s,baz=109,slow=20,SNR=20								
STKA	Stephens Creek	34.84	254	eP		P		18 52 21.8	-0.7
	1.9nm,0.6s,mb4.2								
STKA	Stephens Creek	34.84	254	P		P		18 52 21.9	-0.7
	1.9nm,0.6s,mb4.2,baz=88,slow=12,SNR=7.0								
STKA				pP		pP		18 52 31.3	-0.9
	2.1nm,0.5s,baz=118,slow=9.5,SNR=7.8								
STKA				LR		LR		19 04 52.8	
	comp=Z,77nm,21.1s,MS3.4,baz=205,slow=33								
WB2	Warramunga Arr	43.96	270	eP		P		18 53 39.2	+0.8
WRA	Warramunga Arr	43.97	270	P		P		18 53 38.5	+0.1
	1.9nm,0.4s,mb4.2,baz=110,slow=7.9,SNR=71								
WRA				pP		pP		18 53 49.8	+1.4
	2.6nm,0.6s,baz=111,slow=7.7,SNR=12								
NVAR	Mina Array Bea	86.95	43	P		P		18 58 15.7	+0.3
	0.8nm,0.9s,mb4.0,baz=225,slow=6.4,SNR=3.9								
BVAR	Borovoye Array	125.02	317	PKP		PKPdf		19 04 32.1	+2.9
	0.5nm,0.6s,baz=63,slow=3.2,SNR=2.6								
FINES	FINESS Array B	143.39	341	PKP		PKPdf		19 05 01.4	-1.3
	1.4nm,0.6s,baz=62,slow=4.3,SNR=12								
NOA	NORSAR Array B	146.93	352	PKPbc		PKPbc		19 05 12.0	+1.5
	0.3nm,0.7s,baz=10,slow=4.0,SNR=2.9								
AKASG	Malin Array Be	149.77	325	PKPbc		PKPdf		19 05 18.6	+4.8
	0.2nm,0.3s,baz=52,slow=3.2,SNR=2.7								
AKASG				PKPab		PKPab		19 05 25.8	-0.3
	2.0nm,0.6s,baz=50,slow=3.2,SNR=6.6								

IDC 08 18:56:18.5±1.8,29.94S×176.99W,mb4.0/2,mb1 4.2/2, mb1mx3.8/12,mbtmp4.0/2,MS3.3/1,Ms1 3.3/1, ms1mx2.8/17,Error ellipse: s-maj=46.6km s-min=28.2km az=42.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.06	310	Pn		Pn		18 56 41.1	+0.7
	398nm,0.3s,baz=147,slow=2.7,SNR=28								
RAO				Sn		Sn		18 56 56.5	+0.3
	395nm,0.3s,baz=113,slow=22,SNR=7.6								
DZM	Mont Dzumac	16.82	294	LR		LR		19 05 22.1	
	comp=Z,98nm,18.5s,baz=206,slow=32								
STKA	Stephens Creek	35.44	256	P		P		19 03 17.6	-0.9
	1.1nm,0.5s,baz=103,slow=11,SNR=3.9								
WRA	Warramunga Arr	44.96	271	P		P		19 04 34.6	-2.8
	1.6nm,0.6s,baz=110,slow=8.2,SNR=23								
FINES	FINESS Array B	145.01	341	PKPbc		PKPbc		19 15 55.8	-1.4
	1.5nm,0.6s,baz=61,slow=4.2,SNR=12								
AKASG	Malin Array Be	151.46	324	PKPbc		PKPdf		19 16 13.5	+4.0
	0.2nm,0.3s,baz=53,slow=2.8,SNR=4.5								

*KISR **08** 18:56:48.8±0.3,26.89N×55.63E,h33km,ML3.2*
*CSEM **08** 18:56:49.7±0.3,27.20N×55.62E,h5km,ML3.0,Error ellipse: s-maj=11.3km s-min=3.8km az=170.0*
*THR **08** 18:56:50.1±0.4,26.89N×56.17E,h18km±5km,ML3.0*

ISC 08 18:56:50.5±1.2,27.22N±0.09×55.63E±0.05,h10km,n6, σ0:84/11,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.52	70	ePG		Pg		18 57 00.4	-0.6
BNDS				eSG		Sg		18 57 07.8	-0.2
BNDS				AML		AML		18 57 21.9	
	comp=N,815nm,0.5s								
BNDS	Bandar-Abbas	0.52	70	ePg		Pg		18 57 00.4	-0.6
	SNR=99								
BNDS				eSg		Sg		18 57 07.8	-0.2
	comp=N,815nm,0.5s,SNR=99								
GHIR	Ghir-Karzin	2.57	295	ePN		Pn		18 57 40.9	+8.0
GHIR				AML		AML		18 58 36.7	
	comp=N,42nm,0.5s								
KRBR	Kerman	2.92	20	ePN

comp=Z,1.5nm,0.4s
MIB Mutribah 7.73 291 *e*P **Pn 18 58 46.1 +0.2**
MIB *e*S **Sn 19 00 14.3 -0.1**
MIB AML AML 19 00 14.8
comp=Z,4.0nm,0.4s

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*ISK **08** 19:39:59.5,38.28N×26.57E,h32km, MD2.6*
*ATH **08** 19:40:00.0,38.17N×26.36E,h29km±7km, MD2.9/3*
*CSEM **08** 19:40:00.8±0.3,38.18N×26.77E,h40km, MD2.6, Error ellipse: s-maj=9.8km s-min=6.4km az=102.0*
ISC 08 19:39:59.2±0.9, 38.17N±0.03×26.51E±0.05, h7km±5km, n14, σ1§28/26, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**19**	*i* P	**Pg**	**19 40 03.3**	**-0.1**
URLA				*i* S	**Sg**	**19 40 06.4**	**+0.2**
SMG	**Samos**	**0.53**	**151**	*e*PN	**Pg**	**19 40 11.7**	**+1.9**
SMG				*e*SN	**Sg**	**19 40 21.3**	**+4.4**
IZM	**Izmir**	**0.63**	**69**	PG	**Pg**	**19 40 11.6**	**-0.3**
IZM				SG	**Sg**	**19 40 19.8**	**-0.6**
KDAG	**Bornova**	**0.64**	**68**	*i* P	**Pg**	**19 40 10.8**	**-1.2**
KDAG				*i* S	**Sg**	**19 40 19.1**	**-1.5**
PRK	**Paraskevi**	**1.09**	**350**	*e*PN	**Pn**	**19 40 20.7**	**-0.1**
PRK				*e*SN	**Sn**	**19 40 35.8**	**-0.5**
AYVA	**Ayvalik**	**1.15**	**7**	*i* P	**Pb**	**19 40 21.7**	**+0.8**
AYVA				*i* S	**Sb**	**19 40 38.5**	**+2.7**
AYDN	**Tasoluk**	**1.20**	**115**	*i* P	**Pb**	**19 40 22.8**	**+1.0**
AYDN				*i* S	**Sb**	**19 40 37.1**	**-0.2**
AKS	**Akhisar**	**1.24**	**55**	*e*PN	**Pn**	**19 40 20.2**	**-2.8**
BODT	**Bodrum**	**1.27**	**150**	*e*PN	**Pn**	**19 40 22.4**	**-1.0**
BODT				*e*SN	**Sn**	**19 40 39.8**	**-1.1**
BDRM	**Kayabasi**	**1.33**	**146**	*i* P	**Pb**	**19 40 26.3**	**+2.3**
BDRM				*i* S	**Sb**	**19 40 44.0**	**+2.9**
APE	**Apeiranthos**	**1.35**	**216**	*e*PN	**Pn**	**19 40 23.9**	**-0.6**
APE				*e*SN	**Sn**	**19 40 41.5**	**-1.3**
APE	**Apeiranthos**	**1.35**	**216**	*e*Pn	**Pn**	**19 40 24.0**	**-0.5**
APE				*e*Sn	**Sn**	**19 40 41.5**	**-1.3**
MANT	**Manisa**	**1.64**	**78**	*i* P	**Pn**	**19 40 30.8**	**+2.2**
MANT				*i* S	**Sb**	**19 40 50.5**	**+0.2**
DAT	**Datca**	**1.67**	**149**	*e*PN	**Pn**	**19 40 28.2**	**-0.9**

IDC 08 19:43:56.6±1.3, 20.34N×146.56E, mb3.9/6, mb1 4.0/6, mb1mx3.8/22, mbtmp3.9/6, Error ellipse: s-maj=50.3km s-min=22.3km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.78**	**197**	P	P	19 51 48.1	-1.6
	0.5nm,0.5s,baz=134,slow=6.4,SNR=8.1						
SONM	**Songino Array**	**42.40**	**320**	P	P	19 51 53.0	-1.4
	0.5nm,0.5s,baz=24,slow=8.8,SNR=7.3						
FITZ	**Fitzroy Crossi**	**43.36**	**210**	P	P	19 52 00.4	-2.2
	1.8nm,1.1s,baz=10,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**57.93**	**313**	P	P	19 53 50.5	-2.4
	0.6nm,0.6s,baz=89,slow=8.9,SNR=6.9						
BVAR	**Borovoye Array**	**65.74**	**320**	P	P	19 54 43.6	-1.7
	2.8nm,0.5s,baz=92,slow=7.9,SNR=22						
FINES	**FINESS Array B**	**85.74**	**335**	P	P	19 56 36.8	-1.7
	1.3nm,0.4s,baz=61,slow=4.6,SNR=18						
LPAZ	**La Paz**	**146.86**	**89**	PKPbc	PKPbc	20 03 42.2	+0.9
	0.4nm,0.4s,baz=288,slow=6.4,SNR=2.1						

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*IDC **08** 19:49:16.7±1.0,51.28S×158.95E,mb4.2/6,mb1 4.3/8, mb1mx4.2/12,mbtmp4.3/8,ML4.1/2,MS3.9/6,Ms1 3.9/6, ms1mx3.6/14, Error ellipse: s-maj=28.2km s-min=21.6km az=80.0*
*NEIC **08** 19:49:18.2±0.6,51.29S×159.11E,h10km,mb4.6/4, Error ellipse: s-maj=12.4km s-min=7.4km az=154.0*
ISC 08 19:49:16.7±0.7, 51.21S±0.09×159.2E±0.1, h10km, n43, σ1§18/41, mb4.2/8, MS3.9/5, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**7.79**	**46**	PN	**Pn**	**19 51 11.9**	**-0.9**
DCZ				SN	**Sn**	**19 52 37.9**	**-4.1**
DCZ	**Deep Cove**	**7.79**	**46**	P	**Pn**	**19 51 11.9**	**-1.0**
DCZ				S	**Sn**	**19 52 39.9**	**-2.1**
WHZ	**Wether Hill Ro**	**7.85**	**51**	PN	**Pn**	**19 51 13.2**	**-0.6**
WHZ				SN	**Sn**	**19 52 37.2**	**-6.4**
WHZ	**Wether Hill Ro**	**7.85**	**51**	*e*P	**Pn**	**19 51 13.2**	**-0.5**
MLZ	**Mavora Lakes**	**8.36**	**49**	PN	**P**	**19 51 20.6**	**-0.2**
MLZ				SN	**Sn**	**19 52 50.3**	**-5.9**
MLZ	**Mavora Lakes**	**8.36**	**49**	*e*P	**P**	**19 51 20.9**	**+0.1**
MLZ				S	**Sn**	**19 52 50.3**	**-5.9**
TUZ	**Tuapeka**	**8.66**	**57**	PN	**P**	**19 51 24.9**	**-0.2**
TUZ	**Tuapeka**	**8.66**	**57**	*e*P	**P**	**19 51 25.3**	**+0.3**
EAZ	**Earnscleugh**	**8.99**	**52**	PN	**P**	**19 51 29.2**	**-0.4**
EAZ	**Earnscleugh**	**8.99**	**52**	P	**P**	**19 51 29.6**	**0.0**
WKZ	**Wanaka**	**9.14**	**49**	PN	**P**	**19 51 32.5**	**+0.8**
WKZ	**Wanaka**	**9.14**	**49**	*e*P	**P**	**19 51 32.5**	**+0.8**
JCZ	**Jackson Bay**	**9.60**	**46**	PN	**P**	**19 51 38.9**	**+1.0**
JCZ	**Jackson Bay**	**9.60**	**46**	*e*P	**P**	**19 51 39.0**	**+1.1**
ODZ	**Otahua Downs**	**9.80**	**55**	PN	**P**	**19 51 38.8**	**-1.9**
ODZ				SN	**Sn**	**19 53 23.4**	**-8.5**
ODZ	**Otahua Downs**	**9.80**	**55**	*e*P	**P**	**19 51 39.3**	**-1.4**
FOZ	**Fox Glacier**	**10.42**	**47**	PN	**P**	**19 51 50.1**	**+1.0**
FOZ	**Fox Glacier**	**10.42**	**47**	*e*P	**P**	**19 51 50.4**	**+1.3**
RPZ	**Rata Peaks**	**10.95**	**51**	Pn	**P**	**19 51 56.1**	**-0.3**
	2.0nm,0.3s,baz=204,slow=5.4,SNR=9.6						
RPZ	**Rata Peaks**	**10.95**	**51**	PN	**P**	**19 51 56.9**	**+0.4**
URZ	**Urewera**	**18.07**	**51**	P	**P**	**19 53 30.5**	**+1.1**
	0.5nm,0.3s,baz=239,slow=4.8,SNR=3.2						
URZ				LR	LR	19 59 56.4	
	comp=Z,449nm,21.5s,baz=209,slow=35						
URZ	**Urewera**	**18.07**	**51**	P	**P**	**19 53 30.5**	**+1.1**
URZ				LR	LR	19 59 56.4	
STKA	**Stephens Creek**	**23.29**	**319**	*e*P	**P**	**19 54 28.4**	**+3.1**
	8.5nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**23.29**	**319**	P	**P**	**19 54 27.0**	**+1.7**
	4.9nm,0.8s,mb4.0,baz=138,slow=12,SNR=6.5						
STKA				LR	LR	20 02 08.9	
	comp=Z,286nm,19.1s,MS3.8,baz=40,slow=33						
STKA	**Stephens Creek**	**23.29**	**319**	*e*P	**P**	**19 54 27.5**	**+2.2**
VNDA	**Vanda**	**26.43**	**179**	P	**P**	**19 54 54.4**	**-0.4**
	1.9nm,0.8s,mb3.7,baz=348,slow=9.4,SNR=11						
VNDA				LR	LR	20 04 27.7	
	comp=Z,41nm,18.9s,MS3.0,baz=268,slow=35						
VNDA	**Vanda**	**26.43**	**179**	*e*P	**P**	**19 54 53.9**	**-0.8**
	3.2nm,0.9s,mb3.9						
VNDA				LR	LR	20 04 27.7	
DZM	**Mont Dzumac**	**29.62**	**14**	P	**P**	**19 55 25.9**	**+1.7**
	7.6nm,0.7s,mb4.5,baz=176,slow=12,SNR=6.1						
CTA	**Charters Tower**	**32.70**	**337**	P	**P**	**19 55 51.2**	**-0.1**
	1.3nm,0.3s,mb4.3,baz=158,slow=9.4,SNR=4.8						
CTAO	**Charters Tower**	**32.70**	**337**	*e*P	**P**	**19 55 51.3**	**0.0**
	12nm,1.0s,mb4.8						
CTAO				*e*		19 55 59.5	
WB2	**Warramunga Arr**	**36.84**	**319**	*e*P	**P**	**19 56 27.6**	**+0.9**
WRA	**Warramunga Arr**	**36.84**	**319**	P	**P**	**19 56 25.1**	**-1.7**
	2.0nm,0.8s,mb4.0,baz=153,slow=8.0,SNR=11						
WRA				PcP	PcP	19 58 47.5	-1.5
	0.7nm,0.8s,baz=150,slow=2.6,SNR=5.5						
QSPA	**South Pole Qui**	**38.91**	**180**	*e*P	**P**	**19 56 44.2**	**+0.6**
	9.6nm,1.0s,mb4.5						
HNR	**Honiara**	**41.66**	**1**	LR	LR	20 10 39.7	
	comp=Z,182nm,20.5s,MS3.9,baz=162,slow=31						
FITZ	**Fitzroy Crossi**	**42.41**	**309**	P	**P**	**19 57 11.1**	**-1.8**
	2.1nm,0.8s,mb3.8,baz=164,slow=7.4,SNR=4.5						
MBWA	**Marble Bar**	**42.95**	**299**	P	**P**	**19 57 14.1**	**-3.3**
	16nm,1.1s,mb4.7						
RAR	**Rarotonga**	**43.73**	**62**	LR	LR	20 11 29.6	
	comp=Z,529nm,20.0s,MS4.5,baz=293,slow=30						
MAW	**Mawson**	**46.27**	**212**	LR	LR	20 16 03.3	
	comp=Z,205nm,18.7s,MS4.1,baz=322,slow=35						
TORD	**Torodi Ar. Bea**	**137.90**	**214**	PKP	PKPdf	20 08 44.0	-0.7
	1.5nm,1.2s,baz=163,slow=5.7,SNR=3.8						
AKASG	**Malin Array Be**	**149.00**	**289**	PKPbc	PKPdf	20 09 04.4	+1.7
	0.3nm,0.4s,baz=37,slow=2.2,SNR=4.3						
ARCES	**ARCESS Array B**	**151.72**	**328**	PKPbc	PKPdf	20 09 09.8	+3.4
	2.6nm,0.8s,baz=32,slow=11,SNR=5.7						
ARCES	**ARCESS Array B**	**151.72**	**328**	PKPbc	PKPdf	20 09 09.8	+3.4
FINES	**FINESS Array B**	**152.69**	**310**	PKP	PKPdf	20 09 07.8	-0.2
	1.1nm,0.7s,baz=135,slow=2.7,SNR=4.5						

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*NEIC **08** 20:08:35.2, 16.86N×100.11W,h8km,MD4.0(MEX), After MEX.*
MEX 08 20:08:35.2±1.2, 16.86N×100.11W, h8km±5km, MD4.0, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**87**	*i* P	Pg	20 08 38.0	-1.2
ACX				*i* S	Sg	20 08 42.0	+0.1
CAIG	**El Cayaco**	**0.24**	**322**	*i* P	Pg	20 08 39.2	-1.0
CAIG				*i* S	Sg	20 08 43.4	-0.1
ZIIG	**Zihuatanejo**	**1.49**	**300**	*i* P	Pn	20 08 59.5	-2.9
ZIIG				*i* S	Sb	20 09 16.3	-5.4
PLIG	**Platanillo**	**1.63**	**21**	*e*P	Pn	20 09 01.7	-2.8
PLIG				*i* S	Sn	20 09 20.7	-5.1
PNIG	**Pinotepa**	**1.96**	**103**	*i* P	Pn	20 09 05.9	-3.2
PNIG				*i* S	Sn	20 09 28.7	-5.4
YAIG	**Yautepec**	**2.23**	**26**	*i* P	Pn	20 09 09.9	-3.1
YAIG				*i* S	Sn	20 09 36.2	-4.7
PPM	**Popocatepetl**	**2.61**	**33**	*e*P	Pn	20 09 15.0	-3.5
PPM				*e*P		20 09 15.2	
PPM				*i* S	Sn	20 09 46.9	-3.8
PPM				*i* S	Sn	20 09 47.0	-3.7
MOIG	**Morelia**	**2.98**	**340**	*e*P	Pn	20 09 22.9	-0.9
MOIG				*i* S	Sn	20 09 54.1	-6.1
VHO	**Vista Hermosa**	**3.24**	**86**	*i* P	Pn	20 09 25.1	-2.3
VHO				*i* S	Sn	20 10 00.4	-6.2
OXX	**Oaxaca**	**3.25**	**86**	*i* P	Pn	20 09 25.0	-2.5
OXX				*i* S	Sn	20 09 59.0	-7.9
SFJM	**Santa Fe**	**4.55**	**323**	*e*P	Pn	20 09 45.0	-1.0
CMIG	**Matias Romero**	**5.01**	**87**	*e*P	Pn	20 09 50.2	-2.3
CMIG				*i* S	Sn	20 10 45.8	-5.5

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*CSEM **08** 20:15:48.7±0.6,38.63N×29.20W,h3km±3km, ML2.1, Error ellipse: s-maj=7.8km s-min=4.2km az=11.0, After PDA*
*PDA **08** 20:15:48.7±0.6,38.63N×29.20W,h3km±3km, MD3.5, ML2.1, Error ellipse: s-maj=7.8km s-min=4.2km az=11.0*
SVSA 08 20:15:48.7±0.6, 38.63N×29.20W, h3km±3km, MD3.5, ML2.1, Error ellipse: s-maj=7.8km s-min=4.2km az=11.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.32**	**98**	*e*S	Sg	20 16 00.1	+0.7
	47nm,0.2s						
PTCA	**Ponta do Capel**	**0.32**	**98**	*e*S	Sg	20 16 00.1	+0.7
	47nm,0.2s						
PCED	**Cedros**	**0.39**	**90**	*i* P	Pg	20 15 55.9	-0.7
PCED				*e*S	Sg	20 16 00.9	-0.9
	50nm,0.2s						
PCED	**Cedros**	**0.39**	**90**	*e*S	Sg	20 16 00.9	-0.9
	50nm,0.2s						
CALA	**Caldeira**	**0.40**	**97**	*e*P	Pg	20 15 55.8	-0.8
CALA				*e*S	Sg	20 16 01.4	-0.5
HOR	**Horta**	**0.46**	**103**	*e*P	Pg	20 15 56.6	-1.3
HOR				*e*S	Sg	20 16 03.0	-1.1
PICO	**Pico**	**0.62**	**102**	*e*P	Pg	20 15 59.4	-1.7
PICO				*e*S	Sg	20 16 07.6	-1.9
ROSA	**Rosais**	**0.76**	**83**	*e*P	Pg	20 16 01.4	-2.4
ROSA				*e*S	Sg	20 16 10.6	-3.3

IDC 08 20:35:37.0±1.9, 1.55N×96.91E, mb3.8/5, mb1 4.0/5, mb1mx3.6/18, mbtmp3.8/5, Error ellipse: s-maj=49.8km s-min=26.2km az=47.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.37**	**58**	Pn	Pn	20 36 16.6	-1.0
	0.9nm,0.3s,baz=243,slow=4.5,SNR=9.4						
PSI				Sn	Sn	20 36 28.8	-19
	2.3nm,0.3s,baz=263,slow=5.5,SNR=15						
WRA	**Warramunga Arr**	**42.46**	**122**	P	P	20 43 34.1	-1.7
	0.3nm,0.6s,baz=302,slow=9.2,SNR=4.0						
SONM	**Songino Array**	**46.84**	**9**	P	P	20 44 08.3	-2.2
	0.5nm,0.4s,baz=190,slow=10,SNR=9.4						
MKAR	**Makanchi Array**	**46.84**	**346**	P	P	20 44 08.8	-1.7
	1.0nm,0.6s,baz=166,slow=7.7,SNR=15						
ZAL	**Zalesovo**	**53.16**	**351**	P	P	20 44 56.8	-2.1
	1.4nm,0.5s,baz=334,slow=6.2,SNR=6.9						
ARCES	**ARCESS Array B**	**82.11**	**340**	P	P	20 47 59.0	-1.5
	1.8nm,0.8s,baz=117,slow=6.0,SNR=3.8						

IDC 08 20:35:46.9±59.0, 0.20N×97.18E, mb3.8/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/18, Error ellipse: s-maj=1161.0km s-min=158.5km az=175.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.12**	**34**	LR	LR	20 37 42.6	
	comp=Z,165nm,18.7s,baz=80,slow=38						
SONM	**Songino Array**	**48.12**	**8**	P	P	20 44 28.6	-1.9
	0.5nm,0.5s,baz=201,slow=7.6,SNR=6.0						
MKAR	**Makanchi Array**	**48.20**	**346**	P	P	20 44 29.2	-2.0
	0.7nm,0.6s,baz=164,slow=8.6,SNR=7.0						
ZAL	**Zalesovo**	**54.53**	**351**	P	P	20 45 16.4	-2.4
	0.9nm,0.4s,baz=88,slow=11,SNR=2.7						

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*NEIC **08** 20:40:33.0,39.07N×27.75E,h12km, MD3.3(ATH), MD3.2(ISK), After ISK.*
*ISK **08** 20:40:33.9,39.07N×27.76E,h12km, MD3.2*
*CSEM **08** 20:40:33.6±0.1,39.08N×27.81E,h8km, MD3.2, Error ellipse: s-maj=2.3km s-min=1.4km az=96.0*
*ATH **08** 20:40:34.3,39.09N×27.75E,h23km±3km, MD3.3/3*
ISC 08 20:40:33.9±0.5, 39.08N±0.02×27.77E±0.02, h8km±3km, n47, σ0§80/66, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.21**	**170**	*i* PG	**Pg**	**20 40 38.8**	**+0.6**
AKS				*i* SG	**Sg**	**20 40 42.4**	**+1.3**
BALB	**Balikesir**	**0.56**	**9**	*i* PG	**Pg**	**20 40 45.6**	**+0.4**
BTOK	**Tokmak**	**0.71**	**17**	*i* P	**Pb**	**20 40 47.9**	**-0.2**
BTOK				*i* S	**Sg**	**20 40 58.8**	**+1.2**
KDAG	**Bornova**	**0.78**	**210**	*i* P	**Pb**	**20 40 48.1**	**-1.3**
KDAG				*i* S	**Sb**	**20 40 59.6**	**-0.3**
IZM	**Izmir**	**0.79**	**210**	*i* PG	**Pg**	**20 40 49.0**	**-0.7**
IZM				*i* SG	**Sg**	**20 41 00.5**	**+0.2**
DST	**Dursunbey**	**0.85**	**52**	*i* PG	**Pg**	**20 40 50.6**	**-0.2**
MANT	**Manisa**	**0.85**	**133**	*i* P	**Pb**	**20 40 50.6**	**0.0**
MANT				*i* S	**Sb**	**20 41 02.4**	**+0.4**
AYVA	**Ayvalik**	**0.87**	**285**	*i* P	**Pb**	**20 40 50.8**	**0.0**
AYVA				*i* S	**Sb**	**20 41 03.8**	**+1.4**
BLCB	**Balcova**	**0.90**	**219**	*i* PG	**Pg**	**20 40 51.3**	**-0.6**
URLA	**Izmir**	**1.17**	**232**	*i* P	**Pb**	**20 40 53.6**	**-2.4**
URLA				*i* S	**Sb**	**20 41 12.1**	**+1.0**
PRK	**Paraskevi**	**1.18**	**278**	*e*PN	**Pn**	**20 40 56.9**	**+0.3**
PRK				*e*SN	**Sn**	**20 41 12.1**	**-0.8**
EDC	**Edincik**	**1.27**	**3**	*i* PN	**Pn**	**20 40 57.8**	**-0.1**
KCT	**Karacabey**	**1.27**	**21**	*i* PN	**Pn**	**20 40 58.1**	**+0.2**
BNT	**Bandirma**	**1.28**	**5**	*i* PN	**Pn**	**20 40 58.2**	**+0.1**
ORLT	**Orhaneli**	**1.30**	**42**	*i* PN	**Pn**	**20 40 58.9**	**+0.5**
GDZ	**Gediz**	**1.33**	**89**	*i* P	**Pb**	**20 40 59.2**	**+0.4**
GDZ				*i* S	**Sb**	**20 41 16.9**	**+1.0**
EZN	**Ezine**	**1.34**	**304**	*i* PN	**Pn**	**20 40 59.8**	**+0.8**
AYDN	**Tasoluk**	**1.42**	**176**	*i* P	**Pn**	**20 41 00.9**	**-0.7**
AYDN				*i* S	**Sb**	**20 41 18.9**	**+0.5**
ULDT	**Uludag**	**1.50**	**45**	*i* P	**Pn**	**20 41 00.3**	**-0.9**
ULDT				*i* S	**Sb**	**20 41 20.5**	**-0.1**
LPK	**Lapseki**	**1.50**	**329**	PN	**Pn**	**20 41 01.6**	**+0.3**
MRMT	**Marmara Adasi**	**1.52**	**355**	PN	**Pn**	**20 41 02.1**	**+0.5**
SMG	**Samos**	**1.56**	**208**	*i*PN	**Pn**	**20 41 02.9**	**+0.8**
SMG				*e*SN	**Sn**	**20 41 23.0**	**+0.4**
KHL	**Karahalli**	**1.57**	**118**	PN	**Pn**	**20 41 02.4**	**+0.1**
DENT	**Denizli**	**1.66**	**143**	PN	**Pn**	**20 41 03.3**	**-0.2**
SART	**Tekirdag**	**1.67**	**344**	*i* P	**Pn**	**20 41 03.2**	**-0.4**
SART				*i* S	**Sn**	**20 41 25.6**	**+0.2**
DNZL	**Cakiroluk**	**1.72**	**144**	*i* P	**Pn**	**20 41 04.2**	**-0.2**
DNZL				*i* S	**Sn**	**20 41 28.3**	**+1.6**
MFT	**Murefte**	**1.74**	**348**	PN	**Pn**	**20 41 04.3**	**-0.4**
MLSB	**Milas**	**1.78**	**180**	*e*PN	**Pn**	**20 41 04.9**	**-0.4**
ALT	**Altintas**	**1.82**	**90**	PN	**Pn**	**20 41 04.9**	**-1.0**
YLV	**Yalova**	**1.93**	**39**	*e*PN	**Pn**	**20 41 07.8**	**+0.4**
YER	**Yerkesik**	**1.99**	**168**	*e*PN	**Pn**	**20 41 08.8**	**+0.6**
BDRM	**Kayabasi**	**2.03**	**187**	*i* P	**Pn**	**20 41 13.7**	**+4.9**
BDRM				*i* S	**Sn**	**20 41 33.1**	**-1.6**
BADT	**Buyukada**	**2.05**	**30**	*e*PN	**Pn**	**20 41 09.3**	**+0.2**
BODT	**Bodrum**	**2.05**	**190**	*e*PN	**Pn**	**20 41 09.3**	**+0.2**
CTT	**Catalca**	**2.12**	**14**	*e*PN	**Pn**	**20 41 10.2**	**0.0**
LIA	**Limnos Island**	**2.16**	**293**	*e*PN	**Pn**	**20 41 10.2**	**-0.5**
LIA				*e*SN	**Sn**	**20 41 38.0**	**0.0**
TKTP	**Tekketepe**	**2.25**	**117**	*i* P	**Pg**	**20 41 18.0**	**-0.9**
TKTP				*i* S	**Sg**	**20 41 55.6**	**+6.6**
HRT	**Hereke**	**2.27**	**39**	*e*PN	**Pn**	**20 41 11.7**	**-0.6**
DAT	**Datca**	**2.35**	**184**	*e*PN	**Pn**	**20 41 13.1**	**-0.4**
DALT	**Dalyan (Mudla)**	**2.41**	**163**	*e*PN	**Pn**	**20 41 14.3**	**0.0**
ESKT	**Eskisehir**	**2.43**	**79**	*e*PN	**Pn**	**20 41 15.4**	**+0.8**
ESKT	**Eskisehir**	**2.43**	**79**	*i* P	**Pg**	**20 41 20.1**	**-2.3**
ESKT				*i* S	**Sg**	**20 41 54.8**	**-0.1**
FETY	**Fethiye**	**2.66**	**157**	*e*PN	**Pn**	**20 41 17.3**	**-0.5**
APE	**Apeiranthos**	**2.67**	**222**	*e*PN	**Pn**	**20 41 17.8**	**-0.3**
RDO	**Rodhopi**	**2.68**	**321**	*e*PN	**Pn**	**20 41 17.9**	**-0.2**
EDRB	**Edirne**	**2.87**	**345**	*e*PN	**Pn**	**20 41 20.9**	**0.0**
SGKT	**Sivrigoynuk**	**3.62**	**64**	*i* P	**Pb**	**20 41 40.8**	**+2.9**
SGKT				*i* S	**Sb**	**20 42 20.5**	**-1.9**

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*BJI **08** 20:41:37.6, 17.76S×173.12W,h10km,mB5.1,mb4.8, Ms5.0,Msz4.7*
*IDC **08** 20:41:39.5±0.8, 17.56S×173.07W,mb4.1/9,mb1 4.3/9, mb1mx4.2/17,mbtmp4.1/9,MS4.1/9,Ms1 4.1/9, ms1mx3.7/26, Error ellipse: s-maj=37.2km s-min=18.3km az=133.0*
*NEIC **08** 20:41:41.4±0.4, 17.55S×173.19W,h10km,mb4.7/10, MS4.9/1, Error ellipse: s-maj=20.0km s-min=9.5km az=136.0*
*HRVD **08** 20:41:41.4±0.6, 17.70S×172.45W,h21km±2km, MW4.8/42, Centroid moment Tensor Solution. LP body waves: s10,c12;Mantle waves: s42,c55; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.88±.28; $M_{\theta\theta}$-0.06±.16; $M_{\phi\phi}$-1.82±.17; $M_{r\theta}$0.90±.36; $M_{r\phi}$-0.26±.10; $M_{\theta\phi}$0.35±.25; Best double couple: $M_0$2.084×10^{16} NP1:ϕ170°,δ41°,λ59°. NP2:ϕ28°,δ56°,λ114°. Principal axes: T 2.246, Plg69°, Azm351°; N -.322, Plg20°, Azm194°; P -1.923, Plg8°, Azm102°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 08 20:41:42.8±0.5, 17.55S±0.1×173.3W±0.1, h33km, n69, σ1§17/36, mb4.5/19, MS4.3/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.89**	**22**	Pn	**Pn**	**20 42 33.6**	**-8.3**
	6.0nm,0.3s,baz=79,slow=3.4,SNR=7.2						
AFI				Sn	**Sn**	**20 43 16.6**	**-10**
	32nm,0.3s,baz=21,slow=23,SNR=8.6						
AFI	**Afiamalu**	**3.89**	**22**	*e*Pn	**Pn**	**20 42 32.8**	**-9.1**
AFI				*e*Sn	**Sn**	**20 43 14.4**	**-13**
RAR	**Rarotonga**	**13.27**	**108**	LR	LR	20 47 40.2	
	comp=Z,414nm,20.1s,baz=301,slow=28						
URZ	**Urewera**	**22.29**	**200**	P	**P**	**20 46 38.2**	**-0.5**
	17nm,0.9s,mb4.5,baz=6.3,slow=9.5,SNR=7.9						
PPT	**Papeete**	**22.61**	**94**	*e*LR	LR	20 51 12.3	
	602nm,26.5s						
TBI	**Tubuai**	**23.05**	**108**	*e*LR	LR	20 51 28.4	
	656nm,29.0s						
HNR	**Honiara**	**27.22**	**284**	LR	LR	20 56 44.2	
	comp=Z,309nm,19.3s,MS3.9,baz=292,slow=33						
RKT	**Rikitea**	**36.28**	**105**	*e*LR	LR	20 57 35.1	
	398nm,29.8s						
CTA	**Charters Tower**	**38.32**	**260**	P	**P**	**20 49 03.9**	**+1.5**
	1.9nm,0.7s,mb3.9,baz=86,slow=15,SNR=2.9						
CTAO	**Charters Tower**	**38.32**	**260**	P	**P**	**20 49 04.0**	**+1.6**
	5.1nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**43.10**	**242**	P	**P**	**20 49 43.0**	**+1.3**
	2.2nm,1.1s,mb3.8,baz=103,slow=13,SNR=4.0						
STKA				LR	LR	21 07 31.9	
	comp=Z,174nm,18.0s,MS4.0,baz=27,slow=36						
STKA	**Stephens Creek**	**43.10**	**242**	*e*P	**P**	**20 49 42.5**	**+0.7**
WB2	**Warramunga Arr**	**49.48**	**259**	*e*P	**P**	**20 50 32.2**	**-0.1**
WRA	**Warramunga Arr**	**49.49**	**259**	P	**P**	**20 50 32.6**	**+0.2**
	1.7nm,0.8s,mb4.2,baz=96,slow=6.6,SNR=17						
VNDA	**Vanda**	**61.27**	**186**	P	**P**	**20 51 56.4**	**-0.4**
	1.4nm,0.9s,mb4.1,baz=16,slow=6.2,SNR=4.6						
VNDA	**Vanda**	**61.27**	**186**	*e*P	**P**	**20 51 56.1**	**-0.7**
	3.5nm,1.3s,mb4.3						
CMB	**Columbia Colle**	**74.30**	**41**	*e*P	**P**	**20 53 19.7**	**+0.9**
	4.5nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**75.84**	**42**	P	**P**	**20 53 26.6**	**-

PVCC	**Panska Ves**	**146.49**	**351**	*e*PKPbc	PKPbc		21 01 24.0	+3.6
CRVS	**Cervenica-Dubn**	**146.50**	**342**	*e*PKP	PKPdf		21 01 28.1	+8.9
MORC	**Moravsky Berou**	**146.68**	**347**	*e*PKPdf	PKPdf		21 01 22.3	+2.9
MOX	**Moxa**	**146.74**	**354**	*i* P	PKPdf		21 01 24.2	+4.7
	comp=Z,logA/T=1.2							
MOX	**Moxa**	**146.74**	**354**	*e*P	PKPdf		21 01 24.2	+4.7
PRU	**Pruhonice**	**147.02**	**351**	*e*PKPbc			21 01 25.8	
NKC	**Novy Kostel**	**147.06**	**353**	*e*PKPbc	PKPdf		21 01 27.6	+7.5
KECS	**Kecovo**	**147.16**	**343**	*e*PKP	PKPdf		21 01 27.2	+6.9
TREC	**Trest**	**147.54**	**349**	*e*PKPbc	PKPdf		21 01 26.2	+5.3
VYHS	**Vyhne**	**147.58**	**345**	*e*PKP	PKPdf		21 01 27.1	+6.1
GRA1	**Grafenberg Arr**	**147.72**	**355**	*e*PKPbc	PKPdf		21 01 27.4	+6.2
BRTR	**Keskin Array B**	**147.86**	**319**	PKPbc	PKPdf		21 01 28.1	+6.4
	comp=Z,3.2nm,1.0s,baz=90,slow=3.7,SNR=12							
KHC	**Kasperske Hory**	**148.00**	**351**	*e*PKPbc	PKPdf		21 01 25.6	+4.0
KHC				PKPab	PKPab		21 01 30.5	+1.0
KHC	**Kasperske Hory**	**148.00**	**351**	*e*P	PKPdf		21 01 25.6	+4.0
KHC				*e*			21 01 30.5	
GERES	**GERESS Array B**	**148.26**	**351**	PKPbc	PKPdf		21 01 28.0	+5.9
	comp=Z,1.1nm,0.8s,baz=27,slow=3.0,SNR=7.7							
BFO	**Black Forest**	**149.26**	**358**	*e*PKPbc	PKPdf		21 01 31.8	+8.1

CSEM ***08*** *20:50:06.9±1.6, 38.70N×29.72W, ML2.6, Error ellipse: s-maj=20.1km s-min=8.6km az=180.0*
PDA ***08*** *20:50:06.9±1.6, 38.70N×29.72W, ML2.6, Error ellipse: s-maj=20.1km s-min=8.6km az=180.0*

SVSA 08 20:50:06.9±1.6, 38.70N×29.72W, ML2.6, Error ellipse: s-maj=20.1km s-min=8.6km az=180.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.73**	**99**	*e*S	Sg	20 50 29.3	-2.1
	86nm,0.2s						
PTCA	**Ponta do Capel**	**0.73**	**99**	*e*S	Sg	20 50 29.3	-2.1
	86nm,0.2s						
PCED	**Cedros**	**0.80**	**95**	*e*P	Pg	20 50 19.9	-3.0
PCED				*e*S	Sg	20 50 30.2	-3.4
	222nm,0.6s						
PCED	**Cedros**	**0.80**	**95**	*e*P	Pg	20 50 19.9	-3.0
PCED				*e*S	Sg	20 50 30.2	-3.4
	222nm,0.6s						
CALA	**Caldeira**	**0.81**	**98**	*e*P	Pg	20 50 20.2	-2.8
CALA				*e*S	Sg	20 50 30.4	-3.4
HOR	**Horta**	**0.87**	**101**	*e*S	Sg	20 50 32.2	-3.8
PCND	**Candelaria**	**1.01**	**103**	*e*P	Pb	20 50 23.8	-3.2
PCND				*e*S	Sg	20 50 36.4	-4.3
	74nm,0.3s						
PICO	**Pico**	**1.04**	**101**	*i* P	Pb	20 50 23.6	-3.8
PICO				*e*S	Sb	20 50 36.4	-5.0
PBOI	**Pico dos Bois**	**1.09**	**104**	*e*P	Pb	20 50 24.8	-3.5
PBOI				*e*S	Sb	20 50 38.4	-4.5
	63nm,0.1s						
ROSA	**Rosais**	**1.16**	**89**	*e*P	Pb	20 50 25.5	-4.0
ROSA				*e*S	Sb	20 50 38.2	-6.8
PPNO	**Prainha do Nor**	**1.17**	**101**	*erx*		20 50 38.4	
PPNO	**Prainha do Nor**	**1.17**	**101**	*e-*		20 50 38.4	
PMAN	**Manadas**	**1.28**	**93**	*e*S	Sb	20 50 42.0	-6.5
	80nm,0.4s						
PMAN	**Manadas**	**1.28**	**93**	*e*S	Sb	20 50 42.0	-6.5
	80nm,0.4s						
PVIA	**Vitoria**	**1.36**	**74**	*e*P	Pb	20 50 30.2	-2.7
PVIA				*e*S	Sb	20 50 45.6	-5.1
	16nm,0.1s						
STGR	**Santa Cruz**	**1.40**	**74**	*e*P	Pb	20 50 30.9	-2.6
STGR				*e*S	Sb	20 50 47.5	-4.3
	56nm,0.2s						
STGR	**Santa Cruz**	**1.40**	**74**	*e*P	Pb	20 50 30.9	-2.6
STGR				*e*S	Sb	20 50 47.5	-4.3
	56nm,0.2s						
PPAD	**Pico dos Padre**	**1.91**	**89**	*e*P	Pn	20 50 36.0	-5.0
PPAD				*e*S	Sn	20 50 57.9	-8.1
	9.4nm,0.1s						
PBIS	**Biscoitos**	**1.93**	**87**	*e*P	Pn	20 50 36.7	-4.6
PBIS				*e*S	Sn	20 50 58.2	-8.5
	8.7nm,0.2s						
RIB2	**Ribeirinha**	**2.00**	**90**	*e*S	Sn	20 51 00.1	-8.2
	15nm,0.2s						
PVNV	**Vila Nova**	**2.01**	**87**	*e*S	Sn	20 51 00.5	-8.1
	6.0nm,0.1s						
PFAV	**Pico das Favas**	**2.06**	**89**	*e*P	Pn	20 50 38.1	-5.1
PFAV				*e*S	Sn	20 51 00.9	-9.1
	13nm,0.1s						

IDC ***08*** *21:14:29.6±1.7, 0.99N×97.02E, mb3.9/6, mb1 4.0/7, mb1mx3.7/20, mbtmp3.8/7, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.0/19, Error ellipse: s-maj=47.9km s-min=25.4km az=50.0*
NEIC ***08*** *21:14:34.4±1.2, 1.07N×97.15E, h30km, mb4.3/3, Error ellipse: s-maj=21.6km s-min=19.2km az=188.0*

ISC 08 21:14:32.6±1.3, 1.1N±0.2×97.1E±0.1, h30km, n11, σ1§01/12, mb4.0/9, MS3.9/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.46**	**47**	Pn	**Pn**	**21 15 12.4**	**+0.8**
	5.1nm,0.3s,baz=176,slow=6.4,SNR=12						
PSI				LR	LR	21 16 01.1	
	comp=Z,226nm,19.6s,baz=291,slow=36						
KULM	**Kulim**	**5.44**	**40**	*e*Pn	**Pn**	**21 15 53.2**	**-0.7**
KMI	**Kunming**	**24.49**	**12**	P	**P**	**21 19 53.7**	**+3.1**
	12nm,1.3s,mb4.2						
KMI				pP		21 19 59.6	
KMI				S	**S**	**21 24 20.4**	**+14**
KMI				LR	LR		
	comp=Z,260nm,12.9s,MS3.9						
ENH	**Enshi**	**31.30**	**21**	P	**P**	**21 20 50.5**	**-1.9**
	comp=Z,9.0nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**21 22 23.6**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.5,baz=301,slow=9.2,SNR=10.0						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**21 23 05.3**	**+0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=192,slow=9.1,SNR=11						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**21 23 06.2**	**+0.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=172,slow=8.6,SNR=10						
ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P	**P**	**21 23 05.4**	**-0.5**
	comp=Z,1.8nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**53.64**	**351**	P	**P**	**21 23 53.5**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=279,slow=8.3,SNR=10						
BVAR	**Borovoye Array**	**56.32**	**341**	P	**P**	**21 24 12.0**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=135,slow=6.3,SNR=5.6						
ARCES	**ARCESS Array B**	**82.61**	**340**	P	**P**	**21 26 54.4**	**+0.4**
	comp=Z,3.4nm,1.1s,mb4.3,baz=90,slow=4.9,SNR=3.5						

IDC ***08*** *21:16:54.6±1.9, 1.95N×96.40E, mb4.0/6, mb1 4.0/7, mb1mx3.7/20, mbtmp3.9/7, ML3.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/19, Error ellipse: s-maj=54.2km s-min=24.9km az=43.0*
NEIC ***08*** *21:16:59.8±1.0, 1.97N×96.56E, h30km, mb4.2/4, Error ellipse: s-maj=20.8km s-min=9.0km az=202.0*

ISC 08 21:16:57.9±1.3, 2.0N±0.2×96.57E±0.1, h30km, n18, σ0§87/18, mb4.1/10, MS3.8/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.49**	**71**	Pn	**Pn**	**21 17 38.7**	**+1.3**
	3.6nm,0.3s,baz=268,slow=12,SNR=8.3						
KULM	**Kulim**	**5.24**	**51**	*e*Pn	**Pn**	**21 18 15.9**	**-0.4**
KKM	**Kota Kinabalu**	**20.01**	**78**	P	**P**	**21 21 30.5**	**-0.7**
JIRN	**Jiri**	**27.41**	**340**	*e*P	**P**	**21 22 43.0**	**0.0**
	6.9nm,0.7s,mb4.3						
GUN	**Gumba**	**27.74**	**339**	*e*P	**P**	**21 22 47.3**	**+1.2**
	12nm,0.8s,mb4.6						
DMN	**Daman**	**27.75**	**338**	*e*P	**P**	**21 22 47.1**	**+0.9**
KKN	**Kakani**	**27.85**	**338**	*e*P	**P**	**21 22 47.2**	**+0.1**
GKN	**Gorkha**	**28.29**	**337**	*e*P	**P**	**21 22 51.5**	**+0.5**
	9.8nm,0.8s,mb4.5						
KOLN	**Koldanda**	**28.50**	**335**	*e*P	**P**	**21 22 53.6**	**+0.7**
	5.8nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**42.98**	**122**	P	**P**	**21 24 56.7**	**+0.2**
	0.4nm,0.5s,mb3.5,baz=302,slow=9.1,SNR=5.7						
MKAR	**Makanchi Array**	**46.34**	**346**	P	**P**	**21 25 22.3**	**-0.8**
	1.5nm,0.6s,mb4.1,baz=161,slow=8.8,SNR=19						
SONM	**Songino Array**	**46.47**	**9**	P	**P**	**21 25 24.0**	**0.0**
	1.0nm,0.3s,mb4.2,baz=189,slow=9.3,SNR=21						
SONM				LR	LR	21 45 20.5	
	comp=Z,90nm,18.8s,MS3.8,baz=236,slow=37						
ULN	**Ulaanbaatar**	**46.61**	**10**	P	**P**	**21 25 24.7**	**-0.5**
ZAL	**Zalesovo**	**52.69**	**351**	P	**P**	**21 26 10.5**	**-1.3**
	1.9nm,0.5s,mb4.2,baz=303,slow=5.8,SNR=5.9						
ZAL	**Zalesovo**	**52.69**	**351**	P	**P**	**21 26 10.5**	**-1.3**

BVAR	**Borovoye Array**	**55.32**	**341**	P	**P**	**21 26 29.0**	**-2.1**
	0.6nm,0.6s,mb3.6,baz=130,slow=9.5,SNR=5.3							
ARCES	**ARCESS Array B**	**81.60**	**340**	P	**P**	**21 29 14.5**	**+0.5**
	1.2nm,0.8s,mb3.9,baz=104,slow=5.0,SNR=5.2							
ARCES	**ARCESS Array B**	**81.60**	**340**	P	**P**	**21 29 14.5**	**+0.5**

JMA 08 21:26:35.7±0.3, 43.98N×147.96E, M4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.72**	**250**	P	Pn	21 27 07.2	+0.1
NEM2				*e*S	Sb	21 27 30.2	+0.1
JRA	**Rausu**	**2.05**	**270**	P	Pn	21 27 12.1	+0.3
JRA				*e*S	Sn	21 27 38.8	+0.3
JNK	**Nakash**	**2.38**	**262**	P	Pn	21 27 16.8	+0.3
JNK				*e*S	Sn	21 27 47.1	+0.2
JAK	**Akkeshi**	**2.57**	**249**	P	Pn	21 27 19.4	+0.1
JAK				*e*S	Sn	21 27 51.4	-0.3
JTKR	**Abashiri--Toko**	**2.92**	**271**	P	Pn	21 27 24.3	0.0
JAR	**Ashorobuto**	**3.12**	**259**	P	Pn	21 27 27.7	+0.6
JAR				*e*S	Sn	21 28 06.3	+0.7
JOB	**Onbets**	**3.19**	**252**	P	Pn	21 27 28.8	+0.7
JOB				*e*S	Sn	21 28 07.7	+0.3
JCH	**Churui**	**3.62**	**249**	P	Pn	21 27 34.6	+0.4
JCH				*e*S	Sn	21 28 18.3	-0.1
JNBK	**Urakawa-nobuka**	**4.17**	**248**	P	Pn	21 27 42.2	+0.1
JNBK				*e*S	Sn	21 28 31.7	-0.6
JKB	**Kayabe**	**5.50**	**250**	P	Pn	21 28 00.5	-0.3
JKB				*e*S	Sn	21 29 03.9	-1.8

NNC 08 22:22:54.8±4.3, 37.64N×74.68E, mpv3.5, 1C-3D, Error ellipse: s-maj=34.7km s-min=26.7km az=151.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**4.46**	**5**	P	Pn	22 24 04.2	-1.0
	SNR=6.8						
AML	**Almayashu**	**4.55**	**351**	P	Pn	22 24 05.4	-1.1
	SNR=5.2						
UCH	**Uchtor**	**4.59**	**358**	P	Pn	22 24 05.7	-1.3
	SNR=16						
KBK	**Karagaybulak**	**5.02**	**2**	P	Pn	22 24 11.4	-1.8
	SNR=7.6						
TKM2	**Tokmak 2**	**5.33**	**7**	P	Pn	22 24 15.8	-1.7
	SNR=8.9						
TKM2	**Tokmak 2**	**5.33**	**7**	⇑P	Pn	22 24 16.0	-1.5
	7.8nm,0.5s						
TKM2				⇓S	Sn	22 25 19.4	-1.1
	9.2nm,0.7s						
KK31	**Karatay Array**	**6.32**	**331**	P	Pn	22 24 28.5	-3.0
	0.5nm,0.3s,baz=143,slow=13,SNR=15						
KK31				⇓S	Sn	22 25 43.2	-2.2
	3.4nm,0.6s,baz=147,slow=24,SNR=3.9						
BVA0	**Borovoye Array**	**15.68**	**350**	P	P	22 26 38.0	-0.5
	0.9nm,2.0s,baz=158,slow=11,SNR=12						
AB31	**Akbulak array**	**15.76**	**322**	⇓P	P	22 26 37.2	-2.4
	0.8nm,0.8s,baz=126,slow=12,SNR=5.2						

BJI ***08*** *22:43:09.5, 1.61N×95.97E, h30km, mB4.9, mb4.4, Ms4.5, Msz4.5*
IDC ***08*** *22:43:12.3±1.5, 2.26N×96.19E, mb4.1/8, mb1 4.2/9, mb1mx3.9/20, mbtmp4.1/9, ML3.7/1, Error ellipse: s-maj=47.9km s-min=23.2km az=39.0*
MOS ***08*** *22:43:15.7±1.4, 2.24N×96.29E, h33km, mb5.0/8, Error ellipse: s-maj=17.8km s-min=12.0km az=99.3*
NEIC ***08*** *22:43:17.1±0.7, 2.23N×96.37E, h30km, mb4.5/14, Error ellipse: s-maj=15.4km s-min=11.6km az=215.0*

ISC 08 22:43:16.7±1.3, 2.20N±0.08×96.35E±0.08, h43km±12km, h33km±.6km; pP-P, n41, σ1§12/45, mb4.5/24, MS4.2/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.64**	**77**	Pn	**P**	**22 43 58.9**	**+1.1**
	12nm,0.3s,baz=274,slow=8.8,SNR=47						
KULM	**Kulim**	**5.27**	**54**	*e*Pn	**P**	**22 44 34.3**	**-0.7**
KULM				*e*		22 44 40.9	
KMI	**Kunming**	**23.61**	**15**	P	**P**	**22 48 26.4**	**+1.6**
KMI				*pP		22 48 35.7	
KMI						22 49 02.0	
KMI				pmax	pmax		
	comp=Z,90nm,0.7s,mb5.3						
KMI	**Kunming**	**23.61**	**15**	P	**P**	**22 48 26.4**	**+1.6**
	comp=Z,9.0nm,0.7s,mb4.3						
KMI				pP		22 48 35.7	
KMI				PP	PP	22 49 02.0	+3.9
JIRN	**Jiri**	**27.12**	**340**	*e*P	**P**	**22 48 57.9**	**-0.1**
	comp=Z,18nm,0.7s,mb4.7						
PKI	**Pulchoki**	**27.32**	**338**	*e*P	**P**	**22 49 01.6**	**+1.8**
	comp=Z,14nm,0.8s,mb4.5						
PKI	**Pulchoki**	**27.32**	**338**	*e*P	**P**	**22 49 01.6**	**+1.8**
PKI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
GUN	**Gumba**	**27.46**	**340**	*e*P	**P**	**22 49 00.8**	**-0.3**
	comp=Z,19nm,0.8s,mb4.7						
DMN	**Daman**	**27.46**	**338**	*e*P	**P**	**22 49 02.8**	**+1.7**
KKN	**Kakani**	**27.56**	**338**	*e*P	**P**	**22 49 01.8**	**-0.2**
	comp=Z,13nm,0.8s,mb4.6						
KKN	**Kakani**	**27.56**	**338**	*e*P	**P**	**22 49 01.8**	**-0.2**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
GKN	**Gorkha**	**28.00**	**338**	*e*P	**P**	**22 49 06.1**	**+0.2**
	comp=Z,15nm,0.8s,mb4.7						
KOLN	**Koldanda**	**28.20**	**336**	*e*P	**P**	**22 49 08.1**	**+0.3**
	comp=Z,14nm,0.8s,mb4.6						
CD2	**Chengdu**	**29.40**	**13**	*e*P	**P**	**22 49 19.0**	**+0.6**
CD2				PP	PP	22 50 15.0	+0.3
CD2				PPP	PPP	22 50 28.8	+0.6
CD2				S	**S**	**22 54 10.0**	**+2.0**
CD2				LR	LR		
	comp=N,100nm,12.0s						
CD2				LR	LR		
	comp=Z,110nm,14.4s,MS3.6						
ENH	**Enshi**	**30.57**	**23**	P	**P**	**22 49 25.4**	**-3.4**
	comp=Z,4.5nm,0.5s,mb4.5						
NJ2	**Nanjing**	**36.48**	**33**	*e*P	**P**	**22 50 20.2**	**+0.4**
NJ2				AP	pP	22 50 29.9	-1.6
NJ2				PP	PP	22 51 44.2	-0.3
NJ2				S	**S**	**22 55 58.0**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				LR	LR		
	comp=N,280nm,14.1s,MS4.2						
NJ2				LR	LR		
	comp=E,170nm,15.6s,MS4.2						
NJ2				LR	LR		
	comp=Z,710nm,16.0s,MS4.5						
GTA	**Gaotai**	**37.17**	**4**	*e*P	**P**	**22 50 24.7**	**-0.8**
GTA				XP	sP	22 50 38.5	-4.1
GTA				PP	PP	22 51 52.0	-1.1
GTA				PPP	PPP	22 52 12.3	-1.4
GTA				PCP	PcP	22 52 44.0	-1.4
GTA				S	**S**	**22 56 08.8**	**+0.1**
GTA				XS		22 56 25.7	
GTA				SCP		22 56 28.4	
GTA				PCS		22 56 32.4	
GTA				SCS	ScS	23 00 33.9	-0.1
GTA				AMB	AMB		
	comp=Z,130nm,6.5s						
GTA				LR	LR		
	comp=N,200nm,14.9s,MS4.2						
GTA				LR	LR		
	comp=E,280nm,19.1s,MS4.2						
GTA				LR	LR		
	comp=Z,110nm,12.6s						
NWAO	**Narrogin (SRO)**	**40.13**	**152**	P	**P**	**22 50 49.2**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,16nm,1.1s						
NWAO	**Narrogin (SRO)**	**40.13**	**152**	P	**P**	**22 50 49.2**	**-1.0**
	comp=Z,16nm,1.1s,mb4.7						
HHC	**Hu-ho-hao-te**	**40.86**	**18**	*e*P	**P**	**22 50 56.3**	**+0.1**
HHC				AP	pP	22 51 05.8	-2.2
HHC				XP	sP	22 51 10.1	-3.1
HHC				PP	PP	22 52 34.4	+0.7
HHC				PCP	PcP	22 52 57.0	0.0
HHC				SCP		22 56 43.0	
HHC				S	**S**	**22 57 04.7**	**+0.5**
HHC				XS		22 57 21.1	
HHC				AMB	AMB		
	comp=Z,100nm,4.7s						
HHC				LR	LR		
	comp=N,100nm,17.8s						
HHC				LR	LR		
	comp=E,100nm,11.9s						
HHC				LR	LR		
	comp=Z,180nm,11.9s						
WMQ	**Urumqi**	**42.15**	**351**	*e*P	**P**	**22 51 06.5**	**-0.3**
WMQ				AP	pP	22 51 16.5	-2.1
WMQ				XP	sP	22 51 20.5	-3.3
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,200nm,5.2s						
WMQ				LR	LR		
	comp=N,730nm,21.0s,MS4.7						
WMQ				LR	LR		
	comp=E,810nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,790nm,19.8s,MS4.6						
WRA	**Warramunga Arr**	**43.28**	**122**	P	**P**	**22 51 17.1**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.4,baz=300,slow=9.3,SNR=5.8						
MKAR	**Makanchi Array**	**46.08**	**347**	P	**P**	**22 51 37.2**	**-1.2**
	comp=Z,2.5nm,0.4s,mb4.5,baz=158,slow=8.9,SNR=77						
SONM	**Songino Array**	**46.28**	**9**	P	**P**	**22 51 39.2**	**-0.8**
	comp=Z,1.1nm,0.3s,mb4.2,baz=190,slow=9.2,SNR=22						
SONM				PcP	PcP	22 53 15.0	-0.4
	comp=Z,1.3nm,0.7s,baz=196,slow=3.2,SNR=8.0						
ULN	**Ulaanbaatar**	**46.42**	**10**	*e*P	**P**	**22 51 40.2**	**-0.9**
ULN				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
ULN	**Ulaanbaatar**	**46.42**	**10**	*e*P	**P**	**22 51 40.2**	**-0.9**
	comp=Z,3.2nm,1.0s,mb4.2						
CN2	**Changchun**	**48.81**	**28**	*e*P	**P**	**22 52 02.0**	**+2.2**
HIA	**Hailar**	**50.98**	**20**	P	**P**	**22 52 14.5**	**-1.8**
HIA				pmax	pmax		
	comp=Z,50nm,0.9s						
HIA	**Hailar**	**50.98**	**20**	P	**P**	**22 52 14.5**	**-1.9**
	comp=Z,4.9nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**52.44**	**351**	P	**P**	**22 52 26.1**	**-1.1**
	comp=Z,3.9nm,0.4s,mb4.7,baz=293,slow=4.0,SNR=16						
NVS	**Novosibirsk**	**53.55**	**351**	*e*P	**P**	**22 52 28.0**	**-7.5**
BVAR	**Borovoye Array**	**55.03**	**341**	P	**P**	**22 52 44.2**	**-2.1**
	comp=Z,1.2nm,0.4s,mb4.2,baz=135,slow=9.7,SNR=16						
YAK	**Yakutsk**	**64.70**	**17**	*e*P	**P**	**22 53 50.9**	**-1.6**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
YAK	**Yakutsk**	**64.70**	**17**	*e*P	**P**	**22 53 50.9**	**-1.6**
	comp=Z,14nm,0.6s,mb5.2						
MA2	**Magadan**	**70.81**	**26**	*e*P	**P**	**22 54 36.2**	**+5.5**
MA2				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
MA2	**Magadan**	**70.81**	**26**	*e*P	**P**	**22 54 36.2**	**+5.5**
	comp=Z,15nm,0.9s,mb4.9						
LBTB	**Lobatse**	**73.57**	**243**	P	**P**	**22 54 49.3**	**+1.5**
LBTB				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
LBTB	**Lobatse**	**73.57**	**243**	P	**P**	**22 54 49.3**	**+1.5**
	comp=Z,14nm,1.3s,mb4.7						
FINES	**FINESS Array B**	**78.73**	**333**	P	**P**	**22 55 15.6**	**-0.6**
	comp=Z,1.9nm,0.9s,mb4.0,baz=117,slow=4.3,SNR=13						
ARCES	**ARCESS Array B**	**81.31**	**340**	P	**P**	**22 55 30.0**	**+0.1**
	comp=Z,1.2nm,0.4s,mb4.2,baz=94,slow=5.2,SNR=26						
GERES	**GERESS Array B**	**83.51**	**319**	P	**P**	**22 55 42.6**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.5,baz=45,slow=3.8,SNR=3.4						

LDG ***08*** *23:04:03.4±0.1, 49.34N×6.81E, h1km, Ml2.5/10, Error ellipse: s-maj=1.3km s-min=1.1km az=61.0, Suspected Mining induced.*
NEIC ***08*** *23:04:03.4, 49.34N×6.81E, h1km, ML2.5(LDG), ML2.1(STR), After LDG.*
BGR ***08*** *23:04:03.6±0.5, 49.31N×6.81E, h1km, ML1.7/3, Error ellipse: s-maj=8.9km s-min=5.6km az=37.0*
CSEM ***08*** *23:04:03.3±0.1, 49.34N×6.82E, h2km, ML2.4/9, Error ellipse: s-maj=1.2km s-min=1.2km az=27.0*

ISC 08 23:04:02.0±0.4, 49.32N±0.02×6.77E±0.03, n21, σ0§92/41, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.43**	**26**	Pg	**Pg**	**23 04 11.4**	**+0.9**
RUP				Sg	**Sg**	**23 04 17.2**	**+1.0**
WLF	**Walferdange**	**0.53**	**311**	*e*Pg	**Pg**	**23 04 14.9**	**+2.3**
	SNR=2.5						
WLF				*e*Sg	**Sg**	**23 04 20.4**	**+0.7**
CDF	**Champ du Feu**	**0.97**	**160**	*e*Pn	**Pn**	**23 04 22.3**	**-0.3**
CDF				*e*Sg	**Sg**	**23 04 34.7**	**+0.5**
	14nm,0.2s						
CDF	**Champ du Feu**	**0.97**	**160**	*e*Pg	**Pg**	**23 04 21.5**	**+0.2**
CDF				*e*Pn	**Pn**	**23 04 22.3**	**-0.3**
CDF				*e*Sg	**Sg**	**23 04 34.7**	**+0.5**
CDF	**Champ du Feu**	**0.97**	**160**	*e*Pn	**Pn**	**23 04 22.3**	**-0.3**
CDF				*e*Sg	**Sg**	**23 04 34.7**	**+0.5**
	7.0nm,0.2s						
WLS	**Welschbruch**	**0.98**	**157**	Pg	**Pg**	**23 04 22.7**	**+1.1**
WLS				Sg	**Sg**	**23 04 36.6**	**+1.8**
RFYF	**Reffroy**	**1.10**	**232**	*e*Pg	**Pg**	**23 04 24.7**	**+0.8**
RFYF				*e*Sg	**Sg**	**23 04 39.3**	**+0.7**
	17nm,0.2s						
ECH	**Echery**	**1.13**	**167**	Pg	**Pg**	**23 04 25.2**	**+0.6**
ECH				Sg	**Sg**	**23 04 40.0**	**+0.3**
THEF	**They Montfort**	**1.21**	**206**	Pg	**Pg**	**23 04 26.4**	**+0.3**
THEF				Sg	**Sg**	**23 04 42.4**	**+0.1**
HAU	**Haudompre**	**1.34**	**192**	*e*Pg	**Pg**	**23 04 29.1**	**+0.3**
HAU				*e*Sg	**Sg**	**23 04 46.7**	**0.0**
	10nm,0.3s						
MEZF	**Maizieres J'vi**	**1.40**	**235**	*e*Pg	**Pg**	**23 04 30.1**	**+0.2**
	baz=53						
MEZF				*e*Sg	**Sg**	**23 04 48.5**	**0.0**
	7.4nm,0.4s						
TNS	**Taunus

2.4nm,0.6s,mb4.0,baz=28,slow=9.9,SNR=4.7
STKA Stephens Creek 29.31 202 P **P** 23 16 33.8 -2.8
FITZ Fitzroy Crossi 30.56 242 *e*P **P** 23 16 46.1 -1.6
6.4nm,0.5s,mb4.6
SONM Songino Array 66.82 327 P **P** 23 21 24.9 +0.4
0.3nm,0.6s,mb3.3,baz=117,slow=3.2,SNR=4.3
VNDA Vanda 72.84 178 P **P** 23 22 00.9 +0.3
0.5nm,0.7s,mb3.4,baz=300,slow=2.2,SNR=3.5
MKAR Makanchi Array 80.94 319 P **P** 23 22 45.7 -0.6
0.3nm,0.5s,mb3.4,baz=96,slow=8.0,SNR=11
MKAR Makanchi Array 80.94 319 P **P** 23 22 45.7 -0.6
ILAR Eielson Array 81.74 22 P **P** 23 22 50.6 +0.5
0.3nm,0.5s,mb3.4,baz=242,slow=6.0,SNR=4.1
MAW Mawson 86.00 203 P **P** 23 23 11.5 +0.2
0.9nm,0.6s,mb3.9,baz=94,slow=6.7,SNR=7.9
BDFB Brasilia 150.39 134 PKPbc PKPdf 23 30 22.8 +6.1
1.3nm,0.5s,baz=274,slow=5.1,SNR=3.3
TORD Torodi Ar. Bea 151.24 289 PKPbc PKPdf 23 30 25.5 +7.5
0.3nm,0.4s,baz=79,slow=2.1,SNR=9.7

*IDC **08** 23:11:50.5±1.7,30.12S×177.00W,mb4.3/2,mb1 4.3/3, mb1mx4.0/13,mbtmp4.1/3,ML2.9/1,MS3.5/3,Ms1 3.5/3, ms1mx3.1/21,Error ellipse: s-maj=40.3km s-min=31.0km az=92.0*
ISC 08 23:11:55.1±3.3,30.20S±0.06×177.3W±0.4,h33km,n10, σ0§94/7,mb4.3/2,MS3.7/2,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.09**	**330**	Pn	**Pn**	**23 12 14.2**	**0.0**
	441nm,0.3s,baz=76,slow=5.6,SNR=18						
RAO				Sn	**Sn**	**23 12 27.5**	**-0.7**
	726nm,0.3s,baz=31,slow=22,SNR=13						
URZ	**Urewera**	**9.28**	**208**	Pn	**P**	**23 14 07.7**	**-1.9**
	0.1nm,0.3s,baz=330,slow=11,SNR=3.5						
URZ				Sn	**Sn**	**23 15 54.0**	**+0.1**
	1.5nm,0.3s,baz=175,slow=23,SNR=6.8						
DZM	**Mont Dzumac**	**16.68**	**295**	LR	LR	23 20 53.7	
	comp=Z,64nm,20.6s,baz=109,slow=32						
CTA	**Charters Tower**	**34.37**	**278**	LR	LR	23 30 16.0	
	comp=Z,38nm,19.8s,MS3.1,baz=231,slow=32						
STKA	**Stephens Creek**	**35.11**	**257**	P	**P**	**23 18 48.8**	**+1.3**
	1.7nm,0.4s,mb4.3,baz=105,slow=11,SNR=3.7						
WB2	**Warramunga Arr**	**44.69**	**272**	*e*P	**P**	**23 20 07.8**	**+0.9**
WRA	**Warramunga Arr**	**44.70**	**272**	P	**P**	**23 20 07.1**	**+0.1**
	1.6nm,0.3s,mb4.3,baz=110,slow=8.1,SNR=25						
PLCA	**Paso Flores**	**82.20**	**133**	LR	LR	23 53 01.8	
	comp=Z,100nm,19.3s,MS4.2,baz=188,slow=30						
FINES	**FINESS Array B**	**145.16**	**341**	PKPbc	PKPbc	23 31 27.6	-1.3
	0.9nm,0.4s,baz=60,slow=4.1,SNR=20						
AKASG	**Malin Array Be**	**151.50**	**323**	PKPbc	PKPdf	23 31 46.5	+7.4
	0.1nm,0.3s,baz=228,slow=16,SNR=2.7						
AKASG				PKPab	PKPab	23 31 54.8	-1.2
	0.5nm,0.4s,baz=50,slow=3.8,SNR=7.7						

SKHL 08 23:20:49.7±0.8,50.00N×136.83E,h10km,mb4.1/2, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRNR	**Gornyy**	**0.81**	**341**	*e*Pg	Pg	23 21 04.0	-2.0
GRNR				AMB	AMB	23 21 05.0	
	360nm,0.4s						
GRNR				AMB	AMB	23 21 05.0	
	220nm,0.4s						
GRNR				*e*Sg	Sg	23 21 15.0	-1.9
GRNR				A		23 21 17.1	
	690nm,0.4s						
HABR	**Khabarovsk**	**1.92**	**218**	*e*rx	rx	23 21 31.8	
HABR				*e*Sg	Sg	23 21 51.9	-1.9
UGL	**Uglegorsk**	**3.53**	**103**	*e*Sg	Sg	23 22 41.0	-6.4
UGL				A		23 22 45.1	
	163nm,0.4s						
TYV	**Tymovskoe**	**3.82**	**75**	*e*Pg	Pg	23 21 59.0	-7.1
TYV				AMB	AMB	23 22 06.7	
	37nm,1.0s						
TYV				*e*Sg	Sg	23 22 49.0	-8.0
TYV				A		23 22 57.5	
	40nm,0.8s						
TYV				A		23 22 57.5	
	21nm,0.6s						
EKMR	**Ekimchan**	**3.91**	**323**	*e*Pn	Pn	23 21 53.4	+2.2
EKMR				*e*rx	rx	23 22 06.3	
EKMR				*e*Sg	Sg	23 22 53.2	-6.8
EKMR				A		23 23 04.1	
	35nm,0.5s						
EKMR				A		23 23 04.1	
	44nm,0.5s						
NKL	**Nikolayevsk**	**3.96**	**36**	*e*Sg	Sg	23 22 54.0	-7.7
NKL				A		23 22 59.0	
	80nm,0.9s						
TEY	**Ternei**	**4.97**	**182**	*e*Sg	Sg	23 23 24.5	-11
TEY				A		23 23 28.2	
	67nm,0.9s						
YASR	**Yasnyy**	**6.42**	**304**	*e*rx	rx	23 22 28.9	
YASR				*e*rx	rx	23 22 52.8	
YASR				*e*Sg	Sg	23 24 10.4	-13
YASR				A		23 24 25.4	
	24nm,0.9s						
YASR				A		23 24 25.4	
	17nm,0.9s						
BMKR	**Bomnak**	**6.79**	**317**	*e*Sg	Sg	23 24 24.0	-12
BMKR				A		23 24 34.8	
	14nm,0.8s						
BMKR				A		23 24 34.8	
	16nm,0.8s						
ZEA	**Zeya**	**7.01**	**306**	*e*Sg	Sg	23 24 29.0	-14
KROS	**Kirovskiy**	**7.51**	**310**	*e*rx	rx	23 23 09.0	
KROS				*e*Sg	Sg	23 24 43.3	-16
KROS				A		23 24 57.0	
	4.0nm,0.6s						

*ISK **08** 23:24:39.8,39.08N×27.71E,h8km,MD3.1*
*CSEM **08** 23:24:39.7±0.1,39.08N×27.74E,h8km,MD3.1,Error ellipse: s-maj=2.5km s-min=1.4km az=93.0*
*ATH **08** 23:24:40.3,39.04N×27.74E,h4km±1km,MD3.2/3*
*THE **08** 23:24:41.6,38.96N×27.73E,h14km,ML2.8*
ISC 08 23:24:40.0±0.5,39.06N±0.02×27.75E±0.03,h10km±4km, n37,σ0§95/50,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.19**	**165**	*i*PG	**Pg**	**23 24 44.5**	**+0.4**
AKS				*i*SG	**Sg**	**23 24 48.2**	**+1.4**
BALB	**Balikesir**	**0.59**	**10**	PG	**Pg**	**23 24 51.2**	**-0.6**
BALB				SG	**Sg**	**23 25 00.6**	**+0.9**
BTOK	**Tokmak**	**0.73**	**17**	*i*P	**Pb**	**23 24 53.4**	**-1.0**
KDAG	**Bornova**	**0.76**	**210**	*i*P	**Pb**	**23 24 53.5**	**-1.4**
KDAG				*i*S	**Sb**	**23 25 04.2**	**-0.8**
MANT	**Manisa**	**0.85**	**132**	*i*P	**Pb**	**23 24 56.0**	**-0.4**
MANT				*i*S	**Sb**	**23 25 07.2**	**-0.4**
AYVA	**Ayvalik**	**0.86**	**287**	*i*P	**Pb**	**23 24 56.2**	**-0.4**
AYVA				*i*S	**Sb**	**23 25 08.7**	**+0.7**
DST	**Dursunbey**	**0.87**	**51**	PG	**Pg**	**23 24 56.4**	**-1.0**
BLCB	**Balcova**	**0.87**	**220**	PG	**Pg**	**23 24 56.8**	**-0.7**
BLCB				SG	**Sg**	**23 25 09.2**	**0.0**
URLA	**Izmir**	**1.14**	**233**	*i*P	**Pb**	**23 25 00.0**	**-1.4**
URLA				*i*S	**Sb**	**23 25 16.1**	**0.0**
PRK	**Paraskevi**	**1.17**	**280**	*e*PB	**Pb**	**23 25 02.1**	**+0.3**
PRK				*e*SB	**Sb**	**23 25 18.0**	**+1.2**
EDC	**Edincik**	**1.29**	**4**	PN	**Pn**	**23 25 03.5**	**-0.6**
ORLT	**Orhaneli**	**1.32**	**42**	PN	**Pn**	**23 25 05.0**	**+0.4**
EZN	**Ezine**	**1.34**	**305**	*e*PN	**Pn**	**23 25 05.1**	**+0.2**
GDZ	**Gediz**	**1.35**	**88**	*i*P	**Pb**	**23 25 04.0**	**-0.9**
GDZ				*i*S	**Sb**	**23 25 22.1**	**0.0**
AYDN	**Tasoluk**	**1.40**	**176**	*i*P	**Pn**	**23 25 07.0**	**+1.2**
AYDN				*i*S	**Sb**	**23 25 22.5**	**-1.2**
LPK	**Lapseki**	**1.52**	**330**	*e*PN	**Pn**	**23 25 07.7**	**+0.3**
ULDT	**Uludag**	**1.52**	**44**	*i*P	**Pn**	**23 25 05.5**	**-1.9**
ULDT				*i*S	**Sb**	**23 25 27.2**	**+0.1**
SMG	**Samos**	**1.53**	**208**	*e*PB	**Pb**	**23 25 08.5**	**+0.5**
SMG				*e*SB	**Sb**	**23 25 29.3**	**+1.9**
MRMT	**Marmara Adasi**	**1.55**	**356**	*e*PN	**Pn**	**23 25 08.0**	**+0.2**
DNZL	**Cakiroluk**	**1.71**	**143**	*i*P	**Pn**	**23 25 09.6**	**-0.5**
MFT	**Murefte**	**1.76**	**348**	*e*PN	**Pn**	**23 25 11.1**	**+0.2**
MLSB	**Milas**	**1.76**	**179**	*e*PN	**Pn**	**23 25 12.1**	**+1.2**
YLV	**Yalova**	**1.95**	**39**	*e*PN	**Pn**	**23 25 15.0**	**+1.4**
BDRM	**Kayabasi**	**2.01**	**187**	*i*P	**Pn**	**23 25 18.6**	**+4.2**
BODT	**Bodrum**	**2.02**	**190**	*e*PN	**Pn**	**23 25 15.1**	**+0.4**
LOS	**Limnos**	**2.24**	**294**	*e*Pn	**Pn**	**23 25 18.3**	**+0.5**
ALN	**Alexandroupoli**	**2.25**	**325**	*e*Pn	**Pn**	**23 25 18.3**	**+0.3**
ESKT	**Eskisehir**	**2.45**	**78**	*e*PN	**Pn**	**23 25 22.3**	**+1.6**
RDO	**Rodhopi**	**2.69**	**322**	*e*PB	**Pb**	**23 25 27.2**	**-0.7**
RDO				*e*SN	**Sn**	**23 26 00.4**	**+3.3**
EDRB	**Edirne**	**2.89**	**345**	*e*PN	**Pn**	**23 25 27.2**	**+0.2**
MDU	**Mudurnu**	**3.01**	**61**	*e*PN	**Pn**	**23 25 30.1**	**+1.3**
AOS	**Alonnisos**	**3.02**	**273**	*e*Pn	**Pn**	**23 25 27.6**	**-1.2**
OUR	**Ouranopolis**	**3.17**	**295**	*e*PN	**Pn**	**23 25 31.2**	**+0.2**
OUR	**Ouranopolis**	**3.17**	**295**	*e*Pn	**Pn**	**23 25 31.2**	**+0.1**
PAIG	**Paliouri**	**3.27**	**287**	*e*PN	**Pn**	**23 25 31.2**	**-1.1**
PAIG	**Paliouri**	**3.27**	**287**	*e*Pn	**Pn**	**23 25 31.2**	**-1.2**
KNT	**Kendrikon**	**4.27**	**301**	*e*Pn	**Pn**	**23 25 44.8**	**-1.9**

MAN 08 23:38:03.1,7.33N×124.58E,h34km,mb4.5,ML3.4,MS3.3, 3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.35**	**251**	*i*P	P	23 38 13.3	+1.8
CTBH				*i*S	S	23 38 19.6	+2.1
BUKP	**Musuan**	**0.72**	**41**	*e*P	P	23 38 17.8	+1.0
BUKP				*e*S	S	23 38 28.2	+1.4
DAV	**Davao City (W)**	**1.02**	**105**	*i*P	S	23 38 34.0	-0.5
CGP	**Cagayan de Oro**	**1.12**	**6**	*e*P	P	23 38 21.8	-0.7
CGP				*e*S	S	23 38 35.3	-1.7
PAGZ	**Pagadian**	**1.29**	**293**	*e*P	P	23 38 24.9	0.0
PAGZ				*e*S	S	23 38 40.8	-0.6
DCPH	**Dipolog City**	**1.74**	**316**	*e*P	P	23 38 32.6	+1.3
DCPH				*e*S	S	23 38 53.1	+0.5

IDC 08 23:54:18.1±4.2,30.84N×141.21E,mb3.6/3,mb1 3.7/4, mb1mx3.5/20,mbtmp3.5/4,ML3.3/1,MS3.4/1,Ms1 3.4/1, ms1mx2.5/24,Error ellipse: s-maj=154.2km s-min=25.7km az=71.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.58**	**332**	LR	LR	23 55 30.2	
	comp=Z,658nm,19.4s,baz=120,slow=28						
MJAR	**Matsushiro Arr**	**6.21**	**337**	Pn	Pn	23 55 50.5	-2.8
	0.8nm,0.3s,baz=154,slow=12,SNR=4.3						
SONM	**Songino Array**	**31.49**	**313**	P	P	00 00 42.1	-1.5
	0.6nm,0.8s,baz=98,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**47.49**	**307**	P	P	00 02 54.4	-2.2
	0.3nm,0.6s,baz=65,slow=9.0,SNR=4.6						
WRA	**Warramunga Arr**	**50.92**	**188**	P	P	00 03 21.2	-2.2
	0.3nm,0.3s,baz=6.3,slow=7.7,SNR=20						

BER 08 23:55:29.2±0.8,66.39N×13.26E,h10km±2km,MD1.4, ML1.7,Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STOK2	**Flostrand**	**0.07**	**143**	*e*P	Pg	23 55 31.2	-0.2
STOK2				*e*		23 55 31.3	
	baz=324,slow=10						
STOK2	**Flostrand**	**0.07**	**143**	*e*S	Sg	23 55 32.7	-0.2
STOK2				AML	AML	23 55 32.8	
	comp=N,614nm,0.2s						
STOK	**Stokkvaagen**	**0.12**	**239**	*e*P	Pg	23 55 31.9	-0.2
STOK	**Stokkvaagen**	**0.12**	**239**	*e*S	Sg	23 55 34.1	0.0
STOK				AML	AML	23 55 35.5	
	comp=Z,238nm,0.3s						
STOK	**Stokkvaagen**	**0.12**	**239**	*e*P	Pg	23 55 31.9	-0.2
STOK				*e*S	Sg	23 55 34.1	0.0
STOK				AML	AML	23 55 35.5	
	comp=Z,238nm,0.3s						
MELSS	**Ber_school_2**	**0.51**	**21**	*e*P	Pg	23 55 38.4	-1.1
MELSS				*e*S	Sg	23 55 45.3	-1.1
MELSS	**Ber_school_2**	**0.51**	**21**	*e*P	Pg	23 55 38.4	-1.1
MELSS				*e*S	Sg	23 55 45.3	-1.1
MOR8	**Moi Rana**	**0.53**	**114**	*e*P	Pg	23 55 39.7	-0.2
MOR8				*e*S	Sg	23 55 48.6	+1.7
MOR8				AML	AML	23 55 49.5	
	comp=Z,16nm,0.1s						
MOR8	**Moi Rana**	**0.53**	**114**	*e*P	Pg	23 55 39.7	-0.2
MOR8				*e*S	Sg	23 55 48.6	+1.7
MOR8				AML	AML	23 55 49.5	
	comp=Z,16nm,0.1s						
LOF	**Lofoten**	**1.75**	**3**	*e*P	Pn	23 55 59.7	-0.2
LOF				*e*S	Sn	23 56 21.1	-1.2
NSS	**Namsos**	**1.95**	**197**	*e*P	Pn	23 56 02.9	+0.2
NSS				*e*S	Sn	23 56 29.0	+1.7
NSS				AML	AML	23 56 30.9	
	comp=Z,5.5nm,0.4s						

*IDC **09** 00:24:20.3±1.4,52.46N×170.23W,mb3.7/8,mb1 3.9/10, mb1mx3.8/23,mbtmp3.7/10,ML3.5/2,Error ellipse: s-maj=37.6km s-min=19.8km az=2.0*
*NEIC **09** 00:24:28.0±0.9,52.47N×170.18W,h57km±6km, ML3.6(AEIC),Error ellipse: s-maj=24.3km s-min=6.1km az=163.0*
ISC 09 00:24:26.5±1.1,52.3N±0.2×170.1W±0.1,h67km±7km,n28, σ1§15/33,mb3.7/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**1.00**	**49**	P	**P**	**00 24 42.7**	**-2.4**
NIKO				S	**S**	**00 24 55.3**	**-3.6**
OKCE	**Okmok Cone E**	**1.61**	**46**	P	**P**	**00 24 53.6**	**+0.1**
OKCD	**Okmok Cone D**	**1.64**	**47**	P	**P**	**00 24 53.6**	**-0.2**
OKER	**East Rim**	**1.68**	**47**	P	**P**	**00 24 53.9**	**-0.4**
MSOM	**Makushin Julie**	**2.42**	**51**	P	**P**	**00 25 03.6**	**-1.1**
MSOM				S	**S**	**00 25 35.0**	**+1.9**
MGOD	**Makushin Gods**	**2.44**	**52**	P	**P**	**00 25 04.8**	**-0.2**
ATKA	**Atka Island**	**2.51**	**269**	P	**P**	**00 25 05.5**	**-0.5**
ATKA				S	**S**	**00 25 37.7**	**+2.2**
MSW	**Makushin Switc**	**2.56**	**50**	P	**P**	**00 25 06.8**	**+0.2**
MNAT	**Makushin Natee**	**2.58**	**52**	P	**P**	**00 25 06.7**	**-0.3**
MTBL	**Makushin Table**	**2.64**	**50**	P	**P**	**00 25 07.7**	**-0.1**
MTBL				S	**S**	**00 25 41.5**	**+2.8**
UNV	**Unalaska Valle**	**2.65**	**54**	P	**P**	**00 25 07.2**	**-0.8**
UNV				S	**S**	**00 25 40.3**	**+1.3**
LVA	**Lava Point**	**3.06**	**52**	P	**P**	**00 25 14.4**	**+0.7**
AKLV	**Akutan Long Va**	**3.10**	**52**	P	**P**	**00 25 14.9**	**+0.7**
AHB	**Akutan Harbor**	**3.14**	**54**	P	**P**	**00 25 15.1**	**+0.3**
GSCK	**Great Sitkin C**	**3.74**	**267**	P	**P**	**00 25 23.7**	**+0.4**
KDAK	**Kodiak Island**	**11.42**	**55**	Pn	**P**	**00 27 05.8**	**-3.0**
	0.6nm,0.3s,baz=306,slow=19,SNR=5.3						
ILAR	**Eielson Array**	**17.24**	**35**	P	**P**	**00 28 21.9**	**-1.9**
	0.0nm,0.3s,baz=228,slow=12,SNR=3.2						
ILAR				PcP	PcP	00 33 04.2	-0.7
	0.0nm,0.3s,baz=281,slow=3.3,SNR=5.7						
INK	**Inuvik**	**23.63**	**34**	P	**P**	**00 29 33.1**	**+1.5**
	1.5nm,0.5s,mb3.6,baz=238,slow=7.0,SNR=31						
INK				PcP	PcP	00 33 16.8	+0.3
	0.9nm,1.0s,baz=342,slow=3.2,SNR=3.9						
INK	**Inuvik**	**23.63**	**34**	P	**P**	**00 29 33.1**	**+1.5**
INK				PcP	PcP	00 33 16.8	+0.3
YKA	**Yellowknife Ar**	**30.61**	**49**	P	**P**	**00 30 35.6**	**-0.3**
	0.2nm,0.3s,mb3.3,baz=274,slow=8.3,SNR=6.8						
PDAR	**Pinedale Array**	**40.86**	**79**	P	**P**	**00 32 04.7**	**+1.6**
	1.1nm,0.6s,mb3.9,baz=304,slow=3.2,SNR=10						
SONM	**Songino Array**	**50.93**	**300**	P	**P**	**00 33 22.4**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=41,slow=5.4,SNR=3.9						
TXAR	**Lajitas Array**	**53.20**	**88**	P	**P**	**00 33 40.5**	**+0.5**
	1.1nm,0.7s,mb4.0,baz=296,slow=5.5,SNR=16						
TXAR	**Lajitas Array**	**53.20**	**88**	P	**P**	**00 33 40.5**	**+0.5**
MKAR	**Makanchi Array**	**63.50**	**313**	P	**P**	**00 34 50.6**	**-0.9**
	0.3nm,0.5s,mb3.4,baz=48,slow=6.9,SNR=4.3						
FINES	**FINESS Array B**	**65.84**	**352**	P	**P**	**00 35 05.2**	**-1.1**
	1.4nm,0.7s,mb3.9,baz=333,slow=8.5,SNR=3.9						
FINES	**FINESS Array B**	**65.84**	**352**	P	**P**	**00 35 05.2**	**-1.1**
NOA	**NORSAR Array B**	**66.97**	**359**	P	**P**	**00 35 13.2**	**-0.2**
	1.1nm,0.9s,mb3.7,baz=335,slow=10,SNR=2.8						

*MOS **09** 00:34:27.5±1.0,6.51N×126.22E,h57km,mb5.0/3,Error ellipse: s-maj=24.2km s-min=12.3km az=106.1*
*IDC **09** 00:34:29.5±3.3,6.55N×126.29E,h60km±29km,mb4.1/17, mb1 4.2/17,mb1mx4.0/25,mbtmp4.4/17,MS3.5/4, Ms1 3.5/4,ms1mx3.1/25,Error ellipse: s-maj=27.6km s-min=11.2km az=71.0*
*NEIC **09** 00:34:30.7±1.3,6.51N×126.40E,h74km±11km,mb4.8/7, Error ellipse: s-maj=14.9km s-min=7.2km az=74.0*
*MAN **09** 00:34:34.7,6.73N×126.08E,h10km,mb5.1,ML4.0,MS4.1*
ISC 09 00:34:31.1±0.8,6.38N±0.04×126.18E±0.08,h89km±6km, n57,σ1§19/56,mb4.4/23,4C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.91**	**319**	*i*Pn	**P**	**00 34 48.9**	**-1.1**
DAV				*e*Sn	**S**	**00 35 04.5**	**+0.5**
KCP	**Kidapawan**	**1.25**	**300**	*e*P	**P**	**00 34 53.0**	**-1.1**
KCP				*i*S	**S**	**00 35 11.2**	**-0.1**
GSPH	**General Santos**	**1.25**	**257**	*i*P	**P**	**00 34 54.0**	**-0.2**
GSPH				*e*S	**S**	**00 35 10.0**	**-1.4**
BUKP	**Musuan**	**1.86**	**323**	*e*P	**P**	**00 35 00.8**	**-1.0**
CGP	**Cagayan de Oro**	**2.53**	**325**	*e*P	**P**	**00 35 12.3**	**+1.1**
CGP				*i*S	**S**	**00 35 44.1**	**+2.9**
BUTP	**Butuan**	**2.63**	**348**	*e*P	**P**	**00 35 13.3**	**+0.7**
BUTP				*e*S	**S**	**00 35 53.0**	**+9.4**
PAGZ	**Pagadian**	**3.13**	**298**	*e*P	**P**	**00 35 18.8**	**-0.8**
SCPH	**Surigao**	**3.45**	**349**	*e*P	**P**	**00 35 22.9**	**-0.9**
SCPH				*e*S	**S**	**00 36 06.5**	**+2.7**
DCPH	**Dipolog City**	**3.56**	**308**	*e*P	**P**	**00 35 27.4**	**+2.0**
MSLP	**Maasin**	**3.95**	**341**	*e*P	**P**	**00 35 37.5**	**+6.7**
TBP	**Tagbilaran**	**4.01**	**325**	*e*P	**P**	**00 35 30.4**	**-1.2**
SNPH	**Sibulan**	**4.14**	**316**	*e*P	**P**	**00 35 35.5**	**+2.1**
LLP	**Lapu-Lapu**	**4.48**	**331**	*e*P	**P**	**00 35 33.5**	**-4.6**
LLP				*e*S	**S**	**00 36 25.2**	**-4.2**
PLP	**Palo**	**4.90**	**346**	*e*P	**P**	**00 35 44.6**	**+0.8**
KSM	**Kuching**	**16.56**	**254**	*e*P	**P**	**00 38 23.4**	**+4.2**
GUMO	**Guam**	**19.74**	**67**	LR	LR	00 44 58.2	
	comp=Z,148nm,21.5s,baz=203,slow=32						
FITZ	**Fitzroy Crossi**	**24.33**	**181**	*e*P	**P**	**00 39 42.4**	**+0.6**
	28nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.33**	**181**	P	**P**	**00 39 43.3**	**+1.5**
	15nm,0.5s,mb4.6,baz=11,slow=12,SNR=26						
KULM	**Kulim**	**25.42**	**269**	*e*P	**P**	**00 39 54.7**	**+2.5**
WRA	**Warramunga Arr**	**27.36**	**163**	P	**P**	**00 40 09.3**	**-0.8**
	2.1nm,0.3s,mb4.1,baz=333,slow=11,SNR=27						
WRA				ScP		00 47 02.9	
	0.7nm,0.7s,baz=346,slow=3.2,SNR=4.7						
WB2	**Warramunga Arr**	**27.36**	**163**	*e*P	**P**	**00 40 09.2**	**-0.9**
PSI	**Prapat**	**27.39**	**264**	P	**P**	**00 40 12.1**	**+1.6**
	6.1nm,0.7s,mb4.2,baz=102,slow=6.3,SNR=6.5						
PSI				PcP	PcP	00 43 27.6	+0.1
	4.5nm,0.7s,baz=27,slow=1.4,SNR=4.1						
PSI				LR	LR	00 51 35.5	
	comp=Z,89nm,18.6s,baz=36,slow=37						
PSI	**Prapat**	**27.39**	**264**	P	**P**	**00 40 12.1**	**+1.6**
PSI				PcP	PcP	00 43 27.6	+0.1
PSI				LR	LR	00 51 35.5	
MBWA	**Marble Bar**	**28.09**	**193**	*e*P	**P**	**00 40 14.6**	**-2.1**
	24nm,1.0s,mb4.7						
ENH	**Enshi**	**28.48**	**329**	P	**P**	**00 40 19.8**	**-0.3**
	7.7nm,0.7s,mb4.3						
MJAR	**Matsushiro Arr**	**31.98**	**18**	LR	LR	00 52 59.2	
	comp=Z,50nm,21.3s,baz=215,slow=35						
CTA	**Charters Tower**	**32.89**	**144**	P	**P**	**00 40 59.5**	**+0.6**
	2.0nm,0.6s,mb4.1,baz=312,slow=13,SNR=4.5						
FORT	**Forrest**	**36.99**	**177**	*i*P	**P**	**00 41 34.3**	**+0.6**
	35nm,0.5s,mb5.5						
KLBR	**Kellerberrin**	**38.60**	**192**	*e*P	**P**	**00 41 47.8**	**+0.7**
	11nm,0.4s,mb5.0						
MUN	**Mundaring**	**39.31**	**193**	*e*P	**P**	**00 41 53.6**	**+0.6**
NWAO	**Narrogin (SRO)**	**40.00**	**192**	P	**P**	**00 41 59.6**	**+0.9**
	16nm,0.6s,mb5.1,baz=154,slow=8.8,SNR=12						
STKA	**Stephens Creek**	**40.78**	**160**	*e*P	**P**	**00 42 06.0**	**+0.8**
	11nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**40.78**	**160**	P	**P**	**00 42 06.2**	**+1.0**
	14nm,0.9s,mb4.8,baz=337,slow=8.6,SNR=19						
SONM	**Songino Array**	**44.63**	**341**	P	**P**	**00 42 36.1**	**-0.2**
	1.4nm,1.1s,mb3.6,baz=146,slow=5.2,SNR=4.6						
SONM				PcP	PcP	00 44 18.3	+0.1
	0.9nm,0.6s,baz=158,slow=4.2,SNR=4.0						
MKAR	**Makanchi Array**	**55.09**	**324**	P	**P**	**00 43 55.1**	**-1.0**
	3.3nm,0.5s,mb4.6,baz=119,slow=7.4,SNR=27						
YAK	**Yakutsk**	**55.60**	**2**	*e*P	**P**	**00 43 50.0**	**-10**
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ZAL	**Zalesovo**	**58.00**	**333**	P	**P**	**00 44 14.1**	**-2.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=6.5,slow=4.3,SNR=9.1						
NVS	**Novosibirsk**	**59.28**	**333**	*e*P	**P**	**00 44 24.2**	**-1.3**
BVAR	**Borovoye Array**	**64.82**	**326**	P	**P**	**00 45 01.9**	**-0.7**
	comp=Z,3.2nm,0.7s,mb4.3,baz=125,slow=7.6,SNR=18						
TIXI	**Tiksi**	**65.22**	**1**	*e*P	**P**	**00 45 05.1**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
AKTK	**Aktyubinsk**	**71.26**	**321**	P	**P**	**00 45 40.9**	**-1.7**
AKTO	**Aktyubinsk**	**71.26**	**321**	P	**P**	**00 45 40.9**	**-1.7**
	comp=Z,3.1nm,0.7s,mb4.3,baz=102,slow=8.9,SNR=14						
ARU	**Arti**	**72.42**	**327**	*e*P	**P**	**00 45 49.8**	**+0.4**
ILAR	**Eielson Array**	**82.97**

*NEIC **09** 01:01:27.4±1.1,5.74N×125.48E,h103km±10km,mb4.7/26, Error ellipse: s-maj=9.5km s-min=6.2km az=80.0*
NEIC Felt [I PIVS] at General Santos.
*IDC **09** 01:01:30.1±3.5,5.72N×125.36E,h126km±32km,mb4.4/25, mb1 4.5/25,mb1mx4.4/28,mbtmp4.7/25,MS3.8/8, Ms1 3.8/8,ms1mx3.5/25,Error ellipse: s-maj=16.9km s-min=9.9km az=86.0*

ISC 09 01:01:25.4±0.5,5.73N±0.03×125.50E±0.04,h97km±3km, h96km±4.0km:pP-P,n156,σ1§11/163,mb4.8/73,9C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.65**	**303⇑**	*eP*	**P**	**P**	**01 01 40.0**	**-2.3**
GSPH				*i* S	**S**	**S**	**01 01 49.0**	**-6.0**
DAV	**Davao City (W)**	**1.34**	**3**	*e*Pn	**P**	**P**	**01 01 49.2**	**-0.7**
DAV				*e*Sn	**S**	**S**	**01 02 08.4**	**+0.3**
KCP	**Kidapawan**	**1.34**	**342⇓**	*eP*	**P**	**P**	**01 01 49.8**	**-0.1**
KCP				*i* S	**S**	**S**	**01 02 08.0**	**-0.2**
BUKP	**Musuan**	**2.18**	**349**	*eP*	**P**	**P**	**01 02 01.6**	**+0.8**
BUKP				*e*S	**S**	**P**	**01 02 28.6**	**+1.5**
CGP	**Cagayan de Oro**	**2.83**	**344⇓**	*eP*	**P**	**P**	**01 02 11.1**	**+1.4**
CGP				*e*S	**S**	**S**	**01 02 51.2**	**+8.3**
PAGZ	**Pagadian**	**2.98**	**315**	*eP*	**P**	**P**	**01 02 10.4**	**-1.3**
PAGZ				*e*S	**S**	**S**	**01 02 44.1**	**-2.5**
BUTP	**Butuan**	**3.22**	**2**	*eP*	**P**	**P**	**01 02 15.4**	**+0.3**
DCPH	**Dipolog City**	**3.55**	**323⇑**	*eP*	**P**	**P**	**01 02 21.4**	**+1.8**
IPIL	**Ipil**	**3.56**	**305**	*eP*	**P**	**P**	**01 02 19.1**	**-0.5**
IPIL				*e*S	**S**	**S**	**01 02 59.3**	**-1.6**
SNPH	**Sibulan**	**4.24**	**328**	*eP*	**P**	**P**	**01 02 34.0**	**+5.0**
TBP	**Tagbilaran**	**4.26**	**338**	*eP*	**P**	**P**	**01 02 28.6**	**-0.7**
LLP	**Lapu-Lapu**	**4.81**	**342**	*eP*	**P**	**P**	**01 02 30.9**	**-5.9**
LLP				*e*S	**S**	**S**	**01 03 19.9**	**-12**
PLP	**Palo**	**5.43**	**355**	*eP*	**P**	**P**	**01 02 45.0**	**-0.2**
KSM	**Kuching**	**15.73**	**255**	*eP*	**P**	**P**	**01 05 04.2**	**+1.4**
YHNB	**Yeheng**	**19.25**	**349**	*eP*	**P**	**P**	**01 05 43.9**	**-0.8**
KAKA	**Kakadu**	**19.57**	**159**	*eP*		Px	01 06 09.1	
	89nm,0.5s							
QIZ	**Qiongzhong**	**20.19**	**312**	*eP*	**P**	**P**	**01 05 53.9**	**-0.6**
GUMO	**Guam**	**20.62**	**66**	P	**P**	**P**	**01 06 01.4**	**+2.4**
	48nm,0.4s,baz=156,slow=8.9,SNR=2.4							
JOW	**Kunigami**	**21.16**	**7**	P	**P**	**P**	**01 06 06.2**	**+1.8**
	65nm,0.7s,mb5.0,baz=188,slow=6.7,SNR=13							
JOW				LR	LR		01 15 23.4	
	comp=Z,150nm,18.0s,baz=297,slow=39							
FITZ	**Fitzroy Crossi**	**23.68**	**180⇑**	*i* P	**P**	**P**	**01 06 28.6**	**-0.4**
	55nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**23.68**	**180**	P	**P**	**P**	**01 06 29.7**	**+0.6**
	24nm,0.5s,mb4.8,baz=7.1,slow=9.3,SNR=173							
KKTK	**Khon Kaen**	**24.60**	**297**	P	**P**	**P**	**01 06 39.0**	**+1.0**
	432nm,0.9s,mb5.9							
KULM	**Kulim**	**24.74**	**270**	*eP*	**P**	**P**	**01 06 39.8**	**+0.4**
SSE	**Sheshan**	**25.56**	**351**	P	**P**	**P**	**01 06 47.9**	**+1.0**
SSE				AP	pP	pP	01 07 09.7	+1.4
SSE				XP	sP	sP	01 07 20.5	+0.4
SSE				S	**S**	**S**	**01 11 07.2**	**+2.1**
SSE				AMB	AMB			
	comp=Z,30nm,0.7s,mb4.8							
SSE				AMB	AMB			
	comp=Z,110nm,4.9s							
SSE				LR	LR			
	comp=N,90nm,21.2s							
SSE				LR	LR			
	comp=E,30nm,21.2s							
SSE				LR	LR			
	comp=Z,120nm,20.1s							
SSE	**Sheshan**	**25.56**	**351**	P	**P**		**01 06 47.9**	**+1.0**
	comp=Z,34nm,0.7s,mb4.9							
SSE				pP	pP		01 07 09.7	+1.4
SSE				sP	sP		01 07 20.5	+0.4
SSE				S	**S**		**01 11 07.2**	**+2.1**
SSE				sS			01 11 45.6	
SSE				LR	LR			
	comp=Z,120nm,20.1s							
PSI	**Prapat**	**26.66**	**265**	P	**P**		**01 06 58.2**	**+1.0**
	comp=Z,7.6nm,0.8s,mb4.3,baz=108,slow=7.0,SNR=9.1							
NST	**Nakhon Sawan**	**26.78**	**294**	P	**P**		**01 06 59.0**	**+0.7**
NJ2	**Nanjing**	**26.92**	**347**	*eP*	**P**		**01 06 57.4**	**-2.0**
NJ2				AP	pP		01 07 18.7	-2.3
NJ2				XP	sP		01 07 30.8	-1.8
NJ2				PP	PP		01 07 46.6	-1.8
NJ2				S	**S**		**01 11 25.0**	**-2.3**
NJ2				XS			01 12 04.0	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb4.6							
NJ2				AMB	AMB			
	comp=Z,120nm,6.0s							
NJ2				LR	LR			
	comp=N,270nm,14.5s							
NJ2				LR	LR			
	comp=E,210nm,13.5s							
NJ2				LR	LR			
	comp=Z,250nm,20.6s							
WRAB	**Tennant Creek**	**26.94**	**161**	*c iP*	**P**		**01 06 59.0**	**-0.8**
WRA	**Warramunga Arr**	**26.95**	**161**	P	**P**		**01 06 58.8**	**-1.0**
	comp=Z,20nm,0.5s,mb5.0,baz=338,slow=10,SNR=119							
WB2	**Warramunga Arr**	**26.95**	**161⇑**	*i* P	**P**		**01 06 59.0**	**-0.9**
MBWA	**Marble Bar**	**27.31**	**192**	*eP*	**P**		**01 07 01.6**	**-1.5**
	comp=Z,29nm,1.0s,mb4.8							
GYA	**Guiyang**	**27.35**	**321⇓**	*i* P	**P**		**01 07 04.5**	**+1.0**
GYA				AMB	AMB			
	comp=Z,20nm,1.1s,mb4.6							
ENH	**Enshi**	**28.70**	**330**	*eP*	**P**		**01 07 15.4**	**-0.1**
	comp=Z,20nm,0.9s,mb4.8							
CHG	**Chiang Mai**	**28.97**	**299**	⇑P	**P**		**01 07 19.1**	**+1.1**
	comp=Z,14nm,0.8s,mb4.6							
KMI	**Kunming**	**29.11**	**314**	P	**P**		**01 07 21.6**	**+2.3**
KMI				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.7							
KMI				LR	LR			
	comp=Z,170nm,24.7s							
KS15	**Wonju Array Si**	**31.64**	**4**	*eP*	**P**		**01 07 40.7**	**-0.7**
XAN	**Xi'an**	**32.09**	**334**	P	**P**		**01 07 46.1**	**+0.7**
XAN				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.8							
CD2	**Chengdu**	**32.32**	**323**	P	**P**		**01 07 48.0**	**+0.6**
CD2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.0							
CTA	**Charters Tower**	**32.78**	**142⇑**	*i* P	**P**		**01 07 52.6**	**+1.1**
	comp=Z,5.2nm,0.5s,mb4.6							
CTA	**Charters Tower**	**32.78**	**142⇑**	*i* P	**P**		**01 07 52.6**	**+1.1**
CTA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
CTAO	**Charters Tower**	**32.78**	**142**	*eP*	**P**		**01 07 51.4**	**-0.1**
CTAO				pmax	pmax			
	comp=Z,40nm,0.7s,mb5.4							
CTAO	**Charters Tower**	**32.78**	**142**	*eP*	**P**		**01 07 51.4**	**-0.2**
	comp=Z,4.4nm,0.7s,mb4.4							
MJAR	**Matsushiro Arr**	**32.81**	**19**	P	**P**		**01 07 50.8**	**-0.8**
	comp=Z,4.1nm,0.6s,mb4.5,baz=194,slow=9.4,SNR=10.0							
MJAR				LR	LR		01 20 44.8	
	comp=Z,105nm,20.0s,baz=220,slow=35							
FORT	**Forrest**	**36.38**	**176**	*eP*	**P**		**01 08 21.9**	**-0.2**
	comp=Z,35nm,0.8s,mb5.3							
HHC	**Hu-ho-hao-te**	**37.13**	**342**	*eP*	**P**		**01 08 28.5**	**+0.2**
HHC				AP	pP		01 08 51.0	0.0
HHC				XP	sP		01 09 02.4	-0.2
HHC				PP	PP		01 09 57.9	+1.0
HHC				PCP	PcP		01 10 47.1	0.0
HHC				S	**S**		**01 14 05.5**	**-1.3**
HHC				PCS			01 14 34.4	
HHC				XS			01 14 44.8	
HHC				SS	SS		01 16 41.1	-1.4
HHC				SCS	ScS		01 18 30.4	+0.1
HHC				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8							
HHC				AMB	AMB			
	comp=Z,60nm,4.3s							
HHC				LR	LR			
	comp=N,230nm,16.7s							
HHC				LR	LR			
	comp=E,170nm,10.7s							
HHC				LR	LR			
	comp=Z,260nm,20.2s							
KLBR	**Kellerberrin**	**37.84**	**191**	*eP*	**P**		**01 08 33.7**	**-0.6**
	comp=Z,9.2nm,0.5s,mb4.9							
MUN	**Mundaring**	**38.53**	**193**	*eP*	**P**		**01 08 39.6**	**-0.4**
MDJ	**Mudanjiang**	**38.90**	**5**	P	**P**		**01 08 44.3**	**+1.4**
MDJ				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.7							
MDJ				AMB	AMB			
	comp=Z,110nm,4.0s							
MDJ	**Mudanjiang**	**38.90**	**5**	*eP*	**P**		**01 08 43.9**	**+0.9**
	comp=Z,18nm,0.9s,mb4.9							
NWAO	**Narrogin (SRO)**	**39.23**	**191**	P	**P**		**01 08 46.0**	**+0.1**
	comp=Z,13nm,0.6s,mb4.9,baz=13,slow=8.0,SNR=11							
LSA	**Lhasa**	**40.21**	**311**	P	**P**		**01 08 53.4**	**-0.6**
STKA	**Stephens Creek**	**40.42**	**159⇑**	*i* P	**P**		**01 08 56.6**	**+1.0**
	comp=Z,16nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**40.42**	**159**	P	**P**		**01 08 56.7**	**+1.1**
	comp=Z,28nm,0.8s,mb5.2,baz=336,slow=7.6,SNR=39							
STKA				LR	LR		01 27 04.2	
	comp=Z,80nm,19.1s,baz=25,slow=38							
STKA	**Stephens Creek**	**40.42**	**159**	*eP*	**P**		**01 08 56.2**	**+0.6**
GTA	**Gaotai**	**40.76**	**329**	*eP*	**P**		**01 08 59.5**	**+1.1**
ASAJ	**Asahikawa**	**41.08**	**19**	P	**P**		**01 09 02.2**	**+1.3**
	comp=Z,14nm,0.6s,mb5.0,baz=244,slow=10,SNR=9.3							
BOK	**Bokaro**	**42.10**	**299**	*eP*	**P**		**01 09 11.7**	**+2.1**
BOK				AMb	AMB		01 09 13.4	
	comp=Z,20nm,0.6s,mb5.0							
VIS	**Vishakhapatnam**	**42.87**	**290**	*eP*	**P**		**01 09 17.9**	**+1.9**
VIS				AMb	AMB		01 09 19.9	
	comp=Z,55nm,1.2s,mb5.2							
JIRN	**Jiri**	**43.22**	**305**	*eP*	**P**		**01 09 20.0**	**+1.3**
	comp=Z,54nm,0.5s,mb5.5							
GUN	**Gumba**	**43.57**	**305**	*eP*	**P**		**01 09 22.7**	**+1.1**
	comp=Z,55nm,0.4s,mb5.6							
HIA	**Hailar**	**43.66**	**355**	P	**P**		**01 09 21.2**	**-0.8**
HIA				pmax	pmax			
	comp=Z,4.0nm,0.4s							
HIA	**Hailar**	**43.66**	**355**	P	**P**		**01 09 21.2**	**-0.8**
	comp=Z,4.5nm,0.4s,mb4.5							
PKI	**Pulchoki**	**43.83**	**304**	*eP*	**P**		**01 09 24.2**	**+0.6**
KKN	**Kakani**	**44.02**	**305**	*eP*	**P**		**01 09 25.6**	**+0.4**
	comp=Z,27nm,0.6s,mb5.2							
KKN	**Kakani**	**44.02**	**305**	*eP*	**P**		**01 09 25.6**	**+0.4**
KKN				pmax	pmax			
	comp=Z,14nm,0.6s,mb4.9							
DMN	**Daman**	**44.09**	**304**	*eP*	**P**		**01 09 27.0**	**+1.2**
GKN	**Gorkha**	**44.62**	**305**	*eP*	**P**		**01 09 30.7**	**+0.7**
	comp=Z,15nm,0.4s,mb5.1							
ULN	**Ulaanbaatar**	**44.85**	**342**	*i* P	**P**		**01 09 30.7**	**-0.9**
ULN	**Ulaanbaatar**	**44.85**	**342**	*eP*	**P**		**01 09 31.1**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.1							
SONM	**Songino Array**	**45.03**	**342**	P	**P**		**01 09 32.9**	**-0.1**
	comp=Z,0.9nm,0.4s,mb3.9,baz=157,slow=8.2,SNR=11							
SONM				PcP	PcP		01 11 12.4	-0.3
	comp=Z,1.5nm,0.7s,baz=166,slow=3.9,SNR=4.9							
SONM				LR	LR		01 29 44.1	
	comp=Z,108nm,19.6s,baz=108,slow=38							
KOLN	**Koldanda**	**45.39**	**304**	*eP*	**P**		**01 09 37.0**	**+0.9**
	comp=Z,49nm,0.3s,mb5.7							
TOO	**Toolangi**	**46.94**	**158**	*eP*	**P**		**01 09 50.2**	**+2.0**
	comp=Z,4.5nm,0.4s,mb4.5							
TOO	**Toolangi**	**46.94**	**158**	*eP*	**P**		**01 09 50.2**	**+2.0**
TOO				pmax	pmax			
	comp=Z,5.0nm,0.4s,mb4.6							
HYB	**Hyderabad**	**47.31**	**288⇓**	*i* P	**P**		**01 09 52.5**	**+1.2**
	comp=Z,50nm,1.0s,mb5.2							
HYB	**Hyderabad**	**47.31**	**288⇓**	*eP*	**P**		**01 09 52.5**	**+1.2**
HYB				pmax	pmax			
	comp=Z,50nm,1.0s,mb5.2							
HYB	**Hyderabad**	**47.31**	**288⇓**	*eP*	**P**		**01 09 52.5**	**+1.2**
	comp=Z,50nm,1.0s,mb5.2							
BHPL	**Bhopal**	**49.42**	**296**	*eP*	**P**		**01 10 08.3**	**+0.6**
BHPL				AMb	AMB		01 10 09.1	
	comp=Z,14nm,0.4s,mb5.2							
KAD	**Karad**	**51.43**	**287**	*eP*	**P**		**01 10 23.3**	**+0.3**
KAD				AMb	AMB		01 10 24.6	
	comp=Z,21nm,1.1s,mb5.1							
MKAR	**Makanchi Array**	**55.23**	**325**	P	**P**		**01 10 50.0**	**-0.6**
	comp=Z,2.3nm,0.4s,mb4.6,baz=118,slow=6.9,SNR=65							
MKAR				PcP	PcP		01 11 48.8	-1.3
	comp=Z,4.0nm,0.7s,baz=123,slow=4.6,SNR=7.1							
MKAR				LR	LR		01 34 50.4	
	comp=Z,101nm,20.0s,baz=43,slow=36							
MKAR	**Makanchi Array**	**55.23**	**325**	*i* P	**P**		**01 10 50.0**	**-0.6**
MKAR				pmax	pmax			
	comp=Z,20nm,0.4s							
MKAR	**Makanchi Array**	**55.23**	**325**	P	**P**		**01 10 50.0**	**-0.6**
MKAR				PcP	PcP		01 11 48.8	-1.3
MKAR				LR	LR		01 34 50.4	
YAK	**Yakutsk**	**56.27**	**2**	*eP*	**P**		**01 10 56.9**	**-1.0**
YAK				pmax	pmax			
	comp=Z,41nm,0.9s,mb5.5							
YAK				pmax	pmax			
	comp=N,12nm,1.2s							
YAK	**Yakutsk**	**56.27**	**2**	*eP*	**P**		**01 10 57.3**	**-0.5**
	comp=N,89nm,0.8s,mb5.8							
BHJ	**Bhuj**	**56.44**	**294**	*eP*	**P**		**01 11 00.7**	**+1.1**
BHJ				AMb	AMB		01 11 01.3	
	comp=Z,23nm,0.5s,mb5.5							
MA2	**Magadan**	**57.09**	**15**	*eP*	**P**		**01 11 04.9**	**+1.2**
MA2				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb5.0							
MA2	**Magadan**	**57.09**	**15**	*eP*	**P**		**01 11 03.7**	**0.0**
	comp=Z,18nm,0.6s,mb5.3							
KZA	**Kyzart**	**57.32**	**317**	P	**P**		**01 11 06.8**	**+1.2**
	SNR=7.0							
TKM2	**Tokmak 2**	**57.45**	**318**	P	**P**		**01 11 07.0**	**+0.5**
	SNR=6.3							
KBK	**Karagaybulak**	**57.77**	**318**	P	**P**		**01 11 09.5**	**+0.8**
	SNR=9.2							
UCH	**Uchtor**	**57.88**	**317**	P	**P**		**01 11 11.0**	**+1.5**
	SNR=14							
AAK	**Ala-Archa**	**58.06**	**317**	*i* P	**P**		**01 11 09.0**	**-1.8**
AAK				pmax	pmax			
	comp=Z,14nm,1.9s,mb4.7							
ZAL	**Zalesovo**	**58.27**	**333**	P	**P**		**01 11 09.8**	**-2.1**
	comp=Z,1.6nm,0.5s,mb4.3,baz=18,slow=3.8,SNR=9.2							
ZAL				LR	LR		01 38 32.3	
	comp=Z,82nm,20.5s,baz=205,slow=38							
ZAL	**Zalesovo**	**58.27**	**333**	*i* P	**P**		**01 11 09.8**	**-2.2**
ZAL				pmax	pmax			
	comp=Z,20nm,0.5s							
USP	**Ospenovka**	**58.32**	**318**	P	**P**		**01 11 12.5**	**-0.1**
	SNR=10							
AML	**Almayashu**	**58.40**	**317**	P	**P**		**01 11 14.3**	**+1.2**
	SNR=7.7							
EKS2	**Erkin-Say**	**58.56**	**317**	P	**P**		**01 11 14.8**	**+0.6**
	SNR=5.3							
KURK	**Kurchatov**	**59.41**	**327**	*d iP*	**P**		**01 11 18.3**	**-1.6**
NVS	**Novosibirsk**	**59.55**	**333**	*eP*	**P**		**01 11 16.6**	**-4.2**
SEY	**Seymchan**	**60.38**	**14**	*eP*	**P**		**01 11 28.3**	**+1.8**
SEY				pmax	pmax			
	comp=N,2.0nm,0.6s							
SEY				pmax	pmax			
	comp=E,4.0nm,0.6s							
SEY				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.9							
BVAR	**Borovoye Array**	**64.99**	**327**	P	**P**		**01 11 56.2**	**-0.8**
	comp=Z,6.9nm,0.8s,mb4.5,baz=127,slow=7.4,SNR=29							
TIXI	**Tiksi**	**65.88**	**1**	*i* P	**P**		**01 12 01.3**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,24nm,1.1s,mb4.9							
BILL	**Bilibino**	**67.96**	**15**	*i* P	**P**		**01 12 16.1**	**+0.5**
BILL				*e*	pP		01 12 42.4	+2.0
BILL				*e*S	S		01 21 08.4	+3.2
BILL				*e*SS	SS		01 25 33.4	+3.1
BILL				pmax	pmax			
	comp=Z,17nm,1.3s,mb4.7							
BILL				MLR	MLR			
	comp=Z,100nm,17.0s							
BILL	**Bilibino**	**67.96**	**15**	*eP*	**P**		**01 12 15.6**	**0.0**
	comp=Z,9.0nm,0.9s,mb4.6							
SVE	**Sverdlovsk**	**71.63**	**328**	*eP*	**P**		**01 12 36.0**	**-2.1**
SVE				*e*	pP		01 13 05.6	+2.4
SVE				pmax	pmax			
	comp=Z,20nm,1.0s,mb4.9							
ARU	**Arti**	**72.60**	**328⇓**	*i* P	**P**		**01 12 42.4**	**-1.4**
ARU				*e*			01 15 22.3	
ARU				*e*PPP	PPP		01 17 10.1	-1.1
ARU				*e*S	S		01 22 00.2	+0.9
ARU				*e*SS	SS		01 26 43.2	+0.7
ARU				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.8							
CASY	**Casey**	**72.65**	**186**	*eP*	**P**		**01 12 44.2**	**+0.3**
	comp=Z,8.2nm,0.6s,mb4.7							
QRN	**Al-Qurain**	**76.39**	**298**	*eP*	**P**		**01 13 06.8**	**+0.7**
QRN				AMb	AMB		01 13 07.2	
	comp=Z,39nm,0.5s,mb5.4							
KBD	**Kabd**	**76.59**	**299**	*eP*	**P**		**01 13 07.4**	**+0.1**
MIB	**Mutribah**	**76.91**	**299**	*eP*	**P**		**01 13 08.7**	**-0.4**
MIB				AMb	AMB		01 13 10.0	
	comp=Z,59nm,0.8s,mb5.3							
NAY	**Al-Naaiem**	**76.99**	**299**	*eP*	**P**		**01 13 08.6**	**-0.9**
NAY				AMb	AMB		01 13 10.4	
	comp=Z,20nm,0.8s,mb4.9							
GNI	**Garni**	**79.27**	**310**	*i* P	**P**		**01 13 21.2**	**-0.6**
GNI				pmax	pmax			
	comp=Z,18nm,1.6s							
GNI	**Garni**	**79.27**	**310**	*e*P	**P**		**01 13 22.5**	**+0.7**
	comp=Z,9.9nm,0.9s,mb4.6							
GOF	**Gofitskoye**	**80.65**	**315**	*e*P	**P**		**01 13 27.5**	**-1.6**
KDAK	**Kodiak Island**	**80.87**	**32**	P	**P**		**01 13 31.3**	**+1.3**
	comp=Z,21nm,0.8s,mb5.0,baz=268,slow=5.0,SNR=11							
KIV	**Kislovodsk**	**80.88**	**313**	*i* P	**P**		**01 13 30.5**	**+0.2**
KIV				*e**PP	pP		01 13 52.7	-3.2
KIV				*e*			01 16 35.9	
KIV				pmax	pmax			
	comp=Z,14nm,0.9s,mb4.8							
KIV				MLR	MLR			
	comp=Z,100nm,17.0s							
VRHR	**Novokhopersk**	**81.73**	**321**	*e*P	**P**		**01 13 34.8**	**+0.2**
VRHR				pmax	pmax			
	comp=Z,30nm,0.7s,mb5.2							
VRHR				pmax	pmax			
	comp=N,30nm,0.9s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.3s							
MCK	**McKinley**	**82.94**	**27**	*e*P	**P**		**01 13 38.8**	**-1.7**
MCK				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.5							
MCK	**McKinley**	**82.94**	**27**	*e*P	**P**		**01 13 38.8**	**-1.7**
	comp=Z,6.9nm,0.8s,mb4.5							
KLMR	**Klimovskoe**	**83.07**	**331**	*d iP*	**P**		**01 13 40.6**	**-0.7**
KLMR				pmax	pmax			
	comp=Z,30nm,1.5s,mb4.9							
VRSR	**Storozhevoye**	**83.26**	**321**	*e*P	**P**		**01 13 41.5**	**-0.9**
VRSR				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.2							
VRSR				pmax	pmax			
	comp=N,1.0nm,0.7s							
VRSR				pmax	pmax			
	comp=E,2.0nm,0.8s							
COLA	**College**	**83.43**	**25**	*e*P	**P**		**01 13 42.9**	**-0.1**
COLA				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.3							
COLA	**College**	**83.43**	**25**	*e*P	**P**		**01 13 42.9**	**-0.1**
	comp=Z,4.8nm,0.9s,mb4.3							
ILAR	**Eielson Array**	**83.84**	**26**	P	**P**		**01 13 45.5**	**+0.5**
	comp=Z,3.8nm,0.6s,mb4.4,baz=248,slow=5.0,SNR=47							
MOS	**Moscow**	**84.11**	**325**	*e*P	**P**		**01 13 44.2**	**-2.3**
MOS				*i*			01 16 58.5	
OBN	**Obninsk**	**84.73**	**325**	*i* P	**P**		**01 13 49.3**	**-0.4**
OBN				*e**PP	pP		01 14 13.3	-2.2
OBN				*e*			01 17 04.0	
OBN				pmax	pmax			
	comp=Z,33nm,1.6s,mb5.0							
OBN				MLR	MLR			
	comp=Z,100nm,20.0s							
VNDA	**Vanda**	**85.55**	**173**	P	**P**		**01 13 54.2**	**+0.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=318,slow=7.6,SNR=13							
VNDA	**Vanda**	**85.55**	**173**	*e*P	**P**		**01 13 54.2**	**+0.9**
VNDA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
VNDA	**Vanda**	**85.55**	**173**	*e*P	**P**		**01 13 54.2**	**+0.9**
	comp=Z,1.0nm,0.6s,mb3.9							
JOF	**Joensuu**	**86.85**	**333**	*e*pkp	**P**		**01 13 58.5**	**-1.4**
YKU2	**Yakutat**	**87.56**	**31**	*e*P	**P**		**01 14 02.3**	**-1.1**
KEV	**Kevo**	**87.61**	**340**	*e*pkp	**P**		**01 14 02.2**	**-1.2**
BR131	**Keskin Array S**	**87.81**	**310**	*e*P	**P**		**01 14 04.2**	**-0.9**
	comp=Z,3.2nm,0.9s,mb4.3							
BRTR	**Keskin Array B**	**87.81**	**310**	P	**P**		**01 14 04.6**	**-0.5**
	comp=Z,1.8nm,0.7s,mb4.2,baz=123,slow=4.4,SNR=11							
ARCES	**ARCESS Array B**	**88.16**	**340**	P	**P**		**01 14 05.4**	**-0.7**
	comp=Z,6.6nm,0.7s,mb4.8,baz=80,slow=6.6,SNR=29							
ARE0	**ARCESS Array S**	**88.16**	**340**	*e*P	**P**		**01 14 04.4**	**-1.7**
INK	**Inuvik**	**88.77**	**21**	P	**P**		**01 14 09.5**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.3,baz=273,slow=5.7,SNR=16							
INK	**Inuvik**	**88.77**	**21**	*e*P	**P**		**01 14 09.6**	**+0.7**
INK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
INK	**Inuvik**	**88.77**	**21**	*e*P	**P**		**01 14 09.6**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.4							
KAF	**Kangasniemi**	**89.27**	**332**	*e*pkp	**P**		**01 14 10.6**	**-0.8**
FINES	**FINESS Array B**	**89.50**	**332**	P	**P**		**01 14 11.8**	**-0.8**
	comp=Z,4.6nm,0.5s,mb4.8,baz=61,slow=5.4,SNR=50							
FINES				LR	LR		02 02 34.5	
	comp=Z,115nm,19.2s,baz=337,slow=41							
FINES	**FINESS Array B**	**89.50**	**332**	*i* P	**P**		**01 14 11.8**	**-0.7**
FINES				pmax	pmax			
	comp=Z,5.0nm,0.5s							
FINES	**FINESS Array B**	**89.50**	**332**	P	**P**		**01 14 11.8**	**-0.8**
FINES				LR	LR		02 02 34.5	
AKASG	**Malin Array Be**	**89.58**	**321**	P	**P**		**01 14 11.7**	**-1.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=73,slow=4.7,SNR=9.9							
HFS	**Hagfors**	**95

GUC 09 01:50:33.7±0.6, 23.90S×70.43W, h35km±5km, MD4.0, ML2.8, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.22**	**5**	⇑*iP*	P	01 50 39.5	-1.2
ANCH				*i* S	S	01 50 44.8	-0.7
CEN1	**Los Morros**	**0.55**	**23**	*eP*	P	01 50 41.9	-3.1
CEN1				*i* S	S	01 50 48.3	-4.8
CEN1				AMP		01 50 48.7	
	comp=N,2μm,0.2s						
CPN1	**Cerro Paranal**	**0.72**	**178**	⇑*iP*	P	01 50 48.5	+1.1
CPN1				*i* S	S	01 50 58.9	+1.5
CPN1				AMP		01 51 01.5	
	comp=E,703nm,0.1s						
SPCH	**San Pedro de A**	**2.28**	**65**	*eP*	P	01 51 10.7	+1.1
SPCH				*i* S	S	01 51 39.2	+2.5

*IDC **09** 01:54:05.9±1.6, 43.05S×82.28W, mb4.0/7, mb1 4.2/8, mb1mx4.1/15, mbtmp3.9/8, ML3.1/2, MS3.7/7, Ms1 3.7/7, ms1mx3.5/22, Error ellipse: s-maj=49.0km s-min=29.4km az=178.0*
*NEIC **09** 01:54:07.1±0.9, 43.26S×82.30W, h10km, mb4.6/7, Error ellipse: s-maj=23.8km s-min=11.7km az=176.0*
ISC 09 01:54:06.4±1.5, 43.1S±0.3×82.2W±0.2, h10km, n25, σ0$90/17, mb4.3/13, MS3.7/5, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.00**	**78**	Pn	**P**	**01 56 16.3**	**-3.2**
	0.1nm,0.3s,baz=243,slow=14,SNR=2.4						
PLCA				LR	LR	01 59 24.4	
	comp=Z,936nm,19.5s,baz=167,slow=35						
PLCA	**Paso Flores**	**9.00**	**78**	*ePn*	**P**	**01 56 18.9**	**-0.5**
PLCA				LR	LR	01 59 24.4	
CFAA	**Coronel Fontan**	**15.95**	**48**	Pn	**P**	**01 57 53.6**	**+1.0**
	0.0nm,0.3s,baz=209,slow=17,SNR=4.2						
CFAA				LR	LR	02 02 59.1	
	comp=Z,70nm,18.2s,baz=185,slow=33						
CPUP	**Villa Florida**	**26.28**	**58**	*eP*	**P**	**01 59 44.3**	**+0.6**
	25nm,1.1s,mb4.7						
RPN	**Rapa Nui**	**27.19**	**297**	LR	LR	02 07 34.8	
	comp=Z,273nm,20.4s,MS3.8,baz=79,slow=30						
LPAZ	**La Paz**	**29.32**	**28**	P	**P**	**02 00 09.6**	**-1.8**
	3.1nm,1.0s,mb4.0,baz=182,slow=9.3,SNR=6.1						
LPAZ				LR	LR	02 09 30.2	
	comp=Z,45nm,21.1s,MS3.1,baz=251,slow=32						
LPAZ	**La Paz**	**29.32**	**28**	*eP*	**P**	**02 00 12.4**	**+1.0**
	5.7nm,1.2s,mb4.2						
LPAZ				LR	LR	02 09 30.2	
SIV	**San Ignacio**	**32.51**	**40**	P	**P**	**02 00 38.2**	**-1.3**
	2.5nm,1.0s,mb4.1,baz=224,slow=14,SNR=6.9						
SAML	**Samuel**	**37.90**	**32**	*eP*	**P**	**02 01 25.2**	**-0.3**
	23nm,0.9s,mb4.9						
BDFB	**Brasilia**	**40.00**	**57**	P	**P**	**02 01 43.7**	**+0.7**
	8.8nm,1.2s,mb4.3,baz=243,slow=4.5,SNR=3.9						
BDFB				LR	LR	02 18 52.5	
	comp=Z,263nm,18.3s,MS4.1,baz=176,slow=37						
OTAV	**Otavalo**	**43.30**	**5**	*eP*	**P**	**02 02 10.4**	**+0.2**
	13nm,1.4s,mb4.5						
RKT	**Rikitea**	**47.66**	**277**	*eLR*	LR	02 15 47.1	
	163nm,29.2s						
SDV	**Santo Domingo**	**52.83**	**14**	*eP*	**P**	**02 03 24.6**	**+0.1**
	13nm,1.2s,mb4.7						
JTS	**JuntasAbangare**	**53.22**	**357**	LR	LR	02 21 07.7	
	comp=Z,52nm,20.0s,MS3.6,baz=237,slow=30						
VNDA	**Vanda**	**53.47**	**194**	LR	LR	02 22 00.1	
	comp=Z,97nm,19.9s,MS3.9,baz=154,slow=31						
PPT	**Papeete**	**61.78**	**272**	*eLR*	LR	02 22 20.0	
	102nm,22.5s						
TXAR	**Lajitas Array**	**74.76**	**341**	P	**P**	**02 05 47.0**	**-1.4**
	1.2nm,1.1s,mb3.8,baz=149,slow=7.3,SNR=5.6						
ANMO	**Albuquerque**	**80.81**	**340**	*eP*	**P**	**02 06 22.1**	**+0.4**
	8.9nm,1.5s,mb4.5						
DUG	**Dugway**	**87.44**	**337**	*eP*	**P**	**02 06 56.1**	**+1.1**
	3.5nm,1.3s,mb4.4						
NVAR	**Mina Array Bea**	**87.55**	**332**	P	**P**	**02 06 56.1**	**+0.5**
	0.6nm,0.9s,mb3.8,baz=124,slow=6.5,SNR=3.3						
PDAR	**Pinedale Array**	**88.98**	**340**	P	**P**	**02 07 01.4**	**-0.9**
	0.6nm,1.0s,mb3.9,baz=180,slow=6.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**94.47**	**76**	P	**P**	**02 07 28.5**	**+0.2**
	0.7nm,1.1s,mb4.0,baz=275,slow=1.9,SNR=3.7						
GERES	**GERESS Array B**	**124.13**	**53**	PKP	PKPdf	02 13 04.6	-3.4
	0.6nm,0.7s,baz=180,slow=4.0,SNR=6.3						
BRTR	**Keskin Array B**	**132.81**	**71**	PKP	PKPdf	02 13 22.4	-2.3
	0.4nm,0.7s,baz=117,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**168.41**	**66**	PKPab	PKPab	02 15 23.6	+0.1
	0.7nm,0.9s,baz=315,slow=3.4,SNR=4.4						

*IDC **09** 02:03:41.1±0.9, 43.00S×82.48W, mb4.3/10, mb1 4.4/11, mb1mx4.3/16, mbtmp4.2/11, ML3.9/1, MS3.7/5, Ms1 3.7/5, ms1mx3.5/17, Error ellipse: s-maj=28.0km s-min=22.7km az=126.0*
*NEIC **09** 02:03:43.2±0.7, 43.00S×82.46W, h10km, mb4.6/9, Error ellipse: s-maj=18.1km s-min=12.0km az=174.0*
ISC 09 02:03:41.7±0.7, 43.1S±0.1×82.3W±0.1, h10km, n28, σ0$81/24, mb4.4/17, MS3.8/3, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.03**	**79**	Pn	**P**	**02 05 56.1**	**+1.0**
	0.3nm,0.3s,baz=260,slow=12,SNR=6.3						
PLCA				LR	LR	02 08 58.7	
	comp=Z,795nm,19.4s,baz=189,slow=35						
PLCA	**Paso Flores**	**9.03**	**79**	*ePn*	**P**	**02 05 55.5**	**+0.3**
CFAA	**Coronel Fontan**	**15.95**	**49**	Pn	**P**	**02 07 27.1**	**-0.7**
	0.1nm,0.3s,baz=215,slow=11,SNR=5.6						
CFAA				LR	LR	02 12 34.0	
	comp=Z,50nm,18.0s,baz=191,slow=33						
TRQA	**Tornquist**	**16.19**	**79**	P	**P**	**02 07 35.3**	**+4.5**
	17nm,0.9s						
CPUP	**Villa Florida**	**26.29**	**59**	*eP*	**P**	**02 09 19.4**	**+0.3**
	30nm,1.0s,mb4.8						
LPAZ	**La Paz**	**29.29**	**29**	P	**P**	**02 09 47.0**	**+0.5**
	4.0nm,1.0s,mb4.1,baz=149,slow=8.7,SNR=7.0						
LPAZ				LR	LR	02 20 07.6	
	comp=Z,66nm,18.1s,MS3.3,baz=32,slow=34						
LPAZ	**La Paz**	**29.29**	**29**	*eP*	**P**	**02 09 47.2**	**+0.8**
	3.1nm,1.0s,mb4.0						
LPAZ				LR	LR	02 20 07.6	
SIV	**San Ignacio**	**32.49**	**40**	P	**P**	**02 10 14.0**	**-0.6**
	6.3nm,1.1s,mb4.4,baz=227,slow=10,SNR=14						
SAML	**Samuel**	**37.87**	**32**	*eP*	**P**	**02 11 00.3**	**-0.3**
	12nm,1.1s,mb4.5						
BDFB	**Brasilia**	**40.01**	**57**	P	**P**	**02 11 18.8**	**+0.4**
	8.8nm,1.0s,mb4.5,baz=154,slow=2.7,SNR=7.9						
BDFB				LR	LR	02 28 07.2	
	comp=Z,281nm,18.4s,MS4.1,baz=186,slow=37						
OTAV	**Otavalo**	**43.25**	**6**	*eP*	**P**	**02 11 45.5**	**+0.4**
	10nm,1.3s,mb4.4						
JTS	**JuntasAbangare**	**53.16**	**357**	P	**P**	**02 13 00.9**	**-1.2**
	6.2nm,0.9s,mb4.7,baz=272,slow=4.5,SNR=4.6						
VNDA	**Vanda**	**53.52**	**194**	P	**P**	**02 13 03.7**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=63,slow=4.5,SNR=4.3						
VNDA				LR	LR	02 31 25.1	
	comp=Z,91nm,20.5s,MS3.8,baz=165,slow=31						
VNDA	**Vanda**	**53.52**	**194**	P	**P**	**02 13 03.7**	**-0.3**
VNDA				LR	LR	02 31 25.1	
TXAR	**Lajitas Array**	**74.69**	**341**	P	**P**	**02 15 20.2**	**-3.1**
	1.3nm,1.1s,mb3.8,baz=124,slow=9.8,SNR=4.1						
LAZ	**Ladron**	**80.39**	**339**	*eP*	**P**	**02 15 55.4**	**+0.7**
ANMO	**Albuquerque**	**80.74**	**340**	*eP*	**P**	**02 15 56.5**	**0.0**
	8.5nm,1.2s,mb4.5						
DBIC	**Dimbokro**	**85.39**	**77**	P	**P**	**02 16 21.1**	**+0.3**
	4.0nm,0.7s,mb4.7,baz=205,slow=8.3,SNR=8.8						
DUG	**Dugway**	**87.37**	**337**	*eP*	**P**	**02 16 30.7**	**+0.8**
	4.9nm,1.2s,mb4.6						
NVAR	**Mina Array Bea**	**87.47**	**332**	P	**P**	**02 16 31.6**	**+1.1**
	0.6nm,0.7s,mb3.9,baz=171,slow=7.2,SNR=4.2						
HWUT	**Hardware Ranch**	**88.34**	**338**	*eP*	**P**	**02 16 35.3**	**+0.8**
	6.4nm,1.2s,mb4.7						
ELK	**Elko**	**88.59**	**336**	P	**P**	**02 16 35.8**	**0.0**
	3.2nm,1.2s,mb4.5						
PDAR	**Pinedale Array**	**88.91**	**340**	P	**P**	**02 16 36.6**	**-0.6**
	1.0nm,1.0s,mb4.1,baz=146,slow=5.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**94.50**	**76**	P	**P**	**02 17 02.4**	**-1.3**
	1.3nm,1.0s,mb4.3,baz=260,slow=4.4,SNR=4.1						
GERES	**GERESS Array B**	**124.13**	**53**	PKP	PKPdf	02 22 39.8	-3.4
	1.9nm,0.8s,baz=225,slow=1.9,SNR=14						
BRTR	**Keskin Array B**	**132.84**	**71**	PKP	PKPdf	02 22 57.5	-2.5
	0.7nm,0.7s,baz=176,slow=2.0,SNR=4.9						
ZAL	**Zalesovo**	**166.17**	**34**	PKPab	PKPab	02 24 48.1	-0.7
	1.0nm,0.7s,baz=146,slow=4.4,SNR=4.6						
MKAR	**Makanchi Array**	**168.43**	**66**	PKPab	PKPab	02 24 58.8	-0.1
	1.2nm,0.8s,baz=304,slow=4.4,SNR=8.4						

*IDC **09** 02:32:46.1±0.7, 45.44N×27.83W, mb3.9/17, mb1 4.0/19, mb1mx3.9/30, mbtmp3.9/19, ML3.8/2, MS3.9/17, Ms1 3.9/17, ms1mx3.8/31, Error ellipse: s-maj=20.5km s-min=14.7km az=19.0*
*NEIC **09** 02:32:47.8±0.6, 45.45N×27.76W, h10km, mb4.1/27, Error ellipse: s-maj=12.6km s-min=6.9km az=19.0*
*CSEM **09** 02:32:47.7±0.5, 45.36N×27.47W, h10km, mb4.6/11, Ms3.6, Error ellipse: s-maj=12.3km s-min=6.2km az=83.0*
ISC 09 02:32:45.9±0.6, 45.46N±0.08×27.79W±0.08, h10km, n90, σ0$93/79, mb4.1/28, MS3.9/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**13.73**	**94**	P	**P**	**02 35 58.8**	**-4.1**
	11nm,0.4s						
EMAZ	**Mazaricos**	**13.73**	**94**	P	**P**	**02 35 58.8**	**-4.1**
	11nm,0.4s,SNR=15						
STS	**Santiago**	**14.04**	**94**	P	**P**	**02 36 03.6**	**-3.5**
	7.4nm,0.4s						
STS	**Santiago**	**14.04**	**94**	P	**P**	**02 36 03.6**	**-3.5**
	7.4nm,0.4s,SNR=9.2						
ELOB	**Lobios**	**14.72**	**97**	P	**P**	**02 36 13.4**	**-2.5**
	3.6nm,0.8s,SNR=7.9						
EPON	**Pontenova**	**14.91**	**91**	P	**P**	**02 36 16.2**	**-2.2**
	13nm,1.0s						
EPON	**Pontenova**	**14.91**	**91**	P	**P**	**02 36 16.2**	**-2.2**
	13nm,1.0s,SNR=4.7						
EARI	**Arriondas**	**16.28**	**90**	P	**P**	**02 36 35.0**	**-1.1**
	15nm,1.3s						
EARI	**Arriondas**	**16.28**	**90**	P	**P**	**02 36 35.0**	**-1.1**
	15nm,1.3s,SNR=6.8						
EBAD	**Badajoz**	**16.79**	**106**	P	**P**	**02 36 41.3**	**-1.3**
	3.4nm,1.1s						
EBAD	**Badajoz**	**16.79**	**106**	P	**P**	**02 36 41.3**	**-1.2**
	3.4nm,1.1s,SNR=4.0						
ROSF	**Rostrenen**	**16.98**	**71**	*eP*	**P**	**02 36 44.8**	**-0.2**
QUIF	**Quistinic**	**17.06**	**73**	*eP*	**P**	**02 36 45.8**	**-0.1**
	45nm,1.0s						
SGMF	**Saint Gilles**	**17.46**	**72**	*eP*	**P**	**02 36 50.9**	**-0.1**
EMIN	**Mina Concepcio**	**17.53**	**109**	P	**P**	**02 36 51.6**	**-0.3**
	6.4nm,1.1s						
EMIN	**Mina Concepcio**	**17.53**	**109**	P	**P**	**02 36 51.6**	**-0.3**
	6.4nm,1.1s,SNR=7.9						
GUD	**Guadarrama**	**17.91**	**97**	P	**P**	**02 36 57.0**	**+0.4**
	1.6nm,0.7s						
GUD	**Guadarrama**	**17.91**	**97**	P	**P**	**02 36 57.0**	**+0.4**
	1.6nm,0.7s,SNR=7.9						
ESDC	**Sonseca Array**	**18.45**	**100**	P	**P**	**02 37 05.2**	**+1.8**
	0.2nm,0.3s,baz=293,slow=10,SNR=5.2						
ESDC	**Sonseca Array**	**18.45**	**100**	P	**P**	**02 37 04.7**	**+1.4**
	2.5nm,1.3s						
ESDC	**Sonseca Array**	**18.45**	**100**	P	**P**	**02 37 04.7**	**+1.4**
	2.5nm,1.3s,SNR=5.3						
EKA	**Eskdalemuir Ar**	**18.46**	**49**	P	**P**	**02 37 05.2**	**+1.9**
	0.1nm,0.3s,baz=250,slow=8.3,SNR=3.8						
ESPR	**Espera**	**18.57**	**110**	P	**P**	**02 37 07.2**	**+2.4**
	5.1nm,0.9s						
ESPR	**Espera**	**18.57**	**110**	P	**P**	**02 37 07.2**	**+2.4**
	5.1nm,0.9s,SNR=7.9						
GRR	**Gorron**	**18.59**	**71**	*eP*	**P**	**02 37 04.5**	**-0.6**
EADA	**Adamuz**	**18.73**	**105**	P	**P**	**02 37 08.4**	**+1.6**
	1.6nm,0.9s						
EADA	**Adamuz**	**18.73**	**105**	P	**P**	**02 37 08.4**	**+1.6**
	1.6nm,0.9s,SNR=7.9						
FLN	**La Foliniere**	**18.84**	**70**	*eP*	**P**	**02 37 07.8**	**-0.2**
FLN				*eR*			
	460nm,23.0s						
LDF	**La Druitiere**	**19.08**	**71**	*eP*	**P**	**02 37 11.0**	**+0.1**
MFF	**Saint Martin d**	**19.20**	**77**	*eP*	**P**	**02 37 12.3**	**0.0**
EMIJ	**Mijas**	**19.46**	**109**	P	**P**	**02 37 18.0**	**+2.6**
	6.6nm,0.9s						
EMIJ	**Mijas**	**19.46**	**109**	P	**P**	**02 37 18.0**	**+2.6**
	6.6nm,0.9s,SNR=7.9						
ECOG	**Cogollos-Vega**	**19.88**	**106**	P	**P**	**02 37 21.1**	**+1.0**
	4.7nm,1.3s,SNR=5.7						
EVIA	**Vianos**	**19.93**	**101**	P	**P**	**02 37 20.4**	**-0.3**
	4.0nm,1.2s						
EVIA	**Vianos**	**19.93**	**101**	P	**P**	**02 37 20.4**	**-0.3**
	4.0nm,1.2s,SNR=7.9						
LFF	**La Frestale**	**20.07**	**81**	*eP*	**P**	**02 37 22.0**	**-0.1**
EBER	**Berja**	**20.54**	**106**	P	**P**	**02 37 28.4**	**+1.4**
	5.1nm,0.7s						
RJF	**Les Rejaudoux**	**20.54**	**80**	*eP*	**P**	**02 37 26.5**	**-0.5**
TCF	**Toulx Ste Croi**	**20.85**	**77**	*eP*	**P**	**02 37 30.3**	**+0.1**
	25nm,0.9s						
CAF	**Calviac**	**21.00**	**81**	*eP*	**P**	**02 37 31.9**	**+0.2**
	46nm,1.5s						
HYF	**Humbligny**	**21.02**	**74**	*eP*	**P**	**02 37 31.9**	**0.0**
BGF	**Bois d'Agland**	**21.25**	**76**	*eP*	**P**	**02 37 34.4**	**+0.1**
	43nm,1.1s,mb4.4						
MTLF	**Montolieu**	**21.49**	**85**	*eP*	**P**	**02 37 36.4**	**-0.3**
	153nm,1.9s,mb4.7						
AVF	**Avril sur Loir**	**21.56**	**75**	*eP*	**P**	**02 37 37.5**	**+0.1**
	30nm,1.0s,mb4.4						
SSF	**Saint Saulge**	**21.63**	**74**	*eP*	**P**	**02 37 38.3**	**+0.2**
	18nm,1.0s,mb4.5						
LOR	**Lormes**	**21.84**	**74**	*eP*	**P**	**02 37 40.6**	**+0.4**
	24nm,1.0s,mb4.3						
LOR				*eR*			
	529nm,21.2s						
MDT	**Midelt**	**21.87**	**117**	P	**P**	**02 37 40.6**	**0.0**
	2.6nm,0.9s,mb3.7,baz=316,slow=10,SNR=5.3						
MDT				LR	LR	02 45 08.7	
	comp=Z,152nm,18.7s,MS3.4,baz=316,slow=34						
SMF	**Signal de Mont**	**21.91**	**75**	*eP*	**P**	**02 37 41.1**	**+0.1**
	68nm,1.5s,mb4.6						
MEZF	**Maizieres J'vi**	**22.52**	**70**	*eP*	**P**	**02 37 46.9**	**0.0**
	24nm,1.0s,mb4.3						
CABF	**La Chapelle**	**23.45**	**75**	*eP*	**P**	**02 37 56.3**	**+0.3**
	94nm,1.6s,mb4.7						
ORIF	**Oris-en-Rattie**	**23.64**	**79**	*eP*	**P**	**02 37 58.3**	**+0.4**
ORIF				*eR*			
	419nm,20.5s						
HINF	**Hinteralfeld**	**23.79**	**72**	*eP*	**P**	**02 37 59.8**	**+0.5**
MBDF	**Montbardon**	**24.30**	**79**	*eP*	**P**	**02 38 04.6**	**+0.3**
	52nm,1.4s,mb4.5						
FRF	**La Foret Royal**	**24.52**	**82**	*eP*	**P**	**02 38 06.7**	**+0.2**
SBF	**Sospel**	**24.99**	**81**	*eP*	**P**	**02 38 11.0**	**+0.1**
	48nm,0.9s,mb4.7						
DAVOX	**Davos**	**25.99**	**73**	P	**P**	**02 38 21.3**	**+1.0**
	1.7nm,0.8s,mb3.6,baz=304,slow=15,SNR=3.7						
DAVOX				LR	LR	02 47 44.1	
	comp=Z,254nm,21.0s,MS3.7,baz=277,slow=34						
PGF	**Pioggiola**	**26.48**	**83**	*eP*	**P**	**02 38 24.7**	**-0.1**
	140nm,1.2s,mb5.1						
NOA	**NORSAR Array B**	**27.53**	**42**	LR	LR	02 48 14.8	
	comp=Z,93nm,18.0s,MS3.4,baz=255,slow=34						
GERES	**GERESS Array B**	**28.17**	**68**	P	**P**	**02 38 40.3**	**+0.1**
	1.0nm,1.0s,mb3.4,baz=304,slow=4.8,SNR=5.8						
GERES				LR	LR	02 49 04.2	
	comp=Z,252nm,18.9s,MS3.8,baz=271,slow=35						
HFS	**Hagfors**	**28.49**	**44**	LR	LR	02 48 03.3	
	comp=Z,128nm,20.4s,MS3.5,baz=250,slow=32						
VRAC	**Vranov**	**29.97**	**66**	LR	LR	02 50 40.1	
	comp=Z,258nm,19.9s,MS3.9,baz=315,slow=36						
FINES	**FINESS Array B**	**34.68**	**43**	P	**P**	**02 39 36.9**	**-0.5**
	6.1nm,1.2s,mb4.4,baz=263,slow=11,SNR=3.7						
FINES				LR	LR	02 52 06.5	
	comp=Z,87nm,19.9s,MS3.5,baz=340,slow=33						
ARCES	**ARCESS Array B**	**35.62**	**29**	P	**P**	**02 39 45.0**	**-0.3**
	0.8nm,0.6s,mb3.8,baz=231,slow=7.8,SNR=3.6						
AKASG	**Malin Array Be**	**37.64**	**61**	P	**P**	**02 40 02.5**	**0.0**
	1.6nm,0.7s,mb3.9,baz=279,slow=9.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**40.77**	**133**	P	**P**	**02 40 28.1**	**-0.7**
	2.8nm,0.9s,mb3.9,baz=323,slow=6.9,SNR=14						
DBIC	**Dimbokro**	**43.46**	**146**	P	**P**	**02 40 50.5**	**-0.5**
	4.3nm,1.1s,mb4.1,baz=331,slow=7.8,SNR=3.3						
DBIC				LR	LR	02 57 25.8	
	comp=Z,218nm,18.8s,MS4.1,baz=312,slow=34						
ULM	**Lac du Bonnet**	**44.50**	**302**	LR	LR	02 57 52.7	
	comp=Z,245nm,19.8s,MS4.1,baz=64,slow=34						
BR131	**Keskin Array S**	**44.62**	**75**	*eP*	**P**	**02 41 01.4**	**+1.3**
	4.0nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**44.62**	**75**	P	**P**	**02 41 01.4**	**+1.3**
	3.4nm,0.9s,mb4.2,baz=297,slow=5.5,SNR=11						
YKA	**Yellowknife Ar**	**49.66**	**323**	P	**P**	**02 41 38.9**	**-0.3**
	0.9nm,0.9s,mb3.8,baz=73,slow=6.4,SNR=2.9						
YKA				LR	LR	03 00 41.6	
	comp=Z,99nm,18.0s,MS3.9,baz=55,slow=34						
YKA	**Yellowknife Ar**	**49.66**	**323**	P	**P**	**02 41 38.9**	**-0.3**
YKA				LR	LR	03 00 41.6	
INK	**Inuvik**	**53.95**	**334**	P	**P**	**02 42 09.6**	**-1.8**
	1.0nm,1.0s,mb3.7,baz=112,slow=3.5,SNR=3.4						
INK	**Inuvik**	**53.95**	**334**	P	**P**	**02 42 09.6**	**-1.8**
PDAR	**Pinedale Array**	**56.30**	**299**	P	**P**	**02 42 29.8**	**+0.9**
	1.4nm,1.1s,mb3.9,baz=72,slow=4.7,SNR=5.9						
PDAR				LR	LR	03 04 52.9	
	comp=Z,250nm,19.8s,MS4.3,baz=48,slow=34						
ROSC	**El Rosal**	**57.17**	**239**	LR	LR	03 02 36.7	
	comp=Z,88nm,18.9s,MS3.9,baz=8.2,slow=31						
BVAR	**Borovoye Array**	**59.63**	**44**	P	**P**	**02 42 52.2**	**+0.1**
	1.1nm,0.7s,mb4.0,baz=307,slow=7.4,SNR=6.3						
TXAR	**Lajitas Array**	**60.25**	**283**	P	**P**	**02 42 56.2**	**-0.5**
	1.4nm,0.8s,mb4.0,baz=63,slow=5.6,SNR=12						
TXAR				LR	LR	03 08 36.1	
	comp=Z,286nm,19.2s,MS4.4,baz=335,slow=36						
ILAR	**Eielson Array**	**60.33**	**334**	P	**P**	**02 42 56.5**	**-0.1**
	0.4nm,0.9s,mb3.5,baz=36,slow=6.2,SNR=3.8						
NVAR	**Mina Array Bea**	**64.23**	**299**	LR	LR	03 09 58.6	
	comp=Z,133nm,19.5s,MS4.1,baz=275,slow=35						
ZAL	**Zalesovo**	**65.61**	**37**	LR	LR	03 09 57.9	
	comp=Z,75nm,19.4s,MS3.9,baz=84,slow=34						
MKAR	**Makanchi Array**	**69.51**	**44**	P	**P**	**02 43 56.1**	**-0.3**
	1.3nm,1.0s,mb3.8,baz=329,slow=7.1,SNR=6.6						
MKAR				LR	LR	03 15 37.1	
	comp=Z,68nm,19.4s,MS3.9,baz=270,slow=37						
KMBO	**Kilima Mbogo**	**73.56**	**109**	LR	LR	03 15 30.0	
	comp=Z,81nm,19.0s,MS4.0,baz=72,slow=35						
SONM	**Songino Array**	**78.79**	**30**	P	**P**	**02 44 50.6**	**+0.6**
	1.2nm,0.9s,mb3.8,baz=326,slow=5.3,SNR=4.4						
FITZ	**Fitzroy Crossi**	**144.90**	**48**	PKP	PKPdf	02 52 23.6	-2.8
	2.1nm,0.9s,baz=194,slow=4.7,SNR=3.8						
VNDA	**Vanda**	**147.59**	**184**	PKPbc	PKPdf	02 52 31.5	+2.2
	2.4nm,1.0s,baz=276,slow=4.1,SNR=7.8						
WRA	**Warramunga Arr**	**150.58**	**36**	PKPbc	PKPdf	02 52 38.5	+2.9
	0.9nm,0.8s,baz=330,slow=2.2,SNR=9.0						
WRA				PKPab	PKPab	02 52 46.3	-0.8
	1.6nm,0.9s,baz=340,slow=5.0,SNR=10						

*IDC **09** 02:35:00.5±1.1, 2.70N×127.34E, mb3.8/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=87.5km s-min=18.5km az=71.0*
ISC 09 02:35:03.8±1.0, 2.6N±0.2×127.0E±0.5, h33km, n7, σ0$55/7, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.58**	**184**	P	**P**	**02 39 43.0**	**+0.4**
	1.3nm,0.7s,baz=28,slow=15,SNR=4.6						
WRA	**Warramunga Arr**	**23.50**	**162**	P	**P**	**02 40 12.1**	**+0.3**
	6.3nm,0.8s,mb4.1,baz=344,slow=11,SNR=48						
WRA				PcP	PcP	02 43 59.0	+0.3
	0.2nm,0.5s,baz=336,slow=2.4,SNR=5.5						
WB2	**Warramunga Arr**	**23.51**	**162**	*eP*	**P**	**02 40 11.8**	**-0.1**
STKA	**Stephens Creek**	**36.95**	**159**	P	**P**	**02 42 11.2**	**-0.6**
	4.9nm,0.8s,mb4.4,baz=335,slow=9.0,SNR=7.0						
SONM	**Songino Array**	**48.48**	**342**	P	**P**	**02 43 46.2**	**+0.9**
	0.5nm,0.7s,mb3.6,baz=157,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**58.66**	**326**	P	**P**	**02 44 59.5**	**-0.8**
	0.5nm,0.5s,mb3.8,baz=113,slow=7.9,SNR=5.3						
BVAR	**Borovoye Array**	**68.43**	**327**	P	**P**	**02 46 04.2**	**-0.2**
	0.5nm,0.5s,mb3.9,baz=153,slow=9.7,SNR=3.9						

IDC 09 02:55:11.7±10.0, 29.52S×177.42W, h42km±58km, mb3.5/1, mb1 3.9/1, mb1mx3.4/12, mbtmp3.8/1, Error ellipse: s-maj=224.8km s-min=54.2km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.52**	**302**	P	P	02 55 23.6	+0.9
	97nm,0.3s,baz=59,slow=19,SNR=3.7						
RAO				S	S	02 55 41.0	+10
	367nm,0.3s,baz=100,slow=22,SNR=6.9						
WRA	**Warramunga Arr**	**44.58**	**271**	P

Error ellipse: s-maj=21.4km s-min=17.0km az=119.0
*IDC **09** 03:47:46.3±2.1,30.14S×177.85W,h54km±17km,mb4.0/5, mb1 4.2/5,mb1mx3.9/13,mbtmp4.2/5,MS3.3/1,Ms1 3.3/1, ms1mx2.8/24,Error ellipse: s-maj=28.0km s-min=21.1km az=126.0*

ISC 09 03:47:43.5±3.1,**30.3S**±0.2×**178.0W**±0.2,**h36**km±32km,**n19,** σ1§**03**/13,**mb4.3**/6,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**3**	P	**P**	**03 48 02.7**	**+0.8**
	268nm,0.3s,baz=53,slow=22,SNR=16						
RAO				S	**S**	**03 48 15.5**	**-0.1**
	1μm,0.3s,baz=149,slow=22,SNR=32						
RAO	**Raoul Island**	**1.05**	**3**	*e*Pn	**P**	**03 48 02.9**	**+1.0**
RAO				*e*Sn	**S**	**03 48 13.7**	**-1.8**
DZM	**Mont Dzumac**	**16.20**	**297**	LR	LR	03 56 25.6	
	comp=Z,99nm,19.4s,baz=19,slow=32						
CTA	**Charters Tower**	**33.81**	**279**	P	**P**	**03 54 25.2**	**+0.9**
	6.4nm,0.6s,mb4.8,baz=106,slow=14,SNR=14						
CTAO	**Charters Tower**	**33.81**	**279**	*e*P	**P**	**03 54 25.1**	**+0.7**
	5.2nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**34.52**	**257**	*e*P	**P**	**03 54 31.2**	**+0.8**
	8.0nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**34.52**	**257**	P	**P**	**03 54 31.3**	**+0.9**
	11nm,0.9s,mb4.8,baz=85,slow=8.9,SNR=16						
WRA	**Warramunga Arr**	**44.12**	**272**	P	**P**	**03 55 49.5**	**-0.9**
	4.9nm,0.6s,mb4.5,baz=111,slow=7.9,SNR=38						
VNDA	**Vanda**	**48.19**	**186**	P	**P**	**03 56 22.2**	**+0.4**
	0.5nm,0.8s,mb3.6,baz=3.0,slow=5.6,SNR=4.2						
CASY	**Casey**	**55.23**	**208**	*e*P	**P**	**03 57 12.2**	**-2.6**
	6.2nm,0.6s,mb4.8						
QSPA	**South Pole Qui**	**59.81**	**180**	*e*P	**P**	**03 57 47.0**	**0.0**
NVAR	**Mina Array Bea**	**88.15**	**43**	P	**P**	**04 00 32.3**	**+0.5**
	0.1nm,0.4s,mb3.4,baz=225,slow=5.1,SNR=3.6						
MKAR	**Makanchi Array**	**117.73**	**310**	PKiKP		04 06 25.2	
	0.5nm,0.7s,baz=244,slow=1.2,SNR=6.1						
FINES	**FINESS Array B**	**145.06**	**340**	PKP	PKPdf	04 07 15.8	-0.5
	4.8nm,0.5s,baz=53,slow=4.6,SNR=48						
NOA	**NORSAR Array B**	**148.66**	**351**	PKPbc	PKPdf	04 07 26.3	+4.1
	1.2nm,0.6s,baz=13,slow=4.1,SNR=6.0						
HFS	**Hagfors**	**149.16**	**349**	PKPbc	PKPdf	04 07 27.0	+4.0
	2.6nm,0.6s,baz=90,slow=1.4,SNR=7.6						
AKASG	**Malin Array Be**	**151.24**	**323**	PKPbc	PKPdf	04 07 32.5	+5.9
	2.5nm,0.6s,baz=47,slow=2.8,SNR=13						
BRTR	**Keskin Array B**	**152.57**	**299**	PKPbc	PKPdf	04 07 35.5	+6.6
	0.8nm,0.7s,baz=148,slow=5.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**162.92**	**179**	PKPab	PKPab	04 08 32.2	-1.6
	0.8nm,0.6s,baz=182,slow=2.9,SNR=8.3						

*KRSC **09** 04:28:52.1±0.6,49.52N×157.78E,h18km±13km, ML4.6*
*MOS **09** 04:28:55.6±0.9,49.91N×157.28E,h24km,mb4.4/24, Error ellipse: s-maj=17.2km s-min=6.0km az=76.8*
*IDC **09** 04:28:58.9±0.6,49.96N×157.23E,h32km±4km,mb3.9/18, mb1 4.1/20,mb1mx4.0/27,mbtmp4.1/20,ML3.8/2,MS3.5/2, Ms1 3.5/2,ms1mx3.0/33,Error ellipse: s-maj=18.2km s-min=12.7km az=155.0*
*NEIC **09** 04:28:59.1±0.3,50.01N×157.23E,mb4.3/18,Error ellipse: s-maj=8.4km s-min=5.8km az=166.0*

ISC 09 04:28:52.8±1.4,**49.71N**±0.03×**157.55E**±0.08,**h6**km±8km, **h32**km±1.0km:**pP-P,n107,**σ1§**09**/118,**mb4.2**/35,**MS3.7**/2, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.73**	**313**	*e*P	**Pn**	**04 29 25.7**	**+1.9**
ALID				*e*S	**Sn**	**04 29 49.8**	**+3.4**
PAU	**Pauzhetka**	**1.83**	**345**	*i* P	**Pn**	**04 29 26.1**	**+1.0**
PAU				*e*S	**Sn**	**04 29 50.4**	**+1.6**
PAU				Smax			
	3μm,0.5s						
RUS	**Russkaya**	**2.80**	**12**	P	**Pn**	**04 29 38.5**	**-0.5**
RUS				S	**Sn**	**04 30 13.0**	**-0.5**
RUS	**Russkaya**	**2.80**	**12**	*e*P	**Pn**	**04 29 38.1**	**-0.9**
RUS				*e*S	**Sn**	**04 30 12.0**	**-1.5**
GRL	**Gorelyy**	**2.87**	**6**	*i* P	**Pn**	**04 29 40.5**	**+0.5**
GRL				*e*S	**Sn**	**04 30 16.3**	**+1.0**
KRMR	**Karymshinskiy**	**3.15**	**6**	S	**Sn**	**04 30 23.1**	**+0.7**
APC	**Apacha**	**3.23**	**356**	*i* P	**Pn**	**04 29 45.8**	**+0.6**
APC				Smax			
	130nm,1.3s						
PET	**Petropavlovsk**	**3.40**	**11**	P	**Pn**	**04 29 48.3**	**+0.8**
PET				S	**Sn**	**04 30 30.2**	**+1.6**
PET	**Petropavlovsk**	**3.40**	**11**	*e*P	**Pn**	**04 29 48.7**	**+1.2**
PET				*e*S	**Sn**	**04 30 30.3**	**+1.7**
PET	**Petropavlovsk**	**3.40**	**11**	*e*Pn	**Pn**	**04 29 46.2**	**-1.2**
PET				*e*S	**Sn**	**04 30 31.7**	**+3.2**
UGLR	**Uglovaya**	**3.60**	**12**	*e*P	**Pn**	**04 29 50.6**	**+0.2**
AVH	**Avacha**	**3.64**	**11**	*i* P	**Pn**	**04 29 51.6**	**+0.6**
NLC	**Nalytchevo**	**3.65**	**17**	P	**Pn**	**04 29 49.3**	**-1.8**
NLC	**Nalytchevo**	**3.65**	**17**	*i* P	**Pn**	**04 29 49.7**	**-1.4**
SMAR	**Somma**	**3.65**	**12**	*e*P	**Pn**	**04 29 51.2**	**+0.1**
KOK	**Koryaka**	**3.66**	**10**	*e*P	**Pn**	**04 29 50.1**	**-1.1**
SPN	**Mys Shipunski**	**3.73**	**24**	P	**Pn**	**04 29 51.9**	**-0.4**
SPN				S	**Sn**	**04 30 35.9**	**-1.2**
SPN	**Mys Shipunski**	**3.73**	**24**	*e*P	**Pn**	**04 29 52.0**	**-0.3**
SPN				*e*S	**Sn**	**04 30 35.9**	**-1.2**
GNL	**Ganaly**	**4.00**	**3**	*e*P	**Pn**	**04 29 56.7**	**+0.6**
MKZ	**Mys Kozlova**	**5.50**	**26**	P	**Pn**	**04 30 15.4**	**-1.9**
MKZ	**Mys Kozlova**	**5.50**	**26**	*e*P	**Pn**	**04 30 15.5**	**-1.8**
TUMR	**Tumrok**	**5.81**	**15**	*e*P	**Pn**	**04 30 22.2**	**+0.6**
ESO	**Esso**	**6.27**	**6**	*e*P	**Pn**	**04 30 27.4**	**-0.8**
ESO				Smax			
	30nm,1.6s						
KPT	**Kopyto**	**6.48**	**13**	*e*P	**Pn**	**04 30 31.4**	**+0.3**
KOZ	**Kozyrevsk**	**6.52**	**12**	P	**Pn**	**04 30 32.8**	**+1.1**
KOZ	**Kozyrevsk**	**6.52**	**12**	*e*P	**Pn**	**04 30 32.9**	**+1.2**
KOZR	**Kozyr**	**6.53**	**12**	PN	**Pn**	**04 30 32.8**	**+1.0**
ZLN	**Zelenaya**	**6.62**	**16**	*e*P	**Pn**	**04 30 33.8**	**+0.7**
LGNR	**Loginova**	**6.66**	**15**	*e*P	**Pn**	**04 30 34.3**	**+0.6**
CIRR	**Tsirk**	**6.71**	**16**	*e*P	**Pn**	**04 30 35.0**	**+0.7**
KLY	**Klyuchi**	**6.88**	**15**	P	**Pn**	**04 30 37.0**	**+0.3**
KLY	**Klyuchi**	**6.88**	**15**	*e*P	**Pn**	**04 30 37.2**	**+0.5**
BDR	**Baidarnaya**	**7.22**	**16**	*e*P	**Pn**	**04 30 41.2**	**-0.3**
KBTR	**Krutoberegovo**	**7.25**	**24**	P	**Pn**	**04 30 40.6**	**-1.3**
KBTR	**Krutoberegovo**	**7.25**	**24**	*e*P	**Pn**	**04 30 40.1**	**-1.8**
SRKR	**Sorokina**	**7.29**	**16**	*i* P	**Pn**	**04 30 41.9**	**-0.6**
BKI	**Bering**	**7.53**	**40**	P	**Pn**	**04 30 42.6**	**-3.3**
BKI				*e*S	**Sn**	**04 32 00.6**	**-12**
ASAJ	**Asahikawa**	**11.65**	**247**	Pn	**P**	**04 31 43.2**	**+0.7**
	0.7nm,0.3s,baz=78,slow=9.3,SNR=2.5						
ASAJ				LR	LR	04 35 48.2	
	comp=Z,132nm,19.3s,baz=128,slow=35						
ASAJ	**Asahikawa**	**11.65**	**247**	PN	**P**	**04 31 43.3**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,132nm,19.3s						
KAMR	**Kamenskoye**	**13.64**	**17**	P	**P**	**04 32 08.3**	**-0.7**
BILL	**Bilibino**	**18.90**	**10**	*e*P	**P**	**04 33 14.3**	**-1.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	**Bilibino**	**18.90**	**10**	*e*P	**P**	**04 33 13.8**	**-2.2**
	comp=Z,2.3nm,0.4s						
MJAR	**Matsushiro Arr**	**19.23**	**234**	P	**P**	**04 33 21.8**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=34,slow=8.9,SNR=6.3						
TIXI	**Tiksi**	**25.60**	**339**	*e*P	**P**	**04 34 18.9**	**-5.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
TIXI				MLR	MLR		
	comp=Z,124nm,16.0s,MS3.5						
COLA	**College**	**31.97**	**41**	*e*P	**P**	**04 35 20.7**	**-0.6**
COLA				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.6						
COLA	**College**	**31.97**	**41**	*e*P	**P**	**04 35 20.7**	**-0.6**
	comp=Z,15nm,1.5s,mb4.6						
ILAR	**Eielson Array**	**32.38**	**41**	P	**P**	**04 35 24.0**	**-0.8**
	comp=Z,0.8nm,0.8s,mb3.6,baz=245,slow=7.7,SNR=9.4						
ILAR	**Eielson Array**	**32.38**	**41**	P	**P**	**04 35 24.0**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**37.55**	**35**	P	**P**	**04 36 08.8**	**-0.3**
	comp=Z,1.5nm,0.5s,mb3.9,baz=275,slow=5.9,SNR=20						
INK	**Inuvik**	**37.55**	**35**	P	**P**	**04 36 08.8**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**37.55**	**35**	P	**P**	**04 36 08.8**	**-0.3**
DLBC	**Dease Lake**	**41.41**	**49**	P	**P**	**04 36 43.5**	**+2.3**
	comp=Z,1.8nm,0.6s,mb3.9,baz=258,slow=15,SNR=4.4						
YKA	**Yellowknife Ar**	**46.77**	**40**	P	**P**	**04 37 24.4**	**+0.3**
	comp=Z,3.7nm,0.9s,mb4.3,baz=297,slow=7.5,SNR=18						
YKA				pP	pP	04 37 34.1	+8.2
	comp=Z,2.2nm,0.8s,baz=297,slow=7.8,SNR=12						
YKA	**Yellowknife Ar**	**46.77**	**40**	P	**P**	**04 37 24.4**	**+0.2**
YKA				*PP	pP	04 37 34.1	+8.1
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**46.77**	**40**	P	**P**	**04 37 24.4**	**+0.3**
YKA				pP	pP	04 37 34.1	+8.2
MKAR	**Makanchi Array**	**48.23**	**297**	P	**P**	**04 37 33.8**	**-2.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=58,slow=6.8,SNR=9.0						
MKAR				pP	pP	04 37 44.2	+6.5
	comp=Z,0.5nm,0.4s,baz=50,slow=5.6,SNR=4.1						
MKAR				LR	LR	04 59 23.8	
	comp=Z,102nm,18.4s,MS3.8,baz=248,slow=38						
MKAR	**Makanchi Array**	**48.23**	**297**	P	**P**	**04 37 33.8**	**-2.1**
MKAR				*PP	pP	04 37 44.2	+6.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,102nm,18.5s						
BVAR	**Borovoye Array**	**51.28**	**309**	P	**P**	**04 37 56.6**	**-2.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=60,slow=12,SNR=3.6						
BVAR	**Borovoye Array**	**51.28**	**309**	P	**P**	**04 37 56.6**	**-2.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WVOR	**Wild Horse Val**	**55.73**	**63**	*e*P	**P**	**04 38 32.9**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
WVOR	**Wild Horse Val**	**55.73**	**63**	*e*P	**P**	**04 38 32.9**	**+0.6**
	comp=Z,4.8nm,1.0s,mb4.5						
ARCES	**ARCESS Array B**	**56.01**	**342**	P	**P**	**04 38 31.4**	**-2.5**
	comp=Z,3.6nm,0.9s,mb4.4,baz=39,slow=7.3,SNR=11						
ARCES				pP	pP	04 38 41.3	+5.5
	comp=Z,2.4nm,1.0s,baz=23,slow=9.2,SNR=1.6						
ARCES	**ARCESS Array B**	**56.01**	**342**	P	**P**	**04 38 31.4**	**-2.5**
ARCES				*PP	pP	04 38 41.3	+5.6
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HLID	**Hailey**	**57.42**	**60**	*e*P	**P**	**04 38 44.6**	**+0.3**
	comp=Z,0.8nm,0.5s,mb4.0						
BOZ	**Bozeman (W)**	**57.62**	**56**	*e*P	**P**	**04 38 46.0**	**+0.3**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BOZ	**Bozeman (W)**	**57.62**	**56**	*e*P	**P**	**04 38 46.0**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**58.48**	**66**	P	**P**	**04 38 52.5**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=298,slow=6.1,SNR=5.6						
ELK	**Elko**	**58.77**	**63**	*e*P	**P**	**04 38 54.3**	**+0.5**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ELK	**Elko**	**58.77**	**63**	*e*P	**P**	**04 38 54.3**	**+0.6**
	comp=Z,1.3nm,0.9s,mb4.0						
RRI2	**Red Ridge**	**59.28**	**58**	*e*P	**P**	**04 38 58.5**	**+1.2**
	comp=Z,5.5nm,0.8s,mb4.6						
MOOW	**Moose Ponds**	**59.33**	**57**	*e*P	**P**	**04 38 58.4**	**+0.7**
	comp=Z,1.8nm,0.9s,mb4.1						
LOHW	**Long Hollow**	**59.50**	**57**	*e*P	**P**	**04 38 59.4**	**+0.6**
	comp=Z,1.4nm,0.5s,mb4.2						
HWUT	**Hardware Ranch**	**60.29**	**60**	P	**P**	**04 39 04.7**	**+0.4**
	comp=Z,1.9nm,0.4s,mb4.5						
DUG	**Dugway**	**60.52**	**62**	*e*P	**P**	**04 39 06.1**	**+0.2**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.3						
DUG	**Dugway**	**60.52**	**62**	*e*P	**P**	**04 39 06.1**	**+0.3**
	comp=Z,2.8nm,1.1s,mb4.3						
BW06	**Boulder Array**	**60.63**	**58**	*e*P	**P**	**04 39 06.3**	**-0.2**
	comp=Z,4.5nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	**60.63**	**58**	P	**P**	**04 39 07.2**	**+0.6**
	comp=Z,3.1nm,0.9s,mb4.5,baz=318,slow=2.8,SNR=22						
PDAR				pP	pP	04 39 16.8	+8.4
	comp=Z,1.0nm,0.9s,baz=288,slow=4.7,SNR=3.7						
FINES	**FINESS Array B**	**62.59**	**336**	P	**P**	**04 39 16.1**	**-3.4**
	comp=Z,2.5nm,1.0s,mb4.3,baz=34,slow=6.9,SNR=5.0						
FINES	**FINESS Array B**	**62.59**	**336**	P	**P**	**04 39 16.1**	**-3.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
RSSD	**Black Hills**	**62.66**	**53**	*e*P	**P**	**04 39 20.2**	**0.0**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
RSSD	**Black Hills**	**62.66**	**53**	*e*P	**P**	**04 39 20.2**	**-0.1**
	comp=Z,2.0nm,0.4s,mb4.6						
NB2	**NORSAR Subarra**	**66.33**	**343**	P	**P**	**04 39 41.5**	**-2.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=23,slow=6.5						
NB2	**NORSAR Subarra**	**66.33**	**343**	P	**P**	**04 39 41.5**	**-2.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**66.33**	**343**	P	**P**	**04 39 41.5**	**-2.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=23,slow=6.5,SNR=7.8						
NOA	**NORSAR Array B**	**66.33**	**343**	P	**P**	**04 39 41.5**	**-2.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**66.33**	**343**	P	**P**	**04 39 41.5**	**-2.2**
HFS	**Hagfors**	**66.67**	**341**	P	**P**	**04 39 44.0**	**-1.8**
	comp=Z,1.3nm,0.5s,mb4.2,baz=45,slow=4.2,SNR=8.6						
HFS	**Hagfors**	**66.67**	**341**	P	**P**	**04 39 44.0**	**-1.9**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ANMO	**Albuquerque**	**67.78**	**62**	*e*P	**P**	**04 39 54.1**	**+0.7**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ANMO	**Albuquerque**	**67.78**	**62**	*e*P	**P**	**04 39 54.1**	**+0.7**
	comp=Z,0.7nm,0.4s,mb4.0						
AKASG	**Malin Array Be**	**70.68**	**328**	P	**P**	**04 40 08.1**	**-2.7**
	comp=Z,0.3nm,0.2s,mb3.8,baz=29,slow=6.3,SNR=4.1						
MNTX	**Cornudas Mount**	**70.75**	**64**	*e*P	**P**	**04 40 11.8**	**+0.1**
	comp=Z,3.3nm,1.4s,mb4.1						
WMOK	**Wichita Mounta**	**72.24**	**57**	*e*P	**P**	**04 40 20.2**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
WMOK	**Wichita Mounta**	**72.24**	**57**	*e*P	**P**	**04 40 20.2**	**-0.3**
	comp=Z,2.2nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**72.33**	**203**	P	**P**	**04 40 21.8**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.3,baz=20,slow=6.4,SNR=14						
WRA				pP	pP	04 40 32.0	+8.8
	comp=Z,2.8nm,0.7s,baz=19,slow=6.2,SNR=9.7						
WRA	**Warramunga Arr**	**72.33**	**203**	P	**P**	**04 40 21.8**	**+0.5**
WRA				*PP	pP	04 40 32.0	+8.8
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LTX	**Lajitas**	**73.49**	**64**	*e*P	**P**	**04 40 28.5**	**+0.6**
LTX				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LTX	**Lajitas**	**73.49**	**64**	*e*P	**P**	**04 40 28.5**	**+0.6**
	comp=Z,4.5nm,0.7s,mb4.5						
TXAR	**Lajitas Array**	**73.49**	**64**	P	**P**	**04 40 28.7**	**+0.8**
	comp=Z,3.1nm,0.7s,mb4.4,baz=299,slow=5.2,SNR=46						
TXAR				pP	pP	04 40 37.9	+8.1
	comp=Z,0.9nm,0.5s,baz=293,slow=4.3,SNR=6.3						
TXAR	**Lajitas Array**	**73.49**	**64**	P	**P**	**04 40 28.7**	**+0.8**
TXAR				*PP	pP	04 40 37.9	+8.1
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**73.49**	**64**	P	**P**	**04 40 28.7**	**+0.8**
TXAR				pP	pP	04 40 37.9	+8.1
EKA	**Eskdalemuir Ar**	**74.10**	**349**	P	**P**	**04 40 30.1**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.2,baz=16,slow=4.9,SNR=10						
EKA	**Eskdalemuir Ar**	**74.10**	**349**	P	**P**	**04 40 30.1**	**-0.8**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GEC2	**GERESS Array S**	**77.02**	**336**	*e*P	**P**	**04 40 47.1**	**-0.5**
BRTR	**Keskin Array B**	**78.18**	**319**	P	**P**	**04 40 53.6**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=72,slow=3.9,SNR=4.3						
BRTR	**Keskin Array B**	**78.18**	**319**	P	**P**	**04 40 53.7**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAVOX	**Davos**	**79.89**	**338**	P	**P**	**04 41 03.5**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=2.1,slow=11,SNR=7.0						

*NEIC **09** 04:39:58.8±0.4,51.53N×16.16E,h5km,ML2.9(SZGRF), ML2.3(CLL),Error ellipse: s-maj=5.6km s-min=4.7km az=59.0*
*IDC **09** 04:39:59.7±0.9,51.39N×16.09E,mb1 3.5/5, mb1mx3.3/21,mbtmp3.4/5,ML2.9/5,Error ellipse: s-maj=14.4km s-min=7.7km az=98.0*
*IPEC **09** 04:39:59.3±2.2,51.51N×16.20E,ML2.1/4,Error ellipse: s-maj=19.8km s-min=14.8km az=72.0*
*WAR **09** 04:40:01,51.44N×16.12E,ML3.0,Mining Induced*
*CSEM **09** 04:40:01.0±0.2,51.43N×16.11E,h2km,ML3.2/6,Error ellipse: s-maj=4.1km s-min=2.5km az=173.0*
*PRU **09** 04:40:01.4,51.42N×16.07E*
*VIE **09** 04:40:02.7±0.5,51.21N×16.16E,mb2.4/3,ML2.8/3,Error ellipse: s-maj=6.9km s-min=2.9km az=119.0,Suspected Mining induced.*

ISC 09 04:39:58.4±0.5,**51.41N**±0.03×**16.10E**±0.03,**n42,**σ1§**24**/90, **3C-3D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58**	**168**	⇓*i*PG	**Pg**	**04 40 12.2**	**+2.2**
KSP				⇓*e*SG	**Sg**	**04 40 20.2**	**+2.4**
KSP	**Ksiaz**	**0.58**	**168**	*e*Pg	**Pg**	**04 40 12.2**	**+2.2**
KSP				*e*Sg	**Sg**	**04 40 20.6**	**+2.8**
KSP	**Ksiaz**	**0.58**	**168**	⇓*i*Pg	**Pg**	**04 40 12.2**	**+2.2**
KSP				*e*Sg	**Sg**	**04 40 20.3**	**+2.5**
KSP				*e*		04 40 25.2	
KSP	**Ksiaz**	**0.58**	**168**	*e*Pg	**Pg**	**04 40 12.0**	**+2.0**
KSP				*e*Sg	**Sg**	**04 40 20.3**	**+2.5**
UPC	**Upice**	**0.91**	**184**	*e*PG	**Pg**	**04 40 18.2**	**+1.7**
DPC	**Dobruska-Polom**	**1.07**	**172**	*e*PG	**Pg**	**04 40 20.9**	**+1.1**
DPC				*e*SG	**Sg**	**04 40 35.5**	**+1.4**
	47nm,0.6s						
DPC	**Dobruska-Polom**	**1.07**	**172**	*e*Pg	**Pg**	**04 40 20.9**	**+1.1**
DPC				*e*Sg	**Sg**	**04 40 35.6**	**+1.5**
PVCC	**Panska Ves**	**1.31**	**228**	*e*PG	**Pg**	**04 40 25.5**	**+0.9**
PVCC				*e*SG	**Sg**	**04 40 44.3**	**+2.3**
BRG	**Berggiesshubel**	**1.46**	**249**	Pn	**Pn**	**04 40 26.6**	**+0.6**
BRG				Pg	**Pg**	**04 40 28.1**	**+0.6**
BRG				Sg	**Sg**	**04 40 48.1**	**+1.0**
PRA	**Prague**	**1.71**	**219**	SG	**Sg**	**04 40 55.0**	**-0.3**
PRU	**Pruhonice**	**1.74**	**215**	*e*PN	**Pn**	**04 40 31.2**	**+1.2**
PRU				*e*PG	**Pg**	**04 40 32.8**	**-0.2**
PRU				*e*SG	**Sg**	**04 40 56.4**	**+0.2**
	31nm,0.5s						
RUE	**Ruedersdorf**	**1.79**	**308**	*e*Pn	**Pn**	**04 40 29.8**	**-1.0**
RUE				*e*Sn	**Sn**	**04 40 53.3**	**-1.3**
MORC	**Moravsky Berou**	**1.88**	**150**	*e*Pn	**Pn**	**04 40 31.9**	**-0.2**
MORC				*e*Sn	**Sn**	**04 40 54.3**	**-2.4**
MORC				*e*Sg	**Sg**	**04 40 59.3**	**-1.5**
MORC	**Moravsky Berou**	**1.88**	**150**	*e*Pn	**Pn**	**04 40 33.1**	**+1.1**
MORC				*e*Sg	**Sg**	**04 40 59.1**	**-1.8**
	13nm,0.2s						
CLL	**Collm**	**1.95**	**268**	*e*PN	**Pn**	**04 40 33.0**	**0.0**
CLL				*e*PG	**Pg**	**04 40 36.0**	**-1.2**
CLL				*i*		04 40 40.1	
CLL				*i* SG	**Sg**	**04 41 03.7**	**+0.6**
CLL	**Collm**	**1.95**	**268**	*e*Pn	**Pn**	**04 40 33.0**	**0.0**
CLL				*e*Pg	**Pg**	**04 40 36.0**	**-1.2**
CLL				*i* Sg	**Sg**	**04 41 03.7**	**+0.6**
OKC	**Ostrava-Krasne**	**2.04**	**140**	*e*PG	**Pg**	**04 40 38.2**	**-1.0**
OKC				*e*SG	**Sg**	**04 41 04.5**	**-1.9**
OKC	**Ostrava-Krasne**	**2.04**	**140**	*e*Pn	**Pn**	**04 40 35.1**	**+0.7**
OKC	**Ostrava-Krasne**	**2.04**	**140**	*e*Pg	**Pg**	**04 40 38.2**	**-1.0**
OKC				*e*Sg	**Sg**	**04 41 04.8**	**-1.6**
VRAC	**Vranov**	**2.13**	**171**	Pn	**Pn**	**04 40 35.9**	**+0.2**
	1.5nm,0.3s,baz=346,slow=12,SNR=10						
VRAC				Pg	**Pg**	**04 40 38.5**	**-2.4**
	1.5nm,0.3s,baz=351,slow=16,SNR=14						
VRAC				Sn	**Sn**	**04 41 03.5**	**+0.4**
	1.6nm,0.3s,baz=270,slow=20,SNR=3.3						
VRAC				Lg		04 41 09.2	
	4.1nm,0.3s,baz=76,slow=19,SNR=9.2						
VRAC	**Vranov**	**2.13**	**171**	*e*Pn	**Pn**	**04 40 37.7**	**+2.1**
VRAC				*e*Sg	**Sg**	**04 41 09.5**	**+0.2**
	8.1nm,0.2s						
KRUC	**Moravsky**	**2.36**	**175**	*e*Pn	**Pn**	**04 40 41.0**	**+2.1**
KRUC				*e*Sg	**Sg**	**04 41 16.0**	**-0

MCK	McKinley	80.63	22	*e*P		P	04 56 05.0	-0.4	
	1.9nm,0.7s,mb4.0								
ILAR	Eielson Array	81.93	22	P		P	04 56 10.8	-1.4	
	1.2nm,0.8s,mb3.8,baz=253,slow=4.8,SNR=12								
YKA	Yellowknife Ar	95.15	28	P		P	04 57 16.1	+0.6	
	0.4nm,0.8s,mb3.9,baz=264,slow=5.2,SNR=5.7								
YKA	Yellowknife Ar	95.15	28	P		P	04 57 16.1	+0.6	
PDAR	Pinedale Array	98.45	48	LR		LR	05 37 59.4		
	comp=Z,102nm,18.2s,baz=221,slow=33								
AKASG	Malin Array Be	114.73	325	PKP		PKPdf	05 02 32.9	+1.4	
	0.1nm,0.3s,baz=53,slow=1.4,SNR=5.4								
MLR	Muntele Rosu	118.92	320	PKP		PKPdf	05 02 40.0	+0.2	
	2.4nm,0.7s,baz=287,slow=3.6,SNR=3.3								
GERES	GERESS Array B	124.26	329	PKP		PKPdf	05 02 52.2	+2.2	
	0.8nm,0.7s,baz=90,slow=1.3,SNR=7.6								
MDT	Midelt	145.28	326	PKPbc		PKPbc	05 03 32.3	+2.6	
	3.0nm,0.8s,baz=71,slow=4.1,SNR=12								
TORD	Torodi Ar. Bea	150.75	288	PKPbc		PKPdf	05 03 46.2	+7.7	
	1.4nm,0.4s,baz=81,slow=2.4,SNR=47								
TORD				PKPab		PKPab	05 03 52.9	-0.9	
	1.2nm,0.4s,baz=64,slow=2.0,SNR=17								
BDFB	Brasilia	150.76	134	PKPbc		PKPdf	05 03 45.7	+7.2	
	1.4nm,0.5s,baz=164,slow=3.5,SNR=4.7								

ISC 09 05:06:52.0±0.6, 39.08N±0.03×27.76E±0.05, *h*4km±12km, n9, σ0²70/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AKS	Akhisar	0.20	169	*i* PG		Pg	05 06 57.0	+0.9
BTOK	Tokmak	0.71	17	*i* P		Pg	05 07 06.2	-0.1
BTOK				*i* S		Sg	05 07 17.2	+1.3
KDAG	Bornova	0.78	210	*i* P		Pg	05 07 06.3	-1.3
KDAG				*i* S		Sg	05 07 18.2	+0.3
DST	Dursunbey	0.85	52	*e*PG		Pg	05 07 09.1	0.0
MANT	Manisa	0.85	133	*i* P		Pg	05 07 09.1	0.0
MANT				*i* S		Sg	05 07 20.4	-0.1
AYVA	Ayvalik	0.86	286	*i* P		Pg	05 07 09.6	+0.3
AYVA				*i* S		Sg	05 07 21.1	+0.3
EDC	Edincik	1.27	4	*e*PG		Pg	05 07 16.2	-1.2
KCT	Karacabey	1.27	21	*e*PG		Pg	05 07 16.8	-0.7
AYDN	Tasoluk	1.42	176	*i* P		Pn	05 07 18.2	-0.5
AYDN				*i* S		Sb	05 07 37.5	+0.6

IDC 09 05:09:39.8±4.1, 3.62N×96.27E, mb3.5/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=158.2km s-min=28.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	44.11	124	P		P	05 17 50.1	-1.8
	0.3nm,0.5s,baz=303,slow=9.2,SNR=2.7							
MKAR	Makanchi Array	44.69	346	P		P	05 17 54.1	-2.1
	0.4nm,0.4s,baz=159,slow=8.7,SNR=15							
SONM	Songino Array	44.90	10	P		P	05 17 56.5	-1.5
	0.3nm,0.6s,baz=192,slow=9.0,SNR=5.1							

*MDD **09** 05:10:30.7±2.1,36.53N×9.53E,mb4.6/21, Error ellipse: s-maj=22.6km s-min=10.3km az=115.0*
*CRAAG **09** 05:10:31.1,36.83N×9.70E,Mb4.6*
*LDG **09** 05:10:35.4±0.4,36.69N×9.49E,h10km,Ml3.2/7, Error ellipse: s-maj=7.8km s-min=3.9km az=125.0*
*NEIC **09** 05:10:37.7±0.8,36.88N×9.05E,h10km,ML3.2(LDG), Error ellipse: s-maj=10.4km s-min=5.2km az=151.0*
*CSEM **09** 05:10:37.1±0.3,36.82N×8.84E,h10km,ML3.0/4, Error ellipse: s-maj=6.4km s-min=3.5km az=141.0*
*IDC **09** 05:10:39.0±3.2,36.40N×8.96E,h49km±36km,mb3.2/3, mb1 3.4/6,mb1mx3.2/23,mbtmp3.5/6,ML4.1/2, Error ellipse: s-maj=32.2km s-min=23.3km az=131.0*
ISC 09 05:10:35.7±0.6, 36.96N±0.03×8.99E±0.04, h10km, n71, σ1²11/106, mb3.6/2, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMAH	Djebel Manchou	1.30	256	P		Pb	05 10 59.0	-0.8
ABSA	Djebel Ababsia	1.39	241	P		Pn	05 11 00.0	-1.3
CABS	Djebel Ababsia	1.39	241	P		Pn	05 11 00.0	-1.3
CAEH	'Ain El Ouahch	1.72	265	P		Pn	05 10 58.0	-8.0
CKFL	Kef-Lekhel	1.91	254	P		Pn	05 11 07.0	-1.6
CASM	Ain Smara	2.13	252	P		Pn	05 11 11.0	-0.8
DFRA	Djebel Bou Aff	2.53	262	P		Pn	05 11 16.0	-1.6
VSL	Villasalto	2.55	7	*e*Pn		Pn	05 11 20.3	+2.4
VSL				*e*Sn		Sn	05 11 51.0	+1.6
PGF	Pioggiola	5.58	0	*e*Pn		Pn	05 12 03.6	+2.7
PGF				*e*Sn		Sn	05 13 04.0	-1.9
	1.3nm,0.3s							
ETOS	Mallorca	5.60	302	P		Pn	05 12 01.5	+0.4
	15nm,0.3s,SNR=12							
ETOS				S		Sn	05 13 07.7	+1.3
	5.9nm,0.3s							
ETOS	Mallorca	5.60	302	P		Pn	05 12 01.5	+0.3
	15nm,0.3s,SNR=12							
ETOS				S		Sn	05 13 07.7	+1.3
	5.9nm,0.3s							
EIBI	Ibiza	6.38	291	P		Pn	05 12 13.1	+1.0
	8.5nm,0.3s,SNR=7.9							
EIBI				S		Sn	05 13 28.4	+2.5
	2.8nm,0.3s,SNR=5.0							
EIBI	Ibiza	6.38	291	P		Pn	05 12 13.1	+1.0
	8.5nm,0.3s,SNR=7.9							
EIBI				S		Sn	05 13 28.4	+2.6
	2.8nm,0.3s,SNR=5.0							
LMR	La Mourre	6.64	344	*e*Pn		Pn	05 12 16.6	+0.7
LMR				*e*Sn		Sn	05 13 31.1	-1.3
	3.8nm,0.4s							
FRF	La Foret Royal	6.83	346	*e*Pn		Pn	05 12 18.0	-0.5
FRF				*e*Sn		Sn	05 13 35.3	-1.9
	6.5nm,0.6s							
SBF	Sospel	7.00	351	*e*Pn		Pn	05 12 22.2	+1.4
SBF				*e*Sn		Sn	05 13 39.2	-2.1
	3.1nm,0.3s							
SMRF	Simiane la Rot	7.48	341	*e*Pn		Pn	05 12 27.1	-0.4
SMRF				*e*Sn		Sn	05 13 51.2	-2.0
	0.6nm,0.2s							
EBEN	Beniarda	7.50	286	P		Pn	05 12 27.8	0.0
	2.8nm,0.3s,SNR=7.9							
EBEN				S		Sn	05 13 54.2	+0.4
	3.6nm,0.6s,SNR=7.9							
EBEN	Beniarda	7.50	286	P		Pn	05 12 27.8	0.0
	2.8nm,0.3s,SNR=7.9							
EBEN				S		Sn	05 13 54.2	+0.4
	3.6nm,0.6s,SNR=7.9							
EPOB	Poblet	7.55	308	P		Pn	05 12 27.8	-0.8
	1.6nm,0.3s,SNR=7.9							
EPOB				S		Sn	05 13 55.8	+0.7
	1.5nm,0.4s,SNR=4.0							
EPOB	Poblet	7.55	308	P		Pn	05 12 27.8	-0.8
EPOB				S		Sn	05 13 52.0	-3.1
EPOB	Poblet	7.55	308	P		Pn	05 12 27.8	-0.8
	1.6nm,0.3s,SNR=7.9							
EPOB				S		Sn	05 13 52.0	-3.1
	1.5nm,0.4s,SNR=7.9							
EMIR	Miracle	7.60	313	P		Pn	05 12 29.1	-0.2
	3.4nm,0.2s,SNR=4.6							
EMIR				S		Sn	05 13 56.2	-0.3
	5.6nm,0.4s,SNR=5.2							
EMIR	Miracle	7.60	313	P		Pn	05 12 29.1	-0.2
	3.4nm,0.2s,SNR=4.6							
EMIR				S		Sn	05 13 56.2	-0.2
	5.6nm,0.4s,SNR=5.2							
ERTA	Horta de San J	7.83	303	P		Pn	05 12 33.4	+0.9
	0.5nm,0.2s,SNR=7.9							
ERTA				S		Sn	05 14 03.1	+0.9
	2.3nm,0.4s,SNR=7.9							
ERTA	Horta de San J	7.83	303	P		Pn	05 12 33.4	+0.9
	0.5nm,0.2s,SNR=7.9							
ERTA				S		Sn	05 14 03.1	+0.9
	2.3nm,0.4s,SNR=7.9							
MBDF	Montbardon	7.94	348	*e*Pn		Pn	05 12 33.9	-0.1
LASF	Ste Croix	8.11	333	*e*Pn		P	05 12 36.7	+0.3
LASF				*e*Sn		Sn	05 14 06.2	-2.9
	1.8nm,0.4s							
EMOS	Mosqueruela	8.14	298	P		P	05 12 36.9	+0.1
	7.5nm,0.5s,SNR=5.9							
EMOS				S		Sn	05 14 09.4	-0.5
	2.2nm,0.5s							
EMOS	Mosqueruela	8.14	298	P		P	05 12 36.9	0.0
	7.5nm,0.5s,SNR=5.9							
EMOS				S		Sn	05 14 09.4	-0.5
	2.2nm,0.5s							
EMUR	La Murta	8.19	279	P		P	05 12 37.5	0.0
	5.5nm,0.3s,SNR=8.8							
EMUR				S		Sn	05 14 10.6	-0.5
	6.6nm,0.5s							
EMUR	La Murta	8.19	279	P		P	05 12 37.5	0.0
	5.5nm,0.3s,SNR=8.8							
EMUR				S		Sn	05 14 10.6	-0.5
	6.6nm,0.5s							
MTLF	Montolieu	8.21	323	*e*Pn		P	05 12 38.4	+0.6
MTLF				*e*Sn		Sn	05 14 10.7	-1.0
	3.9nm,0.5s							
EGRA	Graus	8.49	311	P		P	05 12 41.7	0.0
	12nm,0.6s,SNR=11							
EGRA				S		Sn	05 14 22.8	+4.1
	4.9nm,0.5s,SNR=5.3							
ETOB	Tobarra	8.51	285	P		P	05 12 42.0	+0.1
	4.3nm,0.2s,SNR=13							
ETOB				S		Sn	05 14 18.4	-0.6
	4.7nm,0.7s							
ETOB	Tobarra	8.51	285	P		P	05 12 42.0	+0.1
	4.3nm,0.2s,SNR=13							
ETOB				S		Sn	05 14 18.4	-0.6
	4.7nm,0.7s							
VIVF	Saint-Julien-l	8.54	339	*e*Pn		P	05 12 42.4	+0.1
ESAC	San Caprasio	8.73	306	P		P	05 12 46.2	+1.1
	15nm,0.3s,SNR=7.9							
ESAC	San Caprasio	8.73	306	P		P	05 12 46.2	+1.1
	15nm,0.3s,SNR=7.9							
EBIE	Bielsa	8.89	313	P		P	05 12 46.3	-0.8
	2.3nm,0.3s,SNR=6.4							
EBIE				S		Sn	05 14 29.5	+1.1
	1.0nm,0.4s,SNR=4.0							
EBIE	Bielsa	8.89	313	P		P	05 12 46.3	-0.9
	2.3nm,0.3s,SNR=6.4							
EBIE				S		Sn	05 14 29.5	+1.1
	1.0nm,0.4s,SNR=4.0							
EPF	Esparros	8.99	315	*e*Pn		P	05 12 49.4	+0.8
EVIA	Vias	9.25	284	P		P	05 12 52.8	+0.6
	4.0nm,0.5s,SNR=7.9							
ETSF	Etsaut	9.43	312	*e*Pn		P	05 12 55.3	+0.6
EBER	Berja	9.51	273	P		P	05 12 53.7	-2.1
	2.8nm,0.4s							
EBER	Berja	9.51	273	P		P	05 12 53.7	-2.1
	2.8nm,0.4s,SNR=7.0							
CAF	Calviac	9.52	329	*e*Pn		P	05 12 56.2	+0.3
EQES	Quesada	9.64	279	P		P	05 12 57.8	+0.3
	20nm,0.5s,SNR=41							
EQES				S		Sn	05 14 45.4	-1.5
	4.4nm,0.5s							
EQES	Quesada	9.64	279	P		P	05 12 57.8	+0.3
	20nm,0.5s							
EQES				S		Sn	05 14 47.0	+0.1
EQES	Quesada	9.64	279	P		P	05 12 57.8	+0.3
	20nm,0.5s,SNR=41							
EQES				S		Sn	05 14 47.0	+0.1
	4.4nm,0.5s							
EQUE	Quentar	9.94	275	P		P	05 13 03.8	+2.1
	2.0nm,0.3s,SNR=7.9							
SJPF	Ste Jean	9.95	311	*e*Pn		P	05 13 02.3	+0.5
RJF	Les Rejaudoux	10.06	328	*e*Pn		P	05 13 03.2	-0.1
EALK	Alkurruntz	10.18	311	P		P	05 13 04.6	-0.4
	6.2nm,0.4s,SNR=7.9							
EBAN	Banos Encina	10.21	281	P		P	05 13 06.2	+0.7
	1.8nm,0.2s,SNR=7.9							
ESDC	Sonseca Array	10.53	289	P		P	05 13 09.4	-0.4
	0.8nm,0.3s,baz=96,slow=14,SNR=12							
ESDC	Sonseca Array	10.53	289	P		P	05 13 10.6	+0.8
	1.3nm,0.2s,baz=103,slow=14,SNR=8.4							
ESDC	Sonseca Array	10.53	289	P		P	05 13 10.6	+0.8
	1.3nm,0.2s,SNR=8.4							
ELUQ	Luque	10.58	277	P		P	05 13 11.2	+0.7
	2.0nm,0.2s,SNR=4.0							
EADA	Adamuz	10.84	280	P		P	05 13 14.4	+0.4
	0.2nm,0.3s,SNR=7.9							
GUD	Guadarrama	10.89	294	P		P	05 13 15.8	+1.0
	2.7nm,0.4s,SNR=6.8							
EMIJ	Mijas	11.05	272	P		P	05 13 16.7	-0.2
	2.0nm,0.4s,SNR=7.9							
EMIJ				S		S	05 15 17.9	-3.7
	1.6nm,0.4s,SNR=4.0							
EMIJ	Mijas	11.05	272	P		P	05 13 16.7	-0.2
	2.0nm,0.4s							
EMIJ				S		S	05 15 20.5	-1.1
MDT	Midelt	11.91	254	P		P	05 13 24.1	-4.5
	0.1nm,0.3s,baz=61,slow=10,SNR=2.6							
EMIN	Mina Concepcio	12.49	278	P		P	05 13 35.7	-0.7
	0.4nm,0.2s,SNR=7.9							
EBAD	Badajoz	12.78	283	P		P	05 13 40.3	+0.1
	0.5nm,0.3s,SNR=7.9							
ECAL	Calabor	13.13	297	P		P	05 13 46.5	+1.6
	1.2nm,0.3s,SNR=7.9							
BRTR	Keskin Array B	19.52	74	P		P	05 15 04.2	-1.8
	0.1nm,0.3s,baz=281,slow=6.3,SNR=3.8							
AKASG	Malin Array Be	19.96	40	P		P	05 15 11.8	+1.1
	0.7nm,0.5s,baz=235,slow=8.3,SNR=5.7							
TORD	Torodi Ar. Bea	24.59	197	P		P	05 15 49.6	-7.7
	2.7nm,0.9s,mb3.8,baz=12,slow=9.3,SNR=15							
YKA	Yellowknife Ar	71.07	336	P		P	05 21 54.6	-0.9
	0.3nm,0.6s,mb3.4,baz=43,slow=5.7,SNR=7.0							

*IDC **09** 05:29:04.4±1.5,6.56N×126.33E,mb3.9/4,mb1 4.1/4, mb1mx3.7/17,mbtmp3.9/4, Error ellipse: s-maj=156.4km s-min=24.5km az=66.0*
*MAN **09** 05:29:18.0,6.76N×125.98E,h4km,mb4.2,ML3.1,MS2.8*
ISC 09 05:29:11.9±1.0, 6.37N±0.08×126.33E±0.08, h69km±9km, n8, σ0²95/12, mb3.9/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MATI	Mati	0.58	353	*e*P		P	05 29 25.3	-0.3
MATI				*e*S		S	05 29 35.1	-0.4
KCP	Kidapawan	1.38	297	*i*P		P	05 29 35.8	0.0
KCP				*i* S		S	05 29 53.1	-0.4
GSPH	General Santos	1.40	258	*e*P		P	05 29 37.0	+1.0
GSPH				*i* S		S	05 29 53.0	-0.9
BUKP	Musuan	1.96	320	*e*P		P	05 29 43.6	0.0
BUKP				*e*S		S	05 30 09.0	+2.1
WRA	Warramunga Arr	27.31	163	P		P	05 34 52.3	-0.1
	0.9nm,0.5s,mb3.6,baz=343,slow=10,SNR=6.2							
STKA	Stephens Creek	40.73	160	P		P	05 36 48.9	+1.2
	2.7nm,0.7s,mb4.2,baz=335,slow=8.5,SNR=5.1							
MKAR	Makanchi Array	55.18	324	P		P	05 38 37.9	-1.9
	0.3nm,0.6s,mb3.5,baz=111,slow=7.7,SNR=5.4							
ARCES	ARCESS Array B	87.85	340	P		P	05 41 54.3	-0.1
	1.9nm,0.9s,mb4.1,baz=79,slow=6.2,SNR=4.7							

*IDC **09** 05:34:48.8±1.0,16.51S×167.74E,mb4.1/7,mb1 4.4/8, mb1mx4.2/14,mbtmp4.2/8,ML5.3/1,MS4.0/9,Ms1 3.9/9, ms1mx3.8/18, Error ellipse: s-maj=35.3km s-min=21.6km az=109.0*
*NEIC **09** 05:34:50.4±0.5,16.52S×167.80E,h10km,mb4.6/6, Error ellipse: s-maj=17.0km s-min=11.1km az=106.0*
*LDG **09** 05:34:51.1±0.5,16.41S×167.50E,h10km,Mb4.3/2, Error ellipse: s-maj=64.9km s-min=9.0km az=93.0*
ISC 09 05:34:53.0±2.4, 16.6S±0.1×167.6E±0.1, h36km±21km, n41, σ1²14/20, mb4.3/11, MS4.0/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BKM	Butte a Klehm	1.19	151	*i* P		P	05 35 14.2	+0.9
DZM	Mont Dzumac	5.53	192	*e*P		P	05 36 13.9	-1.1
DZM				*e*S		S	05 37 13.4	-4.9
DZM	Mont Dzumac	5.53	192	Pn		P	05 36 14.0	-1.0
	84nm,0.3s,baz=36,slow=15,SNR=688							
DZM				Sn		S	05 37 14.0	-4.3
	67nm,0.3s,baz=314,slow=22,SNR=8.7							
CTAO	Charters Tower	20.58	257	*e*P		P	05 39 32.5	+0.9
	3.9nm,0.8s							
URZ	Urewera	23.10	161	LR		LR	05 47 35.0	
	comp=Z,286nm,21.6s,MS3.7,baz=310,slow=33							
RPZ	Rata Peaks	27.15	175	LR		LR	05 50 01.3	
	comp=Z,227nm,21.6s,MS3.7,baz=335,slow=34							
STKA	Stephens Creek	28.07	233	*e*P		P	05 40 44.2	+0.7
	7.7nm,0.5s,mb4.6							
STKA	Stephens Creek	28.07	233	P		P	05 40 43.9	+0.3
	13nm,0.6s,mb4.7,baz=62,slow=7.5,SNR=31							
STKA				LR		LR	05 51 06.4	
	comp=Z,106nm,19.5s,MS3.4,baz=26,slow=35							
WRA	Warramunga Arr	31.75	259	P		P	05 41 15.4	-1.0
	0.7nm,0.6s,mb3.7,baz=88,slow=8.6,SNR=6.1							
MBWA	Marble Bar	45.41	257	*e*P		P	05 43 11.2	+0.7
	9.2nm,0.9s,mb4.6							
MJAR	Matsushiro Arr	59.74	333	P		P	05 44 54.2	-2.7
	2.5nm,0.6s,mb4.4,baz=164,slow=7.3,SNR=6.7							
VNDA	Vanda	60.98	181	P		P	05 45 04.2	-0.6
	1.5nm,0.9s,mb4.1,baz=348,slow=10,SNR=5.9							
VNDA				LR		LR	06 07 36.6	
	comp=Z,57nm,18.1s,MS3.8,baz=318,slow=32							
VNDA	Vanda	60.98	181	P		P	05 45 04.2	-0.6
VNDA				LR		LR	06 07 36.6	
SBA	Scott Base	61.25	180	*e*P		P	05 45 06.8	+0.2
	3.4nm,0.8s,mb4.5							
QSPA	South Pole Qui	73.41	180	*e*P		P	05 46 23.0	+0.2
	59nm,0.9s,mb5.5							
ULN	Ulaanbaatar	83.87	324	*e*P		P	05 47 20.3	-0.1
	3.5nm,0.9s,mb4.5							
SONM	Songino Array	84.23	324	P		P	05 47 24.1	+1.9
	1.4nm,0.8s,mb4.2,baz=137,slow=4.8,SNR=8.4							
SONM				LR		LR	06 20 07.5	
	comp=Z,88nm,19.5s,MS4.2,baz=286,slow=32							
ILAR	Eielson Array	88.22	18	P		P	05 47 38.9	-2.4
	0.4nm,0.9s,mb3.7,baz=217,slow=5.5,SNR=6.5							
NVAR	Mina Array Bea	88.24	49	P		P	05 47 42.7	+0.6
	0.2nm,0.6s,mb3.5,baz=267,slow=12,SNR=3.8							
NVAR	Mina Array Bea	88.24	49	P		P	05 47 42.7	+0.6
DLBC	Dease Lake	90.45	28	LR		LR	06 25 17.4	
	comp=Z,127nm,18.2s,MS4.4,baz=307,slow=34							
INK	Inuvik	94.57	19	LR		LR	06 23 17.7	
	comp=Z,120nm,20.6s,MS4.3,baz=98,slow=31							
YKA	Yellowknife Ar	99.07	27	LR		LR	06 30 15.9	
	comp=Z,90nm,18.8s,MS4.3,baz=270,slow=34							
ZAL	Zalesovo	99.13	324	LR		LR	06 32 20.3	
	comp=Z,60nm,20.9s,MS4.1,baz=162,slow=35							
ARCES	ARCESS Array B	122.17	345	PKP		PKPdf	05 53 44.8	+1.0
	3.1nm,0.9s,baz=86,slow=2.7,SNR=11							
GERES	GERESS Array B	141.48	332	PKhKP			05 54 17.2	
	0.3nm,0.6s,baz=76,slow=4.0,SNR=4.4							
GERES				PKP		PKPdf	05 54 22.0	+1.5
	0.1nm,0.3s,baz=66,slow=9.7,SNR=5.2							
CDF	Champ du Feu	144.46	337	*e*PKP1		PKPbc	05 54 25.3	0.0
HINF	Hinteralfeld	145.11	337	*e*PKP1		PKPbc	05 54 27.3	+0.2
	6.6nm,0.6s							
HAU	Haudompre	145.14	338	*e*PKP1		PKPbc	05 54 27.7	+0.6
	19nm,0.8s							
MEZF	Maizieres J'vi	145.16	340	*e*PKP1		PKPbc	05 54 28.1	+0.9
CABF	La Chapelle	146.41	337	*e*PKP1		PKPbc	05 54 32.3	+2.0
	25nm,0.9s							
FLN	La Foliniere	146.51	346	*e*PKP1		PKPbc	05 54 30.6	+0.2
	16nm,0.9s							
LDF	La Druitiere	146.59	345	*e*PKP1		PKPbc	05 54 31.5	+0.9
	12nm,0.8s							
LOR	Lormes	146.63	340	*e*PKP1		PKPbc	05 54 32.3	+1.5
	13nm,0.9s							
SSF	Saint Saulge	146.93	340	*e*PKP1		PKPbc	05 54 33.3	+1.8
	16nm,0.8s							
GRR	Gorron	146.95	346	*e*PKP1		PKPbc	05 54 33.0	+1.5
	25nm,1.0s							
SMF	Signal de Mont	147.18	339	*e*PKP1		PKPdf	05 54 33.6	+3.3
AVF	Avril sur Loir	147.22	340	*e*PKP1		PKPdf	05 54 33.7	+3.3
BGF	Bois d'Agland	147.59	340	*e*PKP1		PKPdf	05 54 34.9	+3.9
TCF	Toulx Ste Croi	148.03	341	*e*PKP1		PKPdf	05 54 36.2	+4.5
	29nm,1.2s							
SMRF	Simiane la Rot	148.79	335	*e*PKP1		PKPdf	05 54 36.8	+3.8
	42nm,1.2s							

*KNET **09** 06:02:57.6,41.43N×74.13E,h26km,ml2.0*
*NNC **09** 06:02:57.7±2.8,41.42N×74.09E,mpv2.8, Error ellipse: s-maj=27.9km s-min=8.8km az=176.0*
ISC 09 06:02:56.3±1.8, 41.32N±0.08×74.00E±0.10, h10km, n10, σ0²86/16, 9C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AML	Almayashu	0.85	344	⇓P		Pb	06 03 12.7	+0.1
	29nm,0.1s,SNR=14							
UCH	Uchtor	0.99	23	⇓P		Pb	06 03 14.1	-1.0
	33nm,0.1s,SNR=11							
UCH				⇑S		Sb	06 03 27.1	-0.8
	49nm,0.2s							
KZA	Kyzart	1.21	50	⇓P		Pb	06 03 17.0	-1.7
	9.4nm,0.2s,SNR=16							
EKS2	Erkin-Say	1.36	353	⇓P		Pb	06 03 21.7	+0.3
	6.4nm,0.2s,SNR=35							
EKS2				⇑S		Sb	06 03 37.7	-0.9
	6.3nm,0.1s							
KBK	Karagaybulak	1.51	27	⇓P		Pn	06 03 23.5	-0.2
	8.6nm,0.1s,SNR=32							
KBK				⇓S		Sb	06 03 43.7	+0.5
	34nm,0.2s							
CHMS	Chumysh	1.77	18	⇑P		Pn	06 03 28.2	+0.9
	10nm,0.3s,SNR=8.4							
CHMS				⇑S		Sn	06 03 51.1	+1.1
	12nm,0.2s							
ULHL	Ulahol	1.92	60	⇑P		Pn	06 03 29.5	+0.1
	6.0nm,0.1s,SNR=35							
ULHL				⇓S		Sn	06 03 53.3	-0.4
	11nm,0.2s							
TKM2	Tokmak 2	1.99	36	⇑P		Pn	06 03 31.4	+0.9
	9.1nm,0.3s,SNR=13							
TKM2				⇑S		Sn	06 03 56.7	+1.0
	11nm,0.1s							
TKM2	Tokmak 2	1.99	36	⇑Pn		Pn	06 03 31.7	+1.2
	3.2nm,0.3s							
TK

LCBS	**La Ceiba**	**0.77**	**343**	*e*P	P
LCBS				*e*S	S
LBRS	**Las Brisas**	**0.87**	**341**	*e*P	P
LBRS				*e*S	S
SNET	**Serv Nac Est T**	**0.90**	**329**	*e*P	P
SNET				*e*S	S
LFU	**La Fuente**	**0.90**	**337**	*e*P	P
LFU				*e*S	S
BOQS	**Boqueron**	**0.97**	**328**	*e*P	P
BOQS				*e*S	S
CNCH	**Conchagua**	**0.97**	**68**	*e*P	P
CNCH				*e*S	S
CAHU	**Cacacuatique**	**1.00**	**32**	*e*P	P
CAHU				*e*S	S
SNJE	**San Jose**	**1.26**	**319**	*e*P	P
SNJE				*e*S	S
RTR	**El Retiro**	**1.31**	**319**	*e*P	P
RTR				*e*S	S
LEON	**Leon**	**1.88**	**105**	*e*P	P
TEL3	**Telica 3**	**1.89**	**100**	*e*P	P
TEL3				*e*S	S
TELN	**Telica**	**1.90**	**99**	*e*P	P
TELN				*e*S	S
CNGN	**Cerro Negro**	**2.05**	**101**	*e*P	P
MIRN	**Miramar**	**2.05**	**103**	*e*P	P
MIRN				*e*S	S
MOMJ	**Momotombo**	**2.22**	**103**	*e*P	P
COPN	**Copaltepe**	**2.23**	**109**	*e*P	P

LJU ***09*** *06:50:13.5, 46.20N×16.42E, h23km, ML2.7*
NEIC ***09*** *06:50:13.4±0.7, 46.13N×16.46E, h10km, ML3.3(SZGRF), ML2.7(LJU), Error ellipse: s-maj=8.7km s-min=3.8km az=145.0*
CSEM ***09*** *06:50:13.9±0.1, 46.20N×16.39E, h20km, ML3.7/3, Error ellipse: s-maj=1.5km s-min=1.1km az=175.0*
VIE ***09*** *06:50:13.3±0.3, 46.22N×16.47E, h8km, mb2.6/4, ML3.3/4, Error ellipse: s-maj=2.0km s-min=1.1km az=115.0*

ISC 09 06:50:12.8±0.4, 46.19N±0.02×16.46E±0.02, h9km±3km, n70, σ1§04/115, 14C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOGS	**Kog**	**0.30**	**331**	⇓*i*Pg	**Pg**	**06 50 20.3**	**+1.3**
KOGS				*i* Sg	**Sg**	**06 50 25.0**	**+1.9**
GOLS	**Golise**	**0.61**	**253**	⇑*i*Pg	**Pg**	**06 50 25.6**	**+0.6**
GOLS				*e*Sg	**Sg**	**06 50 34.3**	**+1.1**
	comp=Z,422nm,0.2s						
GCIS	**Gornji Cirnik**	**0.66**	**241**	*i* Pg	**Pg**	**06 50 26.6**	**+0.4**
	comp=Z,547nm,0.2s						
DOBS	**Dobrina**	**0.69**	**267**	*i* Pg	**Pg**	**06 50 27.0**	**+0.3**
DOBS				*i* Sg	**Sg**	**06 50 36.9**	**+1.0**
	comp=Z,206nm,0.1s						
GROS	**Grobnik**	**0.72**	**293**	⇓*i*Pg	**Pg**	**06 50 27.6**	**+0.4**
	comp=Z,241nm,0.2s						
CRES	**Cresnjev**	**0.79**	**243**	*e*Pg	**Pg**	**06 50 28.7**	**+0.1**
	comp=Z,275nm,0.3s						
LEGS	**Legarje**	**0.83**	**254**	⇑*i*Pg	**Pg**	**06 50 29.6**	**+0.1**
LEGS				*e*Sg	**Sg**	**06 50 41.3**	**+0.8**
PDKS	**Podkum**	**1.02**	**263**	⇑*i*Pg	**Pg**	**06 50 33.2**	**-0.1**
PDKS				*e*Sg	**Sg**	**06 50 47.4**	**+0.4**
	comp=Z,70nm,0.2s						
BISS	**Bistriski jare**	**1.03**	**297**	*i* Pg	**Pg**	**06 50 33.0**	**-0.5**
PERS	**Pernice**	**1.03**	**296**	*i* Pg	**Pg**	**06 50 33.0**	**-0.4**
BOJS	**Bojanci**	**1.08**	**231**	*e*Pg	**Pg**	**06 50 34.4**	**-0.2**
BOJS				*e*Sg	**Sg**	**06 50 48.3**	**-0.7**
	comp=Z,148nm,0.3s						
BOJS	**Bojanci**	**1.08**	**231**	*e*Pg	**Pg**	**06 50 34.4**	**-0.1**
BOJS				*e*Sg	**Sg**	**06 50 48.3**	**-0.7**
	comp=Z,148nm,0.3s						
RHK1	**Bakonya**	**1.13**	**94**	*e*Pn	**Pn**	**06 50 34.9**	**+0.2**
RHK1				*e*Sn	**Sn**	**06 50 49.6**	**-0.8**
VISS	**Visnje**	**1.19**	**252**	⇑*i*Pg	**Pg**	**06 50 36.0**	**-0.6**
VISS				*e*Sg	**Sg**	**06 50 52.4**	**-0.2**
	comp=Z,91nm,0.3s						
ARSA	**Arzberg**	**1.24**	**329**	⇓*e*Pg	**Pg**	**06 50 36.8**	**-0.9**
	SNR=68						
ARSA	**Arzberg**	**1.24**	**329**	⇑*i*Sg	**Sn**	**06 50 53.6**	**+0.2**
	comp=Z,218nm,0.4s						
ARSA	**Arzberg**	**1.24**	**329**	⇓*e*Pg	**Pn**	**06 50 36.8**	**+0.4**
ARSA				Sg	**Sn**	**06 50 53.6**	**+0.2**
ARSA	**Arzberg**	**1.24**	**329**	Pn	**Pn**	**06 50 36.8**	**+0.4**
ARSA				Sn	**Sn**	**06 50 53.6**	**+0.2**
RHK3	**Tenkes**	**1.28**	**103**	⇓*e*Pn	**Pn**	**06 50 37.3**	**+0.3**
RHK3				*e*Sn	**Sn**	**06 50 55.8**	**+1.4**
LJU	**Ljubljana**	**1.35**	**265**	*i* Pg	**Pg**	**06 50 39.0**	**-0.9**
OBKA	**Obir**	**1.36**	**284**	⇑*e*Pn	**Pn**	**06 50 38.5**	**+0.4**
	SNR=26						
OBKA				⇓*i*Pg	**Pg**	**06 50 39.6**	**-0.4**
OBKA	**Obir**	**1.36**	**284**	⇑*e*Pn	**Pn**	**06 50 38.5**	**+0.4**
OBKA				⇓Pg	**Pg**	**06 50 39.6**	**-0.4**
OBKA				Sn	**Sn**	**06 50 57.1**	**+0.8**
OBKA				Sg	**Sg**	**06 50 58.5**	**+0.2**
OBKA	**Obir**	**1.36**	**284**	Pn	**Pn**	**06 50 38.4**	**+0.3**
OBKA	**Obir**	**1.36**	**284**	Pg	**Pg**	**06 50 39.6**	**-0.5**
OBKA				Sn	**Sn**	**06 50 57.1**	**+0.7**
OBKA				Sg	**Sg**	**06 50 58.5**	**+0.3**
	comp=Z,146nm,0.3s						
CEY	**Cerknica**	**1.49**	**253**	*e*Pg	**Pg**	**06 50 40.4**	**-2.1**
SOP	**Sopron**	**1.50**	**3**	⇑*i*Pn	**Pn**	**06 50 40.5**	**+0.4**
PKSM	**Moragy**	**1.52**	**88**	⇓*i*Pn	**Pn**	**06 50 39.9**	**-0.4**
PKSM				*e*Sn	**Sn**	**06 50 59.0**	**-1.3**
GORS	**Gorjuse**	**1.71**	**275**	*e*Pn	**Pn**	**06 50 43.3**	**+0.2**
VOY	**Vojsko**	**1.79**	**266**	*e*Pn	**Pn**	**06 50 44.5**	**+0.3**
VOY				*e*		06 50 46.8	
PKSG		**1.79**	**47**	*e*Pn	**Pn**	**06 50 46.2**	**+1.9**
CADS	**Cadrg**	**1.89**	**272**	*i* Pn	**Pn**	**06 50 45.7**	**0.0**
	comp=Z,88nm,0.5s						
CADS	**Cadrg**	**1.89**	**272**	*i* Pn	**Pn**	**06 50 45.6**	**0.0**
DRE	**Drenchia**	**1.96**	**271**	⇓*i*Pg	**Pg**	**06 50 49.3**	**-2.6**
LSR	**Lussari**	**2.05**	**279**	⇓*i*Pg	**Pg**	**06 50 49.1**	**-4.7**
ZST	**Bratislava**	**2.06**	**12**	*e*PN	**Pn**	**06 50 48.2**	**+0.1**
ZST				*e*PG	**Pg**	**06 50 52.5**	**-1.4**
ZST				*e*SG	**Sg**	**06 51 22.6**	**+1.2**
ZST	**Bratislava**	**2.06**	**12**	*e*Pg	**Pg**	**06 50 52.5**	**-1.4**
ZST				*e*Sg	**Sg**	**06 51 22.6**	**+1.2**
SRO	**Srobarova**	**2.06**	**37**	*e*PN	**Pn**	**06 50 48.7**	**+0.6**
SRO				*e*PG	**Pg**	**06 50 53.5**	**-0.6**
SRO				*e*SG	**Sg**	**06 51 23.9**	**+2.3**
SRO	**Srobarova**	**2.06**	**37**	*e*Pg	**Pg**	**06 50 53.5**	**-0.6**
SRO				*e*Sg	**Sg**	**06 51 23.9**	**+2.3**
COLI	**Coloredo**	**2.14**	**270**	*e*Pg	**Pg**	**06 50 52.8**	**-2.8**
MOA	**Molln**	**2.24**	**319**	⇑*e*Pn	**Pn**	**06 50 52.0**	**+1.3**
	SNR=19						
MOA	**Molln**	**2.24**	**319**	⇑*i*Sn	**Sn**	**06 51 19.2**	**+0.5**
MOA	**Molln**	**2.24**	**319**	⇑*e*Pn	**Pn**	**06 50 52.0**	**+1.3**
MOA				Sn	**Sn**	**06 51 19.2**	**+0.5**
MOA	**Molln**	**2.24**	**319**	Pn	**Pn**	**06 50 51.9**	**+1.2**
MOA				Sn	**Sn**	**06 51 19.2**	**+0.5**
KBA	**Koelnbreinsper**	**2.32**	**294**	⇑*e*Pn	**Pn**	**06 50 51.6**	**-0.3**
	SNR=8.5						
KBA	**Koelnbreinsper**	**2.32**	**294**	⇓Pg	**Pg**	**06 50 57.7**	**-1.5**
KBA	**Koelnbreinsper**	**2.32**	**294**	⇓*i*Pg	**Pg**	**06 50 57.7**	**-1.5**
KBA	**Koelnbreinsper**	**2.32**	**294**	⇑*i*Sg	**Sg**	**06 51 30.0**	**-0.3**
	comp=Z,26nm,0.3s						
KBA	**Koelnbreinsper**	**2.32**	**294**	Pn	**Pn**	**06 50 51.6**	**-0.3**
	comp=Z,8.0nm,5.0s						
KBA	**Koelnbreinsper**	**2.32**	**294**	Pg	**Pg**	**06 50 57.7**	**-1.5**
KBA				Sg	**Sg**	**06 51 30.0**	**-0.2**
	comp=Z,26nm,0.3s						
VYHS	**Vyhne**	**2.82**	**34**	*e*PN	**Pn**	**06 50 58.2**	**-0.7**
VYHS				*e*PG	**Pg**	**06 51 06.4**	**-2.7**
VYHS				*e*SG	**Sg**	**06 51 49.9**	**+3.2**
PSZ	**Piszkesteto**	**2.92**	**52**	⇑*e*Pn	**Pn**	**06 50 58.8**	**-1.6**
PSZ				*e*Sn	**Sn**	**06 51 34.7**	**-1.2**
BBLS	**Bajina Basta -**	**3.12**	**137**	*e*Pn	**Pn**	**06 51 04.2**	**+1.0**
BBLS				Sn	**Sn**	**06 51 43.2**	**+2.1**
BBLS	**Bajina Basta -**	**3.12**	**137**	Pn	**Pn**	**06 51 04.2**	**+0.9**
BBLS				Sn	**Sn**	**06 51 43.2**	**+2.1**
VRAC	**Vranov**	**3.12**	**2**	*e*Pn	**Pn**	**06 51 02.9**	**-0.4**
GEC2	**GERESS Array S**	**3.25**	**326**	*e*Pn	**Pn**	**06 51 06.1**	**+1.0**
GEC2				*e*Sn	**Sn**	**06 51 43.4**	**-0.9**
DIVS	**Divcibare**	**3.26**	**129**	*e*Pn	**Pn**	**06 51 05.3**	**+0.2**
DIVS				Sn	**Sn**	**06 51 50.9**	**+6.4**
DIVS	**Divcibare**	**3.26**	**129**	Pn	**Pn**	**06 51 05.3**	**+0.1**
STON	**Ston**	**3.43**	**165**	*i* Pn	**Pn**	**06 51 08.9**	**+1.2**
STON				*i* Sn	**Sn**	**06 51 48.9**	**0.0**
STON	**Ston**	**3.43**	**165**	*i* Pn	**Pn**	**06 51 08.8**	**+1.2**
STON				*i* Sn	**Sn**	**06 51 48.9**	**0.0**
KHC	**Kasperske Hory**	**3.53**	**328**	*e*PN	**Pn**	**06 51 10.2**	**+1.2**
KHC				*x*	x	06 51 20.0	
KHC				*e*SN	**Sn**	**06 51 50.1**	**-1.3**
KHC				*ex*	x	06 52 01.5	
KHC	**Kasperske Hory**	**3.53**	**328**	*e*Pn	**Pn**	**06 51 10.2**	**+1.2**
KHC				*e*		06 51 20.0	
KHC				*e*Sn	**Sn**	**06 51 50.1**	**-1.3**
KHC				*e*		06 52 01.5	
KECS	**Kecovo**	**3.58**	**49**	*e*PN	**Pn**	**06 51 09.1**	**-0.6**
KECS				*e*PG	**Pg**	**06 51 20.2**	**-4.0**
KECS				*e*SG	**Sg**	**06 52 12.9**	**+1.0**
MORC	**Moravsky Berou**	**3.67**	**11**	*e*Pn	**Pn**	**06 51 10.9**	**-0.1**
MORC				*e*Sn	**Sn**	**06 51 52.5**	**-2.4**
MORC	**Moravsky Berou**	**3.67**	**11**	*e*Pn	**Pn**	**06 51 10.9**	**-0.1**
GRUS	**Gruza**	**3.79**	**126**	*e*Pn	**Pn**	**06 51 12.2**	**-0.6**
GRUS				Sn	**Sg**	**06 52 15.6**	**-3.5**
PRU	**Pruhonice**	**4.01**	**342**	*e*PN	**Pn**	**06 51 16.7**	**+0.8**
PRA	**Prague**	**4.12**	**342**	*ex*	**Sg**	**06 52 30.0**	**+0.1**
NKC	**Novy Kostel**	**4.86**	**328**	*e*PN	**Pn**	**06 51 27.7**	**-0.2**
CLL	**Collm**	**5.61**	**337**	*i* PN	**Pn**	**06 51 38.6**	**+0.1**
CLL				*e*		06 52 55.0	
CLL				*e*SG	**Sg**	**06 53 16.0**	**-3.7**
CLL	**Collm**	**5.61**	**337**	*i* Pn	**Pn**	**06 51 38.6**	**+0.1**
CLL				*e*Sg	**Sg**	**06 53 16.0**	**-3.7**

CASC ***09*** *07:16:31.3±2.2, 9.28N×85.23W, MD4.2, mb4.3(NEIC)*
NEIC ***09*** *07:16:33.1, 9.30N×85.22W, h20km, mb4.3/11, MD4.5(CASC), After CASC.*
IDC ***09*** *07:16:33.5±0.7, 9.42N×85.17W, mb4.0/13, mb1 4.2/14, mb1mx4.1/21, mbtmpa4.0/14, ML3.3/1, MS4.1/11, Ms1 4.1/11, ms1mx3.9/19, Error ellipse: s-maj=18.5km s-min=9.1km az=86.0*

ISC 09 07:16:36.3±0.4, 9.44N±0.04×85.11W±0.04, h33km, n77, σ1§08/74, mb4.0/24, MS4.1/10, 6C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.86**	**48**	*e*P	**P**	**07 16 52.5**	**+0.7**
CGA2				*e*S	**S**	**07 17 07.8**	**+4.4**
CGA2	**Cerro Gallo 2**	**0.86**	**48**	*e*P	**P**	**07 16 52.3**	**+0.4**
VCR	**Vista de Mar**	**0.86**	**323**	⇑*e*P	**P**	**07 16 49.5**	**-2.3**
VCR	**Vista de Mar**	**0.86**	**323**	*e*P	**P**	**07 16 49.6**	**-2.3**
JTS	**JuntasAbangare**	**0.86**	**10**	Pg	**P**	**07 16 50.5**	**-1.5**
	500nm,0.3s,baz=180,slow=4.1,SNR=937						
JTS				Lg		07 17 04.0	
	862nm,0.3s,baz=349,slow=20,SNR=24						
PRS1	**Puriscal**	**0.96**	**55**	⇑*e*P	**P**	**07 16 51.2**	**-2.2**
PRS1				*e*S	**S**	**07 17 06.5**	**+0.5**
PRS1	**Puriscal**	**0.96**	**55**	*e*P	**P**	**07 16 51.1**	**-2.3**
LAJ	**Bijagual**	**1.06**	**66**	⇑*e*P	**P**	**07 16 46.7**	**-8.2**
LAJ	**Bijagual**	**1.06**	**66**	*e*P	**P**	**07 16 46.5**	**-8.4**
FORC	**Fortuna**	**1.12**	**23**	⇓*e*P	**P**	**07 16 55.6**	**0.0**
FORC				*e*P		07 16 56.2	
FORC				*e*S	**S**	**07 17 15.5**	**+5.5**
FORC	**Fortuna**	**1.12**	**23**	⇓*i*P	**P**	**07 16 55.7**	**+0.1**
LCR2	**La Lucha 2**	**1.13**	**74**	⇓*e*P	**P**	**07 16 54.9**	**-1.0**
LCR2	**La Lucha 2**	**1.13**	**74**	*e*P	**P**	**07 16 55.0**	**-0.9**
VPS2	**Volcan Poas 2**	**1.14**	**49**	⇑*e*P	**P**	**07 16 56.4**	**+0.4**
VPS2	**Volcan Poas 2**	**1.14**	**49**	*e*P	**P**	**07 16 56.5**	**+0.5**
SJS	**Escuela Geolog**	**1.15**	**64**	*e*P	**P**	**07 16 57.6**	**+1.5**
SJS				*e*S	**S**	**07 17 16.0**	**+5.0**
SJS	**Escuela Geolog**	**1.15**	**64**	*e*P	**P**	**07 16 56.8**	**+0.7**
LIM1	**Limonal**	**1.26**	**354**	⇓*e*P	**P**	**07 16 56.9**	**-0.8**
LIM1				*e*S	**S**	**07 17 17.5**	**+3.7**
BUS	**Buena Vista**	**1.34**	**85**	⇑*e*P	**P**	**07 16 58.7**	**-0.2**
BUS	**Buena Vista**	**1.34**	**85**	*e*P	**P**	**07 16 58.2**	**-0.6**
ICR	**Volcan Irazu**	**1.37**	**67**	*e*P	**P**	**07 17 01.3**	**+2.0**
ICR	**Volcan Irazu**	**1.37**	**67**	*e*P	**P**	**07 17 01.3**	**+1.9**
URSC	**Urasca**	**1.37**	**73**	⇓*e*P	**P**	**07 16 59.0**	**-0.4**
URSC	**Urasca**	**1.37**	**73**	*e*P	**P**	**07 16 59.2**	**-0.1**
SSNN	**San Juan del S**	**1.98**	**338**	*e*P	**P**	**07 17 09.0**	**+1.0**
MADN	**Villa Maderas**	**2.00**	**348**	*e*P	**P**	**07 17 08.4**	**0.0**
ACR	**Cerro Adams**	**2.07**	**112**	⇑*e*P	**P**	**07 17 07.8**	**-1.6**
CONN	**Concepcion**	**2.17**	**347**	*e*P	**P**	**07 17 09.9**	**-0.8**
APON	**Apoyo**	**2.64**	**339**	*e*P	**P**	**07 17 18.5**	**+1.1**
TICN	**Ticuantepe**	**2.81**	**337**	*e*P	**P**	**07 17 19.3**	**-0.6**
WILN	**Americas 2**	**2.91**	**339**	*e*P	**P**	**07 17 17.1**	**-4.1**
XAVN	**Gruta Xavier**	**2.95**	**336**	*e*P	**P**	**07 17 22.2**	**+0.4**
COPN	**Copaltepe**	**3.09**	**332**	*e*P	**P**	**07 17 23.2**	**-0.7**
MOMJ	**Momotombo**	**3.27**	**335**	*e*P	**P**	**07 17 26.2**	**-0.3**
MIRN	**Miramar**	**3.37**	**332**	*e*P	**P**	**07 17 27.6**	**-0.4**
CNGN	**Cerro Negro**	**3.42**	**333**	*e*P	**P**	**07 17 29.0**	**+0.4**
LEON	**Leon**	**3.44**	**330**	*e*P	**P**	**07 17 28.7**	**-0.1**
TEL3	**Telica 3**	**3.55**	**331**	*e*P	**P**	**07 17 30.1**	**-0.3**
OTAV	**Otavalo**	**11.29**	**144**	*e*Pn	**P**	**07 19 17.3**	**-1.2**
	14nm,1.4s						
ROSC	**El Rosal**	**11.62**	**112**	LR	LR	07 23 14.8	
	comp=Z,702nm,19.9s,baz=92,slow=34						
SDV	**Santo Domingo**	**14.30**	**91**	Pn	**P**	**07 19 58.4**	**-0.2**
	0.1nm,0.3s,baz=29,slow=17,SNR=2.4						
SDV	**Santo Domingo**	**14.30**	**91**	*e*Pn	**P**	**07 19 59.3**	**+0.6**
TXAR	**Lajitas Array**	**26.35**	**321**	P	**P**	**07 22 13.1**	**+1.7**
	1.1nm,0.6s,mb3.5,baz=134,slow=12,SNR=11						
TXAR				LR	LR	07 33 48.7	
	comp=Z,195nm,19.4s,MS3.7,baz=90,slow=39						
WMOK	**Wichita Mounta**	**28.12**	**336**	*e*P	**P**	**07 22 27.1**	**-0.4**
	13nm,1.4s,mb4.4						
SAML	**Samuel**	**28.46**	**129**	*e*P	**P**	**07 22 29.7**	**-1.0**
	5.4nm,1.2s,mb4.0						
LPAZ	**La Paz**	**30.59**	**147**	P	**P**	**07 22 51.2**	**+1.5**
	0.4nm,0.4s,mb3.6,baz=325,slow=7.1,SNR=2.4						
LPAZ				LR	LR	07 35 51.8	
	comp=Z,549nm,19.1s,MS4.2,baz=129,slow=38						
ANMO	**Albuquerque**	**32.03**	**326**	P	**P**	**07 23 03.5**	**+1.3**
	2.2nm,0.9s,mb4.0,baz=131,slow=4.9,SNR=9.6						
ANMO	**Albuquerque**	**32.03**	**326**	*e*P	**P**	**07 23 01.8**	**-0.4**
	2.6nm,1.0s,mb4.0						
SDCO	**Great Sand Dun**	**33.65**	**330**	*e*P	**P**	**07 23 16.4**	**+0.2**
	3.1nm,0.9s,mb4.2						
SIV	**San Ignacio**	**34.71**	**137**	P	**P**	**07 23 27.3**	**+1.8**
	2.2nm,1.0s,mb4.0,baz=273,slow=3.3,SNR=7.1						
NEN	**Nelson**	**37.60**	**319**	*e*P	**P**	**07 23 51.3**	**+1.5**
TPNV	**Topopah Spring**	**39.28**	**319**	*e*P	**P**	**07 24 05.0**	**+1.2**
	7.6nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	**39.50**	**331**	P	**P**	**07 24 04.3**	**-1.1**
	1.3nm,1.0s,mb3.6,baz=149,slow=8.6,SNR=5.8						
PDAR				LR	LR	07 41 16.2	
	comp=Z,166nm,19.2s,MS3.9,baz=300,slow=38						
HWUT	**Hardware Ranch**	**39.63**	**328**	*e*P	**P**	**07 24 05.6**	**-0.9**
	3.8nm,0.9s,mb4.1						
RRI2	**Red Ridge**	**40.78**	**330**	*e*P	**P**	**07 24 15.9**	**-0.2**
	2.5nm,0.8s,mb3.9						
ELK	**Elko**	**41.04**	**324**	*e*P	**P**	**07 24 18.7**	**+0.4**
	5.4nm,1.1s,mb4.1						
MNV	**Mina**	**41.38**	**320**	*e*P	**P**	**07 24 22.2**	**+1.1**
	6.7nm,1.0s,mb4.2						
NVAR	**Mina Array Bea**	**41.47**	**320**	P	**P**	**07 24 23.3**	**+1.5**
	1.5nm,0.6s,mb3.8,baz=130,slow=8.2,SNR=14						
NVAR				LR	LR	07 45 05.9	
	comp=Z,213nm,18.4s,MS4.0,baz=135,slow=41						
ULM	**Lac du Bonnet**	**41.66**	**350**	P	**P**	**07 24 23.6**	**+0.3**
	2.6nm,0.8s,mb3.9,baz=144,slow=8.7,SNR=3.7						
ULM				LR	LR	07 42 42.0	
	comp=Z,158nm,18.6s,MS3.9,baz=76,slow=38						
MCMT	**McKenzie Canyo**	**42.62**	**331**	*e*P	**P**	**07 24 31.8**	**+0.5**
CFAA	**Coronel Fontan**	**43.89**	**159**	P	**P**	**07 24 41.8**	**+0.1**
	0.2nm,0.9s,mb2.9,baz=333,slow=5.4,SNR=3.1						
WVOR	**Wild Horse Val**	**44.08**	**324**	*e*P	**P**	**07 24 42.5**	**-0.6**
	11nm,1.0s,mb4.5						
BDFB	**Brasilia**	**44.39**	**124**	P	**P**	**07 24 47.3**	**+1.4**
	2.0nm,0.6s,mb4.0,baz=306,slow=10,SNR=3.6						
BDFB				LR	LR	07 42 49.5	
	comp=Z,263nm,20.3s,MS4.2,baz=308,slow=36						
NEW	**Newport**	**47.14**	**331**	LR	LR	07 49 00.2	
	comp=Z,250nm,18.3s,MS4.2,baz=137,slow=41						
SCHQ	**Schefferville**	**47.55**	**14**	P	**P**	**07 25 08.0**	**-2.5**
	5.1nm,0.9s,mb4.5,baz=232,slow=12,SNR=5.1						
PLCA	**Paso Flores**	**51.70**	**166**	P	**P**	**07 25 41.5**	**-0.9**
	5.4nm,0.9s,mb4.5,baz=338,slow=8.6,SNR=9.0						
PLCA	**Paso Flores**	**51.70**	**166**	*e*P	**P**	**07 25 41.1**	**-1.3**
	6.4nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**57.11**	**344**	P	**P**	**07 26 20.0**	**-1.7**
	0.4nm,0.6s,mb3.6,baz=141,slow=6.9,SNR=8.7						
YKA				LR	LR	07 56 48.3	
	comp=Z,96nm,18.2s,MS3.9,baz=115,slow=42						
RKT	**Rikitea**	**58.54**	**236**	*e*LR	LR	07 43 29.4	
	106nm,30.8s						
SFJD	**Kangerlussuaq**	**62.00**	**15**	LR	LR	07 56 37.0	
	comp=Z,177nm,20.4s,MS4.2,baz=16,slow=39						
PPT	**Papeete**	**69.09**	**247**	*e*LR	LR	07 48 25.7	
	124nm,25.0s						
ILAR	**Eielson Array**	**69.69**	**336**	P	**P**	**07 27 43.8**	**-0.6**
	0.5nm,0.6s,mb3.6,baz=130,slow=3.8,SNR=9.0						
TBI	**Tubuai**	**70.83**	**241**	*e*LR	LR	07 49 12.4	
	114nm,26.8s						
ESDC	**Sonseca Array**	**77.25**	**51**	P	**P**	**07 28 29.4**	**+0.2**
	3.0nm,0.8s,mb4.3,baz=274,slow=5.4,SNR=14						
TORD	**Torodi Ar. Bea**	**84.81**	**78**	P	**P**	**07 29 10.2**	**+0.7**
	0.4nm,0.6s,mb3.8,baz=302,slow=5.1,SNR=3.6						
GERES	**GERESS Array B**	**88.71**	**41**	LR	LR	08 04 08.6	
	comp=Z,172nm,19.3s,MS4.5,baz=38,slow=32						
WRA	**Warramunga Arr**	**140.53**	**250**	PKP	PKPdf	07 36 04.1	+0.7
	1.0nm,1.0s,baz=83,slow=1.8,SNR=5.4						

MOS ***09*** *07:35:36.7±1.2, 51.98N×158.02E, h114km, mb4.0/3, Error ellipse: s-maj=60.7km s-min=21.4km az=56.3*
IDC ***09*** *07:35:38.5±3.7, 52.20N×157.97E, h109km±38km, mb3.2/4, mb1 3.6/6, mb1mx3.3/24, mbtmp3.8/6, Error ellipse: s-maj=63.7km s-min=25.4km az=156.0*

ISC 09 07:35:37.6±1.2, 52.1N±0.2×158.1E±0.1, h121km±9km, n12, σ0§97/15, mb3.4/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**1.01**	**19**	*e*PN	**P**	**07 36 00.0**	**-0.1**
PET				*e*S	**S**	**07 36 17.0**	**+0.1**
PET				pmax	pmax		
	comp=Z,42nm,0.6s						
PET				smax			
	comp=E,177nm,0.6s						
PET				smax			
	comp=N,206nm,0.6s						
FX1	**Attu Island--F**	**9.22**	**79**	P	**P**	**07 37 51.2**	**+2.5**
	comp=N,3.8nm,0.3s,baz=290,slow=7.8,SNR=8.4						
FX1				S	**S**	**07 39 29.8**	**-1.3**
	comp=N,2.0nm,0.3s,baz=68,slow=19,SNR=5.5						
FX1	**Attu Island--F**	**9.22**	**79**	PN	**P**	**07 37 51.2**	**+2.5**
FX1				S	**S**	**07 39 29.8**	**-1.3**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
FX1				smax			
	comp=N,2.0nm,0.3s						
ASAJ	**Asahikawa**	**13.06**	**239**	P	**P**	**07 38 38.6**	**-0.6**
	comp=N,0.7nm,0.3s,baz=79,slow=16,SNR=5.2						
ASAJ	**Asahikawa**	**13.06**	**239**	PN	**P**	**07 38 38.7**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**30.39**	**44**	P	**P**	**07 41 39.4**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.5,baz=263,slow=7.3,SNR=5.8						
ILAR	**Eielson Array**	**30.39**	**44**	P	**P**	**07 41 39.4**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**35.41**	**37**	P	**P**	**07 42 23.1**	**+0.1**
	comp=Z,0.6nm,1.0s,mb3.4,baz=270,slow=8.1,SNR=4.1						
INK	**Inuvik**	**35.41**	**37**	P	**P**	**07 42 23.1**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**44.73**	**41**	P	**P**	**07 43 39.1**	**-0.6**
	comp=Z,0.1nm,0.3s,mb3.0,baz=302,slow=7.4,SNR=6.5						
TXAR	**Lajitas Array**	**72.15**	**65**	P	**P**	**07 46 51.7**	**+1.1**
	comp=Z,0.5nm,0.4s,mb3.7,baz=300,slow=4.9,SNR=19						
TXAR	**Lajitas Array**	**72.15**	**65**	P	**P**	**07 46 51.7**	**+1.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						

**KRSC 09 08:10:56.2±1.0

AYUS	**'Aynunah**	**2.90**	**178**	P	**Pn**	**09 31 35.6**	**-0.9**
TR1		**3.25**	**199**	⇓P	**Pn**	**09 31 40.4**	**-1.2**
HHRG	**Al Ghardaqah**	**4.11**	**200**	P	**Pn**	**09 31 51.9**	**-1.7**

*IDC **09** 09:44:50.7±1.4, 3.84N×96.72E, mb3.7/6, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/25, Error ellipse: s-maj=49.5km s-min=13.4km az=41.0*

*NEIC **09** 09:44:55.1±0.8, 3.82N×96.65E, h30km, Error ellipse: s-maj=22.0km s-min=11.1km az=220.0*

ISC 09 09:44:56.2±3.6, 3.9N±0.2×96.8E±0.2, h55km±31km, n8, σ0§62/9, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.42**	**116**	Pn	**P**		**09 45 34.5**	**+0.2**
	20nm,0.3s,baz=307,slow=10,SNR=34							
PSI				Sn	**S**		09 46 03.0	+0.2
	10nm,0.3s,baz=270,slow=18,SNR=5.5							
PSI				Lg			09 46 08.6	
	43nm,0.3s,baz=180,slow=14,SNR=9.7							
PSI				LR	LR		09 46 39.3	
	comp=Z,352nm,20.2s,baz=235,slow=44							
KULM	**Kulim**	**4.13**	**70**	*e*Pn	**P**		**09 45 57.8**	**-0.5**
WRA	**Warramunga Arr**	**43.87**	**124**	P	**P**		**09 52 58.4**	**-0.9**
	1.7nm,0.4s,mb4.1,baz=302,slow=9.2,SNR=15							
MKAR	**Makanchi Array**	**44.54**	**346**	P	**P**		**09 53 04.5**	**+0.2**
	0.4nm,0.4s,mb3.6,baz=158,slow=8.4,SNR=8.2							
SONM	**Songino Array**	**44.56**	**9**	P	**P**		**09 53 05.6**	**+1.1**
	0.2nm,0.5s,mb3.2,baz=193,slow=10,SNR=2.5							
BVAR	**Borovoye Array**	**53.58**	**341**	P	**P**		**09 54 12.9**	**-1.0**
	0.2nm,0.3s,mb3.5,baz=143,slow=7.2,SNR=2.9							
STKA	**Stephens Creek**	**55.50**	**133**	P	**P**		**09 54 28.6**	**+0.4**
	1.6nm,0.6s,mb4.3,baz=307,slow=5.1,SNR=3.0							
BRTR	**Keskin Array B**	**66.39**	**312**	P	**P**		**09 55 45.8**	**+0.2**
	0.6nm,0.6s,mb3.8,baz=130,slow=8.7,SNR=4.3							

*IDC **09** 09:58:36.3±2.6, 64.65N×31.85E, mb1 3.2/3, mb1mx3.0/21, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=34.3km s-min=11.5km az=104.0*

HEL 09 09:58:39.2±0.9, 64.68N×30.80E, ML1.8, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.47**	**248**	*e*P	Pn		09 59 03.8	-3.2
JOF	**Joensuu**	**1.78**	**172**	*e*P	Pn		09 59 09.5	-2.0
JOF				*e*S	Sn		09 59 35.2	+0.1
OUL	**Oulu**	**2.13**	**283**	*e*P	Pn		09 59 14.7	-1.8
OUL				*e*SG	Sg		09 59 46.5	-3.7
SUF	**Sumiainen**	**2.85**	**229**	*e*P	Pn		09 59 26.0	-0.8
SUF				*e*SB	Sb		10 00 04.3	-2.1
SUF				MSG			10 00 09.2	
	comp=Z,3.8nm,0.2s							
KAF	**Kangasniemi**	**3.27**	**220**	*e*P	Pn		09 59 32.4	-0.4
KAF				MSG			10 00 22.2	
	comp=Z,1.4nm,0.1s							
SGF	**Sodankyl**	**3.28**	**330**	*e*P	Pn		09 59 32.6	-0.3
FIA0	**FINESS Array S**	**3.89**	**216**	*e*P	Pn		09 59 41.4	-0.2
FINES	**FINESS Array B**	**3.89**	**216**	Pn	Pn		09 59 39.5	-2.1
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=5.3							
FINES				Sn	Sn		10 00 29.6	+1.0
	comp=Z,0.3nm,0.3s,baz=36,slow=19,SNR=2.9							
FINES				Lg			10 00 39.8	
	comp=Z,0.9nm,0.3s,baz=41,slow=26,SNR=6.9							
ARCES	**ARCESS Array B**	**5.30**	**339**	Pn	Pn		09 59 57.1	-4.4
	comp=Z,0.2nm,0.3s,baz=153,slow=14,SNR=16							
ARCES				Sn	Sn		10 00 57.0	-7.3
	comp=Z,0.2nm,0.3s,baz=150,slow=25,SNR=2.5							
ARCES				Lg			10 01 21.8	
	comp=Z,0.7nm,0.3s,baz=158,slow=28,SNR=4.6							
NOA	**NORSAR Array B**	**9.65**	**257**	Pn	P		10 00 58.6	-3.5
	comp=Z,0.1nm,0.3s,baz=62,slow=12,SNR=2.3							
NOA				Lg			10 03 52.1	
	comp=Z,0.2nm,0.3s,baz=304,slow=10.0,SNR=3.3							

*IDC **09** 10:01:36.3±1.4, 19.78N×122.00E, mb3.4/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.4/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=77.3km s-min=29.3km az=66.0*

*MAN **09** 10:02:05.0, 18.19N×121.60E, mb4.2, ML3.1, MS2.8*

ISC 09 10:01:39.3±1.8, 20.0N±0.1×120.7E±0.4, h33km, n8, σ0§93/9, mb3.3/3, MS3.4/1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.15**	**145**	*e*P	**P**		**10 02 13.8**	**+0.4**
APYP	**Conner**	**2.18**	**167**	*e*P	**P**		**10 02 14.3**	**+0.4**
APYP				*e*S	**S**		**10 02 39.8**	**-0.3**
CVP	**Callao Caves**	**2.51**	**156**	*e*P	**P**		**10 02 16.0**	**-2.6**
CVP				*i* S	**S**		**10 02 48.5**	**+0.2**
CAUP	**Cauayan**	**3.21**	**161**	*e*P	**P**		**10 02 29.6**	**+1.0**
SONM	**Songino Array**	**30.10**	**341**	LR	LR		10 21 25.7	
	comp=Z,87nm,19.6s,MS3.4,baz=58,slow=39							
MKAR	**Makanchi Array**	**41.14**	**320**	P	**P**		**10 09 29.8**	**+7.9**
	0.2nm,0.6s,mb2.9,baz=116,slow=8.6,SNR=3.3							
WRA	**Warramunga Arr**	**41.88**	**161**	P	**P**		**10 09 23.6**	**-4.7**
	0.5nm,0.6s,mb3.4,baz=343,slow=9.1,SNR=7.0							
YKA	**Yellowknife Ar**	**86.97**	**22**	P	**P**		**10 14 21.8**	**0.0**
	0.2nm,0.6s,mb3.5,baz=306,slow=4.6,SNR=4.8							

*NEIC **09** 10:33:39.7, 51.91N×178.05E, h144km, MG3.5(AEIC), After AEIC.*

*IDC **09** 10:33:39.2±1.9, 52.11N×177.99E, h126km±16km, mb3.4/12, mb1 3.6/14, mb1mx3.5/27, mbtmp3.8/14, MS3.1/1, Ms1 3.1/1, ms1mx2.6/29, Error ellipse: s-maj=24.8km s-min=11.9km az=173.0*

ISC 09 10:33:38.8±0.8, 52.2N±0.1×177.99E±0.08, h137km±7km, n23, σ0§74/23, mb3.6/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.45**	**285**	P	**P**		**10 34 20.5**	**+1.2**
KIMD	**Kanaga Island**	**2.98**	**96**	P	**P**		**10 34 26.1**	**-0.1**
FX1	**Attu Island--F**	**3.04**	**286**	P	**P**		**10 34 27.1**	**+0.2**
	20nm,0.3s,baz=161,slow=5.5,SNR=39							
FX1				S	**S**		**10 35 02.8**	**-0.8**
	32nm,0.3s,baz=53,slow=23,SNR=18							
FX1	**Attu Island--F**	**3.04**	**286**	*e*P	**P**		**10 34 26.8**	**-0.1**
ADK	**Adak**	**3.30**	**93**	P	**P**		**10 34 30.4**	**0.0**
KDAK	**Kodiak Island**	**17.72**	**60**	P	**P**		**10 37 35.2**	**-2.7**
	0.3nm,0.3s,baz=162,slow=19,SNR=7.1							
IMA2	**Indian Mountai**	**19.89**	**35**	*e*P	**P**		**10 38 01.6**	**+0.6**
ILAR	**Eielson Array**	**21.93**	**41**	P	**P**		**10 38 21.4**	**0.0**
	1.6nm,0.7s,mb3.5,baz=251,slow=8.8,SNR=27							
DAWY	**Dawson**	**24.94**	**45**	*e*P	**P**		**10 38 50.8**	**+0.7**
INK	**Inuvik**	**28.00**	**36**	P	**P**		**10 39 18.7**	**+0.5**
	1.9nm,0.6s,mb4.0,baz=251,slow=11,SNR=25							
YKA	**Yellowknife Ar**	**36.15**	**47**	P	**P**		**10 40 29.6**	**+0.7**
	1.8nm,0.7s,mb3.8,baz=283,slow=8.4,SNR=25							
YKA	**Yellowknife Ar**	**36.15**	**47**	P	**P**		**10 40 29.6**	**+0.7**
JNU	**Nakatsue**	**38.72**	**259**	LR	LR		10 54 10.3	
	comp=Z,30nm,21.9s,baz=64,slow=32							
SONM	**Songino Array**	**44.51**	**294**	P	**P**		**10 41 38.5**	**+0.7**
	0.8nm,0.5s,mb3.6,baz=59,slow=8.5,SNR=5.5							
NVAR	**Mina Array Bea**	**45.42**	**81**	P	**P**		**10 41 45.8**	**+0.7**
	0.3nm,0.5s,mb3.2,baz=290,slow=8.4,SNR=5.7							
PDAR	**Pinedale Array**	**47.96**	**71**	P	**P**		**10 42 04.5**	**-0.4**
	0.5nm,0.7s,mb3.2,baz=333,slow=3.3,SNR=4.7							
ARCES	**ARCESS Array B**	**56.97**	**349**	P	**P**		**10 43 10.7**	**-0.7**
	2.0nm,1.0s,mb3.9,baz=18,slow=8.6,SNR=4.1							
MKAR	**Makanchi Array**	**57.98**	**306**	P	**P**		**10 43 17.5**	**-1.2**
	0.4nm,0.4s,mb3.6,baz=48,slow=4.4,SNR=10							
BVAR	**Borovoye Array**	**58.99**	**318**	P	**P**		**10 43 25.7**	**-0.1**
	0.6nm,0.4s,mb3.8,baz=76,slow=6.1,SNR=4.9							
TXAR	**Lajitas Array**	**60.49**	**79**	P	**P**		**10 43 35.7**	**-0.6**
	0.2nm,0.6s,mb3.1,baz=301,slow=5.0,SNR=7.4							
AKTK	**Aktyubinsk**	**65.88**	**323**	P	**P**		**10 44 11.6**	**+0.2**
AKTO	**Aktyubinsk**	**65.88**	**323**	P	**P**		**10 44 11.6**	**+0.2**
	0.8nm,0.6s,mb3.7,baz=51,slow=8.2,SNR=4.2							
WRA	**Warramunga Arr**	**81.24**	**221**	P	**P**		**10 45 40.7**	**0.0**
	1.2nm,0.7s,mb3.6,baz=32,slow=6.2,SNR=11							

*MOS **09** 10:45:23.5±1.5, 35.19N×27.93E, h10km, mb4.5/11, Error ellipse: s-maj=14.9km s-min=6.4km az=99.8*

*ISK **09** 10:45:26.7, 35.26N×27.99E, h62km, MD4.0, ML4.0*

*ATH **09** 10:45:27.4, 35.30N×28.06E, h29km±2km, MD4.2/9, ML4.5*

*CSEM **09** 10:45:27.1±0.0, 35.23N×28.19E, h60km, mb4.0/3, Mw3.6, Error ellipse: s-maj=1.5km s-min=0.9km az=58.0*

*NEIC **09** 10:45:28.8, 35.40N×28.10E, h81km, mb4.3/15, After ATH.*

*HLW **09** 10:45:29.7, 35.27N×28.19E, h33km, Mb4.2*

*NIC **09** 10:45:31.5±0.2, 36.19N×28.48E, h25km, mb4.3, ML3.9, MW3.3*

*IDC **09** 10:45:32.6±1.9, 35.49N×27.85E, h63km±15km, mb3.7/14, mb1 3.9/21, mb1mx3.8/27, mbtmp4.0/21, Error ellipse: s-maj=22.4km s-min=9.4km az=149.0*

*THE **09** 10:45:33.6, 35.47N×27.89E, h20km, ML4.1*

ISC 09 10:45:27.4±0.2, 35.22N±0.02×28.13E±0.02, h60km±3km, n190, σ0§97/218, mb4.1/24, 15C-14D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.85**	**293**	⇑*i* PN	**P**		**10 45 42.2**	**-1.5**
KARP	**Karpathos**	**0.85**	**293**	⇓*i* P	**P**		**10 45 45.5**	**+1.8**
ARG	**Arkhangelos**	**1.00**	**0**	*e*PN	**P**		**10 45 45.8**	**+0.2**
ARG				*e*SN	**S**		**10 45 58.4**	**-0.7**
ARG	**Arkhangelos**	**1.00**	**0**	*e*P	**P**		**10 45 46.7**	**+1.1**
KSL	**Kastellorizon**	**1.51**	**51**	*e*PN	**P**		**10 45 54.1**	**+1.4**
DAT	**Datca**	**1.57**	**344**	*i* PN	**P**		**10 45 52.9**	**-0.7**
DAT				*i* SN	**S**		**10 46 10.7**	**-2.3**
AKAS	**Kas**	**1.57**	**49**	*i* P	**P**		**10 45 55.0**	**+1.4**
AKAS				*i* S	**S**		**10 46 14.1**	**+1.0**
DALT	**Dalyan (Mudla)**	**1.60**	**15**	*i* PN	**P**		**10 45 53.7**	**-0.3**
NISR	**Nisiros**	**1.61**	**330**	⇓*i* PN	**P**		**10 45 54.5**	**+0.4**
FETY	**Fethiye**	**1.61**	**29**	PN	**P**		**10 45 53.7**	**-0.5**
YER	**Yerkesik**	**1.92**	**4**	PN	**P**		**10 45 58.7**	**+0.3**
BDRM	**Kayabasi**	**1.93**	**344**	*i* P	**P**		**10 45 58.2**	**-0.3**
BDRM				*i* S	**S**		**10 46 20.5**	**-1.0**
BODT	**Bodrum**	**1.96**	**341**	PN	**P**		**10 45 57.6**	**-1.3**
XRY	**Khrisi**	**2.02**	**261**	*e*PB	**P**		**10 46 01.5**	**+1.7**
XRY	**Khrisi**	**2.02**	**261**	*e*P	**P**		**10 46 02.3**	**+2.5**
NPS	**Neapolis**	**2.06**	**272**	*e*PN	**P**		**10 46 01.2**	**+0.9**
NPS				*e*SN	**S**		**10 46 25.5**	**+0.8**
NPS	**Neapolis**	**2.06**	**272**	*e*P	**P**		**10 46 03.5**	**+3.2**
MLSB	**Milas**	**2.09**	**352**	PN	**P**		**10 46 02.7**	**-0.6**
ELL	**Elmali**	**2.10**	**43**	PN	**P**		**10 46 01.6**	**+0.6**
GOLH	**Golhisar**	**2.33**	**30**	*i* P	**P**		**10 46 05.8**	**+1.7**
GOLH				*i* S	**S**		**10 46 32.1**	**+0.5**
SANT	**Santorini**	**2.46**	**299**	*e*Pn	**P**		**10 46 04.5**	**-1.5**
THR3	**Thira Island,**	**2.51**	**299**	*e*Pn	**P**		**10 46 07.2**	**+0.4**
THR4	**Thira Island,**	**2.54**	**300**	*e*Pn	**P**		**10 46 07.9**	**+0.7**
DENT	**Denizli**	**2.64**	**16**	*e*PN	**P**		**10 46 08.1**	**-0.5**
IDI	**Anoyia**	**2.65**	**272**	P	**P**		**10 46 10.1**	**+1.4**
	9.2nm,0.3s,baz=73,slow=16,SNR=13							
IDI				S	**S**		**10 46 39.4**	**-0.3**
	40nm,0.3s,baz=339,slow=12,SNR=6.9							
SMG	**Samos**	**2.69**	**338**	*e*PN	**P**		**10 46 09.1**	**-0.3**
SMG	**Samos**	**2.69**	**338**	*e*P	**P**		**10 46 08.8**	**-0.6**
APE	**Apeiranthos**	**2.80**	**312**	*e*PN	**P**		**10 46 08.3**	**-2.5**
APE	**Apeiranthos**	**2.80**	**312**	*e*P	**P**		**10 46 10.8**	**0.0**
APE	**Apeiranthos**	**2.80**	**312**	*e*P	**P**		**10 46 11.0**	**+0.2**
BCK	**Bucak**	**3.00**	**41**	*e*PN	**P**		**10 46 13.7**	**+0.1**
VAM	**Vamos**	**3.22**	**275**	*e*PN	**P**		**10 46 18.5**	**+1.8**
VAM	**Vamos**	**3.22**	**275**	*e*P	**P**		**10 46 19.8**	**+3.1**
ISP	**Isparta**	**3.25**	**36**	*e*PN	**P**		**10 46 17.4**	**+0.2**
ISP	**Isparta**	**3.25**	**36**	*i* P	**P**		**10 46 19.3**	**+2.1**
ISP	**Isparta**	**3.25**	**36**	*e*Pn	**P**		**10 46 18.2**	**+1.0**
ISP	**Isparta**	**3.25**	**36**	*i* P	**P**		**10 46 19.3**	**+2.1**
BLCB	**Balcova**	**3.28**	**345**	*e*PN	**P**		**10 46 16.8**	**-0.8**
KHL	**Karahalli**	**3.30**	**19**	*e*PN	**P**		**10 46 18.1**	**+0.2**
GVD	**Gavdhos**	**3.33**	**265**	Pn	**P**		**10 46 17.0**	**-1.4**
PPCY	**Paphos**	**3.48**	**94**	P	**P**		**10 46 22.3**	**+1.9**
AKS	**Akhisar**	**3.66**	**356**	*e*PN	**P**		**10 46 22.0**	**-1.0**
ALFC	**Alevga**	**3.67**	**90**	P	**P**		**10 46 23.4**	**+0.4**
	10nm,0.3s							
ALFC				S	**S**		**10 47 04.3**	**-1.0**
SZAC	**Souni-Zanaja**	**3.93**	**95**	P	**P**		**10 46 28.1**	**+1.3**
SZAC				S	**S**		**10 47 12.9**	**+0.8**
ERMK	**Ermenek**	**4.14**	**69**	*i* P	**P**		**10 46 30.1**	**+0.5**
ERMK				*i* S	**S**		**10 47 15.2**	**-2.0**
HMAT	**Matruh**	**4.20**	**192**	⇓P	**P**		**10 46 32.1**	**+1.6**
KYTH	**Kithira**	**4.27**	**286**	*e*PN	**P**		**10 46 32.5**	**+0.9**
KYTH	**Kithira**	**4.27**	**286**	*e*P	**P**		**10 46 31.5**	**-0.1**
CSS	**Prodhromos**	**4.28**	**92**	P	**P**		**10 46 32.0**	**+0.4**
	3.5nm,0.5s							
CSS				S	**S**		**10 47 19.5**	**-1.2**
CSS	**Prodhromos**	**4.28**	**92**	*e*Pn	**P**		**10 46 31.6**	**-0.1**
DST	**Dursunbey**	**4.40**	**5**	*e*PN	**P**		**10 46 33.1**	**-0.2**
BALB	**Balikesir**	**4.42**	**358**	*e*PN	**P**		**10 46 33.3**	**-0.3**
SLUM		**4.44**	**214**	⇓P	**P**		**10 46 34.8**	**+0.8**
VLI	**Veliai**	**4.47**	**291**	*e*PN	**P**		**10 46 34.3**	**0.0**
ATH	**Athens Observa**	**4.49**	**309**	*e*PN	**P**		**10 46 35.5**	**+0.9**
ATH	**Athens Observa**	**4.49**	**309**	*e*P	**P**		**10 46 36.0**	**+1.4**
IKL	**Isikli**	**4.64**	**76**	*e*PN	**P**		**10 46 37.2**	**+0.5**
KIZT	**Kizilcal**	**4.73**	**38**	*e*PN	**P**		**10 46 38.7**	**+0.7**
ESKT	**Eskisehir**	**4.81**	**26**	*e*PN	**P**		**10 46 40.0**	**+0.9**
PHNC	**Paralimni**	**4.85**	**91**	P	**P**		**10 46 43.4**	**+3.8**
AOS	**Alonnisos**	**5.20**	**321**	*e*Pn	**P**		**10 46 44.8**	**+0.3**
ITM	**Ithomi**	**5.38**	**293**	*e*PN	**P**		**10 46 47.9**	**+0.9**
MERS	**Mersin**	**5.44**	**71**	*e*PN	**P**		**10 46 48.5**	**+0.7**
AANS		**5.63**	**150**	⇑P	**P**		**10 46 50.1**	**-0.3**
AANS				S	**S**		**10 47 51.0**	**-3.7**
ALN	**Alexandroupoli**	**5.90**	**344**	*e*Pn	**P**		**10 46 53.6**	**-0.7**
SQR		**5.92**	**153**	⇑P	**P**		**10 46 55.0**	**+0.6**
SQR		**5.92**	**153**	P	**P**		**10 46 55.0**	**+0.6**
HNAT	**Natroun**	**5.95**	**159**	⇓P	**P**		**10 46 55.1**	**+0.2**
KARA	**Karaisali**	**5.96**	**68**	*e*PN	**P**		**10 46 54.8**	**-0.2**
AGG	**Agios Georgios**	**5.99**	**311**	*e*Pn	**P**		**10 46 55.6**	**+0.2**
FYM	**Al Fayyum**	**6.04**	**155**	⇓P	**P**		**10 46 56.1**	**0.0**
FYM				S	**S**		**10 48 00.4**	**-4.3**
AYT	**Al 'Ayyat**	**6.06**	**154**	⇑P	**P**		**10 46 56.7**	**+0.3**
KOT	**Kottamia**	**6.13**	**148**	⇑P	**P**		**10 46 57.1**	**-0.3**
HNTI	**Hanita**	**6.22**	**108**	Pn	**P**		**10 47 00.1**	**+1.4**
HNTI				Sn	**S**		**10 48 04.3**	**-4.9**
HHAG	**Hagoal**	**6.23**	**146**	P	**P**		**10 46 58.5**	**-0.3**
HHAG				S	**S**		**10 48 03.7**	**-5.7**
AMAG	**Maghara**	**6.25**	**135**	⇓P	**P**		**10 46 57.8**	**-1.3**
SWA1		**6.28**	**200**	⇓P	**P**		**10 46 60.0**	**+0.4**
BR131	**Keskin Array S**	**6.28**	**43**	*e*Pn	**P**		**10 46 58.4**	**-1.2**
	3.0nm,0.4s							
BRTR	**Keskin Array B**	**6.28**	**43**	P	**P**		**10 47 02.1**	**+2.5**
	0.5nm,0.3s,baz=220,slow=14,SNR=8.5							
BRTR				S	**S**		**10 48 10.2**	**-0.5**
	0.7nm,0.3s,baz=221,slow=24,SNR=6.4							
BRTR	**Keskin Array B**	**6.28**	**43**	P	**P**		**10 47 02.1**	**+2.5**
BRTR				S	**S**		**10 48 10.3**	**-0.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRTR				smax				
	comp=N,1.0nm,0.3s							
BRTR	**Keskin Array B**	**6.28**	**43**	S	**S**		**10 48 10.3**	**-0.5**
	comp=N,1.0nm,0.3s							
HSAF	**As Safi**	**6.29**	**152**	⇑P	**P**		**10 46 59.4**	**-0.2**
HRSH	**Kfar Ka'horesh**	**6.33**	**131**	⇓*e*P	**P**		**10 46 59.9**	**-0.3**
RSH		**6.33**	**131**	P	**P**		**10 46 59.9**	**-0.3**
SWA2		**6.37**	**202**	⇓*e*P	**P**		**10 47 01.2**	**+0.4**
GLL	**Jalalah**	**6.39**	**151**	⇑*e*P	**P**		**10 47 00.6**	**-0.4**
MMA0	**Mount Meron ar**	**6.42**	**108**	Pn	**P**		**10 47 03.5**	**+2.0**
HTY	**Hatay**	**6.58**	**80**	*e*PN	**P**		**10 47 03.3**	**-0.5**
SUZ		**6.67**	**142**	⇑P	**P**		**10 47 05.3**	**+0.3**
MMLI	**Mount Malkishu**	**6.67**	**112**	Pn	**P**		**10 47 05.5**	**+0.4**
HBNS	**Bani Suwayf**	**6.77**	**156**	⇓P	**P**		**10 47 05.7**	**-0.7**
KZIT	**Kziot**	**6.80**	**127**	Pn	**P**		**10 47 06.3**	**-0.5**
KZIT				Sn	**S**		**10 48 16.7**	**-6.8**
RTMM	**Retamin**	**6.89**	**125**	Pn	**P**		**10 47 08.4**	**+0.3**
RTMM				Sn	**S**		**10 48 19.4**	**-6.5**
AWBH		**6.91**	**174**	P	**P**		**10 47 07.9**	**-0.4**
LKD	**Levkas**	**6.92**	**302**	*e*Pn	**P**		**10 47 08.5**	**0.0**
LKD				*e*Sn	**S**		**10 48 23.1**	**-3.5**
MASH	**Mash'abbe Sade**	**6.99**	**125**	Pn	**P**		**10 47 09.1**	**-0.4**
MASH				Sn	**S**		**10 48 22.1**	**-6.3**
ZAF		**7.00**	**146**	⇑P	**P**		**10 47 08.6**	**-1.1**
ZNM		**7.08**	**144**	⇓P	**P**		**10 47 10.0**	**-0.7**
MZDA	**Masada**	**7.21**	**121**	Pn	**P**		**10 47 13.0**	**+0.6**
HNKL	**Nakhl**	**7.22**	**135**	P	**P**		**10 47 11.9**	**-0.8**
MKRJ	**Makawir**	**7.27**	**118**	Pn	**P**		**10 47 14.1**	**+0.8**
PRNI	**Paran**	**7.55**	**128**	Pn	**P**		**10 47 17.1**	**-0.2**
PRNI				Sn	**S**		**10 48 34.5**	**-7.8**
HRFI	**Mount Harif**	**7.79**	**130**	Pn	**P**		**10 47 20.1**	**-0.4**
HRFI				Sn	**S**		**10 48 41.9**	**-6.1**
MBH	**Mount Berech**	**7.88**	**131**	Pn	**P**		**10 47 21.8**	**0.0**
MBH				Sn	**S**		**10 48 43.2**	**-7.1**
GRB	**Gharib**	**7.98**	**149**	P	**P**		**10 47 22.1**	**-1.0**
EIL	**Elat**	**7.99**	**132**	Pn	**P**		**10 47 22.9**	**-0.4**
EIL				Sn	**S**		**10 48 45.9**	**-7.1**
AQBJ	**Aqaba**	**8.01**	**131**	Pn	**P**		**10 47 23.8**	**+0.3**
AQBJ				Sn	**S**		**10 48 46.2**	**-7.3**
HFRF	**Wahat Farafira**	**8.04**	**179**	⇑P	**P**		**10 47 23.7**	**-0.3**
HBST	**Basata**	**8.19**	**135**	P	**P**		**10 47 25.5**	**-0.5**
HKAT	**Jabal Katrina**	**8.33**	**142**	P	**P**		**10 47 26.9**	**-1.0**
ASUT		**8.33**	**158**	⇑*e*P	**P**		**10 47 27.3**	**-0.6**
HDHB	**Dhahab**	**8.50**	**138**	P	**P**		**10 47 29.2**	**-1.1**
TR1		**8.73**	**144**	⇓P	**P**		**10 47 32.4**	**-1.1**
HHRG	**Al Ghardaqah**	**9.23**	**148**	⇑*e*P	**P**		**10 47 39.1**	**-1.2**
HHRG				S	**S**		**10 49 16.1**	**-7.6**
HDK1	**Dakhla**	**9.70**	**173**	⇓P	**P**		**10 47 46.4**	**-0.4**
AKRG	**Al Kharijah**	**9.89**	**167**	P	**P**		**10 47 48.8**	**-0.6**
GTR	**Jabal at Tayr**	**9.90**	**167**	P	**P**		**10 47 49.1**	**-0.4**
HSFG		**9.96**	**148**	⇑P	**P**		**10 47 49.6**	**-0.6**
MLR	**Muntele Rosu**	**10.40**	**351**	P	**P**		**10 47 56.0**	**-0.2**
	comp=N,0.3nm,0.3s,baz=82,slow=19,SNR=1.9							
PSZ	**Piszkesteto**	**14.10**	**337**	Pn	**P**		**10 48 43.3**	**-2.0**
	comp=N,10nm,0.8s							
VYHS	**Vyhne**	**14.95**	**335**	*e*PN	**P**		**10 49 02.6**	**+6.2**
AKASG	**Malin Array Be**	**15.50**	**3**	P	**P**		**10 49 05.4**	**+2.0**
	comp=N,0.9nm,0.3s,baz=190,slow=11,SNR=8.5							
AKASG	**Malin Array Be**	**15.50**	**3**	P	**P**		**10 49 05.4**	**+2.0**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
VRAC	**Vranov**	**16.44**	**332**	P	**P**		**10 49 15.0**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=128,slow=12,SNR=2.8							
VRAC	**Vranov**	**16.44**	**332**	P	**P**		**10 49 15.0**	**-0.3**
VRAC				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MORC	**Moravsky Berou**	**16.48**	**335**	*e*P	**P**		**10 49 16.7**	**+0.8**
	comp=Z,4.5nm,0.9s							
PGF	**Pioggiola**	**16.57**	**302**	*e*P	**P**		**10 49 16.1**	**-1.0**
GEC2	**GERESS Array S**	**17.29**	**326**	*e*P	**P**		**10 49 27.1**	**+1.1**
GERES	**GERESS Array B**	**17.29**	**326**	P	**P**		**10 49 26.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=139,slow=12,SNR=32							
DPC	**Dobruska-Prolom**	**17.39**	**334**	*e*P	**P**		**10 49 27.7**	**+0.3**
KHC	**Kasperske Hory**	**17.55**	**327**	*e*P	**P**		**10 49 29.8**	**+0.5**
KHC	**Kasperske Hory**	**17.55**	**327**	*c i*P	**P**		**10 49 29.4**	**+0.1**
KHC	**Kasperske Hory**	**17.55**	**327**	*i* P	**P**		**10 49 29.4**	**+0.1**
UPC	**Upice**	**17.64**	**334**	*e*P	**P**		**10 49 31.1**	**+0.7**
PRU	**Pruhonice**	**17.79**	**330**	*e*P	**P**		**10 49 32.0**	**-0.2**
WET	**Wettzell**	**17.88**	**326**	*e*P	**P**		**10 49 33.6**	**+0.3**
DAVOX	**Davos**	**17.93**	**316**	P	**P**		**10 49 35.2**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=138,slow=20,SNR=4.7							
SBF	**Sospel**	**18.11**	**305**	*e*P	**P**		**10 49 35.0**	**-1.2**
	comp=Z,56nm,0

QSPA South Pole Qui 34.37 180 *eP* **P 10 59 09.8 -1.0**
3.9nm,0.6s,mb4.5
VNDA Vanda 46.80 182 P **P 11 00 52.8 -0.3**
1.1nm,0.7s,mb3.9,baz=180,slow=5.7,SNR=5.5
LPAZ La Paz 51.56 302 P **P 11 01 31.9 +1.4**
4.3nm,0.7s,mb4.5,baz=154,slow=6.4,SNR=16
SAML Samuel 55.81 312 *eP* **P 11 02 01.2 -0.8**
4.0nm,1.1s,mb4.4
TORD Torodi Ar. Bea 72.19 27 P **P 11 03 49.1 -0.2**
1.0nm,0.4s,mb4.1,baz=202,slow=6.0,SNR=14
YKA Yellowknife Ar 137.08 317 PKP PKPdf 11 11 45.2 -2.2
0.2nm,0.6s,baz=135,slow=2.1,SNR=5.0
YKA Yellowknife Ar 137.08 317 PKP PKPdf 11 11 45.2 -2.2
SONM Songino Array 149.19 84 PKPbc PKPdf 11 12 10.1 +1.4
0.3nm,0.4s,baz=213,slow=6.0,SNR=2.8
ILAR Eielson Array 151.15 311 PKPbc PKPdf 11 12 15.1 +3.9
1.2nm,0.8s,baz=160,slow=1.2,SNR=12

CSEM ***09*** *10:57:04.3±0.2,36.44N×51.87E,h8km,ML3.0,Error ellipse: s-maj=4.9km s-min=2.1km az=171.0*
THR ***09*** *10:57:05.4±1.4,36.48N×51.81E,h15km±13km,ML3.0*
TEH ***09*** *10:57:06.0,36.44N×51.85E,h7km,Mn3.0*
ISC 09 10:57:04.8±1.3,36.46N±0.07×51.85E±0.05,h4km±6km, n14,σ0§94/20,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPRN	**Paran-Amol**	**0.39**	**125**	Pg	**Pg**	**10 57 13.2**	**+0.7**
IAFJ	**Afjeh**	**0.61**	**191**	Pg	**Pg**	**10 57 16.7**	**-0.4**
CHTH	**Charan**	**0.81**	**227**	*e*Pg	**Pg**	**10 57 19.9**	**-1.0**
CHTH				*e*Sg	**Sg**	**10 57 31.8**	**+0.1**
DAMV	**Damavand**	**0.84**	**173**	*e*Pg	**Pg**	**10 57 21.5**	**0.0**
DAMV				*e*Sg	**Sg**	**10 57 34.1**	**+1.5**
DAMV				AML	AML	10 57 35.9	
	comp=N,674nm,0.6s						
IDMV	**Damavand**	**0.90**	**170**	Pg	**Pb**	**10 57 21.8**	**-0.7**
IDMV				Sg	**Sb**	**10 57 32.6**	**-1.9**
THKV	**Tehran--Karaj**	**0.96**	**236**	*e*Pg	**Pb**	**10 57 23.3**	**-0.2**
THKV				*e*Sg	**Sb**	**10 57 36.5**	**+0.2**
THKV				AML	AML	10 57 38.5	
	comp=N,362nm,0.3s						
IFIR	**Firoozkooh**	**1.10**	**138**	Pg	**Pb**	**10 57 25.4**	**-0.6**
IFIR				Sg	**Sb**	**10 57 39.8**	**-0.6**
IMHD	**Mahdasht**	**1.23**	**231**	Pg	**Pg**	**10 57 28.3**	**-1.1**
IGLO	**Galoogah**	**1.34**	**96**	Pn	**Pn**	**10 57 34.6**	**+4.4**
IVRN	**Varamin**	**1.47**	**184**	Pn	**Pn**	**10 57 32.2**	**+0.1**
IVRN				Sn	**Sn**	**10 57 52.4**	**+0.5**
IKIA	**Kiasar**	**1.50**	**99**	Pn	**Pn**	**10 57 32.5**	**-0.1**
IRAZ	**Razeghan**	**1.88**	**236**	Pn	**Pg**	**10 57 52.6**	**+10**
ISFB	**Sefidab**	**2.13**	**171**	Pn	**Pn**	**10 57 43.2**	**+1.7**
ASAO	**Ashtian**	**2.42**	**218**	*e*Pn	**Pn**	**10 57 47.5**	**+1.8**

IDC ***09*** *11:07:09.7±1.9,4.80S×152.57E,mb3.9/4,mb1 4.2/4, mb1mx3.9/12,mbtmp3.9/4,MS3.2/1,Ms1 3.2/1, ms1mx2.8/15,Error ellipse: s-maj=79.1km s-min=29.5km az=127.0*
ISC 09 11:07:12.4±2.2,5.0S±0.3×152.9E±0.5,h33km,n8,σ0§20/5, mb3.8/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.30**	**123**	LR	LR	11 12 11.9	
	comp=Z,153nm,18.1s,baz=266,slow=35						
KAKA	**Kakadu**	**21.57**	**248**	*e*P	Px	11 12 21.9	
	9.4nm,0.4s						
WB2	**Warramunga Arr**	**23.36**	**229**	*e*P	**P**	**11 12 19.1**	**+0.1**
WRA	**Warramunga Arr**	**23.36**	**229**	P	**P**	**11 12 18.9**	**-0.2**
	2.8nm,0.7s,mb3.8,baz=52,slow=10.0,SNR=16						
MKAR	**Makanchi Array**	**80.50**	**319**	P	**P**	**11 19 23.0**	**+0.2**
	0.4nm,0.8s,mb3.4,baz=90,slow=8.5,SNR=4.8						
ZAL	**Zalesovo**	**81.34**	**326**	P	**P**	**11 19 26.9**	**-0.2**
	0.5nm,0.5s,mb3.7,baz=340,slow=6.6,SNR=3.1						
ILAR	**Eielson Array**	**82.31**	**22**	P	**P**	**11 19 31.9**	**0.0**
	1.6nm,0.7s,mb4.0,baz=244,slow=4.9,SNR=20						
TORD	**Torodi Ar. Bea**	**150.42**	**288**	PKPbc	PKPdf	11 27 03.2	+7.0
	1.2nm,0.5s,baz=69,slow=2.7,SNR=11						

TEH ***09*** *11:09:06.8,39.35N×54.91E,h10km,Mn3.1*
NNC ***09*** *11:09:15.1±18.0,39.90N×56.73E,Error ellipse: s-maj=1379.7km s-min=182.6km az=102.0*
ISC 09 11:09:02.8±1.0,39.47N±0.09×54.8E±0.1,h10km,n12, σ1§33/14,2C,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGLO	**Galoogah**	**3.31**	**198**	Pn	**Pn**	**11 09 52.0**	**-3.8**
IKIA	**Kiasar**	**3.37**	**195**	Pn	**Pn**	**11 09 57.5**	**+0.9**
IPRN	**Paran-Amol**	**3.79**	**213**	Pn	**Pn**	**11 10 01.8**	**-0.8**
IKRD	**Kardeh**	**4.00**	**131**	Pn	**Pn**	**11 10 14.1**	**+8.6**
IFIR	**Firoozkooh**	**4.14**	**203**	Pn	**Pn**	**11 10 09.3**	**+1.7**
IFIR				Sn	**Sn**	**11 10 54.4**	**-2.3**
IAFJ	**Afjeh**	**4.35**	**215**	Pn	**Pn**	**11 10 11.2**	**+0.7**
IDMV	**Damavand**	**4.46**	**210**	Pn	**Pn**	**11 10 13.2**	**+1.2**
IPAY	**Payeh**	**4.49**	**131**	Pn	**Pn**	**11 10 13.7**	**+1.1**
IVRN	**Varamin**	**5.08**	**210**	Sn	**Sn**	**11 11 17.1**	**-3.3**
IMYA	**Miamay**	**5.24**	**126**	Pn	**Pn**	**11 10 21.8**	**-1.3**
ISFB	**Sefidab**	**5.50**	**203**	Pn	**Pn**	**11 10 27.1**	**+0.4**
AB31	**Akbulak array**	**10.46**	**19**	⇑Pn	**P**	**11 11 34.9**	**-0.9**
	0.2nm,0.2s,baz=201,slow=13,SNR=22						
AB31				⇑Sn	**S**	**11 13 25.1**	**-9.0**
	0.6nm,0.3s,baz=193,slow=24,SNR=15						

MOS ***09*** *11:45:33.8±2.2,34.97N×27.76E,h33km,mb4.5/6,Error ellipse: s-maj=30.1km s-min=13.4km az=94.2*
CSEM ***09*** *11:45:35.5±0.0,35.26N×28.10E,h60km,mb4.1/11,Mw3.6, Error ellipse: s-maj=2.0km s-min=1.0km az=55.0*
ATH ***09*** *11:45:36.8,35.24N×28.06E,h39km±3km,MD4.0/12, ML4.3*
ISK ***09*** *11:45:36.6,35.29N×28.04E,h57km,ML3.8*
HLW ***09*** *11:45:37.5,35.22N×28.25E,h18km,Mb4.0*
NEIC ***09*** *11:45:38.0,35.37N×28.07E,h75km,mb4.1/12,After ATH.*
NIC ***09*** *11:45:42.0±0.4,35.50N×28.46E,h55km,mb4.1,ML3.7, MW3.4*
IDC ***09*** *11:45:42.0±1.9,35.72N×27.92E,h55km±15km,mb3.6/14, mb1 3.7/16,mb1mx3.6/23,mbtmp3.8/16,ML3.1/2,Error ellipse: s-maj=28.3km s-min=9.5km az=154.0*
ISC 09 11:45:36.6±0.2,35.22N±0.02×28.17E±0.02,h71km±4km, n144,σ1§11/176,mb3.8/21,17C-12D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.89**	**292**	⇑*i*PB	**P**	**11 45 51.9**	**-2.1**
KARP				*e*SN	**S**	**11 46 04.5**	**-2.3**
KARP	**Karpathos**	**0.89**	**292**	*e*P	**P**	**11 45 54.1**	**+0.1**
ARG	**Arkhangelos**	**1.00**	**358**	*e*PN	**P**	**11 45 55.9**	**+0.5**
ARG				*e*SN	**S**	**11 46 09.6**	**+0.2**
KSL	**Kastellorizon**	**1.48**	**51**	*e*PN	**P**	**11 46 03.5**	**+1.6**
AKAS	**Kas**	**1.55**	**49**	*i*P	**P**	**11 46 03.8**	**+1.0**
AKAS				*i*S	**S**	**11 46 21.2**	**-0.8**
DAT	**Datca**	**1.58**	**343**	*i*PN	**P**	**11 46 01.8**	**-1.5**
DAT				*i*SN	**S**	**11 46 20.5**	**-2.4**
DALT	**Dalyan (Mudla)**	**1.59**	**14**	PN	**P**	**11 46 03.2**	**-0.2**
FETY	**Fethiye**	**1.60**	**27**	PN	**P**	**11 46 03.2**	**-0.3**
NISR	**Nisiros**	**1.63**	**329**	*e*PN	**P**	**11 46 03.8**	**-0.1**
YER	**Yerkesik**	**1.92**	**3**	PN	**P**	**11 46 07.1**	**-0.6**
BDRM	**Kayabasi**	**1.94**	**343**	*i*P	**P**	**11 46 07.7**	**-0.3**
BDRM				*i*S	**S**	**11 46 29.8**	**-1.4**
BODT	**Bodrum**	**1.97**	**340**	PN	**P**	**11 46 06.9**	**-1.6**
XRY	**Khrisi**	**2.06**	**261**	*e*PN	**P**	**11 46 10.0**	**+0.2**
XRY	**Khrisi**	**2.06**	**261**	*e*P	**P**	**11 46 11.2**	**+1.4**
ELL	**Elmali**	**2.08**	**42**	*e*PN	**P**	**11 46 11.4**	**+1.4**
NPS	**Neapolis**	**2.09**	**272**	*e*PN	**P**	**11 46 09.8**	**-0.4**
NPS	**Neapolis**	**2.09**	**272**	*e*P	**P**	**11 46 12.2**	**+2.0**
MLSB	**Milas**	**2.10**	**351**	PN	**P**	**11 46 10.3**	**0.0**
GOLH	**Golhisar**	**2.31**	**29**	*i*P	**P**	**11 46 14.7**	**+1.5**
GOLH				*i*S	**S**	**11 46 41.8**	**+1.3**
AYDN	**Tasoluk**	**2.45**	**355**	*i*P	**P**	**11 46 14.7**	**-0.6**
AYDN				*i*S	**S**	**11 46 46.3**	**+2.2**
SANT	**Santorini**	**2.49**	**298**	*e*Pn	**P**	**11 46 15.6**	**-0.1**
DENT	**Denizli**	**2.62**	**15**	*e*PN	**P**	**11 46 17.6**	**-0.1**
IDI	**Anoyia**	**2.69**	**272**	P	**P**	**11 46 19.6**	**+1.0**
	7.1nm,0.3s,baz=63,slow=16,SNR=40						
IDI				S	**S**	**11 46 51.3**	**+1.3**
	14nm,0.3s,baz=294,slow=20,SNR=5.1						
SMG	**Samos**	**2.71**	**337**	*e*PN	**P**	**11 46 18.3**	**-0.6**
APE	**Apeiranthos**	**2.82**	**312**	*e*PN	**P**	**11 46 19.5**	**-1.0**
APE	**Apeiranthos**	**2.82**	**312**	*e*PN	**P**	**11 46 20.3**	**-0.2**
APE	**Apeiranthos**	**2.82**	**312**	*c iP*	**P**	**11 46 20.1**	**-0.4**
APE	**Apeiranthos**	**2.82**	**312**	*e*P	**P**	**11 46 20.7**	**+0.2**
APE	**Apeiranthos**	**2.82**	**312**	*i*P	**P**	**11 46 20.1**	**-0.4**
BCK	**Bucak**	**2.97**	**40**	*e*PN	**P**	**11 46 22.9**	**+0.3**
ISP	**Isparta**	**3.23**	**35**	*e*PN	**P**	**11 46 26.4**	**+0.2**
ISP	**Isparta**	**3.23**	**35**	*i*P	**P**	**11 46 35.3**	**+9.1**
VAM	**Vamos**	**3.25**	**274**	*e*PN	**P**	**11 46 26.9**	**+0.4**
VAM	**Vamos**	**3.25**	**274**	*e*P	**P**	**11 46 27.2**	**+0.7**
GVD	**Gavdhos**	**3.37**	**265**	*e*Pn	**P**	**11 46 30.1**	**+1.9**
AKMC	**Akamas**	**3.42**	**92**	P	**P**	**11 46 31.9**	**+3.1**
PPCY	**Paphos**	**3.44**	**94**	⇓P	**P**	**11 46 31.4**	**+2.2**
ALFC	**Alevga**	**3.63**	**90**	P	**P**	**11 46 32.8**	**+1.0**
	8.1nm,0.2s						
ALFC				S	**S**	**11 47 13.8**	**+0.2**
AKS	**Akhisar**	**3.67**	**356**	*e*PN	**P**	**11 46 31.4**	**-0.9**
SZAC	**Souni-Zanaja**	**3.90**	**95**	P	**P**	**11 46 37.9**	**+2.4**
SZAC				S	**S**	**11 47 20.1**	**-0.2**
ERMK	**Ermenek**	**4.10**	**68**	*i*P	**P**	**11 46 38.8**	**+0.4**
ERMK				*i*S	**S**	**11 47 24.5**	**-1.0**
ALT	**Altintas**	**4.13**	**21**	*e*PN	**P**	**11 46 39.2**	**+0.4**
HMAT	**Matruh**	**4.21**	**193**	⇑P	**P**	**11 46 41.1**	**+1.2**
HMAT				S	**S**	**11 47 26.4**	**-1.7**
CSS	**Prodhromos**	**4.24**	**92**	⇑P	**P**	**11 46 42.0**	**+1.7**
	2.3nm,0.3s						
CSS				S	**S**	**11 47 29.2**	**+0.3**
CSS	**Prodhromos**	**4.24**	**92**	Pn	**P**	**11 46 42.5**	**+2.2**
CSS				Sn	**S**	**11 47 30.0**	**+1.1**
CSS	**Prodhromos**	**4.24**	**92**	*e*Pn	**P**	**11 46 45.3**	**+5.0**
CSS	**Prodhromos**	**4.24**	**92**	Pn	**P**	**11 46 42.5**	**+2.2**
CSS				S	**S**	**11 47 29.2**	**+0.3**
CSS				Sn	**S**	**11 47 30.0**	**+1.1**
KYTH	**Kithira**	**4.31**	**286**	*e*PN	**P**	**11 46 42.0**	**+0.8**
KYTH	**Kithira**	**4.31**	**286**	*e*P	**P**	**11 46 40.0**	**-1.2**
SLUM		**4.46**	**214**	⇓P	**P**	**11 46 44.0**	**+0.6**
SLUM		**4.46**	**214**	P	**P**	**11 46 44.0**	**+0.6**
VLI	**Veliai**	**4.50**	**291**	*e*PN	**P**	**11 46 43.3**	**-0.6**
VLI	**Veliai**	**4.50**	**291**	*e*P	**P**	**11 46 44.6**	**+0.7**
ATH	**Athens Observa**	**4.52**	**309**	*e*PN	**P**	**11 46 44.0**	**-0.1**
ATH	**Athens Observa**	**4.52**	**309**	*e*P	**P**	**11 46 42.0**	**-2.1**
KIZT	**Kizilcal**	**4.71**	**38**	*e*PN	**P**	**11 46 47.6**	**+0.8**
LKR	**Lokris**	**5.38**	**311**	*e*PN	**P**	**11 46 55.8**	**-0.2**
SQR		**5.90**	**154**	⇑P	**P**	**11 47 03.3**	**0.0**
HNAT	**Natroun**	**5.94**	**159**	⇑P	**P**	**11 47 03.8**	**0.0**
FYM	**Al Fayyum**	**6.02**	**155**	⇑P	**P**	**11 47 05.4**	**+0.5**
FYM				S	**S**	**11 48 08.6**	**-4.7**
AYT	**Al 'Ayyat**	**6.05**	**155**	⇑P	**P**	**11 47 05.2**	**-0.1**
KOT	**Kottamia**	**6.11**	**149**	⇓P	**P**	**11 47 06.2**	**0.0**
KOT				S	**S**	**11 48 10.5**	**-5.0**
HNTI	**Hanita**	**6.18**	**108**	Pn	**P**	**11 47 09.2**	**+2.0**
HNTI				Sn	**S**	**11 48 16.5**	**-0.8**
HHAG	**Hagoal**	**6.21**	**147**	⇓P	**P**	**11 47 07.5**	**-0.1**
AMAG	**Maghara**	**6.22**	**136**	⇑P	**P**	**11 47 07.4**	**-0.4**
OFRI	**'Ofer**	**6.23**	**113**	Sn	**S**	**11 48 16.8**	**-1.6**
BR131	**Keskin Array S**	**6.26**	**42**	*e*Pn	**P**	**11 47 08.5**	**+0.3**
	2.9nm,0.5s						
BRTR	**Keskin Array B**	**6.26**	**42**	P	**P**	**11 47 07.0**	**-1.2**
	0.3nm,0.3s,baz=222,slow=15,SNR=6.3						
BRTR				S	**S**	**11 48 17.1**	**-2.0**
	1.0nm,0.3s,baz=214,slow=24,SNR=9.0						
HSAF	**As Saff**	**6.27**	**152**	⇑P	**P**	**11 47 08.3**	**-0.1**
SWA1		**6.29**	**200**	⇓P	**P**	**11 47 09.4**	**+0.7**
HRSH	**Kfar Ka'horesh**	**6.30**	**131**	⇓P	**P**	**11 47 08.4**	**-0.4**
RSH		**6.30**	**131**	P	**P**	**11 47 08.4**	**-0.5**
GLL	**Jalalah**	**6.37**	**151**	⇓P	**P**	**11 47 09.8**	**-0.1**
SWA2		**6.38**	**202**	⇓P	**P**	**11 47 10.4**	**+0.3**
MMA0	**Mount Meron ar**	**6.39**	**108**	Pn	**P**	**11 47 11.2**	**+1.1**
MMA0				Sn	**S**	**11 48 22.0**	**-0.3**
MMA1	**Mount Meron ar**	**6.39**	**108**	Pn	**P**	**11 47 11.3**	**+1.2**
MMA1				Sn	**S**	**11 48 21.5**	**-0.9**
KSDI	**Kefar Szold**	**6.53**	**106**	Pn	**P**	**11 47 13.3**	**+1.3**
KSDI				Sn	**S**	**11 48 23.8**	**-1.9**
MMLI	**Mount Malkishu**	**6.64**	**113**	Pn	**P**	**11 47 15.1**	**+1.5**
MMLI				Sn	**S**	**11 48 27.1**	**-1.5**
SUZ		**6.65**	**142**	P	**P**	**11 47 13.5**	**-0.2**
HBNS	**Bani Suwayf**	**6.76**	**157**	P	**P**	**11 47 15.1**	**-0.1**
KZIT	**Kziot**	**6.77**	**128**	Pn	**P**	**11 47 15.6**	**+0.2**
KZIT				Sn	**S**	**11 48 27.5**	**-4.2**
RTMM	**Retamin**	**6.87**	**125**	Pn	**P**	**11 47 17.2**	**+0.4**
RTMM				Sn	**S**	**11 48 31.5**	**-2.6**
AWBH		**6.90**	**175**	⇓P	**P**	**11 47 17.4**	**+0.1**
MASH	**Mash'abbe Sade**	**6.96**	**125**	Pn	**P**	**11 47 18.7**	**+0.5**
MASH				Sn	**S**	**11 48 33.2**	**-3.4**
ZAF		**6.98**	**147**	⇓P	**P**	**11 47 18.0**	**-0.4**
ZNM		**7.05**	**144**	P	**P**	**11 47 19.7**	**+0.3**
MZDA	**Masada**	**7.17**	**121**	Pn	**P**	**11 47 22.0**	**+1.0**
MZDA				Sn	**S**	**11 48 39.6**	**-2.1**
HNKL	**Nakhl**	**7.20**	**135**	⇑P	**P**	**11 47 21.2**	**-0.2**
MKRJ	**Makawir**	**7.24**	**118**	Pn	**P**	**11 47 23.4**	**+1.5**
PRNI	**Paran**	**7.53**	**128**	Pn	**P**	**11 47 25.8**	**-0.1**
PRNI				Sn	**S**	**11 48 47.1**	**-3.3**
HRFI	**Mount Harif**	**7.76**	**130**	Pn	**P**	**11 47 26.4**	**+0.3**
HRFI				Sn	**S**	**11 48 52.4**	**-3.8**
MBH	**Mount Berech**	**7.85**	**132**	Pn	**P**	**11 47 31.4**	**+1.0**
MBH				Sn	**S**	**11 48 55.8**	**-2.7**
GRB	**Gharib**	**7.96**	**149**	P	**P**	**11 47 31.3**	**-0.6**
EIL	**Elat**	**7.96**	**132**	Pn	**P**	**11 47 32.5**	**+0.6**
EIL				Sn	**S**	**11 48 57.3**	**-3.9**
HFRF	**Wahat Farafira**	**8.04**	**179**	⇑P	**P**	**11 47 33.1**	**+0.1**
HBST	**Basata**	**8.17**	**135**	⇑P	**P**	**11 47 35.3**	**+0.7**
HKAT	**Jabal Katrina**	**8.31**	**142**	⇓P	**P**	**11 47 36.6**	**0.0**
ASUT		**8.32**	**159**	⇑P	**P**	**11 47 36.6**	**-0.1**
HDHB	**Dhahab**	**8.48**	**138**	⇑P	**P**	**11 47 38.3**	**-0.6**
TR1		**8.71**	**144**	⇑P	**P**	**11 47 41.3**	**-0.8**
HHRG	**Al Ghardaqah**	**9.21**	**148**	⇓P	**P**	**11 47 48.4**	**-0.6**
HDK1	**Dakhla**	**9.70**	**173**	⇑P	**P**	**11 47 55.7**	**+0.1**
AKASG	**Malin Array Be**	**15.49**	**3**	*i*P	**P**	**11 49 16.7**	**+4.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PGF	**Pioggiola**	**16.61**	**302**	*e*P	**P**	**11 49 24.5**	**-1.5**
	comp=Z,45nm,1.0s						
SBF	**Sospel**	**18.14**	**305**	*e*P	**P**	**11 49 43.4**	**-1.7**
MBDF	**Montbardon**	**18.91**	**307**	*e*P	**P**	**11 49 52.8**	**-1.2**
CABF	**La Chapelle**	**20.13**	**311**	*e*P	**P**	**11 50 06.1**	**-1.0**
	comp=Z,13nm,0.7s						
HINF	**Hinteralfeld**	**20.25**	**315**	*e*P	**P**	**11 50 07.5**	**-0.9**
	comp=Z,3.6nm,0.4s						
CDF	**Champ du Feu**	**20.32**	**317**	*e*P	**P**	**11 50 07.9**	**-1.2**
	comp=Z,1.1nm,0.3s						
VIVF	**Saint-Julien-l**	**20.34**	**305**	*e*P	**P**	**11 50 09.0**	**-0.4**
	comp=Z,1.1nm,0.7s						
HAU	**Haudompre**	**20.64**	**315**	*e*P	**P**	**11 50 11.4**	**-1.0**
SMF	**Signal de Mont**	**21.55**	**309**	*e*P	**P**	**11 50 20.8**	**-0.7**
	comp=Z,13nm,0.8s,mb4.0						
AVF	**Avril sur Loir**	**21.91**	**309**	*e*P	**P**	**11 50 24.7**	**-0.5**
	comp=Z,6.0nm,0.6s,mb3.8						
SSF	**Saint Saulge**	**21.92**	**310**	*e*P	**P**	**11 50 24.6**	**-0.7**
	comp=Z,4.4nm,0.5s,mb4.0						
BAIF	**Baives**	**22.90**	**318**	*e*P	**P**	**11 50 33.6**	**-1.1**
	comp=Z,43nm,1.3s,mb4.3						
MFF	**Saint Martin d**	**24.10**	**307**	*e*P	**P**	**11 50 46.6**	**+0.2**
LDF	**La Druitiere**	**24.77**	**311**	*e*P	**P**	**11 50 52.5**	**-0.4**
FLN	**La Foliniere**	**25.06**	**311**	*e*P	**P**	**11 50 55.4**	**-0.2**
	comp=Z,27nm,0.9s,mb4.4						
GRR	**Gorron**	**25.15**	**310**	*e*P	**P**	**11 50 56.2**	**-0.3**
	comp=Z,9.5nm,0.5s,mb4.2						
ESDC	**Sonseca Array**	**25.82**	**290**	P	**P**	**11 51 04.9**	**+2.1**
	comp=Z,1.4nm,0.4s,mb3.7,baz=80,slow=9.1,SNR=13						
FINES	**FINESS Array B**	**26.28**	**358**	P	**P**	**11 51 07.6**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.4,baz=157,slow=14,SNR=6.3						
FINES	**FINESS Array B**	**26.28**	**358**	P	**P**	**11 51 07.6**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**26.28**	**358**	P	**P**	**11 51 07.6**	**+0.7**
AKTK	**Aktyubinsk**	**26.42**	**46**	P	**P**	**11 51 12.2**	**+4.0**
AKTO	**Aktyubinsk**	**26.42**	**46**	P	**P**	**11 51 12.2**	**+4.0**
	comp=Z,0.7nm,0.5s,mb3.3,baz=225,slow=2.9,SNR=3.8						
AKTO	**Aktyubinsk**	**26.42**	**46**	P	**P**	**11 51 12.3**	**+4.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
QUIF	**Quistinic**	**26.46**	**308**	*e*P	**P**	**11 51 08.7**	**0.0**
	comp=Z,16nm,0.7s,mb4.3						
HFS	**Hagfors**	**26.64**	**344**	P	**P**	**11 51 09.5**	**-0.7**
	comp=Z,2.9nm,0.7s,mb3.9,baz=153,slow=9.9,SNR=8.1						
HFS	**Hagfors**	**26.64**	**344**	P	**P**	**11 51 09.5**	**-0.7**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MDT	**Midelt**	**27.21**	**274**	P	**P**	**11 51 18.9**	**+3.1**
	comp=Z,1.4nm,0.7s,mb3.6,baz=62,slow=7.5,SNR=4.3						
NOA	**NORSAR Array B**	**28.03**	**342**	P	**P**	**11 51 22.9**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.2,baz=145,slow=8.7,SNR=3.7						
NOA	**NORSAR Array B**	**28.03**	**342**	P	**P**	**11 51 22.9**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**28.03**	**342**	P	**P**	**11 51 22.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**32.47**	**234**	P	**P**	**11 52 07.0**	**+4.5**
	comp=Z,0.5nm,0.5s,mb3.5,baz=39,slow=8.6,SNR=6.3						
ARCES	**ARCESS Array B**	**34.40**	**358**	P	**P**	**11 52 19.4**	**+0.8**
	comp=Z,0.7nm,0.4s,mb3.9,baz=171,slow=8.3,SNR=18						
ARCES	**ARCESS Array B**	**34.40**	**358**	P	**P**	**11 52 19.4**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**41.68**	**57**	P	**P**	**11 53 25.4**	**+5.9**
	comp=Z,0.3nm,0.5s,mb3.3,baz=271,slow=8.1,SNR=5.4						
SONM	**Songino Array**	**57.53**	**51**	P	**P**	**11 55 25.3**	**+4.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=286,slow=8.0,SNR=6.2						
SONM	**Songino Array**	**57.53**	**51**	P	**P**	**11 55 25.3**	**+4.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	**64.73**	**320**	P	**P**	**11 56 10.7**	**+1.5**
	comp=Z,5.5nm,0.8s,mb4.4,baz=91,slow=6.9,SNR=6.6						
YKA	**Yellowknife Ar**	**78.13**	**343**	P	**P**	**11 57 31.4**	**+2.4**
	comp=Z,0.1nm,0.5s,mb2.8,baz=31,slow=5.3,SNR=3.9						
ILAR	**Eielson Array**	**80.27**	**358**	P	**P**	**11 57 44.2**	**+3.7**
	comp=Z,0.4nm,0.6s,mb3.4,baz=342,slow=3.1,SNR=9.8						
ULM	**Lac du Bonnet**	**81.61**	**327**	P	**P**	**11 57 50.4**	**+2.5**
	comp=Z,0.9nm,0.4s,mb3.9,baz=54,slow=8.7,SNR=4.1						
ULM	**Lac du Bonnet**	**81.61**	**327**	P	**P**	**11 57 50.4**	**+2.5**

IDC 09 11:50:41.1±4.7,48.76S×120.78E,mb3.7/2,mb1 4.0/2, mb1mx3.7/8,mbtmp3.7/2,MS4.0/4,Ms1 4.0/4, ms1mx3.5/12,Error ellipse: s-maj=263.1km s-min=31.1km az=95.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**23.04**	**51**	LR	LR	12 03 02.7	
	comp=Z,290nm,19.7s,baz=204,slow=32						
WRA	**Warramunga Arr**	**30.76**	**26**	P	P	11 56 57.2	-3.0
	1.1nm,1.1s,baz=199,slow=8.2,SNR=3.7						
VNDA	**Vanda**	**32.82**	**165**	P	P	11 57 15.3	-2.5
	2.3nm,1.0s,baz=324,slow=9.1,SNR=6.0						
VNDA				LR	LR	12 09 27.3	
	comp=Z,175nm,18.1s,baz=320,slow=34						
GUMO	**Guam**	**65.65**	**26**	LR	LR	12 26 56.4	
	comp=Z,145nm,21.6s,baz=97,slow=33						
PLCA	**Paso Flores**	**90.32**	**171**	LR	LR	12 42 04.7	
	comp=Z,81nm,19.8s,baz=355,slow=34						
PDAR	**Pinedale Array**	**144.91**	**80**	PKP	PKPdf	12 10 18.9	-2.3
	0.2nm,0.5s,baz=270,slow=0.9,SNR=4.4						
YKA	**Yellowknife Ar**	**146.99**	**45**	PKPbc	PKPbc	12 10 24.6	+0.8
	1.4nm,0.8s,baz=280,slow=2.1,SNR=20						

ISK ***09*** *11:51:18.4,39.07N×40.36E,h5km,MD3.6*
CSEM ***09*** *11:51:18.4,39.07N×40.36E,h5km,MD3.6,After ISK*
ISC 09 11:51:18.3±0.5,39.05N±0.03×40.38E±0.05,h5km,n14, σ0§82/20,Turkey

| Code | Station Name | Δ° | AZ° | Phase ID

IDC 09 13:36:01.2±1.5, 26.48N×92.17E, mb3.6/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.7/3, Error ellipse: s-maj=80.5km s-min=30.9km az=55.0, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.74**	**341**	P	P	13 40 54.3	-1.8
	1.1nm,0.6s,baz=149,slow=11,SNR=14						
WRA	**Warramunga Arr**	**61.66**	**134**	P	P	13 46 21.3	-2.3
	0.2nm,0.5s,baz=324,slow=7.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**84.67**	**282**	P	P	13 48 37.4	-1.3
	0.4nm,0.9s,baz=73,slow=3.4,SNR=3.7						

*IDC **09** 13:41:51.0±1.3, 33.22N×141.80E, mb3.7/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=25.8km s-min=22.9km az=39.0*
*JMA **09** 13:41:52.3±0.3, 33.28N×141.99E, h79km, M3.1*
*NEIC **09** 13:41:56.1±1.2, 33.26N×141.76E, h35km, mb3.9/1, Error ellipse: s-maj=32.3km s-min=18.0km az=59.0*
ISC 09 13:41:50.9±1.9, 33.28N±0.05×141.94E±0.09, h13km±14km, n15, σ0$84/22, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.58**	**330**	P	**Pn**	**13 42 19.2**	**+0.2**
BSO1				*e*S	**Sn**	**13 42 39.2**	**-0.3**
BSO2	**Boso 2**	**1.77**	**326**	*e*S	**Sn**	**13 42 44.4**	**+0.3**
JHJ2	**Mitsune**	**1.79**	**265**	P	**Pn**	**13 42 22.5**	**+0.6**
JHJ2				*e*S	**Sn**	**13 42 45.3**	**+0.7**
JHJ	**Hachijo jima 2**	**1.82**	**265**	Pn	**Pn**	**13 42 21.0**	**-1.3**
	36nm,0.3s,baz=182,slow=19,SNR=7.0						
JHJ				Sn	**Sn**	**13 42 45.4**	**0.0**
	65nm,0.3s,baz=84,slow=23,SNR=7.0						
BSO3	**Boso 3**	**1.93**	**322**	P	**Pn**	**13 42 24.4**	**+0.5**
BSO3				*e*S	**Sn**	**13 42 48.3**	**+0.2**
BSO4	**Boso 4**	**2.16**	**322**	P	**Pn**	**13 42 27.8**	**+0.6**
BSO4				*e*S	**Sn**	**13 42 54.7**	**+0.6**
JHO	**Hitachi**	**3.51**	**342**	P	**Pn**	**13 42 45.8**	**-0.6**
JHO				*e*S	**Sn**	**13 43 24.1**	**-4.1**
JYN	**Shimob**	**3.57**	**309**	P	**Pn**	**13 42 47.3**	**-0.1**
MJAR	**Matsushiro Arr**	**4.47**	**318**	Pn	**Pn**	**13 42 59.3**	**-0.8**
	1.1nm,0.3s,baz=147,slow=11,SNR=11						
MJAR				Sn	**Sn**	**13 43 50.5**	**-2.1**
	1.1nm,0.3s,baz=35,slow=10,SNR=5.2						
MAJO	**Matsushiro**	**4.47**	**318**	Pn	**Pn**	**13 43 00.3**	**+0.2**
ULN	**Ulaanbaatar**	**29.95**	**310**	*e*P	**P**	**13 48 02.5**	**+1.5**
	1.2nm,0.6s,mb3.8						
SONM	**Songino Array**	**30.37**	**309**	P	**P**	**13 48 05.8**	**+1.1**
	1.0nm,0.8s,mb3.6,baz=107,slow=7.6,SNR=5.4						
MKAR	**Makanchi Array**	**46.56**	**305**	P	**P**	**13 50 19.0**	**-1.0**
	0.5nm,0.8s,mb3.5,baz=79,slow=7.3,SNR=2.4						
ILAR	**Eielson Array**	**52.46**	**31**	P	**P**	**13 51 05.8**	**+0.5**
	0.8nm,1.0s,mb3.6,baz=263,slow=6.4,SNR=5.0						
WRA	**Warramunga Arr**	**53.42**	**189**	P	**P**	**13 51 11.9**	**-1.0**
	0.5nm,0.3s,mb3.9,baz=4.6,slow=7.4,SNR=30						

*IDC **09** 13:50:09.9±1.1, 8.47S×121.80E, mb3.8/4, mb1 4.0/5, mb1mx3.9/11, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=103.5km s-min=24.8km az=69.0*
NEIC 09 13:50:12.2±0.7, 8.46S×121.96E, h15km, Error ellipse: s-maj=24.5km s-min=11.0km az=66.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.14**	**113**	*e*P	P	13 53 17.0	
	12nm,0.4s						
KAKA				*e*S	Sx	13 55 21.4	
MBWA	**Marble Bar**	**12.80**	**189**	*e*Pn	P	13 53 13.6	-2.9
WRA	**Warramunga Arr**	**16.55**	**135**	Pn	P	13 54 03.6	-1.9
	0.5nm,0.3s,baz=306,slow=14,SNR=21						
WRA				Sn	S	13 57 00.3	-8.0
	0.8nm,0.3s,baz=306,slow=24,SNR=15						
WB2	**Warramunga Arr**	**16.56**	**135**	*e*P	P	13 54 04.1	-1.5
WB2				*e*S	S	13 56 59.4	-9.1
STKA	**Stephens Creek**	**29.60**	**145**	P	P	13 56 20.3	+1.2
	1.7nm,0.6s,baz=337,slow=7.7,SNR=4.5						
STKA	**Stephens Creek**	**29.60**	**145**	P	P	13 56 20.3	+1.2
SONM	**Songino Array**	**57.72**	**348**	P	P	14 00 02.5	-2.2
	0.8nm,0.7s,baz=156,slow=7.9,SNR=5.4						
MKAR	**Makanchi Array**	**65.35**	**331**	P	P	14 00 52.8	-3.4
	0.7nm,0.5s,baz=138,slow=7.1,SNR=6.6						
ZAL	**Zalesovo**	**69.62**	**338**	P	P	14 01 21.6	-1.2
	0.8nm,0.5s,baz=298,slow=6.0,SNR=3.6						
VNDA	**Vanda**	**72.08**	**172**	P	P	14 01 36.0	-1.4
	0.3nm,0.6s,baz=321,slow=6.6,SNR=4.2						

*ISK **09** 13:52:00.5, 38.12N×26.75E, h13km, MD3.2*
*NEIC **09** 13:52:00.0, 38.15N×26.72E, h16km, MD3.5(ATH), MD3.0(ISK), After ISK.*
*ATH **09** 13:52:01.1, 38.12N×26.52E, h23km±3km, MD3.5/3*
*CSEM **09** 13:52:01.8±0.2, 38.16N×26.81E, h22km±1km, MD3.5, Error ellipse: s-maj=3.8km s-min=2.2km az=69.0*
ISC 09 13:52:00.7±0.6, 38.17N±0.02×26.70E±0.04, h6km±5km, n23, σ1$05/33, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.21**	**338**	*i* P	**Pg**	**13 52 04.7**	**-0.3**
URLA				*i* S	**Sg**	**13 52 08.2**	**+0.4**
SMG	**Samos**	**0.47**	**166**	⇓ *i* PB	**Pg**	**13 52 10.8**	**+0.7**
SMG				*e*SB	**Sg**	**13 52 18.5**	**+2.0**
IZM	**Izmir**	**0.50**	**63**	*i* PG	**Pg**	**13 52 11.4**	**+0.7**
IZM				*i* SG	**Sg**	**13 52 17.1**	**-0.3**
KDAG	**Bornova**	**0.51**	**62**	*i* P	**Pg**	**13 52 10.3**	**-0.5**
KDAG				*i* S	**Sg**	**13 52 16.2**	**-1.4**
AYDN	**Tasoluk**	**1.06**	**118**	*i* P	**Pb**	**13 52 21.8**	**+0.7**
AYDN				*i* S	**Sb**	**13 52 35.9**	**+0.8**
PRK	**Paraskevi**	**1.13**	**343**	*e*PN	**Pn**	**13 52 22.6**	**-0.3**
PRK				*e*SN	**Sn**	**13 52 38.9**	**0.0**
AKS	**Akhisar**	**1.13**	**51**	PN	**Pn**	**13 52 22.7**	**-0.2**
AYVA	**Ayvalik**	**1.14**	**360**	*i* P	**Pb**	**13 52 23.5**	**+1.1**
AYVA				*i* S	**Sb**	**13 52 39.6**	**+2.4**
BODT	**Bodrum**	**1.21**	**156**	PN	**Pn**	**13 52 22.9**	**-1.2**
MLSB	**Milas**	**1.22**	**135**	*e*PN	**Pn**	**13 52 23.3**	**-1.0**
BDRM	**Kayabasi**	**1.25**	**151**	*i* P	**Pb**	**13 52 25.5**	**+1.2**
BDRM				*i* S	**Sb**	**13 52 41.6**	**+1.1**
APE	**Apeiranthos**	**1.44**	**221**	PN	**Pn**	**13 52 25.9**	**-1.5**
APE	**Apeiranthos**	**1.44**	**221**	*e*Pn	**Pn**	**13 52 26.1**	**-1.3**
MANT	**Manisa**	**1.50**	**77**	*i* P	**Pn**	**13 52 29.6**	**+1.3**
MANT				*i* S	**Sb**	**13 52 47.9**	**+0.2**
DAT	**Datca**	**1.60**	**154**	PN	**Pn**	**13 52 28.0**	**-1.7**
YER	**Yerkesik**	**1.63**	**129**	*e*PN	**Pn**	**13 52 29.5**	**-0.6**
BALB	**Balikesir**	**1.74**	**32**	*e*PN	**Pn**	**13 52 32.1**	**+0.5**
DENT	**Denizli**	**1.89**	**102**	*e*PN	**Pn**	**13 52 32.4**	**-1.5**
DNZL	**Cakiroluk**	**1.92**	**104**	*i* P	**Pn**	**13 52 34.6**	**+0.3**
DNZL				*i* S	**Sn**	**13 53 02.2**	**+3.2**
DALT	**Dalyan (Mudla)**	**2.08**	**132**	*e*PN	**Pn**	**13 52 35.7**	**-0.9**
DST	**Dursunbey**	**2.08**	**46**	*e*PN	**Pn**	**13 52 35.7**	**-0.9**
LIA	**Limnos Island**	**2.09**	**326**	*e*PN	**Pn**	**13 52 36.6**	**-0.1**
FETY	**Fethiye**	**2.44**	**128**	*e*PN	**Pn**	**13 52 40.5**	**-1.2**

GUC 09 14:07:11.5±0.7, 24.87S×68.82W, h120km, MD3.6, ML3.1, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.46**	**279**	⇓ *i* P	P	14 07 39.6	+0.7
CPN1				*i* S	S	14 08 01.0	+1.3
CPN1				AMP		14 08 09.6	
	comp=E,259nm,0.6s						
ANCH	**Antofagasta**	**1.87**	**309**	*e*P	P	14 07 42.3	-1.5
ANCH				*i* S	S	14 08 07.5	-0.7
CEN1	**Los Morros**	**1.94**	**319**	*e*P	P	14 07 44.6	0.0
CEN1				*i* S	S	14 08 09.0	-0.7
CEN1				AMP		14 08 16.7	
	comp=E,92nm,0.6s						
CRCH	**Chaqaral**	**2.19**	**228**	*e*P	P	14 07 48.2	+0.3
CRCH				*i* S	S	14 08 15.8	+0.5
CRCH				AMP		14 08 23.3	
	comp=N,196nm,0.2s						

*NEIC **09** 14:12:24.9±0.4, 31.83S×179.60E, h393km±4km, mb4.5/18, Error ellipse: s-maj=9.0km s-min=4.7km az=115.0*
*MOS **09** 14:12:24.7±1.9, 31.80S×179.60E, h399km, mb5.0/9, Error ellipse: s-maj=18.5km s-min=11.4km az=64.6*
*IDC **09** 14:12:25.5±1.0, 31.80S×179.68E, h394km±9km, mb3.9/8, mb1 4.2/13, mb1mx4.1/17, mbtmp4.8/13, Error ellipse: s-maj=16.5km s-min=10.0km az=127.0*
ISC 09 14:12:25.8±0.6, 32.04S±0.06×179.53E±0.08, h412km±6km, n253, σ1$27/184, mb4.4/23, 4C-6D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.54**	**39**	P	**P**	**14 13 29.9**	**-5.1**
	177nm,0.3s,baz=99,slow=22,SNR=13						
RAO				S	**S**	**14 14 19.2**	**-10**
	646nm,0.3s,baz=84,slow=22,SNR=13						
RAO	**Raoul Island**	**3.54**	**39**	*e*P	**P**	**14 13 27.8**	**-7.2**
MXZ	**Matakaoa Point**	**5.60**	**190**	PN	**P**	**14 13 56.6**	**+1.4**
MXZ				SN	**S**	**14 15 06.4**	**+1.0**
MXZ	**Matakaoa Point**	**5.60**	**190**	P	**P**	**14 13 56.1**	**+0.9**
MXZ				S	**S**	**14 15 06.6**	**+1.2**
KUZ	**Kuaotunu**	**5.65**	**213**	PN	**P**	**14 14 00.6**	**+4.9**
KUZ	**Kuaotunu**	**5.65**	**213**	*e*P	**P**	**14 14 00.6**	**+4.8**
WIZ	**White Island**	**5.80**	**199**	PN	**P**	**14 14 00.1**	**+2.7**
MTAZ	**Motutapu**	**6.08**	**218**	PN	**P**	**14 14 05.9**	**+5.5**
MTAZ	**Motutapu**	**6.08**	**218**	P	**P**	**14 14 05.1**	**+4.7**
PUZ	**Puketiti**	**6.11**	**189**	PN	**P**	**14 14 01.0**	**+0.3**
PUZ				SN	**S**	**14 15 15.4**	**+0.2**
PUZ	**Puketiti**	**6.11**	**189**	*e*P	**P**	**14 14 01.0**	**+0.3**
OTAZ	**Otara**	**6.20**	**217**	PN	**P**	**14 14 07.3**	**+5.7**
OTAZ	**Otara**	**6.20**	**217**	P	**P**	**14 14 07.1**	**+5.4**
MKAZ	**Moumakai**	**6.21**	**214**	PN	**P**	**14 14 07.0**	**+5.2**
MKAZ	**Moumakai**	**6.21**	**214**	P	**P**	**14 14 07.1**	**+5.4**
KAAZ	**Kauri Point**	**6.22**	**219**	PN	**P**	**14 14 07.4**	**+5.6**
WTAZ	**Waiatarua**	**6.37**	**219**	PN	**P**	**14 14 07.1**	**+3.5**
WTAZ	**Waiatarua**	**6.37**	**219**	P	**P**	**14 14 07.1**	**+3.6**
MARZ	**Manawahe**	**6.38**	**201**	PN	**P**	**14 14 06.9**	**+3.2**
MARZ	**Manawahe**	**6.38**	**201**	P	**P**	**14 14 07.0**	**+3.4**
EDRZ	**Edgecumbe**	**6.47**	**200**	PN	**P**	**14 14 07.1**	**+2.5**
EDRZ	**Edgecumbe**	**6.47**	**200**	P	**P**	**14 14 08.1**	**+3.4**
MWZ	**Matawai**	**6.49**	**194**	PN	**P**	**14 14 05.2**	**+0.3**
MWZ				SN	**S**	**14 15 24.9**	**+2.0**
MWZ	**Matawai**	**6.49**	**194**	*e*P	**P**	**14 14 05.3**	**+0.4**
URZ	**Urewera**	**6.51**	**197**	P	**P**	**14 14 04.9**	**-0.2**
	43nm,0.3s,baz=321,slow=2.2,SNR=92						
URZ				S	**S**	**14 15 24.2**	**+0.8**
	110nm,0.3s,baz=79,slow=21,SNR=19						
URZ	**Urewera**	**6.51**	**197**	PN	**P**	**14 14 04.4**	**-0.8**
URZ				SN	**S**	**14 15 24.1**	**+0.7**
URZ	**Urewera**	**6.51**	**197**	P	**P**	**14 14 04.9**	**-0.2**
TAZ	**Tarawera**	**6.66**	**201**	PN	**P**	**14 14 09.7**	**+3.0**
TAZ	**Tarawera**	**6.66**	**201**	P	**P**	**14 14 10.2**	**+3.5**
UTU	**Utuhina**	**6.71**	**203**	PN	**P**	**14 14 11.4**	**+4.1**
UTU	**Utuhina**	**6.71**	**203**	P	**P**	**14 14 12.2**	**+4.9**
KNZ	**Kokohu**	**7.13**	**192**	PN	**P**	**14 14 11.8**	**-0.2**
KNZ				SN	**S**	**14 15 35.2**	**-0.6**
KNZ	**Kokohu**	**7.13**	**192**	*e*P	**P**	**14 14 11.9**	**-0.1**
KNZ				S	**S**	**14 15 35.3**	**+0.5**
RATZ	**Rangitukua**	**7.47**	**203**	PN	**P**	**14 14 17.8**	**+1.9**
HIZ	**Hauiti**	**7.50**	**209**	PN	**P**	**14 14 19.5**	**+3.2**
HIZ	**Hauiti**	**7.50**	**209**	P	**P**	**14 14 19.7**	**+3.4**
BKZ	**Black Stump Fm**	**7.53**	**198**	PN	**P**	**14 14 15.0**	**-1.5**
BKZ	**Black Stump Fm**	**7.53**	**198**	*e*P	**P**	**14 14 15.9**	**-0.6**
KATZ	**Kakaramea**	**7.59**	**203**	PN	**P**	**14 14 18.5**	**+1.2**
KATZ	**Kakaramea**	**7.59**	**203**	P	**P**	**14 14 18.7**	**+1.4**
WTVZ	**West Tongariro**	**7.75**	**203**	PN	**P**	**14 14 18.9**	**-0.2**
WTVZ	**West Tongariro**	**7.75**	**203**	P	**P**	**14 14 19.5**	**+0.4**
TWVZ	**Taurewa**	**7.77**	**204**	PN	**P**	**14 14 19.4**	**+0.1**
TWVZ	**Taurewa**	**7.77**	**204**	P	**P**	**14 14 19.6**	**+0.4**
OTVZ	**Oturere**	**7.77**	**203**	PN	**P**	**14 14 19.2**	**-0.1**
NGZ	**Ngauruhoe**	**7.80**	**203**	PN	**P**	**14 14 20.1**	**+0.4**
NGZ	**Ngauruhoe**	**7.80**	**203**	P	**P**	**14 14 20.3**	**+0.6**
CNZ	**Chateau**	**7.84**	**203**	PN	**P**	**14 14 22.4**	**+2.3**
CNZ	**Chateau**	**7.84**	**203**	P	**P**	**14 14 22.5**	**+2.4**
WPVZ	**Whakapapa**	**7.85**	**203**	PN	**P**	**14 14 22.4**	**+2.2**
WPVZ	**Whakapapa**	**7.85**	**203**	P	**P**	**14 14 22.5**	**+2.3**
TUVZ	**Tukino**	**7.87**	**203**	PN	**P**	**14 14 20.3**	**-0.1**
TUVZ	**Tukino**	**7.87**	**203**	P	**P**	**14 14 20.4**	**0.0**
DRZ	**Dome Shelter**	**7.91**	**203**	P	**P**	**14 14 23.3**	**+2.5**
WNVZ	**Wahianoa**	**7.94**	**203**	PN	**P**	**14 14 20.5**	**-0.8**
WNVZ	**Wahianoa**	**7.94**	**203**	P	**P**	**14 14 21.1**	**-0.1**
MOVZ	**Moawhango**	**7.97**	**202**	PN	**P**	**14 14 22.4**	**+0.9**
MOVZ	**Moawhango**	**7.97**	**202**	P	**P**	**14 14 22.5**	**+1.0**
PKVZ	**Pokaka**	**7.99**	**204**	PN	**P**	**14 14 21.4**	**-0.4**
MTVZ	**Mangateitei**	**8.04**	**203**	PN	**P**	**14 14 22.1**	**-0.2**
VRZ	**Vera Road**	**8.07**	**207**	PN	**P**	**14 14 24.4**	**+1.8**
VRZ	**Vera Road**	**8.07**	**207**	P	**P**	**14 14 24.7**	**+2.1**
PXZ	**Pawanui**	**8.26**	**194**	PN	**P**	**14 14 23.3**	**-1.6**
RAEZ	**Rainy Point**	**8.35**	**209**	PN	**P**	**14 14 29.0**	**+3.1**
RAEZ	**Rainy Point**	**8.35**	**209**	P	**P**	**14 14 29.9**	**+4.0**
PKE	**Pukeiti**	**8.44**	**211**	P	**P**	**14 14 31.2**	**+4.3**
NEZ	**North Egmont**	**8.46**	**210**	P	**P**	**14 14 31.7**	**+4.6**
TSZ	**Takapari Road**	**8.51**	**199**	PN	**P**	**14 14 25.5**	**-2.2**
WAZ	**Wanganui**	**8.53**	**204**	PN	**P**	**14 14 27.7**	**-0.3**
WAZ	**Wanganui**	**8.53**	**204**	*e*P	**P**	**14 14 28.1**	**+0.1**
NRZ	**Ngariki Road**	**8.58**	**210**	P	**P**	**14 14 32.6**	**+4.0**
BFZ	**Birch Farm**	**9.02**	**196**	PN	**P**	**14 14 33.1**	**-0.5**
BFZ	**Birch Farm**	**9.02**	**196**	P	**P**	**14 14 33.0**	**-0.5**
MRZ	**Mangatainoka R**	**9.17**	**199**	PN	**P**	**14 14 33.2**	**-2.1**
MRZ	**Mangatainoka R**	**9.17**	**199**	P	**P**	**14 14 33.1**	**-2.2**
KIW	**Kapiti Island**	**9.56**	**202**	PN	**P**	**14 14 38.1**	**-1.6**
KIW	**Kapiti Island**	**9.56**	**202**	P	**P**	**14 14 38.6**	**-1.1**
MTW	**Mount Morrison**	**9.66**	**198**	PN	**P**	**14 14 39.1**	**-1.8**
MTW	**Mount Morrison**	**9.66**	**198**	P	**P**	**14 14 39.8**	**-1.1**
CAW	**Cannon Point**	**9.73**	**200**	PN	**P**	**14 14 39.6**	**-2.1**
CAW	**Cannon Point**	**9.73**	**200**	P	**P**	**14 14 40.4**	**-1.3**
TRWZ	**Traveller**	**9.84**	**197**	PN	**P**	**14 14 43.2**	**+0.3**
PAWZ	**Paruwai Farm**	**9.89**	**198**	P	**P**	**14 14 43.6**	**+0.1**
MRW	**Makara Radio**	**9.96**	**202**	P	**P**	**14 14 42.8**	**-1.5**
MSWZ	**Moikau Station**	**9.96**	**199**	P	**P**	**14 14 42.9**	**-1.5**
WEL	**Wellington**	**9.99**	**201**	P	**P**	**14 14 43.7**	**-0.9**
SNZO	**South Karori**	**10.03**	**201**	P	**P**	**14 14 43.8**	**-1.3**
BHW	**Baring Head**	**10.07**	**200**	P	**P**	**14 14 43.3**	**-2.3**
TCW	**Tory Channel**	**10.08**	**203**	P	**P**	**14 14 44.3**	**-1.4**
NNZ	**Nelson**	**10.40**	**207**	PN	**P**	**14 14 47.0**	**-2.6**
NNZ	**Nelson**	**10.40**	**207**	*e*P	**P**	**14 14 47.9**	**-1.6**
QRZ	**Quartz Range**	**10.42**	**211**	PN	**P**	**14 14 48.1**	**-1.7**
QRZ	**Quartz Range**	**10.42**	**211**	*e*P	**P**	**14 14 49.1**	**-0.7**
CMWZ	**Cape Campbell**	**10.58**	**202**	*e*P	**P**	**14 14 51.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**10.66**	**204**	PN	**P**	**14 14 52.1**	**-0.5**
BSWZ	**Blackbirch Sta**	**10.66**	**204**	P	**P**	**14 14 52.1**	**-0.4**
THZ	**Tophouse**	**11.05**	**207**	*e*PN	**P**	**14 14 54.6**	**-2.5**
THZ	**Tophouse**	**11.05**	**207**	*e*P	**P**	**14 14 55.3**	**-1.7**
KHZ	**Kahutara**	**11.40**	**203**	PN	**P**	**14 14 58.7**	**-2.2**
DSZ	**Denniston Nort**	**11.49**	**210**	*e*PN	**P**	**14 15 00.9**	**-1.0**
DSZ	**Denniston Nort**	**11.49**	**210**	P	**P**	**14 15 01.6**	**-0.3**
LTZ	**Lake Taylor**	**12.17**	**206**	*e*P	**P**	**14 15 08.7**	**-0.9**
CRLZ	**Canterbury Las**	**12.74**	**203**	*e*PN	**P**	**14 15 15.2**	**-2.7**
CRLZ	**Canterbury Las**	**12.74**	**203**	*e*P	**P**	**14 15 15.3**	**-0.6**
MQZ	**McQueen's Vall**	**12.85**	**203**	PN	**P**	**14 15 15.8**	**-1.3**
MQZ	**McQueen's Vall**	**12.85**	**203**	P	**P**	**14 15 16.2**	**-0.9**
WVZ	**Waitaha Valley**	**13.03**	**210**	PN	**P**	**14 15 18.3**	**-0.8**
WVZ	**Waitaha Valley**	**13.03**	**210**	*e*P	**P**	**14 15 19.2**	**+0.1**
RPZ	**Rata Peaks**	**13.43**	**207**	P	**P**	**14 15 23.2**	**-0.2**
	7.4nm,0.3s,baz=31,slow=1.2,SNR=45						
RPZ				S	**S**	**14 17 46.4**	**+0.9**
	4.3nm,0.3s,baz=199,slow=20,SNR=7.6						
RPZ	**Rata Peaks**	**13.43**	**207**	PN	**P**	**14 15 23.2**	**-0.2**
RPZ	**Rata Peaks**	**13.43**	**207**	*e*P	**P**	**14 15 23.2**	**-0.2**
FOZ	**Fox Glacier**	**13.87**	**211**	*e*P	**P**	**14 15 27.2**	**-0.9**
JCZ	**Jackson Bay**	**14.69**	**212**	PN	**P**	**14 15 35.8**	**-0.9**
JCZ	**Jackson Bay**	**14.69**	**212**	*e*P	**P**	**14 15 36.3**	**-0.4**
ODZ	**Otahua Downs**	**14.71**	**206**	PN	**P**	**14 15 37.6**	**+0.7**
ODZ	**Otahua Downs**	**14.71**	**206**	*e*P	**P**	**14 15 37.6**	**+0.7**
WKZ	**Wanaka**	**15.18**	**210**	*e*P	**P**	**14 15 40.5**	**-1.1**
DZM	**Mont Dzumac**	**15.30**	**307**	P	**P**	**14 15 41.4**	**-1.6**
	0.5nm,0.3s,baz=124,slow=12,SNR=7.3						
EAZ	**Earnscleugh**	**15.38**	**208**	PN	**P**	**14 15 43.0**	**-0.8**
EAZ	**Earnscleugh**	**15.38**	**208**	*e*P	**P**	**14 15 43.0**	**-0.7**
MLZ	**Mavora Lakes**	**15.95**	**210**	*e*P	**P**	**14 15 48.7**	**-0.7**
AFI	**Afiamalu**	**19.73**	**26**	P	**P**	**14 16 26.1**	**-1.1**
	7.5nm,0.3s,baz=238,slow=12,SNR=17						
AFI				S	**S**	**14 19 43.6**	**+1.4**
	1.7nm,0.3s,baz=58,slow=19,SNR=3.1						
AFI	**Afiamalu**	**19.73**	**26**	*e*P	**P**	**14 16 24.6**	**-2.6**
AFI				pmax	pmax		
	comp=Z,38nm,0.6s						
AFI	**Afiamalu**	**19.73**	**26**	*e*P	**P**	**14 16 24.6**	**-2.6**
	comp=Z,38nm,0.6s						
RAR	**Rarotonga**	**21.38**	**65**	P	**P**	**14 16 40.8**	**-2.3**
	comp=Z,10nm,0.5s,mb4.5,baz=214,slow=7.3,SNR=3.3						
ARMA	**Armidale**	**23.89**	**266**	*e*P	**P**	**14 17 10.4**	**+4.3**
CTAO	**Charters Tower**	**32.05**	**284**	*e*P	**P**	**14 18 19.4**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**32.05**	**284**	*e*P	**P**	**14 18 19.4**	**+1.5**
	comp=Z,23nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**32.08**	**260**	*e*P	**P**	**14 18 20.8**	**+2.7**
	comp=Z,3.3nm,0.7s,mb3.8						
STKA	**Stephens Creek**	**32.08**	**260**	P	**P**	**14 18 21.0**	**+2.9**
	comp=Z,7.2nm,0.9s,mb4.0,baz=100,slow=11,SNR=10						
WB2	**Warramunga Arr**	**42.08**	**275**	⇓ *i* P	**P**	**14 19 41.5**	**+0.5**
WRAB	**Tennant Creek**	**42.09**	**275**	*d i* P	**P**	**14 19 41.3**	**+0.2**
WRA	**Warramunga Arr**	**42.09**	**275**	P	**P**	**14 19 41.7**	**+0.6**
	comp=Z,26nm,0.4s,mb4.9,baz=113,slow=7.8,SNR=395						
WRA				ScP		14 24 39.2	
	comp=Z,2.3nm,0.7s,baz=113,slow=3.8,SNR=9.7						
WRA				S	**S**	**14 25 29.6**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=112,slow=15,SNR=4.6						
WRA	**Warramunga Arr**	**42.09**	**275**	P	**P**	**14 19 41.7**	**+0.6**
WRA				S	**S**	**14 25 29.6**	**-0.4**
SBA	**Scott Base**	**46.26**	**184**	*e*P	**P**	**14 20 16.8**	**+3.6**
VNDA	**Vanda**	**46.26**	**185**	P	**P**	**14 20 15.9**	**+2.6**
	comp=Z,0.8nm,0.5s,mb3.3,baz=8.7,slow=6.6,SNR=21						
VNDA				ScP		14 24 55.9	
	comp=Z,1.9nm,0.7s,baz=334,slow=4.0,SNR=11						
VNDA	**Vanda**	**46.26**	**185**	*e*P	**P**	**14 20 15.6**	**+2.3**
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VNDA	**Vanda**	**46.26**	**185**	*e*P	**P**	**14 20 15.6**	**+2.3**
	comp=Z,0.9nm,0.5s,mb3.4						
KAKA	**Kakadu**	**47.18**	**283**	⇓ *i* P	Px	14 20 42.6	
	comp=Z,9.0nm,0.5s						
CASY	**Casey**	**52.70**	**208**	*e*P	**P**	**14 21 02.3**	**+0.6**
MBWA	**Marble Bar**	**53.97**	**266**	*e*P	**P**	**14 21 10.7**	**-0.7**
	comp=Z,15nm,1.0s,mb4.2						
QSPA	**South Pole Qui**	**58.07**	**180**	*e*P	**P**	**14 21 41.5**	**+2.2**
	comp=Z,13nm,0.5s,mb4.5						
SNAA	**Sanae**	**76.56**	**179**	P	**P**	**14 23 33.2**	**+0.4**
SNAA	**Sanae**	**76.56**	**179**	*e*P	**P**	**14 23 34.2**	**+1.4**
SNAA				pmax	pmax		
	comp=Z,20nm,0.3s						
SNAA	**Sanae**	**76.56**	**179**	*e*P	**P**	**14 23 34.2**	**+1.4**
	comp=Z,2.1nm,0.3s,mb4.2						
VNA3	**Neumayer Olymp**	**76.80**	**177**	P	**P**	**14 23 35.2**	**+1.1**
VNA2	**Neumayer~Watz**	**77.21**	**178**	P	**P**	**14 23 38.7**	**+2.4**
YSS	**Yuzh-Sakhalins**	**85.33**	**336**	*e*P	**P**	**14 24 19.3**	**+0.7**
CMB	**Columbia Colle**	**89.40**	**43**	*e*P	**P**	**14 24 37.1**	**-0.9**
CMB				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
CMB	**Columbia Colle**	**89.40**	**43**	*e*P	**P**	**14 24 37.0**	**-1.0**
	comp=Z,14nm,1.0s,mb4.7						
YBH	**Yreka Blue Hor**	**90.63**	**39**	*e*P	**P**	**14 24 43.8**	**+0.2**
YBH				p

FINES	**FINESS Array B**	**145.90**	**337**	PKPbc	PKPbc	14	31	17.6	+0.8
	comp=E,68nm,0.5s,baz=48,slow=5.0,SNR=610								
NSS	**Namsos**	**146.58**	**350**	*e*P	PKPdf	14	31	18.3	+1.9
NSS				AMb	AMB	14	31	20.9	
	comp=Z,78nm,1.1s								
VSU	**Vasula**	**147.80**	**333***c*	*i*PKP2	PKPab	14	31	23.0	-5.2
ANN	**Anapa**	**147.98**	**304**	*i* PKIKP	PKPdf	14	31	23.0	+3.8
ANN				pmax	pmax				
	comp=Z,58nm,1.2s								
NB2	**NORSAR Subarra1**	**50.00**	**349**	PKPabc	PKPdf	14	31	28.2	+6.2
	comp=Z,26nm,0.8s,baz=17,slow=2.7								
NB2	**NORSAR Subarra1**	**50.00**	**349**	PKPa		14	31	28.2	
	baz=17,slow=2.7								
NOA	**NORSAR Array B**	**150.00**	**349**	PKPbc	PKPdf	14	31	28.2	+6.2
	comp=Z,19nm,0.8s,baz=16,slow=4.2,SNR=51								
NAO01	**NORSAR Array S**	**150.23**	**349**	*e*PKPbc	PKPdf	14	31	28.6	+6.3
NAO01				*e*PKPab	PKPab	14	31	35.9	-2.3
AKASG	**Malin Array Be**	**151.24**	**319**	PKPbc	PKPdf	14	31	31.0	+6.9
	comp=Z,25nm,0.8s,baz=64,slow=2.6,SNR=44								
AKASG	**Malin Array Be**	**151.24**	**319**	PKPbc	PKPdf	14	31	31.0	+6.9
BR131	**Keskin Array S**	**151.45**	**295**	*e*PKPbc	PKPdf	14	31	32.7	+7.9
BRTR	**Keskin Array B**	**151.45**	**295**	PKPbc	PKPdf	14	31	32.4	+7.6
	comp=Z,5.4nm,0.5s,baz=207,slow=5.5,SNR=3.5								
CSS	**Prodhromos**	**151.74**	**285**	*e*PKPbc	PKPdf	14	31	33.7	+8.4
ANTO	**Ankara**	**152.08**	**296**	*e*PKIKP	PKPdf	14	31	34.6	+8.9
SUW	**Suwalki**	**152.29**	**329**	*e*PKP	PKPdf	14	31	34.2	+8.7
SUW				*e*		14	31	43.9	
SUW	**Suwalki**	**152.29**	**329**	*e*PKIKP	PKPdf	14	31	27.5	+2.0
SUW				*e*		14	31	43.9	
SUW	**Suwalki**	**152.29**	**329**	*e*PKPdf	PKPdf	14	31	27.5	+2.0
SUW				*e*PKP	PKPdf	14	31	34.2	+8.7
SUW				*e*PKPbc	PKPdf	14	31	34.3	+8.8
SUW				*e*		14	31	43.9	
LIC	**Lamto**	**153.97**	**170**	*e*PKP1	PKPdf	14	31	39.2	+10
	comp=Z,12nm,0.9s								
DBIC	**Dimbokro**	**154.43**	**170**	PKP	PKPdf	14	31	31.4	+1.7
	comp=Z,2.4nm,0.8s,baz=200,slow=4.1,SNR=3.7								
DBIC				PKPbc	PKPdf	14	31	41.0	+11
	comp=Z,1.4nm,0.6s,baz=194,slow=1.0,SNR=3.4								
BSEG	**Bad Segeberg**	**156.79**	**344**	*e*PKP2	PKPab	14	32	04.5	-1.6
CLL	**Collm**	**158.34**	**337**	⇑*i*PKP2	PKPab	14	32	11.4	-1.4
CLL				pmax	pmax				
	comp=Z,16nm,0.8s								
CLL	**Collm**	**158.34**	**337**	⇑*i*P	PKPab	14	32	11.4	-1.4
CLL				*e*		14	32	20.0	
BRG	**Berggiesshubel**	**158.38**	**335**	*i* PKP2	PKPab	14	32	11.7	-1.3
BRG				pmax	pmax				
	comp=Z,8.0nm,0.7s								
BRG	**Berggiesshubel**	**158.38**	**335**	*i* P	PKPab	14	32	11.7	-1.3
CLZ	**Clausthal**	**158.68**	**341**	*e*PKP2	PKPab	14	32	13.2	-1.1
MOX	**Moxa**	**159.37**	**338**	*e*PKP2	PKPab	14	32	16.0	-1.3
KHC	**Kasperske Hory**	**159.93**	**332**	*e*PKP	PKPab	14	32	11.5	-8.2
KHC				x	x	14	32	18.5	
KHC	**Kasperske Hory**	**159.93**	**332**	*e*PKP	PKPab	14	32	11.5	-8.2
KHC				*e*		14	32	18.5	
GERES	**GERESS Array B**	**160.10**	**332**	PKPab	PKPab	14	32	19.0	-1.4
	comp=Z,2.3nm,1.0s,baz=45,slow=3.8,SNR=6.0								
WET	**Wettzell**	**160.19**	**333**	*e*PKP2	PKPab	14	32	20.0	-0.8
GRF1	**Grafenberg Arr**	**160.32**	**337**	*e*PKPab	PKPab	14	32	20.7	-0.7
GRF	**Grafenberg Arr**	**160.32**	**337**	*e*PKP2	PKPab	14	32	20.7	-0.7
TNS	**Taunus Mts**	**160.66**	**343**	*e*PKP2	PKPab	14	32	21.7	-1.1
TORD	**Torodi Ar. Bea**	**161.09**	**187**	PKP	PKPdf	14	31	39.9	+2.3
	comp=Z,2.2nm,1.0s,baz=2.1,slow=0.6,SNR=9.0								
TORD				PKPab	PKPab	14	32	25.7	0.0
	comp=Z,0.9nm,0.4s,baz=172,slow=3.6,SNR=15								
GIVF	**Givet**	**161.53**	**349**	*e*PKP2	PKPab	14	32	25.1	-1.5
BAIF	**Baives**	**161.66**	**350**	*e*PKP2	PKPab	14	32	25.4	-1.8
	comp=Z,9.4nm,0.7s								
BFO	**Black Forest**	**162.42**	**340**	*e*PKP2	PKPab	14	32	29.3	-1.2
CDF	**Champ du Feu**	**162.63**	**342**	*e*PKP2	PKPab	14	32	30.0	-1.4
HAU	**Haudompre**	**163.23**	**344**	*e*PKP2	PKPab	14	32	32.6	-1.5
	comp=Z,16nm,0.6s								
DAVOX	**Davos**	**163.27**	**335**	PKPab	PKPab	14	32	33.5	-0.8
	comp=Z,7.1nm,0.7s,baz=27,slow=7.4,SNR=7.4								
ROSF	**Rostrenen**	**163.59**	**7**	*e*PKP2	PKPab	14	32	33.8	-1.8
SGMF	**Saint Gilles**	**163.73**	**5**	*e*PKP2	PKPab	14	32	34.4	-1.9
QUIF	**Quistinic**	**164.01**	**7**	*e*PKP2	PKPab	14	32	35.3	-2.2
	comp=Z,54nm,1.1s								
LOR	**Lormes**	**164.44**	**349**	*e*PKP2	PKPab	14	32	37.8	-1.6
	comp=Z,11nm,0.9s								
CABF	**La Chapelle**	**164.60**	**343**	*e*PKP2	PKPab	14	32	38.8	-1.3
SSF	**Saint Saulge**	**164.69**	**350**	*e*PKP2	PKPab	14	32	39.0	-1.5
	comp=Z,24nm,0.9s								
AVF	**Avril sur Loir**	**164.98**	**350**	*e*PKP2	PKPab	14	32	39.9	-1.8
	comp=Z,20nm,0.8s								
SMF	**Signal de Mont**	**165.04**	**348**	*e*PKP2	PKPab	14	32	40.1	-1.9
	comp=Z,34nm,0.8s								
TCF	**Toulx Ste Croi**	**165.62**	**352**	*e*PKP2	PKPab	14	32	43.0	-1.6
	comp=Z,22nm,0.9s								
MBDF	**Montbardon**	**166.13**	**338**	*e*PKP2	PKPab	14	32	45.5	-1.3
ORIF	**Oris-en-Rattie**	**166.22**	**341**	*e*PKP2	PKPab	14	32	45.9	-1.3
	comp=Z,29nm,0.8s								
VIVF	**Saint-Julien-l**	**166.59**	**344**	*e*PKP2	PKPab	14	32	47.3	-1.5
CAF	**Calviac**	**166.98**	**352**	*e*PKP2	PKPab	14	32	49.1	-1.4
LASF	**Ste Croix**	**167.51**	**345**	*e*PKP2	PKPab	14	32	50.8	-2.1
MTLF	**Montolieu**	**168.52**	**350**	*e*PKP2	PKPab	14	32	55.8	-1.5
	comp=Z,12nm,0.8s								
ESDC	**Sonseca Array**	**171.87**	**19**	PKP	PKPdf	14	31	46.7	+1.5
	comp=Z,0.1nm,0.3s,baz=340,slow=3.9,SNR=6.5								
ESDC				PKPab	PKPab	14	33	10.9	-1.4
	comp=Z,0.2nm,0.3s,baz=339,slow=4.0,SNR=6.8								

*PNSN **09** 14:12:59.5, 48.85N×122.15W, h2km, MD2.6, Fault plane solution: NP1:φ≈65°, δ35°, NP2:φ≈221°, δ57°, Principal axes: T Plg74°, Azm95°; P Plg11°, Azm321°;*

PGC 09 14:12:59.9, 48.85N×122.13W, h13km±9km, ML2.5/25, MD2.6(SEA), 4C-13D, Near Mount Baker, Washington., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBW	**Mount Baker**	**0.17**	**114**	⇓P	Pg	14 13 03.5	-0.5
VDB	**Vedder Mountai**	**0.17**	**7**	P	Pg	14 13 03.3	-0.8
VDB				S	Sg	14 13 06.8	-0.1
VDB				Trac		14 13 07.3	
	comp=Z,393nm,0.1s						
CMW	**Cultus Mountai**	**0.43**	**179**	⇓P	Pg	14 13 07.4	-1.4
MCW	**Mount Constitu**	**0.49**	**250**	⇓P	Pb	14 13 08.4	-1.5
HNB	**Haney**	**0.51**	**325**	⇓P	Pb	14 13 08.4	-1.8
HNB				S	Sb	14 13 15.5	-1.7
HNB				Trac		14 13 15.8	
	comp=Z,158nm,0.1s						
RPW	**Rockport**	**0.58**	**134**	⇓P	Pb	14 13 10.4	-0.8
JCW	**Jim Creek**	**0.67**	**168**	⇓P	Pb	14 13 11.9	-1.0
SNB	**Saturna Island**	**0.69**	**264**	P	Pb	14 13 12.0	-1.3
SNB				S	Sb	14 13 21.7	-0.6
SNB				Trac		14 13 22.9	
	comp=Z,90nm,0.2s						
HOPB	**Hope**	**0.71**	**41**	P	Pb	14 13 13.2	-0.4
HOPB				S	Sb	14 13 23.0	0.0
HOPB				Trac		14 13 24.6	
	comp=Z,89nm,0.2s						
PGC	**Sidney**	**0.90**	**257**	⇑P	Pb	14 13 14.9	-1.8
PGC				S	Sb	14 13 26.6	-1.7
PGC				Trac		14 13 29.8	
	comp=Z,57nm,0.2s						
VGZ	**Gonzales**	**0.90**	**241**	P	Pb	14 13 15.1	-1.7
VGZ				S	Sb	14 13 27.0	-1.6
VGZ				Trac		14 13 27.2	
	comp=Z,204nm,0.2s						
GOBB	**Galiano Island**	**0.91**	**277**	⇓P	Pb	14 13 15.3	-1.7
GOBB				S	Sb	14 13 28.1	-0.8
GOBB				Trac		14 13 29.7	
	comp=Z,42nm,0.1s						
BIB	**Bowen Island**	**0.95**	**306**	⇓P	Pb	14 13 15.8	-1.8
BIB				S	Sb	14 13 28.3	-1.6
BIB				Trac		14 13 28.9	
	comp=Z,30nm,0.2s						
BLN	**Blyn Mountain**	**1.01**	**214**	P	Pb	14 13 18.0	-0.7
BLH	**Bald Hill**	**1.02**	**176**	P	Pb	14 13 18.8	-0.1
WPB	**Watts Point**	**1.07**	**319**	⇓P	Pb	14 13 17.9	-1.9
WPB				S	Sb	14 13 31.9	-1.5
WPB				Trac		14 13 32.1	
	comp=Z,142nm,0.3s						
HTW	**Haystack Looko**	**1.08**	**167**	⇓P	Pb	14 13 19.4	-0.5
LZB	**Mount Lazard**	**1.14**	**258**	P	Pb	14 13 18.9	-2.0
LZB				S	Sb	14 13 36.3	-1.9
LZB				Trac		14 13 34.9	
	comp=Z,35nm,0.2s						
STW	**Striped Peak**	**1.24**	**236**	⇑P	Pb	14 13 21.0	-1.6
NLLB	**Nanaimo Lost L**	**1.28**	**288**	P	Pb	14 13 21.1	-2.2
NLLB				S	Sb	14 13 37.7	-1.7
NLLB				Trac		14 13 40.0	
	comp=Z,45nm,0.3s						
WRW	**Wenatchee Ridg**	**1.30**	**140**	⇑P	Pb	14 13 22.8	-0.9
HDW	**Hoodsport**	**1.35**	**207**	⇑P	Pn	14 13 23.0	-1.5
SHB	**Sechelt**	**1.36**	**304**	⇓P	Pn	14 13 22.8	-1.9
SHB				S	Sb	14 13 39.8	-2.1
SHB				Trac		14 13 41.6	
	comp=Z,211nm,0.2s						
WSLR	**Whistler**	**1.38**	**338**	P	Pn	14 13 23.3	-1.5
WSLR				S	Sb	14 13 40.8	-1.5
WSLR				Trac		14 13 41.9	
	comp=Z,37nm,0.2s						
RMW	**Rattlesnake Mo**	**1.41**	**171**	P	Pn	14 13 25.2	-0.2
NLW	**Nelson Butte**	**1.42**	**122**	⇓P	Pn	14 13 25.6	+0.1
OSD	**Olympics--Snow**	**1.47**	**226**	P	Pn	14 13 25.4	-0.8
PFB	**Port Renfrew**	**1.55**	**260**	P	Pn	14 13 25.5	-1.9
PFB				S	Sb	14 13 44.7	-2.7
PFB				Trac		14 13 47.8	
	comp=Z,14nm,0.2s						
GSM	**Grass Mountain**	**1.67**	**172**	P	Pn	14 13 29.0	0.0
MGB	**Mount Grey**	**1.69**	**276**	⇓P	Pn	14 13 27.8	-1.6
MGB				S	Sn	14 13 49.3	-1.7
MGB				Trac		14 13 53.1	
	comp=Z,109nm,0.3s						
PNT	**Penticton**	**1.72**	**73**	P	Pn	14 13 30.6	+0.8
PNT				Pg	Pg	14 13 31.9	-2.3
PNT				Sg	Sg	14 13 54.3	-2.9
PNT				Trac		14 13 58.2	
	comp=Z,24nm,0.2s						
TXB	**Texada**	**1.73**	**300**	P	Pn	14 13 28.4	-1.5
TXB				S	Sn	14 13 50.2	-1.7
TXB				Trac		14 13 52.2	
	comp=Z,70nm,0.3s						
CBSW	**Chelan Butte S**	**1.75**	**126**	P	Pn	14 13 31.3	+1.1
LLLB	**Lillooet**	**1.77**	**5**	P	Pn	14 13 31.4	+0.9
LLLB				Sg	Sg	14 13 54.0	-4.8
LLLB				Trac		14 13 58.8	
	comp=Z,46nm,0.4s						
GHW	**Garrison Hill**	**1.81**	**183**	P	Pn	14 13 31.4	+0.2
ALB	**Alberni**	**1.82**	**284**	P	Pn	14 13 29.8	-1.4
ALB				S	Sn	14 13 53.3	-1.0
ALB				Trac		14 13 55.5	
	comp=Z,20nm,0.2s						
WTV	**Waterville**	**1.86**	**128**	P	Pn	14 13 33.3	+1.6
RVC	**Mount Rainier-**	**1.91**	**177**	P	Pn	14 13 33.1	+0.6
FMW	**Mount Fremont**	**1.95**	**171**	⇑P	Pn	14 13 33.3	+0.3
TBM	**Table Mountain**	**1.97**	**148**	P	Pn	14 13 35.1	+1.7
OZB	**Mount Ozzard**	**2.22**	**274**	P	Pn	14 13 36.2	-0.7
OZB				S	Sn	14 14 04.8	+0.5
OZB				Trac		14 14 11.2	
	comp=Z,13nm,0.2s						
EPH	**Ephrata**	**2.27**	**130**	P	Pn	14 13 40.5	+2.9
BTB	**Buttle Lake**	**2.31**	**287**	P	Pn	14 13 37.9	-0.3
BTB				S	Sn	14 14 06.7	+0.1
BTB				Trac		14 14 12.7	
	comp=Z,44nm,0.4s						
CBB	**Campbell River**	**2.42**	**300**	P	Pn	14 13 38.2	-1.5
CBB				S	Sn	14 14 08.5	-0.9
CBB				Trac		14 14 15.1	
	comp=Z,24nm,0.6s						
NCRB	**Newcastle Ridg**	**2.98**	**303**	P	Pn	14 13 47.0	-0.9
NCRB				Sg	Sg	14 14 25.8	-14
NCRB				Trac		14 14 30.8	
	comp=Z,10.0nm,0.5s						
WOSB	**Woss**	**3.17**	**296**	P	Pn	14 13 50.5	0.0
WOSB				Sg	Sg	14 14 33.0	-13
WOSB				Trac		14 14 37.3	
	comp=Z,9.0nm,0.3s						
SLEB	**Sale Mountain**	**3.47**	**47**	Pg	Pg	14 14 05.0	-4.1
SLEB				Sg	Sg	14 14 48.5	-6.9
SLEB				Trac		14 14 57.5	
	comp=Z,12nm,0.5s						
DOWB	**Downie Slide**	**3.54**	**40**	P	Pn	14 13 54.8	-0.9
DOWB				Pg	Pg	14 14 04.5	-6.1
DOWB				Sg	Sg	14 14 52.4	-5.4
MAYB	**Maynard**	**3.62**	**297**	P	Pn	14 13 57.5	+0.6
MAYB				Sg	Sg	14 14 45.8	-15
MAYB				Trac		14 14 51.6	
	comp=Z,5.0nm,0.4s						
BPBC	**Brooks Peninsu**	**3.90**	**292**	P	Pn	14 14 01.2	+0.4
MNB	**Mounoet Dainar**	**4.12**	**34**	P	Pn	14 14 12.1	+8.1
MNB				Pg	Pg	14 14 16.2	-5.9
MNB				Sg	Sg	14 15 10.7	-6.3
HOLB	**Holberg**	**4.28**	**297**	P	Pn	14 14 06.6	+0.3

*IDC **09** 14:15:13.7±0.9, 9.07N×92.59E, mb3.9/9, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, Error ellipse: s-maj=43.2km s-min=19.6km az=54.0*

*NEIC **09** 14:15:18.2±0.6, 9.11N×92.62E, h30km, mb4.3/2, Error ellipse: s-maj=19.2km s-min=12.4km az=223.0*

*BJI **09** 14:15:18.2, 9.10N×92.60E, h30km, mb4.3*

ISC 09 14:15:20.0±3.1, 9.4N±0.1×92.48E±0.09, h39km±24km, n24, σ0§71/24, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.23**	**7**	*ex*	x	14 16 08.5	
PBA				*e*S	**S**	**14 16 21.7**	**-0.1**
VIS	**Vishakhapatnam**	**12.13**	**314**	*e*P	**P**	**14 18 12.4**	**-0.8**
VIS				AMb	AMB	14 18 14.7	
	comp=Z,79nm,0.8s						
VIS				*e*S	**S**	**14 20 17.1**	**-11**
BOK	**Bokaro**	**15.62**	**337**	*e*P	**P**	**14 18 58.9**	**-0.1**
BOK				AMb	AMB	14 19 07.1	
	comp=Z,23nm,0.8s						
BOK				*e*S	**S**	**14 21 50.6**	**-0.3**
HYB	**Hyderabad**	**15.70**	**302**	*i* P	**P**	**14 19 00.0**	**-0.1**
HYB	**Hyderabad**	**15.70**	**302**	*e*P	**P**	**14 19 00.0**	**-0.1**
KAD	**Karad**	**19.44**	**296**	*e*P	**P**	**14 19 47.1**	**+1.0**
KAD				AMb	AMB	14 19 48.9	
	comp=Z,20nm,0.9s						
BHPL	**Bhopal**	**19.91**	**315**	*e*P	**P**	**14 19 52.0**	**+0.9**
BHPL				AMb	AMB	14 19 56.4	
	comp=Z,16nm,1.2s						
BHPL				*ex*	x	14 22 56.3	
GYA	**Guiyang**	**21.62**	**37**	P	**P**	**14 20 08.9**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
CD2	**Chengdu**	**23.82**	**25**	P	**P**	**14 20 31.0**	**+0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.6						
ENH	**Enshi**	**26.12**	**35**	*e*P	**P**	**14 20 50.8**	**-1.5**
	comp=Z,7.5nm,0.5s,mb4.5						
GTA	**Gaotai**	**30.57**	**11**	*e*P	**P**	**14 21 33.1**	**+0.8**
GTA				AP	pP	14 21 40.4	-2.7
GTA				XP	sP	14 21 44.7	-3.5
MKAR	**Makanchi Array**	**38.24**	**349**	P	**P**	**14 22 38.9**	**+0.9**
	comp=Z,1.0nm,0.8s,mb3.6,baz=166,slow=8.3,SNR=7.5						
SONM	**Songino Array**	**40.05**	**15**	P	**P**	**14 22 53.1**	**+0.1**
	comp=Z,2.3nm,0.9s,mb3.9,baz=199,slow=7.0,SNR=11						
SONM				PcP	PcP	14 24 57.9	-0.2
	comp=Z,0.6nm,0.7s,baz=182,slow=3.7,SNR=4.4						
ULN	**Ulaanbaatar**	**40.24**	**15**	*e*P	**P**	**14 22 54.9**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.0						
AKTK	**Aktyubinsk**	**49.81**	**332**	P	**P**	**14 24 11.6**	**+0.6**
AKTO	**Aktyubinsk**	**49.81**	**332**	P	**P**	**14 24 11.6**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=120,slow=6.8,SNR=3.5						
WRA	**Warramunga Arr**	**50.49**	**126**	P	**P**	**14 24 11.5**	**-5.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=305,slow=8.5,SNR=13						
BRTR	**Keskin Array B**	**60.18**	**310**	P	**P**	**14 25 25.3**	**-1.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=141,slow=7.9,SNR=6.0						
STKA	**Stephens Creek**	**62.35**	**133**	P	**P**	**14 25 34.8**	**-6.3**
	comp=Z,1.0nm,0.8s,mb4.0,baz=354,slow=11,SNR=3.2						
FINES	**FINESS Array B**	**70.58**	**332**	P	**P**	**14 26 32.5**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.0,baz=106,slow=10,SNR=3.2						
GERES	**GERESS Array B**	**75.58**	**318**	P	**P**	**14 27 01.6**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.3,baz=104,slow=5.5,SNR=4.7						
NOA	**NORSAR Array B**	**77.58**	**330**	P	**P**	**14 27 12.8**	**-0.8**
	comp=Z,1.5nm,0.9s,mb3.9,baz=70,slow=12,SNR=3.3						
PDAR	**Pinedale Array**	**124.29**	**20**	PKP	PKPdf	14 34 16.3	+1.2
	comp=Z,0.1nm,0.3s,baz=45,slow=6.4,SNR=2.8						
CFAA	**Coronel Fontan**	**151.58**	**216**	PKPbc	PKPdf	14 35 11.7	+7.5
	comp=Z,0.1nm,0.3s,baz=132,slow=5.0,SNR=4.4						

*NEIC **09** 14:15:25.7, 32.89S×69.05W, h8km, ML3.1(GUC), After GUC.*

GUC 09 14:15:25.7±0.5, 32.89S×69.05W, h8km±14km, MD3.5, ML3.1, 8C, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**0.16**	**87**	⇑*i*P	Pg	14 15 30.2	+0.9
MDZ				*i*		14 15 33.4	
MDZ				*i* S	Sg	14 15 34.4	+2.8
FCH	**Farellones**	**1.13**	**247**	AMP		14 16 02.1	
	comp=N,368nm,0.3s						
JACH	**Jahuel**	**1.32**	**279**	⇑*i*P	Pb	14 15 49.4	-1.0
JACH				*i* S	Sb	14 16 07.7	+0.4
LMEL	**Las Melosas**	**1.36**	**225**	*i* P	Pb	14 15 49.2	-1.8
LMEL				*i* S	Sb	14 16 07.7	-0.7
LMEL				AMP		14 16 09.2	
	comp=N,701nm,0.1s						
ZON	**Zonda**	**1.38**	**13**	*e*P	Pn	14 15 53.6	+2.3
ZON				*e*S	Sb	14 16 16.6	+7.6
PEL	**Peldehue**	**1.40**	**259**	*i* P	Pn	14 15 50.5	-1.1
PEL				*i* S	Sb	14 16 09.5	-0.1
PEL				AMP		14 16 09.9	
	comp=E,603nm,0.3s						
PCH	**Pirque**	**1.43**	**239**	⇑*i*P	Pn	14 15 50.9	-1.1
PCH				*i* S	Sb	14 16 10.3	-0.1
SAN	**Santiago**	**1.47**	**247**	AMP		14 16 16.9	
	comp=E,283nm,0.8s						
RCDM	**Rinconada Maip**	**1.59**	**248**	*i* P	Pn	14 15 53.9	-0.5
RCDM				*i* S	Sb	14 16 15.4	+0.2
RCDM				AMP		14 16 16.4	
	comp=N,302nm,0.4s						
ROCH	**El Roble**	**1.66**	**267**	⇑*i*P	Pn	14 15 55.3	0.0
ROCH				*i* S	Sn	14 16 17.5	+0.6
CHCH	**Chadas Angostu**	**1.70**	**232**	⇑*i*P	Pn	14 15 55.4	-0.5
CHCH				*i* S	Sn	14 16 18.2	+0.1
TACH	**Talagante**	**1.76**	**244**	*e*P	Pn	14 15 56.5	-0.2
TACH				*i* S	Sn	14 16 19.8	+0.3
CACH	**El Canelo**	**1.78**	**226**	⇑*i*P	Pn	14 15 57.1	0.0
CACH				*i* S	Sn	14 16 20.8	+0.6
CICH	**Cipreses**	**1.83**	**218**	⇑*i*P	Pn	14 15 57.8	0.0
CICH				*i* S	Sn	14 16 21.9	+0.6
LNV	**Longovilo**	**2.25**	**241**	⇑*i*P	Pn	14 16 03.9	+0.1
LNV				*i* S	Sn	14 16 33.0	+1.1
CHNG	**Los Chungos**	**2.31**	**295**	AMP		14 16 40.8	
	comp=N,349nm,0.7s						

*IDC **09** 14:15:24.4±0.7, 9.10N×92.52E, mb4.1/14, mb1 4.2/14, mb1mx4.1/20, mbtmp4.1/14, Error ellipse: s-maj=33.7km s-min=17.5km az=61.0*

*NEIC **09** 14:15:28.6±0.7, 9.11N×92.81E, h30km, mb4.1/2, Error ellipse: s-maj=25.4km s-min=12.3km az=54.0*

ISC 09 14:15:27.3±0.8, 9.1N±0.1×92.5E±0.2, h33km, n24, σ0§62/20, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.89**	**114**	*e*Pn	**P**	**14 17 28.5**	**-7.9**
LSA	**Lhasa**	**20.56**	**357**	P	**P**	**14 20 05.2**	**-0.7**
	4.5nm,0.6s						
MKAR	**Makanchi Array**	**38.59**	**349**	P	**P**	**14 22 48.9**	**-0.1**
	3.4nm,0.9s,mb4.1,baz=165,slow=8.4,SNR=16						
MKAR				PcP	PcP	14 25 02.3	+0.8
	0.5nm,0.6s,baz=165,slow=4.0,SNR=7.4						
SONM	**Songino Array**	**40.38**	**14**	P	**P**	**14 23 03.9**	**+0.1**
	1.5nm,0.4s,mb4.0,baz=202,slow=7.3,SNR=14						
SONM				PcP	PcP	14 25 08.2	+1.0
	1.3nm,0.7s,baz=203,slow=3.6,SNR=6.5						
SONM	**Songino Array**	**40.38**	**14**	P	**P**	**14 23 03.9**	**+0.1**
SONM				PcP	PcP	14 25 08.2	+1.0
ULN	**Ulaanbaatar**	**40.57**	**15**	*e*P	**P**	**14 23 05.9**	**+0.6**
	5.1nm,1.1s,mb4.1						
ZAL	**Zalesovo**	**45.17**	**354**	P	**P**	**14 23 42.4**	**-0.3**
	0.8nm,0.8s,mb3.6,baz=302,slow=10,SNR=4.2						
BVAR	**Borovoye Array**	**47.36**	**342**	P	**P**	**14 23 59.9**	**-0.1**
	3.6nm,1.0s,mb4.2,baz=124,slow=5.2,SNR=8.6						
AKTK	**Aktyubinsk**	**50.14**	**332**	P	**P**	**14 24 21.6**	**0.0**
AKTO	**Aktyubinsk**	**50.14**	**332**	P	**P**	**14 24 21.6**	**0.0**
	0.7nm,0.4s,mb4.0,baz=108,slow=6.4,SNR=2

*NEIC **09** 14:33:20.2,35.24N±27.18E,h24km,mb4.7/115, ML4.8(ISK),ML4.6(ATH),After ATH.*
*ATH **09** 14:33:20.1,35.24N±27.18E,h24km±1km,MD4.5/21, ML4.6*
*CSEM **09** 14:33:20.1,35.07N±27.34E,h52km,mb4.7*
ISC 09 14:33:18.6±0.4,**35.08N**±0.02±**27.20E**±0.01,**h25**km±3km, **h37**km±3.6km**:pP-P,n610,**σ1**938**/**638,mb4.7/119,MS4.1/22, 40C-22D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.47**	**356**	⇑*i*PB	**Pb**	**14 33 27.0**	**-1.2**
KARP				*e*SB	**Sb**	14 33 32.7	-2.0
ZKR	**Zakros**	**0.81**	**273**	Pn	**Pn**	**14 33 35.0**	**+0.5**
XRY	**Khrisi**	**1.25**	**261**	⇑*i*PN	**Pn**	**14 33 43.5**	**+2.7**
XRY	**Khrisi**	**1.25**	**261**	⇑*i*Pb	**Pb**	**14 33 43.1**	**+1.6**
NPS	**Neapolis**	**1.31**	**278**	⇑*i*PN	**Pn**	**14 33 43.9**	**+2.2**
ARG	**Arkhangelos**	**1.36**	**33**	⇑*i*PN	**Pn**	**14 33 43.5**	**+1.1**
ARG				*e*SN	**Sn**	**14 34 01.5**	**+1.7**
LAST	**Lasithi**	**1.41**	**274**	P	**Pn**	**14 33 44.7**	**+1.6**
LAST				Pn	**Pn**	**14 33 46.1**	**+3.0**
NISR	**Nisiros**	**1.53**	**358**	*e*PN	**Pn**	**14 33 45.5**	**+0.7**
DAT	**Datca**	**1.67**	**10**	*i* PN	**Pn**	**14 33 47.1**	**+0.3**
DAT				*i* SN	**Sn**	**14 34 07.6**	**-0.1**
IDI	**Anoyia**	**1.90**	**277**	Pn	**Pn**	**14 33 53.7**	**+3.6**
	177nm,0.3s,baz=73,slow=16,SNR=277						
IDI				LR	LR	14 34 12.5	
	comp=Z,1μm,18.2s,baz=295,slow=29						
IDI				Sn	**Sn**	**14 34 19.4**	**+5.8**
	389nm,0.3s,baz=360,slow=19,SNR=9.2						
THR1	**Thera Island**	**1.91**	**313**	*e*Pn	**Pn**	**14 33 52.5**	**+2.2**
THR1				*e*Sn	**Sn**	**14 34 18.4**	**+4.6**
SANT	**Santorini**	**1.91**	**313**	*e*P	**Pn**	**14 33 51.3**	**+1.0**
BODT	**Bodrum**	**1.98**	**3**	*i* PN	**Pn**	**14 33 51.6**	**+0.4**
BDRM	**Kayabasi**	**1.99**	**6**	*i* P	**Pn**	**14 33 52.2**	**+0.8**
BDRM				*i* S	**Sn**	**14 34 15.8**	**0.0**
DALT	**Dalyan (Mudla)**	**2.05**	**34**	*i* PN	**Pn**	**14 33 53.9**	**+1.7**
FETY	**Fethiye**	**2.18**	**44**	*i* PN	**Pn**	**14 33 54.6**	**+0.5**
KSL	**Kastellorizon**	**2.22**	**61**	*e*PB	**Pb**	**14 33 57.0**	**-0.8**
YER	**Yerkesik**	**2.23**	**23**	PN	**Pn**	**14 33 56.4**	**+1.6**
MLSB	**Milas**	**2.26**	**12**	PN	**Pn**	**14 33 56.5**	**+1.3**
AKAS	**Kas**	**2.27**	**59**	*i* P	**Pn**	**14 33 56.0**	**+0.6**
AKAS				*i* S	**Sn**	**14 34 25.5**	**+2.6**
APE	**Apeiranthos**	**2.40**	**326**	PN	**Pn**	**14 33 57.5**	**+0.2**
APE	**Apeiranthos**	**2.40**	**326**	⇑*i*PN	**Pn**	**14 33 58.2**	**+0.9**
APE				*e*SN	**Sn**	**14 34 26.1**	**-0.1**
APE	**Apeiranthos**	**2.40**	**326**	*d i*P	**Pn**	**14 33 58.2**	**+0.9**
VAM	**Vamos**	**2.48**	**278**	*e*PB	**Pb**	**14 34 02.0**	**-0.3**
GVD	**Gavdhos**	**2.57**	**265**	*e*PB	**Pb**	**14 34 03.5**	**-0.3**
GVD	**Gavdhos**	**2.57**	**265**	*e*Pb	**Pb**	**14 34 04.0**	**+0.2**
AYDN	**Tasoluk**	**2.63**	**12**	*i* P	**Pn**	**14 34 01.8**	**+1.3**
AYDN				*i* S	**Sn**	**14 34 31.1**	**-0.9**
SMG	**Samos**	**2.64**	**354**	*e*PN	**Pn**	**14 34 01.0**	**+0.3**
ELL	**Elmali**	**2.76**	**52**	PN	**Pn**	**14 34 04.5**	**+2.1**
GOLH	**Golhisar**	**2.88**	**41**	*i* P	**Pn**	**14 34 05.2**	**+1.1**
GOLH				*i* S	**Sn**	**14 34 45.1**	**+6.9**
DNZL	**Cakiroluk**	**3.00**	**29**	*i* P	**Pn**	**14 34 07.4**	**+1.6**
DENT	**Denizli**	**3.05**	**28**	PN	**Pn**	**14 34 07.5**	**+1.0**
IZM	**Izmir**	**3.31**	**1**	PN	**Pn**	**14 34 11.3**	**+1.1**
KDAG	**Bornova**	**3.32**	**1**	*i* P	**Pn**	**14 34 10.6**	**+0.4**
MANT	**Manisa**	**3.57**	**17**	*i* P	**Pn**	**14 34 14.5**	**+0.5**
MANT				*i* S	**Sn**	**14 34 52.3**	**-3.5**
KYTH	**Kithira**	**3.59**	**291**	*e*PN	**Pn**	**14 34 16.5**	**+2.3**
BCK	**Bucak**	**3.62**	**48**	PN	**Pn**	**14 34 16.3**	**+1.6**
KHL	**Karahalli**	**3.74**	**29**	*e*PN	**Pn**	**14 34 17.1**	**+0.9**
AKS	**Akhisar**	**3.82**	**7**	*e*PN	**Pn**	**14 34 18.1**	**+0.6**
VLI	**Veliai**	**3.83**	**297**	⇑*i*PN	**Pn**	**14 34 19.0**	**+1.5**
ISP	**Isparta**	**3.84**	**43**	*e*PN	**Pn**	**14 34 18.5**	**+0.8**
ISP	**Isparta**	**3.84**	**43**	P	**Pn**	**14 34 18.9**	**+1.2**
ISP	**Isparta**	**3.84**	**43**	*e*P	**Pn**	**14 34 18.4**	**+0.7**
TKTP	**Tekketepe**	**3.88**	**39**	*i* P	**Pn**	**14 34 17.8**	**-0.4**
ATH	**Athens Observa**	**4.02**	**317**	*e*PN	**Pn**	**14 34 22.0**	**+1.7**
AKMC	**Akamas**	**4.21**	**89**	P	**Pn**	**14 34 23.4**	**+0.4**
PRK	**Paraskevi**	**4.22**	**350**	*e*PN	**Pn**	**14 34 23.3**	**+0.1**
PPCY	**Paphos**	**4.23**	**91**	⇓P	**Pn**	**14 34 23.5**	**+0.2**
GDZ	**Gediz**	**4.40**	**24**	*i* P	**Pn**	**14 34 25.7**	**+0.1**
ALFC	**Alevga**	**4.43**	**87**	⇑*e*P	**Pn**	**14 34 25.9**	**-0.2**
	57nm,0.6s						
ALFC				S	**Sn**	**14 35 18.3**	**+0.8**
BALB	**Balikesir**	**4.58**	**7**	*e*PN	**Pn**	**14 34 28.8**	**+0.5**
ALT	**Altintas**	**4.60**	**30**	*e*PN	**Pn**	**14 34 28.6**	**+0.1**
DST	**Dursunbey**	**4.66**	**14**	*e*PN	**Pn**	**14 34 29.9**	**+0.6**
LEF	**Lefka**	**4.67**	**88**	*e*PN	**Pn**	**14 34 29.4**	**-0.1**
SZAC	**Souni-Zanaja**	**4.68**	**92**	⇑*e*P	**Pn**	**14 34 29.6**	**-0.1**
	32nm,0.3s						
SZAC				S	**Sn**	**14 35 24.6**	**+0.7**
ITM	**Ithomi**	**4.75**	**298**	*e*PN	**Pn**	**14 34 32.5**	**+1.8**
ITM	**Ithomi**	**4.75**	**298**	*e*Pn	**Pn**	**14 34 33.4**	**+2.7**
EZN	**Ezine**	**4.79**	**352**	*e*PN	**Pn**	**14 34 31.6**	**+0.4**
ERMK	**Ermenek**	**4.89**	**70**	*i* P	**Pn**	**14 34 29.9**	**-2.8**
LKR	**Lokris**	**4.96**	**310**	*e*PN	**Pn**	**14 34 34.2**	**+1.4**
MAMC	**Mammari**	**4.93**	**87**	P	**Pn**	**14 34 34.0**	**+0.8**
CSS	**Prodhromos**	**5.03**	**90**	P	**Pn**	**14 34 34.6**	**0.0**
	22nm,0.5s						
CSS				S	**Sn**	**14 35 32.6**	**-0.1**
CSS	**Prodhromos**	**5.03**	**90**	*e*P	**Pn**	**14 34 33.7**	**-0.9**
	213nm,0.6s						
CSS	**Prodhromos**	**5.03**	**90**	Pn	**Pn**	**14 34 35.4**	**+0.8**
CSS				S	**Sn**	**14 35 30.8**	**-1.9**
CSS				S	**Sn**	**14 35 32.6**	**-0.1**
KONT	**Konya--Tatoy**	**5.04**	**54**	*e*PN	**Pn**	**14 34 34.8**	**0.0**
LIA	**Limnos Island**	**5.07**	**342**	*e*PN	**Pn**	**14 34 35.1**	**0.0**
ORLT	**Orhaneli**	**5.14**	**15**	*e*PN	**Pn**	**14 34 36.5**	**+0.4**
KDHN	**Kadinhani**	**5.23**	**48**	*i* P	**Pn**	**14 34 40.1**	**+2.7**
KCT	**Karacabey**	**5.26**	**10**	*e*PN	**Pn**	**14 34 37.9**	**+0.1**
NEO	**Neokhori**	**5.28**	**324**	*e*PN	**Pn**	**14 34 39.1**	**+1.0**
ULDT	**Uludag**	**5.28**	**16**	*i* P	**Pn**	**14 34 36.3**	**-1.8**
EDC	**Edincik**	**5.28**	**6**	*e*PN	**Pn**	**14 34 38.4**	**+0.2**
BNT	**Bandirma**	**5.30**	**6**	*e*PN	**Pn**	**14 34 38.5**	**+0.1**
ESKT	**Eskisehir**	**5.30**	**32**	*e*PN	**Pn**	**14 34 38.0**	**-0.4**
ESKT	**Eskisehir**	**5.30**	**32**	*i* P	**Pn**	**14 34 36.7**	**-1.7**
KIZT	**Kizilcal**	**5.33**	**43**	*e*PN	**Pn**	**14 34 39.2**	**+0.4**
XOR	**Xorichti**	**5.34**	**324**	*e*Pn	**Pn**	**14 34 40.0**	**+1.1**
IKL	**Isikli**	**5.41**	**76**	*e*PN	**Pn**	**14 34 39.5**	**-0.4**
BORA	**Eskisehir**	**5.44**	**27**	*i* P	**Pn**	**14 34 40.0**	**-0.5**
RLS	**Riolos of Patr**	**5.49**	**304**	*e*PN	**Pn**	**14 34 43.6**	**+2.6**
RLS	**Riolos of Patr**	**5.49**	**304**	*e*Pn	**Pn**	**14 34 44.7**	**+3.7**
MRMT	**Marmara Adasi**	**5.52**	**3**	*e*PN	**Pn**	**14 34 40.9**	**-0.6**
AGG	**Agios Georgios**	**5.54**	**317**	*e*Pn	**Pn**	**14 34 43.6**	**+1.9**
PAIG	**Paliouri**	**5.59**	**331**	*e*Pn	**Pn**	**14 34 43.0**	**+0.5**
SART	**Tekirdag**	**5.60**	**360**	*i* P	**Pn**	**14 34 42.3**	**-0.3**
PHNC	**Paralimni**	**5.61**	**89**	P	**Pn**	**14 34 44.0**	**+1.3**
EVR	**Evrytania**	**5.77**	**313**	*e*PN	**Pn**	**14 34 46.5**	**+1.5**
EVR	**Evrytania**	**5.77**	**313**	*e*Pn	**Pn**	**14 34 47.3**	**+2.3**
ALN	**Alexandroupoli**	**5.88**	**351**	*e*Pn	**Pn**	**14 34 46.2**	**-0.3**
EYL	**Eskiyayla**	**5.96**	**22**	*e*PN	**Pn**	**14 34 46.3**	**-1.3**
PLG	**Polygyros**	**6.06**	**332**	*e*PN	**Pn**	**14 34 50.1**	**+0.9**
ELBA	**Catalca**	**6.13**	**9**	*i* P	**Pn**	**14 34 49.2**	**-0.9**
VLS	**Valsamata**	**6.15**	**302**	*e*PN	**Pn**	**14 34 52.1**	**+1.7**
RDO	**Rodhopi**	**6.20**	**348**	⇓*i*PN	**Pn**	**14 34 50.6**	**-0.4**
MERS	**Mersin**	**6.20**	**71**	*e*PN	**Pn**	**14 34 50.9**	**-0.2**
MDU	**Mudurnu**	**6.24**	**29**	*e*PN	**Pn**	**14 34 51.4**	**-0.3**
LIT	**Litokhoron**	**6.25**	**325**	*e*Pn	**Pn**	**14 34 52.9**	**+1.0**
LKD	**Levkas**	**6.37**	**307**	*e*Pn	**Pn**	**14 34 54.9**	**+1.4**
ANTO	**Ankara**	**6.53**	**41**	*e*PN	**Pn**	**14 34 55.0**	**-0.7**
NIG	**Nigde**	**6.68**	**61**	*e*PN	**Pn**	**14 34 57.0**	**-0.9**
SGKT	**Sivrigoynuk**	**6.69**	**34**	*i* P	**Pn**	**14 34 57.5**	**-0.6**
KARA	**Karaisali**	**6.71**	**69**	*e*PN	**Pn**	**14 34 58.4**	**0.0**
KAMT	**Kaman**	**6.73**	**49**	*e*PN	**Pn**	**14 34 57.8**	**-0.8**
KZN	**Kozani**	**6.76**	**322**	*e*PN	**Pn**	**14 35 00.3**	**+1.3**
KZN	**Kozani**	**6.76**	**322**	*e*Pn	**Pn**	**14 35 01.8**	**+2.8**
EDRB	**Edirne**	**6.76**	**357**	*e*PN	**Pn**	**14 34 58.6**	**-0.5**
NVR	**Nevrokopi**	**6.79**	**338**	⇓*i*PN	**Pn**	**14 34 59.2**	**-0.2**
JAN	**Janina**	**6.81**	**314**	*e*PN	**Pn**	**14 35 00.7**	**+1.0**
JAN	**Janina**	**6.81**	**314**	*e*P	**Pn**	**14 35 02.0**	**+2.3**
HAF	**Haifa**	**6.90**	**107**	Pn	**Pn**	**14 35 00.2**	**-0.7**
BR131	**Keskin Array S**	**6.91**	**46**	*e*P	**Pn**	**14 35 00.2**	**-0.9**
	27nm,0.5s						
BRTR	**Keskin Array B**	**6.91**	**46**	Pn	**Pn**	**14 35 00.5**	**-0.6**
	6.2nm,0.3s,baz=216,slow=13,SNR=80						
BRTR				Sn	**Sn**	**14 36 20.4**	**+0.7**
	3.2nm,0.3s,baz=211,slow=26,SNR=5.9						
BRTR	**Keskin Array B**	**6.91**	**46**	P	**Pn**	**14 35 00.5**	**-0.6**
BRTR						14 36 20.4	
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
BRTR				smax			
	comp=N,3.0nm,0.3s						
HNTI	**Hanita**	**6.91**	**105**	Pn	**Pn**	**14 35 00.7**	**-0.4**
HNTI				Sn	**Sn**	**14 36 14.9**	**-4.8**
HNTI	**Hanita**	**6.91**	**105**	P	**Pn**	**14 35 00.8**	**-0.3**
HNTI				S	**Sn**	**14 36 17.3**	**-2.4**
MATL	**Matirih**	**6.91**	**101**	*e*Pn	**Pn**	**14 35 00.3**	**-0.9**
OFRI	**'Ofer**	**6.93**	**109**	Pn	**Pn**	**14 35 01.0**	**-0.3**
OFRI				Sn	**Sn**	**14 36 14.9**	**-5.2**
OFRI	**'Ofer**	**6.93**	**109**	P	**Pn**	**14 35 01.1**	**-0.2**
KNT	**Kendrikon**	**6.95**	**332**	*e*Pn	**Pn**	**14 35 03.1**	**+1.4**
BHL	**Bhannes**	**7.08**	**97**	*e*Pn	**Pn**	**14 34 59.9**	**-3.5**
BHL				Sn	**Sn**	**14 36 20.0**	**-3.9**
MMA0	**Mount Meron ar**	**7.11**	**105**	Pn	**Pn**	**14 35 02.7**	**-1.2**
MMA0				Sn	**Sn**	**14 36 21.2**	**-3.6**
CEYT	**Ceyhan**	**7.19**	**72**	*e*PN	**Pn**	**14 35 03.7**	**-1.3**
HWQ	**Hawqa**	**7.25**	**94**	*e*Pn	**Pn**	**14 35 04.4**	**-1.5**
HWQ				Sn	**Sn**	**14 36 25.5**	**-2.7**
KSDI	**Kefar Szold**	**7.26**	**103**	Pn	**Pn**	**14 35 05.1**	**-0.9**
KSDI				Sn	**Sn**	**14 36 23.8**	**-4.8**
KSDI	**Kefar Szold**	**7.26**	**103**	P	**Pn**	**14 35 04.1**	**-1.9**
CDAG	**Cicekdag**	**7.29**	**49**	*i* P	**Pn**	**14 35 04.5**	**-2.0**
ELDT	**Eldivan**	**7.31**	**41**	*i* P	**Pn**	**14 35 05.0**	**-1.6**
FNA	**Florina**	**7.32**	**323**	*e*Pn	**Pn**	**14 35 08.4**	**+1.6**
MMLI	**Mount Malkishu**	**7.34**	**109**	Pn	**Pn**	**14 35 06.6**	**-0.5**
MMLI				Sn	**Sn**	**14 36 26.2**	**-4.2**
KZIT	**Kziot**	**7.34**	**123**	Pn	**Pn**	**14 35 06.0**	**-1.1**
KZIT				Sn	**Sn**	**14 36 25.7**	**-4.8**
KZIT	**Kziot**	**7.34**	**123**	P	**Pn**	**14 35 05.8**	**-1.3**
HTY	**Hatay**	**7.36**	**79**	*e*PN	**Pn**	**14 35 06.6**	**-0.7**
KOZT	**Kozan**	**7.37**	**69**	*e*PN	**Pn**	**14 35 06.3**	**-1.2**
JMB	**Yambol**	**7.39**	**356**	P	**Pn**	**14 35 09.2**	**+1.4**
RTMM	**Retamin**	**7.46**	**121**	Pn	**Pn**	**14 35 07.4**	**-1.4**
RTMM	**Retamin**	**7.46**	**121**	P	**Pn**	**14 35 07.5**	**-1.3**
KEK	**Kerkira**	**7.49**	**310**	*e*PN	**Pn**	**14 35 10.7**	**+1.5**
KEK	**Kerkira**	**7.49**	**310**	Pn	**Pn**	**14 35 08.9**	**-0.3**
COBT	**Iskenderun**	**7.50**	**76**	*i* P	**Pn**	**14 35 07.4**	**-1.9**
MASH	**Mash'abbe Sade**	**7.56**	**120**	Pn	**Pn**	**14 35 09.3**	**-0.9**
MASH				Sn	**Sn**	**14 36 30.9**	**-5.1**
MASH	**Mash'abbe Sade**	**7.56**	**120**	P	**Pn**	**14 35 09.5**	**-0.7**
FKH	**Fakeheh**	**7.63**	**94**	*e*Pn	**Pn**	**14 35 09.7**	**-1.5**
FKH				Sn	**Sn**	**14 36 34.8**	**-3.0**
MZDA	**Masada**	**7.81**	**117**	Pn	**Pn**	**14 35 12.3**	**-1.3**
MZDA				Sn	**Sn**	**14 36 37.2**	**-4.9**
BNN	**Bunyan**	**7.88**	**59**	*e*PN	**Pn**	**14 35 13.3**	**-1.3**
MKRJ	**Makawir**	**7.89**	**114**	Pn	**Pn**	**14 35 14.0**	**-0.8**
BALT	**Daday**	**8.07**	**35**	*i* P	**P**	**14 35 13.1**	**-4.2**
ZFRI	**Zfri**	**8.09**	**122**	Pn	**P**	**14 35 15.6**	**-2.0**
ZFRI				Sn	**Sn**	**14 36 43.5**	**-5.7**
ZFRI	**Zfri**	**8.09**	**122**	P	**P**	**14 35 15.7**	**-1.9**
PRNI	**Paran**	**8.09**	**123**	Pn	**P**	**14 35 15.8**	**-1.8**
PRNI				Sn	**Sn**	**14 36 43.1**	**-6.1**
PRNI	**Paran**	**8.09**	**123**	P	**P**	**14 35 16.0**	**-1.6**
PRNI				S	**Sn**	**14 36 42.6**	**-6.6**
VTS	**Vitosha**	**8.12**	**339**	P	**P**	**14 35 19.7**	**+1.7**
CTKT	**Corum**	**8.16**	**45**	*i* P	**P**	**14 35 17.5**	**-1.1**
HRFI	**Mount Harif**	**8.31**	**125**	Pn	**P**	**14 35 20.5**	**-0.1**
HRFI				Sn	**Sn**	**14 36 48.9**	**-5.8**
GAZ	**Gaziantep**	**8.37**	**73**	*e*PN	**P**	**14 35 20.0**	**-1.4**
MBH	**Mount Berech**	**8.38**	**127**	Pn	**P**	**14 35 20.9**	**-0.8**
EIL	**Elat**	**8.49**	**127**	Pn	**P**	**14 35 22.3**	**-0.8**
EIL	**Elat**	**8.49**	**127**	P	**P**	**14 35 21.6**	**-1.5**
BOYT	**Boyabat**	**8.76**	**41**	*i* P	**P**	**14 35 23.3**	**-3.6**
LCI	**Lecce**	**8.91**	**309**	P	**P**	**14 35 27.6**	**-1.3**
TIRR	**Tirgusor**	**9.41**	**5**	⇓P	**P**	**14 35 35.5**	**-0.4**
SOI	**Samo**	**9.45**	**292**	P	**P**	**14 35 34.6**	**-1.8**
SOI				pmax	pmax		
	comp=Z,17nm,0.3s						
SOI	**Samo**	**9.45**	**292**	Pn	**P**	**14 35 34.6**	**-1.8**
	comp=Z,17nm,0.3s						
HARR	**Harsova**	**9.61**	**3**	⇑P	**P**	**14 35 37.4**	**-1.2**
CEL	**Celeste**	**9.62**	**293**	Pn	**P**	**14 35 37.2**	**-1.5**
MTTG	**Motta San Giov**	**9.71**	**291**	Pn	**P**	**14 35 40.5**	**+0.6**
TDS	**Terranova Siba**	**9.78**	**301**	P	**P**	**14 35 42.9**	**+2.0**
BRT	**Bari-Castellan**	**9.78**	**309**	P	**P**	**14 35 39.2**	**-1.8**
ORI	**Oriolo Calabro**	**9.87**	**303**	P	**P**	**14 35 43.7**	**+1.5**
ORI				pmax	pmax		
	comp=Z,55nm,0.3s						
ORI	**Oriolo Calabro**	**9.87**	**303**	Pn	**P**	**14 35 43.7**	**+1.5**
	comp=Z,55nm,0.3s						
ATN	**Antennamare**	**9.92**	**291**	P	**P**	**14 35 40.2**	**-2.7**
AGST	**Augusta-Monte**	**9.92**	**286**	Pn	**P**	**14 35 39.9**	**-3.0**
SSY	**Sortino**	**10.03**	**285**	Pn	**P**	**14 35 42.2**	**-2.1**
	comp=Z,132nm,0.3s						
CFR	**Carcaliu**	**10.11**	**4**	⇓P	**P**	**14 35 43.9**	**-1.6**
PZI	**Palazzolo**	**10.11**	**285**	*e*P	**P**	**14 35 44.2**	**-1.3**
PZI				pmax	pmax		
	comp=Z,45nm,0.1s						
PZI	**Palazzolo**	**10.11**	**285**	*e*P	**P**	**14 35 44.2**	**-1.3**
	comp=Z,45nm,0.1s						
MTUR	**Matau**	**10.26**	**351**	P	**P**	**14 35 48.1**	**+0.5**
CUC	**Castrocucco**	**10.28**	**302**	Pn	**P**	**14 35 48.7**	**+0.9**
MLR	**Muntele Rosu**	**10.44**	**355**	Pn	**P**	**14 35 51.3**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=152,slow=5.0,SNR=60						
MLR				LR	LR	14 40 22.1	
	comp=Z,1μm,19.8s,baz=186,slow=41						
MLR	**Muntele Rosu**	**10.44**	**355**	⇓P	**P**	**14 35 51.3**	**+1.3**
MLR	**Muntele Rosu**	**10.44**	**355**	P	**P**	**14 35 51.3**	**+1.3**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,1μm,19.8s						
VOIR		**10.47**	**352**	⇓P	**P**	**14 35 51.6**	**+1.2**
MGR	**Morigerati**	**10.52**	**302**	Pn	**P**	**14 35 51.3**	**+0.2**
DIVS	**Divcibare**	**10.58**	**330**	⇑*i*Pn	**P**	**14 35 53.7**	**+1.4**
SLCN	**Sala Consilina**	**10.58**	**303**	Pn	**P**	**14 35 50.7**	**-1.2**
VAE	**Valguarnera**	**10.60**	**287**	Pn	**P**	**14 35 51.7**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=27,slow=11,SNR=2.3						
VAE				Sn	**S**	**14 37 49.0**	**-2.1**
	comp=Z,5.8nm,0.3s,baz=227,slow=22,SNR=3.6						
BBLS	**Bajina Basta -**	**10.64**	**328**	*e*Pn	**P**	**14 35 55.9**	**+3.2**
VRI	**Vrincioaia**	**10.78**	**358**	⇑P	**P**	**14 35 55.8**	**+1.2**
KELT	**Kelkit**	**10.81**	**59**	*i* P	**P**	**14 35 53.3**	**-1.8**
SGO	**Sicignano**	**10.88**	**304**	P	**P**	**14 35 55.1**	**-0.9**
SGO				pmax	pmax		
	comp=Z,19nm,0.4s						
SGO	**Sicignano**	**10.88**	**304**	Pn	**P**	**14 35 55.1**	**-0.9**
	comp=Z,19nm,0.4s						
SIM	**Simferopol'**	**11.19**	**26**	*e*P	**P**	**14 36 00.2**	**0.0**
SIM				pmax	pmax		
	comp=Z,45nm,0.6s						
SIM				MLR	MLR		
	comp=Z,500nm,15.0s						
BZS	**Buzias**	**11.35**	**340**	⇓P	**P**	**14 36 02.0**	**-0.4**
KIS	**Kishinev**	**11.97**	**5**	*e*P	**P**	**14 36 11.0**	**+0.3**
KIS				MLR	MLR		
	comp=Z,2μm,12.0s						
KIS				MLR	MLR		
	comp=N,1μm,10.0s						
KIS				MLR	MLR		
	comp=E,1μm,10.0s						
KIS				MLR	MLR		
	comp=Z,2μm,12.0s						
ANN	**Anapa**	**12.47**	**36**	*e*P	Px	14 36 29.8	
ANN				pmax	pmax		
	comp=Z,48nm,1.2s						
ANN				MLR	MLR		
	comp=Z,366nm,10.0s						
BURAR	**Bucovina Array**	**12.61**	**354**	⇓P	**P**	**14 36 22.8**	**+3.5**
BURAR	**Bucovina Array**	**12.61**	**354**	⇓P	**P**	**14 36 22.8**	**+3.4**
PKSM	**Moragy**	**12.87**	**332**	P	**P**	**14 36 23.5**	**+0.7**
PKSM	**Moragy**	**12.87**	**332**	⇓*e*P	**P**	**14 36 24.5**	**+1.7**
SOC	**Sochi**	**12.87**	**45**	*e*P	**P**	**14 36 22.3**	**-0.5**
SOC				*e*		14 38 44.0	
SOC				pmax	pmax		
	comp=Z,17nm,0.8s						
SOC				MLR	MLR		
	comp=Z,2μm,14.0s						
MSL	**Mosul**	**12.98**	**80**	*ex*	x	14 36 27.0	
PSZ	**Piszkesteto**	**13.94**	**339**	*e*P	**P**	**14 36 38.1**	**+1.3**
PSZ				*i* PP	PP	14 36 46.2	-1.5
PSZ	**Piszkesteto**	**13.94**	**339**	*e*P	**P**	**14 36 37.6**	**+0.8**
PSZ				pmax	pmax		
	comp=Z,38nm,0.9s						
PSZ	**Piszkesteto**	**13.94**	**339**	*e*P	**P**	**14 36 37.6**	**+0.8**
	comp=Z,38nm,0.9s						
KECS	**Kecovo**	**14.29**	**342**	*e*	**P**	**14 36 49.6**	**+8.2**
KOLS	**Kolonicke sedl**	**14.31**	**347**	*e*		14 36 52.9	
BHD	**Baghdad**	**14.34**	**92**	*ex*	x	14 36 46.0	
BHD				*ex*	x	14 39 38.0	
CRVS	**Cervenica-Dubn**	**14.45**	**345**	*e*P	**P**	**14 36 47.4**	**+3.9**
CRVS				*e*pP		14 36 54.6	
ONI	**Oni**	**14.70**	**55**	P	**P**	**14 36 54.5**	**+7.6**
VYHS	**Vyhne**	**14.77**	**338**	*e*P	**P**	**14 36 52.0**	**+4.3**
VYHS				*es*P		14 37 02.2	
GNI	**Garni**	**14.79**	**65**	Pn	**P**	**14 36 50.8**	**+2.8**
	comp=Z,1.2nm,0.3s,baz=0.1,slow=5.1,SNR=7.0						
GNI				LR	LR	14 43 55.8	
	comp=Z,1μm,21.1s,baz=272,slow=43						
GNI	**Garni**	**14.79**	**65**	P	**P**	**14 36 50.8**	**+2.8**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,1μm,21.1s						
GNI	**Garni**	**14.79**	**65**	*e*P	**P**	**14 36 48.9**	**+0.8**
	comp=Z,45nm,1.0s						
VSL	**Villasalto**	**14.85**	**292**	P	**P**	**14 36 50.1**	**+1.2**
	comp=Z,52nm,0.8s						
KIV	**Kislovodsk**	**14.86**	**49**	*e*P	**P**	**14 36 44.1**	**-4.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,800nm,13.0s						
OBKA	**Obir**	**14.88**	**324**	⇑P	**P**	**14 36 54.3**	**+5.1**
	comp=Z,36nm,1.3s						
KWP	**Kalwaria**	**14.91**	**349**	*e*P	**P**	**14 36 53.8**	**+4.3**
KWP				MLR	MLR	14 43 59.0	
	comp=Z,1μm,16.2s						
LVV	**L'vov**	**14.91**	**352**	*e*P	**P**	**14 36 52.0**	**+2.5**
STHS	**Stebnicka Huta**	**14.98**	**345**	*e*	**P**	**14 36 57.3**	**+6.8**
ARSA	**Arzberg**	**14.98**	**328**	⇑*i*P	**P**	**14 36 51.0**	**+0.5**
	comp=Z,15nm,0.9s						
ZST	**Bratislava**	**15.10**	**333**	*e*	**P**	**14 36 58.4**	**+6.3**
SMOL	**Smolenice**	**15.25**	**335**	*e*pP		14 37 02.3	
TBLG	**Delisi**	**15.26**	**59**	P	**P**	**14 37 00.1**	**+6.0**
TI2	**Plekhanov**	**15.27**	**59**	*e*P	**P**	**14 36 56.2**	**+2.0**
MTA	**Mtatsminda**	**15.28**	**59**	P	**P**	**14 36 59.8**	**+5.4**
DGRG	**David-gareji**	**15.62**	**61**	P	**P**	**14 37 00.1**	**+1.3**
GOF	**Gofitskoye**	**15.66**	**46**	*e*P	**P**	**14 37 02.9**	**+3.5**
GOF				pmax	pmax		
	comp=Z,120nm,1.3s						
AKASG	**Malin Array Be**	**15.68**	**5**	Pn	**P**	**14 36 57.9**	**-1.7**
	comp=Z,7

UMR AMb AMB 14 37 34.6
comp=Z,58nm,0.6s
VRSR Storozhevoye 18.30 25 *e*P **P 14 37 31.8 -0.8**
VRSR pmax pmax
comp=Z,5.0nm,1.1s
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,5.0nm,1.0s
VRSR Storozhevoye 18.30 25 *e*P **P 14 37 31.8 -0.8**
comp=E,5.0nm,1.1s
KBD Kabd 18.32 103 *e*P **P 14 37 32.2 -0.7**
KBD AMb AMB 14 37 35.5
comp=Z,133nm,1.1s
MBDF Montbardon 18.35 308 *e*P **P 14 37 30.9 -2.3**
comp=Z,114nm,1.0s
MBDF Montbardon 18.35 308 *e*P **P 14 37 30.9 -2.3**
MBDF pmax pmax
comp=Z,57nm,1.0s
BRG Berggiesshubel 18.48 333 *e*P **P 14 37 34.3 -0.4**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 18.48 333 *e*P **P 14 37 34.3 -0.4**
comp=Z,3.0nm,0.9s
BRG *i* 14 37 41.4
BRG Berggiesshubel 18.48 333 *e*P **P 14 37 34.3 -0.4**
comp=Z,3.0nm,0.9s
BNI Bardonecchia 18.55 309 *e*P **P 14 37 35.2 -0.4**
BNI pmax pmax
comp=Z,29nm,0.9s
BNI Bardonecchia 18.55 309 *e*P **P 14 37 35.2 -0.4**
comp=Z,30nm,0.9s
BNI Bardonecchia 18.55 309 *e*P **P 14 37 35.2 -0.4**
comp=Z,29nm,0.9s
NKC Novy Kostel 18.57 329 *e*P **P 14 37 33.6 -2.3**
NKC *e*pP 14 37 42.6
GRA1 Grafenberg Arr 18.71 326 *e*P **P 14 37 37.6 0.0**
comp=Z,127nm,1.7s
GRF Grafenberg Arr 18.71 326 *e*P **P 14 37 37.6 0.0**
GRF pmax pmax
comp=Z,127nm,1.7s
GRF Grafenberg Arr 18.71 326 *e*P **P 14 37 37.6 0.0**
GRF pmax pmax
comp=Z,127nm,1.7s
GRF Grafenberg Arr 18.71 326 *e*P **P 14 37 37.6 0.0**
comp=Z,127nm,1.7s
VOR Voronezh 18.75 24 *e*P **P 14 37 37.0 -0.9**
VOR pmax pmax
comp=N,90nm,1.0s
VOR pmax pmax
comp=E,80nm,1.0s
VOR pmax pmax
comp=Z,70nm,1.0s
SMRF Simiane la Rot 18.86 305 *e*P **P 14 37 36.9 -2.4**
comp=Z,61nm,1.1s
ORIF Oris-en-Rattie 19.01 308 *e*P **P 14 37 39.0 -2.2**
comp=Z,24nm,0.8s
ORIF *e*R
comp=Z,706nm,22.2s
STU Stuttgart 19.08 321 *e*P **P 14 37 41.6 -0.3**
STU pmax pmax
comp=Z,38nm,0.8s
STU Stuttgart 19.08 321 *e*P **P 14 37 41.6 -0.4**
comp=Z,38nm,0.8s
STU Stuttgart 19.08 321 *e*P **P 14 37 41.6 -0.3**
comp=Z,38nm,0.8s
VRHR Novokhopersk 19.10 29 *e*P **P 14 37 41.1 -1.1**
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.8s
SUW Suwalki 19.14 353 *e*P **P 14 37 41.9 -0.7**
SUW MLR MLR 14 45 46.7
comp=E,700nm,18.8s
SUW Suwalki 19.14 353 *e*P **P 14 37 40.6 -1.9**
SUW Suwalki 19.14 353 *e*P **P 14 37 41.9 -0.7**
comp=E,700nm,18.8s
CLL Collm 19.18 332 P **P 14 37 42.1 -1.0**
comp=E,logA/T=1.1
CLL *i* *PP 14 37 49.5
CLL *e*PP PP 14 37 57.0 -3.1
CLL Collm 19.18 332 *i* P **P 14 37 42.1 -1.0**
CLL pmax pmax
comp=Z,14nm,1.2s
CLL Collm 19.18 332 *i* P **P 14 37 42.1 -1.0**
comp=Z,14nm,1.2s
CLL *i* 14 37 49.5
BBS Basel-Blauen 19.22 316 *e*P **P 14 37 47.0 +3.4**
MOX Moxa 19.23 329 *i* P **P 14 37 45.9 +2.2**
comp=Z,logA/T=1.5
MOX *e* 14 40 40.0
MOX L 14 47 06.0
MOX Moxa 19.23 329 *e*P **P 14 37 45.9 +2.2**
MOX pmax pmax
comp=Z,38nm,1.1s
MOX MLR MLR
comp=Z,900nm,12.0s
MOX Moxa 19.23 329 *e*P **P 14 37 45.9 +2.2**
comp=Z,38nm,1.1s
BFO Black Forest 19.26 319 *e*P **P 14 37 41.8 -2.3**
BFO pmax pmax
comp=Z,16nm,0.9s
BFO Black Forest 19.26 319 *e*P **P 14 37 41.8 -2.3**
comp=Z,16nm,0.9s
MNK Minsk 19.42 1 *e*P **P 14 37 41.0 -4.9**
LOMF Lomont 19.56 315 *e*P **P 14 37 48.1 +0.7**
CABF La Chapelle 19.62 312 *e*P **P 14 37 45.2 -3.0**
comp=Z,80nm,0.7s
CABF La Chapelle 19.62 312 *e*P **P 14 37 45.2 -3.0**
CABF pmax pmax
comp=Z,40nm,0.7s
MOF Molkenrain 19.65 317 *e*P **P 14 37 50.1 +1.6**
EMHD Djebel Mahouad 19.73 280 P 14 38 02.5
VIVF Saint-Julien-l 19.78 306 *e*P **P 14 37 47.5 -2.4**
comp=Z,36nm,0.6s
VIVF Saint-Julien-l 19.78 306 *e*P **P 14 37 47.5 -2.4**
VIVF pmax pmax
comp=Z,18nm,0.6s
HINF Hinteralfeld 19.79 316 *e*P **P 14 37 46.8 -3.2**
comp=Z,31nm,0.7s
HINF Hinteralfeld 19.79 316 *e*P **P 14 37 46.8 -3.2**
HINF pmax pmax
comp=Z,16nm,0.7s
TOD Tromm 19.81 323 *e*P **P 14 37 50.1 -0.1**
ECH Echery 19.84 318 *e*P **P 14 37 54.1 +3.6**
WLS Welschbruch 19.84 318 *e*P **P 14 37 56.0 +5.4**
CDF Champ du Feu 19.88 318 *e*P **P 14 37 48.6 -2.4**
comp=Z,42nm,0.9s
CDF Champ du Feu 19.88 318 *e*P **P 14 37 48.6 -2.4**
CDF pmax pmax
comp=Z,21nm,0.9s
LASF Ste Croix 20.06 304 *e*P **P 14 37 50.5 -2.4**
comp=Z,42nm,0.9s
HAU Haudompre 20.18 316 *e*P **P 14 37 51.6 -2.5**
comp=Z,64nm,0.7s
HAU *e*R
comp=Z,799nm,20.5s
HAU Haudompre 20.18 316 *e*P **P 14 37 51.6 -2.5**
HAU pmax pmax
comp=Z,32nm,0.7s
HAU MLR MLR
comp=Z,800nm,20.5s,MS4.1
EJON La Jonquera 20.29 299 P **P 14 37 55.0 -0.4**
comp=Z,15nm,0.8s
EJON La Jonquera 20.29 299 P **P 14 37 55.0 -0.3**
comp=Z,15nm,0.8s,SNR=7.9
TNS Taunus Mts 20.39 324 *e*P **P 14 37 54.2 -2.1**
TNS pmax pmax
comp=Z,102nm,1.3s
TNS Taunus Mts 20.39 324 *e*P **P 14 37 54.2 -2.1**
comp=Z,102nm,1.3s
THEF They Montfort 20.50 316 *e*P **P 14 37 55.4 -2.0**
ABH Alteburg 20.62 322 *e*P **P 14 38 02.0 +3.4**
CLZ Clausthal 20.65 329 *e*P **P 14 37 57.8 -1.2**
CLZ pmax pmax
comp=Z,16nm,0.8s
CLZ Clausthal 20.65 329 *e*P **P 14 37 57.8 -1.2**
comp=Z,16nm,0.8s
RUP Ruppelstein 20.76 321 *e*P **P 14 37 58.1 -2.0**
LBL Lubilhac 20.86 306 *e*P **P 14 38 00.1 -1.0**
EBNR Beni Rached 20.87 281 P **P 14 38 05.0 +3.6**
PLDF La Plantade 20.89 309 *e*P **P 14 37 59.2 -2.3**
MTLF Montolieu 20.99 301 *e*P **P 14 38 00.3 -2.2**
comp=Z,56nm,1.2s
MTLF Montolieu 20.99 301 *e*P **P 14 38 00.3 -2.2**
MTLF pmax pmax
comp=Z,28nm,1.2s
ECHA Ech Chlef 21.01 280 P **P 14 38 05.5 +2.7**
SMF Signal de Mont 21.02 310 *e*P **P 14 37 59.9 -2.9**
comp=Z,50nm,0.7s,mb4.7
SMF Signal de Mont 21.02 310 *e*P **P 14 37 59.9 -2.9**
SMF pmax pmax
comp=Z,25nm,0.7s,mb4.7
OBN Obninsk 21.06 15 *c* *i*P **P 14 38 00.3 -2.8**
OBN pmax pmax
comp=Z,58nm,0.8s,mb5.0
OBN MLR MLR
comp=Z,400nm,13.0s,MS4.0
OBN Obninsk 21.06 15 P **P 14 38 00.5 -2.6**
OBN Obninsk 21.06 15 *i* P **P 14 38 00.3 -2.8**
comp=Z,400nm,13.0s
ETRT Tiaret 21.14 278 P **P 14 38 06.5 +2.4**
MEZF Maizieres J'vi 21.17 316 *e*P **P 14 38 02.1 -2.2**
comp=Z,39nm,0.6s,mb4.6
EMIR Miracle 21.18 296 P **P 14 38 03.7 -0.7**
comp=Z,12nm,0.7s,mb4.3
EMIR Miracle 21.18 296 P **P 14 38 03.7 -0.7**
comp=Z,12nm,0.7s,mb4.3,SNR=7.9
WLF Walferdange 21.21 320 *e*P **P 14 38 04.5 -0.2**
WLF pmax pmax
comp=Z,28nm,0.9s,mb4.6
WLF Walferdange 21.21 320 *e*P **P 14 38 04.5 -0.2**
comp=Z,28nm,0.9s,mb4.6
WLF Walferdange 21.21 320 *e*P **P 14 38 04.5 -0.2**
comp=Z,28nm,0.9s,mb4.6
AGO Saint Agoulin 21.23 308 *e*P **P 14 38 03.9 -1.1**
EANR 'Ain N'Sour 21.25 280 P **P 14 38 06.0 +0.8**
LOR Lormes 21.28 312 *e*P **P 14 38 03.2 -2.3**
comp=Z,99nm,1.1s,mb4.8
LOR Lormes 21.28 312 *e*P **P 14 38 03.2 -2.3**
LOR pmax pmax
comp=Z,50nm,1.1s,mb4.8
FRNF Fournols 21.36 306 *e*P **P 14 38 05.5 -0.8**
AVF Avril sur Loir 21.39 310 *e*P **P 14 38 04.0 -2.5**
comp=Z,110nm,1.0s,mb4.8
AVF Avril sur Loir 21.39 310 *e*P **P 14 38 04.0 -2.5**
AVF pmax pmax
comp=Z,55nm,1.0s,mb4.8
SSF Saint Saulge 21.41 311 *e*P **P 14 38 04.5 -2.2**
SSF pmax pmax
comp=Z,106nm,1.1s,mb5.1
SSF Saint Saulge 21.41 311 *e*P **P 14 38 04.5 -2.2**
comp=Z,106nm,1.1s,mb5.1
EPOB Poblet 21.41 295 P **P 14 38 05.4 -1.4**
comp=Z,94nm,0.8s,mb5.2
EPOB Poblet 21.41 295 P **P 14 38 05.4 -1.4**
comp=Z,94nm,0.8s,mb5.2,SNR=11
CAF Calviac 21.54 305 *e*P **P 14 38 06.3 -1.8**
comp=Z,45nm,1.0s,mb4.6
CAF Calviac 21.54 305 *e*P **P 14 38 06.3 -1.8**
CAF pmax pmax
comp=Z,230nm,1.0s,mb5.6
BGF Bois d'Agland 21.61 309 *e*P **P 14 38 06.6 -2.2**
comp=Z,78nm,0.9s,mb4.8
BGF Bois d'Agland 21.61 309 *e*P **P 14 38 06.6 -2.2**
BGF pmax pmax
comp=Z,39nm,0.9s,mb4.8
BSD Bornholm Skovb 21.77 341 *i* P **P 14 38 09.2 -1.1**
BSD *e*S PP 14 38 28.3 -7.2
BSD Bornholm Skovb 21.77 341 *e*P **P 14 38 09.2 -1.1**
BSD *e*S PP 14 38 28.3 -7.2
EBR Ebro Roquetas 21.78 293 *e*P **P 14 38 12.0 +1.5**
MOS Moscow 21.87 16 *e*P **P 14 38 07.0 -4.3**
MOS *i* 14 38 11.2
MOS *e*S **S 14 42 04.6 -2.0**
MOS *e* 14 42 12.2
TCF Toulx Ste Croi 21.92 308 *e*P **P 14 38 09.3 -2.5**
comp=Z,28nm,0.9s,mb4.4
TCF Toulx Ste Croi 21.92 308 *e*P **P 14 38 09.3 -2.5**
TCF pmax pmax
comp=Z,140nm,0.9s,mb5.4
ERTA Horta de San J 21.92 294 P **P 14 38 11.0 -0.9**
comp=Z,17nm,0.9s,mb4.5
ERTA Horta de San J 21.92 294 P **P 14 38 11.0 -0.9**
comp=Z,17nm,0.9s,mb4.5,SNR=6.4
RJF Les Rejaudoux 22.03 305 *e*P **P 14 38 10.8 -2.2**
comp=Z,121nm,1.0s,mb5.0
RJF Les Rejaudoux 22.03 305 *e*P **P 14 38 10.8 -2.2**
RJF pmax pmax
comp=Z,61nm,1.0s,mb5.0
EGRA Graus 22.11 297 P **P 14 38 14.0 +0.2**
comp=Z,7.0nm,0.8s,mb4.1
GIVF Givet 22.16 319 *e*P **P 14 38 11.7 -2.6**
EBEN Beniarda 22.20 287 P **P 14 38 14.7 0.0**
comp=Z,22nm,0.9s,mb4.6
EPF Esparros 22.25 299 *e*P **P 14 38 12.9 -2.3**
EBIE Bielsa 22.32 298 P **P 14 38 15.7 -0.3**
comp=Z,7.9nm,1.1s,mb4.1
LFF La Frestale 22.44 304 *e*P **P 14 38 14.6 -2.5**
comp=Z,53nm,0.9s,mb4.7
LFF La Frestale 22.44 304 *e*P **P 14 38 14.6 -2.5**
LFF pmax pmax
comp=Z,26nm,0.9s,mb4.7
EMOS Mosqueruela 22.47 292 P **P 14 38 20.0 +2.6**
comp=Z,17nm,0.9s,mb4.5
BAIF Baives 22.47 319 *e*P **P 14 38 15.0 -2.3**
comp=Z,141nm,0.9s,mb5.1
BAIF Baives 22.47 319 *e*P **P 14 38 15.0 -2.3**
BAIF pmax pmax
comp=Z,71nm,0.9s,mb5.1
ESAC San Caprasio 22.62 295 P **P 14 38 20.1 +1.3**
comp=Z,16nm,0.5s,mb4.7
ETSF Etsaut 22.87 298 *e*P **P 14 38 19.2 -2.1**
comp=Z,30nm,0.9s,mb4.4
ETSF Etsaut 22.87 298 *e*P **P 14 38 19.2 -2.1**
ETSF pmax pmax
comp=Z,15nm,0.9s,mb4.4
ETOB Tobarra 23.23 287 P **P 14 38 26.3 +1.5**
comp=Z,14nm,0.8s,mb4.4
SJPF Ste Jean 23.39 299 *e*P **P 14 38 24.1 -2.2**
comp=Z,68nm,1.1s,mb4.7
SJPF Ste Jean 23.39 299 *e*P **P 14 38 24.1 -2.2**
SJPF pmax pmax
comp=Z,34nm,1.0s,mb4.7
VSU Vasula 23.39 359 *i* P **P 14 38 30.5 +4.3**
MFF Saint Martin d 23.55 308 *e*P **P 14 38 25.9 -1.9**
comp=Z,42nm,0.8s,mb4.6
MFF Saint Martin d 23.55 308 *e*P **P 14 38 25.9 -1.9**
MFF pmax pmax
comp=Z,21nm,0.8s,mb4.6
EALK Alkurruntz 23.61 299 P **P 14 38 29.1 +0.6**
comp=Z,12nm,0.8s,mb4.4
EVIA Vianos 23.98 287 P **P 14 38 33.4 +1.3**
EVIA pmax pmax
comp=Z,22nm,0.7s,mb4.7
EVIA Vianos 23.98 287 P **P 14 38 33.4 +1.3**
comp=Z,22nm,0.7s,mb4.7
ECRI Cripan 24.24 297 P **P 14 38 36.1 +1.5**
ECRI pmax pmax
comp=Z,6.0nm,0.5s,mb4.3
ECRI Cripan 24.24 297 P **P 14 38 36.1 +1.4**
comp=Z,6.3nm,0.5s,mb4.3
LDF La Druitiere 24.27 312 *e*P **P 14 38 32.6 -2.2**
comp=Z,37nm,0.7s,mb4.6
LDF La Druitiere 24.27 312 *e*P **P 14 38 32.6 -2.2**
LDF pmax pmax
comp=Z,19nm,0.7s,mb4.6
EBER Berja 24.37 283 P **P 14 38 36.8 +0.8**
comp=Z,16nm,0.7s,mb4.6
EQES Quesada 24.45 285 P **P 14 38 37.0 +0.2**
comp=Z,15nm,0.8s,mb4.5
FLN La Foliniere 24.56 312 *e*P **P 14 38 35.6 -2.0**
comp=Z,47nm,0.6s,mb4.9
FLN *e*R
comp=Z,355nm,20.2s
FLN La Foliniere 24.56 312 *e*P **P 14 38 35.6 -2.0**
FLN pmax pmax
comp=Z,24nm,0.6s,mb4.9
FLN MLR MLR
comp=Z,350nm,20.3s,MS3.8
GRR Gorron 24.64 311 *e*P **P 14 38 35.9 -2.5**
comp=Z,66nm,0.7s,mb5.0
GRR Gorron 24.64 311 *e*P **P 14 38 35.9 -2.5**
GRR pmax pmax
comp=Z,33nm,0.7s,mb5.0
VAN Vannovskaya 24.95 74 *i* P **P 14 38 42.8 +1.3**
EBAN Banos Encina 25.00 286 P **P 14 38 43.6 +1.6**
EBAN pmax pmax
comp=Z,50nm,0.5s,mb5.3
EBAN Banos Encina 25.00 286 P **P 14 38 43.6 +1.7**
comp=Z,4.7nm,0.5s,mb4.3
ELAN Lanestosa 25.00 298 P **P 14 38 43.1 +1.2**
comp=Z,17nm,0.9s,mb4.6
ESDC Sonseca Array 25.11 290 P **P 14 38 42.8 -0.2**
comp=Z,5.4nm,0.6s,mb4.3,baz=82,slow=9.7,SNR=27
ESDC Sonseca Array 25.11 290 P **P 14 38 42.9 -0.1**
comp=Z,5.1nm,0.6s,mb4.2
ESLA Sonseca Array 25.11 290 *e*P **P 14 38 42.6 -0.4**
comp=Z,2.8nm,0.7s,mb3.9
GUD Guadarrama 25.29 292 P **P 14 38 45.4 +0.8**
GUD pmax pmax
comp=Z,20nm,0.9s,mb4.7
GUD Guadarrama 25.29 292 P **P 14 38 45.4 +0.8**
comp=Z,20nm,0.9s,mb4.7
ELOJ Sierra Loja 25.36 284 P **P 14 38 46.3 +1.0**
ELOJ pmax pmax
comp=Z,80nm,0.7s,mb5.4
ELOJ Sierra Loja 25.36 284 P **P 14 38 46.3 +1.0**
comp=Z,7.7nm,0.7s,mb4.3
ELUQ Luque 25.41 285 P **P 14 38 46.5 +0.6**
ELUQ pmax pmax
comp=Z,5.0nm,0.3s,mb4.5
ELUQ Luque 25.41 285 P **P 14 38 46.5 +0.7**
comp=Z,5.2nm,0.3s,mb4.5
EADA Adamuz 25.62 286 P **P 14 38 48.1 +0.3**
comp=Z,7.2nm,0.8s,mb4.2
SGMF Saint Gilles 25.65 310 *e*P **P 14 38 45.7 -2.2**
comp=Z,41nm,0.8s,mb4.7
SGMF Saint Gilles 25.65 310 *e*P **P 14 38 45.7 -2.2**
SGMF pmax pmax
comp=Z,21nm,0.8s,mb4.7
EMIJ Mijas 25.91 283 P **P 14 38 50.0 -0.5**
comp=Z,17nm,0.7s,mb4.7
QUIF Quistinic 25.93 309 *e*P **P 14 38 48.0 -2.5**
comp=Z,51nm,0.8s,mb4.8
QUIF Quistinic 25.93 309 *e*P **P 14 38 48.0 -2.5**
QUIF pmax pmax
comp=Z,25nm,0.8s,mb4.8
ROSF Rostrenen 26.13 310 *e*P **P 14 38 50.3 -2.1**
comp=Z,38nm,0.6s,mb4.8
ROSF Rostrenen 26.13 310 *e*P **P 14 38 50.3 -2.1**
ROSF pmax pmax
comp=Z,19nm,0.6s,mb4.8
ECAB El Cabril 26.29 286 P **P 14 38 53.9 -0.1**
comp=Z,13nm,0.9s,mb4.5
EARI Arriondas 26.30 298 P **P 14 38 54.4 +0.4**
comp=Z,17nm,1.1s,mb4.5
FINES FINESS Array B 26.39 359 P **P 14 38 53.7 -1.0**
comp=Z,2.9nm,0.3s,mb4.3,baz=161,slow=11,SNR=31
FINES ScP 14 45 57.3
comp=Z,2.9nm,0.7s,baz=135,slow=5.4,SNR=5.4
FINES LR LR 14 50 41.8
comp=Z,161nm,20.3s,MS3.6,baz=158,slow=40
FINES FINESS Array B 26.39 359 P **P 14 38 53.7 -1.0**
FINES pmax pmax
comp=Z,30nm,0.3s
FINES pmax pmax
comp=N,3.0nm,0.7s
FINES MLR MLR
comp=Z,161nm,20.3s
FINES FINESS Array B 26.39 359 P **P 14 38 53.7 -1.0**
FINES ScP 14 45 57.3
FINES LR LR 14 50 41.8
MDT Midelt 26.43 274 P **P 14 38 55.1 -0.3**
comp=Z,26nm,0.9s,mb4.8,baz=87,slow=11,SNR=36
MDT LR LR 14 50 44.8
comp=Z,212nm,20.2s,MS3.7,baz=316,slow=40
EJIF Jimena Fronter 26.48 283 P **P 14 38 56.7 +1.0**
EJIF pmax pmax
comp=Z,41nm,1.2s,mb4.8
EJIF Jimena Fronter 26.48 283 P **P 14 38 56.6 +0.9**
comp=Z,41nm,1.2s,mb4.8
HFS Hagfors 26.56 345 P **P 14 38 54.3 -2.0**
comp=Z,4.6nm,0.6s,mb4.2,baz=144,slow=10,SNR=24
HFS LR LR 14 50 39.1
comp=Z,340nm,21.8s,MS3.9,baz=63,slow=40
HFS Hagfors 26.56 345 P **P 14 38 54.3 -1.9**
HFS pmax pmax
comp=Z,50nm,0.6s
HFS MLR MLR
comp=Z,340nm,21.8s
HFA0 Hagfors New Ar 26.57 345 P **P 14 38 55.2 -1.1**
BANOM Banah 26.61 102 ⇓P **P 14 38 57.7 +0.7**
SNR=12
KLMR Klimovskoe 26.98 13 *d* *i*P **P 14 38 58.1 -2.0**
KLMR pmax pmax
KLMR comp=Z,50nm,1.8s,mb4.7
MLR MLR
comp=Z,1µm,17.0s,MS4.5
ASHO Ashiyiah 27.00 105 ⇑P **P 14 39 02.1 +1.5**
SNR=14
KAF Kangasniemi 27.06 359 *e*p **P 14 38 59.4 -1.4**
comp=Z,3.6nm,0.4s,mb4.2
KAF Kangasniemi 27.06 359 *e*P **P 14 38 59.4 -1.4**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
AKTK Aktyubinsk 27.09 46 P **P 14 39 00.7 -0.5**
AKTK LR LR 14 53 53.1
AKTO Aktyubinsk 27.09 46 P **P 14 39 00.7 -0.5**
comp=Z,11nm,0.7s,mb4.5,baz=248,slow=8.4,SNR=21
AKTO LR LR 14 53 53.1
comp=Z,341nm,18.8s,MS3.9,slow=46
PBRG Braganca 27.29 294 *e*P **P 14 39 02.6 -0.5**
ECAL Calabor 27.30 295 P **P 14 39 02.5 -0.7**
comp=Z,22nm,0.9s,mb4.7
EMIN Mina Concepcio 27.30 286 P **P 14 39 02.7 -0.6**
comp=Z,0.1nm,0.3s
EBAD Badajoz 27.50 288 P **P 14 39 04.1 -0.9**
comp=Z,11nm,0.7s,mb4.6
EPON Pontenova 27.71 298 P **P 14 39 06.7 -0.2**
comp=Z,12nm,1.0s,mb4.5
PCBR Castelo Branco 27.82 290 *e*P **P 14 39 06.4 -1.6**
NAO01 NORSAR Array S 27.83 343 *e*P **P 14 39 06.1 -1.7**
comp=Z,25nm,0.9s,mb4.8
MTE Manteigas 27.87 291 *e*P **P 14 39 08.5 +0.1**
comp=Z,20nm,0.9s,mb4.7
MTE Manteigas 27.87 291 *e*P **P 14 39 08.4 +0.1**
comp=Z,11nm,0.8s,mb4.5
NB2 NORSAR Subarra 27.93 343 P **P 14 39 05.6 -3.1**
comp=Z,3.5nm,0.7s,mb4.1,baz=141,slow=9.3
NB2 NORSAR Subarra 27.93 343 P **P 14 39 05.6 -3.1**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
NOA NORSAR Array B 27.93 343 P **P 14 39 06.2 -2.5**
comp=Z,0.9nm,0.4s,mb3.8,baz=145,slow=9.3,SNR=7.0
NOA ScP 14 46 01.4
comp=Z,4.7nm,1.0s,baz=135,slow=3.8,SNR=2.7
NOA LR LR 14 51 08.1
comp=Z,168nm,19.4s,MS3.6,baz=150,slow=39
NOA NORSAR Array B 27.93 343 P **P 14 39 06.2 -2.5**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA pmax pmax
comp=N,5.0nm,1.0s
NOA MLR MLR
comp=Z,168nm,19.4s
EGRO El Granado 27.96 285 P **P 14 39 08.0 -1.2**
comp=Z,7.8nm,0.9s,mb4.3
JOF Joensuu 27.98 4 *e*p **P 14 39 07.7 -1.4**
comp=Z,2.1nm,0.4s,mb4.1
JOF Joensuu 27.98 4 *e*P **P 14 39 07.7 -1.4**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
ARQ Araqi 28.04 107 ⇑P **P 14 39 11.9 +1.8**
SNR=14
PBEJ Beja 28.22 286 *e*P **P 14 39 11.0 -0.6**
comp=Z,21nm,1.1s,mb4.7
ELOB Lobios 28.28 294 P **P 14 39 12.4 +0.3**
comp=Z,2.7nm,0.6s,mb4.0
EVO Evora 28.30 287 *e*P **P 14 39 10.5 -1.8**
comp=Z,17nm,1.1s,mb4.3
EVO *e*R
comp=Z,241nm,19.0s
HOQ Hoqain 28.54 106 ⇓P **P 14 39 15.5 +0.9**
SNR=12
BSY Bisya 28.88 107 ⇓P **P 14 39 19.2 +1.6**
SNR=8.7
EKA Eskdalemuir Ar 29.08 324 P **P 14 39 18.1 -1.1**
comp=Z,3.0nm,0.7s,mb4.2,baz=121,slow=9.1,SNR=12
EKA ScP 14 46 06.8
comp=Z,2.0nm,0.9s,baz=90,slow=3.3,SNR=4.7
EKA Eskdalemuir Ar 29.08 324 P **P 14 39 18.1 -1.1**
EKA pmax pmax
comp=Z,3.0nm,0.7s
EKA pmax pmax
comp=N,2.0nm,0.9s
WHFO Wadi Hawf 29.15 119 ⇑P **P 14 39 22.2 +2.1**

SNR=7.0
ABTO Aybut 29.19 121 ⇓P **P 14 39 22.3 +1.8**
SNR=7.8
SMDO Samad 29.39 106 ⇓P **P 14 39 23.3 +1.1**
SNR=14
RBK Rabkut 29.73 119 ⇑P **P 14 39 27.5 +2.2**
SNR=6.7
JMDO Jabal Madar 29.79 107 ⇑P **P 14 39 26.6 +0.7**
SNR=8.7
ARU Arti 30.14 35⇑*i*P **P 14 39 26.5 -2.1**
ARU *e* 14 40 22.9
ARU *e* 14 42 30.4
ARU *e*S **S 14 44 19.7 -5.1**
ARU *e*SS SS 14 45 57.8 -5.4
ARU *e* 14 50 03.9
ARU pmax pmax
comp=Z,8.0nm,1.4s,mb4.3
SOKR Solikamsk 31.18 29⇑*i*P **P 14 39 37.2 -0.6**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
SOKR MLR MLR
comp=Z,190nm,15.0s,MS3.9
SVE Sverdlovsk 31.33 36 *e*P **P 14 39 37.5 -1.6**
SVE *e* 14 40 44.0
TORD Torodi Ar. Bea 31.75 233 P **P 14 39 43.6 +0.5**
comp=Z,28nm,0.7s,mb5.2,baz=36,slow=9.2,SNR=171
ARCES ARCESS Array B 34.52 359 P **P 14 40 04.3 -2.4**
comp=Z,1.7nm,0.3s,mb4.4,baz=171,slow=7.8,SNR=25
ARCES ARCESS Array B 34.52 359 P **P 14 40 04.3 -2.4**
ARCES pmax pmax
comp=Z,2.0nm,0.3s
ARCES ARCESS Array B 34.52 359 P **P 14 40 04.3 -2.4**
ARE0 ARCESS Array S 34.52 359 *e*P **P 14 40 05.9 -0.8**
KEV Kevo 34.73 360 *e*p **P 14 40 08.5 0.0**
comp=Z,24nm,1.4s,mb4.9
KEV Kevo 34.73 360 *e*P **P 14 40 08.5 0.0**
KEV pmax pmax
comp=Z,24nm,1.4s,mb4.9
BRVK Borovoye 35.14 46 P **P 14 40 12.0 -0.2**
BVAR Borovoye Array 35.20 46 P **P 14 40 12.3 -0.4**
comp=Z,4.1nm,0.8s,mb4.4,baz=243,slow=6.6,SNR=23
BVAR ScP 14 46 27.6
comp=Z,1.1nm,0.8s,baz=260,slow=9.0,SNR=3.8
BVAR Borovoye Array 35.20 46 P **P 14 40 12.3 -0.3**
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR pmax pmax
comp=N,1.0nm,0.8s
EKS2 Erkin-Say 36.66 64 P **P 14 40 27.1 +2.0**
SNR=20
USP Ospenovka 37.15 63 P **P 14 40 30.5 +1.2**
SNR=6.6
AAK Ala-Archa 37.19 64*c i*P **P 14 40 30.3 +0.7**
AAK pmax pmax
comp=Z,56nm,1.3s,mb5.2
AAK MLR MLR
comp=Z,300nm,19.0s,MS4.1
AAK Ala-Archa 37.19 64 P **P 14 40 27.7 -1.9**
KMBO Kilima Mbogo 37.23 163 LR LR 14 56 54.6
comp=Z,199nm,18.3s,MS3.9,baz=90,slow=38
UCH Uchtor 37.24 64 P **P 14 40 31.9 +2.0**
SNR=11
FRU Bishkek 37.27 63 *i* P **P 14 40 33.0 +2.8**
FRU *e* 14 41 57.0
FRU pmax pmax
comp=Z,140nm,1.9s,mb5.5
CHMS Chumysh 37.35 63 P **P 14 40 32.7 +1.8**
SNR=14
KBK Karagaybulak 37.52 64 P **P 14 40 34.3 +2.0**
SNR=23
KZA Kyzart 37.80 65 P **P 14 40 37.3 +2.6**
SNR=16
TKM2 Tokmak 2 37.98 63 P **P 14 40 37.8 +1.6**
SNR=21
ULHL Ulahol 38.52 64 P **P 14 40 43.1 +2.4**
SNR=7.2
KSH Kashi 38.67 69 P **P 14 40 44.2 +2.1**
KSH *e*AP pP 14 40 54.2 +4.8
KSH *e*XP sP 14 41 00.9 +8.4
KSH AMB AMB
comp=Z,90nm,1.4s,mb5.3
KURK Kurchatov 39.93 51*c i*P **P 14 40 52.9 +0.5**
KURK Kurchatov 39.93 51 P **P 14 40 52.2 -0.2**
DBIC Dimbokro 40.84 234 P **P 14 41 01.0 +0.8**
comp=Z,16nm,0.8s,mb4.7,baz=22,slow=9.0,SNR=20
DBIC Dimbokro 40.84 234 *e*P **P 14 41 00.8 +0.6**
DBIC pmax pmax
comp=Z,34nm,1.2s
DBIC Dimbokro 40.84 234 *e*P **P 14 41 00.8 +0.5**
comp=Z,34nm,1.2s,mb4.8
LIC Lamto 41.29 233 *e*P **P 14 41 04.4 +0.5**
comp=Z,56nm,0.9s,mb4.9
LIC *e*R
comp=Z,517nm,19.0s
MKAR Makanchi Array 42.42 57 P **P 14 41 13.8 +1.0**
comp=Z,36nm,0.6s,mb5.2,baz=278,slow=6.8,SNR=246
MKAR LR LR 15 03 13.8
comp=Z,187nm,19.1s,MS4.0,baz=270,slow=42
MKAR Makanchi Array 42.42 57 P **P 14 41 13.8 +1.0**
MKAR pmax pmax
comp=Z,36nm,0.6s
MKAR MLR MLR
comp=Z,187nm,19.1s
MKAR Makanchi Array 42.42 57 P **P 14 41 13.8 +1.0**
MKAR LR LR 15 03 13.8
NDI New Delhi 42.59 84 *e*P **P 14 41 16.0 +1.6**
NVS Novosibirsk 42.97 45 *e*P **P 14 41 17.3 +0.2**
NVS *e* 14 42 59.9
NVS *e*S **S 14 47 39.6 -0.9**
NVS pmax pmax
comp=Z,32nm,1.3s,mb4.9
NVS pmax pmax
comp=E,23nm,1.2s
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=Z,23nm,1.6s,mb4.7
NVS smax
comp=E,22nm,1.9s
ZAL Zalesovo 43.84 46 P **P 14 41 23.9 -0.3**
comp=E,5.1nm,0.6s,mb4.4,baz=212,slow=7.8,SNR=40
ZAL LR LR 15 04 57.2
comp=E,220nm,18.1s,MS4.1,baz=199,slow=43
WMQ Urumqi 46.60 60 P **P 14 41 48.0 +1.6**
WMQ AP pP 14 41 58.0 +4.2
WMQ XP sP 14 42 02.0 +5.2
WMQ AMB AMB
comp=Z,40nm,5.0s
KOLN Koldanda 48.14 82 *e*P **P 14 42 00.0 +1.3**
comp=Z,62nm,0.8s,mb5.7
HYB Hyderabad 48.76 97 *i* P **P 14 42 05.0 +1.4**
HYB Hyderabad 48.76 97 *e*P **P 14 42 05.0 +1.4**
GKN Gorkha 48.89 82 *e*P **P 14 42 05.4 +0.9**
comp=Z,73nm,0.9s,mb5.7
DMN Daman 49.42 82 *e*P **P 14 42 09.8 +1.1**
comp=Z,87nm,0.9s,mb5.8
KKN Kakani 49.49 82 *e*P **P 14 42 10.0 +0.8**
comp=Z,51nm,0.9s,mb5.6
KKN Kakani 49.49 82 *e*P **P 14 42 10.0 +0.8**
KKN pmax pmax
comp=Z,26nm,0.9s,mb5.3
SUMG Summit 49.65 339 *e*P **P 14 42 08.9 -0.9**
comp=Z,5.9nm,0.6s,mb4.8
PKI Pulchoki 49.69 82 *e*P **P 14 42 12.1 +1.4**
comp=Z,69nm,0.9s,mb5.7
PKI Pulchoki 49.69 82 *e*P **P 14 42 12.1 +1.4**
PKI pmax pmax
comp=Z,35nm,0.9s,mb5.4
GUN Gumba 49.93 81 *e*P **P 14 42 13.7 +1.2**
comp=Z,74nm,0.8s,mb5.7
LSZ Lusaka 50.09 179 *e*P **P 14 42 15.3 +1.5**
LSZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LSZ Lusaka 50.09 179 *e*P **P 14 42 15.3 +1.5**
comp=Z,5.0nm,0.9s,mb4.5
JIRN Jiri 50.28 81 *e*P **P 14 42 16.2 +1.0**
comp=Z,45nm,0.8s,mb5.5
LSA Lhasa 53.46 77 P **P 14 42 40.0 +0.9**
LSA Lhasa 53.46 77 *e*P **P 14 42 40.0 +0.9**
LSA pmax pmax
comp=Z,11nm,0.7s,mb4.9
LSA Lhasa 53.46 77 *e*P **P 14 42 40.0 +0.9**
comp=Z,11nm,0.7s,mb4.9
TSUM Tsumeb 54.75 191 *e*P **P 14 42 50.1 +1.5**
comp=Z,26nm,1.4s,mb5.1
ZAK Zakamensk 55.54 49⇓*i*P **P 14 42 43.9 -10**
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.9
SONM Songino Array 58.24 51 P **P 14 43 14.0 +0.8**
comp=Z,12nm,0.6s,mb5.1,baz=287,slow=8.0,SNR=125
SONM Songino Array 58.24 51 P **P 14 43 14.0 +0.8**
SONM pmax pmax
comp=Z,13nm,0.6s
ULN Ulaanbaatar 58.65 51*c i*P **P 14 43 16.6 +0.6**
ULN Ulaanbaatar 58.65 51 *e*P **P 14 43 16.6 +0.5**
comp=Z,15nm,0.7s,mb5.1
BOD Bodaibo 59.48 38 *e*P **P 14 43 20.5 -1.2**
BOD pmax pmax
comp=Z,13nm,0.8s,mb5.0
LBTB Lobatse 59.79 182 *e*P **P 14 43 25.5 +1.3**
LBTB pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LBTB Lobatse 59.79 182 *e*P **P 14 43 25.5 +1.2**
comp=Z,7.2nm,0.9s,mb4.7
TIXI Tiksi 60.65 21 *i* P **P 14 43 31.1 +1.6**
TIXI MLR MLR
comp=Z,200nm,17.0s,MS4.3
LZH Lanzhou 60.73 65 *e*P **P 14 43 31.0 +0.5**
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,100nm,4.6s
LZH LR LR
comp=E,700nm,15.0s
LZH LR LR
comp=Z,960nm,16.0s,MS5.0
LZH Lanzhou 60.73 65 *e*P **P 14 43 31.0 +0.5**
comp=Z,30nm,1.2s,mb5.3
LZH pP pP 14 43 38.5 +0.3
LZH sP sP 14 43 41.0 +0.1
LZH LR LR
comp=Z,960nm,16.0s,MS5.0
CD2 Chengdu 62.85 70⇓*i*P **P 14 43 45.6 +0.8**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
HHC Hu-ho-hao-te 64.29 57⇑*i*P **P 14 43 55.3 +1.2**
HHC AP pP 14 44 08.1 +6.3
HHC XP sP 14 44 13.5 +9.0
HHC PCP PcP 14 44 30.0 +1.4
HHC PP PP 14 46 18.7 +1.3
HHC S **S 14 52 27.3 -1.5**
HHC XS 14 52 48.7
HHC SCS ScS 14 53 41.1 -1.7
HHC SS SS 14 56 38.3 -1.9
HHC AMB AMB
comp=Z,40nm,0.8s,mb5.5
HHC AMB AMB
comp=Z,130nm,5.5s
HHC LR LR
comp=N,230nm,19.0s,MS4.7
HHC LR LR
comp=E,300nm,14.3s,MS4.7
HHC LR LR
comp=Z,230nm,22.6s
SCHQ Schefferville 64.32 320 P **P 14 43 53.0 -1.1**
comp=Z,4.7nm,0.5s,mb4.8,baz=74,slow=6.3,SNR=11
SCHQ Schefferville 64.32 320 *e*P **P 14 43 53.2 -0.9**
comp=Z,23nm,0.9s,mb5.2
YAK Yakutsk 65.10 30 *i* P **P 14 44 02.4 +3.4**
YAK MLR MLR
comp=Z,100nm,16.0s,MS4.1
XAN Xi'an 65.36 65 P **P 14 44 01.0 -0.2**
XAN AMB AMB
comp=Z,10.0nm,1.5s,mb4.6
HIA Hailar 65.89 46 *e*P **P 14 44 03.2 -1.1**
HIA pmax pmax
comp=Z,8.0nm,0.6s
HIA Hailar 65.89 46 *e*P **P 14 44 03.1 -1.1**
comp=Z,8.3nm,0.6s,mb4.9
GYA Guiyang 67.17 73 P **P 14 44 13.7 +0.8**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
ENH Enshi 67.53 68 *e*P **P 14 44 14.9 -0.2**
comp=Z,21nm,1.1s,mb5.1
TIA Tai'an 70.28 59 *e*P **P 14 44 32.7 +0.8**
CN2 Changchun 71.98 49 *e*P **P 14 44 45.7 +3.7**
BILL Bilibino 72.72 15 P **P 14 44 45.9 0.0**
BILL pmax pmax
comp=Z,11nm,1.1s,mb4.7
BILL Bilibino 72.72 15 P **P 14 44 45.9 0.0**
comp=Z,11nm,1.1s,mb4.7
KLR Kul'dur 72.72 42 *e*P **P 14 44 51.3 +5.0**
KULM Kulim 73.44 95 *e*P **P 14 44 51.6 +0.5**
NJ2 Nanjing 73.62 62 *e*P **P 14 44 52.7 +0.8**
NJ2 AP pP 14 45 06.1 +6.5
NJ2 XP sP 14 45 12.3 +10
NJ2 PP PP 14 47 38.6 +0.7
NJ2 S S 14 54 18.0 -1.3
NJ2 XS 14 54 41.0
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,190nm,5.2s
NJ2 LR LR
comp=N,440nm,20.8s,MS4.9
NJ2 LR LR
comp=E,540nm,25.6s,MS4.9
NJ2 LR LR
comp=Z,350nm,32.3s
SSE Sheshan 75.81 62 P **P 14 45 01.9 -2.6**
SSE PCP PcP 14 45 15.2 -2.2
SSE AP pP 14 45 16.3 +4.0
SSE XP sP 14 45 22.3 +7.4
SSE S S 14 54 36.4 -7.3
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,100nm,4.1s
SSE LR LR
comp=N,50nm,26.9s,MS3.8
SSE LR LR
comp=E,50nm,26.9s,MS3.8
SSE Sheshan 75.81 62 P **P 14 45 01.9 -2.6**
comp=E,40nm,0.7s,mb5.5
SSE PcP PcP 14 45 15.2 -2.2
SSE pP pP 14 45 16.3 +4.0
SSE sP sP 14 45 22.3 +7.4
SSE S S 14 54 36.4 -7.3
SSE sS 14 55 01.7
SSE SS SS 14 59 26.5 -12
SSE LR LR
comp=Z,60nm,20.0s,MS3.9
INK Inuvik 75.92 353 *e*P **P 14 45 03.0 -1.3**
YKW3 Yellowknife Ar 77.97 343 *e*P **P 14 45 15.9 +0.1**
YKA Yellowknife Ar 78.03 343 P **P 14 45 14.9 -1.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=32,slow=5.4,SNR=21
YKA Yellowknife Ar 78.03 343 P **P 14 45 14.9 -1.2**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 78.03 343 P **P 14 45 14.9 -1.2**
YSS Yuzh-Sakhalins 79.95 39 *e*P **P 14 45 30.4 +3.4**
ILAR Eielson Array 80.37 357 P **P 14 45 28.1 -0.7**
comp=Z,0.5nm,0.5s,mb3.7,baz=339,slow=3.6,SNR=11
ILAR PKKPbc 15 04 11.2
comp=Z,0.4nm,0.6s,baz=192,slow=1.8,SNR=6.8
ILAR Eielson Array 80.37 357 P **P 14 45 28.2 -0.6**
ILAR 15 04 11.2
ILAR pmax pmax
comp=Z,1.0nm,0.5s
DAWY Dawson 80.62 354 *e*P **P 14 45 30.0 -0.2**
ULM Lac du Bonnet 81.30 327 P **P 14 45 33.9 -0.1**
comp=Z,1.9nm,0.4s,mb4.3,baz=39,slow=5.7,SNR=7.9
ULM Lac du Bonnet 81.30 327 P **P 14 45 33.9 -0.1**
ASAJ Asahikawa 81.75 41 P **P 14 45 37.8 +1.3**
comp=Z,4.2nm,0.5s,mb4.6,baz=165,slow=20,SNR=4.3
ASAJ Asahikawa 81.75 41 P **P 14 45 37.8 +1.3**
ASAJ pmax pmax
comp=Z,4.0nm,0.5s
MJAR Matsushiro Arr 84.12 49 P **P 14 45 50.4 +1.6**
comp=Z,3.9nm,0.7s,mb4.6,baz=310,slow=4.4,SNR=7.5
MJAR LR LR 15 29 17.1
comp=Z,117nm,19.1s,MS4.3,baz=325,slow=40
EDM Edmonton 85.62 337 *e*P **P 14 45 55.9 0.0**
BAO Brasilia Array 87.21 249 P **P 14 46 07.5 +3.0**
BDFB Brasilia 87.23 249 P **P 14 46 05.4 +0.8**
comp=Z,6.3nm,0.9s,mb4.9,baz=53,slow=7.7,SNR=6.3
BDFB LR LR 15 23 30.3
comp=Z,210nm,18.6s,MS4.6,baz=113,slow=34
BDFB Brasilia 87.23 249 P **P 14 46 05.4 +0.8**
BDFB pmax pmax
comp=Z,6.0nm,0.9s
BDFB MLR MLR
comp=Z,210nm,18.6s
BDFB Brasilia 87.23 249 P **P 14 46 05.4 +0.8**
BDFB LR LR 15 23 30.2
RSSD Black Hills 89.57 327 *e*P **P 14 46 17.0 +1.8**
RSSD pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
RSSD Black Hills 89.57 327 *e*P **P 14 46 17.0 +1.8**
comp=Z,4.6nm,0.9s,mb4.8
SDV Santo Domingo 91.30 282 P **P 14 46 24.4 +0.6**
comp=Z,4.0nm,0.8s,mb4.8,baz=120,slow=1.5,SNR=4.6
SDV Santo Domingo 91.30 282 *e*P **P 14 46 24.5 +0.6**
comp=Z,9.2nm,1.1s,mb5.0
BOZ Bozeman (W) 91.45 332 *e*P **P 14 46 25.6 +1.8**
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
BOZ Bozeman (W) 91.45 332 *e*P **P 14 46 25.6 +1.8**
comp=Z,2.4nm,0.8s,mb4.6
PHWY Pilot Hill 92.44 326 *e*P **P 14 46 29.5 +1.0**
PDAR Pinedale Array 93.03 330 P **P 14 46 31.2 0.0**
comp=Z,0.5nm,0.6s,mb4.1,baz=34,slow=5.3,SNR=3.6
RRI2 Red Ridge 93.26 331 *e*P **P 14 46 34.0 +1.8**
comp=Z,4.5nm,0.8s,mb5.0
BMO Blue Mountains 94.18 336 *e*P **P 14 46 36.3 -0.1**
comp=Z,2.5nm,0.8s,mb4.7
WRA Warramunga Arr 114.92 98 PKP PKPdf 14 52 00.6 -1.8
comp=Z,0.5nm,0.7s,baz=314,slow=1.7,SNR=5.5
WRA Warramunga Arr 114.92 98 PKIKP PKPdf 14 52 00.6 -1.7
WRA pmax pmax
comp=Z,1.0nm,0.7s
QSPA South Pole Qui 124.93 180 *e*PKPdf PKPdf 14 52 17.9 -2.4
STKA Stephens Creek 126.08 107 PKP PKPdf 14 52 22.1 -1.6
comp=Z,2.5nm,0.8s,baz=39,slow=9.2,SNR=3.6
VNDA Vanda 133.14 168 PKP PKPdf 14 52 34.3 -1.8
comp=Z,0.4nm,0.6s,baz=256,slow=4.2,SNR=3.5

ISC 09 14:58:24.7±1.4,**37.17N**±0.06×**38.77E**±0.07,**h10**km,**n8,**
σ1§**08**/14,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.27**	**9**	PG		**Pg**		**14 58 29.5**	**-1.0**
URFA				SG		**Sg**		**14 58 34.9**	**+0.6**
ATAB	**Bozova**	**0.48**	**309**	*i* P		**Pg**		**14 58 32.2**	**-2.2**
ATAB				*i* S		**Sg**		**14 58 39.6**	**-1.4**
GZT	**Gaziantep**	**0.98**	**281**	*i* P		**Pb**		**14 58 42.0**	**-1.3**
GZT				*i* S		**Sb**		**14 58 56.5**	**+0.6**
MYA	**Malataya**	**1.18**	**347**	*e*PN		**Pn**		**14 58 47.7**	**+0.4**
GAZ	**Gaziantep**	**1.24**	**271**	*e*PN		**Pn**		**14 58 47.4**	**-0.8**
ELZG	**Elazig**	**1.34**	**7**	*i* P		**Pb**		**14 58 49.3**	**-0.1**
ELZG				*i* S		**Sb**		**14 59 07.9**	**+1.5**
KAHT	**Ahir Dag**	**1.57**	**288**	*i* P		**Pn**		**14 58 53.3**	**+0.4**
KAHT				*i* S		**Sb**		**14 59 14.8**	**+1.4**
COBT	**Iskenderun**	**2.12**	**253**	*i* P		**Pn**		**14 59 00.8**	**+0.2**
COBT				*i* S		**Sn**		**14 59 28.7**	**+1.5**

*NEIC **09** 14:59:23.0±0.9,20.37S×178.02W,h522km±10km, mb4.1/11,Error ellipse: s-maj=16.2km s-min=7.5km az=147.0*
*IDC **09** 14:59:23.3±2.0,20.34S×178.04W,h524km,25km,mb3.5/8, mb1 3.8/11,mb1mx3.7/16,mbtmp4.4/11,Error ellipse: s-maj=22.7km s-min=13.8km az=138.0*

ISC 09 14:59:20.2±1.1,**20.3S**±0.1×**178.1W**±0.1,**h494**km±14km,
n33,σ0§**76**/30,**mb4.0**/18,**3D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.76**	**45**	P		**P**		**15 01 27.7**	**+2.0**
AFI	2.7nm,0.3s,baz=127,slow=5.2,SNR=8.9			S		**S**		**15 03 03.7**	**-1.6**
AFI	9.3nm,0.3s,baz=15,slow=23,SNR=16 **Afiamalu**	**8.76**	**45**	*e*P		**P**		**15 01 27.1**	**+1.4**
AFI				*e*S		**S**		**15 03 04.0**	**-1.3**
DZM	**Mont Dzumac**	**14.52**	**260**	P		**P**		**15 02 30.2**	**+4.2**
	0.3nm,0.3s,baz=86,slow=14,SNR=7.1								
URZ	**Urewera**	**18.39**	**192**	P		**P**		**15 03 03.7**	**-0.6**
	1.7nm,0.3s,baz=347,slow=3.3,SNR=14								
RPZ	**Rata Peaks**	**25.07**	**199**	P		**P**		**15 04 05.8**	**-0.1**
	2.4nm,0.6s,mb3.8,baz=259,slow=5.2,SNR=4.1								
CTAO	**Charters Tower**	**33.41**	**264**	*e*P		**P**		**15 05 19.8**	**+1.5**
	35nm,0.9s,mb4.8								
STKA	**Stephens Creek**	**37.79**	**244**⇓	*i*P		**P**		**15 05 55.6**	**+1.1**
	6.0nm,1.1s,mb3.9								
STKA	**Stephens Creek**	**37.79**	**244**	P		**P**		**15 05 55.6**	**+1.1**
	5.8nm,0.9s,mb4.0,baz=90,slow=9.5,SNR=12								
WB2	**Warramunga Arr**	**44.52**	**262**⇓	*i*P		**P**		**15 06 48.1**	**-0.5**
WRA	**Warramunga Arr**	**44.53**	**262**	P		**P**		**15 06 48.5**	**-0.1**
	13nm,0.6s,mb4.5,baz=97,slow=7.9,SNR=62								
KAKA	**Kakadu**	**47.87**	**271**⇓	*i*P		Px		15 07 36.2	
	16nm,0.4s								
FORT	**Forrest**	**49.29**	**246**	*e*P		**P**		**15 07 23.8**	**-1.0**
	15nm,0.5s,mb4.6								
MBWA	**Marble Bar**	**57.80**	**257**	*e*P		**P**		**15 08 24.5**	**-1.0**
	8.5nm,0.5s,mb4.3								
MUN	**Mundaring**	**59.33**	**244**	*e*P		**P**		**15 08 35.4**	**-0.2**
MJAR	**Matsushiro Arr**	**69.97**	**324**	P		**P**		**15 09 42.2**	**-0.5**
	4.0nm,0.6s,mb4.2,baz=156,slow=6.2,SNR=15								
KSM	**Kuching**	**73.28**	**278**	*e*P		**P**		**15 10 02.6**	**+0.1**
NVAR	**Mina Array Bea**	**80.93**	**43**	P		**P**		**15 10 43.6**	**+0.2**
	1.9nm,0.8s,mb3.7,baz=219,slow=8.3,SNR=16								
WVOR	**Wild Horse Val**	**83.03**	**40**	*e*P		**P**		**15 10 53.6**	**-0.3**
	3.9nm,0.9s,mb3.9								
KULM	**Kulim**	**83.64**	**278**	*e*P		**P**		**15 10 57.9**	**+0.3**
ENH	**Enshi**	**85.83**	**304**	*e*P		**P**		**15 11 07.8**	**-0.1**
	6.8nm,1.0s,mb4.2								
HLID	**Hailey**	**86.22**	**41**	*e*P		**P**		**15 11 10.3**	**+0.8**
	1.3nm,0.7s,mb3.7								
MNTX	**Cornudas Mount**	**86.71**	**55**	*e*P		**P**		**15 11 12.3**	**+0.2**
	2.1nm,1.1s,mb3.8								
TXAR	**Lajitas Array**	**87.02**	**57**	P		**P**		**15 11 14.5**	**+0.9**
	1.3nm,0.6s,mb3.9,baz=217,slow=6.3,SNR=11								
TXAR	**Lajitas Array**	**87.02**	**57**	P		**P**		**15 11 14.5**	**+0.9**
ILAR	**Eielson Array**	**88.12**	**13**	P		**P**		**15 11 17.1**	**-0.9**
	0.7nm,0.6s,mb3.6,baz=214,slow=5.4,SNR=13								
MOOW	**Moose Ponds**	**88.60**	**42**	*e*P		**P**		**15 11 21.0**	**+0.3**
	1.8nm,0.8s,mb4.0								
LOHW	**Long Hollow**	**88.62**	**42**	*e*P		**P**		**15 11 21.1**	**+0.3**
	1.5nm,0.5s,mb4.1								
BW06	**Boulder Array**	**88.87**	**43**	*e*P		**P**		**15 11 21.6**	**-0.4**
	1.2nm,0.7s,mb3.8								
PDAR	**Pinedale Array**	**88.87**	**43**	P		**P**		**15 11 21.8**	**-0.2**
	2.1nm,0.9s,mb4.0,baz=219,slow=2.6,SNR=14								
AKASG	**Malin Array Be**	**142.77**	**331**	PKhKP				15 17 53.0	
	3.4nm,0.6s,baz=44,slow=4.2,SNR=18								
BR131	**Keskin Array S**	**146.61**	**312**	*e*PKPbc		PKPbc		15 18 05.8	+0.8
BRTR	**Keskin Array B**	**146.61**	**312**	PKPbc		PKPbc		15 18 05.7	+0.7
	1.5nm,0.7s,baz=126,slow=4.6,SNR=6.8								
GERES	**GERESS Array B**	**149.96**	**344**	PKPbc		PKPdf		15 18 13.3	+5.2
	0.3nm,0.3s,baz=315,slow=1.9,SNR=4.3								

*TRN **09** 15:04:52.3,10.29N×62.42W,h3km*
*FUNV **09** 15:04:53.5,10.27N×62.35W,h1km,MW2.9*

ISC 09 15:04:53.3±0.9,**10.28N**±0.05×**62.41W**±0.03,**h11**km±7km,
n17,σ1§**18**/23,**1C-2D**,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.41**	**27**⇑	*i*P		**Pg**		**15 05 01.2**	**-0.5**
GUIV				*e*S		**Sg**		**15 05 06.5**	**-0.9**
GUNV	**Guanoco**	**0.54**	**258**	*e*P		**Pg**		**15 05 04.7**	**+0.5**
GUNV				*e*S		**Sg**		**15 05 14.0**	**+2.5**
CRUV	**Carupano**	**0.90**	**296**⇓	*i*P		**Pb**		**15 05 10.2**	**-0.4**
CRUV				*e*S		**Sb**		**15 05 22.6**	**+0.3**
TPP	**Pointe-a-Pierr**	**0.94**	**87**	*e*P		**Pb**		**15 05 10.0**	**-1.2**
TPP				*e*S		**Sb**		**15 05 25.0**	**+1.4**
TRN	**Trinidad (W)**	**1.06**	**69**	*e*P		**Pb**		**15 05 11.9**	**-1.2**
TRN				*e*S		**Sb**		**15 05 28.2**	**+1.5**
TBH	**Brigand Hill**	**1.34**	**81**	*e*P		**Pb**		**15 05 18.8**	**+0.9**
ORIV	**Oritupano**	**1.55**	**219**	*e*P		**Pn**		**15 05 22.9**	**+1.9**
TPR	**Prospect**	**1.84**	**60**	*e*P		**Pn**		**15 05 26.0**	**+0.8**
GRW	**Mount Saint Ca**	**2.01**	**21**	*e*P		**Pn**		**15 05 27.4**	**-0.2**
GURV	**El Guri**	**2.59**	**195**	*e*P		**Pn**		**15 05 36.6**	**+0.7**
GURV				*e*S		**Sn**		**15 06 06.7**	**-0.9**
CUPV	**Cœpira**	**3.33**	**267**	*e*P		**Pn**		**15 05 47.6**	**+1.1**
BIRV	**Birongo**	**3.80**	**273**	*e*P		**Pn**		**15 05 53.5**	**+0.4**
MERV	**Las Mercedes**	**3.96**	**255**	*e*P		**Pn**		**15 05 55.5**	**+0.1**
LUEV	**Luepa**	**4.50**	**168**	*e*P		**Pn**		**15 06 00.8**	**-2.3**
CAOV	**Caicara del Or**	**4.85**	**233**⇓	*e*P		**Pn**		**15 06 06.9**	**-1.2**
BAUV	**El Baul**	**5.71**	**257**	*e*P		**Pn**		**15 06 18.9**	**-1.2**
MONV	**Montecano**	**7.61**	**283**	*e*P		**Pn**		**15 06 43.7**	**-3.1**

NEIC ***09*** *15:05:27.8, 10.30N×62.34W, h0km, MD4.0(TRN), MW4.0(CAR), After CAR.*
FUNV ***09*** *15:05:27.8, 10.30N×62.34W, MW3.4*
IDC ***09*** *15:05:35.4±1.8, 10.76N×62.75W, h71km±17km, mb3.4/11, mb1 3.7/12, mb1mx3.6/22, mbtmp3.8/12, MS3.6/3, Ms1 3.6/3, ms1mx3.3/20, Error ellipse: s-maj=18.3km s-min=11.2km az=123.0*

ISC 09 15:05:27.9±0.5, 10.32N±0.03×62.39W±0.02, h30km±4km, n42, σ↑§44/62, mb3.6/11, MS3.9/2, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.36**	**27**	**⇑*i*P**	**Pb**	**15 05 35.2**	**-1.1**
GUIV				*e*S	**Sb**	**15 05 40.5**	**-1.5**
GUNV	**Guanoco**	**0.57**	**253**	*e*P	**Pb**	**15 05 38.9**	**-0.6**
GUNV				*e*S	**Sb**	**15 05 48.4**	**+1.1**
ALNG	**Atlantic LNG**	**0.71**	**101**	*e*P	**Pb**	**15 05 43.6**	**+1.9**
SIPA	**Siparia**	**0.89**	**102**	*e*P	**Pn**	**15 05 47.0**	**+2.5**
CRUV	**Carupano**	**0.90**	**293**	**⇓*i*P**	**Pn**	**15 05 44.0**	**-0.6**
CRUV				*e*S	**Sb**	**15 05 56.7**	**+0.1**
TPP	**Pointe-a-Pierr**	**0.93**	**90**	*e*P	**Pn**	**15 05 43.8**	**-1.2**
TPP				*e*S	**Sn**	**15 05 58.0**	**+0.7**
TRN	**Trinidad (W)**	**1.02**	**72**	*e*P	**Pn**	**15 05 43.0**	**-3.4**
TRN				*e*S	**Sn**	**15 05 56.2**	**-3.6**
TBH	**Brigand Hill**	**1.31**	**83**	*e*P	**Pn**	**15 05 50.6**	**+0.1**
ORIV	**Oritupano**	**1.60**	**219**	**⇑*i*P**	**Pn**	**15 05 57.3**	**+2.7**
ORIV				*e*S	**Sn**	**15 06 19.4**	**+5.0**
TPR	**Prospect**	**1.80**	**61**	*e*P	**Pn**	**15 05 57.8**	**+0.3**
TPR				*e*S	**Sn**	**15 06 19.5**	**0.0**
GRW	**Mount Saint Ca**	**1.96**	**21**	*e*P	**Pn**	**15 06 00.7**	**+0.9**
GRW				*e*S	**Sn**	**15 06 24.8**	**+1.2**
PCRV	**Puerto La Cruz**	**2.21**	**266**	*e*P	**Pn**	**15 06 05.1**	**+1.7**
PCRV				*e*S	**Sn**	**15 06 33.0**	**+3.0**
GURV	**El Guri**	**2.64**	**195**	*e*P	**Pn**	**15 06 10.3**	**+0.8**
GURV				*e*S	**Sn**	**15 06 43.0**	**+2.2**
CUPV	**Cœpira**	**3.35**	**266**	*e*P	**Pn**	**15 06 21.8**	**+2.2**
CUPV				*e*S	**Sn**	**15 07 00.6**	**+1.7**
BIRV	**Birongo**	**3.82**	**273**	*e*P	**Pn**	**15 06 28.3**	**+2.0**
BIRV				*e*S	**Sn**	**15 07 11.5**	**+0.8**
MERV	**Las Mercedes**	**3.99**	**255**	*e*P	**Pn**	**15 06 29.2**	**+0.5**
MERV				*e*S	**Sn**	**15 07 15.6**	**+0.5**
LUEV	**Luepa**	**4.55**	**168**	*e*P	**Pn**	**15 06 35.2**	**-1.4**
LUEV				*e*S	**Sn**	**15 07 26.2**	**-2.9**
CAOV	**Caicara del Or**	**4.89**	**233**	**⇑*i*P**	**Pn**	**15 06 41.1**	**-0.4**
CAOV				*e*S	**Sn**	**15 07 36.4**	**-1.4**
MGG	**Marie-Galante**	**5.66**	**11**	*e*P	**Pn**	**15 06 54.2**	**+2.0**
BAUV	**El Baul**	**5.74**	**257**	*e*P	**Pn**	**15 06 53.0**	**-0.4**
BAUV				*e*S	**Sn**	**15 07 56.3**	**-2.7**
LZG	**Guadaloupe-1**	**5.81**	**6**	*e*P	**Pn**	**15 06 55.0**	**+0.6**
DEG	**La Desirade**	**6.09**	**12**	*e*P	**Pn**	**15 06 58.4**	**0.0**
DEG				*e*S	rx	**15 07 18.6**	**-0.8**
TEPV	**Terepaima**	**6.70**	**268**	*e*P	**Pn**	**15 07 06.2**	**-0.8**
SANV	**Sanarito**	**7.09**	**264**	*e*P	**Pn**	**15 07 11.9**	**-0.4**
PAYV	**Puerto Ayacuch**	**7.14**	**227**	*e*P	**Pn**	**15 07 10.8**	**-2.3**
PAYV				*e*S	**Sn**	**15 08 28.1**	**-5.9**
MONV	**Montecano**	**7.61**	**283**	*e*P	**Pn**	**15 07 18.6**	**-1.1**
MONV				*e*S	**Sn**	**15 08 39.6**	**-6.3**
SDV	**Santo Domingo**	**8.25**	**261**	*e*P	**P**	**15 07 27.2**	**-1.4**
	4.5nm,0.3s,baz=112,slow=7.7,SNR=16						
SDV				S	**Sn**	**15 08 57.4**	**-4.3**
	1.9nm,0.3s,baz=266,slow=22,SNR=5.8						
SDV	**Santo Domingo**	**8.25**	**261**	*e*Pn	**P**	**15 07 27.2**	**-1.4**
SDV				*e*S	**Sn**	**15 08 56.1**	**-5.7**
SJG	**San Juan**	**8.55**	**335**	LR	LR	15 10 48.5	
	comp=Z,133nm,21.5s,baz=84,slow=39						
SOCV	**Socops**	**8.60**	**257**	*e*P	**P**	**15 07 31.2**	**-2.2**
SOCV				*e*S	**Sn**	**15 09 02.5**	**-7.8**
SIV	**San Ignacio**	**26.18**	**177**	P	**P**	**15 11 07.0**	**+5.1**
	2.0nm,0.8s,mb3.7,baz=357,slow=12,SNR=4.4						
LPAZ	**La Paz**	**27.04**	**192**	P	**P**	**15 11 15.7**	**+5.9**
	0.3nm,0.3s,mb3.3,baz=44,slow=8.7,SNR=2.8						
TXAR	**Lajitas Array**	**42.90**	**302**	P	**P**	**15 13 24.5**	**-1.2**
	0.4nm,0.4s,mb3.5,baz=90,slow=6.3,SNR=2.3						
ULM	**Lac du Bonnet**	**48.44**	**332**	P	**P**	**15 14 05.6**	**-3.9**
	0.9nm,0.5s,mb4.0,baz=116,slow=18,SNR=3.2						
ULM	**Lac du Bonnet**	**48.44**	**332**	P	**P**	**15 14 05.6**	**-3.9**
PLCA	**Paso Flores**	**51.35**	**188**	P	**P**	**15 14 37.2**	**+5.2**
	0.8nm,0.9s,mb3.7,baz=21,slow=8.1,SNR=2.8						
PLCA				LR	LR	15 39 59.4	
	comp=Z,113nm,21.6s,MS3.9,baz=262,slow=40						
PDAR	**Pinedale Array**	**52.19**	**317**	P	**P**	**15 14 36.0**	**-2.2**
	0.8nm,0.6s,mb3.8,baz=117,slow=11,SNR=7.1						
TORD	**Torodi Ar. Bea**	**62.67**	**81**	P	**P**	**15 15 53.6**	**+1.1**
	0.4nm,0.6s,mb3.7,baz=270,slow=5.8,SNR=3.7						
YKA	**Yellowknife Ar**	**64.05**	**336**	P	**P**	**15 15 57.6**	**-3.4**
	0.3nm,0.5s,mb3.6,baz=111,slow=7.4,SNR=6.3						
YKA				LR	LR	15 44 49.5	
	comp=Z,99nm,18.6s,MS4.0,baz=80,slow=37						
GERES	**GERESS Array B**	**73.15**	**42**	P	**P**	**15 16 58.0**	**+0.4**
	0.2nm,0.4s,mb3.4,baz=262,slow=6.9,SNR=2.5						
ILAR	**Eielson Array**	**78.39**	**334**	P	**P**	**15 17 24.6**	**-2.4**
	0.4nm,0.8s,mb3.4,baz=96,slow=4.3,SNR=4.4						
FINES	**FINESS Array B**	**80.28**	**29**	P	**P**	**15 17 37.1**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=297,slow=3.1,SNR=6.0						

NEIC ***09*** *15:19:07.6, 37.35S×177.46E, h258km, MG3.9(WEL), After WEL.*

WEL 09 15:19:04.5±0.3, 36.67S×177.43E, h188km±4km, ML3.9/18, Error ellipse: s-maj=5.5km s-min=4.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.14**	**142**	PN	P	15 19 34.0	-0.4
MXZ				SN	S	15 19 57.8	-0.5
PUZ	**Puketiti**	**1.55**	**155**	PN	P	15 19 37.7	-0.3
PUZ				SN	S	15 20 02.9	-1.0
URZ	**Urewera**	**1.61**	**189**	PN	P	15 19 38.9	+0.3
URZ				SN	S	15 20 04.0	-0.8
MWZ	**Matawai**	**1.67**	**177**	PN	P	15 19 39.2	0.0
MWZ				SN	S	15 20 05.2	-0.6
KNZ	**Kokohu**	**2.36**	**175**	PN	P	15 19 46.1	-0.5
BKZ	**Black Stump Fm**	**2.60**	**196**	PN	P	15 19 48.8	-0.6
BKZ				SN	S	15 20 23.0	-1.0
WNVZ	**Wahianoa**	**3.02**	**208**	PN	P	15 19 54.3	-0.1
MOVZ	**Moawhango**	**3.04**	**205**	PN	P	15 19 53.9	-0.7
PXZ	**Pawanui**	**3.39**	**187**	PN	P	15 19 57.5	-1.3
PXZ				SN	S	15 20 36.2	-4.7
TSZ	**Takapari Road**	**3.58**	**198**	PN	P	15 19 59.6	-1.7
TSZ	**Takapari Road**	**3.58**	**198**	P	P	15 19 59.6	-1.6
TSZ				S	S	15 20 40.2	-4.8
WAZ	**Wanganui**	**3.63**	**211**	PN	P	15 20 01.7	-0.3
WAZ	**Wanganui**	**3.63**	**211**	P	P	15 20 01.6	-0.4
BFZ	**Birch Farm**	**4.11**	**193**	PN	P	15 20 05.7	-2.3
BFZ	**Birch Farm**	**4.11**	**193**	*e*P	P	15 20 05.9	-2.1
MRZ	**Mangatainoka R**	**4.24**	**199**	PN	P	15 20 07.0	-2.6
MRZ	**Mangatainoka R**	**4.24**	**199**	P	P	15 20 07.2	-2.4
KIW	**Kapiti Island**	**4.63**	**204**	PN	P	15 20 11.7	-2.9
KIW	**Kapiti Island**	**4.63**	**204**	P	P	15 20 11.7	-2.9
MTW	**Mount Morrison**	**4.73**	**198**	PN	P	15 20 12.6	-3.3
MTW	**Mount Morrison**	**4.73**	**198**	P	P	15 20 12.8	-3.1
CAW	**Cannon Point**	**4.80**	**202**	PN	P	15 20 13.6	-3.2
CAW	**Cannon Point**	**4.80**	**202**	P	P	15 20 13.7	-3.1
SNZO	**South Karori**	**5.10**	**204**	PN	P	15 20 17.1	-3.5
SNZO	**South Karori**	**5.10**	**204**	P	P	15 20 17.2	-3.4
BHW	**Baring Head**	**5.13**	**202**	PN	P	15 20 17.6	-3.5
BHW	**Baring Head**	**5.13**	**202**	P	P	15 20 17.6	-3.5
TCW	**Tory Channel**	**5.16**	**207**	PN	P	15 20 17.9	-3.5
TCW	**Tory Channel**	**5.16**	**207**	P	P	15 20 18.2	-3.2
TUWZ	**Tuamarina**	**5.47**	**209**	PN	P	15 20 21.9	-3.6
NNZ	**Nelson**	**5.53**	**214**	PN	P	15 20 23.0	-3.3
NNZ	**Nelson**	**5.53**	**214**	*e*P	P	15 20 23.0	-3.3
THZ	**Tophouse**	**6.18**	**213**	PN	P	15 20 31.0	-3.8
THZ	**Tophouse**	**6.18**	**213**	*e*P	P	15 20 31.1	-3.7
KHZ	**Kahutara**	**6.48**	**206**	PN	P	15 20 34.7	-4.0
KHZ	**Kahutara**	**6.48**	**206**	P	P	15 20 34.7	-4.0
LTZ	**Lake Taylor**	**7.28**	**211**	PN	P	15 20 44.7	-4.6
LTZ	**Lake Taylor**	**7.28**	**211**	*e*P	P	15 20 44.7	-4.5
MQZ	**McQueen's Vall**	**7.92**	**206**	PN	P	15 20 52.1	-5.5
MQZ	**McQueen's Vall**	**7.92**	**206**	P	P	15 20 52.1	-5.5

JMA 09 15:19:47.4±0.2, 38.26N×144.73E, h55km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.53**	**290**	P	P	15 20 27.4	+0.3
OFUJ				*e*S	S	15 20 57.2	+0.4
MIYJ	**Miyakonagasawa**	**2.62**	**301**	P	S	15 20 28.3	-0.1
MIYJ				S	S	15 20 59.0	-0.1
JIO	**Ouri**	**2.67**	**275**	P	S	15 20 29.1	+0.2
JIO				*e*S	S	15 21 00.4	+0.3
JMK	**Ichinoseki**	**2.83**	**285**	P	S	15 20 31.8	+0.4
JMK				S	S	15 21 05.1	+0.6
JOT	**Ohata**	**4.21**	**319**	P	S	15 20 51.4	+0.6
JCH	**Churui**	**4.47**	**347**	*e*S	S	15 21 41.6	-4.1
JRY	**Ryogami san**	**5.17**	**246**	P	S	15 21 03.2	-0.9
JRY				*e*S	S	15 21 59.3	-3.8
JOD2	**Odawara 2**	**5.43**	**238**	*e*S	S	15 22 04.6	-5.0
JTKR	**Abashiri--Toko**	**5.74**	**354**	*e*S	S	15 22 11.2	-6.2

ISC 09 15:48:09.4±0.7, 38.65N±0.06×35.66E±0.07, h10km, n8, σ↑§91/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.25**	**36**	*i* PG	**Pg**	**15 48 13.0**	**-1.8**
AVNT	**Avonos**	**0.64**	**282**	*i* P	**Pb**	**15 48 22.3**	**+0.2**
AVNT				*i* S	**Sb**	**15 48 31.4**	**+0.5**
NIG	**Nigde**	**0.98**	**237**	*i* PG	**Pg**	**15 48 28.8**	**-0.2**
KOZT	**Kozan**	**1.17**	**173**	*e*PN	**Pn**	**15 48 31.8**	**0.0**
CDAG	**Cicekdag**	**1.40**	**315**	*i* P	**Pn**	**15 48 34.0**	**-1.1**
KARA	**Karaisali**	**1.46**	**199**	*e*PN	**Pn**	**15 48 36.6**	**+0.7**
SVST	**Sivas**	**1.51**	**41**	*i* P	**Pn**	**15 48 36.0**	**-0.6**
SVST				*i* S	**Sb**	**15 48 57.8**	**+1.6**
CTKT	**Corum**	**2.09**	**342**	*i* P	**Pn**	**15 48 45.4**	**+0.5**
CTKT				*i* S	**Sn**	**15 49 15.4**	**+4.3**

NEIC ***09*** *15:49:44.5, 41.41S×173.30E, h75km, ML4.1(WEL), After WEL.*

WEL 09 15:49:44.2±0.2, 41.43S×173.31E, h80km±2km, ML4.1/17, 9C-14D, Error ellipse: s-maj=1.1km s-min=1.1km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.22**	**14**	**⇑**PN	P	15 49 55.6	-0.5
NNZ				SN	S	15 50 03.8	-1.2
NNZ	**Nelson**	**0.22**	**14**	P	P	15 49 55.6	-0.5
NNZ				S	S	15 50 02.4	-2.6
THZ	**Tophouse**	**0.45**	**222**	**⇓**PN	P	15 49 57.4	-0.2
THZ				SN	S	15 50 07.3	-0.4
THZ	**Tophouse**	**0.45**	**222**	P	P	15 49 57.4	-0.2
THZ				S	S	15 50 06.2	-1.5
TUWZ	**Tuamarina**	**0.47**	**90**	**⇑**PN	P	15 49 57.7	-0.1
TUWZ				SN	S	15 50 06.9	-1.1
BSWZ	**Blackbirch Sta**	**0.51**	**124**	**⇑**PN	P	15 49 58.0	-0.1
BSWZ				SN	S	15 50 08.2	-0.4
BSWZ	**Blackbirch Sta**	**0.51**	**124**	P	P	15 49 58.1	-0.1
BSWZ				S	S	15 50 08.2	-0.4
CMWZ	**Cape Campbell**	**0.75**	**115**	**⇑**PN	P	15 50 00.6	-0.1
CMWZ	**Cape Campbell**	**0.75**	**115**	P	P	15 50 00.6	-0.1
TCW	**Tory Channel**	**0.76**	**74**	**⇓**PN	P	15 50 00.8	0.0
TCW				SN	S	15 50 12.3	-0.7
TCW	**Tory Channel**	**0.76**	**74**	P	P	15 50 00.9	+0.1
DUWZ	**D'Urville Isla**	**0.78**	**37**	**⇓**PN	P	15 50 01.2	+0.2
DUWZ				SN	S	15 50 12.7	-0.7
QRZ	**Quartz Range**	**0.84**	**315**	**⇓**PN	P	15 50 01.2	-0.4
QRZ				SN	S	15 50 13.3	-1.4
QRZ	**Quartz Range**	**0.84**	**315**	P	P	15 50 01.3	-0.4
KHZ	**Kahutara**	**1.00**	**170**	**⇑**PN	P	15 50 03.2	-0.3
KHZ				SN	S	15 50 16.7	-1.3
KHZ	**Kahutara**	**1.00**	**170**	P	P	15 50 03.2	-0.3
SNZO	**South Karori**	**1.06**	**84**	**⇓**PN	P	15 50 03.6	-0.6
SNZO	**South Karori**	**1.06**	**84**	P	P	15 50 03.6	-0.6
MRW	**Makara Radio**	**1.06**	**80**	**⇓**PN	P	15 50 03.9	-0.4
MRW				SN	S	15 50 18.7	-0.7
MRW	**Makara Radio**	**1.06**	**80**	P	P	15 50 03.9	-0.4
WEL	**Wellington**	**1.11**	**83**	PN	P	15 50 04.3	-0.5
BHW	**Baring Head**	**1.17**	**89**	**⇓**PN	P	15 50 04.7	-0.9
BHW				SN	S	15 50 19.7	-2.1
BHW	**Baring Head**	**1.17**	**89**	P	P	15 50 04.7	-1.0
DSZ	**Denniston Nort**	**1.17**	**254**	**⇓**PN	P	15 50 05.2	-0.5
DSZ				SN	S	15 50 21.0	-0.8
KIW	**Kapiti Island**	**1.33**	**65**	**⇓**PN	P	15 50 07.5	-0.4
KIW	**Kapiti Island**	**1.33**	**65**	P	P	15 50 07.5	-0.4
CAW	**Cannon Point**	**1.36**	**77**	**⇓**PN	P	15 50 07.3	-1.0
CAW				SN	S	15 50 24.8	-1.3
MSWZ	**Moikau Station**	**1.46**	**90**	**⇓**PN	P	15 50 08.0	-1.5
LTZ	**Lake Taylor**	**1.56**	**210**	**⇑**PN	P	15 50 10.1	-0.7
LTZ	**Lake Taylor**	**1.56**	**210**	P	P	15 50 10.1	-0.7
PAWZ	**Paruwai Farm**	**1.59**	**89**	**⇓**PN	P	15 50 09.5	-1.8
PAWZ				SN	S	15 50 28.6	-2.5
PAWZ	**Paruwai Farm**	**1.59**	**89**	P	P	15 50 09.5	-1.8
MTW	**Mount Morrison**	**1.67**	**81**	**⇓**PN	P	15 50 10.6	-1.7
MTW	**Mount Morrison**	**1.67**	**81**	P	P	15 50 10.6	-1.7
TRWZ	**Traveller**	**1.79**	**90**	PN	P	15 50 11.8	-2.0
MRZ	**Mangatainoka R**	**1.88**	**67**	**⇓**PN	P	15 50 13.6	-1.5
MRZ	**Mangatainoka R**	**1.88**	**67**	P	P	15 50 13.6	-1.5
WAZ	**Wanganui**	**2.10**	**38**	**⇑**PN	P	15 50 19.0	+0.9
WAZ	**Wanganui**	**2.10**	**38**	P	P	15 50 19.0	+0.9
NRZ	**Ngariki Road**	**2.15**	**13**	PN	P	15 50 19.6	+0.9
NRZ	**Ngariki Road**	**2.15**	**13**	P	P	15 50 19.8	+1.1
NWEZ	**Newall Road**	**2.20**	**11**	PN	P	15 50 20.3	+0.9
NWEZ	**Newall Road**	**2.20**	**11**	P	P	15 50 20.3	+0.9
CRLZ	**Canterbury Las**	**2.20**	**193**	PN	P	15 50 17.0	-2.6
CRLZ	**Canterbury Las**	**2.20**	**193**	*e*P	P	15 50 17.2	-2.4
NEZ	**North Egmont**	**2.24**	**16**	PN	P	15 50 20.5	+0.4
NEZ	**North Egmont**	**2.24**	**16**	P	P	15 50 20.6	+0.6
PKE	**Pukeiti**	**2.29**	**13**	**⇑**PN	P	15 50 21.5	+0.7
PKE	**Pukeiti**	**2.29**	**13**	P	P	15 50 21.5	+0.7
RAEZ	**Rainy Point**	**2.29**	**21**	PN	P	15 50 21.9	+1.0
RAEZ	**Rainy Point**	**2.29**	**21**	P	P	15 50 21.9	+1.1
MQZ	**McQueen's Vall**	**2.33**	**192**	PN	P	15 50 18.3	-2.9
MQZ	**McQueen's Vall**	**2.33**	**192**	P	P	15 50 18.4	-2.9
BFZ	**Birch Farm**	**2.34**	**72**	PN	P	15 50 18.8	-2.7
BFZ	**Birch Farm**	**2.34**	**72**	P	P	15 50 18.9	-2.6
TSZ	**Takapari Road**	**2.44**	**57**	PN	P	15 50 20.8	-2.0
TSZ	**Takapari Road**	**2.44**	**57**	P	P	15 50 20.8	-2.0
WVZ	**Waitaha Valley**	**2.52**	**228**	PN	P	15 50 22.4	-1.6
WVZ	**Waitaha Valley**	**2.52**	**228**	P	P	15 50 22.6	-1.4
VRZ	**Vera Road**	**2.56**	**26**	PN	P	15 50 25.1	+0.6
VRZ	**Vera Road**	**2.56**	**26**	P	P	15 50 25.1	+0.6
PKVZ	**Pokaka**	**2.64**	**37**	PN	P	15 50 25.3	-0.5
TRVZ	**Turoa**	**2.73**	**39**	PN	P	15 50 26.5	-0.4
WNVZ	**Wahianoa**	**2.73**	**40**	**⇑**PN	P	15 50 26.7	-0.3
WNVZ	**Wahianoa**	**2.73**	**40**	P	P	15 50 26.5	-0.5
MOVZ	**Moawhango**	**2.75**	**43**	PN	P	15 50 25.8	-1.4
MOVZ	**Moawhango**	**2.75**	**43**	P	P	15 50 25.8	-1.4
FWVZ	**Far West T-bar**	**2.77**	**39**	P	P	15 50 27.1	-0.3
WPVZ	**Whakapapa**	**2.80**	**38**	PN	P	15 50 27.6	-0.4
WPVZ	**Whakapapa**	**2.80**	**38**	P	P	15 50 27.5	-0.5
TUVZ	**Tukino**	**2.81**	**40**	PN	P	15 50 27.6	-0.4
CNZ	**Chateau**	**2.81**	**38**	PN	P	15 50 27.5	-0.5
CNZ	**Chateau**	**2.81**	**38**	P	P	15 50 27.6	-0.4
RPZ	**Rata Peaks**	**2.83**	**215**	*e*P	P	15 50 25.7	-2.6
TWVZ	**Taurewa**	**2.86**	**35**	P	P	15 50 28.1	-0.7
WTVZ	**West Tongariro**	**2.90**	**38**	P	P	15 50 28.5	-0.7
PXZ	**Pawanui**	**3.04**	**64**	PN	P	15 50 27.8	-3.4
KATZ	**Kakaramea**	**3.06**	**37**	P	P	15 50 31.2	-0.3
HIZ	**Hauiti**	**3.15**	**23**	PN	P	15 50 32.3	-0.4
HIZ	**Hauiti**	**3.15**	**23**	P	P	15 50 32.4	-0.3
RATZ	**Rangitukua**	**3.18**	**37**	P	P	15 50 32.1	-1.1
WATZ	**Wairara**	**3.29**	**35**	P	P	15 50 34.0	-0.8
BKZ	**Black Stump Fm**	**3.32**	**48**	*e*P	P	15 50 32.5	-2.7
FOZ	**Fox Glacier**	**3.42**	**230**	P	P	15 50 33.2	-3.4
LBZ	**Lake Benmore**	**3.74**	**217**	*e*P	P	15 50 37.5	-3.5
TOZ	**Tahuroa Road**	**4.07**	**25**	P	P	15 50 41.3	-0.5
ODZ	**Otahua Downs**	**4.10**	**207**	*e*P	P	15 50 43.0	-3.0
JCZ	**Jackson Bay**	**4.27**	**230**	P	P	15 50 45.5	-2.8
URZ	**Urewera**	**4.31**	**44**	P	P	15 50 44.6	-4.3
MWZ	**Matawai**	**4.48**	**48**	P	P	15 50 46.9	-4.3
MKAZ	**Moumakai**	**4.55**	**19**	P	P	15 50 51.7	-0.5
WTAZ	**Waiatarua**	**4.60**	**13**	P	P	15 50 52.8	0.0
WKZ	**Wanaka**	**4.63**	**221**	*e*P	P	15 50 48.2	-5.0
OTAZ	**Otara**	**4.65**	**16**	P	P	15 50 53.2	-0.3
KAAZ	**Kauri Point**	**4.73**	**14**	P	P	15 50 54.6	0.0
EAZ	**Earnscleugh**	**4.79**	**216**	*e*P	P	15 50 51.0	-4.5
MTAZ	**Motutapu**	**4.80**	**16**	P	P	15 50 55.6	-0.1
KUZ	**Kuaotunu**	**5.04**	**23**	P	P	15 50 57.6	-1.3
PUZ	**Puketiti**	**5.08**	**50**	*e*P	P	15 50 53.8	-5.6
MSZ	**Milford Sound**	**5.10**	**229**	*e*P	P	15 50 58.0	-1.8
TUZ	**Tuapeka**	**5.25**	**209**	*e*P	P	15 50 58.3	-3.5
MLZ	**Mavora Lakes**	**5.42**	**222**	*e*P	P	15 51 00.7	-3.4
MXZ	**Matakaoa Point**	**5.46**	**47**	P	P	15 51 00.0	-4.7
WCZ	**Waipu Caves**	**5.54**	**9**	P	P	15 51 05.1	-0.7
OUZ	**Omahuta**	**6.20**	**2**	*e*P	P	15 51 14.6	-0.4

NEIC ***09*** *16:30:17.3±0.6, 18.98N×144.93E, h550km, Error ellipse: s-maj=24.8km s-min=15.5km az=76.0*
IDC ***09*** *16:30:18.2±7.1, 18.97N×144.95E, h561km±93km, mb3.0/9, mb1 3.2/9, mb1mx3.1/20, mbtmp3.9/9, Error ellipse: s-maj=32.7km s-min=17.8km az=61.0*

ISC 09 16:30:16.2±0.7, 19.0N±0.1×144.9E±0.2, h550km, n11, σ↑§81/11, mb3.4/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.03**	**196**	P	**P**	**16 37 05.1**	**-0.1**
	1.7nm,0.4s,mb3.9,baz=16,slow=8.6,SNR=32						
SONM	**Songino Array**	**42.47**	**322**	P	**P**	**16 37 24.8**	**+0.4**
	0.3nm,0.5s,mb3.1,baz=122,slow=6.3,SNR=5.4						
DZM	**Mont Dzumac**	**45.90**	**152**	P	**P**	**16 37 51.3**	**-0.1**
	3.9nm,0.7s,mb4.1,baz=356,slow=15,SNR=5.2						
MKAR	**Makanchi Array**	**57.74**	**314**	P	**P**	**16 39 16.8**	**+0.2**
	0.3nm,0.5s,mb2.8,baz=84,slow=6.9,SNR=5.0						
ILAR	**Eielson Array**	**63.73**	**26**	P	**P**	**16 39 53.6**	**-1.9**
	0.5nm,0.9s,mb2.9,baz=240,slow=6.8,SNR=4.1						
YKA	**Yellowknife Ar**	**78.10**	**28**	P	**P**	**16 41 19.5**	**+0.3**
	0.3nm,0.6s,mb2.8,baz=298,slow=5.6,SNR=5.4						
ARCES	**ARCESS Array B**	**82.01**	**342**	P	**P**	**16 41 39.6**	**+0.3**
	2.9nm,0.9s,mb3.7,baz=56,slow=6.5,SNR=7.4						
JOF	**Joensuu**	**83.46**	**335**	*ep*	**P**	**16 41 46.4**	**-0.4**
	2.0nm,0.6s,mb3.8						
NVAR	**Mina Array Bea**	**83.56**	**52**	P	**P**	**16 41 49.5**	**+1.7**
	0.2nm,0.5s,mb3.0,baz=260,slow=6.7,SNR=3.6						
NVAR	**Mina Array Bea**	**83.56**	**52**	P	**P**	**16 41 49.5**	**+1.7**
FINES	**FINESS Array B**	**86.33**	**335**	P	**P**	**16 42 00.1**	**-0.5**
	2.7nm,0.9s,mb3.9,baz=67,slow=5.5,SNR=13						

BJI ***09*** *16:31:03.4, 24.20S×177.61W, h96km, mB5.3, mb5.0*
NEIC ***09*** *16:31:05.3±1.5, 24.35S×176.89W, h113km±14km, mb4.7/19, Error ellipse: s-maj=14.4km s-min=8.6km az=164.0*
IDC ***09*** *16:31:05.2±0.6, 24.25S×177.14W, h104km±5km, mb4.1/10, mb1 4.4/12, mb1mx4.2/17, mbtmp4.5/12, MS3.7/7, Ms1 3.7/7, ms1mx3.5/20, Error ellipse: s-maj=15.6km s-min=11.5km az=121.0*
MOS ***09*** *16:31:05.5±2.4, 24.36S×176.90W, h111km, mb5.5/5, Error ellipse: s-maj=14.8km s-min=12.0km az=72.0*

ISC 09 16:31:04.5±2.2, 24.3S±0.1×177.14W±0.08, h113km±21km, h103km±2.8km: pP-P, n143, σ0§79/67, mb4.8/28, 11C-7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.01**	**188**	P	**P**	**16 32 17.9**	**-0.8**
	87nm,0.3s,baz=90,slow=20,SNR=2.8						
RAO				S	**S**	**16 33 16.2**	**+0.5**
	256nm,0.3s,baz=260,slow=23,SNR=7.8		

NJ2 XS 16 54 09.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,200nm,4.9s
NJ2 LR LR
comp=N,410nm,24.4s
NJ2 LR LR
comp=E,340nm,27.1s
NJ2 LR LR
comp=Z,280nm,29.3s
NVAR Mina Array Bea 83.23 43 P **P 16 43 20.2 +0.7**
comp=Z,0.6nm,0.6s,baz=228,slow=10,SNR=5.8
NVAR pP pP 16 43 46.6 -2.3
comp=Z,0.9nm,0.8s,baz=207,slow=6.3,SNR=2.9
SNAA Sanae 84.23 178⇑*iP* pP 16 43 51.4 -1.9
VNA3 Neumayer Olymp 84.34 176⇑*iP* pP 16 43 51.5 -2.4
TUC Tucson 84.70 51 *eP* **P 16 43 26.3 -0.8**
TUC pmax pmax
comp=Z,40nm,1.0s,mb5.3
TUC Tucson 84.70 51 *eP* **P 16 43 26.3 -0.8**
comp=Z,4.0nm,1.0s,mb4.3
VNA2 Neumayer--Watz 84.79 177⇓*iP* pP 16 43 54.1 -2.1
PLCA Paso Flores 86.12 133 P **P 16 43 34.8 +0.9**
comp=Z,4.4nm,0.8s,mb4.4,baz=229,slow=5.7,SNR=8.0
PLCA pP pP 16 44 02.0 -1.5
comp=Z,3.5nm,1.0s,baz=334,slow=3.6,SNR=3.1
PLCA LR LR 17 16 05.3
comp=Z,86nm,20.6s,baz=180,slow=31
PLCA Paso Flores 86.12 133 *eP* **P 16 43 34.3 +0.4**
PLCA *PP pP 16 44 02.0 -1.5
PLCA pmax pmax
comp=Z,17nm,1.4s
PLCA Paso Flores 86.12 133 *eP* **P 16 43 34.3 +0.4**
comp=Z,17nm,1.4s,mb4.8
PLCA pP pP 16 44 02.0 -1.5
PLCA LR LR 17 16 05.3
MA2 Magadan 87.61 344 *eP* **P 16 43 40.3 -0.3**
MA2 pmax pmax
comp=Z,37nm,1.0s,mb5.4
MA2 Magadan 87.61 344 *eP* **P 16 43 40.3 -0.4**
comp=Z,37nm,1.0s,mb5.4
MNTX Cornudas Mount 88.30 54 *eP* **P 16 43 44.4 -0.2**
comp=Z,3.7nm,0.8s,mb4.5
TXAR Lajitas Array 88.43 57 P **P 16 43 45.6 +0.4**
comp=Z,0.7nm,0.5s,mb4.0,baz=217,slow=6.3,SNR=7.4
TXAR pP pP 16 44 12.5 -2.5
comp=Z,2.8nm,0.8s,baz=217,slow=6.3,SNR=5.8
SRU San Rafael 88.57 46 *eP* **P 16 43 45.3 -0.4**
SRU pmax pmax
comp=Z,30nm,0.8s,mb5.4
SRU San Rafael 88.57 46 *eP* **P 16 43 45.3 -0.4**
comp=Z,3.1nm,0.8s,mb4.4
HLID Hailey 88.67 40 *eP* **P 16 43 46.0 0.0**
comp=Z,1.2nm,0.6s,mb4.1
ENH Enshi 88.80 304 *eP* **P 16 43 48.2 +1.2**
comp=Z,3.9nm,0.8s,mb4.5
ANMO Albuquerque 89.15 51⇑*eP* **P 16 43 50.1 +1.6**
ANMO Albuquerque 89.15 51 *eP* **P 16 43 49.4 +0.8**
comp=Z,5.3nm,1.1s,mb4.5
MCK McKinley 90.47 12 *eP* **P 16 43 54.0 0.0**
MCK pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
MCK McKinley 90.47 12 *eP* **P 16 43 54.0 0.0**
comp=Z,6.2nm,1.1s,mb4.7
BW06 Boulder Array 91.16 43 P **P 16 43 57.3 -0.5**
comp=Z,1.3nm,0.8s,mb4.1
PDAR Pinedale Array 91.16 43 P **P 16 43 58.4 +0.6**
comp=Z,1.0nm,0.8s,mb4.0,baz=222,slow=2.2,SNR=8.6
PDAR pP pP 16 44 25.9 -1.8
comp=Z,0.8nm,0.7s,baz=207,slow=3.3,SNR=3.6
COLA College 91.71 12 *iP* **P 16 43 59.5 -0.3**
COLA College 91.71 12 *eP* **P 16 43 57.8 -2.0**
comp=Z,4.8nm,0.9s,mb4.7
ILAR Eielson Array 91.81 12 P **P 16 43 59.6 -0.6**
comp=Z,4.0nm,1.1s,mb4.6,baz=215,slow=5.0,SNR=12
IMA2 Indian Mountai 91.82 9 *eP* **P 16 43 59.9 -0.3**
BILL Bilibino 92.85 354⇑*eP* **P 16 44 05.8 +0.9**
BILL *e* 16 47 52.4
BILL pmax pmax
comp=Z,11nm,0.9s,mb5.2
BILL MLR MLR
comp=Z,300nm,17.0s
BILL Bilibino 92.85 354 *eP* **P 16 44 05.3 +0.3**
comp=Z,10.0nm,0.9s,mb5.2
YAK Yakutsk 95.89 338*c iP* **P 16 44 19.0 +0.2**
YAK pmax pmax
comp=Z,25nm,0.8s,mb5.7
YAK MLR MLR
comp=Z,100nm,18.0s
YAK Yakutsk 95.89 338 *eP* **P 16 44 18.8 0.0**
comp=Z,21nm,0.9s,mb5.6
MKAR Makanchi Array 114.33 312 PKiKP 16 49 31.0
comp=Z,1.1nm,0.9s,baz=110,slow=1.0,SNR=9.8
MKAR Makanchi Array 114.33 312⇑*i*PKIKP PKPdf 16 49 31.6 +0.9
MKAR Makanchi Array 114.33 312 PKPdf PKPdf 16 49 31.0 +0.3
ARU Arti 128.72 324 *i* PKIKP PKPdf 16 49 59.8 +1.6
ARU *e* 16 56 56.6
ARU *e*PS PS 17 02 09.6 -5.4
KEV Kevo 132.31 349 *ep* PKPdf 16 49 59.8 -4.9
ARCES ARCESS Array B 132.76 349 PKhKP 16 49 57.9
comp=Z,1.6nm,0.8s,baz=104,slow=2.1,SNR=8.3
ARCES PKP PKPdf 16 50 07.0 +1.5
comp=Z,1.2nm,0.4s,baz=72,slow=0.4,SNR=25
JOF Joensuu 136.95 341 *ep* 16 50 04.7
KMBO Kilima Mbogo 138.15 238 PKP PKPdf 16 50 18.3 +1.3
comp=Z,0.4nm,0.3s,baz=329,slow=18,SNR=3.5
KAF Kangasniemi 138.98 343 *ep* PKPdf 16 50 10.1 -7.0
comp=Z,5.8nm,1.0s
KAF Kangasniemi 138.98 343 *ePKHKP* 16 50 10.1
KAF pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 139.60 343 PKhKP 16 50 10.8
comp=Z,0.5nm,0.3s,baz=45,slow=3.9,SNR=10
FINES PKP PKPdf 16 50 20.6 +2.4
comp=Z,1.2nm,0.3s,baz=90,slow=3.7,SNR=13
VSU Vasula 141.85 340⇑*i*PKIKP PKPdf 16 50 26.7 +4.4
NB2 NORSAR Subarra 142.80 353 PKPabc PKPdf 16 50 21.0 -2.8
comp=Z,0.8nm,0.5s,baz=16,slow=3.1
NOA NORSAR Array B 142.80 353 PKhKP 16 50 21.4
comp=Z,1.7nm,0.5s,baz=22,slow=3.9,SNR=7.3
ERZM Erzurum 144.15 305 *iP* PKPbc 16 50 27.0 +0.7
ANN Anapa 145.29 315 *i* PKIKP PKPdf 16 50 29.7 +1.0
ANN pmax pmax
comp=Z,120nm,1.0s
KELT Kelkit 145.65 306 *i* P 16 50 19.5
ELZG Elazig 146.29 304 *i* P PKPdf 16 50 34.4 +3.8
SUW Suwalki 146.63 338 *e*PKP PKPdf 16 50 34.3 +3.7
AKASG Malin Array Be 146.66 329 PKPbc PKPbc 16 50 33.6 +1.3
comp=Z,5.6nm,0.3s,baz=45,slow=4.1,SNR=39
SIM Simferopol' 147.33 317 *e*PKP2 PKPab 16 50 36.5 -2.5
SIM pmax pmax
comp=Z,26nm,0.9s
MUD Monsted U'grnd 147.52 353 *i* P PKPdf 16 50 36.7 +4.7
comp=Z,23nm,1.0s
MUD Monsted U'grnd 147.52 353 *e*PKP2 PKPab 16 50 36.7 -2.6
MUD pmax pmax
comp=Z,23nm,1.0s
GZT Gaziantep 147.65 302 *i* P PKPdf 16 50 36.8 +4.0
BOYT Boyabat 148.34 311 *i* P PKPdf 16 50 39.1 +5.3
AVNT Avonos 149.31 306 *i* P PKPdf 16 50 41.8 +6.3
BALT Daday 149.34 312 *i* P PKPdf 16 50 40.5 +5.1
ELDT Eldivan 149.73 310 *i* P PKPdf 16 50 41.7 +5.6
BR131 Keskin Array S 149.87 308 *e*PKPbc PKPdf 16 50 42.2 +5.9
BRTR Keskin Array B 149.87 308 PKPbc PKPdf 16 50 42.5 +6.3
comp=Z,7.5nm,0.9s,baz=90,slow=3.7,SNR=4.4
KWP Kalwaria 150.31 334 *e*PKP PKPdf 16 50 44.6 +8.0
ANTO Ankara 150.42 309 *e*PKIKP PKPdf 16 50 43.6 +6.5
SGKT Sivrigoynuk 150.66 311 *i* P PKPdf 16 50 44.2 +6.7
BURAR Bucovina Array 150.70 328⇓P PKPdf 16 50 46.4 +9.1
CFR Carcaliu 150.77 322⇑P PKPdf 16 50 44.2 +6.7
OJC Ojcow 150.94 337 *e*PKP PKPdf 16 50 45.4 +7.8
KOLS Kolonicke sedl 151.03 333 *e*PKP PKPdf 16 50 45.5 +7.8
KOLS *e* 16 50 53.9
TIRR Tirgusor 151.04 320⇑P PKPdf 16 50 45.1 +7.2
STHS Stebnicka Huta 151.06 335 *e*PKP PKPdf 16 50 46.5 +8.7
STHS *e* 16 50 54.8
VRI Vrincioaia 151.11 324⇑P PKPdf 16 50 46.7 +8.7
HENT Hendek 151.34 312 *i* P PKPdf 16 50 45.2 +6.8
CRVS Cervenica-Dubn 151.39 334 *e*PKP PKPdf 16 50 47.1 +8.8
CRVS *e* 16 50 55.7
ERMK Ermenek 151.43 303 *i* P PKPdf 16 50 44.9 +6.2
KSP Ksiaz 151.51 342 *e*PKP PKPdf 16 50 47.2 +8.8
KSP *e* 16 50 56.5
KSP Ksiaz 151.51 342 *e*PKIKP PKPdf 16 50 47.0 +8.6
KSP *e* 16 50 56.2
KSP *e* 16 51 21.8
KSP Ksiaz 151.51 342 *e*PKP PKPdf 16 50 47.0 +8.6
KSP *e* 16 50 56.2
KSP *e* 16 51 05.3
KSP *e* 16 51 21.8
CSS Prodhromos 151.55 299 *e*PKPbc PKPdf 16 50 47.2 +8.2
OKC Ostrava-Krasne 151.83 339 *e*PKP PKPdf 16 50 47.6 +8.7
OKC *e* 16 50 56.7
UPC Upice 151.89 342 *e*PKP PKPdf 16 50 47.9 +8.9
UPC *e* 16 50 58.2
CLL Collm 151.90 346⇓P PKPdf 16 50 47.5 +8.5
comp=Z,logA/T=1.2
CLL *i* 16 50 52.8
CLL *i* 16 50 57.7
CLL *i* 16 51 15.7
CLL *i* 16 51 21.9
CLL Collm 151.90 346⇓*i*PKIKP PKPdf 16 50 47.5 +8.5
CLL *i* 16 50 57.7
CLL *i* 16 51 15.7
CLL pmax pmax
comp=Z,16nm,1.1s
CLL Collm 151.90 346⇓*i*P PKPdf 16 50 47.5 +8.5
CLL *i* 16 50 52.8
CLL *i* 16 50 57.7
CLL *i* 16 51 15.7
ESKT Eskisehir 151.94 309 *i* P PKPdf 16 50 46.7 +7.3
DPC Dobruska-Polom 151.94 342 *e*PKPbc PKPdf 16 50 48.3 +9.2
DPC *e*PKPab PKPab 16 50 58.5 +0.8
MORC Moravsky Berou 152.08 339 *e*PKIKP PKPdf 16 50 48.3 +9.0
MORC *e* 16 50 58.0
BRG Berggiesshubel 152.09 345 *i* PKIKP PKPdf 16 50 48.0 +8.7
BRG *e* 16 50 59.0
BRG pmax pmax
comp=Z,13nm,1.1s
BRG Berggiesshubel 152.09 345 *i* P PKPdf 16 50 48.0 +8.8
BRG *e* 16 50 59.0
KECS Kecovo 152.11 334 *e*PKP PKPab 16 50 58.3 -0.2
KECS Kecovo 152.11 334 *e*PKIKP PKPdf 16 50 51.1 +12
KECS *e* 16 50 58.3
PVCC Panska Ves 152.26 344 *e*PKPbc PKPdf 16 50 48.8 +9.3
VYHS Vyhne 152.73 336 *e*PKP PKPab 16 51 01.5 +0.4
PRU Pruhonice 152.76 343 *e*PKPbc PKPdf 16 50 50.2 +10
PRU *e*PKPab PKPab 16 51 01.5 +0.3
ULDT Uludag 152.85 312 *iP* PKPdf 16 50 48.5 +7.8
NKC Novy Kostel 153.03 346 *e*PKPbc PKPdf 16 50 51.6 +11
NKC *e*PKPab PKPab 16 51 02.0 -0.3
TREC Trest 153.13 342 *e*PKPab PKPab 16 51 02.5 -0.3
SMOL Smolenice 153.21 338 *e*PKP PKPab 16 51 03.9 +0.8
ZST Bratislava 153.59 338 *e* PKPab 16 51 01.3 -3.4
ZST Bratislava 153.59 338 *e*PKP PKPab 16 51 05.5 +0.8
KHC Kasperske Hory 153.80 344 *e*PKPbc PKPdf 16 50 52.4 +11
KHC *e*PKPab PKPab 16 51 05.7 +0.1
GERES GERESS Array B 154.03 344 PKPbc PKPdf 16 50 53.0 +11
comp=Z,0.4nm,0.6s,baz=108,slow=3.1,SNR=4.5
GERES PKPab PKPab 16 51 06.2 -0.4
comp=Z,2.8nm,0.8s,baz=34,slow=4.8,SNR=14
PERS Pernice 155.61 339 *e*PKP PKPab 16 51 13.1 -0.3
LEGS Legarje 156.15 338 *i* PKP PKPab 16 51 15.1 -0.5
CEY Cerknica 156.63 339 *e*PKP PKPab 16 51 16.9 -0.8
ESDC Sonseca Array 163.60 19 PKPab PKPab 16 51 46.7 -1.4
comp=Z,0.7nm,0.6s,baz=325,slow=4.3,SNR=5.0
TORD Torodi Ar. Bea 168.88 174 PKPab PKPab 16 52 11.9 +0.2
comp=Z,1.6nm,0.9s,baz=196,slow=3.2,SNR=5.3
TORD pPKPab 16 52 38.4
comp=Z,2.4nm,0.9s,baz=186,slow=3.0,SNR=5.5

JMA 09 16:52:25.1±0.1, 30.33N×141.15E, h144km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.00**	**338**	S	S	S	16 53 48.9	-0.5
CBIJ	**Chichi jima**	**3.35**	**164**	P	P	P	16 53 16.8	-0.7
CBIJ				S	S	S	16 53 57.6	0.0
BSO1	**Boso 1**	**4.31**	**358**	S	S	S	16 54 20.6	+0.3
BSO2	**Boso 2**	**4.42**	**356**	S	S	S	16 54 23.3	+0.4
BSO3	**Boso 3**	**4.49**	**353**	P	P	P	16 53 33.7	+0.7
BSO3				S	S	S	16 54 23.7	-0.8
BSO4	**Boso 4**	**4.70**	**352**	P	P	P	16 53 36.0	+0.7
BSO4				S	S	S	16 54 28.8	-0.6
JOD2	**Odawara 2**	**5.22**	**341**	P	P	P	16 53 42.5	+0.3
JOD2				S	S	S	16 54 39.4	-2.4
JHU	**Hanno**	**5.72**	**345**	P	P	P	16 53 48.0	-1.0
JHU				S	S	S	16 54 50.0	-4.1
JYT	**Yasato**	**5.94**	**353**	S	S	S	16 54 54.6	-4.5
JRY	**Ryogami san**	**5.98**	**342**	P	P	P	16 53 51.3	-1.0

*CSEM **09** 17:11:34.3±0.1, 85.14N×10.72E, h2km, mb4.7/38, Error ellipse: s-maj=3.2km s-min=2.2km az=73.0*
*BJI **09** 17:11:36.1, 85.10N×11.60E, h10km, mB5.0, mb4.8, Ms4.7, Msz4.4*
*IDC **09** 17:11:36.8±0.5, 85.13N×10.72E, mb4.1/24, mb1 4.3/25, mb1mx4.3/28, mbtmp4.1/25, ML4.5/1, MS4.0/17, Ms1 4.0/17, ms1mx3.9/28, Error ellipse: s-maj=17.4km s-min=10.0km az=57.0*
*NEIC **09** 17:11:38.1±0.2, 85.10N×11.58E, h10km, mb4.6/35, Error ellipse: s-maj=6.4km s-min=4.1km az=71.0*
*MOS **09** 17:11:38.0±2.0, 85.07N×11.58E, h10km, mb5.0/40, Error ellipse: s-maj=87.7km s-min=3.9km az=90.6*
*NAO **09** 17:11:40.7±3.8, 84.65N×14.27E, ML3.0*

ISC 09 17:11:36.3±0.2, 85.10N±0.03×11.3E±0.4, h10km, n218, σ1§04/233, mb4.6/69, MS4.1/28, 12C-1D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**6.22**	**179**	Pn	**Pn**	**Pn**	**17 13 06.8**	**-3.6**
KBS				Sn	**Sn**	**Sn**	**17 14 13.1**	**-9.2**
KBS	**Kingsbay**	**6.22**	**179**	*eP*	**Pn**	**Pn**	**17 13 07.8**	**-2.6**
KBS				*eS*	**Sn**	**Sn**	**17 14 11.3**	**-11**
KBS				AML	AML	AML	17 14 17.7	
	comp=Z,74nm,0.4s							
KBS	**Kingsbay**	**6.22**	**179**	*c iP*	**Pn**	**Pn**	**17 13 08.0**	**-2.4**
KBS	**Kingsbay**	**6.22**	**179**	*i* P	**Pn**	**Pn**	**17 13 08.0**	**-2.4**
SPA0	**Spitsbergen Ar**	**7.00**	**171**	Pn	**Pn**	**Pn**	**17 13 17.0**	**-4.5**
	baz=8.8,slow=16							
SPA0				Sn	**Sn**	**Sn**	**17 14 31.5**	**-11**
	baz=151,slow=56							
SPA0	**Spitsbergen Ar**	**7.00**	**171**	Sn	**Sn**	**Sn**	**17 14 31.5**	**-11**
	SNR=50							
HSP	**Hornsund**	**8.17**	**173**	*eP*	**P**	**P**	**17 13 34.4**	**-3.4**
HSP				*eS*	**Sn**	**Sn**	**17 15 00.8**	**-10**
HOPEN	**Hopen**	**8.87**	**159**	*eP*	**P**	**P**	**17 13 43.3**	**-4.2**
HOPEN				*eS*	**Sn**	**Sn**	**17 15 13.2**	**-15**
HOPEN				AML	AML	AML	17 15 20.0	
	comp=N,225nm,0.2s							
DAG	**Danmarks Havn**	**9.37**	**225**	⇑*iP*	**P**	**P**	**17 13 52.9**	**-1.5**
	comp=N,28nm,1.1s							
DAG	**Danmarks Havn**	**9.37**	**225**	⇑*iP*	**P**	**P**	**17 13 52.9**	**-1.5**
DAG				pmax	pmax			
	comp=Z,28nm,1.1s							
BJO	**Bjornoya**	**10.73**	**169**	*eP*	**P**	**P**	**17 14 09.3**	**-3.6**
BJO				*eS*	**S**	**S**	**17 15 58.1**	**-16**
BJO				AML	AML	AML	17 16 16.8	
	comp=Z,16nm,0.4s							
BJO1	**Bjornoya**	**10.73**	**169**	*eP*	**P**	**P**	**17 14 08.5**	**-4.4**
BJO1				*eS*	**S**	**S**	**17 15 59.9**	**-14**
SUMG	**Summit**	**14.82**	**244**	*e*Pn	**P**	**P**	**17 15 03.6**	**-3.5**
	comp=Z,34nm,0.9s							
TRO	**Tromso**	**15.62**	**170**	*e*Pn	**P**	**P**	**17 15 15.8**	**-1.9**
KEV	**Kevo**	**15.68**	**160**	*eP*	**P**	**P**	**17 15 16.6**	**-1.8**
KEV				pmax	pmax			
	comp=Z,47nm,1.1s							
KEV	**Kevo**	**15.68**	**160**	*e*Pn	**P**	**P**	**17 15 16.6**	**-1.8**
	comp=Z,47nm,1.1s							
KEV	**Kevo**	**15.68**	**160**	*eP*	**P**	**P**	**17 15 16.6**	**-1.8**
	comp=Z,47nm,1.1s							
SCO	**Scoresbysund**	**15.74**	**223**	*i* P	**P**	**P**	**17 15 21.5**	**+2.3**
SCO	**Scoresbysund**	**15.74**	**223**	*eP*	**P**	**P**	**17 15 21.5**	**+2.3**
ARA0	**ARCESS Array S**	**15.86**	**162**	P	**P**	**P**	**17 15 16.8**	**-3.9**
	baz=356,slow=11							
ARA0				Sn	**S**	**S**	**17 17 58.9**	**-18**
	baz=6.2,slow=18							
ARCES	**ARCESS Array B**	**15.86**	**162**	Pn	**P**	**P**	**17 15 17.6**	**-3.1**
	comp=Z,2.6nm,0.3s,baz=356,slow=9.9,SNR=50							
ARCES				LR	LR	LR	17 21 29.3	
	comp=Z,460nm,18.3s,baz=280,slow=37							
ARCES	**ARCESS Array B**	**15.86**	**162**	P	**P**	**P**	**17 15 17.6**	**-3.1**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ARCES				MLR	MLR			
	comp=Z,461nm,18.3s							
ARE0	**ARCESS Array S**	**15.86**	**162**	*eP*	**P**	**P**	**17 15 18.8**	**-1.9**
KTK1	**Kautokeino**	**16.33**	**165**	*e*Pn	**P**	**P**	**17 15 24.6**	**-2.1**
RES	**Resolute Bay**	**17.43**	**302**	*eP*	**P**	**P**	**17 15 35.7**	**-4.8**
RES				pmax	pmax			
	comp=Z,7.0nm,0.8s							
RES	**Resolute Bay**	**17.43**	**302**	*eP*	**P**	**P**	**17 15 35.7**	**-4.8**
	comp=Z,6.9nm,0.8s							
APA0	**Apatity Array**	**18.04**	**153**	P	**P**	**P**	**17 15 45.4**	**-2.8**
	baz=350,slow=10							
APA	**Apatity**	**18.09**	**152**⇑*iP*		**P**	**P**	**17 15 46.0**	**-2.9**
APA				pmax	pmax			
	comp=Z,14nm,0.7s							
APA				MLR	MLR			
	comp=Z,2μm,13.0s							
MOR8	**Moi Rana**	**19.05**	**176**	*eP*	**P**	**P**	**17 15 52.5**	**-8.1**
SFJD	**Kangerlussuaq**	**21.25**	**253**	LR	LR	LR	17 24 56.7	
	comp=Z,371nm,18.4s,MS3.8,baz=1.4,slow=38							
JOF	**Joensuu**	**22.67**	**156**	*ep*	**P**	**P**	**17 16 37.2**	**-1.0**
	comp=Z,40nm,1.2s,mb4.7							
JOF	**Joensuu**	**22.67**	**156**	*eP*	**P**	**P**	**17 16 37.2**	**-1.0**
JOF				pmax	pmax			
	comp=Z,40nm,1.2s,mb4.7							
KAF	**Kangasniemi**	**23.32**	**162**	*ep*	**P**	**P**	**17 16 46.1**	**+1.5**
	comp=Z,23nm,1.4s,mb4.4,baz=351,slow=12							
KAF	**Kangasniemi**	**23.32**	**162**	*eP*	**P**	**P**	**17 16 46.1**	**+1.5**
KAF				pmax	pmax			
	comp=Z,23nm,1.4s,mb4.4							
FIA0	**FINESS Array S**	**23.98**	**162**	P	**P**	**P**	**17 16 51.8**	**+0.8**
	baz=7.2,slow=12							
FINES	**FINESS Array B**	**23.98**	**162**	P	**P**	**P**	**17 16 52.7**	**+1.6**
	comp=Z,13nm,0.6s,mb4.6,baz=6.4,slow=11,SNR=72							
FINES				LR	LR		17 26 11.7	
	comp=Z,207nm,21.5s,MS3.6,baz=340,slow=36							
FINES	**FINESS Array B**	**23.98**	**162**	P	**P**	**P**	**17 16 52.7**	**+1.6**
FINES				pmax	pmax			
	comp=Z,13nm,0.6s							
FINES				MLR	MLR			
	comp=Z,207nm,21.5s							
NB2	**NORSAR Subarra**	**24.20**	**180**	P	**P**	**P**	**17 16 54.1**	**+1.0**
	comp=Z,7.7nm,0.7s,mb4.2,slow=9.3							
NB2	**NORSAR Subarra**	**24.20**	**180**	P	**P**	**P**	**17 16 54.1**	**+1.0**
NB2				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.3							
NB2	**NORSAR Subarra**	**24.20**	**180**	P	**P**	**P**	**17 16 54.0**	**+0.9**
	SNR=47							
NOA	**NORSAR Array B**	**24.20**	**180**	P	**P**	**P**	**17 16 54.3**	**+1.2**
	comp=Z,5.6nm,0.6s,mb4.2,baz=359,slow=8.9,SNR=15							
NOA				LR	LR		17 27 00.8	
	comp=Z,294nm,18.4s,MS3.8,slow=38							
NOA	**NORSAR Array B**	**24.20**	**180**	P	**P**	**P**	**17 16 54.3**	**+1.2**
NOA				pmax	pmax			
	comp=Z,60nm,0.6s							
NOA				MLR	MLR			
	comp=Z,294nm,18.4s							
KLMR	**Klimovskoe**	**25.07**	**147***c iP*		**P**	**P**	**17 17 01.6**	**+0.1**
KLMR				*eS*	**S**	**S**	**17 21 28.0**	**+5.0**
KLMR				pmax	pmax			
	comp=Z,120nm,1.4s,mb5.2							
KLMR				pmax	pmax			
	comp=Z,210nm,7.2s							
KLMR				smax				
	comp=E,530nm,6.6s							
KLMR				MLR	MLR			
	comp=Z,790nm,16.0s,MS4.3							
HFS	**Hagfors**	**25.11**	**177**	P	**P**	**P**	**17 17 02.0**	**+0.1**
	baz=62,slow=7.9							
HFS	**Hagfors**	**25.11**	**177**	P	**P**	**P**	**17 17 02.0**	**+0.1**
	comp=Z,3.8nm,0.6s,mb4.1,baz=14,slow=6.1,SNR=12							
HFS	**Hagfors**	**25.11**	**177**	P	**P**	**P**	**17 17 02.0**	**0.0**
HFS				pmax	pmax			
	comp=Z,40nm,0.6s							
KONO	**Kongsberg**	**25.59**	**182**	*i* P	**P**	**P**	**17 17 07.3**	**+0.8**
PUL	**Pulkovo**	**25.79**	**158**	*i* P	**P**	**P**	**17 17 10.7**	**+2.4**
PUL				pmax	pmax			
	comp=N,176nm,0.9s							
PUL				pmax	pmax			
	comp=E,172nm,0.9s							
PUL				pmax	pmax			
	comp=Z,115nm,0.9s,mb5.4							
PUL				MLR	MLR			
	comp=Z,620nm,14.0s,MS4.3							
PUL				MLR	MLR			
	comp=N,469nm,15.0s,MS4.4							
PUL				MLR	MLR			
	comp=E,679nm,15.0s,MS4.4							
PUL	**Pulkovo**	**25.79**	**158**	*i* P	**P**	**P**	**17 17 10.7**	**+2.4**
	comp=E,620nm,14.0s							
INK	**Inuvik**	**26.00**	**331**	P	**P**	**P**	**17 17 10.1**	**-0.2**
	comp=E,6.8nm,0.6s,mb4.4,baz=12,slow=9.8,SNR=39							
INK	**Inuvik**	**26.00**	**331**	P	**P**	**P**	**17 17 10.1**	**-0.1**
INK				pmax	pmax			
	comp=Z,7.0nm,0.6s							
INK	**Inuvik**	**26.00**	**331**	*eP*	**P**	**P**	**17 17 09.4**	**-0.8**
	comp=Z,18nm,1.0s,mb4.5							
BILL	**Bilibino**	**26.64**	**21**	*i* P	**P**	**P**	**17 17 16.4**	**+0.3**
BILL				*eS*	**S**	**S**	**17 21 49.7**	**+0.6**
BILL				pmax	pmax			
	comp=Z,12nm,1.2s,mb4.3							
BILL				MLR	MLR			
	comp=Z,400nm,25.0s,MS3.9							
BILL	**Bilibino**	**26.64**	**21**	*eP*	**P**	**P**	**17 17 16.1**	**0.0**
	comp=Z,13nm,1.3s,mb4.3							
BILL	**Bilibino**	**26.64**	**21**	*i* P	**P**	**P**	**17 17 16.4**	**+0.3**
	comp=Z,12nm,1.2s,mb4.3							
BILL				*eS*	**S**	**S**	**17 21 49.7**	**+0.6**
	comp=Z,400nm,25.0s							
ILAR	**Eielson Array**	**30.01**	**341**	P	**P**	**P**	**17 17 45.8**	**-0.8**
	comp=Z,2.2nm,0.9s,mb3.9,baz=358,slow=7.6,SNR=16							
ILAR				PcP	PcP	PcP	17 20 47.1	-1.7
	comp=Z,0.8nm,1.0s,baz=333,slow=2.1,SNR=4.8							
ILAR				LR	LR	LR	17 29 32.7	
	comp=Z,321nm,18.2s,MS4.0,baz=3.2,slow=36							
ILAR	**Eielson Array**	**30.01**	**341**	P	**P**	**P**	**17 17 45.8**	**-0.8**
ILAR							17 20 47.2	
ILAR				pmax	pmax			
	comp=Z,20nm,1.0s							
ILAR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ILAR				MLR	MLR			
	comp=Z,321nm,18.2s							
ILAR	**Eielson Array**	**30.01**	**341**	P	**P**	**P**	**17 17 45.8**	**-0.8**
ILAR				PcP	PcP		17 20 47.1	-1.7
ILAR				LR	LR		17 29 32.7	
ILAR	**Eielson Array**	**30.01**	**341**	PcP	PcP		17 20 47.2	-1.7
	comp=Z,321nm,18.2s							
EKA	**Eskdalemuir Ar**	**30.10**	**197**	P	**P**	**P**	**17 17 47.9**	**+0.4**
	comp=Z,1.0nm,0.5s,mb3.8,baz=357,slow=8.6,SNR=6.1							
EKA	**Eskdalemuir Ar**	**30.10**	**197**	P	**P**	**P**	**17 17 47.9**	**+0.4**
EKA				pmax	pmax			
	comp=Z,10.0nm,0.5s							
DAWY	**Dawson**	**30.47**	**335**	*eP*	**P**	**P**	**17 17 50.5**	**-0.2**
ARU	**Arti**	**30.59**	**127**⇑*iP*		**P**	**P**	**17 17 50.1**	**-1.7**
ARU				*e*			17 18 48.0	
ARU				*e*			17 20 47.2	
ARU				*eS*	**S**	**S**	**17 22 53.1**	**+0.5**
ARU				*e*SS	SS	SS	17 24 31.5	-2.0
ARU				pmax	pmax			
	comp=Z,40nm,1.0s,mb5.2							
ARU				MLR	MLR			
	comp=Z,700nm,16.0s,MS4.4							
ARU				MLR	MLR			
	comp=N,700nm,17.0s,MS4.4							
ARU				MLR	MLR			
	comp=E,200nm,19.0s,MS4.4							
ARU	**Arti**	**30.59**	**127**	*i* P	**P**	**P**	**17 17 50.1**	**-1.7**
	comp=E,40nm,1.0s,mb5.2							
ARU	**Arti**	**30.59**	**127**	*e*PcP	PcP	PcP	17 20 47.2	-3.3
ARU				*eS*	**S**	**S**	**17 22 53.1**	**+0.5**
OBN	**Obninsk**	**30.67**	**151***c iP*		**P

comp=Z,17nm,1.1s,mb4.8
YAK MLR MLR
comp=Z,100nm,19.0s,MS3.5
YAK Yakutsk 30.75 54 *i* P **P 17 17 52.0 -1.2**
comp=Z,100nm,19.0s
YKA Yellowknife Ar 30.79 313 P **P 17 17 53.1 -0.5**
comp=Z,0.6nm,0.6s,mb3.6,baz=3.0,slow=9.0,SNR=17
YKA PcP PcP 17 20 49.2 -1.7
comp=Z,0.2nm,0.7s,baz=347,slow=2.7,SNR=4.0
YKA LR LR 17 30 30.7
comp=Z,157nm,18.6s,MS3.7,baz=25,slow=37
YKA Yellowknife Ar 30.79 313 P **P 17 17 53.1 -0.4**
YKA 17 20 49.2
YKA pmax pmax
comp=Z,10.0nm,0.6s
YKA MLR MLR
comp=Z,157nm,18.6s
YKA Yellowknife Ar 30.79 313 P **P 17 17 53.1 -0.4**
YKA PcP PcP 17 20 49.2 -1.7
YKA LR LR 17 30 30.7
YKA Yellowknife Ar 30.79 313 PcP PcP 17 20 49.2 -1.7
comp=Z,157nm,18.6s
CLZ Clausthal 33.42 181 *e*P **P 17 18 17.6 +1.0**
CLZ pmax pmax
comp=Z,28nm,1.6s,mb4.9
CLZ Clausthal 33.42 181 *e*P **P 17 18 17.6 +1.0**
comp=Z,28nm,1.6s,mb4.9
BOD Bodaibo 33.75 70 *e*P **P 17 18 17.7 -1.7**
BOD pmax pmax
comp=Z,50nm,1.3s,mb5.3
CLL Collm 33.95 178 P **P 17 18 20.7 -0.6**
comp=Z,logA/T=1.3,mb5.0
CLL *i* 17 18 40.4
CLL *i* PP PP 17 19 33.3 -1.6
CLL Collm 33.95 178 *i* P **P 17 18 20.7 -0.6**
CLL *i* 17 19 33.3
CLL pmax pmax
comp=Z,40nm,1.9s,mb5.0
CLL Collm 33.95 178 *i* P **P 17 18 20.7 -0.6**
comp=Z,40nm,1.9s,mb5.0
CLL *i* 17 18 40.4
CLL *i* 17 19 33.3
NVS Novosibirsk 34.10 101 *e*P **P 17 18 21.8 -0.7**
VOR Voronezh 34.17 149 *e*P **P 17 18 22.5 -0.6**
VOR pmax pmax
comp=N,100nm,1.4s
VOR pmax pmax
comp=Z,90nm,1.4s,mb5.5
BRG Berggiesshubel 34.39 177 P **P 17 18 25.5 +0.4**
BRG pmax pmax
comp=Z,26nm,1.7s,mb4.9
BRG Berggiesshubel 34.39 177 *e*P **P 17 18 25.5 +0.4**
comp=Z,26nm,1.7s,mb4.9
BRG *e* 17 18 32.3
KSP Ksiaz 34.44 174 *e*P **P 17 18 25.9 +0.4**
MOX Moxa 34.62 180 *i* P **P 17 18 27.5 +0.5**
comp=Z,logA/T=1.2,mb4.9
MOX Moxa 34.62 180 *e*P **P 17 18 27.5 +0.5**
MOX pmax pmax
comp=Z,27nm,1.6s,mb4.9
MOX Moxa 34.62 180 *e*P **P 17 18 27.5 +0.5**
comp=Z,27nm,1.6s,mb4.9
SCHQ Schefferville 34.63 265 P **P 17 18 27.7 +0.6**
comp=Z,3.5nm,0.7s,mb4.4,baz=27,slow=18,SNR=4.9
SCHQ LR LR 17 32 55.5
comp=Z,214nm,19.2s,MS3.9,baz=248,slow=37
SCHQ Schefferville 34.63 265 P **P 17 18 27.7 +0.6**
SCHQ LR LR 17 32 55.5
VRSR Storozhevoye 34.68 149 *e*P **P 17 18 26.8 -0.7**
VRSR pmax pmax
comp=N,6.0nm,0.8s
VRSR pmax pmax
comp=E,1.0nm,0.8s
VRSR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PVCC Panska Ves 34.74 176 *e*P **P 17 18 28.7 +0.6**
AKSAG Malin Array Be 34.83 160 P **P 17 18 27.9 -0.9**
comp=Z,3.2nm,0.6s,mb4.4,baz=352,slow=8.6,SNR=16
AKSAG Malin Array Be 34.83 160 *i* P **P 17 18 27.8 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
VRHR Novokhopersk 34.91 146 *e*P **P 17 18 29.0 -0.5**
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.5
VRHR pmax pmax
comp=N,8.0nm,0.3s
VRHR pmax pmax
comp=E,10.0nm,0.9s
DPC Dobruska-Polom 34.93 174 *e*P **P 17 18 30.2 +0.5**
NKC Novy Kostel 35.03 179 *e*P **P 17 18 30.1 -0.4**
TNS Taunus Mts 35.05 183 *e*P **P 17 18 31.3 +0.6**
TNS pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
TNS Taunus Mts 35.05 183 *e*P **P 17 18 31.3 +0.6**
comp=Z,8.0nm,1.2s,mb4.5
OJC Ojcow 35.10 170 *e*P **P 17 18 31.2 +0.1**
ZAL Zalesovo 35.12 100 P **P 17 18 32.2 +0.9**
comp=Z,1.5nm,0.6s,mb4.1,baz=120,slow=7.1,SNR=12
ZAL LR LR 17 37 25.1
comp=Z,474nm,18.0s,MS4.3,baz=134,slow=44
ZAL Zalesovo 35.12 100 P **P 17 18 32.2 +0.9**
ZAL pmax pmax
comp=Z,20nm,0.6s
ZAL MLR MLR
comp=Z,474nm,18.0s
ZAL Zalesovo 35.12 100 P **P 17 18 32.2 +0.9**
ZAL LR LR 17 37 25.1
BAIF Baives 35.24 188 *e*P **P 17 18 32.5 +0.1**
PRU Pruhonice 35.28 176 *e*P **P 17 18 33.2 +0.5**
OKC Ostrava-Krasne 35.46 172 *e*P **P 17 18 34.7 +0.5**
MORC Moravsky Berou 35.52 173 *e*P **P 17 18 35.2 +0.5**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MORC Moravsky Berou 35.52 173 *e*P **P 17 18 35.2 +0.5**
comp=Z,2.4nm,0.8s,mb4.2
GRA1 Grafenberg Arr 35.57 180 *e*P **P 17 18 35.9 +0.8**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 35.57 180 *e*P **P 17 18 35.9 +0.8**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 35.57 180 *e*P **P 17 18 35.9 +0.8**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 35.57 180 *e*P **P 17 18 35.9 +0.8**
comp=Z,12nm,0.9s,mb4.8
STHS Stebnicka Huta 35.93 169 *e*P **P 17 18 39.8 +1.6**
VRAC Vranov 35.98 174 P **P 17 18 38.5 -0.1**
comp=Z,4.7nm,0.9s,mb4.4,baz=358,slow=12,SNR=6.0
VRAC Vranov 35.98 174 P **P 17 18 38.5 -0.1**
VRAC pmax pmax
comp=Z,5.0nm,0.9s
TREC Trest 35.98 175 *e*P **P 17 18 39.2 +0.6**
WET Wettzell 36.12 178 *e*P **P 17 18 40.9 +1.1**
WET pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
WET Wettzell 36.12 178 *e*P **P 17 18 40.9 +1.1**
comp=Z,6.0nm,1.2s,mb4.4
KHC Kasperske Hory 36.14 177 *e*P **P 17 18 41.4 +1.5**
KHC Kasperske Hory 36.14 177⇑ *e*P **P 17 18 41.5 +1.6**
GEC2 GERESS Array S 36.42 177 *e*P **P 17 18 42.7 +0.4**
GEC2 pmax pmax
comp=Z,26nm,1.6s,mb4.9
GEC2 GERESS Array S 36.42 177 *e*P **P 17 18 42.7 +0.4**
comp=Z,26nm,1.6s,mb4.9
GERES GERESS Array B 36.42 177 P **P 17 18 43.8 +1.5**
comp=Z,1.1nm,0.7s,mb3.9,slow=8.0,SNR=10
GERES LR LR 17 34 04.4
comp=Z,185nm,18.3s,MS3.9,baz=318,slow=37
GERES GERESS Array B 36.42 177 P **P 17 18 43.8 +1.5**
GERES pmax pmax
comp=Z,10.0nm,0.7s
GERES MLR MLR
comp=Z,185nm,18.3s
KOLS Kolonicke sedl 36.43 168 *e*P **P 17 18 39.0 -3.4**
CRVS Cervenica-Dubn 36.45 169 *e*P **P 17 18 43.0 +0.5**
AKTK Aktyubinsk 36.52 129 P **P 17 18 43.3 +0.2**
AKTK LR LR 17 35 55.5
AKTK Aktyubinsk 36.52 129 P **P 17 18 43.3 +0.1**
comp=Z,300nm,18.1s
AKTO Aktyubinsk 36.52 129 P **P 17 18 43.3 +0.2**
comp=Z,1.8nm,0.8s,mb3.9,slow=11,SNR=5.7
AKTO LR LR 17 35 55.5
comp=Z,300nm,18.1s,MS4.1,slow=40
AKTO Aktyubinsk 36.52 129 P **P 17 18 43.3 +0.1**
AKTO pmax pmax
comp=Z,20nm,0.8s,mb5.0
AKTO MLR MLR
comp=Z,300nm,18.1s,MS4.1
FLN La Foliniere 36.62 193 *e*P **P 17 18 44.0 +0.1**
FLN *e*R
comp=Z,198nm,18.3s
FLN La Foliniere 36.62 193 *e*P **P 17 18 44.0 +0.1**
comp=Z,200nm,18.3s
LDF La Druitiere 36.78 193 *e*P **P 17 18 45.1 -0.2**
comp=Z,8.9nm,0.6s,mb4.5
LDF La Druitiere 36.78 193 *e*P **P 17 18 45.1 -0.2**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
MEZF Maizieres J'vi 36.79 187 *e*P **P 17 18 45.3 -0.1**
VYHS Vyhne 36.82 172 *e*P **P 17 18 46.4 +0.8**
KECS Kecovo 36.85 170 *e*P **P 17 18 46.7 +0.8**
KECS *e* 17 19 04.0
GRR Gorron 37.00 193 *e*P **P 17 18 46.0 -1.2**
comp=Z,14nm,0.6s,mb4.6
GRR Gorron 37.00 193 *e*P **P 17 18 46.0 -1.2**
GRR pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
ZST Bratislava 37.09 174 *e*P **P 17 18 49.5 +1.5**
HAU Haudompre 37.28 185 *e*P **P 17 18 49.7 +0.2**
HAU *e*R
comp=Z,362nm,22.2s
HAU Haudompre 37.28 185 *e*P **P 17 18 49.7 +0.2**
comp=Z,360nm,22.3s
PSZ Piszkesteto 37.41 170 P **P 17 18 49.7 -0.9**
PSZ pmax pmax
comp=Z,27nm,1.5s,mb4.9
PSZ Piszkesteto 37.41 170 P **P 17 18 49.7 -0.9**
comp=Z,27nm,1.5s,mb4.9
KURK Kurchatov 37.80 107 *c i* P **P 17 18 54.4 +0.5**
KURK Kurchatov 37.80 107 *i* P **P 17 18 54.4 +0.5**
LOR Lormes 38.04 188 *e*P **P 17 18 56.2 +0.3**
SSF Saint Saulge 38.25 189 *e*P **P 17 18 57.9 +0.2**
SSF pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
SSF Saint Saulge 38.25 189 *e*P **P 17 18 57.9 +0.2**
comp=Z,9.0nm,1.1s,mb4.4
DAVOX Davos 38.48 182 LR LR 17 36 02.2
comp=Z,168nm,18.3s,MS3.9,baz=269,slow=38
SMF Signal de Mont 38.66 188 *e*P **P 17 19 01.6 +0.4**
BGF Bois d'Agland 38.77 189 *e*P **P 17 19 02.2 +0.2**
MFF Saint Martin d 38.77 193 *e*P **P 17 19 02.2 +0.1**
TCF Toulx Ste Croi 39.04 190 *e*P **P 17 19 04.6 +0.2**
RJF Les Rejaudoux 40.04 191 *e*P **P 17 19 12.6 0.0**
comp=Z,16nm,0.7s,mb4.6
RJF Les Rejaudoux 40.04 191 *e*P **P 17 19 12.6 0.0**
RJF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
ORIF Oris-en-Rattie 40.37 186 *e*P **P 17 19 15.6 +0.3**
ORIF *e*R
comp=Z,326nm,21.2s
ANN Anapa 41.01 151 *e*P **P 17 19 20.5 -0.1**
ANN *e*S **S 17 25 34.7 +2.0**
ANN pmax pmax
comp=Z,85nm,1.5s,mb5.2
ANN MLR MLR
comp=Z,405nm,14.0s,MS4.4
ANN Anapa 41.01 151 *e*P **P 17 19 20.5 -0.1**
comp=Z,85nm,1.5s,mb5.2
ANN *e*S **S 17 25 34.7 +2.0**
comp=Z,405nm,14.0s
ULM Lac du Bonnet 41.62 293 P **P 17 19 25.1 -0.2**
comp=Z,1.1nm,0.5s,mb3.7,baz=19,slow=13,SNR=3.9
ULM LR LR 17 36 16.2
comp=Z,147nm,20.8s,MS3.8,baz=45,slow=36
MKAR Makanchi Array 42.00 104 P **P 17 19 28.9 +0.4**
comp=Z,0.7nm,0.7s,baz=334,slow=8.5,SNR=7.3
MKAR LR LR 17 40 19.2
comp=Z,270nm,19.2s,MS4.1,baz=3.9,slow=41
MKAR Makanchi Array 42.00 104 P **P 17 19 28.9 +0.4**
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MKAR MLR MLR
comp=Z,270nm,19.2s
KIV Kislovodsk 42.09 146 *c i* P **P 17 19 30.2 +0.9**
KIV *e*S **S 17 25 49.7 +1.2**
KIV pmax pmax
comp=Z,29nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,300nm,12.0s,MS4.4
KIV Kislovodsk 42.09 146 *i* P **P 17 19 30.2 +0.9**
comp=Z,29nm,1.1s,mb4.8
KIV *e*S **S 17 25 49.7 +1.2**
comp=Z,300nm,12.0s
EPF Esparros 42.33 192 *e*P **P 17 19 31.7 +0.4**
comp=Z,17nm,1.0s,mb4.3
EPF Esparros 42.33 192 *e*P **P 17 19 31.7 +0.4**
EPF pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
SONM Songino Array 43.02 80 P **P 17 19 38.6 +1.7**
comp=Z,2.0nm,0.8s,mb3.9,baz=340,slow=7.6,SNR=11
SONM LR LR 17 38 33.2
comp=Z,128nm,19.2s,MS3.8,baz=328,slow=38
SONM Songino Array 43.02 80 P **P 17 19 38.6 +1.7**
SONM pmax pmax
comp=Z,20nm,0.8s
SONM MLR MLR
comp=Z,128nm,19.2s
ULN Ulaanbaatar 43.05 79⇑ *e*P **P 17 19 38.5 +1.4**
ULN Ulaanbaatar 43.05 79 *e*P **P 17 19 38.5 +1.4**
comp=Z,4.2nm,0.7s,mb4.3
AAK Ala-Archa 45.50 113⇑ *e*P **P 17 19 57.8 +0.9**
AAK pmax pmax
comp=Z,11nm,1.3s,mb4.5
AAK MLR MLR
comp=Z,200nm,15.0s,MS4.2
AAK Ala-Archa 45.50 113 *e*P **P 17 19 57.8 +0.9**
comp=Z,200nm,15.0s
ESDC Sonseca Array 45.77 196 P **P 17 19 59.8 +0.7**
comp=Z,0.4nm,0.4s,mb3.7,baz=3.2,slow=7.9,SNR=9.4
BR131 Keskin Array S 45.93 156 *e*P **P 17 20 01.4 +1.0**
comp=Z,1.8nm,0.6s,mb4.2
BRTR Keskin Array B 45.93 156 P **P 17 20 01.6 +1.3**
comp=Z,2.4nm,0.6s,mb4.3,baz=347,slow=6.0,SNR=15
BRTR Keskin Array B 45.93 156 P **P 17 20 01.7 +1.3**
BRTR pmax pmax
comp=Z,20nm,0.6s
GNI Garni 45.99 144 *i* P **P 17 20 03.9 +3.1**
GNI pmax pmax
comp=Z,23nm,1.7s
GNI MLR MLR
comp=Z,100nm,14.0s
GNI Garni 45.99 144 *i* P **P 17 20 03.9 +3.1**
comp=Z,100nm,14.0s
BOZ Bozeman (W) 47.37 307 *e*P **P 17 20 11.8 +0.2**
BOZ pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
BOZ Bozeman (W) 47.37 307 *e*P **P 17 20 11.8 +0.2**
comp=Z,9.2nm,1.4s,mb4.5
BOZ Bozeman (W) 47.37 307 *e*P **P 17 20 11.8 +0.2**
comp=Z,9.0nm,1.4s,mb4.5
MCMT McKenzie Canyo 48.27 308 *e*P **P 17 20 18.8 +0.2**
MOOW Moose Ponds 49.20 306 *e*P **P 17 20 26.0 +0.1**
comp=Z,2.7nm,0.8s,mb4.3
PDAR Pinedale Array 50.09 304 P **P 17 20 32.8 0.0**
comp=Z,2.4nm,1.0s,mb4.2,baz=18,slow=4.7,SNR=7.1
PDAR LR LR 17 41 50.8
comp=Z,200nm,20.1s,MS4.1,baz=23,slow=36
IDI Anoyia 50.11 165 P **P 17 20 32.9 -0.1**
comp=Z,1.4nm,0.5s,mb4.3,baz=4.8,slow=12,SNR=3.1
GTA Gaotai 50.83 87 *e*P **P 17 20 38.1 -0.3**
GTA AP pP 17 20 45.4 +4.0
GTA XP sP 17 20 49.0 +6.4
GTA AMB AMB
comp=Z,80nm,5.3s
GTA LR LR
comp=N,390nm,16.4s,MS4.6
GTA LR LR
comp=E,160nm,13.8s,MS4.6
GTA LR LR
comp=Z,410nm,17.6s,MS4.5
HWUT Hardware Ranch 51.38 306 *e*P **P 17 20 42.2 -0.4**
comp=Z,15nm,1.5s,mb4.7
LZH Lanzhou 54.47 84 *e*P **P 17 21 06.5 +0.9**
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,100nm,4.6s
LZH LR LR
comp=N,580nm,12.3s
LZH LR LR
comp=Z,720nm,15.2s,MS4.9
LZH Lanzhou 54.47 84 *e*P **P 17 21 06.5 +0.9**
comp=Z,30nm,1.2s,mb5.1
LZH pP pP 17 21 22.0 +13
LZH sP sP 17 21 34.5 +25
LZH LR LR
comp=Z,720nm,15.2s,MS4.9
NVAR Mina Array Bea 54.99 312 P **P 17 21 09.3 -0.1**
comp=Z,0.3nm,0.5s,mb3.6,baz=16,slow=5.4,SNR=4.7
NVAR LR LR 17 47 19.2
comp=Z,59nm,19.1s,MS3.7,baz=350,slow=39
MIB Mutribah 56.42 142 *e*P **P 17 21 19.8 -0.1**
MIB AMb AMB 17 21 20.8
comp=Z,36nm,0.6s,mb5.5
UMR Umm Al-Rimmam 56.69 142 *e*P **P 17 21 21.6 -0.2**
UMR AMb AMB 17 21 22.6
comp=Z,48nm,0.6s,mb5.7
NAY Al-Naaiem 56.97 142 *e*P **P 17 21 23.2 -0.6**
NAY AMb AMB 17 21 24.4
comp=Z,10nm,0.7s,mb5.0
KBD Kabd 57.07 142 *e*P **P 17 21 24.4 -0.1**
KBD AMb AMB 17 21 25.4
comp=Z,114nm,0.6s
RDF Al-Radifah 57.31 142 *e*P **P 17 21 26.1 -0.1**
RDF AMb AMB 17 21 28.7
comp=Z,42nm,1.4s,mb5.3
NEN Nelson 57.53 309 P **P 17 21 27.7 0.0**
ANMO Albuquerque 57.64 301 *i* P **P 17 21 28.0 -0.4**
NJ2 Nanjing 59.73 70 *e*P **P 17 21 44.7 +1.7**
NJ2 AP pP 17 21 49.3 +3.2
NJ2 XP sP 17 21 51.8 +4.6
NJ2 PP PP 17 23 59.0 +2.2
NJ2 S **S 17 29 55.0 +2.9**
NJ2 XS 17 30 03.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,240nm,5.8s
NJ2 LR LR
comp=N,380nm,28.6s,MS4.5
NJ2 LR LR
comp=E,340nm,25.3s,MS4.5
NJ2 LR LR
comp=Z,260nm,23.0s,MS4.3
TUC Tucson 60.57 305 *e*P **P 17 21 48.0 -0.8**
TUC pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
TUC Tucson 60.57 305 *e*P **P 17 21 48.0 -0.8**
comp=Z,1.3nm,0.6s,mb4.2
TUC Tucson 60.57 305 *e*P **P 17 21 48.0 -0.8**
comp=Z,1.0nm,0.6s,mb4.1
GKN Gorkha 60.85 104 *e*P **P 17 21 50.0 -0.7**
comp=Z,29nm,0.8s,mb5.4
SSE Sheshan 60.86 67 P **P 17 21 47.8 -2.9**
comp=Z,20nm,0.7s,mb5.4
KOLN Koldanda 60.99 105 *e*P **P 17 21 50.9 -0.8**
GUN Gumba 61.05 103 *e*P **P 17 21 51.7 -0.3**
comp=Z,26nm,0.9s,mb5.3
KKN Kakani 61.12 103 *e*P **P 17 21 52.1 -0.4**
comp=Z,26nm,0.8s,mb5.4
KKN Kakani 61.12 103 *e*P **P 17 21 52.1 -0.4**
KKN pmax pmax
comp=Z,13nm,0.8s,mb5.1
JIRN Jiri 61.32 103 *e*P **P 17 21 53.7 -0.2**
comp=Z,24nm,1.0s,mb5.3
TXAR Lajitas Array 63.00 297 P **P 17 22 04.4 -0.7**
comp=Z,1.0nm,0.6s,mb4.2,baz=354,slow=3.7,SNR=7.9
TXAR LR LR 17 48 23.2
comp=Z,137nm,20.7s,MS4.1,baz=355,slow=35
TXAR Lajitas Array 63.00 297 P **P 17 22 04.4 -0.7**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR MLR MLR
comp=Z,137nm,20.7s
JMDO Jabal Madar 64.44 132 ⇓P **P 17 22 13.7 -0.9**
SNR=6.7
WHFO Wadi Hawf 68.59 136 P **P 17 22 40.0 -1.0**
SNR=13
ABTO Aybut 69.13 137 P **P 17 22 43.6 -0.7**
SNR=21
TORD Torodi Ar. Bea 72.08 190 P **P 17 23 01.9 -0.4**
comp=Z,2.5nm,0.5s,mb4.4,baz=347,slow=7.1,SNR=26
LIC Lamto 79.09 197 *e*P **P 17 23 42.2 +0.2**
comp=Z,13nm,1.0s,mb4.5
KMBO Kilima Mbogo 86.69 154 P **P 17 24 23.2 +2.1**
comp=Z,0.8nm,0.6s,mb4.1,baz=41,slow=19,SNR=4.7
KMBO Kilima Mbogo 86.69 154 P **P 17 24 23.2 +2.2**
KMBO pmax pmax
comp=Z,10.0nm,0.6s
KMBO Kilima Mbogo 86.69 154 P **P 17 24 23.2 +2.1**

CSEM ***09*** *17:15:23.5±0.7,38.79N×28.92W,h0km±10km,ML2.2, Error ellipse: s-maj=10.9km s-min=3.0km az=97.0,After PDA*

PDA ***09*** *17:15:23.5±0.7,38.79N×28.92W,h0km±10km,MD2.8, ML2.2,Error ellipse: s-maj=10.9km s-min=3.0km az=97.0*

SVSA 09 17:15:23.5±0.7,38.79N×28.92W,h0km±10km,MD2.8, ML2.2,Error ellipse: s-maj=10.9km s-min=3.0km az=97.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.22**	**155**	*e*S	Sg	17 15 31.3	+0.3
	64nm,0.2s						
PTCA	**Ponta do Capel**	**0.22**	**155**	*e*S	Sg	17 15 31.3	+0.3
	64nm,0.2s						
PCED	**Cedros**	**0.23**	**133**	*e*P	Pg	17 15 28.0	-0.1
PCED				*e*S	Sg	17 15 31.4	+0.2
	200nm,0.1s						
PCED	**Cedros**	**0.23**	**133**	*e*P	Pg	17 15 28.0	-0.1
PCED				*e*S	Sg	17 15 31.4	+0.2
	200nm,0.1s						
CALA	**Caldeira**	**0.27**	**141**	*e*P	Pg	17 15 28.6	-0.2
CALA				*e*S	Sg	17 15 32.6	+0.2
HOR	**Horta**	**0.34**	**139**	*e*S	Sg	17 15 34.4	-0.6
PCND	**Candelaria**	**0.48**	**132**	*e*S	Sg	17 15 39.1	-0.3
	42nm,0.2s						
PICO	**Pico**	**0.48**	**127**	*e*P	Pg	17 15 32.4	-0.7
PICO				*e*S	Sg	17 15 39.0	-0.5
ROSA	**Rosais**	**0.53**	**97**	*e*P	Pg	17 15 33.2	-0.9
ROSA				*e*S	Sg	17 15 40.2	-1.0
PBOI	**Pico dos Bois**	**0.55**	**129**	*erx*		17 15 33.0	
PPNO	**Prainha do Nor**	**0.60**	**121**	*erx*		17 15 42.2	
PMAN	**Manadas**	**0.67**	**103**	*erx*		17 15 46.9	
PIED	**Piedade**	**0.77**	**118**	*erx*		17 15 26.4	

IDC ***09*** *17:27:40.3±0.8,5.35N×94.55E,mb4.3/12,mb1 4.4/12, mb1mx4.2/21,mbtmp4.3/12,MS3.7/3,Ms1 3.7/3, ms1mx3.4/17,Error ellipse: s-maj=34.6km s-min=16.5km az=47.0*

MOS ***09*** *17:27:42.2±0.8,5.15N×94.64E,h33km,mb4.5/1,Error ellipse: s-maj=30.5km s-min=13.9km az=102.6*

NEIC ***09*** *17:27:45.2±0.6,5.38N×94.50E,h30km,mb4.3/3,Error ellipse: s-maj=18.0km s-min=7.1km az=222.0*

ISC 09 17:27:49.5±2.1,5.4N±0.1×94.7E±0.1,h85km±19km,n30, σ0s72/28,mb4.3/17,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.93**	**122**	Pn	P	**17 29 03.0**	**+0.3**
	3.7nm,0.3s,baz=303,slow=14,SNR=10						
PSI				Sn	**S**	**17 29 59.8**	**+0.9**
	3.8nm,0.3s,baz=119,slow=23,SNR=4.0						
KULM	**Kulim**	**5.89**	**91**	*e*Pn	P	**17 29 14.4**	**-1.4**
KULM				*e*Sn	**S**	**17 30 22.1**	**-0.5**
JIRN	**Jiri**	**23.55**	**341**	*e*P	P	**17 32 53.8**	**+0.8**
GUN	**Gumba**	**23.88**	**340**	*e*P	P	**17 32 56.8**	**+0.6**
	16nm,0.7s,mb4.4						
KKN	**Kakani**	**23.98**	**339**	*e*P	P	**17 32 57.6**	**+0.5**
LSA	**Lhasa**	**24.37**	**352**	*e*P	P	**17 33 02.9**	**+1.9**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.0						
LSA	**Lhasa**	**24.37**	**352**	*e*P	P	**17 33 02.9**	**+1.9**
	comp=Z,5.1nm,0.6s,mb4.0						
GKN	**Gorkha**	**24.41**	**338**	*e*P	P	**17 33 01.3**	**-0.1**
	comp=Z,5.1nm,0.3s,mb4.4						
KOLN	**Koldanda**	**24.61**	**336**	*e*P	P	**17 33 03.2**	**-0.1**
TGY	**Tagaytay City**	**27.19**	**70**	P	P	**17 33 27.2**	**-0.3**
	comp=Z,57nm,0.3s,mb5.6,baz=265,slow=17,SNR=3.5						
MKAR	**Makanchi Array**	**42.58**	**347**	P	P	**17 35 38.8**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.1,baz=159,slow=8.2,SNR=56						
SONM	**Songino Array**	**43.41**	**11**	P	P	**17 35 45.6**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.0,baz=193,slow=8.2,SNR=20						
SONM				PcP	PcP	17 37 33.7	+0.8

comp=Z,0.4nm,0.3s,baz=189,slow=3.9,SNR=4.7
ULN Ulaanbaatar 43.57 12 *e*P **P 17 35 46.6 -0.1**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ULN Ulaanbaatar 43.57 12 *e*P **P 17 35 46.5 -0.1**
comp=Z,3.5nm,0.8s,mb4.1
WRA Warramunga Arr 46.39 124 P **P 17 36 10.0 +0.4**
comp=Z,3.9nm,0.5s,mb4.4,baz=306,slow=8.6,SNR=73
WRA PcP PcP 17 37 44.2 +0.6
comp=Z,0.3nm,0.5s,slow=1.7,SNR=2.6
WB2 Warramunga Arr 46.40 124 *e*P **P 17 36 10.0 +0.3**
ZAL Zalesovo 49.02 352 P **P 17 36 29.4 -0.2**
comp=Z,2.8nm,0.5s,mb4.4,baz=303,slow=6.5,SNR=14
MJAR Matsushiro Arr 50.38 46 LR LR 18 00 52.8
comp=Z,80nm,18.5s,baz=60,slow=39
BVAR Borovoye Array 51.47 341 P **P 17 36 48.1 -0.2**
comp=Z,2.7nm,0.6s,mb4.5,baz=141,slow=9.5,SNR=17
AKTK Aktyubinsk 54.36 332 P **P 17 37 08.9 -0.8**
AKTO Aktyubinsk 54.36 332 P **P 17 37 08.9 -0.8**
comp=Z,1.2nm,0.4s,mb4.3,baz=126,slow=17,SNR=7.1
KMBO Kilima Mbogo 57.78 265 LR LR 17 59 44.8
comp=Z,39nm,18.9s,baz=91,slow=33
STKA Stephens Creek 58.01 133 P **P 17 37 35.7 -0.4**
comp=Z,1.5nm,0.6s,mb4.2,baz=310,slow=14,SNR=4.6
BRTR Keskin Array B 64.47 312 P **P 17 38 18.2 -1.3**
comp=Z,0.9nm,0.6s,mb3.8,baz=127,slow=7.4,SNR=6.5
HNR Honiara 66.64 103 LR LR 18 05 28.8
comp=Z,64nm,21.0s,baz=303,slow=34
IDI Anoyia 70.44 305 P **P 17 38 55.9 -1.0**
comp=Z,3.1nm,0.5s,mb4.4,baz=70,slow=8.0,SNR=6.9
FINES FINESS Array B 75.13 332 P **P 17 39 23.5 -0.4**
comp=Z,2.8nm,1.0s,mb4.0,baz=94,slow=6.1,SNR=8.5
ARCES ARCESS Array B 77.74 340 P **P 17 39 39.0 +0.5**
comp=Z,3.5nm,0.9s,mb4.1,baz=95,slow=6.0,SNR=14
GERES GERESS Array B 80.03 319 P **P 17 39 52.3 +1.0**
comp=Z,1.4nm,0.7s,mb3.9,baz=104,slow=5.0,SNR=13
PDAR Pinedale Array 127.19 22 PKP PKPdf 17 46 47.1 +2.7
comp=Z,0.4nm,0.5s,baz=107,slow=2.8,SNR=5.4

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*HLW **09** 17:39:32.4,38.03N×20.87E,h33km,Mb3.3*
*CSEM **09** 17:39:33.0±0.2,37.53N×20.71E,h30km,MD3.7,Error ellipse: s-maj=12.9km s-min=4.1km az=62.0*
*ATH **09** 17:39:35.1,37.81N×21.13E,h16km±1km,MD3.7/9*
*NEIC **09** 17:39:35.0,37.79N×21.13E,h17km,MD3.7(ATH),After ATH.*
ISC 09 17:39:31.2±2.0,37.46N±0.07×20.7E±0.2,h4km±19km,n19, σ1°04/20,1C-4D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VLS	**Valsamata**	**0.73**	**351**	*e*PN		**Pg**	**17 39 46.6**	**+0.9**
VLS				*e*SN		**Sg**	**17 39 54.5**	**-0.9**
RLS	**Riolos of Patr**	**0.83**	**44**	*e*PB		**Pg**	**17 39 42.9**	**-4.9**
ITM	**Ithomi**	**0.99**	**106**	*e*PN		**Pn**	**17 39 52.0**	**+0.3**
EVR	**Evrytania**	**1.68**	**30**	*e*PN		**Pn**	**17 39 57.9**	**-3.7**
VLI	**Veliai**	**1.91**	**112**	*e*PN		**Pn**	**17 40 07.7**	**+2.9**
VLI	**Veliai**	**1.91**	**112**	*e*Pb		**Pn**	**17 40 06.2**	**+1.4**
MGER	**Gerania Oros**	**2.07**	**74**	*e*PN		**Pn**	**17 40 06.5**	**-0.6**
MGER	**Gerania Oros**	**2.07**	**74**	*e*Pn		**Pn**	**17 40 07.0**	**-0.1**
KYTH	**Kithira**	**2.19**	**122**	*e*PN		**Pn**	**17 40 12.7**	**+3.9**
JAN	**Janina**	**2.20**	**2**	*e*PN		**Pn**	**17 40 08.0**	**-1.0**
JAN	**Janina**	**2.20**	**2**	*e*Pn		**Pn**	**17 40 11.0**	**+2.0**
KEK	**Kerkira**	**2.37**	**342**	*e*PN		**Pn**	**17 40 12.6**	**+1.1**
KEK	**Kerkira**	**2.37**	**342**	*e*Pb		**Pn**	**17 40 11.5**	**0.0**
SLUM		**7.00**	**147**	↓P		**Pn**	**17 41 17.5**	**+0.4**
HMAT	**Matruh**	**8.24**	**139**	↓*e*P		**P**	**17 41 33.5**	**-1.0**
HMAT				S		rx	17 43 03.4	
SWA2		**9.09**	**153**	↑P		**P**	**17 41 46.0**	**-0.2**
SWA2		**9.09**	**153**	P		**P**	**17 41 46.0**	**-0.2**
SWA1		**9.17**	**152**	↓P		**P**	**17 41 47.4**	**+0.1**
HFRF	**Wahat Farafira**	**12.11**	**146**	↓P		**P**	**17 42 26.4**	**-1.1**

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*NEIC **09** 17:40:57.1±6.8,17.84S×178.48W,h527km±74km,mb4.5/3, Error ellipse: s-maj=36.5km s-min=33.2km az=86.0*
*IDC **09** 17:41:01.2±1.5,17.81S×178.59W,h582km,20km,mb3.1/5, mb1 3.3/7,mb1mx3.2/15,mbtmp4.1/7,Error ellipse: s-maj=30.3km s-min=13.9km az=149.0*
ISC 09 17:41:00.4±0.9,17.9S±0.2×178.4W±0.2,h596km±18km, n21,σ0°80/18,mb3.8/7,1C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**7.54**	**59**	P		**P**	**17 42 55.9**	**+0.2**
	1.8nm,0.3s,baz=239,slow=18,SNR=3.3							
AFI				S		**S**	**17 44 27.2**	**-0.5**
	0.8nm,0.3s,baz=12,slow=20,SNR=2.2							
AFI	**Afiamalu**	**7.54**	**59**	P		**P**	**17 42 55.9**	**+0.2**
AFI				S		**S**	**17 44 27.2**	**-0.5**
DZM	**Mont Dzumac**	**14.81**	**251**	P		**P**	**17 44 07.5**	**+0.7**
	0.3nm,0.3s,baz=100,slow=12,SNR=3.6							
CNB	**Canberra Magne**	**33.41**	**232**	*e*P		**P**	**17 46 53.6**	**+1.1**
	3μm,7.9s							
STKA	**Stephens Creek**	**38.61**	**241**	↓*i*P		**P**	**17 47 36.1**	**+0.8**
	3.1nm,0.6s,mb4.0							
STKA	**Stephens Creek**	**38.61**	**241**	P		**P**	**17 47 36.3**	**+1.0**
	5.0nm,0.7s,mb4.1,baz=91,slow=9.4,SNR=12							
WB2	**Warramunga Arr**	**44.60**	**260**	↓*i*P		**P**	**17 48 22.1**	**-0.7**
WRA	**Warramunga Arr**	**44.61**	**260**	P		**P**	**17 48 22.2**	**-0.7**
	5.2nm,0.5s,mb4.3,baz=96,slow=7.2,SNR=157							
WRA				PcP		PcP	17 49 52.2	-0.6
	0.6nm,0.4s,baz=90,slow=3.6,SNR=4.8							
WRA				S		**S**	**17 54 12.6**	**-4.3**
	0.4nm,0.8s,baz=98,slow=13,SNR=2.6							
KAKA	**Kakadu**	**47.56**	**269**	↑*i*P		Px	17 49 07.6	
	9.0nm,0.4s							
FORT	**Forrest**	**49.99**	**245**	*e*P		**P**	**17 49 02.1**	**-1.1**
	12nm,0.6s,mb4.5							
KLBR	**Kellerberrin**	**58.81**	**244**	*e*P		**P**	**17 50 03.8**	**-0.9**
	42nm,1.3s,mb4.4							
VNDA	**Vanda**	**60.45**	**185**	P		**P**	**17 50 14.4**	**-0.5**
	0.3nm,0.5s,mb2.8,baz=0.7,slow=6.2,SNR=3.6							
MJAR	**Matsushiro Arr**	**67.89**	**323**	P		**P**	**17 51 01.9**	**-0.3**
	1.0nm,0.5s,mb3.5,baz=166,slow=5.6,SNR=4.3							
MJAR	**Matsushiro Arr**	**67.89**	**323**	P		**P**	**17 51 01.9**	**-0.3**
KSM	**Kuching**	**72.66**	**277**	*e*P		**P**	**17 51 31.2**	**+0.5**
NVAR	**Mina Array Bea**	**79.44**	**44**	P		**P**	**17 52 08.4**	**+1.3**
	0.3nm,0.5s,mb2.9,baz=221,slow=9.6,SNR=3.2							
AKASG	**Malin Array Be**	**140.55**	**332**	PKhKP			17 59 17.4	
	0.3nm,0.4s,baz=42,slow=4.0,SNR=4.1							
BRTR	**Keskin Array B**	**144.76**	**315**	PKP		PKPdf	17 59 32.5	+2.4
	1.3nm,0.7s,baz=122,slow=4.8,SNR=6.3							
CLL	**Collm**	**145.46**	**347**	P		PKPdf	17 59 34.6	+3.7
	logA/T=0.8							
KHC	**Kasperske Hory**	**147.37**	**345**	*e*P		PKPdf	17 59 39.5	+5.3
GERES	**GERESS Array B**	**147.60**	**345**	PKPbc		PKPdf	17 59 40.5	+5.9
	1.3nm,0.6s,baz=18,slow=3.5,SNR=12							

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*CSEM **09** 17:43:36.0±0.2,37.68N×27.21E,h2km,MD3.1,Error ellipse: s-maj=5.9km s-min=4.3km az=42.0*
*ATH **09** 17:43:37.5,37.72N×27.08E,h14km±5km,MD3.1/3*
*ISK **09** 17:43:37.1,37.63N×27.15E,h22km,MD3.0*
ISC 09 17:43:36.1±0.4,37.71N±0.03×27.11E±0.03,h10km,n17, σ0°96/27,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SMG	**Samos**	**0.22**	**269**	↓*i*PG		**Pg**	**17 43 41.2**	**+0.4**
SMG				*e*SG		**Sg**	**17 43 45.7**	**+1.7**
AYDN	**Tasoluk**	**0.61**	**95**	*i*P		**Pb**	**17 43 48.5**	**+0.2**
AYDN				*i*S		**Sg**	**17 43 56.8**	**+0.2**
BODT	**Bodrum**	**0.67**	**166**	PG		**Pg**	**17 43 48.6**	**-1.0**
MLSB	**Milas**	**0.67**	**128**	PG		**Pg**	**17 43 49.9**	**+0.3**
MLSB				SG		**Sg**	**17 43 58.9**	**+0.2**
KDAG	**Bornova**	**0.70**	**10**	*i*P		**Pb**	**17 43 48.5**	**-1.4**
KDAG				*i*S		**Sb**	**17 43 58.6**	**-0.7**
BDRM	**Kayabasi**	**0.70**	**158**	*i*P		**Pb**	**17 43 50.2**	**+0.3**
BDRM				*i*S		**Sb**	**17 44 00.1**	**+0.8**
URLA	**Izmir**	**0.76**	**328**	*i*P		**Pg**	**17 43 50.1**	**-1.4**
URLA				*i*S		**Sg**	**17 44 00.8**	**-0.9**
DAT	**Datca**	**1.05**	**159**	PG		**Pg**	**17 43 55.8**	**-1.3**
YER	**Yerkesik**	**1.09**	**121**	PG		**Pg**	**17 43 56.8**	**-1.2**
AKS	**Akhisar**	**1.29**	**25**	*e*PN		**Pn**	**17 44 01.0**	**+0.8**
MANT	**Manisa**	**1.38**	**55**	*i*P		**Pn**	**17 44 02.9**	**+1.4**
MANT				*i*S		**Sb**	**17 44 20.0**	**+0.9**
APE	**Apeiranthos**	**1.42**	**243**	*e*PN		**Pn**	**17 44 02.7**	**+0.7**
APE	**Apeiranthos**	**1.42**	**243**	*e*PG		**Pg**	**17 44 03.6**	**-0.8**
APE				*e*SB		**Sg**	**17 44 23.4**	**+0.1**
APE	**Apeiranthos**	**1.42**	**243**	*e*Pg		**Pg**	**17 44 03.6**	**-0.8**
APE				*e*Sb		**Sg**	**17 44 23.4**	**+0.1**
DNZL	**Cakiroluk**	**1.53**	**90**	*i*P		**Pg**	**17 44 07.2**	**+0.4**
DALT	**Dalyan (Mudla)**	**1.54**	**127**	*e*PN		**Pn**	**17 44 03.1**	**-0.7**
PRK	**Paraskevi**	**1.67**	**337**	*e*PG		**Pg**	**17 44 08.7**	**-0.7**
PRK				*e*SB		**Sb**	**17 44 30.1**	**+2.7**

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*NNC **09** 18:21:32.4±2.2,37.35N×70.05E,mpv3.8,Error ellipse: s-maj=30.3km s-min=21.4km az=111.0*
ISC 09 18:21:21.8±1.6,36.4N±0.1×71.2E±0.2,h127km±41km,n11, σ0°51/16,2C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KK31	**Karatay Array**	**6.75**	**356**	↓P		**P**	**18 22 59.1**	**-0.5**
	2.9nm,0.2s,baz=178,slow=12,SNR=339							
KK31				↑S		**S**	**18 24 07.3**	**-8.1**
	8.0nm,0.6s,baz=187,slow=26,SNR=8.2							
KLP	**Kalpa**	**7.59**	**127**	*e*P		**P**	**18 23 11.9**	**+0.9**
KLP				AMb		AMB	18 23 13.9	
	comp=Z,14nm,0.1s							
KLP				*e*S		**S**	**18 24 30.6**	**-5.4**
KLP				AML		AML	18 24 33.4	
	comp=E,59nm,0.5s							
KLP				AML		AML	18 24 35.6	
	comp=N,57nm,0.4s							
KHET	**Khetri**	**9.15**	**153**	*e*P		**P**	**18 23 31.4**	**-0.4**
KHET				*e*S		**S**	**18 25 08.3**	**-5.1**
KHET				AML		AML	18 25 13.6	
	comp=N,7.5nm,0.2s							
KHET				AML		AML	18 25 13.9	
	comp=E,8.2nm,0.2s							
KUDL	**Kundal**	**9.35**	**150**	*e*P		**P**	**18 23 34.4**	**0.0**
KUDL				*e*S		**S**	**18 25 13.1**	**-5.1**
KUDL				AML		AML	18 25 19.9	
	comp=Z,4.0nm,0.1s							
KOLN	**Koldanda**	**13.56**	**126**	*e*P		**P**	**18 24 30.1**	**+0.2**
	comp=Z,3.4nm,0.3s							
GKN	**Gorkha**	**14.11**	**122**	*e*P		**P**	**18 24 37.0**	**+0.2**
	comp=Z,15nm,0.4s							
KKN	**Kakani**	**14.68**	**122**	*e*P		**P**	**18 24 43.4**	**-0.8**
	comp=Z,9.3nm,0.5s							
PKI	**Pulchoki**	**14.91**	**122**	*e*P		**P**	**18 24 47.3**	**+0.2**
GUN	**Gumba**	**15.02**	**120**	*e*P		**P**	**18 24 48.4**	**-0.1**
AB31	**Akbulak array**	**15.27**	**331**	P		**P**	**18 24 51.9**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=136,slow=14,SNR=41							
AB31				↑S		**S**	**18 27 26.2**	**-11**
	comp=Z,1.1nm,0.5s,baz=152,slow=23,SNR=6.3							
JIRN	**Jiri**	**15.39**	**120**	*e*P		**P**	**18 24 53.1**	**-0.1**
	comp=Z,22nm,0.4s							

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*ATH **09** 18:27:42.1,40.43N×23.58E,h21km±10km,MD3.1/3*
*THE **09** 18:27:43.4,40.51N×23.52E,h2km,ML2.6*
*CSEM **09** 18:27:43.1±0.1,40.50N×23.56E,h8km,ML2.6,Error ellipse: s-maj=2.8km s-min=1.2km az=85.0*
ISC 09 18:27:42.5±0.6,40.50N±0.03×23.50E±0.07,h14km±6km, n11,σ0°33/15,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PLG	**Polygyros**	**0.13**	**198**	*e*PB		**Pb**	**18 27 46.3**	**+0.1**
PLG				*e*SB		**Sb**	**18 27 48.5**	**0.0**
SOH	**Sokhos**	**0.34**	**342**	*e*Pg		**Pg**	**18 27 49.7**	**-0.1**
SOH				*e*Sg		**Sg**	**18 27 54.7**	**0.0**
OUR	**Ouranopolis**	**0.40**	**113**	*e*Pg		**Pg**	**18 27 51.4**	**+0.5**
THE	**Thessaloniki**	**0.43**	**289**	*e*Pg		**Pg**	**18 27 51.2**	**-0.2**
PAIG	**Paliouri**	**0.58**	**166**	*e*Pg		**Pg**	**18 27 54.2**	**-0.2**
KNT	**Kendrikon**	**0.81**	**326**	*e*Pg		**Pg**	**18 27 58.6**	**-0.2**
KNT				*e*Sg		**Sg**	**18 28 09.7**	**0.0**
LIT	**Litokhoron**	**0.86**	**243**	*e*Pg		**Pg**	**18 28 00.7**	**+0.7**
NVR	**Nevrokopi**	**0.90**	**18**	*e*PN		**Pn**	**18 28 00.2**	**-0.4**
NVR				*e*SN		**Sn**	**18 28 13.4**	**+0.1**
GRG	**Griva**	**0.95**	**299**	*e*Pg		**Pg**	**18 28 01.9**	**+0.2**
XOR	**Xorichti**	**1.15**	**192**	*e*Pg		**Pg**	**18 28 04.9**	**-0.7**
RDO	**Rodhopi**	**1.68**	**67**	*e*PN		**Pn**	**18 28 11.9**	**+0.2**

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*IDC **09** 18:31:53.3±2.5,43.32N×105.17W,mb1 3.4/3, mb1mx3.2/23,mbtmp3.2/3,ML3.1/2,Error ellipse: s-maj=50.5km s-min=9.4km az=154.0*
*NEIC **09** 18:31:55.7±0.4,43.75N×105.24W,ML3.1,Error ellipse: s-maj=6.0km s-min=4.6km az=134.0,Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 09 18:31:54.1±0.6,43.77N±0.05×105.25W±0.07,n26, σ0°74/27,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RSSD	**Black Hills**	**0.94**	**68**	*e*P		**Pg**	**18 32 13.3**	**+0.4**
PHWY	**Pilot Hill**	**2.47**	**184**	*e*P		**Pn**	**18 32 36.5**	**+0.3**
RWWY	**Rawlins**	**2.53**	**215**	*e*P		**Pn**	**18 32 37.8**	**+0.7**
LAO	**LASA Array**	**3.00**	**347**	*e*P		**Pn**	**18 32 43.8**	**+0.1**
PDAR	**Pinedale Array**	**3.30**	**254**	Pn		**Pn**	**18 32 48.6**	**+0.5**
	1.1nm,0.3s,baz=71,slow=16,SNR=51							
PDAR				Pg		**Pg**	**18 32 52.2**	**-7.8**
	3.4nm,0.3s,baz=69,slow=16,SNR=57							
PDAR				Lg			18 33 35.9	
	8.3nm,0.3s,baz=81,slow=34,SNR=11							
LOHW	**Long Hollow**	**3.89**	**270**	*e*P		**Pn**	**18 32 58.3**	**+1.9**
ISCO	**Idaho Springs**	**3.98**	**184**	*e*P		**Pn**	**18 32 58.7**	**+1.0**
MOOW	**Moose Ponds**	**3.98**	**272**	P		**Pn**	**18 32 57.9**	**+0.2**
SNOW	**Snow King Moun**	**4.01**	**267**	P		**Pn**	**18 32 59.2**	**+1.1**
YFT	**Old Faithful**	**4.08**	**282**	P		**Pn**	**18 32 59.3**	**+0.1**
REDW	**Red Top Meadow**	**4.09**	**266**	*e*P		**Pn**	**18 32 58.7**	**-0.6**
RRI2	**Red Ridge**	**4.43**	**267**	*e*P		**Pn**	**18 33 04.8**	**+0.7**
QLMT	**Earthquake Lak**	**4.56**	**286**	P		**Pn**	**18 33 06.2**	**+0.2**
BOZ	**Bozeman (W)**	**4.92**	**295**	P		**Pn**	**18 33 10.9**	**-0.2**
HWUT	**Hardware Ranch**	**5.13**	**247**	*e*P		**Pn**	**18 33 13.7**	**-0.4**
TCUT	**Toone Canyon**	**5.27**	**242**	*e*P		**Pn**	**18 33 15.2**	**-0.8**
HRY	**Holter Researc**	**5.50**	**305**	*e*P		**Pn**	**18 33 19.4**	**+0.2**
MCMT	**McKenzie Canyo**	**5.56**	**284**	P		**Pn**	**18 33 18.6**	**-1.4**
DAU	**Daniels Canyon**	**5.59**	**235**	P		**Pn**	**18 33 19.6**	**-0.9**
HVU	**Hansel Valley**	**5.89**	**253**	P		**Pn**	**18 33 24.1**	**-0.6**
SRU	**San Rafael**	**6.11**	**222**	*e*P		**Pn**	**18 33 27.3**	**-0.6**
TMUT	**Trail Mountain**	**6.32**	**227**	*e*P		**Pn**	**18 33 30.6**	**-0.2**
DUG	**Dugway**	**6.67**	**240**	P		**Pn**	**18 33 35.6**	**-0.2**
MSU	**Marysvale**	**7.41**	**227**	P		**Pn**	**18 33 45.4**	**-0.7**
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn		**P**	**18 34 08.4**	**-1.3**
	0.7nm,0.3s,baz=230,slow=12,SNR=8.4							
ULM				Pg		P	18 34 41.1	+31
	0.6nm,0.3s,baz=225,slow=17,SNR=5.0							
ULM				Lg			18 36 41.0	
	0.3nm,0.3s,baz=140,slow=21,SNR=3.1							
YKA	**Yellowknife Ar**	**19.54**	**347**	P		**P**	**18 36 26.3**	**+0.6**
	0.1nm,0.3s,baz=160,slow=13,SNR=4.6							

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*IDC **09** 18:40:59.2±4.4,5.53N×93.10E,mb3.7/3,mb1 3.9/4, mb1mx3.5/19,mbtmp3.7/4,ML3.4/1,Error ellipse: s-maj=172.1km s-min=24.5km az=53.0*
*NEIC **09** 18:41:03.9±1.3,5.59N×93.21E,h30km,Error ellipse: s-maj=35.6km s-min=12.0km az=224.0*
ISC 09 18:41:04.8±8.8,5.7N±0.4×93.4E±0.7,h48km±63km,n6, σ0°14/6,mb3.8/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PSI	**Prapat**	**6.20**	**118**	Pn		**P**	**18 42 36.1**	**0.0**
	0.9nm,0.3s,baz=321,slow=17,SNR=3.9							
KULM	**Kulim**	**7.20**	**93**	*e*Pn		**P**	**18 42 50.1**	**0.0**
MKAR	**Makanchi Array**	**42.03**	**349**	P		**P**	**18 48 53.3**	**0.0**
	0.7nm,1.1s,mb3.2,baz=176,slow=9.4,SNR=3.9							
WRA	**Warramunga Arr**	**47.63**	**124**	P		**P**	**18 49 38.7**	**+0.1**
	1.8nm,0.6s,mb4.2,baz=302,slow=9.1,SNR=22							
WB2	**Warramunga Arr**	**47.65**	**123**	*e*P		**P**	**18 49 38.5**	**-0.1**
ZAL	**Zalesovo**	**48.58**	**353**	P		**P**	**18 49 45.4**	**0.0**
	0.5nm,0.5s,mb3.8,baz=123,slow=2.9,SNR=3.5							

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*NEIC **09** 18:42:33.9±1.9,20.35S×178.21W,h531km±25km,mb3.3/2, Error ellipse: s-maj=37.7km s-min=19.8km az=135.0*
*IDC **09** 18:42:33.2±2.4,20.36S×178.24W,h514km±30km,mb2.9/6, mb1 3.3/8,mb1mx3.2/14,mbtmp3.9/8,Error ellipse: s-maj=28.7km s-min=16.2km az=135.0*
ISC 09 18:42:32.4±1.6,20.4S±0.2×178.2W±0.2,h516km±23km, n11,σ0°71/10,mb3.7/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**8.93**	**45**	P		**P**	**18 44 39.9**	**+0.1**
	1.5nm,0.3s,baz=270,slow=16,SNR=3.9							
URZ	**Urewera**	**18.25**	**192**	P		**P**	**18 46 13.6**	**-0.6**
	0.6nm,0.3s,baz=17,slow=19,SNR=4.7							
CTAO	**Charters Tower**	**33.29**	**264**	P		**P**	**18 48 28.4**	**+0.2**
	1.2nm,0.5s,mb3.7							
STKA	**Stephens Creek**	**37.64**	**244**	P		**P**	**18 49 05.1**	**+1.0**
	1.1nm,0.6s,mb3.6,baz=104,slow=15,SNR=3.6							
WRA	**Warramunga Arr**	**44.41**	**262**	P		**P**	**18 49 57.7**	**-0.7**
	0.7nm,0.5s,mb3.4,baz=98,slow=8.3,SNR=15							
VNDA	**Vanda**	**57.99**	**185**	P		**P**	**18 51 36.4**	**-0.2**
	0.5nm,0.7s,mb2.8,baz=359,slow=5.4,SNR=6.4							
VNDA	**Vanda**	**57.99**	**185**	*e*P		**P**	**18 51 37.1**	**+0.5**
	0.3nm,0.5s,mb2.8							
NVAR	**Mina Array Bea**	**81.10**	**43**	P		**P**	**18 53 55.4**	**+0.8**
	0.4nm,0.8s,mb2.9,baz=233,slow=9.0,SNR=3.1							
ILAR	**Eielson Array**	**88.27**	**13**	P		**P**	**18 54 27.6**	**-1.3**
	0.5nm,0.6s,mb3.4,baz=225,slow=5.3,SNR=5.7							
PDAR	**Pinedale Array**	**89.04**	**43**	P		**P**	**18 54 33.2**	**+0.3**
	0.5nm,0.6s,mb3.5,baz=180,slow=4.4,SNR=4.3							
AKASG	**Malin Array Be**	**142.83**	**331**	PKhKP			19 01 03.2	
	1.0nm,0.5s,baz=43,slow=3.8,SNR=6.9							

IDC 09 18:57:11.4±1.9,2.60N×128.16E,mb3.7/3,mb1 3.9/3, mb1mx3.6/15,mbtmp3.7/3,Error ellipse: s-maj=143.5km s-min=24.4km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**23.21**	**165**	P		P	19 02 20.6	-0.6
	0.6nm,0.4s,baz=344,slow=10,SNR=14							
STKA	**Stephens Creek**	**36.59**	**161**	P		P	19 04 18.2	-3.0
	0.9nm,0.4s,baz=342,slow=9.6,SNR=4.1							
MKAR	**Makanchi Array**	**59.29**	**325**	P		P	19 07 15.4	-1.9
	0.3nm,0.4s,baz=116,slow=8.6,SNR=11							

JMA 09 19:02:10.5±0.1,27.63N×141.18E,h194km,M3.6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CBIJ	**Chichi jima**	**1.04**	**121**	P		P	19 02 40.1	0.0
CBIJ				S		S	19 03 02.5	-0.5
JHHJ	**Haha-jima-NKT**	**1.34**	**138**	P		P	19 02 42.3	-0.3
JHHJ				S		S	19 03 06.7	-0.7
JHJ2	**Mitsune**	**5.59**	**348**	P		P	19 03 33.4	+0.3
NJJJ	**Nii jima 2**	**6.94**	**347**	P		P	19 03 50.9	+0.2
JAG	**Ashikaga**	**8.89**	**351**	S		S	19 05 50.0	-4.5
JHO	**Hitachi**	**8.97**	**357**	S		S	19 05 49.4	-6.9

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*NEIC **09** 19:12:49.0±0.9,50.27N×18.75E,h5km,MG2.7(WAR), Error ellipse: s-maj=13.4km s-min=7.3km az=187.0*
*PRU **09** 19:12:49.2,50.26N×18.74E*
WAR 09 19:12:48.2,50.26N×18.86E,ML2.6,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAC	**Raciborz**	**0.46**	**248**	*e*PG		Pg	19 12 58.0	+0.6
RAC				*e*SG		Sg	19 13 05.0	+1.4
OJC	**Ojcow**	**0.60**	**93**	*e*PG		Pg	19 13 00.0	-0.3
OJC				*e*SG		Sg	19 13 08.0	-0.3
OKC	**Ostrava-Krasne**	**0.62**	**228**	*e*PG		Pg	19 12 59.8	-0.8
OKC				*e*SG		Sg	19 13 07.6	-1.3
MORC	**Moravsky Berou**	**0.97**	**241**	*e*Pg		Pg	19 13 05.9	-1.8
MORC				*e*Sg		Sg	19 13 18.9	-1.8
LIKS	**Likavka**	**1.22**	**172**	*e*PN		Pn	19 13 12.7	+0.3
LIKS				*e*SN		Sn	19 13 30.0	+0.2
NIE	**Niedzica**	**1.26**	**131**	*e*PG		Pg	19 13 12.0	-1.3
NIE				*e*SG		Sg	19 13 30.0	-0.1
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG		Pg	19 13 16.7	-4.0
DPC				*e*SG		Sg	19 13 39.1	-3.4
	22nm,0.7s							
KSP	**Ksiaz**	**1.74**	**291**	*e*PG		Pg	19 13 20.0	-2.9
KSP				*e*SG		Sg	19 13 43.0	-3.1
KSP	**Ksiaz**	**1.74**	**291**	*e*Pg		Pg	19 13 20.4	-2.5
KSP				*e*Sg		Sg	19 13 43.3	-2.8
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*PN		Pn	19 13 21.5	+1.4
STHS				*e*SN		Sn	19 13 45.8	+2.3
VYHS	**Vyhne**	**1.76**	**181**	*e*PN		Pn	19 13 20.2	0.0
VYHS				*e*SN

	99nm,0.4s									
LNSS	**Leonessa**	**1.74**	**252**		Pn		**Pn**	**20 05 06.4**	**+1.9**
	272nm,0.7s									
ARV	**Arcevia**	**1.75**	**282**		Pn		**Pn**	**20 05 06.2**	**+1.6**
	51nm,0.5s									
VVLD	**Villa Vallelon**	**1.78**	**224**		Pn		**Pn**	**20 05 05.0**	**0.0**
	504nm,0.7s									
STON	**Ston**	**1.79**	**98**	*i*	Pn		**Pn**	**20 05 04.2**	**-1.0**
STON				*i*	Sn		**Sn**	**20 05 28.1**	**-0.1**
STON	**Ston**	**1.79**	**98**	*i*	Pn		**Pn**	**20 05 04.2**	**-1.0**
STON				*i*	Sn		**Sn**	**20 05 28.0**	**-0.1**
PTQR	**Pietraquaria**	**1.80**	**232**		Pn		**Pn**	**20 05 06.8**	**+1.5**
	31nm,0.3s									
FIAM	**Fiamignano**	**1.83**	**242**		Pn		**Pn**	**20 05 08.0**	**+2.3**
	236nm,0.7s									
VAGA	**Valle Agricola**	**1.91**	**205**		Pn		**Pn**	**20 05 07.5**	**+0.7**
FSSB	**Fossombrone**	**1.91**	**287**		Pn		**Pn**	**20 05 08.3**	**+1.4**
	138nm,0.7s									
PIEI	**Pieia**	**2.05**	**282**		Pn		**Pn**	**20 05 10.3**	**+1.5**
	125nm,1.2s									
MNS	**Montasola**	**2.07**	**249**		Pn		**Pn**	**20 05 11.1**	**+1.9**
	52nm,0.3s									
CERT	**Cerreto**	**2.09**	**236**		Pn		**Pn**	**20 05 10.8**	**+1.4**
	162nm,0.8s									
CDT	**Castel del Mon**	**2.19**	**160**	*e*	Pn		**Pn**	**20 05 09.1**	**-1.9**
BADI	**Badiali**	**2.25**	**280**		Pn		**Pn**	**20 05 14.3**	**+2.5**
	241µm,28.0s									
BOJS	**Bojanci**	**2.35**	**359**	*i*	Pn		**Pn**	**20 05 15.1**	**+1.9**
BOJS					eSn		**Sn**	**20 05 47.2**	**+4.8**
	comp=Z,218nm,0.5s									
BOJS	**Bojanci**	**2.35**	**359**	*i*	Pn		**Pn**	**20 05 15.1**	**+1.9**
BOJS					eSn		**Sn**	**20 05 47.2**	**+4.8**
	comp=Z,218nm,0.5s									
BAI	**Bari**	**2.36**	**149**	*e*	Pn		**Pn**	**20 05 11.6**	**-1.8**
BRY	**Bratogost**	**2.40**	**95**	⇓*i*	Pn		**Pn**	**20 05 14.5**	**+0.6**
BRY					eSn		**Sn**	**20 05 44.8**	**+1.2**
HCY	**Herceg Novi**	**2.46**	**106**	*e*	Pn		**Pn**	**20 05 15.1**	**+0.2**
HCY					eSn		**Sn**	**20 05 44.5**	**-0.8**
SG1	**Sgolgore (BA)**	**2.53**	**155**	*e*	Pn		**Pn**	**20 05 13.8**	**-2.0**
UPM	**Unac-Piva**	**2.65**	**88**	⇓*i*	Pn		**Pn**	**20 05 19.7**	**+2.2**
UPM					eSn		**Sn**	**20 05 52.3**	**+2.4**
CEY	**Cerknica**	**2.66**	**347**	*i*	Pn		**Pn**	**20 05 19.1**	**+1.5**
NKY	**Niksic**	**2.74**	**96**	⇑*i*	Pn		**Pn**	**20 05 19.3**	**+0.5**
NKY					eSn		**Sn**	**20 05 52.7**	**+0.4**
BUM	**Brajici-Budva**	**2.79**	**107**	⇓*i*	Pn		**Pn**	**20 05 19.7**	**+0.2**
BUM					eSn		**Sn**	**20 05 52.3**	**-1.3**
PE1	**Pezze di Greco**	**2.83**	**145**	*e*	Pn		**Pn**	**20 05 17.8**	**-2.3**
LJU	**Ljubljana**	**2.94**	**350**	*e*	Pn		**Pn**	**20 05 23.2**	**+1.6**
LJU					eSn		**Sn**	**20 06 00.0**	**+2.6**
PLE	**Pljevlja**	**3.00**	**85**	⇑*i*	Pn		**Pn**	**20 05 24.1**	**+1.6**
PLE					eSn		**Sn**	**20 06 01.2**	**+2.3**
TTG	**Podgorica**	**3.01**	**103**	⇓*i*	Pn		**Pn**	**20 05 22.5**	**-0.1**
TTG					eSn		**Sn**	**20 05 58.0**	**-1.1**
VOY	**Vojsko**	**3.05**	**341**	⇑*e*	Pn		**Pn**	**20 05 24.3**	**+1.2**
VOY				*e*	(Sn)		**Sn**	**20 06 01.9**	**+1.9**
VOY				*e*				20 06 12.5	
BBLS	**Bajina Basta -**	**3.08**	**75**	*e*	Pn		**Pn**	**20 05 27.4**	**+3.8**
BBLS					Sn		**Sn**	**20 06 05.4**	**+4.5**
ULC	**Ulcinj**	**3.16**	**111**	*e*	Pn		**Pn**	**20 05 23.2**	**-1.5**
ULC					eSn		**Sn**	**20 06 00.2**	**-2.6**
GORS	**Gorjuse**	**3.29**	**344**	*i*	Pn		**Pn**	**20 05 27.6**	**+0.9**
KOGS	**Kog**	**3.37**	**11**	*e*	Pn		**Pn**	**20 05 27.5**	**-0.1**
IVA	**Berane**	**3.39**	**93**	⇓*i*	Pn		**Pn**	**20 05 29.4**	**+1.4**
IVA					eSn		**Sn**	**20 06 08.4**	**-0.3**
OBKA	**Obir**	**3.40**	**351**	⇑*i*	Pn		**Pn**	**20 05 29.4**	**+1.3**
OBKA					Sn		**Sn**	**20 06 09.7**	**+0.8**
OBKA	**Obir**	**3.40**	**351**		Pn		**Pn**	**20 05 29.5**	**+1.4**
	comp=Z,21nm,5.0s									
OBKA					Sn		**Sn**	**20 06 09.7**	**+0.8**
PVY	**Plav**	**3.49**	**98**	⇑*i*	Pn		**Pn**	**20 05 30.3**	**+1.0**
PVY					eSn		**Sn**	**20 06 10.2**	**-1.0**
DIVS	**Divcibare**	**3.54**	**73**	⇓*i*	Pn		**Pn**	**20 05 31.1**	**+0.9**
RHK1	**Bakonya**	**3.55**	**33**	⇓*e*	P		**Pn**	**20 05 31.1**	**+0.8**
RHK1					eS		**Sn**	**20 06 11.2**	**-1.5**
	comp=Z,5.9nm,0.2s									
PKSM	**Moragy**	**3.88**	**37**	⇓*i*	P		**Pn**	**20 05 35.5**	**+0.5**
GRUS	**Gruza**	**4.01**	**78**	*e*	Pn		**Pn**	**20 05 40.0**	**+3.1**
ARSA	**Arzberg**	**4.10**	**2**	⇓*i*	Pn		**Pn**	**20 05 37.9**	**-0.2**
ARSA	**Arzberg**	**4.10**	**2**	⇑*i*	Sn		**Sn**	**20 06 26.3**	**-0.4**
ARSA	**Arzberg**	**4.10**	**2**	⇓⇓	Pn		**Pn**	**20 05 37.9**	**-0.2**
ARSA					Sn		**Sn**	**20 06 26.3**	**-0.4**
ARSA	**Arzberg**	**4.10**	**2**		Pn		**Pn**	**20 05 37.9**	**-0.2**
ARSA					Sn		**Sn**	**20 06 26.3**	**-0.4**
KBA	**Koelnbreinsper**	**4.16**	**341**	⇑*i*	Pn		**Pn**	**20 05 39.5**	**+0.6**
KBA					Sn		**Sn**	**20 06 28.8**	**+0.6**
KBA	**Koelnbreinsper**	**4.16**	**341**		Pn		**Pn**	**20 05 39.5**	**+0.6**
	comp=Z,10.0nm,6.0s									
KBA					Sn		**Sn**	**20 06 28.8**	**+0.6**
SCE	**Schlegeis**	**4.64**	**328**	⇑*i*	Pn		**Pn**	**20 05 46.4**	**+0.7**
MOA	**Molln**	**4.75**	**352**	⇑*i*	Pn		**Pn**	**20 05 48.1**	**+0.7**
	SNR=51									
MOA	**Molln**	**4.75**	**352**	⇓*i*	Sn		**Sn**	**20 06 43.4**	**+0.2**
MOA	**Molln**	**4.75**	**352**	⇑*i*	Pn		**Pn**	**20 05 48.1**	**+0.7**
MOA					Sn		**Sn**	**20 06 43.4**	**+0.2**
MOA	**Molln**	**4.75**	**352**		Pn		**Pn**	**20 05 48.1**	**+0.8**
MOA					Sn		**Sn**	**20 06 43.4**	**+0.2**
WTTA	**Wattenberg**	**4.85**	**329**	⇑*e*	Pn		**Pn**	**20 05 49.0**	**+0.2**
WTTA	**Wattenberg**	**4.85**	**329**	⇓*i*	Sn		**Sn**	**20 06 45.4**	**-0.4**
WTTA	**Wattenberg**	**4.85**	**329**	⇑*e*	Pn		**Pn**	**20 05 49.0**	**+0.2**
WTTA					Sn		**Sn**	**20 06 45.4**	**-0.4**
WTTA	**Wattenberg**	**4.85**	**329**		Pn		**Pn**	**20 05 49.0**	**+0.2**
WTTA					Sn		**Sn**	**20 06 45.4**	**-0.4**
WATA	**Walderalm**	**4.94**	**329**	⇓*i*	Pn		**Pn**	**20 05 50.8**	**+0.8**
WATA	**Walderalm**	**4.94**	**329**	⇑*i*	Sn		**Sn**	**20 06 48.2**	**+0.4**
WATA	**Walderalm**	**4.94**	**329**	⇓⇓	Pn		**Pn**	**20 05 50.8**	**+0.8**
WATA					Sn		**Sn**	**20 06 48.2**	**+0.4**
WATA	**Walderalm**	**4.94**	**329**		Pn		**Pn**	**20 05 50.8**	**+0.8**
WATA					Sn		**Sn**	**20 06 48.2**	**+0.4**
SQTA	**Sankt Quirin**	**4.99**	**326**	⇑*i*	Pn		**Pn**	**20 05 51.8**	**+1.2**
	SNR=12									
SQTA	**Sankt Quirin**	**4.99**	**326**	⇓*i*	Sn		**Sn**	**20 06 49.7**	**+0.6**
SQTA	**Sankt Quirin**	**4.99**	**326**	⇑*i*	Pn		**Pn**	**20 05 51.8**	**+1.1**
SQTA					Sn		**Sn**	**20 06 49.7**	**+0.6**
SQTA	**Sankt Quirin**	**4.99**	**326**		Pn		**Pn**	**20 05 51.8**	**+1.1**
	comp=Z,11nm,7.0s									
MOTA	**Moosalm**	**5.13**	**326**	⇑*i*	Pn		**Pn**	**20 05 53.7**	**+1.0**
MOTA	**Moosalm**	**5.13**	**326**	⇓*i*	Sn		**Sn**	**20 06 52.5**	**-0.2**
MOTA	**Moosalm**	**5.13**	**326**	⇑⇑	Pn		**Pn**	**20 05 53.7**	**+1.0**
MOTA					Sn		**Sn**	**20 06 52.5**	**-0.2**
MOTA	**Moosalm**	**5.13**	**326**		Pn		**Pn**	**20 05 53.7**	**+1.0**
MOTA					Sn		**Sn**	**20 06 52.5**	**-0.2**
ZST	**Bratislava**	**5.20**	**13**	*e*	PN		**Pn**	**20 05 52.2**	**-1.5**
ZST					eSN		**Sn**	**20 06 56.0**	**+1.5**
DAVOX	**Davos**	**5.28**	**315**		Pn		**Pn**	**20 05 56.1**	**+1.3**
	comp=Z,2.3nm,0.3s,baz=139,slow=14,SNR=21									
DAVOX					Sn		**Sn**	**20 06 57.5**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=349,slow=21,SNR=3.9									
SBF	**Sospel**	**5.76**	**280**	*e*	Pn		**Pn**	**20 05 59.2**	**-2.3**
SBF					eSn		**Sn**	**20 07 01.4**	**-7.0**
	comp=Z,13nm,0.4s									
GEC2	**GERESS Array S**	**5.80**	**350**	*e*	Pn		**Pn**	**20 06 01.5**	**-0.6**
GEC2					eSn		**Sn**	**20 07 04.9**	**-4.6**
GERES	**GERESS Array B**	**5.80**	**350**		Pn		**Pn**	**20 06 01.6**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=168,slow=13,SNR=90									
GERES					Sn		**Sn**	**20 07 05.9**	**-3.6**
	comp=Z,4.1nm,0.3s,baz=164,slow=24,SNR=15									
VYHS	**Vyhne**	**5.89**	**24**	*e*	Pn		**Pn**	**20 06 03.4**	**0.0**
VYHS				*e*				20 06 05.5	
VYHS					eSn		**Sn**	**20 07 08.1**	**-3.6**
KHC	**Kasperske Hory**	**6.10**	**349**	*e*	PN		**Pn**	**20 06 05.0**	**-1.3**
KHC					x		x	20 06 10.5	
KHC					eSN		**Sn**	**20 07 14.0**	**-2.9**
KHC					x		x	20 07 22.5	
KHC	**Kasperske Hory**	**6.10**	**349**	*e*	Pn		**Pn**	**20 06 05.0**	**-1.3**
KHC				*e*				20 06 10.5	
KHC					eSn		**Sn**	**20 07 14.0**	**-2.9**
KHC				*e*				20 07 22.5	
KHC	**Kasperske Hory**	**6.10**	**349**		ePn		**Pn**	**20 06 05.0**	**-1.3**
KHC					eSn		**Sn**	**20 07 14.0**	**-2.9**
VRAC	**Vranov**	**6.22**	**8**		Pn		**Pn**	**20 06 07.6**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=202,slow=16,SNR=5.6									
VRAC					Sn		**Sn**	**20 07 16.1**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=118,slow=21,SNR=2.0									
WET	**Wettzell**	**6.22**	**345**	*e*	Pn		**Pn**	**20 06 06.9**	**-1.2**
WET					eSn		**Sn**	**20 07 15.8**	**-4.3**
FRF	**La Foret Royal**	**6.32**	**277**	*e*	Pn		**Pn**	**20 06 08.6**	**-0.8**
FRF					eSn		**Sn**	**20 07 14.6**	**-7.8**
	comp=Z,15nm,0.6s									
MBDF	**Montbardon**	**6.35**	**287**	*e*	Pn		**Pn**	**20 06 07.8**	**-2.1**
MBDF					eSn		**Sn**	**20 07 16.0**	**-7.2**
	comp=Z,13nm,0.6s									
LMR	**La Mourre**	**6.42**	**275**	*e*	Pn		**Pn**	**20 06 08.0**	**-2.8**
LMR					eSn		**Sn**	**20 07 17.7**	**-7.2**
	comp=Z,1.8nm,0.2s									
KECS	**Kecovo**	**6.45**	**32**	*e*	PN		**Pn**	**20 06 13.4**	**+2.1**
KECS					eSN		**Sn**	**20 07 21.2**	**-4.5**
BNI	**Bardonecchia**	**6.49**	**290**	*e*	Pn		**Pn**	**20 06 09.6**	**-2.2**
MORC	**Moravsky Berou**	**6.80**	**12**	*e*	Pn		**Pn**	**20 06 15.9**	**-0.4**
	comp=Z,2.9nm,0.6s									
MORC					eSn		**Sn**	**20 07 31.3**	**-3.4**
PRU	**Pruhonice**	**6.86**	**356**	*e*	PN		**Pn**	**20 06 15.7**	**-1.3**
ORIF	**Oris-en-Rattie**	**7.01**	**288**	*e*	Pn		**Pn**	**20 06 17.8**	**-1.4**
ORIF					eSn		**Sn**	**20 07 31.1**	**-8.6**
	comp=Z,12nm,0.5s									
BFO	**Black Forest**	**7.11**	**319**	*e*	Pn		**Pn**	**20 06 20.4**	**-0.1**
BFO					eSn		**Sn**	**20 07 35.4**	**-6.8**
SMRF	**Simiane la Rot**	**7.11**	**280**	*e*	Pn		**Pn**	**20 06 18.0**	**-2.5**
CABF	**La Chapelle**	**7.39**	**301**	*e*	Pn		**Pn**	**20 06 22.8**	**-1.8**
CABF					eSn		**Sn**	**20 07 40.9**	**-8.5**
STHS	**Stebnicka Huta**	**7.50**	**31**	*e*	PN		**Pn**	**20 06 27.8**	**+1.8**
STHS					eSN		**Sn**	**20 07 51.9**	**-0.1**
HINF	**Hinteralfeld**	**7.54**	**311**	*e*	Pn		**Pn**	**20 06 25.6**	**-1.0**
HINF					eSn		**Sn**	**20 07 44.4**	**-8.7**
	comp=Z,14nm,0.5s									
CDF	**Champ du Feu**	**7.68**	**316**	*e*	Pn		**Pn**	**20 06 25.8**	**-2.8**
BRG	**Berggiesshubel**	**7.78**	**354**	*e*	P		**Pn**	**20 06 27.6**	**-2.4**
	comp=Z,10nm,1.1s									
BRG				*e*				20 07 55.5	
BRG					Sg		**Sg**	**20 08 44.5**	**-8.3**
VIVF	**Saint-Julien-l**	**7.84**	**286**	*e*	Pn		**Pn**	**20 06 27.7**	**-3.1**
MOX	**Moxa**	**7.90**	**343**	*i*	P		**Pn**	**20 06 29.5**	**-2.2**
MOX					S		**Sn**	**20 07 55.0**	**-7.1**
MOX	**Moxa**	**7.90**	**343**	*e*	Pn		**Pn**	**20 06 29.5**	**-2.2**
MOX					eSn		**Sn**	**20 07 55.6**	**-6.5**
HAU	**Haudompre**	**7.93**	**311**	*e*	Pn		**Pn**	**20 06 29.6**	**-2.4**
HAU					eSn		**Sn**	**20 07 54.3**	**-8.4**
	comp=Z,41nm,0.5s									
CLL	**Collm**	**8.30**	**350**	*e*	PN		**P**	**20 06 37.0**	**-0.3**
CLL				*i*	SG		**Sg**	**20 09 01.4**	**-9.0**
LASF	**Ste Croix**	**8.35**	**280**	*e*	Pn		**P**	**20 06 34.3**	**-3.6**
SMF	**Signal de Mont**	**8.84**	**297**	*e*	Pn		**P**	**20 06 40.9**	**-3.9**
SMF					eSn		**Sn**	**20 08 15.8**	**-10**
	comp=Z,15nm,0.5s									
LOR	**Lormes**	**9.06**	**301**	*e*	Pn		**P**	**20 06 45.3**	**-2.4**
LOR					eSn		**Sn**	**20 08 20.9**	**-10**
	comp=Z,12nm,0.4s									
SSF	**Saint Saulge**	**9.20**	**299**	*e*	Pn		**P**	**20 06 46.0**	**-3.7**
SSF					eSn		**Sn**	**20 08 23.5**	**-11**
	comp=Z,3.2nm,0.5s									
AVF	**Avril sur Loir**	**9.21**	**297**	*e*	Pn		**P**	**20 06 46.0**	**-3.8**
BGF	**Bois d'Agland**	**9.47**	**295**	*e*	Pn		**P**	**20 06 50.8**	**-2.6**
BGF					eSn		**Sn**		
	comp=Z,16nm,0.7s									
TCF	**Toulx Ste Croi**	**9.82**	**293**	*e*	Sn		**Sn**	**20 08 38.6**	**-11**
	comp=Z,3.8nm,0.4s									
IDI	**Anoyia**	**10.82**	**133**		Pn		**P**	**20 07 09.5**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=301,slow=18,SNR=2.2									
IDI					Sn		**S**	**20 09 05.7**	**-8.3**
	comp=Z,0.2nm,0.3s,baz=103,slow=23,SNR=4.3									
NOA	**NORSAR Array B**	**18.08**	**354**		P		**P**	**20 08 45.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=3.0									
NOA	**NORSAR Array B**	**18.08**	**354**		P		**P**	**20 08 45.5**	**-1.2**
FINES	**FINESS Array B**	**19.42**	**16**		P		**P**	**20 08 59.9**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=198,slow=9.0,SNR=10									
MKAR	**Makanchi Array**	**46.24**	**61**		P		**P**	**20 12 58.0**	**-2.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=290,slow=7.9,SNR=5.1									

*IGIL **09** 20:05:50.0,36.61N×9.71W,h0km,ML1.9*
*NEIC **09** 20:05:50.8,36.79N×9.60W,MN2.5(MDD),After MDD.*
*INMG **09** 20:05:52.1±1.0,36.72N×9.66W,h12km±4km,ML2.0,Error ellipse: s-maj=5.3km s-min=3.0km az=48.0*

MDD 09 20:05:50.1±1.6,36.74N×9.68W,mbLg2.4/6,1C-2D, Error ellipse: s-maj=12.9km s-min=10.3km az=31.0, PRXIMO,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.00**	**55**	*e*P	Pb	20 06 10.3	+0.3
MORF				*e*S	Sg	20 06 23.3	-0.1
MORF				*e*S	Sg	20 06 23.3	-0.1
MORF				AML	AML	20 06 24.0	
	comp=N,21nm,0.1s						
PTEO	**Sao Teotonio**	**1.11**	**43**	*e*P	Pb	20 06 11.7	-0.2
PTEO				*e*S	Sb	20 06 26.7	-0.1
	comp=N,7.6nm,0.1s						
PTEO	**Sao Teotonio**	**1.11**	**43**	P	Pb	20 06 11.7	-0.2
PTEO				S	Sb	20 06 26.7	-0.1
	comp=N,3.8nm,0.1s						
EGRO	**El Granado**	**1.93**	**65**	P	Pn	20 06 22.9	-1.6
	comp=N,0.4nm,0.1s,SNR=6.8						
EGRO				S	Sn	20 06 46.3	-3.5
	comp=N,4.0nm,0.1s,SNR=11						
PBEJ	**Beja**	**1.94**	**48**	*e*Pn	Pn	20 06 22.8	-1.8
PBEJ				*e*Sn	Sn	20 06 46.0	-4.0
	comp=N,3.2nm,0.2s						
PBEJ	**Beja**	**1.94**	**48**	Pn	Pn	20 06 22.8	-1.8
PBEJ				Sn	Sn	20 06 46.0	-4.0
	comp=N,1.6nm,0.2s						
MOE	**Montemor**	**2.07**	**30**	*e*Sn	Sn	20 06 50.4	-3.0
PLOU	**Loures**	**2.19**	**11**	*e*Pn	Pn	20 06 26.7	-1.5
PLOU				*e*Sn	Sn	20 06 52.3	-4.0
	comp=N,16nm,0.1s						
PLOU	**Loures**	**2.19**	**11**	Pn	Pn	20 06 26.7	-1.5
PLOU				Sn	Sn	20 06 52.3	-4.0
	comp=N,7.9nm,0.1s						
EMIN	**Mina Concepcio**	**2.61**	**66**	P	Pn	20 06 31.8	-2.5
	comp=N,0.6nm,0.1s,SNR=16						
EMIN				S	Sn	20 07 01.8	-5.4
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.92**	**46**	⇑P	Pn	20 06 35.9	-2.7
	comp=N,1.5nm,0.1s,SNR=18						
EBAD				S	Sn	20 07 09.8	-5.2
	comp=N,3.1nm,0.1s,SNR=6.3						
PTOM	**Tomar**	**3.04**	**19**	*e*Pn	Pn	20 06 38.8	-1.7
PTOM				*e*Sn	Sn	20 07 12.6	-5.6
	comp=N,6.3nm,0.1s						
PTOM	**Tomar**	**3.04**	**19**	Pn	Pn	20 06 38.8	-1.7
PTOM				Sn	Sn	20 07 12.6	-5.6
	comp=N,3.2nm,0.1s						
ESPR	**Espera**	**3.07**	**86**	S	Sn	20 07 13.1	-5.7
	comp=N,37nm,0.2s,SNR=10						
PCBR	**Castelo Branco**	**3.55**	**29**	*e*Pn	Pn	20 06 45.4	-2.2
PCBR				*e*Sn	Sn	20 07 25.0	-5.9
EMIJ	**Mijas**	**3.95**	**91**	S	Sn	20 07 34.8	-6.3
	comp=N,0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.30**	**69**	P	Pn	20 06 54.9	-3.5
	comp=N,0.4nm,0.1s,SNR=6.3						
EADA				S	Sn	20 07 42.3	-7.8
	comp=N,1.0nm,0.2s,SNR=4.6						
PVRL	**Vila Real**	**4.78**	**18**	*e*Sn	Sn	20 07 54.4	-7.7
EBAN	**Banos Encina**	**4.90**	**71**	S	Sn	20 07 57.0	-8.2
	comp=N,0.7nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.13**	**14**	*e*Sn	Sn	20 08 02.5	-8.4
ELOB	**Lobios**	**5.28**	**13**	P	Pn	20 07 08.7	-3.4
	comp=N,0.4nm,0.2s,SNR=4.0						
ELOB				S	Sn	20 08 04.6	-10
	comp=N,1.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.37**	**55**	⇓P	Pn	20 07 10.0	-3.5
	comp=N,0.6nm,0.1s,baz=240,slow=13,SNR=4.0						
ESDC				S	Sn	20 08 09.9	-7.1
	comp=N,0.4nm,0.1s,baz=241,slow=24,SNR=9.1						
ESDC	**Sonseca Array**	**5.37**	**55**	⇓P	Pn	20 07 10.0	-3.5
ESDC				S	Sn	20 08 09.8	-7.2
EQES	**Quesada**	**5.38**	**77**	S	Sn	20 08 09.3	-7.8
	comp=N,0.6nm,0.2s,SNR=7.7						
ECAL	**Calabor**	**5.67**	**23**	P	Pn	20 07 14.7	-3.0
	comp=N,0.5nm,0.2s,SNR=7.9						
ECAL				S	Sn	20 08 17.1	-7.5
	SNR=7.9						

SKHL 09 20:44:04.5±0.1,54.27N×124.33E,h7km±1km,mb3.7/6, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**1.56**	**83**	*i* Pg	Pg	20 44 32.6	-3.0
KROS				AMB	AMB	20 44 33.4	
	16nm,0.2s						
KROS				AMB	AMB	20 44 33.4	
	25nm,0.2s						
KROS				AMB	AMB	20 44 33.4	
	24nm,0.2s						
KROS				*i* Sg	Sg	20 44 52.9	-3.4
KROS				A		20 44 54.5	
	48nm,0.2s						
KROS				A		20 44 54.5	
	160nm,0.2s						
KROS				A		20 44 54.5	
	32nm,0.2s						
ZEA	**Zeya**	**1.80**	**106**	*e*Pg	Pg	20 44 37.0	-3.5
ZEA				AMB	AMB	20 44 37.6	
	11nm,0.2s						
ZEA				pPg		20 44 39.2	
ZEA				*e*Sg	Sg	20 45 00.5	-4.1
ZEA				A		20 45 01.6	
	60nm,0.7s						
ZEA				A		20 45 01.6	
	100nm,0.7s						
ZEA				A		20 45 01.6	
	50nm,0.7s						
YASR	**Yasnyy**	**2.38**	**113**	*e*Pn	Pn	20 44 43.6	-0.9
YASR				*e*Pg	Pg	20 44 46.7	-5.3
YASR				AMB	AMB	20 44 48.8	
	8.0nm,0.4s						
YASR				*e*Sg	Sg	20 45 17.4	-6.3
YASR				A		20 45 21.2	
	30nm,0.6s						
TUP	**Tupik**	**2.57**	**275**	*e*Pn	Pn	20 44 46.4	-0.8
TUP				*e*Pg	Pg	20 44 50.7	-5.0
TUP				AMB	AMB	20 44 56.0	
	13nm,0.2s						
TUP				*e*Sn	Sn	20 45 18.1	-0.9
TUP				*e*Sg	Sg	20 45 24.0	-6.0
TUP				A		20 45 27.3	
	78nm,0.4s						
BMKR	**Bomnak**	**2.67**	**79**	*e*Pg	Pg	20 44 51.7	-6.1
BMKR				AMB	AMB	20 44 53.0	
	7.0nm,0.5s						
BMKR				pPg		20 44 54.3	
BMKR				*e*Sg	Sg	20 45 26.7	-6.7
BMKR				A		20 45 28.5	
	20nm,0.4s						
BMKR				A		20 45 28.5	
	27nm,0.4s						
CRS	**Chara**	**4.33**	**310**	*e*Pn	Pn	20 45 11.5	-0.8
CRS				AMB	AMB	20 45 12.5	
	2.0nm,0.1s						
CRS				*e*Sg	Sg	20 46 19.1	-10
CRS				A		20 46 21.7	
	10.0nm,0.8s						
EKMR	**Ekimchan**	**5.26**	**100**	*e*rx	rx	20 45 32.0	
EKMR				*e*Sg	Sg	20 46 48.0	-12
EKMR				A		20 46 57.2	
	4.0nm,0.5s						

*MEX **09** 20:45:02.7±1.0,17.19N×94.82W,h128km±7km,MD4.7*
*IDC **09** 20:45:02.4±0.5,17.29N×94.48W,h135km±3km,mb4.1/23, mb1 4.3/25,mb1mx4.2/28,mbtmp4.5/25,MS3.8/1, Ms1 3.7/1,ms1mx2.9/23,Error ellipse: s-maj=18.3km s-min=7.9km az=54.0*
*NEIC **09** 20:45:03.5,17.26N×94.77W,h122km,mb4.5/50, MD4.7(MEX),After MEX.*

ISC 09 20:45:00.3±0.2,17.18N±0.03×94.75W±0.02,h131km±2km, h133km±.8km:pP-P,n169,σ1§19/179,mb4.3/54,3C-4D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.16**	**236**	*i* P	P	**20 45 18.7**	**+0.5**
CMIG				*i* S	S	**20 45 31.2**	**-0.7**
**T

BNM	**Barren Site**	**19.98**	**330**	*e*P		**P**	**20 49 25.6**	**+1.2**
LPM	**Los Pinos Moun**	**20.11**	**330**	*e*P		**P**	**20 49 26.9**	**+1.2**
LENM	**Lemitar**	**20.16**	**329**	*e*P		**P**	**20 49 27.5**	**+1.3**
CPCT	**Cooper Cave**	**20.35**	**25**	*e*P		**P**	**20 49 25.7**	**-2.4**
LAZ	**Ladron**	**20.43**	**329**	*e*P		**P**	**20 49 29.9**	**+1.0**
ANMO	**Albuquerque**	**20.56**	**332**	P		**P**	**20 49 31.2**	**+1.0**
	comp=E,6.6nm,0.7s,baz=146,slow=12,SNR=9.9							
ANMO				pP			20 49 56.2	
	comp=E,7.4nm,0.7s,baz=152,slow=9.1,SNR=5.6							
ANMO	**Albuquerque**	**20.56**	**332**	*e*P		**P**	**20 49 30.9**	**+0.6**
	comp=E,6.4nm,0.7s							
ANMO				*e*pP			20 49 55.9	
NHSC	**New Hope**	**20.59**	**37**	P		**P**	**20 49 28.5**	**-2.0**
TUC	**Tucson**	**20.91**	**319**	*e*P		**P**	**20 49 35.0**	**+1.2**
	comp=E,22nm,1.2s							
TZTN	**Tazewell**	**21.69**	**25**	*e*P		**P**	**20 49 40.0**	**-1.5**
KSU1	**Kansas State U**	**21.90**	**356**	*e*P		**P**	**20 49 43.3**	**-0.2**
WCI	**Wyandotte Cave**	**22.24**	**18**	*e*P		**P**	**20 49 45.5**	**-1.4**
	comp=E,39nm,0.8s,mb4.9							
WCI				*e*pP			20 50 06.8	
SDCO	**Great Sand Dun**	**22.57**	**337**	*e*P		**P**	**20 49 52.4**	**+2.4**
	comp=E,4.8nm,0.6s,mb4.1							
SDCO				*e*pP			20 50 17.2	
OTAV	**Otavalo**	**23.26**	**135**	*e*P		**P**	**20 49 59.6**	**+2.6**
	comp=E,6.2nm,0.7s,mb4.2							
WUAZ	**Wupatki**	**23.51**	**324**	*e*P		**P**	**20 50 01.2**	**+2.1**
	comp=E,47nm,0.9s,mb5.0							
PV01	**Paradox Valley**	**24.14**	**333**	*e*P		**P**	**20 50 06.8**	**+1.6**
ISCO	**Idaho Springs**	**24.44**	**339**	*e*P		**P**	**20 50 09.1**	**+1.1**
	comp=E,10nm,0.8s,mb4.4							
ISCO				*e*pP			20 50 37.0	
PV10	**Paradox Valley**	**24.55**	**332**	*e*P		**P**	**20 50 09.8**	**+0.7**
SDV	**Santo Domingo**	**24.88**	**106**	P		**P**	**20 50 10.4**	**-2.0**
	comp=E,8.4nm,0.7s,mb4.4,baz=306,slow=5.8,SNR=9.3							
SDV				pP			20 50 40.1	
	comp=E,13nm,0.8s,baz=314,slow=7.4,SNR=3.9							
SDV	**Santo Domingo**	**24.88**	**106**	*e*P		**P**	**20 50 11.3**	**-1.2**
	comp=E,36nm,0.9s,mb4.9							
NEN	**Nelson**	**25.64**	**320**	*e*P		**P**	**20 50 20.1**	**+0.7**
MSU	**Marysvale**	**26.16**	**328**	*e*P		**P**	**20 50 25.3**	**+1.1**
MSU				*e*pP		pP	20 50 54.6	+2.9
ARUT	**Antelope Range**	**26.29**	**325**	*e*P		**P**	**20 50 27.1**	**+1.8**
TPNV	**Topopah Spring**	**27.35**	**320**	*e*P		**P**	**20 50 36.3**	**+1.2**
	comp=E,5.2nm,0.9s,mb4.2							
TPNV				*e*pP		pP	20 51 03.7	+0.9
DUG	**Dugway**	**27.77**	**329**	*e*P		**P**	**20 50 39.7**	**+0.9**
	comp=E,1.7nm,0.7s,mb3.9							
TCUT	**Toone Canyon**	**27.84**	**332**	*e*P		**P**	**20 50 40.1**	**+0.7**
HWUT	**Hardware Ranch**	**28.31**	**333**	*e*P		**P**	**20 50 43.4**	**-0.2**
	comp=E,3.1nm,0.8s,mb4.1							
BGU	**Big Grassy Mou**	**28.43**	**330**	*e*P		**P**	**20 50 44.4**	**-0.4**
BW06	**Boulder Array**	**28.46**	**337**	*e*P		**P**	**20 50 45.0**	**+0.1**
	comp=E,1.4nm,0.5s,mb4.0							
BW06				*e*pP		pP	20 51 14.5	+1.6
PDAR	**Pinedale Array**	**28.46**	**337**	P		**P**	**20 50 44.8**	**-0.2**
	comp=E,1.0nm,0.6s,mb3.7,baz=141,slow=7.9,SNR=11							
PDAR				pP		pP	20 51 13.4	+0.5
	comp=E,2.2nm,0.8s,baz=147,slow=9.2,SNR=6.5							
HVU	**Hansel Valley**	**28.99**	**331**	*e*P		**P**	**20 50 50.0**	**+0.4**
	comp=E,8.8nm,0.8s,mb4.5							
ELK	**Elko**	**29.40**	**327**	P		**P**	**20 50 54.2**	**+0.9**
	comp=E,5.7nm,0.7s,mb4.4,baz=131,slow=8.1,SNR=29							
ELK				pP		pP	20 51 23.2	+1.7
	comp=E,1.3nm,0.8s,baz=114,slow=10.0,SNR=1.7							
ELK				PcP		PcP	20 53 54.8	-1.4
	comp=E,2.6nm,0.8s,baz=204,slow=2.0,SNR=5.3							
ELK	**Elko**	**29.40**	**327**	*e*P		**P**	**20 50 53.9**	**+0.5**
	comp=E,6.7nm,0.8s,mb4.4							
MNV	**Mina**	**29.46**	**321**	*e*P		**P**	**20 50 54.9**	**+1.0**
	comp=E,5.6nm,0.8s,mb4.3							
MNV				*e*pP		pP	20 51 22.9	+0.8
REDW	**Red Top Meadow**	**29.46**	**336**	*e*P		**P**	**20 50 53.9**	**0.0**
	comp=E,16nm,0.8s,mb4.8							
REDW				*e*pP		pP	20 52 22.1	0.0
SNOW	**Snow King Moun**	**29.51**	**336**	*e*P		**P**	**20 50 54.9**	**+0.6**
	comp=E,18nm,0.8s,mb4.8							
SNOW				*e*pP		pP	20 51 23.2	+0.7
NVAR	**Mina Array Bea**	**29.55**	**320**	P		**P**	**20 50 56.4**	**+1.7**
	comp=E,10nm,0.8s,mb4.6,baz=132,slow=9.9,SNR=81							
NVAR				pP		pP	20 51 25.1	+2.2
	comp=E,4.4nm,0.6s,baz=136,slow=10.0,SNR=7.5							
NVAR				PcP		PcP	20 53 56.6	0.0
	comp=E,1.5nm,0.7s,baz=133,slow=3.7,SNR=5.9							
LOHW	**Long Hollow**	**29.58**	**336**	*e*P		**P**	**20 50 54.6**	**-0.3**
	comp=E,4.0nm,0.8s,mb4.2							
LOHW				*e*pP		pP	20 51 23.5	+0.4
RRI2	**Red Ridge**	**29.64**	**335**	*e*P		**P**	**20 50 55.7**	**+0.3**
	comp=E,10nm,0.8s,mb4.6							
MOOW	**Moose Ponds**	**29.75**	**336**	*e*P		**P**	**20 50 55.8**	**-0.6**
	comp=E,2.4nm,0.7s,mb4.0							
MOOW				*e*pP		pP	20 51 24.8	+0.1
SADO	**Sadowa**	**30.47**	**22**	P		**P**	**20 50 58.9**	**-3.9**
	comp=E,5.0nm,0.3s,mb4.7,baz=234,slow=9.2,SNR=6.9							
SADO	**Sadowa**	**30.47**	**22**	P		**P**	**20 50 58.9**	**-3.9**
EYMN	**Ely**	**30.80**	**4**	P		**P**	**20 51 03.7**	**-2.0**
HLID	**Hailey**	**31.13**	**332**	*e*P		**P**	**20 51 07.7**	**-0.9**
	comp=E,3.3nm,0.5s,mb4.3							
HLID				*e*pP		pP	20 51 37.8	+0.7
MCMT	**McKenzie Canyo**	**31.48**	**335**	*e*P		**P**	**20 51 12.4**	**+0.7**
MCMT				*e*pP		pP	20 51 41.0	+0.9
BOZ	**Bozeman (W)**	**31.69**	**337**	*e*P		**P**	**20 51 13.4**	**-0.1**
	comp=E,3.5nm,0.8s,mb4.1							
DLMT	**Dillon**	**31.82**	**336**	*e*P		**P**	**20 51 14.9**	**+0.3**
	comp=E,22nm,1.6s,mb4.6							
DLMT				*e*pP		pP	20 51 43.1	-0.1
LCCM	**Lewis and Clar**	**31.95**	**337**	P		**P**	**20 51 16.5**	**+0.8**
WVOR	**Wild Horse Val**	**32.39**	**326**	*e*P		**P**	**20 51 19.8**	**+0.2**
	comp=E,12nm,1.0s,mb4.6							
HRY	**Holter Researc**	**32.67**	**338**	*e*P		**P**	**20 51 21.9**	**0.0**
ULM	**Lac du Bonnet**	**33.00**	**359**	P		**P**	**20 51 23.2**	**-1.6**
	comp=E,2.2nm,0.3s,mb4.3,baz=182,slow=8.2,SNR=11							
ULM				pP		pP	20 51 53.0	-0.5
	comp=E,4.0nm,0.7s,baz=164,slow=10,SNR=3.5							
ULM				PcP		PcP	20 54 03.7	-2.0
	comp=E,2.2nm,0.4s,baz=350,slow=3.3,SNR=3.3							
ULM	**Lac du Bonnet**	**33.00**	**359**	P		**P**	**20 51 23.2**	**-1.6**
ULM				pP		pP	20 51 53.0	-0.5
ULM				PcP		PcP	20 54 03.7	-2.0
CHMT	**Chamberlain Mo**	**33.37**	**337**	*e*P		**P**	**20 51 27.6**	**-0.3**
KIPM	**Iron Peak**	**33.60**	**318**	P		**P**	**20 51 30.7**	**+0.7**
VIPM	**Ingram Point**	**34.86**	**327**	P		**P**	**20 51 41.0**	**+0.3**
BBOR	**Butler Butte**	**34.94**	**323**	P		**P**	**20 51 41.0**	**-0.3**
FRIS	**Frissel Point**	**35.46**	**325**	P		**P**	**20 51 46.9**	**+1.2**
TBM	**Table Mountain**	**36.72**	**330**	P		**P**	**20 51 57.4**	**+1.1**
ETW	**Entiat**	**36.91**	**331**	P		**P**	**20 51 58.8**	**+1.0**
CPW	**Capitol Peak**	**37.83**	**328**	P		**P**	**20 52 06.2**	**+0.6**
SAML	**Samuel**	**40.59**	**127**	*e*P		**P**	**20 52 26.5**	**-2.3**
	comp=E,8.3nm,0.9s,mb4.4							
LPAZ	**La Paz**	**42.36**	**140**	P		**P**	**20 52 44.1**	**+0.9**
	comp=E,6.1nm,0.8s,mb4.3,baz=328,slow=8.0,SNR=27							
LPAZ				pP		pP	20 53 12.5	-0.5
	comp=E,1.9nm,0.5s,baz=326,slow=11,SNR=3.1							
LPAZ				PcP		PcP	20 54 34.9	0.0
	comp=E,1.2nm,0.5s,baz=315,slow=4.2,SNR=3.0							
LPAZ	**La Paz**	**42.36**	**140**	*e*P		**P**	**20 52 43.9**	**+0.6**
	comp=E,5.7nm,0.7s,mb4.3							
SCHQ	**Schefferville**	**43.27**	**23**	P		**P**	**20 52 48.2**	**-1.9**
	comp=E,3.9nm,0.8s,mb4.1,baz=236,slow=14,SNR=5.6							
SCHQ				pP		pP	20 53 18.2	-1.7
	comp=E,3.7nm,0.7s,baz=235,slow=5.3,SNR=3.9							
BBB	**Bella Bella**	**43.71**	**331**	P		**P**	**20 52 53.1**	**-0.6**
	comp=E,13nm,0.8s,mb4.6,baz=146,slow=3.6,SNR=3.5							
YKA	**Yellowknife Ar**	**47.35**	**348**	P		**P**	**20 53 21.5**	**-0.9**
	comp=E,7.5nm,0.6s,mb4.5,baz=152,slow=7.3,SNR=117							
YKA				pP		pP	20 53 51.9	-0.8
	comp=E,12nm,0.9s,baz=150,slow=7.4,SNR=13							
YKA				PcP		PcP	20 54 50.1	-1.4
	comp=E,1.0nm,0.5s,baz=152,slow=3.9,SNR=5.2							
YKW3	**Yellowknife Ar**	**47.42**	**348**	*e*P		**P**	**20 53 21.7**	**-1.2**
YKW3				*e*pP		pP	20 53 51.9	-1.3
DLBC	**Dease Lake**	**48.69**	**336**	P		**P**	**20 53 34.1**	**+1.2**
	comp=E,9.3nm,0.7s,mb4.5,baz=142,slow=7.4,SNR=22							
DLBC				pP		pP	20 54 05.0	+1.8
	comp=E,11nm,0.9s,baz=139,slow=8.7,SNR=7.3							
BDFB	**Brasilia**	**56.46**	**123**	P		**P**	**20 54 29.7**	**-1.4**
	comp=E,5.4nm,0.7s,mb4.5,baz=320,slow=8.5,SNR=9.0							
BDFB				LR		LR	21 20 18.3	
	comp=E,85nm,18.7s,baz=112,slow=38							
CPUP	**Villa Florida**	**56.51**	**139**	*e*P		**P**	**20 54 28.9**	**-2.4**
	comp=E,9.9nm,0.8s,mb4.7							
CPUP				*e*pP		pP	20 54 59.1	-3.4
INK	**Inuvik**	**56.66**	**344**	P		**P**	**20 54 30.9**	**-0.9**
	comp=E,12nm,0.5s,mb5.0,baz=134,slow=6.5,SNR=74							
INK				pP		pP	20 55 02.2	-0.7
	comp=E,12nm,0.7s,baz=136,slow=8.7,SNR=10							
INK	**Inuvik**	**56.66**	**344**	*e*P		**P**	**20 54 30.3**	**-1.5**
	comp=E,15nm,0.7s,mb4.9							
INK				*e*pP		pP	20 55 01.5	-1.4
ILAR	**Eielson Array**	**58.89**	**337**	P		**P**	**20 54 46.5**	**-0.9**
	comp=E,3.8nm,0.7s,mb4.3,baz=138,slow=4.6,SNR=32							
ILAR				pP		pP	20 55 18.9	0.0
	comp=E,8.6nm,1.0s,baz=112,slow=5.9,SNR=14							
ILAR				PcP		PcP	20 55 33.4	-1.6
	comp=E,2.1nm,0.8s,baz=126,slow=1.9,SNR=4.8							
COLA	**College**	**59.30**	**337**	*e*P		**P**	**20 54 48.8**	**-1.5**
	comp=E,9.3nm,1.0s,mb4.6							
COLA				*e*pP		pP	20 55 20.8	-0.9
SVW2	**Sparrevohn**	**61.12**	**331**	*e*P		**P**	**20 55 01.3**	**-1.4**
PLCA	**Paso Flores**	**61.85**	**159**	P		**P**	**20 55 07.5**	**-0.4**
	comp=E,14nm,0.8s,mb4.8,baz=328,slow=8.2,SNR=26							
PLCA				pP		pP	20 55 39.0	-0.6
	comp=E,3.9nm,0.9s,baz=328,slow=9.7,SNR=2.7							
PLCA	**Paso Flores**	**61.85**	**159**	*e*P		**P**	**20 55 06.7**	**-1.1**
	comp=E,22nm,1.1s,mb4.9							
TRQA	**Tornquist**	**62.98**	**151**	*e*P		**P**	**20 55 14.5**	**-0.9**
	comp=E,4.8nm,0.9s,mb4.3							
EVO	**Evora**	**77.01**	**53**	*e*P		**P**	**20 56 39.5**	**-0.9**
	comp=E,15nm,0.9s,mb4.3							
BILL	**Bilibino**	**77.53**	**338**	*e*P		**P**	**20 56 42.8**	**+0.1**
QUIF	**Quistinic**	**78.50**	**43**	*e*P		**P**	**20 56 48.2**	**-0.1**
ESDC	**Sonseca Array**	**79.83**	**52**	P		**P**	**20 56 55.9**	**+0.2**
	comp=E,3.5nm,0.8s,mb4.1,baz=293,slow=5.2,SNR=23							
ESDC				pP		pP	20 57 29.1	+0.2
	comp=E,0.5nm,0.7s,baz=290,slow=5.7,SNR=2.6							
GRR	**Gorron**	**79.89**	**42**	*e*P		**P**	**20 56 55.2**	**-0.6**
	comp=E,4.4nm,0.5s,mb4.0							
FLN	**La Foliniere**	**80.04**	**42**	*e*P		**P**	**20 56 56.7**	**+0.1**
LDF	**La Druitiere**	**80.31**	**42**	*e*P		**P**	**20 56 57.6**	**-0.5**
TCF	**Toulx Ste Croi**	**82.46**	**44**	*e*P		**P**	**20 57 09.4**	**0.0**
	comp=E,11nm,0.9s,mb4.2							
BAIF	**Baives**	**82.62**	**40**	*e*P		**P**	**20 57 10.2**	**+0.1**
	comp=E,5.3nm,0.8s,mb4.0							
NB2	**NORSAR Subarra**	**82.62**	**28**	P		**P**	**20 57 11.6**	**+1.7**
	comp=E,1.7nm,0.7s,mb3.9,baz=293,slow=5.0							
NOA	**NOA Array B**	**82.62**	**28**	P		**P**	**20 57 10.5**	**+0.6**
	comp=E,4.5nm,0.9s,mb4.2,baz=293,slow=5.2,SNR=6.4							
NOA				pP		pP	20 57 42.8	-0.4
	comp=E,1.5nm,0.8s,baz=295,slow=5.2,SNR=2.7							
BGF	**Bois d'Agland**	**82.80**	**44**	*e*P		**P**	**20 57 11.3**	**+0.2**
AVF	**Avril sur Loir**	**83.07**	**43**	*e*P		**P**	**20 57 12.5**	**+0.1**
SSF	**Saint Saulge**	**83.08**	**43**	*e*P		**P**	**20 57 12.6**	**+0.1**
LOR	**Lormes**	**83.25**	**43**	*e*P		**P**	**20 57 13.7**	**+0.4**
	comp=E,14nm,1.0s,mb4.4							
SMF	**Signal de Mont**	**83.43**	**43**	*e*P		**P**	**20 57 14.3**	**0.0**
	comp=E,10nm,0.8s,mb4.3							
MEZF	**Maizieres J'vi**	**83.63**	**41**	*e*P		**P**	**20 57 16.0**	**+0.8**
	comp=E,13nm,0.7s,mb4.5							
ARCES	**ARCESS Array B**	**83.95**	**18**	P		**P**	**20 57 16.9**	**+0.5**
	comp=E,2.5nm,0.7s,mb4.1,baz=302,slow=4.8,SNR=16							
ARCES				pP		pP	20 57 51.0	+1.2
	comp=E,4.3nm,0.8s,baz=281,slow=6.2,SNR=3.6							
HAU	**Haudompre**	**84.61**	**41**	*e*P		**P**	**20 57 20.4**	**+0.3**
	comp=E,8.6nm,0.6s,mb4.3							
HINF	**Hinteralfeld**	**84.99**	**42**	*e*P		**P**	**20 57 22.4**	**+0.4**
CDF	**Champ du Feu**	**85.06**	**41**	*e*P		**P**	**20 57 22.9**	**+0.6**
DBIC	**Dimbokro**	**87.96**	**84**	P		**P**	**20 57 35.8**	**-1.5**
	comp=E,5.4nm,0.9s,mb4.4,baz=277,slow=4.5,SNR=6.8							
DBIC	**Dimbokro**	**87.96**	**84**	*e*P		**P**	**20 57 37.1**	**-0.1**
	comp=E,7.2nm,0.9s,mb4.5							
FINES	**FINESS Array B**	**88.74**	**24**	P		**P**	**20 57 40.5**	**+0.7**
	comp=E,2.5nm,1.0s,mb4.1,baz=333,slow=4.3,SNR=3.6							
FINES	**FINESS Array B**	**88.74**	**24**	P		**P**	**20 57 40.5**	**+0.7**
GERES	**GERESS Array B**	**88.83**	**39**	P		**P**	**20 57 39.9**	**-0.6**
	comp=E,0.3nm,0.4s,mb3.6,baz=297,slow=6.0,SNR=5.9							
TORD	**Torodi Ar. Bea**	**92.19**	**76**	P		**P**	**20 57 56.6**	**-0.3**
	comp=E,0.4nm,0.5s,mb3.7,baz=307,slow=5.3,SNR=8.4							
MKAR	**Makanchi Array**	**116.27**	**2**	PKP		PKPdf	21 03 27.4	-0.7
	comp=E,0.6nm,0.7s,baz=294,slow=2.5,SNR=6.8							
MKAR	**Makanchi Array**	**116.27**	**2**	PKP		PKPdf	21 03 27.4	-0.7
STKA	**Stephens Creek**	**127.23**	**243**	PKP		PKPdf	21 03 51.2	+1.5
	comp=E,6.5nm,0.8s,baz=23,slow=2.9,SNR=12							
WRA	**Warramunga Arr**	**133.51**	**259**	PKP		PKPdf	21 04 02.8	+0.9
	comp=E,1.7nm,0.5s,baz=83,slow=2.4,SNR=14							
HYB	**Hyderabad**	**145.00**	**11**	*i* PKP		PKPdf	21 04 22.5	-0.2
HYB	**Hyderabad**	**145.00**	**11**	*e*P		PKPdf	21 04 22.5	-0.2
MBWA	**Marble Bar**	**147.23**	**257**	*e*PKPbc		PKPdf	21 04 29.9	+3.5
MUN	**Mundaring**	**148.36**	**236**	*e*P		PKPdf	21 04 33.1	+5.2
KSM	**Kuching**	**149.12**	**304**	*e*PKPbc		PKPdf	21 04 35.2	+5.6

*ATH **09** 21:07:15.7, 40.26N×27.43E, h21km±3km, MD3.8/6*
*IDC **09** 21:07:16.5±1.1, 40.24N×27.17E, mb3.4/2, mb1 3.5/6, mb1mx3.3/24, mbtmp3.4/6, ML3.4/4, Error ellipse: s-maj=17.1km s-min=13.5km az=67.0*
*MOS **09** 21:07:16.6±0.7, 40.26N×27.26E, h10km, mb4.5/1, Error ellipse: s-maj=14.6km s-min=6.0km az=113.9*
*ISK **09** 21:07:17.1, 40.28N×27.30E, h17km, ML3.7*
*CSEM **09** 21:07:17.1±0.1, 40.26N×27.33E, h17km, MD3.8, Error ellipse: s-maj=1.4km s-min=1.1km az=29.0*
*NEIC **09** 21:07:17.0, 40.29N×27.32E, h18km, MD3.6(ISK), After ISK.*
*SOF **09** 21:07:19.4, 40.50N×27.14E, h7km, MD3.6*

ISC 09 21:07:17.8±0.3, 40.28N±0.02×27.32E±0.02, h23km±3km, n107, σ0§87/136, mb3.2/2, 9C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MRMT	**Marmara Adasi**	**0.39**	**33**	*i* PG		**Pb**	**21 07 25.4**	**-0.7**
MRMT				*i* SG		**Sb**	**21 07 31.1**	**-0.6**
SART	**Tekirdag**	**0.42**	**346**	*i* P		**Pb**	**21 07 25.8**	**-0.9**
SART				*i* S		**Sb**	**21 07 31.9**	**-0.8**
EDC	**Edincik**	**0.42**	**81**	*i* PG		**Pb**	**21 07 26.3**	**-0.3**
LPK	**Lapseki**	**0.44**	**283**	*i* PG		**Pb**	**21 07 26.8**	**0.0**
BNT	**Bandirma**	**0.47**	**80**	*i* PG		**Pb**	**21 07 27.0**	**-0.4**
MFT	**Murefte**	**0.51**	**357**	*i* PG		**Pb**	**21 07 27.7**	**-0.4**
MFT				*i* SG		**Sb**	**21 07 34.7**	**-0.3**
BTOK	**Tokmak**	**0.75**	**133**	*i* P		**Pb**	**21 07 32.5**	**+0.3**
BTOK				*i* S		**Sb**	**21 07 43.0**	**+1.0**
BALB	**Balikesir**	**0.77**	**146**	*i* PG		**Pb**	**21 07 32.5**	**0.0**
KCT	**Karacabey**	**0.80**	**91**	*i* PG		**Pb**	**21 07 32.8**	**-0.1**
EZN	**Ezine**	**0.89**	**240**	*i* PG		**Pb**	**21 07 33.9**	**-0.5**
AYVA	**Ayvalik**	**1.08**	**207**	*i* P		**Pb**	**21 07 38.5**	**+0.7**
AYVA				*i* S		**Sb**	**21 07 53.2**	**+1.7**
ALN	**Alexandroupoli**	**1.15**	**303**	*e*P		**Pn**	**21 07 39.2**	**+0.5**
CTT	**Catalca**	**1.21**	**44**	*i* PN		**Pn**	**21 07 40.1**	**+0.5**
DST	**Dursunbey**	**1.21**	**123**	*i* PN		**Pn**	**21 07 40.6**	**+1.0**
ELBA	**Catalca**	**1.21**	**44**	*i* P		**Pn**	**21 07 40.7**	**+1.0**
ELBA				*i* S		**Sb**	**21 07 56.9**	**+1.7**
ORLT	**Orhaneli**	**1.23**	**100**	*i* PN		**Pn**	**21 07 41.1**	**+1.2**
PRK	**Paraskevi**	**1.31**	**218**	↑*i* PN		**Pn**	**21 07 41.7**	**+0.7**
PRK				*e*SN		**Sn**	**21 07 59.5**	**+1.6**
ULDT	**Uludag**	**1.40**	**95**	*i* P		**Pn**	**21 07 42.2**	**-0.1**
ULDT				*i* S		**Sn**	**21 08 02.7**	**+2.5**
AKS	**Akhisar**	**1.45**	**164**	PN		**Pn**	**21 07 43.7**	**+0.7**
BADT	**Buyukada**	**1.49**	**67**	PN		**Pn**	**21 07 43.4**	**-0.2**
ISK	**Istanbul-Kandi**	**1.54**	**59**	PN		**Pn**	**21 07 43.7**	**-0.6**
YLV	**Yalova**	**1.60**	**79**	PN		**Pn**	**21 07 44.6**	**-0.5**
RDO	**Rodhopi**	**1.61**	**303**	‖*i* PN		**Pn**	**21 07 46.2**	**+0.9**
EDRB	**Edirne**	**1.63**	**345**	PN		**Pn**	**21 07 46.0**	**+0.5**
LIA	**Limnos Island**	**1.68**	**258**	*e*PN		**Pn**	**21 07 46.8**	**+0.5**
LIA				*e*SN		**Sn**	**21 08 10.5**	**+3.2**
LIA	**Limnos Island**	**1.68**	**258**	*e*Pb		**Pn**	**21 07 46.8**	**+0.5**
LIA				Sn		**Sn**	**21 08 10.0**	**+2.7**
LOS	**Limnos**	**1.75**	**259**	*e*P		**Pn**	**21 07 48.3**	**+1.0**
HRT	**Hereke**	**1.87**	**72**	PN		**Pn**	**21 07 49.1**	**0.0**
KDAG	**Bornova**	**1.87**	**181**	*i* P		**Pn**	**21 07 47.9**	**-1.2**
KDAG				*i* S		**Sn**	**21 08 18.6**	**+6.3**
IZM	**Izmir**	**1.88**	**181**	PN		**Pn**	**21 07 49.2**	**0.0**
KDZ	**Kurdzhali**	**1.99**	**314**	*i* P		**Pn**	**21 07 51.5**	**+0.8**
KDZ				*i* Pg		**Pn**	**21 07 54.5**	**+3.8**
URLA	**Izmir**	**2.00**	**197**	*i* P		**Pn**	**21 07 49.9**	**-1.0**
URLA				*i* S		**Sn**	**21 08 13.9**	**-1.5**
MANT	**Manisa**	**2.03**	**151**	*i* P		**Pn**	**21 07 52.4**	**+1.0**
MANT				*i* S		**Sn**	**21 08 14.6**	**-1.6**
DIM	**Dimitrovgrad**	**2.22**	**323**	*i* P		**Pn**	**21 07 54.5**	**+0.4**
DIM				*i* Pg		**Pn**	**21 07 58.5**	**+4.4**
JMB	**Yambol**	**2.25**	**346**	*i* P		**Pn**	**21 07 55.5**	**+0.9**
GPA	**Golpazari**	**2.29**	**89**	PN		**Pn**	**21 07 56.1**	**+1.0**
RZN	**Rozhen**	**2.42**	**306**	*i* P		**Pn**	**21 07 57.5**	**+0.6**
RZN				*i* Pg		**Pn**	**21 08 02.0**	**+5.1**
BORA	**Eskisehir**	**2.44**	**98**	*i* P		**Pn**	**21 07 57.0**	**-0.2**
BORA				*i* S		**Sn**	**21 08 38.0**	**+11**
ALT	**Altintas**	**2.48**	**119**	PN		**Pn**	**21 07 58.5**	**+0.7**
OUR	**Ouranopolis**	**2.55**	**272**	*e*P		**Pn**	**21 07 58.5**	**-0.3**
SMG	**Samos**	**2.59**	**188**	*e*PN		**Pn**	**21 07 58.7**	**-0.7**
KHL	**Karahalli**	**2.60**	**138**	PN		**Pn**	**21 07 59.4**	**0.0**
AYDN	**Tasoluk**	**2.65**	**170**	*i* P		**Pn**	**21 07 59.8**	**-0.5**
AYDN				*i* S		**Sn**	**21 08 45.0**	**+13**
PLD	**Plovdiv**	**2.69**	**314**	*i* P		**Pn**	**21 08 01.5**	**+0.8**
HENT	**Hendek**	**2.78**	**78**	*i* P		**Pn**	**21 08 00.8**	**-1.3**
HENT				*i* S		**Sn**	**21 08 47.1**	**+12**
PAIG	**Paliouri**	**2.81**	**264**	*e*P		**Pn**	**21 08 02.7**	**+0.2**
ESKT	**Eskisehir**	**2.82**	**104**	PN		**Pn**	**21 08 03.3**	**+0.7**
NVR	**Nevrokopi**	**2.83**	**293**	‖*i* PN		**Pn**	**21 08 03.0**	**+0.2**
AOS	**Alonnisos**	**2.87**	**248**	*e*P		**Pn**	**21 08 02.4**	**-1.0**
DNZL	**Cakiroluk**	**2.92**	**152**	*i* P		**Pn**	**21 08 04.3**	**+0.3**
DNZL				*i* S		**Sn**	**21 08 38.9**	**+0.2**
PRD	**Provadia**	**2.92**	**1**	*i* P		**Pn**	**21 08 04.5**	**+0.5**
PLG	**Polygyros**	**2.96**	**273**	*e*PN		**Pn**	**21 08 04.4**	**-0.2**
MLSB	**Milas**	**3.00**	**173**	*e*PN		**Pn**	**21 08 04.6**	**-0.6**
MMB	**Musomiste**	**3.02**	**297**	*i* P		**Pn**	**21 08 06.0**	**+0.6**
SOH	**Sokhos**	**3.07**	**281**	*e*P		**Pn**	**21 08 06.1**	**0.0**
SZH	**Strazhica**	**3.16**	**341**	*e*P		**Pn**	**21 08 08.0**	**+0.6**
BODT	**Bodrum**	**3.21**	**180**	*e*PN		**Pn**	**21 08 07.9**	**-0.3**
YER	**Yerkesik**	**3.23**	**166**	*e*PN		**Pn**	**21 08 08.2**	**-0.2**
PGB	**Panagyurishte**	**3.28**	**315**	*i* P		**Pn**	**21 08 09.5**	**+0.3**
PVL	**Pavlikeni**	**

MSLP	**Maasin**	**4.42**	**339**	*eP*	**P**	**21 16 12.1**	**-0.4**
KSM	**Kuching**	**16.73**	**255**	*eP*	**P**	**21 18 54.4**	**-3.0**
JOW	**Kunigami**	**20.80**	**5**	P	**P**	**21 19 46.1**	**+2.5**
	24nm,0.8s,baz=279,slow=29,SNR=3.7						
WRA	**Warramunga Arr**	**26.90**	**163**	P	**P**	**21 20 42.7**	**+0.2**
	3.6nm,0.5s,mb4.1,baz=343,slow=10,SNR=15						
WB2	**Warramunga Arr**	**26.91**	**163**	*eP*	**P**	**21 20 43.0**	**+0.5**
MBWA	**Marble Bar**	**27.77**	**194**	*eP*	**P**	**21 20 49.2**	**-1.2**
	20nm,1.0s,mb4.6						
CTAO	**Charters Tower**	**32.40**	**144**	P	**P**	**21 21 32.2**	**+0.9**
	2.9nm,0.8s,mb4.1						
KLBR	**Kellerberrin**	**38.28**	**192**	*eP*	**P**	**21 22 20.6**	**-0.5**
	26nm,1.0s,mb5.0						
MUN	**Mundaring**	**39.00**	**194**	*eP*	**P**	**21 22 26.6**	**-0.4**
STKA	**Stephens Creek**	**40.32**	**160**	*eP*	**P**	**21 22 39.1**	**+1.1**
	3.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**40.32**	**160**	P	**P**	**21 22 37.9**	**-0.1**
	5.9nm,0.8s,mb4.5,baz=334,slow=7.7,SNR=12						
ULN	**Ulaanbaatar**	**44.91**	**342**	*eP*	**P**	**21 23 15.1**	**-0.1**
	2.1nm,0.9s,mb3.9						
SONM	**Songino Array**	**45.09**	**341**	P	**P**	**21 23 17.3**	**+0.6**
	0.6nm,0.7s,mb3.5,baz=176,slow=5.8,SNR=3.6						
MKAR	**Makanchi Array**	**55.57**	**325**	P	**P**	**21 24 35.2**	**-1.2**
	1.4nm,0.5s,mb4.2,baz=118,slow=7.3,SNR=28						
MKAR				PcP	PcP	21 25 35.0	-0.1
	0.8nm,0.5s,baz=103,slow=4.3,SNR=5.5						
MKAR				LR	LR	21 50 47.6	
	comp=Z,52nm,19.1s,baz=147,slow=38						
BVAR	**Borovoye Array**	**65.30**	**327**	P	**P**	**21 25 41.9**	**-0.6**
	0.8nm,0.6s,mb3.8,baz=118,slow=5.4,SNR=7.3						
AKTK	**Aktyubinsk**	**71.75**	**321**	P	**P**	**21 26 23.2**	**+0.9**
AKTO	**Aktyubinsk**	**71.75**	**321**	P	**P**	**21 26 23.2**	**+0.9**
	0.8nm,0.6s,mb3.8,baz=76,slow=5.5,SNR=3.9						
MCK	**McKinley**	**82.28**	**27**	P	**P**	**21 27 20.9**	**+0.3**
	1.4nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**83.19**	**26**	P	**P**	**21 27 24.9**	**-0.4**
	0.7nm,0.6s,mb3.7,baz=248,slow=5.2,SNR=12						
VNDA	**Vanda**	**85.68**	**173**	P	**P**	**21 27 38.2**	**+0.8**
	0.8nm,0.8s,mb3.7,baz=305,slow=4.4,SNR=4.8						
VNDA	**Vanda**	**85.68**	**173**	P	**P**	**21 27 37.8**	**+0.3**
	1.5nm,1.0s,mb3.9						
JOF	**Joensuu**	**87.07**	**333**	*ep*	**P**	**21 27 44.6**	**+0.1**
ARCES	**ARCESS Array B**	**88.26**	**340**	P	**P**	**21 27 49.5**	**-0.6**
	2.5nm,0.8s,mb4.3,baz=76,slow=5.0,SNR=6.4						
BRTR	**Keskin Array B**	**88.39**	**310**	P	**P**	**21 27 50.4**	**-1.0**
	0.3nm,0.5s,mb3.5,baz=43,slow=46,SNR=3.1						
KAF	**Kangasniemi**	**89.49**	**332**	*ep*	**P**	**21 27 56.0**	**0.0**
	3.5nm,1.0s,mb4.3						
FINES	**FINESS Array B**	**89.74**	**332**	P	**P**	**21 27 56.1**	**-1.0**
	2.2nm,1.0s,mb4.2,baz=135,slow=2.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**121.95**	**289**	PKP	PKPdf	21 33 54.3	+1.4
	0.4nm,0.7s,baz=59,slow=1.6,SNR=4.7						

MAN 09 22:00:35.5, 9.30N×124.69E, h19km, mb4.0, ML2.8, MS2.4, Mindanao

MAN 09 22:11:16.2, 12.84N×122.97E, h13km, mb3.9, ML2.7, MS2.3, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.56**	**330**	*eP*	Pb	22 11 27.6	+0.2
OTRP	**Odiongan**	**1.04**	**243**	*eP*	Pb	22 11 34.9	-0.6
GQP	**Guinayangan**	**1.18**	**335**	⇓*iP*	Pb	22 11 37.5	-0.5
GQP				*i* S	Sb	22 11 54.3	+1.4
BOAC	**Boac**	**1.26**	**300**	*eP*	Pb	22 11 38.3	-1.0
BOAC				*eS*	Sb	22 11 57.2	+2.0
RCP	**Roxas**	**1.29**	**190**	⇓*eP*	Pb	22 11 37.6	-2.2
RCP				*eS*	Sb	22 11 54.5	-1.6
POLP	**Polillo Island**	**2.13**	**332**	*eP*	Pn	22 11 53.4	+1.4

IDC 09 22:18:00.4±5.0, 29.88S×177.16W, h43km±41km, mb3.9/2, mb1 4.1/2, mb1mx3.6/11, mbtmp4.1/2, Error ellipse: s-maj=62.0km s-min=45.6km az=30.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.91**	**313**	P	P	22 18 16.2	-0.6
	192nm,0.3s,baz=95,slow=11,SNR=12						
RAO				S	S	22 18 29.4	+0.5
	288nm,0.3s,baz=75,slow=23,SNR=7.7						
URZ	**Urewera**	**9.61**	**208**	S	S	22 21 53.6	-13
	1.0nm,0.3s,baz=132,slow=20,SNR=7.1						
STKA	**Stephens Creek**	**35.30**	**256**	P	P	22 24 52.3	-1.0
	1.9nm,0.7s,baz=94,slow=11,SNR=3.9						
WB2	**Warramunga Arr**	**44.80**	**271**	*eP*	P	22 26 10.4	-1.5
WRA	**Warramunga Arr**	**44.81**	**271**	P	P	22 26 09.1	-2.9
	2.0nm,0.6s,baz=111,slow=7.8,SNR=13						
FINES	**FINESS Array B**	**144.90**	**341**	PKP	PKPdf	22 37 32.0	0.0
	1.5nm,0.5s,baz=54,slow=3.3,SNR=15						

*CSEM **09** 22:40:29.6±0.5, 38.75N×29.16W, h5km, ML2.1, Error ellipse: s-maj=6.7km s-min=4.6km az=37.0, After PDA*
*PDA **09** 22:40:29.6±0.5, 38.75N×29.16W, h5km, MD3.1, ML2.1, Error ellipse: s-maj=6.7km s-min=4.6km az=37.0*
SVSA 09 22:40:29.6±0.5, 38.75N×29.16W, h5km, MD3.1, ML2.1, Error ellipse: s-maj=6.7km s-min=4.6km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.38**	**109**	*eP*	Pg	22 40 36.4	-0.8
PCED				*eS*	Sg	22 40 41.5	-0.7
	84nm,0.4s						
PCED	**Cedros**	**0.38**	**109**	*eP*	Pg	22 40 36.4	-0.8
PCED				*eS*	Sg	22 40 41.5	-0.7
	84nm,0.4s						
CALA	**Caldeira**	**0.39**	**116**	*eS*	Sg	22 40 41.9	-0.9
HOR	**Horta**	**0.47**	**119**	*eP*	Pg	22 40 37.6	-1.4
HOR				*eS*	Sg	22 40 43.7	-1.6
PICO	**Pico**	**0.62**	**114**	*eP*	Pg	22 40 40.3	-1.8
PICO				*eS*	Sg	22 40 48.4	-2.0
ROSA	**Rosais**	**0.71**	**92**	*eS*	Sg	22 40 50.1	-3.4

*NEIC **09** 22:47:08.8, 51.70N×179.96W, h90km, MG3.5(AEIC), After AEIC.*
*IDC **09** 22:47:09.5±2.9, 52.08N×179.99W, h95km±25km, mb3.2/8, mb1 3.6/10, mb1mx3.4/24, mbtmp3.6/10, Error ellipse: s-maj=51.2km s-min=14.4km az=1.0*
ISC 09 22:47:08.1±0.8, 52.1N±0.2×180.00W±0.07, h99km±7km, n22, σ0§60/28, mb3.5/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.74**	**98**	P	**P**	**22 47 37.2**	**-0.5**
KICM	**Kanaga Island**	**1.74**	**93**	P	**P**	**22 47 37.8**	**+0.1**
KICM				S	**S**	**22 47 58.9**	**-0.8**
KIKV	**Kanaga Island**	**1.76**	**94**	P	**P**	**22 47 37.8**	**-0.1**
KIRH	**Kanaga Island**	**1.80**	**94**	P	**P**	**22 47 38.5**	**0.0**
KIRH				S	**S**	**22 48 01.0**	**-0.1**
ADAG	**Mount Adagdak**	**2.10**	**91**	P	**P**	**22 47 42.4**	**-0.1**
GSCK	**Great Sitkin C**	**2.37**	**89**	P	**P**	**22 47 46.0**	**-0.3**
GSCK				S	**S**	**22 48 15.2**	**+0.6**
GSTD	**Great Sitkin T**	**2.38**	**88**	P	**P**	**22 47 45.9**	**-0.4**
GSTD				S	**S**	**22 48 15.2**	**+0.4**
GSTR	**Great Sitkin T**	**2.43**	**87**	P	**P**	**22 47 47.2**	**+0.1**
GSMY	**Great Sitkin M**	**2.43**	**89**	P	**P**	**22 47 46.8**	**-0.3**
GSMY				S	**S**	**22 48 17.0**	**+0.8**
ATKA	**Atka Island**	**3.58**	**85**	P	**P**	**22 48 03.1**	**+0.3**
FX1	**Attu Island--F**	**4.26**	**284**	P	**P**	**22 48 13.5**	**+1.4**
	4.3nm,0.3s,baz=259,slow=12,SNR=11						
FX1				S	**S**	**22 49 00.4**	**-0.6**
	4.0nm,0.3s,baz=42,slow=20,SNR=11						
KDAK	**Kodiak Island**	**16.70**	**59**	P	**P**	**22 50 56.5**	**-0.4**
	1.0nm,0.3s,baz=274,slow=13,SNR=6.4						
ILAR	**Eielson Array**	**21.20**	**40**	P	**P**	**22 51 46.6**	**-0.2**
	0.6nm,0.6s,mb3.1,baz=243,slow=7.7,SNR=9.3						
YKA	**Yellowknife Ar**	**35.31**	**47**	P	**P**	**22 53 55.2**	**+0.3**
	0.5nm,0.5s,mb3.6,baz=281,slow=8.0,SNR=8.3						
YKA	**Yellowknife Ar**	**35.31**	**47**	P	**P**	**22 53 55.2**	**+0.3**
NVAR	**Mina Array Bea**	**44.21**	**83**	P	**P**	**22 55 09.5**	**+1.0**
	0.7nm,0.6s,mb3.6,baz=302,slow=5.6,SNR=5.2						
NVAR	**Mina Array Bea**	**44.21**	**83**	P	**P**	**22 55 09.5**	**+0.9**
SONM	**Songino Array**	**45.68**	**295**	P	**P**	**22 55 21.4**	**+1.2**
	0.3nm,0.6s,mb3.2,baz=52,slow=6.6,SNR=2.7						
PDAR	**Pinedale Array**	**46.81**	**72**	P	**P**	**22 55 28.8**	**-0.4**
	1.1nm,0.6s,mb3.7,baz=311,slow=3.7,SNR=10						
ZAL	**Zalesovo**	**53.05**	**313**	P	**P**	**22 56 16.6**	**-0.1**
	0.5nm,0.7s,mb3.7,baz=343,slow=19,SNR=2.2						
MKAR	**Makanchi Array**	**59.03**	**307**	P	**P**	**22 56 58.3**	**-1.1**
	0.2nm,0.7s,mb3.3,baz=62,slow=6.4,SNR=3.4						
TXAR	**Lajitas Array**	**59.28**	**81**	P	**P**	**22 57 00.7**	**-0.7**
	0.7nm,0.7s,mb3.8,baz=322,slow=4.2,SNR=7.7						

*LDG **09** 22:51:14.7±0.1, 49.32N×6.80E, h1km, Md2.6/1, Ml2.4/9, Error ellipse: s-maj=2.5km s-min=1.7km az=107.0, Suspected Mining induced.*
*BGR **09** 22:51:14.8±0.5, 49.32N×6.82E, h1km, ML1.8/3, Error ellipse: s-maj=7.8km s-min=4.4km az=37.0*
*BNS **09** 22:51:15.4±0.3, 49.33N×6.94E, h1km, ML1.4*
ISC 09 22:51:12.9±0.4, 49.30N±0.02×6.79E±0.04, n16, σ1§00/27, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.55**	**312**	*ePg*	**Pg**	**22 51 25.9**	**+1.9**
	SNR=1.3						
WLF				*eSg*	**Sg**	**22 51 32.1**	**+0.8**
CDF	**Champ du Feu**	**0.94**	**160**	*ePg*	**Pg**	**22 51 32.5**	**+0.8**
CDF	**Champ du Feu**	**0.94**	**160**	*ePn*	**Pn**	**22 51 33.0**	**-0.2**
CDF				*eSg*	**Sg**	**22 51 45.2**	**+0.9**
	15nm,0.3s						
BGG	**Burgeitz**	**0.98**	**21**	*ePg*	**Pg**	**22 51 32.7**	**+0.3**
BGG				*eSg*	**Sg**	**22 51 45.5**	**+0.1**
	10nm,0.3s						
HILG	**Hillesheim**	**1.00**	**356**	*eSg*	**Sg**	**22 51 47.6**	**+1.5**
RFYF	**Reffroy**	**1.09**	**233**	*ePg*	**Pg**	**22 51 35.8**	**+1.1**
RFYF				*eSg*	**Sg**	**22 51 50.0**	**+0.7**
	13nm,0.2s						
STB	**Steinbach**	**1.30**	**1**	*eSg*	**Sg**	**22 51 55.5**	**-0.6**
HAU	**Haudompre**	**1.33**	**193**	*ePg*	**Pg**	**22 51 39.9**	**+0.5**
HAU				*eSg*	**Sg**	**22 51 57.6**	**+0.6**
	10nm,0.3s						
MEZF	**Maizieres J'vi**	**1.40**	**236**	*ePg*	**Pg**	**22 51 40.5**	**-0.3**
	baz=54						
MEZF				*eSg*	**Sg**	**22 51 59.6**	**+0.2**
	2.1nm,0.2s						
BFO	**Black Forest**	**1.41**	**133**	*ePg*	**Pg**	**22 51 41.9**	**+0.9**
	SNR=1.3						
BFO				*eSg*	**Sg**	**22 51 58.7**	**-1.0**
TNS	**Taunus Mts**	**1.42**	**49**	*ePg*	**Pg**	**22 51 40.6**	**-0.6**
	SNR=2.4						
TNS				*eSg*	**Sg**	**22 51 59.1**	**-1.1**
HINF	**Hinteralfeld**	**1.48**	**178**	*ePg*	**Pg**	**22 51 42.4**	**-0.1**
HINF				*eSg*	**Sg**	**22 52 02.8**	**+0.5**
	13nm,0.2s						
SFTF	**Sexfontaines**	**1.59**	**227**	*ePg*	**Pg**	**22 51 42.2**	**-2.5**
SFTF				*eSg*	**Sg**	**22 52 06.1**	**+0.2**
	1.8nm,0.2s						
BAIF	**Baives**	**1.84**	**295**	*eSg*	**Sg**	**22 52 12.8**	**-1.4**
	3.3nm,0.3s						
LOR	**Lormes**	**2.82**	**225**	*ePn*	**Pn**	**22 51 59.1**	**-0.9**
	baz=38						
LOR				*eSg*	**Sg**	**22 52 44.3**	**-2.5**
	1.6nm,0.3s						
SSF	**Saint Saulge**	**3.13**	**226**	*ePn*	**Pn**	**22 52 03.5**	**-1.0**

*IDC **09** 23:23:38.7±2.3, 41.69N×72.72E, mb4.1/2, mb1 3.9/6, mb1mx3.5/24, mbtmp3.7/6, ML3.4/4, Error ellipse: s-maj=27.0km s-min=15.2km az=2.0*
*KNET **09** 23:23:40.8, 41.80N×72.92E, h5km, ml3.5*
*NNC **09** 23:23:43.8±1.6, 42.16N×72.83E, mpv3.8, Error ellipse: s-maj=22.1km s-min=5.2km az=2.0*
*NEIC **09** 23:23:44.3±2.8, 41.85N×72.65E, h39km±26km, mb4.6/2, Error ellipse: s-maj=33.0km s-min=13.4km az=193.0*
*MOS **09** 23:23:46.1±1.7, 42.34N×72.67E, h33km, mb4.5/1, Error ellipse: s-maj=37.1km s-min=20.2km az=90.9*
ISC 09 23:23:40.0±0.7, 42.03N±0.06×72.58E±0.04, h10km, n30, σ1§49/47, mb4.3/4, 22C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.84**	**83**	P	**Pb**	**23 23 54.1**	**-2.0**
	176nm,0.2s,SNR=513						
AML				⇓S	**Sb**	**23 24 05.0**	**-2.2**
	699nm,0.2s						
EKS2	**Erkin-Say**	**1.09**	**54**	⇓P	**Pb**	**23 24 01.2**	**+0.7**
	50nm,0.2s,SNR=21						
EKS2				⇑S	**Sb**	**23 24 16.6**	**+2.0**
	134nm,0.1s						
UCH	**Uchtor**	**1.45**	**81**	⇑P	**Pn**	**23 24 04.8**	**-1.6**
	84nm,0.2s,SNR=251						
UCH				⇑S	**Sn**	**23 24 23.5**	**-1.6**
	332nm,0.2s						
KBK	**Karagaybulak**	**1.86**	**70**	⇑P	**Pn**	**23 24 13.4**	**+1.0**
	104nm,0.2s,SNR=269						
KBK				⇑S	**Sn**	**23 24 37.8**	**+1.6**
	476nm,0.3s						
KK31	**Karatay Array**	**1.87**	**306**	⇑P	**Pg**	**23 24 17.9**	**+0.6**
	21nm,0.3s,baz=128,slow=17,SNR=465						
KK31				⇓S	**Sg**	**23 24 47.0**	**+4.7**
	71nm,0.3s,baz=128,slow=25,SNR=10.0						
CHMS	**Chumysh**	**1.88**	**58**	⇑P	**Pn**	**23 24 14.8**	**+2.3**
	81nm,0.3s,SNR=83						
CHMS				⇑S	**Sn**	**23 24 40.8**	**+4.4**
	276nm,0.3s						
USP	**Ospenovka**	**1.88**	**48**	P	**Pn**	**23 24 15.6**	**+3.1**
	106nm,0.3s,SNR=125						
USP				⇑S	**Sn**	**23 24 41.9**	**+5.3**
	550nm,0.4s						
KZA	**Kyzart**	**1.99**	**88**	⇑P	**Pn**	**23 24 14.1**	**-0.1**
	74nm,0.2s,SNR=160						
KZA				⇑S	**Sn**	**23 24 39.4**	**+0.1**
	619nm,0.4s						
TKM2	**Tokmak 2**	**2.40**	**67**	⇑P	**Pn**	**23 24 22.3**	**+2.2**
	34nm,0.1s,SNR=58						
TKM2				⇓S	**Sn**	**23 24 55.3**	**+5.5**
	159nm,0.2s						
TKM2	**Tokmak 2**	**2.40**	**67**	⇑P	**Pn**	**23 24 22.4**	**+2.3**
	73nm,0.6s						
TKM2				⇓S	**Sn**	**23 24 55.1**	**+5.3**
	141nm,0.6s						
ULHL	**Ulahol**	**2.73**	**84**	⇑P	**Pn**	**23 24 25.0**	**+0.2**
	24nm,0.2s,SNR=72						
MK31	**Makanchi Array**	**8.42**	**52**	⇑Pn	**P**	**23 25 45.7**	**+0.7**
	1.5nm,0.5s,baz=227,slow=12,SNR=23						
MK31				⇑Lg		23 28 03.0	
	6.1nm,0.8s,baz=230,slow=25,SNR=4.3						
MKAR	**Makanchi Array**	**8.42**	**52**	Pn	**P**	**23 25 44.5**	**-0.5**
	0.3nm,0.3s,baz=232,slow=14,SNR=11						
MKAR				Lg		23 28 12.1	
	0.7nm,0.3s,baz=240,slow=28,SNR=7.5						
KURK	**Kurchatov**	**9.64**	**24**	⇑Lg		23 28 46.8	
	9.1nm,1.2s						
VOSK	**Vostochnaya**	**10.76**	**355**	⇑Pn	**P**	**23 26 16.9**	**-0.2**
	0.9nm,0.7s						
VOSK				⇑Sn	**S**	**23 28 16.4**	**-2.2**
	1.5nm,0.8s						
BVA0	**Borovoye Array**	**11.10**	**353**	⇑Pn	**P**	**23 26 23.6**	**+1.8**
	0.3nm,0.6s,baz=236,slow=44,SNR=18						
BVA0				⇓Sn	**S**	**23 28 25.9**	**-1.2**
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**11.10**	**353**	Pn	**P**	**23 26 22.0**	**+0.2**
	0.5nm,0.3s,baz=159,slow=12,SNR=9.9						
BVAR				Sn	**S**	**23 28 24.9**	**-2.2**
	0.5nm,0.3s,baz=166,slow=24,SNR=6.8						
BVAR	**Borovoye Array**	**11.10**	**353**	P	**P**	**23 26 22.0**	**+0.2**
BVAR						23 28 24.9	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
AB31	**Akbulak array**	**11.41**	**314**	⇑Pn	**P**	**23 26 26.3**	**+0.2**
	comp=N,2.2nm,0.6s,baz=118,slow=15,SNR=40						
AB31				⇓Sn	**S**	**23 28 33.8**	**-0.9**
	comp=N,1.6nm,0.7s						
AKTK	**Aktyubinsk**	**13.11**	**315**	Pn	**P**	**23 26 51.0**	**+2.2**
AKTK				Sn	**S**	**23 29 15.8**	**0.0**
AKTO	**Aktyubinsk**	**13.11**	**315**	⇑Pn	**P**	**23 26 51.0**	**+2.1**
	comp=N,0.9nm,1.8s						
AKTO	**Aktyubinsk**	**13.11**	**315**	Pn	**P**	**23 26 51.0**	**+2.2**
	comp=N,0.2nm,0.3s,baz=128,slow=16,SNR=3.7						
AKTO				Sn	**S**	**23 29 15.8**	**0.0**
	comp=N,0.1nm,0.3s,baz=319,slow=16,SNR=3.4						
ZAL	**Zalesovo**	**14.43**	**30**	Pn	**P**	**23 27 03.3**	**-2.8**
	comp=N,0.4nm,0.3s,baz=257,slow=12,SNR=3.2						
ZAL				Sn	**S**	**23 29 44.0**	**-3.1**
	comp=N,0.2nm,0.3s,baz=2.6,slow=23,SNR=4.9						
ZAL	**Zalesovo**	**14.43**	**30**	Pn	**P**	**23 27 03.3**	**-2.8**
ZAL				Sn	**S**	**23 29 44.0**	**-3.1**
CSS	**Prodhromos**	**31.31**	**270**	*eP*	**P**	**23 30 00.3**	**-2.2**
	comp=N,4.0nm,0.5s,mb4.5						
ENH	**Enshi**	**31.79**	**100**	*eP*	**P**	**23 30 04.8**	**-2.0**
	comp=N,5.2nm,0.4s,mb4.7						
FINES	**FINESS Array B**	**33.76**	**321**	P	**P**	**23 30 23.4**	**-0.2**
	comp=N,0.6nm,0.6s,mb3.7,baz=112,slow=10,SNR=4.4						
ARCES	**ARCESS Array B**	**36.60**	**334**	P	**P**	**23 30 48.2**	**+0.5**
	comp=N,4.2nm,1.0s,mb4.2,baz=108,slow=5.7,SNR=3.5						
ARCES	**ARCESS Array B**	**36.60**	**334**	P	**P**	**23 30 48.2**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**36.60**	**334**	P	**P**	**23 30 48.2**	**+0.5**

*CRAAG **09** 23:30:19.6, 6.53S×29.90E, Mb5.5*
*CSEM **09** 23:30:19.6, 6.53S×29.90E, h15km, mb5.5*
*BJI **09** 23:30:22.5, 5.72S×29.30E, h10km, mB5.8, mb5.4, Ms5.5, Msz5.3*
*IDC **09** 23:30:22.4±0.6, 6.18S×29.65E, mb5.1/22, mb1 5.2/23, mb1mx5.1/24, mbtmp5.1/23, ML4.5/1, MS5.2/11, Ms1 5.1/11, ms1mx5.0/22, Error ellipse: s-maj=17.9km s-min=14.3km az=113.0*
*NEIC **09** 23:30:23.9±0.1, 6.18S×29.71E, h10km, mb5.5/135, MS5.3/20, Error ellipse: s-maj=4.0km s-min=2.9km az=72.0*
*HRVD **09** 23:30:23.9±0.2, 6.19S×29.67E, h16km, MW5.5/57, Centroid moment Tensor Solution. LP body waves: s57,c97;Mantle waves: s43,c70; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.51±.04; $M_{\theta\theta}$-0.28±.04; $M_{\phi\phi}$ 1.79±.04; $M_{r\theta}$-0.52±.10; $M_{\theta\phi}$ 0.42±.03; $M_{\phi r}$ 0.76±.10; Best double couple: M_o1.948×10^{17} NP1: ϕ_s33°, δ39°, λ-54°. NP2:ϕ_s170°, δ59°, λ-115°. Principal axes: T 1.998, Plg11°, Azm278°; N -.096, Plg22°, Azm184°; P -1.897, Plg65°, Azm33°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 23:30:23.0±0.8, 5.98S×29.62E, h10km, mb5.6/92, MS5.1/30 Error ellipse: s-maj=9.3km s-min=3.1km az=98.9*
ISC 09 23:30:23.7±0.2, 6.13S±0.03×29.60E±0.03, h19km, h19km±1.4km; pP-P, n646, σ0§92/585, mb5.4/194, MS5.2/45, 15C-132D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.11**	**57**	Pn	**P**	**23 33 32.2**	**-5.1**
	26nm,0.3s,baz=224,slow=17,SNR=170						
KMBO				Sn	**Sn**	**23 34 11.0**	**-9.3**
	95nm,0.3s,baz=334,slow=23,SNR=14						
KMBO				Lg		23 35 02.5	
	125nm,0.3s,baz=356,slow=22,SNR=15						
KMBO				LR	LR	23 36 09.9	
	comp=Z,19μm,18.8s,baz=223,slow=38						
KMBO	**Kilima Mbogo**	**9.11**	**57**	*i* P	**P**	**23 32 32.9**	**-4.4**
KMBO				pmax	pmax		
	comp=Z,212nm,0.7s						
KMBO	**Kilima Mbogo**	**9.11**	**57**	Pn	**P**	**23 32 32.2**	**-5.1**
KMBO				Sn	**Sn**	**23 34 11.0**	**-9.3**
KMBO				Lg		23 35 02.5	
KMBO				LR	LR	23 36 09.9	
LSZ	**Lusaka**	**9.20**	**189**	*eP*	**P**	**23 32 35.2**	**-3.3**
LSZ				pmax	pmax		
	comp=Z,244nm,0.4s						
LSZ	**Lusaka**	**9.20**	**189**	*eP*	**P**	**23 32 35.2**	**-3.3**
	comp=Z,244nm,0.4s						
MATP	**Matopo**	**14.25**	**184**	Pn	**P**	**23 33 42.1**	**-4.8**
	comp=Z,6.0nm,0.3s,baz=9.6,slow=13,SNR=80						
MATP				Sn	**S**	**23 36 15.5**	**-10**
	comp=Z,15nm,0.3s,baz=98,slow=22,SNR=4.4						
MATP				Lg		23 37 46.0	
	comp=Z,9.6nm,0.3s,baz=96,slow=19,SNR=5.7						
TSUM	**Tsumeb**	**17.48**	**221**	Pn	**P**	**23 34 24.2**	**-4.2**
	comp=Z,6.9nm,0.3s,baz=26,slow=12,SNR=76						
TSUM				Sn	**S**	**23 37 30.8**	**-10**
	comp=Z,11nm,0.3s,baz=252,slow=12,SNR=4.0						
TSUM				Lg		23 39 19.9	
	comp=Z,9.1nm,0.3s,baz=281,slow=22,SNR=3.8						
TSUM				LR	LR	23 41 19.3	
	comp=Z,12μm,19.9s,baz=33,slow=38						
TSUM	**Tsumeb**	**17.48**	**221**	*eP*	**P**	**23 34 23.9**	**-4.4**
	comp=Z,225nm,0.8s						
LBTB	**Lobatse**	**19.17**	**191**	P	**P**	**23 34 45.9**	**-3.0**
	comp=Z,1.6nm,0.3s,baz=20,slow=13,SNR=50						
LBTB				S	**S**	**23 38 10.6**	**-8.1**
	comp=Z,4.9nm,0.3s,baz=128,slow=23,SNR=4.7						
LBTB				Lg		23 40 15.3	
	comp=Z,4.3nm,0.3s,baz=300,slow=23,SNR=2.1						
LBTB				LR	LR	23 42 19.3	
	comp=Z,23μm,18.1s,baz=38,slow=38						
LBTB	**Lobatse**	**19.17**	**191**	*eP*	**P**	**23 34 45.8**	**-3.1**
LBTB				pmax	pmax		
	comp=Z,1.0nm,1.6s						
LBTB	**Lobatse**	**19.17**	**191**	*eP*	**P**	**23 34 45.8**	**-3.2**
	comp=Z,0.8nm,1.6s						
OPO	**Ambohidratompo**	**21.14**	**127**	P	**P**	**23 35 08.0**	**-2.1**
	comp=Z,15nm,0.8s,mb4.4,baz=300,slow=9.1,SNR=13						
ATD	**Arta Tunnel**	**21.94**	**37**	P	**P**	**23 35 18.8**	**+0.6**
	comp=Z,110nm,1.2s,mb5.2,baz=258,slow=4.2,SNR=43						
ATD				Lg		23 41 53.0	
	comp=Z,29nm,1.0s,baz=28,sl

HTY Hatay 42.47 8 eP P P 23 38 20.4 +0.9
FETY Fethiye 42.54 359 P P 23 38 19.9 -0.1
ELL Elmali 42.65 0 P P 23 38 22.3 +1.3
ERMK Ermenek 42.66 4 iP P 23 38 17.4 -3.6
DAT Datca 42.67 358 P P 23 38 20.6 -0.5
DALT Dalyan (Mudla) 42.68 359 P P 23 38 21.1 -0.1
COBT Iskenderun 42.88 8 iP P 23 38 20.3 -2.5
BODT Bodrum 43.02 357 P P 23 38 23.4 -0.6
MERS Mersin 43.02 6 P P 23 38 24.4 +0.5
YER Yerkesik 43.05 358 P P 23 38 25.7 +1.4
GOLH Golhisar 43.14 360 iP P 23 38 25.1 +0.2
APE Apeiranthos 43.14 355 P P 23 38 24.9 0.0
APE Apeiranthos 43.14 355 diP P 23 38 25.3 +0.4
MLSB Milas 43.23 355 P P 23 38 26.1 +0.5
CEYT Ceyhan 43.30 7 P P 23 38 27.4 +1.2
BCK Bucak 43.37 1 eP P 23 38 28.2 +1.5
KARA Karaisali 43.46 6 P P 23 38 28.5 +0.9
DNZL Cakiroluk 43.59 359 iP P 23 38 28.0 -0.6
GAZ Gaziantep 43.66 9 P P 23 38 30.7 +1.6
ISP Isparta 43.75 1 P P 23 38 30.2 +0.4
ISP Isparta 43.75 1 diP P 23 38 30.6 +0.7
ISP Isparta 43.75 1 eP P 23 38 30.3 +0.4
comp=Z,175nm,1.2s,mb5.7
KOZT Kozan 43.77 7 P P 23 38 30.5 +0.5
KONT Konya--Tatoy 43.92 3 P P 23 38 32.7 +1.4
TKTP Tekketepe 43.95 1 iP P 23 38 30.9 -0.6
MSL Mosul 44.05 16 ex x 23 38 33.0
KAHT Ahir Dag 44.06 8 iP P 23 38 32.8 +0.4
ATAB Bozova 44.12 10 iP P 23 38 28.9 -3.9
URFA Urfa 44.19 11 P P 23 38 33.8 +0.4
URLA Izmir 44.35 357 iP P 23 38 29.9 -4.8
KDAG Bornova 44.36 357 iP P 23 38 33.7 -1.0
MARD Mardin 44.46 13 iP P 23 38 28.9 -6.7
KDHN Kadinhani 44.48 3 iP P 23 38 38.5 +2.7
AKS Akhisar 44.81 358 P P 23 38 39.7 +1.3
KIZT Kizilcal 44.83 3 P P 23 38 39.8 +1.2
AVNT Avonos 44.95 6 iP P 23 38 38.5 -1.0
ALT Altintas 44.96 1 P P 23 38 40.5 +0.9
MYA Malataya 44.98 10 P P 23 38 41.1 +1.3
BEST Besiri 45.12 13 iP P 23 38 39.5 -1.4
BNN Bunyan 45.13 7 P P 23 38 41.9 +0.9
AGST Augusta-Monte 45.20 344 P P 23 38 42.2 +0.7
ELZG Elazig 45.25 10 iP P 23 38 38.5 -3.4
HAKT HAKKARI 45.41 16 iP P 23 38 40.5 -2.7
AGG Agios Georgios 45.42 352 eP P 23 38 42.9 -0.4
KAMT Kaman 45.43 4 P P 23 38 44.3 +1.0
ESKT Eskisehir 45.43 1 P P 23 38 44.1 +0.7
ESKT Eskisehir 45.43 1 iP P 23 38 42.4 -1.0
BTMT Batman 45.46 13 P P 23 38 45.0 +1.5
DST Dursunbey 45.51 359 P P 23 38 44.8 +0.8
BALB Balikesir 45.57 358 eP P 23 38 45.2 +0.8
PTK Pertek 45.70 11 P P 23 38 45.4 0.0
CDAG Cicekdag 45.74 5 iP P 23 38 44.3 -1.5
SOI Samo 45.75 345 P P 23 38 46.4 +0.6
SOI pmax pmax
comp=Z,125nm,1.6s,mb5.6
SOI Samo 45.75 345 P P 23 38 46.4 +0.6
comp=Z,125nm,1.6s,mb5.6
MTTG Motta San Giov 45.77 345 P P 23 38 46.9 +0.8
BR131 Keskin Arfoy S 45.78 4 eP P 23 38 46.5 +0.5
comp=Z,60nm,0.8s,mb5.6
BRTR Keskin Array B 45.78 4 P P 23 38 46.8 +0.7
comp=Z,69nm,0.8s,mb5.7,baz=179,slow=9.2,SNR=434
ANTO Ankara 45.86 3 P P 23 38 47.0 +0.3
ANTO Ankara 45.86 3 eP P 23 38 47.1 +0.4
ANTO pmax pmax
comp=Z,63nm,1.1s,mb5.5
ANTO Ankara 45.86 3 eP P 23 38 47.1 +0.3
comp=Z,63nm,1.1s,mb5.5
LOD Lodumlu 45.88 3 eP P 23 38 47.4 +0.5
CEL Celeste 45.97 345 P P 23 38 48.2 +0.6
ATN Antennamare 45.98 344 P P 23 38 49.1 +1.4
SCLL Scilla 46.01 345 P P 23 38 48.9 +1.0
ULDT Uludag 46.04 360 iP P 23 38 46.2 -1.9
CSLB Castelbuono 46.17 343 P P 23 38 50.5 +1.3
SVST Sivas 46.17 8 iP P 23 38 49.1 -0.1
GIB Gibilmanna 46.23 343 P P 23 38 51.4 +1.8
GIB pmax pmax
comp=Z,284nm,1.1s,mb6.1
GIB Gibilmanna 46.23 343 P P 23 38 51.4 +1.8
comp=Z,284nm,1.1s,mb6.1
TVAN Van 46.24 15 iP P 23 38 48.1 -1.6
VANB Van 46.30 15 eP P 23 38 51.1 +0.9
MFNL Monte Finestre 46.38 342 P P 23 38 54.8 +4.0
comp=Z,248nm,1.4s,mb6.0
MDU Mudurnu 46.39 2 P P 23 38 52.1 +1.2
YLV Yalova 46.47 360 P P 23 38 51.3 -0.1
ELDT Eldivan 46.52 4 iP P 23 38 49.1 -2.9
SGKT Sivrigoynuk 46.53 3 iP P 23 38 49.1 -2.9
TIP Timpagrande 46.62 346 P P 23 38 46.8 -5.9
ERC Erice 46.71 341 P P 23 38 54.1 +0.7
HRT Hereke 46.72 0 eP P 23 38 54.5 +1.0
HENT Hendek 46.74 1 iP P 23 38 52.0 -1.7
CTKT Corum 46.77 5 iP P 23 38 52.0 -1.9
KELT Kelkit 46.90 10 iP P 23 38 52.9 -2.0
ALN Alexandroupoli 46.91 356 eP P 23 38 52.5 -2.5
CLDR Caldiran 46.95 15 eP P 23 38 56.3 +0.9
ELBA Catalca 47.06 359 iP P 23 38 51.0 -5.2
SOH Sokhos 47.07 354 eP P 23 38 56.2 -0.1
ERZM Erzurum 47.07 12 iP P 23 38 54.8 -1.5
EZM Erzurum 47.07 12 eP P 23 38 58.0 +1.7
TOY Tosya 47.11 1 eP P 23 38 56.4 +0.2
CMER Merouana 47.13 333 P P 23 38 58.0 +1.2
TDS Terranova Siba 47.18 346 P P 23 38 58.2 +1.1
TDS pmax pmax
comp=Z,766nm,1.8s,mb6.3
TDS Terranova Siba 47.18 346 P P 23 38 58.2 +1.1
comp=Z,766nm,1.8s,mb6.3
SAFT Safranbolu 47.22 3 eP P 23 38 57.2 -0.3
GUMT Gumushane 47.24 10 eP P 23 38 58.4 +0.7
FNA Florina 47.29 351 eP P 23 38 57.9 -0.2
GRG Griva 47.32 353 eP P 23 38 58.0 -0.2
CMAH Djebel Manchou 47.33 336 P P 23 39 00.0 +1.6
CASM Ain Smara 47.41 344 P P 23 39 03.0 +4.0
CKFL Kef-Lekhel 47.43 335 P P 23 39 00.0 +0.8
KNT Kendrikon 47.46 353 eP P 23 38 58.4 -1.0
GRSN GIRESUNGRSN 47.49 9 iP P 23 38 56.7 -2.9
BALT Daday 47.56 4 iP P 23 38 57.7 -2.4
BOYT Boyabat 47.57 5 iP P 23 38 58.7 -1.5
BYBT Boyabat 47.60 5 eP P 23 39 00.6 +0.1
CKHR Kef el Ahmar 47.63 333 P P 23 39 02.0 +1.2
KDZ Kurdzhali 47.70 356 iP P 23 39 01.5 +0.3
MACK Trabzon 47.76 10 iP P 23 38 56.7 -5.0
MMB Musomiste 47.79 354 iP P 23 39 01.5 -0.4
RZN Rozhen 47.79 355 iP P 23 39 02.5 +0.5
SET Setif 47.84 333 P P 23 39 03.0 +0.6
DFRA Djebel Bou Aff 47.92 334 P P 23 39 04.0 +1.0
DIGO Kars 48.02 14 iP P 23 39 00.6 -3.2
DIM Dimitrovgrad 48.09 356 iP P 23 39 04.5 +0.2
GNI Garni 48.12 16 P P 23 39 05.9 +1.4
comp=Z,33nm,0.8s,mb5.4,baz=240,slow=0.3,SNR=46
GNI Garni 48.12 16 diP P 23 39 05.8 +1.3
GNI pmax pmax
comp=Z,150nm,1.6s
GNI MLR MLR
comp=Z,2µm,16.0s
GNI Garni 48.12 16 eP P 23 39 05.6 +1.1
comp=Z,140nm,1.3s,mb5.8
KKB Krupnik 48.13 353 iP P 23 39 05.5 +0.9
PLD Plovdiv 48.21 355 eP P 23 39 05.5 +0.3
SGO Sicignano 48.28 345 P P 23 39 05.5 -0.3
SGO pmax pmax
comp=Z,29nm,0.6s,mb5.5
SGO Sicignano 48.28 345 P P 23 39 05.5 -0.3
comp=Z,28nm,0.6s,mb5.5
ARTV Artvin 48.42 12 iP P 23 39 04.4 -2.4
JMB Yambol 48.44 357 eP P 23 39 06.5 -0.5
PGB Panagyurishte 48.70 355 iP P 23 39 08.5 -0.4
BHJ Bhuj 48.82 52 eP P 23 39 10.1 -0.1
BHJ AMb AMB 23 39 18.5
comp=Z,74nm,2.6s,mb5.3
VTS Vitosha 48.84 354 eP P 23 39 10.5 +0.5
VSL Villasalto 49.10 339 eP P 23 39 12.3 +0.2
comp=Z,493nm,1.8s,mb6.2
PRD Provadia 49.14 358 eP P 23 39 12.5 +0.2
BARS Barje 49.23 352 tiP P 23 39 13.2 +0.1
SGG Gregorio Mates 49.30 345 P P 23 39 14.1 +0.5
DGRG David-gareji 49.50 16 P P 23 39 15.2 0.0
MTA Mtatsminda 49.58 15 P P 23 39 15.8 +0.1
SAMG Sameba 49.59 15 P P 23 39 14.9 -1.0
PSN Preselentsi 49.59 359 eP P 23 39 15.5 -0.3

TBLG Delisi 49.60 15 P P 23 39 16.6 +0.7
TI2 Plekhanov 49.60 15 ⇓iP P 23 39 17.0 +1.1
POO Poona 50.04 60 eP P 23 39 18.6 -0.9
POO AMb AMB 23 39 29.1
comp=Z,89nm,1.5s,mb5.6
ONI Oni 50.09 13 P P 23 39 20.4 +0.7
SOC Sochi 50.32 10 eP P 23 39 20.5 -0.9
SOC e 23 40 41.7
SOC e 23 41 14.3
SOC ePPP PPP 23 42 10.0 -4.7
SOC eS S 23 46 32.3 +0.5
SOC e 23 49 13.1
SOC eSSS SSS 23 51 31.2 -2.5
SOC pmax pmax
comp=Z,99nm,1.4s,mb5.7
SOC MLR MLR
comp=Z,1µm,12.0s,MS5.1
TIRR Tirgusor 50.37 359 eP P 23 39 21.0 -0.7
GRUS Gruza 50.43 352 eP P 23 39 22.8 +0.6
AQU L'Aquila 50.46 344 eP P 23 39 23.0 +0.5
AQU pmax pmax
comp=Z,42nm,0.9s,mb5.5
AQU L'Aquila 50.46 344 eP P 23 39 23.0 +0.5
comp=Z,42nm,0.9s,mb5.5
HARR Harsova 50.61 358 ⇑iP P 23 39 22.4 -1.1
DIVS Divcibare 50.74 351 ⇑iP P 23 39 25.1 +0.5
SVIS Svilajnac 50.76 352 ⇓iP P 23 39 25.2 +0.5
DJES Djerdap 50.93 353 eP P 23 39 25.9 -0.1
SIM Simferopol' 51.01 4 eP P 23 39 26.4 -0.2
SIM e 23 41 28.0
SIM eS S 23 46 41.0 -0.3
SIM pmax pmax
comp=Z,200nm,9.0s
SIM pmax pmax
comp=Z,100nm,9.0s
CFR Carcaliu 51.09 359 ⇓P P 23 39 25.9 -1.3
ANN Anapa 51.18 7 eP P 23 39 27.0 -0.9
ANN eS S 23 46 44.6 +0.9
ANN pmax pmax
comp=Z,65nm,0.9s,mb5.6
ANN MLR MLR
comp=Z,546nm,11.0s,MS4.8
KIV Kislovodsk 51.23 12 diP P 23 39 28.5 +0.2
KIV e*PP pP 23 39 35.1 +0.9
KIV eS S 23 46 46.7 +2.3
KIV eSS SS 23 50 22.5 +4.5
KIV pmax pmax
comp=Z,160nm,1.2s,mb5.8
KIV MLR MLR
comp=Z,1µm,13.0s,MS5.1
KIV Kislovodsk 51.23 12 iPr 23 39 28.6
VAN Vannovskaya 51.26 29 P P 23 39 28.2 -0.4
MAK Makhachkala 51.49 17 diP P 23 39 27.0 -3.3
MAK e 23 41 26.6
MAK ePPP PPP 23 42 30.9 +0.9
MAK eS S 23 46 56.1 +8.1
MAK pmax pmax
comp=Z,380nm,1.5s,mb6.1
MAK MLR MLR
comp=Z,2µm,12.0s,MS5.4
VRI Vrincioaia 51.83 357 ⇑iP P 23 39 32.5 -0.3
BZS Buzias 52.03 353 ⇓P P 23 39 34.2 +0.1
EMUR La Murta 52.33 329 P P 23 39 37.0 +0.3
comp=Z,51nm,1.5s,mb5.2
GOF Gofitskoye 52.36 12 eP P 23 39 36.7 -0.1
GOF pmax pmax
comp=Z,140nm,0.8s,mb5.9
EBER Berja 52.49 327 P P 23 39 38.4 +0.5
comp=Z,34nm,1.2s,mb5.2
EGUA Guajares 52.81 327 P P 23 39 40.8 +0.5
KIS Kishinev 52.90 359 eP P 23 39 40.0 -0.8
KIS e 23 41 45.0
KIS eS S 23 47 08.0 +0.9
KIS MLR MLR
comp=Z,1µm,15.0s,MS5.0
KIS MLR MLR
comp=Z,1µm,16.0s
EHUE Huescar 53.01 328 P P 23 39 42.4 +0.6
EHUE pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
EHUE Huescar 53.01 328 P P 23 39 42.4 +0.6
comp=Z,8.6nm,1.0s,mb4.6
PKSM Moragy 53.02 350 P P 23 39 41.9 +0.2
DRGR Buzias 53.04 354 ⇓P P 23 39 41.3 -0.6
ERON Agron 53.07 327 P P 23 39 43.2 +1.0
comp=Z,21nm,0.9s,mb5.1
ETOB Tobarra 53.10 330 P P 23 39 42.8 +0.4
comp=Z,54nm,1.5s,mb5.3
IAS Iasi 53.12 358 P P 23 39 42.1 -0.3
ECOG Cogollos-Vega 53.13 327 P P 23 39 44.0 +1.3
ECOG pmax pmax
comp=Z,23nm,0.9s,mb5.1
ECOG Cogollos-Vega 53.13 327 P P 23 39 44.0 +1.3
comp=Z,23nm,0.9s,mb5.1
GCIS Gornji Cirnik 53.25 348 eP P 23 39 43.8 +0.4
EQES Quesada 53.25 328 P P 23 39 43.8 +0.2
comp=Z,51nm,1.2s,mb5.3
EMIJ Mijas 53.28 325 P P 23 39 42.7 -1.1
comp=Z,16nm,1.0s,mb4.9
ELOJ Sierra Loja 53.36 326 P P 23 39 45.4 +1.1
ELOJ pmax pmax
comp=Z,22nm,0.8s,mb5.1
ELOJ Sierra Loja 53.36 326 P P 23 39 45.4 +1.1
comp=Z,22nm,0.8s,mb5.2
LMR La Mourre 53.49 339 ⇓iP P 23 39 44.4 -0.9
DOBS Dobrina 53.55 348 eP P 23 39 45.9 +0.3
EVIA Vianos 53.58 329 P P 23 39 46.7 +0.8
EVIA pmax pmax
comp=Z,40nm,1.0s,mb5.3
EVIA Vianos 53.58 329 P P 23 39 46.6 +0.7
comp=Z,40nm,1.0s,mb5.3
EJIF Jimena Fronter 53.60 325 P P 23 39 46.1 0.0
SBF Sospel 53.64 340 ⇓iP P 23 39 45.6 -0.7
comp=Z,123nm,1.1s,mb5.5
SBF Sospel 53.64 340 ⇓iP P 23 39 45.6 -0.7
SBF pmax pmax
comp=Z,61nm,1.1s,mb5.4
FRF La Foret Royal 53.65 339 eP P 23 39 45.8 -0.5
comp=Z,68nm,1.0s,mb5.2
FRF La Foret Royal 53.65 339 eP P 23 39 45.8 -0.5
FRF pmax pmax
comp=Z,34nm,1.0s,mb5.2
BURAR Bucovina Array 53.65 356 ⇓P P 23 39 47.3 +1.0
BURAR Bucovina Array 53.65 356 ⇓P P 23 39 47.3 +1.0
KOGS Kog 53.68 349 eP P 23 39 46.9 +0.4
HYB Hyderabad 53.71 63 iP P 23 39 45.0 -2.1
HYB ePcP PcP 23 40 54.0 +0.8
HYB Hyderabad 53.71 63 eP P 23 39 45.0 -2.1
ELUQ Luque 53.72 327 P P 23 39 47.2 +0.2
ELUQ pmax pmax
comp=Z,12nm,0.8s,mb4.9
ELUQ Luque 53.72 327 P P 23 39 47.2 +0.2
comp=Z,12nm,0.8s,mb4.9
EBR Ebro Roquetas 53.82 333 eP P 23 39 50.0 +2.3
EBAN Banos Encina 53.90 328 P P 23 39 48.1 -0.2
EBAN pmax pmax
comp=Z,29nm,0.9s,mb5.2
EBAN Banos Encina 53.90 328 P P 23 39 48.1 -0.1
comp=Z,29nm,0.9s,mb5.2
EMOS Mogueruela 53.91 332 P P 23 39 50.1 +1.8
comp=Z,126nm,1.7s,mb5.6
EPOB Poblet 53.99 334 P P 23 39 49.9 +1.1
comp=Z,104nm,1.6s,mb5.5
ERTA Horta de San J 54.00 333 P P 23 39 48.7 -0.2
comp=Z,176nm,2.4s,mb5.6
PERS Pernice 54.09 348 eP P 23 39 49.9 +0.4
ESPR Espera 54.11 325 P P 23 39 49.9 0.0
comp=Z,42nm,0.7s,mb5.5
BUD Budapest 54.19 351 ⇓eP P 23 39 50.3 0.0
EMIR Miracle 54.25 334 P P 23 39 52.5 +1.7
comp=Z,63nm,0.9s,mb5.5
CFTV Fuerteventura 54.32 311 P P 23 39 51.4 -0.1
comp=Z,25nm,0.9s,mb5.2
EADA Adamuz 54.33 327 P P 23 39 53.3 +1.9
comp=Z,11nm,1.4s,mb4.6
SMRF Simiane la Rot 54.39 339 eP P 23 39 52.4 +0.6
PSZ Piszkesteto 54.49 352 ⇓iP P 23 39 52.1 -0.4
PSZ Piszkesteto 54.49 352 eP P 23 39 51.6 -0.9
PSZ pmax pmax
comp=Z,14nm,0.8s,mb4.9
PSZ Piszkesteto 54.49 352 eP P 23 39 51.6 -0.9
comp=Z,14nm,0.8s,mb5.0
SRO2 Moca 54.56 351 eP P 23 39 53.3 +0.3
SRO1 Iza 54.59 351 eP P 23 39 53.8 +0.6

ARSA Arzberg 54.59 348 iP P 23 39 54.0 +0.8
comp=Z,63nm,1.9s,mb5.3,SNR=7.2
MBDF Montbardon 54.63 340 ⇓iP P 23 39 53.5 0.0
comp=Z,125nm,1.3s,mb5.5
MBDF Montbardon 54.63 340 ⇓iP P 23 39 53.5 0.0
MBDF pmax pmax
comp=Z,62nm,1.3s,mb5.5
SRO Srobarova 54.63 351 eP P 23 39 53.7 +0.2
KBA Koelnbreinsper 54.90 346 ⇓iP P 23 39 55.9 +0.3
comp=Z,34nm,0.9s,mb5.4,SNR=5.3
KBA Koelnbreinsper 54.90 346 ⇓iP P 23 39 55.9 +0.4
KBA pmax pmax
comp=Z,34nm,0.9s,mb5.4
BNI Bardonecchia 54.94 340 eP P 23 39 55.7 -0.2
BNI pmax pmax
comp=Z,37nm,0.8s,mb5.5
BNI Bardonecchia 54.94 340 eP P 23 39 55.7 -0.1
comp=Z,37nm,0.8s,mb5.5
KECS Kecovo 54.97 353 eP P 23 39 56.1 +0.1
ESAC San Caprasio 54.98 333 P P 23 39 56.6 +0.4
comp=Z,114nm,0.8s,mb6.0
EGRA Graus 55.01 334 P P 23 39 56.7 +0.3
comp=Z,64nm,0.9s,mb5.7
BHPL Bhopal 55.08 56 eP P 23 39 57.1 0.0
BHPL AMb AMB 23 40 05.9
comp=Z,188nm,1.7s,mb5.8
SALF Salau 55.08 335 eP P 23 39 57.6 +0.7
ORIF Oris-en-Rattie 55.10 340 ⇓iP P 23 39 56.3 -0.7
ORIF eR
comp=Z,2µm,19.0s
ESDC Sonseca Array 55.11 329 P P 23 39 57.4 +0.2
comp=Z,12nm,0.9s,mb4.9,baz=143,slow=7.3,SNR=50
ESDC PcP PcP 23 40 58.8 +0.5
comp=Z,6.0nm,0.8s,baz=132,slow=4.2,SNR=5.0
ESDC Sonseca Array 55.11 329 P P 23 39 57.5 +0.3
comp=Z,7.1nm,0.8s,mb4.8
ESLA Sonseca Array 55.11 329 eP P 23 39 57.0 -0.1
comp=Z,21nm,1.5s,mb5.0
LASF Ste Croix 55.11 338 ⇓iP P 23 39 57.1 0.0
comp=Z,182nm,1.4s,mb5.6
MTLF Montolieu 55.13 336 ⇓iP P 23 39 56.7 -0.6
comp=Z,179nm,1.8s,mb5.5
MTLF Montolieu 55.13 336 ⇓iP P 23 39 56.7 -0.6
MTLF pmax pmax
comp=Z,89nm,1.8s,mb5.5
ZST Bratislava 55.20 350 eP P 23 39 57.3 -0.4
ZST eL 00 23 44.4
KOLS Kolonicke sedl 55.20 354 eP P 23 39 58.2 +0.5
EMIN Mina Concepcio 55.21 325 P P 23 39 57.5 -0.4
comp=Z,56nm,1.2s,mb5.5
VYHS Vyhne 55.21 351 eP P 23 39 57.3 -0.4
VYHS eL 00 22 53.1
CRVS Cervenica-Dubn 55.26 353 eP P 23 39 58.3 +0.2
MELF Melles 55.36 334 eP P 23 39 59.9 +1.0
MOA Molln 55.42 348 iP P 23 39 59.0 -0.3
comp=Z,106nm,1.9s,mb5.5,SNR=30
MOA Molln 55.42 348 iP P 23 39 59.0 -0.3
comp=Z,106nm,1.9s,mb5.5
SMOL Smolenice 55.45 350 eP P 23 39 59.3 -0.2
VIVF Saint-Julien-l 55.47 339 ⇓iP P 23 39 59.6 -0.1
comp=Z,322nm,1.7s,mb5.8
VIVF Saint-Julien-l 55.47 339 ⇓iP P 23 39 59.6 -0.1
VIVF pmax pmax
comp=Z,161nm,1.7s,mb5.8
EBIE Bielsa 55.48 334 P P 23 40 00.4 +0.6
comp=Z,79nm,1.7s,mb5.5
WTTA Wattenberg 55.49 345 ⇓iP P 23 39 59.6 -0.2
comp=Z,51nm,1.1s,mb5.5,SNR=11
WTTA Wattenberg 55.49 345 ⇓iP P 23 39 59.6 -0.2
WTTA pmax pmax
comp=Z,51nm,1.1s,mb5.5
EGRO El Granado 55.51 324 P P 23 40 00.2 +0.1
comp=Z,28nm,0.8s,mb5.3
SQTA Sankt Quirin 55.56 345 iP P 23 40 00.1 -0.2
comp=Z,22nm,0.9s,mb5.2,SNR=15
SQTA Sankt Quirin 55.56 345 iP P 23 40 00.1 -0.2
SQTA pmax pmax
comp=Z,22nm,0.9s,mb5.2
WATA Walderalm 55.57 345 ⇑iP P 23 40 00.2 -0.2
comp=Z,21nm,1.1s,mb5.1,SNR=8.3
WATA Walderalm 55.57 345 ⇑iP P 23 40 00.2 -0.2
WATA pmax pmax
comp=Z,21nm,1.1s,mb5.1
WATA Walderalm 55.57 345 ⇑iP P 23 40 00.2 -0.2
comp=Z,21nm,1.1s,mb5.1
EPF Esparros 55.67 334 ⇓iP P 23 40 01.2 +0.1
comp=Z,307nm,1.7s,mb5.8
EPF Esparros 55.67 334 ⇓iP P 23 40 01.2 +0.1
EPF pmax pmax
comp=Z,153nm,1.7s,mb5.8
MOTA Moosalm 55.70 345 ⇓iP P 23 40 00.8 -0.5
comp=Z,26nm,1.0s,mb5.2,SNR=17
MOTA Moosalm 55.70 345 ⇓iP P 23 40 00.8 -0.5
MOTA pmax pmax
comp=Z,26nm,1.0s,mb5.2
STHS Stebnicka Huta 55.79 353 eP P 23 40 02.2 +0.3
LABF Labassere 55.80 334 eP P 23 40 02.9 +0.8
KWP Kalwaria 55.85 355 ⇓eP P 23 40 02.5 +0.2
KWP epP pP 23 40 08.5 +0.2
KWP MLR MLR 00 04 17.6
comp=Z,2µm,22.4s,MS5.1
NIE Niedzica 55.91 353 ⇓iP P 23 40 02.8 0.0
ETSF Etsaut 55.95 334 ⇓iP P 23 40 03.3 +0.1
comp=Z,90nm,1.1s,mb5.4
ETSF Etsaut 55.95 334 ⇓iP P 23 40 03.3 +0.1
ETSF pmax pmax
comp=Z,45nm,1.1s,mb5.4
DAVA Damuels 55.97 344 ⇓iP P 23 40 02.3 -1.0
comp=Z,94nm,1.2s,mb5.7,SNR=16
DAVA Damuels 55.97 344 ⇓iP P 23 40 02.2 -1.0
comp=Z,94nm,1.3s,mb5.7
REYF Montagne du Re 56.02 334 eP P 23 40 04.3 +0.7
PBEJ Beja 56.07 325 eP P 23 40 04.4 +0.3
EBAD Badajoz 56.09 326 P P 23 40 04.3 +0.1
comp=Z,71nm,2.4s,mb5.3
ATE Arette 56.17 334 eP P 23 40 05.2 +0.5
OG05 Jujurieux 56.22 340 eP P 23 40 05.2 +0.1
PTEO Sao Teotonio 56.24 324 eP P 23 40 06.3 +1.0
comp=Z,109nm,1.6s,mb5.6
UBR Uberruh 56.27 344 ⇓eP P 23 40 04.5 -0.9
VRAC Vranov 56.36 350 P P 23 40 05.4 -0.6
FUR Furstenfeldbru 56.42 345 eP P 23 40 05.6 -0.8
FUR pmax pmax
comp=Z,68nm,1.0s,mb5.6
FUR Furstenfeldbru 56.42 345 eP P 23 40 05.6 -0.8
comp=Z,68nm,1.0s,mb5.6
SJPF Ste Jean 56.42 333 ⇓iP P 23 40 06.7 +0.1
comp=Z,133nm,1.1s,mb5.6
SJPF Ste Jean 56.42 333 ⇓iP P 23 40 06.7 +0.1
SJPF pmax pmax
comp=Z,66nm,1.1s,mb5.6
GEC2 GERESS Array S 56.49 347 eP P 23 40 06.6 -0.3
GEC2 e 23 42 13.4
GEC2 pmax pmax
comp=Z,54nm,1.1s,mb5.5
GEC2 GERESS Array S 56.49 347 eP P 23 40 06.6 -0.3
comp=Z,54nm,1.1s,mb5.5
GEC2 ePP PP 23 42 13.4 -0.9
GERES GERESS Array B 56.49 347 P P 23 40 06.5 -0.4
comp=Z,14nm,0.7s,mb5.1,baz=161,slow=7.0,SNR=123
GERES LR LR 00 06 44.7
comp=Z,2µm,19.6s,MS5.1,baz=120,slow=39
EVO Evora 56.50 325 eP P 23 40 07.0 -0.2
comp=Z,34nm,1.1s,mb5.0
EVO eR
comp=Z,2µm,19.2s
CABF La Chapelle 56.51 341 ⇓iP P 23 40 06.1 -1.1
comp=Z,24nm,0.7s,mb5.0
CABF La Chapelle 56.51 341 ⇓iP P 23 40 06.1 -1.1
CABF pmax pmax
comp=Z,12nm,0.7s,mb5.0
CAF Calviac 56.52 337 ⇓iP P 23 40 07.1 -0.1
TREC Trest 56.55 349 ⇓iP P 23 40 06.2 -1.2
AKASG Malin Array Be 56.60 360 P P 23 40 06.5 -1.2
comp=Z,20nm,0.6s,mb5.3,baz=184,slow=6.8,SNR=37
AKASG PcP PcP 23 41 02.8 -1.1
comp=Z,6.5nm,0.8s,baz=186,slow=5.0,SNR=5.6
AKASG Malin Array Be 56.60 360 iP P 23 40 06.5 -1.2
AKASG pmax pmax
comp=Z,20nm,0.6s
OKC Ostrava-Krasne 56.62 351 ⇓iP P 23 40 07.0 -0.9
OKC epP pP 23 40 12.4 -1.4
MORC Moravsky Berou 56.66 351 eP P 23 40 07.0 -1.1
MORC pmax pmax
comp=Z,61nm,1.1s,mb5.5
MORC Moravsky Berou 56.66 351 eP P 23 40 07.0 -1.2

comp=Z,61nm,1.1s,mb5.5
FRNF Fournols 56.71 337 *e*P **P** **23 40 08.8 +0.2**
OJC Ojcow 56.76 352 *e*P **P** **23 40 07.9 -1.0**
OJC *e*PP PP 23 42 14.4 -2.3
KHC Kasperske Hory 56.78 347 ⇓*i*P **P** **23 40 08.4 -0.7**
KHC *e*pP pP 23 40 12.5 -2.5
PLDF La Plantade 56.81 339 *e*P **P** **23 40 08.8 -0.5**
BBS Basel-Blauen 56.82 342 *e*P **P** **23 40 09.0 -0.4**
RAC Raciborz 56.85 351 *e*P **P** **23 40 09.1 -0.4**
RAC MLR MLR 00 04 54.4
comp=Z,1µm,23.1s,MS5.0
GUT Gutenstein 56.90 344⇓*e*P **P** **23 40 09.5 -0.4**
LOMF Lomont 56.93 342 *e*P **P** **23 40 10.1 0.0**
WET Wettzell 56.95 347 *e*P **P** **23 40 09.5 -0.8**
WET *e* 23 42 17.2
WET pmax pmax
comp=Z,56nm,1.2s,mb5.5
WET Wettzell 56.95 347 *e*P **P** **23 40 09.5 -0.8**
comp=Z,56nm,1.2s,mb5.5
WET *e*PP PP 23 42 17.2 -1.2
FELD Feldberg 57.04 343 *e*P **P** **23 40 10.7 -0.2**
FELD Feldberg 57.04 343 *e*P **P** **23 40 10.6 -0.3**
RJF Les Rejaudoux 57.05 337⇓*i*P **P** **23 40 10.7 -0.3**
comp=Z,188nm,1.6s,mb5.6
RJF Les Rejaudoux 57.05 337⇓*i*P **P** **23 40 10.7 -0.3**
RJF pmax pmax
comp=Z,94nm,1.6s,mb5.6
LFF La Frestale 57.05 336⇓*i*P **P** **23 40 10.9 -0.2**
comp=Z,122nm,1.0s,mb5.6
LFF La Frestale 57.05 336⇓*i*P **P** **23 40 10.9 -0.2**
LFF pmax pmax
comp=Z,61nm,1.0s,mb5.6
AGO Saint Agoulin 57.06 338 *e*P **P** **23 40 10.9 -0.2**
HDH Heidenheim 57.08 345 *e*P **P** **23 40 10.6 -0.6**
PCBR Castelo Branco 57.10 326 *e*P **P** **23 40 11.7 +0.2**
comp=Z,14nm,1.2s,mb4.9
KIZ Kirchzarten 57.14 343 *e*P **P** **23 40 11.0 -0.6**
MOF Molkenrain 57.28 342 *e*P **P** **23 40 12.2 -0.4**
SMF Signal de Mont 57.31 339⇓*i*P **P** **23 40 12.1 -0.7**
comp=Z,64nm,1.0s,mb5.3
SMF Signal de Mont 57.31 339⇓*i*P **P** **23 40 12.1 -0.7**
SMF pmax pmax
comp=Z,32nm,1.0s,mb5.3
HINF Hinteralfeld 57.34 342⇓*i*P **P** **23 40 12.1 -0.9**
comp=Z,62nm,1.0s,mb5.3
HINF Hinteralfeld 57.34 342⇓*i*P **P** **23 40 12.1 -0.9**
HINF pmax pmax
comp=Z,31nm,1.0s,mb5.3
BFO Black Forest 57.36 343 *e*P **P** **23 40 12.7 -0.5**
BFO pmax pmax
comp=Z,56nm,1.5s,mb5.4
BFO Black Forest 57.36 343 *e*P **P** **23 40 12.7 -0.5**
comp=Z,56nm,1.5s,mb5.4
PRU Pruhonice 57.40 349⇓*i*P **P** **23 40 11.7 -1.7**
LIBD Limburg 57.41 343 *e*P **P** **23 40 13.6 +0.1**
LIBD Limburg 57.41 343 *e*P **P** **23 40 13.1 -0.4**
DPC Dobruska-Polom 57.41 350⇓*i*P **P** **23 40 12.6 -0.9**
PTOM Tomar 57.47 326 *e*P **P** **23 40 15.2 +1.2**
PRA Prague 57.50 348 ⇓P **P** **23 40 13.0 -1.1**
STU Stuttgart 57.52 344 *e*P **P** **23 40 14.4 +0.1**
STU pmax pmax
comp=Z,36nm,0.8s,mb5.5
STU Stuttgart 57.52 344 *e*P **P** **23 40 14.4 +0.1**
comp=Z,36nm,0.8s,mb5.5
ELAN Lanestosa 57.53 332 P **P** **23 40 14.1 -0.3**
comp=Z,21nm,0.9s,mb5.2
MTE Manteigas 57.53 327 *e*P **P** **23 40 14.8 +0.3**
comp=Z,40nm,1.5s,mb5.2
MTE Manteigas 57.53 327 *e*LQ 23 57 49.3
MTE Manteigas 57.53 327 *e*P **P** **23 40 14.3 -0.2**
comp=Z,15nm,0.8s,mb5.1
LBG Lerchenberg 57.53 344⇓*e*P **P** **23 40 14.2 -0.2**
BGF Bois d'Agland 57.59 338⇓*i*P **P** **23 40 14.5 -0.3**
comp=Z,110nm,1.5s,mb5.4
BGF Bois d'Agland 57.59 338⇓*i*P **P** **23 40 14.5 -0.3**
BGF pmax pmax
comp=Z,55nm,1.5s,mb5.4
ECH Echery 57.60 342 *e*P **P** **23 40 14.3 -0.5**
TCF Toulx Ste Croi 57.60 338⇓*i*P **P** **23 40 14.9 0.0**
comp=Z,179nm,1.5s,mb5.6
TCF Toulx Ste Croi 57.60 338⇓*i*P **P** **23 40 14.9 0.0**
TCF pmax pmax
comp=Z,90nm,1.5s,mb5.6
AVF Avril sur Loir 57.61 339⇓*i*P **P** **23 40 14.2 -0.7**
comp=Z,92nm,1.1s,mb5.4
AVF Avril sur Loir 57.61 339⇓*i*P **P** **23 40 14.2 -0.7**
AVF pmax pmax
comp=Z,46nm,1.1s,mb5.4
UPC Upice 57.62 350⇓*i*P **P** **23 40 14.0 -0.9**
HAU Haudompre 57.66 342⇓*i*P **P** **23 40 14.5 -0.8**
comp=Z,69nm,1.3s,mb5.2
HAU Haudompre 57.66 342⇓*i*P **P** **23 40 14.5 -0.8**
HAU pmax pmax
comp=Z,34nm,1.3s,mb5.2
VRSR Storozhevoye 57.71 7 *e*P **P** **23 40 14.4 -1.2**
VRSR *e**PP pP 23 40 19.6 -1.9
VRSR *e* 23 41 06.1
VRSR pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,2.0nm,1.2s
WLS Welschbruch 57.72 343 *e*P **P** **23 40 13.4 -2.3**
CDF Champ du Feu 57.74 343⇓*i*P **P** **23 40 14.7 -1.1**
comp=E,85nm,1.1s,mb5.4
CDF Champ du Feu 57.74 343⇓*i*P **P** **23 40 14.7 -1.1**
CDF pmax pmax
comp=Z,43nm,1.1s,mb5.4
SSF Saint Saulge 57.78 339⇓*i*P **P** **23 40 15.1 -1.0**
comp=Z,53nm,1.1s,mb5.2
SSF Saint Saulge 57.78 339⇓*i*P **P** **23 40 15.1 -1.0**
SSF pmax pmax
comp=Z,27nm,1.1s,mb5.2
LOR Lormes 57.84 340⇓*i*P **P** **23 40 15.6 -0.9**
comp=Z,88nm,1.2s,mb5.3
LOR *e*R
comp=Z,2µm,17.8s
LOR Lormes 57.84 340⇓*i*P **P** **23 40 15.6 -0.9**
LOR pmax pmax
comp=Z,44nm,1.2s,mb5.4
LOR MLR MLR
comp=Z,2µm,17.8s,MS5.2
GRA1 Grafenberg Arr 57.85 346 *e*P **P** **23 40 16.2 -0.3**
comp=Z,108nm,1.0s,mb5.8
GRF Grafenberg Arr 57.85 346 *e*P **P** **23 40 16.2 -0.3**
GRF pmax pmax
comp=Z,108nm,1.0s,mb5.8
GRF MLR MLR
comp=Z,2µm,19.6s,MS5.2
GRF Grafenberg Arr 57.85 346 *e*P **P** **23 40 16.2 -0.3**
comp=Z,108nm,1.0s,mb5.8
GRF LR LR
comp=Z,2µm,19.6s,MS5.2
KSP Ksiaz 57.89 350 *e*P **P** **23 40 16.0 -0.9**
KSP *e*pP pP 23 40 21.9 -0.9
KSP MLR MLR 00 08 28.3
comp=Z,2µm,19.9s,MS5.3
KSP Ksiaz 57.89 350 *e*P **P** **23 40 15.5 -1.3**
KSP MLR MLR
comp=Z,3µm,19.9s,MS5.3
PVCC Panska Ves 57.91 349⇓*i*P **P** **23 40 16.0 -0.9**
VRHR Novokhopersk 57.93 9 *e*P **P** **23 40 15.9 -1.2**
VRHR pmax pmax
comp=Z,50nm,0.9s,mb5.5
VRHR pmax pmax
comp=N,80nm,1.2s
VRHR pmax pmax
comp=E,20nm,0.9s
SIND Sindeldorf 57.94 345⇓*e*P **P** **23 40 16.7 -0.5**
THEF They Montfort 57.97 342 *e*P **P** **23 40 17.3 -0.1**
NKC Novy Kostel 58.07 347⇓*i*P **P** **23 40 18.1 0.0**
VIS Vishakhapatnam 58.09 65 *ex* x 23 40 07.6
VIS AMb AMB 23 40 25.4
comp=Z,55nm,2.0s,mb5.2
PBRG Braganca 58.10 329 *e*P **P** **23 40 19.0 +0.6**
comp=Z,46nm,1.3s,mb5.3
ECAL Calabor 58.20 329 P **P** **23 40 19.8 +0.7**
comp=Z,11nm,0.8s,mb4.9
VOR Voronezh 58.22 7 *e*P **P** **23 40 18.5 -0.6**
VOR *e* pP 23 40 24.0 -1.1
VOR pmax pmax
comp=N,230nm,1.6s
VOR pmax pmax
comp=Z,220nm,1.6s,mb5.9
PVRL Vila Real 58.24 327 *e*P **P** **23 40 20.0 +0.6**
comp=Z,61nm,1.6s,mb5.4
HYF Humbligny 58.27 339 *e*P **P** **23 40 19.1 -0.4**
SWS Schriesheim 58.30 344 *e*P **P** **23 40 19.5 -0.2**
BRG Berggiesshubel 58.36 348 *i*P **P** **23 40 18.8 -1.3**
BRG pmax pmax
comp=Z,48nm,1.4s,mb5.3
BRG MLR MLR
comp=N,1µm,16.7s,MS5.2
BRG MLR MLR
comp=E,910nm,13.3s,MS5.2
BRG MLR MLR
comp=Z,2µm,19.2s
BRG Berggiesshubel 58.36 348 *i*P **P** **23 40 18.8 -1.3**
comp=Z,48nm,1.4s,mb5.3
BRG LR LR
comp=Z,2µm,19.1s,MS5.2
TOD Tromm 58.38 344 *e*P **P** **23 40 20.3 0.0**
TOD Tromm 58.38 344 *e*P **P** **23 40 20.1 -0.2**
EARI Arriondas 58.43 331 P **P** **23 40 21.5 +0.8**
comp=Z,20nm,0.9s,mb5.2
MEZF Maizieres J'vi 58.51 341⇓*i*P **P** **23 40 21.1 -0.1**
comp=Z,143nm,1.2s,mb5.6
MOX Moxa 58.64 347 *i*P **P** **23 40 21.7 -0.4**
comp=Z,logA/T=1.8,mb5.6
MOX L 00 08 05.0
MOX Moxa 58.64 347 *e*P **P** **23 40 21.7 -0.4**
MOX pmax pmax
comp=Z,96nm,1.7s,mb5.5
MOX MLR MLR
comp=Z,900nm,20.0s,MS4.9
MOX Moxa 58.64 347 *e*P **P** **23 40 21.7 -0.4**
comp=Z,96nm,1.7s,mb5.5
MOX LR LR
comp=Z,900nm,20.0s,MS4.9
MFF Saint Martin d 58.77 336⇓*i*P **P** **23 40 22.4 -0.6**
comp=Z,109nm,1.3s,mb5.4
MFF Saint Martin d 58.77 336⇓*i*P **P** **23 40 22.4 -0.6**
MFF pmax pmax
comp=Z,54nm,1.3s,mb5.4
RUP Ruppelstein 58.96 343 *e*P **P** **23 40 24.3 0.0**
CLL Collm 58.96 348 ⇓P **P** **23 40 23.5 -0.8**
comp=Z,logA/T=1.7,mb5.5
CLL *i**PP pP 23 40 26.4 -3.9
CLL *e**SP sP 23 40 30.0 -2.5
CLL *e* 23 40 40.0
CLL *e*PCP PcP 23 41 14.0 +0.9
CLL *e*PP PP 23 42 34.0 -2.5
CLL Collm 58.96 348⇓*i*P **P** **23 40 23.5 -0.8**
CLL *e* pP 23 40 30.0 -0.3
CLL pmax pmax
comp=Z,64nm,1.4s,mb5.5
CLL Collm 58.96 348⇓*i*P **P** **23 40 23.5 -0.8**
comp=Z,64nm,1.4s,mb5.5
CLL *e* pP 23 40 30.0 -0.3
ABH Alteburg 58.98 344 *e*P **P** **23 40 24.3 -0.2**
ABH Alteburg 58.98 344 *e*P **P** **23 40 24.2 -0.3**
TNS Taunus Mts 59.04 344 *e*P **P** **23 40 24.6 -0.3**
TNS pmax pmax
comp=Z,71nm,0.9s,mb5.7
TNS Taunus Mts 59.04 344 *e*P **P** **23 40 24.6 -0.3**
comp=Z,71nm,0.9s,mb5.7
LCHF La Chataignera 59.06 336 *e*P **P** **23 40 26.0 +0.9**
WLF Walferdange 59.19 342 *e*P **P** **23 40 25.6 -0.3**
WLF pmax pmax
comp=Z,22nm,1.0s,mb5.1
WLF Walferdange 59.19 342 *e*P **P** **23 40 25.6 -0.4**
comp=Z,22nm,1.0s,mb5.1
EZAM Zamans 59.37 328 P **P** **23 40 27.5 +0.2**
EPON Pontenova 59.41 330 P **P** **23 40 27.9 +0.3**
comp=Z,23nm,0.9s,mb5.2
STS Santiago 59.81 328 P **P** **23 40 31.1 +0.8**
RUE Ruedersdorf 59.92 349 *e*P **P** **23 40 30.0 -0.9**
comp=Z,69nm,1.1s,mb5.6
GIVF Givet 59.98 342⇓*i*P **P** **23 40 30.6 -0.8**
comp=Z,51nm,0.9s,mb5.2
GIVF Givet 59.98 342⇓*i*P **P** **23 40 30.6 -0.8**
GIVF pmax pmax
comp=Z,25nm,0.9s,mb5.2
CLZ Clausthal 60.05 346 *e*P **P** **23 40 31.7 -0.1**
CLZ pmax pmax
comp=Z,78nm,1.6s,mb5.5
CLZ Clausthal 60.05 346 *e*P **P** **23 40 31.7 -0.1**
comp=Z,78nm,1.6s,mb5.5
BAIF Baives 60.14 341⇓*i*P **P** **23 40 31.7 -0.7**
comp=Z,41nm,1.1s,mb5.1
BAIF Baives 60.14 341⇓*i*P **P** **23 40 31.7 -0.7**
BAIF pmax pmax
comp=Z,21nm,1.1s,mb5.1
SUW Suwalki 60.16 356⇓*e*P **P** **23 40 31.9 -0.7**
SUW *e*pP pP 23 40 37.2 -1.4
SUW MLR MLR 00 07 12.6
comp=Z,1µm,23.0s,MS4.9
HGN Heimansgroeve 60.23 343 *e*P **P** **23 40 32.8 -0.3**
comp=Z,47nm,3.1s
LDF La Druitiere 60.40 338⇓*i*P **P** **23 40 33.1 -1.1**
comp=Z,109nm,1.3s,mb5.4
LDF La Druitiere 60.40 338⇓*i*P **P** **23 40 33.1 -1.1**
LDF pmax pmax
comp=Z,55nm,1.3s,mb5.4
GRR Gorron 60.51 337⇓*i*P **P** **23 40 34.4 -0.6**
comp=Z,50nm,0.8s,mb5.4
GRR Gorron 60.51 337⇓*i*P **P** **23 40 34.4 -0.6**
GRR pmax pmax
comp=Z,25nm,0.8s,mb5.4
FLN La Foliniere 60.67 338⇓*i*P **P** **23 40 35.0 -1.1**
comp=Z,60nm,1.0s,mb5.4
FLN *e*R
comp=Z,2µm,22.8s
FLN La Foliniere 60.67 338⇓*i*P **P** **23 40 35.0 -1.1**
FLN pmax pmax
comp=Z,30nm,1.0s,mb5.4
FLN MLR MLR
comp=Z,2µm,22.8s,MS5.2
QUIF Quistinic 61.05 335⇓*i*P **P** **23 40 38.0 -0.7**
comp=Z,140nm,1.4s,mb5.6
QUIF Quistinic 61.05 335⇓*i*P **P** **23 40 38.0 -0.7**
QUIF pmax pmax
comp=Z,70nm,1.4s,mb5.6
WTSB Winterswijk 61.07 344 *e*P **P** **23 40 38.9 +0.2**
comp=Z,71nm,2.0s,mb5.5
SGMF Saint Gilles 61.07 336⇓*i*P **P** **23 40 38.1 -0.7**
comp=Z,153nm,1.5s,mb5.6
SGMF Saint Gilles 61.07 336⇓*i*P **P** **23 40 38.1 -0.7**
SGMF pmax pmax
comp=Z,76nm,1.5s,mb5.6
MENF Mencas 61.24 340 *e*P **P** **23 40 39.9 0.0**
OBN Obninsk 61.30 5*d*iP **P** **23 40 39.2 -1.0**
OBN *e**PP pP 23 40 45.3 -0.9
OBN *e* 23 42 53.4
OBN *e*S **S** **23 49 00.5 +2.8**
OBN *e*SS SS 23 53 01.1 +1.3
OBN pmax pmax
comp=Z,50nm,0.6s,mb5.8
OBN MLR MLR
comp=Z,700nm,18.0s,MS4.9
OBN Obninsk 61.30 5 *i* Pr 23 40 39.3
OBN LR LR
comp=Z,700nm,18.0s,MS4.9
ROSF Rostrenen 61.43 336⇓*i*P **P** **23 40 40.4 -0.8**
comp=Z,87nm,1.4s,mb5.4
ROSF Rostrenen 61.43 336⇓*i*P **P** **23 40 40.4 -0.8**
ROSF pmax pmax
comp=Z,43nm,1.4s,mb5.4
AKTK Aktyubinsk 61.46 20 P **P** **23 40 40.6 -0.8**
AKTO Aktyubinsk 61.46 20 P **P** **23 40 40.6 -0.8**
comp=Z,47nm,0.9s,mb5.6,baz=210,slow=7.4,SNR=133
BSEG Bad Segeberg 62.00 347 *e*P **P** **23 40 44.7 -0.3**
BSEG pmax pmax
comp=Z,92nm,1.1s,mb5.8
MOS Moscow 62.01 5 *e*P **P** **23 40 42.8 -2.2**
MOS *e* 23 41 22.3
MOS *e*PPP PPP 23 44 27.8 -5.0
MOS pmax pmax
comp=Z,256nm,1.6s,mb6.1
MOS MLR MLR
comp=Z,800nm,16.6s,MS5.0
KOLN Koldanda 62.05 54 *e*P **P** **23 40 44.4 -1.3**
comp=Z,242nm,1.4s,mb6.1
BSD Bornholm Skovb 62.24 351⇓*i*P **P** **23 40 45.6 -1.0**
comp=Z,44nm,0.9s,mb5.6
BSD Bornholm Skovb 62.24 351⇓*i*P **P** **23 40 45.6 -1.0**
BSD pmax pmax
comp=Z,44nm,0.9s,mb5.6
KSH Kashi 62.39 39 P **P** **23 40 48.3 +0.5**
BOK Bokaro 62.42 59 *e*P **P** **23 40 48.1 -0.2**
BOK AMb AMB 23 40 56.9
comp=Z,57nm,2.3s,mb5.3
AML Almayashu 62.59 36 P **P** **23 40 49.3 +0.2**
SNR=10
EKS2 Erkin-Say 62.97 35 P **P** **23 40 51.5 -0.1**
SNR=6.5
GKN Gorkha 62.98 54 *e*P **P** **23 40 49.7 -2.1**
comp=Z,716nm,1.9s,mb6.5
UCH Uchtor 63.13 36 P **P** **23 40 52.6 0.0**
SNR=15
SYO Syowa Base 63.14 176 ⇓P **P** **23 40 52.8 +0.5**
SYO Syowa Base 63.14 176⇓*i*P **P** **23 40 52.8 +0.5**
SYO *e*S **S** **23 49 25.0 +4.2**
COP Copenhagen 63.22 349 *i*P **P** **23 40 52.9 -0.1**
comp=Z,26nm,0.9s,mb5.4
COP *e* 23 43 08.1
COP Copenhagen 63.22 349 *e*P **P** **23 40 52.9 -0.1**
COP *e* 23 43 08.1
COP pmax pmax
comp=Z,26nm,0.9s,mb5.4
COP Copenhagen 63.22 349 *e*P **P** **23 40 52.9 -0.1**
comp=Z,26nm,0.9s,mb5.4
COP *e* 23 43 08.1
AAK Ala-Archa 63.37 36*d i*P **P** **23 40 53.3 -0.9**
AAK pmax pmax
comp=Z,30nm,1.9s,mb5.1
AAK MLR MLR
comp=Z,2µm,16.0s,MS5.5
AAK Ala-Archa 63.37 36 *i* Pr 23 40 53.3
KKN Kakani 63.42 55 *e*P **P** **23 40 53.8 -0.9**
comp=Z,178nm,1.3s,mb6.0
KKN Kakani 63.42 55 *e*P **P** **23 40 53.8 -0.9**
KKN pmax pmax
comp=Z,89nm,1.3s,mb5.7
PKI Pulchoki 63.44 55 *e*P **P** **23 40 53.7 -1.2**
KZA Kyzart 63.47 37 P **P** **23 40 55.2 +0.3**
SNR=10
FRU Bishkek 63.56 36⇓*i*P **P** **23 40 56.0 +0.5**
FRU pmax pmax
comp=Z,210nm,2.5s,mb5.7
KBK Karagaybulak 63.65 36 P **P** **23 40 56.3 +0.2**
SNR=19
CHMS Chumysh 63.74 35 P **P** **23 40 56.1 -0.6**
SNR=15
USP Ospenovka 63.76 35 P **P** **23 40 56.2 -0.6**
SNR=15
GUN Gumba 63.95 55 *e*P **P** **23 40 57.8 -0.6**
comp=Z,375nm,1.3s,mb6.3
JIRN Jiri 64.11 55 *e*P **P** **23 40 58.6 -0.8**
comp=Z,228nm,1.6s,mb6.0
ULHL Ulahol 64.16 37 P sP 23 41 15.1 +7.4
SNR=7.6
TKM2 Tokmak 2 64.19 36 P **P** **23 40 59.5 -0.1**
SNR=22
VSU Vasula 64.42 358*d i*P **P** **23 41 00.1 -0.8**
VSU Vasula 64.42 358 *i* Pr **P** **23 41 00.1 -0.8**
MUD Monsted U'grnd 64.59 348⇓*i*P **P** **23 41 02.4 +0.4**
comp=Z,69nm,0.9s,mb5.7
MUD *e* pP 23 41 08.0 0.0
comp=Z,700nm,17.0s
MUD Monsted U'grnd 64.59 348⇓*i*P **P** **23 41 02.4 +0.4**
MUD *e* pP 23 41 08.0 0.0
MUD pmax pmax
comp=Z,69nm,0.9s,mb5.7
MUD MLR MLR
comp=Z,700nm,17.0s,MS4.9
RCBR Riachuelo 65.11 266 *e*P **P** **23 41 06.3 +0.2**
comp=Z,37nm,1.1s,mb5.3
NVL N'lazarevskaya 65.55 186 *e*P **P** **23 41 08.9 +0.9**
NVL *e**PP pP 23 41 13.4 -0.6
NVL *e**SP sP 23 41 15.2 -1.0
NVL *e*S S 23 49 47.8 -2.7
NVL pmax pmax
comp=Z,4.0nm,1.2s
DLF Lyons Farm 66.59 337⇓*i*P **P** **23 41 15.0 +0.1**
ARU Arti 66.73 17⇓*i*P **P** **23 41 15.2 -0.5**
ARU *e* 23 41 43.6
ARU *e* 23 43 39.9
ARU *e*PPP PPP 23 45 12.9 -8.1
ARU *e*S S 23 50 06.8 +1.7
ARU *e*SS SS 23 54 24.2 -0.4
ARU pmax pmax
comp=Z,156nm,0.8s,mb6.1
ARU MLR MLR
comp=Z,1µm,17.0s,MS5.1
ARU MLR MLR
comp=N,400nm,16.0s,MS5.0
ARU MLR MLR
comp=E,700nm,17.0s,MS5.0
ARU Arti 66.73 17 *i* Pr 23 41 15.2
DCN Croghan 66.92 337 *e*P **P** **23 41 17.4 +0.4**
KLMR Klimovskoe 67.23 5*d i*P **P** **23 41 18.0 -0.8**
KLMR pmax pmax
comp=Z,200nm,1.5s,mb5.9
FINES FINESS Array B 67.43 358 P **P** **23 41 19.6 -0.4**
comp=Z,20nm,0.7s,mb5.2,baz=159,slow=6.2,SNR=95
KONO Kongsberg 67.47 349*d i*P **P** **23 41 19.7 -0.7**
KONO Kongsberg 67.47 349 *e*P **P** **23 41 19.1 -1.3**
comp=Z,32nm,1.1s,mb5.3
SVE Sverdlovsk 67.68 18⇓*i*P **P** **23 41 21.3 -0.4**
SVE *e* 23 41 54.0
SVE *e* 23 43 46.0
SVE *e*S S 23 50 25.0 +8.5
SVE pmax pmax
comp=Z,180nm,1.8s,mb5.8
SVE MLR MLR
comp=N,1µm,16.0s,MS5.4
SVE MLR MLR
comp=E,1µm,16.0s,MS5.4
SVE MLR MLR
comp=Z,2µm,16.0s,MS5.4
KAF Kangasniemi 68.09 358 *ep* **P** **23 41 22.9 -1.3**
comp=Z,25nm,0.6s,mb5.4,baz=178,slow=6.2
KAF Kangasniemi 68.09 358 *e*P **P** **23 41 22.9 -1.3**
KAF pmax pmax
comp=Z,25nm,0.6s,mb5.4
BRVK Borovoye 68.25 25 *i*P **P** **23 41 24.5 -0.9**
BRVK Borovoye 68.25 25 *i* Pr 23 41 24.5
BVAR Borovoye Array 68.27 25 P **P** **23 41 24.7 -0.8**
comp=Z,23nm,0.8s,mb5.3,baz=221,slow=6.7,SNR=138
BVAR PcP PcP 23 41 50.8 -0.3
comp=Z,7.7nm,0.9s,baz=225,slow=10,SNR=5.3
NAO01 NORSAR Array S 68.36 350 *e*P **P** **23 41 25.5 -0.5**
comp=Z,85nm,1.0s,mb5.7
NB2 NORSAR Subarra 68.49 351 P **P** **23 41 26.4 -0.3**
comp=Z,3.4nm,0.8s,mb4.4,baz=156,slow=6.5
NB2 NORSAR Subarra 68.49 351 P **P** **23 41 26.4 -0.3**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
NOA NORSAR Array B 68.49 351 P **P** **23 41 26.6 -0.1**
comp=Z,41nm,0.9s,mb5.5,baz=163,slow=5.8,SNR=69
SNAA Sanae 68.52 191 *i*P **P** **23 41 28.1 +1.3**
SNAA Sanae 68.52 191 *e*P **P** **23 41 26.4 -0.4**
comp=Z,50nm,1.4s,mb5.2
JOF Joensuu 68.86 1 *ep* **P** **23 41 28.1 -0.9**
comp=Z,26nm,1.2s,mb5.0
JOF Joensuu 68.86 1 *e*P **P** **23 41 28.1 -0.9**
JOF pmax pmax
comp=Z,26nm,1.2s,mb5.0
LSA Lhasa 68.91 55 *e*P **P** **23 41 30.1 +0.2**
LSA pmax pmax
comp=Z,59nm,1.4s,mb5.3
LSA Lhasa 68.91 55 *e*P **P** **23 41 30.1 +0.2**
comp=Z,58nm,1.4s,mb5.3
SOKR Solikamsk 68.97 14*d*iP **P** **23 41 29.5 -0.2**
SOKR pmax pmax
comp=Z,170nm,1.1s,mb5.9
CAM3 Guarapari 69.28 250 *e*P **P** **23 41 31.0 -1.2**
CAM3 *e* pP 23 41 38.1 -0.1
CAM3 *i* 23 41 44.9
MKAR Makanchi Array 70.30 35 P **P** **23 41 37.8 -0.3**
comp=Z,30nm,0.9s,mb5.2,baz=237,slow=6.1,SNR=167
MKAR Makanchi Array 70.30 35⇑*e*P **P** **23 41 37.7 -0.4**
KURK Kurchatov 70.57 31*d*iP **P** **23 41 39.6 0.0**
CAM4 Nova Friburgo 71.21 249⇑*i*P **P** **23 41 42.6 -1.4**
CAM4 *i* 23 41 45.0
CAM4 *i* 23 41 51.6
KULM Kulim 71.83 82 *e*P **P** **23 41 47.2 -0.6**
CHG Chiang Mai 72.65 68 ⇓P **P** **23 41 53.0 +0.3**
comp=Z,35nm,1.0s,mb5.2
NST Nakhon Sawan 73.10 72 P **P** **23 41 52.0 -3.4**
APA Apatity 73.57 2⇑*i*P **P** **23 41 57.0 -0.1**
APA pmax pmax
comp=Z,44nm,0.9s,mb5.4
APA MLR MLR

comp=Z,1μm,16.0s,MS5.3
NVS Novosibirsk 75.25 29⇓ *i*P P 23 42 06.7 -0.4
NVS pmax pmax
comp=Z,289nm,1.7s,mb5.9
NVS pmax pmax
comp=N,128nm,1.6s
ZAL Zalesovo 75.52 30 P P 23 42 07.8 -0.8
comp=N,9.8nm,0.9s,mb4.7,baz=228,slow=5.7,SNR=62
ZAL PP PP 23 44 56.8 -3.2
comp=N,3.5nm,0.8s,baz=249,slow=7.5,SNR=3.9
ARCES ARCESS Array B 75.55 359 P P 23 42 08.4 -0.1
comp=N,20nm,0.6s,mb5.2,baz=174,slow=5.6,SNR=90
ARE0 ARCESS Array S 75.55 359 *e*P P 23 42 08.3 -0.2
KEV Kevo 75.74 359 *e*p P 23 42 09.3 -0.3
comp=N,30nm,0.8s,mb5.3
KEV Kevo 75.74 359 *e*P P 23 42 09.3 -0.3
KEV pmax pmax
comp=Z,30nm,0.8s,mb5.3
BAO Brasilia Array 76.45 255 P P 23 42 16.0 +1.4
BDFB Brasilia 76.47 255 P P 23 42 15.7 +0.9
comp=Z,12nm,0.7s,mb4.9,baz=100,slow=5.4,SNR=20
BDFB LR LR 00 12 23.0
comp=Z,832nm,18.4s,MS5.1,baz=293,slow=33
KMI Kunming 77.49 63 P P 23 42 21.1 +0.9
KMI PCP PcP 23 42 30.8 -0.2
KMI PP PP 23 45 20.0 +3.2
KMI S S 23 52 12.6 +3.8
KMI SKS SKS 23 52 27.9 -6.1
KMI SCS ScS 23 52 35.8 +1.7
KMI AMB AMB
comp=Z,30nm,2.0s,mb4.9
KMI AMB AMB
comp=Z,410nm,3.8s
KMI LR LR
comp=N,280nm,15.0s,MS5.1
KMI LR LR
comp=E,610nm,16.7s,MS5.1
KMI LR LR
comp=Z,590nm,18.0s,MS5.0
KMI Kunming 77.49 63 P P 23 42 21.1 +0.9
KMI 23 42 30.8
KMI 23 45 20.0
KMI PPP PPP 23 47 04.8 -0.5
KMI S S 23 52 12.6 +3.8
KMI 23 52 27.9
KMI 23 52 35.8
KMI PS PS 23 52 59.1 +7.8
KMI pmax pmax
comp=Z,35nm,2.0s,mb4.9
KMI MLR MLR
comp=Z,600nm,18.0s,MS5.0
KMI Kunming 77.49 63 P P 23 42 21.1 +0.9
comp=Z,35nm,2.0s,mb4.9
KMI PcP PcP 23 42 30.8 -0.2
KMI pP pP 23 42 31.8 +5.4
KMI sP sP 23 42 35.7 +7.3
KMI PP PP 23 45 20.0 +3.2
KMI PPP PPP 23 47 04.8 -0.5
KMI S S 23 52 12.6 +3.8
KMI SKS SKS 23 52 27.9 -6.1
KMI sS 23 52 30.1
KMI ScS ScS 23 52 35.8 +1.7
KMI PS PS 23 52 59.1 +7.8
KMI SS SS 23 57 18.3 +7.3
KMI SSS SSS 00 00 37.0 +9.0
KMI LR LR
comp=Z,600nm,18.0s,MS5.0
GTA Gaotai 78.83 48 P P 23 42 28.8 +1.5
GTA AP pP 23 42 35.9 +2.4
GTA XP sP 23 42 40.5 +5.0
GTA PP PP 23 45 31.6 +3.8
GTA PPP PPP 23 47 13.0 -4.6
GTA S S 23 52 30.1 +7.2
GTA SKS SKS 23 52 39.4 -3.9
GTA AMB AMB
comp=Z,30nm,1.9s,mb4.9
GTA AMB AMB
comp=Z,330nm,8.4s
GTA LR LR
comp=N,620nm,18.3s,MS5.2
GTA LR LR
comp=E,840nm,21.4s,MS5.2
GTA LR LR
comp=Z,1μm,22.9s,MS5.1
CD2 Chengdu 79.68 57 P P 23 42 33.6 +1.5
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
CASY Casey 80.77 156 *e*P P 23 42 39.6 +2.4
CASY Casey 80.77 156 *e*P P 23 42 37.1 -0.1
comp=Z,22nm,0.9s,mb5.1
KSM Kuching 80.92 88 *e*P P 23 42 40.1 +1.0
LZH Lanzhou 81.00 52 *e*P P 23 42 40.5 +1.5
LZH AP pP 23 42 50.0 +4.8
LZH PP PP 23 45 44.0 -2.2
LZH S S 23 52 49.0 +3.4
LZH SKS SKS 23 52 55.0 -3.8
LZH AMB AMB
comp=Z,110nm,1.1s,mb5.7
LZH AMB AMB
comp=Z,930nm,4.5s
LZH LR LR
comp=E,1μm,15.0s
LZH LR LR
comp=Z,3μm,18.8s,MS5.6
LZH Lanzhou 81.00 52 *e*P P 23 42 40.5 +1.5
LZH 23 45 44.0
LZH S S 23 52 49.0 +3.4
LZH 23 52 55.0
LZH PS PS 23 53 39.2 +3.5
LZH pmax pmax
comp=Z,110nm,1.1s,mb5.7
LZH MLR MLR
comp=Z,3μm,18.8s,MS5.6
LZH Lanzhou 81.00 52 *e*P P 23 42 40.5 +1.5
comp=Z,110nm,1.1s,mb5.7
LZH pP pP 23 42 50.0 +4.8
LZH sP sP 23 42 57.1 +10
LZH PP PP 23 45 44.0 -2.2
LZH S S 23 52 49.0 +3.4
LZH SKS SKS 23 52 55.0 -3.8
LZH sS 23 53 07.0
LZH PS PS 23 53 39.2 +3.5
LZH SS SS 23 58 11.0 +7.6
LZH LR LR
comp=Z,3μm,18.8s,MS5.6
GYA Guiyang 81.22 62⇓ *i*P P 23 42 41.2 +0.8
GYA AMB AMB
comp=Z,50nm,1.1s,mb5.4
GYA LR LR
comp=N,390nm,9.4s
GYA LR LR
comp=E,300nm,11.2s
GYA LR LR
comp=Z,280nm,10.6s,MS4.9
MOY Mondy 83.42 36 *e*P P 23 42 53.8 +2.6
MOY pmax pmax
comp=Z,197nm,2.7s,mb5.7
SCO Scoresbysund 83.81 345 *i*P P 23 42 52.0 -0.8
SCO Scoresbysund 83.81 345 *e*P P 23 42 52.0 -0.8
MUN Mundaring 83.92 121 *e*P P 23 42 54.5 +0.2
ENH Enshi 84.38 59 *e*P P 23 42 57.3 +0.6
comp=Z,155nm,2.0s,mb5.8
ZAK Zakamensk 84.41 38⇓ *e*P P 23 42 56.2 -0.1
ZAK pmax pmax
comp=Z,18nm,1.0s,mb5.2
CPUP Villa Florida 84.57 244 *e*P P 23 42 57.7 0.0
CPUP MLR MLR
comp=Z,232nm,21.0s
KLBR Kellerberrin 85.26 121 *e*P P 23 42 57.1 -3.9
comp=Z,24nm,0.9s,mb5.3
KBS Kingsbay 85.46 357 *i*P P 23 43 03.2 +2.2
KBS Kingsbay 85.46 357 *i*P P 23 43 03.3 +2.3
IRK Irkutsk 85.53 36 *e*P P 23 43 03.3 +1.5
IRK pmax pmax
comp=Z,138nm,3.1s
SONM Songino Array 85.72 41 P P 23 43 04.8 +1.9
comp=Z,15nm,0.9s,mb5.2,baz=245,slow=4.8,SNR=83
SONM PP PP 23 46 21.2 -2.5
comp=Z,2.2nm,1.1s,baz=225,slow=4.1,SNR=3.5
ULN Ulaanbaatar 86.16 41 *d*P P 23 43 06.5 +1.5
ULN Ulaanbaatar 86.16 41 *e*P P 23 43 05.9 +0.9
comp=Z,36nm,1.2s,mb5.5
BTO Baotou 86.72 49 *e*P P 23 43 10.2 +2.2
BTO AMB AMB
comp=Z,80nm,1.3s,mb5.8
DAG Danmarks Havn 87.18 350⇑ *i*P P 23 43 10.0 +0.6
comp=Z,15nm,1.1s,mb5.1
DAG Danmarks Havn 87.18 350 *i*P P 23 43 10.0 +0.6
DAG pmax pmax
comp=Z,15nm,1.1s,mb5.1
KKM Kota Kinabalu 87.29 84 *e*P P 23 43 12.3 +0.9
HHC Hu-ho-hao-te 87.92 49 *e*P P 23 43 16.2 +2.4
HHC AP pP 23 43 20.8 +0.8
HHC XP sP 23 43 23.3 +1.4
HHC PP PP 23 46 39.7 -2.8
HHC SKS SKS 23 53 39.3 -6.1
HHC S S 23 53 49.6 -4.3
HHC AMB AMB
comp=Z,40nm,1.1s,mb5.6
HHC AMB AMB
comp=Z,430nm,4.9s
HHC LR LR
comp=N,610nm,23.8s,MS5.2
HHC LR LR
comp=E,760nm,20.2s,MS5.2
HHC LR LR
comp=Z,770nm,20.2s,MS5.1
MBWA Marble Bar 87.94 111 *e*P P 23 43 14.3 0.0
comp=Z,25nm,1.0s,mb5.4
SUMG Summit 89.38 344 *e*P P 23 43 20.8 +0.8
comp=Z,26nm,1.1s,mb5.5
SAML Samuel 91.80 261 *e*P P 23 43 33.3 +0.8
comp=Z,63nm,1.6s,mb5.7
SAML LR LR
comp=Z,841nm,19.0s,MS5.2
BOD Bodaibo 92.16 32 *e*P P 23 43 33.2 +0.1
BOD pmax pmax
comp=Z,18nm,1.8s,mb5.1
VNDA Vanda 92.40 171 P P 23 43 35.5 +1.5
comp=Z,2.3nm,0.8s,mb4.5,baz=268,slow=5.4,SNR=13
VNDA LR LR 00 21 38.4
comp=Z,788nm,21.5s,MS5.1,baz=228,slow=33
VNDA Vanda 92.40 171 *e*P P 23 43 34.9 +1.0
VNDA pmax pmax
comp=Z,26nm,1.9s
VNDA MLR MLR
comp=Z,1μm,22.0s
VNDA Vanda 92.40 171 *e*P P 23 43 34.9 +0.9
comp=Z,26nm,1.9s,mb5.2
VNDA LR LR
comp=Z,1μm,22.0s,MS5.2
SBA Scott Base 92.91 172 *e*P P 23 43 37.9 +1.7
SBA pmax pmax
comp=Z,66nm,2.0s,mb5.7
SBA MLR MLR
comp=Z,1μm,20.0s,MS5.4
SBA Scott Base 92.91 172 *e*P P 23 43 37.9 +1.6
comp=Z,66nm,2.0s,mb5.7
SBA LR LR
comp=Z,1μm,20.0s,MS5.4
PLCA Paso Flores 93.68 229 P P 23 43 42.4 +1.8
comp=Z,2.8nm,1.0s,mb4.7,baz=97,slow=8.0,SNR=3.7
PLCA PKKP PKKP 00 00 44.9 +7.0
comp=Z,1.3nm,0.8s,baz=226,slow=8.3,SNR=2.8
PLCA LR LR 00 22 49.3
comp=Z,1μm,18.4s,MS5.4,baz=96,slow=34
PLCA Paso Flores 93.68 229 *e*P P 23 43 41.6 +1.0
PLCA pmax pmax
comp=Z,29nm,1.9s
PLCA Paso Flores 93.68 229 *e*P P 23 43 41.6 +1.0
comp=Z,28nm,1.9s,mb5.4
FORT Forrest 94.12 121 *e*P P 23 43 44.2 +1.3
comp=Z,38nm,0.9s,mb5.8
SSE Sheshan 94.48 59 P P 23 43 43.4 -1.1
SSE AP pP 23 43 50.1 -0.6
SSE XP sP 23 43 52.4 -0.3
SSE S S 23 54 51.6 -1.1
SSE XS 23 55 02.3
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,80nm,3.8s
SSE LR LR
comp=N,200nm,27.4s,MS4.5
SSE LR LR
comp=E,160nm,27.5s,MS4.5
SSE LR LR
comp=Z,360nm,18.9s
SSE Sheshan 94.48 59 P P 23 43 43.4 -1.1
comp=Z,25nm,0.7s,mb5.8
SSE pP pP 23 43 50.1 -0.6
SSE sP sP 23 43 52.4 -0.3
SSE PP PP 23 47 26.9 -7.9
SSE S S 23 54 51.6 -1.1
SSE sS 23 55 02.3
SSE SS SS 00 01 11.6 -7.8
SSE LR LR
comp=Z,370nm,18.9s,MS4.9
HIA Hailar 94.69 41 *e*P P 23 43 45.8 +0.8
HIA pmax pmax
comp=Z,9.0nm,1.0s
HIA Hailar 94.69 41 *e*P P 23 43 45.8 +0.8
comp=Z,8.8nm,1.0s,mb5.1
LPAZ La Paz 95.68 253 P P 23 43 51.5 +1.2
comp=Z,2.6nm,0.9s,mb4.7,baz=74,slow=6.6,SNR=9.2
LPAZ LR LR 00 29 04.2
comp=Z,899nm,18.1s,MS5.3,baz=254,slow=37
LPAZ La Paz 95.68 253 *e*P P 23 43 51.0 +0.7
LPAZ pmax pmax
comp=Z,17nm,1.4s
LPAZ La Paz 95.68 253 *e*P P 23 43 51.0 +0.7
comp=Z,17nm,1.4s,mb5.3
CN2 Changchun 98.42 47 *e*P P 23 44 02.6 +0.5
SCHQ Schefferville 98.68 324 LR LR 00 26 34.7
comp=Z,470nm,18.1s,MS5.0,baz=62,slow=34
YAK Yakutsk 100.11 28 *i*P P 23 44 10.0 +0.7
YAK pmax pmax
comp=Z,13nm,0.7s
YAK MLR MLR
comp=Z,500nm,26.0s,MS4.9
YAK Yakutsk 100.11 28 *i*P P 23 44 10.1 +0.8
WRA Warramunga Arr 101.66 112 P P 23 44 16.7 -0.5
comp=Z,3.4nm,0.8s,baz=263,slow=2.9,SNR=18
WRA PP PP 23 48 24.4 -5.8
comp=Z,2.2nm,1.0s,baz=266,slow=7.5,SNR=6.0
WB2 Warramunga Arr 101.67 112 *e*P P 23 44 15.8 -1.5
WRAB Tennant Creek 101.67 112 *i*P P 23 44 17.8 +0.5
BILL Bilibino 111.74 16 *i* PKIKP PKPdf 23 49 00.1 -0.7
BILL *e* 23 49 40.4
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL MLR MLR
comp=Z,400nm,17.0s,MS5.1
ULM Lac du Bonnet 116.86 324 PKP PKPdf 23 49 08.3 -3.0
comp=Z,0.7nm,0.4s,baz=333,slow=4.7,SNR=3.7
INK Inuvik 116.89 353 PKKPbc 23 59 34.2
comp=Z,1.9nm,1.0s,baz=211,slow=5.3,SNR=4.1
INK Inuvik 116.89 353 PKIKP PKPdf 23 49 08.4 -2.5
YKA Yellowknife Ar 117.93 342 PKP PKPdf 23 49 10.0 -3.0
comp=Z,1.6nm,0.8s,baz=37,slow=2.2,SNR=16
YKA PP PP 23 50 24.8 -3.3
comp=Z,0.7nm,0.9s,baz=49,slow=6.6,SNR=5.0
YKA PKKPab 23 59 30.7
comp=Z,0.9nm,0.9s,baz=208,slow=3.8,SNR=6.4
YKA Yellowknife Ar 117.93 342 PKP PKPdf 23 49 10.0 -3.0
YKA PP PP 23 50 24.8 -3.3
YKA PKKPab 23 59 30.7
ILAR Eielson Array 121.41 358 PKP PKPdf 23 49 16.9 -3.0
comp=Z,1.6nm,0.9s,baz=326,slow=3.4,SNR=9.3
ILAR PP PP 23 50 50.7 -0.8
comp=Z,1.8nm,1.0s,baz=349,slow=4.3,SNR=5.0
ILAR PKKPbc 23 59 18.9
comp=Z,0.9nm,0.8s,baz=276,slow=4.6,SNR=4.8
KSU1 Kansas State U 121.58 313 *e*PKP PKPdf 23 49 18.4 -2.3
EDM Edmonton 124.19 334 *e*PKIKP PKPdf 23 49 23.2 -2.2
RSSD Black Hills 124.60 321 *e*PKIKP PKPdf 23 49 24.8 -1.7
LAO LASA Array 124.60 324 *e*PKP PKPdf 23 49 24.6 -1.8
WMOK Wichita Mounta 124.65 308 *e*PKIKP PKPdf 23 49 24.5 -2.4
WMOK MLR MLR
comp=Z,1μm,20.0s,MS5.6
JCT Junction City 126.76 304 *e*PKIKP PKPdf 23 49 29.0 -1.9
BOZ Bozeman (W) 128.28 326 *e*PKIKP PKPdf 23 49 33.1 -0.4
CHMT Chamberlain Mo 128.36 328 PKP PKPdf 23 49 31.6 -2.1
YMR Madison River 128.49 325 *e*PKP PKPdf 23 49 32.7 -1.2
SDCO Great Sand Dun 128.54 314 *e*PKP PKPdf 23 49 32.3 -1.9
SDCO LR LR
comp=Z,1μm,21.0s,MS5.5
QLMT Earthquake Lak 128.66 325 *e*PKP PKPdf 23 49 32.4 -1.9
BW06 Boulder Array 128.74 322 *e*PKPdf PKPdf 23 49 32.5 -2.0
PDAR Pinedale Array 128.74 322 PKP PKPdf 23 49 32.7 -1.8
comp=Z,7.5nm,1.0s,baz=90,slow=3.0,SNR=32
LOHW Long Hollow 128.89 323 *e*PKPdf PKPdf 23 49 32.9 -1.9
MOOW Moose Ponds 128.90 324 *e*PKPdf PKPdf 23 49 33.5 -1.2
DLMT Dillon 128.99 326 *e*PKP PKPdf 23 49 33.2 -1.7
REDW Red Top Meadow 129.18 323 *e*PKP PKPdf 23 49 33.2 -2.1
CPRX Cap Rock 129.21 308 *e*PKP PKPdf 23 49 32.5 -3.2
RRI2 Red Ridge 129.47 323 *e*PKP PKPdf 23 49 32.8 -3.1
LTX Lajitas 130.30 304 *e*PKIKP PKPdf 23 49 35.8 -2.0
TXAR Lajitas Array 130.30 304 PKP PKPdf 23 49 36.0 -1.8
comp=Z,4.4nm,0.7s,slow=1.3,SNR=3.9
ANMO Albuquerque 130.44 312⇑ *i*PKIKP PKPdf 23 49 38.1 +0.1
PV01 Paradox Valley 130.50 316 *e*PKP PKPdf 23 49 35.9 -2.0
HWUT Hardware Ranch 130.62 322 *e*PKP PKPdf 23 49 36.0 -2.1
HWUT LR LR
comp=Z,1μm,21.0s,MS5.5
PV10 Paradox Valley 130.71 317 *e*PKP PKPdf 23 49 36.4 -1.9
TCUT Toone Canyon 130.80 321 *e*PKP PKPdf 23 49 36.7 -1.8
LPM Los Pinos Moun 130.84 311 *e*PKP PKPdf 23 49 36.5 -2.2
MNTX Cornudas Mount 130.89 307 *e*PKP PKPdf 23 49 35.9 -3.0
BNM Barren Site 130.90 311 *e*PKP PKPdf 23 49 36.0 -2.8
DAU Daniels Canyon 131.10 320 *e*PKIKP PKPdf 23 49 36.3 -2.7
HLID Hailey 131.13 325 *e*PKP PKPdf 23 49 37.2 -1.8
HLID LR LR
comp=Z,1μm,20.0s,MS5.6
LAZ Ladron 131.18 311 *e*PKP PKPdf 23 49 37.5 -1.9
SRU San Rafael 131.33 318 *e*PKIKP PKPdf 23 49 37.4 -2.1
DUG Dugway 132.20 321 *e*PKIKP PKPdf 23 49 39.6 -1.6
DUG MLR MLR
comp=Z,825nm,20.0s,MS5.4
MSU Marysvale 132.74 319 *e*PKIKP PKPdf 23 49 40.3 -1.9
ELK Elko 133.36 323 *e*PKIKP PKPdf 23 49 41.0 -2.3
ELK MLR MLR
comp=Z,820nm,19.0s
ARUT Antelope Range 133.97 319 PKIKP PKPdf 23 49 42.2 -2.2
WVOR Wild Horse Val 134.20 327 PKIKP PKPdf 23 49 41.0 -3.8
WVOR MLR MLR
comp=Z,830nm,20.0s,MS5.5
TUC Tucson 134.83 310 *e*PKIKP PKPdf 23 49 45.6 -0.7
NEN Nelson 136.09 317 *e*PKP PKPdf 23 49 46.0 -2.4
TPH Tonopah 136.22 321 PKIKP PKPdf 23 49 46.2 -2.4
TPNV Topopah Spring 136.28 319 PKIKP PKPdf 23 49 45.6 -3.1
MNV Mina 136.56 322 PKIKP PKPdf 23 49 47.0 -2.2
NVAR Mina Array Bea 136.66 323 PKhKP 23 49 37.0
comp=Z,1.3nm,0.8s,baz=53,slow=5.1,SNR=6.0
NVAR PKP PKPdf 23 49 49.0 -0.4
comp=Z,5.2nm,0.9s,baz=80,slow=3.6,SNR=16
NVAR Mina Array Bea 136.66 323 PKP 23 49 37.0
NVAR PKP PKPdf 23 49 49.0 -0.4
CMB Columbia Colle 138.16 324 *e*PKIKP PKPdf 23 49 50.0 -2.2
RKT Rikitea 147.25 207 *e*LR LR 00 38 41.0
comp=Z,448nm,24.0s
TBI Tubuai 150.69 182 *e*LR LR 00 40 15.7
comp=Z,763nm,23.8s
AFI Afiamalu 150.90 133 *e*PKIKP PKPdf 23 50 19.5 +5.0
PPT Papeete 156.44 182 *e*LR LR 00 42 55.6
comp=Z,683nm,22.5s
TAOE Nuku Hiva Isla 161.94 215 *e*LR LR 00 45 29.6
comp=Z,2μm,22.1s

ISK ***10*** *00:09:47.8, 39.38N×40.85E, h5km, ML5.3*
CRAAG ***10*** *00:09:48.5, 39.44N×41.01E, Mb5.2*
BJI ***10*** *00:09:48.4, 39.82N×40.50E, h18km, mB5.4, mb4.9, Ms5.2, Msz5.0*
IDC ***10*** *00:09:48.1±0.6, 39.22N×40.96E, mb4.7/20, mb1 4.9/26, mb1mx4.8/28, mbtmp4.7/26, ML5.0/1, MS4.8/33, Ms1 4.8/33, ms1mx4.7/38, Error ellipse: s-maj=13.2km s-min=7.1km az=178.0*
CSEM ***10*** *00:09:48.9±0.0, 39.35N×40.89E, h14km, mb5.0/66, Ms4.7, Mw5.4, Error ellipse: s-maj=1.3km s-min=0.9km az=97.0*
MOS ***10*** *00:09:49.3±1.1, 39.54N×40.95E, h10km, mb5.3/86, MS4.7/46, Error ellipse: s-maj=4.7km s-min=2.4km az=44.1*
NEIC ***10*** *00:09:50.2±0.2, 39.39N×40.95E, h10km, mb5.1/128, MS4.7/10, ML5.3(ISK), Error ellipse: s-maj=3.7km s-min=2.3km az=184.0*
NEIC Felt in Bingol, northeastern Elazig, eastern Erzincan and southern Erzurum.
HRVD ***10*** *00:09:50.2±0.2, 39.48N×40.75E, h20km±1km, MW5.4/83, Centroid moment Tensor Solution. LP body waves: s60,c104;Mantle waves: s83,c177; Half duration: 1s3 Moment tensor: Scale 1017Nm; Mrr0.03±.03; Mθθ-0.37±.03; Mφφ0.34±.03; Mrθ0.14±.05; Mθφ-1.60±.03; Mφr0.39±.06; Best double couple: M₀1.689×10¹⁷ NP1: φs277°, δ76°, λ-177°. NP2:φs186°, δ87°, λ-14°. Principal axes: T 1.655, Plg8°, Azm232°; N .068, Plg76°, Azm355°; P -1.723, Plg11°, Azm141°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 00:09:47.9±0.5, 39.37N±0.01×40.95E±0.02, h5km±3km, h13km±2.3km:pP-P,n838,σ1§16/873,mb5.0/169,MS4.9/66, 75C-39D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZM	**Erzurum**	**0.62**	**31**	*i* PG	**Pg**	**00 10 01.5**	**+1.1**
BTMT	**Batman**	**1.25**	**160**	*i* PN	**Pn**	**00 10 13.1**	**+1.1**
PTK	**Pertek**	**1.30**	**249**	*i* PN	**Pn**	**00 10 12.2**	**-0.5**
PTK				*i* SN	**Sn**	**00 10 30.8**	**+0.2**
GUMT	**Gumushane**	**1.57**	**315**	*i* PN	**Pn**	**00 10 16.5**	**0.0**
DIY	**Diyarbakir**	**1.57**	**201**	*i* PN	**Pn**	**00 10 18.5**	**+1.9**
VANB	**Van**	**2.06**	**111**	*i* PN	**Pn**	**00 10 25.9**	**+2.4**
VANB	**Van**	**2.06**	**111**	P	**Pn**	**00 10 25.4**	**+1.9**
VANB	**Van**	**2.06**	**111**	*i* Pn	**Pn**	**00 10 25.9**	**+2.4**
KARS	**Kars**	**2.06**	**52**	*i* PN	**Pn**	**00 10 25.7**	**+2.0**
VANT	**Van**	**2.12**	**115**	*i* PN	**Pn**	**00 10 26.2**	**+1.8**
MYA	**Malataya**	**2.23**	**243**	*i* PN	**Pn**	**00 10 26.6**	**+0.6**
CLDR	**Caldiran**	**2.32**	**95**	PN	**Pn**	**00 10 28.9**	**+1.6**
URFA	**Urfa**	**2.55**	**222**	PN	**Pn**	**00 10 30.6**	**0.0**
AKH	**Akhalkalaki**	**2.82**	**43**	P	**Pn**	**00 10 35.6**	**+1.1**
AKH				S	**Sg**	**00 11 28.7**	**+7.0**
HKR	**Hakkari**	**2.83**	**128**	PN	**Pn**	**00 10 37.0**	**+2.4**
GNI	**Garni**	**3.03**	**74**	PN	**Pn**	**00 10 40.1**	**+2.7**
GNI	**Garni**	**3.03**	**74**	Pn	**Pn**	**00 10 39.0**	**+1.5**
	20nm,0.3s,baz=291,slow=3.8,SNR=141						
GNI				Pg	**Pg**	**00 10 45.8**	**-2.6**
	145nm,0.3s,baz=272,slow=2.9,SNR=134						
GNI				Lg		00 11 31.6	
	66nm,0.3s,baz=341,slow=22,SNR=3.0						
GNI				LR	LR	00 12 05.1	
	comp=Z,13μm,20.1s,baz=261,slow=45						
GNI	**Garni**	**3.03**	**74**	*c* *i*P	**Pn**	**00 10 38.8**	**+1.4**
GNI	**Garni**	**3.03**	**74**	*e*P	**Pn**	**00 10 38.6**	**+1.2**
GNI	**Garni**	**3.03**	**74**	*e*P	**Pn**	**00 10 38.6**	**+1.2**
GNI	**Garni**	**3.03**	**74**	*e*Pn	**Pn**	**00 10 40.1**	**+2.7**
MSL	**Mosul**	**3.51**	**150**	*i* x	x	00 10 44.0	
MSL				*i* x	x	00 10 48.0	
MSL				*i* x	x	00 10 55.0	
MSL				*i* x	x	00 11 24.0	
MSL				*i* x	x	00 11 38.0	
GOR	**Gori**	**3.55**	**42**	P	**Pn**	**00 10 46.4**	**+1.5**
GOR				S	**Sg**	**00 11 43.3**	**-2.8**
GAZ	**Gaziantep**	**3.67**	**234**	PN	**Pn**	**00 10 46.4**	**-0.1**
ONI	**Oni**	**3.73**	**30**	P	**Pg**	**00 10 59.4**	**-2.9**
TBLG	**Delisi**	**3.73**	**50**	P	**Pn**	**00 10 48.4**	**+1.0**
TBLG				S	**Sg**	**00 11 47.8**	**-4.3**
TI2	**Plekhanov**	**3.74**	**50⇑**	*i*P	**Pn**	**00 10 48.4**	**+0.9**
MTA	**Mtatsminda**	**3.74**	**50**	P	**Pn**	**00 10 48.4**	**+0.9**
MTA				S	**Sg**	**00 11 56.4**	**+3.9**
SAMG	**Sameba**	**3.76**	**51**	P	**Pn**	**00 10 46.6**	**-1.1**
DGRG	**David-gareji**	**3.97**	**57**	P	**Pn**	**00 10 51.7**	**+0.9**
DGRG				S	**Sg**	**00 12 12.0**	**+12**
BNN	**Bunyan**	**4.00**	**264**	PN	**Pn**	**00 10 52.1**	**+0.9**
KVT	**Kavak**	**4.12**	**296**	PN	**Pn**	**00 10 53.6**	**+0.7**
SOC	**Sochi**	**4.31**	**348**	*d* *i*P	**Pn**	**00 10 55.6**	**0.0**
SOC				*i*		00 11 46.5	
SOC				pmax	pmax		
	comp=Z,1μm,0.6s						
SOC				MLR	MLR		
	comp=Z,13μm,11.0s						
SOC	**Sochi**	**4.31**	**348**	*i* P	**Pn**	**00 10 55.6**	**0.0**
	comp=Z,1μm,0.6s						
SOC				*i* S	**Sn**	**00 11 46.5**	**-0.5**
	comp=Z,13μm,11.0s						
KOZT	**Kozan**	**4.44**	**246**	PN	**Pn**	**00 10 57.3**	**-0.2**
CEYT	**Ceyhan**	**4.72**	**242**	*e*PN	**Pn**	**00 11 02.0**	**+0.5**
KIV	**Kislovodsk**	**4.76**	**15**	*c* *i*P	**Pn**	**00 11 03.2**	**+1.1**
KIV	**Kislovodsk**	**4.76**	**15**	P	**Pn**	**00 11 02.9**	**+0.8**
HTY	**Hatay**	**5.00**	**231**	*e*PN	**Pn**	**00 11 05.3**	**-0.1**
KARA	**Karaisali**	**5.09**	**247**	*e*PN	**Pn**	**00 11 07.3**	**+0.6**

NIG Nigde 5.11 258 ePN Pn 00 11 08.1 +1.1
BYBT Boyabat 5.16 296 ePN Pn 00 11 08.1 +0.4
KAMT Kaman 5.60 272 ePN Pn 00 11 14.2 +0.3
MERS Mersin 5.65 246 ePN Pn 00 11 14.9 +0.4
BR131 Keskin Array S 5.66 276 eP Pn 00 11 14.7 0.0
comp=Z,219nm,0.7s
BR131 Keskin Array S 5.66 276 eP Pn 00 11 14.7 0.0
comp=Z,219nm,0.7s
BRTR Keskin Array B 5.66 276 Pn Pn 00 11 14.7 -0.1
comp=Z,0.1nm,0.3s,baz=102,slow=14,SNR=15
BRTR Lg 00 12 55.1
comp=Z,3.6nm,0.3s,baz=94,slow=22,SNR=2.6
BRTR Keskin Array B 5.66 276 Pn Pn 00 11 14.6 -0.1
CANT Cankiri 5.76 285 ePN Pn 00 11 16.9 +0.8
GOF Gofitskoye 5.89 15 ⇓iP Pn 00 11 18.5 +0.5
GOF pmax pmax
comp=Z,50nm,1.3s
GOF Gofitskoye 5.89 15 iP Pn 00 11 18.5 +0.5
comp=Z,50nm,1.3s
ANN Anapa 6.02 335 ⇓iP Pn 00 11 18.8 -1.0
ANN iS Sn 00 12 28.4 -1.6
ANN pmax pmax
comp=Z,110nm,0.8s
ANN MLR MLR
comp=Z,4μm,9.0s
ANN Anapa 6.02 335 iP Pn 00 11 18.8 -1.0
comp=Z,110nm,0.8s
ANN iS Sn 00 12 28.4 -1.6
comp=Z,4μm,9.0s
FKH Fakeheh 6.29 217 ePn Pn 00 11 22.8 -0.8
ANTO Ankara 6.31 277 ePN Pn 00 11 24.8 +0.8
ANTO Ankara 6.31 277 eP Pn 00 11 23.8 -0.1
ANTO pmax pmax
comp=Z,1μm,1.1s
ANTO Ankara 6.31 277 eP Pn 00 11 23.8 -0.2
comp=Z,1μm,1.1s
ANTO Ankara 6.31 277 eP Pn 00 11 23.8 -0.1
comp=Z,1μm,1.1s
ANTO Ankara 6.31 277 ePn Pn 00 11 24.8 +0.8
LOD Lodumlu 6.34 277 ePN Pn 00 11 25.6 +1.3
HWQ Hawqa 6.47 220 ePn Pn 00 11 25.8 -0.4
IKL Isikli 6.54 244 ePN Pn 00 11 27.2 0.0
SAFT Safranbolu 6.58 289 ePN Pn 00 11 28.6 +0.9
BHD Baghdad 6.69 154 ex x 00 11 32.0
BHD ix x 00 12 51.0
BHD ix x 00 13 18.0
BHD ix x 00 13 44.0
BHD ix x 00 14 00.0
KERU Kerch 6.80 332 eP Pn 00 11 32.0 +1.2
KERU pmax pmax
comp=Z,3μm,1.0s
KERU Kerch 6.80 332 eP Pn 00 11 32.0 +1.2
comp=Z,3μm,1.0s
KONT Konya--Tatoy 6.87 261 ePN Pn 00 11 32.6 +0.9
BHL Bhannes 6.92 220 ePn Pn 00 11 31.7 -0.7
FEO Feodosiya 6.99 326⇑eP Pn 00 11 33.4 -0.1
FEO eS Sn 00 12 52.2 -2.0
FEO pmax pmax
comp=Z,480nm,0.5s
FEO smax
comp=E,280nm,0.9s
FEO smax
comp=N,590nm,1.1s
FEO Feodosiya 6.99 326 eP Pn 00 11 33.4 -0.1
comp=N,480nm,0.5s
FEO eS Sn 00 12 52.2 -2.0
comp=N,590nm,1.1s
PHNC Paralimni 7.03 234 P Pn 00 11 35.6 +1.6
comp=N,33nm,1.3s
KIZT Kizilcal 7.07 269 ePN Pn 00 11 35.4 +0.9
SUDU Sudak 7.07 323⇑iP Pn 00 11 32.9 -1.6
SUDU eS Sn 00 12 53.1 -3.1
SUDU pmax pmax
comp=Z,40nm,0.6s
SUDU smax
comp=N,1μm,1.0s
SUDU Sudak 7.07 323 iP Pn 00 11 32.9 -1.6
comp=N,40nm,0.6s
SUDU eS Sn 00 12 53.1 -3.1
comp=N,1μm,1.0s
YAL Yalta 7.19 317 eP Pn 00 11 34.6 -1.7
YAL eS Sn 00 12 56.5 -2.9
YAL pmax pmax
comp=Z,250nm,0.6s
YAL smax
comp=N,380nm,0.7s
YAL smax
comp=E,440nm,0.7s
YAL Yalta 7.19 317 eP Pn 00 11 34.6 -1.7
comp=E,250nm,0.6s
YAL eS Sn 00 12 56.5 -2.9
ALU Alushta 7.20 320 eP Pn 00 11 38.3 +1.8
ALU eS Sn 00 12 59.5 -0.1
ALU pmax pmax
comp=Z,460nm,0.7s
ALU smax
comp=N,470nm,0.7s
ALU smax
comp=E,420nm,0.7s
ALU Alushta 7.20 320 eP Pn 00 11 38.3 +1.8
comp=E,460nm,0.7s
ALU eS Sn 00 12 59.5 -0.1
MATL Matirih 7.41 219 ePn Pn 00 11 38.2 -1.1
MAMC Mammari 7.45 238 P Pn 00 11 38.0 -1.9
SEV Sevastopol' 7.49 316 eP Pn 00 11 41.7 +1.2
SEV eS Sn 00 13 09.2 +2.4
SEV pmax pmax
comp=Z,260nm,0.8s
SEV smax
comp=N,420nm,0.2s
SEV smax
comp=E,280nm,0.2s
SEV Sevastopol' 7.49 316 eP Pn 00 11 41.7 +1.2
comp=E,260nm,0.8s
KSDI Kefar Szold 7.50 216 P Pn 00 11 40.1 -0.5
KSDI Kefar Szold 7.50 216 P Pn 00 11 39.8 -0.8
CSS Prodhromos 7.50 236 P Pn 00 11 40.7 +0.1
comp=E,14nm,1.9s
CSS Prodhromos 7.50 236 P Pn 00 11 39.0 -1.6
CSS Prodhromos 7.50 236 eP Pn 00 11 39.9 -0.7
comp=E,231nm,1.0s
CSS Prodhromos 7.50 236 eP Pn 00 11 39.9 -0.8
comp=E,231nm,1.0s
SIM Simferopol' 7.54 320 eP Pn 00 11 41.2 +0.1
SIM eS Sn 00 13 08.5 +0.6
SIM pmax pmax
comp=Z,200nm,0.7s
SIM smax
comp=N,1μm,1.0s
SIM smax
comp=E,1μm,1.0s
SIM Simferopol' 7.54 320 eP Pn 00 11 41.2 +0.1
comp=E,200nm,0.7s
SIM eS Sn 00 13 08.5 +0.6
MMC2 Mount Meron ar 7.75 217 P Pn 00 11 43.3 -0.8
MMC1 Mount Meron ar 7.75 217 P Pn 00 11 43.3 -0.8
MMB4 Mount Meron ar 7.76 217 P Pn 00 11 43.4 -0.8
MMA1 Mount Meron ar 7.76 217 P Pn 00 11 43.7 -0.5
MMB1 Mount Meron ar 7.76 217 P Pn 00 11 43.8 -0.4
MMC4 Mount Meron ar 7.76 217 P Pn 00 11 43.8 -0.5
MMC7 Mount Meron ar 7.76 217 P Pn 00 11 43.6 -0.7
MMA0 Mount Meron ar 7.76 217 P Pn 00 11 45.6 +1.3
MMC5 Mount Meron ar 7.76 217 P Pn 00 11 43.8 -0.5
MMA2 Mount Meron ar 7.76 217 P Pn 00 11 43.8 -0.5
MMA3 Mount Meron ar 7.76 217 P Pn 00 11 43.9 -0.4
MMA4 Mount Meron ar 7.76 217 P Pn 00 11 43.8 -0.5
MMB2 Mount Meron ar 7.77 217 P Pn 00 11 43.9 -0.5
HNTI Hanita 7.81 218 P Pn 00 11 44.3 -0.7
HNTI S Sn 00 13 27.8 +13
HAF Haifa 8.13 218 P P 00 11 48.6 -0.9
PPCY Paphos 8.20 240 P P 00 11 49.9 -0.4
MMLI Mount Malkishu 8.24 215 P P 00 11 50.5 -0.4
OFRI 'Ofer 8.28 217 P P 00 11 50.9 -0.7
ISP Isparta 8.31 263 ePN P 00 11 51.4 -0.6
ISP Isparta 8.31 263c iP P 00 11 54.0 +2.0
ISP Isparta 8.31 263 P P 00 11 50.0 -2.0
comp=E,138nm,0.9s
ISP Isparta 8.31 263 P P 00 11 50.0 -2.0
comp=E,138nm,0.9s
ISP Isparta 8.31 263 ePn P 00 11 51.4 -0.6
BCK Bucak 8.35 260 ePN P 00 11 52.9 +0.4
ALT Altintas 8.42 271 ePN P 00 11 53.1 -0.3
QURS Qurayyt al Mil 8.49 201 P P 00 11 54.4 -0.1
HRT Hereke 8.77 283 ePN P 00 11 57.9 -0.3

MZDA Masada 9.24 211 P P 00 12 05.0 +0.2
MZDA S Sn 00 14 00.2 +10
DENT Denizli 9.47 264 ePN P 00 12 07.8 -0.2
DST Dursunbey 9.53 275 ePN P 00 12 08.4 -0.4
FETY Fethiye 9.75 257 ePN P 00 12 10.9 -1.0
MASH Mash'abbe Sade 9.75 213 P P 00 12 12.8 +0.9
ZFRI Zfri 9.98 210 P P 00 12 13.8 -1.3
KZIT Kziot 10.00 214 P P 00 12 14.7 -0.6
DALT Dalyan (Mudla) 10.05 259 ePN P 00 12 15.1 -0.8
BALB Balikesir 10.10 276 ePN P 00 12 16.4 -0.3
YER Yerkesik 10.21 261 ePN P 00 12 16.4 -1.7
AKS Akhisar 10.22 271 ePN P 00 12 17.6 -0.7
PSN Preselentsi 10.49 298 eP P 00 12 22.5 +0.5
HRFI Mount Harif 10.50 209 P P 00 12 20.6 -1.6
MLSB Milas 10.55 263 ePN P 00 12 21.1 -1.7
ARG Arkhangelos 10.62 257 eP P 00 12 23.5 -0.3
TIRR Tirgusor 10.63 303 ⇓P P 00 12 22.0 -1.9
MBH Mount Berech 10.76 209 P P 00 12 25.0 -0.8
AQBJ Aqaba 10.77 209 P P 00 12 25.2 -0.7
EIL Elat 10.86 209 P P 00 12 26.1 -1.0
DAT Datca 10.87 260 ePN P 00 12 26.2 -0.9
PRD Provadia 10.89 295 iP P 00 12 26.5 -0.9
BODT Bodrum 10.97 262 ePN P 00 12 27.8 -0.8
HARR Harsova 11.04 303 ⇓P P 00 12 27.9 -1.6
EDRB Edirne 11.08 287 ePN P 00 12 29.4 -0.6
CFR Carcaliu 11.12 306 ⇑P P 00 12 26.7 -3.9
ALWS Ilw as Safayha 11.14 208 P P 00 12 30.9 -0.1
SMG Samos 11.18 266 eP P 00 12 32.1 +0.7
JMOS Jabal al Moall 11.26 207 P P 00 12 32.0 -0.5
UMR Umm Al-Rimmam 11.27 148 eP P 00 12 30.6 -2.1
JMB Yambol 11.30 290 eP P 00 12 38.0 +5.0
NAY Al-Naaiem 11.35 151 eP P 00 12 32.4 -1.4
NAY AMb AMB 00 12 37.3
comp=Z,81nm,1.1s
PRK Paraskevi 11.37 274 eP P 00 12 34.9 +0.8
HAQS Haql 11.43 208 P P 00 12 35.1 +0.3
KBD Kabd 11.59 149 eP P 00 12 35.5 -1.7
KBD AMb AMB 00 12 36.4
comp=Z,290nm,0.4s
KIS Kishinev 11.67 315 eP P 00 12 34.0 -4.1
KIS eS S 00 14 40.0 -10
KIS MLR MLR
comp=Z,4μm,13.0s
KIS MLR MLR
comp=E,2μm,10.0s
KIS MLR MLR
comp=E,5μm,15.0s
KIS MLR MLR
comp=Z,4μm,15.0s
TBKS Tabuk 11.70 199 P P 00 12 38.2 -0.3
VRHR Novokhopersk 11.74 2 eP P 00 12 35.4 -3.6
VRHR pmax pmax
comp=N,50nm,0.6s
VRHR pmax pmax
comp=Z,50nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.7s
VRHR pmax pmax
comp=Z,70nm,1.1s
VRHR pmax pmax
comp=N,260nm,1.4s
VRHR pmax pmax
comp=E,90nm,1.5s
VRHR MLR MLR
comp=Z,8μm,15.0s
VRHR MLR MLR
comp=N,5μm,13.0s
VRHR MLR MLR
comp=E,5μm,14.0s
RDF Al-Radifah 11.76 150 eP P 00 12 37.7 -1.6
RDF AMb AMB 00 12 47.5
comp=Z,223nm,0.9s
RDO Rodhopi 11.91 283 eP P 00 12 42.5 +1.2
RDO Rodhopi 11.91 283 P P 00 12 42.2 +0.9
VRSR Storozhevoye 11.91 355 eP P 00 12 39.2 -2.1
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,0.8s
VRSR pmax pmax
comp=Z,6.0nm,0.8s
VRSR MLR MLR
comp=Z,60nm,8.0s
VRSR MLR MLR
comp=N,140nm,26.0s
VRSR MLR MLR
comp=E,1μm,17.0s
VRSR Storozhevoye 11.91 355 eP P 00 12 39.2 -2.1
comp=E,140nm,26.0s
BDAS Al Bad' 11.94 206 P P 00 12 42.1 +0.4
DIM Dimitrovgrad 12.00 288 eP P 00 12 43.0 +0.5
KDZ Kurdzhali 12.04 286 iP P 00 12 45.5 +2.4
QRN Al-Qurain 12.07 149 eP P 00 12 41.9 -1.6
AYUS 'Ayunuah 12.11 205 P P 00 12 44.5 +0.4
VRI Vrincioaia 12.31 306 ⇑P P 00 12 45.0 -1.8
VRI Vrincioaia 12.31 306 P P 00 12 46.8 0.0
APE Apeiranthos 12.34 264 eP P 00 12 48.0 +0.8
APE Apeiranthos 12.34 264 iP P 00 12 47.7 +0.5
VOR Voronezh 12.42 355 P P 00 12 46.5 -1.7
VOR pmax pmax
comp=N,300nm,1.3s
VOR pmax pmax
comp=E,50nm,1.3s
VOR pmax pmax
comp=Z,150nm,1.3s
IAS Iasi 12.49 313 ⇓P P 00 12 49.0 -0.1
RZN Rozhen 12.56 286 eP P 00 12 51.0 +0.9
SANT Santorini 12.60 261 P P 00 12 48.4 -2.2
comp=Z,150nm,1.0s
SANT Santorini 12.60 261 P P 00 12 48.4 -2.2
comp=Z,150nm,1.0s
MLR Muntele Rosu 12.65 304 Pn P 00 12 51.2 -0.1
comp=Z,0.4nm,0.3s,baz=99,slow=6.1,SNR=14
MLR Sn S 00 15 22.3 +8.7
comp=Z,0.8nm,0.3s,baz=173,slow=21,SNR=4.2
MLR LR LR 00 19 40.1
comp=Z,3μm,18.2s,baz=305,slow=46
MLR Muntele Rosu 12.65 304 ⇓P P 00 12 49.7 -1.6
MLR Muntele Rosu 12.65 304 ⇓P P 00 12 49.7 -1.6
NPS Neapolis 12.87 256 eP P 00 12 53.1 -1.2
PGB Panagyurishte 13.07 289 eP P 00 13 00.5 +3.6
MTUR Matau 13.12 302 ⇑P P 00 12 56.3 -1.3
MTUR Matau 13.12 302 ⇑P P 00 12 56.3 -1.3
MTUR Matau 13.12 302 P P 00 12 56.8 -0.8
NVR Nevrokopi 13.18 284 eP P 00 13 01.3 +3.0
VOIR 13.21 302 ⇑P P 00 12 58.4 -0.3
MMB Musomiste 13.30 285 eP P 00 13 01.0 +1.1
IDI Anoyia 13.41 257 Pn P 00 12 59.5 -1.9
comp=Z,1.4nm,0.3s,baz=58,slow=10,SNR=15
IDI LR LR 00 18 14.1
comp=Z,5μm,21.6s,baz=226,slow=38
PLG Polygyros 13.48 280 eP P 00 13 04.6 +2.3
ATH Athens Observa 13.54 270 eP P 00 13 10.2 +7.2
KBRS Khaybar 13.62 186 P P 00 13 05.3 +1.1
VTS Vitosha 13.78 289 eP P 00 13 08.0 +1.8
VTS Vitosha 13.78 289 P P 00 13 07.9 +1.7
VTS Vitosha 13.78 289 P P 00 13 07.9 +1.7
KKB Krupnik 13.80 286 eP P 00 13 08.0 +1.6
VAM Vamos 13.89 259 eP P 00 13 08.9 +1.2
AKASG Malin Array Be 14.02 328 Pn P 00 13 07.4 -1.8
comp=Z,7.3nm,0.3s,baz=135,slow=12,SNR=305
AKASG Sn S 00 15 51.5 +5.2
comp=Z,1.4nm,0.3s,baz=137,slow=24,SNR=5.1
AKASG Malin Array Be 14.02 328 P P 00 13 07.4 -1.8
AKASG 00 15 51.5
AKASG pmax pmax
comp=Z,7.0nm,0.3s
AKASG smax
comp=N,1.0nm,0.3s
BURAR Bucovina Array 14.06 311 ⇑P P 00 13 07.4 -2.5
BURAR Bucovina Array 14.06 311 ⇑P P 00 13 07.4 -2.4
GVD Gavdhos 14.19 257 eP P 00 13 11.2 -0.5
comp=N,240nm,0.9s
GVD Gavdhos 14.19 257 eP P 00 13 11.1 -0.5
comp=N,240nm,0.9s
UMJS Umm Lajj 14.42 193 P P 00 13 15.9 +1.1
DJES Djerdap 14.66 297 eP P 00 13 21.7 +4.0
KZN Kozani 14.76 280 eP Px 00 13 32.3
BARS Barje 14.82 290⇑iP P 00 13 24.1 +4.3
EVR Evrytania 14.86 274 eP P 00 13 21.7 +1.3
BOLS Boljevac 14.88 294 eP P 00 13 20.9 +0.3
ITM Ithomi 15.10 268 eP P 00 13 24.3 +0.8
ITM Ithomi 15.10 268 P P 00 13 26.8 +3.3

YNBS Yanbu' al Bahr 15.19 190 P P 00 13 26.0 +1.2
DRGR 15.23 305 P P 00 13 25.8 +0.7
DRGR 15.23 305 P P 00 13 25.8 +0.6
RLS Riolos of Patr 15.27 271 eP P 00 13 29.8 +4.1
SVIS Svilajnac 15.49 295⇑iP P 00 13 29.8 +1.1
JAN Janina 15.52 277 eP P 00 13 32.6 +3.7
BZS Buzias 15.55 300 ⇓P P 00 13 28.1 -1.2
LVV L'vov 15.91 317 eP P 00 13 32.0 -2.0
LVV eS S 00 16 24.0 -7.0
LVV MLR MLR
comp=Z,1μm,13.0s
LVV L'vov 15.91 317 eP P 00 13 32.0 -2.0
comp=Z,1μm,13.0s
VLS Valsamata 15.92 272 eP P 00 13 32.6 -1.6
OBN Obninsk 16.02 351c iP P 00 13 34.0 -1.4
OBN eS S 00 16 22.8 -11
OBN pmax pmax
comp=Z,227nm,1.1s
OBN MLR MLR
comp=Z,4μm,18.0s
OBN Obninsk 16.02 351 P P 00 13 33.0 -2.4
OBN Obninsk 16.02 351 iP P 00 13 34.0 -1.4
comp=Z,227nm,1.1s
UZH Uzhgorod 16.27 311 eP P 00 13 36.0 -2.6
UZH eS S 00 16 36.0 -3.3
UZH MLR MLR
comp=Z,3μm,12.0s
UZH Uzhgorod 16.27 311 eP P 00 13 36.0 -2.6
comp=Z,3μm,12.0s
KEK Kerkira 16.32 278 eP P 00 13 39.5 +0.3
DIVS Divcibare 16.33 294⇑iP P 00 13 40.0 +0.6
AKTK Aktyubinsk 16.35 42 Pn P 00 13 37.9 -1.6
AKTK LR LR 00 21 40.8
AKTK Aktyubinsk 16.35 42 P P 00 13 37.9 -1.7
comp=Z,2μm,18.8s
AKTO Aktyubinsk 16.35 42 Pn P 00 13 37.9 -1.6
comp=Z,0.5nm,0.3s,baz=247,slow=14,SNR=13
AKTO LR LR 00 21 40.8
comp=Z,2μm,18.8s,slow=43
AKTO Aktyubinsk 16.35 42 P P 00 13 37.9 -1.7
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,2μm,18.8s
KOLS Kolonicke sedl 16.42 312 ePN P 00 13 38.2 -2.3
KWP Kalwaria 16.53 314 eP P 00 13 40.3 -1.6
KWP epP 00 13 46.5
KWP MLR MLR 00 22 35.1
comp=Z,3μm,18.5s
KWP Kalwaria 16.53 314 eP P 00 13 40.3 -1.5
KWP MLR MLR
comp=Z,3μm,18.5s
MOS Moscow 16.53 353κ iP P 00 13 40.1 -1.7
MOS eS S 00 16 42.8 -2.4
MOS pmax pmax
comp=Z,500nm,1.7s
MOS MLR MLR
comp=Z,3μm,16.0s
MOS Moscow 16.53 353 iP P 00 13 40.1 -1.7
BBLS Bajina Basta - 16.71 293 eP P 00 13 37.3 -6.9
CRVS Cervenica-Dubn 16.88 311 iP P 00 13 44.6 -1.7
CRVS eS S 00 17 03.1 +10
CRVS iS S 00 17 04.7 +11
PECR Pechory 17.09 6 eP P 00 13 47.0 -1.8
PECR pmax pmax
comp=Z,520nm,2.0s
PECR pmax pmax
comp=Z,1μm,4.0s
PECR MLR MLR
comp=N,5μm,14.0s
PECR MLR MLR
comp=Z,6μm,14.0s
PECR Pechory 17.09 6 eP P 00 13 47.0 -1.8
comp=Z,1μm,4.0s
STHS Stebnicka Huta 17.25 312 eP P 00 13 50.8 -0.1
KECS Kecovo 17.28 308 iP P 00 13 51.2 -0.2
PSZ Piszkesteto 17.43 306 ⇓iP P 00 13 53.0 -0.2
PSZ i 00 21 21.2
PSZ Piszkesteto 17.43 306 eP P 00 13 52.9 -0.3
PSZ pmax pmax
comp=Z,261nm,1.3s
PSZ Piszkesteto 17.43 306 eP P 00 13 52.9 -0.3
comp=Z,261nm,1.3s
PSZ Piszkesteto 17.43 306 eP P 00 13 52.9 -0.3
comp=Z,261nm,1.3s
MNK Minsk 17.54 334 eP P 00 13 48.0 -6.5
MNK pmax pmax
comp=Z,1μm,1.0s
MNK pmax pmax
comp=N,690nm,1.0s
MNK pmax pmax
comp=E,810nm,1.0s
PKS7 Kunszentmiklos 17.60 303⇑eP P 00 13 57.4 +2.0
PKSM Moragy 17.71 300 P P 00 13 58.1 +1.4
PKSM Moragy 17.71 300⇑iP P 00 13 58.0 +1.3
NIE Niedzica 17.79 311 eP P 00 13 57.1 -0.6
BUD Budapest 17.83 304⇑eP P 00 13 59.3 +1.1
BUD Budapest 17.83 304 P P 00 13 58.7 +0.5
RHK1 Bakonya 18.06 299⇓eP P 00 14 02.1 +0.9
PKSG 18.21 303⇑iP P 00 14 04.6 +1.7
VYHS Vyhne 18.30 307 iP P 00 14 04.2 +0.1
VYHS iS S 00 17 35.2 +9.5
VYHS Vyhne 18.30 307 ipP P 00 14 04.2 +0.1
VYHS iS S 00 17 35.2 +9.5
SRO2 Moca 18.32 305 iP P 00 14 06.9 +2.5
SRO2 Moca 18.32 305 ipP P 00 14 06.9 +2.5
LIKS Likavka 18.35 309 e P 00 14 07.3 +2.6
SRO Srobarova 18.39 305 eP P 00 14 07.3 +2.1
SRO Srobarova 18.39 305 epP P 00 14 07.3 +2.1
OJC Ojcow 18.45 313 eP P 00 14 03.8 -2.2
OJC epP 00 14 07.3
OJC eS S 00 17 34.3 +5.1
OJC MLR MLR 00 23 26.2
comp=E,2μm,19.3s
OJC Ojcow 18.45 313 eP P 00 14 03.8 -2.2
OJC eS S 00 17 34.3 +5.1
OJC MLR MLR
comp=Z,2μm,19.3s
TIP Timpagrande 18.72 277 P P 00 14 09.9 +0.6
IIGN Ignalina 18.78 333 e P 00 14 29.2 +19
WAR Warsaw 18.86 320 eP P 00 14 10.8 -0.1
WAR epP 00 14 13.4
WAR eS S 00 17 43.4 +5.1
WAR MLR MLR 00 22 10.5
comp=Z,6μm,18.5s
WAR Warsaw 18.86 320 eP P 00 14 10.8 0.0
WAR eS S 00 17 43.4 +5.1
WAR MLR MLR
comp=Z,6μm,18.5s
WAR Warsaw 18.86 320 eP P 00 14 10.8 0.0
WAR epP 00 14 13.4
WAR eS S 00 17 43.4 +5.1
SUW Suwalki 18.97 326 eP P 00 14 10.2 -2.0
SUW epP 00 14 13.0
SUW eS S 00 17 45.3 +4.4
SUW esS 00 17 52.2
SUW MLR MLR 00 22 20.2
comp=Z,2μm,19.0s
SUW Suwalki 18.97 326 eP P 00 14 10.2 -2.0
SUW eS S 00 17 45.3 +4.4
SUW MLR MLR
comp=Z,2μm,19.0s
SUW Suwalki 18.97 326 eP P 00 14 10.2 -2.0
SUW epP 00 14 13.0
SUW eS S 00 17 45.3 +4.4
SUW eSS SS 00 17 52.2 -14
TDS Terranova Siba 18.98 279 P P 00 14 17.6 +5.2
ISAL Salakas 18.99 333 e P 00 14 31.5 +19
GRI Girifalco 19.03 276 P P 00 14 14.2 +1.1
LTHS Al Lith 19.04 182 P P 00 14 15.3 +2.1
IZAR Zarasai 19.09 334 e P 00 14 30.9 +17
JAVC Velka Javorina 19.15 307 P P 00 14 13.9 -0.5
SMOL Smolenice 19.18 306 eP P 00 14 15.9 +1.1
SMOL Smolenice 19.18 306 epP P 00 14 15.9 +1.1
OKC Ostrava-Krasne 19.24 310 eP P 00 14 14.2 -1.2
OKC AMS AMS 00 23 40.0
comp=Z,3μm,14.8s
KAMS Al Khamasin 19.25 170 P P 00 14 16.0 +0.2
ZST Bratislava 19.28 305 iP P 00 14 17.1 +1.1
ZST iS S 00 17 57.7 +10
ZST Bratislava 19.28 305 ipP P 00 14 17.1 +1.1
ZST iS S 00 17 57.7 +10
RAC Raciborz 19.32 311 eP P 00 14 15.7 -0.6

RAC eS S 00 17 56.2 +7.5
RAC MLR MLR 00 22 37.7
RAC LME 00 23 41.3
RAC LMN 00 23 52.0
comp=Z,8µm,16.6s
CUC Castrocucco 19.34 280 P P 00 14 18.3 +1.6
KOGS Kog 19.38 299 ePn **P 00 14 16.6 -0.4**
KOGS e 00 14 20.7
RGNG Rignano Grg 19.40 285 P P 00 14 17.0 -0.3
ASHO Ashiyiah 19.42 134 ⇓P **P 00 14 16.5 -1.2**
SNR=211
BLJS Baljurashi 19.43 178 P P 00 14 19.4 +1.6
SLCN Sala Consilina 19.44 281 P P 00 14 18.5 +0.7
SOI Samo 19.45 274 P P 00 14 18.7 +0.7
SOI pmax pmax
comp=Z,102nm,1.0s
SOI Samo 19.45 274 P P 00 14 18.7 +0.7
comp=Z,102nm,1.0s
FG4 Candela 19.47 283 P P 00 14 18.2 0.0
FG4 pmax pmax
comp=Z,197nm,1.0s
FG4 Candela 19.47 283 P P 00 14 18.2 0.0
comp=Z,197nm,1.0s
SOP Sopron 19.48 303⇑ eP **P 00 14 18.7 +0.5**
SOP *i* PcP 00 18 11.5
SOP Sopron 19.48 303 P P 00 14 18.6 +0.4
MRLC Muro Lucano 19.52 282 P P 00 14 18.3 -0.4
CEL Celeste 19.54 275 P P 00 14 18.6 -0.4
MORC Moravsky Berou 19.57 310 eP **P 00 14 17.1 -2.2**
comp=Z,87nm,1.3s
MORC Moravsky Berou 19.57 310 P P 00 14 18.3 -1.0
SGO Sicignano 19.67 282 P P 00 14 20.4 -0.1
SGO pmax pmax
comp=Z,89nm,0.8s
SGO Sicignano 19.67 282 P P 00 14 20.4 -0.1
comp=Z,89nm,0.8s
SCLL Scilla 19.68 275 P P 00 14 19.8 -0.8
MTTG Motta San Giov 19.75 274 P P 00 14 20.3 -1.0
MSI Messina ING 19.81 275 P P 00 14 24.7 +2.6
GROS Grobnik 19.88 299 P P 00 14 22.4 -0.4
BOJS Bojanci 19.88 296 ePn **P 00 14 22.4 -0.4**
BOJS e 00 14 24.9
BOJS e 00 14 28.8
ATN Antennamare 19.89 275 P P 00 14 22.8 -0.1
VRAC Vranov 19.97 308 P P 00 14 23.2 -0.6
comp=Z,31nm,1.0s,baz=94,slow=9.6,SNR=18
VRAC S S **00 18 14.1 +11**
comp=Z,3.2nm,0.8s,baz=131,slow=21,SNR=1.7
VRAC Vranov 19.97 308 P P 00 14 23.4 -0.3
PSB1 Pescosannita 20.00 284 P P 00 14 24.8 +0.7
KRUC Moravsky 20.01 307 P P 00 14 22.9 -1.2
ARSA Arzberg 20.04 301⇑ *i*P **P 00 14 24.4 -0.2**
comp=Z,69nm,1.3s,SNR=8.4
ARSA Arzberg 20.04 301 *i*P **P 00 14 24.4 -0.2**
comp=Z,69nm,1.3s
PERS Pernice 20.18 300 ePn **P 00 14 25.3 -0.7**
AGST Augusta-Monte 20.27 272 P P 00 14 30.0 +3.0
SGG Gregorio Mates 20.32 284 P P 00 14 27.8 +0.4
CII Carovilli 20.36 285 P P 00 14 28.0 +0.2
MIDA Miranda 20.40 285 P P 00 14 28.9 +0.6
comp=Z,945nm,2.2s
SSY Sortino 20.42 272 P P 00 14 28.9 +0.4
LJU Ljubljana 20.47 298 ePn **P 00 14 28.5 -0.5**
LJU e 00 14 33.0
DPC Dobruska-Polom 20.52 310 eP **P 00 14 28.1 -1.4**
DPC eS S **00 18 21.8 +7.4**
DPC AMS AMS 00 24 40.0
comp=Z,4µm,13.9s
DPC Dobruska-Polom 20.52 310 eP **P 00 14 28.1 -1.4**
DPC MLR MLR
comp=Z,4µm,13.9s,MS4.9
MNO Monte Soro 20.53 274 P P 00 14 33.0 +3.3
PZI Palazzolo 20.54 272 P P 00 14 32.9 +3.1
OBKA Obir 20.54 299 P P 00 14 31.6 +1.9
RFI Roccamonfina 20.62 284 P P 00 14 31.9 +1.4
TREC Trest 20.65 307 eP **P 00 14 30.3 -0.5**
TREC eS S **00 18 24.7 +7.7**
TREC AMS AMS 00 24 40.0
comp=Z,5µm,14.6s
TREC Trest 20.65 307 eP **P 00 14 30.3 -0.5**
comp=Z,5µm,14.6s
ARU Arti 20.65 28⇑ *i*P **P 00 14 28.8 -2.0**
ARU ePPP PPP 00 14 51.6 -10
ARU eS S **00 18 19.0 +2.0**
ARU eSS SS 00 18 39.7 -7.8
ARU pmax pmax
comp=Z,146nm,1.0s
ARU MLR MLR
comp=Z,3µm,20.0s,MS4.7
ARU MLR MLR
comp=N,3µm,17.0s,MS4.8
ARU MLR MLR
comp=E,2µm,20.0s,MS4.8
ARU Arti 20.65 28 P **P 00 14 28.3 -2.5**
ARU Arti 20.65 28 *i* P **P 00 14 28.8 -2.0**
comp=E,146nm,1.0s
KSP Ksiaz 20.74 312 eP **P 00 14 30.8 -0.9**
KSP eS S **00 18 21.7 +3.0**
KSP MLR MLR 00 23 16.4
comp=E,3µm,23.8s,MS4.6
KSP Ksiaz 20.74 312⇓ eP **P 00 14 30.4 -1.3**
KSP e*PP 00 14 32.8
KSP eS S **00 18 22.0 +3.3**
KSP MLR MLR
comp=N,9µm,17.6s
KSP MLR MLR
comp=Z,6µm,16.7s,MS5.0
ARQ Araqi 20.74 136⇑P **P 00 14 31.5 -0.5**
SNR=141
UPC Upice 20.77 311 eP **P 00 14 31.2 -0.8**
VOY Vojsko 20.91 297 e(Pn) **P 00 14 32.5 -1.0**
VOY e 00 14 45.0
TRI Trieste 20.95 296 P P 00 14 35.7 +1.8
HOQ Hoqain 20.98 134⇑P **P 00 14 34.3 -0.1**
SNR=60
AQU L'Aquila 21.01 287 P P 00 14 34.6 0.0
MOA Molln 21.02 303 *i* P **P 00 14 34.5 -0.1**
comp=Z,165nm,1.3s,mb5.2,SNR=53
MOA Molln 21.02 303 *i* P **P 00 14 34.5 -0.1**
comp=Z,165nm,1.3s,mb5.2
PTQR Pietraquaria 21.02 286 P P 00 14 36.3 +1.6
CSLB Castelbuono 21.02 275 P P 00 14 37.2 +2.4
GIB Gibilmanna 21.04 275 P P 00 14 37.0 +2.1
DRE Drenchia 21.10 298⇓ eP **P 00 14 36.0 +0.5**
VSU Vasula 21.18 339 *d* iP **P 00 14 35.2 -1.0**
VSU Vasula 21.18 339 P P 00 14 35.0 -1.2
WDD Wield Dalam 21.19 269 P P 00 14 35.1 -1.4
FIAM Fiamignano 21.22 287 P P 00 14 39.8 +3.1
COLI Coloredo 21.27 298⇑ eP **P 00 14 37.0 -0.3**
PTCC Patocco-Chiusa 21.33 298 P P 00 14 38.0 +0.1
SNTG Esanatoglia 21.35 290 P P 00 14 38.6 +0.6
ARV Arcevia 21.35 290 P P 00 14 39.7 +1.6
BAD Bernadia 21.38 298⇑ eP **P 00 14 38.0 -0.3**
GMNA Gemona 21.39 298 P P 00 14 39.6 +1.1
MCT Mte Cammarata 21.42 274 P P 00 14 40.5 +1.7
PRU Pruhonice 21.46 308 eP **P 00 14 38.5 -0.6**
PRU eS S **00 18 40.2 +7.6**
PRU AMS AMS 00 26 30.0
comp=Z,3µm,15.1s
KBA Koelnbreinsper 21.46 300 *i* P **P 00 14 39.5 +0.4**
comp=Z,208nm,1.1s,mb5.4,SNR=40
KBA Koelnbreinsper 21.46 300 *i* P **P 00 14 39.5 +0.4**
KBA pmax pmax
comp=Z,208nm,1.1s,mb5.4
KBA Koelnbreinsper 21.46 300 *i* P **P 00 14 39.5 +0.4**
comp=Z,208nm,1.1s,mb5.4
FAVR Favara 21.48 273 P P 00 14 42.4 +3.0
BIDO Bidbid 21.49 132 ⇓P **P 00 14 39.1 -0.5**
SNR=17
PUL Pulkovo 21.50 345*c* *i*P **P 00 14 39.6 +0.2**
PUL *i* S S **00 18 38.9 +5.7**
PUL pmax pmax
comp=Z,445nm,1.0s,mb5.8
PUL pmax pmax
comp=N,732nm,1.4s
PUL pmax pmax
comp=E,303nm,1.1s
PUL smax
comp=Z,539nm,8.3s
PUL smax
comp=N,2µm,14.8s
PUL smax
comp=E,1µm,12.1s
PUL smax
comp=N,938nm,2.6s
PUL smax
comp=Z,2µm,6.8s
PUL smax
comp=E,1µm,2.7s
PUL MLR MLR
comp=Z,1µm,13.0s,MS4.6
PUL MLR MLR
comp=N,1µm,14.0s,MS4.5
PUL MLR MLR
comp=E,733nm,13.0s,MS4.5
KLMR Klimovskoe 21.53 358 *d* iP **P 00 14 37.9 -1.8**
KLMR *i* 00 15 00.5
KLMR *i* S S **00 18 40.8 +7.0**
KLMR pmax pmax
comp=Z,300nm,1.2s,mb5.6
KLMR pmax pmax
comp=Z,530nm,8.3s
KLMR MLR MLR
comp=Z,4µm,15.0s,MS5.0
MNS Montasola 21.54 287 P P 00 14 40.2 +0.2
PRA Prague 21.55 308 P P 00 14 39.0 -1.0
PRA *ex* x 00 14 52.0
MPRI Monte Prat 21.56 298⇓ eP **P 00 14 43.0 +2.9**
BSY Bisya 21.59 135⇑P **P 00 14 40.6 0.0**
SNR=135
ZOU Zoufplan 21.62 299⇓ eP **P 00 14 44.0 +3.3**
BSYO Bisya 21.62 135 P **P 00 14 40.6 -0.3**
SNR=135
PVCC Panska Ves 21.63 310 eP **P 00 14 40.1 -0.7**
GEC2 GERESS Array S 21.63 305 eP **P 00 14 40.2 -0.7**
GEC2 pmax pmax
comp=Z,96nm,1.3s,mb5.1
GEC2 GERESS Array S 21.63 305 eP **P 00 14 40.2 -0.7**
comp=Z,96nm,1.3s,mb5.1
GERES GERESS Array B 21.63 305 P **P 00 14 40.6 -0.3**
comp=Z,10nm,0.6s,mb4.5,baz=106,slow=9.7,SNR=111
GERES LR LR 00 24 09.4
comp=Z,2µm,18.6s,MS4.6,baz=115,slow=40
GERES GERESS Array B 21.63 305 P **P 00 14 40.6 -0.3**
GERES pmax pmax
comp=Z,11nm,0.6s
GERES MLR MLR
comp=Z,2µm,18.6s
MURB Monte Urbino 21.65 290 P **P 00 14 44.1 +3.0**
SVE Sverdlovsk 21.73 30⇑ *i*P **P 00 14 40.2 -1.6**
SVE *e* 00 15 10.3
SVE eS S **00 18 43.0 +5.4**
SVE eSS SS 00 19 32.0 +18
SVE pmax pmax
comp=Z,160nm,2.1s,mb5.1
SVE pmax pmax
comp=Z,625nm,2.9s,mb5.5
SVE MLR MLR
comp=N,2µm,15.0s,MS5.0
SVE MLR MLR
comp=E,4µm,15.0s,MS5.0
SVE MLR MLR
comp=Z,4µm,15.0s,MS5.0
CLTB Caltabellotta 21.75 274 P **P 00 14 41.8 -0.3**
FVI Forni Avoltri 21.76 299 P **P 00 14 47.6 +5.5**
KHC Kasperske Hory 21.79 306 eP **P 00 14 41.6 -0.8**
KHC pP 00 14 50.0
KHC x x 00 15 18.5
KHC eS S **00 18 45.5 +6.7**
KHC AMS AMS 00 27 10.0
comp=Z,3µm,11.2s
KHC Kasperske Hory 21.79 306 eP **P 00 14 41.6 -0.8**
KHC *e* 00 14 50.0
KHC *e* 00 15 18.5
KHC *e* 00 18 45.5
KHC MLR MLR
comp=Z,3µm,11.2s,MS5.0
KHC Kasperske Hory 21.79 306 eP **P 00 14 41.6 -0.8**
KHC *e* 00 14 50.0
MLNI Malnisio 21.81 297⇑ eP **P 00 14 46.0 +3.4**
SMDO Samad 21.81 133 ⇓P **P 00 14 42.3 -0.5**
SNR=101
MFNL Monte Finestre 21.93 275 P **P 00 14 45.5 +1.6**
CRE Caprese Michel 22.07 290 P **P 00 14 49.3 +4.0**
CRE pmax pmax
comp=Z,150nm,1.2s,mb5.3
CRE Caprese Michel 22.07 290 P **P 00 14 49.3 +4.0**
comp=Z,150nm,1.2s,mb5.3
BRG Berggiesshubel 22.12 310⇑ *i*P **P 00 14 45.1 -0.7**
BRG S S **00 18 52.0 +7.0**
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG MLR MLR
comp=N,4µm,13.6s,MS5.1
BRG MLR MLR
comp=E,3µm,16.1s,MS5.1
BRG MLR MLR
comp=Z,3µm,13.2s,MS4.9
BRG Berggiesshubel 22.12 310⇑ *i*P **P 00 14 45.1 -0.7**
comp=Z,2.9nm,1.0s
BRG *i* 00 14 59.2
BRG S S **00 18 52.0 +7.0**
BRG LR LR
comp=Z,3µm,13.2s,MS4.9
SFI Santa Sofia 22.16 291 P **P 00 14 48.8 +2.7**
SFI pmax pmax
comp=Z,103nm,0.8s,mb5.3
SFI Santa Sofia 22.16 291 P **P 00 14 48.8 +2.7**
comp=Z,103nm,0.8s,mb5.3
SEST Monte Rota 22.16 299 P **P 00 14 43.1 -3.1**
WET Wettzell 22.24 305 eP **P 00 14 45.4 -1.5**
WET pmax pmax
comp=Z,50nm,0.9s,mb4.9
WET Wettzell 22.24 305 eP **P 00 14 45.4 -1.5**
comp=Z,50nm,0.9s,mb4.9
VMG Vicchio 22.38 291 P **P 00 14 51.9 +3.6**
JMDO Jabal Madar 22.39 134⇑P **P 00 14 48.5 -0.1**
SNR=56
CTI Castel Tesino 22.45 297 P **P 00 14 49.5 +0.4**
CTI pmax pmax
comp=Z,140nm,1.1s,mb5.3
CTI Castel Tesino 22.45 297 P **P 00 14 49.5 +0.4**
comp=Z,140nm,1.1s,mb5.3
BRES Bressanone 22.48 299 P **P 00 14 50.3 +0.9**
CSNT Castellina Chi 22.55 290 P **P 00 14 52.5 +2.5**
SOKR Solikamsk 22.58 21 *i* P **P 00 14 52.7 +2.6**
SOKR *i* S S **00 18 54.3 +1.2**
SOKR pmax pmax
comp=Z,190nm,1.2s,mb5.4
SOKR MLR MLR
comp=Z,3µm,17.0s,MS4.8
WTTA Wattenberg 22.64 300⇑ *i*P **P 00 14 51.2 +0.3**
comp=Z,171nm,1.2s,mb5.3,SNR=15
WTTA Wattenberg 22.64 300⇑ *i*P **P 00 14 51.2 +0.4**
WTTA pmax pmax
comp=Z,171nm,1.2s,mb5.3
WTTA Wattenberg 22.64 300⇑ *i*P **P 00 14 51.1 +0.3**
comp=Z,171nm,1.2s,mb5.3
WBK Wadi Bani Khal 22.69 132⇑P **P 00 14 52.3 +0.8**
SNR=13
FNVD Fontana Vidola 22.69 292 P **P 00 14 55.3 +4.0**
WATA Walderalm 22.69 300⇑ *i*P **P 00 14 51.4 +0.1**
comp=Z,145nm,1.4s,mb5.2,SNR=18
WATA Walderalm 22.69 300⇑ *i*P **P 00 14 51.4 +0.1**
WATA pmax pmax
comp=Z,145nm,1.4s,mb5.2
APPI Appiano 22.80 298 P **P 00 14 54.5 +2.1**
NKC Novy Kostel 22.81 308 eP **P 00 14 52.7 +0.2**
NKC AMS AMS 00 26 00.0
comp=Z,3µm,13.7s
CLL Collm 22.83 311 ⇓P **P 00 14 52.4 -0.3**
comp=Z,logA/T=1.7,mb4.9
CLL *i* *PP 00 14 58.6
CLL *i* 00 15 08.9
CLL eS S **00 19 05.0 +7.2**
CLL Collm 22.83 311 ⇓ *i*P **P 00 14 52.4 -0.3**
CLL *i* 00 14 58.6
CLL eS S **00 19 05.0 +7.2**
CLL pmax pmax
comp=Z,46nm,1.0s,mb4.9
CLL Collm 22.83 311 ⇓ *i*P **P 00 14 52.4 -0.3**
comp=Z,46nm,1.0s,mb4.9
CLL *i* 00 14 58.6
CLL eS S **00 19 05.0 +7.2**
RUE Ruedersdorf 22.84 314 eP **P 00 14 52.3 -0.4**
comp=Z,501nm,1.4s,mb5.8
SQTA Sankt Quirin 22.92 300⇑ *i*P **P 00 14 53.8 +0.2**
comp=Z,212nm,1.6s,mb5.3,SNR=14
SQTA Sankt Quirin 22.92 300⇑ *i*P **P 00 14 53.8 +0.2**
SQTA pmax pmax
comp=Z,212nm,1.6s,mb5.3
SQTA Sankt Quirin 22.92 300⇑ *i*P **P 00 14 53.8 +0.2**
comp=Z,212nm,1.6s,mb5.3
MOTA Moosalm 23.01 300⇓ *i*P **P 00 14 54.5 0.0**
comp=Z,164nm,1.3s,mb5.3,SNR=41
MOTA Moosalm 23.01 300⇓ *i*P **P 00 14 54.5 0.0**
MOTA pmax pmax
comp=Z,164nm,1.3s,mb5.3
MOTA Moosalm 23.01 300⇓ *i*P **P 00 14 54.5 0.0**
comp=Z,164nm,1.3s,mb5.3
FUR Furstenfeldbru 23.04 302 eP **P 00 14 54.8 0.0**
FUR pmax pmax
comp=Z,257nm,1.3s,mb5.5
FUR Furstenfeldbru 23.04 302 eP **P 00 14 54.8 0.0**
comp=Z,257nm,1.3s,mb5.5
GSCL Gusciola 23.08 292 P **P 00 14 58.5 +3.3**
SAL Salo 23.19 296 P **P 00 14 59.6 +3.3**
SAL pmax pmax
comp=Z,425nm,1.2s,mb5.8
SAL Salo 23.19 296 P **P 00 14 59.6 +3.3**
comp=Z,425nm,1.2s,mb5.8
MABI Malga Bissina 23.24 297 P **P 00 14 58.8 +2.1**
BRMO Bormio 23.39 298 P **P 00 14 59.6 +1.5**
GRA1 Grafenberg Arr 23.43 306 eP **P 00 14 59.1 +0.6**
comp=Z,451nm,1.2s,mb5.8
GRF Grafenberg Arr 23.43 306 eP **P 00 14 59.1 +0.6**
GRF pmax pmax
comp=Z,451nm,1.2s,mb5.8
GRF MLR MLR
comp=Z,2µm,18.9s,MS4.5
GRF Grafenberg Arr 23.43 306 eP **P 00 14 59.1 +0.6**
comp=Z,451nm,1.2s,mb5.8
GRF LR LR
comp=Z,2µm,18.9s,MS4.5
GRFO Grafenberg 23.43 306 P **P 00 14 59.3 +0.8**
MOX Moxa 23.45 308 *i* P **P 00 15 01.2 +2.5**
comp=Z,logA/T=1.7,mb4.9
MOX SS 00 19 19.0
MOX L 00 26 35.0
MOX Moxa 23.45 308 eP **P 00 15 01.2 +2.5**
MOX pmax pmax
comp=Z,68nm,1.4s,mb4.9
MOX MLR MLR
comp=Z,2µm,17.0s,MS4.7
MOX Moxa 23.45 308 P **P 00 14 57.5 -1.2**
MOX eP 00 15 01.2
MOX LR LR
comp=Z,2µm,17.0s,MS4.7
BSD Bornholm Skovb 23.47 321⇑ *i*P **P 00 14 59.1 +0.2**
comp=Z,202nm,0.9s,mb5.5
BSD *i* 00 19 20.9
comp=Z,1µm,18.0s
BSD Bornholm Skovb 23.47 321⇑ *i*P **P 00 14 59.1 +0.2**
BSD pmax pmax
comp=Z,200nm,0.9s,mb5.5
BSD MLR MLR
comp=Z,1µm,18.0s,MS4.4
UBR Uberruh 23.73 301 eP **P 00 15 01.0 -0.5**
UBR Uberruh 23.73 301 P **P 00 15 01.6 +0.1**
DAVOX Davos 23.76 298 P **P 00 15 02.7 +1.0**
comp=Z,46nm,1.1s,mb4.8,baz=108,slow=6.6,SNR=26
DAVOX LR LR 00 25 22.3
comp=Z,3µm,19.9s,MS4.8,baz=99,slow=39
DAVOX Davos 23.76 298 P **P 00 15 02.3 +0.6**
DAVA Damuels 23.82 300 *i* P **P 00 15 02.6 +0.2**
comp=Z,110nm,1.1s,mb5.2,SNR=13
HDH Heidenheim 23.82 303 eP **P 00 15 02.2 -0.2**
BOB Bobbio (Coli) 23.91 293 P **P 00 15 05.7 +2.5**
BOB pmax pmax
comp=Z,59nm,1.0s,mb5.0
BOB Bobbio (Coli) 23.91 293 P **P 00 15 05.7 +2.5**
comp=Z,59nm,1.0s,mb5.0
FINES FINESS Array B 23.93 342 P **P 00 15 04.0 +0.8**
comp=Z,26nm,0.7s,mb4.8,baz=143,slow=9.7,SNR=129
FINES LR LR 00 25 34.7
comp=Z,421nm,19.6s,MS3.9,baz=316,slow=39
FINES FINESS Array B 23.93 342 *i* P **P 00 15 04.0 +0.8**
FINES pmax pmax
comp=Z,26nm,0.7s
RGN Rugen 23.99 318 eP **P 00 15 04.4 +0.5**
comp=Z,174nm,0.7s,mb5.6
VDL Val di Lei 24.01 298⇑P **P 00 15 05.6 +1.4**
TUE Stuetta 24.09 297 P **P 00 15 05.9 +0.9**
BRVK Borovoye 24.28 46 P **P 00 15 06.5 -0.2**
JOF Joensuu 24.29 349 ep **P 00 15 07.1 +0.4**
comp=Z,40nm,0.6s,mb5.0
JOF Joensuu 24.29 349 eP **P 00 15 07.1 +0.4**
JOF pmax pmax
comp=Z,40nm,0.6s,mb5.0
VSL Villasalto 24.32 280 eP **P 00 15 07.6 +0.3**
comp=Z,133nm,1.1s,mb5.3
BVAR Borovoye Array 24.32 46 P **P 00 15 07.4 +0.2**
comp=Z,10nm,0.8s,mb4.3,baz=241,slow=8.0,SNR=17
BVAR S S **00 19 33.0 +9.2**
comp=Z,2.1nm,1.0s,baz=245,slow=21,SNR=2.2
LLS Linth-Limmern 24.36 298⇑P **P 00 15 08.1 +0.5**
SIND Sindeldorf 24.37 304 eP **P 00 15 07.5 -0.2**
SIND Sindeldorf 24.37 304 P **P 00 15 08.5 +0.8**
VAI Varese 24.44 296 P **P 00 15 09.1 +0.7**
VAI pmax pmax
comp=Z,106nm,1.2s,mb5.2
VAI Varese 24.44 296 P **P 00 15 09.1 +0.7**
comp=Z,106nm,1.2s,mb5.2
GUT Gutenstein 24.45 301 eP **P 00 15 08.1 -0.4**
GUT Gutenstein 24.45 301 P **P 00 15 09.0 +0.5**
KAF Kangasniemi 24.46 343 ep **P 00 15 08.9 +0.4**
comp=Z,11nm,0.6s,mb4.5,baz=148,slow=9.8
KAF Kangasniemi 24.46 343 eP **P 00 15 08.9 +0.4**
KAF pmax pmax
comp=Z,11nm,0.6s,mb4.5
SISB Singen-Sch Ber 24.50 300 P **P 00 15 09.7 +0.8**
WILA Wila 24.50 300⇓P **P 00 15 09.0 +0.1**
STU Stuttgart 24.52 303 eP **P 00 15 08.5 -0.6**
STU pmax pmax
comp=Z,63nm,0.9s,mb5.2
STU Stuttgart 24.52 303 eP **P 00 15 08.5 -0.7**
comp=Z,63nm,0.9s,mb5.1
CLZ Clausthal 24.56 311 eP **P 00 15 10.1 +0.6**
CLZ pmax pmax
comp=Z,47nm,1.0s,mb5.0
CLZ Clausthal 24.56 311 eP **P 00 15 10.1 +0.6**
comp=Z,47nm,1.0s,mb5.0
MUO Muotathal 24.63 299⇑P **P 00 15 10.8 +0.6**
SPAK Spaichingen 24.67 301 eP **P 00 15 11.2 +0.6**
SPAK Spaichingen 24.67 301 eP **P 00 15 11.4 +0.8**
ZUR Zurich 24.71 299⇑P **P 00 15 11.6 +0.6**
LBG Lerchenberg 24.76 303 eP **P 00 15 11.6 +0.1**
LBG Lerchenberg 24.76 303 P **P 00 15 11.9 +0.4**
SLE Schleitheim 24.82 300⇑P **P 00 15 12.7 +0.6**
AML Almayashu 24.88 73 P **P 00 15 18.2 +5.5**
SNR=9.4
EKS2 Erkin-Say 24.90 72 P **P 00 15 17.6 +4.7**
SNR=12
TOD Tromm 24.93 305 eP **P 00 15 13.6 +0.5**
TOD Tromm 24.93 305 eP **P 00 15 13.3 +0.2**
SWS Schriesheim 24.97 304⇓eP **P 00 15 14.3 +0.8**
SWS Schriesheim 24.97 304 P **P 00 15 14.5 +1.0**
ORO Oropa 24.98 295 P **P 00 15 13.7 +0.1**
ORO pmax pmax
comp=Z,38nm,0.9s,mb4.9
ORO Oropa 24.98 295 P **P 00 15 13.7 +0.1**
comp=Z,38nm,0.9s,mb4.9
COP Copenhagen 24.98 320 *i* P **P 00 15 16.9 +3.4**
comp=Z,163nm,1.1s,mb5.5
COP *i* 00 19 54.3
comp=Z,840nm,18.0s
COP Copenhagen 24.98 320 *i* P **P 00 15 16.9 +3.4**
COP pmax pmax
comp=Z,160nm,1.1s,mb5.5
COP MLR MLR
comp=Z,850nm,18.0s,MS4.3
BFO Black Forest 25.01 302 eP **P 00 15 15.2 +1.3**
BFO pmax pmax
comp=Z,74nm,1.5s,mb5.0
BFO Black Forest 25.01 302 eP **P 00 15 15.2 +1.3**
comp=Z,74nm,1.5s,mb5.0
IMI Imperia 25.02 291 P **P 00 15 15.3 +1.3**
SULZ Sulz-Cheisache 25.04 300⇑P **P 00 15 14.9 +0.7**
FELD Feldberg 25.16 301 eP **P 00 15 15.6 +0.3**
KIZ Kirchzarten 25.23 301 eP **P 00 15 16.3 +0.4**
KIZ Kirchzarten 25.23 301 P **P 00 15 17.2 +1.3**
LKBD Leukerbad 25.27 297 ⇓P **P 00 15 16.7 +0.4**
LKBD ⇓P pP 00 15 16.9 -0.9
TNS Taunus Mts 25.29 306 eP **P 00 15 17.3 +0.8**

TNS pmax pmax
comp=Z,77nm,1.2s,mb5.1
TNS Taunus Mts 25.29 306 *e*P **P 00 15 17.3 +0.8**
comp=Z,77nm,1.2s,mb5.1
BSEG Bad Segeberg 25.32 315 *e*P **P 00 15 17.6 +0.8**
BSEG pmax pmax
comp=Z,126nm,1.2s,mb5.3
KTD Kalmit 25.34 304 *e*P **P 00 15 18.6 +1.6**
KTD Kalmit 25.34 304 *e*P **P 00 15 19.1 +2.1**
SBF Sospel 25.35 291 *e*P **P 00 15 17.4 +0.3**
comp=Z,263nm,1.0s,mb5.4
SBF Sospel 25.35 291 *e*P **P 00 15 17.4 +0.3**
SBF pmax pmax
comp=Z,132nm,1.0s,mb5.4
AUTN L'Aution 25.35 291 *e*P **P 00 15 18.3 +1.2**
DIX Grande Dixence 25.40 296 ⇓P **P 00 15 18.4 +0.8**
USP Ospenovka 25.40 70 P **P 00 15 20.4 +2.8**
SNR=7.9
AAK Ala-Archa 25.43 72⇑*e*P **P 00 15 18.1 +0.2**
AAK pmax pmax
comp=Z,28nm,1.4s,mb4.6
AAK Ala-Archa 25.43 72 P **P 00 15 16.8 -1.1**
BBS Basel-Blauen 25.45 300 *e*P **P 00 15 19.1 +1.1**
LIBD Limburg 25.47 301 *e*P **P 00 15 19.3 +1.1**
LIBD Limburg 25.47 301 *e*P **P 00 15 18.2 0.0**
DOI San Damiano 25.47 293 P **P 00 15 18.5 +0.2**
DOI pmax pmax
comp=Z,54nm,0.8s,mb5.1
DOI San Damiano 25.47 293 P **P 00 15 18.5 +0.2**
comp=Z,54nm,0.8s,mb5.1
TOUF Mont Tournerai 25.48 291 *e*P **P 00 15 18.1 -0.2**
FRU Bishkek 25.51 71⇓*e*P **P 00 15 20.5 +1.9**
FRU *e* 00 16 00.0
FRU pmax pmax
comp=Z,120nm,1.5s,mb5.2
FRU pmax pmax
comp=Z,250nm,1.9s,mb5.4
CHMS Chumysh 25.60 71 P **P 00 15 20.7 +1.2**
SNR=14
WLS Welschbruch 25.67 302 P **P 00 15 21.8 +1.8**
OG22 Abries 25.69 293 *e*P **P 00 15 20.7 +0.4**
CDF Champ du Feu 25.72 302 *e*P **P 00 15 18.3 -2.2**
comp=Z,132nm,1.6s,mb4.9
CDF Champ du Feu 25.72 302 *e*P **P 00 15 18.3 -2.2**
CDF pmax pmax
comp=Z,66nm,1.6s,mb4.9
MOF Molkenrain 25.74 300 *e*P **P 00 15 21.1 +0.4**
EMV Vieux Emosson 25.75 296 P **P 00 15 21.4 +0.5**
KBK Karagaybulak 25.77 72 P **P 00 15 22.4 +1.3**
SNR=17
ECH Echery 25.77 301 *e*P **P 00 15 20.1 -0.9**
SURF Saint Ours 25.78 293 *e*P **P 00 15 22.7 +1.5**
ABH Alteburg 25.79 305 *e*P **P 00 15 21.5 +0.3**
ABH Alteburg 25.79 305 *e*P **P 00 15 22.1 +0.9**
MBDF Montbardon 25.81 293 *e*P **P 00 15 22.2 +0.8**
comp=Z,170nm,1.0s,mb5.2
MBDF Montbardon 25.81 293 *e*P **P 00 15 22.2 +0.8**
MBDF pmax pmax
comp=Z,85nm,1.0s,mb5.2
BNI Bardonecchia 25.88 294 *e*P **P 00 15 22.3 +0.2**
BNI pmax pmax
comp=Z,74nm,1.0s,mb5.2
BNI Bardonecchia 25.88 294 *e*P **P 00 15 22.2 +0.2**
comp=Z,74nm,1.0s,mb5.2
LOMF Lomont 25.89 299 *e*P **P 00 15 23.1 +0.9**
HINF Hinteralfeld 25.93 300 *e*P **P 00 15 21.9 -0.6**
comp=Z,52nm,1.1s,mb4.7
HINF Hinteralfeld 25.93 300 *e*P **P 00 15 21.9 -0.6**
HINF pmax pmax
comp=Z,26nm,1.1s,mb4.7
FRF La Foret Royal 25.93 290 *e*P **P 00 15 22.7 +0.2**
comp=Z,264nm,1.4s,mb5.3
FRF La Foret Royal 25.93 290 *e*P **P 00 15 22.7 +0.2**
FRF pmax pmax
comp=Z,132nm,1.4s,mb5.3
RSL Roselend 25.93 295 *e*P **P 00 15 23.2 +0.7**
KZA Kyzart 26.04 73 P **P 00 15 30.3 +6.7**
SNR=6.1
LMR La Mourre 26.04 290 *e*P **P 00 15 23.8 +0.2**
comp=Z,160nm,1.4s,mb5.1
LMR La Mourre 26.04 290 *e*P **P 00 15 23.8 +0.2**
LMR pmax pmax
comp=Z,80nm,1.4s,mb5.1
RUP Ruppelstein 26.06 305 *e*P **P 00 15 24.7 +1.0**
RUP Ruppelstein 26.06 305 *e*P **P 00 15 24.5 +0.8**
TKM2 Tokmak 2 26.22 71 P **P 00 15 28.5 +3.2**
SNR=17
IBBN Ibbenburen 26.24 311 P **P 00 15 27.2 +1.9**
GDM Grand'Maison 26.28 294 *e*P **P 00 15 26.1 +0.3**
HAU Haudompre 26.28 301 *e*P **P 00 15 24.8 -1.0**
comp=Z,58nm,1.1s,mb4.7
HAU *e*R
comp=Z,3μm,19.0s
HAU Haudompre 26.28 301 *e*P **P 00 15 24.8 -1.0**
HAU pmax pmax
comp=Z,29nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,3μm,19.0s,MS4.8
BUG Bochum-Univer 26.30 308 P **P 00 15 27.5 +1.6**
CABF La Chapelle 26.34 297 *e*P **P 00 15 26.8 +0.5**
comp=Z,464nm,1.1s,mb5.6
CABF La Chapelle 26.34 297 *e*P **P 00 15 26.8 +0.5**
CABF pmax pmax
comp=Z,232nm,1.1s,mb5.6
ORIF Oris-en-Rattie 26.45 294 *e*P **P 00 15 26.7 -0.6**
comp=Z,362nm,1.6s,mb5.3
ORIF *e*R
comp=Z,4μm,20.2s
CMAH Djebel Manchou 26.48 275 P **P 00 15 27.0 -0.7**
GRN Grenoble 26.54 294 *e*P **P 00 15 30.2 +2.0**
THEF They Montfort 26.55 301 *e*P **P 00 15 28.6 +0.4**
WLF Walferdange 26.64 304 *e*P **P 00 15 28.7 -0.3**
WLF pmax pmax
comp=Z,28nm,0.9s,mb4.8
WLF Walferdange 26.64 304 *e*P **P 00 15 28.7 -0.3**
comp=Z,28nm,0.9s,mb4.8
SMRF Simiane la Rot 26.69 291 *e*P **P 00 15 30.1 +0.6**
comp=Z,594nm,1.9s,mb5.5
WTSB Winterswijk 26.72 309 *e*P **P 00 15 30.4 +0.7**
comp=Z,75nm,1.9s,mb4.9
OG05 Jujurieux 26.75 296 *e*P **P 00 15 30.5 +0.4**
HFS Hagfors 26.89 330 P **P 00 15 30.4 -0.9**
comp=Z,48nm,0.8s,mb5.1,baz=135,slow=4.2,SNR=25
HFS LR LR 00 27 23.6
comp=Z,2μm,19.3s,MS4.7,baz=3.6,slow=39
HFS Hagfors 26.89 330 P **P 00 15 30.4 -0.9**
HFS pmax pmax
comp=Z,48nm,0.8s
HFS MLR MLR
comp=Z,2μm,19.3s
HFA0 Hagfors New Ar 26.90 330 P **P 00 15 30.9 -0.4**
KSH Kashi 26.95 78 *e*P **P 00 15 37.0 +5.0**
KSH AP pP 00 15 41.3 +7.8
KSH XP sP 00 15 44.8 +11
KSH *e*PP PP 00 16 24.2 +6.7
KSH *e*PPP PPP 00 16 36.6 +7.1
KSH PCP PcP 00 18 57.8 +3.4
KSH *e*S **S 00 20 14.4 +6.6**
KSH *e*SCP 00 22 36.2
KSH *e*PCS 00 22 37.7
KSH *e*SCS ScS 00 26 26.0 +2.5
KSH AMB AMB
comp=Z,90nm,2.2s,mb4.9
KSH LR LR
comp=N,6μm,20.2s
KSH LR LR
comp=E,2μm,10.6s
MUD Monsted U'grnd 26.96 320 *i* P **P 00 15 32.8 +0.9**
comp=E,127nm,1.1s,mb5.4
MUD *i* S **S 00 20 25.3 +18**
comp=Z,3μm,17.0s
MUD Monsted U'grnd 26.96 320 *i* P **P 00 15 32.8 +0.9**
MUD pmax pmax
comp=Z,130nm,1.1s,mb5.4
MUD MLR MLR
comp=Z,3μm,17.0s,MS4.9
HGN Heimansgroeve 26.98 307 *e*P **P 00 15 32.9 +0.8**
comp=Z,41nm,2.0s,mb4.6
HGN *ex* x 00 19 02.7
HGN *e*S **S 00 20 26.1 +18**
PRAF Pradon 26.99 291 *e*P **P 00 15 31.9 -0.4**
CKFL Kef-Lekhel 27.08 275 P **P 00 15 29.0 -4.2**
AAA Alma-Ata 27.18 70 *i* P **P 00 15 42.7 +8.6**
AAA pmax pmax
comp=Z,600nm,8.8s
AAA MLR MLR
comp=Z,2μm,16.4s,MS4.7
MEZF Maizieres J'vi 27.20 301 *e*P **P 00 15 34.3 +0.1**
comp=Z,144nm,1.5s,mb5.0
CASM Ain Smara 27.30 274 P **P 00 15 30.0 -5.2**
VIVF Saint-Julien-l 27.30 293 *e*P **P 00 15 34.9 -0.3**
comp=Z,53nm,1.0s,mb4.7
VIVF Saint-Julien-l 27.30 293 *e*P **P 00 15 34.9 -0.3**
VIVF pmax pmax
comp=Z,27nm,1.0s,mb4.7
GIVF Givet 27.56 305 *e*P **P 00 15 37.8 +0.4**
DFRA Djebel Bou Aff 27.69 275 P **P 00 15 39.0 +0.2**
ATD Arta Tunnel 27.78 176 LR LR 00 25 40.4
comp=Z,2μm,18.6s,MS4.8,baz=358,slow=34
SMF Signal de Mont 27.89 297 *e*P **P 00 15 40.5 0.0**
comp=Z,113nm,1.3s,mb5.0
SMF Signal de Mont 27.89 297 *e*P **P 00 15 40.5 0.0**
SMF pmax pmax
comp=Z,56nm,1.3s,mb5.0
LOR Lormes 27.90 299 *e*P **P 00 15 39.6 -1.0**
comp=Z,70nm,1.1s,mb4.9
LOR *e*R
comp=Z,3μm,20.2s
LOR Lormes 27.90 299 *e*P **P 00 15 39.6 -1.0**
LOR pmax pmax
comp=Z,35nm,1.1s,mb4.9
LOR MLR MLR
comp=Z,3μm,20.3s,MS4.8
LASF Ste Croix 27.92 292 *e*P **P 00 15 40.9 +0.1**
comp=Z,44nm,1.0s,mb4.7
BAIF Baives 27.94 305 *e*P **P 00 15 40.8 -0.1**
comp=Z,65nm,1.2s,mb4.8
BAIF Baives 27.94 305 *e*P **P 00 15 40.8 -0.1**
BAIF pmax pmax
comp=Z,33nm,1.2s,mb4.8
PLDF La Plantade 28.03 296 *e*P **P 00 15 41.1 -0.7**
SSF Saint Saulge 28.14 298 *e*P **P 00 15 41.9 -0.8**
SSF pmax pmax
comp=Z,68nm,1.5s,mb5.1
SSF Saint Saulge 28.14 298 *e*P **P 00 15 41.9 -0.8**
comp=Z,68nm,1.5s,mb5.0
SET Setif 28.16 275 P **P 00 15 45.0 +2.0**
AVF Avril sur Loir 28.23 298 *e*P **P 00 15 42.4 -1.1**
comp=Z,109nm,1.2s,mb5.0
AVF Avril sur Loir 28.23 298 *e*P **P 00 15 42.4 -1.1**
AVF pmax pmax
comp=Z,55nm,1.2s,mb5.1
KONO Kongsberg 28.31 326 *i* P **P 00 15 44.9 +0.8**
KONO Kongsberg 28.31 326 *e*P **P 00 15 43.0 -1.1**
comp=Z,76nm,1.1s,mb5.2
KONO LR LR
comp=Z,2μm,22.0s,MS4.8
LBL Lubilhac 28.31 294 *e*P **P 00 15 42.3 -1.9**
AGO Saint Agoulin 28.38 296 *e*P **P 00 15 45.1 +0.2**
NB2 NORSAR Subarra 28.42 330 P **P 00 15 43.8 -1.3**
comp=Z,31nm,1.2s,mb4.8,baz=126,slow=8.6
NB2 NORSAR Subarra 28.42 330 P **P 00 15 43.8 -1.3**
baz=126,slow=9.3
NB2 NORSAR Subarra 28.42 330 P **P 00 15 43.8 -1.3**
NB2 pmax pmax
comp=Z,31nm,1.2s,mb4.8
NOA NORSAR Array B 28.42 330 P **P 00 15 44.1 -1.0**
comp=Z,6.2nm,0.8s,mb4.3,baz=126,slow=8.9,SNR=13
NOA LR LR 00 28 18.5
comp=Z,2μm,18.9s,MS4.6,baz=115,slow=39
NOA NORSAR Array B 28.42 330 P **P 00 15 44.1 -1.0**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,2μm,18.9s
NAO01 NORSAR Array S 28.43 329 *e*P **P 00 15 43.3 -1.9**
comp=Z,38nm,0.8s,mb5.1
BGF Bois d'Agland 28.58 297 *e*P **P 00 15 46.4 -0.2**
comp=Z,137nm,1.3s,mb5.2
BGF Bois d'Agland 28.58 297 *e*P **P 00 15 46.4 -0.2**
BGF pmax pmax
comp=Z,68nm,1.3s,mb5.2
KURK Kurchatov 28.63 54⇓*e*P **P 00 15 46.9 -0.2**
KURK Kurchatov 28.63 54 P **P 00 15 45.4 -1.7**
TCF Toulx Ste Croi 29.02 297 *e*P **P 00 15 49.9 -0.7**
comp=Z,45nm,1.0s,mb4.9
TCF Toulx Ste Croi 29.02 297 *e*P **P 00 15 49.9 -0.7**
TCF pmax pmax
comp=Z,23nm,1.0s,mb4.9
CAF Calviac 29.15 294 *e*P **P 00 15 52.1 +0.2**
comp=Z,123nm,1.6s,mb5.1
CAF Calviac 29.15 294 *e*P **P 00 15 52.1 +0.2**
CAF pmax pmax
comp=Z,62nm,1.6s,mb5.1
BHJ Bhuj 29.16 115 *e*P **P 00 15 49.3 -2.8**
BHJ AMb AMB 00 15 54.7
comp=Z,25nm,0.4s,mb5.3
MTLF Montolieu 29.16 290 *e*P **P 00 15 51.7 -0.3**
RJF Les Rejaudoux 29.52 295 *e*P **P 00 15 55.2 0.0**
BLS5 Blasjo 29.59 324 *e*P **P 00 15 56.4 +0.8**
BLS5 AMb AMB 00 16 01.6
comp=Z,47nm,1.4s,mb5.0
BLS5 Blasjo 29.59 324 *e*P **P 00 15 56.4 +0.8**
comp=Z,47nm,1.4s,mb5.0
LFF La Frestale 30.09 294 *e*P **P 00 15 59.4 -0.9**
comp=Z,41nm,0.9s,mb4.9
LFF La Frestale 30.09 294 *e*P **P 00 15 59.4 -0.9**
LFF pmax pmax
comp=Z,21nm,0.9s,mb4.9
NSS Namsos 30.36 336 *e*P **P 00 16 01.1 -1.3**
NSS AMb AMB 00 16 06.2
comp=Z,70nm,1.2s,mb5.3
NSS Namsos 30.36 336 *e*P **P 00 16 01.1 -1.3**
comp=Z,70nm,1.2s,mb5.3
EPF Esparros 30.56 290 *e*P **P 00 16 04.0 -0.4**
comp=Z,19nm,0.9s,mb4.6
EPF Esparros 30.56 290 *e*P **P 00 16 04.0 -0.4**
EPF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
LDF La Druitiere 30.63 301 *e*P **P 00 16 03.0 -2.0**
comp=Z,33nm,1.2s,mb4.8
LDF La Druitiere 30.63 301 *e*P **P 00 16 03.0 -2.0**
LDF pmax pmax
comp=Z,16nm,1.2s,mb4.7
MFF Saint Martin d 30.64 297 *e*P **P 00 16 03.8 -1.3**
comp=Z,62nm,1.2s,mb5.0
MFF Saint Martin d 30.64 297 *e*P **P 00 16 03.8 -1.3**
MFF pmax pmax
comp=Z,31nm,1.2s,mb5.0
EGRA Graus 30.69 289 P **P 00 16 07.5 +1.9**
comp=Z,48nm,1.1s,mb5.2
EGRA Graus 30.69 289 P **P 00 16 07.5 +1.9**
comp=Z,48nm,1.1s,mb5.2,SNR=5.8
EBIE Bielsa 30.75 290 P **P 00 16 07.0 +0.9**
comp=Z,22nm,1.5s,mb4.8,SNR=6.2
MOR8 Moi Rana 30.78 339 *e*P **P 00 16 06.2 +0.1**
EBR Ebro Roquetas 30.79 286 *e*P **P 00 16 06.0 -0.5**
MKAR Makanchi Array 30.81 62 P **P 00 16 06.3 -0.3**
comp=Z,7.2nm,0.8s,mb4.5,baz=268,slow=8.0,SNR=24
MKAR LR LR 00 31 30.4
comp=Z,2μm,18.2s,MS4.7,baz=267,slow=42
MKAR Makanchi Array 30.81 62⇑*e*P **P 00 16 06.3 -0.3**
FLN La Foliniere 30.88 301 *e*P **P 00 16 04.5 -2.7**
comp=Z,19nm,0.9s,mb4.6
FLN *e*R
comp=Z,2μm,18.2s
FLN La Foliniere 30.88 301 *e*P **P 00 16 04.5 -2.7**
FLN pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
FLN MLR MLR
comp=Z,2μm,18.3s,MS4.9
GRR Gorron 31.12 301 *e*P **P 00 16 07.2 -2.1**
comp=Z,24nm,0.8s,mb4.8
GRR Gorron 31.12 301 *e*P **P 00 16 07.2 -2.1**
GRR pmax pmax
comp=Z,12nm,0.8s,mb4.8
KTK1 Kautokeino 31.20 348 *e*P **P 00 16 10.5 +0.7**
KTK1 AMb AMB 00 16 14.1
comp=Z,58nm,1.2s,mb5.3
KTK1 Kautokeino 31.20 348 *e*P **P 00 16 10.5 +0.7**
comp=Z,58nm,1.2s,mb5.3
ETSF Etsaut 31.23 290 *e*P **P 00 16 09.0 -1.4**
comp=Z,35nm,1.0s,mb4.9
ETSF Etsaut 31.23 290 *e*P **P 00 16 09.0 -1.4**
ETSF pmax pmax
comp=Z,18nm,1.0s,mb4.9
ARCES ARCESS Array B 31.33 350 P **P 00 16 10.9 -0.1**
comp=Z,12nm,0.7s,mb4.8,baz=156,slow=9.0,SNR=45
ARCES LR LR 00 30 00.8
comp=Z,3μm,18.6s,MS5.0,baz=153,slow=38
ARCES ARCESS Array B 31.33 350 P **P 00 16 10.9 -0.1**
ARCES pmax pmax
comp=Z,12nm,0.7s
ARCES MLR MLR
comp=Z,3μm,18.6s
ARE0 ARCESS Array S 31.33 350 *e*P **P 00 16 10.4 -0.6**
KEV Kevo 31.34 351 *e*p **P 00 16 10.3 -0.7**
comp=Z,1.2nm,0.4s,mb4.1
KEV Kevo 31.34 351 *e*P **P 00 16 10.3 -0.7**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
EMOS Mosqueruela 31.60 285 P **P 00 16 13.2 -0.4**
comp=Z,57nm,0.9s,mb5.4
EMOS Mosqueruela 31.60 285 P **P 00 16 13.2 -0.4**
comp=Z,57nm,0.9s,mb5.4,SNR=15
SJPF Ste Jean 31.69 291 *e*P **P 00 16 13.3 -1.1**
comp=Z,49nm,1.2s,mb4.9
SJPF Ste Jean 31.69 291 *e*P **P 00 16 13.3 -1.1**
SJPF pmax pmax
comp=Z,25nm,1.2s,mb4.9
EBEN Beniarda 31.79 282 P **P 00 16 13.9 -1.4**
comp=Z,43nm,1.1s,mb5.2
EBEN Beniarda 31.79 282 P **P 00 16 13.9 -1.4**
comp=Z,43nm,1.1s,mb5.2,SNR=5.7
IPRE Itoiz 31.82 290 P **P 00 16 15.1 -0.5**
comp=Z,4.6nm,0.7s,mb4.4,SNR=6.5
IUSE Utxeti 31.94 290 P **P 00 16 19.1 +2.5**
comp=Z,4.9nm,0.6s,mb4.5,SNR=7.9
NVS Novosibirsk 32.11 47 *e*P **P 00 16 16.1 -1.8**
NVS pmax pmax
comp=Z,62nm,2.2s,mb5.0
NVS pmax pmax
comp=E,24nm,1.8s
SGMF Saint Gilles 32.25 300 *e*P **P 00 16 18.1 -1.1**
comp=E,81nm,1.1s,mb5.2
SGMF Saint Gilles 32.25 300 *e*P **P 00 16 18.1 -1.1**
SGMF pmax pmax
comp=Z,40nm,1.1s,mb5.2
TRO Tromso 32.50 346 *e*P **P 00 16 20.2 -1.0**
QUIF Quistinic 32.66 300 *e*P **P 00 16 21.6 -1.2**
comp=Z,152nm,1.4s,mb5.4
QUIF Quistinic 32.66 300 *e*P **P 00 16 21.6 -1.2**
QUIF pmax pmax
comp=Z,76nm,1.4s,mb5.4
ROSF Rostrenen 32.73 301 *e*P **P 00 16 21.6 -1.8**
comp=Z,42nm,1.0s,mb5.0
ROSF Rostrenen 32.73 301 *e*P **P 00 16 21.6 -1.8**
ROSF pmax pmax
comp=Z,21nm,1.0s,mb5.0
EMUR La Murta 32.79 281 P **P 00 16 22.1 -1.9**
comp=Z,19nm,1.0s,mb5.0
EMUR La Murta 32.79 281 P **P 00 16 22.1 -1.9**
comp=Z,19nm,1.0s,mb5.0,SNR=4.8
ETOB Tobarra 32.81 283 P **P 00 16 23.7 -0.5**
comp=Z,18nm,0.8s,mb5.1
ETOB Tobarra 32.81 283 P **P 00 16 23.7 -0.5**
comp=Z,18nm,0.8s,mb5.1,SNR=8.9
ZAL Zalesovo 32.86 49 P **P 00 16 23.2 -1.3**
comp=Z,2.9nm,0.8s,mb4.3,baz=219,slow=9.7,SNR=14
ZAL LR LR 00 31 37.6
comp=Z,2μm,18.1s,MS4.7,baz=208,slow=40
ZAL Zalesovo 32.86 49 P **P 00 16 23.2 -1.3**
ZAL pmax pmax
comp=Z,3.0nm,0.8s
ZAL MLR MLR
comp=Z,2μm,18.1s
EVIA Vianos 33.53 283 P **P 00 16 30.1 -0.4**
EVIA pmax pmax
comp=Z,11nm,0.9s,mb4.8
EVIA Vianos 33.53 283 P **P 00 16 30.1 -0.4**
comp=Z,11nm,0.9s,mb4.8
EVIA Vianos 33.53 283 P **P 00 16 30.1 -0.4**
comp=Z,11nm,0.9s,mb4.8,SNR=7.9
EHUE Huescar 33.82 281 P **P 00 16 32.6 -0.4**
EHUE pmax pmax
comp=Z,15nm,0.9s,mb4.9
EHUE Huescar 33.82 281 P **P 00 16 32.6 -0.4**
comp=Z,15nm,0.9s,mb4.9
EHUE Huescar 33.82 281 P **P 00 16 32.6 -0.4**
comp=Z,15nm,0.9s,mb4.9,SNR=22
EQES Quesada 34.19 282⇑P **P 00 16 35.4 -0.8**
comp=Z,82nm,0.9s,mb5.7
EQES Quesada 34.19 282 P **P 00 16 35.3 -0.9**
comp=Z,82nm,0.9s,mb5.6,SNR=18
EBER Berja 34.32 280⇑P **P 00 16 36.3 -1.1**
comp=Z,44nm,1.0s,mb5.3
EBER Berja 34.32 280 P **P 00 16 36.3 -1.0**
comp=Z,44nm,1.0s,mb5.3,SNR=18
ESDC Sonseca Array 34.37 285 P **P 00 16 36.0 -1.7**
comp=Z,23nm,0.8s,mb5.2,baz=66,slow=8.9,SNR=88
ESDC Sonseca Array 34.37 285 P **P 00 16 36.0 -1.7**
comp=Z,14nm,0.6s,mb5.1
ESLA Sonseca Array 34.37 285 *e*P **P 00 16 35.7 -2.0**
comp=Z,5.8nm,0.8s,mb4.6
ESLA LR LR
comp=Z,9μm,19.0s,MS5.5
EARI Arriondas 34.54 292 P **P 00 16 41.3 +2.1**
comp=Z,14nm,0.8s,mb4.9
EARI Arriondas 34.54 292 P **P 00 16 41.3 +2.2**
comp=Z,14nm,0.8s,mb4.9,SNR=4.5
EBAN Banos Encina 34.63 283⇓P **P 00 16 39.2 -0.8**
EBAN pmax pmax
comp=Z,30nm,0.8s,mb5.3
EBAN Banos Encina 34.63 283⇓P **P 00 16 39.2 -0.8**
comp=Z,30nm,0.8s,mb5.3
EBAN Banos Encina 34.63 283 P **P 00 16 39.2 -0.8**
comp=Z,30nm,0.8s,mb5.3,SNR=18
ECOG Cogollos-Vega 34.72 281⇑P **P 00 16 39.4 -1.4**
ECOG pmax pmax
comp=Z,12nm,0.8s,mb4.9
ECOG Cogollos-Vega 34.72 281⇑P **P 00 16 39.4 -1.4**
comp=Z,12nm,0.8s,mb4.9
ECOG Cogollos-Vega 34.72 281 P **P 00 16 39.4 -1.4**
comp=Z,12nm,0.8s,mb4.9,SNR=18
BHPL Bhopal 34.80 107 *e*P **P 00 16 41.2 -0.3**
BHPL AMb AMB 00 16 49.6
comp=Z,56nm,1.3s,mb5.3
EGUA Guajares 34.85 280 P **P 00 16 40.8 -1.1**
EGUA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
EGUA Guajares 34.85 280 P **P 00 16 40.8 -1.1**
comp=Z,2.5nm,0.8s,mb4.2
EGUA Guajares 34.85 280 P **P 00 16 40.8 -1.1**
comp=Z,2.5nm,0.8s,mb4.2,SNR=7.9
WMQ Urumqi 34.88 67 P **P 00 16 42.2 +0.1**
WMQ AP pP 00 16 46.7 +3.1
WMQ XP sP 00 16 49.2 +5.0
WMQ PP PP 00 18 00.1 +0.5
WMQ PPP PPP 00 18 18.1 +0.5
WMQ PCP PcP 00 19 15.2 0.0
WMQ S **S 00 22 12.2 -0.6**
WMQ SS SS 00 24 25.7 -0.4
WMQ SCS ScS 00 27 01.2 -0.9
WMQ AMB AMB
comp=Z,30nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,350nm,4.6s
WMQ LR LR
comp=N,3μm,18.6s,MS5.2
WMQ LR LR
comp=E,3μm,17.0s,MS5.2
WMQ LR LR
comp=Z,2μm,16.0s,MS5.0
DLF Lyons Farm 34.94 309⇑*i*P **P 00 16 41.5 -0.9**
ERON Agron 34.98 281 P **P 00 16 41.7 -1.3**
comp=Z,9.9nm,0.8s,mb4.8
ERON Agron 34.98 281 P **P 00 16 41.7 -1.3**
comp=Z,9.9nm,0.8s,mb4.8,SNR=4.0
ELUQ Luque 35.17 282⇑P **P 00 16 42.7 -1.9**
ELUQ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ELUQ Luque 35.17 282⇑P **P 00 16 42.7 -1.9**
comp=Z,5.7nm,0.8s,mb4.5
ELUQ Luque 35.17 282 P **P 00 16 42.7 -1.9**
comp=Z,5.7nm,0.8s,mb4.5,SNR=18
ELOJ Sierra Loja 35.20 281 P **P 00 16 44.6 -0.3**
ELOJ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ELOJ Sierra Loja 35.20 281 P **P 00 16 44.6 -0.3**
comp=Z,4.4nm,0.7s,mb4.5
ELOJ Sierra Loja 35.20 281 P **P 00 16 44.6 -0.3**
comp=Z,4.4nm,0.7s,mb4.5,SNR=7.9
EADA Adamuz 35.23 283 P **P 00 16 43.8 -1.3**
comp=Z,13nm,0.9s,mb4.9
EADA Adamuz 35.23 283 P **P 00 16 43.8 -1.3**
comp=Z,13nm,0.9s,mb4.9,SNR=14
DCN Croghan 35.39 309⇑*i*P **P 00 16 45.8 -0.5**
EMIJ Mijas 35.86 280 P **P 00 16 49.4 -1.1**

comp=Z,22nm,0.8s,mb5.1
EMIJ Mijas 35.86 280 P **P** **00 16 49.4 -1.1**
comp=Z,22nm,0.8s,mb5.1,SNR=11
EJIF Jimena Fronter 36.43 280 P **P** **00 16 53.8 -1.5**
EJIF pmax pmax
comp=Z,16nm,1.1s,mb4.9
EJIF Jimena Fronter 36.43 280 P **P** **00 16 53.8 -1.5**
comp=Z,16nm,1.1s,mb4.9
EJIF Jimena Fronter 36.43 280 P **P** **00 16 53.8 -1.5**
comp=Z,16nm,1.1s,mb4.9,SNR=5.7
ESPR Espera 36.59 281 P **P** **00 16 54.4 -2.2**
comp=Z,15nm,1.0s,mb4.8
ESPR Espera 36.59 281 P **P** **00 16 54.3 -2.3**
comp=Z,15nm,1.0s,mb4.8,SNR=7.9
PVRL Vila Real 36.77 289 *e*P **P** **00 16 56.9 -1.1**
MTE Manteigas 36.85 288 *e*P **P** **00 16 57.8 -1.0**
comp=Z,45nm,0.9s,mb5.3
MTE Manteigas 36.85 288 *e*LQ 00 27 39.1
MTE *e*LR LR 00 30 57.1
comp=Z,2µm,17.9s
MTE Manteigas 36.85 288 *e*P **P** **00 16 57.5 -1.3**
comp=Z,33nm,0.8s,mb5.2
EBAD Badajoz 36.90 285 P **P** **00 16 58.1 -1.0**
comp=Z,4.7nm,0.7s,mb4.4
EBAD Badajoz 36.90 285 P **P** **00 16 58.1 -1.1**
comp=Z,4.7nm,0.7s,mb4.4,SNR=5.6
EMIN Mina Concepcio 36.93 283 P **P** **00 16 58.1 -1.4**
comp=Z,20nm,1.0s,mb4.9
EMIN Mina Concepcio 36.93 283 P **P** **00 16 58.1 -1.3**
comp=Z,20nm,1.0s,mb4.9,SNR=14
PCBR Castelo Branco 36.95 287 *e*P **P** **00 16 58.6 -1.0**
comp=Z,26nm,0.9s,mb5.1
KOLN Koldanda 37.06 95 *e*P **P** **00 17 01.9 +1.2**
comp=Z,64nm,1.4s,mb5.3
ZFT Errachidia 37.19 273 *i* P **P** **00 17 01.0 -0.7**
MIF Mishlifen 37.32 276 *i* P **P** **00 17 02.0 -0.8**
CZD Col de Zad 37.33 275 *i* P **P** **00 17 03.5 +0.7**
EGRO El Granado 37.61 283 P **P** **00 17 04.8 -0.4**
comp=Z,16nm,0.9s,mb4.8,SNR=6.4
PTOM Tomar 37.70 287 *e*P **P** **00 17 05.8 -0.1**
comp=Z,38nm,0.9s,mb5.1
EVO Evora 37.71 285 *e*P **P** **00 17 06.4 +0.4**
comp=Z,12nm,0.8s,mb4.3
EVO *e*R
comp=Z,2µm,18.5s
PBEJ Beja 37.75 284 *e*P **P** **00 17 05.3 -1.0**
GKN Gorkha 37.75 94 *e*P **P** **00 17 07.1 +0.6**
comp=Z,42nm,0.7s,mb5.3
KKN Kakani 38.35 94 *e*P **P** **00 17 12.1 +0.6**
comp=Z,29nm,0.7s,mb5.1
KKN Kakani 38.35 94 *e*P **P** **00 17 12.1 +0.6**
KKN pmax pmax
comp=Z,15nm,0.7s,mb4.8
PTEO Sao Teotonio 38.55 283 *e*P **P** **00 17 12.5 -0.5**
PKI Pulchoki 38.56 94 *e*P **P** **00 17 14.7 +1.4**
GUN Gumba 38.76 93 *e*P **P** **00 17 15.1 +0.2**
comp=Z,103nm,1.1s,mb5.5
JIRN Jiri 39.12 93 *e*P **P** **00 17 18.7 +0.7**
comp=Z,40nm,0.9s,mb5.1
JMIC Jan Mayen 40.36 337 LR LR 00 34 46.3
comp=Z,1µm,20.6s,MS4.7,baz=116,slow=37
KMBO Kilima Mbogo 40.44 186 P **P** **00 17 29.1 +0.1**
comp=Z,4.5nm,1.1s,mb4.1,baz=18,slow=8.6,SNR=8.2
KMBO LR LR 00 33 10.2
comp=Z,3µm,19.0s,MS5.2,baz=354,slow=35
KMBO Kilima Mbogo 40.44 186⇑ *e*P **P** **00 17 32.7 +3.7**
BOK Bokaro 40.88 99 *e*P **P** **00 17 31.7 -0.9**
BOK AMb AMB 00 17 36.8
comp=Z,20nm,1.0s,mb4.7
LSA Lhasa 42.01 87 P **P** **00 17 43.2 +1.5**
LSA Lhasa 42.01 87 *e*P **P** **00 17 42.9 +1.2**
LSA pmax pmax
comp=Z,17nm,0.8s,mb4.7
LSA Lhasa 42.01 87 *e*P **P** **00 17 42.9 +1.2**
comp=Z,18nm,0.8s,mb4.7
VIS Vishakhapatnam 42.53 108 *e*P **P** **00 17 46.3 +0.2**
VIS AMb AMB 00 17 58.8
comp=Z,74nm,1.9s,mb5.1
TORD Torodi Ar. Bea 43.32 244 P **P** **00 17 50.9 -1.7**
comp=Z,18nm,1.0s,mb4.8,baz=42,slow=7.7,SNR=104
TORD PP PP 00 19 29.1 -6.4
comp=Z,14nm,1.1s,baz=41,slow=8.5,SNR=4.2
BORG Borgarnes 43.50 327 LR LR 00 37 57.9
comp=Z,1µm,20.2s,MS4.7,baz=103,slow=39
ZAK Zakamensk 44.30 54 *e*P **P** **00 18 00.6 +0.5**
ZAK *e* 00 19 44.6
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
SCO Scoresbysund 44.46 335 *i* P **P** **00 18 02.2 +1.0**
GTA Gaotai 44.77 70 *e*P **P** **00 18 04.8 +0.7**
GTA AP pP 00 18 09.2 +3.6
GTA XP sP 00 18 11.8 +5.6
GTA PCP PcP 00 19 46.5 -0.2
GTA PP PP 00 19 51.5 +1.8
GTA PPP PPP 00 20 31.1 +1.9
GTA SCP 00 23 37.2
GTA PCS 00 23 38.4
GTA S **S** **00 24 41.8 +0.8**
GTA XS 00 24 49.8
GTA SS SS 00 27 55.0 +1.8
GTA SCS ScS 00 27 59.3 -0.7
GTA AMB AMB
comp=Z,550nm,5.0s
GTA LR LR
comp=N,1µm,15.7s,MS5.1
GTA LR LR
comp=E,1µm,14.9s,MS5.1
GTA LR LR
comp=Z,2µm,19.9s
DAG Danmarks Havn 45.16 344⇑ *i*P **P** **00 18 07.1 +0.4**
comp=Z,12nm,0.8s,mb4.8
DAG Danmarks Havn 45.16 344⇑ *e*P **P** **00 18 07.1 +0.4**
DAG pmax pmax
comp=Z,12nm,0.8s,mb4.8
DAG Danmarks Havn 45.16 344⇑ *e*P **P** **00 18 07.1 +0.4**
comp=Z,12nm,0.8s,mb4.8
CFTV Fuerteventura 46.34 274 P **P** **00 18 16.5 -0.1**
comp=Z,18nm,0.8s,mb5.0,SNR=4.8
SONM Songino Array 46.86 57 P **P** **00 18 19.4 -1.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=280,slow=8.9,SNR=14
SONM PcP PcP 00 19 53.3 -0.5
comp=Z,2.8nm,0.7s,baz=265,slow=3.6,SNR=8.4
SONM LR LR 00 40 13.9
comp=Z,4µm,20.6s,MS5.3,baz=287,slow=39
SONM Songino Array 46.86 57 P **P** **00 18 19.4 -1.0**
SONM 00 19 53.3
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM MLR MLR
comp=Z,4µm,20.6s
ULN Ulaanbaatar 47.28 57*c i*P **P** **00 18 23.8 0.0**
BOD Bodaibo 49.12 43 *e*P **P** **00 18 36.3 -1.6**
BOD pmax pmax
comp=Z,17nm,1.8s,mb4.8
SUMG Summit 49.81 337 *e*P **P** **00 18 43.8 +0.7**
comp=Z,33nm,1.2s,mb5.2
CIT Chita 50.22 50 *e*P **P** **00 18 48.4 +1.9**
DBIC Dimbokro 52.43 244 P **P** **00 19 01.7 -2.1**
comp=Z,31nm,0.7s,mb5.4,baz=21,slow=9.3,SNR=82
DBIC Dimbokro 52.43 244 P **P** **00 19 01.7 -2.1**
DBIC pmax pmax
comp=Z,31nm,0.7s
DBIC Dimbokro 52.43 244 *e*P **P** **00 19 01.4 -2.4**
comp=Z,17nm,0.6s,mb5.2
TIXI Tiksi 52.55 24 *e*P **P** **00 19 01.6 -2.3**
TIXI *e*SS SS 00 30 00.5 -5.9
TIXI pmax pmax
comp=Z,18nm,1.1s,mb4.9
TIXI MLR MLR
comp=Z,1µm,18.0s,MS5.0
HHC Hu-ho-hao-te 52.65 64 *e*P **P** **00 19 05.2 +0.2**
HHC AP pP 00 19 11.4 +4.8
HHC XP sP 00 19 14.0 +6.8
HHC PCP PcP 00 20 14.8 -0.2
HHC PP PP 00 21 05.3 -0.1
HHC PCS 00 24 12.7
HHC S **S** **00 26 28.3 -3.1**
HHC AMB AMB
comp=Z,270nm,4.9s
HHC LR LR
comp=N,2µm,20.2s,MS5.2
HHC LR LR
comp=E,930nm,15.5s,MS5.2
HHC LR LR
comp=Z,1µm,14.3s,MS5.0
LIC Lamto 52.87 244⇑ *i*P **P** **00 19 04.9 -2.1**
comp=Z,162nm,0.8s,mb5.7
LIC *e*R
comp=Z,710nm,20.0s
KMI Kunming 53.21 86 P **P** **00 19 09.5 +0.1**
KMI AP pP 00 19 20.5 +9.5
KMI AMB AMB
comp=Z,20nm,0.9s,mb5.0
KMI Kunming 53.21 86 P **P** **00 19 09.5 +0.1**
KMI pmax pmax
comp=Z,21nm,0.9s,mb5.1
KMI Kunming 53.21 86 P **P** **00 19 09.5 +0.1**
comp=Z,21nm,0.9s,mb5.1
KMI pP pP 00 19 20.5 +9.5
HIA Hailar 54.83 52 *e*P **P** **00 19 20.6 -0.4**
HIA pmax pmax
comp=Z,7.0nm,0.8s
HIA Hailar 54.83 52 *e*P **P** **00 19 20.6 -0.4**
comp=Z,7.0nm,0.8s,mb4.7
CLNS Chul'man 55.06 42 *e*P **P** **00 19 29.7 +7.1**
CLNS pmax pmax
comp=Z,12nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,1.1s
CLNS MLR MLR
comp=Z,3µm,18.0s,MS5.3
CLNS MLR MLR
comp=N,900nm,19.0s,MS5.3
CLNS MLR MLR
comp=E,2µm,19.0s,MS5.3
SFJD Kangerlussuaq 55.07 331 LR LR 00 44 53.0
comp=E,721nm,18.2s,MS4.8,baz=54,slow=38
GYA Guiyang 55.55 82 P **P** **00 19 25.5 -1.0**
GYA XP sP 00 19 33.4 +4.7
GYA AMB AMB
comp=Z,20nm,1.3s,mb5.0
GYA AMB AMB
comp=Z,290nm,4.5s
GYA LR LR
comp=N,1µm,22.2s
GYA LR LR
comp=E,1µm,27.5s
GYA LR LR
comp=Z,1µm,22.2s,MS4.9
YAK Yakutsk 55.58 35*d i*P **P** **00 19 27.5 +1.2**
YAK pmax pmax
comp=Z,25nm,1.2s,mb5.1
YAK MLR MLR
comp=Z,1µm,17.0s,MS5.1
YAK Yakutsk 55.58 35 P **P** **00 19 25.3 -1.0**
ENH Enshi 55.79 77 *e*P **P** **00 19 27.3 -0.9**
comp=Z,36nm,1.3s,mb5.2
WHN Wuhan 59.31 74 *e*P **P** **00 19 57.3 +4.3**
DL2 Dalian 60.46 62 *e*P **P** **00 20 05.6 +4.8**
DL2 AMB AMB
comp=Z,160nm,3.8s
DL2 LR LR
comp=N,650nm,16.1s,MS5.0
DL2 LR LR
comp=E,650nm,15.0s,MS5.0
DL2 LR LR
comp=Z,710nm,18.7s,MS4.8
CN2 Changchun 60.69 56 *e*P **P** **00 20 02.7 +0.4**
CN2 *e*S **S** **00 28 16.5 -1.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
CN2 LR LR
comp=Z,2µm,16.0s,MS5.3
NJ2 Nanjing 61.87 70 *e*P **P** **00 20 12.5 +2.0**
NJ2 AP pP 00 20 16.2 +4.1
NJ2 XP sP 00 20 19.2 +6.6
NJ2 PP PP 00 22 30.8 +1.9
NJ2 S **S** **00 28 34.0 +1.1**
NJ2 XS 00 28 42.0
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.2
NJ2 AMB AMB
comp=Z,80nm,5.7s
NJ2 LR LR
comp=Z,630nm,20.3s,MS4.8
KLR Kul'dur 61.97 48 *e*P **P** **00 20 19.2 +8.3**
KLR *e*S **S** **00 28 44.5 +11**
KLR MLR MLR
comp=N,3µm,13.0s,MS5.7
KLR MLR MLR
comp=E,2µm,13.0s,MS5.7
KLR MLR MLR
comp=Z,5µm,13.0s,MS5.9
MDJ Mudanjiang 62.92 53 P **P** **00 20 15.9 -1.4**
MDJ PCP PcP 00 20 54.2 -1.1
MDJ PP PP 00 22 33.7 -3.6
MDJ S **S** **00 28 44.3 -1.7**
MDJ AMB AMB
comp=Z,130nm,4.2s
MDJ LR LR
comp=Z,940nm,14.0s,MS5.1
PSI Prapat 63.82 109 LR LR 00 52 37.4
comp=Z,720nm,21.2s,MS4.8,baz=299,slow=40
SSE Sheshan 64.06 70 P **P** **00 20 25.5 +0.5**
SSE AP pP 00 20 28.7 +2.1
SSE PCP PcP 00 21 00.1 0.0
SSE S **S** **00 28 59.3 -1.2**
SSE SS SS 00 33 07.9 -2.8
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,50nm,4.1s
SSE LR LR
comp=N,750nm,25.2s,MS4.9
SSE LR LR
comp=E,670nm,25.1s,MS4.9
SSE LR LR
comp=Z,400nm,19.0s
SSE Sheshan 64.06 70 P **P** **00 20 25.5 +0.5**
comp=Z,31nm,0.7s,mb5.5
SSE pP pP 00 20 28.7 +2.1
SSE sP sP 00 20 29.8 +2.6
SSE PcP PcP 00 21 00.1 0.0
SSE S **S** **00 28 59.3 -1.2**
SSE sS 00 29 04.5
SSE SS SS 00 33 07.9 -2.8
SSE LR LR
comp=Z,410nm,19.0s,MS4.6
SEY Seymchan 64.39 28 *e*P **P** **00 20 26.8 +0.2**
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=E,30nm,1.2s
SEY pmax pmax
comp=Z,40nm,1.2s,mb5.3
BILL Bilibino 65.37 20 *e*P **P** **00 20 32.3 -0.5**
BILL *e* 00 20 59.2
BILL pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
BILL MLR MLR
comp=Z,800nm,17.0s,MS5.0
BILL Bilibino 65.37 20 *e*P **P** **00 20 30.8 -2.0**
comp=Z,19nm,1.0s,mb5.1
LBTB Lobatse 65.63 195 *e*P **P** **00 20 33.9 -1.3**
LBTB pmax pmax
comp=Z,12nm,0.8s,mb5.0
LBTB Lobatse 65.63 195 *e*P **P** **00 20 33.9 -1.4**
comp=Z,12nm,0.8s,mb5.0
MA2 Magadan 65.79 32⇓ *e*P **P** **00 20 34.4 -1.3**
MA2 pmax pmax
comp=Z,25nm,1.2s,mb5.1
MA2 MLR MLR
comp=Z,2µm,23.0s,MS5.3
SCHQ Schefferville 67.77 323 LR LR 00 49 25.6
comp=Z,563nm,21.7s,MS4.8,baz=77,slow=35
JNU Nakatsue 69.86 63 LR LR 00 56 28.5
comp=Z,1µm,19.9s,MS5.1,baz=129,slow=40
JOW Kunigami 71.58 70 LR LR 00 54 38.5
comp=Z,585nm,21.3s,MS4.8,baz=53,slow=38
INK Inuvik 72.57 358 LR LR 00 54 53.9
comp=Z,332nm,21.0s,MS4.6,baz=0.3,slow=37
MAT Matsushiro 72.81 57 P **P** **00 21 17.5 -1.7**
MAT Matsushiro 72.81 57 P **P** **00 21 18.0 -1.2**
MAT MLR MLR
comp=Z,740nm,22.0s,MS4.9
MJAR Matsushiro Arr 72.81 57 P **P** **00 21 18.7 -0.5**
comp=Z,6.9nm,1.0s,mb4.5,baz=312,slow=5.1,SNR=6.5
MJAR LR LR 00 55 17.7
comp=Z,653nm,20.4s,MS4.9,baz=320,slow=37
MJAR Matsushiro Arr 72.81 57 P **P** **00 21 18.7 -0.5**
MJAR pmax pmax
comp=Z,7.0nm,1.0s
MJAR MLR MLR
comp=Z,653nm,20.4s
PET Petropavlovsk 73.40 34 *e*P **P** **00 21 17.1 -5.2**
PET *e* 00 30 40.8
PET MLR MLR
comp=Z,1µm,20.0s,MS5.1
ILAR Eielson Array 76.02 3 LR LR 00 58 18.0
comp=Z,388nm,18.3s,MS4.8,baz=196,slow=38
YKW3 Yellowknife Ar 76.53 349 *e*P **P** **00 21 39.9 -0.2**
YKA Yellowknife Ar 76.59 349 P **P** **00 21 40.3 -0.1**
comp=Z,4.3nm,0.8s,mb4.5,baz=22,slow=6.2,SNR=49
MCK McKinley 76.94 4 P **P** **00 21 43.2 +0.8**
comp=Z,9µm,1.2s
FX1 Attu Island--F 79.23 27 LR LR 00 58 43.0
comp=Z,32nm,18.3s,baz=199,slow=37
CBIJ Chichi jima 81.28 62 LR LR 00 58 33.1
comp=Z,706nm,20.8s,MS5.0,baz=296,slow=36
DLBC Dease Lake 82.26 355 LR LR 00 58 00.1
comp=Z,608nm,21.4s,MS4.9,baz=100,slow=35
ULM Lac du Bonnet 83.02 334 P **P** **00 22 15.8 +0.6**
comp=Z,5.2nm,0.9s,mb4.5,baz=82,slow=4.9,SNR=8.5
ULM LR LR 00 59 24.7
comp=Z,432nm,18.3s,MS4.9,baz=234,slow=36
ULM Lac du Bonnet 83.02 334 P **P** **00 22 15.8 +0.6**
ULM LR LR 00 59 24.7
EDM Edmonton 85.14 345 *e*P **P** **00 22 27.1 +1.4**
BBB Bella Bella 88.33 353 LR LR 01 03 37.1
comp=Z,478nm,19.7s,MS4.9,baz=7.7,slow=36
NEW Newport 90.60 346 LR LR 01 05 16.2
comp=Z,586nm,18.4s,MS5.0,baz=128,slow=37
HRY Holter Researc 90.91 342 *e*P **P** **00 22 54.5 +0.9**
CHMT Chamberlain Mo 91.06 343 *e*P **P** **00 22 54.6 +0.4**
MSO Missoula 91.30 343 *e*P **P** **00 22 55.8 +0.5**
comp=Z,7.0nm,1.1s,mb4.9
REDW Red Top Meadow 93.78 340 *e*P **P** **00 23 07.8 +1.0**
comp=Z,17nm,1.3s,mb5.3
BMO Blue Mountains 93.90 345 *e*P **P** **00 23 07.2 -0.1**
comp=Z,12nm,1.3s,mb5.2
PDAR Pinedale Array 93.98 339 P **P** **00 23 09.1 +1.3**
comp=Z,1.2nm,1.1s,mb4.2,baz=14,slow=3.7,SNR=4.2
PDAR PP PP 00 26 55.0 -1.7
comp=Z,1.9nm,1.1s,baz=34,slow=5.3,SNR=4.0
PDAR LR LR 01 07 08.3
comp=Z,961nm,18.8s,MS5.3,baz=27,slow=37
WVOR Wild Horse Val 96.50 345 *e*P **P** **00 23 20.0 +0.7**
comp=Z,10nm,1.3s,mb5.1
DUG Dugway 97.27 340 *e*P **P** **00 23 23.6 +0.8**
ELK Elko 97.36 342 LR LR 01 13 23.8
comp=Z,554nm,19.3s,MS5.1,baz=9.2,slow=39
ELK Elko 97.36 342 *e*P **P** **00 23 25.0 +1.8**
comp=Z,14nm,1.6s,mb5.1
WMOK Wichita Mounta 97.40 328 *e*P **P** **00 23 23.6 0.0**
BDFB Brasilia 98.96 257 P **P** **00 23 31.8 +0.9**
comp=Z,1.3nm,0.6s,mb4.6,baz=113,slow=5.5,SNR=2.9
BDFB PP PP 00 27 35.4 +0.3
comp=Z,2.7nm,0.8s,baz=73,slow=7.8,SNR=3.2
BDFB LR LR 01 09 16.6
comp=Z,772nm,20.4s,MS5.2,baz=260,slow=36
NVAR Mina Array Bea 100.27 344 PP PP 00 27 45.0 -0.2
comp=Z,0.1nm,0.2s,baz=19,slow=6.2,SNR=3.7
SYO Syowa Base 108.06 181⇑ Pdiff Pdif 00 24 13.1 +2.8
SYO Syowa Base 108.06 181⇑ *e*Pdif Pdif 00 24 13.1 +2.8
LPAZ La Paz 114.80 269 PP PP 00 29 34.3 +1.3
comp=Z,0.9nm,0.9s,baz=69,slow=8.6,SNR=3.5
SNAA Sanae 114.97 194 *e* Pdif 00 24 47.0 +6.4
SNAA Sanae 114.97 194⇑ *i*Pdif Pdif 00 24 41.0 +0.4
SNAA *e* 00 24 47.0
VNA1 Neumayer--Stat 115.27 196⇑ *i*P Pdif 00 24 42.8 +0.9
VNA2 Neumayer--Watz 115.29 196 *e* Pdif 00 24 48.3 +6.3
VNA2 Neumayer--Watz 115.29 196 *e* Pdif 00 25 17.6 +36
VNA2 Neumayer--Watz 115.29 196 P PKPdf 00 28 30.5 -1.6
VNA2 Neumayer--Watz 115.29 196 *e* PP 00 29 32.0 -3.2
VNA2 Neumayer--Watz 115.29 196⇑ *i*Pdif Pdif 00 24 43.1 +1.1
VNA2 *e* 00 24 48.3
VNA2 *e* 00 25 17.6
VNA2 PKPdf PKPdf 00 28 30.5 -1.6
VNA2 *e* 00 29 32.0
VNA3 Neumayer Olymp 116.02 196 P PKPdf 00 28 34.1 +0.6
VNA3 Neumayer Olymp 116.02 196 *e* PP 00 29 38.0 -2.3
VNA3 Neumayer Olymp 116.02 196⇑ *i*Pdif Pdif 00 24 46.6 +1.4
VNA3 PKPdf PKPdf 00 28 34.1 +0.6
VNA3 *e* 00 29 38.0
STKA Stephens Creek 116.99 110 PKP PKPdf 00 28 36.2 -0.1
comp=Z,1.6nm,0.9s,baz=320,slow=7.6,SNR=3.3
PLCA Paso Flores 128.79 245 PKP PKPdf 00 28 58.1 -0.8
comp=Z,5.4nm,1.0s,baz=65,slow=1.9,SNR=6.6
PPT Papeete 156.43 26 *e*LR LR 01 22 28.2
comp=Z,766nm,30.8s
TBI Tubuai 161.75 32 *e*LR LR 01 24 55.3
comp=Z,392nm,24.8s
RKT Rikitea 163.43 347 *e*LR LR 01 25 44.4
comp=Z,382nm,27.5s

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*IDC **10** 00:20:28.3±1.0, 67.83N×20.63E, mb1 3.5/4, mb1mx3.2/22, mbtmp3.5/4, ML2.6/4, Error ellipse: s-maj=17.7km s-min=5.8km az=122.0*
*NAO **10** 00:20:29.0±2.4, 67.84N×20.57E, ML2.2*
*BER **10** 00:20:29.4±4.6, 67.90N×20.19E, ML2.3, ML2.2(NAO), Suspected explosion*
HEL 10 00:20:28.7±0.2, 67.84N×20.26E, ML2.0, ML2.3(BER), **ML2.2**(NAO), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	**1.19**	**9**	*e*P	Pb	00 20 50.1	-1.7
KIF				*e*S	Sb	00 21 06.6	-1.1
KTK1	**Kautokeino**	**1.62**	**42**	*e*P	Pn	00 20 58.4	-0.2
KTK1				*e*SN	Sn	00 21 22.0	+1.5
SGF	**Sodankyl**	**2.43**	**96**	*e*P	Pn	00 21 09.0	-1.2
SGF				*e*S	Sn	00 21 40.3	-0.8
SGF				MSG		00 21 44.5	
	comp=Z,4.5nm,0.2s						
LOF	**Lofoten**	**2.55**	**280**	*e*SG	Sg	00 21 47.9	-5.7
ARA0	**ARCESS Array S**	**2.57**	**46**	*e*P	Pn	00 21 10.7	-1.6
ARA0				*e*SB	Sb	00 21 45.6	-2.0
ARA0	**ARCESS Array S**	**2.57**	**46**	Pn	Pn	00 21 10.7	-1.6
	baz=234,slow=14						
ARA0				Sg	Sg	00 21 45.6	-8.6
	baz=222,slow=28						
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	Pn	00 21 10.5	-1.7
	comp=Z,0.9nm,0.3s,baz=226,slow=15,SNR=11						
ARCES				Pg	Pg	00 21 11.4	-8.6
	comp=Z,0.9nm,0.3s,baz=225,slow=15,SNR=8.8						
ARCES				Sn	Sn	00 21 43.3	-1.3
	comp=Z,2.8nm,0.3s,baz=226,slow=24,SNR=10						
ARCES				Lg		00 21 45.6	
	comp=Z,4.1nm,0.3s,baz=236,slow=24,SNR=12						
MELSS	**Ber_school_2**	**2.71**	**252**	*e*	Sg	00 21 52.7	-6.3
MOR8	**Moi Rana**	**2.83**	**237**	*e*SG	Sg	00 21 50.3	-13
MOR8				AML	AML	00 21 51.4	
	comp=Z,31nm,0.4s						
KEV	**Kevo**	**3.12**	**49**	*e*P	Pn	00 21 19.0	-1.1
KEV				*e*S	Sn	00 21 56.8	-1.8
KEV				MSG		00 22 08.0	
	comp=Z,6.0nm,0.3s						
OUL	**Oulu**	**3.57**	**138**	*e*PG	Pg	00 21 32.7	-7.2
OUL				*e*SB	Sb	00 22 15.5	-1.3
APA0	**Apatity Array**	**4.85**	**87**	Pn	Pn	00 21 40.8	-3.9
	baz=291,slow=14						
APA0				Sn	Sn	00 22 36.7	-5.7
	baz=290,slow=28						
APA0				Lg		00 22 57.2	
	baz=282,slow=28						
APA0	**Apatity Array**	**4.85**	**87**	*e*P	Pn	00 21 40.8	-3.9
APA0				*e*S	Sn	00 22 36.7	-5.7
APA0				*e*SG	Sg	00 22 57.2	-13
FIA0	**FINESS Array S**	**6.88**	**156**	Pn	Pn	00 22 09.3	-4.0
	baz=351,slow=18						
FIA0				Sn	Sn	00 23 28.0	-5.4
	baz=347,slow=22						
FIA0				Lg		00 24 03.0	
	baz=343,slow=28						
FIA0	**FINESS Array S**	**6.88**	**156**	*e*P	Pn	00 22 09.3	-4.0
FIA0				*e*S	Sn	00 23 28.0	-5.4
FIA0				*e*SG	Sg	00 24 03.0	-15
FINES	**FINESS Array B**	**6.88**	**156**	Pn	Pn	00 22 09.3	-4.1
	comp=Z,0.1nm,0.3s,baz=348,slow=18,SNR=3.4						
FINES				Sn	Sn	00 23 28.3	-5.1

comp=Z,0.2nm,0.3s,baz=349,slow=23,SNR=3.3
FINES Lg 00 24 01.6
comp=Z,0.8nm,0.3s,baz=345,slow=26,SNR=9.6
NOA NORSAR Array B 7.85 214 Pn Pn 00 22 23.2 -3.7
comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=2.8
NOA Sn Sn 00 23 51.3 -6.4
comp=Z,0.1nm,0.3s,baz=138,slow=26,SNR=2.3
NOA Lg 00 24 34.0
comp=Z,0.4nm,0.3s,baz=217,slow=14,SNR=2.6
HFS Hagfors 8.25 204 Lg 00 24 47.3
baz=17,slow=28
HFS Hagfors 8.25 204 Pn P 00 22 27.4 -5.1
comp=Z,0.0nm,0.3s,baz=11,slow=15,SNR=2.3
HFS Sn Sn 00 23 59.2 -8.3
comp=Z,0.0nm,0.3s,baz=18,slow=23,SNR=3.1
HFS Hagfors 8.25 204 Lg 00 24 47.3
baz=17,slow=28

*BJI **10** 00:39:17.2,2.10S×139.07E,h50km,mB5.1,mb4.9,Ms4.7, Msz4.3*
*NEIC **10** 00:39:19.6±3.4,2.05S×138.97E,h44km±31km,mb4.9/11, Error ellipse: s-maj=13.8km s-min=7.7km az=52.0*
*HRVD **10** 00:39:19.5±0.4,1.69S×138.56E,h19km±1km,MW4.9/49, Centroid moment Tensor Solution. LP body waves: s26,c30;Mantle waves: s49,c72; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.36±.26; Mθθ-2.29±.15; Mφφ-0.07±.20; Mrθ-1.32±.29; Mθφ1.47±.10; Mφr-0.67±.44; Best double couple: M₀3.123×10¹⁶ NP1:φs141°,δ42°, λ130°. NP2:φs273°,δs59°,λ60°. Principal axes: T 3.071, Plg63°, Azm133°; N .095, Plg25°, Azm289°; P -3.174, Plg10°, Azm23°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **10** 00:39:22.8±8.3,2.08S×138.91E,h75km±75km,mb4.1/9, mb1 4.3/10,mb1mx4.2/14,mbtmp4.4/10,ML5.2/1,MS4.3/4, Ms1 4.3/4,ms1mx3.9/18 Error ellipse: s-maj=32.2km s-min=16.2km az=58.0*

ISC 10 00:39:16.6±0.5,2.09S±0.05×138.98E±0.1,h33km,n37, σ0s69/32,mb4.7/20,MS4.5/5,2D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**16.67**	**21**	LR	LR	00 48 18.4	
	comp=Z,374nm,19.7s,baz=87,slow=32						
WB2	**Warramunga Arr**	**18.29**	**194**	*e*P	**P**	**00 43 29.2**	**-0.6**
WB2				*e*S	**S**	**00 46 46.2**	**-3.2**
WRA	**Warramunga Arr**	**18.29**	**194**	P	**P**	**00 43 29.8**	**0.0**
	7.7nm,0.3s,baz=18,slow=12,SNR=54						
WRA				S	**S**	**00 46 49.0**	**-0.5**
	1.3nm,0.3s,baz=9.6,slow=22,SNR=5.9						
WRA				Lg		00 49 04.6	
	baz=14,slow=28,SNR=3.1						
CTAO	**Charters Tower**	**19.28**	**159**	*e*P	**P**	**00 43 41.6**	**+0.1**
	8.0nm,0.6s						
MBWA	**Marble Bar**	**26.61**	**223**	*e*P	**P**	**00 44 54.1**	**0.0**
	11nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**29.74**	**175**	*e*P	**P**	**00 45 23.3**	**+1.1**
	3.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**29.74**	**175**	P	**P**	**00 45 23.0**	**+0.7**
	4.3nm,0.7s,mb4.3,baz=345,slow=8.8,SNR=14						
STKA				LR	LR	00 58 04.2	
	comp=Z,450nm,18.0s,MS4.1,baz=156,slow=38						
FORT	**Forrest**	**30.32**	**199**	⇓*i*P	**P**	**00 45 28.6**	**+1.1**
	21nm,0.6s,mb5.0						
DZM	**Mont Dzumac**	**33.34**	**129**	P	**P**	**00 45 53.6**	**-0.5**
	2.8nm,0.7s,mb4.3,baz=297,slow=14,SNR=5.1						
KLBR	**Kellerberrin**	**35.48**	**212**	*e*P	**P**	**00 46 13.2**	**+0.9**
	67nm,1.6s,mb5.3						
PSI	**Prapat**	**40.25**	**277**	P	**P**	**00 46 52.8**	**+0.5**
	16nm,0.9s,mb4.7,baz=139,slow=2.5,SNR=12						
CD2	**Chengdu**	**46.85**	**317**	⇓*i*P	**P**	**00 47 46.0**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GTA	**Gaotai**	**54.68**	**323**	*e*P	**P**	**00 48 43.6**	**-1.4**
GTA				AMB	AMB		
	comp=Z,100nm,6.9s						
GTA				LR	LR		
	comp=N,220nm,16.4s,MS4.5						
GTA				LR	LR		
	comp=E,190nm,14.1s,MS4.5						
GTA				LR	LR		
	comp=Z,200nm,18.0s,MS4.2						
ULN	**Ulaanbaatar**	**56.98**	**335**	*e*P	**P**	**00 49 00.7**	**-0.7**
	comp=Z,3.3nm,1.0s,mb4.3						
SONM	**Songino Array**	**57.24**	**335**	P	**P**	**00 49 02.9**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=157,slow=6.7,SNR=7.3						
JIRN	**Jiri**	**58.64**	**304**	*e*P	**P**	**00 49 13.8**	**+0.5**
	comp=Z,8.3nm,0.6s,mb5.0						
GUN	**Gumba**	**58.99**	**304**	*e*P	**P**	**00 49 16.0**	**+0.2**
	comp=Z,39nm,1.1s,mb5.3						
PKI	**Pulchoki**	**59.26**	**304**	*e*P	**P**	**00 49 17.7**	**+0.1**
KKN	**Kakani**	**59.44**	**304**	*e*P	**P**	**00 49 19.2**	**+0.3**
DMN	**Daman**	**59.52**	**304**	*e*P	**P**	**00 49 19.6**	**+0.2**
	comp=Z,30nm,0.9s,mb5.3						
GKN	**Gorkha**	**60.05**	**304**	*e*P	**P**	**00 49 23.0**	**-0.1**
	comp=Z,26nm,0.7s,mb5.4						
KOLN	**Koldanda**	**60.83**	**303**	*e*P	**P**	**00 49 28.4**	**0.0**
WMQ	**Urumqi**	**64.64**	**321**	P	**P**	**00 49 53.2**	**-0.2**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.2s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,210nm,5.2s						
WMQ				LR	LR		
	comp=N,200nm,19.6s,MS4.5						
WMQ				LR	LR		
	comp=E,230nm,18.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,110nm,18.6s,MS4.1						
MKAR	**Makanchi Array**	**59.41**	**322**	P	**P**	**00 50 23.4**	**-0.1**
	comp=Z,4.2nm,1.0s,mb4.3,baz=117,slow=8.1,SNR=23						
ZAL	**Zalesovo**	**71.50**	**330**	P	**P**	**00 50 35.0**	**-1.0**
	comp=Z,0.8nm,0.4s,mb4.0,baz=345,slow=8.8,SNR=6.6						
VNDA	**Vanda**	**76.38**	**175**	P	**P**	**00 51 03.7**	**-0.2**
	comp=Z,3.2nm,0.5s,mb4.5,baz=324,slow=6.6,SNR=67						
VNDA				LR	LR	01 28 00.7	
	comp=Z,467nm,18.3s,MS4.8,baz=229,slow=38						
VNDA	**Vanda**	**76.38**	**175**	P	**P**	**00 51 03.7**	**-0.2**
VNDA				LR	LR	01 28 00.7	
ILAR	**Eielson Array**	**85.20**	**24**	P	**P**	**00 51 50.1**	**-0.6**
	comp=Z,2.0nm,1.0s,mb4.2,baz=256,slow=4.5,SNR=7.6						
QSPA	**South Pole Qui**	**87.85**	**180**	*e*P	**P**	**00 52 04.6**	**+1.2**
	comp=Z,8.4nm,0.6s,mb5.2						
INK	**Inuvik**	**91.03**	**22**	P	**P**	**00 52 19.3**	**+0.7**
	comp=Z,3.0nm,1.2s,mb4.5,baz=292,slow=8.1,SNR=3.0						
INK	**Inuvik**	**91.03**	**22**	P	**P**	**00 52 19.3**	**+0.7**
YKA	**Yellowknife Ar**	**99.43**	**27**	LR	LR	01 36 16.3	
	comp=Z,201nm,19.5s,MS4.6,baz=300,slow=34						
TORD	**Torodi Ar. Bea**	**136.26**	**287**	PKP	PKPdf	00 58 34.6	-1.4
	comp=Z,1.7nm,1.0s,baz=180,slow=2.9,SNR=4.0						
DBIC	**Dimbokro**	**143.58**	**278**	PKP	PKPdf	00 58 48.5	-0.6
	comp=Z,5.4nm,0.5s,baz=78,slow=4.2,SNR=21						
ROSC	**El Rosal**	**146.73**	**84**	PKPbc	PKPbc	00 58 56.7	+0.6
	comp=Z,2.7nm,0.4s,baz=96,slow=21,SNR=4.3						
LPAZ	**La Paz**	**147.66**	**125**	PKPbc	PKPdf	00 59 00.8	+4.8
	comp=Z,1.0nm,0.6s,baz=295,slow=6.7,SNR=4.6						
LPAZ	**La Paz**	**147.66**	**125**	PKPbc	PKPdf	00 59 00.8	+4.7

IDC 10 00:56:03.1±8.2,7.22S×129.05E,h122km±79km,mb3.7/3, mb1 3.8/4,mb1mx3.5/11,mbtmp4.1/4,Error ellipse: s-maj=131.1km s-min=31.2km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.65**	**158**	P	P	00 59 10.6	-2.0
	1.3nm,0.3s,baz=341,slow=12,SNR=33						
WRA				S	S	01 01 36.2	-5.3
	2.7nm,0.3s,baz=325,slow=24,SNR=13						
STKA	**Stephens Creek**	**27.18**	**156**	P	P	01 01 35.9	-1.3
	1.2nm,0.7s,baz=338,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**67.90**	**327**	P	P	01 06 48.9	-1.6
	1.6nm,0.5s,baz=120,slow=8.0,SNR=52						
ZAL	**Zalesovo**	**71.37**	**334**	P	P	01 07 09.1	-2.4
	0.7nm,0.4s,baz=345,slow=2.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**127.93**	**281**	PKP	PKPdf	01 14 54.3	-1.2
	0.3nm,0.6s,baz=112,slow=1.8,SNR=4.9						

*CSEM **10** 00:56:30.1,39.36N×40.87E,h5km,MD3.7,After ISK*
ISK 10 00:56:30.1,39.36N×40.87E,h5km,MD3.7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZM	**Erzurum**	**0.67**	**35**	*i* PG	Pg	00 56 44.1	+0.7
PTK	**Pertek**	**1.24**	**248**	*i* PN	Pn	00 56 54.1	0.0
BTMT	**Batman**	**1.26**	**157**	PN	Pn	00 56 55.6	+1.2
BTMT				SN	Sn	00 57 15.1	+3.2
GUMT	**Gumushane**	**1.53**	**316**	PN	Pn	00 57 00.6	+2.4
DIY	**Diyarbakir**	**1.55**	**199**	PN	Pn	00 57 00.2	+1.8
VANB	**Van**	**2.11**	**110**	PN	Pn	00 57 07.1	+0.6
KARS	**Kars**	**2.12**	**53**	*e*PN	Pn	00 57 07.6	+1.0
MYA	**Malataya**	**2.17**	**242**	*e*PN	Pn	00 57 09.4	+2.0
VANT	**Van**	**2.17**	**114**	*e*PN	Pn	00 57 07.5	+0.1
CLDR	**Caldiran**	**2.38**	**94**	*e*PN	Pn	00 57 11.7	+1.3
URFA	**Urfa**	**2.50**	**221**	*e*PN	Pn	00 57 13.7	+1.6
HKR	**Hakkari**	**2.87**	**127**	*e*PN	Pn	00 57 19.5	+2.1
GNI	**Garni**	**3.09**	**74**	*e*PN	Pn	00 57 22.0	+1.5

*MOS **10** 01:07:53.7±1.1,54.99N×111.65E,h16km,mb4.4/1,Error ellipse: s-maj=22.2km s-min=12.7km az=69.9*
BYKL 10 01:07:53.7±0.2,55.02N×111.64E,h20km±4km,8C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.31**	**243**	*e*Pg	Pb	01 08 00.1	-0.5
YLYR				*i* Sg	Sb	01 08 05.0	-0.2
YLYR				Pmax			
	129nm,0.1s						
YLYR				Smax			
	5μm,0.2s						
YLYR	**Ulyunkhan**	**0.31**	**243**	⇑*i*PG	Pb	01 08 00.1	-0.5
YLYR				*e*		01 08 04.9	
YLYR				pmax	pmax		
	comp=Z,132nm,0.1s						
YLYR				smax			
	comp=E,5μm,0.2s						
KMO	**Kumora**	**0.90**	**344**	⇑*i*Pg	Pb	01 08 10.1	-0.4
KMO				*e*Sg	Sb	01 08 22.5	+0.4
KMO				Pmax			
	comp=E,88nm,0.3s						
KMO				Smax			
	comp=E,357nm,0.6s						
KMO	**Kumora**	**0.90**	**344**	*e*PG	Pb	01 08 10.1	-0.4
KMO				*e*		01 08 22.2	
KMO				pmax	pmax		
	comp=Z,41nm,0.3s						
KMO				smax			
	comp=N,379nm,0.6s						
YOA	**Uoyan**	**1.12**	**2**	⇓*i*Pg	Pb	01 08 14.4	+0.2
YOA				*e*Sg	Sb	01 08 30.2	+1.9
YOA				Pmax			
	comp=N,465nm,0.3s						
YOA				Smax			
	comp=N,2μm,0.5s						
YOA	**Uoyan**	**1.12**	**2**	⇑*i*PG	Pb	01 08 14.2	0.0
YOA				*e*		01 08 30.0	
YOA				pmax	pmax		
	comp=Z,261nm,0.3s						
YOA				smax			
	comp=N,2μm,0.5s						
UKT	**Uakit**	**1.23**	**67**	⇑*i*Pg	Pn	01 08 15.7	-0.3
	comp=N,12nm,0.6s						
UKT				⇑*i*Pg	Pn	01 08 15.7	-0.3
	comp=N,67nm,0.6s						
UKT				⇑*i*Pg	Pn	01 08 15.7	-0.3
	comp=N,44nm,0.6s						
UKT				*e*Pb	Pb	01 08 17.7	+1.6
UKT				*i* Sg	Sb	01 08 32.2	+0.6
UKT				*e*Sb	Sb	01 08 36.2	+4.6
UKT				max			
	comp=N,87nm,0.6s						
UKT				max			
	comp=N,743nm,0.3s						
UKT	**Uakit**	**1.23**	**67**	*e*PG	Pn	01 08 15.6	-0.4
UKT				*e*		01 08 32.1	
UKT				pmax	pmax		
	comp=Z,71nm,0.1s						
UKT				smax			
	comp=N,761nm,0.2s						
NIZ	**Nizh Angarsk**	**1.42**	**303**	⇑*i*Pg	Pn	01 08 19.4	+0.8
	comp=N,26nm,0.7s						
NIZ				⇓*i*Pg	Pn	01 08 19.4	+0.8
	comp=N,24nm,0.7s						
NIZ				⇑*i*Pg	Pn	01 08 19.4	+0.8
	comp=N,99nm,0.7s						
NIZ				*e*Sg	Sn	01 08 38.5	+1.7
NIZ				Pmax			
	comp=N,150nm,0.4s						
NIZ				Smax			
	comp=N,231nm,0.4s						
NIZ	**Nizh Angarsk**	**1.42**	**303**	*e*PN	Pn	01 08 19.6	+1.0
NIZ				*e*		01 08 38.5	
NIZ				pmax	pmax		
	comp=Z,141nm,0.4s						
NIZ				smax			
	comp=N,205nm,0.4s						
SVKR	**Severomuysk**	**1.55**	**44**	⇓*i*Pg	Pn	01 08 22.4	+1.9
SVKR				*i* Sg	Sn	01 08 43.5	+3.3
SVKR				Pmax			
	comp=N,362nm,0.3s						
SVKR				Smax			
	comp=N,2μm,0.3s						
SVKR	**Severomuysk**	**1.55**	**44**	*e*PN	Pn	01 08 22.4	+1.9
SVKR				*e*		01 08 43.5	
SVKR				pmax	pmax		
	comp=Z,376nm,0.5s						
SVKR				smax			
	comp=N,2μm,0.5s						
NLYR	**Nelyaty**	**2.73**	**56**	*e*Pn	Pn	01 08 37.9	+0.5
NLYR				*e*Pg	Pn	01 08 42.8	+5.4
NLYR				*e*Sn	Sn	01 09 10.7	+0.5
NLYR				*i* Sg	Sn	01 09 18.6	+8.4
NLYR				Pmax			
	comp=N,25nm,0.6s						
NLYR				Smax			
	comp=N,276nm,0.9s						
NLYR	**Nelyaty**	**2.73**	**56**	*e*PN	Pn	01 08 37.4	0.0
NLYR				*e*		01 08 42.5	
NLYR				*e*		01 09 17.6	
NLYR				pmax	pmax		
	comp=Z,19nm,0.2s						
NLYR				smax			
	comp=N,276nm,1.3s						
OGRR	**Ongureny**	**2.74**	**241**	*e*Pn	Pn	01 08 37.0	-0.6
OGRR				*e*Pg	Pn	01 08 42.1	+4.5
OGRR				*e*		01 09 13.4	
OGRR				*e*Sg	Sn	01 09 18.3	+7.8
OGRR				Pmax			
	comp=N,12nm,0.7s						
OGRR				Smax			
	comp=N,65nm,0.6s						
BOD	**Bodaibo**	**3.10**	**24**	*e*Pg	Pn	01 08 48.8	+6.1
BOD				*e*Sn	Sn	01 09 19.7	+0.2
BOD				*e*Sg	Sn	01 09 27.5	+8.0
BOD				Pmax			
	comp=N,22nm,0.5s						
BOD				Smax			
	comp=N,105nm,0.3s						
CIT	**Chita**	**3.21**	**158**	*e*Pg	Pn	01 08 51.7	+7.4
CIT				*e*Sg	Sn	01 09 33.3	+11
CIT				Pmax			
	comp=N,11nm,0.5s						
CIT				Smax			
	comp=N,82nm,1.6s						
TRTB	**Turuntaevo**	**3.68**	**222**	*e*Pg	Pn	01 09 00.2	+9.3
TRTB				*e*Sg	Sn	01 09 48.2	+14
TRTB				Pmax			
	comp=N,7.0nm,0.5s						
TRTB				Smax			
	comp=N,36nm,0.6s						
TRG	**Tyrgan**	**3.86**	**236**	*e*Pg	Pn	01 09 02.5	+9.0
TRG				*e*Sg	Sn	01 09 52.7	+14
TRG				Pmax			
	comp=N,3.0nm,0.3s						
TRG				Smax			
	comp=N,70nm,1.3s						
FFNB	**Fofonovo**	**4.16**	**226**	*e*Sg	Sn	01 10 03.0	+17
FFNB				Smax			
	comp=N,108nm,0.8s						
CRS	**Chara**	**4.17**	**60**	*e*Pn	Pn	01 08 57.6	-0.4
CRS				*e*Pg	Pn	01 09 08.5	+11
CRS				*e*Sg	Sn	01 10 03.2	+16
CRS				Pmax			
	comp=N,18nm,1.1s						
CRS				Smax			
	comp=N,215nm,1.3s						
CRS	**Chara**	**4.17**	**60**	*e*PN	Pn	01 08 58.8	+0.8
CRS				*e*		01 09 09.8	
CRS				*e*		01 10 03.2	
CRS				pmax	pmax		
	comp=Z,29nm,0.9s						
CRS				smax			
	comp=E,213nm,1.4s						
HRMR	**Khuramsha**	**4.41**	**221**	*e*Pg	Pn	01 09 14.7	+13
HRMR				*e*Sg	Sn	01 10 11.6	+19
HRMR				Pmax			
	comp=E,12nm,0.6s						
HRMR				Smax			
	comp=E,199nm,0.6s						
TUP	**Tupik**	**4.86**	**94**	*e*Pn	Pn	01 09 06.3	-1.3
TUP				*e*Pg	Pn	01 09 20.0	+12
TUP				*e*		01 10 02.7	
TUP				*e*Sg	Sn	01 10 24.0	+20
TUP				Pmax			
	comp=E,6.0nm,0.5s						
TUP				Smax			
	comp=E,87nm,1.4s						
KPC	**Khapcheranga**	**5.34**	**175**	*e*Pn	Pn	01 09 13.1	-1.4
KPC				*e*Pg	Pn	01 09 28.3	+14
KPC				*e*Sg	Sn	01 10 37.9	+22
KPC				Smax			
	comp=E,48nm,1.4s						
ARS	**Arshan**	**6.32**	**244**	*e*Pg	Pn	01 09 47.1	+19
ARS				*e*Sg	Sn	01 11 08.2	+28
ARS				Pmax			
	comp=E,6.0nm,0.6s						
ARS				Smax			
	comp=E,92nm,0.9s						
ORL	**Orlik**	**7.44**	**255**	*e*PN	Pn	01 09 42.6	-1.4
ORL				*e*		01 10 06.2	

CASC 10 01:10:03.5±2.5,10.33N×86.31W,h31km±7km,MD3.7, ML3.4,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**0.70**	**107**	*e*P	Pb	01 10 17.0	-0.2
SSNN	**San Juan del S**	**1.06**	**26**	*e*P	Pn	01 10 21.4	-0.9
LIM1	**Limonal**	**1.11**	**70**	*e*P	Pn	01 10 21.6	-1.5
LIM1				*e*S	Sn	01 10 37.5	+0.2
MADN	**Villa Maderas**	**1.32**	**35**	*e*P	Pn	01 10 26.0	-0.1
CONN	**Concepcion**	**1.40**	**29**	*e*P	Pn	01 10 26.9	-0.4
CONN				*i*		01 10 55.2	
	comp=Z,589nm,0.5s						
APON	**Apoyo**	**1.60**	**9**	*e*P	Pn	01 10 30.0	-0.1
APON				*e*S	Sn	01 10 50.9	+1.1
COPN	**Copaltepe**	**1.86**	**352**	*e*P	Pn	01 10 32.9	-0.9
COPN				*e*S	Sn	01 10 56.6	+0.1
PRS1	**Puriscal**	**2.00**	**100**	*e*P	Pn	01 10 35.7	-0.2
MIRN	**Miramar**	**2.13**	**350**	*e*P	Pn	01 10 37.4	-0.4
MIRN				*e*S	Sn	01 11 00.8	-2.7
LEON	**Leon**	**2.15**	**345**	*e*P	Pn	01 10 39.0	+1.0
LAJ	**Bijagual**	**2.21**	**102**	*e*P	Pn	01 10 35.1	-3.8
LAJ				*e*S	Sn	01 10 54.1	-11
LCR2	**La Lucha 2**	**2.35**	**104**	*e*P	Pn	01 10 41.2	+0.3
LCR2				*e*S	Sn	01 11 09.0	0.0

*IDC **10** 01:25:08.6±0.9,39.08N×71.90E,mb3.7/12,mb1 4.0/16, mb1mx3.9/25,mbtmp3.8/16,ML3.8/4,Error ellipse: s-maj=16.0km s-min=14.2km az=160.0*
*NNC **10** 01:25:14.3±4.7,39.48N×71.83E,h11km±22km,mpv4.2, Error ellipse: s-maj=35.5km s-min=20.9km az=6.0*
*NEIC **10** 01:25:15.9±1.0,39.20N×71.82E,h50km±10km,mb4.2/4, Error ellipse: s-maj=10.9km s-min=7.0km az=52.0*
ISC 10 01:25:13.9±1.3,39.24N±0.07×71.62E±0.08,h50km±12km, n46,σ1s26/55,mb3.7/12,7C-9D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.29**	**28**	P	**P**	**01 26 05.4**	**+1.1**
	SNR=98						
UCH	**Uchtor**	**3.71**	**35**	P	**P**	**01 26 10.8**	**+0.6**
	SNR=53						
EKS2	**Erkin-Say**	**3.79**	**25**	P	**P**	**01 26 12.7**	**+1.4**
	SNR=21						
KK31	**Karatay Array**	**3.95**	**348**	⇓Pn	**P**	**01 26 14.5**	**+0.9**
	42nm,0.5s,baz=168,slow=13,SNR=458						
KK31				⇓Sn	**S**	**01 27 03.4**	**+4.3**
	16nm,0.3s,baz=161,slow=23						
KK31				⇑Lg		01 27 16.7	
	64nm,0.5s,baz=129,slow=27						
KK31	**Karatay Array**	**3.95**	**348**	⇓Pn	**P**	**01 26 14.5**	**+0.9**
KK31				Sn	**S**	**01 27 03.4**	**+4.3**
KK31				Lg		01 27 16.7	
KZA	**Kyzart**	**3.96**	**43**	P	**P**	**01 26 13.7**	**0.0**
	SNR=29						
KBK	**Karagaybulak**	**4.24**	**35**	P	**P**	**01 26 18.8**	**+1.1**
	SNR=43						
CHMS	**Chumysh**	**4.44**	**31**	P	**P**	**01 26 21.1**	**+0.6**
	SNR=72						
USP	**Ospenovka**	**4.57**	**27**	P	**P**	**01 26 23.2**	**+0.9**
	SNR=31						
ULHL	**Ulahol**	**4.62**	**48**	P	**P**	**01 26 22.1**	**-0.9**
	SNR=13						
TKM2	**Tokmak 2**	**4.75**	**38**	P	**P**	**01 26 25.4**	**+0.5**
	SNR=15						
TKM2	**Tokmak 2**	**4.75**	**38**	⇓Pn	**P**	**01 26 25.1**	**+0.2**
	20nm,0.7s						
TKM2				⇑Sn	**S**	**01 27 13.6**	**-5.7**
	44nm,0.8s						
TKM2				⇓Lg		01 27 35.5	
	57nm,0.7s						
TKM2	**Tokmak 2**	**4.75**	**38**	⇓Pn	**P**	**01 26 25.1**	**+0.2**
TKM2				Sn	**S**	**01 27 13.6**	**-5.7**
TKM2				Lg		01 27 35.5	
MK31	**Makanchi Array**	**10.86**	**42**	⇑P	**P**	**01 27 47.4**	**-1.9**
	2.3nm,0.8s,baz=176,slow=20,SNR=13						
MKAR	**Makanchi Array**	**10.86**	**42**	Pn	**P**	**01 27 47.1**	**-2.2**
	0.1nm,0.3s,baz=232,slow=14,SNR=12						
MKAR				Lg		01 30 50.2	
	0.2nm,0.3s,baz=241,slow=33,SNR=3.6						
AB31	**Akbulak array**	**13.03**	**324**	⇑P	**P**	**01 28 15.5**	**-2.9**
	1.7nm,0.4s						
AB31				⇓S	**S**	**01 30 37.5**	**-5.3**
	3.5nm,0.6s,baz=149,slow=21,SNR=5.6						
AB31	**Akbulak array**	**13.03**	**324**	⇑P	**P**	**01 28 15.5**	**-2.9**
	1.7nm,0.4s						
AB31				S	**S**	**01 30 37.5**	**-5.3**
VOSK	**Vostochnaya**	**13.49**	**358**	⇓P	**P**	**01 28 20.4**	**-4.1**
	2.5nm,1.1s						
VOSK	**Vostochnaya**	**13.49**	**358**	⇓P	**P**	**01 28 20.4**	**-4.1**
	2.5nm,1.0s						
BVA0	**Borovoye Array**	**13.81**	**357**	⇑P	**P**	**01 28 23.1**	**-5.5**
	0.8nm,1.2s						
BVA0	**Borovoye Array**	**13.81**	**357**	⇑P	**P**	**01 28 23.1**	**-5.5**
	0.8nm,1.2s						
BVAR	**Borovoye Array**	**13.81**	**357**	Pn	**P**	**01 28 23.5**	**-5.1**
	0.4nm,0.3s,baz=154,slow=13,SNR=13						
BVAR				Sn	**S**	**01 30 54.6**	**-6.7**
	0.1nm,0.3s,baz=193,slow=19,SNR=3.9						
BVAR				Lg		01 32 29.6	
	0.1nm,0.3s,baz=158,slow=24,SNR=4.0						
AKTK	**Aktyubinsk**	**14.75**	**324**	Pn	**P**	**01 28 39.8**	**-1.0**
AKTK				Sn	**S**	**01 31 21.3**	**-2.2**
AKTO	**Aktyubinsk**	**14.75**	**324**	Pn	**P**	**01 28 39.8**	**-1.0**
	0.5nm,0.3s,baz=129,slow=16,SNR=7.9						
AKTO				Sn	**S**	**01 31 21.3**	**-2.2**
	0.5nm,0.3s,baz=311,slow=21,SNR=7.4						
GKN	**Gorkha**	**15.58**	**132**	*e*P	**P**	**01 28 52.1**	**+0.4**
	16nm,0.4s						
KKN	**Kakani**	**16.11**	**131**	*e*P	**P**	**01 28 56.5**	**-1.9**
	14nm,0.5s						
GUN	**Gumba**	**16.

0.8nm,0.7s,mb3.6,baz=110,slow=7.9,SNR=2.7
ESDC Sonseca Array 56.64 297 P **P** **01 34 55.7 +1.5**
0.2nm,0.5s,mb3.4,baz=59,slow=7.5,SNR=4.2
SUMG Summit 58.64 341 P **P** **01 35 08.2 +0.4**
1.9nm,0.6s,mb4.3
TORD Torodi Ar. Bea 66.29 268 P **P** **01 35 59.9 +0.5**
0.4nm,0.5s,mb3.8,baz=50,slow=5.4,SNR=9.5
INK Inuvik 71.13 10 P **P** **01 36 29.1 +0.7**
0.8nm,0.5s,mb3.9,baz=312,slow=5.2,SNR=8.6
ILAR Eielson Array 72.02 16 P **P** **01 36 33.7 -0.1**
0.3nm,0.7s,mb3.3,baz=312,slow=4.0,SNR=4.5
YKA Yellowknife Ar 78.49 3 P **P** **01 37 11.9 +1.3**
0.5nm,0.5s,mb3.7,baz=351,slow=5.5,SNR=12
YKA Yellowknife Ar 78.49 3 P **P** **01 37 11.9 +1.2**
WRA Warramunga Arr 83.04 123 P **P** **01 37 33.9 -1.6**
0.4nm,0.7s,mb3.6,baz=324,slow=5.0,SNR=3.2

NIED ***10*** *01:32:00, 47.00N×153.50E, h5km, Mw4.4 Best double couple: M₀4.51×10¹⁵ NP1:φs239°, δ84°, λ103°. NP2: φs353°, δ14°, λ25°.*
BJI ***10*** *01:32:40.1, 46.39N×153.95E, h81km, mB5.0, mb4.6, Ms4.2, Msz3.9*
IDC ***10*** *01:32:42.8±3.6, 46.56N×153.56E, h50km±36km, mb3.8/15, mb1 4.0/17, mb1mx3.9/24, mbtmp4.1/17, ML3.7/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/21, Error ellipse: s-maj=23.3km s-min=17.0km az=165.0*
MOS ***10*** *01:32:42.7±0.9, 46.59N×153.52E, h70km, mb4.5/10, Error ellipse: s-maj=13.5km s-min=11.0km az=77.4*
NEIC ***10*** *01:32:43.3±1.6, 46.43N×153.66E, h60km±14km, mb4.6/7, Error ellipse: s-maj=14.8km s-min=9.8km az=155.0*
ISC 10 01:32:40.6±1.1, 46.44N±0.08×153.48E±0.09, h49km,σgkm, n98,σt1$25/109, mb4.3/27, MS4.0/4, 6C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.10**	**255**	*i*PN	**P**	**01 33 41.9**	**-0.5**
KUR				S	**S**	**01 34 30.6**	**+0.9**
KUR				pmax	pmax		
	comp=Z,210nm,0.6s						
KUR				smax			
	comp=N,260nm,0.7s						
KUR				smax			
	comp=E,130nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.89**	**249**	PN	**P**	**01 34 10.9**	**+3.5**
YUK				S	**S**	**01 35 20.2**	**+5.7**
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				smax			
	comp=N,280nm,0.6s						
YUK				smax			
	comp=E,190nm,0.5s						
NEM2	**Nemuro 2**	**6.29**	**244**	P	**P**	**01 34 11.8**	**-1.3**
NEM2				*e*S	**S**	**01 35 21.7**	**-2.9**
JNK	**Nakash**	**6.83**	**248**	P	**P**	**01 34 20.9**	**+0.2**
JAK	**Akkeshi**	**7.14**	**244**	P	**P**	**01 34 23.4**	**-1.5**
JAK				*e*S	**S**	**01 35 41.3**	**-4.2**
JTKR	**Abashiri--Toko**	**7.20**	**253**	P	**P**	**01 34 26.7**	**+1.0**
PET	**Petropavlovsk**	**7.39**	**25**	*e*PN	**P**	**01 34 18.1**	**-10**
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.39**	**278**	*e*PN	**P**	**01 34 31.4**	**+3.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,800nm,18.0s						
YSS	**Yuzh-Sakhalins**	**7.39**	**278**	*e*P	**P**	**01 34 31.3**	**+2.9**
JAR	**Ashorobuto**	**7.58**	**249**	P	**P**	**01 34 31.5**	**+0.5**
JAR				*e*S	**S**	**01 35 56.8**	**+0.4**
JOB	**Onbets**	**7.73**	**246**	P	**P**	**01 34 33.0**	**-0.1**
JOB				*e*S	**S**	**01 35 57.6**	**-2.6**
JKK2	**Kamakawa 2**	**8.01**	**255**	P	**P**	**01 34 38.6**	**+1.7**
ASAJ	**Asahikawa**	**8.02**	**257**	P	**P**	**01 34 38.4**	**+1.3**
	comp=E,1.7nm,0.3s,baz=100,slow=14,SNR=7.1						
ASAJ				LR	LR	01 38 21.6	
	comp=E,103nm,18.0s,baz=182,slow=42						
ASAJ	**Asahikawa**	**8.02**	**257**	P	**P**	**01 34 39.1**	**+2.0**
ASAJ	**Asahikawa**	**8.02**	**257**	PN	**P**	**01 34 38.4**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,103nm,18.0s						
JCH	**Churui**	**8.18**	**246**	P	**P**	**01 34 38.1**	**-1.2**
JCH				*e*S	**S**	**01 36 07.3**	**-4.0**
JFR	**Furan**	**8.40**	**251**	P	**P**	**01 34 44.3**	**+1.9**
JAB	**Ashibetsu**	**8.50**	**254**	P	**P**	**01 34 44.7**	**+0.9**
JNBK	**Urakawa-nobuka**	**8.74**	**245**	P	**P**	**01 34 46.5**	**-0.5**
JNBK				*e*S	**S**	**01 36 20.6**	**-4.6**
JKB	**Kayabe**	**10.03**	**247**	P	**P**	**01 35 03.2**	**-1.5**
JKB				*e*S	**S**	**01 36 50.5**	**-6.4**
JYM2	**Yakumo 2**	**10.34**	**250**	P	**P**	**01 35 08.2**	**-0.8**
JTM	**Tenmabayashi**	**10.62**	**242**	P	**P**	**01 35 09.9**	**-2.9**
OFUJ	**Ofunato**	**11.37**	**234**	*e*S	**S**	**01 37 19.0**	**-10**
JRG	**Rokugo**	**11.75**	**238**	*e*S	**S**	**01 37 30.9**	**-7.7**
JIO	**Ouri**	**11.99**	**233**	*e*S	**S**	**01 37 35.7**	**-8.7**
MJAR	**Matsushiro Ar**	**15.10**	**234**	P	**P**	**01 36 13.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=3.7						
CN2	**Changchun**	**19.91**	**273**	*e*P	**P**	**01 37 10.2**	**-0.4**
CLNS	**Chul'man**	**20.41**	**311**	*e*P	**P**	**01 37 19.0**	**+3.2**
YAK	**Yakutsk**	**20.71**	**327**	*i* P	**P**	**01 37 17.2**	**-1.7**
BILL	**Bilibino**	**22.64**	**12**	*i* P	**P**	**01 37 36.7**	**-1.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
SSE	**Sheshan**	**29.23**	**250**	P	**P**	**01 38 38.5**	**-1.3**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,80nm,3.3s						
SSE	**Sheshan**	**29.23**	**250**	P	**P**	**01 38 38.5**	**-1.3**
	comp=Z,27nm,0.8s,mb5.0						
NJ2	**Nanjing**	**30.15**	**254**	*e*P	**P**	**01 38 49.1**	**+1.1**
NJ2				AP	pP	01 39 10.2	+10
NJ2				PP	PP	01 39 51.3	+3.6
NJ2				S	**S**	**01 43 40.0**	**-2.3**
NJ2				XS		01 44 19.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,220nm,4.0s						
NJ2				LR	LR		
	comp=N,310nm,23.0s,MS4.0						
NJ2				LR	LR		
	comp=E,300nm,21.8s,MS4.0						
NJ2				LR	LR		
	comp=Z,220nm,27.8s						
SONM	**Songino Array**	**31.67**	**290**	P	**P**	**01 39 02.5**	**+1.2**
	comp=Z,0.8nm,0.8s,mb3.6,baz=70,slow=6.6,SNR=2.5						
SONM				LR	LR	01 50 37.5	
	comp=Z,153nm,20.9s,MS3.7,baz=132,slow=34						
SONM	**Songino Array**	**31.67**	**290**	P	**P**	**01 39 02.5**	**+1.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,153nm,20.9s						
COLA	**College**	**36.22**	**38**	*i* P	**P**	**01 39 39.9**	**-0.3**
ILAR	**Eielson Array**	**36.63**	**38**	P	**P**	**01 39 42.4**	**-1.3**
	comp=Z,1.0nm,1.1s,mb3.5,baz=256,slow=5.9,SNR=4.6						
ILAR	**Eielson Array**	**36.63**	**38**	P	**P**	**01 39 42.4**	**-1.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.2s						
INK	**Inuvik**	**41.78**	**32**	P	**P**	**01 40 25.8**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.5,baz=115,slow=18,SNR=7.3						
INK	**Inuvik**	**41.78**	**32**	P	**P**	**01 40 25.8**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.31**	**298**	P	**P**	**01 41 10.6**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=68,slow=7.9,SNR=26						
MKAR				LR	LR	02 02 38.8	
	comp=Z,207nm,18.8s,MS4.1,baz=79,slow=38						
MKAR	**Makanchi Array**	**47.31**	**298**	P	**P**	**01 41 10.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,207nm,18.8s						
MKAR	**Makanchi Array**	**47.31**	**298**	P	**P**	**01 41 10.6**	**-0.2**
MKAR				LR	LR	02 02 38.8	
KURK	**Kurchatov**	**47.74**	**304**	*i*P	**P**	**01 41 13.5**	**-0.7**
LSA	**Lhasa**	**50.54**	**274**	P	**P**	**01 41 33.0**	**-3.0**
LSA	**Lhasa**	**50.54**	**274**	*e*P	**P**	**01 41 37.8**	**+1.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
LSA	**Lhasa**	**50.54**	**274**	*e*P	**P**	**01 41 37.8**	**+1.8**
	comp=Z,8.4nm,0.6s,mb4.8						
YKA	**Yellowknife Ar**	**51.02**	**37**	P	**P**	**01 41 38.3**	**-0.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=297,slow=7.3,SNR=7.4						
YKA	**Yellowknife Ar**	**51.02**	**37**	P	**P**	**01 41 38.4**	**-0.8**
BVAR	**Borovoye Array**	**51.25**	**310**	P	**P**	**01 41 40.2**	**-0.8**
	comp=Z,1.0nm,0.4s,mb4.1,baz=56,slow=7.8,SNR=16						
BVAR	**Borovoye Array**	**51.25**	**310**	P	**P**	**01 41 40.2**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**54.20**	**297**	*i* P	**P**	**01 42 02.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ARU	**Arti**	**55.41**	**318**	*i*P	**P**	**01 42 09.9**	**-1.9**
ARU				*e*		01 43 07.5	
ARU				*e*S	**S**	**01 49 47.7**	**-3.3**
ARU				*e*		01 51 49.7	
ARU				*e*SS	SS	01 53 28.9	-7.0
ARU				*e*SSS	SSS	01 55 42.5	+1.1
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
EDM	**Edmonton**	**56.35**	**46**	P	**P**	**01 42 15.6**	**-2.9**
ARCES	**ARCESS Array B**	**58.23**	**341**	P	**P**	**01 42 30.2**	**-1.3**
	comp=Z,5.9nm,1.0s,mb4.6,baz=34,slow=8.7,SNR=3.7						
ARCES	**ARCESS Array B**	**58.23**	**341**	P	**P**	**01 42 30.3**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**01 43 12.3**	**-1.0**
	comp=Z,3.3nm,0.6s,mb4.5,baz=35,slow=8.1,SNR=28						
FINES	**FINESS Array B**	**64.42**	**335**	*e*P	**P**	**01 43 12.3**	**-1.0**
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**01 43 12.3**	**-1.0**
PDAR	**Pinedale Array**	**64.72**	**54**	P	**P**	**01 43 15.2**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=313,slow=3.0,SNR=4.4						
WRAB	**Tennant Creek**	**68.29**	**199**	P	**P**	**01 43 39.9**	**+1.4**
WRA	**Warramunga Arr**	**68.30**	**199**	P	**P**	**01 43 39.4**	**+0.8**
	comp=Z,1.8nm,0.9s,mb4.1,baz=18,slow=6.7,SNR=8.4						
WRA	**Warramunga Arr**	**68.30**	**199**	P	**P**	**01 43 39.4**	**+0.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.60**	**341**	P	**P**	**01 43 39.5**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.4,baz=27,slow=6.5						
NB2	**NORSAR Subarra**	**68.60**	**341**	P	**P**	**01 43 39.5**	**-0.3**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
NOA	**NORSAR Array B**	**68.60**	**341**	P	**P**	**01 43 40.1**	**+0.3**
	comp=Z,5.6nm,0.7s,mb4.6,baz=27,slow=6.3,SNR=18						
NOA	**NORSAR Array B**	**68.60**	**341**	P	**P**	**01 43 40.1**	**+0.3**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIV	**Kislovodsk**	**71.19**	**314**	*e*P	**P**	**01 43 54.2**	**-1.7**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KIV				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**01 44 00.1**	**-0.1**
	comp=Z,2.8nm,0.6s,mb4.4,baz=34,slow=6.2,SNR=24						
STHS	**Stebnicka Huta**	**75.91**	**330**	*i* P	**P**	**01 44 24.7**	**+1.5**
BURAR	**Bucovina Array**	**75.98**	**327**	P	**P**	**01 44 24.6**	**+1.0**
BURAR	**Bucovina Array**	**75.98**	**327**	P	**P**	**01 44 24.6**	**+0.9**
CRVS	**Cervenica-Dubn**	**76.27**	**330**	*e*P	**P**	**01 44 26.1**	**+0.9**
OKC	**Ostrava-Krasne**	**76.58**	**332**	*e*P	**P**	**01 44 27.2**	**+0.2**
DPC	**Dobruska-Polom**	**76.71**	**333**	*e*P	**P**	**01 44 28.8**	**+1.1**
CFR	**Carcaliu**	**76.84**	**324**	P	**P**	**01 44 28.5**	**0.0**
CFR	**Carcaliu**	**76.84**	**324**	P	**P**	**01 44 28.5**	**0.0**
VRI	**Vrincioaia**	**76.84**	**325**	P	**P**	**01 44 32.2**	**+3.7**
VRI	**Vrincioaia**	**76.84**	**325**	P	**P**	**01 44 32.2**	**+3.7**
CLL	**Coll'm**	**76.85**	**336**	P	**P**	**01 44 28.7**	**+0.2**
	comp=Z,logA/T=1.0,mb4.7						
CLL	**Coll'm**	**76.85**	**336**	*i* P	**P**	**01 44 28.7**	**+0.2**
	comp=Z,10.0nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**77.42**	**61**	P	**P**	**01 44 32.2**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.1,baz=299,slow=4.6,SNR=28						
PRU	**Pruhonice**	**77.57**	**334**	*e*P	**P**	**01 44 34.0**	**+1.5**
DRGR		**77.61**	**328**	P	**P**	**01 44 31.3**	**-1.5**
DRGR		**77.61**	**328**	P	**P**	**01 44 31.3**	**-1.5**
VOIR		**77.86**	**326**	P	**P**	**01 44 34.3**	**+0.1**
VOIR		**77.86**	**326**	P	**P**	**01 44 34.3**	**+0.1**
KHC	**Kasperske Hory**	**78.62**	**334**	*e*P	**P**	**01 44 39.2**	**+0.9**
BR131	**Keskin Array S**	**78.78**	**317**	*e*P	**P**	**01 44 40.5**	**+1.1**
	comp=Z,8.8nm,0.6s,mb3.8						
BRTR	**Keskin Array B**	**78.79**	**317**	P	**P**	**01 44 40.6**	**+1.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=73,slow=4.0,SNR=10						
GRA1	**Grafenberg Arr**	**78.80**	**336**	*e*P	**P**	**01 44 40.5**	**+1.2**
	comp=Z,5.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**78.80**	**336**	*e*P	**P**	**01 44 40.5**	**+1.2**
	comp=Z,5.0nm,0.9s,mb4.4						
GERES	**GERESS Array B**	**78.84**	**334**	P	**P**	**01 44 40.2**	**+0.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=34,slow=4.8,SNR=11						
BZS	**Buzias**	**79.01**	**328**	P	**P**	**01 44 40.8**	**+0.3**
BZS	**Buzias**	**79.01**	**328**	P	**P**	**01 44 40.8**	**+0.3**
MIB	**Mutribah**	**79.04**	**302**	*e*P	**P**	**01 44 42.0**	**+0.9**
MIB				AMb	AMB	01 44 44.1	
	comp=Z,19nm,0.7s,mb5.1						
NAY	**Al-Naaiem**	**79.50**	**301**	*e*P	**P**	**01 44 44.5**	**+0.9**
NAY				AMb	AMB	01 44 47.5	
	comp=Z,9.1nm,0.8s,mb4.8						
RDF	**Al-Radifah**	**79.56**	**301**	*e*P	**P**	**01 44 45.6**	**+1.7**
RDF				AMb	AMB	01 44 48.2	
	comp=Z,25nm,0.8s,mb5.2						

IDC ***10*** *02:10:56.3±1.2, 54.12N×164.10W, mb4.0/12, mb1 4.2/15, mb1mx4.1/25, mbtmp4.1/15, ML3.5/2, Error ellipse: s-maj=31.8km s-min=14.4km az=179.0*
BJI ***10*** *02:10:59.0, 54.00N×164.10W, h52km, mB4.9, mb4.7, Ms4.3, Msz4.0*
NEIC ***10*** *02:11:03.0±0.4, 53.97N×164.11W, h52km±3km, mb4.4/8, ML4.1(PMR), ML3.9(AEIC), Error ellipse: s-maj=8.7km s-min=3.0km az=158.0*
MOS ***10*** *02:11:04.5±0.9, 54.28N×163.85W, h74km, mb5.0/7, Error ellipse: s-maj=19.8km s-min=9.6km az=85.9*
ISC 10 02:11:01.7±0.6, 53.93N±0.07×163.98W±0.06, h57km±3km, n84,σt1$00/91, mb4.6/27, MS4.0/4, 3C-3D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**0.65**	**327**	P	**P**	**02 11 15.1**	**-0.1**
WESN	**West Dahl Nort**	**0.73**	**331**	P	**P**	**02 11 16.7**	**+0.5**
WPOG	**Pogromni**	**0.80**	**326**	P	**P**	**02 11 17.3**	**+0.1**
SSLW	**Shishaldin Wes**	**0.84**	**354**	P	**P**	**02 11 17.7**	**0.0**
AKA	**Akutan**	**1.08**	**282**	P	**P**	**02 11 20.6**	**-0.4**
AKA				S	**S**	**02 11 36.0**	**+0.8**
AKUT	**Akutan**	**1.08**	**281**	P	**P**	**02 11 20.5**	**-0.5**
AKUT				S	**S**	**02 11 35.7**	**+0.5**
AHB	**Akutan Harbor**	**1.10**	**280**	P	**P**	**02 11 20.9**	**-0.4**
AKLV	**Akutan Long Va**	**1.19**	**282**	P	**P**	**02 11 22.0**	**-0.4**
AKLV				S	**S**	**02 11 39.6**	**+1.7**
LVA	**Lava Point**	**1.23**	**281**	P	**P**	**02 11 22.9**	**-0.2**
BALA	**Baldy Mountain**	**1.44**	**28**	P	**P**	**02 11 27.2**	**+1.1**
UNV	**Unalaska Valle**	**1.50**	**268**	P	**P**	**02 11 25.3**	**-1.5**
DT1	**Dutton Round H**	**1.54**	**39**	P	**P**	**02 11 26.9**	**-0.5**
DTNA	**Dutton South F**	**1.58**	**39**	P	**P**	**02 11 27.5**	**-0.4**
MTBL	**Makushin Table**	**1.60**	**272**	P	**P**	**02 11 27.7**	**-0.5**
MNAT	**Makushin Natee**	**1.60**	**269**	P	**P**	**02 11 27.7**	**-0.6**
MGOD	**Makushin Gods**	**1.72**	**267**	P	**P**	**02 11 29.1**	**-0.8**
MCIR	**Makushin Cirqu**	**1.72**	**272**	P	**P**	**02 11 29.8**	**-0.1**
HAG	**Hague Volcano**	**1.84**	**40**	P	**P**	**02 11 31.8**	**+0.3**
PVV	**Pavlof Volcano**	**1.92**	**40**	P	**P**	**02 11 32.9**	**+0.2**
BLHA	**Black Hill**	**2.09**	**31**	P	**P**	**02 11 35.4**	**+0.3**
BLHA				S	**S**	**02 12 04.3**	**+4.5**
SDPT	**Sand Point**	**2.48**	**54**	P	**P**	**02 11 40.6**	**0.0**
OKCD	**Okmok Cone D**	**2.51**	**260**	P	**P**	**02 11 41.2**	**+0.1**
OKCE	**Okmok Cone E**	**2.54**	**260**	P	**P**	**02 11 41.8**	**+0.3**
NIKO	**Nikolski**	**3.07**	**254**	P	**P**	**02 11 48.8**	**-0.1**
MGLS	**Mageik LS**	**6.46**	**45**	P	**P**	**02 12 37.1**	**+0.7**
KABR	**Katmai Barrier**	**6.57**	**47**	P	**P**	**02 12 38.0**	**+0.1**
KDAK	**Kodiak Island**	**7.48**	**54**	Pn	**P**	**02 12 47.4**	**-3.2**
	1.8nm,0.3s,baz=134,slow=18,SNR=14						
KDAK				Sn	**S**	**02 14 11.1**	**-3.7**
	1.6nm,0.3s,baz=298,slow=22,SNR=4.4						
SVW2	**Sparrevohn**	**8.48**	**29**	P	**P**	**02 13 03.7**	**-0.6**
SLKM	**Skilak Lake**	**9.94**	**43**	*e*P	**P**	**02 13 23.6**	**-0.5**
DIV	**Divide**	**12.12**	**46**	*e*P	**P**	**02 13 55.1**	**+1.5**
KLU	**Klutina**	**12.23**	**45**	P	**P**	**02 13 52.1**	**-3.1**
THY	**Trims Highway**	**13.37**	**37**	*e*P	**P**	**02 14 11.3**	**+1.2**
FX1	**Attu Island--F**	**13.67**	**275**	Pn	**P**	**02 14 14.8**	**+0.9**
	1.1nm,0.3s,baz=153,slow=7.7,SNR=4.2						
ILAR	**Eielson Array**	**13.87**	**32**	Pn	**P**	**02 14 12.8**	**-3.7**
	0.1nm,0.3s,baz=227,slow=12,SNR=9.3						
DAWY	**Dawson**	**16.11**	**41**	*e*P	**P**	**02 14 48.0**	**+2.6**
DLBC	**Dease Lake**	**19.29**	**63**	P	**P**	**02 15 24.0**	**-0.1**
	0.1nm,0.3s,baz=240,slow=14,SNR=2.4						
DLBC	**Dease Lake**	**19.29**	**63**	P	**P**	**02 15 24.0**	**-0.1**
BILL	**Bilibino**	**19.89**	**327**	*e*P	**P**	**02 15 34.1**	**+3.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL	**Bilibino**	**19.89**	**327**	*e*P	**P**	**02 15 33.8**	**+3.2**
	comp=Z,8.3nm,0.9s						
INK	**Inuvik**	**20.26**	**33**	P	**P**	**02 15 30.9**	**-3.5**
	comp=Z,4.9nm,0.5s,baz=242,slow=11,SNR=22						
INK	**Inuvik**	**20.26**	**33**	*e*P	**P**	**02 15 30.8**	**-3.6**
INK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
INK	**Inuvik**	**20.26**	**33**	*e*P	**P**	**02 15 30.8**	**-3.6**
	comp=Z,5.6nm,0.5s						
PET	**Petropavlovsk**	**22.10**	**283**	*e*P	**P**	**02 16 01.0**	**+8.0**
PET				*e*		02 19 53.3	
PET				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.2						
YKA	**Yellowknife Ar**	**26.74**	**52**	P	**P**	**02 16 37.5**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.4,baz=274,slow=8.8,SNR=14						
WVOR	**Wild Horse Val**	**31.80**	**92**	*e*P	**P**	**02 17 22.9**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.3						
WVOR	**Wild Horse Val**	**31.80**	**92**	*e*P	**P**	**02 17 22.9**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.3						
TIXI	**Tiksi**	**33.11**	**328**	*i*P	**P**	**02 17 32.5**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.3						
NVAR	**Mina Array Bea**	**34.54**	**98**	P	**P**	**02 17 47.1**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=310,slow=8.0,SNR=6.4						
TPNV	**Topopah Spring**	**36.74**	**98**	*e*P	**P**	**02 18 05.7**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
TPNV	**Topopah Spring**	**36.74**	**98**	*e*P	**P**	**02 18 05.7**	**+0.7**
	comp=Z,2.1nm,0.8s,mb4.0						
MDJ	**Mudanjiang**	**42.83**	**286**	P	**P**	**02 18 49.7**	**-5.5**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,60nm,2.8s,mb4.8						
CN2	**Changchun**	**45.69**	**287**	*e*P	**P**	**02 19 14.8**	**-3.4**
TXAR	**Lajitas Array**	**49.55**	**95**	P	**P**	**02 19 48.6**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=294,slow=5.2,SNR=10						
ULN	**Ulaanbaatar**	**52.89**	**302**	*i* P	**P**	**02 20 13.3**	**-0.2**
SONM	**Songino Array**	**53.24**	**303**	P	**P**	**02 20 15.5**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=40,slow=7.7,SNR=11						
KEV	**Kevo**	**56.36**	**355**	*e*p	**P**	**02 20 37.3**	**-1.2**
ARCES	**ARCESS Array B**	**56.65**	**356**	P	**P**	**02 20 38.9**	**-1.6**
	comp=Z,2.7nm,0.8s,mb4.3,baz=10,slow=7.5,SNR=12						
SSE	**Sheshan**	**56.83**	**278**	P	**P**	**02 20 42.2**	**-0.2**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,120nm,3.2s						
NJ2	**Nanjing**	**57.49**	**281**	*e*P	**P**	**02 20 45.8**	**-1.3**
GTA	**Gaotai**	**62.59**	**300**	*e*P	**P**	**02 21 17.5**	**-4.3**
GTA				PCP	PcP	02 21 57.0	-3.1
GTA				PP	PP	02 23 38.0	-3.7
GTA				PPP	PPP	02 25 09.9	-2.3
GTA				PCS		02 25 58.8	
GTA				S	**S**	**02 29 38.7**	**-4.9**
GTA				AMB	AMB		
	comp=Z,80nm,6.5s						
GTA				LR	LR		
	comp=N,100nm,11.8s,MS4.4						
GTA				LR	LR		
	comp=E,110nm,12.2s,MS4.4						
GTA				LR	LR		
	comp=Z,70nm,10.7s,MS4.1						
JOF	**Joensuu**	**62.87**	**352**	*e*p	**P**	**02 21 21.7**	**-1.7**
KURK	**Kurchatov**	**63.29**	**321**	*e*P	**P**	**02 21 26.0**	**-0.3**
KAF	**Kangasniemi**	**64.01**	**355**	*e*p	**P**	**02 21 29.3**	**-1.3**
	baz=2.8,slow=6.3						
ARU	**Arti**	**64.63**	**335**	*i*P	**P**	**02 21 34.4**	**-0.3**
ARU				*e*		02 22 04.0	
ARU				*e*S	**S**	**02 30 10.6**	**+2.1**
ARU				*e*SS	SS	02 34 19.8	-2.0
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**64.69**	**355**	P	**P**	**02 21 33.5**	**-1.6**
	comp=Z,1.1nm,0.5s,mb4.2,baz=22,slow=8.2,SNR=21						
MKAR	**Makanchi Array**	**65.01**	**316**	P	**P**	**02 21 36.3**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=46,slow=6.4,SNR=13						
NB2	**NORSAR Subarra**	**65.31**	**3**	P	**P**	**02 21 38.1**	**-1.0**
	comp=Z

KLU	**Klutina**	**2.66**	**101**	P	**P**	**02 26 56.0**	**-0.3**
WRH	**Wood River Hil**	**2.80**	**30**	P	**P**	**02 26 58.2**	**0.0**
DIV	**Divide**	**2.84**	**108**	*e*P	**P**	**02 26 57.7**	**-1.1**
PAX	**Paxson**	**2.87**	**70**	P	**P**	**02 26 59.7**	**+0.5**
THY	**Trims Highway**	**2.90**	**60**	*e*P	**P**	**02 27 01.1**	**+1.6**
HIN	**Hinchinbrook I**	**2.91**	**124**	P	**P**	**02 26 58.9**	**-0.8**
CCB	**Clear Creek Bu**	**3.02**	**31**	P	**P**	**02 27 00.8**	**-0.4**
COLA	**College**	**3.20**	**28**	*e*P	**P**	**02 27 02.9**	**-0.7**
ILAR	**Eielson Array**	**3.35**	**35**	P	**P**	**02 27 05.2**	**-0.5**
	18nm,0.3s,baz=225,slow=14,SNR=880						
ILAR				S	**S**	**02 27 42.0**	**-2.7**
	17nm,0.3s,baz=219,slow=23,SNR=18						
MENT	**Mentasta**	**3.64**	**73**	*e*P	**P**	**02 27 09.5**	**-0.2**
KDAK	**Kodiak Island**	**4.38**	**189**	P	**P**	**02 27 17.5**	**-2.2**
	9.2nm,0.3s,baz=20,slow=11,SNR=30						
KDAK				S	**S**	**02 28 08.6**	**-1.3**
	6.3nm,0.3s,baz=276,slow=22,SNR=7.5						
KDAK	**Kodiak Island**	**4.38**	**189**	P	**P**	**02 27 18.9**	**-0.8**
TNA	**Tin City**	**8.09**	**303**	*e*P	**P**	**02 28 10.1**	**-0.2**
INK	**Inuvik**	**9.71**	**42**	P	**P**	**02 28 31.8**	**-0.2**
	0.7nm,0.3s,baz=244,slow=18,SNR=21						
INK				S	**S**	**02 30 15.5**	**-4.2**
	0.2nm,0.3s,baz=198,slow=28,SNR=3.5						
INK	**Inuvik**	**9.71**	**42**	*e*P	**P**	**02 28 31.7**	**-0.3**
YKA	**Yellowknife Ar**	**16.95**	**72**	P	**P**	**02 30 05.4**	**-0.2**
	0.1nm,0.3s,baz=279,slow=12,SNR=4.0						
YKA	**Yellowknife Ar**	**16.95**	**72**	P	**P**	**02 30 05.4**	**-0.2**
NVAR	**Mina Array Bea**	**31.15**	**124**	P	**P**	**02 32 27.6**	**+2.8**
	0.4nm,0.7s,mb3.3,baz=329,slow=8.9,SNR=3.6						
TXAR	**Lajitas Array**	**45.05**	**114**	P	**P**	**02 34 23.4**	**+2.6**
	0.2nm,0.6s,mb3.0,baz=323,slow=6.9,SNR=4.7						
TXAR	**Lajitas Array**	**45.05**	**114**	P	**P**	**02 34 23.4**	**+2.6**
SONM	**Songino Array**	**54.20**	**306**	P	**P**	**02 35 31.7**	**+1.1**
	1.4nm,0.8s,mb4.0,baz=31,slow=8.3,SNR=9.5						
ZAL	**Zalesovo**	**56.16**	**324**	P	**P**	**02 35 44.1**	**-0.5**
	1.5nm,0.3s,mb4.5,baz=92,slow=6.2,SNR=5.7						
MKAR	**Makanchi Array**	**63.28**	**322**	P	**P**	**02 36 32.4**	**-1.1**
	0.7nm,0.4s,mb3.9,baz=38,slow=6.5,SNR=18						
AKASG	**Malin Array Be**	**67.55**	**360**	P	**P**	**02 36 59.8**	**-0.7**
	0.4nm,0.4s,mb3.6,baz=353,slow=5.7,SNR=4.5						

CASC ***10*** *02:32:24.4±2.6, 9.30N×85.17W, h0km±6km, MD4.3, ML4.3, mb3.8(NEIC)*

IDC ***10*** *02:32:25.3±1.0, 9.37N×85.14W, mb3.6/7, mb1 4.0/7, mb1mx3.9/19, mbtmp3.6/7, MS3.8/4, Ms1 3.8/4, ms1mx3.4/28, Error ellipse: s-maj=30.2km s-min=11.9km az=102.0*

NEIC ***10*** *02:32:27.2±0.5, 9.48N×85.04W, h10km, mb3.8/2, Error ellipse: s-maj=13.3km s-min=7.4km az=58.0*

ISC 10 02:32:25.0±0.6, 9.32N±0.05×85.14W±0.04, h10km, n42, σ1s12/44, mb3.6/9, MS3.8/4, 5C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.94**	**329**	⇓*e*P	**Pb**	**02 32 41.1**	**-1.8**
VCR				*e*S	**Sb**	**02 32 56.5**	**+1.4**
JTS	**JuntasAbangare**	**0.98**	**11**	Pg	**Pg**	**02 32 42.6**	**-2.2**
	85nm,0.3s,baz=164,slow=5.4,SNR=318						
JTS				Lg		02 32 57.3	
	240nm,0.3s,baz=242,slow=19,SNR=22						
JTS	**JuntasAbangare**	**0.98**	**11**	Pg	**Pg**	**02 32 42.6**	**-2.2**
JTS				Lg		02 32 57.3	
PRS1	**Puriscal**	**1.05**	**51**	⇑*e*P	**Pb**	**02 32 43.1**	**-1.8**
LAJ	**Bijagual**	**1.15**	**62**	⇓*i*P	**Pb**	**02 32 38.9**	**-7.6**
LCR2	**La Lucha 2**	**1.20**	**69**	⇑*e*P	**Pb**	**02 32 46.7**	**-0.7**
FORC	**Fortuna**	**1.24**	**22**	*e*P	**Pb**	**02 32 46.9**	**-1.1**
SJS	**Escuela Geolog**	**1.24**	**60**	*e*P	**Pb**	**02 32 50.2**	**+2.1**
SJS				*e*S	**Sb**	**02 33 08.1**	**+4.1**
VPS2	**Volcan Poas 2**	**1.25**	**46**	⇑*e*P	**Pb**	**02 32 48.1**	**-0.1**
LIM1	**Limonal**	**1.38**	**355**	*e*P	**Pn**	**02 32 49.8**	**-0.6**
BUS	**Buena Vista**	**1.39**	**80**	⇑*e*P	**Pn**	**02 32 50.3**	**-0.2**
BUS				*e*S	**Sb**	**02 33 13.1**	**+4.9**
ICR	**Volcan Irazu**	**1.45**	**63**	*e*P	**Pn**	**02 32 54.1**	**+2.6**
ACR	**Cerro Adams**	**2.06**	**109**	⇑*e*P	**Pn**	**02 32 59.5**	**-0.6**
ACR				*e*S	**Sn**	**02 33 27.6**	**+1.5**
SSNN	**San Juan del S**	**2.08**	**341**	*e*P	**Pn**	**02 33 02.9**	**+2.4**
MADN	**Villa Maderas**	**2.11**	**350**	⇓*e*P	**Pn**	**02 33 00.5**	**-0.4**
MADN				*e*S	**Sn**	**02 33 29.8**	**+2.3**
CONN	**Concepcion**	**2.28**	**348**	*e*P	**Pn**	**02 33 04.5**	**+1.1**
TICN	**Ticuantepe**	**2.90**	**338**	*e*P	**Pn**	**02 33 11.3**	**-1.0**
WILN	**Americas 2**	**3.01**	**340**	*e*P	**Pn**	**02 33 13.7**	**0.0**
MGAN	**Managua**	**3.01**	**339**	*e*P	**Pn**	**02 33 14.6**	**+0.9**
MGAN				*i*		02 34 31.2	
	comp=E,2μm,1.6s						
COPN	**Copaltepe**	**3.18**	**334**	*e*P	**Pn**	**02 33 15.9**	**-0.2**
MIRN	**Miramar**	**3.46**	**334**	*e*P	**Pn**	**02 33 20.2**	**+0.1**
CNGN	**Cerro Negro**	**3.51**	**334**	*e*P	**Pn**	**02 33 21.7**	**+0.8**
LEON	**Leon**	**3.53**	**331**	*e*P	**Pn**	**02 33 21.3**	**+0.2**
TEL3	**Telica 3**	**3.64**	**333**	*e*P	**Pn**	**02 33 22.4**	**-0.3**
CRIN	**San Cristobal**	**3.85**	**331**	*e*P	**Pn**	**02 33 24.7**	**-0.9**
OTAV	**Otavalo**	**11.21**	**143**	P	**P**	**02 35 08.4**	**-0.2**
SDV	**Santo Domingo**	**14.34**	**91**	P	**P**	**02 35 49.7**	**-0.7**
TXAR	**Lajitas Array**	**26.42**	**321**	P	**P**	**02 38 04.5**	**+0.6**
	comp=E,1.0nm,0.8s,mb3.4,baz=143,slow=8.9,SNR=11						
TXAR				PcP	PcP	02 41 30.2	+0.4
	comp=E,0.3nm,0.7s,baz=153,slow=5.6,SNR=3.5						
TXAR				LR	LR	02 49 01.5	
	comp=E,72nm,18.0s,MS3.3,baz=80,slow=38						
TXAR	**Lajitas Array**	**26.42**	**321**	P	**P**	**02 38 04.5**	**+0.6**
TXAR				PcP	PcP	02 41 30.2	+0.4
TXAR				LR	LR	02 49 01.5	
WMOK	**Wichita Mounta**	**28.22**	**336**	P	**P**	**02 38 19.3**	**-0.9**
	comp=E,1.2nm,0.8s,mb3.6						
LPAZ	**La Paz**	**30.51**	**146**	LR	LR	02 51 43.3	
	comp=E,138nm,18.9s,MS3.6,baz=20,slow=38						
TPNV	**Topopah Spring**	**39.35**	**319**	*e*P	**P**	**02 39 57.2**	**+0.8**
	comp=E,2.5nm,0.9s,mb3.9						
PDAR	**Pinedale Array**	**39.59**	**331**	P	**P**	**02 39 58.4**	**+0.1**
	comp=E,0.2nm,0.5s,mb3.1,baz=111,slow=25,SNR=2.3						
NVAR	**Mina Array Bea**	**41.54**	**320**	P	**P**	**02 40 13.7**	**-0.8**
	comp=E,0.6nm,0.8s,mb3.2,baz=117,slow=6.0,SNR=5.2						
BDFB	**Brasilia**	**44.35**	**124**	LR	LR	03 01 26.9	
	comp=E,103nm,18.5s,MS3.8,baz=125,slow=39						
PLCA	**Paso Flores**	**51.59**	**166**	P	**P**	**02 41 35.2**	**+1.5**
	comp=E,3.5nm,1.0s,mb4.2,baz=355,slow=10,SNR=3.9						
PLCA	**Paso Flores**	**51.59**	**166**	P	**P**	**02 41 35.2**	**+1.4**
YKA	**Yellowknife Ar**	**57.22**	**344**	P	**P**	**02 42 13.9**	**-0.7**
	comp=E,0.4nm,0.8s,mb3.5,baz=138,slow=6.9,SNR=6.6						
YKA				PcP	PcP	02 43 07.0	-1.9
	comp=E,0.2nm,0.6s,baz=144,slow=4.4,SNR=3.2						
YKA	**Yellowknife Ar**	**57.22**	**344**	P	**P**	**02 42 13.9**	**-0.7**
YKA				PcP	PcP	02 43 07.0	-2.0
ILAR	**Eielson Array**	**69.78**	**336**	P	**P**	**02 43 36.3**	**-1.0**
	comp=E,0.5nm,0.7s,mb3.6,baz=123,slow=4.3,SNR=8.7						
ESDC	**Sonseca Array**	**77.34**	**51**	P	**P**	**02 44 21.4**	**-0.5**
	comp=E,1.6nm,0.7s,mb4.0,baz=279,slow=6.0,SNR=8.1						
DAVOX	**Davos**	**86.71**	**43**	LR	LR	03 18 29.4	
	comp=E,150nm,18.3s,MS4.4,baz=334,slow=32						

IDC 10 02:32:35.1±3.9, 2.01S×138.56E, mb3.7/2, mb1 4.0/3, mb1mx3.8/11, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=172.9km s-min=33.5km az=88.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.24**	**209**	*e*P	Px	02 35 54.7	
	7.2nm,0.4s						
KAKA				*e*S	Sx	02 38 10.6	
WB2	**Warramunga Arr**	**18.29**	**193**	*e*P	P	02 36 51.0	-1.2
WB2				*e*S	S	02 40 07.7	-6.6
WRA	**Warramunga Arr**	**18.29**	**193**	P	P	02 36 51.0	-1.3
	0.6nm,0.3s,baz=18,slow=13,SNR=15						
WRA				S	S	02 40 08.1	-6.2
	0.2nm,0.3s,baz=9.9,slow=23,SNR=4.9						
SONM	**Songino Array**	**57.02**	**335**	P	P	02 42 22.7	-2.5
	0.4nm,0.6s,baz=153,slow=9.0,SNR=3.4						
MKAR	**Makanchi Array**	**69.14**	**322**	P	P	02 43 43.1	-2.3
	1.1nm,0.8s,baz=121,slow=7.1,SNR=8.4						
TORD	**Torodi Ar. Bea**	**135.91**	**287**	PKP	PKPdf	02 51 59.9	-1.1
	0.3nm,0.7s,baz=48,slow=0.4,SNR=2.7						

MOS ***10*** *02:41:37.1±0.9, 6.74S×130.02E, h121km, mb5.0/9, Error ellipse: s-maj=37.2km s-min=10.6km az=117.0*

NEIC ***10*** *02:41:39.3±2.1, 6.61S×130.21E, h119km±20km, mb4.9/17, Error ellipse: s-maj=15.3km s-min=6.9km az=59.0*

BJI ***10*** *02:41:39.3, 6.60S×130.20E, h119km, mB5.3, mb5.0*

IDC ***10*** *02:41:39.9±5.7, 6.56S×130.28E, h124km±52km, mb4.1/9, mb1 4.2/9, mb1mx4.1/13, mbtmp4.5/9, Error ellipse:*

s-maj=30.3km s-min=12.9km az=57.0

ISC 10 02:41:36.8±2.1, 6.64S±0.07×130.2E±0.1, h111km±21km, n58, σ0s99/56, mb4.9/27, 5C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.43**	**160**	⇑*i*P	Px	02 43 34.1	
	65nm,0.1s						
KAKA				*e*S	Sx	02 44 42.8	
WRAB	**Tennant Creek**	**13.82**	**163**	*c i*P	**P**	**02 44 48.2**	**-0.8**
WRA	**Warramunga Arr**	**13.83**	**163**	P	**P**	**02 44 46.9**	**-2.2**
	1.0nm,0.3s,baz=347,slow=13,SNR=22						
WRA				S	**S**	**02 47 12.7**	**-7.5**
	13nm,0.3s,baz=349,slow=20,SNR=12						
WB2	**Warramunga Arr**	**13.83**	**163**	*e*P	**P**	**02 44 48.0**	**-1.2**
WB2				*e*S	**S**	**02 47 11.5**	**-8.8**
MBWA	**Marble Bar**	**17.64**	**214**	*e*P	**P**	**02 45 37.8**	**+0.8**
	11nm,0.6s						
KKM	**Kota Kinabalu**	**18.80**	**312**	*e*P	**P**	**02 45 50.8**	**+0.6**
CTAO	**Charters Tower**	**20.54**	**132**	*e*P	**P**	**02 46 09.6**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,33nm,0.8s						
CTAO	**Charters Tower**	**20.54**	**132**	*e*P	**P**	**02 46 09.6**	**+1.2**
	comp=Z,33nm,0.8s						
TGY	**Tagaytay City**	**22.56**	**336**	P	**P**	**02 46 30.1**	**+1.6**
	comp=Z,116nm,0.3s,mb5.7,baz=167,slow=9.3,SNR=3.6						
FORT	**Forrest**	**24.10**	**185**	*e*P	**P**	**02 46 44.4**	**+1.1**
	comp=Z,39nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**27.28**	**158**	*e*P	**P**	**02 47 12.9**	**0.0**
	comp=Z,11nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**27.28**	**158**	P	**P**	**02 47 12.6**	**-0.3**
	comp=Z,12nm,0.5s,mb4.7,baz=328,slow=8.8,SNR=28						
KLBR	**Kellerberrin**	**27.42**	**204**	*e*P	**P**	**02 47 14.5**	**+0.3**
	comp=Z,12nm,0.5s,mb4.7						
PSI	**Prapat**	**32.59**	**286**	P	**P**	**02 48 00.7**	**+0.5**
	comp=Z,13nm,0.8s,mb4.8,baz=80,slow=11,SNR=8.9						
CNB	**Canberra Magne**	**33.55**	**151**	*e*P	**P**	**02 48 09.3**	**+1.2**
	comp=Z,22nm,0.9s,mb5.0						
TOO	**Toolangi**	**33.79**	**158**	*e*P	**P**	**02 48 12.1**	**+1.9**
	comp=Z,9.4nm,1.0s,mb4.6						
DZM	**Mont Dzumac**	**38.19**	**117**	P	**P**	**02 48 48.1**	**+0.7**
	comp=Z,4.2nm,0.5s,mb4.5,baz=294,slow=13,SNR=13						
SSE	**Sheshan**	**38.49**	**348**	P	**P**	**02 48 51.3**	**+1.5**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,80nm,3.4s						
SSE	**Sheshan**	**38.49**	**348**	P	**P**	**02 48 51.3**	**+1.5**
	comp=Z,32nm,0.7s,mb5.3						
NJ2	**Nanjing**	**39.96**	**345**	*e*P	**P**	**02 49 03.3**	**+1.3**
NJ2				PP	PP	02 50 42.8	+3.6
NJ2				AMB	AMB		
	comp=Z,290nm,5.2s						
NJ2				LR	LR		
	comp=N,280nm,19.8s						
NJ2				LR	LR		
	comp=E,470nm,18.2s						
NJ2				LR	LR		
	comp=Z,290nm,14.0s						
LSA	**Lhasa**	**52.07**	**316**	P	**P**	**02 50 37.6**	**0.0**
LSA	**Lhasa**	**52.07**	**316**	*e*P	**P**	**02 50 37.5**	**-0.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
LSA	**Lhasa**	**52.07**	**316**	*e*P	**P**	**02 50 37.5**	**-0.2**
	comp=Z,9.7nm,0.7s,mb4.9						
GTA	**Gaotai**	**53.75**	**331**	*e*P	**P**	**02 50 49.9**	**0.0**
GTA				AMB	AMB		
	comp=Z,110nm,6.5s						
GTA				LR	LR		
	comp=N,1μm,15.7s						
GTA				LR	LR		
	comp=E,730nm,16.1s						
GTA				LR	LR		
	comp=Z,930nm,14.5s						
JIRN	**Jiri**	**54.49**	**311**	*e*P	**P**	**02 50 55.1**	**-0.4**
	comp=Z,38nm,0.6s,mb5.6						
GUN	**Gumba**	**54.86**	**311**	*e*P	**P**	**02 50 57.6**	**-0.6**
	comp=Z,88nm,0.6s,mb5.9						
PKI	**Pulchoki**	**55.04**	**310**	*e*P	**P**	**02 50 58.5**	**-1.0**
	comp=Z,24nm,0.6s,mb5.4						
PKI	**Pulchoki**	**55.04**	**310**	*e*P	**P**	**02 50 58.5**	**-1.0**
PKI				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
KKN	**Kakani**	**55.25**	**310**	*e*P	**P**	**02 51 00.4**	**-0.6**
DMN	**Daman**	**55.29**	**310**	*e*P	**P**	**02 51 00.6**	**-0.7**
GKN	**Gorkha**	**55.84**	**310**	*e*P	**P**	**02 51 04.3**	**-1.0**
	comp=Z,66nm,0.6s,mb5.8						
KOLN	**Koldanda**	**56.52**	**309**	*e*P	**P**	**02 51 09.2**	**-0.9**
	comp=Z,47nm,0.8s,mb5.6						
ULN	**Ulaanbaatar**	**57.98**	**342**	*e*P	**P**	**02 51 19.5**	**-0.6**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
ULN	**Ulaanbaatar**	**57.98**	**342**	*e*P	**P**	**02 51 19.5**	**-0.6**
	comp=Z,8.0nm,0.6s,mb4.9						
ULN				*e*		02 51 35.0	
SONM	**Songino Array**	**58.16**	**341**	P	**P**	**02 51 20.8**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.3,baz=166,slow=6.5,SNR=13						
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**02 52 26.1**	**-0.2**
	comp=Z,15nm,0.8s,mb4.9,baz=116,slow=7.9,SNR=99						
YAK	**Yakutsk**	**68.46**	**360**	⇑*e*P	**P**	**02 52 28.1**	**-0.6**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.0						
KZA	**Kyzart**	**69.63**	**319**	P	**P**	**02 52 37.5**	**+1.3**
	SNR=6.4						
TKM2	**Tokmak 2**	**69.83**	**320**	P	**P**	**02 52 37.9**	**+0.5**
	SNR=10						
KBK	**Karagaybulak**	**70.11**	**320**	P	**P**	**02 52 39.9**	**+0.8**
	SNR=5.4						
UCH	**Uchtor**	**70.18**	**319**	P	**P**	**02 52 40.8**	**+1.2**
	SNR=8.8						
AAK	**Ala-Archa**	**70.39**	**320**	*c i*P	**P**	**02 52 40.5**	**-0.3**
AAK				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.5						
AAK				MLR	MLR		
	comp=Z,100nm,19.0s						
AML	**Almayashu**	**70.66**	**319**	P	**P**	**02 52 43.7**	**+1.2**
	SNR=9.1						
USP	**Ospenovka**	**70.70**	**320**	P	**P**	**02 52 43.3**	**+0.7**
	SNR=8.0						
EKS2	**Erkin-Say**	**70.86**	**319**	P	**P**	**02 52 44.7**	**+1.0**
	SNR=9.8						
ZAL	**Zalesovo**	**71.34**	**334**	P	**P**	**02 52 45.2**	**-1.1**
	comp=Z,2.0nm,0.5s,mb4.2,baz=335,slow=4.8,SNR=8.5						
KURK	**Kurchatov**	**72.31**	**328**	*c i*P	**P**	**02 52 51.6**	**-0.5**
VNDA	**Vanda**	**72.78**	**173**	P	**P**	**02 52 54.3**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.2,baz=332,slow=6.1,SNR=24						
VNDA	**Vanda**	**72.78**	**173**	*e*P	**P**	**02 52 53.6**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,40nm,0.8s						
VNDA	**Vanda**	**72.78**	**173**	*e*P	**P**	**02 52 53.6**	**-0.8**
	comp=Z,3.6nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**77.86**	**328**	P	**P**	**02 53 23.0**	**-0.7**
	comp=Z,1.7nm,0.7s,mb3.9,baz=112,slow=8.0,SNR=10						
QSPA	**South Pole Qui**	**83.34**	**180**	*e*P	**P**	**02 53 52.1**	**-0.1**
	comp=Z,6.9nm,0.6s,mb4.7						
ARU	**Arti**	**85.50**	**328**	⇓*i*P	**P**	**02 54 01.9**	**-1.4**
ARU				*e*		02 57 22.8	
ARU				*e*PPP	PPP	02 59 15.9	-5.9
ARU				*e*S	S	03 04 11.6	-12
ARU				*e*SS	SS	03 10 01.7	-3.0
ARU				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
ILAR	**Eielson Array**	**92.94**	**25**	P	**P**	**02 54 36.4**	**-1.9**
	comp=Z,0.6nm,1.0s,mb3.9,baz=270,slow=4.4,SNR=5.1						
OBN	**Obninsk**	**97.47**	**325**	*e*P	**P**	**02 54 57.6**	**-1.5**
OBN				*e*		02 58 58.1	
OBN				*e*PS	PS	03 07 38.7	-14
OBN				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,17.0s						
TXAR	**Lajitas Array**	**124.58**	**59**	PKP	PKPdf	03 00 25.6	+1.8
	comp=Z,0.4nm,0.9s,baz=217,slow=4.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**128.93**	**281**	PKP	PKPdf	03 00 34.8	+2.2
	comp=Z,0.7nm,0.8s,baz=76,slow=2.0,SNR=7.5						
TORD				SKPbc		03 03 41.3	
	comp=Z,1.5nm,0.7s,baz=54,slow=2.8,SNR=12						
PLCA	**Paso Flores**	**129.15**	**160**	PKP	PKPdf	03 00 35.0	+2.6
	comp=Z,0.5nm,0.7s,baz=292,slow=1.6,SNR=4.8						
PLCA				SKPbc		03 03 42.3	
	comp=Z,1.0nm,0.7s,baz=205,slow=11,SNR=3.3						

MOS ***10*** *02:46:01.0±1.5, 56.39N×117.49E, h11km, mb4.4/1, Error ellipse: s-maj=18.5km s-min=15.1km az=51.3*

BYKL 10 02:46:01.8±0.5, 56.40N×117.50E, h24km±21km, 2C-5D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.66**	**40**	⇓*i*Pg	Pb	02 46 13.5	-1.0
	64nm,0.6s						
CRS				⇓*i*Pg	Pb	02 46 13.5	-1.0
	37nm,0.6s						
CRS				⇓*i*Pg	Pb	02 46 13.5	-1.0
	125nm,0.6s						
CRS				*e*Sg	Sb	02 46 22.4	-0.9
CRS				Pmax			
	188nm,0.4s						
CRS				Smax			
	905nm,0.8s						
CRS	**Chara**	**0.66**	**40**	*e*PG	Pb	02 46 13.5	-1.0
CRS				*e*		02 46 22.4	
CRS				pmax	pmax		
	comp=Z,166nm,0.3s						
CRS				smax			
	comp=E,851nm,0.4s						
NLYR	**Nelyaty**	**1.00**	**276**	⇓*i*Pg	Pb	02 46 19.2	-1.2
NLYR				*e*Pb	Pb	02 46 20.8	+0.4
NLYR				*e*Sg	Sb	02 46 32.8	-0.3
NLYR				*e*Sb	Sb	02 46 36.5	+3.4
NLYR				max			
	comp=E,515nm,0.4s						
NLYR				max			
	comp=E,4μm,0.7s						
NLYR	**Nelyaty**	**1.00**	**276**	*e*PG	Pb	02 46 18.9	-1.5
NLYR				*e*		02 46 32.3	
NLYR				pmax	pmax		
	comp=Z,526nm,0.3s						
NLYR				smax			
	comp=N,4μm,0.8s						
SVKR	**Severomuysk**	**2.22**	**264**	*e*	Pn	02 46 38.0	+0.1
SVKR				*e*Pg	Pn	02 46 40.9	+3.0
SVKR				*e*Sg	Sn	02 47 10.5	+5.7
SVKR				Pmax			
	comp=N,277nm,0.1s						
SVKR				Smax			
	comp=N,917nm,0.5s						
SVKR	**Severomuysk**	**2.22**	**264**	*e*PN	Pn	02 46 41.3	+3.4
SVKR				*e*		02 47 10.5	
SVKR				pmax	pmax		
	comp=Z,292nm,0.2s						
SVKR				smax			
	comp=E,918nm,0.6s						
UKT	**Uakit**	**2.36**	**249**	*e*Pn	Pn	02 46 40.0	+0.1
UKT				*e*Pg	Pn	02 46 43.2	+3.3
UKT				*e*Sg	Sn	02 47 14.3	+5.8
UKT				Pmax			
	comp=E,95nm,0.6s						
UKT				Smax			
	comp=E,310nm,0.3s						
UKT	**Uakit**	**2.36**	**249**	*e*PN	Pn	02 46 43.2	+3.3
UKT				*e*		02 47 14.4	
UKT				pmax	pmax		
	comp=Z,23nm,0.2s						
UKT				smax			
	comp=E,327nm,0.2s						
BOD	**Bodaibo**	**2.38**	**308**	*e*Pn	Pn	02 46 40.1	-0.1
BOD				*e*Pg	Pn	02 46 43.5	+3.3
BOD				*e*Sg	Sn	02 47 14.6	+5.7
BOD				Pmax			
	comp=E,89nm,0.4s						
BOD				Smax			
	comp=E,1μm,0.8s						
BOD	**Bodaibo**	**2.38**	**308**	*e*PN	Pn	02 46 40.5	+0.3
BOD				*e*		02 46 43.4	
BOD				*e*		02 47 14.0	
BOD				pmax	pmax		
	comp=Z,92nm,0.4s						
BOD				smax			
	comp=N,909nm,0.3s						
TUP	**Tupik**	**2.42**	**144**	*e*Pn	Pn	02 46 39.9	-0.9
TUP				*e*Pg	Pn	02 46 44.1	+3.3
TUP				*e*Sn	Sn	02 47 11.2	+1.2
TUP				*e*Sg	Sn	02 47 16.1	+6.1
TUP				*e*SgSg		02 47 26.8	
TUP				Pmax			
	comp=N,225nm,0.8s						
TUP				max			
	comp=N,635nm,0.9s						
TUP	**Tupik**	**2.42**	**144**	*e*PN	Pn	02 46 41.2	+0.4
TUP				*e*		02 46 44.1	
TUP				*e*S	Sn	02 47 11.0	+1.0
TUP				*e*		02 47 16.0	
TUP				pmax	pmax		
	comp=Z,150nm,0.4s						
TUP				smax			
	comp=E,403nm,0.6s						
YOA	**Uoyan**	**3.23**	**268**	Pg	Pn	02 47 01.0	+8.7
YOA				*e*Sg	Sn	02 47 42.8	+12
YOA				Pmax			
	comp=E,144nm,0.2s						
YOA				Smax			
	comp=E,444nm,0.5s						
YOA	**Uoyan**	**3.23**	**268**	*e*PN	Pn	02 46 59.3	+7.0
YOA				*e*		02 47 41.6	
YOA				pmax	pmax		
	comp=Z,109nm,0.4s						
YOA				smax			

KPC	**Khapcheranga**	**7.38**	**207**	*e*PG	Pn	02 48 14.1	+23
KPC				*e*		02 49 49.7	
KPC				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KPC				smax			
	comp=E,55nm,1.0s						
TRG	**Tyrgan**	**7.43**	**245**	*e*Sg	Sn	02 49 53.2	+37
TRG				Smax			
	comp=E,177nm,2.0s						

*IDC **10** 02:46:07.6±1.0,9.62S×114.11E,mb4.2/7,mb1 4.3/7, mb1mx4.2/12,mbtmp4.2/7,MS3.9/2,Ms1 3.8/2, ms1mx3.0/18,Error ellipse: s-maj=52.3km s-min=22.7km az=67.0*

ISC 10 02:46:10.8±0.9,**9.5S**±0.2×**114.3E**±0.2,**h33**km,**n10,** σ**0**º**49/8,mb4.3**/7,**MS3.9/2,South of Bali**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.91**	**120**	S	**S**	**02 54 57.2**	**-0.8**
	1.3nm,0.8s,baz=287,slow=24,SNR=4.0						
STKA	**Stephens Creek**	**33.64**	**135**	P	**P**	**02 52 50.9**	**+0.2**
	6.6nm,0.7s,mb4.7,baz=350,slow=11,SNR=4.3						
STKA				LR	LR	03 07 20.6	
	comp=Z,190nm,19.6s,MS3.8,baz=25,slow=38						
MJAR	**Matsushiro Arr**	**51.04**	**25**	P	**P**	**02 55 12.3**	**+0.3**
	2.3nm,0.6s,mb4.3,baz=199,slow=8.5,SNR=4.6						
SONM	**Songino Array**	**57.55**	**354**	P	**P**	**02 56 00.1**	**+0.5**
	2.4nm,0.6s,mb4.4,baz=173,slow=9.1,SNR=12						
URZ	**Urewera**	**62.82**	**128**	LR	LR	03 21 47.7	
	comp=Z,88nm,20.9s,MS3.9,baz=326,slow=34						
MKAR	**Makanchi Array**	**62.95**	**336**	P	**P**	**02 56 36.1**	**-0.4**
	1.4nm,0.6s,mb4.3,baz=148,slow=7.9,SNR=8.9						
VNDA	**Vanda**	**72.20**	**170**	P	**P**	**02 57 34.4**	**+0.5**
	1.4nm,0.9s,mb3.9,baz=76,slow=2.1,SNR=3.6						
BVAR	**Borovoye Array**	**72.68**	**334**	P	**P**	**02 57 37.1**	**+0.1**
	2.5nm,0.8s,mb4.2,baz=138,slow=8.3,SNR=11						
BRTR	**Keskin Array B**	**88.96**	**310**	P	**P**	**02 59 02.9**	**-0.8**
	0.7nm,0.7s,mb4.1,baz=129,slow=4.6,SNR=5.7						
YKA	**Yellowknife Ar**	**116.53**	**23**	PKP	PKPdf	03 04 52.7	+1.5
	0.4nm,0.6s,baz=311,slow=2.0,SNR=9.8						

*ATH **10** 03:01:11.5,37.62N×20.89E,h10km±2km,MD3.9/7*
*NEIC **10** 03:01:11.8,37.63N×20.90E,h5km,MD3.8(ATH),After ATH.*
*CSEM **10** 03:01:14.5±0.2,37.73N×21.09E,h2km,MD3.8,Error ellipse: s-maj=4.4km s-min=2.9km az=40.0*
*THE **10** 03:01:15.6,37.84N×21.03E,h10km,ML3.4*

ISC 10 03:01:13.6±0.8,**37.75N**±0.04×**21.04E**±0.06,**h10km,n28,** σ**1**º**35/35,1C,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.46**	**47**	*e*PB	**Pb**	**03 01 23.2**	**-0.1**
RLS				*e*SB	**Sb**	**03 01 32.8**	**+3.0**
VLS	**Valsamata**	**0.56**	**320**	⇑*i*PG	**Pg**	**03 01 22.9**	**-1.9**
VLS				*e*Sb	**Sb**	**03 01 32.7**	**0.0**
ITM	**Ithomi**	**0.91**	**129**	*e*PB	**Pb**	**03 01 29.6**	**-1.3**
LKD	**Levkas**	**1.01**	**342**	*e*Pg	**Pg**	**03 01 32.4**	**-1.4**
EVR	**Evrytania**	**1.31**	**27**	*e*PG	**Pg**	**03 01 38.8**	**-1.1**
EVR	**Evrytania**	**1.31**	**27**	*e*Pb	**Pb**	**03 01 40.8**	**+2.9**
AGG	**Agios Georgios**	**1.63**	**38**	*e*Pg	**Pg**	**03 01 44.8**	**-1.3**
AGG				*e*Sg	**Sg**	**03 02 05.5**	**-2.3**
MGER	**Gerania Oros**	**1.77**	**82**	*e*PN	**Pn**	**03 01 46.5**	**+1.9**
MGER	**Gerania Oros**	**1.77**	**82**	*e*Pg	**Pg**	**03 01 47.2**	**-1.8**
LKR	**Lokris**	**1.79**	**59**	*e*PN	**Pn**	**03 01 46.7**	**+1.9**
LKR	**Lokris**	**1.79**	**59**	*e*Pg	**Pg**	**03 01 47.4**	**-1.9**
VLI	**Veliai**	**1.83**	**124**	*e*PN	**Pn**	**03 01 45.6**	**+0.2**
VLI	**Veliai**	**1.83**	**124**	*e*Pn	**Pn**	**03 01 48.2**	**+2.8**
IGT	**Igoumenitsa**	**1.87**	**343**	*e*Pb	**Pb**	**03 01 46.8**	**-0.6**
IGT				*e*Sb	**Sb**	**03 02 11.7**	**+1.0**
JAN	**Janina**	**1.91**	**356**	*e*PN	**Pn**	**03 01 47.8**	**+1.2**
JAN	**Janina**	**1.91**	**356**	*e*Pg	**Pg**	**03 01 50.6**	**-1.2**
KYTH	**Kithira**	**2.17**	**132**	*e*PN	**Pn**	**03 01 50.0**	**-0.3**
KYTH	**Kithira**	**2.17**	**132**	*e*Pn	**Pn**	**03 01 51.0**	**+0.7**
KEK	**Kerkira**	**2.19**	**334**	*e*PN	**Pn**	**03 01 51.3**	**+0.7**
KEK	**Kerkira**	**2.19**	**334**	*e*Pn	**Pn**	**03 01 52.9**	**+2.3**
LIT	**Litokhoron**	**2.61**	**25**	*e*Pn	**Pn**	**03 01 56.6**	**0.0**
FNA	**Florina**	**3.04**	**5**	*e*Pn	**Pn**	**03 02 03.4**	**+0.6**
FNA				*e*Sn	**Sn**	**03 02 40.3**	**+0.7**
FNA	**Florina**	**3.04**	**5**	*e*Pn	**Pn**	**03 02 03.3**	**+0.5**
FNA				*e*Sn	**Sn**	**03 02 40.3**	**+0.7**
BIA	**Bitola**	**3.27**	**4**	*i* Pn	**Pn**	**03 02 06.3**	**+0.3**
BIA				*e*Sn	**Sn**	**03 02 46.8**	**+1.3**
OHR	**Ohrid**	**3.36**	**357**	*i* Sn	**Sn**	**03 02 46.9**	**-0.8**
GRG	**Griva**	**3.37**	**18**	*e*Pn	**Pn**	**03 02 08.0**	**+0.6**
KNT	**Kendrikon**	**3.70**	**22**	*e*Pn	**Pn**	**03 02 12.6**	**+0.5**
VAY	**Valandovo**	**3.76**	**18**	*i* Sn	**Sn**	**03 02 56.5**	**-1.2**

*IDC **10** 03:03:17.4±0.5,55.08N×165.59E,mb4.8/27,mb1 4.9/29, mb1mx4.9/30,mbtmp4.8/29,ML4.4/2,MS4.2/13,Ms1 4.2/13, ms1mx4.1/23,Error ellipse: s-maj=13.6km s-min=8.7km az=18.0*
*BJI **10** 03:03:19.4,55.18N×165.11E,h11km,mB5.0,mb4.8, Ms4.9,Msz4.5*
*KRSC **10** 03:03:20.1±1.0,55.06N×165.59E,h31km±5km,ML5.7*
*MOS **10** 03:03:20.3±0.9,55.00N×165.63E,h33km,mb5.1/81, MS4.3/24,Error ellipse: s-maj=6.7km s-min=4.8km az=91.5*
*NEIC **10** 03:03:21.7±0.2,55.01N×165.65E,mb5.1/94,MS4.5/6, Error ellipse: s-maj=5.2km s-min=2.6km az=179.0*
*HRVD **10** 03:03:21.7±0.2,55.06N×165.69E,h22km±1km,MW5.1/75, Centroid moment Tensor Solution. LP body waves: s37,c55;Mantle waves: s75,c140; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.01±.18; $M_{\theta\theta}$-3.73±.15; $M_{\phi\phi}$4.73±.15; $M_{r\theta}$1.73±.29; $M_{\theta\phi}$-0.90±.12; $M_{r\phi}$1.41±.24; Best double couple: M_o4.937×10^{16} NP1: ϕ_s311°, δ62°, λ-169°. NP2:ϕ_s216°, δ80°, λ-29°. Principal axes: T 5.086, Plg12°, Azm267°; N -.309, Plg60°, Azm18°; P -4.787, Plg27°, Azm170°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 03:03:19.4±0.5,**54.99N**±0.03×**165.59E**±0.02,**h27**km±3km, **h31**km±1.5km**:pP-P,n394,**σ**1**º**01**/437,**mb5.0**/134,**MS4.5**/36, 15C-11D,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.31**	**46**	*i* P	**Pb**	**03 03 26.0**	**-0.7**
BKI				*i* S	**Sb**	**03 03 30.6**	**-1.1**
KBTR	**Krutoberegovo**	**1.99**	**309**	P	**Pn**	**03 03 50.3**	**-1.6**
KBTR				S	**Sn**	**03 04 13.5**	**-2.7**
KBTR	**Krutoberegovo**	**1.99**	**309**	*i* P	**Pn**	**03 03 50.6**	**-1.3**
KBTR				*e*S	**Sn**	**03 04 14.1**	**-2.1**
MKZ	**Mys Kozlova**	**2.28**	**261**	P	**Pn**	**03 03 56.0**	**-0.1**
MKZ				S	**Sn**	**03 04 22.1**	**-1.4**
MKZ	**Mys Kozlova**	**2.28**	**261**	*i* P	**Pn**	**03 03 56.3**	**+0.2**
MKZ				*e*S	**Sn**	**03 04 23.0**	**-0.5**
SMKR	**Semkarok**	**2.82**	**306**	*i* P	**Pn**	**03 04 04.2**	**+0.4**
SMKR				*e*S	**Sn**	**03 04 35.1**	**-2.2**
ZLN	**Zelenaya**	**2.91**	**293**	*e*P	**Pn**	**03 04 06.3**	**+1.2**
ZLN				*e*S	**Sn**	**03 04 38.9**	**-0.7**
BDR	**Baidarnaya**	**2.94**	**304**	*i* P	**Pn**	**03 04 06.1**	**+0.6**
BDR				*e*S	**Sn**	**03 04 40.7**	**+0.5**
CIRR	**Tsirk**	**2.97**	**294**	*i* P	**Pn**	**03 04 07.0**	**+1.0**
CIRR				*e*S	**Sn**	**03 04 41.3**	**+0.2**
LGNR	**Loginova**	**2.99**	**293**	*i* P	**Pn**	**03 04 07.5**	**+1.2**
LGNR				*e*S	**Sn**	**03 04 41.9**	**+0.3**
SRKR	**Sorokina**	**3.00**	**306**	*i* P	**Pn**	**03 04 06.8**	**+0.4**
SRKR				*i* S	**Sn**	**03 04 40.9**	**-0.9**
KLY	**Klyuchi**	**3.10**	**297**	P	**Pn**	**03 04 06.9**	**-0.8**
KLY				S	**Sn**	**03 04 42.0**	**-2.2**
KLY	**Klyuchi**	**3.10**	**297**	*i* P	**Pn**	**03 04 07.2**	**-0.5**
KLY				*e*S	**Sn**	**03 04 42.2**	**-2.0**
KRSR	**Krestovskiy**	**3.10**	**295**	*e*P	**Pn**	**03 04 08.3**	**+0.5**
KRSR				*e*S	**Sn**	**03 04 42.1**	**-2.3**
TUMR	**Tumrok**	**3.14**	**278**	*i* P	**Pn**	**03 04 09.4**	**+1.1**
TUMR				*e*S	**Sn**	**03 04 44.9**	**-0.4**
KMNR	**Kamenistaya**	**3.15**	**286**	*i* P	**Pn**	**03 04 10.2**	**+1.7**
KMNR				*e*S	**Sn**	**03 04 45.5**	**-0.1**
KPT	**Kopyto**	**3.21**	**290**	*i* P	**Pn**	**03 04 10.5**	**+1.2**
KPT				*e*S	**Sn**	**03 04 46.4**	**-0.7**
KOZR	**Kozyr**	**3.41**	**291**	PN	**Pn**	**03 04 14.1**	**+1.9**
KOZR				S	**Sn**	**03 04 55.0**	**+2.8**
KOZ	**Kozyrevsk**	**3.42**	**291**	P	**Pn**	**03 04 14.1**	**+1.8**
KOZ				S	**Sn**	**03 04 55.0**	**+2.5**
KOZ	**Kozyrevsk**	**3.42**	**291**	*i* P	**Pn**	**03 04 14.1**	**+1.8**
KOZ				*e*S	**Sn**	**03 04 51.9**	**-0.6**
SRDR	**Sredinnyy**	**3.58**	**294**	*e*P	**Pn**	**03 04 15.2**	**+0.6**
SRDR				*e*S	**Sn**	**03 04 54.9**	**-1.7**
KII	**Karymskiy**	**3.70**	**258**	*e*P	**Pn**	**03 04 16.9**	**+0.5**
KII				*e*S	**Sn**	**03 05 00.0**	**+0.4**
SPN	**Mys Shipunski**	**3.79**	**242**	P	**Pn**	**03 04 16.8**	**-0.8**
SPN				S	**Sn**	**03 04 57.0**	**-4.8**
SPN	**Mys Shipunski**	**3.79**	**242**	*i* P	**Pn**	**03 04 17.0**	**-0.6**
SPN				*i* S	**Sn**	**03 04 59.0**	**-2.8**
ESO	**Esso**	**4.03**	**286**	*i* P	**Pn**	**03 04 21.9**	**+0.9**
NLC	**Nalytchevo**	**4.10**	**246**	P	**Pn**	**03 04 21.6**	**-0.5**
NLC				S	**Sn**	**03 05 05.8**	**-4.0**
NLC	**Nalytchevo**	**4.10**	**246**	*i* P	**Pn**	**03 04 21.6**	**-0.5**
NLC				*i* S	**Sn**	**03 05 06.7**	**-3.1**
SMAR	**Somma**	**4.35**	**249**	*e*P	**Pn**	**03 04 25.9**	**+0.3**
SMAR				*e*S	**Sn**	**03 05 14.3**	**-1.8**
UGLR	**Uglovaya**	**4.36**	**249**	*e*P	**Pn**	**03 04 25.8**	**+0.1**
UGLR				*e*S	**Sn**	**03 05 14.6**	**-1.8**
AVH	**Avacha**	**4.38**	**250**	*i* P	**Pn**	**03 04 26.7**	**+0.7**
AVH				*e*S	**Sn**	**03 05 15.3**	**-1.6**
KOK	**Koryaka**	**4.43**	**250**	*e*P	**Pn**	**03 04 27.4**	**+0.7**
KOK				*e*S	**Sn**	**03 05 16.9**	**-1.1**
OSSR	**Ossora**	**4.49**	**343**	*i* P	**Pn**	**03 04 23.5**	**-4.0**
OSSR				Smax			
	550nm,0.6s						
PET	**Petropavlovsk**	**4.54**	**247**	P	**Pn**	**03 04 28.3**	**+0.1**
PET				S	**Sn**	**03 05 16.9**	**-3.9**
PET	**Petropavlovsk**	**4.54**	**247**	*i* P	**Pn**	**03 04 28.3**	**+0.1**
PET				*e*S	**Sn**	**03 05 17.6**	**-3.2**
PET	**Petropavlovsk**	**4.54**	**247**	⇑*i*PN	**Pn**	**03 04 28.0**	**-0.2**
PET				pmax	pmax		
	comp=Z,700nm,1.2s						
PET				pmax	pmax		
	comp=N,300nm,0.9s						
PET				pmax	pmax		
	comp=Z,978nm,0.9s						
PET				pmax	pmax		
	comp=N,789nm,0.9s						
PET				pmax	pmax		
	comp=Z,759nm,1.4s						
PET				MLR	MLR		
	comp=Z,5μm,20.0s						
PET				MLR	MLR		
	comp=N,7μm,20.0s						
PET				MLR	MLR		
	comp=E,4μm,15.0s						
PET				MLR	MLR		
	comp=Z,4μm,20.0s						
PET	**Petropavlovsk**	**4.54**	**247**	*e*P	**Pn**	**03 04 27.8**	**-0.5**
GNL	**Ganaly**	**4.66**	**257**	*i* P	**Pn**	**03 04 31.0**	**+1.1**
GNL				*e*S	**Sn**	**03 05 22.5**	**-1.3**
KRMR	**Karymshinskiy**	**4.91**	**247**	*e*P	**Pn**	**03 04 33.8**	**+0.3**
KRMR				*e*S	**Sn**	**03 05 27.1**	**-3.1**
RUS	**Russkaya**	**4.92**	**242**	P	**Pn**	**03 04 33.1**	**-0.5**
RUS				S	**Sn**	**03 05 25.7**	**-4.7**
RUS	**Russkaya**	**4.92**	**242**	*i* P	**Pn**	**03 04 33.1**	**-0.5**
RUS				*e*S	**Sn**	**03 05 26.3**	**-4.1**
FX1	**Attu Island--F**	**4.95**	**112**	Pn	**Pn**	**03 04 32.5**	**-1.5**
	comp=Z,64nm,0.3s,baz=329,slow=5.3,SNR=65						
FX1				Sn	**Sn**	**03 05 26.4**	**-4.7**
	comp=Z,182nm,0.3s,baz=151,slow=17,SNR=11						
FX1	**Attu Island--F**	**4.95**	**112**	*e*PN	**Pn**	**03 04 32.7**	**-1.3**
GRL	**Gorelyy**	**5.08**	**244**	*e*P	**Pn**	**03 04 36.6**	**+0.7**
GRL				*e*S	**Sn**	**03 05 31.8**	**-2.6**
APC	**Apacha**	**5.39**	**251**	*i* P	**Pn**	**03 04 41.1**	**+0.9**
APC				*e*S	**Sn**	**03 05 40.4**	**-1.8**
APC				Smax			
	comp=Z,1μm,1.1s						
SMY	**Shemya**	**5.52**	**111**	*e*PN	**Pn**	**03 04 42.9**	**+0.8**
PAU	**Pauzhetka**	**6.34**	**240**	*e*P	**Pn**	**03 04 53.5**	**-0.2**
ALID	**Alaid**	**7.34**	**240**	*e*P	**Pn**	**03 05 06.7**	**-0.9**
MA2	**Magadan**	**9.24**	**306**	*e*PN	**P**	**03 05 34.6**	**+0.5**
MA2				S	**Sn**	**03 07 26.9**	**+8.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MA2				MLR	MLR		
	comp=Z,700nm,22.0s						
SEY	**Seymchan**	**10.46**	**325**	*e*PN	**P**	**03 05 50.1**	**-0.6**
SEY				pmax	pmax		
	comp=Z,18nm,1.0s						
SEY				MLR	MLR		
	comp=N,1μm,14.0s						
SEY				MLR	MLR		
	comp=Z,1μm,14.0s						
SEY				MLR	MLR		
	comp=E,930nm,13.0s						
BILL	**Bilibino**	**13.10**	**1**	*c i*PN	**P**	**03 06 27.6**	**+1.4**
BILL				pmax	pmax		
	comp=Z,12nm,0.7s						
BILL				MLR	MLR		
	comp=Z,3μm,24.0s						
BILL	**Bilibino**	**13.10**	**1**	*e*P	**P**	**03 06 26.5**	**+0.2**
	comp=Z,42nm,1.0s						
NIKO	**Nikolski**	**15.14**	**87**	*e*P	**P**	**03 06 52.1**	**-0.8**
UNV	**Unalaska Valle**	**16.24**	**83**	*e*P	**P**	**03 07 07.8**	**+0.7**
	comp=Z,686nm,1.1s						
YSS	**Yuzh-Sakhalins**	**16.42**	**250**	*e*P	**P**	**03 07 10.0**	**+0.6**
YSS				MLR	MLR		
	comp=Z,2μm,19.0s						
YSS				MLR	MLR		
	comp=N,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**16.42**	**250**	*e*P	**P**	**03 07 10.3**	**+0.9**
	comp=N,76nm,1.1s						
AKUT	**Akutan**	**16.59**	**81**	*e*P	**P**	**03 07 14.9**	**+3.5**
	comp=N,433nm,1.0s						
TNA	**Tin City**	**16.71**	**40**	*e*P	**P**	**03 07 13.8**	**+0.8**
	comp=N,74nm,1.2s						
ASAJ	**Asahikawa**	**18.37**	**243**	P	**P**	**03 07 34.1**	**+0.3**
	comp=N,1.9nm,0.3s,baz=43,slow=9.2,SNR=18						
ASAJ				LR	LR	03 14 28.9	
	comp=N,1μm,18.0s,baz=71,slow=36						
ASAJ	**Asahikawa**	**18.37**	**243**	P	**P**	**03 07 34.2**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,18.0s						
SDPT	**Sand Point**	**19.28**	**75**	*e*P	**P**	**03 07 41.9**	**-2.7**
	comp=Z,271nm,1.5s						
YAK	**Yakutsk**	**19.82**	**305**	*e*P	**P**	**03 07 48.9**	**-1.7**
YAK				*e*S	**S**	**03 11 36.1**	**+9.4**
YAK				pmax	pmax		
	comp=Z,24nm,1.2s						
YAK				pmax	pmax		
	comp=E,21nm,1.1s						
YAK				smax			
	comp=N,87nm,9.4s						
YAK				MLR	MLR		
	comp=Z,331nm,12.0s						
YAK				MLR	MLR		
	comp=N,361nm,14.0s						
YAK				MLR	MLR		
	comp=E,414nm,13.0s						
YAK	**Yakutsk**	**19.82**	**305**	*e*P	**P**	**03 07 48.7**	**-1.9**
	comp=E,92nm,0.9s						
HABR	**Khabarovsk**	**19.89**	**264**	⇓*i*P	**P**	**03 07 53.4**	**+1.9**
HABR				pmax	pmax		
	comp=Z,78nm,1.2s						
HABR				MLR	MLR		
	comp=Z,1μm,17.0s						
SVW2	**Sparrevohn**	**21.18**	**57**	*e*P	**P**	**03 08 04.5**	**-0.2**
KLR	**Kul'dur**	**21.42**	**268**	*e*P	**P**	**03 08 06.4**	**-0.7**
KLR				*e*		03 12 06.0	
IMA2	**Indian Mountai**	**22.43**	**44**	*e*P	**P**	**03 08 17.4**	**+0.2**
CLNS	**Chul'man**	**22.65**	**291**	*e*P	**P**	**03 08 14.7**	**-4.5**
CLNS				*e**PP		03 08 21.7	
CLNS				*e*PPP	PPP	03 08 44.1	-14
CLNS				*e*S	**S**	**03 12 16.0**	**-4.8**
CLNS				*e*SS	SS	03 13 07.9	+4.3
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
CLNS				smax			
	comp=N,14nm,1.0s						
CLNS				smax			
	comp=Z,3.0nm,0.9s						
CLNS				smax			
	comp=E,7.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,800nm,14.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,900nm,15.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,600nm,12.0s,MS4.5						
TIXI	**Tiksi**	**22.86**	**331**	*e*P	**P**	**03 08 20.0**	**-1.1**
TIXI				*e*S	**S**	**03 12 24.2**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,852nm,14.0s,MS4.3						
KDAK	**Kodiak Island**	**23.06**	**66**	P	**P**	**03 08 22.4**	**-0.8**
	comp=Z,94nm,0.7s,mb5.3,baz=272,slow=3.9,SNR=77						
SLKM	**Skilak Lake**	**23.84**	**59**	*e*P	**P**	**03 08 30.6**	**-0.2**
MCK	**McKinley**	**24.26**	**51**	*e*P	**P**	**03 08 34.5**	**-0.3**
MCK				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.0						
MCK	**McKinley**	**24.26**	**51**	*e*P	**P**	**03 08 34.5**	**-0.3**
	comp=Z,56nm,1.0s,mb4.9						
PMR	**Palmer**	**24.27**	**56**	*e*P	**P**	**03 08 34.3**	**-0.6**
PMR				pmax	pmax		
	comp=Z,24nm,0.7s,mb4.7						
PMR	**Palmer**	**24.27**	**56**	*e*P	**P**	**03 08 34.3**	**-0.6**
	comp=Z,24nm,0.7s,mb4.7						
SML	**Sawmill**	**24.63**	**55**	*e*P	**P**	**03 08 38.1**	**-0.3**
COLA	**College**	**24.74**	**48**	P	**P**	**03 08 39.6**	**+0.1**
COLA				pmax	pmax		
	comp=Z,85nm,1.0s,mb5.2						
COLA	**College**	**24.74**	**48**	*e*P	**P**	**03 08 39.2**	**-0.2**
	comp=Z,84nm,1.0s,mb5.2						
ILAR	**Eielson Array**	**25.16**	**48**	P	**P**	**03 08 42.5**	**-0.9**
	comp=Z,64nm,0.8s,mb5.2,baz=253,slow=7.8,SNR=285						
ILAR				LR	LR	03 19 16.5	
	comp=Z,358nm,19.4s,MS3.9,baz=106,slow=38						
ILAR	**Eielson Array**	**25.16**	**48**	P	**P**	**03 08 42.5**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,64nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,358nm,19.4s						
MDJ	**Mudanjiang**	**25.17**	**261**	P	**P**	**03 08 44.3**	**+0.6**
MDJ				S	**S**	**03 13 07.4**	**+3.0**
MDJ				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,90nm,4.8s						
MDJ				LR	LR		
	comp=N,1μm,18.8s,MS4.6						
MDJ				LR	LR		
	comp=E,1μm,15.2s,MS4.6						
MDJ				LR	LR		
	comp=Z,1μm,15.8s,MS4.6						
MDJ	**Mudanjiang**	**25.17**	**261**	*e*P	**P**	**03 08 43.6**	**-0.2**
	comp=Z,98nm,1.5s,mb5.1						
THY	**Trims Highway**	**25.70**	**51**	*e*P	**P**	**03 08 47.5**	**-0.9**
DIV	**Divide**	**25.93**	**56**	*e*P	**P**	**03 08 49.7**	**-0.9**
	comp=Z,217nm,1.1s,mb5.6						
MAJO	**Matsushiro**	**26.29**	**237**	*e*P	**P**	**03 08 55.4**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,81nm,1.0s,mb5.2						
MAJO	**Matsushiro**	**26.29**	**237**	*e*P	**P**	**03 08 55.4**	**+1.2**
	comp=Z,81nm,1.0s,mb5.2						
MAT	**Matsushiro**	**26.29**	**237**	P	**P**	**03 08 55.9**	**+1.7**
MAT	**Matsushiro**	**26.29**	**237**	P	**P**	**03 08 56.0**	**+1.8**
MAT				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.4						
MAT	**Matsushiro**	**26.29**	**237**	P	**P**	**03 08 56.0**	**+1.8**
	comp=Z,8.9nm,0.7s,mb4.4						
MJAR	**Matsushiro Arr**	**26.29**	**237**	P	**P**	**03 08 55.2**	**+1.0**
	comp=Z,12nm,1.1s,mb4.3,baz=34,slow=8.8,SNR=9.0						
MJAR				LR	LR	03 18 57.7	
	comp=Z,248nm,19.4s,MS3.8,baz=45,slow=36						
MJAR	**Matsushiro Arr**	**26.29**	**237**	P	**P**	**03 08 55.2**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,12nm,1.1s						
MJAR				MLR	MLR		
	comp=Z,248nm,19.4s						
MENT	**Mentasta**	**26.66**	**52**	*e*P	**P**	**03 08 56.8**	**-0.5**
CN2	**Changchun**	**28.03**	**263**	*e*P	**P**	**03 09 09.7**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
BOD	**Bodaibo**	**28.12**	**297**	*e*P	**P**	**03 09 09.2**	**-1.4**
BOD				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.5						
DAWY	**Dawson**	**28.45**	**49**	*e*P	**P**	**03 09 12.3**	**-1.2**
SNY	**Shenyang**	**30.34**	**262**	⇓P	**P**	**03 09 31.6**	**+0.8**
SNY				S	**S**	**03 14 21.9**	**-6.3**
SNY				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
SNY				AMB	AMB		
	comp=Z,130nm,5.9s						
SNY				LR	LR		
	comp=E,1μm,15.2s						
SNY				LR	LR		
	comp=Z,2μm,15.3s,MS4.8						
INK	**Inuvik**	**30.36**	**40**	P	**P**	**03 09 30.6**	**0.0**
	comp=Z,41nm,0.9s,mb5.2,baz=287,slow=6.6,SNR=207						
INK	**Inuvik**	**30.36**	**40**	P	**P**	**03 09 30.6**	**0.0**
INK				pmax	pmax		
	comp=Z,41nm,0.9s						
INK	**Inuvik**	**30.36**	**40**	*e*P	**P**	**03 09 29.9**	**-0.7**
	comp=Z,32nm,0.8s,mb5.1						
CIT	**Chita**	**30.50**	**286**	*e*P	**P**	**03 09 32.9**	**+0.8**
CIT				pmax	pmax		
	comp=Z,82nm,2.2s,mb5.2						
DL2	**Dalian**	**33.40**	**260**	P	**P**	**03 10 03.5**	**+5.9**
DL2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
DL2				AMB	AMB		
	comp=Z,260nm,4.3s						
DL2				LR	LR		
	comp=N,710nm,16.4s,MS4.6						
DL2				LR	LR		
	comp=E,670nm,15.1s,MS4.6						
DL2				LR	LR		
	comp=Z,540nm,16.1s,MS4.4						
DLBC	**Dease Lake**	**34.30**	**57**	*e

comp=Z,160nm,20.3s,MS3.8
YKW3 Yellowknife Ar 39.51 46 *e*P **P 03 10 48.4 -0.6**
YKA Yellowknife Ar 39.54 46 P **P 03 10 49.1 -0.2**
comp=Z,19nm,0.7s,mb5.0,baz=297,slow=8.1,SNR=202
YKA ScP 03 16 43.6
comp=Z,1.5nm,0.8s,baz=300,slow=3.6,SNR=9.8
YKA Yellowknife Ar 39.54 46 P **P 03 10 49.1 -0.2**
YKA 03 16 43.6
YKA pmax pmax
comp=Z,19nm,0.7s
NJ2 Nanjing 39.91 255 *e*P **P 03 10 51.4 -1.3**
NJ2 AP pP 03 11 02.1 +1.3
NJ2 XP sP 03 11 05.2 +1.0
NJ2 PP PP 03 12 27.1 -1.1
NJ2 S **S 03 16 54.0 -1.7**
NJ2 XS 03 17 10.0
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
NJ2 AMB AMB
comp=Z,80nm,6.4s
NJ2 LR LR
comp=N,1μm,17.5s,MS5.0
NJ2 LR LR
comp=E,2μm,18.8s,MS5.0
NJ2 LR LR
comp=Z,400nm,13.5s
OTR Olympics--Tyee 42.44 69 P **P 03 11 14.9 +1.8**
PGC Sidney 42.58 68 *e*P **P 03 11 12.9 -1.3**
comp=Z,40nm,0.7s,mb5.2
OSD Olympics--Snow 42.94 69 P **P 03 11 18.7 +1.5**
WHN Wuhan 43.57 257 ⇑P **P 03 11 24.2 +1.7**
ZAL Zalesovo 44.47 304 LR LR 03 34 19.6
comp=Z,490nm,18.6s,MS4.5,baz=57,slow=42
NVS Novosibirsk 44.69 305 *e*P **P 03 11 31.3 +0.1**
NVS pmax pmax
comp=Z,67nm,1.5s,mb5.2
NVS pmax pmax
comp=N,44nm,1.7s
NVS pmax pmax
comp=E,52nm,1.4s
TBM Table Mountain 45.00 68 P **P 03 11 34.5 +0.6**
EDM Edmonton 45.02 57 *e*P **P 03 11 34.0 +0.1**
EBG Ellensburg 45.18 68 P **P 03 11 36.2 +0.9**
GTA Gaotai 45.58 278 *e*P **P 03 11 40.1 +1.6**
GTA AP pP 03 11 47.7 +1.0
GTA XP sP 03 11 51.9 +1.8
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,160nm,9.9s
GTA LR LR
comp=N,1μm,15.6s,MS5.0
GTA LR LR
comp=E,730nm,16.3s,MS5.0
GTA LR LR
comp=Z,600nm,18.6s,MS4.6
BROR Big Rock Looko 45.84 72 P **P 03 11 41.4 +0.9**
WRD Warden 46.01 67 P **P 03 11 41.2 -0.7**
HAWA Hanford 46.06 68 *e*P **P 03 11 41.8 -0.5**
comp=Z,3.6nm,1.5s,mb4.1
CROR Criterion Ridg 46.18 71 P **P 03 11 43.6 +0.4**
ENH Enshi 46.53 262 *e*P **P 03 11 46.8 +0.6**
comp=Z,21nm,0.7s,mb5.2
BBOR Butler Butte 46.61 74 P **P 03 11 48.0 +1.3**
HUMO Hull Mountain 46.64 74 *e*P **P 03 11 47.1 +0.2**
comp=Z,9.0nm,1.0s,mb4.7
KTRM Thompson Ridge 46.87 75 P **P 03 11 50.1 +1.4**
BUOR Burton Butte 47.26 74 P **P 03 11 52.8 +1.0**
YBH Yreka Blue Hor 47.36 75 *e*P **P 03 11 53.1 +0.5**
YBH pmax pmax
comp=Z,19nm,1.2s
YBH Yreka Blue Hor 47.36 75 *e*P **P 03 11 53.1 +0.5**
comp=Z,19nm,1.2s,mb4.9
BSMT Bassoo Peak 47.63 64 P **P 03 11 55.0 +0.4**
LHEM Herd Peak 47.70 75 P **P 03 11 56.5 +1.2**
WDC Whiskeytown Da 48.23 76 *e*P **P 03 11 59.3 -0.1**
WDC pmax pmax
comp=Z,17nm,1.1s,mb5.0
WDC Whiskeytown Da 48.23 76 *e*P **P 03 11 59.3 -0.1**
comp=Z,17nm,1.1s,mb5.0
BMO Blue Mountains 48.25 68 *e*P **P 03 11 59.0 -0.5**
comp=Z,20nm,1.1s,mb5.0
DAG Danmarks Havn 48.48 1⇑*i*P **P 03 12 00.0 -0.9**
comp=Z,4.8nm,0.7s,mb4.6
DAG Danmarks Havn 48.48 1⇑*i*P **P 03 12 00.0 -0.9**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MOD Modoc 48.58 73 *e*P **P 03 12 02.3 +0.3**
comp=Z,27nm,0.7s,mb5.4
MSO Missoula 48.73 64 *e*P **P 03 12 02.3 -0.9**
comp=Z,27nm,1.3s,mb5.1
CHMT Chamberlain Mo 49.03 64 *e*P **P 03 12 04.9 -0.5**
WVOR Wild Horse Val 49.14 72 *e*P **P 03 12 06.0 -0.4**
WVOR pmax pmax
comp=Z,13nm,0.9s,mb5.0
WVOR Wild Horse Val 49.14 72 *e*P **P 03 12 06.0 -0.4**
comp=Z,13nm,0.9s,mb5.0
CD2 Chengdu 49.34 267 P **P 03 12 09.7 +1.6**
CD2 PP PP 03 14 04.0 +1.5
CD2 PPP PPP 03 14 58.5 +1.5
CD2 S **S 03 19 12.7 +1.0**
CD2 SS SS 03 22 39.7 +0.3
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CD2 LR LR
comp=N,420nm,16.7s
CD2 LR LR
comp=Z,360nm,15.6s,MS4.5
WMQ Urumqi 49.36 291 P **P 03 12 09.3 +1.3**
WMQ AP pP 03 12 19.3 +3.0
WMQ XP sP 03 12 23.3 +3.7
WMQ SCS ScS 03 21 55.0 0.0
WMQ AMB AMB
comp=Z,30nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,220nm,5.6s
WMQ LR LR
comp=N,2μm,21.4s,MS5.2
WMQ LR LR
comp=E,2μm,22.0s,MS5.2
WMQ LR LR
comp=Z,580nm,22.0s,MS4.5
KURK Kurchatov 49.44 303*c i*P **P 03 12 08.3 -0.3**
HRY Holter Researc 49.90 63 *e*P **P 03 12 12.0 -0.1**
FCC Fort Churchill 49.94 42 *e*P **P 03 12 11.9 -0.4**
FCC pmax pmax
comp=Z,108nm,0.9s,mb5.9
FCC Fort Churchill 49.94 42 *e*P **P 03 12 11.9 -0.4**
comp=Z,108nm,0.9s,mb5.9
MKAR Makanchi Array 50.21 297 P **P 03 12 13.9 -0.6**
comp=Z,5.9nm,0.7s,mb4.7,baz=56,slow=5.7,SNR=51
MKAR LR LR 03 33 57.5
comp=Z,338nm,19.9s,MS4.3,baz=41,slow=37
MKAR Makanchi Array 50.21 297 P **P 03 12 13.9 -0.6**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR MLR MLR
comp=Z,338nm,19.9s
DLMT Dillon 50.40 65 *e*P **P 03 12 15.1 -0.9**
comp=Z,31nm,1.3s,mb5.2
MCMT McKenzie Canyo 50.63 66 *e*P **P 03 12 17.3 -0.4**
HLID Hailey 50.66 68 *e*P **P 03 12 17.6 -0.4**
comp=Z,12nm,0.9s,mb4.8
HLID LR LR
comp=Z,511nm,19.0s,MS4.6
BOZ Bozeman (W) 50.71 64 *e*P **P 03 12 18.4 0.0**
BOZ pmax pmax
comp=Z,22nm,0.9s,mb5.1
BOZ Bozeman (W) 50.71 64 *e*P **P 03 12 18.4 0.0**
comp=Z,22nm,0.9s,mb5.1
GYA Guiyang 51.04 261 P **P 03 12 21.7 +0.6**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CMB Columbia Colle 51.20 77 *e*P **P 03 12 21.8 -0.3**
CMB pmax pmax
comp=Z,18nm,1.1s,mb4.9
CMB Columbia Colle 51.20 77 *e*P **P 03 12 21.8 -0.3**
comp=Z,18nm,1.1s,mb4.9
QLMT Earthquake Lak 51.37 65 *e*P **P 03 12 23.4 +0.1**
SAO San Andreas Ge 51.49 79 *e*P **P 03 12 23.7 -0.7**
SAO pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SAO San Andreas Ge 51.49 79 *e*P **P 03 12 23.7 -0.7**
comp=Z,5.6nm,0.6s,mb4.7
BVAR Borovoye Array 51.70 310 P **P 03 12 25.5 -0.3**
comp=Z,11nm,0.9s,mb4.8,baz=56,slow=5.3,SNR=47
BVAR Borovoye Array 51.70 310 P **P 03 12 25.5 -0.3**
BVAR pmax pmax
comp=Z,11nm,0.9s
YMR Madison River 51.72 65 *e*P **P 03 12 26.2 +0.2**
comp=Z,36nm,0.8s,mb5.4
YFT Old Faithful 51.94 65 *e*P **P 03 12 28.3 +0.6**
LRV Little Rabbit 51.98 79 *e*P **P 03 12 28.5 +0.4**
KEV Kevo 52.00 343 *e*p **P 03 12 26.0 -1.8**
NVAR Mina Array Bea 52.08 75 P **P 03 12 29.6 +0.7**
comp=Z,13nm,0.5s,mb5.1,baz=304,slow=6.9,SNR=138
NVAR LR LR 03 33 11.2
comp=Z,152nm,19.8s,MS4.0,baz=350,slow=34
ELK Elko 52.15 71 *e*P **P 03 12 29.5 +0.2**
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 52.15 71 *e*P **P 03 12 29.5 +0.1**
comp=Z,6.8nm,0.9s,mb4.6
MNV Mina 52.16 75 *e*P **P 03 12 29.4 -0.1**
MNV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
MNV Mina 52.16 75 *e*P **P 03 12 29.4 -0.1**
comp=Z,6.8nm,0.6s,mb4.8
ARCES ARCESS Array B 52.44 343 P **P 03 12 30.0 -1.1**
comp=Z,3.7nm,0.5s,mb4.5,baz=27,slow=10,SNR=20
ARCES ARCESS Array B 52.44 343 P **P 03 12 30.0 -1.1**
ARCES pmax pmax
comp=Z,4.0nm,0.5s
ARE0 ARCESS Array S 52.44 343 *e*P **P 03 12 31.2 +0.1**
RRI2 Red Ridge 52.44 66 *e*P **P 03 12 31.4 -0.1**
comp=Z,19nm,0.8s,mb4.9
MOOW Moose Ponds 52.47 65 *e*P **P 03 12 31.6 -0.1**
comp=Z,26nm,1.2s,mb5.0
SOKR Solikamsk 52.49 323 *e*P **P 03 12 31.3 -0.3**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOKR MLR MLR
comp=Z,480nm,18.0s,MS4.6
DGMT Dagmar 52.52 57 *e*P **P 03 12 31.1 -0.9**
comp=Z,47nm,1.1s,mb5.3
LOHW Long Hollow 52.64 65 *e*P **P 03 12 32.8 -0.1**
comp=Z,24nm,0.9s,mb5.1
SNOW Snow King Moun 52.66 66 *e*P **P 03 12 33.3 +0.2**
comp=Z,25nm,1.1s,mb5.1
REDW Red Top Meadow 52.68 66 *e*P **P 03 12 33.0 -0.2**
comp=Z,30nm,1.3s,mb5.1
LAO LASA Array 52.75 60 *e*P **P 03 12 33.7 -0.1**
comp=Z,81nm,1.0s,mb5.6
HVU Hansel Valley 52.76 68 *e*P **P 03 12 33.8 -0.1**
HVU pmax pmax
comp=Z,26nm,1.1s,mb5.1
HVU Hansel Valley 52.76 68 *e*P **P 03 12 33.8 -0.1**
comp=Z,26nm,1.1s,mb5.1
TPH Tonopah 52.94 75 *e*P **P 03 12 35.1 -0.1**
TPH pmax pmax
comp=Z,19nm,0.5s,mb5.3
TPH Tonopah 52.94 75 *e*P **P 03 12 35.1 -0.2**
comp=Z,19nm,0.5s,mb5.3
SVE Sverdlovsk 53.06 318 *e*P **P 03 12 35.7 -0.2**
SVE MLR MLR
comp=N,500nm,14.0s,MS4.8
SVE MLR MLR
comp=E,300nm,14.0s,MS4.8
SVE MLR MLR
comp=Z,800nm,14.0s,MS4.9
BGU Big Grassy Mou 53.22 69 *e*P **P 03 12 36.9 -0.4**
SPUT South Promonto 53.27 69 *e*P **P 03 12 37.5 -0.1**
HWUT Hardware Ranch 53.53 68 *e*P **P 03 12 39.7 +0.1**
comp=Z,30nm,1.2s,mb5.1
PDAR Pinedale Array 53.77 65 P **P 03 12 41.4 0.0**
comp=Z,24nm,0.9s,mb5.1,baz=320,slow=3.1,SNR=138
DUG Dugway 53.85 70 *e*P **P 03 12 42.0 +0.1**
DUG pmax pmax
comp=Z,20nm,1.0s,mb5.0
DUG Dugway 53.85 70 *e*P **P 03 12 42.0 0.0**
comp=Z,20nm,1.0s,mb5.0
NOQ North Oquirrh 53.90 69 *e*P **P 03 12 41.8 -0.5**
comp=Z,16nm,0.8s,mb5.0
TCUT Toone Canyon 53.96 68 *e*P **P 03 12 43.0 +0.4**
ISA Isabella 53.96 78 *e*P **P 03 12 41.9 -0.8**
ISA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ISA Isabella 53.96 78 *e*P **P 03 12 41.9 -0.9**
comp=Z,9.6nm,0.8s,mb4.8
DAC Darwin (Calif) 54.01 76 *e*P **P 03 12 42.9 -0.2**
DAC pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
DAC Darwin (Calif) 54.01 76 *e*P **P 03 12 42.9 -0.3**
comp=Z,8.0nm,0.9s,mb4.7
ARU Arti 54.14 319⇑*i*P **P 03 12 44.1 +0.3**
ARU *e* 03 13 44.8
ARU eS **S 03 20 20.6 +3.4**
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.8
ARU MLR MLR
comp=Z,400nm,19.0s,MS4.5
ARU MLR MLR
comp=N,200nm,16.0s,MS4.4
ARU MLR MLR
comp=E,200nm,16.0s,MS4.4
TPNV Topopah Spring 54.28 75 *e*P **P 03 12 44.9 -0.2**
TPNV pmax pmax
comp=Z,41nm,0.9s,mb5.4
TPNV Topopah Spring 54.28 75 *e*P **P 03 12 44.9 -0.2**
comp=Z,41nm,0.9s,mb5.4
KMI Kunming 54.31 263⇓P **P 03 12 48.1 +2.7**
KMI AP pP 03 12 56.9 +3.1
KMI XP sP 03 13 00.4 +3.4
KMI PP PP 03 14 52.8 +3.9
KMI PPP PPP 03 16 04.9 +5.3
KMI S **S 03 20 25.7 +5.9**
KMI PS PS 03 20 40.1 +6.0
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI LR LR
comp=N,310nm,15.2s,MS4.8
KMI LR LR
comp=E,560nm,14.0s,MS4.8
KMI LR LR
comp=Z,460nm,16.1s,MS4.6
KMI Kunming 54.31 263⇓P **P 03 12 48.1 +2.7**
comp=Z,16nm,0.9s,mb5.0
KMI pP pP 03 12 56.9 +3.1
KMI sP sP 03 13 00.4 +3.4
KMI PP PP 03 14 52.8 +3.9
KMI PPP PPP 03 16 04.9 +5.3
KMI S **S 03 20 25.7 +5.9**
KMI PS PS 03 20 40.1 +6.0
KMI sS 03 20 40.4
KMI SS SS 03 24 09.4 +7.8
KMI SSS SSS 03 26 09.2 +11
KMI LR LR
comp=Z,460nm,16.1s,MS4.6
NLU North Lily Min 54.42 69 *e*P **P 03 12 45.9 -0.2**
DAU Daniels Canyon 54.54 69 *e*P **P 03 12 47.5 +0.5**
MPU Maple Canyon 54.62 69 *e*P **P 03 12 47.5 0.0**
comp=Z,35nm,0.9s,mb5.4
ULM Lac du Bonnet 55.13 51 P **P 03 12 50.8 -0.4**
comp=Z,29nm,0.8s,mb5.4,baz=313,slow=7.5,SNR=49
ULM LR LR 03 37 17.1
comp=Z,341nm,18.8s,MS4.5,baz=321,slow=37
ARUT Antelope Range 55.23 72 *e*P **P 03 12 52.0 -0.1**
MWC Mount Wilson 55.24 79 *e*P **P 03 12 51.8 -0.4**
TMUT Trail Mountain 55.36 69 *e*P **P 03 12 53.3 +0.3**
MVU Marysvale 55.39 71 *e*P **P 03 12 54.5 +1.3**
comp=Z,18nm,1.1s,mb5.0
MSU Marysvale 55.40 71 *e*P **P 03 12 53.9 +0.6**
RSSD Black Hills 55.65 61 *e*P **P 03 12 54.3 -0.7**
RSSD pmax pmax
comp=Z,31nm,0.8s,mb5.4
RSSD Black Hills 55.65 61 *e*P **P 03 12 54.3 -0.8**
comp=Z,31nm,0.8s,mb5.4
SRU San Rafael 55.86 69 *e*P **P 03 12 56.9 +0.3**
SRU pmax pmax
comp=Z,86nm,0.7s,mb5.9
SRU San Rafael 55.86 69 *e*P **P 03 12 56.9 +0.3**
comp=Z,86nm,0.7s,mb5.9
NEN Nelson 56.00 75 *e*P **P 03 12 57.5 -0.1**
LDFC Landfair 56.27 76 *e*P **P 03 12 59.1 -0.5**
KLMR Klimovskoe 56.87 332 *e*P **P 03 13 03.7 +0.1**
KLMR pmax pmax
comp=Z,20nm,1.6s,mb4.9
KLMR MLR MLR
comp=Z,810nm,19.0s,MS4.8
FRU Bishkek 56.88 299 *e*P **P 03 13 04.0 +0.1**
FRU *e* 03 13 18.0
PHWY Pilot Hill 56.96 64 *e*P **P 03 13 03.8 -0.6**
AAK Ala-Archa 57.09 298*c i*P **P 03 13 05.3 0.0**
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
AAK MLR MLR
comp=Z,500nm,17.0s,MS4.7
JOF Joensuu 57.15 337 *e*p **P 03 13 04.1 -1.4**
BAR Barrett 57.16 79 *e*P **P 03 13 05.0 -1.0**
PV10 Paradox Valley 57.19 69 *e*P **P 03 13 06.5 +0.3**
LSA Lhasa 57.50 276 *e*P **P 03 13 10.4 +2.0**
LSA pmax pmax
comp=Z,20nm,0.8s,mb5.2
LSA Lhasa 57.50 276 *e*P **P 03 13 10.4 +2.0**
comp=Z,20nm,0.8s,mb5.2
PV01 Paradox Valley 57.62 69 *e*P **P 03 13 08.9 -0.2**
ISCO Idaho Springs 57.97 65 *e*P **P 03 13 12.1 +0.5**
ISCO pmax pmax
comp=Z,49nm,1.3s,mb5.4
ISCO MLR MLR
comp=Z,317nm,21.0s,MS4.4
ISCO Idaho Springs 57.97 65 *e*P **P 03 13 12.1 +0.5**
comp=Z,49nm,1.3s,mb5.4
ISCO LR LR
comp=Z,317nm,21.0s,MS4.4
WUAZ Wupatki 58.02 73 *e*P **P 03 13 11.9 0.0**
comp=Z,6.4nm,0.4s,mb5.0
EYMN Ely 58.78 50 *e*P **P 03 13 16.2 -0.9**
comp=Z,28nm,0.8s,mb5.3
AKTK Aktyubinsk 58.87 315 P **P 03 13 16.4 -1.3**
AKTO Aktyubinsk 58.87 315 P **P 03 13 16.4 -1.3**
comp=Z,6.5nm,1.0s,mb4.6,baz=38,slow=7.2,SNR=13
AKTO Aktyubinsk 58.87 315 P **P 03 13 16.4 -1.3**
AKTO pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KAF Kangasniemi 58.94 339 *e*p **P 03 13 16.4 -1.6**
comp=Z,8.3nm,0.6s,mb4.9,baz=23,slow=6.4
KAF Kangasniemi 58.94 339 *e*P **P 03 13 16.4 -1.6**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
SDCO Great Sand Dun 59.55 67 *e*P **P 03 13 22.4 -0.2**
comp=Z,42nm,1.6s,mb5.2
SDCO LR LR
comp=Z,724nm,20.0s,MS4.8
FINES FINESS Array B 59.60 339 P **P 03 13 21.4 -1.2**
comp=Z,3.2nm,0.6s,mb4.5,baz=22,slow=9.0,SNR=21
FINES LR LR 03 40 28.7
comp=Z,193nm,21.8s,MS4.2,baz=158,slow=38
FINES FINESS Array B 59.60 339 P **P 03 13 21.4 -1.2**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES MLR MLR
comp=Z,193nm,21.8s
FINES FINESS Array B 59.60 339 P **P 03 13 21.4 -1.2**
FINES LR LR 03 40 28.7
TUC Tucson 60.73 75 *e*P **P 03 13 30.5 -0.2**
TUC pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
TUC Tucson 60.73 75 *e*P **P 03 13 30.4 -0.3**
comp=Z,7.3nm,1.0s,mb4.8
ANMO Albuquerque 61.12 70 P **P 03 13 33.8 +0.5**
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO Albuquerque 61.12 70 *e*P **P 03 13 33.4 +0.1**
comp=Z,12nm,1.0s,mb5.0
ANMO LR LR
comp=Z,336nm,21.0s,MS4.5
LAZ Ladron 61.16 71 *e*P **P 03 13 33.7 +0.1**
LENM Lemitar 61.43 71 *e*P **P 03 13 35.3 -0.2**
LPM Los Pinos Moun 61.51 70 *e*P **P 03 13 36.1 +0.1**
BNM Barren Site 61.63 70 *e*P **P 03 13 37.0 +0.2**
GUN Gumba 61.86 279 *e*P **P 03 13 38.5 +0.1**
comp=Z,25nm,0.5s,mb5.6
JIRN Jiri 61.87 279 *e*P **P 03 13 38.1 -0.4**
comp=Z,21nm,0.8s,mb5.3
VSU Vasula 62.15 337⇓*e*P **P 03 13 42.7 +2.7**
KKN Kakani 62.29 279 *e*P **P 03 13 41.8 +0.5**
comp=Z,51nm,0.8s,mb5.7
KKN Kakani 62.29 279 *e*P **P 03 13 41.8 +0.5**
KKN pmax pmax
comp=Z,26nm,0.8s,mb5.4
PKI Pulchoki 62.39 279 *e*P **P 03 13 42.0 0.0**
comp=Z,48nm,0.9s,mb5.6
PKI Pulchoki 62.39 279 *e*P **P 03 13 42.0 0.0**
PKI pmax pmax
comp=Z,24nm,0.9s,mb5.3
SCHQ Schefferville 62.41 31 P **P 03 13 40.4 -1.3**
comp=Z,12nm,0.6s,mb5.2,baz=33,slow=16,SNR=14
SCHQ LR LR 03 40 47.1
comp=Z,285nm,21.0s,MS4.4,baz=293,slow=36
GKN Gorkha 62.49 280 *e*P **P 03 13 42.1 -0.6**
comp=Z,45nm,1.0s,mb5.6
DMN Daman 62.53 279 *e*P **P 03 13 43.4 +0.5**
NB2 NORSAR Subarra 62.55 346 P **P 03 13 41.4 -1.2**
comp=Z,7.4nm,0.6s,mb5.0,baz=17,slow=7.0
NB2 NORSAR Subarra 62.55 346 P **P 03 13 41.4 -1.2**
NB2 pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
NOA NORSAR Array B 62.55 346 P **P 03 13 41.6 -0.9**
comp=Z,5.6nm,0.5s,mb4.9,baz=17,slow=6.8,SNR=23
NOA LR LR 03 41 53.5
comp=Z,176nm,18.1s,MS4.3,baz=295,slow=37
NOA NORSAR Array B 62.55 346 P **P 03 13 41.7 -0.9**
NOA pmax pmax
comp=Z,6.0nm,0.5s
NOA MLR MLR
comp=Z,176nm,18.1s
OBN Obninsk 62.59 330⇑*e*P **P 03 13 43.3 +0.4**
OBN *e* 03 16 04.4
OBN pmax pmax
comp=Z,12nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,200nm,13.0s,MS4.5
NAO01 NORSAR Array S 62.78 346 P **P 03 13 43.3 -0.8**
HFS Hagfors 63.06 345 P **P 03 13 44.4 -1.5**
comp=Z,4.6nm,0.5s,mb4.9,baz=45,slow=4.2,SNR=29
HFS Hagfors 63.06 345 P **P 03 13 44.4 -1.5**
HFS pmax pmax
comp=Z,5.0nm,0.5s
KSU1 Kansas State U 63.10 60 *e*P **P 03 13 44.4 -2.1**
KOLN Koldanda 63.26 281 *e*P **P 03 13 47.5 -0.2**
CPRX Cap Rock 63.98 69 *e*P **P 03 13 52.0 -0.2**
MNTX Cornudas Mount 64.17 71 *e*P **P 03 13 53.5 -0.1**
comp=Z,18nm,0.9s,mb5.1
GDL2 Guadalupe Moun 64.34 70 *e*P **P 03 13 54.5 -0.2**
CLNB Carlsbad 64.56 70 *e*P **P 03 13 55.7 -0.4**
WMOK Wichita Mounta 65.36 64 *e*P **P 03 14 00.1 -1.1**
WMOK pmax pmax
comp=Z,13nm,0.7s,mb5.1
WMOK Wichita Mounta 65.36 64 *e*P **P 03 14 00.1 -1.1**
comp=Z,13nm,0.7s,mb5.1
LTX Lajitas 66.94 72 *e*P **P 03 14 10.8 -0.6**
LTX pmax pmax
comp=Z,20nm,0.9s,mb5.2
LTX Lajitas 66.94 72 *e*P **P 03 14 10.8 -0.5**
comp=Z,20nm,0.9s,mb5.1
TXAR Lajitas Array 66.94 72 P **P 03 14 11.4 +0.1**
comp=Z,17nm,0.7s,mb5.2,baz=299,slow=4.4,SNR=198
TXAR Lajitas Array 66.94 72 P **P 03 14 11.5 +0.1**
TXAR pmax pmax
comp=Z,17nm,0.7s
FVM French Village 67.00 56 *e*P **P 03 14 10.2 -1.4**
FVM pmax pmax
comp=Z,34nm,0.6s,mb5.5
FVM French Village 67.00 56 *e*P **P 03 14 10.2 -1.5**
comp=Z,34nm,0.6s,mb5.5
JCT Junction City 68.13 68 *e*P **P 03 14 18.1 -0.8**
JCT pmax pmax
comp=Z,26nm,1.1s,mb5.2
JCT Junction City 68.13 68 *e*P **P 03 14 18.1 -0.8**
comp=Z,26nm,1.1s,mb5.2
AKASG Malin Array Be 68.56 332 P **P 03 14 20.1 -1.0**
comp=Z,1.0nm,0.4s,mb4.1,baz=26,slow=6.1,SNR=10
AKASG Malin Array Be 68.56 332 P **P 03 14 20.2 -1.0**
AKASG pmax pmax
comp=Z,10.0nm,0.4s
PVMO Portageville 68.60 57 P **P 03 14 20.4 -1.3**
WCI Wyandotte Cave 68.75 53 *e*P **P 03 14 21.1 -1.5**
WCI pmax pmax
comp=Z,20nm,0.7s,mb5.2
WCI Wyandotte Cave 68.75 53 *e*P **P 03 14 21.1 -1.5**
comp=Z,20nm,0.7s,mb5.2
WVT Waverly 69.72 56 P **P 03 14 28.0 -0.6**
WVT pmax pmax
comp=Z,17nm,0.6s,mb5.2
WVT Waverly 69.72 56 *e*P **P 03 14 27.7 -0.8**
comp=Z,17nm,0.6s,mb5.2

KIV	**Kislovodsk**	**70.17**	**320**⇓	*eP*		**P**	03 14 22.9	-8.3
KIV				*i*			03 14 47.7	
KIV					pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5							
KIV					MLR	MLR		
	comp=Z,400nm,20.0s,MS4.7							
OXF	**Oxford**	**70.26**	**58**	*eP*		**P**	**03 14 31.0**	**-0.9**
OXF					pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2							
OXF	**Oxford**	**70.26**	**58**	*eP*		**P**	**03 14 31.0**	**-0.9**
	comp=Z,35nm,1.0s,mb5.2							
BHPL	**Bhopal**	**70.27**	**282**	*eP*		**P**	**03 14 32.5**	**+0.4**
BHPL				*ex*		x	03 14 32.5	
	baz=351,slow=16							
BHPL					AMb	AMB	03 14 40.4	
	comp=Z,31nm,1.0s,mb5.2							
KWP	**Kalwaria**	**71.21**	**336**	*eP*		**P**	**03 14 38.0**	**+0.6**
KWP					pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1							
KWP	**Kalwaria**	**71.21**	**336**	*eP*		**P**	**03 14 38.0**	**+0.6**
	comp=Z,29nm,1.1s,mb5.1							
ANN	**Anapa**	**71.31**	**324**	*eP*		**P**	**03 14 32.3**	**-5.8**
SWET	**Sewanee**	**71.36**	**55**	*eP*		**P**	**03 14 36.2**	**-2.3**
KSP	**Ksiaz**	**71.47**	**340**	*eP*		**P**	**03 14 40.0**	**+1.1**
SOC	**Sochi**	**71.58**	**322**	*eP*		**P**	**03 14 38.0**	**-1.7**
SOC				*e*			03 14 56.4	
SOC				*eS*		S	03 23 50.4	-5.3
SOC				*e*			03 24 42.1	
SOC					pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1							
SOC					MLR	MLR		
	comp=Z,226nm,12.0s,MS4.7							
CLL	**Collm**	**71.64**	**342**	⇓*P*		**P**	**03 14 41.4**	**+1.5**
	comp=Z,logA/T=1.0,mb4.7							
CLL				*i*	*SP	sP	03 14 51.4	0.0
CLL	**Collm**	**71.64**	**342**	⇓*iP*		**P**	**03 14 41.4**	**+1.5**
CLL				*i*		pP	03 14 51.4	+3.0
CLL					pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7							
CLL	**Collm**	**71.64**	**342**	⇓*iP*		**P**	**03 14 41.4**	**+1.5**
	comp=Z,11nm,1.2s,mb4.7							
CLL				*i*		pP	03 14 51.4	+3.0
STHS	**Stebnicka Huta**	**71.76**	**336**	*eP*		**P**	**03 14 43.1**	**+2.5**
CPCT	**Cooper Cave**	**71.83**	**54**	*eP*		**P**	**03 14 40.0**	**-1.4**
UPC	**Upice**	**71.84**	**340**	*eP*		**P**	**03 14 43.1**	**+2.0**
BRG	**Berggiesshubel**	**71.89**	**342**	*eP*		**P**	**03 14 41.6**	**+0.2**
BRG				*e*			03 14 54.8	
BRG					pmax	pmax		
	comp=Z,17nm,1.8s,mb4.7							
BRG	**Berggiesshubel**	**71.89**	**342**	*eP*		**P**	**03 14 41.6**	**+0.2**
	comp=Z,17nm,1.8s,mb4.7							
BRG				*e*			03 14 54.8	
DPC	**Dobruska-Polom**	**71.93**	**340**	*eP*		**P**	**03 14 43.2**	**+1.5**
KOLS	**Kolonicke sedl**	**71.97**	**336**	*eP*		**P**	**03 14 44.0**	**+2.1**
OKC	**Ostrava-Krasne**	**72.05**	**339**	*eP*		**P**	**03 14 44.1**	**+1.8**
PVCC	**Panska Ves**	**72.10**	**341**	*eP*		**P**	**03 14 44.4**	**+1.7**
CRVS	**Cervenica-Dubn**	**72.19**	**336**	*eP*		**P**	**03 14 47.1**	**+3.9**
MORC	**Moravsky Berou**	**72.23**	**339**	*eP*		**P**	**03 14 44.5**	**+1.1**
MORC					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
MORC	**Moravsky Berou**	**72.23**	**339**	*eP*		**P**	**03 14 44.5**	**+1.0**
	comp=Z,6.1nm,0.8s,mb4.6							
MYNC	**Murphy**	**72.33**	**54**	*eP*		**P**	**03 14 43.3**	**-1.0**
MYNC					pmax	pmax		
	comp=Z,41nm,1.1s,mb5.3							
MYNC	**Murphy**	**72.33**	**54**	*eP*		**P**	**03 14 43.2**	**-1.0**
	comp=Z,41nm,1.1s,mb5.3							
BURAR	**Bucovina Array**	**72.45**	**333**	⇑*P*		**P**	**03 14 46.8**	**+2.0**
BURAR	**Bucovina Array**	**72.45**	**333**	⇑*P*		**P**	**03 14 46.8**	**+2.0**
PRU	**Pruhonice**	**72.62**	**341**	*eP*		**P**	**03 14 47.1**	**+1.5**
GNI	**Garni**	**72.64**	**316**	P		**P**	**03 14 47.2**	**+1.2**
	comp=Z,1.0nm,0.3s,mb4.2,baz=225,slow=2.9,SNR=4.0							
GNI	**Garni**	**72.64**	**316**	P		**P**	**03 14 48.8**	**+2.8**
GNI					pmax	pmax		
	comp=Z,20nm,1.1s							
GNI	**Garni**	**72.64**	**316**	*eP*		**P**	**03 14 46.2**	**+0.3**
	comp=Z,20nm,1.1s,mb5.0							
NKC	**Novy Kostel**	**72.77**	**342**	*ep*		pP	03 14 53.5	-1.5
KECS	**Kecovo**	**72.81**	**337**	*e*		**P**	**03 14 43.3**	**-3.4**
VRAC	**Vranov**	**72.87**	**339**	P		**P**	**03 14 47.4**	**+0.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=11,slow=6.3,SNR=4.4							
VRAC	**Vranov**	**72.87**	**339**	P		**P**	**03 14 47.4**	**+0.3**
VRAC					pmax	pmax		
	comp=Z,3.0nm,0.8s							
TREC	**Trest**	**73.10**	**340**	*eP*		**P**	**03 14 45.9**	**-2.6**
VYHS	**Vyhne**	**73.17**	**338**	*eP*		**P**	**03 14 51.1**	**+2.2**
GRA1	**Grafenberg Arr**	**73.50**	**343**	*eP*		**P**	**03 14 50.5**	**-0.3**
	comp=Z,13nm,1.5s,mb4.6							
GRF	**Grafenberg Arr**	**73.50**	**343**	*eP*		**P**	**03 14 50.5**	**-0.3**
GRF					pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6							
GRF	**Grafenberg Arr**	**73.50**	**343**	*eP*		**P**	**03 14 50.5**	**-0.3**
GRF					pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6							
GRF	**Grafenberg Arr**	**73.50**	**343**	*eP*		**P**	**03 14 50.5**	**-0.3**
	comp=Z,13nm,1.5s,mb4.6							
KHC	**Kasperske Hory**	**73.62**	**341**	*eP*		**P**	**03 14 50.8**	**-0.7**
ZST	**Bratislava**	**73.82**	**339**	*eP*		**P**	**03 14 55.3**	**+2.6**
DRGR		**73.86**	**334**	⇑*P*		**P**	**03 14 52.4**	**-0.5**
GERES	**GERESS Array B**	**73.88**	**341**	P		**P**	**03 14 53.5**	**+0.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=32,slow=5.8,SNR=19							
GERES					LR	LR	03 52 13.9	
	comp=Z,196nm,20.2s,MS4.4,baz=255,slow=40							
GERES	**GERESS Array B**	**73.88**	**341**	P		**P**	**03 14 53.5**	**+0.6**
GERES					pmax	pmax		
	comp=Z,10.0nm,0.4s							
GERES					MLR	MLR		
	comp=Z,196nm,20.3s							
BAIF	**Baives**	**74.17**	**348**	*eP*		**P**	**03 14 54.8**	**+0.2**
MLR	**Muntele Rosu**	**74.22**	**332**	⇓*P*		**P**	**03 14 55.3**	**+0.3**
MLR	**Muntele Rosu**	**74.22**	**332**	⇑*P*		**P**	**03 14 55.3**	**+0.3**
HYB	**Hyderabad**	**74.24**	**278**	*iP*		**P**	**03 15 03.0**	**+7.3**
HYB	**Hyderabad**	**74.24**	**278**	*eP*		**P**	**03 15 03.0**	**+7.3**
VOIR		**74.51**	**332**	⇑*P*		**P**	**03 14 56.2**	**-0.6**
CDF	**Champ du Feu**	**75.37**	**345**	*eP*		**P**	**03 15 02.4**	**+0.8**
FLN	**La Foliniere**	**75.96**	**351**	*eP*		**P**	**03 15 04.7**	**-0.2**
	comp=Z,18nm,0.8s,mb4.7							
FLN					*eR*			
	comp=Z,291nm,18.0s							
FLN	**La Foliniere**	**75.96**	**351**	*eP*		**P**	**03 15 04.7**	**-0.2**
FLN					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
FLN					MLR	MLR		
	comp=Z,290nm,18.0s,MS4.6							
HINF	**Hinteralfeld**	**76.01**	**345**	*eP*		**P**	**03 15 05.9**	**+0.7**
LDF	**La Druitiere**	**76.09**	**350**	*eP*		**P**	**03 15 05.5**	**-0.2**
GRR	**Gorron**	**76.36**	**351**	*eP*		**P**	**03 15 07.3**	**+0.1**
	comp=Z,14nm,0.7s,mb4.7							
GRR	**Gorron**	**76.36**	**351**	*eP*		**P**	**03 15 07.3**	**+0.1**
GRR					pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8							
DAVOX	**Davos**	**76.55**	**343**	P		**P**	**03 15 09.9**	**+1.7**
	comp=Z,3.0nm,0.7s,mb4.4,baz=24,slow=12							
CTAO	**Charters Tower**	**76.58**	**199**	*eP*		**P**	**03 15 08.4**	**-0.6**
CTAO				*e*			03 15 24.0	
CTAO					pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6							
CTAO	**Charters Tower**	**76.58**	**199**	*eP*		**P**	**03 15 08.4**	**-0.6**
	comp=Z,8.6nm,1.1s,mb4.6							
CTAO				*e*			03 15 23.9	
ROSF	**Rostrenen**	**76.62**	**352**	*eP*		**P**	**03 15 08.8**	**+0.1**
SGMF	**Saint Gilles**	**76.65**	**352**	*eP*		**P**	**03 15 08.9**	**+0.1**
LOR	**Lormes**	**76.95**	**347**	*eP*		**P**	**03 15 10.7**	**+0.2**
	comp=Z,8.8nm,0.8s,mb4.4							
LOR	**Lormes**	**76.95**	**347**	*eP*		**P**	**03 15 10.7**	**+0.2**
LOR					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
QUIF	**Quistinic**	**77.03**	**352**	*eP*		**P**	**03 15 11.4**	**+0.5**
BR131	**Keskin Array S**	**77.11**	**324**	*eP*		**P**	**03 15 11.9**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**77.11**	**324**	P		**P**	**03 15 11.6**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=69,slow=3.6,SNR=8.7							
BRTR	**Keskin Array B**	**77.11**	**324**	P		**P**	**03 15 11.6**	**0.0**
BRTR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
SSF	**Saint Saulge**	**77.20**	**348**	*eP*		**P**	**03 15 12.6**	**+0.7**
	comp=Z,7.3nm,0.8s,mb4.4							
SSF	**Saint Saulge**	**77.20**	**348**	*eP*		**P**	**03 15 12.6**	**+0.7**
SSF					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
AVF	**Avril sur Loir**	**77.49**	**348**	*eP*		**P**	**03 15 13.6**	**+0.1**
	comp=Z,4.8nm,0.6s,mb4.3							
AVF	**Avril sur Loir**	**77.49**	**348**	*eP*		**P**	**03 15 13.6**	**+0.1**
AVF					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2							

BGF	**Bois d'Agland**	**77.78**	**348**	*eP*		**P**	**03 15 15.6**	**+0.5**
TCF	**Toulx Ste Croi**	**78.12**	**348**	*eP*		**P**	**03 15 17.3**	**+0.3**
WRAB	**Tennant Creek**	**79.24**	**210**	*diP*		**P**	**03 15 23.4**	**-0.2**
WB2	**Warramunga Arr**	**79.25**	**210**	*eP*		**P**	**03 15 23.7**	**0.0**
WRA	**Warramunga Arr**	**79.25**	**210**	P		**P**	**03 15 23.7**	**0.0**
	comp=Z,11nm,0.8s,mb4.8,baz=21,slow=5.9,SNR=55							
WRA	**Warramunga Arr**	**79.25**	**210**	P		**P**	**03 15 23.7**	**0.0**
WRA					pmax	pmax		
	comp=Z,11nm,0.8s							
LFF	**La Frestale**	**79.62**	**349**	*eP*		**P**	**03 15 25.9**	**+0.7**
EPF	**Esparros**	**81.55**	**349**	*eP*		**P**	**03 15 36.3**	**+0.9**
PPT	**Papeete**	**81.68**	**137**	*eLR*		LR	03 40 25.4	
	comp=Z,341nm,25.0s,baz=336							
ETSF	**Etsaut**	**81.77**	**350**	*eP*		**P**	**03 15 38.0**	**+1.4**
	comp=Z,17nm,0.7s,mb4.8							
ETSF	**Etsaut**	**81.77**	**350**	*eP*		**P**	**03 15 38.0**	**+1.4**
ETSF					pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8							
ESDC	**Sonseca Array**	**85.28**	**352**	P		**P**	**03 15 55.5**	**+1.1**
	comp=Z,2.4nm,0.6s,mb4.5,baz=360,slow=4.9,SNR=23							
STKA	**Stephens Creek**	**88.94**	**200**	*eP*		**P**	**03 16 13.0**	**+0.6**
	comp=Z,5.2nm,0.9s,mb4.9							
STKA	**Stephens Creek**	**88.94**	**200**	P		**P**	**03 16 13.4**	**+0.9**
	comp=Z,5.0nm,0.8s,mb4.9,baz=343,slow=5.1,SNR=9.9							
STKA					LR	LR	03 53 10.3	
	comp=Z,135nm,21.0s,MS4.3,baz=205,slow=34							
RKT	**Rikitea**	**92.83**	**127**	*eLR*		LR	03 45 34.3	
	comp=Z,151nm,34.2s							
PLCA	**Paso Flores**	**140.82**	**93**	PKP		PKPdf	03 22 50.4	-0.6
	comp=Z,1.4nm,0.9s,baz=236,slow=3.6,SNR=3.1							
PLCA	**Paso Flores**	**140.82**	**93**	PKIKP		PKPdf	03 22 50.4	-0.6
PLCA					pmax	pmax		
	comp=Z,10.0nm,0.9s							
QSPA	**South Pole Qui**	**144.74**	**180**	*e*PKP		PKPdf	03 22 51.8	-4.8
SNAA	**Sanae**	**162.53**	**192**	PKPab		PKPab	03 24 05.7	-1.3
	comp=Z,3.5nm,1.2s,baz=162,slow=3.2,SNR=3.5							
SNAA	**Sanae**	**162.53**	**192**	PKP2		PKPab	03 24 05.7	-1.3
SNAA					pmax	pmax		
	comp=Z,4.0nm,1.2s							

*THR **10** 03:17:29.8±1.2,32.04N×49.57E,h15km,ML2.5*
*CSEM **10** 03:17:30.7±0.7,32.10N×49.63E,h14km,mb4.4,Error ellipse: s-maj=38.3km s-min=4.4km az=140.0*
ISC 10 03:17:31.0±0.7,32.19N±0.05×49.5E±0.1,h15km,n10, σ1§01/16,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.60**	**262**	*ePg*		**Pg**		**03 17 42.6**	**-0.6**
SHGR						AML	AML	03 18 00.1	
	comp=N,219nm,0.3s								
ASAO	**Ashtian**	**2.39**	**10**	*ePn*		**Pn**		**03 18 13.4**	**+3.2**
ASAO				*eSg*		**Sg**		**03 18 49.3**	**-1.4**
ASAO						AML	AML	03 18 55.7	
	comp=N,23nm,0.6s								
ASAO	**Ashtian**	**2.39**	**10**	*ePn*		**Pn**		**03 18 13.4**	**+3.1**
	SNR=52								
ASAO				*eSg*		**Sg**		**03 18 49.3**	**-1.4**
	SNR=90								
NASN	**Na'in**	**2.86**	**77**	*ePn*		**Pn**		**03 18 16.9**	**-0.1**
SNGE	**Sanandaj**	**3.41**	**329**	*ePn*		**Pn**		**03 18 26.1**	**+1.3**
NAY	**Al-Naaiem**	**3.52**	**214**	*eP*		**Pn**		**03 18 26.4**	**+0.1**
NAY						AMb	AMB	03 18 26.9	
	comp=Z,13nm,0.5s								
NAY				*eS*		**Sn**		**03 19 07.5**	**-0.5**
NAY	**Al-Naaiem**	**3.52**	**214**	*eP*		**Pn**		**03 18 26.4**	**+0.1**
NAY				*eS*		**Sn**		**03 19 07.5**	**-0.5**
RDF	**Al-Radifah**	**3.66**	**208**	*eP*		**Pn**		**03 18 28.2**	**-0.1**
RDF						AMb	AMB	03 18 29.2	
	comp=Z,15nm,0.4s								
RDF				*eS*		**Sn**		**03 19 12.3**	**+0.6**
RDF	**Al-Radifah**	**3.66**	**208**	*eP*		**Pn**		**03 18 28.2**	**-0.2**
RDF				*eS*		**Sn**		**03 19 12.3**	**+0.6**
QRN	**Al-Qurain**	**3.70**	**202**	*eP*		**Pn**		**03 18 28.2**	**-0.7**
QRN						AMb	AMB	03 18 29.2	
	comp=Z,18nm,0.4s								

*PRU **10** 03:20:05.2,41.61N×20.04E*
*CSEM **10** 03:20:10.1±0.1,41.92N×20.22E,h8km,Ms3.7,Error ellipse: s-maj=1.3km s-min=1.1km az=50.0*
*PDG **10** 03:20:11.2±0.2,41.90N×20.12E,h11km*
*NEIC **10** 03:20:11.2,41.90N×20.12E,h11km,ML3.4(PDG),After PDG.*
*TIR **10** 03:20:11.1,41.95N×20.04E,h21km*
*THE **10** 03:20:13.4,41.78N×20.30E,h10km, ML3.6*
*VIE **10** 03:20:13.3±0.4,42.03N×20.28E,h10km,mb3.0/4,Ms3.7/4, Error ellipse: s-maj=5.9km s-min=2.8km az=36.0*
*SOF **10** 03:20:19.4,41.96N×21.09E,h2km,MD3.2*
ISC 10 03:20:10.8±0.3,41.92N±0.01×20.14E±0.02,h12km±2km, n105,σ1§13/153,24C-15D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.22**	**303**	*iPg*		**Pg**		**03 20 16.1**	**+0.3**
PUK				*iSg*		**Sg**		**03 20 20.1**	**+1.1**
PUK	**Puka**	**0.22**	**303**	*ePg*		**Pg**		**03 20 16.1**	**+0.3**
PUK				*iSg*		**Sg**		**03 20 20.1**	**+1.1**
LACI	**Lac**	**0.43**	**229**	*iPg*		**Pg**		**03 20 19.5**	**-0.2**
LACI				*iSg*		**Sg**		**03 20 25.7**	**+0.1**
LACI	**Lac**	**0.43**	**229**	*ePg*		**Pg**		**03 20 19.5**	**-0.2**
LACI				*iSg*		**Sg**		**03 20 25.7**	**+0.1**
QSH	**Qafa e Shtames**	**0.44**	**204**	*iPg*		**Pg**		**03 20 20.8**	**+1.0**
QSH				*iSg*		**Sg**		**03 20 27.6**	**+1.8**
QSH	**Qafa e Shtames**	**0.44**	**204**	*ePg*		**Pg**		**03 20 20.8**	**+1.0**
QSH				*iSg*		**Sg**		**03 20 27.6**	**+1.8**
BCI	**Bajram Curri**	**0.45**	**353**	*iPg*		**Pg**		**03 20 20.4**	**+0.3**
BCI				*iSg*		**Sg**		**03 20 27.0**	**+0.8**
BCI	**Bajram Curri**	**0.45**	**353**	*ePg*		**Pg**		**03 20 20.4**	**+0.3**
BCI				*iSg*		**Sg**		**03 20 27.0**	**+0.8**
SDA	**Shkodra**	**0.50**	**285**	*iPg*		**Pg**		**03 20 21.0**	**0.0**
SDA				*iSg*		**Sg**		**03 20 29.8**	**+2.0**
SDA	**Shkodra**	**0.50**	**285**	*ePg*		**Pg**		**03 20 21.0**	**0.0**
SDA				*iSg*		**Sg**		**03 20 29.8**	**+2.0**
TIR	**Tirane**	**0.61**	**200**	*iPg*		**Pg**		**03 20 22.4**	**-0.8**
TIR				*iSg*		**Sg**		**03 20 32.3**	**+0.9**
ULC	**Ulcinj**	**0.67**	**274**	⇑*iPg*		**Pg**		**03 20 23.5**	**-0.8**
ULC				*eSg*		**Sg**		**03 20 33.7**	**+0.4**
PVY	**Plav**	**0.69**	**349**	⇑*iPg*		**Pg**		**03 20 24.3**	**-0.4**
PVY				*eSg*		**Sg**		**03 20 35.4**	**+1.5**
TTG	**Podgorica**	**0.83**	**308**	⇑*iPg*		**Pg**		**03 20 26.1**	**-1.4**
TTG				*eSg*		**Sg**		**03 20 39.8**	**+1.1**
TTG	**Podgorica**	**0.83**	**308**	⇑*iPg*		**Pg**		**03 20 26.1**	**-1.5**
TTG				*eSg*		**Sg**		**03 20 39.8**	**+1.1**
OHR	**Ohrid**	**0.95**	**148**	*iPg*		**Pg**		**03 20 27.5**	**-2.4**
OHR				*iSg*		**Sg**		**03 20 41.7**	**-0.9**
IVA	**Berane**	**0.97**	**349**	⇓*iPg*		**Pg**		**03 20 29.4**	**-0.9**
IVA				*eSg*		**Sg**		**03 20 44.8**	**+1.5**
SKO	**Skopje**	**0.97**	**87**	*iPg*		**Pg**		**03 20 29.1**	**-1.2**
SKO				*iSg*		**Sg**		**03 20 43.2**	**-0.1**
BUM	**Brajici-Budva**	**1.00**	**293**	⇓*iPg*		**Pg**		**03 20 29.9**	**-1.0**
BUM				*eSg*		**Sg**		**03 20 45.4**	**+1.1**
NKY	**Niksic**	**1.23**	**317**	⇑*iPg*		**Pg**		**03 20 34.2**	**-1.3**
NKY				*eSg*		**Sg**		**03 20 53.7**	**+1.7**
NKY	**Niksic**	**1.23**	**317**	⇑*iPg*		**Pg**		**03 20 34.2**	**-1.3**
BIA	**Bitola**	**1.26**	**135**	*iPn*		**Pn**		**03 20 33.7**	**-0.7**
BIA				*iSn*		**Sn**		**03 20 51.5**	**+0.1**
HCY	**Herceg Novi**	**1.33**	**294**	⇓*iPg*		**Pg**		**03 20 35.1**	**-2.4**
HCY				*eSg*		**Sg**		**03 20 56.2**	**+0.9**
FNA	**Florina**	**1.47**	**140**	*ePg*		**Pg**		**03 20 36.9**	**-3.3**
FNA				*eSg*		**Sg**		**03 20 56.8**	**-3.0**
PLE	**Pljevlja**	**1.51**	**339**	⇑*iPg*		**Pg**		**03 20 39.0**	**-2.2**
PLE				*eSg*		**Sg**		**03 21 01.8**	**+0.5**
BARS	**Barje**	**1.54**	**54**	⇑*iPn*		**Pn**		**03 20 38.7**	**+0.4**
BARS						Sn		**03 21 00.0**	**+1.7**
BRY	**Bratogost**	**1.54**	**310**	⇑*iPg*		**Pg**		**03 20 39.2**	**-2.4**
BRY				*eSg*		**Sg**		**03 21 02.3**	**+0.1**
UPM	**Unac-Piva**	**1.57**	**325**	⇓*iPn*		**Pn**		**03 20 39.9**	**+1.1**
UPM				*eSn*		**Sn**		**03 21 03.1**	**+3.8**
LSK	**Leskovik**	**1.80**	**169**	*iPn*		**Pn**		**03 20 44.1**	**+2.0**
LSK				*iSn*		**Sn**		**03 21 11.4**	**+6.3**
LSK	**Leskovik**	**1.80**	**169**	*ePn*		**Pn**		**03 20 44.1**	**+2.0**
VAY	**Valandovo**	**1.92**	**107**	*iPn*		**Pn**		**03 20 43.9**	**+0.2**
VAY				*eSn*		**Sn**		**03 21 11.1**	**+3.1**
GRG	**Griva**	**1.95**	**119**	*ePb*		**Pb**		**03 20 44.4**	**-1.5**
GRG				*eSb*		**Sb**		**03 21 09.5**	**-0.8**
GRUS	**Gruza**	**2.01**	**12**	*ePn*		**Pn**		**03 20 45.4**	**+0.3**
GRUS						Sg		**03 21 17.3**	**-0.6**
SRN	**Sarande**	**2.04**	**183**	*iPn*		**Pn**		**03 20 46.1**	**+0.6**
SRN				*iSn*		**Sn**		**03 21 14.0**	**+2.8**
SRN	**Sarande**	**2.04**	**183**	*ePn*		**Pn**		**03 20 46.1**	**+0.6**
SRN				*iSn*		**Sn**		**03 21 14.0**	**+2.8**
STON	**Ston**	**2.04**	**299**	*iPn*		**Pn**		**03 20 46.1**	**+0.6**
STON				*iSn*		**Sn**		**03 21 19.0**	**+7.7**
DIVS	**Divcibare**	**2.18**	**357**	⇑*iPn*		**Pn**		**03 20 48.1**	**+0.6**
DIVS						Sn		**03 21 15.9**	**+1.2**
KKB	**Krupnik**	**2.19**	**90**	*iP*		**Pn**		**03 20 49.0**	**+1.2**
KNT	**Kendrikon**	**2.20**	**109**	*ePn*		**Pn**		**03 20 48.0**	**+0.2**
KNT				*eSn*		**Sn**		**03 21 16.3**	**+1.1**
VTS	**Vitosha**	**2.37**	**73**	*eP*		**Pn**		**03 20 51.7**	**+1.4**
IGT	**Igoumenitsa**	**2.39**	**176**	*ePn*		**Pn**		**03 20 51.7**	**+1.1**
THE	**Thessaloniki**	**2.49**	**120**	*ePn*		**Pn**		**03 20 52.7**	**+0.8**
SVIS	**Svilajnac**	**2.50**	**18**	⇑*iPn*		**Pn**		**03 20 52.4**	**+0.3**
SVIS						Sn		**03 21 22.1**	**-0.7**
LIT	**Litokhoron**	**2.54**	**135**	*ePn*		**Pn**		**03 20 53.1**	**+0.4**
SOH	**Sokhos**	**2.65**	**113**	*ePn*		**Pn**		**03 20 55.3**	**+1.0**
MMB	**Musomiste**	**2.70**	**96**	*eP*		**Pn**		**03 20 56.5**	**+1.5**
SRS	**Serrai**	**2.71**	**106**	*ePn*		**Pn**		**03 20 55.8**	**+0.6**
SG1	**Sgolgore (BA)**	**2.82**	**249**	*ePn*		**Pn**		**03 20 56.5**	**-0.2**
PGB	**Panagyurishte**	**3.05**	**77**	*eP*		**Pn**		**03 21 02.0**	**+2.0**
OUR	**Ouranopolis**	**3.30**	**117**	*ePn*		**Pn**		**03 21 04.2**	**+0.7**
PAIG	**Paliouri**	**3.34**	**125**	*ePn*		**Pn**		**03 21 03.8**	**-0.3**
AGG	**Agios Georgios**	**3.34**	**149**	*ePn*		**Pn**		**03 21 05.1**	**+1.1**
AGG				*eSn*		**Sn**		**03 21 43.0**	**-1.1**
RGNG	**Rignano Grg**	**3.42**	**267**	Pn		**Pn**		**03 21 04.1**	**-1.0**
RGNG				Sn		**Sn**		**03 21 43.0**	**-3.0**
RZN	**Rozhen**	**3.43**	**92**	*eP*		**Pn**		**03 21 06.0**	**+0.7**
SLCN	**Sala Consilina**	**3.73**	**247**	Pn		**Pn**		**03 21 10.4**	**+0.8**
BZS	**Buzias**	**3.85**	**16**	⇓*P*		**Pn**		**03 21 10.8**	**-0.4**
BZS	**Buzias**	**3.85**	**16**	⇓*P*		**Pn**		**03 21 10.8**	**-0.4**
SGO	**Sicignano**	**3.89**	**251**	Pn		**Pn**		**03 21 10.9**	**-1.0**
KDZ	**Kurdzhali**	**3.95**	**92**	*eP*		**Pn**		**03 21 12.2**	**-0.8**
RHK1	**Bakonya**	**4.43**	**341**	⇑*iP*		**Pn**		**03 21 19.3**	**-0.3**
RHK1				*eS*		**Sn**		**03 22 08.6**	**-3.2**
	2.1nm,0.3s								
ALN	**Alexandroupoli**	**4.55**	**101**	*ePn*		**Pn**		**03 21 21.1**	**-0.3**
VOIR		**5.00**	**44**	⇓*P*		**Pn**		**03 21 28.1**	**+0.5**
VOIR		**5.00**	**44**	⇓*P*		**Pn**		**03 21 28.1**	**+0.5**
PTQR	**Pietraquaria**	**5.03**	**273**	Pn		**Pn**		**03 21 25.2**	**-2.8**
BOJS	**Bojanci**	**5.04**	**317**	*ePn*		**Pn**		**03 21 28.6**	**+0.4**
BOJS				*eSn*		**Sn**		**03 22 28.3**	**+1.2**
DRGR		**5.21**	**20**	⇓*P*		**Pn**		**03 21 29.5**	**-1.0**
DRGR		**5.21**	**20**	⇓*P*		**Pn**		**03 21 29.5**	**-1.0**
KOGS	**Kog**	**5.32**	**330**	*ePn*		**Pn**		**03 21 32.8**	**+0.6**
**VIS

KLP				AML	AML	03 41 18.3	
	comp=E,154nm,0.7s						
KLP				AML	AML	03 41 20.1	
	comp=N,169nm,0.6s						
NDI	**New Delhi**	**9.51**	**151**	*ex*	x	03 41 45.0	
KHET	**Khetri**	**9.58**	**159**	*eP*	**P**	**03 40 14.4**	**-1.6**
KHET				*ex*	x	03 41 56.7	
AYAN	**Aya Nagar**	**9.65**	**151**	*eP*	**P**	**03 40 17.1**	**+0.3**
AYAN				*ex*	x	03 42 00.5	
KUDL	**Kundal**	**9.73**	**155**	*eP*	**P**	**03 40 17.3**	**-0.6**
KUDL				*eS*	**S**	**03 42 01.2**	**-4.3**
JASL	**Jaisalmer**	**10.18**	**185**	*eP*	**P**	**03 40 23.7**	**-0.2**
MK31	**Makanchi Array**	**12.38**	**35**	⇓P	**P**	**03 40 51.9**	**-0.8**
	comp=N,8.2nm,1.4s,baz=221,slow=15,SNR=14						
MK31	**Makanchi Array**	**12.38**	**35**	⇓P	**P**	**03 40 51.9**	**-0.9**
MK31				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MKAR	**Makanchi Array**	**12.38**	**35**	P	**P**	**03 40 52.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=219,slow=15,SNR=16						
KOLN	**Koldanda**	**13.56**	**130**	*eP*	**P**	**03 41 07.6**	**-0.4**
	comp=Z,14nm,0.6s						
BHJ	**Bhuj**	**13.94**	**189**	*eP*	**P**	**03 41 13.8**	**+0.9**
BHJ				AMb	AMB	03 41 21.4	
	comp=Z,44nm,2.0s						
GKN	**Gorkha**	**14.04**	**127**	*eP*	**P**	**03 41 14.0**	**-0.3**
	comp=Z,22nm,0.4s						
GKN				*eS*	**S**	**03 43 39.2**	**-7.9**
KKN	**Kakani**	**14.60**	**126**	*eP*	**P**	**03 41 21.0**	**-0.4**
	comp=Z,16nm,0.5s						
KKN	**Kakani**	**14.60**	**126**	*eP*	**P**	**03 41 21.0**	**-0.4**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BHPL	**Bhopal**	**14.61**	**159**	*eP*	**P**	**03 41 24.9**	**+3.3**
BHPL				AMb	AMB	03 41 29.0	
	comp=Z,14nm,1.6s						
BHPL				*ex*	x	03 43 54.3	
PKI	**Pulchoki**	**14.84**	**126**	*eP*	**P**	**03 41 24.3**	**-0.1**
	comp=Z,13nm,0.5s						
PKI	**Pulchoki**	**14.84**	**126**	*eP*	**P**	**03 41 24.3**	**-0.1**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GUN	**Gumba**	**14.92**	**124**	*eP*	**P**	**03 41 24.7**	**-0.7**
	comp=Z,56nm,1.1s						
AB31	**Akbulak array**	**14.93**	**328**	⇑P	**P**	**03 41 24.8**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=141,slow=14,SNR=60						
AB31				⇑S	**S**	**03 43 59.1**	**-8.4**
	comp=Z,5.8nm,0.7s,baz=153,slow=21,SNR=11						
AB31	**Akbulak array**	**14.93**	**328**	⇑P	**P**	**03 41 24.8**	**-0.6**
AB31				S	**S**	**03 43 59.1**	**-8.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AB31	**Akbulak array**	**14.93**	**328**	⇑P	**P**	**03 41 24.8**	**-0.7**
	comp=Z,0.9nm,0.3s						
AB31				S	**S**	**03 43 59.0**	**-8.4**
JIRN	**Jiri**	**15.29**	**124**	*eP*	**P**	**03 41 29.8**	**-0.3**
	comp=Z,24nm,0.4s						
BVA0	**Borovoye Array**	**15.96**	**357**	⇑P	**P**	**03 41 35.1**	**-3.1**
	comp=Z,0.4nm,1.0s,baz=170,slow=18,SNR=6.9						
BVA0	**Borovoye Array**	**15.96**	**357**	⇑P	**P**	**03 41 35.1**	**-3.1**
	comp=Z,0.4nm,1.0s						
BVAR	**Borovoye Array**	**15.96**	**357**	P	**P**	**03 41 36.2**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=158,slow=13,SNR=7.5						
AKTK	**Aktyubinsk**	**16.64**	**328**	⇑P	**P**	**03 41 47.5**	**+0.8**
AKTK				S	**S**	**03 44 37.9**	**-8.2**
AKTO	**Aktyubinsk**	**16.64**	**328**	⇑P	**P**	**03 41 47.5**	**+0.8**
	comp=Z,0.8nm,1.2s						
AKTO				⇑S	**S**	**03 44 37.9**	**-8.2**
	comp=Z,0.8nm,0.8s						
AKTO	**Aktyubinsk**	**16.64**	**328**	P	**P**	**03 41 47.4**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=137,slow=9.3,SNR=8.9						
AKTO				S	**S**	**03 44 38.0**	**-8.1**
	comp=Z,0.2nm,0.3s,baz=155,slow=19,SNR=4.9						
AKTO	**Aktyubinsk**	**16.64**	**328**	P	**P**	**03 41 47.4**	**+0.7**
AKTO				S	**S**	**03 44 38.0**	**-8.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAD	**Karad**	**19.82**	**174**	*ex*	x	03 40 35.9	
MDRS	**Chennai**	**25.07**	**161**	*ex*	x	03 40 38.7	
SONM	**Songino Array**	**27.40**	**56**	P	**P**	**03 43 36.3**	**+1.3**
	comp=Z,0.8nm,0.8s,mb3.4,baz=265,slow=9.6,SNR=6.7						
SONM	**Songino Array**	**27.40**	**56**	P	**P**	**03 43 36.3**	**+1.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**37.40**	**325**	P	**P**	**03 45 01.6**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.5,baz=126,slow=12,SNR=3.3						
FINES	**FINESS Array B**	**37.40**	**325**	P	**P**	**03 45 01.6**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**80.61**	**3**	P	**P**	**03 49 59.4**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.1,baz=350,slow=5.4,SNR=7.2						

NEIC ***10*** *04:23:04.5, 36.75S×177.34E, h203km, MG3.9(WEL), After WEL.*

WEL 10 04:23:05.2±0.5, 36.81S×177.40E, h202km±4km, ML3.8/18, 2D, Error ellipse: s-maj=6.0km s-min=5.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.05**	**136**	PN	P	04 23 35.2	-0.5
MXZ				SN	S	04 23 58.9	-0.4
MXZ	**Matakaoa Point**	**1.05**	**136**	P	P	04 23 35.2	-0.5
PUZ	**Puketiti**	**1.44**	**152**	PN	P	04 23 38.8	-0.1
PUZ				SN	S	04 24 03.5	-1.4
PUZ	**Puketiti**	**1.44**	**152**	P	P	04 23 38.8	-0.1
PUZ				S	S	04 24 03.5	-1.4
URZ	**Urewera**	**1.47**	**189**	⇓PN	P	04 23 38.5	-0.7
URZ				SN	S	04 24 05.3	-0.1
URZ	**Urewera**	**1.47**	**189**	P	P	04 23 38.6	-0.6
MWZ	**Matawai**	**1.53**	**176**	PN	P	04 23 39.6	-0.1
MWZ				SN	S	04 24 05.7	-0.6
KNZ	**Kokohu**	**2.22**	**174**	⇓PN	P	04 23 46.1	-0.5
KNZ	**Kokohu**	**2.22**	**174**	P	P	04 23 46.1	-0.5
BKZ	**Black Stump Fm**	**2.46**	**197**	PN	P	04 23 48.5	-0.8
BKZ	**Black Stump Fm**	**2.46**	**197**	P	P	04 23 48.5	-0.8
OTVZ	**Oturere**	**2.72**	**210**	PN	P	04 23 52.2	0.0
TWVZ	**Taurewa**	**2.74**	**214**	PN	P	04 23 52.4	0.0
TUVZ	**Tukino**	**2.82**	**209**	PN	P	04 23 52.8	-0.5
TUVZ	**Tukino**	**2.82**	**209**	P	P	04 23 52.8	-0.5
WNVZ	**Wahianoa**	**2.89**	**209**	PN	P	04 23 53.5	-0.6
WNVZ	**Wahianoa**	**2.89**	**209**	P	P	04 23 53.5	-0.6
MOVZ	**Moawhango**	**2.90**	**206**	PN	P	04 23 52.8	-1.5
TSZ	**Takapari Road**	**3.44**	**199**	PN	P	04 23 58.8	-1.9
TSZ	**Takapari Road**	**3.44**	**199**	P	P	04 23 58.8	-1.9
WAZ	**Wanganui**	**3.50**	**212**	P	P	04 24 00.4	-1.1
BFZ	**Birch Farm**	**3.97**	**193**	PN	P	04 24 05.0	-2.4
BFZ	**Birch Farm**	**3.97**	**193**	P	P	04 24 05.0	-2.3
MRZ	**Mangatainoka R**	**4.10**	**200**	PN	P	04 24 06.1	-2.8
MRZ	**Mangatainoka R**	**4.10**	**200**	P	P	04 24 06.1	-2.9
KIW	**Kapiti Island**	**4.49**	**205**	P	P	04 24 10.5	-3.3
MTW	**Mount Morrison**	**4.59**	**198**	P	P	04 24 11.5	-3.6
CAW	**Cannon Point**	**4.66**	**202**	P	P	04 24 12.4	-3.6
SNZO	**South Karori**	**4.96**	**204**	P	P	04 24 16.0	-3.8
BHW	**Baring Head**	**5.00**	**202**	P	P	04 24 16.4	-3.9
NNZ	**Nelson**	**5.40**	**214**	*eP*	P	04 24 21.6	-3.9
BSWZ	**Blackbirch Sta**	**5.61**	**208**	P	P	04 24 25.1	-3.1
THZ	**Tophouse**	**6.05**	**214**	*eP*	P	04 24 31.1	-2.8
KHZ	**Kahutara**	**6.34**	**207**	*eP*	P	04 24 33.6	-4.1
LTZ	**Lake Taylor**	**7.15**	**212**	*eP*	P	04 24 44.3	-3.9
ODZ	**Otahua Downs**	**9.68**	**210**	*eP*	P	04 25 17.3	-3.7

NEIC ***10*** *04:38:36.1±0.9, 23.49S×179.96E, h506km±11km, mb4.4/4, Error ellipse: s-maj=16.1km s-min=9.8km az=131.0*
IDC ***10*** *04:38:38.7±1.4, 23.61S×179.86E, h533km±16km, mb3.4/10, mb1 3.7/10, mb1mx3.6/13, mbtmp4.2/10, Error ellipse: s-maj=17.2km s-min=13.3km az=149.0*

ISC 10 04:38:37.2±0.9, 23.67S±0.07×179.9E±0.1, h527km±11km, n56, σ0°91/32, mb4.1/14, 1C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.88**	**161**	P	**P**	**04 40 14.1**	**-0.3**
	160nm,0.3s,baz=253,slow=23,SNR=4.3						
RAO				S	**S**	**04 41 31.7**	**+0.1**
	63nm,0.3s,baz=105,slow=21,SNR=2.2						
AFI	**Afiamalu**	**12.47**	**40**	P	**P**	**04 41 17.0**	**-4.2**
	2.0nm,0.3s,baz=90,slow=3.0,SNR=3.4						
AFI	**Afiamalu**	**12.47**	**40**	P	**P**	**04 41 17.0**	**-4.2**
DZM	**Mont Dzumac**	**12.55**	**275**	P	**P**	**04 41 24.9**	**+2.9**
	0.6nm,0.3s,baz=72,slow=19,SNR=6.6						
URZ	**Urewera**	**14.75**	**189**	P	**P**	**04 41 43.0**	**-1.3**
	1.9nm,0.3s,baz=11,slow=2.8,SNR=11						
MRZ	**Mangatainoka R**	**17.34**	**191**	SN	**S**	**04 45 00.1**	**-1.3**
KIW	**Kapiti Island**	**17.66**	**193**	SN	**S**	**04 45 06.5**	**-0.4**
DSZ	**Denniston Nort**	**19.27**	**199**	PN	**P**	**04 42 29.0**	**+0.7**
DSZ				SN	**S**	**04 45 35.4**	**+1.1**
LTZ	**Lake Taylor**	**20.10**	**197**	PN	**P**	**04 42 35.5**	**-0.6**
RPZ	**Rata Peaks**	**21.30**	**198**	P	**P**	**04 42 48.8**	**+1.7**
	8.7nm,0.5s,mb4.7,baz=307,slow=0.5,SNR=13						
HNR	**Honiara**	**23.78**	**303**	P	**P**	**04 43 03.9**	**-6.0**
	163nm,0.7s,baz=151,slow=3.4,SNR=3.6						
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**04 44 44.9**	**+0.5**
	3.7nm,0.8s,mb4.0,baz=95,slow=8.0,SNR=6.5						
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**04 44 44.9**	**+0.5**
WB2	**Warramunga Arr**	**42.36**	**266**	⇓*i*P	**P**	**04 45 46.2**	**-0.2**
WB2				*e*S	**S**	**04 51 25.4**	**-4.6**
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**04 45 46.3**	**-0.1**
	19nm,0.6s,mb4.8,baz=102,slow=8.1,SNR=112						
WRA				PcP	PcP	04 47 27.6	-0.6
	2.1nm,0.9s,baz=101,slow=3.8,SNR=4.8						
WRA				S	**S**	**04 51 25.5**	**-4.7**
	2.6nm,0.9s,baz=103,slow=14,SNR=11						
FORT	**Forrest**	**46.34**	**249**	⇓*i*P	**P**	**04 46 16.6**	**-0.6**
	25nm,0.5s,mb5.0						
VNDA	**Vanda**	**54.60**	**185**	P	**P**	**04 47 17.4**	**+0.1**
	0.5nm,0.9s,baz=7.7,slow=7.5,SNR=6.0						
VNDA				PcP	PcP	04 48 11.5	-0.7
	0.6nm,0.8s,baz=351,slow=6.4,SNR=6.2						
VNDA	**Vanda**	**54.60**	**185**	P	**P**	**04 47 17.4**	**+0.1**
VNDA				PcP	PcP	04 48 11.5	-0.7
KLBR	**Kellerberrin**	**55.03**	**247**	*eP*	**P**	**04 47 20.2**	**-0.6**
	15nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**66.42**	**180**	*eP*	**P**	**04 48 35.2**	**+0.4**
	8.2nm,0.9s,mb4.3						
MJAR	**Matsushiro Arr**	**71.68**	**326**	P	**P**	**04 49 06.1**	**-0.9**
	3.8nm,0.8s,mb3.9,baz=162,slow=4.7,SNR=6.3						
NVAR	**Mina Array Bea**	**84.62**	**44**	P	**P**	**04 50 16.8**	**+0.9**
	0.3nm,0.5s,mb3.1,baz=230,slow=9.1,SNR=3.5						
TPNV	**Topopah Spring**	**85.11**	**46**	*eP*	**P**	**04 50 18.6**	**+0.2**
	0.7nm,0.4s,mb3.5						
ENH	**Enshi**	**86.27**	**305**	*eP*	**P**	**04 50 25.1**	**+1.0**
	3.6nm,0.4s,mb4.3						
TXAR	**Lajitas Array**	**90.35**	**58**	P	**P**	**04 50 44.0**	**+0.8**
	0.4nm,0.6s,mb3.4,baz=202,slow=6.7,SNR=5.5						
ILAR	**Eielson Array**	**91.82**	**14**	P	**P**	**04 50 47.7**	**-1.3**
	0.6nm,0.8s,mb3.7,baz=215,slow=5.4,SNR=6.2						
PDAR	**Pinedale Array**	**92.56**	**44**	P	**P**	**04 50 53.5**	**+0.5**
	0.3nm,0.4s,mb3.6,baz=270,slow=1.8,SNR=2.4						
INK	**Inuvik**	**97.82**	**16**	P	**P**	**04 51 15.0**	**-1.3**
	1.8nm,1.1s,mb4.3,baz=253,slow=20,SNR=4.3						
MKAR	**Makanchi Array**	**111.96**	**313**	Pdiff	Pdif	04 52 22.4	+3.2
	0.6nm,0.7s,baz=76,slow=5.1,SNR=5.2						
MKAR				PKiKP		04 56 11.6	
	0.7nm,0.6s,baz=208,slow=1.0,SNR=8.3						
BVAR	**Borovoye Array**	**120.23**	**319**	PKP	PKPdf	04 56 27.8	0.0
	1.3nm,0.3s,baz=131,slow=1.6,SNR=14						
AKTK	**Aktyubinsk**	**128.09**	**316**	PKP	PKPdf	04 56 43.6	+0.6
AKTO	**Aktyubinsk**	**128.09**	**316**	PKP	PKPdf	04 56 43.6	+0.6
	1.8nm,0.7s,baz=121,slow=3.7,SNR=7.4						
ARCES	**ARCESS Array B**	**131.65**	**348**	PKP	PKPdf	04 56 49.2	-0.1
	1.2nm,0.5s,baz=56,slow=2.3,SNR=13						
ARCES	**ARCESS Array B**	**131.65**	**348**	PKP	PKPdf	04 56 49.2	-0.1
FINES	**FINESS Array B**	**138.21**	**341**	PKhKP		04 56 52.7	
	1.4nm,0.9s,baz=45,slow=8.1,SNR=4.7						
FINES				PKP	PKPdf	04 57 02.5	+1.0
	0.7nm,0.4s,baz=110,slow=4.4,SNR=8.9						
NB2	**NORSAR Subarra**	**141.84**	**351**	PKPabc	PKPdf	04 57 03.9	-4.0
	1.4nm,0.7s,baz=20,slow=3.0						
NOA	**NORSAR Array B**	**141.84**	**351**	PKhKP		04 57 04.7	
	2.0nm,0.8s,baz=20,slow=3.9,SNR=6.5						
HFS	**Hagfors**	**142.31**	**349**	PKhKP		04 57 05.4	
	7.1nm,0.4s,baz=56,slow=3.9,SNR=97						
AKASG	**Malin Array Be**	**144.75**	**327**	PKP	PKPdf	04 57 13.7	+0.5
	2.9nm,0.3s,baz=43,slow=4.2,SNR=41						
AKASG				SKPbc		05 00 02.4	
	0.2nm,0.3s,baz=51,slow=2.7,SNR=4.5						
BR131	**Keskin Array S**	**147.40**	**307**	*e*PKPbc	PKPdf	04 57 21.9	+3.9
BRTR	**Keskin Array B**	**147.40**	**307**	PKPbc	PKPdf	04 57 22.1	+4.2
	2.4nm,0.7s,baz=139,slow=5.2,SNR=13						
BRTR				PKPab	PKPab	04 57 27.0	-0.5
	4.4nm,0.6s,baz=92,slow=3.6,SNR=20						
KWP	**Kalwaria**	**148.54**	**331**	*e*PKPbc	PKPdf	04 57 24.7	+5.3
BURAR	**Bucovina Array**	**148.75**	**326**	⇓P	PKPdf	04 57 26.7	+6.8
KOLS	**Kolonicke sedl**	**149.25**	**331**	*i* PKP	PKPdf	04 57 26.9	+6.3
STHS	**Stebnicka Huta**	**149.34**	**332**	*i* PKP	PKPdf	04 57 27.5	+6.7
CRVS	**Cervenica-Dubn**	**149.63**	**331**	*i* PKP	PKPdf	04 57 28.1	+6.9
MLR	**Muntele Rosu**	**149.70**	**322**	PKPbc	PKPdf	04 57 27.4	+6.0
	1.1nm,0.4s,baz=45,slow=1.4,SNR=4.3						
KSP	**Ksiaz**	**150.05**	**339**	*e*PKP	PKPdf	04 57 28.8	+7.0
VOIR		**150.23**	**323**	⇓P	PKPdf	04 57 28.6	+6.3
DRGR		**150.56**	**327**	⇑P	PKPdf	04 57 28.9	+6.1
CLL	**Collm**	**150.62**	**343**	P	PKPdf	04 57 29.7	+7.0
	logA/T=1.2						
CLL				*i*		04 57 38.7	
CLL	**Collm**	**150.62**	**343**	*i* P	PKPdf	04 57 29.7	+7.0
CLL				*i*		04 57 38.7	
BZS	**Buzias**	**151.93**	**327**	⇓P	PKPdf	04 57 30.9	+6.2
DAVOX	**Davos**	**155.59**	**343**	PKPab	PKPab	04 58 00.9	-0.4
	1.7nm,0.6s,baz=32,slow=7.5,SNR=6.9						
ESDC	**Sonseca Array**	**163.70**	**11**	PKPab	PKPab	04 58 35.5	-1.1
	0.4nm,0.7s,baz=347,slow=3.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**169.41**	**189**	PKP	PKPdf	04 57 43.1	-0.7
	0.7nm,0.8s,baz=16,slow=0.6,SNR=5.7						
TORD				PKPab	PKPab	04 59 01.1	-1.1
	1.1nm,0.8s,baz=160,slow=5.2,SNR=11						

NEIC ***10*** *04:41:56.2, 38.21S×176.30E, h151km, MG4.5(WEL), After WEL.*

WEL 10 04:41:55.9±0.2, 38.21S×176.29E, h154km±1km, ML4.5/20, 12C-2D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTU	**Utuhina**	**0.09**	**291**	PN	P	04 42 16.7	-0.1
UTU	**Utuhina**	**0.09**	**291**	P	P	04 42 16.7	-0.1
TAZ	**Tarawera**	**0.17**	**99**	PN	P	04 42 17.0	0.0
TAZ	**Tarawera**	**0.17**	**99**	P	P	04 42 17.0	0.0
EDRZ	**Edgecumbe**	**0.36**	**74**	PN	P	04 42 17.2	-0.5
EDRZ	**Edgecumbe**	**0.36**	**74**	P	P	04 42 17.2	-0.4
MARZ	**Manawahe**	**0.37**	**54**	PN	P	04 42 17.2	-0.4
MARZ	**Manawahe**	**0.37**	**54**	P	P	04 42 16.4	-1.3
WHTZ	**Whakaora**	**0.53**	**210**	PN	P	04 42 18.3	-0.1
WHTZ	**Whakaora**	**0.53**	**210**	P	P	04 42 18.3	-0.1
URZ	**Urewera**	**0.65**	**95**	⇑PN	P	04 42 18.2	-0.7
URZ				SN	S	04 42 34.8	-1.9
WATZ	**Wairara**	**0.67**	**221**	⇑PN	P	04 42 18.8	-0.2
WATZ	**Wairara**	**0.67**	**221**	P	P	04 42 18.8	-0.3
HATZ	**Hinemaiaia**	**0.70**	**193**	⇑PN	P	04 42 18.8	-0.5
HATZ				SN	S	04 42 35.9	-1.2
HATZ	**Hinemaiaia**	**0.70**	**193**	P	P	04 42 18.8	-0.5
HATZ				S	S	04 42 35.9	-1.3
RATZ	**Rangitukua**	**0.78**	**212**	⇑PN	P	04 42 19.4	-0.3
RATZ	**Rangitukua**	**0.78**	**212**	P	P	04 42 19.4	-0.3
RITZ	**Rihia Road**	**0.84**	**204**	PN	P	04 42 20.2	+0.1
RITZ	**Rihia Road**	**0.84**	**204**	P	P	04 42 20.2	+0.1
KATZ	**Kakaramea**	**0.90**	**211**	PN	P	04 42 20.3	-0.2
KATZ	**Kakaramea**	**0.90**	**211**	P	P	04 42 20.3	-0.2
BKZ	**Black Stump Fm**	**0.97**	**171**	⇑PN	P	04 42 20.9	-0.1
BKZ				SN	S	04 42 39.3	-1.1
MWZ	**Matawai**	**0.98**	**98**	⇓PN	P	04 42 21.1	0.0
MWZ				SN	S	04 42 39.6	-0.9
MWZ	**Matawai**	**0.98**	**98**	P	P	04 42 21.1	0.0
WIZ	**White Island**	**0.98**	**47**	PN	P	04 42 20.5	-0.6
KRVZ	**Karewarewa**	**1.02**	**210**	PN	P	04 42 21.2	-0.2
WTVZ	**West Tongariro**	**1.06**	**211**	PN	P	04 42 21.6	-0.2
WTVZ	**West Tongariro**	**1.06**	**211**	P	P	04 42 21.6	-0.2
OTVZ	**Oturere**	**1.07**	**207**	PN	P	04 42 22.1	+0.2
TWVZ	**Taurewa**	**1.09**	**218**	⇑PN	P	04 42 21.8	-0.3
TWVZ	**Taurewa**	**1.09**	**218**	P	P	04 42 21.8	-0.3
NGZ	**Ngauruhoe**	**1.11**	**209**	PN	P	04 42 22.2	-0.1
NGZ	**Ngauruhoe**	**1.11**	**209**	P	P	04 42 22.2	-0.1
CNZ	**Chateau**	**1.15**	**210**	PN	P	04 42 22.5	-0.2
CNZ	**Chateau**	**1.15**	**210**	P	P	04 42 22.5	-0.1
WPVZ	**Whakapapa**	**1.16**	**210**	PN	P	04 42 22.3	-0.4
WPVZ	**Whakapapa**	**1.16**	**210**	P	P	04 42 22.5	-0.2
HIZ	**Hauiti**	**1.17**	**254**	⇑PN	P	04 42 22.5	-0.3
HIZ	**Hauiti**	**1.17**	**254**	P	P	04 42 22.5	-0.3
TUVZ	**Tukino**	**1.17**	**205**	⇑PN	P	04 42 22.8	-0.1
TUVZ				SN	S	04 42 43.6	-0.1
TUVZ	**Tukino**	**1.17**	**205**	P	P	04 42 22.8	-0.1
FWVZ	**Far West T-bar**	**1.20**	**209**	PN	P	04 42 22.8	-0.3
FWVZ	**Far West T-bar**	**1.20**	**209**	P	P	04 42 22.8	-0.3
DRZ	**Dome Shelter**	**1.21**	**208**	PN	P	04 42 23.6	+0.4
DRZ				SN	S	04 42 44.5	+0.2
DRZ	**Dome Shelter**	**1.21**	**208**	P	P	04 42 23.6	+0.4
TRVZ	**Turoa**	**1.24**	**208**	PN	P	04 42 23.5	0.0
WNVZ	**Wahianoa**	**1.25**	**206**	⇑PN	P	04 42 23.3	-0.2
WNVZ	**Wahianoa**	**1.25**	**206**	P	P	04 42 23.3	-0.3
MOVZ	**Moawhango**	**1.27**	**199**	⇑PN	P	04 42 23.1	-0.7
MOVZ				SN	S	04 42 43.8	-1.6
MOVZ	**Moawhango**	**1.27**	**199**	P	P	04 42 23.1	-0.7
PKVZ	**Pokaka**	**1.31**	**214**	PN	P	04 42 23.7	-0.5
MTVZ	**Mangateitei**	**1.34**	**208**	PN	P	04 42 24.2	-0.4
KNZ	**Kokohu**	**1.35**	**127**	PN	P	04 42 24.6	0.0
KNZ				SN	S	04 42 45.8	-1.0
KNZ	**Kokohu**	**1.35**	**127**	P	P	04 42 24.6	0.0
MKAZ	**Moumakai**	**1.41**	**320**	PN	P	04 42 24.9	-0.3
VRZ	**Vera Road**	**1.51**	**232**	⇑PN	P	04 42 26.0	-0.3
VRZ	**Vera Road**	**1.51**	**232**	P	P	04 42 26.0	-0.3
KUZ	**Kuaotunu**	**1.53**	**342**	PN	P	04 42 25.4	-1.0
KUZ	**Kuaotunu**	**1.53**	**342**	P	P	04 42 25.4	-1.0
PUZ	**Puketiti**	**1.55**	**86**	⇓PN	P	04 42 26.2	-0.5
PUZ				SN	S	04 42 49.0	-1.5
PUZ	**Puketiti**	**1.55**	**86**	P	P	04 42 26.2	-0.5
OTAZ	**Otara**	**1.66**	**319**	PN	P	04 42 27.5	-0.3
OTAZ	**Otara**	**1.66**	**319**	P	P	04 42 27.5	-0.3
MXZ	**Matakaoa Point**	**1.72**	**69**	PN	P	04 42 28.3	-0.2
MXZ	**Matakaoa Point**	**1.72**	**69**	P	P	04 42 28.3	-0.1
MTAZ	**Motutapu**	**1.79**	**322**	PN	P	04 42 28.9	-0.4
MTAZ	**Motutapu**	**1.79**	**322**	P	P	04 42 28.9	-0.4
RAEZ	**Rainy Point**	**1.84**	**233**	PN	P	04 42 30.1	+0.3
RAEZ	**Rainy Point**	**1.84**	**233**	P	P	04 42 30.1	+0.3
WAZ	**Wanganui**	**1.85**	**213**	⇑PN	P	04 42 29.3	-0.7
WAZ	**Wanganui**	**1.85**	**213**	P	P	04 42 29.3	-0.6
WTAZ	**Waiatarua**	**1.87**	**312**	PN	P	04 42 29.8	-0.3
WTAZ	**Waiatarua**	**1.87**	**312**	P	P	04 42 29.8	-0.3
TSZ	**Takapari Road**	**1.87**	**188**	PN	P	04 42 29.2	-0.9
TSZ				SN	S	04 42 54.5	-2.0
TSZ	**Takapari Road**	**1.87**	**188**	P	P	04 42 29.2	-0.9
KAAZ	**Kauri Point**	**1.87**	**317**	PN	P	04 42 29.4	-0.8
KAAZ	**Kauri Point**	**1.87**	**317**	P	P	04 42 29.4	-0.8
PXZ	**Pawanui**	**1.88**	**167**	PN	P	04 42 29.8	-0.4
NEZ	**North Egmont**	**2.02**	**238**	PN	P	04 42 32.1	+0.2
NEZ	**North Egmont**	**2.02**	**238**	P	P	04 42 32.1	+0.2
PKE	**Pukeiti**	**2.06**	**241**	PN	P	04 42 32.1	-0.2
PKE				SN	S	04 43 00.8	+0.5
PKE	**Pukeiti**	**2.06**	**241**	P	P	04 42 32.1	-0.2
NRZ	**Ngariki Road**	**2.16**	**238**	PN	P	04 42 33.2	-0.4
NRZ	**Ngariki Road**	**2.16**	**238**	P	P	04 42 33.2	-0.4
NWEZ	**Newall Road**	**2.18**	**240**	PN	P	04 42 33.6	-0.2
BFZ	**Birch Farm**	**2.47**	**181**	PN	P	04 42 35.7

comp=N,38nm,1.1s

ULN	**Ulaanbaatar**	**39.14**	**51**	P	**P**	**05 39 38.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**56.41**	**265**	P	**P**	**05 41 53.3**	**-0.8**
	comp=N,0.9nm,0.6s,mb4.0,baz=60,slow=6.8,SNR=13						
YKA	**Yellowknife Ar**	**86.50**	**358**	P	**P**	**05 44 58.2**	**+4.7**
	comp=N,0.4nm,0.9s,mb3.6,baz=354,slow=5.6,SNR=4.9						
YKA	**Yellowknife Ar**	**86.50**	**358**	P	**P**	**05 44 58.2**	**+4.7**

*IDC **10** 05:33:46.7±0.7,34.82S×54.11E,mb4.1/7,mb1 4.3/8, mb1mx3.9/19,mbtmp4.1/8,MS3.9/8,Ms1 4.0/8, ms1mx3.9/16,Error ellipse: s-maj=30.2km s-min=19.4km az=37.0*

*NEIC **10** 05:33:48.0±0.5,34.85S×54.05E,h10km,mb4.9/1,Error ellipse: s-maj=18.1km s-min=11.7km az=57.0*

*HRVD **10** 05:33:48.0±0.6,34.91S×54.23E,h12km,MW4.9/41, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s41,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.16±.14; $M_{\theta\theta}$0.50±.16; $M_{\phi\phi}$-0.34±.18; $M_{r\theta}$0.14±.42; $M_{r\phi}$1.91±.10; $M_{\theta r}$-1.79±.41; Best double couple: $M_0$2.647×10^{16} NP1:ϕ_s273°, δ48°,λ-5°. NP2:ϕ_s7°, δ86°, λ-138°. Principal axes: T 2.506, Plg25°, Azm132°; N .283, Plg48°, Azm11°; P -2.789, Plg31°, Azm239°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 05:33:46.4±0.7,34.9S±0.1×54.1E±0.2,h10km,n19, σ0s71/9,mb4.2/8,MS4.0/8,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.36**	**338**	P	**P**	**05 37 50.4**	**+0.1**
	1.0nm,0.3s,baz=128,slow=14,SNR=6.8						
LBTB	**Lobatse**	**26.47**	**284**	P	**P**	**05 39 25.1**	**-0.5**
	4.1nm,1.0s,mb3.9,baz=56,slow=13,SNR=3.7						
LBTB				LR	LR	05 47 55.1	
	comp=Z,268nm,20.6s,MS3.8,baz=126,slow=32						
MATP	**Matopo**	**26.73**	**296**	LR	LR	05 48 31.0	
	comp=Z,367nm,19.1s,MS4.0,baz=126,slow=33						
TSUM	**Tsumeb**	**35.82**	**286**	P	**P**	**05 40 48.0**	**0.0**
	2.1nm,0.8s,mb4.1,baz=102,slow=6.9,SNR=4.7						
KMBO	**Kilima Mbogo**	**37.06**	**331**	LR	LR	05 54 09.2	
	comp=Z,177nm,20.2s,MS3.9,baz=276,slow=33						
SNAA	**Sanae**	**46.99**	**201**	P	**P**	**05 42 20.1**	**+1.2**
	1.7nm,1.0s,mb4.0,baz=32,slow=6.5,SNR=4.6						
ATD	**Arta Tunnel**	**47.37**	**345**	LR	LR	06 00 26.6	
	comp=Z,57nm,18.1s,MS3.6,baz=192,slow=34						
QSPA	**South Pole Qui**	**55.30**	**180**	*e*P	**P**	**05 43 20.7**	**-1.1**
	6.9nm,0.6s,mb4.9						
VNDA	**Vanda**	**59.93**	**166**	P	**P**	**05 43 54.2**	**-0.2**
	3.0nm,1.0s,mb4.3,baz=255,slow=5.9,SNR=12						
VNDA				LR	LR	06 06 16.3	
	comp=Z,170nm,19.0s,MS4.2,baz=237,slow=32						
TORD	**Torodi Ar. Bea**	**68.88**	**304**	P	**P**	**05 44 53.9**	**+0.3**
	1.4nm,0.9s,mb3.9,baz=122,slow=4.8,SNR=6.9						
DBIC	**Dimbokro**	**69.15**	**294**	LR	LR	06 13 53.9	
	comp=Z,84nm,18.7s,MS4.0,baz=188,slow=35						
STKA	**Stephens Creek**	**70.78**	**116**	P	**P**	**05 45 06.0**	**+1.1**
	0.8nm,0.6s,mb3.9,baz=329,slow=5.9,SNR=2.9						
WRA	**Warramunga Arr**	**71.12**	**101**	P	**P**	**05 45 06.5**	**-0.7**
	5.7nm,0.9s,mb4.5,baz=235,slow=5.0,SNR=32						
IDI	**Anoyia**	**74.94**	**336**	LR	LR	06 16 51.0	
	comp=Z,80nm,21.3s,MS4.0,baz=259,slow=34						
GNI	**Garni**	**75.15**	**353**	LR	LR	06 20 49.3	
	comp=Z,116nm,18.4s,MS4.2,baz=81,slow=38						
INK	**Inuvik**	**146.25**	**5**	PKPbc	PKPbc	05 53 28.2	+2.1
	1.4nm,0.9s,baz=35,slow=8.8,SNR=7.7						
ILAR	**Eielson Array**	**147.51**	**17**	PKPbc	PKPdf	05 53 30.6	+0.4
	0.5nm,0.6s,baz=306,slow=3.0,SNR=6.5						
YKA	**Yellowknife Ar**	**151.46**	**349**	PKPbc	PKPdf	05 53 41.0	+4.6
	0.4nm,0.5s,baz=19,slow=1.9,SNR=5.8						
YKA	**Yellowknife Ar**	**151.46**	**349**	PKPbc	PKPdf	05 53 41.0	+4.6

*IDC **10** 05:37:57.9±1.6,34.37N×24.20E,mb3.6/2,mb1 3.5/4, mb1mx3.4/21,mbtmp3.4/4,ML3.3/2,Error ellipse: s-maj=45.8km s-min=19.8km az=131.0*

*NEIC **10** 05:37:58.2,34.75N×23.53E,h29km,MD3.4(ATH),After ATH.*

*ATH **10** 05:38:00.7,34.82N×23.74E,h31km±1km,MD3.4/7*

*CSEM **10** 05:38:00.0±0.5,34.75N×23.64E,h21km,MD3.4, Error ellipse: s-maj=11.1km s-min=4.5km az=47.0*

ISC 10 05:37:59.3±1.8,34.8N±0.1×23.6E±0.1,h22km±13km,n15, σ0s96/17,mb3.5/2,1C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.41**	**89**	*e*PB	**Pb**	**05 38 08.0**	**+0.1**
VAM	**Vamos**	**0.77**	**41**	i/PN	**Pn**	**05 38 15.3**	**+0.5**
VAM				eSN	**Sn**	**05 38 25.3**	**-0.4**
IDI	**Anoyia**	**1.17**	**67**	Pn	**Pn**	**05 38 20.8**	**+0.3**
	56nm,0.3s,baz=228,slow=16,SNR=229						
IDI				Sn	**Sn**	**05 38 36.7**	**+0.9**
	59nm,0.3s,baz=148,slow=22,SNR=17						
NPS	**Neapolis**	**1.72**	**75**	*e*PB	**Pb**	**05 38 28.6**	**-1.4**
NPS	**Neapolis**	**1.72**	**75**	*e*Pb	**Pb**	**05 38 30.0**	**0.0**
XRY	**Khrisi**	**1.74**	**88**	*e*PN	**Pn**	**05 38 29.0**	**+0.3**
SANT	**Santorini**	**2.17**	**44**	*e*P	**Pn**	**05 38 35.8**	**+1.0**
SANT	**Santorini**	**2.17**	**44**	*e*P	**Pn**	**05 38 35.8**	**+1.0**
APE	**Apeiranthos**	**2.74**	**35**	i/PN	**Pn**	**05 38 43.7**	**+0.8**
KARP	**Karpathos**	**3.02**	**75**	*e*PN	**Pn**	**05 38 47.5**	**+0.6**
ARG	**Arkhangelos**	**3.96**	**68**	i/PN	**Pn**	**05 38 59.6**	**-0.6**
BRTR	**Keskin Array B**	**9.38**	**56**	Pn	**P**	**05 40 14.1**	**-2.3**
	0.1nm,0.3s,baz=238,slow=14,SNR=3.7						
GERES	**GERESS Array B**	**15.80**	**335**	Pn	**P**	**05 41 51.4**	**+9.3**
	0.1nm,0.3s,baz=156,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**29.30**	**228**	P	**P**	**05 44 03.1**	**+0.6**
	0.2nm,0.4s,mb3.2,baz=29,slow=9.0,SNR=4.2						
MKAR	**Makanchi Array**	**45.03**	**56**	P	**P**	**05 46 13.1**	**-1.9**
	0.8nm,0.5s,mb3.8,baz=267,slow=7.9,SNR=13						

IDC 10 05:39:11.2±2.2,12.59N×144.79E,h60km±16km,mb3.1/4, mb1 3.5/4,mb1mx3.3/17,mbtmp3.4/4,Error ellipse: s-maj=47.6km s-min=22.6km az=105.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.99**	**4**	P	P	05 39 27.8	-1.6
	374nm,0.3s,baz=185,slow=11,SNR=50						
GUMO				S	S	05 39 43.1	+0.2
	241nm,0.3s,baz=297,slow=22,SNR=21						
WRA	**Warramunga Arr**	**33.93**	**198**	P	P	05 45 49.5	-1.4
	0.5nm,0.6s,baz=21,slow=9.7,SNR=6.1						
MKAR	**Makanchi Array**	**62.15**	**316**	P	P	05 49 25.9	-2.6
	0.1nm,0.4s,baz=101,slow=7.3,SNR=3.2						
ILAR	**Eielson Array**	**69.50**	**25**	P	P	05 50 12.4	-2.7
	0.2nm,0.4s,baz=254,slow=5.4,SNR=14						
YKA	**Yellowknife Ar**	**83.77**	**27**	P	P	05 51 34.9	0.0
	0.1nm,0.3s,baz=286,slow=5.1,SNR=8.1						

*DMN **10** 05:39:32.8±0.7,29.10N×82.59E,h10km,Ml4.6/6,Error ellipse: s-maj=17.8km s-min=13.4km az=22.0*

*IDC **10** 05:39:32.9±1.1,29.31N×82.59E,mb3.8/9,mb1 3.9/10, mb1mx3.7/20,mbtmp3.8/10,ML3.9/1,Error ellipse: s-maj=31.0km s-min=22.0km az=46.0*

*NEIC **10** 05:39:33.6±0.6,29.17N×82.34E,h10km,ML4.6(DMN), Error ellipse: s-maj=15.0km s-min=7.7km az=47.0*

*NDI **10** 05:39:35.5±5.0,29.07N×82.37E,h10km,ML3.5*

ISC 10 05:39:33.1±1.6,29.33N±0.05×82.40E±0.04,h13km±10km, n43,σ1s11/49,mb3.8/9,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**1.87**	**145**	*e*Pn	**Pn**	**05 40 05.6**	**+0.3**
KOLN	**Koldanda**	**1.87**	**145**	*e*Sn	**Sn**	**05 40 29.5**	**+0.6**
	4μm,0.8s						
LGTI	**Lohaghat**	**1.89**	**274**	*e*P	**Pn**	**05 40 10.5**	**+5.1**
LGTI				eSB	**Sb**	**05 40 39.5**	**+9.1**
PTH	**Pithoragarh**	**1.92**	**277**	*e*P	**Pn**	**05 40 08.7**	**+2.8**
PTH				eSB	**Sb**	**05 40 36.0**	**+4.6**
GKN	**Gorkha**	**2.37**	**123**	*e*Pn	**Pn**	**05 40 12.5**	**+0.2**
GKN				eSn	**Sn**	**05 40 41.2**	**-0.2**
DMN	**Daman**	**2.93**	**125**	*e*Pn	**Pn**	**05 40 20.7**	**+0.3**
DMN				eSn	**Sn**	**05 40 55.6**	**-0.2**
	626nm,0.5s						
KKN	**Kakani**	**2.96**	**120**	*e*Sn	**Sn**	**05 40 56.5**	**+0.1**
	989nm,0.7s						
KKN	**Kakani**	**2.96**	**120**	*e*Pn	**Pn**	**05 40 20.7**	**-0.1**
KKN				eSn	**Sn**	**05 40 56.5**	**+0.1**
PKI	**Pulchoki**	**3.17**	**123**	*e*Pn	**Pn**	**05 40 24.0**	**+0.2**
PKI				*e*Sn	**Sn**	**05 41 02.5**	**+0.6**
	487nm,0.4s						
KALG	**Kalgarh**	**3.19**	**274**	*e*x	x	05 40 20.8	
GUN	**Gumba**	**3.37**	**114**	*e*Pn	**Pn**	**05 40 26.5**	**-0.1**
GUN				eSn	**Sn**	**05 41 06.8**	**0.0**
	2μm,0.8s						
JIRN	**Jiri**	**3.72**	**116**	*e*Pn	**Pn**	**05 40 31.5**	**-0.1**
JIRN				eSn	**Sn**	**05 41 15.3**	**-0.5**
	554nm,0.6s						
DDI	**Dehra Dun**	**3.91**	**286**	*e*x	x	05 40 41.0	
DDI				*e*x	x	05 41 39.0	
ASOR	**Ausora**	**4.09**	**263**	*e*PB	**Pb**	**05 40 47.7**	**+3.0**
NDI	**New Delhi**	**4.59**	**263**	*e*x	x	05 40 56.5	
NDI				eS	**Sn**	**05 41 37.0**	**-0.7**
AYAN	**Aya Nagar**	**4.70**	**261**	*e*P	**Pn**	**05 40 43.5**	**-2.0**
BHGR	**Bahadurgarh**	**4.83**	**264**	*e*x	x	05 41 03.0	
KKR	**Kurukshetra**	**4.90**	**279**	*e*x	x	05 40 55.1	
SDNR	**Sundarnagar**	**5.17**	**296**	*e*P	**Pn**	**05 40 55.2**	**+3.1**
SDNR				*e*x	x	05 41 10.6	
KUDL	**Kundal**	**5.32**	**259**	*e*P	**Pn**	**05 40 55.0**	**+0.7**
KUDL				AML	AML	05 42 30.4	
	comp=Z,128nm,0.1s						
BHK	**Bhakra**	**5.58**	**293**	*e*x	x	05 41 20.5	
KHET	**Khetri**	**5.93**	**259**	*e*P	**Pn**	**05 41 01.1**	**-1.7**
KHET				eS	**Sn**	**05 42 04.7**	**-6.6**
KHET				AML	AML	05 42 11.8	
	comp=N,45nm,0.4s						
KHET				AML	AML	05 42 13.4	
	comp=Z,28nm,0.5s						
BOK	**Bokaro**	**6.33**	**150**	*e*P	**Pn**	**05 41 04.6**	**-3.9**
BOK				eS	**Sn**	**05 42 13.2**	**-8.2**
BOK				AML	AML	05 42 53.9	
	comp=N,42nm,0.5s						
BOK				AML	AML	05 42 54.3	
	comp=E,56nm,0.5s						
THN	**Thein Dam**	**6.53**	**300**	*e*x	x	05 41 16.2	
THN				eS	**Sn**	**05 42 23.7**	**-2.7**
BHPL	**Bhopal**	**7.53**	**218**	*e*P	**Pn**	**05 41 20.0**	**-5.3**
BHPL				*e*x	x	05 42 42.7	
BHPL				AML	AML	05 43 31.3	
	comp=N,72nm,0.6s						
BHPL				AML	AML	05 43 31.5	
	comp=E,75nm,0.4s						
LSA	**Lhasa**	**7.63**	**85**	*e*P	**Pn**	**05 41 24.8**	**-2.0**
	comp=E,8.9nm,0.6s						
SHL	**Shillong**	**9.22**	**112**	*e*P	**P**	**05 41 45.0**	**-3.8**
SHL				eS	**Sn**	**05 43 24.0**	**-9.4**
HYB	**Hyderabad**	**12.37**	**197**	*i*P	**P**	**05 42 25.0**	**-6.9**
HYB				eS	**S**	**05 44 37.0**	**-14**
HYB	**Hyderabad**	**12.37**	**197**	*e*P	**P**	**05 42 25.0**	**-6.9**
HYB				eS	**S**	**05 44 37.0**	**-14**
POO	**Poona**	**13.28**	**218**	*e*x	x	05 44 58.7	
POO				*e*x	x	05 45 00.5	
KAD	**Karad**	**14.14**	**214**	*e*x	x	05 44 54.1	
MKAR	**Makanchi Array**	**17.44**	**360**	P	**P**	**05 43 36.8**	**-0.9**
	comp=E,0.4nm,0.3s,baz=177,slow=12,SNR=20						
BVAR	**Borovoye Array**	**25.28**	**343**	P	**P**	**05 45 00.5**	**0.0**
	comp=E,1.3nm,0.5s,mb3.8,baz=140,slow=11,SNR=9.5						
SONM	**Songino Array**	**26.16**	**38**	P	**P**	**05 45 09.1**	**+0.3**
	comp=E,1.3nm,0.7s,mb3.6,baz=226,slow=9.7,SNR=9.0						
AKTK	**Aktyubinsk**	**27.97**	**326**	P	**P**	**05 45 25.1**	**-0.1**
AKTO	**Aktyubinsk**	**27.97**	**326**	P	**P**	**05 45 25.1**	**-0.1**
	comp=E,0.9nm,0.5s,mb3.6,baz=110,slow=4.7,SNR=4.1						
AKASG	**Malin Array Be**	**44.86**	**314**	P	**P**	**05 47 50.9**	**+2.2**
	comp=E,1.0nm,0.6s,mb3.8,baz=78,slow=7.6,SNR=5.1						
FINES	**FINESS Array B**	**48.70**	**328**	P	**P**	**05 48 20.3**	**+1.5**
	comp=E,0.6nm,0.6s,mb3.8,baz=127,slow=6.9,SNR=6.7						
FINES	**FINESS Array B**	**48.70**	**328**	P	**P**	**05 48 20.3**	**+1.5**
ARCES	**ARCESS Array B**	**51.40**	**338**	P	**P**	**05 48 40.0**	**+0.6**
	comp=E,5.6nm,1.1s,mb4.4,baz=97,slow=7.3,SNR=4.0						
WRA	**Warramunga Arr**	**70.04**	**128**	P	**P**	**05 50 45.9**	**-1.1**
	comp=E,0.5nm,0.5s,mb3.7,baz=322,slow=6.3,SNR=11						
TORD	**Torodi Ar. Bea**	**75.67**	**277**	P	**P**	**05 51 21.5**	**+1.2**
	comp=E,0.6nm,0.5s,mb3.8,baz=52,slow=5.2,SNR=13						
YKA	**Yellowknife Ar**	**87.49**	**8**	P	**P**	**05 52 21.6**	**+0.4**
	comp=E,0.2nm,0.6s,mb3.5,baz=340,slow=5.2,SNR=6.4						

*CASC **10** 06:06:47.8±1.9,10.26N×86.38W,MD3.8,ML3.3, mb4.0(NEIC)*

*IDC **10** 06:06:51.0±1.4,11.46N×85.22W,mb3.6/7,mb1 4.0/7, mb1mx3.8/20,mbtmp3.6/7,MS2.7/1,Ms1 2.7/1, ms1mx2.4/22,Error ellipse: s-maj=92.2km s-min=10.3km az=72.0*

*NEIC **10** 06:06:53.6±0.5,11.39N×85.24W,h20km,mb4.0/2,Error ellipse: s-maj=36.3km s-min=8.0km az=65.0*

ISC 10 06:06:49.4±1.6,10.26N±0.06×86.42W±0.07,h26km±13km, n39,σ1s00/41,mb3.7/9,7C-6D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.78**	**100**	*e*P	**Pb**	**06 07 04.0**	**-0.3**
SSNN	**San Juan del S**	**1.17**	**29**	*e*P	**Pn**	**06 07 09.7**	**-0.6**
SSNN				eS	**Sn**	**06 07 26.3**	**+0.9**
LIM1	**Limonal**	**1.22**	**69**	*e*P	**Pn**	**06 07 10.2**	**-0.9**
MADN	**Villa Maderas**	**1.44**	**37**	*e*P	**Pn**	**06 07 14.0**	**-0.1**
JTS	**JuntasAbangare**	**1.44**	**89**	Pg	**Pn**	**06 07 13.0**	**-1.2**
	28nm,0.3s,baz=306,slow=19,SNR=27						
JTS				Lg		06 07 30.3	
	60nm,0.3s,baz=308,slow=20,SNR=14						
CONN	**Concepcion**	**1.51**	**31**	*e*P	**Pn**	**06 07 15.0**	**-0.2**
APON	**Apoyo**	**1.68**	**12**	*e*P	**Pn**	**06 07 17.5**	**-0.1**
FORC	**Fortuna**	**1.73**	**83**	*e*P	**Pn**	**06 07 18.6**	**+0.2**
TICN	**Ticuantepe**	**1.77**	**6**	*e*P	**Pn**	**06 07 19.7**	**+0.8**
XAVN	**Gruta Xavier**	**1.88**	**3**	*e*P	**Pn**	**06 07 20.9**	**+0.4**
MGAN	**Managua**	**1.88**	**5**	*e*P	**Pn**	**06 07 19.8**	**-0.7**
MGAN				eS	**Sn**	**06 07 48.9**	**+5.3**
MGAN				*i*		06 07 55.9	
	comp=E,325nm,0.7s						
WILN	**Americas 2**	**1.90**	**7**	*e*P	**Pn**	**06 07 21.0**	**+0.2**
WILN				eS	**Sn**	**06 07 49.4**	**+5.2**
COPN	**Copaltepe**	**1.92**	**355**	*e*P	**Pn**	**06 07 21.4**	**+0.4**
PRS1	**Puriscal**	**2.09**	**97**	*e*P	**Pn**	**06 07 23.3**	**-0.2**
MOMJ	**Momotombo**	**2.14**	**357**	*e*P	**Pn**	**06 07 23.8**	**-0.4**
VPS2	**Volcan Poas 2**	**2.15**	**92**	*e*P	**Pn**	**06 07 24.8**	**+0.5**
MIRN	**Miramar**	**2.19**	**352**	*e*P	**Pn**	**06 07 25.2**	**+0.3**
LEON	**Leon**	**2.19**	**348**	*e*P	**Pn**	**06 07 25.2**	**+0.2**
CNGN	**Cerro Negro**	**2.25**	**353**	*e*P	**Pn**	**06 07 25.8**	**+0.1**
LAJ	**Bijagual**	**2.29**	**100**	*e*P	**Pn**	**06 07 22.0**	**-4.4**
TEL3	**Telica 3**	**2.34**	**350**	*e*P	**Pn**	**06 07 26.9**	**-0.1**
TELN	**Telica**	**2.37**	**350**	*e*P	**Pn**	**06 07 26.8**	**-0.7**
LCR2	**La Lucha 2**	**2.43**	**102**	*e*P	**Pn**	**06 07 28.4**	**0.0**
ICR	**Volcan Irazu**	**2.56**	**96**	*e*P	**Pn**	**06 07 32.1**	**+1.9**
BUS	**Buena Vista**	**2.71**	**105**	*e*P	**Pn**	**06 07 33.0**	**+0.6**
OTAV	**Otavalo**	**12.72**	**141**	P	**P**	**06 09 57.5**	**+5.8**
ROSC	**El Rosal**	**13.12**	**113**	LR	LR	06 13 52.3	
	comp=E,32nm,19.5s,baz=29,slow=33						
SWET	**Sewanee**	**24.85**	**1**	P	**P**	**06 12 04.4**	**-6.9**
TXAR	**Lajitas Array**	**24.91**	**322**	P	**P**	**06 12 14.0**	**+2.0**
	comp=E,1.0nm,0.8s,mb3.4,baz=135,slow=11,SNR=13						
TXAR	**Lajitas Array**	**24.91**	**322**	P	**P**	**06 12 14.0**	**+2.0**
WMOK	**Wichita Mounta**	**26.86**	**337**	*e*P	**P**	**06 12 28.1**	**-1.9**
	comp=E,5.2nm,0.9s,mb4.1						
ANMO	**Albuquerque**	**30.64**	**326**	P	**P**	**06 13 04.8**	**+0.9**
	comp=E,0.8nm,0.6s,mb3.8,baz=153,slow=4.5,SNR=4.4						
TPNV	**Topopah Spring**	**37.83**	**319**	P	**P**	**06 14 08.5**	**+2.8**
	comp=E,1.7nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**38.17**	**332**	P	**P**	**06 14 08.0**	**-0.6**
	comp=E,0.3nm,0.5s,mb3.3,baz=120,slow=12,SNR=2.9						
NVAR	**Mina Array Bea**	**40.02**	**320**	P	**P**	**06 14 27.3**	**+3.3**
	comp=E,0.7nm,0.7s,mb3.5,baz=136,slow=8.0,SNR=8.3						
PLCA	**Paso Flores**	**52.81**	**165**	P	**P**	**06 16 15.4**	**+10**
	comp=E,2.0nm,1.0s,mb4.0,baz=352,slow=14,SNR=2.4						
YKA	**Yellowknife Ar**	**55.98**	**345**	P	**P**	**06 16 25.3**	**-2.5**
	comp=E,0.4nm,0.8s,mb3.5,baz=138,slow=7.1,SNR=7.6						
YKA	**Yellowknife Ar**	**55.98**	**345**	P	**P**	**06 16 25.3**	**-2.5**
ILAR	**Eielson Array**	**68.42**	**336**	P	**P**	**06 17 49.5**	**-1.5**
	comp=E,0.4nm,0.8s,mb3.5,baz=108,slow=5.7,SNR=3.3						

MAN 10 06:28:11.1,17.66N×120.85E,h7km,mb4.5,ML3.4,MS3.3, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.13**	**266**	*e*P	Pg	06 28 14.7	+0.7
APYP	**Conner**	**0.43**	**62**	*e*P	Pg	06 28 19.6	-0.1
APYP				eS	Sg	06 28 26.8	+1.3
CVP	**Callao Caves**	**0.93**	**87**	i/P	Pb	06 28 28.0	-1.1
CVP				*i* S	Sb	06 28 42.5	+1.1
CAUP	**Cauayan**	**1.17**	**127**	*e*P	Pb	06 28 33.1	-0.2
CAUP				eS	Sb	06 28 51.9	+3.4
SGCP	**Mt. Cagua**	**1.28**	**63**	*e*P	Pb	06 28 34.9	-0.2

*NEIC **10** 06:34:21.5±0.8,51.58N×177.77E,mb3.7/2,ML3.3(AEIC), Error ellipse: s-maj=21.5km s-min=7.8km az=187.0*

*IDC **10** 06:34:21.8±1.4,51.59N×177.83E,h45km±7km,mb3.4/11, mb1 3.7/13,mb1mx3.6/24,mbtmp3.7/13,ML3.1/1,MS3.7/1, Ms1 3.7/1,ms1mx3.1/20,Error ellipse: s-maj=36.9km s-min=10.0km az=11.0*

ISC 10 06:34:19.8±1.6,51.6N±0.2×177.8E±0.1,h46km±12km, h46km±2.5km:pP-P,n26,σ0s74/26,mb3.7/13,MS3.7/1,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**3.09**	**85**	P	**P**	**06 35 07.9**	**+0.5**
FX1	**Attu Island--F**	**3.13**	**296**	P	**P**	**06 35 07.0**	**-1.0**
	6.8nm,0.3s,baz=148,slow=3.4,SNR=20						
FX1				S	**S**	**06 35 45.4**	**+0.9**
	11nm,0.3s,baz=267,slow=23,SNR=8.0						
FX1	**Attu Island--F**	**3.13**	**296**	*e*P	**P**	**06 35 06.9**	**-1.1**
KDAK	**Kodiak Island**	**18.11**	**58**	P	**P**	**06 38 28.8**	**-0.5**
	2.4nm,0.3s,baz=267,slow=9.8,SNR=20						
IMA2	**Indian Mountai**	**20.42**	**34**	P	**P**	**06 38 53.9**	**-1.3**
ILAR	**Eielson Array**	**22.44**	**40**	P	**P**	**06 39 15.4**	**-0.2**
	0.5nm,0.7s,mb3.0,baz=240,slow=7.9,SNR=8.3						
DAWY	**Dawson**	**25.42**	**44**	P	**P**	**06 39 45.7**	**+1.4**
INK	**Inuvik**	**28.52**	**36**	P	**P**	**06 40 13.3**	**+0.7**
	0.8nm,0.8s,mb3.5,baz=352,slow=33,SNR=5.9						
INK	**Inuvik**	**28.52**	**36**	P	**P**	**06 40 13.3**	**+0.7**
YKA	**Yellowknife Ar**	**36.62**	**46**	P	**P**	**06 41 22.9**	**-0.1**
	0.2nm,0.6s,mb3.1,baz=284,slow=7.9,SNR=4.3						
YKA				pP	pP	06 41 35.0	-0.4
	0.6nm,0.8s,baz=283,slow=7.9,SNR=4.7						
YKA	**Yellowknife Ar**	**36.62**	**46**	P	**P**	**06 41 22.9**	**-0.1**
YKA				pP	pP	06 41 35.0	-0.4
SONM	**Songino Array**	**44.64**	**295**	P	**P**	**06 42 29.6**	**+0.5**
	0.6nm,0.7s,mb3.6,baz=53,slow=9.1,SNR=3.2						
SONM				pP	pP	06 42 42.9	+1.1
	1.1nm,0.8s,baz=80,slow=9.0,SNR=5.1						
HLID	**Hailey**	**44.91**	**72**	P	**P**	**06 42 31.5**	**+0.1**
	0.5nm,0.6s,mb3.5						
NVAR	**Mina Array Bea**	**45.62**	**81**	P	**P**	**06 42 37.8**	**+0.6**
	0.4nm,0.6s,mb3.5,baz=288,slow=6.3,SNR=4.5						
GUMO	**Guam**	**46.24**	**227**	LR	LR	07 00 42.5	
	comp=Z,93nm,20.9s,MS3.7,baz=75,slow=34						
TPNV	**Topopah Spring**	**47.82**	**81**	*e*P	**P**	**06 42 54.8**	**+0.3**
	1.0nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**48.26**	**70**	P	**P**	**06 42 56.5**	**-1.2**
	0.4nm,0.5s,mb3.7,baz=349,slow=4.6,SNR=3.5						
ARCES	**ARCESS Array B**	**57.50**	**349**	P	**P**	**06 44 05.8**	**-0.2**
	5.6nm,1.1s,mb4.5,baz=33,slow=7.9,SNR=11						
ARCES	**ARCESS Array B**	**57.50**	**349**	P	**P**	**06 44 05.8**	**-0.2**
MKAR	**Makanchi Array**	**58.22**	**306**	P	**P**	**06 44 10.3**	**-1.0**
	0.4nm,0.6s,mb3.6,baz=60,slow=4.3,SNR=5.5						
MKAR				pP	pP	06 44 24.3	-0.1
	1.1nm,0.8s,baz=58,slow=5.9,SNR=6.2						
MKAR	**Makanchi Array**	**58.22**	**306**	P	**P**	**06 44 10.3**	**-1.0**
MKAR				pP	pP	06 44 24.3	-0.1
TXAR	**Lajitas Array**	**60.71**	**79**	P	**P**	**06 44 28.8**	**0.0**
	0.6nm,0.5s,mb4.0,baz=298,slow=5.3,SNR=19						
TXAR				pP	pP	06 44 40.9	-0.9
	0.3nm,0.6s,baz=318,slow=5.0,SNR=3.7						
TXAR	**Lajitas Array**	**60.71**	**79**	P	**P**	**06 44 28.8**	**0.0**
TXAR				pP	pP	06 44 40.9	-0.9
FINES	**FINESS Array B**	**65.08**	**345**	P	**P**	**06 44 56.9**	**-0.1**
	1.6nm,0.8s,mb4.1,baz=31,slow=8.1,SNR=3.4						
NOA	**NORSAR Array B**	**67.21**	**353**	P	**P**	**06 45 11.2**	**+0.7**
	0

ellipse: s-maj=55.0km s-min=50.4km az=134.0
ISC 10 07:28:02.2±0.3,**42.91N**±0.03×**45.89E**±0.03,**h48**km±5km,
n69,σ1°15'108,mb3.5/8,16C-13D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UNCR	**Uncukul**	**0.70**	**106**	↑*i*P		**P**	**07 28 15.5**	**-0.3**
UNCR				S		**S**	**07 28 25.0**	**-0.9**
UNCR				pmax	pmax			
	comp=Z,957nm,0.3s							
UNCR	**Uncukul**	**0.70**	**106**	*i* P		**P**	**07 28 15.5**	**-0.3**
	comp=Z,957nm,0.3s							
UNCR				S		**S**	**07 28 25.0**	**-0.9**
DBC	**Dubki**	**0.70**	**81**	↓*i*P		**P**	**07 28 17.0**	**+1.1**
DBC				pmax	pmax			
	comp=Z,482nm,0.2s							
DBC	**Dubki**	**0.70**	**81**	*i* P		**P**	**07 28 17.0**	**+1.1**
	comp=Z,482nm,0.2s							
KRNR	**Karanay**	**0.76**	**96**	↑*i*P		**P**	**07 28 18.0**	**+1.4**
KRNR				*i* S		**S**	**07 28 30.7**	**+3.4**
KRNR				pmax	pmax			
	comp=Z,697nm,0.2s							
KRNR	**Karanay**	**0.76**	**96**	*i* P		**P**	**07 28 18.0**	**+1.4**
	comp=Z,697nm,0.2s							
KRNR				*i* S		**S**	**07 28 30.7**	**+3.4**
VLKR	**Vladikavkaz**	**0.90**	**279**	↑*i*P		**P**	**07 28 18.6**	**0.0**
VLKR				*i* S		**S**	**07 28 31.0**	**+0.2**
BUJR	**Buynaksk**	**0.90**	**95**	↑*i*P		**P**	**07 28 23.2**	**+4.5**
BUJR				*i* S		**S**	**07 28 38.0**	**+7.1**
BUJR				pmax	pmax			
	comp=Z,649nm,0.2s							
BUJR	**Buynaksk**	**0.90**	**95**	*i* P		**P**	**07 28 23.2**	**+4.5**
	comp=Z,649nm,0.2s							
BUJR				*i* S		**S**	**07 28 38.0**	**+7.1**
GNBR	**Gunib**	**0.95**	**123**	↓*i*P		**P**	**07 28 18.8**	**-0.6**
GNBR				*e*S		**S**	**07 28 32.8**	**+0.7**
GNBR				pmax	pmax			
	comp=Z,229nm,0.2s							
GNBR	**Gunib**	**0.95**	**123**	*i* P		**P**	**07 28 18.8**	**-0.6**
	comp=Z,229nm,0.2s							
GNBR				*e*S		**S**	**07 28 32.8**	**+0.7**
BTKR	**Batakoyurt**	**1.09**	**296**	↓*i*P		**P**	**07 28 22.2**	**+0.9**
BTKR				*i* S		**S**	**07 28 37.3**	**+1.9**
TRKR	**Terskaya**	**1.17**	**314**	↑*i*P		**P**	**07 28 24.1**	**+1.7**
TRKR				*i* S		**S**	**07 28 40.8**	**+3.3**
LACR	**Lac**	**1.17**	**266**	↓*i*P		**P**	**07 28 21.0**	**-1.4**
LACR				*i* S		**S**	**07 28 35.5**	**-2.1**
KMKR	**Kumukh**	**1.19**	**131**	↓*i*P		**P**	**07 28 22.0**	**-0.7**
KMKR				*i* S		**S**	**07 28 38.0**	**+0.1**
KMKR				pmax	pmax			
	comp=Z,316nm,0.2s							
KMKR	**Kumukh**	**1.19**	**131**	*i* P		**P**	**07 28 22.0**	**-0.7**
	comp=Z,316nm,0.2s							
KMKR				*i* S		**S**	**07 28 38.0**	**+0.1**
MAK	**Makhachkala**	**1.19**	**87**	↓*i*P		**P**	**07 28 30.3**	**+7.6**
MAK				pmax	pmax			
	comp=Z,51nm,0.6s							
MAK	**Makhachkala**	**1.19**	**87**	*i* P		**P**	**07 28 30.3**	**+7.6**
	comp=Z,51nm,0.6s							
ARNR	**Ardon**	**1.21**	**284**	↑*i*P		**P**	**07 28 22.8**	**-0.2**
ARNR				*i* S		**S**	**07 28 38.4**	**-0.1**
KMSR	**Komsomolskaya**	**1.25**	**292**	↑*i*P		**P**	**07 28 24.2**	**+0.5**
KMSR				*i* S		**S**	**07 28 40.7**	**+1.0**
KORR	**Kora**	**1.35**	**278**	↑*i*P		**P**	**07 28 24.2**	**-0.9**
KORR				*i* S		**S**	**07 28 41.1**	**-0.9**
PRTR	**Priterechnaya**	**1.44**	**306**	↑*i*P		**P**	**07 28 27.2**	**+0.8**
PRTR				*i* S		**S**	**07 28 46.7**	**+2.4**
TI2	**Plekhanov**	**1.45**	**216**	*d*↓*i*P		**P**	**07 28 26.2**	**-0.3**
TI2				*i* S		**S**	**07 28 44.2**	**-0.3**
TI2				smax				
	comp=E,4μm,2.2s							
TI2				smax				
	comp=E,1μm,1.5s							
TI2	**Plekhanov**	**1.45**	**216**	↓*i*P		**P**	**07 28 26.2**	**-0.3**
	comp=E,800nm,1.6s							
TI2				*i* S		**S**	**07 28 44.2**	**-0.3**
SAMG	**Sameba**	**1.45**	**214**	P		**P**	**07 28 24.9**	**-1.6**
SAMG				S		**S**	**07 28 43.0**	**-1.5**
TBLG	**Delisi**	**1.46**	**216**	P		**P**	**07 28 26.9**	**+0.3**
TBLG				S		**S**	**07 28 44.9**	**+0.3**
MTA	**Mtatsminda**	**1.46**	**214**	P		**P**	**07 28 26.7**	**+0.1**
MTA				S		**S**	**07 28 44.8**	**-0.1**
URKR	**Urkarakh**	**1.49**	**119**	*e*P		**P**	**07 28 25.0**	**-2.1**
URKR				*i* S		**S**	**07 28 46.0**	**+0.5**
URKR				pmax	pmax			
	comp=Z,214nm,0.3s							
URKR	**Urkarakh**	**1.49**	**119**	*e*P		**P**	**07 28 25.0**	**-2.1**
	comp=Z,214nm,0.3s							
URKR				*i* S		**S**	**07 28 46.0**	**+0.5**
DGRG	**David-gareji**	**1.51**	**195**	P		**P**	**07 28 27.9**	**+0.6**
DGRG				S		**S**	**07 28 48.6**	**+2.6**
LSNR	**Lesken**	**1.56**	**284**	↓*i*P		**P**	**07 28 27.2**	**-0.8**
LSNR				*i* S		**S**	**07 28 46.8**	**-0.4**
ONI	**Oni**	**1.82**	**260**	P		**P**	**07 28 31.7**	**0.0**
ONI				S		**S**	**07 28 53.7**	**-0.1**
AKH	**Akhalkalaki**	**2.33**	**231**	P		**P**	**07 28 39.8**	**+1.0**
AKH				S		**S**	**07 29 08.1**	**+1.7**
KUB	**Quba**	**2.50**	**128**	*c*↓*i*P		**P**	**07 28 33.8**	**-7.6**
KIV	**Kislovodsk**	**2.55**	**295**	*c*↓*i*P		**P**	**07 28 40.4**	**-1.7**
GNI	**Garni**	**2.89**	**198**	Pn		**P**	**07 28 46.9**	**0.0**
	comp=Z,4.8nm,0.3s,baz=341,slow=4.0,SNR=18							
GNI				Pg		**P**	**07 28 50.8**	**+3.9**
	comp=Z,17nm,0.3s,baz=10,slow=11,SNR=25							
GNI				Lg			07 29 28.1	
	comp=Z,15nm,0.3s,baz=22,slow=19,SNR=4.1							
GNI	**Garni**	**2.89**	**198**	*d*↓*i*P		**P**	**07 28 47.0**	**+0.1**
GNI	**Garni**	**2.89**	**198**	*i* P		**P**	**07 28 47.0**	**+0.1**
GOF	**Gofitskoye**	**2.97**	**317**	*e*P		**P**	**07 28 47.0**	**-1.1**
GOF				*i* S		**S**	**07 29 21.5**	**-1.3**
GOF				pmax	pmax			
	comp=Z,27nm,0.8s							
GOF				smax				
	comp=E,114nm,0.8s							
GOF	**Gofitskoye**	**2.97**	**317**	*e*P		**P**	**07 28 47.0**	**-1.1**
	comp=E,27nm,0.8s							
GOF				*i* S		**S**	**07 29 21.5**	**-1.3**
DIGO	**Kars**	**3.12**	**218**	*i* P		**P**	**07 28 53.3**	**+3.0**
DIGO				*i* S		**S**	**07 29 34.8**	**+8.2**
ARTV	**Artvin**	**3.42**	**241**	*i* P		**P**	**07 28 53.5**	**-0.8**
ARTV				*i* S		**S**	**07 29 41.4**	**+7.4**
AKTK	**Aktyubinsk**	**11.22**	**44**	P		**P**	**07 30 40.4**	**-2.1**
	comp=E,1.0nm,0.3s							
AKTK				S		**S**	**07 32 38.5**	**-8.9**
	comp=E,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**11.22**	**44**	↑Pn		**P**	**07 30 41.4**	**-1.0**
	comp=E,0.7nm,0.8s							
AKTO				↑Sn		**S**	**07 32 38.1**	**-9.3**
	comp=E,0.8nm,0.6s							
AKTO	**Aktyubinsk**	**11.22**	**44**	Pn		**P**	**07 30 40.4**	**-2.1**
	comp=E,0.7nm,0.3s,baz=218,slow=11,SNR=14							
AKTO				Sn		**S**	**07 32 38.5**	**-8.9**
	comp=E,0.5nm,0.3s,baz=90,slow=19,SNR=4.2							
AKTO	**Aktyubinsk**	**11.22**	**44**	P		**P**	**07 30 40.4**	**-2.1**
AKTO							07 32 38.5	
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKTO				smax				
	comp=N,1.0nm,0.3s							
AB31	**Akbulak array**	**11.63**	**52**	Pn		**P**	**07 30 46.8**	**-1.3**
	comp=N,1.2nm,0.3s,baz=242,slow=12,SNR=36							
AB31				↑Sn		**S**	**07 32 51.4**	**-6.1**
	comp=N,6.6nm,0.7s,baz=249,slow=22							
OBN	**Obninsk**	**13.64**	**337**	↑*e*P		**P**	**07 31 13.6**	**-1.0**
OBN				pmax	pmax			
	comp=Z,7.0nm,0.6s							
OBN				MLR	MLR			
	comp=Z,200nm,14.0s							
OBN	**Obninsk**	**13.64**	**337**	*e*P		**P**	**07 31 13.6**	**-1.0**
	comp=Z,200nm,14.0s							
AKASG	**Malin Array Be**	**13.80**	**310**	Pn		**P**	**07 31 11.9**	**-4.8**
	comp=Z,0.7nm,0.3s,baz=115,slow=11,SNR=3.9							
AKASG	**Malin Array Be**	**13.80**	**310**	P		**P**	**07 31 11.9**	**-4.8**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ARU	**Arti**	**15.79**	**27**	*e*P			07 31 59.5	
KK31	**Karatay Array**	**18.00**	**81**	P		**P**	**07 32 10.0**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=301,slow=11,SNR=8.8							
KK31				↓S		**S**	**07 35 27.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=274,slow=26,SNR=4.4							
BVA0	**Borovoye Array**	**19.18**	**50**	↓P		**P**	**07 32 25.6**	**+1.3**
	comp=Z,0.8nm,1.4s,baz=261,slow=14,SNR=9.1							
BVA0				↑S		**S**	**07 35 47.1**	**-5.9**
	comp=Z,0.6nm,1.4s							
BVAR	**Borovoye Array**	**19.18**	**50**	P		**P**	**07 32 24.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=249,slow=13,SNR=5.5							
AAK	**Ala-Archa**	**20.96**	**81**	*e*P		**P**	**07 32 41.8**	**-1.4**
AAK				pmax	pmax			
	comp=Z,5.0nm,2.5s							
AAK	**Ala-Archa**	**20.96**	**81**	*e*P		**P**	**07 32 41.8**	**-1.4**
	comp=Z,5.0nm,2.5s							
FINES	**FINESS Array B**	**22.02**	**334**	P		**P**	**07 32 55.0**	**+1.4**
	comp=Z,1.7nm,0.6s,mb3.7,baz=143,slow=11,SNR=10							
FINES	**FINESS Array B**	**22.02**	**334**	P		**P**	**07 32 55.0**	**+1.4**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
GERES	**GERESS Array B**	**23.07**	**296**	P		**P**	**07 33 04.7**	**+0.8**
	comp=Z,0.9nm,0.6s,mb3.4,baz=106,slow=9.7,SNR=9.5							
GERES	**GERESS Array B**	**23.07**	**296**	P		**P**	**07 33 04.7**	**+0.8**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MK31	**Makanchi Array**	**25.95**	**69**	↓P		**P**	**07 33 32.9**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.3,baz=183,slow=23,SNR=6.0							
MKAR	**Makanchi Array**	**25.95**	**69**	P		**P**	**07 33 32.6**	**+1.1**
	comp=Z,0.2nm,0.3s,mb3.1,baz=269,slow=8.7,SNR=6.3							
HFS	**Hagfors**	**26.04**	**323**	P		**P**	**07 33 32.6**	**+0.3**
	comp=Z,2.3nm,0.8s,mb3.8,baz=131,slow=13,SNR=3.6							
HFS	**Hagfors**	**26.04**	**323**	P		**P**	**07 33 32.6**	**+0.3**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**28.68**	**345**	P		**P**	**07 33 56.5**	**+0.3**
	comp=Z,1.5nm,0.8s,mb3.8,baz=153,slow=11,SNR=5.1							
ARCES	**ARCESS Array B**	**28.68**	**345**	P		**P**	**07 33 56.5**	**+0.3**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**48.20**	**246**	P		**P**	**07 36 37.7**	**-2.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=31,slow=8.7,SNR=8.3							
TORD				ScP			07 42 00.6	
	comp=Z,0.6nm,0.9s,baz=49,slow=3.5,SNR=4.3							
YKA	**Yellowknife Ar**	**73.78**	**351**	P		**P**	**07 39 32.6**	**+0.2**
	comp=Z,0.2nm,0.7s,mb3.1,baz=11,slow=5.8,SNR=6.1							

*IDC **10** 08:06:38.1±1.0,54.69S×159.02E,mb4.6/3,mb1 4.7/4, mb1mx4.5/8,mbtmp4.6/4,ML4.3/1,MS4.2/6,Ms1 4.2/6, ms1mx4.0/16, Error ellipse: s-maj=34.4km s-min=26.8km az=150.0*
*MOS **10** 08:06:38.7±1.5,54.43S×159.35E,h10km,mb5.1/6, Error ellipse: s-maj=38.8km s-min=14.9km az=99.0*
*NEIC **10** 08:06:41.0±0.4,54.52S×158.94E,h10km,mb4.7/12, Error ellipse: s-maj=10.7km s-min=6.8km az=134.0*
ISC 10 08:06:39.1±0.5,**54.47S**±0.07×**159.1E**±0.1,**h10**km,**n65,**
σ1°12/46,mb4.7/13,MS4.2/5,3C-1D,Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WHZ	**Wether Hill Ro**	**10.29**	**37**	PN		**P**	**08 09 09.4**	**-0.4**
WHZ	**Wether Hill Ro**	**10.29**	**37**	*e*P		**P**	**08 09 08.4**	**-1.4**
DCZ	**Deep Cove**	**10.39**	**33**	PN		**P**	**08 09 13.7**	**+2.6**
DCZ	**Deep Cove**	**10.39**	**33**	P		**P**	**08 09 13.7**	**+2.6**
MLZ	**Mavora Lakes**	**10.85**	**36**	PN		**P**	**08 09 16.5**	**-0.8**
MLZ	**Mavora Lakes**	**10.85**	**36**	*e*P		**P**	**08 09 17.4**	**0.0**
TUZ	**Tuapeka**	**10.87**	**43**	PN		**P**	**08 09 17.3**	**-0.4**
TUZ				SN		**S**	**08 11 13.4**	**-7.1**
TUZ	**Tuapeka**	**10.87**	**43**	*e*P		**P**	**08 09 18.0**	**+0.3**
TUZ				S		**S**	**08 11 13.4**	**-7.1**
EAZ	**Earnscleugh**	**11.35**	**40**	PN		**P**	**08 09 24.2**	**-0.1**
EAZ	**Earnscleugh**	**11.35**	**40**	*e*P		**P**	**08 09 25.5**	**+1.2**
ODZ	**Otahua Downs**	**12.03**	**43**	PN		**P**	**08 09 32.5**	**-0.9**
ODZ	**Otahua Downs**	**12.03**	**43**	*e*P		**P**	**08 09 32.5**	**-0.9**
JCZ	**Jackson Bay**	**12.16**	**35**	PN		**P**	**08 09 36.5**	**+1.3**
JCZ	**Jackson Bay**	**12.16**	**35**	*e*P		**P**	**08 09 39.0**	**+3.7**
RPZ	**Rata Peaks**	**13.30**	**41**	Pn		**P**	**08 09 51.7**	**+1.3**
	1.6nm,0.3s,baz=43,slow=1.8,SNR=6.4							
RPZ				Sn		**S**	**08 12 14.6**	**-4.8**
	0.8nm,0.3s,baz=24,slow=15,SNR=3.9							
RPZ				LR	LR		08 14 17.8	
	comp=Z,629nm,19.8s,baz=204,slow=34							
TOO	**Toolangi**	**19.29**	**326**	*e*P		**P**	**08 11 07.4**	**+0.9**
	18nm,1.1s							
TOO	**Toolangi**	**19.29**	**326**	*e*P		**P**	**08 11 07.4**	**+0.9**
TOO				pmax	pmax			
	comp=Z,18nm,1.1s							
URZ	**Urewera**	**20.34**	**45**	P		**P**	**08 11 18.1**	**0.0**
	comp=Z,3.7nm,0.3s,baz=144,slow=23,SNR=17							
URZ				LR	LR		08 19 37.9	
	comp=Z,642nm,18.1s,MS4.0,baz=239,slow=38							
VNDA	**Vanda**	**23.17**	**178**	P		**P**	**08 11 48.1**	**+2.1**
	comp=Z,2.1nm,1.1s,baz=346,slow=7.2,SNR=4.0							
VNDA				LR	LR		08 19 11.7	
	comp=Z,681nm,19.5s,MS4.1,baz=340,slow=33							
VNDA	**Vanda**	**23.17**	**178**	*e*P		**P**	**08 11 47.3**	**+1.2**
VNDA				pmax	pmax			
	comp=Z,4.0nm,1.4s							
VNDA	**Vanda**	**23.17**	**178**	*e*P		**P**	**08 11 47.3**	**+1.2**
	comp=Z,4.3nm,1.4s,mb3.7							
STKA	**Stephens Creek**	**25.78**	**324**	*e*P		**P**	**08 12 13.2**	**+1.6**
	comp=Z,9.6nm,1.0s,mb4.3							
STKA	**Stephens Creek**	**25.78**	**324**	P		**P**	**08 12 13.3**	**+1.8**
	comp=Z,9.9nm,1.0s,mb4.3,baz=151,slow=8.0,SNR=14							
STKA				LR	LR		08 20 46.0	
	comp=Z,636nm,19.2s,MS4.2,baz=313,slow=33							
STKA	**Stephens Creek**	**25.78**	**324**	*e*P		**P**	**08 12 11.3**	**-0.3**
STKA				*e*PcP	PcP		08 15 40.0	-2.0
CASY	**Casey**	**25.98**	**224**	*e*P		**P**	**08 12 14.9**	**+1.9**
	comp=Z,9.1nm,0.6s,mb4.5							
RAO	**Raoul Island**	**30.21**	**43**	P		**P**	**08 12 51.0**	**-0.7**
	comp=Z,90nm,0.3s,baz=73,slow=19,SNR=2.6							
FORT	**Forrest**	**32.42**	**304**	*e*P		**P**	**08 13 10.6**	**-0.6**
	comp=Z,21nm,0.8s,mb5.0							
QSPA	**South Pole Qui**	**35.65**	**180**	*e*P		**P**	**08 13 38.2**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.2							
CTAO	**Charters Tower**	**35.68**	**339**	*e*P		**P**	**08 13 40.0**	**+0.6**
CTAO				*e*			08 16 07.6	
CTAO				pmax	pmax			
	comp=Z,40nm,1.3s,mb5.2							
CTAO	**Charters Tower**	**35.68**	**339**	*e*P		**P**	**08 13 40.0**	**+0.7**
	comp=Z,40nm,1.3s,mb5.2							
CTAO				*e*PcP	PcP		08 16 07.6	-0.3
NWAO	**Narrogin (SRO)**	**36.38**	**289**	*e*P		**P**	**08 13 44.7**	**-0.4**
NWAO				pmax	pmax			
	comp=Z,7.0nm,0.6s							
NWAO	**Narrogin (SRO)**	**36.38**	**289**	*e*P		**P**	**08 13 44.7**	**-0.4**
	comp=Z,6.7nm,0.6s,mb4.8							
KLBR	**Kellerberrin**	**37.11**	**291**	*e*P		**P**	**08 13 51.5**	**+0.2**
	comp=Z,18nm,0.8s,mb5.0							
WB2	**Warramunga Arr**	**39.27**	**322**	*e*P		**P**	**08 14 08.8**	**-0.7**
WRA	**Warramunga Arr**	**39.27**	**322**	P		**P**	**08 14 09.0**	**-0.5**
	comp=Z,21nm,1.0s,mb4.8,baz=156,slow=7.2,SNR=40							
WRA				PcP	PcP		08 16 17.3	-1.7
	comp=Z,4.6nm,1.0s,baz=166,slow=2.8,SNR=8.1							
WRAB	**Tennant Creek**	**39.27**	**322**	*e*P		**P**	**08 14 08.5**	**-1.0**
MBWA	**Marble Bar**	**44.53**	**302**	*e*P		**P**	**08 14 52.0**	**-0.5**
	comp=Z,10nm,0.9s,mb4.7							
AFI	**Afiamalu**	**46.45**	**41**	*e*P		**P**	**08 15 04.6**	**-3.2**
AFI				pmax	pmax			
	comp=Z,27nm,1.0s,mb5.1							
AFI	**Afiamalu**	**46.45**	**41**	*e*P		**P**	**08 15 04.6**	**-3.2**
	comp=Z,27nm,1.0s,mb5.1							
TBI	**Tubuai**	**49.15**	**72**	*e*LR		LR	08 29 32.6	
	comp=Z,399nm,26.5s,baz=217							
SNAA	**Sanae**	**53.51**	**187**	P		**P**	**08 15 59.8**	**-1.4**
SNAA				pmax	pmax			
	comp=Z,10.0nm,1.2s							
SNAA	**Sanae**	**53.51**	**187**	P		**P**	**08 15 59.8**	**-1.3**
	comp=Z,9.6nm,1.2s,mb4.6							
PPT	**Papeete**	**53.75**	**68**	*e*LR		LR	08 31 40.7	
	comp=Z,608nm,27.8s,baz=215							
MJAR	**Matsushiro Arr**	**92.40**	**343**	LR		LR	08 58 30.1	
	comp=Z,64nm,19.3s,MS4.1,baz=45,slow=34							
CPUP	**Villa Florida**	**93.65**	**148**	*e*P		**P**	**08 19 53.0**	**-3.6**
CPUP				pmax	pmax			
	comp=Z,3.0nm,0.6s							
CPUP	**Villa Florida**	**93.65**	**148**	*e*P		**P**	**08 19 53.0**	**-3.6**
	comp=Z,2.7nm,0.6s,mb4.8							
MATP	**Matopo**	**94.26**	**226**	LR		LR	08 54 48.7	
	comp=Z,143nm,18.5s,MS4.5,baz=232,slow=31							
AAK	**Ala-Archa**	**120.47**	**302**	*i* PKIKP		PKPdf	08 25 32.1	-1.2
AAK	**Ala-Archa**	**120.47**	**302**	*e*PKP		PKPdf	08 25 32.1	-1.2
KURK	**Kurchatov**	**124.41**	**311**	*i* PKIKP		PKPdf	08 25 38.4	-2.4
ILAR	**Eielson Array**	**125.92**	**25**	PKP		PKPdf	08 25 40.7	-2.4
	comp=Z,1.6nm,1.1s,baz=248,slow=3.5,SNR=5.6							
TIXI	**Tiksi**	**127.61**	**348**	*i* PKHKP			08 25 18.8	
BVAR	**Borovoye Array**	**129.71**	**308**	PKP		PKPdf	08 25 47.9	-2.8
	comp=Z,1.1nm,0.7s,baz=117,slow=3.3,SNR=6.6							
BRVK	**Borovoye**	**129.78**	**308**	*e*PKIKP		PKPdf	08 25 48.6	-2.3
DBIC	**Dimbokro**	**130.61**	**201**	PKP		PKPdf	08 25 52.1	-1.4
	comp=Z,3.4nm,0.8s,baz=260,slow=6.1,SNR=3.4							
TORD	**Torodi Ar. Bea**	**135.10**	**212**	PKP		PKPdf	08 25 58.5	-3.3
	comp=Z,1.6nm,0.9s,baz=157,slow=2.5,SNR=7.7							
BRTR	**Keskin Array B**	**141.05**	**271**	PKP		PKPdf	08 26 09.8	-2.2
	comp=Z,1.0nm,0.9s,baz=162,slow=3.9,SNR=4.5							
MLR	**Muntele Rosu**	**149.06**	**273**	↑P		PKPdf	08 26 27.3	+2.0
AKASG	**Malin Array Be**	**149.81**	**284**	PKPbc		PKPdf	08 26 27.9	+1.6
	comp=Z,9.9nm,0.8s,baz=87,slow=2.6,SNR=26							
BURAR	**Bucovina Array**	**150.63**	**276**	↓P		PKPdf	08 26 31.1	+3.4
DRGR		**151.66**	**272**	↑P		PKPdf	08 26 33.7	+4.5
BZS	**Buzias**	**151.66**	**270**	↑P		PKPdf	08 26 34.4	+5.1
ARCES	**ARCESS Array B**	**154.36**	**324**	PKPbc		PKPdf	08 26 38.5	+6.1
	comp=Z,3.5nm,0.9s,baz=90,slow=1.2,SNR=4.7							
FINES	**FINESS Array B**	**154.59**	**305**	PKPbc		PKPdf	08 26 39.1	+6.2
	comp=Z,2.4nm,0.8s,baz=90,slow=3.8,SNR=9.4							
GERES	**GERESS Array B**	**157.94**	**270**	PKPab		PKPab	08 27 09.2	-1.0
	comp=Z,1.1nm,0.8s,baz=162,slow=4.2,SNR=5.1							

*CSEM **10** 08:08:42.8±0.8,38.68N×29.17W,h3km±3km,ML2.6, Error ellipse: s-maj=5.9km s-min=4.6km az=36.0, After PDA*
*PDA **10** 08:08:42.8±0.8,38.68N×29.17W,h3km±3km,MD3.2, ML2.6, Error ellipse: s-maj=5.9km s-min=4.6km az=36.0*
SVSA 10 08:08:42.8±0.8,**38.68N×29.17W,h3**km±3km,**MD3.2,**
ML2.6, Error ellipse: s-maj=5.9km s-min=4.6km az=36.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCED	**Cedros**	**0.37**	**98**	*e*P		Pg	08 08 49.6	-0.6
PCED				*e*S		Sg	08 08 54.3	-0.8
	166nm,0.2s							
PCED	**Cedros**	**0.37**	**98**	*e*P		Pg	08 08 49.6	-0.6
PCED				*e*S		Sg	08 08 54.3	-0.8
	166nm,0.2s							
CALA	**Caldeira**	**0.38**	**105**	*e*P		Pg	08 08 49.6	-0.8
CALA				*e*S		Sg	08 08 54.9	-0.5
HOR	**Horta**	**0.45**	**110**	*e*P		Pg	08 08 50.6	-1.2
HOR				*e*S		Sg	08 08 56.5	-1.2
PICO	**Pico**	**0.61**	**107**	*e*P		Pg	08 08 53.2	-1.7
PICO				*e*S		Sg	08 09 01.2	-1.9
ROSA	**Rosais**	**0.72**	**87**	*e*P		Pg	08 08 55.2	-2.1
ROSA				*e*S		Sg	08 09 03.8	-3.1
PPNO	**Prainha do Nor**	**0.74**	**106**	*e*P		Pg	08 08 55.2	-2.3
PPNO				*e*S		Sg	08 09 04.6	-2.8
	140nm,0.4s							
PPNO	**Prainha do Nor**	**0.74**	**106**	*e*P		Pg	08 08 55.2	-2.3
PPNO				*e*S		Sg	08 09 04.6	-2.8
	140nm,0.4s							
PGRA	**Graciosa**	**0.99**	**69**	*e*S		Sb	08 09 10.3	-5.1
	72nm,0.3s							
PGRA	**Graciosa**	**0.99**	**69**	*e*S		Sb	08 09 10.3	-5.1
	72nm,0.3s							
STGR	**Santa Cruz**	**0.99**	**66**	*e*S		Sb	08 09 12.1	-3.4
	41nm,0.2s							
PSBA	**Serra de Santa**	**1.44**	**86**	*e*P		Pn	08 09 04.7	-5.2
PSBA				*e*S		Sb	08 09 21.7	-6.9
	38nm,0.4s							

*CSEM **10** 08:23:22.7,24.11S×179.93W,h33km,mb6.1*
*ORF **10** 08:23:33.7,21.02S×175.34E,h30km,mb6.2*
*MOS **10** 08:24:12.4±1.1,24.50S×179.91E,h498km,mb5.1/30, Error ellipse: s-maj=9.6km s-min=8.1km az=61.4*
*NEIC **10** 08:24:13.3±0.1,24.60S×179.95E,mb5.0/48, Error ellipse: s-maj=6.0km s-min=3.5km az=113.0*
*BJI **10** 08:24:13.3,24.60S×179.90E,h506km,mB5.1,mb5.0*
*HRVD **10** 08:24:13.3±0.3,24.61S×179.95E,h504km±2km, MW5.6/62,Centroid moment Tensor Solution. LP body waves: s62,c107; Half duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr=1.19±.06; Mθθ=0.06±.10; Mφφ 1.25±.10; Mrθ 0.28±.11; Mθφ-0.23±

KIW **Kapiti Island** 16.75 193 PN P 08 27 39.2 -1.0
DUWZ **D'Urville Isla** 16.92 196 PN P 08 27 42.1 +0.3
MTW **Mount Morrison** 16.92 192 P P 08 27 34.1 -7.7
CAW **Cannon Point** 16.96 193 PN P 08 27 38.5 -3.6
CAW **Cannon Point** 16.96 193 P P 08 27 38.5 -3.7
MRW **Makara Radio** 17.15 193 PN P 08 27 42.7 -1.4
MRW **Makara Radio** 17.15 193 P P 08 27 42.7 -1.4
SNZO **South Karori** 17.22 193 PN P 08 27 43.1 -1.7
SNZO **South Karori** 17.22 193 P P 08 27 43.1 -1.7
SNZO *eP* 08 27 44.2
TCW **Tory Channel** 17.23 195 PN P 08 27 43.5 -1.3
TCW **Tory Channel** 17.23 195 P P 08 27 43.5 -1.3
BHW **Baring Head** 17.29 193 PN P 08 27 44.5 -0.9
BHW **Baring Head** 17.29 193 P P 08 27 44.5 -0.9
QRZ **Quartz Range** 17.32 199 PN P 08 27 46.2 +0.4
QRZ **Quartz Range** 17.32 199 *eP* P 08 27 46.2 +0.4
NNZ **Nelson** 17.45 197 PN P 08 27 46.0 -1.1
NNZ SN S 08 30 38.3 -1.9
NNZ **Nelson** 17.45 197 *eP* P 08 27 46.3 -0.7
TUWZ **Tuamarina** 17.51 195 PN P 08 27 47.2 -0.4
THZ **Tophouse** 18.09 197 PN P 08 27 52.1 -1.2
THZ SN S 08 30 50.6 -0.6
THZ **Tophouse** 18.09 197 P P 08 27 53.2 0.0
DSZ **Denniston Nort** 18.39 200 PN P 08 27 56.4 +0.2
DSZ **Denniston Nort** 18.39 200 *eP* P 08 27 56.4 +0.3
KHZ **Kahutara** 18.54 195 PN P 08 27 56.3 -1.4
KHZ SN S 08 30 57.6 -1.4
RAR **Rarotonga** 19.00 84 P P 08 28 00.8 -1.3
comp=Z,6.2nm,0.3s,baz=266,slow=3.1,SNR=8.5
LTZ **Lake Taylor** 19.21 197 PN P 08 28 02.5 -1.4
LTZ **Lake Taylor** 19.21 197 P P 08 28 02.5 -1.5
WVZ **Waitaha Valley** 19.92 200 PN P 08 28 09.1 -1.7
WVZ **Waitaha Valley** 19.92 200 P P 08 28 09.7 -1.0
MQZ **McQueen's Vall** 19.97 196 PN P 08 28 09.6 -1.5
MQZ **McQueen's Vall** 19.97 196 *eP* P 08 28 09.8 -1.4
RPZ **Rata Peaks** 20.41 199 P P 08 28 10.9 -4.4
comp=Z,36nm,0.5s,baz=144,slow=5.4,SNR=25
RPZ S S 08 31 34.8 +4.2
comp=Z,18nm,0.8s,baz=84,slow=7.7,SNR=3.0
RPZ ScP 08 34 52.9
comp=Z,10.0nm,0.8s,baz=225,slow=3.3,SNR=3.6
RPZ **Rata Peaks** 20.41 199 PN P 08 28 09.7 -5.6
RPZ **Rata Peaks** 20.41 199 *eP* P 08 28 10.8 -4.5
FOZ **Fox Glacier** 20.70 201 PN P 08 28 15.7 -2.3
LBZ **Lake Benmore** 21.28 200 PN P 08 28 20.8 -2.6
LBZ **Lake Benmore** 21.28 200 *eP* P 08 28 21.0 -2.3
JCZ **Jackson Bay** 21.47 202 PN P 08 28 23.8 -1.3
JCZ **Jackson Bay** 21.47 202 P P 08 28 24.0 -1.1
EAZ **Earnscleugh** 22.31 200 PN P 08 28 31.2 -1.6
MLZ **Mavora Lakes** 22.78 202 PN P 08 28 36.0 -1.0
HNR **Honiara** 24.29 305 P P 08 28 49.5 -1.5
comp=Z,222nm,0.5s,baz=154,slow=3.6,SNR=13
HNR **Honiara** 24.29 305 *eP* P 08 28 49.5 -1.5
HNR pmax pmax
comp=Z,268nm,0.8s,mb5.7
HNR **Honiara** 24.29 305 *eP* P 08 28 49.5 -1.5
comp=Z,268nm,0.8s,mb5.7
RIV **Riverview** 26.67 243 *eP* P 08 29 13.2 +1.3
CNB **Canberra Magne** 28.45 241 ⇓*iP* P 08 29 28.6 +1.1
comp=Z,59nm,0.5s,mb5.3
PAE **Paea** 29.22 82 *eP* P 08 29 32.8 -1.6
comp=Z,341nm,1.4s,mb5.6
PPT **Papeete** 29.26 82 *eP* P 08 29 33.4 -1.2
comp=Z,111nm,1.2s,mb5.2
PPT **Papeete** 29.26 82 P P 08 29 32.7 -1.9
comp=Z,90nm,0.8s,mb5.3,baz=242,slow=10,SNR=6.3
TVO **Taravao** 29.48 83 *eP* P 08 29 35.2 -1.4
comp=Z,191nm,0.9s,mb5.5
TVO *eP* 08 30 56.6
comp=Z,190nm,1.3s
CTAO **Charters Tower** 31.42 271 *eP* P 08 29 53.4 +0.2
CTAO *e* 08 31 19.7
CTAO pmax pmax
comp=Z,277nm,0.4s
CTAO **Charters Tower** 31.42 271 *eP* P 08 29 53.4 +0.3
comp=Z,277nm,0.4s
CTAO *ePP* PP 08 31 19.7 +1.3
PMOR **Pomariorio Ree** 31.68 79 *eP* P 08 29 54.1 -1.3
comp=Z,171nm,0.9s,mb5.5
VAH **Vaihoa** 31.82 79 *eP* P 08 29 55.1 -1.5
comp=Z,151nm,1.0s,mb5.4
TOO **Toolangi** 32.02 238 ⇓*iP* P 08 29 58.8 +0.7
comp=Z,63nm,0.8s,mb5.1
TOO **Toolangi** 32.02 238 ⇓*iP* P 08 29 58.8 +0.7
TOO pmax pmax
comp=Z,63nm,0.8s,mb5.1
STKA **Stephens Creek** 34.41 249 ⇓*iP* P 08 30 18.8 +0.6
comp=Z,104nm,0.6s,mb5.4
STKA *e* 08 32 40.3
STKA *eS* S 08 35 09.0 -2.0
STKA *eSCP* 08 35 38.2
STKA *ePCS* 08 36 26.2
STKA *eSCS* ScS 08 39 43.2 +3.4
STKA **Stephens Creek** 34.41 249 P P 08 30 18.6 +0.4
comp=Z,134nm,0.6s,mb5.6,baz=96,slow=10,SNR=438
STKA PcP PcP 08 32 40.2 0.0
comp=Z,20nm,0.6s,baz=87,slow=3.0,SNR=3.9
STKA S S 08 35 09.2 -1.8
comp=Z,4.8nm,0.8s,baz=259,slow=20,SNR=3.1
STKA ScP 08 35 37.5
comp=Z,8.9nm,0.8s,baz=56,slow=8.4,SNR=4.0
TAOE **Nuku Hiva Isla** 41.13 75 *eP* P 08 31 12.9 -0.4
comp=Z,1μm,1.2s
WB2 **Warramunga Arr** 42.29 267 ⇓*iP* P 08 31 21.9 -0.7
WB2 *eSCP* 08 36 09.9
WB2 *eS* S 08 37 03.8 -3.1
WRAB **Tennant Creek** 42.29 267 *diP* P 08 31 21.8 -0.8
WRAB *e**PP pP 08 33 05.7 +9.3
WRA **Warramunga Arr** 42.30 267 P P 08 31 21.8 -0.8
comp=Z,186nm,0.6s,mb5.7,baz=104,slow=8.0,SNR=280
WRA pP pP 08 32 52.9 -3.6
comp=Z,3.5nm,0.5s,baz=100,slow=7.6,SNR=1.2
WRA PcP PcP 08 33 04.8 -0.6
comp=Z,5.5nm,0.5s,baz=104,slow=6.3,SNR=6.4
WRA ScP 08 36 08.2
comp=Z,33nm,0.7s,baz=102,slow=3.9,SNR=24
WRA S S 08 37 03.9 -3.1
comp=Z,28nm,1.1s,baz=101,slow=15,SNR=15
WRA **Warramunga Arr** 42.30 267 P P 08 31 21.9 -0.8
WRA *PP pP 08 32 52.9 -3.6
WRA 08 33 04.8
WRA S S 08 37 03.9 -3.2
FORT **Forrest** 46.01 250 ⇓*iP* P 08 31 50.4 -1.1
comp=Z,588nm,0.6s
KAKA **Kakadu** 46.31 276 ⇓*iP* Px 08 32 15.1
comp=Z,155nm,0.4s
KAKA *eS* Sx 08 38 21.9
POHA **Pohakuloa** 50.15 31 *eP* P 08 32 21.8 -1.1
KIP **Kipapa** 50.52 27 *eP* P 08 32 24.8 -0.8
HKL **Haleakala** 50.65 29 *eP* P 08 32 26.2 -0.3
HKL *e* 08 33 34.9
FITZ **Fitzroy Crossi** 50.71 266 S S 08 39 02.3 -1.4
GUMO **Guam** 51.11 314 P P 08 32 26.8 -3.1
comp=Z,82nm,0.5s,mb5.3,baz=180,slow=23,SNR=3.5
GUMO **Guam** 51.11 314 *eP* P 08 32 27.6 -2.3
GUMO pmax pmax
comp=Z,155nm,0.9s,mb5.3
GUMO **Guam** 51.11 314 *eP* P 08 32 27.6 -2.3
comp=Z,155nm,0.9s,mb5.3
SBA **Scott Base** 53.68 183 *eP* P 08 32 48.3 +0.6
SBA *e* 08 33 46.1
SBA pmax pmax
comp=Z,83nm,0.9s,mb5.1
SBA **Scott Base** 53.68 183 *eP* P 08 32 48.3 +0.6
comp=Z,83nm,0.9s,mb5.1
SBA *ePcP* PcP 08 33 46.1 +0.2
VNDA **Vanda** 53.68 185 P P 08 32 48.2 +0.5
comp=Z,13nm,0.7s,mb4.4,baz=5.0,slow=7.8,SNR=78
VNDA PcP PcP 08 33 45.6 -0.4
comp=Z,8.6nm,0.7s,baz=297,slow=4.7,SNR=6.6
VNDA **Vanda** 53.68 185 *eP* P 08 32 47.2 -0.5
VNDA *e* 08 33 45.9
VNDA *e* pP 08 34 23.4 -3.8
VNDA pmax pmax
comp=Z,15nm,0.8s
VNDA **Vanda** 53.68 185 *eP* P 08 32 47.2 -0.5
comp=Z,15nm,0.8s,mb4.4
VNDA *ePcP* PcP 08 33 45.9 -0.1
VNDA *ePP* pP 08 34 23.4 -3.8
VNDA *eScP* 08 36 55.2
KLBR **Kellerberrin** 54.66 248 ⇓*iP* P 08 32 53.9 -1.3
comp=Z,162nm,0.7s,mb5.5
NWAO **Narrogin (SRO)** 54.89 246 *eP* P 08 32 55.0 -1.8
NWAO pmax pmax
comp=Z,145nm,0.8s
NWAO **Narrogin (SRO)** 54.89 246 *eP* P 08 32 55.0 -1.8
comp=Z,145nm,0.8s,mb5.4
MBWA **Marble Bar** 55.19 261 ⇓*iP* P 08 32 57.5 -1.5
comp=Z,142nm,0.9s,mb5.3
MBWA *epP* pP 08 34 37.9 -1.6
MUN **Mundaring** 55.90 247 *eP* P 08 33 02.9 -0.9
CASY **Casey** 59.46 206 ⇓*iP* P 08 33 26.5 -0.9
RPN **Rapa Nui** 62.91 109 P P 08 33 51.3 +0.7
comp=Z,48nm,0.6s,mb5.2,baz=348,slow=5.5,SNR=3.5
QSPA **South Pole Qui** 65.49 180 *eP* P 08 34 07.1 +0.9
comp=Z,154nm,0.8s,mb5.7
TSM **Tawau** 66.76 287 P P 08 34 15.0 -0.1
KKM **Kota Kinabalu** 69.05 287 P P 08 34 28.8 -0.1
KKM **Kota Kinabalu** 69.05 287 *eP* P 08 34 28.3 -0.7
KKM *epP* pP 08 36 14.4 -1.6
TGY **Tagaytay City** 69.22 297 P P 08 34 29.3 -0.6
comp=Z,114nm,0.4s,mb5.8,baz=290,slow=3.2,SNR=3.3
KSM **Kuching** 72.16 280 ⇓*eP* P 08 34 46.7 -0.6
KSM *epP* pP 08 36 33.2 -2.4
MJAR **Matsushiro Arr** 72.44 326 P P 08 34 47.3 -1.2
comp=Z,33nm,0.8s,mb4.9,baz=160,slow=5.6,SNR=48
MAJO **Matsushiro** 72.44 326 *eP* P 08 34 47.8 -0.7
MAJO pmax pmax
comp=Z,57nm,0.9s,mb5.1
MAJO **Matsushiro** 72.44 326 *eP* P 08 34 47.8 -0.7
comp=Z,57nm,0.9s,mb5.1
MAT **Matsushiro** 72.44 326 P P 08 34 47.3 -1.2
MAT **Matsushiro** 72.44 326 *eP* P 08 34 47.0 -1.5
MAT pmax pmax
comp=Z,52nm,0.9s,mb5.1
MAT **Matsushiro** 72.44 326 *eP* P 08 34 47.0 -1.5
comp=Z,52nm,0.9s,mb5.1
YHNB **Yeheng** 74.92 306 *eP* P 08 35 02.0 -0.7
TATO **Taipei** 75.02 307 *eP* P 08 35 01.9 -1.4
comp=Z,229nm,1.3s,mb5.5
KGM **Kluang** 78.68 277 P P 08 35 23.4 0.0
YSS **Yuzh-Sakhalins** 78.74 335 *eP* P 08 35 24.1 +1.1
YSS pmax pmax
comp=Z,149nm,1.3s,mb5.4
YSS **Yuzh-Sakhalins** 78.74 335 *eP* P 08 35 23.5 +0.5
comp=Z,69nm,0.6s,mb5.4
KS15 **Wonju Array Si** 78.75 320 *eP* P 08 35 23.7 +0.3
SSE **Sheshan** 78.90 312 P P 08 35 24.1 -0.1
SSE PCP PcP 08 35 30.4 -1.0
SSE S S 08 44 34.6 -5.8
SSE AMB AMB
comp=Z,40nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,150nm,4.9s
SSE **Sheshan** 78.90 312 P P 08 35 24.1 -0.1
comp=Z,46nm,0.9s,mb5.0
SSE PcP PcP 08 35 30.4 -1.0
SSE sP PP 08 38 27.4 -5.0
SSE S S 08 44 34.6 -5.8
SSE ScS ScS 08 44 51.3 -6.1
SSE sS 08 48 15.9
PET **Petropavlovsk** 79.48 347 ⇓*iP* P 08 35 26.3 -0.5
PET *e* 08 38 42.8
PET *iS* S 08 44 45.9 0.0
PET pmax pmax
comp=Z,24nm,0.6s,mb4.9
PET smax
comp=E,300nm,13.1s
PET MLR MLR
comp=Z,100nm,20.9s
NJ2 **Nanjing** 81.07 311 *eP* P 08 35 35.2 -0.3
NJ2 PP PP 08 38 50.8 +0.3
NJ2 S S 08 44 55.0 -7.5
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,260nm,5.5s
IPM **Ipoh** 81.80 279 P P 08 35 39.6 +0.1
SAO **San Andreas Ge** 82.31 44 *eP* P 08 35 42.3 +0.7
SAO *e**PP pP 08 37 31.1 -2.2
SAO pmax pmax
comp=Z,14nm,0.7s,mb4.6
SAO **San Andreas Ge** 82.31 44 *eP* P 08 35 42.3 +0.7
comp=Z,14nm,0.7s,mb4.6
SAO *epP* pP 08 37 31.1 -2.2
SYO **Syowa Base** 82.32 193 ⇓P P 08 35 40.9 -0.1
SYO **Syowa Base** 82.32 193 ⇓PcP PcP 08 35 42.1 -3.3
SYO **Syowa Base** 82.32 193 ⇓*eP* P 08 35 40.9 -0.1
SYO ⇓*ePcP* PcP 08 35 42.1 -3.3
LRV **Little Rabbit** 82.37 44 *eP* P 08 35 42.5 +0.6
PTRM **Twissleman Ran** 82.41 45 *eP* P 08 35 41.8 -0.4
KULM **Kulim** 82.49 279 *eP* P 08 35 43.1 +0.1
KULM *ePP* PP 08 39 02.1 +0.1
HOPS **Hopland** 82.71 41 *eP* P 08 35 44.2 +0.6
comp=Z,27nm,0.8s,mb4.8
HOPS *epP* pP 08 37 36.3 +0.9
MDJ **Mudanjiang** 82.81 326 P P 08 35 45.0 +1.0
MDJ AMB AMB
comp=Z,40nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,220nm,7.1s
MDJ **Mudanjiang** 82.81 326 *eP* P 08 35 44.9 +0.9
comp=Z,62nm,1.1s,mb5.0
MDJ *epP* pP 08 37 41.2 +5.3
MWC **Mount Wilson** 82.98 47 *eP* P 08 35 45.7 +0.6
KIPM **Iron Peak** 82.99 40 *eP* P 08 35 45.8 +0.8
KIPM *epP* pP 08 37 37.8 +0.9
PSI **Prapat** 82.99 276 P P 08 35 44.2 -1.3
comp=Z,42nm,0.6s,mb5.1,baz=168,slow=3.4,SNR=34
BAR **Barrett** 83.03 49 *eP* P 08 35 45.7 +0.3
BAR *epP* pP 08 37 34.5 -2.8
HABR **Khabarovsk** 83.09 332 ⇓*iP* P 08 35 47.1 +1.8
HABR pmax pmax
comp=E,153nm,1.7s
SNG **Songkhla** 83.33 281 P P 08 35 48.0 +0.8
comp=E,136nm,0.9s,mb5.5
WHN **Wuhan** 83.38 308 ⇑P P 08 35 48.0 +0.9
KHMM **Horse Mountain** 83.53 39 *eP* P 08 35 46.5 -1.2
KHMM *epP* pP 08 37 43.3 +3.6
ISA **Isabella** 83.55 46 *eP* P 08 35 48.4 +0.5
ISA *e**PP pP 08 37 39.2 -0.8
ISA pmax pmax
comp=Z,33nm,1.4s,mb4.7
ISA **Isabella** 83.55 46 *eP* P 08 35 48.4 +0.4
comp=Z,33nm,1.4s,mb4.7
ISA *epP* pP 08 37 39.2 -0.8
CMB **Columbia Colle** 83.75 43 *eP* P 08 35 48.4 -0.5
CMB pmax pmax
comp=Z,31nm,1.1s,mb4.8
CMB **Columbia Colle** 83.75 43 *eP* P 08 35 48.4 -0.4
comp=Z,31nm,1.1s,mb4.8
SNAA **Sanae** 83.97 179 *eP* P 08 35 48.7 -0.5
SNAA pmax pmax
comp=Z,13nm,0.7s
SNAA **Sanae** 83.97 179 *eP* P 08 35 48.7 -0.5
comp=Z,13nm,0.7s,mb4.6
SNAA *epP* pP 08 37 45.4 +4.1
WDC **Whiskeytown Da** 84.03 40 *eP* P 08 35 50.5 +0.3
WDC *e**PP pP 08 37 43.5 +1.1
WDC pmax pmax
comp=Z,25nm,1.1s,mb4.7
WDC **Whiskeytown Da** 84.03 40 *eP* P 08 35 50.5 +0.3
comp=Z,25nm,1.1s,mb4.7
WDC *epP* pP 08 37 43.5 +1.2
VNA3 **Neumayer Olymp** 84.18 177 *e* P 08 35 54.6 +4.4
VNA3 **Neumayer Olymp** 84.18 177 ⇑*iP* P 08 35 50.2 0.0
VNA3 *e* pP 08 37 46.4 +4.0
CN2 **Changchun** 84.41 324 *eP* P 08 35 52.1 +0.2
CN2 AMB AMB
comp=Z,90nm,1.5s,mb5.1
DAC **Darwin (Calif)** 84.49 46 *eP* P 08 35 52.9 +0.4
DAC *e**PP pP 08 37 44.3 -0.6
DAC pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
DAC **Darwin (Calif)** 84.49 46 *eP* P 08 35 52.9 +0.3
comp=Z,9.7nm,1.1s,mb4.2
DAC *epP* pP 08 37 44.2 -0.6
MAIT **Maitri** 84.52 184 *eP* P 08 35 52.1 +0.2
NVL **N'lazarevskaya** 84.53 184 *eP* P 08 35 51.6 -0.3
NVL *e* 08 38 31.8
NVL pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
VNA2 **Neumayer--Watz** 84.60 178 *e* P 08 35 57.0 +4.8
VNA2 **Neumayer--Watz** 84.60 178 *e* P 08 35 58.9 +6.7
VNA2 **Neumayer--Watz** 84.60 178 P P 08 35 52.5 +0.3
VNA2 *e* 08 35 58.9
VNA2 *e* pP 08 37 48.8 +4.2
TIA **Tai'an** 84.67 314 ⇓P P 08 35 53.7 +0.3
TIA AMB AMB
comp=Z,130nm,1.2s,mb5.4
KLR **Kul'dur** 85.11 331 ⇓*iP* P 08 35 53.8 -1.4
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.0
KDAK **Kodiak Island** 85.24 14 P P 08 35 53.7 -1.9
comp=Z,9.9nm,0.9s,mb4.4,baz=252,slow=3.2,SNR=4.8
KDAK **Kodiak Island** 85.24 14 P P 08 35 53.7 -1.9
NVAR **Mina Array Bea** 85.30 44 P P 08 35 56.1 -0.3
comp=Z,3.6nm,0.6s,mb4.2,baz=217,slow=7.5,SNR=29
NVAR pP pP 08 37 48.3 -0.6
comp=Z,3.7nm,1.1s,baz=220,slow=7.0,SNR=4.1
NVAR PKKPbc 08 54 00.3
comp=Z,0.3nm,0.6s,baz=130,slow=4.2,SNR=3.7
NVAR PKPPKP 09 02 06.2
comp=Z,0.3nm,0.6s,baz=87,slow=3.1,SNR=4.5
NVAR **Mina Array Bea** 85.30 44 P P 08 35 56.1 -0.3
NVAR pP pP 08 37 48.3 -0.6
NVAR PKKPbc 08 54 00.3
NVAR P'P' 09 02 06.2
MNV **Mina** 85.39 44 *eP* P 08 35 56.9 0.0
MNV *e**PP pP 08 37 49.5 0.0
MNV pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
MNV **Mina** 85.39 44 *eP* P 08 35 56.9 0.0
comp=Z,10nm,0.9s,mb4.5
MNV *epP* pP 08 37 49.5 0.0
TPNV **Topopah Spring** 85.76 46 *eP* P 08 35 59.0 +0.3
TPNV *e**PP pP 08 37 50.6 -0.7
TPNV pmax pmax
comp=Z,14nm,0.8s,mb4.6
TPNV **Topopah Spring** 85.76 46 *eP* P 08 35 59.0 +0.3
comp=Z,14nm,0.8s,mb4.7
TPNV *epP* pP 08 37 50.6 -0.7
TPH **Tonopah** 85.78 45 *eP* P 08 35 59.2 +0.5
TPH *e**PP pP 08 37 51.7 +0.3
TPH pmax pmax
comp=Z,16nm,0.7s,mb4.8
TPH **Tonopah** 85.78 45 *eP* P 08 35 59.2 +0.5
comp=Z,16nm,0.7s,mb4.8
TPH *epP* pP 08 37 51.7 +0.3
NEN **Nelson** 85.96 48 *eP* P 08 35 59.9 +0.3
NEN *epP* pP 08 37 52.8 +0.4
MOD **Modoc** 86.17 40 *eP* P 08 36 00.6 +0.1
comp=Z,9.0nm,0.6s,mb4.6
MOD *epP* pP 08 37 54.8 +1.5
ENH **Enshi** 86.79 305 *eP* P 08 36 04.1 +0.3
comp=Z,97nm,1.0s,mb5.5
ENH *epP* pP 08 38 01.8 +5.1
TUC **Tucson** 87.00 52 *eP* P 08 36 05.9 +1.3
TUC *e**PP pP 08 37 57.4 -0.2
TUC *e* 08 39 37.1
TUC pmax pmax
comp=Z,33nm,1.0s,mb5.0
TUC **Tucson** 87.00 52 *eP* P 08 36 05.9 +1.3
comp=Z,33nm,1.0s,mb5.0
TUC *epP* pP 08 37 57.4 -0.3
TUC *ePP* PP 08 39 37.1 -1.2
GYA **Guiyang** 87.05 301 P P 08 36 05.8 +0.8
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.7
MA2 **Magadan** 87.24 346 *eP* P 08 36 05.2 +0.1
MA2 *e* 08 45 59.3
MA2 pmax pmax
comp=Z,40nm,1.0s,mb5.1
MA2 **Magadan** 87.24 346 *eP* P 08 36 04.3 -0.8
comp=Z,102nm,1.4s,mb5.4
NST **Nakhon Sawan** 87.47 288 P P 08 36 08.6 +1.4
comp=Z,107nm,0.8s,mb5.6
WVOR **Wild Horse Val** 87.48 41 *eP* P 08 36 07.2 +0.5
WVOR pmax pmax
comp=Z,19nm,1.0s,mb4.8
WVOR **Wild Horse Val** 87.48 41 *eP* P 08 36 07.2 +0.5
comp=Z,19nm,1.0s,mb4.8
SVW2 **Sparrevohn** 87.67 12 *eP* P 08 36 06.7 -0.4
PLCA **Paso Flores** 87.83 134 P P 08 36 09.4 +1.0
comp=Z,2.6nm,0.8s,mb4.0,baz=34,slow=4.2,SNR=6.5
PLCA pP pP 08 38 02.4 +0.8
comp=Z,2.2nm,0.9s,baz=231,slow=6.5,SNR=3.2
PLCA PKKPbc 08 53 52.0
comp=Z,1.5nm,0.8s,baz=143,slow=18,SNR=4.4
PLCA **Paso Flores** 87.83 134 P P 08 36 09.4 +1.0
PLCA pP pP 08 38 02.4 +0.8
PLCA PKKPbc 08 53 52.0
ARUT **Antelope Range** 88.08 47 *eP* P 08 36 10.4 +0.8
ARUT *e**PP pP 08 38 04.6 +1.7
WUAZ **Wupatki** 88.26 50 *eP* P 08 36 11.4 +0.9
comp=Z,24nm,1.3s,mb4.8
WUAZ *epP* pP 08 38 03.5 -0.4
ELK **Elko** 88.57 43 P P 08 36 12.1 +0.3
comp=Z,5.4nm,0.5s,mb4.6,baz=208,slow=2.1,SNR=35
ELK pP pP 08 38 03.8 -1.4
comp=Z,1.5nm,0.9s,baz=191,slow=3.7,SNR=2.6
ELK **Elko** 88.57 43 *eP* P 08 36 11.6 -0.2
ELK pmax pmax
comp=Z,7.0nm,0.6s
ELK **Elko** 88.57 43 *eP* P 08 36 11.6 -0.3
comp=Z,6.9nm,0.6s,mb4.7
PGC **Sidney** 88.72 34 *eP* P 08 36 12.6 +0.3
comp=Z,33nm,0.9s,mb5.2
XAN **Xi'an** 89.12 308 P P 08 36 15.3 +0.7
XAN AMB AMB
comp=Z,50nm,1.4s,mb5.2
MSU **Marysvale** 89.31 47 *eP* P 08 36 16.0 +0.7
KMI **Kunming** 89.53 298 P P 08 36 18.8 +2.1
KMI AMB AMB
comp=Z,50nm,1.4s,mb5.2
KMI **Kunming** 89.53 298 P P 08 36 18.8 +2.1
comp=Z,58nm,1.4s,mb5.2
CHRT **Chiangrai** 89.61 292 ⇓P P 08 36 18.5 +1.4
comp=Z,566nm,0.9s
DUG **Dugway** 89.80 45 *eP* P 08 36 17.7 +0.1
DUG *e* 08 39 59.2
DUG pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
DUG **Dugway** 89.80 45 *eP* P 08 36 17.7 +0.1
comp=Z,5.8nm,1.1s,mb4.3
DUG *ePP* PP 08 39 59.2 -1.1
CHG **Chiang Mai** 89.86 291 ⇓P P 08 36 19.6 +1.3
SEY **Seymchan** 89.94 348 *eP* P 08 36 18.0 +0.4
SEY *e* 08 40 00.9
SEY *eS* S 08 46 19.2 -6.0
SEY pmax pmax
comp=N,6.0nm,0.9s
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
SEY pmax pmax
comp=E,5.0nm,0.7s
SEY smax
comp=N,170nm,23.8s
SEY smax
comp=E,420nm,23.8s
TNA **Tin City** 90.36 5 *eP* P 08 36 19.9 +0.4
comp=E,17nm,1.1s,mb4.8
TNA *epP* pP 08 38 16.3 +3.0
TMUT **Trail Mountain** 90.37 46 *eP* P 08 36 21.3 +1.1
TMUT *epP* pP 08 38 15.7 +1.8
SPUT **South Promonto** 90.64 44 *eP* P 08 36 21.4 0.0
SPUT *epP* pP 08 38 16.4 +1.2
HLID **Hailey** 90.66 41 *eP* P 08 36 22.4 +0.9
comp=E,9.5nm,0.9s,mb4.7
HLID *epP* pP 08 38 16.7 +1.4
MNTX **Cornudas Mount** 90.66 55 *eP* P 08 36 22.2 +0.4
comp=E,8.8nm,0.9s,mb4.7
MNTX *epP* pP 08 38 18.9 +3.3
LENM **Lemitar** 90.69 53 *eP* P 08 36 21.7 -0.1
HVU **Hansel Valley** 90.69 44 *eP* P 08 36 21.9 +0.3
HVU pmax pmax
comp=Z,17nm,0.7s,mb5.1
HVU **Hansel Valley** 90.69 44 *eP* P 08 36 21.9 +0.3
comp=Z,17nm,0.7s,mb5.1
SRU **San Rafael** 90.72 47 *eP* P 08 36 22.5 +0.7
SRU *e**PP pP 08 38 16.9 +1.2
SRU pmax pmax
comp=Z,19nm,0.7s,mb5.1
SRU **San Rafael** 90.72 47 *eP* P 08 36 22.5 +0.7
comp=Z,19nm,0.7s,mb5.1
SRU *epP* pP 08 38 16.9 +1.2
LTX **Lajitas** 90.86 58 *eP* P 08 36 23.3 +0.6
LTX *e**PP pP 08 38 19.9 +3.4
LTX *e* 08 40 07.6
LTX pmax pmax
comp=Z,18nm,1.0s,mb5.0
LTX **Lajitas** 90.86 58 *eP* P 08 36 23.3 +0.7
comp=Z,18nm,1.0s,mb5.0

LTX ePP PP 08 40 07.6 -1.2
TXAR Lajitas Array 90.86 58 P **P 08 36 23.4 +0.7**
comp=Z,9.8nm,0.8s,mb4.8,baz=211,slow=5.8,SNR=106
TXAR pP pP 08 38 14.8 -1.7
comp=Z,3.9nm,1.1s,baz=264,slow=8.2,SNR=3.3
TXAR PKKPbc 08 53 45.4
comp=Z,1.2nm,0.6s,baz=83,slow=3.4,SNR=19
TXAR PKPPKP 09 01 55.5
comp=Z,0.2nm,0.8s,baz=141,slow=2.0,SNR=3.4
HHC Hu-ho-hao-te 90.87 315 eP **P 08 36 24.0 +1.6**
HHC AP pP 08 38 17.4 +1.1
HHC XP sP 08 39 07.4 +0.6
HHC PP PP 08 40 10.4 +1.8
HHC SKS SKS 08 46 06.2 +1.2
HHC S S 08 46 36.2 +2.3
HHC XS 08 49 57.2
HHC SS SS 08 52 58.3 +2.5
HHC AMB AMB
comp=Z,30nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,170nm,6.5s
DAU Daniels Canyon 90.92 45 eP **P 08 36 23.6 +0.9**
BNM Barren Site 90.93 53 eP **P 08 36 23.5 +0.6**
BNM epP pP 08 38 17.5 +0.8
LPM Los Pinos Moun 91.00 53 eP **P 08 36 24.0 +0.8**
TCUT Toone Canyon 91.20 45 eP **P 08 36 24.9 +0.9**
HWUT Hardware Ranch 91.36 44 eP **P 08 36 24.1 -0.5**
comp=Z,9.3nm,0.6s,mb4.9
CD2 Chengdu 91.41 303 P **P 08 36 26.4 +1.2**
CD2 AP pP 08 38 20.3 +1.2
CD2 PP PP 08 40 15.7 +2.6
CD2 PPP PPP 08 42 20.4 +2.9
CD2 SKS SKS 08 46 09.6 +1.3
CD2 S S 08 46 40.4 +1.5
CD2 SS SS 08 53 05.4 +1.8
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
ANMO Albuquerque 91.44 52 P **P 08 36 25.6 +0.3**
comp=Z,5.3nm,0.9s,mb4.5,baz=219,slow=6.6,SNR=18
ANMO pP pP 08 38 16.2 -3.0
comp=Z,3.5nm,1.2s,baz=243,slow=2.3,SNR=2.8
ANMO Albuquerque 91.44 52 eP **P 08 36 25.4 +0.2**
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO Albuquerque 91.44 52 eP **P 08 36 25.4 +0.2**
comp=Z,9.1nm,1.0s,mb4.7
PV01 Paradox Valley 91.54 48 eP **P 08 36 25.7 +0.1**
COLA College 92.61 13 eP **P 08 36 29.3 -0.6**
ILAR Eielson Array 92.72 14 P **P 08 36 29.4 -1.1**
comp=Z,2.4nm,0.7s,mb4.3,baz=224,slow=5.1,SNR=31
ILAR pP pP 08 38 21.4 -3.0
comp=Z,5.2nm,1.1s,baz=229,slow=5.1,SNR=8.3
ILAR PP PP 08 40 15.6 -7.1
comp=Z,1.0nm,0.8s,baz=259,slow=4.6,SNR=3.4
ILAR PKKPbc 08 53 37.9
comp=Z,0.3nm,0.6s,baz=356,slow=3.3,SNR=5.9
BILL Bilibino 92.92 355*d* iP **P 08 36 31.4 +0.2**
BILL e*PP pP 08 38 27.4 +2.1
BILL eS 08 46 13.5
BILL pmax pmax
comp=Z,28nm,1.6s,mb5.0
BILL Bilibino 92.92 355 eP **P 08 36 30.8 -0.4**
comp=Z,14nm,1.0s,mb5.0
LOHW Long Hollow 93.02 43 eP **P 08 36 32.6 +0.4**
comp=Z,4.6nm,0.6s,mb4.7
PDAR Pinedale Array 93.24 44 P **P 08 36 33.2 -0.1**
comp=Z,4.4nm,0.7s,mb4.6,baz=219,slow=3.9,SNR=22
PDAR pP pP 08 38 25.7 -1.7
comp=Z,3.0nm,1.0s,baz=207,slow=3.3,SNR=4.0
PDAR PP PP 08 40 19.6 -7.5
comp=Z,1.8nm,1.1s,baz=207,slow=3.3,SNR=2.9
PDAR PKKPbc 08 53 38.0
comp=Z,0.7nm,0.6s,baz=89,slow=4.4,SNR=5.6
PDAR Pinedale Array 93.24 44 P **P 08 36 33.2 -0.1**
PDAR pP pP 08 38 25.7 -1.7
PDAR PP PP 08 40 19.6 -7.5
PDAR PKKPbc 08 53 38.0
LZH Lanzhou 93.75 308 eP **P 08 36 37.5 +1.7**
LZH AMB AMB
comp=Z,20nm,1.6s,mb4.9
YAK Yakutsk 95.20 339*d* iP **P 08 36 41.1 -0.6**
YAK pmax pmax
comp=Z,40nm,1.7s,mb5.2
ULN Ulaanbaatar 97.21 320*c i* P **P 08 36 51.9 +0.6**
SONM Songino Array 97.59 319 P **P 08 36 52.3 -0.7**
comp=Z,1.8nm,0.5s,mb4.7,baz=114,slow=2.9,SNR=12
SONM PP PP 08 40 52.6 -7.6
comp=Z,2.0nm,0.9s,baz=130,slow=4.9,SNR=5.8
GTA Gaotai 98.09 310 eP **P 08 36 56.6 +1.2**
GTA AMB AMB
comp=Z,10.0nm,1.4s,mb5.0
GTA AMB AMB
comp=Z,180nm,6.8s
INK Inuvik 98.72 16 P **P 08 36 56.5 -1.1**
comp=Z,2.4nm,0.9s,mb4.5,baz=228,slow=5.9,SNR=13
ZAK Zakamensk 100.57 321 eP P 08 37 06.3 +0.1
ZAK pmax pmax
comp=Z,2.0nm,0.1s
YKA Yellowknife Ar 101.02 25 P P 08 37 06.6 -1.3
comp=Z,0.2nm,0.5s,baz=234,slow=4.6,SNR=8.5
YKA PP PP 08 41 21.1 -4.7
comp=Z,0.7nm,0.8s,baz=232,slow=6.7,SNR=4.8
YKA PKKPbc 08 53 15.1
comp=Z,0.9nm,0.6s,baz=35,slow=2.5,SNR=17
YKA Yellowknife Ar 101.02 25 P P 08 37 06.6 -1.3
YKA PP PP 08 41 21.1 -4.7
YKA PKKPbc 08 53 15.2
LPAZ La Paz 102.20 114 P Pdif 08 37 14.8 +0.6
comp=Z,0.7nm,0.8s,baz=243,slow=4.5,SNR=2.0
MKAR Makanchi Array 112.58 312 Pdiff Pdif 08 38 03.3 +4.1
comp=Z,0.8nm,0.5s,baz=96,slow=5.1,SNR=20
MKAR PKiKP 08 41 50.2
comp=Z,2.4nm,0.5s,baz=149,slow=0.8,SNR=6.3
MKAR PP PP 08 42 45.2 -5.2
comp=Z,2.2nm,0.9s,baz=90,slow=8.5,SNR=5.1
MKAR SKP 08 44 38.9
comp=Z,1.9nm,0.7s,baz=73,slow=2.7,SNR=5.9
MKAR Makanchi Array 112.58 312 P Pdif 08 38 03.3 +4.1
MKAR 08 41 50.2
MKAR 08 44 38.9
MKAR Makanchi Array 112.58 312 Pdif Pdif 08 38 03.3 +4.1
MKAR PKPdf PKPdf 08 41 50.2 -0.2
MKAR PP PP 08 42 45.2 -5.3
MKAR SKP 08 44 38.9
KURK Kurchatov 115.66 316 *i* PKIKP PKPdf 08 41 56.2 -0.2
TKM2 Tokmak 2 116.51 307 P PKPdf 08 41 58.9 +0.7
SNR=11
KZA Kyzart 116.62 306 P PKPdf 08 42 00.2 +1.7
SNR=5.8
OPO Ambohidratompo117.06 231 PKP PKPdf 08 42 00.6 +0.7
comp=Z,5.1nm,0.7s,baz=194,slow=1.5,SNR=11
CHMS Chumysh 117.14 307 P PKPdf 08 41 59.8 +0.4
SNR=7.3
UCH Uchtor 117.19 306 P PKPdf 08 42 01.3 +1.8
SNR=14
AAK Ala-Archa 117.27 307 *i* PKIKP PKPdf 08 41 59.3 -0.4
USP Ospenovka 117.36 308 P PKPdf 08 42 00.5 +0.6
SNR=10
EKS2 Erkin-Say 117.79 307 P PKPdf 08 42 01.6 +0.8
SNR=6.2
BDFB Brasilia 118.46 126 PKP PKPdf 08 42 03.3 +0.7
comp=Z,0.8nm,0.5s,baz=339,slow=2.7,SNR=3.7
BDFB SKP 08 44 49.9
comp=Z,2.6nm,0.7s,baz=179,slow=6.4,SNR=5.1
BDFB PKKPbc 08 52 22.9
comp=Z,2.1nm,0.6s,baz=80,slow=5.7,SNR=3.1
JMDO Jabal Madar 126.94 280 ⇑P PKPdf 08 42 20.2 +1.3
SNR=9.2
SMDO Samad 127.16 281 ⇓P PKPdf 08 42 21.1 +1.7
SNR=9.9
MATP Matopo 127.31 214 PKP PKPdf 08 42 18.3 -1.3
comp=Z,9.2nm,0.6s,baz=133,slow=1.2,SNR=27
MATP SKPbc 08 44 51.0
comp=Z,4.8nm,0.8s,baz=184,slow=4.9,SNR=6.5
MATP Matopo 127.31 214 PKP PKPdf 08 42 18.3 -1.3
MATP SKPbc 08 44 51.0
ARU Arti 127.40 323 *i* PKIKP PKPdf 08 42 19.7 +0.8
ARU *e* 08 44 28.2
AKTK Aktyubinsk 128.75 316 PKP PKPdf 08 42 21.9 +0.2
AKTK SKPbc 08 44 55.3
AKTO Aktyubinsk 128.75 316 PKP PKPdf 08 42 21.9 +0.2
comp=Z,7.2nm,0.5s,baz=103,slow=4.7,SNR=22
AKTO SKPbc 08 44 55.3
comp=Z,2.8nm,0.7s,baz=78,slow=4.0,SNR=3.9

ASHO Ashiyiah 129.30 283 ⇑P PKPdf 08 42 24.1 +0.6
SNR=11
ASHO Ashiyiah 129.30 283 ⇓P 08 44 59.9
SNR=11
BANOM Banah 129.34 284 ⇑P 08 45 00.5
SNR=5.7
WHFO Wadi Hawf 129.64 273 ⇓P 08 45 01.8
SNR=11
ABTO Aybut 129.90 273 ⇑P 08 45 03.2
SNR=23
LSZ Lusaka 131.72 218 *e*PKIKP PKPdf 08 42 29.0 +0.8
KEV Kevo 132.08 348 *ep* PKPdf 08 42 18.9 -8.6
ARCES ARCESS Array B 132.56 348 PKhKP 08 42 18.4
comp=Z,1.9nm,0.5s,baz=35,slow=0.4,SNR=14
ARCES PKP PKPdf 08 42 28.0 -0.4
comp=Z,9.2nm,0.6s,baz=36,slow=1.0,SNR=32
ARCES SKPbc 08 45 08.2
comp=Z,9.5nm,0.7s,slow=2.4,SNR=13
ARCES ARCESS Array B 132.56 348 PKIKP PKPdf 08 42 28.0 -0.4
ARCES 08 45 08.2
ARCES ARCESS Array B 132.56 348 PKP PKPdf 08 42 28.0 -0.4
ARCES SKPbc 08 45 08.2
ARE0 ARCESS Array S 132.56 348 *e*PKPdf PKPdf 08 42 28.6 +0.3
TSUM Tsumeb 133.19 203 PKhKP 08 42 20.7
comp=Z,1.5nm,0.8s,baz=208,slow=6.2,SNR=5.8
TSUM PKP PKPdf 08 42 33.1 +2.3
comp=Z,6.8nm,0.7s,baz=146,slow=3.8,SNR=24
TSUM SKPbc 08 45 12.6
comp=Z,14nm,0.8s,baz=141,slow=4.0,SNR=18
TSUM Tsumeb 133.19 203 *e*PKPdf PKPdf 08 42 32.5 +1.7
KMBO Kilima Mbogo 135.70 240 PKP PKPdf 08 42 37.8 +2.1
comp=Z,6.2nm,0.9s,baz=61,slow=6.3,SNR=9.1
KMBO SKPbc 08 45 21.4
comp=Z,5.4nm,0.7s,baz=63,slow=4.6,SNR=8.4
JOF Joensuu 136.37 340 *ep* PKPdf 08 42 24.1 -11
JOF Joensuu 136.37 340 *epkp* PP 08 45 20.5 -5.3
ATD Arta Tunnel 137.35 260 PKP PKPdf 08 42 41.6 +3.0
comp=Z,9.6nm,1.0s,baz=242,slow=18,SNR=4.0
KAF Kangasniemi 138.49 342 *ep* PKPdf 08 42 30.8 -8.6
KAF Kangasniemi 138.49 342 *epkp* PP 08 45 26.6 -13
baz=29,slow=2.3
FINES FINESS Array B 139.09 341 PKhKP 08 42 30.6
comp=Z,3.5nm,0.5s,baz=60,slow=4.3,SNR=28
FINES PKP PKPdf 08 42 41.3 +0.8
comp=Z,5.8nm,0.5s,baz=79,slow=3.2,SNR=17
FINES SKPbc 08 45 28.3
comp=Z,15nm,0.7s,baz=63,slow=4.3,SNR=26
FINES FINESS Array B 139.09 341 PKIKP PKPdf 08 42 41.3 +0.8
FINES 08 45 28.3
OBN Obninsk 139.33 328⇑ *e*PKIKP PKPdf 08 42 43.4 +2.3
OBN pmax pmax
comp=Z,11nm,1.0s
GNI Garni 139.54 304 *i* PKIKP PKPdf 08 42 43.7 +1.7
VOR Voronezh 139.68 323 PKIKP PKPdf 08 42 43.0 +1.1
VOR pmax pmax
comp=Z,80nm,1.6s
VRSR Storozhevoye 139.92 322 *e*PKHKP 08 42 36.1
VRSR pmax pmax
comp=Z,2.0nm,0.8s
VRSR pmax pmax
comp=N,1.0nm,0.9s
VRSR pmax pmax
comp=E,6.0nm,2.8s
KIV Kislovodsk 140.27 310 *i* PKIKP PKPdf 08 42 45.7 +2.6
ARTV Artvin 141.46 306 *i* P PKPdf 08 42 41.8 -3.5
ERZM Erzurum 142.13 304 *i* P PKPdf 08 42 44.2 -2.2
EZM Erzurum 142.14 304 P PKPdf 08 42 45.1 -1.4
LTHS Al Lith 142.43 272 P PKPdf 08 42 48.8 +1.2
NB2 NORSAR Subarra142.76 351 PKPabc PKPdf 08 42 44.0 -2.8
comp=E,38nm,1.2s,baz=16,slow=3.1
NB2 NORSAR Subarra142.76 351 PKPa 08 42 44.0
baz=16,slow=3.2
NOA NORSAR Array B142.76 351 PKhKP 08 42 44.6
comp=E,18nm,0.9s,baz=17,slow=2.2,SNR=24
NOA SKPbc 08 45 38.3
comp=E,3.7nm,0.7s,baz=11,slow=4.1,SNR=9.9
NAO01 NORSAR Array S142.99 351 *e*PKPdf PKPdf 08 42 45.2 -2.0
MARD Mardin 143.02 300 *i* P PKPbc 08 42 46.1 -0.5
HFS Hagfors 143.22 349 PKP PKPdf 08 42 46.0 -1.6
comp=E,55nm,0.5s,baz=72,slow=4.7,SNR=352
HFS SKPbc 08 45 38.7
comp=E,6.2nm,0.7s,slow=1.5,SNR=3.9
GUMT Gumushane 143.43 305 P PKPbc 08 42 48.9 +1.2
ANN Anapa 143.59 313 *i* PKHKP 08 42 47.5
ANN pmax pmax
comp=Z,150nm,0.9s
MNK Minsk 143.66 333⇑ *e*PKHKP 08 42 46.0
MNK pmax pmax
comp=Z,1μm,1.0s
KELT Kelkit 143.67 305 *i* P PKPbc 08 42 48.9 +0.4
PTK Pertek 143.83 303 P PKPbc 08 42 49.8 +0.9
GRSN GIRESUNGRSN 144.21 307 *i* P PKPbc 08 42 48.8 -1.2
ELZG Elazig 144.22 302 *i* P PKPdf 08 42 51.4 +1.3
URFA Urfa 144.54 301 P PKPdf 08 42 51.6 +0.9
MYA Malataya 144.69 302 *e*P PKPdf 08 42 53.2 +2.3
YNBS Yanbu' al Bahr 145.43 278 P PKPdf 08 42 56.0 +3.4
SVST Sivas 145.48 305 *i* P PKPdf 08 42 56.2 +4.0
AKASG Malin Array Be 145.52 327 PKPbc PKPbc 08 42 53.4 +0.3
comp=Z,22nm,0.5s,baz=46,slow=3.9,SNR=124
AKASG pPKPbc 08 44 51.9
comp=Z,6.6nm,1.0s,baz=40,slow=4.4,SNR=1.3
AKASG SKPbc 08 45 44.5
comp=Z,5.4nm,0.8s,baz=47,slow=3.2,SNR=4.8
GZT Gaziantep 145.54 301 *i* P PKPdf 08 42 54.5 +2.1
SIM Simferopol' 145.71 315 *e*PKP2 PKPab 08 42 55.3 -2.7
SIM pmax pmax
comp=Z,55nm,0.8s
GAZ Gaziantep 145.85 300 *e*P PKPdf 08 42 56.4 +3.4
SUW Suwalki 145.87 335 *e*PKP PKPdf 08 42 55.0 +2.6
SUW *e* 08 43 19.8
SUW *e* 08 44 56.4
SUW Suwalki 145.87 335 *e*PKP PKPdf 08 42 55.0 +2.5
SUW *e* 08 43 19.8
SUW *e* 08 44 56.4
KAHT Ahir Dag 146.03 301 *i* P PKPdf 08 42 56.6 +3.3
BOYT Boyabat 146.49 309 *i* P PKPdf 08 42 57.1 +3.2
BNN Bunyan 146.54 304 *e*P PKPdf 08 42 56.5 +2.4
BYBT Boyabat 146.57 309 *e*P PKPdf 08 42 58.1 +4.1
COBT Iskenderun 146.73 300 *i* P PKPdf 08 42 58.0 +3.6
CTKT Corum 146.83 307 *i* P PKPdf 08 42 57.9 +3.5
KOZT Kozan 146.87 301 *e*P PKPdf 08 42 58.2 +3.6
HTY Hatay 146.89 299 *e*P PKPdf 08 42 59.1 +4.4
BZK Bozkurt 146.94 310 *e*P PKPdf 08 42 59.4 +4.9
CEYT Ceyhan 147.03 301 *e*P PKPdf 08 42 59.4 +4.5
TBKS Tabuk 147.08 284 P PKPdf 08 43 00.5 +5.3
TOS Tosya 147.25 308 *e*P PKPdf 08 43 00.3 +5.2
AVNT Avonos 147.31 304 *i* P PKPdf 08 42 59.8 +4.6
CDAG Cicekdag 147.43 306 *i* P PKPdf 08 42 58.7 +3.3
MUD Monsted U'grnd 147.47 350 *i* P PKPdf 08 42 59.2 +4.3
comp=Z,26nm,0.6s
MUD Monsted U'grnd 147.47 350 *i* PKIKP PKPdf 08 42 59.2 +4.3
MUD pmax pmax
comp=Z,26nm,0.6s
KARA Karaisali 147.52 301 *e*P PKPdf 08 43 00.3 +4.7
BALT Daday 147.53 310 *i* P PKPdf 08 42 59.6 +4.1
BSD Bornholm Skovb 147.57 344 *i* P PKPdf 08 42 59.4 +4.3
comp=Z,25nm,0.6s
BSD Bornholm Skovb 147.57 344 *i* PKIKP PKPdf 08 42 59.4 +4.3
BSD pmax pmax
comp=Z,25nm,0.6s
COP Copenhagen 147.62 347 *i* P PKPdf 08 42 59.6 +4.4
comp=Z,33nm,0.6s
COP Copenhagen 147.62 347 *e*PKIKP PKPdf 08 42 59.6 +4.4
COP pmax pmax
comp=Z,33nm,0.6s
CANT Cankiri 147.68 308 *e*P PKPdf 08 42 57.4 +1.6
JMQS Jabal Moqyreh 147.69 286 P PKPdf 08 43 01.9 +5.8
KSDI Kefar Szold 147.69 294 P PKPdf 08 43 01.5 +5.4
MKRJ Makawir 147.84 291 P PKPdf 08 43 02.1 +5.8
ELDT Eldivan 147.85 308 *i* P PKPdf 08 43 00.1 +4.0
KIS Kishinev 147.92 321 *e*PKIKP PKPdf 08 43 00.0 +4.0
KIS *i* 08 43 06.0
BR131 Keskin Array S 147.94 306 *e*PKPdf PKPdf 08 42 57.5 +1.3
BR131 *e*PKPbc PKPdf 08 43 01.4 +5.2
BR131 *e*PKPab PKPab 08 43 06.2 -0.7
BRTR Keskin Array B 147.94 306 PKPbc PKPdf 08 43 01.1 +4.9
comp=Z,23nm,0.6s,baz=143,slow=4.8,SNR=68
MMLI Mount Malkishu 147.96 292 P PKPdf 08 43 02.7 +6.2
KAMT Kaman 148.00 306 *e*P PKPdf 08 43 01.4 +5.0
MERS Mersin 148.02 301 *e*P PKPdf 08 43 01.7 +5.2
HNTI Hanita 148.11 294 P PKPdf 08 43 02.4 +5.7
SAFT Safranbolu 148.12 309 *e*P PKPdf 08 43 01.7 +5.2
AYUS 'Aynunah 148.21 284 P PKPdf 08 43 02.9 +5.9
ZFRI Zfri 148.28 289 P PKPdf 08 43 03.2 +6.1

OFRI 'Ofer 148.31 293 P PKPdf 08 43 02.9 +5.8
BDAS Al Bad' 148.37 285 P PKPdf 08 43 03.3 +6.0
JMOS Jabal al Moall 148.37 286 P PKPdf 08 43 03.4 +6.2
MEST Erdemli 148.38 300 *i* P PKPdf 08 43 02.6 +5.5
ALWS Ilw as Safayha 148.41 286 P PKPdf 08 43 03.5 +6.2
AQBJ Aqaba 148.42 287 P PKPdf 08 43 03.6 +6.3
PRNI Paran 148.44 288 P PKPdf 08 43 03.7 +6.4
EIL Elat 148.50 287 P PKPdf 08 43 03.6 +6.1
ANTO Ankara 148.51 307 *eP* PKPdf 08 43 02.1 +5.0
ANTO Ankara 148.51 307 *e*PKHKP 08 42 58.6
ANTO *e* 08 43 09.4
ANTO Ankara 148.51 307 *e*PKPdf PKPdf 08 42 58.6 +1.4
ANTO *e*PKPbc PKPdf 08 43 03.0 +5.9
ANTO P 08 43 03.2
ANTO *e*PKPab PKPab 08 43 09.3 +0.1
HAQS Haql 148.52 286 P PKPdf 08 43 03.7 +6.2
MBH Mount Berech 148.53 287 P PKPdf 08 43 03.9 +6.4
MASH Mash'abbe Sade 148.60 290 P PKPdf 08 43 03.8 +6.2
RTMM Retamin 148.69 290 P PKPdf 08 43 04.0 +6.3
PHNC Paralimni 148.78 297 P PKPdf 08 43 03.7 +6.0
SGKT Sivrigoynuk 148.81 309 *i* P PKPdf 08 43 02.5 +4.9
IKL Isikli 148.81 300 *e*P PKPdf 08 43 03.6 +5.8
KZIT Kziot 148.94 289 P PKPdf 08 43 04.7 +6.6
CFR Carcaliu 149.32 319 ⇑P PKPdf 08 43 03.5 +5.2
CFR Carcaliu 149.32 319 ⇑PKHKP 08 43 03.6
ERMK Ermenek 149.33 301 *i* P PKPdf 08 43 02.3 +3.7
KWP Kalwaria 149.34 330 *e*PKP PKPdf 08 43 04.8 +6.7
CSS Prodhromos 149.35 298 P PKPdf 08 43 05.0 +6.3
comp=Z,1.1nm,0.6s
CSS Prodhromos 149.35 298 *e*PKPbc PKPdf 08 43 04.9 +6.2
KDHN Kadinhani 149.44 305 *i* P PKPdf 08 43 08.6 +10
MDU Mudurnu 149.44 309 *eP* PKPdf 08 43 05.0 +6.4
KIZT Kizilcal 149.50 306 *eP* PKPdf 08 43 05.5 +6.7
HENT Hendek 149.53 310 *i* P PKPdf 08 43 03.5 +4.7
TIRR Tirgusor 149.53 318 ⇓P PKPdf 08 43 03.6 +4.9
BSEG Bad Segeberg 149.69 348 *e*PKP2 PKPab 08 43 13.1 -0.5
HARR Harsova 149.70 318 ⇓P PKPdf 08 43 05.0 +6.1
SZAC Souni-Zanaja 149.75 297 P PKPdf 08 43 06.1 +6.8
VRI Vrincioaia 149.76 321 ⇑P PKPdf 08 43 05.6 +6.6
VRI Vrincioaia 149.76 321 PKHKP 08 43 05.5
ALFC Alevga 149.90 298 P PKPdf 08 43 05.9 +6.4
comp=Z,2.0nm,0.6s
ESKT Eskisehir 150.04 307 *eP* PKPdf 08 43 06.2 +6.6
ESKT Eskisehir 150.04 307 *i* P PKPdf 08 43 05.1 +5.5
KOLS Kolonicke sedl 150.05 330 *e*PKP PKPdf 08 43 02.4 +3.1
KOLS *e* 08 43 07.3
KOLS *e* 08 43 14.0
KOLS Kolonicke sedl 150.05 330 *e*PKHKP 08 43 02.4
KOLS *e* 08 43 14.0
OJC Ojcow 150.14 334 *e*PKPdf PKPdf 08 43 06.3 +6.9
STHS Stebnicka Huta 150.15 332 *e*PKP PKPdf 08 43 02.6 +3.1
STHS *e* 08 43 07.2
STHS *e* 08 43 11.9
STHS Stebnicka Huta 150.15 332 *e*PKIKP PKPdf 08 43 02.6 +3.1
STHS *e* 08 43 11.9
PPCY Paphos 150.16 298 ⇓P PKPdf 08 43 06.1 +6.1
BORA Eskisehir 150.20 308 *i* P PKPdf 08 43 06.5 +6.7
RUE Ruedersdorf 150.24 343 *e*PKPbc PKPdf 08 43 06.0 +6.5
RUE *e*PKPab PKPab 08 43 15.8 -0.1
MLR Muntele Rosu 150.42 321 ⇓P PKPdf 08 43 06.0 +6.0
CRVS Cervenica-Dubn 150.44 331 *e*PKP PKPdf 08 43 02.3 +2.4
CRVS *e* 08 43 07.7
CRVS *e* 08 43 16.4
CRVS *e* 08 45 09.9
CRVS Cervenica-Dubn 150.44 331 *e*PKIKP PKPdf 08 43 02.3 +2.4
CRVS *e* 08 43 16.4
NIE Niedzica 150.55 332⇓ *e*PKPdf PKPdf 08 43 07.9 +7.8
ISP Isparta 150.85 304 *eP* PKPdf 08 43 07.1 +6.2
ISP Isparta 150.85 304 *e*PKIKP PKPdf 08 43 07.3 +6.4
ISP *e* 08 43 18.7
KSP Ksiaz 150.91 338 *e*PKP PKPdf 08 43 08.7 +8.2
KSP *e* 08 43 19.0
KSP *e* 08 45 08.8
KSP Ksiaz 150.91 338 *e*PKIKP PKPdf 08 43 02.9 +2.4
TKTP Tekketepe 150.93 305 *i* P PKPdf 08 43 06.9 +5.9
VOIR 150.96 322 ⇓P PKPdf 08 43 08.5 +7.7
ULDT Uludag 151.04 309 *i* P PKPdf 08 43 07.5 +6.4
OKC Ostrava-Krasne 151.09 335⇑ *e*PKPB PKPdf 08 43 08.3 +7.5
KECS Kecovo 151.18 331 *e*PKP PKPdf 08 43 01.6 +0.6
KECS *e* 08 43 08.7
KECS *e* 08 43 18.8
KECS *e* 08 45 12.5
KECS Kecovo 151.18 331 *e*PKIKP PKPdf 08 43 01.6 +0.6
KECS *e* 08 43 18.8
UPC Upice 151.29 338⇑ *e*PKPB PKPdf 08 43 09.2 +8.1
UPC *e*PKPAB PKPab 08 43 20.3 -0.1
UPC *ex* x 08 43 35.2
UPC *ep*PKP 08 45 12.7
DPC Dobruska-Polom 151.32 338 *e*PKPDF PKPdf 08 43 03.8 +2.6
DPC ⇑*e*PKPB PKPdf 08 43 09.2 +8.0
DPC *e*PKPAB PKPab 08 43 19.7 -0.8
DPC *ex* x 08 43 35.1
DPC *ep*PKP 08 45 12.8
DPC Dobruska-Polom 151.32 338 *e*PKIKP PKPdf 08 43 03.8 +2.6
DPC *e* 08 43 19.7
DRGR 151.34 326 ⇓P PKPdf 08 43 07.8 +6.5
MORC Moravsky Berou 151.36 336 *e*PKIKP PKPdf 08 43 03.7 +2.5
MORC *e* 08 43 19.8
MORC Moravsky Berou 151.36 336 *e*PKPdf PKPdf 08 43 03.7 +2.5
MORC *e*PKPbc PKPdf 08 43 09.5 +8.3
MORC *e*PKPab PKPab 08 43 19.8 -0.9
CLL Collm 151.50 343⇓ *i*PKP1 PKPdf 08 43 09.3 +7.9
CLL *i* PKP2 PKPab 08 43 20.8 -0.5
CLL *i* *PPKP 08 45 12.3
CLL *e**PPKP2 08 45 17.0
CLL *e* 08 45 33.0
CLL Collm 151.50 343⇓ *i*PKIKP PKPdf 08 43 09.3 +7.9
CLL *i* 08 43 20.8
CLL pmax pmax
comp=Z,65nm,0.8s
CLL pmax pmax
comp=Z,53nm,1.4s
BRG Berggiesshubel 151.63 341 *e*PKIKP PKPdf 08 43 03.6 +2.0
BRG *i* 08 43 20.5
BRG pmax pmax
comp=Z,23nm,1.5s
BRG Berggiesshubel 151.63 341 *e*PKP PKPdf 08 43 03.6 +2.0
BRG *i* 08 43 09.7
BRG *i* 08 43 20.5
BRG *e* 08 43 42.9
BRG *ep*PKP 08 45 11.0
ELL Elmali 151.63 302 *eP* PKPdf 08 43 10.1 +8.1
CLZ Clausthal 151.65 346 *e*PKPdf PKPdf 08 43 03.9 +2.3
CLZ *e*PKPbc PKPdf 08 43 10.2 +8.6
CLZ *e*PKPab PKPab 08 43 21.4 -0.5
CLZ *e* 08 43 35.6
PVCC Panska Ves 151.74 340 *e*PKPDF PKPdf 08 43 03.9 +2.2
PVCC ⇑*e*PKPB PKPdf 08 43 09.6 +8.1
PVCC *e*PKPAB PKPab 08 43 21.5 -0.8
PVCC *ep*PKP 08 45 11.9
PVCC Panska Ves 151.74 340 *e*PKIKP PKPdf 08 43 03.9 +2.2
PVCC *e* 08 43 21.5
PSZ Piszkesteto 151.87 331 *eP* PKPdf 08 43 10.2 +8.2
PSZ Piszkesteto 151.87 331 PKIKP PKPdf 08 43 11.2 +9.2
PSZ Piszkesteto 151.87 331 *e*PKPab PKPab 08 43 22.7 -0.2
VYHS Vyhne 151.88 333 *e*PKP PKPdf 08 43 10.1 +8.1
VYHS *e*PKKPpB 08 43 21.0
VYHS *e* 08 45 14.8
DNZL Cakiroluk 152.00 305 *i* P PKPdf 08 43 11.4 +8.9
AKAS Kas 152.01 301 *i* P PKPdf 08 43 09.4 +6.8
VRAC Vranov 152.10 336 PKIKP PKPdf 08 43 11.9 +10
WTSB Winterswijk 152.18 351 *eP* PKPdf 08 43 10.4 +8.1
comp=Z,51nm,1.1s
WTSB ⇑*eP* 08 45 11.6
comp=Z,60nm,1.5s
PRA Prague 152.18 340 ⇑PKPB PKPdf 08 43 12.0 +10
PRA PKPAB PKPab 08 43 24.0 -0.2
PRA pPKP 08 45 14.0
PRU Pruhonice 152.22 340 *e*PKPDF PKPdf 08 43 04.6 +2.2
PRU ⇑*e*PKPB PKPdf 08 43 10.7 +8.3
PRU *e*PKPAB PKPab 08 43 23.4 -0.9
PRU *ex* x 08 43 37.2
PRU *ep*PKP 08 45 13.1
FETY Fethiye 152.30 303 *eP* PKPdf 08 43 09.7 +6.7
MOX Moxa 152.47 344 *i* P PKPdf 08 43 05.2 +2.5
MOX PP2 08 43 11.0
MOX PKP2 PKPab 08 43 24.0 -1.3
MOX pPKP 08 45 14.0
MOX Moxa 152.47 344 *e*PKIKP PKPdf 08 43 11.4 +8.7
MOX *e* 08 43 23.6

MOX				pmax	pmax			
	comp=Z,26nm,1.1s							
TREC	**Trest**	**152.50**	**338**	*e*PKPDF	PKPdf	08 43 04.0	+1.2	
TREC			⇑	*e*PKPB	PKPdf	08 43 11.3	+8.5	
TREC				*e*PKPAB	PKPab	08 43 24.9	-0.6	
TREC				*ex*	x	08 43 37.8		
TREC				*ep*PKP		08 45 16.3		
DALT	**Dalyan (Mudla)**	**152.60**	**303**	*e*P	PKPdf	08 43 11.7	+8.3	
NKC	**Novy Kostel**	**152.63**	**342**	⇑*e*PKPB	PKPdf	08 43 12.8	+10	
NKC				*e*PKPAB	PKPab	08 43 24.5	-1.5	
BZS	**Buzias**	**152.69**	**326**	⇑P	PKPdf	08 43 00.0	-3.2	
ZST	**Bratislava**	**152.82**	**334**	*e*PKP	PKPdf	08 43 06.0	+2.7	
ZST				*e*		08 43 13.9		
ZST				*e*		08 43 23.5		
ZST	**Bratislava**	**152.82**	**334**	*e*PKIKP	PKPdf	08 43 06.0	+2.7	
ZST				*e*		08 43 23.5		
DJES	**Djerdap**	**152.86**	**323**	*e*PKP	PKPab	08 43 25.7	-1.5	
KDZ	**Kurdzhali**	**152.86**	**315**	*e*P	PKPdf	08 43 12.0	+8.4	
AYDN	**Tasoluk**	**152.88**	**305**	*i* P	PKPdf	08 43 13.0	+9.2	
IZM	**Izmir**	**153.06**	**307**	*e*P	PKPdf	08 43 11.2	+7.3	
PGB	**Panagyurishte**	**153.16**	**318**	*e*P	PKPdf	08 43 14.0	+10	
KHC	**Kasperske Hory**	**153.28**	**340**	*e*PKPDF	PKPdf	08 43 04.5	+0.6	
KHC			⇑	*e*PKPB	PKPdf	08 43 13.0	+9.1	
KHC				*e*PKPAB	PKPab	08 43 27.6	-1.2	
KHC				*ep*PKP		08 45 13.0		
RZN	**Rozhen**	**153.29**	**316**	*e*P	PKPdf	08 43 08.0	+3.8	
DAT	**Datca**	**153.42**	**304**	*e*P	PKPdf	08 43 12.0	+7.5	
GRF	**Grafenberg Arr**	**153.45**	**343**	*e*PKIKP	PKPdf	08 43 14.6	+10	
HGN	**Heimansgroeve**	**153.47**	**351**	*e*P	PKPab	08 43 27.0	-2.5	
	comp=Z,35nm,1.1s							
HGN				*e*P		08 45 16.8		
	comp=Z,20nm,1.5s							
WET	**Wettzell**	**153.48**	**341**	*e*PKPdf	PKPdf	08 43 06.2	+2.0	
WET				*e*PKPbc	PKPdf	08 43 14.7	+11	
WET				*e*PKPab	PKPab	08 43 29.7	+0.1	
WET				*ep*PKPab		08 45 28.3		
GEC2	**GERESS Array S**	**153.49**	**339**	*e*PKPdf	PKPdf	08 43 06.3	+2.1	
GEC2				*e*PKPbc	PKPdf	08 43 14.8	+11	
GEC2				*e*PKPab	PKPab	08 43 29.6	-0.1	
GEC2				*ep*PKPbc		08 45 18.2		
GERES	**GERESS Array B**	**153.49**	**339**	PKP	PKPdf	08 43 04.8	+0.6	
	comp=Z,1.2nm,0.8s,baz=135,slow=1.9,SNR=10.0							
GERES				PKPbc	PKPdf	08 43 13.0	+8.8	
	comp=Z,3.3nm,0.7s,baz=28,slow=2.8,SNR=15							
GERES				PKPab	PKPab	08 43 26.8	-2.9	
	comp=Z,6.6nm,0.9s,baz=45,slow=3.8,SNR=11							
TNS	**Taunus Mts**	**153.58**	**348**	*e*PKIKP	PKPdf	08 43 14.4	+10	
VTS	**Vitosha**	**153.72**	**319**	*e*P	PKPdf	08 43 14.0	+9.3	
MMB	**Musomiste**	**153.97**	**316**	*e*P	PKPdf	08 43 14.0	+9.0	
KKB	**Krupnik**	**154.21**	**318**	*e*P	PKPdf	08 43 15.0	+10	
GRUS	**Gruza**	**154.33**	**324**	*e*PKP	PKPdf	08 43 15.2	+10	
BAIF	**Baives**	**154.37**	**354**	*e*PKIKP	PKPdf	08 43 06.3	+1.0	
DIVS	**Divcibare**	**154.57**	**325**	⇑*i* PKP	PKPab	08 43 30.5	-3.9	
PERS	**Pernice**	**154.87**	**335**	*e*PKPbc	PKPab	08 43 34.6	-0.9	
CDF	**Champ du Feu**	**155.54**	**348**	*e*PKIKP	PKPdf	08 43 07.8	+0.8	
VISS	**Visnje**	**155.67**	**334**	*e*PKPbc	PKPab	08 43 36.7	-2.3	
ROBS	**Robic**	**155.80**	**337**	*e*PKPbc	PKPab	08 43 38.2	-1.4	
FLN	**La Foliniere**	**155.88**	**1**	*e*PKIKP	PKPdf	08 43 08.3	+0.9	
	comp=Z,180nm,1.8s							
LDF	**La Druitiere**	**156.05**	**0**	*e*PKIKP	PKPdf	08 43 08.6	+1.0	
HAU	**Haudompre**	**156.09**	**349**	*e*PKIKP	PKPdf	08 43 08.5	+0.8	
	comp=Z,40nm,1.5s							
HINF	**Hinteralfeld**	**156.19**	**348**	*e*PKIKP	PKPdf	08 43 08.6	+0.8	
	comp=Z,35nm,1.4s							
GRR	**Gorron**	**156.25**	**1**	*e*PKIKP	PKPdf	08 43 08.9	+1.0	
LOR	**Lormes**	**157.16**	**353**	*e*PKIKP	PKPdf	08 43 10.3	+1.2	
SSF	**Saint Saulge**	**157.41**	**354**	*e*PKIKP	PKPdf	08 43 10.7	+1.3	
	comp=Z,9.3nm,0.8s							
CABF	**La Chapelle**	**157.49**	**349**	*e*PKIKP	PKPdf	08 43 11.1	+1.5	
	comp=Z,95nm,1.6s							
AVF	**Avril sur Loir**	**157.69**	**354**	*e*PKIKP	PKPdf	08 43 10.7	+0.9	
BGF	**Bois d'Agland**	**157.97**	**355**	*e*PKIKP	PKPdf	08 43 11.5	+1.3	
MFF	**Saint Martin d**	**158.04**	**0**	*e*PKIKP	PKPdf	08 43 11.3	+1.0	
	comp=Z,69nm,1.6s							
RJF	**Les Rejaudoux**	**159.30**	**357**	*e*PKIKP	PKPdf	08 43 12.9	+1.2	
LFF	**La Frestale**	**159.70**	**358**	*e*PKIKP	PKPdf	08 43 13.2	+1.0	
LIC	**Lamto**	**161.12**	**165**	⇑*i* PKIKP	PKPdf	08 43 16.8	+2.3	
	comp=Z,46nm,1.3s							
DBIC	**Dimbokro**	**161.59**	**165**	PKP	PKPdf	08 43 16.3	+1.3	
	comp=Z,7.6nm,1.0s,baz=211,slow=0.8,SNR=6.2							
DBIC				PKP	PKPab	08 44 04.2	-1.3	
	comp=Z,8.2nm,1.0s,baz=216,slow=2.9,SNR=4.7							
EVO	**Evora**	**164.56**	**24**	*e*PKIKP	PKPdf	08 43 18.6	+1.4	
	comp=Z,52nm,1.4s							
ESDC	**Sonseca Array**	**164.62**	**11**	PKPab	PKPab	08 44 17.2	-0.7	
	comp=Z,5.3nm,0.9s,baz=348,slow=4.3,SNR=15							
TORD	**Torodi Ar. Bea**	**168.49**	**189**	PKP	PKPdf	08 43 21.2	+0.5	
	comp=Z,6.1nm,0.8s,baz=357,slow=0.4,SNR=28							
TORD				PKPab	PKPab	08 44 35.1	-0.4	
	comp=Z,14nm,0.6s,baz=181,slow=3.8,SNR=33							
TORD				pPKP		08 45 23.9		
	comp=Z,2.8nm,0.9s,baz=332,slow=2.7,SNR=2.3							
TORD				PP	PP	08 48 21.1	-5.1	
	comp=Z,5.2nm,1.1s,baz=163,slow=3.7,SNR=7.0							

IDC ***10*** *08:33:27.0±4.8, 43.40N×126.46W, mb3.6/2, mb1 3.7/6, mb1mx3.5/24, mbtmp3.4/6, ML3.2/4, Error ellipse: s-maj=63.2km s-min=22.1km az=73.0*

NEIC ***10*** *08:33:29.5±1.2, 43.33N×126.40W, h10km, mb4.0/3, Error ellipse: s-maj=15.0km s-min=7.8km az=70.0*

ISC 10 08:33:26.3±1.2, 43.33N±0.07×126.6W±0.1, h10km, n28, σ0°94/28, mb3.9/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.75**	**104**	*e*P	**Pn**	**08 33 55.4**	**-1.6**
RNO	**Roman Nose**	**2.19**	**73**	P	**Pn**	**08 34 03.0**	**-0.2**
HSO	**Harness Mounta**	**2.59**	**84**	P	**Pn**	**08 34 08.4**	**-0.6**
COR	**Corvallis**	**2.72**	**61**	*e*P	**Pn**	**08 34 10.9**	**0.0**
HUMO	**Hull Mountain**	**2.80**	**104**	*e*P	**Pn**	**08 34 10.3**	**-1.6**
BBOR	**Butler Butte**	**2.93**	**97**	P	**Pn**	**08 34 13.6**	**-0.3**
BROR	**Big Rock Looko**	**3.17**	**71**	P	**Pn**	**08 34 17.4**	**+0.1**
HBO	**Huckleberry Mo**	**3.18**	**79**	P	**Pn**	**08 34 18.2**	**+0.8**
IRO	**Indian Ridge**	**3.25**	**76**	P	**Pn**	**08 34 18.8**	**+0.4**
YBH	**Yreka Blue Hor**	**3.31**	**117**	*e*P	**Pn**	**08 34 19.2**	**-0.1**
FRIS	**Frissel Point**	**3.41**	**73**	P	**Pn**	**08 34 20.9**	**+0.4**
HUOR	**Husband**	**3.56**	**76**	P	**Pn**	**08 34 23.3**	**+0.5**
TDH	**Tom, Dick, Har**	**4.00**	**59**	P	**Pn**	**08 34 29.8**	**+0.8**
LVP	**Lakeview Peak**	**4.08**	**46**	P	**Pn**	**08 34 30.8**	**+0.6**
VIPM	**Ingram Point**	**4.51**	**73**	P	**Pn**	**08 34 36.0**	**-0.3**
CMB	**Columbia Colle**	**7.11**	**136**	*e*P	**Pn**	**08 35 13.5**	**+0.6**
NVAR	**Mina Array Bea**	**7.99**	**125**	Pn	**Pn**	**08 35 24.4**	**-0.8**
	0.1nm,0.3s,baz=302,slow=14,SNR=3.5						
NEW	**Newport**	**8.28**	**50**	Pn	**P**	**08 35 27.4**	**-1.9**
	0.2nm,0.3s,baz=226,slow=12,SNR=3.7						
ELK	**Elko**	**8.87**	**103**	Pn	**P**	**08 35 39.1**	**+1.6**
	0.1nm,0.3s,baz=262,slow=7.1,SNR=2.7						
PDAR	**Pinedale Array**	**12.51**	**87**	Pn	**P**	**08 36 28.0**	**+0.8**
	0.0nm,0.3s,baz=288,slow=14,SNR=4.0						
PDAR	**Pinedale Array**	**12.51**	**87**	Pn	**P**	**08 36 28.0**	**+0.8**
EDM	**Edmonton**	**13.26**	**37**	P	**P**	**08 36 37.2**	**+0.1**
SDCO	**Great Sand Dun**	**16.99**	**102**	P	**P**	**08 37 25.7**	**+0.2**
	4.0nm,1.1s						
YKA	**Yellowknife Ar**	**20.46**	**16**	P	**P**	**08 38 04.8**	**-1.6**
	2.0nm,0.8s,baz=203,slow=10,SNR=12						
DAWY	**Dawson**	**22.02**	**345**	*e*P	**P**	**08 38 24.3**	**+2.1**
ULM	**Lac du Bonnet**	**22.06**	**61**	P	**P**	**08 38 23.1**	**+0.4**
	2.3nm,0.8s,mb3.6,baz=291,slow=9.0,SNR=4.4						
WMOK	**Wichita Mounta**	**23.20**	**102**	*e*P	**P**	**08 38 34.8**	**+0.8**
	6.1nm,0.9s,mb4.0						
INK	**Inuvik**	**25.30**	**354**	*e*P	**P**	**08 38 52.7**	**-1.3**
	8.5nm,1.3s,mb4.1						

IDC 10 08:39:59.5±4.7, 24.53S×179.90E, h497km±56km, mb3.2/4, mb1 3.4/6, mb1mx3.2/14, mbtmp4.1/6, Error ellipse: s-maj=55.0km s-min=28.8km az=177.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.61**	**278**	P	P	08 42 46.0	+0.6
	0.4nm,0.3s,baz=73,slow=18,SNR=8.5						
URZ	**Urewera**	**13.90**	**189**	P	P	08 42 56.1	-2.6
	0.8nm,0.3s,baz=197,slow=3.0,SNR=6.4						
STKA	**Stephens Creek**	**34.41**	**249**	P	P	08 46 05.6	-0.1
	0.7nm,0.4s,baz=66,slow=9.7,SNR=6.4						
WB2	**Warramunga Arr**	**42.27**	**267**	*e*P	P	08 47 08.6	-1.3
WRA	**Warramunga Arr**	**42.28**	**267**	P	P	08 47 08.0	-2.0
	2.0nm,0.6s,baz=100,slow=8.2,SNR=5.2						
FITZ	**Fitzroy Crossi**	**50.69**	**266**	P	P	08 48 12.4	-2.1
	1.1nm,0.6s						

TXAR	**Lajitas Array**	**90.84**	**58**	P	P	08 52 10.0	-0.4	
	0.6nm,0.8s,baz=211,slow=7.3,SNR=7.6							
HFS	**Hagfors**	**143.14**	**349**	PKhKP		08 58 32.5		
	0.9nm,0.4s,baz=117,slow=3.2,SNR=6.3							

ATH ***10*** *09:14:53.3, 40.56N×23.50E, h13km±4km, MD3.1/3*
THE ***10*** *09:14:53.1, 40.56N×23.52E, h1km, ML2.6*
CSEM ***10*** *09:14:53.6±0.1, 40.57N×23.51E, h2km, ML2.6, Error ellipse: s-maj=2.0km s-min=1.3km az=87.0*

ISC 10 09:14:52.9±0.5, 40.56N±0.03×23.49E±0.08, h5km±11km, n11, σ0°49/16, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLG	**Polygyros**	**0.19**	**190**	*e*PG	**Pg**	**09 14 57.4**	**+0.6**
PLG				*e*SG	**Sg**	**09 14 59.9**	**+0.6**
SOH	**Sokhos**	**0.28**	**338**	*e*Pg	**Pg**	**09 14 59.4**	**+0.8**
SOH				*e*Sg	**Sg**	**09 15 02.2**	**-0.2**
THE	**Thessaloniki**	**0.41**	**280**	*e*Pg	**Pg**	**09 15 01.2**	**+0.2**
OUR	**Ouranopolis**	**0.44**	**121**	*e*Pg	**Pg**	**09 15 01.8**	**+0.2**
SRS	**Serrai**	**0.56**	**8**	*e*Pg	**Pg**	**09 15 04.0**	**-0.1**
SRS				*e*Sg	**Sg**	**09 15 11.4**	**-0.3**
PAIG	**Paliouri**	**0.65**	**167**	*e*Pg	**Pg**	**09 15 04.8**	**-1.1**
PAIG				*e*Sg	**Sg**	**09 15 13.9**	**-0.6**
KNT	**Kendrikon**	**0.75**	**323**	*e*Pg	**Pg**	**09 15 07.5**	**-0.4**
NVR	**Nevrokopi**	**0.84**	**19**	*e*PB	**Pb**	**09 15 09.2**	**-0.3**
NVR				*e*SB	**Sb**	**09 15 20.9**	**+0.1**
LIT	**Litokhoron**	**0.89**	**239**	*e*Pg	**Pg**	**09 15 10.7**	**0.0**
GRG	**Griva**	**0.92**	**296**	*e*Pg	**Pg**	**09 15 10.9**	**-0.3**
RDO	**Rodhopi**	**1.66**	**69**	*e*PB	**Pb**	**09 15 24.2**	**+0.7**

NEIC ***10*** *09:26:34.6, 32.55S×71.65W, h12km, ML2.7(GUC), After GUC.*

GUC 10 09:26:34.6±0.8, 32.55S×71.65W, h12km±5km, MD3.7, ML2.7, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.47**	**179**	⇓*i* P	Pg	09 26 44.4	+0.1
IHA				*i* S	Sg	09 26 50.9	+0.1
CHNG	**Los Chungos**	**0.68**	**11**	⇓*i* P	Pb	09 26 47.6	-0.2
CHNG				*i* S	Sb	09 26 57.0	+0.1
CHNG				AMP		09 26 57.8	
	comp=E,274nm,0.3s						
ROCH	**El Roble**	**0.69**	**128**	*i* P	Pb	09 26 48.2	+0.2
ROCH				*i* S	Sb	09 26 58.1	+1.1
JACH	**Jahuel**	**0.90**	**99**	⇑*i* P	Pb	09 26 51.5	-0.2
JACH				*i* S	Sb	09 27 04.1	+0.6
LCCH	**Las Cruces**	**0.92**	**176**	⇓*i* P	Pb	09 26 51.1	-0.9
LCCH				*i* S	Sb	09 27 02.7	-1.3
PEL	**Peldehue**	**1.01**	**126**	⇑*i* P	Pb	09 26 52.8	-0.7
PEL				*i* S	Sb	09 27 07.1	+0.6
PEL				AMP		09 27 07.9	
	comp=E,694nm,0.2s						
RCDM	**Rinconada Maip**	**1.18**	**143**	*e*P	Pb	09 26 55.5	-0.8
RCDM				*i* S	Sb	09 27 11.4	+0.1
RCDM				AMP		09 27 12.6	
	comp=N,431nm,0.2s						
SAN	**Santiago**	**1.23**	**137**	*i* S	Sb	09 27 12.9	+0.2
TACH	**Talagante**	**1.25**	**152**	⇓*i* P	Pb	09 26 56.5	-1.1
TACH				*i* S	Sb	09 27 13.8	+0.2
CLCH	**Cerro Calan**	**1.26**	**132**	AMP		09 27 21.0	
	comp=N,288nm,0.2s						
ANTU	**Antumapu**	**1.33**	**140**	AMP		09 27 21.0	
	comp=N,209nm,0.5s						
FCH	**Farellones**	**1.38**	**124**	⇓*i* P	Pn	09 26 58.8	-1.0
FCH				*i* S	Sb	09 27 17.4	+0.1
FCH				AMP		09 27 18.4	
	comp=N,239nm,0.3s						
CHCH	**Chadas Angostu**	**1.61**	**149**	⇓*i* P	Pn	09 27 02.8	-0.2
CACH	**El Canelo**	**1.79**	**151**	*i* S	Sn	09 27 29.9	+1.4
CICH	**Cipreses**	**2.04**	**150**	*e*P	Pn	09 27 09.0	-0.2
SFDO	**San Fernando**	**2.13**	**166**	*e*P	Pn	09 27 10.4	0.0
SFDO				*i* S	Sn	09 27 38.0	+1.1

NIED ***10*** *09:32:00, 32.00N×132.00E, h26km, Mw4.5 Best double couple: M0 6.7×10^15 NP1:φs19°, δ66°, λ91°. NP2:φs197°, δ24°, λ88°.*
BJI ***10*** *09:32:01.2, 31.59N×132.68E, h30km, mB4.7, mb4.5, Ms4.4, Msz4.2*
MOS ***10*** *09:32:07.9±1.2, 31.99N×131.83E, h33km, mb5.0/22, Error ellipse: s-maj=11.4km s-min=6.9km az=85.3*
IDC ***10*** *09:32:09.2±0.6, 32.05N×131.69E, h29km±4km, mb4.1/17, mb1 4.3/19, mb1mx4.2/24, mbtmp4.3/19, ML3.9/2, MS3.9/7, Ms1 3.9/7, ms1mx3.5/28, Error ellipse: s-maj=18.7km s-min=11.9km az=75.0*
JMA ***10*** *09:32:09.0±0.1, 32.03N×132.05E, h20km±2km, M4.5 Broadband fault plane solution: P waves. NP1:φs232°, δ24°, λ97°. NP2:φs44°, δ66°, λ87°. Principal axes: T Plg69°, Azm307°; N Plg3°, Azm45°; P Plg21°, Azm136°; JMA Felt II J1.*
NEIC ***10*** *09:32:10.3±0.4, 32.02N×131.96E, mb4.6/15, MW4.5(NIED) Error ellipse: s-maj=8.7km s-min=7.4km az=141.0*
NEIC Recorded [3 JMA] in Miyazaki and [1 JMA] in Kagoshima, Kumamoto and Oita Prefectures.

ISC 10 09:32:07.8±0.3, 31.99N±0.03×132.05E±0.03, h28km, h28km±.9km: pP-P, n123, σ1°39/126, mb4.5/38, MS4.2/10, 5C-7D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTSN	**Tsuno**	**0.53**	**299**	⇓P	**Pb**	**09 32 18.7**	**+0.1**
JTSN				S	**Sb**	**09 32 25.8**	**-0.2**
JNAR	**Kushima--Naru**	**0.81**	**236**	⇑P	**Pb**	**09 32 24.7**	**+1.6**
JNAR				S	**Sb**	**09 32 36.9**	**+3.2**
JKIT	**Kitakata**	**0.81**	**322**	⇓P	**Pb**	**09 32 23.8**	**+0.6**
JKIT				S	**Sb**	**09 32 34.7**	**+0.8**
JTZ	**Takazaki**	**0.82**	**264**	⇓P	**Pb**	**09 32 24.5**	**+0.9**
JTZ				S	**Sb**	**09 32 36.2**	**+2.1**
JTO	**Tosashimizu**	**1.08**	**36**	⇑P	**Pn**	**09 32 27.6**	**+0.5**
JTO				S	**Sn**	**09 32 41.7**	**+0.5**
JUS	**Usuki**	**1.11**	**347**	⇓P	**Pn**	**09 32 28.9**	**+1.4**
JUS				S	**Sn**	**09 32 44.0**	**+2.1**
JIU2	**Izumi 2**	**1.19**	**298**	⇓P	**Pn**	**09 32 30.2**	**+1.5**
JIU2				S	**Sn**	**09 32 45.9**	**+1.9**
JZO	**Okuchi**	**1.24**	**277**	⇑P	**Pn**	**09 32 30.9**	**+1.4**
JNU	**Nakatsue**	**1.50**	**319**	Pn	**Pn**	**09 32 35.9**	**+2.7**
	705nm,0.3s,baz=138,slow=9.4,SNR=666						
JNU				Sn	**Sn**	**09 32 56.8**	**+4.7**
	374nm,0.3s,baz=267,slow=22,SNR=7.8						
JOW	**Kunigami**	**6.10**	**214**	Pn	**Pn**	**09 33 41.2**	**+2.7**
	2.6nm,0.3s,baz=99,slow=15,SNR=5.0						
KS15	**Wonju Array Si**	**6.43**	**329**	*e*Pn	**Pn**	**09 33 43.0**	**-0.2**
KS15				*e*Sn	**Sn**	**09 34 54.7**	**-1.7**
JHJ	**Hachijo jima 2**	**6.62**	**78**	LR	LR	09 36 27.6	
	comp=Z,343nm,18.7s,baz=102,slow=37						
MAJO	**Matsushiro**	**6.83**	**47**	*e*P	**Pn**	**09 33 48.7**	**0.0**
MAJO				pmax	pmax		
	comp=Z,29nm,0.4s						
MAJO	**Matsushiro**	**6.83**	**47**	*e*Pn	**Pn**	**09 33 48.7**	**0.0**
	comp=Z,28nm,0.4s						
MAT	**Matsushiro**	**6.83**	**47**	P	**Pn**	**09 33 49.1**	**+0.4**
MAT				S	**Sn**	**09 35 04.2**	**-2.1**
MAT	**Matsushiro**	**6.83**	**47**	*e*P	**Pn**	**09 33 49.0**	**+0.3**
MAT				*e*S	**Sn**	**09 35 04.0**	**-2.3**
MAT				pmax	pmax		
	comp=Z,15nm,0.5s						
MAT	**Matsushiro**	**6.83**	**47**	*e*P	**Pn**	**09 33 49.0**	**+0.3**
	comp=Z,15nm,0.5s						
MAT				*e*S	**Sn**	**09 35 04.0**	**-2.3**
MJAR	**Matsushiro Arr**	**6.83**	**47**	Pn	**Pn**	**09 33 49.3**	**+0.6**
	comp=Z,4.9nm,0.3s,baz=244,slow=14,SNR=36						
MJAR				Sn	**Sn**	**09 35 04.7**	**-1.6**
	comp=Z,2.1nm,0.3s,baz=209,slow=15,SNR=3.7						
MJAR	**Matsushiro Arr**	**6.83**	**47**	P	**Pn**	**09 33 49.3**	**+0.6**
MJAR						09 35 04.7	
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				smax			
	comp=N,2.0nm,0.3s						
SSE	**Sheshan**	**9.31**	**267**	P	**P**	**09 34 23.5**	**+0.2**
SSE				S	**Sn**	**09 36 05.9**	**-2.3**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s						
SSE				AMB	AMB		
	comp=Z,150nm,3.6s						
SSE				LR	LR		
	comp=N,180nm,16.0s						
SSE				LR	LR		
	comp=E,390nm,16.0s						
SSE				LR	LR		
	comp=Z,500nm,18.5s						
SSE	**Sheshan**	**9.31**	**267**	P	**P**	**09 34 23.5**	**+0.2**
	comp=Z,29nm,0.8s						
SSE				sP		09 34 51.5	
SSE				S	**Sn**	**09 36 05.9**	**-2.3**
CBIJ	**Chichi jima**	**10.08**	**116**	LR	LR	09 38 36.5	
	comp=Z,275nm,18.5s,baz=54,slow=37						
NJ2	**Nanjing**	**11.20**	**274**	*e*P	**P**	**09 34 49.4**	**+0.2**
NJ2				PP	PP	09 35 00.5	+3.1
NJ2				AMB	AMB		
	comp=Z,170nm,7.9s						
NJ2				LR	LR		
	comp=N,9μm,18.0s						
NJ2				LR	LR		
	comp=E,6μm,13.2s						
NJ2				LR	LR		
	comp=Z,840nm,13.1s						
CN2	**Changchun**	**12.89**	**338**	*e*P	**P**	**09 35 14.7**	**+2.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
ASAJ	**Asahikawa**	**14.67**	**31**	Pn	**P**	**09 35 34.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=133,slow=28,SNR=3.8						
ASAJ	**Asahikawa**	**14.67**	**31**	P	**P**	**09 35 34.9**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WHN	**Wuhan**	**15.21**	**269**	*e*P	**P**	**09 35 43.5**	**+1.1**
YSS	**Yuzh-Sakhalins**	**17.05**	**26**	*e*P	**P**	**09 36 08.2**	**+2.5**
KLR	**Kul'dur**	**17.23**	**359**	*e*P	**P**	**09 36 08.0**	**+0.1**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
HHC	**Hu-ho-hao-te**	**18.68**	**304**	*e*P	**P**	**09 36 26.0**	**+0.1**
HHC				AP		09 36 33.7	
HHC				PP	PP	09 36 42.3	+0.5
HHC				S	**S**	**09 39 48.4**	**-1.5**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s						
HHC				AMB	AMB		
	comp=Z,130nm,5.6s						
HHC				LR	LR		
	comp=E,720nm,10.7s						
HHC				LR	LR		
	comp=Z,480nm,13.7s						
ENH	**Enshi**	**19.39**	**271**	*e*P	**P**	**09 36 33.1**	**-1.3**
	comp=Z,34nm,1.0s						
XAN	**Xi'an**	**19.50**	**282**	P	**P**	**09 36 32.4**	**-3.2**
XAN				LR	LR		
	comp=N,120nm,12.1s						
XAN				LR	LR		
	comp=E,450nm,18.1s						
XAN				LR	LR		
	comp=Z,820nm,15.4s						
HIA	**Hailar**	**19.58**	**335**	*e*P	**P**	**09 36 35.5**	**-0.9**
HIA				pmax	pmax		
	comp=Z,54nm,1.2s						
HIA	**Hailar**	**19.58**	**335**	*e*P	**P**	**09 36 35.5**	**-0.9**
	comp=Z,54nm,1.2s						
GYA	**Guiyang**	**22.81**	**263**	P	**P**	**09 37 08.4**	**-1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
LZH	**Lanzhou**	**23.69**	**288**	*e*P	**P**	**09 37 18.0**	**0.0**
LZH				AP		09 37 28.2	
LZH				XP		09 37 32.1	
LZH				PP	PP	09 37 58.0	+7.0
LZH				XS		09 41 52.3	
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,150nm,4.6s						
LZH				LR	LR		
	comp=E,1μm,13.6s						
LZH				LR	LR		
	comp=Z,1μm,15.9s,MS4.5						
LZH	**Lanzhou**	**23.69**	**288**	*e*P	**P**	**09 37 18.0**	**0.0**
LZH				*PP		09 37 28.2	
LZH				*SP		09 37 32.1	
LZH						09 37 58.0	
LZH				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.6						
LZH	**Lanzhou**	**23.69**	**288**	*e*P	**P**	**09 37 18.0**	**0.0**
	comp=Z,23nm,1.0s,mb4.6						
LZH				pP		09 37 28.2	
LZH				sP		09 37 32.1	
LZH				PP	PP	09 37 58.0	+7.0
LZH				*eS*	**S**	**09 41 43.3**	**+16**
LZH				sS		09 41 52.3	
CD2	**Chengdu**	**24.14**	**275**	P	**P**	**09 37 21.8**	**-0.6**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s

AAK pmax pmax
comp=Z,30nm,0.8s,mb5.3
FITZ Fitzroy Crossi 50.18 188 P **P** 09 41 02.7 -0.5
comp=Z,2.8nm,0.6s,mb4.5
FITZ pP pP 09 41 11.0 -0.8
WRAB Tennant Creek 51.67 177 *e*P **P** 09 41 13.4 -1.1
WRA Warramunga Arr 51.68 177 P **P** 09 41 13.9 -0.6
comp=Z,2.2nm,0.6s,mb4.3,baz=355,slow=8.1,SNR=12
WRA pP pP 09 41 23.2 -0.1
comp=Z,10nm,0.9s,baz=351,slow=7.8,SNR=25
WRA Warramunga Arr 51.68 177 P **P** 09 41 13.9 -0.6
WRA *PP pP 09 41 23.2 0.0
WRA pmax pmax
comp=Z,20nm,0.6s
WRA pmax pmax
comp=Z,10.0nm,0.9s
WB2 Warramunga Arr 51.68 177 *e*P **P** 09 41 14.0 -0.5
CTAO Charters Tower 53.54 163 *e*P pP 09 41 36.4 -0.7
CTAO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CTAO Charters Tower 53.54 163 *e*P pP 09 41 36.4 -0.7
comp=Z,6.9nm,0.8s
IMA2 Indian Mountai 54.88 29 *e*P **P** 09 41 38.4 +0.8
ARU Arti 55.08 319⇑ *i*P **P** 09 41 36.2 -3.0
ARU *e* 09 43 36.4
ARU *e*PPP PPP 09 44 56.2 -0.8
ARU *e*S **S** 09 49 11.6 -6.5
ARU *e*SS SS 09 52 57.5 -4.3
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ILAR Eielson Array 57.80 30 P **P** 09 41 58.8 +0.2
comp=Z,1.4nm,0.8s,mb4.0,baz=255,slow=6.0,SNR=18
ILAR Eielson Array 57.80 30 P **P** 09 41 58.8 +0.3
ILAR pmax pmax
comp=Z,10.0nm,0.8s
INK Inuvik 62.29 25 *e*P **P** 09 42 29.9 +0.6
INK *e*PP pP 09 42 39.2 +1.0
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 62.29 25 *e*P **P** 09 42 29.9 +0.6
comp=Z,3.2nm,0.6s,mb4.6
INK *e*pP pP 09 42 39.2 +1.0
DZM Mont Dzumac 63.03 144 P **P** 09 42 35.4 +0.7
comp=Z,2.1nm,0.5s,mb4.5,baz=262,slow=7.6,SNR=7.5
STKA Stephens Creek 64.16 171 *e*P **P** 09 42 42.1 0.0
comp=Z,3.6nm,0.8s,mb4.5
STKA Stephens Creek 64.16 171 *e*P **P** 09 42 41.6 -0.4
comp=Z,3.3nm,0.7s,mb4.5,baz=330,slow=6.4,SNR=9.1
STKA Stephens Creek 64.16 171 *e*P **P** 09 42 41.3 -0.7
ARCES ARCESS Array B 65.90 338 P **P** 09 42 50.1 -2.5
comp=Z,2.1nm,0.8s,mb4.2,baz=63,slow=8.1,SNR=4.8
ARCES ARCESS Array B 65.90 338 P **P** 09 42 50.1 -2.5
ARCES pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 67.37 322⇓ *e*P **P** 09 42 59.3 -2.9
OBN pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.6
KIV Kislovodsk 68.20 309 *e*P **P** 09 43 06.3 -1.3
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.0
GNI Garni 68.34 305 *e*P **P** 09 43 06.2 -2.4
GNI pmax pmax
comp=Z,12nm,1.7s
GNI MLR MLR
comp=Z,100nm,18.0s
RES Resolute Bay 69.27 12 P **P** 09 43 13.4 -0.3
FINES FINESS Array B 69.52 330 P **P** 09 43 12.3 -3.2
comp=Z,2.0nm,0.5s,mb4.3,baz=68,slow=6.1,SNR=29
FINES FINESS Array B 69.52 330 P **P** 09 43 12.3 -3.1
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 69.52 330 P **P** 09 43 12.3 -3.2
ANN Anapa 71.25 311 *e*P **P** 09 43 21.7 -4.6
ANN *e* pP 09 43 29.8 -5.4
YKA Yellowknife Ar 71.91 27 P **P** 09 43 30.0 +0.1
comp=Z,1.9nm,0.8s,mb4.0,baz=303,slow=5.8,SNR=21
YKA Yellowknife Ar 71.91 27 P **P** 09 43 30.0 +0.1
YKA pmax pmax
comp=Z,20nm,0.9s
AKASG Malin Array Be 73.33 320 P **P** 09 43 36.3 -2.1
comp=Z,6.9nm,0.6s,mb4.7,baz=55,slow=6.3,SNR=26
AKASG pP pP 09 43 46.0 -1.3
comp=Z,6.2nm,0.5s,baz=55,slow=6.2,SNR=15
AKASG Malin Array Be 73.33 320 P **P** 09 43 36.3 -2.1
AKASG *PP pP 09 43 46.0 -1.4
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG pmax pmax
comp=Z,6.0nm,0.5s
SUMG Summit 75.51 357 *e*P **P** 09 43 51.5 +0.9
comp=Z,22nm,1.0s,mb5.0
NB2 NORSAR Subarra 75.61 334 P **P** 09 43 50.1 -1.3
comp=Z,2.2nm,0.8s,mb4.1,baz=47,slow=5.6
NB2 NORSAR Subarra 75.61 334 P **P** 09 43 50.1 -1.3
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
NOA NORSAR Array B 75.61 334 P **P** 09 43 49.4 -2.0
comp=Z,0.7nm,0.5s,mb3.9,baz=47,slow=5.6,SNR=3.3
NOA pP pP 09 43 59.0 -1.3
comp=Z,2.5nm,0.8s,baz=49,slow=5.7,SNR=3.9
NOA NORSAR Array B 75.61 334 P **P** 09 43 49.4 -2.0
NOA *PP pP 09 43 59.0 -1.3
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA pmax pmax
comp=Z,30nm,0.8s
BRTR Keskin Array B 76.13 308 P **P** 09 43 52.7 -2.1
comp=Z,2.8nm,1.0s,mb4.2,baz=104,slow=5.1,SNR=9.0
BRTR Keskin Array B 76.13 308 P **P** 09 43 52.7 -2.1
BRTR pmax pmax
comp=Z,30nm,1.0s
KSP Ksiaz 80.01 325 *e*P **P** 09 44 15.7 -0.1
CLL Collm 81.29 326 P **P** 09 44 22.1 -0.5
comp=Z,logA/T=0.9,mb4.6
FCC Fort Churchill 81.78 22 *e*P **P** 09 44 25.9 +1.0
GERES GERESS Array B 82.58 324 P **P** 09 44 27.2 -2.0
comp=Z,0.3nm,0.4s,mb3.6,baz=34,slow=4.8,SNR=5.1
GERES LR LR 10 25 32.7
comp=Z,335nm,18.5s,MS4.7,baz=1.7,slow=39
GRA1 Grafenberg Arr 83.22 326 *e*P **P** 09 44 33.1 +0.5
comp=Z,8.0nm,1.1s,mb4.7
GRF Grafenberg Arr 83.22 326 *e*P **P** 09 44 33.1 +0.5
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
GRF Grafenberg Arr 83.22 326 *e*P **P** 09 44 33.1 +0.5
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
GRF Grafenberg Arr 83.22 326 *e*P **P** 09 44 33.1 +0.5
comp=Z,8.0nm,1.1s,mb4.7
HLID Hailey 83.38 42 *e*P **P** 09 44 35.9 +2.4
comp=Z,2.1nm,0.8s,mb4.2
HLID *e*pP pP 09 44 43.6 +0.9
NVAR Mina Array Bea 84.15 48 P **P** 09 44 39.4 +1.8
comp=Z,0.9nm,0.5s,mb4.2,baz=286,slow=5.5,SNR=12
ELK Elko 84.64 45 *e*P **P** 09 44 42.1 +2.2
ELK pmax pmax
comp=Z,20nm,1.0s
ELK Elko 84.64 45 *e*P **P** 09 44 42.1 +2.2
comp=Z,2.4nm,1.0s,mb4.3
HWUT Hardware Ranch 86.24 42 *e*P **P** 09 44 50.7 +2.8
comp=Z,5.2nm,1.0s,mb4.7
DUG Dugway 86.42 44 *e*P **P** 09 44 50.4 +1.6
DUG *e*PP pP 09 45 00.4 +2.4
DUG pmax pmax
comp=Z,20nm,0.9s,mb5.3
DUG Dugway 86.42 44 *e*P **P** 09 44 50.4 +1.5
comp=Z,2.0nm,0.9s,mb4.3
DUG *e*pP pP 09 45 00.4 +2.4
PDAR Pinedale Array 86.61 40 P **P** 09 44 51.3 +1.6
comp=Z,1.3nm,0.8s,mb4.2,baz=298,slow=2.8,SNR=11
ULM Lac du Bonnet 87.79 28 P **P** 09 44 56.0 +0.9
comp=Z,1.9nm,0.8s,mb4.3,baz=338,slow=7.2,SNR=5.6
PV01 Paradox Valley 90.26 43 *e*P **P** 09 45 09.5 +2.3
PV01 *e*pP pP 09 45 18.2 +1.8
DBIC Dimbokro 123.75 305 PKP PKPdf 09 51 03.8 -4.8
comp=Z,2.5nm,0.6s,baz=236,slow=3.6,SNR=4.2
DBIC Dimbokro 123.75 305 PKIKP PKPdf 09 51 03.8 -4.8
DBIC pmax pmax
comp=Z,3.0nm,0.6s
SDV Santo Domingo 133.94 32 PKP PKPdf 09 51 23.9 -4.1
comp=Z,2.2nm,0.7s,baz=256,slow=4.2,SNR=4.6
SAML Samuel 153.07 35 *e*PKPbc PKPdf 09 52 04.1 +3.4
SAML *e*PKPab PKPab 09 52 15.6 -1.3
LPAZ La Paz 155.91 54 PKPab PKPab 09 52 28.0 -0.9
comp=Z,1.1nm,0.8s,baz=2.7,slow=8.8,SNR=3.6
LPAZ La Paz 155.91 54 PKP2 PKPab 09 52 28.0 -0.9
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
SIV San Ignacio 160.10 40 PKPab PKPab 09 52 46.6 -0.4
comp=Z,0.9nm,0.9s,baz=256,slow=7.5,SNR=4.1
BDFB Brasilia 163.73 0 PKPab PKPab 09 53 01.5 -1.2
comp=Z,1.5nm,0.6s,baz=62,slow=2.2,SNR=4.0
BDFB Brasilia 163.73 0 PKP2 PKPab 09 53 01.5 -1.2
BDFB pmax pmax
comp=Z,2.0nm,0.6s

*NEIC **10** 10:02:52.5, 31.01N×138.29E, h474km, MG3.9(JMA), After JMA.*
*JMA **10** 10:02:52.5±0.3, 31.00N×138.29E, h474km, M3.9*
*IDC **10** 10:02:54.4±1.2, 30.94N×138.05E, h445km±8km, mb2.8/5, mb1 3.1/9, mb1mx3.0/23, mbtmp3.8/9, Error ellipse: s-maj=24.7km s-min=17.8km az=168.0*
ISC 10 10:02:52.4±0.5, 30.90N±0.06×138.31E±0.09, h461km±6km, n26, σ1§02/32, mb3.7/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.54**	**29**	P		**P**		**10 03 58.8**	**+1.1**
	29nm,0.3s,baz=73,slow=23,SNR=5.5								
JHJ				S		**S**		**10 04 50.8**	**+1.6**
	22nm,0.3s,baz=257,slow=23,SNR=3.2								
JHJ2	**Mitsune**	**2.55**	**30**	P		**P**		**10 03 58.7**	**+1.0**
TK01	**Tokai 1**	**2.92**	**348**	*e*S		**S**		**10 04 55.4**	**+1.5**
JWZ	**Kozaga**	**3.42**	**321**	P		**P**		**10 04 04.2**	**+0.1**
JAI	**Aioi**	**4.36**	**312**	P		**P**		**10 04 12.2**	**+0.1**
BSO1	**Boso 1**	**4.37**	**30**	P		**P**		**10 04 11.8**	**-0.4**
BSO1				*e*S		**S**		**10 05 14.1**	**-1.0**
JOD2	**Odawara 2**	**4.40**	**8**	P		**P**		**10 04 12.1**	**-0.4**
JOD2				*e*S		**S**		**10 05 15.5**	**-0.2**
JTO	**Tosashimizu**	**5.08**	**294**	P		**P**		**10 04 18.6**	**-0.2**
CBIJ	**Chichi jima**	**5.09**	**137**	P		**P**		**10 04 19.6**	**+0.7**
	10nm,0.3s,baz=267,slow=20,SNR=4.9								
CBIJ				S		**S**		**10 05 24.9**	**-2.3**
	42nm,0.3s,baz=302,slow=21,SNR=18								
CBIJ	**Chichi jima**	**5.09**	**137**	*e*S		**S**		**10 05 25.2**	**-2.0**
JRY	**Ryogami san**	**5.13**	**5**	P		**P**		**10 04 19.3**	**0.0**
JRY				*e*S		**S**		**10 05 27.0**	**-1.0**
MJAR	**Matsushiro Arr**	**5.63**	**359**	P		**P**		**10 04 23.2**	**-1.1**
	0.7nm,0.3s,baz=175,slow=11,SNR=9.2								
JMK	**Ichinoseki**	**8.38**	**16**	P		**P**		**10 04 54.0**	**+0.6**
JMK				*e*S		**S**		**10 06 27.3**	**-2.0**
JOW	**Kunigami**	**9.69**	**248**	P		**P**		**10 05 07.6**	**-0.1**
	3.1nm,0.3s,baz=90,slow=7.9,SNR=9.2								
SONM	**Songino Array**	**29.64**	**314**	P		**P**		**10 08 20.4**	**+0.2**
	0.4nm,0.4s,mb3.2,baz=127,slow=8.0,SNR=6.0								
JIRN	**Jiri**	**45.24**	**280**	*e*P		**P**		**10 10 28.8**	**+0.1**
	23nm,0.3s								
GUN	**Gumba**	**45.43**	**280**	*e*P		**P**		**10 10 30.5**	**+0.3**
	11nm,0.4s,mb4.7								
MKAR	**Makanchi Array**	**45.46**	**307**	P		**P**		**10 10 29.8**	**-0.4**
	0.7nm,0.6s,mb3.3,baz=83,slow=10,SNR=11								
MKAR	**Makanchi Array**	**45.46**	**307**	P		**P**		**10 10 29.8**	**-0.4**
KKN	**Kakani**	**45.98**	**280**	*e*P		**P**		**10 10 32.7**	**-1.7**
	6.5nm,0.2s,mb4.7								
GKN	**Gorkha**	**46.46**	**281**	*e*P		**P**		**10 10 38.2**	**+0.1**
	7.2nm,0.4s,mb4.5								
KOLN	**Koldanda**	**47.40**	**281**	*e*P		**P**		**10 10 45.0**	**-0.3**
WB2	**Warramunga Arr**	**50.69**	**185**	*e*P		**P**		**10 11 06.4**	**-3.7**
ILAR	**Eielson Array**	**56.07**	**30**	P		**P**		**10 11 49.5**	**+1.4**
	0.3nm,0.5s,mb2.8,baz=245,slow=5.9,SNR=11								
YKA	**Yellowknife Ar**	**70.41**	**28**	P		**P**		**10 13 22.4**	**+2.5**
	0.3nm,0.5s,mb3.1,baz=300,slow=5.9,SNR=13								
NVAR	**Mina Array Bea**	**80.80**	**51**	P		**P**		**10 14 22.9**	**+5.0**
	0.4nm,0.6s,mb3.1,baz=304,slow=4.1,SNR=5.3								

*SOF **10** 10:09:14.2, 41.96N×23.24E, h8km, MD2.7*
*CSEM **10** 10:09:14.1±0.3, 41.99N×23.24E, h3km±2km, MD2.7, Error ellipse: s-maj=7.5km s-min=6.6km az=65.0*
*THE **10** 10:09:17.6, 41.76N×23.21E, h14km, ML2.5*
ISC 10 10:09:15.2±0.5, 41.94N±0.03×23.22E±0.05, h16km±11km, n15, σ0§75/20, 3C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.12**	**237**	*i* Pg		**Pb**		**10 09 18.0**	**-0.9**
MMB	**Musomiste**	**0.51**	**132**	*i* Pg		**Pb**		**10 09 25.5**	**+0.2**
VTS	**Vitosha**	**0.66**	**359**	*i* Pg		**Pb**		**10 09 27.0**	**-0.8**
VTS	**Vitosha**	**0.66**	**359**⇑	*i*Pg		**Pb**		**10 09 27.5**	**-0.3**
VTS				*i* Sg		**Sb**		**10 09 36.4**	**0.0**
VAY	**Valandovo**	**0.79**	**219**⇑	*i*Pg		**Pb**		**10 09 31.0**	**+1.0**
VAY				*i* Sg		**Sb**		**10 09 42.1**	**+2.0**
KNT	**Kendrikon**	**0.81**	**198**	*e*Pg		**Pb**		**10 09 30.0**	**-0.4**
KNT				*e*Sg		**Sb**		**10 09 39.5**	**-1.3**
SRS	**Serrai**	**0.86**	**161**	*e*Pg		**Pb**		**10 09 31.1**	**-0.2**
PGB	**Panagyurishte**	**0.93**	**48**	*i* P		**Pb**		**10 09 32.0**	**-0.5**
PLD	**Plovdiv**	**1.12**	**81**	*i* P		**Pb**		**10 09 37.0**	**+1.4**
SOH	**Sokhos**	**1.12**	**175**	*e*Pg		**Pb**		**10 09 35.6**	**0.0**
RZN	**Rozhen**	**1.14**	**102**	*i* P		**Pb**		**10 09 36.5**	**+0.4**
GRG	**Griva**	**1.16**	**213**	*e*Pg		**Pb**		**10 09 36.3**	**0.0**
GRG				*e*Sg		**Sb**		**10 09 50.8**	**0.0**
BARS	**Barje**	**1.36**	**311**⇑	*i*Pg		**Pn**		**10 09 39.6**	**-0.1**
BARS				Sg		**Sb**		**10 09 56.9**	**+0.1**
KDZ	**Kurdzhali**	**1.67**	**99**	*i* P		**Pn**		**10 09 44.0**	**0.0**
OUR	**Ouranopolis**	**1.70**	**160**	*e*Pg		**Pn**		**10 09 43.6**	**-0.9**

*LDG **10** 10:33:01.0±0.2, 51.60N×6.87E, h1km, Ml2.9/6, Error ellipse: s-maj=2.9km s-min=1.8km az=33.0, Suspected Mining induced.*
*NEIC **10** 10:33:01.0, 51.60N×6.87E, h1km, ML2.9(LDG), After LDG.*
*BUG **10** 10:33:01.2, 51.48N×6.89E, h1km, ML1.4*
*CSEM **10** 10:33:01.0±0.1, 51.61N×6.85E, h2km, ML2.7/5, Error ellipse: s-maj=3.9km s-min=2.8km az=128.0*
*BNS **10** 10:33:02.2±0.9, 51.53N×6.87E, h1km, ML2.0*
*BGR **10** 10:33:02.5±0.7, 51.46N×6.96E, h1km, ML1.9/3, Error ellipse: s-maj=6.7km s-min=4.4km az=116.0*
ISC 10 10:32:59.5±0.4, 51.56N±0.02×6.72E±0.04, n30, σ1§32/61, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.11**	**56**	Pg		**Pg**		**10 33 01.4**	**-0.3**
BZER				Sg		**Sg**		**10 33 02.8**	**-0.3**
LAUG	**Laupendahl**	**0.25**	**146**	*e*Pg		**Pg**		**10 33 05.8**	**+1.3**
LAUG				*e*Sg		**Sg**		**10 33 08.8**	**+1.0**
	150nm,0.8s								
BUG	**Bochum--Univer**	**0.36**	**109**⇓	*e*Pg		**Pg**		**10 33 06.9**	**+0.2**
BUG				Sg		**Sg**		**10 33 10.9**	**-0.6**
WTSB	**Winterswijk**	**0.41**	**6**	*i* Pg		**Pg**		**10 33 08.6**	**+0.9**
	30nm,0.6s,baz=170								
WTSB				*i* Sg		**Sg**		**10 33 14.5**	**+1.3**
BNS	**Bensberg**	**0.66**	**154**	*e*Pg		**Pg**		**10 33 14.2**	**+1.6**
BNS				*e*Sg		**Sg**		**10 33 22.3**	**+0.9**
HOBG	**Hohbusch**	**0.69**	**146**	*e*Pg		**Pg**		**10 33 13.6**	**+0.3**
HOBG				*e*Sg		**Sg**		**10 33 22.6**	**+0.1**
HGN	**Heimansgroeve**	**0.94**	**212**	*i* Pg		**Pg**		**10 33 20.5**	**+2.2**
	9.5nm,0.2s,baz=30								
HGN				*e*Sg		**Sg**		**10 33 33.9**	**+3.1**
KLL	**Kalltalsperre**	**0.95**	**196**	*e*Pg		**Pg**		**10 33 20.1**	**+1.7**
KLL				*e*Sg		**Sg**		**10 33 33.4**	**+2.3**
	50nm,0.5s								
STB	**Steinbach**	**0.97**	**176**	*e*Pg		**Pg**		**10 33 20.0**	**+1.2**
STB				*e*Sg		**Sg**		**10 33 33.2**	**+1.4**
	55nm,0.2s								
IBBN	**Ibbenburen**	**0.98**	**40**	*e*Sg		**Sg**		**10 33 33.5**	**+1.3**
HILG	**Hillesheim**	**1.27**	**181**	*e*Sg		**Sg**		**10 33 42.4**	**+0.6**
BGG	**Burgeitz**	**1.41**	**164**	*e*Pg		**Pg**		**10 33 26.6**	**-1.1**
BGG				*e*Sg		**Sg**		**10 33 45.6**	**-0.8**
TNS	**Taunus Mts**	**1.73**	**140**	*e*Pg		**Pg**		**10 33 31.5**	**-2.4**
	SNR=3.4								
TNS				*e*Sg		**Sg**		**10 33 51.6**	**-5.4**
GIVF	**Givet**	**1.89**	**220**	*e*Pg		**Pg**		**10 33 38.1**	**+0.8**
GIVF				*e*Sn		**Sn**		**10 33 58.6**	**+0.3**
GIVF				*e*Sg		**Sg**		**10 34 04.1**	**+1.6**
	22nm,0.3s								
GIVF	**Givet**	**1.89**	**220**	*e*Pn		**Pn**		**10 33 34.0**	**+0.7**
GIVF				*e*Pg		**Pg**		**10 33 38.1**	**+0.8**
GIVF				*e*Sn		**Sn**		**10 33 58.6**	**+0.3**
GIVF				*e*Sg		**Sg**		**10 34 04.1**	**+1.6**
GIVF	**Givet**	**1.89**	**220**	*e*Pg		**Pg**		**10 33 38.1**	**+0.8**
GIVF				*e*Sn		**Sn**		**10 33 58.6**	**+0.3**
GIVF				*e*Sg		**Sg**		**10 34 04.1**	**+1.6**
	11nm,0.3s								
WLF	**Walferdange**	**1.93**	**191**	*e*Sg		**Sg**		**10 34 01.8**	**-2.0**
BAIF	**Baives**	**2.19**	**228**	*e*Pg		**Pg**		**10 33 43.4**	**+0.2**
BAIF				*e*Sn		**Sn**		**10 34 05.1**	**-0.8**
BAIF				*e*Sg		**Sg**		**10 34 12.4**	**-0.1**
	7.5nm,0.3s								
BAIF	**Baives**	**2.19**	**228**	*e*Pn		**Pn**		**10 33 37.6**	**0.0**
BAIF				*e*Pg		**Pg**		**10 33 43.4**	**+0.2**
BAIF				*e*Sn		**Sn**		**10 34 05.1**	**-0.8**
BAIF				*e*Sg		**Sg**		**10 34 12.4**	**-0.1**
BAIF	**Baives**	**2.19**	**228**	*e*Pg		**Pg**		**10 33 43.4**	**+0.2**
BAIF				*e*Sn		**Sn**		**10 34 05.1**	**-0.8**
BAIF				*e*Sg		**Sg**		**10 34 12.4**	**-0.1**
	3.8nm,0.3s								
CLZ	**Clausthal**	**2.29**	**81**	*e*Pg		**Pg**		**10 33 43.2**	**-2.0**
	SNR=2.9								
CLZ				*e*Sg		**Sg**		**10 34 10.6**	**-5.0**
CDF	**Champ du Feu**	**3.17**	**173**	*e*Pn		**Pn**		**10 33 51.2**	**-0.4**
CDF				*e*Sg		**Sg**		**10 34 41.8**	**-3.2**
	2.3nm,0.3s								
MOX	**Moxa**	**3.22**	**105**	*e*Sg		**Sg**		**10 34 39.5**	**-7.1**
SFTF	**Sexfontaines**	**3.53**	**199**	*e*Pn		**Pn**		**10 33 55.8**	**-0.9**
	baz=19								
SFTF				*e*Sg		**Sg**		**10 34 54.1**	**-2.9**
	4.0nm,0.3s								
LOR	**Lormes**	**4.68**	**205**	*e*Pn		**Pn**		**10 34 11.5**	**-1.6**
	baz=41								
LOR				*e*Sn		**Sn**		**10 35 04.6**	**-4.4**
LOR				*e*Sg		**Sg**		**10 35 30.9**	**-4.5**
	2.2nm,0.2s								
SSF	**Saint Saulge**	**4.97**	**206**	*e*Pn		**Pn**		**10 34 15.8**	**-1.4**
SMF	**Signal de Mont**	**5.27**	**202**	*e*Pn		**Pn**		**10 34 19.3**	**-2.1**
LDF	**La Druitiere**	**5.31**	**239**	*e*Pn		**Pn**		**10 34 20.6**	**-1.4**
FLN	**La Foliniere**	**5.41**	**242**	*e*Pn		**Pn**		**10 34 21.7**	**-1.7**
	baz=57								
GRR	**Gorron**	**5.83**	**240**	*e*Pn		**Pn**		**10 34 28.0**	**-1.3**
GRR				*e*Sn		**Sn**		**10 35 32.0**	**-5.8**

*IDC **10** 10:51:20.4±0.9, 0.75N×97.31E, mb4.1/10, mb1 4.2/11, mb1mx4.1/18, mbtmp4.1/11, ML3.6/1, MS4.2/5, Ms1 4.2/5, ms1mx3.8/15, Error ellipse: s-maj=36.0km s-min=17.2km az=49.0*
*BJI **10** 10:51:22.0, 0.80N×97.50E, h30km, mb4.8, Ms4.7, Msz4.5*
*MOS **10** 10:51:23.5±1.9, 0.92N×97.91E, h33km, mb5.0/3, Error ellipse: s-maj=29.4km s-min=14.0km az=107.4*
*NEIC **10** 10:51:25.1±0.6, 0.75N×97.47E, h30km, mb4.7/5, Error ellipse: s-maj=14.6km s-min=10.7km az=49.0*
ISC 10 10:51:24.5±0.6, 0.89N±0.07×97.66E±0.07, h33km, n40, σ1§31/34, mb4.4/17, MS4.2/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.28**	**34**	Pn		**Pn**		**10 52 03.3**	**+2.6**
	13nm,0.3s,baz=253,slow=5.2,SNR=38								
IPM	**Ipoh**	**4.97**	**42**	P		**P**		**10 52 41.0**	**+2.2**
KULM	**Kulim**	**5.29**	**34**	*e*Pn		**Pn**		**10 52 44.7**	**+1.3**
KULM				*e*Sn		**Sn**		**10 53 41.5**	**-2.6**
KGM	**Kluang**	**5.77**	**79**	P		**P**		**10 52 48.8**	**-1.2**
KKM	**Kota Kinabalu**	**19.21**	**74**	*e*P		**P**		**10 55 51.2**	**+2.6**
QIZ	**Qiongzhong**	**21.63**	**33**	P		**P**		**10 56 13.3**	**-0.6**
	66nm,1.4s,mb4.9								
KMI	**Kunming**	**24.59**	**11**	P		**P**		**10 56 40.1**	**-2.9**
KMI				LR		LR			
	comp=Z,720nm,17.4s,MS4.2								
JIRN	**Jiri**	**28.80**	**339**	*e*P		**P**		**10 57 22.6**	**+0.8**
	comp=Z,7.1nm,0.4s,mb4.7								
GUN	**Gumba**	**29.14**	**338**	*e*P		**P**		**10 57 25.1**	**+0.3**
	comp=Z,15nm,0.5s,mb5.0								
DMN	**Daman**	**29.16**	**337**	*e*P		**P**		**10 57 30.0**	**+5.0**
KKN	**Kakani**	**29.26**	**337**	*e*P		**P**		**10 57 27.9**	**+2.0**
LSA	**Lhasa**	**29.31**	**348**	*e*P		**P**		**10 57 27.0**	**+0.7**
LSA				pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.3								
LSA	**Lhasa**	**29.31**	**348**	*e*P		**P**		**10 57 27.0**	**+0.6**
	comp=Z,3.5nm,0.6s,mb4.3								
GKN	**Gorkha**	**29.70**	**336**	*e*P		**P**		**10 57 34.8**	**+5.0**
	comp=Z,7.5nm,0.3s,mb4.9								
FITZ	**Fitzroy Crossi**	**33.38**	**126**	P		**P**		**10 58 02.0**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=289,slow=7.5,SNR=5.9								
GTA	**Gaotai**	**38.39**	**3**	*e*P		**P**		**10 58 45.1**	**+0.6**
GTA				AP		pP		10 58 51.7	-2.5
GTA				XP		sP		10 58 55.1	-3.4
WRA	**Warramunga Arr**	**41.48**	**122**	P		**P**		**10 59 10.5**	**+0.2**
	comp=Z,2.0nm,0.4s,mb4.1,baz=304,slow=8.8,SNR=54								
WB2	**Warramunga Arr**	**41.50**	**122**	*e*P		**P**		**10 59 10.5**	**+0.1**
KS15	**Wonju Array Si**	**45.81**	**34**	*e*P		**P**		**10 59 45.3**	**0.0**
SONM	**Songino Array**	**47.37**	**8**	P		**P**		**10 59 57.5**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=191,slow=8.9,SNR=12								
MKAR	**Makanchi Array**	**47.65**	**346**	P		**P**		**10 59 58.9**	**-0.7**
	comp=Z,5.2nm,0.7s,mb4.7,baz=157,slow=7.5,SNR=41								
MKAR				LR		LR		11 23 57.4	
	comp=Z,195nm,19.6s,MS4.1,baz=90,slow=41								
MJAR	**Matsushiro Arr**	**51.61**	**42**	LR		LR		11 23 07.6	
	comp=Z,194nm,20.4s,MS4.1,baz=280,slow=37								
CTAO	**Charters Tower**	**51.96**	**116**	P		**P**		**11 00 28.8**	**-4.0**
CTAO				pmax	pmax				
	comp=Z,13nm,1.5s,mb4.6								
CTAO	**Charters Tower**	**51.96**	**116**	P		**P**		**11 00 28.8**	**-4.0**
	comp=Z,13nm,1.5s,mb4.6								
STKA	**Stephens Creek**	**52.81**	**132**	P		**P**		**11 00 40.4**	**+1.3**
	comp=Z,2.5nm,0.6s,mb4.3,baz=322,slow=7.3,SNR=5.3								
STKA	**Stephens Creek**	**52.81**	**132**	*e*P		**P**		**11 00 37.6**	**-1.5**
BOD	**Bodaibo**	**58.23**	**10**	*e*P		**P**		**11 01 17.1**	**-0.8**
KMBO	**Kilima Mbogo**	**60.43**	**268**	LR		LR		11 22 41.6	
	comp=Z,131nm,19.5s,MS4.1,baz=88,slow=31								
BRTR	**Keskin Array B**	**69.66**	**112**	P		**P**		**11 02 31.6**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.7,baz=148,slow=6.9,SNR=3.5								
MA2	**Magadan**	**71.41**	**25**	*e*P		**P**		**11 02 37.9**	**-5.3**
MA2				pmax	pmax				
	comp=Z,20nm,1.4s,mb4.8								
MA2	**

comp=N,17nm,1.6s

IDC 10 11:30:50.9±7.8,5.22N×94.78E,h71km±53km,mb3.4/3, mb1 3.5/4,mb1mx3.3/19,mbtmp3.7/4,ML3.4/1,Error ellipse: s-maj=143.7km s-min=24.7km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PSI	**Prapat**	**4.78**	**120**	P	P		11 32 01.4	-0.8
	1.4nm,0.3s,baz=320,slow=16,SNR=5.1							
MKAR	**Makanchi Array**	**42.80**	**347**	P	P		11 38 41.6	-1.7
	1.2nm,0.7s,baz=168,slow=7.9,SNR=9.8							
SONM	**Songino Array**	**43.61**	**11**	P	P		11 38 48.1	-1.8
	0.5nm,0.8s,baz=190,slow=9.0,SNR=3.9							
WRA	**Warramunga Arr**	**46.24**	**124**	P	P		11 39 09.4	-1.8
	1.3nm,0.5s,baz=300,slow=9.7,SNR=20							

*BJI **10** 11:41:46.8,4.80N×94.61E,h45km,mB4.9,mb5.1,Ms4.5, Msz4.1*

*NEIC **10** 11:41:48.9±0.2,5.12N×94.52E,h30km,mb4.9/37,Error ellipse: s-maj=7.8km s-min=4.5km az=207.0*

*HRVD **10** 11:41:48.9±0.8,4.99N×94.31E,h44km±2km,MW4.8/34, Centroid moment Tensor Solution. LP body waves: s18,c22;Mantle waves: s34,c38; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.96±.24; Mθθ-1.10±.19; Mφφ-0.85±.24; Mrθ0.58±.10; Mθφ0.76±.19; Mφr-0.89±.11; Best double couple: M◎2.134×10^16 NP1:φs305°,δ31°,λ79°. NP2:φs138°,δ60°,λ97°. Principal axes: T 2.256, Plg74°, Azm66°; N -.243, Plg6°, Azm314°; P -2.012, Plg15°, Azm223°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **10** 11:41:48.1±0.9,5.26N×94.62E,h33km,mb5.1/41 Error ellipse: s-maj=11.5km s-min=5.4km az=119.8*

*IDC **10** 11:41:52.1±3.1,5.14N×94.58E,h58km±27km,mb4.2/17, mb1 4.3/18,mb1mx4.3/22,mbtmp4.5/18,ML4.9/1,MS4.1/11, Ms1 4.1/11,ms1mx3.8/30,Error ellipse: s-maj=21.2km s-min=12.8km az=45.0*

ISC 10 11:41:47.4±0.3,5.14N±0.05×94.51E±0.03,h29km, h29km±.9km:pP-P,n201,σ1s04/198,mb4.8/79,MS4.1/19, 26C-9D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PSI	**Prapat**	**4.98**	**118**	P	Pn		**11 43 04.5**	**+2.2**
	49nm,0.3s,baz=304,slow=12,SNR=118							
PSI				S	Sn		**11 44 01.7**	**+2.1**
	11nm,0.3s,baz=200,slow=20,SNR=2.7							
PSI				LR	LR		11 45 28.7	
	comp=Z,2μm,18.4s,baz=286,slow=44							
KULM	**Kulim**	**6.12**	**88**	*e*Pn	Pn		**11 43 17.8**	**-0.5**
KULM				*e*Sn	Sn		**11 44 29.7**	**+1.6**
SNG	**Songkhla**	**6.40**	**71**	P	Pn		**11 43 25.0**	**+2.7**
	366nm,0.9s							
IPM	**Ipoh**	**6.53**	**96**	P	Pn		**11 43 25.1**	**+1.0**
NNT	**Nongplab**	**9.02**	**35**	P	P		**11 44 01.0**	**+2.2**
KGM	**Kluang**	**9.33**	**109**	P	P		**11 44 01.7**	**-1.4**
CHG	**Chiang Mai**	**14.26**	**17**	⇑P	P		**11 45 15.5**	**+5.8**
	60nm,0.8s							
KSM	**Kuching**	**16.19**	**102**	*e*Pn	P		**11 45 35.3**	**+0.6**
VIS	**Vishakhapatnam**	**16.61**	**320**	*e*P	P		**11 45 43.5**	**+3.5**
VIS				AMb	AMB		11 45 44.8	
	comp=Z,11nm,0.2s							
BWNR	**Bhubaneshwar**	**17.28**	**331**	*ex*	x		11 45 19.4	
BWNR				*ex*	x		11 48 07.3	
HYB	**Hyderabad**	**19.82**	**309**	*i* P	P		**11 46 24.0**	**+5.2**
HYB				*e*S	S		**11 49 54.0**	**-0.8**
HYB	**Hyderabad**	**19.82**	**309**	*e*P	P		**11 46 24.0**	**+5.2**
HYB				*e*S	S		**11 49 54.0**	**-0.8**
BOK	**Bokaro**	**20.32**	**337**	*e*P	P		**11 46 24.5**	**+0.4**
BOK				AMb	AMB		11 46 26.4	
	comp=Z,99nm,1.0s							
SHL	**Shillong**	**20.46**	**353**	*e*P	P		**11 46 24.0**	**-1.5**
SHL				*ex*	x		11 49 27.0	
KMI	**Kunming**	**21.38**	**21**	P	P		**11 46 36.8**	**+1.9**
KMI				AP			11 46 44.0	
KMI				S	S		**11 50 22.0**	**-3.6**
KMI				AMB	AMB			
	comp=Z,20nm,1.2s,mb4.3							
KMI				AMB	AMB			
	comp=Z,150nm,3.8s							
KMI				LR	LR			
	comp=N,260nm,17.2s,MS3.9							
KMI				LR	LR			
	comp=E,310nm,14.8s,MS3.9							
KMI				LR	LR			
	comp=Z,320nm,18.5s,MS3.8							
KMI	**Kunming**	**21.38**	**21**	P	P		**11 46 36.8**	**+1.9**
KMI				S	S		**11 50 22.0**	**-3.6**
KMI				pmax	pmax			
	comp=Z,25nm,1.2s,mb4.4							
KMI	**Kunming**	**21.38**	**21**	P	P		**11 46 36.8**	**+1.9**
	comp=Z,25nm,1.2s,mb4.4							
KMI				pP			11 46 44.0	
KMI				S	S		**11 50 22.0**	**-3.6**
KKM	**Kota Kinabalu**	**21.62**	**87**	P	P		**11 46 39.0**	**+1.6**
TSM	**Tawau**	**23.30**	**91**	P	P		**11 46 56.0**	**+1.9**
JIRN	**Jiri**	**23.75**	**341**	*e*P	P		**11 46 58.6**	**+0.3**
PKI	**Pulchoki**	**23.93**	**340**	*e*P	P		**11 47 01.1**	**+1.1**
	comp=Z,35nm,0.8s,mb4.8							
PKI	**Pulchoki**	**23.93**	**340**	*e*P	P		**11 47 01.1**	**+1.1**
PKI				pmax	pmax			
	comp=Z,18nm,0.8s,mb4.5							
GUN	**Gumba**	**24.08**	**341**	*e*P	P		**11 47 01.7**	**+0.1**
	comp=Z,144nm,0.9s,mb5.4							
GYA	**Guiyang**	**24.17**	**27**	⇑*i*P	P		**11 47 02.9**	**+0.5**
GYA				AMB	AMB			
	comp=Z,40nm,0.5s,mb5.1							
KKN	**Kakani**	**24.17**	**340**	*e*P	P		**11 47 03.1**	**+0.6**
	comp=Z,112nm,1.0s,mb5.3							
KKN	**Kakani**	**24.17**	**340**	*e*P	P		**11 47 03.1**	**+0.6**
KKN				pmax	pmax			
	comp=Z,56nm,1.0s,mb5.0							
BHPL	**Bhopal**	**24.40**	**319**	*e*P	P		**11 47 07.1**	**+2.4**
BHPL				AMb	AMB		11 47 10.2	
	comp=Z,19nm,1.1s,mb4.4							
GKN	**Gorkha**	**24.59**	**339**	*e*P	P		**11 47 07.2**	**+0.7**
	comp=Z,160nm,0.9s,mb5.5							
LSA	**Lhasa**	**24.63**	**353**	P	P		**11 47 08.0**	**+1.1**
LSA	**Lhasa**	**24.63**	**353**	*e*P	P		**11 47 07.9**	**+1.0**
LSA				pmax	pmax			
	comp=Z,21nm,0.6s,mb4.8							
LSA	**Lhasa**	**24.63**	**353**	*e*Pn	P		**11 47 07.9**	**+1.1**
	comp=Z,22nm,0.6s,mb4.8							
KOLN	**Koldanda**	**24.78**	**336**	*e*P	P		**11 47 09.3**	**+1.0**
	comp=Z,169nm,1.1s,mb5.5							
CD2	**Chengdu**	**27.07**	**18**	P	P		**11 47 29.2**	**-0.3**
CD2				AMB	AMB			
	comp=Z,20nm,0.5s,mb4.9							
TGY	**Tagaytay City**	**27.51**	**69**	P	P		**11 47 32.9**	**-0.7**
	comp=Z,97nm,0.5s,mb5.7,baz=70,slow=11,SNR=4.3							
ENH	**Enshi**	**28.71**	**28**	*e*Pn	P		**11 47 42.3**	**-2.1**
	comp=Z,14nm,0.6s,mb4.9							
WHN	**Wuhan**	**31.43**	**34**	P	P		**11 48 08.3**	**-0.2**
WHN				AMB	AMB			
	comp=Z,40nm,0.8s,mb5.3							
XAN	**Xi'an**	**31.71**	**23**	P	P		**11 48 09.0**	**-2.0**
XAN				AMB	AMB			
	comp=Z,50nm,1.4s,mb5.2							
XAN				AMB	AMB			
	comp=Z,150nm,10.6s							
XAN				LR	LR			
	comp=N,100nm,18.0s,MS3.9							
XAN				LR	LR			
	comp=E,230nm,19.0s,MS3.9							
XAN				LR	LR			
	comp=Z,420nm,20.2s,MS4.1							
LZH	**Lanzhou**	**31.97**	**14**	*e*P	P		**11 48 12.1**	**-1.1**
LZH				AP	pP		11 48 20.8	-1.1
LZH				AMB	AMB			
	comp=Z,30nm,1.0s,mb5.1							
LZH				AMB	AMB			
	comp=Z,150nm,4.8s							
LZH	**Lanzhou**	**31.97**	**14**	*e*P	P		**11 48 12.1**	**-1.1**
LZH				*SP	sP		11 48 22.8	-2.9
LZH				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.1							
LZH	**Lanzhou**	**31.97**	**14**	*e*P	P		**11 48 12.1**	**-1.1**
	comp=Z,30nm,1.0s,mb5.1							
LZH				pP	pP		11 48 20.8	-1.1
LZH				sP	sP		11 48 22.8	-2.9
GTA	**Gaotai**	**34.45**	**7**	*e*P	P		**11 48 34.2**	**-0.5**
GTA				AP	pP		11 48 42.1	-1.4
GTA				AMB	AMB			
	comp=Z,20nm,1.1s,mb5.0							
GTA				AMB	AMB			
	comp=Z,190nm,10.2s							
GTA				LR	LR			
	comp=N,120nm,16.1s,MS4.0							
GTA				LR	LR			
	comp=E,160nm,15.7s,MS4.0							
GTA				LR	LR			
	comp=Z,230nm,16.1s,MS4.0							
NJ2	**Nanjing**	**35.15**	**37**	*e*P	P		**11 48 38.4**	**-2.4**
NJ2				AP	pP		11 48 47.1	-2.5
NJ2				PP	PP		11 49 57.4	-2.5
NJ2				S	S		**11 54 06.0**	**-5.1**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,130nm,10.5s							
NJ2				LR	LR			
	comp=N,4μm,30.4s							
NJ2				LR	LR			
	comp=E,620nm,18.3s							
NJ2				LR	LR			
	comp=Z,830nm,27.7s,MS4.3							
SSE	**Sheshan**	**35.98**	**41**	P	P		**11 48 47.7**	**-0.1**
SSE				AP	pP		11 48 56.3	-0.3
SSE				XP	sP		11 49 00.4	+0.1
SSE				S	S		**11 54 23.4**	**-0.4**
SSE				XS			11 54 38.3	
SSE				AMB	AMB			
	comp=Z,40nm,0.7s,mb5.5							
SSE				AMB	AMB			
	comp=Z,70nm,5.0s							
SSE				LR	LR			
	comp=N,120nm,18.3s,MS3.8							
SSE				LR	LR			
	comp=E,110nm,18.3s,MS3.8							
SSE				LR	LR			
	comp=Z,210nm,16.7s,MS4.0							
SSE	**Sheshan**	**35.98**	**41**	P	P		**11 48 47.7**	**-0.1**
	comp=Z,48nm,0.7s,mb5.5							
SSE				pP	pP		11 48 56.3	-0.3
SSE				sP	sP		11 49 00.4	+0.1
SSE				S	S		**11 54 23.4**	**-0.4**
SSE				sS			11 54 38.3	
SSE				SS	SS		11 57 00.5	+14
SSE				ScS	ScS		11 59 03.7	+2.5
TIA	**Tai'an**	**37.25**	**31**	⇑P	P		**11 48 58.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**38.43**	**128**	P	P		**11 49 06.7**	**-1.8**
	comp=Z,4.4nm,0.4s,mb4.5,baz=313,slow=6.0,SNR=70							
FITZ				PcP	PcP		11 51 21.5	-0.5
	comp=Z,2.2nm,0.4s,baz=331,slow=4.8,SNR=7.1							
HHC	**Hu-ho-hao-te**	**38.70**	**21**	*e*P	P		**11 49 11.0**	**+0.4**
HHC				AP	pP		11 49 20.9	+1.5
HHC				XP	sP		11 49 24.8	+1.7
HHC				PP	PP		11 50 45.4	+2.3
HHC				PCP	PcP		11 51 18.7	-3.9
HHC				S	S		**11 55 11.1**	**+5.9**
HHC				SCS	ScS		11 59 15.6	-0.9
HHC				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5							
HHC				AMB	AMB			
	comp=Z,140nm,3.7s							
HHC				LR	LR			
	comp=N,280nm,19.0s,MS4.4							
HHC				LR	LR			
	comp=E,370nm,15.5s,MS4.4							
HHC				LR	LR			
	comp=Z,320nm,13.1s,MS4.3							
WMQ	**Urumqi**	**38.98**	**352**	P	P		**11 49 13.6**	**+0.7**
WMQ				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,190nm,5.2s							
WMQ				LR	LR			
	comp=N,140nm,22.0s,MS3.9							
WMQ				LR	LR			
	comp=E,170nm,22.0s,MS3.9							
WMQ				LR	LR			
	comp=Z,160nm,22.4s,MS3.8							
UCH	**Uchtor**	**40.99**	**337**	P	P		**11 49 30.8**	**+1.3**
	SNR=12							
TKM2	**Tokmak 2**	**41.19**	**339**	P	P		**11 49 32.6**	**+1.5**
	SNR=6.9							
KBK	**Karagaybulak**	**41.19**	**338**	P	P		**11 49 32.7**	**+1.6**
	SNR=17							
AML	**Almayashu**	**41.23**	**336**	P	P		**11 49 32.9**	**+1.5**
	SNR=18							
AAK	**Ala-Archa**	**41.34**	**338**	P	P		**11 49 34.2**	**+1.8**
	SNR=6.2							
AAK	**Ala-Archa**	**41.34**	**338**	*d* iP	P		**11 49 33.0**	**+0.6**
AAK				pmax	pmax			
	comp=Z,28nm,1.7s,mb4.6							
FRU	**Bishkek**	**41.47**	**338**	*e*P	P		**11 49 34.0**	**+0.6**
FRU				*e*			11 49 47.0	
EKS2	**Erkin-Say**	**41.65**	**337**	P	P		**11 49 36.4**	**+1.6**
	SNR=5.2							
USP	**Ospenovka**	**41.89**	**338**	P	P		**11 49 37.5**	**+0.7**
	SNR=12							
MKAR	**Makanchi Array**	**42.81**	**348**	P	P		**11 49 44.8**	**+0.3**
	comp=Z,15nm,0.6s,mb4.9,baz=160,slow=8.2,SNR=196							
MKAR				LR	LR		12 12 08.2	
	comp=Z,104nm,19.8s,MS3.7,baz=90,slow=42							
MKAR	**Makanchi Array**	**42.81**	**348**	P	P		**11 49 44.8**	**+0.3**
MKAR				LR	LR		12 12 08.2	
SONM	**Songino Array**	**43.74**	**12**	P	P		**11 49 51.7**	**-0.2**
	comp=Z,9.8nm,0.9s,mb4.5,baz=196,slow=8.0,SNR=45							
SONM				PcP	PcP		11 51 38.3	-0.7
	comp=Z,3.8nm,0.5s,baz=194,slow=3.7,SNR=17							
SONM				LR	LR		12 10 58.6	
	comp=Z,228nm,19.8s,MS4.1,baz=173,slow=40							
JNU	**Nakatsue**	**43.83**	**46**	P	P		**11 49 52.9**	**+0.1**
	comp=Z,7.7nm,0.6s,mb4.6,baz=232,slow=2.7,SNR=6.1							
ULN	**Ulaanbaatar**	**43.90**	**12**	*e*P	P		**11 49 52.6**	**-0.6**
ULN	**Ulaanbaatar**	**43.90**	**12**	*e*P	P		**11 49 52.4**	**-0.8**
	comp=Z,4.3nm,0.6s,mb4.4							
KS15	**Wonju Array Si**	**44.28**	**39**	*e*P	P		**11 49 56.5**	**0.0**
ZAK	**Zakamensk**	**45.68**	**8**	*e*P	P		**11 50 06.5**	**-0.9**
ZAK				*e*			11 51 43.1	
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.2							
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0							
WRA	**Warramunga Arr**	**46.42**	**124**	P	P		**11 50 12.6**	**-1.0**
	comp=Z,16nm,0.4s,mb5.3,baz=300,slow=9.7,SNR=496							
WRAB	**Tennant Creek**	**46.42**	**124**	*c* iP	P		**11 50 12.7**	**-1.0**
CN2	**Changchun**	**47.16**	**31**	*e*P	P		**11 50 19.1**	**-0.1**
KURK	**Kurchatov**	**47.33**	**346**	*c* iP	P		**11 50 20.6**	**+0.1**
KURK				pmax	pmax			
	comp=Z,31nm,1.5s,mb5.0							
HIA	**Hailar**	**48.89**	**22**	*e*P	P		**11 50 31.9**	**-0.7**
HIA				*e*PP	pP		11 50 39.8	-1.8
HIA				pmax	pmax			
	comp=Z,8.0nm,0.5s							
HIA	**Hailar**	**48.89**	**22**	*e*P	P		**11 50 31.9**	**-0.7**
	comp=Z,8.5nm,0.5s,mb5.0							
HIA				epP	pP		11 50 39.8	-1.8
NVS	**Novosibirsk**	**50.38**	**352**	*e*P	P		**11 50 41.1**	**-2.8**
NVS				*e*S	S		**11 57 48.9**	**-4.9**
NVS				pmax	pmax			
	comp=N,18nm,1.1s							
NVS				pmax	pmax			
	comp=E,20nm,1.1s							
NVS				pmax	pmax			
	comp=Z,27nm,1.1s,mb5.2							
NVS				smax				
	comp=N,21nm,1.8s							
MJAR	**Matsushiro Arr**	**50.75**	**46**	P	P		**11 50 46.9**	**-0.1**
	comp=N,1.8nm,0.5s,mb4.2,baz=224,slow=7.4,SNR=7.3							
MJAR				LR	LR		12 14 17.8	
	comp=N,144nm,18.3s,MS4.0,baz=310,slow=38							
BOD	**Bodaibo**	**54.71**	**13**	*e*P	P		**11 51 13.8**	**-2.4**
BOD				pmax	pmax			
	comp=Z,13nm,1.2s,mb4.8							
GNI	**Garni**	**56.61**	**316**	*d* iP	P		**11 51 30.3**	**+0.1**
GNI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
CTAO	**Charters Tower**	**56.69**	**118**	*e*P	P		**11 51 29.6**	**-1.4**
CTAO				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.8							
CTAO	**Charters Tower**	**56.69**	**118**	*e*P	P		**11 51 29.6**	**-1.4**
	comp=Z,9.8nm,1.1s,mb4.8							
ASAJ	**Asahikawa**	**57.25**	**40**	LR	LR		12 17 41.2	
	comp=Z,129nm,19.4s,MS4.0,baz=1.1,slow=38							
KMBO	**Kilima Mbogo**	**57.53**	**265**	P	P		**11 51 38.8**	**+1.8**
	comp=Z,2.3nm,0.9s,mb4.2,baz=54,slow=15,SNR=6.3							
KMBO				LR	LR		12 12 03.2	
	comp=Z,187nm,21.5s,MS4.2,baz=96,slow=31							
STKA	**Stephens Creek**	**57.98**	**133**	P	P		**11 51 38.5**	**-1.5**
	comp=Z,1.1nm,0.4s,mb4.3,baz=237,slow=4.4,SNR=7.2							
STKA				LR	LR		12 17 00.2	
	comp=Z,97nm,19.7s,MS3.9,baz=28,slow=36							
STKA	**Stephens Creek**	**57.98**	**133**	*e*P	P		**11 51 37.6**	**-2.3**
SVE	**Sverdlovsk**	**58.06**	**339**	*e*P	P		**11 51 38.5**	**-1.7**
SVE				*e*			11 52 35.9	
SVE				*e*			11 53 44.0	
SVE				pmax	pmax			
	comp=Z,48nm,2.1s,mb5.2							
ARU	**Arti**	**58.53**	**338**	⇑*i* P	P		**11 51 42.1**	**-1.4**
ARU				*e*			11 52 30.6	
ARU				*e*			11 53 51.2	
ARU				*e*S	S		**11 59 44.1**	**+0.7**
ARU				*e*			12 01 30.1	
ARU				*e*SS	SS		12 03 35.9	-1.9
ARU				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.7							
KIV	**Kislovodsk**	**59.59**	**319**	*d* iP	P		**11 51 50.3**	**-0.7**
KIV				pmax	pmax			
	comp=Z,17nm,1.0s,mb5.0							
KIV				MLR	MLR			
	comp=Z,100nm,20.0s,MS4.0							
SOC	**Sochi**	**61.41**	**317**	*e*P	P		**11 52 00.4**	**-3.0**
SOC				*e*S	S		**12 00 19.7**	**-0.9**
SOC				*e*			12 01 48.5	
SOC				pmax	pmax			
	comp=Z,15nm,0.8s,mb5.2							
YAK	**Yakutsk**	**62.46**	**18**	*c* iP	P		**11 52 08.2**	**-2.0**
YAK				pmax	pmax			
	comp=Z,32nm,1.0s,mb5.4							
BR131	**Keskin Array S**	**64.49**	**312**	*e*P	P		**11 52 22.4**	**-1.5**
	comp=Z,1.7nm,0.6s,mb4.2							
BR131				*e*pP	pP		11 52 31.7	-1.4
BRTR	**Keskin Array B**	**64.49**	**312**	P	P		**11 52 22.6**	**-1.3**
	comp=Z,3.2nm,0.8s,mb4.4,baz=124,slow=4.5,SNR=15							
VRSR	**Storozhevoye**	**64.81**	**325**	*e*P	P		**11 52 23.4**	**-2.3**
VRSR				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.3							
VRSR				pmax	pmax			
	comp=N,3.0nm,1.1s							
VRSR				pmax	pmax			
	comp=E,3.0nm,0.9s							
MOS	**Moscow**	**67.59**	**329**	*e*P	Px		11 53 01.4	
MOS				pmax	pmax			
	comp=Z,55nm,1.1s,mb5.5							
OBN	**Obninsk**	**67.87**	**328**	⇑*e*P	P		**11 52 43.3**	**-1.9**
OBN				pmax	pmax			
	comp=Z,34nm,1.2s,mb5.2							
MA2	**Magadan**	**69.01**	**27**	*e*P	P		**11 52 51.0**	**-1.2**
KLMR	**Klimovskoe**	**69.06**	**335**	*e*P	Px		11 53 10.3	
KLMR				pmax	pmax			
	comp=Z,30nm,2.2s,mb4.8							
TIXI	**Tiksi**	**69.82**	**11**	*d* iP	P		**11 52 55.2**	**-1.7**
TIXI				pmax	pmax			
	comp=Z,22nm,1.3s,mb4.9							
AKASG	**Malin Array Be**	**70.52**	**322**	P	P		**11 52 59.8**	**-1.7**
	comp=Z,1.7nm,0.4s,mb4.3,baz=87,slow=5.5,SNR=14							
VRI	**Vrincioaia**	**70.92**	**317**	⇓P	P		**11 53 03.6**	**-0.4**
SEY	**Seymchan**	**71.25**	**24**	*e*P	P		**11 53 04.7**	**-1.0**
MLR	**Muntele Rosu**	**71.38**	**316**	⇑P	P		**11 53 05.8**	**-1.0**
BURAR	**Bucovina Array**	**72.31**	**318**	⇑P	P		**11 53 13.1**	**+0.8**
BURAR	**Bucovina Array**	**72.31**	**318**	⇑P	P		**11 53 13.1**	**+0.7**
JOF	**Joensuu**	**73.46**	**335**	*ep*	P		**11 53 18.6**	**-0.1**
DRGR		**73.83**	**317**	⇑P	P		**11 53 20.7**	**-0.5**
KWP	**Kalwaria**	**74.34**	**320**	*e*P	P		**11 53 24.2**	**+0.1**
KOLS	**Kolonicke sedl**	**74.49**	**319**	*e*P	P		**11 53 26.0**	**+1.0**
SUW	**Suwalki**	**74.92**	**325**	*e*P	P		**11 53 27.4**	**0.0**
CRVS	**Cervenica-Dubn**	**75.02**	**319**	*e*P	P		**11 53 29.5**	**+1.4**
CRVS				*e*			11 53 49.9	
STHS	**Stebnicka Huta**	**75.24**	**320**	*e*P	P		**11 53 30.5**	**+1.2**
STHS				*e*			11 53 50.6	
STHS				*e*			11 54 06.2	
FINES	**FINESS Array B**	**75.28**	**332**	P	P		**11 53 28.5**	**-0.8**
	comp=Z,2.3nm,0.5s,mb4.4,baz=91,slow=4.7,SNR=25							
KAF	**Kangasniemi**	**75.38**	**333**	*ep*	P		**11 53 27.8**	**-2.0**
NIE	**Niedzica**	**75.84**	**320**	*e*P	P		**11 53 33.7**	**+0.9**
MAW	**Mawson**	**75.95**	**192**	LR	LR		12 22 57.6	
	comp=Z,97nm,18.2s,MS4.2,baz=96,slow=32							
OJC	**Ojcow**	**76.29**	**320**	*e*P	P		**11 53 35.3**	**0.0**
VYHS	**Vyhne**	**76.68**	**319**	*e*P	P		**11 53 37.4**	**-0.1**
VYHS				*e*			11 53 44.4	
OKC	**Ostrava-Krasne**	**77.30**	**320**	*e*P	P		**11 53 41.0**	**+0.1**
KEV	**Kevo**	**77.52**	**341**	*ep*	P		**11 53 41.3**	**-0.4**
MORC	**Moravsky Berou**	**77.68**	**320**	*e*P	P		**11 53 43.0**	**0.0**
MORC				pmax	pmax			
	comp=Z,17nm,1.3s,mb4.8							
MORC	**Moravsky Berou**	**77.68**	**320**	*e*P	P		**11 53 43.0**	**0.0**
	comp=Z,17nm,1.3s,mb4.8							
ZST	**Bratislava**	**77.79**	**318**	*e*P	P		**11 53 44.0**	**+0.4**
ZST				*ep*P	pP		11 53 53.4	+0.5
ZST				*es*P	sP		11 53 58.9	+2.8
ARCES	**ARCESS Array B**	**77.94**	**340**	P	P		**11 53 43.9**	**-0.2**
	comp=Z,1.4nm,0.5s,mb4.1,baz=96,slow=5.8,SNR=16							
BILL	**Bilibino**	**78.48**	**21**	*d* iP	P		**11 53 46.4**	**-0.6**
BILL				*e*	pP		11 53 56.6	+0.3
BILL				*e*			11 56 51.4	
BILL				pmax	pmax			
	comp=Z,23nm,2.5s,mb4.7							
BILL				MLR	MLR			
	comp=Z,200nm,16.0s,MS4.5							
DPC	**Dobruska-Polom**	**78.52**	**320**	*e*P	P		**11 53 48.4**	**+0.8**
KSP	**Ksiaz**	**78.59**	**321**	*e*P	P		**11 53 48.6**	**+0.6**
KSP	**Ksiaz**	**78.59**	**321**	*e*P	P		**11 53 48.4**	**+0.5**
UPC	**Upice**	**78.73**	**320**	*e*P	P		**11 53 49.4**	**+0.7**
UPC				*e*			11 54 04.2	
ARSA	**Arzberg**	**78.77**	**317**	⇑*i*P	P		**11 53 49.4**	**+0.4**
	comp=Z,10.0nm,1.0s,mb4.7							
PRU	**Pruhonice**	**79.63**	**320**	*e*P	P		**11 53 53.4**	**-0.2**
PVCC	**Panska Ves**	**79.65**	**320**	*e*P	P		**11 53 53.8**	**+0.1**
BRG	**Berggiesshubel**	**80.08**	**321**	*e*P	P		**11 53 56.2**	**+0.2**
BRG				*e*			11 54 11.7	
BRG				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.8							
BRG	**Berggiesshubel**	**80.08**	**321**	*e*P	P		**11 53 56.2**	**+0.2**
	comp=Z,13nm,1.1s,mb4.8							
BRG			

NOA	**NORSAR Array B**	**82.28**	**331**	P	**P**		**11 54 08.1**	**+0.8**
	comp=Z,1.4nm,0.8s,mb3.9,baz=96,slow=5.5,SNR=2.3							
NOA				LR	LR		12 34 15.6	
	comp=Z,156nm,18.6s,MS4.4,baz=15,slow=38							
CLZ	**Clausthal**	**82.36**	**321**	*e*P	**P**		**11 54 08.3**	**+0.4**
CLZ				pmax	pmax			
	comp=Z,18nm,1.2s,mb4.9							
CLZ	**Clausthal**	**82.36**	**321**	*e*P	**P**		**11 54 08.3**	**+0.4**
	comp=Z,18nm,1.2s,mb4.9							
BSEG	**Bad Segeberg**	**82.45**	**324**	*e*P	**P**		**11 54 08.9**	**+0.6**
BSEG				pmax	pmax			
	comp=Z,35nm,1.3s,mb5.1							
DAVA	**Damuels**	**82.61**	**317**⇑	*e*P	**P**		**11 54 09.8**	**+0.5**
	comp=Z,12nm,0.9s,mb4.9							
DAVA	**Damuels**	**82.61**	**317**⇑	*e*P	**P**		**11 54 09.8**	**+0.5**
	comp=Z,12nm,0.9s,mb4.9							
TNS	**Taunus Mts**	**83.56**	**320**	*e*P	**P**		**11 54 14.4**	**+0.2**
TNS				pmax	pmax			
	comp=Z,12nm,1.0s,mb5.0							
TNS	**Taunus Mts**	**83.56**	**320**	*e*P	**P**		**11 54 14.4**	**+0.2**
	comp=Z,12nm,1.0s,mb5.0							
BFO	**Black Forest**	**83.65**	**318**	*e*P	**P**		**11 54 14.4**	**-0.3**
BFO				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.8							
BFO	**Black Forest**	**83.65**	**318**	*e*P	**P**		**11 54 14.4**	**-0.3**
	comp=Z,8.0nm,1.0s,mb4.8							
CDF	**Champ du Feu**	**84.35**	**318**	*e*P	**P**		**11 54 18.1**	**-0.1**
	comp=Z,5.6nm,0.7s,mb4.5							
CDF	**Champ du Feu**	**84.35**	**318**	*e*P	**P**		**11 54 18.1**	**-0.1**
CDF				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.5							
HINF	**Hinteralfeld**	**84.65**	**317**	*e*P	**P**		**11 54 19.5**	**-0.2**
LPL	**La Plagne**	**84.81**	**315**⇑	*i*P	**P**		**11 54 21.2**	**+0.6**
	comp=Z,14nm,0.6s,mb5.0							
LPL	**La Plagne**	**84.81**	**315**⇑	*i*P	**P**		**11 54 21.2**	**+0.6**
LPL				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb5.0							
HAU	**Haudompre**	**84.98**	**318**⇑	*i*P	**P**		**11 54 21.2**	**-0.2**
	comp=Z,14nm,0.6s,mb5.0							
HAU	**Haudompre**	**84.98**	**318**⇑	*i*P	**P**		**11 54 21.2**	**-0.2**
HAU				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb5.0							
CABF	**La Chapelle**	**85.21**	**316**	*e*P	**P**		**11 54 23.0**	**+0.4**
	comp=Z,10nm,0.6s,mb4.8							
CABF	**La Chapelle**	**85.21**	**316**	*e*P	**P**		**11 54 23.0**	**+0.4**
CABF				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.8							
MEZF	**Maizieres J'vi**	**85.83**	**318**	*e*P	**P**		**11 54 25.6**	**0.0**
	comp=Z,3.7nm,0.4s,mb4.7							
BAIF	**Baives**	**86.29**	**320**	*e*P	**P**		**11 54 27.5**	**-0.3**
	comp=Z,2.9nm,0.4s,mb4.5							
LOR	**Lormes**	**86.70**	**317**⇑	*i*P	**P**		**11 54 30.0**	**+0.1**
	comp=Z,12nm,0.6s,mb5.0							
LOR	**Lormes**	**86.70**	**317**⇑	*i*P	**P**		**11 54 30.0**	**+0.1**
LOR				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb5.0							
SMF	**Signal de Mont**	**86.76**	**316**⇑	*i*P	**P**		**11 54 30.1**	**-0.1**
	comp=Z,8.3nm,0.6s,mb4.9							
SMF	**Signal de Mont**	**86.76**	**316**⇑	*i*P	**P**		**11 54 30.1**	**-0.1**
SMF				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.8							
SSF	**Saint Saulge**	**86.96**	**317**	*e*P	**P**		**11 54 31.5**	**+0.3**
	comp=Z,4.0nm,0.6s,mb4.5							
SSF	**Saint Saulge**	**86.96**	**317**	*e*P	**P**		**11 54 31.5**	**+0.3**
SSF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.5							
AVF	**Avril sur Loir**	**87.08**	**317**	*e*P	**P**		**11 54 31.6**	**-0.2**
	comp=Z,26nm,1.2s,mb5.0							
AVF	**Avril sur Loir**	**87.08**	**317**	*e*P	**P**		**11 54 31.6**	**-0.2**
AVF				pmax	pmax			
	comp=Z,13nm,1.2s,mb5.0							
URZ	**Urewera**	**87.36**	**129**	P	**P**		**11 54 31.8**	**-1.6**
	comp=Z,6.1nm,0.6s,mb5.0,baz=225,slow=4.3,SNR=4.2							
BGF	**Bois d'Agland**	**87.45**	**316**	*e*P	**P**		**11 54 34.0**	**+0.5**
TCF	**Toulx Ste Croi**	**87.91**	**316**	*e*P	**P**		**11 54 36.2**	**+0.5**
TNA	**Tin City**	**88.49**	**24**	*e*P	**P**		**11 54 37.5**	**-0.5**
	comp=Z,14μm,1.2s							
LDF	**La Druitiere**	**89.24**	**319**	*e*P	**P**		**11 54 42.4**	**+0.3**
	comp=Z,33nm,1.2s,mb5.2							
LDF	**La Druitiere**	**89.24**	**319**	*e*P	**P**		**11 54 42.4**	**+0.3**
LDF				pmax	pmax			
	comp=Z,16nm,1.2s,mb5.2							
FLN	**La Foliniere**	**89.46**	**319**⇑	*i*P	**P**		**11 54 43.3**	**+0.2**
	comp=Z,8.6nm,0.5s,mb5.0							
FLN	**La Foliniere**	**89.46**	**319**⇑	*i*P	**P**		**11 54 43.3**	**+0.2**
FLN				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb5.0							
GRR	**Gorron**	**89.75**	**318**	*e*P	**P**		**11 54 44.8**	**+0.3**
RAO	**Raoul Island**	**90.37**	**119**	LR	LR		12 35 37.0	
	comp=Z,109nm,18.6s,MS4.3,baz=59,slow=36							
SGMF	**Saint Gilles**	**90.90**	**318**	*e*P	**P**		**11 54 50.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**91.58**	**283**	P	**P**		**11 54 54.5**	**+0.9**
	comp=Z,1.5nm,1.0s,mb4.3,baz=64,slow=1.5,SNR=6.4							
IMA2	**Indian Mountai**	**93.99**	**22**	*e*P	**P**		**11 55 03.8**	**+0.3**
ILAR	**Eielson Array**	**97.12**	**22**	P	**P**		**11 55 17.1**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=306,slow=4.9,SNR=7.9							
DBIC	**Dimbokro**	**98.67**	**278**	LR	LR		12 35 41.5	
	comp=Z,88nm,19.1s,MS4.3,baz=22,slow=33							
MSO	**Missoula**	**122.45**	**23**	*e*PKPdf	PKPdf		12 00 40.7	-4.5
ULM	**Lac du Bonnet**	**124.10**	**8**	PKP	PKPdf		12 00 43.8	-4.6
	comp=Z,1.0nm,0.6s,baz=22,slow=13,SNR=3.2							
NVAR	**Mina Array Bea**	**127.04**	**32**	PKP	PKPdf		12 00 51.8	-2.6
	comp=Z,0.7nm,0.4s,baz=297,slow=1.9,SNR=18							
PDAR	**Pinedale Array**	**127.55**	**22**	PKP	PKPdf		12 00 51.3	-4.0
	comp=Z,0.8nm,0.5s,baz=88,slow=3.3,SNR=12							
DUG	**Dugway**	**128.36**	**27**	*e*PKIKP	PKPdf		12 00 53.4	-3.5
MSU	**Marysvale**	**130.01**	**27**	*e*PKIKP	PKPdf		12 00 57.8	-2.3
ANMO	**Albuquerque**	**135.50**	**25**	*i*PKIKP	PKPdf		12 01 07.8	-2.7
TXAR	**Lajitas Array**	**141.53**	**26**	PKhKP			12 01 11.6	
	comp=Z,0.4nm,0.4s,baz=336,slow=0.5,SNR=15							
TXAR				PKP	PKPdf		12 01 16.6	-5.0
	comp=Z,0.7nm,0.4s,baz=249,slow=0.8,SNR=16							
TXAR	**Lajitas Array**	**141.53**	**26**	PKIKP	PKPdf		12 01 16.6	-5.0
JCT	**Junction City**	**142.02**	**20**	*e*PKHKP			12 01 12.8	

*NEIC **10** 11:49:00.7, 32.56S×71.69W, h15km, ML3.7(GUC), After GUC.*
*GUC **10** 11:49:00.7±0.8, 32.56S×71.69W, h15km±4km, ML3.7*
*IDC **10** 11:49:01.8±5.8, 32.54S×71.61W, h38km±56km, mb3.6/2, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, ML3.9/2, Error ellipse: s-maj=59.9km s-min=38.7km az=67.0*
ISC 10 11:48:58.5±1.4, 32.55S±0.03×71.75W±0.06, h7km±10km, n25, σ0 98/40, mb3.7/2, 9C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IHA	**Instituto Hidr**	**0.48**	**169**	*i*P		**Pb**	**11 49 10.2**	**+1.3**
IHA				*i*S		**Sb**	**11 49 17.1**	**+1.1**
CHNG	**Los Chungos**	**0.70**	**18**	⇑*i*P		**Pb**	**11 49 13.5**	**+0.9**
CHNG				*i*S		**Sb**	**11 49 23.0**	**+0.9**
CHNG				AMP			11 49 23.6	
	comp=E,4μm,0.3s							
ROCH	**El Roble**	**0.75**	**124**	⇑*i*P		**Pb**	**11 49 14.0**	**+0.5**
ROCH				*i*S		**Sb**	**11 49 24.2**	**+0.5**
LCCH	**Las Cruces**	**0.94**	**171**	⇓*i*P		**Pb**	**11 49 17.3**	**+0.7**
LCCH				*i*S		**Sb**	**11 49 28.8**	**-0.2**
JACH	**Jahuel**	**0.99**	**98**	⇑*i*P		**Pb**	**11 49 17.4**	**-0.1**
JACH				*i*S		**Sb**	**11 49 30.1**	**-0.5**
PEL	**Peldehue**	**1.07**	**124**	⇑*i*P		**Pb**	**11 49 19.1**	**0.0**
PEL				*i*S		**Sb**	**11 49 33.0**	**-0.1**
PEL				AMP			11 49 34.4	
	comp=N,8μm,0.5s							
RCDM	**Rinconada Maip**	**1.23**	**140**	⇑*i*P		**Pb**	**11 49 21.6**	**-0.1**
RCDM				*i*S		**Sb**	**11 49 37.1**	**-0.4**
RCDM				AMP			11 49 42.5	
	comp=N,2μm,0.4s							
SAN	**Santiago**	**1.28**	**135**	⇓*i*P		**Pb**	**11 49 22.4**	**-0.2**
SAN				*i*S		**Sb**	**11 49 38.8**	**-0.4**
SAN				AMP			11 49 43.9	
	comp=N,3μm,0.6s							
TACH	**Talagante**	**1.29**	**148**	⇓*i*P		**Pb**	**11 49 22.7**	**-0.1**
TACH				*i*S		**Sb**	**11 49 39.3**	**-0.2**
CLCH	**Cerro Calan**	**1.32**	**130**	AMP			11 49 47.9	
	comp=E,4μm,0.6s							
ANTU	**Antumapu**	**1.38**	**138**	⇓*i*P		**Pn**	**11 49 24.2**	**-0.1**
ANTU				*i*S		**Sb**	**11 49 41.8**	**-0.2**
ANTU				AMP			11 49 47.0	
	comp=N,4μm,0.6s							
LNV	**Longovilo**	**1.43**	**169**	⇑*i*P		**Pn**	**11 49 24.2**	**-0.8**
LNV				*i*S		**Sb**	**11 49 43.5**	**0.0**
FCH	**Farellones**	**1.45**	**123**	⇓*i*P		**Pn**	**11 49 24.7**	**-0.6**
FCH				*i*S		**Sb**	**11 49 43.5**	**-0.5**
FCH				AMP			11 49 44.4	
	comp=N,2μm,0.4s							
PCH	**Pirque**	**1.49**	**136**	⇓*i*P		**Pn**	**11 49 25.5**	**-0.3**
SJCH	**San Jose de Ma**	**1.60**	**133**	⇑*i*P		**Pn**	**11 49 26.4**	**-1.0**
SJCH				*i*S		**Sn**	**11 49 47.3**	**-1.2**
SJCH				AMP			11 49 53.7	
	comp=N,1μm,0.7s							
CHCH	**Chadas Angostu**	**1.66**	**147**	⇓*i*P		**Pn**	**11 49 28.7**	**+0.4**
LMEL	**Las Melosas**	**1.83**	**135**	⇑*i*P		**Pn**	**11 49 31.1**	**+0.4**
LMEL				*i*S		**Sn**	**11 49 54.4**	**0.0**
LMEL				AMP			11 49 58.0	
	comp=N,1μm,0.3s							
CACH	**El Canelo**	**1.84**	**149**	⇓*i*P		**Pn**	**11 49 31.9**	**+1.2**
CACH				*i*S		**Sn**	**11 49 55.6**	**+1.1**
CICH	**Cipreses**	**2.09**	**148**	⇓*i*P		**Pn**	**11 49 34.9**	**+0.5**
CICH				*i*S		**Sn**	**11 50 03.0**	**+2.1**
MDZ	**Mendoza**	**2.47**	**99**	*e*P		**Pn**	**11 49 44.7**	**+4.9**
MDZ				*i*			11 49 51.7	
TLL	**Tololo Astrono**	**2.51**	**19**	*i*S		**Sn**	**11 50 14.2**	**+2.6**
TLL				AMP			11 50 20.3	
	comp=E,1μm,0.5s							
PLCA	**Paso Flores**	**8.22**	**174**	Pn		**P**	**11 50 58.5**	**-2.7**
	comp=E,0.5nm,0.3s,baz=336,slow=12,SNR=14							
LPAZ	**La Paz**	**16.52**	**12**	Pn		**P**	**11 52 50.9**	**-1.5**
	comp=E,0.1nm,0.3s,baz=186,slow=9.2,SNR=2.8							
TXAR	**Lajitas Array**	**68.59**	**330**	P		**P**	**12 00 01.2**	**-3.0**
	comp=E,0.3nm,0.7s,mb3.4,baz=153,slow=8.0,SNR=4.8							
TORD	**Torodi Ar. Bea**	**83.49**	**70**	P		**P**	**12 01 25.4**	**-3.3**
	comp=E,1.3nm,0.6s,mb4.1,baz=264,slow=4.4,SNR=8.4							

KRSC 10 12:04:22.0±1.9, 53.61N×170.06E, h32km±18km, ML3.9, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**2.87**	**305**	*i*P		Pn	12 05 05.9	-0.9
BKI				*i*S		Sn	12 05 36.7	-3.9
KBTR	**Krutoberegovo**	**4.92**	**305**	*e*P		Pn	12 05 34.4	-1.4
KBTR				*e*S		Sn	12 06 27.5	-4.9
MKZ	**Mys Kozlova**	**5.00**	**284**	*e*P		Pn	12 05 34.8	-2.0
ZLN	**Zelenaya**	**5.87**	**298**	*e*P		Pn	12 05 49.9	+0.8
SPN	**Mys Shipunski**	**6.03**	**269**	*e*P		Pn	12 05 51.2	-0.3
KMNR	**Kamenistaya**	**6.09**	**295**	*e*P		Pn	12 05 50.2	-2.1
KMNR				*e*S		Sn	12 06 57.1	-4.5
KOZ	**Kozyrevsk**	**6.38**	**297**	*e*P		Pn	12 05 56.6	+0.3
NLC	**Nalytchevo**	**6.43**	**270**	*e*P		Pn	12 05 55.8	-1.2
NLC				*e*S		Sn	12 07 05.0	-5.0
SRDR	**Sredinnyy**	**6.54**	**299**	*e*P		Pn	12 05 58.9	+0.2
UGLR	**Uglovaya**	**6.73**	**271**	*i*P		Pn	12 06 01.5	+0.2
SMAR	**Somma**	**6.74**	**272**	*e*P		Pn	12 06 02.1	+0.7
AVH	**Avacha**	**6.78**	**272**	*e*P		Pn	12 06 00.8	-1.1
KOK	**Koryaka**	**6.83**	**272**	*e*P		Pn	12 06 01.4	-1.3
RUS	**Russkaya**	**7.07**	**265**	*e*S		Sn	12 07 19.9	-6.1
GNL	**Ganaly**	**7.21**	**276**	*e*P		Pn	12 06 08.1	+0.2
APC	**Apacha**	**7.77**	**270**	*e*P		Pn	12 06 15.8	0.0

*NEIC **10** 12:29:23.6±0.9, 17.58S×178.69W, h551km±12km, mb4.5/3, Error ellipse: s-maj=25.8km s-min=9.7km az=148.0*
*IDC **10** 12:29:23.5±1.5, 17.57S×178.70W, h545km±20km, mb3.3/8, mb1 3.6/10, mb1mx3.4/18, mbtmp4.3/10, Error ellipse: s-maj=30.5km s-min=11.9km az=147.0*
ISC 10 12:29:22.9±1.0, 17.6S±0.2×178.8W±0.2, h554km±17km, n16, σ0 87/16, mb3.8/9, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**7.68**	**62**	P		**P**	**12 31 16.8**	**-1.5**
	5.6nm,0.3s,baz=334,slow=22,SNR=10							
AFI				S		**S**	**12 32 51.1**	**+0.7**
	1.3nm,0.3s,baz=343,slow=19,SNR=2.8							
DZM	**Mont Dzumac**	**14.60**	**250**	P		**P**	**12 32 31.2**	**+3.2**
	1.3nm,0.3s,baz=76,slow=16,SNR=19							
URZ	**Urewera**	**20.88**	**189**	P		**P**	**12 33 27.7**	**-0.1**
	6.4nm,0.6s,baz=352,slow=1.8,SNR=7.3							
STKA	**Stephens Creek**	**38.47**	**241**	⇓*i*P		**P**	**12 36 00.2**	**+1.2**
	9.3nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**38.47**	**241**	P		**P**	**12 35 59.8**	**+0.8**
	11nm,0.5s,mb4.7,baz=95,slow=9.2,SNR=20							
WB2	**Warramunga Arr**	**44.34**	**259**	⇓*i*P		**P**	**12 36 45.7**	**-0.2**
WRA	**Warramunga Arr**	**44.35**	**259**	P		**P**	**12 36 45.8**	**-0.2**
	6.2nm,0.7s,mb4.2,baz=94,slow=7.1,SNR=120							
WRA				PcP		PcP	12 38 18.1	-0.1
	0.9nm,0.8s,baz=98,slow=3.0,SNR=4.7							
FORT	**Forrest**	**49.82**	**244**	*e*P		**P**	**12 37 26.5**	**-0.8**
	12nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**52.74**	**260**	P		**P**	**12 37 48.7**	**+0.1**
	1.7nm,0.7s,mb3.5,baz=163,slow=10,SNR=7.5							
KLBR	**Kellerberrin**	**58.65**	**243**	*e*P		**P**	**12 38 28.2**	**-1.1**
	12nm,0.7s,mb4.2							
NVAR	**Mina Array Bea**	**79.46**	**44**	P		**P**	**12 40 33.5**	**+0.2**
	0.8nm,0.7s,mb4.1,baz=228,slow=7.7,SNR=8.2							
NVAR	**Mina Array Bea**	**79.46**	**44**	P		**P**	**12 40 33.5**	**+0.2**
ILAR	**Eielson Array**	**85.69**	**13**	P		**P**	**12 41 03.5**	**-0.4**
	0.3nm,0.9s,mb2.9,baz=203,slow=6.9,SNR=7.5							
TXAR	**Lajitas Array**	**86.13**	**58**	P		**P**	**12 41 07.8**	**+1.0**
	1.0nm,0.7s,mb3.5,baz=216,slow=6.0,SNR=13							
PDAR	**Pinedale Array**	**87.38**	**44**	P		**P**	**12 41 12.5**	**+0.1**
	0.7nm,0.6s,mb3.5,baz=211,slow=4.2,SNR=7.3							
BRTR	**Keskin Array B**	**144.34**	**315**	PKP		PKPdf	12 47 57.1	+1.1
	0.9nm,0.8s,baz=90,slow=6.2,SNR=3.7							

*NEIC **10** 12:41:40.1±0.9, 17.98S×178.59W, h608km±11km, mb4.4/6, Error ellipse: s-maj=16.5km s-min=9.3km az=145.0*
*IDC **10** 12:41:40.6±2.2, 18.02S×178.62W, h617km±28km, mb3.5/10, mb1 3.7/11, mb1mx3.5/18, mbtmp4.4/11, Error ellipse: s-maj=22.7km s-min=13.0km az=158.0*
ISC 10 12:41:39.7±1.0, 18.0S±0.1×178.6W±0.1, h624km±16km, n35, σ0 95/24, mb4.1/15, 4C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**7.74**	**59**	*e*P		**P**	**12 43 37.5**	**-0.2**
DZM	**Mont Dzumac**	**14.61**	**252**	P		**P**	**12 44 44.6**	**+0.9**
	0.5nm,0.3s,baz=85,slow=18,SNR=9.9							
URZ	**Urewera**	**20.50**	**190**	P		**P**	**12 45 36.7**	**-1.8**
	3.1nm,0.3s,baz=340,slow=1.2,SNR=6.9							
HNR	**Honiara**	**22.49**	**289**	P		**P**	**12 45 56.9**	**+0.3**
	29nm,0.5s,mb5.2,baz=254,slow=1.7,SNR=3.5							
SNZO	**South Karori**	**23.90**	**192**	*e*P		**P**	**12 46 08.2**	**-0.7**
	11nm,0.8s,mb4.5							
CNB	**Canberra Magne**	**33.20**	**232**	*e*P		**P**	**12 47 30.4**	**+1.8**
	7.9nm,0.5s,mb4.6							
CTAO	**Charters Tower**	**33.24**	**261**	⇓*e*P		**P**	**12 47 29.0**	**0.0**
	5.4nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**38.41**	**241**	*e*P		**P**	**12 48 12.8**	**+1.5**
	7.5nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**38.41**	**241**	P		**P**	**12 48 12.3**	**+1.0**
	8.8nm,0.5s,mb4.6,baz=92,slow=10,SNR=20							
STKA	**Stephens Creek**	**38.41**	**241**	⇓*e*P		**P**	**12 48 12.7**	**+1.4**
WB2	**Warramunga Arr**	**44.41**	**260**	⇓*i*P		**P**	**12 48 58.3**	**-0.6**
WRA	**Warramunga Arr**	**44.42**	**260**	P		**P**	**12 48 58.3**	**-0.7**
	8.2nm,0.5s,mb4.5,baz=94,slow=7.1,SNR=398							
WRA				PcP		PcP	12 50 28.0	-0.9
	1.0nm,0.4s,baz=91,slow=3.3,SNR=6.0							
WRA				S		**S**	**12 54 49.9**	**-0.6**
	0.3nm,0.7s,baz=93,slow=13,SNR=3.5							
FORT	**Forrest**	**49.78**	**245**	*e*P		**P**	**12 49 38.8**	**-0.3**
	17nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**52.82**	**261**	P		**P**	**12 50 01.1**	**+0.1**
	1.6nm,0.3s,mb3.8,baz=152,slow=19,SNR=25							
MBWA	**Marble Bar**	**57.86**	**256**	⇓*i*P		**P**	**12 50 35.5**	**-0.2**
	5.9nm,0.6s,mb3.9							
MUN	**Mundaring**	**59.90**	**243**	*e*P		**P**	**12 50 50.0**	**+0.8**
MJAR	**Matsushiro Arr**	**67.89**	**323**	P		**P**	**12 51 38.2**	**-1.2**
	2.3nm,0.5s,mb3.9,baz=150,slow=5.8,SNR=11							
MJAR	**Matsushiro Arr**	**67.89**	**323**	P		**P**	**12 51 38.2**	**-1.2**
MAJO	**Matsushiro**	**67.89**	**323**	*e*P		**P**	**12 51 38.7**	**-0.6**
	3.1nm,0.6s,mb3.9							
NVAR	**Mina Array Bea**	**79.64**	**44**	P		**P**	**12 52 45.7**	**+0.5**
	1.1nm,0.7s,mb3.3,baz=221,slow=8.5,SNR=11							
ILAR	**Eielson Array**	**86.04**	**13**	P		**P**	**12 53 15.2**	**-1.2**
	0.3nm,0.5s,mb3.2,baz=233,slow=4.8,SNR=11							
TXAR	**Lajitas Array**	**85.22**	**58**	P		**P**	**12 53 20.1**	**+2.0**
	1.4nm,0.7s,mb3.7,baz=219,slow=6.2,SNR=20							
PDAR	**Pinedale Array**	**87.57**	**44**	P		**P**	**12 53 24.4**	**+0.4**
	0.9nm,0.5s,mb3.7,baz=219,slow=3.3,SNR=10.0							
MKAR	**Makanchi Array**	**109.08**	**314**	PKiKP			12 59 01.0	
	0.4nm,0.5s,baz=78,slow=0.7,SNR=8.9							
ARCES	**ARCESS Array B**	**126.40**	**350**	PKP		PKPdf	12 59 33.6	+1.2
	2.5nm,1.0s,baz=64,slow=0.8,SNR=6.3							
FINES	**FINESS Array B**	**133.25**	**344**	PKP		PKPdf	12 59 47.3	+1.7
	2.8nm,1.0s,baz=153,slow=4.3,SNR=3.4							

BURAR	**Bucovina Array**	**144.63**	**332**	⇑P		PKPdf	13 00 10.1	+3.8
BURAR	**Bucovina Array**	**144.63**	**332**	⇑P		PKPdf	13 00 10.1	+3.8
BR131	**Keskin Array S**	**144.73**	**315**	*e*PKPdf		PKPdf	13 00 09.2	+2.5
BRTR	**Keskin Array B**	**144.73**	**315**	PKP		PKPdf	13 00 09.2	+2.4
	1.7nm,0.5s,baz=117,slow=3.5,SNR=9.5							
VOIR		**146.31**	**329**	⇑P		PKPdf	13 00 16.9	+7.7
VOIR		**146.31**	**329**	⇑P		PKPdf	13 00 16.9	+7.7
DRGR		**146.36**	**333**	⇓P		PKPdf	13 00 13.5	+4.3
DRGR		**146.36**	**333**	⇓P		PKPdf	13 00 13.5	+4.3
GERES	**GERESS Array B**	**147.68**	**345**	PKPbc		PKPdf	13 00 17.3	+6.0
	1.3nm,0.5s,baz=30,slow=3.3,SNR=14							

*UCR **10** 12:55:37.7, 11.56N×85.61W, MD3.7*
*INET **10** 12:55:42.4, 12.80N×85.31W, h24km, MD2.7*
CASC 10 12:55:39.3±2.4, 11.35N×85.97W, h145km±12km, MD3.4, ML3.2, 1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TICN	**Ticuantepe**	**0.72**	**339**	*e*P		P	12 56 02.3	+0.5
TICN				*e*S		S	12 56 17.8	-1.4
COPN	**Copaltepe**	**1.03**	**323**	⇓*e*P		P	12 56 04.5	+0.5
MOMJ	**Momotombo**	**1.19**	**332**	*e*P		P	12 56 04.3	-1.3
VCR	**Vista de Mar**	**1.26**	**165**	*e*P		P	12 56 06.1	-0.3
VCR				*e*S		S	12 56 27.7	+0.5
LEON	**Leon**	**1.39**	**319**	*e*P		P	12 56 07.8	+0.1
JTS	**JuntasAbangare**	**1.45**	**137**	*e*S		S	12 56 30.5	-0.1
CAO	**Cobano**	**1.85**	**153**	*e*S		S	12 56 37.9	-0.4
PRS1	**Puriscal**	**2.12**	**130**	*e*P		P	12 56 16.7	+0.7
PRS1				*e*S		S	12 56 45.3	+1.2
LAJ	**Bijagual**	**2.34**	**129**	*e*P		P	12 56 16.9	-1.8
LAJ				*e*S		S	12 56 44.6	-4.3
URSC	**Urasca**	**2.63**	**125**	*e*P		P	12 56 23.7	+1.3
URSC				*e*S		S	12 56 57.6	+2.2

*NEIC **10** 13:32:38.9, 32.54S×71.63W, h8km, ML3.2(GUC), After GUC.*
GUC 10 13:32:38.9±0.9, 32.54S×71.63W, h8km±3km, MD3.9, ML3.2, 4C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IHA	**Instituto Hidr**	**0.49**	**181**	⇓*i*P		Pg	13 32 49.0	+0.3
IHA				*i*S		Sg	13 32 55.8	+0.5
CHNG	**Los Chungos**	**0.66**	**10**	⇓*i*P		Pg	13 32 52.1	-0.1
CHNG				*i*S		Sg	13 33 01.7	+0.6
CHNG				AMP			13 33 03.7	
	comp=N,878nm,0.3s							
ROCH	**El Roble**	**0.68**	**130**	⇑*i*P		Pg	13 32 52.7	+0.1
ROCH				*i*S		Sg	13 33 03.4	+1.7
JACH	**Jahuel**	**0.89**	**100**	⇑*i*P		Pb	13 32 56.1	0.

JOD2	**Odawara 2**	**0.65**	**233**	P	**P**	**14 29 21.1**	**+0.2**
JOD2				S	**S**	**14 29 35.1**	**-0.9**
JRY	**Ryogami san**	**0.76**	**298**	P	**P**	**14 29 22.6**	**+0.8**
JRY				*e*S	**S**	**14 29 38.2**	**+0.8**
JAG	**Ashikaga**	**0.80**	**344**	P	**P**	**14 29 22.2**	**+0.1**
JAG				S	**S**	**14 29 36.9**	**-1.0**
JIM2	**Oshima 3**	**0.97**	**195**	P	**P**	**14 29 23.6**	**-0.1**
JIM2				*e*S	**S**	**14 29 39.4**	**-1.3**
JYN	**Shimob**	**0.98**	**261**	P	**P**	**14 29 24.3**	**+0.5**
JYN				*e*S	**S**	**14 29 41.5**	**+0.7**
BSO3	**Boso 3**	**1.07**	**143**	P	**P**	**14 29 24.7**	**0.0**
BSO3				S	**S**	**14 29 42.6**	**+0.2**
JIZS	**Izushimoda**	**1.17**	**217**	P	**P**	**14 29 26.1**	**+0.3**
JIZS				*e*S	**S**	**14 29 44.6**	**+0.4**
JKT	**Katashina**	**1.17**	**341**	P	**P**	**14 29 26.0**	**+0.2**
JKT				S	**S**	**14 29 44.0**	**-0.3**
BSO1	**Boso 1**	**1.43**	**134**	P	**P**	**14 29 28.6**	**-0.1**
BSO1				S	**S**	**14 29 49.5**	**-0.1**
MJAR	**Matsushiro Arr**	**1.51**	**306**	P	**P**	**14 29 29.7**	**0.0**
	2.8nm,0.3s,baz=133,slow=10,SNR=41						
MJAR				S	**S**	**14 29 50.4**	**-0.8**
	6.4nm,0.3s,baz=291,slow=22,SNR=14						
MAT	**Matsushiro**	**1.52**	**306**	P	**P**	**14 29 29.6**	**-0.1**
MAT				S	**S**	**14 29 50.1**	**-1.1**
MAT	**Matsushiro**	**1.52**	**306**	P	**P**	**14 29 29.9**	**+0.2**
MAT				S	**S**	**14 29 50.8**	**-0.4**
MKAR	**Makanchi Array**	**43.71**	**303**	P	**P**	**14 36 55.6**	**+0.4**
	0.2nm,0.6s,mb3.0,baz=79,slow=6.2,SNR=5.1						
WRA	**Warramunga Arr**	**55.53**	**186**	P	**P**	**14 38 25.1**	**-0.8**
	0.4nm,1.1s,mb3.4,baz=0.5,slow=7.7,SNR=5.2						

IDC 10 14:36:51.2±13.0**, 15.45S**×**177.81W, h437**km±150km**, mb2.9**/5**, mb1 3.3**/5**, mb1mx3.1**/14**, mbtmp3.6**/5**, Error ellipse: s-maj=43.5km s-min=31.8km az=120.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.69**	**257**	P	P	14 44 31.8	-1.3
	0.3nm,0.7s,baz=90,slow=7.8,SNR=3.7						
VNDA	**Vanda**	**62.93**	**185**	P	P	14 46 32.6	-2.2
	0.4nm,0.6s,baz=18,slow=8.1,SNR=3.9						
NVAR	**Mina Array Bea**	**77.26**	**44**	P	P	14 47 59.5	-1.0
	0.7nm,0.7s,baz=216,slow=7.8,SNR=6.4						
ILAR	**Eielson Array**	**83.37**	**13**	P	P	14 48 30.1	-1.6
	0.8nm,0.6s,baz=226,slow=5.2,SNR=14						
TXAR	**Lajitas Array**	**84.20**	**58**	P	P	14 48 36.6	0.0
	0.4nm,0.7s,baz=225,slow=7.1,SNR=5.0						
BRTR	**Keskin Array B**	**143.41**	**318**	PKP	PKPdf	14 55 35.0	+0.2
	2.0nm,0.8s,baz=27,slow=3.2,SNR=6.8						

*NAO **10** 14:48:40.0±3.1, 77.06N×21.26E, ML2.3*
*CSEM **10** 14:48:47.2±0.2, 76.89N×17.15E, h20km, ML2.8, Error ellipse: s-maj=9.8km s-min=3.6km az=73.0*

BER 10 14:48:50.4±10.0**, 76.80N×17.48E, h16km±60km, MD2.2, ML2.8, ML2.3**(NAO)**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.49**	**296**	*e*Pg	Pb	14 48 56.6	-3.5
HSP				*e*Sg	Sb	14 49 03.0	-3.7
SPA0	**Spitsbergen Ar**	**1.40**	**351**	Pn	Pn	14 49 09.1	-6.5
	baz=157,slow=16						
SPA0				S	Sb	14 49 27.8	-5.5
	baz=137,slow=37						
HOPEN	**Hopen**	**1.77**	**96**	*e*P	Pn	14 49 20.1	-0.7
HOPEN				*e*S	Sn	14 49 37.8	-5.3
HOPEN				AML	AML	14 49 45.7	
	comp=N,229nm,0.3s						
BJO	**Bjornoya**	**2.35**	**169**	*e*Sg	Sn	14 50 04.6	+6.8
KBS	**Kingsbay**	**2.43**	**334**	Pn	Pn	14 49 24.1	-6.1
KBS				Pg	Pn	14 49 30.0	-0.3
KBS				Sn	Sn	14 49 59.0	-1.0
KBS	**Kingsbay**	**2.43**	**334**	*e*P	Pn	14 49 30.0	-0.3
KBS				*e*S	Sn	14 49 58.9	-1.0
KBS				AML	AML	14 50 04.1	
	comp=Z,72nm,0.4s						
KBS	**Kingsbay**	**2.43**	**334**	Pg	Pn	14 49 30.0	-0.3
ARA0	**ARCESS Array S**	**7.66**	**158**	Sn	Sn	14 51 58.0	-13
	baz=356,slow=22						
APA0	**Apatity Array**	**10.33**	**145**	Sn	S	14 52 53.1	-24
	baz=77,slow=37						

*BER **10** 14:56:48.0±4.3, 80.18N×24.27E, h15km±36km, MD2.5, ML2.2, ML2.0(NAO)*

NAO 10 14:56:43.0±6.2**, 80.31N×24.13E, h10km±27km, ML2.0, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**2.59**	**218**	Pn	Pn	14 57 25.0	-0.7
	baz=37,slow=16						
SPA0				Pg	Pg	14 57 29.5	-5.2
	baz=38,slow=16						
SPA0				Sn	Sn	14 57 56.7	-0.9
	baz=23,slow=22						
KBS	**Kingsbay**	**2.61**	**244**	Pn	Pn	14 57 25.3	-0.7
KBS				Pg	Pg	14 57 30.0	-5.0
KBS				Sn	Sn	14 57 55.3	-2.7
KBS	**Kingsbay**	**2.61**	**244**	*e*P	Pn	14 57 29.9	+4.0
KBS				*e*S	Sn	14 57 55.4	-2.6
KBS				AML	AML	14 57 57.4	
	comp=Z,23nm,0.4s						

MAN 10 15:17:47.5, 8.21N×122.90E, h35km, mb3.5, ML2.2, MS1.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPIL	**Ipil**	**0.53**	**218**	*e*P	P	15 18 00.7	+2.2
IPIL				*e*S	S	15 18 08.4	+1.9
DCPH	**Dipolog City**	**0.58**	**50**⇓	*e*P	P	15 18 00.9	+1.7
DCPH				*e*S	S	15 18 09.2	+1.6
PAGZ	**Pagadian**	**0.60**	**127**	*e*P	P	15 18 01.9	+2.5
PAGZ				*e*S	S	15 18 09.9	+1.8

*BJI **10** 15:21:24.4, 26.33N×142.50E, h46km, mB5.0, mb4.5, Ms4.0, Msz3.8*
*NEIC **10** 15:21:25.6±2.3, 26.71N×142.35E, h24km±15km, mb4.7/19, Error ellipse: s-maj=7.4km s-min=5.9km az=120.0*
*MOS **10** 15:21:25.5±1.0, 26.74N×142.31E, h33km, mb5.0/19, Error ellipse: s-maj=15.8km s-min=6.5km az=109.4*
*JMA **10** 15:21:26.1±0.1, 26.74N×142.40E, h55km±3km, M4.5*
*IDC **10** 15:21:27.7±2.3, 26.75N×142.37E, h37km±17km, mb4.0/17, mb1 4.1/19, mb1mx4.1/23, mbtmp4.2/19, ML3.9/2, MS3.8/9, Ms1 3.8/9, ms1mx3.6/30, Error ellipse: s-maj=18.9km s-min=15.8km az=82.0*

ISC 10 15:21:26.9±0.5**, 26.87N**±0.03×**142.28E**±0.06**, h41**km±4km**, n115**, σ1§18/120**, mb4.7**/42**, MS4.0**/15**, 2C-4D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.24**	**341**	Pn	**P**	**15 21 36.8**	**+2.0**
	631nm,0.3s,baz=164,slow=4.4,SNR=234						
CBIJ				Sn	**S**	**15 21 44.5**	**+4.3**
	2µm,0.3s,baz=270,slow=20,SNR=55						
CBIJ	**Chichi jima**	**0.24**	**341**	P	**P**	**15 21 36.7**	**+1.9**
CBIJ				*e*S	**S**	**15 21 43.9**	**+3.7**
JHHJ	**Haha-jima-NKT**	**0.25**	**200**	P	**P**	**15 21 35.1**	**+0.3**
JHHJ				*e*S	**S**	**15 21 41.8**	**+1.5**
JHJ	**Hachijo jima 2**	**6.59**	**341**	LR	LR	15 25 48.5	
	comp=Z,784nm,19.3s,baz=331,slow=39						
BSO1	**Boso 1**	**7.84**	**352**	P	**P**	**15 23 20.4**	**-0.8**
BSO3	**Boso 3**	**8.05**	**350**	P	**P**	**15 23 23.5**	**-0.7**
BSO4	**Boso 4**	**8.27**	**349**	P	**P**	**15 23 27.4**	**+0.3**
JOD2	**Odawara 2**	**8.80**	**343**	P	**P**	**15 23 35.4**	**+0.9**
JHU	**Hanno**	**9.31**	**345**	P	**P**	**15 23 41.2**	**-0.4**
JHU				*e*S	**S**	**15 25 23.4**	**-2.8**
JYT	**Yasato**	**9.50**	**350**	P	**P**	**15 23 42.4**	**-1.7**
JYT				*e*S	**S**	**15 25 29.0**	**-1.7**
JRY	**Ryogami san**	**9.56**	**343**	P	**P**	**15 23 45.4**	**+0.3**
JRY				*e*S	**S**	**15 25 34.1**	**+1.7**
JHO	**Hitachi**	**9.82**	**352**	P	**P**	**15 23 47.0**	**-1.6**
JAG	**Ashikaga**	**9.83**	**347**	P	**P**	**15 23 46.4**	**-2.3**
MJAR	**Matsushiro Arr**	**10.25**	**341**	Pn	**P**	**15 23 53.4**	**-1.1**
	0.8nm,0.3s,baz=201,slow=26,SNR=14						
MAJO	**Matsushiro**	**10.25**	**341**	*e*P	**P**	**15 23 54.0**	**-0.4**
MAT	**Matsushiro**	**10.25**	**341**	P	**P**	**15 23 53.9**	**-0.5**
MAT				*e*S	**S**	**15 25 42.3**	**-6.8**
MAT	**Matsushiro**	**10.25**	**341**	P	**P**	**15 23 54.0**	**-0.4**
MAT				S	**S**	**15 25 42.0**	**-7.1**
MAT				pmax	pmax		
	comp=Z,17nm,1.0s						
MAT	**Matsushiro**	**10.25**	**341**	P	**P**	**15 23 54.0**	**-0.4**
	comp=Z,17nm,1.0s						
MAT				S	**S**	**15 25 42.0**	**-7.1**
JFK	**Kawauchi**	**10.54**	**354**	P	**P**	**15 23 55.9**	**-2.5**
JOW	**Kunigami**	**12.50**	**273**	LR	LR	15 28 31.1	
	comp=Z,465nm,20.6s,baz=140,slow=34						
GUMO	**Guam**	**13.43**	**169**	LR	LR	15 29 07.3	
	comp=Z,162nm,22.0s,baz=72,slow=35						
ASAJ	**Asahikawa**	**17.21**	**1**	P	**P**	**15 25 26.3**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=299,slow=24,SNR=8.4						
ASAJ				LR	LR	15 32 26.6	
	comp=Z,227nm,20.8s,baz=162,slow=38						
SSE	**Sheshan**	**18.92**	**288**	P	**P**	**15 25 43.8**	**-3.1**
SSE				S	**S**	**15 29 12.0**	**-0.8**
SSE				XS		15 29 30.1	
SSE				AMB	AMB		
	comp=Z,20nm,0.8s						
SSE				AMB	AMB		
	comp=Z,90nm,3.3s						
SSE				LR	LR		
	comp=N,60nm,19.4s						
SSE				LR	LR		
	comp=E,140nm,19.4s						
SSE				LR	LR		
	comp=Z,170nm,23.6s						
SSE	**Sheshan**	**18.92**	**288**	P	**P**	**15 25 43.8**	**-3.1**
	comp=Z,25nm,0.8s						
SSE				pP		15 25 51.7	
SSE				sP		15 25 56.0	
SSE				S	**S**	**15 29 12.0**	**-0.8**
SSE				sS		15 29 30.1	
YHNB	**Yeheng**	**18.95**	**268**	*e*P	**P**	**15 25 45.8**	**-1.5**
YSS	**Yuzh-Sakhalins**	**20.05**	**1**	*e*P	**P**	**15 26 01.0**	**+1.7**
YSS				pmax	pmax		
	comp=Z,214nm,2.5s						
YSS				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.5						
NJ2	**Nanjing**	**21.02**	**290**	*e*P	**P**	**15 26 14.4**	**+5.0**
NJ2				AP		15 26 22.6	
NJ2				XP		15 26 25.5	
NJ2				S	**S**	**15 30 06.0**	**+10**
NJ2				XS		15 30 23.0	
NJ2				AMB	AMB		
	comp=Z,220nm,4.6s						
NJ2				LR	LR		
	comp=N,3µm,26.4s,MS4.8						
NJ2				LR	LR		
	comp=E,3µm,22.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,430nm,22.7s,MS3.8						
TIA	**Tai'an**	**23.32**	**300**	*e*P	**P**	**15 26 33.0**	**+0.9**
KLR	**Kul'dur**	**23.77**	**343**	*e*P	**P**	**15 26 36.4**	**+0.1**
XAN	**Xi'an**	**29.54**	**292**	P	**P**	**15 27 28.0**	**-1.8**
XAN				LR	LR		
	comp=N,140nm,17.8s,MS3.8						
XAN				LR	LR		
	comp=E,180nm,18.7s,MS3.8						
XAN				LR	LR		
	comp=Z,190nm,19.6s,MS3.7						
CD2	**Chengdu**	**33.85**	**286**	P	**P**	**15 28 08.1**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
CD2				LR	LR		
	comp=N,250nm,16.2s						
CD2				LR	LR		
	comp=Z,170nm,13.2s,MS4.0						
LZH	**Lanzhou**	**33.86**	**295**	*e*P	**P**	**15 28 07.5**	**-0.2**
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
LZH	**Lanzhou**	**33.86**	**295**	*e*P	**P**	**15 28 07.5**	**-0.2**
LZH				*SP	sP	15 28 18.1	-6.3
LZH				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
LZH	**Lanzhou**	**33.86**	**295**	*e*P	**P**	**15 28 07.5**	**-0.2**
	comp=Z,22nm,1.4s,mb4.9						
LZH				pP	pP	15 28 15.1	-4.0
LZH				sP	sP	15 28 18.1	-6.3
ULN	**Ulaanbaatar**	**34.54**	**317**	*d*iP	**P**	**15 28 14.0**	**+0.6**
ULN	**Ulaanbaatar**	**34.54**	**317**	*e*P	**P**	**15 28 14.0**	**+0.6**
	comp=Z,1.9nm,0.8s,mb4.1						
SONM	**Songino Array**	**34.94**	**316**	P	**P**	**15 28 15.7**	**-1.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=109,slow=6.7,SNR=8.4						
SONM				PcP	PcP	15 30 49.0	0.0
	comp=Z,1.3nm,0.9s,baz=135,slow=2.1,SNR=4.2						
SONM				LR	LR	15 42 44.2	
	comp=Z,218nm,20.1s,MS3.9,baz=148,slow=36						
YAK	**Yakutsk**	**36.16**	**350**	*e*P	**P**	**15 28 28.7**	**+1.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
YAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.6						
YAK	**Yakutsk**	**36.16**	**350**	*e*P	**P**	**15 28 26.7**	**-0.3**
	comp=Z,5.0nm,0.4s,mb4.8						
SEY	**Seymchan**	**36.68**	**8**	*e*P	**P**	**15 28 32.9**	**+1.5**
BOD	**Bodaibo**	**36.80**	**335**	*e*P	**P**	**15 28 33.9**	**+1.5**
BOD				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
GTA	**Gaotai**	**37.37**	**300**	*e*P	**P**	**15 28 37.0**	**-0.4**
ZAK	**Zakamensk**	**37.84**	**319**	*e*P	**P**	**15 28 41.8**	**+0.6**
HNR	**Honiara**	**39.95**	**152**	LR	LR	15 43 55.1	
	comp=Z,194nm,19.3s,MS4.0,baz=94,slow=34						
BILL	**Bilibino**	**43.66**	**13**	*e*P	**P**	**15 29 29.7**	**+0.7**
BILL				*e*S	**S**	**15 36 05.4**	**+10**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
BILL	**Bilibino**	**43.66**	**13**	*e*P	**P**	**15 29 29.4**	**+0.4**
	comp=Z,6.6nm,1.0s,mb4.3						
TIXI	**Tiksi**	**45.45**	**354**	*e*P	**P**	**15 29 44.0**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,100nm,2.5s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.8						
CTAO	**Charters Tower**	**46.83**	**175**	*e*P	**P**	**15 29 51.9**	**-3.0**
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
CTAO	**Charters Tower**	**46.83**	**175**	*e*P	**P**	**15 29 51.9**	**-3.0**
	comp=Z,9.7nm,1.3s,mb4.6						
WRAB	**Tennant Creek**	**47.15**	**190**	*c* iP	**P**	**15 29 55.2**	**-2.2**
WB2	**Warramunga Arr**	**47.16**	**190**	*e*P	**P**	**15 29 55.7**	**-1.7**
WB2				*e*S	**S**	**15 36 42.8**	**-3.3**
WRA	**Warramunga Arr**	**47.16**	**190**	P	**P**	**15 29 55.6**	**-1.8**
	comp=Z,30nm,0.6s,mb5.4,baz=12,slow=8.7,SNR=257						
FITZ	**Fitzroy Crossi**	**47.53**	**202**	LR	LR	15 48 09.6	
	comp=Z,53nm,20.7s,MS3.5,baz=278,slow=34						
JIRN	**Jiri**	**49.48**	**284**	*e*P	**P**	**15 30 16.2**	**+0.8**
	comp=Z,18nm,0.8s,mb5.2						
GUN	**Gumba**	**49.70**	**285**	*e*P	**P**	**15 30 17.9**	**+0.9**
	comp=Z,46nm,1.2s,mb5.4						
ZAL	**Zalesovo**	**49.72**	**319**	P	**P**	**15 30 16.4**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.2,baz=13,slow=7.3,SNR=9.6						
ZAL				PcP	PcP	15 31 36.8	-1.0
	comp=Z,1.7nm,0.9s,baz=325,slow=1.8,SNR=4.7						
PKI	**Pulchoki**	**50.18**	**285**	*e*P	**P**	**15 30 21.0**	**+0.3**
	comp=Z,20nm,1.1s,mb5.0						
PKI	**Pulchoki**	**50.18**	**285**	*e*P	**P**	**15 30 21.0**	**+0.3**
PKI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
KKN	**Kakani**	**50.24**	**285**	*e*P	**P**	**15 30 21.9**	**+0.7**
	comp=Z,12nm,0.9s,mb4.9						
KKN	**Kakani**	**50.24**	**285**	*e*P	**P**	**15 30 21.9**	**+0.7**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
DMN	**Daman**	**50.43**	**285**	*e*P	**P**	**15 30 22.8**	**+0.1**
	comp=Z,14nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	**50.68**	**310**	P	**P**	**15 30 23.8**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.8,baz=98,slow=8.6,SNR=5.8						
MKAR				PcP	PcP	15 31 41.3	-0.1
	comp=Z,1.6nm,0.8s,baz=76,slow=5.0,SNR=4.9						
MKAR				LR	LR	15 53 59.2	
	comp=Z,212nm,18.1s,MS4.2,baz=91,slow=38						
GKN	**Gorkha**	**50.75**	**285**	*e*P	**P**	**15 30 25.6**	**+0.5**
	comp=Z,29nm,1.2s,mb5.1						
NVS	**Novosibirsk**	**50.77**	**320**	*e*P	**P**	**15 30 19.3**	**-5.5**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
NVS				pmax	pmax		
	comp=N,11nm,2.1s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.4s						
KOLN	**Koldanda**	**51.70**	**285**	*e*P	**P**	**15 30 32.8**	**+0.6**
	comp=E,40nm,1.5s,mb5.1						
MBWA	**Marble Bar**	**52.50**	**207**	*e*P	**P**	**15 30 35.5**	**-2.7**
	comp=E,9.2nm,1.2s,mb4.6						
KURK	**Kurchatov**	**53.20**	**315**	*d* iP	**P**	**15 30 42.5**	**-0.6**
KDAK	**Kodiak Island**	**54.50**	**37**	P	**P**	**15 30 52.8**	**+0.3**
	comp=E,7.4nm,1.0s,mb4.6,baz=270,slow=5.1,SNR=2.5						
IMA2	**Indian Mountai**	**55.26**	**27**	*e*P	**P**	**15 30 57.2**	**-0.8**
AAK	**Ala-Archa**	**56.45**	**305**	*e*P	**P**	**15 31 07.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.4						
AAK				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.2						
ILAR	**Eielson Array**	**57.88**	**29**	P	**P**	**15 31 15.0**	**-1.6**
	comp=Z,1.3nm,0.8s,mb4.0,baz=259,slow=5.9,SNR=16						
STKA	**Stephens Creek**	**58.42**	**181**	P	**P**	**15 31 18.4**	**-2.6**
	comp=Z,2.5nm,0.7s,mb4.3,baz=320,slow=8.5,SNR=5.0						
STKA	**Stephens Creek**	**58.42**	**181**	P	**P**	**15 31 17.5**	**-3.4**
INK	**Inuvik**	**63.20**	**24**	P	**P**	**15 31 52.0**	**-0.9**
	comp=Z,4.2nm,0.9s,mb4.6,baz=294,slow=6.3,SNR=16						
INK	**Inuvik**	**63.20**	**24**	*e*P	**P**	**15 31 51.8**	**-1.1**
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
INK	**Inuvik**	**63.20**	**24**	*e*P	**P**	**15 31 51.8**	**-1.1**
	comp=Z,5.4nm,0.9s,mb4.7						
SVE	**Sverdlovsk**	**63.46**	**323**	*e*P	**P**	**15 31 48.4**	**-6.3**
SVE				*e*S	**S**	**15 40 16.0**	**-7.0**
SVE				MLR	MLR		
	comp=N,100nm,16.0s,MS4.2						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.6						
ARU	**Arti**	**64.65**	**322**⇑	*i*P	**P**	**15 32 02.9**	**+0.5**
ARU				*e*		15 34 24.5	
ARU				*e*S	**S**	**15 40 42.2**	**+4.4**
ARU				*e*SS	SS	15 44 56.9	+6.2
ARU				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
YKA	**Yellowknife Ar**	**72.31**	**28**	P	**P**	**15 32 49.1**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.1,baz=293,slow=5.8,SNR=22						
KEV	**Kevo**	**73.22**	**341**	*e*p	**P**	**15 32 55.4**	**+0.5**
ARCES	**ARCESS Array B**	**73.78**	**341**	P	**P**	**15 32 59.4**	**+1.2**
	comp=Z,7.1nm,0.8s,mb4.6,baz=79,slow=12,SNR=14						
JOF	**Joensuu**	**75.32**	**334**	*e*p	**P**	**15 33 06.6**	**-0.6**
OBN	**Obninsk**	**76.76**	**325**⇓	*i*P	**P**	**15 33 16.9**	**+1.4**
OBN				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.6						
VRSR	**Storozhevoye**	**77.16**	**321**	*e*P	**P**	**15 33 18.7**	**+0.8**
VRSR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
VRSR				pmax	pmax		
	comp=N,2.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,2.0nm,1.0s						
KAF	**Kangasniemi**	**77.72**	**334**	*e*p	**P**	**15 33 21.0**	**+0.3**
	comp=E,9.7nm,1.0s,mb4.7,baz=51,slow=5.0						
KAF	**Kangasniemi**	**77.72**	**334**	*e*P	**P**	**15 33 21.0**	**+0.3**
KAF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**78.19**	**334**	P	**P**	**15 33 23.9**	**+0.7**
	comp=Z,13nm,1.0s,mb4.8,baz=77,slow=5.1,SNR=16						
KIV	**Kislovodsk**	**78.26**	**313**	*e*P	**P**	**15 33 26.6**	**+2.5**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
GNI	**Garni**	**78.53**	**309**	*d* iP	**P**	**15 33 28.0**	**+2.4**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GNI				MLR	MLR		
	comp=Z,100nm,17.0s						
CMB	**Columbia Colle**	**79.30**	**53**	*e*P	**P**	**15 33 29.8**	**-0.1**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
CMB	**Columbia Colle**	**79.30**	**53**	*e*P	**P**	**15 33 29.8**	**-0.1**
	comp=Z,5.0nm,1.0s,mb4.4						
PPT	**Papeete**	**79.50**	**116**	*e*LR	LR	15 57 37.4	
	comp=Z,77nm,22.5s						
NVAR	**Mina Array Bea**	**80.60**	**52**	P	**P**	**15 33 36.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=284,slow=3.7,SNR=3.0						
ELK	**Elko**	**81.63**	**49**	P	**P**	**15 33 42.3**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=349,slow=10,SNR=2.6						
ELK	**Elko**	**81.63**	**49**	P	**P**	**15 33 42.9**	**+0.7**
ELK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ELK	**Elko**	**81.63**	**49**	P	**P**	**15 33 42.9**	**+0.6**
	comp=Z,3.7nm,1.1s,mb4.2						
QLMT	**Earthquake Lak**	**82.10**	**44**	*e*P	**P**	**15 33 45.8**	**+1.3**
TBI	**Tubuai**	**82.71**	**121**	*e*LR	LR	15 59 06.4	
	comp=Z,94nm,26.5s						
AKASG	**Malin Array Be**	**82.85**	**324**	P	**P**	**15 33 49.2**	**+1.0**
	comp=Z,4.3nm,0.7s,mb4.6,baz=50,slow=5.4,SNR=24						
NB2	**NORSAR Subarra**	**83.85**	**338**	P	**P**	**15 33 53.7**	**+0.7**
	comp=Z,1.8nm,0.7s,mb4.3,baz=44,slow=5.0						
NB2	**NORSAR Subarra**	**83.85**	**338**	P	**P**	**15 33 53.7**	**+0.7**
NB2				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.4						
NOA	**NORSAR Array B**	**83.85**	**338**	P	**P**	**15 33 53.9**	**+0.8**
	comp=Z,2.4nm,0.7s,mb4.4,baz=45,slow=5.1,SNR=7.3						
NOA				LR	LR	16 12 03.4	
	comp=Z,109nm,19.9s,MS4.2,baz=345,slow=36						
SUW	**Suwalki**	**83.89**	**329**	*e*P	**P**	**15 33 53.8**	**+0.4**
SUW				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.6						
SUW	**Suwalki**	**83.89**	**329**	*e*P	**P**	**15 33 53.8**	**+0.4**
	comp=Z,52nm,1.0s,mb5.6						
PDAR	**Pinedale Array**	**84.32**	**45**	P	**P**	**15 33 55.3**	**-0.5**

*CSEM **10** 15:42:03.5±0.9,38.73N×29.66W,ML2.8,Error ellipse: s-maj=9.6km s-min=8.5km az=17.0,After PDA*
*PDA **10** 15:42:03.5±0.9,38.73N×29.66W,MD3.5,ML2.8,Error ellipse: s-maj=9.6km s-min=8.5km az=17.0*

SVSA 10 15:42:03.5±0.9,38.73N×29.66W,MD3.5,ML2.8,Error ellipse: s-maj=9.6km s-min=8.5km az=17.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.69**	**102**	*e*P	Pg	15 42 15.9	-1.4
PCED	**Cedros**	**0.76**	**97**	*e*S	Sg	15 42 26.1	-2.6
	254nm,0.3s						
PCED	**Cedros**	**0.76**	**97**	*e*S	Sg	15 42 26.1	-2.6
	254nm,0.3s						
CALA	**Caldeira**	**0.77**	**101**	*e*S	Sg	15 42 26.1	-2.9
HOR	**Horta**	**0.83**	**104**	*e*S	Sg	15 42 28.1	-3.1
PCND	**Candelaria**	**0.97**	**105**	*e*S	Sg	15 42 32.5	-3.5
	133nm,0.3s						
PICO	**Pico**	**0.99**	**103**	*e*P	Pb	15 42 19.8	-3.5
PICO				*e*S	Sg	15 42 32.3	-4.3
PBOI	**Pico dos Bois**	**1.05**	**106**	*e*S	Sb	15 42 34.1	-4.3
	64nm,0.2s						
ROSA	**Rosais**	**1.11**	**90**	*e*P	Pb	15 42 21.1	-4.2
ROSA				*e*S	Sb	15 42 34.7	-5.5
PPNO	**Prainha do Nor**	**1.12**	**103**	*e*S	Sb	15 42 35.5	-5.1
	148nm,0.2s						
PMAN	**Manadas**	**1.23**	**94**	*e*S	Sb	15 42 37.9	-5.8
	55nm,0.2s						
SRBC	**Serra Branca**	**1.30**	**76**	*e*S	Sb	15 42 39.6	-6.1

*IDC **10** 15:57:18.3±0.9,52.92N×162.59E,mb3.6/9,mb1 4.0/10, mb1mx3.8/21,mbtmp3.7/10,ML3.6/1,Error ellipse: s-maj=28.2km s-min=15.9km az=1.0*
*KRSC **10** 15:57:20.2±1.3,53.07N×162.82E,h30km±6km,ML4.2*
*MOS **10** 15:57:21.2±0.7,53.09N×162.76E,h33km,mb4.1/4,Error ellipse: s-maj=14.2km s-min=10.5km az=105.5*
*NEIC **10** 15:57:23.0±0.9,52.84N×162.68E,h35km,mb3.2/1,Error ellipse: s-maj=29.0km s-min=13.0km az=178.0*

ISC 10 15:57:21.0±0.5,53.11N±0.03×162.71E±0.04,h30km,n56, σ0§97/89,mb3.5/9,Off east of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.56**	**338**	P	**Pn**	**15 57 46.6**	**-0.5**
MKZ				S	**Sn**	**15 58 05.9**	**-0.6**
MKZ	**Mys Kozlova**	**1.56**	**338**	*i* P	**Pn**	**15 57 47.0**	**-0.1**
MKZ				*e*S	**Sn**	**15 58 06.2**	**-0.3**
SPN	**Mys Shipunski**	**1.62**	**271**	P	**Pn**	**15 57 48.1**	**+0.1**
SPN				S	**Sn**	**15 58 07.0**	**-1.1**
SPN	**Mys Shipunski**	**1.62**	**271**	*i* P	**Pn**	**15 57 48.2**	**+0.2**
SPN				*e*S	**Sn**	**15 58 07.3**	**-0.8**
NLC	**Nalytchevo**	**2.03**	**273**	P	**Pn**	**15 57 53.8**	**-0.1**
NLC				S	**Sn**	**15 58 17.5**	**-1.0**
NLC	**Nalytchevo**	**2.03**	**273**	*e*P	**Pn**	**15 57 53.9**	**0.0**
NLC				*e*S	**Sn**	**15 58 18.1**	**-0.4**
KII	**Karymskiy**	**2.15**	**297**	P	**Pn**	**15 57 56.0**	**+0.3**
KII				S	**Sn**	**15 58 21.6**	**-0.0**
KII	**Karymskiy**	**2.15**	**297**	*e*P	**Pn**	**15 57 55.9**	**+0.2**
KII				*e*S	**Sn**	**15 58 21.5**	**-0.1**
UGLR	**Uglovaya**	**2.34**	**274**	*i* P	**Pn**	**15 57 59.2**	**+0.8**
UGLR				*e*S	**Sn**	**15 58 26.7**	**+0.3**
SMAR	**Somma**	**2.36**	**275**	*i* P	**Pn**	**15 57 59.2**	**+0.6**
SMAR				*e*S	**Sn**	**15 58 26.3**	**-0.5**
AVH	**Avacha**	**2.40**	**275**	*i* P	**Pn**	**15 57 59.8**	**+0.7**
AVH				*e*S	**Sn**	**15 58 27.0**	**-0.8**
PET	**Petropavlovsk**	**2.45**	**270**	*e*P	**Pn**	**15 58 00.2**	**+0.3**
PET				*e*S	**Sn**	**15 58 28.6**	**-0.6**
PET	**Petropavlovsk**	**2.45**	**270**	*e*PN	**Pn**	**15 58 00.3**	**+0.4**
PET				*e*S	**Sn**	**15 58 28.5**	**-0.7**
PET				pmax	pmax		
	comp=Z,33nm,0.4s						
PET				smax			
	comp=E,458nm,0.5s						
PET				smax			
	comp=N,282nm,0.5s						
PET	**Petropavlovsk**	**2.45**	**270**	*e*Pn	**Pn**	**15 57 59.1**	**-0.8**
PET				*e*Sn	**Sn**	**15 58 29.4**	**+0.2**
KOK	**Koryaka**	**2.46**	**276**	*e*P	**Pn**	**15 58 00.7**	**+0.7**
KOK				*e*S	**Sn**	**15 58 29.7**	**+0.3**
RUS	**Russkaya**	**2.64**	**257**	P	**Pn**	**15 58 02.2**	**-0.4**
RUS				S	**Sn**	**15 58 32.6**	**-1.4**
RUS	**Russkaya**	**2.64**	**257**	*i* P	**Pn**	**15 58 02.5**	**-0.1**
RUS				*e*S	**Sn**	**15 58 32.8**	**-1.2**
TUMR	**Tumrok**	**2.65**	**326**	*i* P	**Pn**	**15 58 03.5**	**+0.8**
KRMR	**Karymshinskiy**	**2.79**	**266**	*e*P	**Pn**	**15 58 05.2**	**+0.5**
KRMR				*e*S	**Sn**	**15 58 36.5**	**-1.1**
BKI	**Bering**	**2.84**	**41**	*i* P	**Pn**	**15 58 03.8**	**-1.6**
BKI				*e*S	**Sn**	**15 58 33.3**	**-5.7**
BKI				Smax			
	comp=N,60nm,0.4s						
GRL	**Gorelyy**	**2.87**	**261**	*e*P	**Pn**	**15 58 06.4**	**+0.5**
GRL				*e*S	**Sn**	**15 58 39.8**	**0.0**
GNL	**Ganaly**	**2.92**	**283**	*i* P	**Pn**	**15 58 07.7**	**+1.2**
GNL				*e*S	**Sn**	**15 58 42.8**	**+1.9**
KMNR	**Kamenistaya**	**3.02**	**332**	*i* P	**Pn**	**15 58 08.6**	**+0.6**
KMNR				*e*S	**Sn**	**15 58 43.2**	**-0.3**
KBTR	**Krutoberegovo**	**3.10**	**1**	*i* P	**Pn**	**15 58 07.7**	**-1.5**
KBTR				*e*S	**Sn**	**15 58 43.8**	**-1.9**
ZLN	**Zelenaya**	**3.12**	**340**	*i* P	**Pn**	**15 58 09.9**	**+0.6**
ZLN				*e*S	**Sn**	**15 58 46.9**	**+0.9**
LGNR	**Loginova**	**3.20**	**339**	*i* P	**Pn**	**15 58 11.5**	**+0.9**
LGNR				*e*S	**Sn**	**15 58 48.9**	**+0.8**
KPT	**Kopyto**	**3.21**	**334**	*i* P	**Pn**	**15 58 11.6**	**+1.0**
KPT				*e*S	**Sn**	**15 58 46.2**	**-2.1**
CIRR	**Tsirk**	**3.22**	**340**	*i* P	**Pn**	**15 58 11.3**	**+0.5**
CIRR				*e*S	**Sn**	**15 58 48.8**	**+0.2**
APC	**Apacha**	**3.36**	**269**	*e*P	**Pn**	**15 58 14.2**	**+1.4**
APC				*e*S	**Sn**	**15 58 53.7**	**+1.5**
KOZ	**Kozyrevsk**	**3.38**	**332**	*i* P	**Pn**	**15 58 13.9**	**+0.8**
KOZR	**Kozyr**	**3.38**	**332**	PN	**Pn**	**15 58 13.9**	**+0.8**
KLY	**Klyuchi**	**3.42**	**340**	P	**Pn**	**15 58 13.1**	**-0.6**
KLY	**Klyuchi**	**3.42**	**340**	*i* P	**Pn**	**15 58 13.2**	**-0.5**
KLY				*e*S	**Sn**	**15 58 52.2**	**-1.5**
SMKR	**Semkarok**	**3.55**	**349**	P	**Pn**	**15 58 15.5**	**0.0**
BDR	**Baidarnaya**	**3.57**	**347**	*i* P	**Pn**	**15 58 15.7**	**-0.1**
SRDR	**Sredinnyy**	**3.65**	**333**	*i* P	**Pn**	**15 58 17.0**	**+0.1**
SRKR	**Sorokina**	**3.66**	**347**	*i* P	**Pn**	**15 58 17.0**	**-0.1**
SRKR				*e*S	**Sn**	**15 58 58.9**	**-0.8**
ESO	**Esso**	**3.66**	**322**	*e*P	**Pn**	**15 58 17.7**	**+0.6**
PAU	**Pauzhetka**	**3.98**	**248**	*e*P	**Pn**	**15 58 20.9**	**-0.7**
PAU				*e*S	**Sn**	**15 59 05.5**	**-2.4**
PAU				Smax			
	comp=N,120nm,1.1s						
SKR	**Severo-Kuril's**	**4.75**	**242**	*e*P	**Pn**	**15 58 31.1**	**-1.5**
FX1	**Attu Island--F**	**6.32**	**88**	Pn	**Pn**	**15 58 52.5**	**-2.1**
	comp=N,4.7nm,0.3s,baz=216,slow=4.9,SNR=46						
FX1				Sn	**Sn**	**15 59 58.5**	**-8.0**
	baz=270,slow=0.2						
FX1	**Attu Island--F**	**6.32**	**88**	*e*Pn	**Pn**	**15 58 52.8**	**-1.9**
FX1				*e*Sn	**Sn**	**15 59 57.8**	**-8.8**
KAMR	**Kamenskoye**	**9.55**	**10**	*i* P	**P**	**15 59 39.4**	**-0.1**
ILAR	**Eielson Array**	**27.68**	**45**	P	**P**	**16 03 08.2**	**+0.4**
	comp=N,0.3nm,0.8s,mb3.0,baz=247,slow=6.9,SNR=3.5						
YKA	**Yellowknife Ar**	**42.07**	**43**	P	**P**	**16 05 11.4**	**+0.3**
	comp=N,0.3nm,0.8s,mb3.0,baz=295,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**49.56**	**297**	P	**P**	**16 06 09.0**	**-1.8**
	comp=N,0.2nm,0.5s,mb3.4,baz=53,slow=6.7,SNR=4.6						
NVAR	**Mina Array Bea**	**54.24**	**72**	P	**P**	**16 06 47.2**	**+1.2**
	comp=N,0.3nm,0.5s,mb3.5,baz=311,slow=6.4,SNR=4.5						
PDAR	**Pinedale Array**	**56.12**	**62**	P	**P**	**16 07 00.4**	**+0.7**
	comp=N,0.6nm,0.8s,mb3.7,baz=27,slow=3.3,SNR=3.8						
FINES	**FINESS Array B**	**60.72**	**338**	P	**P**	**16 07 32.8**	**+1.3**
	comp=N,1.0nm,0.4s,mb4.3,baz=37,slow=9.5,SNR=7.2						
FINES	**FINESS Array B**	**60.72**	**338**	P	**P**	**16 07 32.8**	**+1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**63.95**	**345**	P	**P**	**16 07 55.3**	**+2.5**
	comp=Z,0.1nm,0.5s,mb3.1,baz=22,slow=6.5						
NOA	**NORSAR Array B**	**63.95**	**345**	P	**P**	**16 07 55.6**	**+2.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=18,slow=6.7,SNR=4.2						
NOA	**NORSAR Array B**	**63.95**	**345**	P	**P**	**16 07 55.6**	**+2.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**69.17**	**69**	P	**P**	**16 08 26.6**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=305,slow=4.8,SNR=4.4						
WRA	**Warramunga Arr**	**76.79**	**207**	P	**P**	**16 09 10.6**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=21,slow=6.1,SNR=12						
WRA	**Warramunga Arr**	**76.79**	**207**	P	**P**	**16 09 10.6**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **10** 16:30:32.7±1.2,43.24N×126.67W,h10km,mb3.7/2,Error ellipse: s-maj=14.4km s-min=7.7km az=69.0*
*IDC **10** 16:30:32.2±2.2,43.42N×126.47W,mb3.3/4,mb1 3.7/9, mb1mx3.6/25,mbtmp3.4/9,ML3.4/4,MS2.9/1,Ms1 2.9/1, ms1mx2.5/19,Error ellipse: s-maj=35.0km s-min=16.0km az=62.0*

ISC 10 16:30:31.7±1.3,43.32N±0.06×126.7W±0.1,h10km,n36, σ0§80/36,mb3.5/4,MS2.8/1,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.76**	**104**	*e*P	**Pn**	**16 31 00.6**	**-1.9**
HSO	**Harness Mounta**	**2.60**	**84**	P	**Pn**	**16 31 14.1**	**-0.5**
COR	**Corvallis**	**2.73**	**61**	*e*P	**Pn**	**16 31 16.5**	**0.0**
HUMO	**Hull Mountain**	**2.81**	**103**	*e*P	**Pn**	**16 31 15.9**	**-1.6**
BBOR	**Butler Butte**	**2.94**	**97**	P	**Pn**	**16 31 19.2**	**-0.3**
BROR	**Big Rock Looko**	**3.19**	**71**	P	**Pn**	**16 31 22.9**	**0.0**
HBO	**Huckleberry Mo**	**3.19**	**79**	P	**Pn**	**16 31 23.4**	**+0.3**
IRO	**Indian Ridge**	**3.27**	**76**	P	**Pn**	**16 31 24.2**	**+0.2**
YBH	**Yreka Blue Hor**	**3.32**	**117**	Pn	**Pn**	**16 31 24.2**	**-0.6**
	1.1nm,0.3s,baz=307,slow=12,SNR=18						
YBH	**Yreka Blue Hor**	**3.32**	**117**	*e*P	**Pn**	**16 31 24.3**	**-0.5**
SSOR	**Sweet Springs**	**3.39**	**62**	P	**Pn**	**16 31 26.6**	**+0.7**
FRIS	**Frissel Point**	**3.42**	**73**	P	**Pn**	**16 31 26.5**	**+0.3**
LVP	**Lakeview Peak**	**4.09**	**46**	P	**Pn**	**16 31 36.3**	**+0.5**
HOOD	**Mount Hood Mea**	**4.11**	**59**	P	**Pn**	**16 31 37.0**	**+0.9**
VLL	**Laurance Lake**	**4.16**	**57**	P	**Pn**	**16 31 37.5**	**+0.7**
FL2	**Flat Top 2**	**4.20**	**45**	P	**Pn**	**16 31 37.8**	**+0.5**
VIPM	**Ingram Point**	**4.52**	**73**	P	**Pn**	**16 31 41.4**	**-0.4**
ASR	**Mount Adams--S**	**4.58**	**50**	P	**Pn**	**16 31 43.2**	**+0.4**
WPW	**White Pass**	**4.95**	**45**	P	**Pn**	**16 31 48.4**	**+0.4**
FMW	**Mount Fremont**	**5.05**	**43**	P	**Pn**	**16 31 49.4**	**+0.1**
TBM	**Table Mountain**	**5.75**	**46**	P	**Pn**	**16 32 00.0**	**+0.7**
HAWA	**Hanford**	**5.92**	**56**	*e*P	**Pn**	**16 32 00.9**	**-0.8**
	0.5nm,0.5s						
REDWA	**Red Mountain**	**5.93**	**57**	P	**Pn**	**16 32 01.4**	**-0.5**
GBL	**Gable Mountain**	**6.07**	**55**	P	**Pn**	**16 32 03.6**	**-0.1**
NVAR	**Mina Array Bea**	**7.99**	**125**	Pn	**Pn**	**16 32 31.6**	**+0.9**
	0.1nm,0.3s,baz=300,slow=12,SNR=4.3						
NEW	**Newport**	**8.29**	**50**	Pn	**P**	**16 32 33.5**	**-1.5**
	0.2nm,0.3s,baz=218,slow=17,SNR=3.2						
NEW	**Newport**	**8.29**	**50**	Pn	**P**	**16 32 33.5**	**-1.5**
PDAR	**Pinedale Array**	**12.52**	**87**	Pn	**P**	**16 33 33.4**	**+0.6**
	0.0nm,0.3s,baz=304,slow=5.3,SNR=4.4						
SDCO	**Great Sand Dun**	**17.00**	**102**	P	**P**	**16 34 30.9**	**-0.2**
	1.7nm,0.9s						
ANMO	**Albuquerque**	**17.73**	**111**	P	**P**	**16 34 40.6**	**+0.5**
	baz=323,slow=10,SNR=3.2						
YKA	**Yellowknife Ar**	**20.47**	**16**	P	**P**	**16 35 10.3**	**-1.6**
	2.4nm,0.8s,baz=202,slow=10,SNR=10						
ULM	**Lac du Bonnet**	**22.07**	**61**	P	**P**	**16 35 28.3**	**-0.1**
	1.8nm,0.7s,mb3.6,baz=261,slow=10,SNR=5.5						
ULM	**Lac du Bonnet**	**22.07**	**61**	P	**P**	**16 35 28.3**	**-0.1**
TXAR	**Lajitas Array**	**23.09**	**120**	P	**P**	**16 35 40.6**	**+2.1**
	0.4nm,0.8s,mb2.9,baz=287,slow=9.4,SNR=5.8						
TXAR				LR	LR	16 46 14.7	
	comp=Z,33nm,20.1s,MS2.8,baz=305,slow=41						
WMOK	**Wichita Mounta**	**23.20**	**102**	*e*P	**P**	**16 35 39.9**	**+0.3**
	12nm,1.2s,mb4.2						
ILAR	**Eielson Array**	**24.34**	**339**	P	**P**	**16 35 50.1**	**-0.2**
	0.9nm,1.0s,mb3.2,baz=162,slow=8.6,SNR=5.6						

IDC 10 17:07:45.9±1.4,13.77S×178.92E,mb3.9/6,mb1 4.2/6, mb1mx4.0/14,mbtmp3.9/6,MS3.9/5,Ms1 3.8/5, ms1mx3.6/26,Error ellipse: s-maj=100.2km s-min=23.1km az=147.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.45**	**233**	LR	LR	17 15 59.1	
	comp=Z,198nm,18.4s,baz=49,slow=34						
RPZ	**Rata Peaks**	**30.59**	**191**	LR	LR	17 23 09.6	
	comp=Z,228nm,18.5s,baz=268,slow=30						
STKA	**Stephens Creek**	**38.59**	**236**	P	P	17 15 11.6	-0.9
	3.3nm,0.9s,baz=50,slow=6.7,SNR=5.0						
STKA				LR	LR	17 29 20.2	
	comp=Z,161nm,18.9s,baz=59,slow=34						
WRA	**Warramunga Arr**	**43.01**	**255**	P	P	17 15 46.6	-2.5
	0.1nm,1.0s,baz=90,slow=6.4,SNR=9.8						
VNDA	**Vanda**	**64.35**	**184**	LR	LR	17 42 36.3	
	comp=Z,80nm,19.4s,baz=331,slow=32						
NVAR	**Mina Array Bea**	**78.31**	**45**	P	P	17 19 49.3	-0.5
	0.7nm,0.7s,baz=225,slow=7.7,SNR=5.5						
ILAR	**Eielson Array**	**82.49**	**14**	P	P	17 20 10.5	-0.9
	1.3nm,1.0s,baz=219,slow=5.8,SNR=6.2						
TXAR	**Lajitas Array**	**86.01**	**59**	P	P	17 20 28.2	-1.9
	0.2nm,0.4s,baz=252,slow=8.6,SNR=3.9						
PDAR	**Pinedale Array**	**86.17**	**44**	P	P	17 20 28.7	-1.8
	0.5nm,0.9s,baz=214,slow=3.3,SNR=3.1						
MAW	**Mawson**	**86.85**	**200**	LR	LR	17 56 17.1	
	comp=Z,79nm,18.0s,baz=65,slow=34						
GERES	**GERESS Array B**	**142.96**	**344**	PKP	PKPdf	17 27 21.7	-1.7
	1.0nm,1.0s,baz=37,slow=4.9,SNR=3.7						

ISC 10 17:13:03.5±0.8,38.60N±0.03×26.69E±0.07,h8km±7km,n9, σ0§65/14,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.25**	**196**	*i* P	**Pg**	**17 13 08.4**	**-0.4**
URLA				*i* S	**Sg**	**17 13 13.0**	**+0.7**
BLCB	**Balcova**	**0.35**	**127**	PG	**Pg**	**17 13 11.3**	**+0.6**
IZM	**Izmir**	**0.50**	**114**	PG	**Pg**	**17 13 14.2**	**+0.6**
KDAG	**Bornova**	**0.50**	**113**	*i* P	**Pg**	**17 13 12.8**	**-0.8**
KDAG				*i* S	**Sg**	**17 13 19.4**	**-0.9**
AYVA	**Ayvalik**	**0.71**	**0**	*i* P	**Pb**	**17 13 17.1**	**-0.5**
AYVA				*i* S	**Sg**	**17 13 27.4**	**+0.2**
AKS	**Akhisar**	**0.93**	**72**	PG	**Pg**	**17 13 22.2**	**+0.1**
AYDN	**Tasoluk**	**1.33**	**135**	*i* P	**Pb**	**17 13 27.8**	**-0.5**
AYDN				*i* S	**Sb**	**17 13 45.0**	**-0.3**
BALB	**Balikesir**	**1.39**	**42**	*e*PG	**Pg**	**17 13 31.4**	**0.0**
MANT	**Manisa**	**1.47**	**94**	*i* P	**Pn**	**17 13 30.1**	**-0.3**
MANT				*i* S	**Sb**	**17 13 51.0**	**+1.5**

RSPR 10 17:14:33.1,19.76N×68.91W,h25km±35km,MD3.7/7, MD3.7/7,8C-1D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**2.44**	**135**	*e*S	Sn	17 15 38.1	-3.5
CRPR	**Cabo Rojo, PR**	**2.44**	**135**	*e*P	Pn	17 15 08.9	-3.3
LRS	**Lares**	**2.44**	**126**	*e*P	Pn	17 15 09.7	-2.6
AOPR	**Arecibo Observ**	**2.48**	**124**	*e*P	Pn	17 15 10.9	-2.0
AOPR				*e*S	Sn	17 15 39.8	-2.9
CELP	**Cerrillos**	**2.77**	**127**	*e*P	Pn	17 15 14.7	-2.3
CELP				*e*S	Sn	17 15 47.0	-3.1
SJG	**San Juan**	**3.09**	**122**	*e*P	Pn	17 15 17.1	-4.4
SJG	**San Juan**	**3.09**	**122**	*e*P	Pn	17 15 16.9	-4.6
SJG				*e*S	Sn	17 15 54.1	-3.9
CBYP	**Canovanas**	**3.25**	**117**	*e*P	Pn	17 15 20.9	-2.9
CBYP	**Canovanas**	**3.25**	**117**	*e*S	Sn	17 15 58.1	-4.0
HUMP	**Col San Antoni**	**3.32**	**119**	*e*S	Sn	17 15 59.4	-4.4
MTP	**Monte Pirata**	**3.58**	**117**	*e*P	Pn	17 15 25.7	-2.9
MTP	**Monte Pirata**	**3.58**	**117**	*e*S	Sn	17 16 06.6	-3.9
STVI	**Saint Thomas**	**3.99**	**110**	*e*P	Pn	17 15 31.9	-2.4
STVI	**Saint Thomas**	**3.99**	**110**	*e*S	Sn	17 16 17.5	-3.4

*THE **10** 17:41:11.7,38.81N×20.29E,h20km,ML3.3*
*ATH **10** 17:41:13.1,38.85N×20.46E,h27km±2km,MD3.2/4*
*NEIC **10** 17:41:13.5,38.88N×20.48E,h5km,MD3.2(ATH),After ATH.*
*CSEM **10** 17:41:13.8±0.1,38.89N×20.47E,h20km,ML3.3,Error ellipse: s-maj=3.8km s-min=2.2km az=68.0*

ISC 10 17:41:13.1±0.8,38.85N±0.04×20.45E±0.08,h22km±5km, n14,σ0§94/20,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.21**	**132**	*e*Pg	**Pb**	**17 41 18.5**	**-0.2**
LKD				*e*Sg	**Sb**	**17 41 23.0**	**+0.5**
VLS	**Valsamata**	**0.68**	**170**	*e*PN	**Pn**	**17 41 27.0**	**-0.4**
VLS				*e*SN	**Sn**	**17 41 37.4**	**+0.1**
IGT	**Igoumenitsa**	**0.69**	**353**	*e*Pg	**Pb**	**17 41 25.3**	**-1.0**
IGT				*e*Sg	**Sb**	**17 41 35.9**	**+0.5**
JAN	**Janina**	**0.86**	**21**	*e*PB	**Pb**	**17 41 29.0**	**-0.3**
JAN				*e*SN	**Sn**	**17 41 42.0**	**+0.1**
JAN	**Janina**	**0.86**	**21**	*e*Pb	**Pb**	**17 41 28.5**	**-0.8**
KEK	**Kerkira**	**1.00**	**330**	*e*PN	**Pn**	**17 41 32.5**	**+0.6**
EVR	**Evrytania**	**1.06**	**86**	*e*PN	**Pn**	**17 41 33.5**	**+0.6**
SRN	**Sarande**	**1.08**	**342**	*e*Pg	**Pn**	**17 41 34.5**	**+1.4**
SRN				*i* Sg	**Sb**	**17 41 50.5**	**+3.7**
AGG	**Agios Georgios**	**1.48**	**83**	*e*Pg	**Pn**	**17 41 37.8**	**-1.0**
AGG				*e*Sg	**Sn**	**17 41 59.1**	**+1.6**
LIT	**Litokhoron**	**2.02**	**51**	*e*Pn	**Pn**	**17 41 46.2**	**-0.3**
FNA	**Florina**	**2.06**	**20**	*e*Pn	**Pn**	**17 41 45.5**	**-1.6**
BIA	**Bitola**	**2.27**	**17**	*i* Sg	**Sn**	**17 42 25.5**	**+7.9**
KNT	**Kendrikon**	**2.98**	**38**	*e*Pn	**Pn**	**17 41 59.2**	**-1.0**
KNT	**Kendrikon**	**2.98**	**38**	*e*Pn	**Pn**	**17 41 59.2**	**-1.0**

NEIC 10 17:47:43.8,51.72N×177.07W,h74km,MG3.5(AEIC), After AEIC.,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.11**	**294**	P	P	17 47 54.1	-0.5
KIKV	**Kanaga Island**	**0.17**	**339**	P	P	17 47 54.4	-0.3
KIKV				S	S	17 48 03.4	+0.5
KIRH	**Kanaga Island**	**0.18**	**356**	P	P	17 47 54.4	-0.4
ADK	**Adak**	**0.29**	**55**	P	P	17 47 54.1	-1.3
ADK				S	S	17 48 03.6	-0.5
ADAG	**Mount Adagdak**	**0.39**	**48**	P	P	17 47 55.4	-0.7
GSCK	**Great Sitkin C**	**0.64**	**62**	P	P	17 47 57.8	-0.7
GSTD	**Great Sitkin T**	**0.67**	**59**	P	P	17 47 57.9	-0.9
GSTD				S	S	17 48 09.0	-0.9
GSTR	**Great Sitkin T**	**0.73**	**59**	P	P	17 47 59.1	-0.4

IDC 10 17:54:32.7±1.8,2.85N×127.40E,mb3.6/4,mb1 3.8/4, mb1mx3.6/16,mbtmp3.7/4,MS2.8/1,Ms1 2.8/1, ms1mx2.1/20,Error ellipse: s-maj=93.2km s-min=24.2km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.30**	**57**	LR	LR	18 06 37.6	
	comp=Z,25nm,19.3s,baz=88,slow=36						
FITZ	**Fitzroy Crossi**	**20.89**	**185**	P	P	17 59 16.3	-2.9
	1.2nm,1.0s,baz=16,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**23.65**	**164**	P	P	17 59 45.9	-0.9
	1.7nm,0.5s,baz=344,slow=11,SNR=23						
STKA	**Stephens Creek**	**37.08**	**160**	P	P	18 01 45.1	-1.5
	1.1nm,0.5s,baz=335,slow=8.8,SNR=6.8						
MKAR	**Makanchi Array**	**58.65**	**325**	P	P	18 04 31.8	-2.4
	0.3nm,0.5s,baz=127,slow=7.7,SNR=5.8						

*IDC **10** 18:04:18.4±1.5,13.20N×49.79E,mb3.6/4,mb1 3.8/4, mb1mx3.5/16,mbtmp3.6/4,MS3.3/1,Ms1 3.3/1, ms1mx2.9/21,Error ellipse: s-maj=42.3km s-min=32.7km az=4.0*
*DHMR **10** 18:04:22.0±0.6,13.40N×49.51E,h10km,ML3.5*

ISC 10 18:04:17.6±0.9,13.42N±0.09×49.88E±0.04,h10km,n13, σ1§27/15,mb3.5/4,4C-3D,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.33**	**322**	↑*i* P	**Pb**	**18 04 43.1**	**+0.9**
MUKL				*i* S	**Sb**	**18 05 00.2**	**+1.1**
MUKL				AML	AML	18 05 01.5	
	comp=N,698nm,0.5s						
BDHA	**Al Bayda'**	**4.23**	**278**	↓*i* P	**Pn**	**18 05 24.5**	**+0.9**
BDHA				*i* S	**Sn**	**18 06 12.6**	**-1.0**
BDHA				AML	AML	18 06 14.6	
	comp=N,196nm,0.6s						
LBOS		**4.53**	**276**	↓*i* P	**Pn**	**18 05 28.5**	**+0.7**
LBOS				*i* S	**Sn**	**18 06 20.4**	**-0.8**
ABTO	**Aybut**	**5.11**	**40**	↑P	**Pn**	**18 05 34.8**	**-1.2**
	SNR=8.3						
DHBB	**Dhamar BB**	**5.45**	**283**	*i* S	**Sn**	**18 06 42.5**	**-1.9**
RBK	**Rabkut**	**5.81**	**45**	↓P	**Pn**	**18 05 44.6**	**-1.4**
	SNR=6.5						
WHFO	**Wadi H

BVAR	**Borovoye Array**	**68.63**	**25**	P		**P**	**18 28 25.1**	**0.0**
	0.7nm,0.7s,mb3.7,baz=226,slow=8.3,SNR=5.0							
NOA	**NORSAR Array B**	**69.05**	**350**	P		**P**	**18 28 27.8**	**+0.2**
	1.6nm,0.8s,mb4.0,baz=162,slow=5.7,SNR=3.4							
MKAR	**Makanchi Array**	**70.57**	**35**	P		**P**	**18 28 38.8**	**+1.7**
	1.2nm,0.8s,mb3.9,baz=239,slow=7.1,SNR=7.6							
MKAR				LR		LR	19 01 58.3	
	comp=Z,56nm,18.3s,MS3.9,baz=86,slow=38							
ARCES	**ARCESS Array B**	**76.08**	**358**	P		**P**	**18 29 09.7**	**+0.8**
	4.2nm,1.0s,mb4.3,baz=188,slow=6.4,SNR=3.6							
BDFB	**Brasilia**	**76.60**	**256**	LR		LR	18 59 27.9	
	comp=Z,81nm,18.4s,MS4.1,baz=296,slow=33							
SONM	**Songino Array**	**85.94**	**41**	P		**P**	**18 30 04.1**	**+2.7**
	0.9nm,0.9s,mb4.0,baz=236,slow=5.3,SNR=4.7							
VNDA	**Vanda**	**91.84**	**171**	LR		LR	19 10 34.3	
	comp=Z,50nm,20.0s,MS4.0,baz=248,slow=35							

*IDC **10** 18:55:34.8±2.4, 1.88N×96.48E, mb3.6/3, mb1 3.6/4, mb1mx3.5/18, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=60.0km s-min=27.5km az=50.0*
*NEIC **10** 18:55:39.5±1.4, 1.92N×96.57E, h30km, Error ellipse: s-maj=24.7km s-min=18.8km az=208.0*
ISC 10 18:55:37.7±1.9, 1.9N±0.2×96.6E±0.2, h30km, n5, σ0s61/5, mb3.6/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.52**	**70**	Pn	**Pn**	**18 56 18.0**	**+0.4**
	2.4nm,0.3s,baz=276,slow=9.8,SNR=5.3						
KULM	**Kulim**	**5.27**	**51**	*e*Pn	**Pn**	**18 56 56.1**	**-0.5**
WRA	**Warramunga Arr**	**42.97**	**122**	P	**P**	**19 03 36.2**	**-0.1**
	0.2nm,0.8s,mb2.9,baz=302,slow=9.0,SNR=4.8						
MKAR	**Makanchi Array**	**46.38**	**346**	P	**P**	**19 04 02.9**	**-0.3**
	1.3nm,0.6s,mb4.0,baz=160,slow=8.2,SNR=19						
SONM	**Songino Array**	**46.51**	**9**	P	**P**	**19 04 04.8**	**+0.6**
	0.6nm,0.4s,mb3.9,baz=189,slow=9.3,SNR=10						

*IDC **10** 19:00:05.6±1.6, 43.82N×105.58W, mb4.1/1, mb1 4.1/3, mb1mx3.5/22, mbtmp3.9/3, ML3.4/2, Error ellipse: s-maj=48.5km s-min=8.2km az=150.0*
*NEIC **10** 19:00:05.8±0.4, 43.71N×105.17W, ML3.2, Error ellipse: s-maj=5.4km s-min=4.4km az=150.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 10 19:00:03.6±0.6, 43.75N±0.05×105.08W±0.07, n30, σ0s88/31, mb4.5/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.84**	**63**	*e*P	**Pg**	**19 00 24.7**	**+4.3**
PHWY	**Pilot Hill**	**2.46**	**187**	P	**Pn**	**19 00 46.8**	**+1.2**
RWWY	**Rawlins**	**2.59**	**218**	*e*P	**Pn**	**19 00 48.2**	**+0.9**
BW06	**Boulder Array**	**3.41**	**255**	*e*P	**Pn**	**19 00 58.9**	**-0.2**
PDAR	**Pinedale Array**	**3.41**	**255**	Pn	**Pn**	**19 00 58.9**	**-0.3**
	3.7nm,0.3s,baz=75,slow=17,SNR=42						
PDAR				Pg	**Pg**	**19 01 03.5**	**-8.2**
	8.5nm,0.3s,baz=73,slow=19,SNR=43						
PDAR				Lg		19 01 43.7	
	12nm,0.3s,baz=70,slow=33,SNR=15						
PDAR	**Pinedale Array**	**3.41**	**255**	Pn	**Pn**	**19 00 58.9**	**-0.3**
PDAR				Pg	**Pg**	**19 01 03.5**	**-8.2**
PDAR				Lg		19 01 43.7	
ISCO	**Idaho Springs**	**3.96**	**186**	*e*P	**Pn**	**19 01 07.3**	**+0.3**
LOHW	**Long Hollow**	**4.01**	**270**	*e*P	**Pn**	**19 01 09.1**	**+1.5**
MOOW	**Moose Ponds**	**4.10**	**272**	*e*P	**Pn**	**19 01 09.2**	**+0.3**
YFT	**Old Faithful**	**4.20**	**282**	P	**Pn**	**19 01 10.6**	**+0.2**
REDW	**Red Top Meadow**	**4.21**	**267**	*e*P	**Pn**	**19 01 11.3**	**+0.8**
IMW	**Indian Meadow**	**4.24**	**274**	*e*P	**Pn**	**19 01 11.8**	**+0.9**
YMR	**Madison River**	**4.33**	**284**	*e*P	**Pn**	**19 01 13.3**	**+1.2**
RRI2	**Red Ridge**	**4.55**	**267**	*e*P	**Pn**	**19 01 15.6**	**+0.3**
QLMT	**Earthquake Lak**	**4.68**	**286**	*e*P	**Pn**	**19 01 16.3**	**-0.8**
DGMT	**Dagmar**	**4.76**	**7**	*e*P	**Pn**	**19 01 18.9**	**+0.6**
BOZ	**Bozeman (W)**	**5.04**	**294**	*e*P	**Pn**	**19 01 21.2**	**-0.9**
HWUT	**Hardware Ranch**	**5.24**	**248**	*e*P	**Pn**	**19 01 24.3**	**-0.7**
TCUT	**Toone Canyon**	**5.37**	**243**	*e*P	**Pn**	**19 01 26.6**	**-0.3**
EGMT	**Eagleton**	**5.38**	**324**	*e*P	**Pn**	**19 01 26.8**	**-0.1**
HRY	**Holter Researc**	**5.61**	**304**	*e*P	**Pn**	**19 01 29.8**	**-0.5**
DAU	**Daniels Canyon**	**5.67**	**236**	*e*P	**Pn**	**19 01 31.7**	**+0.6**
SRU	**San Rafael**	**6.18**	**223**	*e*P	**Pn**	**19 01 35.4**	**-2.9**
TMUT	**Trail Mountain**	**6.39**	**228**	*e*P	**Pn**	**19 01 40.9**	**-0.5**
CHMT	**Chamberlain Mo**	**6.57**	**302**	*e*P	**Pn**	**19 01 43.3**	**-0.5**
DUG	**Dugway**	**6.76**	**241**	*e*P	**Pn**	**19 01 44.4**	**-2.1**
KSU1	**Kansas State U**	**7.88**	**123**	P	**Pn**	**19 02 01.6**	**-0.5**
ULM	**Lac du Bonnet**	**9.04**	**41**	Pn	**P**	**19 02 18.0**	**-0.4**
	1.2nm,0.3s,baz=222,slow=14,SNR=20						
ULM				Lg		19 04 57.6	
	0.3nm,0.3s,baz=328,slow=19,SNR=2.6						
TXAR	**Lajitas Array**	**14.43**	**175**	Lg		19 07 51.9	
	0.1nm,0.3s,baz=338,slow=29,SNR=4.8						
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**19 10 23.0**	**0.0**
	4.2nm,0.9s,mb4.5,baz=333,slow=8.1,SNR=4.3						

NNC 10 19:14:53.0±7.0, 50.30N×83.31E, mpv3.1, 6C-1D, Error ellipse: s-maj=50.7km s-min=26.5km az=66.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.57**	**191**	⇑Pn	Pn	19 15 51.8	+1.0
	2.4nm,0.4s,baz=24,slow=13,SNR=277						
MK31				⇑Lg		19 16 46.9	
	7.0nm,0.3s,baz=18,slow=29,SNR=5.5						
VOSK	**Vostochnaya**	**8.07**	**292**	Pn	P	19 16 54.2	-0.1
VOSK				⇑Sn	Sn	19 18 26.0	-1.4
	2.6nm,0.7s						
BVA0	**Borovoye Array**	**8.49**	**294**	Pn	P	19 17 00.5	+0.4
	baz=108,slow=13,SNR=4.3						
BVA0				⇑Sn	Sn	19 18 36.8	-1.0
	0.5nm,1.0s,baz=104,slow=24,SNR=8.2						
KK31	**Karatay Array**	**11.35**	**236**	⇑Pn	P	19 17 37.9	-1.5
	0.4nm,0.5s,baz=47,slow=13,SNR=4.8						
KK31				⇓Sn	S	19 19 46.5	-1.6
	0.7nm,0.7s						
KK31				⇑Lg		19 20 53.9	
	0.9nm,0.6s						

*IDC **10** 19:37:21.5±4.3, 11.76S×117.79E, mb4.1/3, mb1 4.2/4, mb1mx3.9/12, mbtmp4.0/4, ML4.0/1, Error ellipse: s-maj=190.6km s-min=36.7km az=43.0*
*NEIC **10** 19:37:25.6±0.7, 11.75S×117.75E, h30km, Error ellipse: s-maj=27.4km s-min=10.8km az=53.0*
ISC 10 19:37:24.0±0.8, 11.8S±0.1×117.7E±0.2, h33km, n8, σ0s41/10, mb4.1/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**9.49**	**168**	*e*Pn	**P**	**19 39 41.5**	**0.0**
MBWA				*e*Sn	**Sn**	**19 41 21.5**	**-6.7**
WRA	**Warramunga Arr**	**17.91**	**119**	P	**P**	**19 41 32.2**	**-0.2**
	0.6nm,0.3s,baz=288,slow=14,SNR=33						
WRA				S	**S**	**19 44 40.8**	**-7.5**
	0.2nm,0.3s,baz=291,slow=26,SNR=3.6						
WB2	**Warramunga Arr**	**17.93**	**119**	*e*P	**P**	**19 41 32.6**	**+0.1**
KULM	**Kulim**	**24.01**	**314**	*e*P	**P**	**19 42 36.5**	**-0.4**
SONM	**Songino Array**	**60.23**	**351**	P	**P**	**19 47 30.9**	**-0.4**
	1.3nm,0.8s,mb4.0,baz=171,slow=7.3,SNR=6.2						
MKAR	**Makanchi Array**	**66.39**	**334**	P	**P**	**19 48 12.8**	**+0.9**
	0.9nm,0.5s,mb4.0,baz=143,slow=6.4,SNR=14						
MKAR	**Makanchi Array**	**66.39**	**334**	P	**P**	**19 48 12.8**	**+0.9**
ZAL	**Zalesovo**	**71.22**	**340**	P	**P**	**19 48 41.6**	**0.0**
	1.5nm,0.5s,mb4.2,baz=347,slow=5.0,SNR=5.7						

*IDC **10** 19:42:50.5±2.1, 32.55N×92.07E, mb3.6/6, mb1 3.8/8, mb1mx3.6/22, mbtmp3.6/8, ML2.8/2, Error ellipse: s-maj=48.4km s-min=35.8km az=151.0*
*NEIC **10** 19:42:58.9±1.6, 32.95N×91.98E, h41km±21km, Error ellipse: s-maj=27.2km s-min=13.8km az=81.0*
ISC 10 19:42:57.9±2.0, 33.0N±0.1×92.0E±0.2, h49km±23km, n9, σ0s55/9, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.32**	**192**	*e*Pn	**P**	**19 43 48.8**	**+0.1**
MKAR	**Makanchi Array**	**15.67**	**335**	Pn	**P**	**19 46 36.4**	**-0.4**
	0.0nm,0.3s,baz=137,slow=15,SNR=4.3						
SONM	**Songino Array**	**18.44**	**32**	P	**P**	**19 47 11.5**	**-0.1**
	0.1nm,0.3s,baz=213,slow=11,SNR=8.5						
ZAL	**Zalesovo**	**21.59**	**348**	P	**P**	**19 47 44.9**	**-0.3**
	1.3nm,0.7s,mb3.5,baz=315,slow=9.9,SNR=8.0						
BVAR	**Borovoye Array**	**25.34**	**329**	P	**P**	**19 48 22.8**	**+1.2**
	0.9nm,0.7s,mb3.4,baz=145,slow=11,SNR=6.8						
ILAR	**Eielson Array**	**72.38**	**23**	P	**P**	**19 54 19.6**	**-0.5**
	0.6nm,0.8s,mb3.5,baz=285,slow=4.9,SNR=7.0						
INK	**Inuvik**	**73.54**	**16**	P	**P**	**19 54 27.2**	**+0.4**
	1.7nm,1.2s,mb3.9,baz=336,slow=3.8,SNR=3.7						
YKA	**Yellowknife Ar**	**82.51**	**12**	P	**P**	**19 55 16.6**	**+0.3**
	0.1nm,0.5s,mb3.1,baz=333,slow=4.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.19**	**281**	P	**P**	**19 55 19.9**	**-0.7**
	0.6nm,0.6s,mb3.8,baz=39,slow=4.7,SNR=11						

*IDC **10** 19:51:41.6±0.9, 3.19S×131.02E, mb3.9/6, mb1 4.0/6, mb1mx3.9/15, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/18, Error ellipse: s-maj=78.0km s-min=22.0km az=70.0*
*NEIC **10** 19:51:47.2±0.6, 3.59S×130.74E, h50km, mb4.6/6, Error ellipse: s-maj=16.0km s-min=8.7km az=67.0*
ISC 10 19:51:43.9±0.6, 3.53S±0.05×130.74E±0.10, h33km, n22, σ0s96/24, mb4.2/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.32**	**199**	Pn	**P**	**19 55 19.3**	**-0.1**
	0.4nm,0.3s,baz=27,slow=8.7,SNR=13						
FITZ				Sn	**S**	**19 58 08.7**	**+0.2**
	0.2nm,0.3s,baz=207,slow=14,SNR=2.6						
FITZ				LR	LR	20 02 18.0	
	comp=Z,86nm,18.4s,baz=31,slow=40						
WRA	**Warramunga Arr**	**16.68**	**168**	Pn	**P**	**19 55 36.2**	**-0.6**
	0.5nm,0.3s,baz=357,slow=13,SNR=25						
WRA				Sn	**S**	**19 58 36.2**	**-4.0**
	0.6nm,0.3s,baz=357,slow=22,SNR=5.7						
WB2	**Warramunga Arr**	**16.69**	**168**	*e*P	**P**	**19 55 36.3**	**-0.6**
WB2				*e*		19 55 44.0	
WB2				*e*S	**S**	**19 58 35.5**	**-4.7**
KKM	**Kota Kinabalu**	**17.35**	**303**	*e*Pn	**P**	**19 55 43.8**	**-1.5**
MBWA	**Marble Bar**	**20.54**	**211**	*e*P	**P**	**19 56 21.8**	**-0.4**
	36nm,1.5s						
KSM	**Kuching**	**21.02**	**283**	*e*P	**P**	**19 56 29.1**	**+1.8**
HNR	**Honiara**	**29.59**	**103**	P	**P**	**19 57 48.6**	**+0.3**
STKA	**Stephens Creek**	**29.98**	**161**	*e*P	**P**	**19 57 55.0**	**+3.3**
	1.3nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**29.98**	**161**	P	**P**	**19 57 54.4**	**+2.7**
	1.1nm,0.4s,mb4.0,baz=343,slow=8.9,SNR=7.3						
STKA	**Stephens Creek**	**29.98**	**161**	*e*P	**P**	**19 57 54.5**	**+2.8**
LSA	**Lhasa**	**50.28**	**314**	*e*P	**P**	**20 00 40.7**	**+1.2**
	3.0nm,0.8s,mb4.4						
LSA				*e*		20 00 47.6	
JIRN	**Jiri**	**52.94**	**309**	*e*P	**P**	**20 00 58.9**	**-0.6**
	10nm,0.9s,mb4.8						
GUN	**Gumba**	**53.30**	**309**	*e*P	**P**	**20 01 01.9**	**-0.3**
	11nm,0.7s,mb4.9						
DMN	**Daman**	**53.77**	**308**	*e*P	**P**	**20 01 05.3**	**-0.3**
GKN	**Gorkha**	**54.32**	**308**	*e*P	**P**	**20 01 09.6**	**-0.1**
	7.6nm,0.6s,mb4.8						
KOLN	**Koldanda**	**55.03**	**308**	*e*P	**P**	**20 01 15.0**	**+0.2**
	12nm,0.8s,mb5.0						
SONM	**Songino Array**	**55.43**	**340**	P	**P**	**20 01 17.4**	**-0.1**
	0.5nm,0.5s,mb3.8,baz=163,slow=9.0,SNR=5.3						
MKAR	**Makanchi Array**	**65.77**	**326**	P	**P**	**20 02 27.9**	**0.0**
	1.3nm,0.6s,mb4.2,baz=113,slow=8.4,SNR=17						
BVAR	**Borovoye Array**	**75.56**	**327**	P	**P**	**20 03 26.8**	**-0.1**
	0.7nm,0.7s,mb3.7,baz=128,slow=10,SNR=6.4						
VNDA	**Vanda**	**75.78**	**173**	P	**P**	**20 03 30.6**	**+2.9**
	0.5nm,0.5s,mb3.7,baz=342,slow=6.4,SNR=4.5						
ILAR	**Eielson Array**	**89.91**	**25**	P	**P**	**20 04 40.0**	**-0.6**
	0.2nm,0.5s,mb3.7,baz=263,slow=4.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**128.78**	**284**	PKP	PKPdf	20 10 51.8	+2.6
	0.5nm,0.6s,baz=93,slow=2.1,SNR=7.2						

PGC 10 20:21:05.1, 64.18N×138.52W, h5km, ML3.3/3, Near Dawson, Yukon Territory, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAWY	**Dawson**	**0.40**	**254**	⇑P	Pg	20 21 12.0	-1.1
DAWY				S	Sg	20 21 17.7	-0.8
DAWY				Trac		20 21 19.0	
	comp=Z,651nm,0.1s						
HYT	**Haines Junctio**	**3.40**	**172**	Pn	Pn	20 21 58.3	-1.6
HYT				Pg	Pg	20 22 06.8	-6.1
HYT				Sg	Sg	20 22 50.9	-7.4
HYT				Trac		20 22 57.1	
	comp=Z,43nm,0.3s						
WHY	**Whitehorse**	**3.91**	**153**	Pn	Pn	20 22 04.5	-2.7
WHY				Pg	Pg	20 22 14.8	-8.4
WHY				Sn	Sn	20 22 49.5	-4.7
WHY				Sg	Sg	20 23 07.3	-8.1
WHY				Trac		20 23 11.6	
	comp=Z,16nm,0.3s						
INK	**Inuvik**	**4.61**	**24**	Pn	Pn	20 22 13.7	-3.5
INK				Pg	Pg	20 22 28.2	-9.1
INK				Sn	Sn	20 23 05.2	-6.7
INK				Trac		20 23 36.8	
	comp=Z,11nm,0.5s						
PLBC	**Pleasant Camp**	**4.84**	**167**	Pn	Pn	20 22 19.0	-1.4
PLBC				Pg	Pg	20 22 32.2	-10
PLBC				Sg	Sg	20 23 34.7	-12
DLBC	**Dease Lake**	**7.05**	**141**	Pn	Pn	20 22 47.2	-4.4
DLBC				Sg	Sg	20 24 44.8	-15
DLBC				Trac		20 24 51.5	
	comp=Z,11nm,0.7s						
YKW3	**Yellowknife Ar**	**10.83**	**88**	Pn	P	20 23 39.2	-4.5

*IDC **10** 20:57:54.8±1.3, 34.48N×73.10E, mb3.7/2, mb1 3.7/5, mb1mx3.4/21, mbtmp3.5/5, ML2.7/1, Error ellipse: s-maj=35.7km s-min=29.4km az=60.0*
*NDI **10** 20:57:56.9±4.3, 34.63N×73.10E, h10km, MD3.6, ML3.7*
*NNC **10** 20:58:03.3±22.0, 35.79N×75.53E, mpv3.7, Error ellipse: s-maj=1022.8km s-min=269.6km az=63.0*
ISC 10 20:57:54.2±0.7, 34.46N±0.07×73.0E±0.1, h10km, n15, σ1s28/21, mb3.6/2, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.07**	**130**	*e*P	**Pn**	**20 58 47.5**	**+3.7**
THN				*e*SB	**Sb**	**20 59 32.2**	**+5.8**
DLH	**Dalhousie**	**3.17**	**126**	*e*P	**Pn**	**20 58 49.0**	**+3.9**
DLH				*e*SB	**Sb**	**20 59 30.0**	**+0.9**
BHK	**Bhakra**	**4.21**	**135**	*ex*	x	21 00 12.3	
SDNR	**Sundarnagar**	**4.49**	**130**	*e*P	**Pn**	**20 59 06.2**	**+2.3**
SDNR				*e*SB	**Sb**	**21 00 14.2**	**+6.8**
SMLA	**Simla**	**4.86**	**132**	*e*P	**Pn**	**20 59 08.3**	**-1.0**
SMLA				*e*SB	**Sb**	**21 00 24.3**	**+6.0**
KLP	**Kalpa**	**5.33**	**122**	*e*P	**Pn**	**20 59 15.8**	**+0.1**
KLP				*e*S	**Sn**	**21 00 16.3**	**-1.6**
KLP				AML	AML	21 00 44.8	
	comp=N,104nm,0.6s						
KLP				AML	AML	21 00 46.5	
	comp=E,142nm,0.6s						
DDI	**Dehra Dun**	**5.97**	**132**	*ex*	x	21 00 26.6	
KHET	**Khetri**	**6.82**	**158**	*e*P	**Pn**	**20 59 36.0**	**-0.8**
KHET				*e*S	**Sn**	**21 00 53.2**	**-2.1**
KUDL	**Kundal**	**6.99**	**153**	*e*P	**Pn**	**20 59 39.4**	**+0.2**
KUDL				*e*S	**Sn**	**21 00 56.5**	**-3.0**
KK31	**Karatay Array**	**8.84**	**348**	⇑P	**P**	**21 00 04.5**	**-0.4**
	comp=E,1.5nm,0.4s,baz=156,slow=12,SNR=71						
KK31				⇓S	**Sn**	**21 01 40.0**	**-5.7**
	comp=E,0.6nm,0.3s,baz=149,slow=22,SNR=5.8						
MKAR	**Makanchi Array**	**14.20**	**27**	Pn	**P**	**21 01 16.5**	**-0.9**
	comp=E,0.0nm,0.3s,baz=204,slow=14,SNR=2.6						
BVAR	**Borovoye Array**	**18.65**	**355**	P	**P**	**21 02 13.7**	**-0.3**
	comp=E,0.2nm,0.3s,baz=158,slow=11,SNR=8.0						
AKTO	**Aktyubinsk**	**19.34**	**330**	P	**P**	**21 02 22.6**	**+0.4**
	comp=E,0.3nm,0.3s,baz=128,slow=15,SNR=5.3						
TORD	**Torodi Ar. Bea**	**67.30**	**271**	P	**P**	**21 08 52.2**	**+0.6**
	comp=E,0.2nm,0.4s,mb3.5,baz=250,slow=5.8,SNR=7.4						
WRA	**Warramunga Arr**	**79.56**	**123**	P	**P**	**21 10 03.5**	**+0.3**
	comp=E,0.4nm,0.4s,mb3.7,baz=322,slow=5.3,SNR=8.3						

*NIED **10** 20:59:00,26.80N×140.90E, h32km, Mw4.5 Best double couple: M0 5.37×10^15 NP1:φs221°, δ68°, λ46°. NP2:φs110°, δ48°, λ150°.*
*IDC **10** 20:59:55.1±0.6, 26.87N×140.84E, mb4.2/16, mb1 4.4/17, mb1mx4.3/22, mbtmp4.1/17, ML3.0/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/22, Error ellipse: s-maj=17.4km s-min=16.3km az=48.0*
*BJI **10** 21:00:00.4, 26.90N×141.20E, h43km, mB5.2, mb4.8, Ms5.0*
*NEIC **10** 21:00:01.5±2.3, 26.89N×140.72E, h43km±20km, mb4.8/11, Error ellipse: s-maj=15.3km s-min=12.1km az=105.0*
ISC 10 20:59:54.4±4.1, 26.84N±0.08×140.82E±0.06, h3km±25km, n55, σ1s27/51, mb4.4/31, MS3.8/2, 2C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.24**	**78**	Pn	**Pn**	**21 00 18.6**	**0.0**
	75nm,0.3s,baz=242,slow=3.7,SNR=28						
CBIJ				Sn	**Sn**	**21 00 33.9**	**-2.2**
	242nm,0.3s,baz=276,slow=23,SNR=20						
MJAR	**Matsushiro Arr**	**9.92**	**348**	Pn	**P**	**21 02 19.6**	**-1.4**
	0.1nm,0.3s,baz=166,slow=15,SNR=2.7						
JOW	**Kunigami**	**11.21**	**273**	LR	LR	21 06 06.6	
	comp=Z,250nm,21.1s,baz=100,slow=33						
KS15	**Wonju Array Si**	**15.21**	**317**	*e*P	**P**	**21 03 34.6**	**+2.7**
KS15				*e*P		21 03 41.3	
ASAJ	**Asahikawa**	**17.30**	**4**	P	**P**	**21 04 01.8**	**+3.2**
	0.5nm,0.3s,baz=216,slow=5.5,SNR=4.8						
ASAJ				LR	LR	21 10 13.2	
	comp=Z,52nm,20.7s,baz=162,slow=36						
LZH	**Lanzhou**	**32.70**	**296**	⇑P	**P**	**21 06 32.7**	**+2.4**
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,70nm,4.0s						
LZH	**Lanzhou**	**32.70**	**296**	⇑P	**P**	**21 06 32.7**	**+2.4**
	comp=Z,26nm,1.2s,mb5.0						
MA2	**Magadan**	**33.44**	**9**	*e*P	**P**	**21 06 34.1**	**-2.3**
	comp=Z,18nm,1.0s,mb5.0						
ULN	**Ulaanbaatar**	**33.68**	**318**	*e*P	**P**	**21 06 34.8**	**-3.9**
	comp=Z,3.9nm,1.2s,mb4.2						
SONM	**Songino Array**	**34.07**	**317**	P	**P**	**21 06 41.7**	**-0.3**
	comp=Z,2.0nm,1.0s,mb4.0,baz=124,slow=8.7,SNR=10						
SONM				LR	LR	21 21 20.5	
	comp=Z,54nm,21.6s,MS3.2,baz=8.0,slow=38						
GTA	**Gaotai**	**36.27**	**301**	*e*P	**P**	**21 07 00.1**	**-0.8**
BILL	**Bilibino**	**43.98**	**13**	*e*P	**P**	**21 08 02.7**	**-1.6**
	comp=Z,22nm,1.4s,mb4.7						
WMQ	**Urumqi**	**45.74**	**306**	P	**P**	**21 08 19.8**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,250nm,5.2s						
WB2	**Warramunga Arr**	**46.93**	**188**	*e*P	**P**	**21 08 27.4**	**-1.0**
WRA	**Warramunga Arr**	**46.93**	**188**	P	**P**	**21 08 27.1**	**-1.3**
	comp=Z,2.5nm,0.6s,mb4.3,baz=10.0,slow=8.6,SNR=37						
FITZ	**Fitzroy Crossi**	**47.04**	**200**	P	**P**	**21 08 29.2**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=10,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**49.70**	**310**	P	**P**	**21 08 49.5**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.3,baz=93,slow=9.4,SNR=27						
MKAR				PcP	PcP	21 10 08.9	-2.2
	comp=Z,0.7nm,0.8s,baz=82,slow=4.5,SNR=2.9						
BVAR	**Borovoye Array**	**57.41**	**318**	P	**P**	**21 09 45.4**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=90,slow=8.9,SNR=12						
STKA	**Stephens Creek**	**58.39**	**179**	P	**P**	**21 09 53.5**	**-0.2**
	comp=Z,1.5nm,0.9s,mb4.0,baz=349,slow=16,SNR=2.6						
ILAR	**Eielson Array**	**58.52**	**29**	P	**P**	**21 09 53.0**	**-1.1**
	comp=Z,2.5nm,0.9s,mb4.2,baz=256,slow=5.8,SNR=17						
AKTK	**Aktyubinsk**	**65.37**	**316**	P	**P**	**21 10 40.5**	**+0.3**
AKTO	**Aktyubinsk**	**65.37**	**316**	P	**P**	**21 10 40.5**	**+0.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=79,slow=9.8,SNR=3.7						
YKA	**Yellowknife Ar**	**72.94**	**28**	P	**P**	**21 11 26.0**	**-0.6**
	comp=Z,3.6nm,0.7s,mb4.4,baz=294,slow=6.1,SNR=53						
ARCES	**ARCESS Array B**	**73.38**	**341**	P	**P**	**21 11 27.6**	**-1.5**
	4.2nm,1.6nm,1.1s,mb4.2,baz=79,slow=6.2,SNR=4.3						
FINES	**FINESS Array B**	**77.64**	**333**	P	**P**	**21 11 51.3**	**-2.1**
	comp=Z,3.3nm,1.0s,mb4.2,baz=153,slow=4.3,SNR=3.7						
NVAR	**Mina Array Bea**	**81.63**	**51**	P	**P**	**21 12 15.3**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.2,baz=307,slow=5.0,SNR=12						
NVAR	**Mina Array Bea**	**81.63**	**51**	P	**P**	**21 12 15.3**	**-0.1**
AKASG	**Malin Array Be**	**82.10**	**323**	P	**P**	**21 12 16.0**	**-1.5**
	comp=Z,0.2nm,0.3s,mb3.5,baz=49,slow=5.4,SNR=5.0						
AKASG	**Malin Array Be**	**82.10**	**323**	P	**P**	**21 12 16.0**	**-1.5**
ELK	**Elko**	**82.62**	**48**	*e*P	**P**	**21 12 22.0**	**+1.5**
	comp=Z,2.8nm,1.1s,mb4.2						
QLMT	**Earthquake Lak**	**83.01**	**43**	*e

*NNC **10** 21:31:19.3±53.0, 37.19N×70.36E, h92km±999km, mpv3.5, Error ellipse: s-maj=1231.9km s-min=346.3km az=59.0*

ISC 10 21:31:13.2±1.2, 37.0N±0.1×71.6E±0.2, h200km, n8, σ1§12/10, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.12**	**352**	P	**P**	**21 32 44.2**	**+1.5**
	1.7nm,0.3s,baz=175,slow=12,SNR=90						
KK31				S	**S**	**21 33 51.8**	**-0.6**
	baz=185,slow=24,SNR=26						
KOLN	**Koldanda**	**13.68**	**129**	*e*P	**P**	**21 34 18.7**	**-1.3**
GKN	**Gorkha**	**14.18**	**126**	*e*P	**P**	**21 34 26.2**	**0.0**
	7.1nm,0.5s						
KKN	**Kakani**	**14.74**	**125**	*e*P	**P**	**21 34 33.9**	**+0.7**
	3.3nm,0.4s						
DMN	**Daman**	**14.75**	**126**	*e*P	**P**	**21 34 32.4**	**-0.9**
	6.3nm,0.5s						
AB31	**Akbulak array**	**14.88**	**329**	P	**P**	**21 34 36.9**	**+2.1**
	0.2nm,0.3s,baz=148,slow=12,SNR=9.7						
AB31				S	**S**	**21 37 13.4**	**-0.9**
	0.8nm,0.5s,baz=148,slow=22,SNR=7.7						
JIRN	**Jiri**	**15.43**	**123**	*e*P	**P**	**21 34 42.7**	**+0.9**
	7.2nm,0.4s						
AKTO	**Aktyubinsk**	**16.58**	**328**	P	**P**	**21 34 54.6**	**-1.0**

*IDC **10** 21:43:17.8±4.8, 12.02S×167.31E, h299km±46km, mb3.6/6, mb1 3.7/7, mb1mx3.5/15, mbtmp4.2/7, Error ellipse: s-maj=30.4km s-min=26.4km az=169.0*

*NEIC **10** 21:43:18.0±2.7, 12.03S×167.31E, h302km±25km, mb4.3/2, Error ellipse: s-maj=22.4km s-min=19.0km az=183.0*

ISC 10 21:43:17.8±3.4, 12.1S±0.2×167.2E±0.2, h311km±32km, n16, σ0§59/13, mb3.9/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.96**	**184**	P	**P**	**21 45 36.4**	**+0.1**
	1.5nm,0.3s,baz=42,slow=17,SNR=42						
STKA	**Stephens Creek**	**30.74**	**226**	*e*P	**P**	**21 49 07.6**	**+0.8**
	6.6nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**30.74**	**226**	P	**P**	**21 49 07.2**	**+0.3**
	7.9nm,0.7s,mb4.4,baz=53,slow=8.5,SNR=16						
WB2	**Warramunga Arr**	**32.52**	**252**	*e*P	**P**	**21 49 21.4**	**-0.8**
WRA	**Warramunga Arr**	**32.53**	**252**	P	**P**	**21 49 21.5**	**-0.8**
	1.4nm,0.4s,mb3.8,baz=84,slow=8.7,SNR=36						
FITZ	**Fitzroy Crossi**	**40.54**	**256**	P	**P**	**21 50 30.0**	**+0.9**
	1.8nm,0.4s,mb3.6,baz=65,slow=7.1,SNR=5.5						
VNDA	**Vanda**	**65.49**	**181**	P	**P**	**21 53 29.2**	**-0.2**
	1.4nm,1.0s,mb3.5,baz=22,slow=5.4,SNR=6.5						
VNDA	**Vanda**	**65.49**	**181**	P	**P**	**21 53 29.2**	**-0.2**
QSPA	**South Pole Qui**	**77.93**	**180**	*e*P	**P**	**21 54 42.7**	**0.0**
	4.7nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**84.04**	**18**	P	**P**	**21 55 14.2**	**-0.4**
	1.3nm,0.6s,mb3.9,baz=257,slow=4.9,SNR=9.8						
QLMT	**Earthquake Lak**	**92.36**	**45**	*e*P	**P**	**21 55 48.3**	**-6.3**
MKAR	**Makanchi Array**	**95.28**	**317**	P	**P**	**21 56 08.5**	**+0.7**
	0.3nm,0.6s,mb3.6,baz=84,slow=7.1,SNR=6.4						
MKAR	**Makanchi Array**	**95.28**	**317**	P	**P**	**21 56 08.5**	**+0.7**
ARCES	**ARCESS Array B**	**117.70**	**346**	PKP	PKPdf	22 01 27.9	+1.2
	1.3nm,0.8s,baz=63,slow=2.0,SNR=6.8						
FINES	**FINESS Array B**	**123.27**	**339**	PKP	PKPdf	22 01 38.3	+0.6
	3.1nm,1.1s,baz=90,slow=4.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**165.85**	**276**	PKPab	PKPab	22 03 49.3	-0.3
	0.9nm,1.1s,slow=2.9,SNR=3.1						

*IDC **10** 21:56:22.1±2.7, 10.09S×161.28E, h108km±17km, mb3.6/4, mb1 3.9/5, mb1mx3.6/13, mbtmp4.0/5, Error ellipse: s-maj=37.7km s-min=23.3km az=66.0*

*NEIC **10** 21:56:22.0±1.7, 10.08S×161.26E, h106km±14km, Error ellipse: s-maj=37.2km s-min=15.4km az=59.0*

ISC 10 21:56:21.4±1.8, 10.1S±0.2×161.2E±0.2, h115km±12km, n7, σ0§87/10, mb3.8/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.41**	**298**	P	**P**	**21 56 47.8**	**-0.1**
	109nm,0.3s,baz=163,slow=7.8,SNR=30						
HNR				S	**S**	**21 57 08.3**	**+0.4**
	174nm,0.3s,baz=166,slow=23,SNR=50						
HNR	**Honiara**	**1.41**	**298**	*e*Pn	**P**	**21 56 48.0**	**+0.1**
HNR				*e*Sn	**S**	**21 57 07.4**	**-0.5**
HNR				S	**S**	**21 57 08.3**	**+0.4**
DZM	**Mont Dzumac**	**12.92**	**158**	P	**P**	**21 59 21.8**	**0.0**
	0.8nm,0.3s,baz=341,slow=22,SNR=27						
WRA	**Warramunga Arr**	**27.70**	**246**	P	**P**	**22 02 00.7**	**-0.4**
	2.7nm,0.5s,mb4.0,baz=75,slow=9.1,SNR=39						
WRA				pP	pP	22 02 24.6	-1.4
	2.3nm,0.8s,baz=74,slow=9.3,SNR=9.5						
MJAR	**Matsushiro Arr**	**51.19**	**336**	P	**P**	**22 05 13.4**	**-1.7**
	1.4nm,0.6s,mb4.2,baz=165,slow=7.8,SNR=4.8						
SONM	**Songino Array**	**75.31**	**325**	P	**P**	**22 07 55.1**	**+1.4**
	0.7nm,0.8s,mb3.5,baz=142,slow=6.1,SNR=5.0						
MKAR	**Makanchi Array**	**89.80**	**318**	P	**P**	**22 09 08.7**	**+0.5**
	0.2nm,0.4s,mb3.6,baz=96,slow=7.4,SNR=6.8						

*IDC **10** 21:59:18.9±4.8, 9.06S×75.56W, h40km±42km, mb3.5/6, mb1 3.8/8, mb1mx3.7/18, mbtmp3.8/8, ML3.6/2, Error ellipse: s-maj=43.4km s-min=23.7km az=59.0*

*NEIC **10** 21:59:19.9±1.5, 8.95S×75.28W, h49km±16km, mb4.1/2, Error ellipse: s-maj=26.0km s-min=11.3km az=54.0*

ISC 10 21:59:16.7±2.2, 9.0S±0.1×75.36W±0.10, h40km±21km, n18, σ0§96/15, mb3.8/7, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**9.67**	**341**	*e*Pn	**P**	**22 01 36.7**	**+0.3**
	4.3nm,0.8s						
LPAZ	**La Paz**	**10.11**	**137**	P	**P**	**22 01 42.9**	**+0.4**
	0.1nm,0.3s,baz=312,slow=12,SNR=7.4						
LPAZ				Lg		22 04 42.5	
	0.6nm,0.3s,baz=227,slow=19,SNR=3.4						
LPAZ	**La Paz**	**10.11**	**137**	*e*Pn	**P**	**22 01 43.2**	**+0.7**
	9.4nm,0.8s						
SAML	**Samuel**	**12.03**	**91**	*e*P	**P**	**22 02 07.2**	**-1.3**
	33nm,0.6s						
SAML				*e*Sn	**S**	**22 04 22.1**	**-0.2**
ROSC	**El Rosal**	**13.79**	**4**	Lg		22 06 47.3	
	1.6nm,0.3s,baz=270,slow=20,SNR=2.7						
SDV	**Santo Domingo**	**18.37**	**15**	P	**P**	**22 03 33.7**	**+3.3**
	0.5nm,0.3s,baz=248,slow=10,SNR=5.5						
SDV	**Santo Domingo**	**18.37**	**15**	*e*P	**P**	**22 03 31.1**	**+0.7**
	9.6nm,1.2s						
RCBR	**Riachuelo**	**39.24**	**88**	*e*P	**P**	**22 06 47.5**	**+4.2**
TXAR	**Lajitas Array**	**46.86**	**325**	P	**P**	**22 07 45.1**	**+0.1**
	0.5nm,0.7s,mb3.6,baz=146,slow=9.0,SNR=6.9						
TXAR				PcP	PcP	22 09 18.4	+0.5
	0.6nm,0.8s,baz=149,slow=5.3,SNR=5.5						
SDCO	**Great Sand Dun**	**54.37**	**331**	*e*P	**P**	**22 08 42.2**	**+0.2**
	3.5nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**60.22**	**332**	P	**P**	**22 09 23.5**	**+0.1**
	0.6nm,1.0s,mb3.6,baz=162,slow=5.7,SNR=3.2						
ULM	**Lac du Bonnet**	**61.65**	**345**	P	**P**	**22 09 32.0**	**-0.8**
	2.0nm,0.6s,mb4.5,baz=158,slow=8.4,SNR=5.5						
NVAR	**Mina Array Bea**	**61.85**	**323**	P	**P**	**22 09 32.1**	**-2.2**
	0.4nm,0.7s,mb3.6,baz=126,slow=5.9,SNR=3.7						
YKA	**Yellowknife Ar**	**77.43**	**342**	P	**P**	**22 11 09.6**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=136,slow=6.0,SNR=7.0						
TORD	**Torodi Ar. Bea**	**79.60**	**75**	P	**P**	**22 11 23.4**	**+1.4**
	1.1nm,0.8s,mb3.9,baz=262,slow=3.4,SNR=7.5						
STKA	**Stephens Creek**	**126.16**	**219**	PKP	PKPdf	22 18 17.4	+1.8
	1.4nm,0.5s,baz=225,slow=1.4,SNR=4.4						
WRA	**Warramunga Arr**	**139.00**	**225**	PKP	PKPdf	22 18 41.5	+1.5
	1.1nm,0.4s,baz=126,slow=1.8,SNR=26						
FITZ	**Fitzroy Crossi**	**146.02**	**218**	PKPbc	PKPbc	22 18 54.6	+1.1
	1.8nm,0.7s,baz=216,slow=9.9,SNR=4.1						

*IDC **10** 22:03:16.4±1.0, 16.37S×177.55W, mb3.8/6, mb1 4.1/7, mb1mx4.0/14, mbtmp3.9/7, ML2.4/1, MS4.1/16, Ms1 4.1/16, ms1mx3.9/28, Error ellipse: s-maj=48.2km s-min=22.7km az=136.0*

*NEIC **10** 22:03:18.1±0.8, 16.39S×177.54W, h10km, mb4.6/2, Error ellipse: s-maj=32.7km s-min=15.6km az=137.0*

ISC 10 22:03:19.8±0.8, 16.4S±0.2×177.7W±0.2, h33km, n27, σ1§19/10, mb4.0/8, MS4.2/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.20**	**67**	LR	LR	22 06 44.2	
	comp=Z,944nm,21.3s,baz=255,slow=34						
RAO	**Raoul Island**	**12.81**	**181**	LR	LR	22 10 31.0	
	comp=Z,667nm,21.5s,baz=48,slow=34						
DZM	**Mont Dzumac**	**16.02**	**247**	Pn	**P**	**22 07 04.6**	**+0.2**
	0.0nm,0.3s,baz=262,slow=9.0,SNR=2.6						
DZM				LR	LR	22 11 42.4	
	comp=Z,188nm,21.8s,baz=24,slow=31						
RAR	**Rarotonga**	**17.61**	**109**	LR	LR	22 12 29.0	
	comp=Z,529nm,18.1s,baz=296,slow=32						
URZ	**Urwera**	**22.27**	**191**	P	**P**	**22 08 14.6**	**-0.9**
	18nm,1.1s,mb4.4,baz=27,slow=4.5,SNR=4.3						
URZ				LR	LR	22 15 33.7	
	comp=Z,515nm,19.0s,MS4.0,baz=62,slow=33						
HNR	**Honiara**	**22.87**	**285**	LR	LR	22 15 51.0	
	comp=Z,1µm,19.3s,MS4.4,baz=136,slow=33						
PPT	**Papeete**	**26.89**	**97**	*e*LR	LR	22 15 27.4	
	848nm,27.5s						
TBI	**Tubuai**	**27.39**	**109**	*e*LR	LR	22 15 44.4	
	1µm,29.0s						
CTAO	**Charters Tower**	**34.42**	**258**	*e*P	**P**	**22 10 04.4**	**-2.0**
	15nm,1.4s,mb4.7						
STKA	**Stephens Creek**	**39.99**	**240**	P	**P**	**22 10 54.7**	**+1.6**
	1.8nm,0.9s,mb3.8,baz=54,slow=8.3,SNR=2.6						
STKA	**Stephens Creek**	**39.99**	**240**	*e*P	**P**	**22 10 56.1**	**+3.0**
WRA	**Warramunga Arr**	**45.62**	**258**	P	**P**	**22 11 40.1**	**+0.9**
	1.6nm,1.0s,mb3.9,baz=90,slow=6.5,SNR=5.1						
FITZ	**Fitzroy Crossi**	**53.99**	**259**	LR	LR	22 32 58.4	
	comp=Z,198nm,21.5s,MS4.1,baz=96,slow=33						
CBIJ	**Chichi jima**	**58.19**	**317**	LR	LR	22 35 36.3	
	comp=Z,83nm,21.2s,MS3.8,baz=11,slow=33						
VNDA	**Vanda**	**62.01**	**185**	LR	LR	22 36 08.8	
	comp=Z,85nm,19.9s,MS3.9,baz=197,slow=32						
MJAR	**Matsushiro Arr**	**67.12**	**323**	LR	LR	22 37 43.4	
	comp=Z,114nm,19.6s,MS4.1,baz=220,slow=31						
NVAR	**Mina Array Bea**	**77.84**	**44**	P	**P**	**22 15 15.4**	**-0.5**
	0.1nm,0.3s,mb3.2,baz=248,slow=4.9,SNR=2.8						
TNA	**Tin City**	**82.03**	**4**	*e*P	**P**	**22 15 36.9**	**-0.9**
	4.6nm,1.1s,mb4.3						
ILAR	**Eielson Array**	**84.25**	**13**	P	**P**	**22 15 48.9**	**-0.2**
	1.7nm,0.9s,mb4.2,baz=229,slow=6.8,SNR=8.2						
ILAR				LR	LR	22 48 01.1	
	comp=Z,100nm,18.9s,MS4.2,baz=180,slow=32						
TXAR	**Lajitas Array**	**84.59**	**57**	P	**P**	**22 15 53.3**	**+1.7**
	0.5nm,0.9s,mb3.7,baz=252,slow=4.0,SNR=4.6						
TXAR				LR	LR	22 46 58.6	
	comp=Z,75nm,18.6s,MS4.1,baz=285,slow=31						
PDAR	**Pinedale Array**	**85.77**	**43**	LR	LR	22 49 03.1	
	comp=Z,148nm,21.1s,MS4.3,baz=162,slow=32						
PLCA	**Paso Flores**	**91.86**	**133**	LR	LR	22 48 22.5	
	comp=Z,72nm,19.5s,MS4.1,baz=190,slow=30						
YKA	**Yellowknife Ar**	**92.66**	**24**	LR	LR	22 49 23.1	
	comp=Z,281nm,21.7s,MS4.7,baz=245,slow=30						
ULM	**Lac du Bonnet**	**97.30**	**40**	LR	LR	22 55 52.2	
	comp=Z,86nm,18.4s,MS4.3,baz=352,slow=32						
BRTR	**Keskin Array B**	**144.19**	**317**	PKP	PKPdf	22 22 53.0	+0.5
	2.9nm,0.9s,baz=135,slow=1.7,SNR=7.9						
KHC	**Kasperske Hory**	**146.08**	**347**	*e*PKP	PKPdf	22 23 00.0	+4.5
GERES	**GERESS Array B**	**146.32**	**346**	PKPbc	PKPbc	22 22 57.5	+0.5
	0.8nm,0.8s,baz=27,slow=3.0,SNR=5.7						

*IDC **10** 22:06:34.3±2.3, 47.92N×147.11E, h413km±36km, mb3.1/6, mb1 3.2/8, mb1mx3.0/22, mbtmp3.8/8, Error ellipse: s-maj=41.8km s-min=18.9km az=174.0*

*JMA **10** 22:06:34.6±0.5, 47.28N×147.78E, h417km, M3.5*

*MOS **10** 22:06:34.6±1.2, 47.78N×146.80E, h435km, mb4.5/1, Error ellipse: s-maj=44.8km s-min=16.9km az=68.7*

*NEIC **10** 22:06:35.5±0.9, 47.72N×147.07E, h439km±12km, MG3.5(JMA), Error ellipse: s-maj=23.2km s-min=13.5km az=135.0*

ISC 10 22:06:33.4±0.6, 47.4N±0.1×147.2E±0.2, h447km±10km, n27, σ1§27/34, mb3.4/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**3.04**	**264**	*e*PN	**P**	**22 07 41.2**	**+0.2**
JRA	**Rausu**	**3.70**	**204**	P	**P**	**22 07 46.9**	**+0.5**
JTKR	**Abashiri--Toko**	**4.08**	**215**	P	**P**	**22 07 50.8**	**+1.1**
NEM2	**Nemuro 2**	**4.11**	**195**	P	**P**	**22 07 49.2**	**-0.7**
NEM2				*e*S	**S**	**22 08 48.3**	**-2.0**
JNK	**Nakash**	**4.14**	**206**	P	**P**	**22 07 50.8**	**+0.6**
JMP	**Maruseppu**	**4.28**	**220**	P	**P**	**22 07 52.8**	**+1.3**
ASAJ	**Asahikawa**	**4.55**	**226**	P	**P**	**22 07 56.2**	**+2.2**
	0.8nm,0.3s,baz=27,slow=18,SNR=6.8						
ASAJ	**Asahikawa**	**4.55**	**226**	P	**P**	**22 07 56.1**	**+2.0**
ASAJ	**Asahikawa**	**4.55**	**226**	PN	**P**	**22 07 56.3**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JAK	**Akkeshi**	**4.69**	**203**	P	**P**	**22 07 55.2**	**-0.2**
JAK				*e*S	**S**	**22 08 58.8**	**-1.2**
JAR	**Ashorobuto**	**4.71**	**212**	P	**P**	**22 07 57.2**	**+1.6**
JFR	**Furan**	**5.29**	**219**	P	**P**	**22 08 03.3**	**+2.1**
JCH	**Churui**	**5.45**	**211**	P	**P**	**22 08 02.5**	**-0.4**
JCH				*e*S	**S**	**22 09 11.9**	**-1.5**
JNBK	**Urakawa-nobuka**	**5.96**	**213**	P	**P**	**22 08 08.2**	**+0.1**
JNBK				*e*S	**S**	**22 09 22.3**	**-0.5**
JKB	**Kayabe**	**7.00**	**221**	P	**P**	**22 08 20.2**	**+1.1**
JKB				*e*S	**S**	**22 09 41.8**	**-0.8**
JOT	**Ohata**	**7.40**	**219**	P	**P**	**22 08 24.4**	**+0.9**
JOT				*e*S	**S**	**22 09 48.8**	**-1.7**
JANG	**Nango**	**8.08**	**212**	P	**P**	**22 08 32.3**	**+1.4**
JANG				*e*S	**S**	**22 10 03.2**	**-0.7**
MA2	**Magadan**	**12.44**	**9**	PN	**P**	**22 09 16.3**	**-2.4**
MDJ	**Mudanjiang**	**12.53**	**264**	*e*P	**P**	**22 09 19.9**	**+0.1**
MJAR	**Matsushiro Arr**	**12.68**	**215**	P	**P**	**22 09 25.5**	**+4.0**
	comp=Z,0.6nm,0.3s,baz=17,slow=14,SNR=5.9						
ILAR	**Eielson Array**	**38.62**	**39**	P	**P**	**22 13 16.1**	**-1.3**
	comp=Z,0.7nm,0.5s,mb3.3,baz=253,slow=5.9,SNR=8.8						
MKAR	**Makanchi Array**	**43.03**	**294**	P	**P**	**22 13 53.1**	**+0.2**
	comp=Z,1.3nm,0.5s,mb3.6,baz=68,slow=7.2,SNR=40						
YKA	**Yellowknife Ar**	**52.83**	**35**	P	**P**	**22 15 05.4**	**-1.6**
	comp=Z,0.2nm,0.5s,mb2.7,baz=302,slow=7.0,SNR=4.7						
YKA	**Yellowknife Ar**	**52.83**	**35**	P	**P**	**22 15 05.5**	**-1.5**
FINES	**FINESS Array B**	**61.69**	**332**	P	**P**	**22 16 06.0**	**-1.8**
	comp=Z,2.0nm,0.9s,mb3.5,baz=27,slow=8.5,SNR=4.7						
PDAR	**Pinedale Array**	**67.60**	**51**	P	**P**	**22 16 46.4**	**+1.1**
	comp=Z,1.7nm,0.6s,mb3.8,baz=311,slow=1.0,SNR=7.4						
TXAR	**Lajitas Array**	**80.65**	**57**	P	**P**	**22 18 01.3**	**+2.0**
	comp=Z,0.7nm,0.5s,mb3.4,baz=290,slow=3.5,SNR=15						

*IDC **10** 22:06:52.9±1.7, 4.55N×125.36E, mb4.0/4, mb1 4.2/4, mb1mx3.7/17, mbtmp4.0/4, Error ellipse: s-maj=118.7km s-min=22.7km az=67.0*

*NEIC **10** 22:06:58.4±0.9, 4.28N×124.84E, h30km, Error ellipse: s-maj=45.6km s-min=13.7km az=87.0*

*MAN **10** 22:07:00.9, 4.80N×124.79E, h43km, mb4.2, ML3.0, MS2.7*

ISC 10 22:06:56.3±0.8, 4.36N±0.07×124.7E±0.1, h33km, n12, σ1§29/13, mb3.9/4, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.74**	**9**	*i*P	**P**	**22 07 25.0**	**+0.4**
DAV	**Davao City (W)**	**2.84**	**19**	*e*P	**P**	**22 07 42.7**	**+2.3**
MATI	**Mati**	**3.02**	**32**	*e*P	**P**	**22 07 40.8**	**-2.1**
BUKP	**Musuan**	**3.52**	**6**	*e*P	**P**	**22 07 50.4**	**+0.4**
PAGZ	**Pagadian**	**3.69**	**340**	*e*P	**P**	**22 07 52.1**	**-0.4**
IPIL	**Ipil**	**3.99**	**329**	*e*P	**P**	**22 07 57.2**	**+0.5**
IPIL				*e*S	**S**	**22 08 40.3**	**-2.7**
DCPH	**Dipolog City**	**4.39**	**343**	*i*P	**P**	**22 08 02.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**22.34**	**178**	P	**P**	**22 11 54.4**	**+1.5**
	1.5nm,0.7s,mb3.6,baz=3.4,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**25.95**	**159**	P	**P**	**22 12 26.7**	**-1.2**
	1.7nm,0.4s,mb3.9,baz=340,slow=9.8,SNR=20						
WB2	**Warramunga Arr**	**25.96**	**159**	*e*P	**P**	**22 12 18.4**	**-9.5**
STKA	**Stephens Creek**	**39.48**	**157**	P	**P**	**22 14 24.2**	**-1.2**
	2.4nm,0.8s,mb4.0,baz=326,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**55.87**	**326**	P	**P**	**22 16 34.0**	**+0.9**
	1.7nm,0.6s,mb4.3,baz=121,slow=7.8,SNR=27						

IDC 10 22:25:05.5±7.3, 24.05S×179.59E, h569km±82km, mb3.0/3, mb1 3.3/4, mb1mx3.1/12, mbtmp4.0/4, Error ellipse: s-maj=117.2km s-min=38.3km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.26**	**277**	P	P	22 27 47.0	0.0
	0.2nm,0.3s,baz=91,slow=16,SNR=6.1						
STKA	**Stephens Creek**	**34.32**	**248**	P	P	22 31 05.3	-1.3
	1.7nm,0.8s,baz=82,slow=7.1,SNR=4.6						
WB2	**Warramunga Arr**	**42.01**	**266**	*e*P	P	22 32 07.8	-1.4
WRA	**Warramunga Arr**	**42.02**	**266**	P	P	22 32 07.9	-1.4
	1.1nm,0.3s,baz=104,slow=8.2,SNR=52						
TXAR	**Lajitas Array**	**90.83**	**58**	P	P	22 37 08.9	-0.9
	0.3nm,0.7s,baz=207,slow=5.6,SNR=4.5						

*NEIC **10** 22:49:29.6±0.5, 43.70N×105.21W, ML3.1, Error ellipse: s-maj=7.7km s-min=5.1km az=127.0, Suspected Mining explosion.*

NEIC 70 km [40 miles] SSE of Gillette.

*IDC **10** 22:49:32.5±2.0, 43.99N×105.77W, h15km±17km, mb1 3.5/3, mb1mx3.2/23, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=23.9km s-min=9.8km az=143.0*

ISC 10 22:49:27.8±0.6, 43.72N±0.05×105.18W±0.08, n22, σ1§03/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**64**	*e*P	**Pg**	**22 49 48.9**	**+2.7**
PHWY	**Pilot Hill**	**2.43**	**185**	*e*P	**Pn**	**22 50 10.3**	**+1.0**
RWWY	**Rawlins**	**2.52**	**217**	*e*P	**Pn**	**22 50 12.4**	**+1.7**
LAO	**LASA Array**	**3.06**	**346**	P	**Pn**	**22 50 17.8**	**-0.6**
PDAR	**Pinedale Array**	**3.34**	**255**	Pn	**Pn**	**22 50 23.1**	**+0.8**
	1.5nm,0.3s,baz=73,slow=14,SNR=19						
PDAR				Pg	**Pg**	**22 50 29.3**	**-5.2**
	6.0nm,0.3s,baz=72,slow=20,SNR=27						
PDAR				Lg		22 51 08.2	
	9.7nm,0.3s,baz=68,slow=32,SNR=12						
GCMT	**Greycliff**	**3.81**	**304**	P	**Pn**	**22 50 29.7**	**+0.7**
ISCO	**Idaho Springs**	**3.93**	**185**	P	**Pn**	**22 50 30.4**	**-0.4**
LOHW	**Long Hollow**	**3.94**	**270**	P	**Pn**	**22 50 31.6**	**+0.7**
MOOW	**Moose Ponds**	**4.03**	**272**	*e*P	**Pn**	**22 50 32.5**	**+0.3**
IMW	**Indian Meadow**	**4.17**	**274**	*e*P	**Pn**	**22 50 34.6**	**+0.4**
RRI2	**Red Ridge**	**4.48**	**267**	*e*P	**Pn**	**22 50 38.8**	**+0.3**
DGMT	**Dagmar**	**4.80**	**8**	P	**Pn**	**22 50 41.4**	**-1.7**
HWUT	**Hardware Ranch**	**5.16**	**248**	*e*P	**Pn**	**22 50 47.6**	**-0.5**
DAU	**Daniels Canyon**	**5.60**	**236**	*e*P	**Pn**	**22 50 53.7**	**-0.7**
SRU	**San Rafael**	**6.11**	**223**	*e*P	**Pn**	**22 51 00.2**	**-1.4**
PV01	**Paradox Valley**	**6.14**	**206**	P	**Pn**	**22 51 00.7**	**-1.3**
TMUT	**Trail Mountain**	**6.33**	**228**	*e*P	**Pn**	**22 51 04.1**	**-0.5**
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**P**	**22 51 42.4**	**-1.2**
	0.8nm,0.3s,baz=236,slow=11,SNR=14						
ULM				Lg		22 54 18.3	
	0.1nm,0.3s,baz=346,slow=14,SNR=3.6						
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**P**	**22 51 42.4**	**-1.2**
ULM				Lg		22 54 18.3	
TXAR	**Lajitas Array**	**14.41**	**175**	Pn	**P**	**22 53 01.9**	**+6.8**
	0.0nm,0.3s,baz=340,slow=11,SNR=2.1						
TXAR				Lg		22 57 08.7	
	0.0nm,0.3s,slow=20,SNR=4.4						
YKA	**Yellowknife Ar**	**19.60**	**347**	P	**P**	**22 54 00.7**	**+0.6**
	0.0nm,0.3s,baz=160,slow=12,SNR=6.3						
YKA	**Yellowknife Ar**	**19.60**	**347**	P	**P**	**22 54 00.7**	**+0.6**

*NEIC **10** 23:21:29.9, 56.84N×5.22W, h8km, ML3.0(BGS), After BGS.*

NEIC Felt [IV] at Fort William.

*CSEM **10** 23:21:29.9, 56.84N×5.22W, h4km, ML3.0, After BGS*

*BER **10** 23:21:30.4±1.8, 56.82N×5.33W, h12km, ML2.8, ML3.0(BGS)*

BGS 10 23:21:29.9±0.8, 56.84N×5.22W, h8km±32km, ML3.0, 5C-4D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAR1	**Arisaig**	**0.34**	**284**	*i*P	Pg	23 21 36.6	-0.3
KSB	**Sheil Bridge**	**0.39**	**344**	*i*P	Pg	23 21 37.4	-0.3
KPL	**Plockton**	**0.55**	**335**	*i*P	Pg	23 21 40.3	-0.8
KPL				*e*S	Sg	23 21 47.5	-1.0
KPL				AML	AML	23 21 48.5	
	comp=E,331nm,0.1s						
KPL				AML	AML	23 21 51.5	
	comp=N,380nm,0.1s						
KPL	**Plockton**	**0.55**	**335**	*i*P	Pg	23 21 40.3	-0.7
	SNR=66						
KPL				*e*S	Sg	23 21 47.5	-1.0
	comp=N,380nm,0.1s,SNR=66						
KAC	**Achnashellach**	**0.66**	**357**	*e*P	Pg	23 21 42.5	-0.7
KAC	**Achnashellach**	**0.66**	**357**	*e*P	Pg	23 21 42.3	-0.9
MDO	**Dochfour**	**0.77**	**38**	*e*P	Pb	23 21 43.8	-1.3
EAB	**Aberfo

Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.19**	**180**	P	**P**	**23 52 53.5**	**+0.5**
JCN				S	**S**	**23 53 02.0**	**+0.9**
TOK	**Tokyo**	**0.37**	**283**	P	**P**	**23 52 54.3**	**+0.1**
JYT	**Yasato**	**0.62**	**359**	P	**P**	**23 52 55.8**	**-0.8**
JYT				S	**S**	**23 53 05.0**	**-2.2**
BSO3	**Boso 3**	**0.84**	**162**	P	**P**	**23 52 59.1**	**0.0**
BSO3				S	**S**	**23 53 13.3**	**+1.7**
JOD2	**Odawara 2**	**0.97**	**250**	P	**P**	**23 53 00.6**	**-0.1**
JOD2				S	**S**	**23 53 13.5**	**-1.0**
JAG	**Ashikaga**	**1.02**	**324**	P	**P**	**23 53 01.0**	**-0.3**
JIM2	**Oshima 3**	**1.09**	**216**	P	**P**	**23 53 01.9**	**-0.3**
JIM2				S	**S**	**23 53 16.0**	**-1.1**
JRY	**Ryogami san**	**1.13**	**292**	P	**P**	**23 53 03.2**	**+0.4**
JYN	**Shimob**	**1.36**	**266**	P	**P**	**23 53 05.8**	**-0.1**
JKT	**Katashina**	**1.39**	**327**	P	**P**	**23 53 06.0**	**-0.3**
JIZS	**Izushimoda**	**1.40**	**231**	P	**P**	**23 53 06.0**	**-0.5**
MJAR	**Matsushiro Arr**	**1.86**	**301**	P	**P**	**23 53 13.1**	**+0.5**
	16nm,0.3s,baz=131,slow=14,SNR=102						
MJAR				S	**S**	**23 53 36.0**	**+0.8**
	9.4nm,0.3s,baz=114,slow=15,SNR=9.8						
MAJO	**Matsushiro**	**1.87**	**301**	*e*Pn	**P**	**23 53 13.3**	**+0.6**
MAT	**Matsushiro**	**1.87**	**301**	P	**P**	**23 53 13.1**	**+0.4**
MAT				S	**S**	**23 53 36.1**	**+0.9**
MAT	**Matsushiro**	**1.87**	**301**	*e*P	**P**	**23 53 13.0**	**+0.3**
MAT				*e*S	**S**	**23 53 36.0**	**+0.8**
JHJ	**Hachijo jima 2**	**2.50**	**188**	P	**P**	**23 53 22.4**	**+0.7**
	27nm,0.3s,baz=54,slow=15,SNR=6.3						
JHJ				S	**S**	**23 53 50.2**	**-0.8**
	38nm,0.3s,baz=61,slow=23,SNR=8.1						
CBIJ	**Chichi jima**	**8.65**	**168**	P	**P**	**23 54 42.8**	**-4.0**
	11nm,0.3s,baz=280,slow=16,SNR=5.4						
MKAR	**Makanchi Array**	**44.06**	**303**	P	**P**	**00 00 44.6**	**+0.2**
	0.9nm,0.8s,mb3.6,baz=88,slow=9.3,SNR=7.6						
WRA	**Warramunga Arr**	**55.52**	**187**	P	**P**	**00 02 11.7**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=1.3,slow=7.7,SNR=16						
AKASG	**Malin Array Be**	**74.82**	**322**	P	**P**	**00 04 16.2**	**+0.1**
	0.1nm,0.3s,mb3.1,baz=46,slow=6.1,SNR=5.2						
AKASG	**Malin Array Be**	**74.82**	**322**	P	**P**	**00 04 16.2**	**+0.1**

*WAR **10** 23:55:59.51.58N×15.99E,ML2.6,Mining Induced*
*PRU **10** 23:55:59.3,51.53N×16.00E*
ISC 10 23:55:57.2±0.9,51.52N±0.05×15.97E±0.05,n12,σ1§38/26,2C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**163**	*e*PG	**Pg**	**23 56 13.0**	**+1.7**
KSP				*e*SG	**Sg**	**23 56 23.0**	**+2.2**
UPC	**Upice**	**1.01**	**178**	*e*PG	**Pg**	**23 56 18.8**	**+1.4**
DPC	**Dobruska-Polom**	**1.19**	**169**	*e*PG	**Pg**	**23 56 21.8**	**+0.8**
DPC				*e*SG	**Sg**	**23 56 38.4**	**+1.5**
	12nm,0.4s						
PVCC	**Panska Ves**	**1.33**	**222**	*e*PG	**Pg**	**23 56 24.9**	**+1.2**
PRU	**Pruhonice**	**1.78**	**211**	*e*PN	**Pn**	**23 56 30.5**	**+1.0**
PRU				*e*PG	**Pg**	**23 56 32.3**	**-0.5**
PRU				*e*SG	**Sg**	**23 56 55.4**	**-1.1**
	15nm,0.4s						
CLL	**Collm**	**1.87**	**265**	*i* PN	**Pn**	**23 56 30.7**	**0.0**
CLL				*e*PG	**Pg**	**23 56 34.0**	**-0.5**
CLL				*i*		23 56 37.6	
CLL				*i* SG	**Sg**	**23 56 58.5**	**-1.0**
OKC	**Ostrava-Krasne**	**2.18**	**140**	*e*PG	**Pg**	**23 56 39.6**	**-1.1**
OKC				*e*SG	**Sg**	**23 57 07.2**	**-2.6**
	21nm,0.8s						
TREC	**Trest**	**2.25**	**188**	*e*PN	**Pn**	**23 56 38.1**	**+1.9**
NKC	**Novy Kostel**	**2.58**	**241**	*e*PN	**Pn**	**23 56 42.1**	**+1.3**
NKC				*e*PG	**Pg**	**23 56 48.5**	**-0.1**
NKC				*e*SG	**Sg**	**23 57 22.1**	**-0.9**
	16nm,0.3s						
OJC	**Ojcow**	**2.75**	**117**	*e*PG	**Pg**	**23 56 50.0**	**-2.1**
OJC				*e*SG	**Sg**	**23 57 27.0**	**-1.8**
KHC	**Kasperske Hory**	**2.84**	**214**	*e*PN	**Pn**	**23 56 45.9**	**+1.3**
KHC				*e*PG	**Pg**	**23 56 50.7**	**-3.2**
KHC				*e*SN	**Sn**	**23 57 20.6**	**+0.5**
KHC				*e*SG	**Sg**	**23 57 30.1**	**-1.7**
MOA	**Molln**	**3.84**	**197**	⇑*i*Pn	**Pn**	**23 56 59.5**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**23 58 03.0**	**-1.9**
	comp=E,2.6nm,0.3s						

IDC 11 00:08:54.0±3.7,16.55S×177.19W,mb4.1/2,mb1 4.3/2,mb1mx3.7/14,mbtmp4.1/2,Error ellipse: s-maj=179.9km s-min=44.2km az=140.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.31**	**240**	P	P	00 16 33.4	-1.4
	2.5nm,0.5s,baz=78,slow=7.7,SNR=7.1						
WB2	**Warramunga Arr**	**46.02**	**258**	*e*P	P	00 17 19.6	-1.8
WRA	**Warramunga Arr**	**46.03**	**258**	P	P	00 17 19.5	-2.0
	0.9nm,0.5s,baz=93,slow=7.0,SNR=56						
KAKA	**Kakadu**	**48.79**	**267**	*e*P	P	00 18 04.8	+22
	1.7nm,0.3s						
BRTR	**Keskin Array B**	**144.62**	**317**	PKP	PKPdf	00 28 30.4	-4.2
	1.4nm,1.0s,baz=45,slow=1.7,SNR=4.0						
GERES	**GERESS Array B**	**146.58**	**347**	PKPbc	PKPbc	00 28 37.7	+0.5
	0.6nm,0.5s,baz=18,slow=3.4,SNR=6.5						

*CSEM **11** 00:10:16.3±1.1,38.70N×29.03W,h5km±5km,ML2.1,Error ellipse: s-maj=11.6km s-min=5.7km az=40.0,After PDA*
*PDA **11** 00:10:16.3±1.1,38.70N×29.03W,h5km±5km,MD3.1,ML2.1,Error ellipse: s-maj=11.6km s-min=5.7km az=40.0*
SVSA 11 00:10:16.3±1.1,38.70N×29.03W,h5km±5km,MD3.1,ML2.1,Error ellipse: s-maj=11.6km s-min=5.7km az=40.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.22**	**122**	*e*P	Pg	00 10 21.3	+0.6
PTCA				*e*S	Sg	00 10 24.6	+1.0
	92nm,0.1s						
PTCA	**Ponta do Capel**	**0.22**	**122**	*e*P	Pg	00 10 21.3	+0.6
PTCA				*e*S	Sg	00 10 24.6	+1.0
	92nm,0.1s						
PCED	**Cedros**	**0.27**	**105**	*i* P	Pg	00 10 21.4	-0.3
PCED				*i* S	Sg	00 10 24.8	-0.5
	124nm,0.2s						
PCED	**Cedros**	**0.27**	**105**	*i* S	Sg	00 10 24.8	-0.5
	124nm,0.2s						
CALA	**Caldeira**	**0.28**	**114**	*i* P	Pg	00 10 21.4	-0.6
CALA				*e*S	Sg	00 10 25.4	-0.4
CALA	**Caldeira**	**0.28**	**114**	*e*S	Sg	00 10 25.4	-0.4
HOR	**Horta**	**0.36**	**119**	*e*P	Pg	00 10 22.5	-1.0
HOR				*e*S	Sg	00 10 27.2	-1.1
PCND	**Candelaria**	**0.50**	**117**	*e*P	Pg	00 10 25.6	-0.7
PCND				*e*S	Sg	00 10 32.4	-0.6
	30nm,0.1s						
PICO	**Pico**	**0.51**	**112**	*e*P	Pg	00 10 25.2	-1.4
PICO				*e*S	Sg	00 10 32.3	-1.1
PBOI	**Pico dos Bois**	**0.58**	**117**	*e*S	Sg	00 10 34.5	-1.0
	19nm,0.2s						
ROSA	**Rosais**	**0.62**	**88**	*e*P	Pg	00 10 27.1	-1.6
ROSA				*e*S	Sg	00 10 34.3	-2.6
PPNO	**Prainha do Nor**	**0.64**	**110**	*e*S	Sg	00 10 35.7	-2.0
	209nm,0.3s						
PMAN	**Manadas**	**0.74**	**95**	*e*S	Sg	00 10 37.4	-3.6
	44nm,0.2s						

*CSEM **11** 00:26:42.2±1.0,38.93N×29.38W,ML2.3,Error ellipse: s-maj=17.5km s-min=9.1km az=38.0,After PDA*
*PDA **11** 00:26:42.2±1.0,38.93N×29.38W,MD3.2,ML2.3,Error ellipse: s-maj=17.5km s-min=9.1km az=38.0*
SVSA 11 00:26:42.2±1.0,38.93N×29.38W,MD3.2,ML2.3,Error ellipse: s-maj=17.5km s-min=9.1km az=38.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.61**	**120**	*e*S	Sg	00 27 01.7	-0.9
	181nm,0.3s						
PCED	**Cedros**	**0.61**	**120**	*e*S	Sg	00 27 01.7	-0.9
	181nm,0.3s						
CALA	**Caldeira**	**0.64**	**123**	*e*P	Pg	00 26 53.9	-1.0
CALA				*e*S	Sg	00 27 02.1	-1.4
HOR	**Horta**	**0.72**	**124**	*e*x		00 27 03.2	
PCND	**Candelaria**	**0.86**	**123**	*e*S	Sg	00 27 07.5	-3.2
	29nm,0.1s						
PICO	**Pico**	**0.86**	**120**	*e*P	Pg	00 26 56.5	-3.0
PICO				*e*S	Sg	00 27 07.2	-3.8
ROSA	**Rosais**	**0.92**	**103**	*e*S	Sg	00 27 08.8	-3.9
PBOI	**Pico dos Bois**	**0.93**	**122**	*e*P	Pg	00 26 57.8	-3.0
PBOI				*e*S	Sg	00 27 09.1	-4.1
	23nm,0.1s						

*IDC **11** 00:33:48.6±3.0,10.47S×161.67E,h66km±23km,mb3.6/5,mb1 3.8/6,mb1mx3.6/14,mbtmp3.9/6,MS3.6/5,Ms1 3.6/5,ms1mx3.3/19,Error ellipse: s-maj=31.3km s-min=18.3km az=60.0*
*NEIC **11** 00:33:48.4±1.4,10.39S×161.60E,h62km±13km,mb4.1/1,Error ellipse: s-maj=18.4km s-min=13.3km az=62.0*
ISC 11 00:33:46.6±1.8,10.56S±0.09×161.7E±0.1,h64km±15km,n16,σ1§28/15,mb3.7/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.06**	**303**	P	**P**	**00 34 18.2**	**-1.4**
	120nm,0.3s,baz=186,slow=8.3,SNR=20						
HNR				S	**S**	**00 34 44.5**	**+0.4**
	490nm,0.3s,baz=180,slow=21,SNR=16						
HNR				LR	LR	00 35 15.0	
	comp=Z,588nm,21.0s,baz=147,slow=44						
HNR	**Honiara**	**2.06**	**303**	*e*Pn	**P**	**00 34 18.1**	**-1.6**
HNR				*e*Sn	**S**	**00 34 44.6**	**+0.5**
HNR				LR	LR	00 35 15.0	
DZM	**Mont Dzumac**	**12.31**	**159**	P	**P**	**00 36 43.7**	**+2.6**
	0.6nm,0.3s,baz=357,slow=22,SNR=22						
DZM				S	**S**	**00 38 55.2**	**-2.1**
	0.1nm,0.3s,baz=274,slow=18,SNR=3.2						
PMG	**Port Moresby**	**14.37**	**273**	LR	LR	00 42 11.4	
	comp=Z,248nm,20.3s,baz=259,slow=35						
CTAO	**Charters Tower**	**17.64**	**236**	*e*P	**P**	**00 37 51.5**	**+1.8**
	12nm,0.9s						
AFI	**Afiamalu**	**26.12**	**100**	LR	LR	00 47 20.5	
	comp=Z,170nm,19.3s,baz=276,slow=31						
WB2	**Warramunga Arr**	**27.95**	**247**	*e*P	**P**	**00 39 32.2**	**-1.1**
WRA	**Warramunga Arr**	**27.96**	**247**	P	**P**	**00 39 32.4**	**-1.1**
	2.1nm,0.6s,mb3.9,baz=77,slow=9.3,SNR=23						
STKA	**Stephens Creek**	**28.20**	**218**	P	**P**	**00 39 36.3**	**+0.8**
	1.3nm,0.7s,mb3.6,baz=53,slow=13,SNR=4.1						
STKA				LR	LR	00 49 46.1	
	comp=Z,125nm,18.9s,baz=24,slow=34						
STKA	**Stephens Creek**	**28.20**	**218**	P	**P**	**00 39 35.8**	**+0.3**
STKA				LR	LR	00 49 46.1	
FITZ	**Fitzroy Crossi**	**35.68**	**254**	LR	LR	00 54 38.8	
	comp=Z,51nm,19.5s,baz=260,slow=35						
PSI	**Prapat**	**63.87**	**278**	LR	LR	01 13 03.4	
	comp=Z,62nm,18.1s,baz=51,slow=37						
SONM	**Songino Array**	**75.97**	**325**	P	**P**	**00 45 29.0**	**+0.6**
	0.5nm,0.6s,mb3.6,baz=142,slow=4.2,SNR=4.2						
SONM				pP	pP	00 45 41.4	-4.8
	1.3nm,0.7s,baz=143,slow=5.5,SNR=7.7						
MKAR	**Makanchi Array**	**90.47**	**318**	P	**P**	**00 46 42.6**	**+0.1**
	0.3nm,0.6s,mb3.6,baz=96,slow=6.4,SNR=6.5						
YKA	**Yellowknife Ar**	**96.38**	**28**	P	**P**	**00 47 09.2**	**-0.1**
	0.1nm,0.5s,mb3.5,baz=262,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar**	**96.38**	**28**	P	**P**	**00 47 09.2**	**-0.1**

*BJI **11** 00:42:08.2,2.40N×95.06E,h37km,mB5.4,mb4.7*
*IDC **11** 00:42:12.7±1.3,2.72N×95.58E,h22km±4km,mb4.0/6,mb1 4.0/7,mb1mx3.7/19,mbtmp4.1/7,ML3.3/1,MS3.2/1,Ms1 3.2/1,ms1mx2.5/26,Error ellipse: s-maj=41.7km s-min=15.0km az=48.0*
*NEIC **11** 00:42:13.0±0.9,2.67N×95.59E,mb4.4/5,Error ellipse: s-maj=20.7km s-min=9.4km az=35.0*
ISC 11 00:42:11.1±1.0,2.7N±0.1×95.55E±0.07,h23km,h23km±1.7km:pP-P,n22,σ1§06/23,mb4.3/14,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.37**	**88**	Pn	**Pn**	**00 43 05.1**	**+1.5**
	3.1nm,0.3s,baz=282,slow=6.4,SNR=23						
PSI				Sn	**Sn**	**00 43 44.2**	**+0.9**
	0.5nm,0.3s,baz=162,slow=20,SNR=2.7						
PSI				LR	LR	00 44 43.9	
	comp=Z,339nm,19.9s,baz=262,slow=45						
PSI	**Prapat**	**3.37**	**88**	Pn	**Pn**	**00 43 05.1**	**+1.5**
PSI				Sn	**Sn**	**00 43 44.2**	**+0.9**
PSI				LR	LR	00 44 43.9	
KULM	**Kulim**	**5.71**	**63**	*e*P	**Pn**	**00 43 36.4**	**-0.3**
GYA	**Guiyang**	**25.94**	**23**	*e*P	**P**	**00 47 43.1**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**26.41**	**341**	*e*P	**P**	**00 47 49.7**	**+1.7**
	comp=Z,10nm,0.6s,mb4.5						
GUN	**Gumba**	**26.74**	**341**	*e*P	**P**	**00 47 51.9**	**+0.9**
	comp=Z,17nm,0.7s,mb4.7						
KKN	**Kakani**	**26.83**	**340**	*e*P	**P**	**00 47 53.0**	**+1.1**
LSA	**Lhasa**	**27.20**	**352**	*e*P	**P**	**00 47 55.5**	**+0.3**
	comp=Z,9.4nm,0.9s,mb4.3						
GKN	**Gorkha**	**27.26**	**339**	*e*P	**P**	**00 47 56.6**	**+0.8**
KOLN	**Koldanda**	**27.44**	**337**	*e*P	**P**	**00 47 58.7**	**+1.2**
	comp=Z,14nm,0.8s,mb4.5						
ENH	**Enshi**	**30.45**	**24**	P	**P**	**00 48 22.2**	**-2.2**
XAN	**Xi'an**	**33.60**	**20**	P	**P**	**00 48 50.0**	**-2.0**
XAN				AP	pP	00 49 00.0	+1.1
XAN				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**36.12**	**126**	P	**P**	**00 49 12.6**	**-1.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=302,slow=9.5,SNR=5.0						
GTA	**Gaotai**	**36.77**	**6**	*e*P	**P**	**00 49 17.7**	**-1.2**
GTA				AP	pP	00 49 22.9	-2.9
HHC	**Hu-ho-hao-te**	**40.66**	**19**	*e*P	**P**	**00 49 52.0**	**+0.7**
HHC				AP	pP	00 49 58.6	+0.3
HHC				XP	sP	00 50 03.6	+2.4
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,210nm,4.5s						
WRA	**Warramunga Arr**	**44.21**	**122**	P	**P**	**00 50 20.6**	**-0.1**
	comp=Z,1.7nm,0.7s,mb3.9,baz=298,slow=9.3,SNR=14						
WRA				pP	pP	00 50 27.5	-0.1
	comp=Z,1.1nm,0.8s,baz=302,slow=9.0,SNR=5.5						
MKAR	**Makanchi Array**	**45.43**	**347**	P	**P**	**00 50 29.7**	**-0.3**
	comp=Z,5.1nm,0.7s,mb4.5,baz=158,slow=8.6,SNR=43						
MKAR				pP	pP	00 50 36.8	-0.3
	comp=Z,12nm,0.8s,baz=159,slow=8.6,SNR=24						
SONM	**Songino Array**	**45.95**	**10**	P	**P**	**00 50 33.2**	**-0.9**
	comp=Z,2.2nm,0.9s,mb4.1,baz=190,slow=9.0,SNR=13						
SONM				pP	pP	00 50 40.1	-1.0
	comp=Z,3.4nm,0.8s,baz=189,slow=9.0,SNR=18						
SONM				PcP	PcP	00 52 10.3	-0.9
	comp=Z,0.9nm,0.8s,baz=195,slow=3.9,SNR=4.1						
SONM				pPcP		00 52 18.2	
	comp=Z,1.3nm,0.8s,baz=176,slow=3.5,SNR=4.5						
ULN	**Ulaanbaatar**	**46.10**	**11**	*e*P	**P**	**00 50 34.7**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**54.33**	**342**	P	**P**	**00 51 37.0**	**-1.0**
	comp=Z,2.3nm,0.8s,mb4.2,baz=149,slow=8.6,SNR=15						
BVAR				pP	pP	00 51 43.9	-1.3
	comp=Z,2.6nm,0.6s,baz=146,slow=9.1,SNR=12						
FINES	**FINESS Array B**	**77.94**	**333**	P	**P**	**00 54 09.2**	**+0.5**
	comp=Z,1.6nm,0.8s,mb4.0,baz=90,slow=6.9,SNR=3.0						
GERES	**GERESS Array B**	**82.62**	**319**	pP	pP	00 54 41.8	+0.3
	comp=Z,0.5nm,0.7s,baz=108,slow=4.2,SNR=4.3						

*NEIC **11** 00:52:28.0,17.23N×101.32W,h16km,MD3.8(MEX),After MEX.*
MEX 11 00:52:28.0±1.0,17.23N×101.32W,h16km±89km,MD3.8,1D,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.40**	**340**	*i* P	Pb	00 52 34.8	-1.5
ZIIG				*i* S	Sb	00 52 39.8	-2.0
CAIG	**El Cayaco**	**1.02**	**100**	⇓*i*P	Pb	00 52 43.8	-3.1
CAIG				*i* S	Sb	00 52 55.2	-4.7
ACX	**Acapulco**	**1.39**	**105**	*i* P	Pn	00 52 50.3	-2.6
ACX				*i* S	Sb	00 53 05.0	-5.5
PLIG	**Platanillo**	**2.08**	**56**	*i* P	Pn	00 52 59.9	-3.0
PLIG				*i* S	Sn	00 53 23.5	-5.1
MOIG	**Morelia**	**2.44**	**3**	*i* P	Pn	00 53 06.0	-2.0
MOIG				*i* S	Sn	00 53 31.6	-6.1
PPM	**Popocatepetl**	**3.15**	**54**	*i* P	Pn	00 53 14.2	-3.8
PPM				*i* S	Sn	00 53 51.3	-4.3

*IDC **11** 00:53:27.7±1.2,39.15N×28.06E,mb3.3/3,mb1 3.5/6,mb1mx3.3/22,mbtmp3.3/6,ML3.3/3,Error ellipse: s-maj=21.1km s-min=17.0km az=159.0*
*CSEM **11** 00:53:27.8±0.0,39.03N×28.17E,h12km,MD3.5,Error ellipse: s-maj=1.3km s-min=1.1km az=105.0*
*ATH **11** 00:53:28.3,38.98N×28.18E,h31km±6km,MD3.5/5*
*NEIC **11** 00:53:28.0,39.04N×28.14E,h13km,MD3.5(ATH),ML3.5(ISK),After ISK.*
*ISK **11** 00:53:28.1,39.03N×28.15E,h13km,MD3.5*
ISC 11 00:53:28.2±0.5,39.03N±0.02×28.14E±0.03,h13km±4km,n56,σ0§77/64,mb3.2/3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.29**	**240**	*i* PG	**Pg**	**00 53 35.5**	**+1.0**
AKS				*i* SG	**Sg**	**00 53 39.3**	**+0.6**
BALB	**Balikesir**	**0.65**	**342**	*i* PG	**Pg**	**00 53 41.2**	**-0.1**
BALB				*i* SG	**Sg**	**00 53 50.4**	**+0.3**
DST	**Dursunbey**	**0.69**	**33**	*i* PG	**Pg**	**00 53 41.1**	**-1.2**
IZM	**Izmir**	**0.93**	**228**	*i* PG	**Pg**	**00 53 46.3**	**-0.6**
BLCB	**Balcova**	**1.07**	**234**	*i* PG	**Pg**	**00 53 49.2**	**-0.5**
KCT	**Karacabey**	**1.25**	**8**	*i* PN	**Pn**	**00 53 51.9**	**+0.5**
KHL	**Karahalli**	**1.29**	**122**	PN	**Pn**	**00 53 52.9**	**+0.9**
EDC	**Edincik**	**1.34**	**351**	PN	**Pn**	**00 53 53.1**	**+0.4**
BNT	**Bandirma**	**1.34**	**353**	PN	**Pn**	**00 53 52.9**	**+0.2**
PRK	**Paraskevi**	**1.47**	**279**	*e*PN	**Pn**	**00 53 55.6**	**+1.0**
PRK				*e*SN	**Sn**	**00 54 14.5**	**+0.8**
ALT	**Altintas**	**1.54**	**88**	PN	**Pn**	**00 53 55.8**	**+0.3**
EZN	**Ezine**	**1.62**	**300**	*e*PN	**Pn**	**00 53 57.4**	**+0.7**
MRMT	**Marmara Adasi**	**1.63**	**345**	PN	**Pn**	**00 53 57.2**	**+0.3**
SMG	**Samos**	**1.67**	**218**	*e*PN	**Pn**	**00 53 57.1**	**-0.3**
SMG				*e*SN	**Sn**	**00 54 18.4**	**-0.3**
LPK	**Lapseki**	**1.72**	**322**	PN	**Pn**	**00 53 58.5**	**+0.4**
MLSB	**Milas**	**1.75**	**190**	PN	**Pn**	**00 53 59.0**	**+0.4**
YLV	**Yalova**	**1.81**	**31**	PN	**Pn**	**00 53 58.9**	**-0.5**
MFT	**Murefte**	**1.88**	**340**	*e*PN	**Pn**	**00 54 00.2**	**-0.2**
YER	**Yerkesik**	**1.89**	**177**	PN	**Pn**	**00 54 00.8**	**+0.2**
BADT	**Buyukada**	**1.97**	**22**	PN	**Pn**	**00 54 02.7**	**+0.9**
BODT	**Bodrum**	**2.07**	**199**	*e*PN	**Pn**	**00 54 02.6**	**-0.5**
HRT	**Hereke**	**2.15**	**33**	*e*PN	**Pn**	**00 54 03.8**	**-0.5**
ISK	**Istanbul-Kandi**	**2.16**	**19**	PN	**Pn**	**00 54 04.8**	**+0.4**
ESKT	**Eskisehir**	**2.16**	**76**	*e*PN	**Pn**	**00 54 04.4**	**-0.1**
ISP	**Isparta**	**2.20**	**122**	*e*Pn	**Pn**	**00 54 05.8**	**+0.7**
ISP				*e*Pg	**Pg**	**00 54 12.6**	**+0.4**
DAT	**Datca**	**2.33**	**191**	PN	**Pn**	**00 54 07.0**	**0.0**
BCK	**Bucak**	**2.48**	**128**	*e*PN	**Pn**	**00 54 09.2**	**+0.1**
FETY	**Fethiye**	**2.50**	**162**	*e*PN	**Pn**	**00 54 09.4**	**+0.1**
ELL	**Elmali**	**2.67**	**148**	*e*PN	**Pn**	**00 54 12.8**	**+1.1**
MDU	**Mudurnu**	**2.77**	**58**	*e*PN	**Pn**	**00 54 13.4**	**+0.2**
ARG	**Arkhangelos**	**2.80**	**180**	*e*PN	**Pn**	**00 54 12.6**	**-1.1**
APE	**Apeiranthos**	**2.84**	**227**	*e*PN	**Pn**	**00 54 13.7**	**-0.4**
RDO	**Rodhopi**	**2.91**	**318**	*e*PN	**Pn**	**00 54 15.6**	**+0.4**
KIZT	**Kizilcal**	**2.92**	**92**	*e*PN	**Pn**	**00 54 15.7**	**+0.4**
SGKT	**Sivrigoynuk**	**3.39**	**62**	*e*P	**Pn**	**00 54 27.5**	**+5.5**
SANT	**Santorini**	**3.40**	**220**	*e*Pn	**Pn**	**00 54 21.3**	**-0.8**
SANT				*e*Pg	**Pg**	**00 54 34.6**	**-1.4**
SANT	**Santorini**	**3.40**	**220**	*e*Pn	**Pn**	**00 54 21.3**	**-0.8**
KARP	**Karpathos**	**3.56**	**193**	*e*Pn	**Pn**	**00 54 25.0**	**+0.6**
LOD	**Lodumlu**	**3.68**	**75**	*e*PN	**Pn**	**00 54 27.1**	**+1.0**
ANTO	**Ankara**	**3.70**	**75**	*e*P	**Pn**	**00 54 33.2**	**+6.8**
RZN	**Rozhen**	**3.73**	**317**	*i* P	**Pn**	**00 54 26.0**	**-0.8**
NVR	**Nevrokopi**	**4.02**	**307**	*e*PN	**Pn**	**00 54 30.9**	**0.0**
SAFT	**Safranbolu**	**4.13**	**56**	*e*PN	**Pn**	**00 54 33.5**	**+1.0**
MMB	**Musomiste**	**4.24**	**309**	*e*P	**Pn**	**00 54 34.0**	**0.0**
BR131	**Keskin Array S**	**4.32**	**79**	*e*Pn	**Pn**	**00 54 35.1**	**-0.1**
BRTR	**Keskin Array B**	**4.32**	**79**	Pn	**Pn**	**00 54 35.2**	**0.0**
	0.6nm,0.3s,baz=270,slow=13,SNR=21						
BRTR				Pg	**Pg**	**00 54 48.9**	**-5.6**
	0.9nm,0.3s,baz=268,slow=16,SNR=28						
BRTR				Sn	**Sn**	**00 55 22.8**	**-3.2**
	0.6nm,0.3s,baz=266,slow=19,SNR=5.6						
BRTR				Lg		00 55 47.4	
	0.7nm,0.3s,baz=259,slow=26,SNR=8.8						
BRTR	**Keskin Array B**	**4.32**	**79**	Pg	**Pg**	**00 54 48.8**	**-5.7**
IDI	**Anoyia**	**4.54**	**216**	Pn	**Pn**	**00 54 37.4**	**-1.0**
	0.6nm,0.3s,baz=198,slow=20,SNR=5.3						
KKB	**Krupnik**	**4.79**	**308**	*e*P	**Pn**	**00 54 43.0**	**+1.1**
VTS	**Vitosha**	**5.17**	**315**	*e*P	**Pn**	**00 54 47.0**	**-0.2**
TIRR	**Tirgusor**	**5.43**	**2**	*e*P	**Pn**	**00 54 49.3**	**-1.6**
TIRR	**Tirgusor**	**5.43**	**2**	*e*P	**Pn**	**00 54 49.3**	**-1.6**
MLR	**Muntele Rosu**	**6.66**	**347**	Pn	**Pn**	**00 55 05.9**	**-2.4**
	0.5nm,0.3s,

0.6nm,0.3s,baz=305,slow=12,SNR=14
WB2 Warramunga Arr 23.93 233 *e*P P 01 19 51.0 -0.3
WRA Warramunga Arr 23.94 233 P P 01 19 50.7 -0.7
3.4nm,0.8s,baz=58,slow=9.7,SNR=24
WRA PcP PcP 01 23 31.6 -2.7
0.2nm,0.7s,baz=58,slow=2.4,SNR=6.4
WRA pPcP 01 23 43.7
0.5nm,0.8s,baz=50,slow=2.5,SNR=5.4
MKAR Makanchi Array 82.61 319 P P 01 26 58.5 -1.6
0.3nm,0.5s,baz=92,slow=6.7,SNR=5.7
YKA Yellowknife Ar 95.86 28 P P 01 28 01.8 -0.9
0.1nm,0.5s,baz=265,slow=4.6,SNR=5.8

*NDI **11** 01:16:35.1±4.1,34.55N×73.22E,h10km,ML3.1*
*NNC **11** 01:16:47.2±109.0,34.91N×72.34E,mpv3.4,Error ellipse: s-maj=1044.6km s-min=985.1km az=80.0*
ISC 11 01:16:30.7±1.6,34.31N±0.09×72.7E±0.2,h10km,n8, σ0$56/12,1C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.14**	**126**	*e*PB	**Pb**	**01 17 26.5**	**+0.2**
THN				*e*SB	**Sb**	**01 18 04.8**	**0.0**
DLH	**Dalhousie**	**3.25**	**122**	*e*P	**Pn**	**01 17 32.0**	**+9.2**
DLH				*e*S	**Sn**	**01 18 08.0**	**+6.0**
SDNR	**Sundarnagar**	**4.55**	**127**	*e*P	**Pn**	**01 17 42.2**	**+0.9**
SDNR				*e*S	**Sn**	**01 18 30.6**	**-4.4**
KLP	**Kalpa**	**5.42**	**119**	*e*P	**Pn**	**01 17 52.8**	**-0.8**
KLP				*e*S	**Sn**	**01 18 51.4**	**-5.4**
KLP				AML	AML	01 19 20.3	
	comp=N,58nm,0.6s						
KLP				AML	AML	01 19 20.6	
	comp=E,76nm,0.5s						
KHET	**Khetri**	**6.76**	**156**	*e*S	**Sn**	**01 19 30.2**	**-0.2**
KHET				AML	AML	01 20 11.1	
	comp=N,7.8nm,0.2s						
KHET				AML	AML	01 20 12.6	
	comp=E,9.6nm,0.4s						
NDI	**New Delhi**	**6.81**	**144**	*ex*	x	01 19 50.0	
KUDL	**Kundal**	**6.95**	**151**	*e*S	**Sn**	**01 19 29.0**	**-6.1**
KK31	**Karatay Array**	**8.94**	**350**	⇓P	**P**	**01 18 48.9**	**+6.0**
	comp=E,0.7nm,0.3s,baz=162,slow=12,SNR=12						
KK31				⇑S	**Sn**	**01 20 24.7**	**0.0**
	comp=E,0.9nm,0.3s,baz=171,slow=25,SNR=8.2						

IDC 11 02:01:59.1±3.7,31.40N×141.18E,mb3.5/3,mb1 3.5/6, mb1mx3.4/21,mbtmp3.5/6,ML3.4/3,Error ellipse: s-maj=144.7km s-min=17.3km az=69.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.08**	**326**	Pn	Pn	02 02 34.5	-1.1
	12nm,0.3s,baz=90,slow=20,SNR=3.2						
JHJ				Sn	Sn	02 03 00.7	-1.9
	9.0nm,0.3s,baz=270,slow=20,SNR=2.8						
CBIJ	**Chichi jima**	**4.38**	**168**	Pn	Pn	02 03 07.1	-1.4
	7.5nm,0.3s,baz=327,slow=18,SNR=3.9						
CBIJ				Sn	Sn	02 03 59.1	-1.9
	6.0nm,0.3s,baz=193,slow=20,SNR=2.9						
MJAR	**Matsushiro Arr**	**5.69**	**335**	Pn	Pn	02 03 23.9	-2.9
	0.5nm,0.3s,baz=149,slow=12,SNR=5.6						
SONM	**Songino Array**	**31.09**	**312**	P	P	02 08 20.8	-0.4
	0.4nm,0.6s,baz=124,slow=9.6,SNR=3.4						
MKAR	**Makanchi Array**	**47.13**	**307**	P	P	02 10 32.3	-2.4
	0.4nm,0.8s,baz=96,slow=7.5,SNR=4.0						
WRA	**Warramunga Arr**	**51.47**	**188**	P	P	02 11 06.0	-2.6
	0.4nm,0.6s,baz=5.5,slow=7.7,SNR=6.6						

*CNRM **11** 02:20:42.0,34.91N×2.00W,h8km,MD3.7*
*CSEM **11** 02:20:44.0±0.2,34.89N×2.17W,h35km,MD3.7,Error ellipse: s-maj=4.1km s-min=2.3km az=116.0*
*NEIC **11** 02:20:45.7,34.95N×2.14W,h14km,MG3.4(MDD),After MDD.*
MDD 11 02:20:44.8±1.2,34.86N×2.16W,h17km±6km,mbLg2.0/12, 1D,Error ellipse: s-maj=9.1km s-min=6.8km az=109.0, PRXIMO,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAI	**Zaio**	**0.49**	**283**	P	Pb	02 20 53.5	-1.1
ZAI				S	Sb	02 21 01.0	-0.2
ZAI	**Zaio**	**0.49**	**283**	*i* P	Pb	02 20 53.5	-1.1
EMLI	**Melilla**	**0.78**	**304**	P	Pb	02 20 59.2	-0.3
	190nm,0.1s,SNR=18						
EMLI				S	Sb	02 21 09.6	+0.1
	452nm,0.2s,SNR=6.0						
EMEL	**Melilla**	**0.78**	**304**	⇓P	Pb	02 20 59.2	-0.3
	190nm,0.1s,SNR=18						
EMEL				S	Sb	02 21 09.6	-0.1
	452nm,0.2s,SNR=6.0						
EBER	**Berja**	**2.11**	**344**	P	Pn	02 21 17.4	-2.6
	0.7nm,0.2s,SNR=7.5						
EBER				S	Sn	02 21 39.1	-6.9
	12nm,0.5s,SNR=6.2						
EBER	**Berja**	**2.11**	**344**	P	Pn	02 21 17.4	-2.5
	0.7nm,0.2s,SNR=7.5						
EBER				S	Sn	02 21 39.1	-6.9
	12nm,0.5s,SNR=6.2						
EQUE	**Quentar**	**2.56**	**336**	P	Pn	02 21 24.5	-1.8
	2.7nm,0.2s,SNR=4.7						
EQUE				S	Sn	02 21 51.9	-5.3
	1.7nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.66**	**335**	P	Pn	02 21 27.0	-0.8
	1.8nm,0.3s,SNR=7.9						
ECOG				S	Sn	02 21 56.2	-3.7
	1.8nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**2.72**	**309**	P	Pn	02 21 26.5	-2.0
	0.8nm,0.2s,SNR=7.9						
EMIJ				S	Sn	02 21 56.2	-5.1
	3.3nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.72**	**309**	P	Pn	02 21 26.5	-2.0
EMIJ				S	Sn	02 21 55.2	-6.1
EMIJ	**Mijas**	**2.72**	**309**	P	Pn	02 21 26.5	-2.1
	0.8nm,0.2s,SNR=7.9						
EMIJ				S	Sn	02 21 55.2	-6.1
	3.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.96**	**353**	P	Pn	02 21 31.5	-0.6
	0.9nm,0.2s,SNR=8.1						
EHUE				S	Sn	02 22 04.0	-3.6
	0.4nm,0.2s						
CZD	**Col de Zad**	**3.01**	**233**	*e*P	Pn	02 21 31.0	-1.7
CZD				*i* S	Sn	02 22 06.0	-2.7
EQES	**Quesada**	**3.02**	**346**	P	Pn	02 21 31.3	-1.6
	2.2nm,0.2s,SNR=13						
EQES				S	Sn	02 22 05.3	-3.7
	5.5nm,0.3s,SNR=5.9						
EQES	**Quesada**	**3.02**	**346**	P	Pn	02 21 31.3	-1.6
	2.2nm,0.2s,SNR=13						
EQES				S	Sn	02 22 05.3	-3.7
	5.5nm,0.3s,SNR=5.9						
EMUR	**La Murta**	**3.06**	**14**	P	Pn	02 21 30.6	-2.9
	2.3nm,0.2s,SNR=6.4						
EMUR				S	Sn	02 22 03.7	-6.4
	2.0nm,0.3s,SNR=4.7						
EMUR	**La Murta**	**3.06**	**14**	P	Pn	02 21 30.6	-2.9
	2.3nm,0.2s,SNR=6.4						
EMUR				S	Sn	02 22 03.7	-6.4
	2.0nm,0.3s,SNR=4.7						
ELUQ	**Luque**	**3.18**	**328**	P	Pn	02 21 34.5	-0.7
	0.9nm,0.2s,SNR=7.9						
ELUQ				S	Sn	02 22 10.1	-3.0
	1.5nm,0.2s,SNR=7.9						
ZFT	**Errachidia**	**3.36**	**214**	*e*P	Pn	02 21 34.0	-3.7
ZFT				*i* S	Sn	02 22 15.0	-2.6
EBAN	**Banos Encina**	**3.54**	**339**	S	Sn	02 22 18.1	-4.1
	2.1nm,0.5s,SNR=7.9						
ESPR	**Espera**	**3.60**	**305**	P	Pn	02 21 40.2	-0.9
	0.5nm,0.2s,SNR=4.0						
ESPR				S	Sn	02 22 19.7	-4.0
	1.1nm,0.2s,SNR=4.0						
ESPR	**Espera**	**3.60**	**305**	P	Pn	02 21 40.2	-1.0
	0.5nm,0.2s,SNR=4.0						
ESPR				S	Sn	02 22 19.7	-4.1
	1.1nm,0.2s,SNR=4.0						
EVIA	**Vianos**	**3.78**	**356**	S	Sn	02 22 24.2	-3.9
	0.9nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.81**	**7**	P	Pn	02 21 41.7	-2.4
	1.2nm,0.3s,SNR=15						
ETOB				S	Sn	02 22 22.7	-6.1
	1.4nm,0.4s						
EADA	**Adamuz**	**3.83**	**330**	P	Pn	02 21 43.4	-0.9
	0.5nm,0.2s,SNR=6.0						
EADA				S	Sn	02 22 22.9	-6.5
	0.6nm,0.2s						
EADA	**Adamuz**	**3.83**	**330**	P	Pn	02 21 43.4	-0.9
	0.5nm,0.2s,SNR=6.0						
EADA				S	Sn	02 22 22.9	-6.5
	0.6nm,0.2s						
EBEN	**Beniarda**	**4.14**	**22**	P	Pn	02 21 46.5	-2.3
	0.2nm,0.1s,SNR=4.0						
EBEN	**Beniarda**	**4.14**	**22**	P	Pn	02 21 46.5	-2.2
	0.2nm,0.1s,SNR=4.0						
ECAB	**El Cabril**	**4.14**	**322**	P	Pn	02 21 46.9	-1.9
	0.1nm,0.1s,SNR=4.0						
ECAB				S	Sn	02 22 29.6	-7.8
	1.1nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**4.14**	**322**	P	Pn	02 21 46.9	-1.9
	0.1nm,0.1s,SNR=4.0						
ECAB				S	Sn	02 22 29.6	-7.8
	1.1nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.65**	**310**	P	Pn	02 21 52.0	-4.1
	0.2nm,0.2s,SNR=4.0						
EMIN				S	Sn	02 22 42.5	-7.8
	0.6nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.65**	**310**	P	Pn	02 21 52.0	-4.1
EMIN				S	Sn	02 22 42.5	-7.8
ESDC	**Sonseca Array**	**5.01**	**344**	P	Pn	02 21 58.5	-2.6
	0.6nm,0.3s,baz=162,slow=14,SNR=4.5						
ESDC	**Sonseca Array**	**5.01**	**344**	P	Pn	02 21 58.5	-2.6
EGRO	**El Granado**	**5.06**	**303**	P	Pn	02 21 53.7	-8.1
EGRO				S	Sn	02 22 54.0	-6.5
EGRO	**El Granado**	**5.06**	**303**	P	Pn	02 21 53.7	-8.1
EGRO				S	Sn	02 22 54.0	-6.5

*IDC **11** 02:27:28.8±2.6,45.37N×153.07E,mb3.5/3,mb1 3.7/3, mb1mx3.3/20,mbtmp3.5/3,Error ellipse: s-maj=103.2km s-min=32.3km az=81.0*
*JMA **11** 02:27:33.2±0.3,43.40N×148.14E,M4.0*
ISC 11 02:27:34.6±1.9,43.2N±0.1×148.3E±0.1,h88km±18km,n13, σ0$83/17,mb3.9/1,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.89**	**276**	P	**P**	**02 28 05.1**	**-0.6**
NEM2				*e*S	**S**	**02 28 28.5**	**-0.2**
JRA	**Rausu**	**2.44**	**289**	P	**P**	**02 28 12.4**	**-0.9**
JRA				*e*S	**S**	**02 28 41.3**	**-0.9**
JNK	**Nakash**	**2.65**	**280**	P	**P**	**02 28 16.1**	**-0.2**
JNK				*e*S	**S**	**02 28 47.3**	**-0.2**
JAK	**Akkeshi**	**2.66**	**267**	P	**P**	**02 28 16.8**	**+0.4**
JAK				*e*S	**S**	**02 28 48.7**	**+1.0**
JAR	**Ashorobuto**	**3.32**	**273**	*e*S	**S**	**02 29 04.9**	**+0.7**
JCH	**Churui**	**3.69**	**263**	P	**P**	**02 28 31.6**	**+1.0**
JCH				*e*S	**S**	**02 29 14.0**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.20**	**259**	P	**P**	**02 28 38.5**	**+0.8**
JNBK				*e*S	**S**	**02 29 27.2**	**+1.3**
JKB	**Kayabe**	**5.54**	**259**	*e*S	**S**	**02 29 58.4**	**-0.6**
JOT	**Ohata**	**5.69**	**254**	*e*S	**S**	**02 30 01.9**	**-0.8**
JANG	**Nango**	**5.81**	**243**	*e*S	**S**	**02 30 04.1**	**-1.7**
MKAR	**Makanchi Array**	**45.59**	**299**	P	pP	02 36 06.0	-2.5
	0.2nm,0.7s,baz=78,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**64.13**	**195**	P	pP	02 38 24.6	+0.3
	0.3nm,0.8s,baz=8.1,slow=6.3,SNR=2.7						
FINES	**FINESS Array B**	**65.75**	**334**	P	**P**	**02 38 11.8**	**+0.2**
	1.5nm,0.8s,mb3.9,baz=39,slow=8.9,SNR=11						

*IDC **11** 02:42:30.5±16.0,26.83N×55.45E,mb3.6/3,mb1 3.6/3, mb1mx3.3/19,mbtmp3.6/3,Error ellipse: s-maj=368.0km s-min=47.8km az=115.0*
*THR **11** 02:42:35.1±1.1,27.14N×55.72E,h14km±11km,ML2.8*
ISC 11 02:42:29.6±1.6,26.8N±0.1×55.52E±0.08,h10km,n6, σ0$98/7,mb3.5/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.81**	**45**	*e*Pg	**Pg**	**02 42 44.4**	**-1.5**
BNDS				AML	AML	02 43 05.2	
	comp=N,484nm,0.5s						
GHIR	**Ghir-Karzin**	**2.68**	**303**	*e*Pn	**Pn**	**02 43 20.1**	**+6.5**
GHIR				*e*Sg	**Sg**	**02 43 58.5**	**-0.4**
GHIR				AML	AML	02 44 36.6	
	comp=N,45nm,0.6s						
KRBR	**Kerman**	**3.33**	**19**	*e*Pn	**Pn**	**02 43 24.7**	**+1.9**
AKASG	**Malin Array Be**	**31.15**	**327**	P	**P**	**02 48 50.5**	**-0.1**
	comp=N,0.2nm,0.4s,mb3.3,baz=139,slow=8.6,SNR=4.4						
FINES	**FINESS Array B**	**39.87**	**338**	P	**P**	**02 50 05.2**	**+0.3**
	comp=N,2.0nm,0.9s,mb3.9,baz=130,slow=11,SNR=5.1						
TORD	**Torodi Ar. Bea**	**52.03**	**266**	P	**P**	**02 51 41.6**	**-0.2**
	comp=N,0.2nm,0.5s,mb3.4,baz=62,slow=7.7,SNR=7.4						

*SOF **11** 03:02:18.9,41.23N×23.43E,h9km,MD2.5*
*THE **11** 03:02:19.9,41.22N×23.39E,h4km,ML2.8*
*CSEM **11** 03:02:19.3±0.1,41.27N×23.41E,h2km,ML2.8,Error ellipse: s-maj=2.1km s-min=1.6km az=118.0*
ISC 11 03:02:19.1±0.6,41.24N±0.04×23.39E±0.05,h0km±11km, n16,σ0$68/19,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRS	**Serrai**	**0.20**	**128**	*e*Pg	**Pg**	**03 02 23.5**	**+0.4**
SRS				*e*Sg	**Sg**	**03 02 26.2**	**+0.5**
KNT	**Kendrikon**	**0.38**	**258**	*e*Pg	**Pg**	**03 02 27.0**	**+0.4**
KNT				*e*Sg	**Sg**	**03 02 32.4**	**+0.8**
SOH	**Sokhos**	**0.42**	**183**	*e*Pg	**Pg**	**03 02 27.7**	**+0.2**
SOH				*e*Sg	**Sg**	**03 02 33.3**	**+0.3**
MMB	**Musomiste**	**0.43**	**36**	*i* Pg	**Pg**	**03 02 27.0**	**-0.8**
KKB	**Krupnik**	**0.67**	**340**	*i* Pg	**Pg**	**03 02 32.0**	**-0.5**
THE	**Thessaloniki**	**0.68**	**208**	*e*Pg	**Pg**	**03 02 32.6**	**-0.2**
GRG	**Griva**	**0.80**	**250**	*e*Pg	**Pg**	**03 02 34.7**	**-0.3**
OUR	**Ouranopolis**	**1.01**	**153**	*e*Pg	**Pg**	**03 02 39.1**	**-0.2**
RZN	**Rozhen**	**1.10**	**65**	*i* P	**Pb**	**03 02 40.5**	**-0.1**
PLD	**Plovdiv**	**1.31**	**48**	*i* Pg	**Pg**	**03 02 45.5**	**+0.2**
LIT	**Litokhoron**	**1.32**	**211**	*e*Pg	**Pg**	**03 02 43.8**	**-1.8**
VTS	**Vitosha**	**1.36**	**354**	*i* P	**Pb**	**03 02 45.5**	**+0.4**
VTS	**Vitosha**	**1.36**	**354**	*i* Pg	**Pg**	**03 02 47.0**	**+0.7**
PGB	**Panagyurishte**	**1.43**	**24**	*i* P	**Pn**	**03 02 46.0**	**-0.4**
KDZ	**Kurdzhali**	**1.58**	**74**	*i* P	**Pn**	**03 02 47.5**	**-1.0**
DIM	**Dimitrovgrad**	**1.80**	**63**	*i* P	**Pn**	**03 02 53.0**	**+1.3**

*IDC **11** 03:33:56.7±2.1,37.29N×142.49E,mb3.2/2,mb1 3.5/4, mb1mx3.3/21,mbtmp3.4/4,ML3.2/2,Error ellipse: s-maj=38.7km s-min=31.7km az=92.0*
*JMA **11** 03:33:59.9±0.2,37.39N×142.23E,h31km±5km,M3.6*
ISC 11 03:33:58.5±1.8,37.42N±0.06×142.29E±0.09,h12km±14km, n14,σ0$90/21,mb3.2/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.13**	**268**	P	**Pb**	**03 34 19.2**	**-0.2**
JFK				S	**Sb**	**03 34 32.9**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.23**	**255**	P	**Pb**	**03 34 20.4**	**-0.8**
JMM	**Marumori**	**1.27**	**291**	P	**Pb**	**03 34 21.5**	**-0.3**
JMM				S	**Sb**	**03 34 37.2**	**-0.7**
JIO	**Ouri**	**1.27**	**325**	P	**Pb**	**03 34 21.9**	**0.0**
JIO				S	**Sb**	**03 34 37.5**	**-0.5**
JFT	**Otama**	**1.55**	**274**	P	**Pn**	**03 34 26.4**	**+0.2**
JOU	**Okura**	**1.59**	**307**	P	**Pn**	**03 34 27.2**	**+0.5**
JOU				*e*S	**Sn**	**03 34 46.5**	**-0.8**
JMK	**Ichinoseki**	**1.74**	**332**	P	**Pn**	**03 34 29.4**	**+0.5**
JYS	**Shirataka**	**1.93**	**295**	P	**Pn**	**03 34 32.6**	**+1.0**
JYS				S	**Sn**	**03 34 56.6**	**+0.7**
JOM	**Ohasama**	**2.19**	**339**	P	**Pn**	**03 34 36.8**	**+1.5**
MJAR	**Matsushiro Arr**	**3.38**	**256**	Pn	**Pn**	**03 34 52.8**	**+0.5**
	1.4nm,0.3s,baz=77,slow=7.9,SNR=18						
MJAR				Sn	**Sn**	**03 35 35.2**	**+2.5**
	1.8nm,0.3s,baz=83,slow=16,SNR=4.0						
MAT	**Matsushiro**	**3.38**	**256**	P	**Pn**	**03 34 52.3**	**0.0**
MAT				*e*S	**Sn**	**03 35 32.7**	**-0.1**
ASAJ	**Asahikawa**	**6.69**	**2**	Pn	**Pn**	**03 35 38.4**	**-0.7**
	0.5nm,0.3s,baz=215,slow=13,SNR=5.5						
MKAR	**Makanchi Array**	**44.50**	**302**	P	**P**	**03 42 10.9**	**-0.4**
	0.4nm,0.9s,mb3.3,baz=81,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**57.55**	**189**	P	**P**	**03 43 47.3**	**-3.1**
	0.1nm,0.5s,mb3.1,baz=7.0,slow=7.4,SNR=4.8						

*CSEM **11** 04:09:08.0±1.1,38.88N×29.42W,ML2.5,Error ellipse: s-maj=15.8km s-min=9.2km az=41.0*
*PDA **11** 04:09:08.0±1.1,38.88N×29.42W,MD3.4,ML2.5,Error ellipse: s-maj=15.8km s-min=9.2km az=41.0*
SVSA 11 04:09:08.0±1.1,38.88N×29.42W,MD3.4,ML2.5,Error ellipse: s-maj=15.8km s-min=9.2km az=41.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.57**	**121**	*erx*		04 09 27.0	
PCED	**Cedros**	**0.61**	**114**	*e*S	Sg	04 09 27.4	-1.0
	112nm,0.4s						
PCED	**Cedros**	**0.61**	**114**	*e*S	Sg	04 09 27.4	-1.0
	112nm,0.4s						
CALA	**Caldeira**	**0.63**	**118**	*e*P	Pg	04 09 19.2	-1.5
CALA				*e*S	Sg	04 09 27.5	-1.6
HOR	**Horta**	**0.71**	**119**	*e*S	Sg	04 09 29.4	-2.2
PCND	**Candelaria**	**0.85**	**118**	*erx*		04 09 33.9	
PICO	**Pico**	**0.86**	**116**	*e*P	Pg	04 09 22.9	-2.3
PICO				*e*S	Sg	04 09 33.5	-3.2
PBOI	**Pico dos Bois**	**0.93**	**118**	*e*S	Sg	04 09 36.2	-2.7
	41nm,0.3s						
ROSA	**Rosais**	**0.93**	**99**	*e*P	Pg	04 09 23.1	-3.5
ROSA				*e*S	Sg	04 09 35.1	-4.0
PPNO	**Prainha do Nor**	**0.99**	**114**	*e*S	Sg	04 09 36.1	-4.9
	85nm,0.1s						
PMAN	**Manadas**	**1.07**	**103**	*e*S	Sb	04 09 38.0	-5.4
	59nm,0.1s						

*LDG **11** 04:18:29.6±0.1,49.17N×6.73E,h1km,Md3.1/1,Ml2.8/15, Error ellipse: s-maj=1.4km s-min=1.1km az=104.0, Suspected Mining induced.*
*NEIC **11** 04:18:29.6,49.17N×6.73E,h1km,ML2.8(LDG), ML2.2(STR),ML2.2(SZGRF),After LDG.*
*CSEM **11** 04:18:29.2±0.1,49.17N×6.74E,ML2.7/16,Error ellipse: s-maj=1.7km s-min=0.9km az=59.0*
*BNS **11** 04:18:30.9±0.8,49.19N×6.99E,h1km,ML1.7*
BGR 11 04:18:29.9±0.3,49.14N×6.87E,h1km,ML2.2/5,Error ellipse: s-maj=3.3km s-min=2.2km az=82.0,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.57**	**13**	*e*Pg	Pg	04 18 40.5	-0.9
	SNR=16						
RUP				*e*Sg	Sg	04 18 48.1	-0.8
RUP	**Ruppelstein**	**0.57**	**13**	Pg	Pg	04 18 40.4	-0.9
RUP				Sg	Sg	04 18 48.4	-0.6
RUP	**Ruppelstein**	**0.57**	**13**	Pg	Pg	04 18 40.4	-0.9
RUP				Sg	Sg	04 18 48.2	-0.8
WLF	**Walferdange**	**0.70**	**318**	*e*Pg	Pg	04 18 43.0	-0.8
	SNR=18						
WLF				*e*Sg	Sg	04 18 52.4	-0.8
WLF	**Walferdange**	**0.70**	**318**	*e*P	Pg	04 18 43.0	-0.9
WLF				*e*S	Sg	04 18 52.0	-1.2
CDF	**Champ du Feu**	**0.78**	**160**	*e*Pn	Pn	04 18 45.3	-2.4
CDF				*e*Sg	Sg	04 18 56.4	+0.6
	49nm,0.2s						
CDF	**Champ du Feu**	**0.78**	**160**	*e*Pg	Pg	04 18 44.2	-1.2
CDF				*e*Pn	Pn	04 18 45.3	-2.4
CDF				*e*Sg	Sg	04 18 56.4	+0.6
CDF	**Champ du Feu**	**0.78**	**160**	*e*Pn	Pn	04 18 45.3	-2.4
CDF				*e*Sg	Sg	04 18 56.4	+0.6
	24nm,0.2s						
WLS	**Welschbruch**	**0.80**	**156**	*e*Pg	Pg	04 18 44.7	-1.1
	SNR=12						
ABH	**Alteburg**	**0.86**	**31**	*e*Pg	Pg	04 18 46.2	-0.9
	SNR=5.6						
ABH	**Alteburg**	**0.86**	**31**	Pg	Pg	04 18 45.8	-1.3
ABH				Sg	Sg	04 18 59.1	+0.5
ECH	**Echery**	**0.95**	**168**	*e*Pg	Pg	04 18 48.0	-0.8
	SNR=12						
ECH	**Echery**	**0.95**	**168**	Pg	Pg	04 18 48.0	-0.8
	SNR=12						
ECH				Sg	Sg	04 19 01.2	-0.2
RFYF	**Reffroy**	**1.05**	**241**	*e*Pg	Pg	04 18 48.9	-2.0
	baz=58						
RFYF				*e*Sg	Sg	04 19 00.8	-4.2
	60nm,0.3s						
THEF	**They Montfort**	**1.09**	**213**	*e*Pg	Pg	04 18 49.6	-1.9
	SNR=4.7						
THEF	**They Montfort**	**1.09**	**213**	Pg	Pg	04 18 49.7	-1.9
THEF				Sg	Sg	04 19 04.9	-1.2
THEF	**They Montfort**	**1.09**	**213**	Pg	Pg	04 18 49.6	-2.0
	SNR=4.7						
THEF				Sg	Sg	04 19 04.9	-1.2
BGG	**Burgeitz**	**1.11**	**16**	*e*Pg	Pg	04 18 50.5	-1.5
BGG				*e*Sg	Sg	04 19 04.6	-2.1
	19nm,0.5s						
LIBD	**Limburg**	**1.11**	**154**	*e*Pg	Pg	04 18 51.2	-0.8
	SNR=4.9						
LIBD	**Limburg**	**1.11**	**154**	Pg	Pg	04 18 51.2	-0.8
	SNR=4.9						
LIBD				Sg	Sg	04 19 06.7	0.0
HILG	**Hillesheim**	**1.16**	**354**	*e*Pg	Pg	04 18 51.9	-1.1
HILG				*e*Sg	Sg	04 19 07.1	-1.3
HAU	**Haudompre**	**1.19**	**197**	*e*Pg	Pg	04 18 51.3	-2.3
HAU				*e*Sg	Sg	04 19 07.0	-2.5
	25nm,0.3s						
HAU				*e*Sn	Sn	04 19 07.8	-2.8
BFO	**Black Forest**	**1.27**	**129**	*e*Pg	Pg	04 18 53.6	-1.5
	SNR=5.1						
BFO				*e*Sg	Sg	04 19 09.7	-2.3
BFO	**Black Forest**	**1.27**	**129**	*e*Pg	Pg	04 18 52.6	-2.5
BFO				*e*Sg	Sg	04 19 09.8	-2.2
BFO	**Black Forest**	**1.27**	**129**	Pg	Pg	04 18 53.6	-1.5
	SNR=5.1						
BFO				*e*Sg	Sg	04 19 09.8	-2.2
MOF	**Molkenrain**	**1.30**	**172**	*e*Pg	Pg	04 18 54.4	-1.5
	SNR=7.8						
MOF				*e*Sg	Sg	04 19 11.7	-1.6
MOF	**Molkenrain**	**1.30**	**172**	Pn	Pn	04 18 54.0	-1.2
MOF				Sg	Sg	04 19 11.9	-1.4
HINF	**Hinteralfeld**	**1.33**	**180**	*e*Pg	Pg	04 18 54.5	-1.9
HINF	

LOR				*e*Sn		Sn	04 19 43.5	-6.8
LOR				*e*Sg		Sg	04 19 55.0	-6.5
	7.4nm,0.3s							
GRF	**Grafenberg Arr**	**2.90**	**77**	*e*Sg		Sg	04 20 00.8	-5.4
SSF	**Saint Saulge**	**3.07**	**229**	*e*Pn		Pn	04 19 16.8	-3.6
SSF				*e*Sn		Sn	04 19 51.8	-6.5
SSF				*e*Sg		Sg	04 20 04.9	-7.1
	2.1nm,0.3s							
SMF	**Signal de Mont**	**3.22**	**220**	*e*Pn		Pn	04 19 18.7	-3.9
SMF				*e*Sn		Sn	04 19 54.6	-7.6
SMF				*e*Sg		Sg	04 20 09.5	-7.7
	4.5nm,0.2s							
AVF	**Avril sur Loir**	**3.33**	**226**	*e*Pn		Pn	04 19 19.5	-4.7
AVF				*e*Sn		Sn	04 19 58.7	-6.3
	2.0nm,0.3s							
AVF				*e*Sg		Sg	04 20 12.6	-8.3
	1.9nm,0.3s							
BGF	**Bois d'Agland**	**3.74**	**228**	*e*Pn		Pn	04 19 26.3	-3.7
BGF				*e*Sn		Sn	04 20 08.5	-6.9
BGF				*e*Sg		Sg	04 20 25.9	-8.6
	12nm,0.4s							
KHC	**Kasperske Hory**	**4.41**	**88**	*e*P		Sg	04 20 52.5	-4.1
LDF	**La Druitiere**	**4.65**	**266**	*e*Pg		Pg	04 19 53.6	-9.0
FLN	**La Foliniere**	**4.86**	**268**	*e*Pn		Pn	04 19 40.4	-5.4
GRR	**Gorron**	**5.17**	**265**	*e*Sn		Sn	04 20 40.9	-10

NIED ***11*** *04:33:00,36.80N×138.70E,h5km,Mw3.9 Best double couple: M0 8.05×10^14 NP1:φs42°,δ76°,λ122°. NP2:φs153°, δ35°,λ25°.*

JMA ***11*** *04:33:41.3,36.83N×138.74E,h5km±2km,M3.6 Broadband fault plane solution: P waves. NP1:φs160°, δ44°,λ51°. NP2:φs28°,δ57°,λ122°. Principal axes: T Plg63°, Azm353°; N Plg26°, Azm189°; P Plg7°, Azm96°;*

JMA Felt II J1.

IDC ***11*** *04:33:43.5±2.1,36.84N×138.42E,h20km±17km,mb3.5/5, mb1 3.9/5,mb1mx3.6/20,mbtmp3.7/5,MS3.4/2,Ms1 3.4/2, ms1mx2.6/21 Error ellipse: s-maj=59.7km s-min=24.8km az=108.0*

NEIC ***11*** *04:33:43.5±2.0,36.83N×138.42E,h20km±15km,Error ellipse: s-maj=48.0km s-min=24.0km az=109.0*

ISC 11 04:33:41.1±0.5,36.83N±0.04×138.71E±0.05,h16km±7km, n20,σ0 63/25,mb3.6/5,MS3.3/1,3C-3D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	ISC
JGK	**Kuni**	**0.27**	**193**	⇑P		**Pb**	**04 33 47.1**	**0.0**
JGK				S		**Sb**	**04 33 51.0**	**-0.2**
JKT	**Katashina**	**0.43**	**98**	⇓P		**Pb**	**04 33 49.4**	**-0.5**
JHK	**Hiroka**	**0.48**	**30**	⇑P		**Pb**	**04 33 50.4**	**-0.4**
JHK				S		**Sb**	**04 33 56.7**	**-0.7**
MJAR	**Matsushiro Arr**	**0.50**	**235**	Pg		**Pb**	**04 33 50.7**	**-0.2**
	168nm,0.3s,baz=46,slow=19,SNR=492							
MJAR				Lg			04 33 57.2	
	228nm,0.3s,baz=42,slow=23,SNR=83							
MJAR	**Matsushiro Arr**	**0.50**	**235**	Pg		**Pb**	**04 33 50.7**	**-0.3**
MJAR				Lg			04 33 57.2	
MAJO	**Matsushiro**	**0.50**	**235**	*e*Pg		**Pb**	**04 33 50.9**	**-0.1**
MAT	**Matsushiro**	**0.50**	**235**	P		**Pb**	**04 33 50.9**	**-0.1**
MAT				S		**Sb**	**04 33 57.4**	**-0.3**
MAT	**Matsushiro**	**0.50**	**235**	*e*P		**Pb**	**04 33 51.0**	**0.0**
MAT				*e*S		**Sb**	**04 33 57.0**	**-0.7**
JNG	**Nsakai**	**0.65**	**230**	⇓P		**Pb**	**04 33 53.8**	**+0.2**
JNG				S		**Sb**	**04 34 02.3**	**+0.2**
JIZZ	**Izumozaki**	**0.70**	**360**	⇑P		**Pb**	**04 33 55.9**	**+1.4**
JAG	**Ashikaga**	**0.72**	**124**	⇓P		**Pb**	**04 33 54.9**	**+0.2**
JAG				S		**Sb**	**04 34 04.2**	**+0.1**
JRY	**Ryogami san**	**0.82**	**169**	P		**Pb**	**04 33 56.7**	**+0.2**
JRY				S		**Sb**	**04 34 07.7**	**+0.6**
CBIJ	**Chichi jima**	**10.14**	**162**	LR		LR	04 39 40.6	
	comp=Z,233nm,19.6s,baz=52,slow=35							
SONM	**Songino Array**	**26.12**	**305**	LR		LR	04 50 24.8	
	comp=Z,80nm,18.5s,MS3.3,baz=51,slow=39							
ILAR	**Eielson Array**	**50.82**	**32**	P		**P**	**04 42 42.2**	**-0.2**
	0.5nm,0.7s,mb3.5,baz=275,slow=6.5,SNR=10							
WRA	**Warramunga Arr**	**56.61**	**185**	P		**P**	**04 43 24.6**	**-1.2**
	1.7nm,0.8s,mb4.2,baz=2.1,slow=7.6,SNR=24							
YKA	**Yellowknife Ar**	**65.06**	**29**	P		**P**	**04 44 22.2**	**-0.2**
	0.3nm,0.7s,mb3.5,baz=304,slow=6.5,SNR=8.2							
YKA	**Yellowknife Ar**	**65.06**	**29**	P		**P**	**04 44 22.2**	**-0.2**
NVAR	**Mina Array Bea**	**76.83**	**52**	P		**P**	**04 45 37.0**	**+3.3**
	0.5nm,0.8s,mb3.5,baz=288,slow=5.0,SNR=4.3							
GERES	**GERESS Array B**	**81.73**	**327**	P		**P**	**04 46 00.4**	**+0.5**
	0.5nm,0.8s,mb3.5,baz=56,slow=4.8,SNR=4.1							

IDC ***11*** *04:42:29.4±0.4,15.37N×45.83W,mb4.9/23,mb1 5.1/24, mb1mx5.1/24,mbtmp4.9/24,ML7.3/1,MS5.0/21,Ms1 5.0/21, ms1mx4.9/24,Error ellipse: s-maj=13.6km s-min=11.4km az=152.0*

MOS ***11*** *04:42:29.2±0.8,15.35N×45.84W,h10km,mb5.5/105, MS5.0/21,Error ellipse: s-maj=5.5km s-min=3.3km az=135.1*

BJI ***11*** *04:42:30.0,15.30N×45.90W,h10km,mB5.7,Ms5.5, Msz5.2*

HRVD ***11*** *04:42:31.1±0.2,15.36N×45.78W,h12km,MW5.5/83, Centroid moment Tensor Solution. LP body waves: s75,c139;Mantle waves: s83,c190; Half duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr-0.00±.03; Mθθ-0.47±.03; Mφφ0.46±.04; Mrθ0.70±.09; Mθφ-2.24±.03; Mφr0.42±.10; Best double couple: M0 2.421×10^17 NP1: φs184°,δ75°,λ-11°. NP2:φs277°,δ80°,λ-165°. Principal axes: T 2.296, Plg3°, Azm50°; N .252, Plg72°, Azm311°; P -2.547, Plg18°, Azm141°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***11*** *04:42:31.1±0.1,15.30N×45.86W,h10km,mb5.3/166, MS5.0/18,MW5.6 Error ellipse: s-maj=4.5km s-min=2.0km az=168.0,Moment Tensor Solution. s8 Moment tensor: Scale 10^17Nm; Mrr0.85; Mθθ-0.95; Mφφ0.11; Mrθ-0.75; Mθφ-2.92; Mφr-0.96; Best double couple: M0 3.1×10^17 NP1:φs96°,δ73°,λ-176°. NP2:φs5°,δ87°,λ-17°. Principal axes: T 2.59, Plg10°, Azm52°; N 1.11, Plg72°, Azm174°; P -3.71, Plg15°, Azm320°;*

ISC 11 04:42:29.3±0.2,15.33N±0.04×45.86W±0.02,h10km, (h11km±3.8km:pP-P),n552,σ0 91/528,mb5.2/200, MS5.0/55,79C-10D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	ISC
DEG	**La Desirade**	**14.67**	**276**	*e*P		**P**	**04 46 06.3**	**+7.4**
FDF	**Fort de France**	**14.79**	**270**	*e*P		**P**	**04 46 00.2**	**-0.3**
BBL	**Barber's Block**	**15.06**	**273**	*e*P		**P**	**04 46 12.7**	**+8.6**
SVB	**Belmont**	**15.06**	**264**	*e*P		**P**	**04 46 03.8**	**-0.3**
TPR	**Prospect**	**15.10**	**256**	*e*P		**P**	**04 46 03.7**	**-0.9**
TBG	**Guadaloupe-3**	**15.22**	**274**	*e*P		**P**	**04 46 12.9**	**+6.8**
TBH	**Brigand Hill**	**15.59**	**254**	*e*P		**P**	**04 46 12.1**	**+1.1**
GRW	**Mount Saint Ca**	**15.67**	**260**	*e*P		**P**	**04 46 11.0**	**-1.1**
TRN	**Trinidad (W)**	**15.85**	**255**	*e*P		**P**	**04 46 14.1**	**-0.1**
TPP	**Pointe-a-Pierr**	**16.00**	**254**	*e*P		**P**	**04 46 16.9**	**+0.7**
MTP	**Monte Pirata**	**19.07**	**281**	*e*P		**P**	**04 46 54.6**	**+0.1**
CPD	**Cerro la Pandu**	**19.41**	**281**	*e*P		**P**	**04 46 58.1**	**-0.3**
SJG	**San Juan**	**19.63**	**281**	P		**P**	**04 47 01.1**	**+0.1**
	17nm,0.3s,baz=107,slow=8.5,SNR=42							
SJG				LR		LR	04 53 09.3	
	comp=Z,3μm,19.3s,baz=102,slow=33							
SJG	**San Juan**	**19.63**	**281**	*e*P		**P**	**04 47 00.6**	**-0.4**
SJG				pmax		pmax		
	comp=Z,360nm,1.3s							
SJG	**San Juan**	**19.63**	**281**	P		**P**	**04 47 01.1**	**+0.1**
SJG				pmax		pmax		
	comp=Z,17nm,0.3s							
SJG				MLR		MLR		
	comp=Z,3μm,19.3s							
SJG	**San Juan**	**19.63**	**281**	*e*P		**P**	**04 47 00.6**	**-0.4**
	comp=Z,360nm,1.3s							
RCBR	**Riachuelo**	**23.22**	**154**	*e*P		**P**	**04 47 37.3**	**-0.3**
	comp=Z,77nm,1.1s,mb5.0							
SDV	**Santo Domingo**	**25.04**	**258**	P		**P**	**04 47 55.9**	**+0.5**
	comp=Z,54nm,0.8s,mb5.1,baz=106,slow=7.0,SNR=20							
SDV	**Santo Domingo**	**25.04**	**258**	*e*P		**P**	**04 47 55.2**	**-0.2**
	comp=Z,70nm,0.9s,mb5.2							
SAML	**Samuel**	**29.61**	**217**	*e*P		**P**	**04 48 36.6**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.1							
SAML				LR		LR		
	comp=Z,3μm,20.0s,MS5.0							
ROSC	**El Rosal**	**29.86**	**253**	P		**P**	**04 48 39.7**	**+0.3**
	comp=Z,20nm,0.5s,mb5.1,baz=102,slow=7.7,SNR=15							
EBAJ	**Bajamar**	**30.27**	**59**	P		**P**	**04 48 44.3**	**+1.4**
BAO	**Brasilia Array**	**30.84**	**184**	P		**P**	**04 48 49.0**	**+1.1**
BDFB	**Brasilia**	**30.84**	**184**	P		**P**	**04 48 48.4**	**+0.4**
	comp=Z,6.1nm,0.7s,mb4.6,baz=359,slow=9.8,SNR=11							
BDFB				LR		LR	05 00 14.8	
	comp=Z,2μm,19.6s,MS4.7,baz=7.7,slow=34							
BDFB	**Brasilia**	**30.84**	**184**	P		**P**	**04 48 48.4**	**+0.4**
BDFB				pmax		pmax		
	comp=Z,6.0nm,0.7s							
BDFB				MLR		MLR		
	comp=Z,2μm,19.6s							
CFTV	**Fuerteventura**	**32.12**	**61**	P		**P**	**04 48 58.7**	**-0.4**
QUA2	**Belchertown**	**35.22**	**325**	*e*P		**P**	**04 49 26.9**	**+1.0**
	comp=Z,22nm,0.8s,mb5.1							
PAL	**Palisades**	**35.30**	**322**	*e*P		**P**	**04 49 27.2**	**+0.7**
PAL				pmax		pmax		
	comp=Z,50nm,0.9s,mb5.4							
PAL	**Palisades**	**35.30**	**322**	*e*P		**P**	**04 49 27.2**	**+0.7**
	comp=Z,50nm,0.9s,mb5.5							
OTAV	**Otavalo**	**35.51**	**248**	*e*P		**P**	**04 49 28.6**	**0.0**
	comp=Z,112nm,1.2s,mb5.7							
OTAV				LR		LR		
	comp=Z,1μm,20.0s,MS4.7							
CBN	**Corbin**	**35.92**	**315**	*e*P		**P**	**04 49 32.6**	**+0.7**
	comp=Z,27nm,0.9s,mb5.2							
JSC	**Jenkinsville**	**37.01**	**307**	*e*P		**P**	**04 49 41.8**	**+0.8**
MIV	**Mineville/With**	**37.06**	**326**	*e*P		**P**	**04 49 42.5**	**+1.1**
NCB	**Newcomb**	**37.37**	**326**	*e*P		**P**	**04 49 43.5**	**-0.4**
	comp=Z,38nm,1.2s,mb5.1							
BLA	**Blacksburg**	**37.58**	**312**	*e*P		**P**	**04 49 47.3**	**+1.6**
BLA				pmax		pmax		
	comp=Z,73nm,1.3s,mb5.2							
BLA	**Blacksburg**	**37.58**	**312**	*e*P		**P**	**04 49 47.3**	**+1.6**
	comp=Z,73nm,1.3s,mb5.2							
CAM4	**Nova Friburgo**	**37.59**	**175**	*e*P		**P**	**04 49 47.0**	**+1.0**
CAM4				*i*		pP	04 49 48.3	-0.7
CAM4				*i*		pP	04 49 51.8	+2.9
CAM4				*i*			04 50 01.8	
CAM4				*i*			04 50 05.1	
FRNY	**Flat Rock**	**37.60**	**327**	*e*P		**P**	**04 49 47.0**	**+1.1**
LPAZ	**La Paz**	**38.35**	**216**	P		**P**	**04 49 53.3**	**+0.9**
	comp=Z,22nm,0.8s,mb5.0,baz=28,slow=9.5,SNR=37							
LPAZ				LR		LR	05 05 16.0	
	comp=Z,3μm,20.6s,MS5.1,baz=38,slow=36							
LPAZ	**La Paz**	**38.35**	**216**	*e*P		**P**	**04 49 53.2**	**+0.8**
LPAZ				pmax		pmax		
	comp=Z,41nm,0.9s							
LPAZ				MLR		MLR		
	comp=Z,3μm,21.0s							
LPAZ	**La Paz**	**38.35**	**216**	*e*P		**P**	**04 49 53.2**	**+0.8**
	comp=Z,41nm,0.9s,mb5.2							
LPAZ				LR		LR		
	comp=Z,3μm,21.0s,MS5.1							
GOGA	**Godfrey**	**38.44**	**305**	*e*P		**P**	**04 49 54.2**	**+1.2**
GOGA				pmax		pmax		
	comp=Z,37nm,1.1s,mb5.0							
GOGA	**Godfrey**	**38.44**	**305**	*e*P		**P**	**04 49 54.2**	**+1.2**
	comp=Z,37nm,1.1s,mb5.0							
PTEO	**Sao Teotonio**	**39.57**	**49**	*e*P		**P**	**04 50 01.2**	**-1.2**
TZTN	**Tazewell**	**39.59**	**309**	*e*P		**P**	**04 50 04.3**	**+1.6**
MOE	**Montemor**	**40.24**	**48**	*e*P		**P**	**04 50 08.8**	**+0.9**
PBEJ	**Beja**	**40.39**	**49**	*e*P		**P**	**04 50 09.6**	**+0.5**
	comp=Z,76nm,2.0s,mb5.1							
EGRO	**El Granado**	**40.47**	**49**	P		**P**	**04 50 11.2**	**+1.4**
	comp=Z,501nm,2.5s,mb5.8							
ARE	**Arequipa**	**40.47**	**220**	*e*P		**P**	**04 50 09.0**	**-1.0**
EVO	**Evora**	**40.48**	**48**	⇑*i*P		**P**	**04 50 09.4**	**-0.5**
	comp=Z,93nm,1.0s,mb5.2							
EVO				*e*R				
	comp=Z,2μm,20.2s							
PTOM	**Tomar**	**40.66**	**46**	*e*P		**P**	**04 50 11.9**	**+0.5**
	comp=Z,74nm,1.5s,mb5.1							
LIC	**Lamto**	**41.05**	**98**	*e*P		**P**	**04 50 15.8**	**+1.0**
	comp=Z,100nm,1.1s,mb5.1							
LIC				*e*R				
	comp=Z,945nm,20.5s							
DBIC	**Dimbokro**	**41.09**	**97**	P		**P**	**04 50 14.6**	**-0.6**
	comp=Z,36nm,1.0s,mb5.0,baz=280,slow=9.1,SNR=17							
DBIC				LR		LR	05 03 48.4	
	comp=Z,850nm,18.2s,MS4.7,baz=266,slow=31							
DBIC	**Dimbokro**	**41.09**	**97**	*e*P		**P**	**04 50 14.2**	**-0.9**
	comp=Z,58nm,1.1s,mb5.1							
DBIC				LR		LR		
	comp=Z,1μm,22.0s,MS4.7							
EMIN	**Mina Concepcio**	**41.16**	**50**	P		**P**	**04 50 16.1**	**+0.6**
	comp=Z,494nm,3.1s							
EBAD	**Badajoz**	**41.29**	**48**	P		**P**	**04 50 17.6**	**+1.0**
	comp=Z,33nm,1.6s,mb4.7							
PCBR	**Castelo Branco**	**41.41**	**46**	*e*P		**P**	**04 50 17.7**	**+0.2**
	comp=Z,93nm,1.6s,mb5.2							
ESPR	**Espera**	**41.44**	**51**	P		**P**	**04 50 19.0**	**+1.2**
	comp=Z,34nm,1.1s,mb4.9							
PVIS	**Viseu**	**41.50**	**45**	*e*P		**P**	**04 50 18.5**	**+0.2**
	comp=Z,82nm,2.3s,mb5.0							
EJIF	**Jimena Fronter**	**41.59**	**52**	P		**P**	**04 50 20.6**	**+1.6**
EJIF				pmax		pmax		
	comp=Z,50nm,1.2s,mb5.0							
EJIF	**Jimena Fronter**	**41.59**	**52**	P		**P**	**04 50 20.6**	**+1.6**
	comp=Z,50nm,1.2s,mb5.0							
MTE	**Manteigas**	**41.60**	**45**	*e*P		**P**	**04 50 19.5**	**+0.4**
	comp=Z,57nm,1.9s,mb4.9							
MTE				*e*S		**S**	**04 56 43.6**	**+8.5**
MTE				*e*LQ			04 59 58.6	
MTE				*e*LR		LR	05 01 26.6	
	comp=Z,4μm,20.0s							
MTE	**Manteigas**	**41.60**	**45**	*e*P		**P**	**04 50 19.3**	**+0.2**
	comp=Z,48nm,0.9s,mb5.1							
PVRL	**Vila Real**	**41.87**	**44**	*e*P		**P**	**04 50 22.3**	**+1.0**
	comp=Z,86nm,2.1s,mb5.0							
ELOB	**Lobios**	**41.91**	**43**	P		**P**	**04 50 22.9**	**+1.3**
	comp=Z,371nm,2.4s,mb5.6							
STS	**Santiago**	**42.08**	**42**	P		**P**	**04 50 26.6**	**+3.6**
STS				pmax		pmax		
	comp=Z,29nm,1.1s,mb4.8							
STS	**Santiago**	**42.08**	**42**	P		**P**	**04 50 26.6**	**+3.6**
	comp=Z,29nm,1.1s,mb4.8							
AAM	**Ann Arbor**	**42.12**	**317**	*e*P		**P**	**04 50 24.2**	**+0.8**
AAM				pmax		pmax		
	comp=Z,48nm,0.9s,mb5.1							
AAM	**Ann Arbor**	**42.12**	**317**	*e*P		**P**	**04 50 24.2**	**+0.9**
	comp=Z,48nm,0.9s,mb5.1							
EMIJ	**Mijas**	**42.15**	**52**	P		**P**	**04 50 26.2**	**+2.5**
	comp=Z,31nm,1.1s,mb4.9							
ECAB	**El Cabril**	**42.19**	**50**	P		**P**	**04 50 24.6**	**+0.6**
	comp=Z,39nm,1.1s,mb5.0							
WCI	**Wyandotte Cave**	**42.25**	**311**	*e*P		**P**	**04 50 25.1**	**+0.6**
WCI				pmax		pmax		
	comp=Z,89nm,1.6s,mb5.2							
WCI	**Wyandotte Cave**	**42.25**	**311**	*e*P		**P**	**04 50 25.1**	**+0.6**
	comp=Z,89nm,1.6s,mb5.2							
SCHQ	**Schefferville**	**42.65**	**342**	P		**P**	**04 50 28.4**	**+0.9**
	comp=Z,95nm,0.9s,mb5.5,baz=138,slow=6.9,SNR=35							
SCHQ				LR		LR	05 05 50.4	
	comp=Z,2μm,19.4s,MS5.0,baz=319,slow=33							
SCHQ	**Schefferville**	**42.65**	**342**	*e*P		**P**	**04 50 27.7**	**+0.2**
	comp=Z,148nm,1.0s,mb5.7							
SCHQ				LR		LR		
	comp=Z,4μm,19.0s,MS5.3							
WVT	**Waverly**	**42.70**	**307**	*e*P		**P**	**04 50 28.8**	**+0.6**
WVT				pmax		pmax		
	comp=Z,29nm,0.9s,mb5.0							
WVT	**Waverly**	**42.70**	**307**	*e*P		**P**	**04 50 28.8**	**+0.6**
	comp=Z,30nm,0.9s,mb5.0							
ERUA	**La Rua**	**42.76**	**43**	P		**P**	**04 50 32.4**	**+3.8**
ERUA				pmax		pmax		
	comp=Z,85nm,1.7s,mb5.2							
ERUA	**La Rua**	**42.76**	**43**	P		**P**	**04 50 32.4**	**+3.8**
	comp=Z,85nm,1.7s,mb5.2							
ELOJ	**Sierra Loja**	**42.81**	**51**	P		**P**	**04 50 30.3**	**+1.2**
ELOJ				pmax		pmax		
	comp=Z,23nm,1.0s,mb4.9							
ELOJ	**Sierra Loja**	**42.81**	**51**	P		**P**	**04 50 30.3**	**+1.2**
	comp=Z,23nm,1.0s,mb4.9							
ECAL	**Calabor**	**42.83**	**44**	P		**P**	**04 50 32.2**	**+3.1**
	comp=Z,48nm,1.7s,mb5.0							
EADA	**Adamuz**	**42.84**	**50**	P		**P**	**04 50 30.5**	**+1.2**
	comp=Z,7.1nm,1.0s,mb4.3							
ELUQ	**Luque**	**42.87**	**51**	P		**P**	**04 50 29.8**	**+0.3**
ELUQ				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.5							
ELUQ	**Luque**	**42.87**	**51**	P		**P**	**04 50 29.8**	**+0.3**
	comp=Z,9.6nm,0.9s,mb4.5							
CPUP	**Villa Florida**	**42.88**	**195**	*e*P		**P**	**04 50 29.2**	**-0.6**
CPUP				pmax		pmax		
	comp=Z,123nm,1.0s							
CPUP	**Villa Florida**	**42.88**	**195**	*e*P		**P**	**04 50 29.1**	**-0.7**
	comp=Z,123nm,1.0s,mb5.6							
ERON	**Agron**	**43.03**	**52**	P		**P**	**04 50 32.1**	**+1.2**
	comp=Z,12nm,0.7s,mb4.8							
EPON	**Pontenova**	**43.19**	**42**	P		**P**	**04 50 35.7**	**+3.6**
	comp=Z,72nm,1.7s,mb5.1							
ECOG	**Cogollos-Vega**	**43.30**	**52**	P		**P**	**04 50 34.3**	**+1.3**
ECOG				pmax		pmax		
	comp=Z,41nm,1.2s,mb5.0							
ECOG	**Cogollos-Vega**	**43.30**	**52**	P		**P**	**04 50 34.3**	**+1.3**
	comp=Z,41nm,1.2s,mb5.0							
EBAN	**Banos Encina**	**43.43**	**50**	P		**P**	**04 50 34.6**	**+0.5**
EBAN				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.4							
EBAN	**Banos Encina**	**43.43**	**50**	P		**P**	**04 50 34.6**	**+0.5**
	comp=Z,6.9nm,0.8s,mb4.4							
EBER	**Berja**	**43.69**	**52**	P		**P**	**04 50 37.4**	**+1.2**
	comp=Z,50nm,0.8s,mb5.3							
ESDC	**Sonseca Array**	**43.83**	**48**	P		**P**	**04 50 37.4**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.3,baz=249,slow=7.4,SNR=37							
ESDC	**Sonseca Array**	**43.83**	**48**	P		**P**	**04 50 37.0**	**-0.3**
	comp=Z,13nm,1.9s,mb4.3							
EQES	**Quesada**	**43.84**	**51**	P		**P**	**04 50 38.0**	**+0.6**
	comp=Z,12nm,0.7s,mb4.7							
GUD	**Guadarrama**	**44.06**	**47**	P		**P**	**04 50 39.4**	**+0.2**
GUD				pmax		pmax		
	comp=Z,17nm,1.0s,mb4.7							
GUD	**Guadarrama**	**44.06**	**47**	P		**P**	**04 50 39.4**	**+0.2**
	comp=Z,17nm,1.0s,mb4.7							
EHUE	**Huescar**	**44.20**	**51**	P		**P**	**04 50 40.7**	**+0.3**
EHUE				pmax		pmax		
	comp=Z,23nm,1.3s,mb4.8							
EHUE	**Huescar**	**44.20**	**51**	P		**P**	**04 50 40.7**	**+0.3**
	comp=Z,23nm,1.3s,mb4.8							
PARMO	**Parma**	**44.34**	**307**	*e*P		**P**	**04 50 42.1**	**+0.6**
EVIA	**Vianos**	**44.54**	**50**	P		**P**	**04 50 43.8**	**+0.7**
EVIA				pmax		pmax		
	comp=Z,20nm,0.8s,mb5.0							
EVIA	**Vianos**	**44.54**	**50**	P		**P**	**04 50 43.8**	**+0.7**
	comp=Z,20nm,0.8s,mb5.0							
EMUR	**La Murta**	**45.23**	**52**	P		**P**	**04 50 49.8**	**+1.2**
	comp=Z,20nm,1.0s,mb4.9							
FVM	**French Village**	**45.24**	**309**	*e*P		**P**	**04 50 49.3**	**+0.6**
FVM				pmax		pmax		
	comp=Z,27nm,0.8s,mb5.1							
FVM	**French Village**	**45.24**	**309**	*e*P		**P**	**04 50 49.2**	**+0.5**
	comp=Z,26nm,0.8s,mb5.1							
ETOB	**Tobarra**	**45.25**	**50**	P		**P**	**04 50 49.9**	**+1.2**
	comp=Z,33nm,0.9s,mb5.2							
ELAN	**Lanestosa**	**45.58**	**44**	P		**P**	**04 50 53.0**	**+1.6**
	comp=Z,26nm,1.1s,mb5.1							
UALR	**University of**	**45.89**	**304**	*e*P		**P**	**04 50 54.7**	**+0.8**
	comp=Z,52nm,1.2s,mb5.3							
TORD	**Torodi Ar. Bea**	**46.07**	**86**	P		**P**	**04 50 54.1**	**-1.4**
	comp=Z,26nm,0.8s,mb5.2,baz=284,slow=5.6,SNR=90							
EBEN	**Beniarda**	**46.25**	**51**	P		**P**	**04 50 58.5**	**+1.8**
	comp=Z,51nm,0.9s,mb5.5							
EMOS	**Mosqueruela**	**46.59**	**48**	P		**P**	**04 51 01.5**	**+2.2**
	comp=Z,30nm,0.9s,mb5.2							
MIAR	**Mount Ida**	**46.83**	**303**	*e*P		**P**	**04 51 02.3**	**+1.0**
MIAR				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.0							
MIAR	**Mount Ida**	**46.83**	**303**	*e*P		**P**	**04 51 02.3**	**+1.0**
	comp=Z,18nm,1.0s,mb5.0							
EALK	**Alkurruntz**	**46.87**	**44**	P		**P**	**04 51 04.9**	**+3.4**
	comp=Z,9.9nm,0.7s,mb4.8							
SJPF	**Ste Jean**	**47.02**	**45**	⇑*i*P		**P**	**04 51 03.4**	**+0.7**
	comp=Z,108nm,1.1s,mb5.4							
SJPF	**Ste Jean**	**47.02**	**45**	⇑*i*P		**P**	**04 51 03.4**	**+0.7**
SJPF				pmax		pmax		
	comp=Z,54nm,1.1s,mb5.4							
ESAC	**San Caprasio**	**47.04**	**47**	P		**P**	**04 51 03.7**	**+0.8**
	comp=Z,41nm,1.0s,mb5.3							
NATX	**Nacogdoches**	**47.24**	**299**	*e*P		**P**	**04 51 05.7**	**+1.1**
ATE	**Arette**	**47.37**	**45**	*e*P		**P**	**04 51 06.1**	**+0.6**
ETSF	**Etsaut**	**47.40**	**45**	⇑*i*P		**P**	**04 51 06.6**	**+0.9**
	comp=Z,108nm,1.1s,mb5.4							
ETSF	**Etsaut**	**47.40**	**45**	⇑*i*P		**P**	**04 51 06.6**	**+0.9**
ETSF				pmax		pmax		
	comp=Z,54nm,1.1s,mb5.4							
EGRA	**Graus**	**47.75**	**46**	P		**P**	**04 51 09.5**	**+0.9**
	comp=Z,16nm,0.7s,mb5.2							
VIEF	**Viey**	**47.79**	**45**	*e*P		**P**	**04 51 09.

PLDF La Plantade 51.28 43 *e*P P **04 51 35.4 -0.1**
AVF Avril sur Loir 51.39 42⇑*i*P P **04 51 36.1 -0.2**
comp=Z,40nm,1.0s,mb5.0
AVF Avril sur Loir 51.39 42⇑*i*P P **04 51 36.1 -0.2**
AVF pmax pmax
comp=Z,20nm,1.0s,mb5.0
JCT Junction City 51.48 297 *e*P P **04 51 36.6 -0.6**
JCT pmax pmax
comp=Z,26nm,0.9s,mb5.2
JCT Junction City 51.48 297 *e*P P **04 51 36.6 -0.6**
comp=Z,26nm,0.9s,mb5.2
SSF Saint Saulge 51.59 41⇑*i*P P **04 51 37.3 -0.5**
SMF Signal de Mont 51.66 42⇑*i*P P **04 51 38.0 -0.3**
comp=Z,215nm,1.9s,mb5.5
SMF Signal de Mont 51.66 42⇑*i*P P **04 51 38.0 -0.3**
SMF pmax pmax
comp=Z,107nm,1.9s,mb5.5
SFJD Kangerlussuaq 51.72 358 P P **04 51 38.8 +0.2**
comp=Z,20nm,1.1s,mb5.0,baz=139,slow=12,SNR=3.0
SFJD Kangerlussuaq 51.72 358 P P **04 51 38.8 +0.2**
SFJD pmax pmax
comp=Z,20nm,1.1s,mb5.0
MENF Mencas 52.12 37 *e*P P **04 51 41.1 -0.7**
LMR La Mourre 52.44 47⇑*i*P P **04 51 43.9 -0.4**
comp=Z,140nm,1.4s,mb5.4
LMR La Mourre 52.44 47⇑*i*P P **04 51 43.9 -0.4**
LMR pmax pmax
comp=Z,70nm,1.4s,mb5.4
FRF La Foret Royal 52.60 47⇑*i*P P **04 51 45.1 -0.4**
comp=Z,59nm,1.1s,mb5.1
FRF La Foret Royal 52.60 47⇑*i*P P **04 51 45.1 -0.4**
FRF pmax pmax
comp=Z,29nm,1.1s,mb5.1
MBDF Montbardon 53.01 45⇑*i*P P **04 51 49.0 +0.5**
comp=Z,63nm,1.1s,mb5.2
MBDF Montbardon 53.01 45⇑*i*P P **04 51 49.0 +0.5**
MBDF pmax pmax
comp=Z,32nm,1.1s,mb5.2
BNI Bardonecchia 53.03 45 *e*P P **04 51 46.9 -1.8**
BNI pmax pmax
comp=Z,112nm,1.6s,mb5.5
BNI Bardonecchia 53.03 45 *e*P P **04 51 46.9 -1.9**
comp=Z,112nm,1.6s,mb5.5
MVIF Mont Vial 53.04 46 *e*P P **04 51 48.2 -0.6**
MEZF Maizieres J'vi 53.07 40⇑*i*P P **04 51 48.7 -0.2**
comp=Z,130nm,0.9s,mb5.6
CABF La Chapelle 53.11 43⇑*i*P P **04 51 49.2 0.0**
comp=Z,77nm,1.3s,mb5.2
CABF La Chapelle 53.11 43⇑*i*P P **04 51 49.2 0.0**
CABF pmax pmax
comp=Z,39nm,1.3s,mb5.2
BAIF Baives 53.13 38⇑*i*P P **04 51 48.7 -0.6**
comp=Z,107nm,1.3s,mb5.3
BAIF Baives 53.13 38⇑*i*P P **04 51 48.7 -0.6**
BAIF pmax pmax
comp=Z,54nm,1.3s,mb5.3
ULM Lac du Bonnet 53.17 322 P P **04 51 48.2 -1.5**
comp=Z,15nm,0.6s,mb5.1,baz=112,slow=7.0,SNR=37
ULM LR LR 05 10 58.1
comp=Z,2µm,21.5s,MS5.1,baz=96,slow=32
LPG La Plagne 53.21 44 *e*P P **04 51 49.5 -0.5**
comp=Z,183nm,1.7s,mb5.4
LPG La Plagne 53.21 44 *e*P P **04 51 49.5 -0.5**
LPG pmax pmax
comp=Z,91nm,1.7s,mb5.4
DOI San Damiano 53.27 46 P P **04 51 51.5 +1.0**
DOI pmax pmax
comp=Z,59nm,1.0s,mb5.5
DOI San Damiano 53.27 46 P P **04 51 51.5 +1.0**
comp=Z,59nm,1.0s,mb5.5
GIVF Givet 53.51 38⇑*i*P P **04 51 51.6 -0.5**
THEF They Montfort 53.56 41 *e*P P **04 51 52.0 -0.6**
HAU Haudompre 53.72 41⇑*i*P P **04 51 52.9 -0.8**
comp=Z,42nm,1.0s,mb5.0
HAU *e*R
comp=Z,835nm,19.5s
HAU Haudompre 53.72 41⇑*i*P P **04 51 52.9 -0.8**
HAU pmax pmax
comp=Z,21nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,830nm,19.5s,MS4.8
LOMF Lomont 53.82 42 *e*P P **04 51 54.2 -0.2**
DIX Grande Dixence 53.82 44 P P **04 51 56.1 +1.6**
FIN Finale Ligure 53.86 46 P P **04 51 54.8 0.0**
HINF Hinteralfeld 53.98 42⇑*i*P P **04 51 54.8 -0.8**
comp=Z,39nm,1.1s,mb5.0
HINF Hinteralfeld 53.98 42⇑*i*P P **04 51 54.8 -0.8**
HINF pmax pmax
comp=Z,19nm,1.1s,mb4.9
ORO Oropa 54.08 44 P P **04 51 56.2 -0.1**
ORO pmax pmax
comp=Z,126nm,1.8s,mb5.5
ORO Oropa 54.08 44 P P **04 51 56.2 -0.1**
comp=Z,126nm,1.8s,mb5.5
WLF Walferdange 54.16 39 *e*P P **04 51 55.5 -1.3**
WLF pmax pmax
comp=Z,36nm,1.1s,mb5.2
WLF Walferdange 54.16 39 *e*P P **04 51 55.5 -1.4**
comp=Z,36nm,1.1s,mb5.2
MOF Molkenrain 54.17 42 *e*P P **04 51 55.6 -1.4**
MCGN Macugnaga 54.17 44 P P **04 51 57.8 +0.8**
MMK Mattmark 54.18 44 P P **04 51 58.0 +0.9**
BBS Basel-Blauen 54.29 42 *e*P P **04 51 57.3 -0.6**
ECH Echery 54.30 41 *e*P P **04 51 56.8 -1.1**
HGN Heimansgroeve 54.41 38⇑*e*P P **04 51 58.0 -0.7**
comp=Z,48nm,2.0s,mb5.1
CDF Champ du Feu 54.44 41⇑*i*P P **04 51 58.0 -0.9**
WLS Welschbruch 54.49 41 *e*P P **04 51 58.4 -0.9**
VAI Varese 54.67 44 P P **04 52 00.0 -0.7**
VAI pmax pmax
comp=Z,31nm,0.8s,mb5.4
VAI Varese 54.67 44 P P **04 52 00.0 -0.7**
comp=Z,31nm,0.8s,mb5.4
RUP Ruppelstein 54.72 39 *e*P P **04 52 00.6 -0.4**
LTX Lajitas 54.77 295 *e*P P **04 51 59.6 -2.1**
LTX pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
LTX Lajitas 54.77 295 *e*P P **04 51 59.6 -2.1**
comp=Z,9.5nm,0.9s,mb4.8
TXAR Lajitas Array 54.77 295 P P **04 52 01.9 +0.2**
comp=Z,9.0nm,0.9s,mb4.8,baz=111,slow=7.8,SNR=26
TXAR PcP PcP 04 53 04.0 -0.2
comp=Z,5.1nm,0.8s,baz=87,slow=5.1,SNR=7.8
TXAR LR LR 05 16 11.9
comp=Z,897nm,19.4s,MS4.8,baz=140,slow=37
ABH Altenburg 55.08 39 *e*P P **04 52 03.2 -0.5**
BFO Black Forest 55.08 41 *e*P P **04 52 02.9 -0.8**
BFO pmax pmax
comp=Z,118nm,1.8s,mb5.6
BFO Black Forest 55.08 41 *e*P P **04 52 02.9 -0.8**
comp=Z,118nm,1.8s,mb5.6
SPAK Spaichingen 55.30 42 *e*P P **04 52 05.0 -0.3**
WTSB Winterswijk 55.35 37⇑*e*P P **04 52 05.1 -0.5**
comp=Z,48nm,2.1s,mb5.2
ERBM Eremo 55.45 46 P P **04 52 07.0 +0.6**
GDL2 Guadalupe Moun 55.49 299 *e*P P **04 52 06.5 -0.3**
GSCL Gusciola 55.55 46 P P **04 52 06.8 -0.4**
TNS Taunus Mts 55.74 39 *e*P P **04 52 07.8 -0.6**
TNS pmax pmax
comp=Z,80nm,1.7s,mb5.5
TNS Taunus Mts 55.74 39 *e*P P **04 52 07.8 -0.6**
comp=Z,80nm,1.7s,mb5.5
STU Stuttgart 55.76 41 *e*P P **04 52 07.1 -1.5**
STU pmax pmax
comp=Z,36nm,0.9s,mb5.4
STU Stuttgart 55.76 41 *e*P P **04 52 07.1 -1.5**
comp=Z,36nm,0.9s,mb5.4
TOD Tromm 55.77 40 *e*P P **04 52 07.9 -0.7**
DAVA Damuels 55.79 43⇑*i*P P **04 52 08.8 0.0**
comp=Z,31nm,0.9s,mb5.3
DAVA Damuels 55.79 43⇑P P **04 52 08.8 0.0**
comp=Z,31nm,0.9s,mb5.3
CSNT Castellina Chi 55.86 48 P P **04 52 08.8 -0.6**
FUORN Ofenpass 55.87 44 P P **04 52 10.2 +0.8**
FNVD Fontana Vidola 55.89 47 P P **04 52 09.9 +0.3**
comp=Z,396nm,2.5s,mb6.0
BRMO Bormio 55.91 44 P P **04 52 08.1 -1.6**
FCC Fort Churchill 56.00 332 *e*P P **04 52 08.5 -1.7**
FCC pmax pmax
comp=Z,62nm,1.2s,mb5.5
FCC Fort Churchill 56.00 332 *e*P P **04 52 08.5 -1.7**
comp=Z,62nm,1.2s,mb5.5
MNTX Cornudas Mount 56.33 298 *e*P P **04 52 11.7 -1.2**
comp=Z,33nm,1.2s,mb5.2
SFI Santa Sofia 56.35 47 P P **04 52 12.2 -0.7**
SFI pmax pmax
comp=Z,550nm,2.4s,mb6.2
SFI Santa Sofia 56.35 47 P P **04 52 12.2 -0.7**
comp=Z,550nm,2.4s,mb6.2
CLTB Caltabellotta 56.39 55 P P **04 52 13.6 +0.3**
MOTA Moosalm 56.61 43⇑*i*P P **04 52 13.9 -0.8**
comp=Z,189nm,1.9s,mb5.8,SNR=25
MOTA Moosalm 56.61 43⇑*i*P P **04 52 13.9 -0.8**
MOTA pmax pmax
comp=Z,189nm,1.9s,mb5.8
MOTA Moosalm 56.61 43⇑*i*P P **04 52 13.9 -0.8**
comp=Z,189nm,1.9s,mb5.8
SQTA Sankt Quirin 56.65 43⇑*i*P P **04 52 14.4 -0.6**
comp=Z,115nm,1.8s,mb5.6,SNR=12
SQTA Sankt Quirin 56.65 43⇑*i*P P **04 52 14.4 -0.6**
SQTA pmax pmax
comp=Z,115nm,1.8s,mb5.6
CTI Castel Tesino 56.67 45 P P **04 52 12.1 -3.0**
CTI pmax pmax
comp=Z,367nm,3.6s
CTI Castel Tesino 56.67 45 P P **04 52 12.1 -3.0**
comp=Z,367nm,3.6s
RSSD Black Hills 56.73 313 *e*P P **04 52 14.2 -1.4**
RSSD pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
RSSD Black Hills 56.73 313 *e*P P **04 52 14.2 -1.4**
comp=Z,10.0nm,0.8s,mb4.9
SDCO Great Sand Dun 56.86 305 *e*P P **04 52 16.7 0.0**
comp=Z,23nm,1.0s,mb5.2
FUR Furstenfeldbru 56.93 42 *e*P P **04 52 16.4 -0.6**
FUR pmax pmax
comp=Z,108nm,1.4s,mb5.7
FUR Furstenfeldbru 56.93 42 *e*P P **04 52 16.4 -0.6**
comp=Z,108nm,1.4s,mb5.7
SCO Scoresbysund 57.05 9 *i*P P **04 52 17.7 +0.1**
AQU L'Aquila 57.19 49 *e*P P **04 52 18.1 -0.8**
AQU pmax pmax
comp=Z,71nm,1.0s,mb5.7
AQU L'Aquila 57.19 49 *e*P P **04 52 18.1 -0.8**
comp=Z,71nm,1.0s,mb5.7
ISCO Idaho Springs 57.19 308 *e*P P **04 52 19.8 +0.8**
ISCO pmax pmax
comp=Z,32nm,1.0s,mb5.3
ISCO Idaho Springs 57.19 308 *e*P P **04 52 19.8 +0.8**
comp=Z,32nm,1.0s,mb5.3
PHWY Pilot Hill 57.28 309 *e*P P **04 52 19.5 -0.1**
GRA1 Grafenberg Arr 57.29 40 *e*P P **04 52 18.5 -1.1**
comp=Z,43nm,1.6s,mb5.2
GRF Grafenberg Arr 57.29 40 *e*P P **04 52 18.5 -1.1**
GRF pmax pmax
comp=Z,43nm,1.6s,mb5.2
GRF MLR MLR
comp=Z,500nm,18.5s,MS4.7
GRF Grafenberg Arr 57.29 40 *e*P P **04 52 18.5 -1.1**
comp=Z,43nm,1.6s,mb5.2
GRF LR LR
comp=Z,500nm,18.5s,MS4.7
ANMO Albuquerque 57.40 302 *e*P P **04 52 21.1 +0.6**
ANMO Albuquerque 57.40 302 P P **04 52 20.2 -0.3**
comp=Z,18nm,1.4s,mb4.9
CLZ Clausthal 57.40 38 *e*P P **04 52 19.8 -0.5**
CLZ pmax pmax
comp=Z,102nm,1.9s,mb5.5
CLZ Clausthal 57.40 38 *e*P P **04 52 19.8 -0.5**
comp=Z,102nm,1.9s,mb5.5
SUMG Summit 57.40 3 *e*P P **04 52 21.1 +1.0**
comp=Z,36nm,0.9s,mb5.4
BNM Barren Site 57.49 301 *e*P P **04 52 21.8 +0.7**
LPM Los Pinos Moun 57.50 301 *e*P P **04 52 21.5 +0.2**
FVI Forni Avoltri 57.55 44 P P **04 52 21.5 +0.1**
LENM Lemitar 57.77 301 *e*P P **04 52 24.4 +1.2**
DGMT Dagmar 57.79 318 *e*P P **04 52 22.4 -0.6**
comp=Z,74nm,1.0s,mb5.7
MOX Moxa 57.80 39 *i*P P **04 52 22.5 -0.6**
comp=Z,logA/T=1.7,mb5.5
MOX S **S 05 00 28.0 +7.5**
MOX L 05 17 13.0
MOX Moxa 57.80 39 *e*P P **04 52 22.5 -0.6**
MOX pmax pmax
comp=Z,99nm,1.9s,mb5.5
MOX MLR MLR
comp=Z,1µm,18.0s,MS5.0
MOX Moxa 57.80 39 *e*P P **04 52 22.5 -0.6**
comp=Z,99nm,1.9s,mb5.5
MOX LR LR
comp=Z,1µm,18.0s,MS5.0
LAZ Ladron 57.92 301 *e*P P **04 52 24.6 +0.4**
BSEG Bad Segeberg 58.03 35 *e*P P **04 52 23.9 -0.8**
BER Bergen 58.10 27 AMS AMS 05 13 20.5
comp=Z,1µm,18.7s,MS5.0
VOY Vojsko 58.19 45 *e*P P **04 52 26.5 +0.6**
VOY *e* pP 04 52 28.2 -0.8
WET Wettzell 58.20 41 *e*P P **04 52 24.3 -1.6**
WET pmax pmax
comp=Z,45nm,1.5s,mb5.3
WET Wettzell 58.20 41 *e*P P **04 52 24.3 -1.6**
comp=Z,45nm,1.5s,mb5.3
NKC Novy Kostel 58.20 40 *e*P P **04 52 25.7 -0.2**
NKC AMS AMS 05 16 20.0
comp=Z,1µm,15.5s
MUD Monsted U'grnd 58.30 32 *i*P P **04 52 33.8 +7.3**
comp=Z,33nm,0.9s,mb5.4
MUD *i*S S 05 00 03.8 -23
comp=Z,1µm,20.0s
LJU Ljubljana 58.63 45 *e*P P **04 52 28.5 -0.4**
KHC Kasperske Hory 58.64 41 *e*P P **04 52 28.0 -1.0**
KHC pP pP 04 52 34.0 +1.9
KHC AMS AMS 05 18 50.0
comp=Z,1µm,20.0s
KHC Kasperske Hory 58.64 41 *e*P P **04 52 28.0 -1.0**
KHC *e* 04 52 34.0
KHC MLR MLR
comp=Z,1µm,20.0s,MS4.9
GEC2 GERESS Array S 58.66 42 *e*P P **04 52 27.7 -1.4**
GEC2 pmax pmax
comp=Z,71nm,1.6s,mb5.5
GEC2 GERESS Array S 58.66 42 *e*P P **04 52 27.7 -1.4**
comp=Z,71nm,1.6s,mb5.5
GERES GERESS Array B 58.66 42 P P **04 52 27.9 -1.2**
comp=Z,7.5nm,1.0s,mb4.7,baz=256,slow=5.5,SNR=18
GERES LR LR 05 17 20.3
comp=Z,885nm,18.2s,MS4.9,baz=252,slow=36
LAO LASA Array 58.74 316 *e*P P **04 52 27.7 -2.0**
comp=Z,40nm,0.9s,mb5.5
MOA Molln 58.81 43⇑*i*P P **04 52 29.0 -1.2**
comp=Z,23nm,1.0s,mb5.2,SNR=7.2
MOA Molln 58.81 43⇑*i*P P **04 52 28.9 -1.2**
comp=Z,23nm,1.0s,mb5.2
CLL Collm 58.82 39⇑P P **04 52 29.5 -0.7**
comp=Z,logA/T=1.7,mb5.5
CLL *i* 04 52 38.4
CLL *e*S **S 05 00 41.0 +7.1**
CLL *e*SSS SSS 05 07 06.0 +14
CLL Collm 58.82 39⇑*i*P P **04 52 29.5 -0.7**
CLL *i* *PP pP 04 52 38.4 +5.1
CLL *e*S **S 05 00 41.0 +7.1**
CLL pmax pmax
comp=Z,58nm,1.1s,mb5.5
CLL MLR MLR
comp=Z,2µm,23.6s,MS5.1
CLL Collm 58.82 39⇑*i*P P **04 52 29.5 -0.7**
comp=Z,58nm,1.1s,mb5.5
CLL *i* pP pP 04 52 38.4 +5.1
CLL *i* sP sP 04 52 44.2 +10
CLL *e*S **S 05 00 41.0 +7.1**
CLL LR LR
comp=Z,2µm,23.6s,MS5.1
BOJS Bojanci 59.03 46 *e*P P **04 52 31.2 -0.5**
CRES Cresnjev 59.23 46 *e*P P **04 52 32.2 -0.9**
BRG Berggiesshubel 59.29 40 *i*P P **04 52 33.6 +0.1**
BRG S **S 05 00 48.0 +8.1**
BRG SS SS 05 04 39.0 +2.9
BRG pmax pmax
comp=Z,41nm,1.3s,mb5.3
BRG MLR MLR
comp=Z,1µm,17.6s,MS5.0
BRG Berggiesshubel 59.29 40 *i*P P **04 52 33.6 +0.2**
comp=Z,41nm,1.3s,mb5.3
BRG S **S 05 00 48.0 +8.1**
BRG SS SS 05 04 39.0 +2.9
BRG LR LR
comp=Z,1µm,17.6s,MS5.0
PV01 Paradox Valley 59.31 305 *e*P P **04 52 34.6 +0.7**
PRA Prague 59.40 41 P P **04 52 34.0 -0.3**
PRU Pruhonice 59.45 41 *e*P P **04 52 33.9 -0.7**
PRU AMS AMS 05 16 10.0
comp=Z,700nm,18.5s
ARSA Arzberg 59.52 44 *i*P P **04 52 33.8 -1.4**
comp=Z,71nm,1.9s,mb5.4,SNR=13
ARSA Arzberg 59.52 44 *i*P P **04 52 33.8 -1.4**
comp=Z,71nm,1.9s,mb5.4
PVCC Panska Ves 59.59 40 *e*P P **04 52 34.8 -0.8**
RUE Ruedersdorf 59.59 38 *e*P P **04 52 35.4 -0.2**
comp=Z,91nm,1.0s,mb5.8
PV10 Paradox Valley 59.70 306 *e*P P **04 52 37.2 +0.8**
KONO Kongsberg 59.73 29 *e*S S **05 00 46.3 +0.9**
TREC Trest 59.90 42 *e*P P **04 52 37.0 -0.7**
TREC AMS AMS 05 17 00.0
comp=Z,2µm,18.7s
JMIC Jan Mayen 60.03 13 AMS AMS 05 12 01.8
comp=Z,786nm,20.2s,MS4.8
PLCA Paso Flores 60.30 201 P P **04 52 39.9 -0.7**
comp=Z,17nm,0.7s,mb5.2,baz=29,slow=8.6,SNR=28
PLCA LR LR 05 21 18.9
comp=Z,1µm,18.8s,MS5.1,baz=21,slow=39
PLCA Paso Flores 60.30 201 P P **04 52 39.9 -0.7**
PLCA pmax pmax
comp=Z,17nm,0.7s
PLCA MLR MLR
comp=Z,1µm,18.8s
PLCA Paso Flores 60.30 201 *e*P P **04 52 39.6 -1.0**
comp=Z,24nm,0.8s,mb5.3
PLCA LR LR
comp=Z,2µm,22.0s,MS5.1
UPC Upice 60.48 40 *e*P P **04 52 41.5 -0.2**
PDAR Pinedale Array 60.49 311 P P **04 52 41.4 -0.5**
comp=Z,6.3nm,0.8s,mb4.7,baz=104,slow=6.1,SNR=35
PDAR LR LR 05 16 16.3
comp=Z,1µm,20.7s,MS5.0,baz=118,slow=34
VRAC Vranov 60.61 42 P P **04 52 42.1 -0.5**
DPC Dobruska-Polom 60.65 41 *e*P P **04 52 42.2 -0.6**
KSP Ksiaz 60.73 40 *e*P P **04 52 43.0 -0.4**
KSP *e*S **S 05 00 51.7 -6.7**
KSP MLR MLR 05 17 59.7
comp=Z,2µm,17.3s,MS5.3
KSP Ksiaz 60.73 40 *e*P P **04 52 42.6 -0.7**
KSP *e*S **S 05 01 05.0 +6.6**
KSP MLR MLR
comp=Z,2µm,17.3s,MS5.4
ZST Bratislava 60.74 43 *e*P P **04 52 42.6 -0.9**
ZST *e* 04 52 51.9
ZST *e* 04 52 59.4
ZST *e*S **S 05 00 55.2 -3.5**
ZST Bratislava 60.74 43 *e*P P **04 52 42.6 -0.9**
ZST *e*S **S 05 00 55.2 -3.5**
SRU San Rafael 60.91 306 *e*P P **04 52 45.1 +0.4**
SRU pmax pmax
comp=Z,59nm,1.4s,mb5.5
SRU San Rafael 60.91 306 *e*P P **04 52 45.0 +0.3**
comp=Z,59nm,1.4s,mb5.5
TUC Tucson 60.93 299 *e*P P **04 52 44.1 -0.8**
TUC pmax pmax
comp=Z,25nm,1.0s,mb5.3
TUC Tucson 60.93 299 *e*P P **04 52 44.1 -0.9**
comp=Z,25nm,1.0s,mb5.3
NB2 NORSAR Subarra 61.00 28 P P **04 52 44.8 -0.3**
comp=Z,35nm,1.4s,mb5.3,baz=248,slow=6.5
NB2 NORSAR Subarra 61.00 28 P P **04 52 44.8 -0.3**
baz=248,slow=6.9
NB2 NORSAR Subarra 61.00 28 P P **04 52 44.8 -0.3**
NB2 pmax pmax
comp=Z,35nm,1.4s,mb5.3
NOA NORSAR Array B 61.00 28 P P **04 52 43.6 -1.5**
comp=Z,4.7nm,0.8s,mb4.7,baz=247,slow=6.9,SNR=10.0
NOA LR LR 05 15 05.4
comp=Z,501nm,18.8s,MS4.7,baz=250,slow=32
SMOL Smolenice 61.01 43 *e*P P **04 52 44.6 -0.7**
SMOL *e* 04 52 53.6
LKWY Lake 61.31 313 *e*P P **04 52 48.0 +0.7**
LKWY pmax pmax
comp=Z,16nm,0.9s,mb5.2
LKWY Lake 61.31 313 *e*P P **04 52 48.0 +0.6**
comp=Z,16nm,0.9s,mb5.2
MORC Moravsky Berou 61.31 41 P P **04 52 47.1 -0.2**
MORC Moravsky Berou 61.31 41 *e*P P **04 52 45.8 -1.5**
comp=Z,30nm,1.1s,mb5.3
EGMT Eagleton 61.34 317 *e*P P **04 52 46.6 -0.9**
comp=Z,16nm,0.9s,mb5.2
LOHW Long Hollow 61.35 312 *e*P P **04 52 46.8 -0.8**
comp=Z,24nm,1.0s,mb5.3
WUAZ Wupatki 61.44 302 *e*P P **04 52 48.8 +0.4**
comp=Z,46nm,1.0s,mb5.6
TMUT Trail Mountain 61.45 307 *e*P P **04 52 48.9 +0.5**
MOOW Moose Ponds 61.46 312 *e*P P **04 52 47.2 -1.2**
comp=Z,16nm,1.0s,mb5.1
PKSM Moragy 61.48 46 P P **04 52 48.7 +0.2**
SRO Srobarova 61.48 44 *e*P P **04 52 47.9 -0.6**
REDW Red Top Meadow 61.50 311 *e*P P **04 52 48.0 -0.7**
comp=Z,65nm,1.5s,mb5.5
SRO2 Moca 61.53 44 *e*P P **04 52 48.3 -0.5**
SRO2 *e* 04 52 56.5
DAU Daniels Canyon 61.56 308 *e*P P **04 52 49.3 +0.2**
YFT Fd Faithful 61.60 312 *e*P P **04 52 50.0 +0.7**
IMW Indian Meadow 61.62 312 *e*P P **04 52 49.0 -0.5**
comp=Z,37nm,0.8s,mb5.6
OKC Ostrava-Krasne 61.70 41 *e*P P **04 52 49.6 -0.4**
OKC AMS AMS 05 19 40.0
comp=Z,1µm,17.9s
YMR Madison River 61.72 313 *e*P P **04 52 49.9 -0.2**
comp=Z,106nm,1.6s,mb5.7
TCUT Toone Canyon 61.72 309 *e*P P **04 52 49.8 -0.4**
RAC Raciborz 61.78 41 *e*P P **04 52 49.0 -1.5**
RAC MLR MLR 05 17 45.6
RAC LMN 05 18 28.3
RAC LME 05 19 25.5
comp=Z,2µm,16.2s
RAC Raciborz 61.78 41 *e*P P **04 52 49.0 -1.5**
RAC MLR MLR
comp=Z,2µm,18.9s,MS5.2
MPU Maple Canyon 61.82 307 *e*P P **04 52 50.7 -0.2**
comp=Z,37nm,1.3s,mb5.3
RRI2 Red Ridge 61.84 311 *e*P P **04 52 50.3 -0.7**
comp=Z,58nm,0.9s,mb5.7
HWUT Hardware Ranch 61.87 309 *e*P P **04 52 50.1 -1.1**
comp=Z,46nm,1.0s,mb5.6
VYHS Vyhne 61.93 43 *e*P P **04 52 50.6 -0.9**
VYHS *e* 04 53 15.0
VYHS *e* 05 01 28.9
VYHS Vyhne 61.93 43 *e*P P **04 52 50.6 -0.9**
VYHS *e*S **S 05 01 28.9 +15**
QLMT Earthquake Lak 62.07 313 *e*P P **04 52 53.0 +0.5**
MSU Marysvale 62.17 306 *e*P P **04 52 54.1 +0.8**
DIVS Divcibare 62.19 48⇓*i*P P **04 52 53.1 -0.2**
MVU Marysvale 62.20 306 *e*P P **04 52 55.0 +1.6**
comp=Z,16nm,1.1s,mb5.0
BOZ Bozeman (W) 62.29 314 *e*P P **04 52 52.5 -1.5**
BOZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
BOZ MLR MLR
comp=Z,1µm,20.0s,MS5.1
BOZ Bozeman (W) 62.29 314 *e*P P **04 52 52.5 -1.5**
comp=Z,8.5nm,0.9s,mb4.9
BOZ LR LR
comp=Z,1µm,20.0s,MS5.1
SPUT South Promonto 62.52 309 *e*P P **04 52 55.3 -0.3**
PSZ Piszkesteto 62.55 44⇓*e*PcP P **04 52 55.5 -0.2**
PSZ Piszkesteto 62.55 44 P P **04 52 56.1 +0.4**
PSZ Piszkesteto 62.55 44 *e*P P **04 52 54.6 -1.0**
comp=Z,90nm,1.8s,mb5.6
HRY Holter Researc 62.55 315 *e*P P **04 52 54.8 -0.9**
DUG Dugway 62.73 308 *e*P P **04 52 56.6 -0.4**
DUG pmax pmax
comp=Z,44nm,1.4s,mb5.4
DUG Dugway 62.73 308 *e*P P **04 52 56.6 -0.3**
comp=Z,44nm,1.4s,mb5.4
HVU Hansel Valley 62.79 309 *e*P P **04 52 56.7 -0.6**
HVU pmax pmax
comp=Z,18nm,1.0s,mb5.2
HVU Hansel Valley 62.79 309 *e*P P **04 52 56.6 -0.7**
comp=Z,18nm,1.0s,mb5.2
OJC Ojcow 62.82 41 *e*P P **04 52 57.2 -0.2**
BGU Big Grassy Mou 62.93 308 *e*P P **04 52 57.7 -0.6**
DLMT Dillon 62.94 313 *e*P P **04 52 57.6 -0.6**
comp=Z,37nm,1.1s,mb5.4
KECS Kecovo 63.02 43 *e*P P **04 52 58.3 -0.4**
KECS *es*P sP 04 53 03.9 +0.9
KECS *e* 04 53 31.9
NIE Niedzica 63.03 42 *e*P P **04 52 59.9 +1.1**
DAG Danmarks Havn 63.05 7⇑*i*P P **04 52 59.8 +1.2**
comp=Z,33nm,1.1s,mb5.4
DAG Danmarks Havn 63.05 7⇑*i*P P **04 52 59.8 +1.2**
DAG pmax pmax

comp=Z,33nm,1.1s,mb5.4
MCMT McKenzie Canyo 63.07 313 *e*P **P** **04 52 59.2 +0.1**
SVIS Svilajnac 63.08 48⇑*i*P **P** **04 52 59.3 +0.1**
ARUT Antelope Range 63.14 305 *e*P **P** **04 53 00.1 +0.4**
BZS Buzias 63.48 46⇑P **P** **04 53 01.9 +0.1**
BZS Buzias 63.48 46 P **P** **04 53 02.0 +0.2**
CHMT Chamberlain Mo 63.55 315 *e*P **P** **04 53 01.9 -0.3**
BOLS Boljevac 63.58 48⇓*i*P **P** **04 53 02.0 -0.5**
STHS Stebnicka Huta 63.63 42 *e*P **P** **04 53 04.5 +1.7**
STHS e pP pP 04 53 07.3 +1.4
CRVS Cervenica-Dubn 63.71 43 *e*P **P** **04 53 03.3 0.0**
CRVS es S 05 01 46.4
HLID Hailey 64.10 311 *e*P **P** **04 53 05.2 -0.8**
comp=Z,17nm,0.9s,mb5.1
KOLS Kolonicke sedl 64.25 43 *e*P **P** **04 53 06.6 -0.2**
KOLS epP pP 04 53 09.3 -0.6
KOLS *e* 04 53 32.0
NEN Nelson 64.27 302 *e*P **P** **04 53 07.4 +0.2**
DRGR 64.33 45⇑P **P** **04 53 05.8 -1.6**
DRGR 64.33 45 P **P** **04 53 06.8 -0.6**
EDM Edmonton 64.41 322 *e*P **P** **04 53 07.7 -0.1**
VTS Vitosha 64.42 50 *e*P **P** **04 53 08.0 -0.1**
VTS Vitosha 64.42 50⇓P **P** **04 53 09.9 +1.8**
VTS Vitosha 64.42 50 P **P** **04 53 08.7 +0.7**
ELK Elko 64.60 308 *e*P **P** **04 53 08.4 -0.9**
ELK pmax pmax
comp=Z,26nm,1.0s
ELK MLR MLR
comp=Z,2µm,21.0s
ELK Elko 64.60 308 *e*P **P** **04 53 08.4 -0.9**
comp=Z,26nm,1.0s,mb5.2
ELK LR LR
comp=Z,2µm,21.0s,MS5.4
KWP Kalwaria 64.60 42 *e*P **P** **04 53 09.7 +0.6**
KWP *e*S **S** **05 01 38.2 -9.0**
KWP MLR MLR 05 17 26.9
comp=Z,2µm,22.9s,MS5.1
MMB Musomiste 64.77 51 *i*P **P** **04 53 10.0 -0.4**
PGB Panagyurishte 65.13 50 *i*P **P** **04 53 13.0 +0.4**
TPNV Topopah Spring 65.38 304 *e*P **P** **04 53 14.7 +0.3**
TPNV pmax pmax
comp=Z,19nm,1.0s,mb5.1
TPNV Topopah Spring 65.38 304 *e*P **P** **04 53 14.7 +0.3**
comp=Z,19nm,1.0s,mb5.1
SUW Suwalki 65.43 37 *e*P **P** **04 53 15.0 +0.7**
SUW *e*S S 05 01 51.0 -6.2
SUW *e*sS 05 02 06.7
SUW MLR MLR 05 19 38.1
comp=Z,1µm,19.4s,MS5.2
RZN Rozhen 65.52 51 *i*P **P** **04 53 15.0 -0.1**
VOIR 65.87 47⇓P **P** **04 53 19.7 +2.4**
BAR Barrett 65.89 299 *e*P **P** **04 53 17.8 +0.2**
BURAR Bucovina Array 66.10 44⇑P **P** **04 53 20.6 +1.9**
BURAR Bucovina Array 66.10 44⇑P **P** **04 53 20.6 +1.9**
TPH Tonopah 66.13 305 *e*P **P** **04 53 18.9 -0.2**
TPH pmax pmax
comp=Z,21nm,1.0s,mb5.1
TPH Tonopah 66.13 305 *e*P **P** **04 53 18.9 -0.2**
comp=Z,21nm,1.0s,mb5.1
APE Apeiranthos 66.17 56⇓P **P** **04 53 18.2 -1.2**
SZH Strazhica 66.44 49 *e*P **P** **04 53 21.0 0.0**
DAC Darwin (Calif) 66.48 303 *e*P **P** **04 53 22.6 +1.2**
DAC pmax pmax
comp=Z,31nm,1.3s,mb5.2
DAC Darwin (Calif) 66.48 303 *e*P **P** **04 53 22.6 +1.1**
comp=Z,31nm,1.3s,mb5.2
YKA Yellowknife Ar 66.73 332 P **P** **04 53 20.9 -1.6**
comp=Z,19nm,1.1s,mb5.0,baz=103,slow=7.1,SNR=46
YKA PcP PcP 04 53 51.6 +0.1
comp=Z,4.7nm,1.0s,baz=96,slow=5.3,SNR=4.1
YKA LR LR 05 20 32.4
comp=Z,1µm,18.9s,MS5.2,baz=105,slow=34
YKA Yellowknife Ar 66.73 332 P **P** **04 53 20.9 -1.6**
YKA PcP PcP 04 53 51.6 +0.1
YKA LR LR 05 20 32.4
YKW3 Yellowknife Ar 66.75 332 *e*P **P** **04 53 20.9 -1.8**
MNV Mina 66.86 306 *e*P **P** **04 53 23.9 +0.1**
MNV pmax pmax
comp=Z,12nm,1.1s,mb4.8
MNV Mina 66.86 306 *e*P **P** **04 53 23.9 +0.2**
comp=Z,12nm,1.1s,mb4.8
MWC Mount Wilson 66.96 301 *e*P **P** **04 53 25.3 +0.8**
NVAR Mina Array Bea 66.98 306 P **P** **04 53 24.2 -0.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=89,slow=7.2,SNR=16
NVAR LR LR 05 22 03.6
comp=Z,471nm,18.1s,MS4.8,baz=100,slow=35
TRO Tromso 67.05 20 *e*P **P** **04 53 24.0 -0.5**
TRO AMS AMS 05 15 51.7
comp=Z,489nm,22.5s,MS4.7
VRI Vrincioaia 67.06 46⇑P **P** **04 53 25.5 +0.6**
ISA Isabella 67.22 303 *e*P **P** **04 53 27.0 +0.9**
ISA pmax pmax
comp=Z,41nm,1.8s,mb5.2
ISA Isabella 67.22 303 *e*P **P** **04 53 27.0 +0.9**
comp=Z,41nm,1.8s,mb5.2
KDAG Bornova 67.50 54 *i*P **P** **04 53 26.4 -1.5**
WRD Warden 67.58 315 P **P** **04 53 28.6 +0.4**
VSU Vasula 67.96 33 *e*P **P** **04 53 29.8 -0.6**
MDW Midway 68.00 314 P **P** **04 53 31.1 +0.3**
AYDN Tasoluk 68.02 55 *i*P **P** **04 53 31.1 -0.1**
FINES FINESS Array B 68.03 30 P **P** **04 53 30.2 -0.5**
comp=Z,6.6nm,1.0s,mb4.6,baz=250,slow=3.2,SNR=8.1
FINES LR LR 05 18 15.4
comp=Z,830nm,20.5s,MS5.0,baz=264,slow=32
KAF Kangasniemi 68.23 29 *e*p **P** **04 53 31.5 -0.5**
comp=Z,5.4nm,0.8s,mb4.6,baz=271,slow=6.5
KAF Kangasniemi 68.23 29 *e*P **P** **04 53 31.5 -0.5**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MXC Moxie City 68.36 314 P **P** **04 53 34.0 +0.9**
MOD Modoc 68.41 309 *e*P **P** **04 53 33.5 0.0**
comp=Z,26nm,1.3s,mb5.1
MANT Manisa 68.51 54 *i*P **P** **04 53 34.6 +0.5**
KIS Kishinev 68.53 45 *e*P **P** **04 53 33.0 -1.1**
KIS *e* 04 56 06.0
KIS *e*S S 05 02 28.0 -6.7
KIS *e* 05 03 06.0
CMB Columbia Colle 68.63 305 *e*P **P** **04 53 35.0 +0.1**
CMB pmax pmax
comp=Z,20nm,1.3s,mb4.9
CMB Columbia Colle 68.63 305 *e*P **P** **04 53 35.0 +0.1**
comp=Z,20nm,1.3s,mb4.9
CROR Criterion Ridg 68.85 313 P **P** **04 53 37.1 +1.0**
AKASG Malin Array Be 68.86 41 P **P** **04 53 34.8 -1.2**
comp=Z,9.7nm,0.7s,mb4.8,baz=273,slow=5.3,SNR=36
ULDT Uludag 68.89 53 *i*P **P** **04 53 35.0 -1.4**
KBS Kingsbay 69.08 10 AMS AMS 05 16 34.8
comp=Z,174nm,20.1s,MS4.3
KBS Kingsbay 69.08 10 P **P** **04 53 38.4 +1.4**
KBS pmax pmax
comp=Z,54nm,1.0s,mb5.4
KBS Kingsbay 69.08 10 P **P** **04 53 38.4 +1.4**
comp=Z,54nm,1.0s,mb5.4
LRV Little Rabbit 69.23 304 *e*P **P** **04 53 39.5 +0.8**
ARCES ARCESS Array B 69.25 21 P **P** **04 53 39.1 +0.9**
comp=Z,8.5nm,0.7s,mb4.8,baz=252,slow=5.8,SNR=34
ARCES LR LR 05 20 40.7
comp=Z,611nm,18.7s,MS4.9,baz=262,slow=33
LHEM Herd Peak 69.86 309 P **P** **04 53 43.4 +1.1**
ISP Isparta 70.09 55 P **P** **04 53 42.7 -1.1**
ISP pmax pmax
comp=Z,46nm,1.9s,mb5.1
ISP Isparta 70.09 55 P **P** **04 53 42.7 -1.1**
comp=Z,46nm,1.9s,mb5.1
WDC Whiskeytown Da 70.16 308 *e*P **P** **04 53 42.3 -1.9**
WDC pmax pmax
comp=Z,14nm,1.1s,mb4.8
WDC Whiskeytown Da 70.16 308 *e*P **P** **04 53 42.3 -1.9**
comp=Z,14nm,1.1s,mb4.8
ESKT Eskisehir 70.24 53 *i*P **P** **04 53 43.4 -1.3**
PGC Sidney 70.48 317 *e*P **P** **04 53 45.3 -0.7**
comp=Z,56nm,0.9s,mb5.5
COR Corvallis 70.51 312 *e*P **P** **04 53 45.0 -1.3**
COR pmax pmax
comp=Z,39nm,1.1s,mb5.2
COR Corvallis 70.51 312 *e*P **P** **04 53 45.0 -1.3**
comp=Z,39nm,1.1s,mb5.2
JOF Joensuu 70.63 28 *e*p **P** **04 53 45.5 -1.2**
comp=Z,2.9nm,0.7s,mb4.3
HOPS Hopland 70.67 306 P **P** **04 53 47.7 +0.3**
comp=Z,34nm,1.1s,mb5.2
KIPM Iron Peak 70.93 307 *e*P **P** **04 53 49.9 +1.0**
KHMM Horse Mountain 71.04 308 *e*P **P** **04 53 48.2 -1.4**
SGKT Sivrigoynuk 71.09 52 *i*P **P** **04 53 47.6 -2.2**

TSUM Tsumeb 71.22 117 *e*P **P** **04 53 49.5 -1.5**
comp=Z,16nm,0.9s,mb4.9
ANTO Ankara 71.71 53⇑P **P** **04 53 54.3 +0.7**
ANTO Ankara 71.71 53 *e*P **P** **04 53 53.3 -0.3**
comp=Z,31nm,1.4s,mb5.0
ERMK Ermenek 72.11 56 *i*P **P** **04 53 51.7 -4.3**
ELDT Eldivan 72.14 52 *i*P **P** **04 53 55.3 -0.8**
SIM Simferopol' 72.29 47 *e*P **P** **04 53 57.4 +0.5**
SIM *e* 04 56 39.0
SIM *e*S S 05 03 20.8 +2.2
SIM pmax pmax
comp=Z,15nm,1.1s,mb4.8
BR131 Keskin Array S 72.37 53 *e*P **P** **04 53 56.8 -0.7**
comp=Z,11nm,0.8s,mb4.8
BRTR Keskin Array B 72.37 53 P **P** **04 53 57.3 -0.2**
comp=Z,12nm,0.8s,mb4.9,baz=254,slow=5.4,SNR=32
BOYT Boyabat 73.16 51 *i*P **P** **04 54 00.4 -1.8**
OBN Obninsk 73.26 36*d*iP **P** **04 54 02.8 +0.4**
OBN *i* 04 54 12.0
OBN *i* 04 54 19.5
OBN pmax pmax
comp=Z,98nm,1.4s,mb5.5
OBN MLR MLR
comp=Z,800nm,16.0s,MS5.1
OBN Obninsk 73.26 36 *i*Pr 04 54 02.8
OBN LR LR
comp=Z,800nm,16.0s,MS5.1
BBB Bella Bella 73.32 320 LR LR 05 23 49.6
comp=Z,1µm,21.4s,MS5.1,baz=91,slow=34
MOS Moscow 73.82 36 *e*P **P** **04 54 05.2 -0.5**
MOS *e* 04 54 20.5
MOS pmax pmax
comp=Z,124nm,1.7s,mb5.6
DLBC Dease Lake 74.04 327 LR LR 05 24 46.5
comp=Z,1µm,18.6s,MS5.2,baz=87,slow=34
KLMR Klimovskoe 74.51 30*d*iP **P** **04 54 09.7 +0.1**
KLMR *e*S S 05 03 40.4 -2.9
KLMR pmax pmax
comp=Z,100nm,1.4s,mb5.5
KLMR pmax pmax
comp=Z,320nm,6.8s
KLMR smax
comp=E,560nm,4.1s
INK Inuvik 75.02 337 LR LR 05 25 53.4
comp=E,2µm,18.1s,MS5.5,baz=84,slow=35
INK Inuvik 75.02 337 *e*P **P** **04 54 11.6 -0.8**
INK pmax pmax
comp=Z,56nm,1.1s
INK Inuvik 75.02 337 *e*P **P** **04 54 11.6 -0.9**
comp=Z,56nm,1.1s,mb5.4
VOR Voronezh 75.08 40 *e*P **P** **04 54 13.0 -0.1**
VOR pmax pmax
comp=Z,150nm,2.0s,mb5.6
VOR pmax pmax
comp=E,100nm,1.7s
KAHT Ahir Dag 75.13 55 *i*P **P** **04 54 15.6 +2.0**
VRSR Storozhevoye 75.13 40 *e*P **P** **04 54 13.3 -0.1**
VRSR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,6.0nm,2.4s
VRSR pmax pmax
comp=E,8.0nm,0.8s
SOC Sochi 76.43 48⇑*i*P **P** **04 54 21.4 +0.5**
KELT Kelkit 76.60 52 *i*P **P** **04 54 20.0 -2.0**
VRHR Novokhopersk 76.67 40 *e*P **P** **04 54 22.0 -0.1**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
VRHR pmax pmax
comp=E,9.0nm,0.4s
DAWY Dawson 77.89 333 *e*P **P** **04 54 28.5 0.0**
ERZM Erzurum 78.24 52 *i*P **P** **04 54 31.0 0.0**
KIV Kislovodsk 78.50 47 *e*P **P** **04 54 33.0 +0.7**
KIV *e*S S 05 04 23.6 -3.6
KIV pmax pmax
comp=Z,34nm,1.2s,mb5.2
KIV Kislovodsk 78.50 47⇑*i*P **P** **04 54 32.9 +0.6**
GOF Gofitskoye 78.55 46 *e*P **P** **04 54 35.0 +2.4**
GOF pmax pmax
comp=Z,52nm,1.3s,mb5.3
LSZ Lusaka 79.21 109 *e*P **P** **04 54 37.4 +0.7**
LSZ pmax pmax
comp=Z,57nm,1.6s,mb5.2
LSZ Lusaka 79.21 109 *e*P **P** **04 54 37.4 +0.7**
comp=Z,57nm,1.6s,mb5.2
TI2 Plekhanov 80.41 49 *e*P **P** **04 54 42.3 -0.4**
HAKT HAKKARI 80.49 54 *i*P **P** **04 54 42.3 -0.9**
THY Trims Highway 80.80 333 *e*P **P** **04 54 45.5 +1.2**
ILAR Eielson Array 80.90 335 P **P** **04 54 44.8 -0.1**
comp=Z,44nm,0.9s,mb5.4,baz=72,slow=4.1,SNR=130
ILAR LR LR 05 30 08.7
comp=Z,549nm,19.4s,MS4.9,baz=82,slow=35
COLA College 81.26 335 *e*P **P** **04 54 46.9 +0.2**
COLA pmax pmax
comp=Z,50nm,1.0s,mb5.4
COLA MLR MLR
comp=Z,1µm,20.0s,MS5.2
COLA College 81.26 335 *e*P **P** **04 54 46.9 +0.2**
comp=Z,50nm,1.0s,mb5.4
COLA LR LR
comp=Z,1µm,20.0s,MS5.2
MCK McKinley 82.06 334 *e*P **P** **04 54 51.8 +0.9**
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.7
MCK McKinley 82.06 334 *e*P **P** **04 54 51.8 +0.9**
comp=Z,11nm,1.0s,mb4.7
PMR Palmer 82.83 332 *e*P **P** **04 54 55.1 +0.2**
PMR pmax pmax
comp=Z,28nm,1.4s,mb5.1
PMR Palmer 82.83 332 *e*P **P** **04 54 55.1 +0.1**
comp=Z,28nm,1.4s,mb5.1
IMA2 Indian Mountai 83.15 337 *e*P **P** **04 54 57.1 +0.6**
SOKR Solikamsk 83.19 30*c*iP **P** **04 54 59.9 +3.1**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,670nm,17.0s,MS5.1
KMBO Kilima Mbogo 83.65 93 P **P** **04 55 02.8 +2.6**
comp=Z,8.2nm,1.1s,mb4.8,baz=317,slow=5.9,SNR=4.3
SLKM Skilak Lake 83.70 331 *e*P **P** **04 54 58.9 -0.4**
ARU Arti 85.13 33⇑*i*P **P** **04 55 10.5 +3.9**
ARU *e* 04 58 23.6
ARU *e*S S 05 05 29.6 -5.2
ARU pmax pmax
comp=Z,17nm,1.0s,mb5.1
KDAK Kodiak Island 85.81 329 LR LR 05 32 25.1
comp=Z,1µm,19.8s,MS5.3,baz=66,slow=35
TNA Tin City 88.53 339 *e*P **P** **04 55 23.7 +0.7**
comp=Z,7.4nm,0.9s,mb5.0
VNA3 Neumayer Olymp 89.81 169 P **P** **04 55 33.1 +4.1**
VNA2 Neumayer--Watz 89.98 168 P **P** **04 55 33.8 +4.0**
SNAA Sanae 91.49 168 P **P** **04 55 38.3 +1.6**
TIXI Tiksi 93.16 2⇓*i*P **P** **04 55 45.7 +1.3**
BILL Bilibino 93.67 348*d*iP **P** **04 55 48.1 +1.3**
BILL pmax pmax
comp=Z,16nm,1.2s,mb5.3
BILL MLR MLR
comp=Z,700nm,22.0s,MS5.1
BILL Bilibino 93.67 348 *e*P **P** **04 55 47.5 +0.7**
comp=Z,13nm,1.0s,mb5.3
ZAL Zalesovo 99.20 27 LR LR 05 39 51.4
comp=Z,783nm,19.0s,MS5.2,baz=156,slow=35
SYO Syowa Base 102.56 158⇑pDdiff 04 56 32.6
MKAR Makanchi Array 102.63 34 PKKPbc 05 12 29.6
comp=Z,0.7nm,0.8s,baz=124,slow=4.4,SNR=4.7
PPT Papeete 107.28 256 *e*SS SS 05 16 25.3 +0.7
PPT *e*LR LR 05 32 08.3
comp=Z,452nm,27.0s
WMQ Urumqi 107.46 33 *e*PDIF Pdif 04 56 49.6 +0.4
WMQ PP PP 05 01 20.4 +0.3
WMQ SS SS 05 16 29.0 +2.6
WMQ PP PP
comp=Z,40nm,8.0s
WMQ LR LR
comp=N,880nm,28.0s,MS5.3
WMQ LR LR
comp=E,850nm,24.0s,MS5.3
WMQ LR LR
comp=Z,870nm,30.0s
TBI Tubuai 108.19 250 *e*SS SS 05 16 36.0 -0.9
TBI *e*LR LR 05 32 30.1
comp=Z,236nm,33.0s
SONM Songino Array 112.41 20 PKiKP 05 01 08.5

comp=Z,1.2nm,0.9s,baz=284,slow=6.1,SNR=5.1
VNDA Vanda 116.25 186 PKP PKPdf 05 01 16.0 +0.5
comp=Z,1.5nm,0.9s,baz=332,slow=1.8,SNR=4.4
GTA Gaotai 116.82 29 PKP PKPdf 05 01 16.8 -0.6
GTA PP PP 05 02 30.2 +2.4
GTA PKS PKS 05 04 52.4 +2.4
GTA PPP PPP 05 04 57.0 +0.6
GTA SKS SKS 05 08 23.8 +13
GTA SKKS 05 09 18.2
GTA PP PP
comp=Z,80nm,10.6s
GTA LR LR
comp=N,510nm,18.6s,MS5.2
GTA LR LR
comp=E,350nm,19.4s,MS5.2
GTA LR LR
comp=Z,590nm,21.7s,MS5.2
MDJ Mudanjiang 120.20 4 PKP PKPdf 05 01 21.5 -2.3
MDJ XPKP 05 01 26.2
MDJ PKS PKS 05 04 57.1 +0.7
MDJ SKS SKS 05 08 30.9 +8.7
MDJ SS SS 05 19 12.0 -2.7
MDJ LR LR
comp=N,210nm,35.5s,MS4.7
MDJ LR LR
comp=E,220nm,33.2s,MS4.7
MDJ LR LR
comp=Z,350nm,23.7s
HHC Hu-ho-hao-te 120.31 20 *e*PKP PKPdf 05 01 21.1 -3.0
HHC PKS PKS 05 04 55.3 -1.4
HHC SKS SKS 05 08 28.1 +5.4
HHC SKKS 05 09 47.3
HHC PP PP
comp=Z,50nm,8.0s
HHC LR LR
comp=N,240nm,16.6s,MS5.2
HHC LR LR
comp=E,350nm,15.5s,MS5.2
HHC LR LR
comp=Z,530nm,19.0s,MS5.2
CN2 Changchun 120.63 7 *e*PKP PKPdf 05 01 19.2 -5.5
CN2 PP PP 05 02 49.8 -3.5
CN2 LR LR
comp=N,820nm,20.0s,MS5.5
CN2 LR LR
comp=E,670nm,20.0s,MS5.5
CN2 LR LR
comp=Z,770nm,20.0s,MS5.3
LZH Lanzhou 121.38 29 *e*PKP PKPdf 05 01 28.6 +2.2
LZH PP PP 05 03 03.2 +4.4
LZH SKKS 05 09 51.0
LZH PP PP
comp=Z,50nm,5.9s
LZH LR LR
comp=N,1µm,18.1s
LZH LR LR
comp=Z,1µm,20.0s,MS5.6
XAN Xi'an 125.34 26 PKP PKPdf 05 01 33.7 -0.4
CD2 Chengdu 125.53 32 *e*PKP PKPdf 05 01 27.5 -7.1
CD2 LR LR
comp=N,290nm,20.4s
CD2 LR LR
comp=Z,360nm,19.2s,MS5.1
MAT Matsushiro 128.27 356 PKP PKPdf 05 01 39.4 -0.3
MAT Matsushiro 128.27 356 *e*PKIKP PKPdf 05 01 39.0 -0.7
MJAR Matsushiro Arr 128.27 356 PKP PKPdf 05 01 38.5 -1.2
comp=Z,9.7nm,0.9s,baz=13,slow=1.7,SNR=17
ENH Enshi 128.82 28 *e*PKPdf PKPdf 05 01 39.6 -1.3
KMI Kunming 129.47 38 PKP PKPdf 05 01 40.2 -2.1
KMI PP PP 05 03 53.4 +0.1
KMI SKKS 05 10 41.3
KMI SS SS 05 21 08.9 -3.3
KMI LR LR
comp=Z,370nm,24.2s,MS5.0
GYA Guiyang 130.62 33 *e*PKP PKPdf 05 01 46.0 +1.6
GYA PKS PKS 05 05 20.4 +3.8
GYA PP PP
comp=Z,270nm,8.9s
GYA LR LR
comp=Z,2µm,17.9s,MS5.8
NJ2 Nanjing 130.66 17 *e*PKP PKPdf 05 01 43.5 -0.9
NJ2 PP PP 05 04 00.0 -0.9
NJ2 PKS PKS 05 05 20.0 +3.4
NJ2 PPP PPP 05 06 51.0 +1.4
NJ2 SKS SKS 05 08 48.0 -5.5
NJ2 PP PP
comp=Z,400nm,5.4s
NJ2 LR LR
comp=N,1µm,25.0s
NJ2 LR LR
comp=E,2µm,35.0s
NJ2 LR LR
comp=Z,420nm,16.6s
SSE Sheshan 132.19 15 *e*PKP PKPdf 05 01 44.7 -2.6
SSE PP PP 05 04 07.6 -2.9
SSE SS SS 05 21 44.8 -0.9
SSE PP PP
comp=Z,120nm,3.5s
SSE LR LR
comp=N,800nm,24.4s,MS5.4
SSE LR LR
comp=E,240nm,24.2s,MS5.4
SSE LR LR
comp=Z,1µm,27.3s,MS5.4
QIZ Qiongzhong 138.31 36 *e*PKP PKPdf 05 01 54.2 -4.7
QIZ SS SS 05 22 59.6 +0.7
QIZ LR LR
comp=N,270nm,37.8s,MS4.8
QIZ LR LR
comp=E,190nm,36.4s,MS4.8
KKM Kota Kinabalu 152.31 41 *e*PKPbc PKPdf 05 02 29.3 +6.8
STKA Stephens Creek 162.18 201 PKP PKPdf 05 02 32.9 -1.3
comp=E,5.7nm,0.7s,baz=261,slow=2.3,SNR=6.3
STKA Stephens Creek 162.18 201 *e*PKPdf PKPdf 05 02 32.3 -1.9
FITZ Fitzroy Crossi 171.40 110 PKP PKPdf 05 02 40.4 -1.2
comp=E,3.3nm,1.0s,baz=46,slow=3.8,SNR=6.0
FITZ PKPab PKPab 05 04 00.9 -0.3
comp=E,2.4nm,0.8s,baz=264,slow=7.1,SNR=5.0
WRA Warramunga Arr 175.41 182 PKP PKPdf 05 02 40.9 -2.3
comp=E,4.1nm,1.0s,baz=314,slow=0.7,SNR=18
WRA PKPab PKPab 05 04 18.3 -0.6
comp=E,1.5nm,0.9s,baz=179,slow=4.0,SNR=6.8

IDC 11 04:59:59.0±4.4, 6.95S×101.12E, mb3.8/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.7/23, Error ellipse: s-maj=169.4km s-min=29.3km az=51.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.93**	**347**	LR	LR	05 07 02.4	
	comp=Z,51nm,19.7s,baz=9.3,slow=43						
WRA	**Warramunga Arr**	**34.71**	**115**	P	P	05 06 51.1	-1.8
	0.7nm,1.0s,baz=284,slow=12,SNR=10						
SONM	**Songino Array**	**54.74**	**4**	P	P	05 09 30.2	-2.3
	1.9nm,0.8s,baz=187,slow=12,SNR=10						
MKAR	**Makanchi Array**	**56.06**	**344**	P	P	05 09 40.0	-2.2
	1.1nm,0.8s,baz=153,slow=8.1,SNR=8.7						
TXAR	**Lajitas Array**	**147.73**	**43**	PKPbc	PKPdf	05 19 45.4	0.0
	0.4nm,0.6s,baz=250,slow=1.5,SNR=5.6						

*IDC **11** 05:22:31.3±2.0, 72.52N×136.11W, mb3.8/1, mb1 4.0/4, mb1mx3.5/24, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=43.6km s-min=24.5km az=114.0*
*PGC **11** 05:22:34.9, 72.55N×135.69W, h35km, ML3.4/1, Beaufort Sea.*
*NEIC **11** 05:22:35.0, 72.54N×135.69W, h35km, ML3.4(PGC), After PGC.*

ISC 11 05:22:27.8±0.9, 72.49N±0.08×135.6W±0.2, h10km, n17, σ1°30/31, mb3.3/1, Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**4.26**	**169**	Pn	**Pn**	**05 23 36.9**	**+2.6**
	3.4nm,0.3s,baz=358,slow=14,SNR=194						
INK				Sn	**Sn**	**05 24 22.7**	**-2.0**
	7.4nm,0.3s,baz=96,slow=23,SNR=10						
INK	**Inuvik**	**4.26**	**169**	Pn	**Pn**	**05 23 36.8**	**+2.5**
INK				Sn	**Sn**	**05 24 22.8**	**-1.9**
INK				Trac		05 24 25.9	
	comp=Z,19nm,0.1s						
INK	**Inuvik**	**4.26**	**169**	*e*P	**Pn**	**05 23 36.6**	**+2.3**
INK				*e*S	**Sn**	**05 24 19.4**	**-5.4**

INK				Sn	**Sn**	**05 24 22.7**	**-2.0**
DAWY	**Dawson**	**8.58**	**191**	Pn	**P**	**05 24 34.5**	**-0.5**
DAWY				Sn	**Sn**	**05 26 05.2**	**-7.6**
DAWY				Trac		05 26 08.1	
	comp=Z,10.0nm,0.1s						
DAWY	**Dawson**	**8.58**	**191**	*e*P	**P**	**05 24 34.3**	**-0.6**
ILAR	**Eielson Array**	**8.75**	**213**	Pn	**P**	**05 24 37.8**	**+0.4**
	0.4nm,0.3s,baz=22,slow=14,SNR=31						
ILAR				Sn	**Sn**	**05 26 11.4**	**-5.7**
	0.2nm,0.3s,baz=20,slow=23,SNR=7.1						
COLA	**College**	**8.82**	**216**	*e*P	**P**	**05 24 38.3**	**-0.1**
IMA2	**Indian Mountai**	**9.04**	**234**	*e*P	**P**	**05 24 40.8**	**-0.6**
MCK	**McKinley**	**10.06**	**216**	*e*P	**P**	**05 24 57.1**	**+1.9**
RES	**Resolute Bay**	**11.54**	**60**	Pn	**P**	**05 25 14.4**	**-1.1**
RES				Sn	**S**	**05 27 12.8**	**-13**
RES				Trac		05 27 19.2	
	comp=Z,8.0nm,0.3s						
HYT	**Haines Junctio**	**11.74**	**185**	Pn	**P**	**05 25 18.8**	**+0.6**
HYT				Sn	**S**	**05 27 20.7**	**-10**
HYT				Trac		05 27 25.4	
	comp=Z,1.0nm,0.4s						
YKW3	**Yellowknife Ar**	**12.70**	**131**	Pn	**P**	**05 25 30.8**	**-0.2**
YKW3				Pn	**P**	**05 25 30.8**	**-0.2**
YKW3				Sn	**S**	**05 27 41.5**	**-12**
YKW3				Sn	**S**	**05 27 41.6**	**-12**
YKW3				Trac		05 27 45.2	
	comp=Z,1.0nm,0.1s						
YKW3				Trac		05 27 46.5	
	comp=Z,2.0nm,0.2s						
YKW3	**Yellowknife Ar**	**12.70**	**131**	*e*P	**P**	**05 25 32.6**	**+1.6**
YKW3				*e*S	**S**	**05 27 39.2**	**-14**
YKA	**Yellowknife Ar**	**12.76**	**131**	Pn	**P**	**05 25 31.4**	**-0.4**
	0.3nm,0.3s,baz=326,slow=13,SNR=20						
YKA				Sn	**S**	**05 27 42.2**	**-13**
	0.7nm,0.3s,baz=328,slow=23,SNR=12						
YKA	**Yellowknife Ar**	**12.76**	**131**	Pn	**P**	**05 25 31.4**	**-0.4**
YKA				Sn	**S**	**05 27 42.2**	**-13**
TNA	**Tin City**	**13.31**	**255**	*e*P	**P**	**05 25 37.5**	**-1.7**
ESDC	**Sonseca Array**	**63.21**	**40**	P	**P**	**05 33 01.2**	**+3.3**
	0.1nm,0.4s,mb3.3,baz=349,slow=6.9,SNR=5.4						
ESDC				pP	pP	05 33 12.9	+12
	0.4nm,0.5s,baz=344,slow=6.4,SNR=4.9						

JMA ***11*** *05:28:34.9±0.1,33.87N×137.56E,h358km,M3.0*

IDC ***11*** *05:28:39.1±1.1,34.07N×137.95E,h341km±53km,mb2.9/3, mb1 2.9/4,mb1mx2.7/22,mbtmp3.4/4,Error ellipse: s-maj=164.3km s-min=17.8km az=63.0*

ISC 11 05:28:37.6±0.7,33.9N±0.1×137.58E±0.09,h328km±7km, n16,σ0§60/18,mb2.9/3,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.88**	**304**	P	**P**	**05 29 21.1**	**+0.4**
JWZ	**Kozaga**	**1.60**	**257**	P	**P**	**05 29 24.2**	**-0.3**
JWY	**Kouya**	**1.68**	**282**	P	**P**	**05 29 25.1**	**+0.1**
JOD2	**Odawara 2**	**1.84**	**42**	P	**P**	**05 29 26.8**	**+0.7**
JGM	**Miyama**	**1.94**	**339**	P	**P**	**05 29 26.8**	**+0.1**
JHJ	**Hachijo jima 2**	**1.99**	**112**	P	**P**	**05 29 28.7**	**+1.5**
	14nm,0.3s,baz=47,slow=22,SNR=2.9						
JWT	**Wachi**	**2.27**	**308**	P	**P**	**05 29 29.0**	**-0.4**
JRY	**Ryogami san**	**2.38**	**27**	P	**P**	**05 29 31.1**	**+0.9**
JRY				*e*S	**S**	**05 30 11.7**	**+0.3**
JAI	**Aioi**	**2.61**	**269**	P	**P**	**05 29 31.7**	**-0.5**
MJAR	**Matsushiro Arr**	**2.69**	**11**	P	**P**	**05 29 32.5**	**-0.4**
	1.1nm,0.3s,baz=183,slow=9.2,SNR=12						
BSO1	**Boso 1**	**2.91**	**74**	P	**P**	**05 29 34.3**	**-0.6**
BSO1				*e*S	**S**	**05 30 18.8**	**-0.9**
JAG	**Ashikaga**	**2.95**	**31**	P	**P**	**05 29 34.6**	**-0.7**
JHS	**Saijyo**	**3.85**	**288**	P	**P**	**05 29 44.1**	**-0.1**
SONM	**Songino Array**	**27.18**	**310**	P	**P**	**05 33 54.1**	**+0.6**
	0.5nm,0.7s,mb2.9,baz=122,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**43.22**	**304**	P	**P**	**05 36 08.4**	**-0.1**
	0.7nm,0.6s,mb3.0,baz=89,slow=9.7,SNR=11						
WRA	**Warramunga Arr**	**53.62**	**184**	P	**P**	**05 37 27.7**	**-0.3**
	0.2nm,0.3s,mb2.9,baz=360,slow=7.6,SNR=11						

IDC ***11*** *05:55:07.6±0.3,7.86S×129.04E,mb5.3/25,mb1 5.2/25, mb1mx5.2/26,mbtmp5.3/25,MS5.1/12,Ms1 5.1/12, ms1mx4.8/22,Error ellipse: s-maj=16.2km s-min=11.1km az=63.0*

BJI ***11*** *05:55:10.3,8.18S×129.10E,h47km,mB5.6,mb5.1,Ms5.1, Msz4.9*

HRVD ***11*** *05:55:12.9±0.2,7.93S×129.16E,h34km,MW5.5/80, Centroid moment Tensor Solution. LP body waves: s80,c137;Mantle waves: s78,c147; Half duration: 1§4 Moment tensor: Scale 10^17^Nm; Mrr2.39±.07; Mθθ-1.76±.04; Mϕϕ-0.63±.05; Mrθ-0.52±.06; Mϕθ-1.24±.03; Mϕr-0.22±.08; Best double couple: Mo2.539×10^17^ NP1: ϕs55°,δ39°,λ86°. NP2:ϕs239°,δ51°,λ93°. Principal axes: T 2.456, Plg83°, Azm168°; N .158, Plg2°, Azm58°; P -2.622, Plg6°, Azm327°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***11*** *05:55:12.2±1.2,7.73S×128.91E,h33km,mb5.5/28, MS5.1/8 Error ellipse: s-maj=12.4km s-min=7.1km az=106.8*

NEIC ***11*** *05:55:12.9±0.1,7.87S×129.02E,h35km,mb5.5/32, MS5.1/6,Error ellipse: s-maj=6.4km s-min=4.6km az=63.0*

CSEM ***11*** *05:55:13.8,7.50S×129.11E,h33km,mb5.6*

ISC 11 05:55:11.2±0.2,8.01S±0.03×128.91E±0.05,h36km, h36km±1.7km:pP-P,n376,σ1§37/210,mb5.3/93,MS5.0/37, 24C-6D,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.82**	**144**	*e*P	Px	05 56 56.6	
	435nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.52**	**197**	Pn	**P**	**05 57 39.5**	**-3.2**
	15nm,0.3s,baz=27,slow=11,SNR=289						
FITZ				Sn	**S**	**05 59 31.6**	**-8.9**
	44nm,0.3s,baz=101,slow=13,SNR=12						
FITZ				LR	LR	06 02 32.9	
	comp=Z,13µm,20.2s,baz=20,slow=42						
WRA	**Warramunga Arr**	**12.98**	**157**	Pn	**P**	**05 58 09.6**	**-6.3**
	20nm,0.3s,baz=338,slow=12,SNR=137						
WRA				Sn	**S**	**06 00 29.3**	**-11**
	35nm,0.3s,baz=336,slow=22,SNR=6.2						
WB2	**Warramunga Arr**	**12.98**	**157**	*i*P	**P**	**05 58 08.6**	**-7.3**
WB2				*e*S	**S**	**06 00 26.0**	**-14**
DAV	**Davao City (W)**	**15.34**	**347**	*e*P	**P**	**05 58 49.2**	**+2.2**
	562nm,0.8s						
MBWA	**Marble Bar**	**15.79**	**213**	*e*P	**P**	**05 58 50.1**	**-2.6**
	2.0nm,0.5s						
MBWA				*e*S	**S**	**06 01 31.7**	**-15**
BUKP	**Musuan**	**16.24**	**346**	*e*P	**P**	**05 59 02.7**	**+4.2**
TSM	**Tawau**	**16.45**	**318**	P	**P**	**05 59 07.2**	**+6.1**
PAGZ	**Pagadian**	**16.69**	**341**	*e*P	**P**	**05 59 08.8**	**+4.6**
DCPH	**Dipolog City**	**17.39**	**341**	*e*P	**P**	**05 59 17.9**	**+5.0**
	267µm,1.0s						
SCPH	**Surigao**	**18.00**	**349**	*e*P	**P**	**05 59 22.2**	**+1.7**
TBP	**Tagbilaran**	**18.29**	**344**	*e*P	**P**	**05 59 25.6**	**+1.5**
MSLP	**Maasin**	**18.47**	**347**	*e*P	**P**	**05 59 28.8**	**+2.3**
KKM	**Kota Kinabalu**	**18.85**	**317**	P	**P**	**05 59 34.8**	**+3.8**
KKM	**Kota Kinabalu**	**18.85**	**317**	*e*P	**P**	**05 59 32.2**	**+1.2**
LLP	**Lapu-Lapu**	**18.86**	**345**	*e*P	**P**	**05 59 34.5**	**+3.3**
PLP	**Palo**	**19.45**	**348**	*e*P	**P**	**05 59 40.4**	**+2.7**
GUIM	**Jordan**	**19.55**	**341**	*e*P	**P**	**05 59 40.7**	**+1.8**
BATP	**Bataraza**	**20.03**	**326**	*e*P	**P**	**05 59 46.7**	**+2.6**
RCP	**Roxas**	**20.39**	**342**	*e*P	**P**	**05 59 53.8**	**+6.0**
CTAO	**Charters Tower**	**20.64**	**127**	*e*P	**P**	**05 59 49.4**	**-1.1**
CTAO				*e*S	**S**	**06 03 41.4**	**+7.2**
CTAO				pmax	pmax		
	comp=Z,167nm,1.0s						
CTAO	**Charters Tower**	**20.64**	**127**	*e*P	**P**	**05 59 49.4**	**-1.0**
	comp=Z,167nm,1.0s						
CTAO				*e*S	**S**	**06 03 41.4**	**+7.2**
KSM	**Kuching**	**20.80**	**296**	*e*P	**P**	**05 59 51.7**	**-0.4**
OTRP	**Odiongan**	**21.37**	**341**	*e*P	**P**	**06 00 00.3**	**+2.5**
SJMP	**San Jose**	**21.76**	**339**	*e*P	**P**	**06 00 08.3**	**+6.6**
PVCP	**Virac**	**21.98**	**348**	*e*P	**P**	**06 00 04.7**	**+0.8**
AUQP	**San Andres**	**22.08**	**344**	*e*P	**P**	**06 00 14.8**	**+10**
BOAC	**Boac**	**22.45**	**342**	*e*P	**P**	**06 00 13.4**	**+4.8**
FORT	**Forrest**	**22.66**	**182**	*e*P	**P**	**06 00 11.2**	**+0.5**
	comp=Z,389nm,0.7s,mb6.0						
FORT				*e*S	**S**	**06 04 16.2**	**+4.4**
LUBP	**Lubang**	**23.25**	**338**	*e*P	**P**	**06 00 17.3**	**+0.7**
TGY	**Tagaytay City**	**23.35**	**340**	P	**P**	**06 00 18.0**	**+0.5**
	comp=Z,92nm,0.3s,mb5.7,baz=187,slow=8.1,SNR=3.8						
KLBR	**Kellerberrin**	**25.66**	**202**	*e*P	**P**	**06 00 39.9**	**+0.3**
	comp=Z,90nm,0.6s,mb5.5						
STKA	**Stephens Creek**	**26.52**	**155**	*i*P	**P**	**06 00 46.7**	**-0.9**
	comp=Z,117nm,0.8s,mb5.5						
STKA				*e*S	**S**	**06 05 19.2**	**+1.8**
STKA	**Stephens Creek**	**26.52**	**155**	P	**P**	**06 00 46.7**	**-0.9**
	comp=Z,79nm,1.0s,mb5.2,baz=326,slow=8.6,SNR=71						
STKA				LR	LR	06 12 03.4	
	comp=Z,11µm,20.8s,MS5.4,baz=316,slow=38						
MUN	**Mundaring**	**26.61**	**205**	*e*P	**P**	**06 00 49.2**	**+0.8**
MUN				*e*S		06 05 48.0	
NWAO	**Narrogin (SRO)**	**27.05**	**202**	*e*P	**P**	**06 00 52.2**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,103nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,5µm,21.0s						
NWAO	**Narrogin (SRO)**	**27.05**	**202**	*e*P	**P**	**06 00 52.2**	**-0.3**
	comp=Z,103nm,0.8s,mb5.4						
NWAO				*e*S		06 05 57.6	
NWAO				LR	LR		
	comp=Z,5µm,21.0s,MS5.0						
KGM	**Kluang**	**27.39**	**290**	P	**P**	**06 00 56.8**	**+1.0**
IPM	**Ipoh**	**30.45**	**293**	P	**P**	**06 01 23.5**	**+0.4**
HNR	**Honiara**	**30.71**	**95**	P	**P**	**06 01 24.2**	**-1.1**
	comp=Z,46nm,0.6s,mb5.5,baz=240,slow=8.1,SNR=2.6						
KULM	**Kulim**	**31.13**	**294**	*e*P	**P**	**06 01 28.2**	**-0.9**
PSI	**Prapat**	**31.78**	**289**	P	**P**	**06 01 33.9**	**-0.9**
	comp=Z,148nm,0.9s,mb5.8,baz=112,slow=5.4,SNR=83						
PSI				LR	LR	06 14 53.3	
	comp=Z,2µm,18.8s,MS4.9,baz=120,slow=37						
QIZ	**Qiongzhong**	**32.79**	**325**	P	**P**	**06 01 44.3**	**+0.7**
QIZ				XP	sP	06 01 55.6	-2.8
QIZ				PP	PP	06 02 58.0	+4.3
QIZ				S	**S**	**06 06 55.5**	**-1.5**
QIZ				AMB	AMB		
	comp=Z,40nm,2.1s,mb5.0						
QIZ				LR	LR		
	comp=N,1µm,21.1s						
QIZ				LR	LR		
	comp=Z,2µm,19.3s,MS4.8						
CNB	**Canberra Magne**	**33.01**	**148**	*e*P	**P**	**06 01 46.0**	**+0.6**
	comp=Z,153nm,1.5s,mb5.7						
TOO	**Toolangi**	**33.04**	**155**	*i*P	**P**	**06 01 46.2**	**+0.6**
	comp=Z,25nm,0.8s,mb5.2						
TOO	**Toolangi**	**33.04**	**155**	*i*P	**P**	**06 01 46.2**	**+0.6**
TOO				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
JOW	**Kunigami**	**34.64**	**359**	P	**P**	**06 01 58.4**	**-1.1**
	comp=Z,68nm,0.9s,mb5.6,baz=192,slow=12,SNR=3.3						
JOW				LR	LR	06 14 00.6	
	comp=Z,3µm,21.6s,MS5.0,baz=298,slow=33						
NNT	**Nongplab**	**35.49**	**305**	P	**P**	**06 02 07.8**	**+1.0**
NST	**Nakhon Sawan**	**36.96**	**310**	P	**P**	**06 02 18.0**	**-1.2**
CBIJ	**Chichi jima**	**37.20**	**20**	P	**P**	**06 02 18.4**	**-2.7**
	comp=Z,60nm,0.5s,mb5.6,baz=201,slow=17,SNR=3.8						
CBIJ				LR	LR	06 15 15.4	
	comp=Z,2µm,21.2s,MS4.9,baz=313,slow=33						
DZM	**Mont Dzumac**	**38.72**	**115**	P	**P**	**06 02 33.4**	**-0.4**
	comp=Z,24nm,1.0s,mb4.9,baz=306,slow=6.0,SNR=18						
SSE	**Sheshan**	**39.58**	**350**	*e*P	**P**	**06 02 42.5**	**+1.6**
SSE				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.9						
SSE				AMB	AMB		
	comp=Z,300nm,4.2s						
CHRT	**Chiangrai**	**39.87**	**314**	P	**P**	**06 02 42.0**	**-1.4**
	comp=Z,316nm,0.8s,mb6.1						
GYA	**Guiyang**	**40.50**	**329**	*i*P	**P**	**06 02 48.0**	**-0.6**
GYA				AP	pP	06 02 58.9	0.0
GYA				XP	sP	06 03 02.6	-0.8
GYA				PP	PP	06 04 24.8	-0.5
GYA				PCP	PcP	06 04 51.2	-0.2
GYA				SCP		06 08 38.5	
GYA				S	**S**	**06 08 51.0**	**-3.9**
GYA				SCS	ScS	06 12 50.2	+0.8
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
GYA				AMB	AMB		
	comp=Z,350nm,6.9s						
GYA				LR	LR		
	comp=N,1µm,20.4s,MS5.0						
GYA				LR	LR		
	comp=E,2µm,18.9s,MS5.0						
GYA				LR	LR		
	comp=Z,2µm,15.3s,MS5.1						
WHN	**Wuhan**	**40.80**	**341**	P	**P**	**06 02 49.3**	**-1.7**
JNU	**Nakatsue**	**40.95**	**3**	P	**P**	**06 02 53.3**	**+1.1**
	comp=Z,29nm,0.9s,mb4.9,baz=199,slow=17,SNR=7.7						
JNU				LR	LR	06 18 05.9	
	comp=Z,2µm,20.8s,MS4.9,baz=174,slow=34						
NJ2	**Nanjing**	**40.98**	**347**	*e*P	**P**	**06 02 51.3**	**-1.2**
NJ2				AP	pP	06 03 01.2	-1.6
NJ2				XP	sP	06 03 06.2	-1.1
NJ2				PP	PP	06 04 30.1	+0.1
NJ2				S	**S**	**06 09 03.0**	**+1.1**
NJ2				XS		06 09 22.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,680nm,5.4s						
NJ2				LR	LR		
	comp=N,3µm,24.0s						
NJ2				LR	LR		
	comp=E,2µm,17.0s						
NJ2				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
KMI	**Kunming**	**41.64**	**323**	P	**P**	**06 02 59.4**	**+1.3**
KMI				AP	pP	06 03 10.1	+1.6
KMI				XP	sP	06 03 14.2	+1.3
KMI				PP	PP	06 04 38.9	+1.4
KMI				PCP	PcP	06 04 57.2	+2.0
KMI				PPP	PPP	06 05 12.6	+3.8
KMI				S	**S**	**06 09 12.0**	**0.0**
KMI				XS		06 09 29.9	
KMI				SS	SS	06 12 16.5	+3.7
KMI				SCS	ScS	06 12 58.9	+2.6
KMI				SSS	SSS	06 13 00.4	+5.5
KMI				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,290nm,4.3s						
KMI				LR	LR		
	comp=N,1µm,19.3s,MS4.9						
KMI				LR	LR		
	comp=E,1µm,24.1s,MS4.9						
KMI				LR	LR		
	comp=Z,2µm,30.4s						
JHJ	**Hachijo jima 2**	**42.19**	**14**	LR	LR	06 17 32.8	
	comp=Z,2µm,21.3s,MS5.1,baz=125,slow=32						
ENH	**Enshi**	**42.39**	**335**	*e*P	**P**	**06 03 02.3**	**-1.9**
	comp=Z,17nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**45.17**	**11**	*e*P	**P**	**06 03 22.7**	**-3.9**
MAJO				*e*	pP	06 03 34.6	-2.4
MAJO				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.2						
MAJO				MLR	MLR		
	comp=Z,2µm,21.0s,MS4.9						
MAJO	**Matsushiro**	**45.17**	**11**	*e*P	**P**	**06 03 22.7**	**-3.9**
	comp=Z,35nm,0.8s,mb5.2						
MAJO				*e*	pP	06 03 34.6	-2.4
MAJO				LR	LR		
	comp=Z,2µm,21.0s,MS4.9						
MAT	**Matsushiro**	**45.17**	**11**	P	**P**	**06 03 22.8**	**-3.8**
MAT				*e*S	**S**	**06 10 09.0**	**+5.9**
MAT	**Matsushiro**	**45.17**	**11**	*e*P	**P**	**06 03 23.0**	**-3.6**
MAT				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.0						
MAT				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.9						
MAT	**Matsushiro**	**45.17**	**11**	*e*P	**P**	**06 03 23.0**	**-3.6**
	comp=Z,26nm,1.0s,mb5.0						
MAT				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
MJAR	**Matsushiro Arr**	**45.17**	**11**	P	**P**	**06 03 23.4**	**-3.1**
	comp=Z,13nm,0.9s,mb4.7,baz=190,slow=9.4,SNR=17						
KS15	**Wonju Array Si**	**45.22**	**359**	*e*P	**P**	**06 03 25.2**	**-1.8**
CD2	**Chengdu**	**45.59**	**329**	P	**P**	**06 03 29.0**	**-1.0**
CD2				XP	sP	06 03 42.8	-2.0
CD2				PP	PP	06 05 19.0	+1.8
CD2				S	**S**	**06 10 16.7**	**+7.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
CD2				LR	LR		
	comp=N,610nm,18.6s						
CD2				LR	LR		
	comp=Z,830nm,20.4s,MS4.7						
XAN	**Xi'an**	**45.91**	**337**	P	**P**	**06 03 29.5**	**-3.0**
XAN				SS	SS	06 13 26.9	-3.6
XAN				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
XAN				LR	LR		
	comp=N,580nm,16.8s,MS4.8						
XAN				LR	LR		
	comp=E,830nm,18.6s,MS4.8						
XAN				LR	LR		
	comp=Z,1µm,19.2s,MS4.9						
DL2	**Dalian**	**47.16**	**352**	*e*P	**P**	**06 03 45.4**	**+3.1**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
DL2				LR	LR		
	comp=N,480nm,17.9s,MS4.6						
DL2				LR	LR		
	comp=E,460nm,18.3s,MS4.6						
DL2				LR	LR		
	comp=Z,430nm,18.4s,MS4.5						
LZH	**Lanzhou**	**49.80**	**333**	*e*P	**P**	**06 04 02.3**	**-0.4**
LZH				AP	pP	06 04 12.9	-0.3
LZH				XP	sP	06 04 15.5	-2.0
LZH				PP	PP	06 05 58.0	-0.2
LZH				*e*S	**S**	**06 11 08.0**	**-0.5**
LZH				SS	SS	06 14 40.0	+2.4
LZH				AMB	AMB		
	comp=Z,180nm,1.2s,mb6.0						
LZH				AMB	AMB		
	comp=Z,370nm,4.7s						
LZH				LR	LR		
	comp=N,2µm,15.2s						
LZH				LR	LR		
	comp=Z,4µm,20.0s,MS5.5						
SNY	**Shenyang**	**49.84**	**355**	*i*P	**P**	**06 04 03.9**	**+1.0**
SNY				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
SNY				LR	LR		
	comp=N,1µm,22.2s						
SNY				LR	LR		
	comp=Z,1µm,23.4s,MS4.9						
VLA	**Vladivostok**	**50.96**	**3**	*e*P	**P**	**06 04 08.3**	**-3.2**
VLA				pmax	pmax		
	comp=Z,103nm,1.5s,mb5.5						
RPZ	**Rata Peaks**	**51.12**	**141**	P	**P**	**06 04 12.6**	**-0.1**
	comp=Z,165nm,0.8s,mb6.0,baz=351,slow=3.0,SNR=43						
HHC	**Hu-ho-hao-te**	**51.17**	**343**	*e*P	**P**	**06 04 11.5**	**-1.6**
HHC				AP	pP	06 04 21.0	-2.6
HHC				PCP	PcP	06 05 26.7	-1.7
HHC				PP	PP	06 06 08.3	-2.4
HHC				SCP		06 09 20.3	
HHC				PCS		06 09 23.3	
HHC				S	**S**	**06 11 23.4**	**-4.0**
HHC				SCS	ScS	06 13 56.5	-1.1
HHC				SS	SS	06 14 55.4	-5.4
HHC				AMB	AMB		
	comp=Z,540nm,4.8s						
HHC				LR	LR		
	comp=N,570nm,19.0s,MS4.8						
HHC				LR	LR		
	comp=E,680nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=Z,790nm,23.8s						
CN2	**Changchun**	**51.66**	**357**	*e*P	**P**	**06 04 18.0**	**+1.2**
CN2				*e*XP	sP	06 04 32.7	+1.1
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
CN2				LR	LR		
	comp=N,1µm,21.0s,MS5.1						
CN2				LR	LR		
	comp=E,1µm,21.0s,MS5.1						
CN2				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
VIS	**Vishakhapatnam**	**51.77**	**300**	*e*P	**P**	**06 04 19.9**	**+2.0**
VIS				AMb	AMB	06 04 25.1	
	comp=Z,84nm,1.4s,mb5.5						
LSA	**Lhasa**	**52.19**	**318**	P	**P**	**06 04 20.4**	**-0.5**
LSA				AP	pP	06 04 29.6	-1.8
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
LSA				LR	LR		
	comp=N,700nm,27.9s,MS4.9						
LSA				LR	LR		
	comp=E,1µm,26.1s,MS4.9						
LSA				LR	LR		
	comp=Z,7µm,32.3s						
LSA	**Lhasa**	**52.19**	**318**	*e*P	**P**	**06 04 20.4**	**-0.5**
LSA				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5						
LSA	**Lhasa**	**52.19**	**318**	*e*P	**P**	**06 04 20.4**	**-0.5**
	comp=Z,50nm,0.8s,mb5.5						
SNZO	**South Karori**	**52.32**	**137**	*e*P	**P**	**06 04 19.9**	**-1.8**
	comp=Z,107nm,1.1s,mb5.7						
MDJ	**Mudanjiang**	**52.39**	**1**	P	**P**	**06 04 24.1**	**+1.9**
MDJ				AP	pP	06 04 32.5	-0.2
MDJ				XP	sP	06 04 37.2	+0.2
MDJ				PCP	PcP	06 05 31.8	-1.1
MDJ				PP	PP	06 06 19.0	-3.0
MDJ				SCP		06 09 27.4	
MDJ				PCS		06 09 31.3	
MDJ				S	**S**	**06 11 46.3**	**+2.3**
MDJ				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,360nm,6.7s						
MDJ				LR	LR		
	comp=N,550nm,23.4s,MS4.6						
MDJ				LR	LR		
	comp=E,520nm,26.3s,MS4.6						
MDJ				LR	LR		
	comp=Z,1µm,31.2s,MS4.8						
MDJ	**Mudanjiang**	**52.39**	**1**	*e*P	**P**	**06 04 19.5**	**-2.7**
	comp=Z,35nm,1.1s,mb5.2						
BOK	**Bokaro**	**52.58**	**308**	*e*P	**P**	**06 04 24.5**	**+0.6**
BOK				AMb	AMB	06 04 33.1	
	comp=Z,60nm,1.0s,mb5.5						
URZ	**Urewera**	**52.77**	**133**	P	**P**	**06 04 24.7**	**-0.5**
	comp=Z,15nm,0.6s,mb5.1,baz=205,slow=3.7,SNR=7.8						
ASAJ	**Asahikawa**	**53.34**	**12**	P	**P**	**06 04 28.2**	**-1.1**
	comp=Z,11nm,0.6s,mb5.0,baz=102,slow=29,SNR=7.6						
ASAJ				LR	LR	06 26 29.5	
	comp=Z,1µm,21.4s,MS4.9,baz=206,slow=35						
TRD	**Trivandrum**	**54.30**	**286**	*e*P	**P**	**06 04 39.4**	**+2.6**
TRD				AMb	AMB	06 04 47.8	
	comp=Z,52nm,1.0s,mb5.4						
GTA	**Gaotai**	**54.34**	**332**	P	**P**	**06 04 35.0**	**-1.8**
GTA				PCP	PcP	06 05 39.0	-1.3
GTA				PP	PP	06 06 38.2	-2.1
GTA				PPP	PPP	06 07 51.9	+0.5
GTA				SCP		06 09 34.1	
GTA				PCS		06 09 37.0	
GTA				S	**S**	**06 12 10.9**	**+0.2**
GTA				SCS	ScS	06 14 19.0	-0.6
GTA				SS	SS	06 15 51

HYB **Hyderabad** 55.80 297 *e*P P 06 04 46.0 -1.6
comp=Z,50nm,1.0s,mb5.5
YSS **Yuzh-Sakhalins** 56.09 11 *e*P P 06 04 51.0 +1.7
KOLN **Koldanda** 56.42 311 *e*P P 06 04 50.2 -1.7
comp=Z,236nm,1.1s,mb6.2
KLR **Kul'dur** 57.05 2 *e*P P 06 04 51.0 -5.2
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.4
ULN **Ulaanbaatar** 58.90 343 P P 06 05 07.4 -1.7
ULN pmax pmax
comp=Z,32nm,0.9s,mb5.3
ULN **Ulaanbaatar** 58.90 343 P P 06 05 07.4 -1.7
comp=Z,32nm,0.9s,mb5.3
ULN *i* Pr 06 05 12.3
SONM **Songino Array** 59.06 342 P P 06 05 09.7 -0.6
comp=Z,30nm,1.0s,mb5.2,baz=165,slow=6.2,SNR=29
SONM PKPPKP 06 34 41.3
comp=Z,1.2nm,1.0s,baz=315,slow=2.1,SNR=4.1
SONM PKP2bc 06 34 54.5
comp=Z,2.0nm,1.0s,baz=270,slow=5.9,SNR=3.9
SONM **Songino Array** 59.06 342 P P 06 05 09.7 -0.6
SONM P'P' 06 34 41.3
SONM ⇑*e* 06 34 54.5
BHPL **Bhopal** 59.14 303 *e*P P 06 05 10.8 -0.3
BHPL AMb AMB 06 05 18.6
comp=Z,59nm,0.8s,mb5.7
KAD **Karad** 59.64 295 *e*P P 06 05 16.3 +1.7
KAD AMb AMB 06 05 29.7
comp=Z,50nm,1.2s,mb5.4
POO **Poona** 60.37 297 *e*P P 06 05 20.1 +0.5
POO AMb AMB 06 05 28.1
comp=Z,44nm,1.0s,mb5.5
CIT **Chita** 61.23 349 *e*P P 06 05 30.4 +5.4
CIT *e* pP 06 05 41.8 +6.1
CIT pmax pmax
comp=Z,47nm,1.6s,mb5.4
ZAK **Zakamensk** 62.27 342 *e*P P 06 05 31.6 -0.4
ZAK pmax pmax
comp=Z,12nm,1.0s,mb5.0
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
IRK **Irkutsk** 63.62 343 *e*P P 06 05 42.8 +1.9
IRK pmax pmax
comp=Z,67nm,3.1s
WMQ **Urumqi** 63.66 328 P P 06 05 40.9 -0.4
WMQ AP pP 06 05 51.0 -1.1
WMQ XP sP 06 05 54.9 -1.2
WMQ PCP PcP 06 06 16.9 -0.3
WMQ PP PP 06 08 02.9 -0.1
WMQ PPP PPP 06 09 34.9 +0.2
WMQ S **S** 06 14 11.4 +0.1
WMQ SCS ScS 06 15 27.9 -0.1
WMQ SS SS 06 18 20.3 -0.5
WMQ AMB AMB
comp=Z,60nm,0.8s,mb5.7
WMQ AMB AMB
comp=Z,440nm,5.0s
WMQ LR LR
comp=N,810nm,20.0s,MS5.1
WMQ LR LR
comp=E,1μm,24.0s,MS5.1
WMQ LR LR
comp=Z,1μm,24.0s,MS4.9
MOY **Mondy** 64.11 341 *e*P P 06 05 47.6 +3.6
MOY pmax pmax
comp=Z,89nm,3.6s
CLNS **Chul'man** 64.70 358 *e*P P 06 05 49.1 +1.3
CLNS pmax pmax
comp=N,11nm,0.7s
CLNS pmax pmax
comp=Z,27nm,0.7s,mb5.4
CLNS pmax pmax
comp=E,12nm,1.0s
PET **Petropavlovsk** 65.85 19 *e*P P 06 05 58.8 +3.5
PET *e*S S 06 14 42.9 +4.8
PET pmax pmax
comp=Z,300nm,10.9s
PET smax
comp=N,400nm,16.8s
PET smax
comp=E,300nm,8.4s
BOD **Bodaibo** 66.72 351 *e*P P 06 05 59.0 -1.7
BOD pmax pmax
comp=Z,24nm,0.9s,mb5.2
KSH **Kashi** 68.04 318 *e*P P 06 06 09.8 +0.5
KSH AP pP 06 06 20.0 -0.2
KSH *e*S S 06 15 03.4 -1.3
KSH XS 06 15 29.8
KSH AMB AMB
comp=Z,160nm,5.2s
KSH LR LR
comp=N,380nm,7.8s
KSH LR LR
comp=E,940nm,20.0s
MKAR **Makanchi Array** 68.48 328 P P 06 06 11.7 -0.3
comp=E,17nm,0.4s,mb5.4,baz=118,slow=7.8,SNR=247
MKAR PKPPKP 06 34 25.9
comp=E,0.9nm,0.9s,baz=315,slow=1.7,SNR=4.4
MA2 **Magadan** 69.60 12 P P 06 06 15.4 -3.2
MA2 *e* pP 06 06 28.3 -1.2
MA2 *e*S S 06 15 18.5 -4.4
MA2 *e* 06 15 53.7
MA2 pmax pmax
comp=Z,20nm,1.2s,mb4.9
MA2 **Magadan** 69.60 12 *e*P P 06 06 16.9 -1.6
comp=Z,110nm,1.5s,mb5.6
YAK **Yakutsk** 69.83 0 *e*P P 06 06 17.4 -2.5
comp=Z,79nm,0.8s,mb5.7
KZA **Kyzart** 69.85 320 P P 06 06 20.9 +0.5
SNR=7.5
TKM2 **Tokmak 2** 70.08 321 P P 06 06 21.4 -0.4
SNR=19
UCH **Uchtor** 70.39 320 P P 06 06 23.5 -0.2
SNR=16
AAK **Ala-Archa** 70.62 320 *c i*P P 06 06 23.5 -1.6
CHMS **Chumysh** 70.64 321 P P 06 06 24.4 -0.9
SNR=8.1
AML **Almayashu** 70.87 320 P P 06 06 26.8 +0.2
SNR=14
USP **Ospenovka** 70.94 321 P P 06 06 26.4 -0.7
SNR=32
EKS2 **Erkin-Say** 71.08 320 P P 06 06 28.0 +0.1
SNR=23
FX1 **Attu Island--F** 71.35 27 *e*P P 06 06 28.8 -0.5
VNDA **Vanda** 71.58 173 P P 06 06 30.2 -0.2
comp=Z,6.2nm,0.7s,mb4.7,baz=312,slow=6.2,SNR=42
VNDA LR LR 06 38 28.9
comp=Z,3μm,19.1s,MS5.5,baz=343,slow=36
VNDA **Vanda** 71.58 173 *e*P P 06 06 29.6 -0.7
VNDA pmax pmax
comp=Z,16nm,0.9s
VNDA MLR MLR
comp=Z,3μm,20.0s
VNDA **Vanda** 71.58 173 *e*P P 06 06 29.6 -0.8
comp=Z,16nm,0.9s,mb5.0
VNDA LR LR
comp=Z,3μm,20.0s,MS5.5
ZAL **Zalesovo** 72.01 334 P P 06 06 31.9 -1.3
comp=Z,11nm,0.8s,mb4.9
SBA **Scott Base** 72.48 172 *e*P P 06 06 36.7 +1.0
SBA pmax pmax
comp=Z,18nm,0.9s,mb5.0
SBA **Scott Base** 72.48 172 *e*P P 06 06 36.7 +1.0
comp=Z,18nm,0.9s,mb5.0
KURK **Kurchatov** 72.82 329 *i* P P 06 06 37.0 -1.1
KURK pmax pmax
comp=Z,148nm,1.1s,mb5.8
SEY **Seymchan** 73.00 11 *e*P P 06 06 37.5 -1.4
SEY 06 06 52.6
SEY *e*PPP PPP 06 11 07.3 +0.6
SEY *e*S S 06 16 02.3 +0.3
SEY 06 16 42.7
SEY SS SS 06 20 46.9 +1.4
SEY *e*SSS SSS 06 23 54.3 -1.2
SEY pmax pmax
comp=N,20nm,0.8s
SEY pmax pmax
comp=E,10.0nm,0.8s
SEY pmax pmax
comp=Z,50nm,0.8s,mb5.5
SEY smax
comp=N,520nm,20.4s
SEY smax
comp=E,110nm,17.9s
SEY MLR MLR
comp=N,810nm,22.0s,MS5.0
SEY MLR MLR
comp=Z,1μm,22.0s,MS5.1
SEY MLR MLR
comp=E,390nm,19.0s,MS5.0
SEY **Seymchan** 73.00 11 ⇓*i*P P 06 06 37.1 -1.8
NVS **Novosibirsk** 73.30 334 *e*P P 06 06 38.5 -2.3
NVS *e*S S 06 16 04.2 -1.4
NVS pmax pmax
comp=N,80nm,1.5s
NVS pmax pmax
comp=E,74nm,1.5s
NVS pmax pmax
comp=Z,115nm,1.5s,mb5.6
NVS smax
comp=N,58nm,2.2s
NVS smax
comp=E,76nm,2.2s
MAW **Mawson** 73.62 201 P P 06 06 44.2 +1.8
comp=E,43nm,1.0s,mb5.3,baz=69,slow=6.6,SNR=28
MAW LR LR 06 38 10.3
comp=E,1μm,19.6s,MS5.2,baz=61,slow=35
BVAR **Borovoye Array** 78.34 328 P P 06 07 08.5 -1.0
comp=E,7.2nm,0.7s,mb4.7,baz=135,slow=6.3,SNR=45
TBI **Tubuai** 79.22 112 *e*PP PP 06 10 12.8 -3.5
TBI **Tubuai** 79.22 112 *e*SS SS 06 22 21.6 +0.9
TBI *e*LR LR 06 31 51.7
comp=E,3μm,28.5s
TIXI **Tiksi** 79.49 360 *i* P P 06 07 14.1 -1.3
TIXI **Tiksi** 79.49 360 *i* Pr P 06 07 14.1 -1.3
PAE **Paea** 79.57 106 *e*P P 06 07 17.9 +1.0
comp=E,90nm,1.2s,mb5.6
PPT **Papeete** 79.58 106 *e*P P 06 07 18.1 +1.1
comp=E,49nm,1.2s,mb5.3
PPT **Papeete** 79.58 106 *e*SS SS 06 22 45.5 +19
PPT *e*LR LR 06 32 00.5
comp=E,2μm,23.0s
OPO **Ambohidratompo** 79.68 253 P P 06 07 19.9 +2.4
comp=E,6.1nm,0.3s,mb5.0,baz=84,slow=5.6,SNR=8.8
TVO **Taravao** 79.87 107 *e*P P 06 07 19.8 +1.3
comp=E,83nm,1.2s,mb5.5
BILL **Bilibino** 80.34 13 ⇓*i*P P 06 07 18.7 -1.3
BILL *e* pP 06 07 29.4 -1.7
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BILL MLR MLR
comp=Z,300nm,18.0s,MS4.7
BILL **Bilibino** 80.34 13 ⇓*i*P P 06 07 18.8 -1.2
MEH **Mehetia** 80.98 107 *e*P P 06 07 25.4 +1.0
comp=Z,73nm,1.2s,mb5.5
PMOR **Pomariorio Ree** 81.44 104 *e*P P 06 07 28.0 +1.2
comp=Z,74nm,1.2s,mb5.5
VAH **Vaihoa** 81.67 104 *e*P P 06 07 28.9 +0.9
comp=Z,83nm,1.1s,mb5.6
SYO **Syowa Base** 82.33 201 ⇑P P 06 07 26.7 -3.7
SYO **Syowa Base** 82.33 201 ⇑P P 06 07 32.6 +2.2
SYO **Syowa Base** 82.33 201 ⇑*e*P P 06 07 26.7 -3.7
SYO ⇑*e*P 06 07 32.6
AKTK **Aktyubinsk** 84.21 323 P P 06 07 39.5 -0.8
AKTO **Aktyubinsk** 84.21 323 P P 06 07 39.5 -0.8
comp=Z,5.6nm,0.7s,mb4.8,baz=102,slow=5.4,SNR=27
ARU **Arti** 85.99 328 ⇑*i*P P 06 07 48.3 -0.7
ARU *e* 06 11 07.6
ARU *e*PPP PPP 06 13 03.7 -4.1
ARU *e*S S 06 18 10.4 -8.3
ARU *e*SS SS 06 23 55.9 -4.6
ARU pmax pmax
comp=Z,40nm,1.1s,mb5.6
TNA **Tin City** 86.56 22 *e*P P 06 07 50.9 -0.6
comp=Z,3.7nm,0.8s,mb4.7
ATD **Arta Tunnel** 87.75 282 P P 06 08 00.7 +2.1
comp=Z,16nm,1.0s,mb5.2,baz=282,slow=5.3,SNR=4.9
SOKR **Solikamsk** 87.96 331 *e*P P 06 08 01.3 +2.8
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
SOKR MLR MLR
comp=Z,610nm,19.0s,MS5.0
TAOE **Nuku Hiva Isla** 89.71 99 *e*P P 06 08 08.5 +0.6
comp=Z,730nm,1.4s
TAOE **Nuku Hiva Isla** 89.71 99 *e*SS SS 06 25 00.6 +5.2
TAOE *e*LR LR 06 36 44.9
comp=Z,3μm,31.3s
DGRG **David-gareji** 90.43 312 P P 06 08 10.5 -0.1
KDAK **Kodiak Island** 90.64 32 P P 06 08 12.0 +0.8
comp=Z,16nm,1.0s,mb5.3,baz=266,slow=16,SNR=6.4
GNI **Garni** 90.67 310 *d i*P P 06 08 14.9 +3.1
GNI pmax pmax
comp=Z,12nm,1.7s
GNI **Garni** 90.67 310 *i* Pr P 06 08 14.0 +2.2
MTA **Mtatsminda** 90.90 312 P P 06 08 13.0 +0.2
TI2 **Plekhanov** 90.94 312 ⇑*i*P P 06 08 13.2 +0.2
NVL **N'lazarevskaya** 91.07 197 *e*P P 06 08 14.6 +1.6
NVL *e**SP sP 06 08 24.6 -3.2
NVL *e* 06 18 48.4
NVL *e*SSS SSS 06 28 51.2 +0.7
NVL pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
NVL MLR MLR
comp=Z,167nm,17.6s,MS4.5
KMBO **Kilima Mbogo** 91.48 269 P P 06 08 17.7 +1.5
comp=Z,19nm,0.9s,mb5.4,baz=51,slow=5.9,SNR=41
KMBO LR LR 06 46 23.5
comp=Z,788nm,21.5s,MS5.1,baz=93,slow=34
IMA2 **Indian Mountai** 92.20 23 *e*P P 06 08 17.6 -0.7
KIV **Kislovodsk** 92.79 314 *e*P P 06 08 28.6 +7.1
MCK **McKinley** 93.66 26 *e*P P 06 08 24.2 -0.8
MCK pmax pmax
comp=Z,22nm,1.3s,mb5.4
MCK **McKinley** 93.66 26 *e*P P 06 08 24.2 -0.7
comp=Z,22nm,1.3s,mb5.4
COLA **College** 94.33 25 *e*P P 06 08 27.6 -0.3
COLA pmax pmax
comp=Z,12nm,1.1s,mb5.2
COLA MLR MLR
comp=Z,409nm,21.0s,MS4.9
COLA **College** 94.33 25 *e*P P 06 08 27.6 -0.3
comp=Z,12nm,1.1s,mb5.2
COLA *e*PKKPdf 06 25 26.2
COLA LR LR
comp=Z,409nm,21.0s,MS4.9
SNAA **Sanae** 94.43 194 *e* P 06 08 33.1 +4.8
SNAA **Sanae** 94.43 194 ⇑*i*P P 06 08 29.9 +1.6
SNAA *e* 06 08 33.1
DIV **Divide** 94.70 29 *e*P P 06 08 29.1 -0.6
comp=Z,60nm,0.8s,mb6.1
ILAR **Eielson Array** 94.72 25 P P 06 08 27.9 -1.9
comp=Z,15nm,1.1s,mb5.3,baz=273,slow=4.4,SNR=39
ILAR PKKP PKKP 06 25 28.1 +9.2
comp=Z,1.9nm,1.0s,baz=122,slow=0.2,SNR=11
THY **Trims Highway** 95.02 27 *e*P P 06 08 31.9 +0.8
VNA2 **Neumayer--Watz** 96.01 193 *e* P 06 08 40.2 +4.7
VNA2 **Neumayer--Watz** 96.01 193 *e* pP 06 08 48.5 +1.8
VNA2 **Neumayer--Watz** 96.01 193 *e* sP 06 08 51.4 +1.1
VNA2 **Neumayer--Watz** 96.01 193 P P 06 08 37.4 +1.9
VNA2 *e* 06 08 40.2
VNA2 *e* pP 06 08 48.5 +1.8
VNA2 *e* pP 06 08 51.4 +4.7
VNA3 **Neumayer Olymp** 96.27 192 *e* P 06 08 40.9 +4.2
VNA3 **Neumayer Olymp** 96.27 192 ⇑*i*P P 06 08 38.0 +1.3
VNA3 *e* 06 08 40.9
MATP **Matopo** 96.88 248 P P 06 08 42.1 +1.5
comp=Z,14nm,0.9s,mb5.4,baz=109,slow=6.0,SNR=20
MATP LR LR 06 47 40.6
comp=Z,714nm,22.0s,MS5.1,baz=102,slow=32
OBN **Obninsk** 97.85 325 *e*P P 06 08 49.4 +5.2
OBN pmax pmax
comp=Z,41nm,1.6s,mb5.7
OBN MLR MLR
comp=Z,700nm,21.0s,MS5.1
DAWY **Dawson** 97.89 26 *e*P P 06 08 44.6 +0.5
LSZ **Lusaka** 98.13 253 *e*P P 06 08 47.1 +0.7
LSZ pmax pmax
comp=Z,16nm,0.8s,mb5.6
LSZ **Lusaka** 98.13 253 *e*P P 06 08 47.1 +0.7
comp=Z,16nm,0.8s,mb5.6
BRTR **Keskin Array B** 99.11 309 P P 06 08 51.9 +1.6
comp=Z,1.9nm,1.1s,mb4.5,baz=117,slow=6.4,SNR=3.7
BRTR PKKP PKKP 06 25 19.0 +7.4
comp=Z,1.3nm,1.0s,baz=90,slow=1.2,SNR=3.7
INK **Inuvik** 100.20 22 P P 06 08 54.8 +0.2
comp=Z,7.4nm,1.1s,baz=242,slow=4.8,SNR=9.4
INK PKIKP 06 13 21.8
comp=Z,3.4nm,1.1s,baz=257,slow=5.5,SNR=5.3
INK PKKPbc 06 25 12.8
comp=Z,3.8nm,0.9s,baz=135,slow=2.4,SNR=11
JOF **Joensuu** 100.55 333 *e*p P 06 08 56.8 +0.6

ARCES **ARCESS Array B** 102.14 340 Pdiff Pdif 06 09 06.8 +3.5
comp=Z,3.4nm,0.8s,baz=81,slow=5.7,SNR=17
ARCES PKiKP 06 13 25.9
comp=Z,2.7nm,0.8s,baz=90,slow=1.2,SNR=6.4
ARCES PKKPbc 06 25 06.7
comp=Z,2.5nm,0.9s,baz=252,slow=3.8,SNR=5.0
AKASG **Malin Array Be** 102.28 320 Pdiff Pdif 06 09 08.5 +4.2
comp=Z,1.8nm,0.7s,baz=75,slow=4.8,SNR=8.7
KAF **Kangasniemi** 102.93 332 *e*p 06 13 24.6
FINES **FINESS Array B** 103.13 331 Pdiff Pdif 06 09 08.0 +0.2
comp=Z,1.4nm,0.8s,baz=135,slow=2.7,SNR=4.3
FINES PKiKP 06 13 28.6
comp=Z,3.7nm,0.9s,baz=121,slow=2.2,SNR=9.4
RES **Resolute Bay** 108.87 11 *e*PKiKP 06 13 37.4
YKA **Yellowknife Ar** 109.13 26 Pdiff Pdif 06 09 34.1 0.0
comp=Z,0.4nm,0.8s,baz=296,slow=4.7,SNR=5.0
YKA PKiKP 06 13 37.9
comp=Z,2.9nm,0.7s,baz=295,slow=1.9,SNR=33
YKA PKKPbc 06 24 45.5
comp=Z,2.3nm,0.9s,baz=107,slow=3.3,SNR=15
YKA **Yellowknife Ar** 109.13 26 Pdif Pdif 06 09 34.1 0.0
YKA PKPdf 06 13 37.9
YKA PKKPbc 06 24 45.5
OKC **Ostrava-Krasne** 109.44 320 *e*PP PP 06 14 20.6 +7.5
NB2 **NORSAR Subarra1** 110.18 333 PKPdf PKPdf 06 13 41.1 +2.2
comp=Z,2.4nm,0.9s,baz=68,slow=1.9
NOA **NORSAR Array B** 110.18 333 PKiKP 06 13 40.8
comp=Z,1.7nm,0.8s,baz=263,slow=3.6,SNR=4.1
NEW **Newport** 111.83 41 PKiKP 06 13 43.0
comp=Z,4.1nm,1.0s,baz=227,slow=0.8,SNR=6.5
WVOR **Wild Horse Val** 111.91 48 *e*PKiKP PKPdf 06 13 45.1 +2.3
CLL **Collm** 112.29 322 *e* PKPdf 06 13 45.0 +1.7
CLL *e*PP PP 06 14 24.0 -9.3
GERES **GERESS Array B** 112.49 320 PKiKP 06 13 46.0
comp=Z,2.0nm,0.5s,baz=67,slow=1.9,SNR=28
GERES PKKPab 06 24 42.6
comp=Z,0.7nm,0.9s,baz=180,slow=6.7,SNR=4.0
KHC **Kasperske Hory** 112.50 320 *e*PKP PKPdf 06 13 44.9 +1.2
NVAR **Mina Array Bea** 112.77 52 PKiKP 06 13 46.9
comp=Z,3.0nm,1.1s,baz=223,slow=0.8,SNR=12
NVAR PKPbc 06 24 37.1
comp=Z,1.4nm,0.7s,baz=123,slow=3.2,SNR=12
EDM **Edmonton** 112.82 35 *e*PKiKP 06 13 45.0
EDM *e*PKKPab 06 24 41.0
MWC **Mount Wilson** 113.49 56 *e*PKiKP PKPdf 06 13 47.2 +1.1
DAC **Darwin (Calif)** 113.62 54 *e*PKiKP PKPdf 06 13 47.8 +1.5
GRA1 **Grafenberg Arr** 113.83 321 *e*PKPdf PKPdf 06 13 48.2 +1.9
GRF **Grafenberg Arr** 113.83 321 *e*PKiKP PKPdf 06 13 48.2 +1.9
WTTA **Wattenberg** 114.23 318 ⇑*i*P PKPdf 06 13 49.1 +1.9
comp=Z,14nm,0.9s
WATA **Walderalm** 114.25 318 ⇑*i*P PKPdf 06 13 48.8 +1.5
comp=Z,8.5nm,1.1s
SQTA **Sankt Quirin** 114.52 318 ⇑*i*P PKPdf 06 13 50.0 +2.2
comp=Z,8.4nm,1.3s
MOTA **Moosalm** 114.56 319 ⇑*i*P PKPdf 06 13 49.8 +1.9
comp=Z,9.2nm,1.1s
CHMT **Chamberlain Mo** 114.70 42 *e*PKiKP 06 13 49.1
HLID **Hailey** 114.73 46 *e*PKiKP 06 13 50.0
HLID *e*PKKPab 06 24 33.5
HLID LR LR
comp=Z,4μm,22.0s,MS6.0
SUMG **Summit** 115.03 356 *e*PKiKP 06 13 50.4
DAVA **Damuels** 115.38 319 ⇑*i*P PKPdf 06 13 51.6 +2.2
comp=Z,15nm,1.2s
MCMT **McKenzie Canyo** 115.52 44 *e*PKPdf PKPdf 06 13 51.6 +1.8
DAVOX **Davos** 115.52 318 PKiKP 06 13 51.9
comp=Z,3.0nm,0.5s,baz=213,slow=3.1,SNR=9.7
DLMT **Dillon** 115.55 43 *e*PKPdf PKPdf 06 13 51.0 +1.2
HRY **Holter Researc** 115.70 42 PKPdf PKPdf 06 13 51.9 +1.8
NEN **Nelson** 115.92 54 *e*PKPdf PKPdf 06 13 53.0 +2.2
QLMT **Earthquake Lak** 116.49 44 *e*PKPdf PKPdf 06 13 54.1 +2.4
EGMT **Eagleton** 116.64 40 *e*PKPdf PKPdf 06 13 52.8 +1.0
DUG **Dugway** 116.64 49 *e*PKPdf PKPdf 06 13 53.6 +1.6
DUG *e*PKKPbc 06 24 20.7
CDF **Champ du Feu** 116.70 321 *e*PKiKP PKPdf 06 13 52.5 +0.6
RRI2 **Red Ridge** 116.97 45 *e*PKPdf PKPdf 06 13 52.2 -0.4
IMW **Indian Meadow** 117.09 45 *e*PKPdf PKPdf 06 13 54.2 +1.4
HINF **Hinteralfeld** 117.16 320 *e*PKiKP PKPdf 06 13 53.6 +0.8
comp=Z,9.0nm,0.5s
AHID **Auburn Hatcher** 117.28 46 *e*PKPdf PKPdf 06 13 55.1 +1.9
REDW **Red Top Meadow** 117.29 45 *e*PKPdf PKPdf 06 13 55.5 +2.3
LOHW **Long Hollow** 117.40 45 *e*PKPdf PKPdf 06 13 54.5 +1.1
HAU **Haudompre** 117.42 320 *e*PKiKP PKPdf 06 13 54.3 +1.0
comp=Z,22nm,1.0s
MVU **Marysvale** 117.46 51 *e*PKPdf PKPdf 06 13 56.9 +3.2
MVU *e*PKKPab 06 24 21.4
MSU **Marysvale** 117.49 51 *e*PKPdf PKPdf 06 13 56.5 +2.8
MSU *e*PKKPab 06 24 20.6
GIVF **Givet** 117.60 323 *e*PKiKP PKPdf 06 13 54.2 +0.6
DAU **Daniels Canyon** 117.75 48 *e*PKPdf PKPdf 06 13 55.3 +1.1
DAU *e*PKKPab 06 24 18.9
LPG **La Plagne** 117.98 318 *e*PKiKP PKPdf 06 13 56.1 +1.7
comp=Z,29nm,1.1s
BAIF **Baives** 117.98 323 *e*PKiKP PKPdf 06 13 55.9 +1.6
comp=Z,30nm,1.2s
LPL **La Plagne** 117.98 318 *e*PKiKP PKPdf 06 13 55.0 +0.5
comp=Z,8.2nm,0.6s
TMUT **Trail Mountain** 118.05 50 *e*PKPdf PKPdf 06 13 55.9 +1.2
TMUT *e*PKKPbc 06 24 15.7
CABF **La Chapelle** 118.06 319 *e*PKiKP PKPdf 06 13 56.1 +1.5
comp=Z,17nm,0.5s
MBDF **Montbardon** 118.20 317 *e*PKiKP PKPdf 06 13 55.9 +1.0
PDAR **Pinedale Array** 118.37 46 PKiKP 06 13 56.8
comp=Z,5.3nm,0.9s,baz=225,slow=2.1,SNR=23
PDAR PKKPbc 06 24 16.1
comp=Z,3.4nm,0.9s,baz=118,slow=6.2,SNR=9.2
PDAR SKKP 06 28 18.8
comp=Z,1.1nm,1.0s,baz=135,slow=2.1,SNR=4.8
SRU **San Rafael** 118.61 50 *e*PKPdf PKPdf 06 13 57.1 +1.3
SRU *e*PKKPbc 06 24 13.9
FRF **La Foret Royal** 118.64 316 *e*PKiKP PKPdf 06 13 56.9 +1.1
WUAZ **Wupatki** 118.73 54 *e*PKPdf PKPdf 06 13 58.0 +1.8
WUAZ *e*PKKPab 06 24 15.9
ORIF **Oris-en-Rattie** 118.75 317 *e*PKiKP PKPdf 06 13 57.3 +1.3
comp=Z,6.1nm,0.5s
LAO **LASA Array** 119.36 40 *e*PKPdf PKPdf 06 13 57.3 +0.1
SMF **Signal de Mont** 119.50 320 *e*PKiKP PKPdf 06 13 58.3 +0.8
SSF **Saint Saulge** 119.56 320 *e*PKiKP PKPdf 06 13 58.8 +1.2
comp=Z,34nm,1.0s
VIVF **Saint-Julien-l** 119.58 317 *e*PKiKP PKPdf 06 13 58.8 +1.1
comp=Z,68nm,1.4s
AVF **Avril sur Loir** 119.75 320 *e*PKiKP PKPdf 06 13 58.7 +0.7
comp=Z,5.2nm,0.5s
TUC **Tucson** 119.80 57 *e*PKiKP PKPdf 06 14 00.4 +2.0
PV10 **Paradox Valley** 119.92 50 *e*PKPdf PKPdf 06 14 00.2 +1.7
PV10 *e*PKKPbc 06 24 10.1
DGMT **Dagmar** 119.94 38 *e*PKPdf PKPdf 06 13 59.3 +1.0
BGF **Bois d'Agland** 120.16 320 *e*PKiKP PKPdf 06 14 00.1 +1.3
comp=Z,25nm,0.6s
PV01 **Paradox Valley** 120.33 50 *e*PKPdf PKPdf 06 14 00.7 +1.4
PV01 *e*PKKP PKKP 06 24 09.7 -23
RWWY **Rawlins** 120.35 46 PKPdf PKPdf 06 14 00.7 +1.4
LASF **Ste Croix** 120.39 317 *e*PKiKP PKPdf 06 14 00.6 +1.3
comp=Z,48nm,1.2s
TCF **Toulx Ste Croi** 120.67 320 *e*PKiKP PKPdf 06 14 01.1 +1.4
comp=Z,27nm,1.0s
SFJD **Kangerlussuaq** 121.10 360 PKP PKPdf 06 14 01.4 +1.4
comp=Z,9.3nm,0.7s,baz=1.3,slow=3.5,SNR=5.7
LDF **La Druitiere** 121.17 323 *e*PKiKP PKPdf 06 14 01.6 +1.0
FLN **La Foliniere** 121.31 323 *e*PKiKP PKPdf 06 14 02.0 +1.1
EJON **La Jonquera** 121.61 315 PKP PKPdf 06 14 05.6 +3.9
GRR **Gorron** 121.70 323 *e*PKiKP PKPdf 06 14 02.8 +1.2
PHWY **Pilot Hill** 121.72 46 *e*PKPdf PKPdf 06 14 02.9 +1.0
RSSD **Black Hills** 121.73 43 *e*PKiKP PKPdf 06 14 02.1 +0.3
MTLF **Montolieu** 121.76 317 *e*PKiKP PKPdf 06 14 03.1 +1.2
MFF **Saint Martin d** 122.04 321 *e*PKiKP PKPdf 06 14 03.5 +1.2
comp=Z,16nm,0.7s
ISCO **Idaho Springs** 122.08 48 *e*PKiKP PKPdf 06 14 04.6 +2.0
LFF **La Frestale** 122.15 319 *e*PKiKP PKPdf 06 14 04.2 +1.6
comp=Z,51nm,1.1s
LAZ **Ladron** 122.36 54 *e*PKPdf PKPdf 06 14 05.5 +2.2
LENM **Lemitar** 122.55 55 *e*PKPdf PKPdf 06 14 05.8 +2.1
EMIR **Miracle** 122.75 315 PKP PKPdf 06 14 07.6 +3.7
SGMF **Saint Gilles** 122.77 323 *e*PKiKP PKPdf 06 14 04.6 +0.8
comp=Z,46nm,1.1s
ANMO **Albuquerque** 122.77 54 *i* PKiKP PKPdf 06 14 06.7 +2.6
ANMO **Albuquerque** 122.77 54 *e*PKPdf PKPdf 06 14 05.4 +1.3
SDCO **Great Sand Dun** 122.78 50 *e*PKPdf PKPdf 06 14 05.7 +1.7
LPM **Los Pinos Moun** 122.79 54 *e*PKPdf PKPdf 06 14 05.8 +1.6
BNM **Barren Site** 122.83 54 *e*PKPdf PKPdf 06 14 06.1 +1.9
FRB **Frobisher Bay** 122.97 9 PKP PKPdf 06 14 04.9 +1.1
comp=Z,41nm,1.0s,baz=347,slow=3.2,SNR=7.0
EPF **Esparros** 123.15 317 *e*PKiKP PKPdf 06 14 06.1 +1.5
EPOB **Poblet** 123.26 315 PKP PKPdf 06 14 07.8 +2.9

QUIF	**Quistinic**	**123.29**	**323**	*e*PKIKP	PKPdf	06 14 05.6	+0.8
EBIE	**Bielsa**	**123.42**	**316**	PKP	PKPdf	06 14 08.8	+3.7
EGRA	**Graus**	**123.48**	**316**	PKP	PKPdf	06 14 08.8	+3.5
ETSF	**Etsaut**	**123.81**	**317**	*e*PKIKP	PKPdf	06 14 07.0	+1.1
	comp=Z,34nm,1.1s						
ULM	**Lac du Bonnet**	**123.88**	**33**	PKP	PKPdf	06 14 06.0	+0.1
	comp=Z,15nm,0.9s,baz=303,slow=4.4,SNR=22						
ULM				PKKPbc		06 23 54.1	
	comp=Z,2.1nm,0.8s,baz=151,slow=6.5,SNR=3.6						
ERTA	**Horta de San J**	**123.92**	**314**	PKP	PKPdf	06 14 09.7	+3.5
ESAC	**San Caprasio**	**124.20**	**316**	PKP	PKPdf	06 14 10.2	+3.5
EALK	**Alkurruntz**	**124.32**	**318**	PKP	PKPdf	06 14 10.3	+3.5
MNTX	**Cornudas Mount**	**124.41**	**57**	*e*PKPdf	PKPdf	06 14 08.9	+1.6
EMOS	**Mosqueruela**	**124.71**	**314**	PKP	PKPdf	06 14 11.4	+3.6
GDL2	**Guadalupe Moun**	**125.14**	**56**	*e*PKPdf	PKPdf	06 14 10.1	+1.3
CPRX	**Cap Rock**	**125.34**	**55**	*e*PKPdf	PKPdf	06 14 11.0	+1.9
CLNB	**Carlsbad**	**125.52**	**56**	PKPdf	PKPdf	06 14 10.9	+1.4
ELAN	**Lanestosa**	**125.59**	**318**	PKP	PKPdf	06 14 12.7	+3.4
ETOB	**Tobarra**	**126.11**	**312**	PKP	PKPdf	06 14 13.5	+3.1
LTX	**Lajitas**	**126.37**	**59**	*e*PKIKP	PKPdf	06 14 12.8	+1.6
TXAR	**Lajitas Array**	**126.37**	**59**	PKP	PKPdf	06 14 12.4	+1.2
	comp=Z,8.0nm,1.0s,baz=267,slow=1.3,SNR=33						
TXAR				PKKPbc		06 23 45.5	
	comp=Z,0.5nm,0.7s,baz=117,slow=4.8,SNR=6.5						
EVIA	**Vianos**	**126.81**	**313**	PKIKP	PKPdf	06 14 14.9	+3.1
GUD	**Guadarrama**	**127.18**	**316**	PKIKP	PKPdf	06 14 15.5	+3.0
ESDC	**Sonseca Array**	**127.45**	**315**	PKP	PKPdf	06 14 14.6	+1.5
	comp=Z,4.7nm,1.0s,baz=18,slow=3.4,SNR=13						
ESDC	**Sonseca Array**	**127.45**	**315**	PKP	PKPdf	06 14 16.0	+2.9
EQES	**Quesada**	**127.53**	**312**	PKP	PKPdf	06 14 16.3	+3.1
EYMN	**Ely**	**127.56**	**33**	*e*PKPdf	PKPdf	06 14 13.5	+0.5
EBER	**Berja**	**127.73**	**311**	PKP	PKPdf	06 14 16.8	+3.2
TORD	**Torodi Ar. Bea**	**127.93**	**280**	PKP	PKPdf	06 14 16.1	+1.5
	comp=Z,23nm,0.8s,baz=61,slow=1.7,SNR=79						
ECOG	**Cogollos-Vega**	**128.09**	**312**	PKIKP	PKPdf	06 14 16.2	+1.9
PLCA	**Paso Flores**	**128.29**	**161**	PKP	PKPdf	06 14 16.6	+2.0
	comp=Z,11nm,0.9s,baz=200,slow=4.1,SNR=19						
PLCA	**Paso Flores**	**128.29**	**161**	*e*PKIKP	PKPdf	06 14 16.3	+1.7
EADA	**Adamuz**	**128.49**	**313**	PKP	PKPdf	06 14 18.3	+3.2
ELUQ	**Luque**	**128.50**	**312**	PKIKP	PKPdf	06 14 17.7	+2.6
ELOJ	**Sierra Loja**	**128.57**	**312**	PKIKP	PKPdf	06 14 17.9	+2.6
KSU1	**Kansas State U**	**128.83**	**45**	*e*PKPdf	PKPdf	06 14 16.3	+0.6
WMOK	**Wichita Mounta**	**128.87**	**51**	*e*PKIKP	PKPdf	06 14 17.3	+1.4
ECAB	**El Cabril**	**129.13**	**313**	PKP	PKPdf	06 14 19.6	+3.3
ELOB	**Lobios**	**129.25**	**319**	PKP	PKPdf	06 14 19.2	+2.8
PVRL	**Vila Real**	**129.31**	**318**	*e*PKPdf	PKPdf	06 14 20.1	+3.6
JCT	**Junction City**	**129.35**	**57**	*e*PKIKP	PKPdf	06 14 18.1	+1.2
EJIF	**Jimena Fronter**	**129.82**	**311**	PKIKP	PKPdf	06 14 20.9	+3.3
PCBR	**Castelo Branco**	**129.82**	**316**	*e*PKPdf	PKPdf	06 14 20.9	+3.4
ESPR	**Espera**	**129.94**	**312**	PKP	PKPdf	06 14 20.1	+2.3
EBAD	**Badajoz**	**129.98**	**315**	PKP	PKPdf	06 14 20.9	+3.0
EMIN	**Mina Concepcio**	**130.16**	**313**	PKP	PKPdf	06 14 21.5	+3.2
MDT	**Midelt**	**130.46**	**307**	PKP	PKPdf	06 14 22.6	+3.6
	comp=Z,3.4nm,0.6s,baz=24,slow=4.9,SNR=14						
MDT				SKP		06 17 55.0	
	comp=Z,3.5nm,0.9s,baz=355,slow=5.6,SNR=3.6						
SCHQ	**Schefferville**	**131.64**	**12**	PKP	PKPdf	06 14 23.5	+3.0
	comp=Z,5.4nm,0.6s,baz=346,slow=6.4,SNR=12						
SCHQ				SKPab		06 17 49.5	
	comp=Z,11nm,1.0s,baz=308,slow=6.6,SNR=6.3						
SCHQ	**Schefferville**	**131.64**	**12**	PKP	PKPdf	06 14 23.5	+3.0
SCHQ				SKPab		06 17 49.5	
MIAR	**Mount Ida**	**132.93**	**50**	*e*PKIKP	PKPdf	06 14 28.0	+2.4
TRQA	**Tornquist**	**133.06**	**168**	*e*PKPdf	PKPdf	06 14 25.6	+1.9
FVM	**French Village**	**133.64**	**44**	*e*PKIKP	PKPdf	06 14 25.6	+0.7
UALR	**University of**	**133.75**	**49**	*e*PKPdf	PKPdf	06 14 26.0	+0.8
DBIC	**Dimbokro**	**134.14**	**272**	PKP	PKPdf	06 14 28.1	+1.6
	comp=Z,21nm,0.8s,baz=74,slow=2.1,SNR=15						
DBIC	**Dimbokro**	**134.14**	**272**	*e*PKIKP	PKPdf	06 14 28.0	+1.6
LIC	**Lamto**	**134.27**	**271**	*e*PKIKP	PKPdf	06 14 28.5	+1.8
	comp=Z,51nm,0.8s						
PARMO	**Parma**	**134.76**	**45**	*e*PKPdf	PKPdf	06 14 28.7	+1.8
HALT	**Halls**	**135.42**	**46**	*e*PKPdf	PKPdf	06 14 30.8	+2.6
OXF	**Oxford**	**136.04**	**48**	*e*PKHKP		06 14 21.2	
OXF				*e*		06 14 29.8	
SADO	**Sadowa**	**136.04**	**29**	PKP	PKPdf	06 14 29.9	+0.9
	comp=Z,20nm,1.0s,baz=298,slow=3.8,SNR=4.3						
WCI	**Wyandotte Cave**	**136.28**	**41**	*e*PKIKP	PKPdf	06 14 31.5	+1.8
WVT	**Waverly**	**136.37**	**45**	*e*PKIKP	PKPdf	06 14 31.7	+1.8
ACSO	**Alum Creek Sta**	**137.13**	**36**	*e*PKPdf	PKPdf	06 14 33.1	+1.9
CFTV	**Fuerteventura**	**139.66**	**305**	PKP	PKPdf	06 14 37.4	+1.3
BLA	**Blacksburg**	**140.60**	**38**	*e*PKHKP		06 14 29.7	
GOGA	**Godfrey**	**140.85**	**45**	*e*PKHKP		06 14 31.7	
MVL	**Millersville**	**140.96**	**31**	*e*PKPdf	PKPdf	06 14 39.7	+1.5
NHSC	**New Hope**	**143.29**	**43**	*e*PKPpre		06 14 40.5	
DWPF	**Disney**	**145.08**	**51**	*e*PKP	PKPdf	06 14 45.4	-0.3
CPUP	**Villa Florida**	**145.33**	**170**	*e*PKIKP	PKPdf	06 14 47.3	+1.2
JTS	**JuntasAbangare**	**146.51**	**83**	PKPbc	PKPbc	06 14 51.6	+1.9
	comp=Z,35nm,0.5s,baz=321,slow=3.1,SNR=32						
ARE	**Arequipa**	**148.40**	**140**	*e*PKIKP	PKPdf	06 14 55.0	+3.6
CAM4	**Nova Friburgo**	**148.68**	**195**	*e*P	PKPdf	06 14 57.8	+6.0
CAM4				*i*		06 15 00.7	
CAM4				*i*		06 15 04.8	
LPAZ	**La Paz**	**150.55**	**145**	PKP	PKPdf	06 14 57.4	+2.6
	comp=Z,9.6nm,1.1s,baz=30,slow=1.6,SNR=14						
LPAZ				PKPbc	PKPdf	06 15 02.5	+7.7
	comp=Z,14nm,0.9s,baz=45,slow=2.6,SNR=14						
LPAZ	**La Paz**	**150.55**	**145**	*e*PKIKP	PKPdf	06 14 57.1	+2.3
LPAZ				*e*		06 15 02.9	
OTAV	**Otavalo**	**151.66**	**105**	*e*PKPdf	PKPdf	06 14 59.2	+2.5
OTAV				*e*PKPbc	PKPdf	06 15 05.4	+8.8
HLGC	**Holguin**	**152.70**	**59**	*e*P	PKPdf	06 15 05.9	+8.0
BDFB	**Brasilia**	**156.30**	**187**	PKP	PKPdf	06 15 05.2	+2.4
	comp=Z,15nm,0.9s,baz=179,slow=1.6,SNR=19						
BDFB				PKPbc	PKPdf	06 15 15.4	+13
	comp=Z,6.4nm,0.7s,baz=3.1,slow=7.7,SNR=5.4						
BAO	**Brasilia Array**	**156.31**	**187**	PKPdf	PKPdf	06 15 05.5	+2.7
ROSC	**El Rosal**	**156.70**	**96**	PKP	PKPdf	06 15 06.0	+2.5
	comp=Z,11nm,0.9s,baz=102,slow=6.8,SNR=6.6						
ROSC				PKPbc	PKPdf	06 15 17.3	+14
	comp=Z,3.6nm,0.4s,baz=99,slow=21,SNR=3.6						
ROSC				PKPab	PKPab	06 15 36.9	+1.5
	comp=Z,32nm,1.1s,baz=184,slow=1.7,SNR=3.7						
SAML	**Samuel**	**159.29**	**144**	*e*PKPdf	PKPdf	06 15 08.5	+1.8
SDV	**Santo Domingo**	**160.65**	**86**	PKP	PKPdf	06 15 09.8	+1.7
	comp=Z,18nm,0.9s,baz=19,slow=1.9,SNR=19						
SDV	**Santo Domingo**	**160.65**	**86**	*e*PKPdf	PKPdf	06 15 09.2	+1.0

*IDC **11** 06:01:27.2±2.4,51.79N×1.22W,mb3.6/2,mb1 3.7/7, mb1mx3.5/24,mbtmp3.6/7,ML3.3/5,Error ellipse: s-maj=40.3km s-min=26.5km az=74.0*
*BGS **11** 06:01:31.3±1.1,51.77N×0.43W,ML2.4*
*NEIC **11** 06:01:31.2,51.77N×0.40W,ML2.4(BGS),After BGS. NEIC Felt in the epicentral area.*

ISC 11 06:01:31.0±1.0,51.76N±0.06×0.39W±0.05,h6km±9km,n32, σ0§69/34,mb3.5/2,4C,United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKP1	**Kophill**	**0.26**	**262**	⇑*iP*	**Pg**	**06 01 36.4**	**+0.1**
SKP1				Lg		06 02 50.8	
TSA1	**Sevenoaks**	**0.62**	**146**	*e*P	**Pg**	**06 01 43.9**	**+0.4**
TSA1				Lg		06 04 59.2	
WOL	**Wolverton**	**0.69**	**229**	*e*P	**Pg**	**06 01 44.2**	**-0.5**
WOL				Lg		06 05 10.1	
TCR	**Colchester**	**0.81**	**84**	*e*P	**Pb**	**06 01 46.8**	**-0.3**
TCR				Lg		06 06 03.3	
SWN1	**Swindon**	**0.91**	**255**	⇑*iP*	**Pb**	**06 01 48.7**	**-0.1**
SWN1				AML	AML	06 01 50.7	
	comp=E,84nm,0.3s						
SWN1				AML	AML	06 02 05.0	
	comp=N,77nm,0.3s						
SWN1				Lg		06 06 26.4	
SWN1				*e*		06 06 26.7	
SSW	**Stow on the Wo**	**0.93**	**283**	⇑*iP*	**Pb**	**06 01 48.7**	**-0.3**
SSW				Lg		06 06 32.6	
TFO1	**Folkestone**	**1.16**	**123**	*e*P	**Pb**	**06 01 53.6**	**+0.7**
TFO1				AML	AML	06 01 55.9	
	comp=E,77nm,0.3s						
TFO1				AML	AML	06 02 11.9	
	comp=N,88nm,0.2s						
TFO1				Lg		06 07 56.6	
TFO1	**Folkestone**	**1.16**	**123**	P	**Pb**	**06 01 53.6**	**+0.7**
TFO1				AML	AML	06 01 55.9	
	comp=N,77nm,0.3s						
TFO1				AML	AML	06 02 11.9	
	comp=N,88nm,0.2s						
TFO1				Lg		06 07 56.6	
TFO1						06 09 25.5	
SIW	**Isle of Wight**	**1.25**	**210**	*e*P	**Pb**	**06 01 54.8**	**+0.2**
SWK	**Warminster**	**1.31**	**243**	*e*P	**Pb**	**06 01 55.8**	**+0.1**
SWK				Lg		06 08 38.0	
HGH	**Gray Hill**	**1.51**	**266**	*e*P	**Pn**	**06 01 58.5**	**-0.1**
HGH				Lg		06 09 43.5	
SMD	**Mendips**	**1.52**	**254**	*e*P	**Pn**	**06 01 59.2**	**+0.4**
SMD				Lg		06 09 47.4	
KWE	**Weaver Farm**	**1.54**	**325**	*e*P	**Pn**	**06 01 58.9**	**-0.2**
MCH1	**Michaelchurch**	**1.63**	**279**	⇑*iP*	**Pn**	**06 02 00.3**	**-0.1**
MCH1				*e*S	**Sb**	**06 02 21.9**	**0.0**
MCH1				AML	AML	06 02 23.8	
	comp=E,28nm,0.4s						
MCH1				AML	AML	06 02 24.2	
	comp=N,16nm,0.3s						
MCH1				Lg		06 10 26.8	
KBI1	**Birley Grange**	**1.65**	**336**	*e*P	**Pn**	**06 02 00.5**	**-0.2**
HLM1	**Long Mynd**	**1.71**	**297**	*e*P	**Pn**	**06 02 01.8**	**+0.2**
HLM1				Lg		06 11 00.3	
SSP1	**Stoney Pound**	**1.80**	**292**	*e*P	**Pn**	**06 02 03.0**	**+0.2**
SSP1				AML	AML	06 02 04.3	
	comp=E,58nm,0.5s						
SSP1				*e*S	**Sn**	**06 02 26.5**	**+0.2**
SSP1				AML	AML	06 02 28.4	
	comp=N,123nm,0.4s						
SSP1				Lg		06 11 28.9	
HTR	**Trewern Hill**	**1.81**	**281**	*e*P	**Pn**	**06 02 02.6**	**-0.4**
HTR				Lg		06 11 25.8	
LHO	**Holmfirth**	**2.00**	**334**	*e*P	**Pn**	**06 02 06.4**	**+0.7**
LHO				Lg		06 12 35.2	
SBD1	**Bryn Du**	**2.10**	**304**	*e*P	**Pn**	**06 02 08.4**	**+1.3**
SBD1				Lg		06 13 11.1	
HEX	**Exmoor**	**2.25**	**253**	*e*P	**Pn**	**06 02 09.1**	**-0.1**
HSA	**Swansea**	**2.34**	**271**	*e*P	**Pn**	**06 02 12.2**	**+1.7**
DYA	**Yadsworthy**	**2.60**	**241**	*e*P	**Pn**	**06 02 13.7**	**-0.5**
HTL	**Hartland**	**2.68**	**255**	*e*P	**Pn**	**06 02 14.8**	**-0.5**
DSB	**Dublin**	**3.95**	**294**	Pn	**Pn**	**06 02 31.6**	**-1.8**
DAVOX	**Davos**	**8.36**	**123**	Pn	**P**	**06 03 34.8**	**-0.8**
	comp=N,0.3nm,0.3s,baz=189,slow=14,SNR=3.7						
GERES	**GERESS Array B**	**9.48**	**102**	Pn	**P**	**06 03 51.3**	**+0.2**
	comp=N,0.1nm,0.3s,baz=292,slow=18,SNR=2.2						
HFS	**Hagfors**	**11.50**	**38**	Pn	**P**	**06 04 10.4**	**-8.2**
	comp=N,0.0nm,0.3s,baz=195,slow=16,SNR=3.4						
ESDC	**Sonseca Array**	**12.34**	**193**	Pn	**P**	**06 04 24.0**	**-6.0**
	comp=N,0.1nm,0.3s,baz=360,slow=14,SNR=3.1						
BORG	**Borgarnes**	**16.93**	**328**	Pn	**P**	**06 05 21.1**	**-8.6**
	comp=N,0.5nm,0.3s,baz=117,slow=9.0,SNR=2.4						
ARCES	**ARCESS Array B**	**21.57**	**25**	P	**P**	**06 06 19.2**	**-3.7**
	comp=N,2.7nm,0.9s,mb3.7,baz=229,slow=9.6,SNR=6.1						
BRTR	**Keskin Array B**	**26.37**	**104**	P	**P**	**06 07 09.8**	**+0.3**
	comp=N,0.5nm,0.4s,mb3.4,baz=304,slow=9.2,SNR=4.1						

*IDC **11** 06:01:29.8±3.8,37.04N×23.21E,mb3.6/4,mb1 3.6/5, mb1mx3.4/22,mbtmp3.6/5,ML2.5/1,Error ellipse: s-maj=145.7km s-min=12.6km az=61.0*
*CSEM **11** 06:01:32.6±0.1,36.52N×22.60E,h83km±1km,ML3.4, Error ellipse: s-maj=4.7km s-min=2.3km az=74.0*
*NEIC **11** 06:01:33.8,36.62N×22.67E,h81km,After ATH.*
*ATH **11** 06:01:35.5,36.69N×22.71E,h57km±2km,MD3.2/9,ML3.3*
*HLW **11** 06:01:39.5,36.26N×23.01E,h33km,Mb3.8*

ISC 11 06:01:32.9±0.7,36.50N±0.05×22.6E±0.1,h85km±6km,n28, σ0§95/35,mb3.5/4,2C-1D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.35**	**52**	*e*P	**P**	**06 01 45.5**	**-0.6**
VLI				*e*S	**S**	**06 01 51.5**	**-4.5**
KYTH	**Kithira**	**0.42**	**121**	*e*P	**P**	**06 01 48.0**	**+1.5**
KYTH				*e*S	**S**	**06 01 56.5**	**-0.4**
ITM	**Ithomi**	**0.86**	**322**	*e*P	**P**	**06 01 51.5**	**+0.6**
MGER	**Gerania Oros**	**1.58**	**20**	*e*P	**P**	**06 01 59.5**	**-0.4**
VAM	**Vamos**	**1.70**	**129**	*e*P	**P**	**06 02 04.5**	**+3.0**
VAM	**Vamos**	**1.70**	**129**	*e*P	**P**	**06 02 08.0**	**+1.5**
ATH	**Athens Observa**	**1.72**	**31**	*e*P	**P**	**06 02 01.5**	**-0.3**
PTL	**Penteli**	**1.85**	**33**	*e*P	**P**	**06 02 03.0**	**-0.5**
MPAR	**Parnis Oros**	**1.89**	**29**	*e*P	**P**	**06 02 03.5**	**-0.4**
IDI	**Anoyia**	**2.23**	**122**	Pn	**P**	**06 02 09.2**	**+0.6**
	1.5nm,0.3s,baz=350,slow=7.1,SNR=49						
IDI				Pg	**P**	**06 02 10.9**	**+2.3**
	2.2nm,0.3s,baz=313,slow=18,SNR=47						
IDI				Lg		06 02 38.4	
	11nm,0.3s,baz=329,slow=18,SNR=14						
IDI	**Anoyia**	**2.23**	**122**	Pg	**P**	**06 02 10.9**	**+2.3**
SANT	**Santorini**	**2.32**	**92**	*e*P	**P**	**06 02 10.0**	**+0.1**
SANT	**Santorini**	**2.32**	**92**	*e*P	**P**	**06 02 10.0**	**+0.1**
NPS	**Neapolis**	**2.75**	**116**	*e*P	**P**	**06 02 18.0**	**+2.1**
NPS	**Neapolis**	**2.75**	**116**	*e*P	**P**	**06 02 17.0**	**+1.1**
NEO	**Neokhori**	**2.85**	**10**	*e*P	**P**	**06 02 16.0**	**-1.3**
SLUM		**5.45**	**156**	‖P	**P**	**06 02 53.2**	**+0.1**
SLUM				S	**S**	**06 03 47.4**	**-7.7**
SLUM		**5.45**	**156**	P	**P**	**06 02 53.2**	**+0.1**
SLUM				S	**S**	**06 03 47.4**	**-7.8**
HMAT	**Matruh**	**6.57**	**144**	P	**P**	**06 03 07.2**	**-1.5**
HMAT				S	**S**	**06 04 13.0**	**-10**
SWA2		**7.63**	**161**	⇑P	**P**	**06 03 22.6**	**-0.6**
SWA1		**7.68**	**159**	⇑P	**P**	**06 03 23.5**	**-0.4**
SWA1				S	**S**	**06 04 40.1**	**-10**
HFRF	**Wahat Farafira**	**10.51**	**151**	P	**P**	**06 04 00.9**	**-1.5**
GERES	**GERESS Array B**	**13.95**	**335**	Pn	**P**	**06 04 55.9**	**+8.2**
	0.1nm,0.3s,baz=149,slow=11,SNR=4.1						
HFS	**Hagfors**	**24.39**	**349**	P	**P**	**06 06 44.3**	**+0.8**
	1.0nm,0.4s,mb3.5,baz=159,slow=12,SNR=7.3						
FINES	**FINESS Array B**	**25.06**	**4**	P	**P**	**06 06 50.7**	**+0.2**
	1.2nm,0.8s,mb3.4,baz=183,slow=8.7,SNR=6.3						
FINES	**FINESS Array B**	**25.06**	**4**	P	**P**	**06 06 50.7**	**+0.2**
NOA	**NORSAR Array B**	**25.60**	**347**	P	**P**	**06 06 56.5**	**+0.9**
	0.6nm,0.7s,mb3.1,baz=161,slow=10,SNR=2.7						
ARCES	**ARCESS Array B**	**33.13**	**2**	P	**P**	**06 08 02.6**	**0.0**
	2.4nm,1.0s,mb4.0,baz=190,slow=11,SNR=6.8						

*BJI **11** 06:26:33.6,15.30N×45.80W,h10km,mB5.7,Ms5.6, Msz5.3*
*IDC **11** 06:26:33.1±0.4,15.30N×45.81W,mb4.6/35,mb1 4.7/35, mb1mx4.7/35,mbtmp4.6/35,MS5.1/20,Ms1 5.1/20, ms1mx5.1/20,Error ellipse: s-maj=12.0km s-min=10.5km az=177.0*
*MOS **11** 06:26:33.0±0.9,15.30N×45.80W,h10km,mb5.4/91, MS5.2/39,Error ellipse: s-maj=7.3km s-min=3.5km az=48.2*
*HRVD **11** 06:26:35.0±0.2,15.34N×45.73W,h12km,MW5.6/84, Centroid moment Tensor Solution. LP body waves: s77,c134;Mantle waves: s84,c194; Half duration: 1s5 Moment tensor: Scale 10^17^Nm; Mrr-0.19±.04; Mθθ-0.43±.04; Mφφ0.62±.05; Mrθ0.54±.11; Mθφ-2.93±.04; Mφr0.82±.12; Best double couple: Mw3.137×10^17^ NP1: φs276°,δ74°,λ-171°. NP2:φs184°,δ81°,λ-16°. Principal axes: T 3.096, Plg5°, Azm231°; N .082, Plg72°, Azm337°; P -3.178, Plg17°, Azm139°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 06:26:35.0±0.2,15.27N×45.84W,h10km,mb5.3/153, MS5.3/121,MW5.7 Error ellipse: s-maj=5.5km s-min=2.7km az=165.0,Moment Tensor Solution. s6 Moment tensor: Scale 10^17^Nm; Mrr0.09; Mθθ-2.08; Mφφ1.99; Mrθ0.03; Mθφ-4.66; Mφr-1.08; Best double couple: Mw5.2×10^17^ NP1:φs101°,δ78°,λ177°. NP2:φs192°, δ87°,λ12°. Principal axes: T 5.2, Plg10°, Azm57°; N -.01, Plg78°, Azm205°; P -5.19, Plg6°, Azm326°;*

ISC 11 06:26:33.2±0.2,15.30N±0.04×45.84W±0.02,h10km, (h10km±3.4km:pP-P),n542,σ1§08/465,mb5.2/197, MS5.3/150,70C-12D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**14.68**	**276**	*e*P	**P**	**06 30 10.6**	**+7.5**
SVB	**Belmont**	**15.07**	**264**	*e*P	**P**	**06 30 07.6**	**-0.6**
TPR	**Prospect**	**15.10**	**256**	*e*P	**P**	**06 30 08.2**	**-0.3**
TBG	**Guadaloupe-3**	**15.24**	**274**	*e*P	**P**	**06 30 17.3**	**+7.0**
TBH	**Brigand Hill**	**15.59**	**254**	*e*P	**P**	**06 30 17.1**	**+2.1**
GRW	**Mount Saint Ca**	**15.68**	**260**	*e*P	**P**	**06 30 16.9**	**+0.8**
TRN	**Trinidad (W)**	**15.85**	**255**	*e*P	**P**	**06 30 18.7**	**+0.4**
MTP	**Monte Pirata**	**19.09**	**281**	*e*P	**P**	**06 30 55.2**	**-3.5**
SJG	**San Juan**	**19.65**	**281**	LR	LR	06 37 14.7	
	comp=Z,4μm,19.7s,baz=103,slow=33						
RCBR	**Riachuelo**	**23.19**	**154**	*e*P	**P**	**06 31 42.0**	**+0.6**
	392nm,1.9s,mb5.5						
RCBR				LR	LR		
	comp=Z,7μm,20.0s,MS5.1						
BBSR	**BB Station**	**24.14**	**318**	PFAKE		06 32 00.0	+10
BBSR				LR	LR		
	comp=Z,5μm,19.0s,MS5.0						
SDV	**Santo Domingo**	**25.05**	**258**	P	**P**	**06 31 53.7**	**-5.7**
	comp=Z,20nm,0.5s,mb4.9,baz=16,slow=11,SNR=60						
SDV	**Santo Domingo**	**25.05**	**258**	PFAKE		06 32 10.0	+11
SDV				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
SAML	**Samuel**	**29.59**	**217**	*e*P	**P**	**06 32 40.1**	**-0.8**
	comp=Z,17nm,0.9s,mb4.8						
SAML				LR	LR		
	comp=Z,6μm,21.0s,MS5.2						
ROSC	**El Rosal**	**29.86**	**253**	P	**P**	**06 32 44.0**	**+0.6**
	comp=Z,8.3nm,0.6s,mb4.6,baz=100,slow=7.0,SNR=8.0						
ROSC				LR	LR	06 44 12.5	
	comp=Z,4μm,21.8s,MS5.0,baz=38,slow=35						
EOSO	**Osorio**	**30.79**	**61**	P	**P**	**06 32 49.2**	**-2.2**
	comp=Z,249nm,1.8s,mb5.7						
BAO	**Brasilia Array**	**30.81**	**184**	P	**P**	**06 32 52.0**	**+0.3**
BDFB	**Brasilia**	**30.82**	**184**	P	**P**	**06 32 51.1**	**-0.6**
	comp=Z,3.9nm,0.7s,mb4.3,baz=5.2,slow=8.5,SNR=5.9						
BDFB				LR	LR	06 45 33.2	
	comp=Z,2μm,19.0s,MS4.8,baz=7.5,slow=37						
CFTV	**Fuerteventura**	**32.12**	**61**	P	**P**	**06 33 01.1**	**-2.0**
	comp=Z,116nm,1.8s,mb5.4						
EFAM	**Famara**	**32.80**	**60**	P	**P**	**06 33 07.0**	**-2.0**
	comp=Z,531nm,1.9s,mb6.2						
WES	**Weston**	**34.76**	**326**	PFAKE		06 33 40.0	+14
WES				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
HRV	**Harvard--Oak R**	**34.97**	**326**	PFAKE		06 33 40.0	+12
HRV				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
DWPF	**Disney**	**35.30**	**297**	PFAKE		06 33 40.0	+9.4
DWPF				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
PAL	**Palisades**	**35.33**	**322**	*e*P	**P**	**06 33 29.4**	**-1.3**
PAL				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
PAL	**Palisades**	**35.33**	**322**	*e*P	**P**	**06 33 29.4**	**-1.3**
	comp=Z,27nm,0.9s,mb5.2						
OTAV	**Otavalo**	**35.52**	**248**	*e*P	**P**	**06 33 33.1**	**+0.5**
	comp=Z,244nm,1.8s,mb5.8						
OTAV				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
NHSC	**New Hope**	**35.77**	**306**	PFAKE		06 33 50.0	+15
NHSC				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
CBN	**Corbin**	**35.95**	**315**	PFAKE		06 33 50.0	+14
CBN				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
MVL	**Millersville**	**36.24**	**319**	P	**P**	**06 33 38.3**	**-0.2**
LBNH	**Lisbon**	**36.36**	**328**	PFAKE		06 33 50.0	+11
LBNH				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
NCB	**Newcomb**	**37.40**	**326**	PFAKE		06 34 00.0	+12
NCB				LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
BLA	**Blacksburg**	**37.60**	**312**	PFAKE		06 34 00.0	+10
BLA				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
LPAZ	**La Paz**	**38.33**	**216**	P	**P**	**06 33 56.9**	**+0.7**
	comp=Z,8.3nm,0.9s,mb4.5,baz=31,slow=9.8,SNR=29						
LPAZ				LR	LR	06 49 20.8	
	comp=Z,5μm,20.5s,MS5.3,baz=22,slow=36						
LPAZ	**La Paz**	**38.33**	**216**	*e*P	**P**	**06 33 56.7**	**+0.5**
L

WCI LR LR
comp=Z,4µm,22.0s,MS5.2
SCHQ Schefferville 42.68 342 P **P** **06 34 31.9 +0.2**
comp=Z,26nm,0.9s,mb4.9,baz=110,slow=9.1,SNR=11
SCHQ Schefferville 42.68 342 *eP* **P** **06 34 32.0 +0.3**
comp=Z,79nm,1.1s,mb5.3
SCHQ LR LR
comp=Z,5µm,19.0s,MS5.4
WVT Waverly 42.73 307 *eP* **P** **06 34 33.2 +0.8**
WVT pmax pmax
comp=Z,12nm,1.0s,mb4.6
WVT MLR MLR
comp=Z,3µm,20.0s,MS5.1
WVT Waverly 42.73 307 *eP* **P** **06 34 33.2 +0.9**
comp=Z,12nm,1.0s,mb4.6
WVT LR LR
comp=Z,3µm,20.0s,MS5.1
ERUA La Rua 42.77 43 P **P** **06 34 33.6 +1.0**
ERUA pmax pmax
comp=Z,87nm,1.6s,mb5.2
ERUA La Rua 42.77 43 P **P** **06 34 33.6 +1.0**
comp=Z,86nm,1.6s,mb5.2
PBRG Braganca 42.77 44 *eP* **P** **06 34 33.2 +0.5**
comp=Z,49nm,1.5s,mb5.0
ELOJ Sierra Loja 42.82 51 P **P** **06 34 34.2 +1.1**
ELOJ pmax pmax
comp=Z,97nm,2.0s,mb5.2
ELOJ Sierra Loja 42.82 51 P **P** **06 34 34.2 +1.1**
comp=Z,97nm,2.0s,mb5.2
ECAL Calabor 42.84 44 P **P** **06 34 34.2 +1.0**
comp=Z,319nm,2.9s,mb5.5
EADA Adamuz 42.85 50 P **P** **06 34 33.7 +0.4**
comp=Z,160nm,2.5s,mb5.3
CPUP Villa Florida 42.86 195 *eP* **P** **06 34 32.7 -0.9**
CPUP pmax pmax
comp=Z,52nm,0.8s
CPUP MLR MLR
comp=Z,272nm,20.0s
CPUP Villa Florida 42.86 195 *eP* **P** **06 34 32.7 -0.9**
comp=Z,52nm,0.8s,mb5.3
CPUP LR LR
comp=Z,272nm,20.0s
ELUQ Luque 42.87 51 P **P** **06 34 33.9 +0.4**
ELUQ pmax pmax
comp=Z,54nm,1.4s,mb5.1
ELUQ Luque 42.87 51 P **P** **06 34 33.9 +0.3**
comp=Z,54nm,1.4s,mb5.1
ERON Agron 43.04 52 P **P** **06 34 36.7 +1.8**
comp=Z,22nm,0.9s,mb4.9
EPON Pontenova 43.20 42 P **P** **06 34 37.5 +1.4**
comp=Z,218nm,1.6s,mb5.6
ECOG Cogollos-Vega 43.30 51 P **P** **06 34 37.9 +0.9**
ECOG pmax pmax
comp=Z,77nm,1.8s,mb5.1
ECOG Cogollos-Vega 43.30 51 P **P** **06 34 37.9 +0.9**
comp=Z,77nm,1.8s,mb5.1
EBAN Banos Encina 43.43 50 P **P** **06 34 38.8 +0.7**
EBAN pmax pmax
comp=Z,16nm,1.2s,mb4.6
EBAN Banos Encina 43.43 50 P **P** **06 34 38.8 +0.8**
comp=Z,16nm,1.2s,mb4.6
OXF Oxford 43.51 304 PFAKE 06 34 50.0 +11
OXF LR LR
comp=Z,3µm,19.0s,MS5.2
EBER Berja 43.70 52 P **P** **06 34 41.9 +1.6**
comp=Z,474nm,2.7s,mb5.7
ESDC Sonseca Array 43.84 48 P **P** **06 34 41.2 -0.1**
comp=Z,2.5nm,0.7s,baz=249,slow=8.4,SNR=14
ESDC Sonseca Array 43.84 48 P **P** **06 34 42.2 +0.9**
comp=Z,5.0nm,0.8s,mb4.3
ESLA Sonseca Array 43.84 48 PFAKE 06 34 50.0 +8.7
ESLA LR LR
comp=Z,18µm,20.0s,MS6.0
EQES Quesada 43.85 51 P **P** **06 34 42.2 +0.8**
comp=Z,448nm,2.8s,mb5.7
GUD Guadarrama 44.07 47 P **P** **06 34 45.0 +1.8**
GUD pmax pmax
comp=Z,18nm,1.0s,mb4.8
GUD Guadarrama 44.07 47 P **P** **06 34 45.0 +1.8**
comp=Z,18nm,1.0s,mb4.8
EHUE Huescar 44.21 51 P **P** **06 34 44.9 +0.5**
EHUE pmax pmax
comp=Z,52nm,1.4s,mb5.1
EHUE Huescar 44.21 51 P **P** **06 34 44.9 +0.5**
comp=Z,52nm,1.4s,mb5.1
EARI Arriondas 44.45 43 P **P** **06 34 48.5 +2.2**
comp=Z,230nm,2.4s,mb5.5
EVIA Vianos 44.54 50 P **P** **06 34 47.5 +0.4**
EVIA pmax pmax
comp=Z,52nm,1.5s,mb5.1
EVIA Vianos 44.54 50 P **P** **06 34 47.5 +0.5**
comp=Z,52nm,1.5s,mb5.1
EMUR La Murta 45.24 52 P **P** **06 34 54.6 +1.9**
comp=Z,147nm,1.6s,mb5.6
ETOB Tobarra 45.25 50 P **P** **06 34 54.6 +1.9**
comp=Z,189nm,2.2s,mb5.5
FVM French Village 45.27 309 *eP* **P** **06 34 53.4 +0.5**
FVM pmax pmax
comp=Z,20nm,0.9s,mb5.0
FVM French Village 45.27 309 *eP* **P** **06 34 53.4 +0.6**
comp=Z,20nm,0.9s,mb4.9
SLM Saint Louis 45.33 310 *eP* **P** **06 34 55.0 +1.7**
ELAN Lanestosa 45.59 44 P **P** **06 34 58.0 +2.6**
comp=Z,149nm,1.6s,mb5.7
TORD Torodi Ar. Bea 46.06 86 P **P** **06 34 57.6 -1.8**
comp=Z,13nm,0.8s,mb4.9,baz=280,slow=6.5,SNR=42
EBEN Beniarda 46.26 51 P **P** **06 35 02.7 +2.0**
comp=Z,456nm,2.5s,mb6.0
EMOS Mosqueruela 46.59 48 P **P** **06 35 05.6 +2.3**
comp=Z,288nm,2.2s,mb5.8
MIAR Mount Ida 46.86 303 PFAKE 06 35 20.0 +15
MIAR LR LR
comp=Z,524nm,19.0s,MS4.5
EALK Alkurruntz 46.88 44 P **P** **06 35 08.1 +2.5**
comp=Z,121nm,2.2s,mb5.4
SJPF Ste Jean 47.03 45⇑ *iP* **P** **06 35 06.9 +0.2**
comp=Z,54nm,0.9s,mb5.2
SJPF Ste Jean 47.03 45⇑ *iP* **P** **06 35 06.9 +0.2**
SJPF pmax pmax
comp=Z,27nm,0.9s,mb5.2
ESAC San Caprasio 47.05 47 P **P** **06 35 08.4 +1.5**
comp=Z,114nm,1.3s,mb5.6
NATX Nacogdoches 47.27 299 *eP* **P** **06 35 09.6 +0.9**
comp=Z,102nm,1.7s,mb5.5
NATX LR LR
comp=Z,3µm,21.0s,MS5.2
ERTA Horta de San J 47.36 48 P **P** **06 35 11.5 +2.1**
comp=Z,216nm,2.0s,mb5.7
ETSF Etsaut 47.41 45⇑ *iP* **P** **06 35 10.1 +0.4**
comp=Z,179nm,1.6s,mb5.5
ETSF Etsaut 47.41 45⇑ *iP* **P** **06 35 10.1 +0.4**
ETSF pmax pmax
comp=Z,89nm,1.6s,mb5.5
EGRA Graus 47.76 46 P **P** **06 35 14.7 +2.2**
comp=Z,36nm,0.9s,mb5.4
VIEF Viey 47.80 45 *eP* **P** **06 35 13.4 +0.6**
EBIE Bielsa 47.81 46 P **P** **06 35 15.4 +2.5**
comp=Z,100nm,2.0s,mb5.5
QUIF Quistinic 47.83 38⇑ *iP* **P** **06 35 12.3 -0.7**
comp=Z,180nm,1.6s,mb5.5
QUIF Quistinic 47.83 38⇑ *iP* **P** **06 35 12.3 -0.7**
QUIF pmax pmax
comp=Z,90nm,1.6s,mb5.5
LABF Labassere 47.89 45 *eP* **P** **06 35 13.9 +0.4**
EPOB Poblet 48.02 48 P **P** **06 35 16.7 +2.1**
comp=Z,388nm,2.4s,mb6.0
EPF Esparros 48.07 45⇑ *iP* **P** **06 35 15.3 +0.4**
comp=Z,101nm,1.3s,mb5.4
EPF Esparros 48.07 45⇑ *iP* **P** **06 35 15.3 +0.4**
EPF pmax pmax
comp=Z,51nm,1.3s,mb5.4
MELF Melles 48.30 46 *eP* **P** **06 35 16.4 -0.3**
SGMF Saint Gilles 48.35 38 *eP* **P** **06 35 16.7 -0.3**
comp=Z,288nm,1.7s,mb5.7
SGMF Saint Gilles 48.35 38 *eP* **P** **06 35 16.7 -0.3**
SGMF pmax pmax
comp=Z,144nm,1.7s,mb5.7
EMIR Miracle 48.52 47 P **P** **06 35 20.6 +2.2**
comp=Z,167nm,1.7s,mb5.8
LFF La Frestale 49.03 43 *eP* **P** **06 35 21.7 -0.6**
comp=Z,92nm,1.2s,mb5.4
LFF La Frestale 49.03 43 *eP* **P** **06 35 21.7 -0.6**
LFF pmax pmax
comp=Z,46nm,1.2s,mb5.4
MFF Saint Martin d 49.10 41⇑ *iP* **P** **06 35 22.4 -0.4**
comp=Z,189nm,1.5s,mb5.6
MFF Saint Martin d 49.10 41⇑ *iP* **P** **06 35 22.4 -0.4**
MFF pmax pmax
comp=Z,95nm,1.5s,mb5.6
GRR Gorron 49.42 38 *eP* **P** **06 35 24.5 -0.8**
comp=Z,54nm,1.2s,mb5.1
GRR Gorron 49.42 38 *eP* **P** **06 35 24.5 -0.8**
GRR pmax pmax
comp=Z,27nm,1.3s,mb5.1
MTLF Montolieu 49.47 46⇑ *iP* **P** **06 35 25.1 -0.6**
comp=Z,44nm,1.1s,mb5.1
MTLF Montolieu 49.47 46⇑ *iP* **P** **06 35 25.1 -0.6**
MTLF pmax pmax
comp=Z,22nm,1.1s,mb5.1
EYMN Ely 49.64 321 PFAKE 06 35 40.0 +13
EYMN LR LR
comp=Z,3µm,22.0s,MS5.2
EJON La Jonquera 49.65 47 P **P** **06 35 29.2 +2.1**
comp=Z,76nm,1.3s,mb5.6
RJF Les Rejaudoux 49.67 43⇑ *iP* **P** **06 35 26.3 -0.9**
comp=Z,45nm,1.1s,mb5.1
RJF Les Rejaudoux 49.67 43⇑ *iP* **P** **06 35 26.3 -0.9**
RJF pmax pmax
comp=Z,22nm,1.1s,mb5.1
FLN La Foliniere 49.81 38 *eP* **P** **06 35 27.4 -0.9**
comp=Z,69nm,1.1s,mb5.3
FLN *eR*
comp=Z,2µm,20.0s
FLN La Foliniere 49.81 38 *eP* **P** **06 35 27.4 -0.9**
FLN pmax pmax
comp=Z,35nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,2µm,20.0s,MS5.1
LDF La Druitiere 49.95 38 *eP* **P** **06 35 28.5 -0.8**
comp=Z,98nm,1.5s,mb5.3
LDF La Druitiere 49.95 38 *eP* **P** **06 35 28.5 -0.8**
LDF pmax pmax
comp=Z,49nm,1.5s,mb5.3
KSU1 Kansas State U 50.24 308 *eP* **P** **06 35 30.2 -1.4**
TCF Toulx Ste Croi 50.48 42 *eP* **P** **06 35 32.9 -0.5**
comp=Z,172nm,1.5s,mb5.6
TCF Toulx Ste Croi 50.48 42 *eP* **P** **06 35 32.9 -0.5**
TCF pmax pmax
comp=Z,86nm,1.5s,mb5.6
LBL Lubilhac 50.79 44 *eP* **P** **06 35 35.0 -0.8**
LASF Ste Croix 50.83 45⇑ *iP* **P** **06 35 36.0 -0.1**
comp=Z,174nm,1.8s,mb5.4
FRB Frobisher Bay 50.89 347 P **P** **06 35 35.7 -0.5**
comp=Z,17nm,0.9s,mb5.0,baz=136,slow=10,SNR=3.5
BGF Bois d'Agland 50.99 42⇑ *iP* **P** **06 35 36.7 -0.6**
comp=Z,122nm,1.4s,mb5.3
BGF Bois d'Agland 50.99 42⇑ *iP* **P** **06 35 36.7 -0.6**
BGF pmax pmax
comp=Z,61nm,1.4s,mb5.3
AGO Saint Agoulin 51.00 43 *eP* **P** **06 35 37.8 +0.5**
WMOK Wichita Mounta 51.12 302 P **P** **06 35 38.1 -0.3**
WMOK pmax pmax
comp=Z,13nm,1.0s,mb4.8
WMOK MLR MLR
comp=Z,4µm,20.0s,MS5.4
WMOK Wichita Mounta 51.12 302 P **P** **06 35 38.1 -0.3**
comp=Z,13nm,1.0s,mb4.8
WMOK LR LR
comp=Z,4µm,20.0s,MS5.4
HYF Humbligny 51.12 41 *eP* **P** **06 35 38.0 -0.2**
PLDF La Plantade 51.29 43 *eP* **P** **06 35 39.7 +0.2**
CFAA Coronel Fontan 51.35 205 P **P** **06 35 39.2 -1.0**
comp=Z,1.5nm,1.0s,baz=26,slow=6.7,SNR=11
CFAA Coronel Fontan 51.35 205 P **P** **06 35 39.2 -1.0**
AVF Avril sur Loir 51.40 42⇑ *iP* **P** **06 35 39.6 -0.8**
comp=Z,24nm,0.8s,mb4.8
AVF Avril sur Loir 51.40 42⇑ *iP* **P** **06 35 39.6 -0.8**
AVF pmax pmax
comp=Z,12nm,0.8s,mb4.9
JCT Junction City 51.50 297 *eP* **P** **06 35 40.0 -1.4**
comp=Z,23nm,1.1s,mb5.0
JCT LR LR
comp=Z,2µm,19.0s,MS5.0
SSF Saint Saulge 51.60 41⇑ *iP* **P** **06 35 40.9 -1.0**
comp=Z,98nm,1.7s,mb5.2
SSF Saint Saulge 51.60 41⇑ *iP* **P** **06 35 40.9 -1.0**
SSF pmax pmax
comp=Z,49nm,1.7s,mb5.2
VIVF Saint-Julien-l 51.63 44⇑ *iP* **P** **06 35 42.2 +0.1**
comp=Z,147nm,1.7s,mb5.3
VIVF Saint-Julien-l 51.63 44⇑ *iP* **P** **06 35 42.2 +0.1**
VIVF pmax pmax
comp=Z,73nm,1.7s,mb5.3
SMF Signal de Mont 51.67 42⇑ *iP* **P** **06 35 41.7 -0.7**
comp=Z,98nm,1.6s,mb5.2
SMF Signal de Mont 51.67 42⇑ *iP* **P** **06 35 41.7 -0.7**
SMF pmax pmax
comp=Z,49nm,1.6s,mb5.2
MENF Mencas 52.13 37 *eP* **P** **06 35 44.2 -1.6**
LMR La Mourre 52.45 47⇑ *iP* **P** **06 35 47.6 -0.8**
comp=Z,296nm,1.8s,mb5.6
LMR La Mourre 52.45 47⇑ *iP* **P** **06 35 47.6 -0.8**
LMR pmax pmax
comp=Z,148nm,1.8s,mb5.6
FRF La Foret Royal 52.61 47 *eP* **P** **06 35 49.0 -0.5**
comp=Z,110nm,1.4s,mb5.3
FRF La Foret Royal 52.61 47 *eP* **P** **06 35 49.0 -0.5**
FRF pmax pmax
comp=Z,55nm,1.4s,mb5.3
MBDF Montbardon 53.02 45⇑ *iP* **P** **06 35 52.6 0.0**
comp=Z,100nm,1.5s,mb5.2
MBDF Montbardon 53.02 45⇑ *iP* **P** **06 35 52.6 0.0**
MBDF pmax pmax
comp=Z,50nm,1.5s,mb5.2
BNI Bardonecchia 53.04 45 *eP* **P** **06 35 52.2 -0.6**
BNI pmax pmax
comp=Z,44nm,1.3s,mb5.2
BNI Bardonecchia 53.04 45 *eP* **P** **06 35 52.1 -0.6**
comp=Z,44nm,1.3s,mb5.2
MEZF Maizieres J'vi 53.08 40⇑ *iP* **P** **06 35 52.0 -1.0**
comp=Z,136nm,1.1s,mb5.5
CABF La Chapelle 53.12 43⇑ *iP* **P** **06 35 52.7 -0.6**
comp=Z,154nm,1.8s,mb5.3
CABF La Chapelle 53.12 43⇑ *iP* **P** **06 35 52.7 -0.6**
CABF pmax pmax
comp=Z,77nm,1.8s,mb5.3
ULM Lac du Bonnet 53.20 322 P **P** **06 35 51.7 -2.1**
comp=Z,6.2nm,0.8s,mb4.6,baz=111,slow=6.5,SNR=11
ULM LR LR 06 55 02.8
comp=Z,3µm,21.8s,MS5.2,baz=105,slow=32
ULM Lac du Bonnet 53.20 322 P **P** **06 35 51.7 -2.1**
ULM LR LR 06 55 02.8
LPL La Plagne 53.21 44⇑ *iP* **P** **06 35 54.2 +0.2**
comp=Z,46nm,1.4s,mb4.9
LPL La Plagne 53.21 44⇑ *iP* **P** **06 35 54.2 +0.2**
LPL pmax pmax
comp=Z,23nm,1.4s,mb4.9
LPG La Plagne 53.22 44⇑ *iP* **P** **06 35 54.4 +0.3**
comp=Z,120nm,1.6s,mb5.3
LPG La Plagne 53.22 44⇑ *iP* **P** **06 35 54.4 +0.3**
LPG pmax pmax
comp=Z,60nm,1.6s,mb5.3
DOI San Damiano 53.28 46 P **P** **06 35 54.2 -0.3**
GIVF Givet 53.52 38⇑ *iP* **P** **06 35 55.1 -1.1**
comp=Z,175nm,1.8s,mb5.4
GIVF Givet 53.52 38⇑ *iP* **P** **06 35 55.1 -1.1**
GIVF pmax pmax
comp=Z,88nm,1.8s,mb5.4
HAU Haudompre 53.73 41⇑ *iP* **P** **06 35 56.3 -1.4**
comp=Z,119nm,1.7s,mb5.2
HAU *eR*
comp=Z,2µm,20.0s
HAU Haudompre 53.73 41⇑ *iP* **P** **06 35 56.3 -1.4**
HAU pmax pmax
comp=Z,59nm,1.7s,mb5.2
HAU MLR MLR
comp=Z,2µm,20.0s,MS5.1
LOMF Lomont 53.83 42 *eP* **P** **06 35 57.7 -0.8**
HINF Hinteralfeld 53.99 42⇑ *iP* **P** **06 35 58.1 -1.5**
comp=Z,43nm,1.4s,mb4.9
HINF Hinteralfeld 53.99 42⇑ *iP* **P** **06 35 58.1 -1.5**
HINF pmax pmax
comp=Z,21nm,1.4s,mb4.9
WLF Walferdange 54.17 39 *eP* **P** **06 35 59.2 -1.7**
WLF pmax pmax
comp=Z,36nm,1.3s,mb5.1
WLF Walferdange 54.17 39 *eP* **P** **06 35 59.2 -1.7**
comp=Z,36nm,1.3s,mb5.1
MCGN Macugnaga 54.18 44 P **P** **06 36 01.8 +0.7**
BBS Basel-Blauen 54.30 42 *eP* **P** **06 36 02.0 +0.1**
HGN Heimansgroeve 54.42 38 *eP* **P** **06 36 01.9 -0.9**
comp=Z,35nm,1.9s,mb5.0
CDF Champ du Feu 54.45 41 *eP* **P** **06 36 01.8 -1.2**
comp=Z,117nm,1.7s,mb5.2
CDF Champ du Feu 54.45 41 *eP* **P** **06 36 01.8 -1.2**
CDF pmax pmax
comp=Z,58nm,1.7s,mb5.2
WLS Welschbruch 54.50 41 *eP* **P** **06 36 02.2 -1.2**
VAI Varese 54.68 44 P **P** **06 36 02.8 -2.0**
RUP Ruppelstein 54.73 39 *eP* **P** **06 36 04.1 -1.0**
LTX Lajitas 54.80 295 PFAKE 06 36 20.0 +14
LTX LR LR
comp=Z,1µm,21.0s,MS5.0
TXAR Lajitas Array 54.80 295 P **P** **06 36 05.0 -0.8**
comp=Z,3.1nm,0.9s,mb4.3,baz=112,slow=8.4,SNR=13
TXAR LR LR 07 00 16.5
comp=Z,1µm,19.8s,MS5.0,baz=35,slow=37
TXAR Lajitas Array 54.80 295 P **P** **06 36 05.0 -0.8**
TXAR LR LR 07 00 16.5
ABH Alteburg 55.09 39 *eP* **P** **06 36 06.9 -0.8**
BFO Black Forest 55.09 41 *eP* **P** **06 36 07.1 -0.6**
BFO pmax pmax
comp=Z,42nm,1.3s,mb5.3
BFO Black Forest 55.09 41 *eP* **P** **06 36 07.1 -0.6**
comp=Z,42nm,1.3s,mb5.3
CPRX Cap Rock 55.14 300 *eP* **P** **06 36 08.9 +0.6**
TRQA Tornquist 55.20 195 PFAKE 06 36 20.0 +11
TRQA LR LR
comp=Z,2µm,19.0s,MS5.2
SPAK Spaichingen 55.31 42 *eP* **P** **06 36 08.1 -1.3**
WTSB Winterswijk 55.37 37 *eP* **P** **06 36 08.9 -0.8**
comp=Z,51nm,1.7s,mb5.3
GDL2 Guadalupe Moun 55.51 299 *eP* **P** **06 36 11.4 +0.4**
GSCL Gusciola 55.56 46 P **P** **06 36 10.8 -0.4**
DAVOX Davos 55.66 43 P **P** **06 36 11.0 -0.9**
comp=Z,7.1nm,0.7s,mb4.8,baz=221,slow=6.5,SNR=10
TNS Taunus Mts 55.75 39 *eP* **P** **06 36 11.8 -0.7**
TNS pmax pmax
comp=Z,58nm,1.7s,mb5.3
TNS Taunus Mts 55.75 39 *eP* **P** **06 36 11.8 -0.7**
comp=Z,58nm,1.7s,mb5.3
STU Stuttgart 55.77 41 *eP* **P** **06 36 11.0 -1.6**
STU pmax pmax
comp=Z,46nm,1.3s,mb5.3
STU Stuttgart 55.77 41 *eP* **P** **06 36 11.0 -1.6**
comp=Z,46nm,1.3s,mb5.3
TOD Tromm 55.78 40 *eP* **P** **06 36 11.1 -1.6**
DAVA Damuels 55.80 43⇑ *iP* **P** **06 36 12.3 -0.6**
comp=Z,22nm,1.2s,mb5.0
DAVA Damuels 55.80 43⇑ *iP* **P** **06 36 12.3 -0.6**
comp=Z,22nm,1.3s,mb5.0
FUORN Ofenpass 55.88 44 P **P** **06 36 13.9 +0.5**
BRMO Bormio 55.92 44 P **P** **06 36 13.2 -0.5**
MNTX Cornudas Mount 56.35 298 *eP* **P** **06 36 15.8 -1.2**
comp=Z,29nm,1.3s,mb5.1
MNTX LR LR
comp=Z,1µm,22.0s,MS5.0
MOTA Moosalm 56.62 43⇑ *iP* **P** **06 36 17.5 -1.3**
comp=Z,45nm,1.4s,mb5.3,SNR=8.9
MOTA Moosalm 56.62 43⇑ *iP* **P** **06 36 17.5 -1.2**
MOTA pmax pmax
comp=Z,45nm,1.4s,mb5.3
MOTA Moosalm 56.62 43⇑ *iP* **P** **06 36 17.4 -1.3**
comp=Z,45nm,1.4s,mb5.3
SQTA Sankt Quirin 56.66 43⇑ *iP* **P** **06 36 17.8 -1.2**
comp=Z,39nm,1.5s,mb5.2,SNR=7.6
SQTA Sankt Quirin 56.66 43⇑ *iP* **P** **06 36 17.8 -1.2**
SQTA pmax pmax
comp=Z,39nm,1.5s,mb5.2
SQTA Sankt Quirin 56.66 43⇑ *iP* **P** **06 36 17.8 -1.2**
comp=Z,39nm,1.5s,mb5.2
CTI Castel Tesino 56.67 45 P **P** **06 36 18.4 -0.8**
CTI pmax pmax
comp=Z,133nm,1.6s,mb5.7
CTI Castel Tesino 56.67 45 P **P** **06 36 18.4 -0.8**
comp=Z,133nm,1.6s,mb5.7
RSSD Black Hills 56.76 313 PFAKE 06 36 30.0 +10
RSSD LR LR
comp=Z,3µm,21.0s,MS5.4
SDCO Great Sand Dun 56.89 305 *eP* **P** **06 36 20.8 0.0**
comp=Z,17nm,1.0s,mb5.0
SDCO LR LR
comp=Z,3µm,20.0s,MS5.4
FUR Furstenfeldbru 56.94 42 *eP* **P** **06 36 20.0 -1.0**
comp=Z,127nm,1.7s,mb5.7
SCO Scoresbysund 57.08 9 *i* P **P** **06 36 21.8 +0.1**
SCO Scoresbysund 57.08 9 *eP* **P** **06 36 21.8 +0.1**
AQU L'Aquila 57.19 49 *eP* **P** **06 36 22.0 -0.9**
AQU pmax pmax
comp=Z,56nm,0.9s,mb5.6
AQU L'Aquila 57.19 49 *eP* **P** **06 36 21.9 -1.0**
comp=Z,56nm,0.9s,mb5.6
ISCO Idaho Springs 57.22 308 *eP* **P** **06 36 23.7 +0.6**
ISCO pmax pmax
comp=Z,41nm,1.3s,mb5.3
ISCO MLR MLR
comp=Z,4µm,19.0s,MS5.5
ISCO Idaho Springs 57.22 308 *eP* **P** **06 36 23.7 +0.6**
comp=Z,41nm,1.3s,mb5.3
ISCO LR LR
comp=Z,4µm,19.0s,MS5.5
GRA1 Grafenberg Arr 57.30 40 *eP* **P** **06 36 23.5 -0.1**
comp=Z,24nm,1.4s,mb5.0
GRF Grafenberg Arr 57.30 40 *eP* **P** **06 36 23.5 -0.1**
GRF pmax pmax
comp=Z,24nm,1.4s,mb5.0
GRF MLR MLR
comp=Z,2µm,18.6s,MS5.2
GRF Grafenberg Arr 57.30 40 *eP* **P** **06 36 23.5 -0.1**
comp=Z,24nm,1.4s,mb5.0
GRF LR LR
comp=Z,2µm,18.6s,MS5.2
CLZ Clausthal 57.41 38 *eP* **P** **06 36 24.0 -0.3**
CLZ pmax pmax
comp=Z,42nm,1.2s,mb5.3
CLZ Clausthal 57.41 38 *eP* **P** **06 36 24.0 -0.3**
comp=Z,42nm,1.2s,mb5.3
ANMO Albuquerque 57.42 302 P **P** **06 36 23.9 -0.8**
comp=Z,0.4nm,0.3s,baz=84,slow=11,SNR=4.7
ANMO Albuquerque 57.42 302 *eP* **P** **06 36 26.0 +1.4**
ANMO Albuquerque 57.42 302 P **P** **06 36 23.9 -0.8**
ANMO LR LR
comp=Z,3µm,21.0s,MS5.4
SUMG Summit 57.43 3 *eP* **P** **06 36 24.1 -0.1**
comp=Z,28nm,1.0s,mb5.2
BNM Barren Site 57.51 301 *eP* **P** **06 36 25.7 +0.4**
LPM Los Pinos Mount 57.52 301 P **P** **06 36 25.9 +0.5**
MOX Moxa 57.81 39 *i* P **P** **06 36 26.5 -0.6**
comp=Z,logA/T=1.6,mb5.4
MOX S **S** **06 44 29.0 +4.4**
MOX L 07 01 28.0
MOX Moxa 57.81 39 *eP* **P** **06 36 26.5 -0.6**
MOX pmax pmax
comp=Z,80nm,1.8s,mb5.5
MOX MLR MLR
comp=Z,2µm,19.0s,MS5.2
MOX Moxa 57.81 39 *eP* **P** **06 36 26.5 -0.6**
comp=Z,80nm,1.8s,mb5.5
MOX LR LR
comp=Z,2µm,19.0s,MS5.2
DGMT Dagmar 57.81 318 *eP* **P** **06 36 26.2 -1.0**
comp=Z,35nm,0.8s,mb5.4
DGMT LR LR
comp=Z,3µm,20.0s,MS5.4
LAZ Ladron 57.95 301 *eP* **P** **06 36 30.7 +2.4**
KBA Koelnbreinsper 58.04 44⇑ *iP* **P** **06 36 27.5 -1.3**
comp=Z,19nm,1.0s,mb5.1
KBA Koelnbreinsper 58.04 44⇑ *iP* **P** **06 36 27.5 -1.3**
KBA pmax pmax
comp=Z,19nm,1.0s,mb5.1
BSEG Bad Segeberg 58.05 35 *eP* **P** **06 36 28.4 -0.3**
WET Wettzell 58.21 41 *eP* **P** **06 36 28.5 -1.4**
WET pmax pmax
comp=Z,43nm,1.7s,mb5.2
WET Wettzell 58.21 41 *eP* **P** **06 36 28.5 -1.4**
comp=Z,43nm,1.7s,mb5.2
NKC Novy Kostel 58.21 40 *eP* **P** **06 36 29.7 -0.2**
NKC AMS AMS 07 00 20.0
comp=Z,2µm,18.5s
JAVS Javornik 58.29 45 *eP* **P** **06 36 32.4 +1.8**
MUD Monsted U'grnd 58.31 32 *i* P **P** **06 36 31.5 +1.0**
comp=Z,57nm,1.1s,mb5.5
MUD *i* S **S** **06 44 44.9 +14**
comp=Z,2µm,20.0s
LJU Ljubljana 58.63 45 *eP* **P** **06 36 35.0 +2.1**
KHC Kasperske Hory 58.65 41 *eP* **P** **06 36 32.1 -0.9**
KHC pP pP 06 36 39.5 +3.4
KHC sP sP 06 36 45.0 +7.7
KHC *eS* **S** **06 44 39.1 +3.4**

KHC AMS AMS 07 02 30.0
comp=Z,2µm,18.8s
KHC Kasperske Hory 58.65 41 *eP* **P 06 36 32.1 -0.9**
KHC *e* 06 36 39.5
KHC *eS* **S 06 44 39.1 +3.4**
KHC MLR MLR
comp=Z,2µm,18.8s,MS5.2
KHC Kasperske Hory 58.65 41 *eP* **P 06 36 32.1 -0.9**
KHC *e* 06 36 39.5
KHC *e* 06 36 45.0
KHC *eS* **S 06 44 39.1 +3.4**
KHC LR LR
comp=Z,2µm,18.8s,MS5.2
GEC2 GERESS Array S 58.67 42 *eP* **P 06 36 31.7 -1.4**
GEC2 pmax pmax
comp=Z,29nm,1.4s,mb5.1
GEC2 GERESS Array S 58.67 42 *eP* **P 06 36 31.7 -1.4**
comp=Z,29nm,1.4s,mb5.1
GERES GERESS Array B 58.67 42 P **P 06 36 31.9 -1.2**
comp=Z,5.4nm,1.1s,mb4.5,baz=225,slow=3.8,SNR=20
GERES LR LR 07 01 22.2
comp=Z,2µm,18.2s,MS5.2,baz=203,slow=36
LAO LASA Array 58.77 316 PFAKE 06 36 50.0 +16
LAO LR LR
comp=Z,3µm,20.0s,MS5.4
MOA Molln 58.82 43⇑*i*P **P 06 36 32.4 -1.8**
comp=Z,30nm,1.7s,mb5.0
MOA Molln 58.82 43 ⇑P **P 06 36 32.4 -1.8**
comp=Z,30nm,1.7s,mb5.0
CLL Collm 58.83 39 ⇓P **P 06 36 33.7 -0.6**
comp=Z,logA/T=1.7,mb5.5
CLL *i* 06 36 41.2
CLL *e* 06 36 47.0
CLL *eS* **S 06 44 42.0 +4.0**
CLL Collm 58.83 39⇓*i*P **P 06 36 33.7 -0.6**
CLL *i* 06 36 41.2
CLL *eS* **S 06 44 42.0 +4.0**
CLL pmax pmax
comp=Z,46nm,1.0s,mb5.5
CLL MLR MLR
comp=Z,2µm,17.7s,MS5.2
CLL Collm 58.83 39⇓*i*P **P 06 36 33.7 -0.6**
comp=Z,46nm,1.0s,mb5.5
CLL *i* 06 36 41.2
CLL *eS* **S 06 44 42.0 +4.0**
CLL LR LR
comp=Z,2µm,17.7s,MS5.2
BRG Berggiesshubel 59.30 40 *eP* **P 06 36 37.0 -0.5**
BRG S **S 06 44 52.0 +8.0**
BRG SS SS 06 48 43.0 +2.7
BRG pmax pmax
comp=Z,92nm,2.0s,mb5.5
BRG MLR MLR
comp=Z,1µm,20.4s,MS5.1
BRG Berggiesshubel 59.30 40 *eP* **P 06 36 37.0 -0.5**
comp=Z,92nm,2.0s,mb5.5
BRG S **S 06 44 52.0 +8.0**
BRG SS SS 06 48 43.0 +2.7
BRG LR LR
comp=Z,1µm,20.4s,MS5.1
PV01 Paradox Valley 59.34 305 *eP* **P 06 36 39.2 +1.2**
PRU Pruhonice 59.46 41 *eP* **P 06 36 37.6 -1.0**
PRU *eS* **S 06 44 50.6 +4.5**
PRU AMS AMS 07 00 10.0
comp=Z,2µm,17.7s
ARSA Arzberg 59.53 44⇓*i*P **P 06 36 37.7 -1.4**
comp=Z,46nm,1.9s,mb5.2,SNR=6.7
ARSA Arzberg 59.53 44⇓*i*P **P 06 36 37.7 -1.5**
comp=Z,46nm,1.9s,mb5.2
PVCC Panska Ves 59.60 40 *eP* **P 06 36 39.0 -0.6**
RUE Ruedersdorf 59.60 38 *eP* **P 06 36 39.5 0.0**
comp=Z,106nm,1.1s,mb5.8
PV10 Paradox Valley 59.73 306 *eP* **P 06 36 42.7 +2.1**
KONO Kongsberg 59.74 29⇑*i*P **P 06 36 41.7 +1.3**
KONO MLR MLR
comp=Z,2µm,22.0s,MS5.2
TREC Trest 59.91 42 *eP* **P 06 36 40.1 -1.6**
TREC *eS* **S 06 44 58.7 +6.8**
TREC AMS AMS 07 01 00.0
comp=Z,3µm,18.7s
PLCA Paso Flores 60.28 201 P **P 06 36 43.7 -0.7**
comp=Z,3.4nm,0.6s,mb4.5,baz=27,slow=9.1,SNR=7.7
PLCA LR LR 07 05 24.0
comp=Z,1µm,18.7s,MS5.1,baz=357,slow=39
PLCA Paso Flores 60.28 201 *eP* **P 06 36 43.6 -0.8**
PLCA pmax pmax
comp=Z,45nm,1.4s
PLCA MLR MLR
comp=Z,2µm,22.0s
PLCA Paso Flores 60.28 201 *eP* **P 06 36 43.6 -0.8**
comp=Z,45nm,1.4s,mb5.3
PLCA LR LR
comp=Z,2µm,22.0s,MS5.2
UPC Upice 60.49 40 *eP* **P 06 36 45.2 -0.5**
BW06 Boulder Array 60.52 311 PFAKE 06 37 00.0 +14
BW06 LR LR
comp=Z,3µm,22.0s,MS5.4
PDAR Pinedale Array 60.52 311 P **P 06 36 45.6 -0.4**
comp=Z,1.7nm,0.8s,mb4.3,baz=117,slow=6.6,SNR=8.8
PDAR LR LR 07 00 21.5
comp=Z,2µm,21.5s,MS5.2,baz=100,slow=34
VRAC Vranov 60.62 42 P **P 06 36 45.8 -0.8**
DPC Dobruska-Polom 60.66 41 *eP* **P 06 36 46.4 -0.4**
DPC AMS AMS 07 01 10.0
comp=Z,2µm,17.8s
KSP Ksiaz 60.74 40 *eP* **P 06 36 47.0 -0.4**
KSP Ksiaz 60.74 40‖*eP* **P 06 36 46.6 -0.8**
KSP *eS* **S 06 45 06.0 +3.5**
KSP MLR MLR
comp=Z,4µm,18.1s,MS5.6
KSP Ksiaz 60.74 40‖*eP* **P 06 36 46.6 -0.8**
KSP *eS* **S 06 45 06.0 +3.5**
KSP *eSS* SS 06 49 10.5 +7.8
KSP LR LR
comp=Z,4µm,18.1s,MS5.6
ZST Bratislava 60.75 43 *eP* **P 06 36 46.5 -1.0**
ZST *e* 06 36 54.5
ZST *e* 06 37 20.8
SRU San Rafael 60.93 306 *eP* **P 06 36 48.6 -0.3**
SRU pmax pmax
comp=Z,18nm,1.0s,mb5.2
SRU San Rafael 60.93 306 *eP* **P 06 36 48.6 -0.2**
comp=Z,18nm,1.0s,mb5.2
TUC Tucson 60.95 299 *eP* **P 06 36 49.3 +0.2**
TUC pmax pmax
comp=Z,11nm,1.0s,mb4.9
TUC MLR MLR
comp=Z,955nm,21.0s,MS4.9
TUC Tucson 60.95 299 *eP* **P 06 36 49.3 +0.3**
comp=Z,11nm,1.0s,mb4.9
TUC LR LR
comp=Z,955nm,21.0s,MS4.9
NB2 NORSAR Subarra 61.02 28 P **P 06 36 49.9 +0.8**
comp=Z,28nm,1.1s,mb5.3,baz=248,slow=6.5
NB2 NORSAR Subarra 61.02 28 P **P 06 36 49.9 +0.8**
baz=248,slow=6.9
NB2 NORSAR Subarra 61.02 28 P **P 06 36 49.9 +0.8**
NB2 pmax pmax
comp=Z,28nm,1.1s,mb5.3
NOA NORSAR Array B 61.02 28 P **P 06 36 49.6 +0.5**
comp=Z,9.1nm,0.9s,mb4.9,baz=247,slow=6.8,SNR=12
NOA LR LR 06 59 17.0
comp=Z,1µm,18.2s,MS5.0,baz=250,slow=32
MORC Moravsky Berou 61.32 41 P **P 06 36 51.1 -0.2**
MORC Moravsky Berou 61.32 41 *eP* **P 06 36 50.3 -1.0**
comp=Z,34nm,1.4s,mb5.3
LKWY Lake 61.33 313 PFAKE 06 37 00.0 +8.5
LKWY LR LR
comp=Z,3µm,19.0s,MS5.5
EGMT Eagleton 61.37 317 *eP* **P 06 36 51.4 -0.3**
comp=Z,9.9nm,1.0s,mb4.9
LOHW Long Hollow 61.37 312 *eP* **P 06 36 51.2 -0.6**
comp=Z,18nm,1.1s,mb5.1
WUAZ Wupatki 61.46 302 *eP* **P 06 36 53.0 +0.5**
comp=Z,27nm,1.0s,mb5.3
WUAZ LR LR
comp=Z,2µm,20.0s,MS5.3
PKSM Moragy 61.49 45 P **P 06 36 52.5 0.0**
MOOW Moose Ponds 61.49 312 *eP* **P 06 36 51.8 -0.8**
comp=Z,32nm,1.5s,mb5.2
REDW Red Top Meadow 61.53 311 *eP* **P 06 36 52.9 +0.1**
comp=Z,79nm,1.8s,mb5.5
DAU Daniels Canyon 61.58 308 *eP* **P 06 36 53.2 0.0**
IMW Indian Meadow 61.65 312 *eP* **P 06 36 52.5 -1.1**
comp=Z,21nm,0.8s,mb5.3

AHID Auburn Hatcher 61.65 311 PFAKE 06 37 10.0 +16
AHID LR LR
comp=Z,4µm,22.0s,MS5.5
OKC Ostrava-Krasne 61.71 41 *eP* **P 06 36 53.3 -0.7**
OKC *eS* **S 06 45 20.7 +5.7**
OKC AMS AMS 07 03 40.0
comp=Z,2µm,17.5s
YMR Madison River 61.75 313 *eP* **P 06 36 54.1 -0.2**
comp=Z,39nm,1.2s,mb5.4
YMR LR LR
comp=Z,3µm,19.0s,MS5.5
TCUT Toone Canyon 61.75 309 *eP* **P 06 36 55.3 +0.9**
RAC Raciborz 61.79 41 *eP* **P 06 36 54.6 +0.1**
RAC MLR MLR 07 01 48.1
RAC LMN 07 02 39.4
RAC LME 07 03 37.1
comp=Z,2µm,17.5s
RAC Raciborz 61.79 41 *eP* **P 06 36 54.6 +0.1**
RAC MLR MLR
comp=Z,3µm,19.0s,MS5.5
HFS Hagfors 61.84 29 P **P 06 36 54.6 -0.2**
comp=Z,31nm,0.9s,mb5.5,baz=270,slow=2.9,SNR=20
MPU Maple Canyon 61.85 307 PFAKE 06 37 10.0 +15
MPU LR LR
comp=Z,3µm,20.0s,MS5.5
RRI2 Red Ridge 61.87 311 *eP* **P 06 36 54.5 -0.6**
comp=Z,24nm,0.8s,mb5.4
HWUT Hardware Ranch 61.90 309 *eP* **P 06 36 53.8 -1.6**
comp=Z,19nm,0.9s,mb5.2
HWUT LR LR
comp=Z,5µm,21.0s,MS5.7
VYHS Vyhne 61.94 43 *eP* **P 06 36 54.3 -1.3**
VYHS *e* 06 37 01.7
QLMT Earthquake Lak 62.09 313 *eP* **P 06 36 55.8 -0.8**
MSU Marysvale 62.19 306 *eP* **P 06 36 58.2 +0.8**
MVU Marysvale 62.22 306 *eP* **P 06 36 59.1 +1.5**
comp=Z,7.1nm,0.9s,mb4.8
MVU LR LR
comp=Z,2µm,19.0s,MS5.3
BOZ Bozeman (W) 62.32 314 *eP* **P 06 36 56.5 -1.6**
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
BOZ MLR MLR
comp=Z,3µm,21.0s,MS5.4
BOZ Bozeman (W) 62.32 314 *eP* **P 06 36 56.5 -1.7**
comp=Z,6.1nm,0.8s,mb4.8
BOZ LR LR
comp=Z,3µm,21.0s,MS5.4
SPUT South Promonto 62.54 309 *eP* **P 06 36 59.4 -0.3**
PSZ Piszkesteto 62.56 44‖*ePcP* **P 06 36 58.7 -1.0**
PSZ Piszkesteto 62.56 44 P **P 06 36 59.8 +0.1**
PSZ Piszkesteto 62.56 44 *eP* **P 06 36 58.5 -1.2**
comp=Z,58nm,1.6s,mb5.5
HRY Holter Researc 62.58 315 *eP* **P 06 36 58.2 -1.6**
DUG Dugway 62.76 308 *eP* **P 06 37 01.2 +0.1**
DUG pmax pmax
comp=Z,27nm,1.4s,mb5.2
DUG MLR MLR
comp=Z,3µm,20.0s,MS5.5
DUG Dugway 62.76 308 *eP* **P 06 37 01.2 +0.1**
comp=Z,26nm,1.4s,mb5.2
DUG LR LR
comp=Z,3µm,20.0s,MS5.5
OJC Ojcow 62.83 41 *eP* **P 06 36 59.8 -1.6**
BGU Big Grassy Mou 62.96 308 *eP* **P 06 37 01.2 -1.2**
KECS Kecovo 63.03 43 *eP* **P 06 37 02.4 -0.3**
KECS *es*P sP 06 37 07.2 +0.2
NIE Niedzica 63.04 42 *eP* **P 06 37 03.0 +0.2**
MCMT McKenzie Canyo 63.10 313 *eP* **P 06 37 04.1 +0.8**
ARUT Antelope Range 63.17 305 *eP* **P 06 37 04.7 +0.9**
BZS Buzias 63.48 46 ⇑P **P 06 37 05.6 -0.2**
CHMT Chamberlain Mo 63.57 315 P **P 06 37 07.0 +0.6**
BOLS Boljevac 63.59 48‖*iP* **P 06 37 06.8 +0.3**
STHS Stebnicka Huta 63.64 42 *eP* **P 06 37 06.8 0.0**
CRVS Cervenica-Dubn 63.72 43 *eP* **P 06 37 07.1 -0.2**
CRVS *e* 06 37 13.6
MSO Missoula 64.04 315 PFAKE 06 37 20.0 +11
MSO LR LR
comp=Z,2µm,21.0s,MS5.2
HLID Hailey 64.13 311 *eP* **P 06 37 09.0 -1.1**
comp=Z,8.1nm,0.9s,mb4.8
HLID LR LR
comp=Z,4µm,22.0s,MS5.6
KOLS Kolonicke sedl 64.26 43 *eP* **P 06 37 10.5 -0.3**
KOLS *es*P sP 06 37 15.0 -0.1
NEN Nelson 64.29 302 *eP* **P 06 37 12.0 +0.7**
DRGR 64.34 45 ⇑P **P 06 37 10.8 -0.6**
VTS Vitosha 64.43 50 P **P 06 37 14.9 +2.8**
EDM Edmonton 64.44 322 *eP* **P 06 37 10.4 -1.5**
KWP Kalwaria 64.61 42 *eP* **P 06 37 13.9 +0.8**
ELK Elko 64.63 308 P **P 06 37 13.4 +0.1**
comp=Z,4.0nm,1.0s,mb4.4,baz=83,slow=5.5,SNR=15
ELK Elko 64.63 308 *eP* **P 06 37 13.0 -0.4**
ELK pmax pmax
comp=Z,16nm,0.9s
ELK MLR MLR
comp=Z,4µm,20.0s
ELK Elko 64.63 308 *eP* **P 06 37 12.9 -0.4**
comp=Z,16nm,0.9s,mb5.0
ELK LR LR
comp=Z,4µm,20.0s,MS5.6
MMB Musomiste 64.78 51 *iP* **P 06 37 15.0 +0.6**
PGB Panagyurishte 65.14 50 *iP* **P 06 37 18.0 +1.4**
TPNV Topopah Spring 65.41 304 *eP* **P 06 37 19.1 +0.6**
TPNV pmax pmax
comp=Z,16nm,1.0s,mb5.0
TPNV MLR MLR
comp=Z,2µm,20.0s,MS5.3
TPNV Topopah Spring 65.41 304 *eP* **P 06 37 19.1 +0.6**
comp=Z,16nm,1.0s,mb5.0
TPNV LR LR
comp=Z,2µm,20.0s,MS5.3
SUW Suwalki 65.44 37 *eP* **P 06 37 18.2 -0.2**
SUW Suwalki 65.44 37 *eP* **P 06 37 18.2 -0.2**
RZN Rozhen 65.52 51 *iP* **P 06 37 20.0 +0.9**
BAR Barrett 65.91 299 *eP* **P 06 37 21.6 -0.2**
TPH Tonopah 66.16 305 *eP* **P 06 37 24.5 +1.2**
TPH pmax pmax
comp=Z,18nm,1.1s,mb5.0
TPH MLR MLR
comp=Z,2µm,20.0s,MS5.2
TPH Tonopah 66.16 305 *eP* **P 06 37 24.4 +1.2**
comp=Z,18nm,1.1s,mb5.0
TPH LR LR
comp=Z,2µm,20.0s,MS5.2
APE Apeiranthos 66.17 56⇑*iP* **P 06 37 23.0 -0.4**
BMO Blue Mountains 66.26 313 PFAKE 06 37 40.0 +16
BMO LR LR
comp=Z,1µm,20.0s,MS5.0
NEW Newport 66.29 316 P **P 06 37 23.7 -0.2**
comp=Z,5.4nm,0.9s,mb4.6,baz=104,slow=5.7,SNR=9.1
NEW LR LR 07 04 00.2
comp=Z,3µm,19.0s,MS5.5,baz=47,slow=34
SZH Strazhica 66.45 49 *iP* **P 06 37 25.0 0.0**
DAC Darwin (Calif) 66.51 303 *eP* **P 06 37 26.7 +1.2**
DAC pmax pmax
comp=Z,12nm,1.1s,mb4.8
DAC MLR MLR
comp=Z,1µm,20.0s,MS5.2
DAC Darwin (Calif) 66.51 303 *eP* **P 06 37 26.7 +1.2**
comp=Z,12nm,1.1s,mb4.8
DAC LR LR
comp=Z,1µm,20.0s,MS5.2
MLR Muntele Rosu 66.51 47 P **P 06 37 25.7 +0.3**
comp=Z,48nm,1.2s,mb5.4,baz=295,slow=5.0,SNR=16
YKA Yellowknife Ar 66.76 332 P **P 06 37 24.8 -1.8**
comp=Z,1.3nm,0.7s,baz=100,slow=7.6,SNR=18
MNV Mina 66.88 306 *eP* **P 06 37 28.5 +0.6**
MNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MNV MLR MLR
comp=Z,2µm,20.0s,MS5.3
MNV Mina 66.88 306 *eP* **P 06 37 28.4 +0.5**
comp=Z,5.1nm,0.9s,mb4.5
MNV LR LR
comp=Z,2µm,20.0s,MS5.3
MWC Mount Wilson 66.98 301 *eP* **P 06 37 29.1 +0.5**
NVAR Mina Array Bea 67.00 306 P **P 06 37 29.0 +0.4**
comp=Z,0.4nm,0.6s,baz=90,slow=4.5,SNR=5.3
NVAR LR LR 07 06 08.4
comp=Z,708nm,19.1s,MS4.9,baz=160,slow=35
NVAR Mina Array Bea 67.00 306 P **P 06 37 29.0 +0.4**
NVAR LR LR 07 06 08.4
VRI Vrincioaia 67.07 46 ⇓P **P 06 37 28.3 -0.7**
WVOR Wild Horse Val 67.19 310 PFAKE 06 37 40.0 +10
WVOR LR LR
comp=Z,3µm,19.0s,MS5.5
ISA Isabella 67.25 303 PFAKE 06 37 40.0 +10
ISA LR LR
comp=Z,547nm,21.0s,MS4.8
HAWA Hanford 67.86 314 PFAKE 06 37 50.0 +16
HAWA LR LR
comp=Z,181nm,20.0s,MS4.3
VSU Vasula 67.98 33⇑*iP* **P 06 37 35.8 +1.4**
FINES FINESS Array B 68.04 30 P **P 06 37 34.1 -0.7**
comp=Z,17nm,1.1s,mb5.0,baz=232,slow=1.8,SNR=12
FINES LR LR 07 02 07.1
comp=Z,1µm,21.0s,MS5.1,baz=59,slow=31
MNK Minsk 68.21 37 *eP* **P 06 37 33.0 -2.9**
MNK pmax pmax
comp=Z,580nm,1.6s
TIRR Tirgusor 68.25 48⇑P **P 06 37 35.5 -0.9**
KAF Kangasniemi 68.25 29 *ep* **P 06 37 36.1 0.0**
comp=Z,6.9nm,0.6s,mb4.9,baz=262,slow=6.5
KAF Kangasniemi 68.25 29 *eP* **P 06 37 36.1 0.0**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MOD Modoc 68.44 309 *eP* **P 06 37 33.3 -4.3**
comp=Z,4.8nm,0.6s,mb4.7
MOD LR LR
comp=Z,2µm,19.0s,MS5.4
KIS Kishinev 68.53 45 *eP* **P 06 37 37.0 -1.1**
KIS *e* 06 37 45.0
KIS *e* 06 40 09.0
KIS *eS* S 06 46 35.0 -3.8
CMB Columbia Colle 68.66 305 *eP* **P 06 37 38.8 -0.2**
CMB pmax pmax
comp=Z,19nm,1.5s,mb4.8
CMB MLR MLR
comp=Z,2µm,20.0s,MS5.2
CMB Columbia Colle 68.66 305 *eP* **P 06 37 38.8 -0.2**
comp=Z,19nm,1.5s,mb4.8
CMB LR LR
comp=Z,2µm,20.0s,MS5.2
AKASG Malin Array Be 68.87 41 P **P 06 37 39.1 -1.0**
comp=Z,12nm,0.8s,mb4.9,baz=271,slow=6.0,SNR=38
KBS Kingsbay 69.10 10 PFAKE 06 37 50.0 +8.9
KBS LR LR
comp=Z,1µm,20.0s,MS5.1
LRV Little Rabbit 69.26 304 *eP* **P 06 37 43.9 +1.1**
ARCES ARCESS Array B 69.27 21 P **P 06 37 43.1 +0.9**
comp=Z,14nm,1.0s,mb4.8,baz=267,slow=4.4,SNR=17
ARCES LR LR 07 01 50.3
comp=Z,686nm,19.3s,MS4.9,baz=325,slow=31
SAO San Andreas Ge 69.58 304 PFAKE 06 38 00.0 +15
SAO LR LR
comp=Z,2µm,21.0s,MS5.4
KEV Kevo 69.82 21 *eP* **P 06 37 46.7 +1.1**
KEV pmax pmax
comp=Z,19nm,0.8s,mb5.1
KEV MLR MLR
comp=Z,2µm,22.0s,MS5.4
KEV Kevo 69.82 21 *eP* **P 06 37 46.7 +1.1**
comp=Z,19nm,0.8s,mb5.1
KEV LR LR
comp=Z,2µm,22.0s,MS5.4
PUL Pulkovo 69.94 32⇑*eP* **P 06 37 45.0 -1.5**
PUL *eS* S 06 47 01.7 +6.5
PUL *e* 06 47 19.0
PUL pmax pmax
comp=Z,118nm,1.2s,mb5.7
PUL pmax pmax
comp=N,122nm,1.0s
PUL pmax pmax
comp=E,47nm,0.8s
PUL smax
comp=E,486nm,2.0s
ISP Isparta 70.09 55⇑*eP* **P 06 37 48.6 +0.8**
WDC Whiskeytown Da 70.18 308 PFAKE 06 38 00.0 +12
WDC LR LR
comp=Z,2µm,20.0s,MS5.5
YBH Yreka Blue Hor 70.25 309 PFAKE 06 38 00.0 +11
YBH LR LR
comp=Z,2µm,19.0s,MS5.4
HUMO Hull Mountain 70.38 310 PFAKE 06 38 00.0 +11
HUMO LR LR
comp=Z,3µm,20.0s,MS5.5
COR Corvallis 70.54 312 PFAKE 06 38 00.0 +10
COR LR LR
comp=Z,1µm,19.0s,MS5.2
JOF Joensuu 70.65 28 *ep* **P 06 37 51.4 +0.6**
HOPS Hopland 70.70 306 PFAKE 06 38 00.0 +8.5
HOPS LR LR
comp=Z,2µm,21.0s,MS5.4
OCWA Octopus Mounta 71.02 316 PFAKE 06 38 10.0 +17
OCWA LR LR
comp=Z,4µm,20.0s,MS5.7
TSUM Tsumeb 71.20 117 P **P 06 37 54.0 -0.8**
comp=Z,9.1nm,1.0s,mb4.6,baz=306,slow=5.1,SNR=8.0
TSUM Tsumeb 71.20 117 *eP* **P 06 37 54.2 -0.6**
comp=Z,78nm,1.8s,mb5.3
TSUM LR LR
comp=Z,2µm,20.0s,MS5.3
ANTO Ankara 71.71 53 PFAKE 06 38 10.0 +12
ANTO LR LR
comp=Z,974nm,21.0s,MS5.0
BR131 Keskin Array S 72.37 53 *eP* **P 06 38 01.2 -0.3**
comp=Z,11nm,1.0s,mb4.8
BR131 LR LR
comp=Z,651nm,20.0s,MS4.9
BRTR Keskin Array B 72.37 53 P **P 06 38 01.4 -0.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=270,slow=4.9,SNR=18
OBN Obninsk 73.27 36*d iP* **P 06 38 06.9 +0.4**
OBN *e* 06 38 21.9
OBN *e* 06 40 47.2
OBN *eSS* SS 06 52 18.4 +0.6
OBN pmax pmax
comp=Z,76nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,2µm,16.0s,MS5.5
OBN Obninsk 73.27 36 *i* Pr 06 38 06.9
OBN LR LR
comp=Z,2µm,16.0s,MS5.5
BBB Bella Bella 73.35 320 LR LR 07 07 55.5
comp=Z,2µm,18.1s,MS5.4,baz=88,slow=34
MOS Moscow 73.84 36 *eP* **P 06 38 08.0 -1.8**
MOS *e* 06 38 22.4
MOS pmax pmax
comp=Z,60nm,0.8s,mb5.6
DLBC Dease Lake 74.07 327 P **P 06 38 13.0 +1.9**
comp=Z,5.8nm,1.0s,mb4.5,baz=74,slow=7.5,SNR=7.0
KLMR Klimovskoe 74.52 30*c iP* **P 06 38 13.2 -0.4**
KLMR *eS* S 06 47 45.8 -1.6
KLMR pmax pmax
comp=Z,130nm,1.5s,mb5.6
KLMR pmax pmax
comp=Z,370nm,7.8s
KLMR smax
comp=E,950nm,4.9s
ANN Anapa 74.66 47 *eP* **P 06 38 21.8 +7.1**
ANN pmax pmax
comp=Z,76nm,1.7s,mb5.3
ANN MLR MLR
comp=E,781nm,20.0s
ANN MLR MLR
comp=Z,1µm,20.0s,MS5.2
BDAS Al Bad' **75.05 64** P **P 06 38 18.0 +0.7**
INK Inuvik 75.05 337 P **P 06 38 15.4 -1.2**
comp=Z,13nm,1.0s,mb4.8,baz=71,slow=7.5,SNR=18
INK Inuvik 75.05 337 *eP* **P 06 38 15.2 -1.3**
INK pmax pmax
comp=Z,43nm,1.2s
INK Inuvik 75.05 337 *eP* **P 06 38 15.2 -1.3**
comp=Z,43nm,1.2s,mb5.3
VOR Voronezh 75.09 40 P **P 06 38 15.0 -2.1**
VOR *e* 06 38 25.0
VOR pmax pmax
comp=Z,90nm,2.0s,mb5.3
VRSR Storozhevoye 75.14 40 *eP* **P 06 38 17.2 -0.2**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,1.0s
AYUS 'Aynunah 75.23 64 P **P 06 38 21.8 +3.4**
SOC Sochi 76.44 48 *eP* **P 06 38 26.3 +1.4**
SOC *e* 06 41 11.4
SOC *eS* S 06 48 07.2 -1.8
SOC pmax pmax
comp=Z,63nm,1.2s,mb5.4

SOC pmax pmax
comp=Z,346nm,4.2s
SOC MLR MLR
comp=Z,503nm,17.0s,MS4.9
QURS Qurayyt al Mil 76.46 61 P **P 06 38 27.5 +2.2**
VRHR Novokhopersk 76.68 40 *eP* **P 06 38 26.5 +0.4**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VRHR pmax pmax
comp=N,8.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.6s
SIT Sitka 77.03 326 PFAKE 06 38 40.0 +12
SIT LR LR
comp=Z,5μm,19.0s,MS5.8
DAWY Dawson 77.92 333 *eP* **P 06 38 33.3 +0.6**
KIV Kislovodsk 78.50 47 *eP* **P 06 38 36.5 +0.2**
KIV *e* 06 38 45.2
KIV *eS* S 06 48 26.7 -4.6
KIV pmax pmax
comp=Z,26nm,1.2s,mb5.0
KIV MLR MLR
comp=Z,453nm,18.0s,MS4.8
KIV Kislovodsk 78.50 47 ‖ *iP* **P 06 38 37.2 +0.9**
GOF Gofitskoye 78.56 46 *eP* **P 06 38 37.8 +1.2**
LSZ Lusaka 79.19 109 *eP* **P 06 38 40.8 +0.2**
LSZ pmax pmax
comp=Z,183nm,2.1s,mb5.6
LSZ MLR MLR
comp=Z,998nm,21.0s,MS5.1
LSZ Lusaka 79.19 109 *eP* **P 06 38 40.8 +0.2**
comp=Z,183nm,2.1s,mb5.6
LSZ LR LR
comp=Z,998nm,21.0s,MS5.1
LBTB Lobatse 80.30 119 *eP* **P 06 38 45.6 -0.8**
LBTB pmax pmax
comp=Z,76nm,1.8s,mb5.3
LBTB MLR MLR
comp=Z,2μm,22.0s,MS5.4
LBTB Lobatse 80.30 119 *eP* **P 06 38 45.6 -0.8**
comp=Z,76nm,1.8s,mb5.3
LBTB LR LR
comp=Z,2μm,22.0s,MS5.4
GNI Garni 80.74 51 P **P 06 38 47.6 -0.8**
comp=Z,6.0nm,0.6s,mb4.7,baz=17,slow=3.7,SNR=12
GNI Garni 80.74 51 *eP* **P 06 38 50.3 +1.8**
GNI pmax pmax
comp=Z,61nm,1.4s
GNI MLR MLR
comp=Z,507nm,21.0s
GNI Garni 80.74 51 *eP* **P 06 38 50.3 +1.8**
comp=Z,61nm,1.4s,mb5.3
GNI LR LR
comp=Z,507nm,21.0s,MS4.8
THY Trims Highway 80.82 333 *eP* **P 06 38 49.6 +1.2**
ILAR Eielson Array 80.93 335 P **P 06 38 48.5 -0.5**
comp=Z,4.5nm,0.7s,mb4.5,baz=72,slow=4.7,SNR=32
MATP Matopo 81.18 114 P **P 06 38 51.0 -0.2**
comp=Z,13nm,0.9s,mb4.9,baz=294,slow=5.1,SNR=22
MATP Matopo 81.18 114 P **P 06 38 51.0 -0.2**
COLA College 81.29 335 ‖ *iP* **P 06 38 53.1 +2.3**
COLA College 81.29 335 *eP* **P 06 38 50.4 -0.4**
comp=Z,36nm,1.1s,mb5.2
COLA LR LR
comp=Z,1μm,21.0s,MS5.3
DIV Divide 81.46 331 PFAKE 06 39 00.0 +8.2
DIV LR LR
comp=Z,6μm,21.0s,MS5.9
MCK McKinley 82.09 334 *eP* **P 06 38 55.1 +0.1**
MCK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MCK MLR MLR
comp=Z,943nm,20.0s,MS5.2
MCK McKinley 82.09 334 *eP* **P 06 38 55.1 +0.1**
comp=Z,10nm,1.0s,mb4.7
MCK LR LR
comp=Z,943nm,20.0s,MS5.2
PMR Palmer 82.86 332 PFAKE 06 39 10.0 +11
PMR LR LR
comp=Z,2μm,21.0s,MS5.4
IMA2 Indian Mountai 83.18 337 *eP* **P 06 39 00.1 -0.5**
SOKR Solikamsk 83.21 30 *c iP* **P 06 39 04.0 +3.1**
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.4
SOKR MLR MLR
comp=Z,1μm,18.0s,MS5.3
FIB Fire Island 83.48 332 PFAKE 06 39 10.0 +7.8
FIB LR LR
comp=Z,2μm,22.0s,MS5.5
KMBO Kilima Mbogo 83.63 93 P **P 06 39 05.8 +1.7**
comp=Z,2.4nm,1.0s,mb4.3,baz=275,slow=4.7,SNR=17
KMBO LR LR 07 14 45.1
comp=Z,1μm,18.8s,MS5.3,baz=94,slow=35
TATS Tathlith 84.38 71 P **P 06 39 10.2 +2.5**
MZLS Mizel 84.83 67 P **P 06 39 11.5 +1.6**
DJNS Zahran al Janu 84.89 73 P **P 06 39 13.2 +2.9**
ARU Arti 85.14 33 ‖ *iP* **P 06 39 13.0 +2.4**
ARU *e* 06 42 31.5
ARU *e* PPP PPP 06 44 24.6 -1.2
ARU *eS* S 06 49 35.4 -3.5
ARU *eS* SS SS 06 55 19.1 +3.3
ARU pmax pmax
comp=Z,25nm,1.6s,mb5.1
KDAK Kodiak Island 85.84 329 P **P 06 39 15.2 +1.1**
comp=Z,5.4nm,0.9s,mb4.8,baz=350,slow=11,SNR=2.3
AKTO Aktyubinsk 86.92 38 LR LR 07 17 13.9
comp=Z,1μm,18.2s,MS5.4,slow=35
TNA Tin City 88.56 339 *eP* **P 06 39 27.9 +0.8**
comp=Z,7.6nm,1.0s,mb5.0
TNA LR LR
comp=Z,1μm,19.0s,MS5.3
VNA3 Neumayer Olymp 89.78 169 *e* **P 06 39 41.3 +8.5**
VNA3 Neumayer Olymp 89.78 169 *e* **P 06 39 45.4 +13**
VNA3 Neumayer Olymp 89.78 169 *e* **P 06 39 48.6 +16**
VNA3 Neumayer Olymp 89.78 169 P **P 06 39 39.1 +6.3**
VNA3 *e* pP 06 39 41.3 +5.3
VNA3 *e* 06 39 45.4
VNA3 *e* 06 39 48.6
VNA2 Neumayer--Watz 89.95 168 *e* **P 06 39 42.2 +8.6**
VNA2 Neumayer--Watz 89.95 168 *e* **P 06 39 46.2 +13**
VNA2 Neumayer--Watz 89.95 168 *e* **P 06 39 49.3 +16**
VNA2 Neumayer--Watz 89.95 168 P **P 06 39 39.1 +5.5**
VNA2 *e* pP 06 39 42.2 +5.4
VNA2 *e* 06 39 46.2
VNA2 *e* 06 39 49.3
SNAA Sanae 91.46 168 *e* **P 06 39 47.0 +6.5**
SNAA Sanae 91.46 168 *e* **P 06 39 52.2 +12**
SNAA Sanae 91.46 168 *e* **P 06 39 55.6 +15**
SNAA Sanae 91.46 168 P **P 06 39 44.9 +4.4**
SNAA *e* pP 06 39 47.0 +3.3
SNAA *e* 06 39 52.2
SNAA *e* 06 39 55.6
TIXI Tiksi 93.19 2 ‖ *iP* **P 06 39 51.8 +3.3**
TIXI MLR MLR
comp=Z,549nm,20.0s,MS5.0
BILL Bilibino 93.70 348 ‖ *eP* **P 06 39 54.4 +3.5**
BILL MLR MLR
comp=Z,1μm,21.0s,MS5.3
UNV Unalaska Valle 94.61 329 PFAKE 06 40 10.0 +15
UNV LR LR
comp=Z,4μm,19.0s,MS6.0
ZAL Zalesovo 99.21 27 LR LR 07 24 22.9
comp=Z,1μm,18.3s,MS5.5,baz=157,slow=35
YAK Yakutsk 102.84 2 PFAKE 06 40 40.0 +7.5
YAK LR LR
comp=Z,463nm,19.0s,MS5.0
SMY Shemya 103.99 336 PFAKE 06 40 50.0 +12
SMY LR LR
comp=Z,1μm,19.0s,MS5.5
MA2 Magadan 104.18 351 PFAKE 06 40 50.0 +12
MA2 LR LR
comp=Z,613nm,21.0s,MS5.1
QSPA South Pole Qui 105.27 180 PFAKE 06 45 10.0
QSPA LR LR
comp=Z,632nm,22.0s,MS5.1
PPT Papeete 107.29 256 *eSS* SS 07 00 23.6 -5.1
PPT *eLQ* 07 11 38.1
PPT *eLR* LR 07 16 06.2
comp=Z,652nm,26.2s
TBI Tubuai 108.19 250 *eSS* SS 07 00 35.8 -5.2
TBI *eLQ* 07 11 47.4
TBI *eLR* LR 07 16 31.1
comp=Z,337nm,26.0s
PET Petropavlovsk 108.75 345 PFAKE 06 45 20.0
PET LR LR
comp=Z,826nm,20.0s,MS5.3
ULN Ulaanbaatar 112.62 19 PFAKE 06 45 20.0 +7.1
ULN LR LR
comp=Z,755nm,21.0s,MS5.3
HIA Hailar 114.46 10 PFAKE 06 45 30.0 +13
HIA LR LR
comp=Z,844nm,19.0s,MS5.4
SBA Scott Base 115.37 187 PFAKE 06 45 30.0 +12
SBA LR LR
comp=Z,589nm,20.0s,MS5.2
VNDA Vanda 116.22 186 PFAKE 06 45 30.0 +11
VNDA LR LR
comp=Z,426nm,21.0s,MS5.0
YSS Yuzh-Sakhalins 117.56 353 PFAKE 06 45 30.0 +7.4
YSS LR LR
comp=Z,802nm,19.0s,MS5.4
LSA Lhasa 118.99 43 PFAKE 06 45 40.0 +14
LSA LR LR
comp=Z,1μm,22.0s,MS5.4
MDJ Mudanjiang 120.23 4 PKP PKPdf 06 45 25.8 -2.0
MDJ XPKP 06 45 30.4
MDJ PKS PKS 06 49 01.2 +0.8
MDJ SKS SKS 06 52 30.7 +4.5
MDJ SS SS 07 03 17.1 -1.8
MDJ LR LR
comp=N,350nm,31.1s,MS5.0
MDJ LR LR
comp=E,370nm,31.1s,MS5.0
MDJ LR LR
comp=Z,450nm,27.2s,MS5.0
MDJ Mudanjiang 120.23 4 PFAKE 06 45 40.0 +12
MDJ LR LR
comp=Z,815nm,19.0s,MS5.4
HHC Hu-ho-hao-te 120.33 20 *e* PKP PKPdf 06 45 22.3 -5.8
HHC PP PP
comp=Z,180nm,11.0s
HHC LR LR
comp=N,580nm,17.8s,MS5.4
HHC LR LR
comp=E,490nm,19.0s,MS5.4
HHC LR LR
comp=Z,740nm,20.2s,MS5.3
CN2 Changchun 120.65 7 *e* PKP PKPdf 06 45 23.2 -5.5
CN2 *e* PP PP 06 46 53.6 -3.8
CN2 LR LR
comp=N,890nm,19.0s,MS5.5
CN2 LR LR
comp=E,540nm,19.0s,MS5.5
CN2 LR LR
comp=Z,1μm,19.0s,MS5.5
LZH Lanzhou 121.40 29 *e* PKP PKPdf 06 45 26.0 -4.4
LZH XPKP 06 45 32.5
LZH PP PP 06 47 00.2 -2.7
LZH PP PP
comp=Z,140nm,6.6s
LZH LR LR
comp=N,1μm,18.1s
LZH LR LR
comp=Z,1μm,20.0s,MS5.6
CD2 Chengdu 125.54 32 *e* PKP PKPdf 06 45 31.5 -7.1
CD2 PP PP 06 47 26.0 -5.1
CD2 LR LR
comp=N,460nm,19.2s
CD2 LR LR
comp=Z,580nm,21.6s,MS5.2
CASY Casey 126.69 168 PFAKE 06 45 50.0 +10
CASY LR LR
comp=Z,806nm,20.0s,MS5.4
INCN Inchon 127.02 7 PFAKE 06 45 50.0 +8.9
INCN LR LR
comp=Z,817nm,19.0s,MS5.4
MAJO Matsushiro 128.30 356 PFAKE 06 45 50.0 +6.3
MAJO LR LR
comp=Z,862nm,21.0s,MS5.4
MJAR Matsushiro Arr 128.30 356 PKP PKPdf 06 45 42.1 -1.6
comp=Z,1.6nm,1.0s,baz=153,slow=8.4,SNR=4.2
ENH Enshi 128.84 28 PFAKE 06 46 00.0 +15
ENH LR LR
comp=Z,789nm,21.0s,MS5.4
KMI Kunming 129.48 38 PKP PKPdf 06 45 45.3 -1.0
KMI PP PP 06 48 00.5 +3.2
KMI SS SS 07 05 14.8 -1.5
KMI LR LR
comp=N,460nm,24.4s,MS5.2
KMI LR LR
comp=E,440nm,22.1s,MS5.2
KMI LR LR
comp=Z,810nm,24.4s,MS5.3
WHN Wuhan 130.59 23 *e* PKP PKPdf 06 45 41.2 -7.1
GYA Guiyang 130.63 33 PKP PKPdf 06 45 49.8 +1.4
GYA PKS PKS 06 49 23.4 +2.8
GYA PP PP
comp=Z,180nm,8.2s
GYA LR LR
comp=N,1μm,18.9s,MS5.8
GYA LR LR
comp=E,1μm,19.0s,MS5.8
GYA LR LR
comp=Z,1μm,18.6s,MS5.7
NJ2 Nanjing 130.69 17 *e* PKP PKPdf 06 45 45.5 -2.9
NJ2 PP PP 06 48 07.0 +1.9
NJ2 PKS PKS 06 49 16.0 -4.6
NJ2 PPP PPP 06 50 54.0 +0.3
NJ2 SKS SKS 06 52 55.0 -2.5
NJ2 PP PP
comp=Z,310nm,5.0s
NJ2 LR LR
comp=N,2μm,20.6s,MS5.8
NJ2 LR LR
comp=E,2μm,22.8s,MS5.8
NJ2 LR LR
comp=Z,710nm,27.0s,MS5.2
SSE Sheshan 132.22 15 *e* PKP PKPdf 06 45 48.3 -3.0
SSE PP PP 06 48 13.8 -0.8
SSE SS SS 07 05 46.6 -3.3
SSE PP PP
comp=Z,450nm,4.0s
SSE LR LR
comp=N,430nm,22.2s,MS5.1
SSE LR LR
comp=E,100nm,22.2s,MS5.1
SSE LR LR
comp=Z,550nm,25.5s,MS5.2
SNZO South Karori 136.46 225 PFAKE 06 46 10.0 +11
SNZO LR LR
comp=Z,1μm,22.0s,MS5.5
QIZ Qiongzhong 138.33 36 PFAKE 06 46 10.0 +7.1
QIZ LR LR
comp=Z,618nm,21.0s,MS5.3
KKM Kota Kinabalu 152.32 41 *e* PKPbc PKPdf 06 46 32.4 +5.9
HNR Honiara 154.16 280 PFAKE 06 46 40.0 +11
HNR LR LR
comp=Z,440nm,20.0s,MS5.3
DAV Davao City (W) 156.20 22 PFAKE 06 46 40.0 +8.3
DAV LR LR
comp=Z,511nm,21.0s,MS5.3
NWAO Narrogin (SRO) 156.68 142 PFAKE 06 46 40.0 +8.1
NWAO LR LR
comp=Z,999nm,22.0s,MS5.6
STKA Stephens Creek 162.16 201 PKP PKPdf 06 46 39.1 +1.0
comp=Z,3.7nm,1.0s,baz=6.8,slow=3.1,SNR=4.5
MBWA Marble Bar 165.11 115 PFAKE 06 46 50.0 +8.7
MBWA LR LR
comp=Z,695nm,19.0s
PMG Port Moresby 166.02 293 PFAKE 06 46 50.0 +7.7
PMG LR LR
comp=Z,207nm,21.0s
CTAO Charters Tower 167.53 246 PFAKE 06 46 50.0 +6.8
CTAO LR LR
comp=Z,942nm,21.0s
WRA Warramunga Arr 175.38 182 PKP PKPdf 06 46 47.4 +0.4
comp=Z,2.2nm,1.0s,baz=310,slow=0.3,SNR=8.9

MEX 11 06:27:50.4±0.6, 15.24N×94.17W, h38km±999km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCX	**San Cristobal**	**2.09**	**45**	*i* P	P	06 28 22.6	-1.1
SCX				*i* S	S	06 28 46.0	-2.8
CCIG	**Comitan**	**2.21**	**62**	*i* P	P	06 28 22.7	-2.7
CCIG				*i* S	S	06 28 48.8	-3.0
OXX	**Oaxaca**	**3.06**	**307**	*eP*	P	06 28 35.0	-2.6
OXX				*i* S	S	06 29 10.0	-3.5
VHO	**Vista Hermosa**	**3.07**	**307**	*i* P	P	06 28 35.6	-2.1
VHO				*i* S	S	06 29 09.4	-4.1

*IDC **11** 06:29:41.9±1.3, 17.80N×70.33W, mb4.1/5, mb1 4.5/7, mb1mx4.2/23, mbtmp4.2/7, ML5.6/1, Error ellipse: s-maj=43.8km s-min=24.5km az=138.0*
*SSNC **11** 06:29:45.3±2.5, 17.36N×70.90W, MD4.2, ML5.8*
*NEIC **11** 06:29:47.8±1.5, 17.83N×70.40W, h40km±13km, mb4.3/2, Error ellipse: s-maj=20.4km s-min=9.9km az=141.0*

ISC 11 06:29:44.2±0.4, 17.91N±0.07×70.49W±0.04, h33km, n20, σ1§16/24, mb4.1/7, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**4.14**	**87**	Pn	**Pn**	**06 30 46.5**	**-0.3**
	7.3nm,0.3s,baz=260,slow=10,SNR=15						
SJG				Sn	**Sn**	**06 31 32.5**	**-2.1**
	9.9nm,0.3s,baz=83,slow=21,SNR=3.9						
SJG	**San Juan**	**4.14**	**87**	*eP*	**P**	**06 30 46.5**	**-0.1**
MASC	**Masc**	**4.19**	**303**	*eP*	**P**	**06 30 49.5**	**+2.1**
MASC				*eS*	**S**	**06 31 37.3**	**+1.4**
	comp=N,3μm,0.9s						
	comp=E,4μm,0.6s						
CPD	**Cerro la Pandu**	**4.36**	**88**	*eP*	**P**	**06 30 49.8**	**0.0**
MOAC	**Moa**	**5.03**	**304**	*eP*	**P**	**06 30 59.2**	**-0.1**
MOAC				*eS*	**S**	**06 31 55.4**	**-1.6**
	comp=N,7μm,1.0s						
	comp=E,7μm,1.0s						
RCC	**Rio Carpintero**	**5.34**	**294**	*eP*	**P**	**06 31 03.6**	**-0.1**
RCC				*eS*	**S**	**06 32 02.6**	**-2.3**
	comp=N,102μm,1.0s						
RCC				*eS*	S		
	comp=E,106μm,0.8s						
LMGC	**Las Mercedes**	**6.52**	**290**	*eP*	**P**	**06 31 19.4**	**-0.9**
LMGC				*eS*	**S**	**06 32 28.7**	**-5.7**
	comp=N,82μm,1.0s						
	comp=E,90μm,1.3s						
LZG	**Guadaloupe-1**	**8.52**	**101**	*eP*	**P**	**06 31 48.1**	**0.0**
SDV	**Santo Domingo**	**8.97**	**181**	*eP*	**P**	**06 31 53.3**	**-1.0**
	comp=E,26nm,0.6s						
MGG	**Marie-Galante**	**9.00**	**101**	*eP*	**P**	**06 31 55.6**	**+0.9**
JTS	**JuntasAbangare**	**15.93**	**244**	Pn	**P**	**06 33 30.3**	**+2.7**
	comp=E,0.8nm,0.3s,baz=61,slow=9.1,SNR=28						
SAML	**Samuel**	**27.65**	**164**	*eP*	**P**	**06 35 32.2**	**+1.0**
CPUP	**Villa Florida**	**45.80**	**163**	*eP*	**P**	**06 38 04.1**	**-0.8**
	comp=E,5.5nm,0.5s,mb4.7						
PLCA	**Paso Flores**	**58.34**	**180**	P	**P**	**06 39 37.9**	**-0.6**
	comp=E,1.9nm,0.9s,mb4.1,baz=18,slow=12,SNR=3.7						
ESDC	**Sonseca Array**	**60.85**	**54**	P	**P**	**06 39 56.6**	**+0.8**
	comp=E,1.8nm,0.7s,mb4.3,baz=276,slow=6.8,SNR=14						
ESLA	**Sonseca Array**	**60.85**	**54**	*eP*	**P**	**06 39 56.2**	**+0.4**
	comp=E,0.6nm,0.7s,mb3.8						
TORD	**Torodi Ar. Bea**	**69.34**	**82**	P	**P**	**06 40 50.2**	**-0.7**
	comp=E,0.9nm,0.8s,mb3.7,baz=281,slow=6.1,SNR=3.8						
GERES	**GERESS Array B**	**72.96**	**43**	P	**P**	**06 41 12.3**	**+0.2**
	comp=E,1.5nm,0.9s,mb3.9,baz=284,slow=4.0,SNR=6.9						
MLR	**Muntele Rosu**	**81.83**	**45**	P	**P**	**06 42 03.8**	**+2.3**
	comp=E,1.9nm,0.6s,mb4.2,baz=270,slow=5.1,SNR=5.1						
FX1	**Attu Island--F**	**90.74**	**327**	LR	LR	07 29 36.5	
	comp=E,44nm,18.9s,baz=74,slow=40						

IDC 11 06:55:04.7±3.3, 21.72N×141.73E, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=150.5km s-min=32.4km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.03**	**190**	P	P	07 02 57.9	-1.8
	0.1nm,0.3s,baz=9.5,slow=8.5,SNR=6.4						
MKAR	**Makanchi Array**	**53.69**	**313**	P	P	07 04 28.6	-1.8
	0.1nm,0.3s,baz=88,slow=8.4,SNR=5.8						
FINES	**FINESS Array B**	**82.58**	**334**	P	P	07 07 29.1	-1.5
	1.4nm,0.9s,baz=79,slow=7.1,SNR=4.3						

NEIC 11 07:19:55.9, 58.92N×153.32W, h72km, MG3.6(AEIC), After AEIC., Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUI	**Augustine Isla**	**0.42**	**353**	P	P	07 20 07.7	-0.5
AUI				S	S	07 20 17.4	0.0
AUW	**Augustine West**	**0.45**	**350**	P	P	07 20 08.2	-0.3
SYI	**Shuyak Island**	**0.58**	**123**	P	P	07 20 09.0	-0.8
SYI				S	S	07 20 19.4	-0.6
MCNL	**McNeil River**	**0.58**	**297**	P	P	07 20 09.2	-0.7
KAPH	**Katmai Pasha**	**0.63**	**239**	P	P	07 20 09.7	-0.7
KAPH				S	S	07 20 20.7	-0.3
OPT	**Oil Point**	**0.73**	**4**	P	P	07 20 11.0	-0.5
PDB	**Pedro Bay**	**0.97**	**333**	P	P	07 20 13.4	-1.0
PDB				S	S	07 20 27.2	-1.1
XLV	**Seldovia**	**0.98**	**56**	P	P	07 20 13.8	-0.6
BGM	**Big Mountain**	**1.09**	**296**	P	P	07 20 14.6	-1.3
BGM				S	S	07 20 29.3	-1.4
IVS	**Iliamna South**	**1.10**	**6**	P	P	07 20 15.1	-0.9
IVE	**Iliamna Volcan**	**1.11**	**8**	P	P	07 20 15.0	-1.1
HOM	**Homer**	**1.13**	**49**	P	P	07 20 15.8	-0.7
ILW	**Iliamna West**	**1.14**	**5**	P	P	07 20 15.6	-0.9
KDAK	**Kodiak Island**	**1.21**	**161**	P	P	07 20 16.0	-1.5
CNPM	**China Poot**	**1.23**	**60**	P	P	07 20 16.6	-1.1
CAHL	**Cahill**	**1.36**	**231**	P	P	07 20 18.5	-1.1
RED	**Redoubt Volcan**	**1.53**	**10**	P	P	07 20 20.5	-1.3
RED				S	S	07 20 40.4	-0.5
RSO	**Redoubt South**	**1.57**	**10**	P	P	07 20 21.3	-1.1
NKA	**Nikishka**	**2.11**	**29**	P	P	07 20 30.1	+0.5
SLKM	**Skilak Lake**	**2.23**	**43**	P	P	07 20 29.4	-2.1
SEW	**Seward**	**2.30**	**57**	P	P	07 20 29.7	-2.8
CKL	**Chakachamna La**	**2.33**	**12**	P	P	07 20 31.6	-1.3
SPU	**Mount Spurr**	**2.35**	**15**	P	P	07 20 31.8	-1.4
SVW2	**Sparrevohn**	**2.46**	**333**	P	P	07 20 32.9	-1.7
STLK	**Strandline Lak**	**2.69**	**15**	P	P	07 20 36.5	-1.4
FIB	**Fire Island**	**2.75**	**34**	P	P	07 20 37.7	-1.1
RC01	**Rabbit Creek A**	**2.82**	**38**	P	P	07 20 37.7	-2.1
PMR	**Palmer**	**3.40**	**36**	P	P	07 20 44.8	-2.9
GHO	**Glory Hole Cre**	**3.60**	**36**	P	P	07 20 47.9	-2.7
HIN	**Hinchinbrook I**	**3.76**	**64**	P	P	07 20 50.1	-2.8
SML	**Sawmill**	**3.81**	**38**	P	P	07 20 50.7	-2.8
EYAK	**Cordova Ski Ar**	**4.17**	**64**	P	P	07 20 54.9	-3.6
SCM	**Sheep Creek Mo**	**4.17**	**43**	P	P	07 20 55.7	-2.9
TT01	**Tatalina**	**4.21**	**343**	P	P	07 20 56.9	-2.2
DIV	**Divide**	**4.39**	**57**	P	P	07 20 58.5	-3.1
KLU	**Klutina**	**4.50**	**52**	P	P	07 21 00.1	-3.1
TRF	**Thorofare Moun**	**4.77**	**17**	P	P	07 21 04.6	-2.4
KTH	**Kantishna Hill**	**4.79**	**13**	P	P	07 21 04.6	-2.6
BMRM	**Bremner River**	**4.84**	**61**	P	P	07 21 04.3	-3.6
RND	**Reindeer**	**4.99**	**24**	P	P	07 21 07.5	-2.5
MCK	**McKinley**	**5.27**	**22**	P	P	07 21 10.8	-2.9
GLB	**Gilahina Butte**	**5.38**	**58**	P	P	07 21 11.9	-3.3
PAX	**Paxson**	**5.58**	**40**	P	P	07 21 14.9	-3.2
THY	**Trims Highway**	**5.81**	**36**	*eP*	P	07 21 19.1	-2.1
BALM	**Baldy**	**5.91**	**64**	P	P	07 21 18.7	-3.8
YAH	**Yahtse**	**6.05**	**71**	P	P	07 21 21.3	-3.2
GCSA	**Galena City Sc**	**6.08**	**345**	P	P	07 21 21.9	-3.3
WRH	**Wood River Hil**	**6.10**	**22**	P	P	07 21 21.8	-3.5
MENT	**Mentasta**	**6.17**	**45**	P	P	07 21 23.3	-2.9
CCB	**Clear Creek Bu**	**6.31**	**22**	P	P	07 21 24.5	-3.7
COLA	**College**	**6.50**	**21**	P	P	07 21 26.8	-4.1
MDM	**Murphy Dome**	**6.51**	**19**	P	P	07 21 27.4	-3.7
IL1	**Eielson Array**	**6.61**	**25**	P	P	07 21 28.4	-4.0
IM3	**Indian Mountai**	**7.09**	**359**	P	P	07 21 34.5	-4.6
PNL	**Peninsula**	**7.17**	**78**	P	P	07 21 35.9	-4.3
IMA2	**Indian Mountai**	**7.17**	**359**	*eP*	P	07 21 37.8	-2.5
DAWY	**Dawson**	**8.41**	**46**	P	P	07 21 53.9	-3.4
BM3	**Burnt Mountain**	**9.38**	**21**	P	P	07 22 05.3	-5.2
TNA	**Tin City**	**9.50**	**321**	*eP*	P	07 22 10.2	-1.7

*MOS **11** 07:35:26.3±0.6, 52.26N×157.17E, h140km, mb3.9/2, Error ellipse: s-maj=59.0km s-min=15.1km az=51.6*
*IDC **11** 07:35:36.0±12.0, 52.41N×158.14E, h177km±77km, mb3.3/4, mb1 3.8/5, mb1mx3.2/22, mbtmp3.9/5, Error ellipse: s-maj=101.3km s-min=64.6km az=64.0*

ISC 11 07:35:29.4±1.1, 52.4N±0.1×157.7E±0.2, h144km±5km, n14, σ0§85/22, mb3.6/4, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.50**	**80**	P	**P**	**07 35 49.3**	**-1.2**
RUS				S	**S**	**07 36 05.3**	**-1.4**
PET	**Petropavlovsk**	**0.89**	**40**	P	**P**	**07 35 53.5**	**+0.7**

PET				S	S	07 36 12.4	+1.5	
PET	**Petropavlovsk**	**0.89**	**40**	*e*PN	P	07 35 53.4	+0.6	
PET				*e*S	S	07 36 12.7	+1.8	
PET				pmax	pmax			
	comp=Z,21nm,0.6s							
PET				smax				
	comp=E,114nm,0.6s							
PET				smax				
	comp=N,111nm,0.6s							
NLC	**Nalytchevo**	**1.29**	**50**	P	P	07 35 56.7	+0.1	
NLC				S	S	07 36 16.9	-0.7	
SPN	**Mys Shipunski**	**1.60**	**61**	P	P	07 36 00.5	+0.7	
SPN				S	S	07 36 23.2	-0.1	
MKZ	**Mys Kozlova**	**3.27**	**46**	P	P	07 36 21.1	+0.4	
MKZ				S	S	07 37 00.3	+0.3	
KBTR	**Krutoberegovo**	**4.89**	**36**	P	P	07 36 42.9	+0.7	
KBTR				S	S	07 37 37.0	-1.3	
FX1	**Attu Island--F**	**9.42**	**81**	P	P	07 37 44.3	+1.7	
	comp=N,1.1nm,0.3s,baz=172,slow=19,SNR=13							
FX1				S	S	07 39 26.8	-0.2	
	comp=N,4.4nm,0.3s,baz=88,slow=20,SNR=12							
ILAR	**Eielson Array**	**30.37**	**44**	P	P	07 41 28.6	-0.7	
	comp=N,1.2nm,0.7s,mb3.7,baz=265,slow=7.9,SNR=14							
ILAR	**Eielson Array**	**30.37**	**44**	P	P	07 41 28.6	-0.7	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**44.69**	**41**	P	P	07 43 28.8	0.0	
	comp=Z,0.3nm,0.4s,mb3.2,baz=301,slow=7.5,SNR=5.8							
PDAR	**Pinedale Array**	**59.16**	**59**	P	P	07 45 16.6	-0.3	
	comp=Z,1.2nm,0.7s,mb3.8,baz=318,slow=2.5,SNR=10							
TXAR	**Lajitas Array**	**72.27**	**65**	P	P	07 46 40.3	-0.2	
	comp=Z,0.7nm,0.6s,mb3.6,baz=301,slow=5.1,SNR=12							
TXAR	**Lajitas Array**	**72.27**	**65**	P	P	07 46 40.3	-0.2	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

ATH ***11*** *07:47:58.3,37.72N×20.94E,h33km±3km,MD3.6/7,ML3.7*
NEIC ***11*** *07:47:59.3,37.70N×20.94E,h5km,ML3.7(ATH),After ATH.*
CSEM ***11*** *07:47:59.6±0.3,37.70N×20.96E,h12km,ML3.7, Error ellipse: s-maj=8.4km s-min=3.8km az=50.0*
ISC 11 07:47:58.0±1.3,37.71N±0.06×21.05E±0.09,h4km±8km, n16,σ0ᵗ78/21,2C-1D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.48**	**44**	⇓*i*PN		P	**Pn**	**07 48 09.9**	**-1.3**
VLS	**Valsamata**	**0.59**	**322**	⇑*i*PN		P	**Pg**	**07 48 09.9**	**+0.1**
VLS				*e*SN		S	**Sn**	**07 48 18.6**	**-4.4**
VLS	**Valsamata**	**0.59**	**322**	⇑*i*Pg		P	**Pg**	**07 48 09.9**	**+0.1**
VLS				*e*Sb		S	**Sb**	**07 48 19.0**	**0.0**
ITM	**Ithomi**	**0.88**	**127**	*e*PN		P	**Pb**	**07 48 16.1**	**+0.6**
ITM				*e*SN		S	**Sn**	**07 48 30.0**	**-0.3**
ITM	**Ithomi**	**0.88**	**127**	*e*Pb		P	**Pb**	**07 48 16.1**	**+0.6**
ITM				*e*Sn		S	**Sn**	**07 48 31.5**	**+1.2**
MGER	**Gerania Oros**	**1.77**	**80**	*e*PB		P	**Pb**	**07 48 30.0**	**-0.8**
MGER	**Gerania Oros**	**1.77**	**80**	*e*Pn		P	**Pn**	**07 48 35.0**	**+5.3**
VLI	**Veliai**	**1.80**	**123**	*e*PB		P	**Pb**	**07 48 30.8**	**-0.5**
VLI	**Veliai**	**1.80**	**123**	*e*Pn		P	**Pn**	**07 48 35.0**	**+4.8**
ATH	**Athens Observa**	**2.13**	**82**	*e*PN		P	**Pn**	**07 48 34.3**	**-0.5**
ATH	**Athens Observa**	**2.13**	**82**	*e*Pg		P	**Pg**	**07 48 41.5**	**+1.0**
KYTH	**Kithira**	**2.14**	**131**	*e*PN		P	**Pn**	**07 48 35.0**	**0.0**
KYTH	**Kithira**	**2.14**	**131**	*e*Pb		P	**Pb**	**07 48 37.5**	**+0.4**
MPAR	**Parnis Oros**	**2.17**	**78**	*e*PN		P	**Pn**	**07 48 35.0**	**-0.4**
MPAR	**Parnis Oros**	**2.17**	**78**	*e*Pg		P	**Pg**	**07 48 41.5**	**+0.2**
BIA	**Bitola**	**3.31**	**4**	*e*Pn		P	**Pn**	**07 48 51.2**	**-0.5**
BIA				*e*Sn		S	**Sn**	**07 49 33.7**	**+1.7**

IDC ***11*** *07:58:42.7±1.7,22.61S×177.84W,h275km±16km, mb4.1/11,mb1 4.2/14,mb1mx4.1/17,mbtmp4.7/14,Error ellipse: s-maj=14.1km s-min=11.7km az=118.0*
NEIC ***11*** *07:58:42.6±1.0,22.54S×177.88W,h274km±9km,mb4.8/15, Error ellipse: s-maj=10.0km s-min=6.5km az=127.0*
ISC 11 07:58:40.5±1.2,22.74S±0.04×177.84W±0.08, h268km±12km,n136,σ1ᵗ21/66,mb4.4/23,5C-13D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.48**	**181**	P		P	**P**	**08 00 20.6**	**+5.1**
	44nm,0.3s,baz=156,slow=20,SNR=2.6								
RAO				S		S	**S**	**08 01 36.3**	**+6.3**
	426nm,0.3s,baz=290,slow=23,SNR=9.9								
AFI	**Afiamalu**	**10.50**	**34**	P		P	**P**	**08 01 05.0**	**-1.0**
	5.6nm,0.3s,baz=99,slow=5.5,SNR=7.0								
AFI				S		S	**S**	**08 02 54.0**	**-6.7**
	5.3nm,0.3s,baz=202,slow=23,SNR=8.4								
AFI	**Afiamalu**	**10.50**	**34**	*e*P		P	**P**	**08 01 04.6**	**-1.4**
DZM	**Mont Dzumac**	**14.55**	**270**	P		P	**P**	**08 02 02.0**	**+5.9**
	2.9nm,0.3s,baz=79,slow=18,SNR=56								
MXZ	**Matakaoa Point**	**15.14**	**192**	PN		P	**S**	**08 02 05.0**	**+2.0**
MXZ				SN		S	**S**	**08 04 39.3**	**-4.6**
PUZ	**Puketiti**	**15.64**	**191**	PN		P	**S**	**08 02 10.1**	**+1.3**
PUZ				SN		S	**S**	**08 04 49.4**	**-5.6**
MWZ	**Matawai**	**16.04**	**193**	PN		P	**S**	**08 02 13.7**	**+0.5**
URZ	**Urewera**	**16.06**	**194**	P		P	**S**	**08 02 13.2**	**-0.2**
	7.1nm,0.3s,baz=358,slow=2.7,SNR=43								
URZ				S		S	**S**	**08 05 05.0**	**+1.2**
	9.4nm,0.3s,baz=287,slow=23,SNR=18								
URZ	**Urewera**	**16.06**	**194**	PN		P	**S**	**08 02 12.8**	**-0.7**
KNZ	**Kokohu**	**16.67**	**192**	SN		S	**S**	**08 05 13.9**	**-2.2**
BKZ	**Black Stump Fm**	**17.07**	**195**	*e*PN		P	**S**	**08 02 21.8**	**-2.6**
BFZ	**Birch Farm**	**18.57**	**194**	PN		P	**S**	**08 02 38.3**	**-1.4**
BFZ				SN		S	**S**	**08 05 51.7**	**-1.0**
MRZ	**Mangatainoka R**	**18.71**	**196**	SN		S	**S**	**08 05 54.0**	**-1.4**
CAW	**Cannon Point**	**19.26**	**196**	PN		P	**S**	**08 02 46.7**	**0.0**
SNZO	**South Karori**	**19.55**	**197**	PN		P	**S**	**08 02 51.0**	**+1.5**
SNZO	**South Karori**	**19.55**	**197**	*e*P		P	**S**	**08 02 51.2**	**+1.7**
	31nm,0.7s								
QRZ	**Quartz Range**	**19.78**	**202**	PN		P	**S**	**08 02 53.1**	**+1.2**
NNZ	**Nelson**	**19.85**	**200**	PN		P	**S**	**08 02 50.1**	**-2.4**
TUWZ	**Tuamarina**	**19.87**	**198**	PN		P	**S**	**08 02 50.9**	**-1.9**
THZ	**Tophouse**	**20.49**	**200**	PN		P	**S**	**08 02 59.9**	**+1.0**
KHZ	**Kahutara**	**20.90**	**198**	PN		P	**S**	**08 03 03.2**	**+0.3**
LTZ	**Lake Taylor**	**21.61**	**200**	PN		P	**S**	**08 03 09.9**	**+0.1**
WVZ	**Waitaha Valley**	**22.39**	**202**	PN		P	**S**	**08 03 17.3**	**0.0**
RPZ	**Rata Peaks**	**22.84**	**201**	P		P	**S**	**08 03 21.9**	**+0.2**
	16nm,0.5s,mb4.6,baz=51,slow=2.8,SNR=11								
FOZ	**Fox Glacier**	**23.19**	**203**	PN		P	**S**	**08 03 23.1**	**-1.8**
JCZ	**Jackson Bay**	**23.97**	**204**	PN		P	**S**	**08 03 31.2**	**-1.0**
HNR	**Honiara**	**25.06**	**298**	P		P	**P**	**08 03 41.3**	**-1.2**
	23nm,0.3s,mb5.1,baz=203,slow=15,SNR=2.5								
PPT	**Papeete**	**27.01**	**84**	P		P	**P**	**08 03 58.8**	**-1.3**
	12nm,0.5s,mb4.5,baz=202,slow=8.4,SNR=3.4								
CNB	**Canberra Magne**	**31.14**	**239**	*e*P		P	**P**	**08 04 38.7**	**+2.2**
	13nm,0.5s,mb4.7								
CTAO	**Charters Tower**	**33.48**	**268**	⇓*i*P		P	**P**	**08 04 58.2**	**+1.4**
	114nm,0.6s								
TOO	**Toolangi**	**34.74**	**236**	*e*P		P	**P**	**08 05 08.4**	**+1.2**
	13nm,0.5s,mb4.7								
STKA	**Stephens Creek**	**37.00**	**247**	⇓*i*P		P	**P**	**08 05 27.5**	**+1.3**
	15nm,0.4s,mb4.8								
STKA	**Stephens Creek**	**37.00**	**247**	P		P	**P**	**08 05 27.6**	**+1.3**
	19nm,0.5s,mb4.8,baz=93,slow=11,SNR=36								
WB2	**Warramunga Arr**	**44.47**	**264**	*e*P		P	**P**	**08 06 27.1**	**-0.1**
WRA	**Warramunga Arr**	**44.48**	**264**	P		P	**P**	**08 06 27.3**	**0.0**
	14nm,0.3s,mb4.7,baz=96,slow=8.2,SNR=170								
FORT	**Forrest**	**48.58**	**248**	*e*P		P	**P**	**08 06 58.6**	**-0.4**
	183nm,0.6s								
SBA	**Scott Base**	**55.65**	**184**	*e*P		P	**P**	**08 07 54.0**	**+3.7**
	21nm,1.4s,mb4.4								
VNDA	**Vanda**	**55.70**	**185**	P		P	**P**	**08 07 53.0**	**+2.3**
	0.9nm,0.6s,mb3.4,baz=3.0,slow=8.2,SNR=6.7								
VNDA	**Vanda**	**55.70**	**185**	P		P	**P**	**08 07 53.0**	**+2.3**
KLBR	**Kellerberrin**	**57.27**	**246**	*e*P		P	**P**	**08 08 01.6**	**-0.7**
	15nm,0.5s,mb4.7								
MBWA	**Marble Bar**	**57.53**	**259**	*e*P		P	**P**	**08 08 03.2**	**-1.1**
	14nm,0.5s,mb4.6								
MUN	**Mundaring**	**58.51**	**246**	*e*P		P	**P**	**08 08 10.7**	**-0.3**
QSPA	**South Pole Qui**	**67.34**	**180**	*e*P		P	**P**	**08 09 09.9**	**+2.1**
	42nm,0.7s,mb5.3								
MJAR	**Matsushiro Arr**	**72.10**	**324**	P		P	**P**	**08 09 36.7**	**-0.8**
	3.9nm,0.6s,mb4.2,baz=152,slow=5.5,SNR=14								
UNV	**Unalaska Valle**	**76.90**	**7**	*e*P		P	**P**	**08 10 03.2**	**-1.3**
	30nm,0.6s,mb5.2								
MAW	**Mawson**	**79.52**	**200**	P		P	**P**	**08 10 19.2**	**+0.8**
	2.9nm,0.7s,mb4.1,baz=153,slow=11,SNR=4.0								
NVAR	**Mina Array Bea**	**82.55**	**43**	P		P	**P**	**08 10 35.9**	**+1.1**
	0.3nm,0.5s,baz=212,slow=7.3,SNR=4.6								
SNAA	**Sanae**	**85.78**	**178**	P		P	**P**	**08 10 48.2**	**-1.9**
SNAA				*e*				08 10 58.4	
SNAA				*e*				08 11 03.7	
SLKM	**Skilak Lake**	**85.94**	**13**	*e*P		P	**P**	**08 10 51.4**	**+0.2**
VNA2	**Neumayer--Watz**	**86.35**	**177**	⇑*i*P		P	**P**	**08 10 53.3**	**+0.4**
VNA2				*e*				08 11 03.6	
VNA2				*e*				08 11 09.1	
PLCA	**Paso Flores**	**87.63**	**133**	P		P	**P**	**08 11 01.5**	**+1.8**
	1.2nm,0.8s,mb3.8,baz=198,slow=16,SNR=3.1								
PLCA	**Paso Flores**	**87.63**	**133**	P		P	**P**	**08 11 01.5**	**+1.8**
MNTX	**Cornudas Mount**	**87.93**	**54**	*e*P		P	**P**	**08 11 02.8**	**+1.5**
	0.6nm,0.7s,mb3.5								
TNA	**Tin City**	**88.35**	**4**	*e*P		P	**P**	**08 11 02.5**	**0.0**
	1.9nm,0.7s,mb4.0								
MCK	**McKinley**	**89.12**	**12**	*e*P		P	**P**	**08 11 05.9**	**-0.3**
	6.9nm,0.8s,mb4.5								
COLA	**College**	**90.36**	**12**	*e*P		P	**P**	**08 11 11.6**	**-0.3**
	5.9nm,0.6s,mb4.6								
IMA2	**Indian Mountai**	**90.42**	**10**	*e*P		P	**P**	**08 11 12.3**	**+0.1**
ILAR	**Eielson Array**	**90.46**	**13**	P		P	**P**	**08 11 11.8**	**-0.5**
	2.8nm,0.6s,mb4.3,baz=218,slow=5.3,SNR=87								
PDAR	**Pinedale Array**	**90.49**	**43**	P		P	**P**	**08 11 13.9**	**+0.9**
	0.5nm,0.7s,mb3.5,baz=198,slow=4.7,SNR=4.5								
INK	**Inuvik**	**96.39**	**15**	*e*P		P	**P**	**08 11 39.1**	**-0.4**
	1.0nm,0.7s,mb4.0								
ZAL	**Zalesovo**	**112.33**	**321**	PKiKP				08 16 43.7	
	0.9nm,0.6s,baz=68,slow=1.2,SNR=5.3								
ZAL	**Zalesovo**	**112.33**	**321**	PKPdf		PKPdf		08 16 43.7	-0.3
MKAR	**Makanchi Array**	**112.83**	**313**	PKiKP				08 16 45.1	
	1.1nm,0.4s,baz=196,slow=0.8,SNR=36								
BVAR	**Borovoye Array**	**120.87**	**319**	PKP		PKPdf		08 17 00.8	+0.1
	4.8nm,0.8s,baz=131,slow=1.2,SNR=39								
AKTK	**Aktyubinsk**	**128.82**	**317**	PKP		PKPdf		08 17 17.0	+0.9
AKTO	**Aktyubinsk**	**128.82**	**317**	PKP		PKPdf		08 17 17.0	+0.9
	2.4nm,0.6s,baz=82,slow=4.8,SNR=12								
ARCES	**ARCESS Array B**	**131.14**	**349**	PKP		PKPdf		08 17 20.2	+0.2
	7.6nm,0.6s,baz=19,slow=1.2,SNR=44								
JOF	**Joensuu**	**135.30**	**342**	*e*pkp		PKPdf		08 17 28.0	+0.2
KAF	**Kangasniemi**	**137.34**	**344**	*e*pkp		PKPdf		08 17 32.0	+0.4
	baz=14,slow=1.7								
FINES	**FINESS Array B**	**137.95**	**343**	PKhKP				08 17 21.8	
	0.6nm,0.5s,baz=45,slow=2.7,SNR=4.8								
FINES				PKP		PKPdf		08 17 35.0	+2.3
	3.9nm,0.8s,baz=55,slow=3.6,SNR=11								
FINES	**FINESS Array B**	**137.95**	**343**	PKP		PKPdf		08 17 21.8	-11
FINES				PKP		PKPdf		08 17 35.0	+2.3
NB2	**NORSAR Subarra**	**141.22**	**353**	PKPabc		PKPdf		08 17 32.9	-5.6
	2.2nm,0.5s,baz=16,slow=3.8								
NOA	**NORSAR Array B**	**141.22**	**353**	PKhKP				08 17 32.1	
	1.2nm,0.6s,baz=26,slow=3.9,SNR=4.5								
NOA				PKP		PKPdf		08 17 41.5	+2.9
	1.8nm,0.5s,baz=14,slow=4.1,SNR=7.9								
HFS	**Hagfors**	**141.77**	**351**	PKhKP				08 17 34.6	
	3.1nm,0.4s,baz=72,slow=4.7,SNR=35								
HFS				PKP		PKPdf		08 17 39.6	+0.1
	3.1nm,0.6s,baz=108,slow=4.7,SNR=5.2								
AKASG	**Malin Array Be**	**145.03**	**330**	PKP		PKPdf		08 17 45.4	0.0
	8.8nm,0.4s,baz=43,slow=4.1,SNR=38								
AKASG	**Malin Array Be**	**145.03**	**330**	PKP		PKPdf		08 17 45.4	0.0
EKA	**Eskdalemuir Ar**	**147.21**	**6**	PKPbc		PKPdf		08 17 52.5	+3.4
	14nm,0.7s,baz=343,slow=2.8,SNR=26								
BSEG	**Bad Segeberg**	**148.25**	**351**	*e*PKPbc		PKPdf		08 17 55.9	+5.2
BR131	**Keskin Array S**	**148.42**	**310**	*e*PKPbc		PKPdf		08 17 56.0	+4.6
BRTR	**Keskin Array B**	**148.42**	**310**	PKPbc		PKPdf		08 17 56.0	+4.5
	4.8nm,0.6s,baz=138,slow=4.7,SNR=17								
DCN	**Croghan**	**148.61**	**11**	*e*P		PKPdf		08 17 56.0	+4.7
KWP	**Kalwaria**	**148.66**	**334**	*e*PKPbc		PKPdf		08 17 56.7	+5.2
DLF	**Lyons Farm**	**148.78**	**10**	*e*P		PKPdf		08 17 56.0	+4.4
ANTO	**Ankara**	**148.96**	**310**	⇓P		PKPdf		08 17 58.0	+5.7
BURAR	**Bucovina Array**	**149.06**	**329**	⇓P		PKPdf		08 17 58.9	+6.7
BURAR	**Bucovina Array**	**149.06**	**329**	⇓P		PKPdf		08 17 58.9	+6.7
OJC	**Ojcow**	**149.29**	**338**	*e*PKP		PKPdf		08 17 58.4	+6.0
KOLS	**Kolonicke sedl**	**149.39**	**334**	*e*PKP		PKPdf		08 17 59.1	+6.5
STHS	**Stebnicka Huta**	**149.41**	**335**	*e*PKP		PKPdf		08 17 59.5	+6.9
VRI	**Vrincioaia**	**149.50**	**325**	⇓P		PKPdf		08 17 59.2	+6.3
VRI	**Vrincioaia**	**149.50**	**325**	⇓P		PKPdf		08 17 59.2	+6.3
CRVS	**Cervenica-Dubn**	**149.74**	**334**	*e*PKP		PKPdf		08 17 59.7	+6.5
NIE	**Niedzica**	**149.76**	**336**	*e*PKP		PKPdf		08 18 00.3	+7.1
KSP	**Ksiaz**	**149.86**	**342**	*e*PKP		PKPdf		08 18 00.0	+6.7
MLR	**Muntele Rosu**	**150.16**	**325**	PKPbc		PKPdf		08 18 00.5	+6.6
	7.4nm,0.7s,baz=254,slow=5.3,SNR=11								
OKC	**Ostrava-Krasne**	**150.18**	**339**	*e*PKPdf		PKPdf		08 18 00.8	+7.0
UPC	**Upice**	**150.24**	**342**	*e*PKPdf		PKPdf		08 18 01.1	+7.2
CLZ	**Clausthal**	**150.27**	**350**	*e*PKPbc		PKPdf		08 18 01.1	+7.3
CLL	**Collm**	**150.27**	**346**	⇓*i*PKP1		PKPdf		08 18 00.8	+6.9
CLL				*i* PKP2		PKPab		08 18 07.3	-1.6
DPC	**Dobruska-Polom**	**150.29**	**342**	*e*PKPdf		PKPdf		08 18 01.3	+7.4
MORC	**Moravsky Berou**	**150.43**	**340**	⇑P		PKPdf		08 18 01.6	+7.4
BRG	**Berggiesshubel**	**150.46**	**345**	⇓*i*PKP		PKPdf		08 18 01.3	+7.1
KECS	**Kecovo**	**150.46**	**335**	*e*PKP		PKPdf		08 18 01.4	+7.1
WTSB	**Winterswijk**	**150.61**	**354**	⇓*i*P		PKPdf		08 18 01.5	+7.1
	45nm,0.8s								
PVCC	**Panska Ves**	**150.62**	**344**	*e*PKPdf		PKPdf		08 18 01.9	+7.5
DRGR		**150.84**	**330**	⇓P		PKPdf		08 18 00.8	+5.9
DRGR		**150.84**	**330**	⇓P		PKPdf		08 18 00.8	+5.9
VYHS	**Vyhne**	**151.08**	**337**	*e*PKP		PKPdf		08 18 02.8	+7.6
PRU	**Pruhonice**	**151.12**	**343**	*e*PKPdf		PKPdf		08 18 02.8	+7.6
VRAC	**Vranov**	**151.14**	**340**	PKPbc		PKPdf		08 18 03.2	+7.9
	5.4nm,0.7s,baz=28,slow=2.0,SNR=7.8								
MOX	**Moxa**	**151.19**	**347**	*e*PKP		PKPdf		08 18 02.8	+7.5
NKC	**Novy Kostel**	**151.40**	**346**	*e*PKPdf		PKPdf		08 18 03.7	+8.1
TREC	**Trest**	**151.48**	**342**	*e*PKPdf		PKPdf		08 18 03.6	+7.8
HGN	**Heimansgroeve**	**151.88**	**355**	⇑*e*P		PKPdf		08 18 04.6	+8.3
	13nm,0.8s								
TNS	**Taunus Mts**	**152.13**	**351**	*e*PKPbc		PKPdf		08 18 05.4	+8.7
KHC	**Kasperske Hory**	**152.16**	**344**	*e*PKPdf		PKPdf		08 18 05.3	+8.5
KHC				ex				08 18 16.0	x
GRA1	**Grafenberg Arr**	**152.17**	**347**	*e*PKPbc		PKPdf		08 18 05.1	+8.3
BZS	**Buzias**	**152.22**	**330**	⇑P		PKPdf		08 18 05.3	+8.3
BZS	**Buzias**	**152.22**	**330**	⇑P		PKPdf		08 18 05.3	+8.4
GEC2	**GERESS Array S**	**152.39**	**343**	*e*PKPbc		PKPdf		08 18 05.8	+8.7
GERES	**GERESS Array B**	**152.39**	**343**	PKP		PKPdf		08 17 58.4	+1.3
	3.4nm,0.6s,baz=333,slow=2.2,SNR=3.8								
GERES				PKPbc		PKPdf		08 18 05.6	+8.5
	4.0nm,0.7s,baz=30,slow=2.1,SNR=30								
GERES				PKPab		PKPab		08 18 16.6	-1.3
	0.6nm,0.6s,baz=45,slow=3.8,SNR=4.2								
GIVF	**Givet**	**152.61**	**356**	*e*PKP1		PKPdf		08 18 06.2	+8.8
	32nm,0.8s								
FUR	**Furstenfeldbru**	**153.61**	**346**	*e*PKPbc		PKPdf		08 18 08.4	+10
FUR				*e*PKPab		PKPab		08 18 22.2	-0.8
FLN	**La Foliniere**	**153.95**	**4**	*e*PKP1		PKPdf		08 18 08.6	+9.3
BFO	**Black Forest**	**154.00**	**351**	*e*PKPbc		PKPdf		08 18 09.2	+10
CDF	**Champ du Feu**	**154.06**	**352**	*e*PKP1		PKPdf		08 18 09.3	+10
	5.2nm,0.6s								
LDF	**La Druitiere**	**154.14**	**3**	*e*PKP1		PKPdf		08 18 08.9	+9.4
	6.2nm,0.7s								
MEZF	**Maizieres J'vi**	**154.19**	**356**	*e*PKP1		PKPdf		08 18 09.8	+10
GRR	**Gorron**	**154.30**	**5**	*e*PKP1		PKPdf		08 18 09.6	+10
HAU	**Haudompre**	**154.57**	**353**	*e*PKP1		PKPdf		08 18 10.0	+10
HINF	**Hinteralfeld**	**154.70**	**353**	*e*PKP1		PKPdf		08 18 10.1	+10
	4.0nm,0.7s								
DAVOX	**Davos**	**155.22**	**347**	PKPbc		PKPdf		08 18 12.1	+11
	3.4nm,0.5s,baz=278,slow=1.9,SNR=9.0								
DAVOX				PKPab		PKPab		08 18 29.9	0.0
	2.3nm,0.7s,baz=5.2,slow=3.9,SNR=3.8								
CABF	**La Chapelle**	**155.98**	**353**	*e*PKP1		PKPdf		08 18 14.3	+12
	4.5nm,0.6s								
AVF	**Avril sur Loir**	**155.99**	**358**	*e*PKP1		PKPdf		08 18 15.1	+13
MBDF	**Montbardon**	**157.75**	**351**	*e*PKP1		PKPdf		08 18 19.9	+15
TORD	**Torodi Ar. Bea**	**170.45**	**177**	PKP		PKPdf		08 18 17.1	+0.7
	1.2nm,0.8s,baz=298,slow=0.9,SNR=6.2								
TORD				PKPab		PKPab		08 19 35.9	-1.0
	1.3nm,0.7s,baz=166,slow=4.4,SNR=6.7								

IDC ***11*** *08:11:47.9±0.9,7.96S×128.84E,mb4.0/5,mb1 4.2/6, mb1mx4.0/13,mbtmp4.0/6,ML4.1/1,MS4.0/2,Ms1 4.0/2, ms1mx3.2/21,Error ellipse: s-maj=49.9km s-min=20.4km az=66.0*
NEIC ***11*** *08:11:51.7±0.5,8.03S×128.79E,h25km,mb4.3/2,Error ellipse: s-maj=14.1km s-min=10.3km az=87.0*
ISC 11 08:11:50.1±0.8,8.26S±0.07×128.9E±0.1,h33km,n15, σ1ᵗ76/15,mb3.8/4,MS3.8/2,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.28**	**198**	Pn		P	**P**	**08 14 20.1**	**+1.7**
	1.1nm,0.3s,baz=30,slow=12,SNR=33								
FITZ				Sn		S	**S**	**08 16 11.9**	**-1.8**
	2.2nm,0.3s,baz=251,slow=23,SNR=5.2								
WRA	**Warramunga Arr**	**12.76**	**156**	Pn		P	**P**	**08 14 50.1**	**-1.9**
	1.7nm,0.3s,baz=347,slow=12,SNR=38								
WRA				Sn		S	**S**	**08 17 06.8**	**-7.0**
	1.8nm,0.3s,baz=337,slow=22,SNR=17								
WB2	**Warramunga Arr**	**12.77**	**156**	*e*P		P	**P**	**08 14 50.3**	**-1.8**
WB2				*e*S		S	**S**	**08 17 07.0**	**-6.9**
MBWA	**Marble Bar**	**15.57**	**214**	*e*P		P	**P**	**08 15 31.2**	**+2.3**
	11nm,0.8s								
CTA	**Charters Tower**	**20.51**	**127**	P		P	**P**	**08 16 30.4**	**+2.2**
	9.6nm,0.8s,baz=299,slow=13,SNR=6.9								
CTA				LR		LR		08 24 30.7	
	comp=Z,412nm,19.9s,MS3.8,baz=234,slow=37								
CTAO	**Charters Tower**	**20.51**	**127**	*e*P		P	**P**	**08 16 30.1**	**+1.9**
	21nm,1.1s								
STKA	**Stephens Creek**	**26.31**	**155**	*e*P		P	**P**	**08 17 27.8**	**+3.1**
	7.0nm,1.1s,mb4.1								
STKA	**Stephens Creek**	**26.31**	**155**	P		P	**P**	**08 17 27.7**	**+2.9**
	3.7nm,0.8s,mb4.0,baz=322,slow=8.7,SNR=8.0								
STKA				LR		LR		08 28 42.2	
	comp=Z,335nm,19.5s,MS3.9,baz=122,slow=38								
SONM	**Songino Array**	**59.29**	**343**	P		P	**P**	**08 21 49.8**	**-1.2**
	0.3nm,0.5s,mb3.6,baz=158,slow=7.8,SNR=2.8								
MKAR	**Makanchi Array**	**68.68**	**328**	P		P	**P**	**08 22 51.3**	**-1.0**
	0.6nm,0.5s,mb3.8,baz=118,slow=7.7,SNR=14								
VNDA	**Vanda**	**71.34**	**173**	*e*P		P	**P**	**08 23 10.8**	**+2.7**
ILAR	**Eielson Array**	**94.95**	**25**	P		P	**P**	**08 25 09.7**	**-0.3**
	0.3nm,0.8s,mb3.8,baz=281,slow=4.6,SNR=3.6								
TXAR	**Lajitas Array**	**126.52**	**60**	PKP		PKPdf		08 30 54.

comp=E,2.0nm,0.8s
YAK Yakutsk 18.42 343 *e*P **P** 08 29 21.6 -1.8
comp=E,38nm,0.6s
SEY Seymchan 19.28 16⇑ *e*P **P** 08 29 30.6 -1.4
JOW Kunigami 20.65 214 P **P** 08 29 45.3 -0.5
comp=E,18nm,0.7s,baz=335,slow=13,SNR=5.2
SSE Sheshan 20.68 235 *e*P **P** 08 29 50.6 +4.5
SSE AMB AMB
comp=Z,30nm,0.6s
SSE AMB AMB
comp=Z,400nm,4.5s
BOD Bodaibo 21.07 318 *e*P **P** 08 29 47.7 -2.0
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb3.6
NJ2 Nanjing 21.41 241 *e*P **P** 08 29 57.8 +4.6
NJ2 S **S** 08 33 32.0 +3.1
NJ2 PCP PcP 08 33 49.0 +1.7
NJ2 SCP 08 36 56.0
NJ2 PCS 08 37 27.0
NJ2 AMB AMB
comp=Z,270nm,4.1s
NJ2 LR LR
comp=N,600nm,12.8s
NJ2 LR LR
comp=E,950nm,14.9s
NJ2 LR LR
comp=Z,410nm,19.1s
ULN Ulaanbaatar 23.46 290*d i*P **P** 08 30 14.3 +1.7
ULN Ulaanbaatar 23.46 290 *e*P **P** 08 30 12.7 +0.2
comp=Z,4.9nm,0.5s,mb4.1
SONM Songino Array 23.90 290 P **P** 08 30 17.1 +0.4
comp=Z,10nm,0.6s,mb4.3,baz=83,slow=8.9,SNR=42
ZAK Zakamensk 25.77 296 *e*P **P** 08 30 33.8 +0.1
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
TIXI Tiksi 27.50 352⇓ *i*P **P** 08 30 46.3 -2.9
TIXI pmax pmax
comp=Z,5.0nm,1.4s,mb3.8
TNA Tin City 34.44 35 *e*P **P** 08 31 48.0 -1.5
comp=Z,1.9nm,0.8s,mb3.7
ZAL Zalesovo 36.75 305 P **P** 08 32 08.0 -1.1
comp=Z,3.8nm,0.5s,mb4.1,baz=20,slow=9.0,SNR=21
WMQ Urumqi 37.52 288 *e*P **P** 08 32 16.5 +0.9
WMQ AP pP 08 33 11.0 0.0
WMQ XP sP 08 33 41.5 -0.7
WMQ AMB AMB
comp=Z,20nm,5.0s
MKAR Makanchi Array 40.09 294 P **P** 08 32 37.3 +0.7
comp=Z,6.8nm,0.6s,mb4.1,baz=82,slow=9.8,SNR=55
IMA2 Indian Mountai 40.31 35 *e*P **P** 08 32 37.2 -1.1
KDAK Kodiak Island 41.80 47 P **P** 08 32 50.2 -0.2
comp=Z,4.5nm,0.5s,mb4.0,baz=108,slow=21,SNR=6.9
KDAK Kodiak Island 41.80 47 P **P** 08 32 50.2 -0.2
MCK McKinley 42.53 38 *e*P **P** 08 32 56.1 -0.1
MCK pmax pmax
comp=Z,1.0nm,0.4s,mb3.4
MCK McKinley 42.53 38 *e*P **P** 08 32 56.1 -0.1
comp=Z,0.8nm,0.4s,mb3.3
COLA College 42.84 36⇑ *e*P **P** 08 32 58.5 -0.1
COLA *i* *PP pP 08 33 55.7 +0.5
COLA College 42.84 36 *e*P **P** 08 32 58.1 -0.6
comp=Z,4.1nm,0.6s,mb3.8
ILAR Eielson Array 43.26 37 P **P** 08 33 01.9 -0.1
comp=Z,2.8nm,0.6s,mb3.6,baz=282,slow=8.2,SNR=59
ILAR pP pP 08 33 58.1 -0.6
comp=Z,0.6nm,0.6s,baz=280,slow=8.8,SNR=4.7
JIRN Jiri 46.46 268 *e*P **P** 08 33 28.8 +1.0
comp=Z,8.9nm,0.4s,mb4.5
GUN Gumba 46.53 268 *e*P **P** 08 33 28.0 -0.3
comp=Z,16nm,0.4s,mb4.7
AAK Ala-Archa 46.82 292⇑ *e*P **P** 08 33 31.2 +0.8
AAK pmax pmax
comp=Z,7.0nm,1.7s,mb3.7
KKN Kakani 47.03 268 *e*P **P** 08 33 33.1 +0.9
PKI Pulchoki 47.07 268 *e*P **P** 08 33 33.1 +0.6
DMN Daman 47.26 268 *e*P **P** 08 33 34.6 +0.6
GKN Gorkha 47.36 269 *e*P **P** 08 33 34.9 +0.1
comp=Z,19nm,0.4s,mb4.8
INK Inuvik 47.70 30 P **P** 08 33 36.1 -0.7
comp=Z,1.9nm,0.3s,mb3.9,baz=307,slow=7.0,SNR=44
INK Inuvik 47.70 30 P **P** 08 33 36.1 -0.8
INK pmax pmax
comp=Z,2.0nm,0.3s
INK Inuvik 47.70 30 *e*P **P** 08 33 35.9 -1.0
comp=Z,3.4nm,0.5s,mb3.9
KOLN Koldanda 48.23 269 *e*P **P** 08 33 40.9 -0.6
comp=Z,7.8nm,0.3s,mb4.5
ARU Arti 50.44 314⇑ *i*P **P** 08 33 56.0 -1.6
ARU *e* 08 35 51.9
ARU *e*S **S** **08 40 46.0 -2.9**
ARU *e*SS SS 08 44 22.9 -2.2
ARU pmax pmax
comp=Z,6.0nm,1.3s,mb3.8
ARCES ARCESS Array B 66.59 338 P **P** 08 34 43.8 +1.7
comp=Z,8.4nm,1.1s,mb4.1,baz=52,slow=7.4,SNR=13
YKA Yellowknife Ar 57.32 32 P **P** 08 34 46.9 -0.3
comp=Z,1.2nm,0.6s,mb3.5,baz=307,slow=6.6,SNR=25
JOF Joensuu 58.96 330 *ep* **P** 08 34 57.3 -1.3
comp=Z,0.8nm,0.4s,mb3.5
KAF Kangasniemi 61.25 331 *ep* **P** 08 35 13.9 -0.2
comp=Z,1.9nm,0.4s,mb4.0,baz=43,slow=6.0
KAF Kangasniemi 61.25 331 *e*P **P** 08 35 13.9 -0.2
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
FINES FINESS Array B 61.78 330 P **P** 08 35 16.1 -1.6
comp=Z,2.1nm,0.3s,mb4.2,baz=53,slow=7.8,SNR=42
VOR Voronezh 62.58 317 *e*P **P** 08 35 20.0 -3.0
VOR pmax pmax
comp=Z,100nm,2.0s,mb5.1
WRA Warramunga Arr 64.75 187 P **P** 08 35 36.7 -0.8
comp=Z,3.1nm,0.6s,mb4.1,baz=2.6,slow=6.7,SNR=4.7
KIV Kislovodsk 65.64 308 *e*P **P** 08 35 44.8 +2.1
KIV pmax pmax
comp=Z,13nm,0.6s,mb4.8
NB2 NORSAR Subarra 66.87 336 P **P** 08 35 49.1 -1.0
comp=Z,1.1nm,0.5s,mb3.8,baz=34,slow=6.5
NOA NORSAR Array B 66.87 336 P **P** 08 35 49.2 -1.0
comp=Z,1.0nm,0.5s,mb3.8,baz=36,slow=6.7,SNR=3.9
AKASG Malin Array Be 67.96 320 P **P** 08 35 56.8 -0.4
comp=Z,2.8nm,0.4s,mb4.3,baz=42,slow=6.4,SNR=19
HRY Holter Researc 68.60 45 *e*P **P** 08 36 02.1 +1.1
HLID Hailey 69.41 49 *e*P **P** 08 36 03.3 -2.7
comp=Z,0.9nm,0.6s,mb3.7
NVAR Mina Array Bea 70.69 55 P **P** 08 36 15.4 +1.4
comp=Z,1.1nm,0.6s,mb3.7,baz=312,slow=4.7,SNR=20
OJC Ojcow 72.39 325 *e*P **P** 08 36 24.4 +0.5
STHS Stebnicka Huta 72.41 323 *i*P **P** 08 36 25.2 +1.2
PDAR Pinedale Array 72.51 47 P **P** 08 36 25.6 +0.9
comp=Z,3.8nm,0.6s,mb4.2,baz=302,slow=1.8,SNR=42
CRVS Cervenica-Dubn 72.71 323 *e*P **P** 08 36 26.3 +0.6
TPNV Topopah Spring 72.89 55 *e*P **P** 08 36 27.5 +0.5
TPNV pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
TPNV Topopah Spring 72.89 55 *e*P **P** 08 36 27.5 +0.4
comp=Z,1.7nm,0.7s,mb3.8
ULM Lac du Bonnet 73.21 34 P **P** 08 36 28.6 0.0
comp=Z,2.2nm,0.4s,mb4.1,baz=320,slow=7.3,SNR=14
BRTR Keskin Array B 73.48 310 P **P** 08 36 32.5 +2.1
comp=Z,2.1nm,0.5s,mb4.0,baz=68,slow=4.0,SNR=8.0
DPC Dobruska-Polom 73.69 327 *e*P **P** 08 36 32.5 +1.1
CLL Collm 74.17 329 P **P** 08 36 33.0 -1.1
comp=Z,logA/T=0.8,mb4.2
CLL Collm 74.17 329 *i*P **P** 08 36 33.0 -1.1
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
CLL Collm 74.17 329 *i*P **P** 08 36 33.0 -1.1
comp=Z,7.0nm,1.0s,mb4.2
PRU Pruhonice 74.66 327 *e*P **P** 08 36 40.5 +3.5
EKA Eskdalemuir Ar 75.66 340 P **P** 08 36 42.7 +0.2
comp=Z,0.6nm,0.5s,mb3.5,baz=26,slow=5.7,SNR=6.4
KHC Kasperske Hory 75.73 327 *e*P **P** 08 36 44.1 +1.1
KHC *ex* x 08 36 46.8
GERES GERESS Array B 75.91 327 P **P** 08 36 44.8 +0.8
comp=Z,1.1nm,0.6s,mb3.6,baz=40,slow=5.1,SNR=9.5
STKA Stephens Creek 76.36 179 P **P** 08 36 46.5 -0.4
comp=Z,2.1nm,0.6s,mb3.9,baz=11,slow=4.8,SNR=3.8
PV01 Paradox Valley 76.37 49 *e*P **P** 08 36 48.0 +1.3
ANMO Albuquerque 79.86 50⇓ *i*P **P** 08 37 07.5 +1.8
TXAR Lajitas Array 85.64 52 P **P** 08 37 36.8 +1.6
comp=Z,0.7nm,0.4s,mb3.8,baz=290,slow=3.8,SNR=20
ESDC Sonseca Array 90.12 334 P **P** 08 37 58.8 +2.6
comp=Z,0.4nm,0.5s,mb3.5,baz=12,slow=3.3,SNR=4.0
VNDA Vanda 122.78 175 PKP PKPdf 08 43 49.7 +1.1
comp=Z,0.4nm,0.6s,baz=356,slow=4.1,SNR=5.8
NVL N'lazarevskaya 144.27 206 *e*PKIKP PKPdf 08 44 28.8 +0.7
NVL pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 148.02 201 *e* PKPdf 08 44 43.2 +8.8
SNAA Sanae 148.02 201 *e* PKPdf 08 44 46.4 +12
SNAA Sanae 148.02 201 PKPbc PKPdf 08 44 39.5 +5.1
comp=Z,1.0nm,0.8s,baz=162,slow=3.9,SNR=12
SNAA Sanae 148.02 201 PKPdf PKPdf 08 44 39.2 +4.8
SNAA *e* 08 44 43.2
SNAA *e* 08 44 46.4
VNA2 Neumayer--Watz 149.63 200 *e* PKPdf 08 44 47.9 +11
VNA2 Neumayer--Watz 149.63 200 *e* PKPdf 08 44 50.7 +14
VNA2 Neumayer--Watz 149.63 200 *e* PKPdf 08 44 55.0 +18
VNA2 Neumayer--Watz 149.63 200⇓ PKPdf PKPdf 08 44 44.0 +7.1
VNA2 *e* 08 44 47.9
VNA2 *e* 08 44 50.7
VNA2 *e* 08 44 55.0
BDFB Brasilia 149.92 17 PKPbc PKPdf 08 44 44.9 +6.0
comp=Z,5.6nm,1.0s,baz=232,slow=5.6,SNR=4.2
VNA3 Neumayer Olymp 149.94 198 *e* PKPdf 08 44 41.2 +3.8
VNA3 Neumayer Olymp 149.94 198 *e* PKPdf 08 44 44.2 +6.8
VNA3 Neumayer Olymp 149.94 198 *e* PKPdf 08 44 48.6 +11
VNA3 Neumayer Olymp 149.94 198 PKPdf PKPdf 08 44 37.0 -0.4
VNA3 *e* 08 44 41.2
VNA3 *e* 08 44 44.2
VNA3 *e* 08 44 48.6

ATH **11** *08:28:50.3,38.13N×26.62E,h33km±8km, MD3.4/3*
ISK **11** *08:28:50.4,38.15N×26.67E,h14km, MD3.3*
CSEM **11** *08:28:50.3±0.1,38.16N×26.66E,h12km,MD3.3, Error ellipse: s-maj=2.4km s-min=1.7km az=65.0*
ISC 11 08:28:50.4±1.2, 38.16N±0.03×26.63E±0.07, h9km±7km, n20,σ0§65/26, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.39**	**56**	*i* PG	**Pg**	**08 28 58.3**	**-0.1**
BLCB				*i* SG	**Sg**	**08 29 03.9**	**+0.2**
SMG	**Samos**	**0.48**	**160**⇑	*i* PB	**Pb**	**08 29 00.7**	**+0.1**
SMG				*e*SB	**Sb**	**08 29 08.0**	**+0.6**
IZM	**Izmir**	**0.55**	**65**	*i* PG	**Pg**	**08 29 01.3**	**-0.2**
IZM				*i* SG	**Sg**	**08 29 09.6**	**+0.7**
PRK	**Paraskevi**	**1.12**	**346**⇓	*i* PN	**Pn**	**08 29 11.8**	**-0.3**
PRK				*e*SN	**Sn**	**08 29 27.1**	**-0.5**
AKS	**Akhisar**	**1.17**	**52**	*i* PN	**Pn**	**08 29 12.2**	**-0.7**
AKS				*i* SN	**Sn**	**08 29 29.0**	**0.0**
BODT	**Bodrum**	**1.23**	**154**	PN	**Pn**	**08 29 12.5**	**-1.2**
MLSB	**Milas**	**1.26**	**133**	PN	**Pn**	**08 29 14.5**	**+0.4**
APE	**Apeiranthos**	**1.40**	**219**⇑	*i*Pn	**Pn**	**08 29 15.1**	**-1.0**
APE				*e*Sn	**Sn**	**08 29 37.3**	**+2.5**
DAT	**Datca**	**1.62**	**152**	PN	**Pn**	**08 29 18.6**	**-0.7**
YER	**Yerkesik**	**1.67**	**128**	*e*PN	**Pn**	**08 29 20.1**	**+0.1**
EZN	**Ezine**	**1.68**	**352**	*e*PN	**Pn**	**08 29 20.6**	**+0.5**
BALB	**Balikesir**	**1.77**	**33**	*e*PN	**Pn**	**08 29 21.6**	**+0.2**
DENT	**Denizli**	**1.94**	**101**	*e*PN	**Pn**	**08 29 23.1**	**-0.8**
DALT	**Dalyan (Mudla)**	**2.12**	**130**	*e*PN	**Pn**	**08 29 26.2**	**-0.2**
DST	**Dursunbey**	**2.12**	**47**	*e*PN	**Pn**	**08 29 27.1**	**+0.6**
LPK	**Lapseki**	**2.21**	**3**	*e*PN	**Pn**	**08 29 27.6**	**-0.1**
KHL	**Karahalli**	**2.28**	**85**	*e*PN	**Pn**	**08 29 29.0**	**+0.2**
EDC	**Edincik**	**2.38**	**23**	*e*PN	**Pn**	**08 29 30.9**	**+0.7**
FETY	**Fethiye**	**2.48**	**127**	*e*PN	**Pn**	**08 29 31.2**	**-0.4**
YLV	**Yalova**	**3.21**	**41**	*e*PN	**Pn**	**08 29 42.1**	**+0.2**

JMA 11 08:37:40.6±0.1, 28.68N×129.65E, h21km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.27**	**188**	P	Pb	08 37 46.7	-0.2
JAM				S	Sb	08 37 50.9	-0.2
JZK	**Kikaishima**	**0.46**	**142**	P	Pb	08 37 49.7	-0.3
JZK				S	Sb	08 37 56.7	+0.3
JTK	**Tokunoshima**	**1.08**	**215**	P	Pb	08 38 00.4	-0.1
JTK				S	Sb	08 38 15.0	+0.7
JNN	**Nakanoshima**	**1.17**	**10**	P	Pn	08 38 01.4	-0.6
JNN				S	Sb	08 38 17.0	+0.2
JKC	**Kuchinoerabu**	**1.84**	**15**	P	Pn	08 38 10.8	-0.7
JTSR	**Tashiro 2**	**2.71**	**24**	S	Sn	08 38 55.7	-0.8
JTZ	**Takazaki**	**3.44**	**21**	P	Pn	08 38 35.8	+1.4
JZO	**Okuchi**	**3.54**	**13**	P	Pn	08 38 37.6	+1.8

NEIC **11** *08:39:50.2,37.55N×20.93E,h5km,ML3.7(ATH),After ATH.*
CSEM **11** *08:39:50.2,37.55N×20.93E,h5km,MD3.5/9,After ATH*
ATH 11 08:39:50.9,37.59N×20.91E,h10km±2km, MD3.4/9, ML3.7, 2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.64**	**337**⇓	*i* PG	Pg	08 40 02.7	-1.1
VLS				*e*SB	Sb	08 40 12.8	+0.4
RLS	**Riolos of Patr**	**0.64**	**43**⇓	*i* PB	Pb	08 40 02.7	-1.0
RLS				*e*SB	Sb	08 40 12.3	-0.2
ITM	**Ithomi**	**0.91**	**117**	*e*PB	Pb	08 40 08.4	+0.1
ITM	**Ithomi**	**0.91**	**117**	*e*Pb	Pb	08 40 05.5	-2.8
EVR	**Evrytania**	**1.50**	**28**	*e*PB	Pb	08 40 20.0	+1.6
EVR	**Evrytania**	**1.50**	**28**	*e*Pg	Pg	08 40 18.5	-2.4
MGER	**Gerania Oros**	**1.90**	**77**	*e*PN	Pn	08 40 25.5	+1.7
JAN	**Janina**	**2.06**	**359**	*e*PN	Pn	08 40 27.8	+1.7
JAN	**Janina**	**2.06**	**359**	*e*Pg	Pg	08 40 31.0	-1.1
KYTH	**Kithira**	**2.15**	**127**	*e*PN	Pn	08 40 29.3	+2.0
KYTH	**Kithira**	**2.15**	**127**	*e*Pg	Pg	08 40 30.0	-3.8
ATH	**Athens Observa**	**2.26**	**79**	*e*PN	Pn	08 40 30.2	+1.4
ATH	**Athens Observa**	**2.26**	**79**	*e*Pg	Pg	08 40 32.0	-4.0
MPAR	**Parnis Oros**	**2.31**	**75**	*e*PN	Pn	08 40 31.0	+1.4
MPAR	**Parnis Oros**	**2.31**	**75**	*e*Pg	Pg	08 40 34.5	-2.5
PTL	**Penteli**	**2.38**	**78**	*e*PN	Pn	08 40 32.5	+1.8

BJI **11** *08:48:20.7,51.81N×176.44W,h36km,mB5.3,mb5.4, Ms5.2,Msz4.8*
MOS **11** *08:48:22.5±0.9,51.60N×176.29W,h52km,mb5.4/59, MS4.8/19,Error ellipse: s-maj=6.9km s-min=5.4km az=82.8*
HRVD **11** *08:48:23.1±0.1,51.31N×176.10W,h35km,MW5.5/87, Centroid moment Tensor Solution. LP body waves: s85,c159;Mantle waves: s87,c187; Half duration: 1s3 Moment tensor: Scale 10¹⁷Nm; Mrr1.43±.03; Mθθ-1.34±.02; Mφφ-0.09±.02; Mrθ1.01±.03; Mθφ-0.51±.02; Mφr0.37±.02; Best double couple: M₀1.825×10¹⁷ NP1: φs251°,δ27°,λ91°. NP2:φ9s70°,δ63°,λ90°. Principal axes: T 1.78, Plg72°, Azm340°; N .09, Plg0°, Azm70°; P -1.871, Plg18°, Azm160°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC **11** *08:48:23.8±1.7,51.61N×176.21W,h50km±14km,mb4.5/33, mb1 4.7/34,mb1mx4.6/36,mbtmp4.8/34,ML4.3/1,MS4.9/36, Ms1 4.9/36,ms1mx4.8/44 Error ellipse: s-maj=13.7km s-min=9.0km az=165.0*
NEIC **11** *08:48:23.1±0.1,51.53N×176.25W,mb5.2/105,MS4.9/6, ML5.2(AEIC),Error ellipse: s-maj=4.1km s-min=2.1km az=182.0*
NEIC Felt on Adak.
ISC 11 08:48:22.2±0.2, 51.52N±0.04×176.22W±0.03, h52km, h52km±1.7km:pP-P, n429, σ1§01/425, mb5.2/170, MS4.9/62, 23C-11D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.36**	**341**	P	**P**	**08 48 32.3**	**+0.1**
ETKA				S	**S**	**08 48 40.4**	**+1.1**
GSIG	**Igitkin Island**	**0.50**	**21**	P	**P**	**08 48 34.0**	**+0.4**
GSIG				S	**S**	**08 48 43.6**	**+1.7**
ADAG	**Mount Adagdak**	**0.52**	**332**	P	**P**	**08 48 34.9**	**+1.1**
GSTD	**Great Sitkin T**	**0.53**	**5**	P	**P**	**08 48 35.1**	**+1.1**
KIRH	**Kanaga Island**	**0.66**	**305**	P	**P**	**08 48 36.2**	**+0.6**
KIMD	**Kanaga Island**	**0.68**	**291**	P	**P**	**08 48 35.5**	**-0.3**
KIKV	**Kanaga Island**	**0.69**	**301**	P	**P**	**08 48 36.4**	**+0.5**
ATKA	**Atka Island**	**1.43**	**61**	P	**P**	**08 48 44.9**	**-1.4**
NIKO	**Nikolski**	**4.75**	**69**	P	**P**	**08 49 31.5**	**-1.7**
OKCE	**Okmok Cone E**	**5.28**	**66**	P	**P**	**08 49 40.0**	**-0.4**
OKCD	**Okmok Cone D**	**5.31**	**66**	P	**P**	**08 49 39.1**	**-1.7**
SMY	**Shemya**	**6.09**	**285**	P	**P**	**08 49 51.5**	**-0.2**
SMY				pmax	pmax		
	comp=Z,570nm,0.6s						
SMY	**Shemya**	**6.09**	**285**	P	**P**	**08 49 50.6**	**-1.1**
MNAT	**Makushin Natee**	**6.26**	**64**	P	**P**	**08 49 52.1**	**-2.0**
UNV	**Unalaska Valle**	**6.35**	**65**	P	**P**	**08 49 53.5**	**-1.9**

FX1 Attu Island--F 6.67 286 P **P** 08 49 58.9 -1.0
comp=Z,20nm,0.3s,baz=310,slow=14,SNR=48
FX1 S **S** 08 51 18.3 +3.0
comp=Z,34nm,0.3s,baz=64,slow=22,SNR=7.1
FX1 LR LR 08 51 51.9
comp=Z,72nm,21.1s,baz=107,slow=31
FX1 Attu Island--F 6.67 286 *e*P **P** 08 49 59.9 0.0
FX1 *e*S **S** 08 51 17.2 +1.8
SDPT Sand Point 10.14 62 *e*P **P** 08 50 47.6 0.0
comp=Z,49nm,0.3s
TNA Tin City 14.71 14 *e*P **P** 08 51 50.0 +1.8
comp=Z,115nm,1.3s
SVW2 Sparrevohn 14.87 42 *e*P **P** 08 51 54.5 +4.2
KDAK Kodiak Island 15.00 56 P **P** 08 51 49.1 -2.9
comp=Z,3.5nm,0.3s,baz=256,slow=7.7,SNR=42
KDAK S **S** 08 54 40.5 +3.4
comp=Z,1.2nm,0.3s,baz=6.0,slow=17,SNR=3.5
KDAK LR LR 08 58 01.3
comp=Z,8μm,20.4s,baz=250,slow=39
PET Petropavlovsk 15.44 285 *e*P **P** 08 51 56.7 -1.0
PET *e*S **S** 08 54 44.4 -2.9
PET pmax pmax
comp=Z,85nm,0.9s
PET pmax pmax
comp=Z,900nm,8.5s
PET pmax pmax
comp=Z,700nm,14.9s
PET smax
comp=N,900nm,22.0s
PET MLR MLR
comp=Z,5μm,21.0s
PET MLR MLR
comp=Z,3μm,19.0s
PET Petropavlovsk 15.44 285 P **P** 08 52 04.2 +6.5
PET pmax pmax
comp=Z,110nm,1.0s
PET Petropavlovsk 15.44 285 *e*P **P** 08 51 59.4 +1.7
comp=Z,113nm,1.0s
SLKM Skilak Lake 16.98 48 P **P** 08 52 17.4 +0.2
SLKM Skilak Lake 16.98 48 *e*P **P** 08 52 16.9 -0.2
PMR Palmer 17.87 45 *e*P **P** 08 52 30.0 +1.7
PMR pmax pmax
comp=Z,6.0nm,0.3s
PMR Palmer 17.87 45 *e*P **P** 08 52 30.0 +1.7
comp=Z,6.4nm,0.3s
SML Sawmill 18.30 45 P **P** 08 52 34.6 +1.0
SML Sawmill 18.30 45 *e*P **P** 08 52 33.3 -0.3
IMA2 Indian Mountai 18.50 30 *e*P **P** 08 52 38.3 +2.3
BILL Bilibino 18.63 339*c i*P **P** 08 52 38.8 +1.3
BILL pmax pmax
comp=Z,258nm,1.0s
BILL MLR MLR
comp=Z,3μm,18.0s
BILL Bilibino 18.63 339 *e*P **P** 08 52 38.5 +0.9
comp=Z,215nm,1.0s
MCK McKinley 18.86 39 P **P** 08 52 39.2 -1.0
MCK pmax pmax
comp=Z,120nm,0.9s
MCK McKinley 18.86 39 *e*P **P** 08 52 38.9 -1.3
comp=Z,118nm,0.9s
DIV Divide 19.25 48 *e*P **P** 08 52 42.6 -1.9
comp=Z,200nm,0.8s
COLA College 19.82 37*d i*P **P** 08 52 49.2 -1.5
COLA College 19.82 37 *e*P **P** 08 52 48.6 -2.1
comp=Z,158nm,0.9s
THY Trims Highway 20.01 42 *e*P **P** 08 52 52.7 -0.1
ILAR Eielson Array 20.13 38 P **P** 08 52 51.0 -3.0
comp=Z,24nm,0.8s,baz=240,slow=9.4,SNR=130
ILAR PcP PcP 08 57 05.7 -1.6
comp=Z,3.9nm,0.7s,baz=280,slow=3.6,SNR=6.7
ILAR ScP 09 00 38.3
comp=Z,0.8nm,0.8s,baz=308,slow=3.0,SNR=4.9
ILAR LR LR 09 01 15.2
comp=Z,3μm,18.7s,MS4.7,baz=266,slow=38
MA2 Magadan 20.16 306 *e*P **P** 08 52 56.8 +2.4
MA2 *e*S **S** 08 56 37.7 +4.9
MA2 pmax pmax
comp=Z,90nm,1.5s
MA2 MLR MLR
comp=Z,4μm,20.0s,MS4.8
SEY Seymchan 20.24 316 *e*P **P** 08 52 55.7 +0.5
SEY 08 53 23.4
SEY *e*S **S** 08 56 39.7 +5.4
SEY 08 57 07.7
SEY *e*SS SS 08 57 20.7 +15
SEY pmax pmax
comp=Z,260nm,1.1s
SEY pmax pmax
comp=N,60nm,1.2s
SEY pmax pmax
comp=E,250nm,1.2s
SEY smax
comp=N,250nm,4.5s
SEY smax
comp=E,150nm,4.2s
MENT Mentasta 20.71 44 *e*P **P** 08 53 04.2 +4.1
DAWY Dawson 22.90 43 *e*P **P** 08 53 22.5 +0.8
SIT Sitka 24.21 61 *e*P **P** 08 53 35.8 +1.3
SIT pmax pmax
comp=Z,112nm,1.0s,mb5.2
SIT Sitka 24.21 61 *e*P **P** 08 53 35.8 +1.3
comp=Z,112nm,1.0s,mb5.2
INK Inuvik 26.42 35 P **P** 08 53 54.5 -0.8
comp=Z,11nm,0.5s,mb4.6,baz=232,slow=8.8,SNR=79
INK PcP PcP 08 57 19.6 -0.4
comp=Z,23nm,0.7s,baz=235,slow=2.5,SNR=12
INK LR LR 09 05 30.7
comp=Z,3μm,18.6s,MS4.9,baz=235,slow=39
INK Inuvik 26.42 35 P **P** 08 53 54.5 -0.7
INK 08 57 19.7
INK pmax pmax
comp=Z,11nm,0.5s
INK pmax pmax
comp=Z,23nm,0.7s
INK MLR MLR
comp=Z,3μm,18.6s
INK Inuvik 26.42 35 *e*P **P** 08 53 54.2 -1.1
comp=Z,37nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 26.91 277⇓ *e*P **P** 08 54 01.0 +1.0
YSS *e* 08 54 44.0
YSS *e* 08 55 02.0
YSS S **S** 08 58 36.0 +4.7
YSS *e* 08 58 58.0
YSS pmax pmax
comp=Z,140nm,1.1s,mb5.4
YSS MLR MLR
comp=E,1μm,18.0s
YSS MLR MLR
comp=Z,1μm,18.0s,MS4.4
YSS Yuzh-Sakhalins 26.91 277 *e*P **P** 08 54 00.1 +0.1
comp=Z,160nm,1.2s,mb5.4
DLBC Dease Lake 26.93 57 P **P** 08 54 01.2 +1.2
comp=Z,5.9nm,0.8s,mb4.2,baz=302,slow=7.2,SNR=8.2
DLBC LR LR 09 05 32.4
comp=Z,2μm,19.3s,MS4.7,baz=278,slow=38
DLBC Dease Lake 26.93 57 P **P** 08 54 01.2 +1.2
DLBC LR LR 09 05 32.4
ASAJ Asahikawa 28.32 271 P **P** 08 54 11.8 -0.9
comp=Z,44nm,1.0s,mb5.0,baz=65,slow=2.5,SNR=9.6
ASAJ LR LR 09 03 45.0
comp=Z,968nm,20.9s,MS4.4,baz=70,slow=32
ASAJ Asahikawa 28.32 271 P **P** 08 54 11.9 -0.9
ASAJ pmax pmax
comp=Z,44nm,1.0s
ASAJ MLR MLR
comp=Z,968nm,20.9s
BBB Bella Bella 29.29 70 P **P** 08 54 21.6 +0.2
comp=Z,28nm,1.0s,mb5.0,baz=258,slow=4.6,SNR=4.0
BBB LR LR 09 04 13.6
comp=Z,1μm,19.8s,MS4.5,baz=291,slow=32
YAK Yakutsk 30.54 311 *e*P **P** 08 54 34.6 +2.3
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.8
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK MLR MLR
comp=Z,675nm,18.0s,MS4.3
YAK MLR MLR
comp=N,275nm,13.0s,MS4.4
YAK MLR MLR
comp=E,481nm,15.0s,MS4.4
YAK Yakutsk 30.54 311 *e*P **P** 08 54 32.1 -0.2
comp=E,13nm,0.5s,mb5.0
HABR Khabarovsk 31.01 284⇓ *i*P **P** 08 54 36.2 -0.5
HABR *e*S **S** 08 59 35.8 -0.8
HABR pmax pmax

comp=Z,121nm,1.3s,mb5.6
HABR MLR MLR

comp=Z,1µm,18.0s,MS4.7
TIXI Tiksi 31.31 330 *e*P **P** **08 54 37.4 -1.7**
TIXI *e**PP pP 08 54 50.6 -1.9
TIXI *e* 08 55 45.6
TIXI *e*S **S** **08 59 33.7 -7.3**
TIXI *e*SS SS 09 01 34.0 +3.6
TIXI pmax pmax

comp=Z,5.0nm,0.8s,mb4.4
TIXI MLR MLR

comp=Z,2µm,17.0s,MS4.9
KLR Kul'dur 32.69 287⇓*e*P **P** **08 54 47.5 -3.8**
KLR *e*PPP PPP 08 56 13.0 -4.5
KLR *e*S **S** **09 00 05.5 +2.7**
KLR pmax pmax

comp=E,24nm,1.4s
KLR pmax pmax

comp=Z,62nm,1.4s,mb5.3
KLR MLR MLR

comp=N,6µm,16.0s,MS5.4
KLR MLR MLR

comp=E,1µm,16.0s,MS5.4
OCWA Octopus Mounta 33.33 76 *e*P **P** **08 54 56.5 -0.3**

comp=E,44nm,0.9s,mb5.4
YKW3 Yellowknife Ar 33.94 47 *e*P **P** **08 55 01.1 -0.9**
YKA Yellowknife Ar 33.95 47 P **P** **08 55 01.2 -0.9**

comp=E,19nm,0.9s,mb5.0,baz=279,slow=8.9,SNR=62
YKA PcP PcP 08 57 39.6 0.0

comp=E,13nm,0.8s,baz=288,slow=3.0,SNR=21
YKA ScP 09 01 20.3

comp=E,1.8nm,0.9s,baz=292,slow=3.2,SNR=5.7
YKA LR LR 09 11 00.8

comp=E,2µm,18.1s,MS4.9,baz=285,slow=40
VDB Vedder Mountai 34.02 72 P **P** **08 55 03.4 +0.7**
COR Corvallis 35.37 80 *e*P **P** **08 55 16.4 +2.0**
COR pmax pmax

comp=Z,190nm,1.6s,mb5.8
COR Corvallis 35.37 80 *e*P **P** **08 55 15.2 +0.8**

comp=Z,186nm,1.6s,mb5.8
MJAR Matsushiro Arr 35.41 263 P **P** **08 55 14.9 +0.2**

comp=Z,27nm,0.9s,mb5.2,baz=50,slow=8.2,SNR=48
MJAR PcP PcP 08 57 44.0 0.0

comp=Z,6.2nm,1.0s,baz=85,slow=1.6,SNR=5.0
MJAR LR LR 09 08 49.2

comp=Z,1µm,19.8s,MS4.6,baz=75,slow=35
MAJO Matsushiro 35.41 263 P **P** **08 55 15.1 +0.3**
MAJO pmax pmax

comp=Z,140nm,1.3s,mb5.7
MAJO Matsushiro 35.41 263 *e*P **P** **08 55 15.0 +0.2**

comp=Z,136nm,1.3s,mb5.7
MAT Matsushiro 35.41 263 P **P** **08 55 14.9 +0.1**
MAT S **S** **09 00 47.0 +2.0**
MAT Matsushiro 35.41 263 *e*P **P** **08 55 15.0 +0.2**
MAT *e*S **S** **09 00 48.0 +3.0**
MAT pmax pmax

comp=Z,90nm,1.0s,mb5.7
MAT MLR MLR

comp=Z,1µm,20.0s,MS4.7
MAT Matsushiro 35.41 263 *e*P **P** **08 55 15.0 +0.2**

comp=Z,90nm,1.0s,mb5.7
MAT *e*S **S** **09 00 48.0 +3.0**
MAT LR LR

comp=Z,1µm,20.0s,MS4.7
VLA Vladivostok 35.50 277 *e*P **P** **08 55 13.9 -1.6**
VLA *i**SP sP 08 55 35.4 -0.3
VLA *e* 08 56 35.7
VLA *e* 08 57 41.4
VLA *e*S **S** **09 00 48.6 +2.3**
VLA *e**SS 09 01 13.7
VLA pmax pmax

comp=Z,234nm,1.4s,mb5.9
TBM Table Mountain 35.75 75 P **P** **08 55 18.6 +1.0**
EBG Ellensburg 35.89 75 P **P** **08 55 20.1 +1.3**
MDJ Mudanjiang 36.14 281 P **P** **08 55 19.6 -1.3**
MDJ AP pP 08 55 33.8 -0.8
MDJ XP sP 08 55 39.7 -1.4
MDJ PP PP 08 56 44.6 +0.2
MDJ PCP PcP 08 57 45.4 -0.7
MDJ S **S** **09 00 56.5 +0.4**
MDJ SCP 09 01 28.3
MDJ SCS ScS 09 05 32.6 +1.5
MDJ AMB AMB

comp=Z,30nm,1.1s,mb5.1
MDJ AMB AMB

comp=Z,240nm,6.5s
MDJ LR LR

comp=N,430nm,21.9s
MDJ LR LR

comp=E,930nm,31.5s
MDJ LR LR

comp=Z,1µm,27.1s
MDJ Mudanjiang 36.14 281 *e*P **P** **08 55 19.2 -1.7**

comp=Z,32nm,1.0s,mb5.2
EPH Ephrata 36.27 74 P **P** **08 55 22.6 +0.7**
CROR Criterion Ridg 36.59 78 P **P** **08 55 25.8 +1.1**
HAWA Hanford 36.77 75 *e*P **P** **08 55 26.9 +0.8**

comp=Z,4.1nm,0.8s,mb4.3
OD2 Odessa Site #2 36.78 73 P **P** **08 55 26.9 +0.6**
KHMM Horse Mountain 37.11 86 *e*P **P** **08 55 28.1 -1.0**
YBH Yreka Blue Hor 37.26 84 P **P** **08 55 31.9 +1.6**
YBH pmax pmax

comp=Z,21nm,0.9s
YBH Yreka Blue Hor 37.26 84 *e*P **P** **08 55 31.1 +0.8**

comp=Z,21nm,0.8s,mb5.0
EDM Edmonton 37.32 62 P **P** **08 55 31.5 +0.8**
EDM Edmonton 37.32 62 *e*P **P** **08 55 31.1 +0.4**
KIPM Iron Peak 37.88 87 *e*P **P** **08 55 36.9 +1.4**
WDC Whiskeytown Da 38.02 85 P **P** **08 55 38.4 +1.7**
WDC pmax pmax

comp=Z,19nm,1.0s,mb4.8
WDC Whiskeytown Da 38.02 85 *e*P **P** **08 55 37.1 +0.5**

comp=Z,19nm,1.0s,mb4.8
MOD Modoc 38.66 82 *e*P **P** **08 55 42.5 +0.5**

comp=Z,38nm,1.0s,mb5.1
BMO Blue Mountains 38.89 76 *e*P **P** **08 55 44.5 +0.6**

comp=Z,18nm,0.9s,mb4.8
CN2 Changchun 39.10 282 *e*P **P** **08 55 45.2 -0.4**
CN2 *e*AP pP 08 56 00.4 +1.0
CN2 *e*S **S** **09 01 40.0 -1.3**
CN2 AMB AMB

comp=Z,40nm,1.2s,mb5.0
CN2 AMB AMB

comp=Z,410nm,3.0s
CN2 LR LR

comp=N,2µm,20.0s,MS5.0
CN2 LR LR

comp=E,2µm,20.0s,MS5.0
CN2 LR LR

comp=Z,2µm,21.0s,MS5.0
BOD Bodaibo 39.18 307 *e*P **P** **08 55 45.3 -0.8**
BOD pmax pmax

comp=Z,9.0nm,1.7s,mb4.2
WVOR Wild Horse Val 39.39 80 P **P** **08 55 48.9 +0.9**
WVOR pmax pmax

comp=Z,50nm,0.9s,mb5.2
WVOR Wild Horse Val 39.39 80 *e*P **P** **08 55 48.6 +0.6**

comp=Z,50nm,0.9s,mb5.2
HIA Hailar 39.73 293 *e*P **P** **08 55 49.3 -1.5**
HIA pmax pmax

comp=Z,22nm,0.6s
HIA Hailar 39.73 293 *e*P **P** **08 55 49.3 -1.5**

comp=Z,22nm,0.6s,mb5.1
MSO Missoula 39.89 71 *e*P **P** **08 55 52.3 +0.1**

comp=Z,44nm,1.0s,mb5.1
CMB Columbia Colle 40.87 87 P **P** **08 56 01.5 +1.1**
CMB pmax pmax

comp=Z,31nm,1.1s,mb4.8
CMB Columbia Colle 40.87 87 *e*P **P** **08 56 00.6 +0.2**

comp=Z,30nm,1.1s,mb4.8
SAO San Andreas Ge 41.00 89 P **P** **08 56 02.7 +1.3**
SAO pmax pmax

comp=Z,27nm,1.0s,mb4.8
SAO San Andreas Ge 41.00 89 *e*P **P** **08 56 01.7 +0.2**

comp=Z,27nm,1.0s,mb4.8
KS15 Wonju Array Si 41.28 273 *e*P **P** **08 56 04.0 +0.2**
HLID Hailey 41.34 76 *e*P **P** **08 56 04.8 +0.6**

comp=Z,22nm,0.9s,mb4.8
SNY Shenyang 41.34 281 ⇑P **P** **08 56 05.1 +0.9**
SNY AP pP 08 56 12.5 -5.5
SNY XP sP 08 56 16.1 -8.2
SNY S **S** **09 02 19.3 +4.6**
SNY AMB AMB

comp=Z,180nm,1.2s,mb5.6
SNY AMB AMB

comp=Z,640nm,5.3s
SNY LR LR

comp=N,1µm,18.0s
SNY LR LR

comp=Z,1µm,28.2s
DLMT Dillon 41.46 73 *e*P **P** **08 56 04.6 -0.5**

comp=Z,51nm,1.2s,mb5.0
LRV Little Rabbit 41.48 89 *e*P **P** **08 56 05.1 -0.2**
EGMT Eagleton 41.74 68 *e*P **P** **08 56 07.0 -0.2**

comp=Z,42nm,0.9s,mb5.1
BOZ Bozeman (W) 41.88 72 *e*P **P** **08 56 09.5 +1.1**
BOZ pmax pmax

comp=Z,44nm,0.8s,mb5.1
BOZ Bozeman (W) 41.88 72 *e*P **P** **08 56 09.1 +0.7**

comp=Z,44nm,0.8s,mb5.1
CIT Chita 41.89 299 *e*P **P** **08 56 10.4 +2.0**
CIT pmax pmax

comp=Z,40nm,1.3s,mb4.9
NVAR Mina Array Bea 41.93 85 P **P** **08 56 10.2 +1.2**

comp=Z,7.8nm,0.9s,mb4.3,baz=298,slow=6.3,SNR=62
NVAR PcP PcP 08 58 04.8 +0.5

comp=Z,6.0nm,0.7s,baz=311,slow=1.6,SNR=7.9
MNV Mina 42.02 85 P **P** **08 56 11.0 +1.3**
MNV pmax pmax

comp=Z,14nm,1.0s,mb4.5
MNV Mina 42.02 85 *e*P **P** **08 56 10.5 +0.8**

comp=Z,14nm,0.9s,mb4.6
INCN Inchon 42.04 274 *e*P **P** **08 56 07.7 -2.2**

comp=Z,112nm,1.2s,mb5.4
ELK Elko 42.44 80 P **P** **08 56 14.4 +1.2**
ELK pmax pmax

comp=Z,33nm,1.0s
ELK Elko 42.44 80 *e*P **P** **08 56 14.0 +0.9**

comp=Z,33nm,0.9s,mb5.0
PTRM Twissleman Ran 42.47 89 *e*P **P** **08 56 14.0 +0.5**
YMR Madison River 42.80 72 *e*P **P** **08 56 16.6 +0.5**

comp=Z,115nm,1.2s,mb5.5
TPH Tonopah 42.82 84 P **P** **08 56 17.9 +1.6**
TPH pmax pmax

comp=Z,24nm,1.0s,mb4.9
TPH Tonopah 42.82 84 *e*P **P** **08 56 17.1 +0.9**

comp=Z,24nm,0.9s,mb4.9
YFT Old Faithful 43.00 73 *e*P **P** **08 56 19.8 +2.1**
LKWY Lake 43.20 72 *e*P **P** **08 56 20.6 +1.3**
LKWY pmax pmax

comp=Z,61nm,0.9s,mb5.3
LKWY Lake 43.20 72 *e*P **P** **08 56 20.6 +1.3**

comp=Z,61nm,0.9s,mb5.3
IMW Indian Meadow 43.25 73 *e*P **P** **08 56 20.8 +1.0**

comp=Z,46nm,1.0s,mb5.2
RRI2 Red Ridge 43.33 74 *e*P **P** **08 56 21.5 +1.1**

comp=Z,201nm,1.6s,mb5.6
HVU Hansel Valley 43.35 77 P **P** **08 56 21.8 +1.3**
HVU pmax pmax

comp=Z,13nm,0.6s,mb4.8
HVU Hansel Valley 43.35 77 *e*P **P** **08 56 21.0 +0.5**

comp=Z,13nm,0.6s,mb4.8
MOOW Moose Ponds 43.45 73 *e*P **P** **08 56 21.9 +0.6**

comp=Z,12nm,0.9s,mb4.6
ISA Isabella 43.55 88 *e*P **P** **08 56 21.8 -0.5**
ISA pmax pmax

comp=Z,2.0nm,0.3s,mb4.3
ISA Isabella 43.55 88 *e*P **P** **08 56 21.8 -0.5**

comp=Z,2.3nm,0.3s,mb4.4
REDW Red Top Meadow 43.60 74 *e*P **P** **08 56 23.3 +0.7**

comp=Z,56nm,1.3s,mb5.1
LOHW Long Hollow 43.61 74 *e*P **P** **08 56 23.4 +0.7**

comp=Z,14nm,0.9s,mb4.7
BGU Big Grassy Mou 43.69 78 *e*P **P** **08 56 23.4 0.0**
DAC Darwin (Calif) 43.71 87 *e*P **P** **08 56 24.2 +0.6**
DAC pmax pmax

comp=Z,14nm,0.8s,mb4.7
DAC Darwin (Calif) 43.71 87 *e*P **P** **08 56 23.7 +0.1**

comp=Z,14nm,0.8s,mb4.8
SPUT South Promonto 43.82 77 *e*P **P** **08 56 25.1 +0.8**
TPNV Topopah Spring 44.12 85 P **P** **08 56 27.8 +0.9**
TPNV pmax pmax

comp=Z,36nm,0.7s,mb5.2
TPNV Topopah Spring 44.12 85 *e*P **P** **08 56 27.4 +0.5**

comp=Z,36nm,0.7s,mb5.2
HWUT Hardware Ranch 44.18 77 *e*P **P** **08 56 27.6 +0.3**

comp=Z,16nm,0.8s,mb4.8
DUG Dugway 44.26 79 P **P** **08 56 28.8 +0.9**
DUG pmax pmax

comp=Z,65nm,1.1s,mb5.3
DUG Dugway 44.26 79 *e*P **P** **08 56 28.6 +0.6**

comp=Z,65nm,1.1s,mb5.3
DL2 Dalian 44.27 279 P **P** **08 56 28.3 +0.3**
DL2 S **S** **09 02 59.8 +2.4**
DL2 AMB AMB

comp=Z,50nm,1.0s,mb5.2
DL2 AMB AMB

comp=Z,190nm,5.3s
DL2 LR LR

comp=N,280nm,17.1s,MS4.5
DL2 LR LR

comp=E,440nm,18.4s,MS4.5
DL2 LR LR

comp=Z,670nm,18.0s,MS4.6
NOQ North Oquirrh 44.41 78 *e*P **P** **08 56 29.4 +0.3**

comp=Z,30nm,0.8s,mb5.1
LAO LASA Array 44.48 67 *e*P **P** **08 56 30.4 +0.8**

comp=Z,120nm,1.3s,mb5.5
TCUT Toone Canyon 44.57 77 *e*P **P** **08 56 30.6 +0.3**
DGMT Dagmar 44.67 64 *e*P **P** **08 56 30.9 -0.2**

comp=Z,163nm,1.2s,mb5.7
FCC Fort Churchill 44.69 47 P **P** **08 56 30.5 -0.6**
FCC pmax pmax

comp=Z,9.0nm,0.4s,mb5.0
FCC Fort Churchill 44.69 47 *e*P **P** **08 56 30.2 -0.8**

comp=Z,8.7nm,0.4s,mb4.9
BW06 Boulder Array 44.72 74 *e*P **P** **08 56 31.9 +0.3**

comp=Z,71nm,0.8s,mb5.5
PDAR Pinedale Array 44.72 74 P **P** **08 56 32.4 +0.8**

comp=Z,46nm,0.8s,mb5.4,baz=304,slow=4.0,SNR=274
PDAR LR LR 09 12 28.8

comp=Z,989nm,21.4s,MS4.7,baz=310,slow=32
MWC Mount Wilson 44.74 89 P **P** **08 56 32.0 +0.1**
MWC Mount Wilson 44.74 89 *e*P **P** **08 56 31.8 -0.1**
DAU Daniels Canyon 45.08 78 P **P** **08 56 36.0 +1.5**
DAU Daniels Canyon 45.08 78 *e*P **P** **08 56 35.2 +0.8**
MPU Maple Canyon 45.09 78 *e*P **P** **08 56 35.1 +0.5**

comp=Z,16nm,0.8s,mb4.9
ARUT Antelope Range 45.34 82 P **P** **08 56 37.9 +1.3**
ARUT Antelope Range 45.34 82 *e*P **P** **08 56 37.1 +0.5**
MVU Marysvale 45.66 80 *e*P **P** **08 56 40.0 +0.9**

comp=Z,19nm,0.9s,mb5.0
MSU Marysvale 45.67 80 P **P** **08 56 40.4 +1.2**
MSU Marysvale 45.67 80 *e*P **P** **08 56 39.9 +0.7**
TMUT Trail Mountain 45.79 79 *e*P **P** **08 56 40.6 +0.5**
NEN Nelson 45.83 85 *e*P **P** **08 56 40.4 -0.1**
LDFC Landfair 46.03 86 *e*P **P** **08 56 42.4 +0.3**
SRU San Rafael 46.32 79 P **P** **08 56 45.1 +0.8**
SRU pmax pmax

comp=Z,30nm,0.8s,mb5.3
SRU San Rafael 46.32 79 *e*P **P** **08 56 44.6 +0.2**

comp=Z,30nm,0.8s,mb5.3
BAR Barrett 46.63 90 *e*P **P** **08 56 46.4 -0.5**
RWWY Rawlins 46.76 74 *e*P **P** **08 56 48.0 +0.2**

comp=Z,102nm,1.1s,mb5.7
RSSD Black Hills 47.20 69 P **P** **08 56 50.9 -0.3**
RSSD pmax pmax

comp=Z,16nm,0.6s,mb5.1
RSSD Black Hills 47.20 69 *e*P **P** **08 56 50.6 -0.6**

comp=Z,16nm,0.6s,mb5.1
ULN Ulaanbaatar 47.64 298⇓*i*P **P** **08 56 54.8 +0.2**
ULN Ulaanbaatar 47.64 298 *e*P **P** **08 56 52.6 -1.9**

comp=Z,7.2nm,0.8s,mb4.8
PV10 Paradox Valley 47.69 78 *e*P **P** **08 56 55.4 +0.4**
SONM Songino Array 48.02 298 P **P** **08 56 58.0 +0.4**

comp=Z,2.5nm,0.6s,mb4.4,baz=52,slow=8.0,SNR=14
SONM PcP PcP 08 58 24.9 -0.3

comp=Z,10nm,0.7s,baz=65,slow=2.8,SNR=7.6
SONM ScP 09 02 15.2

comp=Z,1.9nm,1.0s,baz=14,slow=5.9,SNR=2.7
SONM LR LR 09 18 33.8

comp=Z,2µm,18.8s,MS5.1,baz=58,slow=38
PHWY Pilot Hill 48.05 73 *e*P **P** **08 56 57.1 -0.8**
WUAZ Wupatki 48.07 83 *e*P **P** **08 56 58.6 +0.5**

comp=Z,39nm,0.8s,mb5.5
PV01 Paradox Valley 48.12 78 *e*P **P** **08 56 58.5 0.0**
ULM Lac du Bonnet 48.24 58 P **P** **08 56 58.4 -0.8**

comp=Z,9.9nm,1.0s,mb4.8,baz=312,slow=8.1,SNR=18
ULM LR LR 09 18 56.1

comp=Z,578nm,19.3s,MS4.6,baz=315,slow=38
ZAK Zakamensk 48.26 302 *e*P **P** **08 56 58.3 -1.0**
ZAK *e* 08 58 26.5
ZAK pmax pmax

comp=Z,12nm,1.1s,mb4.8
ZAK pmax pmax

comp=Z,14nm,1.2s,mb4.9
MOY Mondy 48.72 305 *e*P **P** **08 57 03.5 +0.6**
TIA Tai'an 48.74 279 *e*P **P** **08 57 03.0 -0.3**
TIA AMB AMB

comp=Z,150nm,1.6s,mb5.8
ISCO Idaho Springs 48.88 75 P **P** **08 57 04.8 +0.5**
ISCO pmax pmax

comp=Z,26nm,0.9s,mb5.3
ISCO Idaho Springs 48.88 75 *e*P **P** **08 57 04.3 0.0**

comp=Z,26nm,0.9s,mb5.3
HHC Hu-ho-hao-te 49.20 287 ⇑P **P** **08 57 07.4 +0.7**
HHC AP pP 08 57 19.8 -0.9
HHC PCP PcP 08 58 30.0 +0.4
HHC PP PP 08 59 00.9 -0.2
HHC SCP 09 02 19.5
HHC S **S** **09 04 05.4 -1.9**
HHC SCS ScS 09 06 53.0 +2.1
HHC SS SS 09 07 35.6 +0.7
HHC AMB AMB

comp=Z,110nm,1.2s,mb5.8
HHC LR LR

comp=N,790nm,16.6s,MS5.0
HHC LR LR

comp=E,1µm,16.7s,MS5.0
HHC LR LR

comp=Z,1µm,20.2s,MS4.8
SSE Sheshan 49.61 271 *e*P **P** **08 57 09.1 -1.0**
SSE AP pP 08 57 24.8 +0.7
SSE S **S** **09 04 12.3 -0.9**
SSE SCS ScS 09 06 55.0 +1.1
SSE AMB AMB

comp=Z,50nm,1.1s,mb5.5
SSE AMB AMB

comp=Z,380nm,7.7s
SSE LR LR

comp=N,130nm,24.1s,MS4.2
SSE LR LR

comp=E,300nm,24.1s,MS4.2
SSE LR LR

comp=Z,380nm,27.2s,MS4.3
SDCO Great Sand Dun 50.24 77 *e*P **P** **08 57 15.3 +0.5**

comp=Z,55nm,1.1s,mb5.5
BTO Baotou 50.27 288 *e*P **P** **08 57 16.3 +1.3**
BTO AMB AMB

comp=Z,240nm,1.4s,mb6.0
NJ2 Nanjing 50.42 274 *e*P **P** **08 57 16.0 -0.2**
NJ2 AP pP 08 57 31.3 +1.0
NJ2 PCP PcP 08 58 34.0 -0.2
NJ2 S **S** **09 04 23.0 -1.4**
NJ2 AMB AMB

comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB

comp=Z,450nm,5.1s
NJ2 LR LR

comp=N,2µm,36.0s
NJ2 LR LR

comp=E,2µm,19.4s
NJ2 LR LR

comp=Z,760nm,26.5s
TUC Tucson 50.56 86 *e*P **P** **08 57 17.1 -0.2**
TUC pmax pmax

comp=Z,18nm,0.8s,mb5.0
TUC Tucson 50.56 86 *e*P **P** **08 57 17.1 -0.2**

comp=Z,18nm,0.8s,mb5.1
LAZ Ladron 51.42 81 *e*P **P** **08 57 24.2 +0.4**
ANMO Albuquerque 51.48 80 *e*P **P** **08 57 24.0 -0.2**
ANMO *e*PP pP 08 57 37.3 -1.0
ANMO pmax pmax

comp=Z,68nm,1.7s
ANMO Albuquerque 51.48 80 *e*P **P** **08 57 23.9 -0.2**

comp=Z,68nm,1.7s,mb5.3
ANMO *e*pP pP 08 57 37.3 -1.0
LENM Lemitar 51.68 81 *e*P **P** **08 57 26.0 +0.3**
LPM Los Pinos Moun 51.79 81 *e*P **P** **08 57 26.7 +0.1**
BNM Barren Site 51.90 81 *e*P **P** **08 57 27.8 +0.4**
EYMN Ely 51.93 58 *e*P **P** **08 57 25.8 -1.6**

comp=Z,38nm,1.0s,mb5.3
SUMG Summit 52.76 15 *e*P **P** **08 57 30.8 -2.5**

comp=Z,32nm,1.0s,mb5.2
WHN Wuhan 54.26 276⇓P **P** **08 57 44.5 -0.4**
MNTX Cornudas Mount 54.33 82 *e*P **P** **08 57 45.0 -0.5**

comp=Z,37nm,1.1s,mb5.2
CPRX Cap Rock 54.36 80 *e*P **P** **08 57 45.1 -0.5**
GDL2 Guadalupe Moun 54.62 81 *e*P **P** **08 57 46.5 -1.0**
KSU1 Kansas State U 54.68 70 *e*P **P** **08 57 46.5 -1.4**
CLNB Carlsbad 54.87 81 *e*P **P** **08 57 49.2 -0.2**
SFJD Kangerlussuaq 54.90 23 P **P** **08 57 48.0 -1.0**

comp=Z,9.8nm,0.5s,mb5.1,baz=320,slow=5.2,SNR=13
SFJD LR LR 09 24 27.3

comp=Z,765nm,18.0s,MS4.8,baz=316,slow=40
ZAL Zalesovo 55.11 315 LR LR 09 23 59.5

comp=Z,3µm,19.6s,MS5.3,baz=57,slow=39
NVS Novosibirsk 55.20 316 *e*P **P** **08 57 48.3 -3.1**
NVS pmax pmax

comp=N,26nm,2.2s
NVS pmax pmax

comp=E,20nm,2.2s
NVS pmax pmax

comp=Z,40nm,2.2s,mb5.1
XAN Xi'an 55.21 283 P **P** **08 57 51.1 -0.7**
XAN SS SS 09 09 11.2 -2.8
XAN AMB AMB

comp=Z,140nm,1.3s,mb5.8
XAN AMB AMB

comp=Z,200nm,8.3s
XAN LR LR

comp=N,430nm,18.7s,MS4.7
XAN LR LR

comp=E,490nm,20.3s,MS4.7
XAN LR LR

comp=Z,570nm,16.3s,MS4.7
WMOK Wichita Mounta 56.30 75 P **P** **08 57 59.0 -0.6**
WMOK pmax pmax

comp=Z,45nm,1.0s,mb5.5
WMOK Wichita Mounta 56.30 75 *e*P **P** **08 57 58.7 -0.9**

comp=Z,44nm,1.0s,mb5.5
LZH Lanzhou 56.89 288 *e*P **P** **08 58 04.4 +0.6**
LZH AP pP 08 58 19.9 +1.7
LZH PP PP 09 00 12.6 +0.5
LZH S **S** **09 05 47.0 -4.8**
LZH XS 09 06 14.2
LZH SS SS 09 09 37.0 -4.7
LZH AMB AMB

comp=Z,300nm,1.5s,mb6.1
LZH AMB AMB

comp=Z,1µm,4.3s
LZH LR LR

comp=N,3µm,18.4s
LZH LR LR

comp=Z,4µm,20.2s,MS5.5
GTA Gaotai 57.00 293 *e*P **P** **08 58 03.3 -1.3**
GTA AP pP 08 58 20.1 +1.1
GTA PCP PcP 08 58 59.2 +0.2
GTA PP PP 09 00 13.0 -0.1
GTA PPP PPP 09 01 39.3 +6.0
GTA SCP 09 02 50.0
GTA PCS 09 02 59.2
GTA S **S** **09 05 51.4 -1.9**
GTA SCS ScS 09 07 45.7 +0.2
GTA SS SS 09 09 43.0 -0.6
GTA AMB AMB

comp=Z,10.0nm,1.5s,mb4.6
GTA AMB AMB

comp=Z,340nm,7.6s
GTA LR LR

comp=N,2µm,19.8s,MS5.2
GTA LR LR

comp=E,1µm,16.7s,MS5.2
GTA LR LR

comp=Z,2µm,18.6s,MS5.2
LTX Lajitas 57.03 83 P **P** **08 58 04.6 -0.3**
LTX pmax pmax

comp=Z,91nm,1.4s,mb5.6
LTX Lajitas 57.03 83 *e*P **P** **08 58 04.0 -0.9**

comp=Z,90nm,1.4s,mb5.6
TXAR Lajitas Array 57.03 83 P **P** **08 58 04.5 -0.5**

comp=Z,18nm,0.8s,mb5.2,baz=294,slow=4.9,SNR=128
TXAR LR LR 09 19 24.2

comp=Z,482nm,20.2s,MS4.6,baz=310,slow=33
JMIC Jan Mayen 57.48 5 LR LR 09 21 01.6

comp=Z,814nm,21.8s,MS4.8,baz=320,slow=34

ARCES **ARCESS Array B 58.21 351** P **P** **08 58 10.7 -1.9**
comp=Z,2.4nm,0.5s,mb4.5,baz=20,slow=5.3,SNR=39
ARCES LR LR 09 24 11.3
comp=Z,2μm,20.4s,MS5.1,baz=337,slow=37
JCT Junction City 58.62 79 P **P** **08 58 14.8 -1.2**
JCT pmax pmax
comp=Z,24nm,0.7s,mb5.3
JCT Junction City 58.62 79 *e*P **P** **08 58 14.2 -1.8**
comp=Z,24nm,0.6s,mb5.4
SCHQ Schefferville 58.88 40 P **P** **08 58 16.2 -1.2**
comp=Z,14nm,0.9s,mb5.0,baz=350,slow=6.5,SNR=13
SCHQ LR LR 09 25 06.7
comp=Z,2μm,19.1s,MS5.3,baz=105,slow=38
FVM French Village 59.02 67 P **P** **08 58 17.3 -1.4**
FVM pmax pmax
comp=Z,36nm,0.9s,mb5.4
FVM French Village 59.02 67 *e*P **P** **08 58 17.0 -1.6**
comp=Z,36nm,0.8s,mb5.5
MIAR Mount Ida 59.55 72 P **P** **08 58 21.9 -0.5**
MIAR pmax pmax
comp=Z,57nm,1.0s,mb5.6
MIAR Mount Ida 59.55 72 *e*P **P** **08 58 21.5 -0.9**
comp=Z,57nm,0.9s,mb5.6
AAM Ann Arbor 59.81 59 P **P** **08 58 23.6 -0.5**
AAM pmax pmax
comp=Z,27nm,0.5s,mb5.5
AAM Ann Arbor 59.81 59 *e*P **P** **08 58 23.3 -0.8**
comp=Z,27nm,0.5s,mb5.5
SIUC Southern Illin 59.90 66 *e*P **P** **08 58 23.1 -1.6**
comp=Z,25nm,0.8s,mb5.3
UALR University of 60.12 71 *e*P **P** **08 58 24.9 -1.4**
comp=Z,19nm,0.9s,mb5.1
GZH Guangzhou 60.20 270 P **P** **08 58 22.8 -4.2**
GZH S **S** **09 06 30.4 -4.6**
GZH LR LR
comp=N,580nm,22.7s,MS4.9
GZH LR LR
comp=E,740nm,20.2s,MS4.9
GZH LR LR
comp=Z,530nm,16.5s,MS4.8
PARMO **Parma 60.32 67** *e*P **P** **08 58 26.2 -1.4**
CD2 Chengdu 60.52 283 P **P** **08 58 29.1 0.0**
CD2 AP pP 08 58 43.3 -0.3
CD2 PP PP 09 00 46.1 +1.2
CD2 S **S** **09 06 35.1 -4.0**
CD2 SS SS 09 10 31.8 -7.2
CD2 AMB AMB
comp=Z,110nm,1.2s,mb5.9
CD2 AMB AMB
comp=Z,290nm,7.1s
CD2 LR LR
comp=N,350nm,16.8s
CD2 LR LR
comp=Z,370nm,16.2s,MS4.6
PVMO Portageville 60.52 68 P **P** **08 58 28.0 -1.0**
WMQ Urumqi 60.61 304 P **P** **08 58 29.0 -0.5**
WMQ AP pP 08 58 41.7 -2.3
WMQ XP sP 08 58 47.0 -3.0
WMQ PCP PcP 08 59 12.8 -0.4
WMQ PP PP 09 00 44.8 -0.7
WMQ PPP PPP 09 02 13.0 0.0
WMQ S **S** **09 06 40.2 +0.2**
WMQ SCS ScS 09 08 12.2 +0.3
WMQ SS SS 09 10 40.0 -0.2
WMQ AMB AMB
comp=Z,40nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,180nm,7.0s
WMQ LR LR
comp=N,1μm,20.0s,MS5.1
WMQ LR LR
comp=E,660nm,22.0s,MS5.1
WMQ LR LR
comp=Z,950nm,20.0s,MS4.9
GNAR Gosnell 60.65 68 *e*P **P** **08 58 28.7 -1.2**
NATX Nacogdoches 60.85 75 *e*P **P** **08 58 30.9 -0.4**
comp=Z,56nm,0.9s,mb5.7
UTMT University of 61.05 67 *e*P **P** **08 58 31.7 -1.0**
comp=Z,31nm,0.8s,mb5.5
WCI Wyandotte Cave 61.20 64 P **P** **08 58 32.5 -1.1**
WCI pmax pmax
comp=Z,30nm,0.8s,mb5.5
WCI Wyandotte Cave 61.20 64 *e*P **P** **08 58 32.1 -1.5**
comp=Z,30nm,0.8s,mb5.5
MKAR Makanchi Array 61.20 310 P **P** **08 58 31.8 -1.7**
comp=Z,3.3nm,0.5s,mb4.7,baz=49,slow=6.2,SNR=60
MKAR LR LR 09 24 54.5
comp=Z,618nm,21.3s,MS4.7,baz=39,slow=36
ACSO Alum Creek Sta 61.62 60 *e*P **P** **08 58 35.4 -1.0**
comp=Z,13nm,0.6s,mb5.2
WVT Waverly 61.80 67 P **P** **08 58 36.6 -1.0**
WVT pmax pmax
comp=Z,29nm,1.2s,mb5.3
WVT Waverly 61.80 67 *e*P **P** **08 58 36.4 -1.3**
comp=Z,29nm,1.2s,mb5.3
BVAR Borovoye Array 61.81 321 P **P** **08 58 37.6 +0.1**
comp=Z,8.5nm,0.3s,mb5.4,baz=55,slow=7.8,SNR=90
BVAR PcP PcP 08 59 14.0 -3.8
comp=Z,22nm,0.8s,baz=54,slow=7.0,SNR=3.6
ERPA Erie 61.88 57 *e*P **P** **08 58 37.3 -0.8**
comp=Z,151nm,1.0s,mb6.1
GYA Guiyang 61.91 278 ⇑*i*P **P** **08 58 38.0 -0.5**
GYA AP pP 08 58 54.2 +1.2
GYA SCP 09 03 13.4
GYA S **S** **09 06 52.0 -4.8**
GYA PS PS 09 07 20.2 -0.7
GYA AMB AMB
comp=Z,50nm,1.1s,mb5.6
GYA AMB AMB
comp=Z,280nm,3.5s
GYA LR LR
comp=N,870nm,18.0s,MS5.1
GYA LR LR
comp=E,940nm,18.2s,MS5.1
GYA LR LR
comp=Z,820nm,17.9s,MS4.9
OXF Oxford 62.02 69 P **P** **08 58 38.1 -1.1**
OXF pmax pmax
comp=Z,190nm,1.1s,mb6.1
OXF Oxford 62.02 69 *e*P **P** **08 58 37.5 -1.6**
comp=Z,193nm,1.1s,mb6.1
ALLY Alegheny Colle 62.13 57 *e*P **P** **08 58 39.3 -0.5**
TGY Tagaytay City 62.25 257 P **P** **08 58 41.4 +0.5**
comp=Z,112nm,0.3s,baz=85,slow=1.7,SNR=10.0
BORG Borgarnes 62.44 12 LR LR 09 25 06.4
comp=Z,722nm,19.6s,MS4.8,baz=230,slow=35
ARU Arti 63.32 329 ⇑*i*P **P** **08 58 46.2 -1.3**
ARU *e* pP 08 59 01.0 -1.0
ARU *e* 08 59 20.6
ARU *e* 09 01 07.3
ARU *e*S **S** **09 07 14.7 +0.7**
ARU *e*SS SS 09 11 23.6 +0.6
ARU pmax pmax
comp=Z,15nm,1.5s,mb4.9
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.0
ARU MLR MLR
comp=N,900nm,19.0s,MS5.0
ARU MLR MLR
comp=E,800nm,23.0s,MS5.0
NCB Newcomb 63.48 52 *e*P **P** **08 58 47.8 -0.9**
comp=E,16nm,0.9s,mb5.1
MCWV Mont Chateau 63.72 59 *e*P **P** **08 58 49.4 -0.9**
comp=E,132nm,0.9s,mb6.0
JOF Joensuu 63.85 346 *e*p **P** **08 58 49.1 -1.6**
comp=E,24nm,0.4s,mb4.6
TZTN Tazewell 63.93 64 *e*P **P** **08 58 50.9 -0.8**
HNR Honiara 64.11 206 P **P** **08 58 51.8 -1.4**
CPCT Cooper Cave 64.17 65 *e*P **P** **08 58 52.1 -1.1**
ACCN Adirondack Com 64.19 52 *e*P **P** **08 58 51.7 -1.5**
KLMR Klimovskoe 64.37 342 *e*P **P** **08 58 52.0 -2.1**
KLMR pmax pmax
comp=Z,20nm,1.4s,mb5.0
LRAL Lakeview Retre 64.48 69 P **P** **08 58 53.5 -1.8**
BLA Blacksburg 65.18 61 P **P** **08 59 00.1 +0.4**
BLA pmax pmax
comp=Z,190nm,1.3s,mb6.0
BLA Blacksburg 65.18 61 *e*P **P** **08 58 59.5 -0.2**
comp=Z,189nm,1.4s,mb5.9
KMI Kunming 65.30 280 ⇑P **P** **08 59 00.9 +0.2**
KMI PCP PcP 08 59 34.3 +1.8
KMI PP PP 09 01 27.5 +0.6
KMI PPP PPP 09 03 01.6 +0.2
KMI SCP 09 03 30.8
KMI PCS 09 03 36.7
KMI S S 09 07 38.1 -0.8
KMI SKS SKS 09 08 47.5 +0.2
KMI SS SS 09 11 53.3 -0.9
KMI SSS SSS 09 14 43.8 -3.5
KMI AMB AMB
comp=Z,50nm,0.9s,mb5.5
KMI AMB AMB
comp=Z,390nm,3.1s
KMI LR LR
comp=N,500nm,19.9s,MS4.9
KMI LR LR
comp=E,540nm,17.6s,MS4.9
KMI LR LR
comp=Z,510nm,26.8s
KAF Kangasniemi 65.31 349 *e*p **P** **08 58 58.8 -1.3**
comp=Z,2.0nm,0.4s,mb4.5
KAF Kangasniemi 65.31 349 *e*P **P** **08 58 58.8 -1.3**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
MVL Millersville 65.31 56 *e*P **P** **08 58 59.5 -1.0**
QIZ Qiongzhong 65.38 270 P **P** **08 59 03.2 +1.9**
QIZ S S 09 07 40.2 +0.2
QIZ AMB AMB
comp=Z,390nm,5.7s
QIZ LR LR
comp=Z,460nm,21.0s,MS4.7
SDMD Soldier's Deli 65.49 57 *e*P **P** **08 58 55.1 -6.6**
PAL Palisades 65.82 54 P **P** **08 59 03.5 -0.3**
PAL pmax pmax
comp=Z,29nm,0.9s,mb5.3
PAL Palisades 65.82 54 *e*P **P** **08 59 02.8 -1.0**
comp=Z,29nm,0.9s,mb5.3
FINES FINESS Array B 65.98 348 P **P** **08 59 02.8 -1.7**
comp=Z,1.2nm,0.3s,mb4.3,baz=5.1,slow=7.4,SNR=26
FINES LR LR 09 29 41.2
comp=Z,984nm,19.5s,MS5.0,baz=200,slow=38
FINES FINESS Array B 65.98 348 P **P** **08 59 02.8 -1.7**
FINES LR LR 09 29 41.2
GOGA Godfrey 66.24 66 P **P** **08 59 05.7 -0.9**
GOGA pmax pmax
comp=Z,35nm,1.0s,mb5.3
GOGA Godfrey 66.24 66 *e*P **P** **08 59 05.4 -1.2**
comp=Z,35nm,0.9s,mb5.4
JSC Jenkinsville 66.85 64 P **P** **08 59 10.6 +0.2**
JSC Jenkinsville 66.85 64 *e*P **P** **08 59 10.2 -0.3**
TKM2 Tokmak 2 67.26 311 P **P** **08 59 13.6 +0.7**
SNR=16
USP Ospenovka 67.51 312 P **P** **08 59 14.9 +0.6**
SNR=5.6
CHMS Chumysh 67.60 311 P **P** **08 59 15.6 +0.7**
SNR=13
NB2 NORSAR Subarra 67.63 356 P **P** **08 59 13.6 -1.2**
comp=Z,2.9nm,0.7s,mb4.4,baz=4.0,slow=6.2
NB2 NORSAR Subarra 67.63 356 P **P** **08 59 13.6 -1.2**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
NOA NORSAR Array B 67.63 356 P **P** **08 59 13.8 -1.1**
comp=Z,3.8nm,0.7s,mb4.5,baz=5.0,slow=6.3,SNR=13
NOA LR LR 09 26 38.3
comp=Z,714nm,21.1s,MS4.9,baz=5.0,slow=34
NOA NORSAR Array B 67.63 356 P **P** **08 59 13.8 -1.1**
NOA LR LR 09 26 38.3
TAOE Nuku Hiva Isla 67.69 141 *e*SS SS 09 12 19.1 -12
TAOE *e*LR LR 09 19 39.3
comp=Z,3μm,21.7s
KBK Karagaybulak 67.77 311 P **P** **08 59 16.9 +0.9**
SNR=14
AAK Ala-Archa 68.00 311 *c i*P **P** **08 59 16.3 -1.2**
AAK pmax pmax
comp=Z,65nm,1.3s,mb5.5
AAK MLR MLR
comp=Z,900nm,16.0s,MS5.1
KZA Kyzart 68.07 310 P **P** **08 59 19.2 +1.3**
SNR=9.4
UCH Uchtor 68.30 311 P **P** **08 59 20.8 +1.4**
SNR=14
EKS2 Erkin-Say 68.31 312 P **P** **08 59 20.5 +1.1**
SNR=23
NHSC New Hope 68.33 64 *e*P **P** **08 59 19.6 -0.1**
comp=Z,136nm,0.9s,mb6.0
HFS Hagfors 68.41 355 P **P** **08 59 18.4 -1.3**
comp=Z,5.2nm,0.5s,mb4.8,baz=27,slow=3.3,SNR=32
HFS LR LR 09 27 45.7
comp=Z,922nm,21.5s,MS5.0,baz=7.7,slow=35
AKTK Aktyubinsk 68.48 326 P **P** **08 59 20.5 +0.2**
AKTK PcP PcP 08 59 43.9 -1.5
AKTK LR LR 09 33 13.2
AKTO Aktyubinsk 68.48 326 P **P** **08 59 20.5 +0.2**
comp=Z,9.2nm,0.5s,mb5.1,baz=56,slow=7.9,SNR=33
AKTO PcP PcP 08 59 43.9 -1.5
comp=Z,21nm,0.9s,baz=12,slow=4.9,SNR=5.4
AKTO LR LR 09 33 13.2
comp=Z,2μm,19.1s,MS5.2,baz=83,slow=39
AML Almayashu 68.76 311 P **P** **08 59 23.9 +1.6**
SNR=22
LSA Lhasa 68.91 291 P **P** **08 59 25.0 +1.7**
LSA AMB AMB
comp=Z,60nm,1.1s,mb5.4
LSA Lhasa 68.91 291 *e*P **P** **08 59 24.1 +0.8**
LSA pmax pmax
comp=Z,21nm,0.6s,mb5.2
LSA Lhasa 68.91 291 *e*P **P** **08 59 24.1 +0.8**
comp=Z,21nm,0.6s,mb5.2
MOS Moscow 69.48 340 *e*P **P** **08 59 16.7 -10**
MOS *e* 08 59 42.0
KSH Kashi 69.69 308 ⇑*i*P **P** **08 59 29.0 +1.0**
KSH *e*PCP PcP 08 59 51.8 +1.1
KSH PP PP 09 02 05.1 +0.6
KSH *e*S S 09 08 28.7 -2.7
KSH *e*PS PS 09 09 04.0 -1.0
KSH SCS ScS 09 09 21.3 -0.2
KSH SS SS 09 12 58.8 -3.1
KSH AMB AMB
comp=Z,250nm,3.4s
KSH LR LR
comp=N,1μm,22.2s
KSH LR LR
comp=E,770nm,16.4s
OBN Obninsk 70.29 341 ⇓*i*P **P** **08 59 30.2 -1.1**
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.0
PMOR Pomariorio Ree 70.69 151 *e*P **P** **08 59 37.1 +2.7**
comp=Z,60nm,1.1s,mb5.4
VAH Vaihoa 71.00 151 *e*P **P** **08 59 38.8 +2.6**
comp=Z,82nm,1.0s,mb5.6
DWPF Disney 71.34 68 *e*P **P** **08 59 38.0 -0.1**
comp=Z,78nm,1.3s,mb5.5
KKM Kota Kinabalu 71.41 256 *e*P **P** **08 59 38.5 -0.3**
KKTK Khon Kaen 71.79 273 P **P** **08 59 40.0 -0.9**
comp=Z,926nm,0.6s
CHG Chiang Mai 72.33 278 ⇑P **P** **08 59 42.2 -1.9**
comp=Z,22nm,1.2s,mb5.0
PPT Papeete 72.63 153 *e*S S 09 09 08.6 +3.0
PPT *e*SS SS 09 13 52.9 +5.0
PPT *e*LR LR 09 21 30.2
comp=Z,1μm,23.5s,baz=346
AGT Agartala 73.20 287 *ex* x 08 59 54.0
AGT *ex* x 09 00 09.0
GUN Gumba 73.29 294 *e*P **P** **08 59 50.5 +0.9**
comp=Z,224nm,0.7s,mb6.2
JIRN Jiri 73.30 293 *e*P **P** **08 59 50.7 +1.0**
comp=Z,433nm,1.2s
EKA Eskdalemuir Ar 73.36 4 P **P** **08 59 49.5 +0.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=353,slow=4.4,SNR=17
KKN Kakani 73.72 294 *e*P **P** **08 59 52.7 +0.5**
comp=Z,242nm,1.2s,mb6.0
PKI Pulchoki 73.82 294 *e*P **P** **08 59 53.2 +0.5**
comp=Z,269nm,1.2s,mb6.0
GKN Gorkha 73.93 295 *e*P **P** **08 59 53.8 +0.5**
DMN Daman 73.96 294 *e*P **P** **08 59 54.2 +0.7**
NST Nakhon Sawan 73.97 275 P **P** **08 59 52.0 -1.8**
KOLN Koldanda 74.69 295 *e*P **P** **08 59 58.1 +0.3**
comp=Z,201nm,1.3s,mb5.9
DZM Mont Dzumac 74.84 197 P **P** **08 59 57.9 -0.9**
comp=Z,5.5nm,1.1s,mb4.4,baz=43,slow=12,SNR=3.0
NOUC Port Laguerre 74.90 197 *e*P **P** **08 59 58.9 -0.1**
AKASG Malin Array Be 75.89 344 P **P** **09 00 02.9 -1.2**
comp=Z,1.4nm,0.3s,mb4.3,baz=19,slow=6.1,SNR=11
BOK Bokaro 76.43 291 *e*P **P** **09 00 08.8 +1.1**
BOK AMb AMB 09 00 11.3
comp=Z,126nm,1.0s,mb5.8
CLL Collm 77.25 354 P **P** **09 00 13.0 +1.2**
CLL Collm 77.25 354 *e*P **P** **09 00 13.0 +1.2**
CLL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CLL MLR MLR
comp=Z,800nm,22.8s,MS5.0
CLL Collm 77.25 354 *e*P **P** **09 00 13.0 +1.2**
comp=Z,3.0nm,0.6s,mb4.4
CLL LR LR
comp=Z,800nm,22.8s,MS5.0
BRG Berggiesshubel 77.62 353 *e*P **P** **09 00 13.3 -0.5**
BRG S ScS 09 10 34.0 +10
BRG pmax pmax
comp=Z,20nm,1.6s,mb4.8
BRG MLR MLR
comp=Z,1μm,26.3s,MS5.0
BRG Berggiesshubel 77.62 353 *e*P **P** **09 00 13.3 -0.5**
comp=Z,20nm,1.6s,mb4.8
BRG S ScS 09 10 34.0 +10
BRG SS SS 09 15 35.0 +32
BRG LR LR
comp=Z,1μm,26.3s,MS5.0
KWP Kalwaria 77.94 348 *e*P **P** **09 00 15.5 -0.1**
DPC Dobruska-Polom 77.94 352 *e*P **P** **09 00 14.8 -0.8**
MOX Moxa 77.99 355 *i*P **P** **09 00 16.2 +0.3**
comp=Z,logA/T=1.2,mb4.9
MOX L 09 34 22.0
MOX Moxa 77.99 355 *e*P **P** **09 00 16.2 +0.3**
MOX pmax pmax
comp=Z,32nm,2.1s,mb4.9
MOX MLR MLR
comp=Z,500nm,22.0s,MS4.8
MOX Moxa 77.99 355 *e*P **P** **09 00 16.2 +0.3**
comp=Z,32nm,2.1s,mb4.9
MOX LR LR
comp=Z,500nm,22.0s,MS4.8
GOF Gofitskoye 78.00 333 *e*P **P** **09 00 15.7 -0.3**
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.4
TBI Tubuai 78.17 155 *e*S S 09 10 09.9 +3.4
TBI *e*SS SS 09 15 11.9 -0.1
TBI *e*LR LR 09 23 56.3
comp=Z,1μm,28.2s,baz=338
PRU Pruhonice 78.45 353 *e*P **P** **09 00 18.4 0.0**
CTA Charters Tower 78.52 216 LR LR 09 32 26.2
comp=Z,379nm,19.2s,MS4.7,baz=43,slow=34
CTAO Charters Tower 78.52 216 P **P** **09 00 19.4 0.0**
CTAO pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
CTAO Charters Tower 78.52 216 *e*P **P** **09 00 18.2 -1.2**
comp=Z,9.3nm,1.3s,mb4.5
GIVF Givet 78.75 359 *e*P **P** **09 00 20.0 0.0**
VRAC Vranov 78.95 351 P **P** **09 00 21.2 0.0**
comp=Z,2.6nm,0.6s,mb4.4,baz=34,slow=6.8,SNR=4.9
VRAC LR LR 09 34 24.3
comp=Z,858nm,21.7s,MS5.0,baz=7.6,slow=35
GRA1 Grafenberg Arr 78.96 355 *e*P **P** **09 00 21.2 0.0**
comp=Z,11nm,1.2s,mb4.7
GRF Grafenberg Arr 78.96 355 *e*P **P** **09 00 21.2 0.0**
GRF pmax pmax
comp=Z,11nm,1.2s,mb4.7
GRF MLR MLR
comp=Z,500nm,21.7s,MS4.8
GRF Grafenberg Arr 78.96 355 *e*P **P** **09 00 21.2 0.0**
comp=Z,11nm,1.2s,mb4.7
GRF LR LR
comp=Z,500nm,21.7s,MS4.8
KIV Kislovodsk 79.11 332 *e*P **P** **09 00 22.8 +0.6**
KIV *e* 09 03 21.6
KIV *e*PPP PPP 09 05 10.8 -3.0
KIV *e*SS SS 09 15 25.8 +0.2
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,713nm,18.0s,MS5.0
KHC Kasperske Hory 79.38 353 *e*P **P** **09 00 23.7 +0.2**
KHC x x 09 01 02.5
KHC Kasperske Hory 79.38 353 *e*P **P** **09 00 23.7 +0.2**
KHC *e* 09 01 02.5
KIS Kishinev 79.53 343 *e*P **P** **09 00 24.0 -0.4**
BURAR **Bucovina Array 79.54 345** ⇓P **P** **09 00 24.2 -0.2**
BURAR **Bucovina Array 79.54 345** ⇓P **P** **09 00 24.2 -0.2**
GERES **GERESS Array B 79.65 353** P **P** **09 00 24.7 -0.3**
comp=Z,1.1nm,0.8s,baz=14,slow=5.5,SNR=8.1
GERES LR LR 09 38 08.4
comp=Z,644nm,20.1s,MS5.0,baz=358,slow=38
HLGC Holguin 79.99 69 *e*P **P** **09 00 25.0 -2.4**
FLN La Foliniere 80.03 3 *e*P **P** **09 00 26.8 -0.2**
FLN *e*R
comp=Z,602nm,19.5s
LDF La Druitiere 80.21 3 *e*P **P** **09 00 27.7 -0.3**
comp=Z,7.4nm,0.4s,mb4.7
MEZF Maizieres J'vi 80.35 359 *e*P **P** **09 00 29.1 +0.4**
GRR Gorron 80.39 3 *e*P **P** **09 00 28.9 0.0**
CDF Champ du Feu 80.40 358 *e*P **P** **09 00 29.1 +0.1**
comp=Z,3.4nm,0.5s,mb4.3
CDF Champ du Feu 80.40 358 *e*P **P** **09 00 29.1 +0.1**
CDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
RAO Raoul Island 80.44 182 LR LR 09 29 07.4
comp=Z,1μm,22.0s,MS5.2,baz=343,slow=30
SGMF Saint Gilles 80.45 4 *e*P **P** **09 00 30.1 +0.8**
comp=Z,12nm,0.7s,mb4.7
SGMF Saint Gilles 80.45 4 *e*P **P** **09 00 30.1 +0.8**
SGMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TI2 Plekhanov 80.52 330 ⇑*i*P **P** **09 00 29.3 -0.5**
TI2 *e* 09 11 14.0
DRGR 80.72 347 ⇑P **P** **09 00 29.7 -1.0**
HAU Haudompre 80.83 358 *e*P **P** **09 00 31.3 0.0**
HAU *e*R
comp=Z,635nm,20.0s
HINF Hinteralfeld 81.00 358 *e*P **P** **09 00 32.1 -0.1**
KBA Koelnbreinsper 81.44 353 ⇑*i*P **P** **09 00 35.3 +0.8**
comp=Z,16nm,1.1s,mb4.9
KBA Koelnbreinsper 81.44 353 ⇑P **P** **09 00 35.3 +0.8**
KBA pmax pmax
comp=Z,16nm,1.1s,mb4.9
MLR Muntele Rosu 81.49 344 P **P** **09 00 35.8 +1.0**
comp=Z,4.8nm,0.6s,mb4.6,baz=39,slow=7.2,SNR=9.1
MLR LR LR 09 39 36.5
comp=Z,1μm,20.9s,MS5.2,baz=62,slow=38
KULM Kulim 81.61 268 *e*P **P** **09 00 35.7 -0.4**
DAVOX **Davos 81.94 356** P **P** **09 00 38.1 +1.1**
comp=Z,2.5nm,0.6s,mb4.3,baz=164,slow=13,SNR=4.2
DAVOX LR LR 09 36 54.5
comp=Z,707nm,21.4s,MS5.0,baz=347,slow=36
GNI Garni 81.96 330 LR LR 09 43 56.7
comp=Z,985nm,19.1s,MS5.2,baz=27,slow=41
GNI Garni 81.96 330 *c i*P **P** **09 00 38.6 +1.2**
GNI pmax pmax
comp=Z,49nm,2.5s
GNI MLR MLR
comp=Z,2μm,17.0s
GNI Garni 81.96 330 *e*P **P** **09 00 38.3 +0.9**
comp=Z,30nm,1.3s,mb5.1
BZS Buzias 82.02 347 ⇓P **P** **09 00 37.2 -0.4**
AVF Avril sur Loir 82.07 0 *e*P **P** **09 00 37.9 +0.2**
comp=Z,5.6nm,0.7s,mb4.3
AVF Avril sur Loir 82.07 0 *e*P **P** **09 00 37.9 +0.2**
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MFF Saint Martin d 82.20 3 *e*P **P** **09 00 38.9 +0.5**
SMF Signal de Mont 82.21 360 *e*P **P** **09 00 38.7 +0.2**
CABF La Chapelle 82.23 358 *e*P **P** **09 00 39.3 +0.7**
BGF Bois d'Agland 82.30 1 *e*P **P** **09 00 39.2 +0.3**
TCF Toulx Ste Croi 82.56 1 *e*P **P** **09 00 40.5 +0.2**
VIS Vishakhapatnam 82.64 289 *e*P **P** **09 00 41.8 +0.6**
VIS AMb AMB 09 00 44.7
comp=Z,95nm,1.3s,mb5.7
WRAB Tennant Creek 83.25 226 ⇓*i*P **P** **09 00 44.2 -0.1**
WB2 Warramunga Arr 83.25 226 *e*P **P** **09 00 43.4 -0.9**
WB2 *e*pP pP 09 00 56.8 -2.6
WB2 *e*SCS ScS 09 10 59.8 -11
WRA Warramunga Arr 83.26 226 P **P** **09 00 43.5 -0.8**
comp=Z,8.5nm,0.8s,mb4.8,baz=33,slow=5.8,SNR=72
RJF Les Rejaudoux 83.53 2 *e*P **P** **09 00 46.0 +0.9**
LFF La Frestale 83.88 2 *e*P **P** **09 00 47.8 +0.9**
CAF Calviac 83.92 1 *e*P **P** **09 00 48.0 +0.9**
PSI Prapat 84.62 268 P **P** **09 00 52.0 +0.6**
comp=Z,56nm,0.9s,mb5.7,baz=6.5,slow=4.1,SNR=42
PSI LR LR 09 38 13.1
comp=Z,247nm,20.8s,MS4.6,baz=237,slow=35
PSI Prapat 84.62 268 P **P** **09 00 52.0 +0.6**
PSI LR LR 09 38 13.1
BR131 Keskin Array S 85.46 337 *e*P **P** **09 00 55.4 +0.4**
comp=Z,4.5nm,0.7s,mb4.7
BRTR Keskin Array B 85.46 337 P **P** **09 00 55.5 +0.5**
comp=Z,5.3nm,0.8s,mb4.7,baz=55,slow=3.1,SNR=17
SJPF Ste Jean 85.64 4 *e*P **P** **09 00 57.1 +1.4**

HYB	**Hyderabad**	**85.67**	**293**	⇑*iP*	**P**	**09 00 56.5**	**+0.1**
	comp=Z,120nm,1.0s,mb6.1							
HYB				*eS*	S	09 11 24.0	+1.0
HYB	**Hyderabad**	**85.67**	**293**	⇑*iP*	**P**	**09 00 56.5**	**+0.1**
HYB				pmax	pmax			
	comp=Z,120nm,1.0s,mb6.1							
FITZ	**Fitzroy Crossi**	**85.84**	**234**	LR	LR	09 32 11.1		
	comp=Z,109nm,21.8s,MS4.2,baz=298,slow=31							
BHJ	**Bhuj**	**85.89**	**303**	*eP*	**P**	**09 00 57.9**	**+0.5**
BHJ				AMb	AMB	09 01 02.9		
	comp=Z,66nm,1.2s,mb5.7							
POO	**Poona**	**87.45**	**297**	*eP*	**P**	**09 01 06.5**	**+1.4**
POO				AMb	AMB	09 01 08.8		
	comp=Z,124nm,0.8s,mb6.2							
BOM	**Bombay**	**87.73**	**298**	*ex*	x	09 01 01.3		
CPD	**Cerro la Pandu**	**88.05**	**63**	P	**P**	**09 01 09.4**	**+1.4**
CPD	**Cerro la Pandu**	**88.05**	**63**	*eP*	**P**	**09 01 08.7**	**+0.7**
KAD	**Karad**	**88.24**	**296**	*eP*	**P**	**09 01 09.1**	**+0.2**
KAD				AMb	AMB	09 01 11.8		
	comp=Z,70nm,1.1s,mb5.8							
ESDC	**Sonseca Array**	**88.93**	**6**	P	**P**	**09 01 11.9**	**+0.2**
	comp=Z,2.9nm,0.9s,mb4.6,baz=341,slow=4.0,SNR=7.7							
URZ	**Urewera**	**89.60**	**185**	LR	LR	09 33 51.4		
	comp=Z,597nm,21.4s,MS5.0,baz=26,slow=30							
STKA	**Stephens Creek**	**90.95**	**215**	⇑*iP*	**P**	**09 01 21.7**	**+0.3**
	comp=Z,7.1nm,0.7s,mb5.1							
STKA				*e*pP	pP	09 01 35.0	-1.7	
STKA	**Stephens Creek**	**90.95**	**215**	P	**P**	**09 01 22.2**	**+0.8**
	comp=Z,9.2nm,0.7s,mb5.2,baz=351,slow=5.4,SNR=20							
STKA				LR	LR	09 38 03.6		
	comp=Z,891nm,21.2s,MS5.2,baz=18,slow=33							
SDV	**Santo Domingo**	**92.64**	**72**	*eP*	**P**	**09 01 29.9**	**+0.4**
	comp=Z,11nm,1.0s,mb5.2							
TRD	**Trivandrum**	**93.68**	**288**	*eP*	**P**	**09 01 35.1**	**+0.9**
TRD				AMb	AMB	09 01 37.7		
	comp=Z,53nm,1.3s,mb5.8							
OTAV	**Otavalo**	**94.66**	**84**	*eP*	**P**	**09 01 40.1**	**+1.3**
	comp=Z,3.8nm,0.8s,mb4.9							
OTAV				*e*pP	pP	09 01 54.6	+0.4	
RPZ	**Rata Peaks**	**95.50**	**189**	LR	LR	09 40 17.8		
	comp=Z,973nm,20.6s,MS5.3,baz=21,slow=33							
RPN	**Rapa Nui**	**97.79**	**124**	LR	LR	09 36 42.9		
	comp=Z,230nm,18.7s,MS4.7,baz=78,slow=30							
TORD	**Torodi Ar. Bea**	**115.58**	**2**	PKP	PKPdf	09 06 59.7	+1.2	
	comp=Z,4.1nm,0.5s,baz=349,slow=2.3,SNR=79							
TORD				PKKPbc		09 17 30.4		
	comp=Z,1.9nm,0.9s,baz=152,slow=1.7,SNR=7.1							
DBIC	**Dimbokro**	**121.56**	**10**	PKP	PKPdf	09 07 11.6	+1.4	
	comp=Z,7.4nm,0.4s,baz=349,slow=2.5,SNR=29							
LIC	**Lamto**	**121.98**	**10**	⇑*i*PKP1	PKPdf	09 07 12.3	+1.3	
	comp=Z,37nm,0.8s							
LIC				*e*R				
	comp=Z,596nm,19.8s							
KMBO	**Kilima Mbogo**	**122.43**	**319**	PKP	PKPdf	09 07 14.2	+2.4	
	comp=Z,3.7nm,0.6s,baz=49,slow=24,SNR=13							
BDFB	**Brasilia**	**125.55**	**69**	PKP	PKPdf	09 07 19.1	+1.4	
	comp=Z,5.0nm,0.8s,baz=127,slow=4.0,SNR=6.1							
PLCA	**Paso Flores**	**129.47**	**109**	PKP	PKPdf	09 07 26.6	+1.9	
	comp=Z,9.5nm,1.1s,baz=347,slow=2.6,SNR=9.6							
PLCA				SKPbc		09 10 44.5		
	comp=Z,3.1nm,0.9s,baz=306,slow=2.1,SNR=4.1							
VNDA	**Vanda**	**129.50**	**186**	PKP	PKPdf	09 07 24.6	+0.7	
	comp=Z,3.3nm,1.1s,baz=328,slow=1.0,SNR=5.0							
VNDA				SKPbc		09 10 44.4		
	comp=Z,15nm,1.2s,baz=354,slow=4.1,SNR=16							
VNDA	**Vanda**	**129.50**	**186**	PKIKP	PKPdf	09 07 24.6	+0.8	
VNDA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
VNDA				pmax	pmax			
	comp=N,15nm,1.2s							
VNDA	**Vanda**	**129.50**	**186**	*e*PKPdf	PKPdf	09 07 24.1	+0.3	
QSPA	**South Pole Qui**	**141.28**	**180**	*e*PKP	PKPdf	09 07 41.8	-3.5	
TSUM	**Tsumeb**	**145.96**	**336**	*e*PKPdf	PKPdf	09 07 56.5	+1.5	
MAW	**Mawson**	**147.59**	**218**	PKPbc	PKPdf	09 08 01.0	+4.6	
	comp=N,60nm,1.1s,baz=81,slow=2.6,SNR=32							
MAW	**Mawson**	**147.59**	**218**	PKP2	PKPab	09 08 01.0	-2.4	
MAW				pmax	pmax			
	comp=Z,60nm,1.1s							
LBTB	**Lobatse**	**148.71**	**320**	*e*PKP2	PKPab	09 08 05.5	-3.8	
SYO	**Syowa Base**	**155.63**	**211**	⇑PKPdf	PKPdf	09 08 10.5	+2.4	
SYO	**Syowa Base**	**155.63**	**211**	⇑pPKPdf		09 08 24.3		
SYO	**Syowa Base**	**155.63**	**211**	⇑*e*PKPdf	PKPdf	09 08 10.5	+2.4	
SYO				⇑*ep*PKPdf		09 08 24.3		
SNAA	**Sanae**	**159.56**	**174**	⇑*i*PKPdf	PKPdf	09 08 12.4	-0.6	
SNAA				*e*		09 08 30.2		
SNAA				*e*		09 09 07.4		
VNA2	**Neumayer--Watz**	**159.87**	**169**	⇑*i*PKPdf	PKPdf	09 08 15.6	+2.3	
VNA2				*e*		09 08 32.7		
VNA2				*e*		09 09 09.0		

MAN 11 09:11:28.7,13.15N×120.45E,h22km,mb3.9,ML2.6, MS2.3,1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.60**	**54**	⇓*iP*	Pb	09 11 40.2	-0.2
PGP				*i* S	Sb	09 11 48.1	-0.4
LUBP	**Lubang**	**0.62**	**341**	*eP*	Pb	09 11 40.9	+0.1
SJMP	**San Jose**	**0.94**	**136**	*eP*	Pb	09 11 46.6	+0.3
SJMP				*eS*	Sb	09 12 02.3	+4.0
TGY	**Tagaytay City**	**1.06**	**26**	⇑*eP*	Pb	09 11 48.3	+0.1
TGY				*eS*	Sb	09 12 03.6	+2.0
BUSP	**Coron**	**1.16**	**192**	*eP*	Pn	09 11 49.9	0.0
BUSP				*eS*	Sb	09 12 05.1	+0.4
BOAC	**Boac**	**1.39**	**77**	*eP*	Pn	09 11 53.0	-0.1
OTRP	**Odiongan**	**1.72**	**117**	*eP*	Pn	09 11 56.8	-1.0
OTRP						17 20 30.0		
POLP	**Polillo Island**	**2.13**	**42**	*eP*	Pn	09 12 04.1	+0.3
ENPP	**El Nido**	**2.18**	**208**	*eP*	Pn	09 12 03.6	-0.8
PCPH	**Palayan**	**2.48**	**14**	*eP*	Pn	09 12 06.9	-1.8
PCPH				*eS*	Sn	09 12 36.3	-2.3
BALP	**Baler**	**2.80**	**23**	*eP*	Pn	09 12 13.5	+0.3

IDC 11 09:31:35.1±1.7,2.83N×127.43E,mb3.8/3,mb1 4.0/3, mb1mx3.7/16,mbtmp3.8/3,Error ellipse: s-maj=140.3km s-min=23.4km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.62**	**164**	P	P	09 36 47.0	-1.9
	1.6nm,0.5s,baz=344,slow=11,SNR=26						
WB2	**Warramunga Arr**	**23.63**	**164**	*eP*	P	09 36 46.3	-2.6
STKA	**Stephens Creek**	**37.05**	**160**	P	P	09 38 47.8	-1.0
	1.0nm,0.6s,baz=337,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**58.69**	**325**	P	P	09 41 34.5	-2.4
	0.6nm,0.5s,baz=118,slow=8.6,SNR=14						

IDC 11 09:32:44.9±2.0,19.62S×177.71W,h560km±27km,mb3.1/8, mb1 3.4/10,mb1mx3.3/18,mbtmp4.2/10,Error ellipse: s-maj=19.9km s-min=14.7km az=130.0
NEIC 11 09:32:45.5±0.9,19.56S×177.66W,h570km±12km,mb4.1/3, Error ellipse: s-maj=15.6km s-min=11.1km az=141.0
ISC 11 09:32:44.1±1.4,19.6S±0.1×177.8W±0.1,h565km±19km, n18,σ0$69/18,mb3.6/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.04**	**46**	P	**P**	**09 34 43.9**	**+0.5**
	9.7nm,0.3s,baz=171,slow=20,SNR=16						
AFI	**Afiamalu**	**8.04**	**46**	*eP*	**P**	**09 34 43.4**	**0.0**
DZM	**Mont Dzumac**	**14.97**	**258**	P	**P**	**09 35 57.1**	**+4.5**
	0.6nm,0.3s,baz=69,slow=20,SNR=12						
URZ	**Urewera**	**19.15**	**192**	P	**P**	**09 36 31.3**	**-1.3**
	3.1nm,0.3s,baz=332,slow=1.5,SNR=18						
CTA	**Charters Tower**	**33.81**	**263**	P	**P**	**09 38 42.0**	**+0.7**
	2.7nm,0.3s,mb4.2,baz=84,slow=10,SNR=8.5						
CTAO	**Charters Tower**	**33.81**	**263**	*eP*	**P**	**09 38 42.1**	**+0.8**
	3.3nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**38.39**	**243**	P	**P**	**09 39 19.9**	**+0.9**
	1.3nm,0.4s,mb3.9,baz=59,slow=8.9,SNR=4.9						
WRA	**Warramunga Arr**	**44.95**	**261**	P	**P**	**09 40 10.5**	**-0.6**
	1.3nm,0.3s,mb3.9,baz=98,slow=7.6,SNR=48						
FITZ	**Fitzroy Crossi**	**53.37**	**262**	P	**P**	**09 41 13.2**	**-0.2**
	1.0nm,0.6s,mb3.4,baz=100,slow=6.1,SNR=6.9						
VNDA	**Vanda**	**58.85**	**185**	P	**P**	**09 41 49.9**	**-0.5**
	1.1nm,0.7s,mb3.2,baz=1.4,slow=7.9,SNR=7.4						
VNDA	**Vanda**	**58.85**	**185**	*eP*	**P**	**09 41 50.4**	**0.0**
MJAR	**Matsushiro Arr**	**69.59**	**323**	P	**P**	**09 42 58.2**	**-0.4**
	1.5nm,0.7s,mb3.6,baz=151,slow=5.9,SNR=5.8						
QSPA	**South Pole Qui**	**70.49**	**180**	*eP*	**P**	**09 43 03.7**	**+0.5**
	5.5nm,0.8s,mb4.1						
NVAR	**Mina Array Bea**	**80.20**	**43**	P	**P**	**09 43 58.3**	**+0.9**
	0.2nm,0.5s,mb2.7,baz=231,slow=5.8,SNR=2.7						
COLA	**College**	**87.26**	**12**	*eP*	**P**	**09 44 30.5**	**-1.0**
	1.8nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**87.36**	**13**	P	**P**	**09 44 31.6**	**-0.4**
	0.5nm,0.6s,mb3.3,baz=222,slow=5.8,SNR=9.3						
VNA3	**Neumayer Olymp**	**89.05**	**176**		**P**	**09 44 40.0**	**+0.2**
VNA2	**Neumayer--Watz**	**89.50**	**177**		**P**	**09 44 42.4**	**+0.5**

IDC 11 09:41:29.1±1.1,2.56N×126.94E,mb4.2/7,mb1 4.3/7, mb1mx4.1/17,mbtmp4.2/7,Error ellipse: s-maj=106.7km s-min=18.1km az=71.0
ISC 11 09:41:32.6±0.8,2.4N±0.2×126.7E±0.5,h33km,n9,σ0$58/9, mb4.3/6,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.44**	**183**	P	**P**	**09 46 10.1**	**+0.1**
	1.7nm,0.5s,baz=15,slow=10.0,SNR=12						
WRA	**Warramunga Arr**	**23.48**	**162**	P	**P**	**09 46 40.2**	**-0.2**
	6.2nm,0.5s,mb4.3,baz=344,slow=11,SNR=95						
WB2	**Warramunga Arr**	**23.49**	**162**	*eP*	**P**	**09 46 40.5**	**0.0**
STKA	**Stephens Creek**	**36.95**	**159**	*eP*	**P**	**09 48 40.5**	**-0.2**
	4.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**36.95**	**159**	P	**P**	**09 48 40.8**	**+0.1**
	2.3nm,0.4s,mb4.3,baz=335,slow=4.9,SNR=8.4						
SONM	**Songino Array**	**48.49**	**342**	P	**P**	**09 50 14.5**	**+0.3**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**58.58**	**326**	P	**P**	**09 51 27.9**	**-0.7**
	1.8nm,0.5s,mb4.4,baz=119,slow=8.3,SNR=39						
ARCES	**ARCESS Array B**	**91.63**	**340**	P	**P**	**09 54 36.5**	**-0.8**
	1.7nm,0.8s,mb4.4,baz=56,slow=4.4,SNR=3.9						
FINES	**FINESS Array B**	**92.93**	**332**	P	**P**	**09 54 44.6**	**+1.2**
	1.5nm,0.9s,mb4.4,baz=27,slow=4.3,SNR=3.5						

CSEM 11 09:48:13.4±0.1,34.57N×23.72E,h30km,ML3.3,Error ellipse: s-maj=2.3km s-min=1.2km az=73.0
HLW 11 09:48:14.0,34.59N×23.33E,h33km,Mb3.3
NEIC 11 09:48:17.3±2.2,34.95N×23.72E,h9km±19km, MD3.2(ATH),Error ellipse: s-maj=37.0km s-min=10.5km az=214.0
ATH 11 09:48:23.2,35.38N×24.08E,h38km±3km,MD3.2/4
ISC 11 09:48:13.1±0.8,34.60N±0.04×23.60E±0.08,h33km,n11, σ1$16/17,2C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.47**	**59**	*eP*	**P**	**09 48 23.6**	**+0.5**
GVD				*eS*	**S**	**09 48 31.8**	**+1.6**
GVD	**Gavdhos**	**0.47**	**59**	*eP*	**P**	**09 48 23.6**	**+0.5**
GVD				*eS*	**S**	**09 48 31.8**	**+1.6**
VAM	**Vamos**	**0.94**	**31**	*e*PB	**Pb**	**09 48 30.0**	**-0.9**
KYTH	**Kithira**	**1.74**	**345**	*e*PB	**Pb**	**09 48 45.0**	**+0.8**
KYTH				*e*SN	**Sn**	**09 49 02.0**	**-0.7**
KYTH	**Kithira**	**1.74**	**345**	*e*Pb	**Pb**	**09 48 44.5**	**+0.3**
NPS	**Neapolis**	**1.78**	**68**	*e*PN	**Pn**	**09 48 45.5**	**+3.4**
NPS				*e*SN	**Sn**	**09 49 02.0**	**-1.8**
VLI	**Veliai**	**2.18**	**346**	*e*PB	**Pb**	**09 48 51.5**	**-0.2**
SLUM		**3.38**	**156**	⇑*eP*	**P**	**09 49 06.1**	**+1.3**
HMAT	**Matruh**	**4.57**	**139**	⇑*eP*	**P**	**09 49 23.0**	**+1.3**
HMAT				*e*S	**S**	**09 50 13.2**	**-1.1**
SWA2		**5.57**	**163**	*eP*	**P**	**09 49 35.5**	**-0.2**
SWA1		**5.62**	**161**	⇓*eP*	**P**	**09 49 35.8**	**-0.6**
SWA1				*e*S	**S**	**09 50 36.8**	**-3.8**

MEX 11 09:52:46.4±0.5,16.78N×99.74W,h5km±999km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.19**	**297**	*iP*	Pg	09 52 49.7	-0.6
ACX				*i* S	Sg	09 52 52.5	-0.4
CAIG	**El Cayaco**	**0.57**	**298**	*iP*	Pg	09 52 57.2	-0.6
CAIG				*i* S	Sg	09 53 05.7	+0.2

MOS 11 09:55:59.0±0.7,22.75N×141.82E,h249km,mb4.3/10, Error ellipse: s-maj=18.2km s-min=7.4km az=103.1
NEIC 11 09:56:00.5±1.3,22.73N×141.79E,h248km±12km, mb4.4/10,Error ellipse: s-maj=8.8km s-min=6.1km az=95.0
IDC 11 09:56:01.3±1.2,22.75N×141.81E,h255km±11km, mb4.1/18,mb1 4.2/21,mb1mx4.1/27,mbtmp4.7/21,Error ellipse: s-maj=15.7km s-min=7.9km az=87.0
BJI 11 09:56:03.7,23.11N×141.27E,h248km,mB4.9,mb4.5
JMA 11 09:56:04.2±0.2,23.15N×142.64E,h312km
ISC 11 09:56:00.4±0.7,22.79N±0.04×141.78E±0.07,h260km±6km, n95,σ0$96/102,mb4.3/37,4C-6D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**3.84**	**5**	P	**P**	**09 57 05.8**	**+2.5**
JHHJ				S	**S**	**09 57 53.7**	**+1.5**
CBIJ	**Chichi jima**	**4.30**	**5**	P	**P**	**09 57 10.8**	**+2.1**
	578nm,0.3s,baz=218,slow=3.8,SNR=144						
CBIJ				S	**S**	**09 58 03.0**	**+1.1**
	126nm,0.3s,baz=294,slow=23,SNR=8.4						
CBIJ	**Chichi jima**	**4.30**	**5**	P	**P**	**09 57 10.8**	**+2.1**
CBIJ				S	**S**	**09 58 03.0**	**+1.1**
JHJ	**Hachijo jima 2**	**10.44**	**351**	P	**P**	**09 58 25.5**	**+0.3**
	17nm,0.3s,baz=221,slow=17,SNR=7.2						
JHJ				S	**S**	**10 00 18.2**	**-1.0**
	21nm,0.3s,baz=36,slow=20,SNR=4.7						
BSO1	**Boso 1**	**11.84**	**357**	P	**P**	**09 58 42.3**	**-0.5**
BSO3	**Boso 3**	**12.02**	**355**	P	**P**	**09 58 44.7**	**-0.3**
BSO3				*e*S	**S**	**10 00 52.8**	**-2.1**
JIM2	**Oshima 3**	**12.06**	**351**	P	**P**	**09 58 45.1**	**-0.4**
JIM2				*e*S	**S**	**10 00 54.5**	**-1.3**
BSO4	**Boso 4**	**12.22**	**354**	P	**P**	**09 58 47.3**	**-0.2**
BSO4				*e*S	**S**	**10 00 56.6**	**-2.8**
JOD2	**Odawara 2**	**12.65**	**350**	P	**P**	**09 58 53.3**	**+0.5**
JOD2				*e*S	**S**	**10 01 06.7**	**-2.3**
JNY	**Yasuok**	**12.98**	**346**	P	**P**	**09 58 57.9**	**+1.1**
JHU	**Hanno**	**13.19**	**351**	P	**P**	**09 58 58.7**	**-0.8**
JHU				*e*S	**S**	**10 01 16.8**	**-4.3**
JRY	**Ryogami san**	**13.41**	**350**	P	**P**	**09 59 02.0**	**-0.2**
JYT	**Yasato**	**13.46**	**354**	P	**P**	**09 59 02.5**	**-0.2**
JAG	**Ashikaga**	**13.73**	**352**	P	**P**	**09 59 04.6**	**-1.5**
JHO	**Hitachi**	**13.81**	**356**	P	**P**	**09 59 05.4**	**-1.7**
JHO				S	**S**	**10 01 30.4**	**-4.4**
MJAR	**Matsushiro Arr**	**14.05**	**348**	P	**P**	**09 59 09.2**	**-0.8**
	1.1nm,0.3s,baz=158,slow=12,SNR=10						
MAJO	**Matsushiro**	**14.05**	**348**	*eP*	**P**	**09 59 08.4**	**-1.6**
MAT	**Matsushiro**	**14.05**	**348**	P	**P**	**09 59 09.7**	**-0.3**
MAT				*e*S	**S**	**10 01 40.6**	**+0.6**
MAT	**Matsushiro**	**14.05**	**348**	P	**P**	**09 59 10.0**	**0.0**
JHS	**Saijyo**	**14.32**	**330**	P	**P**	**09 59 17.6**	**+4.2**
KS15	**Wonju Array Si**	**18.88**	**324**	P	**P**	**10 00 03.3**	**-0.1**
SSE	**Sheshan**	**20.11**	**299**	*eP*	**P**	**10 00 12.6**	**-3.2**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s						
SSE				AMB	AMB		
	comp=Z,100nm,3.8s						
ASAJ	**Asahikawa**	**21.28**	**2**	P	**P**	**10 00 29.6**	**+2.5**
	comp=Z,31nm,0.7s,mb4.7,baz=180,slow=9.3,SNR=12						
WHN	**Wuhan**	**25.65**	**293**	*eP*	**P**	**10 01 09.0**	**+0.7**
PMG	**Port Moresby**	**32.43**	**170**	P	**P**	**10 02 07.2**	**-1.3**
	comp=Z,10.0nm,0.7s,mb4.5,baz=341,slow=8.6,SNR=4.3						
ULN	**Ulaanbaatar**	**37.30**	**321**	⇑*iP*	**P**	**10 02 49.7**	**+0.4**
ULN	**Ulaanbaatar**	**37.30**	**321**	*eP*	**P**	**10 02 50.0**	**+0.7**
SONM	**Songino Array**	**37.67**	**320**	P	**P**	**10 02 53.2**	**+0.8**
	comp=Z,3.3nm,0.5s,mb4.1,baz=131,slow=7.1,SNR=17						
FX1	**Attu Island--F**	**38.39**	**31**	*eP*	**P**	**10 03 01.1**	**+2.9**
GTA	**Gaotai**	**39.18**	**305**	*eP*	**P**	**10 03 06.1**	**+1.2**
YAK	**Yakutsk**	**40.08**	**351**	*c iP*	**P**	**10 03 12.1**	**+0.1**
YAK				pmax	pmax		
	comp=Z,25nm,0.7s,mb4.7						
YAK	**Yakutsk**	**40.08**	**351**	*eP*	**P**	**10 03 11.9**	**-0.2**
	comp=Z,14nm,0.6s,mb4.5						
ZAK	**Zakamensk**	**40.69**	**322**	*eP*	**P**	**10 03 18.3**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.6						
SEY	**Seymchan**	**40.76**	**7**	⇓*iP*	**P**	**10 03 17.8**	**+0.2**
CTA	**Charters Tower**	**42.84**	**174**	P	**P**	**10 03 34.4**	**-0.6**
	comp=Z,12nm,0.7s,mb4.2,baz=352,slow=9.2,SNR=21						
WRAB	**Tennant Creek**	**43.08**	**190**	*d iP*	**P**	**10 03 35.6**	**-1.3**
WB2	**Warramunga Arr**	**43.09**	**190**	⇓*iP*	**P**	**10 03 35.8**	**-1.1**
WRA	**Warramunga Arr**	**43.09**	**190**	P	**P**	**10 03 35.8**	**-1.2**
	comp=Z,25nm,0.6s,mb4.6,baz=11,slow=8.7,SNR=112						
WRA				ScP		10 08 46.5	
	comp=Z,0.6nm,0.9s,baz=9.5,slow=4.1,SNR=6.5						
FITZ	**Fitzroy Crossi**	**43.60**	**203**	P	**P**	**10 03 40.2**	**-0.9**
	comp=Z,7.0nm,0.3s,mb4.3,baz=30,slow=11,SNR=35						
BILL	**Bilibino**	**47.72**	**12**	*c iP*	**P**	**10 04 12.8**	**+0.1**
BILL				*i* *PP	pP	10 05 01.4	-6.8
BILL				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.1						
BILL	**Bilibino**	**47.72**	**12**	*eP*	**P**	**10 04 13.2**	**+0.5**
	comp=Z,10.0nm,0.7s,mb4.2						
WMQ	**Urumqi**	**48.88**	**309**	*eP*	**P**	**10 04 22.0**	**+0.2**
WMQ				AP	pP	10 05 16.7	-1.0
WMQ				XP	sP	10 05 44.9	-2.0
WMQ				AMB	AMB		
	comp=Z,40nm,5.0s						
TIXI	**Tiksi**	**49.44**	**355**	⇓*iP*	**P**	**10 04 25.3**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
JIRN	**Jiri**	**50.17**	**288**	*eP*	**P**	**10 04 32.8**	**+1.0**
GUN	**Gumba**	**50.41**	**288**	*eP*	**P**	**10 04 34.1**	**+0.5**
PKI	**Pulchoki**	**50.87**	**288**	*eP*	**P**	**10 04 37.2**	**+0.2**
DMN	**Daman**	**51.13**	**288**	*eP*	**P**	**10 04 39.4**	**+0.5**
GKN	**Gorkha**	**51.49**	**288**	*eP*	**P**	**10 04 42.1**	**+0.5**
KOLN	**Koldanda**	**52.43**	**288**	*eP*	**P**	**10 04 49.1**	**+0.6**
ZAL	**Zalesovo**	**52.56**	**321**	P	**P**	**10 04 49.1**	**+0.1**
	comp=Z,4.2nm,0.7s,mb3.9,baz=8.8,slow=7.7,SNR=23						
ZAL				PcP	PcP	10 05 54.3	-1.6
	comp=Z,0.8nm,0.3s,baz=358,slow=6.4,SNR=3.3						
MKAR	**Makanchi Array**	**53.00**	**312**	P	**P**	**10 04 53.3**	**+0.9**
	comp=Z,6.1nm,0.6s,mb4.1,baz=89,slow=8.9,SNR=57						
MKAR				PcP	PcP	10 05 57.3	-0.3
	comp=Z,2.2nm,0.6s,baz=82,slow=7.1,SNR=7.3						
TNA	**Tin City**	**53.45**	**23**	*eP*	**P**	**10 04 56.4**	**+1.0**
	comp=Z,5.0nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**54.36**	**180**	*eP*	**P**	**10 05 01.0**	**-1.4**
	comp=Z,11nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**54.36**	**180**	P	**P**	**10 05 01.6**	**-0.8**
	comp=Z,14nm,0.6s,mb4.5,baz=351,slow=7.3,SNR=55						
FORT	**Forrest**	**54.87**	**194**	*eP*	**P**	**10 05 05.0**	**-1.1**
	comp=Z,24nm,0.7s,mb4.7						
KURK	**Kurchatov**	**55.79**	**317**	*i P*	**P**	**10 05 12.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
KDAK	**Kodiak Island**	**58.05**	**35**	P	**P**	**10 05 28.2**	**0.0**
	comp=Z,3.7nm,0.6s,mb4.0,baz=6.3,slow=22,SNR=9.9						
KDAK	**Kodiak Island**	**58.05**	**35**	P	**P**	**10 05 28.2**	**0.0**
AAK	**Ala-Archa**	**58.47**	**307**	⇑*eP*	**P**	**10 05 31.3**	**0.0**
AAK				*i* *PP	pP	10 06 16.4	-13
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
IMA2	**Indian Mountai**	**59.10**	**25**	*eP*	**P**	**10 05 35.8**	**+0.5**
TOO	**Toolangi**	**60.14**	**177**	*eP*	**P**	**10 05 42.8**	**0.0**
	comp=Z,12nm,0.7s,mb4.5						
TOO	**Toolangi**	**60.14**	**177**	*eP*	**P**	**10 05 42.8**	**0.0**
TOO				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
MCK	**McKinley**	**60.65**	**29**	*eP*	**P**	**10 05 45.2**	**-0.6**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
MCK	**McKinley**	**60.65**	**29**	*eP*	**P**	**10 05 45.2**	**-0.7**
	comp=Z,2.4nm,0.7s,mb3.8						
COLA	**College**	**61.27**	**27**	*eP*	**P**	**10 05 49.6**	**-0.4**
ILAR	**Eielson Array**	**61.67**	**27**	P	**P**	**10 05 51.6**	**-1.0**
	comp=Z,4.6nm,0.6s,mb4.3,baz=259,slow=5.6,SNR=108						
INK	**Inuvik**	**67.09**	**24**	*eP*	**P**	**10 06 27.1**	**-0.2**
ARU	**Arti**	**67.61**	**323**	⇓*iP*	**P**	**10 06 30.5**	**-0.3**
ARU				*e*		10 06 52.3	
ARU				*e*		10 09 00.2	
ARU				*e*S

TPH	**Tonopah**	**3.92**	**269**	*e*Pn	**Pn**	**10 29 43.6**	**-0.4**
LDFC	**Landfair**	**3.92**	**217**	Pn	**Pn**	**10 29 45.0**	**+0.9**
AHID	**Auburn Hatcher**	**4.58**	**11**	*e*Pn	**Pn**	**10 29 52.5**	**-0.9**
MNV	**Mina**	**4.64**	**274**	Pn	**Pn**	**10 29 53.5**	**-0.7**
DAC	**Darwin (Calif)**	**4.70**	**247**	Pn	**Pn**	**10 29 52.9**	**-2.1**
NVAR	**Mina Array Bea**	**4.75**	**274**	Pn	**Pn**	**10 30 00.0**	**+4.1**
	0.4nm,0.3s,baz=69,slow=10.0,SNR=12						
NVAR				Pg	**Pg**	**10 30 12.0**	**-4.7**
	2.7nm,0.3s,baz=86,slow=15,SNR=38						
NVAR				Lg		10 31 12.5	
	4.2nm,0.3s,baz=80,slow=29,SNR=11						
NVAR	**Mina Array Bea**	**4.75**	**274**	Pn	**Pn**	**10 30 00.0**	**+4.1**
NVAR				Pg	**Pg**	**10 30 12.0**	**-4.7**
NVAR				Lg		10 31 12.5	
PDAR	**Pinedale Array**	**4.94**	**24**	Pn	**Pn**	**10 29 59.8**	**+1.2**
	0.1nm,0.3s,baz=215,slow=11,SNR=13						
PDAR				Pg	**Pg**	**10 30 10.7**	**-10**
	0.2nm,0.3s,baz=220,slow=12,SNR=5.9						
PDAR				Lg		10 31 15.0	
	1.1nm,0.3s,baz=163,slow=20,SNR=6.6						
RRI2	**Red Ridge**	**5.12**	**8**	Pn	**Pn**	**10 29 59.9**	**-1.2**
RWWY	**Rawlins**	**5.17**	**47**	*e*Pn	**Pn**	**10 30 01.2**	**-0.5**
REDW	**Red Top Meadow**	**5.20**	**11**	Pn	**Pn**	**10 29 59.2**	**-2.9**
SDCO	**Great Sand Dun**	**5.36**	**93**	*e*Pn	**Pn**	**10 30 02.9**	**-1.5**
ISCO	**Idaho Springs**	**5.39**	**71**	*e*Pn	**Pn**	**10 30 04.3**	**-0.6**
LOHW	**Long Hollow**	**5.49**	**13**	*e*Pn	**Pn**	**10 30 03.9**	**-2.2**
HLID	**Hailey**	**5.54**	**344**	*e*Pn	**Pn**	**10 30 05.7**	**-1.2**
MOOW	**Moose Ponds**	**5.59**	**11**	*e*Pn	**Pn**	**10 30 06.0**	**-1.8**
ISA	**Isabella**	**5.62**	**244**	Pn	**Pn**	**10 30 07.3**	**-0.7**
LAZ	**Ladron**	**5.65**	**131**	*e*Pn	**Pn**	**10 30 08.3**	**-0.3**
IMW	**Indian Meadow**	**5.71**	**10**	*e*Pn	**Pn**	**10 30 08.3**	**-1.1**
ANMO	**Albuquerque**	**5.72**	**124**	Pn	**Pn**	**10 30 11.4**	**+1.9**
	baz=330,slow=10,SNR=20						
ANMO				Pg	**Pg**	**10 30 30.1**	**-5.8**
	baz=340,slow=16,SNR=15						
ANMO				Lg		10 31 38.2	
	baz=223,slow=23,SNR=3.5						
ANMO	**Albuquerque**	**5.72**	**124**	*e*Pn	**Pn**	**10 30 09.1**	**-0.4**
LPM	**Los Pinos Moun**	**6.02**	**129**	*e*Pn	**Pn**	**10 30 11.9**	**-1.7**
PHWY	**Pilot Hill**	**6.05**	**58**	*e*Pn	**Pn**	**10 30 13.3**	**-0.8**
TUC	**Tucson**	**6.07**	**168**	*e*Pn	**Pn**	**10 30 13.8**	**-0.6**
BNM	**Barren Site**	**6.13**	**130**	*e*Pn	**Pn**	**10 30 14.1**	**-1.2**
MWC	**Mount Wilson**	**6.18**	**231**	*e*Pn	**Pn**	**10 30 15.8**	**-0.2**
MCMT	**McKenzie Canyo**	**6.57**	**356**	Pn	**Pn**	**10 30 21.1**	**-0.4**
MOD	**Modoc**	**7.16**	**303**	*e*Pn	**Pn**	**10 30 27.8**	**-2.0**
TXAR	**Lajitas Array**	**11.41**	**139**	Pg	Px	10 32 19.1	
	0.0nm,0.3s,baz=326,slow=16,SNR=3.4						
TXAR				Lg		10 34 54.4	
	0.1nm,0.3s,baz=333,slow=31,SNR=4.5						
YKA	**Yellowknife Ar**	**24.30**	**357**	P	**P**	**10 34 03.3**	**+2.6**
	0.7nm,0.9s,mb3.1,baz=174,slow=10,SNR=8.8						

*IDC **11** 10:29:52.0±0.7,35.32S×105.05W,mb4.4/13,mb1 4.6/13, mb1mx4.5/17,mbtmp4.4/13,MS4.5/9,Ms1 4.5/9, ms1mx4.2/17,Error ellipse: s-maj=21.1km s-min=20.7km az=53.0*

*NEIC **11** 10:29:53.1±0.4,35.42S×104.94W,h10km,mb4.8/10, Error ellipse: s-maj=13.2km s-min=10.4km az=75.0*

*BJI **11** 10:29:55.0,35.40S×104.90W,h10km,mB5.1,Ms5.2, Msz4.6*

ISC 11 10:29:51.7±6.8,35.38S±0.09×105.0W±0.1,h10km±42km, n48,σ1§00/36,mb4.6/21,MS4.5/8,2D,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RPN	**Rapa Nui**	**9.04**	**334**	Pn		**P**	**10 32 05.2**	**-0.2**
	1.2nm,0.3s,baz=112,slow=4.2,SNR=4.0							
RPN				LR		LR	10 34 36.9	
	comp=Z,3μm,21.9s,baz=157,slow=32							
RPN				T			10 41 18.9	
	69nm,0.3s,baz=186,slow=18,SNR=6.9							
PLCA	**Paso Flores**	**27.49**	**112**	P		**P**	**10 35 42.5**	**+2.4**
	8.9nm,0.9s,mb4.3,baz=271,slow=10,SNR=13							
PLCA	**Paso Flores**	**27.49**	**112**	*e*P		**P**	**10 35 41.3**	**+1.2**
	13nm,1.0s,mb4.4							
USHA	**Ushuaia**	**31.77**	**139**	LR		LR	10 46 00.5	
	comp=Z,2μm,19.1s,MS4.7,baz=278,slow=30							
ARE	**Arequipa**	**35.27**	**66**	*e*P		**P**	**10 36 49.0**	**+0.2**
LPAZ	**La Paz**	**37.92**	**69**	P		**P**	**10 37 12.4**	**+1.4**
	16nm,1.2s,mb4.6,baz=236,slow=5.1,SNR=22							
LPAZ				LR		LR	10 49 48.0	
	comp=Z,442nm,19.0s,MS4.3,baz=21,slow=32							
LPAZ	**La Paz**	**37.92**	**69**	*e*P		**P**	**10 37 11.8**	**+0.7**
	28nm,1.4s,mb4.8							
TBI	**Tubuai**	**40.30**	**275**	*e*LQ			10 46 49.7	
TBI				*e*LR		LR	10 48 29.5	
	559nm,25.2s							
TAOE	**Nuku Hiva Isla**	**41.58**	**301**	*e*S		**S**	**10 43 49.7**	**-7.7**
TAOE				*e*LR		LR	10 48 58.6	
	2μm,25.9s							
OTAV	**Otavalo**	**43.20**	**41**	*e*P		**P**	**10 37 55.5**	**+0.7**
	56nm,0.9s,mb5.3							
PPT	**Papeete**	**43.31**	**282**	*e*LQ			10 47 47.0	
PPT				*e*LR		LR	10 49 47.7	
	169nm,21.8s							
SIV	**San Ignacio**	**43.59**	**75**	P		**P**	**10 37 57.5**	**-0.4**
	29nm,1.2s,mb4.9,baz=242,slow=9.7,SNR=30							
SAML	**Samuel**	**46.27**	**66**	*e*P		**P**	**10 38 18.4**	**-1.0**
	22nm,1.3s,mb4.9							
JTS	**JuntasAbangare**	**49.20**	**26**	P		**P**	**10 38 40.6**	**-1.7**
	4.8nm,0.6s,mb4.7,baz=219,slow=21,SNR=8.0							
ROSC	**El Rosal**	**49.29**	**42**	P		**P**	**10 38 44.3**	**+1.3**
	16nm,0.8s,mb5.1,baz=108,slow=10,SNR=11							
ROSC				LR		LR	10 55 49.7	
	comp=Z,725nm,20.2s,MS4.7,baz=6.5,slow=32							
BDFB	**Brasilia**	**54.27**	**84**	P		**P**	**10 39 19.5**	**-0.9**
	8.8nm,1.1s,mb4.6,baz=222,slow=5.2,SNR=6.7							
BDFB				LR		LR	11 00 55.1	
	comp=Z,408nm,18.3s,MS4.5,baz=241,slow=34							
SDV	**Santo Domingo**	**54.66**	**43**	*e*P		**P**	**10 39 20.6**	**-2.7**
	10nm,0.8s,mb4.9							
QSPA	**South Pole Qui**	**54.82**	**180**	P		**P**	**10 39 23.5**	**-0.2**
	11nm,1.2s,mb4.8							
VNDA	**Vanda**	**56.45**	**195**	P		**P**	**10 39 36.0**	**+0.5**
	1.0nm,1.0s,mb3.8,baz=78,slow=9.3,SNR=2.9							
VNDA	**Vanda**	**56.45**	**195**	P		**P**	**10 39 36.0**	**+0.5**
VNA3	**Neumayer Olymp**	**58.59**	**158**	*e*		**P**	**10 40 04.7**	**+14**
VNA3	**Neumayer Olymp**	**58.59**	**158**	P		**P**	**10 39 57.0**	**+6.4**
VNA3				*e*			10 40 04.7	
VNA2	**Neumayer--Watz**	**59.40**	**158**	*e*		**P**	**10 40 02.8**	**+6.6**
VNA2	**Neumayer--Watz**	**59.40**	**158**	P		**P**	**10 39 55.9**	**-0.3**
VNA2				*e*			10 40 02.8	
TXAR	**Lajitas Array**	**64.38**	**1**	P		**P**	**10 40 29.2**	**-1.1**
	1.2nm,0.9s,mb3.9,baz=188,slow=8.8,SNR=8.8							
TXAR				LR		LR	11 03 58.2	
	comp=Z,177nm,19.2s,MS4.3,baz=310,slow=32							
TXAR	**Lajitas Array**	**64.38**	**1**	P		**P**	**10 40 29.2**	**-1.1**
TXAR				LR		LR	11 03 58.2	
SYO	**Syowa Base**	**72.67**	**167**	⇓P		**P**	**10 41 17.9**	**-3.0**
SYO	**Syowa Base**	**72.67**	**167**	⇓*e*P		**P**	**10 41 17.9**	**-3.0**
PV01	**Paradox Valley**	**73.22**	**357**	*e*P		**P**	**10 41 24.5**	**-0.3**
SRU	**San Rafael**	**74.30**	**355**	*e*P		**P**	**10 41 32.5**	**+1.5**
	4.9nm,1.0s,mb4.4							
MNV	**Mina**	**74.46**	**349**	*e*P		**P**	**10 41 32.0**	**0.0**
	7.6nm,1.1s,mb4.5							
NVAR	**Mina Array Bea**	**74.48**	**349**	P		**P**	**10 41 32.3**	**+0.2**
	3.3nm,1.0s,mb4.2,baz=178,slow=5.7,SNR=19							
DAU	**Daniels Canyon**	**75.65**	**355**	*e*P		**P**	**10 41 38.7**	**0.0**
MAW	**Mawson**	**76.92**	**175**	LR		LR	11 16 18.2	
	comp=Z,168nm,18.6s,MS4.4,baz=28,slow=36							
PDAR	**Pinedale Array**	**77.89**	**357**	P		**P**	**10 41 52.7**	**+1.5**
	2.5nm,0.9s,mb4.2,baz=155,slow=5.0,SNR=16							
MOD	**Modoc**	**78.19**	**348**	*e*P		**P**	**10 41 52.9**	**0.0**
	21nm,1.5s,mb4.8							
HLID	**Hailey**	**79.04**	**353**	*e*P		**P**	**10 41 57.0**	**-0.5**
	9.4nm,1.0s,mb4.7							
NEW	**Newport**	**83.98**	**352**	P		**P**	**10 42 23.8**	**+0.6**
	1.9nm,0.8s,mb4.3,baz=163,slow=9.8,SNR=4.4							
ULM	**Lac du Bonnet**	**85.64**	**6**	P		**P**	**10 42 31.5**	**+0.1**
	2.2nm,0.8s,mb4.4,baz=160,slow=11,SNR=3.2							
STKA	**Stephens Creek**	**88.50**	**231**	P		**P**	**10 42 45.6**	**-0.1**
	1.9nm,0.9s,mb4.3,baz=107,slow=5.6,SNR=3.6							
STKA				LR		LR	11 14 01.9	
	comp=Z,459nm,21.0s,MS4.9,baz=302,slow=30							
SCHQ	**Schefferville**	**95.64**	**21**	LR		LR	11 21 53.4	
	comp=Z,216nm,19.2s,MS4.6,baz=205,slow=33							
AKASG	**Malin Array Be**	**143.80**	**51**	PKP		PKPdf	10 49 26.4	-3.2
	1.2nm,0.7s,baz=271,slow=4.0,SNR=5.3							
BRTR	**Keskin Array B**	**147.09**	**70**	PKPbc		PKPdf	10 49 36.5	+0.8
	2.6nm,1.0s,baz=236,slow=4.5,SNR=7.1							
ENH	**Enshi**	**150.71**	**270**	PKPbc		PKPdf	10 49 43.7	+2.0
SONM	**Songino Array**	**153.66**	**308**	PKPbc		PKPdf	10 49 51.0	+5.6
	1.4nm,1.0s,baz=136,slow=2.9,SNR=6.5							
ZAL	**Zalesovo**	**160.23**	**343**	PKP		PKPdf	10 49 50.5	-2.9
	0.6nm,0.4s,baz=96,slow=2.2,SNR=3.7							
BVAR	**Borovoye Array**	**162.06**	**9**	PKP		PKPdf	10 49 52.9	-2.4
	1.1nm,0.9s,slow=1.5,SNR=4.6							
WMQ	**Urumqi**	**167.13**	**315**	*e*PKP		PKPdf	10 49 59.8	-0.4
WMQ				LR		LR		
	comp=N,180nm,21.6s							
WMQ				LR		LR		
	comp=E,170nm,21.0s							
WMQ				LR		LR		
	comp=Z,200nm,22.0s							

*NEIC **11** 11:02:47.2±0.7,21.31S×68.49W,h112km±7km, mb4.0/8, Error ellipse: s-maj=11.3km s-min=8.8km az=80.0*

*GUC **11** 11:02:48.9±0.6,21.66S×68.93W,h132km±15km,MD3.9, ML4.1*

*IDC **11** 11:02:53.0±5.8,20.94S×68.26W,h155km±39km,mb3.7/9, mb1 3.9/12,mb1mx3.8/18,mbtmp4.2/12,Error ellipse: s-maj=64.9km s-min=17.7km az=23.0*

ISC 11 11:02:45.2±0.6,21.28S±0.05×68.53W±0.07,h109km±7km, n37,σ1§17/38,mb4.0/14,1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPCH	**San Pedro de A**	**1.65**	**169**	*i* P		**P**	**11 03 17.2**	**+3.0**
SPCH				*i* S		**S**	**11 03 39.1**	**+3.1**
SPCH				AMP			11 03 58.7	
	comp=E,1μm,0.6s							
CEN1	**Los Morros**	**2.61**	**216**	*e*P		**P**	**11 03 28.0**	**+1.2**
CEN1				*i* S		**S**	**11 03 57.2**	**-0.9**
CEN1				AMP			11 04 05.5	
	comp=N,777nm,0.8s							
ANCH	**Antofagasta**	**2.96**	**216**	⇓*i* P		**P**	**11 03 30.3**	**-1.3**
ANCH				*i* S		**S**	**11 04 00.6**	**-5.9**
CPN1	**Cerro Paranal**	**3.75**	**207**	*e*P		**P**	**11 03 40.9**	**-1.4**
CPN1				*i* S		**S**	**11 04 20.6**	**-5.3**
CPN1				AMP			11 04 49.2	
	comp=E,610nm,0.8s							
LPAZ	**La Paz**	**4.98**	**4**	P		**P**	**11 04 03.8**	**+4.8**
	comp=E,5.5nm,0.3s,baz=199,slow=5.2,SNR=47							
LPAZ	**La Paz**	**4.98**	**4**	*e*P		**P**	**11 04 03.3**	**+4.4**
	comp=E,15nm,0.4s							
ARE	**Arequipa**	**5.55**	**329**	P		**P**	**11 04 08.0**	**+1.3**
ARE				*e*S		**S**	**11 05 09.0**	**-0.8**
SIV	**San Ignacio**	**8.81**	**55**	P		**P**	**11 04 50.3**	**-0.7**
	comp=E,7.1nm,0.3s,baz=244,slow=13,SNR=175							
CFAA	**Coronel Fontan**	**10.29**	**179**	P		**P**	**11 05 05.6**	**-5.3**
	comp=E,0.1nm,0.3s,baz=17,slow=6.1,SNR=4.2							
CFAA				S		**S**	**11 06 52.8**	**-12**
	comp=E,0.1nm,0.3s,baz=306,slow=8.0,SNR=3.3							
CFAA	**Coronel Fontan**	**10.29**	**179**	P		**P**	**11 05 05.6**	**-5.3**
CFAA				S		**S**	**11 06 52.8**	**-12**
CPUP	**Villa Florida**	**11.42**	**118**	*e*P		**P**	**11 05 26.1**	**+0.1**
SAML	**Samuel**	**13.30**	**24**	*e*P		**P**	**11 05 52.0**	**+1.3**
TRQA	**Tornquist**	**17.65**	**163**	P		**P**	**11 06 46.5**	**+1.0**
	comp=E,1.9nm,0.7s							
BDFB	**Brasilia**	**20.24**	**77**	P		**P**	**11 07 13.0**	**-0.9**
	comp=E,2.2nm,0.3s,baz=263,slow=9.4,SNR=21							
SDV	**Santo Domingo**	**30.05**	**356**	*e*P		**P**	**11 08 45.0**	**-1.3**
	comp=E,0.9nm,0.4s,mb3.8							
SJG	**San Juan**	**39.22**	**4**	P		**P**	**11 10 02.5**	**-1.9**
	comp=E,5.8nm,0.5s,mb4.7,baz=350,slow=17,SNR=3.2							
TXAR	**Lajitas Array**	**60.65**	**325**	P		**P**	**11 12 45.8**	**-1.4**
	comp=E,0.2nm,0.5s,mb3.4,baz=158,slow=9.7,SNR=3.1							
MNTX	**Cornudas Mount**	**63.42**	**325**	*e*P		**P**	**11 13 04.5**	**-1.1**
	comp=E,1.6nm,1.0s,mb3.9							
ANMO	**Albuquerque**	**66.51**	**327**	*e*P		**P**	**11 13 25.2**	**-0.3**
	comp=E,1.0nm,0.8s,mb3.7,baz=151,slow=5.2,SNR=5.3							
ANMO	**Albuquerque**	**66.51**	**327**	*e*P		**P**	**11 13 25.6**	**0.0**
	comp=E,1.1nm,0.8s,mb3.7							
SDCO	**Great Sand Dun**	**68.24**	**329**	*e*P		**P**	**11 13 36.9**	**+0.7**
	comp=E,3.6nm,1.0s,mb4.2							
DBIC	**Dimbokro**	**68.33**	**73**	P		**P**	**11 13 36.4**	**-0.8**
	comp=E,3.2nm,0.7s,mb4.3,baz=235,slow=7.5,SNR=5.7							
PV01	**Paradox Valley**	**70.05**	**327**	*e*P		**P**	**11 13 48.5**	**+1.2**
ARUT	**Antelope Range**	**72.35**	**324**	*e*P		**P**	**11 14 02.8**	**+1.8**
ISA	**Isabella**	**73.78**	**320**	P		**P**	**11 14 10.2**	**+0.8**
	comp=E,1.9nm,0.6s,mb4.0							
PDAR	**Pinedale Array**	**74.09**	**330**	P		**P**	**11 14 11.4**	**+0.2**
	comp=E,0.6nm,0.7s,mb3.5,baz=131,slow=7.4,SNR=5.1							
ULM	**Lac du Bonnet**	**75.21**	**342**	P		**P**	**11 14 16.8**	**-0.6**
	comp=E,1.1nm,0.5s,mb3.8,baz=140,slow=7.9,SNR=3.1							
NVAR	**Mina Array Bea**	**75.54**	**322**	P		**P**	**11 14 20.6**	**+1.1**
	comp=E,1.0nm,0.9s,mb3.6,baz=144,slow=7.9,SNR=3.5							
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P		**P**	**11 14 26.9**	**-1.0**
	comp=E,3.8nm,0.7s,mb4.2,baz=253,slow=4.4,SNR=22							
TORD				pP		pP	11 14 59.6	+3.7
	comp=E,1.3nm,0.8s,baz=251,slow=5.7,SNR=2.3							
HLID	**Hailey**	**77.04**	**328**	*e*P		**P**	**11 14 29.5**	**+1.6**
	comp=E,3.2nm,0.8s,mb4.1							
YKA	**Yellowknife Ar**	**91.10**	**340**	P		**P**	**11 15 38.6**	**+0.4**
	comp=E,2.1nm,0.5s,mb4.5,baz=133,slow=4.5,SNR=51							
WRA	**Warramunga Arr**	**133.32**	**210**	PKP		PKPdf	11 21 50.3	+1.1
	comp=E,0.3nm,0.6s,baz=160,slow=1.8,SNR=7.4							
ZAL	**Zalesovo**	**141.60**	**25**	PKP		PKPdf	11 22 04.8	+1.5
	comp=E,0.8nm,0.6s,baz=7.5,slow=1.7,SNR=5.1							
ZAL	**Zalesovo**	**141.60**	**25**	PKP		PKPdf	11 22 04.8	+1.5
MKAR	**Makanchi Array**	**145.25**	**36**	PKP		PKPdf	11 22 12.0	+2.2
	comp=E,3.6nm,0.8s,baz=321,slow=3.2,SNR=22							
MKAR	**Makanchi Array**	**145.25**	**36**	PKP		PKPdf	11 22 12.0	+2.2
SONM	**Songino Array**	**153.19**	**8**	PKPbc		PKPdf	11 22 32.1	+10
	comp=E,0.5nm,0.5s,baz=247,slow=0.5,SNR=5.4							

*IDC **11** 11:33:06.2±4.8,47.84N×151.63E,h142km±76km, mb3.4/4, mb1 3.5/6,mb1mx3.2/23,mbtmp3.9/6,Error ellipse: s-maj=101.6km s-min=28.8km az=160.0*

ISC 11 11:33:06.8±1.3,46.3N±0.2×152.1E±0.2,h249km±13km, n28,σ1§03/38,mb3.4/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NEM2	**Nemuro 2**	**5.41**	**239**	P		**P**	**11 34 26.7**	**-1.5**
NEM2				*e*S		**S**	**11 35 30.4**	**-1.3**
JAK	**Akkeshi**	**6.25**	**240**	P		**P**	**11 34 37.6**	**-1.0**
JAK				*e*S		**S**	**11 35 49.3**	**-1.2**
JTKR	**Abashiri--Toko**	**6.26**	**251**	P		**P**	**11 34 38.9**	**+0.1**
JAR	**Ashorobuto**	**6.66**	**246**	P		**P**	**11 34 44.8**	**+1.0**
JOB	**Onbetsu**	**6.83**	**243**	P		**P**	**11 34 45.9**	**0.0**
JOB				*e*S		**S**	**11 36 04.2**	**+0.7**
JKK2	**Kamakawa 2**	**7.06**	**253**	P		**P**	**11 34 49.9**	**+1.0**
ASAJ	**Asahikawa**	**7.07**	**255**	P		**P**	**11 34 50.5**	**+1.5**
	0.0nm,0.3s,baz=87,slow=15,SNR=36							
ASAJ	**Asahikawa**	**7.07**	**255**	P		**P**	**11 34 50.3**	**+1.3**
JCH	**Churui**	**7.28**	**242**	P		**P**	**11 34 51.6**	**0.0**
JCH				*e*S		**S**	**11 36 13.5**	**-0.2**
JFR	**Furan**	**7.48**	**248**	P		**P**	**11 34 56.2**	**+2.0**
JEM	**Erimo**	**7.75**	**239**	P		**P**	**11 34 58.9**	**+1.3**
JBT2	**Biratori 2**	**7.81**	**246**	P		**P**	**11 34 58.4**	**0.0**
JNBK	**Urakawa-nobuka**	**7.84**	**242**	P		**P**	**11 34 57.9**	**-0.8**
JNBK				*e*S		**S**	**11 36 25.6**	**-0.9**
JNB	**Noboribetsu**	**8.81**	**248**	P		**P**	**11 35 11.4**	**+0.2**
JNB				*e*S		**S**	**11 36 50.1**	**+1.4**
JKB	**Kayabe**	**9.12**	**245**	P		**P**	**11 35 14.9**	**-0.1**
JKB				*e*S		**S**	**11 36 54.5**	**-1.1**
JYM2	**Yakumo 2**	**9.42**	**248**	P		**P**	**11 35 18.5**	**-0.3**
JSR	**Shiriuchi**	**9.70**	**245**	P		**P**	**11 35 23.3**	**+1.0**
JTM	**Tenmabayashi**	**9.74**	**239**	P		**P**	**11 35 22.4**	**-0.4**
JTM				*e*S		**S**	**11 37 08.4**	**-1.3**
JANG	**Nango**	**9.74**	**236**	P		**P**	**11 35 22.1**	**-0.7**
JANG				*e*S		**S**	**11 37 08.6**	**-1.1**
OFUJ	**Ofunato**	**10.55**	**230**	*e*S		**S**	**11 37 28.7**	**+0.4**
JRG	**Rokugo**	**10.90**	**235**	P		**P**	**11 35 39.1**	**+1.6**
JRG				*e*S		**S**	**11 37 40.2**	**+4.0**
JIO	**Ouri**	**11.18**	**229**	*e*S		**S**	**11 37 44.2**	**+1.6**
MJAR	**Matsushiro Arr**	**14.28**	**232**	P		**P**	**11 36 30.9**	**+11**
	0.5nm,0.3s,baz=23,slow=11,SNR=9.8							
INK	**Inuvik**	**42.38**	**32**	P		**P**	**11 40 36.6**	**-1.0**
	0.4nm,0.4s,mb3.2,baz=311,slow=3.9,SNR=9.2							
MKAR	**Makanchi Array**	**46.52**	**297**	P		**P**	**11 41 11.3**	**+0.6**
	0.4nm,0.5s,mb3.0,baz=65,slow=7.4,SNR=8.9							
FINES	**FINESS Array B**	**64.12**	**334**	P		**P**	**11 43 13.9**	**-1.8**
	4.1nm,1.1s,mb4.0,baz=42,slow=8.7,SNR=8.5							
NB2	**NORSAR Subarra**	**68.40**	**341**	P		**P**	**11 43 43.1**	**+0.4**
	1.2nm,0.7s,mb3.6,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**68.40**	**341**	P		**P**	**11 43 43.3**	**+0.6**
	0.5nm,0.5s,mb3.4,baz=28,slow=6.4,SNR=3.2							

*NEIC **11** 12:11:39.5,31.20S×68.82W,h150km,MD3.7(GUC),After GUC.*

GUC 11 12:11:39.5±0.5,31.20S×68.82W,h150km,MD3.7,ML3.8, 1C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZON	**Zonda**	**0.36**	**161**	⇓*i* P		P	12 11 57.6	-3.1
ZON				*e*S		S	12 12 11.1	-5.9
MDZ	**Mendoza**	**1.68**	**181**	*e*P		P	12 12 08.9	-2.4
MDZ				S		S	12 12 30.8	-5.0
CMCH	**Combarbala**	**1.87**	**270**	*e*P		P	12 12 14.2	+0.7
CMCH				*e*S		S	12 12 39.9	+0.3
CMCH				AMP			12 12 41.6	
	comp=N,2μm,0.6s							
TLL	**Tololo Astrono**	**2.00**	**300**	*i* P		P	12 12 16.6	+1.7
TLL				*i* S		S	12 12 44.0	+1.9
TLL				AMP			12 12 49.2	
	comp=N,411nm,0.7s							
JACH	**Jahuel**	**2.11**	**225**	*e*P		P	12 12 16.8	+0.4
JACH				*i* S		S	12 12 44.6	0.0
CHNG	**Los Chungos**	**2.39**	**253**	*e*P		P	12 12 19.6	-0.2
CHNG				*i* S		S	12 12 50.1	-0.6
CHNG				AMP			12 12 58.2	
	comp=E,160nm,0.7s							
LSCH	**La Serena**	**2.46**	**301**	*i* P		P	12 12 20.4	-0.3
LSCH				*i* S		S	12 12 51.7	-0.6
LSCH				AMP			12 12 53.5	
	comp=E,311nm,0.4s							
FCH	**Farellones**	**2.46**	**210**	*e*P		P	12 12 21.5	+0.8
FCH				*i* S		S	12 12 53.3	+1.0
FCH				AMP			12 12 57.0	
	comp=E,189nm,0.3s							
PEL	**Peldehue**	**2.50**	**219**	⇑*i* P		P	12 12 21.1	-0.2
PEL				*i* S		S	12 12 53.1	-0.1
PEL				AMP			12 12 54.4	
	comp=E,474nm,0.4s							
ROCH	**El Roble**	**2.57**	**226**	*i* P		P	12 12 22.2	+0.2
ROCH				*i* S		S	12 12 55.0	+0.4
ANTU	**Antumapu**	**2.82**	**213**	*e*P		P	12 12 25.4	+0.1
ANTU				*i* S		S	12 13 00.1	-0.1
ANTU				AMP			12 13 01.3	
	comp=N,236nm,0.5s							
RCDM	**Rinconada Majo**	**2.84**	**216**	*i* P		P	12 12 25.4	0.0
RCDM				*i* S		S	12 13 00.6	0.0
RCDM				AMP			12 13 06.6	
	comp=E,241nm,0.2s							
TACH	**Talagante**	**3.03**	**216**	*i* P		P	12 12 27.5	-0.5
TACH				*i* S		S	12 13 04.4	-0.7
CHCH	**Chadas Angostu**	**3.14**	**209**	*i* P		P	12 12 29.2	-0.1
CHCH				*i* S		S	12 13 07.4	-0.1
LCCH	**Las Cruces**	**3.25**	**225**	*i* P		P	12 12 30.8	-0.1
CACH	**El Canelo**	**3.27**	**207**	*e*P		P	12 12 31.6	+0.5
CACH				*i* S		S	12 13 11.3	+0.6
CICH	**Cipreses**	**3.39**	**203**	*e*P		P	12 12 33.0	+0.3

*IDC **11** 12:20:41.7±0.7,7.81S×129.06E,mb4.2/8,mb1 4.3/8, mb1mx4.2/13,mbtmp4.2/8,MS3.5/3,Ms1 3.5/3, ms1mx3.2/18,Error ellipse

MAW	**Mawson**	**84.49 201**	LR	LR	13 58 46.9	
	comp=Z,90nm,20.2s,baz=241,slow=33					
YKA	**Yellowknife Ar**	**94.65 27**	P	P	13 26 15.3	-1.3
	0.4nm,0.8s,baz=246,slow=4.6,SNR=3.7					

*NEIC **11** 13:19:02.5±1.3,5.23N×94.29E,h30km, Error ellipse: s-maj=36.3km s-min=12.9km az=220.0*
*IDC **11** 13:19:07.4±5.7,5.34N×94.66E,h70km±49km, mb3.5/5, mb1 3.8/6,mb1mx3.5/20,mbtmp3.8/6,ML3.4/1, Error ellipse: s-maj=74.3km s-min=23.0km az=58.0*
ISC 11 13:19:06.8±5.0,5.3N±0.2×94.7E±0.4,h81km±43km,n7, σ0s53/7,mb3.8/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.95**	**121**	P		**P**	**13 20 19.9**	**-0.2**
	1.4nm,0.3s,baz=321,slow=14,SNR=4.4							
KULM	**Kulim**	**5.96**	**90**	*e*P		**P**	**13 20 34.4**	**+0.3**
MKAR	**Makanchi Array**	**42.65**	**347**	P		**P**	**13 26 57.5**	**+0.6**
	2.0nm,0.7s,mb4.0,baz=170,slow=6.8,SNR=27							
SONM	**Songino Array**	**43.51**	**11**	P		**P**	**13 27 03.7**	**-0.2**
	0.6nm,0.7s,mb3.5,baz=185,slow=9.0,SNR=5.5							
WRA	**Warramunga Arr**	**46.40**	**124**	P		**P**	**13 27 27.4**	**+0.1**
	1.9nm,0.7s,mb4.0,baz=301,slow=9.4,SNR=28							
ZAL	**Zalesovo**	**49.11**	**352**	P		**P**	**13 27 47.3**	**-0.6**
	0.9nm,0.4s,mb4.1,baz=307,slow=5.1,SNR=4.1							
GERES	**GERESS Array B**	**80.05**	**319**	P		**P**	**13 31 09.4**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=108,slow=4.2,SNR=4.3							

*THE **11** 13:20:19.6,38.94N×20.45E,h2km,ML2.9*
*ATH **11** 13:20:20.2,38.96N×20.78E,h58km±2km,MD3.1/3*
*CSEM **11** 13:20:20.7±0.1,38.99N×20.63E,h5km,ML2.9, Error ellipse: s-maj=4.2km s-min=2.7km az=85.0*
ISC 11 13:20:20.6±0.6,38.97N±0.03×20.69E±0.05,h7km±6km,n9, σ0s94/16,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.27**	**187**	*e*Pg		**Pg**	**13 20 25.8**	**-0.4**
LKD				*e*Sg		**Sg**	**13 20 30.1**	**+0.3**
IGT	**Igoumenitsa**	**0.62**	**333**	*e*Pg		**Pg**	**13 20 31.7**	**-1.5**
IGT				*e*Sg		**Sg**	**13 20 41.2**	**-0.4**
JAN	**Janina**	**0.69**	**10**	*e*P		**Pg**	**13 20 35.0**	**+0.5**
JAN				*e*S		**Sg**	**13 20 45.5**	**+1.7**
VLS	**Valsamata**	**0.80**	**186**	*e*P		**Pb**	**13 20 36.5**	**+0.1**
VLS				*e*S		**Sb**	**13 20 48.5**	**+1.4**
VLS	**Valsamata**	**0.80**	**186**	*e*Pb		**Pb**	**13 20 36.5**	**+0.1**
VLS				*e*Sn		**Sn**	**13 20 49.5**	**-0.7**
KEK	**Kerkira**	**1.01**	**317**	*e*P		**Pb**	**13 20 40.0**	**-0.1**
KEK				*e*S		**Sb**	**13 20 54.5**	**+1.1**
AGG	**Agios Georgios**	**1.28**	**87**	*e*Pg		**Pg**	**13 20 45.1**	**-1.1**
AGG				*e*Sg		**Sg**	**13 21 04.3**	**+1.1**
LIT	**Litokhoron**	**1.79**	**50**	*e*Pb		**Pb**	**13 20 52.1**	**-1.2**
GRG	**Griva**	**2.38**	**33**	*e*Pn		**Pn**	**13 20 59.8**	**-0.8**

*BJI **11** 13:22:59.6,44.65N×148.97E,h37km,mB5.0,mb4.7, Ms4.4,Msz4.1*
*NIED **11** 13:23:00,44.00N×148.00E,h44km,Mw4.3 Best double couple: M0 2.94×10^15 NP1:φs=359°,δ82°,λ69°. NP2:φs=250°, δ23°,λ160°.*
*MOS **11** 13:23:03.8±0.8,44.44N×148.09E,h36km,mb4.9/32, Error ellipse: s-maj=11.7km s-min=6.9km az=100.5*
*SKHL **11** 13:23:06.0±2.7,44.42N×148.33E,h44km±2km,mb4.8/1*
*NEIC **11** 13:23:06.8±0.9,44.52N×148.15E,h48km±8km,mb4.7/33, Error ellipse: s-maj=7.4km s-min=5.9km az=145.0*
*JMA **11** 13:23:06.8±0.3,44.03N×148.00E,M4.6*
*IDC **11** 13:23:10.4±3.0,44.54N×148.09E,h81km±26km,mb3.9/24, mb1 4.1/26,mb1mx4.0/28,mbtmp4.2/26,MS3.6/10, Ms1 3.6/10,ms1mx3.3/41,Error ellipse: s-maj=13.9km s-min=11.8km az=151.0*
ISC 11 13:23:04.5±0.3,44.42N±0.03×148.31E±0.04,h44km, (h34km±5.7km:pP-P),n182,σ1§14/192,mb4.6/67,MS3.9/12, 8C-11D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.87**	**339**	⇓*i*P		**P**	**13 23 20.0**	**-0.4**
KUR				*i* P			13 23 20.0	
KUR				AMB		AMB	13 23 28.0	
	8μm,2.0s							
KUR				AMB		AMB	13 23 28.0	
	6μm,2.0s							
KUR				AMB		AMB	13 23 28.0	
	6μm,2.0s							
KUR				*i* S		**S**	**13 23 32.2**	**+0.1**
KUR				A			13 23 35.0	
	25μm,1.6s							
KUR				A			13 23 35.0	
	18μm,1.6s							
KUR	**Kuril'sk**	**0.87**	**339**	⇓*i*PN		**P**	**13 23 20.0**	**-0.4**
KUR				*i* S		**S**	**13 23 32.2**	**+0.1**
KUR				pmax		pmax		
	comp=N,400nm,0.5s							
KUR				pmax		pmax		
	comp=E,300nm,0.5s							
KUR				pmax		pmax		
	comp=Z,2μm,0.5s							
KUR				pmax		pmax		
	comp=N,8μm,1.6s							
KUR				pmax		pmax		
	comp=E,6μm,1.6s							
KUR				pmax		pmax		
	comp=Z,6μm,1.6s							
KUR				smax				
	comp=N,6μm,0.5s							
KUR				smax				
	comp=E,4μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.80**	**258**	⇓*i*P		**P**	**13 23 35.0**	**+1.3**
YUK				AMB		AMB	13 23 37.0	
	comp=E,710nm,0.4s							
YUK				AMB		AMB	13 23 37.0	
	comp=E,1μm,0.4s							
YUK				AMB		AMB	13 23 37.0	
	comp=E,3μm,0.4s							
YUK				AMB		AMB	13 23 37.3	
	comp=E,3μm,1.0s							
YUK				AMB		AMB	13 23 37.3	
	comp=E,2μm,1.0s							
YUK				AMB		AMB	13 23 37.3	
	comp=E,10μm,1.0s							
YUK				sP			13 23 52.7	
YUK				*i* S		**S**	**13 23 55.0**	**-0.4**
YUK				A			13 24 03.5	
	comp=E,9μm,0.4s							
YUK				A			13 24 03.5	
	comp=E,8μm,0.4s							
YUK				A			13 24 04.5	
	comp=E,21μm,0.8s							
YUK				A			13 24 04.5	
	comp=E,8μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**1.80**	**258**	⇓*i*PN		**P**	**13 23 35.0**	**+1.3**
YUK				*i*			13 23 52.7	
YUK				pmax		pmax		
	comp=N,710nm,0.4s							
YUK				pmax		pmax		
	comp=Z,3μm,0.4s							
YUK				pmax		pmax		
	comp=E,1μm,0.4s							
YUK				pmax		pmax		
	comp=Z,10μm,0.4s							
YUK				pmax		pmax		
	comp=N,3μm,0.7s							
YUK				pmax		pmax		
	comp=E,2μm,0.7s							
YUK				smax				
	comp=N,9μm,0.4s							
YUK				smax				
	comp=E,8μm,0.4s							
YUK				smax				
	comp=N,21μm,0.8s							
YUK				smax				
	comp=E,8μm,0.8s							
NEM2	**Nemuro 2**	**2.13**	**241**	P		**P**	**13 23 38.9**	**+0.5**
NEM2				*e*S		**S**	**13 24 02.4**	**-1.4**
JRA	**Rausu**	**2.34**	**259**	P		**P**	**13 23 43.6**	**+2.2**
JRA				*e*S		**S**	**13 24 10.3**	**+1.2**
JNK	**Nakash**	**2.72**	**253**	P		**P**	**13 23 48.4**	**+1.6**
JNK				*e*S		**S**	**13 24 18.7**	**0.0**
JAK	**Akkeshi**	**2.98**	**243**	P		**P**	**13 23 51.0**	**+0.5**
JAK				*e*S		**S**	**13 24 23.4**	**-1.9**
JTKR	**Abashiri--Toko**	**3.20**	**263**	P		**P**	**13 23 55.4**	**+1.9**
JAR	**Ashorobuto**	**3.47**	**253**	P		**P**	**13 23 59.4**	**+2.0**
JAR				*e*S		**S**	**13 24 37.6**	**-0.1**
JCH	**Churui**	**4.03**	**245**	P		**P**	**13 24 05.8**	**+0.5**
JCH				*e*S		**S**	**13 24 50.1**	**-1.7**
JKK2	**Kamakawa 2**	**4.04**	**264**	P		**P**	**13 24 08.2**	**+2.8**
ASAJ	**Asahikawa**	**4.11**	**268**	P		**P**	**13 24 08.4**	**+1.9**
	comp=E,14nm,0.3s,baz=70,slow=22,SNR=51							
ASAJ				S		**S**	**13 25 07.2**	**+13**
	comp=E,12nm,0.3s,baz=37,slow=33,SNR=4.5							
ASAJ				LR		LR	13 25 56.8	
	comp=E,573nm,18.7s,baz=196,slow=42							
JSE	**Soyaes**	**4.12**	**279**	P		**P**	**13 24 08.3**	**+1.8**
JFR	**Furan**	**4.33**	**255**	P		**P**	**13 24 12.1**	**+2.6**
JNBK	**Urakawa-nobuka**	**4.58**	**244**	P		**P**	**13 24 13.3**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.64**	**305**	⇓*i*P		**P**	**13 24 15.0**	**+1.0**
YSS				AMB		AMB	13 24 15.9	
	comp=E,110nm,0.6s							
YSS				*e*S		**S**	**13 25 07.0**	**-0.2**
YSS				A			13 25 12.8	
	comp=E,110nm,0.9s							
YSS				A			13 25 12.8	
	comp=E,70nm,0.9s							
YSS				AMS		AMS	13 26 06.0	
	comp=E,500nm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.64**	**305**	⇓*i*PN		**P**	**13 24 15.0**	**+1.0**
YSS				*e*S		**S**	**13 25 10.0**	**+2.8**
YSS				pmax		pmax		
	comp=Z,110nm,0.6s							
YSS				smax				
	comp=N,110nm,0.9s							
YSS				smax				
	comp=E,70nm,0.9s							
YSS				MLR		MLR		
	comp=Z,500nm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.64**	**305**	*e*P		**P**	**13 24 14.8**	**+0.9**
JWK2	**Keihoku**	**4.64**	**283**	P		**P**	**13 24 16.9**	**+2.9**
JHR	**Hokuryu**	**4.79**	**264**	P		**P**	**13 24 19.3**	**+3.2**
JEW	**Eniwo**	**5.22**	**255**	P		**P**	**13 24 25.7**	**+3.6**
JKB	**Kayabe**	**5.89**	**247**	P		**P**	**13 24 32.4**	**+0.9**
JKB				*e*S		**S**	**13 25 35.0**	**-3.7**
UGL	**Uglegorsk**	**6.33**	**320**	*e*P		**P**	**13 24 40.0**	**+2.4**
UGL				AMB		AMB	13 24 44.0	
	comp=Z,90nm,0.8s							
UGL				sP			13 24 59.0	
TEY	**Ternei**	**8.36**	**278**	*e*P		**P**	**13 25 06.0**	**+0.2**
HABR	**Khabarovsk**	**10.00**	**299**	⇓*i*PN		**P**	**13 25 30.9**	**+2.5**
HABR				*i* S		**S**	**13 27 19.9**	**-0.5**
HABR				pmax		pmax		
	comp=Z,69nm,1.2s							
MAJO	**Matsushiro**	**11.00**	**228**	*e*PN		**P**	**13 25 40.1**	**-1.9**
MAJO				pmax		pmax		
	comp=Z,21nm,0.9s							
MAJO	**Matsushiro**	**11.00**	**228**	*e*P		**P**	**13 25 40.0**	**-2.0**
	comp=Z,21nm,0.9s							
MAT	**Matsushiro**	**11.00**	**228**	P		**P**	**13 25 40.1**	**-2.0**
MAT				*e*S		**S**	**13 27 43.9**	**-0.8**
MAT	**Matsushiro**	**11.00**	**228**	*e*PN		**P**	**13 25 40.0**	**-2.1**
MAT				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MAT	**Matsushiro**	**11.00**	**228**	*e*P		**P**	**13 25 40.0**	**-2.1**
	comp=Z,10nm,0.8s							
MJAR	**Matsushiro Arr**	**11.00**	**228**	P		**P**	**13 25 40.0**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=30,slow=13,SNR=13							
MJAR				LR		LR	13 30 06.5	
	comp=Z,202nm,20.6s,baz=55,slow=38							
EKMR	**Ekimchan**	**13.30**	**316**	*e*P		**P**	**13 26 10.6**	**-2.2**
EKMR				AMB		AMB	13 26 12.9	
	comp=Z,8.0nm,0.6s							
YASR	**Yasnyy**	**16.00**	**311**	*e*P		**P**	**13 26 45.2**	**-2.6**
YASR				AMB		AMB	13 26 47.7	
	comp=Z,8.0nm,0.8s							
BMKR	**Bomnak**	**16.23**	**316**	*e*P		**P**	**13 26 50.9**	**+0.2**
BMKR				AMB		AMB	13 26 52.6	
	comp=Z,6.0nm,0.6s							
CN2	**Changchun**	**16.43**	**276**	*e*P		**P**	**13 26 53.9**	**+0.8**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s							
ZEA	**Zeya**	**16.59**	**312**	*e*P		**P**	**13 26 53.9**	**-1.3**
ZEA				AMB		AMB	13 26 54.5	
	comp=Z,11nm,0.9s							
KROS	**Kirovskiy**	**17.05**	**314**	*e*P		**P**	**13 27 00.5**	**-0.4**
KROS				AMB		AMB	13 27 01.3	
	comp=Z,3.0nm,0.5s							
JNU	**Nakatsue**	**17.63**	**236**	P		**P**	**13 27 10.6**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=50,slow=21,SNR=6.2							
HIA	**Hailar**	**20.07**	**294**	*e*P		**P**	**13 27 34.2**	**-2.4**
HIA				pmax		pmax		
	comp=Z,5.0nm,0.7s							
HIA	**Hailar**	**20.07**	**294**	*e*P		**P**	**13 27 34.2**	**-2.4**
	comp=Z,4.6nm,0.7s							
YAK	**Yakutsk**	**20.73**	**335**	*e*P		**P**	**13 27 39.0**	**-4.3**
YAK				pmax		pmax		
	comp=Z,21nm,0.8s							
YAK	**Yakutsk**	**20.73**	**335**	*e*P		**P**	**13 27 39.0**	**-4.3**
	comp=Z,20nm,0.8s							
JOW	**Kunigami**	**23.84**	**229**	LR		LR	13 37 51.5	
	comp=Z,56nm,19.7s,MS3.0,baz=124,slow=37							
TIA	**Tai'an**	**25.04**	**262**	*e*P		**P**	**13 28 26.6**	**+0.7**
SSE	**Sheshan**	**25.10**	**247**	*e*P		**P**	**13 28 32.2**	**+5.7**
SSE				AMB		AMB		
	comp=Z,30nm,0.6s,mb5.0							
SSE				AMB		AMB		
	comp=Z,290nm,4.5s							
NJ2	**Nanjing**	**26.08**	**252**	*e*P		**P**	**13 28 38.1**	**+2.5**
NJ2				AP		pP	13 28 46.4	-0.7
NJ2				XP		sP	13 28 51.5	-0.9
NJ2				PP		PP	13 29 25.0	+7.0
NJ2				PPP		PPP	13 29 37.4	+7.3
NJ2				S		**S**	**13 33 13.0**	**+11**
NJ2				AMB		AMB		
	comp=Z,30nm,1.1s,mb4.7							
NJ2				LR		LR		
	comp=N,2μm,15.1s,MS4.8							
NJ2				LR		LR		
	comp=E,1μm,16.0s,MS4.8							
NJ2				LR		LR		
	comp=Z,750nm,14.8s,MS4.4							
HHC	**Hu-ho-hao-te**	**27.12**	**275**	*e*P		**P**	**13 28 49.5**	**+4.4**
HHC				AP		pP	13 29 01.1	+4.4
HHC				PP		PP	13 29 38.8	+6.5
HHC				S		**S**	**13 33 23.8**	**+5.3**
HHC				XS			13 33 45.3	
HHC				SS		SS	13 34 44.2	+8.8
HHC				PCS			13 35 46.7	
HHC				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.4							
HHC				AMB		AMB		
	comp=Z,140nm,4.9s							
HHC				LR		LR		
	comp=N,120nm,12.0s,MS4.0							
HHC				LR		LR		
	comp=E,240nm,12.0s,MS4.0							
HHC				LR		LR		
	comp=Z,160nm,9.8s							
ULN	**Ulaanbaatar**	**28.55**	**292**	*e*P		**P**	**13 28 57.2**	**-0.7**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**28.55**	**292**	*e*P		**P**	**13 28 57.2**	**-0.7**
	comp=Z,4.0nm,0.9s,mb4.2							
SONM	**Songino Array**	**28.99**	**292**	P		**P**	**13 29 01.8**	**-0.1**
	comp=Z,3.2nm,0.9s,mb4.1,baz=79,slow=8.3,SNR=14							
SONM				LR		LR	13 41 05.7	
	comp=Z,127nm,21.5s,MS3.5,baz=26,slow=37							
WHN	**Wuhan**	**30.06**	**254**	P		**P**	**13 29 11.3**	**-0.3**
XAN	**Xi'an**	**31.95**	**265**	P		**P**	**13 29 27.0**	**-1.2**
LZH	**Lanzhou**	**34.59**	**272**	*e*P		**P**	**13 29 51.3**	**+0.3**
LZH				AP		pP	13 29 57.9	-5.0
LZH				AMB		AMB		
	comp=Z,30nm,1.0s,mb5.2							
LZH				AMB		AMB		
	comp=Z,170nm,4.5s							
GTA	**Gaotai**	**36.01**	**279**	*e*P		**P**	**13 30 03.0**	**-0.1**
GTA				AP		pP	13 30 12.5	-2.5
GTA				XP		sP	13 30 17.2	-3.4
GTA				PCP		PcP	13 32 28.9	-0.3
CD2	**Chengdu**	**37.30**	**264**	P		**P**	**13 30 13.8**	**-0.2**
CD2				AMB		AMB		
	comp=Z,30nm,0.6s,mb5.3							
IMA2	**Indian Mountai**	**37.65**	**34**	*e*P		**P**	**13 30 17.3**	**+0.7**
KDAK	**Kodiak Island**	**38.18**	**48**	P		**P**	**13 30 21.1**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.3,baz=270,slow=10,SNR=3.9							
MCK	**McKinley**	**39.59**	**38**	*e*P		**P**	**13 30 33.7**	**+1.0**
MCK				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.2							
MCK	**McKinley**	**39.59**	**38**	*e*P		**P**	**13 30 33.7**	**+1.0**
	comp=Z,4.8nm,1.1s,mb4.1							
COLA	**College**	**40.03**	**37**	*e*P		**P**	**13 30 36.8**	**+0.4**
COLA				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.4							
COLA	**College**	**40.03**	**37**	*e*P		**P**	**13 30 36.8**	**+0.4**
	comp=Z,8.1nm,1.0s,mb4.4							
ILAR	**Eielson Array**	**40.45**	**37**	P		**P**	**13 30 40.5**	**+0.6**
	comp=Z,4.3nm,1.1s,mb4.1,baz=259,slow=7.2,SNR=21							
ZAL	**Zalesovo**	**41.28**	**307**	P		**P**	**13 30 46.2**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.6,baz=357,slow=13,SNR=3.0							
ZAL				PcP		PcP	13 32 44.2	-1.3
	comp=Z,3.6nm,0.7s,baz=54,slow=3.1,SNR=17							
ZAL				LR		LR	13 49 09.6	
	comp=Z,88nm,20.8s,MS3.6,baz=54,slow=38							
ZAL	**Zalesovo**	**41.28**	**307**	P		**P**	**13 30 46.2**	**-0.6**
ZAL				PcP		PcP	13 32 44.2	-1.3
ZAL				LR		LR	13 49 09.6	
WMQ	**Urumqi**	**42.62**	**291**	*e*P		**P**	**13 30 58.5**	**+0.6**
WMQ				AP		pP	13 31 12.0	+2.0
WMQ				AMB		AMB		
	comp=Z,70nm,5.2s							
WMQ				LR		LR		
	comp=N,540nm,21.6s,MS4.5							
WMQ				LR		LR		
	comp=E,550nm,22.0s,MS4.5							
WMQ				LR		LR		
	comp=Z,550nm,21.0s,MS4.4							
MKAR	**Makanchi Array**	**45.01**	**297**	P		**P**	**13 31 16.6**	**-0.5**
	comp=Z,6.0nm,0.8s,mb4.5,baz=77,slow=7.9,SNR=38							
MKAR				PcP		PcP	13 32 57.2	-0.8
	comp=Z,2.9nm,0.6s,baz=63,slow=3.6,SNR=14							
MKAR				LR		LR	13 51 22.8	
	comp=Z,114nm,19.0s,MS3.8,baz=44,slow=38							
MKAR	**Makanchi Array**	**45.01**	**297**	P		**P**	**13 31 16.6**	**-0.5**
MKAR				PcP		PcP	13 32 57.2	-0.8
MKAR				LR		LR	13 51 22.8	
INK	**Inuvik**	**45.40**	**31**	P		**P**	**13 31 20.1**	**+0.2**
	comp=Z,1.9nm,0.5s,mb4.2,baz=299,slow=6.6,SNR=25							
INK	**Inuvik**	**45.40**	**31**	*e*P		**P**	**13 31 20.3**	**+0.4**
INK				pmax		pmax		
	comp=Z,4.0nm,1.0s							
INK	**Inuvik**	**45.40**	**31**	*e*P		**P**	**13 31 20.3**	**+0.4**
	comp=Z,3.9nm,1.0s,mb4.2							
LSA	**Lhasa**	**47.00**	**272**	*e*P		**P**	**13 31 34.7**	**+1.6**
LSA	**Lhasa**	**47.00**	**272**	*e*P		**P**	**13 31 34.2**	**+1.1**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**47.00**	**272**	*e*P		**P**	**13 31 34.2**	**+1.1**
	comp=Z,4.1nm,0.6s,mb4.5							
DLBC	**Dease Lake**	**49.62**	**43**	P		**P**	**13 31 54.9**	**+1.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=9,3,slow=23,SNR=5.2							
BVAR	**Borovoye Array**	**49.72**	**309**	P		**P**	**13 31 51.9**	**-2.0**
	comp=Z,0.4nm,0.4s,mb3.8,baz=3.5,slow=38,SNR=3.8							
BVAR				PcP		PcP	13 33 13.3	-1.4
	comp=Z,1.8nm,0.5s,baz=76,slow=3.0,SNR=9.4							
JIRN	**Jiri**	**51.73**	**273**	*e*P		**P**	**13 32 09.4**	**-0.1**
	comp=Z,50nm,0.7s,mb5.5							
GUN	**Gumba**	**51.81**	**273**	*e*P		**P**	**13 32 09.8**	**-0.2**
AAK	**Ala-Archa**	**51.82**	**296**	⇓*i*P		**P**	**13 32 08.6**	**-1.3**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.7s,mb4.2							
KKN	**Kakani**	**52.31**	**274**	*e*P		**P**	**13 32 13.7**	**-0.1**
	comp=Z,34nm,0.8s,mb5.3							
KKN	**Kakani**	**52.31**	**274**	*e*P		**P**	**13 32 13.7**	**-0.1**
KKN				pmax		pmax		
	comp=Z,17nm,0.8s,mb5.0							
PKI	**Pulchoki**	**52.34**	**273**	*e*P		**P**	**13 32 13.3**	**-0.8**
	comp=Z,41nm,1.0s,mb5.3							
PKI	**Pulchoki**	**52.34**	**273**	*e*P		**P**	**13 32 13.3**	**-0.8**
PKI				pmax		pmax		
	comp=Z,21nm,1.0s,mb5.0							
DMN	**Daman**	**52.54**	**274**	*e*P		**P**	**13 32 15.2**	**-0.3**
	comp=Z,43nm,0.7s,mb5.5							
GKN	**Gorkha**	**52.64**	**274**	*e*P		**P**	**13 32 15.7**	**-0.6**
	comp=Z,49nm,0.7s,mb5.5							
KOLN	**Koldanda**	**53.52**	**275**	*e*P		**P**	**13 32 22.4**	**-0.4**
PMG	**Port Moresby**	**53.59**	**181**	LR		LR	13 53 38.8	
	comp=Z,56nm,18.0s,MS3.7,baz=270,slow=34							
ARU	**Arti**	**54.42**	**317**	*e*P		**P**	**13 32 24.9**	**-4.2**
YKA	**Yellowknife Ar**	**54.78**	**34**	P		**P**	**13 32 31.6**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.5,baz=298,slow=6.7,SNR=28							
YKA				PcP		PcP	13 33 31.8	-1.6
	comp=Z,0.5nm,0.6s,baz=301,slow=3.7,SNR=3.9							
AKTK	**Aktyubinsk**	**57.73**	**311**	P		**P**	**13 32 51.5**	**-1.3**
AKTK				LR		LR	13 59 20.2	
AKTO	**Aktyubinsk**	**57.73**	**311**	P		**P**	**13 32 51.5**	**-1.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=28,slow=3.4,SNR=5.1							
AKTO				LR		LR	13 59 20.2	
	comp=Z,90nm,19.0s,MS3.9,baz=287,slow=38							
ARCES	**ARCESS Array B**	**58.91**	**340**	P		**P**	**13 32 58.3**	**-2.5**
	comp=Z,2.1nm,0.7s,mb4.2,baz=48,slow=7.6,SNR=9.5							
ARCES				PcP		PcP	13 33 48.5	-0.9
	comp=Z,2.0nm,0.7s,baz=56,slow=4.4,SNR=4.4							
PSI	**Prapat**	**60.02**	**241**	LR		LR	14 00 43.4	
	comp=Z,54nm,18.1s,MS3.7,baz=299,slow=38							
JOF	**Joensuu**	**61.88**	**332**	*e*p		**P**	**13 33 19.4**	**-1.7**
	comp=Z,1.4nm,0.4s,mb4.4							
KAF	**Kangasniemi**	**64.08**	**334**	*e*p		**P**	**13 33 33.8**	**-1.7**
	comp=Z,1.8nm,0.4s,mb4.5							
KAF	**Kangasniemi**	**64.08**	**334**	*e*P		**P**	**13 33 33.8**	**-1.7**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.5							
CTA	**Charters Tower**	**64.22**	**182**	P		**P**	**13 33 37.2**	**0.0**
	comp=Z,1.9nm,0.9s,mb4.1,baz=72,slow=9.6,SNR=3.2							
FINES	**FINESS Array B**	**64.65**	**333**	P		**P**	**13 33 35.9**	**-3.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=60,slow=6.9,SNR=25							
OBN	**Obninsk**	**65.26**	**324**	*e*P		**P**	**13 33 42.2**	**-1.1**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
WRAB	**Tennant Creek**	**65.30**	**194**	⇑*e*P		**P**	**13 33 43.8**	**-0.4**
WRA	**Warramunga Arr**	**65.31**	**194**	P		**P**	**13 33 43.6**	**-0.7**
	comp=Z,2.8nm,0.8s,mb4.3,baz=14,slow=6.7,SNR=16							
NVAR	**Mina Array Bea**	**66.52**	**59**	P		**P**	**13 33 52.5**	**+0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=301,slow=5.2,S

NAY AMb AMB 13 34 56.6
comp=Z,17nm,0.9s,mb5.0

RDF Al-Radifah 77.39 298 *e*P **P 13 34 55.9 -0.6**
RDF AMb AMB 13 34 58.2
comp=Z,49nm,1.1s,mb5.4

BRTR Keskin Array B 77.68 314 P **P 13 34 58.0 +0.2**
comp=Z,1.9nm,0.7s,mb4.1,baz=80,slow=3.5,SNR=7.7

ANTO Ankara 78.00 315 ⇑P **P 13 34 59.5 -0.1**
KHC Kasperske Hory 78.77 332 *e*P **P 13 35 02.5 -1.1**
GERES GERESS Array B 78.97 331 P **P 13 35 04.3 -0.5**
comp=Z,1.0nm,0.5s,mb4.0,baz=38,slow=6.0,SNR=17

GRA1 Grafenberg Arr 79.07 333 *e*P **P 13 35 05.3 +0.1**
comp=Z,8.0nm,1.1s,mb4.6

GRF Grafenberg Arr 79.07 333 *e*P **P 13 35 05.3 +0.1**
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6

GRF Grafenberg Arr 79.07 333 *e*P **P 13 35 05.3 +0.1**
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6

GRF Grafenberg Arr 79.07 333 *e*P **P 13 35 05.3 +0.1**
comp=Z,8.0nm,1.1s,mb4.6

VTS Vitosha 80.44 322 ⇑P **P 13 35 12.9 +0.1**
ISP Isparta 80.70 315*c i*P **P 13 35 12.8 -1.5**
CDF Champ du Feu 81.43 335 *e*P **P 13 35 17.5 -0.4**
comp=Z,8.6nm,0.9s,mb4.4

CDF Champ du Feu 81.43 335 *e*P **P 13 35 17.5 -0.4**
CDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3

TXAR Lajitas Array 81.58 57 P **P 13 35 20.4 +1.4**
comp=Z,1.5nm,0.6s,mb4.1,baz=290,slow=3.6,SNR=24

MEZF Maizieres J'vi 82.01 336 *e*P **P 13 35 20.7 -0.1**
HAU Haudompre 82.08 335 *e*P **P 13 35 20.5 -0.7**
HINF Hinteralfeld 82.09 335 *e*P **P 13 35 21.3 0.0**
FLN La Foliniere 83.25 340 *e*P **P 13 35 27.0 -0.2**
LDF La Druitiere 83.32 340 *e*P **P 13 35 27.2 -0.3**
CABF La Chapelle 83.40 335 *e*P **P 13 35 27.9 -0.1**
comp=Z,11nm,0.9s,mb4.6

CABF La Chapelle 83.40 335 *e*P **P 13 35 27.9 -0.1**
CABF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6

GRR Gorron 83.69 340 *e*P **P 13 35 29.5 +0.2**
SMF Signal de Mont 84.04 336 *e*P **P 13 35 31.2 +0.1**
comp=Z,37nm,1.1s,mb5.1

SMF Signal de Mont 84.04 336 *e*P **P 13 35 31.2 +0.1**
SMF pmax pmax
comp=Z,18nm,1.1s,mb5.1

AVF Avril sur Loir 84.05 337 *e*P **P 13 35 31.4 +0.2**
comp=Z,14nm,0.8s,mb4.8

AVF Avril sur Loir 84.05 337 *e*P **P 13 35 31.4 +0.2**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8

LPL La Plagne 84.18 334 *e*P **P 13 35 32.5 +0.6**
comp=Z,9.6nm,0.8s,mb4.7

LPL La Plagne 84.18 334 *e*P **P 13 35 32.5 +0.6**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.7

LPG La Plagne 84.19 334 *e*P **P 13 35 32.8 +0.8**
comp=Z,14nm,0.9s,mb4.8

LPG La Plagne 84.19 334 *e*P **P 13 35 32.8 +0.8**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.8

SGMF Saint Gilles 84.23 341 *e*P **P 13 35 32.4 +0.4**
comp=Z,15nm,0.6s,mb5.0

SGMF Saint Gilles 84.23 341 *e*P **P 13 35 32.4 +0.4**
SGMF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0

BGF Bois d'Agland 84.40 337 *e*P **P 13 35 33.6 +0.6**
comp=Z,9.3nm,0.8s,mb4.7

BGF Bois d'Agland 84.40 337 *e*P **P 13 35 33.6 +0.6**
BGF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7

QUIF Quistinic 84.69 341 *e*P **P 13 35 34.6 +0.3**
comp=Z,24nm,1.0s,mb5.0

QUIF Quistinic 84.69 341 *e*P **P 13 35 34.6 +0.3**
QUIF pmax pmax
comp=Z,12nm,1.0s,mb5.0

TCF Toulx Ste Croi 84.83 337 *e*P **P 13 35 35.4 +0.3**
comp=Z,9.1nm,0.8s,mb4.6

TCF Toulx Ste Croi 84.83 337 *e*P **P 13 35 35.4 +0.3**
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7

MBDF Montbardon 84.88 334 *e*P **P 13 35 35.5 +0.1**
comp=Z,6.2nm,0.6s,mb4.6

MBDF Montbardon 84.88 334 *e*P **P 13 35 35.5 +0.1**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6

ORIF Oris-en-Rattie 84.99 334 *e*P **P 13 35 36.5 +0.6**
comp=Z,13nm,0.8s,mb4.8

ORIF Oris-en-Rattie 84.99 334 *e*P **P 13 35 36.5 +0.6**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8

MFF Saint Martin d 85.17 339 *e*P **P 13 35 37.5 +0.7**
comp=Z,26nm,0.9s,mb5.0

MFF Saint Martin d 85.17 339 *e*P **P 13 35 37.5 +0.7**
MFF pmax pmax
comp=Z,13nm,0.9s,mb5.1

VIVF Saint-Julien-l 85.42 335 *e*P **P 13 35 38.6 +0.6**
RJF Les Rejaudoux 85.92 337 *e*P **P 13 35 41.1 +0.6**
CAF Calviac 86.12 337 *e*P **P 13 35 42.6 +1.1**
comp=Z,22nm,1.1s,mb5.0

CAF Calviac 86.12 337 *e*P **P 13 35 42.6 +1.1**
CAF pmax pmax
comp=Z,11nm,1.1s,mb5.0

LFF La Frestale 86.47 338 *e*P **P 13 35 44.2 +1.0**
comp=Z,25nm,0.8s,mb5.2

LFF La Frestale 86.47 338 *e*P **P 13 35 44.2 +1.0**
LFF pmax pmax
comp=Z,13nm,0.8s,mb5.2

EPF Esparros 88.35 337 *e*P **P 13 35 53.5 +1.2**
ETSF Etsaut 88.72 338 *e*P **P 13 35 55.6 +1.5**
comp=Z,14nm,1.0s,mb5.0

ETSF Etsaut 88.72 338 *e*P **P 13 35 55.6 +1.5**
ETSF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0

ESDC Sonseca Array 72.63 339 P **P 13 36 12.5 0.0**
comp=Z,0.7nm,0.8s,mb4.2,baz=23,slow=3.9,SNR=5.0

TORD Torodi Ar. Bea 115.16 324 PKP PKPdf 13 41 41.0 -0.3
comp=Z,0.4nm,0.5s,baz=7.8,slow=1.9,SNR=8.0

BDFB Brasilia 148.15 31 PKPbc PKPdf 13 42 47.4 +5.0
comp=Z,3.3nm,0.7s,baz=220,slow=2.0,SNR=4.8

PLCA Paso Flores 151.33 96 PKPbc PKPdf 13 42 54.9 +8.3
comp=Z,1.5nm,0.6s,baz=283,slow=4.0,SNR=6.6

IDC 11 13:30:15.8±1.8,2.93N×127.85E,mb3.5/4,mb1 3.7/4, mb1mx3.6/17,mbtmp3.6/4,Error ellipse: s-maj=100.5km s-min=23.3km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.02**	**186**	P		P	13 35 01.0	-2.6
	1.3nm,1.0s,baz=89,slow=22,SNR=3.1							
WRA	**Warramunga Arr**	**23.61**	**165**	P		P	13 35 28.0	-1.4
	1.0nm,0.5s,baz=345,slow=21,SNR=22							
STKA	**Stephens Creek**	**37.00**	**160**	P		P	13 37 27.9	-1.1
	0.7nm,0.5s,baz=336,slow=14,SNR=3.1							
MKAR	**Makanchi Array**	**58.84**	**325**	P		P	13 40 16.2	-2.4
	0.2nm,0.5s,baz=128,slow=6.9,SNR=11							

*NEIC **11** 13:30:38.0,49.27N×112.83W,h30km,MN3.2(PGC),After PGC.*

PGC 11 13:30:39.0,49.28N×112.83W,h30km,MN3.2/5,1C, South of Lethbridge, Alberta.,Alberta

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WALA	**Waterton Lakes**	**0.74**	**253**	⇑P		Pb	13 30 53.0	-0.4
WALA				S		Sb	13 31 03.7	+0.5
WALA				Trac			13 31 04.3	
	comp=Z,358nm,0.1s							
WALA				Trac			13 31 04.3	
	comp=Z,358nm,0.1s							
CHMT	**Chamberlain Mo**	**2.38**	**187**	*e*P		Pn	13 31 15.2	-1.6
EGMT	**Eagleton**	**2.39**	**120**	*e*P		Pn	13 31 14.3	-2.7
MSO	**Missoula**	**2.56**	**197**	*e*P		Pn	13 31 17.1	-2.3
HRY	**Holter Researc**	**2.65**	**165**	*e*P		Pn	13 31 18.2	-2.6
BOZ	**Bozeman (W)**	**3.72**	**167**	*e*P		Pn	13 31 32.7	-3.2
SLEB	**Sale Mountain**	**3.90**	**301**	Pn		Pn	13 31 36.6	-1.8
SLEB				Pg		Pn	13 31 52.1	+14
SLEB				Trac			13 32 51.5	
	comp=Z,23nm,0.3s							
DLMT	**Dillon**	**3.92**	**178**	*e*P		Pn	13 31 35.5	-3.2
EDM	**Edmonton**	**3.97**	**355**	⇑Pn		Pn	13 31 36.8	-2.6
EDM				Sn		Sn	13 32 19.7	-5.8
EDM				Trac			13 32 22.1	
	comp=Z,26nm,0.1s							
EDM				Trac			13 32 22.1	
	comp=Z,26nm,0.1s							
EDM	**Edmonton**	**3.97**	**355**	*e*P		Pn	13 31 36.5	-2.9
GCMT	**Greycliff**	**4.09**	**147**	P		Pn	13 31 36.6	-4.6
DOWB	**Downie Slide**	**4.28**	**304**	Pn		Pn	13 31 41.6	-2.2
DOWB				Sg		Sn	13 32 52.7	+19
PNT	**Penticton**	**4.44**	**273**	Pn		Pn	13 31 43.0	-3.2
PNT				Sn		Sn	13 32 31.0	-6.6
PNT				Trac			13 33 10.5	
	comp=Z,17nm,0.3s							
MCMT	**McKenzie Canyo**	**4.45**	**180**	*e*P		Pn	13 31 42.6	-3.6
QLMT	**Earthquake Lak**	**4.55**	**167**	*e*P		Pn	13 31 44.3	-3.3
MNB	**Mounoet Dainar**	**4.58**	**312**	Pn		Pn	13 31 46.0	-2.2
MNB				Pg		Pn	13 32 02.0	+14
YMR	**Madison River**	**4.78**	**164**	*e*P		Pn	13 31 47.8	-3.1
LKWY	**Lake**	**5.00**	**160**	P		Pn	13 31 50.8	-3.2
YFT	**Old Faithful**	**5.01**	**163**	P		Pn	13 31 50.8	-3.4
LAO	**LASA Array**	**5.13**	**118**	*e*P		Pn	13 31 51.7	-4.2
HAWA	**Hanford**	**5.36**	**240**	*e*P		Pn	13 31 55.7	-3.4
BMO	**Blue Mountains**	**5.38**	**216**	*e*P		Pn	13 31 56.1	-3.2
IMW	**Indian Meadow**	**5.54**	**166**	*e*P		Pn	13 31 58.8	-2.7
HOPB	**Hope**	**5.62**	**274**	Trac			13 33 38.2	
	comp=Z,16nm,0.5s							
HOPB	**Hope**	**5.62**	**274**	Sg		Sn	13 33 37.1	+30
MOOW	**Moose Ponds**	**5.71**	**165**	P		Pn	13 32 01.3	-2.8
DGMT	**Dagmar**	**5.75**	**95**	*e*P		Pn	13 32 00.2	-4.4
HLID	**Hailey**	**5.82**	**191**	*e*P		Pn	13 32 01.8	-3.8
LOHW	**Long Hollow**	**5.87**	**164**	P		Pn	13 32 02.4	-3.9
LLLB	**Lillooet**	**6.00**	**286**	Trac			13 33 58.2	
	comp=Z,7.0nm,0.7s							
VDB	**Vedder Mountai**	**6.09**	**271**	Trac			13 33 52.7	
	comp=Z,4.0nm,0.5s							
HNB	**Haney**	**6.38**	**274**	Pn		Pn	13 32 08.4	-5.1
HNB				Sg		Sn	13 33 55.7	+30
HNB				Trac			13 34 08.7	
	comp=Z,4.0nm,0.3s							
WSLR	**Whistler**	**6.60**	**281**	Pn		Pn	13 32 14.2	-2.4
WSLR				Trac			13 34 13.9	
	comp=Z,6.0nm,0.5s							
ULM	**Lac du Bonnet**	**11.01**	**78**	Pn		P	13 33 08.5	-9.1
ULM				Sg		S	13 36 17.9	+57
ULM				Trac			13 36 38.2	
	comp=Z,7.0nm,0.8s							
ULM				Trac			13 36 38.2	
	comp=Z,7.0nm,0.8s							
FNBB	**Fort Nelson**	**11.32**	**332**	Pn		P	13 33 15.5	-6.2
YKW3	**Yellowknife Ar**	**13.36**	**356**	Pn		P	13 33 40.8	-8.2
YKW3				Pn		P	13 33 41.0	-7.9
YKW3				Sn		S	13 35 58.1	-19
YKW3				Sn		S	13 35 58.5	-19
YKW3				Trac			13 36 06.6	
	comp=Z,2.0nm,0.3s							
YKW3				Trac			13 36 06.6	
	comp=Z,2.0nm,0.3s							
YKW3				Trac			13 36 18.1	
	comp=Z,1.0nm,0.2s							
YKW3				Trac			13 36 18.1	
	comp=Z,1.0nm,0.2s							
FCC	**Fort Churchill**	**14.49**	**42**	Pn		P	13 33 54.1	-10

IDC 11 14:15:36.8±2.3,5.17S×152.95E,mb3.7/4,mb1 4.0/4, mb1mx3.8/14,mbtmp3.8/4,Error ellipse: s-maj=95.0km s-min=26.7km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.32**	**229**	P		P	14 20 47.2	-0.5
	0.4nm,0.4s,baz=53,slow=9.9,SNR=12							
FITZ	**Fitzroy Crossi**	**29.62**	**242**	P		P	14 21 43.3	-2.9
	1.0nm,0.5s,baz=68,slow=8.3,SNR=7.5							
MKAR	**Makanchi Array**	**80.70**	**319**	P		P	14 27 52.6	-0.8
	0.6nm,1.0s,baz=93,slow=7.9,SNR=5.5							
ILAR	**Eielson Array**	**82.44**	**22**	P		P	14 28 00.7	-1.5
	0.9nm,0.8s,baz=247,slow=5.9,SNR=13							

*BGS **11** 14:20:41.5,6.57S×152.20E,h10km*
*BJI **11** 14:20:42.4,6.23S×152.52E,h11km,mB6.6,mb5.8,Ms6.3, Msz6.2*
*HRVD **11** 14:20:43.8±0.0,6.73S×152.36E,h12km,MW6.6/93, Centroid moment Tensor Solution. LP body waves: s93,c231;Mantle waves: s93,c461; Half duration: 4s8 Moment tensor: Scale 10^19^Nm; Mrr-1.02±.00; Mθθ0.88±.00; Mφφ0.14±.00; Mrθ0.07±.01; Mθφ0.16±.00; Mφr-0.15±.01; Best double couple: Mo.976×10^19^ NP1: φs71°,δ44°,λ-101°. NP2:φs266°,δ47°,λ-79°. Principal axes: T 909, Plg1°, Azm349°; N 138, Plg8°, Azm79°; P -1043, Plg82°, Azm249°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*CRAAG **11** 14:20:44.2,6.02S×152.09E,Mb6.7*
*NEIC **11** 14:20:45.0±0.1,6.58S×152.22E,h17km,mb6.2/126, ME6.4,MS6.2/134,MW6.5,Error ellipse: s-maj=2.9km s-min=2.7km az=69.0 Broadband fault plane solution: P waves. NP1:φs100°,δ60°,λ-90°. NP2:φs280°,δ30°,λ-90°. Principal axes: T Plg15°, Azm190°; N Plg0°, Azm0°; P Plg75°, Azm10°; Moment Tensor Solution. s33 Moment tensor: Scale 10^18 Nm; Mrr-7.78; Mθθ7.09; Mφφ0.67; Mrθ-0.56; Mθφ-0.59; Mφr0.55; Best double couple: Mo7.5×10^18 NP1:φs272°,δ43°,λ-95°. NP2:φs99°,δ47°, λ-85°. Principal axes: T 7.16, Plg2°, Azm185°; N 67, Plg3°, Azm275°; P -7.83, Plg86°, Azm60°; Two events about 4 seconds apart. Depth and focal mechanism from synthetics of broadband displacement seismograms, based on first event. Energy computed from BB mechanism.*
*IDC **11** 14:20:46.4±1.6,6.58S×152.19E,h25km±10km,mb5.8/31, mb1 5.8/33,mb1mx5.8/33,mbtmp5.9/33,ML5.4/2,MS6.2/20, Ms1 6.2/20,ms1mx5.9/25 Error ellipse: s-maj=9.2km s-min=6.7km az=61.0*
*MOS **11** 14:20:46.8±1.0,6.45S×152.15E,h33km,mb6.6/54, MS6.1/67,Error ellipse: s-maj=7.7km s-min=6.0km az=83.1*

ISC 11 14:20:43.2±0.1,6.60S±0.02×152.20E±0.02,h14km, h14km±1.4km:pP-P,n956,σ1§03/497,mb6.1/159,MS6.2/182, 56C-72D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.72**	**240**	Pn		**Pn**	**14 22 12.4**	**+2.7**
	80nm,0.3s,baz=58,slow=5.5,SNR=110							
PMG				Sn		**Sn**	**14 23 18.5**	**+2.7**
	232nm,0.3s,baz=114,slow=14,SNR=3.5							
PMG				LR		LR	14 23 43.4	
	comp=Z,137μm,19.4s,baz=52,slow=31							
PMG	**Port Moresby**	**5.72**	**240**	⇑*e*P		**Pn**	**14 22 12.5**	**+2.8**
PMG				*e*S		**Sn**	**14 23 21.5**	**+5.7**
PMG				pmax		pmax		
	comp=Z,4μm,0.8s							
PMG	**Port Moresby**	**5.72**	**240**	*e*P		**Pn**	**14 22 12.7**	**+3.0**
HNR	**Honiara**	**8.18**	**111**	Pn		**P**	**14 22 42.1**	**-2.2**
	comp=Z,115nm,0.3s,baz=245,slow=4.1,SNR=36							
HNR	**Honiara**	**8.18**	**111**	⇑*e*P		**P**	**14 22 41.1**	**-3.2**
HNR				pmax		pmax		
	comp=Z,3μm,0.9s							
HNR	**Honiara**	**8.18**	**111**	*e*P		**P**	**14 22 41.0**	**-3.3**
HNR				*e*S		**Sn**	**14 24 22.0**	**+4.7**
COEN	**Coen**	**11.50**	**230**	P		**P**	**14 23 30.6**	**+0.5**
CTA	**Charters Tower**	**14.60**	**203**	Pn		**P**	**14 24 11.2**	**-0.2**
	comp=Z,5.4nm,0.3s,baz=31,slow=14,SNR=42							
CTA				LR		LR	14 29 25.0	
	comp=Z,89μm,18.3s,baz=20,slow=36							
CTAO	**Charters Tower**	**14.60**	**203**	⇑*e*P		**P**	**14 24 10.9**	**-0.4**
	comp=Z,487nm,1.0s							
DZM	**Mont Dzumac**	**20.64**	**140**	P		**P**	**14 25 23.6**	**-1.4**
	comp=Z,414nm,0.9s,baz=344,slow=9.1,SNR=204							
DZM				S		**S**	**14 29 16.2**	**+6.0**
	comp=Z,32nm,1.2s,baz=311,slow=19,SNR=3.8							
DZM				LR		LR	14 32 39.0	
	comp=Z,80μm,18.0s,MS6.1,baz=319,slow=34							
GUMO	**Guam**	**21.33**	**340**	P		**P**	**14 25 32.1**	**0.0**
	comp=Z,4μm,1.1s,mb6.6,baz=171,slow=6.3,SNR=48							
GUMO				S		**S**	**14 29 28.6**	**+5.0**
	comp=Z,202nm,1.0s,baz=121,slow=19,SNR=3.7							
GUMO	**Guam**	**21.33**	**340**	*e*P		**P**	**14 25 30.8**	**-1.4**
GUMO				pmax		pmax		
	comp=Z,5μm,1.1s,mb6.7							
GUMO				MLR		MLR		
	comp=Z,34μm,20.0s,MS5.7							
GUMO	**Guam**	**21.33**	**340**	*e*P		**P**	**14 25 30.8**	**-1.4**
	comp=Z,5μm,1.1s,mb6.8							
GUMO				LR		LR		
	comp=Z,37μm,20.0s,MS5.8							
WRAB	**Tennant Creek**	**21.82**	**231**	P		**P**	**14 25 37.8**	**+0.8**
WB2	**Warramunga Arr**	**21.82**	**231**	*e*P		**P**	**14 25 37.3**	**+0.3**
WB2				*e*S		**S**	**14 29 38.0**	**+5.3**
WRA	**Warramunga Arr**	**21.83**	**231**	P		**P**	**14 25 38.5**	**+1.4**
	comp=Z,186nm,0.8s,mb5.6,baz=55,slow=9.1,SNR=203							
WRA				S		**S**	**14 29 38.1**	**+5.2**
	comp=Z,278nm,1.3s,baz=53,slow=17,SNR=6.3							
KNA	**Kununurra**	**24.69**	**246**	P		**P**	**14 26 05.0**	**-0.3**
FUNA	**Funafuti**	**26.83**	**96**	*e*P		**P**	**14 26 24.9**	**-0.4**
	comp=Z,1μm,1.5s,mb6.2							
STKA	**Stephens Creek**	**27.03**	**200**	*e*P		**P**	**14 26 26.0**	**-0.9**
	comp=Z,976nm,0.9s,mb6.3							
STKA				*e*S		**S**	**14 31 15.5**	**+13**
STKA	**Stephens Creek**	**27.03**	**200**	P		**P**	**14 26 26.0**	**-1.0**
	comp=Z,88nm,0.8s,mb5.4,baz=22,slow=12,SNR=80							
STKA				LR		LR	14 37 35.5	
	comp=Z,70μm,18.6s,MS6.2,baz=129,slow=37							
RIV	**Riverview**	**27.11**	**182**	*e*P		**P**	**14 26 28.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**28.30**	**244**	⇓*i*P		**P**	**14 26 38.3**	**-0.3**
	comp=Z,1μm,0.7s,mb6.7							
FITZ	**Fitzroy Crossi**	**28.30**	**244**	P		**P**	**14 26 38.4**	**-0.2**
	comp=Z,296nm,0.6s,mb6.1,baz=70,slow=7.9,SNR=472							
FITZ				S		**S**	**14 31 24.0**	**+1.2**
	comp=Z,72nm,1.0s,baz=229,slow=20,SNR=2.1							
FITZ				LR		LR	14 38 47.4	
	comp=Z,74μm,18.0s,MS6.3,baz=257,slow=38							
CNB	**Canberra Magne**	**28.70**	**185**	*e*P		**P**	**14 26 41.9**	**-0.1**
	comp=Z,540nm,1.3s,mb6.1							
WAKE	**Wake Island**	**29.40**	**29**	P		**P**	**14 26 46.1**	**-2.4**
	comp=Z,959nm,1.3s,mb6.4							
WAKE				LR		LR		
	comp=Z,51μm,22.0s,MS6.1							
BIPH	**Bislig**	**29.65**	**299**	⇓*i*P		**P**	**14 26 48.9**	**-2.0**
BIPH				*e*S		Sx	14 33 13.9	
DAV	**Davao City (W)**	**29.82**	**297**	PFAKE			14 27 00.0	+7.6
DAV				LR		LR		
	comp=Z,8μm,19.0s,MS5.4							
BUKP	**Musuan**	**30.64**	**298**	*e*P		**P**	**14 27 01.2**	**+1.6**
BUTP	**Butuan**	**30.67**	**300**	*e*P		**P**	**14 27 05.4**	**+5.5**
ADE	**Adelaide**	**30.85**	**202**	⇑*e*P		**P**	**14 27 01.0**	**-0.2**
SCPH	**Surigao**	**31.19**	**301**	⇑*e*P		**P**	**14 27 04.2**	**-0.2**
CGP	**Cagayan de Oro**	**31.23**	**298**	⇑*i*P		**P**	**14 27 05.2**	**+0.4**
TOO	**Toolangi**	**31.43**	**190**	*e*P		**P**	**14 27 06.7**	**+0.4**
	comp=Z,71nm,1.0s,mb5.5							
TOO				*e*S		**S**	**14 32 20.5**	**+8.2**
TOO	**Toolangi**	**31.43**	**190**	*e*P		**P**	**14 27 06.7**	**+0.4**
TOO				*e*S		**S**	**14 32 20.5**	**+8.2**
TOO				pmax		pmax		
	comp=Z,71nm,1.0s,mb5.5							
MSLP	**Maasin**	**31.90**	**301**	*e*P		**P**	**14 27 09.5**	**-1.2**
PAGZ	**Pagadian**	**32.12**	**296**	*e*P		**P**	**14 27 12.6**	**0.0**
PLP	**Palo**	**32.33**	**303**	*e*P		**P**	**14 27 13.0**	**-1.3**
DCPH	**Dipolog City**	**32.47**	**297**	⇑*e*P		**P**	**14 27 15.7**	**+0.1**
TBP	**Tagbilaran**	**32.54**	**300**	*e*P		**P**	**14 27 14.0**	**-2.2**
LLP	**Lapu-Lapu**	**32.75**	**301**	*e*P		**P**	**14 27 14.4**	**-3.7**
FORT	**Forrest**	**33.03**	**220**	*e*P		**P**	**14 27 20.8**	**+0.5**
	comp=Z,757nm,0.8s,mb6.7							
FORT				*e*S		**S**	**14 32 38.3**	**+1.0**
CNP	**Catarman**	**33.31**	**305**	*e*P		**P**	**14 27 22.3**	**-0.6**
GUIM	**Jordan**	**34.08**	**300**	*e*P		**P**	**14 27 29.2**	**-0.5**
PVCP	**Virac**	**34.32**	**306**	*e*P		**P**	**14 27 31.2**	**-0.4**
RCP	**Roxas**	**34.41**	**301**	⇑*e*P		**P**	**14 27 32.8**	**+0.4**
MBWA	**Marble Bar**	**34.58**	**242**	⇓*e*P		**P**	**14 27 34.0**	**+0.1**
	comp=Z,100nm,0.6s,mb5.9							
MBWA				LR		LR		
	comp=Z,69μm,19.0s,MS6.4							
OUZ	**Omahuta**	**34.63**	**148**	P		**P**	**14 27 33.4**	**-0.8**
OUZ				S		PcP	14 30 09.1	+0.5
OUZ	**Omahuta**	**34.63**	**148**	P		**P**	**14 27 33.4**	**-0.7**
CBIJ	**Chichi jima**	**34.87**	**344**	LR		LR	14 40 11.7	
	comp=Z,8μm,18.9s,MS5.5,baz=160,slow=33							
AUQP	**San Andres**	**35.38**	**304**	*e*P		**P**	**14 27 41.7**	**+1.0**
OTRP	**Odiongan**	**35.42**	**302**	*e*P		**P**	**14 27 40.7**	**-0.4**
CUYO	**Cuyo Island**	**35.55**	**299**	*e*P		**P**	**14 27 42.1**	**-0.1**
WCZ	**Waipu Caves**	**35.57**	**148**	P		**P**	**14 27 41.7**	**-0.4**
WCZ				S		PcP	14 30 11.7	+0.4
WCZ	**Waipu Caves**	**35.57**	**148**	P		**P**	**14 27 41.7**	**-0.4**
GQP	**Guinayangan**	**35.87**	**305**	⇓*e*P		**P**	**14 27 44.6**	**-0.3**
TSM	**Tawau**	**35.93**	**287**	P		**P**	**14 27 45.5**	**0.0**
TSM	**Tawau**	**35.93**	**287**	P		**P**	**14 27 45.7**	**+0.2**
RAO	**Raoul Island**	**36.08**	**132**	P		**P**	**14 27 47.8**	**+1.3**
	comp=Z,246nm,0.4s,mb6.5,baz=85,slow=23,SNR=3.8							
RAO	**Raoul Island**	**36.08**	**132**	P		**P**	**14 27 47.8**	**+1.3**
RAO				MLR		MLR		
	comp=Z,36μm,21.0s,MS6.1							
BOAC	**Boac**	**36.13**	**304**	*e*P		**P**	**14 27 47.4**	**+0.3**
AFI	**Afiamalu**	**36.15**	**104**	P		**P**	**14 27 47.1**	**-0.1**
	comp=Z,155nm,0.8s,mb6.0,baz=274,slow=5.2,SNR=14							
AFI	**Afiamalu**	**36.15**	**104**	*e*P		**P**	**14 27 46.2**	**-1.0**
AFI				pmax		pmax		
	comp=Z,2μm,1.2s,mb6.9							
AFI				MLR		MLR		
	comp=Z,13μm,20.0s,MS5.7							
AFI	**Afiamalu**	**36.15**	**104**	*e*P		**P**	**14 27 46.1**	**-1.1**
	comp=Z,2μm,1.2s,mb6.9							
AFI				LR		LR		
	comp=Z,13μm,20.0s,MS5.7							
SJMP	**San Jose**	**36.23**	**301**	*e*P		**P**	**14 27 48.9**	**+1.0**
POLP	**Polillo Island**	**36.73**	**305**	*e*P		**P**	**14 27 51.9**	**-0.2**
BUSP	**Coron**	**36.80**	**300**	*e*P		**P**	**14 27 52.8**	**+0.1**
ENPP	**El Nido**	**37.10**	**298**	*e*P		**P**	**14 27 56.1**	**+0.9**
TGY	**Tagaytay City**	**37.22**	**304**	P		**P**	**14 27 56.3**	**+0.1**
	comp=Z,415nm,0.8s,mb6.3,baz=212,slow=5.3,SNR=16							
TGY	**Tagaytay City**	**37.22**	**304**	⇑*e*P		**P**	**14 27 57.2**	**+1.0**
BATP	**Bataraza**	**37.54**	**294**	*e*P		**P**	**14 27 59.1**	**+0.2**
BALP	**Baler**	**37.58**	**306**	*e*P		**P**	**14 27 59.5**	**+0.3**
LUBP	**Lubang**	**37.60**	**303**	*e*P		**P**	**14 27 58.1**	**-1.3**
HIZ	**Hauiti**	**37.82**	**150**	P		**P**	**14 28 00.7**	**-0.3**
HIZ				S		PcP	14 30 17.9	-0.2
HIZ	**Hauiti**	**37.82**	**150**	*e*P		**P**	**14 28 01.2**	**+0.2**
PCPH	**Palayan**	**37.87**	**306**	⇑*i*P		**P**	**14 28 00.9**	**-0.

LTZ **Lake Taylor** 40.16 157 *e*P **P** **14 28 19.7 -0.8**
BFZ **Birch Farm** 40.18 151 P **P** **14 28 19.0 -1.7**
BFZ **Birch Farm** 40.18 151 *e*P **P** **14 28 19.0 -1.7**
MSZ **Milford Sound** 40.34 163 P **P** **14 28 23.9 +2.0**
KHZ **Kahutara** 40.37 155 P **P** **14 28 19.9 -2.4**
KHZ **Kahutara** 40.37 155 *e*P **P** **14 28 20.4 -1.8**
RPZ **Rata Peaks** 40.51 159 P **P** **14 28 22.6 -0.7**
comp=Z,54nm,0.6s,mb5.4,baz=331,slow=2.0,SNR=18
RPZ LR LR 14 43 24.7
comp=Z,55µm,19.2s,MS6.4,baz=314,slow=34
RPZ **Rata Peaks** 40.51 159 P **P** **14 28 22.3 -1.1**
RPZ **Rata Peaks** 40.51 159 *e*P **P** **14 28 22.3 -1.1**
JOW **Kunigami** 40.52 326 P **P** **14 28 23.8 +0.2**
comp=Z,201nm,0.9s,mb5.7,baz=133,slow=9.1,SNR=10
JOW LR LR 14 44 06.3
comp=Z,28µm,19.7s,MS6.1,baz=141,slow=35
KLBR **Kellerberrin** 40.65 228 *e*P **P** **14 28 25.1 +0.4**
comp=Z,465nm,1.1s,mb6.0
KLBR *e*PP PP 14 29 56.6 -5.2
KLBR *e*S **S** **14 34 32.2 -1.6**
WKZ **Wanaka** 40.81 162 P **P** **14 28 24.4 -1.4**
CRLZ **Canterbury Las** 40.97 157 P **P** **14 28 25.9 -1.2**
CRLZ S PcP 14 30 27.2 -0.8
CRLZ **Canterbury Las** 40.97 157 *e*P **P** **14 28 25.9 -1.3**
MLZ **Mavora Lakes** 41.02 163 P **P** **14 28 26.6 -1.0**
MLZ **Mavora Lakes** 41.02 163 *e*P **P** **14 28 26.9 -0.7**
NWAO **Narrogin (SRO)** 41.71 226 P **P** **14 28 33.6 +0.2**
comp=Z,65nm,0.9s,mb5.3,baz=54,slow=6.6,SNR=15
NWAO LR LR 14 46 21.4
comp=Z,84µm,18.6s,MS6.6,baz=60,slow=37
NWAO **Narrogin (SRO)** 41.71 226 *e*P **P** **14 28 33.6 +0.2**
NWAO pmax pmax
comp=Z,223nm,1.3s
NWAO MLR MLR
comp=Z,70µm,19.0s
NWAO **Narrogin (SRO)** 41.71 226 *e*P **P** **14 28 33.6 +0.2**
comp=Z,223nm,1.3s,mb5.6
NWAO LR LR
comp=Z,70µm,19.0s,MS6.6
MUN **Mundaring** 41.99 228 *e*P **P** **14 28 36.7 +1.0**
MUN *e*S **S** **14 34 54.4 +0.7**
KSM **Kuching** 42.57 279 *e*P **P** **14 28 41.1 +0.3**
NACB **Ninganchiao** 42.73 317 *e*P **P** **14 28 41.5 -0.4**
YHNB **Yeheng** 43.21 317 *e*P **P** **14 28 46.0 +0.2**
TATO **Taipei** 43.34 318 *e*P **P** **14 28 47.1 +0.2**
comp=Z,470nm,1.0s,mb6.2
TATO LR LR
comp=Z,29µm,20.0s,MS6.2
JNU **Nakatsue** 44.39 334 P **P** **14 28 54.9 -0.4**
comp=Z,107nm,1.0s,mb5.5,baz=118,slow=9.3,SNR=17
MJAR **Matsushiro Arr** 44.87 344 P **P** **14 28 56.6 -2.5**
comp=Z,41nm,1.1s,mb5.2,baz=164,slow=9.2,SNR=37
MJAR PcP PcP 14 30 41.6 +0.4
comp=Z,28nm,0.7s,baz=162,slow=4.4,SNR=7.1
MJAR LR LR 14 47 00.7
comp=Z,10µm,19.7s,MS5.8,baz=170,slow=35
MAJO **Matsushiro** 44.87 344 *e*P **P** **14 28 56.5 -2.6**
MAJO pmax pmax
comp=Z,148nm,1.2s,mb5.7
MAJO MLR MLR
comp=Z,19µm,22.0s,MS6.0
MAJO **Matsushiro** 44.87 344 *e*P **P** **14 28 56.5 -2.6**
comp=Z,153nm,1.2s,mb5.7
MAJO LR LR
comp=Z,20µm,22.0s,MS6.0
MAT **Matsushiro** 44.87 344 P **P** **14 28 56.5 -2.6**
MAT S **S** **14 35 20.0 -16**
MAT **Matsushiro** 44.87 344 *e*P **P** **14 28 57.0 -2.1**
MAT pmax pmax
comp=Z,138nm,1.3s,mb5.6
MAT MLR MLR
comp=Z,12µm,19.0s,MS5.9
MAT **Matsushiro** 44.87 344 *e*P **P** **14 28 57.0 -2.1**
comp=Z,138nm,1.3s,mb5.6
MAT *e*S **S** **14 35 20.0 -16**
MAT LR LR
comp=Z,12µm,19.0s,MS5.9
QZH **Quanzhou** 45.31 315⇓ *i*P **P** **14 29 03.2 +0.5**
QZH S **S** **14 35 44.2 +2.2**
QZH AMB AMB
comp=Z,480nm,1.0s,mb6.3
QZH AMB AMB
comp=Z,10µm,4.8s
QZH LR LR
comp=N,23µm,16.2s,MS6.3
QZH LR LR
comp=E,22µm,18.0s,MS6.3
QZH LR LR
comp=Z,48µm,21.0s,MS6.4
QZH **Quanzhou** 45.31 315⇓ *i*P **P** **14 29 03.2 +0.5**
comp=Z,480nm,1.0s,mb6.3
QZH S **S** **14 35 44.2 +2.2**
QZH LR LR
comp=Z,48µm,21.0s,MS6.4
MIDW **Midway** 45.39 39 *e*P **P** **14 29 02.8 -0.6**
comp=Z,209nm,0.8s,mb6.0
MIDW LR LR
comp=Z,21µm,21.0s,MS6.0
HKC **Hong Kong** 47.02 309⇓ *i*P **P** **14 29 20.0 +3.7**
SSE **Sheshan** 47.80 323⇓ P **P** **14 29 22.5 +0.2**
SSE AP pP 14 29 25.6 -1.0
SSE XP sP 14 29 26.9 -1.5
SSE S **S** **14 36 19.0 +1.7**
SSE XS 14 36 25.8
SSE AMB AMB
comp=Z,80nm,1.6s,mb5.5
SSE AMB AMB
comp=Z,2µm,5.4s
SSE LR LR
comp=N,21µm,22.7s,MS6.2
SSE LR LR
comp=E,18µm,22.6s,MS6.2
SSE LR LR
comp=Z,34µm,25.8s,MS6.2
SSE **Sheshan** 47.80 323⇓ P **P** **14 29 22.5 +0.2**
comp=Z,88nm,1.6s,mb5.5
SSE pP pP 14 29 25.6 -1.0
SSE sP sP 14 29 26.9 -1.5
SSE S **S** **14 36 19.0 +1.7**
SSE sS 14 36 25.8
SSE LR LR
comp=Z,34µm,25.8s,MS6.2
GZH **Guangzhou** 48.09 309 P **P** **14 29 26.0 +1.3**
GZH S **S** **14 36 27.7 +6.1**
GZH LR LR
comp=N,15µm,16.2s,MS6.1
GZH LR LR
comp=E,11µm,19.3s,MS6.1
GZH LR LR
comp=Z,27µm,18.6s,MS6.2
RAR **Rarotonga** 48.63 112 P **P** **14 29 28.7 -0.1**
comp=Z,58nm,0.9s,mb5.6,baz=243,slow=5.1,SNR=6.3
QIZ **Qiongzhong** 48.89 302⇓ P **P** **14 29 31.4 +0.6**
QIZ XP sP 14 29 38.4 +1.5
QIZ S **S** **14 36 37.7 +4.8**
QIZ AMB AMB
comp=Z,90nm,1.3s,mb5.6
QIZ AMB AMB
comp=Z,7µm,8.6s
QIZ LR LR
comp=E,21µm,22.5s
QIZ LR LR
comp=Z,55µm,34.0s
QIZ **Qiongzhong** 48.89 302⇓ P **P** **14 29 31.4 +0.6**
comp=Z,98nm,1.3s,mb5.7
QIZ sP sP 14 29 38.4 +1.5
QIZ S **S** **14 36 37.7 +4.8**
QIZ LR LR
comp=Z,55µm,34.0s,MS6.3
KS15 **Wonju Array Si** 49.34 334 *e*P **P** **14 29 33.5 -0.6**
KGM **Kluang** 49.53 278 P **P** **14 29 36.4 +0.5**
NJ2 **Nanjing** 49.87 322 *e*P **P** **14 29 38.2 -0.1**
NJ2 AP pP 14 29 43.2 +0.5
NJ2 XP sP 14 29 46.2 +1.8
NJ2 PCP PcP 14 30 58.4 -0.6
NJ2 S **S** **14 36 53.0 +6.6**
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb6.5
NJ2 LR LR
comp=Z,7µm,10.2s
NJ2 LR LR
comp=N,78µm,21.7s,MS6.8
NJ2 LR LR
comp=E,53µm,19.3s,MS6.8
NJ2 LR LR
comp=Z,32µm,22.6s,MS6.3
NJ2 **Nanjing** 49.87 322 *e*P **P** **14 29 38.2 -0.1**
comp=Z,80nm,1.0s,mb5.7
NJ2 pP pP 14 29 43.2 +0.5
NJ2 sP sP 14 29 46.2 +1.8
NJ2 PcP PcP 14 30 58.4 -0.6
NJ2 S **S** **14 36 53.0 +6.6**
NJ2 LR LR
comp=Z,32µm,22.6s,MS6.3
INCN **Inchon** 49.92 333 *e*P **P** **14 29 38.1 -0.5**
comp=Z,376nm,0.9s,mb6.4
INCN LR LR
comp=Z,14µm,21.0s,MS6.0
ASAJ **Asahikawa** 51.22 351 P **P** **14 29 48.0 -0.3**
comp=Z,168nm,1.2s,mb5.8,baz=231,slow=11,SNR=13
ASAJ LR LR 14 48 59.4
comp=Z,14µm,20.9s,MS6.0,baz=178,slow=33
WHN **Wuhan** 51.75 318⇓ P **P** **14 29 53.0 +0.4**
WHN S **S** **14 37 18.0 +5.7**
WHN LR LR
comp=Z,60µm,24.6s,MS6.5
IPM **Ipoh** 52.25 281 P **P** **14 29 56.5 -0.1**
KULM **Kulim** 52.79 282 *e*P **P** **14 29 59.8 -0.9**
VLA **Vladivostok** 52.81 341 *i* P **P** **14 29 57.5 -2.8**
VLA *e* 14 31 11.7
VLA *i* S **S** **14 37 26.7 +0.1**
VLA *e*SS SS 14 41 06.8 +2.2
VLA pmax pmax
comp=Z,692nm,2.5s,mb6.1
VLA MLR MLR
comp=Z,14µm,20.5s,MS6.0
VLA **Vladivostok** 52.81 341 *i* P **P** **14 29 57.5 -2.8**
comp=Z,692nm,2.5s,mb6.1
VLA *e* 14 31 11.7
VLA *i* S **S** **14 37 26.7 +0.1**
VLA *e*SS SS 14 41 06.8 +2.2
VLA LR LR
comp=Z,14µm,20.5s,MS6.0
SNG **Songkhla** 53.24 284 P **P** **14 30 04.0 0.0**
comp=Z,826nm,1.0s,mb6.6
DL2 **Dalian** 53.41 330 *i* PR **P** **14 30 03.4 -1.5**
DL2 PCP PcP 14 31 06.0 -6.1
DL2 S **S** **14 37 37.0 +2.1**
DL2 AMB AMB
comp=Z,100nm,0.9s,mb5.8
DL2 AMB AMB
comp=Z,4µm,7.3s
DL2 LR LR
comp=N,9µm,16.9s,MS6.0
DL2 LR LR
comp=E,6µm,16.3s,MS6.0
DL2 LR LR
comp=Z,18µm,27.8s
DL2 **Dalian** 53.41 330⇓ *i*P **P** **14 30 03.4 -1.5**
comp=Z,100nm,0.9s,mb5.8
DL2 PcP PcP 14 31 06.0 -6.1
DL2 S **S** **14 37 37.0 +2.1**
DL2 LR LR
comp=Z,18µm,27.8s,MS6.0
TIA **Tai'an** 53.81 325 P **P** **14 30 05.1 -2.7**
TIA XP sP 14 30 21.6 +7.7
TIA PP PP 14 32 09.6 -1.0
TIA S **S** **14 37 41.1 +0.7**
TIA AMB AMB
comp=Z,110nm,1.2s,mb5.7
TIA AMB AMB
comp=Z,2µm,5.0s
TIA LR LR
comp=N,13µm,18.0s,MS6.2
TIA LR LR
comp=E,13µm,16.0s,MS6.2
TIA **Tai'an** 53.81 325 P **P** **14 30 05.1 -2.7**
comp=E,120nm,1.2s,mb5.7
TIA sP sP 14 30 21.6 +7.7
TIA PP PP 14 32 09.6 -1.0
TIA S **S** **14 37 41.1 +0.7**
KKTK **Khon Kaen** 53.90 296 PG **P** **14 30 07.5 -1.2**
YSS **Yuzh-Sakhalins** 53.97 352c *i*P **P** **14 30 07.0 -1.8**
YSS *e**SP sP 14 30 24.0 +9.1
YSS *e* 14 31 13.0
YSS *e*PPP PPP 14 33 14.0 -7.2
YSS *e*S **S** **14 37 37.0 -5.4**
YSS *e*PS PS 14 37 48.0 -6.6
YSS *e* 14 39 58.0
YSS pmax pmax
comp=Z,230nm,1.3s,mb6.0
YSS pmax pmax
comp=N,3µm,8.0s
YSS pmax pmax
comp=Z,5µm,8.0s
YSS smax
comp=N,3µm,8.0s
YSS smax
comp=E,1µm,6.0s
YSS MLR MLR
comp=N,7µm,18.0s
YSS MLR MLR
comp=Z,6µm,18.0s,MS5.7
YSS **Yuzh-Sakhalins** 53.97 352 *i* Pdr **P** **14 30 07.0 -1.8**
comp=Z,230nm,1.3s,mb6.0
YSS *e*sP sP 14 30 24.0 +9.1
YSS *e* 14 31 13.0
YSS *e*PPP PPP 14 33 14.0 -7.2
YSS *e*S **S** **14 37 37.0 -5.4**
YSS *e*PS PS 14 37 48.0 -6.6
YSS *e* 14 39 58.0
YSS LR LR
comp=Z,6µm,18.0s,MS5.7
PSI **Prapat** 53.99 278 P **P** **14 30 08.7 -0.7**
comp=Z,81nm,0.8s,mb5.7,baz=146,slow=3.2,SNR=72
PSI S **S** **14 37 44.8 +1.6**
comp=Z,8.8nm,1.1s,baz=186,slow=22,SNR=11
COCO **West Island** 54.83 260 P **P** **14 30 16.6 +1.0**
SNY **Shenyang** 54.83 334⇓ P **P** **14 30 14.1 -1.2**
SNY AP pP 14 30 25.3 +5.6
SNY S **S** **14 37 56.1 +2.1**
SNY SS SS 14 41 38.6 +1.4
SNY LR LR
comp=N,19µm,25.6s,MS6.2
SNY LR LR
comp=E,14µm,23.8s,MS6.2
SNY LR LR
comp=Z,33µm,39.9s
MDJ **Mudanjiang** 54.89 340 P **P** **14 30 14.7 -1.0**
MDJ AP pP 14 30 17.8 -2.2
MDJ XP sP 14 30 19.1 -2.6
MDJ PCP PcP 14 31 15.2 -2.4
MDJ PP PP 14 32 16.6 -3.6
MDJ SCP 14 35 12.2
MDJ PCS 14 35 13.8
MDJ S **S** **14 37 59.5 +4.8**
MDJ AMB AMB
comp=Z,100nm,1.9s,mb5.5
MDJ AMB AMB
comp=Z,6µm,13.0s
MDJ LR LR
comp=N,24µm,44.1s,MS6.0
MDJ LR LR
comp=E,18µm,39.7s,MS6.0
MDJ LR LR
comp=Z,37µm,38.6s,MS6.2
MDJ **Mudanjiang** 54.89 340 P **P** **14 30 14.7 -1.0**
comp=Z,100nm,1.9s,mb5.5
MDJ pP pP 14 30 17.8 -2.2
MDJ sP sP 14 30 19.1 -2.6
MDJ PcP PcP 14 31 15.2 -2.4
MDJ PP PP 14 32 16.6 -3.6
MDJ ScP 14 35 12.2
MDJ PcS 14 35 13.8
MDJ S **S** **14 37 59.5 +4.8**
MDJ LR LR
comp=Z,37µm,38.6s,MS6.2
ENH **Enshi** 54.95 314 *e*P **P** **14 30 15.3 -1.0**
comp=Z,613nm,1.2s,mb6.5
ENH LR LR
comp=Z,22µm,22.0s,MS6.2
GYA **Guiyang** 55.02 309⇓ *i*P **P** **14 30 17.3 +0.4**
GYA AP pP 14 30 21.6 +0.3
GYA XP sP 14 30 24.8 +1.9
GYA PP PP 14 32 22.4 +0.8
GYA S **S** **14 38 00.1 +3.4**
GYA SS SS 14 41 42.5 +2.1
GYA AMB AMB
comp=Z,110nm,1.2s,mb5.8
GYA AMB AMB
comp=Z,2µm,5.3s
GYA LR LR
comp=N,8µm,19.1s,MS6.0
GYA LR LR
comp=E,10µm,17.9s,MS6.0
GYA LR LR
comp=Z,10µm,18.5s,MS5.9
GYA **Guiyang** 55.02 309⇓ *i*P **P** **14 30 17.3 +0.4**
comp=Z,110nm,1.2s,mb5.8
GYA pP pP 14 30 21.6 +0.3
GYA sP sP 14 30 24.8 +1.9
GYA PP PP 14 32 22.4 +0.8
GYA S **S** **14 38 00.1 +3.4**
GYA SS SS 14 41 42.5 +2.1
GYA LR LR
comp=Z,10µm,18.5s,MS5.9
GSI **Gunungsitoli** 55.08 276 P **P** **14 30 15.7 -1.7**
NNT **Nongplab** 55.51 290 P **P** **14 30 20.5 -0.1**
CN2 **Changchun** 55.69 337 *e*P **P** **14 30 20.5 -1.0**
CN2 *e*XP sP 14 30 27.9 +0.3
CN2 *e*PcP PcP 14 31 19.6 -1.1
CN2 PP PP 14 32 28.4 +1.0
CN2 *e*S **S** **14 38 07.0 +1.5**
CN2 SS SS 14 41 52.7 +1.8
CN2 AMB AMB
comp=Z,90nm,1.2s,mb5.7
CN2 AMB AMB
comp=Z,9µm,6.0s
CN2 LR LR
comp=N,14µm,20.0s,MS6.1
CN2 LR LR
comp=E,9µm,20.0s,MS6.1
CN2 LR LR
comp=Z,39µm,21.0s,MS6.5
CN2 **Changchun** 55.69 337 *e*P **P** **14 30 20.5 -1.0**
comp=Z,90nm,1.2s,mb5.7
CN2 *e*sP sP 14 30 27.9 +0.3
CN2 *e*PcP PcP 14 31 19.6 -1.1
CN2 PP PP 14 32 28.4 +1.0
CN2 *e*S **S** **14 38 07.0 +1.5**
CN2 SS SS 14 41 52.7 +1.8
CN2 LR LR
comp=Z,39µm,21.0s,MS6.5
PKT **Phuket** 55.79 284 P **P** **14 30 24.5 +1.9**
NST **Nakhon Sawan** 56.10 294 P pP 14 30 39.4 +10
comp=Z,517nm,0.8s
KIP **Kipapa** 56.21 59 *e*P **P** **14 30 24.9 -0.6**
KIP pmax pmax
comp=Z,353nm,1.4s,mb6.2
KIP MLR MLR
comp=Z,7µm,22.0s,MS5.7
KIP **Kipapa** 56.21 59 *e*P **P** **14 30 24.9 -0.6**
comp=Z,354nm,1.4s,mb6.2
KIP LR LR
comp=Z,7µm,22.0s,MS5.7
HABR **Khabarovsk** 56.87 346 *i* P **P** **14 30 28.8 -1.1**
HABR *e*S **S** **14 38 16.1 -4.9**
HABR pmax pmax
comp=Z,820nm,2.0s,mb6.4
HABR MLR MLR
comp=Z,5µm,18.0s,MS5.7
KMI **Kunming** 57.51 305⇓ P **P** **14 30 35.8 +1.1**
KMI AP pP 14 30 39.1 0.0
KMI PCP PcP 14 31 29.4 +1.3
KMI PP PP 14 32 47.1 +3.1
KMI PPP PPP 14 34 07.6 +2.7
KMI PCS 14 35 29.4
KMI S **S** **14 38 30.5 +0.8**
KMI XS 14 38 37.4
KMI PS PS 14 38 45.8 +1.4
KMI SCS ScS 14 40 19.6 -0.6
KMI SS SS 14 42 23.3 +2.1
KMI SSS SSS 14 44 39.3 +2.2
KMI AMB AMB
comp=Z,140nm,1.3s,mb5.8
KMI AMB AMB
comp=Z,6µm,7.0s
KMI LR LR
comp=N,15µm,29.4s,MS6.1
KMI LR LR
comp=E,16µm,26.2s,MS6.1
KMI LR LR
comp=Z,38µm,39.2s
KMI **Kunming** 57.51 305⇓ P **P** **14 30 35.8 +1.1**
comp=Z,140nm,1.3s,mb5.8
KMI pP pP 14 30 39.1 0.0
KMI PcP PcP 14 31 29.4 +1.3
KMI PP PP 14 32 47.1 +3.1
KMI PcS 14 35 29.4
KMI S **S** **14 38 30.5 +0.8**
KMI sS 14 38 37.4
KMI ScS ScS 14 40 19.6 -0.6
KMI SS SS 14 42 23.3 +2.1
KMI LR LR
comp=Z,38µm,39.2s,MS6.2
XAN **Xi'an** 57.52 318 P **P** **14 30 33.9 -0.7**
XAN S **S** **14 38 31.8 +2.0**
XAN SS SS 14 42 22.9 +1.6
XAN AMB AMB
comp=Z,120nm,1.3s,mb5.8
XAN AMB AMB
comp=Z,7µm,10.0s
XAN LR LR
comp=N,7µm,19.5s,MS6.0
XAN LR LR
comp=E,12µm,20.6s,MS6.0
XAN LR LR
comp=Z,15µm,18.8s,MS6.1
XAN **Xi'an** 57.52 318 P **P** **14 30 33.9 -0.7**
comp=Z,120nm,1.3s,mb5.8
XAN S **S** **14 38 31.8 +2.0**
XAN SS SS 14 42 22.9 +1.6
XAN LR LR
comp=Z,15µm,18.8s,MS6.1
TIY **Taiyuan** 57.58 323⇑ P **P** **14 30 33.0 -2.0**
TIY S **S** **14 38 26.0 -4.5**
TIY LR LR
comp=N,13µm,16.0s
POHA **Pohakuloa** 57.71 62 PFAKE 14 30 50.0 +14
POHA LR LR
comp=Z,9µm,20.0s,MS5.9
PPT **Papeete** 57.77 107 *e*P **P** **14 30 37.0 +0.4**
comp=Z,199nm,1.4s,mb6.0
PPT **Papeete** 57.77 107 *e*LQ 14 45 02.6
PPT **Papeete** 57.77 107 *e*PP PP 14 32 39.7 -6.8
PPT **Papeete** 57.77 107 *e*S **S** **14 38 32.4 -0.9**
PPT *e*SS SS 14 42 16.7 -8.9
PPT *e*LR LR 14 47 22.2
comp=Z,23µm,30.2s
PPT **Papeete** 57.77 107 P **P** **14 30 37.6 +1.0**
comp=Z,89nm,1.0s,mb5.7,baz=246,slow=3.5,SNR=9.5
PPT PKP2ab 15 00 47.9
comp=Z,48nm,1.1s,baz=21,slow=8.4,SNR=4.0
PAE **Paea** 57.78 107 *e*P **P** **14 30 36.8 +0.2**
comp=Z,614nm,1.4s,mb6.4
CHRT **Chiangrai** 57.88 298⇓ P **P** **14 30 32.0 -5.3**
comp=Z,1µm,0.7s,mb7.1
BSI **Banda Aceh** 58.05 281 P **P** **14 30 35.8 -2.8**
TVO **Taravao** 58.09 107 *e*P **P** **14 30 39.4 +0.5**
comp=Z,888nm,1.5s,mb6.6
CHG **Chiang Mai** 58.24 297 P **P** **14 30 35.0 -4.8**
comp=Z,150nm,1.2s,mb5.9
TBI **Tubuai** 58.39 113 *e*LQ 14 45 34.2
TBI **Tubuai** 58.39 113 *e*PP PP 14 32 46.2 -5.7
TBI **Tubuai** 58.39 113 *e*S **S** **14 38 40.1 -1.2**
TBI *e*SS SS 14 42 34.9 -0.4
TBI *e*LR LR 14 47 59.4
comp=Z,53µm,39.2s
KLR **Kul'dur** 58.40 344c *i*P **P** **14 30 36.0 -4.5**
KLR *e* 14 31 34.7
KLR *e* 14 32 48.5
KLR *e*S **S** **14 38 36.0 -5.1**
KLR *e*SS SS 14 42 31.0 -4.1
KLR pmax pmax
comp=E,120nm,2.2s
KLR pmax pmax
comp=Z,320nm,2.2s,mb6.0
KLR pmax pmax
comp=E,1µm,9.0s
KLR pmax pmax
comp=Z,10µm,9.0s
KLR MLR MLR
comp=N,10µm,13.0s
KLR MLR MLR
comp=Z,21µm,13.0s,MS6.4

KLR **Kul'dur** 58.40 344 ⇑ *i* P P **14 30 36.0 -4.5**
KLR *e* 14 31 34.7
KLR *e* 14 32 48.5
KLR *e*S **S** **14 38 36.0 -5.1**
KLR *e*SS SS 14 42 31.0 -4.1
MEH Mehetia 59.23 107 *e*P **P** **14 30 46.9 +0.1**
comp=Z,162nm,0.9s,mb6.0
PMOR Pomariorio Ree 59.29 103 *e*P **P** **14 30 47.8 +0.6**
comp=Z,2μm,1.5s,mb6.9
CD2 Chengdu 59.46 312 ⇓ *i*P **P** **14 30 48.2 0.0**
CD2 XP sP 14 30 55.4 +1.1
CD2 PP PP 14 32 59.7 -1.8
CD2 PPP PPP 14 34 30.2 +3.7
CD2 S **S** **14 38 58.5 +3.3**
CD2 AMB AMB
comp=Z,170nm,1.0s,mb6.0
CD2 AMB AMB
comp=Z,5μm,6.6s
CD2 LR LR
comp=N,10μm,15.6s
CD2 LR LR
comp=Z,21μm,37.2s
CD2 Chengdu 59.46 312 ⇓ *i*P **P** **14 30 48.2 0.0**
comp=Z,170nm,1.0s,mb6.0
CD2 sP sP 14 30 55.4 +1.1
CD2 PP PP 14 32 59.7 -1.8
CD2 S **S** **14 38 58.5 +3.3**
CD2 LR LR
comp=Z,21μm,37.2s,MS6.0
VAH Vaihoa 59.55 104 *e*P **P** **14 30 49.3 +0.3**
comp=Z,262nm,1.0s,mb6.2
PET Petropavlovsk 59.65 5 κ *i*P **P** **14 30 48.7 -0.5**
PET *e*S **S** **14 38 54.7 -2.6**
PET *e*SS SS 14 42 51.6 -2.8
PET *e*SSS SSS 14 45 27.3 +3.9
PET pmax pmax
comp=Z,9μm,8.8s
PET pmax pmax
comp=Z,9μm,16.4s
PET smax
comp=E,12μm,13.4s
PET Petropavlovsk 59.65 5 *i* Pdr **P** **14 30 48.7 -0.5**
PET *e*S **S** **14 38 54.7 -2.6**
PET *e*SS SS 14 42 51.6 -2.8
PET *e*SSS SSS 14 45 27.3 +3.9
HHC Hu-ho-hao-te 60.16 325 ⇓ P **P** **14 30 53.1 +0.2**
HHC AP pP 14 30 57.2 -0.2
HHC XP sP 14 31 00.2 +1.2
HHC PCP PcP 14 31 41.2 +2.9
HHC PP PP 14 33 07.1 -0.5
HHC SCP 14 35 37.5
HHC S **S** **14 39 03.6 -0.5**
HHC XS 14 39 12.0
HHC SCS ScS 14 40 38.8 -0.6
HHC SS SS 14 42 59.1 -3.4
HHC AMB AMB
comp=Z,100nm,1.2s,mb5.7
HHC AMB AMB
comp=Z,7μm,7.1s
HHC LR LR
comp=N,16μm,17.8s,MS6.3
HHC LR LR
comp=E,12μm,17.8s,MS6.3
HHC LR LR
comp=Z,20μm,16.7s,MS6.3
HHC Hu-ho-hao-te 60.16 325 ⇓ P **P** **14 30 53.1 +0.2**
comp=Z,100nm,1.2s,mb5.7
HHC pP pP 14 30 57.2 -0.2
HHC sP sP 14 31 00.2 +1.2
HHC PcP PcP 14 31 41.2 +2.9
HHC PP PP 14 33 07.1 -0.5
HHC ScP 14 35 37.5
HHC S **S** **14 39 03.6 -0.5**
HHC sS 14 39 12.0
HHC ScS ScS 14 40 38.8 -0.6
HHC SS SS 14 42 59.1 -3.4
HHC LR LR
comp=Z,20μm,16.7s,MS6.3
DRV Dumont d'Urvil 60.56 186 P **P** **14 30 58.0 +2.8**
BTO Baotou 60.88 324 *e*P **P** **14 30 57.6 -0.2**
BTO AMB AMB
comp=Z,310nm,2.1s,mb6.1
BTO Baotou 60.88 324 *e*P **P** **14 30 57.6 -0.2**
comp=Z,310nm,2.1s,mb6.1
FX1 Attu Island--F 61.87 14 *e*P **P** **14 31 04.1 -0.2**
SMY Shemya 61.97 15 *e*P **P** **14 31 03.2 -1.8**
SMY pmax pmax
comp=Z,1μm,1.3s,mb6.9
SMY MLR MLR
comp=Z,29μm,20.0s,MS6.4
SMY Shemya 61.97 15 *e*P **P** **14 31 03.2 -1.8**
comp=Z,1μm,1.3s,mb7.0
SMY LR LR
comp=Z,19μm,20.0s,MS6.3
LZH Lanzhou 62.11 317 ⇓ P **P** **14 31 06.9 +0.7**
LZH AP pP 14 31 10.0 -0.6
LZH XP sP 14 31 11.4 -0.8
LZH PP PP 14 33 26.0 +0.9
LZH S **S** **14 39 30.0 +1.1**
LZH XS 14 39 37.1
LZH SS SS 14 43 34.5 +0.8
LZH AMB AMB
comp=Z,480nm,1.5s,mb6.4
LZH AMB AMB
comp=Z,2μm,4.3s
LZH LR LR
comp=E,19μm,16.7s
LZH LR LR
comp=Z,30μm,17.9s,MS6.5
LZH Lanzhou 62.11 317 ⇓ P **P** **14 31 06.9 +0.7**
comp=Z,490nm,1.5s,mb6.4
LZH pP pP 14 31 10.0 -0.6
LZH sP sP 14 31 11.4 -0.8
LZH PP PP 14 33 26.0 +0.9
LZH S **S** **14 39 30.0 +1.1**
LZH sS 14 39 37.1
LZH SS SS 14 43 34.5 +0.8
LZH LR LR
comp=Z,30μm,17.9s,MS6.5
HIA Hailar 62.42 337 *e*P **P** **14 31 06.9 -1.2**
HIA pmax pmax
comp=Z,422nm,1.2s
HIA MLR MLR
comp=Z,11μm,22.0s
HIA Hailar 62.42 337 *e*P **P** **14 31 06.9 -1.2**
comp=Z,422nm,1.2s,mb6.5
HIA LR LR
comp=Z,11μm,22.0s,MS6.0
MA2 Magadan 65.97 359 *d* *i*P **P** **14 31 30.4 -0.6**
MA2 pmax pmax
comp=Z,1μm,1.3s,mb6.7
MA2 MLR MLR
comp=Z,7μm,18.0s,MS5.9
MA2 Magadan 65.97 359 *i* Pr **P** **14 31 30.4 -0.6**
comp=Z,1μm,1.3s,mb6.7
MA2 LR LR
comp=Z,7μm,18.0s,MS5.9
CASY Casey 66.13 197 *e*P **P** **14 31 32.0 +0.1**
GTA Gaotai 66.57 318 ⇓ *i*P **P** **14 31 35.0 -0.2**
GTA PCP PcP 14 32 00.9 -3.6
GTA PCS 14 36 04.4
GTA S S 14 40 27.5 +3.3
GTA SCS ScS 14 41 22.3 -5.7
GTA AMB AMB
comp=Z,90nm,1.5s,mb5.6
GTA AMB AMB
comp=Z,5μm,8.0s
GTA LR LR
comp=N,11μm,18.6s
GTA LR LR
comp=E,7μm,26.2s
GTA LR LR
comp=Z,25μm,25.1s
GTA Gaotai 66.57 318 ⇓ *i*P **P** **14 31 35.0 -0.2**
comp=Z,92nm,1.5s,mb5.6
GTA PcP PcP 14 32 00.9 -3.6
GTA PcS 14 36 04.4
GTA S S 14 40 27.5 +3.3
GTA ScS ScS 14 41 22.3 -5.7
GTA LR LR
comp=Z,25μm,25.1s,MS6.3
AGT Agartala 66.69 299 *ex* x 14 31 41.0
AGT *ex* x 14 33 02.0
SHL Shillong 66.71 301 *e*P **P** **14 31 37.0 +0.7**
comp=Z,570nm,1.0s,mb6.6
SHL *e*S S 14 40 30.0 +3.9
NRGR Nerungri 66.95 344 *e*P **P** **14 31 28.0 -9.3**
TAOE Nuku Hiva Isla 67.00 97 *e*P **P** **14 31 38.4 0.0**
comp=Z,3μm,1.1s,mb7.2
TAOE Nuku Hiva Isla 67.00 97 *e*SS SS 14 44 49.2 -1.2
TAOE *e*LR LR 14 51 50.5
comp=Z,22μm,23.7s
CLNS Chul'man 67.06 344 *e*P **P** **14 31 38.5 +0.5**
CLNS *e**PP pP 14 31 45.1 +2.6
CLNS *e* 14 32 06.7
CLNS *e*S S 14 40 24.1 -5.6
CLNS pmax pmax
comp=N,156nm,1.1s
CLNS pmax pmax
comp=Z,306nm,1.1s,mb6.2
CLNS pmax pmax
comp=E,38nm,1.0s
CLNS smax
comp=N,2μm,12.7s
CLNS smax
comp=Z,6μm,15.0s
CLNS smax
comp=E,3μm,14.2s
CLNS MLR MLR
comp=N,2μm,17.0s,MS5.8
CLNS MLR MLR
comp=E,4μm,17.0s,MS5.8
CLNS MLR MLR
comp=Z,7μm,17.0s,MS6.0
CIT Chita 67.06 335 *e*P **P** **14 31 39.1 +1.0**
CIT *e*S S 14 40 31.5 +1.7
CIT pmax pmax
comp=Z,2μm,2.0s,mb6.8
CIT Chita 67.06 335 *e*P **P** **14 31 39.1 +1.0**
comp=Z,2μm,2.0s,mb6.8
CIT *e*S S 14 40 31.5 +1.7
ULN Ulaanbaatar 67.20 329 *d* *i*P **P** **14 31 38.1 -1.0**
ULN Ulaanbaatar 67.20 329 *e*P **P** **14 31 39.0 0.0**
comp=Z,33nm,2.0s
ULN LR LR
comp=Z,16μm,19.0s,MS6.3
SONM Songino Array 67.52 328 P **P** **14 31 41.0 -0.1**
comp=Z,313nm,1.1s,mb6.3,baz=137,slow=5.0,SNR=424
SONM PKPPKP 15 00 06.1
comp=Z,18nm,1.1s,baz=320,slow=2.4,SNR=20
SONM LR LR 15 01 25.4
comp=Z,17μm,19.5s,MS6.3,baz=139,slow=36
NIKO Nikolski 67.89 24 *e*P **P** **14 31 42.0 -1.3**
comp=Z,3μm,1.6s,mb7.1
LSA Lhasa 68.77 305 P **P** **14 31 50.6 +1.4**
LSA S S 14 40 52.6 +2.0
LSA AMB AMB
comp=Z,120nm,1.9s,mb5.5
LSA AMB AMB
comp=Z,2μm,7.3s
LSA LR LR
comp=N,4μm,21.1s
LSA LR LR
comp=E,16μm,30.5s
LSA LR LR
comp=Z,103μm,31.7s
LSA Lhasa 68.77 305 *e*P **P** **14 31 49.3 +0.1**
LSA pmax pmax
comp=Z,138nm,0.7s,mb6.0
LSA MLR MLR
comp=Z,21μm,22.0s,MS6.3
LSA Lhasa 68.77 305 P **P** **14 31 50.6 +1.4**
comp=Z,120nm,1.9s,mb5.5
LSA S S 14 40 52.6 +2.0
LSA LR LR
comp=Z,103μm,31.7s,MS6.9
CAL Calcutta 68.83 297 *ex* x 14 31 52.4
CAL *ex* x 14 41 04.7
SEY Seymchan 69.33 0 *i* P **P** **14 31 52.0 0.0**
SEY 14 32 10.6
SEY *e* 14 34 28.2
SEY *e*S S 14 41 00.1 +3.4
SEY 14 41 49.2
SEY pmax pmax
comp=E,80nm,1.3s
SEY pmax pmax
comp=Z,680nm,1.3s,mb6.4
SEY pmax pmax
comp=N,170nm,1.2s
SEY smax
comp=N,23μm,16.9s
SEY smax
comp=E,15μm,16.9s
SEY MLR MLR
comp=N,8μm,19.0s,MS6.1
SEY MLR MLR
comp=Z,14μm,19.0s,MS6.2
SEY MLR MLR
comp=E,6μm,17.0s,MS6.1
SEY Seymchan 69.33 0 *i* P **P** **14 31 52.0 0.0**
comp=E,0.7nm,1.3s
SEY *e* 14 32 10.6
SEY *e* 14 34 28.2
SEY *e*S S 14 41 00.1 +3.4
SEY *e* 14 41 49.2
SEY LR LR
comp=Z,14μm,19.0s,MS6.2
UNV Unalaska Valle 69.49 25 *e*P **P** **14 31 51.1 -2.1**
comp=Z,1μm,1.6s,mb6.6
UNV LR LR
comp=Z,21μm,22.0s,MS6.3
YAK Yakutsk 70.61 349 *d* *i*P **P** **14 31 59.9 +0.1**
YAK *e**PP pP 14 32 06.4 +2.1
YAK *e* 14 32 21.2
YAK *e* 14 34 41.8
YAK *i* S S 14 41 13.3 +1.6
YAK *i* *SS 14 41 35.5
YAK pmax pmax
comp=N,94nm,1.2s
YAK pmax pmax
comp=E,36nm,1.2s
YAK pmax pmax
comp=Z,235nm,1.2s,mb6.0
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=Z,26nm,1.0s,mb5.1
YAK pmax pmax
comp=N,13nm,1.3s
YAK smax
comp=E,3.0nm,0.9s
YAK smax
comp=Z,5.0nm,1.3s
YAK smax
comp=N,4.0nm,1.4s
YAK MLR MLR
comp=Z,3μm,16.0s,MS5.7
YAK MLR MLR
comp=N,2μm,19.0s,MS5.6
YAK MLR MLR
comp=E,3μm,21.0s,MS5.6
YAK Yakutsk 70.61 349 *i* Pr **P** **14 31 59.9 +0.1**
comp=E,235nm,1.2s,mb6.0
YAK *e*pP pP 14 32 06.4 +2.1
YAK *e* 14 32 21.2
YAK *e* 14 34 41.8
YAK *i* S S 14 41 13.3 +1.6
YAK *i* sS 14 41 35.5
YAK LR LR
comp=Z,3μm,16.0s,MS5.7
ZAK Zakamensk 70.71 329 *e*P **P** **14 32 01.2 +0.5**
ZAK *e* 14 32 14.4
ZAK *e* 14 41 18.0
ZAK pmax pmax
comp=Z,510nm,1.1s,mb6.4
ZAK Zakamensk 70.71 329 *e*P **P** **14 32 01.2 +0.5**
comp=Z,510nm,1.1s,mb6.4
ZAK *e*P 14 32 14.4
ZAK *e* 14 38 28.0
ZAK *e* 14 41 18.0
VNDA Vanda 71.07 178 P **P** **14 32 02.3 -0.1**
comp=Z,41nm,0.8s,mb5.4,baz=331,slow=6.7,SNR=94
VNDA LR LR 15 00 50.5
comp=Z,11nm,18.7s,MS6.1,baz=37,slow=34
VNDA Vanda 71.07 178 *e*P **P** **14 32 01.9 -0.5**
VNDA pmax pmax
comp=Z,282nm,1.4s
VNDA MLR MLR
comp=Z,10μm,19.0s
VNDA Vanda 71.07 178 *e*P **P** **14 32 01.9 -0.6**
comp=Z,282nm,1.4s,mb6.0
VNDA LR LR
comp=Z,10μm,19.0s,MS6.1
BOD Bodaibo 71.25 340 *e*P **P** **14 32 02.6 -1.2**
BOD pmax pmax
comp=Z,976nm,1.8s,mb6.4
BOD Bodaibo 71.25 340 *e*P **P** **14 32 02.6 -1.2**
comp=Z,976nm,1.8s,mb6.4
BOK Bokaro 71.35 298 *e*P **P** **14 32 04.2 -0.8**
BOK *e*S S 14 41 25.0 +4.0
BOK AMb AMB 14 42 41.0
comp=Z,2μm,21.0s
IRK Irkutsk 71.38 331 *e*P **P** **14 32 04.4 -0.3**
IRK *e* 14 41 21.5
IRK pmax pmax
comp=Z,1μm,2.4s,mb6.3
IRK Irkutsk 71.38 331 *e*P **P** **14 32 04.4 -0.3**
comp=Z,1μm,2.4s,mb6.3
IRK *e* 14 41 21.5
SBA Scott Base 71.62 177 *e*P **P** **14 32 06.7 +0.9**
SBA pmax pmax
comp=Z,636nm,1.8s,mb6.2
SBA MLR MLR
comp=Z,9μm,19.0s,MS6.1
SBA Scott Base 71.62 177 *e*P **P** **14 32 06.7 +0.9**
comp=Z,636nm,1.8s,mb6.2
SBA LR LR
comp=Z,9μm,19.0s,MS6.1
MIR Mirnyy 72.04 201 *d* *i*P **P** **14 32 09.0 +0.6**
MIR *i* 14 32 22.0
MIR *e*S S 14 41 31.0 +2.8
MIR pmax pmax
comp=E,2μm,14.0s
MIR smax
comp=N,8μm,20.0s
MIR smax
comp=E,8μm,20.0s
MIR MLR MLR
comp=N,3μm,18.0s,MS5.8
MIR MLR MLR
comp=E,4μm,18.0s,MS5.8
MIR MLR MLR
comp=Z,19μm,18.0s,MS6.4
VIS Vishakhapatnam 72.13 291 *e*P **P** **14 32 10.3 +0.5**
VIS AMb AMB 14 32 24.7
comp=Z,784nm,2.2s,mb6.2
VIS *e*S S 14 41 31.0 +1.0
JIRN Jiri 72.20 302 *e*P **P** **14 32 09.4 -0.6**
comp=Z,2μm,1.6s,mb6.8
GUN Gumba 72.54 302 *e*P **P** **14 32 11.2 -0.9**
comp=Z,2μm,1.2s,mb7.0
MOY Mondy 72.64 329 *e*P **P** **14 32 13.6 +1.4**
MOY pmax pmax
comp=Z,1μm,2.1s,mb6.5
MOY Mondy 72.64 329 *e*P **P** **14 32 13.6 +1.4**
comp=Z,1μm,2.1s,mb6.5
PKI Pulchoki 72.84 301 *e*P **P** **14 32 13.1 -0.8**
comp=Z,2μm,1.5s,mb6.9
PKI Pulchoki 72.84 301 *e*P **P** **14 32 13.1 -0.8**
PKI pmax pmax
comp=Z,1μm,1.5s,mb6.6
KKN Kakani 73.01 302 *e*P **P** **14 32 13.9 -1.0**
DMN Daman 73.11 301 *e*P **P** **14 32 15.1 -0.3**
comp=Z,2μm,1.1s,mb6.9
GKN Gorkha 73.62 302 *e*P **P** **14 32 17.7 -0.7**
comp=Z,3μm,1.2s,mb7.0
KOLN Koldanda 74.43 301 *e*Pg **P** **14 32 22.3 -0.8**
comp=Z,5μm,1.6s,mb7.2
BILL Bilibino 75.12 5 *e*P **P** **14 32 25.9 -0.4**
BILL pmax pmax
comp=Z,246nm,0.9s,mb6.1
BILL MLR MLR
comp=Z,8μm,21.0s,MS6.0
BILL Bilibino 75.12 5 *e*P **P** **14 32 25.9 -0.4**
comp=Z,246nm,0.9s,mb6.1
BILL LR LR
comp=Z,8μm,21.0s,MS6.0
ALBI Allahabad 75.33 298 *e*P **P** **14 32 26.5 -1.8**
TRD Trivandrum 76.49 280 *e*P **P** **14 32 35.1 0.0**
TRD AMb AMB 14 32 43.7
comp=Z,316nm,1.1s,mb6.2
HYB Hyderabad 76.52 290 ⇓ *i*P **P** **14 32 34.0 -1.2**
comp=Z,350nm,1.0s,mb6.2
HYB *e*PcP PcP 14 32 48.0 +0.8
HYB Hyderabad 76.52 290 ⇓ *e*P **P** **14 32 34.0 -1.2**
HYB *e*S S 14 42 20.0 +0.9
HYB pmax pmax
comp=Z,350nm,1.0s,mb6.2
HYB Hyderabad 76.52 290 ⇓ *e*P **P** **14 32 34.0 -1.2**
comp=Z,350nm,1.0s,mb6.2
HYB *e*S S 14 42 20.0 +0.9
WMQ Urumqi 76.66 318 P **P** **14 32 36.6 +1.2**
WMQ AP pP 14 32 41.3 +1.3
WMQ XP sP 14 32 43.6 +2.1
WMQ PCP PcP 14 32 48.4 +1.1
WMQ PP PP 14 35 30.4 +0.9
WMQ PPP PPP 14 37 18.0 +0.9
WMQ S S 14 42 21.1 +1.0
WMQ ScS ScS 14 42 48.7 +0.9
WMQ SS SS 14 47 19.2 +0.4
WMQ AMB AMB
comp=Z,420nm,1.2s,mb6.2
WMQ AMB AMB
comp=Z,9μm,6.7s
WMQ LR LR
comp=E,21μm,22.0s
WMQ LR LR
comp=Z,23μm,22.0s,MS6.5
WMQ Urumqi 76.66 318 P **P** **14 32 36.6 +1.2**
comp=Z,420nm,1.2s,mb6.2
WMQ pP pP 14 32 41.3 +1.3
WMQ sP sP 14 32 43.6 +2.1
WMQ PcP PcP 14 32 48.4 +1.1
WMQ PP PP 14 35 30.4 +0.9
WMQ S S 14 42 21.1 +1.0
WMQ ScS ScS 14 42 48.7 +0.9
WMQ SS SS 14 47 19.2 +0.4
WMQ LR LR
comp=Z,24μm,22.0s,MS6.5
TNA Tin City 77.68 16 *e*P **P** **14 32 40.3 -0.4**
comp=Z,376nm,1.2s,mb6.2
TNA LR LR
comp=Z,7μm,19.0s,MS6.0
KDAK Kodiak Island 78.04 27 P **P** **14 32 43.1 +0.3**
comp=Z,77nm,0.9s,mb5.7,baz=230,slow=2.6,SNR=36
BHPL Bhopal 78.74 295 *e*P **P** **14 32 45.1 -2.3**
BHPL AMb AMB 14 32 56.5
comp=Z,410nm,1.2s,mb6.2
BHPL AMS AMS 14 44 12.3
comp=Z,6μm,18.1s,MS6.0
DGAR Diego Garcia 79.04 264 *i* P **P** **14 32 49.4 +0.2**
DGAR Diego Garcia 79.04 264 *i* Pr **P** **14 32 49.4 +0.2**
TIXI Tiksi 79.59 353 *e*P **P** **14 32 44.4 -6.6**
TIXI *e*S S 14 42 41.1 -10
TIXI *e*SSS SSS 14 51 20.3 -2.1
TIXI pmax pmax
comp=N,30nm,1.2s
TIXI pmax pmax
comp=E,39nm,1.2s
TIXI pmax pmax
comp=Z,131nm,1.2s,mb5.7
TIXI pmax pmax
comp=Z,5μm,6.6s
TIXI MLR MLR
comp=N,4μm,18.0s,MS6.0
TIXI MLR MLR
comp=E,5μm,17.0s,MS6.0
TIXI MLR MLR
comp=Z,7μm,17.0s,MS6.1
TIXI Tiksi 79.59 353 *e*P **P** **14 32 44.4 -6.6**
comp=Z,131nm,1.2s,mb5.7
TIXI *i* Pr pP 14 32 50.0 -5.6
TIXI *e*S S 14 42 41.1 -10
TIXI *e*SSS SSS 14 51 20.3 -2.1
NDI New Delhi 80.11 301 *e*P **P** **14 32 53.0 -1.7**
NDI *e*S S 14 42 56.0 -1.3
SLKM Skilak Lake 80.54 25 *e*P **P** **14 32 55.7 -0.6**
KAD Karad 80.60 289 *e*P **P** **14 32 57.0 -0.4**
KAD AMb AMB 14 33 08.2
comp=Z,636nm,0.8s,mb6.6
FIB Fire Island 80.91 24 *e*P **P** **14 32 58.7 +0.5**
FIB pmax pmax
comp=Z,494nm,0.8s,mb6.5
FIB MLR MLR
comp=Z,5μm,21.0s,MS5.9
FIB Fire Island 80.91 24 *e*P **P** **14 32 58.7 +0.5**
comp=Z,1000nm,0.8s,mb6.8

FIB LR LR
comp=Z,5µm,21.0s,MS5.9
POO Poona 81.12 290 *e*P **P 14 33 00.4 +0.2**
POO AMb AMB 14 33 15.5
comp=Z,294nm,2.2s,mb5.8
MKAR Makanchi Array 81.28 319 P **P 14 33 00.6 +0.1**
comp=Z,138nm,0.9s,mb5.9,baz=108,slow=3.8,SNR=196
MKAR S S 14 43 11.0 +1.9
comp=Z,2.0nm,1.2s,baz=108,slow=4.6,SNR=2.1
MKAR PKKPbc 14 51 36.3
comp=Z,3.7nm,0.8s,baz=293,slow=1.8,SNR=13
MKAR PKPPKP 14 59 41.3
comp=Z,8.6nm,1.1s,baz=270,slow=2.4,SNR=12
MKAR LR LR 15 06 06.8
comp=Z,11µm,20.8s,MS6.2,baz=122,slow=34
PMR Palmer 81.56 24 *e*P **P 14 33 00.3 -1.3**
PMR pmax pmax
comp=Z,410nm,1.1s,mb6.3
PMR MLR MLR
comp=Z,13µm,21.0s,MS6.3
PMR Palmer 81.56 24 *e*P **P 14 33 00.3 -1.3**
comp=Z,410nm,1.1s,mb6.3
PMR LR LR
comp=Z,13µm,21.0s,MS6.3
SML Sawmill 82.00 24 *e*P **P 14 33 03.7 -0.1**
BOM Bombay 82.15 290 *e*P **P 14 33 06.8 +1.3**
BOM *e*S S 14 43 21.1 +2.5
ZAL Zalesovo 82.32 327 P **P 14 33 04.8 -0.9**
comp=Z,83nm,0.7s,mb5.8,baz=3.0,slow=5.9,SNR=86
ZAL S S 14 43 19.6 +0.1
comp=Z,1.0nm,0.9s,baz=139,slow=19,SNR=1.7
ZAL PKKPbc 14 51 33.7
comp=Z,1.8nm,0.7s,baz=235,slow=2.0,SNR=6.3
ZAL LR LR 15 06 17.9
comp=Z,11µm,21.2s,MS6.2,baz=342,slow=33
IMA2 Indian Mountai 82.34 19 *e*P **P 14 33 05.4 -0.1**
DIV Divide 82.74 26 *e*P **P 14 33 08.3 +0.6**
comp=Z,440nm,1.0s,mb6.4
DIV LR LR
comp=Z,26µm,19.0s,MS6.6
MCK McKinley 82.74 23 *e*P **P 14 33 06.3 -1.4**
MCK pmax pmax
comp=Z,407nm,1.0s,mb6.4
MCK MLR MLR
comp=Z,5µm,19.0s,MS5.9
MCK McKinley 82.74 23 *e*P **P 14 33 06.3 -1.4**
comp=Z,829nm,1.0s,mb6.7
MCK LR LR
comp=Z,5µm,19.0s,MS5.9
QSPA South Pole Qui 83.37 180 *e*P **P 14 33 10.7 0.0**
comp=Z,157nm,0.7s,mb6.2
NVS Novosibirsk 83.50 327⇓ *i*P **P 14 33 11.2 -0.6**
NVS *i* S S 14 43 30.2 -1.3
NVS pmax pmax
comp=Z,1µm,1.8s,mb6.8
NVS pmax pmax
comp=N,525nm,1.5s
NVS pmax pmax
comp=E,810nm,1.5s
NVS smax
comp=N,909nm,3.6s
NVS smax
comp=E,1µm,3.1s
NVS Novosibirsk 83.50 327⇓ *i*P **P 14 33 11.2 -0.6**
comp=E,1µm,1.8s,mb6.8
NVS *i* S S 14 43 30.2 -1.3
KSH Kashi 83.65 311 *i* PR **P 14 33 15.6 +2.7**
KSH AP pP 14 33 20.6 +3.1
KSH XP sP 14 33 22.2 +3.2
KSH PP PP 14 36 30.6 +3.0
KSH *e*PPP PPP 14 38 25.0 +3.2
KSH SKS SKS 14 43 33.4 -3.6
KSH S S 14 43 37.4 +4.1
KSH XS 14 43 44.4
KSH AMB AMB
comp=Z,5µm,3.0s
KSH LR LR
comp=N,5µm,15.7s,MS6.2
KSH LR LR
comp=E,6µm,16.6s,MS6.2
KSH Kashi 83.65 311⇓ *i*P **P 14 33 15.6 +2.7**
KSH pP pP 14 33 20.6 +3.1
KSH sP sP 14 33 22.2 +3.2
KSH PP PP 14 36 30.6 +3.0
KSH SKS SKS 14 43 33.4 -3.6
KSH S S 14 43 37.4 +4.1
KSH sS 14 43 44.4
MAW Mawson 83.69 203 *e*S S 14 43 34.7 +1.6
MAW Mawson 83.69 203 P **P 14 33 13.1 +0.7**
comp=E,71nm,1.0s,mb5.8,baz=88,slow=6.6,SNR=30
MAW LR LR 15 06 51.5
comp=E,16µm,21.9s,MS6.4,baz=88,slow=33
MAW Mawson 83.69 203⇓ *i*P **P 14 33 13.0 +0.5**
MAW *e*S S 14 43 34.7 +1.6
MAW pmax pmax
comp=Z,127nm,1.0s
MAW Mawson 83.69 203⇓ *i*P **P 14 33 13.0 +0.5**
comp=Z,127nm,1.0s,mb6.0
MAW *e*S S 14 43 34.7 +1.6
COLA College 83.73 22 *e*P **P 14 33 11.2 -1.5**
COLA pmax pmax
comp=Z,362nm,0.8s,mb6.6
COLA MLR MLR
comp=Z,10µm,21.0s,MS6.2
COLA College 83.73 22 *e*P **P 14 33 11.2 -1.5**
comp=Z,362nm,0.8s,mb6.6
COLA LR LR
comp=Z,10µm,21.0s,MS6.2
THY Trims Highway 83.83 24 *e*P **P 14 33 13.8 +0.6**
comp=Z,289nm,0.9s,mb6.4
AAA Alma-Ata 83.87 315 *i* P **P 14 33 16.0 +2.1**
AAA *i* S S 14 43 40.3 +4.8
AAA pmax pmax
comp=Z,8µm,2.7s
AAA smax
comp=E,27µm,6.9s
AAA MLR MLR
comp=Z,6µm,10.0s,MS6.3
ILAR Eielson Array 84.04 22 P **P 14 33 13.2 -1.1**
comp=Z,187nm,0.8s,mb6.3,baz=254,slow=3.7,SNR=344
ILAR PKKPbc 14 51 28.3
comp=Z,1.2nm,0.8s,baz=350,slow=1.1,SNR=7.6
ILAR PKPPKP 14 59 35.3
comp=Z,2.5nm,1.2s,baz=23,slow=1.3,SNR=4.4
ILAR LR LR 15 10 40.3
comp=Z,9µm,18.8s,MS6.2,baz=76,slow=36
ULHL Ulahol 84.11 314 P **P 14 33 17.4 +2.2**
SNR=14
TKM2 Tokmak 2 84.74 314 P **P 14 33 19.4 +1.1**
SNR=162
KZA Kyzart 84.79 313 P **P 14 33 20.8 +2.2**
SNR=434
KURK Kurchatov 84.81 322 *i* P **P 14 33 18.2 -0.3**
KURK pmax pmax
comp=Z,774nm,1.4s,mb6.6
KBK Karagaybulak 85.14 314 P **P 14 33 21.5 +1.2**
SNR=253
UCH Uchtor 85.36 313 P **P 14 33 23.3 +1.9**
SNR=442
CHMS Chumysh 85.36 314 P **P 14 33 22.2 +0.8**
SNR=501
AAK Ala-Archa 85.46 314*d* *i*P **P 14 33 22.0 +0.1**
AAK pmax pmax
comp=Z,1µm,1.7s,mb6.8
AAK MLR MLR
comp=Z,6µm,17.0s,MS6.0
AAK Ala-Archa 85.46 314 *i* Pr **P 14 33 22.0 +0.1**
comp=Z,1µm,1.7s,mb6.8
AAK LR LR
comp=Z,6µm,17.0s,MS6.0
USP Ospenovka 85.60 314 P **P 14 33 23.4 +0.7**
SNR=604
BHJ Bhuj 85.77 294 *e*P **P 14 33 24.1 +0.2**
BHJ AMb AMB 14 33 31.1
comp=Z,304nm,1.2s,mb6.4
AML Almayashu 85.93 313 P **P 14 33 26.1 +1.8**
SNR=581
EKS2 Erkin-Say 85.98 314 P **P 14 33 25.8 +1.3**
SNR=456
SIT Sitka 86.11 31 *e*P **P 14 33 25.9 +1.1**
SIT pmax pmax
comp=Z,279nm,1.1s,mb6.4
SIT MLR MLR
comp=Z,31µm,21.0s,MS6.7
SIT Sitka 86.11 31 *e*P **P 14 33 25.9 +1.1**
comp=Z,279nm,1.1s,mb6.4
SIT LR LR
comp=Z,31µm,21.0s,MS6.7
DAWY Dawson 86.66 24 *e*P **P 14 33 28.1 +0.8**
DLBC Dease Lake 89.22 31 P **P 14 33 40.4 +0.6**
comp=Z,51nm,1.1s,mb5.8,baz=255,slow=5.0,SNR=31
KBO Bosley Butte 89.65 48 *e*P **P 14 33 43.9 +1.7**
KEBM Edson Butte 89.67 47 *e*P **P 14 33 40.1 -2.2**
KCPM Cahto Peak 89.74 50 *e*P **P 14 33 43.3 +0.6**
KHMM Horse Mountain 89.81 49 *e*P **P 14 33 44.1 +1.1**
KIPM Iron Peak 89.83 50 *e*P **P 14 33 44.0 +0.9**
HOPS Hopland 90.03 51 *e*P **P 14 33 43.8 -0.2**
comp=Z,92nm,1.2s,mb6.0
HOPS LR LR
comp=Z,7µm,19.0s,MS6.1
BVAR Borovoye Array 90.31 323 P **P 14 33 44.5 -0.5**
comp=Z,135nm,0.8s,mb6.3,baz=108,slow=4.7,SNR=129
BVAR PKKPbc 14 51 14.8
comp=Z,1.5nm,0.7s,baz=333,slow=3.3,SNR=3.7
BVAR PKPPKP 14 59 23.4
comp=Z,1.6nm,1.0s,baz=270,slow=1.5,SNR=6.8
INK Inuvik 90.34 21 P **P 14 33 44.8 0.0**
comp=Z,156nm,1.0s,mb6.3,baz=245,slow=5.1,SNR=173
INK Inuvik 90.34 21 *e*P **P 14 33 43.7 -1.1**
INK pmax pmax
comp=Z,298nm,1.2s
INK Inuvik 90.34 21 *e*P **P 14 33 43.7 -1.1**
comp=Z,10µm,1.2s
MPOR Mary's Peak 90.49 45 P **P 14 33 47.3 +1.3**
OCWA Octopus Mounta 90.56 42 *e*P **P 14 33 47.7 +1.4**
comp=Z,116nm,1.0s,mb6.2
OCWA LR LR
comp=Z,14µm,21.0s,MS6.4
HUMO Hull Mountain 90.64 47 *e*P **P 14 33 47.4 +0.7**
comp=Z,139nm,1.3s,mb6.1
HUMO LR LR
comp=Z,9µm,21.0s,MS6.2
WDC Whiskeytown Da 90.66 49 *e*P **P 14 33 46.8 -0.1**
WDC pmax pmax
comp=Z,69nm,1.3s,mb5.8
WDC MLR MLR
comp=Z,6µm,19.0s,MS6.1
WDC Whiskeytown Da 90.66 49 *e*P **P 14 33 46.8 -0.1**
comp=Z,70nm,1.3s,mb5.8
WDC LR LR
comp=Z,6µm,19.0s,MS6.1
COR Corvallis 90.68 45 *e*P **P 14 33 47.5 +0.6**
COR pmax pmax
comp=Z,262nm,1.6s,mb6.3
COR MLR MLR
comp=Z,9µm,22.0s,MS6.2
COR Corvallis 90.68 45 *e*P **P 14 33 47.5 +0.7**
comp=Z,262nm,1.6s,mb6.3
COR LR LR
comp=Z,9µm,22.0s,MS6.2
YBH Yreka Blue Hor 90.69 48 *e*P **P 14 33 47.4 +0.4**
YBH pmax pmax
comp=Z,85nm,1.3s
YBH MLR MLR
comp=Z,10µm,19.0s
YBH Yreka Blue Hor 90.69 48 *e*P **P 14 33 47.4 +0.3**
comp=Z,86nm,1.3s,mb5.9
YBH LR LR
comp=Z,10µm,19.0s,MS6.3
SAO San Andreas Ge 90.99 53 *e*P **P 14 33 49.8 +1.3**
SAO pmax pmax
comp=Z,256nm,1.9s,mb6.2
SAO MLR MLR
comp=Z,6µm,20.0s,MS6.0
SAO San Andreas Ge 90.99 53 *e*P **P 14 33 49.8 +1.3**
comp=Z,259nm,1.9s,mb6.2
SAO LR LR
comp=Z,6µm,20.0s,MS6.0
LHEM Herd Peak 91.04 48 P **P 14 33 49.6 +1.0**
PGC Sidney 91.18 41 *e*P **P 14 33 49.0 0.0**
comp=Z,111nm,1.0s,mb6.2
BROR Big Rock Looko 91.23 46 P **P 14 33 50.2 +0.7**
HBO Huckleberry Mo 91.27 46 P **P 14 33 50.6 +1.0**
LRV Little Rabbit 91.29 54 *e*P **P 14 33 51.4 +1.5**
BKCOR Black Crater 91.78 46 P **P 14 33 52.4 +0.5**
SYO Syowa Base 91.78 199 ⇓P **P 14 33 51.0 -0.4**
SYO Syowa Base 91.78 199 ⇓pP pP 14 33 54.7 -1.3
SYO Syowa Base 91.78 199⇓ *i*P **P 14 33 51.0 -0.4**
SYO *e* 14 37 31.2
SYO Syowa Base 91.78 199⇓ *i*P **P 14 33 51.0 -0.4**
SYO ⇓ *i*pP pP 14 33 54.7 -1.3
SYO ⇓ *e*PP PP 14 37 31.2 -1.8
PTRM Twissleman Ran 91.85 54 *e*P **P 14 33 53.3 +0.9**
CMB Columbia Colle 91.99 52 *e*P **P 14 33 53.4 +0.3**
CMB pmax pmax
comp=Z,262nm,1.6s,mb6.3
CMB MLR MLR
comp=Z,7µm,22.0s,MS6.1
CMB Columbia Colle 91.99 52 *e*P **P 14 33 53.4 +0.4**
comp=Z,256nm,1.6s,mb6.3
CMB LR LR
comp=Z,7µm,22.0s,MS6.1
CROR Criterion Ridg 92.36 45 P **P 14 33 55.0 +0.4**
MOD Modoc 92.50 48 *e*P **P 14 33 54.8 -0.5**
comp=Z,2µm,0.7s
MOD LR LR
comp=Z,20µm,19.0s,MS6.6
VIPM Ingram Point 92.57 46 P **P 14 33 56.1 +0.5**
WTV Waterville 93.38 43 P **P 14 33 59.6 +0.4**
PRW Prosser 93.41 44 P **P 14 34 00.6 +1.2**
MWC Mount Wilson 93.45 56 *e*P **P 14 34 00.9 +1.0**
comp=Z,332nm,1.2s,mb6.6
HAWA Hanford 93.53 44 *e*P **P 14 34 00.1 +0.1**
comp=Z,254nm,1.7s,mb6.4
HAWA LR LR
comp=Z,18µm,21.0s,MS6.5
NVAR Mina Array Bea 93.66 52 P **P 14 34 01.2 +0.4**
comp=Z,22nm,0.9s,mb5.6,baz=250,slow=3.4,SNR=124
NVAR PKPPKP 14 59 12.5
comp=Z,0.9nm,0.9s,baz=90,slow=0.9,SNR=3.9
NVAR Mina Array Bea 93.66 52 P **P 14 34 01.2 +0.4**
NVAR P'P' 14 59 12.5
MNV Mina 93.78 52 *e*P **P 14 34 01.6 +0.3**
MNV pmax pmax
comp=Z,324nm,1.4s,mb6.6
MNV MLR MLR
comp=Z,5µm,20.0s,MS5.9
MNV Mina 93.78 52 *e*P **P 14 34 01.6 +0.3**
comp=Z,323nm,1.4s,mb6.6
MNV LR LR
comp=Z,5µm,20.0s,MS5.9
WVOR Wild Horse Val 93.79 48 *e*P **P 14 34 01.5 +0.3**
WVOR pmax pmax
comp=Z,357nm,1.1s,mb6.7
WVOR MLR MLR
comp=Z,12µm,19.0s,MS6.4
WVOR Wild Horse Val 93.79 48 *e*P **P 14 34 01.5 +0.3**
comp=Z,330nm,1.1s,mb6.7
WVOR LR LR
comp=Z,10µm,19.0s,MS6.3
DAC Darwin (Calif) 94.02 54 *e*P **P 14 33 59.8 -2.7**
DAC pmax pmax
comp=Z,310nm,1.3s,mb6.6
DAC Darwin (Calif) 94.02 54 *e*P **P 14 34 03.4 +0.9**
comp=Z,347nm,1.4s,mb6.6
DAC LR LR
comp=Z,9µm,22.0s,MS6.2
OD2 Odessa Site #2 94.19 43 P **P 14 34 03.6 +0.6**
BAR Barrett 94.47 58 *e*P **P 14 34 05.6 +1.0**
comp=Z,182nm,1.5s,mb6.3
TPH Tonopah 94.48 52 *e*P **P 14 34 05.5 +1.0**
TPH pmax pmax
comp=Z,256nm,1.5s,mb6.4
TPH MLR MLR
comp=Z,5µm,20.0s,MS6.0
TPH Tonopah 94.48 52 *e*P **P 14 34 05.5 +1.0**
comp=Z,256nm,1.5s,mb6.4
TPH LR LR
comp=Z,5µm,20.0s,MS6.0
BMO Blue Mountains 94.95 46 *e*P **P 14 34 06.3 -0.2**
BMO pmax pmax
comp=Z,268nm,1.1s,mb6.6
BMO MLR MLR
comp=Z,10µm,20.0s,MS6.3
BMO Blue Mountains 94.95 46 *e*P **P 14 34 06.3 -0.2**
comp=Z,268nm,1.1s,mb6.6
BMO LR LR
comp=Z,10µm,20.0s,MS6.3
TPNV Topopah Spring 95.16 54 *e*P **P 14 34 08.2 +0.5**
TPNV pmax pmax
comp=Z,319nm,1.4s,mb6.6
TPNV MLR MLR
comp=Z,9µm,22.0s,MS6.2
TPNV Topopah Spring 95.16 54 *e*P **P 14 34 08.2 +0.6**
comp=Z,312nm,1.4s,mb6.5
TPNV LR LR
comp=Z,7µm,22.0s,MS6.1
LDFC Landfair 95.95 55 *e*P **P 14 34 12.8 +1.4**
GLA Glamis 96.04 58 *e*P **P 14 34 13.0 +1.2**
comp=Z,198nm,1.5s,mb6.3
ELK Elko 96.20 50 *e*P **P 14 34 12.5 +0.2**
ELK pmax pmax
comp=Z,55nm,1.3s
ELK MLR MLR
comp=Z,5µm,19.0s
ELK Elko 96.20 50 *e*P **P 14 34 12.4 +0.1**
comp=Z,55nm,1.3s,mb5.8
ELK LR LR
comp=Z,5µm,19.0s,MS6.0
NEN Nelson 96.20 55 *e*P **P 14 34 13.2 +0.8**
AB31 Akbulak array 96.42 319 *i* P **P 14 34 11.5 -1.6**
HLID Hailey 96.95 47 *e*P **P 14 34 15.8 +0.2**
comp=Z,330nm,1.1s,mb6.7
HLID LR LR
comp=Z,7µm,20.0s,MS6.2
YKW3 Yellowknife Ar 97.28 28 *e*P **P 14 34 16.2 -0.4**
comp=Z,1.2nm,1.1s
YKA Yellowknife Ar 97.29 28 P **P 14 34 16.7 +0.1**
comp=Z,18nm,1.0s,mb5.5,baz=271,slow=4.6,SNR=89
YKA PKIKP 14 38 53.1
comp=Z,2.2nm,0.7s,baz=270,slow=1.4,SNR=5.9
YKA PKKPbc 14 50 54.9
comp=Z,1.8nm,0.6s,baz=87,slow=2.9,SNR=20
YKA PKKP PKKP 14 51 00.0 +8.1
comp=Z,2.0nm,0.6s,baz=87,slow=2.8,SNR=14
YKA PKKPab 14 51 25.0
comp=Z,3.7nm,1.0s,baz=90,slow=5.3,SNR=6.0
YKA LR LR 15 14 29.1
comp=Z,13µm,19.6s,MS6.4,baz=270,slow=33
YKA Yellowknife Ar 97.29 28 P **P 14 34 16.8 +0.1**
MSO Missoula 97.41 44 PFAKE 14 34 30.0 +12
MSO LR LR
comp=Z,8µm,20.0s,MS6.2
ARUT Antelope Range 97.44 53 *e*P **P 14 34 19.4 +1.4**
ARU Arti 97.46 326⇓ *i*P **P 14 34 16.3 -1.3**
ARU *e* 14 38 13.2
ARU *e*PPP PPP 14 40 20.5 -3.6
ARU *e*S SKS 14 44 50.6 -8.5
ARU *e*PS PS 14 46 59.9 -7.9
ARU *e*SSS SSS 14 56 00.8 -6.3
ARU pmax pmax
comp=Z,76nm,1.0s,mb6.1
ARU Arti 97.46 326⇓ *i*P **P 14 34 16.3 -1.3**
comp=Z,76nm,1.0s,mb6.1
ARU *e* 14 38 13.2
ARU *e*PPP PPP 14 40 20.5 -3.6
ARU *e*S SKS 14 44 50.6 -8.5
ARU *e*PS PS 14 46 59.9 -7.9
ARU *e*SSS SSS 14 56 00.8 -6.3
AKTK Aktyubinsk 97.70 320 P **P 14 34 17.8 -1.1**
AKTK LR LR 15 20 31.1
AKTO Aktyubinsk 97.70 320 P **P 14 34 17.8 -1.1**
comp=Z,27nm,1.0s,mb5.7,baz=86,slow=5.0,SNR=30
AKTO LR LR 15 20 31.1
comp=Z,9µm,20.0s,MS6.3,baz=277,slow=37
BGU Big Grassy Mou 97.88 50 *e*P **P 14 34 20.2 +0.3**
CHMT Chamberlain Mo 97.88 44 *e*P **P 14 34 19.0 -0.7**
EDM Edmonton 97.91 37 *e*P **P 14 34 20.1 +0.4**
DUG Dugway 98.02 50 *e*P **P 14 34 21.3 +0.7**
DUG pmax pmax
comp=Z,41nm,1.4s,mb5.8
DUG MLR MLR
comp=Z,4µm,20.0s,MS5.9
DUG Dugway 98.02 50 *e*P **P 14 34 21.2 +0.7**
comp=Z,41nm,1.4s,mb5.8
DUG LR LR
comp=Z,4µm,20.0s,MS5.9
HVU Hansel Valley 98.10 49 *e*P **P 14 34 21.5 +0.6**
HVU pmax pmax
comp=Z,64nm,1.1s,mb6.1
HVU Hansel Valley 98.10 49 *e*P **P 14 34 21.4 +0.6**
comp=Z,64nm,1.1s,mb6.1
MCMT McKenzie Canyo 98.12 46 *e*P **P 14 34 21.3 +0.4**
DLMT Dillon 98.31 45 *e*P **P 14 34 22.0 +0.3**
comp=Z,49nm,1.1s,mb6.0
SPUT South Promonto 98.33 49 *e*P **P 14 34 22.2 +0.3**
NVL N'lazarevskaya 98.39 192 *e*P **P 14 34 24.0 +2.5**
NVL pmax pmax
comp=Z,3.0nm,1.2s
SOKR Solikamsk 98.39 329*d* *i*P **P 14 34 20.4 -1.3**
SOKR 14 38 21.6
SOKR PPP PPP 14 40 37.9 +5.5
SOKR 14 45 00.1
SOKR SP SP 14 47 18.0 +2.6
SOKR SS SS 14 52 35.5 +1.5
SOKR pmax pmax
comp=Z,100nm,1.4s,mb6.2
SOKR MLR MLR
comp=Z,8µm,19.0s,MS6.2
SOKR Solikamsk 98.39 329 *i* Pr **P 14 34 20.4 -1.3**
comp=Z,100nm,1.4s,mb6.2
SOKR *e* 14 38 21.6
SOKR PPP PPP 14 40 37.9 +5.5
SOKR *e* 14 45 00.1
SOKR SP SP 14 47 18.0 +2.6
SOKR SS SS 14 52 35.5 +1.5
SOKR LR LR
comp=Z,8µm,19.0s,MS6.2
MVU Marysvale 98.44 52 *e*P **P 14 34 24.9 +2.4**
comp=Z,36nm,1.3s,mb5.7
MVU LR LR
comp=Z,5µm,20.0s,MS6.0
MSU Marysvale 98.46 52 *e*P **P 14 34 24.0 +1.4**
HRY Holter Researc 98.86 44 P **P 14 34 24.9 +0.8**
MPU Maple Canyon 98.92 51 *e*P **P 14 34 25.2 +0.6**
comp=Z,17nm,1.0s,mb5.5
MPU LR LR
comp=Z,4µm,20.0s,MS6.0
BOZ Bozeman (W) 98.99 45 *e*P **P 14 34 24.9 +0.1**
BOZ pmax pmax
comp=Z,47nm,1.3s,mb5.9
BOZ MLR MLR
comp=Z,12µm,22.0s,MS6.3
BOZ Bozeman (W) 98.99 45 *e*P **P 14 34 24.9 +0.1**
comp=Z,48nm,1.3s,mb5.9
BOZ LR LR
comp=Z,13µm,22.0s,MS6.4
HWUT Hardware Ranch 99.00 49 *e*P **P 14 34 24.5 -0.4**
comp=Z,20nm,1.0s,mb5.6
HWUT LR LR
comp=Z,6µm,19.0s,MS6.1
WUAZ Wupatki 99.02 55 *e*P **P 14 34 27.1 +1.9**
comp=Z,28nm,1.0s,mb5.8
WUAZ LR LR
comp=Z,5µm,20.0s,MS6.0
TCUT Toone Canyon 99.11 50 *e*P **P 14 34 25.4 0.0**
QLMT Earthquake Lak 99.13 46 *e*P **P 14 34 25.9 +0.5**
RRI2 Red Ridge 99.20 47 *e*P **P 14 34 26.0 +0.2**
comp=Z,36nm,1.0s,mb5.9
DAU Daniels Canyon 99.22 50 *e*P **P 14 34 26.7 +0.7**
TMUT Trail Mountain 99.24 51 *e*P **P 14 34 27.2 +1.1**
AHID Auburn Hatcher 99.36 48 *e*P **P 14 34 26.6 +0.1**
comp=Z,56nm,1.7s,mb5.8
AHID LR LR
comp=Z,10µm,21.0s,MS6.3
TUC Tucson 99.41 58 *e*P **P 14 34 27.6 +0.6**
TUC pmax pmax
comp=Z,13nm,1.2s,mb5.3
TUC MLR MLR
comp=Z,6µm,19.0s,MS6.1
TUC Tucson 99.41 58 *e*P **P 14 34 27.6 +0.5**
comp=Z,13nm,1.2s,mb5.3
TUC LR LR
comp=Z,6µm,19.0s,MS6.1
YMR Madison River 99.46 46 *e*P **P 14 34 28.0 +1.1**
comp=Z,29nm,0.9s,mb5.8
YMR LR LR
comp=Z,12µm,22.0s,MS6.4
IMW Indian Meadow 99.48 47 *e*P **P 14 34 27.5 +0.5**
comp=Z,27nm,1.0s,mb5.7
REDW Red Top Meadow 99.54 47 *e*P **P 14 34 27.2 -0.2**
comp=Z,81nm,1.4s,mb6.0
YFT Old Faithful 99.55 46 *e*P **P 14 34 28.5 +1.1**
MOOW Moose Ponds 99.62 47 *e*Pdif **P 14 34 28.0 +0.3**
comp=Z,21nm,1.0s,mb5.5
LOHW Long Hollow 99.72 47 *e*Pdif **P 14 34 28.4 +0.2**
comp=Z,21nm,1.1s,mb5.5
SRU San Rafael 99.77 52 *e*P **P 14 34 28.8 +0.3**

SRU pmax pmax
comp=Z,43nm,1.3s,mb5.7
SRU San Rafael 99.77 52 *e*P **P 14 34 28.8 +0.3**
comp=Z,43nm,1.3s,mb5.7
LKWY Lake 99.86 46 *e*P **P 14 34 30.5 +1.7**
LKWY pmax pmax
comp=Z,26nm,1.0s,mb5.6
LKWY MLR MLR
comp=Z,10µm,20.0s,MS6.3
LKWY Lake 99.86 46 *e*Pdif **P 14 34 30.4 +1.6**
comp=Z,20nm,1.0s,mb5.5
LKWY LR LR
comp=Z,9µm,20.0s,MS6.2
SNAA Sanae 100.18 188 PKKPbc 14 50 47.2
comp=Z,1.8nm,1.0s,baz=352,slow=6.2,SNR=3.7
EGMT Eagleton 100.25 42 *e*P P 14 34 30.3 -0.2
comp=Z,192nm,1.8s
BW06 Boulder Array 100.49 48 PFAKE 14 34 40.0 +8.3
BW06 LR LR
comp=Z,10µm,20.0s,MS6.3
PDAR Pinedale Array 100.49 48 P P 14 34 31.2 -0.5
comp=Z,6.3nm,0.9s,baz=245,slow=2.5,SNR=37
PDAR PKiKP 14 39 00.2
comp=Z,5.2nm,0.9s,baz=270,slow=4.4,SNR=3.7
PDAR PKKP PKKP 14 50 51.8 +5.1
comp=Z,1.9nm,0.9s,baz=112,slow=4.9,SNR=3.1
PV10 Paradox Valley 100.93 52 *e*Pdif P 14 34 34.6 +0.8
PV01 Paradox Valley 101.30 53 *e*Pdif P 14 34 36.5 +1.1
VNA3 Neumayer Olymp 101.39 186 P 14 34 41.2 +6.1
VNA3 Neumayer Olymp 101.39 186 P 14 34 44.4 +9.3
VNA3 Neumayer Olymp 101.39 186 P 14 35 02.2 +27
VNA3 Neumayer Olymp 101.39 186 PP 14 38 43.1 -4.3
VNA3 Neumayer Olymp 101.39 186 14 39 04.2
VNA3 Neumayer Olymp 101.39 186 Pdif P 14 34 36.7 +1.6
VNA3 P 14 34 41.2
VNA3 P 14 34 44.4
VNA3 P 14 35 02.2
VNA2 Neumayer--Watz 101.44 187 P 14 34 40.6 +5.3
VNA2 Neumayer--Watz 101.44 187⇑ *i* P 14 34 43.7 +8.4
VNA2 Neumayer--Watz 101.44 187⇑ *i* P 14 34 59.2 +24
VNA2 Neumayer--Watz 101.44 187 PP 14 38 43.7 -4.0
VNA2 Neumayer--Watz 101.44 187 14 39 04.7
VNA2 Neumayer--Watz 101.44 187 Pdif P 14 34 37.4 +2.1
VNA2 P 14 34 40.6
VNA2 ⇑*i*P 14 34 43.7
VNA2 ⇑*i*P 14 34 59.2
VNA1 Neumayer--Stat 101.80 187 P 14 34 46.8 +10
VNA1 Neumayer--Stat 101.80 187 PP 14 38 42.5 -7.7
VNA1 Neumayer--Stat 101.80 187 Pdif P 14 34 40.2 +3.3
VNA1 P 14 34 46.8
OPO Ambohidratompo 102.00 250 P Pdif 14 34 39.3 +0.2
comp=Z,18nm,1.0s,baz=87,slow=3.7,SNR=5.8
RWWY Rawlins 102.26 49 *e*Pdif Pdif 14 34 37.4 -2.4
comp=Z,58nm,1.3s
RES Resolute Bay 102.28 15 *e*P Pdif 14 34 38.8 -0.3
RES pmax pmax
comp=Z,31nm,1.1s
RES Resolute Bay 102.28 15 *e*Pdif Pdif 14 34 38.8 -0.3
comp=Z,988nm,1.1s
LAZ Ladron 102.49 56 *e*Pdif Pdif 14 34 41.3 +0.4
LAZ *e*PKKPbc 14 50 42.5
LAO LASA Array 102.71 44 *e*Pdif Pdif 14 34 41.9 +0.3
comp=Z,42nm,1.0s
LAO LR LR
comp=Z,12µm,20.0s,MS6.4
LPM Los Pinos Moun 102.91 56 *e*Pdif Pdif 14 34 43.2 +0.5
BNM Barren Site 102.91 57 *e*Pdif Pdif 14 34 44.3 +1.5
ANMO Albuquerque 103.04 56 *e*P Pdif 14 34 44.8 +1.5
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO MLR MLR
comp=Z,4µm,21.0s
ANMO Albuquerque 103.04 56 *e*Pdif Pdif 14 34 44.8 +1.5
comp=Z,9.3nm,1.1s
ANMO LR LR
comp=Z,4µm,21.0s,MS6.0
ISCO Idaho Springs 103.56 51 *e*P Pdif 14 34 46.3 +0.8
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO MLR MLR
comp=Z,5µm,19.0s,MS6.1
ISCO Idaho Springs 103.56 51 *e*Pdif Pdif 14 34 46.3 +0.8
comp=Z,9.4nm,1.0s
ISCO LR LR
comp=Z,4µm,19.0s,MS6.0
SDCO Great Sand Dun 103.73 53 *e*Pdif Pdif 14 34 47.2 +0.9
comp=Z,58nm,1.8s
SDCO LR LR
comp=Z,10µm,22.0s,MS6.3
PMSA Palmer Station 103.90 165 PFAKE 14 35 00.0 +14
PMSA LR LR
comp=Z,7µm,22.0s,MS6.1
DGMT Dagmar 103.93 42 *e*Pdif Pdif 14 34 47.5 +0.5
comp=Z,44nm,1.0s
DGMT LR LR
comp=Z,12µm,20.0s,MS6.4
MNTX Cornudas Mount 104.00 59 *e*Pdif Pdif 14 34 48.8 +1.2
comp=Z,12nm,1.1s
MNTX LR LR
comp=Z,7µm,20.0s,MS6.2
RSSD Black Hills 104.44 46 *e*P Pdif 14 34 49.1 -0.2
RSSD pmax pmax
comp=Z,39nm,1.3s
RSSD MLR MLR
comp=Z,7µm,20.0s,MS6.2
RSSD Black Hills 104.44 46 *e*Pdif Pdif 14 34 49.1 -0.2
comp=Z,35nm,1.3s
RSSD LR LR
comp=Z,6µm,20.0s,MS6.1
GDL2 Guadalupe Moun 104.85 59 *e*Pdif Pdif 14 34 52.4 +1.0
GDL2 *e*PKKPab 14 50 50.9
KBS Kingsbay 105.05 353 *e*PP PP 14 39 14.6 -0.3
KBS *e* 14 48 22.3
KBS AMS AMS 15 18 21.0
comp=Z,2µm,23.3s,MS5.6
KBS Kingsbay 105.05 353 PFAKE 14 39 20.0
KBS LR LR
comp=Z,4µm,21.0s,MS5.9
MAK Makhachkala 105.22 313 *i* P Pdif 14 34 52.2 -0.5
MAK *i* 14 39 10.5
MAK *i* PS PS 14 48 25.8 -2.7
MAK pmax pmax
comp=Z,833nm,3.8s
MAK MLR MLR
comp=N,6µm,17.0s,MS6.4
MAK MLR MLR
comp=Z,6µm,17.0s,MS6.2
MAK MLR MLR
comp=E,8µm,19.0s,MS6.4
PECR Pechory 105.48 327 *e*P Pdif 14 34 52.5 -1.0
PECR *e* 14 39 15.0
PECR *e* 14 45 29.0
PECR *i* PS PS 14 48 22.0 -8.7
PECR pmax pmax
comp=Z,2µm,1.4s
PECR pmax pmax
comp=Z,4µm,7.0s
PECR pmax pmax
comp=N,2µm,6.0s
PECR pmax pmax
comp=E,2µm,6.0s
PECR MLR MLR
comp=Z,3µm,20.0s,MS5.9
PECR MLR MLR
comp=Z,4µm,16.0s
LTX Lajitas 105.52 61 PFAKE 14 39 20.0
LTX LR LR
comp=Z,8µm,20.0s,MS6.2
TXAR Lajitas Array 105.52 61 Pdiff Pdif 14 34 58.3 +3.9
comp=Z,2.5nm,1.0s,baz=246,slow=4.2,SNR=8.4
TXAR PKiKP 14 39 08.1
comp=Z,7.1nm,1.1s,baz=225,slow=1.8,SNR=5.3
TXAR PKKPbc 14 50 32.6
comp=Z,2.6nm,0.8s,baz=124,slow=4.8,SNR=8.6
TXAR PKKPab 14 50 50.0
comp=Z,2.7nm,0.7s,baz=114,slow=6.7,SNR=6.9
TXAR PKPPKP 14 58 55.1
comp=Z,0.5nm,0.8s,baz=135,slow=3.5,SNR=3.8
MIB Mutribah 106.13 299 *e*P Pdif 14 34 56.7 -0.3
NAY Al-Naaiem 106.23 298 *e*P Pdif 14 34 57.2 -0.4
KLMR Klimovskoe 106.68 332 *e*P Pdif 14 34 57.9 -0.8
KLMR *e* 14 45 33.3
KLMR *i* SP SP 14 48 33.2 -7.7
KLMR *i* PS PS 14 48 42.9 +0.2
KLMR *i* SS SS 14 54 30.2 +1.8
KLMR pmax pmax
comp=Z,50nm,1.5s
KLMR MLR MLR
comp=Z,11µm,24.0s,MS6.3
APA Apatity 106.80 339⇑ *i*P Pdif 14 35 05.0 +5.9
APA *i* 14 39 27.0
APA *e*PPP PPP 14 41 38.0 -6.1
APA *i* 14 45 36.0
APA pmax pmax
comp=Z,100nm,1.6s
APA pmax pmax
comp=Z,1µm,13.0s
APA MLR MLR
comp=Z,5µm,18.0s,MS6.1
APA Apatity 106.80 339⇑ *i*P Pdif 14 35 05.0 +5.9
comp=Z,100nm,1.6s
APA *i* 14 39 27.0
APA *e*PPP PPP 14 41 38.0 -6.1
APA *i* 14 45 36.0
APA LR LR
comp=Z,5µm,18.0s,MS6.1
DGRG David-gareji 106.94 311 P Pdif 14 34 59.0 -1.4
DGRG S SP 14 48 56.9 +13
DGRG David-gareji 106.94 311 P PP 14 39 28.7 -1.2
DGRG S SS 14 54 50.9 +19
MTA Mtatsminda 107.35 312 P Pdif 14 35 00.7 -1.4
MTA S SP 14 48 57.3 +9.3
MTA Mtatsminda 107.35 312 P PP 14 39 21.4 -11
MTA S SS 14 55 10.3 +32
TI2 Plekhanov 107.38 312 *e*P Pdif 14 35 02.5 +0.2
TBLG Delisi 107.38 312 *e*P Pdif 14 35 02.5 +0.2
GNI Garni 107.56 310 PFAKE 14 39 20.0
GNI LR LR
comp=Z,6µm,22.0s,MS6.1
FCC Fort Churchill 107.80 30 *e*P Pdif 14 35 03.3 -0.4
FCC pmax pmax
comp=Z,34nm,1.5s
FCC Fort Churchill 107.80 30 *e*Pdif Pdif 14 35 03.3 -0.4
comp=Z,34nm,1.5s
KEV Kevo 107.83 343 *e*PKP 14 39 04.0
KEV LR LR
comp=Z,6µm,21.0s,MS6.1
GOF Gofitskoye 108.16 315 *e*P Pdif 14 35 04.5 -1.1
GOF pmax pmax
comp=Z,77nm,1.7s
GOF Gofitskoye 108.16 315 *e*P Pdif 14 35 04.5 -1.1
comp=Z,77nm,1.7s
ONI Oni 108.23 313 P Pdif 14 35 05.6 -0.4
ONI S PP 14 39 37.2 -2.0
ARCES ARCESS Array B 108.40 343 Pdiff Pdif 14 35 08.2 +2.2
comp=Z,9.9nm,1.1s,baz=90,slow=5.4,SNR=3.1
ARCES PKiKP 14 39 13.0
comp=Z,9.2nm,0.7s,baz=88,slow=0.9,SNR=12
ARCES PKKPbc 14 50 22.1
comp=Z,4.9nm,0.8s,baz=244,slow=4.0,SNR=9.4
BHD Baghdad 108.48 303 *ex* x 14 34 59.0
BHD *ex* x 14 39 23.0
BHD *ex* x 14 46 19.0
KIV Kislovodsk 108.58 314 *e*P Pdif 14 35 06.7 -0.8
KIV *e* 14 39 37.6
KIV *e*PPP PPP 14 41 52.6 -7.3
KIV *e* 14 45 44.4
KIV *e*PS PS 14 49 02.9 +1.4
KIV *e*SS SS 14 54 52.3 -2.2
KIV *e*SSS SSS 14 58 57.4 -2.2
KIV MLR MLR
comp=Z,7µm,22.0s,MS6.2
KAMS Al Khamasin 108.76 289 P PP 14 39 41.0 -2.9
JCT Junction City 108.82 60 *e*PKiKP 14 39 14.7
JCT *e*PKKPab 14 50 34.5
JCT LR LR
comp=Z,5µm,19.0s,MS6.1
ULM Lac du Bonnet 109.01 39 Pdiff Pdif 14 35 13.0 +3.8
comp=Z,1.4nm,0.7s,baz=268,slow=5.4,SNR=3.3
ULM PKiKP 14 39 14.2
comp=Z,13nm,0.8s,baz=244,slow=3.7,SNR=7.4
ULM PKKPbc 14 50 24.1
comp=Z,2.6nm,0.9s,baz=33,slow=7.6,SNR=3.9
ULM Lac du Bonnet 109.01 39 Pdif Pdif 14 35 13.0 +3.8
ULM PKPdif 14 39 14.2
ULM PKKPbc 14 50 24.1
MOS Moscow 109.13 327 *i* P Pdif 14 35 08.0 -1.6
MOS *e* 14 39 42.4
MOS *e*PPP PPP 14 41 58.1 -6.1
MOS *e*PS PS 14 49 08.1 +1.8
MOS *e*SS SS 14 54 55.4 -6.1
MOS *e*SSS SSS 14 59 05.4 -2.4
MOS pmax pmax
comp=Z,117nm,1.4s
MOS MLR MLR
comp=Z,13µm,23.1s,MS6.4
MSL Mosul 109.27 306 *ex* x 14 35 11.0
MSL *ex* x 14 39 42.0
MSL *ex* x 14 41 31.0
MSL *ex* x 14 47 22.0
MSL *ex* x 14 49 06.0
VOR Voronezh 109.31 323 *e*P Pdif 14 35 11.0 +0.5
VOR pmax pmax
comp=Z,60nm,2.0s
WMOK Wichita Mounta 109.36 56 *e*PKiKP 14 39 14.8
WMOK LR LR
comp=Z,5µm,20.0s,MS6.0
JOF Joensuu 109.56 335 *e*P Pdif 14 35 11.0 -0.4
JOF *e*PKP 14 39 13.9
DAG Danmarks Havn 109.69 358⇓ *i*P Pdif 14 35 11.4 -0.3
comp=Z,27nm,1.3s
OBN Obninsk 109.89 327⇑ *i*P Pdif 14 35 12.9 -0.1
OBN pmax pmax
comp=Z,51nm,1.5s
TRO Tromso 110.20 344 *e*PP PP 14 39 47.0 -6.1
TRO *e*SKSa 14 45 52.4
TRO *i* 14 48 57.1
TRO *e*SS SS 14 55 32.3 +16
TRO AMS AMS 15 28 24.6
comp=Z,4µm,20.0s,MS6.0
KSU1 Kansas State U 110.56 51 PKiKP 14 39 17.0
KSU1 *e*PKKPab 14 50 26.4
SOC Sochi 110.76 314 *i* P Pdif 14 35 16.1 -1.0
SOC *e* 14 39 50.2
SOC *e*PS PS 14 49 24.4 +1.5
SOC *e*SSS SSS 14 59 30.1 -3.3
KAF Kangasniemi 112.00 336 *e*P Pdif 14 35 23.9 +1.8
KAF *e*PKP PKPdf 14 39 19.1 -2.0
ANN Anapa 112.11 316 *i* PKiKP PKPdf 14 39 20.7 -1.1
ANN *e* 14 40 03.9
ANN *e*SP SP 14 49 33.8 +0.2
ANN pmax pmax
comp=Z,59nm,1.4s
ANN MLR MLR
comp=N,5µm,22.0s,MS6.2
ANN MLR MLR
comp=E,4µm,22.0s,MS6.2
ANN MLR MLR
comp=Z,7µm,22.0s,MS6.2
EYMN Ely 112.37 41 *e*PKiKP 14 39 19.4
EYMN LR LR
comp=Z,134µm,22.0s
FINES FINESS Array B 112.43 335 Pdiff Pdif 14 35 24.7 +0.7
comp=Z,5.8nm,0.8s,baz=66,slow=7.2,SNR=6.8
FINES PKiKP 14 39 20.4
comp=Z,14nm,0.7s,baz=90,slow=3.8,SNR=15
FINES PKKPbc 14 50 09.7
comp=Z,8.3nm,1.2s,baz=153,slow=4.3,SNR=7.7
NATX Nacogdoches 113.10 58 *e*PKiKP 14 39 22.7
NATX LR LR
comp=Z,6µm,20.0s,MS6.2
VSU Vasula 113.58 332⇑ *e*PKiKP PKPdf 14 39 21.8 -2.7
MIAR Mount Ida 113.64 55 PFAKE 14 39 30.0 +4.8
MIAR LR LR
comp=Z,6µm,22.0s,MS6.2
SUMG Summit 113.77 3 *e*PKiKP 14 39 18.9
SUMG *e*PKKPbc 14 50 05.6
JMIC Jan Mayen 114.53 353 *e*PP PP 14 40 21.3 -3.1
JMIC *i* 14 49 58.2
JMIC *e*SS SS 14 56 23.9 +11
JMIC AMS AMS 15 32 11.8
comp=Z,2µm,22.3s,MS5.8
UALR University of 114.61 55 *e*PKiKP 14 39 24.9
UALR *e*PKKPab 14 50 07.3
KMBO Kilima Mbogo 114.62 266 Pdiff Pdif 14 35 36.0 +1.2
comp=Z,1.7nm,0.2s,baz=43,slow=24,SNR=7.4
KMBO PKP PKPdf 14 39 26.3 -1.2
comp=Z,3.7nm,0.2s,baz=37,slow=24,SNR=7.8
KMBO Kilima Mbogo 114.62 266 P Pdif 14 35 36.0 +1.2
KMBO 14 39 26.3
KMBO MLR MLR
comp=Z,4µm,19.0s
YNBS Yanbu' al Bahr 114.73 294 P PKPdf 14 39 31.7 +4.2
FVM French Village 115.53 51 *e*PKIKP PKPdf 14 39 25.9 -2.8
FVM *e* 14 50 04.7
AKASG Malin Array Be 115.59 324 Pdiff Pdif 14 35 36.5 -1.7
comp=Z,0.2nm,0.3s,baz=58,slow=4.3,SNR=6.6
AKASG PKP PKPdf 14 39 25.8 -2.8
comp=Z,18nm,0.8s,baz=65,slow=2.4,SNR=48
AKASG PKKPbc 14 49 58.9
comp=Z,5.5nm,0.8s,baz=262,slow=4.1,SNR=12
AKASG Malin Array Be 115.59 324 P Pdif 14 35 36.5 -1.7
AKASG *e* 14 39 25.8
AKASG *e* 14 49 58.9
BHL Bhannes 115.63 304 *e*P PKPdf 14 39 27.4 -1.7
NSS Namsos 115.66 342 *e*PP PP 14 40 28.8 -3.6
NSS *e* 14 50 16.1
NSS *e*SS SS 14 56 28.3 +0.2
NSS AMS AMS 15 30 58.3
comp=Z,7µm,20.7s,MS6.2
BR131 Keskin Array S 116.03 311 *e*PKPdf PKPdf 14 39 27.0 -2.7
BR131 LR LR
comp=Z,2µm,21.0s,MS5.8
BRTR Keskin Array B 116.03 311 Pdiff Pdif 14 35 41.5 +1.0
comp=Z,1.3nm,0.8s,baz=63,slow=2.8,SNR=4.6
BRTR PKP PKPdf 14 39 27.4 -2.3
comp=Z,9.8nm,1.1s,baz=135,slow=3.5,SNR=11
BRTR PKKPbc 14 49 59.4
comp=Z,4.3nm,1.1s,baz=198,slow=3.9,SNR=6.3
SCO Scoresbysund 116.08 358 *i* P PKPdf 14 39 26.4 -2.7
SCO *e*S tx 14 44 54.2
SCO Scoresbysund 116.08 358 *e*P PKPdf 14 39 26.4 -2.7
SCO *e*S tx 14 44 54.2
GNAR Gosnell 116.26 53 *e*PKPdf PKPdf 14 39 27.6 -2.6
PARMO Parma 116.33 52 *e*PKPdf PKPdf 14 39 28.4 -2.0
ANTO Ankara 116.63 311 *e*PKIKP PKPdf 14 39 28.6 -2.2
ANTO MLR MLR
comp=Z,3µm,20.0s,MS5.8
GLAT Glass 116.78 53 PKPdf PKPdf 14 39 29.4 -1.8
AYUS 'Aynunah 116.79 298 P PKPdf 14 39 29.7 -1.7
JMOS Jabal al Moall 116.81 299 P PKPdf 14 39 30.1 -1.3
HALT Halls 116.81 53 *e*PKPdf PKPdf 14 39 29.1 -2.2
ALWS Ilw as Safayha 116.83 299 P PKPdf 14 39 30.0 -1.5
BDAS Al Bad' **116.91 298** P PKPdf 14 39 31.8 +0.2
HAQS Haql 116.98 299 P PKPdf 14 39 30.2 -1.6
OXF Oxford 117.03 55 *e*PKIKP PKPdf 14 39 29.4 -2.3
OXF MLR MLR
comp=Z,7µm,20.0s,MS6.3
KIS Kishinev 117.22 320 *e*PKIKP PKPdf 14 39 30.0 -1.8
KIS *e* 14 39 38.0
KIS *e* 14 40 44.0
KIS *e*PPP PPP 14 43 06.0 -6.9
KIS *e*PS PS 14 50 22.0 -1.1
KIS *e*SSS SSS 15 01 05.0 -6.1
CSS Prodhromos 117.32 306 *e*PKPdf PKPdf 14 39 29.0 -3.3
SUW Suwalki 117.47 329 *e*PKP PKPdf 14 39 30.0 -2.1
WVT Waverly 117.96 53 *e*PKIKP PKPdf 14 39 29.8 -3.7
WVT MLR MLR
comp=Z,7µm,21.0s,MS6.3
WVT Waverly 117.96 53 *e*P PKPdf 14 39 29.8 -3.7
WVT *e*PKKPbc 14 49 52.2
WVT LR LR
comp=Z,7µm,21.0s,MS6.3
CFR Carcaliu 118.31 318⇑P PKPdf 14 39 31.6 -2.3
TIRR Tirgusor 118.38 317⇓P PKPdf 14 39 32.9 -1.2
NB2 NORSAR Subarra 118.38 340 PKPdf PKPdf 14 39 31.2 -2.5
comp=Z,7.2nm,0.8s,baz=45,slow=1.9
NB2 NORSAR Subarra 118.38 340 PKPd 14 39 31.2
baz=44,slow=1.9
NOA NORSAR Array B 118.38 340 PKP PKPdf 14 39 30.3 -3.4
comp=Z,12nm,0.8s,baz=49,slow=1.9,SNR=27
NOA PKKPbc 14 49 49.7
comp=Z,3.0nm,0.7s,baz=42,slow=3.6,SNR=8.9
HARR Harsova 118.62 318⇓P PKPdf 14 39 32.5 -2.1
NAO01 NORSAR Array S 118.64 340 *e*PKPdf PKPdf 14 39 31.4 -2.8
NAO01 LR LR
comp=Z,8µm,21.0s,MS6.3
WCI Wyandotte Cave 118.64 50 *e*PKIKP PKPdf 14 39 31.7 -3.1
WCI MLR MLR
comp=Z,5µm,20.0s,MS6.2
WCI Wyandotte Cave 118.64 50 *e*PKPdf PKPdf 14 39 31.7 -3.1
WCI *e*PKKPbc 14 49 49.2
WCI LR LR
comp=Z,5µm,20.0s,MS6.2
PLCA Paso Flores 118.70 144 PKP PKPdf 14 39 32.7 -2.2
comp=Z,10nm,0.7s,baz=224,slow=3.1,SNR=36
PLCA PKKPbc 14 49 48.5
comp=Z,12nm,1.1s,baz=40,slow=7.4,SNR=8.6
PLCA Paso Flores 118.70 144 *e*PKIKP PKPdf 14 39 32.3 -2.5
PLCA MLR MLR
comp=Z,6µm,19.0s
ISP Isparta 118.87 310 *d i* PKIKP PKPdf 14 39 31.5 -3.8
ISP Isparta 118.87 310 *e*PKPdf PKPdf 14 39 31.9 -3.3
VRI Vrincioaia 118.98 319⇓P PKPdf 14 39 33.2 -2.0
BURAR Bucovina Array 119.23 322⇓P PKPdf 14 39 35.5 -0.2
BURAR Bucovina Array 119.23 322⇑P PKPdf 14 39 35.5 -0.1
LBTB Lobatse 119.30 237 *e*PKIKP PKPdf 14 39 34.4 -1.9
LBTB MLR MLR
comp=Z,11µm,20.0s,MS6.5
AAM Ann Arbor 119.36 45 *e*PKIKP PKPdf 14 39 33.3 -2.7
AAM MLR MLR
comp=Z,10µm,20.0s,MS6.5
PRD Provadia 119.50 316 *e*P PKPdf 14 39 35.0 -1.3
MLR Muntele Rosu 119.63 319 PKP PKPdf 14 39 34.0 -2.5
comp=Z,28nm,1.0s,baz=20,slow=0.6,SNR=14
MLR PKKPbc 14 49 45.2
comp=Z,12nm,1.0s,baz=283,slow=3.8,SNR=6.8
MLR Muntele Rosu 119.63 319⇑P PKPdf 14 39 34.1 -2.3
KWP Kalwaria 119.84 325 *e*PKP PKPdf 14 39 34.0 -2.7
KONO Kongsberg 119.94 339 *e*PP PP 14 40 56.8 -4.7
KONO *e*PP PP 14 41 00.6 -0.9
KONO Kongsberg 119.94 339⇑ *i*PKIKP PKPdf 14 39 33.3 -3.4
KONO MLR MLR
comp=Z,8µm,20.0s,MS6.4
JMB Yambol 120.32 316 *e*P PKPdf 14 39 36.0 -1.9
KOLS Kolonicke sedl 120.41 324 *e* PKPdf 14 39 36.6 -1.3
KOLS Kolonicke sedl 120.41 324 *e*PKP PKPdf 14 39 35.7 -2.2
KOLS Kolonicke sedl 120.41 324 *e*PKIKP PKPdf 14 39 35.7 -2.2
LSZ Lusaka 120.42 248 *e*PKIKP PKPdf 14 39 36.8 -1.9
LSZ MLR MLR
comp=Z,7µm,19.0s,MS6.3
SZH Strazhica 120.48 317 *e*P PKPdf 14 39 36.0 -2.2
ACSO Alum Creek Sta 120.51 47 *e*PKPdf PKPdf 14 39 35.2 -3.2
ACSO LR LR
comp=Z,7µm,21.0s,MS6.3
CPCT Cooper Cave 120.73 53 *e*PKPdf PKPdf 14 39 35.5 -3.4
STHS Stebnicka Huta 120.78 325 *e* PKPdf 14 39 37.2 -1.5
STHS Stebnicka Huta 120.78 325 *e*PKP PKPdf 14 39 36.5 -2.2
STHS Stebnicka Huta 120.78 325 *e*Pdif PKPdf 14 39 36.5 -2.2
STHS *e* 14 39 37.2
BER Bergen 120.81 342 *e*PP PP 14 41 11.8 +4.3
BER *e* 14 51 03.7
BER AMS AMS 15 37 01.4
comp=Z,7µm,19.9s,MS6.3
BSD Bornholm Skovb 120.85 333 *i* P PKPdf 14 39 36.8 -1.9
comp=Z,35nm,0.8s
BSD *e* 14 40 35.1
BSD *i* 14 41 15.0
BSD *i* 14 52 16.6
BSD *e* 14 57 40.8
comp=Z,7µm,19.0s
BSD Bornholm Skovb 120.85 333 *i* PKIKP PKPdf 14 39 36.8 -1.9
BSD *i* 14 41 15.0
BSD *i* 14 52 16.6
CRVS Cervenica-Dubn 120.90 324 *e* PKPdf 14 39 37.0 -1.9
CRVS Cervenica-Dubn 120.90 324 *e*PKP PKPdf 14 39 36.6 -2.3
CRVS *e*PP PP 14 41 02.7 -5.7
CRVS *e*SP SP 14 50 52.7 -1.8
CRVS *e*SS SS 14 57 36.1 -0.4
CRVS Cervenica-Dubn 120.90 324 *e*PKIKP PKPdf 14 39 36.6 -2.3
CRVS *e* 14 41 02.7
CRVS *e*S tx 14 50 52.7
CRVS *e*SS SS 14 57 36.1 -0.4
PVL Pavlikeni 120.90 317 *e*P PKPdf 14 39 36.0 -3.1
DRGR 121.13 322⇑P PKPdf 14 39 36.0 -3.4
DRGR 121.13 322⇑PKIKP PKPdf 14 39 36.1 -3.3
OJC Ojcow 121.18 326 *e*PKPdf PKPdf 14 39 37.0 -2.4
OJC *e*PP PP 14 41 08.2 -2.2
OJC *e*SKSdf 14 46 50.4
OJC *e*PS PS 14 51 02.3 +3.5
OJC *e*SS SS 14 57 41.3 +1.1
OJC MLR MLR 15 32 15.6

comp=Z,6µm,19.4s,MS6.3
DIM Dimitrovgrad 121.20 316 *e*PKPdf PKPdf 14 39 37.0 -2.7
TZTN Tazewell 121.20 51 *e*PKPdf PKPdf 14 39 37.5 -2.3
NIE Niedzica 121.30 325 *e*PKPdf PKPdf 14 39 37.8 -1.9
KDZ Kurdzhali 121.42 315 *e*P PKPdf 14 39 38.0 -2.1
COP Copenhagen 121.57 335 *i*P PKPdf 14 39 38.6 -1.4
comp=Z,51nm,0.9s
COP *i* 14 41 13.6
COP *i* 14 48 21.7
COP *i*S tx 14 51 00.1
COP *i* 14 52 25.9
comp=Z,3µm,20.0s
COP Copenhagen 121.57 335 *e*PKIKP PKPdf 14 39 38.6 -1.4
COP *i* 14 41 13.6
COP *i*S tx 14 51 00.1
COP *i* 14 52 25.9
COP MLR MLR
comp=Z,3µm,20.0s,MS6.0
COP Copenhagen 121.57 335 *e*P PKPdf 14 39 38.6 -1.4
COP *i* 14 41 13.6
COP *i* 14 48 21.7
COP *i*S tx 14 51 00.1
COP *i* 14 52 25.9
COP LR LR
comp=Z,3µm,20.0s,MS6.0
KECS Kecovo 121.67 324 *e* PKPdf 14 39 38.6 -1.8
KECS Kecovo 121.67 324 *e*PKP PKPdf 14 39 38.3 -2.1
KECS Kecovo 121.67 324 *e*PKIKP PKPdf 14 39 38.3 -2.1
RZN Rozhen 121.90 316 *e*P PKPdf 14 39 39.0 -2.0
PGB Panagyurishte 121.95 317 *e*P PKPdf 14 39 39.0 -2.1
ERPA Erie 121.97 44 PFAKE 14 39 50.0 +8.9
ERPA LR LR
comp=Z,10µm,20.0s,MS6.5
GOGA Godfrey 122.09 55 *e*PKIKP PKPdf 14 39 39.0 -2.6
GOGA MLR MLR
comp=Z,6µm,21.0s,MS6.2
RAC Raciborz 122.13 327 *e*PKPdf PKPdf 14 39 39.4 -1.8
RAC *e*PP PP 14 41 11.8 -5.3
RAC MLR MLR 15 30 11.1
comp=Z,13µm,26.1s,MS6.5
LIKS Likavka 122.17 325 *e* PKPdf 14 39 40.9 -0.4
OKC Ostrava-Krasne 122.29 327 *e*PKPdf PKPdf 14 39 39.3 -2.2
OKC *ep*PKP 14 39 46.9
OKC *e*PP PP 14 41 15.9 -2.3
OKC *e*PS PS 14 51 10.8 +2.1
OKC AMS AMS 15 33 00.0
comp=Z,6µm,17.8s
PSZ Piszkesteto 122.29 324⇓ *e*PKP/D PKPdf 14 39 38.9 -2.6
PSZ Piszkesteto 122.29 324 PKIKP PKPdf 14 39 39.5 -2.0
BZS Buzias 122.34 321 ⇑P PKPdf 14 39 39.4 -2.3
MUD Monsted U'grnd 122.38 337 *i*P PKPdf 14 39 39.0 -2.5
comp=Z,57nm,1.1s
MUD *i* 14 41 22.1
MUD *i*S tx 14 51 19.1
MUD *i* 14 52 32.8
MUD *i* 14 57 43.8
comp=Z,2µm,20.0s
MUD Monsted U'grnd 122.38 337 *e*P PKPdf 14 39 39.0 -2.5
MUD *i* 14 41 22.1
MUD *i*S tx 14 51 19.1
MUD *i* 14 52 32.8
MUD *i* 14 57 43.8
VTS Vitosha 122.58 317 *e*P PKPdf 14 39 40.0 -2.2
VTS Vitosha 122.58 317 ⇑PKIKP PKPdf 14 39 40.3 -1.9
VTS Vitosha 122.58 317 P PKPdf 14 39 40.5 -1.8
VYHS Vyhne 122.61 325 *e* PKPdf 14 39 40.0 -2.1
VYHS *i* PP PP 14 41 18.8 -1.6
VYHS *e*SP SP 14 51 13.1 +3.2
VYHS *e*SS SS 14 57 49.1 -10
MMB Musomiste 122.62 316 *e*P PKPdf 14 39 39.0 -3.3
MORC Moravsky Berou 122.65 327 *e*PKIKP PKPdf 14 39 39.1 -3.1
SCHQ Schefferville 122.66 26 PKP PKPdf 14 39 40.0 -2.0
comp=Z,14nm,0.9s,baz=24,slow=7.8,SNR=9.5
SCHQ PKKPbc 14 49 32.2
comp=Z,7.3nm,1.0s,baz=32,slow=7.3,SNR=3.8
SCHQ Schefferville 122.66 26 PKP PKPdf 14 39 40.0 -2.0
SCHQ PKKPbc 14 49 32.2
SCHQ LR LR
comp=Z,18µm,21.0s,MS6.7
KSP Ksiaz 122.72 328 *e*PKP PKPdf 14 39 40.8 -1.5
KSP Ksiaz 122.72 328 *e*PKIKP PKPdf 14 39 39.9 -2.4
KSP *e* 14 39 48.3
KSP *e* 14 41 14.5
KSP *e* 14 46 34.5
KSP *e*SP SP 14 51 11.0 +0.1
KSP *e*SS SS 14 57 58.0 -2.2
KSP Ksiaz 122.72 328 *e*PKP PKPdf 14 39 39.9 -2.4
KSP *ep*PKP 14 39 48.3
KSP *e*PP PP 14 41 14.5 -6.7
KSP *e*SKS SKS 14 46 34.5 -9.4
KSP *e*SKKS 14 48 18.0
KSP *e*SP SP 14 51 11.0 +0.1
KSP *e*SS SS 14 57 58.0 -2.2
KSP LR LR
comp=Z,87µm,54.4s,MS7.0
BOLS Boljevac 122.90 319⇑ *i*PKP PKPdf 14 39 39.8 -3.0
KKB Krupnik 122.96 316 *e*P PKPdf 14 39 40.0 -2.9
MCWV Mont Chateau 122.97 47 *e*PKPdf PKPdf 14 39 40.1 -2.9
MCWV LR LR
comp=Z,8µm,22.0s,MS6.3
DPC Dobruska-Polom 122.99 328 *e*PKPdf PKPdf 14 39 41.1 -1.7
DPC *ep*PKP 14 39 48.8
DPC *e*PP PP 14 41 19.3 -3.7
DPC *e*PS PS 14 51 16.7 +1.7
DPC AMS AMS 15 32 10.0
comp=Z,9µm,24.6s
RUE Ruedersdorf 123.01 331 *e*PKPdf PKPdf 14 39 39.6 -3.2
UPC Upice 123.06 328 *e*PKPdf PKPdf 14 39 40.9 -2.0
SVIS Svilajnac 123.18 320⇓ *i*PKP PKPdf 14 39 41.1 -2.3
SRO2 Moca 123.24 324 *e* PKPdf 14 39 42.2 -1.2
SRO2 Moca 123.24 324 *e*PKP PKPdf 14 39 41.7 -1.7
SRO2 Moca 123.24 324 *e*PKIKP PKPdf 14 39 41.7 -1.7
SRO Srobarova 123.26 324 *e* PKPdf 14 39 42.1 -1.3
SRO Srobarova 123.26 324 *e*PKP PKPdf 14 39 41.6 -1.8
SRO Srobarova 123.26 324 *e*PKIKP PKPdf 14 39 41.6 -1.8
SRO1 Iza 123.34 324 *e* PKPdf 14 39 42.5 -1.1
BLA Blacksburg 123.39 49 *e*PKIKP PKPdf 14 39 41.5 -2.5
BLA MLR MLR
comp=Z,9µm,21.0s,MS6.4
SMOL Smolenice 123.40 326 *e* PKPdf 14 39 43.0 -0.7
SMOL Smolenice 123.40 326 *e*PKP PKPdf 14 39 42.2 -1.5
SMOL Smolenice 123.40 326 *e*PKIKP PKPdf 14 39 42.2 -1.5
JTS JuntasAbangare 123.41 82 *e*PKIKP PKPdf 14 39 41.7 -2.8
JTS JuntasAbangare 123.41 82⇓ *i*PKPdf PKPdf 14 39 41.8 -2.7
BARS Barje 123.42 318⇑ *i*PKP PKPdf 14 39 41.2 -2.7
VRAC Vranov 123.43 327 PKIKP PKPdf 14 39 42.1 -1.6
BEO Belgrade 123.43 320⇑ *i*PKP PKPdf 14 39 40.0 -3.9
JSC Jenkinsville 123.63 53 *e*PKIKP PKPdf 14 39 42.2 -2.3
BSEG Bad Segeberg 123.65 334 *e*PKIKP PKPdf 14 39 41.9 -2.2
ZST Bratislava 123.75 325 *e*PKP PKPdf 14 39 42.7 -1.7
ZST *i* PP PP 14 41 26.0 -2.4
ZST *e* 14 51 29.2
ZST *e*SS SS 14 58 21.5 +8.6
ZST Bratislava 123.75 325 *i* PP PP 14 41 26.0 -2.4
ZST *e*Sdif 14 51 29.2
ZST *e*SS SS 14 58 21.5 +8.6
PVCC Panska Ves 123.80 329 *e*PKPdf PKPdf 14 39 42.4 -2.1
PVCC *ep*PKP 14 39 50.8
PVCC *ep*P 14 51 25.1
PVCC AMS AMS 15 32 00.0
comp=Z,9µm,19.9s
PKSM Moragy 123.88 323⇑ *i*P PKPdf 14 39 42.5 -2.2
BRG Berggiesshubel 123.91 329 P Pdif 14 36 21.0 +6.2
BRG *i* 14 39 42.5
BRG *i* 14 39 51.1
BRG 14 41 33.0
BRG *i* 14 46 41.0
BRG *i* 14 51 20.0
BRG *i* 14 52 41.0
BRG *i* 14 58 18.0
BRG MLR MLR
comp=Z,11µm,20.4s,MS6.5
BRG Berggiesshubel 123.91 329 Pdif Pdif 14 36 21.0 +6.2
BRG *i* PKP PKPdf 14 39 42.5 -2.2
BRG *i* 14 39 51.1
BRG PP PP 14 41 33.0 +3.5
BRG *i* 14 46 41.0
BRG *e* 14 47 08.3
BRG *e*PKKP PKKP 14 49 31.1 -32
BRG *i* 14 51 20.0
BRG *i* 14 52 41.0
BRG *e* 14 53 18.5
BRG *i* 14 58 18.0
BRG LR LR
comp=Z,11µm,20.4s,MS6.5
IDI Anoyia 123.93 308 PKP PKPdf 14 39 42.9 -2.3
comp=Z,50nm,1.0s,baz=159,slow=5.6,SNR=12
IDI PKKPbc 14 49 29.8
comp=Z,13nm,0.8s,baz=79,slow=0.8,SNR=5.0
TREC Trest 124.03 327 *e*PKPdf PKPdf 14 39 42.5 -2.5
TREC AMS AMS 15 33 40.0
comp=Z,9µm,19.1s
DIVS Divcibare 124.06 320⇑ *i*PKP PKPdf 14 39 42.5 -2.6
CLL Collm 124.12 330 *i* PKIKP PKPdf 14 39 42.4 -2.7
comp=Z,logA/T=1.8
CLL *i* *PPKP 14 39 45.9
CLL *i* 14 39 46.9
CLL *i* 14 39 51.0
CLL *i* PP PP 14 41 27.5 -3.3
CLL *e**SPP 14 41 37.0
CLL *e* 14 42 12.0
CLL *e* 14 46 48.0
CLL *e* 14 48 30.0
CLL *e*PKKP PKKP 14 49 27.0 -36
CLL *e* 14 49 35.0
CLL *e*PKKP PKKP 14 50 10.0 +7.1
CLL *e*PS PS 14 51 27.0 +2.9
CLL *e*PPS PPS 14 52 50.0 -4.5
CLL *e*SKKP 14 53 19.0
CLL *e*SS SS 14 58 22.0 +4.7
CLL *e**SSS 14 59 06.0
CLL *e*SSS SSS 15 02 48.0 -6.5
CLL Collm 124.12 330 *i* PKIKP PKPdf 14 39 42.4 -2.7
CLL *i* 14 39 51.0
CLL *e*PS PS 14 51 27.0 +2.9
CLL pmax pmax
comp=Z,70nm,1.0s
CLL MLR MLR
comp=Z,9µm,19.1s,MS6.5
CLL Collm 124.12 330 *i* PKP PKPdf 14 39 42.4 -2.7
CLL *i* pPKP 14 39 45.9
CLL *i* 14 39 51.0
CLL *e*PKKP PKKP 14 49 27.0 -36
CLL *e*PS PS 14 51 27.0 +2.9
CLL *e*SKKP 14 53 19.0
CLL LR LR
comp=Z,9µm,19.1s,MS6.5
PRU Pruhonice 124.13 328 *e*PKPdf PKPdf 14 39 42.3 -2.8
PRU *e*PP PP 14 41 31.0 +0.1
PRU *e*SP SP 14 51 26.9 +4.3
PRU AMS AMS 15 32 00.0
comp=Z,8µm,22.4s
PRA Prague 124.14 328 PKPdf PKPdf 14 39 43.0 -2.2
PRA pPKP 14 39 50.0
RHK1 Bakonya 124.28 323⇑ *i*P PKPdf 14 39 44.1 -1.4
SOP Sopron 124.34 325⇓ *i*PKP/D PKPdf 14 39 42.9 -2.7
SOP *i* PP PP 14 41 31.4 -0.8
SOR Soroa 124.55 67 *e*P PKPdf 14 39 34.1 -13
GVD Gavdhos 124.70 308 *e*PKPdf PKPdf 14 39 44.1 -2.6
NHSC New Hope 124.83 54 *e*PKPdf PKPdf 14 39 44.1 -2.8
NHSC LR LR
comp=Z,6µm,21.0s,MS6.2
TLL Tololo Astrono 124.90 134 *e*P PKPdf 14 39 44.4 -2.8
FRNY Flat Rock 124.97 38 *e*PKPdf PKPdf 14 39 43.9 -3.0
NCB Newcomb 124.99 40 *e*PKPdf PKPdf 14 39 44.4 -2.6
NCB LR LR
comp=Z,6µm,21.0s,MS6.2
DWPF Disney 125.02 60 *e*PKPdf PKPdf 14 39 44.9 -2.6
DWPF LR LR
comp=Z,5µm,20.0s,MS6.2
BERN Bernov 125.03 330⇑P PKPdf 14 39 51.9 +5.1
CLZ Clausthal 125.03 332 *e*PKPdf PKPdf 14 39 44.7 -2.1
CLZ *e*PP PP 14 41 34.2 -2.1
NKC Novy Kostel 125.06 330 *e*PKPdf PKPdf 14 39 44.8 -2.1
NKC *ex* x 14 41 44.2
NKC AMS AMS 15 32 40.0
comp=Z,10µm,23.1s
KHC Kasperske Hory 125.15 328 *e*PKPdf PKPdf 14 39 44.6 -2.5
KHC pPKP 14 39 53.5
KHC *ex* x 14 41 44.1
KHC *ep*P 14 51 31.3
KHC AMS AMS 15 31 10.0
comp=Z,10µm,23.1s
KHC Kasperske Hory 125.15 328 *e*PKP PKPdf 14 39 44.6 -2.5
KHC *e* 14 39 53.5
KHC *e* 14 41 44.1
KHC *e* 14 51 31.3
KHC LR LR
comp=Z,10µm,23.1s,MS6.4
ARSA Arzberg 125.16 325⇓ *i*P PKPdf 14 39 44.2 -3.0
comp=Z,67nm,1.4s,SNR=9.2
MOX Moxa 125.22 330 *i* P PKPdf 14 39 45.1 -2.1
comp=Z,logA/T=2.1
MOX PP PP 14 41 32.0 -5.6
MOX *e* 14 51 39.0
MOX SS SS 14 58 36.0 +4.6
MOX L 15 39 22.0
MOX Moxa 125.22 330 *e*PKP PKPdf 14 39 45.1 -2.1
MOX *e*PP PP 14 41 32.5 -5.1
MOX *e*SKSP 14 51 39.0
MOX *e*SS SS 14 58 36.0 +4.6
MOX LR LR
comp=Z,6µm,21.0s,MS6.3
GEC2 GERESS Array S 125.25 328 *e*PKPdf PKPdf 14 39 44.7 -2.6
GERES GERESS Array B 125.25 328 PKP PKPdf 14 39 44.7 -2.6
comp=Z,30nm,0.8s,baz=66,slow=1.0,SNR=118
GERES PKKPbc 14 49 24.5
comp=Z,0.8nm,0.7s,baz=207,slow=3.0,SNR=3.9
CBN Corbin 125.30 47 *e*PKPdf PKPdf 14 39 44.7 -3.0
CBN LR LR
comp=Z,8µm,21.0s,MS6.3
MVL Millersville 125.33 45 *e*PKPdf PKPdf 14 39 45.2 -2.5
TRQA Tornquist 125.36 147 *e*PKPdf PKPdf 14 39 44.7 -3.1
TRQA LR LR
comp=Z,5µm,22.0s,MS6.1
MIV Mineville/With 125.38 39 *e*PKPdf PKPdf 14 39 45.1 -2.6
WET Wettzell 125.51 328 *e*PKPdf PKPdf 14 39 45.5 -2.3
MOA Molln 125.53 326⇑ *i*P PKPdf 14 39 45.0 -2.8
comp=Z,69nm,1.2s,SNR=6.8
MOA Molln 125.53 326⇑ *i*P PKPdf 14 39 45.0 -2.8
ACCN Adirondack Com 125.63 40 *e*PKPdf PKPdf 14 39 45.5 -2.6
PERS Pernice 125.73 325 *e*PKPdf PKPdf 14 39 45.7 -2.6
CFAA Coronel Fontan 125.85 137 PKKPbc 14 49 22.0
comp=Z,1.1nm,1.1s,baz=67,slow=4.0,SNR=5.7
WIT Witteveen 126.00 335 *e*PKiKP 14 39 47.8
comp=Z,682nm,1.5s
WIT *ex* x 14 39 55.7
GRA1 Grafenberg Arr 126.02 330 *e*PKPdf PKPdf 14 39 46.5 -2.2
GRA1 *ep*PKPdf 14 39 55.2
GRA1 *e*SKKP 14 52 54.0
GRF Grafenberg Arr 126.02 330 *e*PKP PKPdf 14 39 46.5 -2.2
GRF *p*PKPdf 14 39 55.2
GRF *e*SKKP 14 52 54.0
GRF LR LR
comp=Z,8µm,20.8s,MS6.4
GRFO Grafenberg 126.02 330 PKPdf PKPdf 14 39 46.0 -2.7
OBKA Obir 126.13 325⇑ *i*P PKPdf 14 39 45.2 -3.9
comp=Z,98nm,1.6s,SNR=7.8
BOJS Bojanci 126.27 323 *e*PKPdf PKPdf 14 39 47.4 -2.0
BOJS *e* 14 39 55.9
BOJS *e*PP PP 14 41 39.0 -5.9
BOJS *e*SP SP 14 51 43.1 +1.1
BOJS *e*SKKP 14 53 27.1
BRNJ Basking Ridge 126.28 43 *e*PKPdf PKPdf 14 39 47.6 -1.9
LBNH Lisbon 126.30 38 *e*PKPdf PKPdf 14 39 47.0 -2.4
LBNH LR LR
comp=Z,7µm,21.0s,MS6.3
HNH Hanover 126.34 39 *e*PKPdf PKPdf 14 39 47.4 -2.1
LJU Ljubljana 126.40 324 *e*PKPdf PKPdf 14 39 47.2 -2.3
LJU *e* 14 39 56.2
LJU *e*SKKP 14 53 25.8
KBA Koelnbreinsper 126.48 326⇓ *i*P PKPdf 14 39 46.7 -3.0
comp=Z,118nm,1.4s,SNR=13
KBA Koelnbreinsper 126.48 326⇓ *i*P PKPdf 14 39 46.7 -3.0
WTSB Winterswijk 126.56 334 *i* PKiKP 14 39 47.6
comp=Z,136nm,1.9s
WTSB *ex* x 14 39 56.3
PAL Palisades 126.58 43 *e*PKPdf PKPdf 14 39 47.6 -2.4
CEY Cerknica 126.63 324 *e*PKPdf PKPdf 14 39 47.7 -2.2
CEY *e*SP SP 14 51 46.5 +1.3
CPNY Central Park 126.64 43 *e*PKPdf PKPdf 14 39 46.9 -3.2
CADS Cadrg 126.75 325 *e*PKPdf PKPdf 14 39 47.4 -2.8
VOY Vojsko 126.78 325 *e*PKPdf PKPdf 14 39 48.0 -2.2
VOY *e* 14 40 00.5
FFD Franklin Falls 126.86 39 *e*PKPdf PKPdf 14 39 48.0 -2.5
PTCC Patocco-Chiusa 126.87 325 P PKPdf 14 39 47.9 -2.5
FUR Furstenfeldbru 126.95 328 *e*PKPdf PKPdf 14 39 48.0 -2.5
QUA2 Belchertown 127.01 41 *e*PKPdf PKPdf 14 39 48.7 -2.1
GMNA Gemona 127.01 325 P PKPdf 14 39 48.4 -2.3
TNS Taunus Mts 127.02 332 *e*PKPdf PKPdf 14 39 48.1 -2.5
TNS *e*PP PP 14 41 46.4 -2.9
TNS *e*PSP PSP 14 53 19.0 -4.5
TRI Trieste 127.03 324 P PKPdf 14 39 48.6 -2.1
SIND Sindeldorf 127.04 330 *e*P PKPdf 14 39 48.2 -2.4
FVI Forni Avoltri 127.08 326 P PKPdf 14 39 48.2 -2.6
EBL Broad Law 127.15 343 *e*P PKPdf 14 39 48.5 -2.2
EBL AMb AMB 14 39 59.1
comp=Z,139nm,1.7s
EAB Aberfoyle 127.17 344 *e*P PKPdf 14 39 48.4 -2.3
EAB AMb AMB 14 39 52.5
comp=Z,126nm,1.6s
EAU Auchinoon 127.21 343 *e*P PKPdf 14 39 48.5 -2.3
EAU AMb AMB 14 39 53.4
comp=Z,148nm,1.2s
HDH Heidenheim 127.24 329 *e*P PKPdf 14 39 48.5 -2.6
TOD Tromm 127.27 331 *e*P PKPdf 14 39 48.8 -2.3
TOD Tromm 127.27 331 PKP PKPdf 14 39 48.5 -2.6
WATA Walderalm 127.30 327⇓ *i*P PKPdf 14 39 48.5 -2.7
comp=Z,186nm,1.3s,SNR=18
WATA Walderalm 127.30 327⇓ *i*P PKPdf 14 39 48.5 -2.7
SEST Monte Rota 127.30 326 P PKPdf 14 39 49.1 -2.2
WTTA Wattenberg 127.31 327⇑ *i*P PKPdf 14 39 48.5 -2.8
comp=Z,346nm,1.5s,SNR=22
WTTA Wattenberg 127.31 327⇑ *i*P PKPdf 14 39 48.5 -2.8
SWS Schriesheim 127.40 331 *e*P PKPdf 14 39 49.0 -2.4
HRV Harvard--Oak R 127.41 40 *e*PKPdf PKPdf 14 39 49.2 -2.4
HRV LR LR
comp=Z,7µm,20.0s,MS6.3
MGV Manicaragua 127.42 67 *e*P PKPdf 14 39 50.7 -1.5
MOTA Moosalm 127.55 327⇑ *i*P PKPdf 14 39 47.8 -4.0
comp=Z,157nm,1.3s,SNR=20
SQTA Sankt Quirin 127.57 327⇑ *i*P PKPdf 14 39 49.3 -2.5
comp=Z,264nm,1.4s,SNR=19
SQTA Sankt Quirin 127.57 327⇑ *i*P PKPdf 14 39 49.3 -2.5
BRES Bressanone 127.60 326 P PKPdf 14 39 49.6 -2.3
WES Weston 127.62 40 *e*PKPdf PKPdf 14 39 49.2 -2.9
WES LR LR
comp=Z,9µm,20.0s,MS6.4
STU Stuttgart 127.63 330 *e*PKPdf PKPdf 14 39 49.5 -2.4
ABH Alteburg 127.68 332 *e*P PKPdf 14 39 50.1 -1.9
BRYW Bryant College 127.71 41 *e*PKPdf PKPdf 14 39 48.0 -4.3
HGN Heimansgroeve 127.80 333 *e*Pdif Pdif 14 36 41.0 +9.1
HGN ⇓*e*PKiKP 14 39 49.6
comp=Z,100nm,1.7s
HGN *ex* x 14 39 58.4
comp=Z,174nm,1.5s
HGN *e*PP PP 14 41 51.8 -2.9
HGN *e*SKP 14 43 24.9
HGN *e*SKS SKS 14 46 50.6 -8.5
HGN *ex* x 14 47 19.3
HGN *ex* x 14 48 57.0
HGN SKSP 14 51 33.3
HGN *e*PPS PPS 14 53 36.2 +5.1
UBR Uberruh 127.86 328 *e*P PKPdf 14 39 49.5 -2.9
LBG Lerchenberg 127.89 330 *e*P PKPdf 14 39 50.0 -2.4
APPI Appiano 128.01 326 P PKPdf 14 39 49.3 -3.4
RUP Ruppelstein 128.03 332 *e*P PKPdf 14 39 50.7 -2.0
CTI Castel Tesino 128.04 326 P PKPdf 14 39 50.6 -2.2
RGNG Rignano Grg 128.06 319 P PKPdf 14 39 50.7 -2.3
GUT Guttenstein 128.12 329 *e*P PKPdf 14 39 50.4 -2.5
DAVA Damuels 128.23 328⇓ *i*P PKPdf 14 39 50.7 -2.4
comp=Z,145nm,1.4s,SNR=12
DAVA Damuels 128.23 328⇓ *i*P PKPdf 14 39 50.7 -2.4
BFO Black Forest 128.35 330 *e*PKPdf PKPdf 14 39 50.7 -2.6
FUORN Ofenpass 128.45 327 P PKPdf 14 39 51.7 -1.9
STR Strasbourg 128.46 330 PKP PKPdf 14 39 50.8 -2.7
TIP Timpagrande 128.46 316 *e*PKPdf PKPdf 14 39 51.1 -2.7
TSUM Tsumeb 128.47 239 *e*PKPdf PKPdf 14 39 52.2 -2.1
TSUM LR LR
comp=Z,15µm,19.0s,MS6.7
BRMO Bormio 128.48 327 P PKPdf 14 39 51.8 -1.8
WLF Walferdange 128.48 332 *e*PKPdf PKPdf 14 39 51.1 -2.4
DAVOX Davos 128.55 328 P PKPdf 14 39 50.8 -2.9
SLE Schleitheim 128.64 329⇑P PKPdf 14 39 51.5 -2.4
WILA Wila 128.66 329⇑P PKPdf 14 39 50.4 -3.5
LHO Holmfirth 128.66 340 *e*P PKPdf 14 39 47.2 -6.6
GIVF Givet 128.76 334 *e*PKP1 PKPdf 14 39 51.6 -2.5
comp=Z,985nm,1.6s
WLS Welschbruch 128.78 331 PKP PKPdf 14 39 51.4 -2.7
KBI1 Birley Grange 128.79 340 *e*P PKPdf 14 39 49.8 -4.2
SGO Sicignano 128.79 318 P PKPdf 14 39 51.8 -2.6
KIZ Kirchzarten 128.80 330 *e*P PKPdf 14 39 51.3 -2.9
CDF Champ du Feu 128.81 331 *e*PKP1 PKPdf 14 39 51.1 -3.1
comp=Z,302nm,1.5s
FELD Feldberg 128.81 330 *e*P PKPdf 14 39 51.6 -2.6
CSSN Cassano Irpino 128.83 319 P PKPdf 14 39 51.6 -2.9
LIBD Limburg 128.83 330 *e*P PKPdf 14 39 51.8 -2.4
LIBD Limburg 128.83 330 PKP PKPdf 14 39 51.6 -2.6
ZUR Zurich 128.86 329⇑P PKPdf 14 39 52.2 -2.1
SNTG Esanatoglia 128.89 322 P PKPdf 14 39 51.0 -3.5
VDL Val di Lei 128.96 327⇑P PKPdf 14 39 52.8 -1.7
LLS Linth-Limmern 128.97 328⇑P PKPdf 14 39 52.2 -2.3
SULZ Sulz-Cheisache 128.99 329⇑P PKPdf 14 39 52.4 -2.2
ECH Echery 129.00 330 PKP PKPdf 14 39 51.9 -2.7
TUE Stuetta 129.03 327 P PKPdf 14 39 52.2 -2.5
OTAV Otavalo 129.08 95 *e*PKPdf PKPdf 14 39 53.7 -2.0
OTAV LR LR
comp=Z,2µm,19.0s,MS5.9
MUO Muotathal 129.09 328⇑P PKPdf 14 39 52.5 -2.3
KWE Weaver Farm 129.09 340 *e*P PKPdf 14 39 52.6 -2.0
AQU L'Aquila 129.10 321 *e*PKPdf PKPdf 14 39 52.6 -2.3
BADI Badiali 129.17 323 P PKPdf 14 39 52.0 -3.0
MOF Molkenrain 129.26 330 PKP PKPdf 14 39 52.4 -2.7
BBS Basel-Blauen 129.34 330 *e*P PKPdf 14 39 52.5 -2.7
BBS Basel-Blauen 129.34 330 PKP PKPdf 14 39 52.3 -2.9
HINF Hinteralfeld 129.43 330 *e*PKP1 PKPdf 14 39 52.4 -3.0
comp=Z,708nm,1.6s
HAU Haudompre 129.54 331 *e*PKP1 PKPdf 14 39 52.8 -2.8
comp=Z,598nm,1.5s
HAU *e*R
comp=Z,7µm,21.2s
MENF Mencas 129.56 336 PKP PKPdf 14 39 53.1 -2.5
THEF They Montfort 129.57 331 PKP PKPdf 14 39 52.9 -2.7
CCCC Cccc 129.60 68 *e*P PKPdf 14 39 46.9 -6.0
SBD1 Bryn Du 129.66 341 *e*P PKPdf 14 39 49.8 -5.9
VAI Varese 129.73 327 P PKPdf 14 39 53.4 -2.6
LOMF Lomont 129.76 330 PKP PKPdf 14 39 53.6 -2.4
MEZF Maizieres J'vi 129.81 332 *e*PKP1 PKPdf 14 39 53.8 -2.3
comp=Z,977nm,1.6s
HLM1 Long Mynd 129.86 340 *e*P PKPdf 14 39 50.0 -6.1
LKBD Leukerbad 130.00 328⇑P PKPdf 14 39 54.9 -1.6
LKBD ⇑P 14 39 55.4
SSP1 Stoney Pound 130.02 340 *e*P PKPdf 14 39 50.1 -6.3
MMK Mattmark 130.04 328⇑P PKPdf 14 39 55.1 -1.5
HAE Alders End 130.15 340 *e*P PKPdf 14 39 49.5 -7.1
DIX Grande Dixence 130.31 328⇑P PKPdf 14 39 55.9 -1.2
DLF Lyons Farm 130.32 343 *e*P PKPdf 14 39 50.3 -6.6
SWN1 Swindon 130.32 339 *e*P PKPdf 14 39 53.4 -3.6
MCH1 Michaelchurch 130.34 340 *e*P PKPdf 14 39 49.5 -7.4
HTR Trewern Hill 130.36 340 *e*P PKPdf 14 39 49.8 -7.2
DCN Croghan 130.48 344 *e*P PKPdf 14 39 50.5 -6.7
HGH Gray Hill 130.57 340 *e*P PKPdf 14 39 50.0 -7.4
CABF La Chapelle 130.63 330 *e*PKP1 PKPdf 14 39 55.6 -2.1
comp=Z,776nm,1.4s
SWK Warminster 130.78 339 *e*P PKPdf 14 39 50.8 -7.0
LPL La Plagne 131.04 328 *e*PKP1 PKPdf 14 39 56.4 -2.1
LPG La Plagne 131.04 328 *e*PKP1 PKPdf 14 39 56.5 -2.0
comp=Z,229nm,1.3s
ARE Arequipa 131.08 118 *e*P PKPdf 14 39 58.0 -1.3
HLGC Holguin 131.22 68 *e*P PKPdf 14 39 56.9 -2.6
BNI Bardonecchia 131.38 328 *e*PKPdf PKPdf 14 39 57.3 -1.9
MBDF Montbardon 131.54 327 *e*PKP1 PKPdf 14 39 56.9 -2.6
comp=Z,59nm,0.9s
SAOF Saorge 131.59 326 PKP PKPdf 14 39 56.8 -2.8
AUTN L'Aution 131.66 326 PKP PKPdf 14 39 56.7 -3.0
SMF Signal de Mont 131.71 331 *e*PKP1 PKPdf 14 39 57.1 -2.7
comp=Z,554nm,1.6s
SBF Sospel 131.74 326 *e*PKP1 PKPdf 14 39 56.8 -3.1
comp=Z,632nm,1.4s
GRN Grenoble 131.74 328 PKP PKPdf 14 39 54.6 -5.2
TOUF Mont Tournerai 131.75 326 PKP PKPdf 14 39 57.4 -2.5
HYF Humbligny 131.83 332 *e*PKP1 PKPdf 14 39 57.8 -2.2
AVF Avril sur Loir 131.84 331 *e*PKP1 PKPdf 14 39 57.4 -2.6
comp=Z,106nm,1.1s
MVIF Mont Vial 131.87 326 PKP PKPdf 14 39 56.4 -3.7

ORIF	**Oris-en-Rattie**	**131.89**	**328**	*e*PKP1	PKPdf	14 39 57.7	-2.4			
	comp=Z,226nm,1.3s									
ORIF				*e*R						
	comp=Z,10μm,19.8s									
LDF	**La Druitiere**	**132.02**	**335**	*e*PKP1	PKPdf	14 39 57.6	-2.7			
	comp=Z,579nm,1.6s									
FLN	**La Foliniere**	**132.04**	**336**	*e*PKP1	PKPdf	14 39 57.6	-2.7			
	comp=Z,845nm,1.6s									
FLN				*e*R						
	comp=Z,10μm,19.0s									
BGF	**Bois d'Agland**	**132.25**	**332**	*e*PKP1	PKPdf	14 39 58.3	-2.5			
	comp=Z,247nm,1.2s									
PLDF	**La Plantade**	**132.30**	**331**	PKP	PKPdf	14 39 59.4	-1.5			
FRF	**La Foret Royal**	**132.37**	**326**	*e*PKP1	PKPdf	14 39 58.3	-2.8			
	comp=Z,715nm,1.7s									
AGO	**Saint Agoulin**	**132.48**	**331**	PKP	PKPdf	14 39 58.4	-2.9			
GRR	**Gorron**	**132.49**	**336**	*e*PKP1	PKPdf	14 39 58.7	-2.5			
	comp=Z,684nm,1.5s									
VIVF	**Saint-Julien-l**	**132.56**	**329**	*e*PKP1	PKPdf	14 39 59.0	-2.4			
	comp=Z,521nm,1.7s									
COLF	**Collangettes**	**132.59**	**330**	PKP	PKPdf	14 39 59.1	-2.4			
LMR	**La Mourre**	**132.59**	**326**	*e*PKP1	PKPdf	14 39 58.9	-2.6			
	comp=Z,575nm,1.6s									
SMRF	**Simiane la Rot**	**132.68**	**327**	*e*PKP1	PKPdf	14 39 59.4	-2.3			
	comp=Z,255nm,1.2s									
TCF	**Toulx Ste Croi**	**132.75**	**332**	*e*PKP1	PKPdf	14 39 59.5	-2.2			
	comp=Z,691nm,1.6s									
VERF	**Verneugheol**	**133.01**	**331**	PKP	PKPdf	14 40 01.0	-1.2			
PRAF	**Pradon**	**133.01**	**327**	PKP	PKPdf	14 40 01.5	-0.8			
BERF	**Bertagne**	**133.06**	**327**	PKP	PKPdf	14 39 59.6	-2.8			
SGMF	**Saint Gilles**	**133.27**	**337**	*e*PKP1	PKPdf	14 40 00.0	-2.6			
LASF	**Ste Croix**	**133.52**	**329**	*e*PKP1	PKPdf	14 40 01.1	-2.0			
	comp=Z,576nm,1.7s									
MFF	**Saint Martin d**	**133.58**	**334**	*e*PKP1	PKPdf	14 40 00.6	-2.6			
	comp=Z,155nm,1.2s									
ROSC	**El Rosal**	**133.69**	**90**	PKhKP		14 39 55.2				
	comp=Z,9.4nm,0.7s,baz=87,slow=18,SNR=4.0									
ROSC				PKP	PKPdf	14 40 02.6	-1.6			
	comp=Z,20nm,0.6s,baz=297,slow=2.3,SNR=20									
QUIF	**Quistinic**	**133.78**	**337**	*e*PKP1	PKPdf	14 40 01.3	-2.2			
	comp=Z,430nm,1.8s									
LCHF	**La Chataignera**	**133.79**	**334**	PKP	PKPdf	14 40 02.4	-1.1			
RJF	**Les Rejaudoux**	**133.80**	**331**	*e*PKP1	PKPdf	14 40 01.8	-1.8			
	comp=Z,430nm,1.6s									
CAF	**Calviac**	**133.82**	**331**	*e*PKP1	PKPdf	14 40 02.0	-1.6			
	comp=Z,448nm,1.8s									
LPAZ	**La Paz**	**134.07**	**120**	PKhKP		14 39 50.7				
	comp=Z,4.1nm,0.8s,baz=245,slow=3.4,SNR=10									
LPAZ				PKP	PKPdf	14 40 04.0	-0.8			
	comp=Z,34nm,1.0s,baz=311,slow=3.0,SNR=28									
LPAZ	**La Paz**	**134.07**	**120**	*e*PKPpre		14 39 50.0				
LPAZ				*e*PKPdf	PKPdf	14 40 03.5	-1.4			
LPAZ				PKP	PKPdf	14 40 04.0	-0.8			
LPAZ				LR	LR					
	comp=Z,3μm,21.0s,MS6.0									
TRIS	**Tristan da Cun**	**134.21**	**197**	PFAKE		14 40 10.0	+5.4			
TRIS				LR	LR					
	comp=Z,7μm,20.0s,MS6.4									
LFF	**La Frestale**	**134.44**	**332**	*e*PKP1	PKPdf	14 40 03.2	-1.7			
	comp=Z,279nm,1.4s									
MTLF	**Montolieu**	**134.88**	**329**	*e*PKP1	PKPdf	14 40 03.7	-2.1			
	comp=Z,493nm,1.9s									
EPF	**Esparros**	**136.05**	**330**	*e*PKP1	PKPdf	14 40 04.0	-3.9			
	comp=Z,327nm,1.5s									
LABF	**Labassere**	**136.17**	**330**	PKP	PKPdf	14 40 01.7	-6.4			
RESF	**Ens**	**136.22**	**330**	PKP	PKPdf	14 40 04.1	-4.1			
VIEF	**Viey**	**136.32**	**330**	PKP	PKPdf	14 40 03.9	-4.4			
CAEH	**'Ain El Ouahch**	**136.40**	**319**	P	PKPdf	14 40 11.0	+2.3			
CPUP	**Villa Florida**	**136.50**	**140**	*e*PKPpre		14 39 54.8				
CPUP				*e*PKPdf	PKPdf	14 40 07.4	-1.7			
CPUP				LR	LR					
	comp=Z,562nm,20.0s,MS5.3									
ATE	**Arette**	**136.52**	**331**	PKP	PKPdf	14 40 03.2	-5.5			
ETSF	**Etsaut**	**136.59**	**331**	*e*PKP1	PKPdf	14 40 05.5	-3.3			
CKFL	**Kef-Lekhel**	**136.70**	**318**	P	PKPdf	14 40 10.5	+1.3			
CASM	**Ain Smara**	**136.94**	**318**	P	PKPdf	14 40 08.0	-1.6			
CTEI	**Djebel Teioual**	**137.10**	**318**	P	PKPdf	14 40 08.0	-2.0			
BBSR	**BB Station**	**137.15**	**48**	PFAKE		14 40 20.0	+10			
BBSR				LR	LR					
	comp=Z,4μm,21.0s,MS6.1									
DFRA	**Djebel Bou Aff**	**137.17**	**319**	P	PKPdf	14 40 12.0	+1.9			
SDV	**Santo Domingo**	**137.52**	**84**	PKhKP		14 39 59.2				
	comp=Z,7.3nm,0.8s,baz=146,slow=3.5,SNR=8.2									
SDV				PKP	PKPdf	14 40 08.9	-2.4			
	comp=Z,172nm,1.0s,baz=289,slow=2.8,SNR=15									
SDV	**Santo Domingo**	**137.52**	**84**	*e*PKPpre		14 39 59.0				
SDV				PKP	PKPdf	14 40 08.9	-2.4			
SDV				*e*PKPdf	PKPdf	14 40 09.9	-1.4			
SDV				LR	LR					
	comp=Z,3μm,21.0s,MS6.0									
EBR	**Ebro Roquetas**	**137.58**	**328**	*e*Ts		14 40 52.0				
SET	**Setif**	**137.69**	**319**	P	PKPdf	14 40 10.0	-1.1			
CMER	**Merouana**	**137.69**	**318**	P	PKPdf	14 40 02.0	-9.1			
CKHR	**Kef el Ahmar**	**137.72**	**319**	P	PKPdf	14 40 10.0	-1.2			
EMHD	**Djebel Mahouad**	**139.26**	**321**	P	PKPdf	14 40 12.0	-2.0			
SIV	**San Ignacio**	**140.14**	**125**	PKhKP		14 40 05.2				
	comp=Z,18nm,1.0s,baz=224,slow=4.6,SNR=28									
SIV				PKP	PKPdf	14 40 14.6	-1.5			
	comp=Z,23nm,0.6s,baz=249,slow=5.0,SNR=30									
PBRG	**Braganca**	**140.26**	**335**	*e*P	PKPdf	14 40 08.0	-7.6			
EANR	**'Ain N'Sour**	**140.57**	**322**	P	PKPdf	14 40 10.0	-6.4			
ESDC	**Sonseca Array**	**140.71**	**330**	PKhKP		14 40 07.5				
	comp=Z,4.2nm,0.9s,baz=26,slow=2.2,SNR=12									
ESDC				PP	PP	14 43 12.6	-4.2			
	comp=Z,38nm,1.1s,baz=29,slow=7.0,SNR=19									
ESLA	**Sonseca Array**	**140.71**	**330**	*e*PKPpre		14 40 09.9				
ESLA				LR	LR					
	comp=Z,24μm,19.0s,MS7.0									
ETRT	**Tiaret**	**140.81**	**321**	P	PKPdf	14 40 09.0	-7.9			
PCAB	**Cabril**	**140.86**	**336**	*e*P	PKPdf	14 40 09.9	-6.9			
SJG	**San Juan**	**140.92**	**69**	PKP	PKPdf	14 40 14.9	-2.6			
	comp=Z,114nm,0.9s,baz=7.7,slow=1.8,SNR=20									
SJG	**San Juan**	**140.92**	**69**	*e*PKPpre		14 40 08.5				
SJG				PKP	PKPdf	14 40 14.9	-2.6			
SJG				*e*PKPdf	PKPdf	14 40 15.1	-2.5			
SJG				LR	LR					
	comp=Z,3μm,21.0s,MS6.0									
PVRL	**Vila Real**	**141.10**	**336**	*e*P	PKPdf	14 40 09.5	-7.7			
CPD	**Cerro la Pandu**	**141.16**	**69**	*e*PKPdf	PKPdf	14 40 15.8	-2.1			
MTP	**Monte Pirata**	**141.48**	**69**	*e*PKPpre		14 40 12.0				
SAML	**Samuel**	**141.50**	**113**	*e*PKPpre		14 40 09.1				
SAML				*e*PKPdf	PKPdf	14 40 16.5	-2.2			
SAML				LR	LR					
	comp=Z,5μm,21.0s,MS6.3									
PVIS	**Viseu**	**141.65**	**335**	*e*P	PKPdf	14 40 10.3	-7.8			
MTE	**Manteigas**	**141.76**	**335**	*e*P	PKPdf	14 40 09.2	-9.1			
MTE	**Manteigas**	**141.76**	**335**	*e*PP	PP	14 43 25.5	+2.5			
MTE	**Manteigas**	**141.76**	**335**	*e*SS	SS	15 01 59.8	+7.9			
MTE	**Manteigas**	**141.76**	**335**	*e*LR	LR	15 28 40.8				
	comp=Z,5μm,20.0s									
MTE	**Manteigas**	**141.76**	**335**	*e*PKPdf	PKPdf	14 40 15.8	-2.5			
PCBR	**Castelo Branco**	**142.20**	**334**	*e*P	PKPdf	14 40 13.2	-5.9			
PTOM	**Tomar**	**142.78**	**335**	*e*P	PKPdf	14 40 14.5	-5.6			
EVO	**Evora**	**143.51**	**333**	*e*PKIKP	PKPdf	14 40 17.4	-4.0			
	comp=Z,1μm,1.8s									
EVO				*e*R						
	comp=Z,8μm,21.2s									
PLOU	**Loures**	**143.71**	**335**	*e*P	PKPbc	14 40 17.9	+0.9			
PBEJ	**Beja**	**143.86**	**333**	*e*P	PKPbc	14 40 17.9	+0.4			
SFS	**San Fernando**	**144.31**	**329**	*e*PKPdf	PKPdf	14 40 19.6	-3.3			
PTEO	**Sao Teotonio**	**144.64**	**333**	*e*P	PKPbc	14 40 20.4	+0.7			
CPB	**Codrington**	**145.04**	**69**	*e*P	PKPbc	14 40 22.4	+1.1			
BPA	**Boggy Peak**	**145.15**	**70**	*e*P	PKPbc	14 40 21.7	+0.1			
LZG	**Guadaloupe-1**	**145.42**	**71**	*e*P	PKPbc	14 40 21.7	-0.6			
BCG	**Bois Riant Cap**	**145.58**	**71**	*e*P	PKPbc	14 40 22.8	0.0			
DOG	**Dongo Capester**	**145.59**	**71**	*e*P	PKPbc	14 40 22.8	0.0			
TBG	**Guadaloupe-3**	**145.60**	**72**	*e*P	PKPbc	14 40 22.8	-0.1			
BBL	**Barber's Block**	**145.83**	**72**	*e*P	PKPbc	14 40 23.5	+0.1			
MGG	**Marie-Galante**	**145.90**	**71**	*e*P	PKPbc	14 40 23.5	0.0			
MDN	**Morne-Daniel**	**145.95**	**72**	*e*P	PKPbc	14 40 25.2	+1.6			
DWS	**Wesley**	**145.97**	**72**	*e*P	PKPbc	14 40 24.9	+1.2			
DEG	**La Desirade**	**146.06**	**71**	*e*P	PKPbc	14 40 24.0	+0.1			
GRW	**Mount Saint Ca**	**146.16**	**78**	*e*P	PKPbc	14 40 23.6	-0.7			
FDF	**Fort de France**	**146.28**	**73**⇑	*e*P	PKPbc	14 40 26.0	+1.6			
SVB	**Belmont**	**146.42**	**76**	*e*P	PKPbc	14 40 25.3	+0.5			
TPP	**Pointe-a-Pierr**	**146.53**	**81**	*e*P	PKPbc	14 40 25.4	+0.3			
TRN	**Trinidad (W)**	**146.55**	**81**	*e*P	PKPbc	14 40 26.6	+1.5			
TBH	**Brigand Hill**	**146.89**	**81**	*e*P	PKPbc	14 40 29.3	+3.4			
TPR	**Prospect**	**147.12**	**80**	*e*P	PKPdf	14 40 28.7	+0.4			
CAM4	**Nova Friburgo**	**147.80**	**154**	*e*P	PKPdf	14 40 26.8	-2.3			
CAM4				*i*		14 40 29.9				
CAM4				*i*		14 40 36.3				
ADH	**Angra Heroismo**	**148.08**	**359**	*e*PKP	PKPdf	14 40 40.0	+11			
ADH	**Angra Heroismo**	**148.08**	**359**	*e*PP	PP	14 44 40.0	+39			
ADH	**Angra Heroismo**	**148.08**	**359**	*i* SS	SS	15 03 22.5	+19			
ADH	**Angra Heroismo**	**148.08**	**359**	*i* LR	LR	15 31 10.0				
BBSP	**Saint Philip**	**148.17**	**76**	*e*P		14 40 51.2				
BDFB	**Brasilia**	**150.18**	**138**	PKP	PKPdf	14 40 30.6	-2.5			
	comp=Z,178nm,1.1s,baz=278,slow=0.9,SNR=26									
BDFB				PKPbc	PKPdf	14 40 35.8	+2.7			
	comp=Z,219nm,1.0s,baz=318,slow=1.5,SNR=54									
BAO	**Brasilia Array**	**150.20**	**138**	P	PKPdf	14 40 32.0	-1.1			
TORD	**Torodi Ar. Bea**	**150.24**	**285**	PKP	PKPdf	14 40 30.1	-3.1			
	comp=Z,21nm,1.2s,baz=66,slow=0.6,SNR=30									
TORD				PKPbc	PKPdf	14 40 36.0	+2.8			
	comp=Z,344nm,1.1s,baz=35,slow=2.8,SNR=129									
TORD				PP	PP	14 44 12.0	-1.6			
	comp=Z,20nm,1.1s,baz=61,slow=3.7,SNR=4.1									
DBIC	**Dimbokro**	**157.21**	**272**	PKP	PKPdf	14 40 40.4	-2.6			
	comp=Z,6.2nm,0.7s,baz=35,slow=2.1,SNR=9.9									
DBIC				PKPbc	PKPdf	14 40 54.2	+11			
	comp=Z,50nm,0.9s,baz=56,slow=2.3,SNR=20									
DBIC				PKPab	PKPab	14 41 13.0	+0.2			
	comp=Z,173nm,0.9s,baz=77,slow=4.8,SNR=16									
DBIC	**Dimbokro**	**157.21**	**272**	*e*PKPdf	PKPdf	14 40 40.8	-2.2			
DBIC				LR	LR					
	comp=Z,9μm,21.0s,MS6.6									
LIC	**Lamto**	**157.36**	**270**	*e*PKIKP	PKPdf	14 40 40.2	-3.0			
LIC				*e*R						
	comp=Z,16μm,23.0s									
RCBR	**Riachuelo**	**165.25**	**147**	*e*PKPdf	PKPdf	14 40 49.1	-2.5			
RCBR				LR	LR					
	comp=Z,7μm,20.0s									

DHMR ***11*** *14:24:27.1±2.8,28.49N×57.44E,h10km,mb4.2*
MOS ***11*** *14:24:35.9±0.9,28.40N×56.88E,h33km,mb5.0/28,Error ellipse: s-maj=10.7km s-min=4.8km az=127.3*
THR ***11*** *14:24:36.5±0.6,28.44N×56.92E,h18km±4km, ML4.5*
NEIC ***11*** *14:24:36.8±0.4,28.20N×56.95E,h35km, mb4.8/34, ML4.7(TEH), Error ellipse: s-maj=9.6km s-min=5.3km az=201.0*
CSEM ***11*** *14:24:38.2±0.1,28.31N×56.94E,h45km, mb5.1/3,Error ellipse: s-maj=1.8km s-min=1.3km az=74.0*
IDC ***11*** *14:24:40.2±2.6,28.43N×56.88E,h59km±21km,mb4.4/18, mb1 4.5/18,mb1mx4.4/23,mbtmp4.7/18,MS4.4/2, Ms1 4.4/2,ms1mx3.8/26,Error ellipse: s-maj=20.4km s-min=14.5km az=139.0*
TEH ***11*** *14:24:42.0,28.44N×56.57E,h10km, Mn4.7*
ISC 11 14:24:32.6±0.2,28.34N±0.02×56.87E±0.03,h10km,n194,
σ1§21/194,mb4.7/57,MS4.7/1,14C-19D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.12**	**214**	*e*PG		**Pg**	**Pg**	**14 24 59.6**	**+4.5**
BNDS				*e*SG		**Sg**	**Sg**	**14 25 16.1**	**+6.0**
BNDS				AML	AML			14 25 20.1	
	comp=N,14μm,0.3s								
KRBR	**Kerman**	**1.64**	**357**	*e*PG		**Pg**	**Pg**	**14 25 05.0**	**-0.4**
KRBR				*e*SG		**Sg**	**Sg**	**14 25 25.9**	**-1.4**
KRBR				AML	AML			14 25 33.1	
	comp=N,7μm,0.5s								
KRBR	**Kerman**	**1.64**	**357**	*e*Pg		**Pg**	**Pg**	**14 25 05.0**	**-0.4**
	SNR=92								
KRBR				*e*Sg		**Sg**	**Sg**	**14 25 26.0**	**-1.3**
	comp=N,7μm,0.5s,SNR=92								
BANOM	**Banah**	**2.46**	**192**	⇓P		**Pn**	**Pn**	**14 25 16.9**	**+3.5**
	SNR=478								
GHIR	**Ghir-Karzin**	**3.43**	**270**	*e*PN		**Pn**	**Pn**	**14 25 31.6**	**+4.4**
GHIR				AML	AML			14 26 33.9	
	comp=N,780nm,0.5s								
IBAF	**Bafgh**	**3.43**	**341**	Pn		**Pn**	**Pn**	**14 25 30.9**	**+3.6**
ISRV	**Sarvestan**	**3.46**	**288**	Pn		**Pn**	**Pn**	**14 25 32.8**	**+5.2**
IMEH	**Mehriz**	**3.62**	**328**	Pn		**Pn**	**Pn**	**14 25 34.1**	**+4.1**
ZHSF	**Zahedan**	**3.65**	**69**	*e*PN		**Pn**	**Pn**	**14 25 32.9**	**+2.6**
ZHSF				*e*SG		**Sb**	**Sb**	**14 26 28.0**	**+6.6**
IPAR	**Pars**	**3.67**	**295**	Pn		**Pn**	**Pn**	**14 25 35.5**	**+4.9**
ASHO	**Ashiyiah**	**3.71**	**192**	⇑P		**Pn**	**Pn**	**14 25 34.5**	**+3.3**
	SNR=31								
IMOK	**Mook**	**3.72**	**282**	Pn		**Pn**	**Pn**	**14 25 37.0**	**+5.6**
ICHK	**Chekchek**	**4.44**	**332**	Pn		**Pn**	**Pn**	**14 25 45.0**	**+3.4**
ISAD	**Sadrabad**	**4.51**	**323**	Pn		**Pn**	**Pn**	**14 25 47.0**	**+4.4**
HOQ	**Hoqain**	**4.75**	**175**	⇑P		**Pn**	**Pn**	**14 25 46.6**	**+0.5**
	SNR=25								
BIDO	**Bidbid**	**4.93**	**166**	⇑P		**Pn**	**Pn**	**14 25 48.7**	**+0.1**
	SNR=66								
ARQ	**Araqi**	**4.99**	**184**	⇓P		**Pn**	**Pn**	**14 25 52.5**	**+3.1**
	SNR=57								
SMDO	**Samad**	**5.36**	**168**	⇓P		**Pn**	**Pn**	**14 25 55.6**	**+1.0**
	SNR=53								
BSY	**Bisya**	**5.58**	**177**	⇑P		**Pn**	**Pn**	**14 25 59.8**	**+2.1**
	SNR=55								
BSYO	**Bisya**	**5.59**	**177**	P		**Pn**	**Pn**	**14 25 59.8**	**+1.9**
	SNR=55								
IGAR	**Garneh**	**5.61**	**315**	Pn		**Pn**	**Pn**	**14 26 03.8**	**+5.6**
NASN	**Na'in**	**5.66**	**323**	*e*PN		**Pn**	**Pn**	**14 26 01.8**	**+3.0**
NASN				*e*SG		**Sb**	**Sb**	**14 27 30.3**	**+10**
IZEF	**Zefreh**	**6.00**	**320**	Pn		**Pn**	**Pn**	**14 26 06.4**	**+2.8**
WBK	**Wadi Bani Khal**	**6.01**	**161**	⇓P		**Pn**	**Pn**	**14 26 04.2**	**+0.4**
	SNR=33								
JMDO	**Jabal Madar**	**6.05**	**169**	⇑P		**Pn**	**Pn**	**14 26 05.6**	**+1.3**
	SNR=36								
IKLH	**Kalahroud**	**6.74**	**319**	Pn		**Pn**	**Pn**	**14 26 16.5**	**+2.5**
IPIR	**Pirpir**	**6.74**	**311**	Pn		**Pn**	**Pn**	**14 26 16.3**	**+2.3**
ISFB	**Sefidab**	**7.19**	**328**	Pn		**Pn**	**Pn**	**14 26 22.5**	**+2.1**
ISFB				Sn		**Sn**	**Sn**	**14 27 37.0**	**-5.9**
QRN	**Al-Qurain**	**7.89**	**275**	*e*P		**Pn**	**Pn**	**14 26 30.7**	**+0.6**
QRN				AML	AML			14 27 57.8	
	comp=Z,345nm,0.3s								
IVRN	**Varamin**	**7.95**	**328**	Pn		**Pn**	**Pn**	**14 26 33.9**	**+2.8**
IVRN				Lg				14 28 42.9	
IFIR	**Firoozkooh**	**8.08**	**335**	Pn		**P**	**Pn**	**14 26 34.9**	**+2.1**
IFIR				Lg				14 28 47.8	
KBD	**Kabd**	**8.10**	**278**	*e*P		**P**	**Pn**	**14 26 33.5**	**+0.4**
KBD				AML	AML			14 28 04.0	
	comp=Z,373nm,0.3s								
UMR	**Umm Al-Rimmam**	**8.11**	**281**	*e*P		**P**	**Pn**	**14 26 34.0**	**+0.7**
UMR				AML	AML			14 28 05.6	
	comp=Z,172nm,0.3s								
RDF	**Al-Radifah**	**8.21**	**276**	*e*P		**P**	**Pn**	**14 26 34.8**	**+0.1**
RDF				AML	AML			14 28 08.4	
	comp=Z,186nm,0.4s								
IDMV	**Damavand**	**8.30**	**332**	Pn		**P**	**Pn**	**14 26 38.0**	**+2.0**
IDMV				Lg				14 28 54.0	
MIB	**Mutribah**	**8.47**	**282**	*e*P		**P**	**Pn**	**14 26 38.7**	**+0.4**
MIB				AML	AML			14 28 11.1	
	comp=Z,100nm,0.5s								
NAY	**Al-Naaiem**	**8.50**	**278**	*e*P		**P**	**Pn**	**14 26 38.9**	**+0.2**
NAY				AML	AML			14 28 13.6	
	comp=Z,63nm,0.5s								
ASAO	**Ashtian**	**8.51**	**318**	*e*PN		**P**	**Pn**	**14 26 41.0**	**+2.1**
IAFJ	**Afjeh**	**8.68**	**331**	Pn		**P**	**Pn**	**14 26 43.1**	**+1.9**
CHTH	**Charan**	**8.98**	**329**	*e*PN		**P**	**Pn**	**14 26 47.8**	**+2.4**
THKV	**Tehran--Karaj**	**9.10**	**328**	*e*PN		**P**	**Pn**	**14 26 49.2**	**+2.2**
VAN	**Vannovskaya**	**9.64**	**6**	⇓*i*P		**P**	**Pn**	**14 26 57.5**	**+3.0**
SHAO	**Shalim**	**10.33**	**187**	⇓P		**P**	**Pn**	**14 27 05.5**	**+1.5**
WHFO	**Wadi Hawf**	**10.76**	**196**	⇑P		**P**	**Pn**	**14 27 07.6**	**-2.3**
	SNR=15								
RBK	**Rabkut**	**11.06**	**193**	⇓P		**P**	**Pn**	**14 27 11.7**	**-2.3**
	SNR=15								
ABTO	**Aybut**	**11.42**	**198**	⇑P		**P**	**Pn**	**14 27 16.6**	**-2.3**
	SNR=34								
BHD	**Baghdad**	**11.81**	**298**	*ex*		x		14 27 02.0	
BHD				*e*				14 31 40.0	
MSL	**Mosul**	**14.09**	**308**	*ex*		x		14 27 57.5	
GNI	**Garni**	**15.45**	**323**	P		**P**	**Pn**	**14 28 17.1**	**+4.8**
	comp=Z,1.7nm,0.3s,baz=21,slow=2.5,SNR=8.3								
GNI				LR	LR			14 35 42.1	
	comp=Z,646nm,20.5s,baz=158,slow=43								
MARD	**Mardin**	**16.20**	**308**	*i* P		**P**	**Pn**	**14 28 21.7**	**-0.3**
TI2	**Plekhanov**	**16.62**	**327**	*e*P		**P**	**Pn**	**14 28 31.0**	**+3.7**
ERZM	**Erzurum**	**17.23**	**316**	*i* P		**P**	**Pn**	**14 28 32.4**	**-2.6**
HAJJ	**Hajjah**	**17.58**	**227**	*e*P		**P**	**Pn**	**14 28 38.1**	**-1.3**
HAJJ				AMb	AMB			14 28 38.2	
	comp=Z,3.3nm,0.3s								
HAJJ	**Hajjah**	**17.58**	**227**	*e*P		**P**	**Pn**	**14 28 38.1**	**-1.3**
	comp=Z,1.6nm,0.3s								
BDHA	**Al Bayda'**	**17.74**	**219**	⇓*e*P		**P**	**Pn**	**14 28 39.7**	**-1.7**
DHBB	**Dhamar BB**	**17.94**	**223**	⇓*e*P		**P**	**Pn**	**14 28 43.1**	**-0.8**
LBOS		**18.00**	**219**	⇑*e*P		**P**	**Pn**	**14 28 43.0**	**-1.8**
ELZG	**Elazig**	**18.02**	**309**	*i* P		**P**	**Pn**	**14 28 38.3**	**-6.4**
GZT	**Gaziantep**	**18.52**	**304**	*i* P		**P**	**Pn**	**14 28 51.2**	**+0.2**
COBT	**Iskenderun**	**19.20**	**300**	*i* P		**P**	**Pn**	**14 28 57.4**	**-1.7**
KIV	**Kislovodsk**	**19.30**	**328**	⇓*i*P		**P**	**Pn**	**14 29 01.9**	**+1.6**
KIV				pmax	pmax				
	comp=Z,19nm,1.3s								
GOF	**Gofitskoye**	**19.99**	**330**	*e*P		**P**	**Pn**	**14 29 08.0**	**-0.1**
GOF				pmax	pmax				
	comp=Z,48nm,1.7s								
AAK	**Ala-Archa**	**20.18**	**40**	*d*iP		**P**	**Pn**	**14 29 09.1**	**-0.9**
AAK				pmax	pmax				
	comp=Z,35nm,2.5s								
MEST	**Erdemli**	**20.83**	**299**	*i* P		**P**		**14 29 16.8**	**0.0**
AVNT	**Avonos**	**21.05**	**305**	*i* P		**P**		**14 29 20.2**	**+1.2**
CDAG	**Cicekdag**	**21.73**	**307**	*i* P		**P**		**14 29 27.0**	**+1.1**
ERMK	**Ermenek**	**21.80**	**298**	*i* P		**P**		**14 29 25.6**	**-1.1**
AKTK	**Aktyubinsk**	**22.09**	**2**	P		**P**		**14 29 29.6**	**+0.2**
AKTK				LR	LR			14 38 58.3	
AKTK	**Aktyubinsk**	**22.09**	**2**	P		**P**		**14 29 29.6**	**+0.2**
AKTO	**Aktyubinsk**	**22.09**	**2**	P		**P**		**14 29 29.6**	**+0.2**
	comp=Z,36nm,0.7s,mb4.9,baz=177,slow=11,SNR=128								
AKTO				LR	LR			14 38 58.3	
	comp=Z,3μm,20.3s,MS4.7,slow=39								
BOYT	**Boyabat**	**22.18**	**312**	*i* P		**P**		**14 29 28.1**	**-2.3**
BRTR	**Keskin Array B**	**22.29**	**307**	P		**P**		**14 29 33.1**	**+1.6**
	comp=Z,15nm,0.7s,mb4.5,baz=125,slow=8.3,SNR=70								
HYB	**Hyderabad**	**22.70**	**114**	*i* P		**P**		**14 29 38.0**	**+2.2**
HYB	**Hyderabad**	**22.70**	**114**	*e*P		**P**		**14 29 38.0**	**+2.2**
KOLN	**Koldanda**	**23.58**	**85**	*e*P		**P**		**14 29 45.1**	**+0.8**
ISP	**Isparta**	**23.97**	**300**	⇓*i*P		**P**		**14 29 48.0**	**0.0**
GKN	**Gorkha**	**24.46**	**84**	*e*P		**P**		**

MEZF	**Maizieres J'vi**	**44.36**	**312**	*eP*	**P**	**14 32 44.4**	**-0.3**
	comp=Z,87nm,1.5s,mb5.0							
NB2	**NORSAR Subarra**	**44.57**	**330**	P	**P**	**14 32 44.8**	**-1.4**
	comp=Z,3.2nm,0.7s,mb4.3,baz=116,slow=7.9							
NB2	**NORSAR Subarra**	**44.57**	**330**	P	**P**	**14 32 44.8**	**-1.4**
NB2				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.2							
NOA	**NORSAR Array B**	**44.57**	**330**	P	**P**	**14 32 44.8**	**-1.5**
	comp=Z,4.3nm,0.7s,mb4.4,baz=115,slow=8.0,SNR=15							
GIVF	**Givet**	**44.74**	**314**	*eP*	**P**	**14 32 47.9**	**+0.2**
	comp=Z,39nm,1.0s,mb4.9							
GIVF	**Givet**	**44.74**	**314**	*eP*	**P**	**14 32 47.9**	**+0.2**
GIVF				pmax	pmax			
	comp=Z,20nm,1.0s,mb4.9							
SMF	**Signal de Mont**	**44.97**	**309**	*eP*	**P**	**14 32 49.0**	**-0.6**
	comp=Z,67nm,1.0s,mb5.1							
SMF	**Signal de Mont**	**44.97**	**309**	*eP*	**P**	**14 32 49.0**	**-0.6**
SMF				pmax	pmax			
	comp=Z,33nm,1.0s,mb5.1							
ARCES	**ARCESS Array B**	**45.03**	**345**	P	**P**	**14 32 49.1**	**-0.6**
	comp=Z,4.6nm,0.7s,mb4.5,baz=137,slow=8.3,SNR=20							
ARCES				PcP	PcP	14 34 29.6	-1.6	
	comp=Z,5.5nm,0.8s,baz=90,slow=2.4,SNR=6.2							
ARCES	**ARCESS Array B**	**45.03**	**345**	PcP	PcP	14 34 29.6	-1.6	
AVF	**Avril sur Loir**	**45.32**	**309**	*eP*	**P**	**14 32 51.6**	**-0.8**
	comp=Z,19nm,1.0s,mb4.6							
AVF	**Avril sur Loir**	**45.32**	**309**	*eP*	**P**	**14 32 51.6**	**-0.8**
AVF				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.6							
BGF	**Bois d'Agland**	**45.65**	**309**	*eP*	**P**	**14 32 54.3**	**-0.7**
	comp=Z,14nm,0.6s,mb4.8							
BGF	**Bois d'Agland**	**45.65**	**309**	*eP*	**P**	**14 32 54.3**	**-0.7**
BGF				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.8							
MTLF	**Montolieu**	**45.97**	**304**	*eP*	**P**	**14 32 57.8**	**+0.2**
TCF	**Toulx Ste Croi**	**46.07**	**308**	*eP*	**P**	**14 32 57.9**	**-0.4**
	comp=Z,29nm,0.9s,mb4.9							
TCF	**Toulx Ste Croi**	**46.07**	**308**	*eP*	**P**	**14 32 57.9**	**-0.4**
TCF				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9							
CAF	**Calviac**	**46.11**	**306**	*eP*	**P**	**14 32 58.6**	**-0.1**
	comp=Z,25nm,0.9s,mb4.8							
CAF	**Calviac**	**46.11**	**306**	*eP*	**P**	**14 32 58.6**	**-0.1**
CAF				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.9							
RJF	**Les Rejaudoux**	**46.51**	**307**	*eP*	**P**	**14 33 01.9**	**+0.1**
	comp=Z,42nm,0.9s,mb5.1							
RJF	**Les Rejaudoux**	**46.51**	**307**	*eP*	**P**	**14 33 01.9**	**+0.1**
RJF				pmax	pmax			
	comp=Z,21nm,0.9s,mb5.1							
LFF	**La Frestale**	**47.05**	**306**	*eP*	**P**	**14 33 06.1**	**0.0**
	comp=Z,76nm,0.9s,mb5.3							
LFF	**La Frestale**	**47.05**	**306**	*eP*	**P**	**14 33 06.1**	**0.0**
LFF				pmax	pmax			
	comp=Z,38nm,0.9s,mb5.3							
EPF	**Esparros**	**47.35**	**304**	*eP*	**P**	**14 33 08.4**	**-0.1**
MFF	**Saint Martin d**	**47.71**	**309**	*eP*	**P**	**14 33 10.3**	**-1.0**
	comp=Z,10nm,0.8s,mb4.6							
MFF	**Saint Martin d**	**47.71**	**309**	*eP*	**P**	**14 33 10.3**	**-1.0**
MFF				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
LDF	**La Druitiere**	**47.79**	**311**	*eP*	**P**	**14 33 10.4**	**-1.5**
	comp=Z,9.8nm,0.6s,mb4.7							
LDF	**La Druitiere**	**47.79**	**311**	*eP*	**P**	**14 33 10.4**	**-1.5**
LDF				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
CIT	**Chita**	**47.90**	**44**	*eP*	**P**	**14 33 21.7**	**+9.0**
ETSF	**Etsaut**	**48.01**	**304**	*eP*	**P**	**14 33 13.9**	**+0.2**
	comp=Z,20nm,0.9s,mb4.9							
ETSF	**Etsaut**	**48.01**	**304**	*eP*	**P**	**14 33 13.9**	**+0.2**
ETSF				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
FLN	**La Foliniere**	**48.03**	**311**	*eP*	**P**	**14 33 12.5**	**-1.3**
	comp=Z,20nm,0.9s,mb4.8							
FLN	**La Foliniere**	**48.03**	**311**	*eP*	**P**	**14 33 12.5**	**-1.3**
FLN				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
GRR	**Gorron**	**48.26**	**311**	*eP*	**P**	**14 33 14.5**	**-1.1**
SJPF	**Ste Jean**	**48.49**	**304**	*eP*	**P**	**14 33 17.4**	**0.0**
	comp=Z,28nm,1.1s,mb4.9							
SJPF	**Ste Jean**	**48.49**	**304**	*eP*	**P**	**14 33 17.4**	**0.0**
SJPF				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.9							
SGMF	**Saint Gilles**	**49.39**	**311**	*eP*	**P**	**14 33 23.9**	**-0.4**
	comp=Z,13nm,0.6s,mb4.8							
SGMF	**Saint Gilles**	**49.39**	**311**	*eP*	**P**	**14 33 23.9**	**-0.4**
SGMF				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9							
QUIF	**Quistinic**	**49.79**	**310**	*eP*	**P**	**14 33 26.1**	**-1.3**
	comp=Z,25nm,0.9s,mb4.9							
QUIF	**Quistinic**	**49.79**	**310**	*eP*	**P**	**14 33 26.1**	**-1.3**
QUIF				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.9							
ESDC	**Sonseca Array**	**50.82**	**300**	P	**P**	**14 33 35.3**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=71,slow=7.3,SNR=6.4							
TORD	**Torodi Ar. Bea**	**53.34**	**265**	P	**P**	**14 33 53.5**	**-1.1**
	comp=Z,6.7nm,0.5s,mb4.9,baz=59,slow=6.9,SNR=38							
EVO	**Evora**	**54.10**	**299**	*eP*	**P**	**14 34 00.9**	**+1.1**
	comp=Z,21nm,1.1s,mb4.7							
SCO	**Scoresbysund**	**59.86**	**338**	*i* P	**P**	**14 34 40.1**	**-0.2**
DBIC	**Dimbokro**	**62.02**	**262**	P	**P**	**14 34 54.0**	**-1.8**
	comp=Z,1.4nm,0.4s,mb4.4,baz=297,slow=3.6,SNR=4.3							
LIC	**Lamto**	**62.38**	**262**	*eP*	**P**	**14 35 02.7**	**+4.5**
	comp=Z,23nm,1.4s,mb5.1							
SEY	**Seymchan**	**67.59**	**30**	*eP*	**P**	**14 35 30.4**	**-0.8**
SCHQ	**Schefferville**	**84.14**	**331**	P	**P**	**14 37 03.0**	**-1.8**
	comp=Z,6.1nm,0.8s,mb4.8,baz=49,slow=5.0,SNR=7.7							
WRA	**Warramunga Arr**	**88.86**	**113**	P	**P**	**14 37 28.3**	**-0.5**
	comp=Z,4.6nm,0.9s,mb4.8,baz=316,slow=4.1,SNR=4.6							
YKA	**Yellowknife Ar**	**89.23**	**356**	P	**P**	**14 37 29.5**	**0.0**
	comp=Z,7.0nm,0.7s,mb5.1,baz=1.3,slow=5.1,SNR=19							
YKA	**Yellowknife Ar**	**89.23**	**356**	P	**P**	**14 37 29.6**	**+0.1**
KDAK	**Kodiak Island**	**90.71**	**15**	P	**P**	**14 37 35.8**	**-0.7**
	comp=Z,9.5nm,0.7s,mb5.2,baz=332,slow=5.7,SNR=4.0							
LPAZ	**La Paz**	**128.11**	**271**	PKhKP		14 43 37.1		
	comp=Z,27nm,1.3s,baz=152,slow=18,SNR=4.3							

IDC 11 14:59:02.2±1.8, 17.14S×177.91W, mb3.9/3, mb1 4.2/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=168.0km s-min=32.2km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.42**	**240**	P	P	15 06 34.5	-1.2
	1.8nm,0.7s,baz=94,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**45.25**	**259**	P	P	15 07 21.3	-2.2
	1.4nm,0.5s,baz=96,slow=7.5,SNR=56						
TXAR	**Lajitas Array**	**85.18**	**57**	P	P	15 11 40.9	-1.2
	0.5nm,0.8s,baz=225,slow=7.7,SNR=5.8						

*ROM **11** 15:13:54.9±0.1, 39.47N×16.43E, h20km±2km, Md3.0/18, Ml3.4/9, Error ellipse: s-maj=3.5km s-min=2.7km az=172.0*
*NEIC **11** 15:13:54.9, 39.47N×16.43E, h20km, ML3.4(ROM), After ROM.*
*CSEM **11** 15:13:54.9±0.1, 39.47N×16.30E, h15km, MD3.0/18, Error ellipse: s-maj=3.0km s-min=1.5km az=93.0*
*IDC **11** 15:14:01.5±3.1, 39.56N×16.58E, h51km±36km, mb3.2/4, mb1 3.4/7, mb1mx3.3/24, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=26.0km s-min=19.2km az=97.0*

ISC 11 15:13:56.1±0.5, 39.48N±0.02×16.43E±0.05, h16km±6km, n43, σ0s96/48, mb3.3/3, 7D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDS	**Terranova Siba**	**0.20**	**338**	⇓Pg	**Pb**	**15 14 00.2**	**-0.7**
TIP	**Timpagrande**	**0.39**	**140**	Pg	**Pb**	**15 14 03.6**	**-0.5**
TIP				Sg	**Sb**	**15 14 09.5**	**-0.1**
	3μm,0.9s						
ORI	**Oriolo Calabro**	**0.59**	**1**	Pg	**Pb**	**15 14 06.9**	**-0.6**
	3μm,0.5s						
GRI	**Girifalco**	**0.65**	**181**	Pg	**Pb**	**15 14 08.2**	**-0.4**
CUC	**Castrocucco**	**0.70**	**318**	Pg	**Pb**	**15 14 09.1**	**-0.3**
	2μm,0.4s						
PLAC	**Placanica**	**1.02**	**180**	Pg	**Pb**	**15 14 16.0**	**+1.0**
	510nm,0.8s						
SLCN	**Sala Consilina**	**1.10**	**326**	Pg	**Pb**	**15 14 17.7**	**+1.4**
	145nm,0.2s						
CMPR	**Campora**	**1.21**	**314**	Pg	**Pb**	**15 14 17.8**	**-0.3**
	413nm,0.6s						
CEL	**Celeste**	**1.29**	**199**	Pg	**Pb**	**15 14 19.3**	**-0.1**
	444nm,0.5s						
SCLL	**Scilla**	**1.34**	**205**	Pg	**Pn**	**15 14 20.4**	**+0.1**
	46nm,0.3s						
SG1	**Sgolgore (BA)**	**1.38**	**8**	*e*Pg	**Pn**	**15 14 21.9**	**+1.1**
SG1				*e*Sg	**Sb**	**15 14 42.4**	**+4.3**
SGO	**Sicignano**	**1.39**	**322**	Pg	**Pn**	**15 14 21.0**	**+0.1**
	119nm,0.4s						
NOCI	**Noci**	**1.40**	**20**	Pg	**Pn**	**15 14 21.5**	**+0.4**
MSRU	**Castanea**	**1.41**	**211**	Pg	**Pn**	**15 14 20.8**	**-0.5**
	2μm,0.8s						
SOI	**Samo**	**1.43**	**192**	Pg	**Pn**	**15 14 22.4**	**+0.8**
	182nm,0.4s						
AMUR	**Altamura**	**1.44**	**5**	Pg	**Pn**	**15 14 22.9**	**+1.3**
ATN	**Antennamare**	**1.52**	**210**	Pg	**Pn**	**15 14 22.3**	**-0.5**
BRT	**Bari-Castellan**	**1.52**	**23**	Pg	**Pn**	**15 14 22.4**	**-0.5**
	81nm,0.2s						
PE1	**Pezze di Greco**	**1.53**	**29**	*e*Pg	**Pn**	**15 14 24.4**	**+1.4**
PE1				*e*Sg	**Sn**	**15 14 47.9**	**+5.3**
LCI	**Lecce**	**1.55**	**56**	Pg	**Pn**	**15 14 22.8**	**-0.5**
	88nm,0.4s						
VPL	**Vulcano Piano**	**1.57**	**226**	Pg	**Pn**	**15 14 23.1**	**-0.5**
	1μm,0.7s						
MTTG	**Motta San Giov**	**1.58**	**202**	Pg	**Pn**	**15 14 24.6**	**+0.9**
	347nm,0.7s						
MCRV	**Calabrutti - M**	**1.63**	**324**	Pg	**Pn**	**15 14 25.0**	**+0.6**
	311nm,0.7s						
BAI	**Bari**	**1.67**	**12**	*e*Pg	**Pn**	**15 14 26.6**	**+1.7**
MMME	**Mongiuffi-Meli**	**1.79**	**211**	Pg	**Pn**	**15 14 27.2**	**+0.4**
ISOR	**Termini**	**1.95**	**305**	Pg	**Pn**	**15 14 28.7**	**-0.3**
MNO	**Monte Soro**	**2.06**	**222**	Pg	**Pn**	**15 14 30.2**	**-0.3**
RGNG	**Rignano Grg**	**2.29**	**344**	Pg	**Pn**	**15 14 34.9**	**+1.0**
VSL	**Villasalto**	**5.46**	**272**	*e*Pn	**Pn**	**15 15 15.2**	**-3.6**
OBKA	**Obir**	**7.16**	**350**	⇓*i*Pn	**Pn**	**15 15 40.8**	**-2.1**
OBKA	**Obir**	**7.16**	**350**	⇓Pn	**Pn**	**15 15 40.8**	**-2.1**
OBKA				*e*		15 17 07.9	
ARSA	**Arzberg**	**7.80**	**355**	⇓*i*Pn	**Pn**	**15 15 50.1**	**-1.7**
ARSA	**Arzberg**	**7.80**	**355**	⇓Pn	**Pn**	**15 15 50.1**	**-1.7**
ARSA				*e*		15 17 16.1	
IDI	**Anoyia**	**7.92**	**119**	P	**Pn**	**15 15 53.9**	**+0.4**
	0.8nm,0.3s,baz=318,slow=16,SNR=5.1						
IDI				S	**Sn**	**15 17 16.6**	**-7.1**
	0.5nm,0.3s,baz=335,slow=17,SNR=3.0						
MOA	**Molln**	**8.52**	**350**	⇓*i*Pn	**P**	**15 16 00.7**	**-1.0**
MOA	**Molln**	**8.52**	**350**	⇓Pn	**P**	**15 16 00.7**	**-1.0**
MOA				*e*		15 17 35.8	
GERES	**GERESS Array B**	**9.57**	**349**	P	**P**	**15 16 15.6**	**-0.7**
	0.2nm,0.3s,baz=164,slow=14,SNR=6.6						
GERES				S	**Sn**	**15 17 57.8**	**-6.6**
	0.1nm,0.3s,baz=168,slow=24,SNR=3.5						
MDT	**Midelt**	**18.23**	**255**	P	**P**	**15 18 13.0**	**+2.9**
	0.0nm,0.3s,baz=42,slow=14,SNR=3.4						
HFS	**Hagfors**	**20.75**	**356**	P	**P**	**15 18 38.8**	**+0.3**
	3.1nm,0.9s,baz=173,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**22.79**	**12**	P	**P**	**15 18 58.9**	**+0.2**
	1.4nm,0.8s,mb3.5,baz=198,slow=6.0,SNR=6.8						
FINES	**FINESS Array B**	**22.79**	**12**	P	**P**	**15 18 58.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**29.28**	**210**	P	**P**	**15 19 59.0**	**-0.8**
	0.4nm,0.8s,mb3.2,baz=20,slow=9.6,SNR=4.7						
MKAR	**Makanchi Array**	**47.35**	**58**	P	**P**	**15 22 28.6**	**-2.3**
	0.2nm,0.6s,mb3.2,baz=284,slow=5.9,SNR=3.3						

NERS 11 15:15:09.3, 60.09N×151.86E, h6km, MSH3.8, 3D, Felt I=II-III MSK at Magadan, Palatka, Karamken), Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGD	**Magadan 1**	**0.57**	**266**	⇓*i*Pg	Pg	15 15 18.7	-2.0
MGD				Pgmax		15 15 20.0	
	2μm,0.2s						
MGD				*i* Sg	Sg	15 15 25.6	-2.7
MGD				Sgmax		15 15 25.9	
	5μm,0.3s						
MGD				Sgmax		15 15 25.9	
	15μm,0.3s						
MA2	**Magadan**	**0.76**	**227**	⇓*i*Pg	Pg	15 15 22.1	-2.3
MA2				⇓*i*		15 15 22.9	
MA2				Pgmax		15 15 23.0	
	700nm,0.3s						
MA2				Pgmax		15 15 23.0	
	150nm,0.1s						
MA2				Pgmax		15 15 23.0	
	140nm,0.1s						
MA2				*i* Sg	Sg	15 15 32.2	-2.3
MA2				Sgmax		15 15 32.6	
	6μm,0.3s						
MA2				Sgmax		15 15 32.6	
	3μm,0.3s						
MA2				Sgmax		15 15 32.6	
	5μm,0.3s						
TLAR	**Talaya**	**1.08**	**14**	*e*Pg	Pg	15 15 29.0	-1.8
TLAR				Pgmax		15 15 29.5	
	80nm,0.4s						
TLAR				*e*Sg	Sg	15 15 43.8	-1.4
TLAR				Sgmax		15 15 47.5	
	3μm,0.4s						
TLAR				Sgmax		15 15 47.5	
	1μm,0.4s						
OCHR	**Omchak**	**2.51**	**311**	*e*P	Pn	15 15 50.4	-1.0
OCHR				*e*Pb	Pb	15 15 51.5	-3.0
OCHR				*e*Pg	Pg	15 15 53.6	-5.9
OCHR				Pgmax		15 15 56.8	
	200nm,0.3s						
OCHR				Pgmax		15 15 56.8	
	190nm,0.3s						
OCHR				*e*S	Sn	15 16 19.9	-2.8
OCHR				*e*Sg	Sg	15 16 26.8	-6.2
OCHR				Sgmax		15 16 32.4	
	1μm,0.3s						
OCHR				Sgmax		15 16 32.4	
	2μm,0.4s						
SEY	**Seymchan**	**2.86**	**5**	*e*P	Pn	15 15 56.3	-0.1
SEY				Pmax		15 15 56.4	
	10.0nm,0.3s						
SEY				*e*Pg	Pg	15 16 02.7	-3.8
SEY				Pgmax		15 16 04.7	
	60nm,0.5s						
SEY				Pgmax		15 16 04.7	
	10.0nm,0.5s						
SEY				Pgmax		15 16 04.7	
	70nm,0.5s						
SEY				*e*S	Sn	15 16 31.0	-0.6
SEY				*e*Sg	Sg	15 16 38.8	-5.9
SEY				Sgmax		15 16 43.5	
	120nm,0.6s						
SEY				Sgmax		15 16 43.5	
	630nm,0.6s						
OMS	**Omsukchan**	**3.08**	**36**	*e*Pg	Pg	15 16 03.0	-7.8
OMS				Pgmax		15 16 11.0	
	20nm,0.6s						
OMS				Pgmax		15 16 11.0	
	40nm,0.6s						
OMS				Pgmax		15 16 11.0	
	20nm,0.4s						
OMS				*e*		15 16 23.0	
OMS				*e*Sg	Sg	15 16 42.0	-10
OMS				Sgmax		15 16 49.0	
	500nm,1.2s						
OMS				Sgmax		15 16 49.0	
	130nm,0.8s						
SUUS	**Susuman**	**3.23**	**328**	*e*P	Pn	15 16 01.0	-0.6
SUUS				*e*Pb	Pb	15 16 04.2	-2.6
SUUS				*e*		15 16 06.6	
SUUS				*e*Pg	Pg	15 16 07.9	-5.9
SUUS				Pgmax		15 16 09.5	
	50nm,0.3s						
SUUS				*e*S	Sn	15 16 38.7	-2.1
SUUS				*e*Sg	Sg	15 16 49.4	-7.4
SUUS				Sgmax		15 16 52.3	
	250nm,0.6s						
SUUS				Sgmax		15 16 52.3	
	450nm,0.6s						

*IDC **11** 15:18:34.1±4.4, 55.62N×163.11E, mb3.5/5, mb1 3.9/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=108.0km s-min=36.8km az=16.0*
*NEIC **11** 15:18:41.3±2.4, 55.83N×162.99E, h50km, mb4.2/1, Error ellipse: s-maj=61.8km s-min=16.1km az=7.0*
*KRSC **11** 15:18:43.8±0.7, 56.08N×160.96E, h149km±2km, ML3.9*
*MOS **11** 15:18:43.4±0.7, 56.08N×160.95E, h149km, mb3.8/1, Error ellipse: s-maj=51.3km s-min=17.5km az=73.1*

ISC 11 15:18:43.9±0.4, 56.11N±0.04×161.07E±0.09, h146km±3km, n39, σ0s84/59, mb3.4/5, Near east coast of Kamchatka

Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.17**	**238**	*i* P	**P**	**15 19 05.0**	**+1.0**
CIRR	**Tsirk**	**0.18**	**272**	*i* P	**P**	**15 19 04.8**	**+0.8**
CIRR				*i* S	**S**	**15 19 19.8**	**+0.4**
LGNR	**Loginova**	**0.21**	**263**	*i* P	**P**	**15 19 05.2**	**+1.1**
KLY	**Klyuchi**	**0.31**	**311**	P	**P**	**15 19 04.5**	**0.0**
KLY				S	**S**	**15 19 19.1**	**-1.1**
KLY	**Klyuchi**	**0.31**	**311**	*i* P	**P**	**15 19 04.5**	**0.0**
KLY				*i* S	**S**	**15 19 19.3**	**-0.9**
BDR	**Baidarnaya**	**0.47**	**10**	*i* P	**P**	**15 19 06.1**	**+1.0**
BDR				*i* S	**S**	**15 19 22.2**	**+0.8**
KPT	**Kopyto**	**0.50**	**253**	*i* P	**P**	**15 19 05.3**	**0.0**
KPT				*e*S	**S**	**15 19 20.7**	**-0.9**
SMKR	**Semkarok**	**0.52**	**25**	*e*S	**S**	**15 19 22.9**	**+1.0**
SRKR	**Sorokina**	**0.55**	**6**	*i* P	**P**	**15 19 06.0**	**+0.5**
SRKR				*i* S	**S**	**15 19 22.2**	**+0.1**
KMNR	**Kamenistaya**	**0.59**	**233**	*i* P	**P**	**15 19 06.2**	**+0.5**
KMNR				*e*S	**S**	**15 19 22.2**	**-0.3**
KOZR	**Kozyr**	**0.66**	**267**	PN	**P**	**15 19 06.3**	**+0.2**
KOZR				S	**S**	**15 19 22.0**	**-1.2**
KOZ	**Kozyrevsk**	**0.67**	**266**	P	**P**	**15 19 06.3**	**+0.1**
KOZ				S	**S**	**15 19 22.0**	**-1.3**
KOZ	**Kozyrevsk**	**0.67**	**266**	*i* P	**P**	**15 19 06.3**	**+0.1**
KOZ				*i* S	**S**	**15 19 22.2**	**-1.1**
SRDR	**Sredinnyy**	**0.78**	**286**	*i* P	**P**	**15 19 06.9**	**0.0**
SRDR				*e*S	**S**	**15 19 23.9**	**-0.6**
TUMR	**Tumrok**	**0.98**	**213**	*i* P	**P**	**15 19 08.8**	**+0.5**
TUMR				*i* S	**S**	**15 19 26.9**	**-0.1**
KBTR	**Krutoberegovo**	**0.98**	**84**	P	**P**	**15 19 09.0**	**+0.7**
KBTR				S	**S**	**15 19 26.7**	**-0.4**
KBTR	**Krutoberegovo**	**0.98**	**84**	*i* P	**P**	**15 19 09.1**	**+0.8**
KBTR				*e*S	**S**	**15 19 27.9**	**+0.8**
ESO	**Esso**	**1.34**	**263**	*e*P	**P**	**15 19 12.1**	**+0.2**
ESO				Smax			
	40nm,0.6s						
BKI	**Bering**	**2.92**	**106**	*e*P	**P**	**15 19 31.2**	**+0.4**
BKI				*e*S	**S**	**15 20 05.7**	**-1.0**
BKI				Smax			
	120nm,0.4s						
GNL	**Ganaly**	**3.02**	**218**	*i* P	**P**	**15 19 32.4**	**+0.3**
SPN	**Mys Shipunski**	**3.08**	**192**	P	**P**	**15 19 31.0**	**-1.9**
SPN				S	**S**	**15 20 05.4**	**-4.9**
SPN	**Mys Shipunski**	**3.08**	**192**	*i* P	**P**	**15 19 31.1**	**-1.8**
SPN				*e*S	**S**	**15 20 07.8**	**-2.5**
NLC	**Nalytchevo**	**3.11**	**199**	P	**P**	**15 19 32.7**	**-0.6**
NLC				S	**S**	**15 20 09.2**	**-1.8**
NLC	**Nalytchevo**	**3.11**	**199**	*i* P	**P**	**15 19 32.8**	**-0.5**
NLC				*e*S	**S**	**15 20 09.5**	**-1.5**
SMAR	**Somma**	**3.14**	**206**	*e*P	**P**	**15 19 34.5**	**+0.8**
AVH	**Avacha**	**3.15**	**206**	*e*P	**P**	**15 19 34.3**	**+0.4**
KOK	**Koryaka**	**3.16**	**208**	*e*P	**P**	**15 19 34.7**	**+0.8**
UGLR	**Uglovaya**	**3.19**	**205**	*e*P	**P**	**15 19 34.8**	**+0.5**
OSSR	**Ossora**	**3.33**	**18**	*e*P	**P**	**15 19 34.0**	**-2.1**
OSSR				*e*S	**S**	**15 20 15.0**	**-1.0**
PET	**Petropavlovsk**	**3.40**	**205**	*e*P	**P**	**15 19 38.0**	**+1.0**
APC	**Apacha**	**3.92**	**217**	*i* P	**P**	**15 19 44.7**	**+0.8**
YAK	**Yakutsk**	**17.06**	**303**	*e*P	**P**	**15 22 48.1**	**+14**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
YAK	**Yakutsk**	**17.06**	**303**	*e*P	**P**	**15 22 48.1**	**+14**
	comp=Z,8.3nm,0.4s						
ILAR	**Eielson Array**	**26.35**	**50**	P	**P**	**15 24 06.2**	**-1.3**
	comp=Z,0.2nm,0.6s,mb3.0,baz=254,slow=6.8,SNR=4.6						
INK	**Inuvik**	**31.17**	**41**	*e*P	**P**	**15 24 50.3**	**-0.3**
YKA	**Yellowknife Ar**	**40.59**	**45**	P	**P**	**15 26 10.5**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.4,baz=301,slow=8.1,SNR=5.2						
PDAR	**Pinedale Array**	**55.60**	**63**	P	**P**	**15 28 06.3**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.6,baz=297,slow=6.0,SNR=4.5						
FINES	**FINESS Array B**	**57.58**	**336**	P	**P**	**15 28 31.3**	**+11**
	comp=Z,1.9nm,0.8s,mb4.0,baz=45,slow=5.9,SNR=12						
TXAR	**Lajitas Array**	**68.97**	**69**	P	**P**	**15 29 35.2**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.1,baz=320,slow=3.8,SNR=3.6						

IGQ 11 15:20:05.8, 1.74S×80.26W, h12km±6km, mb4.2, 9C-6D, Error ellipse: s-maj=7.6km s-min=2.4km az=128.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**1.47**	**2**	P	Pn	15 20 32.8	+0.5
QIL1	**Quilotoa**	**1.59**	**56**	⇑P	Pn	15 20 34.8	+0.7
QIL1				S	Sn	15 20 57.5	+2.8
IGUA	**Igualata**	**1.64**	**81**	⇓P	Pn	15 20 36.2	+1.5
IGUA				S	Sn	15 20 59.1	+3.3
MAG1	**Magdalena**	**1.73**	**16**	⇑P	Pn	15 20 37.4	+1.4
CUSU	**Cusua**	**1.80**	**81**	P	Pn	15 20 38.7	+1.7
CUSU				S	Sn	15 21 05.4	+5.4
JUIV	**Juive**	**1.82**	**80**	P	Pn	15 20 38.6	+1.4
PATA	**Patacocha**	**1.84**	**83**	P	Pn	15 20 40.5	+2.9
ULBA	**Ulba**	**1.87**	**81**	P	Pn	15 20 39.6	+1.5
ULBA				S	Sn	15 21 05.7

LSA	**Lhasa**	**48.06**	**290**	*eP*		**P**		**15 34 01.0**	**+3.9**
JIRN	**Jiri**	**52.63**	**288**	*eP*		**P**		**15 34 33.1**	**+1.3**
GUN	**Gumba**	**52.86**	**288**	*eP*		**P**		**15 34 35.2**	**+1.6**
KKN	**Kakani**	**53.40**	**288**	*eP*		**P**		**15 34 38.2**	**+0.6**
	comp=Z,4.6nm,0.6s,mb4.6								
KKN	**Kakani**	**53.40**	**288**	*eP*		**P**		**15 34 38.2**	**+0.6**
KKN					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
DMN	**Daman**	**53.58**	**288**	*eP*		**P**		**15 34 39.7**	**+0.7**
	comp=Z,37nm,1.2s,mb5.2								
GKN	**Gorkha**	**53.93**	**289**	*eP*		**P**		**15 34 42.2**	**+0.7**
	comp=Z,33nm,1.0s,mb5.2								
ZAL	**Zalesovo**	**54.13**	**321**	P		**P**		**15 34 43.4**	**+0.7**
	comp=Z,0.6nm,0.3s,mb4.0,baz=323,slow=5.1,SNR=3.0								
STKA	**Stephens Creek**	**54.50**	**183**	P		**P**		**15 34 43.1**	**-2.6**
	comp=Z,1.8nm,0.8s,mb4.2,baz=342,slow=15,SNR=4.2								
KOLN	**Koldanda**	**54.88**	**289**	*eP*		**P**		**15 34 48.6**	**+0.2**
	comp=Z,14nm,1.0s,mb4.9								
MKAR	**Makanchi Array**	**54.89**	**312**	P		**P**		**15 34 48.3**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.8,baz=88,slow=8.8,SNR=12								
KDAK	**Kodiak Island**	**56.51**	**35**	P		**P**		**15 34 59.0**	**-0.7**
	comp=Z,5.6nm,0.8s,mb4.6,baz=221,slow=11,SNR=4.5								
ILAR	**Eielson Array**	**60.41**	**27**	P		**P**		**15 35 24.6**	**-2.3**
	comp=Z,2.4nm,0.6s,mb4.4,baz=259,slow=5.7,SNR=41								
INK	**Inuvik**	**65.98**	**24**	*eP*		**P**		**15 36 02.9**	**-0.6**
RAR	**Rarotonga**	**69.70**	**125**	LR		LR		15 59 47.6	
	comp=Z,577nm,21.1s,MS4.8,baz=194,slow=30								
YKA	**Yellowknife Ar**	**74.82**	**28**	P		**P**		**15 36 56.6**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=292,slow=5.8,SNR=14								
ARCES	**ARCESS Array B**	**78.24**	**342**	P		**P**		**15 37 16.9**	**+0.7**
	comp=Z,8.8nm,1.2s,mb4.6,slow=6.1,SNR=5.1								
EDM	**Edmonton**	**78.88**	**37**	*eP*		**P**		**15 37 20.3**	**+0.2**
JOF	**Joensuu**	**79.83**	**335**	*ep*		**P**		**15 37 25.3**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.3								
NVAR	**Mina Array Bea**	**81.40**	**52**	P		**P**		**15 37 34.5**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.3,baz=274,slow=4.5,SNR=22								
MNV	**Mina**	**81.51**	**52**	*eP*		**P**		**15 37 35.0**	**+0.6**
MNV					pmax	pmax			
	comp=Z,2.0nm,1.2s,mb3.9								
MNV	**Mina**	**81.51**	**52**	*eP*		**P**		**15 37 35.0**	**+0.6**
	comp=Z,2.5nm,1.2s,mb4.0								
HLID	**Hailey**	**82.10**	**46**	P		**P**		**15 37 38.0**	**+0.6**
	comp=Z,1.3nm,0.8s,mb3.9								
KAF	**Kangasniemi**	**82.22**	**335**	*ep*		**P**		**15 37 37.1**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.1,baz=54,slow=4.9								
KAF	**Kangasniemi**	**82.22**	**335**	*eP*		**P**		**15 37 37.1**	**-0.5**
KAF					pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0								
FINES	**FINESS Array B**	**82.69**	**335**	P		**P**		**15 37 40.0**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=70,slow=5.6,SNR=28								
TPNV	**Topopah Spring**	**83.48**	**53**	*eP*		**P**		**15 37 45.2**	**+0.7**
TPNV					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3								
TPNV	**Topopah Spring**	**83.48**	**53**	*eP*		**P**		**15 37 45.2**	**+0.6**
	comp=Z,2.8nm,0.9s,mb4.3								
PDAR	**Pinedale Array**	**85.65**	**45**	P		**P**		**15 37 55.5**	**+0.2**
	comp=Z,0.7nm,0.6s,mb4.1,baz=220,slow=0.9,SNR=8.2								
SRU	**San Rafael**	**86.65**	**49**	*eP*		**P**		**15 38 01.0**	**+0.7**
SRU					pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.9								
SRU	**San Rafael**	**86.65**	**49**	*eP*		**P**		**15 38 00.9**	**+0.7**
	comp=Z,6.0nm,0.7s,mb4.9								
AKASG	**Malin Array Be**	**87.32**	**325**	P		**P**		**15 38 02.9**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.9,baz=52,slow=5.2,SNR=3.1								
PV10	**Paradox Valley**	**88.02**	**49**	*eP*		**P**		**15 38 07.8**	**+0.9**
MNTX	**Cornudas Mount**	**93.86**	**53**	*eP*		**P**		**15 38 35.0**	**+0.8**
	comp=Z,1.8nm,0.7s,mb4.6								
TXAR	**Lajitas Array**	**96.32**	**55**	P		**P**		**15 38 46.1**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.8,baz=243,slow=2.8,SNR=5.7								
PLCA	**Paso Flores**	**145.51**	**129**	PKPbc		PKPbc		15 44 55.6	+1.5
	comp=Z,1.5nm,0.6s,baz=206,slow=5.0,SNR=10								
LPAZ	**La Paz**	**148.53**	**84**	PKPbc		PKPdf		15 45 05.7	+6.5
	comp=Z,2.0nm,0.6s,baz=50,slow=2.2,SNR=7.6								

*IDC **11** 15:37:28.2±1.1,29.64N×67.55E,mb3.8/13,mb1 4.0/13, mb1mx3.9/23,mbtmp3.8/13,Error ellipse: s-maj=24.9km s-min=22.4km az=150.0*
*NEIC **11** 15:37:29.8±0.6,29.67N×67.67E,h10km,mb4.1/3,Error ellipse: s-maj=15.2km s-min=6.3km az=202.0*
*MOS **11** 15:37:32.8±1.3,29.86N×67.67E,h33km,mb4.2/1,Error ellipse: s-maj=21.3km s-min=13.3km az=112.2*

ISC 11 15:37:28.1±0.4,**29.67N**±0.05×**67.68E**±0.06,**h10**km,**n36,** σ1**811/46,mb3.8/13,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**3.95**	**133**	*eP*	**Pn**	**15 38 33.0**	**+2.8**
JASL				*eS*	**Sn**	**15 39 21.5**	**+4.4**
BHJ	**Bhuj**	**6.63**	**164**	*eP*	**Pn**	**15 39 08.4**	**+0.3**
BHJ				*eS*	**Sn**	**15 40 24.4**	**-0.2**
KHET	**Khetri**	**7.30**	**101**	*eP*	**Pn**	**15 39 18.5**	**+0.9**
KHET				*eS*	**Sn**	**15 40 38.0**	**-3.4**
KUDL	**Kundal**	**7.87**	**99**	*ex*	x	15 39 30.5	
KUDL				AMb	AMB	15 39 39.3	
	comp=Z,5.9nm,1.0s						
KUDL				*eS*	**Sn**	**15 40 49.5**	**-6.0**
AYAN	**Aya Nagar**	**8.35**	**96**	*eP*	**P**	**15 39 31.4**	**-0.8**
AYAN				*eS*	**Sn**	**15 41 02.0**	**-5.6**
SONA	**Sohna**	**8.36**	**97**	*eS*	**Sn**	**15 40 59.9**	**-7.9**
NDI	**New Delhi**	**8.40**	**94**	*eP*	**P**	**15 39 32.5**	**-0.3**
NDI				*eS*	**Sn**	**15 41 03.0**	**-5.7**
KLP	**Kalpa**	**9.30**	**76**	*eP*	**P**	**15 39 45.9**	**+0.6**
KLP				*ex*	x	15 41 30.3	
KLP				AML	AML	15 41 43.8	
	comp=E,93nm,0.4s						
KLP				AML	AML	15 41 50.0	
	comp=N,68nm,0.8s						
BHPL	**Bhopal**	**10.83**	**124**	*eP*	**P**	**15 40 07.2**	**+0.9**
BHPL				*i* S	**S**	**15 41 58.6**	**-10**
BHPL				AML	AML	15 42 28.3	
	comp=N,15nm,0.5s						
BHPL				AML	AML	15 43 01.7	
	comp=E,19nm,0.4s						
KOLN	**Koldanda**	**14.10**	**94**	*ePn*	**P**	**15 40 50.1**	**-0.1**
KOLN				*eSn*	**S**	**15 43 19.4**	**-8.3**
	comp=E,21nm,0.9s						
KOLN	**Koldanda**	**14.10**	**94**	*ePn*	**P**	**15 40 50.1**	**-0.1**
	comp=E,11nm,0.9s						
KOLN				*eSn*	**S**	**15 43 19.4**	**-8.3**
GKN	**Gorkha**	**14.96**	**92**	*ePn*	**P**	**15 41 02.8**	**+1.4**
GKN				*eSn*	**S**	**15 43 38.6**	**-9.4**
	comp=E,16nm,0.4s						
GKN	**Gorkha**	**14.96**	**92**	*ePn*	**P**	**15 41 02.8**	**+1.4**
	comp=E,7.9nm,0.4s						
GKN				*eSn*	**S**	**15 43 38.6**	**-9.4**
KKN	**Kakani**	**15.56**	**93**	*ePn*	**P**	**15 41 09.1**	**-0.2**
HYB	**Hyderabad**	**15.74**	**138**	*i* P	**P**	**15 41 18.0**	**+6.3**
HYB	**Hyderabad**	**15.74**	**138**	*eP*	**P**	**15 41 18.0**	**+6.3**
GUN	**Gumba**	**16.05**	**92**	*ePn*	**P**	**15 41 14.6**	**-1.1**
	comp=E,30nm,0.4s						
JIRN	**Jiri**	**16.37**	**93**	*ePn*	**P**	**15 41 20.4**	**+0.7**
	comp=E,13nm,0.5s						
MKAR	**Makanchi Array**	**20.53**	**30**	P	**P**	**15 42 08.2**	**-1.0**
	comp=E,2.8nm,0.7s,baz=210,slow=11,SNR=32						
AKTK	**Aktyubinsk**	**21.98**	**343**	P	**P**	**15 42 25.0**	**+1.1**
AKTO	**Aktyubinsk**	**21.98**	**343**	P	**P**	**15 42 25.0**	**+1.1**
	comp=E,2.4nm,0.6s,mb3.8,baz=162,slow=12,SNR=14						
BVAR	**Borovoye Array**	**23.42**	**4**	P	**P**	**15 42 38.9**	**+1.0**
	comp=E,1.3nm,0.8s,mb3.4,baz=178,slow=10.0,SNR=10.0						
ZAL	**Zalesovo**	**27.25**	**22**	P	**P**	**15 43 13.7**	**-0.5**
	comp=E,1.9nm,0.5s,mb3.9,baz=218,slow=5.6,SNR=7.1						
AKASG	**Malin Array Be**	**35.56**	**317**	P	**P**	**15 44 26.9**	**-0.5**
	comp=E,1.7nm,0.7s,mb4.1,baz=104,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**41.87**	**331**	P	**P**	**15 45 19.8**	**0.0**
	comp=E,0.9nm,0.6s,mb3.6,baz=106,slow=8.4,SNR=9.3						
KAF	**Kangasniemi**	**42.12**	**332**	*ep*	**P**	**15 45 21.8**	**0.0**
	comp=E,0.9nm,0.4s,mb3.8,baz=122,slow=7.7						
KAF	**Kangasniemi**	**42.12**	**332**	*eP*	**P**	**15 45 21.8**	**0.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
GERES	**GERESS Array B**	**44.94**	**311**	P	**P**	**15 45 44.8**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=99,slow=7.3,SNR=8.7						
NOA	**NORSAR Array B**	**48.37**	**327**	P	**P**	**15 46 10.6**	**-1.2**
	comp=Z,1.8nm,0.8s,mb4.1,baz=108,slow=7.4,SNR=3.3						
ESDC	**Sonseca Array**	**58.35**	**301**	P	**P**	**15 47 24.6**	**-1.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=66,slow=7.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**62.85**	**270**	P	**P**	**15 47 54.6**	**-2.2**
	comp=Z,1.6nm,0.9s,mb4.1,baz=56,slow=5.9,SNR=7.4						
DBIC	**Dimbokro**	**71.56**	**267**	P	**P**	**15 48 50.9**	**-1.0**
	comp=Z,1.4nm,0.9s,mb3.9,baz=74,slow=7.4,SNR=4.3						
DBIC	**Dimbokro**	**71.56**	**267**	*eP*	**P**	**15 48 51.4**	**-0.4**
WRA	**Warramunga Arr**	**80.95**	**119**	P	**P**	**15 49 45.9**	**+1.3**
	comp=Z,0.4nm,0.9s,mb3.4,baz=317,slow=4.8,SNR=3.2						
YKA	**Yellowknife Ar**	**88.14**	**1**	P	**P**	**15 50 21.0**	**+1.2**
	comp=Z,0.2nm,0.5s,mb3.6,baz=348,slow=5.4,SNR=5.0						
YKA	**Yellowknife Ar**	**88.14**	**1**	P	**P**	**15 50 21.1**	**+1.3**

*KNET **11** 15:49:31.9,42.74N×75.84E,h14km,ml1.7*
*NNC **11** 15:49:32.5±0.7,42.73N×75.85E,mpv2.6,Error ellipse: s-maj=6.8km s-min=2.3km az=23.0*

ISC 11 15:49:32.5±0.8,**42.75N**±0.04×**75.85E**±0.06,**h7**km±6km, **n11,** σ0**863/18,7C-9D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.26**	**313**	⇑P	**Pg**	**15 49 37.9**	**0.0**
	28nm,0.1s,SNR=252						
TKM2				⇓S	**Sg**	**15 49 41.7**	**+0.4**
	228nm,0.1s						
TKM2	**Tokmak 2**	**0.26**	**313**	⇑P	**Pg**	**15 49 37.9**	**+0.1**
	12nm,0.2s						
TKM2				⇓S	**Sg**	**15 49 41.6**	**+0.2**
	75nm,0.3s						
ULHL	**Ulahol**	**0.58**	**150**	P	**Pg**	**15 49 43.8**	**-0.3**
	7.4nm,0.1s,SNR=54						
ULHL				⇓S	**Sg**	**15 49 52.1**	**+0.1**
	23nm,0.2s						
KBK	**Karagaybulak**	**0.67**	**262**	P	**Pg**	**15 49 45.8**	**-0.3**
	28nm,0.2s,SNR=86						
KBK				⇑S	**Sg**	**15 49 55.3**	**+0.3**
	91nm,0.3s						
KZA	**Kyzart**	**0.81**	**214**	⇑P	**Pb**	**15 49 48.2**	**-0.2**
	14nm,0.3s,SNR=10						
KZA				⇓S	**Sb**	**15 49 59.5**	**+0.2**
	9.2nm,0.1s						
CHMS	**Chumysh**	**0.85**	**288**	⇓P	**Pb**	**15 49 48.4**	**-0.8**
	3.9nm,0.2s,SNR=8.9						
CHMS				⇓S	**Sb**	**15 49 59.8**	**-0.7**
	19nm,0.2s						
AAK	**Ala-Archa**	**1.01**	**264**	⇑P	**Pb**	**15 49 51.0**	**-0.9**
	5.1nm,0.2s,SNR=16						
AAK				⇓S	**Sb**	**15 50 04.5**	**-0.6**
	19nm,0.4s						
EKS2	**Erkin-Say**	**1.53**	**267**	⇑P	**Pn**	**15 50 01.5**	**+1.0**
	2.4nm,0.1s,SNR=28						
EKS2				⇓S	**Sb**	**15 50 21.8**	**+1.5**
	9.6nm,0.2s						
KK31	**Karatay Array**	**3.94**	**277**	Pg	**Pg**	**15 50 45.4**	**-5.8**
	0.3nm,0.3s,baz=100,slow=16,SNR=24						
KK31				Lg		15 51 34.1	
	2.8nm,0.5s,baz=97,slow=29,SNR=16						
MK31	**Makanchi Array**	**6.11**	**46**	Pn	**Pn**	**15 51 05.8**	**+0.4**
	0.3nm,0.3s,baz=220,slow=15,SNR=27						
MK31				⇓Lg		15 52 41.9	
	1.5nm,0.9s,baz=223,slow=26,SNR=3.6						
KURK	**Kurchatov**	**8.19**	**12**	⇑Lg		15 53 51.0	
	2.0nm,1.1s						

*CRAAG **11** 15:54:11.7,57.45N×120.58E,Mb5.7*
*BJI **11** 15:54:11.6,57.46N×121.07E,h11km,mB5.8,mb5.2, Ms6.1,Msz5.7*
*IDC **11** 15:54:11.9±0.4,57.42N×120.81E,mb5.3/25,mb1 5.4/27, mb1mx5.4/27,mbtmp5.3/27,ML4.2/2,MS5.2/16,Ms1 5.2/16, ms1mx4.9/31,Error ellipse: s-maj=12.9km s-min=11.2km az=12.0*
*MOS **11** 15:54:12.8±0.8,57.48N×120.69E,h15km,mb5.8/132, MS5.5/44,Error ellipse: s-maj=6.4km s-min=3.3km az=112.3*
*HRVD **11** 15:54:13.9±0.3,57.53N×120.82E,h18km±1km,MW5.7/83, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s83,c159; Half duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr=3.62±.26; Mθθ3.43±.16; Mθφ0.18±.14; Mrθ0.01±.32; Mθφ0.97±.09; Mφr-0.72±.47; Best double couple: M◎3.73×10^17^ NP1: φs265°,δ45°,λ-75°. NP2:φs64°,δ47°,λ-105°. Principal axes: T 3.703, Plg1°, Azm164°; N .046, Plg11°, Azm74°; P -3.756, Plg79°, Azm262°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **11** 15:54:13.9±0.1,57.44N×120.76E,h10km,mb5.7/223, MS5.4/12 Error ellipse: s-maj=2.7km s-min=1.9km az=181.0*
*BYKL **11** 15:54:13.4±0.5,57.43N×120.90E,h9km±26km,FELT I=VI MSK at Khani, Olekma, Mamakan, Vitimskiy, III at Yuktali, Ust-Nyukzha, Novaya Chara, Aldan, Tommot, II-III at Torgo,Chilchi*
*BGS **11** 15:54:14.2,57.44N×120.76E,h10km,mb5.4*

ISC 11 15:54:11.8±0.5,**57.48N**±0.01×**120.71E**±0.02,**h7**km±3km, **h18**km±2.8km**:pP-P,n898,** σ0**92/956,mb5.6/299,MS5.4/67, 55C-41D,Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.69**	**216**	*ePg*	**Pg**	**15 54 25.5**	**0.0**
KHNR				*eSg*	**Sg**	**15 54 33.4**	**-1.3**
YKLR	**Yuktali**	**1.03**	**149**	*ePg*	**Pg**	**15 54 31.2**	**-1.1**
YKLR				*eSg*	**Sg**	**15 54 44.4**	**-1.6**
CRS	**Chara**	**1.45**	**247**	*ePg*	**Pg**	**15 54 40.3**	**-0.4**
CRS				*e*		15 54 41.8	
CRS				Pmax		15 54 44.0	
	30μm,1.3s						
CRS				*i* Sg	**Sg**	**15 54 59.5**	**-0.6**
CRS				Smax		15 55 01.7	
	66μm,1.3s						
CRS	**Chara**	**1.45**	**247**	*eP*	**Pn**	**15 54 41.5**	**+3.0**
CRS				*e*		15 54 59.6	
CRS				pmax	pmax		
	comp=Z,28μm,0.9s						
CRS				smax			
	comp=N,60μm,1.7s						
NRGR	**Nerungri**	**2.34**	**109**	*i* P	**Pn**	**15 54 52.9**	**+1.6**
NRGR				S	**Sn**	**15 55 20.9**	**+0.3**
CLNS	**Chul'man**	**2.37**	**104**	*ePg*	**Pb**	**15 54 54.0**	**-0.4**
CLNS				*eSg*	**Sb**	**15 55 23.9**	**0.0**
CLNS	**Chul'man**	**2.37**	**104**	*eP*	**Pn**	**15 54 53.1**	**+1.4**
CLNS				*eS*	**Sn**	**15 55 18.2**	**-3.1**
CLNS				pmax	pmax		
	comp=N,448nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,1μm,0.3s						
CLNS				pmax	pmax		
	comp=E,414nm,0.2s						
CLNS				pmax	pmax		
	comp=N,3μm,0.4s						
CLNS				pmax	pmax		
	comp=E,3μm,0.4s						
CLNS				pmax	pmax		
	comp=Z,5μm,0.4s						
CLNS				smax			
	comp=N,5μm,0.4s						
CLNS				smax			
	comp=E,4μm,0.4s						
CLNS				smax			
	comp=Z,2μm,0.3s						
CLNS				smax			
	comp=E,3μm,0.2s						
CLNS				smax			
	comp=Z,9μm,0.4s						
CLNS				smax			
	comp=N,5μm,0.3s						
CLNS				MLR	MLR		
	comp=Z,64μm,12.0s						
IENR	**Iengra**	**2.60**	**117**	*ePn*	**Pn**	**15 54 55.7**	**+0.7**
IENR				*ePg*	**Pg**	**15 55 00.0**	**-3.7**
IENR				*eSg*	**Sg**	**15 55 31.2**	**-7.2**
ALDR	**Aldan**	**2.75**	**64**	*i* Pn	**Pn**	**15 54 57.3**	**+0.2**
ALDR				*ePg*	**Pb**	**15 55 01.0**	**+0.1**
ALDR				*eSg*	**Sb**	**15 55 35.9**	**+1.0**
NLYR	**Nelyaty**	**2.91**	**252**	*ePn*	**Pn**	**15 55 01.5**	**+2.0**
NLYR				*ePg*	**Pb**	**15 55 06.4**	**+2.7**
NLYR				Pmax		15 55 10.2	
	comp=Z,10μm,0.7s						
NLYR				*i* Sg	**Sb**	**15 55 44.0**	**+4.3**
NLYR				Smax		15 55 51.9	
	comp=Z,70μm,1.5s						
NLYR	**Nelyaty**	**2.91**	**252**	*eP*	**Pn**	**15 55 01.6**	**+2.1**
NLYR				*e*		15 55 43.5	
NLYR				pmax	pmax		
	comp=Z,10μm,0.6s						
NLYR				smax			
	comp=N,74μm,1.5s						
TUP	**Tupik**	**3.09**	**188**	*ePn*	**Pn**	**15 55 02.0**	**0.0**
TUP				*ePg*	**Pb**	**15 55 07.8**	**+1.0**
TUP				Pmax		15 55 11.2	
	comp=N,20μm,0.7s						
TUP				*eSn*	**Sn**	**15 55 37.4**	**-2.2**
TUP				*eSg*	**Sb**	**15 55 46.5**	**+1.6**
TUP				*eSgSg*		15 55 54.2	
TUP				max		15 55 57.8	
	comp=N,99μm,1.8s						
TUP	**Tupik**	**3.09**	**188**	*eP*	**Pn**	**15 55 02.4**	**+0.4**
TUP				*eS*	**Sn**	**15 55 37.2**	**-2.4**
TUP				pmax	pmax		
	comp=Z,18μm,0.8s						
TUP				smax			
	comp=E,97μm,0.9s						
BOD	**Bodaibo**	**3.62**	**278**	*ePn*	**Pn**	**15 55 11.4**	**+1.9**
BOD				*ePg*	**Pb**	**15 55 21.0**	**+5.1**
BOD				Pmax		15 55 23.7	
	comp=E,2μm,1.1s						
BOD				*eSn*	**Sn**	**15 55 55.4**	**+2.3**
BOD				*eSg*	**Sb**	**15 56 07.3**	**+7.0**
BOD				Smax		15 56 11.2	
	comp=E,136μm,1.8s						
SVKR	**Severomuysk**	**4.16**	**254**	*ePn*	**Pn**	**15 55 18.8**	**+1.6**
SVKR				*ePg*	**Pb**	**15 55 31.2**	**+6.1**
SVKR				Pmax		15 55 44.6	
	comp=E,5μm,1.2s						
SVKR				*e*		15 56 11.9	
SVKR				*eSg*	**Sb**	**15 56 25.9**	**+10**
SVKR				Smax		15 56 40.3	
	comp=E,69μm,1.3s						
SVKR	**Severomuysk**	**4.16**	**254**	*eP*	**Pn**	**15 55 19.1**	**+1.9**
SVKR				pmax	pmax		
	comp=Z,6μm,1.8s						
UKT	**Uakit**	**4.40**	**246**	*ePn*	**Pn**	**15 55 22.3**	**+1.7**
UKT				*ePg*	**Pb**	**15 55 34.2**	**+5.0**
UKT				Pmax		15 55 38.9	
	comp=Z,3μm,1.9s						
UKT				*eSg*	**Sb**	**15 56 30.2**	**+7.2**
UKT				Smax		15 56 56.0	
	comp=Z,20μm,2.2s						
UKT	**Uakit**	**4.40**	**246**	*eP*	**Pb**	**15 55 34.4**	**+5.2**
UKT				pmax	pmax		
	comp=Z,1μm,0.7s						
YOA	**Uoyan**	**5.12**	**259**	*ePn*	**Pn**	**15 55 34.3**	**+3.5**
YOA				*ePg*	**Pb**	**15 55 48.7**	**+7.2**
YOA				Pmax		15 56 25.6	
	comp=Z,10μm,1.6s						
YOA				*eSg*	**Sb**	**15 56 54.2**	**+10**
YOA				Smax		15 57 08.2	
	comp=Z,201μm,1.7s						
YOA	**Uoyan**	**5.12**	**259**	⇑*iP*	**Pn**	**15 55 48.3**	**+18**
YOA				pmax	pmax		
	comp=Z,7μm,1.5s						
KMO	**Kumora**	**5.48**	**257**	*ePn*	**Pn**	**15 55 36.9**	**+1.0**
KMO				*ePg*	**Pb**	**15 55 54.2**	**+6.5**
KMO				Pmax		15 56 01.3	
	comp=Z,2μm,1.6s						
KMO				*eSg*	**Sb**	**15 57 05.2**	**+11**
KMO				Smax		15 57 15.2	
	comp=Z,38μm,1.6s						
KMO	**Kumora**	**5.48**	**257**	*eP*	**Pb**	**15 55 40.6**	**-7.1**
KMO				*eS*	**Sn**	**15 56 40.2**	**+0.2**
KMO				pmax	pmax		
	comp=Z,883nm,0.8s						
KMO				smax			
	comp=N,38μm,1.8s						
YLYR	**Ulyunkhan**	**5.94**	**248**	*ePn*	**Pn**	**15 55 43.2**	**+0.9**
YLYR				*ePg*	**Pb**	**15 56 02.1**	**+6.6**
YLYR				Pmax		15 56 43.4	
	comp=N,1μm,1.7s						
YLYR				*eSg*	**Sb**	**15 57 18.6**	**+11**
YLYR				Smax		15 57 22.9	
	comp=N,27μm,1.9s						
TBGR	**Tabaga**	**6.28**	**42**	*ePn*	**Pn**	**15 55 45.9**	**-1.2**
TBGR				*ePg*	**Pb**	**15 56 05.4**	**+4.1**
TBGR				*eSn*	**Sn**	**15 56 55.1**	**-4.9**
TBGR				*eSg*	**Sb**	**15 57 23.9**	**+6.4**
NIZ	**Nizh Angarsk**	**6.40**	**259**	*ePn*	**Pn**	**15 55 51.4**	**+2.6**
NIZ				*ePg*	**Pb**	**15 56 11.0**	**+7.7**
NIZ				Pmax		15 56 38.2	
	comp=N,1μm,1.3s						
NIZ				*eSn*	**Sn**	**15 57 02.2**	**-0.7**
NIZ				*eSg*	**Sb**	**15 57 32.6**	**+12**
NIZ				Smax		15 57 52.8	
	comp=N,21μm,2.2s						
NIZ	**Nizh Angarsk**	**6.40**	**259**	*eP*	**Pn**	**15 55 51.8**	**+3.0**
NIZ				pmax	pmax		
	comp=Z,410nm,0.8s						
YAK	**Yakutsk**	**6.43**	**41**	*eP*	**Pn**	**15 55 46.7**	**-2.6**
YAK				*eS*	**Sn**	**15 56 58.5**	**-5.3**
YAK				pmax	pmax		
	comp=Z,104nm,0.6s						
YAK				pmax	pmax		
	comp=N,120nm,1.4s						
YAK				pmax	pmax		
	comp=E,104nm,1.6s						
YAK				smax			
	comp=N,4μm,1.1s						
YAK				smax			
	comp=Z,2μm,0.9s						
YAK				smax			
	comp=E,2μm,0.7s						
YAK				MLR	MLR		
	comp=Z,20μm,8.0s						
YAK	**Yakutsk**	**6.43**	**41**	*ePn*	**Pn**	**15 55 46.1**	**-3.2**
	comp=Z,3μm,0.9s						
YAK				*eSn*	**Sn**	**15 56 58.0**	**-5.9**
CIT	**Chita**	**6.86**	**220**	*ePn*	**Pn**	**15 55 54.7**	**-0.6**
CIT				*ePg*	**Pb**	**15 56 17.0**	**+5.8**
CIT				Pmax		15 56 22.6	
	comp=Z,2μm,1.4s						
CIT				*eSg*	**Sb**	**15 57 44.2**	**+10**
CIT				Smax		15 57 48.0	
	comp=Z,70μm,1.8s						
SYVR	**Suvo**	**7.18**	**242**	*ePn*	**Pn**	**15 56 00.2**	**+0.4**
SYVR				*ePg*	**Pb**	**15 56

comp=Z,211nm,1.5s
ARS Arshan 11.94 250 *e*Pn **P 15 57 07.4 +2.2**
ARS max 15 58 09.0
comp=Z,71nm,0.4s
ARS *e*Sg S 16 00 25.5 +66
ARS Smax 16 00 42.2
comp=Z,8μm,1.0s
ZAK Zakamensk 12.46 243 *e* **P 15 57 15.0 +2.6**
ZAK *e*Sg 16 00 42.7
ZAK Smax 16 01 02.2
comp=Z,4μm,1.8s
ZAK Zakamensk 12.46 243 *e*P **P 15 57 14.8 +2.4**
ZAK *e*S **S 15 59 33.9 +1.3**
HABR Khabarovsk 12.46 130 *i* P **P 15 57 15.6 +3.2**
HABR *e* 15 59 38.9
HABR pmax pmax
comp=Z,116nm,1.3s
HABR MLR MLR
comp=Z,23μm,8.8s
ULN Ulaanbaatar 12.68 226 *e*P **P 15 57 13.9 -1.3**
ULN pmax pmax
comp=Z,87nm,1.1s
ULN Ulaanbaatar 12.68 226 *e*Pn **P 15 57 13.9 -1.3**
comp=Z,87nm,1.1s
MOY Mondy 12.81 251 *e*Pn **P 15 57 16.9 -0.1**
MOY max 15 57 22.8
comp=Z,319nm,2.6s
MOY *e*Sg S 16 00 49.5 +69
MOY Smax 16 01 18.1
comp=Z,10μm,1.8s
MOY Mondy 12.81 251 *e*P **P 15 57 17.3 +0.3**
MOY pmax pmax
comp=Z,44nm,0.6s
ORL Orlik 12.95 256 *e*Pn **P 15 57 19.0 +0.1**
ORL max 15 58 42.6
comp=Z,181nm,1.4s
ORL *e* 15 59 57.0
ORL *e*Sg 16 00 58.7
ORL Smax 16 01 16.9
comp=Z,5μm,2.0s
SONM Songino Array 12.96 228 Pn **P 15 57 18.0 -1.0**
comp=Z,0.9nm,0.3s,baz=29,slow=15,SNR=44
SONM Sn **S 15 59 42.2 -2.4**
comp=Z,5.3nm,0.3s,baz=40,slow=22,SNR=3.7
SONM LR LR 16 02 30.0
comp=Z,7μm,18.6s,baz=37,slow=38
CN2 Changchun 14.01 166 *e*P **P 15 57 31.7 -1.1**
CN2 *e*XP 15 57 41.5
CN2 *e*S **S 16 00 06.9 -2.8**
CN2 AMB AMB
comp=Z,140nm,1.0s
CN2 AMB AMB
comp=Z,2μm,5.0s
CN2 LR LR
comp=N,54μm,10.0s
CN2 LR LR
comp=E,37μm,10.0s
CN2 LR LR
comp=Z,55μm,10.0s
MDJ Mudanjiang 14.02 153 P **P 15 57 32.2 -0.7**
MDJ S **S 16 00 08.3 -1.5**
MDJ PCP PcP 16 02 52.9 -1.1
MDJ SCP 16 06 26.4
MDJ PCS 16 06 29.2
MDJ SCS ScS 16 10 06.3 +3.6
MDJ AMB AMB
comp=Z,2μm,9.6s
MDJ LR LR
comp=N,13μm,8.9s
MDJ LR LR
comp=E,42μm,9.5s
MDJ LR LR
comp=Z,31μm,6.8s
MDJ Mudanjiang 14.02 153 *e*P **P 15 57 30.4 -2.4**
comp=Z,252nm,1.5s
TIXI Tiksi 14.63 10 *e*P **P 15 57 40.5 -0.2**
TIXI *e*SS SS 16 00 23.5 -17
TIXI pmax pmax
comp=Z,2μm,1.3s
TIXI MLR MLR
comp=Z,17μm,11.0s
TIXI Tiksi 14.63 10⇑ *i*P **P 15 57 35.8 -4.9**
TDJR Todzha 14.98 261 *e*Pn **P 15 57 45.8 +0.3**
TDJR *e*Sg 16 02 00.3
UGL Uglegorsk 15.24 114 *e*P **P 15 57 50.0 +1.2**
UGL pmax pmax
comp=Z,560nm,1.3s
UGL pmax pmax
comp=N,4μm,6.0s
UGL pmax pmax
comp=E,3μm,6.0s
UGL pmax pmax
comp=Z,6μm,6.0s
UGL MLR MLR
comp=Z,43μm,7.0s
UGL MLR MLR
comp=N,33μm,8.0s
UGL MLR MLR
comp=E,20μm,6.0s
MA2 Magadan 15.77 70*c i*P **P 15 57 53.7 -2.0**
MA2 pmax pmax
comp=Z,161nm,1.3s
MA2 MLR MLR
comp=Z,8μm,17.0s
MA2 Magadan 15.77 70 *e*P **P 15 57 52.2 -3.4**
comp=Z,546nm,0.9s
SNY Shenyang 15.77 172 ⇑P **P 15 57 56.1 +0.3**
SNY AP 15 58 03.8
SNY XP 15 58 07.3
SNY AMB AMB
comp=Z,110nm,1.7s
SNY LR LR
comp=N,33μm,8.3s
SNY LR LR
comp=E,22μm,8.7s
VLA Vladivostok 16.02 149 *i* P **P 15 58 00.7 +1.8**
VLA *i* 16 01 03.0
VLA pmax pmax
comp=Z,166nm,1.0s
VLA MLR MLR
comp=Z,15μm,7.0s
SEY Seymchan 16.54 58 *e*P **P 15 58 03.9 -1.5**
SEY *e*S **S 16 01 02.6 -6.2**
SEY pmax pmax
comp=Z,760nm,1.2s
SEY pmax pmax
comp=N,80nm,1.0s
SEY pmax pmax
comp=E,400nm,1.0s
SEY smax
comp=N,720nm,6.5s
SEY smax
comp=E,100nm,4.6s
SEY Seymchan 16.54 58⇑ *i*P **P 15 58 03.8 -1.6**
YSS Yuzh-Sakhalins 17.05 119⇑ *i*P **P 15 58 10.0 -1.9**
YSS *e*S **S 16 01 20.0 -0.6**
YSS pmax pmax
comp=Z,410nm,1.8s
YSS pmax pmax
comp=N,2μm,8.0s
YSS pmax pmax
comp=E,2μm,8.0s
YSS pmax pmax
comp=Z,4μm,8.0s
YSS MLR MLR
comp=Z,21μm,12.0s
YSS MLR MLR
comp=N,19μm,13.0s
YSS MLR MLR
comp=E,25μm,13.0s
YSS Yuzh-Sakhalins 17.05 119 *e*P **P 15 58 10.6 -1.4**
comp=E,57nm,0.7s
HHC Hu-ho-hao-te 17.66 203 ⇓P **P 15 58 22.9 +3.3**
HHC AP 15 58 26.3
HHC XP 15 58 29.9
HHC PP PP 15 58 37.7 +3.4
HHC S **S 16 01 39.0 +4.4**
HHC XS 16 01 44.1
HHC SS SS 16 02 00.7 +3.9
HHC PCP PcP 16 02 59.2 -0.2
HHC LG 16 03 21.2
HHC AMB AMB
comp=Z,40nm,0.9s
HHC AMB AMB
comp=Z,5μm,4.9s
HHC LR LR
comp=N,20μm,7.7s
HHC LR LR
comp=E,21μm,6.5s
HHC LR LR
comp=Z,19μm,9.5s
BTO Baotou 18.24 207 *e*P **P 15 58 29.1 +2.1**
BTO LR LR
comp=E,50μm,8.0s
DL2 Dalian 18.59 178⇑ *i*P **P 15 58 33.3 +2.0**
DL2 S **S 16 02 03.1 +7.2**
DL2 LG1 16 03 53.0
DL2 LG2 16 04 22.4
DL2 AMB AMB
comp=Z,90nm,1.3s
DL2 AMB AMB
comp=Z,3μm,6.3s
DL2 LR LR
comp=N,14μm,10.1s
DL2 LR LR
comp=E,6μm,10.0s
DL2 LR LR
comp=Z,16μm,10.1s
ASAJ Asahikawa 19.12 125 P **P 15 58 36.8 -0.9**
comp=Z,1.5nm,0.3s,baz=310,slow=12,SNR=18
ASAJ LR LR 16 06 15.4
comp=Z,6μm,18.2s,baz=335,slow=38
ASAJ Asahikawa 19.12 125 P **P 15 58 36.8 -0.8**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,6μm,18.2s
INCN Inchon 20.39 166 *e*P **P 15 58 51.2 -0.5**
comp=Z,316nm,1.1s
ZAL Zalesovo 20.39 275 P **P 15 58 50.2 -1.3**
comp=Z,50nm,1.1s,baz=35,slow=7.8,SNR=96
ZAL LR LR 16 07 41.2
comp=Z,7μm,18.4s,MS5.0,baz=46,slow=40
TIY Taiyuan 20.52 199 *e*P **P 15 58 55.0 +2.0**
TIY LR LR
comp=N,29μm,12.0s
KS15 Wonju Array Si 20.60 164 *e*P **P 15 58 53.9 0.0**
YUK Yuzh-Kuril'sk 20.68 120 *e*P **P 15 58 47.0 -7.6**
YUK *e* 15 58 56.0
YUK *e* 16 02 48.0
NVS Novosibirsk 20.86 279⇓ *i*P **P 15 58 55.1 -1.4**
NVS *e*S **S 16 02 42.3 -2.2**
NVS pmax pmax
comp=E,460nm,1.4s
NVS pmax pmax
comp=Z,350nm,1.4s
NVS pmax pmax
comp=N,266nm,1.5s
TIA Tai'an 21.41 188 P **P 15 59 01.0 -1.2**
TIA AP 15 59 10.1
TIA PP PP 15 59 28.5 +2.4
TIA S **S 16 03 03.2 +8.1**
TIA AMB AMB
comp=Z,260nm,1.8s,mb5.3
TIA LR LR
comp=N,7μm,7.0s
TIA LR LR
comp=E,10μm,9.0s
PET Petropavlovsk 21.88 85 *e*P **P 15 59 05.8 -1.0**
PET *e*S **S 16 03 03.4 -0.3**
PET *e* 16 03 05.7
PET pmax pmax
comp=Z,2μm,7.1s
PET pmax pmax
comp=Z,647nm,1.0s,mb6.0
PET pmax pmax
comp=Z,4μm,7.3s
PET smax
comp=N,2μm,10.4s
PET smax
comp=E,2μm,10.2s
PET MLR MLR
comp=Z,7μm,11.0s,MS5.3
PET MLR MLR
comp=Z,6μm,13.0s
PET Petropavlovsk 21.88 85 *e*P **P 15 59 06.1 -0.7**
comp=Z,687nm,1.1s,mb6.0
GTA Gaotai 22.62 226⇓ *i*P **P 15 59 14.7 +0.6**
GTA AP 15 59 22.1
GTA XP 15 59 24.9
GTA PP PP 15 59 44.8 +2.5
GTA PCP PcP 16 03 04.6 -3.8
GTA S **S 16 03 21.7 +4.4**
GTA XS 16 03 32.2
GTA LG1 16 06 07.0
GTA LG2 16 06 46.9
GTA AMB AMB
comp=Z,70nm,1.5s,mb4.9
GTA AMB AMB
comp=Z,2μm,6.8s
GTA LR LR
comp=N,28μm,7.2s
GTA LR LR
comp=E,40μm,11.0s
GTA LR LR
comp=Z,25μm,9.1s
BILL Bilibino 22.78 44⇓ *i*P **P 15 59 16.1 +0.7**
BILL *e*S **S 16 03 24.8 +4.8**
BILL pmax pmax
comp=Z,230nm,1.0s,mb5.6
BILL Bilibino 22.78 44⇓ *i*P **P 15 59 16.1 +0.7**
comp=Z,230nm,1.0s,mb5.6
BILL *e*S **S 16 03 24.8 +4.8**
MAJO Matsushiro 23.96 143 *e*P **P 15 59 26.8 -0.5**
MAJO pmax pmax
comp=Z,257nm,1.4s,mb5.5
MAJO MLR MLR
comp=Z,5μm,19.0s,MS5.0
MAJO Matsushiro 23.96 143 *e*P **P 15 59 26.8 -0.5**
comp=Z,257nm,1.4s,mb5.5
MAJO LR LR
comp=Z,5μm,19.0s,MS5.0
MAT Matsushiro 23.96 143 P **P 15 59 26.6 -0.7**
MAT S **S 16 03 45.0 +3.9**
MAT Matsushiro 23.96 143 *e*P **P 15 59 27.0 -0.3**
MAT *e*S **S 16 03 46.0 +4.9**
MAT pmax pmax
comp=Z,188nm,1.2s,mb5.4
MAT Matsushiro 23.96 143 *e*P **P 15 59 27.0 -0.3**
comp=Z,188nm,1.2s,mb5.4
MAT *e*S **S 16 03 46.0 +4.9**
MJAR Matsushiro Arr 23.96 143 P **P 15 59 27.3 0.0**
comp=Z,82nm,1.1s,mb5.1,baz=332,slow=10,SNR=98
MJAR LR LR 16 07 48.9
comp=Z,4μm,18.8s,MS5.0,baz=335,slow=34
LZH Lanzhou 24.18 215 ⇓P **P 15 59 31.8 +2.4**
LZH AP 15 59 38.2
LZH XP 15 59 41.3
LZH PP PP 16 00 06.5 +2.4
LZH S **S 16 03 53.0 +8.2**
LZH XS 16 04 00.5
LZH SS SS 16 04 38.0 +1.1
LZH AMB AMB
comp=Z,400nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,1μm,4.9s
LZH LR LR
comp=N,29μm,10.0s
LZH LR LR
comp=Z,31μm,10.6s,MS6.1
WMQ Urumqi 24.70 251 P **P 15 59 36.4 +2.1**
WMQ AP 15 59 42.0
WMQ XP 15 59 45.2
WMQ PP PP 16 00 12.9 +2.2
WMQ PPP PPP 16 00 23.8 +2.4
WMQ PCP PcP 16 03 14.4 +1.7
WMQ S **S 16 03 54.5 +1.0**
WMQ SS SS 16 04 48.4 -1.3
WMQ SCS ScS 16 10 37.4 +0.1
WMQ AMB AMB
comp=Z,160nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,1μm,6.0s
WMQ LR LR
comp=N,7μm,15.0s,MS5.4
WMQ LR LR
comp=E,6μm,13.2s,MS5.4
WMQ LR LR
comp=Z,9μm,13.6s,MS5.4
XAN Xi'an 24.77 204 P **P 15 59 36.0 +0.9**
XAN AP 15 59 44.8
XAN S **S 16 03 51.3 -3.5**
XAN AMB AMB
comp=Z,60nm,1.8s,mb4.8
XAN LR LR
comp=N,10μm,8.3s
XAN LR LR
comp=E,21μm,13.9s
XAN LR LR
comp=Z,13μm,9.2s
KURK Kurchatov 25.25 273⇑ *e*P **P 15 59 39.6 +0.1**
JNU Nakatsue 25.33 160 P **P 15 59 39.5 -1.0**
comp=Z,82nm,0.9s,mb5.2,baz=180
JNU LR LR 16 09 30.2
comp=Z,2μm,19.4s,MS4.7,baz=169,slow=36
NJ2 Nanjing 25.46 184 *e*P **P 15 59 41.9 +0.2**
NJ2 AP pP 15 59 49.5 +5.9
NJ2 XP sP 15 59 51.4 +6.9
NJ2 PP PP 16 00 20.2 -0.5
NJ2 PPP PPP 16 00 30.9 -1.2
NJ2 S **S 16 04 10.0 +3.6**
NJ2 XS 16 04 21.0
NJ2 AMB AMB
comp=Z,110nm,1.2s,mb5.3
NJ2 AMB AMB
comp=Z,1μm,6.8s
NJ2 LR LR
comp=N,21μm,11.2s
NJ2 LR LR
comp=E,30μm,19.4s
NJ2 LR LR
comp=Z,8μm,12.6s,MS5.4
MKAR Makanchi Array 25.55 262 P **P 15 59 43.3 +1.0**
comp=Z,40nm,0.8s,mb5.0,baz=59,slow=7.1,SNR=188
MKAR LR LR 16 09 50.9
comp=Z,4μm,19.5s,MS5.0,baz=43,slow=37
SSE Sheshan 26.38 179 *e*P **P 15 59 49.7 -0.6**
SSE AP pP 15 59 55.8 +3.6
SSE XP sP 15 59 58.5 +5.4
SSE PCP PcP 16 03 15.0 -1.6
SSE S **S 16 04 22.2 +0.5**
SSE XS 16 04 32.8
SSE SCS ScS 16 10 44.1 -0.2
SSE AMB AMB
comp=Z,20nm,1.3s,mb4.5
SSE AMB AMB
comp=Z,1μm,10.7s
SSE LR LR
comp=N,8μm,12.6s,MS5.5
SSE LR LR
comp=E,3μm,12.6s,MS5.5
SSE LR LR
comp=Z,10μm,13.2s,MS5.5
JHJ Hachijo jima 2 27.61 144 LR LR 16 10 40.9
comp=Z,5μm,19.6s,MS5.1,baz=19,slow=36
ENH Enshi 28.30 201 *e*P **P 16 00 07.7 0.0**
comp=Z,69nm,1.0s,mb5.2
BVAR Borovoye Array 28.48 283 P **P 16 00 08.5 -0.6**
comp=Z,12nm,0.5s,mb4.8,baz=64,slow=8.5,SNR=81
CD2 Chengdu 29.04 211⇓ *i*P **P 16 00 15.0 +0.6**
CD2 AP pP 16 00 20.4 +4.0
CD2 PP PP 16 01 14.0 +5.7
CD2 PPP PPP 16 01 23.6 +2.3
CD2 S **S 16 05 06.6 +1.9**
CD2 XS 16 05 14.6
CD2 AMB AMB
comp=Z,50nm,1.1s,mb5.2
CD2 LR LR
comp=N,6μm,7.2s
CD2 LR LR
comp=Z,5μm,11.7s,MS5.4
FX1 Attu Island--F 29.67 76 P **P 16 00 18.4 -1.4**
comp=Z,169nm,0.9s,mb5.8,baz=314,slow=8.8
FX1 LR LR 16 13 12.5
comp=Z,108nm,19.3s,baz=72,slow=38
FX1 Attu Island--F 29.67 76 *e*P **P 16 00 18.4 -1.5**
AAA Alma-Ata 30.71 262 *i* P **P 16 00 30.5 +1.3**
AAA pmax pmax
comp=Z,1μm,2.1s,mb6.4
TKM2 Tokmak 2 31.68 262 P **P 16 00 39.0 +1.3**
SNR=19
USP Ospenovka 32.03 264 P **P 16 00 41.3 +0.5**
SNR=20
CHMS Chumysh 32.08 263 P **P 16 00 42.6 +1.4**
SNR=31
KBK Karagaybulak 32.20 263 P **P 16 00 43.2 +0.9**
SNR=29
SOKR Solikamsk 32.30 301*c i*P **P 16 00 43.5 +0.5**
SOKR pmax pmax
comp=Z,60nm,1.3s,mb5.3
SOKR MLR MLR
comp=Z,6μm,15.0s,MS5.4
KZA Kyzart 32.44 262 P **P 16 00 45.9 +1.5**
SNR=27
AAK Ala-Archa 32.46 263 P **P 16 00 41.0 -3.5**
SNR=38
AAK Ala-Archa 32.46 263*d i*P **P 16 00 44.1 -0.4**
AAK pmax pmax
comp=Z,131nm,1.7s,mb5.5
AAK MLR MLR
comp=Z,2μm,13.0s,MS5.1
AAK Ala-Archa 32.46 263 *i* Pr 16 00 44.2
QZH Quanzhou 32.54 184 *e*P **P 16 00 46.0 +0.6**
QZH S **S 16 05 59.0 -0.9**
QZH LR LR
comp=N,10μm,9.6s
QZH LR LR
comp=E,7μm,10.5s
QZH LR LR
comp=Z,13μm,12.9s,MS5.8
GYA Guiyang 32.57 204⇓ *i*P **P 16 00 45.3 -0.4**
GYA AP pP 16 00 51.2 +3.6
GYA XP sP 16 00 55.4 +6.9
GYA PP PP 16 01 55.8 +1.6
GYA S **S 16 06 01.6 +1.2**
GYA SCP 16 07 11.0
GYA SS SS 16 08 01.3 +4.8
GYA SCS ScS 16 11 09.7 -3.8
GYA AMB AMB
comp=Z,80nm,1.2s,mb5.5
GYA AMB AMB
comp=Z,920nm,5.7s
GYA LR LR
comp=N,6μm,12.6s,MS5.6
GYA LR LR
comp=E,5μm,13.1s,MS5.6
GYA LR LR
comp=Z,8μm,15.9s,MS5.5
UCH Uchtor 32.73 262 P **P 16 00 48.1 +1.2**
SNR=15
EKS2 Erkin-Say 32.83 264 P **P 16 00 49.4 +1.7**
SNR=19
ARU Arti 32.87 295⇓ *i*P **P 16 00 47.6 -0.3**
ARU *e* 16 01 52.6
ARU *e* 16 03 26.7
ARU *e*S **S 16 06 03.2 -1.4**
ARU *e*SS SS 16 07 58.2 -4.8
ARU pmax pmax
comp=Z,57nm,1.1s,mb5.4
ARU MLR MLR
comp=Z,5μm,14.5s,MS5.3
ARU MLR MLR
comp=N,1μm,13.0s,MS5.2
ARU MLR MLR
comp=E,4μm,14.0s,MS5.2
TNA Tin City 33.17 46 *e*P **P 16 00 50.2 -0.3**
comp=E,53nm,1.1s,mb5.4
AML Almayashu 33.24 263 P **P 16 00 52.8 +1.5**
SNR=10
KSH Kashi 33.88 258 *i* PR 16 00 58.5
KSH *e*AP pP 16 01 03.6 +4.7
KSH *e*XP sP 16 01 07.0 +7.2
KSH PP PP 16 02 11.3 +1.0
KSH PPP PPP 16 02 29.1 +1.0
KSH *e*S **S 16 06 19.8 -0.8**
KSH XS 16 06 29.2
KSH *e*PCS 16 07 23.5
KSH *e*SS SS 16 08 26.0 -0.6
KSH AMB AMB
comp=Z,1μm,4.0s
KSH LR LR
comp=N,5μm,4.2s
KSH LR LR
comp=E,8μm,5.6s
LSA Lhasa 34.55 229 P **P 16 01 04.8 +2.0**
LSA AMB AMB

comp=Z,20nm,1.4s,mb4.8
LSA Lhasa 34.55 229 *e*P P **16 01 02.8 0.0**
LSA pmax pmax
comp=Z,158nm,1.8s,mb5.6
LSA MLR MLR
comp=Z,10μm,21.0s,MS5.5
LSA Lhasa 34.55 229 *e*P P **16 01 02.8 +0.1**
comp=Z,158nm,1.8s,mb5.6
LSA LR LR
comp=Z,10μm,21.0s,MS5.5
KMI Kunming 34.80 209 ⇓P P **16 01 04.6 -0.4**
KMI AP pP 16 01 10.6 +3.6
KMI XP sP 16 01 13.0 +5.2
KMI PP PP 16 02 24.0 +1.8
KMI S **S** **16 06 34.0 -1.0**
KMI XS 16 06 44.3
KMI SS SS 16 08 46.5 -1.4
KMI AMB AMB
comp=Z,190nm,1.0s,mb6.0
KMI AMB AMB
comp=Z,730nm,3.6s
KMI LR LR
comp=N,9μm,9.9s
KMI LR LR
comp=E,12μm,11.0s
KMI LR LR
comp=Z,6μm,11.2s,MS5.6
AKTK Aktyubinsk 36.35 287 P P **16 01 17.6 -0.2**
AKTO Aktyubinsk 36.35 287 P P **16 01 17.6 -0.2**
comp=Z,14nm,0.8s,mb5.0,baz=73,slow=13,SNR=22
LVZ Lovozero 37.53 322 *e*P P **16 01 24.1 -3.5**
LVZ *e* 16 02 49.9
LVZ *e*S **S** **16 07 14.0 -2.6**
LVZ smax
comp=N,849nm,4.8s
LVZ smax
comp=E,791nm,3.8s
LVZ MLR MLR
comp=E,3μm,13.0s
LVZ MLR MLR
comp=Z,5μm,16.0s,MS5.5
KBS Kingsbay 37.62 343 *e*S **S** **16 07 20.0 +2.1**
KBS AMS AMS 16 17 58.8
comp=Z,2μm,21.0s,MS4.9
KBS Kingsbay 37.62 343 *e*P P **16 01 27.4 -0.9**
APA Apatity 38.11 322 ⇑*i*P P **16 01 31.0 -1.5**
APA *i* S **S** **16 07 22.0 -3.3**
APA pmax pmax
comp=Z,110nm,1.2s,mb5.5
APA MLR MLR
comp=Z,6μm,16.0s,MS5.5
GUN Gumba 38.35 235 *e*P P **16 01 35.4 +0.5**
comp=Z,385nm,1.1s,mb6.0
JIRN Jiri 38.43 234 *e*P P **16 01 36.0 +0.4**
comp=Z,71nm,0.7s,mb5.5
KKN Kakani 38.72 235 *e*P P **16 01 38.9 +0.9**
comp=Z,467nm,1.0s,mb6.2
KKN Kakani 38.72 235 *e*P P **16 01 38.9 +0.9**
KKN pmax pmax
comp=Z,234nm,1.0s,mb5.9
GKN Gorkha 38.82 236 *e*P P **16 01 39.0 +0.1**
comp=Z,732nm,0.9s,mb6.4
PKI Pulchoki 38.85 235 *e*P P **16 01 39.5 +0.4**
comp=Z,343nm,1.4s,mb5.9
PKI Pulchoki 38.85 235 *e*P P **16 01 39.5 +0.4**
PKI pmax pmax
comp=Z,172nm,1.4s,mb5.6
DMN Daman 38.95 235 *e*P P **16 01 41.1 +1.2**
comp=Z,284nm,0.9s,mb6.0
KEV Kevo 39.04 327 *e*p P **16 01 40.1 -0.1**
comp=Z,22nm,0.6s,mb5.0
KEV Kevo 39.04 327 P P **16 01 40.7 +0.5**
KEV pmax pmax
comp=Z,130nm,1.0s,mb5.6
QIZ Qiongzhong 39.23 196 P P **16 01 39.8 -2.5**
QIZ PP PP 16 03 19.2 +3.0
QIZ S **S** **16 07 36.2 -6.6**
QIZ LR LR
comp=E,15μm,14.7s
QIZ LR LR
comp=Z,6μm,11.7s,MS5.7
KLMR Klimovskoe 39.26 310*d* *i*P P **16 01 41.9 -0.3**
KLMR *e*S **S** **16 07 39.1 -3.7**
KLMR pmax pmax
comp=Z,600nm,1.4s,mb6.1
KLMR pmax pmax
comp=Z,390nm,7.9s
KLMR smax
comp=E,2μm,3.2s
KLMR MLR MLR
comp=Z,6μm,13.0s,MS5.6
UNV Unalaska Valle 39.41 63 *e*P P **16 01 42.7 -0.8**
comp=Z,288nm,1.1s,mb5.9
KOLN Koldanda 39.49 237 *e*P P **16 01 45.0 +0.6**
comp=Z,207nm,0.8s,mb5.9
ARCES ARCESS Array B 39.60 327 P P **16 01 45.0 +0.1**
comp=Z,42nm,0.9s,mb5.1,baz=57,slow=9.8,SNR=66
ARCES PcP PcP 16 03 51.8 -0.9
comp=Z,14nm,0.9s,baz=72,slow=3.8,SNR=4.0
ARCES LR LR 16 19 54.6
comp=Z,3μm,21.8s,MS5.1,baz=339,slow=39
ARE0 ARCESS Array S 39.60 327 *e*P P **16 01 45.3 +0.4**
PECR Pechory 39.79 302 *e*P P **16 01 46.0 -0.6**
PECR MLR MLR
comp=E,6μm,12.0s
PECR MLR MLR
comp=Z,8μm,12.0s,MS5.8
PECR MLR MLR
comp=N,2μm,8.0s
KTK1 Kautokeino 40.56 327 *e*P P **16 01 54.8 +1.9**
KTK1 AMb AMB 16 01 58.1
comp=Z,323nm,1.1s,mb5.9
KTK1 Kautokeino 40.56 327 *e*P P **16 01 54.8 +1.9**
comp=Z,323nm,1.1s,mb5.9
CHRT Chiangrai 40.60 211 ⇓P P **16 02 04.2 +11**
comp=Z,729nm,1.5s,mb6.1
COLA College 40.96 41 *e*P P **16 01 56.0 -0.1**
COLA pmax pmax
comp=Z,64nm,0.8s,mb5.3
COLA MLR MLR
comp=Z,3μm,19.0s,MS5.2
COLA College 40.96 41 *e*P P **16 01 56.0 -0.2**
comp=Z,64nm,0.8s,mb5.3
COLA LR LR
comp=Z,3μm,19.0s,MS5.2
MCK McKinley 41.23 42 *e*P P **16 01 58.2 -0.1**
MCK pmax pmax
comp=Z,45nm,0.9s,mb5.1
MCK McKinley 41.23 42 *e*P P **16 01 58.2 -0.2**
comp=Z,45nm,0.9s,mb5.1
JOF Joensuu 41.34 316 *e*p P **16 01 59.1 -0.2**
comp=Z,70nm,0.7s,mb5.4
ILAR Eielson Array 41.36 40 P P **16 01 59.8 +0.4**
comp=Z,38nm,0.6s,mb5.2,baz=294,slow=5.4,SNR=391
ILAR LR LR 16 19 46.0
comp=Z,2μm,19.5s,MS4.9,baz=141,slow=37
ILAR Eielson Array 41.36 40 P P **16 01 59.8 +0.4**
ILAR LR LR 16 19 46.0
TRO Tromso 41.44 329 *e*P P **16 01 59.1 -1.0**
TRO AMb AMB 16 02 11.4
comp=Z,94nm,1.5s,mb5.2
TRO *e*S **S** **16 08 07.8 -7.5**
TRO *e*SS SS 16 11 18.4 +4.2
TRO AMS AMS 16 21 05.0
comp=Z,2μm,20.4s,MS5.0
TRO Tromso 41.44 329 *e*P P **16 01 59.1 -1.0**
comp=Z,94nm,1.5s,mb5.2
TRO LR LR
comp=Z,1887μm,20.4s
NDI New Delhi 41.74 245 *e*P P **16 02 02.5 -0.4**
PMR Palmer 42.41 45 *e*P P **16 02 07.5 -0.4**
PMR pmax pmax
comp=Z,95nm,1.0s,mb5.4
PMR Palmer 42.41 45 *e*P P **16 02 08.0 +0.1**
comp=Z,150nm,1.1s,mb5.5
ALBI Allahabad 42.41 237 *e*P P **16 02 08.0 -0.4**
THY Trims Highway 42.56 42 *e*P P **16 02 09.4 +0.2**
SLKM Skilak Lake 42.64 47 *e*P P **16 02 09.5 -0.3**
MOS Moscow 43.05 305 *e*P P **16 02 12.6 -0.6**
MOS *e* 16 03 53.6
MOS *e* 16 04 00.7
MOS *e*PPP PPP 16 04 27.2 -2.7
MOS *e*S **S** **16 08 37.3 -1.6**
MOS pmax pmax
comp=Z,346nm,1.3s,mb5.9
MOS smax
comp=N,900nm,2.0s
MOS smax
comp=E,500nm,2.9s
MOS MLR MLR
comp=N,5μm,10.6s
MOS MLR MLR
comp=Z,4μm,10.6s,MS5.6
MOS Moscow 43.05 305 *e*P P **16 02 12.8 -0.4**
KKTK Khon Kaen 43.21 206 PG P **16 02 14.0 -1.0**
KDAK Kodiak Island 43.35 51 P P **16 02 13.6 -2.0**
INK Inuvik 43.40 31 *e*P P **16 02 16.4 +0.5**
comp=Z,0.4nm,1.4s
DAG Danmarks Havn 43.57 347⇑*i*P P **16 02 17.2 0.0**
comp=Z,39nm,0.6s,mb5.3
DAG Danmarks Havn 43.57 347⇑*i*P P **16 02 17.2 0.0**
DAG pmax pmax
comp=Z,39nm,0.6s,mb5.3
PUL Pulkovo 43.62 313 *e*P P **16 02 18.0 +0.2**
PUL *e*S **S** **16 08 47.2 0.0**
PUL *e*SS SS 16 12 12.6 +18
PUL pmax pmax
comp=E,381nm,0.9s
PUL pmax pmax
comp=Z,284nm,0.9s,mb6.0
PUL pmax pmax
comp=N,305nm,0.8s
PUL smax
comp=E,777nm,1.8s
PUL MLR MLR
comp=Z,6μm,16.0s,MS5.6
PUL MLR MLR
comp=N,2μm,13.0s,MS5.6
PUL MLR MLR
comp=E,4μm,13.0s,MS5.6
PUL Pulkovo 43.62 313⇓*i*P P **16 02 18.2 +0.4**
KAF Kangasniemi 43.68 317 *e*p P **16 02 17.9 -0.3**
baz=50,slow=7.2
OBN Obninsk 43.91 304*d* *i*P P **16 02 19.6 -0.6**
OBN *i* 16 04 02.5
OBN *i* S **S** **16 08 46.8 -4.6**
OBN *i* SS SS 16 12 14.3 +14
OBN pmax pmax
comp=Z,208nm,1.6s,mb5.6
OBN MLR MLR
comp=Z,4μm,14.0s,MS5.5
OBN Obninsk 43.91 304 *i* Pr 16 02 19.7
OBN LR LR
comp=Z,4μm,14.0s,MS5.5
DIV Divide 43.97 44 *e*P P **16 02 21.0 +0.4**
comp=Z,121nm,1.0s,mb5.6
VRHR Novokhopersk 44.14 297 *e*P P **16 02 21.7 -0.4**
VRHR pmax pmax
comp=Z,70nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,50nm,1.5s
VRHR pmax pmax
comp=E,50nm,1.0s
VRHR MLR MLR
comp=Z,4μm,11.0s,MS5.6
VRHR MLR MLR
comp=N,3μm,12.0s
VRHR MLR MLR
comp=E,2μm,8.0s
FINES FINESS Array B 44.19 317 P P **16 02 22.4 0.0**
comp=E,84nm,0.8s,mb5.5,baz=45,slow=9.5,SNR=192
FINES PcP PcP 16 04 06.8 -1.0
comp=E,29nm,0.9s,baz=63,slow=6.2,SNR=4.9
FINES LR LR 16 20 56.0
comp=E,4μm,21.3s,MS5.3,baz=339,slow=36
DAWY Dawson 44.36 38 *e*P P **16 02 23.9 +0.1**
NST Nakhon Sawan 44.51 209 P P **16 02 26.0 +0.4**
VOR Voronezh 44.88 299 *e*P P **16 02 27.5 -0.6**
VOR pmax pmax
comp=Z,200nm,1.0s,mb5.9
MOR8 Moi Rana 44.97 327 *e*P P **16 02 27.0 -1.6**
MOR8 AMb AMB 16 02 30.8
comp=Z,120nm,1.4s,mb5.5
MOR8 Moi Rana 44.97 327 *e*P P **16 02 27.0 -1.6**
comp=Z,120nm,1.4s,mb5.5
VRSR Storozhevoye 45.22 299 *e*P P **16 02 30.0 -0.8**
VRSR *e**PP pP 16 02 35.8 +3.0
VRSR *e**SP sP 16 02 38.3 +4.6
VRSR *e* 16 04 10.7
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VSU Vasula 45.88 313 *i* P P **16 02 36.4 +0.5**
VSU Vasula 45.88 313 *i* Pr 16 02 36.4
RES Resolute Bay 46.01 12 P P **16 02 36.4 -0.4**
RES pmax pmax
comp=Z,43nm,1.1s,mb5.3
RES Resolute Bay 46.01 12 *e*P P **16 02 35.5 -1.3**
comp=Z,43nm,1.1s,mb5.3
BHPL Bhopal 46.22 241 *e*P P **16 02 38.3 -0.8**
BHPL AMb AMB 16 02 41.1
comp=Z,156nm,0.9s,mb6.0
MAK Makhachkala 46.68 285 *e*P P **16 02 41.2 -1.3**
MAK *e* 16 04 31.9
MAK *e*PPP PPP 16 05 16.9 -0.5
MAK *e*S **S** **16 09 33.4 +1.9**
MAK pmax pmax
comp=Z,96nm,2.0s,mb5.4
MAK MLR MLR
comp=Z,728nm,12.0s,MS4.8
NSS Namsos 46.86 326 *e*SS SS 16 12 58.0 +4.9
NSS AMS AMS 16 24 15.8
comp=Z,3μm,20.2s,MS5.2
JMIC Jan Mayen 46.91 340 AMS AMS 16 21 25.6
comp=Z,2μm,23.0s,MS4.9
GOF Gofitskoye 47.52 290⇓*i*P P **16 02 48.7 -0.4**
GOF pmax pmax
comp=Z,102nm,1.7s,mb5.6
NNT Nongplab 47.57 208 P P **16 02 50.0 +0.1**
IZAR Zarasai 47.91 311 *e*P P **16 02 52.5 +0.5**
IZAR AMb AMB 16 02 56.4
comp=Z,45nm,1.3s,mb5.3
IDID Didziasalis 48.00 310 *e*P P **16 02 53.2 +0.5**
IDID AMb AMB 16 02 55.4
comp=Z,58nm,1.1s,mb5.5
ISAL Salakas 48.08 310 *e*P P **16 02 53.9 +0.5**
ISAL AMb AMB 16 02 55.5
comp=Z,70nm,1.0s,mb5.6
KIV Kislovodsk 48.47 289*c* *i*P P **16 02 56.5 0.0**
KIV *e* 16 04 23.2
KIV *e* 16 04 52.5
KIV *e*S **S** **16 10 01.9 +5.2**
KIV *e*SS SS 16 13 23.3 +1.6
KIV *e*SSS SSS 16 14 33.8 -6.1
KIV pmax pmax
comp=Z,119nm,1.0s,mb5.9
KIV pmax pmax
comp=Z,218nm,5.1s
KIV MLR MLR
comp=Z,5μm,18.0s,MS5.6
KIV Kislovodsk 48.47 289 *i* Pr 16 02 56.8
SUMG Summit 49.44 352 *e*P P **16 03 03.5 -0.1**
comp=Z,127nm,1.3s,mb5.8
HFA0 Hagfors New Ar 49.50 321 P P **16 03 02.9 -1.3**
DOMB Dombas 49.59 325 *e*P P **16 03 05.3 +0.5**
DOMB AMb AMB 16 03 10.6
comp=Z,99nm,1.1s,mb5.8
DOMB Dombas 49.59 325 *e*P P **16 03 05.3 +0.5**
comp=Z,99nm,1.1s,mb5.8
SCO Scoresbysund 49.59 344 *i* P P **16 03 04.8 0.0**
comp=Z,165nm,1.7s,mb5.8
SCO Scoresbysund 49.59 344 *i* P P **16 03 04.8 0.0**
SCO pmax pmax
comp=Z,160nm,1.7s,mb5.8
MOL Molde 49.65 326 *e*P P **16 03 05.3 0.0**
MOL AMb AMB 16 03 07.9
comp=Z,236nm,1.8s,mb5.9
MOL *e*sP sP 16 03 10.2 +2.1
MOL Molde 49.65 326 *e*P P **16 03 05.3 0.0**
comp=Z,236nm,1.8s,mb5.9
NB2 NORSAR Subarra 49.66 323 P P **16 03 04.7 -0.7**
comp=Z,70nm,1.0s,mb5.6,baz=40,slow=7.4
NB2 NORSAR Subarra 49.66 323 P P **16 03 04.7 -0.7**
baz=40,slow=7.4
NB2 NORSAR Subarra 49.66 323 P P **16 03 04.7 -0.7**
NB2 pmax pmax
comp=Z,70nm,1.0s,mb5.7
NOA NORSAR Array B 49.66 323 P P **16 03 04.8 -0.6**
comp=Z,39nm,0.8s,mb5.5,baz=42,slow=7.7,SNR=54
NOA LR LR 16 25 15.2
comp=Z,3μm,20.1s,MS5.2,baz=35,slow=38
NOA NORSAR Array B 49.66 323 P P **16 03 04.8 -0.6**
NOA LR LR 16 25 15.2
NAO01 NORSAR Array S 49.91 323 *e*P P **16 03 06.7 -0.6**
comp=Z,27nm,0.7s,mb5.4
BHJ Bhuj 50.01 249 *e*P P **16 03 09.8 +1.2**
BHJ AMb AMB 16 03 13.0
comp=Z,120nm,1.1s,mb5.8
GNI Garni 50.14 284 *e*P P **16 03 10.8 +1.4**
GNI pmax pmax
comp=Z,100nm,2.5s
GNI Garni 50.14 284 *e*P P **16 03 10.8 +1.4**
comp=Z,100nm,2.5s,mb5.4
AKASG Malin Array Be 50.17 304 P P **16 03 08.5 -0.9**
comp=Z,40nm,0.4s,mb5.8,baz=41,slow=8.6,SNR=304
AKASG Malin Array Be 50.17 304 P P **16 03 08.5 -0.9**
SOC Sochi 50.24 291*d* *i*P P **16 03 10.4 +0.3**
SOC *e*S **S** **16 10 32.5 +11**
SOC *e*SSS SSS 16 15 17.0 -4.6
SOC pmax pmax
comp=Z,509nm,3.7s
SOC pmax pmax
comp=Z,54nm,0.7s,mb5.7
SOC MLR MLR
comp=Z,5μm,15.0s,MS5.6
SUW Suwalki 50.39 311 *e*P P **16 03 10.6 -0.5**
SUW *e*S **S** **16 10 24.9 +1.6**
SUW MLR MLR 16 22 58.7
comp=Z,3μm,22.7s,MS5.3
ANN Anapa 50.51 294 *e*P P **16 03 10.8 -1.3**
ANN *e**PP pP 16 03 17.4 +3.2
ANN *e*S **S** **16 10 24.4 -0.7**
ANN pmax pmax
comp=Z,112nm,1.7s,mb5.5
ANN MLR MLR
comp=N,2μm,18.0s,MS5.4
ANN MLR MLR
comp=E,2μm,18.0s,MS5.4
ANN MLR MLR
comp=Z,4μm,18.0s,MS5.5
OSL Oslo 50.65 322 *e*P P **16 03 12.3 -0.6**
OSL AMb AMB 16 03 16.7
comp=Z,159nm,1.0s,mb5.9
OSL Oslo 50.65 322 *e*P P **16 03 12.3 -0.6**
comp=Z,159nm,1.4s,mb5.8
DIGO Kars 50.66 286 *i* P P **16 03 11.2 -2.1**
HYB Hyderabad 50.75 236⇓*i*P P **16 03 13.0 -1.3**
HYB Hyderabad 50.75 236⇓*e*P P **16 03 13.0 -1.3**
KONO Kongsberg 51.23 323 *e*P P **16 03 16.9 -0.5**
KONO pmax pmax
comp=Z,61nm,1.0s,mb5.5
KONO Kongsberg 51.23 323 *e*P P **16 03 16.9 -0.5**
comp=Z,61nm,1.0s,mb5.5
KKM Kota Kinabalu 51.42 186 P P **16 03 18.7 -0.8**
KKM Kota Kinabalu 51.42 186 *e*P P **16 03 18.9 -0.6**
DLBC Dease Lake 51.54 39 *e*P P **16 03 18.5 -1.3**
POO Poona 51.95 242 *e*P P **16 03 22.9 -0.6**
BER Bergen 52.02 325 AMS AMS 16 27 38.2
comp=Z,3μm,20.2s,MS5.3
SIM Simferopol' 52.03 296 *i* P P **16 03 23.8 +0.2**
SIM *e*S **S** **16 10 45.9 -0.1**
SIM pmax pmax
comp=Z,34nm,1.1s,mb5.2
SIM MLR MLR
comp=Z,3μm,15.3s,MS5.4
ERZM Erzurum 52.08 287 *i* P P **16 03 23.9 -0.2**
BSD Bornholm Skovb 52.82 316 *i* P P **16 03 28.7 -0.8**
comp=Z,42nm,1.0s,mb5.3
BSD Bornholm Skovb 52.82 316 *i* P P **16 03 28.7 -0.8**
BSD pmax pmax
comp=Z,42nm,1.0s,mb5.3
KAD Karad 52.85 240 *e*P P **16 03 29.7 -0.5**
KAD AMb AMB 16 03 31.4
comp=Z,102nm,1.3s,mb5.6
YKW3 Yellowknife Ar 52.89 29 *e*P P **16 03 28.3 -1.6**
YKA Yellowknife Ar 52.95 29 P P **16 03 28.9 -1.4**
comp=Z,18nm,0.8s,mb5.1,baz=331,slow=7.0,SNR=164
YKA PKPPKP 16 33 56.8
comp=Z,0.1nm,0.4s,baz=169,slow=3.1,SNR=2.7
KIS Kishinev 53.04 301⇑*i*P P **16 03 30.0 -1.2**
KIS *e* 16 03 37.0
KIS *e* 16 05 35.0
KIS *e*S **S** **16 10 59.0 -0.7**
KIS *e*PS PS 16 11 12.0 +1.8
KIS pmax pmax
comp=Z,360nm,1.3s,mb6.1
KIS pmax pmax
comp=N,220nm,1.5s
KIS pmax pmax
comp=E,210nm,1.5s
KIS MLR MLR
comp=N,3μm,13.0s,MS5.6
KIS MLR MLR
comp=Z,5μm,13.0s,MS5.8
KIS MLR MLR
comp=E,3μm,16.0s,MS5.6
KIS MLR MLR
comp=Z,4μm,14.0s
TSM Tawau 53.08 184 P P **16 03 32.4 +0.4**
LVV L'vov 53.10 306 *e*P P **16 03 31.9 +0.3**
COP Copenhagen 53.30 318 *i* P P **16 03 36.9 +3.9**
comp=Z,41nm,0.8s,mb5.4
comp=Z,2μm,16.0s
COP Copenhagen 53.30 318 *e*P P **16 03 36.9 +3.9**
COP pmax pmax
comp=Z,41nm,0.8s,mb5.4
COP MLR MLR
comp=Z,2μm,16.0s,MS5.2
COP Copenhagen 53.30 318 *e*P P **16 03 36.9 +3.9**
comp=Z,41nm,0.8s,mb5.4
COP LR LR
comp=Z,2μm,16.0s,MS5.2
KWP Kalwaria 53.81 307 *e*P P **16 03 37.2 +0.3**
KWP MLR MLR 16 28 39.7
comp=Z,7μm,15.0s,MS5.8
MUD Monsted U'grnd 53.85 320 *i* P P **16 03 37.0 0.0**
comp=Z,157nm,1.0s,mb5.9
comp=Z,3μm,20.0s
MSL Mosul 53.88 282 *ex* x 16 03 38.0
MSL *ex* x 16 11 16.0
BURAR Bucovina Array 54.22 304 ⇑P P **16 03 40.3 +0.5**
BURAR Bucovina Array 54.22 304 ⇑P P **16 03 40.3 +0.5**
ELZG Elazig 54.36 287 *i* P P **16 03 41.2 +0.3**
KULM Kulim 54.38 205 *e*P P **16 03 41.1 -0.4**
KOLS Kolonicke sedl 54.52 307 *e*P P **16 03 42.0 -0.1**
STHS Stebnicka Huta 54.60 308 *i* P P **16 03 43.3 +0.7**
OJC Ojcow 54.60 309 *e*P P **16 03 42.0 -0.6**
OJC *e*sP sP 16 03 49.6 +4.1
OJC *e*S **S** **16 11 21.8 +0.9**
OJC *e*SS SS 16 15 05.9 +2.7
OJC MLR MLR 16 28 56.8
comp=Z,5μm,15.8s,MS5.7
CFR Carcaliu 54.71 300 ⇑P P **16 03 42.6 -0.9**
UZH Uzhgorod 54.74 307 *e*P P **16 03 44.0 +0.3**
VRI Vrinicioaia 54.84 302 ⇓P P **16 03 44.0 -0.5**
CRVS Cervenica-Dubn 54.90 307 *i* P P **16 03 45.1 +0.3**
IPM Ipoh 54.98 204 P P **16 03 46.2 +0.2**
NIE Niedzica 55.00 308 *e*P P **16 03 46.3 +0.8**
TIRR Tirgusor 55.12 299 ⇓P P **16 03 46.0 -0.5**
HARR Harsova 55.17 300 ⇑P P **16 03 46.1 -0.8**
RUE Ruedersdorf 55.28 315 *e*P P **16 03 47.1 -0.4**
comp=Z,122nm,1.1s,mb5.8
RAC Raciborz 55.37 310 *e*P P **16 03 48.4 +0.1**
RAC LME 16 25 11.1
RAC LMN 16 25 18.8
RAC MLR MLR 16 29 28.9
comp=Z,5μm,15.7s,MS5.7
RAC Raciborz 55.37 310 *e*P P **16 03 48.4 +0.1**
RAC MLR MLR
comp=Z,5μm,15.7s,MS5.7
BSEG Bad Segeberg 55.43 318 *e*P P **16 03 48.8 +0.1**
BSEG *e* 16 04 48.9
MLR Muntele Rosu 55.49 302 ⇑P P **16 03 49.3 +0.1**
KSP Ksiaz 55.56 312 *e*P P **16 03 49.4 -0.2**
KSP *e*S **S** **16 11 36.0 +2.3**
KSP MLR MLR 16 29 38.8
comp=Z,7μm,17.8s,MS5.8
KSP Ksiaz 55.56 312 *e*P P **16 03 49.2 -0.4**
OKC Ostrava-Krasne 55.58 310 *e*P P **16 03 49.9 +0.1**
OKC AMS AMS 16 30 40.0
comp=Z,4μm,12.2s
KECS Kecovo 55.64 308 *e*P P **16 03 50.2 0.0**
ELDT Eldivan 55.68 293 *i* P P **16 03 49.9 -0.7**

MORC Moravsky Berou 55.88 310 *e*P P **16 03 51.6 -0.3**
MORC pmax pmax
comp=Z,210nm,1.6s,mb5.9
MORC Moravsky Berou 55.88 310 *e*P P **16 03 51.6 -0.3**
comp=Z,210nm,1.6s,mb5.9
DPC Dobruska-Polom 55.93 311 *e*P P **16 03 52.4 +0.1**
DPC AMS AMS 16 29 30.0
comp=Z,4μm,14.7s
UPC Upice 55.94 312 *e*P P **16 03 52.0 -0.3**
VOIR 55.94 302 ⇑P P **16 03 52.8 +0.4**
GZT Gaziantep 55.96 287 *i* P P **16 03 51.3 -1.4**
DRGR 55.96 305 ⇓P P **16 03 52.8 +0.3**
MTUR Matau 56.09 302 P P **16 03 54.0 +0.5**
BR131 Keskin Array S 56.15 292 *e*P P **16 03 54.2 +0.2**
comp=Z,5.3nm,0.6s,mb4.8
BR131 LR LR
comp=Z,1μm,20.0s,MS5.0
BRTR Keskin Array B 56.15 292 P P **16 03 54.5 +0.5**
comp=Z,7.6nm,0.7s,mb4.8,baz=72,slow=3.9,SNR=37
AVNT Avonos 56.26 290 *i* P P **16 03 54.6 -0.2**
SGKT Sivrigoynuk 56.30 294 *i* P P **16 03 46.5 -8.5**
BUC1 Bucharest 56.32 301 P P **16 03 55.9 +0.8**
PSZ Piszkesteto 56.32 307⇑*i*P P **16 03 56.0 +0.9**
PSZ Piszkesteto 56.32 307 *e*P P **16 03 55.3 +0.2**
PSZ pmax pmax
comp=Z,179nm,1.1s,mb6.0
PSZ Piszkesteto 56.32 307 *e*P P **16 03 55.3 +0.2**
comp=Z,179nm,1.1s,mb6.0
VYHS Vyhne 56.33 309 *i* P P **16 03 56.1 +0.9**
KSM Kuching 56.45 193 *e*P P **16 03 55.5 -1.0**
ANTO Ankara 56.47 293 *e*P P **16 03 56.1 -0.2**
ANTO pmax pmax
comp=Z,82nm,1.5s,mb5.5
ANTO Ankara 56.47 293 *e*P P **16 03 56.1 -0.2**
comp=Z,82nm,1.5s,mb5.5
BRG Berggiesshubel 56.47 313⇑*i*P P **16 03 55.9 -0.3**
BRG *i* 16 04 52.3
BRG *i* 16 06 04.1
BRG S **S** **16 11 48.4 +2.6**
BRG pmax pmax
comp=Z,75nm,1.2s,mb5.6
BRG MLR MLR
comp=Z,4μm,14.5s,MS5.7
BRG Berggiesshubel 56.47 313⇑*i*P P **16 03 55.9 -0.2**
comp=Z,75nm,1.2s,mb5.6
BRG *i* PcP PcP 16 04 52.3 -0.6
BRG *i* PP PP 16 06 04.1 +0.6
BRG S **S** **16 11 48.4 +2.6**
BRG LR LR
comp=Z,4μm,14.5s,MS5.7
PVCC Panska Ves 56.50 313 *e*P P **16 03 56.4 +0.1**
PVCC AMS AMS 16 30 00.0
comp=Z,5μm,13.6s
CLL Collm 56.50 314 P P **16 03 55.9 -0.4**
comp=Z,logA/T=2.0,mb5.8
CLL *e**PP pP 16 03 58.0 -0.4
CLL *i* PCP PcP 16 04 52.8 -0.2
CLL *e*PP PP 16 05 48.0 -16
CLL *e*PPP PPP 16 07 09.0 -12
CLL *e*S **S** **16 11 38.0 -8.2**
CLL *e* 16 16 26.0
CLL Collm 56.50 314 *i* P P **16 03 55.9 -0.4**
CLL *e**PP pP 16 03 58.0 -0.4
CLL *i* 16 04 52.8
CLL pmax pmax
comp=Z,101nm,1.0s,mb5.8
CLL MLR MLR
comp=Z,6μm,17.2s,MS5.8
CLL Collm 56.50 314 *i* P P **16 03 55.9 -0.4**
comp=Z,101nm,1.0s,mb5.8
CLL *e*pP pP 16 03 58.0 -0.4
CLL *i* PcP PcP 16 04 52.8 -0.2
CLL LR LR
comp=Z,6μm,17.2s,MS5.8
JAVC Velka Javorina 56.54 310 P P **16 03 57.1 +0.5**
PRD Provadia 56.55 299 *e*P P **16 03 57.0 +0.2**
UMR Umm Al-Rimmam 56.59 273 *e*P P **16 03 57.0 -0.3**
UMR AMb AMB 16 04 00.2
comp=Z,123nm,0.7s,mb6.0
VRAC Vranov 56.63 311 ⇓P P **16 03 57.3 0.0**
VRAC Vranov 56.63 311 P P **16 03 57.7 +0.4**
KBD Kabd 56.90 273 *e*P P **16 03 58.4 -1.1**
KBD AMb AMB 16 04 02.5
comp=Z,342nm,0.8s,mb6.4
SMOL Smolenice 56.91 309 *e*P P **16 04 00.0 +0.7**
KRUC Moravsky 56.91 310 P P **16 03 59.3 0.0**
PRA Prague 56.91 312 P P **16 03 58.0 -1.3**
PRU Pruhonice 56.93 312 *e*P P **16 03 58.9 -0.6**
PRU AMS AMS 16 30 10.0
comp=Z,5μm,13.4s
KGM Kluang 57.00 201 P P **16 04 00.2 -0.3**
BUD Budapest 57.03 308 P P **16 03 59.9 -0.3**
CLZ Clausthal 57.08 316 *e*P P **16 04 00.6 +0.1**
CLZ pmax pmax
comp=Z,200nm,1.7s,mb5.9
CLZ Clausthal 57.08 316 *e*P P **16 04 00.6 +0.1**
comp=Z,200nm,1.7s,mb5.9
SRO Srobarova 57.08 308 *e*P P **16 04 01.3 +0.7**
NAY Al-Naaiem 57.08 274 *e*P P **16 03 59.4 -1.4**
NAY AMb AMB 16 04 03.5
comp=Z,66nm,0.7s,mb5.8
SRO2 Moca 57.09 308 *i* P P **16 04 01.3 +0.7**
TREC Trest 57.09 311 *e*P P **16 04 00.5 -0.1**
TREC AMS AMS 16 30 50.0
comp=Z,5μm,15.5s
QRN Al-Qurain 57.12 273 *e*P P **16 04 00.2 -0.8**
QRN AMb AMB 16 04 04.6
comp=Z,102nm,0.8s,mb5.9
RDF Al-Radifah 57.17 273 *e*P P **16 04 00.4 -1.1**
RDF AMb AMB 16 04 04.4
comp=Z,127nm,0.7s,mb6.0
PSI Prapat 57.19 206 LR LR 16 29 52.0
comp=Z,3μm,18.2s,MS5.5,baz=174,slow=37
SZH Strazhica 57.19 300 *e*P P **16 04 01.0 -0.4**
EDR Drumtochty 57.23 327 *e*P P **16 04 01.4 -0.1**
COBT Iskenderun 57.27 288 *i* P P **16 04 00.6 -1.5**
ZST Bratislava 57.29 309 *e*P P **16 04 02.5 +0.5**
BZS Buzias 57.35 305 ⇑P P **16 03 58.3 -0.2**
JMB Yambol 57.50 299 *e*P P **16 04 03.0 -0.6**
JMB Yambol 57.50 299 P P **16 04 03.7 +0.1**
MOX Moxa 57.56 315 *i* P P **16 04 03.4 -0.5**
comp=Z,logA/T=2.1,mb5.9
MOX L 16 28 57.0
MOX Moxa 57.56 315 *e*P P **16 04 03.4 -0.5**
MOX pmax pmax
comp=Z,209nm,1.6s,mb5.9
MOX MLR MLR
comp=Z,3μm,18.0s,MS5.4
MOX Moxa 57.56 315 *e*P P **16 04 03.4 -0.5**
comp=Z,209nm,1.6s,mb5.9
MOX LR LR
comp=Z,3μm,18.0s,MS5.4
NKC Novy Kostel 57.56 314 *e*P P **16 04 03.6 -0.3**
NKC AMS AMS 16 30 50.0
comp=Z,5μm,15.0s
WIT Witteveen 57.64 319⇓*e*P P **16 04 04.4 0.0**
comp=Z,237nm,1.9s,mb5.9
IBBN Ibbenburen 57.66 318 P P **16 04 03.3 -1.3**
ESKT Eskisehir 57.70 294 *i* P P **16 04 03.0 -2.0**
DJES Djerdap 57.70 303 *e*P P **16 04 04.2 -0.8**
SOP Sopron 57.92 309 P P **16 04 06.5 +0.1**
KHC Kasperske Hory 57.99 312 *e*P P **16 04 06.8 -0.1**
KHC pP pP 16 04 10.0 +1.0
KHC AMS AMS 16 30 50.0
comp=Z,5μm,17.2s
KHC Kasperske Hory 57.99 312 *e*P P **16 04 06.8 -0.1**
KHC *e* pP 16 04 10.0 +1.0
KHC MLR MLR
comp=Z,5μm,17.2s,MS5.7
ULDT Uludag 58.06 295 *i* P P **16 04 04.9 -2.6**
EBH Black Hill 58.09 327 *e*P P **16 04 07.3 -0.2**
EBH AMb AMB 16 04 12.9
comp=Z,83nm,1.4s,mb5.6
GEC2 GERESS Array S 58.17 312 *e*P P **16 04 08.3 +0.1**
GEC2 *e* 16 04 59.4
GEC2 *e* 16 06 15.6
GEC2 pmax pmax
comp=Z,84nm,1.1s,mb5.7
GEC2 GERESS Array S 58.17 312 *e*P P **16 04 08.3 +0.1**
comp=Z,84nm,1.1s,mb5.7
GEC2 *e*PcP PcP 16 04 59.4 -0.1
GEC2 *e*PP PP 16 06 15.6 -3.2
GERES GERESS Array B 58.17 312 P P **16 04 07.7 -0.5**
comp=Z,28nm,0.7s,mb5.4,baz=45,slow=5.7,SNR=198
GERES LR LR 16 29 29.8
comp=Z,3μm,19.4s,MS5.4,baz=118,slow=36
PKSM Moragy 58.19 307 P P **16 04 08.0 -0.3**
WET Wettzell 58.26 313 *e*P P **16 04 09.2 +0.4**
WET pmax pmax
comp=Z,124nm,1.1s,mb5.8
WET Wettzell 58.26 313 *e*P P **16 04 09.2 +0.4**
comp=Z,124nm,1.1s,mb5.8
WTSB Winterswijk 58.29 318⇓*e*P P **16 04 07.9 -1.1**
comp=Z,100nm,1.7s,mb5.6
DIM Dimitrovgrad 58.32 299 *e*P P **16 04 10.0 +0.7**
EBL Broad Law 58.35 327 *e*P P **16 04 09.2 -0.2**
EBL AMb AMB 16 04 12.7
comp=Z,60nm,1.6s,mb5.4
EAB Aberfoyle 58.38 327 *e*P P **16 04 09.2 -0.3**
EAB AMb AMB 16 04 17.6
comp=Z,106nm,2.4s,mb5.5
EAU Auchinoon 58.41 327 *e*P P **16 04 09.6 -0.1**
EAU AMb AMB 16 04 14.1
comp=Z,116nm,2.4s,mb5.5
GRA1 Grafenberg Arr 58.48 314 *e*P P **16 04 10.6 +0.3**
comp=Z,436nm,2.5s,mb6.0
GRA1 *e*PP PP 16 06 18.6 -2.9
GRF Grafenberg Arr 58.48 314 *e*P P **16 04 10.6 +0.3**
GRF *e* 16 06 18.6
GRF pmax pmax
comp=Z,436nm,2.5s,mb6.0
GRF Grafenberg Arr 58.48 314 *e*P P **16 04 10.6 +0.3**
GRF *e* 16 06 18.6
GRF pmax pmax
comp=Z,436nm,2.5s,mb6.0
GRF Grafenberg Arr 58.48 314 *e*P P **16 04 10.6 +0.3**
comp=Z,436nm,2.5s,mb6.0
GRF *e*PP PP 16 06 18.6 -2.9
GRFO Grafenberg 58.48 314 P P **16 04 10.5 +0.2**
BEO Belgrade 58.48 305⇑*i*P P **16 04 10.9 +0.5**
SVIS Svilajnac 58.55 304⇑*i*P P **16 04 10.5 -0.4**
PGB Panagyurishte 58.57 301 *e*P P **16 04 11.0 0.0**
BOLS Boljevac 58.58 303⇑*i*P P **16 04 10.2 -1.0**
PLD Plovdiv 58.66 300 *e*P P **16 04 11.0 -0.7**
ARSA Arzberg 58.69 310⇓*i*P P **16 04 12.1 +0.2**
comp=Z,52nm,1.0s,mb5.5,SNR=25
MOA Molln 58.73 311⇑*i*P P **16 04 12.0 -0.2**
comp=Z,72nm,1.3s,mb5.5,SNR=32
MOA Molln 58.73 311⇑*i*P P **16 04 12.0 -0.2**
comp=Z,72nm,1.3s,mb5.5
ECK Cauldkaine Hil 58.88 326 *e*P P **16 04 12.7 -0.3**
ECK AMb AMB 16 04 16.3
comp=Z,75nm,1.6s,mb5.5
HASS Wahat al Ahsa' 58.98 269 P P **16 04 13.5 -0.6**
VTS Vitosha 58.98 301 *i* P P **16 04 14.0 +0.1**
VTS Vitosha 58.98 301 ⇓P P **16 04 13.7 -0.2**
VTS Vitosha 58.98 301 P P **16 04 14.1 +0.1**
RZN Rozhen 58.98 300 *e*P P **16 04 14.0 0.0**
RDO Rodhopi 59.02 299 P P **16 04 13.1 -1.1**
GRUS Gruza 59.10 304⇑*i*P P **16 04 14.2 -0.5**
TKTP Tekketepe 59.10 293 *i* P P **16 04 08.2 -6.6**
TNS Taunus Mts 59.10 316 *e*P P **16 04 14.6 -0.1**
TNS *e* 16 06 25.3
TNS pmax pmax
comp=Z,97nm,1.5s,mb5.6
TNS Taunus Mts 59.10 316 *e*P P **16 04 14.6 -0.1**
comp=Z,97nm,1.5s,mb5.6
TNS *e*PP PP 16 06 25.3 -1.8
ISP Isparta 59.16 293 *e*P P **16 04 14.8 -0.5**
ISP pmax pmax
comp=Z,76nm,1.4s,mb5.5
ISP Isparta 59.16 293 *e*P P **16 04 14.8 -0.5**
comp=Z,76nm,1.4s,mb5.5
PERS Pernice 59.35 310 *e*P P **16 04 16.8 +0.4**
SIND Sindeldorf 59.38 315 *e*P P **16 04 16.1 -0.5**
TOD Tromm 59.47 316 *e*P P **16 04 16.3 -0.9**
TOD Tromm 59.47 316 *e*P P **16 04 16.5 -0.7**
MMB Musomiste 59.52 300 *e*P P **16 04 16.0 -1.7**
HGN Heimansgroeve 59.59 318⇓*e*P P **16 04 16.8 -1.2**
comp=Z,19nm,1.1s,mb5.0
KKB Krupnik 59.60 301 *i* P P **16 04 16.0 -2.3**
SWS Schriesheim 59.61 315 *e*P P **16 04 17.5 -0.7**
SWS Schriesheim 59.61 315 P P **16 04 18.4 +0.2**
FUR Furstenfeldbru 59.68 313 *e*P P **16 04 19.0 +0.3**
FUR pmax pmax
comp=Z,175nm,1.2s,mb6.0
FUR Furstenfeldbru 59.68 313 *e*P P **16 04 19.0 +0.3**
comp=Z,175nm,1.2s,mb6.0
OBKA Obir 59.69 310⇑*i*P P **16 04 18.8 +0.1**
comp=Z,178nm,1.1s,mb6.0,SNR=28
BBLS Bajina Basta - 59.70 305 *i* P P **16 04 19.5 +0.7**
ABH Alteburg 59.72 316 *e*P P **16 04 18.3 -0.6**
ABH Alteburg 59.72 316 *e*P P **16 04 18.5 -0.4**
KBA Koelnbreinsper 59.73 311⇓*i*P P **16 04 20.0 +0.9**
comp=Z,231nm,1.5s,mb6.0,SNR=62
KBA Koelnbreinsper 59.73 311⇓*i*P P **16 04 20.0 +1.0**
KBA pmax pmax
comp=Z,231nm,1.5s,mb6.0
HDH Heidenheim 59.76 314 *e*P P **16 04 18.5 -0.8**
HDH Heidenheim 59.76 314 P P **16 04 19.3 0.0**
SRS Serrai 59.95 300 *e*P P **16 04 19.9 -0.7**
KTD Kalmit 59.98 316 *e*P P **16 04 20.7 0.0**
CSS Prodhromos 59.98 289 *e*P P **16 04 20.1 -0.8**
comp=Z,36nm,0.8s,mb5.5
STU Stuttgart 60.00 315 P P **16 04 20.9 0.0**
STU pmax pmax
comp=Z,37nm,1.0s,mb5.4
STU Stuttgart 60.00 315 *e*P P **16 04 20.1 -0.8**
comp=Z,37nm,0.9s,mb5.4
KBI1 Birley Grange 60.03 324 *e*P P **16 04 21.1 0.0**
KBI1 AMb AMB 16 04 23.4
comp=Z,76nm,1.7s,mb5.4
RUP Ruppelstein 60.05 317 *e*P P **16 04 20.5 -0.7**
RUP Ruppelstein 60.05 317 *e*P P **16 04 20.4 -0.8**
LJU Ljubljana 60.07 309 *e*P P **16 04 21.4 0.0**
PLE Pljevlja 60.13 304⇑*i*P P **16 04 22.6 +0.7**
VISS Visnje 60.13 309 *e*P P **16 04 21.6 -0.3**
KSDI Kefar Szold 60.16 286 P P **16 04 21.9 -0.3**
WATA Walderalm 60.23 312⇓*i*P P **16 04 22.6 +0.1**
comp=Z,87nm,1.2s,mb5.7,SNR=21
WATA Walderalm 60.23 312⇓*i*P P **16 04 22.6 +0.1**
WATA pmax pmax
comp=Z,87nm,1.2s,mb5.7
LBG Lerchenberg 60.24 315 *e*P P **16 04 22.0 -0.5**
LBG Lerchenberg 60.24 315 P P **16 04 22.9 +0.4**
KNT Kendrikon 60.24 300 *e*P P **16 04 22.7 +0.1**
PTCC Patocco-Chiusa 60.27 310 P P **16 04 22.0 -0.7**
IVA Berane 60.27 304⇑*i*P P **16 04 22.4 -0.3**
WTTA Wattenberg 60.27 312 *i* P P **16 04 23.0 +0.3**
comp=Z,96nm,0.9s,mb5.8,SNR=47
WTTA Wattenberg 60.27 312 *i* P P **16 04 23.0 +0.3**
WTTA pmax pmax
comp=Z,96nm,0.9s,mb5.8
WTTA Wattenberg 60.27 312 *i* P P **16 04 23.0 +0.3**
comp=Z,96nm,0.9s,mb5.8
KWE Weaver Farm 60.33 324 *e*P P **16 04 22.9 -0.2**
KWE AMb AMB 16 04 26.6
comp=Z,204nm,1.5s,mb5.9
FVI Forni Avoltri 60.34 311 P P **16 04 23.3 0.0**
FVI pmax pmax
comp=Z,141nm,1.6s,mb5.8
FVI Forni Avoltri 60.34 311 P P **16 04 23.3 0.0**
comp=Z,141nm,1.6s,mb5.8
WLF Walferdange 60.41 317 *e*P P **16 04 21.8 -1.9**
WLF pmax pmax
comp=Z,36nm,1.1s,mb5.3
WLF Walferdange 60.41 317 *e*P P **16 04 21.8 -1.9**
comp=Z,36nm,1.1s,mb5.3
MOTA Moosalm 60.42 313⇑*i*P P **16 04 23.3 -0.4**
comp=Z,70nm,1.1s,mb5.6,SNR=30
MOTA Moosalm 60.42 313⇑*i*P P **16 04 23.3 -0.4**
MOTA pmax pmax
comp=Z,70nm,1.1s,mb5.6
GMNA Gemona 60.42 310 P P **16 04 23.8 0.0**
UPM Unac-Piva 60.45 305⇑*i*P P **16 04 23.7 -0.3**
PVY Plav 60.45 303⇑*i*P P **16 04 23.2 -0.8**
SQTA Sankt Quirin 60.48 312⇓*i*P P **16 04 24.1 0.0**
comp=Z,80nm,1.2s,mb5.6,SNR=26
SQTA Sankt Quirin 60.48 312⇓*i*P P **16 04 24.1 0.0**
SQTA pmax pmax
comp=Z,80nm,1.2s,mb5.6
GIVF Givet 60.53 318 *e*P P **16 04 22.9 -1.6**
UBR Uberruh 60.54 313 *e*P P **16 04 24.4 -0.1**
UBR Uberruh 60.54 313 P P **16 04 24.7 +0.2**
GUT Gutenstein 60.60 314 *e*P P **16 04 24.7 -0.3**
GUT Gutenstein 60.60 314 P P **16 04 25.0 0.0**
GRG Griva 60.63 301 *e*P P **16 04 25.7 +0.4**
BRES Bressanone 60.69 312 P P **16 04 25.5 -0.1**
comp=Z,144nm,1.1s,mb6.0
BFO Black Forest 60.69 315 *e*P P **16 04 25.3 -0.3**
BFO *e* 16 05 09.2
BFO pmax pmax
comp=Z,82nm,1.2s,mb5.7
BFO Black Forest 60.69 315 *e*P P **16 04 25.3 -0.3**
comp=Z,82nm,1.2s,mb5.7
BFO *e*PcP PcP 16 05 09.2 -0.4
SPAK Spaichingen 60.71 315 *e*P P **16 04 25.3 -0.4**
SPAK Spaichingen 60.71 315 *e*P P **16 04 25.6 -0.1**
NKY Niksic 60.72 304⇑*i*P P **16 04 25.2 -0.7**
BAIF Baives 60.79 319 *e*P P **16 04 24.6 -1.6**
comp=Z,109nm,1.4s,mb5.5
BAIF Baives 60.79 319 *e*P P **16 04 24.6 -1.6**
BAIF pmax pmax
comp=Z,54nm,1.4s,mb5.5
BRY Bratogost 60.85 305⇑*i*P P **16 04 25.8 -0.9**
FCC Fort Churchill 60.85 20 *e*P P **16 04 24.6 -2.0**
FCC pmax pmax
comp=Z,57nm,1.1s,mb5.6
FCC Fort Churchill 60.85 20 *e*P P **16 04 24.6 -2.0**
comp=Z,57nm,1.1s,mb5.6
TTG Podgorica 60.90 304⇑*i*P P **16 04 26.6 -0.5**
DAVA Damuels 60.95 313⇓*i*P P **16 04 27.3 -0.1**
comp=Z,55nm,1.1s,mb5.6,SNR=8.7
DAVA Damuels 60.95 313⇓*i*P P **16 04 27.3 -0.1**
comp=Z,55nm,1.1s,mb5.6
SISB Singen-Sch Ber 60.98 314 P P **16 04 27.8 +0.3**
WLS Welschbruch 61.00 316 *e*P P **16 04 27.1 -0.6**
CDF Champ du Feu 61.03 316 *e*P P **16 04 26.6 -1.3**
comp=Z,94nm,1.1s,mb5.5
CDF Champ du Feu 61.03 316 *e*P P **16 04 26.6 -1.3**
CDF pmax pmax
comp=Z,47nm,1.1s,mb5.5
APPI Appiano 61.07 312 P P **16 04 27.6 -0.6**
comp=Z,126nm,1.5s,mb5.8
MENF Mencas 61.09 320 *e*P P **16 04 27.2 -1.1**
SLE Schleitheim 61.09 314⇑P P **16 04 27.7 -0.6**
LIBD Limburg 61.12 315 *e*P P **16 04 28.1 -0.4**
LIBD Limburg 61.12 315 *e*P P **16 04 28.0 -0.5**
KIZ Kirchzarten 61.16 315 *e*P P **16 04 27.9 -0.9**
KIZ Kirchzarten 61.16 315 P P **16 04 28.5 -0.3**
BUM Brajici-Budva 61.17 304⇑*i*P P **16 04 28.5 -0.4**
FELD Feldberg 61.19 315 *e*P P **16 04 28.4 -0.6**
EDM Edmonton 61.20 34 *e*P P **16 04 27.7 -1.3**
WILA Wila 61.22 314⇑P P **16 04 28.5 -0.7**
HCY Herceg Novi 61.23 304⇑*i*P P **16 04 28.4 -1.0**
ECH Echery 61.23 316 *e*P P **16 04 28.3 -1.0**
CTI Castel Tesino 61.25 311 P P **16 04 28.4 -1.0**
CTI pmax pmax
comp=Z,145nm,1.2s,mb6.0
CTI Castel Tesino 61.25 311 P P **16 04 28.4 -1.0**
comp=Z,145nm,1.2s,mb6.0
ULC Ulcinj 61.28 304⇑*i*P P **16 04 29.4 -0.2**
FUORN Ofenpass 61.34 313 P P **16 04 30.8 +0.8**
DAVOX Davos 61.36 313 P P **16 04 30.3 +0.1**
ZUR Zurich 61.39 314⇑P P **16 04 30.4 +0.1**
BRMO Bormio 61.41 312 P P **16 04 30.8 +0.3**
SULZ Sulz-Cheisache 61.44 315⇑P P **16 04 29.7 -1.0**
HILS Ha'il 61.49 277 P P **16 04 31.3 0.0**
DLF Lyons Farm 61.52 327⇑*i*P P **16 04 30.8 -0.4**
MOF Molkenrain 61.54 315 *e*P P **16 04 30.3 -1.1**
LLS Linth-Limmern 61.65 314⇑P P **16 04 31.8 -0.3**
THEF They Montfort 61.66 316 *e*P P **16 04 31.3 -0.9**
HINF Hinteralfeld 61.68 316 *e*P P **16 04 30.7 -1.6**
comp=Z,158nm,1.4s,mb5.7
HINF Hinteralfeld 61.68 316 *e*P P **16 04 30.7 -1.6**
HINF pmax pmax
comp=Z,79nm,1.4s,mb5.7
MUO Muotathal 61.70 314⇑P P **16 04 32.4 0.0**
DCN Croghan 61.70 328⇑*i*P P **16 04 32.2 -0.2**
HAU Haudompre 61.71 316 *e*P P **16 04 30.9 -1.6**
comp=Z,156nm,1.5s,mb5.6
HAU *e*R
comp=Z,2μm,19.0s
HAU Haudompre 61.71 316 *e*P P **16 04 30.9 -1.6**
HAU pmax pmax
comp=Z,78nm,1.5s,mb5.6
HAU MLR MLR
comp=Z,2μm,19.0s,MS5.4
BBS Basel-Blauen 61.72 315 *e*P P **16 04 32.1 -0.5**
PGC Sidney 61.72 43 *e*P P **16 04 31.7 -0.9**
comp=Z,79nm,0.8s,mb5.9
VDL Val di Lei 61.76 313⇑P P **16 04 33.4 +0.5**
MEZF Maizieres J'vi 61.78 317 *e*P P **16 04 31.8 -1.2**
comp=Z,234nm,1.5s,mb5.8
TUE Stuetta 61.82 313 P P **16 04 33.1 -0.2**
comp=Z,99nm,1.4s,mb5.8
VDB Vedder Mountai 61.90 42 P P **16 04 33.3 -0.5**
ARSS Ar Rass 61.91 275 P P **16 04 33.7 -0.5**
LOMF Lomont 62.08 315 *e*P P **16 04 34.4 -0.6**
AGG Agios Georgios 62.20 299 *e*P P **16 04 34.3 -1.7**
OCWA Octopus Mounta 62.21 44 *e*P P **16 04 36.2 +0.4**
comp=Z,81nm,1.1s,mb5.8
MZLS Mizel 62.33 272 P P **16 04 36.0 -1.0**
MUGIO Muggio 62.40 313 P P **16 04 36.4 -0.8**
VAI Varese 62.55 313 P P **16 04 36.9 -1.3**
VAI pmax pmax
comp=Z,77nm,0.7s,mb5.9
VAI Varese 62.55 313 P P **16 04 36.9 -1.3**
comp=Z,77nm,0.7s,mb5.9
LKBD Leukerbad 62.57 314⇑P P **16 04 38.3 0.0**
HEX Exmoor 62.63 324 *e*P P **16 04 37.9 -0.7**
MMK Mattmark 62.71 314 P P **16 04 39.2 0.0**
MCGN Macugnaga 62.78 314 P P **16 04 40.1 +0.4**
DIX Grande Dixence 62.91 314 P P **16 04 40.5 0.0**
ZCCA Zocca 62.91 311 P P **16 04 42.5 +1.4**
SFI Santa Sofia 62.92 310 P P **16 04 40.6 0.0**
SFI pmax pmax
comp=Z,106nm,1.1s,mb5.9
SFI Santa Sofia 62.92 310 P P **16 04 40.6 0.0**
comp=Z,106nm,1.1s,mb5.9
CABF La Chapelle 62.97 315 *e*P P **16 04 39.6 -1.3**
comp=Z,68nm,1.2s,mb5.4
CABF La Chapelle 62.97 315 *e*P P **16 04 39.6 -1.3**
CABF pmax pmax
comp=Z,34nm,1.2s,mb5.3
SNTG Esanatoglia 62.99 309 P P **16 04 41.2 +0.1**
VMG Vicchio 63.00 310 P P **16 04 42.0 +0.9**
ORO Oropa 63.06 313 P P **16 04 41.3 -0.2**
GSCL Gusciola 63.07 311 P P **16 04 42.4 +0.8**
ERBM Eremo 63.09 311 P P **16 04 42.5 +0.8**
CRE Caprese Michel 63.11 310 P P **16 04 42.7 +0.8**
EMV Vieux Emosson 63.12 314⇑P P **16 04 42.0 +0.1**
RGNG Rignano Grg 63.14 306 P P **16 04 41.0 -1.1**
BOB Bobbio (Coli) 63.19 312 P P **16 04 42.5 +0.1**
BOB pmax pmax
comp=Z,63nm,1.0s,mb5.7
BOB Bobbio (Coli) 63.19 312 P P **16 04 42.5 +0.1**
comp=Z,63nm,1.0s,mb5.7
LOR Lormes 63.25 317 *e*P P **16 04 40.9 -1.9**
comp=Z,204nm,1.3s,mb5.8
LOR *e*R
comp=Z,3μm,20.8s
LOR Lormes 63.25 317 *e*P P **16 04 40.9 -1.9**
LOR pmax pmax
comp=Z,102nm,1.3s,mb5.8
LOR MLR MLR
comp=Z,3μm,20.8s,MS5.4
VLC Villacollemand 63.31 311 P P **16 04 43.6 +0.4**
comp=Z,199nm,1.1s,mb6.2
CSNT Castellina Chi 63.50 310 P P **16 04 44.4 0.0**
FLN La Foliniere 63.52 321 *e*P P **16 04 42.4 -2.0**
comp=Z,133nm,1.2s,mb5.5
FLN *e*R
comp=Z,4μm,20.0s
FLN La Foliniere 63.52 321 *e*P P **16 04 42.4 -2.0**
FLN pmax pmax
comp=Z,67nm,1.2s,mb5.5
FLN MLR MLR
comp=Z,4μm,20.0s,MS5.5
AQU L'Aquila 63.53 308 *e*P P **16 04 44.6 0.0**
AQU pmax pmax
comp=Z,254nm,0.9s,mb6.2
AQU L'Aquila 63.53 308 *e*P P **16 04 44.6 +0.1**
comp=Z,254nm,0.9s,mb6.2
ALWS Ilw as Safayha 63.53 283 P P **16 04 45.1 +0.3**
RSL Roselend 63.54 314 *e*P P **16 04 44.1 -0.4**
AFFS 'Afif 63.60 273 P P **16 04 45.1 -0.2**
PII Pisa 63.61 311 P P **16 04 45.0 -0.1**
TBKS Tabuk 63.62 282 P P **16 04 45.7 +0.3**
JMOS Jabal al Moall 63.62 283 P P **16 04 45.6 +0.2**
LPG La Plagne 63.65 314 *e*P P **16 04 45.0 -0.3**
comp=Z,397nm,1.3s,mb6.0

LPG La Plagne 63.65 314 *eP* **P 16 04 45.0 -0.3**
LPG pmax pmax
comp=Z,199nm,1.3s,mb6.0
OG05 Jujurieux 63.69 315 *eP* **P 16 04 45.0 -0.5**
HYF Humbligny 63.70 318 *eP* **P 16 04 44.3 -1.3**
SMF Signal de Mont 63.78 317 *eP* **P 16 04 44.5 -1.7**
comp=Z,116nm,1.0s,mb5.5
SMF Signal de Mont 63.78 317 *eP* **P 16 04 44.5 -1.7**
SMF pmax pmax
comp=Z,58nm,1.0s,mb5.6
PTQR Pietraquaria 63.80 308 P **P 16 04 47.0 +0.6**
HAQS Haql 63.81 283 P **P 16 04 46.4 -0.2**
MNS Montasola 63.81 308 P **P 16 04 46.1 -0.3**
MNS pmax pmax
comp=Z,76nm,1.1s,mb5.6
MNS Montasola 63.81 308 P **P 16 04 46.1 -0.3**
comp=Z,76nm,1.1s,mb5.6
VVLD Villa Vallelon 63.83 307 P **P 16 04 46.9 +0.3**
AVF Avril sur Loir 63.84 317 *eP* **P 16 04 44.9 -1.6**
comp=Z,72nm,1.3s,mb5.3
AVF Avril sur Loir 63.84 317 *eP* **P 16 04 44.9 -1.6**
AVF pmax pmax
comp=Z,36nm,1.3s,mb5.2
GRFL Gerfalco 63.90 310 P **P 16 04 47.1 +0.1**
LON Longmire 63.92 43 P **P 16 04 47.8 +0.7**
GRR Gorron 63.97 321 *eP* **P 16 04 45.5 -1.9**
comp=Z,85nm,1.1s,mb5.4
GRR Gorron 63.97 321 *eP* **P 16 04 45.5 -1.9**
GRR pmax pmax
comp=Z,42nm,1.1s,mb5.4
TBM Table Mountain 64.01 42 P **P 16 04 47.4 -0.2**
BNI Bardonecchia 64.05 314 *eP* **P 16 04 48.2 +0.3**
BNI pmax pmax
comp=Z,102nm,1.0s,mb5.8
BNI Bardonecchia 64.05 314 *eP* **P 16 04 48.2 +0.2**
comp=Z,102nm,1.0s,mb5.8
ORI Oriolo Calabro 64.06 304 P **P 16 04 48.2 +0.1**
KBRS Khaybar 64.12 278 P **P 16 04 49.1 +0.4**
OG22 Abries 64.13 314 *eP* **P 16 04 48.3 -0.2**
GDM Grand'Maison 64.14 314 *eP* **P 16 04 48.7 +0.2**
RFI Roccamonfina 64.14 307 P **P 16 04 49.9 +1.3**
SLCN Sala Consilina 64.16 305 P **P 16 04 47.7 -1.1**
SGO Sicignano 64.17 305 P **P 16 04 49.2 +0.4**
BDAS Al Bad' 64.21 283 P **P 16 04 49.2 -0.1**
BGF Bois d'Agland 64.23 317 *eP* **P 16 04 47.4 -1.7**
GRN Grenoble 64.25 315 *eP* **P 16 04 49.3 +0.1**
MBDF Montbardon 64.28 314 *eP* **P 16 04 48.4 -1.1**
comp=Z,114nm,0.9s,mb5.6
MBDF Montbardon 64.28 314 *eP* **P 16 04 48.4 -1.1**
MBDF pmax pmax
comp=Z,57nm,0.9s,mb5.6
AYUS 'Aynunah 64.32 282 P **P 16 04 50.4 +0.4**
CUC Castrocucco 64.40 305 P **P 16 04 48.9 -1.4**
PLDF La Plantade 64.44 317 *eP* **P 16 04 51.0 +0.6**
TDS Terranova Siba 64.44 304 P **P 16 04 51.3 +0.7**
ORIF Oris-en-Rattie 64.47 314 *eP* **P 16 04 49.9 -0.8**
comp=Z,90nm,0.8s,mb5.5
ORIF *eR*
comp=Z,3µm,21.8s
SURF Saint Ours 64.47 314 *eP* **P 16 04 50.9 +0.2**
OD2 Odessa Site #2 64.49 40 P **P 16 04 51.0 +0.2**
IMI Imperia 64.52 312 P **P 16 04 50.6 -0.4**
AGO Saint Agoulin 64.55 317 *eP* **P 16 04 52.0 +0.8**
SAOF Saorge 64.59 313 *eP* **P 16 04 50.5 -1.0**
AUTN L'Aution 64.64 313 *eP* **P 16 04 51.2 -0.6**
TIP Timpagrande 64.64 303 *eP* **P 16 04 51.7 -0.2**
SGMF Saint Gilles 64.66 322 *eP* **P 16 04 50.5 -1.4**
comp=Z,129nm,1.1s,mb5.6
SGMF Saint Gilles 64.66 322 *eP* **P 16 04 50.5 -1.4**
SGMF pmax pmax
comp=Z,65nm,1.1s,mb5.6
TCF Toulx Ste Croi 64.69 318 *eP* **P 16 04 50.6 -1.5**
comp=Z,231nm,1.9s,mb5.6
TCF Toulx Ste Croi 64.69 318 *eP* **P 16 04 50.6 -1.5**
TCF pmax pmax
comp=Z,116nm,1.9s,mb5.6
TOUF Mont Tournerai 64.69 313 *eP* **P 16 04 51.2 -0.9**
GVD Gavdhos 64.70 295 *eP* **P 16 04 50.8 -1.6**
comp=Z,68nm,0.9s,mb5.7
SBF Sospel 64.74 313 *eP* **P 16 04 51.2 -1.3**
comp=Z,362nm,1.2s,mb6.0
SBF Sospel 64.74 313 *eP* **P 16 04 51.2 -1.3**
SBF pmax pmax
comp=Z,181nm,1.2s,mb6.0
MVIF Mont Vial 64.83 313 *eP* **P 16 04 53.2 +0.2**
ROSF Rostrenen 64.83 322 *eP* **P 16 04 51.7 -1.2**
comp=Z,204nm,1.6s,mb5.6
ROSF Rostrenen 64.83 322 *eP* **P 16 04 51.7 -1.2**
ROSF pmax pmax
comp=Z,102nm,1.6s,mb5.6
OG25 Le Caire 64.85 314 *eP* **P 16 04 53.2 0.0**
REVF Revere 64.87 313 *eP* **P 16 04 51.4 -1.9**
HAWA Hanford 65.05 42 *eP* **P 16 04 54.4 0.0**
comp=Z,5.7nm,1.2s,mb4.5
GRI Girifalco 65.09 303 P **P 16 04 55.5 +0.7**
QUIF Quistinic 65.16 322 *eP* **P 16 04 53.8 -1.3**
comp=Z,298nm,1.4s,mb5.8
QUIF Quistinic 65.16 322 *eP* **P 16 04 53.8 -1.3**
QUIF pmax pmax
comp=Z,149nm,1.4s,mb5.8
COR Corvallis 65.19 45 *eP* **P 16 04 56.4 +1.0**
COR pmax pmax
comp=Z,143nm,1.3s,mb5.8
COR Corvallis 65.19 45 *eP* **P 16 04 56.4 +1.0**
comp=Z,143nm,1.3s,mb5.8
PGF Pioggiola 65.21 311 *eP* **P 16 04 54.6 -0.9**
comp=Z,250nm,1.0s,mb5.9
PGF Pioggiola 65.21 311 *eP* **P 16 04 54.6 -0.9**
PGF pmax pmax
comp=Z,125nm,1.0s,mb5.9
MFF Saint Martin d 65.26 319 *eP* **P 16 04 54.4 -1.4**
comp=Z,55nm,0.7s,mb5.4
MFF Saint Martin d 65.26 319 *eP* **P 16 04 54.4 -1.4**
MFF pmax pmax
comp=Z,27nm,0.7s,mb5.4
FRF La Foret Royal 65.31 313 *eP* **P 16 04 54.6 -1.5**
comp=Z,316nm,1.3s,mb5.9
FRF La Foret Royal 65.31 313 *eP* **P 16 04 54.6 -1.5**
FRF pmax pmax
comp=Z,158nm,1.3s,mb5.9
LCHF La Chataignera 65.41 320 *eP* **P 16 04 56.5 -0.2**
TAVF Tavernes 65.49 313 *eP* **P 16 04 57.7 +0.4**
LMR La Mourre 65.55 313 *eP* **P 16 04 56.5 -1.2**
comp=Z,241nm,1.2s,mb5.8
LMR La Mourre 65.55 313 *eP* **P 16 04 56.5 -1.2**
LMR pmax pmax
comp=Z,121nm,1.2s,mb5.8
PRAF Pradon 65.68 314 *eP* **P 16 04 59.6 +1.1**
RJF Les Rejaudoux 65.78 318 *eP* **P 16 04 57.9 -1.2**
comp=Z,77nm,1.2s,mb5.3
RJF Les Rejaudoux 65.78 318 *eP* **P 16 04 57.9 -1.2**
RJF pmax pmax
comp=Z,39nm,1.2s,mb5.3
CEL Celeste 65.78 303 P **P 16 04 59.5 +0.2**
SOI Samo 65.86 303 P **P 16 04 59.9 +0.1**
BERF Bertagne 65.89 314 *eP* **P 16 05 00.1 +0.2**
CAF Calviac 65.90 317 *eP* **P 16 04 59.2 -0.7**
comp=Z,176nm,1.5s,mb5.6
CAF Calviac 65.90 317 *eP* **P 16 04 59.2 -0.7**
CAF pmax pmax
comp=Z,88nm,1.5s,mb5.6
GELF Grande-Etoile 65.94 314 *eP* **P 16 05 00.6 +0.5**
LASF Ste Croix 65.95 315 *eP* **P 16 04 59.9 -0.3**
comp=Z,225nm,1.3s,mb5.7
SLNA Salina 66.01 304 P **P 16 05 00.2 -0.5**
MTTG Motta San Giov 66.08 303 P **P 16 05 02.6 +1.4**
KEBM Edson Butte 66.24 47 *eP* **P 16 05 03.6 +1.5**
LFF La Frestale 66.38 318 *eP* **P 16 05 02.2 -0.7**
comp=Z,190nm,1.3s,mb5.7
LFF La Frestale 66.38 318 *eP* **P 16 05 02.2 -0.7**
LFF pmax pmax
comp=Z,95nm,1.3s,mb5.7
MSO Missoula 66.60 38 *eP* **P 16 05 04.4 +0.1**
comp=Z,553nm,1.4s,mb6.4
CHMT Chamberlain Mo 66.75 37 *eP* **P 16 05 05.4 +0.1**
EGMT Eagleton 66.87 34 *eP* **P 16 05 05.1 -0.9**
comp=Z,91nm,1.6s,mb5.6
TATS Tathlith 66.90 270 P **P 16 05 06.5 -0.2**
HUMO Hull Mountain 67.00 46 *eP* **P 16 05 07.8 +0.8**
comp=Z,76nm,1.3s,mb5.6
BMO Blue Mountains 67.17 41 *eP* **P 16 05 08.3 +0.3**
comp=Z,143nm,1.1s,mb5.9
MTLF Montolieu 67.20 316 *eP* **P 16 05 07.7 -0.5**
comp=Z,145nm,1.4s,mb5.5
MTLF Montolieu 67.20 316 *eP* **P 16 05 07.7 -0.5**
MTLF pmax pmax
comp=Z,73nm,1.4s,mb5.5
HRY Holter Researc 67.39 36 *eP* **P 16 05 09.2 -0.1**
KTRM Thompson Ridge 67.43 47 P **P 16 05 11.2 +1.5**
VSL Villasalto 67.60 309 *eP* **P 16 05 10.5 -0.3**
comp=Z,87nm,0.9s,mb5.8
BLJS Baljurashi 67.63 272 P **P 16 05 11.2 -0.1**
EJON La Jonquera 67.71 315 P **P 16 05 11.8 +0.4**
comp=Z,118nm,1.0s,mb5.9
HOG Hogback Mounta 67.80 45 P **P 16 05 13.5 +1.5**
YBH Yreka Blue Hor 67.84 46 *eP* **P 16 05 13.2 +0.9**
YBH pmax pmax
comp=Z,47nm,1.3s
YBH Yreka Blue Hor 67.84 46 *eP* **P 16 05 13.2 +0.9**
comp=Z,47nm,1.3s,mb5.4
SCHQ Schefferville 67.88 5 P **P 16 05 11.8 -0.5**
comp=Z,71nm,0.9s,mb5.7,baz=0.6,slow=6.4,SNR=38
SCHQ Schefferville 67.88 5 *eP* **P 16 05 11.9 -0.3**
comp=Z,120nm,1.0s,mb5.9
MLS Moulis 67.95 316 *eP* **P 16 05 13.2 +0.3**
LTHS Al Lith 67.95 273 P **P 16 05 13.4 +0.1**
DGMT Dagmar 68.07 30 *eP* **P 16 05 12.8 -0.8**
comp=Z,116nm,1.0s,mb5.9
LHEM Herd Peak 68.12 46 P **P 16 05 15.0 +1.0**
EPF Esparros 68.17 317 *eP* **P 16 05 13.1 -1.2**
KHMM Horse Mountain 68.17 47 *eP* **P 16 05 15.5 +1.1**
DLMT Dillon 68.33 37 *eP* **P 16 05 15.7 +0.4**
comp=Z,194nm,1.1s,mb6.0
DJNS Zahran al Janu 68.36 269 P **P 16 05 15.6 -0.3**
RESF Ens 68.36 317 *eP* **P 16 05 16.1 +0.6**
BOZ Bozeman (W) 68.39 37 *eP* **P 16 05 15.9 +0.2**
BOZ pmax pmax
comp=Z,20nm,0.6s,mb5.3
BOZ Bozeman (W) 68.39 37 *eP* **P 16 05 15.9 +0.3**
comp=Z,20nm,0.6s,mb5.3
LASM Arnica Sink 68.40 46 P **P 16 05 16.9 +1.2**
VIEF Viey 68.41 317 *eP* **P 16 05 16.6 +0.8**
ULM Lac du Bonnet 68.49 24 P **P 16 05 14.3 -1.9**
comp=Z,12nm,0.8s,mb4.9,baz=339,slow=7.9,SNR=19
ULM PKPPKP 16 33 29.4
comp=Z,2.3nm,0.9s,baz=200,slow=10.0,SNR=3.8
ULM LR LR 16 35 48.5
comp=Z,3µm,20.0s,MS5.5,baz=39,slow=36
ULM Lac du Bonnet 68.49 24 P **P 16 05 14.3 -1.9**
ULM P'P' 16 33 29.4
ULM LR LR 16 35 48.5
EBIE Bielsa 68.54 317 P **P 16 05 18.0 +1.4**
comp=Z,261nm,1.8s,mb5.9
OSSF Osses 68.55 318 *eP* **P 16 05 15.9 -0.8**
ETSF Etsaut 68.61 318 *eP* **P 16 05 17.1 +0.1**
comp=Z,196nm,1.4s,mb5.5
ETSF Etsaut 68.61 318 *eP* **P 16 05 17.1 +0.1**
ETSF pmax pmax
comp=Z,98nm,1.4s,mb5.5
MOD Mooc 68.62 45 *eP* **P 16 05 17.6 +0.4**
comp=Z,99nm,1.2s,mb5.6
SJPF Ste Jean 68.67 318 *eP* **P 16 05 16.3 -1.1**
comp=Z,54nm,1.1s,mb5.1
EALK Alkurruntz 68.67 318 P **P 16 05 17.9 +0.4**
comp=Z,278nm,2.1s,mb5.8
EMIR Miracle 68.69 316 P **P 16 05 19.1 +1.5**
comp=Z,736nm,3.8s
MCMT McKenzie Canyo 68.72 38 *eP* **P 16 05 18.2 +0.5**
WVOR Wild Horse Val 68.79 43 *eP* **P 16 05 18.8 +0.7**
WVOR pmax pmax
comp=Z,53nm,1.0s,mb5.4
WVOR Wild Horse Val 68.79 43 *eP* **P 16 05 18.8 +0.6**
comp=Z,53nm,1.0s,mb5.4
GCMT Greycliff 68.89 35 *eP* **P 16 05 19.2 +0.5**
WDC Whiskeytown Da 68.89 47 *eP* **P 16 05 18.7 -0.1**
WDC pmax pmax
comp=Z,41nm,1.1s,mb5.3
WDC Whiskeytown Da 68.89 47 *eP* **P 16 05 18.7 -0.1**
comp=Z,41nm,1.1s,mb5.3
EGRA Graus 68.90 317 P **P 16 05 19.9 +1.1**
comp=Z,51nm,1.0s,mb5.4
KIPM Iron Peak 69.18 48 *eP* **P 16 05 21.3 +0.7**
QLMT Earthquake Lak 69.19 37 *eP* **P 16 05 21.2 +0.7**
HLID Hailey 69.31 40 *eP* **P 16 05 21.9 +0.5**
comp=Z,38nm,0.9s,mb5.3
EPOB Poblet 69.34 316 P **P 16 05 22.2 +0.6**
comp=Z,152nm,1.2s,mb5.8
ELAN Lanestosa 69.35 320 P **P 16 05 21.9 +0.3**
comp=Z,176nm,1.3s,mb5.8
YMR Madison River 69.48 37 *eP* **P 16 05 22.8 +0.5**
comp=Z,28nm,0.8s,mb5.2
ECRI Cripan 69.57 319 P **P 16 05 23.6 +0.7**
ECRI pmax pmax
comp=Z,71nm,1.4s,mb5.4
ECRI Cripan 69.57 319 P **P 16 05 23.6 +0.7**
comp=Z,71nm,1.4s,mb5.4
ESAC San Caprasio 69.60 317 P **P 16 05 24.4 +1.3**
comp=Z,421nm,1.6s,mb6.1
YFT Old Faithful 69.72 37 *eP* **P 16 05 25.1 +1.4**
LKWY Lake 69.75 36 P **P 16 05 25.4 +1.4**
LKWY *e* 16 05 51.8
LKWY pmax pmax
comp=Z,37nm,0.8s,mb5.4
LKWY Lake 69.75 36 *eP* **P 16 05 25.1 +1.0**
comp=Z,37nm,0.8s,mb5.4
EARI Arriondas 69.90 321 P **P 16 05 25.4 +0.5**
comp=Z,165nm,1.6s,mb5.7
FRSS Farasan al Kab 69.93 270 P **P 16 05 25.5 0.0**
ETOS Mallorca 70.04 314 P **P 16 05 26.7 +0.8**
comp=Z,2µm,4.0s
PMG Port Moresby 70.08 152 LR LR 16 30 52.6
comp=Z,1µm,21.5s,MS5.2,baz=128,slow=31
PMG Port Moresby 70.08 152 P **P 16 05 26.1 -0.4**
PMG *e* 16 05 43.5
PMG pmax pmax
comp=Z,35nm,1.3s
PMG Port Moresby 70.08 152 *eP* **P 16 05 25.8 -0.7**
comp=Z,23nm,1.0s,mb5.1
IMW Indian Meadow 70.18 37 *eP* **P 16 05 27.6 +1.0**
comp=Z,33nm,1.0s,mb5.2
POHA Pohakuloa 70.24 84 *eP* **P 16 05 27.0 -0.4**
comp=Z,471nm,0.5s
MOOW Moose Ponds 70.37 37 *eP* **P 16 05 28.5 +0.7**
comp=Z,105nm,1.1s,mb5.7
EPON Pontenova 70.52 322 P **P 16 05 29.1 +0.4**
comp=Z,179nm,1.7s,mb5.7
LOHW Long Hollow 70.54 37 *eP* **P 16 05 29.4 +0.6**
comp=Z,60nm,1.2s,mb5.4
RRI2 Red Ridge 70.54 38 *eP* **P 16 05 29.6 +0.8**
comp=Z,95nm,1.3s,mb5.6
NSHM Saint Helena R 70.63 48 *eP* **P 16 05 30.8 +1.3**
REDW Red Top Meadow 70.68 37 *eP* **P 16 05 30.4 +0.8**
comp=Z,109nm,1.3s,mb5.6
EMOS Mosqueruela 70.78 316 P **P 16 05 31.4 +1.1**
comp=Z,255nm,2.1s,mb5.8
CAEH 'Ain El Ouahch 70.96 309 P **P 16 05 32.0 +0.5**
AHID Auburn Hatcher 71.13 38 *eP* **P 16 05 33.1 +0.7**
comp=Z,33nm,1.1s,mb5.2
CKFL Kef-Lekhel 71.34 309 P **P 16 05 34.0 +0.2**
ERUA La Rua 71.36 322 P **P 16 05 34.5 +0.7**
ERUA pmax pmax
comp=Z,44nm,1.0s,mb5.3
ERUA La Rua 71.36 322 P **P 16 05 34.5 +0.7**
comp=Z,44nm,1.0s,mb5.3
HVU Hansel Valley 71.45 39 *eP* **P 16 05 35.2 +0.8**
HVU pmax pmax
comp=Z,61nm,1.0s,mb5.5
HVU Hansel Valley 71.45 39 *eP* **P 16 05 35.2 +0.8**
comp=Z,61nm,1.0s,mb5.5
ELK Elko 71.50 42 *eP* **P 16 05 35.8 +1.1**
ELK pmax pmax
comp=Z,67nm,1.1s
ELK Elko 71.50 42 *eP* **P 16 05 35.8 +1.1**
comp=Z,67nm,1.1s,mb5.5
SAC San Andreas 71.51 48 *eP* **P 16 05 35.3 +0.5**
CASM Ain Smara 71.55 309 P **P 16 05 35.0 -0.1**
DFRA Djebel Bou Aff 71.57 310 P **P 16 05 36.5 +1.3**
EYMN Ely 71.60 22 *eP* **P 16 05 33.6 -1.5**
comp=Z,86nm,1.3s,mb5.5
ECAL Calabor 71.62 321 P **P 16 05 36.0 +0.6**
comp=Z,578nm,3.6s
PDAR Pinedale Array 71.64 37 P **P 16 05 35.1 -0.3**
comp=Z,18nm,0.7s,mb5.1,baz=16,slow=2.5,SNR=132
PBRG Braganca 71.75 321 *eP* **P 16 05 36.5 +0.4**
comp=Z,67nm,1.5s,mb5.3
CTEI Djebel Teioual 71.76 309 P **P 16 05 36.0 -0.3**
CMB Columbia Colle 71.93 47 *eP* **P 16 05 37.6 +0.3**
CMB pmax pmax
comp=Z,61nm,1.4s,mb5.3
CMB Columbia Colle 71.93 47 *eP* **P 16 05 37.6 +0.3**
comp=Z,61nm,1.4s,mb5.3
SPUT South Promonto 71.98 39 *eP* **P 16 05 37.6 0.0**
HWUT Hardware Ranch 72.01 39 *eP* **P 16 05 38.5 +0.7**
comp=Z,124nm,0.9s,mb5.8
SET Setif 72.06 310 P **P 16 05 36.0 -2.1**
EZAM Zamans 72.08 323 P **P 16 05 38.9 +0.7**
EZAM pmax pmax
comp=Z,46nm,1.2s,mb5.3
EZAM Zamans 72.08 323 P **P 16 05 38.9 +0.7**
comp=Z,46nm,1.2s,mb5.3
RSSD Black Hills 72.09 32 *eP* **P 16 05 37.5 -0.7**
RSSD pmax pmax
comp=Z,43nm,0.9s,mb5.4
RSSD Black Hills 72.09 32 *eP* **P 16 05 37.5 -0.7**
comp=Z,43nm,0.9s,mb5.4
BGU Big Grassy Mou 72.12 40 *eP* **P 16 05 38.9 +0.5**
ELOB Lobios 72.13 322 P **P 16 05 38.7 +0.3**
comp=Z,343nm,2.9s,mb5.8
EBEN Beniarda 72.14 315 P **P 16 05 39.3 +0.8**
comp=Z,574nm,3.2s
CKHR Kef el Ahmar 72.17 310 P **P 16 05 39.0 +0.2**
PCAB Cabril 72.26 322 *eP* **P 16 05 39.8 +0.6**
comp=Z,74nm,1.2s,mb5.5
NVAR Mina Array Bea 72.40 45 P **P 16 05 40.5 +0.4**
comp=Z,22nm,0.9s,mb5.1,baz=329,slow=3.3,SNR=142
MNV Mina 72.45 45 *eP* **P 16 05 40.9 +0.5**
MNV pmax pmax
comp=Z,49nm,1.2s,mb5.3
MNV Mina 72.45 45 *eP* **P 16 05 40.9 +0.5**
comp=Z,49nm,1.2s,mb5.3
TCUT Toone Canyon 72.50 39 *eP* **P 16 05 41.3 +0.7**
PVRL Vila Real 72.55 322 *eP* **P 16 05 41.5 +0.7**
comp=Z,87nm,1.8s,mb5.4
SAO San Andreas Ge 72.61 48 *eP* **P 16 05 42.0 +0.7**
SAO pmax pmax
comp=Z,52nm,1.2s,mb5.3
SAO San Andreas Ge 72.61 48 *eP* **P 16 05 42.0 +0.7**
comp=Z,52nm,1.2s,mb5.3
ESDC Sonseca Array 72.67 318 P **P 16 05 41.5 0.0**
comp=Z,24nm,0.8s,mb5.2,baz=21,slow=6.4,SNR=100
ESDC Sonseca Array 72.67 318 P **P 16 05 42.4 +0.9**
comp=Z,32nm,0.9s,mb5.2
ESLA Sonseca Array 72.67 318 *eP* **P 16 05 42.1 +0.5**
comp=Z,25nm,1.2s,mb5.0
NOQ North Oquirrh 72.68 39 *eP* **P 16 05 42.0 +0.4**
comp=Z,93nm,1.0s,mb5.7
ETOB Tobarra 72.69 316 P **P 16 05 43.2 +1.6**
comp=Z,478nm,2.6s,mb6.0
DUG Dugway 72.84 40 *eP* **P 16 05 43.1 +0.5**
DUG pmax pmax
comp=Z,72nm,1.1s,mb5.5
DUG Dugway 72.84 40 *eP* **P 16 05 43.1 +0.5**
comp=Z,72nm,1.1s,mb5.5
EVIA Vianos 73.05 317 P **P 16 05 45.4 +1.6**
EVIA pmax pmax
comp=Z,48nm,1.1s,mb5.3
EVIA Vianos 73.05 317 P **P 16 05 45.4 +1.6**
comp=Z,48nm,1.1s,mb5.3
LRV Little Rabbit 73.08 48 *eP* **P 16 05 45.3 +1.3**
PVIS Viseu 73.11 322 *eP* **P 16 05 44.8 +0.7**
comp=Z,72nm,1.4s,mb5.4
TPH Tonopah 73.12 44 ⇓*iP* **P 16 05 45.1 +0.9**
TPH pmax pmax
comp=Z,101nm,1.2s,mb5.6
TPH Tonopah 73.12 44 ⇓*iP* **P 16 05 45.0 +0.8**
comp=Z,101nm,1.2s,mb5.6
DAU Daniels Canyon 73.19 39 *eP* **P 16 05 45.8 +1.2**
MTE Manteigas 73.27 321 *eP* **P 16 05 46.0 +0.9**
comp=Z,97nm,1.8s,mb5.4
MTE Manteigas 73.27 321 *eP* **P 16 05 45.6 +0.5**
comp=Z,67nm,1.1s,mb5.5
EMUR La Murta 73.28 315 P **P 16 05 45.8 +0.7**
comp=Z,234nm,2.4s,mb5.7
RWWY Rawlins 73.36 35 *eP* **P 16 05 45.4 -0.2**
comp=Z,46nm,1.2s,mb5.3
MPU Maple Canyon 73.41 39 *eP* **P 16 05 46.6 +0.8**
comp=Z,47nm,1.4s,mb5.2
PCBR Castelo Branco 73.75 321 *eP* **P 16 05 48.6 +0.7**
comp=Z,76nm,1.7s,mb5.3
EHUE Huescar 73.81 316 P **P 16 05 49.4 +1.2**
EHUE pmax pmax
comp=Z,34nm,1.2s,mb5.2
EHUE Huescar 73.81 316 P **P 16 05 49.4 +1.2**
comp=Z,34nm,1.2s,mb5.2
ATD Arta Tunnel 73.83 266 P **P 16 05 49.3 +0.5**
comp=Z,12nm,0.7s,mb4.9,baz=341,slow=9.9,SNR=6.1
EBAN Banos Encina 73.94 317 P **P 16 05 50.3 +1.3**
EBAN pmax pmax
comp=Z,40nm,1.0s,mb5.3
EBAN Banos Encina 73.94 317 P **P 16 05 50.3 +1.3**
comp=Z,40nm,1.0s,mb5.3
HNR Honiara 73.99 140 *eP* **P 16 05 48.7 -1.0**
HNR pmax pmax
comp=Z,151nm,1.3s,mb5.8
HNR Honiara 73.99 140 *eP* **P 16 05 48.7 -1.0**
comp=Z,151nm,1.3s,mb5.8
EQES Quesada 74.00 317 P **P 16 05 50.7 +1.4**
comp=Z,481nm,2.8s,mb5.9
PTRM Twissleman Ran 74.07 48 *eP* **P 16 05 51.3 +1.5**
TMUT Trail Mountain 74.20 39 *eP* **P 16 05 51.4 +0.9**
EADA Adamuz 74.22 318 P **P 16 05 51.8 +1.2**
comp=Z,134nm,1.6s,mb5.6
PHWY Pilot Hill 74.25 34 *eP* **P 16 05 50.6 -0.1**
PTOM Tomar 74.27 321 *eP* **P 16 05 51.5 +0.7**
comp=Z,63nm,1.2s,mb5.4
TPNV Topopah Spring 74.47 44 *eP* **P 16 05 52.7 +0.6**
TPNV pmax pmax
comp=Z,400nm,1.6s,mb6.1
TPNV MLR MLR
comp=Z,2µm,19.0s,MS5.4
TPNV Topopah Spring 74.47 44 *eP* **P 16 05 52.7 +0.6**
comp=Z,400nm,1.6s,mb6.1
TPNV LR LR
comp=Z,2µm,19.0s,MS5.4
DAC Darwin (Calif) 74.55 46 *eP* **P 16 05 53.1 +0.5**
DAC pmax pmax
comp=Z,75nm,1.4s,mb5.4
DAC Darwin (Calif) 74.55 46 *eP* **P 16 05 53.1 +0.6**
comp=Z,75nm,1.4s,mb5.4
EBAD Badajoz 74.56 320 P **P 16 05 53.2 +0.6**
comp=Z,291nm,2.3s,mb5.8
MVU Marysvale 74.56 40 *eP* **P 16 05 55.3 +2.7**
comp=Z,100nm,1.4s,mb5.5
MSU Marysvale 74.57 40 *eP* **P 16 05 53.8 +1.2**
SRU San Rafael 74.60 39 *eP* **P 16 05 53.2 +0.4**
SRU pmax pmax
comp=Z,38nm,1.1s,mb5.2
SRU San Rafael 74.60 39 *eP* **P 16 05 53.2 +0.4**
comp=Z,38nm,1.1s,mb5.2
ECAB El Cabril 74.61 319 P **P 16 05 53.4 +0.5**
comp=Z,109nm,1.6s,mb5.5
ECOG Cogollos-Vega 74.64 317 P **P 16 05 54.0 +0.9**
ECOG pmax pmax
comp=Z,30nm,1.0s,mb5.2
ECOG Cogollos-Vega 74.64 317 P **P 16 05 54.0 +0.9**
comp=Z,30nm,1.0s,mb5.2
ELUQ Luque 74.65 318 P **P 16 05 54.8 +1.7**
ELUQ pmax pmax
comp=Z,66nm,1.2s,mb5.4
ELUQ Luque 74.65 318 P **P 16 05 54.8 +1.7**
comp=Z,66nm,1.2s,mb5.4
EBER Berja 74.73 316 P **P 16 05 53.6 0.0**
comp=Z,89nm,1.9s,mb5.4
ARUT Antelope Range 74.76 42 *eP* **P 16 05 53.8 0.0**
ERON Agron 74.96 317 P **P 16 05 55.2 +0.3**
comp=Z,28nm,0.9s,mb5.2
ELOJ Sierra Loja 74.97 317 P **P 16 05 55.9 +0.9**
ELOJ pmax pmax
comp=Z,38nm,1.0s,mb5.3
ELOJ Sierra Loja 74.97 317 P **P 16 05 55.9 +0.9**
comp=Z,38nm,1.0s,mb5.3
EVO Evora 75.11 321 *eP* **P 16 05 55.6 -0.1**
comp=Z,152nm,1.3s,mb5.5
EVO *eR*
comp=Z,4µm,22.0s
EMIN Mina Concepcio 75.33 319 P **P 16 05 58.0 +1.0**
comp=Z,186nm,1.5s,mb5.8
FITZ Fitzroy Crossi 75.40 175 ⇓*iP* **P 16 05 56.2 -1.6**
comp=Z,76nm,0.9s,mb5.6
FITZ Fitzroy Crossi 75.40 175 LR LR 16 38 24.1
comp=Z,643nm,20.5s,MS4.9,baz=313,slow=35
PBEJ Beja 75.51 320 *eP* **P 16 05 58.5 +0.4**
comp=Z,90nm,1.3s,mb5.5
ISCO Idaho Springs 75.58 35 *eP* **P 16 05 58.8 +0.4**
ISCO pmax pmax
comp=Z,127nm,1.4s,mb5.7
ISCO Idaho Springs 75.58 35 *eP* **P 16 05 58.8 +0.4**
comp=Z,127nm,1.4s,mb5.7

EMIJ Mijas 75.72 317 P **P** **16 05 59.3 +0.1**
comp=Z,69nm,1.1s,mb5.5

EGRO El Granado 75.82 320 P **P** **16 06 00.8 +1.0**
comp=Z,140nm,1.4s,mb5.7

ESPR Espera 75.84 318 P **P** **16 06 01.3 +1.3**
comp=Z,88nm,1.0s,mb5.7

EJIF Jimena Fronter 76.07 318 P **P** **16 06 02.6 +1.3**
EJIF pmax pmax
comp=Z,106nm,1.3s,mb5.6

EJIF Jimena Fronter 76.07 318 P **P** **16 06 02.6 +1.3**
comp=Z,106nm,1.3s,mb5.6

PV01 Paradox Valley 76.14 38 *eP* **P** **16 06 02.3 +0.7**
NEN Nelson 76.15 44 *eP* **P** **16 06 02.6 +0.9**
MWC Mount Wilson 76.17 47 *eP* **P** **16 06 01.3 -0.6**
LDFC Landfair 76.56 44 *eP* **P** **16 06 04.8 +0.7**
LOZ Lake Ozonia 77.47 11 *eP* **P** **16 06 09.2 +0.3**
SDCO Great Sand Dun 77.49 36 *eP* **P** **16 06 09.5 +0.4**
comp=Z,83nm,1.3s,mb5.5

WUAZ Wupatki 77.53 41 *eP* **P** **16 06 10.4 +1.0**
comp=Z,155nm,1.6s,mb5.7

WRAB Tennant Creek 77.95 167 *d iP* **P** **16 06 10.5 -1.5**
WRA Warramunga Arr 77.96 167 P **P** **16 06 10.4 -1.7**
comp=Z,51nm,0.9s,mb5.4,baz=351,slow=6.5,SNR=217
WRA PKKPbc 16 25 11.0
comp=Z,1.2nm,0.8s,baz=182,slow=1.7,SNR=12

WB2 Warramunga Arr 77.96 167 ⇓*iP* **P** **16 06 10.3 -1.8**
BAR Barrett 78.08 47 *eP* **P** **16 06 13.1 +0.6**
MIV Mineville/With 78.12 10 *eP* **P** **16 06 13.1 +0.7**
NCB Newcomb 78.15 11 *eP* **P** **16 06 13.2 +0.6**
comp=Z,26nm,0.8s,mb5.2

MBWA Marble Bar 78.33 181 *eP* **P** **16 06 12.9 -1.2**
comp=Z,67nm,1.3s,mb5.4

HNH Hanover 78.60 10 *eP* **P** **16 06 15.7 +0.6**
comp=Z,4.6nm,1.3s

ACCN Adirondack Com 78.79 11 *eP* **P** **16 06 16.4 +0.3**
KSU1 Kansas State U 78.80 29 *eP* **P** **16 06 16.1 -0.2**
ANMO Albuquerque 79.73 38 *eP* **P** **16 06 22.5 +1.0**
ANMO pmax pmax
comp=Z,33nm,1.1s

ANMO MLR MLR
comp=Z,2μm,20.0s

ANMO Albuquerque 79.73 38 *eP* **P** **16 06 22.5 +1.1**
comp=Z,33nm,1.1s,mb5.2

ANMO LR LR
comp=Z,2μm,20.0s,MS5.5

LAZ Ladron 80.01 38 *eP* **P** **16 06 24.3 +1.3**
CTA Charters Tower 80.17 156 *eP* **P** **16 06 22.7 -1.3**
comp=Z,20nm,1.0s,mb5.0

CTA Charters Tower 80.17 156 *eP* **P** **16 06 22.7 -1.3**
CTA pmax pmax
comp=Z,20nm,1.0s

LPM Los Pinos Moun 80.26 38 *eP* **P** **16 06 25.4 +1.1**
BNM Barren Site 80.41 38 *eP* **P** **16 06 26.4 +1.4**
TUC Tucson 80.63 42 *eP* **P** **16 06 27.2 +0.9**
TUC pmax pmax
comp=Z,87nm,1.9s,mb5.4

TUC Tucson 80.63 42 *eP* **P** **16 06 27.2 +0.9**
comp=Z,87nm,1.9s,mb5.4

ACSO Alum Creek Sta 80.64 18 *eP* **P** **16 06 25.4 -0.8**
comp=Z,36nm,1.1s,mb5.2

SLM Saint Louis 80.77 24 P **P** **16 06 26.0 -0.9**
PAL Palisades 81.12 11 *eP* **P** **16 06 29.1 +0.4**
PAL pmax pmax
comp=Z,43nm,0.9s,mb5.4

PAL Palisades 81.12 11 *eP* **P** **16 06 29.1 +0.4**
comp=Z,43nm,0.9s,mb5.4

CPNY Central Park 81.32 11 P **P** **16 06 28.9 -0.9**
FVM French Village 81.35 24 *eP* **P** **16 06 29.7 -0.3**
FVM pmax pmax
comp=Z,69nm,1.4s,mb5.4

FVM French Village 81.35 24 *eP* **P** **16 06 29.7 -0.3**
comp=Z,69nm,1.4s,mb5.4

MCWV Mont Chateau 81.70 16 *eP* **P** **16 06 32.1 +0.4**
comp=Z,34nm,1.1s,mb5.2

MVL Millersville 81.83 13 *eP* **P** **16 06 31.8 -0.6**
SIUC Southern Illin 81.88 24 *eP* **P** **16 06 33.0 +0.3**
comp=Z,89nm,1.1s,mb5.6

WCI Wyandotte Cave 81.98 21 *eP* **P** **16 06 33.4 +0.2**
WCI pmax pmax
comp=Z,91nm,1.3s,mb5.5

WCI Wyandotte Cave 81.98 21 *eP* **P** **16 06 33.4 +0.1**
comp=Z,91nm,1.3s,mb5.5

WMOK Wichita Mounta 82.30 32 *eP* **P** **16 06 35.4 +0.4**
WMOK pmax pmax
comp=Z,115nm,1.2s,mb5.7

WMOK MLR MLR
comp=Z,2μm,20.0s,MS5.5

WMOK Wichita Mounta 82.30 32 *eP* **P** **16 06 35.4 +0.4**
comp=Z,116nm,1.2s,mb5.7

WMOK LR LR
comp=Z,2μm,20.0s,MS5.5

CPRX Cap Rock 82.34 37 *eP* **P** **16 06 35.0 -0.2**
PARMO Parma 82.77 24 *eP* **P** **16 06 38.0 +0.6**
GDL2 Guadalupe Moun 82.94 37 *eP* **P** **16 06 38.7 +0.4**
CLNB Carlsbad 83.04 37 *eP* **P** **16 06 39.6 +0.8**
MNTX Cornudas Mount 83.07 38 *eP* **P** **16 06 39.8 +0.8**
comp=Z,323nm,1.6s,mb6.1

UTMT University of 83.27 24 *eP* **P** **16 06 40.1 +0.1**
comp=Z,213nm,1.3s,mb6.0

CBN Corbin 83.47 14 *eP* **P** **16 06 41.5 +0.6**
comp=Z,22nm,0.5s,mb5.5

HBAR Harrisburg 83.62 25 *eP* **P** **16 06 42.5 +0.8**
WVT Waverly 83.70 23 *eP* **P** **16 06 42.2 +0.2**
WVT pmax pmax
comp=Z,253nm,1.8s,mb6.0

WVT Waverly 83.70 23 *eP* **P** **16 06 42.2 +0.1**
comp=Z,253nm,1.8s,mb6.0

UALR University of 83.97 27 *eP* **P** **16 06 44.0 +0.6**
comp=Z,62nm,1.6s,mb5.5

BLA Blacksburg 84.00 17 *eP* **P** **16 06 43.3 -0.3**
BLA pmax pmax
comp=Z,48nm,1.2s,mb5.5

BLA Blacksburg 84.00 17 *eP* **P** **16 06 43.3 -0.3**
comp=Z,48nm,1.2s,mb5.5

TZTN Tazewell 84.13 19 *eP* **P** **16 06 44.2 0.0**
MET Memphis--Engin 84.21 25 *eP* **P** **16 06 45.8 +1.2**
OXF Oxford 84.91 25 *eP* **P** **16 06 46.5 -1.7**
OXF pmax pmax
comp=Z,118nm,1.3s,mb5.9

OXF Oxford 84.91 25 *eP* **P** **16 06 46.5 -1.6**
comp=Z,118nm,1.3s,mb5.9

CPCT Cooper Cave 85.02 20 *eP* **P** **16 06 49.3 +0.6**
LTX Lajitas 85.81 38 *eP* **P** **16 06 53.7 +0.9**
LTX pmax pmax
comp=Z,28nm,1.1s,mb5.4

LTX Lajitas 85.81 38 *eP* **P** **16 06 53.6 +0.8**
comp=Z,28nm,1.1s,mb5.4

TXAR Lajitas Array 85.81 38 P **P** **16 06 53.7 +0.9**
comp=Z,19nm,1.1s,mb5.2,baz=270,slow=2.5,SNR=40

JCT Junction City 85.98 34 *eP* **P** **16 06 54.3 +0.7**
JCT pmax pmax
comp=Z,138nm,1.4s,mb6.0

JCT MLR MLR
comp=Z,2μm,21.0s,MS5.5

JCT Junction City 85.98 34 *eP* **P** **16 06 54.3 +0.7**
comp=Z,138nm,1.4s,mb6.0

JCT LR LR
comp=Z,2μm,21.0s,MS5.5

NATX Nacogdoches 86.24 30 *eP* **P** **16 06 56.5 +1.7**
comp=Z,201nm,1.2s,mb6.2

CFTV Fuerteventura 86.38 321 P **P** **16 06 56.6 +1.0**
comp=Z,60nm,1.2s,mb5.7

JSC Jenkinsville 86.73 18 *eP* **P** **16 06 57.9 +0.7**
GOGA Godfrey 87.19 20 *eP* **P** **16 07 00.4 +0.9**
comp=Z,174nm,1.7s,mb6.0

KMBO Kilima Mbogo 87.42 264 P **P** **16 07 02.0 +1.0**
comp=Z,1.9nm,0.8s,baz=38,slow=12,SNR=11

FORT Forrest 88.13 174 ⇑*iP* **P** **16 07 03.2 -0.8**
comp=Z,53nm,0.7s,mb5.9

AFI Afiamalu 90.02 116 *eP* **P** **16 07 12.7 -0.6**
comp=Z,217nm,1.4s,mb6.3

STKA Stephens Creek 90.74 162 ⇑*iP* **P** **16 07 15.9 -0.4**
comp=Z,8.5nm,0.9s,mb5.1

STKA Stephens Creek 90.74 162 P **P** **16 07 15.9 -0.4**
comp=Z,11nm,0.9s,mb5.2,baz=351,slow=5.9,SNR=12

TORD Torodi Ar. Bea 93.73 301 P **P** **16 07 30.5 +0.2**
comp=Z,16nm,1.0s,mb5.4,baz=26,slow=4.0,SNR=53
TORD PP PP 16 11 12.4 -6.0
comp=Z,10nm,1.0s,baz=31,slow=6.6,SNR=8.0
TORD PKKPbc 16 24 32.9
comp=Z,2.2nm,0.9s,baz=205,slow=1.7,SNR=9.0

DBIC Dimbokro 102.42 304 P Pdif 16 08 09.7 -0.1
comp=Z,6.9nm,1.1s,baz=52,slow=8.4,SNR=5.5

OTAV Otavalo 120.45 22 *e*PKPdf PKPdf 16 13 06.1 -0.6
SAML Samuel 131.49 5 *e*PKPdf PKPdf 16 13 26.1 -1.9
MAW Mawson 131.84 206 PKP PKPdf 16 13 25.4 -1.8
comp=Z,4.9nm,0.9s,baz=222,slow=2.3,SNR=5.6

VNDA Vanda 137.13 168 PKP PKPdf 16 13 34.5 -2.2
comp=Z,2.0nm,0.9s,baz=252,slow=6.4,SNR=7.2

BDFB Brasilia 137.38 344 PKP PKPdf 16 13 38.1 -0.7
comp=Z,9.6nm,0.9s,baz=11,slow=4.1,SNR=7.8

ARE Arequipa 138.04 18 *eP* PKPdf 16 13 40.0 0.0
LPAZ La Paz 138.35 13 PKhKP 16 13 30.9
comp=Z,1.6nm,0.7s,baz=13,slow=15,SNR=5.9

LPAZ PKP PKPdf 16 13 40.1 -0.4
comp=Z,8.0nm,1.1s,baz=278,slow=2.5,SNR=13

LPAZ La Paz 138.35 13 PKP PKPdf 16 13 30.9 -10
LPAZ *e*PKPdf PKPdf 16 13 40.0 -0.5
CEN1 Los Morros 145.04 18 *eP* PKPbc 16 13 51.6 +1.9
MAIT Maitri 148.45 217 *e*PKPdf PKPdf 16 13 57.9 +1.5
CPUP Villa Florida 148.84 357 *e*PKPdf PKPdf 16 13 56.5 -1.8
CPUP *e*PKPbc PKPdf 16 14 00.5 +2.1
TLL Tololo Astrono 151.54 21 *eP* PKPdf 16 14 06.7 +4.3
SNAA Sanae 153.22 216 PKPbc PKPdf 16 14 09.4 +5.9
comp=Z,1.5nm,0.7s,baz=341,slow=3.6,SNR=9.4

SNAA PKPab PKPab 16 14 20.5 -2.1
comp=Z,4.3nm,0.9s,baz=58,slow=2.5,SNR=7.8

SNAA Sanae 153.22 216 *e*PKPbc PKPdf 16 14 09.6 +6.0
VNA2 Neumayer--Watz 154.74 217 PKPdf PKPdf 16 14 15.4 +10
VNA2 Neumayer--Watz 154.74 217 PKPdf PKPdf 16 14 19.6 +14
VNA2 Neumayer--Watz 154.74 217 PKPdf PKPdf 16 14 07.8 +2.2
VNA2 P 16 14 15.4
VNA1 Neumayer--Stat 155.05 218 PKPdf 16 14 15.1 +9.1
VNA1 Neumayer--Stat 155.05 218 PKPdf PKPdf 16 14 09.5 +3.5
VNA1 P 16 14 15.1
VNA3 Neumayer Olymp 155.44 216 PKPdf PKPdf 16 14 16.2 +10
VNA3 Neumayer Olymp 155.44 216 PKPdf PKPdf 16 14 07.4 +0.9
VNA3 P 16 14 16.2
PLCA Paso Flores 161.74 28 PKP PKPdf 16 14 12.5 -2.3
comp=Z,7.9nm,1.1s,baz=253,slow=8.0,SNR=4.1

PLCA PKPab PKPab 16 15 00.0 0.0
comp=Z,7.9nm,0.9s,baz=330,slow=5.3,SNR=7.1

*KNET **11** 16:15:53.7,41.57N×74.19E,h15km,ml2.9*
*NNC **11** 16:15:56.1±3.0,41.65N×74.15E,mpv3.5,Error ellipse: s-maj=39.6km s-min=15.2km az=152.0*
ISC 11 16:15:53.8±1.6,**41.49N**±0.08×**74.16E**±0.07,**h10km,n11,**
σ1§13/20,13C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
AML	**Almayashu**	**0.73**	**331**	⇓*P*	**Pb**	**16 16 07.0**	**-1.1**
	111nm,0.1s,SNR=367						
AML				⇓*S*	**Sb**	**16 16 16.8**	**-1.0**
	422nm,0.2s						
UCH	**Uchtor**	**0.78**	**20**	*P*	**Pb**	**16 16 08.2**	**-0.8**
	46nm,0.2s,SNR=237						
UCH				⇑*S*	**Sb**	**16 16 19.0**	**-0.4**
	376nm,0.2s						
KZA	**Kyzart**	**1.00**	**54**	⇑*P*	**Pb**	**16 16 11.5**	**-1.3**
	34nm,0.2s,SNR=10						
KZA				⇑*S*	**Sb**	**16 16 24.0**	**-1.8**
	141nm,0.4s						
EKS2	**Erkin-Say**	**1.20**	**346**	⇓*P*	**Pb**	**16 16 15.6**	**-0.6**
	17nm,0.1s,SNR=68						
EKS2				⇑*S*	**Sb**	**16 16 31.9**	**+0.3**
	54nm,0.1s						
KBK	**Karagaybulak**	**1.30**	**26**	⇑*P*	**Pb**	**16 16 17.6**	**-0.3**
	43nm,0.1s,SNR=73						
KBK				⇑*S*	**Sb**	**16 16 33.8**	**-0.7**
	136nm,0.1s						
CHMS	**Chumysh**	**1.56**	**16**	⇓*P*	**Pn**	**16 16 22.4**	**+0.5**
	10nm,0.1s,SNR=15						
CHMS				⇑*S*	**Sb**	**16 16 43.0**	**+0.8**
	74nm,0.2s						
TKM2	**Tokmak 2**	**1.78**	**36**	⇑*P*	**Pn**	**16 16 25.8**	**+0.9**
	21nm,0.1s,SNR=46						
TKM2				⇓*S*	**Sn**	**16 16 49.0**	**+1.2**
	60nm,0.1s						
TKM2	**Tokmak 2**	**1.78**	**36**	⇑*P*	**Pn**	**16 16 25.7**	**+0.7**
	7.8nm,0.2s						
TKM2				⇓*S*	**Sn**	**16 16 48.3**	**+0.5**
	73nm,0.6s						
USP	**Ospenovka**	**1.79**	**8**	⇑*P*	**Pn**	**16 16 26.2**	**+1.1**
	22nm,0.2s,SNR=11						
USP				⇓*S*	**Sn**	**16 16 50.0**	**+2.0**
	60nm,0.2s						
KK31	**Karatay Array**	**3.15**	**302**	⇑*Pn*	**Pn**	**16 16 48.9**	**+4.3**
	7.6nm,0.5s,baz=126,slow=17,SNR=20						
KK31				⇓*Lg*		16 17 31.6	
	23nm,0.5s,baz=123,slow=30,SNR=8.4						
MK31	**Makanchi Array**	**7.88**	**45**	⇑*Pn*	**Pn**	**16 17 54.1**	**+2.7**
	8.0nm,1.3s,baz=224,slow=14,SNR=5.2						
MK31				⇑*Lg*		16 20 01.2	
	8.4nm,1.1s,baz=230,slow=28,SNR=4.4						

*IDC **11** 16:16:43.8±0.8,57.33N×120.71E,mb3.7/10,mb1 3.9/11, mb1mx3.7/23,mbtmp3.7/11,ML3.0/1,MS4.5/2,Ms1 4.5/2, ms1mx3.6/45,Error ellipse: s-maj=22.7km s-min=17.9km az=148.0*
*BYKL **11** 16:16:45.3±0.5,57.43N×120.83E*
*MOS **11** 16:16:47.1±2.8,57.34N×120.72E,h9km,mb4.2/1,Error ellipse: s-maj=34.5km s-min=18.2km az=51.7*
ISC 11 16:16:45.0±0.4,**57.46N**±0.03×**120.91E**±0.05,**h10km,n44,**
σ1§58/66,mb3.6/9,MS4.4/2,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KHNR	**Khani**	**0.74**	**224**	*eP*	**Pg**	**16 16 57.4**	**-2.5**
KHNR				*eSg*	**Sg**	**16 17 05.9**	**-3.9**
YKLR	**Yuktali**	**0.96**	**155**	*eP*	**Pg**	**16 17 02.9**	**-1.3**
YKLR				Pmax		16 17 07.6	
	881nm,0.5s						
YKLR				*eSg*	**Sg**	**16 17 15.2**	**-1.8**
YKLR				Smax		16 17 17.7	
	4μm,0.7s						
CRS	**Chara**	**1.54**	**250**	*ePg*	**Pg**	**16 17 12.9**	**-3.0**
CRS				Pmax		16 17 15.5	
	537nm,0.8s						
CRS				*eSg*	**Sg**	**16 17 32.3**	**-4.2**
CRS				Smax		16 17 33.6	
	823nm,1.1s						
CRS	**Chara**	**1.54**	**250**	*eP*	**Pn**	**16 17 13.6**	**+0.8**
CRS				*e*		16 17 30.8	
CRS				pmax	pmax		
	comp=Z,441nm,0.6s						
CRS				smax			
	comp=E,697nm,0.5s						
CLNS	**Chul'man**	**2.26**	**104**	*eP*	**Pb**	**16 17 26.1**	**+0.6**
CLNS				Pmax		16 17 32.0	
	comp=E,2μm,0.6s						
CLNS				*eSg*	**Sb**	**16 17 57.6**	**+4.1**
CLNS				Smax		16 17 57.8	
	comp=E,12μm,0.4s						
IENR	**Iengra**	**2.50**	**118**	*eP*	**Pb**	**16 17 31.9**	**+2.3**
IENR				*eSg*	**Sb**	**16 18 04.2**	**+3.8**
ALDR	**Aldan**	**2.66**	**62**	*eP*	**Pb**	**16 17 33.4**	**+1.1**
ALDR				Pmax		16 17 40.2	
	comp=E,2μm,0.6s						
ALDR				*eSg*	**Sb**	**16 18 09.0**	**+3.9**
ALDR				Smax		16 18 09.6	
	comp=E,9μm,0.4s						
NLYR	**Nelyaty**	**3.01**	**253**	*eP*	**Pn**	**16 17 34.0**	**+0.3**
NLYR				*eP*	**Pb**	**16 17 38.7**	**+0.3**
NLYR				Pmax		16 17 40.8	
	comp=E,265nm,0.8s						
NLYR				*eSg*	**Sb**	**16 18 15.3**	**-0.1**
NLYR				Smax		16 18 19.6	
	comp=E,1μm,0.9s						
NLYR	**Nelyaty**	**3.01**	**253**	*eP*	**Pn**	**16 17 39.2**	**+5.5**
TUP	**Tupik**	**3.08**	**190**	*eP*	**Pn**	**16 17 34.2**	**-0.6**
TUP				*eP*	**Pb**	**16 17 39.9**	**+0.3**
TUP				Pmax		16 17 41.1	
	comp=E,262nm,0.8s						
TUP				*eSn*	**Sn**	**16 18 10.1**	**-2.0**
TUP				*eSg*	**Sb**	**16 18 17.9**	**+0.4**
TUP				Smax		16 18 25.4	
	comp=E,2μm,1.1s						
TUP	**Tupik**	**3.08**	**190**	*eP*	**Pn**	**16 17 34.1**	**-0.7**
TUP				*eS*	**Sn**	**16 18 09.5**	**-2.6**
TUP				pmax	pmax		
	comp=Z,214nm,0.4s						
TUP				smax			
	comp=E,1μm,1.1s						
TNDR	**Tynda**	**3.14**	**136**	*eP*	**Pn**	**16 17 36.0**	**+0.4**
TNDR				*eP*	**Pb**	**16 17 43.2**	**+2.6**
TNDR				Pmax		16 17 43.8	
	comp=E,697nm,0.6s						
TNDR				*eSn*	**Sn**	**16 18 13.3**	**-0.2**
TNDR				*eSg*	**Sb**	**16 18 22.8**	**+3.7**
TNDR				Smax		16 18 23.7	
	comp=E,6μm,0.3s						
BOD	**Bodaibo**	**3.73**	**279**	*ePg*	**Pb**	**16 17 51.3**	**+0.6**
BOD				Pmax		16 17 55.5	
	comp=E,79nm,0.6s						
BOD				*eSg*	**Sb**	**16 18 37.5**	**+1.2**
BOD				Smax		16 18 46.3	
	comp=E,398nm,0.9s						
BOD	**Bodaibo**	**3.73**	**279**	*eP*	**Pn**	**16 17 43.4**	**-0.6**
BOD				*e*		16 18 37.1	
BOD				pmax	pmax		
	comp=Z,84nm,0.7s						
BOD				smax			
	comp=N,425nm,0.8s						
SVKR	**Severomuysk**	**4.26**	**255**	*ePg*	**Pb**	**16 18 02.5**	**+2.7**
SVKR				Pmax		16 18 07.7	
	comp=N,102nm,0.6s						
SVKR				*eSg*	**Sb**	**16 18 56.8**	**+5.1**
SVKR				Smax		16 19 02.1	
	comp=N,673nm,1.3s						
UKT	**Uakit**	**4.49**	**247**	*ePn*	**Pn**	**16 17 55.9**	**+1.1**
UKT				*ePg*	**Pb**	**16 18 05.3**	**+1.5**
UKT				Pmax		16 18 15.5	
	comp=N,75nm,1.5s						
UKT				*eSg*	**Sb**	**16 19 01.2**	**+2.8**
UKT				Smax		16 19 13.9	
	comp=N,209nm,1.5s						
UKT	**Uakit**	**4.49**	**247**	*eP*	**Pb**	**16 18 06.3**	**+2.5**
UKT				pmax	pmax		
	comp=Z,40nm,0.6s						
YOA	**Uoyan**	**5.22**	**259**	*eSg*	**Sg**	**16 19 25.4**	**-14**
YOA				Smax		16 19 39.7	
	comp=Z,1μm,1.1s						
KMO	**Kumora**	**5.58**	**258**	*ePg*	**Pb**	**16 18 24.4**	**+2.0**
KMO				Pmax		16 18 28.7	
	comp=Z,54nm,1.1s						
KMO				*eSg*	**Sb**	**16 19 35.2**	**+5.2**
KMO				Smax		16 19 54.2	
	comp=Z,325nm,1.0s						
KMO	**Kumora**	**5.58**	**258**	*eP*	**Pn**	**16 18 10.5**	**+0.3**
KMO				pmax	pmax		
	comp=Z,49nm,0.6s						
YLYR	**Ulyunkhan**	**6.03**	**249**	*eSg*	**Sb**	**16 19 52.5**	**+10**
YLYR				Smax		16 19 56.1	
	comp=Z,215nm,1.1s						
TBGR	**Tabaga**	**6.22**	**42**	*eSn*	**Sn**	**16 19 25.5**	**-5.7**
TBGR				*eSg*	**Sg**	**16 19 57.3**	**-15**
YAK	**Yakutsk**	**6.38**	**40**	*eP*	**Pn**	**16 18 30.2**	**+8.8**
YAK				*eS*	**Sn**	**16 19 44.4**	**+9.3**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK				pmax	pmax		
	comp=Z,28nm,0.8s						
YAK				smax			
	comp=N,39nm,0.8s						
YAK				smax			
	comp=N,202nm,0.6s						
YAK				MLR	MLR		
	comp=Z,251nm,8.0s						
NIZ	**Nizh Angarsk**	**6.50**	**260**	*eSg*	**Sg**	**16 20 03.1**	**-18**
NIZ				Smax		16 20 09.4	
	comp=Z,143nm,1.9s						
NIZ	**Nizh Angarsk**	**6.50**	**260**	*eP*	**Pb**	**16 18 42.2**	**+4.1**
NIZ				pmax	pmax		
	comp=Z,18nm,0.8s						
CIT	**Chita**	**6.91**	**221**	*ePg*	**Pb**	**16 18 47.4**	**+2.3**
CIT				Pmax		16 19 14.1	
	comp=Z,90nm,1.7s						
CIT				*eSg*	**Sb**	**16 20 15.5**	**+6.9**
CIT				Smax		16 20 26.8	
	comp=Z,526nm,1.8s						
CIT	**Chita**	**6.91**	**221**	*eP*	**Pb**	**16 18 47.5**	**+2.4**
CIT				pmax	pmax		
	comp=Z,68nm,1.3s						
SYVR	**Suvo**	**7.26**	**243**	*ePg*	**Pb**	**16 18 56.8**	**+5.7**
SYVR				Pmax		16 19 07.3	
	comp=Z,22nm,1.5s						
SYVR				*eSg*	**Sb**	**16 20 30.2**	**+11**
SYVR				Smax		16 20 34.6	
	comp=Z,305nm,1.5s						
KPC	**Khapcheranga**	**9.27**	**217**	*eSg*	**Sb**	**16 21 30.5**	**+13**
KPC				Smax		16 21 43.7	
	comp=Z,167nm,2.2s						
ZAK	**Zakamensk**	**12.55**	**243**	*eSg*	Sx	16 23 13.4	
ZAK				Smax		16 23 22.2	
	comp=Z,38nm,1.7s						
SONM	**Songino Array**	**13.03**	**229**	Pn	**P**	**16 19 49.0**	**-3.7**
	comp=Z,0.1nm,0.3s,slow=16,SNR=2.8						
SONM				Sn	**S**	**16 22 06.2**	**-13**
	comp=Z,0.5nm,0.3s,baz=29,slow=30,SNR=6.8						
SONM				Lg		16 23 31.1	
	comp=Z,0.7nm,0.3s,baz=25,slow=28,SNR=9.7						
ZAL	**Zalesovo**	**20.50**	**276**	P	**P**	**16 21 23.4**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=29,slow=8.9,SNR=4.2						
JNU	**Nakatsue**	**25.27**	**160**	LR	LR	16 33 17.4	
	comp=Z,898nm,18.6s,MS4.3,baz=216,slow=39						
MKAR	**Makanchi Array**	**25.65**	**262**	P	**P**	**16 22 13.2**	**-2.9**
	comp=Z,0.6nm,0.9s,mb3.1,baz=80,slow=16,SNR=3.0						
ILAR	**Eielson Array**	**41.30**	**40**	P	**P**	**16 24 31.9**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.6,baz=291,slow=4.7,SNR=23						
KDAK	**Kodiak Island**	**43.28**	**51**	LR	LR	16 45 06.9	
	comp=Z,642nm,19.2s,MS4.5,baz=82,slow=39						
FINES	**FINESS Array B**	**44.28**	**317**	P	**P**	**16 24 54.5**	**-1.4**
	comp=Z,2.4nm,0.8s,mb4.0,baz=31,slow=11,SNR=4.7						
AKASG	**Malin Array Be**	**50.27**	**304**	P	**P**	**16 25 41.2**	**-1.8**
	comp=Z,1.3nm,0.5s,mb4.2,baz=42,slow=8.7,SNR=9.1						
KHC	**Kasperske Hory**	**58.09**	**312**	*eP*	**P**	**16 26 39.5**	**-0.8**
GERES	**GERESS Array B**	**58.27**	**312**	P	**P**	**16 26 39.5**	**-2.1**
	comp=Z,0.2nm,0.5s,mb3.4,baz=45,slow=5.7,SNR=4.7						
PDAR	**Pinedale Array**	**71.59**	**37**	P	**P**	**16 28 06.8**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=63,slow=3.3,SNR=3.7						
NVAR	**Mina Array Bea**	**72.33**	**45**	P	**P**	**16 28 13.0**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=324,slow=7.8,SNR=3.8						
FITZ	**Fitzroy Crossi**	**75.37**	**175**	P	**P**	**16 28 28.3**	**-2.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=105,slow=5.4,SNR=5.9						
WRA	**Warramunga Arr**	**77.91**	**167**	P	**P**	**16 28 42.7**	**-1.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=354,slow=6.5,SNR=6.9						

*NEIC **11** 16:19:34.4,40.99S×172.83E,h210km,MG3.9(WEL), After WEL.*
WEL 11 16:19:35.2±0.3,**41.02S**×**172.85E,h205**km±2km,**ML4.0**/12,
8C-2D,Error ellipse: s-maj=2.2km s-min=2.2km az=90.0,
South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
QRZ	**Quartz Range**	**0.30**	**308**	⇑*PN*	P	16 20 01.9	-0.6
QRZ				SN	S	16 20 21.9	-1.8
QRZ	**Quartz Range**	**0.30**	**308**	P	P	16 20 01.9	-0.7
QRZ				S	S	16 20 21.9	-1.8
NNZ	**Nelson**	**0.45**	**117**	⇑*PN*	P	16 20 02.7	-0.3
NNZ				SN	S	16 20 23.3	-1.2
NNZ	**Nelson**	**0.45**	**117**	P	P	16 20 02.7	-0.3
NNZ				S	S	16 20 23.3	-1.2
THZ	**Tophouse**	**0.75**	**177**	⇑*PN*	P	16 20 04.2	0.0
THZ				SN	S	16 20 26.0	-0.7
THZ	**Tophouse**	**0.75**	**177**	*eP*	P	16 20 04.2	0.0
DUWZ	**D'Urville Isla**	**0.84**	**76**	⇑*PN*	P	16 20 04.5	-0.2
DUWZ				SN	S	16 20 26.5	-1.0
TUWZ	**Tuamarina**	**0.93**	**117**	⇑*PN*	P	16 20 05.1	0.0
TUWZ				SN	S	16 20 27.5	-0.8
BSWZ	**Blackbirch Sta**	**1.04**	**132**	⇑*PN*	P	16 20 05.9	0.0
BSWZ				SN	S	16 20 28.6	-1.1
BSWZ	**Blackbirch Sta**	**1.04**	**132**	P	P	16 20 05.9	0.0
DSZ	**Denniston Nort**	**1.07**	**227**	⇑*PN*	P	16 20 05.3	-0.8
DSZ				SN	S	16 20 27.8	-2.2
DSZ	**Denniston Nort**	**1.07**	**227**	P	P	16 20 05.3	-0.8
TCW	**Tory Channel**	**1.10**	**101**	PN	P	16 20 06.3	-0.1
TCW				SN	S	16 20 28.6	-1.8
TCW	**Tory Channel**	**1.10**	**101**	P	P	16 20 06.3	0.0

KIW				SN	S	16 20 35.1	-2.3		
KIW	**Kapiti Island**	**1.57**	**85**	P	P	16 20 09.6	-0.7		
BHW	**Baring Head**	**1.58**	**105**	PN	P	16 20 09.5	-0.8		
BHW	**Baring Head**	**1.58**	**105**	P	P	16 20 09.6	-0.8		
CAW	**Cannon Point**	**1.68**	**94**	PN	P	16 20 10.5	-0.8		
CAW	**Cannon Point**	**1.68**	**94**	P	P	16 20 10.6	-0.7		
LTZ	**Lake Taylor**	**1.82**	**194**	PN	P	16 20 11.8	-0.8		
LTZ	**Lake Taylor**	**1.82**	**194**	P	P	16 20 11.8	-0.8		
MSWZ	**Moikau Station**	**1.86**	**103**	PN	P	16 20 12.3	-0.7		
MSWZ				SN	S	16 20 39.6	-2.5		
MSWZ	**Moikau Station**	**1.86**	**103**	P	P	16 20 12.3	-0.7		
NRZ	**Ngariki Road**	**1.87**	**27**	PN	P	16 20 11.8	-1.3		
NRZ	**Ngariki Road**	**1.87**	**27**	P	P	16 20 11.9	-1.2		
NWEZ	**Newall Road**	**1.91**	**25**	PN	P	16 20 12.5	-1.0		
PAWZ	**Paruwai Farm**	**1.98**	**101**	PN	P	16 20 13.5	-0.7		
PAWZ				SN	S	16 20 41.9	-2.4		
PAWZ	**Paruwai Farm**	**1.98**	**101**	P	P	16 20 13.6	-0.6		
NEZ	**North Egmont**	**1.99**	**29**	PN	P	16 20 12.2	-2.1		
NEZ	**North Egmont**	**1.99**	**29**	P	P	16 20 12.7	-1.6		
MTW	**Mount Morrison**	**2.01**	**95**	⇓PN	P	16 20 13.8	-0.8		
MTW				*e*SN	S	16 20 42.2	-2.6		
MTW	**Mount Morrison**	**2.01**	**95**	P	P	16 20 13.8	-0.7		
PKE	**Pukeiti**	**2.02**	**26**	PN	P	16 20 12.8	-1.8		
PKE	**Pukeiti**	**2.02**	**26**	P	P	16 20 12.4	-2.2		
WAZ	**Wanganui**	**2.06**	**53**	PN	P	16 20 14.3	-0.8		
WAZ	**Wanganui**	**2.06**	**53**	P	P	16 20 14.3	-0.8		
RAEZ	**Rainy Point**	**2.09**	**35**	PN	P	16 20 13.8	-1.6		
RAEZ	**Rainy Point**	**2.09**	**35**	P	P	16 20 13.8	-1.6		
MRZ	**Mangatainoka R**	**2.10**	**81**	⇓PN	P	16 20 14.4	-1.1		
MRZ				SN	S	16 20 44.1	-2.5		
MRZ	**Mangatainoka R**	**2.10**	**81**	P	P	16 20 14.4	-1.1		
TRWZ	**Traveller**	**2.18**	**101**	PN	P	16 20 15.7	-0.6		
TRWZ				SN	S	16 20 45.6	-2.4		
VRZ	**Vera Road**	**2.39**	**38**	PN	P	16 20 16.3	-2.4		
VRZ	**Vera Road**	**2.39**	**38**	*e*P	P	16 20 16.4	-2.2		
TSZ	**Takapari Road**	**2.56**	**69**	PN	P	16 20 19.3	-1.2		
TSZ	**Takapari Road**	**2.56**	**69**	P	P	16 20 19.4	-1.1		
CRLZ	**Canterbury Las**	**2.56**	**184**	*e*P	P	16 20 19.6	-1.0		
MTVZ	**Mangateitei**	**2.59**	**52**	PN	P	16 20 18.9	-1.9		
WVZ	**Waitaha Valley**	**2.59**	**217**	*e*P	P	16 20 18.8	-2.0		
BFZ	**Birch Farm**	**2.60**	**84**	SN	S	16 20 53.6	-2.7		
BFZ	**Birch Farm**	**2.60**	**84**	P	P	16 20 19.9	-1.1		
BFZ				S	S	16 20 53.6	-2.7		
MQZ	**McQueen's Vall**	**2.69**	**183**	*e*P	P	16 20 19.9	-2.1		
WNVZ	**Wahianoa**	**2.70**	**52**	P	P	16 20 20.2	-1.9		
MOVZ	**Moawhango**	**2.74**	**55**	P	P	16 20 20.4	-2.2		
WPVZ	**Whakapapa**	**2.75**	**50**	P	P	16 20 20.5	-2.1		
CNZ	**Chateau**	**2.75**	**50**	P	P	16 20 20.6	-2.1		
TUVZ	**Tukino**	**2.77**	**52**	P	P	16 20 21.0	-1.9		
NGZ	**Ngauruhoe**	**2.80**	**50**	P	P	16 20 21.1	-2.1		
WTVZ	**West Tongariro**	**2.83**	**49**	P	P	16 20 21.5	-2.1		
HIZ	**Hauiti**	**2.94**	**32**	P	P	16 20 22.2	-2.6		
RPZ	**Rata Peaks**	**3.01**	**206**	P	P	16 20 23.8	-1.8		
PXZ	**Pawanui**	**3.21**	**74**	PN	P	16 20 26.6	-1.5		
BKZ	**Black Stump Fm**	**3.35**	**58**	P	P	16 20 27.3	-2.5		
FOZ	**Fox Glacier**	**3.46**	**222**	P	P	16 20 27.1	-4.0		
LBZ	**Lake Benmore**	**3.90**	**209**	*e*P	P	16 20 33.7	-2.8		
KNZ	**Kokohu**	**4.21**	**63**	P	P	16 20 37.9	-2.4		
URZ	**Urewera**	**4.29**	**51**	*e*P	P	16 20 37.5	-3.9		
JCZ	**Jackson Bay**	**4.30**	**223**	PN	P	16 20 38.1	-3.3		
ODZ	**Otahua Downs**	**4.34**	**201**	*e*P	P	16 20 39.6	-2.4		
MWZ	**Matawai**	**4.50**	**55**	*e*P	P	16 20 40.5	-3.5		

MOS ***11*** *16:23:17.0±3.4, 57.32N×120.68E, h20km, mb4.0/1, Error ellipse: s-maj=37.3km s-min=22.4km az=137.5*

BYKL 11 16:23:14.9±0.3, 57.40N×120.81E, 1C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.66**	**224**	*e*Pg	Pg	16 23 27.5	-0.6
KHNR				*e*Sg	Sg	16 23 35.7	-1.2
CRS	**Chara**	**1.47**	**251**	⇓*i*Pg	Pg	16 23 42.0	-2.3
CRS				Pmax		16 23 42.9	
	984nm,0.9s						
CRS				*e*Sg	Sg	16 24 01.3	-2.6
CRS				Smax		16 24 03.9	
	1μm,0.7s						
CRS	**Chara**	**1.47**	**251**	*e*P	Pn	16 23 42.3	-0.5
CRS				*e*		16 24 01.3	
CRS				pmax	pmax		
	comp=Z,998nm,0.8s						
CRS				smax			
	comp=E,1μm,0.5s						
CLNS	**Chul'man**	**2.30**	**103**	*e*Pg	Pg	16 23 57.0	-3.8
CLNS				Pmax		16 24 00.8	
	comp=E,384nm,0.3s						
CLNS				*e*Sg	Sg	16 24 27.4	-4.0
CLNS				Smax		16 24 27.6	
	comp=E,3μm,0.3s						
CLNS	**Chul'man**	**2.30**	**103**	*e*P	Pn	16 23 55.7	+1.1
CLNS				*e*		16 24 27.1	
CLNS				pmax	pmax		
	comp=N,1.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,1.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,17nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,46nm,0.3s						
CLNS				pmax	pmax		
	comp=E,1.0nm,0.2s						
CLNS				smax			
	comp=N,1μm,0.5s						
CLNS				smax			
	comp=Z,711nm,0.6s						
CLNS				smax			
	comp=E,1μm,0.5s						
IENR	**Iengra**	**2.52**	**116**	*e*Pn	Pn	16 23 57.9	+0.2
IENR				*e*Pg	Pg	16 24 01.4	-3.8
IENR				*i* Sg	Sg	16 24 33.7	-5.1
ALDR	**Aldan**	**2.73**	**62**	*e*Pg	Pg	16 24 02.7	-6.7
ALDR				Pmax		16 24 10.2	
	comp=E,230nm,0.3s						
ALDR				*e*Sg	Sg	16 24 38.8	-7.1
ALDR				Smax		16 24 39.1	
	comp=E,3μm,0.3s						
NLYR	**Nelyaty**	**2.94**	**254**	⇑*i*Pn	Pn	16 24 03.7	-0.1
NLYR				*e*Pg	Pg	16 24 07.9	-5.7
NLYR				Pmax		16 24 08.8	
	comp=E,436nm,0.5s						
NLYR				*e*Sg	Sg	16 24 45.7	-7.2
NLYR				Smax		16 24 50.0	
	comp=E,1μm,1.2s						
NLYR	**Nelyaty**	**2.94**	**254**	*e*P	Pn	16 24 07.7	+3.9
NLYR				*e*		16 24 45.0	
NLYR				pmax	pmax		
	comp=Z,446nm,0.3s						
NLYR				smax			
	comp=E,1μm,1.1s						
TUP	**Tupik**	**3.02**	**190**	*e*Pn	Pn	16 24 03.8	-1.1
TUP				*e*Pg	Pg	16 24 08.6	-6.6
TUP				Pmax		16 24 10.6	
	comp=E,168nm,0.6s						
TUP				*e*Sn	Sn	16 24 40.6	-1.7
TUP				*e*Sg	Sg	16 24 47.8	-7.7
TUP				Smax		16 24 48.9	
	comp=E,1μm,0.7s						
TUP	**Tupik**	**3.02**	**190**	*e*P	Pn	16 24 09.6	+4.7
TUP				*e*		16 24 47.6	
TUP				pmax	pmax		
	comp=Z,171nm,0.6s						
TUP				smax			
	comp=E,1μm,0.7s						
TNDR	**Tynda**	**3.14**	**134**	*e*Pn	Pn	16 24 06.0	-0.6
TNDR				*e*Pg	Pg	16 24 12.1	-5.5
TNDR				Pmax		16 24 16.0	
	comp=E,511nm,0.3s						
TNDR				*e*Sn	Sn	16 24 42.3	-3.0
TNDR				*e*Sg	Sg	16 24 52.3	-7.1
TNDR				Smax		16 24 54.3	
	comp=E,2μm,0.2s						
BOD	**Bodaibo**	**3.69**	**279**	*e*Pn	Pn	16 24 13.4	-0.9
BOD				*e*Pg	Pg	16 24 21.0	-7.5
BOD				Pmax		16 24 23.1	
	comp=E,87nm,0.7s						
BOD				*e*Sg	Sg	16 25 08.2	-9.4
BOD				Smax		16 25 17.3	
	comp=E,510nm,1.2s						
BOD	**Bodaibo**	**3.69**	**279**	*e*P	Pn	16 24 12.8	-1.5
BOD				pmax	pmax		
	comp=Z,84nm,0.7s						
SVKR	**Severomuysk**	**4.19**	**255**	*e*Pg	Pg	16 24 30.2	-8.4
SVKR				Pmax		16 24 33.8	
	comp=Z,164nm,0.5s						
SVKR				*e*Sg	Sg	16 25 24.0	-11
SVKR				Smax		16 25 40.3	
	comp=Z,578nm,1.0s						
SVKR	**Severomuysk**	**4.19**	**255**	*e*P	Pn	16 24 31.0	+9.4
SVKR				pmax	pmax		
	comp=Z,169nm,0.6s						
UKT	**Uakit**	**4.42**	**247**	*e*Pg	Pg	16 24 34.3	-8.9
UKT				Pmax		16 24 36.8	
	comp=Z,58nm,1.0s						
UKT				*e*Sg	Sg	16 25 30.8	-11
UKT				Smax		16 25 41.4	
	comp=Z,176nm,1.2s						
UKT	**Uakit**	**4.42**	**247**	*e*P	Pn	16 24 34.1	+9.3
UKT				pmax	pmax		
	comp=Z,35nm,0.4s						
ZEA	**Zeya**	**5.18**	**132**	*e*Pg	Pg	16 24 49.2	-9.1
ZEA				*e*Sg	Sg	16 25 54.2	-13
KMO	**Kumora**	**5.52**	**258**	*e*Pn	Pn	16 24 38.7	-1.6
KMO				*e*Pg	Pg	16 24 54.4	-11
KMO				Pmax		16 25 05.6	
	comp=Z,31nm,1.0s						
KMO				*e*Sg	Sg	16 26 06.8	-12
KMO				Smax		16 26 18.5	
	comp=Z,303nm,1.3s						
KMO	**Kumora**	**5.52**	**258**	*e*P	Pn	16 24 54.3	+14
KMO				pmax	pmax		
	comp=Z,34nm,0.6s						
YLYR	**Ulyunkhan**	**5.96**	**249**	*e*Pg	Pg	16 25 02.9	-11
YLYR				Pmax		16 25 22.8	
	comp=Z,14nm,1.0s						
YLYR				*e*Sg	Sg	16 26 20.3	-13
YLYR				Smax		16 26 32.4	
	comp=Z,222nm,1.8s						
YLYR	**Ulyunkhan**	**5.96**	**249**	*e*P	Pn	16 25 01.4	+15
YLYR				pmax	pmax		
	comp=Z,51nm,0.5s						
TBGR	**Tabaga**	**6.30**	**42**	*e*Sg	Sg	16 26 27.8	-17
NIZ	**Nizh Angarsk**	**6.44**	**260**	*e*Pn	Pn	16 24 51.6	-1.7
NIZ				*e*Pg	Pg	16 25 10.8	-13
NIZ				Pmax		16 25 16.9	
	comp=Z,25nm,0.8s						
NIZ				*e*Sg	Sg	16 26 34.3	-15
NIZ				Smax		16 27 01.2	
	comp=Z,142nm,1.3s						
YAK	**Yakutsk**	**6.46**	**40**	*e*P	Pn	16 25 10.3	+17
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK				pmax	pmax		
	comp=Z,14nm,0.7s						
YAK				MLR	MLR		
	comp=Z,477nm,10.0s						
CIT	**Chita**	**6.83**	**221**	*e*Pg	Pg	16 25 17.0	-14
CIT				Pmax		16 25 25.5	
	comp=Z,29nm,1.2s						
CIT				*e*Sg	Sg	16 26 45.2	-17
CIT				Smax		16 26 56.9	
	comp=Z,504nm,1.1s						
SYVR	**Suvo**	**7.19**	**243**	*e*Pg	Pg	16 25 24.0	-14
SYVR				Pmax		16 25 58.1	
	comp=Z,18nm,1.5s						
SYVR				*e*Sg	Sg	16 26 56.7	-18
SYVR				Smax		16 27 06.4	
	comp=Z,330nm,1.6s						
KPC	**Khapcheranga**	**9.19**	**217**	*e*Sg	Sg	16 27 57.2	-24
KPC				Smax		16 28 08.9	
	comp=Z,188nm,1.5s						
ZAK	**Zakamensk**	**12.48**	**243**	*e*Sg	S	16 29 40.0	+63
ZAK				Smax		16 29 51.9	
	comp=Z,30nm,1.5s						

ORF ***11*** *16:23:16.6, 13.74N×120.50E, h30km, mb5.6*

BJI ***11*** *16:23:29.4, 13.50N×121.17E, h201km, mB5.4, mb5.2*

HRVD ***11*** *16:23:35.5±1.0, 14.25N×120.57E, h199km±9km, MW5.6/42, Centroid moment Tensor Solution. LP body waves: s1,c1;Mantle waves: s42,c53; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.20±.28; $M_{\theta\theta}$-1.60±.30; $M_{\phi\phi}$0.40±.31; $M_{r\theta}$1.58±.20; $M_{\theta\phi}$-2.20±.24; $M_{\phi r}$-0.59±.22; Best double couple: M_o3.114×10^{17} NP1: ϕ_s198°,δ51°,λ21°. NP2:ϕ_s95°,δ73°,λ139°. Principal axes: T 2.964, Plg40°, Azm49°; N .307, Plg47°, Azm256°; P -3.263, Plg14°, Azm151°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***11*** *16:23:35.5±0.1, 14.02N×120.72E, mb5.2/69 Error ellipse: s-maj=4.8km s-min=4.0km az=70.0*

MOS ***11*** *16:23:36.9±0.8, 14.11N×120.74E, h224km, mb5.4/57, Error ellipse: s-maj=9.4km s-min=4.7km az=120.9*

IDC ***11*** *16:23:37.7±0.3, 13.99N×120.76E, h223km±2km, mb4.7/37, mb1 4.8/38, mb1mx4.8/39, mbtmp5.2/38, Error ellipse: s-maj=9.5km s-min=6.5km az=65.0*

MAN ***11*** *16:23:38.7, 14.02N×120.65E, h205km, mb5.7, ML4.7, MS5.1*

ISC 11 16:23:37.2±0.1, 14.07N±0.02×120.69E±0.03, h224km, h224km±3.0km:pP-P, n418, σ0s98/411, mb5.1/135, 51C-32D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.24**	**82**	P	P	**16 24 07.5**	**+0.9**
	4μm,0.3s,baz=264,slow=1.7,SNR=811						
TGY				S	S	**16 24 29.9**	**+0.5**
	2μm,0.3s,baz=138,slow=23,SNR=8.7						
TGY	**Tagaytay City**	**0.24**	**82**	⇓*i*P	P	**16 24 07.6**	**+1.0**
TGY				*i* S	S	**16 24 30.8**	**+1.3**
LBPH	**Los Banos**	**0.48**	**80**	*e*P	P	**16 24 08.3**	**+1.0**
LUBP	**Lubang**	**0.55**	**232**	*e*P	P	**16 24 07.1**	**-0.4**
LUBP				*e*S	S	**16 24 28.5**	**-2.5**
PGP	**Puerto Galera**	**0.62**	**156**	⇑*i*P	P	**16 24 07.3**	**-0.4**
PGP				*i* S	S	**16 24 29.3**	**-2.1**
QVPH	**Quezon City--P**	**0.68**	**31**	*e*P	P	**16 24 08.7**	**+0.7**
NBP	**Mount Natib**	**0.72**	**338**	*e*P	P	**16 24 08.0**	**-0.2**
BOAC	**Boac**	**1.27**	**118**	*e*P	P	**16 24 12.2**	**+0.6**
POLP	**Polilio Island**	**1.38**	**61**	*e*P	P	**16 24 13.8**	**+1.4**
PCPH	**Palayan**	**1.54**	**15**	⇓*e*P	P	**16 24 13.4**	**-0.3**
PCPH				*e*S	S	**16 24 44.5**	**+2.7**
SJMP	**San Jose**	**1.65**	**165**	*e*P	P	**16 24 14.5**	**-0.2**
SJMP				*e*S	S	**16 24 41.6**	**-2.0**
SCZP	**Santa Cruz**	**1.86**	**336**	*e*P	P	**16 24 16.5**	**0.0**
SCZP				*e*S	S	**16 24 43.8**	**-3.0**
BALP	**Baler**	**1.87**	**27**	*e*P	P	**16 24 18.0**	**+1.4**
BALP				*e*S	S	**16 24 47.8**	**+0.8**
AUQP	**San Andres**	**2.07**	**111**	*e*P	P	**16 24 21.1**	**+2.6**
BUSP	**Coron**	**2.11**	**193**	*e*P	P	**16 24 19.0**	**+0.1**
OTRP	**Odiongan**	**2.13**	**142**	*e*P	P	**16 24 19.3**	**+0.1**
BCPH	**Baguio City Da**	**2.30**	**357**	⇑*i*P	P	**16 24 21.6**	**+0.6**
BCPH				*i* S	S	**16 24 54.7**	**0.0**
BOLP	**Bolinao**	**2.42**	**342**	*e*P	P	**16 24 22.3**	**+0.2**
KALP	**Kalibo**	**2.87**	**146**	⇑*e*P	P	**16 24 27.3**	**+0.3**
CAUP	**Cauayan**	**3.06**	**21**	*e*P	P	**16 24 31.0**	**+1.8**
ENPP	**El Nido**	**3.10**	**204**	*e*P	P	**16 24 30.6**	**+0.8**
RCP	**Roxas**	**3.20**	**141**	⇓*e*P	P	**16 24 32.2**	**+1.3**
CUYO	**Cuyo Island**	**3.21**	**174**	*e*P	P	**16 24 31.5**	**+0.5**
PVCP	**Virac**	**3.40**	**98**	*e*P	P	**16 24 34.8**	**+1.6**
ABRA	**Dolores**	**3.56**	**0**	*e*P	P	**16 24 34.8**	**-0.3**
APYP	**Conner**	**3.81**	**8**	*e*P	P	**16 24 39.1**	**+1.0**
GUIM	**Jordan**	**3.89**	**151**	*e*P	P	**16 24 40.5**	**+1.4**
CNP	**Catarman**	**4.17**	**111**	*e*P	P	**16 24 43.2**	**+0.8**
PIP	**Pasuquin**	**4.23**	**359**	*e*P	P	**16 24 42.7**	**-0.6**
PIP				*e*S	S	**16 25 34.8**	**+0.2**
SGCP	**Mt. Cagua**	**4.35**	**17**	*e*P	P	**16 24 45.1**	**+0.4**
PPR	**Puerto Princes**	**4.68**	**204**	⇓*i*P	P	**16 24 49.8**	**+1.0**
OCLP	**Ormoc**	**4.86**	**128**	*e*P	P	**16 24 52.4**	**+1.3**
LLP	**Lapu-Lapu**	**4.91**	**139**	⇓*e*P	P	**16 24 52.7**	**+1.0**
PLP	**Palo**	**5.08**	**124**	*e*P	P	**16 24 54.9**	**+1.0**
TBP	**Tagbilaran**	**5.34**	**144**	*e*P	P	**16 24 58.8**	**+1.6**
MSLP	**Maasin**	**5.65**	**133**	*e*P	P	**16 25 02.8**	**+1.8**
BATP	**Bataraza**	**5.96**	**209**	*e*P	P	**16 25 06.3**	**+1.4**
DCPH	**Dipolog City**	**6.04**	**154**	⇓*e*P	P	**16 25 06.1**	**0.0**
SCPH	**Surigao**	**6.34**	**132**	⇓*e*P	P	**16 25 10.9**	**+1.1**
IPIL	**Ipil**	**6.51**	**163**	*e*P	P	**16 25 12.4**	**+0.4**
PAGZ	**Pagadian**	**6.72**	**157**	*e*P	P	**16 25 15.8**	**+1.1**
BUKP	**Musuan**	**7.50**	**145**	*e*P	P	**16 25 26.3**	**+1.6**
CTBH	**Cotabato--PC H**	**7.65**	**152**	⇓*e*P	P	**16 25 27.1**	**+0.5**
DAV	**Davao City (W)**	**8.45**	**145**	*e*P	P	**16 25 39.1**	**+2.1**
MATI	**Mati**	**8.95**	**142**	*e*P	P	**16 25 44.7**	**+1.3**
KKM	**Kota Kinabalu**	**9.11**	**209**	P	P	**16 25 46.8**	**+1.3**
KKM	**Kota Kinabalu**	**9.11**	**209**	⇓*i*P	P	**16 25 46.9**	**+1.4**
NACB	**Ninganchiao**	**10.09**	**5**	*e*P	P	**16 25 57.4**	**-0.8**
TSM	**Tawau**	**10.10**	**196**	P	P	**16 25 59.4**	**+1.1**
YHNB	**Yeheng**	**10.56**	**3**	*e*P	P	**16 26 05.3**	**+1.1**
QZH	**Quanzhou**	**11.00**	**350**	⇓*i*P	P	**16 26 10.6**	**+0.9**
QZH				S	S	**16 28 13.5**	**+4.0**
GZH	**Guangzhou**	**11.35**	**323**	P	P	**16 26 19.3**	**+5.1**
GZH				S	S	**16 28 24.4**	**+6.7**
QIZ	**Qiongzhong**	**11.51**	**297**	⇑*i*P	P	**16 26 18.4**	**+2.2**
QIZ				S	S	**16 28 29.1**	**+7.8**
QIZ				AMB	AMB		
	comp=Z,80nm,1.0s						
JOW	**Kunigami**	**14.54**	**28**	P	P	**16 26 54.0**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=228,slow=9.3,SNR=6.2						
KSM	**Kuching**	**16.19**	**220**	*e*P	P	**16 27 13.8**	**-0.3**
SSE	**Sheshan**	**16.95**	**1**	*e*P	P	**16 27 21.8**	**-1.0**
SSE				AMB	AMB		
	comp=Z,170nm,1.2s						
SSE				AMB	AMB		
	comp=Z,110nm,5.6s						
KKTK	**Khon Kaen**	**17.39**	**280**	P	P	**16 27 27.5**	**0.0**
	comp=Z,370nm,0.4s						
WHN	**Wuhan**	**17.41**	**341**	⇑P	P	**16 27 29.0**	**+1.4**
NJ2	**Nanjing**	**17.98**	**355**	*e*P	P	**16 27 34.9**	**+1.3**
NJ2				XP		16 28 35.8	
NJ2				S	S	**16 30 46.0**	**+2.5**
NJ2				PCP	PcP	16 31 57.0	-0.9
NJ2				SCP		16 35 09.0	
NJ2				PCS		16 35 33.0	
NJ2				AMB	AMB		
	comp=Z,230nm,0.9s						
NJ2				LR	LR		
	comp=N,2μm,15.0s						
NJ2				LR	LR		
	comp=E,1μm,19.4s						
NJ2				LR	LR		
	comp=Z,630nm,14.4s						
GYA	**Guiyang**	**18.01**	**315**	⇓*i*P	P	**16 27 34.9**	**+1.0**
GYA				S	S	**16 30 45.2**	**+1.0**
GYA				PCP	PcP	16 31 59.1	+1.1
GYA				SCS	ScS	16 38 51.3	+1.3
GYA				AMB	AMB		
	comp=Z,90nm,0.9s						
GYA				AMB	AMB		
	comp=Z,720nm,5.9s						
ENH	**Enshi**	**19.15**	**329**	*e*P	P	**16 27 45.9**	**+0.4**
	comp=Z,77nm,0.9s						
NST	**Nakhon Sawan**	**19.93**	**277**	P	P	**16 27 50.0**	**-3.6**
KMI	**Kunming**	**20.15**	**306**	P	P	**16 27 58.6**	**+2.9**
KMI				S	S	**16 31 25.4**	**+1.1**
KMI				AMB	AMB		
	comp=Z,120nm,1.3s						
KMI				AMB	AMB		
	comp=Z,1μm,10.3s						
KMI				LR	LR		
	comp=N,2μm,14.9s						
KMI				LR	LR		
	comp=E,2μm,15.9s						
KMI				LR	LR		
	comp=Z,980nm,13.8s						
CHRT	**Chiangrai**	**20.80**	**289**	⇑P	P	**16 28 03.0**	**+0.8**
SNG	**Songkhla**	**20.87**	**253**	⇑P	P	**16 28 05.0**	**+2.0**
KGM	**Kluang**	**20.93**	**237**	P	P	**16 28 01.8**	**-1.8**
JNU	**Nakatsue**	**21.11**	**24**	P	P	**16 28 05.8**	**+0.6**
	comp=Z,49nm,0.9s,mb5.0,baz=252,slow=3.0,SNR=11						
IPM	**Ipoh**	**21.60**	**246**	P	P	**16 28 07.1**	**-3.0**
TIA	**Tai'an**	**22.28**	**352**	*e*P	P	**16 28 17.3**	**+0.8**
TIA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.1						
XAN	**Xi'an**	**22.56**	**334**	P	P	**16 28 19.8**	**+0.5**
XAN				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.0						
CD2	**Chengdu**	**22.88**	**320**	⇑*i*P	P	**16 28 23.2**	**+0.8**
CD2				AP		16 29 05.5	
CD2				S	S	**16 32 16.7**	**+4.7**
CD2				SS	SS	16 33 32.8	+13
CD2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.2						
CD2				LR	LR		
	comp=N,1μm,6.6s						
CD2				LR	LR		
	comp=Z,840nm,11.4s						
GUMO	**Guam**	**23.48**	**88**	P	P	**16 28 27.8**	**-0.4**
	comp=Z,482nm,1.2s,mb5.9,baz=62,slow=2.6,SNR=6.2						
CBIJ	**Chichi jima**	**23.88**	**54**	P	P	**16 28 31.0**	**-0.9**
	comp=Z,343nm,0.4s,baz=245,slow=5.5,SNR=41						
KS15	**Wonju Array Si**	**24.14**	**14**	*e*P	P	**16 28 34.3**	**+0.1**
PSI	**Prapat**	**24.24**	**244**	P	P	**16 28 36.0**	**+0.6**
	comp=Z,13nm,0.8s,mb4.6,baz=65,slow=7.0,SNR=6.6						
DL2	**Dalian**	**24.75**	**2**	P	P	**16 28 40.1**	**+0.2**
DL2				S	S	**16 32 45.7**	**+2.4**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
DL2				AMB	AMB		
	comp=Z,400nm,6.7s						
LZH	**Lanzhou**	**26.63**	**328**	*e*P	P	**16 28 58.4**	**+1.3**
LZH				AP	pP	16 29 42.9	+1.9
LZH				PP	PP	16 29 54.2	+3.7
LZH				PCP	PcP	16 32 15.8	+0.5
LZH				S	S	**16 33 15.2**	**+1.4**
LZH				XS		16 34 35.0	
LZH				AMB	AMB		
	comp=Z,260nm,1.2s,mb5.7						
LZH				AMB	AMB		
	comp=Z,1μm,4.5s						
MAJO	**Matsushiro**	**27.32**	**32**	*e*P	P	**16 28 59.7**	**-3.7**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**27.32**	**32**	*e*P	P	**16 28 59.7**	**-3.7**
	comp=Z,9.5nm,0.8s,mb4.5						
MAT	**Matsushiro**	**27.32**	**32**	*e*P	P	**16 29 01.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.7						
MAT	**Matsushiro**	**27.32**	**32**	*e*P	P	**16 29 01.0**	**-2.4**
	comp=Z,9.1nm,0.5s,mb4.7						
MJAR	**Matsushi

GTA LR LR
comp=N,670nm,16.4s
GTA LR LR
comp=E,750nm,21.3s
GTA LR LR
comp=Z,980nm,25.9s
MDJ Mudanjiang 31.38 12 P **P** **16 29 38.7 -0.4**
MDJ AP pP 16 30 22.2 -2.4
MDJ PP PP 16 30 54.6 +3.1
MDJ PCP PcP 16 32 26.2 -0.9
MDJ S **S** **16 34 34.0 +5.2**
MDJ SCP 16 35 47.5
MDJ XS 16 35 50.9
MDJ PCS 16 36 11.5
MDJ SCS ScS 16 39 46.2 +2.0
MDJ AMB AMB
comp=Z,40nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,570nm,10.3s
MDJ Mudanjiang 31.38 12 *e*P **P** **16 29 38.0 -1.1**
comp=Z,46nm,0.9s,mb5.1
LSA Lhasa 31.39 305 P **P** **16 29 40.7 +1.3**
LSA AMB AMB
comp=Z,40nm,0.9s,mb5.0
LSA Lhasa 31.39 305 *e*P **P** **16 29 40.5 +1.1**
LSA *e* 16 32 27.8
LSA pmax pmax
comp=Z,35nm,0.6s,mb5.2
LSA Lhasa 31.39 305 *e*P **P** **16 29 40.5 +1.1**
comp=Z,35nm,0.6s,mb5.2
LSA *e*PcP PcP 16 32 27.8 +0.5
FITZ Fitzroy Crossi 32.34 171 *e*P **P** **16 29 44.8 -2.9**
comp=Z,111nm,0.9s,mb4.4
FITZ Fitzroy Crossi 32.34 171 P **P** **16 29 45.2 -2.5**
comp=Z,5.8nm,0.8s,mb4.1,baz=7.4,slow=8.0,SNR=11
BOK Bokaro 34.23 292 *e*P **P** **16 30 04.4 +0.6**
BOK AMb AMB 16 30 07.2
comp=Z,75nm,1.3s,mb5.1
JIRN Jiri 34.83 298 *e*P **P** **16 30 09.6 +0.8**
comp=Z,280nm,0.7s,mb5.9
MBWA Marble Bar 35.02 182 *e*P **P** **16 30 08.3 -2.2**
comp=Z,28nm,1.2s,mb4.7
MBWA *e*PcP PcP 16 32 36.5 -1.1
HIA Hailar 35.11 359 *e*P **P** **16 30 09.9 -1.0**
HIA pmax pmax
comp=Z,12nm,0.6s
HIA Hailar 35.11 359 *e*P **P** **16 30 09.9 -1.1**
comp=Z,12nm,0.6s,mb4.6
PMG Port Moresby 35.12 130 P **P** **16 30 09.8 -1.6**
comp=Z,67nm,1.0s,mb5.1,baz=321,slow=7.5,SNR=24
PMG PcP PcP 16 32 38.0 0.0
comp=Z,18nm,0.8s,baz=306,slow=6.9,SNR=3.8
PMG ScP 16 36 00.4
comp=Z,13nm,1.0s,baz=298,slow=7.9,SNR=3.5
PMG Port Moresby 35.12 130 *e*P **P** **16 30 09.5 -1.9**
PMG *e* 16 32 37.4
PMG pmax pmax
comp=Z,152nm,1.2s
PMG Port Moresby 35.12 130 *e*P **P** **16 30 09.5 -2.0**
comp=Z,152nm,1.2s,mb5.4
PMG *e*PcP PcP 16 32 37.4 -0.6
GUN Gumba 35.16 299 *e*P **P** **16 30 12.2 +0.6**
comp=Z,374nm,0.9s,mb5.9
ASAJ Asahikawa 35.31 28 P **P** **16 30 11.9 -0.8**
comp=Z,20nm,0.8s,mb4.7,baz=246,slow=16,SNR=15
PKI Pulchoki 35.47 298 *e*P **P** **16 30 14.2 0.0**
comp=Z,147nm,0.7s,mb5.6
PKI Pulchoki 35.47 298 *e*P **P** **16 30 14.2 0.0**
PKI pmax pmax
comp=Z,74nm,0.7s,mb5.3
ULN Ulaanbaatar 35.55 344⇑ *i*P **P** **16 30 15.1 +0.4**
KKN Kakani 35.64 298 *e*P **P** **16 30 15.6 -0.1**
comp=Z,139nm,0.8s,mb5.6
KKN Kakani 35.64 298 *e*P **P** **16 30 15.6 -0.1**
KKN pmax pmax
comp=Z,69nm,0.8s,mb5.2
SONM Songino Array 35.70 343 P **P** **16 30 15.9 -0.1**
comp=Z,32nm,0.6s,mb5.0,baz=153,slow=8.2,SNR=29
SONM PcP PcP 16 32 38.6 -0.7
comp=Z,4.5nm,0.5s,baz=165,slow=3.6,SNR=7.9
DMN Daman 35.74 298 *e*P **P** **16 30 16.6 +0.1**
VIS Vishakhapatnam 36.08 281 *e*P **P** **16 30 19.2 -0.2**
VIS AMb AMB 16 30 25.0
comp=Z,88nm,1.4s,mb5.1
KLR Kul'dur 36.22 12⇓ *i*P **P** **16 30 17.6 -2.7**
KLR *e* pP 16 31 05.0 -1.9
KLR *e* 16 32 37.0
KLR pmax pmax
comp=E,48nm,1.0s
KLR pmax pmax
comp=Z,84nm,1.0s,mb5.2
GKN Gorkha 36.24 298 *e*P **P** **16 30 20.3 -0.4**
comp=Z,189nm,1.0s,mb5.6
WRAB Tennant Creek 36.36 158*d* *i*P **P** **16 30 20.0 -1.8**
WRA Warramunga Arr 36.37 158 P **P** **16 30 20.0 -1.9**
comp=Z,15nm,0.6s,mb4.7,baz=336,slow=9.4,SNR=71
WRA PcP PcP 16 32 40.3 -1.3
comp=Z,5.5nm,0.9s,baz=323,slow=3.6,SNR=4.6
WRA S **S** **16 35 39.2 -6.7**
comp=Z,12nm,1.2s,baz=336,slow=16,SNR=6.4
WRA ScP 16 36 04.2
comp=Z,4.9nm,1.0s,baz=339,slow=4.1,SNR=6.2
WB2 Warramunga Arr 36.37 158⇓ *i*P **P** **16 30 20.1 -1.8**
WB2 *e*S **S** **16 35 37.8 -8.2**
KOLN Koldanda 37.08 298 *e*P **P** **16 30 27.7 0.0**
comp=Z,98nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 37.62 25⇓ *e*P **P** **16 30 32.0 -0.1**
YSS *e* 16 32 44.0
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.2
YSS Yuzh-Sakhalins 37.62 25 *i* Pr **P** **16 30 32.4 +0.3**
ZAK Zakamensk 38.89 342 *e*P **P** **16 30 36.5 -6.0**
ZAK *e* 16 32 48.5
ZAK pmax pmax
comp=Z,20nm,0.9s,mb4.7
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
HYB Hyderabad 40.64 280⇑ *i*P **P** **16 30 57.5 +0.3**
comp=Z,90nm,1.0s,mb5.2
HYB *e* pP 16 31 42.0 -2.5
HYB Hyderabad 40.64 280⇑ *e*P **P** **16 30 57.5 +0.3**
HYB *e* pP 16 31 42.0 -2.5
HYB pmax pmax
comp=Z,90nm,1.0s,mb5.2
HYB Hyderabad 40.64 280⇑ *e*P **P** **16 30 57.5 +0.3**
comp=Z,90nm,1.0s,mb5.2
HYB *e* pP 16 31 42.0 -2.5
WMQ Urumqi 40.91 323 P **P** **16 31 01.4 +2.2**
WMQ PP PP 16 32 42.2 +3.1
WMQ PPP PPP 16 33 20.8 +4.9
WMQ *e*S **S** **16 36 55.7 +2.2**
WMQ SCS ScS 16 40 39.5 +2.6
WMQ AMB AMB
comp=Z,60nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,650nm,5.2s
BHPL Bhopal 41.87 289 *e*P **P** **16 31 07.4 +0.2**
BHPL AMb AMB 16 31 08.3
comp=Z,78nm,0.6s,mb5.3
CTA Charters Tower 42.24 143⇑ *i*P **P** **16 31 10.1 -0.2**
comp=Z,27nm,0.9s,mb4.7
CTA Charters Tower 42.24 143⇑ *i*P **P** **16 31 10.1 -0.2**
CTA pmax pmax
comp=Z,27nm,0.9s
CTAO Charters Tower 42.24 143 *e*P **P** **16 31 09.8 -0.5**
CTAO *e* 16 32 18.3
CTAO *e* 16 32 59.9
CTAO pmax pmax
comp=Z,59nm,1.0s,mb5.0
CTAO Charters Tower 42.24 143 *e*P **P** **16 31 09.8 -0.5**
comp=Z,59nm,1.0s,mb5.0
CTAO *e* 16 32 18.3
CTAO *e*PcP PcP 16 32 59.9 -0.5
KAD Karad 44.81 280 *e*P **P** **16 31 30.4 -0.5**
KAD AMb AMB 16 31 32.2
comp=Z,58nm,1.1s,mb4.8
POO Poona 45.08 282 *e*P **P** **16 31 34.2 +1.2**
POO AMb AMB 16 31 34.9
comp=Z,93nm,1.6s,mb4.9
MKAR Makanchi Array 45.73 323 P **P** **16 31 38.1 +0.3**
comp=Z,62nm,0.7s,mb5.0,baz=124,slow=8.1,SNR=199
MKAR PcP PcP 16 33 11.2 -0.8
comp=Z,15nm,0.8s,baz=108,slow=4.4,SNR=6.2
MKAR S **S** **16 38 04.3 +1.3**
comp=Z,1.5nm,0.9s,baz=140,slow=9.5,SNR=3.9

KSH Kashi 46.65 312 P **P** **16 31 46.8 +1.8**
KSH AP pP 16 32 35.0 +1.6
KSH *e*PCP PcP 16 33 17.3 +1.9
KSH PP PP 16 33 39.1 +2.6
KSH *e*PPP PPP 16 34 34.0 +3.9
KSH *e*SCP 16 36 47.5
KSH *e*PCS 16 37 10.2
KSH *e*S **S** **16 38 18.2 +2.1**
KSH *e*SCS ScS 16 41 15.3 +2.2
KSH *e*SS SS 16 41 43.2 +2.2
KSH AMB AMB
comp=Z,520nm,4.7s
KSH LR LR
comp=N,1μm,9.1s
KSH LR LR
comp=E,980nm,8.6s
ULHL Ulahol 47.46 315 P **P** **16 31 52.6 +1.4**
SNR=13
KZA Kyzart 48.08 315 P **P** **16 31 57.6 +1.5**
SNR=24
TKM2 Tokmak 2 48.16 316 P **P** **16 31 57.1 +0.5**
SNR=15
YAK Yakutsk 48.33 6*c* *i*P **P** **16 31 57.0 -0.7**
YAK pmax pmax
comp=Z,318nm,0.8s,mb5.7
YAK Yakutsk 48.33 6 *e*P **P** **16 31 56.8 -0.9**
comp=Z,322nm,0.8s,mb5.7
KBK Karagaybulak 48.50 315 P **P** **16 32 00.1 +0.8**
SNR=52
UCH Uchtor 48.64 314 P **P** **16 32 02.0 +1.7**
SNR=83
ZAL Zalesovo 48.73 333 P **P** **16 32 00.2 -0.7**
comp=Z,25nm,0.4s,mb4.8,baz=353,slow=5.2,SNR=88
ZAL PcP PcP 16 33 21.0 -1.7
comp=Z,4.6nm,0.7s,baz=349,slow=5.2,SNR=2.4
CHMS Chumysh 48.76 315 P **P** **16 32 01.7 +0.5**
SNR=31
AAK Ala-Archa 48.80 315 P **P** **16 32 02.4 +0.9**
SNR=14
AAK Ala-Archa 48.80 315⇑ *i*P **P** **16 32 01.3 -0.2**
USP Ospenovka 49.03 316 P **P** **16 32 03.7 +0.4**
SNR=29
AML Almayashu 49.17 314 P **P** **16 32 05.7 +1.3**
SNR=39
STKA Stephens Creek 49.89 157 *e*P **P** **16 32 07.7 -2.3**
comp=Z,4.5nm,0.6s,mb4.0
STKA Stephens Creek 49.89 157 P **P** **16 32 07.7 -2.3**
comp=Z,5.9nm,0.6s,mb4.1,baz=325,slow=10.0,SNR=14
NVS Novosibirsk 50.01 333⇑ *i*P **P** **16 32 08.9 -1.7**
NVS *e*S **S** **16 39 01.3 -1.5**
NVS *i* 16 41 33.2
NVS pmax pmax
comp=N,57nm,1.3s
NVS pmax pmax
comp=Z,100nm,1.3s,mb5.0
NVS pmax pmax
comp=E,61nm,1.2s
NVS smax
comp=N,64nm,1.6s
NVS smax
comp=E,103nm,1.7s
MA2 Magadan 50.56 19 *i* P **P** **16 32 15.0 +0.4**
MA2 Magadan 50.56 19 *i* Pr **P** **16 32 15.0 +0.4**
ARMA Armidale 53.32 146 *e*P **P** **16 32 34.4 -1.1**
SEY Seymchan 53.66 17 *e*P **P** **16 32 38.5 +1.0**
SEY pmax pmax
comp=N,30nm,0.7s
SEY pmax pmax
comp=E,10.0nm,0.7s
SEY pmax pmax
comp=Z,60nm,0.7s,mb5.2
SEY Seymchan 53.66 17⇓ *i*P **P** **16 32 38.3 +0.8**
BVAR Borovoye Array 55.47 326 P **P** **16 32 50.4 -0.2**
comp=Z,28nm,0.8s,mb4.8,baz=120,slow=9.0,SNR=138
BVAR PcP PcP 16 33 46.1 -1.8
comp=Z,23nm,0.8s,baz=122,slow=5.6,SNR=12
BVAR S **S** **16 40 16.7 +0.4**
comp=Z,6.2nm,1.1s,baz=127,slow=15,SNR=14
FX1 Attu Island--F 56.61 35 P **P** **16 32 58.5 -0.2**
comp=Z,67nm,0.9s,mb5.2,baz=283,slow=2.6,SNR=12
FX1 Attu Island--F 56.61 35 *e*P **P** **16 32 59.3 +0.6**
NOUC Port Laguerre 57.37 128 *e*P **P** **16 33 03.5 -1.0**
TIXI Tiksi 57.77 3*c* *i*P **P** **16 33 04.9 -1.8**
TIXI pmax pmax
comp=Z,207nm,0.8s,mb5.8
TIXI Tiksi 57.77 3⇑ *i*P **P** **16 33 04.0 -2.7**
BILL Bilibino 61.36 18 *e*P **P** **16 33 30.2 -0.9**
BILL *e* 16 34 09.9
BILL pmax pmax
comp=Z,169nm,1.2s,mb5.5
BILL Bilibino 61.36 18 *e*P **P** **16 33 30.2 -0.9**
comp=Z,169nm,1.2s,mb5.5
BILL *e*PcP PcP 16 34 09.8 -1.2
AKTK Aktyubinsk 61.93 320 P **P** **16 33 34.5 -0.7**
AKTO Aktyubinsk 61.93 320 P **P** **16 33 34.5 -0.7**
comp=Z,38nm,0.8s,mb5.1,baz=98,slow=7.7,SNR=143
FUNA Funafuti 62.23 108 P **P** **16 33 38.0 +0.3**
ARU Arti 63.07 327⇑ *i*P **P** **16 33 41.3 -1.3**
ARU *e* 16 34 14.4
ARU *e* pP 16 34 34.1 -0.1
ARU *e* 16 36 10.0
ARU *e*S **S** **16 41 55.2 +1.3**
ARU *e*SS SS 16 46 07.6 +1.5
ARU pmax pmax
comp=Z,66nm,0.8s,mb5.3
SOKR Solikamsk 64.83 330⇓ *i*P **P** **16 33 53.1 -0.8**
SOKR pmax pmax
comp=Z,60nm,1.3s,mb5.1
QRN Al-Qurain 68.41 296 *e*P **P** **16 34 15.9 -1.1**
UMR Umm Al-Rimmam 68.53 296 AMb AMB 16 33 47.6
comp=Z,47nm,0.5s,mb5.4
UMR *e*P 16 34 16.6
KBD Kabd 68.58 296 *e*P **P** **16 34 16.9 -1.1**
RDF Al-Radifah 68.72 296 *e*P **P** **16 34 17.8 -1.0**
RDF AMb AMB 16 34 19.1
comp=Z,222nm,0.8s,mb5.8
NAY Al-Naaiem 68.96 296 AMb AMB 16 33 51.8
comp=Z,23nm,0.4s,mb5.2
NAY *e*P 16 34 19.2
TNA Tin City 69.60 25 *e*P **P** **16 34 23.6 0.0**
comp=Z,14nm,0.8s,mb4.6
TI2 Plekhanov 70.33 310 *e*P **P** **16 34 27.2 -1.2**
GNI Garni 70.38 308 P **P** **16 34 29.8 +1.0**
comp=Z,111nm,0.8s,mb4.6,baz=175,slow=3.3,SNR=17
GNI Garni 70.38 308 *e*P **P** **16 34 29.2 +0.5**
GNI pmax pmax
comp=Z,29nm,0.8s
GNI Garni 70.38 308 *e*P **P** **16 34 29.2 +0.4**
comp=Z,28nm,0.8s,mb5.0
MZLS Mizel 71.33 291 P **P** **16 34 34.7 +0.1**
GOF Gofitskoye 71.49 313 *e*P **P** **16 34 33.6 -1.7**
GOF pmax pmax
comp=Z,26nm,1.0s,mb4.8
KIV Kislovodsk 71.78 312*c* *i*P **P** **16 34 36.7 -0.3**
KIV pmax pmax
comp=Z,73nm,0.7s,mb5.4
KIV Kislovodsk 71.78 312⇑ *i*P **P** **16 34 36.6 -0.4**
MSL Mosul 71.90 304 *ex* x 16 34 36.5
KAMS Al Khamasin 72.42 287 P **P** **16 34 40.7 -0.6**
ARSS Ar Rass 72.86 293 P **P** **16 34 43.5 -0.3**
AFFS 'Afif 73.34 291 P **P** **16 34 46.4 -0.2**
KLMR Klimovskoe 73.53 330*c* *i*P **P** **16 34 45.6 -1.4**
KLMR pmax pmax
comp=Z,150nm,1.4s,mb5.4
TATS Tathlith 73.57 286 P **P** **16 34 48.3 +0.2**
DJNS Zahran al Janu 73.81 285 P **P** **16 34 50.1 +0.6**
VOR Voronezh 73.83 320 *e*P **P** **16 34 48.0 -1.0**
VOR pmax pmax
comp=E,90nm,1.3s
VOR pmax pmax
comp=Z,110nm,1.3s,mb5.3
VRSR Storozhevoye 73.86 320 *e*P **P** **16 34 47.8 -1.3**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,1.2s
VRSR pmax pmax
comp=E,10.0nm,0.9s
HILS Ha'il 73.94 295 P **P** **16 34 50.4 +0.3**
MOS Moscow 74.61 324 *e*P **P** **16 34 50.3 -3.0**
MOS *e* pP 16 35 40.9 -5.5
MOS pmax pmax
comp=Z,100nm,1.1s,mb5.4
MOS pmax pmax
comp=Z,104nm,0.9s,mb5.5

OBN Obninsk 75.24 324*c* *i*P **P** **16 34 55.5 -1.4**
OBN *i* *PP pP 16 35 51.6 +1.5
OBN *e* 16 37 45.4
OBN *e*S S 16 44 13.6 -2.2
OBN pmax pmax
comp=Z,112nm,1.2s,mb5.4
OBN Obninsk 75.24 324⇑ *i*P **P** **16 34 55.6 -1.3**
BLJS Baljurashi 75.26 287 P **P** **16 34 58.4 +0.7**
FRSS Farasan al Kab 75.33 284 P **P** **16 34 58.7 +0.6**
ANN Anapa 75.48 313⇓ *i*P **P** **16 34 56.3 -2.2**
ANN *e**PP pP 16 35 48.1 -3.6
ANN *e*S S 16 44 19.1 +0.4
ANN pmax pmax
comp=Z,121nm,1.4s,mb5.3
APA Apatity 76.07 337 *e*P **P** **16 35 01.0 -0.3**
APA *i* pP 16 35 56.0 +1.4
APA *e* 16 44 41.0
APA pmax pmax
comp=Z,110nm,1.5s,mb5.3
LTHS Al Lith 76.29 288 P **P** **16 35 03.9 +0.5**
KBRS Khaybar 76.41 293 P **P** **16 35 05.2 +1.1**
KDAK Kodiak Island 76.49 33 P **P** **16 35 03.1 -0.7**
comp=Z,37nm,0.9s,mb5.0,baz=13,slow=0.6,SNR=14
JOF Joensuu 77.32 332 *e*p **P** **16 35 07.4 -0.8**
comp=Z,111nm,0.4s,mb4.8
MCK McKinley 77.67 27 *e*P **P** **16 35 09.3 -0.9**
MCK pmax pmax
comp=Z,87nm,1.0s,mb5.3
MCK McKinley 77.67 27 *e*P **P** **16 35 09.3 -0.9**
comp=Z,87nm,1.0s,mb5.3
SIM Simferopol' 77.81 314*d* *i*P **P** **16 35 11.1 -0.2**
SIM *e**PP pP 16 36 08.0 +3.2
SIM pmax pmax
comp=Z,63nm,0.9s,mb5.2
COLA College 78.00 26 *e*P **P** **16 35 11.1 -0.9**
COLA pmax pmax
comp=Z,47nm,1.0s,mb5.1
COLA College 78.00 26 *e*P **P** **16 35 11.1 -0.9**
comp=Z,46nm,1.0s,mb5.1
PUL Pulkovo 78.16 329⇑ *e*P **P** **16 35 12.9 0.0**
PUL pmax pmax
comp=N,37nm,0.6s
PUL pmax pmax
comp=Z,76nm,0.6s,mb5.5
PUL Pulkovo 78.16 329 *i* P **P** **16 35 12.6 -0.3**
KEV Kevo 78.19 339 *e*p **P** **16 35 12.5 -0.4**
comp=Z,26nm,0.6s,mb5.0
KEV Kevo 78.19 339 *e*P **P** **16 35 12.5 -0.4**
KEV pmax pmax
comp=Z,26nm,0.6s,mb5.0
SML Sawmill 78.19 29 *e*P **P** **16 35 13.2 +0.2**
ILAR Eielson Array 78.42 26 P **P** **16 35 12.7 -1.6**
comp=Z,9.7nm,0.9s,mb4.5,baz=270,slow=3.2,SNR=55
ILAR PKKPbc 16 54 08.2
comp=Z,0.6nm,0.8s,baz=129,slow=2.1,SNR=7.7
ILAR PKPPKP 17 02 09.8
comp=Z,0.6nm,0.9s,baz=47,slow=1.4,SNR=4.2
ARCES ARCESS Array B 78.74 339 P **P** **16 35 15.4 -0.5**
comp=Z,74nm,0.9s,mb5.3,baz=79,slow=6.7,SNR=160
ARE0 ARCESS Array S 78.74 339 *e*P **P** **16 35 15.2 -0.7**
BR131 Keskin Array S 78.92 308 *e*P **P** **16 35 17.2 -0.2**
comp=Z,8.7nm,0.8s,mb4.4
BRTR Keskin Array B 78.92 308 P **P** **16 35 17.3 -0.1**
comp=Z,11nm,0.8s,mb4.5,baz=115,slow=4.7,SNR=32
THY Trims Highway 79.13 27 *e*P **P** **16 35 18.0 -0.1**
ANTO Ankara 79.54 309 *e*P **P** **16 35 20.1 -0.6**
ANTO pmax pmax
comp=Z,16nm,1.1s,mb4.6
ANTO Ankara 79.54 309 *e*P **P** **16 35 20.1 -0.7**
comp=Z,16nm,1.1s,mb4.5
KTK1 Kautokeino 79.63 339 *e*P **P** **16 35 20.5 -0.1**
KTK1 AMb AMB 16 35 22.0
comp=Z,56nm,1.1s,mb5.1
KTK1 Kautokeino 79.63 339 *e*P **P** **16 35 20.5 -0.1**
comp=Z,56nm,1.1s,mb5.1
KAF Kangasniemi 79.73 332 *e*p **P** **16 35 20.4 -0.9**
baz=75,slow=4.4
CSS Prodhromos 79.95 304 *e*P **P** **16 35 23.2 +0.2**
comp=Z,87nm,0.9s,mb5.4
FINES FINESS Array B 79.96 331 P **P** **16 35 22.1 -0.5**
comp=Z,16nm,0.8s,mb4.7,baz=47,slow=6.3,SNR=49
FINES PKPPKP 17 02 10.5
comp=Z,3.8nm,1.1s,baz=45,slow=5.4,SNR=6.8
AKASG Malin Array Be 80.18 320 P **P** **16 35 22.6 -1.3**
comp=Z,17nm,0.9s,mb4.7,baz=67,slow=5.3,SNR=52
VSU Vasula 80.19 328⇑ *i*P **P** **16 35 23.2 -0.6**
TRO Tromso 80.97 340 *e*P **P** **16 35 27.6 -0.1**
ISP Isparta 81.66 307 *e*P **P** **16 35 31.1 -0.8**
ISP pmax pmax
comp=Z,74nm,1.0s,mb5.3
ISP Isparta 81.66 307 *e*P **P** **16 35 31.1 -0.8**
comp=Z,74nm,1.0s,mb5.3
DAWY Dawson 81.75 26 *e*P **P** **16 35 32.3 +0.5**
TIRR Tirgusor 81.90 314⇓ *i*P **P** **16 35 32.5 -0.5**
CFR Carcaliu 81.94 314⇓ *i*P **P** **16 35 32.0 -1.2**
HARR Harsova 82.19 314⇓ *i*P **P** **16 35 33.7 -0.7**
INK Inuvik 82.76 21 P **P** **16 35 37.0 0.0**
comp=Z,68nm,1.0s,mb5.3,baz=293,slow=6.0,SNR=129
INK Inuvik 82.76 21 *e*P **P** **16 35 36.6 -0.3**
INK pmax pmax
comp=Z,85nm,1.0s
INK Inuvik 82.76 21 *e*P **P** **16 35 36.6 -0.3**
comp=Z,85nm,1.0s,mb5.4
VRI Vrincioaia 82.77 315⇑ *i*P **P** **16 35 37.6 +0.2**
PRD Provadia 82.88 313 *e*P **P** **16 35 39.0 +0.9**
SUW Suwalki 83.10 324 *e*P **P** **16 35 38.2 -0.8**
BURAR Bucovina Array 83.38 317⇑ P **P** **16 35 40.9 +0.4**
MLR Muntele Rosu 83.38 315 P **P** **16 35 40.8 +0.2**
comp=Z,31nm,0.8s,mb5.1,baz=188,slow=2.2,SNR=41
MLR Muntele Rosu 83.38 315⇑ P **P** **16 35 40.1 -0.5**
JMB Yambol 83.62 312 *e*P **P** **16 35 42.0 +0.1**
MOR8 Moi Rana 83.66 337 *e*P **P** **16 35 40.0 -1.5**
MOR8 AMb AMB 16 35 41.6
comp=Z,86nm,1.8s,mb5.2
MOR8 Moi Rana 83.66 337 *e*P **P** **16 35 40.0 -1.5**
comp=Z,86nm,1.8s,mb5.2
KMBO Kilima Mbogo 83.91 267 P **P** **16 35 45.5 +1.5**
comp=Z,9.8nm,0.9s,mb4.5,baz=46,slow=7.5,SNR=26
VOIR 84.01 315⇑ P **P** **16 35 43.4 -0.3**
PVL Pavlikeni 84.34 313 *e*P **P** **16 35 46.0 +0.5**
DIM Dimitrovgrad 84.48 312 *e*P **P** **16 35 46.0 -0.2**
KWP Kalwaria 84.50 320 *e*P **P** **16 35 46.6 +0.6**
KOLS Kolonicke sedl 84.96 319 *e*P **P** **16 35 48.9 +0.5**
RZN Rozhen 85.16 312 *e*P **P** **16 35 49.0 -0.6**
NSS Namsos 85.23 336 *e*P **P** **16 35 48.1 -1.3**
DRGR 85.24 317⇑ P **P** **16 35 49.0 -0.8**
PGB Panagyurishte 85.34 313 *e*P **P** **16 35 50.0 -0.4**
STHS Stebnicka Huta 85.47 320 *e*P **P** **16 35 51.6 +0.7**
CRVS Cervenica-Dubn 85.48 319 *i* P **P** **16 35 51.6 +0.6**
MMB Musomiste 85.90 312 *e*P **P** **16 35 52.0 -1.2**
VTS Vitosha 86.01 313 *e*P **P** **16 35 53.0 -0.7**
VTS Vitosha 86.01 313⇑ P **P** **16 35 53.7 0.0**
NIE Niedzica 86.06 320 *e*P **P** **16 35 54.5 +0.8**
OJC Ojcow 86.14 321 *e*P **P** **16 35 54.3 +0.2**
HFS Hagfors 86.15 331 P **P** **16 35 53.4 -0.6**
comp=Z,18nm,0.4s,mb5.1,baz=90,slow=4.4,SNR=65
KECS Kecovo 86.22 319 *i* P **P** **16 35 54.8 +0.2**
DAG Danmarks Havn 86.24 351⇓ *i*P **P** **16 35 52.9 -1.2**
comp=Z,15nm,0.6s,mb4.9
DAG Danmarks Havn 86.24 351⇓ *e*P **P** **16 35 52.9 -1.2**
DAG pmax pmax
comp=Z,15nm,0.6s,mb4.9
DAG Danmarks Havn 86.24 351⇓ *e*P **P** **16 35 52.9 -1.2**
comp=Z,15nm,0.6s,mb4.9
BZS Buzias 86.29 316⇓ P **P** **16 35 54.7 -0.3**
KKB Krupnik 86.29 312 *e*P **P** **16 35 53.0 -2.1**
IDI Anoyia 86.64 305 P **P** **16 35 56.1 -0.8**
comp=Z,15nm,0.6s,mb4.8,baz=44,slow=8.2,SNR=12
NB2 NORSAR Subarra 86.93 333 P **P** **16 35 56.5 -1.2**
comp=Z,50nm,0.8s,mb5.3,baz=67,slow=4.5
NB2 NORSAR Subarra 86.93 333 P **P** **16 35 56.5 -1.2**
baz=67,slow=4.6
NB2 NORSAR Subarra 86.93 333 P **P** **16 35 56.5 -1.2**
NB2 pmax pmax
comp=Z,50nm,0.8s,mb5.3
NOA NORSAR Array B 86.93 333 P **P** **16 35 56.6 -1.0**
comp=Z,33nm,0.8s,mb5.1,baz=68,slow=4.7,SNR=68
NOA PP PP 16 39 21.2 -4.3
comp=Z,2.0nm,0.8s,baz=70,slow=8.4,SNR=3.3
VYHS Vyhne 87.26 319 *e*P **P** **16 36 00.0 +0.5**
OKC Ostrava-Krasne 87.27 321 *e*P **P** **16 35 59.8 +0.3**
MORC Moravsky Berou 87.66 321⇑ P **P** **16 36 01.6 +0.2**
DLBC Dease Lake 87.89 30 P **P** **16 36 03.0 +0.7**
comp=Z,8.2nm,1.1s,mb4.5,baz=282,slow=4.5,SNR=6.1
KSP Ksiaz 88.06 322 *e*P **P** **16 36 03.7 +0.5**

KSP	**Ksiaz**	**88.06**	**322**	⇑	*e*P		**P**	**16 36 03.4**	**+0.2**
KSP					*e**PP		pP	16 36 57.8	-0.2
DPC	**Dobruska-Polom**	**88.21**	**322**		*e*P		**P**	**16 36 04.4**	**+0.5**
UPC	**Upice**	**88.34**	**322**		*e*P		**P**	**16 36 05.2**	**+0.6**
VRAC	**Vranov**	**88.40**	**321**		P		**P**	**16 36 05.3**	**+0.5**
	comp=Z,14nm,0.8s,mb4.8,baz=73,slow=3.8,SNR=19								
VRAC	**Vranov**	**88.40**	**321**	⇑	*i*P		**P**	**16 36 05.3**	**+0.4**
ZST	**Bratislava**	**88.45**	**319**		*e*P		**P**	**16 36 04.9**	**-0.2**
RES	**Resolute Bay**	**88.67**	**9**		*e*P		**P**	**16 36 05.3**	**-0.3**
RES					pmax	pmax			
	comp=Z,49nm,0.9s,mb5.3								
RES	**Resolute Bay**	**88.67**	**9**		*e*P		**P**	**16 36 05.2**	**-0.4**
	comp=Z,49nm,0.9s,mb5.3								
RUE	**Ruedersdorf**	**88.94**	**324**		*e*P		**P**	**16 36 07.4**	**0.0**
	comp=Z,67nm,1.1s,mb5.4								
TREC	**Trest**	**89.08**	**321**		*e*P		**P**	**16 36 08.6**	**+0.5**
PVCC	**Panska Ves**	**89.20**	**322**		*e*P		**P**	**16 36 09.0**	**+0.4**
PRU	**Pruhonice**	**89.41**	**322**		*e*P		**P**	**16 36 10.1**	**+0.5**
BRG	**Berggiesshubel**	**89.44**	**323**		*i*P		**P**	**16 36 09.7**	**0.0**
BRG					*e*		pP	16 37 07.6	+3.0
BRG					pmax	pmax			
	comp=Z,38nm,1.1s,mb5.1								
BRG	**Berggiesshubel**	**89.44**	**323**		*i*P		**P**	**16 36 09.7**	**0.0**
	comp=Z,38nm,1.1s,mb5.1								
BRG					*e*		pP	16 37 07.6	+3.0
ARSA	**Arzberg**	**89.78**	**319**	⇑	*i*P		**P**	**16 36 10.7**	**-0.7**
	comp=Z,8.2nm,1.0s,mb4.5								
CLL	**Collm**	**89.83**	**323**		P		**P**	**16 36 11.2**	**-0.3**
	comp=Z,logA/T=1.4,mb5.0								
CLL					*e**PP		pP	16 37 06.0	-0.5
CLL	**Collm**	**89.83**	**323**		*i*P		**P**	**16 36 11.2**	**-0.3**
CLL					*e**PP		pP	16 37 06.0	-0.5
CLL					pmax	pmax			
	comp=Z,30nm,1.1s,mb5.0								
CLL	**Collm**	**89.83**	**323**		*i*P		**P**	**16 36 11.2**	**-0.3**
	comp=Z,30nm,1.1s,mb5.0								
CLL					*e*pP		pP	16 37 06.0	-0.5
BSEG	**Bad Segeberg**	**90.28**	**326**		*e*P		**P**	**16 36 13.4**	**-0.2**
KHC	**Kasperske Hory**	**90.31**	**321**	*d*	*i*P		**P**	**16 36 14.4**	**+0.6**
KHC	**Kasperske Hory**	**90.31**	**321**		*e*P		**P**	**16 36 13.9**	**+0.1**
CRES	**Cresnjev**	**90.32**	**318**		*i*P		**P**	**16 36 14.4**	**+0.5**
GEC2	**GERESS Array S**	**90.34**	**321**		*e*P		**P**	**16 36 14.2**	**+0.2**
GEC2					pmax	pmax			
	comp=Z,19nm,1.0s,mb4.9								
GEC2	**GERESS Array S**	**90.34**	**321**		*e*P		**P**	**16 36 14.2**	**+0.2**
	comp=Z,19nm,1.0s,mb4.9								
GERES	**GERESS Array B**	**90.34**	**321**		P		**P**	**16 36 14.3**	**+0.4**
	comp=Z,7.4nm,0.8s,mb4.6,baz=72,slow=4.2,SNR=61								
MOA	**Molln**	**90.36**	**320**		*i*P		**P**	**16 36 14.3**	**+0.3**
	comp=Z,39nm,1.0s,mb5.2,SNR=23								
NKC	**Novy Kostel**	**90.57**	**322**		*e*P		**P**	**16 36 15.7**	**+0.7**
WET	**Wettzell**	**90.73**	**321**		*e*P		**P**	**16 36 16.0**	**+0.2**
WET					pmax	pmax			
	comp=Z,31nm,1.5s,mb5.0								
WET	**Wettzell**	**90.73**	**321**		*e*P		**P**	**16 36 16.0**	**+0.2**
	comp=Z,31nm,1.5s,mb5.0								
MOX	**Moxa**	**90.90**	**323**		*i*P		**P**	**16 36 16.2**	**-0.3**
MOX	**Moxa**	**90.90**	**323**		*e*P		**P**	**16 36 16.2**	**-0.3**
CEY	**Cerknica**	**91.03**	**318**		*i*P		**P**	**16 36 17.5**	**+0.3**
CLZ	**Clausthal**	**91.12**	**324**		*e*P		**P**	**16 36 17.8**	**+0.3**
CLZ					pmax	pmax			
	comp=Z,61nm,1.6s,mb5.3								
CLZ	**Clausthal**	**91.12**	**324**		*e*P		**P**	**16 36 17.8**	**+0.3**
	comp=Z,61nm,1.6s,mb5.3								
KBA	**Koelnbreinsper**	**91.23**	**319**	⇑	*i*P		**P**	**16 36 17.7**	**-0.4**
	comp=Z,21nm,1.3s,mb4.9,SNR=5,4								
KBA	**Koelnbreinsper**	**91.23**	**319**	⇑	*i*P		**P**	**16 36 17.7**	**-0.4**
KBA					pmax	pmax			
	comp=Z,21nm,1.3s,mb4.9								
KBA	**Koelnbreinsper**	**91.23**	**319**	⇑	*i*P		**P**	**16 36 17.7**	**-0.4**
	comp=Z,21nm,1.3s,mb4.9								
MAW	**Mawson**	**91.44**	**199**		P		**P**	**16 36 18.3**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.6,baz=8.4,slow=6.6,SNR=5.2								
GRA1	**Grafenberg Arr**	**91.51**	**322**		*e*P		**P**	**16 36 19.7**	**+0.3**
	comp=Z,21nm,1.1s,mb5.0								
GRA1					*e*pP		pP	16 37 09.7	-4.7
GRF	**Grafenberg Arr**	**91.51**	**322**		*e*P		**P**	**16 36 19.7**	**+0.3**
GRF					pmax	pmax			
	comp=Z,21nm,1.1s,mb5.0								
GRF	**Grafenberg Arr**	**91.51**	**322**		*e*P		**P**	**16 36 19.7**	**+0.3**
GRF					pmax	pmax			
	comp=Z,21nm,1.1s,mb5.0								
GRF	**Grafenberg Arr**	**91.51**	**322**		*e*P		**P**	**16 36 19.7**	**+0.3**
	comp=Z,21nm,1.1s,mb5.0								
GRF					*e*pP		pP	16 37 09.7	-4.7
SCO	**Scoresbysund**	**91.82**	**348**		*i*P		**P**	**16 36 21.0**	**+0.7**
	comp=Z,3.5nm,0.8s,mb4.3								
SCO					*e*			16 38 00.5	
SCO	**Scoresbysund**	**91.82**	**348**		*i*P		**P**	**16 36 21.0**	**+0.7**
SCO					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
FUR	**Furstenfeldbru**	**92.09**	**321**		*e*P		**P**	**16 36 22.4**	**+0.3**
FUR					pmax	pmax			
	comp=Z,73nm,1.4s,mb5.4								
FUR	**Furstenfeldbru**	**92.09**	**321**		*e*P		**P**	**16 36 22.4**	**+0.3**
	comp=Z,73nm,1.4s,mb5.4								
WTTA	**Wattenberg**	**92.23**	**320**		*i*P		**P**	**16 36 22.5**	**-0.3**
	comp=Z,48nm,1.0s,mb5.4,SNR=20								
WTTA	**Wattenberg**	**92.23**	**320**		*i*P		**P**	**16 36 22.5**	**-0.3**
WTTA					pmax	pmax			
	comp=Z,48nm,1.0s,mb5.4								
WTTA	**Wattenberg**	**92.23**	**320**		*i*P		**P**	**16 36 22.5**	**-0.3**
	comp=Z,48nm,1.0s,mb5.4								
WATA	**Walderalm**	**92.24**	**320**	⇓	*i*P		**P**	**16 36 22.3**	**-0.5**
	comp=Z,26nm,1.1s,mb5.1								
WATA	**Walderalm**	**92.24**	**320**	⇓	*i*P		**P**	**16 36 22.3**	**-0.5**
WATA					pmax	pmax			
	comp=Z,26nm,1.1s,mb5.1								
YKW3	**Yellowknife Ar**	**92.40**	**22**		*e*P		**P**	**16 36 22.8**	**-0.4**
YKA	**Yellowknife Ar**	**92.44**	**22**		P		**P**	**16 36 23.6**	**+0.2**
	comp=Z,25nm,0.9s,mb5.1,baz=308,slow=4.4,SNR=179								
YKA					PP		PP	16 40 07.1	-2.3
	comp=Z,0.7nm,0.7s,baz=313,slow=8.2,SNR=3.8								
YKA					PKKPbc			16 53 34.1	
	comp=Z,1.3nm,0.4s,baz=132,slow=2.8,SNR=37								
SUMG	**Summit**	**92.46**	**354**		*e*P		**P**	**16 36 23.6**	**+0.4**
	comp=Z,42nm,1.2s,mb5.2								
SQTA	**Sankt Quirin**	**92.51**	**320**	⇑	*i*P		**P**	**16 36 23.8**	**-0.3**
	comp=Z,26nm,1.0s,mb5.2,SNR=15								
SQTA	**Sankt Quirin**	**92.51**	**320**	⇑	*i*P		**P**	**16 36 23.8**	**-0.3**
SQTA					pmax	pmax			
	comp=Z,26nm,1.0s,mb5.2								
MOTA	**Moosalm**	**92.53**	**320**	⇑	*i*P		**P**	**16 36 23.8**	**-0.4**
	comp=Z,30nm,1.1s,mb5.2,SNR=14								
MOTA	**Moosalm**	**92.53**	**320**	⇑	*i*P		**P**	**16 36 23.8**	**-0.4**
MOTA					pmax	pmax			
	comp=Z,30nm,1.1s,mb5.2								
TNS	**Taunus Mts**	**92.91**	**323**		*e*P		**P**	**16 36 25.9**	**0.0**
TNS					pmax	pmax			
	comp=Z,24nm,1.1s,mb5.1								
TNS	**Taunus Mts**	**92.91**	**323**		*e*P		**P**	**16 36 25.9**	**0.0**
	comp=Z,24nm,1.1s,mb5.1								
WTSB	**Winterswijk**	**93.06**	**325**	⇓	*e*P		**P**	**16 36 26.4**	**0.0**
	comp=Z,18nm,1.2s,mb5.0								
DAVA	**Damuels**	**93.31**	**320**	⇑	*i*P		**P**	**16 36 28.4**	**+0.7**
	comp=Z,24nm,1.4s,mb5.0								
DAVA	**Damuels**	**93.31**	**320**	⇑	P		**P**	**16 36 28.4**	**+0.7**
	comp=Z,24nm,1.4s,mb5.0								
DAVOX	**Davos**	**93.53**	**320**		P		**P**	**16 36 28.7**	**0.0**
	comp=Z,18nm,0.9s,mb5.1,baz=100,slow=3.0,SNR=17								
DAVOX	**Davos**	**93.53**	**320**		P		**P**	**16 36 28.7**	**0.0**
BFO	**Black Forest**	**93.81**	**322**		*e*P		**P**	**16 36 29.3**	**-0.7**
BFO					pmax	pmax			
	comp=Z,12nm,1.1s,mb4.8								
BFO	**Black Forest**	**93.81**	**322**		*e*P		**P**	**16 36 29.3**	**-0.7**
	comp=Z,12nm,1.1s,mb4.8								
HGN	**Heimansgroeve**	**94.10**	**325**	⇓	*e*P		**P**	**16 36 31.4**	**+0.2**
	comp=Z,24nm,2.0s,mb4.9								
CDF	**Champ du Feu**	**94.41**	**322**		*e*P		**P**	**16 36 32.4**	**-0.2**
	comp=Z,60nm,1.1s,mb5.2								
CDF	**Champ du Feu**	**94.41**	**322**		*e*P		**P**	**16 36 32.4**	**-0.2**
CDF					pmax	pmax			
	comp=Z,30nm,1.1s,mb5.2								
VNDA	**Vanda**	**94.41**	**172**		P		**P**	**16 36 31.3**	**-0.7**
	comp=Z,5.9nm,1.0s,mb4.6,baz=307,slow=4.9,SNR=14								
VNDA					PKKPbc			16 53 31.6	
	comp=Z,0.7nm,0.8s,baz=222,slow=4.4,SNR=4.1								
WLF	**Walferdange**	**94.49**	**324**		*e*P		**P**	**16 36 32.9**	**-0.1**
WLF					pmax	pmax			
	comp=Z,24nm,1.0s,mb5.2								
WLF	**Walferdange**	**94.49**	**324**		*e*P		**P**	**16 36 32.9**	**-0.1**
	comp=Z,24nm,1.0s,mb5.2								
HINF	**Hinteralfeld**	**94.93**	**322**		*e*P		**P**	**16 36 34.4**	**-0.7**
	comp=Z,36nm,1.3s,mb5.0								
HINF	**Hinteralfeld**	**94.93**	**322**		*e*P		**P**	**16 36 34.4**	**-0.7**
HINF					pmax	pmax			
	comp=Z,18nm,1.3s,mb5.0								
GIVF	**Givet**	**95.04**	**324**		*e*P		**P**	**16 36 35.3**	**-0.2**
	comp=Z,60nm,1.2s,mb5.3								
GIVF	**Givet**	**95.04**	**324**		*e*P		**P**	**16 36 35.3**	**-0.2**
GIVF					pmax	pmax			
	comp=Z,30nm,1.2s,mb5.3								
HAU	**Haudompre**	**95.14**	**322**		*e*P		**P**	**16 36 35.3**	**-0.8**
BAIF	**Baives**	**95.41**	**325**		*e*P		**P**	**16 36 37.0**	**-0.2**
	comp=Z,26nm,1.0s,mb5.0								
BAIF	**Baives**	**95.41**	**325**		*e*P		**P**	**16 36 37.0**	**-0.2**
BAIF					pmax	pmax			
	comp=Z,13nm,1.0s,mb5.0								
MEZF	**Maizieres J'vi**	**95.67**	**323**		*e*P		**P**	**16 36 38.3**	**-0.1**
	comp=Z,53nm,1.4s,mb5.3								
CABF	**La Chapelle**	**95.94**	**321**		*e*P		**P**	**16 36 39.3**	**-0.4**
	comp=Z,30nm,1.2s,mb5.1								
CABF	**La Chapelle**	**95.94**	**321**		*e*P		**P**	**16 36 39.3**	**-0.4**
CABF					pmax	pmax			
	comp=Z,15nm,1.2s,mb5.1								
LPG	**La Plagne**	**96.04**	**320**		*e*P		**P**	**16 36 40.4**	**+0.2**
	comp=Z,31nm,0.9s,mb5.2								
LPG	**La Plagne**	**96.04**	**320**		*e*P		**P**	**16 36 40.4**	**+0.2**
LPG					pmax	pmax			
	comp=Z,15nm,0.9s,mb5.2								
ORIF	**Oris-en-Rattie**	**96.85**	**319**		*e*P		**P**	**16 36 43.5**	**-0.4**
	comp=Z,24nm,1.0s,mb5.1								
ORIF	**Oris-en-Rattie**	**96.85**	**319**		*e*P		**P**	**16 36 43.5**	**-0.4**
ORIF					pmax	pmax			
	comp=Z,12nm,1.0s,mb5.1								
LOR	**Lormes**	**96.97**	**322**		*e*P		**P**	**16 36 43.6**	**-0.8**
SMF	**Signal de Mont**	**97.29**	**322**		*e*P		**P**	**16 36 45.0**	**-0.9**
	comp=Z,11nm,0.9s,mb4.8								
SMF	**Signal de Mont**	**97.29**	**322**		*e*P		**P**	**16 36 45.0**	**-0.9**
SMF					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.8								
AVF	**Avril sur Loir**	**97.51**	**322**		*e*P		**P**	**16 36 46.0**	**-0.9**
	comp=Z,4.1nm,0.7s,mb4.6								
AVF	**Avril sur Loir**	**97.51**	**322**		*e*P		**P**	**16 36 46.0**	**-0.9**
AVF					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.6								
TCF	**Toulx Ste Croi**	**98.44**	**322**		*e*P		**P**	**16 36 50.6**	**-0.5**
	comp=Z,13nm,0.9s,mb5.0								
TCF	**Toulx Ste Croi**	**98.44**	**322**		*e*P		**P**	**16 36 50.6**	**-0.5**
TCF					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb5.0								
FLN	**La Foliniere**	**98.70**	**325**		*e*P		**P**	**16 36 51.4**	**-0.8**
SFJD	**Kangerlussuaq**	**98.91**	**357**		P		**P**	**16 36 52.3**	**-0.5**
	comp=Z,8.1nm,0.8s,mb5.1,baz=331,slow=5.5,SNR=4.6								
RJF	**Les Rejaudoux**	**99.36**	**321**		*e*P		**P**	**16 36 55.2**	**-0.1**
NEW	**Newport**	**99.54**	**35**		P		**P**	**16 36 56.3**	**+0.2**
	comp=Z,5.5nm,0.9s,mb5.0,baz=306,slow=0.9,SNR=9.8								
MFF	**Saint Martin d**	**99.67**	**323**		*e*P		**P**	**16 36 56.1**	**-0.6**
SYO	**Syowa Base**	**99.86**	**201**	⇑	Pdiff		**P**	**16 36 55.6**	**-1.4**
SYO	**Syowa Base**	**99.86**	**201**	⇑	*e*P		**P**	**16 36 55.6**	**-1.4**
HLID	**Hailey**	**103.75**	**38**		*e*Pdif	Pdif		16 37 15.7	+0.9
	comp=Z,2.3nm,1.0s								
NVAR	**Mina Array Bea**	**104.07**	**44**		Pdiff	Pdif		16 37 16.9	+0.6
	comp=Z,1.0nm,0.9s,baz=275,slow=3.1,SNR=7.3								
NVAR					PKiKP			16 41 33.1	
	comp=Z,0.8nm,0.9s,baz=269,slow=5.3,SNR=4.8								
NVAR	**Mina Array Bea**	**104.07**	**44**		Pdif	Pdif		16 37 16.9	+0.6
PDAR	**Pinedale Array**	**107.07**	**36**		PKiKP			16 41 37.6	
	comp=Z,0.7nm,0.8s,baz=64,slow=1.2,SNR=5.0								
PDAR					PKKPbc			16 52 54.6	
	comp=Z,0.8nm,0.7s,baz=116,slow=4.6,SNR=5.0								
MSU	**Marysvale**	**108.05**	**41**		*e*PKiKP			16 41 40.7	
SCHQ	**Schefferville**	**111.08**	**5**		PKiKP			16 41 44.7	
	comp=Z,1.8nm,0.7s,baz=67,slow=15,SNR=5.5								
SNAA	**Sanae**	**113.50**	**197**		PKiKP			16 41 47.9	
	comp=Z,1.1nm,0.9s,baz=276,slow=8.9,SNR=6.6								
TORD	**Torodi Ar. Bea**	**113.81**	**291**		PKiKP			16 41 49.8	
	comp=Z,1.1nm,0.5s,baz=68,slow=1.7,SNR=16								
TORD					PP	PP		16 42 33.7	-17
	comp=Z,1.2nm,0.8s,baz=76,slow=6.1,SNR=4.0								
TORD					PKKPbc			16 52 31.8	
	comp=Z,1.8nm,1.1s,baz=290,slow=2.3,SNR=5.0								
ANMO	**Albuquerque**	**113.85**	**41**	*i*	PKiKP	PKPdf		16 41 50.4	+0.8
VNA2	**Neumayer--Watz**	**115.14**	**197**		P	PKPdf		16 41 53.9	+2.7
VNA2	**Neumayer--Watz**	**115.14**	**197**			PKPdf		16 41 56.2	+5.0
VNA1	**Neumayer--Stat**	**115.54**	**197**		P	PKPdf		16 41 54.7	+2.7
VNA3	**Neumayer Olymp**	**115.59**	**196**		P	PKPdf		16 41 55.0	+2.9
GDL2	**Guadalupe Moun**	**116.94**	**42**		*e*PKPdf	PKPdf		16 41 57.0	+1.4
TXAR	**Lajitas Array**	**119.22**	**44**		PKP	PKPdf		16 42 01.7	+1.6
	comp=Z,3.5nm,0.4s,baz=184,slow=0.5,SNR=110								
TXAR					PP	PP		16 43 07.5	-20
	comp=Z,1.0nm,0.7s,baz=300,slow=1.1,SNR=4.5								
TXAR					PKKPbc			16 52 14.4	
	comp=Z,0.6nm,0.9s,baz=270,slow=1.3,SNR=4.5								
JCT	**Junction City**	**121.01**	**41**		*e*PKiKP	PKPdf		16 42 04.5	+0.9
DBIC	**Dimbokro**	**122.18**	**287**		PKP	PKPdf		16 42 06.7	+0.6
	comp=Z,2.3nm,0.4s,baz=130,slow=1.5,SNR=8.1								
LIC	**Lamto**	**122.49**	**287**	⇑	*i*PKiKP	PKPdf		16 42 07.0	+0.3
	comp=Z,12nm,0.6s								
WVT	**Waverly**	**123.26**	**28**		*e*PKiKP	PKPdf		16 42 08.6	+0.9
OXF	**Oxford**	**123.85**	**30**		*e*PKiKP	PKPdf		16 42 08.9	-0.1
JSC	**Jenkinsville**	**127.58**	**23**		*e*PKiKP	PKPdf		16 42 16.6	+0.4
JTS	**JuntasAbangare**	**144.89**	**48**	*i*	PKiKP	PKPdf		16 42 48.0	-0.3
SJG	**San Juan**	**147.32**	**12**		*e*PKP2	PKPab		16 42 55.8	-4.0
CPD	**Cerro la Pandu**	**147.44**	**12**		*e*PKiKP	PKPdf		16 42 54.0	+1.5
CPD					*e*			16 42 56.2	
MTP	**Monte Pirata**	**147.45**	**11**		*e*PKPbc	PKPdf		16 42 55.9	+3.4
PLCA	**Paso Flores**	**151.68**	**162**		PKPbc	PKPdf		16 43 06.5	+8.0
	comp=Z,20nm,0.9s,baz=230,slow=3.4,SNR=45								
PLCA	**Paso Flores**	**151.68**	**162**		*e*PKPdf	PKPdf		16 43 00.3	+1.8
PLCA					*e*PKPbc	PKPdf		16 43 06.2	+7.7
PLCA					PKPbc	PKPdf		16 43 06.5	+8.0
SDV	**Santo Domingo**	**154.58**	**27**		*e*PKPdf	PKPdf		16 43 04.7	+1.5
SDV					*e*PKPbc	PKPdf		16 43 13.4	+10
SDV					*e*PKPab	PKPab		16 43 29.1	-0.9
ROSC	**El Rosal**	**156.01**	**39**		PKP	PKPdf		16 43 07.7	+2.5
	comp=Z,3.6nm,0.4s,baz=103,slow=17,SNR=4.8								
OTAV	**Otavalo**	**156.31**	**55**		*e*PKPdf	PKPdf		16 43 07.7	+2.1
OTAV					*e*PKPab	PKPab		16 43 36.6	-0.8
CFAA	**Coronel Fontan**	**160.72**	**156**		PKP	PKPdf		16 43 11.1	+0.8
	comp=Z,0.9nm,1.0s,baz=264,slow=3.5,SNR=9.5								
CFAA					PKPab	PKPab		16 43 53.2	-2.7
	comp=Z,0.7nm,0.9s,baz=172,slow=4.1,SNR=5.4								
CFAA	**Coronel Fontan**	**160.72**	**156**		PKP	PKPdf		16 43 11.1	+0.8
CFAA					PKPab	PKPab		16 43 53.2	-2.7
BDFB	**Brasilia**	**168.97**	**260**		PKP	PKPdf		16 43 18.9	+1.2
	comp=Z,6.4nm,1.0s,baz=50,slow=2.7,SNR=5.0								
BDFB					PKPab	PKPab		16 44 31.4	-0.8
	comp=Z,4.5nm,0.7s,baz=96,slow=9.0,SNR=4.4								
LPAZ	**La Paz**	**171.20**	**106**		PKP	PKPdf		16 43 20.3	+1.4
	comp=Z,3.0nm,0.8s,baz=31,slow=4.3,SNR=11								
LPAZ					PKPab	PKPab		16 44 43.8	+1.7
	comp=Z,12nm,1.0s,baz=282,slow=4.2,SNR=22								
LPAZ	**La Paz**	**171.20**	**106**		*e*PKiKP	PKPdf		16 43 19.9	+0.9

*CSEM **11** 16:29:05.8±0.3,26.73N×55.92E,h2km±2km,ML3.3,Error ellipse: s-maj=7.3km s-min=2.1km az=107.0*
*THR **11** 16:29:06.6±0.4,26.74N×55.92E,h7km±2km,ML3.3*
*KISR **11** 16:29:08.4±1.1,26.67N×55.59E,h33km,ML3.6*
ISC 11 16:29:06.0±1.5,**26.81N**±0.04×**55.65E**±0.07,**h1**km±12km, **n13**,σ1§**19**/20,**2C-4D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.75**	**38**	*e*PG		**Pg**	**16 29 20.0**	**-1.0**
BNDS				*e*SG		**Sg**	**16 29 30.2**	**-0.9**
BNDS				AML		AML	16 29 40.0	
	comp=N,2μm,0.5s							
BANOM	**Banah**	**1.06**	**146**	⇓	P	**Pb**	**16 29 26.9**	**+0.1**
	SNR=119							
ASHO	**Ashiyiah**	**2.15**	**170**	⇓	P	**Pn**	**16 29 45.0**	**+1.6**
	SNR=44							
GHIR	**Ghir-Karzin**	**2.79**	**303**	*e*	PN	**Pn**	**16 29 57.1**	**+4.5**
GHIR					SN	**Sn**	**16 30 33.9**	**+6.6**
GHIR					AML	AML	16 30 54.4	
	comp=N,75nm,0.6s							
GHIR	**Ghir-Karzin**	**2.79**	**303**	*e*	Pn	**Pn**	**16 29 57.1**	**+4.5**
	SNR=47							
GHIR					Sn	**Sn**	**16 30 33.8**	**+6.5**
	SNR=47							
KRBR	**Kerman**	**3.31**	**17**	*e*	PN	**Pn**	**16 30 01.3**	**+1.3**
KRBR					Sn	**Sn**	**16 30 40.9**	**+0.3**
RDF	**Al-Radifah**	**7.47**	**288**	*e*	P	**Pn**	**16 31 00.5**	**+1.6**
RDF				*e*	S	**Sn**	**16 32 24.5**	**-0.7**
RDF				AML		AML	16 32 28.5	
	comp=Z,7.7nm,0.3s							
UMR	**Umm Al-Rimmam**	**7.52**	**293**	*e*	P	**Pn**	**16 31 00.8**	**+1.4**
UMR				*e*	S	**Sn**	**16 32 25.8**	**-0.5**
UMR				AML		AML	16 32 28.6	
	comp=Z,11nm,0.3s							
NAY	**Al-Naaiem**	**7.82**	**290**	*e*	P	**Pn**	**16 31 05.2**	**+1.5**
NAY				*e*	S	**Sn**	**16 32 32.0**	**-1.9**
NAY				AML		AML	16 32 42.9	
	comp=Z,4.7nm,0.4s							
SHAO	**Shalim**	**8.74**	**180**	⇑	P	**P**	**16 31 12.2**	**-4.3**
	SNR=15							
WHFO	**Wadi Hawf**	**9.01**	**191**	⇓	P	**P**	**16 31 20.0**	**-0.3**
	SNR=8.1							
RBK	**Rabkut**	**9.36**	**189**	⇑	P	**P**	**16 31 24.3**	**-0.8**
ABTO	**Aybut**	**9.66**	**194**	⇓	P	**P**	**16 31 27.4**	**-1.9**

IDC 11 16:31:53.2±3.1,**26.99N**×**55.60E**,**mb4.0**/6,**mb1 4.1**/6, **mb1mx3.7**/22,**mbtmp4.0**/6,**Error ellipse: s-maj=69.1km s-min=28.8km az=144.0**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BHD	**Baghdad**	**11.55**	**305**	*ex*		x	16 33 50.0	
AKTO	**Aktyubinsk**	**23.48**	**4**	P		P	16 37 04.1	-1.1
	2.0nm,0.6s,baz=182,slow=13,SNR=4.6							
BVAR	**Borovoye Array**	**28.25**	**19**	P		P	16 37 46.7	-3.2
	1.8nm,0.7s,baz=199,slow=6.9,SNR=5.1							
AKASG	**Malin Array Be**	**31.04**	**327**	P		P	16 38 13.2	-1.6
	0.7nm,0.5s,baz=132,slow=8.7,SNR=6.1							
ZAL	**Zalesovo**	**34.45**	**31**	P		P	16 38 43.2	-1.3
	3.9nm,1.0s,baz=154,slow=18,SNR=11							
FINES	**FINESS Array B**	**39.73**	**338**	P		P	16 39 27.2	-1.7
	1.4nm,0.5s,baz=153,slow=8.5,SNR=6.3							
TORD	**Torodi Ar. Bea**	**52.11**	**266**	P		P	16 41 05.2	-2.3
	0.9nm,0.6s,baz=63,slow=7.8,SNR=5.9							

*IDC **11** 16:57:42.5±0.9,57.30N×120.90E,mb3.7/10,mb1 3.9/10, mb1mx3.7/22,mbtmp3.7/10,MS4.1/2,Ms1 4.1/2, ms1mx3.3/43,Error ellipse: s-maj=26.0km s-min=20.9km az=54.0*
*BYKL **11** 16:57:43.1±0.4,57.41N×120.89E*
*NEIC **11** 16:57:43.4±0.7,57.35N×121.16E,h10km,Error ellipse: s-maj=15.6km s-min=12.5km az=104.0*
*MOS **11** 16:

comp=Z,190nm,0.9s

UKT	**Uakit**	**4.44**	**247**	*e*P	**Pg**	**16 59 05.4**	**-7.3**
UKT				pmax	pmax		

comp=Z,32nm,0.4s

KROS	**Kirovskiy**	**4.56**	**128**	*e*Pg	**Pb**	**16 59 03.9**	**+0.1**
KROS				*e*Sg	**Sb**	**16 59 58.5**	**-0.8**
ZEA	**Zeya**	**5.17**	**133**	*e*Pg	**Pb**	**16 59 16.1**	**+1.8**
ZEA				*e*Sg	**Sb**	**17 00 20.5**	**+3.4**
YOA	**Uoyan**	**5.18**	**260**	*e*Pg	**Pb**	**16 59 17.4**	**+3.0**
YOA				Pmax		16 59 20.9	

comp=Z,89nm,1.0s

YOA				*e*Sg	**Sb**	**17 00 24.1**	**+6.9**
YOA				Smax		17 00 38.0	

comp=Z,1μm,1.3s

YOA	**Uoyan**	**5.18**	**260**	*e*P	**Pg**	**16 59 20.2**	**-7.1**
YOA				pmax	pmax		

comp=Z,102nm,1.4s

KMO	**Kumora**	**5.54**	**258**	*e*Pn	**Pn**	**16 59 08.4**	**-0.1**
KMO				*e*Pg	**Pb**	**16 59 23.6**	**+3.1**
KMO				Pmax		16 59 33.4	

comp=Z,37nm,0.7s

KMO				*e*Sn	**Sn**	**17 00 07.4**	**-5.6**
KMO				*e*Sg	**Sb**	**17 00 33.4**	**+5.8**
KMO				Smax		17 00 41.6	

comp=Z,175nm,1.0s

KMO	**Kumora**	**5.54**	**258**	*e*P	**Pn**	**16 59 09.4**	**+0.9**
KMO				pmax	pmax		

comp=Z,22nm,0.4s

YLYR	**Ulyunkhan**	**5.98**	**249**	*e*Pg	**Pb**	**16 59 32.0**	**+3.9**
YLYR				Pmax	**Pg**	**16 59 44.9**	**+1.6**

comp=Z,18nm,1.3s

YLYR				*e*Sn	**Sn**	**17 00 19.8**	**-4.2**
YLYR				*e*Sg	**Sb**	**17 00 48.1**	**+7.6**
YLYR				Smax		17 00 51.9	

comp=Z,149nm,1.7s

YLYR	**Ulyunkhan**	**5.98**	**249**	*e*P	**Pn**	**16 59 33.2**	**+18**
YLYR				pmax	pmax		

comp=Z,30nm,0.9s

TBGR	**Tabaga**	**6.28**	**42**	*e*Pg	**Pb**	**16 59 35.8**	**+2.5**
TBGR				*e*Sn	Sb	17 00 22.1	-27
TBGR				*e*Sg	**Sg**	**17 00 54.7**	**-18**
YAK	**Yakutsk**	**6.43**	**40**	*e*Pg	**Pb**	**16 59 38.1**	**+2.2**
YAK				Pmax	**Pg**	**16 59 40.6**	**-12**

comp=Z,99nm,0.5s

YAK				*e*Sg	**Sb**	**17 01 00.5**	**+6.8**
YAK				Smax		17 01 01.0	

comp=Z,616nm,0.4s

YAK	**Yakutsk**	**6.43**	**40**	*e*P	**Pn**	**16 59 20.2**	**-1.0**
YAK				*e*S	**Sn**	**17 00 30.1**	**-5.4**
YAK				pmax	pmax		

comp=Z,2.0nm,0.7s

YAK				pmax	pmax		

comp=Z,15nm,0.8s

YAK				smax			

comp=E,32nm,0.7s

YAK				smax			

comp=N,177nm,0.7s

YAK				MLR	MLR		

comp=Z,359nm,16.0s

YAK	**Yakutsk**	**6.43**	**40**	*e*P	**Pn**	**16 59 15.5**	**-5.7**

comp=Z,22nm,0.5s

NIZ	**Nizh Angarsk**	**6.46**	**260**	*e*Pn	**Pn**	**16 59 20.7**	**-0.8**
NIZ				*e*Pg	**Pb**	**16 59 39.6**	**+3.3**
NIZ				Pmax		17 00 00.0	

comp=Z,8.0nm,1.0s

NIZ				*e*Sg	**Sb**	**17 01 02.1**	**+7.8**
NIZ				Smax		17 01 14.1	

comp=Z,108nm,1.7s

CIT	**Chita**	**6.85**	**221**	*e*Pg	**Pb**	**16 59 46.3**	**+3.2**
CIT				Pmax	**Pg**	**16 59 50.0**	**-11**

comp=Z,46nm,0.9s

CIT				*e*Sg	**Sb**	**17 01 13.6**	**+7.7**
CIT				Smax		17 01 22.2	

comp=Z,368nm,0.9s

SYVR	**Suvo**	**7.21**	**243**	*e*Pg	**Pb**	**16 59 54.8**	**+5.6**
SYVR				Pmax	**Pg**	**17 00 02.9**	**-5.0**

comp=Z,17nm,1.5s

SYVR				*e*Sg	**Sb**	**17 01 28.3**	**+12**
SYVR				Smax		17 01 34.9	

comp=Z,192nm,1.8s

HIA	**Hailar**	**8.19**	**185**	*e*Pn	**P**	**16 59 40.9**	**-4.8**
HIA				*e*Sg	**Sb**	**17 01 59.0**	**+14**
KPC	**Khapcheranga**	**9.21**	**217**	*e*Sg	Sx	17 02 26.6	
KPC				Smax		17 02 46.3	

comp=Z,106nm,1.1s

KPC	**Khapcheranga**	**9.21**	**217**	*e*P	**P**	**16 59 58.7**	**-1.2**
ZAK	**Zakamensk**	**12.50**	**243**	*e*Sg	Sx	17 04 11.9	
ZAK				Smax		17 04 20.7	

comp=Z,25nm,1.5s

SONM	**Songino Array**	**12.97**	**228**	Lg		17 04 27.2	

comp=Z,1.1nm,0.3s,baz=22,slow=31,SNR=9.8

SONM				LR	LR	17 05 44.0	

comp=Z,918nm,18.9s,baz=102,slow=37

TIXI	**Tiksi**	**14.68**	**10**	*e*P	**P**	**17 01 06.4**	**-6.8**
TIXI				pmax	pmax		

comp=Z,6.0nm,0.6s

ZAL	**Zalesovo**	**20.46**	**276**	P	**P**	**17 02 23.3**	**-0.8**

comp=Z,0.6nm,0.6s,baz=42,slow=12,SNR=4.5

ZAL				LR	LR	17 10 52.1	

comp=Z,452nm,20.3s,MS3.8,baz=185,slow=38

ZAL	**Zalesovo**	**20.46**	**276**	P	**P**	**17 02 23.3**	**-0.8**
ZAL				pmax	pmax		

comp=Z,1.0nm,0.6s

ZAL				MLR	MLR		

comp=Z,453nm,20.3s

MKAR	**Makanchi Array**	**25.61**	**262**	P	**P**	**17 03 13.3**	**-1.3**

comp=Z,0.6nm,0.7s,mb3.2,baz=56,slow=8.7,SNR=6.0

MKAR	**Makanchi Array**	**25.61**	**262**	P	**P**	**17 03 13.3**	**-1.4**
MKAR				pmax	pmax		

comp=Z,1.0nm,0.7s

MKAR	**Makanchi Array**	**25.61**	**262**	P	**P**	**17 03 13.3**	**-1.3**
ARCES	**ARCESS Array B**	**39.69**	**327**	P	**P**	**17 05 17.3**	**-0.1**

comp=Z,3.3nm,0.9s,mb4.1,baz=56,slow=8.7,SNR=3.6

ARCES	**ARCESS Array B**	**39.69**	**327**	P	**P**	**17 05 17.3**	**-0.1**
ARCES				pmax	pmax		

comp=Z,3.0nm,0.9s

ILAR	**Eielson Array**	**41.36**	**40**	P	**P**	**17 05 30.1**	**-1.0**

comp=Z,0.8nm,0.6s,mb3.5,baz=293,slow=5.1,SNR=17

ILAR	**Eielson Array**	**41.36**	**40**	P	**P**	**17 05 30.2**	**-0.9**
ILAR				pmax	pmax		

comp=Z,1.0nm,0.6s

FINES	**FINESS Array B**	**44.29**	**317**	P	**P**	**17 05 53.3**	**-1.6**

comp=Z,2.1nm,0.7s,mb4.0,baz=39,slow=12,SNR=8.7

FINES	**FINESS Array B**	**44.29**	**317**	P	**P**	**17 05 53.3**	**-1.6**
FINES				pmax	pmax		

comp=Z,2.0nm,0.7s

NB2	**NORSAR Subarra**	**49.75**	**323**	P	**P**	**17 06 37.8**	**0.0**

comp=Z,0.7nm,0.5s,mb4.0,baz=40,slow=7.4

NOA	**NORSAR Array B**	**49.75**	**323**	P	**P**	**17 06 37.3**	**-0.5**

comp=Z,0.8nm,0.4s,mb4.1,baz=43,slow=7.9,SNR=3.4

NOA	**NORSAR Array B**	**49.75**	**323**	P	**P**	**17 06 37.3**	**-0.5**
NOA				pmax	pmax		

comp=Z,1.0nm,0.4s

AKASG	**Malin Array Be**	**50.27**	**304**	P	**P**	**17 06 39.0**	**-2.9**

comp=Z,1.7nm,0.6s,mb4.3,baz=42,slow=8.7,SNR=14

AKASG	**Malin Array Be**	**50.27**	**304**	P	**P**	**17 06 39.0**	**-2.9**
AKASG				pmax	pmax		

comp=Z,2.0nm,0.6s

GERES	**GERESS Array B**	**58.27**	**312**	P	**P**	**17 07 40.0**	**-0.5**

comp=Z,0.4nm,0.6s,mb3.6,baz=31,slow=7.8,SNR=4.6

FITZ	**Fitzroy Crossi**	**75.33**	**175**	P	**P**	**17 09 26.9**	**-2.2**

comp=Z,0.9nm,0.8s,mb3.8,baz=349,slow=5.2,SNR=4.3

WRA	**Warramunga Arr**	**77.88**	**167**	P	**P**	**17 09 40.8**	**-2.4**

comp=Z,0.4nm,0.5s,mb3.6,baz=352,slow=6.8,SNR=5.0

*IDC **11** 16:58:40.2±3.8,**28.41S**×**177.99W**,**mb4.2**/2,**mb1 4.4**/2,*
*mb1mx3.9**/12**,mbtmp4.2**/2**,Error ellipse: s-maj=76.2km*
*s-min=19.9km az=62.0,**Kermadec Islands region***

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.84**	**176**	Pn	Pn	16 58 59.3	+0.3

258nm,0.3s,baz=261,slow=24,SNR=12

RAO				Sn	Sn	16 59 13.5	+1.3

716nm,0.3s,baz=177,slow=22,SNR=8.7

STKA	**Stephens Creek**	**34.98**	**254**	P	P	17 05 33.5	-2.7

1.9nm,0.6s,baz=102,slow=10,SNR=13

WRA	**Warramunga Arr**	**44.06**	**270**	P	P	17 06 50.8	-1.0

1.5nm,0.4s,baz=111,slow=8.0,SNR=56

FINES	**FINESS Array B**	**143.28**	**341**	PKP	PKPdf	17 18 14.2	-3.3

1.7nm,0.6s,baz=27,slow=4.3,SNR=11

*MAN **11** 17:07:39.2,**5.86N**×**126.53E**,**mb4.6**,**ML3.5**,**MS3.4**,**2D**,*

Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.11**	**346**	*e*P	Pb	17 08 01.5	+0.4
MATI				*e*S	Sb	17 08 20.4	+4.4
DMPH	**Davao City--Mi**	**1.59**	**320**	⇓*i*P	Pn	17 08 07.8	-0.9
DMPH				*i* S	Sb	17 08 30.1	+0.4
GSPH	**General Santos**	**1.59**	**278**	⇓*i*P	Pn	17 08 04.2	-4.6
GSPH				*e*S	Sb	17 08 24.8	-5.1

*IDC **11** 17:12:29.2±3.0,6.79S×152.33E,h72km±28km,mb3.6/9,*
mb1 3.8/12,mb1mx3.7/18,mbtmp4.0/12,Error ellipse:
s-maj=25.8km s-min=17.2km az=171.0
*NEIC **11** 17:12:29.8±1.4,6.82S×152.32E,h75km±14km,mb4.5/2,*
Error ellipse: s-maj=14.4km s-min=10.0km az=173.0

ISC 11 17:12:28.1±2.0,6.9S±0.1×152.32E±0.07,h75km±20km,
n24,σ0$75/25,mb3.9/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.71**	**243**	P	**P**	**17 13 51.9**	**-0.2**

2.9nm,0.3s,baz=71,slow=3.2,SNR=9.2

PMG				S	**S**	**17 14 56.7**	**-0.2**

7.3nm,0.3s,baz=52,slow=17,SNR=9.2

PMG	**Port Moresby**	**5.71**	**243**	P	**P**	**17 13 51.9**	**-0.2**
PMG				S	**S**	**17 14 56.7**	**-0.2**
HNR	**Honiara**	**7.97**	**109**	P	**P**	**17 14 24.1**	**+0.7**

8.0nm,0.3s,baz=288,slow=3.1,SNR=5.6

CTA	**Charters Tower**	**14.42**	**204**	P	**P**	**17 15 49.9**	**0.0**

0.1nm,0.3s,baz=38,slow=19,SNR=2.9

DZM	**Mont Dzumac**	**20.37**	**139**	P	**P**	**17 16 59.4**	**-1.7**

2.4nm,0.8s,baz=354,slow=19,SNR=2.8

WRA	**Warramunga Arr**	**21.77**	**232**	P	**P**	**17 17 15.8**	**+0.6**

1.7nm,0.8s,mb3.4,baz=57,slow=11,SNR=3.5

STKA	**Stephens Creek**	**26.84**	**201**	P	**P**	**17 18 04.5**	**+0.9**

1.1nm,0.5s,mb3.7,baz=322,slow=20,SNR=3.7

STKA	**Stephens Creek**	**26.84**	**201**	P	**P**	**17 18 05.4**	**+1.7**
FITZ	**Fitzroy Crossi**	**28.31**	**244**	P	**P**	**17 18 16.2**	**-0.8**

3.6nm,0.6s,mb4.0,baz=63,slow=6.5,SNR=18

KSM	**Kuching**	**42.74**	**280**	*e*P	**P**	**17 20 18.8**	**-1.2**
SONM	**Songino Array**	**67.80**	**328**	P	**P**	**17 23 19.8**	**-0.4**

2.1nm,1.1s,mb3.9,baz=135,slow=6.3,SNR=4.9

JIRN	**Jiri**	**72.44**	**302**	*e*P	**P**	**17 23 49.0**	**+0.3**
GUN	**Gumba**	**72.78**	**302**	*e*P	**P**	**17 23 51.3**	**+0.6**
PKI	**Pulchoki**	**73.08**	**301**	*e*P	**P**	**17 23 52.8**	**+0.3**
KKN	**Kakani**	**73.25**	**302**	*e*P	**P**	**17 23 53.9**	**+0.4**
DMN	**Daman**	**73.34**	**301**	*e*P	**P**	**17 23 54.8**	**+0.8**

18nm,1.0s,mb4.8

GKN	**Gorkha**	**73.86**	**302**	*e*P	**P**	**17 23 57.4**	**+0.3**
KOLN	**Koldanda**	**74.67**	**301**	*e*P	**P**	**17 24 02.0**	**+0.2**

9.0nm,0.8s,mb4.5

MKAR	**Makanchi Array**	**81.55**	**319**	P	**P**	**17 24 39.8**	**+0.6**

0.7nm,0.8s,mb3.6,baz=90,slow=6.1,SNR=5.7

ZAL	**Zalesovo**	**82.59**	**327**	P	**P**	**17 24 43.0**	**-1.4**

0.9nm,0.4s,mb3.9,baz=346,slow=1.5,SNR=4.7

ZAL	**Zalesovo**	**82.59**	**327**	P	**P**	**17 24 43.0**	**-1.4**
ILAR	**Eielson Array**	**84.22**	**22**	P	**P**	**17 24 51.6**	**-0.7**

0.4nm,0.6s,mb3.4,baz=260,slow=4.7,SNR=6.4

BVAR	**Borovoye Array**	**90.59**	**323**	P	**P**	**17 25 23.4**	**+0.1**

0.7nm,0.8s,mb3.9,baz=104,slow=6.1,SNR=4.7

TORD	**Torodi Ar. Bea**	**150.42**	**285**	PKPbc	PKPdf	17 32 13.2	+6.5

0.8nm,0.9s,baz=57,slow=1.8,SNR=4.0

TORD				PKPab	PKPab	17 32 20.8	-0.1

1.1nm,0.8s,baz=77,slow=4.7,SNR=6.2

*IDC **11** 17:13:04.5±1.1,34.56N×73.16E,mb3.8/5,mb1 3.9/8,*
mb1mx3.6/22,mbtmp3.8/8,ML3.5/3,Error ellipse:
s-maj=30.2km s-min=25.0km az=77.0
*NDI **11** 17:13:05.3±4.0,34.65N×72.78E,h10km,MD3.8,ML3.4*
*MOS **11** 17:13:08.0±1.1,34.65N×73.12E,h33km,mb4.2/3,Error*
ellipse: s-maj=51.3km s-min=18.4km az=90.0
*NNC **11** 17:13:19.1±7.8,35.16N×73.53E,h190km±54km,mpv3.8,*
Error ellipse: s-maj=109.8km s-min=62.1km az=63.0

ISC 11 17:13:07.2±0.6,34.62N±0.06×73.0E±0.1,h33km,n25,
σ1$31/32,mb3.7/5,5C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.18**	**132**	*e*P	**P**	**17 13 58.4**	**+2.4**
THN				*e*SB	**Sb**	**17 14 42.8**	**+1.4**
DLH	**Dalhousie**	**3.26**	**129**	*e*P	**P**	**17 14 02.0**	**+4.8**
DLH				*e*S	**S**	**17 14 41.0**	**+5.7**
BHK	**Bhakra**	**4.32**	**137**	*ex*	x	17 15 11.5	
SDNR	**Sundarnagar**	**4.59**	**132**	*e*P	**P**	**17 14 16.2**	**+0.1**
SDNR				*e*S	**S**	**17 15 10.2**	**+1.3**
SMLA	**Simla**	**4.97**	**133**	*e*P	**P**	**17 14 20.1**	**-1.4**
SMLA				*e*S	**S**	**17 15 18.6**	**+0.1**
KLP	**Kalpa**	**5.41**	**123**	*e*P	**P**	**17 14 27.9**	**+0.3**
KLP				*e*S	**S**	**17 15 28.8**	**-0.7**
KLP				AML	AML	17 15 59.9	

comp=E,158nm,0.5s

KLP				AML	AML	17 16 01.0	

comp=N,159nm,0.5s

DDI	**Dehra Dun**	**6.08**	**133**	*ex*	x	17 15 51.0	
KHET	**Khetri**	**6.96**	**159**	*e*P	**P**	**17 14 46.9**	**-2.6**
KHET				*e*S	**S**	**17 16 02.2**	**-6.2**
KHET				AML	AML	17 16 06.8	

comp=E,11nm,0.2s

KHET				AML	AML	17 16 07.7	

comp=N,12nm,0.2s

KUDL	**Kundal**	**7.13**	**154**	*e*P	**P**	**17 14 50.8**	**-1.0**
KUDL				*e*S	**S**	**17 16 07.1**	**-5.3**
SONA	**Sohna**	**7.26**	**150**	*e*S	**S**	**17 16 12.5**	**-3.3**
KK31	**Karatay Array**	**8.69**	**348**	⇑P	**P**	**17 15 14.3**	**+0.8**

comp=N,1.7nm,0.3s,baz=158,slow=12,SNR=96

KK31				⇑S	**S**	**17 16 50.1**	**-1.2**

comp=N,1.5nm,0.4s,baz=165,slow=20

MKAR	**Makanchi Array**	**14.06**	**27**	Pn	**P**	**17 16 25.5**	**-0.6**

comp=N,0.0nm,0.3s,baz=39,slow=7.8,SNR=3.0

AB31	**Akbulak array**	**17.50**	**331**	⇑P	**P**	**17 17 09.5**	**-0.6**

comp=N,0.6nm,0.6s,baz=118,slow=8.5,SNR=11

AB31				⇑S	**S**	**17 20 17.2**	**-4.5**

comp=N,1.4nm,1.1s

BVA0	**Borovoye Array**	**18.49**	**355**	⇓P	**P**	**17 17 15.1**	**-7.4**

comp=N,0.6nm,1.4s,baz=158,slow=9.6,SNR=10

BVAR	**Borovoye Array**	**18.49**	**355**	P	**P**	**17 17 22.9**	**+0.4**

comp=N,0.4nm,0.3s,baz=158,slow=9.1,SNR=14

AKTO	**Aktyubinsk**	**19.20**	**330**	⇑P	**P**	**17 17 26.4**	**-4.5**

comp=N,0.7nm,0.8s

AKTO	**Aktyubinsk**	**19.20**	**330**	P	**P**	**17 17 31.6**	**+0.8**

comp=N,0.3nm,0.3s,baz=138,slow=8.3,SNR=14

ZAL	**Zalesovo**	**21.04**	**20**	P	**P**	**17 17 48.5**	**-1.9**

comp=Z,2.1nm,0.3s,mb4.0,baz=230,slow=6.8,SNR=6.4

ZAL	**Zalesovo**	**21.04**	**20**	P	**P**	**17 17 48.5**	**-1.9**
ZAL				pmax	pmax		

comp=Z,2.0nm,0.3s

ARCES	**ARCESS Array B**	**43.49**	**338**	P	**P**	**17 21 10.5**	**+1.9**

comp=Z,3.6nm,1.0s,mb4.1,baz=117,slow=8.1,SNR=24

ARCES	**ARCESS Array B**	**43.49**	**338**	P	**P**	**17 21 10.5**	**+1.9**
ARCES				pmax	pmax		

comp=Z,4.0nm,1.0s

TORD	**Torodi Ar. Bea**	**67.29**	**271**	P	**P**	**17 24 02.1**	**+1.2**

comp=Z,0.5nm,0.4s,mb3.8,baz=47,slow=6.1,SNR=12

WRA	**Warramunga Arr**	**79.64**	**123**	P	**P**	**17 25 13.3**	**+0.1**

comp=Z,0.5nm,0.5s,mb3.7,baz=322,slow=4.8,SNR=10

WRA	**Warramunga Arr**	**79.64**	**123**	P	**P**	**17 25 13.3**	**+0.1**
WRA				pmax	pmax		

comp=Z,1.0nm,0.5s

YKA	**Yellowknife Ar**	**83.04**	**4**	P	**P**	**17 25 31.3**	**+1.3**

comp=Z,0.1nm,0.4s,mb3.2,baz=348,slow=5.5,SNR=4.4

*IDC **11** 17:19:36.8±2.0,17.29S×178.79W,h540km±27km,mb3.3/8,*
mb1 3.6/10,mb1mx3.4/18,mbtmp4.2/10,Error ellipse:
s-maj=68.9km s-min=12.8km az=154.0
*NEIC **11** 17:19:36.9±0.9,17.27S×178.81W,h543km±14km,mb4.4/2,*
Error ellipse: s-maj=66.2km s-min=9.9km az=154.0

ISC 11 17:19:36.2±1.3,17.2S±0.6×178.9W±0.3,h543km±23km,
n13,σ0$70/13,mb3.7/8,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.57**	**65**	P	**P**	**17 21 29.6**	**-0.7**

1.9nm,0.3s,baz=53,slow=5.1,SNR=4.4

AFI	**Afiamalu**	**7.57**	**65**	*e*P	**P**	**17 21 29.9**	**-0.4**

39nm,1.0s

DZM	**Mont Dzumac**	**14.67**	**248**	P	**P**	**17 22 44.0**	**+1.7**

0.9nm,0.3s,baz=74,slow=14,SNR=19

CTA	**Charters Tower**	**33.15**	**259**	P	**P**	**17 25 29.6**	**+0.4**

3.4nm,0.6s,mb4.1,baz=92,slow=12,SNR=10.0

STKA	**Stephens Creek**	**38.60**	**240**	P	**P**	**17 26 13.4**	**-0.6**

5.8nm,0.5s,mb4.4,baz=93,slow=11,SNR=22

WB2	**Warramunga Arr**	**44.33**	**259**	⇓*i*P	**P**	**17 26 59.1**	**-0.7**
WRA	**Warramunga Arr**	**44.34**	**259**	P	**P**	**17 26 59.2**	**-0.7**

3.7nm,0.5s,mb4.2,baz=95,slow=7.1,SNR=136

FITZ	**Fitzroy Crossi**	**52.72**	**260**	P	**P**	**17 28 01.9**	**-0.6**

1.1nm,0.3s,mb3.7,baz=170,slow=3.8,SNR=24

NVAR	**Mina Array Bea**	**79.21**	**44**	P	**P**	**17 30 46.7**	**+0.5**

0.2nm,0.3s,mb2.9,baz=216,slow=7.6,SNR=5.3

NVAR	**Mina Array Bea**	**79.21**	**44**	P	**P**	**17 30 46.7**	**+0.5**
ILAR	**Eielson Array**	**85.29**	**13**	P	**P**	**17 31 16.1**	**0.0**

0.3nm,0.4s,mb3.2,baz=223,slow=5.3,SNR=15

TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**17 31 20.7**	**+0.4**

0.8nm,0.7s,mb3.5,baz=225,slow=5.8,SNR=11

PDAR	**Pinedale Array**	**87.13**	**44**	P	**P**	**17 31 25.8**	**+0.3**

0.7nm,0.6s,mb3.5,baz=219,slow=3.0,SNR=7.1

*BYKL **11** 17:26:03.5±0.3,57.42N×120.81E*
*MOS **11** 17:26:03.4±1.2,57.67N×120.73E,h10km,mb4.1/7,Error*
ellipse: s-maj=13.0km s-min=8.8km az=59.0
*NEIC **11** 17:26:04.8±0.9,57.34N×120.80E,h10km,Error ellipse:*
s-maj=19.4km s-min=14.5km az=90.0
*IDC **11** 17:26:05.5±2.3,57.67N×120.52E,mb3.7/8,mb1 3.8/9,*
mb1mx3.6/23,mbtmp3.6/9,ML3.1/1,Error ellipse:
s-maj=51.0km s-min=23.7km az=149.0

ISC 11 17:26:03.8±0.3,57.46N±0.03×120.76E±0.03,h10km,n63,
σ1$46/101,mb3.7/8,MS3.6/1,3C-4D,Southeastern
Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.69**	**218**	*e*Pg	**Pg**	**17 26 16.1**	**-1.6**
KHNR				*i* Sg	**Sg**	**17 26 24.5**	**-2.5**
YKLR	**Yuktali**	**1.00**	**150**	*e*Pg	**Pg**	**17 26 21.2**	**-2.7**
YKLR				Pmax		17 26 21.5	

784nm,0.3s

YKLR				*e*Sg	**Sg**	**17 26 33.9**	**-3.4**
YKLR				Smax		17 26 36.1	

1μm,0.3s

CRS	**Chara**	**1.47**	**248**	⇓*i*Pg	**Pn**	**17 26 30.8**	**+0.3**
CRS				Pmax		17 26 31.6	

1μm,0.8s

CRS				*i* Sg	**Sg**	**17 26 50.6**	**-2.2**
CRS				Smax		17 26 52.7	

2μm,0.6s

YOA				Smax		17 28 55.8	
	comp=Z,2μm,1.1s						
YOA	**Uoyan**	**5.14 259**	⇑	*i*P	**Pb**	**17 27 36.8**	**+3.2**
KMO	**Kumora**	**5.50 257**		*e*Pn	**Pn**	**17 27 26.9**	**-1.0**
KMO				*e*Pg	**Pb**	**17 27 43.2**	**+3.4**
KMO				Pmax		17 27 46.5	
	comp=Z,42nm,0.3s						
KMO				*e*Sg	**Sb**	**17 28 55.4**	**+8.9**
KMO				Smax		17 29 07.1	
	comp=Z,378nm,1.0s						
KMO	**Kumora**	**5.50 257**		*e*P	**Pn**	**17 27 27.1**	**-0.8**
KMO				pmax	pmax		
	comp=Z,42nm,0.4s						
YLYR	**Ulyunkhan**	**5.96 248**		*e*Pn	**Pn**	**17 27 33.1**	**-1.1**
YLYR				*e*Pg	**Pb**	**17 27 51.0**	**+3.5**
YLYR				Pmax		17 27 58.8	
	comp=Z,48nm,1.5s						
YLYR				*e*Sg	**Sb**	**17 29 08.8**	**+9.2**
YLYR				Smax		17 29 22.2	
	comp=Z,247nm,1.1s						
YLYR	**Ulyunkhan**	**5.96 248**		*e*P	**Pn**	**17 27 33.9**	**-0.3**
TBGR	**Tabaga**	**6.27 42**		*e*Pg	**Pb**	**17 27 55.6**	**+2.7**
TBGR				*e*Sn	**Sn**	**17 28 45.7**	**-5.5**
TBGR				*e*Sg	**Sb**	**17 29 16.3**	**+7.5**
NIZ	**Nizh Angarsk**	**6.42 259**		*e*Pn	**Pn**	**17 27 40.3**	**-0.5**
NIZ				*e*Pg	**Pg**	**17 27 59.9**	**-12**
NIZ				Pmax		17 28 09.6	
	comp=Z,20nm,0.8s						
NIZ				*e*Sg	**Sg**	**17 29 22.0**	**-16**
NIZ				Smax		17 29 49.3	
	comp=Z,209nm,1.0s						
NIZ	**Nizh Angarsk**	**6.42 259**		*e*P	**Pn**	**17 27 41.4**	**+0.6**
NIZ				pmax	pmax		
	comp=Z,20nm,0.7s						
YAK	**Yakutsk**	**6.42 41**		*e*P	**Pn**	**17 27 37.4**	**-3.5**
CIT	**Chita**	**6.86 220**		*e*Pg	**Pb**	**17 28 06.3**	**+3.2**
CIT				Pmax		17 28 13.5	
	comp=Z,28nm,1.3s						
CIT				*e*Sg	**Sb**	**17 29 33.3**	**+7.3**
CIT				Smax		17 29 45.7	
	comp=Z,654nm,1.5s						
SYVR	**Suvo**	**7.19 243**		*e*Pg	**Pb**	**17 28 12.8**	**+4.1**
SYVR				Pmax		17 28 35.4	
	comp=Z,29nm,1.0s						
SYVR				*e*Sg	**Sb**	**17 29 44.4**	**+8.8**
SYVR				Smax		17 29 54.1	
	comp=Z,383nm,1.8s						
SYVR	**Suvo**	**7.19 243**		*e*P	**Pn**	**17 27 50.0**	**-1.7**
SYVR				pmax	pmax		
	comp=Z,13nm,1.1s						
HIA	**Hailar**	**8.23 185**		*e*Pn	**P**	**17 28 02.0**	**-4.2**
	comp=Z,4.0nm,0.4s						
HIA				*e*Sn	**Sn**	**17 29 32.1**	**-8.1**
KPC	**Khapcheranga**	**9.23 216**		*e*Sg	Sx	17 30 47.0	
KPC				Smax		17 30 57.5	
	comp=Z,243nm,1.3s						
KPC	**Khapcheranga**	**9.23 216**		*e*P	**P**	**17 28 18.1**	**-1.9**
KPC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZAK	**Zakamensk**	**12.48 243**		*e*Sg	Sx	17 32 28.1	
ZAK				Smax		17 32 40.7	
	comp=Z,44nm,1.8s						
ZAK	**Zakamensk**	**12.48 243**		*e*	**S**	**17 31 24.4**	**0.0**
ULN	**Ulaanbaatar**	**12.69 227**	⇓	*i*P	**P**	**17 29 01.6**	**-5.4**
SONM	**Songino Array**	**12.97 228**		Pn	**P**	**17 29 12.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=28,slow=15,SNR=3.3						
SONM				Sn	**S**	**17 31 31.9**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=18,slow=14,SNR=3.1						
SONM				Lg		17 32 46.7	
	comp=Z,0.6nm,0.3s,baz=33,slow=29,SNR=7.9						
TIXI	**Tiksi**	**14.64 10**	⇓	*i*P	**P**	**17 29 29.2**	**-3.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIXI				MLR	MLR		
	comp=Z,300nm,17.0s						
MA2	**Magadan**	**15.75 70**		*i* P	**P**	**17 29 43.7**	**-3.3**
SEY	**Seymchan**	**16.52 58**	⇑	*i*P	**P**	**17 29 55.4**	**-1.4**
ZAL	**Zalesovo**	**20.41 275**		P	**P**	**17 30 42.6**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=52,slow=13,SNR=5.1						
ZAL	**Zalesovo**	**20.41 275**		P	**P**	**17 30 42.7**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVS	**Novosibirsk**	**20.89 279**		*e*P	**P**	**17 30 47.7**	**-0.6**
BILL	**Bilibino**	**22.77 44**	⇑	*i*P	**P**	**17 31 04.7**	**-2.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,2.1s,mb3.9						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
MKAR	**Makanchi Array**	**25.57 262**		P	**P**	**17 31 35.4**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.4,baz=58,slow=8.2,SNR=6.1						
MKAR	**Makanchi Array**	**25.57 262**		P	**P**	**17 31 35.4**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**28.51 283**		P	**P**	**17 31 59.6**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.6,baz=156,slow=8.9,SNR=6.8						
BVAR	**Borovoye Array**	**28.51 283**		P	**P**	**17 31 59.6**	**-1.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**32.49 263**		*i* P	**P**	**17 32 32.2**	**-4.1**
ARCES	**ARCESS Array B**	**39.62 327**		P	**P**	**17 33 37.1**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.0,baz=351,slow=12,SNR=3.0						
ARCES	**ARCESS Array B**	**39.62 327**		P	**P**	**17 33 37.1**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**41.35 40**		P	**P**	**17 33 51.6**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.1,baz=289,slow=4.4,SNR=8.9						
FINES	**FINESS Array B**	**44.22 317**		P	**P**	**17 34 13.5**	**-0.7**
	comp=Z,1.5nm,0.8s,mb3.8,baz=72,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**44.22 317**		P	**P**	**17 34 13.5**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**49.68 323**		P	**P**	**17 34 57.0**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**49.68 323**		P	**P**	**17 34 57.3**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=42,slow=7.8,SNR=3.9						
NOA	**NORSAR Array B**	**49.68 323**		P	**P**	**17 34 57.3**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**50.20 304**		P	**P**	**17 34 59.8**	**-1.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=40,slow=8.5,SNR=10						
AKASG	**Malin Array Be**	**50.20 304**		P	**P**	**17 34 59.8**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*NDI **11** 17:27:43.7±3.1,34.80N×73.50E,h10km,MD3.4,ML3.6*
*NNC **11** 17:27:52.8±6.3,35.37N×73.59E,mpv3.4, Error ellipse: s-maj=65.1km s-min=56.5km az=73.0*
ISC 11 17:27:40.2±1.2,34.35N±0.08×72.7E±0.1,h10km,n7, σ1°35/14,1C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.16**	**126**	*e*P		**Pn**		**17 28 33.6**	**+2.6**
THN				*e*SB		**Sb**		**17 29 15.2**	**+0.3**
DLH	**Dalhousie**	**3.27**	**122**	*e*PB		**Pb**		**17 28 39.0**	**+1.1**
DLH				*e*SB		**Sb**		**17 29 18.0**	**0.0**
SMLA	**Simla**	**4.95**	**129**	*e*P		**Pn**		**17 28 54.9**	**-1.5**
SMLA				*e*S		**Sn**		**17 29 49.2**	**-5.1**
KLP	**Kalpa**	**5.44**	**119**	*e*P		**Pn**		**17 29 01.9**	**-1.5**
KLP				*e*S		**Sn**		**17 29 55.0**	**-12**
KLP				AML		AML		17 30 23.9	
	comp=E,91nm,0.4s								
KLP				AML		AML		17 30 25.2	
	comp=N,140nm,0.6s								
KHET	**Khetri**	**6.79**	**156**	*e*P		**Pn**		**17 29 25.1**	**+2.7**
KHET				*e*S		**Sn**		**17 30 40.5**	**-0.2**
KUDL	**Kundal**	**6.98**	**151**	*e*P		**Pn**		**17 29 25.6**	**+0.6**
KUDL				*e*S		**Sn**		**17 30 43.2**	**-2.1**
KK31	**Karatay Array**	**8.91**	**350**	⇑P		**P**		**17 29 51.4**	**-0.5**
	comp=N,0.9nm,0.5s,baz=162,slow=12,SNR=16								
KK31				⇓S		**Sn**		**17 31 24.8**	**-8.6**
	comp=N,1.9nm,0.5s,baz=162,slow=22,SNR=11								

*IDC **11** 17:45:13.7±1.8,5.60S×148.80E,h196km±16km,mb3.6/5, mb1 3.7/7,mb1mx3.5/16,mbtmp4.2/7,MS2.9/1,Ms1 2.9/1, ms1mx2.7/22, Error ellipse: s-maj=19.4km s-min=13.4km az=137.0*
*NEIC **11** 17:45:14.1±1.7,5.60S×148.84E,h201km±18km, Error ellipse: s-maj=21.7km s-min=11.9km az=167.0*
ISC 11 17:45:13.0±2.2,5.6S±0.2×148.8E±0.1,h205km±21km,n14, σ0°51/16,mb3.9/4,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.12**	**203**	P		**P**		**17 46 17.3**	**+0.2**
	2.0nm,0.3s,baz=58,slow=4.7,SNR=11								
PMG				S		**S**		**17 47 06.3**	**-0.4**
	5.2nm,0.3s,baz=64,slow=18,SNR=4.1								
PMG				LR		LR		17 47 40.4	
	comp=Z,159nm,18.8s,baz=248,slow=36								
PMG	**Port Moresby**	**4.12**	**203**	*e*P		**P**		**17 46 17.3**	**+0.3**
PMG				S		**S**		**17 47 06.3**	**-0.4**
PMG				LR		LR		17 47 40.4	
HNR	**Honiara**	**11.69**	**110**	P		**P**		**17 47 54.8**	**+0.1**
	2.4nm,0.3s,baz=54,slow=19,SNR=2.0								
HNR	**Honiara**	**11.69**	**110**	P		**P**		**17 47 54.8**	**+0.1**
WB2	**Warramunga Arr**	**20.02**	**223**	⇓*i*P		**P**		**17 49 32.4**	**+0.6**
WRA	**Warramunga Arr**	**20.03**	**223**	P		**P**		**17 49 32.5**	**+0.6**
	1.6nm,0.3s,baz=47,slow=9.9,SNR=49								
WRA				S		**S**		**17 53 06.6**	**+6.0**
	1.8nm,0.8s,baz=38,slow=19,SNR=7.1								
WRA				PcP		PcP		17 53 40.3	+0.6
	0.2nm,0.4s,baz=36,slow=2.0,SNR=4.6								
DZM	**Mont Dzumac**	**23.65**	**136**	P		**P**		**17 50 07.0**	**-0.2**
	5.7nm,0.5s,mb4.5,baz=118,slow=23,SNR=22								
FITZ	**Fitzroy Crossi**	**25.81**	**239**	*e*P		**P**		**17 50 27.2**	**-0.1**
	5.2nm,0.3s,mb4.6								
FITZ	**Fitzroy Crossi**	**25.81**	**239**	P		**P**		**17 50 27.0**	**-0.3**
	3.0nm,0.3s,mb4.4,baz=61,slow=11,SNR=68								
MBWA	**Marble Bar**	**32.14**	**238**	*e*P		**P**		**17 51 23.1**	**-0.5**
SONM	**Songino Array**	**64.94**	**330**	P		**P**		**17 55 33.4**	**+0.7**
	0.7nm,0.5s,mb3.5,baz=126,slow=4.4,SNR=6.6								
MKAR	**Makanchi Array**	**78.34**	**320**	P		**P**		**17 56 51.2**	**-1.0**
	0.3nm,0.4s,mb3.2,baz=95,slow=7.9,SNR=9.3								
MKAR	**Makanchi Array**	**78.34**	**320**	P		**P**		**17 56 51.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**146.72**	**285**	PKPbc		PKPbc		18 04 32.4	+1.0
	0.6nm,0.4s,baz=80,slow=2.7,SNR=11								

*GUC **11** 17:56:53.0±0.6,31.87S×69.78W,h140km±4km, MD4.1, ML4.4*
*NEIC **11** 17:56:53.7±0.2,31.88S×69.55W,mb4.7/6,MD4.1(GUC), Error ellipse: s-maj=6.1km s-min=3.8km az=101.0*
*IDC **11** 17:56:54.1±0.6,31.90S×69.38W,h113km±5km,mb3.8/11, mb1 3.9/14,mb1mx3.8/20,mbtmp4.1/14, Error ellipse: s-maj=13.8km s-min=11.8km az=169.0*
ISC 11 17:56:52.8±0.3,31.84S±0.02×69.53W±0.04,h116km±3km, h113km±1.9km:pP-P,n60,σ0°99/81,mb4.0/13,8C-10D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.78**	**68**	⇓*i*P		**P**		**17 57 18.1**	**+5.5**
ZON				*e*S		**S**		**17 57 32.1**	**+4.5**
CFAA	**Coronel Fontan**	**1.13**	**78**	P		**P**		**17 57 16.4**	**+0.3**
	19nm,0.3s,baz=252,slow=9.0,SNR=2981								
CFAA				S		**S**		**17 57 32.5**	**-1.2**
	66nm,0.3s,baz=233,slow=15,SNR=157								
MDZ	**Mendoza**	**1.19**	**151**	⇑*i*P		**P**		**17 57 16.9**	**+0.1**
MDZ				*i*				17 57 18.5	
MDZ				*i* S		**S**		**17 57 33.6**	**-1.2**
MDZ				*i*				17 57 35.6	
JACH	**Jahuel**	**1.23**	**227**	*e*P		**P**		**17 57 17.9**	**+0.6**
JACH				*i* S		**S**		**17 57 36.9**	**+1.3**
ILCH	**Illapel**	**1.41**	**278**	⇓*i*P		**P**		**17 57 19.2**	**-0.1**
ILCH				*i* S		**S**		**17 57 38.9**	**-0.6**
ILCH				AMP				17 57 39.3	
	comp=N,6μm,0.3s								
CMCH	**Combarbala**	**1.42**	**298**	⇓*i*P		**P**		**17 57 19.6**	**+0.1**
CMCH				*i* S		**S**		**17 57 39.9**	**+0.2**
CMCH				AMP				17 57 42.3	
	comp=E,26μm,0.7s								
FCH	**Farellones**	**1.61**	**203**	⇑*i*P		**P**		**17 57 23.0**	**+1.3**
FCH				*i* S		**S**		**17 57 45.7**	**+2.1**
FCH				AMP				17 57 46.6	
	comp=E,5μm,0.3s								
PEL	**Peldehue**	**1.62**	**217**	⇓*i*P		**P**		**17 57 22.0**	**+0.2**
PEL				*i* S		**S**		**17 57 43.8**	**0.0**
PEL				AMP				17 57 45.8	
	comp=E,13μm,0.4s								
CHNG	**Los Chungos**	**1.68**	**268**	*i* P		**P**		**17 57 21.9**	**-0.6**
CHNG				*i* S		**S**		**17 57 43.6**	**-1.3**
CHNG				AMP				17 57 52.0	
	comp=E,2μm,0.8s								
ROCH	**El Roble**	**1.69**	**228**	⇓*i*P		**P**		**17 57 22.6**	**0.0**
ROCH				*i* S		**S**		**17 57 45.2**	**+0.1**
STL	**Santa Lucia**	**1.84**	**210**	⇑*i*P		**P**		**17 57 24.8**	**+0.3**
STL				*i* S		**S**		**17 57 48.9**	**+0.4**
SAN	**Santiago**	**1.87**	**210**	*i* P		**P**		**17 57 25.2**	**+0.3**
SAN				*i* S		**S**		**17 57 49.3**	**+0.3**
SJCH	**San Jose de Ma**	**1.92**	**201**	*i* P		**P**		**17 57 25.9**	**+0.4**
SJCH				*i* S		**S**		**17 57 51.4**	**+1.2**
ANTU	**Antumapu**	**1.96**	**208**	⇓*i*P		**P**		**17 57 26.3**	**+0.3**
ANTU				*i* S		**S**		**17 57 51.5**	**+0.5**
ANTU				AMP				17 57 52.8	
	comp=E,3μm,0.4s								
PCH	**Pirque**	**1.96**	**205**	⇓*i*P		**P**		**17 57 26.4**	**+0.5**
PCH				*i* S		**S**		**17 57 52.0**	**+1.1**
RCDM	**Rinconada Maip**	**1.96**	**213**	⇑*i*P		**P**		**17 57 26.1**	**+0.1**
RCDM				*i* S		**S**		**17 57 51.3**	**+0.2**
RCDM				AMP				17 57 51.9	
	comp=E,4μm,0.3s								
TLL	**Tololo Astrono**	**2.00**	**326**	⇑*i*P		**P**		**17 57 27.3**	**+0.8**
TLL				*i* S		**S**		**17 57 53.6**	**+1.8**
TLL				AMP				17 58 01.9	
	comp=N,3μm,0.6s								
LMEL	**Las Melosas**	**2.08**	**196**	⇑*i*P		**P**		**17 57 28.3**	**+0.8**
LMEL				AMP				17 58 03.2	
	comp=N,1μm,0.3s								
IHA	**Instituto Hidr**	**2.14**	**236**	*e*P		**P**		**17 57 27.1**	**-1.3**
IHA				*i* S		**S**		**17 57 53.2**	**-2.0**
TACH	**Talagante**	**2.16**	**213**	⇓*i*P		**P**		**17 57 28.1**	**-0.5**
TACH				*i* S		**S**		**17 57 55.2**	**-0.4**
CHCH	**Chadas Angostu**	**2.29**	**204**	*i* P		**P**		**17 57 30.3**	**-0.1**
CHCH				*i* S		**S**		**17 57 59.2**	**+0.5**
LCCH	**Las Cruces**	**2.37**	**226**	⇓*i*P		**P**		**17 57 30.5**	**-0.9**
LCCH				*i* S		**S**		**17 57 58.1**	**-2.4**
LSCH	**La Serena**	**2.43**	**322**	⇓*i*P		**P**		**17 57 31.8**	**-0.4**
LSCH				*i* S		**S**		**17 58 00.8**	**-1.2**
LSCH				AMP				17 58 03.0	
	comp=E,2μm,0.5s								
CACH	**El Canelo**	**2.44**	**201**	⇑*i*P		**P**		**17 57 32.9**	**+0.5**
CACH				*i* S		**S**		**17 58 03.2**	**+1.0**
CICH	**Cipreses**	**2.58**	**197**	*i* P		**P**		**17 57 34.7**	**+0.5**
CICH				*i* S		**S**		**17 58 05.8**	**+0.2**
LNV	**Longovilo**	**2.63**	**216**	⇑*i*P		**P**		**17 57 33.1**	**-1.9**
LNV				*i* S		**S**		**17 58 04.2**	**-2.7**
TRQA	**Tornquist**	**8.76**	**137**	*e*P		**P**		**17 58 55.8**	**-2.1**
	comp=E,49nm,0.4s								
PLCA	**Paso Flores**	**8.91**	**185**	P		**P**		**17 58 57.6**	**-2.2**
	comp=E,0.3nm,0.3s,baz=10,slow=12,SNR=7.3								
PLCA	**Paso Flores**	**8.91**	**185**	*e*P		**P**		**17 58 57.4**	**-2.5**
CPUP	**Villa Florida**	**12.00**	**66**	*e*P		**P**		**17 59 37.4**	**-3.6**
	comp=E,22nm,0.4s								
LPAZ	**La Paz**	**15.54**	**5**	P		**P**		**18 00 28.1**	**+1.4**
	comp=E,0.1nm,0.3s,baz=185,slow=7.8,SNR=11								
LPAZ	**La Paz**	**15.54**	**5**	*e*P		**P**		**18 00 27.9**	**+1.3**
SIV	**San Ignacio**	**17.56**	**28**	P		**P**		**18 00 51.1**	**-0.6**
	comp=E,0.2nm,0.3s,baz=221,slow=13,SNR=19								
USHA	**Ushuaia**	**22.99**	**178**	P		**P**		**18 01 47.7**	**0.0**
	comp=E,16nm,1.1s,mb4.2,baz=289,slow=4.5,SNR=3.9								
SAML	**Samuel**	**23.53**	**16**	*e*P		**P**		**18 01 53.8**	**+0.5**
VNA3	**Neumayer Olymp**	**50.58**	**159**			**P**		**18 05 44.7**	**+3.6**
VNA3	**Neumayer Olymp**	**50.58**	**159**			**P**		**18 05 50.3**	**+9.2**
VNA2	**Neumayer--Watz**	**51.20**	**158**			**P**		**18 05 47.1**	**+1.3**
VNA2	**Neumayer--Watz**	**51.20**	**158**			**P**		**18 05 53.1**	**+7.3**
SNAA	**Sanae**	**52.80**	**159**	P		**P**		**18 05 56.3**	**-1.5**
	comp=E,0.8nm,0.6s,mb3.9,baz=303,slow=13,SNR=6.8								
SNAA	**Sanae**	**52.80**	**159**	*e*P		**P**		**18 05 57.4**	**-0.4**
QSPA	**South Pole Qui**	**58.39**	**180**	*e*P		**P**		**18 06 37.6**	**-0.2**
	comp=E,5.8nm,0.8s,mb4.7								
VNDA	**Vanda**	**66.62**	**191**	P		**P**		**18 07 33.0**	**+0.7**
	comp=E,1.3nm,0.8s,mb3.8,baz=132,slow=3.4,SNR=7.4								
VNDA	**Vanda**	**66.62**	**191**	*e*P		**P**		**18 07 31.5**	**-0.8**
TXAR	**Lajitas Array**	**68.95**	**328**	P		**P**		**18 07 47.8**	**+0.3**
	comp=E,1.3nm,0.6s,mb3.9,baz=151,slow=8.9,SNR=10.0								
TXAR				pP		pP		18 08 16.9	+0.4
	comp=E,0.4nm,0.5s,baz=151,slow=8.8,SNR=2.8								
WVT	**Waverly**	**69.76**	**344**	*e*P		**P**		**18 07 50.3**	**-2.0**
	comp=E,12nm,0.6s,mb4.9								
MNTX	**Cornudas Mount**	**71.73**	**328**	*e*P		**P**		**18 08 03.4**	**-0.8**
DBIC	**Dimbokro**	**72.48**	**70**	P		**P**		**18 08 08.5**	**-0.3**
	comp=E,2.3nm,0.5s,mb4.2,baz=80,slow=23,SNR=5.8								
DBIC	**Dimbokro**	**72.48**	**70**	*e*P		**P**		**18 08 08.5**	**-0.4**
	comp=E,3.1nm,0.7s,mb4.2								

ANMO	**Albuquerque**	**74.96**	**329**	P		**P**	**18 08 24.1**	**+1.2**
	comp=E,1.5nm,0.8s,mb3.8,baz=141,slow=5.1,SNR=6.3							
ANMO	**Albuquerque**	**74.96**	**329**	*e*P		**P**	**18 08 24.0**	**+1.1**
	comp=E,1.6nm,0.7s,mb3.9							
TORD	**Torodi Ar. Bea**	**81.48**	**69**	P		**P**	**18 08 58.7**	**-0.2**
	comp=E,1.9nm,0.6s,mb4.1,baz=272,slow=6.4,SNR=13							
TORD				pP		pP	18 09 27.8	-1.0
	comp=E,2.4nm,0.8s,baz=255,slow=5.0,SNR=8.1							
PDAR	**Pinedale Array**	**82.84**	**331**	P		**P**	**18 09 06.0**	**+0.6**
	comp=E,0.8nm,0.7s,mb3.6,baz=139,slow=3.6,SNR=7.4							
PDAR				pP		pP	18 09 34.3	-1.0
	comp=E,0.6nm,0.9s,baz=180,slow=3.0,SNR=3.0							
NVAR	**Mina Array Bea**	**83.36**	**324**	P		**P**	**18 09 09.2**	**+1.0**
	comp=E,0.6nm,0.7s,mb3.5,baz=142,slow=6.8,SNR=5.5							
ELK	**Elko**	**83.67**	**327**	P		**P**	**18 09 10.7**	**+1.1**
	comp=E,0.8nm,0.6s,mb3.7,baz=157,slow=3.0,SNR=5.3							
ULM	**Lac du Bonnet**	**85.00**	**343**	P		**P**	**18 09 16.7**	**+0.7**
	comp=E,1.1nm,0.4s,mb4.1,baz=75,slow=2.4,SNR=3.6							
WRA	**Warramunga Arr**	**123.66**	**207**	PKP		PKPdf	18 15 37.8	+0.6
	comp=E,1.0nm,0.4s,baz=160,slow=1.8,SNR=50							
WRA				pPKP			18 16 09.1	
	comp=E,0.4nm,0.6s,baz=154,slow=1.8,SNR=3.0							
ZAL	**Zalesovo**	**151.28**	**32**	PKPbc		PKPdf	18 16 33.7	+8.0
	comp=E,5.8nm,0.5s,baz=146,slow=2.8,SNR=28							
ZAL				pPKPbc			18 17 04.7	
	comp=E,2.0nm,0.7s,baz=169,slow=3.5,SNR=4.3							
ZAL	**Zalesovo**	**151.28**	**32**	PKPbc		PKPdf	18 16 33.7	+8.0
ZAL				pPKPbc			18 17 04.7	
MKAR	**Makanchi Array**	**153.76**	**47**	PKPbc		PKPdf	18 16 39.1	+10
	comp=E,0.7nm,0.7s,baz=315,slow=1.7,SNR=4.2							
MKAR				PKPab		PKPab	18 16 52.5	-0.7
	comp=E,1.5nm,0.6s,baz=297,slow=4.6,SNR=12							

*MOS **11** 18:29:46.1±1.6,57.35N×120.80E,h10km,mb4.2/1, Error ellipse: s-maj=28.0km s-min=19.4km az=47.2*
BYKL 11 18:29:44.0±0.3,57.49N×120.86E,h1km±13km,1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.74**	**220**	*e*Pg		Pg		18 29 57.5	-1.4
KHNR				*e*Sg		Sg		18 30 06.3	-2.5
YKLR	**Yuktali**	**1.00**	**154**	*e*Pg		Pg		18 30 02.8	-1.2
YKLR				*e*Sg		Sg		18 30 15.7	-1.6
YKLR				Pmax					
	104nm,0.2s								
YKLR				Smax					
	465nm,0.4s								
CRS	**Chara**	**1.53**	**248**	⇓*i*Pg		Pg		18 30 12.3	-2.2
CRS				*i* Sg		Sg		18 30 31.3	-3.6
CRS				Pmax					
	119nm,0.5s								
CRS				Smax					
	462nm,0.3s								
CRS	**Chara**	**1.53**	**248**	*e*P		Pn		18 30 12.4	-0.2
CRS				*e*				18 30 31.3	
CRS				pmax	pmax				
	comp=Z,107nm,0.3s								
CRS				smax					
	comp=E,458nm,0.3s								
NRGR	**Nerungri**	**2.27**	**110**	*e*P		Pn		18 30 25.0	+1.9
NRGR				S		Sn		18 30 53.0	+0.9
CLNS	**Chul'man**	**2.29**	**105**	*e*Pg		Pg		18 30 24.7	-5.1
CLNS				*e*Sg		Sg		18 30 53.3	-7.0
CLNS				Pmax					
	comp=E,216nm,0.3s								
CLNS				Smax					
	comp=E,1μm,0.3s								
CLNS	**Chul'man**	**2.29**	**105**	*e*P		Pn		18 30 24.8	+1.3
CLNS				*e*S		Sn		18 30 53.1	+0.4
CLNS				pmax	pmax				
	comp=N,7.0nm,0.3s								
CLNS				pmax	pmax				
	comp=E,8.0nm,0.3s								
CLNS				pmax	pmax				
	comp=Z,12nm,0.3s								
CLNS				pmax	pmax				
	comp=Z,26nm,0.3s								
CLNS				pmax	pmax				
	comp=N,11nm,0.0s								
CLNS				pmax	pmax				
	com

KROS	**Kirovskiy**	**4.60**	**129**	*e*Pg	Pg	18 31 05.3	-11
KROS				*e*Sg	Sg	18 32 05.6	-12
YOA	**Uoyan**	**5.20**	**259**	*e*Sg	Sg	18 32 25.0	-12
YOA				Smax			
	comp=Z,502nm,1.8s						
ZEA	**Zeya**	**5.22**	**133**	*e*Sg	Sg	18 32 24.4	-13
KMO	**Kumora**	**5.56**	**257**	*e*Pn	Pn	18 31 08.4	-1.5
KMO				*e*Pg	Pg	18 31 24.2	-11
KMO				*e*Sg	Sg	18 32 35.7	-13
KMO				Pmax			
	comp=Z,9.0nm,0.6s						
KMO				Smax			
	comp=Z,118nm,1.1s						
KMO	**Kumora**	**5.56**	**257**	*e*P	Pn	18 31 08.5	-1.4
KMO				*e*S	Sn	18 32 10.6	-4.8
KMO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KMO				smax			
	comp=N,117nm,1.0s						
YLYR	**Ulyunkhan**	**6.01**	**248**	*e*Pn	Pn	18 31 13.9	-2.4
YLYR				*e*Pg	Pg	18 31 32.7	-11
YLYR				*e*Sg	Sg	18 32 49.1	-15
YLYR				Pmax			
	comp=N,4.0nm,0.5s						
YLYR				Smax			
	comp=N,59nm,1.0s						
TBGR	**Tabaga**	**6.21**	**42**	*e*Pg	Pg	18 31 36.2	-12
TBGR				*e*Sn	Sn	18 32 25.5	-6.3
TBGR				*e*Sg	Sg	18 32 55.2	-16
YAK	**Yakutsk**	**6.37**	**41**	*e*Sg	Sg	18 32 59.0	-17
YAK				Smax			
	comp=N,563nm,1.1s						
YAK	**Yakutsk**	**6.37**	**41**	*e*P	Pn	18 31 25.1	+3.8
YAK				*e*S	Sn	18 32 42.0	+6.4
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK				smax			
	comp=E,15nm,0.8s						
YAK				smax			
	comp=N,56nm,0.8s						
YAK				MLR	MLR		
	comp=Z,10.0nm,5.0s						
NIZ	**Nizh Angarsk**	**6.48**	**259**	*e*Sg	Sg	18 33 04.0	-16
NIZ				Smax			
	comp=Z,63nm,2.6s						
CIT	**Chita**	**6.92**	**221**	*e*Sg	Sg	18 33 15.9	-18
CIT				Smax			
	comp=Z,81nm,0.9s						
SYVR	**Suvo**	**7.25**	**243**	*e*Sg	Sg	18 33 29.0	-17
SYVR				Smax			
	comp=Z,65nm,1.5s						
KPC	**Khapcheranga**	**9.28**	**216**	*e*Sg	Sg	18 34 29.5	-23
KPC				Smax			
	comp=Z,26nm,0.8s						

MAN 11 18:39:44.9, 10.49N×126.56E, h4km, mb4.6, ML3.5, MS3.4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.27**	**236**	⇑*e*P	Pb	18 40 08.0	-1.1
PLP	**Palo**	**1.69**	**293**	*e*P	Pn	18 40 14.7	-0.8
MSLP	**Maasin**	**1.71**	**258**	*e*P	Pn	18 40 15.1	-0.7
MSLP				*e*S	Sn	18 40 39.6	+1.3
BUTP	**Butuan**	**1.78**	**212**	*e*P	Pn	18 40 15.8	-0.9
OCLP	**Ormoc**	**2.00**	**286**	*e*P	Pn	18 40 20.4	+0.5
BUKP	**Musuan**	**2.99**	**210**	*e*P	Pn	18 40 34.1	+0.1
BUKP				*e*S	Sn	18 41 11.1	+0.3
DCPH	**Dipolog City**	**3.69**	**239**	*e*P	Pn	18 40 45.1	+1.1
DCPH				*e*S	Sn	18 41 25.9	-2.6
PVCP	**Virac**	**3.88**	**323**	*e*P	Pn	18 40 43.0	-3.7

MOS ***11*** *18:45:39.4±0.7, 57.38N×120.84E, h8km, mb4.0/1, Error ellipse: s-maj=91.2km s-min=42.7km az=163.3*

BYKL 11 18:45:37.9±0.5, 57.48N×120.87E, h1km±10km, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.74**	**221**	*e*Pg	Pg	18 45 51.4	-1.3
KHNR				*e*Sg	Sg	18 46 00.1	-2.5
CRS	**Chara**	**1.53**	**249**	⇓*i*Pg	Pg	18 46 05.9	-2.6
CRS				*i* Sg	Sg	18 46 25.2	-3.7
CRS				Pmax			
	228nm,0.8s						
CRS				Smax			
	275nm,0.6s						
CRS	**Chara**	**1.53**	**249**	*e*P	Pn	18 46 06.0	-0.5
CRS				*e*		18 46 25.9	
CRS				pmax	pmax		
	comp=Z,198nm,0.3s						
CRS				smax			
	comp=E,302nm,0.4s						
NRGR	**Nerungri**	**2.26**	**110**	*e*P	Pn	18 46 18.6	+1.7
NRGR				S	Sn	18 46 46.3	+0.5
CLNS	**Chul'man**	**2.29**	**105**	*e*Pg	Pg	18 46 18.5	-5.0
CLNS				*e*Sg	Sg	18 46 49.6	-4.4
CLNS				Pmax			
	comp=E,133nm,0.2s						
CLNS				Smax			
	comp=E,2μm,0.3s						
CLNS	**Chul'man**	**2.29**	**105**	*e*P	Pn	18 46 18.4	+1.1
CLNS				*e*S	Sn	18 46 47.1	+0.7
CLNS				pmax	pmax		
	comp=Z,5.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,19nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,37nm,0.3s						
CLNS				pmax	pmax		
	comp=E,48nm,0.4s						
CLNS				smax			
	comp=N,27nm,0.3s						
CLNS				smax			
	comp=E,47nm,0.3s						
CLNS				smax			
	comp=Z,16nm,0.3s						
CLNS				smax			
	comp=E,236nm,0.3s						
CLNS				smax			
	comp=Z,75nm,0.3s						
CLNS				smax			
	comp=N,332nm,0.4s						
CLNS				MLR	MLR		
	comp=Z,30nm,12.0s						
IENR	**Iengra**	**2.53**	**118**	*e*Pn	Pn	18 46 20.2	-0.5
IENR				*e*Pg	Pg	18 46 24.1	-4.2
IENR				*e*Sg	Sg	18 46 56.5	-5.5
ALDR	**Aldan**	**2.67**	**63**	*e*Pg	Pg	18 46 25.0	-6.1
ALDR				*e*Sg	Sg	18 47 00.9	-5.8
ALDR				Pmax			
	comp=Z,104nm,0.3s						
ALDR				Smax			
	comp=Z,1μm,0.3s						
NLYR	**Nelyaty**	**3.00**	**253**	*e*Pn	Pn	18 46 27.0	-0.4
NLYR				*e*Pg	Pg	18 46 31.7	-6.0
NLYR				*e*Sg	Sg	18 47 09.2	-8.5
NLYR				Pmax			
	comp=Z,72nm,0.8s						
NLYR				Smax			
	comp=Z,287nm,1.2s						
NLYR	**Nelyaty**	**3.00**	**253**	*e*P	Pn	18 46 27.0	-0.4
NLYR				*e*		18 47 08.8	
NLYR				pmax	pmax		
	comp=Z,81nm,0.4s						
NLYR				smax			
	comp=E,287nm,1.3s						
TUP	**Tupik**	**3.11**	**190**	*e*Pn	Pn	18 46 27.7	-1.3
TUP				*e*Pg	Pg	18 46 32.6	-7.3
TUP				*e*Sn	Sn	18 47 05.1	-2.2
TUP				*e*Sg	Sg	18 47 11.8	-9.5
TUP				Pmax			
	comp=E,79nm,0.6s						
TUP				Smax			
	comp=E,289nm,0.9s						
TNDR	**Tynda**	**3.17**	**136**	*e*Pn	Pn	18 46 29.3	-0.6
TNDR				*e*Pg	Pg	18 46 36.9	-4.3
TNDR				*e*Sn	Sn	18 47 06.3	-2.7
TNDR				*e*Sg	Sg	18 47 16.8	-6.7
TNDR				Pmax			
	comp=E,172nm,0.2s						
TNDR				Smax			
	comp=E,2μm,0.4s						
BOD	**Bodaibo**	**3.71**	**278**	*e*Pn	Pn	18 46 36.5	-1.0
BOD				*e*Pg	Pg	18 46 44.7	-7.2
BOD				*e*Sg	Sg	18 47 31.3	-10
BOD				Pmax			
	comp=E,19nm,0.5s						
BOD				Smax			
	comp=E,113nm,0.7s						
SVKR	**Severomuysk**	**4.25**	**254**	*e*Pg	Pg	18 46 54.7	-8.0
SVKR				*e*Sg	Sg	18 47 48.9	-10
SVKR				Pmax			
	comp=E,44nm,0.6s						
SVKR				Smax			
	comp=E,145nm,0.6s						
SVKR	**Severomuysk**	**4.25**	**254**	*e*P	Pn	18 46 53.1	+7.9
SVKR				pmax	pmax		
	comp=Z,72nm,2.3s						
UKT	**Uakit**	**4.48**	**247**	*e*Pg	Pg	18 46 58.2	-9.2
UKT				*e*Sg	Sg	18 47 54.9	-12
UKT				Pmax			
	comp=Z,17nm,0.7s						
UKT				Smax			
	comp=Z,71nm,1.1s						
KROS	**Kirovskiy**	**4.59**	**129**	*e*Sg	Sg	18 47 57.9	-13
ZEA	**Zeya**	**5.21**	**133**	*e*Pg	Pg	18 47 10.7	-11
ZEA				*e*Sg	Sg	18 48 16.9	-14
KMO	**Kumora**	**5.56**	**257**	*e*Pg	Pg	18 47 18.1	-11
KMO				*e*Sg	Sg	18 48 29.7	-13
KMO				*e*		18 48 45.7	
KMO				Pmax			
	comp=Z,13nm,1.1s						
KMO				Smax			
	comp=Z,68nm,1.1s						
YLYR	**Ulyunkhan**	**6.02**	**248**	*e*Pn	Pn	18 47 08.9	-1.3
YLYR				*e*Pg	Pg	18 47 27.4	-11
YLYR				*e*Sg	Sg	18 48 44.2	-14
YLYR				Pmax			
	comp=Z,8.0nm,1.9s						
YLYR				Smax			
	comp=Z,64nm,1.5s						
YLYR	**Ulyunkhan**	**6.02**	**248**	*e*P	Pn	18 47 28.0	+18
TBGR	**Tabaga**	**6.22**	**42**	*e*Sn	Sn	18 48 18.8	-7.0
TBGR				*e*Sg	Sg	18 48 48.6	-16
NIZ	**Nizh Angarsk**	**6.48**	**260**	*e*Sg	Sg	18 48 58.6	-15
NIZ				Smax			
	comp=Z,46nm,1.8s						
CIT	**Chita**	**6.92**	**221**	*e*Sg	Sg	18 49 11.8	-16
CIT				Smax			
	comp=Z,101nm,1.6s						
SYVR	**Suvo**	**7.25**	**243**	*e*Sg	Sg	18 49 23.7	-16
SYVR				Smax			
	comp=Z,99nm,1.7s						
KPC	**Khapcheranga**	**9.28**	**216**	*e*Sg	Sg	18 50 23.5	-23
KPC				Smax			
	comp=Z,41nm,1.7s						
ZAK	**Zakamensk**	**12.54**	**243**	*e*Sg	S	18 52 08.8	+67

WEL 11 19:46:13.5±0.6, 46.28S×166.55E, h5km, ML3.5/6, 1C, Error ellipse: s-maj=5.1km s-min=3.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.90**	**28**	P*	Pb	19 46 30.8	-0.5
DCZ				S*	Sb	19 46 42.6	-0.7
WHZ	**Wether Hill Ro**	**1.05**	**69**	⇑P*	Pb	19 46 33.0	-0.7
WHZ				S*	Sb	19 46 46.8	-0.6
WHZ				S*	Sb	19 46 47.1	-0.3
MLZ	**Mavora Lakes**	**1.47**	**51**	PN	Pn	19 46 40.0	-0.7
MLZ				SN	Sn	19 46 59.0	-1.5
MSZ	**Milford Sound**	**1.88**	**32**	*e*PN	Pn	19 46 45.4	-1.1
TUZ	**Tuapeka**	**2.17**	**83**	*e*PN	Pn	19 46 48.6	-2.1
TUZ				SN	Sn	19 47 17.2	-1.1
EAZ	**Earnscleugh**	**2.20**	**63**	*e*PN	Pn	19 46 49.9	-1.2
EAZ				*e*SN	Sn	19 47 17.9	-1.1
WKZ	**Wanaka**	**2.26**	**51**	PN	Pn	19 46 51.9	-0.1
JCZ	**Jackson Bay**	**2.70**	**36**	PN	Pn	19 46 59.9	+1.6
ODZ	**Otahua Downs**	**3.12**	**68**	PN	Pn	19 47 00.5	-3.9

IDC ***11*** *19:47:34.1±0.7, 44.64S×35.51E, mb4.2/10, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, MS4.0/9, Ms1 4.0/9, ms1mx3.9/17, Error ellipse: s-maj=40.7km s-min=15.3km az=68.0*

NEIC ***11*** *19:47:35.4±0.6, 44.65S×35.48E, h10km, mb4.6/5, Error ellipse: s-maj=33.5km s-min=11.2km az=73.0*

ISC 11 19:47:33.4±0.6, 44.7S±0.1×35.3E±0.3, h10km, n22, σ0§87/15, mb4.2/12, MS4.0/9, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**21.15**	**335**	P	**P**	**19 52 21.0**	**+0.1**
	6.8nm,0.5s,mb4.2,baz=163,slow=9.0,SNR=21						
LBTB				LR	LR	19 59 27.6	
	comp=Z,725nm,18.6s,MS4.1,baz=171,slow=34						
LBTB	**Lobatse**	**21.15**	**335**	*e*P	**P**	**19 52 20.2**	**-0.7**
	38nm,1.3s,mb4.6						
MATP	**Matopo**	**24.84**	**345**	P	**P**	**19 52 57.2**	**-0.1**
	5.2nm,0.9s,mb4.1,baz=168,slow=10,SNR=10						
MATP				LR	LR	20 01 26.3	
	comp=Z,388nm,20.1s,MS3.9,baz=163,slow=34						
MAW	**Mawson**	**27.17**	**157**	P	**P**	**19 53 18.0**	**-0.5**
	6.0nm,1.0s,mb4.1,baz=282,slow=14,SNR=3.2						
MAW				LR	LR	20 01 22.7	
	comp=Z,95nm,21.2s,MS3.3,baz=143,slow=30						
TSUM	**Tsumeb**	**29.39**	**324**	P	**P**	**19 53 39.0**	**0.0**
	8.3nm,1.2s,mb4.3,baz=165,slow=13,SNR=6.9						
TSUM				LR	LR	20 04 27.3	
	comp=Z,414nm,20.3s,MS4.0,baz=155,slow=34						
TSUM	**Tsumeb**	**29.39**	**324**	*e*P	**P**	**19 53 39.2**	**+0.2**
	6.1nm,0.9s,mb4.3						
LSZ	**Lusaka**	**29.93**	**346**	*e*P	**P**	**19 53 42.9**	**-0.9**
	12nm,1.0s,mb4.6						
SNAA	**Sanae**	**32.60**	**201**	P	**P**	**19 54 08.4**	**+1.6**
	1.0nm,0.9s,mb3.7,baz=80,slow=11,SNR=3.3						
KMBO	**Kilima Mbogo**	**43.41**	**3**	LR	LR	20 12 00.0	
	comp=Z,155nm,19.1s,MS3.9,baz=94,slow=34						
QSPA	**South Pole Qui**	**45.53**	**180**	*e*P	**P**	**19 55 53.3**	**-0.9**
	8.8nm,0.7s,mb4.8						
VNDA	**Vanda**	**53.73**	**167**	P	**P**	**19 56 56.4**	**-0.8**
	2.5nm,0.8s,mb4.2,baz=258,slow=7.1,SNR=12						
VNDA				LR	LR	20 17 51.0	
	comp=Z,248nm,18.4s,MS4.3,baz=221,slow=34						
VNDA	**Vanda**	**53.73**	**167**	*e*P	**P**	**19 56 56.1**	**-1.1**
	2.2nm,0.8s,mb4.1						
DBIC	**Dimbokro**	**62.56**	**314**	P	**P**	**19 57 59.2**	**-0.7**
	3.0nm,0.8s,mb4.5,baz=132,slow=5.1,SNR=4.4						
DBIC				LR	LR	20 20 48.9	
	comp=Z,103nm,21.0s,MS4.0,baz=172,slow=32						
TORD	**Torodi Ar. Bea**	**65.14**	**324**	P	**P**	**19 58 17.4**	**+0.6**
	2.7nm,0.6s,mb4.5,baz=159,slow=6.6,SNR=30						
BDFB	**Brasilia**	**74.46**	**263**	LR	LR	20 26 06.2	
	comp=Z,74nm,20.5s,MS4.0,baz=130,slow=31						
WRA	**Warramunga Arr**	**82.41**	**110**	P	**P**	**19 59 57.9**	**+0.7**
	0.8nm,1.0s,mb3.6,baz=219,slow=3.9,SNR=4.2						
BRTR	**Keskin Array B**	**84.05**	**359**	P	**P**	**20 00 06.6**	**+1.5**
	0.5nm,0.6s,mb3.8,baz=171,slow=8.4,SNR=2.7						
GERES	**GERESS Array B**	**95.05**	**346**	LR	LR	20 46 28.7	
	comp=Z,180nm,18.4s,MS4.6,baz=120,slow=37						
TXAR	**Lajitas Array**	**144.22**	**259**	PKP	PKPdf	20 07 13.7	+1.3
	0.3nm,0.7s,baz=157,slow=6.9,SNR=2.8						
ULM	**Lac du Bonnet**	**147.01**	**297**	PKPbc	PKPdf	20 07 18.8	+2.3
	1.1nm,0.9s,baz=169,slow=5.2,SNR=2.2						
YKA	**Yellowknife Ar**	**155.13**	**326**	PKPab	PKPab	20 07 53.9	+1.6
	0.3nm,0.7s,baz=57,slow=3.3,SNR=5.0						
YKA	**Yellowknife Ar**	**155.13**	**326**	PKPab	PKPab	20 07 53.9	+1.6

NEIC ***11*** *19:53:56.0, 39.15S×174.91E, h222km, MG3.9(WEL), After WEL.*

WEL 11 19:53:55.9±0.4, 39.13S×174.94E, h222km±2km, ML3.9/17, 8C-1D, Error ellipse: s-maj=4.7km s-min=2.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.14**	**270**	PN	P	19 54 24.1	-0.9
VRZ				SN	S	19 54 46.3	-1.1
VRZ	**Vera Road**	**0.14**	**270**	*e*P	P	19 54 24.1	-0.9
PKVZ	**Pokaka**	**0.36**	**118**	PN	P	19 54 25.0	-0.3
PKVZ				SN	S	19 54 47.4	-0.8
WPVZ	**Whakapapa**	**0.48**	**100**	PN	P	19 54 25.4	-0.3
WPVZ	**Whakapapa**	**0.48**	**100**	P	P	19 54 25.5	-0.2
MTVZ	**Mangateitei**	**0.49**	**122**	PN	P	19 54 24.7	-1.0
WTVZ	**West Tongariro**	**0.51**	**89**	PN	P	19 54 25.1	-0.7
WTVZ	**West Tongariro**	**0.51**	**89**	P	P	19 54 25.1	-0.7
WNVZ	**Wahianoa**	**0.55**	**112**	PN	P	19 54 26.0	0.0
WNVZ	**Wahianoa**	**0.55**	**112**	P	P	19 54 26.0	0.0
OTVZ	**Oturere**	**0.57**	**94**	PN	P	19 54 26.2	+0.1
TUVZ	**Tukino**	**0.57**	**105**	PN	P	19 54 26.0	-0.1
TUVZ				SN	S	19 54 48.6	-0.8
TUVZ	**Tukino**	**0.57**	**105**	P	P	19 54 26.0	0.0
WAZ	**Wanganui**	**0.63**	**177**	PN	P	19 54 26.3	+0.1
WAZ				SN	S	19 54 49.1	-0.7
WAZ	**Wanganui**	**0.63**	**177**	*e*P	P	19 54 26.5	+0.3
WAZ				S	S	19 54 49.1	-0.7
MOVZ	**Moawhango**	**0.69**	**114**	PN	P	19 54 26.1	-0.4
MOVZ				SN	S	19 54 48.4	-1.9
MOVZ	**Moawhango**	**0.69**	**114**	P	P	19 54 26.1	-0.4
MOVZ				S	S	19 54 48.4	-1.9
BKZ	**Black Stump Fm**	**1.21**	**92**	PN	P	19 54 28.8	-0.8
BKZ				SN	S	19 54 53.2	-2.5
BKZ	**Black Stump Fm**	**1.21**	**92**	*e*P	P	19 54 28.8	-0.8
TSZ	**Takapari Road**	**1.22**	**140**	PN	P	19 54 29.8	+0.1
TSZ				SN	S	19 54 54.9	-1.0
TSZ	**Takapari Road**	**1.22**	**140**	P	P	19 54 29.8	+0.1
MRZ	**Mangatainoka R**	**1.61**	**162**	⇑PN	P	19 54 32.3	-0.5
MRZ				SN	S	19 55 00.1	-1.3
MRZ	**Mangatainoka R**	**1.61**	**162**	P	P	19 54 32.3	-0.6
MRZ				S	S	19 55 00.1	-1.3
KIW	**Kapiti Island**	**1.73**	**181**	PN	P	19 54 33.3	-0.6
KIW	**Kapiti Island**	**1.73**	**181**	P	P	19 54 33.3	-0.6
DUWZ	**D'Urville Isla**	**1.85**	**205**	⇑PN	P	19 54 34.3	-0.7
DUWZ				SN	S	19 55 02.4	-2.7
BFZ	**Birch Farm**	**1.85**	**147**	⇑PN	P	19 54 34.4	-0.6
BFZ	**Birch Farm**	**1.85**	**147**	*e*P	P	19 54 34.4	-0.6
URZ	**Urewera**	**1.91**	**64**	PN	P	19 54 33.1	-2.4
URZ	**Urewera**	**1.91**	**64**	P	P	19 54 33.2	-2.3
CAW	**Cannon Point**	**1.98**	**177**	⇑PN	P	19 54 35.6	-0.6
CAW	**Cannon Point**	**1.98**	**177**	P	P	19 54 35.6	-0.6
MTW	**Mount Morrison**	**2.08**	**168**	PN	P	19 54 36.3	-0.9
MTW	**Mount Morrison**	**2.08**	**168**	P	P	19 54 36.3	-0.8
MRW	**Makara Radio**	**2.11**	**185**	⇑PN	P	19 54 36.7	-0.8
KNZ	**Kokohu**	**2.13**	**88**	PN	P	19 54 36.5	-1.2
KNZ	**Kokohu**	**2.13**	**88**	P	P	19 54 36.5	-1.2
MWZ	**Matawai**	**2.17**	**70**	⇓PN	P	19 54 36.1	-2.0
MWZ	**Matawai**	**2.17**	**70**	P	P	19 54 36.1	-2.0
SNZO	**South Karori**	**2.19**	**185**	PN	P	19 54 37.3	-1.0
SNZO	**South Karori**	**2.19**	**185**	P	P	19 54 37.3	-1.0
BHW	**Baring Head**	**2.28**	**181**	PN	P	19 54 38.1	-1.1
BHW	**Baring Head**	**2.28**	**181**	P	P	19 54 38.1	-1.2
PAWZ	**Paruwai Farm**	**2.29**	**171**	⇑PN	P	19 54 38.4	-0.9
PAWZ	**Paruwai Farm**	**2.29**	**171**	P	P	19 54 38.4	-0.9
MSWZ	**Moikau Station**	**2.30**	**174**	⇑PN	P	19 54 38.5	-1.0
MSWZ	**Moikau Station**	**2.30**	**174**	P	P	19 54 38.5	-1.0
TRWZ	**Traveller**	**2.34**	**166**	PN	P	19 54 39.0	-0.9
NNZ	**Nelson**	**2.41**	**209**	⇑PN	P	19 54 39.4	-1.2
NNZ				SN	S	19 55 12.3	-2.9
NNZ	**Nelson**	**2.41**	**209**	P	P	19 54 39.4	-1.2
QRZ	**Quartz Range**	**2.51**	**227**	*e*P	P	19 54 39.6	-2.1
PUZ	**Puketiti**	**2.81**	**69**	P	P	19 54 42.3	-2.6
THZ	**Tophouse**	**3.06**	**210**	*e*P	P	19 54 46.2	-1.6
MXZ	**Matakaoa Point**	**3.07**	**61**	P	P	19 54 45.4	-2.6
KHZ	**Kahutara**	**3.46**	**197**	PN	P	19 54 50.9	-1.5
KHZ	**Kahutara**	**3.46**	**197**	P	P	19 54 50.9	-1.6
LTZ	**Lake Taylor**	**4.17**	**208**	*e*P	P	19 54 58.9	-2.3
WVZ	**Waitaha Valley**	**5.06**	**217**	*e*P	P	19 55 09.4	-2.8
JCZ	**Jackson Bay**	**6.77**	**221**	*e*P	P	19 55 29.5	-4.5

BJI ***11*** *20:26:39.9, 29.73S×176.59W, h41km, mB5.7, mb5.3, Ms5.2, Ms2.4.9*

MOS ***11*** *20:26:39.1±0.9, 30.04S×177.10W, h33km, mb5.4/22, MS5.0/10, Error ellipse: s-maj=13.6km s-min=10.2km az=97.7*

HRVD ***11*** *20:26:40.7±0.2, 29.93S×176.64W, h12km, MW5.3/83, Centroid moment Tensor Solution. LP body waves: s60,c92; Mantle waves: s83,c151; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73±.02; $M_{\theta\theta}$-0.02±.02; $M_{\phi\phi}$-0.71±.02; $M_{r\theta}$-0.04±.06; $M_{\theta\phi}$-0.23±.02; $M_{\phi r}$0.82±.05; Best double couple: $M_0$1.116×10^{17} NP1: ϕ_s211°,δ24°,λ117°. NP2:ϕ_s2°,δ69°,λ79°. Principal axes: T 1.116, Plg64°, Azm254°; N .002, Plg11°, Azm6°; P -1.117, Plg23°, Azm101°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***11*** *20:26:40.6±1.8, 30.02S×177.09W, h36km±15km, mb5.2/33, MS5.1/7 Error ellipse: s-maj=10.3km s-min=7.4km az=127.0*

IDC ***11*** *20:26:41.2±2.3, 29.96S×177.12W, h39km±18km, mb4.5/11, mb1 4.7/11, mb1mx4.6/13, mbtmp4.7/11, MS4.8/16, Ms1 4.8/16, ms1mx4.6/24, Error ellipse: s-maj=18.8km s-min=15.5km az=9.0*

ISC 11 20:26:38.0±0.2, 30.31S±0.03×177.08W±0.05, h30km, h30km±1.9km:pP-P, n278, σ1§18/143, mb5.2/51, MS4.8/34, 18C-26D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.28**	**325**	Pn	**Pn**	**20 26 58.6**	**-1.6**
	2μm,0.3s,baz=121,slow=6.3,SNR=54						
RAO				Sn	**Sn**	**20 27 16.7**	**+0.2**
	5μm,0.3s,baz=89,slow=23,SNR=21						
RAO	**Raoul Island**	**1.28**	**325**	*e*P	**Pn**	**20 26 58.1**	**-2.1**
MWZ	**Matawai**	**9.16**	**208**	SN	**Sn**	**20 30 31.8**	**-2.7**
URZ	**Urewera**	**9.27**	**210**	Pn	**P**	**20 28 50.1**	**-2.7**
	3.1nm,0.3s,baz=126,slow=1.8,SNR=11						
URZ				Sn	**Sn**	**20 30 35.9**	**-1.3**
	6.9nm,0.3s,baz=354,slow=21,SNR=11						
KNZ	**Kokohu**	**9.70**	**205**	SN	**Sn**	**20 30 47.0**	**-0.8**
THZ	**Tophouse**	**14.00**	**213**	*e*PN	**P**	**20 29 50.0**	**-6.6**
THZ				SN	**S**	**20 32 23.8**	**-7.9**
THZ	**Tophouse**	**14.00**	**213**	*e*P	**P**	**20 29 50.3**	**-6.5**
THZ				S	**S**	**20 32 23.8**	**-8.0**
KHZ	**Kahutara**	**14.24**	**209**	*e*PN	**P**	**20 29 52.6**	**-7.1**
KHZ	**Kahutara**	**14.24**	**209**	*e*P	**P**	**20 29 52.6**	**-7.1**
DSZ	**Denniston Nort**	**14.52**	**215**	PN	**P**	**20 30 03.8**	**+0.5**
LTZ	**Lake Taylor**	**15.09**	**212**	SN	**S**	**20 32 48.0**	**-10**
MQZ	**McQueen's Vall**	**15.67**	**209**	SN	**S**	**20 33 00.2**	**-11**
WVZ	**Waitaha Valley**	**16.04**	**214**	SN	**S**	**20 33 09.7**	**-10**
RPZ	**Rata Peaks**	**16.37**	**212**	Pn	**P**	**20 30 24.9**	**-2.4**
	3.8nm,0.3s,baz=10.0,slow=0.5,SNR=12						
RPZ				Sn	**S**	**20 33 21.8**	**-5.7**
	1.7nm,0.3s,baz=31,slow=21,SNR=6.1						
RPZ				LR	LR	20 37 31.8	
	comp=Z,5μm,18.1s,baz=141,slow=39						
RPZ	**Rata Peaks**	**16.37**	**212**	Pn	**P**	**20 30 24.9**	**-2.

comp=Z,34nm,0.8s,mb5.2
CTA Charters Tower 34.57 278 *e*P **P 20 33 26.9 +0.6**
comp=Z,31nm,0.9s,mb5.2
CTA Charters Tower 34.57 278 LR LR 20 45 37.8
comp=Z,2µm,19.9s,MS4.9,baz=110,slow=33
CTA Charters Tower 34.57 278 *e*P **P 20 33 26.9 +0.6**
CTA pmax pmax
comp=Z,31nm,0.9s
CTAO Charters Tower 34.57 278 *e*P **P 20 33 26.5 +0.2**
CTAO pmax pmax
comp=Z,45nm,0.9s,mb5.4
CTAO MLR MLR
comp=Z,2µm,19.0s,MS4.9
CTAO Charters Tower 34.57 278 *e*P **P 20 33 26.5 +0.2**
comp=Z,45nm,0.9s,mb5.4
CTAO LR LR
comp=Z,2µm,19.0s,MS4.9
STKA Stephens Creek 35.28 257 *e*P **P 20 33 33.9 +1.7**
comp=Z,27nm,1.2s,mb5.1
STKA Stephens Creek 35.28 257 P **P 20 33 34.1 +1.9**
comp=Z,7.8nm,0.5s,mb4.9,baz=94,slow=10,SNR=34
STKA LR LR 20 47 43.2
comp=Z,2µm,18.4s,MS4.8,baz=93,slow=36
PMG Port Moresby 39.29 294 LR LR 20 47 05.1
comp=Z,2µm,21.9s,MS4.8,baz=325,slow=31
TAOE Nuku Hiva Isla 40.54 66 *e*LR LR 20 44 43.1
comp=Z,5µm,28.5s
WB2 Warramunga Arr 44.88 272 *e*P **P 20 34 51.1 -0.7**
WRAB Tennant Creek 44.89 272*c i*P **P 20 34 51.8 -0.1**
WRA Warramunga Arr 44.89 272 P **P 20 34 51.5 -0.4**
comp=Z,6.8nm,0.5s,mb4.7,baz=111,slow=8.0,SNR=96
WRA S **S 20 41 27.6 +0.5**
comp=Z,2.5nm,1.1s,baz=108,slow=14,SNR=4.6
FORT Forrest 46.84 255 *e*P **P 20 35 07.1 -0.1**
comp=Z,25nm,0.6s,mb5.3
SBA Scott Base 48.19 185 P **P 20 35 19.3 +2.1**
SBA pmax pmax
comp=Z,60nm,1.3s,mb5.5
SBA MLR MLR
comp=Z,849nm,19.0s,MS4.7
SBA Scott Base 48.19 185 P **P 20 35 19.3 +2.1**
comp=Z,60nm,1.3s,mb5.5
SBA LR LR
comp=Z,849nm,19.0s,MS4.7
VNDA Vanda 48.27 186 P **P 20 35 20.6 +2.8**
comp=Z,4.5nm,1.2s,mb4.4,baz=16,slow=8.7,SNR=6.1
VNDA LR LR 20 52 02.7
comp=Z,819nm,18.0s,MS4.8,baz=32,slow=31
VNDA Vanda 48.27 186 *e*P **P 20 35 21.3 +3.5**
VNDA pmax pmax
comp=Z,26nm,1.5s
VNDA Vanda 48.27 186 *e*P **P 20 35 21.3 +3.5**
comp=Z,26nm,1.5s,mb5.0
FITZ Fitzroy Crossi 53.16 269 *e*P **P 20 35 54.6 -1.1**
comp=Z,35nm,1.1s,mb5.2
KIP Kipapa 54.60 22 *e*P **P 20 36 05.6 -0.7**
KIP Kipapa 54.60 22 *e*P **P 20 36 05.7 -0.6**
CASY Casey 55.59 208 *e*P **P 20 36 12.8 -0.1**
comp=Z,75nm,1.0s,mb5.7
MBWA Marble Bar 57.03 263 P **P 20 36 22.1 -1.7**
comp=Z,46nm,1.2s,mb5.4
RPN Rapa Nui 58.69 105 LR LR 20 58 05.0
comp=Z,677nm,18.1s,MS4.8,baz=242,slow=32
QSPA South Pole Qui 59.80 180 *e*P **P 20 36 44.3 +2.0**
comp=Z,45nm,0.9s,mb5.5
MAW Mawson 72.67 200 *e*P **P 20 38 05.9 +1.6**
comp=Z,18nm,1.5s,mb4.8
MAW Mawson 72.67 200 P **P 20 38 05.4 +1.1**
comp=Z,7.3nm,1.0s,mb4.6,baz=125,slow=3.7,SNR=6.1
MAW LR LR 21 10 32.0
comp=Z,1µm,18.3s,MS5.2,baz=111,slow=36
MAW Mawson 72.67 200 *e*P **P 20 38 05.9 +1.6**
MAW pmax pmax
comp=Z,18nm,1.5s
JHJ Hachijo jima 2 75.14 324 LR LR 21 09 56.8
comp=Z,209nm,18.2s,MS4.5,baz=1.0,slow=35
SYO Syowa Base 77.38 193 ||P **P 20 38 33.4 +2.2**
SYO Syowa Base 77.38 193 ||PcP PcP 20 38 40.7 -1.2
SYO Syowa Base 77.38 193||*e*P **P 20 38 33.4 +2.2**
SYO ||*e*PcP PcP 20 38 40.7 -1.2
SNAA Sanae 78.22 178 *e*P **P 20 38 36.8 +1.1**
SNAA pmax pmax
comp=Z,20nm,1.0s
SNAA Sanae 78.22 178 *e*P **P 20 38 36.8 +1.0**
comp=Z,20nm,1.0s,mb5.0
VNA3 Neumayer Olymp 78.34 176 P 20 38 40.4 +4.0
VNA3 Neumayer Olymp 78.34 176 P 20 38 41.0 +4.6
VNA3 Neumayer Olymp 78.34 176 P 20 38 43.7 +7.3
VNA3 Neumayer Olymp 78.34 176 P 20 38 48.9 +13
VNA3 Neumayer Olymp 78.34 176 P 20 38 52.8 +16
VNA3 Neumayer Olymp 78.34 176 P 20 38 53.9 +18
VNA3 Neumayer Olymp 78.34 176 P **P 20 38 37.7 +1.3**
VNA3 P 20 38 40.4
VNA3 P 20 38 41.0
VNA3 P 20 38 43.7
MJAR Matsushiro Arr 78.62 325 P **P 20 38 37.2 -1.4**
comp=Z,38nm,1.0s,mb5.3,baz=161,slow=5.3,SNR=36
MAJO Matsushiro 78.63 325 *e*P **P 20 38 36.4 -2.3**
MAJO pmax pmax
comp=Z,53nm,1.1s,mb5.4
MAJO MLR MLR
comp=Z,463nm,20.0s,MS4.8
MAJO Matsushiro 78.63 325 *e*P **P 20 38 36.4 -2.3**
comp=Z,53nm,1.1s,mb5.4
MAJO LR LR
comp=Z,463nm,20.0s,MS4.8
MAT Matsushiro 78.63 325 P **P 20 38 36.5 -2.2**
MAT S S 20 48 34.2 +2.0
MAT Matsushiro 78.63 325 *e*P **P 20 38 37.0 -1.7**
MAT *e*S S 20 48 34.0 +1.8
MAT pmax pmax
comp=Z,33nm,1.2s,mb5.1
MAT Matsushiro 78.63 325 *e*P **P 20 38 37.0 -1.7**
comp=Z,33nm,1.2s,mb5.1
MAT *e*S S 20 48 34.0 +1.8
VNA2 Neumayer--Watz 78.78 177 P 20 38 42.2 +3.4
VNA2 Neumayer--Watz 78.78 177 P 20 38 52.9 +14
VNA2 Neumayer--Watz 78.78 177 P 20 38 55.4 +17
VNA2 Neumayer--Watz 78.78 177 P **P 20 38 38.4 -0.4**
VNA2 P 20 38 42.2
NVL N'lazarevskaya 79.01 183 *e*P **P 20 38 41.5 +1.4**
NVL *e**PP pP 20 38 53.1 +3.5
NVL *e* 20 38 56.9
NVL *e* 20 41 38.0
NVL pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
NVL MLR MLR
comp=Z,44nm,15.9s,MS3.9
PLCA Paso Flores 81.98 133 P **P 20 38 58.2 +1.8**
comp=Z,5.3nm,1.0s,mb4.4,baz=225,slow=8.5,SNR=7.3
PLCA LR LR 21 08 05.9
comp=Z,326nm,19.5s,MS4.7,baz=181,slow=30
PLCA Paso Flores 81.98 133 P **P 20 38 58.2 +1.7**
PLCA LR LR 21 08 05.9
ASAJ Asahikawa 82.73 332 LR LR 21 11 28.1
comp=Z,866nm,20.1s,MS5.1,baz=176,slow=33
FX1 Attu Island--F 83.28 354 LR LR 21 13 54.8
comp=Z,31nm,18.2s,MS3.7,baz=180,slow=34
SSE Sheshan 84.65 311 *e*P **P 20 39 10.5 +0.2**
SSE AP pP 20 39 20.0 0.0
SSE XP sP 20 39 23.6 +0.5
SSE PP PP 20 42 27.0 -0.9
SSE S S 20 49 37.0 +2.9
SSE XS 20 49 52.6
SSE SS SS 20 55 11.3 +2.6
SSE AMB AMB
comp=Z,20nm,1.0s,mb5.2
SSE AMB AMB
comp=Z,270nm,4.2s
SSE LR LR
comp=N,120nm,32.1s,MS4.3
SSE LR LR
comp=E,160nm,32.1s,MS4.3
SSE LR LR
comp=Z,130nm,21.4s
MWC Mount Wilson 84.97 45 *e*P **P 20 39 11.9 +0.1**
YSS Yuzh-Sakhalins 85.02 334||*e*P **P 20 39 12.0 +0.3**
YSS *e* pP 20 39 21.0 -0.4
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 85.02 334 *e*P **P 20 39 12.3 +0.6**
comp=Z,80nm,1.0s,mb5.8
PET Petropavlovsk 85.64 346 *e*P **P 20 39 15.5 +0.8**
PET *e*S S 20 49 43.9 +0.7
PET pmax pmax
comp=Z,100nm,12.0s
PET smax
comp=N,300nm,14.0s
PET MLR MLR
comp=Z,900nm,14.0s,MS5.3
ISA Isabella 85.67 44 *e*P **P 20 39 14.9 -0.4**
ISA pmax pmax
comp=Z,26nm,1.5s,mb5.2
ISA Isabella 85.67 44 *e*P **P 20 39 14.8 -0.5**
comp=Z,26nm,1.5s,mb5.2
QIZ Qiongzhong 85.68 295 P **P 20 39 16.4 +0.7**
QIZ S S 20 49 47.8 +3.5
QIZ SS SS 20 55 25.7 +1.3
QIZ LR LR
comp=N,200nm,34.5s
QIZ LR LR
comp=Z,340nm,37.9s,MS4.5
CMB Columbia Colle 86.16 41 *e*P **P 20 39 16.6 -1.1**
CMB pmax pmax
comp=Z,15nm,1.1s,mb5.1
CMB MLR MLR
comp=Z,858nm,19.0s,MS5.2
CMB Columbia Colle 86.16 41 *e*P **P 20 39 16.6 -1.0**
comp=Z,15nm,1.1s,mb5.1
CMB LR LR
comp=Z,858nm,19.0s,MS5.2
OHCM Honcut 86.45 40 P **P 20 39 16.9 -2.2**
VLA Vladivostok 86.78 325 *e*P **P 20 39 20.3 -0.2**
VLA pmax pmax
comp=Z,61nm,1.2s,mb5.7
NJ2 Nanjing 86.79 310 *e*P **P 20 39 22.2 +1.3**
NJ2 AP pP 20 39 32.6 +2.0
NJ2 XP sP 20 39 38.0 +4.3
NJ2 PP PP 20 42 49.0 +3.2
NJ2 S S 20 50 00.0 +5.2
NJ2 AMB AMB
comp=Z,30nm,1.3s,mb5.4
NJ2 AMB AMB
comp=Z,500nm,5.6s
NJ2 LR LR
comp=N,780nm,25.8s,MS5.1
NJ2 LR LR
comp=E,810nm,28.3s,MS5.1
NJ2 LR LR
comp=Z,570nm,24.7s,MS4.9
LDFC Landfair 87.36 46 *e*P **P 20 39 23.5 -0.1**
NVAR Mina Array Bea 87.63 42 P **P 20 39 24.5 -0.3**
comp=Z,4.0nm,0.9s,mb4.6,baz=208,slow=6.3,SNR=24
MNV Mina 87.72 42 *e*P **P 20 39 23.9 -1.3**
MNV pmax pmax
comp=Z,13nm,1.3s,mb5.0
MNV MLR MLR
comp=Z,931nm,19.0s,MS5.2
MNV Mina 87.72 42 *e*P **P 20 39 23.9 -1.3**
comp=Z,13nm,1.3s,mb5.0
MNV LR LR
comp=Z,931nm,19.0s,MS5.2
TPNV Topopah Spring 87.87 44 *e*P **P 20 39 25.4 -0.6**
TPNV pmax pmax
comp=Z,16nm,1.2s,mb5.1
TPNV Topopah Spring 87.87 44 *e*P **P 20 39 25.4 -0.6**
comp=Z,16nm,1.2s,mb5.1
NEN Nelson 87.89 46 *e*P **P 20 39 26.4 +0.3**
TPH Tonopah 88.03 43 *e*P **P 20 39 25.9 -0.8**
TPH pmax pmax
comp=Z,12nm,1.0s,mb5.1
TPH Tonopah 88.03 43 *e*P **P 20 39 25.9 -0.8**
comp=Z,12nm,1.0s,mb5.1
MOD Modoc 88.88 39 P **P 20 39 30.4 -0.2**
comp=Z,5.5nm,0.6s,mb5.1
MDJ Mudanjiang 89.01 325 P **P 20 39 32.3 +1.1**
MDJ PP PP 20 43 02.3 -1.1
MDJ S S 20 50 20.7 +5.5
MDJ AMB AMB
comp=Z,50nm,1.1s,mb5.8
MDJ AMB AMB
comp=Z,250nm,5.8s
MDJ LR LR
comp=N,80nm,24.1s,MS4.4
MDJ LR LR
comp=E,160nm,22.3s,MS4.4
MDJ LR LR
comp=Z,310nm,20.5s,MS4.7
MDJ Mudanjiang 89.01 325 *e*P **P 20 39 31.0 -0.2**
comp=Z,80nm,1.2s,mb5.9
HABR Khabarovsk 89.36 330⇑*i*P **P 20 39 33.3 +0.5**
HABR pmax pmax
comp=Z,79nm,1.2s,mb5.9
HABR MLR MLR
comp=Z,540nm,24.0s,MS4.9
KKTK Khon Kaen 89.86 289 P **P 20 39 36.0 +0.1**
WUAZ Wupatki 90.01 48 *e*P **P 20 39 36.2 +0.1**
comp=Z,28nm,1.3s,mb5.4
WVOR Wild Horse Val 90.14 39 *e*P **P 20 39 36.6 0.0**
WVOR pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
WVOR Wild Horse Val 90.14 39 *e*P **P 20 39 36.6 +0.1**
comp=Z,8.2nm,1.3s,mb4.9
SNY Shenyang 90.23 320⇑P **P 20 39 37.5 +0.5**
SNY AP pP 20 39 45.3 -1.4
SNY AMB AMB
comp=Z,30nm,1.4s,mb5.4
SNY AMB AMB
comp=Z,240nm,8.2s
SNY LR LR
comp=E,410nm,14.7s
SNY LR LR
comp=Z,430nm,19.0s,MS4.9
NNT Nongplab 90.50 284 P **P 20 39 40.0 +1.2**
TIA Tai'an 90.50 312⇑P **P 20 39 39.6 +1.2**
TIA AMB AMB
comp=Z,60nm,1.2s,mb5.8
CN2 Changchun 90.56 322 *e*P **P 20 39 38.0 -0.5**
CN2 *e*S S 20 50 31.0 +1.7
CN2 AMB AMB
comp=Z,120nm,1.2s,mb6.1
CN2 AMB AMB
comp=Z,390nm,4.0s
CN2 LR LR
comp=N,370nm,20.0s,MS4.9
CN2 LR LR
comp=E,290nm,20.0s,MS4.9
CN2 LR LR
comp=Z,300nm,20.0s,MS4.7
MSU Marysvale 91.35 45 *e*P **P 20 39 43.0 +0.8**
KLR Kul'dur 91.36 329 *e*P **P 20 39 40.2 -1.8**
TXAR Lajitas Array 91.67 57 P **P 20 39 44.6 +0.7**
comp=Z,1.7nm,1.1s,mb4.3,baz=207,slow=8.4,SNR=7.5
TXAR LR LR 21 16 34.6
comp=Z,883nm,18.1s,MS5.2,baz=195,slow=33
NST Nakhon Sawan 91.73 287 P **P 20 39 45.0 +0.5**
LAZ Ladron 92.13 51 *e*P **P 20 39 45.7 -0.2**
GYA Guiyang 92.20 299⇓*i*P **P 20 39 48.0 +1.6**
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.5
ENH Enshi 92.21 304 *e*P **P 20 39 46.7 +0.3**
comp=Z,63nm,1.1s,mb5.9
BNM Barren Site 92.33 51 P **P 20 39 46.8 -0.1**
BMO Blue Mountains 92.48 38 *e*P **P 20 39 46.5 -0.7**
comp=Z,3.3nm,0.4s,mb5.0
SLKM Skilak Lake 93.13 13 *e*P **P 20 39 48.9 -1.0**
HLID Hailey 93.22 40 *e*P **P 20 39 50.3 -0.4**
comp=Z,2.9nm,0.3s,mb5.2
HLID LR LR
comp=Z,794nm,19.0s,MS5.2
MA2 Magadan 93.42 344 P **P 20 39 49.9 -1.3**
MA2 *e*S S 20 50 53.3 -0.7
MA2 pmax pmax
comp=Z,30nm,1.6s,mb5.5
MA2 MLR MLR
comp=Z,600nm,17.5s,MS5.1
KMI Kunming 94.50 296 P **P 20 40 00.0 +3.0**
KMI PP PP 20 43 50.5 +3.2
KMI SKS SKS 20 50 32.1 -4.9
KMI S S 20 51 07.8 +3.6
KMI SS SS 20 57 37.2 +6.2
KMI LR LR
comp=Z,190nm,26.1s,MS4.4
XAN Xi'an 94.70 307 P **P 20 39 58.1 +0.4**
MCMT McKenzie Canyo 94.89 40 *e*P **P 20 39 58.2 -0.2**
PDAR Pinedale Array 95.52 43 P **P 20 40 01.6 +0.3**
comp=Z,1.0nm,0.9s,mb4.2,baz=225,slow=4.2,SNR=6.9
PDAR PKKPbc 20 56 55.0
comp=Z,1.2nm,1.0s,baz=63,slow=3.3,SNR=5.1
PDAR LR LR 21 16 41.4
comp=Z,496nm,19.0s,MS5.0,baz=258,slow=32
QLMT Earthquake Lak 95.69 41 *e*P **P 20 40 02.1 +0.1**
TNA Tin City 95.82 4 *e*P **P 20 40 01.7 -0.4**
comp=Z,4.7nm,1.1s,mb4.8
BOZ Bozeman (W) 96.07 40 *e*P **P 20 40 03.3 -0.5**
BOZ pmax pmax
comp=Z,9.0nm,1.4s,mb5.0
BOZ Bozeman (W) 96.07 40 *e*P **P 20 40 03.3 -0.5**
comp=Z,9.2nm,1.4s,mb5.0
SEY Seymchan 96.07 346⇑*i*P **P 20 40 04.2 +0.9**
CD2 Chengdu 96.72 302 *e*P **P 20 40 09.5 +2.5**
CD2 PP PP 20 44 07.1 +2.7
CD2 S S 20 51 17.5 -5.4
CD2 SS SS 20 58 06.6 +4.6
CD2 LR LR
comp=N,220nm,13.2s
CD2 LR LR
comp=Z,220nm,15.6s,MS4.8
LPAZ La Paz 97.45 114 LR LR 21 17 45.8
comp=Z,162nm,20.3s,MS4.5,baz=322,slow=31
COLA College 97.58 12 *e*P **P 20 40 08.8 -1.3**
COLA pmax pmax
comp=Z,11nm,1.1s,mb5.3
COLA MLR MLR
comp=Z,791nm,19.0s,MS5.2
COLA College 97.58 12 *e*P **P 20 40 08.8 -1.2**
comp=Z,11nm,1.1s,mb5.3
COLA LR LR
comp=Z,791nm,19.0s,MS5.2
ILAR Eielson Array 97.66 13 P **P 20 40 09.8 -0.6**
comp=Z,2.4nm,1.0s,mb4.7,baz=213,slow=6.6,SNR=8.0
BILL Bilibino 98.84 354 *i* P **P 20 40 14.9 -0.8**
BILL pmax pmax
comp=Z,8.0nm,1.7s,mb5.0
LZH Lanzhou 99.31 306 *e*P **P 20 40 19.4 +0.8**
LZH PP PP 20 44 25.0 +1.0
LZH *e*S S 20 51 46.3 +1.7
LZH SS SS 20 58 40.0 +1.8
LZH AMB AMB
comp=Z,10.0nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,150nm,7.8s
LZH LR LR
comp=E,690nm,15.5s
LZH LR LR
comp=Z,950nm,17.4s,MS5.3
SONM Songino Array 103.61 318 Pdiff Pdif 20 40 47.6 +10
comp=Z,1.6nm,1.1s,baz=108,slow=4.6,SNR=3.6
YKA Yellowknife Ar 105.02 25 PKKPbc 20 56 27.9
comp=Z,0.5nm,0.9s,baz=47,slow=3.6,SNR=5.2
ZAK Zakamensk 106.63 319 *e*P Pdif 20 41 01.1 +10
ZAK pmax pmax
comp=Z,2.0nm,1.1s
MKAR Makanchi Array 118.33 310 PKP PKPdf 20 45 22.0 -5.5
comp=Z,8.2nm,1.1s,baz=90,slow=2.4,SNR=20
ZAL Zalesovo 118.50 318 PKP PKPdf 20 45 22.0 -5.7
comp=Z,1.4nm,0.9s,baz=340,slow=4.3,SNR=7.0
NVS Novosibirsk 119.59 319⇑*i*PKIKP PKPdf 20 45 24.5 -5.2
NVS pmax pmax
comp=Z,12nm,1.2s
NVS pmax pmax
comp=E,5.0nm,1.3s
KSH Kashi 120.88 300 *e*PKP PKPdf 20 45 29.2 -3.5
KSH *e*PP PP 20 46 57.0 -3.7
KSH *e*PKS PKS 20 49 05.0 +1.7
KSH *e*SKKS 20 53 50.0
KSH PP PP
comp=Z,190nm,5.0s
KSH LR LR
comp=N,430nm,6.4s
KSH LR LR
comp=E,530nm,6.6s
TKM2 Tokmak 2 122.00 304 P PKPdf 20 45 31.6 -3.2
SNR=7.5
KZA Kyzart 122.05 303 P PKPdf 20 45 32.3 -2.6
SNR=9.7
UCH Uchtor 122.62 303 P PKPdf 20 45 36.0 +0.1
SNR=8.3
CHMS Chumysh 122.62 304 P PKPdf 20 45 32.7 -3.2
SNR=6.4
AAK Ala-Archa 122.73 304 *i* PKIKP PKPdf 20 45 29.9 -6.2
AAK Ala-Archa 122.73 304 *i* PKP PKPdf 20 45 29.0 -7.1
USP Ospenovka 122.86 304 P PKPdf 20 45 33.2 -3.1
SNR=7.2
AML Almayashu 123.19 303 P PKPdf 20 45 34.8 -2.3
SNR=17
EKS2 Erkin-Say 123.25 304 P PKPdf 20 45 34.4 -2.8
SNR=7.1
ARU Arti 133.53 321 *i* PKIKP PKPdf 20 45 52.3 -4.1
ARU *e* 20 48 19.9
ARU *e*SS SS 21 06 04.2 0.0
KMBO Kilima Mbogo 134.76 233 PKP PKPdf 20 45 57.4 -2.5
comp=E,4.1nm,1.1s,baz=17,slow=3.4,SNR=7.0
ARCES ARCESS Array B 136.57 348 PKP PKPdf 20 46 01.4 -4.1
comp=E,3.6nm,0.7s,baz=90,slow=1.2,SNR=6.6
KLMR Klimovskoe 141.06 332 *e*PKIKP PKPdf 20 46 02.5 -7.4
KLMR pmax pmax
comp=Z,40nm,2.3s
JOF Joensuu 142.62 339 *e*pkp PKPdf 20 46 07.5 -5.0
TI2 Plekhanov 144.62 300 *i* PKIKP PKPdf 20 46 12.0 -4.7
TBLG Delisi 144.63 300 P PKPbc 20 46 12.3 +0.9
MOS Moscow 144.71 326 *e*PKIKP PKPdf 20 46 09.7 -6.7
MOS pmax pmax
comp=Z,59nm,1.0s
KAF Kangasniemi 144.73 341 *e*pkp PKPdf 20 46 09.7 -6.5
baz=32,slow=2.9
BHD Baghdad 144.80 286 *ex* x 20 46 16.0
PUL Pulkovo 145.25 336||*i* PKIKP PKPdf 20 46 13.4 -3.8
PUL Pulkovo 145.25 336⇑*e*PKP PKPdf 20 46 13.5 -3.7
FINES FINESS Array B 145.33 341 PKPbc PKPbc 20 46 12.2 -0.5
comp=Z,129nm,1.1s,baz=54,slow=3.2,SNR=126
GOF Gofitskoye 145.39 306⇑*i* PKIKP PKPdf 20 46 13.9 -4.0
GOF pmax pmax
comp=Z,136nm,1.3s
OBN Obninsk 145.55 326*c i* PKIKP PKPdf 20 46 13.7 -4.2
OBN *i* 20 46 20.6
OBN *i* 20 46 29.0
OBN pmax pmax
comp=Z,194nm,1.2s
OBN MLR MLR
comp=Z,300nm,16.0s,MS5.2
OBN Obninsk 145.55 326⇑*e*PKP PKPdf 20 46 13.7 -4.2
OBN LR LR
comp=Z,200nm,15.0s,MS5.0
HAKT HAKKARI 145.61 293 *i* P PKPbc 20 46 13.6 -0.5
VOR Voronezh 145.77 319 *e*PKP2 PKPab 20 46 14.0 -2.1
VOR pmax pmax
comp=Z,180nm,1.0s
TVAN Van 145.83 295 *i* P PKPbc 20 46 14.2 -0.5
VRSR Storozhevoye 145.99 318 *e*PKP2 PKPab 20 46 14.6 -2.4
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR pmax pmax
comp=Z,20nm,1.0s
MSL Mosul 146.08 291 *i* x x 20 46 17.0
MSL *ex* x 20 53 20.0
ARTV Artvin 146.78 300 *i* P PKPbc 20 46 16.1 -0.7
VSU Vasula 147.46 337 *d i* PKP2 PKPab 20 46 19.2 -3.3
MARD Mardin 147.94 293 *i* P PKPdf 20 46 19.8 -2.7
SOC Sochi 148.02 305 *i* PKP2 PKPab 20 46 21.5 -3.6
SOC pmax pmax
comp=Z,40nm,1.2s
NB2 NORSAR Subarra 148.78 352 PKPabc PKPdf 20 46 22.0 -1.0
comp=Z,4.5nm,0.7s,baz=24,slow=2.9
NB2 NORSAR Subarra 148.78 352 PKPab PKPab 20 46 22.0 -5.7
NOA NORSAR Array B 148.78 352 PKPbc PKPdf 20 46 22.3 -0.7
comp=Z,18nm,1.0s,baz=15,slow=4.4,SNR=16
KELT Kelkit 148.93 298 *i* P PKPdf 20 46 23.3 -0.6
NA001 NORSAR Array S 149.01 352 *e*PKPbc PKPdf 20 46 23.4 +0.1
ELZG Elazig 149.30 295 *i* P PKPdf 20 46 25.2 +0.7
ANN Anapa 149.31 308 *i* PKHKP 20 46 23.3
ANN pmax pmax
comp=Z,63nm,1.0s
MNK Minsk 149.93 331 *e*PKHKP 20 46 24.0
MNK pmax pmax
comp=Z,330nm,1.5s
KONO Kongsberg 150.32 353 PKIKP PKPdf 20 46 22.2 -3.3
GZT Gaziantep 150.50 293 *i* P PKPdf 20 46 27.7 +1.3
KAHT Ahir Dag 151.03 294 *i* P PKPdf 20 46 29.5 +2.3
SIM Simferopol' 151.51 310 *i* PKIKP PKPdf 20 46 31.6 +3.9
SIM *e* 20 46 40.0
SIM pmax pmax
comp=Z,28nm,0.9s
COBT Iskenderun 151.59 292 *i* P PKPdf 20 46 30.0 +1.9

AKASG	**Malin Array Be**	151.71	324	PKPbc	PKPdf	20 46 29.1	+1.2	
	comp=Z,30nm,1.2s,baz=62,slow=1.5,SNR=5.1							
SUW	**Suwalki**	152.15	334	*e*PKP	PKPdf	20 46 31.9	+3.5	
AVNT	**Avonos**	152.48	297	*i* P	PKPdf	20 46 32.3	+3.0	
BR131	**Keskin Array S**	153.26	299	*e*PKPdf	PKPdf	20 46 28.3	-2.1	
BRTR	**Keskin Array B**	153.26	299	PKP	PKPdf	20 46 28.8	-1.6	
	comp=Z,6.9nm,1.0s,slow=2.5,SNR=4.5							
BRTR				PKPbc	PKPdf	20 46 35.8	+5.4	
	comp=Z,7.3nm,1.0s,baz=138,slow=3.7,SNR=17							
MUD	**Monsted U'grnd**	153.50	352	*i* P	PKPab	20 46 47.0	-0.5	
	comp=Z,24nm,0.8s							
MUD	**Monsted U'grnd**	153.50	352	*e*P	PKPab	20 46 47.0	-0.5	
BSD	**Bornholm Skovb**	153.77	344	*i* P	PKPab	20 46 47.7	-1.0	
	comp=Z,34nm,0.9s							
ANTO	**Ankara**	153.87	300	⇓P	PKPdf	20 46 37.2	+5.9	
CFR	**Carcaliu**	155.28	314	⇓P	PKPab	20 46 54.0	-1.4	
CFR	**Carcaliu**	155.28	314	⇓P	PKPab	20 46 54.0	-1.4	
TIRR	**Tirgusor**	155.44	312	⇓P	PKPab	20 46 55.2	-0.9	
TIRR	**Tirgusor**	155.44	312	⇓P	PKPab	20 46 55.2	-0.9	
KWP	**Kalwaria**	155.59	328	*e*PKP	PKPdf	20 46 32.1	-1.0	
KWP	**Kalwaria**	155.59	328	*e*PKP	PKPdf	20 46 32.2	-1.0	
KWP				*e*PKPab	PKPab	20 46 56.7	0.0	
HARR	**Harsova**	155.64	313	⇑P	PKPab	20 46 56.3	-0.7	
HARR	**Harsova**	155.64	313	⇑P	PKPab	20 46 56.2	-0.7	
BSEG	**Bad Segeberg**	155.79	349	*e*PKP	PKPab	20 46 55.2	-2.1	
VRI	**Vrincioaia**	155.79	317	⇑P	PKPab	20 46 58.6	+1.0	
VRI	**Vrincioaia**	155.79	317	⇑P	PKPab	20 46 58.6	+1.0	
ISP	**Isparta**	156.00	296	*e*PKPab	PKPab	20 46 57.1	-1.7	
KOLS	**Kolonicke sedl**	156.28	327	*e*PKP	PKPab	20 46 59.2	-0.4	
STHS	**Stebnicka Huta**	156.41	329	*e*PKP	PKPab	20 46 59.5	-0.6	
MLR	**Muntele Rosu**	156.46	316	⇑P	PKPab	20 46 56.2	-4.3	
MLR	**Muntele Rosu**	156.46	316	⇑P	PKPab	20 46 56.1	-4.3	
CRVS	**Cervenica-Dubn**	156.68	328	*e*PKP	PKPab	20 47 02.0	+0.7	
KSP	**Ksiaz**	157.18	338	*e*PKP	PKPab	20 47 03.0	-0.5	
OKC	**Ostrava-Krasne**	157.36	334	*e*PKPAB	PKPab	20 47 09.1	+4.9	
KECS	**Kecovo**	157.43	328	*e*PKP	PKPab	20 47 06.1	+1.5	
DRGR		157.51	323	⇓P	PKPab	20 47 04.1	-0.9	
DRGR		157.51	323	⇓P	PKPab	20 47 04.1	-0.9	
UPC	**Upice**	157.56	338	*e*PKPAB	PKPab	20 47 05.6	+0.5	
UPC				*ep*PKP		20 47 17.0		
SZH	**Strazhica**	157.57	312	*e*P	PKPab	20 47 06.0	+0.6	
DPC	**Dobruska-Polom**	157.59	337	*e*PKPAB	PKPab	20 47 05.2	0.0	
DPC				*ep*PKP		20 47 17.3		
MORC	**Moravsky Berou**	157.64	335	⇓P	PKPab	20 47 05.5	0.0	
CLL	**Collm**	157.72	343	*e*PKIKP	PKPdf	20 46 35.0	-1.0	
CLL	comp=Z,logA/T=1.1							
CLL				*e*		20 46 52.0		
CLL				*i* PKP2	PKPab	20 47 03.1	-2.6	
CLL				*e**PPKP2		20 47 15.0		
CLL				*i*		20 47 19.0		
CLL				*e*PP	PP	20 50 50.0	+3.6	
CLL	**Collm**	157.72	343	*e*PKIKP	PKPdf	20 46 35.0	-1.0	
CLL				pmax	pmax			
	comp=Z,21nm,1.8s							
CLL				pmax	pmax			
	comp=Z,9.0nm,1.1s							
CLL				pmax	pmax			
	comp=Z,26nm,1.1s							
BRG	**Berggiesshubel**	157.87	341	*e*PKP	PKPdf	20 46 42.4	+6.3	
BRG				*e*		20 47 03.6		
PVCC	**Panska Ves**	158.00	340	*e*PKPAB	PKPab	20 47 06.9	0.0	
PVCC				*ep*PKP		20 47 21.0		
PSZ	**Piszkesteto**	158.12	328	⇑*i*PKP/p		20 47 07.3		
VYHS	**Vyhne**	158.15	331	*e*PKP	PKPab	20 47 06.8	-0.8	
VRAC	**Vranov**	158.38	335	⇓P	PKPab	20 47 08.7	+0.1	
PRU	**Pruhonice**	158.48	339	*e*PKPAB	PKPab	20 47 08.8	-0.2	
PRU				*ep*PKP		20 47 19.8		
SMOL	**Smolenice**	158.71	333	*e*PKP	PKPab	20 47 10.9	+0.8	
TREC	**Trest**	158.78	337	*e*PKPAB	PKPab	20 47 09.5	-0.8	
TREC				*ep*PKP		20 47 21.9		
BZS	**Buzias**	158.85	321	⇓P	PKPab	20 47 10.4	-0.4	
BZS	**Buzias**	158.85	321	⇓P	PKPab	20 47 10.4	-0.3	
NKC	**Novy Kostel**	158.85	343	*e*PKPAB	PKPab	20 47 10.3	-0.3	
NKC				*ep*PKP		20 47 24.9		
SRO	**Srobarova**	158.90	330	*e*PKP	PKPab	20 47 12.6	+1.7	
PGB	**Panagyurishte**	159.06	311	*e*P	PKPab	20 47 12.0	+0.2	
HGN	**Heimansgroeve**	159.44	355	*e*P	PKPab	20 47 11.5	-1.6	
KHC	**Kasperske Hory**	159.53	340	*e*PKPAB	PKPab	20 47 13.5	-0.1	
KHC				x	x	20 47 23.5		
KHC				*ep*PKP		20 47 23.6		
KHC	**Kasperske Hory**	159.53	340	⇓*i*PKIKP	PKPdf	20 46 38.9	+0.7	
VTS	**Vitosha**	159.65	313	*e*P	PKPab	20 47 14.0	-0.3	
VTS	**Vitosha**	159.65	313	⇓P	PKPab	20 47 14.2	-0.1	
GERES	**GERESS Array B**	159.75	339	PKPab	PKPab	20 47 12.3	-2.2	
	comp=Z,7.7nm,1.0s,baz=27,slow=3.0,SNR=18							
MMB	**Musomiste**	159.80	310	*e*P	PKPab	20 47 15.0	0.0	
GIVF	**Givet**	160.18	356	*e*PKP2	PKPab	20 47 14.5	-1.8	
BAIF	**Baives**	160.25	358	*e*PKP2	PKPab	20 47 15.1	-1.5	
	comp=Z,42nm,1.4s							
FLN	**La Foliniere**	161.39	7	*e*PKP2	PKPab	20 47 19.7	-1.9	
	comp=Z,46nm,1.1s							
LDF	**La Druitiere**	161.59	6	*e*PKP2	PKPab	20 47 20.5	-2.0	
	comp=Z,31nm,1.2s							
CDF	**Champ du Feu**	161.62	351	*e*PKP2	PKPab	20 47 21.1	-1.5	
GRR	**Gorron**	161.72	8	*e*PKP2	PKPab	20 47 21.3	-1.8	
	comp=Z,44nm,1.4s							
WATA	**Walderalm**	161.73	341	⇓*i*P	PKPab	20 47 22.1	-1.1	
	comp=Z,20nm,1.2s							
MEZF	**Maizieres J'vi**	161.76	355	*e*PKP2	PKPab	20 47 21.7	-1.6	
	comp=Z,41nm,1.1s							
WTTA	**Wattenberg**	161.78	341	⇑*i*P	PKPab	20 47 21.5	-1.9	
	comp=Z,23nm,1.1s							
MOTA	**Moosalm**	161.85	342	⇓*i*P	PKPab	20 47 23.4	-0.3	
	comp=Z,28nm,1.2s							
SQTA	**Sankt Quirin**	161.94	342	⇓*i*P	PKPab	20 47 24.0	0.0	
	comp=Z,24nm,1.5s							
TORD	**Torodi Ar. Bea**	162.88	176	PKP	PKPdf	20 46 39.5	-3.1	
	comp=Z,5.7nm,1.1s,baz=288,slow=0.3,SNR=13							
TORD				PKPab	PKPab	20 47 29.8	+0.7	
	comp=Z,7.6nm,1.1s,baz=170,slow=3.0,SNR=6.1							
LOR	**Lormes**	163.05	358	*e*PKP2	PKPab	20 47 27.2	-1.7	
	comp=Z,15nm,1.1s							
SSF	**Saint Saulge**	163.27	359	*e*PKP2	PKPab	20 47 28.3	-1.5	
	comp=Z,31nm,1.2s							
SMF	**Signal de Mont**	163.68	358	*e*PKP2	PKPab	20 47 29.9	-1.7	
	comp=Z,43nm,1.2s							
TCF	**Toulx Ste Croi**	164.04	2	*e*PKP2	PKPab	20 47 31.3	-1.9	
LPL	**La Plagne**	164.53	350	*e*PKP2	PKPab	20 47 34.8	-0.6	
	comp=Z,38nm,1.2s							
LPG	**La Plagne**	164.54	350	*e*PKP2	PKPab	20 47 35.0	-0.5	
	comp=Z,49nm,1.3s							
RJF	**Les Rejaudoux**	164.99	4	*e*PKP2	PKPab	20 47 35.6	-1.8	
	comp=Z,18nm,1.0s							
ESDC	**Sonseca Array**	169.09	29	PKPab	PKPab	20 47 55.1	-0.4	
	comp=Z,1.2nm,0.8s,baz=328,slow=4.2,SNR=5.4							

MAN 11 20:30:13.1, 18.40N×120.73E, h6km, mb3.9, ML2.7, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	0.12	235⇑	*e*P	Pg	20 30 16.4	+0.7
PIP				*e*S	Sg	20 30 26.4	+8.9
APYP	**Conner**	0.72	137	*e*P	Pg	20 30 27.1	-0.5
APYP				*e*S	Sg	20 30 43.2	+5.9
ABRA	**Dolores**	0.74	181	*e*P	Pg	20 30 27.4	-0.5
CAUP	**Cauayan**	1.78	144	*e*P	Pn	20 30 45.1	+0.4

IDC **11** *20:40:19.4± 1.5, 32.76S× 179.74W, h88km± 13km, mb4.0/4, mb1 4.4/6, mb1mx4.1/14, mbtmp4.6/6, Error ellipse: s-maj=24.3km s-min=10.6km az=113.0*
NEIC **11** *20:40:19.3± 1.0, 32.73S× 179.71W, h84km± 9km, mb4.5/5, Error ellipse: s-maj=18.9km s-min=10.3km az=108.0*

ISC 11 20:40:15.0±0.8, 32.59S±0.07× 179.5E±0.2, h63km±9km, n100, σ1$36/115, mb4.5/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	4.02	35	P	**P**	**20 41 16.0**	**+0.5**
	88nm,0.3s,baz=108,slow=22,SNR=4.6						
RAO				S	**S**	**20 42 00.4**	**-1.4**
	287nm,0.3s,baz=182,slow=21,SNR=6.7						
MXZ	**Matakaoa Point**	5.05	190	*e*PN	**P**	**20 41 32.9**	**+2.9**
MXZ				SN	**S**	**20 42 27.1**	**-0.5**
MXZ	**Matakaoa Point**	5.05	190	*e*P	**P**	**20 41 32.9**	**+2.9**
MXZ				S	**S**	**20 42 27.1**	**-0.5**
PUZ	**Puketiti**	5.56	190	*e*PN	**P**	**20 41 42.0**	**+5.0**
PUZ				SN	**S**	**20 42 38.7**	**-1.6**
PUZ	**Puketiti**	5.56	190	*e*P	**P**	**20 41 42.0**	**+5.1**
MWZ	**Matawai**	5.95	195	*e*PN	**P**	**20 41 44.9**	**+2.6**
MWZ				SN	**S**	**20 42 50.1**	**+0.2**
MWZ	**Matawai**	5.95	195	*e*P	**P**	**20 41 44.9**	**+2.6**
MWZ				S	**S**	**20 42 50.1**	**+0.2**
URZ	**Urewera**	5.97	198	P	**P**	**20 41 47.3**	**+4.6**
	55nm,0.3s,baz=307,slow=2.4,SNR=64						
URZ				S	**S**	**20 42 52.4**	**+1.8**
	10nm,0.3s,baz=179,slow=23,SNR=3.3						
URZ	**Urewera**	5.97	198	*e*PN	**P**	**20 41 46.8**	**+4.1**
URZ				SN	**S**	**20 42 51.4**	**+0.8**
URZ	**Urewera**	5.97	198	*e*P	**P**	**20 41 46.8**	**+4.1**
KNZ	**Kokohu**	6.58	192	*e*PN	**P**	**20 41 52.9**	**+1.6**
KNZ				SN	**S**	**20 43 02.9**	**-2.7**
KNZ	**Kokohu**	6.58	192	*e*P	**P**	**20 41 52.9**	**+1.7**
KNZ				S	**S**	**20 43 02.9**	**-2.7**
BKZ	**Black Stump Fm**	6.99	199	*e*PN	**P**	**20 41 58.6**	**+1.7**
BKZ				SN	**S**	**20 43 17.5**	**+1.8**
BKZ	**Black Stump Fm**	6.99	199	*e*P	**P**	**20 41 58.6**	**+1.6**
BKZ				S	**S**	**20 43 17.5**	**+1.7**
HIZ	**Hauiti**	7.00	211	*e*PN	**P**	**20 42 04.5**	**+7.4**
HIZ	**Hauiti**	7.00	211	*e*P	**P**	**20 42 04.5**	**+7.4**
OTVZ	**Oturere**	7.25	204	*e*PN	**P**	**20 42 04.7**	**+4.1**
TUVZ	**Tukino**	7.34	204	*e*PN	**P**	**20 42 07.8**	**+6.0**
TUVZ				SN	**S**	**20 43 30.3**	**+5.8**
TUVZ	**Tukino**	7.34	204	*e*P	**P**	**20 42 07.8**	**+5.9**
WNVZ	**Wahianoa**	7.42	204	*e*PN	**P**	**20 42 06.6**	**+3.7**
WNVZ	**Wahianoa**	7.42	204	*e*P	**P**	**20 42 06.6**	**+3.8**
MOVZ	**Moawhango**	7.44	203	*e*PN	**P**	**20 42 07.5**	**+4.4**
MOVZ				SN	**S**	**20 43 28.2**	**+1.4**
MOVZ	**Moawhango**	7.44	203	*e*P	**P**	**20 42 07.5**	**+4.4**
TSZ	**Takapari Road**	7.97	200	*e*PN	**P**	**20 42 12.7**	**+2.2**
TSZ				SN	**S**	**20 43 40.6**	**+0.6**
TSZ	**Takapari Road**	7.97	200	*e*P	**P**	**20 42 12.7**	**+2.2**
WAZ	**Wanganui**	8.01	206	*e*PN	**P**	**20 42 15.7**	**+4.6**
WAZ	**Wanganui**	8.01	206	*e*P	**P**	**20 42 15.7**	**+4.7**
BFZ	**Birch Farm**	8.48	197	*e*PN	**P**	**20 42 15.7**	**-1.7**
BFZ				SN	**S**	**20 43 45.8**	**-6.8**
BFZ	**Birch Farm**	8.48	197	*e*P	**P**	**20 42 15.7**	**-1.7**
MRZ	**Mangatainoka R**	8.64	200	*e*PN	**P**	**20 42 18.6**	**-1.0**
MRZ				SN	**S**	**20 43 52.7**	**-3.8**
MRZ	**Mangatainoka R**	8.64	200	*e*P	**P**	**20 42 18.6**	**-1.0**
MRZ				S	**S**	**20 43 52.7**	**-3.8**
KIW	**Kapiti Island**	9.03	203	*e*PN	**P**	**20 42 24.6**	**-0.3**
KIW				SN	**S**	**20 44 03.2**	**-2.9**
KIW	**Kapiti Island**	9.03	203	*e*P	**P**	**20 42 24.6**	**-0.3**
MTW	**Mount Morrison**	9.12	199	*e*PN	**P**	**20 42 25.4**	**-0.9**
MTW				SN	**S**	**20 44 03.1**	**-5.2**
MTW	**Mount Morrison**	9.12	199	*e*P	**P**	**20 42 25.4**	**-0.8**
CAW	**Cannon Point**	9.20	201	*e*PN	**P**	**20 42 26.0**	**-1.3**
CAW	**Cannon Point**	9.20	201	*e*P	**P**	**20 42 26.0**	**-1.3**
TRWZ	**Traveller**	9.29	198	*e*PN	**P**	**20 42 28.5**	**-0.1**
DUWZ	**D'Urville Isla**	9.32	207	*e*PN	**P**	**20 42 30.6**	**+1.6**
PAWZ	**Paruwai Farm**	9.35	199	*e*PN	**P**	**20 42 28.0**	**-1.4**
PAWZ	**Paruwai Farm**	9.35	199	*e*P	**P**	**20 42 28.0**	**-1.3**
MRW	**Makara Radio**	9.43	202	*e*PN	**P**	**20 42 29.9**	**-0.5**
MRW	**Makara Radio**	9.43	202	*e*P	**P**	**20 42 29.9**	**-0.5**
MSWZ	**Moikau Station**	9.43	200	*e*PN	**P**	**20 42 29.8**	**-0.6**
MSWZ	**Moikau Station**	9.43	200	*e*P	**P**	**20 42 29.8**	**-0.6**
SNZO	**South Karori**	9.50	202	*e*PN	**P**	**20 42 31.0**	**-0.4**
SNZO	**South Karori**	9.50	202	*e*P	**P**	**20 42 32.7**	**+1.4**
BHW	**Baring Head**	9.53	201	*e*PN	**P**	**20 42 31.4**	**-0.5**
TCW	**Tory Channel**	9.55	204	*e*PN	**P**	**20 42 33.3**	**+1.2**
TCW	**Tory Channel**	9.55	204	*e*P	**P**	**20 42 33.3**	**+1.2**
TUWZ	**Tuamarina**	9.86	205	*e*PN	**P**	**20 42 36.5**	**+0.2**
NNZ	**Nelson**	9.89	208	*e*PN	**P**	**20 42 36.7**	**0.0**
NNZ				SN	**S**	**20 44 26.9**	**-0.2**
NNZ	**Nelson**	9.89	208	*e*P	**P**	**20 42 36.7**	**0.0**
QRZ	**Quartz Range**	9.92	212	*e*PN	**P**	**20 42 39.4**	**+2.3**
QRZ	**Quartz Range**	9.92	212	*e*P	**P**	**20 42 39.4**	**+2.2**
THZ	**Tophouse**	10.54	208	*e*PN	**P**	**20 42 45.1**	**-0.4**
THZ				SN	**S**	**20 44 42.2**	**-0.7**
THZ	**Tophouse**	10.54	208	*e*P	**P**	**20 42 45.1**	**-0.5**
KHZ	**Kahutara**	10.87	204	*e*PN	**P**	**20 42 48.0**	**-2.0**
KHZ				SN	**S**	**20 44 47.0**	**-4.0**
KHZ	**Kahutara**	10.87	204	*e*P	**P**	**20 42 48.0**	**-2.1**
DSZ	**Denniston Nort**	10.99	212	*e*PN	**P**	**20 42 53.1**	**+1.5**
DSZ	**Denniston Nort**	10.99	212	*e*P	**P**	**20 42 53.1**	**+1.5**
LTZ	**Lake Taylor**	11.65	207	*e*PN	**P**	**20 42 59.7**	**-0.9**
LTZ				SN	**S**	**20 45 04.3**	**-5.5**
LTZ	**Lake Taylor**	11.65	207	*e*P	**P**	**20 42 59.7**	**-0.9**
LTZ				S	**S**	**20 45 04.3**	**-5.5**
MQZ	**McQueen's Vall**	12.32	204	*e*PN	**P**	**20 43 06.7**	**-2.8**
MQZ				SN	**S**	**20 45 19.2**	**-6.8**
MQZ	**McQueen's Vall**	12.32	204	*e*P	**P**	**20 43 06.7**	**-2.8**
WVZ	**Waitaha Valley**	12.53	211	*e*PN	**P**	**20 43 12.1**	**-0.1**
WVZ				SN	**S**	**20 45 24.6**	**-6.2**
WVZ	**Waitaha Valley**	12.53	211	*e*P	**P**	**20 43 12.1**	**-0.1**
RPZ	**Rata Peaks**	12.92	208	P	**P**	**20 43 16.7**	**-0.8**
	4.6nm,0.3s,baz=65,slow=2.4,SNR=15						
RPZ				S	**S**	**20 45 35.2**	**-4.9**
	1.2nm,0.3s,baz=342,slow=22,SNR=7.1						
RPZ	**Rata Peaks**	12.92	208	*e*PN	**P**	**20 43 16.3**	**-1.1**
RPZ	**Rata Peaks**	12.92	208	*e*P	**P**	**20 43 16.3**	**-1.1**
FOZ	**Fox Glacier**	13.38	212	*e*PN	**P**	**20 43 22.0**	**-1.5**
FOZ				SN	**S**	**20 45 43.1**	**-7.9**
FOZ	**Fox Glacier**	13.38	212	*e*P	**P**	**20 43 22.0**	**-1.4**
ODZ	**Otahua Downs**	14.20	206	*e*PN	**P**	**20 43 32.7**	**-1.4**
ODZ	**Otahua Downs**	14.20	206	*e*P	**P**	**20 43 32.7**	**-1.4**
DZM	**Mont Dzumac**	15.59	309	P		20 44 06.5		
	0.4nm,0.3s,baz=110,slow=18,SNR=4.7							
CTA	**Charters Tower**	32.12	285	P	**P**	**20 46 46.0**	**+7.5**	
	2.9nm,0.4s,mb4.5,baz=119,slow=11,SNR=6.9							
CTAO	**Charters Tower**	32.12	285	*e*P	**P**	**20 46 47.4**	**+8.9**	
	2.6nm,0.4s,mb4.4							
WRA	**Warramunga Arr**	42.09	276	P	**P**	**20 48 08.5**	**+6.1**	
	6.0nm,0.3s,mb4.6,baz=116,slow=7.6,SNR=57							
SBA	**Scott Base**	45.71	184	*e*P	**P**	**20 48 33.6**	**+2.7**	
	12nm,0.8s,mb4.9							
VNDA	**Vanda**	45.71	185	P	**P**	**20 48 31.6**	**+0.6**	
	1.7nm,0.6s,mb4.1,baz=2.5,slow=9.3,SNR=12							
VNDA	**Vanda**	45.71	185	*e*P	**P**	**20 48 32.2**	**+1.2**	
	2.3nm,0.8s,mb4.2							
QSPA	**South Pole Qui**	57.52	180	*e*P	**P**	**20 50 00.3**	**+0.7**	
	37nm,1.2s,mb5.3							
VNA3	**Neumayer Olymp**	76.25	177		**P**	**20 51 57.5**	**-0.3**	
VNA2	**Neumayer--Watz**	76.66	178		**P**	**20 52 00.3**	**+0.2**	
VNA1	**Neumayer--Stat**	76.90	177		**P**	**20 52 02.4**	**+1.0**	
NVAR	**Mina Array Bea**	91.31	44	P	**P**	**20 53 14.7**	**-0.2**	
	0.5nm,0.6s,mb4.0,baz=225,slow=7.4,SNR=5.7							
TPNV	**Topopah Spring**	91.57	46	*e*P	**P**	**20 53 15.3**	**-0.8**	
	0.9nm,0.6s,mb4.3							
MKAR	**Makanchi Array**	117.51	310	PKP	PKPdf	20 58 53.7	+0.3	
	0.2nm,0.4s,baz=186,slow=1.1,SNR=6.2							
BVAR	**Borovoye Array**	126.43	315	PKP	PKPdf	20 59 12.4	+2.0	
	0.9nm,0.5s,baz=115,slow=2.0							
ARCES	**ARCESS Array B**	140.23	346	PKhKP		20 59 32.9		
	4.0nm,1.1s,slow=1.2,SNR=5.5							
FINES	**FINESS Array B**	146.38	337	PKPbc	PKPbc	20 59 50.0	+2.2	
	3.4nm,0.5s,baz=46,slow=5.3,SNR=55							
NB2	**NORSAR Subarra**	150.52	348	PKPabc	PKPdf	20 59 59.9	+6.7	
	2.2nm,1.0s,baz=19,slow=2.6							
NB2	**NORSAR Subarra**	150.52	348	PKPab	PKPab	20 59 59.9	-7.8	
NOA	**NORSAR Array B**	150.52	348	PKPbc	PKPdf	21 00 00.2	+7.0	
	1.9nm,0.8s,baz=17,slow=4.2,SNR=4.5							
AKASG	**Malin Array Be**	151.61	318	PKPbc	PKPdf	21 00 03.7	+8.5	
	2.1nm,0.6s,baz=50,slow=2.4,SNR=12							
AKASG	**Malin Array Be**	151.61	318	PKPbc	PKPdf	21 00 03.7	+8.5	
BR131	**Keskin Array S**	151.62	294	*e*PKPbc	PKPdf	21 00 03.7	+8.1	
BRTR	**Keskin Array B**	151.62	294	PKPbc	PKPdf	21 00 03.9	+8.3	
	0.9nm,0.5s,baz=145,slow=3.2,SNR=15							
DBIC	**Dimbokro**	153.90	170	PKPbc	PKPdf	21 00 08.2	+8.8	
	0.8nm,0.4s,baz=144,slow=3.7,SNR=3.6							
DBIC				PKPab	PKPab	21 00 21.5	-1.8	
	1.7nm,0.5s,baz=152,slow=2.5,SNR=6.8							
TORD	**Torodi Ar. Bea**	160.54	187	PKPab	PKPab	21 00 49.9	-1.8	
	1.2nm,0.4s,baz=172,slow=3.9,SNR=27							

BJI **11** *20:58:58.5, 57.78N× 121.13E, h10km*
IDC **11** *20:59:01.7± 1.1, 57.34N× 120.78E, mb3.8/11, mb1 4.0/12, mb1mx3.8/23, mbtmp3.8/12, ML3.1/1, Error ellipse: s-maj=25.5km s-min=20.8km az=158.0*
BYKL **11** *20:59:03.4± 0.5, 57.40N× 120.86E, h2km± 18km*
NEIC **11** *20:59:03.7± 0.5, 57.37N× 120.79E, h10km, mb4.2/2, Error ellipse: s-maj=13.2km s-min=7.6km az=122.0*
MOS **11** *20:59:03.3± 1.5, 57.41N× 120.67E, h15km, mb4.2/1, Error ellipse: s-maj=13.7km s-min=9.1km az=65.7*

ISC 11 20:59:02.1±0.8, 57.44N±0.03× 120.70E±0.03, h3km±5km, n68, σ1$29/109, mb4.0/13, MS3.2/1, 3C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	0.65	217	*e*Pg	**Pg**	**20 59 15.3**	**+0.1**
KHNR				*i* Sg	**Sg**	**20 59 23.7**	**-0.2**
YKLR	**Yuktali**	1.00	148	*e*Pg	**Pg**	**20 59 20.3**	**-1.7**
YKLR				Pmax		20 59 26.1		
	885nm,0.2s							
YKLR				*e*Sg	**Sg**	**20 59 33.0**	**-2.3**
YKLR				Smax		20 59 39.2		
	4μm,0.3s							
CRS	**Chara**	1.43	249	*e*Pg	**Pg**	**20 59 31.0**	**+0.3**
CRS				Pmax		20 59 33.3		
	827nm,0.9s							
CRS				*e*Sg	**Sg**	**20 59 48.5**	**-1.3**
CRS				Smax		20 59 49.7		
	1μm,0.4s							
CRS	**Chara**	1.43	249	*e*P	**Pn**	**20 59 31.2**	**+2.2**
CRS				*e*		20 59 48.7		
CRS				pmax	pmax			
	comp=Z,825nm,0.8s							
CRS				smax				
	comp=E,1μm,0.5s							
NRGR	**Nerungri**	2.33	108	*e*P	**Pn**	**20 59 32.1**	**-10**
NRGR				S	**Sn**	**21 00 01.2**	**-10**
CLNS	**Chul'man**	2.36	103	*e*Pg	**Pb**	**20 59 43.3**	**-1.7**
CLNS				Pmax		20 59 48.3		
	comp=E,426nm,0.3s							
CLNS				*e*Sg	**Sb**	**21 00 14.9**	**+0.3**
CLNS				Smax		21 00 15.3		
	comp=E,15μm,0.5s							
CLNS	**Chul'man**	2.36	103	*e*P	**Pn**	**20 59 43.1**	**+0.8**
CLNS				pmax	pmax			
	comp=Z,29nm,0.3s							
CLNS				pmax	pmax			
	comp=N,290nm,0.8s							
CLNS				pmax	pmax			
	comp=E,16nm,0.3s							
CLNS				pmax	pmax			
	comp=N,60nm,0.4s							
CLNS				pmax	pmax			
	comp=Z,132nm,0.4s							
CLNS				pmax	pmax			
	comp=E,35nm,0.3s							
IENR	**Iengra**	2.59	116	*e*Pg	**Pb**	**20 59 49.4**	**+0.5**
IENR				*e*Sg	**Sb**	**21 00 21.4**	**+0.2**
ALDR	**Aldan**	2.76	63	*e*Pg	**Pb**	**20 59 50.8**	**-1.0**
ALDR				Pmax		20 59 59.8		
	comp=E,1μm,0.5s							
ALDR				*e*		21 00 13.4		
ALDR				*e*Sg	**Sb**	**21 00 25.5**	**-0.7**
ALDR				Smax		21 00 27.2		
	comp=E,4μm,0.3s							
NLYR	**Nelyaty**	2.90	253	*e*Pn	**Pn**	**20 59 51.7**	**+1.7**
NLYR				*e*Pg	**Pb**	**20 59 57.0**	**+2.8**
NLYR				Pmax		20 59 58.7		
	comp=E,546nm,0.7s		

YAK	**Yakutsk**	**6.46**	**41**	*e*P	**Pn**	**21 00 43.9**	**+3.5**
YAK				*e*S	**Sn**	**21 01 56.1**	**+0.5**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				smax			
	comp=E,36nm,0.8s						
YAK				smax			
	comp=N,270nm,0.8s						
YAK				MLR	MLR		
	comp=Z,75nm,6.0s						
YAK	**Yakutsk**	**6.46**	**41**	*e*Pn	**Pn**	**21 00 39.8**	**-0.6**
	comp=Z,50nm,0.8s						
YAK				*e*Pg	**Pb**	**21 00 56.6**	**+1.6**
YAK				*e*Sn	**Sn**	**21 01 50.8**	**-4.7**
YAK				*e*		21 02 03.0	
YAK				*e*Sg	**Sb**	**21 02 20.5**	**+7.0**
CIT	**Chita**	**6.83**	**220**	*e*Pg	**Pb**	**21 01 06.5**	**+5.1**
CIT				Pmax		21 01 09.5	
	comp=Z,80nm,0.8s						
CIT				*e*Sg	**Sb**	**21 02 34.8**	**+11**
CIT				Smax		21 02 41.7	
	comp=Z,785nm,1.1s						
SYVR	**Suvo**	**7.16**	**243**	*e*Pg	**Pg**	**21 01 14.8**	**-10**
SYVR				Pmax		21 01 17.4	
	comp=Z,59nm,1.2s						
SYVR				*e*Sg	**Sg**	**21 02 47.8**	**-13**
SYVR				Smax		21 02 52.6	
	comp=Z,412nm,1.8s						
HIA	**Hailar**	**8.21**	**184**	*e*P	**P**	**21 01 00.8**	**-4.1**
HIA				pmax	pmax		
	comp=Z,17nm,0.9s						
HIA	**Hailar**	**8.21**	**184**	*e*Pn	**P**	**21 01 00.8**	**-4.1**
	comp=Z,17nm,0.9s						
HIA				*e*Sg	**Sb**	**21 03 18.6**	**+14**
OGRR	**Ongureny**	**8.35**	**248**	*e*Sg	**Sb**	**21 03 24.9**	**+17**
OGRR				Smax		21 03 31.4	
	comp=Z,123nm,2.5s						
KPC	**Khapcheranga**	**9.19**	**216**	*e*Sg	Sx	21 03 48.5	
KPC				Smax		21 03 54.8	
	comp=Z,178nm,0.8s						
KLR	**Kul'dur**	**10.54**	**137**	*e*P	**P**	**21 01 42.8**	**+5.9**
ZAK	**Zakamensk**	**12.45**	**243**	*e*Sg	Sx	21 05 29.3	
ZAK				Smax		21 05 40.8	
	comp=Z,55nm,1.5s						
ULN	**Ulaanbaatar**	**12.65**	**227**	P	**P**	**21 02 01.7**	**-3.9**
SONM	**Songino Array**	**12.94**	**228**	Pn	**P**	**21 02 07.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=3.1						
TIXI	**Tiksi**	**14.66**	**10**⇑	*e*P	**P**	**21 02 32.5**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SEY	**Seymchan**	**16.56**	**57**⇑	*i*P	**P**	**21 02 57.1**	**+0.6**
ZAL	**Zalesovo**	**20.39**	**275**	P	**P**	**21 03 41.0**	**-1.3**
	comp=Z,2.0nm,1.1s,baz=52,slow=11,SNR=7.0						
NVS	**Novosibirsk**	**20.86**	**279**	*e*P	**P**	**21 03 47.5**	**+0.2**
GTA	**Gaotai**	**22.59**	**226**	*e*P	**P**	**21 04 05.0**	**+0.3**
GTA				AP		21 04 11.4	
GTA				XP		21 04 15.4	
GTA				LG2		21 10 45.9	
BILL	**Bilibino**	**22.81**	**44**⇑	*e*P	**P**	**21 04 08.3**	**+1.7**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.2						
MKAR	**Makanchi Array**	**25.54**	**262**	P	**P**	**21 04 32.6**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.5,baz=58,slow=8.7,SNR=8.4						
SSE	**Sheshan**	**26.34**	**179**	*e*P	**P**	**21 04 41.1**	**+0.3**
BVAR	**Borovoye Array**	**28.48**	**283**	P	**P**	**21 04 58.1**	**-1.9**
	comp=Z,1.1nm,0.7s,mb3.6,baz=220,slow=39,SNR=2.6						
GUN	**Gumba**	**38.32**	**235**	*e*P	**P**	**21 06 26.6**	**+1.0**
JIRN	**Jiri**	**38.40**	**234**	*e*P	**P**	**21 06 25.6**	**-0.6**
KKN	**Kakani**	**38.69**	**235**	*e*P	**P**	**21 06 28.7**	**0.0**
GKN	**Gorkha**	**38.80**	**236**	*e*P	**P**	**21 06 30.1**	**+0.6**
	comp=Z,12nm,0.8s,mb4.7						
PKI	**Pulchoki**	**38.83**	**235**	*e*P	**P**	**21 06 28.3**	**-1.5**
DMN	**Daman**	**38.93**	**235**	*e*P	**P**	**21 06 30.8**	**+0.2**
KOLN	**Koldanda**	**39.47**	**237**	*e*P	**P**	**21 06 35.4**	**+0.3**
	comp=Z,5.2nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**39.63**	**327**	P	**P**	**21 06 35.6**	**-0.4**
	comp=Z,3.0nm,0.7s,mb4.1,baz=54,slow=10,SNR=3.7						
ILAR	**Eielson Array**	**41.39**	**40**	P	**P**	**21 06 50.1**	**-0.4**
	comp=Z,1.3nm,0.6s,mb3.7,baz=291,slow=4.6,SNR=7.3						
FINES	**FINESS Array B**	**44.21**	**317**	P	**P**	**21 07 13.0**	**-0.4**
	comp=Z,3.7nm,0.9s,mb4.1,baz=45,slow=11,SNR=8.5						
NB2	**NORSAR Subarra**	**49.68**	**323**	P	**P**	**21 07 45.7**	**-11**
	comp=Z,1.7nm,0.5s,mb4.3,baz=44,slow=7.9						
NOA	**NORSAR Array B**	**49.68**	**323**	P	**P**	**21 07 55.7**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.3,baz=43,slow=7.9,SNR=4.2						
AKASG	**Malin Array Be**	**50.19**	**304**	P	**P**	**21 07 58.2**	**-2.2**
	comp=Z,1.4nm,0.5s,mb4.3,baz=42,slow=8.6,SNR=14						
YKA	**Yellowknife Ar**	**52.98**	**29**	P	**P**	**21 08 19.5**	**-1.9**
	comp=Z,0.3nm,0.7s,mb3.3,baz=329,slow=7.0,SNR=4.9						
YKA	**Yellowknife Ar**	**52.98**	**29**	P	**P**	**21 08 19.6**	**-1.8**
GERES	**GERESS Array B**	**58.19**	**312**	P	**P**	**21 08 57.5**	**-1.7**
	comp=Z,0.8nm,0.8s,mb3.8,baz=45,slow=7.5,SNR=6.9						
WRA	**Warramunga Arr**	**77.93**	**167**	P	**P**	**21 11 00.2**	**-2.5**
	comp=Z,1.3nm,1.0s,mb3.8,baz=352,slow=6.6,SNR=6.3						

*MOS **11** 21:02:43.3±1.9, 57.30N×120.70E, h15km, mb4.0/1, Error ellipse: s-maj=84.8km s-min=43.4km az=142.1*

BYKL 11 21:02:39.8±0.5, 57.45N×120.87E, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.72**	**223**		*e*Pg	Pg		21 02 52.9	-1.3
KHNR					*e*Sg	Sg		21 03 01.6	-2.1
YKLR	**Yuktali**	**0.96**	**153**		*e*Pg	Pg		21 02 58.6	-0.4
YKLR					Pmax			21 03 01.1	
	122nm,0.4s								
YKLR					*e*Sg	Sg		21 03 10.0	-1.8
YKLR					Smax			21 03 10.9	
	1μm,0.4s								
CRS	**Chara**	**1.52**	**250**		*e*Pg	Pg		21 03 07.8	-2.3
CRS					Pmax			21 03 11.2	
	362nm,0.8s								
CRS					*e*Sg	Sg		21 03 26.7	-3.7
CRS					Smax			21 03 27.1	
	762nm,1.0s								
CRS	**Chara**	**1.52**	**250**		*e*P	Pn		21 03 08.0	-0.3
CRS					*e*			21 03 26.9	
CRS					pmax	pmax			
	comp=Z,273nm,0.7s								
CRS					smax				
	comp=E,579nm,0.6s								
NRGR	**Nerungri**	**2.25**	**109**		*e*P	Pn		21 03 19.7	+0.9
NRGR					S	Sn		21 03 47.5	-0.2
CLNS	**Chul'man**	**2.28**	**104**		*e*Pg	Pg		21 03 20.4	-4.9
CLNS					Pmax			21 03 28.2	
	comp=E,62nm,0.2s								
CLNS					*e*Sg	Sg		21 03 51.1	-4.5
CLNS					Smax			21 03 51.6	
	comp=E,9μm,0.6s								
IENR	**Iengra**	**2.51**	**117**		*e*Pg	Pg		21 03 26.5	-3.5
IENR					*e*Sg	Sg		21 03 57.8	-5.7
ALDR	**Aldan**	**2.68**	**62**		*e*Pg	Pg		21 03 26.7	-6.6
ALDR					Pmax			21 03 34.5	
	comp=E,257nm,0.4s								
ALDR					*e*Sn	Sn		21 03 54.2	-4.4
ALDR					*e*Sg	Sg		21 04 02.0	-7.0
ALDR					Smax			21 04 02.8	
	comp=E,6μm,0.6s								
NLYR	**Nelyaty**	**2.99**	**253**		*e*Pg	Pg		21 03 33.5	-5.9
NLYR					Pmax			21 03 36.3	
	comp=E,95nm,0.7s								
NLYR					*e*Sg	Sg		21 04 10.6	-8.7
NLYR					Smax			21 04 19.7	
	comp=E,693nm,1.1s								
NLYR	**Nelyaty**	**2.99**	**253**		*e*P	Pn		21 03 32.1	+2.8
NLYR					*e*			21 04 10.7	
NLYR					pmax	pmax			
	comp=Z,86nm,0.4s								
NLYR					smax				
	comp=N,714nm,1.1s								
TUP	**Tupik**	**3.08**	**190**		*e*Pn	Pn		21 03 28.7	-1.9
TUP					*e*Pg	Pg		21 03 34.4	-6.8
TUP					Pmax			21 03 36.7	
	comp=N,175nm,0.7s								
TUP					*e*Sn	Sn		21 04 03.2	-5.4
TUP					*e*Sg	Sg		21 04 12.9	-9.3
TUP					Smax			21 04 14.6	
	comp=N,1μm,0.8s								
TNDR	**Tynda**	**3.15**	**135**		*e*Pn	Pn		21 03 31.0	-0.7
TNDR					Pg	Pg		21 03 38.6	-4.1
TNDR					Pmax			21 03 41.9	
	comp=N,872nm,0.8s								
TNDR					*e*Sn	Sn		21 04 06.7	-3.8
TNDR					*e*Sg	Sg		21 04 16.6	-8.1
TNDR					Smax			21 04 17.8	
	comp=N,3μm,0.6s								
BOD	**Bodaibo**	**3.71**	**279**		*e*Pg	Pg		21 03 46.5	-7.4
BOD					Pmax			21 03 50.6	
	comp=N,58nm,1.4s								
BOD					*e*			21 04 15.9	
BOD					*e*Sg	Sg		21 04 33.9	-9.4
BOD					Smax			21 04 39.8	
	comp=N,490nm,1.7s								
SVKR	**Severomuysk**	**4.24**	**255**		*e*Sg	Sg		21 04 50.5	-10
SVKR					Smax			21 05 07.2	
	comp=N,714nm,1.2s								
UKT	**Uakit**	**4.47**	**247**		*e*Pg	Pg		21 04 01.2	-7.9
UKT					Pmax			21 04 05.0	
	comp=N,46nm,1.4s								
UKT					*e*Sg	Sg		21 04 56.8	-12
UKT					Smax			21 05 08.3	
	comp=N,154nm,1.0s								
UKT	**Uakit**	**4.47**	**247**		*e*P	Pn		21 04 02.7	+12
UKT					pmax	pmax			
	comp=Z,29nm,0.8s								
YOA	**Uoyan**	**5.20**	**259**		*e*Sg	Sg		21 05 21.1	-12
YOA					Smax			21 05 31.8	
	comp=Z,1μm,1.5s								
KMO	**Kumora**	**5.56**	**258**		*e*Sg	Sg		21 05 31.6	-13
KMO					Smax			21 05 42.8	
	comp=Z,312nm,1.3s								
YLYR	**Ulyunkhan**	**6.01**	**249**		*e*Sg	Sg		21 05 45.2	-15
YLYR					Smax			21 05 51.0	
	comp=Z,125nm,1.5s								
TBGR	**Tabaga**	**6.24**	**42**		*e*Sg	Sg		21 05 51.3	-16
YAK	**Yakutsk**	**6.40**	**40**		*e*P	Pn		21 04 19.7	+2.1
YAK					*e*S	Sn		21 05 38.9	+6.6
YAK					smax				
	comp=N,29nm,0.8s								
YAK					smax				
	comp=Z,22nm,0.9s								
YAK					smax				
	comp=E,22nm,0.8s								
YAK					smax				
	comp=E,102nm,1.0s								
YAK					smax				
	comp=Z,48nm,0.9s								
YAK					smax				
	comp=N,64nm,0.8s								
NIZ	**Nizh Angarsk**	**6.48**	**260**		*e*Sg	Sg		21 06 00.8	-15
NIZ					Smax			21 06 06.6	
	comp=N,79nm,1.0s								
CIT	**Chita**	**6.89**	**221**		*e*Sg	Sg		21 06 11.2	-18
CIT					Smax			21 06 14.7	
	comp=N,363nm,1.6s								
SYVR	**Suvo**	**7.24**	**243**		*e*Sg	Sg		21 06 25.4	-15
SYVR					Smax			21 06 34.0	
	comp=N,175nm,1.7s								
OGRR	**Ongureny**	**8.44**	**249**		*e*Sg	Sg		21 07 01.5	-19
OGRR					Smax			21 07 10.8	
	comp=N,86nm,1.8s								
KPC	**Khapcheranga**	**9.25**	**217**		*e*Sg	Sg		21 07 25.3	-23
KPC					Smax			21 07 36.6	
	comp=N,108nm,1.5s								
ZAK	**Zakamensk**	**12.53**	**243**		*e*Sg	S		21 09 05.8	+62
ZAK					Smax			21 09 22.4	
	comp=N,15nm,1.0s								

*BJI **11** 21:30:19.9, 11.58N×124.12E, h35km, mb4.1*
*MAN **11** 21:30:20.5, 12.16N×123.90E, h2km, mb4.9, ML3.9, MS3.9*
MAN MASBATE MASBATE - INTENSITY III.
*IDC **11** 21:30:22.5±1.0, 12.06N×123.68E, mb3.9/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML4.3/1, MS4.0/8, Ms1 4.0/8, ms1mx3.7/30, Error ellipse: s-maj=58.0km s-min=18.0km az=60.0*
*NEIC **11** 21:30:27.8±0.7, 12.03N×123.58E, h35km, mb4.3/1, Error ellipse: s-maj=40.3km s-min=12.1km az=61.0*

ISC 11 21:30:21.2±0.9, 12.16N±0.03×123.85E±0.03, h6km±7km, n47, σ1°13/50, mb3.9/8, MS3.9/7, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.29**	**312**	*i*	P	**Pg**		**21 30 27.0**	**-0.1**
MMPH				*i*	S	**Sg**		**21 30 31.4**	**+0.3**
CNP	**Catarman**	**0.87**	**66**	*e*	P	**Pb**		**21 30 36.9**	**-1.5**
CNP				*e*	S	**Sb**		**21 30 51.1**	**+1.0**
RCP	**Roxas**	**1.23**	**241**⇓	*e*	P	**Pb**		**21 30 44.5**	**0.0**
RCP				*e*	S	**Sb**		**21 31 04.2**	**+3.6**
OCLP	**Ormoc**	**1.33**	**146**	*e*	P	**Pb**		**21 30 46.4**	**+0.1**
PVCP	**Virac**	**1.46**	**12**	*e*	P	**Pn**		**21 30 46.6**	**-1.6**
PVCP				*e*	S	**Sb**		**21 31 07.2**	**0.0**
PLP	**Palo**	**1.49**	**132**	*i*	P	**Pn**		**21 30 48.5**	**-0.1**
PLP				*i*	S	**Sb**		**21 31 07.4**	**-0.6**
KALP	**Kalibo**	**1.55**	**252**⇑	*e*	P	**Pn**		**21 30 50.1**	**+0.5**
KALP				*e*	S	**Sb**		**21 31 08.8**	**-1.0**
AUQP	**San Andres**	**1.62**	**316**	*e*	P	**Pn**		**21 30 50.9**	**+0.3**
AUQP				*e*	S	**Sb**		**21 31 16.0**	**+4.0**
OTRP	**Odiongan**	**1.79**	**277**	*e*	P	**Pn**		**21 30 52.1**	**-1.0**
LLP	**Lapu-Lapu**	**1.83**	**176**⇓	*e*	P	**Pn**		**21 30 53.3**	**-0.3**
LLP				*i*	S	**Sn**		**21 31 16.5**	**-1.0**
GUIM	**Jordan**	**1.96**	**219**	*e*	P	**Pn**		**21 30 57.4**	**+2.0**
MSLP	**Maasin**	**2.25**	**154**	*e*	P	**Pn**		**21 31 01.9**	**+2.4**
BOAC	**Boac**	**2.34**	**304**	*e*	P	**Pn**		**21 31 00.5**	**-0.4**
SJMP	**San Jose**	**2.68**	**277**	*e*	P	**Pn**		**21 31 07.9**	**+2.2**
SCPH	**Surigao**	**2.86**	**145**⇓	*e*	P	**Pn**		**21 31 08.1**	**-0.2**
CUYO	**Cuyo Island**	**3.06**	**245**	*e*	P	**Pn**		**21 31 12.6**	**+1.5**
POLP	**Polillo Island**	**3.15**	**324**	*e*	P	**Pn**		**21 31 16.6**	**+4.1**
TGY	**Tagaytay City**	**3.43**	**305**	Pn		**Pn**		**21 31 16.7**	**+0.4**
	32nm,0.3s,baz=192,slow=3.9,SNR=5.4								
TGY						Sn		**21 31 57.0**	**-0.9**
	36nm,0.3s,baz=205,slow=19,SNR=4.1								
BUSP	**Coron**	**3.57**	**268**	*e*	P	**Pn**		**21 31 17.0**	**-1.4**
DCPH	**Dipolog City**	**3.59**	**188**	*e*	P	**Pn**		**21 31 18.2**	**-0.5**
DCPH				*e*	S	**Sn**		**21 32 01.4**	**-0.5**
LUBP	**Lubang**	**3.84**	**294**	*e*	P	**Pn**		**21 31 27.2**	**+4.9**
BALP	**Baler**	**4.19**	**329**	*e*	P	**Pn**		**21 31 28.1**	**+0.9**
PAGZ	**Pagadian**	**4.31**	**186**	*e*	P	**Pn**		**21 31 29.3**	**+0.4**
ENPP	**El Nido**	**4.43**	**258**	*e*	P	**Pn**		**21 31 29.2**	**-1.4**
CAUP	**Cauayan**	**5.14**	**338**	*e*	P	**Pn**		**21 31 38.8**	**-1.9**
APYP	**Conner**	**6.20**	**336**	*e*	P	**Pn**		**21 31 53.6**	**-2.0**
JOW	**Kunigami**	**15.18**	**15**	LR		LR		21 39 19.9	
	comp=Z,460nm,19.3s,baz=92,slow=35								
WHN	**Wuhan**	**20.30**	**336**	*e*	P	**P**		**21 35 02.2**	**+1.5**
GUMO	**Guam**	**20.55**	**84**	LR		LR		21 40 57.0	
	comp=Z,306nm,20.7s,MS3.6,baz=250,slow=31								
PSI	**Prapat**	**26.37**	**251**	LR		LR		21 45 57.0	
	comp=Z,452nm,18.8s,MS4.0,baz=215,slow=36								
MJAR	**Matsushiro Arr**	**27.51**	**26**	LR		LR		21 45 57.9	
	comp=Z,154nm,19.8s,MS3.6,baz=230,slow=34								
WRA	**Warramunga Arr**	**33.53**	**162**	P		**P**		**21 37 03.7**	**-0.4**
	1.4nm,0.6s,mb4.1,baz=347,slow=8.9,SNR=12								
WB2	**Warramunga Arr**	**33.53**	**162**	*e*	P	**P**		**21 37 04.2**	**0.0**
GTA	**Gaotai**	**34.49**	**326**	*e*	P	**P**		**21 37 11.6**	**-0.6**
LSA	**Lhasa**	**35.00**	**305**	*e*	P	**P**		**21 37 16.7**	**0.0**
ULN	**Ulaanbaatar**	**38.27**	**342**	*e*	P	**P**		**21 37 45.1**	**+1.1**
	5.4nm,1.2s,mb4.2								
SONM	**Songino Array**	**38.45**	**341**	P		**P**		**21 37 44.6**	**-1.0**
	0.5nm,0.7s,mb3.4,baz=166,slow=12,SNR=4.4								
SONM				LR		LR		21 54 08.9	
	comp=Z,216nm,19.4s,MS4.0,baz=127,slow=37								
STKA	**Stephens Creek**	**46.97**	**159**	P		**P**		**21 38 54.5**	**-0.6**
	2.2nm,0.8s,mb4.1,baz=335,slow=14,SNR=2.7								
MKAR	**Makanchi Array**	**49.09**	**323**	P		**P**		**21 39 12.6**	**+1.1**
	1.3nm,0.7s,mb4.0,baz=124,slow=8.7,SNR=9.1								
MKAR	**Makanchi Array**	**49.09**	**323**	P		**P**		**21 39 12.6**	**+1.1**
AFI	**Afiamalu**	**68.86**	**110**	LR		LR		22 10 21.8	
	comp=Z,107nm,19.6s,MS4.1,baz=297,slow=35								
ILAR	**Eielson Array**	**78.79**	**26**	LR		LR		22 16 18.1	
	comp=Z,72nm,18.7s,MS4.0,baz=180,slow=35								
AKASG	**Malin Array Be**	**83.60**	**320**	P		**P**		**21 42 51.6**	**-0.2**
	0.1nm,0.3s,mb3.4,baz=58,slow=5.1,SNR=4.1								
KMBO	**Kilima Mbogo**	**86.90**	**268**	LR		LR		22 17 53.6	
	comp=Z,85nm,19.1s,MS4.2,baz=83,slow=33								
YKA	**Yellowknife Ar**	**92.99**	**23**	P		**P**		**21 43 39.2**	**+2.7**
	0.6nm,1.0s,mb4.0,baz=304,slow=4.2,SNR=6.5								
YKA	**Yellowknife Ar**	**92.99**	**23**	P		**P**		**21 43 39.2**	**+2.7**
GERES	**GERESS Array B**	**93.75**	**322**	P		**P**		**21 43 42.8**	**+2.5**
	0.2nm,0.3s,mb4.0,baz=53,slow=6.7,SNR=3.5								

*IDC **11** 21:49:05.6±0.6, 7.77S×158.87E, h52km±5km, mb4.0/10, mb1 4.1/12, mb1mx4.1/16, mbtmp4.2/12, MS3.4/2,*
Ms1 3.4/2, ms1mx2.8/23, Error ellipse: s-maj=16.9km s-min=7.3km az=58.0
*NEIC **11** 21:49:05.4±0.4, 7.75S×158.97E, mb4.5/11, Error ellipse: s-maj=11.5km s-min=8.2km az=90.0*

ISC 11 21:49:03.8±2.3, 7.72S±0.10×158.88E±0.09, h47km±22km, h50km±2.6km:pP-P, n32, σ1°07/33, mb4.5/19, MS3.2/1, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.00**	**148**		P	**P**		**21 49 34.8**	**-1.0**
	240nm,0.3s,baz=235,slow=2.6,SNR=30								
HNR					S	**S**		**21 50 01.0**	**+1.3**
	749nm,0.3s,baz=2.6,slow=22,SNR=11								
HNR					LR	LR		21 50 16.5	
	comp=Z,322nm,18.1s,baz=352,slow=36								
HNR	**Honiara**	**2.00**	**148**⇑	*e*	Pn	**P**		**21 49 34.5**	**-1.4**
HNR				*e*	Sn	**S**		**21 49 59.8**	**+0.1**
HNR					LR	LR		21 50 16.5	
DZM	**Mont Dzumac**	**16.02**	**154**	P		**P**		**21 52 49.2**	**+1.6**
	0.5nm,0.3s,baz=160,slow=23,SNR=4.1								
CTA	**Charters Tower**	**17.35**	**224**	P		**P**		**21 53 05.6**	**+1.3**
	0.3nm,0.3s,baz=51,slow=13,SNR=3.9								
CTA					LR	LR		21 58 41.9	
	comp=Z,160nm,20.8s,baz=49,slow=33								
CTAO	**Charters Tower**	**17.35**	**224**	P		**P**		**21 53 05.4**	**+1.1**
	4.2nm,0.8s								
ARMA	**Armidale**	**23.59**	**196**	*e*	P	**P**		**21 54 11.4**	**+0.2**
GUMO	**Guam**	**25.33**	**327**	P		**P**		**21 54 28.1**	**-0.1**
	26nm,0.3s,mb5.2,baz=198,slow=20,SNR=2.5								
GUMO					LR	LR		22 03 40.5	
	comp=Z,76nm,19.2s,MS3.2,baz=17,slow=34								
WB2	**Warramunga Arr**	**26.69**	**240**	*e*	P	**P**		**21 54 39.4**	**-1.4**
WRA	**Warramunga Arr**	**26.70**	**240**	P		**P**		**21 54 39.6**	**-1.3**
	1.2nm,0.4s,mb3.7,baz=65,slow=9.0,SNR=15								
WRA					pP	pP		21 54 52.2	-0.8
	5.0nm,0.6s,baz=65,slow=9.1,SNR=15								
STKA	**Stephens Creek**	**28.93**	**212**	*e*	P	**P**		**21 54 58.9**	**-2.0**
	8.2nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**28.93**	**212**	P		**P**		**21 55 00.2**	**-0.7**
	3.3nm,0.4s,mb4.4,baz=68,slow=16,SNR=17								
STKA					pP	pP		21 55 12.6	-0.6
	8.6nm,0.7s,baz=38,slow=13,SNR=6.1								
MJAR	**Matsushiro Arr**	**48.12**	**338**	P		**P**		**21 57 40.3**	**-0.8**
	1.8nm,0.7s,mb4.2,baz=174,slow=8.8,SNR=4.8								
VNDA	**Vanda**	**69.79**	**179**	P		**P**		**22 00 08.5**	**-2.3**
	0.6nm,0.7s,mb3.7,baz=343,slow=11,SNR=4.7								
VNDA	**Vanda**	**69.79**	**179**	*e*	P	**P**		**22 00 08.7**	**-2.1**
	1.8nm,0.8s,mb4.0								
SONM	**Songino Array**	**72.06**	**326**	P		**P**		**22 00 26.2**	**+1.2**
	3.4nm,0.7s,mb4.4,baz=136,slow=5.7,SNR=24								
SONM					pP	pP		22 00 39.2	+0.6
	2.6nm,0.7s,baz=133,slow=5.4,SNR=9.7								
JIRN	**Jiri**	**78.47**	**300**	*e*	P	**P**		**22 01 03.1**	**+1.1**
	8.0nm,0.6s,mb4.8								
GUN	**Gumba**	**78.80**	**300**	*e*	P	**P**		**22 01 04.9**	**+1.1**
	11nm,0.7s,mb4.9								
PKI	**Pulchoki**	**79.12**	**300**	*e*	P	**P**		**22 01 06.0**	**+0.4**
	12nm,0.7s,mb4.9								
KKN	**Kakani**	**79.28**	**300**	*e*	P	**P**		**22 01 07.3**	**+0.8**
	11nm,0.7s,mb4.9								
DMN	**Daman**	**79.39**	**300**	*e*	P	**P**		**22 01 07.9**	**+0.9**
GKN	**Gorkha**	**79.89**	**300**	*e*	P	**P**		**22 01 10.4**	**+0.7**
	6.8nm,0.5s,mb4.8								
KOLN	**Koldanda**	**80.72**	**300**	*e*	P	**P**		**22 01 14.8**	**+0.6**
MCK	**McKinley**	**81.32**	**21**	*e*	P	**P**		**22 01 15.3**	**-1.2**
	2.5nm,0.8s,mb4.2								
COLA	**College**	**82.39**	**20**	P		**P**		**22 01 20.7**	**-1.4**
	2.8nm,0.7s,mb4.3								
ILAR	**Eielson Array**	**82.66**	**21**	P		**P**		**22 01 22.2**	**-1.2**
	1.2nm,0.8s,mb4.0,baz=247,slow=4.3,SNR=7.5								
MKAR	**Makanchi Array**	**86.51**	**318**	P		**P**		**22 01 43.1**	**+0.1**
	1.8nm,0.7s,mb4.4,baz=90,slow=6.2,SNR=21								
MKAR					pP	pP		22 01 59.5	+2.5
	0.8nm,0.6s,baz=103,slow=5.7,SNR=5.1								
MKAR	**Makanchi Array**	**86.51**	**318**	P		**P**		**22 01 43.1**	**+0.1**
MKAR					pP	pP		22 01 59.5	+2.5
NVAR	**Mina Array Bea**	**89.15**	**51**	P		**P**		**22 01 56.8**	**+0.8**
	1.1nm,0.7s,mb4.3,baz=234,slow=4.8,SNR=12								
HLID	**Hailey**	**92.88**

	comp=Z,3.4nm,0.5s							
GKN					*e*Sn	**S**	**22 07 02.6**	**-6.1**
DMN	**Daman**	**12.43**	**122**	*e*Pn	**P**	**22 05 02.8**	**-0.8**
DMN				*e*Sn	**S**	**22 07 16.6**	**-5.9**
	comp=Z,77nm,0.6s							
KKN	**Kakani**	**12.44**	**121**	*e*Pn	**P**	**22 05 02.3**	**-1.5**
KKN				*e*Sn	**S**	**22 07 16.7**	**-6.1**
	comp=Z,55nm,0.4s							
KKN	**Kakani**	**12.44**	**121**	*e*P	**P**	**22 05 02.3**	**-1.5**
KKN				*e*		22 07 16.7		
KKN				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KKN	**Kakani**	**12.44**	**121**	*e*Pn	**P**	**22 05 02.3**	**-1.5**
	comp=Z,5.5nm,0.7s							
KKN				*e*Sn	**S**	**22 07 16.7**	**-6.1**
PKI	**Pulchoki**	**12.66**	**122**	*e*Pn	**P**	**22 05 05.8**	**-1.0**
PKI				*e*Sn	**S**	**22 07 22.3**	**-5.9**
	comp=Z,36nm,0.4s							
PKI	**Pulchoki**	**12.66**	**122**	*e*P	**P**	**22 05 05.8**	**-1.0**
PKI				*e*		22 07 22.3		
PKI				pmax	pmax			
	comp=Z,18nm,0.4s							
PKI	**Pulchoki**	**12.66**	**122**	*e*Pn	**P**	**22 05 05.8**	**-1.0**
	comp=Z,18nm,0.4s							
PKI				*e*Sn	**S**	**22 07 22.3**	**-5.9**
GUN	**Gumba**	**12.79**	**119**	*e*Pn	**P**	**22 05 07.5**	**-1.0**
GUN				*e*Sn	**S**	**22 07 24.7**	**-6.6**
	comp=Z,38nm,0.5s							
GUN	**Gumba**	**12.79**	**119**	*e*Pn	**P**	**22 05 07.5**	**-1.0**
	comp=Z,19nm,0.5s							
GUN				*e*Sn	**S**	**22 07 24.7**	**-6.6**
JIRN	**Jiri**	**13.16**	**120**	*e*Pn	**P**	**22 05 12.6**	**-0.8**
JIRN				*e*Sn	**S**	**22 07 33.8**	**-6.4**
	comp=Z,75nm,0.5s							
JIRN	**Jiri**	**13.16**	**120**	*e*Pn	**P**	**22 05 12.6**	**-0.8**
	comp=Z,37nm,0.5s							
JIRN				*e*Sn	**S**	**22 07 33.8**	**-6.4**
MK31	**Makanchi Array**	**13.72**	**27**	⇓P	**P**	**22 05 20.6**	**0.0**
	comp=Z,1.5nm,0.6s,baz=192,slow=7.4,SNR=6.5							
MK31	**Makanchi Array**	**13.72**	**27**	⇓P	**P**	**22 05 20.6**	**-0.1**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MK31	**Makanchi Array**	**13.72**	**27**	⇓P	**P**	**22 05 20.6**	**0.0**
	comp=Z,1.5nm,0.6s							
MKAR	**Makanchi Array**	**13.72**	**27**	Pn	**P**	**22 05 21.9**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=194,slow=14,SNR=14							
KURK	**Kurchatov**	**16.32**	**12**	⇑P	**P**	**22 05 53.8**	**-0.5**
	comp=Z,1.5nm,0.7s							
AB31	**Akbulak array**	**17.42**	**330**	P	**P**	**22 06 06.3**	**-2.0**
	comp=Z,3.1nm,0.6s,baz=141,slow=13,SNR=52							
AB31				⇓S	**S**	**22 09 13.6**	**-6.1**
	comp=Z,2.5nm,0.7s,baz=122,slow=27,SNR=4.7							
AB31	**Akbulak array**	**17.42**	**330**	P	**P**	**22 06 06.3**	**-2.0**
AB31				S	**S**	**22 09 13.6**	**-6.2**
AB31				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AB31	**Akbulak array**	**17.42**	**330**	P	**P**	**22 06 06.3**	**-2.0**
	comp=Z,3.1nm,0.6s							
AB31				S	**S**	**22 09 13.6**	**-6.1**
VOSK	**Vostochnaya**	**17.93**	**355**	⇓P	**P**	**22 06 13.4**	**-1.2**
	comp=Z,2.0nm,0.6s							
VOSK	**Vostochnaya**	**17.93**	**355**	⇓P	**P**	**22 06 13.4**	**-1.2**
VOSK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
VOSK	**Vostochnaya**	**17.93**	**355**	⇓P	**P**	**22 06 13.4**	**-1.2**
	comp=Z,2.0nm,0.6s							
BVA0	**Borovoye Array**	**18.28**	**354**	P	**P**	**22 06 18.4**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=159,slow=9.6,SNR=46							
BVA0	**Borovoye Array**	**18.28**	**354**	P	**P**	**22 06 18.4**	**-0.5**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BVA0	**Borovoye Array**	**18.28**	**354**	P	**P**	**22 06 18.4**	**-0.5**
	comp=Z,0.7nm,0.6s							
BVAR	**Borovoye Array**	**18.28**	**354**	P	**P**	**22 06 19.2**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=156,slow=9.3,SNR=40							
AKTK	**Aktyubinsk**	**19.13**	**329**	⇓P	**P**	**22 06 27.9**	**-1.3**
AKTO	**Aktyubinsk**	**19.13**	**329**	⇓P	**P**	**22 06 27.9**	**-1.3**
	comp=Z,2.4nm,0.7s							
AKTO	**Aktyubinsk**	**19.13**	**329**	P	**P**	**22 06 28.2**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=132,slow=11,SNR=44							
ZAL	**Zalesovo**	**20.72**	**19**	P	**P**	**22 06 45.8**	**-0.7**
	comp=Z,10nm,0.5s							
NVS	**Novosibirsk**	**21.15**	**16**	*e*P	**P**	**22 06 49.1**	**-1.7**
NVS				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.2							
NVS				pmax	pmax			
	comp=N,13nm,1.4s							
NVS				pmax	pmax			
	comp=E,3.0nm,0.6s							
GTA	**Gaotai**	**21.60**	**70**	*e*P	**P**	**22 06 57.6**	**+2.1**
GTA				AP		22 07 04.8		
GTA				XP		22 07 08.9		
MIB	**Mutribah**	**22.46**	**264**	*e*P	**P**	**22 07 03.4**	**-0.7**
MIB				AMb	AMB	22 07 08.7		
	comp=Z,35nm,0.7s,mb4.9							
RDF	**Al-Radifah**	**22.60**	**262**	*e*P	**P**	**22 07 04.6**	**-0.9**
RDF				AMb	AMB	22 07 08.2		
	comp=Z,53nm,0.8s,mb5.0							
NAY	**Al-Naaiem**	**22.73**	**263**	*e*P	**P**	**22 07 05.6**	**-1.3**
NAY				AMb	AMB	22 07 09.5		
	comp=Z,19nm,0.8s,mb4.6							
GNI	**Garni**	**23.19**	**292**	P	**P**	**22 07 11.8**	**+0.6**
	comp=Z,1.8nm,0.5s,mb3.8,baz=182,slow=11,SNR=4.5							
ARU	**Arti**	**23.80**	**340**	*e*P	**P**	**22 07 17.8**	**+0.9**
SONM	**Songino Array**	**27.81**	**52**	P	**P**	**22 07 56.4**	**+1.9**
	comp=Z,1.0nm,0.6s,mb3.6,baz=246,slow=9.4,SNR=7.9							
ULN	**Ulaanbaatar**	**28.24**	**52**	*e*P	**P**	**22 07 59.4**	**+1.0**
AKASG	**Malin Array Be**	**35.42**	**310**	P	**P**	**22 08 58.7**	**-2.6**
	comp=Z,0.9nm,0.5s,mb3.9,baz=81,slow=7.9,SNR=5.0							
AKASG	**Malin Array Be**	**35.42**	**310**	P	**P**	**22 08 58.7**	**-2.6**
JOF	**Joensuu**	**38.21**	**330**	*e*p	**P**	**22 09 24.2**	**-0.5**
PSI	**Prapat**	**39.82**	**138**	P	**P**	**22 09 40.5**	**+1.9**
	comp=Z,2.5nm,0.4s,mb4.3,baz=337,slow=13,SNR=3.4							
FINES	**FINESS Array B**	**39.87**	**327**	P	**P**	**22 09 38.0**	**-0.6**
	comp=Z,2.6nm,0.7s,mb4.1,baz=118,slow=9.1,SNR=14							
ARCES	**ARCESS Array B**	**43.36**	**338**	P	**P**	**22 10 07.2**	**+0.2**
	comp=Z,4.1nm,0.5s,mb4.4,baz=116,slow=8.0,SNR=28							
NB2	**NORSAR Subarra**	**46.80**	**324**	P	**P**	**22 10 33.3**	**-1.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=95,slow=7.4							
NB2	**NORSAR Subarra**	**46.80**	**324**	P	**P**	**22 10 33.3**	**-1.2**
NB2				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
NOA	**NORSAR Array B**	**46.80**	**324**	P	**P**	**22 10 33.3**	**-1.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=95,slow=7.6,SNR=5.0							
KMBO	**Kilima Mbogo**	**49.17**	**231**	P	**P**	**22 10 55.0**	**+1.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=41,slow=11,SNR=6.8							
MJAR	**Matsushiro Arr**	**51.84**	**68**	P	**P**	**22 11 15.3**	**+1.6**
	comp=Z,3.0nm,0.7s,mb4.3,baz=292,slow=10,SNR=9.5							
TORD	**Torodi Ar. Bea**	**67.56**	**271**	P	**P**	**22 13 00.3**	**-2.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=41,slow=5.4,SNR=16							
ILAR	**Eielson Array**	**75.83**	**17**	P	**P**	**22 13 50.1**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=329,slow=5.3,SNR=3.8							
WRA	**Warramunga Arr**	**79.55**	**123**	P	**P**	**22 14 13.0**	**+0.9**
	comp=Z,1.5nm,0.5s,mb4.2,baz=323,slow=5.0,SNR=82							
WB2	**Warramunga Arr**	**79.55**	**123**	*e*P	**P**	**22 14 13.1**	**+0.9**
YKA	**Yellowknife Ar**	**82.78**	**4**	P	**P**	**22 14 29.4**	**+1.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=346,slow=5.4,SNR=14							
ULM	**Lac du Bonnet**	**94.72**	**353**	P	**P**	**22 15 24.9**	**-0.6**
	comp=Z,1.2nm,0.8s,mb4.4,baz=315,slow=18,SNR=3.2							
VNA2	**Neumayer--Watz**	**119.57**	**202**		PKPdf	22 20 55.8	-0.9	
VNA3	**Neumayer Olymp**	**120.38**	**202**		PKPdf	22 20 54.3	-4.0	
TRQA	**Tornquist**	**144.13**	**252**	*e*PKP	PKPdf	22 21 38.9	-4.3	

CSEM ***11*** *22:02:54.9±1.0, 38.91N×29.59W, ML2.6, Error ellipse: s-maj=22.1km s-min=10.9km az=31.0, After PDA*
PDA ***11*** *22:02:54.9±1.0, 38.91N×29.59W, MD3.2, ML2.6, Error ellipse: s-maj=22.1km s-min=10.9km az=31.0*
SVSA 11 22:02:54.9±1.0, 38.91N×29.59W, MD3.2, ML2.6, Error ellipse: s-maj=22.1km s-min=10.9km az=31.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.75**	**112**	*e*P	Pg	22 03 07.7	-2.1
PCED				*e*S	Sg	22 03 17.1	-2.7
	136nm,0.3s						
PCED	**Cedros**	**0.75**	**112**	*e*P	Pg	22 03 07.7	-2.1
PCED				*e*S	Sg	22 03 17.1	-2.7
	136nm,0.3s						
CALA	**Caldeira**	**0.77**	**115**	*e*P	Pg	22 03 08.0	-2.2
CALA				*e*S	Sg	22 03 17.7	-2.8
PICO	**Pico**	**1.00**	**114**	*e*P	Pb	22 03 10.5	-4.2
PICO				*e*S	Sg	22 03 24.2	-3.9
ROSA	**Rosais**	**1.07**	**100**	*e*P	Pb	22 03 12.3	-3.7
ROSA				*e*S	Sb	22 03 25.0	-5.4

IDC ***11*** *22:14:33.3±1.6, 44.26N×79.90E, mb3.6/3, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, ML3.5/4, Error ellipse: s-maj=26.4km s-min=14.3km az=145.0*
NNC ***11*** *22:14:36.2±1.5, 44.67N×79.74E, mpv3.5, Error ellipse: s-maj=21.5km s-min=9.3km az=131.0*
MOS ***11*** *22:14:36.7±2.1, 44.44N×79.65E, h33km, mb4.1/1, Error ellipse: s-maj=36.5km s-min=16.2km az=81.6*
ISC 11 22:14:40.2±1.3, 44.65N±0.07×79.47E±0.09, h47km±15km, n17, σ1°29/21, mb3.5/3, 9C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**2.92**	**42**	⇓Pn	**P**	**22 15 24.9**	**-0.4**
	11nm,0.3s,baz=210,slow=11,SNR=1230						
MK31				⇑Lg		22 16 00.6	
	25nm,0.3s,baz=215,slow=27,SNR=13						
MKAR	**Makanchi Array**	**2.92**	**42**	Pn	**P**	**22 15 24.7**	**-0.6**
	4.3nm,0.3s,baz=212,slow=17,SNR=146						
MKAR				Sn	**S**	**22 16 01.0**	**+1.6**
	13nm,0.3s,baz=213,slow=24,SNR=8.7						
MKAR	**Makanchi Array**	**2.92**	**42**	PN	**P**	**22 15 24.7**	**-0.6**
MKAR						22 16 01.0	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR				smax			
	comp=N,13nm,0.3s						
KURK	**Kurchatov**	**6.10**	**355**	⇑Pn	**P**	**22 16 10.2**	**+0.2**
	comp=N,2.8nm,0.5s						
KURK				⇑Sn	**S**	**22 17 20.3**	**+0.9**
	comp=N,7.3nm,0.6s						
KURK				⇓Lg		22 17 50.3	
	comp=N,22nm,0.7s						
KK31	**Karatay Array**	**6.66**	**260**	⇑Pn	**P**	**22 16 18.2**	**+0.4**
	comp=N,0.8nm,0.4s,baz=69,slow=13,SNR=12						
KK31				⇓Lg		22 18 10.4	
	comp=N,7.2nm,0.5s,baz=67,slow=28,SNR=4.2						
VOSK	**Vostochnaya**	**9.84**	**328**	⇑Pn	**P**	**22 17 03.1**	**+1.4**
	comp=N,0.5nm,0.6s						
VOSK				⇑Sn	**S**	**22 18 50.0**	**-1.8**
	comp=N,1.6nm,0.5s						
VOSK				⇑Lg		22 19 51.4	
	comp=N,14nm,1.1s						
ZAL	**Zalesovo**	**9.93**	**19**	Pn	**P**	**22 17 01.1**	**-1.9**
	comp=N,1.3nm,0.3s,baz=264,slow=13,SNR=22						
ZAL	**Zalesovo**	**9.93**	**19**	P	**P**	**22 17 01.1**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVA0	**Borovoye Array**	**10.30**	**328**	⇑Pn	**P**	**22 17 09.8**	**+1.8**
	comp=Z,0.4nm,1.2s,baz=125,slow=11,SNR=3.6						
BVA0				⇑Sn	**S**	**22 19 02.5**	**-0.5**
	comp=Z,0.6nm,0.6s						
BVA0				⇓Lg		22 20 06.2	
	comp=Z,3.1nm,0.9s						
BVAR	**Borovoye Array**	**10.30**	**328**	Pn	**P**	**22 17 08.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=142,slow=14,SNR=5.5						
BVAR				Lg		22 20 12.8	
	comp=Z,0.6nm,0.3s,baz=135,slow=31,SNR=3.4						
NVS	**Novosibirsk**	**10.49**	**12**	*e*P	**P**	**22 17 07.6**	**-3.0**
NVS				*e*		22 19 01.0	
AB31	**Akbulak array**	**14.10**	**296**	P	**P**	**22 17 57.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=103,slow=13,SNR=20						
SONM	**Songino Array**	**18.86**	**71**	P	**P**	**22 18 54.4**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=270,slow=7.4,SNR=4.1						
NOA	**NORSAR Array B**	**42.23**	**318**	P	**P**	**22 22 31.6**	**+1.9**
	comp=Z,1.2nm,0.8s,mb3.6,baz=38,slow=18,SNR=2.3						
NOA	**NORSAR Array B**	**42.23**	**318**	P	**P**	**22 22 31.6**	**+1.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.21**	**271**	P	**P**	**22 26 01.8**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=39,slow=5.4,SNR=13						
YKA	**Yellowknife Ar**	**72.62**	**7**	P	**P**	**22 26 03.8**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=343,slow=5.6,SNR=7.2						

MAN 11 22:39:52.5, 9.14N×126.34E, h27km, mb4.5, ML3.4, MS3.3, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.73**	**257**	*e*P	Pb	22 40 06.5	-0.1
BUTP				*e*S	Sb	22 40 18.5	+2.2
BIPH	**Bislig**	**0.95**	**179**	⇓*e*P	Pn	22 40 09.4	-0.8
BIPH				*e*S	Sb	22 40 21.9	-0.6
SCPH	**Surigao**	**1.05**	**307**	⇓*e*P	Pn	22 40 10.2	-1.5
MSLP	**Maasin**	**1.76**	**304**	*e*P	Pn	22 40 22.0	+0.2
MSLP				*e*S	Sn	22 40 45.0	+1.4
BUKP	**Musuan**	**1.78**	**225**	*e*P	Pn	22 40 23.0	+0.9
TBP	**Tagbilaran**	**2.51**	**283**	*e*P	Pn	22 40 32.4	-0.1
LLP	**Lapu-Lapu**	**2.62**	**297**	*e*P	Pn	22 40 33.9	-0.1
LLP				*e*S	Sn	22 41 04.9	-0.4
DCPH	**Dipolog City**	**3.00**	**260**	⇓*e*P	Pn	22 40 39.0	-0.6
DCPH				*e*S	Sn	22 41 12.9	-2.2
PAGZ	**Pagadian**	**3.20**	**247**	*e*P	Pn	22 40 43.1	+0.8

ATH ***11*** *22:53:22.9, 38.18N×26.71E, h49km±6km, MD3.2/3*
CSEM ***11*** *22:53:23.0±0.2, 38.24N×26.64E, h15km, MD3.2, Error ellipse: s-maj=4.3km s-min=3.0km az=97.0*
ISK ***11*** *22:53:24.9, 38.23N×26.81E, h23km, MD3.2*
ISC 11 22:53:22.3±1.3, 38.20N±0.04×26.57E±0.09, h3km±10km, n13, σ1°00/17, 1C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.41**	**64**	*i* PG	**Pg**	**22 53 30.7**	**+0.1**
BLCB				*i* SG	**Sg**	**22 53 36.3**	**+0.2**
SMG	**Samos**	**0.54**	**157**	⇑*i*P	**Pb**	**22 53 34.8**	**+0.8**
SMG				*e*S	**Sb**	**22 53 42.9**	**+1.0**
IZM	**Izmir**	**0.58**	**70**	*i* PG	**Pg**	**22 53 33.8**	**-0.1**
PRK	**Paraskevi**	**1.07**	**347**	⇓*i*P	**Pb**	**22 53 43.1**	**0.0**
PRK				*e*S	**Sb**	**22 53 58.0**	**+0.7**
AKS	**Akhisar**	**1.18**	**55**	PG	**Pg**	**22 53 44.1**	**-1.9**
BODT	**Bodrum**	**1.28**	**153**	PN	**Pn**	**22 53 46.9**	**-0.2**
MLSB	**Milas**	**1.32**	**133**	*e*PN	**Pn**	**22 53 47.5**	**-0.1**
APE	**Apeiranthos**	**1.40**	**216**	*e*P	**Pn**	**22 53 48.0**	**-0.9**
APE				*e*S	**Sb**	**22 54 06.5**	**-0.5**
EZN	**Ezine**	**1.63**	**353**	*e*PN	**Pn**	**22 53 53.7**	**+1.6**
DAT	**Datca**	**1.68**	**151**	*e*PN	**Pn**	**22 53 53.3**	**+0.5**
YER	**Yerkesik**	**1.73**	**128**	*e*PN	**Pn**	**22 53 52.9**	**-0.6**
BALB	**Balikesir**	**1.76**	**35**	*e*PN	**Pn**	**22 53 54.0**	**0.0**
DST	**Dursunbey**	**2.13**	**48**	*e*PN	**Pn**	**22 53 57.1**	**-2.2**

NEIC ***11*** *22:57:47.4, 37.69N×20.93E, h5km, ML3.7(ATH), After ATH.*
CSEM ***11*** *22:57:47.4, 37.69N×20.93E, h5km, MD3.8/5, After ATH*
ATH 11 22:57:47.8, 37.71N×20.94E, h15km±1km, MD3.9/4, ML3.7, 2C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.54**	**50**	⇑*i*PN	Pn	22 57 58.3	-2.4
RLS				*e*SN	Sn	22 58 06.6	-2.8
VLS	**Valsamata**	**0.54**	**329**	⇓*i*PN	Pn	22 57 58.6	-2.1
VLS				*e*SN	Sn	22 58 06.9	-2.5
ITM	**Ithomi**	**0.95**	**124**	⇑*i*PB	Pb	22 58 05.2	-0.2
ITM				*e*SN	Sn	22 58 19.4	-0.2
EVR	**Evrytania**	**1.39**	**29**	⇓*i*PN	Pn	22 58 13.9	+1.2
EVR	**Evrytania**	**1.39**	**29**	⇓*i*Pb	Pb	22 58 14.4	+1.5
LKR	**Lokris**	**1.88**	**59**	*e*PN	Pn	22 58 21.6	+1.9
LKR	**Lokris**	**1.88**	**59**	*e*Pg	Pg	22 58 22.3	-3.0
VLI	**Veliai**	**1.88**	**121**	*e*PN	Pn	22 58 21.9	+2.2
VLI	**Veliai**	**1.88**	**121**	*e*Pn	Pn	22 58 23.5	+3.8
ATH	**Athens Observa**	**2.21**	**82**	*e*PN	Pn	22 58 26.4	+1.8
ATH	**Athens Observa**	**2.21**	**82**	*e*Pn	Pn	22 58 28.0	+3.4

ISK ***12*** *00:33:37.3, 39.37N×26.22E, h14km, MD3.1*
CSEM ***12*** *00:33:37.3±0.2, 39.37N×26.22E, h15km, MD3.1, Error ellipse: s-maj=5.0km s-min=1.7km az=87.0*
ATH ***12*** *00:33:38.8, 39.35N×26.21E, h5km, MD3.2/3*
ISC 12 00:33:37.5±1.0, 39.38N±0.04×26.2E±0.2, h11km±8km, n17, σ0°65/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.14**	**163**	*e*PG	**Pg**	**00 33 41.0**	**+0.2**
EZN	**Ezine**	**0.46**	**10**	*i* PG	**Pg**	**00 33 47.1**	**+0.3**
EZN				*i* SG	**Sg**	**00 33 53.8**	**+0.7**
LPK	**Lapseki**	**1.08**	**22**	PN	**Pn**	**00 33 58.2**	**-0.4**
LPK				SN	**Sn**	**00 34 14.2**	**+0.6**
BLCB	**Balcova**	**1.18**	**147**	PN	**Pn**	**00 33 59.6**	**-0.4**
IZM	**Izmir**	**1.27**	**140**	PN	**Pn**	**00 34 01.7**	**+0.4**
BALB	**Balikesir**	**1.31**	**78**	PN	**Pn**	**00 34 02.0**	**+0.1**
AKS	**Akhisar**	**1.33**	**111**	PN	**Pn**	**00 34 01.9**	**-0.3**
MRMT	**Marmara Adasi**	**1.62**	**40**	*e*PN	**Pn**	**00 34 06.4**	**+0.1**
MFT	**Murefte**	**1.63**	**30**	*e*PN	**Pn**	**00 34 06.4**	**0.0**
BNT	**Bandirma**	**1.63**	**53**	*e*PN	**Pn**	**00 34 05.9**	**-0.6**
SMG	**Samos**	**1.73**	**164**	*e*PN	**Pn**	**00 34 11.5**	**+3.6**
SMG				*e*SN	**Sn**	**00 34 34.0**	**+3.8**
RDO	**Rodhopi**	**1.84**	**344**	*e*PG	**Pg**	**00 34 13.5**	**-0.9**
KCT	**Karacabey**	**1.87**	**61**	*e*PN	**Pn**	**00 34 09.5**	**-0.4**
DST	**Dursunbey**	**1.88**	**82**	*e*PN	**Pn**	**00 34 09.9**	**-0.1**
ORI	**Orhaneli**	**2.17**	**71**	*e*PN	**Pn**	**00 34 14.1**	**-0.1**
YLV	**Yalova**	**2.70**	**63**	*e*PN	**Pn**	**00 34 21.6**	**-0.1**
YER	**Yerkesik**	**2.76**	**143**	*e*PN	**Pn**	**00 34 22.1**	**-0.6**

NEIC ***12*** *00:49:14.8, 37.50S×176.46E, h224km, mb4.6/3, After WEL.*
WEL 12 00:49:14.3±0.3, 37.46S×176.44E, h226km±3km, ML4.3/16, 4C, Error ellipse: s-maj=5.0km s-min=4.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.96**	**147**	⇑PN	P	00 49 46.6	-0.1
URZ				SN	S	00 50 11.0	-0.9
URZ	**Urewera**	**0.96**	**147**	⇑P	P	00 49 46.6	-0.1
MWZ	**Matawai**	**1.23**	**136**	PN	P	00 49 48.1	-0.4
MWZ				SN	S	00 50 15.2	+0.1
MWZ	**Matawai**	**1.23**	**136**	P	P	00 49 48.1	-0.5
MXZ	**Matakaoa Point**	**1.49**	**95**	PN	P	00 49 50.5	-0.1
MXZ				SN	S	00 50 18.7	+0.1
MXZ	**Matakaoa Point**	**1.49**	**95**	P	P	00 49 50.5	-0.1
PUZ	**Puketiti**	**1.57**	**114**	PN	P	00 49 50.5	-0.7
PUZ				SN	S	00 50 18.6	-1.2
PUZ	**Puketiti**	**1.57**	**114**	P	P	00 49 50.5	-0.8
PUZ				S	S	00 50 18.6	-1.2
BKZ	**Black Stump Fm**	**1.71**	**179**	*e*PN	P	00 49 52.2	-0.3
BKZ				SN	S	00 50 21.8	-0.1
BKZ	**Black Stump Fm**	**1.71**	**179**	*e*P	P	00 49 52.2	-0.3
KNZ	**Kokohu**	**1.84**	**149**	PN	P	00 49 53.6	0.0
KNZ				SN	S	00 50 22.8	-1.2
KNZ	**Kokohu**	**1.84**	**149**	P	P	00 49 53.6	0.0
KNZ				S	S	00 50 22.3	-1.7
CNZ	**Chateau**	**1.88**	**202**	PN	P	00 49 54.5	+0.5
TUVZ	**Tukino**	**1.91**	**199**	PN	P	00 49 54.6	+0.3
TUVZ	**Tukino**	**1.91**	**199**	*e*P	P	00 49 54.7	+0.4
WNVZ	**Wahianoa**	**1.98**	**199**	PN	P	00 49 55.1	+0.1
WNVZ	**Wahianoa**	**1.98**	**199**	P	P	00 49 55.1	+0.1
MOVZ	**Moawhango**	**2.02**	**195**	PN	P	00 49 55.1	-0.3
MOVZ	**Moawhango**	**2.02**	**195**	P	P	00 49 55.1	-0.3
WAZ	**Wanganui**	**2.56**	**206**	PN	P	00 50 01.0	0.0
TSZ	**Takapari Road**	**2.63**	**188**	PN	P	00 50 00.8	-0.9
TSZ	**Takapari Road**	**2.63**	**188**	P	P	00 50 00.8	-0.9
BFZ	**Birch Farm**	**3.23**	**183**	PN	P	00 50 07.0	-1.4
BFZ	**Birch Farm**	**3.23**	**183**	*e*P	P	00 50 07.0	-1.4
MRZ	**Mangatainoka R**	**3.27**	**192**	⇑PN	P	00 50 07.2	-1.8
MRZ				SN	S	00 50 48.4	-2.9
MRZ	**Mangatainoka R**	**3.27**	**192**	⇑P	P	00 50 07.2	-1.7
MRZ				S	S	00 50 48.4	-2.9
KIW	**Kapiti Island**	**3.60**	**199**	PN	P	00 50 10.6	-2.3
KIW	**Kapiti Island**	**3.60**	**199**	P	P	00 50 10.6	-2.3
MTW	**Mount Morrison**	**3.77**	**191**	PN	P	00 50 12.2	-2.7
MTW	**Mount Morrison**	**3.77**	**191**	P	P	00 50 12.2	-2.6
CAW	**Cannon Point**	**3.80**	**196**	P	P	00 50 12.9	-2.3
TRWZ	**Traveller**	**3.98**	**188**	PN	P	00 50 14.9	-2.5
PAWZ	**Paruwai Farm**	**4.00**	**191**	PN	P	00 50 14.8	-2.8
PAWZ	**Paruwai Farm**	**4.00**	**191**	P	P	00 50 14.8	-2.8
MRW	**Makara Radio**	**4.00**	**199**	P	P	00 50 14.9	-2.8
MSWZ	**Moikau Station**	**4.06**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**38.08**	**267**	P	**P**	**01 23 51.4**	**+0.7**
	5.7nm,1.0s,mb4.3,baz=121,slow=11,SNR=7.7						
KMBO	**Kilima Mbogo**	**38.49**	**301**	P	**P**	**01 23 54.2**	**+0.1**
	2.3nm,1.0s,mb3.9,baz=94,slow=5.5,SNR=6.0						
KMBO	**Kilima Mbogo**	**38.49**	**301**	P	**P**	**01 23 54.2**	**+0.1**
LSZ	**Lusaka**	**39.75**	**274**	*eP*	**P**	**01 24 05.3**	**+0.7**
	12nm,1.1s,mb4.5						
LBTB	**Lobatse**	**39.92**	**259**	LR	LR	01 38 18.7	
	comp=Z,230nm,19.1s,MS4.0,baz=118,slow=33						
NWAO	**Narrogin (SRO)**	**42.70**	**113**	P	**P**	**01 24 27.8**	**-0.9**
	26nm,1.2s,mb4.9,baz=251,slow=20,SNR=2.5						
NWAO				LR	LR	01 37 44.4	
	comp=Z,204nm,21.2s,MS4.0,baz=126,slow=30						
FITZ	**Fitzroy Crossi**	**52.44**	**95**	P	**P**	**01 25 45.9**	**+0.7**
	4.0nm,1.0s,mb4.3,baz=221,slow=7.7,SNR=6.3						
KOLN	**Koldanda**	**52.92**	**16**	*eP*	**P**	**01 25 49.1**	**+0.4**
DMN	**Daman**	**53.16**	**17**	*eP*	**P**	**01 25 50.8**	**+0.4**
	16nm,0.9s,mb5.0						
PKI	**Pulchoki**	**53.21**	**18**	*eP*	**P**	**01 25 50.9**	**+0.1**
KKN	**Kakani**	**53.38**	**17**	*eP*	**P**	**01 25 52.7**	**+0.7**
GKN	**Gorkha**	**53.41**	**17**	*eP*	**P**	**01 25 52.2**	**-0.1**
JIRN	**Jiri**	**53.52**	**18**	*eP*	**P**	**01 25 53.4**	**+0.4**
GUN	**Gumba**	**53.66**	**18**	*eP*	**P**	**01 25 54.4**	**+0.3**
	20nm,0.9s,mb5.1						
WRA	**Warramunga Arr**	**59.83**	**100**	P	**P**	**01 26 37.9**	**-0.3**
	7.1nm,0.9s,mb4.7,baz=254,slow=6.9,SNR=39						
WB2	**Warramunga Arr**	**59.84**	**100**	*i* P	**P**	**01 26 37.8**	**-0.4**
STKA	**Stephens Creek**	**63.25**	**115**	P	**P**	**01 27 00.9**	**-0.1**
	2.4nm,0.9s,mb4.3,baz=278,slow=7.1,SNR=2.7						
CTAO	**Charters Tower**	**70.47**	**104**	*eP*	**P**	**01 27 48.1**	**+1.2**
	1.3nm,0.3s,mb4.3						
MKAR	**Makanchi Array**	**71.09**	**9**	P	**P**	**01 27 49.6**	**-0.7**
	4.0nm,0.9s,mb4.3,baz=197,slow=5.2,SNR=14						
BRTR	**Keskin Array B**	**71.42**	**332**	P	**P**	**01 27 52.1**	**-0.3**
	1.6nm,0.8s,mb4.0,baz=159,slow=6.6,SNR=9.5						
BR131	**Keskin Array S**	**71.42**	**332**	*eP*	**P**	**01 27 51.8**	**-0.6**
	3.6nm,1.0s,mb4.3						
AKTK	**Aktyubinsk**	**74.49**	**352**	P	**P**	**01 28 09.6**	**-0.6**
AKTO	**Aktyubinsk**	**74.49**	**352**	P	**P**	**01 28 09.6**	**-0.6**
	3.7nm,0.9s,mb4.3,baz=201,slow=4.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**75.72**	**291**	P	**P**	**01 28 17.4**	**-0.5**
	1.9nm,1.0s,mb4.0,baz=126,slow=5.0,SNR=7.2						
BVAR	**Borovoye Array**	**76.38**	**1**	P	**P**	**01 28 20.4**	**-0.6**
	2.1nm,0.9s,mb4.1,baz=169,slow=7.6,SNR=8.5						
SONM	**Songino Array**	**78.52**	**24**	P	**P**	**01 28 33.2**	**+0.3**
	2.5nm,1.0s,mb4.1,baz=246,slow=4.3,SNR=8.1						
DBIC	**Dimbokro**	**78.52**	**283**	P	**P**	**01 28 33.1**	**-0.4**
	4.6nm,0.9s,mb4.4,baz=130,slow=8.3,SNR=4.9						
VRI	**Vrincioaia**	**79.38**	**331**	⇓P	**P**	**01 28 38.3**	**+0.7**
VRI	**Vrincioaia**	**79.38**	**331**	⇓P	**P**	**01 28 38.3**	**+0.7**
MLR	**Muntele Rosu**	**79.44**	**330**	⇑P	**P**	**01 28 37.4**	**-0.5**
MLR	**Muntele Rosu**	**79.44**	**330**	⇑P	**P**	**01 28 37.4**	**-0.5**
BZS	**Buzias**	**81.56**	**328**	⇑P	**P**	**01 28 49.1**	**0.0**
BZS	**Buzias**	**81.56**	**328**	⇑P	**P**	**01 28 49.1**	**0.0**
AKASG	**Malin Array Be**	**82.16**	**335**	P	**P**	**01 28 51.8**	**-0.3**
	2.4nm,0.7s,mb4.3,baz=137,slow=4.6,SNR=21						
GERES	**GERESS Array B**	**87.69**	**327**	P	**P**	**01 29 19.7**	**-0.2**
	1.0nm,0.9s,mb4.0,baz=162,slow=4.2,SNR=5.5						
URZ	**Urewera**	**88.38**	**131**	LR	LR	01 59 59.1	
	comp=Z,153nm,19.3s,MS4.4,slow=30						
INK	**Inuvik**	**133.19**	**12**	PKP	PKPdf	01 35 45.0	-3.5
	1.7nm,1.1s,baz=81,slow=12,SNR=3.5						
YKA	**Yellowknife Ar**	**141.10**	**3**	PKP	PKPdf	01 36 03.0	-0.1
	0.6nm,0.9s,baz=345,slow=2.4,SNR=7.6						
YKA				PP	PP	01 39 01.3	-4.1
	0.8nm,1.1s,baz=352,slow=5.7,SNR=5.3						
YKA				SKPbc		01 39 39.1	
	0.4nm,0.8s,baz=348,slow=3.7,SNR=5.2						
YKA	**Yellowknife Ar**	**141.10**	**3**	PKP	PKPdf	01 36 03.0	-0.1
YKA				PP	PP	01 39 01.4	-4.1
YKA				SKPbc		01 39 39.1	
EDM	**Edmonton**	**150.42**	**4**	*e*PKPbc	PKPdf	01 36 23.5	+4.5
ULM	**Lac du Bonnet**	**151.14**	**340**	PKPbc	PKPdf	01 36 23.7	+3.5
	2.9nm,0.7s,baz=94,slow=2.4,SNR=8.5						
ULM	**Lac du Bonnet**	**151.14**	**340**	PKPbc	PKPdf	01 36 23.7	+3.5
PDAR	**Pinedale Array**	**160.95**	**358**	PKP	PKPdf	01 36 31.9	-1.1
	0.8nm,1.0s,baz=117,slow=2.0,SNR=3.3						
PDAR				PKPab	PKPab	01 37 14.5	-0.7
	0.5nm,0.9s,baz=16,slow=6.6,SNR=2.1						
TXAR	**Lajitas Array**	**171.71**	**314**	PKPbc	PKPab	01 38 03.7	+1.0
	0.8nm,1.0s,baz=63,slow=2.8,SNR=5.0						

IDC **12** *01:20:14.6±0.5,23.52S×69.57E,mb4.4/22,mb1 4.5/22, mb1mx4.4/25,mbtmp4.4/22,MS4.0/7,Ms1 4.0/7, ms1mx3.9/21,Error ellipse: s-maj=16.5km s-min=14.1km az=48.0*

MOS **12** *01:20:14.7±0.9,23.55S×69.67E,h10km,mb5.2/7,Error ellipse: s-maj=18.3km s-min=9.4km az=105.1*

BJI **12** *01:20:16.4,23.60S×69.60E,h10km,mB5.1,mb4.7*

HRVD **12** *01:20:16.2±0.8,23.26S×69.45E,h12km,MW4.8/47, Centroid moment Tensor Solution. LP body waves: s15,c16;Mantle waves: s47,c55; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.50±.10; Mθθ0.40±.13; Mϕϕ1.10±.11; Mrθ1.07±.67; Mrϕ-0.45±.10; Mθϕ-0.08±.68; Best double couple: M0 1.718×10^16 NP1:ϕs169°,δ36°, λ-54°. NP2:ϕs307°,δ61°,λ-113°. Principal axes: T 1.451, Plg13°, Azm54°; N .537, Plg20°, Azm319°; P -1.985, Plg65°, Azm175°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **12** *01:20:16.2±0.2,23.61S×69.57E,h10km,mb5.0/18 Error ellipse: s-maj=7.5km s-min=7.3km az=57.0*

CSEM **12** *01:20:19.9,23.11S×69.80E,h33km,mb5.5*

ISC 12 01:20:14.5±0.3,23.63S±0.07×69.62E±0.07,h10km, (h21km±1.7km:pP-P),n92,sϕ86/78,mb4.7/39,MS4.1/7, 6C-6D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**21.52**	**279**	P	**P**	**01 25 05.3**	**-0.6**
	1.9nm,0.7s,mb3.6,baz=45,slow=2.9,SNR=2.5						
MATP	**Matopo**	**38.16**	**267**	P	**P**	**01 27 35.8**	**-0.2**
	21nm,1.1s,mb4.8,baz=102,slow=9.5,SNR=9.2						
KMBO	**Kilima Mbogo**	**38.53**	**301**	P	**P**	**01 27 39.0**	**-0.1**
	1.7nm,0.8s,mb3.8,baz=100,slow=9.1,SNR=5.8						
KMBO				LR	LR	01 39 55.8	
	comp=Z,136nm,21.0s,MS3.8,baz=101,slow=31						
KMBO	**Kilima Mbogo**	**38.53**	**301**	P	**P**	**01 27 39.0**	**-0.2**
KMBO				LR	LR	01 39 55.8	
PSI	**Prapat**	**38.79**	**51**	LR	LR	01 39 48.8	
	comp=Z,193nm,20.2s,MS3.9,baz=246,slow=30						
LSZ	**Lusaka**	**39.83**	**274**	*eP*	**P**	**01 27 49.5**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.8						
LSZ	**Lusaka**	**39.83**	**274**	*eP*	**P**	**01 27 49.5**	**-0.4**
	comp=Z,21nm,1.1s,mb4.8						
MAW	**Mawson**	**44.18**	**184**	P	**P**	**01 28 26.7**	**+1.8**
	comp=Z,4.8nm,0.7s,mb4.3,baz=13,slow=7.3,SNR=6.8						
MAW				LR	LR	01 42 25.9	
	comp=Z,85nm,19.9s,MS3.7,baz=244,slow=30						
FITZ	**Fitzroy Crossi**	**52.37**	**95**	*eP*	**P**	**01 29 30.0**	**+0.8**
	comp=Z,15nm,0.9s,mb4.9						
FITZ				*e*		01 29 36.3	
FITZ	**Fitzroy Crossi**	**52.37**	**95**	P	**P**	**01 29 30.1**	**+0.9**
	comp=Z,7.8nm,0.8s,mb4.7,baz=254,slow=6.6,SNR=18						
KOLN	**Koldanda**	**52.85**	**16**	*eP*	**P**	**01 29 33.2**	**+0.5**
	comp=Z,51nm,1.1s,mb5.4						
DMN	**Daman**	**53.09**	**17**	*eP*	**P**	**01 29 35.4**	**+0.9**
	comp=Z,36nm,0.9s,mb5.3						
PKI	**Pulchoki**	**53.13**	**18**	*eP*	**P**	**01 29 35.3**	**+0.5**
KKN	**Kakani**	**53.31**	**17**	*eP*	**P**	**01 29 36.6**	**+0.5**
	comp=Z,46nm,0.9s,mb5.4						
KKN	**Kakani**	**53.31**	**17**	*eP*	**P**	**01 29 36.6**	**+0.5**
KKN				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
GKN	**Gorkha**	**53.34**	**17**	*eP*	**P**	**01 29 36.1**	**-0.2**
	comp=Z,32nm,1.0s,mb5.2						
JIRN	**Jiri**	**53.44**	**18**	*eP*	**P**	**01 29 37.7**	**+0.6**
	comp=Z,32nm,0.8s,mb5.3						
GUN	**Gumba**	**53.59**	**18**	*eP*	**P**	**01 29 38.8**	**+0.6**
	comp=Z,35nm,0.7s,mb5.4						
LSA	**Lhasa**	**56.92**	**22**	*eP*	**P**	**01 30 03.4**	**+1.1**
LSA	**Lhasa**	**56.92**	**22**	*eP*	**P**	**01 30 00.9**	**-1.4**
LSA				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
LSA	**Lhasa**	**56.92**	**22**	*eP*	**P**	**01 30 00.9**	**-1.5**
	comp=Z,15nm,1.3s,mb4.9						
WRA	**Warramunga Arr**	**59.76**	**100**	P	**P**	**01 30 22.0**	**-0.3**
	comp=Z,15nm,0.8s,mb5.1,baz=254,slow=7.0,SNR=46						
WB2	**Warramunga Arr**	**59.77**	**100**	⇓*i* P	**P**	**01 30 22.1**	**-0.3**
WB2				*e*		01 30 28.4	

SNAA	**Sanae**	**62.26**	**200**	P	**P**	**01 30 37.9**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.8,baz=114,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**63.20**	**115**	P	**P**	**01 30 44.8**	**-0.5**
	comp=Z,6.1nm,1.0s,mb4.7,baz=309,slow=12,SNR=3.9						
STKA				LR	LR	01 55 10.9	
	comp=Z,181nm,18.5s,MS4.3,baz=204,slow=33						
CD2	**Chengdu**	**63.34**	**33**	⇓*i* P	**P**	**01 30 45.6**	**-0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
ENH	**Enshi**	**65.85**	**37**	*eP*	**P**	**01 31 01.2**	**-1.4**
	comp=Z,5.2nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**66.49**	**180**	*eP*	**P**	**01 31 05.5**	**-0.4**
	comp=Z,11nm,0.7s,mb5.0						
GNI	**Garni**	**67.55**	**340**	P	**P**	**01 31 13.5**	**+0.2**
	comp=Z,3.0nm,0.7s,mb4.4,baz=354,slow=11,SNR=4.9						
VNDA	**Vanda**	**67.59**	**166**	P	**P**	**01 31 12.3**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.2,baz=288,slow=6.1,SNR=7.7						
LZH	**Lanzhou**	**67.63**	**30**	*eP*	**P**	**01 31 16.5**	**+2.7**
LZH				AP	pP	01 31 20.5	+3.5
LZH				XP	sP	01 31 23.5	+5.4
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,4.8s						
XAN	**Xi'an**	**68.45**	**34**	P	**P**	**01 31 18.2**	**-0.8**
XAN				AP	pP	01 31 29.6	+7.5
GTA	**Gaotai**	**68.77**	**25**	*eP*	**P**	**01 31 21.4**	**+0.5**
GTA				AP	pP	01 31 27.6	+3.6
GTA				XP	sP	01 31 32.0	+6.9
WMQ	**Urumqi**	**69.14**	**14**	*eP*	**P**	**01 31 23.0**	**0.0**
WMQ				AP	pP	01 31 33.0	+6.8
WMQ				XP	sP	01 31 37.0	+10
MKAR	**Makanchi Array**	**71.02**	**9**	P	**P**	**01 31 32.9**	**-1.6**
	comp=Z,3.7nm,0.7s,mb4.5,baz=206,slow=3.5,SNR=22						
BR131	**Keskin Array S**	**71.42**	**331**	*eP*	**P**	**01 31 36.6**	**-0.4**
	comp=Z,3.4nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**71.42**	**331**	P	**P**	**01 31 35.5**	**-1.4**
	comp=Z,2.7nm,0.8s,mb4.2,baz=154,slow=7.4,SNR=15						
AKTK	**Aktyubinsk**	**74.45**	**352**	P	**P**	**01 31 53.5**	**-1.1**
AKTO	**Aktyubinsk**	**74.45**	**352**	P	**P**	**01 31 53.5**	**-1.1**
	comp=Z,7.5nm,0.8s,mb4.7,baz=186,slow=3.4,SNR=19						
TORD	**Torodi Ar. Bea**	**75.78**	**291**	P	**P**	**01 32 02.2**	**-0.7**
	comp=Z,1.6nm,1.0s,mb3.9,baz=118,slow=3.1,SNR=8.0						
BVAR	**Borovoye Array**	**76.33**	**0**	P	**P**	**01 32 04.0**	**-1.2**
	comp=Z,4.0nm,0.7s,mb4.4,baz=160,slow=7.9,SNR=20						
CFR	**Carcaliu**	**78.22**	**331**	⇑P	**P**	**01 32 15.1**	**-0.7**
CFR	**Carcaliu**	**78.22**	**331**	⇑P	**P**	**01 32 15.2**	**-0.6**
ZAL	**Zalesovo**	**78.35**	**9**	P	**P**	**01 32 15.8**	**-0.6**
	comp=Z,2.2nm,0.5s,mb4.4,baz=284,slow=7.0,SNR=6.0						
SONM	**Songino Array**	**78.44**	**24**	P	**P**	**01 32 17.0**	**0.0**
	comp=Z,3.2nm,0.9s,mb4.3,baz=225,slow=6.4,SNR=14						
SONM				LR	LR	02 03 14.9	
	comp=Z,86nm,19.7s,MS4.1,baz=186,slow=33						
DBIC	**Dimbokro**	**78.59**	**282**	P	**P**	**01 32 18.9**	**+0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=129,slow=6.3,SNR=3.1						
DBIC				LR	LR	02 05 12.8	
	comp=Z,154nm,18.8s,MS4.4,baz=91,slow=34						
ULN	**Ulaanbaatar**	**78.71**	**25**	*eP*	**P**	**01 32 17.0**	**-1.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**78.71**	**25**	*eP*	**P**	**01 32 17.0**	**-1.5**
	comp=Z,7.0nm,1.0s,mb4.5						
NVS	**Novosibirsk**	**79.02**	**8**	*i* P	**P**	**01 32 19.8**	**-0.2**
VRI	**Vrincioaia**	**79.37**	**331**	⇓P	**P**	**01 32 22.4**	**+0.2**
MLR	**Muntele Rosu**	**79.44**	**330**	⇑P	**P**	**01 32 22.2**	**-0.3**
BURAR	**Bucovina Array**	**81.38**	**331**	⇓P	**P**	**01 32 34.9**	**+2.1**
BURAR	**Bucovina Array**	**81.38**	**331**	⇓P	**P**	**01 32 34.9**	**+2.2**
BZS	**Buzias**	**81.56**	**328**	⇓P	**P**	**01 32 33.5**	**-0.2**
AKASG	**Malin Array Be**	**82.15**	**335**	P	**P**	**01 32 35.7**	**-1.0**
	comp=Z,5.9nm,0.7s,mb4.6,baz=136,slow=4.7,SNR=36						
KOLS	**Kolonicke sedl**	**83.67**	**331**	*ep*P	pP	01 32 47.8	0.0
CRVS	**Cervenica-Dubn**	**84.02**	**330**	*eP*	**P**	**01 32 46.8**	**+0.5**
STHS	**Stebnicka Huta**	**84.49**	**331**	*eP*	**P**	**01 32 49.9**	**+1.2**
VYHS	**Vyhne**	**84.94**	**329**	*eP*	**P**	**01 32 51.4**	**+0.4**
MOA	**Molln**	**86.75**	**326**	⇑*i* P	**P**	**01 33 00.5**	**+0.5**
	comp=Z,14nm,1.4s,mb5.0						
MOA	**Molln**	**86.75**	**326**	⇑P	**P**	**01 33 00.5**	**+0.5**
	comp=Z,14nm,1.4s,mb5.0						
TREC	**Trest**	**87.10**	**328**	*eP*	**P**	**01 33 01.5**	**-0.1**
TREC				*ep*P	pP	01 33 08.1	+3.3
DPC	**Dobruska-Polom**	**87.41**	**329**	*eP*	**P**	**01 33 03.7**	**+0.6**
UPC	**Upice**	**87.67**	**329**	*eP*	**P**	**01 33 05.2**	**+0.9**
GERES	**GERESS Array B**	**87.69**	**327**	P	**P**	**01 33 04.0**	**-0.5**
	comp=Z,1.2nm,0.8s,mb4.2,baz=146,slow=4.8,SNR=8.6						
KHC	**Kasperske Hory**	**87.94**	**327**	*eP*	**P**	**01 33 05.1**	**-0.5**
KHC				*ep*P	pP	01 33 12.7	+3.9
PRU	**Pruhonice**	**88.02**	**328**	*eP*	**P**	**01 33 05.0**	**-1.0**
PRU				*ep*P	pP	01 33 11.1	+1.9
MJAR	**Matsushiro Arr**	**88.09**	**49**	LR	LR	02 09 25.4	
	comp=Z,127nm,19.4s,MS4.3,baz=230,slow=34						
PVCC	**Panska Ves**	**88.37**	**328**	*eP*	**P**	**01 33 08.5**	**+0.9**
PVCC				*ep*P	pP	01 33 14.9	+4.0
DAVA	**Damuels**	**88.70**	**324**	⇑*i* P	**P**	**01 33 09.8**	**+0.4**
	comp=Z,15nm,0.8s,mb5.4						
BRG	**Berggiesshubel**	**88.89**	**328**	*eP*	**P**	**01 33 11.1**	**+0.9**
BRG				pmax	pmax		
	comp=Z,25nm,1.8s,mb5.2						
BRG	**Berggiesshubel**	**88.89**	**328**	*eP*	**P**	**01 33 11.1**	**+0.9**
	comp=Z,25nm,1.8s,mb5.2						
NKC	**Novy Kostel**	**89.21**	**327**	*eP*	**P**	**01 33 13.0**	**+1.3**
GRA1	**Grafenberg Arr**	**89.48**	**326**	*eP*	**P**	**01 33 13.4**	**+0.4**
	comp=Z,9.0nm,0.9s,mb5.1						
GRA1				*ep*P	pP	01 33 20.0	+3.8
GRF	**Grafenberg Arr**	**89.48**	**326**	*eP*	**P**	**01 33 13.4**	**+0.4**
GRF				*e**PP	pP	01 33 20.0	+3.8
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.1						
GRF	**Grafenberg Arr**	**89.48**	**326**	*eP*	**P**	**01 33 13.4**	**+0.4**
GRF				*e**PP	pP	01 33 20.0	+3.8
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.1						
GRF	**Grafenberg Arr**	**89.48**	**326**	*eP*	**P**	**01 33 13.4**	**+0.4**
	comp=Z,9.0nm,0.9s,mb5.1						
GRF				*ep*P	pP	01 33 20.0	+3.8
CLL	**Collm**	**89.63**	**328**	*i* P	**P**	**01 33 14.6**	**+1.0**
KLR	**Kul'dur**	**91.14**	**35**	*eP*	**P**	**01 33 23.8**	**+3.1**
FINES	**FINESS Array B**	**91.72**	**341**	P	**P**	**01 33 22.8**	**-0.2**
	comp=Z,2.9nm,0.9s,mb4.6,baz=143,slow=6.9,SNR=3.4						
ESDC	**Sonseca Array**	**93.06**	**312**	P	**P**	**01 33 29.5**	**-0.3**
	comp=Z,0.6nm,0.7s,mb4.2,baz=103,slow=4.2,SNR=4.9						
LPAZ	**La Paz**	**122.75**	**230**	PKP	PKPdf	01 39 13.4	-0.9
	comp=Z,1.0nm,0.9s,baz=180,slow=1.0,SNR=3.6						
ILAR	**Eielson Array**	**132.53**	**20**	PKP	PKPdf	01 39 31.3	-0.8
	comp=Z,0.5nm,1.0s,baz=190,slow=5.5,SNR=3.1						
INK	**Inuvik**	**133.12**	**12**	PKP	PKPdf	01 39 30.6	-2.4
	comp=Z,1.6nm,1.0s,baz=272,slow=8.6,SNR=3.6						
YKA	**Yellowknife Ar**	**141.05**	**3**	PKP	PKPdf	01 39 46.2	-1.4
	comp=Z,0.5nm,0.7s,baz=345,slow=2.2,SNR=6.1						
YKA				PP	PP	01 42 47.0	-2.7
	comp=Z,0.8nm,0.9s,baz=352,slow=6.4,SNR=7.4						
EDM	**Edmonton**	**150.37**	**4**	*e*PKIKP	PKPdf	01 40 07.5	+4.0
BLA	**Blacksburg**	**150.97**	**305**	*e*PKIKP	PKPdf	01 40 09.3	+4.4
ULM	**Lac du Bonnet**	**151.12**	**341**	PKPbc	PKPdf	01 40 08.1	+3.4
	comp=Z,5.6nm,0.7s,baz=9.2,slow=4.1,SNR=15						
ULM	**Lac du Bonnet**	**151.12**	**341**	PKPbc	PKPdf	01 40 08.1	+3.4
PDAR	**Pinedale Array**	**160.90**	**358**	PKP	PKPdf	01 40 16.9	-0.7
	comp=Z,1.2nm,0.9s,baz=147,slow=1.5,SNR=6.7						
PDAR				PKPab	PKPab	01 40 59.3	-0.2
	comp=Z,0.7nm,0.8s,baz=346,slow=3.7,SNR=2.8						
NVAR	**Mina Array Bea**	**163.77**	**23**	PKPab	PKPab	01 41 12.8	+0.6
	comp=Z,0.9nm,0.8s,baz=292,slow=4.9,SNR=6.8						
TXAR	**Lajitas Array**	**171.73**	**315**	PKPbc	PKPab	01 41 48.0	+0.6
	comp=Z,0.9nm,0.8s,baz=55,slow=4.1,SNR=10						

CSEM **12** *02:03:59.5±0.1,39.22N×25.53E,h10km,MD3.3,Error ellipse: s-maj=3.5km s-min=2.5km az=176.0*

ATH **12** *02:04:00.6,39.37N×25.80E,h35km±2km,MD3.2/3*

ISK **12** *02:04:05.0,39.29N×25.87E,h32km,MD3.3*

ISC 12 02:04:02.9±1.8,39.22N±0.05×25.8E±0.1,h17km±14km, n18,sϕ56/22,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.40**	**85**	*e*PB	**Pb**	**02 04 09.9**	**-1.2**
PRK				*e*SB	**Sb**	**02 04 16.6**	**0.0**
PRK	**Paraskevi**	**0.40**	**85**	*e*Pb	**Pb**	**02 04 10.0**	**-1.1**
EZN	**Ezine**	**0.75**	**35**	*i* PG	**Pb**	**02 04 17.8**	**+0.7**
EZN				*i* SG	**Sb**	**02 04 27.1**	**+0.3**
BLCB	**Balcova**	**1.30**	**129**	PN	**Pn**	**02 04 26.7**	**+0.3**
BLCB				SN	**Sn**	**02 04 42.8**	**-0.6**
LPK	**Lapseki**	**1.39**	**33**	PN	**Pn**	**02 04 27.1**	**-0.6**
IZM	**Izmir**	**1.43**	**124**	PN	**Pn**	**02 04 29.5**	**+1.3**
AKS	**Akhisar**	**1.63**	**101**	PN	**Pn**	**02 04 31.7**	**+0.6**
BALB	**Balikesir**	**1.69**	**75**	PN	**Pn**	**02 04 32.2**	**+0.2**
SMG	**Samos**	**1.72**	**150**	*e*PN	**Pn**	**02 04 31.7**	**-0.8**
SMG				*e*SN	**Sn**	**02 04 54.6**	**+0.4**
MFT	**Murefte**	**1.96**	**36**	*e*PN	**Pn**	**02 04 35.6**	**-0.2**
NEO	**Neokhori**	**1.97**	**273**	*e*Pn	**Pn**	**02 04 30.5**	**-5.5**
MRMT	**Marmara Adasi**	**1.98**	**45**	*e*PN	**Pn**	**02 04 36.1**	**0.0**
BNT	**Bandirma**	**2.02**	**55**	*e*PN	**Pn**	**02 04 36.6**	**0.0**
APE	**Apeiranthos**	**2.15**	**185**	*e*PN	**Pn**	**02 04 38.5**	**-0.1**
DST	**Dursunbey**	**2.25**	**79**	*e*PN	**Pn**	**02 04 40.5**	**+0.4**
KCT	**Karacabey**	**2.26**	**62**	*e*PN	**Pn**	**02 04 39.5**	**-0.6**
ORLT	**Orhaneli**	**2.56**	**70**	*e*PN	**Pn**	**02 04 44.5**	**+0.1**
YLV	**Yalova**	**3.09**	**63**	*e*PN	**Pn**	**02 04 51.7**	**-0.2**

HLW **12** *02:09:06.1,35.75N×27.47E,h33km,Mb3.2*

CSEM **12** *02:09:06.5±0.1,35.41N×27.55E,h20km,MD3.6,Error ellipse: s-maj=2.2km s-min=2.1km az=115.0*

ATH **12** *02:09:07.9,35.74N×27.19E,h10km±2km,MD3.6/9*

ISK **12** *02:09:07.4,35.59N×27.11E,h80km,MD3.6*

NEIC **12** *02:09:07.9,35.74N×27.19E,h9km,ML3.6(ATH),After ATH.*

IDC **12** *02:09:10.5±4.2,35.45N×27.34E,h37km±39km,mb3.5/4, mb1 3.5/7,mb1mx3.3/23,mbtmp3.5/7,ML3.3/3,Error ellipse: s-maj=42.4km s-min=16.9km az=154.0*

ISC 12 02:09:07.0±0.7,35.43N±0.03×27.44E±0.04,h24km±7km, n53,sϕ15/63,mb3.4/4,4C-6D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.26**	**298**	*e*PG	**Pb**	**02 09 12.0**	**-1.3**
ARG	**Arkhangelos**	**0.96**	**35**	⇑*i*PB	**Pb**	**02 09 25.5**	**+0.6**
NISR	**Nisiros**	**1.21**	**348**	*e*PG	**Pb**	**02 09 24.0**	**-4.7**
NISR				*e*SB	**Sb**	**02 09 36.5**	**-7.8**
DAT	**Datca**	**1.30**	**5**	*i* PN	**Pn**	**02 09 29.4**	**-0.6**
DAT				*i* SN	**Sn**	**02 09 46.0**	**-0.8**
NPS	**Neapolis**	**1.51**	**264**	*e*PG	**Pn**	**02 09 34.0**	**+1.1**
XRY	**Khrisi**	**1.54**	**249**	*e*PB	**Pb**	**02 09 36.0**	**+1.3**
BODT	**Bodrum**	**1.64**	**356**	*i* PN	**Pn**	**02 09 33.7**	**-1.1**
DALT	**Dalyan (Mudla)**	**1.65**	**35**	*i* PN	**Pn**	**02 09 36.4**	**+1.4**
FETY	**Fethiye**	**1.79**	**47**	PN	**Pn**	**02 09 38.5**	**+1.4**
YER	**Yerkesik**	**1.83**	**21**	PN	**Pn**	**02 09 38.5**	**+0.9**

LSA	**Lhasa**	**43.33**	**312**	*eP*	**P**		**02 37 28.8**	**+1.2**
	comp=Z,7.1nm,0.6s,mb4.6							
ASAJ	**Asahikawa**	**43.54**	**16**	P	**P**		**02 37 29.9**	**+0.8**
	comp=Z,11nm,0.9s,mb4.6,baz=229,slow=24,SNR=3.8							
GTA	**Gaotai**	**44.13**	**329**	*eP*	**P**		**02 37 34.9**	**+0.9**
GTA				AP	pP		02 37 46.0	+3.6
GTA				XP	sP		02 37 49.6	+3.7
JIRN	**Jiri**	**46.20**	**307**	*eP*	**P**		**02 37 50.6**	**0.0**
	comp=Z,24nm,0.8s,mb5.2							
GUN	**Gumba**	**46.55**	**307**	*eP*	**P**		**02 37 53.8**	**+0.4**
	comp=Z,23nm,0.7s,mb5.2							
KLR	**Kul'dur**	**46.57**	**4**	*eP*	**P**		**02 37 51.3**	**-2.0**
PKI	**Pulchoki**	**46.79**	**306**	*eP*	**P**		**02 37 55.2**	**-0.1**
HIA	**Hailar**	**46.84**	**354**	*eP*	**P**		**02 37 57.1**	**+1.7**
HIA				pmax	pmax			
	comp=Z,13nm,1.0s							
HIA	**Hailar**	**46.84**	**354**	*eP*	**P**		**02 37 57.1**	**+1.7**
	comp=Z,13nm,1.0s,mb4.8							
KKN	**Kakani**	**46.98**	**306**	*eP*	**P**		**02 37 57.2**	**+0.4**
DMN	**Daman**	**47.05**	**306**	*eP*	**P**		**02 37 57.2**	**-0.1**
	comp=Z,31nm,1.1s,mb5.2							
GKN	**Gorkha**	**47.59**	**306**	*eP*	**P**		**02 38 01.0**	**-0.6**
ULN	**Ulaanbaatar**	**48.20**	**342**	*eP*	**P**		**02 38 07.3**	**+1.2**
ULN				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8							
ULN	**Ulaanbaatar**	**48.20**	**342**	*eP*	**P**		**02 38 07.2**	**+1.1**
	comp=Z,8.8nm,1.0s,mb4.7							
KOLN	**Koldanda**	**48.33**	**305**	*eP*	**P**		**02 38 07.0**	**-0.4**
	comp=Z,32nm,0.8s,mb5.4							
SONM	**Songino Array**	**48.38**	**342**	P	**P**		**02 38 08.0**	**+0.5**
	comp=Z,3.1nm,1.0s,mb4.3,baz=157,slow=6.5,SNR=11							
ZAK	**Zakamensk**	**51.60**	**341**	*eP*	**P**		**02 38 31.9**	**-0.2**
ZAK				*e*			02 39 46.8	
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb4.0							
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0							
MOY	**Mondy**	**53.46**	**340**	*eP*	**P**		**02 38 47.0**	**+1.1**
BOD	**Bodaibo**	**55.95**	**352**	*eP*	**P**		**02 39 03.9**	**-0.1**
BOD				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8							
MKAR	**Makanchi Array**	**58.57**	**326**	P	**P**		**02 39 22.4**	**-0.3**
	comp=Z,2.5nm,0.5s,mb4.5,baz=120,slow=7.5,SNR=33							
MKAR				LR	LR		03 04 08.1	
	comp=Z,109nm,19.8s,MS4.0,baz=359,slow=36							
YAK	**Yakutsk**	**59.26**	**1**	*eP*	**P**		**02 39 26.6**	**-0.7**
YAK				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.1							
NVS	**Novosibirsk**	**62.93**	**333**	*eP*	**P**		**02 39 52.2**	**+0.1**
TIXI	**Tiksi**	**68.90**	**1**	*eP*	**P**		**02 40 28.9**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
ARU	**Arti**	**75.96**	**328**	*eP*	**P**		**02 41 11.6**	**-0.5**
VNDA	**Vanda**	**82.34**	**173**	P	**P**		**02 41 47.0**	**+0.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=320,slow=7.1,SNR=6.5							
GNI	**Garni**	**82.35**	**310**	P	**P**		**02 41 44.7**	**-2.2**
ATD	**Arta Tunnel**	**83.72**	**281**	LR	LR		03 12 50.1	
	comp=Z,71nm,21.6s,MS4.0,baz=347,slow=31							
PMR	**Palmer**	**84.76**	**29**	*eP*	**P**		**02 41 59.9**	**+1.2**
PMR				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.8							
PMR	**Palmer**	**84.76**	**29**	*eP*	**P**		**02 41 59.9**	**+1.2**
	comp=Z,9.0nm,1.1s,mb4.8							
ILAR	**Eielson Array**	**85.95**	**25**	P	**P**		**02 42 06.5**	**+1.9**
	comp=Z,0.5nm,0.9s,mb3.8,baz=270,slow=4.5,SNR=4.1							
BRTR	**Keskin Array B**	**90.89**	**310**	P	**P**		**02 42 27.8**	**-1.0**
	comp=Z,1.4nm,1.0s,mb4.3,baz=315,slow=1.7,SNR=4.3							
ARCES	**ARCESS Array B**	**91.53**	**340**	P	**P**		**02 42 29.9**	**-1.0**
	comp=Z,5.2nm,0.8s,mb4.9,baz=90,slow=6.1,SNR=5.3							
FINES	**FINESS Array B**	**92.88**	**332**	P	**P**		**02 42 38.2**	**+0.9**
	comp=Z,1.1nm,0.7s,mb4.4,baz=34,slow=6.9,SNR=5.1							
YKA	**Yellowknife Ar**	**100.36**	**25**	P	P		02 43 11.4	0.0
	comp=Z,0.5nm,1.1s,baz=310,slow=5.3,SNR=4.5							
TXAR	**Lajitas Array**	**122.05**	**53**	PKP	PKPdf		02 48 20.6	-3.0
	comp=Z,0.2nm,0.8s,baz=180,slow=1.3,SNR=3.6							
TORD	**Torodi Ar. Bea**	**123.48**	**288**	PKP	PKPdf		02 48 23.8	-2.9
	comp=Z,1.2nm,0.8s,baz=74,slow=1.5,SNR=9.4							
CFAA	**Coronel Fontan**	**147.84**	**155**	PKPbc	PKPdf		02 49 11.7	+0.6
	comp=Z,0.8nm,0.7s,baz=228,slow=3.0,SNR=27							

MOS **12** *02:52:30.7±1.0, 1.11S×99.87E, h33km, mb5.2/3, Error ellipse: s-maj=50.3km s-min=12.8km az=110.0*
NEIC **12** *02:52:31.6±0.5, 1.20S×99.78E, h30km, mb5.2/7, Error ellipse: s-maj=16.0km s-min=7.3km az=58.0*
IDC **12** *02:52:33.4±5.2, 1.14S×99.88E, h42km±41km, mb3.9/8, mb1 4.0/9, mb1mx3.7/18, mbtmp4.1/9, ML3.6/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/24, Error ellipse: s-maj=82.2km s-min=16.0km az=54.0*

ISC 12 02:52:32.5±2.4, 1.1S±0.1×99.8E±0.1, h51km±20km, n29, σ0s92/28, mb4.7/15, MS3.7/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**3.96**	**347**	P		**P**	**02 53 31.3**	**-1.1**
	4.5nm,0.3s,baz=158,slow=12,SNR=28							
PSI				LR		LR	02 55 25.5	
	comp=Z,590nm,18.3s,baz=86,slow=44							
KGM	**Kluang**	**4.65**	**49**	P		**P**	**02 53 43.7**	**+1.6**
IPM	**Ipoh**	**5.75**	**12**	P		**P**	**02 54 00.7**	**+3.3**
KULM	**Kulim**	**6.39**	**7**	*e*Pn		**P**	**02 54 06.4**	**+0.1**
KULM				*e*Sn		**S**	**02 55 17.7**	**-1.0**
KKM	**Kota Kinabalu**	**17.83**	**66**	P		**P**	**02 56 52.0**	**+13**
KKM	**Kota Kinabalu**	**17.83**	**66**	P		**P**	**02 56 38.2**	**-0.6**
TSM	**Tawau**	**18.80**	**73**	P		**P**	**02 57 01.1**	**+10**
FITZ	**Fitzroy Crossi**	**30.47**	**125**	P		**P**	**02 58 41.7**	**-1.3**
	0.6nm,0.5s,mb3.6,baz=285,slow=12,SNR=2.9							
JIRN	**Jiri**	**31.45**	**336**	*eP*		**P**	**02 58 50.7**	**-0.9**
	43nm,0.4s,mb5.7							
PKI	**Pulchoki**	**31.69**	**335**	*eP*		**P**	**02 58 53.2**	**-0.5**
	32nm,0.5s,mb5.4							
PKI	**Pulchoki**	**31.69**	**335**	*eP*		**P**	**02 58 53.2**	**-0.5**
PKI				pmax	pmax			
	comp=Z,16nm,0.5s,mb5.1							
LSA	**Lhasa**	**31.71**	**346**	*eP*		**P**	**02 58 54.9**	**+1.0**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.6							
LSA	**Lhasa**	**31.71**	**346**	*eP*		**P**	**02 58 54.9**	**+1.0**
	comp=Z,6.3nm,0.6s,mb4.6							
GUN	**Gumba**	**31.79**	**336**	*eP*		**P**	**02 58 54.1**	**-0.5**
	comp=Z,22nm,0.4s,mb5.3							
DMN	**Daman**	**31.85**	**335**	*eP*		**P**	**02 58 55.4**	**+0.3**
	comp=Z,32nm,0.4s,mb5.5							
KKN	**Kakani**	**31.93**	**335**	*eP*		**P**	**02 58 55.6**	**-0.2**
GKN	**Gorkha**	**32.39**	**334**	*eP*		**P**	**02 59 00.2**	**+0.3**
	comp=Z,28nm,0.4s,mb5.5							
KOLN	**Koldanda**	**32.66**	**333**	*eP*		**P**	**02 59 02.5**	**+0.4**
NWAO	**Narrogin (SRO)**	**35.65**	**154**	*eP*		**P**	**02 59 28.4**	**+0.6**
NWAO				pmax	pmax			
	comp=Z,38nm,1.5s							
NWAO	**Narrogin (SRO)**	**35.65**	**154**	*eP*		**P**	**02 59 28.4**	**+0.6**
	comp=Z,38nm,1.5s,mb5.1							
WRA	**Warramunga Arr**	**38.60**	**121**	P		**P**	**02 59 51.6**	**-1.1**
	comp=Z,1.4nm,0.4s,mb4.0,baz=302,slow=9.1,SNR=21							
SONM	**Songino Array**	**49.06**	**6**	P		**P**	**03 01 16.9**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=188,slow=10,SNR=12							
STKA	**Stephens Creek**	**49.88**	**132**	P		**P**	**03 01 23.1**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.2,baz=70,slow=22,SNR=4.4							
STKA				LR		LR	03 24 00.4	
	comp=Z,76nm,19.4s,MS3.7,baz=26,slow=38							
MKAR	**Makanchi Array**	**50.11**	**344**	P		**P**	**03 01 24.5**	**-0.2**
	comp=Z,4.1nm,0.6s,mb4.7,baz=151,slow=7.9,SNR=16							
BVAR	**Borovoye Array**	**59.27**	**340**	P		**P**	**03 02 30.4**	**-0.8**
	comp=Z,2.6nm,0.6s,mb4.5,baz=139,slow=10.0,SNR=4.3							
FINES	**FINESS Array B**	**83.23**	**332**	P		**P**	**03 04 55.8**	**+1.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=180,slow=1.9,SNR=5.6							
ARCES	**ARCESS Array B**	**85.56**	**340**	P		**P**	**03 05 07.7**	**+1.5**
	comp=Z,4.8nm,0.9s,mb4.7,baz=90,slow=4.9,SNR=8.1							
TXAR	**Lajitas Array**	**144.08**	**36**	PKP	PKPdf		03 12 04.2	+1.0
	comp=Z,0.5nm,0.5s,baz=292,slow=0.9,SNR=18							
BDFB	**Brasilia**	**144.14**	**241**	PKP	PKPdf		03 12 04.3	+0.7
	comp=Z,1.3nm,0.8s,baz=71,slow=24,SNR=3.2							

IDC **12** *02:55:56.6±8.6, 36.15N×71.40E, h134km±73km, mb3.2/4, mb1 3.4/7, mb1mx3.1/21, mbtmp3.7/7, Error ellipse: s-maj=59.3km s-min=37.0km az=153.0*
NEIC **12** *02:56:06.1±1.6, 36.82N×71.32E, h188km±14km, mb4.1/5, Error ellipse: s-maj=17.4km s-min=9.1km az=200.0*
MOS **12** *02:56:06.8±0.8, 36.93N×71.28E, h205km, mb4.8/1, Error ellipse: s-maj=19.8km s-min=9.3km az=88.5*
NNC **12** *02:56:10.7±3.4, 37.22N×71.19E, h195km±30km, mpv4.0, Error ellipse: s-maj=36.3km s-min=16.6km az=31.0*

ISC 12 02:56:02.7±0.8, 36.62N±0.05×71.3E±0.1, h187km±11km, n41, σ0s78/49, mb3.6/5, 10C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AML	**Almayashu**	**5.82**	**18**	P		**P**	**02 57 28.3**	**+0.1**
	SNR=105							
UCH	**Uchtor**	**6.14**	**23**	P		**P**	**02 57 32.6**	**+0.2**
	SNR=27							
KZA	**Kyzart**	**6.27**	**28**	P		**P**	**02 57 33.8**	**-0.3**
	SNR=14							
KK31	**Karatay Array**	**6.50**	**355**	P		**P**	**02 57 36.9**	**-0.2**
	3.9nm,0.2s,baz=177,slow=13,SNR=148							
KK31				⇓S		**S**	**02 58 45.0**	**-5.7**
	25nm,0.5s,baz=183,slow=23							
KBK	**Karagaybulak**	**6.67**	**24**	P		**P**	**02 57 40.2**	**+0.9**
	SNR=9.9							
ULHL	**Ulahol**	**6.82**	**33**	P		**P**	**02 57 41.4**	**+0.2**
	SNR=8.8							
CHMS	**Chumysh**	**6.92**	**22**	P		**P**	**02 57 42.8**	**+0.3**
	SNR=8.8							
USP	**Ospenovka**	**7.09**	**20**	P		**P**	**02 57 44.7**	**-0.1**
	SNR=8.3							
TKM2	**Tokmak 2**	**7.13**	**27**	P		**P**	**02 57 45.5**	**+0.1**
	SNR=17							
TKM2	**Tokmak 2**	**7.13**	**27**	⇓P		**P**	**02 57 45.5**	**+0.2**
	4.9nm,0.3s							
TKM2	**Tokmak 2**	**7.13**	**27**	⇓PN		**P**	**02 57 45.5**	**+0.2**
TKM2				pmax	pmax			
	comp=Z,5.0nm,0.3s							
TKM2	**Tokmak 2**	**7.13**	**27**	⇓P		**P**	**02 57 45.5**	**+0.2**
	comp=Z,4.9nm,0.3s							
KLP	**Kalpa**	**7.71**	**129**	*eP*		**P**	**02 57 53.4**	**+0.5**
KLP				*e*S		**S**	**02 59 15.0**	**-4.0**
KLP				AML	AML		02 59 22.1	
	comp=N,66nm,0.5s							
KLP				AML	AML		02 59 22.2	
	comp=E,84nm,0.5s							
KHET	**Khetri**	**9.35**	**154**	*eP*		**P**	**02 58 14.3**	**-0.1**
KHET				*e*S		**S**	**02 59 50.9**	**-6.5**
KHET				AML	AML		02 59 55.1	
	comp=E,28nm,0.5s							
KHET				AML	AML		02 59 56.6	
	comp=N,16nm,0.2s							
AYAN	**Aya Nagar**	**9.51**	**147**	*eP*		**P**	**02 58 16.0**	**-0.4**
AYAN				*e*S		**S**	**02 59 55.5**	**-5.6**
KUDL	**Kundal**	**9.54**	**151**	*eP*		**P**	**02 58 16.9**	**0.0**
KUDL				*e*S		**S**	**02 59 54.4**	**-7.5**
MK31	**Makanchi Array**	**13.08**	**36**	⇑P		**P**	**02 59 02.9**	**+0.6**
	comp=N,5.7nm,1.2s,baz=211,slow=12,SNR=18							
MK31	**Makanchi Array**	**13.08**	**36**	⇑P		**P**	**02 59 02.9**	**+0.6**
MK31				pmax	pmax			
	comp=Z,6.0nm,1.3s							
MK31	**Makanchi Array**	**13.08**	**36**	⇑P		**P**	**02 59 02.9**	**+0.6**
	comp=Z,5.7nm,1.3s							
MKAR	**Makanchi Array**	**13.08**	**36**	P		**P**	**02 59 01.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=208,slow=14,SNR=10							
AB31	**Akbulak array**	**15.08**	**330**	⇑P		**P**	**02 59 26.8**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=146,slow=11,SNR=47							
AB31				⇓S		**S**	**03 02 07.7**	**-1.6**
	comp=Z,3.7nm,0.6s							
AB31	**Akbulak array**	**15.08**	**330**	⇑P		**P**	**02 59 26.8**	**-0.5**
AB31				S		**S**	**03 02 07.7**	**-1.6**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AB31	**Akbulak array**	**15.08**	**330**	⇑P		**P**	**02 59 26.8**	**-0.5**
	comp=Z,0.6nm,0.3s							
AB31				S		**S**	**03 02 07.7**	**-1.6**
VOSK	**Vostochnaya**	**16.11**	**359**	⇑P		**P**	**02 59 39.6**	**-0.3**
	comp=Z,11nm,3.5s							
VOSK	**Vostochnaya**	**16.11**	**359**	⇑P		**P**	**02 59 39.6**	**-0.3**
VOSK				pmax	pmax			
	comp=Z,11nm,3.5s							
BVA0	**Borovoye Array**	**16.42**	**358**	P		**P**	**02 59 42.9**	**-0.9**
	comp=Z,3.5nm,3.1s,baz=152,slow=12,SNR=7.2							
BVA0	**Borovoye Array**	**16.42**	**358**	P		**P**	**02 59 42.9**	**-0.8**
BVA0				pmax	pmax			
	comp=Z,4.0nm,3.1s							
BVAR	**Borovoye Array**	**16.42**	**358**	P		**P**	**02 59 44.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=157,slow=13,SNR=8.1							
AKTK	**Aktyubinsk**	**16.78**	**330**	⇑P		**P**	**02 59 48.5**	**+0.4**
AKTO	**Aktyubinsk**	**16.78**	**330**	⇑P		**P**	**02 59 48.5**	**+0.4**
	comp=Z,0.4nm,0.4s							
AKTO	**Aktyubinsk**	**16.78**	**330**	P		**P**	**02 59 48.7**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=137,slow=11,SNR=26							
AKTO	**Aktyubinsk**	**16.78**	**330**	P		**P**	**02 59 48.7**	**+0.6**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
LSA	**Lhasa**	**18.02**	**107**	P		**P**	**03 00 05.8**	**+3.8**
ULN	**Ulaanbaatar**	**28.55**	**56**	P		**P**	**03 01 42.8**	**0.0**
BR131	**Keskin Array S**	**29.59**	**288**	P		**P**	**03 01 53.2**	**+1.1**
AKASG	**Malin Array Be**	**33.03**	**309**	P		**P**	**03 02 22.5**	**+0.6**
	comp=Z,0.3nm,0.3s,mb3.4,baz=83,slow=7.5,SNR=2.8							
FINES	**FINESS Array B**	**37.50**	**326**	P		**P**	**03 03 00.4**	**+0.8**
	comp=Z,1.8nm,0.8s,mb3.8,baz=121,slow=8.1,SNR=4.0							
YAK	**Yakutsk**	**43.75**	**36**	*eP*		**P**	**03 03 49.5**	**-1.2**
YAK				pmax	pmax			
	comp=Z,12nm,0.4s,mb4.9							
YAK	**Yakutsk**	**43.75**	**36**	*eP*		**P**	**03 03 49.5**	**-1.1**
	comp=Z,12nm,0.4s,mb4.9							
TORD	**Torodi Ar. Bea**	**65.92**	**269**	P		**P**	**03 06 29.2**	**-1.6**
	comp=Z,0.2nm,0.5s,mb3.2,baz=51,slow=6.1,SNR=11							
YKA	**Yellowknife Ar**	**81.12**	**3**	P		**P**	**03 07 59.3**	**+1.5**
	comp=Z,0.1nm,0.3s,mb2.9,baz=351,slow=5.5,SNR=4.2							

MOS **12** *03:15:25.3±1.1, 57.35N×120.79E, h11km, mb4.2/1, Error ellipse: s-maj=21.4km s-min=14.8km az=50.8*

BYKL 12 03:15:23.7±0.6, 57.42N×120.89E, h1km±13km, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
KHNR	**Khani**	**0.70**	**225**	*e*Pg		Pg	03 15 36.9	-0.9
KHNR				*e*Sg		Sg	03 15 45.1	-2.1
CRS	**Chara**	**1.52**	**251**	⇓*i*Pg		Pg	03 15 51.7	-2.4
CRS				*e*Sg		Sg	03 16 10.5	-3.8
CRS				Pmax				
	246nm,0.7s							
CRS				Smax				
	770nm,0.7s							
CRS	**Chara**	**1.52**	**251**	*eP*		Pn	03 15 52.0	-0.1
CRS				*e*			03 16 10.8	
CRS				pmax	pmax			
	comp=Z,240nm,0.5s							
CRS				smax				
	comp=E,562nm,0.5s							
NRGR	**Nerungri**	**2.23**	**108**	*eP*		Pn	03 16 05.2	+2.9
NRGR				S		Sn	03 16 32.6	+1.7
CLNS	**Chul'man**	**2.26**	**103**	*e*Pg		Pg	03 16 04.3	-4.5
CLNS				*e*Sg		Sg	03 16 35.1	-3.8
CLNS				Pmax				
	comp=E,78nm,0.3s							
CLNS				Smax				
	comp=E,4μm,0.6s							
CLNS	**Chul'man**	**2.26**	**103**	*eP*		Pn	03 16 04.0	+1.3
CLNS				*e*			03 16 33.6	
CLNS				pmax	pmax			
	comp=Z,40nm,0.5s							
CLNS				pmax	pmax			
	comp=N,24nm,0.6s							
CLNS				pmax	pmax			
	comp=E,9.0nm,0.3s							
CLNS				smax				
	comp=N,88nm,0.3s							
CLNS				smax				
	comp=Z,35nm,0.3s							
CLNS				smax				
	comp=E,45nm,0.2s							
IENR	**Iengra**	**2.49**	**117**	*e*Pg		Pg	03 16 09.6	-3.8
IENR				*e*Sg		Sg	03 16 40.7	-5.9
ALDR	**Aldan**	**2.69**	**62**	*e*		Pn	03 16 04.3	-4.5
ALDR				*e*Sg		Sg	03 16 46.3	-6.8
ALDR				Smax				
	comp=E,382nm,0.2s							
NLYR	**Nelyaty**	**2.99**	**254**	*e*Pn		Pn	03 16 12.6	-0.5
NLYR				*e*Pg		Pg	03 16 17.3	-6.1
NLYR				*e*Sg		Sg	03 16 54.3	-8.9
NLYR				Pmax				
	comp=E,76nm,0.5s							
NLYR				Smax				
	comp=E,493nm,1.0s							
NLYR	**Nelyaty**	**2.99**	**254**	*e*P		Pn	03 16 12.4	-0.7
NLYR				*e*			03 16 54.4	
NLYR				pmax	pmax			
	comp=Z,79nm,0.6s							
NLYR				smax				
	comp=N,490nm,1.1s							
TUP	**Tupik**	**3.05**	**190**	*e*Pn		Pn	03 16 13.2	-0.8
TUP				*e*Pg		Pg	03 16 18.6	-6.0
TUP				*e*Sg		Sg	03 16 56.8	-8.4
TUP				Pmax				
	comp=N,91nm,0.7s							
TUP				Smax				
	comp=N,679nm,0.7s							
TUP	**Tupik**	**3.05**	**190**	*e*P		Pn	03 16 13.0	-1.0
TUP				*e*S		Sn	03 16 48.3	-3.3
TUP				pmax	pmax			
	comp=Z,69nm,0.4s							
TUP				smax				
	comp=E,604nm,0.8s							
BOD	**Bodaibo**	**3.73**	**279**	*e*Pn		Pn	03 16 22.6	-1.0
BOD				*e*Pg		Pg	03 16 30.7	-7.4
BOD				*e*			03 17 07.1	
BOD				*e*Sg		Sg	03 17 17.5	-10
BOD				Pmax				
	comp=E,18nm,0.5s							
BOD				Smax				
	comp=E,340nm,0.8s							
BOD	**Bodaibo**	**3.73**	**279**	*e*P		Pn	03 16 22.3	-1.3
BOD				*e*			03 17 16.5	
BOD				pmax	pmax			
	comp=Z,18nm,0.2s							
BOD				smax				
	comp=N,346nm,0.6s							
SVKR	**Severomuysk**	**4.24**	**255**	*e*Pg		Pg	03 16 41.2	-7.2
SVKR				*e*Sn		Sn	03 17 17.7	-4.1
SVKR				*e*Sg		Sg	03 17 36.0	-8.9
SVKR				Pmax				
	comp=N,48nm,0.5s							
SVKR				Smax				
	comp=N,423nm,1.9s							
UKT	**Uakit**	**4.47**	**247**	*e*Pg		Pg	03 16 43.9	-9.0
UKT				*e*Sg		Sg	03 17 40.6	-12
UKT				Pmax				
	comp=N,35nm,1.7s							
UKT				Smax				
	comp=N,105nm,1.1s							
UKT	**Uakit**	**4.47**	**247**	*eP*		Pn	03 16 43.8	+10
UKT				pmax	pmax			
	comp=Z,16nm,0.6s							
KROS	**Kirovskiy**	**4.54**	**129**	*e*		Pn	03 16 32.5	-2.7
KROS				*e*Sg		Sg	03 17 45.1	-10
ZEA	**Zeya**	**5.16**	**133**	*e*		Pn	03 16 55.8	+12
ZEA				*e*Sg		Sg	03 18 00.5	-15
YOA	**Uoyan**	**5.20**	**260**	*e*Sg		Sg	03 18 04.9	-12
YOA				Smax				
	comp=Z,1μm,1.5s							
YOA	**Uoyan**	**5.20**	**260**	*eP*		Pn	03 16 59.9	+15
YOA				pmax	pmax			
	comp=Z,125nm,0.5s							
KMO	**Kumora**	**5.56**	**258**	*e*Pg		Pg	03 17 03.5	-11
KMO				*e*Sg		Sg	03 18 14.5	-14
KMO				Pmax				
	comp=Z,23nm,1.7s							
KMO				Smax				
	comp=Z,192nm,1.7s							
KMO	**Kumora**	**5.56**	**258**	*eP*		Pn	03 16 47.6	-2.0
KMO				*e*S		Sn	03 17 49.6	-5.5
KMO				pmax	pmax			
	comp=Z,8.0nm,0.4s							
KMO				smax				
	comp=E,193nm,1.9s							
YLYR	**Ulyunkhan**	**6.00**	**249**	*e*Pg		Pg	03 17 11.0	-13
YLYR				*e*Sg		Sg	03 18 28.7	-15
YLYR				Pmax				
	comp=E,5.0nm,0.7s							
YLYR				Smax				
	comp=E,88nm,2.0s							
YLYR	**Ulyunkhan**	**6.00**	**249**	*eP*		Pn	03 17 11.5	+16
TBGR	**Tabaga**	**6.26**	**41**	*e*		Pn	03 18 03.4	+64
TBGR				*e*Sg		Sg	03 18 35.1	-17
YAK	**Yakutsk**	**6.41**	**40**	*eP*		Pn	03 17 18.3	+17
CIT	**Chita**	**6.88**	**221**	*e*Pg		Pg	03 17 27.9	-13
CIT				*e*Sg		Sg	03 18 55.4	-17
CIT				Pmax				
	comp=E,8.0nm,0.7s							
CIT				Smax				
	comp=E,242nm,1.4s							
SYVR	**Suvo**	**7.24**	**243**	*e*Sg		Sg	03 19 08.3	-16
SYVR				Smax				
	comp=E,126nm,1.2s							
KPC	**Khapcheranga**	**9.23**	**217**	*e*		P	03 18 32.2	+51
KPC				*e*Sg		Sg	03 20 09.7	-21
KPC				Smax				
	comp=E,57nm,2.1s							
TRG	**Tyrgan**	**9.55**	**247**	*e*Sg		Sg	03 20 18.8	-23
TRG				Smax				
	comp=E,15nm,0.8s							
ARS	**Arshan**	**12.01**	**251**	*e*Sg		S	03 21 37.1	+62
ARS				Smax				
	comp=E,63nm,1.1s							
TIXI	**Tiksi**	**14.67**	**10**	*eP*		P	03 18 56.1	+2.3
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.6s							

**IDC 12 03:15:34.7±1.5, 23.69S×69.45E, mb3.9/7, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, MS3.9/4, Ms

FUNV ***12*** *03:45:10.6, 11.07N×62.00W, h94km, MW3.0*
TRN ***12*** *03:45:15.3, 11.06N×62.11W, h27km, MD3.4*
NEIC ***12*** *03:45:15.2, 11.07N×62.11W, h26km, MD3.4(TRN), After TRN.*

ISC 12 03:45:10.6±0.7, 10.96N±0.04×62.20W±0.03, h109km±7km, n18, σ1§13/34, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**184**	*eP*		**P**		**03 45 26.2**	**-0.2**
GUIV						**S**		**03 45 36.5**	**-1.6**
TRN	**Trinidad (W)**	**0.84**	**111**	⇑*iP*		**P**		**03 45 31.4**	**+1.1**
TRN						**S**		**03 45 42.7**	**-2.5**
TPP	**Pointe-a-Pierr**	**0.97**	**131**	*eP*		**P**		**03 45 33.6**	**+2.0**
TPP						**S**		**03 45 50.1**	**+2.6**
ITEV	**Isla Los Testi**	**0.99**	**294**	*eP*		**P**		**03 45 32.1**	**+0.2**
ITEV						**S**		**03 45 47.0**	**-0.9**
CRUV	**Carupano**	**1.05**	**255**	*eP*		**P**		**03 45 33.5**	**+1.0**
CRUV						**S**		**03 45 49.1**	**+0.1**
GUNV	**Guanoco**	**1.07**	**223**	*eP*		**P**		**03 45 34.5**	**+1.7**
GUNV						**S**		**03 45 50.5**	**+1.1**
TBH	**Brigand Hill**	**1.21**	**113**	*eP*		**P**		**03 45 35.5**	**+1.1**
TBH						**S**		**03 45 52.2**	**0.0**
GRW	**Mount Saint Ca**	**1.31**	**24**	*eP*		**P**		**03 45 37.0**	**+1.5**
GRW						**S**		**03 45 54.8**	**+0.6**
TPR	**Prospect**	**1.42**	**81**	*eP*		**P**		**03 45 37.3**	**+0.5**
TPR						**S**		**03 45 55.2**	**-1.3**
BOT	**Bacolet**	**1.47**	**82**	*eP*		**P**		**03 45 37.7**	**+0.3**
BOT						**S**		**03 45 55.7**	**-1.9**
IBAV	**Isla La Blanqu**	**2.48**	**291**	*eP*		**P**		**03 45 50.4**	**-0.1**
IBAV						**S**		**03 46 20.3**	**-0.2**
SVB	**Belmont**	**2.48**	**22**	*eP*		**P**		**03 45 50.0**	**-0.5**
SVB						**S**		**03 46 20.1**	**-0.4**
GURV	**El Guri**	**3.29**	**195**	*eP*		**P**		**03 46 01.3**	**-0.2**
CUPV	**Cœpira**	**3.64**	**256**	*eP*		**P**		**03 46 05.8**	**-0.4**
CUPV						**S**		**03 46 49.1**	**+0.7**
LUEV	**Luepa**	**5.13**	**172**	*eP*		**P**		**03 46 25.2**	**-1.3**
LUEV						**S**		**03 47 19.0**	**-5.9**
CAOV	**Caicara del Or**	**5.44**	**229**	*eP*		**P**		**03 46 30.7**	**+0.2**
CAOV						**S**		**03 47 30.5**	**-1.9**
BAUV	**El Baul**	**6.09**	**251**	*eP*		**P**		**03 46 38.8**	**-0.6**
BAUV						**S**		**03 47 44.9**	**-3.4**
SAML	**Samuel**	**19.80**	**183**	*eP*		**P**		**03 49 43.3**	**+8.4**

CSEM ***12*** *03:59:33.3±0.1, 36.54N×3.14E, h10km, ML4.1, Error ellipse: s-maj=3.2km s-min=2.5km az=131.0*
CRAAG ***12*** *03:59:34.1, 36.53N×3.21E, Ml4.1*
MDD ***12*** *03:59:35.4±0.6, 36.54N×3.18E, mb4.2/8, Error ellipse: s-maj=6.9km s-min=4.8km az=118.0, PRXIMO*
NEIC ***12*** *03:59:35.8, 36.59N×3.16E, MG4.2(MDD), After MDD.*

ISC 12 03:59:34.9±0.8, 36.61N±0.05×3.15E±0.08, h19km±10km, n42, σ1§06/58, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.22**	**335**		P		**Pb**	**03 59 41.0**	**+0.7**
ABMS	**Boumerdes**	**0.30**	**61**		P		**Pb**	**03 59 41.2**	**-0.4**
EMHD	**Djebel Mahouad**	**0.43**	**201**		P		**Pb**	**03 59 42.0**	**-1.8**
EBNR	**Beni Rached**	**1.34**	**257**		P		**Pn**	**03 59 58.0**	**-0.9**
ECHA	**Ech Chlef**	**1.51**	**253**		P		**Pn**	**04 00 01.0**	**-0.2**
ECHF	**Ech Chlef**	**1.53**	**253**		P		**Pn**	**04 00 01.0**	**-0.5**
EANR	**'Ain N'Sour**	**1.78**	**249**		P		**Pn**	**04 00 08.0**	**+2.9**
ETRT	**Tiaret**	**1.93**	**232**		P		**Pn**	**04 00 10.0**	**+2.8**
EIBI	**Ibiza**	**2.81**	**330**		P		**Pn**	**04 00 20.9**	**+1.1**
	9.4nm,0.2s,SNR=7.9								
EIBI					S		**Sn**	**04 00 53.4**	**-0.1**
	4.3nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**2.81**	**330**		P		**Pn**	**04 00 20.9**	**+1.1**
EIBI					S		**Sn**	**04 00 53.4**	**-0.1**
ETOS	**Mallorca**	**3.17**	**355**		P		**Pn**	**04 00 25.2**	**+0.2**
	5.5nm,0.2s,SNR=12								
ETOS					S		**Sn**	**04 01 02.3**	**-0.3**
	2.1nm,0.2s								
ETOS	**Mallorca**	**3.17**	**355**		P		**Pn**	**04 00 25.2**	**+0.3**
ETOS					S		**Sn**	**04 01 02.3**	**-0.3**
EBEN	**Beniarda**	**3.40**	**309**		P		**Pn**	**04 00 28.0**	**-0.2**
	0.8nm,0.2s,SNR=15								
EBEN					S		**Sn**	**04 01 08.7**	**+0.3**
	0.8nm,0.2s,SNR=8.4								
EBEN	**Beniarda**	**3.40**	**309**		P		**Pn**	**04 00 28.0**	**-0.2**
EBEN					S		**Sn**	**04 01 08.7**	**+0.2**
EMUR	**La Murta**	**3.71**	**291**		P		**Pn**	**04 00 32.2**	**-0.5**
	1.0nm,0.2s,SNR=7.9								
EMUR					S		**Sn**	**04 01 16.2**	**-0.2**
	2.7nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**3.71**	**291**		P		**Pn**	**04 00 32.2**	**-0.5**
EMUR					S		**Sn**	**04 01 18.3**	**+1.9**
EMUR	**La Murta**	**3.71**	**291**		P		**Pn**	**04 00 32.2**	**-0.5**
EMUR					S		**Sn**	**04 01 18.3**	**+1.9**
ETOB	**Tobarra**	**4.25**	**300**		P		**Pn**	**04 00 40.6**	**+0.3**
	1.8nm,0.2s,SNR=24								
ETOB					S		**Sn**	**04 01 30.2**	**+0.3**
	1.3nm,0.3s								
ETOB	**Tobarra**	**4.25**	**300**		P		**Pn**	**04 00 40.6**	**+0.3**
ETOB					S		**Sn**	**04 01 30.2**	**+0.3**
EMOS	**Mosqueruela**	**4.71**	**324**		P		**Pn**	**04 00 47.3**	**+0.6**
	3.7nm,0.2s,SNR=28								
EMOS					S		**Sn**	**04 01 39.4**	**-2.2**
	0.9nm,0.3s								
EMOS	**Mosqueruela**	**4.71**	**324**		P		**Pn**	**04 00 47.3**	**+0.5**
EMOS					S		**Sn**	**04 01 39.4**	**-2.1**
EBER	**Berja**	**4.86**	**275**		S		**Sn**	**04 01 43.6**	**-1.8**
	0.6nm,0.2s,SNR=4.0								
ERTA	**Horta de San J**	**4.87**	**334**		P		**Pn**	**04 00 50.6**	**+1.5**
	0.1nm,0.1s,SNR=4.0								
ERTA	**Horta de San J**	**4.87**	**334**		P		**Pn**	**04 00 50.6**	**+1.5**
EPOB	**Poblet**	**5.01**	**342**		P		**Pn**	**04 00 51.7**	**+0.7**
	0.4nm,0.2s,SNR=4.0								
EPOB	**Poblet**	**5.01**	**342**		P		**Pn**	**04 00 51.7**	**+0.7**
EQES	**Quesada**	**5.11**	**285**		P		**Pn**	**04 00 53.9**	**+1.4**
	0.3nm,0.1s,SNR=6.6								
EQES					S		**Sn**	**04 01 52.6**	**+1.0**
	0.5nm,0.2s								
EQES	**Quesada**	**5.11**	**285**		P		**Pn**	**04 00 53.9**	**+1.5**
EQES					S		**Sn**	**04 01 52.6**	**+1.0**
EMIR	**Miracle**	**5.45**	**347**		P		**Pn**	**04 00 57.9**	**+0.6**
	5.4nm,0.2s,SNR=26								
EMIR					S		**Sn**	**04 01 58.5**	**-1.7**
	1.6nm,0.2s,SNR=5.0								
EMIR	**Miracle**	**5.45**	**347**		P		**Pn**	**04 00 57.9**	**+0.6**
EJON	**La Jonquera**	**5.84**	**358**		P		**Pn**	**04 01 02.9**	**+0.2**
	1.4nm,0.2s,SNR=4.8								
EJON	**La Jonquera**	**5.84**	**358**		P		**Pn**	**04 01 02.9**	**+0.1**
EGRA	**Graus**	**6.00**	**339**		P		**Pn**	**04 01 05.3**	**+0.3**
	0.4nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**6.39**	**301**		P		**Pn**	**04 01 09.4**	**-1.1**
	1.0nm,0.2s,baz=111,slow=14,SNR=6.8								
ESDC	**Sonseca Array**	**6.39**	**301**		P		**Pn**	**04 01 09.4**	**-1.1**
EARI	**Arriondas**	**9.27**	**319**		P		**P**	**04 01 51.4**	**+0.8**
	0.5nm,0.2s,SNR=11								
EARI	**Arriondas**	**9.27**	**319**		P		**P**	**04 01 51.4**	**+0.8**
ECAL	**Calabor**	**9.33**	**308**		P		**P**	**04 01 50.7**	**-0.9**
	2.1nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**9.33**	**308**		P		**P**	**04 01 50.7**	**-0.9**
ERUA	**La Rua**	**9.83**	**309**		P		**P**	**04 01 57.3**	**-1.0**
	1.4nm,0.3s,SNR=7.9								
ELOB	**Lobios**	**10.16**	**305**		P		**P**	**04 02 02.0**	**-0.8**
	0.2nm,0.2s								
ELOB	**Lobios**	**10.16**	**305**		P		**P**	**04 02 02.0**	**-0.9**
	0.2nm,0.2s								

IDC ***12*** *04:06:52.8±1.6, 24.14S×66.94W, h157km±14km, mb3.7/10, mb1 4.0/15, mb1mx4.0/18, mbtmp4.3/15, Error ellipse: s-maj=17.1km s-min=11.6km az=97.0*
GUC ***12*** *04:06:55.1±0.8, 24.37S×67.24W, h171km±11km, ML5.5*
NEIC ***12*** *04:06:56.0±0.3, 24.17S×67.01W, mb4.6/13, Error ellipse: s-maj=11.4km s-min=7.2km az=78.0*
BJI ***12*** *04:06:58.2, 24.73S×67.17W, h201km*

ISC 12 04:06:52.8±0.5, 24.22S±0.03×67.01W±0.05, h170km±5km, h184km±3.1km: pP-P, n67, σ1§16/74, mb4.1/18, 5C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.70**	**320**	⇑*iP*		**P**		**04 07 29.6**	**+3.3**
SPCH				*i* S		**S**		**04 07 56.2**	**+4.0**
SPCH					AMP			04 07 57.5	
	comp=N,8μm,0.5s								
CEN1	**Los Morros**	**3.04**	**285**	⇓*iP*		**P**		**04 07 44.2**	**+2.1**
CEN1				*i* S		**S**		**04 08 21.1**	**+1.1**
CEN1					AMP			04 08 23.1	
	comp=E,11μm,0.5s								
CPN1	**Cerro Paranal**	**3.12**	**262**	⇑*iP*		**P**		**04 07 44.4**	**+1.2**
CPN1				*i* S		**S**		**04 08 21.6**	**-0.3**
CPN1					AMP			04 08 23.6	
	comp=E,10μm,0.4s								
ANCH	**Antofagasta**	**3.16**	**279**	⇑*iP*		**P**		**04 07 44.7**	**+1.2**
ANCH				*i* S		**S**		**04 08 21.8**	**-0.9**
ANCH					AMP			04 08 23.7	
	comp=N,16μm,0.3s								
CRCH	**Chaqaral**	**3.90**	**236**	⇑*iP*		**P**		**04 07 53.2**	**+0.2**
CRCH				*i* S		**S**		**04 08 37.1**	**-2.3**
CPCH	**Copiapo**	**4.35**	**223**	*eP*		**P**		**04 07 58.4**	**-0.4**
CPCH				*i* S		**S**		**04 08 48.2**	**-1.5**
CDCH	**Caldera**	**4.47**	**230**	*eP*		**P**		**04 07 59.8**	**-0.7**
CDCH				*i* S		**S**		**04 08 49.4**	**-3.2**
CFAA	**Coronel Fontan**	**7.44**	**188**	P		**P**		**04 08 40.6**	**+1.1**
	comp=N,0.7nm,0.3s,baz=3.2,slow=12,SNR=76								
CFAA					S		**S**	**04 10 01.0**	**-1.9**
	comp=N,1.4nm,0.3s,baz=236,slow=15,SNR=8.7								
ZON	**Zonda**	**7.45**	**191**	*eP*		**P**		**04 08 44.7**	**+5.0**
LPAZ	**La Paz**	**7.96**	**352**	P		**P**		**04 08 47.0**	**+0.6**
	comp=N,11nm,0.3s,baz=166,slow=8.7,SNR=187								
LPAZ					S		**S**	**04 10 13.4**	**-1.7**
	comp=N,2.3nm,0.3s,baz=331,slow=21,SNR=4.5								
LPAZ	**La Paz**	**7.96**	**352**	*ePn*		**P**		**04 08 47.0**	**+0.5**
	comp=N,69nm,0.9s								
LPAZ				*eSn*		S		**04 10 15.6**	**+0.5**
ARE	**Arequipa**	**8.79**	**331**	*eP*		**P**		**04 08 55.0**	**-2.3**
ARE				*eS*		**S**		**04 10 28.0**	**-6.7**
CPUP	**Villa Florida**	**9.01**	**106**	*ePn*		**P**		**04 09 01.7**	**+1.4**
	comp=N,39nm,0.5s								
SIV	**San Ignacio**	**9.90**	**35**	P		**P**		**04 09 10.6**	**-1.3**
	comp=N,10nm,0.3s,baz=222,slow=14,SNR=226								
SIV					S		**S**	**04 10 55.8**	**-5.1**
	baz=229,slow=12,SNR=3.6								
TRQA	**Tornquist**	**14.45**	**164**	*ePn*		**P**		**04 10 10.2**	**-0.2**
	comp=N,102nm,1.3s								
TRQA				*eS*		S		**04 12 57.1**	**+11**
SAML	**Samuel**	**15.62**	**14**	*ePn*		**P**		**04 10 23.3**	**-1.8**
	comp=N,15nm,0.6s								
SAML				*eSn*		S		**04 13 13.2**	**+0.2**
PLCA	**Paso Flores**	**16.74**	**189**	P		**P**		**04 10 39.3**	**+0.7**
	comp=N,1.3nm,0.3s,baz=11,slow=13,SNR=29								
PLCA	**Paso Flores**	**16.74**	**189**	*eP*		**P**		**04 10 39.1**	**+0.5**
	comp=N,6.0nm,0.6s								
PLCA				*eSn*		S		**04 13 58.5**	**+21**
BDFB	**Brasilia**	**19.77**	**68**	P		**P**		**04 11 11.6**	**-0.1**
	comp=N,12nm,0.3s,baz=250,slow=10,SNR=230								
SDV	**Santo Domingo**	**33.09**	**353**	*eP*		**P**		**04 13 12.7**	**-2.0**
	comp=N,10nm,1.3s,mb4.4								
VNA3	**Neumayer Olymp**	**56.95**	**161**	P		**P**		**04 16 22.7**	**+0.7**
VNA1	**Neumayer--Stat**	**57.15**	**160**	P		**P**		**04 16 24.6**	**+1.2**
VNA2	**Neumayer--Watz**	**57.52**	**160**	*e*		**P**		**04 16 31.5**	**+5.5**
VNA2	**Neumayer--Watz**	**57.52**	**160**	*e*		**P**		**04 16 34.7**	**+8.7**
VNA2	**Neumayer--Watz**	**57.52**	**160**	*e*		**P**		**04 16 40.8**	**+15**
VNA2	**Neumayer--Watz**	**57.52**	**160**	P		**P**		**04 16 26.4**	**+0.4**
VNA2				*e*				04 16 31.5	
VNA2				*e*				04 16 34.7	
VNA2				*e*				04 16 40.8	
VNA2				*e*		pP		04 17 09.1	+3.7
VNA2				*e*				04 17 24.4	
VNA2				*e*				04 18 05.6	
SNAA	**Sanae**	**59.15**	**161**	*e*		**P**		**04 16 41.8**	**+4.4**
SNAA	**Sanae**	**59.15**	**161**	*e*		**P**		**04 16 45.2**	**+7.8**
SNAA	**Sanae**	**59.15**	**161**	*e*		**P**		**04 16 50.7**	**+13**
SNAA	**Sanae**	**59.15**	**161**	P		**P**		**04 16 36.5**	**-0.9**
SNAA				*e*				04 16 45.2	
SNAA				*e*				04 16 50.7	
TXAR	**Lajitas Array**	**63.85**	**324**	P		**P**		**04 17 08.7**	**-0.7**
	comp=N,0.5nm,0.6s,mb3.5,baz=143,slow=6.3,SNR=8.2								
QSPA	**South Pole Qui**	**65.99**	**180**	*eP*		**P**		**04 17 23.7**	**+1.3**
	comp=N,8.6nm,0.5s,mb4.8								
GDL2	**Guadalupe Moun**	**66.49**	**326**	*eP*		**P**		**04 17 26.1**	**-0.2**
MNTX	**Cornudas Mount**	**66.62**	**325**	*eP*		**P**		**04 17 25.7**	**-1.4**
	comp=N,11nm,1.3s,mb4.5								
DBIC	**Dimbokro**	**67.88**	**71**	P		**P**		**04 17 34.5**	**-0.7**
	comp=N,1.8nm,0.4s,mb4.2,baz=249,slow=8.1,SNR=7.6								
BNM	**Barren Site**	**69.19**	**326**	*eP*		**P**		**04 17 41.3**	**-1.6**
LAZ	**Ladron**	**69.65**	**325**	*eP*		**P**		**04 17 46.5**	**+0.7**
SDCO	**Great Sand Dun**	**71.47**	**329**	*eP*		**P**		**04 17 57.2**	**+0.6**
	comp=N,17nm,1.4s,mb4.6								
WUAZ	**Wupatki**	**72.75**	**323**	*eP*		**P**		**04 18 04.2**	**0.0**
	comp=N,17nm,1.5s,mb4.6								
SMCO	**Snowmass**	**73.31**	**329**	*eP*		**P**		**04 18 07.7**	**+0.2**
	comp=N,6.1nm,1.3s,mb4.2								
SYO	**Syowa Base**	**73.35**	**159**	⇓P		**P**		**04 18 05.0**	**-2.1**
SYO	**Syowa Base**	**73.35**	**159**	⇓*eP*		**P**		**04 18 05.0**	**-2.1**
SYO				⇓*ePP*		PP		04 20 47.1	-7.0
VNDA	**Vanda**	**74.49**	**190**	P		**P**		**04 18 14.9**	**+1.4**
	comp=N,0.9nm,0.8s,mb3.5,baz=139,slow=6.8,SNR=5.9								
NEN	**Nelson**	**74.78**	**321**	*eP*		**P**		**04 18 16.5**	**+0.5**
SRU	**San Rafael**	**75.00**	**326**	*eP*		**P**		**04 18 17.7**	**+0.6**
MSU	**Marysvale**	**75.40**	**325**	*eP*		**P**		**04 18 20.9**	**+1.5**
MSU				*ePcP*		PcP		04 18 35.1	+3.1
ARUT	**Antelope Range**	**75.54**	**324**	*eP*		**P**		**04 18 21.3**	**+1.1**
ARUT				*epP*		pP		04 19 02.9	+1.1
TORD	**Torodi Ar. Bea**	**76.65**	**69**	P		**P**		**04 18 25.5**	**-1.3**
	comp=N,6.4nm,0.5s,mb4.5,baz=256,slow=5.8,SNR=136								
PDAR	**Pinedale Array**	**77.33**	**329**	P		**P**		**04 18 29.8**	**-0.3**
	comp=N,0.5nm,0.5s,mb3.4,baz=140,slow=7.0,SNR=6.4								
ULM	**Lac du Bonnet**	**78.43**	**342**	P		**P**		**04 18 35.0**	**-0.9**
	comp=N,1.9nm,0.7s,mb3.9,baz=144,slow=4.0,SNR=6.3								
NVAR	**Mina Array Bea**	**78.70**	**321**	P		**P**		**04 18 38.4**	**+0.7**
	comp=N,0.5nm,0.5s,mb3.4,baz=146,slow=6.4,SNR=9.2								
SCHQ	**Schefferville**	**78.72**	**0**	P		**P**		**04 18 36.5**	**-0.9**
	comp=N,2.2nm,0.8s,mb3.8,baz=151,slow=5.4,SNR=3.2								
IMW	**Indian Meadow**	**78.84**	**329**	*eP*		**P**		**04 18 39.6**	**+1.3**
	comp=N,12nm,1.4s,mb4.3								
IMW				*epP*		pP		04 19 25.8	+5.6
MCMT	**McKenzie Canyo**	**80.44**	**329**	*eP*		**P**		**04 18 48.3**	**+1.5**
FCC	**Fort Churchill**	**85.67**	**346**	*eP*		**P**		**04 19 12.9**	**-0.1**
	comp=N,15nm,1.2s,mb4.6								
ESDC	**Sonseca Array**	**86.56**	**44**	P		**P**		**04 19 18.2**	**+0.5**
	comp=N,0.3nm,0.5s,mb3.4,baz=236,slow=5.3,SNR=6.5								
ESDC					pP	pP		04 20 04.5	+4.1
	comp=N,1.5nm,0.9s,baz=236,slow=5.3,SNR=5.9								
EDM	**Edmonton**	**86.96**	**334**	*eP*		**P**		**04 19 19.0**	**-0.4**
YKA	**Yellowknife Ar**	**94.32**	**340**	P		**P**		**04 19 53.0**	**-0.4**
	comp=N,1.0nm,0.7s,mb4.0,baz=140,slow=4.6,SNR=19								
YKA					pP	pP		04 20 39.7	+3.3
	comp=N,0.5nm,0.8s,baz=134,slow=4.6,SNR=4.3								
YKA	**Yellowknife Ar**	**94.32**	**340**	P		**P**		**04 19 53.0**	**-0.4**
YKA					pP	pP		04 20 39.7	+3.3
WRA	**Warramunga Arr**	**131.43**	**207**	PKP		PKPdf		04 25 47.0	+1.3
	comp=N,1.2nm,0.4s,baz=163,slow=1.7,SNR=18								
KSH	**Kashi**	**145.32**	**55**	*ePKP*		PKPdf		04 26 14.0	+3.8
KSH				*ePKS*		PKS		04 29 48.2	+3.8
MKAR	**Makanchi Array**	**146.69**	**40**	PKPbc		PKPbc		04 26 14.7	+0.8
	comp=N,2.8nm,0.5s,baz=320,slow=2.3,SNR=37								
WMQ	**Urumqi**	**151.51**	**40**	*ePKP*		PKPdf		04 26 23.2	+3.3
WMQ					LR	LR			
	comp=N,150nm,23.0s								
WMQ					LR	LR			
	comp=E,160nm,24.0s								
WMQ					LR	LR			
	comp=Z,170nm,22.0s								
CN2	**Changchun**	**157.95**	**335**	*ePKP*		PKPdf		04 26 32.8	+4.2
LZH	**Lanzhou**	**165.78**	**32**	*ePKP*		PKPdf		04 26 40.0	+3.1
LZH				APKP				04 27 27.0	
LZH				XPKP				04 27 48.1	
SSE	**Sheshan**	**170.02**	**315**	*ePKP*		PKPdf		04 26 44.1	+4.3
NJ2	**Nanjing**	**170.64**	**328**	*ePKP*		PKPdf		04 26 44.1	+4.0

JMA 12 04:30:58.7±0.3, 44.01N×148.46E, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.07**	**253**		P		Pn	04 31 35.3	+0.1
NEM2					*eS*		Sn	04 32 01.9	-0.2
JRA	**Rausu**	**2.41**	**269**		P		Pn	04 31 40.8	+0.8
JNK	**Nakash**	**2.74**	**262**		P		Pn	04 31 44.9	+0.2
JNK					*eS*		Sn	04 32 19.0	-0.1
JAK	**Akkeshi**	**2.92**	**251**		P		Pn	04 31 47.4	+0.1
JAK					*eS*		Sn	04 32 22.9	-0.7
JAR	**Ashorobuto**	**3.48**	**260**		P		Pn	04 31 56.0	+0.8
JAR					*eS*		Sn	04 32 38.3	+0.6
JCH	**Churui**	**3.97**	**251**		P		Pn	04 32 02.2	0.0
JCH					*eS*		Sn	04 32 49.5	-0.7
JNBK	**Urakawa-nobuka**	**4.52**	**249**		P		Pn	04 32 09.9	-0.1
JNBK					*eS*		Sn	04 33 02.4	-1.7
JKB	**Kayabe**	**5.85**	**251**		P		Pn	04 32 28.0	-0.8
JKB					*eS*		Sn	04 33 33.2	-4.3
JOT	**Ohata**	**6.06**	**247**		*eS*		Sn	04 33 37.5	-5.3
JOSM	**Okushiri--Mats**	**6.86**	**257**		P		Pn	04 32 42.3	-0.7

ATH ***12*** *04:42:40.0, 37.66N×20.94E, h7km±1km, MD3.6/10, ML3.7*
NEIC ***12*** *04:42:40.0, 37.66N×20.93E, h5km, ML3.7(ATH), After ATH.*
CSEM ***12*** *04:42:42.1±0.2, 37.73N×20.80E, h20km, ML3.7, Error ellipse: s-maj=5.9km s-min=2.7km az=47.0*
THE ***12*** *04:42:48.9, 38.18N×21.01E, h5km, ML3.2*

ISC 12 04:42:41.2±1.0, 37.74N±0.07×20.99E±0.08, h7km, n21, σ1§42/22, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.50**	**50**	*ePG*		**Pg**		**04 42 51.0**	**-0.2**
VLS	**Valsamata**	**0.54**	**325**	*ePG*		**Pg**		**04 42 51.0**	**-1.0**
VLS				*eSB*		**Sg**		**04 43 00.3**	**+1.0**
ITM	**Ithomi**	**0.93**	**126**	*ePB*		**Pb**		**04 42 57.6**	**-1.7**
LKD	**Levkas**	**1.00**	**345**	*ePg*		**Pg**		**04 43 00.1**	**-1.1**
EVR	**Evrytania**	**1.34**	**29**	*ePB*		**Pb**		**04 43 06.9**	**+0.6**
AGG	**Agios Georgios**	**1.66**	**39**	*ePg*		**Pg**		**04 43 13.3**	**-1.1**
VLI	**Veliai**	**1.86**	**123**	*ePN*		**Pn**		**04 43 13.9**	**+0.1**
VLI	**Veliai**	**1.86**	**123**	*ePn*		**Pn**		**04 43 15.3**	**+1.5**
IGT	**Igoumenitsa**	**1.86**	**344**	*ePg*		**Pg**		**04 43 14.9**	**-3.5**
JAN	**Janina**	**1.92**	**357**	*ePN*		**Pn**		**04 43 16.6**	**+1.9**
JAN	**Janina**	**1.92**	**357**	*ePg*		**Pg**		**04 43 17.5**	**-2.0**
ATH	**Athens Observa**	**2.17**	**83**	*ePN*		**Pn**		**04 43 19.5**	**+1.2**
ATH	**Athens Observa**	**2.17**	**83**	*ePg*		**Pg**		**04 43 21.5**	**-3.1**
KEK	**Kerkira**	**2.18**	**335**	*ePN*		**Pn**		**04 43 19.5**	**+1.1**
KEK	**Kerkira**	**2.18**	**335**	*ePg*		**Pg**		**04 43 21.6**	**-3.1**
KYTH	**Kithira**	**2.19**	**131**	*ePN*		**Pn**		**04 43 19.0**	**+0.4**
MPAR	**Parnis Oros**	**2.21**	**78**	*ePN*		**Pn**		**04 43 20.0**	**+1.1**
MPAR	**Parnis Oros**	**2.21**	**78**	*ePg*		**Pg**		**04 43 22.0**	**-3.4**
NEO	**Neokhori**	**2.35**	**48**	*ePN*		**Pn**		**04 43 22.4**	**+1.5**
GRG	**Griva**	**3.40**	**18**	*ePn*		**Pn**		**04 43 36.3**	**+0.6**
KNT	**Kendrikon**	**3.73**	**23**	*ePn*		**Pn**		**04 43 41.4**	**+0.9**

LDG ***12*** *04:48:11.9±0.1, 44.47N×2.92E, h8km, Md2.8/1, Ml2.3/13, Error ellipse: s-maj=1.2km s-min=0.9km az=111.0*
STR ***12*** *04:48:13.5±0.2, 44.54N×2.97E, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***12*** *04:48:13.5, 44.54N×2.97E, h10km, ML2.5(STR), ML2.3(LDG), After STR.*

ISC 12 04:48:09.3±0.4, 44.50N±0.02×2.89E±0.03, h10km±3km, n38, σ1§27/99, France

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LBL	**Lubilhac**	**0.78**	**19**		Pg		**Pg**	**04 48 27.6**	**+2.6**
LBL					Sg		**Sg**	**04 48 39.4**	**+4.0**
LASF	**Ste Croix**	**0.81**	**121**		*ePg*		**Pg**	**04 48 25.1**	**-0.6**
LASF					*eSg*		**Sg**	**04 48 35.1**

MFF	**Saint Martin d**	**3.00**	**316**	*e*Pn	**Pn**	**04 48 58.2**	**+0.4**
MFF				*e*Pg	**Pg**	**04 49 08.0**	**-1.2**
MFF				*e*Sg	**Sg**	**04 49 47.5**	**-1.6**
CABF	**La Chapelle**	**3.08**	**46**	*e*Pg	**Pg**	**04 49 10.0**	**-1.0**
CABF				*e*Sg	**Sg**	**04 49 49.1**	**-3.0**

2.7nm,0.5s

CSEM **12** *04:50:40.6,22.88S×177.27W,h33km,mb6.0*
BJI **12** *04:50:45.8,22.20S×176.50W,h139km,mB5.4,mb4.8*
HRVD **12** *04:50:47.9±0.2,22.09S×176.04W,h145km±1km, MW5.3/83,Centroid moment Tensor Solution. LP body waves: s59,c89;Mantle waves: s83,c151; Half duration: 1s‡ Moment tensor: Scale 10^{17}Nm; M_{rr}0.24±.03; $M_{\theta\theta}$0.04±.04; $M_{\phi\phi}$-0.28±.04; $M_{r\theta}$-0.14±.02; $M_{r\phi}$0.17±.04; $M_{\theta\phi}$-1.12±.02; Best double couple: M_o1.17×10^{17} NP1: ϕ_s307°,δ11°,λ31°. NP2:ϕ_s186°,δ84°,λ100°. Principal axes: T 1.168, Plg50°, Azm107°; N .005, Plg10°, Azm5°; P -1.173, Plg38°, Azm267°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **12** *04:50:47.9±0.1,22.17S×176.47W,mb5.2/66 Error ellipse: s-maj=6.7km s-min=3.6km az=128.0*
IDC **12** *04:50:48.3±0.6,21.98S×176.58W,h142km±4km,mb4.9/14, mb1 5.1/15,mb1mx5.0/16,mbtmp5.3/15,MS3.9/11, Ms1 3.9/11,ms1mx3.6/28,Error ellipse: s-maj=11.9km s-min=10.9km az=141.0*
MOS **12** *04:50:48.2±0.9,21.92S×176.58W,h147km,mb5.2/32, Error ellipse: s-maj=12.0km s-min=8.0km az=55.5*
ORF **12** *04:50:50.6,17.79S×179.43E,h30km,mb6.0*
ISC 12 04:50:46.3±0.1,22.23S±0.03×176.50W±0.04,h139km, h139km±.8km:pP-P,n422,σ0s99/258,mb5.0/87,25C-26D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.11**	**190**	P		**P**	**P**	**04 52 33.9**	**+4.9**
	55nn,0.3s,baz=107,slow=19,SNR=2.7								
RAO				S			**S**	**04 53 49.8**	**+1.2**
	587nn,0.3s,baz=102,slow=23,SNR=13								
RAO	**Raoul Island**	**7.11**	**190**	P		**P**	**P**	**04 52 33.9**	**+5.0**
RAO				S			**S**	**04 53 49.9**	**+1.2**
AFI	**Afiamalu**	**9.41**	**29**	P		**P**	**P**	**04 52 50.8**	**-8.8**
	12nm,0.3s,baz=213,slow=7.4,SNR=6.9								
AFI				S			S	04 54 22.4	-21
	20nm,0.3s,baz=38,slow=22,SNR=3.2								
AFI	**Afiamalu**	**9.41**	**29**	*e*Pn		**P**	**P**	**04 52 50.6**	**-9.0**
	169nm,0.9s								
AFI				*e*S			**S**	**04 54 25.2**	**-19**
RAR	**Rarotonga**	**15.58**	**89**	P		**P**	**P**	**04 54 17.1**	**-2.5**
	8.4nm,0.3s,baz=255,slow=7.2,SNR=36								
RAR				S			**S**	**04 56 55.0**	**-13**
	7.6nm,0.3s,baz=102,slow=21,SNR=9.2								
DZM	**Mont Dzumac**	**15.80**	**267**	*e*P		**P**	**P**	**04 54 27.8**	**+5.4**
DZM	**Mont Dzumac**	**15.80**	**267**	P		**P**	**P**	**04 54 26.7**	**+4.3**
	4.0nm,0.3s,baz=85,slow=17,SNR=93								
DZM				LR		LR	LR	04 58 17.3	
	comp=Z,762nm,18.7s,baz=206,slow=28								
PUZ	**Puketiti**	**16.43**	**195**	PN		**P**	**P**	**04 54 24.0**	**-6.0**
PUZ				SN			**S**	**04 57 19.6**	**-7.4**
PUZ	**Puketiti**	**16.43**	**195**	*e*P		**P**	**P**	**04 54 22.7**	**-7.3**
PUZ				S			**S**	**04 57 16.6**	**-10**
URZ	**Urewera**	**16.90**	**198**	P		**P**	**P**	**04 54 35.4**	**-0.4**
	18nm,0.3s,baz=28,slow=2.9,SNR=70								
URZ	**Urewera**	**16.90**	**198**	PN		**P**	**S**	**04 54 33.1**	**-2.7**
URZ				SN			**S**	**04 57 35.8**	**-1.8**
HIZ	**Hauiti**	**17.85**	**203**	PN		**P**	**P**	**04 54 48.7**	**+1.5**
HIZ	**Hauiti**	**17.85**	**203**	*e*P		**P**	**P**	**04 54 47.5**	**+0.3**
BFZ	**Birch Farm**	**19.40**	**197**	PN		**P**	**P**	**04 55 01.8**	**-2.0**
BFZ	**Birch Farm**	**19.40**	**197**	*e*P		**P**	**P**	**04 55 01.6**	**-2.1**
MRZ	**Mangatainoka R**	**19.57**	**198**	PN		**P**	**P**	**04 55 02.2**	**-3.3**
MRZ	**Mangatainoka R**	**19.57**	**198**	*e*P		**P**	**P**	**04 55 01.8**	**-3.7**
KIW	**Kapiti Island**	**19.95**	**199**	*e*P		**P**	**P**	**04 55 07.7**	**-1.7**
SNZO	**South Karori**	**20.42**	**199**	*e*P		**P**	**P**	**04 55 16.7**	**+2.5**
	82nm,0.6s								
QRZ	**Quartz Range**	**20.73**	**204**	PN		**P**	**P**	**04 55 17.7**	**+0.4**
QRZ	**Quartz Range**	**20.73**	**204**	*e*P		**P**	**P**	**04 55 17.7**	**+0.3**
TUWZ	**Tuamarina**	**20.77**	**201**	PN		**P**	**P**	**04 55 15.0**	**-2.7**
THZ	**Tophouse**	**21.42**	**202**	PN		**P**	**P**	**04 55 23.0**	**-1.2**
THZ	**Tophouse**	**21.42**	**202**	*e*P		**P**	**P**	**04 55 22.1**	**-2.0**
THZ				S			**S**	**04 59 07.9**	**-0.3**
KHZ	**Kahutara**	**21.79**	**200**	*e*P		**P**	**P**	**04 55 26.1**	**-1.7**
DSZ	**Denniston Nort**	**21.80**	**204**	*e*P		**P**	**P**	**04 55 27.2**	**-0.7**
LTZ	**Lake Taylor**	**22.54**	**202**	*e*P		**P**	**P**	**04 55 36.4**	**+1.3**
WVZ	**Waitaha Valley**	**23.35**	**204**	*e*P		**P**	**P**	**04 55 42.9**	**0.0**
RPZ	**Rata Peaks**	**23.79**	**203**	P		**P**	**P**	**04 55 47.0**	**-0.1**
	24nm,0.5s,mb5.0,baz=8.4,slow=3.2,SNR=21								
RPZ	**Rata Peaks**	**23.79**	**203**	PN		**P**	**P**	**04 55 46.1**	**-1.0**
RPZ	**Rata Peaks**	**23.79**	**203**	*e*P		**P**	**P**	**04 55 46.2**	**-0.9**
FOZ	**Fox Glacier**	**24.17**	**205**	PN		**P**	**P**	**04 55 50.3**	**-0.4**
FOZ	**Fox Glacier**	**24.17**	**205**	*e*P		**P**	**P**	**04 55 49.8**	**-1.0**
LBZ	**Lake Benmore**	**24.68**	**203**	*e*P		**P**	**P**	**04 55 55.3**	**-0.3**
TBI	**Tubuai**	**24.94**	**98**	*e*P		**P**	**P**	**04 55 56.8**	**-1.5**
	312nm,1.2s,mb5.7								
WKZ	**Wanaka**	**25.49**	**204**	*e*P		**P**	**P**	**04 56 02.4**	**-0.8**
PAE	**Paea**	**25.69**	**85**	*e*P		**P**	**P**	**04 56 02.7**	**-2.7**
	203nm,1.2s,mb5.6								
PAE					*e*pP		pP	04 56 30.1	-4.1
PPT	**Papeete**	**25.72**	**84**	*e*P		**P**	**P**	**04 56 03.4**	**-2.2**
	95nn,1.2s,mb5.3								
PPT	**Papeete**	**25.72**	**84**	P		**P**	**P**	**04 56 03.9**	**-1.7**
	92nn,1.0s,mb5.3,baz=202,slow=4.1,SNR=5.3								
EAZ	**Earnscleugh**	**25.73**	**204**	*e*P		**P**	**P**	**04 56 05.1**	**-0.3**
HNR	**Honiara**	**25.94**	**296**	P		**P**	**P**	**04 56 06.6**	**-1.0**
	195nm,0.7s,mb5.8,baz=282,slow=1.6,SNR=14								
HNR	**Honiara**	**25.94**	**296**	*e*P		**P**	**P**	**04 56 08.2**	**+0.6**
HNR				*e*				04 59 29.1	
HNR				pmax		pmax			
	comp=Z,115nm,0.7s,mb5.6								
HNR	**Honiara**	**25.94**	**296**	*e*P		**P**	**P**	**04 56 08.2**	**+0.6**
	comp=Z,116nm,0.7s,mb5.6								
HNR				*e*PcP		PcP	PcP	04 59 29.1	-4.1
TVO	**Taravao**	**25.97**	**85**	*e*P		**P**	**P**	**04 56 05.4**	**-2.5**
	comp=Z,166nm,1.2s,mb5.5								
TUZ	**Tuapeka**	**26.23**	**202**	PN		**P**	**P**	**04 56 11.2**	**+1.2**
TUZ	**Tuapeka**	**26.23**	**202**	*e*P		**P**	**P**	**04 56 11.0**	**+1.0**
MLZ	**Mavora Lakes**	**26.25**	**205**	PN		**P**	**P**	**04 56 10.5**	**+0.3**
MLZ	**Mavora Lakes**	**26.25**	**205**	*e*P		**P**	**P**	**04 56 10.5**	**+0.2**
CNB	**Canberra Magne**	**32.47**	**239**	*e*P		**P**	**P**	**04 57 07.6**	**+1.9**
	comp=Z,128nm,1.1s,mb5.6								
CTA	**Charters Tower**	**34.75**	**266**	*i*P	⇓	**P**	**P**	**04 57 26.3**	**+1.1**
	comp=Z,149nm,0.9s,mb5.6								
CTA				*e*S			**S**	**05 02 42.7**	**-1.6**
CTA				*e*SCP				05 03 31.7	
CTA	**Charters Tower**	**34.75**	**266**	*i*P	⇓	**P**	**P**	**04 57 26.3**	**+1.1**
CTA				*e*S			**S**	**05 02 42.7**	**-1.6**
CTA				pmax		pmax			
	comp=Z,149nm,0.9s								
CTAO	**Charters Tower**	**34.75**	**266**	*e*P		**P**	**P**	**04 57 26.4**	**+1.2**
CTAO				pmax		pmax			
	comp=Z,211nm,0.9s,mb5.8								
CTAO	**Charters Tower**	**34.75**	**266**	*e*P		**P**	**P**	**04 57 26.4**	**+1.1**
	comp=Z,211nm,0.9s,mb5.8								
TOO	**Toolangi**	**36.06**	**236**	*e*P		**P**	**P**	**04 57 38.6**	**+2.5**
	comp=Z,35nm,0.7s,mb5.1								
TOO	**Toolangi**	**36.06**	**236**	*e*P		**P**	**P**	**04 57 38.6**	**+2.5**
TOO				pmax		pmax			
	comp=Z,35nm,0.7s,mb5.1								
PMG	**Port Moresby**	**37.11**	**284**	P		**P**	**P**	**04 57 44.9**	**-0.2**
	comp=Z,108nm,0.8s,mb5.5,baz=93,slow=5.6,SNR=38								
PMG	**Port Moresby**	**37.11**	**284**	*e*P		**P**	**P**	**04 57 45.8**	**+0.7**
PMG				*e*PP		pP	pP	04 58 14.3	-1.6
PMG				pmax		pmax			
	comp=Z,239nm,1.3s								
PMG	**Port Moresby**	**37.11**	**284**	*e*P		**P**	**P**	**04 57 45.8**	**+0.6**
	comp=Z,239nm,1.3s,mb5.7								
PMG				*e*pP			pP	04 58 14.3	-1.7
STKA	**Stephens Creek**	**38.34**	**246**	*i*P	⇓	**P**	**P**	**04 57 56.4**	**+1.1**
	comp=Z,85nm,0.6s,mb5.5								
STKA	**Stephens Creek**	**38.34**	**246**	P		**P**	**P**	**04 57 56.4**	**+1.1**
	comp=Z,101nm,0.7s,mb5.6,baz=90,slow=9.0,SNR=192								
STKA				LR		LR	LR	05 11 53.8	
	comp=Z,239nm,18.9s,baz=277,slow=33								
WB2	**Warramunga Arr**	**45.76**	**263**	*i*P	⇓	**P**	**P**	**04 58 55.2**	**-0.6**
WB2				*e*S			**S**	**05 05 23.4**	**-4.3**
WB2				*e*SCS			ScS	05 08 38.8	+4.3
WRAB	**Tennant Creek**	**45.76**	**263**	*d*iP		**P**	**P**	**04 58 55.1**	**-0.7**
WRA	**Warramunga Arr**	**45.77**	**263**	P		**P**	**P**	**04 58 55.0**	**-0.8**
	comp=Z,95nm,0.8s,mb5.5,baz=98,slow=8.0,SNR=219								
WRA				pP		pP		04 59 28.1	+0.7
	comp=Z,20nm,0.8s,baz=101,slow=7.9,SNR=2.1								
WRA				ScP				05 04 12.7	
	comp=Z,2.0nm,0.9s,baz=109,slow=2.3,SNR=8.2								
WRA				S			**S**	**05 05 25.9**	**-2.0**
	comp=Z,2.4nm,0.9s,baz=104,slow=14,SNR=5.2								
WRA	**Warramunga Arr**	**45.77**	**263**	P		**P**	**P**	**04 58 55.0**	**-0.8**
WRA				*PP		pP	pP	04 59 28.1	+0.7
WRA				S			**S**	**05 05 25.9**	**-1.9**
FORT	**Forrest**	**49.92**	**248**	*e*P		**P**	**P**	**04 59 27.3**	**-0.6**
	comp=Z,906nm,0.6s								
FITZ	**Fitzroy Crossi**	**54.20**	**263**	*i*P	⇓	**P**	**P**	**04 59 59.5**	**-0.4**
	comp=Z,135nm,0.9s,mb5.7								
FITZ				*e*S			**S**	**05 07 23.4**	**-0.9**
FITZ				*e*S			ScS	05 09 39.0	+7.5
SBA	**Scott Base**	**56.25**	**184**	*e*P		**P**	**P**	**05 00 17.9**	**+3.8**
SBA				*e*PP		pP		05 00 48.1	+1.3
SBA				pmax		pmax			
	comp=Z,75nm,1.4s,mb5.3								
SBA	**Scott Base**	**56.25**	**184**	*e*P		**P**	**P**	**05 00 17.9**	**+3.8**
	comp=Z,75nm,1.4s,mb5.3								
SBA				*e*pP			pP	05 00 48.1	+1.3
VNDA	**Vanda**	**56.33**	**186**	P		**P**	**P**	**05 00 16.9**	**+2.3**
	comp=Z,9.9nm,1.0s,mb4.6,baz=7.5,slow=9.0,SNR=27								
VNDA				LR			LR	05 19 48.1	
	comp=Z,64nm,18.1s,baz=280,slow=31								
VNDA	**Vanda**	**56.33**	**186**	*e*P		**P**	**P**	**05 00 17.1**	**+2.5**
VNDA				pmax		pmax			
	comp=Z,11nm,0.8s								
VNDA	**Vanda**	**56.33**	**186**	*e*P		**P**	**P**	**05 00 17.1**	**+2.5**
	comp=Z,11nm,0.8s,mb4.7								
KLBR	**Kellerberrin**	**58.61**	**246**	*e*P		**P**	**P**	**05 00 30.5**	**-0.6**
	comp=Z,87nm,0.8s,mb5.6								
MBWA	**Marble Bar**	**58.85**	**258**	*e*P		**P**	**P**	**05 00 31.9**	**-1.0**
	comp=Z,103nm,0.9s,mb5.7								
MBWA				*e*PP			PP	05 02 40.4	-6.0
NWAO	**Narrogin (SRO)**	**58.86**	**244**	*e*P		**P**	**P**	**05 00 33.5**	**+0.6**
NWAO				pmax		pmax			
	comp=Z,46nm,1.0s								
NWAO	**Narrogin (SRO)**	**58.86**	**244**	*e*P		**P**	**P**	**05 00 33.5**	**+0.7**
	comp=Z,46nm,1.0s,mb5.3								
MUN	**Mundaring**	**59.85**	**245**	*e*P		**P**	**P**	**05 00 39.6**	**-0.1**
DAV	**Davao City (W)**	**63.74**	**290**	*e*P		**P**	**P**	**05 01 04.2**	**-1.8**
QSPA	**South Pole Qui**	**67.85**	**180**	*e*P		**P**	**P**	**05 01 33.3**	**+2.2**
QSPA				*e*				05 01 46.1	
MJAR	**Matsushiro Arr**	**72.42**	**323**	P		**P**	**P**	**05 01 57.2**	**-2.1**
	comp=Z,7.8nm,0.8s,mb4.5,baz=159,slow=5.8,SNR=16								
MJAR				LR			LR	05 29 42.2	
	comp=Z,98nm,21.1s,baz=330,slow=32								
MJAR	**Matsushiro Arr**	**72.42**	**323**	P		**P**	**P**	**05 01 57.2**	**-2.1**
MJAR				LR			LR	05 29 42.2	
MAJO	**Matsushiro**	**72.42**	**323**	*e*P		**P**	**P**	**05 01 57.1**	**-2.2**
MAJO				pmax		pmax			
	comp=Z,17nm,1.0s,mb4.7								
MAJO	**Matsushiro**	**72.42**	**323**	*e*P		**P**	**P**	**05 01 57.1**	**-2.2**
	comp=Z,17nm,1.0s,mb4.7								
MAT	**Matsushiro**	**72.42**	**323**	P		**P**	**P**	**05 01 57.2**	**-2.1**
MAT	**Matsushiro**	**72.42**	**323**	*e*P		**P**	**P**	**05 01 57.0**	**-2.3**
MAT				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.6								
MAT	**Matsushiro**	**72.42**	**323**	*e*P		**P**	**P**	**05 01 57.0**	**-2.3**
	comp=Z,9.7nm,0.8s,mb4.6								
KSM	**Kuching**	**75.03**	**278**	*e*P		**P**	**P**	**05 02 14.9**	**0.0**
ASAJ	**Asahikawa**	**75.91**	**331**	LR		LR	LR	05 36 03.1	
	comp=Z,60nm,18.6s,baz=134,slow=36								
YSS	**Yuzh-Sakhalins**	**78.06**	**333**	*c*iP		**P**	**P**	**05 02 31.2**	**+0.1**
YSS				pmax		pmax			
	comp=Z,74nm,2.0s,mb5.0								
SAO	**San Andreas Ge**	**78.34**	**42**	*e*P		**P**	**P**	**05 02 32.9**	**+0.1**
SAO				pmax		pmax			
	comp=Z,89nm,1.3s,mb5.2								
SAO	**San Andreas Ge**	**78.34**	**42**	*e*P		**P**	**P**	**05 02 32.9**	**+0.1**
	comp=Z,89nm,1.3s,mb5.2								
LRV	**Little Rabbit**	**78.40**	**43**	*e*P		**P**	**P**	**05 02 33.7**	**+0.6**
PTRM	**Twissleman Ran**	**78.43**	**44**	*e*P		**P**	**P**	**05 02 33.2**	**-0.2**
MWC	**Mount Wilson**	**78.97**	**46**	*e*P		**P**	**P**	**05 02 36.0**	**-0.3**
MWC				*e*PP		pP	pP	05 03 11.5	+0.3
BAR	**Barrett**	**79.01**	**48**	*e*P		**P**	**P**	**05 02 36.0**	**-0.5**
BAR				*e*pP		pP	pP	05 03 06.2	-5.2
PMSA	**Palmer Station**	**79.15**	**156**	*e*P		**P**	**P**	**05 02 37.0**	**+0.3**
ISA	**Isabella**	**79.56**	**45**	*e*P		**P**	**P**	**05 02 39.1**	**-0.4**
ISA				*e*PP		pP	pP	05 03 13.6	-0.7
ISA				pmax		pmax	pmax		
	comp=Z,48nm,1.7s,mb4.8								
ISA	**Isabella**	**79.56**	**45**	*e*P		**P**	**P**	**05 02 39.1**	**-0.3**
	comp=Z,48nm,1.7s,mb4.8								
ISA				*e*pP			pP	05 03 13.6	-0.7
CMB	**Columbia Colle**	**79.79**	**42**	*e*P		**P**	**P**	**05 02 40.2**	**-0.5**
CMB				*e*PP		pP	pP	05 03 15.0	-0.6
CMB				pmax		pmax	pmax		
	comp=Z,31nm,1.0s,mb4.9								
CMB	**Columbia Colle**	**79.79**	**42**	*e*P		**P**	**P**	**05 02 40.2**	**-0.4**
	comp=Z,31nm,1.0s,mb4.9								
CMB				*e*pP			pP	05 03 14.9	-0.6
SSE	**Sheshan**	**79.86**	**309**	*e*P		**P**	**P**	**05 02 41.1**	**-0.1**
SSE				PCP		PcP	PcP	05 02 48.6	0.0
SSE				AP		pP	pP	05 03 15.5	-0.6
SSE				XP		sP	sP	05 03 32.7	+1.3
SSE				S		S	S	05 12 30.1	-1.2
SSE				SCS		ScS	ScS	05 12 51.1	+1.6
SSE				XS				05 13 29.9	
SSE				AMB		AMB			
	comp=Z,20nm,0.7s,mb4.9								
SSE				AMB		AMB			
	comp=Z,280nm,5.0s								
OHCM	**Honcut**	**79.95**	**40**	*e*P		**P**	**P**	**05 02 41.0**	**-0.5**
WDC	**Whiskeytown Da**	**80.12**	**39**	*e*P		**P**	**P**	**05 02 42.0**	**-0.4**
WDC				pmax		pmax			
	comp=Z,47nm,1.3s,mb5.0								
WDC	**Whiskeytown Da**	**80.12**	**39**	*e*P		**P**	**P**	**05 02 42.0**	**-0.4**
	comp=Z,46nm,1.3s,mb5.0								
MAW	**Mawson**	**80.42**	**200**	*e*P		**P**	**P**	**05 02 45.9**	**+2.5**
	comp=Z,40nm,0.8s,mb5.1								
MAW	**Mawson**	**80.42**	**200**	P		**P**	**P**	**05 02 45.9**	**+2.5**
	comp=Z,21nm,0.9s,mb4.8,baz=133,slow=7.9,SNR=19								
MAW	**Mawson**	**80.42**	**200**	*e*P		**P**	**P**	**05 02 45.9**	**+2.5**
MAW				pmax		pmax			
	comp=Z,40nm,0.8s								
GLA	**Glamis**	**80.50**	**49**	*e*P		**P**	**P**	**05 02 44.8**	**+0.2**
GLA				*e*PP		pP		05 03 20.4	+0.9
KTRM	**Thompson Ridge**	**80.52**	**37**	P		**P**	**P**	**05 02 45.3**	**+0.8**
YBH	**Yreka Blue Hor**	**80.78**	**38**	*e*P		**P**	**P**	**05 02 46.2**	**+0.4**
YBH				*e*PP		pP	pP	05 03 21.3	+0.5
YBH				pmax		pmax	pmax		
	comp=Z,21nm,0.8s								
YBH	**Yreka Blue Hor**	**80.78**	**38**	*e*P		**P**	**P**	**05 02 46.2**	**+0.3**
	comp=Z,22nm,0.8s,mb4.8								
YBH				*e*pP			pP	05 03 21.3	+0.5
HUMO	**Hull Mountain**	**81.21**	**37**	*e*P		**P**	**P**	**05 02 48.5**	**+0.4**
	comp=Z,31nm,1.1s,mb4.8								
HUMO				*e*pP			pP	05 03 21.3	-1.8
NVAR	**Mina Array Bea**	**81.33**	**42**	P		**P**	**P**	**05 02 48.7**	**-0.1**
	comp=Z,6.9nm,0.8s,mb4.3,baz=213,slow=6.5,SNR=64								
NVAR				*e*pP			pP	05 03 23.9	+0.1
	comp=Z,8.0nm,1.0s,baz=219,slow=5.8,SNR=5.3								
MNV	**Mina**	**81.43**	**43**	*e*P		**P**	**P**	**05 02 48.9**	**-0.4**
MNV				pmax		pmax			
	comp=Z,43nm,1.3s,mb4.9								
MNV	**Mina**	**81.43**	**43**	*e*P		**P**	**P**	**05 02 48.9**	**-0.5**
	comp=Z,43nm,1.3s,mb4.9								
LDFC	**Landfair**	**81.45**	**47**	*e*P		**P**	**P**	**05 02 50.0**	**+0.5**
LDFC				*e*pP			pP	05 03 25.7	+1.2
BBOR	**Butler Butte**	**81.55**	**37**	P		**P**	**P**	**05 02 50.2**	**+0.3**
TPNV	**Topopah Spring**	**81.77**	**45**	*e*P		**P**	**P**	**05 02 51.1**	**0.0**
TPNV				*e*PP		pP	pP	05 03 26.5	+0.3
TPNV				pmax		pmax			
	comp=Z,27nm,1.0s,mb4.8								
TPNV	**Topopah Spring**	**81.77**	**45**	*e*P		**P**	**P**	**05 02 51.1**	**0.0**
	comp=Z,27nm,1.0s,mb4.8								
TPNV				*e*pP			pP	05 03 26.5	+0.3
TPH	**Tonopah**	**81.80**	**43**	*e*P		**P**	**P**	**05 02 51.5**	**+0.2**
TPH				pmax		pmax			
	comp=Z,48nm,1.4s,mb4.9								
TPH	**Tonopah**	**81.80**	**43**	*e*P		**P**	**P**	**05 02 51.5**	**+0.3**
	comp=Z,48nm,1.4s,mb4.9								
USHA	**Ushuaia**	**81.92**	**146**	P		**P**	**P**	**05 02 52.4**	**+0.8**
	comp=Z,23nm,0.9s,mb4.8,baz=246,slow=8.3,SNR=6.0								
NEN	**Nelson**	**81.95**	**46**	*e*P		**P**	**P**	**05 02 52.0**	**-0.1**
NEN				*e*pP			pP	05 03 25.4	-1.7
NJ2	**Nanjing**	**82.05**	**309**	*e*P		**P**	**P**	**05 02 52.8**	**+0.1**
NJ2				AP		pP	pP	05 03 28.1	+0.3
NJ2				XP		sP	sP	05 03 43.3	+0.2
NJ2				PP		PP	PP	05 06 03.7	-0.3
NJ2				S		S	S	05 12 52.0	-1.8
NJ2				XS				05 13 53.0	
NJ2				PS		PS	PS	05 14 00.0	-3.3
NJ2				AMB		AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5								
NJ2				AMB		AMB			
	comp=Z,390nm,4.4s								
NJ2				LR		LR			
	comp=N,330nm,14.1s								
NJ2				LR		LR			
	comp=E,790nm,26.9s								
NJ2				LR		LR			
	comp=Z,370nm,25.2s								
KDAK	**Kodiak Island**	**82.17**	**13**	LR		LR		05 35 34.5	
	comp=Z,97nm,19.0s,baz=59,slow=33								
MOD	**Modoc**	**82.27**	**39**	*e*P		**P**	**P**	**05 02 53.2**	**-0.3**
	comp=Z,48nm,1.4s,mb4.9								
MOD				*e*pP			pP	05 03 28.4	-0.3
HABR	**Khabarovsk**	**82.63**	**330**	*i*P	⇓	**P**	**P**	**05 03 05.0**	**+10**
HABR				pmax		pmax			
	comp=Z,36nm,0.5s,mb5.4								
MDJ	**Mudanjiang**	**82.73**	**324**	P		**P**	**P**	**05 02 56.0**	**+0.1**
MDJ				AP			pP	05 03 29.6	-1.4
MDJ				S			S	05 13 04.2	+3.9
MDJ				AMB		AMB			
	comp=Z,10.0nm,1.3s,mb4.4								
MDJ				AMB		AMB			
	comp=Z,170nm,5.7s								
TUC	**Tucson**	**82.96**	**51**	*e*P		**P**	**P**	**05 02 57.7**	**+0.4**
TUC				*e*PP			pP	05 03 32.9	+0.5
TUC				pmax		pmax			
	comp=Z,37nm,1.0s,mb5.1								
TUC	**Tucson**	**82.96**	**51**	*e*P		**P**	**P**	**05 02 57.7**	**+0.4**
	comp=Z,37nm,1.0s,mb5.1								
TUC				*e*pP			pP	05 03 32.9	+0.5
WVOR	**Wild Horse Val**	**83.57**	**39**	*e*P		**P**	**P**	**05 03 00.0**	**-0.2**
WVOR				*e*PP			pP	05 03 34.9	-0.5
WVOR				pmax		pmax			
	comp=Z,46nm,1.1s,mb5.1								
WVOR	**Wild Horse Val**	**83.57**	**39**	*e*P		**P**	**P**	**05 02 60.0**	**-0.2**
	comp=Z,46nm,1.1s,mb5.1								
WVOR				*e*pP			pP	05 03 34.9	-0.5
VIPM	**Ingram Point**	**83.73**	**37**	P		**P**	**P**	**05 03 01.4**	**+0.5**
CROR	**Criterion Ridg**	**83.83**	**36**	P		**P**	**P**	**05 03 01.3**	**-0.2**
ARUT	**Antelope Range**	**84.08**	**45**	*e*P		**P**	**P**	**05 03 03.5**	**+0.7**
ARUT				*e*PP			pP	05 03 38.5	+0.4
WUAZ	**Wupatki**	**84.24**	**48**	*e*P		**P**	**P**	**05 03 04.2**	**+0.5**
	comp=Z,45nm,1.1s,mb5.1								
WUAZ				*e*pP			pP	05 03 41.1	+2.2
HDW	**Hoodsport**	**84.49**	**33**	P		**P**	**P**	**05 03 05.2**	**+0.6**
CN2	**Changchun**	**84.51**	**322**	*e*P		**P**	**P**	**05 03 04.7**	**-0.2**
CN2				*e*AP			pP	05 03 39.2	-0.9
CN2				*e*S			S	05 13 18.0	-0.1
CN2				AMB		AMB			
	comp=Z,20nm,1.4s,mb4.7								
ELK	**Elko**	**84.61**	**42**	*e*P		**P**	**P**	**05 03 05.4**	**0.0**
ELK	

GDL2 ePP PP 05 03 57.7 +1.9
TNA Tin City 87.75 4 eP **P 05 03 19.9 -0.2**
comp=Z,5.0nm,0.8s,mb4.4
TNA ePP PP 05 03 55.4 -0.3
NEW Newport 87.96 35 LR LR 05 36 39.6
comp=Z,109nm,19.9s,baz=227,slow=31
ENH Enshi 88.16 304 eP **P 05 03 23.0 +0.1**
comp=Z,28nm,0.9s,mb5.1
ENH ePP PP 05 04 02.4 +3.9
MCK McKinley 88.36 12 eP **P 05 03 22.4 -0.6**
MCK e*PP PP 05 03 57.9 -0.7
MCK pmax pmax
comp=Z,13nm,0.8s,mb4.8
MCK McKinley 88.36 12 eP **P 05 03 22.4 -0.6**
comp=Z,13nm,0.8s,mb4.8
MCK ePP PP 05 03 57.9 -0.7
SEY Seymchan 88.37 346 eP **P 05 03 22.3 -0.8**
SEY *SP sP 05 04 13.9 0.0
SEY e 05 13 37.0
SEY eS S 05 13 56.6 +2.3
SEY e*SS 05 14 58.5
SEY pmax pmax
comp=Z,20nm,1.0s,mb4.9
SEY smax
comp=N,240nm,20.5s
SEY smax
comp=E,210nm,23.1s
MCMT McKenzie Canyo 88.37 40 eP **P 05 03 23.7 +0.1**
MCMT ePP PP 05 03 60.0 +0.8
RRI2 Red Ridge 88.48 41 eP **P 05 03 24.4 +0.3**
comp=E,5.2nm,0.7s,mb4.5
RRI2 ePP PP 05 03 58.8 -0.9
GYA Guiyang 88.71 299 ⇓iP **P 05 03 28.6 +3.0**
GYA AP pP 05 04 04.2 +3.0
GYA XP sP 05 04 19.3 +2.9
GYA SKS SKS 05 13 36.2 -3.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,90nm,3.2s
GYA LR LR
comp=N,430nm,18.4s
GYA LR LR
comp=E,450nm,17.9s
GYA LR LR
comp=Z,390nm,18.0s
THY Trims Highway 88.72 13 eP **P 05 03 25.3 +0.6**
MENT Mentasta 88.75 14 eP **P 05 03 25.4 +0.5**
DLMT Dillon 88.82 39 epP pP 05 03 58.6 -2.6
comp=Z,31nm,1.3s
MSO Missoula 88.87 38 eP **P 05 03 25.3 -0.5**
comp=Z,6.7nm,1.0s,mb4.5
SNOW Snow King Moun 88.89 42 eP **P 05 03 26.2 +0.1**
comp=Z,8.3nm,0.9s,mb4.7
SNOW ePP PP 05 04 02.3 +0.6
SMCO Snowmass 89.12 47 eP **P 05 03 27.9 +0.6**
comp=Z,14nm,0.9s,mb4.9
SMCO ePP PP 05 04 04.3 +1.4
QLMT Earthquake Lak 89.22 40 eP **P 05 03 27.9 +0.4**
QLMT ePP pP 05 04 04.5 +1.3
PDAR Pinedale Array 89.27 43 P **P 05 03 27.2 -0.5**
comp=Z,6.7nm,0.9s,mb4.6,baz=207,slow=3.3,SNR=38
PDAR PKKPbc 05 21 10.2
comp=Z,0.6nm,0.7s,baz=72,slow=4.7,SNR=4.3
CHMT Chamberlain Mo 89.31 38 eP **P 05 03 27.4 -0.5**
CHMT ePP pP 05 04 04.3 +0.8
YMR Madison River 89.41 41 eP **P 05 03 29.3 +0.9**
comp=Z,45nm,1.4s,mb5.2
SDCO Great Sand Dun 89.43 49 eP **P 05 03 28.3 -0.4**
comp=Z,7.4nm,0.9s,mb4.6
SDCO ePP pP 05 04 05.3 +0.9
BOZ Bozeman (W) 89.54 39 eP **P 05 03 28.7 -0.3**
BOZ e*PP pP 05 04 05.4 +0.7
BOZ pmax pmax
comp=Z,40nm,1.3s,mb5.2
BOZ Bozeman (W) 89.54 39 eP **P 05 03 28.7 -0.3**
comp=Z,40nm,1.3s,mb5.2
BOZ ePP pP 05 04 05.4 +0.7
COLA College 89.59 12 eP **P 05 03 27.9 -0.9**
COLA e*PP pP 05 04 02.5 -2.0
COLA pmax pmax
comp=Z,22nm,0.6s,mb5.3
COLA College 89.59 12 eP **P 05 03 27.9 -0.9**
comp=Z,22nm,0.6s,mb5.3
COLA ePP PP 05 04 02.5 -2.0
ILAR Eielson Array 89.69 12 P **P 05 03 27.8 -1.4**
comp=Z,7.1nm,0.6s,mb4.8,baz=225,slow=5.4,SNR=68
ILAR pP pP 05 04 04.2 -0.7
comp=Z,10nm,1.1s,baz=227,slow=5.1,SNR=4.9
HRY Holter Researc 90.01 38 eP **P 05 03 30.9 -0.2**
HRY ePP pP 05 04 04.8 -2.1
XAN Xi'an 90.28 307 P **P 05 03 33.3 +0.5**
JCT Junction City 90.33 57 eP **P 05 03 32.4 -0.7**
JCT e*PP pP 05 04 08.4 -0.4
JCT pmax pmax
comp=Z,14nm,0.8s,mb4.9
JCT Junction City 90.33 57 eP **P 05 03 32.4 -0.7**
comp=Z,14nm,0.8s,mb4.9
JCT ePP pP 05 04 08.4 -0.4
ISCO Idaho Springs 90.35 47 eP **P 05 03 33.2 +0.2**
ISCO e*PP pP 05 04 09.0 +0.3
ISCO pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ISCO Idaho Springs 90.35 47 eP **P 05 03 33.2 +0.2**
comp=Z,3.9nm,0.9s,mb4.3
ISCO ePP pP 05 04 09.0 +0.3
DAWY Dawson 90.74 15 eP **P 05 03 34.5 +0.3**
DAWY ePP pP 05 04 09.3 -0.7
GCMT Greycliff 90.78 40 eP **P 05 03 35.4 +0.5**
GCMT ePP pP 05 04 09.5 -1.1
BILL Bilibino 90.89 354 eP **P 05 03 34.4 -0.4**
BILL e*PP pP 05 04 08.2 -2.4
BILL pmax pmax
comp=Z,23nm,1.3s,mb5.0
BILL Bilibino 90.89 354 eP **P 05 03 34.4 -0.5**
comp=Z,23nm,1.3s,mb5.1
BILL ePP pP 05 04 08.2 -2.4
KMI Kunming 91.37 296 ⇑P **P 05 03 39.8 +1.7**
KMI AP pP 05 04 14.1 +0.2
KMI XP sP 05 04 28.9 -0.2
KMI S S 05 14 23.7 +1.4
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,110nm,3.9s
KMI LR LR
comp=N,120nm,41.8s
KMI LR LR
comp=E,100nm,38.8s
KMI LR LR
comp=Z,120nm,42.8s
CHRT Chiangrai 91.81 291 ⇓P **P 05 03 41.0 +0.8**
CHG Chiang Mai 92.14 289 ⇓P **P 05 03 42.7 +1.0**
comp=Z,16nm,0.8s,mb5.1
EDM Edmonton 92.80 32 eP **P 05 03 43.5 -0.5**
CD2 Chengdu 92.89 302 eP **P 05 03 46.0 +1.1**
CD2 AP pP 05 04 22.0 +1.3
CD2 PP PP 05 07 33.0 +1.4
CD2 PPP PPP 05 09 36.0 +1.3
CD2 SKS SKS 05 14 04.8 +0.9
CD2 S S 05 14 36.2 +0.7
CD2 SS SS 05 20 56.8 +0.3
CD2 LR LR
comp=E,220nm,8.4s
CD2 LR LR
comp=Z,90nm,10.8s
WMOK Wichita Mounta 92.92 54 eP **P 05 03 44.0 -1.0**
WMOK pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
WMOK Wichita Mounta 92.92 54 eP **P 05 03 44.0 -1.0**
comp=Z,5.5nm,0.9s,mb4.7
CFAA Coronel Fontan 92.96 126 P **P 05 03 45.8 +0.5**
comp=Z,1.3nm,0.9s,mb4.0,baz=237,slow=3.1,SNR=24
CFAA LR LR 05 38 33.2
comp=Z,14nm,21.5s,baz=236,slow=31
LAO LASA Array 93.30 40 eP **P 05 03 46.8 +0.4**
comp=Z,29nm,0.9s,mb5.4
RSSD Black Hills 93.43 43 eP **P 05 03 46.5 -0.6**
RSSD pmax pmax
comp=Z,37nm,0.9s,mb5.5
RSSD Black Hills 93.43 43 eP **P 05 03 46.5 -0.5**
comp=Z,37nm,0.9s,mb5.5
LZH Lanzhou 94.92 307 eP **P 05 03 56.5 +2.5**
LZH AP pP 05 04 31.9 +2.0
LZH XP sP 05 04 45.2 +0.2
LZH PP PP 05 07 49.0 +2.3
LZH SKS SKS 05 14 17.2 +2.2
LZH eS S 05 14 55.0 +2.2
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,140nm,5.4s
JTS JuntasAbangare 95.24 81 LR LR 05 36 12.5
comp=Z,75nm,20.9s,baz=223,slow=29
JTS JuntasAbangare 95.24 81 ⇓iP **P 05 03 56.0 0.0**
DGMT Dagmar 95.35 40 eP **P 05 03 55.5 -0.2**
comp=Z,8.7nm,0.7s,mb5.1
INK Inuvik 95.57 15 LR LR 05 39 42.6
comp=Z,17nm,21.6s,baz=79,slow=31
INK Inuvik 95.57 15 eP **P 05 03 55.8 -0.4**
INK pmax pmax
comp=Z,6.0nm,0.9s
INK Inuvik 95.57 15 eP **P 05 03 55.8 -0.5**
comp=Z,5.5nm,0.9s,mb4.9
YKA Yellowknife Ar 97.49 24 P **P 05 04 04.5 -0.5**
comp=Z,3.6nm,0.9s,mb4.7,baz=237,slow=4.4,SNR=59
YKA pP pP 05 04 40.5 -0.4
comp=Z,2.6nm,0.8s,baz=237,slow=4.2,SNR=6.7
YKA PKKPbc 05 20 42.7
comp=Z,0.5nm,0.7s,baz=43,slow=2.2,SNR=7.8
YKA Yellowknife Ar 97.49 24 P **P 05 04 04.5 -0.5**
YKA pP pP 05 04 40.5 -0.4
YKA PKKPbc 05 20 42.7
YKW3 Yellowknife Ar 97.53 24 eP **P 05 04 04.6 -0.6**
YKW3 epP pP 05 04 40.6 -0.4
LPAZ La Paz 100.11 112 P P 05 04 21.0 +3.0
comp=Z,4.2nm,1.1s,baz=225,slow=2.7,SNR=11
LPAZ La Paz 100.11 112 eP P 05 04 22.1 +4.1
LPAZ pmax pmax
comp=Z,9.0nm,1.3s
LPAZ La Paz 100.11 112 ePdif P 05 04 22.1 +4.1
comp=Z,8.6nm,1.3s
TIXI Tiksi 100.77 345 iP P 05 04 16.6 -3.1
FCC Fort Churchill 104.91 32 eP Pdif 05 04 40.3 +2.1
SIV San Ignacio 106.24 115 PKKPbc
comp=Z,0.7nm,0.7s,baz=91,slow=12,SNR=4.1
MKAR Makanchi Array 113.39 313 PKiKP
comp=Z,2.9nm,0.6s,baz=203,slow=0.7,SNR=20
MKAR PKKPbc 05 19 53.8
comp=Z,1.1nm,0.7s,baz=274,slow=2.8,SNR=5.2
KSH Kashi 117.01 304 ePKP PKPdf 05 09 18.4 +3.6
AAK Ala-Archa 118.46 307 ⇑iPKiKP PKPdf 05 09 17.6 +0.1
SOKR Solikamsk 127.28 329 ⇑iPKiKP PKPdf 05 09 35.4 +1.3
SOKR pmax pmax
comp=Z,20nm,0.7s
ARU Arti 127.41 325 iPKiKP PKPdf 05 09 36.0 +1.6
ARU e 05 11 36.8
ARU e 05 16 28.1
ARU eSS SS 05 28 33.3 -2.6
ARCES ARCESS Array B 130.86 350 PKP PKPdf 05 09 41.1 +0.4
comp=Z,6.7nm,0.7s,baz=61,slow=1.8,SNR=33
ARCES pPKP 05 10 19.3
comp=Z,3.8nm,0.6s,baz=109,slow=0.4,SNR=2.3
APA Apatity 130.96 345 ⇓ePKiKP PKPdf 05 09 40.0 -0.9
APA pmax pmax
comp=Z,13nm,1.0s
JOF Joensuu 135.19 342 ep PKPdf 05 09 49.2 +0.2
LSZ Lusaka 135.56 215 ePKiKP PKPdf 05 09 53.9 +3.0
KAF Kangasniemi 137.18 344 ep PKPdf 05 09 53.2 +0.6
FINES FINESS Array B 137.81 344 PKhKP 05 09 46.8
comp=Z,2.1nm,0.7s,baz=45,slow=5.4,SNR=9.1
FINES PKP PKPdf 05 09 56.4 +2.6
comp=Z,4.1nm,0.6s,baz=63,slow=4.3,SNR=12
OBN Obninsk 138.93 331 ⇓iPKiKP PKPdf 05 09 59.7 +3.7
OBN e 05 10 37.5
OBN pmax pmax
comp=Z,32nm,1.3s
KMBO Kilima Mbogo 139.72 239 PKhKP 05 09 52.9
comp=Z,1.3nm,0.5s,baz=52,slow=19,SNR=4.8
NB2 NORSAR Subarra 140.84 354 PKPabc PKPdf 05 09 52.7 -6.6
comp=Z,24nm,1.7s,baz=17,slow=2.6
NOA NORSAR Array B 140.84 354 PKhKP 05 09 53.1
comp=Z,4.4nm,0.9s,baz=15,slow=4.5,SNR=6.1
NOA PKP PKPdf 05 09 58.1 -1.1
comp=Z,3.9nm,0.9s,baz=21,slow=2.5,SNR=6.4
ANN Anapa 144.24 317 ePKiKP PKPdf 05 10 10.7 +5.1
ANN pmax pmax
comp=Z,46nm,1.1s
BLJS Baljarushi 144.43 273 P PKPbc 05 10 09.6 +3.3
MARD Mardin 144.57 304 iP PKPbc 05 10 02.9 -3.4
GUMT Gumushane 144.61 309 eP Px 05 09 08.3
KELT Kelkit 144.88 309 iP PKPdf 05 10 06.1 -0.8
SUW Suwalki 144.94 340 ePKP PKPdf 05 10 07.5 +0.9
SUW e 05 10 09.0
SUW Suwalki 144.94 340 ePKP PKPdf 05 10 07.5 +1.0
SUW e 05 10 09.0
AKASG Malin Array Be 145.19 331 PKP PKPdf 05 10 06.1 -1.0
comp=Z,60nm,0.8s,baz=41,slow=4.3,SNR=229
AKASG pPKP 05 10 45.4
comp=Z,21nm,0.7s,baz=42,slow=4.2,SNR=4.2
MUD Monsted U'grnd 145.56 354 iP PKPdf 05 10 09.5 +2.0
comp=Z,114nm,1.1s
MUD i 05 10 47.9
LTHS Al Lith 145.60 274 P PKPdf 05 10 12.0 +3.3
ELZG Elazig 145.61 306 iP PKPdf 05 10 10.4 +2.2
URFA Urfa 146.04 305 eP Px 05 09 11.4
BSD Bornholm Skovb 146.06 348 ⇑iP PKPdf 05 10 11.4 +3.0
comp=Z,68nm,0.8s
MYA Malataya 146.08 306 eP Px 05 09 11.9
SIM Simferopol' 146.21 319 diPKP2 PKPab 05 10 11.8 -1.7
SIM pmax pmax
comp=Z,120nm,0.8s
GZT Gaziantep 147.02 305 iP PKPdf 05 10 13.5 +3.0
KBRS Khaybar 147.20 283 P PKPdf 05 10 16.5 +5.3
GAZ Gaziantep 147.35 305 eP Px 05 09 13.2
BOYT Boyabat 147.42 313 iP PKPdf 05 10 15.0 +3.9
KAHT Ahir Dag 147.46 316 iP PKPdf 05 10 15.9 +4.7
BYBT Boyabat 147.49 313 eP Px 05 09 16.7
BNN Bunyan 147.80 308 eP Px 05 09 17.3
CTKT Corum 147.85 312 iP PKPdf 05 10 14.9 +3.1
DCN Croghan 147.86 12 ⇑iP PKPdf 05 10 15.7 +4.3
BSEG Bad Segeberg 147.92 352 ePKPbc PKPdf 05 10 16.7 +5.2
BSEG epPKPbc 05 10 55.5
KIS Kishinev 147.94 327 ePKP2 PKPab 05 10 17.0 -3.2
DLF Lyons Farm 148.05 11 ⇑iP PKPdf 05 10 16.3 +4.6
TOS Tosya 148.19 313 eP Px 05 09 17.9
COBT Iskenderun 148.27 304 iP PKPdf 05 10 17.4 +4.7
YNBS Yanbu' al Bahr 148.29 281 P PKPdf 05 10 19.5 +6.4
HTY Hatay 148.48 303 eP Px 05 09 18.5
CEYT Ceyhan 148.51 305 eP Px 05 09 13.2
AVNT Avonos 148.55 309 iP PKPdf 05 10 18.4 +5.3
CANT Cankiri 148.66 313 eP Px 05 09 16.5
KWP Kalwaria 148.72 336 ePKP PKPdf 05 10 19.5 +6.5
KWP Kalwaria 148.72 336 ePKP PKPdf 05 10 19.5 +6.5
FKH Fakeheh 148.78 300 eP PKPdf 05 10 20.0 +6.4
ELDT Eldivan 148.84 313 iP PKPdf 05 10 18.2 +4.8
KARA Karaisali 148.95 306 eP Px 05 09 17.1
UMJS Umm Lajj 148.95 282 P PKPdf 05 10 21.1 +7.0
SAFT Safranbolu 148.99 314 eP Px 05 09 17.8
BR131 Keskin Array S 149.03 311 ePKPdf PKPdf 05 10 17.7 +3.9
BRTR Keskin Array B 149.03 311 PKPbc PKPdf 05 10 18.8 +5.0
comp=Z,19nm,0.9s,baz=138,slow=4.0,SNR=68
KAMT Kaman 149.12 311 eP Px 05 09 18.5
OJC Ojcow 149.26 339 ePKPdf PKPdf 05 10 20.2 +6.4
WIT Witteveen 149.37 356 eP PKPdf 05 10 20.9 +7.1
comp=Z,225nm,0.8s
STHS Stebnicka Huta 149.45 337 ePKP PKPdf 05 10 21.6 +7.5
KOLS Kolonicke sedl 149.46 335 ePKP PKPdf 05 10 22.4 +8.3
KOLS e 05 10 28.0
BHL Bhannes 149.46 299 eP PKPdf 05 10 21.2 +6.6
MERS Mersin 149.48 306 eP Px 05 09 17.1
CFR Carcaliu 149.49 324 ⇑P PKPdf 05 10 19.9 +5.6
ANTO Ankara 149.55 312 ePKPbc PKPdf 05 10 21.0 +6.5
LOD Lodumlu 149.56 312 eP Px 05 09 21.8
TBKS Tabuk 149.57 288 P PKPdf 05 10 22.4 +7.4
KSDI Kefar Szold 149.62 298 P PKPdf 05 10 21.2 +6.3
SGKT Sivrigoynuk 149.72 314 iP PKPdf 05 10 20.4 +5.7
KSP Ksiaz 149.74 344 ePKP PKPdf 05 10 22.1 +7.6
KSP e 05 11 00.0
KSP Ksiaz 149.74 344 ePKPdf PKPdf 05 10 21.5 +7.0
KSP epPKP 05 10 57.7
NIE Niedzica 149.78 338 ePKPdf PKPdf 05 10 22.2 +7.6
CRVS Cervenica-Dubn 149.79 336 ePKP PKPdf 05 10 22.4 +7.8
TIRR Tirgusor 149.80 323 ⇓P PKPdf 05 10 22.0 +7.2
TIRR Tirgusor 149.80 323 ⇓P PKPdf 05 10 22.0 +7.2
HARR Harsova 149.92 324 ⇓P PKPdf 05 10 21.3 +6.4
HARR Harsova 149.92 324 ⇓P PKPdf 05 10 21.3 +6.4
CLZ Clausthal 149.96 351 ePKPbc PKPdf 05 10 22.4 +7.6
MMLI Mount Malkishu 149.97 297 P PKPdf 05 10 22.7 +7.3
CLL Collm 150.04 348 ⇑iPKP1 PKPdf 05 10 21.9 +7.0
CLL i *PPKP 05 10 59.9
CLL i 05 11 12.6
CLL i 05 11 23.3
CLL ePP PP 05 14 09.0 +10
UPC Upice 150.12 344 ⇑ePKPB PKPdf 05 10 22.4 +7.4
UPC epPKP 05 11 00.7
OKC Ostrava-Krasne 150.12 341 ⇑ePKPB PKPdf 05 10 21.9 +6.8
OKC epPKP 05 11 01.8
DPC Dobruska-Polom 150.18 343 ⇑ePKPB PKPdf 05 10 23.0 +7.9
DPC epPKP 05 11 01.1
WTSB Winterswijk 150.20 356 ⇑eP PKPdf 05 10 22.1 +6.9
comp=Z,59nm,1.7s
MZDA Masada 150.23 294 P PKPdf 05 10 22.9 +7.1
BRG Berggiesshubel 150.26 347 i PKP PKPdf 05 10 22.6 +7.3
BRG i 05 10 59.3
BRG e 05 13 50.8
BRG e 05 19 01.4
OFRI 'Ofer 150.30 297 P PKPdf 05 10 22.7 +6.8
MDU Mudurnu 150.34 314 eP Px 05 09 21.1
MORC Moravsky Berou 150.35 341 ePKPbc PKPdf 05 10 23.0 +7.5
PSN Preselentsi 150.42 322 eP PKPdf 05 10 24.0 +8.3
MLR Muntele Rosu 150.43 327 ⇓P PKPdf 05 10 22.3 +6.6
MLR Muntele Rosu 150.43 327 ⇓P PKPdf 05 10 22.3 +6.6
PVCC Panska Ves 150.45 346 ⇑ePKPB PKPdf 05 10 23.2 +7.7
PVCC epPKP 05 11 01.7
KECS Kecovo 150.50 337 ePKP PKPdf 05 10 23.9 +8.2
ZFRI Zfri 150.51 293 P PKPdf 05 10 23.8 +7.5
KIZT Kizilcal 150.52 311 eP Px 05 09 24.1
AYUS 'Aynunah 150.70 288 P PKPdf 05 10 24.8 +8.1
JMOS Jabal al Moall 150.75 290 P PKPdf 05 10 24.9 +8.2
ERMK Ermenek 150.77 306 iP PKPdf 05 10 18.1 +1.7
ALWS Ilw as Safayha 150.77 291 P PKPdf 05 10 25.0 +8.3
BDAS Al Bad' 150.83 289 P PKPdf 05 10 25.0 +8.2
VOIR 150.91 328 ⇓P PKPdf 05 10 24.2 +7.8
VOIR 150.91 328 ⇓P PKPdf 05 10 24.2 +7.8
HAQS Haql 150.92 290 P PKPdf 05 10 25.3 +8.3
MOX Moxa 150.93 349 eP PKPdf 05 10 24.3 +8.0
PRU Pruhonice 150.96 345 ⇑ePKPB PKPdf 05 10 24.1 +7.8
PRU epPKP 05 11 02.6
DRGR 150.98 332 ⇑⇑P PKPdf 05 10 23.7 +7.2
DRGR 150.98 332 ⇑⇑P PKPdf 05 10 23.7 +7.3
ESKT Eskisehir 151.04 313 eP Px 05 09 22.4
ESKT Eskisehir 151.04 313 iP PKPdf 05 10 23.1 +6.3
VYHS Vyhne 151.07 339 ePKP PKPdf 05 10 25.0 +8.5
KZIT Kziot 151.12 294 P PKPdf 05 10 25.0 +7.8
PRD Provadia 151.16 322 eP PKPdf 05 10 26.0 +9.1
NKC Novy Kostel 151.18 348 ⇑ePKPB PKPdf 05 10 25.0 +8.4
NKC epPKP 05 11 01.6
PSZ Piszkesteto 151.19 337 ⇓iPKP/p PKPdf 05 10 24.9 +8.2
PSZ Piszkesteto 151.19 337 ⇓ePKPbc PKPdf 05 10 24.9 +8.2
TREC Trest 151.37 344 ⇑ePKPB PKPdf 05 10 25.0 +8.0
TREC epPKP 05 11 00.8
HGN Heimansgroeve 151.45 357 eP PKPdf 05 10 24.8 +7.8
comp=Z,24nm,1.4s
SMOL Smolenice 151.51 340 ePKP PKPdf 05 10 26.7 +10
TNS Taunus Mts 151.79 353 ePKPbc PKPdf 05 10 26.4 +8.8
ULDT Uludag 151.87 315 iP PKPdf 05 10 24.7 +6.7
ZST Bratislava 151.89 340 ePKP PKPdf 05 10 27.1 +9.3
GRF Grafenberg Arr 151.92 349 ePKP PKPdf 05 10 27.0 +9.2
KHC Kasperske Hory 151.98 346 ePKPDF PKPdf 05 10 20.1 +2.2
KHC ⇑ePKPB PKPdf 05 10 26.3 +9.0
KHC epPKP 05 11 02.2
KHC Kasperske Hory 151.98 346 ePKIKP PKPdf 05 10 20.1 +2.2
KHC e 05 11 02.2
ISP Isparta 152.05 310 ePKPbc PKPdf 05 10 26.2 +7.9
JMB Yambol 152.09 322 eP PKPdf 05 10 28.0 +10
WET Wettzell 152.13 347 ePKPbc PKPdf 05 10 27.8 +10
GIVF Givet 152.16 358 ePKP1 PKPdf 05 10 26.5 +8.4
comp=Z,69nm,0.9s
BAIF Baives 152.22 359 ePKP1 PKPdf 05 10 26.8 +8.6
comp=Z,33nm,0.8s
GEC2 GERESS Array S 152.22 345 ePKPbc PKPdf 05 10 27.4 +9.2
GERES GERESS Array B 152.22 345 PKP PKPdf 05 10 19.9 +1.6
comp=Z,1.6nm,0.9s,baz=27,slow=3.0,SNR=6.2
GERES PKPbc PKPdf 05 10 26.7 +8.5
comp=Z,7.9nm,0.7s,baz=18,slow=1.7,SNR=43
BZS Buzias 152.37 332 ⇓P PKPdf 05 10 27.7 +9.1
DST Dursunbey 152.49 315 eP Px 05 09 23.7
KHL Karahalli 152.52 312 eP Px 05 09 25.7
WLF Walferdange 152.54 356 ePKPbc PKPdf 05 10 28.4 +10
ELL Elmali 152.95 308 eP Px 05 09 24.4
MOA Molln 153.01 344 ⇑iP PKPdf 05 10 28.4 +9.0
comp=Z,6.0nm,1.0s
MOA Molln 153.01 344 ⇑P PKPdf 05 10 28.4 +9.0
DNZL Cakiroluk 153.15 311 iP PKPdf 05 10 29.8 +10
KDZ Kurdzhali 153.28 322 eP PKPdf 05 10 30.0 +10
FLN La Foliniere 153.33 6 ePKP1 PKPdf 05 10 28.6 +8.8
comp=Z,28nm,0.6s
ROSF Rostrenen 153.39 10 ePKP1 PKPdf 05 10 28.5 +8.6
comp=Z,26nm,1.0s
LDF La Druitiere 153.53 5 ePKP1 PKPdf 05 10 29.0 +8.9
comp=Z,10nm,0.5s
SGMF Saint Gilles 153.58 9 ePKP1 PKPdf 05 10 29.0 +8.8
comp=Z,29nm,0.8s
RZN Rozhen 153.66 322 P PKPdf 05 10 31.0 +11
GRR Gorron 153.66 7 ePKP1 PKPdf 05 10 29.5 +9.2
comp=Z,44nm,0.8s
CDF Champ du Feu 153.70 354 ePKP1 PKPdf 05 10 29.9 +10
comp=Z,16nm,0.8s
MEZF Maizieres J'vi 153.75 358 ePKP1 PKPdf 05 10 30.2 +10
comp=Z,18nm,0.8s
QUIF Quistinic 153.81 10 ePKP1 PKPdf 05 10 29.6 +9.1
PERS Pernice 153.89 342 ePKPbc PKPdf 05 10 30.0 +9.3
KBA Koelnbreinsper 153.96 345 ⇑iP PKPdf 05 10 26.8 +6.1
comp=Z,9.4nm,1.3s
WTTA Wattenberg 154.17 347 ⇑iP PKPdf 05 10 31.7 +11
comp=Z,18nm,1.0s
HINF Hinteralfeld 154.33 355 ePKP1 PKPdf 05 10 30.9 +10
comp=Z,6.7nm,0.7s
KKB Krupnik 154.44 325 eP PKPdf 05 10 32.0 +10
LJU Ljubljana 154.60 342 ePKPbc PKPdf 05 10 32.4 +11
LOR Lormes 155.01 359 ePKP1 PKPdf 05 10 32.6 +10
comp=Z,12nm,0.8s
SSF Saint Saulge 155.22 360 ePKP1 PKPdf 05 10 33.1 +11
comp=Z,29nm,1.2s
TCF Toulx Ste Croi 155.97 2 ePKP1 PKPdf 05 10 35.2 +12
comp=Z,18nm,1.2s
ESDC Sonseca Array 161.48 18 PKP PKPdf 05 10 32.7 +2.6
comp=Z,2.3nm,0.8s,baz=352,slow=2.5,SNR=8.7
ESDC PKPab PKPab 05 11 16.9 -0.8
comp=Z,5.4nm,0.8s,baz=332,slow=3.6,SNR=18
ESDC pPKPab 05 11 52.7
comp=Z,3.9nm,1.0s,baz=324,slow=4.5,SNR=6.4
LIC Lamto 162.09 151 ePKIKP PKPdf 05 10 33.4 +1.9
comp=Z,32nm,1.0s
DBIC Dimbokro 162.56 151 PKP PKPdf 05 10 34.0 +2.1
comp=Z,5.9nm,0.9s,baz=176,slow=2.1,SNR=5.3
DBIC PKPab PKPab 05 11 23.4 +0.3
comp=Z,16nm,0.9s,baz=176,slow=5.3,SNR=13
DBIC pPKPab 05 12 05.3
comp=Z,4.8nm,0.8s,baz=143,slow=5.1,SNR=3.1
DBIC Dimbokro 162.56 151 ePKIKP PKPdf 05 10 34.0 +2.1
TORD Torodi Ar. Bea 170.81 169 PKP PKPdf 05 10 39.0 +0.8
comp=Z,6.1nm,1.1s,baz=349,slow=1.9,SNR=18
TORD PKPab PKPab 05 12 00.3 +1.0
comp=Z,13nm,0.9s,baz=178,slow=3.3,SNR=20

NEIC **12** *04:51:27.5, 37.74N×14.94E, h24km, ML2.7(ROM), After ROM.*
CSEM **12** *04:51:27.5±0.1, 37.74N×14.94E, h24km, ML3.9/1, Error ellipse: s-maj=1.2km s-min=1.0km az=109.0, After ROM*
ROM 12 04:51:27.5±0.1, 37.74N×14.94E, h24km⊥2km, Md2.4/12, Ml2.7/4, Error ellipse: s-maj=1.5km s-min=1.3km az=88.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.05**	**146**	Pg	Pb		04 51 32.3	+0.7
ESLN				Sg	Sb		04 51 35.9	+1.4
	1µm,0.4s							
MNO	**Monte Soro**	**0.28**	**316**	Pg	Pb		04 51 34.5	+0.4
MNO				Sg	Sb		04 51 39.7	+1.2
MMME	**Mongiuffi-Meli**	**0.32**	**51**	Pg	Pb		04 51 35.6	+0.9
MMME				Sg	Sb		04 51 41.6	+2.0
SSY	**Sortino**	**0.59**	**170**	Pg	Pb		04 51 39.8	+0.7
SSY				Sg	Sb		04 51 49.3	+2.2
	578nm,0.4s							
VPL	**Vulcano Piano**	**0.64**	**3**	Pg	Pb		04 51 40.4	+0.4
VPL				Sg	Sb		04 51 50.7	+2.1
	214nm,0.4s							

PZI	**Palazzolo**	**0.68**	**179**	Pg	Pb	04 51 41.3 +0.7
PZI				Sg	Sb	04 51 52.9 +3.4
	233nm,0.1s					
PLLN	**Pollina**	**0.68**	**292**	Pg	Pb	04 51 41.8 +1.2
MSRU	**Castanea**	**0.69**	**40**	Pg	Pb	04 51 41.5 +0.7
MSRU				Sg	Sb	04 51 52.1 +2.1
GIB	**Gibilmanna**	**0.76**	**290**	Pg	Pb	04 51 42.8 +0.8
	396nm,0.7s					
HAVL	**Avola**	**0.79**	**169**	Pg	Pb	04 51 42.9 +0.4
HAVL				Sg	Sb	04 51 55.1 +2.4
SOI	**Samo**	**0.94**	**69**	Pg	Pb	04 51 46.6 +1.5
SOI				Sg	Sb	04 52 01.1 +3.9
CLTB	**Caltabellotta**	**1.38**	**264**	Pg	Pn	04 51 54.1 +2.6
	36nm,0.4s					

IDC ***12*** *05:04:52.0±1.9,24.35S×66.91W,h158km±17km,mb4.3/15, mb1 4.4/19,mb1mx4.4/20,mbtmp4.8/19,MS3.9/3, Ms1 3.9/3,ms1mx3.3/17,Error ellipse: s-maj=16.3km s-min=9.8km az=83.0*

GUC ***12*** *05:04:53.6±1.0,24.53S×67.38W,h179km±13km,ML5.4*

NEIC ***12*** *05:04:54.9±0.2,24.35S×66.89W,mb4.7/75,Error ellipse: s-maj=7.1km s-min=5.2km az=72.0*

BJI ***12*** *05:04:55.3,24.40S×66.90W,h183km,mB5.1*

LDG ***12*** *05:05:03.6,23.18S×66.07W,h220km*

ISC 12 05:04:50.4±0.5,24.39S±0.04×67.00W±0.05,h156km±5km, h164km±6.9km:pP-P,n174,σ1901/160,mb4.6/88,11C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**		**1.84**	**323**	⇑*iP*		**P**	**05 05 29.2**	**+4.8**
SPCH					*i* S		**S**	**05 05 57.6**	**+7.0**
SPCH					AMP			05 05 58.6	
	comp=E,12μm,0.3s								
CEN1	**Los Morros**		**3.09**	**288**	⇑*iP*		**P**	**05 05 42.3**	**+2.4**
CEN1					*i* S		**S**	**05 06 18.7**	**+0.9**
CEN1					AMP			05 06 20.2	
	comp=N,9μm,0.5s								
CPN1	**Cerro Paranal**		**3.11**	**265**	⇑*iP*		**P**	**05 05 41.4**	**+1.3**
CPN1					*i* S		**S**	**05 06 18.0**	**-0.1**
CPN1					AMP			05 06 23.8	
	comp=E,17μm,0.5s								
ANCH	**Antofagasta**		**3.20**	**282**	⇑*iP*		**P**	**05 05 42.7**	**+1.5**
ANCH					*i* S		**S**	**05 06 18.8**	**-1.3**
CRCH	**Chaqaral**		**3.81**	**239**	⇑*iP*		**P**	**05 05 49.4**	**+0.3**
CRCH					*i* S		**S**	**05 06 31.7**	**-2.6**
CPCH	**Copiapo**		**4.22**	**225**	⇓*iP*		**P**	**05 05 53.8**	**-0.7**
CPCH					*i* S		**S**	**05 06 42.3**	**-1.6**
CDCH	**Caldera**		**4.36**	**231**	⇑*iP*		**P**	**05 05 55.4**	**-1.0**
CDCH					*i* S		**S**	**05 06 43.1**	**-4.1**
CFAA	**Coronel Fontan**		**7.27**	**188**	P		**P**	**05 06 35.5**	**+0.6**
	comp=E,0.3nm,0.3s,baz=4.6,slow=12,SNR=55								
ZON	**Zonda**		**7.28**	**191**	*eP*		**P**	**05 06 39.3**	**+4.2**
LPAZ	**La Paz**		**8.13**	**352**	P		**P**	**05 06 47.9**	**+1.4**
	comp=E,7.7nm,0.3s,baz=166,slow=11,SNR=156								
LPAZ					LR		LR	05 10 25.5	
	comp=E,159nm,18.4s,baz=25,slow=41								
LPAZ	**La Paz**		**8.13**	**352**	*e*Pn		**P**	**05 06 48.2**	**+1.8**
	comp=E,17nm,0.4s								
ARE	**Arequipa**		**8.94**	**331**	*eP*		**P**	**05 06 56.0**	**-1.2**
ARE					*e*S		**S**	**05 08 31.0**	**-5.3**
CPUP	**Villa Florida**		**8.96**	**104**	*e*Pn		**P**	**05 06 57.8**	**+0.4**
	comp=E,336nm,0.6s								
SIV	**San Ignacio**		**10.04**	**35**	P		**P**	**05 07 12.2**	**+0.5**
	comp=E,8.1nm,0.3s,baz=251,slow=11,SNR=186								
TRQA	**Tornquist**		**14.28**	**164**	*e*Pn		**P**	**05 08 06.5**	**+0.1**
	comp=E,150nm,0.7s								
TRQA					*e*Sn		**S**	**05 10 45.2**	**+4.1**
SAML	**Samuel**		**15.78**	**14**	*e*Pn		**P**	**05 08 24.3**	**-1.1**
	comp=E,30nm,0.8s								
PLCA	**Paso Flores**		**16.56**	**189**	P		**P**	**05 08 35.3**	**+0.4**
	comp=E,0.5nm,0.3s,baz=14,slow=12,SNR=24								
PLCA	**Paso Flores**		**16.56**	**189**	*e*Pn		**P**	**05 08 35.4**	**+0.5**
	comp=E,23nm,0.8s								
BDFB	**Brasilia**		**19.83**	**68**	P		**P**	**05 09 10.9**	**-0.2**
	comp=E,4.0nm,0.3s,baz=248,slow=10.0,SNR=124								
ROSC	**El Rosal**		**29.93**	**345**	P		**P**	**05 10 46.0**	**-0.2**
	comp=E,3.5nm,0.7s,mb4.2,baz=91,slow=18,SNR=3.8								
USHA	**Ushuaia**		**30.42**	**182**	P		**P**	**05 10 48.5**	**-1.6**
	comp=E,7.6nm,0.7s,mb4.5,baz=19,slow=10.0,SNR=3.5								
SDV	**Santo Domingo**		**33.26**	**353**	P		**P**	**05 11 13.2**	**-1.9**
	comp=E,9.0nm,0.9s,mb4.5,baz=219,slow=8.7,SNR=7.9								
SDV	**Santo Domingo**		**33.26**	**353**	*eP*		**P**	**05 11 13.0**	**-2.1**
	comp=E,9.1nm,0.8s,mb4.6								
VNA3	**Neumayer Olymp**		**56.78**	**161**	⇑*iP*		**P**	**05 14 19.7**	**-0.4**
VNA3	**Neumayer Olymp**		**56.78**	**161**	*e*		**P**	**05 14 24.1**	**+4.0**
VNA1	**Neumayer--Stat**		**56.98**	**160**	P		**P**	**05 14 21.7**	**+0.2**
VNA1	**Neumayer--Stat**		**56.98**	**160**	*e*		**P**	**05 14 27.8**	**+6.3**
VNA2	**Neumayer--Watz**		**57.35**	**160**	*e*		**P**	**05 14 26.7**	**+2.7**
VNA2	**Neumayer--Watz**		**57.35**	**160**	*e*		**P**	**05 14 28.6**	**+4.6**
VNA2	**Neumayer--Watz**		**57.35**	**160**	*e*S		**S**	**05 22 08.4**	**+2.1**
VNA2	**Neumayer--Watz**		**57.35**	**160**	⇑*iP*		**P**	**05 14 23.6**	**-0.4**
VNA2					*e*S		**S**	**05 22 08.4**	**+2.1**
SNAA	**Sanae**		**58.98**	**161**	*e*		**P**	**05 14 39.3**	**+3.8**
SNAA	**Sanae**		**58.98**	**161**	*e*S		**S**	**05 22 31.0**	**+3.4**
SNAA	**Sanae**		**58.98**	**161**	P		**P**	**05 14 34.6**	**-0.9**
	comp=E,12nm,1.0s,mb4.7,baz=284,slow=7.2,SNR=46								
SNAA	**Sanae**		**58.98**	**161**	⇑*iP*		**P**	**05 14 34.4**	**-1.1**
SNAA					*e*S		**S**	**05 22 31.0**	**+3.4**
JSC	**Jenkinsville**		**59.90**	**346**	*eP*		**P**	**05 14 41.5**	**-0.7**
BLA	**Blacksburg**		**62.56**	**348**	*eP*		**P**	**05 14 59.2**	**-0.9**
JCT	**Junction City**		**62.98**	**328**	*eP*		**P**	**05 15 02.4**	**-0.5**
	comp=E,8.0nm,0.9s,mb4.5								
JCT					*ep*P		pP	05 15 37.7	-2.2
WVT	**Waverly**		**63.33**	**341**	*eP*		**P**	**05 15 02.7**	**-2.4**
	comp=E,24nm,0.8s,mb5.1								
WVT					*e*PcP		PcP	05 15 45.9	+5.4
TXAR	**Lajitas Array**		**63.99**	**325**	P		**P**	**05 15 09.3**	**-0.2**
	comp=E,0.4nm,0.6s,mb3.4,baz=155,slow=7.7,SNR=8.5								
WCI	**Wyandotte Cave**		**64.87**	**343**	*eP*		**P**	**05 15 12.7**	**-2.4**
	comp=E,7.4nm,0.6s,mb4.7								
QSPA	**South Pole Qui**		**65.81**	**180**	*eP*		**P**	**05 15 20.5**	**-0.1**
ACSO	**Alum Creek Sta**		**65.99**	**347**	*eP*		**P**	**05 15 20.0**	**-2.3**
	comp=E,8.7nm,1.1s,mb4.5								
GDL2	**Guadalupe Moun**		**66.63**	**326**	*eP*		**P**	**05 15 24.6**	**-1.9**
LIC	**Lamto**		**67.56**	**72**	*eP*		**P**	**05 15 30.4**	**-2.1**
	comp=E,18nm,0.7s,mb4.6								
DBIC	**Dimbokro**		**67.93**	**71**	P		**P**	**05 15 32.8**	**-2.0**
	comp=E,14nm,0.6s,mb4.8,baz=222,slow=7.1,SNR=38								
DBIC	**Dimbokro**		**67.93**	**71**	*eP*		**P**	**05 15 32.8**	**-2.0**
	comp=E,16nm,0.7s,mb4.8								
LPM	**Los Pinos Moun**		**69.46**	**326**	*eP*		**P**	**05 15 43.8**	**0.0**
LAZ	**Ladron**		**69.79**	**325**	*eP*		**P**	**05 15 46.4**	**+0.6**
ANMO	**Albuquerque**		**69.87**	**326**	*eP*		**P**	**05 15 46.8**	**+0.5**
	comp=E,4.0nm,0.9s,mb4.2								
WUAZ	**Wupatki**		**72.89**	**323**	*eP*		**P**	**05 16 05.2**	**+0.9**
	comp=E,9.0nm,1.1s,mb4.4								
CFTV	**Fuerteventura**		**73.15**	**47**	P		**P**	**05 16 05.5**	**-0.4**
	comp=E,14nm,0.6s,mb4.9								
SYO	**Syowa Base**		**73.19**	**159**	⇑P		**P**	**05 16 05.1**	**-0.2**
SYO	**Syowa Base**		**73.19**	**159**	⇑*eP*		**P**	**05 16 05.1**	**-0.2**
SMCO	**Snowmass**		**73.46**	**329**	*eP*		**P**	**05 16 08.8**	**+1.2**
	comp=E,9.7nm,1.1s,mb4.5								
SMCO					*ep*P		pP	05 16 45.4	-0.3
VNDA	**Vanda**		**74.32**	**190**	P		**P**	**05 16 13.0**	**+1.2**
	comp=E,6.1nm,0.9s,mb4.3,baz=159,slow=4.1,SNR=17								
VNDA	**Vanda**		**74.32**	**190**	*eP*		**P**	**05 16 12.8**	**+1.0**
	comp=E,8.2nm,1.0s,mb4.4								
VNDA					*ep*P		pP	05 16 46.3	-3.7
SRU	**San Rafael**		**75.15**	**326**	*eP*		**P**	**05 16 15.0**	**-2.2**
	comp=E,6.8nm,0.7s,mb4.4								
MSU	**Marysvale**		**75.55**	**325**	*eP*		**P**	**05 16 20.7**	**+1.2**
RWWY	**Rawlins**		**75.56**	**330**	*eP*		**P**	**05 16 19.9**	**+0.4**
	comp=E,10nm,1.0s,mb4.4								
MVU	**Marysvale**		**75.56**	**325**	*eP*		**P**	**05 16 21.4**	**+1.9**
	comp=E,6.3nm,0.9s,mb4.2								
MVU					*e*PcP		PcP	05 16 34.2	+2.2
RSSD	**Black Hills**		**76.15**	**333**	*eP*		**P**	**05 16 23.0**	**+0.3**
	comp=E,4.2nm,0.8s,mb4.1								
TORD	**Torodi Ar. Bea**		**76.71**	**69**	P		**P**	**05 16 25.6**	**-0.8**
	comp=E,32nm,0.6s,mb5.1,baz=255,slow=5.5,SNR=220								
DUG	**Dugway**		**77.13**	**326**	*eP*		**P**	**05 16 29.0**	**+0.8**
	comp=E,5.2nm,1.1s,mb4.1								
PDAR	**Pinedale Array**		**77.48**	**329**	P		**P**	**05 16 30.1**	**0.0**
	comp=E,1.3nm,0.7s,mb3.7,baz=143,slow=7.4,SNR=9.2								
HWUT	**Hardware Ranch**		**77.56**	**327**	*eP*		**P**	**05 16 30.8**	**+0.2**
	comp=E,2.9nm,0.6s,mb4.1								
HWUT					*e*PcP		PcP	05 16 40.5	0.0
SPUT	**South Promonto**		**77.77**	**327**	*eP*		**P**	**05 16 32.0**	**+0.3**
SPUT					*ep*P		pP	05 17 15.9	+5.6
AHID	**Auburn Hatcher**		**78.21**	**328**	*eP*		**P**	**05 16 34.8**	**+0.6**
	comp=E,6.0nm,0.8s,mb4.3								
AHID					*ep*P		pP	05 17 15.8	+3.1
REDW	**Red Top Meadow**		**78.55**	**329**	*eP*		**P**	**05 16 36.5**	**+0.6**
	comp=E,5.9nm,0.9s,mb4.2								
REDW					*e*PcP		PcP	05 16 43.9	-0.9
REDW					*ep*P		pP	05 17 21.8	+7.2
ULM	**Lac du Bonnet**		**78.60**	**342**	P		**P**	**05 16 35.0**	**-1.1**
	comp=E,6.7nm,0.8s,mb4.3,baz=146,slow=5.7,SNR=18								
ULM	**Lac du Bonnet**		**78.60**	**342**	P		**P**	**05 16 35.0**	**-1.1**
LOHW	**Long Hollow**		**78.62**	**329**	*eP*		**P**	**05 16 36.4**	**+0.1**
	comp=E,4.5nm,0.8s,mb4.2								
RRI2	**Red Ridge**		**78.75**	**329**	*eP*		**P**	**05 16 38.0**	**+0.9**
	comp=E,9.9nm,1.1s,mb4.3								
NVAR	**Mina Array Bea**		**78.84**	**321**	P		**P**	**05 16 38.5**	**+0.8**
	comp=E,1.0nm,0.6s,mb3.6,baz=138,slow=6.5,SNR=12								
NVAR	**Mina Array Bea**		**78.84**	**321**	P		**P**	**05 16 38.5**	**+0.8**
SCHQ	**Schefferville**		**78.90**	**0**	P		**P**	**05 16 36.5**	**-1.1**
	comp=E,5.2nm,1.0s,mb4.1,baz=190,slow=5.1,SNR=5.3								
SCHQ	**Schefferville**		**78.90**	**0**	P		**P**	**05 16 36.5**	**-1.1**
IMW	**Indian Meadow**		**79.00**	**329**	*eP*		**P**	**05 16 39.3**	**+1.0**
	comp=E,13nm,1.1s,mb4.5								
LAO	**LASA Array**		**79.14**	**334**	*eP*		**P**	**05 16 39.5**	**+0.5**
	comp=E,16nm,0.9s,mb4.6								
YMR	**Madison River**		**79.60**	**330**	*eP*		**P**	**05 16 43.2**	**+1.7**
	comp=E,15nm,1.0s,mb4.6								
DGMT	**Dagmar**		**79.81**	**336**	*eP*		**P**	**05 16 43.2**	**+0.6**
	comp=E,22nm,0.8s,mb4.8								
DGMT					*ep*P		pP	05 17 23.0	+1.6
HLID	**Hailey**		**80.41**	**327**	*eP*		**P**	**05 16 47.0**	**+1.1**
	comp=E,13nm,0.9s,mb4.5								
DLMT	**Dillon**		**80.88**	**329**	*eP*		**P**	**05 16 49.2**	**+0.8**
	comp=E,17nm,1.2s,mb4.5								
MAW	**Mawson**		**81.06**	**163**	P		**P**	**05 16 49.3**	**+0.4**
	comp=E,24nm,0.9s,mb4.8,baz=218,slow=6.2,SNR=20								
MAW	**Mawson**		**81.06**	**163**	*eP*		**P**	**05 16 49.2**	**+0.3**
	comp=E,32nm,1.1s,mb4.9								
MAW					*e*PcP		PcP	05 16 57.2	+2.1
EGMT	**Eagleton**		**81.66**	**333**	*eP*		**P**	**05 16 52.2**	**-0.2**
	comp=E,5.9nm,1.0s,mb4.2								
LBTB	**Lobatse**		**82.23**	**114**	*eP*		**P**	**05 16 56.0**	**+0.1**
	comp=E,24nm,0.7s,mb4.9								
PTEO	**Sao Teotonio**		**82.42**	**43**	*eP*		**P**	**05 16 57.9**	**+1.3**
EGRO	**El Granado**		**83.19**	**44**	P		**P**	**05 17 01.1**	**+0.6**
	comp=E,16nm,0.9s,mb4.8								
PBEJ	**Beja**		**83.25**	**43**	*eP*		**P**	**05 17 01.4**	**+0.6**
	comp=E,17nm,0.8s,mb4.8								
EVO	**Evora**		**83.47**	**43**	*eP*		**P**	**05 17 00.2**	**-1.7**
	comp=E,31nm,1.1s,mb4.7								
ESPR	**Espera**		**83.83**	**45**	P		**P**	**05 17 04.8**	**+1.1**
	comp=E,16nm,0.7s,mb4.9								
EJIF	**Jimena Fronter**		**83.83**	**45**	P		**P**	**05 17 05.1**	**+1.4**
	comp=E,6.5nm,0.7s,mb4.5								
EMIN	**Mina Concepcio**		**83.84**	**44**	P		**P**	**05 17 04.5**	**+0.8**
	comp=E,18nm,0.9s,mb4.8								
PTOM	**Tomar**		**83.90**	**42**	*eP*		**P**	**05 17 04.5**	**+0.5**
	comp=E,38nm,1.6s,mb4.9								
EBAD	**Badajoz**		**84.23**	**43**	P		**P**	**05 17 06.3**	**+0.7**
	comp=E,8.2nm,0.9s,mb4.5								
EMIJ	**Mijas**		**84.35**	**46**	P		**P**	**05 17 06.8**	**+0.5**
	comp=E,10nm,0.8s,mb4.6								
PCBR	**Castelo Branco**		**84.61**	**42**	*eP*		**P**	**05 17 07.9**	**+0.4**
	comp=E,20nm,0.9s,mb4.9								
ECAB	**El Cabril**		**84.82**	**44**	P		**P**	**05 17 08.7**	**0.0**
	comp=E,5.5nm,0.9s,mb4.3								
MTE	**Manteigas**		**84.91**	**41**	*eP*		**P**	**05 17 09.4**	**+0.4**
	comp=E,46nm,1.1s,mb5.1								
ELOJ	**Sierra Loja**		**85.09**	**46**	P		**P**	**05 17 11.0**	**+1.0**
	comp=E,5.0nm,0.9s,mb4.2								
ERON	**Agron**		**85.25**	**46**	P		**P**	**05 17 11.2**	**+0.5**
	comp=E,1.4nm,0.4s,mb4.0								
ELUQ	**Luque**		**85.26**	**45**	P		**P**	**05 17 12.0**	**+1.1**
	comp=E,40nm,0.8s,mb5.2								
EZAM	**Zamans**		**85.32**	**39**	P		**P**	**05 17 09.0**	**-2.0**
	comp=E,13nm,0.6s,mb4.8								
PVRL	**Vila Real**		**85.35**	**41**	*eP*		**P**	**05 17 11.4**	**+0.2**
	comp=E,50nm,0.9s,mb5.2								
EADA	**Adamuz**		**85.41**	**45**	P		**P**	**05 17 11.8**	**+0.2**
	comp=E,16nm,0.8s,mb4.8								
PCAB	**Cabril**		**85.43**	**40**	*eP*		**P**	**05 17 12.2**	**+0.6**
ELOB	**Lobios**		**85.51**	**40**	P		**P**	**05 17 11.9**	**0.0**
	comp=E,8.8nm,0.6s,mb4.7								
ECOG	**Cogollos-Vega**		**85.55**	**46**	P		**P**	**05 17 13.1**	**+0.8**
	comp=E,7.1nm,0.6s,mb4.6								
EBER	**Berja**		**85.78**	**46**	P		**P**	**05 17 13.8**	**+0.4**
	comp=E,13nm,1.0s,mb4.6								
EBAN	**Banos Encina**		**85.92**	**45**	P		**P**	**05 17 14.9**	**+0.9**
	comp=E,39nm,0.8s,mb5.2								
EQES	**Quesada**		**86.17**	**45**	P		**P**	**05 17 15.0**	**-0.3**
	comp=E,20nm,1.0s,mb4.8								
PBRG	**Braganca**		**86.25**	**41**	*eP*		**P**	**05 17 16.1**	**+0.6**
ECAL	**Calabor**		**86.33**	**40**	P		**P**	**05 17 15.9**	**-0.1**
	comp=E,6.7nm,0.7s,mb4.5								
EHUE	**Huescar**		**86.49**	**46**	P		**P**	**05 17 16.8**	**0.0**
	comp=E,4.4nm,0.9s,mb4.2								
ESDC	**Sonseca Array**		**86.68**	**44**	P		**P**	**05 17 18.7**	**+1.0**
	comp=E,6.1nm,0.8s,mb4.5,baz=236,slow=4.6,SNR=24								
ESDC	**Sonseca Array**		**86.68**	**44**	P		**P**	**05 17 19.0**	**+1.3**
	comp=E,5.7nm,0.8s,mb4.5								
ESLA	**Sonseca Array**		**86.68**	**44**	*eP*		**P**	**05 17 18.3**	**+0.6**
	comp=E,5.0nm,1.2s,mb4.2								
EVIA	**Vianos**		**87.02**	**45**	P		**P**	**05 17 19.6**	**+0.3**
	comp=E,6.0nm,0.6s,mb4.6								
EDM	**Edmonton**		**87.12**	**334**	*eP*		**P**	**05 17 18.6**	**-0.8**
ETOB	**Tobarra**		**87.64**	**45**	P		**P**	**05 17 22.9**	**+0.6**
	comp=E,13nm,0.9s,mb4.8								
LSZ	**Lusaka**		**88.40**	**106**	*eP*		**P**	**05 17 28.7**	**+2.3**
	comp=E,71nm,1.3s,mb5.3								
SJPF	**Ste Jean**		**90.33**	**42**	*eP*		**P**	**05 17 34.6**	**-0.2**
	comp=E,66nm,1.1s,mb5.2								
EGRA	**Graus**		**90.78**	**43**	P		**P**	**05 17 37.9**	**+1.0**
	comp=E,7.3nm,0.7s,mb4.8								
EBIE	**Bielsa**		**90.93**	**43**	P		**P**	**05 17 38.7**	**+1.0**
	comp=E,6.4nm,1.0s,mb4.6								
EPF	**Esparros**		**91.24**	**43**	*eP*		**P**	**05 17 38.8**	**-0.3**
	comp=E,26nm,1.0s,mb4.9								
QUIF	**Quistinic**		**91.92**	**37**	*eP*		**P**	**05 17 41.2**	**-0.9**
	comp=E,115nm,1.4s,mb5.4								
SFJD	**Kangerlussuaq**		**91.94**	**6**	LR		LR	05 57 46.2	
	comp=E,163nm,18.8s,baz=192,slow=34								
ROSF	**Rostrenen**		**92.10**	**37**	*eP*		**P**	**05 17 41.7**	**-1.2**
	comp=E,27nm,0.9s,mb5.0								
LFF	**La Frestale**		**92.51**	**41**	*eP*		**P**	**05 17 44.4**	**-0.5**
	comp=E,9.8nm,0.6s,mb4.8								
MTLF	**Montolieu**		**92.57**	**43**	*eP*		**P**	**05 17 44.4**	**-0.8**
MFF	**Saint Martin d**		**92.89**	**39**	*eP*		**P**	**05 17 46.3**	**-0.3**
	comp=E,29nm,0.9s,mb5.1								
GRR	**Gorron**		**93.46**	**38**	*eP*		**P**	**05 17 48.3**	**-0.8**
	comp=E,12nm,0.7s,mb4.8								
FLN	**La Foliniere**		**93.87**	**37**	*eP*		**P**	**05 17 49.9**	**-1.1**
LASF	**Ste Croix**		**93.97**	**43**	*eP*		**P**	**05 17 51.4**	**-0.1**
LDF	**La Druitiere**		**93.98**	**38**	*eP*		**P**	**05 17 50.5**	**-1.0**
	comp=E,16nm,0.9s,mb4.9								
YKA	**Yellowknife Ar**		**94.49**	**340**	P		**P**	**05 17 53.0**	**-0.4**
	comp=E,3.7nm,0.7s,mb4.6,baz=130,slow=4.5,SNR=90								
YKA					*ep*P		pP	05 18 39.3	+6.2
	comp=E,0.9nm,0.8s,baz=131,slow=4.3,SNR=5.9								
YKA					LR		LR	05 59 22.9	
	comp=E,88nm,21.1s,baz=245,slow=35								
YKA	**Yellowknife Ar**		**94.49**	**340**	P		**P**	**05 17 53.0**	**-0.4**
YKA					*ep*P		pP	05 18 39.4	+6.2
YKA					LR		LR	05 59 22.9	
BGF	**Bois d'Agland**		**94.61**	**41**	*eP*		**P**	**05 17 53.3**	**-1.1**
VIVF	**Saint-Julien-l**		**94.86**	**43**	*eP*		**P**	**05 17 54.9**	**-0.7**
SMRF	**Simiane la Rot**		**94.99**	**44**	*eP*		**P**	**05 17 55.1**	**-1.2**
AVF	**Avril sur Loir**		**95.03**	**41**	*eP*		**P**	**05 17 55.8**	**-0.6**
	comp=E,5.5nm,0.8s,mb4.5								
SMF	**Signal de Mont**		**95.25**	**41**	*eP*		**P**	**05 17 56.4**	**-0.9**
	comp=E,22nm,1.1s,mb5.0								
SSF	**Saint Saulge**		**95.26**	**40**	*eP*		**P**	**05 17 56.5**	**-0.9**
	comp=E,15nm,1.2s,mb4.8								
MBDF	**Montbardon**		**96.11**	**43**	*eP*		**P**	**05 18 00.8**	**-0.5**
	comp=E,79nm,1.5s,mb5.5								
SBF	**Sospel**		**96.12**	**44**	*eP*		**P**	**05 18 00.4**	**-0.9**
LPL	**La Plagne**		**96.46**	**43**	*eP*		**P**	**05 18 02.6**	**-0.2**
	comp=E,24nm,1.2s,mb5.1								
LPG	**La Plagne**		**96.46**	**43**	*eP*		**P**	**05 18 02.9**	**+0.1**
	comp=E,12nm,0.9s,mb4.9								
BAIF	**Baives**		**97.16**	**38**	*eP*		**P**	**05 18 04.9**	**-1.1**
DLBC	**Dease Lake**		**97.57**	**332**	P		**P**	**05 18 08.2**	**+0.6**
	comp=E,3.8nm,0.8s,mb4.9,baz=201,slow=14,SNR=4.8								
AKASG	**Malin Array Be**		**112.32**	**43**	PKiKP			05 23 07.6	
	comp=E,0.6nm,0.4s,baz=260,slow=3.4,SNR=4.3								
AKASG	**Malin Array Be**		**112.32**	**43**	PKPdf		PKPdf	05 23 07.6	+0.3
FINES	**FINESS Array B**		**112.56**	**31**	PKiKP			05 23 10.1	
	comp=E,8.1nm,1.2s,baz=239,slow=1.0,SNR=3.3								
BRTR	**Keskin Array B**		**113.03**	**55**	PKiKP			05 23 10.1	
	comp=E,1.0nm,0.8s,baz=193,slow=4.2,SNR=6.1								
WRA	**Warramunga Arr**		**131.28**	**207**	PKP		PKPdf	05 23 45.3	+0.6
	comp=E,3.3nm,0.7s,baz=173,slow=1.5,SNR=17								
WRA					pPKP			05 24 32.1	
	comp=E,1.7nm,0.9s,baz=151,slow=1.6,SNR=5.0								
KAD	**Karad**		**143.14**	**93**	*eP*		PKPbc	05 24 07.5	+2.9
KAD					AMb		AMB	05 24 14.1	
	comp=E,11nm,1.2s								
POO	**Poona**		**143.19**	**91**	*i* P		PKPbc	05 24 05.6	+0.9
KSH	**Kashi**		**145.42**	**55**	*e*PKP		PKPdf	05 24 12.5	+2.7
KSH					*e*PKS		PKS	05 27 47.0	+2.9
MKAR	**Makanchi Array**		**146.83**	**40**	PKPbc		PKPbc	05 24 13.7	+0.1
	comp=Z,44nm,0.8s,baz=321,slow=1.5,SNR=102								
HYB	**Hyderabad**		**147.15**	**96**	*eP*		PKPdf	05 24 17.0	+3.8
BHPL	**Bhopal**		**147.49**	**85**	*i* P		PKPdf	05 24 14.5	+0.8
BHPL					AMb		AMB	05 24 18.5	
	comp=Z,21nm,0.3s								
VIS	**Vishakhapatnam**		**151.56**	**98**	*eP*		PKPdf	05 24 20.8	+0.7
VIS					AMb		AMB	05 24 29.5	
	comp=Z,45nm,0.8s								
WMQ	**Urumqi**		**151.64**	**41**	*e*PKP		PKPdf	05 24 19.5	0.0
WMQ					LR		LR		
	comp=N,150nm,22.0s								
WMQ					LR		LR		
	comp=E,160nm,23.0s								
WMQ					LR		LR		
	comp=Z,170nm,24.0s								
MJAR	**Matsushiro Arr**		**155.20**	**305**	PKPab		PKPab	05 24 52.0	-0.8
	comp=Z,3.2nm,0.8s,baz=58,slow=2.7,SNR=7.2								
MAJO	**Matsushiro**		**155.21**	**305**	*e*PKPab		PKPab	05 24 53.3	+0.5
MAT	**Matsushiro**		**155.21**	**305**	PKP2		PKPab	05 24 52.2	-0.6
BOK	**Bokaro**		**155.25**	**86**	*i* P		PKPdf

BJI 12 07:12:43.6,25.83N×92.51E,h52km,mb4.4, ML3.7
NEIC 12 07:12:44.9±0.7,25.96N×92.31E,h35km,mb4.3/2, Error ellipse: s-maj=15.1km s-min=9.5km az=189.0
ISC 12 07:12:41.7±0.8,25.50N±0.08×92.24E±0.04,h66km±6km, n45,σ1§19/58,mb3.7/10,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHL	**Shillong**	**0.33**	**282**	*e*P		**P**	**07 12 53.5**	**+0.7**
SHL				*e*S		**S**	**07 13 00.0**	**-0.9**
AGT	**Agartala**	**1.84**	**209**	*e*x		x	07 13 24.0	
AGT				*e*x		x	07 16 01.0	
LSA	**Lhasa**	**4.29**	**347**	P		**P**	**07 13 45.2**	**-1.0**
LSA	comp=N,110nm,0.9s			Smax				
LSA	comp=E,220nm,0.7s			Smax				
LSA	**Lhasa**	**4.29**	**347**	*e*Pn		**P**	**07 13 45.4**	**-0.8**
JIRN	**Jiri**	**5.83**	**293**	*e*Pn		**P**	**07 14 08.9**	**+1.5**
JIRN	comp=E,295nm,0.5s			*e*Sn		**S**	**07 15 15.1**	**+1.5**
JIRN	**Jiri**	**5.83**	**293**	*e*Pn		**P**	**07 14 08.9**	**+1.5**
JIRN	comp=E,147nm,0.5s			*e*Sn		**S**	**07 15 15.1**	**+1.5**
BOK	**Bokaro**	**6.02**	**255**	*e*P		**P**	**07 14 12.2**	**+2.1**
BOK				*e*S		**S**	**07 15 18.6**	**+0.1**
BOK				*e*S		**S**	**07 15 19.2**	**+0.7**
GUN	**Gumba**	**6.17**	**294**	*e*Pn		**P**	**07 14 13.3**	**+1.1**
GUN	comp=E,220nm,0.6s			*e*Sn		**S**	**07 15 23.4**	**+1.2**
GUN	**Gumba**	**6.17**	**294**	*e*Pn		**P**	**07 14 13.3**	**+1.1**
GUN	comp=E,110nm,0.6s			*e*Sn		**S**	**07 15 23.4**	**+1.2**
PKI	**Pulchoki**	**6.45**	**290**	*e*Pn		**P**	**07 14 16.8**	**+0.6**
PKI	comp=E,86nm,0.5s			*e*Sn		**S**	**07 15 29.3**	**+0.1**
PKI	**Pulchoki**	**6.45**	**290**	*e*Pn		**P**	**07 14 16.8**	**+0.6**
PKI	comp=E,43nm,0.5s			*e*Sn		**S**	**07 15 29.3**	**+0.1**
KKN	**Kakani**	**6.63**	**292**	*e*Pn		**P**	**07 14 18.8**	**+0.1**
KKN	comp=E,134nm,0.6s			*e*Sn		**S**	**07 15 33.6**	**+0.1**
KKN	**Kakani**	**6.63**	**292**	*e*Pn		**P**	**07 14 18.8**	**+0.1**
KKN	comp=E,67nm,0.6s			*e*Sn		**S**	**07 15 33.6**	**+0.1**
DMN	**Daman**	**6.72**	**290**	*e*Pn		**P**	**07 14 20.6**	**+0.6**
DMN				*e*Sn		**S**	**07 15 35.5**	**-0.3**
GKN	**Gorkha**	**7.24**	**292**	*e*Pn		**P**	**07 14 27.3**	**+0.2**
GKN	comp=E,136nm,0.3s			*e*Sn		**S**	**07 15 47.8**	**-0.7**
GKN	**Gorkha**	**7.24**	**292**	*e*Pn		**P**	**07 14 27.3**	**+0.2**
GKN	comp=E,68nm,0.3s			*e*Sn		**S**	**07 15 47.8**	**-0.7**
BWNR	**Bhubaneshwar**	**7.87**	**230**	*e*x		x	07 13 51.3	
BWNR				*e*x		x	07 15 23.0	
KOLN	**Koldanda**	**8.05**	**288**	*e*Pn		**P**	**07 14 37.7**	**-0.6**
KOLN	comp=E,78nm,0.5s			*e*Sn		**S**	**07 16 07.5**	**-1.2**
KOLN	**Koldanda**	**8.05**	**288**	*e*Pn		**P**	**07 14 37.7**	**-0.6**
KOLN	comp=E,39nm,0.5s			*e*Sn		**S**	**07 16 07.5**	**-1.2**
ASOR	**Ausora**	**13.28**	**287**	*i* S		**S**	**07 18 04.9**	**-11**
KLP	**Kalpa**	**13.68**	**299**	*e*P		**P**	**07 15 53.6**	**-0.6**
KLP				*e*x		x	07 18 17.4	
BHPL	**Bhopal**	**13.69**	**264**	*e*P		**P**	**07 15 52.8**	**-1.4**
BHPL				*e*x		x	07 18 22.4	
BHPL				AML	AML		07 20 04.8	
BHPL	comp=E,13nm,1.0s			AML	AML		07 20 05.9	
	comp=N,24nm,0.6s							
SONA	**Sohna**	**13.80**	**285**	*i* P		**P**	**07 15 53.2**	**-2.4**
SONA				*e*x		x	07 18 22.5	
KUDL	**Kundal**	**14.31**	**284**	*i* P		**P**	**07 16 00.2**	**-2.1**
KUDL				*e*S		**S**	**07 18 41.5**	**+1.8**
LZH	**Lanzhou**	**14.51**	**41**	*e*P		**P**	**07 16 05.0**	**+0.1**
LZH				AP			07 16 11.5	
LZH				XP			07 16 16.1	
LZH	comp=Z,20nm,1.3s			AMB	AMB			
KHET	**Khetri**	**14.90**	**284**	*e*P		**P**	**07 16 07.7**	**-2.3**
KHET				*e*x		x	07 18 49.7	
GTA	**Gaotai**	**15.26**	**23**	*e*P		**P**	**07 16 16.7**	**+2.1**
GTA				AP			07 16 23.9	
GTA				XP			07 16 27.2	
AJM	**Ajmer**	**15.85**	**277**	*e*P		**P**	**07 16 20.2**	**-1.9**
AJM	comp=Z,23nm,1.1s			AMb	AMB		07 16 30.2	
ENH	**Enshi**	**15.97**	**69**	*e*Pn		**P**	**07 16 23.9**	**+0.3**
	comp=Z,51nm,0.8s							
XAN	**Xi'an**	**16.79**	**56**	P		**P**	**07 16 27.5**	**-6.3**
XAN				AP			07 16 38.7	
POO	**Poona**	**18.39**	**252**	*e*x		x	07 18 34.0	
POO	comp=Z,14nm,0.4s			AMb	AMB		07 18 35.2	
POO				*e*x		x	07 20 43.3	
WMQ	**Urumqi**	**18.65**	**350**	*e*P		**P**	**07 16 55.6**	**-1.0**
WMQ				AP			07 17 05.6	
WMQ				XP			07 17 09.6	
KAD	**Karad**	**18.67**	**248**	*i* x		x	07 20 46.5	
MKAR	**Makanchi Array**	**22.68**	**342**	P		**P**	**07 17 38.3**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.2,baz=152,slow=12,SNR=9.6							
PSI	**Prapat**	**23.47**	**163**	P		**P**	**07 17 56.3**	**+10**
	comp=Z,3.0nm,0.2s,mb4.2,baz=59,slow=5.9,SNR=4.2							
SONM	**Songino Array**	**24.94**	**23**	P		**P**	**07 18 00.6**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.4,baz=203,slow=9.8,SNR=5.6							
ZAL	**Zalesovo**	**28.94**	**351**	P		**P**	**07 18 36.2**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.6,baz=316,slow=13,SNR=2.9							
ZAL	**Zalesovo**	**28.94**	**351**	P		**P**	**07 18 36.2**	**-0.4**
CHKZ	**Chkalovo**	**32.44**	**336**	P		**P**	**07 19 06.5**	**-1.1**
	comp=Z,1.0nm,0.8s,mb3.6							
MJAR	**Matsushiro Arr**	**40.57**	**63**	P		**P**	**07 20 22.3**	**+6.0**
	comp=Z,1.0nm,0.4s,mb4.0,baz=272,slow=8.3,SNR=4.9							
AKASG	**Malin Array Be**	**53.76**	**315**	P		**P**	**07 21 59.9**	**+0.5**
	comp=Z,0.1nm,0.3s,mb3.4,baz=82,slow=6.7,SNR=6.6							
ARE0	**ARCESS Array S**	**58.24**	**338**	*e*P		**P**	**07 22 29.6**	**-1.6**
WRA	**Warramunga Arr**	**60.95**	**134**	P		**P**	**07 22 58.5**	**+8.0**
	comp=Z,1.2nm,0.9s,mb3.9,baz=323,slow=7.5,SNR=12							
GERES	**GERESS Array B**	**63.89**	**314**	P		**P**	**07 23 11.4**	**+1.8**
	comp=Z,0.3nm,0.3s,mb3.6,baz=63,slow=6.0,SNR=5.1							
TORD	**Torodi Ar. Bea**	**84.93**	**282**	P		**P**	**07 25 14.9**	**+3.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=55,slow=3.6,SNR=5.0							

NEIC 12 07:30:07.0,37.63N×20.94E,h5km,MD3.5(ATH), After ATH.
CSEM 12 07:30:07.0,37.63N×20.93E,h5km,MD3.5, After ATH
ATH 12 07:30:07.0,37.63N×20.93E,h16km±1km,MD3.5/8,2C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RLS	**Riolos of Patr**	**0.60**	**45**	⇑*i*PB		Pb	07 30 18.4	-0.3
RLS				*e*SN		Sn	07 30 27.6	-2.4
RLS	**Riolos of Patr**	**0.60**	**45**	⇑*e*Pg		Pb	07 30 18.4	-0.3
RLS				*e*Sb		Sb	07 30 27.6	+0.9
RLS	**Riolos of Patr**	**0.60**	**45**	*e*Pg		Pb	07 30 18.4	-0.3
RLS				*e*Sb		Sb	07 30 27.6	+0.9
VLS	**Valsamata**	**0.61**	**334**	*e*PB		Pb	07 30 18.9	+0.1
VLS				*e*SN		Sn	07 30 28.3	-1.8
ITM	**Ithomi**	**0.91**	**119**	*e*PN		Pn	07 30 24.7	-0.4
EVR	**Evrytania**	**1.46**	**28**	*e*PN		Pn	07 30 34.9	+2.0
VLI	**Veliai**	**1.84**	**119**	*e*PN		Pn	07 30 40.1	+1.7
VLI	**Veliai**	**1.84**	**119**	*e*Pn		Pn	07 30 41.9	+3.5
MGER	**Gerania Oros**	**1.88**	**78**	*e*PN		Pn	07 30 40.5	+1.6
MGER	**Gerania Oros**	**1.88**	**78**	*e*Pg		Pn	07 30 42.0	+3.1
JAN	**Janina**	**2.02**	**358**	*e*PN		Pn	07 30 42.6	+1.6
JAN	**Janina**	**2.02**	**358**	*e*Pg		Pn	07 30 45.5	+4.5
MPAR	**Parnis Oros**	**2.28**	**76**	*e*PN		Pn	07 30 46.0	+1.4
MPAR	**Parnis Oros**	**2.28**	**76**	*e*Pn		Pn	07 30 47.5	+2.9
NEO	**Neokhori**	**2.46**	**46**	*e*PB		Pb	07 30 49.4	-0.9
NEO	**Neokhori**	**2.46**	**46**	*e*Pn		Pn	07 30 51.3	+4.1

NEIC 12 07:59:29.9,38.25S×176.98E,h66km,ML4.1(WEL), After WEL.
WEL 12 07:59:30.1±0.2,38.26S×176.97E,h64km±1km,ML3.9/9, 10C-30D,Error ellipse: s-maj=1.4km s-min=1.0km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**0.11**	**89**	⇓P*		P	07 59 39.4	-0.3
URZ						S*	07 59 46.1	-0.6
URZ	**Urewera**	**0.11**	**89**	⇓P		P	07 59 39.4	-0.2
URZ						S	07 59 47.1	+0.4
EDRZ	**Edgecumbe**	**0.24**	**311**	⇑P*		P	07 59 40.1	-0.2
EDRZ						S*	07 59 46.6	-1.1
EDRZ	**Edgecumbe**	**0.24**	**311**	⇑P		P	07 59 40.1	-0.1
MARZ	**Manawahe**	**0.36**	**320**	P*		P	07 59 40.9	-0.2
MARZ						S*	07 59 49.6	+0.3
MARZ	**Manawahe**	**0.36**	**320**	P		P	07 59 40.9	-0.3
TAZ	**Tarawera**	**0.36**	**275**	P*		P	07 59 41.2	0.0
TAZ	**Tarawera**	**0.36**	**275**	⇑P		P	07 59 41.2	0.0
MKRZ	**Makatiti**	**0.41**	**287**	P*		P	07 59 42.2	+0.6
MKRZ	**Makatiti**	**0.41**	**287**	⇓P		P	07 59 42.4	+0.8
MWZ	**Matawai**	**0.45**	**99**	⇑P*		P	07 59 41.9	0.0
MWZ						S*	07 59 51.1	+0.5
MWZ	**Matawai**	**0.45**	**99**	⇑P		P	07 59 41.9	0.0
LIRZ	**Lichensteins R**	**0.53**	**299**	⇑P*		P	07 59 42.5	-0.2
LIRZ	**Lichensteins R**	**0.53**	**299**	⇑P		P	07 59 42.5	-0.2
PATZ	**Paeroa**	**0.57**	**258**	⇓P*		P	07 59 43.0	-0.2
PATZ	**Paeroa**	**0.57**	**258**	⇓P		P	07 59 43.0	-0.2
UTU	**Utuhina**	**0.61**	**278**	⇓P*		P	07 59 43.7	0.0
UTU	**Utuhina**	**0.61**	**278**	⇓P		P	07 59 43.7	0.0
WIZ	**White Island**	**0.76**	**14**	⇓P*		P	07 59 44.4	-0.9
TGRZ	**Tauranga**	**0.77**	**313**	⇓P*		P	07 59 44.9	-0.6
WHTZ	**Whakaora**	**0.89**	**243**	⇓P*		P	07 59 47.0	0.0
WHTZ	**Whakaora**	**0.89**	**243**	⇓P		P	07 59 47.0	0.0
HATZ	**Hinemaiaia**	**0.93**	**227**	⇓P*		P	07 59 47.0	-0.6
HATZ						S*	07 59 59.9	-0.7
KNZ	**Kokohu**	**0.94**	**144**	PN		P	07 59 47.3	-0.4
KNZ	**Kokohu**	**0.94**	**144**	⇓*e*P		P	07 59 47.3	-0.4
BKZ	**Black Stump Fm**	**0.98**	**202**	⇓P*		P	07 59 47.7	-0.5
BKZ						S*	07 59 47.7	+1.5
BKZ	**Black Stump Fm**	**0.98**	**202**	⇑P		P	07 59 47.7	-0.5
PUZ	**Puketiti**	**1.04**	**80**	⇓PN		P	07 59 49.0	0.0
PUZ	**Puketiti**	**1.04**	**80**	⇓P		P	07 59 49.0	0.0
WATZ	**Wairara**	**1.06**	**245**	⇓P*		P	07 59 48.9	-0.5
WATZ	**Wairara**	**1.06**	**245**	⇓P		P	07 59 48.9	-0.5
RATZ	**Rangitukua**	**1.11**	**237**	⇓P*		P	07 59 49.7	-0.4
RATZ	**Rangitukua**	**1.11**	**237**	⇓P		P	07 59 49.7	-0.4
RITZ	**Rihia Road**	**1.12**	**230**	⇓P*		P	07 59 50.0	-0.2
RITZ	**Rihia Road**	**1.12**	**230**	⇓P		P	07 59 50.0	-0.2
MYRZ	**Mayor Island**	**1.14**	**329**	⇓P*		P	07 59 49.6	-0.7
KATZ	**Kakaramea**	**1.22**	**234**	P*		P	07 59 51.8	+0.2
KATZ	**Kakaramea**	**1.22**	**234**	P		P	07 59 51.8	+0.3
MXZ	**Matakaoa Point**	**1.27**	**57**	P*		P	07 59 52.2	0.0
MXZ	**Matakaoa Point**	**1.27**	**57**	P		P	07 59 52.5	+0.3
TOZ	**Tahuroa Road**	**1.27**	**294**	P*		P	07 59 51.6	-0.6
TOZ						S*	08 00 07.7	-1.0
OTVZ	**Oturere**	**1.36**	**228**	⇓P*		P	07 59 53.1	-0.4
WTVZ	**West Tongariro**	**1.37**	**231**	P*		P	07 59 53.2	-0.5
WTVZ	**West Tongariro**	**1.37**	**231**	P		P	07 59 53.2	-0.5
NGZ	**Ngauruhoe**	**1.40**	**229**	P*		P	07 59 53.7	-0.4
NGZ	**Ngauruhoe**	**1.40**	**229**	P		P	07 59 53.7	-0.4
TUVZ	**Tukino**	**1.44**	**225**	P*		P	07 59 54.0	-0.5
TWVZ	**Taurewa**	**1.44**	**235**	P		P	07 59 53.8	-0.8
CNZ	**Chateau**	**1.45**	**229**	P*		P	07 59 54.5	-0.2
CNZ	**Chateau**	**1.45**	**229**	P		P	07 59 54.5	-0.2
WPVZ	**Whakapapa**	**1.46**	**229**	*e*P		P	07 59 54.4	-0.4
FWVZ	**Far West T-bar**	**1.48**	**228**	*e*P		P	07 59 55.0	-0.2
MOVZ	**Moawhango**	**1.48**	**219**	⇓P*		P	07 59 54.2	-0.9
MOVZ						S*	08 00 12.5	-1.2
MOVZ	**Moawhango**	**1.48**	**219**	⇓P		P	07 59 54.2	-1.0
MOVZ						S	08 00 12.7	-1.1
DRZ	**Dome Shelter**	**1.49**	**227**	P		P	07 59 55.6	+0.3
DRZ						P	07 59 55.8	
WNVZ	**Wahianoa**	**1.51**	**225**	⇓P*		P	07 59 54.9	-0.6
WNVZ	**Wahianoa**	**1.51**	**225**	⇓P		P	07 59 54.9	-0.6
MTVZ	**Mangateitei**	**1.62**	**226**	P*		P	07 59 56.5	-0.5
HIZ	**Hauiti**	**1.68**	**261**	⇓PN		P	07 59 57.3	-0.5
HIZ	**Hauiti**	**1.68**	**261**	⇑P		P	07 59 57.3	-0.5
KUZ	**Kuaotunu**	**1.81**	**326**	⇓*e*PN		P	07 59 58.2	-1.3
KUZ	**Kuaotunu**	**1.81**	**326**	⇓*e*P		P	07 59 58.2	-1.4
TSZ	**Takapari Road**	**1.96**	**203**	PN		P	07 59 59.7	-1.9
TSZ	**Takapari Road**	**1.96**	**203**	P		P	07 59 59.7	-1.9
OTAZ	**Otara**	**2.08**	**308**	P		P	08 00 03.1	-0.3
WAZ	**Wanganui**	**2.15**	**225**	*e*P		P	08 00 04.2	-0.1
MTAZ	**Motutapu**	**2.20**	**311**	P		P	08 00 04.6	-0.5
BFZ	**Birch Farm**	**2.48**	**193**	*e*P		P	08 00 05.3	-3.7
MRZ	**Mangatainoka R**	**2.62**	**204**	PN		P	08 00 07.4	-3.7
MRZ						SN	08 00 37.8	-4.0
MRZ	**Mangatainoka R**	**2.62**	**204**	*e*P		P	08 00 07.4	-3.7
KIW	**Kapiti Island**	**3.04**	**211**	PN		P	08 00 13.1	-3.9
KIW	**Kapiti Island**	**3.04**	**211**	P		P	08 00 13.1	-3.9
MTW	**Mount Morrison**	**3.10**	**201**	P		P	08 00 13.2	-4.7
WCZ	**Waipu Caves**	**3.12**	**317**	*e*P		P	08 00 17.1	-1.0
CAW	**Cannon Point**	**3.20**	**207**	PN		P	08 00 14.7	-4.5
CAW	**Cannon Point**	**3.20**	**207**	P		P	08 00 14.7	-4.4
PAWZ	**Paruwai Farm**	**3.33**	**200**	PN		P	08 00 16.3	-4.7
PAWZ	**Paruwai Farm**	**3.33**	**200**	P		P	08 00 16.3	-4.8
MSWZ	**Moikau Station**	**3.41**	**202**	P		P	08 00 17.4	-4.8
SNZO	**South Karori**	**3.51**	**209**	*e*P		P	08 00 18.4	-5.1
BHW	**Baring Head**	**3.53**	**207**	PN		P	08 00 18.9	-4.9
BHW	**Baring Head**	**3.53**	**207**	P		P	08 00 18.9	-4.9
BSWZ	**Blackbirch Sta**	**4.18**	**214**	P		P	08 00 28.1	-4.9
QRZ	**Quartz Range**	**4.28**	**232**	*e*P		P	08 00 32.3	-2.0

CSEM 12 08:09:18.8±0.7,40.46N×19.80E,h10km,MD3.5, Error ellipse: s-maj=16.9km s-min=4.5km az=43.0
ATH 12 08:09:25.7,39.81N×19.57E,h31km±1km,MD3.4/3
ISC 12 08:09:19.8±1.7,40.26N±0.05×19.4E±0.2,h13km±7km,n10, σ1§01/17,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VLO	**Vlora**	**0.21**	**15**	*i* Pg		**Pg**	**08 09 24.0**	**-0.6**
VLO				*i* Sg		**Sg**	**08 09 27.6**	**-0.2**
VLO	**Vlora**	**0.21**	**15**	*e*Pg		**Pg**	**08 09 24.0**	**-0.6**
VLO				*i* Sg		**Sg**	**08 09 27.6**	**-0.2**
SRN	**Sarande**	**0.58**	**131**	*i* Pg		**Pg**	**08 09 30.5**	**-1.2**
SRN				*i* Sg		**Sg**	**08 09 40.6**	**+1.0**
SRN	**Sarande**	**0.58**	**131**	*e*Pg		**Pg**	**08 09 30.5**	**-1.2**
SRN				*i* Sg		**Sg**	**08 09 40.6**	**+1.0**
KEK	**Kerkira**	**0.62**	**152**	*e*PB		**Pb**	**08 09 32.4**	**+0.4**
KEK				*e*SB		**Sb**	**08 09 37.0**	**-3.3**
KEK	**Kerkira**	**0.62**	**152**	*e*Pn		**Pb**	**08 09 32.4**	**+0.4**
KEK				*e*Sn		**Sn**	**08 09 43.7**	**0.0**
LSK	**Leskovik**	**0.91**	**97**	*i* Pg		**Pg**	**08 09 45.0**	**+7.0**
JAN	**Janina**	**1.25**	**118**	*e*PN		**Pn**	**08 09 44.5**	**+1.5**
JAN				*e*SN		**Sn**	**08 09 58.5**	**-1.3**
QSH	**Qafa e Shtames**	**1.31**	**16**	*i* Pn		**Sg**	**08 10 03.8**	**+0.3**
EVR	**Evrytania**	**2.28**	**125**	*e*PN		**Pn**	**08 09 58.7**	**+1.0**

IDC 12 08:12:14.9±5.5,10.69N×141.66E,mb4.3/6,mb1 4.5/7, mb1mx4.1/20,mbtmp4.3/7,ML4.3/1,MS3.8/1,Ms1 3.8/1, ms1mx2.7/38,Error ellipse: s-maj=156.9km s-min=35.0km az=170.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**4.25**	**47**	Pn		Pn	08 13 22.4	-0.1
	15nm,0.3s,baz=195,slow=4.8,SNR=10							
CTA	**Charters Tower**	**30.92**	**172**	LR		LR	08 28 36.0	
	comp=Z,167nm,20.4s,baz=51,slow=32							
MKAR	**Makanchi Array**	**61.45**	**318**	P		P	08 22 33.4	-2.2
	2.4nm,1.1s,baz=100,slow=7.4,SNR=5.8							
BVAR	**Borovoye Array**	**70.27**	**323**	P		P	08 23 30.1	-1.9
	1.1nm,0.5s,baz=104,slow=6.1,SNR=8.9							
ILAR	**Eielson Array**	**72.51**	**25**	P		P	08 23 42.4	-2.9
	0.9nm,0.7s,baz=250,slow=6.3,SNR=17							
YKA	**Yellowknife Ar**	**86.85**	**27**	P		P	08 25 02.0	-0.3
	0.2nm,0.6s,baz=286,slow=5.1,SNR=8.4							
ARCES	**ARCESS Array B**	**88.84**	**342**	P		P	08 25 11.6	-0.2
	5.5nm,1.0s,baz=74,slow=8.8,SNR=4.5							
FINES	**FINESS Array B**	**92.42**	**334**	P		P	08 25 27.0	-1.6
	11nm,1.2s,baz=45,slow=2.7,SNR=4.4							

JMA 12 08:17:53.9±0.2,26.01N×126.08E,h58km±4km,M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JKE	**Kume jima 2**	**0.71**	**63**	P		P	08 18 08.0	-0.2
JKE				*e*S		S	08 18 19.0	+0.2
JAGN	**Aguni-jima**	**1.19**	**61**	P		P	08 18 14.8	+0.1
JAGN				*e*S		S	08 18 30.6	+0.4
JOGS	**Gusukube**	**1.39**	**206**	P		P	08 18 16.7	-0.8
JMJ	**Miyako jima 2**	**1.39**	**211**	P		P	08 18 17.1	-0.5
JMJ				*e*S		S	08 18 35.2	+0.2
NAH1	**Naha**	**1.46**	**82**	P		P	08 18 18.3	-0.3
JJT2	**Tamagusuku 2**	**1.51**	**85**	P		P	08 18 19.3	+0.1
JTJ	**Tarama**	**1.85**	**223**	P		P	08 18 24.3	+0.4
JTJ				*e*S		S	08 18 46.8	+0.7
JIH	**Iheya**	**1.98**	**58**	P		P	08 18 25.0	-0.6
JIH				*e*S		S	08 18 50.6	+1.4
JOW	**Kunigami**	**2.13**	**67**	P		P	08 18 28.6	+0.7
JIJ	**Ishigaki jima**	**2.40**	**227**	P		P	08 18 32.3	+0.6
JIJ				*e*S		S	08 18 59.6	-0.4
IRIF	**Iriomote-Funau**	**2.71**	**232**	P		P	08 18 36.0	0.0
IRIF				*e*S		S	08 19 09.3	+1.7

IDC 12 08:21:26.8±1.9,22.59S×67.51W,h150km±18km,mb3.4/3, mb1 3.6/8,mb1mx3.4/18,mbtmp4.0/8, Error ellipse: s-maj=23.0km s-min=15.6km az=86.0
NEIC 12 08:21:27.7±0.6,22.62S×67.48W,h162km±8km,mb4.3/2, Error ellipse: s-maj=12.5km s-min=9.4km az=109.0
GUC 12 08:21:29.5±0.6,22.84S×67.72W,h166km±4km,ML4.5
ISC 12 08:21:26.8±0.5,22.63S±0.05×67.54W±0.07,h174km±7km, n16,σ1§19/23,mb3.5/3,2C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPCH	**San Pedro de A**	**0.67**	**246**	⇑*i*P		**P**	**08 21 53.8**	**+1.8**
SPCH				*i* S		**S**	**08 22 11.7**	**+0.2**
CEN1	**Los Morros**	**2.56**	**252**	⇓*i*P		**P**	**08 22 13.1**	**+2.7**
CEN1				*i* S		**S**	**08 22 45.8**	**+1.9**
CEN1				AMP			08 22 46.9	
	comp=N,632nm,0.3s							
ANCH	**Antofagasta**	**2.84**	**248**	⇑*i*P		**P**	**08 22 14.0**	**+0.2**
ANCH				*i* S		**S**	**08 22 47.7**	**-2.2**
ANCH				AMP			08 22 50.2	
	comp=N,1μm,0.2s							
CPN1	**Cerro Paranal**	**3.29**	**232**	⇓*i*P		**P**	**08 22 19.8**	**+0.4**
CPN1				*i* S		**S**	**08 22 58.8**	**-1.1**
CPN1				AMP			08 23 00.1	
	comp=E,1μm,0.2s							
CRCH	**Chaqaral**	**4.64**	**217**	*e*P		**P**	**08 22 35.4**	**-1.3**
CRCH				*i* S		**S**	**08 23 27.1**	**-3.6**
LPAZ	**La Paz**	**6.34**	**355**	P		**P**	**08 22 59.6**	**+0.6**
	comp=E,4.1nm,0.3s,baz=160,slow=6.5,SNR=107							
LPAZ				S		**S**	**08 24 09.4**	**-1.3**
	comp=E,0.4nm,0.3s,baz=324,slow=18,SNR=3.3							
CFAA	**Coronel Fontan**	**8.96**	**184**	P		**P**	**08 23 32.9**	**-0.7**
	comp=E,0.2nm,0.3s,baz=0.8,slow=13,SNR=15							
CFAA				S		**S**	**08 25 07.2**	**-5.5**
	comp=E,0.2nm,0.3s,baz=254,slow=18,SNR=7.8							
SIV	**San Ignacio**	**9.00**	**44**	P		**P**	**08 23 32.0**	**-2.1**
	comp=E,4.0nm,0.3s,baz=226,slow=10,SNR=97							
SIV				S		**S**	**08 25 05.3**	**-8.4**
	comp=E,3.4nm,0.3s,baz=325,slow=23,SNR=11							
CPUP	**Villa Florida**	**10.00**	**114**	*e*Pn		**P**	**08 23 47.6**	**+0.3**
	comp=E,14nm,0.8s							
TRQA	**Tornquist**	**16.10**	**164**	*e*Pn		**P**	**08 25 05.0**	**+0.3**
	comp=E,4.8nm,0.7s							
PLCA	**Paso Flores**	**18.22**	**187**	P		**P**	**08 25 29.4**	**+0.1**
	comp=E,0.3nm,0.3s,baz=4.2,slow=12,SNR=12							
BDFB	**Brasilia**	**19.70**	**73**	P		**P**	**08 25 44.6**	**-0.2**
	comp=E,0.8nm,0.3s,baz=243,slow=11,SNR=8.4							
TXAR	**Lajitas Array**	**62.28**	**324**	P		**P**	**08 31 32.8**	**0.0**
	comp=E,0.1nm,0.7s,mb2.8,baz=135,slow=5.3,SNR=2.3							
TORD	**Torodi Ar. Bea**	**76.55**	**69**	P		**P**	**08 33 00.8**	**+0.9**
	comp=E,3.3nm,0.5s,mb4.2,baz=254,slow=5.7,SNR=38							
YKA	**Yellowknife Ar**	**92.68**	**340**	P		**P**	**08 34 20.5**	**+0.9**
	comp=E,0.2nm,0.6s,mb3.4,baz=133,slow=4.4,SNR=11							
WRA	**Warramun

SONM	**Songino Array**	**56.86**	**349**	P		**P**	**08 38 09.5**	**+1.2**
	0.8nm,0.5s,mb3.8,baz=164,slow=8.2,SNR=5.3							
MKAR	**Makanchi Array**	**64.12**	**332**	P		**P**	**08 38 56.8**	**-0.7**
	1.1nm,0.4s,mb4.0,baz=151,slow=7.0,SNR=33							
CHKZ	**Chkalovo**	**74.28**	**332**	*e*P		**P**	**08 39 59.2**	**-0.3**
	0.8nm,0.4s,mb3.8							

LDG ***12*** *08:33:32.2±0.6, 14.78S×166.72E, h10km, Mb4.4/2, Error ellipse: s-maj=85.0km s-min=42.4km az=34.0*
IDC ***12*** *08:33:52.3±3.5, 14.40S×167.34E, h171km±34km, mb4.1/15, mb1 4.2/16, mb1mx4.1/21, mbtmp4.5/16, MS2.9/1, Ms1 2.9/1, ms1mx2.5/29, Error ellipse: s-maj=24.1km s-min=14.3km az=166.0*
NEIC ***12*** *08:33:54.2±1.8, 14.48S×167.23E, h182km±16km, mb4.4/12, Error ellipse: s-maj=12.7km s-min=10.7km az=168.0*
ISC 12 08:33:53.0±2.1, 14.49S±0.09×167.30E±0.09, h193km±20km, n74, σ1§08/38, mb4.1/20, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.58**	**186**	*e*P		**P**	**08 35 41.3**	**-0.3**
DZM				*e*S		**S**	**08 37 04.4**	**-2.1**
DZM	**Mont Dzumac**	**7.58**	**186**	P		**P**	**08 35 42.0**	**+0.3**
	1.7nm,0.3s,baz=35,slow=14,SNR=53							
DZM				S		**S**	**08 37 07.4**	**+0.9**
	2.8nm,0.3s,baz=309,slow=21,SNR=5.6							
DZM				LR		LR	08 38 26.4	
	comp=Z,87nm,18.9s,baz=343,slow=36							
HNR	**Honiara**	**8.77**	**304**	P		**P**	**08 36 03.0**	**+5.8**
	10nm,0.3s,baz=180,slow=7.1,SNR=3.3							
HNR	**Honiara**	**8.77**	**304**	*e*Pn		**P**	**08 36 05.2**	**+8.0**
	36nm,0.6s							
AFI	**Afiamalu**	**20.30**	**91**	P		**P**	**08 38 16.3**	**+0.9**
	32nm,0.9s,baz=73,slow=12,SNR=4.3							
AFI	**Afiamalu**	**20.30**	**91**	*e*P		**P**	**08 38 18.5**	**+3.0**
	33nm,0.9s							
CTA	**Charters Tower**	**20.84**	**252**	*e*P		**P**	**08 38 22.0**	**+1.1**
	4.0nm,0.7s							
CTA	**Charters Tower**	**20.84**	**252**	P		**P**	**08 38 22.2**	**+1.4**
	5.9nm,0.8s,baz=71,slow=10,SNR=9.2							
CTAO	**Charters Tower**	**20.84**	**252**	*e*P		**P**	**08 38 21.4**	**+0.6**
	8.2nm,0.9s							
ARMA	**Armidale**	**21.43**	**220**	*e*P		**P**	**08 38 29.0**	**+2.4**
STKA	**Stephens Creek**	**29.17**	**229**	⇓*i*P		**P**	**08 39 39.0**	**+0.5**
	12nm,0.5s,mb4.8							
STKA	**Stephens Creek**	**29.17**	**229**	P		**P**	**08 39 39.1**	**+0.6**
	14nm,0.5s,mb4.9,baz=45,slow=8.4,SNR=42							
STKA	**Stephens Creek**	**29.17**	**229**	*e*P		**P**	**08 39 39.3**	**+0.7**
RPZ	**Rata Peaks**	**29.30**	**174**	P		**P**	**08 39 37.7**	**-1.9**
	3.2nm,0.6s,mb4.2,baz=45,slow=7.8,SNR=3.4							
WB2	**Warramunga Arr**	**31.90**	**256**	*e*P		**P**	**08 40 01.1**	**-1.4**
WRA	**Warramunga Arr**	**31.91**	**256**	P		**P**	**08 40 01.3**	**-1.3**
	2.8nm,0.4s,mb4.1,baz=86,slow=9.3,SNR=38							
GUMO	**Guam**	**35.66**	**320**	P		**P**	**08 40 35.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**40.09**	**259**	*e*P		**P**	**08 41 11.4**	**0.0**
	6.8nm,0.5s,mb4.3							
FITZ	**Fitzroy Crossi**	**40.09**	**259**	P		**P**	**08 41 11.8**	**+0.4**
	4.1nm,0.8s,mb4.0,baz=105,slow=9.6,SNR=19							
MBWA	**Marble Bar**	**45.63**	**255**	*e*P		**P**	**08 41 56.7**	**+0.5**
	3.2nm,0.5s,mb3.9							
NWAO	**Narrogin (SRO)**	**48.90**	**239**	*e*P		**P**	**08 42 20.9**	**-0.3**
	6.2nm,0.8s,mb4.0							
MJAR	**Matsushiro Arr**	**57.71**	**332**	P		**P**	**08 43 23.6**	**-2.2**
	2.9nm,0.6s,mb4.1,baz=175,slow=7.5,SNR=7.9							
MAJO	**Matsushiro**	**57.71**	**332**	*e*P		**P**	**08 43 24.8**	**-1.0**
	5.4nm,0.4s,mb4.5							
VNDA	**Vanda**	**63.10**	**181**	*e*P		**P**	**08 44 01.3**	**-0.4**
	4.5nm,1.4s,mb3.9							
SBA	**Scott Base**	**63.37**	**180**	*e*P		**P**	**08 44 03.6**	**+0.1**
	20nm,1.4s,mb4.5							
MA2	**Magadan**	**75.02**	**351**	*e*P		**P**	**08 45 14.5**	**-0.2**
BILL	**Bilibino**	**82.31**	**360**	*e*P		**P**	**08 45 53.8**	**-0.1**
	3.8nm,0.8s,mb4.1							
SONM	**Songino Array**	**82.32**	**324**	P		**P**	**08 45 55.6**	**+1.3**
	1.8nm,0.6s,mb3.9,baz=139,slow=5.1,SNR=11							
ILAR	**Eielson Array**	**86.29**	**18**	P		**P**	**08 46 12.2**	**-1.6**
	5.4nm,0.7s,mb4.4,baz=239,slow=4.6,SNR=65							
NVAR	**Mina Array Bea**	**87.09**	**49**	P		**P**	**08 46 18.9**	**+0.6**
	0.6nm,0.7s,mb3.5,baz=217,slow=6.1,SNR=6.7							
ELK	**Elko**	**90.11**	**48**	P		**P**	**08 46 32.8**	**+0.4**
	0.9nm,0.6s,mb3.8,baz=225,slow=20,SNR=6.3							
NEW	**Newport**	**91.36**	**40**	P		**P**	**08 46 38.1**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=263,slow=2.0,SNR=4.2							
SNAA	**Sanae**	**93.79**	**183**	*e*P		**P**	**08 46 49.7**	**+1.1**
	1.9nm,0.9s,mb4.1							
MKAR	**Makanchi Array**	**97.05**	**316**	P		**P**	**08 47 05.0**	**+1.0**
	2.0nm,0.7s,mb4.5,baz=86,slow=6.4,SNR=12							
ZAL	**Zalesovo**	**97.22**	**324**	P		**P**	**08 47 05.1**	**+0.4**
	1.0nm,0.5s,mb4.3,baz=6.6,slow=10,SNR=4.0							
YKA	**Yellowknife Ar**	**97.32**	**27**	P		**P**	**08 47 03.8**	**-1.1**
	0.7nm,0.6s,mb4.1,baz=257,slow=4.7,SNR=28							
ARCES	**ARCESS Array B**	**120.03**	**345**	PKP		PKPdf	08 52 21.5	+1.4
	2.9nm,0.6s,baz=79,slow=2.3,SNR=21							
ARCES	**ARCESS Array B**	**120.03**	**345**	PKP		PKPdf	08 52 21.5	+1.4
FINES	**FINESS Array B**	**125.51**	**338**	PKP		PKPdf	08 52 33.5	+2.6
	3.9nm,1.0s,baz=90,slow=1.9,SNR=4.3							
FINES	**FINESS Array B**	**125.51**	**338**	PKP		PKPdf	08 52 33.5	+2.6
AKASG	**Malin Array Be**	**130.55**	**326**	PKP		PKPdf	08 52 43.3	+2.4
	0.6nm,0.4s,baz=48,slow=3.0,SNR=4.8							
CABF	**La Chapelle**	**144.32**	**338**	*e*PKP1		PKPbc	08 53 07.4	+1.8
	23nm,0.8s							
FLN	**La Foliniere**	**144.37**	**346**	*e*PKP1		PKPbc	08 53 06.5	+0.8
	14nm,0.7s							
LDF	**La Druitiere**	**144.44**	**346**	*e*PKP1		PKPbc	08 53 06.9	+1.0
LOR	**Lormes**	**144.52**	**340**	*e*PKP1		PKPbc	08 53 07.7	+1.5
	22nm,0.9s							
GRR	**Gorron**	**144.81**	**346**	*e*PKP1		PKPbc	08 53 08.3	+1.3
	58nm,0.7s							
SSF	**Saint Saulge**	**144.82**	**341**	*e*PKP1		PKPbc	08 53 08.8	+1.8
	66nm,0.8s							
HYF	**Humbligny**	**144.91**	**342**	*e*PKP1		PKPbc	08 53 09.3	+2.0
LPL	**La Plagne**	**144.99**	**336**	*e*PKP1		PKPbc	08 53 09.9	+2.4
	39nm,0.9s							
LPG	**La Plagne**	**145.00**	**336**	*e*PKP1		PKPbc	08 53 09.9	+2.3
	36nm,0.8s							
SMF	**Signal de Mont**	**145.08**	**340**	*e*PKP1		PKPbc	08 53 09.4	+1.7
	59nm,1.0s							
AVF	**Avril sur Loir**	**145.11**	**341**	*e*PKP1		PKPbc	08 53 09.4	+1.6
	40nm,0.9s							
SGMF	**Saint Gilles**	**145.30**	**348**	*e*PKP1		PKPbc	08 53 09.7	+1.4
	44nm,0.7s							
ROSF	**Rostrenen**	**145.36**	**349**	*e*PKP1		PKPbc	08 53 09.8	+1.4
	48nm,1.1s							
BNI	**Bardonecchia**	**145.39**	**336**	*e*PKPdf		PKPdf	08 53 10.9	+3.1
BGF	**Bois d'Agland**	**145.48**	**341**	*e*PKP1		PKPbc	08 53 10.7	+2.0
	30nm,0.7s							
MBDF	**Montbardon**	**145.62**	**335**	*e*PKP1		PKPbc	08 53 11.0	+1.8
	20nm,0.9s							
QUIF	**Quistinic**	**145.75**	**349**	*e*PKP1		PKPbc	08 53 11.1	+1.7
ORIF	**Oris-en-Rattie**	**145.82**	**336**	*e*PKP1		PKPbc	08 53 12.2	+2.5
	37nm,0.6s							
TCF	**Toulx Ste Croi**	**145.91**	**341**	*e*PKP1		PKPbc	08 53 12.0	+2.2
	11nm,0.6s							
SBF	**Sospel**	**146.04**	**334**	*e*PKP1		PKPbc	08 53 12.3	+2.1
	57nm,0.8s							
MFF	**Saint Martin d**	**146.30**	**344**	*e*PKP1		PKPbc	08 53 13.1	+2.4
	59nm,1.0s							
VIVF	**Saint-Julien-l**	**146.33**	**337**	*e*PKP1		PKPbc	08 53 13.6	+2.7
	14nm,0.8s							
FRF	**La Foret Royal**	**146.63**	**334**	*e*PKP1		PKPbc	08 53 13.9	+2.3
	93nm,1.1s							
SMRF	**Simiane la Rot**	**146.73**	**336**	*e*PKP1		PKPbc	08 53 14.8	+3.0
	18nm,0.7s							
LMR	**La Mourre**	**146.87**	**334**	*e*PKP1		PKPbc	08 53 14.8	+2.6
RJF	**Les Rejaudoux**	**147.01**	**341**	*e*PKP1		PKPdf	08 53 15.4	+4.9
	12nm,0.6s							
CAF	**Calviac**	**147.18**	**340**	*e*PKP1		PKPdf	08 53 16.0	+5.2
	12nm,0.7s							
LASF	**Ste Croix**	**147.30**	**338**	*e*PKP1		PKPdf	08 53 16.0	+5.0
	39nm,1.0s							
LFF	**La Frestale**	**147.58**	**342**	*e*PKP1		PKPdf	08 53 16.9	+5.4
	37nm,0.8s							
MTLF	**Montolieu**	**148.53**	**339**	*e*PKP1		PKPdf	08 53 19.6	+6.5
	31nm,0.8s							
EPF	**Esparros**	**149.43**	**341**	*e*PKP1		PKPdf	08 53 21.9	+7.4
ETSF	**Etsaut**	**149.82**	**342**	*e*PKP1		PKPdf	08 53 22.6	+7.5
	11nm,0.7s							
ESDC	**Sonseca Array**	**153.76**	**345**	PKPab		PKPab	08 53 44.9	-0.3
	0.5nm,0.4s,slow=4.4,SNR=4.0							

IDC ***12*** *08:58:18.0±1.4, 10.38N×93.56E, mb4.2/9, mb1 4.4/9, mb1mx4.1/22, mbtmp4.2/9, Error ellipse: s-maj=74.0km s-min=15.9km az=59.0*
MOS ***12*** *08:58:21.3±1.8, 10.34N×93.85E, h33km, mb4.7/1, Error ellipse: s-maj=39.9km s-min=12.3km az=107.1*
NEIC ***12*** *08:58:24.5±0.6, 10.34N×93.93E, h30km, mb4.6/10, Error ellipse: s-maj=22.0km s-min=7.1km az=55.0*
ISC 12 08:58:22.2±0.5, 10.30N±0.09×93.9E±0.1, h33km, n36, σ1§39/35, mb4.3/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**1.74**	**321**	*ex*		x	08 59 03.9	
PBA				*ex*		x	08 59 27.9	
KULM	**Kulim**	**8.36**	**126**	Pn		**P**	**09 00 25.0**	**+1.1**
VIS	**Vishakhapatnam**	**12.60**	**307**	*e*P		**P**	**09 01 24.0**	**+1.9**
VIS				*i* S		**S**	**09 03 29.2**	**-13**
VIS				AML		AML	09 03 36.6	
	comp=N,52nm,0.2s							
VIS				AML		AML	09 03 36.8	
	comp=E,51nm,0.3s							
SHL	**Shillong**	**15.30**	**353**	*e*P		**P**	**09 02 00.5**	**+3.1**
SHL				*ex*		x	09 04 40.5	
BOK	**Bokaro**	**15.43**	**331**	*i* P		**P**	**09 02 02.0**	**+2.8**
BOK				AMb		AMB	09 02 06.7	
	comp=Z,13nm,0.4s							
BOK				*ex*		x	09 04 37.4	
BOK				AML		AML	09 04 48.4	
	comp=E,26nm,0.3s							
BOK				AML		AML	09 04 48.7	
	comp=N,31nm,0.4s							
KSM	**Kuching**	**18.54**	**117**	*e*P		**P**	**09 02 36.6**	**-1.9**
JIRN	**Jiri**	**18.72**	**338**	*e*P		**P**	**09 02 41.5**	**+1.0**
	comp=N,43nm,0.6s							
PKI	**Pulchoki**	**18.93**	**336**	*e*P		**P**	**09 02 44.2**	**+1.1**
GUN	**Gumba**	**19.06**	**338**	*e*P		**P**	**09 02 45.2**	**+0.7**
	comp=N,50nm,0.6s							
DMN	**Daman**	**19.09**	**336**	*e*P		**P**	**09 02 45.7**	**+0.8**
	comp=N,24nm,0.5s							
KKN	**Kakani**	**19.18**	**336**	*e*P		**P**	**09 02 46.4**	**+0.5**
	comp=N,17nm,0.4s							
KKN	**Kakani**	**19.18**	**336**	*e*P		**P**	**09 02 46.4**	**+0.5**
KKN				pmax		pmax		
	comp=Z,8.0nm,0.4s							
LSA	**Lhasa**	**19.46**	**353**	*e*P		**P**	**09 02 49.4**	**+0.4**
LSA				pmax		pmax		
	comp=Z,28nm,0.4s							
LSA	**Lhasa**	**19.46**	**353**	*e*P		**P**	**09 02 49.4**	**+0.3**
	comp=Z,28nm,0.4s							
GKN	**Gorkha**	**19.63**	**335**	*e*P		**P**	**09 02 51.1**	**+0.2**
	comp=Z,115nm,0.5s							
KOLN	**Koldanda**	**19.88**	**332**	*e*P		**P**	**09 02 54.0**	**+0.4**
	comp=Z,93nm,0.6s							
BHPL	**Bhopal**	**20.30**	**311**	*i* P		**P**	**09 02 57.4**	**-0.7**
BHPL				AML		AML	09 02 59.7	
	comp=Z,7.0nm,0.4s							
BHPL				*e*S		**S**	**09 06 38.8**	**-0.2**
KAD	**Karad**	**20.33**	**292**	*ex*		x	09 03 57.1	
ENH	**Enshi**	**24.63**	**34**	*e*P		**P**	**09 03 41.6**	**+0.5**
	comp=Z,4.4nm,0.3s,mb4.5							
MKAR	**Makanchi Array**	**37.67**	**347**	P		**P**	**09 05 32.6**	**-3.6**
	comp=Z,1.5nm,0.7s,mb3.8,baz=168,slow=9.0,SNR=8.2							
SONM	**Songino Array**	**38.87**	**13**	P		**P**	**09 05 44.9**	**-1.1**
	comp=Z,0.8nm,0.3s,mb3.9,baz=191,slow=7.6,SNR=6.3							
FITZ	**Fitzroy Crossi**	**42.20**	**132**	*e*P		**P**	**09 06 15.6**	**+1.6**
	comp=Z,2.1nm,0.4s,mb4.1							
FITZ	**Fitzroy Crossi**	**42.20**	**132**	P		**P**	**09 06 15.4**	**+1.4**
	comp=Z,1.1nm,0.4s,mb3.9,baz=284,slow=16,SNR=10							
ZAL	**Zalesovo**	**44.12**	**352**	P		**P**	**09 06 28.6**	**-0.5**
	comp=Z,3.3nm,0.4s,mb4.4,baz=310,slow=5.3,SNR=6.8							
BVAR	**Borovoye Array**	**46.62**	**341**	P		**P**	**09 06 46.4**	**-2.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=153,slow=9.9,SNR=3.9							
CHKZ	**Chkalovo**	**47.10**	**341**	*e*P		**P**	**09 06 49.9**	**-2.9**
CHKZ				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.4							
CHKZ	**Chkalovo**	**47.10**	**341**	*e*P		**P**	**09 06 49.9**	**-2.8**
	comp=Z,2.2nm,0.4s,mb4.4							
AKTK	**Aktyubinsk**	**49.71**	**331**	P		**P**	**09 07 10.8**	**-2.3**
AKTO	**Aktyubinsk**	**49.71**	**331**	P		**P**	**09 07 10.8**	**-2.3**
	comp=Z,1.3nm,0.3s,mb4.4,baz=67,slow=2.7,SNR=8.1							
WRA	**Warramunga Arr**	**49.91**	**127**	P		**P**	**09 07 15.7**	**+0.6**
	comp=Z,4.4nm,0.5s,mb4.8,baz=306,slow=8.5,SNR=81							
WB2	**Warramunga Arr**	**49.92**	**127**	*e*P		**P**	**09 07 15.7**	**+0.6**
STKA	**Stephens Creek**	**61.98**	**135**	P		**P**	**09 08 42.0**	**+0.4**
	comp=Z,2.1nm,0.5s,mb4.5,baz=294,slow=8.3,SNR=7.0							
STKA	**Stephens Creek**	**61.98**	**135**	P		**P**	**09 08 42.0**	**+0.4**
ARCES	**ARCESS Array B**	**72.90**	**340**	P		**P**	**09 09 47.2**	**-2.3**
	comp=Z,5.3nm,1.0s,mb4.4,baz=100,slow=7.1,SNR=19							
LBTB	**Lobatse**	**75.18**	**241**	*e*P		**P**	**09 10 03.5**	**-0.1**
LKWY	**Lake**	**121.13**	**20**	*e*P		Pdif	09 13 39.5	+0.8

NIED ***12*** *09:37:00, 42.00N×142.60E, h53km, Mw4.1 Best double couple: Mo1.81×10^15 NP1:φs22°, δ69°, λ77°. NP2:φs234°, δ24°, λ120°.*
MOS ***12*** *09:37:26.7±1.2, 41.97N×142.53E, h72km, mb4.5/3, Error ellipse: s-maj=17.8km s-min=9.0km az=85.4*
JMA ***12*** *09:37:27.3±0.1, 42.01N×142.59E, h62km±2km, M3.8 JMA Felt I J1.*
NEIC ***12*** *09:37:27.5±1.0, 42.17N×142.55E, h55km±10km, mb4.3/4, Error ellipse: s-maj=12.9km s-min=8.9km az=125.0*
NEIC Recorded [2 JMA] in south-central Hokkaido.
IDC ***12*** *09:37:28.5±1.9, 42.03N×142.51E, h70km±15km, mb3.7/16, mb1 3.9/18, mb1mx3.8/24, mbtmp4.0/18, MS3.5/3, Ms1 3.5/3, ms1mx2.9/22, Error ellipse: s-maj=17.2km s-min=13.3km az=121.0*
ISC 12 09:37:26.5±0.4, 41.98N±0.04×142.57E±0.05, h69km±3km, n48, σ0§95/59, mb3.9/19, 5C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.33**	**25**	⇑P		**P**	**09 37 37.4**	**-0.4**
JNBK				*e*S		**S**	**09 37 45.4**	**-0.8**
JEM	**Erimo**	**0.44**	**86**	⇑P		**P**	**09 37 38.9**	**+0.2**
JEM				*e*S		**S**	**09 37 47.5**	**-0.3**
JBT2	**Biratori 2**	**0.81**	**349**	⇓P		**P**	**09 37 42.6**	**-0.1**
JBT2				*e*S		**S**	**09 37 54.4**	**-0.4**
JCH	**Churui**	**0.86**	**43**	⇑P		**P**	**09 37 43.4**	**0.0**
JCH				*e*S		**S**	**09 37 55.5**	**-0.5**
JKB	**Kayabe**	**1.15**	**266**	⇓P		**P**	**09 37 47.4**	**+0.3**
JKB				*e*S		**S**	**09 38 02.4**	**-0.1**
JFR	**Furan**	**1.18**	**1**	⇓P		**P**	**09 37 47.6**	**+0.1**
JEW	**Eniwo**	**1.19**	**316**	⇓P		**P**	**09 37 48.0**	**+0.4**
JNB	**Noboribetsu**	**1.23**	**294**	⇓P		**P**	**09 37 47.8**	**-0.4**
JNB				*e*S		**S**	**09 38 03.6**	**-0.9**
JOT	**Ohata**	**1.29**	**243**	⇓P		**P**	**09 37 49.4**	**+0.4**
JOT				*e*S		**S**	**09 38 06.1**	**+0.4**
JOB	**Onbets**	**1.31**	**45**	⇑P		**P**	**09 37 50.2**	**+0.7**
JAB	**Ashibetsu**	**1.54**	**351**	P		**P**	**09 37 52.7**	**+0.2**
JAR	**Ashorobuto**	**1.58**	**34**	⇑P		**P**	**09 37 53.2**	**+0.1**
JAR				*e*S		**S**	**09 38 12.4**	**-0.3**
ASAJ	**Asahikawa**	**2.13**	**1**	P		**P**	**09 38 01.4**	**+0.8**
	56nm,0.3s,baz=204,slow=12,SNR=262							
ASAJ				S		**S**	**09 38 26.9**	**+1.1**
	33nm,0.3s,baz=247,slow=32,SNR=11							
ASAJ	**Asahikawa**	**2.13**	**1**	P		**P**	**09 38 01.4**	**+0.8**
ASAJ				S		**S**	**09 38 26.9**	**+1.1**
ASAJ				pmax		pmax		
	comp=Z,56nm,0.3s							
ASAJ				smax				
	comp=N,33nm,0.3s							
YSS	**Yuzh-Sakhalins**	**4.97**	**1**	*e*P		**P**	**09 38 41.8**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.97**	**1**	Pn		**P**	**09 38 35.9**	**-4.4**
MAJO	**Matsushiro**	**6.40**	**213**	*e*P		**P**	**09 38 57.9**	**-2.2**
MAJO				pmax		pmax		
	comp=Z,11nm,0.6s							
MAJO	**Matsushiro**	**6.40**	**213**	*e*P		**P**	**09 38 57.9**	**-2.2**
	comp=Z,11nm,0.6s							
MAT	**Matsushiro**	**6.40**	**213**	P		**P**	**09 39 01.4**	**+1.3**
MAT				*e*S		**S**	**09 40 13.8**	**+1.3**
MAT	**Matsushiro**	**6.40**	**213**	P		**P**	**09 39 01.0**	**+0.9**
MAT				S		**S**	**09 40 23.0**	**+11**
MJAR	**Matsushiro Arr**	**6.40**	**213**	P		**P**	**09 39 01.7**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=23,slow=14,SNR=8.6							
KS15	**Wonju Array Si**	**12.18**	**253**	*e*Pn		**P**	**09 40 19.6**	**+0.8**
NACB	**Ninganchiao**	**24.88**	**231**	P		**P**	**09 42 41.5**	**-2.6**
ULN	**Ulaanbaatar**	**25.66**	**295**	*e*P		**P**	**09 42 50.9**	**-0.3**
SONM	**Songino Array**	**26.11**	**295**	P		**P**	**09 42 55.4**	**+0.1**
	comp=Z,1.2nm,0.5s,mb3.6,baz=78,slow=8.1,SNR=4.6							
SONM				LR		LR	09 54 34.0	
	comp=Z,44nm,18.3s,baz=196,slow=39							
ZAL	**Zalesovo**	**39.41**	**308**	P		**P**	**09 44 51.4**	**+0.6**
	comp=Z,2.3nm,0.6s,mb4.2,baz=20,slow=10,SNR=15							
ZAL				LR		LR	10 03 10.4	
	comp=Z,57nm,18.5s,baz=200,slow=39							
MKAR	**Makanchi Array**	**42.42**	**298**	P		**P**	**09 45 16.1**	**+0.5**
	comp=Z,3.9nm,0.9s,mb4.1,baz=81,slow=8.8,SNR=13							
ILAR	**Eielson Array**	**44.88**	**35**	P		**P**	**09 45 35.1**	**-0.1**
	comp=Z,1.0nm,0.9s,mb3.6,baz=260,slow=5.4,SNR=13							
CHKZ	**Chkalovo**	**47.69**	**310**	*e*P		**P**	**09 45 57.4**	**-0.2**
CHKZ				*e*PP		pP	09 46 13.5	-1.5
CHKZ				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.2							
CHKZ	**Chkalovo**	**47.69**	**310**	*e*P		**P**	**09 45 57.4**	**-0.2**
	comp=Z,4.3nm,1.0s,mb4.2							
CHKZ				*e*pP		pP	09 46 13.5	-1.5
BVAR	**Borovoye Array**	**48.01**	**309**	P		**P**	**09 46 00.5**	**+0.4**
	comp=Z,1.8nm,0.4s,mb4.3,baz=79,slow=8.4,SNR=12							
INK	**Inuvik**	**49.61**	**29**	P		**P**	**09 46 11.3**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=324,slow=10.0,SNR=18							
AKTO	**Aktyubinsk**	**56.11**	**310**	LR		LR	10 12 16.7	
	comp=Z,98nm,19.3s,slow=37							
RES	**Resolute Bay**	**57.59**	**15**	*e*P		**P**	**09 47 09.9**	**-1.0**
RES				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
RES	**Resolute Bay**	**57.59**	**15**	*e*P		**P**	**09 47 09.9**	**-1.0**
	comp=Z,1.5nm,0.5s,mb4.3							
YKA	**Yellowknife Ar**	**59.11**	**32**	P		**P**	**09 47 21.1**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.5,baz=306,slow=6.5,SNR=6.7							
ARCES	**ARCESS Array B**	**59.70**	**339**	P		**P**	**09 47 23.2**	**-2.3**
	comp=Z,4.5nm,0.9s,mb4.5,baz=315,slow=10,SNR=3.0							
WRA	**Warramunga Arr**	**62.08**	**189**	P		**P**	**09 47 40.7**	**-1.6**
	comp=Z,1.3nm,0.8s,mb4.0,baz=5.7,slow=6.9,SNR=13							
FINES	**FINESS Array B**	**64.87**	**332**	P		**P**	**09 47 58.8**	**-1.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=45,slow=11,SNR=13							
MBWA	**Marble Bar**	**66.28**	**203**	*e*P		**P**	**09 48 08.4**	**-1.3**
	comp=Z,15nm,1.2s,mb4.7							
NB2	**NORSAR Subarra**	**69.97**	**337**	P		**P**	**09 48 31.5**	**-0.4**
	comp=Z,1.5nm,0.7s,mb3.9,baz=37,slow=6.2							
NB2	**NORSAR Subarra**	**69.97**	**337**	P		**P**	**09 48 31.5**	**-0.4**
NB2				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.1							
NOA	**NORSAR Array B**	**69.97**	**337**	P		**P**	**09 48 31.6**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.2,baz=37,slow=6.2,SNR=5.3							
AKASG	**Malin Array Be**	**70.95**	**322**	P		**P**	**09 48 37.3**	**-0.6**
	comp=Z,0.8nm,0.4s,mb3.9,baz=41,slow=5.8,SNR=8.7							
NVAR	**Mina Array Bea**	**71.36**	**55**	P		**P**	**09 48 42.7**	**+2.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=292,slow=5.6,SNR=5.3							
PDAR	**Pinedale Array**	**73.60**	**47**	P		**P**	**09 48 55.2**	**+1.5**
	comp=Z,0.2nm,0.3s,mb3.4,baz=315,slow=4.2,SNR=3.9							
BRTR	**Keskin Array B**	**76.25**	**311**	P		**P**	**09 49 09.9**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.6,baz=74,slow=4.6,SNR=4.4							
TXAR	**Lajitas Array**	**86.42**	**53**	P		**P**	**09 50 04.3**	**+1.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=304,slow=2.9,SNR=5.9							

NEIC ***12*** *09:42:20.3±0.6, 4.60N×94.72E, h30km, mb4.3/1, Error

CHNG				AMP			10 38 00.5	
	comp=E,550nm,0.5s							
MDZ	**Mendoza**	**1.55**	**151**	*i* P		P	10 37 30.1	-0.4
MDZ				*i* S		S	10 37 49.0	-5.0
TLL	**Tololo Astrono**	**1.64**	**326**	⇓*i* P		P	10 37 32.1	+0.6
TLL				*i* S		S	10 37 55.8	+0.1
TLL				AMP			10 37 58.4	
	comp=E,2µm,0.4s							
PEL	**Peldehue**	**1.80**	**206**	⇓*i* P		P	10 37 33.4	+0.1
PEL				*i* S		S	10 37 58.6	-0.3
PEL				AMP			10 37 59.6	
	comp=N,767nm,0.6s							
ROCH	**El Roble**	**1.80**	**217**	⇑*i* P		P	10 37 33.8	+0.5
ROCH				*i* S		S	10 37 59.1	+0.2
FCH	**Farellones**	**1.85**	**195**	⇑*i* P		P	10 37 34.8	+0.9
FCH				*i* S		S	10 38 01.1	+1.2
FCH				AMP			10 38 05.8	
	comp=E,325nm,0.9s							
LSCH	**La Serena**	**2.07**	**321**	⇑*i* P		P	10 37 36.8	+0.3
LSCH				*i* S		S	10 38 03.5	-0.9
LSCH				AMP			10 38 03.9	
	comp=N,1µm,0.4s							
RCDM	**Rinconada Maip**	**2.15**	**205**	⇓*i* P		P	10 37 37.7	+0.2
RCDM				*i* S		S	10 38 06.1	-0.1
RCDM				AMP			10 38 07.2	
	comp=E,695nm,0.3s							
ANTU	**Antumapu**	**2.17**	**200**	*i* S		S	10 38 06.6	+0.1
ANTU				AMP			10 38 08.7	
	comp=E,360nm,0.4s							
TACH	**Talagante**	**2.35**	**205**	⇑*i* P		P	10 37 39.7	-0.3
TACH				*i* S		S	10 38 09.6	-0.8
LCCH	**Las Cruces**	**2.48**	**218**	*e*P		P	10 37 41.4	-0.2
CHCH	**Chadas Angostu**	**2.52**	**198**	*e*P		P	10 37 42.1	0.0
CACH	**El Canelo**	**2.68**	**196**	*e*P		P	10 37 44.7	+0.6
CICH	**Cipreses**	**2.84**	**191**	*i* P		P	10 37 46.6	+0.5
SFDO	**San Fernando**	**3.26**	**199**	*e*P		P	10 37 51.0	-0.6
TRQA	**Tornquist**	**9.11**	**138**	*e*Pn		P	10 39 06.6	-2.6
	comp=E,5.4nm,0.6s							
TRQA					*e*Sn	S	10 40 39.1	-11
LPAZ	**La Paz**	**15.24**	**6**	*e*Pn		P	10 40 26.3	-2.2
	comp=E,0.4nm,0.5s							
OTAV	**Otavalo**	**32.65**	**344**	*e*P		P	10 43 13.4	-6.6
SJG	**San Juan**	**49.47**	**4**	P		P	10 45 34.8	-2.3

WEL 12 11:11:45.8±0.8,35.40S×179.31E,h273km±13km,ML3.5/5, Error ellipse: s-maj=20.6km s-min=16.6km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.30**	**200**	*e*PN	P	11 12 32.5	-0.6
PUZ	**Puketiti**	**2.80**	**197**	*e*PN	P	11 12 38.0	+0.1
MWZ	**Matawai**	**3.26**	**205**	PN	P	11 12 43.3	+0.5
MWZ				SN	S	11 13 27.0	-0.2
URZ	**Urewera**	**3.35**	**211**	*e*PN	P	11 12 42.9	-0.9
URZ				SN	S	11 13 28.8	-0.3
KNZ	**Kokohu**	**3.84**	**199**	*e*PN	P	11 12 49.5	+0.2
BKZ	**Black Stump Fm**	**4.38**	**210**	*e*PN	P	11 12 55.9	+0.5
MRZ	**Mangatainoka R**	**6.02**	**208**	PN	P	11 13 14.9	-0.3

CSEM 12 11:49:53.3±0.3,36.81N×24.02W,h5km,ML3.5,Error ellipse: s-maj=7.2km s-min=4.6km az=57.0,After PDA
PDA 12 11:49:53.3±1.1,36.81N×24.02W,h5km,MD2.9,ML3.5, Error ellipse: s-maj=12.3km s-min=7.1km az=62.0
SVSA 12 11:49:53.3±1.1,36.81N×24.02W,h5km,MD2.9,ML3.5, Error ellipse: s-maj=12.3km s-min=7.1km az=62.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.86**	**283**	*e*P	Pb	11 50 06.8	-3.5
PSMN				*e*S	Sb	11 50 17.4	-4.5
MIRA	**Miradouro**	**1.40**	**314**	*e*S	Sb	11 50 29.9	-7.6
FRA1	**Furnas**	**1.41**	**311**	*e*S	Sb	11 50 30.7	-7.3
PCNG	**Congro**	**1.45**	**311**	*e*P	Pn	11 50 15.5	-4.8
PCNG				*e*S	Sb	11 50 32.2	-6.9
	247nm,0.2s						
PFAD	**Fenais da Ajud**	**1.46**	**315**	*e*P	Pn	11 50 15.3	-5.1
PFAD				*e*S	Sb	11 50 31.6	-7.7
VIF	**Vila Franca**	**1.46**	**310**	*e*S	Sb	11 50 32.5	-7.0
	166nm,0.2s						
PRCH	**Ribeira Ch**	**1.48**	**309**	*e*S	Sb	11 50 32.8	-7.1
	402nm,0.2s						
MESC	**Monte Escuro**	**1.50**	**311**	*e*P	Pn	11 50 16.6	-4.4
MESC				*e*S	Sb	11 50 33.3	-7.2
LFA	**Lagoa do Fogo**	**1.51**	**310**	*e*P	Pn	11 50 16.4	-4.7
PMAT	**Coroa da Mata**	**1.53**	**311**	*e*S	Sb	11 50 34.3	-7.0
	136nm,0.2s						
CML	**Cha da Macela**	**1.55**	**309**	*e*S	Sb	11 50 34.5	-7.4
FAC	**Faja de Cima**	**1.61**	**307**	*e*S	Sb	11 50 36.4	-7.4
PSAN	**Santo Antonio**	**1.71**	**308**	*e*S	Sn	11 50 38.2	-8.2
PFET	**Feteiras**	**1.73**	**306**	*e*S	Sn	11 50 38.6	-8.3
PFAV	**Pico das Favas**	**3.08**	**309**	*e*S	Sn	11 51 11.7	-10
	52nm,0.3s						
RIB2	**Ribeirinha**	**3.11**	**308**	*e*S	Sn	11 51 12.0	-10
	57nm,0.3s						
ADH	**Angra Heroismo**	**3.14**	**307**	*e*rx		11 51 23.5	
PVNV	**Vila Nova**	**3.15**	**309**	*e*rx		11 51 08.7	
PPAD	**Pico dos Padre**	**3.20**	**307**	*e*rx		11 51 14.7	

NNC 12 12:31:27.1±5.5,37.23N×71.17E,mpv3.8,Error ellipse: s-maj=44.8km s-min=37.6km az=16.0
MOS 12 12:31:31.4±1.2,37.09N×70.97E,h276km,Error ellipse: s-maj=44.2km s-min=19.4km az=82.2
IDC 12 12:31:33.5±15.0,37.14N×71.16E,h275km±99km,mb3.1/3, mb1 3.1/7,mb1mx2.9/21,mbtmp3.7/7,Error ellipse: s-maj=143.6km s-min=29.3km az=14.0
ISC 12 12:31:26.5±2.4,37.0N±0.2×71.0E±0.2,h221km±16km,n17, σ0≤74/19,mb3.3/3,3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.50**	**21**	P	**P**	**12 32 48.2**	**-0.2**
	SNR=41						
UCH	**Uchtor**	**5.86**	**26**	P	**P**	**12 32 52.9**	**0.0**
	SNR=32						
EKS2	**Erkin-Say**	**6.02**	**20**	P	**P**	**12 32 55.0**	**-0.1**
	SNR=6.8						
KK31	**Karatay Array**	**6.09**	**356**	P	**P**	**12 32 56.3**	**+0.3**
	1.7nm,0.3s,baz=176,slow=13,SNR=23						
KK31				⇓S	**S**	**12 34 04.9**	**-0.8**
	2.0nm,0.3s,baz=185,slow=22						
KBK	**Karagaybulak**	**6.39**	**27**	P	**P**	**12 33 00.7**	**+1.0**
	SNR=11						
ULHL	**Ulahol**	**6.59**	**36**	P	**P**	**12 33 01.4**	**-0.9**
	SNR=6.3						
USP	**Ospenovka**	**6.78**	**22**	P	**P**	**12 33 04.0**	**-0.8**
	SNR=5.2						
TKM2	**Tokmak 2**	**6.86**	**29**	P	**P**	**12 33 05.8**	**0.0**
	SNR=15						
TKM2	**Tokmak 2**	**6.86**	**29**	⇓P	**P**	**12 33 05.3**	**-0.4**
	12nm,0.7s						
TKM2				⇓S	**S**	**12 34 23.5**	**+0.2**
	5.3nm,0.9s						
MKAR	**Makanchi Array**	**12.86**	**37**	P	**P**	**12 34 25.1**	**+2.8**
	0.1nm,0.3s,baz=230,slow=9.5,SNR=4.7						
BVAR	**Borovoye Array**	**16.02**	**359**	P	**P**	**12 35 01.9**	**+0.9**
	0.4nm,0.3s,baz=161,slow=9.1,SNR=6.5						
AKTO	**Aktyubinsk**	**16.35**	**329**	P	**P**	**12 35 05.3**	**+0.3**
	0.2nm,0.3s,baz=141,slow=11,SNR=3.2						
ZAL	**Zalesovo**	**19.42**	**25**	P	**P**	**12 35 37.6**	**+0.1**
	0.4nm,0.3s,baz=270,slow=5.9,SNR=3.8						
SONM	**Songino Array**	**28.02**	**56**	P	**P**	**12 36 58.2**	**-0.7**
	0.4nm,0.9s,mb3.0,baz=270,slow=8.6,SNR=2.6						
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**12 38 46.5**	**+0.1**
	4.5nm,1.0s,mb3.8,baz=106,slow=6.6,SNR=3.7						
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**12 38 46.5**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YKA	**Yellowknife Ar**	**80.73**	**3**	P	**P**	**12 43 15.1**	**-0.7**
	comp=Z,0.2nm,0.5s,mb3.0,baz=351,slow=5.4,SNR=9.2						

BJI 12 12:36:42.0,1.62N×96.05E,h40km,mB5.0,mb4.8,Ms4.5, Msz4.1
IDC 12 12:36:43.4±1.1,2.15N×96.12E,mb4.3/10,mb1 4.4/11, mb1mx4.2/20,mbtmp4.3/11,ML4.0/1,MS3.6/3,Ms1 3.6/3, ms1mx3.1/27,Error ellipse: s-maj=43.2km s-min=15.8km az=49.0
MOS 12 12:36:46.6±0.8,2.20N×96.15E,h33km,mb4.8/5,Error ellipse: s-maj=20.5km s-min=11.6km az=109.5
NEIC 12 12:36:48.3±0.4,2.21N×96.26E,h30km,mb4.7/11,Error ellipse: s-maj=11.8km s-min=6.1km az=224.0
ISC 12 12:36:46.2±0.5,2.21N±0.07×96.23E±0.06,h29km, h29km±3.9km:pP-P,n41,σ0≤92/41,mb4.5/24,MS4.0/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.75**	**78**	Pn	**Pn**	**12 37 30.5**	**+1.0**
	21nm,0.3s,baz=274,slow=9.5,SNR=88						
PSI				LR	LR	12 38 11.4	
	comp=Z,438nm,20.4s,baz=287,slow=31						
PSI	**Prapat**	**2.75**	**78**	Pn	**Pn**	**12 37 30.5**	**+1.0**
PSI				LR	LR	12 38 11.4	
KULM	**Kulim**	**5.36**	**55**	*e*Pn	**Pn**	**12 38 06.1**	**-0.4**
KULM				*e*Sn	**Sn**	**12 39 08.8**	**+0.8**
KSM	**Kuching**	**14.09**	**93**	*e*Pn	**P**	**12 40 13.0**	**+6.8**
KKM	**Kota Kinabalu**	**20.29**	**79**	*e*P	**P**	**12 41 21.8**	**-0.8**
JIRN	**Jiri**	**27.07**	**340**	*e*P	**P**	**12 42 29.2**	**+0.8**
	38nm,0.8s,mb5.0						
PKI	**Pulchoki**	**27.26**	**339**	*e*P	**P**	**12 42 30.8**	**+0.7**
	20nm,0.9s,mb4.7						
PKI	**Pulchoki**	**27.26**	**339**	*e*P	**P**	**12 42 30.8**	**+0.7**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
GUN	**Gumba**	**27.41**	**340**	*e*P	**P**	**12 42 32.1**	**+0.7**
	comp=Z,33nm,0.8s,mb4.9						
DMN	**Daman**	**27.41**	**338**	*e*P	**P**	**12 42 32.7**	**+1.2**
	comp=Z,20nm,0.6s,mb4.8						
KKN	**Kakani**	**27.51**	**339**	*e*P	**P**	**12 42 32.9**	**+0.5**
	comp=Z,27nm,0.9s,mb4.9						
KKN	**Kakani**	**27.51**	**339**	*e*P	**P**	**12 42 32.9**	**+0.5**
KKN				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
LSA	**Lhasa**	**27.76**	**350**	*e*P	**P**	**12 42 35.0**	**+0.3**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**27.76**	**350**	*e*P	**P**	**12 42 35.0**	**+0.4**
	comp=Z,5.4nm,0.6s,mb4.3						
GKN	**Gorkha**	**27.94**	**338**	*e*P	**P**	**12 42 36.8**	**+0.5**
	comp=Z,20nm,0.6s,mb4.9						
KOLN	**Koldanda**	**28.14**	**336**	*e*P	**P**	**12 42 38.8**	**+0.7**
	comp=Z,18nm,0.7s,mb4.8						
ENH	**Enshi**	**30.61**	**23**	P	**P**	**12 42 58.2**	**-1.9**
	comp=Z,6.9nm,0.4s,mb4.8						
XAN	**Xi'an**	**33.81**	**19**	P	**P**	**12 43 26.0**	**-2.1**
XAN				AP	pP	12 43 37.2	+0.5
XAN				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**35.30**	**126**	*e*P	**P**	**12 43 40.4**	**-0.6**
	comp=Z,5.0nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**35.30**	**126**	P	**P**	**12 43 40.5**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.2,baz=291,slow=6.3,SNR=9.6						
GTA	**Gaotai**	**37.17**	**5**	*e*P	**P**	**12 43 56.2**	**-0.3**
GTA				AP	pP	12 44 02.9	-2.4
GTA				XP	sP	12 44 07.0	-1.9
GTA				PP	PP	12 45 22.0	-1.8
GTA				PPP	PPP	12 45 40.7	-3.5
GTA				S	**S**	**12 49 37.2**	**-3.6**
GTA				AMB	AMB		
	comp=Z,60nm,4.6s						
GTA				LR	LR		
	comp=N,200nm,12.9s,MS4.3						
GTA				LR	LR		
	comp=E,190nm,11.4s,MS4.3						
GTA				LR	LR		
	comp=Z,160nm,11.0s,MS4.1						
NWAO	**Narrogin (SRO)**	**40.20**	**152**	*e*P	**P**	**12 44 22.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**40.88**	**18**	*e*P	**P**	**12 44 28.3**	**+0.9**
HHC				AP	pP	12 44 36.7	+0.5
HHC				XP	sP	12 44 41.8	+2.0
HHC				PP	PP	12 46 06.5	+1.8
HHC				SCS	ScS	12 54 29.5	+1.4
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,140nm,3.7s						
HHC				LR	LR		
	comp=N,200nm,13.1s,MS4.3						
HHC				LR	LR		
	comp=E,230nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=Z,140nm,15.5s,MS3.9						
WRA	**Warramunga Arr**	**43.39**	**122**	P	**P**	**12 44 48.2**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.0,baz=301,slow=9.3,SNR=19						
WB2	**Warramunga Arr**	**43.40**	**122**	*e*P	**P**	**12 44 48.6**	**+0.3**
MKAR	**Makanchi Array**	**46.04**	**347**	P	**P**	**12 45 09.1**	**0.0**
	comp=Z,4.4nm,0.5s,mb4.7,baz=157,slow=9.0,SNR=119						
SONM	**Songino Array**	**46.29**	**9**	P	**P**	**12 45 11.0**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.4,baz=190,slow=9.2,SNR=28						
SONM				PcP	PcP	12 46 47.1	+0.5
	comp=Z,1.6nm,0.6s,baz=187,slow=3.2,SNR=7.8						
ZAK	**Zakamensk**	**48.37**	**6**	*e*P	**P**	**12 45 27.9**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**52.41**	**351**	P	**P**	**12 45 58.3**	**+0.2**
	comp=Z,7.3nm,0.5s,mb4.9,baz=310,slow=5.2,SNR=46						
NVS	**Novosibirsk**	**53.52**	**351**	*e*P	**P**	**12 46 04.4**	**-2.0**
CTA	**Charters Tower**	**53.82**	**117**	LR	LR	13 12 37.0	
	comp=Z,79nm,19.1s,MS3.8,baz=264,slow=40						
STKA	**Stephens Creek**	**54.75**	**132**	P	**P**	**12 46 15.9**	**+0.3**
	comp=Z,1.1nm,0.5s,mb4.2,baz=315,slow=5.7,SNR=3.7						
STKA				LR	LR	13 11 40.6	
	comp=Z,78nm,18.1s,MS3.8,baz=26,slow=38						
STKA	**Stephens Creek**	**54.75**	**132**	*e*P	**P**	**12 46 16.2**	**+0.5**
STKA				LR	LR	13 11 40.6	
BVAR	**Borovoye Array**	**54.98**	**341**	P	**P**	**12 46 15.9**	**-1.2**
	comp=Z,3.3nm,0.5s,mb4.6,baz=144,slow=9.4,SNR=26						
CHKZ	**Chkalovo**	**55.47**	**342**	*e*P	**P**	**12 46 19.8**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**55.47**	**342**	*e*P	**P**	**12 46 19.8**	**-0.8**
	comp=Z,6.6nm,0.6s,mb4.8						
BOD	**Bodaibo**	**57.20**	**11**	*e*P	**P**	**12 46 29.8**	**-3.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
AKASG	**Malin Array Be**	**73.87**	**322**	P	**P**	**12 48 19.6**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.6,baz=94,slow=5.3,SNR=6.3						
FINES	**FINESS Array B**	**78.66**	**333**	P	**P**	**12 48 47.3**	**+0.4**
	comp=Z,1.5nm,0.5s,mb4.1,baz=90,slow=5.7,SNR=8.5						
ARCES	**ARCESS Array B**	**81.26**	**340**	P	**P**	**12 49 01.6**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.3,baz=92,slow=5.1,SNR=22						
TXAR	**Lajitas Array**	**143.30**	**30**	PKP	PKPdf	12 56 18.3	-5.1
	comp=Z,0.5nm,0.6s,baz=270,slow=1.3,SNR=6.4						

NIED 12 13:08:00,35.30N×140.20E,h35km,Mw3.6 Best double couple: M0 2.58×10^14 NP1:φs5°,δ66°,λ-129°. NP2:φs247°, δ45°,λ-36°.
JMA 12 13:08:46.4±0.1,35.37N×140.23E,h38km±1km,M3.5, 7C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.05**	**334**	⇑P	P	13 08 52.9	+0.4
JCN				S	S	13 08 58.5	+1.6
KTR	**Katsuura**	**0.23**	**162**	⇑P	P	13 08 53.5	-0.3
KTR				S	S	13 08 58.8	-0.1
BSO4	**Boso 4**	**0.39**	**167**	⇑P	P	13 08 56.0	+0.4
TATJ	**Tateyama 2**	**0.44**	**220**	P	P	13 08 56.7	+0.5
BSO3	**Boso 3**	**0.61**	**158**	⇑P	P	13 08 58.5	-0.1
JIM2	**Oshima 3**	**0.92**	**225**	P	P	13 09 02.0	-1.0
JIM2				S	S	13 09 13.7	-1.6
JOD2	**Odawara 2**	**0.94**	**264**	⇓P	P	13 09 02.7	-0.5
JOD2				S	S	13 09 14.3	-1.4
BSO1	**Boso 1**	**0.94**	**139**	⇑P	P	13 09 02.3	-1.0
BSO1				S	S	13 09 15.5	-0.2
JAG	**Ashikaga**	**1.23**	**329**	⇑P	P	13 09 07.7	+0.4
JRY	**Ryogami san**	**1.26**	**301**	⇑P	P	13 09 08.0	+0.2
JIZS	**Izushimoda**	**1.29**	**240**	⇓P	P	13 09 07.3	-0.9
JIZS				S	S	13 09 22.8	-1.7
MAT	**Matsushiro**	**2.02**	**306**	P	P	13 09 19.5	+0.9
MAT				S	S	13 09 44.1	+1.3

IDC 12 13:11:36.9±3.9,0.70N×99.87E,mb3.7/3,mb1 3.7/4, mb1mx3.6/17,mbtmp3.6/4,ML2.6/1,Error ellipse: s-maj=150.8km s-min=25.1km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**336**	Pn	Pn	13 12 15.7	-0.8
	1.6nm,0.3s,baz=138,slow=12,SNR=5.6						
PSI				Sn	Sn	13 12 48.4	+2.5
	6.4nm,0.3s,baz=214,slow=14,SNR=6.0						
WRA	**Warramunga Arr**	**39.52**	**123**	P	P	13 19 09.8	-1.6
	0.5nm,0.5s,baz=303,slow=9.1,SNR=7.0						
SONM	**Songino Array**	**47.29**	**6**	P	P	13 20 12.6	-1.5
	1.0nm,0.5s,baz=191,slow=9.6,SNR=7.7						
MKAR	**Makanchi Array**	**48.41**	**344**	P	P	13 20 19.9	-2.9
	0.3nm,0.4s,baz=156,slow=8.3,SNR=6.2						

IDC 12 13:14:58.2±1.2,26.79N×141.01E,mb3.6/4,mb1 3.8/4, mb1mx3.6/19,mbtmp3.6/4,Error ellipse: s-maj=30.9km s-min=20.4km az=160.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.09**	**73**	Pn	Pn	13 15 20.4	-0.2
	31nm,0.3s,baz=288,slow=20,SNR=5.5						
CBIJ				Sn	Sn	13 15 37.6	+1.0
	92nm,0.3s,baz=284,slow=22,SNR=14						
WRA	**Warramunga Arr**	**46.90**	**189**	P	P	13 23 30.5	-2.0
	0.7nm,0.8s,baz=11,slow=8.5,SNR=7.1						
MKAR	**Makanchi Array**	**49.87**	**310**	P	P	13 23 53.0	-2.2
	0.4nm,0.7s,baz=100,slow=8.8,SNR=2.2						
INK	**Inuvik**	**63.74**	**24**	P	P	13 25 31.4	-2.2
	1.0nm,1.0s,baz=298,slow=5.1,SNR=5.4						
YKA	**Yellowknife Ar**	**72.91**	**28**	P	P	13 26 29.2	-1.4
	0.3nm,0.5s,baz=296,slow=6.2,SNR=10						

IDC 12 13:24:03.6±23.0,19.14S×67.64W,h209km±120km, mb3.4/3,mb1 3.4/5,mb1mx3.2/17,mbtmp3.9/5,Error ellipse: s-maj=398.9km s-min=29.9km az=18.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.88**	**350**	P	P	13 24 52.9	+0.1
	3.3nm,0.3s,baz=179,slow=8.1,SNR=49						
SIV	**San Ignacio**	**7.00**	**64**	P	P	13 25 44.3	-0.4
	4.1nm,0.3s,baz=252,slow=12,SNR=40						
DBIC	**Dimbokro**	**66.92**	**74**	P	P	13 34 34.0	-2.0
	2.7nm,1.1s,baz=199,slow=12,SNR=2.7						
TORD	**Torodi Ar. Bea**	**75.44**	**70**	P	P	13 35 25.2	-1.6
	0.7nm,0.3s,baz=263,slow=5.0,SNR=5.3						
YKA	**Yellowknife Ar**	**89.38**	**340**	P	P	13 36 36.1	-1.0
	0.1nm,0.4s,baz=131,slow=4.5,SNR=7.3						

NEIC 12 13:25:56.0±0.8,30.45S×70.22W,h85km±24km,mb3.1/1, Error ellipse: s-maj=30.2km s-min=12.3km az=72.0
GUC 12 13:25:57.6±0.7,30.43S×70.56W,h89km±5km,ML3.1
ISC 12 13:25:56.9±0.9,30.40S±0.05×70.7W±0.2,h103km±10km, n9,σ0≤41/15,mb3.1/1,2C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.26**	**334**	⇓*i* P	**P**	**13 26 11.9**	**+0.2**
TLL				*i* S	**S**	**13 26 22.9**	**0.0**
TLL				AMP		13 26 23.5	
	comp=N,996nm,0.3s						
LSCH	**La Serena**	**0.70**	**315**	⇑*i* P	**P**	**13 26 15.0**	**+0.3**
LSCH				*i* S	**S**	**13 26 28.4**	**+0.3**
LSCH				AMP		13 26 28.9	
	comp=N,714nm,0.3s						
CMCH	**Combarbala**	**0.82**	**200**	⇓*i* P	**P**	**13 26 15.4**	**-0.5**
CMCH				*i* S	**S**	**13 26 29.5**	**-0.6**
CMCH				AMP		13 26 30.3	
	comp=E,3µm,0.7s						
ILCH	**Illapel**	**1.30**	**199**	⇑*i* P	**P**	**13 26 21.0**	**-0.3**
ILCH				*i* S	**S**	**13 26 39.2**	**-0.5**
ILCH				AMP		13 26 48.9	
	comp=N,433nm,0.1s						
CHNG	**Los Chungos**	**1.64**	**205**	*e*P	**P**	**13 26 25.6**	**+0.2**
CHNG				*i* S	**S**	**13 26 47.2**	**+0.5**
CHNG				AMP		13 26 52.9	
	comp=E,296nm,0.2s						
FCH	**Farellones**	**2.94**	**174**	*e*P	**P**	**13 26 43.4**	**+0.6**
FCH				*i* S	**S**	**13 27 17.9**	**+0.4**
TRQA	**Tornquist**	**10.49**	**139**	*e*Pn	**P**	**13 28 19.1**	**-6.3**
LPAZ	**La Paz**	**14.24**	**10**	*e*Pn	**P**	**13 29 20.2**	**+5.4**
SAML	**Samuel**	**22.46**	**20**	*e*P	**P**	**13 30 47.6**	**-0.5**
	comp=E,0.6nm,0.6s,mb3.1						

GUC 12 13:30:20.2±0.6,34.38S×70.42W,h105km±3km,ML4.4
NEIC 12 13:30:20.0,34.38S×70.42W,h105km,mb4.5/7,After GUC.
NEIC Felt [II] at Rancagua, San Fernando, Santiago and Talca.
IDC 12 13:30:21.1±1.9,34.38S×70.23W,h110km±17km,mb3.8/10, mb1 3.9/13,mb1mx3.9/19,mbtmp4.1/13,MS3.1/1, Ms1 3.0/1,ms1mx2.6/14,Error ellipse: s-maj=26.3km s-min=11.7km az=97.0
ISC 12 13:30:19.2±0.3,34.43S±0.03×70.31W±0.05,h108km±3km, n50,σ0≤82/63,mb4.2/11,10C-10D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.14**	**321**	⇑*i* P	**P**	**13 30 34.9**	**+0.5**
CACH	**El Canelo**	**0.40**	**323**	⇓*i* P	**P**	**13 30 35.8**	**+0.3**
CHCH	**Chadas Angostu**	**0.57**	**330**	⇑*i* P	**P**	**13 30 36.6**	**0.0**
LMEL	**Las Melosas**	**0.59**	**9**	⇓*i* P	**P**	**13 30 37.6**	**+0.9**
LMEL				*i* S	**S**	**13 30 58.0**	**+0.9**
LMEL				AMP		13 30 51.3	
	comp=N,14µm,0.3s						
SFDO	**San Fernando**	**0.61**	**252**	⇓*i* P	**P**	**13 30 37.3**	**+0.5**
PCH	**Pirque**	**0.83**	**348**	⇑*i* P	**P**	**13 30 39.2**	**+0.4**
ANTU	**Antumapu**	**0.90**	**343**	⇑*i* P	**P**	**13 30 39.7**	**+0.1**
ANTU				*i* S	**S**	**13 30 54.2**	**-0.7**
ANTU				AMP		13 30 55.1	
	comp=E,30µm,0.5s						
TACH	**Talagante**	**0.94**	**326**	⇓*i* P

PLCA					*e*Sn		**S**		13 33 00.1	**-1.9**
TRQA	**Tornquist**		**7.64**	**121**	*e*Pn		**P**		13 32 09.4	**+0.1**
	comp=N,39nm,0.6s									
TRQA					*e*Sn		**S**		13 33 33.0	**-1.8**
CPUP	**Villa Florida**		**13.80**	**58**	*e*Pn		**P**		13 33 30.9	**-0.3**
	comp=N,22nm,0.5s									
LPAZ	**La Paz**		**18.17**	**7**	*e*P		**P**		13 34 26.8	**+1.0**
	comp=N,0.5nm,0.3s,baz=182,slow=7.7,SNR=16									
LPAZ	**La Paz**		**18.17**	**7**	*e*P		**P**		13 34 26.4	**+0.6**
	comp=N,3.2nm,0.6s									
SIV	**San Ignacio**		**20.15**	**27**	P		**P**		13 34 45.5	**-1.5**
	comp=N,5.9nm,0.9s,baz=218,slow=12,SNR=17									
USHA	**Ushuaia**		**20.44**	**177**	P		**P**		13 34 48.7	**-1.0**
	comp=N,11nm,0.8s,baz=19,slow=9.0,SNR=3.1									
SAML	**Samuel**		**26.19**	**16**	P		**P**		13 35 49.1	**+3.5**
BDFB	**Brasilia**		**27.43**	**53**	P		**P**		13 35 55.4	**-1.4**
	comp=N,5.5nm,0.7s,mb4.2,baz=225,slow=8.8,SNR=8.0									
BDFB					LR		LR		13 47 41.4	
	comp=N,37nm,19.9s,baz=295,slow=38									
VNA3	**Neumayer Olymp**		**48.42**	**158**			**P**		13 38 56.1	**+4.4**
VNA2	**Neumayer--Watz**		**49.06**	**157**			**P**		13 38 58.1	**+1.4**
VNA2	**Neumayer--Watz**		**49.06**	**157**			**P**		13 39 00.8	**+4.1**
SNAA	**Sanae**		**50.65**	**158**	P		**P**		13 39 09.1	**+0.3**
	comp=N,0.5nm,0.4s,mb3.9,baz=269,slow=9.6,SNR=16									
QSPA	**South Pole Qui**		**55.81**	**180**	*e*P		**P**		13 39 48.0	**+1.2**
	comp=N,5.7nm,0.2s,mb5.2									
VNDA	**Vanda**		**63.96**	**191**	P		**P**		13 40 43.6	**+1.3**
	comp=N,1.0nm,0.8s,mb3.7,baz=42,slow=4.6,SNR=3.8									
JCT	**Junction City**		**70.30**	**333**	*e*P		**P**		13 41 22.4	**-0.5**
	comp=N,6.8nm,0.8s,mb4.5									
TXAR	**Lajitas Array**		**70.82**	**329**	P		**P**		13 41 25.9	**-0.1**
	comp=N,2.3nm,0.6s,mb4.2,baz=154,slow=8.7,SNR=27									
MNTX	**Cornudas Mount**		**73.60**	**329**	*e*P		**P**		13 41 41.2	**-1.2**
	comp=N,4.5nm,0.9s,mb4.2									
DBIC	**Dimbokro**		**73.97**	**70**	P		**P**		13 41 44.9	**0.0**
	comp=N,1.5nm,0.8s,mb3.8,baz=223,slow=10,SNR=3.3									
DBIC	**Dimbokro**		**73.97**	**70**	P		**P**		13 41 44.9	**0.0**
MSU	**Marysvale**		**82.31**	**328**	*e*P		**P**		13 42 30.9	**+0.9**
PDAR	**Pinedale Array**		**84.80**	**332**	P		**P**		13 42 42.5	**+0.1**
	comp=N,1.2nm,0.7s,mb4.0,baz=151,slow=4.6,SNR=12									
NVAR	**Mina Array Bea**		**85.06**	**324**	P		**P**		13 42 45.1	**+1.2**
	comp=N,1.5nm,0.8s,mb4.0,baz=143,slow=6.5,SNR=11									
ULM	**Lac du Bonnet**		**87.30**	**344**	P		**P**		13 42 54.3	**-0.2**
	comp=N,1.2nm,0.7s,mb3.9,baz=131,slow=4.6,SNR=3.2									
WRA	**Warramunga Arr**		**121.06**	**207**	PKP		PKPdf		13 49 00.7	**+1.2**
	comp=N,0.7nm,0.4s,baz=162,slow=1.8,SNR=21									

*IDC **12** 13:38:34.5±1.9,33.52N×141.71E,mb3.5/3,mb1 3.6/4, mb1mx3.4/19,mbtmp3.4/4,ML3.2/1,Error ellipse: s-maj=34.1km s-min=24.2km az=62.0*

*JMA **12** 13:38:37.3±0.7,33.65N×141.73E,h51km,M3.3*

ISC 12 13:38:35.7±3.0,33.61N±0.07×141.8E±0.1,h24km±24km, n13,σ0♦64/15,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.24**	**327**	P	**Pn**	**13 38 57.8**	**+0.1**
BSO3	**Boso 3**	**1.59**	**319**	P	**Pn**	**13 39 03.2**	**+0.4**
JHJ2	**Mitsune**	**1.72**	**254**	P	**Pn**	**13 39 05.4**	**+0.7**
JHJ	**Hachijo jima 2**	**1.75**	**254**	Pn	**Pn**	**13 39 05.5**	**+0.5**
	26nm,0.3s,baz=64,slow=24,SNR=9.2						
JHJ				Sn	**Sn**	**13 39 26.4**	**-0.4**
	32nm,0.3s,baz=257,slow=23,SNR=4.1						
BSO4	**Boso 4**	**1.82**	**319**	P	**Pn**	**13 39 06.9**	**+0.8**
JOD2	**Odawara 2**	**2.77**	**307**	P	**Pn**	**13 39 18.8**	**-0.9**
JYN	**Shimob**	**3.27**	**306**	P	**Pn**	**13 39 26.4**	**-0.4**
JRY	**Ryogami san**	**3.38**	**316**	P	**Pn**	**13 39 27.6**	**-0.7**
JAG	**Ashikaga**	**3.40**	**326**	P	**Pn**	**13 39 28.3**	**-0.3**
MJAR	**Matsushiro Arr**	**4.14**	**316**	Pn	**Pn**	**13 39 38.8**	**-0.3**
	1.5nm,0.3s,baz=137,slow=22,SNR=17						
MJAR				Sn	**Sn**	**13 40 27.4**	**0.0**
	0.8nm,0.3s,baz=277,slow=33,SNR=3.8						
SONM	**Songino Array**	**30.06**	**309**	P	**P**	**13 44 46.7**	**+1.6**
	0.4nm,0.6s,mb3.3,baz=115,slow=5.5,SNR=3.6						
MKAR	**Makanchi Array**	**46.26**	**305**	P	**P**	**13 47 00.8**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=83,slow=8.2,SNR=6.3						
WRA	**Warramunga Arr**	**53.73**	**189**	P	**P**	**13 47 57.5**	**-0.8**
	0.3nm,0.3s,mb3.7,baz=5.8,slow=7.6,SNR=12						

*WEL **12** 13:55:47.8±0.1,40.52S×176.05E,h26km±1km,ML5.1/55, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0,MM 6.*

WEL Felt between Hawke's Bay, Wellington and Taranaki, maximum reported intensity.

*BJI **12** 13:55:48.0,40.50S×176.00E,h26km,mB5.7,mb5.3, Ms5.5,Msz5.2*

*NEIC **12** 13:55:48.0,40.51S×176.02E,h27km,mb4.8/8, ML5.0(WEL),After WEL.*

NEIC Felt at Wellington.

*IDC **12** 13:55:49.8±2.9,40.29S×176.11E,h52km±26km,mb4.3/8, mb1 4.3/9,mb1mx4.2/13,mbtmp4.5/9,ML3.8/1,MS3.8/4, Ms1 3.8/4,ms1mx3.5/13,Error ellipse: s-maj=22.2km s-min=18.9km az=63.0*

ISC 12 13:55:47.8±0.3,40.49S±0.02×175.99E±0.05,h41km±3km, h31km±2.2km:pP-P,n129,σ1♦01/114,mb4.8/15,MS4.4/5, 29C-27D,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFZ	**Birch Farm**	**0.28**	**134**	P*	**P**	**13 55 55.4**	**-0.5**
BFZ				S*	**S**	**13 56 00.1**	**-1.4**
BFZ	**Birch Farm**	**0.28**	**134**	⇓P	**P**	**13 55 55.5**	**-0.4**
MRZ	**Mangatainoka R**	**0.36**	**240**	⇓P*	**P**	**13 55 56.6**	**-0.2**
MRZ				S*	**S**	**13 56 02.8**	**-0.2**
MRZ	**Mangatainoka R**	**0.36**	**240**	⇓P	**P**	**13 55 56.6**	**-0.2**
TSZ	**Takapari Road**	**0.43**	**357**	⇑P*	**P**	**13 55 56.3**	**-1.3**
TSZ				S*	**S**	**13 56 02.3**	**-2.2**
MTW	**Mount Morrison**	**0.77**	**209**	⇓P*	**P**	**13 56 02.7**	**+0.5**
MTW				S*	**S**	**13 56 14.3**	**+1.5**
PXZ	**Pawanui**	**0.81**	**56**	P*	**P**	**13 56 02.3**	**-0.5**
PXZ				S*	**S**	**13 56 14.8**	**+1.0**
KIW	**Kapiti Island**	**0.90**	**245**	⇓P*	**P**	**13 56 05.2**	**+1.1**
KIW	**Kapiti Island**	**0.90**	**245**	⇓P	**P**	**13 56 05.2**	**+1.1**
CAW	**Cannon Point**	**0.93**	**228**	⇓P*	**P**	**13 56 05.2**	**+0.6**
CAW	**Cannon Point**	**0.93**	**228**	⇓P	**P**	**13 56 05.2**	**+0.6**
TRWZ	**Traveller**	**0.94**	**194**	⇓P*	**P**	**13 56 05.0**	**+0.3**
PAWZ	**Paruwai Farm**	**0.99**	**205**	⇓P*	**P**	**13 56 05.6**	**+0.2**
WAZ	**Wanganui**	**1.06**	**313**	⇑PN	**P**	**13 56 07.8**	**+1.5**
WAZ	**Wanganui**	**1.06**	**313**	⇑P	**P**	**13 56 07.8**	**+1.4**
MSWZ	**Moikau Station**	**1.08**	**211**	⇓P*	**P**	**13 56 06.7**	**0.0**
MSWZ	**Moikau Station**	**1.08**	**211**	⇓P	**P**	**13 56 06.7**	**0.0**
MOVZ	**Moawhango**	**1.09**	**350**	⇑PN	**P**	**13 56 07.2**	**+0.4**
MOVZ	**Moawhango**	**1.09**	**350**	⇑P	**P**	**13 56 07.2**	**+0.4**
MTVZ	**Mangateitei**	**1.17**	**340**	⇑PN	**P**	**13 56 08.6**	**+0.7**
WNVZ	**Wahianoa**	**1.20**	**345**	⇑PN	**P**	**13 56 09.0**	**+0.7**
WNVZ	**Wahianoa**	**1.20**	**345**	⇑P	**P**	**13 56 09.0**	**+0.7**
WEL	**Wellington**	**1.22**	**229**	P*	**P**	**13 56 08.9**	**+0.2**
WEL	**Wellington**	**1.22**	**229**	P	**P**	**13 56 08.9**	**+0.2**
MRW	**Makara Radio**	**1.23**	**232**	⇓P*	**P**	**13 56 09.0**	**+0.3**
MRW	**Makara Radio**	**1.23**	**232**	⇓P	**P**	**13 56 09.0**	**+0.3**
TRVZ	**Turoa**	**1.23**	**344**	⇑PN	**P**	**13 56 09.6**	**+0.8**
TUVZ	**Tukino**	**1.24**	**348**	⇑PN	**P**	**13 56 09.8**	**+0.8**
TUVZ	**Tukino**	**1.24**	**348**	⇑P	**P**	**13 56 09.8**	**+0.8**
BHW	**Baring Head**	**1.25**	**222**	⇓P*	**P**	**13 56 09.0**	**-0.1**
DRZ	**Dome Shelter**	**1.25**	**345**	PN	**P**	**13 56 09.9**	**+0.7**
DRZ	**Dome Shelter**	**1.25**	**345**	P	**P**	**13 56 09.9**	**+0.8**
SNZO	**South Karori**	**1.27**	**229**	⇓P*	**P**	**13 56 09.5**	**+0.1**
FWVZ	**Far West T-bar**	**1.27**	**345**	PN	**P**	**13 56 10.1**	**+0.6**
FWVZ	**Far West T-bar**	**1.27**	**345**	P	**P**	**13 56 10.1**	**+0.6**
PKVZ	**Pokaka**	**1.29**	**337**	⇑PN	**P**	**13 56 10.4**	**+0.7**
WPVZ	**Whakapapa**	**1.32**	**345**	⇑PN	**P**	**13 56 11.1**	**+0.8**
WPVZ	**Whakapapa**	**1.32**	**345**	⇑P	**P**	**13 56 11.1**	**+0.8**
CNZ	**Chateau**	**1.33**	**345**	PN	**P**	**13 56 11.1**	**+0.7**
CNZ	**Chateau**	**1.33**	**345**	P	**P**	**13 56 11.1**	**+0.8**
NGZ	**Ngauruhoe**	**1.34**	**347**	⇑PN	**P**	**13 56 11.3**	**+0.8**
NGZ	**Ngauruhoe**	**1.34**	**347**	⇑P	**P**	**13 56 11.3**	**+0.8**
OTVZ	**Oturere**	**1.34**	**349**	⇑PN	**P**	**13 56 11.3**	**+0.8**
BKZ	**Black Stump Fm**	**1.38**	**17**	⇓PN	**P**	**13 56 10.3**	**-0.7**
BKZ	**Black Stump Fm**	**1.38**	**17**	⇑P	**P**	**13 56 10.3**	**-0.7**
WTVZ	**West Tongariro**	**1.40**	**347**	⇑PN	**P**	**13 56 12.0**	**+0.7**
WTVZ	**West Tongariro**	**1.40**	**347**	⇑P	**P**	**13 56 12.0**	**+0.6**
KRVZ	**Karewarewa**	**1.42**	**349**	⇑PN	**P**	**13 56 12.2**	**+0.7**
RITZ	**Rihia Road**	**1.51**	**356**	⇑PN	**P**	**13 56 13.3**	**+0.5**
RITZ	**Rihia Road**	**1.51**	**356**	⇑P	**P**	**13 56 13.3**	**+0.4**
HATZ	**Hinemaiaia**	**1.60**	**3**	PN	**P**	**13 56 13.8**	**-0.2**
HATZ	**Hinemaiaia**	**1.60**	**3**	P	**P**	**13 56 13.8**	**-0.3**
RATZ	**Rangitukua**	**1.63**	**354**	⇑PN	**P**	**13 56 14.6**	**+0.1**
RATZ	**Rangitukua**	**1.63**	**354**	⇑P	**P**	**13 56 14.6**	**+0.1**
VRZ	**Vera Road**	**1.66**	**325**	⇑*e*PN	**P**	**13 56 15.5**	**+0.5**
VRZ	**Vera Road**	**1.66**	**325**	⇑*e*P	**P**	**13 56 15.5**	**+0.6**
TUWZ	**Tuamarina**	**1.81**	**238**	⇓PN	**P**	**13 56 16.4**	**-0.8**
BSWZ	**Blackbirch Sta**	**2.01**	**232**	⇓PN	**P**	**13 56 19.1**	**-0.9**
NNZ	**Nelson**	**2.11**	**249**	⇓PN	**P**	**13 56 21.0**	**-0.4**
NNZ	**Nelson**	**2.11**	**249**	⇓P	**P**	**13 56 21.0**	**-0.4**
UTU	**Utuhina**	**2.31**	**4**	PN	**P**	**13 56 23.2**	**-1.0**
URZ	**Urewera**	**2.39**	**22**	P	**P**	**13 56 22.8**	**-2.6**
	27nm,0.3s,baz=233,slow=6.4,SNR=117						
QRZ	**Quartz Range**	**2.65**	**262**	*e*PN	**P**	**13 56 28.2**	**-1.0**
THZ	**Tophouse**	**2.65**	**240**	⇓PN	**P**	**13 56 27.5**	**-1.6**
PUZ	**Puketiti**	**2.99**	**37**	PN	**P**	**13 56 30.0**	**-3.9**
MXZ	**Matakaoa Point**	**3.43**	**32**	PN	**P**	**13 56 36.8**	**-3.4**
RPZ	**Rata Peaks**	**4.88**	**227**	P	**P**	**13 56 56.4**	**-4.4**
	4.9nm,0.3s,baz=114,slow=4.3,SNR=26						
RPZ				S	**S**	**13 57 51.0**	**-5.8**
	22nm,0.3s,baz=312,slow=13,SNR=22						
RPZ				LR	LR	13 58 55.0	
	comp=Z,344nm,20.6s,baz=80,slow=36						
RAO	**Raoul Island**	**12.27**	**26**	*e*Pn	**P**	**13 58 42.1**	**-0.6**
DZM	**Mont Dzumac**	**20.06**	**333**	*e*P	**P**	**14 00 20.1**	**-0.3**
DZM	**Mont Dzumac**	**20.06**	**333**	P	**P**	**14 00 20.0**	**-0.3**
	0.4nm,0.3s,baz=116,slow=16,SNR=10						
DZM				LR	LR	14 07 02.7	
	comp=Z,499nm,21.2s,MS3.8,baz=28,slow=34						
STKA	**Stephens Creek**	**28.91**	**276**	*e*P	**P**	**14 01 53.8**	**+8.7**
	10nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**28.91**	**276**	P	**P**	**14 01 45.0**	**0.0**
	2.4nm,0.8s,mb4.0,baz=129,slow=20,SNR=4.4						
STKA				LR	LR	14 11 57.5	
	comp=Z,256nm,20.0s,MS3.8,baz=292,slow=33						
STKA	**Stephens Creek**	**28.91**	**276**	*e*P	**P**	**14 01 41.8**	**-3.3**
STKA				*e*	pP	14 01 53.6	-2.5
STKA				LR	LR	14 11 57.5	
CTA	**Charters Tower**	**32.51**	**300**	*e*P	**P**	**14 02 16.9**	**0.0**
	3.3nm,0.9s,mb4.3						
CTA	**Charters Tower**	**32.51**	**300**	P	**P**	**14 02 16.2**	**-0.8**
	2.3nm,0.7s,mb4.2,baz=306,slow=22,SNR=5.0						
CTAO	**Charters Tower**	**32.51**	**300**	*e*P	**P**	**14 02 16.9**	**-0.1**
	2.0nm,0.7s,mb4.2						
CTAO				*e*pP	pP	14 02 25.2	-2.9
VNDA	**Vanda**	**37.61**	**185**	P	**P**	**14 03 01.3**	**+1.4**
	1.2nm,0.8s,mb3.7,baz=355,slow=6.7,SNR=8.6						
VNDA				LR	LR	14 16 33.8	
	comp=Z,114nm,18.2s,MS3.7,baz=18,slow=33						
VNDA	**Vanda**	**37.61**	**185**	*e*P	**P**	**14 03 00.3**	**+0.4**
	1.4nm,0.7s,mb3.8						
FORT	**Forrest**	**39.72**	**269**	*e*P	**P**	**14 03 25.9**	**+8.0**
	22nm,0.7s,mb5.0						
PMG	**Port Moresby**	**40.15**	**312**	P	**P**	**14 03 22.0**	**+0.4**
	7.4nm,0.8s,mb4.5,baz=182,slow=22,SNR=4.1						
PMG	**Port Moresby**	**40.15**	**312**	*e*P	**P**	**14 03 22.1**	**+0.5**
WB2	**Warramunga Arr**	**40.93**	**287**	⇓*i*P	**P**	**14 03 26.6**	**-1.4**
WB2				*e*	pP	14 03 35.8	-3.6
WRA	**Warramunga Arr**	**40.94**	**287**	P	**P**	**14 03 26.7**	**-1.3**
	19nm,0.4s,mb5.0,baz=125,slow=8.2,SNR=632						
CASY	**Casey**	**43.97**	**212**	*e*P	**P**	**14 03 52.4**	**+0.1**
	24nm,1.0s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.95**	**260**	P	**P**	**14 04 15.2**	**-1.1**
	9.9nm,0.9s,mb4.8,baz=97,slow=7.4,SNR=5.5						
NWAO	**Narrogin (SRO)**	**46.95**	**260**	*e*P	**P**	**14 04 15.3**	**-1.1**
NWAO				*e*pP	pP	14 04 24.7	-3.2
KLBR	**Kellerberrin**	**47.17**	**262**	*e*P	**P**	**14 04 16.9**	**-1.2**
	13nm,0.4s,mb5.2						
MUN	**Mundaring**	**48.16**	**260**	*e*P	**P**	**14 04 25.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**48.50**	**282**	*e*P	**P**	**14 04 27.0**	**-1.6**
	5.5nm,0.3s,mb5.1						
FITZ				*e*	pP	14 04 36.5	-3.7
QSPA	**South Pole Qui**	**49.64**	**180**	*e*P	**P**	**14 04 38.4**	**+1.8**
	22nm,1.1s,mb5.1						
MBWA	**Marble Bar**	**51.13**	**275**	*e*P	**P**	**14 04 46.0**	**-2.8**
MBWA				*e*pP	pP	14 04 56.4	-3.9
GUMO	**Guam**	**61.06**	**325**	*e*P	**P**	**14 05 59.0**	**-1.0**
MAW	**Mawson**	**61.14**	**204**	P	**P**	**14 05 59.6**	**-0.3**
	3.9nm,0.3s,mb5.1,baz=160,slow=8.8,SNR=20						
MAW	**Mawson**	**61.14**	**204**	*e*P	**P**	**14 05 59.6**	**-0.3**
SNAA	**Sanae**	**68.14**	**180**	⇓*i*	**P**	**14 06 44.7**	**-0.3**
VNA3	**Neumayer Olymp**	**68.50**	**178**	⇓*i*	**P**	**14 06 48.2**	**+0.9**
VNA3	**Neumayer Olymp**	**68.50**	**178**	⇑*i*	**P**	**14 07 00.0**	**+13**
VNA2	**Neumayer--Watz**	**68.87**	**179**	⇓*i*	**P**	**14 06 51.0**	**+1.5**
VNA2	**Neumayer--Watz**	**68.87**	**179**	⇑*i*	**P**	**14 07 01.3**	**+12**
VNA2	**Neumayer--Watz**	**68.87**	**179**		**P**	**14 07 02.4**	**+13**
VNA1	**Neumayer--Stat**	**69.13**	**178**	⇓*i*	**P**	**14 06 52.5**	**+1.3**
PLCA	**Paso Flores**	**79.07**	**135**	P	**P**	**14 07 49.3**	**0.0**
	3.4nm,0.9s,mb4.3,baz=215,slow=4.6,SNR=2.9						
PLCA	**Paso Flores**	**79.07**	**135**	*e*P	**P**	**14 07 49.7**	**+0.4**
MAJO	**Matsushiro**	**84.14**	**330**	*e*P	**P**	**14 08 15.1**	**-0.6**
TRQA	**Tornquist**	**85.55**	**138**	*e*P	**P**	**14 08 23.6**	**+1.0**
NJ2	**Nanjing**	**89.43**	**314**	*e*P	**P**	**14 08 44.4**	**+2.8**
NJ2				AP	pP	14 08 53.2	-0.9
NJ2				XP	sP	14 08 56.2	-2.1
NJ2				PP	PP	14 12 17.1	+1.7
NJ2				S	S	14 19 29.0	+2.4
NJ2				XS		14 19 44.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,540nm,5.2s						
NJ2				LR	LR		
	comp=N,2μm,19.4s,MS5.5						
NJ2				LR	LR		
	comp=E,850nm,22.9s,MS5.5						
NJ2				LR	LR		
	comp=Z,770nm,29.4s						
KMI	**Kunming**	**94.23**	**299**	P	**P**	**14 09 07.5**	**+3.7**
MDJ	**Mudanjiang**	**94.42**	**329**	P	**P**	**14 09 08.0**	**+3.8**
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.5s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,100nm,3.9s						
LZH	**Lanzhou**	**100.94**	**308**	*e*P	P	14 09 37.6	+3.5
LZH				AP		14 09 45.0	
LZH				XP		14 09 48.2	
LZH				PP	PP	14 13 49.5	+4.2
LZH				SKS	SKS	14 20 13.2	+4.8
LZH				*e*S	S	14 21 10.0	+4.6
LZH				XS		14 21 27.8	
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s						
LZH				AMB	AMB		
	comp=Z,60nm,4.9s						
LZH				LR	LR		
	comp=E,270nm,17.4s						
LZH				LR	LR		
	comp=Z,480nm,19.0s,MS5.0						
ILAR	**Eielson Array**	**108.89**	**16**	PKiKP		14 14 11.9	
	comp=Z,0.6nm,0.7s,baz=292,slow=2.8,SNR=7.3						
ILAR				PKKPab		14 25 33.0	
	comp=Z,0.4nm,0.9s,baz=346,slow=3.7,SNR=4.2						
YKA	**Yellowknife Ar**	**116.63**	**29**	PKP	PKPdf	14 14 26.7	-0.1
	comp=Z,0.9nm,0.7s,baz=257,slow=1.5,SNR=23						
YKA				PKKPbc		14 24 54.8	
	comp=Z,0.5nm,0.8s,baz=50,slow=4.0,SNR=8.4						
YKA	**Yellowknife Ar**	**116.63**	**29**	PKP	PKPdf	14 14 26.7	-0.1
YKA				PKKPbc		14 24 54.9	
MKAR	**Makanchi Array**	**120.25**	**307**	PKP	PKPdf	14 14 33.4	-0.9
	comp=Z,2.4nm,0.6s,baz=204,slow=1.9,SNR=33						
QURS	**Qurayyt al Mil**	**145.58**	**268**	P	PKPdf	14 15 24.1	+2.5
AYUS	**'Aynunah**	**145.59**	**262**	P	PKPdf	14 15 23.1	+1.4
BDAS	**Al Bad'**	**145.84**	**262**	P	PKPdf	14 15 23.6	+1.5
JMOS	**Jabal al Moall**	**146.21**	**263**	P	PKPdf	14 15 25.2	+2.5
HAQS	**Haql**	**146.29**	**263**	P	PKPdf	14 15 25.4	+2.5
ALWS	**Ilw as Safayha**	**146.31**	**263**	P	PKPdf	14 15 25.5	+2.6
DBIC	**Dimbokro**	**146.32**	**178**	PKPbc	PKPbc	14 15 25.6	+1.1
	comp=Z,12nm,0.8s,baz=150,slow=4.4,SNR=19						
KEV	**Kevo**	**146.49**	**341**	*ep*	PKPdf	14 15 22.0	0.0
ARCES	**ARCESS Array B**	**147.02**	**341**	PKPbc	PKPdf	14 15 24.7	+1.9
	comp=Z,6.8nm,0.5s,baz=60,slow=1.5,SNR=88						
JOF	**Joensuu**	**149.30**	**329**	*ep*	PKPdf	14 15 29.9	+3.2
BR131	**Keskin Array S**	**151.33**	**281**	*e*PKPdf	PKPdf	14 15 36.0	+5.5
BRTR	**Keskin Array B**	**151.33**	**281**	PKPbc	PKPdf	14 15 37.2	+6.7
	comp=Z,6.6nm,0.8s,baz=145,slow=5.5,SNR=25						
KAF	**Kangasniemi**	**151.69**	**330**	*ep*	PKPdf	14 15 35.7	+5.4
	comp=Z,2.1nm,0.4s						
FINES	**FINESS Array B**	**152.16**	**329**	PKPbc	PKPdf	14 15 37.6	+6.6
	comp=Z,5.2nm,0.8s,baz=24,slow=5.0,SNR=9.6						
TORD	**Torodi Ar. Bea**	**152.31**	**192**	PKPbc	PKPdf	14 15 40.3	+7.6
	comp=Z,2.7nm,0.6s,baz=162,slow=3.0,SNR=16						
AKASG	**Malin Array Be**	**154.80**	**305**	PKPbc	PKPdf	14 15 43.7	+8.7
	comp=Z,1.8nm,0.5s,baz=70,slow=3.0,SNR=7.4						

*IDC **12** 14:13:16.9±0.5,8.55S×157.20E,mb5.0/14,mb1 5.1/17, mb1mx5.1/18,mbtmp4.9/17,ML4.3/3,MS4.9/16,Ms1 4.9/16, ms1mx4.8/20,Error ellipse: s-maj=18.7km s-min=14.8km az=81.0*

*BJI **12** 14:13:19.4,8.38S×158.05E,h39km,mB5.6,mb5.3,Ms5.3, Msz4.9*

*MOS **12** 14:13:21.0±1.4,8.63S×157.24E,h33km,mb5.6/32, MS4.9/9,Error ellipse: s-maj=8.9km s-min=8.0km az=62.2*

*HRVD **12** 14:13:22.4±0.1,8.66S×157.17E,h13km,MW5.4/89, Centroid moment Tensor Solution. LP body waves: s70,c134;Mantle waves: s89,c183; Half duration: 1♦3 Moment tensor: Scale 10^17^Nm; Mrr0.73±.03; Mθθ-0.92±.03; Mφφ0.18±.03; Mrθ-0.29±.05; Mθφ1.25±.02; Mφr-0.59±.07; Best double couple: M0 1.634×10^17^ NP1: φs265°,δ62°,λ29°. NP2:φs161°,δ65°,λ149°. Principal axes: T 1.531, Plg39°, Azm122°; N .205, Plg51°, Azm306°; P -1.737, Plg2°, Azm214°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **12** 14:13:22.4±0.2,8.64S×157.19E,mb5.5/38,MS5.0/2 Error ellipse: s-maj=7.4km s-min=6.3km az=133.0*

ISC 12 14:13:21.4±0.2,8.68S±0.04×157.21E±0.04,h38km, h38km±1.6km:pP-P,n203,σ1♦27/186,mb5.3/81,MS4.9/35, 4C-2D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.80**	**106**	Pn	**P**	**14 14 02.2**	**-2.7**
	123nm,0.3s,baz=234,slow=6.4,SNR=54						
HNR				Sn	**S**	**14 14 51.1**	**+13**
	490nm,0.3s,baz=297,slow=23,SNR=11						
HNR				LR	LR	14 15 01.7	
	comp=Z,9μm,18.1s,baz=320,slow=37						
HNR	**Honiara**	**2.80**	**106**	*e*P	**P**	**14 14 02.4**	**-2.5**
PMG	**Port Moresby**	**9.95**	**265**	Pn	**P**	**14 15 48.4**	**+3.3**
	0.5nm,0.3s,baz=85,slow=6.1,SNR=6.2						
PMG				LR	LR	14 19 25.0	
	comp=Z,15μm,18.1s,baz=74,slow=37						
PMG	**Port Moresby**	**9.95**	**265**	*e*P	**P**	**14 15 48.1**	**+3.0**
PMG				pmax	pmax		
	comp=Z,72nm,0.9s						
PMG	**Port Moresby**	**9.95**	**265**	*e*Pn	**P**	**14 15 48.1**	**+3.0**
	comp=Z,72nm,0.9s						
CTA	**Charters Tower**	**15.52**	**222**	*e*P	**P**	**14 16 57.8**	**-1.5**
	comp=Z,44nm,2.0s						
CTA				*e*S	S	14 20 13.8	+24
CTA	**Charters Tower**	**15.52**	**222**	Pn	**P**	**14 16 58.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=48,slow=15,SNR=14						
CTA	**Charters Tower**	**15.52**	**222**	*e*P	**P**	**14 16 57.8**	**-1.5**
CTA				pmax	pmax		
	comp=Z,44nm,2.0s						
CTAO	**Charters Tower**	**15.52**	**222**	*e*P	**P**	**

DL2 S **S** **14 31 13.1 +7.5**
DL2 XS 14 31 22.5
DL2 AMB AMB
comp=Z,60nm,1.2s,mb5.5
DL2 AMB AMB
comp=Z,140nm,4.4s
DL2 LR LR
comp=N,650nm,14.7s,MS4.9
DL2 LR LR
comp=E,300nm,13.5s,MS4.9
DL2 LR LR
comp=Z,480nm,13.4s,MS4.8
KULM Kulim 58.08 282 *e*P **P** **14 23 16.4 +2.6**
TIA Tai'an 58.43 322 *e*P **P** **14 23 12.8 -3.1**
SNG Songkhla 58.56 284 P **P** **14 23 18.0 +0.8**
MDJ Mudanjiang 58.62 337 P **P** **14 23 16.3 -0.8**
MDJ AP pP 14 23 27.1 -1.2
MDJ XP sP 14 23 31.5 -1.2
MDJ PP PP 14 25 28.3 -0.4
MDJ S **S** **14 31 21.9 +5.0**
MDJ XS 14 31 38.5
MDJ AMB AMB
comp=Z,60nm,1.3s,mb5.5
MDJ AMB AMB
comp=Z,320nm,5.4s
MDJ LR LR
comp=N,650nm,16.7s
MDJ LR LR
comp=Z,610nm,18.2s,MS4.8
MDJ Mudanjiang 58.62 337 *e*P **P** **14 23 16.7 -0.4**
comp=Z,98nm,1.3s,mb5.7
SNY Shenyang 58.96 331 ⇑P **P** **14 23 19.1 -0.5**
SNY AP pP 14 23 35.6 +4.9
SNY PCP PcP 14 24 09.7 +1.6
SNY S **S** **14 31 23.0 +1.6**
SNY SS SS 14 35 20.2 +3.1
SNY AMB AMB
comp=Z,340nm,12.0s
SNY LR LR
comp=N,1µm,16.1s
SNY LR LR
comp=Z,720nm,19.2s,MS4.8
DRV Dumont d'Urvil 59.08 188 P **P** **14 23 22.0 +1.9**
DRV Dumont d'Urvil 59.08 188 SS SS 14 35 18.0 -0.7
DRV L 14 38 00.0
CN2 Changchun 59.65 334 ⇑P **P** **14 23 22.7 -1.6**
CN2 *e*AP pP 14 23 36.1 +0.6
CN2 *e*S **S** **14 31 29.4 -0.9**
CN2 AMB AMB
comp=Z,80nm,1.2s,mb5.6
CN2 AMB AMB
comp=Z,640nm,3.0s
CN2 LR LR
comp=N,770nm,15.0s,MS5.1
CN2 LR LR
comp=E,880nm,15.0s,MS5.1
CN2 LR LR
comp=Z,750nm,19.0s,MS4.8
ENH Enshi 59.99 312 *e*P **P** **14 23 26.4 -0.4**
comp=Z,50nm,0.9s,mb5.5
HABR Khabarovsk 60.17 343 ⇓ *i*P **P** **14 23 27.3 -0.5**
HABR *e*S **S** **14 31 31.8 -5.1**
HABR pmax pmax
comp=Z,93nm,1.5s,mb5.6
HABR MLR MLR
comp=Z,554nm,15.0s,MS4.8
GYA Guiyang 60.22 307 ⇑ *i*P **P** **14 23 32.5 +4.1**
GYA AP pP 14 23 44.8 +5.2
GYA PP PP 14 25 48.3 +5.0
GYA S **S** **14 31 43.0 +5.2**
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,270nm,3.9s
GYA LR LR
comp=N,990nm,18.8s,MS5.2
GYA LR LR
comp=E,1µm,19.1s,MS5.2
GYA LR LR
comp=Z,1µm,18.2s,MS5.1
PET Petropavlovsk 61.48 1 *e*P **P** **14 23 37.1 +0.5**
PET *e*S **S** **14 32 04.8 +11**
PET pmax pmax
comp=Z,31nm,0.8s,mb5.5
PET pmax pmax
comp=Z,100nm,8.8s
PET smax
comp=E,300nm,16.0s
PET MLR MLR
comp=Z,400nm,18.0s,MS4.6
NST Nakhon Sawan 61.49 293 P **P** **14 23 36.5 -0.6**
KLR Kul'dur 61.84 341 *e*P **P** **14 23 35.0 -4.1**
KLR *e*S **S** **14 31 55.5 -2.7**
TAOE Nuku Hiva Isla 61.84 95 *e*LR LR 14 42 06.6
comp=Z,2µm,25.6s
KMI Kunming 62.77 304 P **P** **14 23 48.5 +2.9**
KMI PCP PcP 14 24 25.7 +2.0
KMI PP PP 14 26 09.0 +3.5
KMI S **S** **14 32 13.1 +2.9**
KMI XS 14 32 33.8
KMI SKS SKS 14 33 33.6 +2.3
KMI AMB AMB
comp=Z,30nm,1.8s,mb5.1
KMI AMB AMB
comp=Z,430nm,4.5s
KMI LR LR
comp=N,580nm,15.5s,MS5.0
KMI LR LR
comp=E,760nm,20.2s,MS5.0
KMI LR LR
comp=Z,990nm,24.4s,MS4.9
CHRT Chiangrai 63.24 297 ⇓P **P** **14 23 48.0 -0.8**
comp=Z,187nm,1.0s,mb6.2
CHG Chiang Mai 63.61 296 ⇑P **P** **14 23 50.5 -0.8**
comp=Z,58nm,1.2s,mb5.5
CD2 Chengdu 64.57 310 P **P** **14 23 59.2 +1.8**
CD2 PP PP 14 26 20.7 -0.8
CD2 PPP PPP 14 28 02.4 +7.7
CD2 S **S** **14 32 36.0 +3.4**
CD2 XS 14 32 56.5
CD2 SS SS 14 36 50.6 +5.5
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,420nm,4.8s
CD2 LR LR
comp=N,420nm,16.2s
CD2 LR LR
comp=Z,580nm,21.6s
HHC Hu-ho-hao-te 64.75 323 *e*P **P** **14 23 59.1 +0.8**
HHC AP pP 14 24 12.2 +2.5
HHC XP sP 14 24 17.3 +3.3
HHC PCP PcP 14 24 31.9 +0.3
HHC PP PP 14 26 22.3 -0.6
HHC PCS 14 28 35.0
HHC S **S** **14 32 34.0 -0.6**
HHC XS 14 32 56.4
HHC SCS ScS 14 33 46.7 +0.6
HHC SS SS 14 36 48.6 +0.9
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,570nm,3.3s
HHC LR LR
comp=N,500nm,19.0s,MS4.8
HHC LR LR
comp=E,370nm,16.6s,MS4.8
HHC LR LR
comp=Z,730nm,19.0s,MS4.9
BTO Baotou 65.52 322 *e*P **P** **14 24 04.6 +1.2**
BTO AMB AMB
comp=Z,40nm,1.7s,mb5.2
HIA Hailar 66.38 334 *e*P **P** **14 24 07.6 -1.0**
HIA pmax pmax
comp=Z,95nm,1.3s
HIA Hailar 66.38 334 *e*P **P** **14 24 07.6 -1.0**
comp=Z,95nm,1.3s,mb5.7
LZH Lanzhou 67.05 315 *e*P **P** **14 24 15.3 +2.2**
LZH AP pP 14 24 23.8 -0.7
LZH XP sP 14 24 27.0 -1.7
LZH PP PP 14 26 45.3 +2.6
LZH S S 14 33 05.0 +2.3
LZH XS 14 33 23.0
LZH SS SS 14 37 28.0 +4.4
LZH AMB AMB
comp=Z,120nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,620nm,6.3s
LZH LR LR
comp=E,1µm,16.3s
LZH LR LR
comp=Z,2µm,17.0s,MS5.4
MA2 Magadan 68.23 356 *e*P **P** **14 24 20.2 +0.1**
MA2 *e*S S 14 33 19.7 +3.3
MA2 *e*PS PS 14 33 47.2 +1.0
MA2 *e* 14 34 14.7
MA2 MLR MLR
comp=Z,700nm,20.0s,MS4.9
VNDA Vanda 68.85 179 P **P** **14 24 23.8 +0.1**
comp=Z,9.0nm,1.0s,mb4.7,baz=350,slow=7.6,SNR=20
VNDA LR LR 14 49 21.7
comp=Z,852nm,19.3s,MS5.0,baz=2.0,slow=31
VNDA Vanda 68.85 179 *e*P **P** **14 24 23.7 0.0**
VNDA *e* pP 14 24 33.7 -1.5
VNDA *e*S sP 14 24 39.0 -0.3
CIT Chita 71.09 333 *e*P **P** **14 24 40.5 +2.8**
CIT *e* 14 29 05.5
CIT pmax pmax
comp=Z,180nm,2.9s,mb5.5
GTA Gaotai 71.46 317 P **P** **14 24 39.7 -0.5**
GTA AP pP 14 24 52.0 +0.4
GTA XP sP 14 24 56.9 +1.1
GTA PP PP 14 27 22.7 +1.8
GTA PPP PPP 14 29 04.2 +1.8
GTA S S 14 33 56.3 +1.6
GTA XS 14 34 19.4
GTA PS PS 14 34 32.3 +3.4
GTA SKS SKS 14 34 35.4 -0.5
GTA SCS ScS 14 34 37.9 -0.5
GTA SS SS 14 38 34.9 +3.1
GTA AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,600nm,5.7s
GTA LR LR
comp=N,430nm,20.2s,MS4.9
GTA LR LR
comp=E,450nm,19.0s,MS4.9
GTA LR LR
comp=Z,640nm,22.0s,MS4.8
SEY Seymchan 71.50 358 *e*P **P** **14 24 40.1 +0.1**
SEY *e* 14 25 02.1
SEY 14 27 18.3
SEY *e*PPP PPP 14 28 58.2 -4.1
SEY *e*S S 14 33 54.7 +0.1
SEY *e* 14 34 43.7
SEY pmax pmax
comp=N,10.0nm,1.2s
SEY pmax pmax
comp=Z,50nm,1.2s,mb5.3
SEY pmax pmax
comp=E,3.0nm,0.7s
SEY smax
comp=N,140nm,14.6s
SEY smax
comp=E,340nm,19.5s
SEY MLR MLR
comp=N,670nm,19.0s,MS5.0
SEY MLR MLR
comp=Z,970nm,19.0s,MS5.1
SEY MLR MLR
comp=E,350nm,20.0s,MS5.0
SEY Seymchan 71.50 358 *i*P **P** **14 24 40.2 +0.2**
ULN Ulaanbaatar 71.60 327 *e*P **P** **14 24 42.1 +1.3**
ULN *e**PP pP 14 24 50.9 -1.3
ULN pmax pmax
comp=Z,77nm,1.3s,mb5.5
ULN Ulaanbaatar 71.60 327 *e*P **P** **14 24 42.1 +1.3**
comp=Z,77nm,1.3s,mb5.5
ULN *e*pP pP 14 24 50.9 -1.4
SONM Songino Array 71.94 327 P **P** **14 24 43.4 +0.6**
comp=Z,15nm,0.8s,mb4.9,baz=136,slow=4.7,SNR=36
SONM PKPPKP 14 52 37.6
comp=Z,1.4nm,1.1s,baz=180,slow=2.9,SNR=3.8
SONM LR LR 14 55 36.7
comp=Z,581nm,18.8s,MS4.9,baz=339,slow=35
SHL Shillong 72.04 300 *e*P **P** **14 24 44.0 +0.2**
AGT Agartala 72.04 299 *e*x x 14 24 51.0
YAK Yakutsk 73.67 347 *e*P **P** **14 24 50.7 -2.1**
YAK *e**PP pP 14 25 03.2 -1.0
YAK pmax pmax
comp=Z,126nm,0.9s,mb5.8
YAK Yakutsk 73.67 347 *e*P **P** **14 24 50.7 -2.1**
comp=Z,126nm,0.9s,mb5.8
YAK *e*pP pP 14 25 03.1 -1.1
LSA Lhasa 74.03 304 P **P** **14 24 55.5 0.0**
LSA S S 14 34 26.7 +2.6
LSA LR LR
comp=N,260nm,21.6s,MS4.8
LSA LR LR
comp=E,540nm,23.4s,MS4.8
BOD Bodaibo 74.99 338 *e*P **P** **14 24 58.5 -2.0**
BOD pmax pmax
comp=Z,30nm,1.2s,mb5.1
ZAK Zakamensk 75.08 328 *e*P **P** **14 25 01.3 +0.1**
ZAK pmax pmax
comp=Z,19nm,1.2s,mb4.9
IRK Irkutsk 75.63 330 *e*P **P** **14 25 05.5 +1.2**
IRK pmax pmax
comp=Z,99nm,4.0s
BOK Bokaro 76.71 297 *e*P **P** **14 25 11.1 +0.1**
BOK AMb AMB 14 25 23.2
comp=Z,66nm,1.8s,mb5.3
BILL Bilibino 76.80 3 P **P** **14 25 10.0 -0.6**
BILL *e* pP 14 25 21.0 -1.1
BILL S S 14 34 57.0 +3.1
BILL SS SS 14 39 58.0 +4.7
BILL pmax pmax
comp=Z,35nm,0.8s,mb5.3
BILL MLR MLR
comp=Z,600nm,17.0s,MS5.0
BILL Bilibino 76.80 3 *e*P **P** **14 25 08.8 -1.9**
comp=Z,62nm,1.0s,mb5.5
BILL *e*PcP PcP 14 25 21.4 -0.7
MOY Mondy 76.99 328 *e*P **P** **14 25 12.4 +0.4**
MOY pmax pmax
comp=Z,120nm,2.9s,mb5.3
VIS Vishakhapatnam 77.51 290 *e*P **P** **14 25 15.5 -0.1**
JIRN Jiri 77.53 301 *e*P **P** **14 25 15.1 -0.4**
comp=Z,274nm,1.5s,mb6.0
GUN Gumba 77.86 301 *e*P **P** **14 25 16.9 -0.4**
comp=Z,380nm,1.5s,mb6.1
PKI Pulchoki 78.17 301 *e*P **P** **14 25 18.3 -0.7**
comp=Z,379nm,1.6s,mb6.1
PKI Pulchoki 78.17 301 *e*P **P** **14 25 18.3 -0.7**
PKI pmax pmax
comp=Z,190nm,1.6s,mb5.8
KKN Kakani 78.34 301 *e*P **P** **14 25 18.8 -1.1**
comp=Z,174nm,1.3s,mb5.8
KKN Kakani 78.34 301 *e*P **P** **14 25 18.8 -1.1**
KKN pmax pmax
comp=Z,87nm,1.3s,mb5.5
TNA Tin City 78.40 14 *e*P **P** **14 25 19.1 -0.3**
comp=Z,9.6nm,1.1s,mb4.6
DMN Daman 78.44 300 *e*P **P** **14 25 20.2 -0.3**
comp=Z,740nm,1.6s,mb6.4
SVW2 Sparrevohn 78.74 21 *e*P **P** **14 25 20.0 -1.5**
GKN Gorkha 78.94 301 *e*P **P** **14 25 22.3 -1.0**
comp=Z,158nm,0.9s,mb5.9
KOLN Koldanda 79.76 300 *e*P **P** **14 25 26.8 -0.9**
comp=Z,162nm,1.0s,mb5.9
QSPA South Pole Qui 81.31 180 *e*P **P** **14 25 35.7 +0.8**
comp=Z,51nm,1.0s,mb5.4
PMR Palmer 81.46 23 *e*P **P** **14 25 34.1 -1.9**
PMR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
PMR MLR MLR
comp=Z,600nm,22.0s,MS4.9
PMR Palmer 81.46 23 *e*P **P** **14 25 34.1 -1.9**
comp=Z,8.1nm,0.9s,mb4.7
PMR LR LR
comp=Z,600nm,22.0s,MS4.9
WMQ Urumqi 81.55 317 P **P** **14 25 37.0 +0.2**
WMQ AP pP 14 25 50.3 +1.9
WMQ XP sP 14 25 55.5 +3.0
WMQ PP PP 14 28 46.0 +0.5
WMQ PPP PPP 14 30 38.0 +0.9
WMQ S S 14 35 44.8 +0.3
WMQ SKS SKS 14 35 48.6 -0.2
WMQ SS SS 14 41 05.2 +0.3
WMQ AMB AMB
comp=Z,60nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,640nm,4.1s
WMQ LR LR
comp=N,500nm,22.2s,MS5.0
WMQ LR LR
comp=E,500nm,22.4s,MS5.0
WMQ LR LR
comp=Z,560nm,22.4s,MS4.9
TRD Trivandrum 81.75 280 *e*P **P** **14 25 40.8 +2.3**
HYB Hyderabad 81.89 289 *i*P **P** **14 25 42.0 +2.9**
HYB *e*S S 14 35 56.0 +7.5
HYB Hyderabad 81.89 289 *e*P **P** **14 25 42.0 +2.9**
SML Sawmill 81.89 23 *e*P **P** **14 25 36.8 -1.4**
SML *e**PP pP 14 25 49.8 0.0
TIXI Tiksi 82.33 351 *i*P **P** **14 25 39.7 -0.6**
MCK McKinley 82.81 21 *e*P **P** **14 25 41.0 -1.9**
MCK pmax pmax
comp=Z,44nm,1.0s,mb5.4
MCK McKinley 82.81 21 *e*P **P** **14 25 41.0 -1.8**
comp=Z,44nm,1.0s,mb5.4
MAW Mawson 83.69 203 *e*P **P** **14 25 48.5 +1.2**
comp=Z,16nm,1.0s,mb5.1
MAW Mawson 83.69 203 P **P** **14 25 48.1 +0.8**
comp=Z,14nm,1.1s,mb5.0,baz=67,slow=7.7,SNR=11
MAW LR LR 14 59 38.8
comp=Z,362nm,18.4s,MS4.8,baz=86,slow=33
MAW Mawson 83.69 203 *e*P **P** **14 25 48.5 +1.2**
MAW pmax pmax
comp=Z,16nm,1.0s
COLA College 83.86 21 *e*P **P** **14 25 46.2 -2.0**
COLA pmax pmax
comp=Z,33nm,0.9s,mb5.5
COLA College 83.86 21 *e*P **P** **14 25 46.1 -2.0**
comp=Z,33nm,0.9s,mb5.5
BHPL Bhopal 84.12 294 *e*P **P** **14 25 49.5 -0.9**
BHPL AMb AMB 14 26 00.8
comp=Z,87nm,1.3s,mb5.7
ILAR Eielson Array 84.14 21 P **P** **14 25 47.1 -2.4**
comp=Z,6.6nm,1.0s,mb4.7,baz=254,slow=5.0,SNR=39
ILAR LR LR 15 01 20.7
comp=Z,567nm,19.3s,MS5.0,baz=220,slow=34
NDI New Delhi 85.45 300 *e*P **P** **14 25 56.0 -1.0**
KAD Karad 85.97 288 *i*P **P** **14 25 58.0 -1.7**
KAD AMb AMB 14 26 14.8
comp=Z,97nm,1.8s,mb5.7
MKAR Makanchi Array 86.11 318 P **P** **14 25 58.8 -1.0**
comp=Z,17nm,0.8s,mb5.3,baz=101,slow=6.2,SNR=27
MKAR LR LR 15 03 55.4
comp=Z,368nm,18.8s,MS4.8,baz=268,slow=35
POO Poona 86.50 289 *e*P **P** **14 26 02.2 -0.1**
POO AMb AMB 14 26 16.1
comp=Z,67nm,1.0s,mb5.8
DAWY Dawson 86.56 23 *e*P **P** **14 26 02.7 +1.1**
DAWY *e*pP pP 14 26 12.8 -0.4
ZAL Zalesovo 86.81 326 LR LR 15 02 23.9
comp=Z,388nm,18.7s,MS4.8,baz=1.6,slow=34
AJM Ajmer 87.24 297 *e*P **P** **14 26 04.8 -0.9**
AJM AMb AMB 14 26 05.6
comp=Z,19nm,0.3s,mb5.8
NVS Novosibirsk 87.96 326 *e*P **P** **14 26 07.3 -1.2**
NVS *e*S S 14 36 33.2 -14
NVS pmax pmax
comp=N,22nm,1.6s
NVS pmax pmax
comp=E,23nm,1.6s
NVS pmax pmax
comp=Z,53nm,1.6s,mb5.5
NVS smax
comp=N,23nm,2.4s
NVS smax
comp=E,18nm,2.0s
KSH Kashi 88.77 310 *e*P **P** **14 26 14.7 +1.9**
KSH AP pP 14 26 27.0 +2.5
KSH XP sP 14 26 32.0 +3.6
KSH *e*PP PP 14 29 45.0 +0.6
KSH *e*PPP PPP 14 31 44.0 +0.8
KSH *e*SKS SKS 14 36 37.4 +0.5
KSH *e*S S 14 36 54.8 -0.3
KSH XS 14 37 17.4
KSH AMB AMB
comp=Z,190nm,2.6s,mb6.0
KSH LR LR
comp=N,620nm,6.8s
KSH LR LR
comp=E,680nm,6.7s
PTRM Twissleman Ran 89.03 54 *e*P **P** **14 26 15.7 +1.6**
PTRM *e* pP 14 26 29.7 +3.9
ULHL Ulahol 89.15 313 P **P** **14 26 14.1 -0.5**
SNR=7.0
TKM2 Tokmak 2 89.76 313 P **P** **14 26 19.1 +1.7**
SNR=12
KZA Kyzart 89.84 313 P **P** **14 26 20.2 +2.5**
SNR=16
KBK Karagaybulak 90.17 313 P **P** **14 26 21.1 +1.7**
SNR=6.5
CHMS Chumysh 90.38 313 P **P** **14 26 21.7 +1.4**
SNR=9.2
UCH Uchtor 90.41 313 P **P** **14 26 22.4 +2.0**
SNR=12
ISA Isabella 90.42 54 *e*P **P** **14 26 20.7 +0.1**
ISA pmax pmax
comp=Z,3.0nm,0.3s,mb5.1
ISA Isabella 90.42 54 *e*P **P** **14 26 20.7 +0.1**
comp=Z,3.0nm,0.3s,mb5.1
FRU Bishkek 90.45 313 *e*P **P** **14 26 22.0 +1.4**
FRU pmax pmax
comp=Z,60nm,2.2s,mb5.5
AAK Ala-Archa 90.50 313 *i*P **P** **14 26 20.6 -0.2**
MWC Mount Wilson 90.50 56 *e*P **P** **14 26 21.5 +0.4**
MWC *e**PP pP 14 26 32.8 0.0
INK Inuvik 90.52 20 *e*P **P** **14 26 19.7 -0.6**
INK pmax pmax
comp=Z,20nm,1.3s
INK Inuvik 90.52 20 *e*P **P** **14 26 19.7 -0.7**
comp=Z,20nm,1.3s,mb5.3
USP Ospenovka 90.62 314 P **P** **14 26 21.1 -0.3**
SNR=15
AML Almayashu 90.98 312 P **P** **14 26 23.5 +0.4**
SNR=16
EKS2 Erkin-Say 91.02 313 P **P** **14 26 22.9 -0.4**
SNR=12
NVAR Mina Array Bea 91.04 51 P **P** **14 26 24.1 +0.6**
comp=Z,12nm,1.1s,mb5.2,baz=237,slow=4.1,SNR=46
NVAR LR LR 15 00 59.5
comp=Z,229nm,19.5s,MS4.6,baz=265,slow=32
BHJ Bhuj 91.15 293 *e*P **P** **14 26 20.1 -4.3**
MNV Mina 91.16 51 *e*P **P** **14 26 24.5 +0.5**
MNV pmax pmax
comp=Z,31nm,1.2s,mb5.5
MNV Mina 91.16 51 *e*P **P** **14 26 24.5 +0.5**
comp=Z,31nm,1.2s,mb5.5
MNV *e*PP PP 14 29 53.7 -10
DAC Darwin (Calif) 91.23 54 *e*P **P** **14 26 25.1 +0.7**
DAC pmax pmax
comp=Z,32nm,1.2s,mb5.5
DAC Darwin (Calif) 91.23 54 *e*P **P** **14 26 25.1 +0.7**
comp=Z,32nm,1.2s,mb5.5
BAR Barrett 91.38 57 *e*P **P** **14 26 22.2 -3.0**
WVOR Wild Horse Val 91.50 47 *e*P **P** **14 26 24.5 -1.0**
WVOR *e**PP pP 14 26 36.7 -0.6
WVOR pmax pmax
comp=Z,23nm,1.3s,mb5.3
WVOR Wild Horse Val 91.50 47 *e*P **P** **14 26 24.5 -1.0**
comp=Z,23nm,1.3s,mb5.3
WVOR *e*pP pP 14 26 36.7 -0.6
TPH Tonopah 91.82 52 *e*P **P** **14 26 28.6 +1.5**
TPH *e**PP pP 14 26 39.1 +0.2
TPH pmax pmax
comp=Z,16nm,1.1s,mb5.3
TPH Tonopah 91.82 52 *e*P **P** **14 26 28.6 +1.5**
comp=Z,16nm,1.1s,mb5.3
TPH *e*pP pP 14 26 39.1 +0.2
TPNV Topopah Spring 92.41 53 *e*P **P** **14 26 30.4 +0.6**
TPNV pmax pmax
comp=Z,24nm,1.1s,mb5.4
TPNV Topopah Spring 92.41 53 *e*P **P** **14 26 30.4 +0.6**
comp=Z,24nm,1.1s,mb5.4

LDFC	**Landfair**	**93.04**	**55**	*e*P	**P**	**14 26 34.2**	**+1.4**
LDFC				*e*pP	pP	14 26 44.7	+0.2
NEN	**Nelson**	**93.33**	**55**	*e*P	**P**	**14 26 35.7**	**+1.6**
NEN				*e*pP	pP	14 26 45.0	-0.9
ARUT	**Antelope Range**	**94.74**	**53**	P	**P**	**14 26 36.5**	**-3.9**
CHKZ	**Chkalovo**	**94.91**	**323**	*e*P	**P**	**14 26 38.3**	**-2.5**
CHKZ				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.4						
CHKZ	**Chkalovo**	**94.91**	**323**	*e*P	**P**	**14 26 38.3**	**-2.5**
	comp=Z,18nm,1.1s,mb5.4						
MSU	**Marysvale**	**95.81**	**52**	*e*P	**P**	**14 26 47.8**	**+2.5**
MSU				*e*	pP	14 26 59.6	+2.5
HWUT	**Hardware Ranch**	**96.61**	**49**	*e*P	**P**	**14 26 49.6**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**96.79**	**28**	P	**P**	**14 26 48.2**	**-0.9**
	comp=Z,9.3nm,1.1s,mb5.1,baz=264,slow=4.6,SNR=41						
YKA				PKKPbc		14 43 32.7	
	comp=Z,0.3nm,0.8s,baz=80,slow=2.7,SNR=6.7						
YKA				LR	LR	15 03 06.6	
	comp=Z,418nm,21.4s,MS4.9,baz=265,slow=31						
YKA	**Yellowknife Ar**	**96.79**	**28**	P	**P**	**14 26 48.2**	**-0.9**
YKA				PKKPbc		14 43 32.7	
YKA				LR	LR	15 03 06.6	
BOZ	**Bozeman (W)**	**96.94**	**45**	*e*P	**P**	**14 26 50.1**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.8						
BOZ	**Bozeman (W)**	**96.94**	**45**	*e*P	**P**	**14 26 50.0**	**-0.2**
	comp=Z,3.8nm,1.0s,mb4.8						
PDAR	**Pinedale Array**	**98.19**	**48**	P	**P**	**14 26 55.5**	**-0.4**
	comp=Z,1.5nm,0.9s,mb4.5,baz=243,slow=3.3,SNR=7.9						
PDAR				LR	LR	15 05 32.5	
	comp=Z,406nm,20.4s,MS4.9,baz=270,slow=32						
TXAR	**Lajitas Array**	**102.12**	**62**	PP	PP	14 31 24.5	-4.0
	comp=Z,0.3nm,0.3s,baz=231,slow=8.0,SNR=4.5						
KIV	**Kislovodsk**	**113.58**	**314**	*i* PKIKP	PKPdf	14 31 50.5	-5.4
KIV				*e*		14 32 49.9	
KIV				*e*PPP	PPP	14 35 12.6	-4.3
KIV				*e*PS	PS	14 42 23.2	-1.3
KIV				*e*SS	SS	14 48 36.7	+2.4
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,390nm,19.0s,MS5.0						
AKASG	**Malin Array Be**	**120.18**	**325**	PKP	PKPdf	14 32 08.8	+0.2
	comp=Z,3.1nm,0.8s,baz=64,slow=2.3,SNR=6.9						
AKASG				PP	PP	14 33 38.4	+0.2
	comp=Z,0.3nm,0.3s,baz=50,slow=7.1,SNR=6.8						
AKASG	**Malin Array Be**	**120.18**	**325**	PKP	PKPdf	14 32 08.8	+0.2
AKASG				PP	PP	14 33 38.4	+0.2
BR131	**Keskin Array S**	**121.14**	**311**	PKPdf	PKPdf	14 32 12.2	+1.5
BRTR	**Keskin Array B**	**121.14**	**311**	PKP	PKPdf	14 32 10.8	0.0
	comp=Z,1.1nm,0.7s,baz=153,slow=2.8,SNR=4.9						
BRTR				PP	PP	14 33 48.1	+3.0
	comp=Z,0.9nm,0.7s,baz=108,slow=3.9,SNR=3.8						
NB2	**NORSAR Subarra**	**122.00**	**341**	PKPdf	PKPdf	14 32 13.7	+1.9
	comp=Z,22nm,1.7s,baz=40,slow=1.8						
NB2	**NORSAR Subarra**	**122.00**	**341**	PKPd		14 32 13.7	
	baz=40,slow=1.8						
NOA	**NORSAR Array B**	**122.00**	**341**	PKP	PKPdf	14 32 13.9	+2.1
	comp=Z,3.6nm,1.0s,baz=38,slow=2.1,SNR=3.3						
LSZ	**Lusaka**	**124.16**	**245**	*e*PKIKP	PKPdf	14 32 19.9	+2.8
DPC	**Dobruska-Polom**	**127.34**	**329**	*e*PKPdf	PKPdf	14 32 22.8	+0.4
UPC	**Upice**	**127.40**	**330**	*e*PKPdf	PKPdf	14 32 22.7	+0.2
PVCC	**Panska Ves**	**128.10**	**331**	*e*PKPdf	PKPdf	14 32 25.7	+1.8
BRG	**Berggiesshubel**	**128.18**	**331**	*e*PKIKP	PKPdf	14 32 26.2	+2.2
BRG				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BRG	**Berggiesshubel**	**128.18**	**331**	*e*P	PKPdf	14 32 26.2	+2.2
CLL	**Collm**	**128.33**	**332**	*e*PKIKP	PKPdf	14 32 25.0	+0.7
	comp=Z,logA/T=1.1						
CLL				*e**PPKP		14 32 37.0	
CLL				*e*PP	PP	14 34 35.0	+1.8
CLL	**Collm**	**128.33**	**332**	*e*PKIKP	PKPdf	14 32 25.0	+0.7
CLL				*e*		14 32 37.0	
CLL				pmax	pmax		
	comp=Z,16nm,1.3s						
LPAZ	**La Paz**	**128.73**	**119**	PKP	PKPdf	14 32 28.3	+2.4
	comp=Z,12nm,1.1s,baz=324,slow=2.1,SNR=27						
LPAZ	**La Paz**	**128.73**	**119**	*e*PKIKP	PKPdf	14 32 27.9	+2.0
KHC	**Kasperske Hory**	**129.50**	**330**	*e*PKPdf	PKPdf	14 32 27.3	+0.7
GERES	**GERESS Array B**	**129.62**	**329**	PKP	PKPdf	14 32 27.5	+0.7
	comp=Z,1.9nm,0.9s,slow=1.3,SNR=8.2						
GRA1	**Grafenberg Arr**	**130.26**	**332**	*e*PKP	PKPdf	14 32 29.8	+1.8
GRF	**Grafenberg Arr**	**130.26**	**332**	*e*PKP	PKPdf	14 32 29.8	+1.8
GRF				LR	LR		
	comp=Z,400nm,20.2s,MS5.1						
CPUP	**Villa Florida**	**131.66**	**137**	*e*PKIKP	PKPdf	14 32 33.8	+2.5
SDV	**Santo Domingo**	**132.74**	**86**	*e*PKPdf	PKPdf	14 32 34.6	+1.0
SAML	**Samuel**	**136.12**	**113**	*e*PKPdf	PKPdf	14 32 41.3	+1.4
SAML				*e*PKPdf		14 32 53.7	
SAML				*e*PP	PP	14 35 19.9	-3.7
ESDC	**Sonseca Array**	**144.84**	**334**	PKP	PKPdf	14 32 54.6	-0.2
	comp=Z,0.5nm,0.3s,baz=15,slow=3.5,SNR=7.9						
ESDC				PP	PP	14 36 17.1	+0.8
	comp=Z,0.4nm,0.4s,baz=18,slow=8.1,SNR=4.1						
BDFB	**Brasilia**	**145.24**	**134**	PKPbc	PKPbc	14 32 57.3	+0.8
	comp=Z,44nm,0.9s,baz=264,slow=1.1,SNR=22						
MTE	**Manteigas**	**145.62**	**339**	*e*PKPdf	PKPdf	14 32 58.8	+2.7
TORD	**Torodi Ar. Bea**	**155.56**	**283**	PKP	PKPdf	14 33 13.5	+1.7
	comp=Z,1.5nm,0.9s,baz=162,slow=7.0,SNR=6.4						

LJU **12** *14:14:14.6, 46.07N×14.06E, h21km, ML2.9*
ROM **12** *14:14:14.0±0.2, 46.07N×14.10E, h10km, Md3.1/10, Ml3.2/3, Error ellipse: s-maj=1.0km s-min=0.3km az=91.0*
NEIC **12** *14:14:14.8±0.3, 46.06N×14.03E, h3km±3km, ML3.2(LDG), ML3.0(LJU), ML3.3(SZGRF), Error ellipse: s-maj=3.8km s-min=2.3km az=185.0*
NEIC Felt [V] at Idrija and Ziri.
CSEM **12** *14:14:15.1±0.0, 46.09N×14.08E, h12km, ML3.6/15, Error ellipse: s-maj=1.1km s-min=0.7km az=9.0*
LDG **12** *14:14:16.1±0.2, 46.04N×14.17E, h10km, Ml3.2/11, Error ellipse: s-maj=3.9km s-min=2.5km az=122.0*
PRU **12** *14:14:17.2, 46.12N×14.21E, h12km*
BGR **12** *14:14:18.6±0.8, 46.22N×14.10E, h10km, ML3.3/10, Error ellipse: s-maj=8.9km s-min=4.4km az=179.0*

ISC 12 14:14:14.7±0.2, 46.07N±0.02×14.08E±0.01, h15km±1km, n127, σ1s22/217, 34C-20D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
VOJS	**Vojsko**	**0.14**	**254**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 19.1**	**+0.6**
VOJS					*i* Sg	**Sg**	**Sg**	**14 14 21.7**	**+0.7**
JAVS	**Javornik**	**0.18**	**183**	⇓	*i*Pg	**Pg**	**Pg**	**14 14 19.7**	**+0.6**
JAVS					*i* Sg	**Sg**	**Sg**	**14 14 22.8**	**+0.9**
GORS	**Gorjuse**	**0.25**	**347**	⇓	*i*Pg	**Pg**	**Pg**	**14 14 20.7**	**+0.3**
GORS					*i* Sg	**Sg**	**Sg**	**14 14 24.6**	**+0.4**
	comp=Z,1μm,0.1s								
GORS	**Gorjuse**	**0.25**	**347**	⇓	*i*Pg	**Pg**	**Pg**	**14 14 20.7**	**+0.3**
GORS					*i* Sg	**Sg**	**Sg**	**14 14 24.6**	**+0.4**
	comp=Z,1μm,0.1s								
CADS	**Cadrg**	**0.28**	**304**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 21.1**	**+0.2**
CADS					*i* Sg	**Sg**	**Sg**	**14 14 25.5**	**+0.4**
	comp=Z,2μm,0.1s								
CADS	**Cadrg**	**0.28**	**304**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 21.1**	**+0.2**
CADS					*i* Sg	**Sg**	**Sg**	**14 14 25.5**	**+0.4**
	comp=Z,2μm,0.1s								
LJU	**Ljubljana**	**0.32**	**95**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 22.3**	**+0.8**
LJU					*i* Sg	**Sg**	**Sg**	**14 14 27.1**	**+1.1**
	comp=Z,240nm,0.1s								
LJU	**Ljubljana**	**0.32**	**95**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 22.3**	**+0.8**
LJU					*i* Sg	**Sg**	**Sg**	**14 14 27.1**	**+1.1**
	comp=Z,240nm,0.1s								
DRE	**Drenchia**	**0.32**	**289**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 21.6**	**+0.1**
DRE					*i* Sg	**Sg**	**Sg**	**14 14 26.6**	**+0.5**
DRE	**Drenchia**	**0.32**	**289**		*i*Pg	**Pg**	**Pg**	**14 14 21.6**	**+0.1**
DRE					*i* Sg	**Sg**	**Sg**	**14 14 26.6**	**+0.5**
CEY	**Cerknica**	**0.41**	**143**		*i*Pg	**Pg**	**Pg**	**14 14 23.6**	**+0.3**
CEY					*i* Sg	**Sg**	**Sg**	**14 14 30.2**	**+1.2**
	comp=Z,164nm,0.1s								
TRI	**Trieste**	**0.42**	**211**		Pg	**Pg**	**Pg**	**14 14 23.4**	**-0.1**
TRI					Sg	**Sg**	**Sg**	**14 14 30.0**	**+0.6**
	comp=Z,464nm,0.3s								
ROBS	**Robic**	**0.43**	**294**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 23.4**	**-0.2**
ROBS					*i* Sg	**Sg**	**Sg**	**14 14 29.8**	**+0.1**
	comp=Z,164nm,0.1s								
COLI	**Coloredo**	**0.49**	**278**		*e*Pg	**Pg**	**Pg**	**14 14 24.8**	**0.0**
COLI					eSg	**Sg**	**Sg**	**14 14 32.7**	**+1.2**
OBKA	**Obir**	**0.55**	**37**	⇓	*e*Pg	**Pg**	**Pg**	**14 14 26.2**	**+0.3**
	comp=Z,191nm,0.2s,SNR=215								
OBKA				⇑	*i*Sg	**Sg**	**Sg**	**14 14 33.5**	**0.0**
	comp=Z,666nm,0.2s								
OBKA	**Obir**	**0.55**	**37**		*e*Pg	**Pg**	**Pg**	**14 14 26.2**	**+0.3**
OBKA					*e*Sg	**Sg**	**Sg**	**14 14 34.0**	**+0.6**
OBKA	**Obir**	**0.55**	**37**	⇑	*e*Pg	**Pg**	**Pg**	**14 14 26.2**	**+0.2**
OBKA					Sg	**Sg**	**Sg**	**14 14 33.5**	**0.0**
LSR	**Lussari**	**0.56**	**317**	⇓	*i*Pg	**Pg**	**Pg**	**14 14 25.1**	**-1.0**
LSR					*i* Sg	**Sg**	**Sg**	**14 14 33.9**	**+0.1**
LSR	**Lussari**	**0.56**	**317**		*i*Pg	**Pg**	**Pg**	**14 14 25.0**	**-1.1**
LSR					*i* Sg	**Sg**	**Sg**	**14 14 33.8**	**+0.1**
KNDS	**Knezji Dol**	**0.58**	**158**		*i*Pg	**Pg**	**Pg**	**14 14 34.9**	**+0.4**
VISS	**Visnje**	**0.59**	**116**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 27.1**	**+0.3**
BAD	**Bernadia**	**0.60**	**286**	⇓	*e*Pg	**Pg**	**Pg**	**14 14 26.3**	**-0.7**
BAD					eSg	**Sg**	**Sg**	**14 14 36.2**	**+1.0**
PTCC	**Patocco-Chiusa**	**0.60**	**304**		Pg	**Pg**	**Pg**	**14 14 26.1**	**-0.9**
PTCC					Sg	**Sg**	**Sg**	**14 14 36.8**	**+1.6**
GMNA	**Gemona**	**0.62**	**290**		Pg	**Pg**	**Pg**	**14 14 27.8**	**+0.5**
GMNA					Sg	**Sg**	**Sg**	**14 14 40.1**	**+4.4**
	comp=Z,539nm,0.3s								
PDKS	**Podkum**	**0.64**	**90**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 28.1**	**+0.4**
PDKS					*i* Sg	**Sg**	**Sg**	**14 14 37.3**	**+0.8**
	comp=Z,234nm,0.2s								
PDKS	**Podkum**	**0.64**	**90**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 28.1**	**+0.4**
PDKS					*i* Sg	**Sg**	**Sg**	**14 14 37.3**	**+0.8**
	comp=Z,234nm,0.2s								
BUA	**Buia**	**0.68**	**283**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 27.8**	**-0.6**
BUA					Sg	**Sg**	**Sg**	**14 14 38.9**	**+1.2**
TLI	**Talmassons**	**0.69**	**258**	⇓	*e*Pg	**Pg**	**Pg**	**14 14 28.3**	**-0.5**
BOO	**Bordano**	**0.72**	**291**		*e*Pg	**Pg**	**Pg**	**14 14 28.3**	**-1.0**
MPRI	**Monte Prat**	**0.78**	**283**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 29.8**	**-0.6**
MPRI					*i* Sg	**Sg**	**Sg**	**14 14 42.4**	**+1.5**
PLRO	**Paularo**	**0.80**	**307**	⇑	*e*Pg	**Pg**	**Pg**	**14 14 30.5**	**-0.4**
PLRO					eSg	**Sg**	**Sg**	**14 14 43.4**	**+1.7**
LEGS	**Legarje**	**0.87**	**97**		*e*Pg	**Pg**	**Pg**	**14 14 32.0**	**-0.2**
LEGS					*i* Sg	**Sg**	**Sg**	**14 14 45.4**	**+1.4**
ZOU	**Zoufplan**	**0.91**	**303**	⇓	*e*Pg	**Pg**	**Pg**	**14 14 32.0**	**-0.9**
ZOU					eSg	**Sg**	**Sg**	**14 14 46.2**	**+1.0**
PERS	**Pernice**	**0.92**	**51**		*i*Pg	**Pg**	**Pg**	**14 14 32.5**	**-0.7**
PERS					eSg	**Sg**	**Sg**	**14 14 44.8**	**-0.7**
	comp=Z,347nm,0.2s								
PERS	**Pernice**	**0.92**	**51**		*i*Pg	**Pg**	**Pg**	**14 14 32.5**	**-0.6**
PERS					eSg	**Sg**	**Sg**	**14 14 44.8**	**-0.7**
	comp=Z,347nm,0.2s								
BISS	**Bistriski jare**	**0.93**	**51**		*i*Pg	**Pg**	**Pg**	**14 14 32.8**	**-0.6**
BISS					*i* Sg	**Sg**	**Sg**	**14 14 45.3**	**-0.6**
CESS	**Cesta pri Krsk**	**0.97**	**95**		*i*Pg	**Pg**	**Pg**	**14 14 33.8**	**-0.4**
DOBS	**Dobrina**	**0.97**	**85**		*i*Pg	**Pg**	**Pg**	**14 14 33.7**	**-0.6**
CRES	**Cresnjev**	**0.99**	**104**		*i*Pg	**Pg**	**Pg**	**14 14 34.2**	**-0.5**
CRES					*i* Sg	**Sg**	**Sg**	**14 14 49.2**	**+1.1**
BOJS	**Bojanci**	**1.00**	**124**		*i*Pg	**Pg**	**Pg**	**14 14 34.4**	**-0.3**
BOJS					*i* Sg	**Sg**	**Sg**	**14 14 47.6**	**-0.5**
	comp=Z,127nm,0.3s								
BOJS	**Bojanci**	**1.00**	**124**		*i*Pg	**Pg**	**Pg**	**14 14 34.4**	**-0.4**
BOJS					*i* Sg	**Sg**	**Sg**	**14 14 47.6**	**-0.6**
	comp=Z,127nm,0.3s								
MLNI	**Malnisio**	**1.02**	**275**		*e*Pg	**Pg**	**Pg**	**14 14 34.7**	**-0.6**
MLNI					eSg	**Sg**	**Sg**	**14 14 51.4**	**+2.4**
FVI	**Forni Avoltri**	**1.04**	**301**		Pg	**Pg**	**Pg**	**14 14 34.4**	**-1.2**
GROS	**Grobnik**	**1.06**	**68**		*i*Pg	**Pg**	**Pg**	**14 14 35.1**	**-0.9**
GROS					*i* Sg	**Sg**	**Sg**	**14 14 49.1**	**-1.2**
	comp=Z,37nm,0.1s								
GROS	**Grobnik**	**1.06**	**68**		*i*Pg	**Pg**	**Pg**	**14 14 35.1**	**-0.9**
GROS					*i* Sg	**Sg**	**Sg**	**14 14 49.1**	**-1.2**
	comp=Z,37nm,0.1s								
GOLS	**Golise**	**1.08**	**93**		*i*Pg	**Pg**	**Pg**	**14 14 35.8**	**-0.5**
GOLS					*i* Sg	**Sg**	**Sg**	**14 14 52.1**	**+1.2**
	comp=Z,135nm,0.2s								
GOLS	**Golise**	**1.08**	**93**		*i*Pg	**Pg**	**Pg**	**14 14 35.8**	**-0.6**
GOLS					*i* Sg	**Sg**	**Sg**	**14 14 52.1**	**+1.2**
	comp=Z,135nm,0.2s								
CSMI	**Casera Mimoias**	**1.08**	**295**		*i*Pg	**Pg**	**Pg**	**14 14 36.4**	**0.0**
CSMI					*i* Sg	**Sg**	**Sg**	**14 14 52.8**	**+1.8**
GCIS	**Gornji Cirnik**	**1.10**	**100**		*i*Pg	**Pg**	**Pg**	**14 14 36.4**	**-0.3**
KBA	**Koelnbreinsper**	**1.13**	**334**	⇓	*e*Pg	**Pg**	**Pg**	**14 14 36.7**	**-0.7**
	comp=Z,44nm,0.3s,SNR=9.9								
KBA	**Koelnbreinsper**	**1.13**	**334**		*e*Pg	**Pg**	**Pg**	**14 14 36.5**	**-0.8**
KBA	**Koelnbreinsper**	**1.13**	**334**	⇓	*e*Pg	**Pg**	**Pg**	**14 14 36.6**	**-0.7**
KBA					Sg	**Sg**	**Sg**	**14 14 52.4**	**-0.1**
KBA	**Koelnbreinsper**	**1.13**	**334**		Pg	**Pg**	**Pg**	**14 14 36.5**	**-0.8**
KBA					Sg	**Sg**	**Sg**	**14 14 52.4**	**-0.1**
	comp=Z,160nm,0.2s								
CAE	**Caneva**	**1.14**	**267**	⇑	*i*Pg	**Pg**	**Pg**	**14 14 37.9**	**+0.2**
CAE					*i* Sg	**Sg**	**Sg**	**14 14 54.9**	**+1.9**
CAE	**Caneva**	**1.14**	**267**		*i*Pg	**Pg**	**Pg**	**14 14 37.8**	**+0.2**
CAE					*i* Sg	**Sg**	**Sg**	**14 14 54.8**	**+1.8**
CSO	**Casso**	**1.23**	**280**	⇓	*i*Pg	**Pg**	**Pg**	**14 14 38.8**	**-0.6**
CSO					Sg	**Sg**	**Sg**	**14 14 57.2**	**+1.2**
MTLO	**Montello**	**1.41**	**260**	⇓	*i*Pg	**Pg**	**Pg**	**14 14 42.0**	**-0.9**
SEST	**Monte Rota**	**1.46**	**299**		Pg	**Pg**	**Pg**	**14 14 42.8**	**-1.0**
SEST					Sg	**Sg**	**Sg**	**14 15 04.6**	**+1.3**
	comp=Z,382nm,0.5s								
ARSA	**Arzberg**	**1.54**	**40**	⇑	*e*Pn	**Pn**		**14 14 43.0**	**+1.1**
	comp=Z,28nm,0.3s,SNR=25								
ARSA				⇑	*i*Pg	**Pg**		**14 14 44.6**	**-1.1**
ARSA	**Arzberg**	**1.54**	**40**	⇓	*i*Sn	**Sn**		**14 15 03.4**	**+1.7**
	comp=Z,41nm,0.2s								
ARSA	**Arzberg**	**1.54**	**40**		*e*Pg	**Pg**		**14 14 43.7**	**-1.9**
ARSA					eSg	**Sg**		**14 15 03.5**	**-2.8**
ARSA	**Arzberg**	**1.54**	**40**	⇑	*e*Pn	**Pn**		**14 14 43.0**	**+1.1**
ARSA				⇑	Pg	**Pg**		**14 14 44.5**	**-1.1**
ARSA					Sn	**Sn**		**14 15 03.4**	**+1.7**
ARSA	**Arzberg**	**1.54**	**40**	⇑	Pg	**Pg**		**14 14 44.5**	**-1.1**
ARSA					Sg	**Sg**		**14 15 03.5**	**-2.8**
CGRP	**Cima Grappa**	**1.60**	**264**	⇓	*i*Pg	**Pg**		**14 14 44.3**	**-2.4**
CGRP					*i* Sg	**Sg**		**14 15 06.8**	**-1.2**
CTI	**Castel Tesino**	**1.69**	**270**		Pg	**Pg**		**14 14 46.0**	**-2.5**
CTI					Sg	**Sg**		**14 15 09.6**	**-1.5**
	comp=Z,86nm,0.2s								
BRES	**Bressanone**	**1.74**	**292**		Pg	**Pg**		**14 14 47.1**	**-2.4**
BRES					Sg	**Sg**		**14 15 10.9**	**-1.8**
	comp=Z,215nm,0.4s								
BGLD	**Berchtesgaden**	**1.74**	**336**	⇑	*i*Pg	**Pg**		**14 14 47.7**	**-1.9**
MOA	**Molln**	**1.79**	**4**	⇓	*e*Pn	**Pn**		**14 14 47.1**	**+1.7**
	comp=Z,8.7nm,0.2s,SNR=16								
MOA	**Molln**	**1.79**	**4**	⇑	*i*Sn	**Sn**		**14 15 10.4**	**+2.5**
MOA	**Molln**	**1.79**	**4**		*e*Pn	**Pn**		**14 14 47.8**	**+2.5**
MOA	**Molln**	**1.79**	**4**	⇓	*e*Pn	**Pn**		**14 14 47.1**	**+1.7**
MOA					Sn	**Sn**		**14 15 10.4**	**+2.5**
MOA	**Molln**	**1.79**	**4**		Pn	**Pn**		**14 14 47.1**	**+1.8**
	comp=Z,8.7nm,0.2s,SNR=16								
MOA					Sn	**Sn**		**14 15 10.4**	**+2.5**
SCE	**Schlegeis**	**1.90**	**302**	⇓	*i*Pg	**Pg**		**14 14 49.5**	**-3.2**
SCE					*i* Sg	**Sg**		**14 15 14.8**	**-3.2**
APPI	**Appiano**	**2.02**	**283**		Pg	**Pg**		**14 14 50.6**	**-4.4**
APPI					Sg	**Sg**		**14 15 17.9**	**-4.1**
	comp=Z,128nm,0.2s								
WTTA	**Wattenberg**	**2.06**	**306**	⇑	*e*Pn	**Pn**		**14 14 50.5**	**+1.2**
	comp=Z,23nm,0.3s,SNR=11								
WTTA	**Wattenberg**	**2.06**	**306**		*e*Pn	**Pn**		**14 14 52.0**	**+2.7**
WTTA					eSg	**Sg**		**14 15 21.1**	**-2.3**
WTTA	**Wattenberg**	**2.06**	**306**	⇑	*e*Pn	**Pn**		**14 14 50.5**	**+1.2**
WTTA					Sn	**Sn**		**14 15 17.1**	**+2.2**
WTTA	**Wattenberg**	**2.06**	**306**		Pn	**Pn**		**14 14 50.5**	**+1.2**
	comp=Z,23nm,0.3s,SNR=11								
WTTA					Sn	**Sn**		**14 15 17.1**	**+2.2**
WTTA					Sg	**Sg**		**14 15 21.1**	**-2.3**
WATA	**Walderalm**	**2.14**	**307**	⇑	*e*Pn	**Pn**		**14 14 51.5**	**+1.1**
	comp=Z,7.6nm,0.1s								
WATA	**Walderalm**	**2.14**	**307**	⇓	*i*Sn	**Sn**		**14 15 18.8**	**+2.0**
WATA	**Walderalm**	**2.14**	**307**	⇑	*e*Pn	**Pn**		**14 14 51.5**	**+1.1**
WATA					Sn	**Sn**		**14 15 18.8**	**+2.0**
WATA	**Walderalm**	**2.14**	**307**		Pn	**Pn**		**14 14 51.5**	**+1.1**
	comp=Z,7.6nm,0.1s								
WATA					Sn	**Sn**		**14 15 18.8**	**+2.0**
SQTA	**Sankt Quirin**	**2.29**	**301**	⇓	*e*Pn	**Pn**		**14 14 53.3**	**+0.8**
	comp=Z,15nm,0.2s,SNR=13								
SQTA	**Sankt Quirin**	**2.29**	**301**	⇓	*i*Sn	**Sn**		**14 15 22.7**	**+2.1**
SQTA	**Sankt Quirin**	**2.29**	**301**	⇓	*e*Pn	**Pn**		**14 14 53.3**	**+0.8**
SQTA					Sn	**Sn**		**14 15 22.7**	**+2.1**
SQTA	**Sankt Quirin**	**2.29**	**301**		Pn	**Pn**		**14 14 53.3**	**+0.8**
	comp=Z,15nm,0.2s,SNR=13								
SQTA					Sn	**Sn**		**14 15 22.7**	**+2.1**
MOTA	**Moosalm**	**2.41**	**303**	⇑	*e*Pn	**Pn**		**14 14 56.4**	**+2.2**
	comp=Z,16nm,0.3s,SNR=11								
MOTA	**Moosalm**	**2.41**	**303**	⇑	*i*Sn	**Sn**		**14 15 25.9**	**+2.1**
MOTA	**Moosalm**	**2.41**	**303**	⇑	*e*Pn	**Pn**		**14 14 56.4**	**+2.2**
MOTA					Sn	**Sn**		**14 15 25.9**	**+2.1**
MOTA	**Moosalm**	**2.41**	**303**		Pn	**Pn**		**14 14 56.4**	**+2.1**
	comp=Z,16nm,0.3s,SNR=11								
MOTA					Sn	**Sn**		**14 15 25.9**	**+2.1**
MABI	**Malga Bissina**	**2.48**	**271**		Pg	**Pg**		**14 14 56.9**	**-7.3**
FUORN	**Ofenpass**	**2.70**	**283**		Pg	**Pg**		**14 15 00.0**	**-8.6**
GEC2	**GERESS Array S**	**2.79**	**355**		*e*Pn	**Pn**		**14 15 00.7**	**+1.0**
GEC2					*e*Sn	**Sn**		**14 15 33.8**	**+0.5**
GEC2	**GERESS Array S**	**2.79**	**355**		*e*Pn	**Pn**		**14 15 00.7**	**+1.0**
GEC2					*e*Sn	**Sn**		**14 15 33.8**	**+0.5**
KHC	**Kasperske Hory**	**3.08**	**354**		*e*PN	**Pn**		**14 15 05.6**	**+1.8**
KHC					*e*PG	**Pg**		**14 15 12.6**	**-3.6**
KHC					*e*SN	**Sn**		**14 15 40.5**	**-0.3**
KHC					*e*SG	**Sg**		**14 15 53.0**	**-4.3**
	comp=Z,19nm,0.6s								
DAVA	**Damuels**	**3.13**	**294**	⇑	*i*Pn	**Pn**		**14 15 06.3**	**+1.7**
	comp=Z,6.2nm,0.2s								
DAVA	**Damuels**	**3.13**	**294**	⇑	*i*Sn	**Sn**		**14 15 43.0**	**+0.9**
DAVA	**Damuels**	**3.13**	**294**	⇑	*i*Pn	**Pn**		**14 15 06.3**	**+1.7**
DAVA					Sn	**Sn**		**14 15 43.0**	**+0.9**
WET	**Wettzell**	**3.18**	**346**		*e*Sn	**Sn**		**14 15 43.1**	**-0.2**
ROTZ	**Rotzenmuhle**	**3.91**	**342**		*e*Sn	**Sn**		**14 15 59.5**	**-2.2**
PRU	**Pruhonice**	**3.93**	**4**		*ex*	x		14 15 29.2	
PRU					*e*SG	**Sg**		**14 16 20.7**	**-5.0**
NOTT	**Nottersdorf**	**3.97**	**341**		*e*Sn	**Sn**		**14 16 01.3**	**-1.9**
GRF	**Grafenberg Arr**	**4.10**	**333**	

n27,σ0.94/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.04**	**212**	*i* Pg	**Pb**	**15 04 14.4**	**-0.5**
CEYT				*i* Sg	**Sb**	**15 04 17.6**	**+0.2**
KOZT	**Kozan**	**0.43**	**5**	*i* Pg	**Pb**	**15 04 20.0**	**-0.1**
KOZT				*i* Sg	**Sb**	**15 04 27.1**	**+1.0**
KRTS	**Karatas**	**0.57**	**214**	*i* Pg	**Pb**	**15 04 22.6**	**+0.2**
KARA	**Karaisali**	**0.61**	**290**	*i* Pg	**Pb**	**15 04 23.0**	**-0.1**
COBT	**Iskenderun**	**0.65**	**144**	*i* P	**Pb**	**15 04 21.8**	**-2.0**
COBT				*i* S	**Sb**	**15 04 34.0**	**+1.7**
HTY	**Hatay**	**0.97**	**162**	PG	**Pb**	**15 04 28.9**	**-0.2**
MERS	**Mersin**	**1.02**	**260**	PG	**Pb**	**15 04 29.8**	**-0.2**
KAHT	**Ahir Dag**	**1.05**	**56**	*i* P	**Pb**	**15 04 30.2**	**-0.3**
KAHT				*i* S	**Sb**	**15 04 39.6**	**-4.2**
GAZ	**Gaziantep**	**1.15**	**83**	PN	**Pn**	**15 04 32.5**	**+0.3**
MEST	**Erdemli**	**1.39**	**251**	*i* P	**Pn**	**15 04 36.2**	**+0.7**
MEST				*i* S	**Sn**	**15 04 52.8**	**-0.6**
NIG	**Nigde**	**1.41**	**319**	*e*PN	**Pn**	**15 04 36.1**	**+0.2**
GZT	**Gaziantep**	**1.46**	**77**	*i* P	**Pn**	**15 04 36.1**	**-0.5**
GZT				*i* S	**Sn**	**15 04 55.8**	**+0.5**
BNN	**Bunyan**	**1.80**	**2**	*e*PN	**Pn**	**15 04 41.0**	**-0.5**
IKL	**Isikli**	**1.87**	**245**	*e*PN	**Pn**	**15 04 41.7**	**-0.7**
AVNT	**Avonos**	**1.88**	**337**	*i* P	**Pn**	**15 04 44.8**	**+2.3**
AVNT				*i* S	**Sn**	**15 05 15.1**	**+9.3**
ATAB	**Bozova**	**2.05**	**77**	*i* P	**Pn**	**15 04 49.0**	**+3.9**
ATAB				*i* S	**Sn**	**15 05 16.6**	**+6.3**
ERMK	**Ermenek**	**2.33**	**261**	*i* P	**Pn**	**15 04 50.2**	**+1.1**
ERMK				*i* S	**Sn**	**15 05 22.6**	**+5.1**
MYA	**Malataya**	**2.46**	**58**	*e*PN	**Pn**	**15 04 51.3**	**+0.4**
URFA	**Urfa**	**2.46**	**80**	*e*PN	**Pn**	**15 04 49.9**	**-1.0**
HWQ	**Hawqa**	**2.77**	**177**	*e*Pn	**Pn**	**15 04 57.1**	**+1.8**
CDAG	**Cicekdag**	**2.80**	**337**	*i* P	**Pn**	**15 05 03.3**	**+7.5**
CDAG				*i* S	**Sn**	**15 05 43.6**	**+14**
KAMT	**Kaman**	**2.83**	**326**	*e*PN	**Pn**	**15 04 56.0**	**-0.2**
FKH	**Fakeheh**	**2.85**	**170**	*e*Pn	**Pn**	**15 04 56.6**	**+0.1**
KONT	**Konya--Tatoy**	**2.86**	**289**	*e*PN	**Pn**	**15 04 55.4**	**-1.2**
PTK	**Pertek**	**3.40**	**56**	*e*PN	**Pn**	**15 05 04.4**	**+0.1**
KIZT	**Kizilcal**	**3.58**	**302**	*e*PN	**Pn**	**15 05 06.6**	**-0.3**
MARD	**Mardin**	**4.00**	**85**	*i* P	**Pn**	**15 05 10.6**	**-2.2**
MARD				*i* S	**Sn**	**15 06 15.9**	**+16**

*IDC **12** 15:24:37.1±2.8, 10.68S×166.01E, h116km±24km, mb3.9/11, mb1 4.1/13, mb1mx4.0/20, mbtmp4.3/13, MS3.8/2, Ms1 3.8/2, ms1mx3.1/23, Error ellipse: s-maj=18.6km s-min=16.4km az=57.0*

*NEIC **12** 15:24:37.6±1.5, 10.62S×165.95E, h122km±13km, mb4.4/2, Error ellipse: s-maj=11.9km s-min=10.9km az=46.0*

ISC 12 15:24:37.2±2.1, 10.79S±0.08×165.9E±0.1, h132km±19km**, n23,σ0.96/24, mb4.0**/11**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.05**	**282**	P	**P**	**15 26 04.6**	**-0.9**
	35nm,0.3s,baz=360,slow=19,SNR=14						
HNR				S	**S**	**15 27 14.4**	**+0.3**
	18nm,0.3s,baz=10,slow=6.6,SNR=3.8						
HNR				LR	LR	15 27 31.6	
	comp=Z,125nm,21.0s,baz=116,slow=29						
DZM	**Mont Dzumac**	**11.23**	**178**	*e*P	**P**	**15 27 16.4**	**+1.6**
DZM				*e*S	**S**	**15 29 15.7**	**-2.6**
DZM	**Mont Dzumac**	**11.23**	**178**	P	**P**	**15 27 16.7**	**+1.9**
	5.8nm,0.3s,baz=29,slow=19,SNR=190						
DZM				S	**S**	**15 29 17.7**	**-0.6**
	2.2nm,0.3s,baz=126,slow=23,SNR=6.3						
PMG	**Port Moresby**	**18.54**	**273**	Pn	**P**	**15 28 45.7**	**-0.6**
CTA	**Charters Tower**	**21.09**	**242**	P	**P**	**15 29 14.2**	**+1.6**
	4.4nm,0.7s,mb3.9,baz=57,slow=13,SNR=7.0						
CTAO	**Charters Tower**	**21.09**	**242**	*e*P	**P**	**15 29 14.4**	**+1.8**
	6.3nm,1.0s,mb3.9						
CTAO				*e*pP		15 29 36.8	
URZ	**Urewera**	**29.13**	**162**	P	**P**	**15 30 28.0**	**+0.1**
	4.9nm,0.6s,mb4.4,baz=51,slow=2.9,SNR=6.5						
STKA	**Stephens Creek**	**30.76**	**223**	P	**P**	**15 30 42.7**	**+0.3**
	1.3nm,0.6s,mb3.9,baz=40,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**30.76**	**223**	P	**P**	**15 30 42.7**	**+0.3**
WB2	**Warramunga Arr**	**31.74**	**250**	*e*P	**P**	**15 30 50.5**	**-0.6**
WRA	**Warramunga Arr**	**31.75**	**250**	P	**P**	**15 30 50.7**	**-0.5**
	1.7nm,0.6s,mb4.0,baz=81,slow=8.9,SNR=32						
WRA				PcP	PcP	15 33 40.0	+0.5
	0.6nm,0.6s,baz=68,slow=3.0,SNR=9.1						
RAR	**Rarotonga**	**34.48**	**112**	LR	LR	15 41 45.3	
	comp=Z,1um,19.1s,baz=288,slow=30						
FITZ	**Fitzroy Crossi**	**39.63**	**255**	*e*P	**P**	**15 31 58.1**	**+0.3**
	11nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**39.63**	**255**	P	**P**	**15 31 58.2**	**+0.4**
	6.7nm,0.7s,mb4.4,baz=92,slow=6.7,SNR=42						
FITZ				PcP	PcP	15 34 03.6	+0.8
	0.9nm,0.6s,baz=101,slow=5.2,SNR=5.7						
VNDA	**Vanda**	**66.75**	**181**	P	**P**	**15 35 12.3**	**-3.8**
SONM	**Songino Array**	**78.57**	**324**	P	**P**	**15 36 26.1**	**+0.5**
	0.6nm,0.5s,mb3.5,baz=149,slow=5.3,SNR=6.5						
ILAR	**Eielson Array**	**83.21**	**18**	P	**P**	**15 36 49.2**	**-0.5**
	2.1nm,0.7s,mb4.0,baz=236,slow=5.1,SNR=34						
YBH	**Yreka Blue Hor**	**83.58**	**46**	P	**P**	**15 36 52.4**	**+0.3**
	2.8nm,0.9s,mb4.0,baz=287,slow=2.5,SNR=5.0						
NVAR	**Mina Array Bea**	**85.71**	**50**	P	**P**	**15 37 03.8**	**+1.0**
	0.9nm,0.8s,mb3.5,baz=227,slow=5.3,SNR=7.2						
MKAR	**Makanchi Array**	**93.46**	**317**	P	**P**	**15 37 39.1**	**+0.1**
	1.7nm,0.7s,mb4.3,baz=94,slow=6.4,SNR=9.7						
YKA	**Yellowknife Ar**	**94.66**	**27**	P	**P**	**15 37 42.4**	**-1.6**
	0.4nm,0.7s,mb3.8,baz=255,slow=4.7,SNR=9.0						
YKA	**Yellowknife Ar**	**94.66**	**27**	P	**P**	**15 37 42.4**	**-1.6**
ARCES	**ARCESS Array B**	**116.13**	**346**	PKP	PKPdf	15 43 04.7	+0.4
	9.2nm,1.1s,baz=53,slow=4.3,SNR=6.5						

IGQ 12 15:34:49.2, 2.19S×79.77W, h12km±4km**, mb4.1, 4C-5D, Error ellipse: s-maj=5.9km s-min=2.6km az=76.8, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.32**	**59**	P	Pb	15 35 14.2	+0.7
IGUA				S	Sb	15 35 32.6	+2.3
CUSU	**Cusua**	**1.48**	**60**	P	Pn	15 35 17.3	+1.4
CUSU				S	Sb	15 35 36.8	+1.9
PATA	**Patacocha**	**1.50**	**63**	P	Pn	15 35 19.0	+2.9
JUIV	**Juive**	**1.51**	**60**	P	Pn	15 35 16.8	+0.6
JUIV				S	Sb	15 35 36.6	+1.0
ULBA	**Ulba**	**1.55**	**62**	⇑P	Pn	15 35 18.1	+1.3
ULBA				S	Sb	15 35 38.8	+2.1
QIL1	**Quilotoa**	**1.57**	**32**	⇓P	Pn	15 35 17.6	+0.5
QIL1				S	Sb	15 35 39.0	+1.5
CAMI	**Rancho Maria**	**1.96**	**40**	⇑P	Pn	15 35 25.7	+3.0
CAMI				S	Sn	15 35 54.6	+7.2
JAMA	**Jama**	**1.96**	**347**	P	Pn	15 35 25.9	+3.2
TAMB	**Tambo**	**2.04**	**43**	P	Pn	15 35 26.8	+2.9
TAMB				S	Sn	15 35 55.5	+6.2
VC1	**Cotopaxi 1**	**2.05**	**42**	⇓P	Pn	15 35 27.0	+2.9
MAG1	**Magdalena**	**2.10**	**360**	⇑P	Pn	15 35 25.1	+0.4
JUA2	**San Juan 2**	**2.28**	**31**	P	Pn	15 35 29.5	+2.3
JUA2				S	Sn	15 35 58.3	+2.8
TERV	**Terraza Guagua**	**2.31**	**30**	P	Pn	15 35 29.8	+2.1
TERV				S	Sn	15 36 00.5	+4.1
GGP	**Refugio Guagua**	**2.32**	**30**	⇓P	Pn	15 35 30.0	+2.2
GGP				S	Sn	15 36 00.9	+4.5
PINO	**Pino**	**2.33**	**30**	⇓P	Pn	15 35 30.0	+2.1
ANTI	**Antisana**	**2.36**	**43**	P	Pn	15 35 30.3	+1.9
YANA	**Yana**	**2.38**	**30**	⇓P	Pn	15 35 30.6	+1.9
YANA				S	Sn	15 36 01.8	+3.8
CAYR	**Refugio Cayamb**	**2.81**	**39**	P	Pn	15 35 39.8	+4.9
ANGU	**Angureal**	**2.83**	**38**	⇑P	Pn	15 35 37.4	+2.3
CAYA	**Cayambe**	**2.86**	**38**	P	Pn	15 35 41.6	+6.1
CAYA				S	Sn	15 36 18.2	+7.9
COTA	**Cotacachi**	**2.88**	**30**	P	Pn	15 35 38.8	+2.8

*IDC **12** 15:42:27.0±1.2, 12.05N×94.98E, mb3.8/9, mb1 4.0/9, mb1mx3.9/19, mbtmp3.8/9, MS3.4/2, Ms1 3.4/2, ms1mx2.9/24, Error ellipse: s-maj=46.9km s-min=22.9km az=53.0*

*NEIC **12** 15:42:31.0±0.4, 11.97N×94.93E, h30km, mb4.2/8, Error ellipse: s-maj=20.5km s-min=5.3km az=53.0*

ISC 12 15:42:27.3±3.3, 11.9N±0.1×94.9E±0.2, h18km±25km**, n25,σ0.71/22, mb4.0**/12**, MS3.6**/1**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.69**	**139**	*e*Pn	**P**	**15 44 35.1**	**-0.1**
PSI	**Prapat**	**9.89**	**156**	LR	LR	15 48 48.4	

	comp=Z,109nm,18.7s,baz=150,slow=38						
JIRN	**Jiri**	**17.67**	**334**	*e*P	**P**	**15 46 35.7**	**+1.4**
	16nm,0.7s						
PKI	**Pulchoki**	**17.94**	**332**	*e*P	**P**	**15 46 37.8**	**+0.1**
	54nm,1.3s						
GUN	**Gumba**	**18.02**	**333**	*e*P	**P**	**15 46 39.5**	**+0.8**
	36nm,1.1s						
DMN	**Daman**	**18.12**	**331**	*e*P	**P**	**15 46 40.3**	**+0.3**
	33nm,1.0s						
KKN	**Kakani**	**18.19**	**332**	*e*P	**P**	**15 46 41.1**	**+0.3**
GKN	**Gorkha**	**18.67**	**331**	*e*P	**P**	**15 46 45.6**	**-1.2**
	13nm,0.5s						
KOLN	**Koldanda**	**19.00**	**328**	*e*P	**P**	**15 46 49.0**	**-1.7**
	22nm,0.8s						
KKM	**Kota Kinabalu**	**21.84**	**104**	*e*P	**P**	**15 47 20.7**	**-0.2**
MKAR	**Makanchi Array**	**36.37**	**345**	P	**P**	**15 49 32.6**	**+0.2**
	0.6nm,0.7s,mb3.7,baz=157,slow=9.2,SNR=4.4						
SONM	**Songino Array**	**37.09**	**13**	P	**P**	**15 49 37.4**	**-1.0**
	0.4nm,0.8s,mb3.3,baz=117,slow=3.2,SNR=3.7						
MBWA	**Marble Bar**	**40.93**	**143**	P	**P**	**15 50 10.9**	**+0.3**
	7.8nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**42.68**	**351**	P	**P**	**15 50 24.6**	**-0.1**
	0.7nm,0.5s,mb3.7,baz=318,slow=8.4,SNR=4.0						
BVAR	**Borovoye Array**	**45.47**	**339**	P	**P**	**15 50 47.4**	**+0.2**
	0.3nm,0.6s,mb3.3,baz=135,slow=6.1,SNR=3.5						
CHKZ	**Chkalovo**	**45.93**	**340**	*e*P	**P**	**15 50 50.9**	**+0.1**
	4.5nm,0.6s,mb4.6						
GUMO	**Guam**	**48.70**	**82**	LR	LR	16 11 16.7	
	comp=Z,69nm,19.6s,MS3.6,baz=62,slow=36						
NWAO	**Narrogin (SRO)**	**49.42**	**155**	*e*P	**P**	**15 51 17.5**	**-0.9**
	45nm,1.5s,mb5.3						
WRA	**Warramunga Arr**	**50.09**	**129**	P	**P**	**15 51 24.5**	**+0.8**
	1.5nm,0.8s,mb4.1,baz=308,slow=8.5,SNR=15						
BRTR	**Keskin Array B**	**60.43**	**309**	P	**P**	**15 52 37.7**	**-0.6**
	1.1nm,0.7s,mb4.0,baz=101,slow=6.3,SNR=4.4						
HNR	**Honiara**	**68.04**	**105**	*e*P	**P**	**15 53 28.9**	**+0.5**
FINES	**FINESS Array B**	**69.53**	**331**	P	**P**	**15 53 37.0**	**+0.2**
	3.6nm,1.0s,mb4.3,baz=305,slow=30,SNR=2.2						
GERES	**GERESS Array B**	**75.35**	**318**	P	**P**	**15 54 12.4**	**+0.9**
	1.2nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=8.7						
ILAR	**Eielson Array**	**90.75**	**22**	P	**P**	**15 55 29.9**	**-0.4**
	0.6nm,0.8s,mb4.0,baz=307,slow=4.1,SNR=4.9						
NVAR	**Mina Array Bea**	**121.08**	**30**	PKP	PKPdf	16 01 22.6	-0.9
	0.1nm,0.3s,baz=347,slow=1.3,SNR=4.3						

IDC 12 15:45:05.0±2.5, 15.18S×176.38W, h269km±25km**, mb3.4/6, mb1 3.8/7, mb1mx3.6/15, mbtmp4.0/7, Error ellipse: s-maj=41.1km s-min=18.0km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.63**	**75**	P	P	15 46 17.2	-0.4
	14nm,0.3s,baz=218,slow=20,SNR=3.4						
DZM	**Mont Dzumac**	**17.65**	**245**	P	P	15 48 48.0	-7.0
	0.1nm,0.3s,baz=64,slow=18,SNR=4.8						
WRA	**Warramunga Arr**	**47.09**	**257**	P	P	15 53 10.6	-1.7
	1.9nm,0.8s,baz=90,slow=7.6,SNR=14						
VNDA	**Vanda**	**63.32**	**185**	P	P	15 55 05.0	-2.0
	2.5nm,1.1s,baz=4.4,slow=5.4,SNR=4.1						
NVAR	**Mina Array Bea**	**76.12**	**43**	P	P	15 56 24.1	-1.0
	0.9nm,0.8s,baz=225,slow=10,SNR=8.5						
TXAR	**Lajitas Array**	**82.89**	**57**	P	P	15 57 00.7	-0.5
	0.3nm,0.3s,baz=256,slow=5.2,SNR=4.5						
PDAR	**Pinedale Array**	**84.04**	**43**	P	P	15 57 05.2	-1.6
	1.4nm,0.8s,baz=225,slow=2.1,SNR=9.8						
YKA	**Yellowknife Ar**	**91.06**	**24**	P	P	15 57 38.2	-1.5
	0.4nm,0.8s,baz=240,slow=4.6,SNR=7.1						
BRTR	**Keskin Array B**	**144.14**	**319**	PKP	PKPdf	16 04 08.9	+0.2
	4.2nm,1.0s,baz=135,slow=1.7,SNR=12						

MAN 12 16:05:05.8, 5.89N×124.81E, mb4.5, ML3.3, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.78**	**54**	*e*P	Pn	16 05 37.5	-0.6
MATI				*e*S	Sn	16 05 59.8	-1.9
BUKP	**Musuan**	**1.99**	**7**	*e*P	Pn	16 05 41.2	+0.1
BUKP				*e*S	Sn	16 06 05.8	-1.3
PAGZ	**Pagadian**	**2.41**	**324**	*e*P	Pn	16 05 46.6	-0.4
IPIL	**Ipil**	**2.92**	**310**	*e*P	Pn	16 05 54.5	+0.2
IPIL				*e*S	Sn	16 06 28.9	-1.7
BUTP	**Butuan**	**3.16**	**15**	*e*P	Pn	16 05 58.4	+0.6
MSLP	**Maasin**	**4.22**	**1**	*e*P	Pn	16 06 11.3	-1.5
GUIM	**Jordan**	**5.19**	**335**	*e*P	Pn	16 06 26.8	+0.2

*NEIC **12** 16:35:49.0, 46.50N×13.50E, h6km, ML3.3(SZGRF), ML3.2(ROM), ML3.4(LDG), After ROM.*

*LJU **12** 16:35:50.7, 46.51N×13.37E, h11km, ML2.6*

*VIE **12** 16:35:50.2±0.2, 46.48N×13.32E, h12km±3km, mb2.6/5, ML3.3/8, Error ellipse: s-maj=1.7km s-min=0.9km az=27.0*

*ROM **12** 16:35:50.1±0.5, 46.51N×13.38E, h8km±3km, Md3.1/9, Ml3.2/6, Error ellipse: s-maj=5.6km s-min=3.2km az=145.0*

*CSEM **12** 16:35:50.6±0.1, 46.42N×13.29E, h1km, ML3.6/17, Error ellipse: s-maj=1.2km s-min=0.8km az=19.0*

*LDG **12** 16:35:51.6±0.2, 46.41N×13.46E, h10km, Ml3.4/8, Error ellipse: s-maj=4.5km s-min=3.3km az=134.0*

*PRU **12** 16:35:52.7, 46.53N×13.37E, h2km*

*BGR **12** 16:35:53.1±0.4, 46.55N×13.37E, h10km, ML3.3/17, Error ellipse: s-maj=6.7km s-min=4.4km az=12.0*

ISC 12 16:35:50.4±0.2, 46.54N±0.01×13.33E±0.01, h10km**, n141,σ1.39/237, 20C-16D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLRO	**Paularo**	**0.12**	**273**	⇑*i*Pg	**Pg**	**16 35 54.6**	**+1.2**
PLRO				*i* Sg	**Sg**	**16 35 57.0**	**+1.5**
PTCC	**Patocco-Chiusa**	**0.14**	**173**	⇓Pg	**Pg**	**16 35 53.4**	**-0.3**
LSR	**Lussari**	**0.15**	**116**	⇑*i*Pg	**Pg**	**16 35 53.3**	**-0.6**
LSR				*i* Sg	**Sg**	**16 35 55.4**	**-0.9**
ZOU	**Zoufplan**	**0.25**	**273**	⇑*i*Pg	**Pg**	**16 35 56.8**	**+1.2**
ZOU				*i* Sg	**Sg**	**16 36 00.9**	**+1.8**
BOO	**Bordano**	**0.28**	**215**	⇑*e*Pg	**Pg**	**16 35 56.1**	**0.0**
GMNA	**Gemona**	**0.28**	**193**	Pg	**Pg**	**16 35 56.5**	**+0.3**
GMNA				Sg	**Sg**	**16 35 58.7**	**+0.7**
BAD	**Bernadia**	**0.31**	**191**	⇓*e*Pg	**Pg**	**16 35 56.5**	**-0.3**
BAD				*e*Sg	**Sg**	**16 36 00.9**	**-0.3**
ROBS	**Robic**	**0.33**	**157**	⇓*i*Pg	**Pg**	**16 35 56.6**	**-0.5**
ROBS				*i* Sg	**Sg**	**16 36 01.2**	**-0.4**
	comp=Z,874nm,0.2s						
ROBS	**Robic**	**0.33**	**157**	⇓*i*Pg	**Pg**	**16 35 56.6**	**-0.5**
ROBS				*i* Sg	**Sg**	**16 36 01.2**	**-0.4**
	comp=Z,874nm,0.2s						
BUA	**Buia**	**0.36**	**204**	⇓*i*Pg	**Pg**	**16 35 57.7**	**0.0**
BUA				*i* Sg	**Sg**	**16 36 03.1**	**+0.5**
FVI	**Forni Avoltri**	**0.38**	**278**	Pg	**Pg**	**16 35 59.2**	**+1.0**
FVI				Sg	**Sg**	**16 36 05.4**	**+2.0**
	comp=Z,2μm,0.5s						
MPRI	**Monte Prat**	**0.38**	**218**	⇑*e*Pg	**Pg**	**16 35 58.2**	**0.0**
MPRI				*e*Sg	**Sg**	**16 36 04.0**	**+0.5**
MPRI	**Monte Prat**	**0.38**	**218**	*e*Pg	**Pg**	**16 35 58.2**	**0.0**
MPRI				*e*Sg	**Sg**	**16 36 04.0**	**+0.5**
COLI	**Coloredo**	**0.41**	**175**	⇓*e*Pg	**Pg**	**16 35 58.2**	**-0.6**
COLI				*e*Sg	**Sg**	**16 36 04.3**	**-0.1**
CADS	**Cadrg**	**0.42**	**138**	*i* Pg	**Pg**	**16 35 58.5**	**-0.5**
CADS				*i* Sg	**Sg**	**16 36 04.4**	**-0.4**
	comp=Z,656nm,0.2s						
CADS	**Cadrg**	**0.42**	**138**	*i* Pg	**Pg**	**16 35 58.5**	**-0.5**
CADS				*i* Sg	**Sg**	**16 36 04.4**	**-0.4**
	comp=Z,656nm,0.2s						
CSMI	**Casera Mimoias**	**0.47**	**266**	*i* Pg	**Pg**	**16 36 00.6**	**+0.7**
CSMI				*i* Sg	**Sg**	**16 36 07.7**	**+1.4**
GORS	**Gorjuse**	**0.51**	**116**	*i* Pg	**Pg**	**16 36 00.3**	**-0.5**
GORS				*e*Sg	**Sg**	**16 36 07.0**	**-0.7**
	comp=Z,230nm,0.2s						
GORS	**Gorjuse**	**0.51**	**116**	*i* Pg	**Pg**	**16 36 00.3**	**-0.5**
GORS				*e*Sg	**Sg**	**16 36 07.0**	**-0.7**
	comp=Z,230nm,0.2s						
KBA	**Koelnbreinsper**	**0.54**	**1**	⇑*i*Sg	**Sg**	**16 36 10.8**	**+2.4**
	comp=Z,211nm,0.1s						
KBA	**Koelnbreinsper**	**0.54**	**1**	*e*Pg	**Pg**	**16 36 02.9**	**+1.7**
KBA				*e*Sg	**Sg**	**16 36 10.9**	**+2.5**
KBA	**Koelnbreinsper**	**0.54**	**1**	⇓*e*Pg	**Pg**	**16 36 02.9**	**+1.8**
KBA				Sg	**Sg**	**16 36 10.8**	**+2.4**
KBA	**Koelnbreinsper**	**0.54**	**1**	Pg	**Pg**	**16 36 02.9**	**+1.7**
	comp=Z,48nm,5.0s						
KBA				Sg	**Sg**	**16 36 10.9**	**+2.5**
MLNI	**Malnisio**	**0.64**	**232**	⇑*e*Pg	**Pg**	**16 36 02.9**	**-0.3**
MLNI				*e*Sg	**Sg**	**16 36 13.2**	**+1.5**

VOJS	**Vojsko**	**0.64**	**143**	⇓*i*Pg	**Pg**	**16 36 02.2**	**-1.1**
VOJS				*e*Sg	**Sg**	**16 36 11.4**	**-0.5**
TLI	**Talmassons**	**0.64**	**194**	⇑*i*Pg	**Pg**	**16 36 02.6**	**-0.7**
CSO	**Casso**	**0.75**	**249**	⇓*e*Pg	**Pg**	**16 36 04.6**	**-0.7**
CSO				*e*Sg	**Sg**	**16 36 16.5**	**+1.1**
SEST	**Monte Rota**	**0.79**	**285**	Pg	**Pg**	**16 36 06.6**	**+0.3**
	comp=Z,920nm,0.5s						
CAE	**Caneva**	**0.82**	**229**	⇑*i*Pg	**Pg**	**16 36 06.5**	**-0.4**
CAE				*i* Sg	**Sg**	**16 36 18.7**	**+0.8**
JAVS	**Javornik**	**0.83**	**142**	*i* Pg	**Pg**	**16 36 05.4**	**-1.6**
OBKA	**Obir**	**0.84**	**92**	⇓*e*Pg	**Pg**	**16 36 07.1**	**-0.1**
	SNR=34						
OBKA	**Obir**	**0.84**	**92**	*e*Pg	**Pg**	**16 36 07.2**	**-0.1**
OBKA				*e*Sg	**Sg**	**16 36 20.1**	**+1.5**
OBKA	**Obir**	**0.84**	**92**	⇓*e*Pg	**Pg**	**16 36 07.1**	**-0.1**
OBKA				Sg	**Sg**	**16 36 18.8**	**+0.2**
OBKA	**Obir**	**0.84**	**92**	Pg	**Pg**	**16 36 07.2**	**-0.1**
OBKA				Sg	**Sg**	**16 36 18.8**	**+0.2**
	comp=Z,243nm,0.3s						
TRI	**Trieste**	**0.89**	**160**	Pg	**Pg**	**16 36 06.3**	**-1.9**
TRI				Sg	**Sg**	**16 36 20.4**	**+0.3**
	comp=Z,88nm,0.2s						
LJU	**Ljubljana**	**0.97**	**121**	*i* Pg	**Pg**	**16 36 09.1**	**-0.7**
LJU				*i* Sg	**Sg**	**16 36 23.9**	**+1.1**
	comp=Z,62nm,0.1s						
LJU	**Ljubljana**	**0.97**	**121**	*i* Pg	**Pg**	**16 36 09.1**	**-0.7**
LJU				*i* Sg	**Sg**	**16 36 23.9**	**+1.1**
	comp=Z,62nm,0.1s						
FAU	**Forcella Aurin**	**0.99**	**252**	*e*Pg	**Pg**	**16 36 10.4**	**+0.3**
CEY	**Cerknica**	**1.11**	**136**	*i* Pg	**Pg**	**16 36 10.1**	**-2.5**
CEY				*e*Sg	**Sg**	**16 36 27.5**	**+0.1**
	comp=Z,142nm,0.3s						
CEY	**Cerknica**	**1.11**	**136**	*i* Pg	**Pg**	**16 36 10.1**	**-2.5**
CEY				*e*Sg	**Sg**	**16 36 27.5**	**+0.1**
	comp=Z,142nm,0.3s						
BRES	**Bressanone**	**1.11**	**279**	Pg	**Pg**	**16 36 12.5**	**-0.1**
MTLO	**Montello**	**1.13**	**230**	*e*Pg	**Pg**	**16 36 12.3**	**-0.6**
BGLD	**Berchtesgaden**	**1.13**	**349**	⇓*i*Pg	**Pg**	**16 36 13.7**	**+0.7**
SCE	**Schlegeis**	**1.22**	**295**	⇑*i*Pg	**Pg**	**16 36 14.6**	**-0.1**
SCE				*i* Sg	**Sg**	**16 36 31.3**	**+0.3**
PERS	**Pernice**	**1.24**	**85**	*e*Pg	**Pg**	**16 36 13.9**	**-1.2**
BISS	**Bistriski jare**	**1.24**	**85**	*i* Pg	**Pg**	**16 36 14.2**	**-1.0**
CGRP	**Cima Grappa**	**1.25**	**239**	⇑*i*Pg	**Pg**	**16 36 15.6**	**+0.2**
CGRP				*i* Sg	**Sg**	**16 36 33.5**	**+1.3**
PDKS	**Podkum**	**1.25**	**112**	*i* Pg	**Pg**	**16 36 14.7**	**-0.7**
CTI	**Castel Tesino**	**1.27**	**248**	Pg	**Pg**	**16 36 15.4**	**-0.3**
CTI				Sg	**Sg**	**16 36 35.5**	**+2.9**
	comp=Z,775nm,0.4s						
VISS	**Visnje**	**1.28**	**125**	*i* Pg	**Pg**	**16 36 14.4**	**-1.7**
VISS				*e*Sg	**Sg**	**16 36 32.5**	**-0.7**
WTTA	**Wattenberg**	**1.37**	**302**	⇓*i*Sg	**Sg**	**16 36 36.3**	**+0.3**
	comp=Z,380nm,0.7s						
WTTA	**Wattenberg**	**1.37**	**302**	*e*Pg	**Pg**	**16 36 17.6**	**-0.1**
WTTA				*e*Sg	**Sg**	**16 36 36.1**	**+0.2**
WTTA	**Wattenberg**	**1.37**	**302**	*e*Pg	**Pg**	**16 36 17.6**	**0.0**
WTTA				Sg	**Sg**	**16 36 36.3**	**+0.3**
**WTT

VYHS	**Vyhne**	**4.21**	**60**	*e*PN	**Pn**	**16 36 58.9**	**+2.8**
MOX	**Moxa**	**4.26**	**345**	*e*Pn	**Pn**	**16 36 58.9**	**+2.1**
MOX	**Moxa**	**4.26**	**345**	*i* P	**Pn**	**16 36 59.1**	**+2.3**
MOX				S	**Sn**	**16 37 46.0**	**-1.2**
MOX				Sg	**Sg**	**16 38 10.0**	**-2.2**
MOX	**Moxa**	**4.26**	**345**	*e*Pn	**Pn**	**16 36 59.1**	**+2.3**
MOX				*e*Sn	**Sn**	**16 37 46.9**	**-0.3**
MOX				*e*Sg	**Sg**	**16 38 10.0**	**-2.2**
MOX	**Moxa**	**4.26**	**345**	Pn	**Pn**	**16 36 58.9**	**+2.1**
MOX				*e*Sn	**Sn**	**16 37 46.9**	**-0.3**
BRG	**Berggiesshubel**	**4.35**	**5**	Pn	**Pn**	**16 37 01.1**	**+3.0**
BRG				Pg	**Pg**	**16 37 17.3**	**0.0**
BRG				Sn	**Sn**	**16 37 50.4**	**+0.8**
BRG				Sg	**Sg**	**16 38 07.5**	**-7.7**
BRG	**Berggiesshubel**	**4.35**	**5**	Pn	**Pn**	**16 37 01.1**	**+3.0**
BRG	**Berggiesshubel**	**4.35**	**5**	Pg	**Pg**	**16 37 17.3**	**0.0**
BRG				Sg	**Sg**	**16 38 09.4**	**-5.9**
CDF	**Champ du Feu**	**4.51**	**297**	*e*Pn	**Pn**	**16 37 00.8**	**+0.4**
HINF	**Hinteralfeld**	**4.60**	**288**	*e*Pn	**Pn**	**16 37 02.9**	**+1.3**
HINF				*e*Sn	**Sn**	**16 37 53.4**	**-2.3**
comp=Z,8.8nm,0.2s							
LPG	**La Plagne**	**4.70**	**260**	*e*P	**Pn**	**16 37 05.8**	**+2.7**
LPG	**La Plagne**	**4.70**	**260**	*e*Pn	**Pn**	**16 37 01.9**	**-1.2**
LPG				*e*P		16 37 05.8	
LPG	**La Plagne**	**4.70**	**260**	*e*P	**Pn**	**16 37 05.8**	**+2.7**
LPL	**La Plagne**	**4.71**	**260**	*e*P	**Pn**	**16 37 06.2**	**+3.0**
LPL	**La Plagne**	**4.71**	**260**	*e*Pn	**Pn**	**16 37 02.2**	**-1.0**
LPL				*e*P		16 37 06.2	
LPL	**La Plagne**	**4.71**	**260**	*e*P	**Pn**	**16 37 06.2**	**+3.0**
CLL	**Collm**	**4.77**	**358**	*e*Pn	**Pn**	**16 37 05.2**	**+1.1**
CLL				*e*Sg	**Sg**	**16 38 21.6**	**-7.7**
CLL	**Collm**	**4.77**	**358**	*i* PN	**Pn**	**16 37 06.4**	**+2.3**
CLL				*i*		16 37 16.1	
CLL				*e*PG	**Pg**	**16 37 24.0**	**-1.7**
CLL				*i* SG	**Sg**	**16 38 24.5**	**-4.8**
CLL	**Collm**	**4.77**	**358**	*i* Pn	**Pn**	**16 37 06.4**	**+2.3**
CLL				Pg	**Pg**	**16 37 24.0**	**-1.7**
CLL				*i* Sg	**Sg**	**16 38 24.5**	**-4.8**
CLL	**Collm**	**4.77**	**358**	Pg	**Pg**	**16 37 24.0**	**-1.7**
CLL				Sg	**Sg**	**16 38 21.6**	**-7.7**
TNS	**Taunus Mts**	**4.91**	**320**	*e*Pn	**Pn**	**16 37 08.3**	**+2.2**
TNS				*e*Sg	**Sg**	**16 38 31.4**	**-2.5**
TNS	**Taunus Mts**	**4.91**	**320**	*e*Pn	**Pn**	**16 37 08.3**	**+2.2**
TNS				*e*Sg	**Sg**	**16 38 31.4**	**-2.5**
MBDF	**Montbardon**	**4.95**	**251**	*e*Pn	**Pn**	**16 37 05.3**	**-1.2**
MBDF				*e*Sn	**Sn**	**16 37 58.9**	**-5.6**
comp=Z,6.0nm,0.5s							
SBF	**Sospel**	**4.95**	**239**	*e*Pn	**Pn**	**16 37 04.1**	**-2.6**
SBF				*e*Sn	**Sn**	**16 37 58.2**	**-6.5**
comp=Z,12nm,0.5s							
HAU	**Haudompre**	**4.97**	**290**	*e*Pn	**Pn**	**16 37 07.9**	**+1.0**
HAU				*e*Sn	**Sn**	**16 38 02.1**	**-3.1**
comp=Z,30nm,0.5s							
CABF	**La Chapelle**	**4.99**	**273**	*e*Pn	**Pn**	**16 37 08.3**	**+1.1**
PGF	**Pioggiola**	**5.05**	**219**	*e*Pn	**Pn**	**16 37 04.7**	**-3.4**
PGF				*e*Sn	**Sn**	**16 37 59.1**	**-8.1**
comp=Z,4.0nm,0.4s							
ORIF	**Oris-en-Rattie**	**5.46**	**255**	*e*P	**Pn**	**16 37 16.8**	**+3.0**
ORIF				*e*Sn	**Sn**	**16 38 11.8**	**-5.7**
comp=Z,6.4nm,0.5s							
ORIF	**Oris-en-Rattie**	**5.46**	**255**	*e*Pn	**Pn**	**16 37 11.8**	**-2.0**
ORIF				*e*P		16 37 16.8	
ORIF				*e*Sn	**Sn**	**16 38 11.8**	**-5.7**
ORIF	**Oris-en-Rattie**	**5.46**	**255**	*e*P	**Pn**	**16 37 16.8**	**+3.0**
ORIF				*e*Sn	**Sn**	**16 38 11.8**	**-5.7**
comp=Z,3.2nm,0.5s							
CLZ	**Clausthal**	**5.64**	**341**	*e*Sg	**Sg**	**16 38 53.9**	**-4.4**
LMR	**La Mourre**	**5.81**	**239**	*e*Pn	**Pn**	**16 37 15.8**	**-2.9**
LMR				*e*Sn	**Sn**	**16 38 18.7**	**-7.5**
comp=Z,4.9nm,0.4s							
SMRF	**Simiane la Rot**	**6.05**	**248**	*e*Pn	**Pn**	**16 37 19.0**	**-3.1**
VIVF	**Saint-Julien-l**	**6.29**	**258**	*e*Pn	**Pn**	**16 37 23.3**	**-2.3**
LOR	**Lormes**	**6.53**	**280**	*e*Pn	**Pn**	**16 37 27.1**	**-1.8**
AVF	**Avril sur Loir**	**6.87**	**276**	*e*Pn	**Pn**	**16 37 33.8**	**+0.1**
LASF	**Ste Croix**	**7.12**	**253**	*e*Pn	**Pn**	**16 37 34.7**	**-2.5**

CASC 12 16:36:04.7±2.4, 16.11N×89.47W, MD4.0, 3C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.06**	**191⇑**	*e*P	Pb	16 36 21.4	-4.3
NBG	**Las Nubes**	**1.73**	**209**	*e*P	Pn	16 36 36.0	-0.3
NBG				*e*S	Sb	16 36 59.5	+0.1
TP2	**Tecpan 2**	**1.99**	**229⇑**	*e*P	Pn	16 36 40.0	-0.1
TP2				*e*S	Sn	16 37 08.4	+2.4
TP2				*e*S	Sn	16 37 09.1	+3.1
IXG	**Ixpaco**	**2.15**	**206⇑**	*e*P	Pn	16 36 41.8	-0.4
IXG				*e*S	Sn	16 37 11.0	+1.0
IXG				*e*S	Sn	16 37 11.5	+1.6
RTR	**El Retiro**	**2.21**	**184**	*e*P	Pn	16 36 43.8	+0.7
RTR				*e*S	Sn	16 37 14.8	+3.3
SBLS	**San Blas**	**2.26**	**184**	*e*P	Pn	16 36 43.3	-0.5
SBLS				*e*S	Sn	16 37 14.0	+1.1
LBRS	**Las Brisas**	**2.40**	**170**	*e*P	Pn	16 36 46.9	+1.2
LBRS				*e*S	Sn	16 37 19.2	+2.9
LCBS	**La Ceiba**	**2.49**	**169**	*e*P	Pn	16 36 45.8	-1.3
LCBS				*e*S	Sn	16 37 18.4	-0.3
SNVI	**San Vicente**	**2.56**	**166**	*e*P	Pn	16 36 47.7	-0.4
SNVI				*e*S	Sn	16 37 20.3	-0.1

*NEIC **12** 16:39:45.8, 32.96S×70.10W, h125km, MD3.5(GUC), After GUC.*

GUC 12 16:39:45.8±0.6, 32.96S×70.10W, h125km±2km, MD3.5, ML3.9,7C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.40**	**203⇓**	*i*P	P	16 40 03.8	-0.1
FCH				*i* S	S	16 40 18.0	+0.3
FCH				AMP		16 40 18.0	
comp=N,4μm,0.2s							
JACH	**Jahuel**	**0.49**	**304⇑**	*i*P	P	16 40 04.4	0.0
PEL	**Peldehue**	**0.52**	**249⇑**	*i*P	P	16 40 04.5	-0.1
PEL				*i* S	S	16 40 18.6	-0.3
PEL				AMP		16 40 19.9	
comp=E,10μm,0.2s							
STL	**Santa Lucia**	**0.66**	**223⇓**	*i*P	P	16 40 05.5	0.0
STL				*i* S	S	16 40 20.2	-0.3
STL				AMP		16 40 20.8	
comp=N,3μm,0.4s							
SAN	**Santiago**	**0.68**	**223**	*i* P	P	16 40 05.7	0.0
SAN				*i* S	S	16 40 20.6	-0.3
SAN				AMP		16 40 21.2	
comp=E,7μm,0.2s							
SJCH	**San Jose de Ma**	**0.71**	**197**	*i* P	P	16 40 05.1	-0.8
SJCH				AMP		16 40 20.4	
comp=N,2μm,0.6s							
SJCH				*i* S	S	16 40 20.5	-0.8
SJCH	**San Jose de Ma**	**0.71**	**197**	*i* P	P	16 40 05.1	-0.8
SJCH				*i* S	S	16 40 20.5	-0.8
PCH	**Pirque**	**0.75**	**207**	*i* P	P	16 40 06.3	+0.2
PCH				*i* S	S	16 40 21.9	+0.2
ANTU	**Antumapu**	**0.76**	**216⇑**	*i*P	P	16 40 06.2	0.0
ANTU				*i* S	S	16 40 21.6	-0.2
ANTU				AMP		16 40 22.7	
comp=E,5μm,0.5s							
ROCH	**El Roble**	**0.76**	**269**	*i* P	P	16 40 06.8	+0.5
ROCH				*i* S	S	16 40 22.6	+0.7
RCDM	**Rinconada Maip**	**0.79**	**228**	*i* P	P	16 40 06.8	+0.2
RCDM				*i* S	S	16 40 22.3	-0.1
RCDM				AMP		16 40 23.3	
comp=E,18μm,0.1s							
LMEL	**Las Melosas**	**0.89**	**185⇑**	*i*P	P	16 40 07.4	-0.1
LMEL				*i* S	S	16 40 24.3	+0.4
LMEL				AMP		16 40 31.0	
comp=N,2μm,0.1s							
TACH	**Talagante**	**0.98**	**225**	*i* P	P	16 40 08.2	-0.2
TACH				*i* S	S	16 40 25.0	-0.5
MDZ	**Mendoza**	**1.06**	**86**	*e*P	P	16 40 07.2	-1.9
MDZ				S	S	16 40 23.8	-2.9
CHCH	**Chadas Angostu**	**1.08**	**205⇑**	*i*P	P	16 40 09.3	0.0
CHCH				*i* S	S	16 40 26.8	-0.2
CACH	**El Canelo**	**1.23**	**200⇓**	*i*P	P	16 40 11.6	+0.6
CACH				*i* S	S	16 40 30.9	+1.0
LCCH	**Las Cruces**	**1.33**	**247⇓**	*i*P	P	16 40 12.1	0.0
LCCH				*i* S	S	16 40 31.9	-0.3
CICH	**Cipreses**	**1.39**	**191⇓**	*i*P	P	16 40 12.9	+0.2
CICH				*i* S	S	16 40 33.0	-0.1
LNV	**Longovilo**	**1.48**	**227⇑**	*i*P	P	16 40 12.9	-0.8
LNV				*i* S	S	16 40 34.1	-0.9
SFDO	**San Fernando**	**1.82**	**204**	*i* P	P	16 40 17.6	-0.1
SFDO				*i* S	S	16 40 41.8	-0.2
ZON	**Zonda**	**1.85**	**41⇑**	*i*P	P	16 40 20.9	+2.7
ZON				*e*S	S	16 40 45.7	+3.0
TLL	**Tololo Astrono**	**2.84**	**348**	*i* P	P	16 40 31.2	+0.2
TLL				*i* S	S	16 41 05.9	+0.5
TLL				AMP		16 41 14.1	
comp=N,260nm,0.7s							

*MOS **12** 16:52:57.2±1.1, 0.78N×126.10E, h41km, mb4.9/6, Error ellipse: s-maj=21.8km s-min=10.0km az=111.9*
*IDC **12** 16:52:58.8±4.6, 0.80N×126.13E, h38km±39km, mb4.2/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.4/14, ML4.1/1, Error ellipse: s-maj=27.9km s-min=10.4km az=72.0*
*BJI **12** 16:53:01.6, 0.67N×126.40E, h92km, mB5.1, mb4.8*
*NEIC **12** 16:53:03.1±1.8, 0.75N×126.10E, h80km±17km, mb4.7/12, Error ellipse: s-maj=15.7km s-min=6.3km az=59.0*

ISC 12 16:53:00.5±2.9, 0.79N±0.07×126.2E±0.1, h71km±27km, n46, σ1°902/47, mb4.6/25, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.22**	**298**	*e*Pn	**P**	**16 55 40.9**	**+0.7**
KAKA	**Kakadu**	**14.79**	**155**	*e*P	**P**	**16 56 46.3**	**+19**
13nm,0.7s							
KAKA				*e*		16 56 55.9	
KSM	**Kuching**	**15.88**	**273**	*e*Pn	**P**	**16 56 44.1**	**+3.0**
FITZ	**Fitzroy Crossi**	**18.78**	**182**	*e*P	**P**	**16 57 15.7**	**-1.1**
12nm,1.1s							
FITZ	**Fitzroy Crossi**	**18.78**	**182**	P	**P**	**16 57 15.3**	**-1.5**
0.4nm,0.3s,baz=10.0,slow=13,SNR=16							
WRA	**Warramunga Arr**	**22.11**	**159**	P	**P**	**16 57 51.1**	**-0.2**
38nm,0.8s,mb4.8,baz=335,slow=11,SNR=119							
WRA				S	**S**	**17 01 53.2**	**+7.8**
0.6nm,0.9s,baz=342,slow=17,SNR=2.9							
WB2	**Warramunga Arr**	**22.11**	**159⇓**	*i*P	**P**	**16 57 51.0**	**-0.3**
WB2				*e*pP		16 57 55.8	
MBWA	**Marble Bar**	**22.70**	**196**	*e*P	**P**	**16 57 52.7**	**-4.6**
PSI	**Prapat**	**27.31**	**275**	P	**P**	**16 58 38.0**	**-2.9**
4.9nm,0.6s,mb4.2,baz=186,slow=2.3,SNR=4.9							
CTA	**Charters Tower**	**28.60**	**138**	P	**P**	**16 58 50.3**	**-2.1**
3.3nm,1.0s,mb3.9,baz=275,slow=12,SNR=3.3							
CTAO	**Charters Tower**	**28.60**	**138**	*e*P	**P**	**16 58 52.7**	**+0.3**
CTAO				*e**PP	pP	16 59 01.3	-7.9
CTAO				pmax	pmax		
comp=Z,3.0nm,0.9s,mb3.9							
CTAO	**Charters Tower**	**28.60**	**138**	*e*P	**P**	**16 58 52.7**	**+0.3**
comp=Z,3.3nm,0.9s,mb4.0							
CTAO				*e*pP	pP	16 59 01.3	-8.0
FORT	**Forrest**	**31.45**	**177**	*e*P	**P**	**16 59 18.5**	**+0.9**
comp=Z,14nm,0.6s,mb4.9							
NWAO	**Narrogin (SRO)**	**34.58**	**193**	P	**P**	**16 59 44.4**	**-0.2**
comp=Z,11nm,1.0s,mb4.7,baz=359,slow=5.7,SNR=3.2							
STKA	**Stephens Creek**	**35.62**	**157**	*e*P	**P**	**16 59 54.2**	**+0.6**
comp=Z,11nm,0.9s,mb4.8							
STKA	**Stephens Creek**	**35.62**	**157**	P	**P**	**16 59 53.8**	**+0.3**
comp=Z,15nm,1.0s,mb4.9,baz=309,slow=8.8,SNR=11							
MJAR	**Matsushiro Arr**	**37.28**	**16**	P	**P**	**17 00 07.1**	**-0.3**
comp=Z,1.6nm,0.4s,mb4.3,baz=181,slow=9.2,SNR=11							
VLA	**Vladivostok**	**42.45**	**6**	*e*P	**P**	**17 00 43.0**	**-7.2**
VLA				pmax	pmax		
comp=Z,185nm,1.7s,mb5.5							
LSA	**Lhasa**	**44.01**	**314**	*e*P	**P**	**17 01 06.2**	**+3.2**
GTA	**Gaotai**	**45.35**	**331**	*e*P	**P**	**17 01 14.1**	**+0.5**
GTA				PCP	PcP	17 02 54.6	+2.1
JIRN	**Jiri**	**46.69**	**308**	*e*P	**P**	**17 01 23.8**	**-0.6**
comp=Z,10nm,0.6s,mb4.8							
GUN	**Gumba**	**47.05**	**309**	*e*P	**P**	**17 01 27.1**	**-0.1**
comp=Z,20nm,0.5s,mb5.1							
PKI	**Pulchoki**	**47.27**	**308**	*e*P	**P**	**17 01 28.3**	**-0.6**
KKN	**Kakani**	**47.47**	**308**	*e*P	**P**	**17 01 29.9**	**-0.5**
comp=Z,5.8nm,0.5s,mb4.6							
KKN	**Kakani**	**47.47**	**308**	*e*P	**P**	**17 01 29.9**	**-0.5**
KKN				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.3							
DMN	**Daman**	**47.52**	**308**	*e*P	**P**	**17 01 30.7**	**-0.2**
comp=Z,3.9nm,0.4s,mb4.6							
GKN	**Gorkha**	**48.07**	**308**	*e*P	**P**	**17 01 34.6**	**-0.5**
KLR	**Kul'dur**	**48.49**	**5**	*e*P	**P**	**17 01 36.0**	**-2.1**
KOLN	**Koldanda**	**48.79**	**307**	*e*P	**P**	**17 01 40.1**	**-0.6**
comp=Z,18nm,0.7s,mb5.1							
ULN	**Ulaanbaatar**	**49.74**	**343**	*e*P	**P**	**17 01 48.0**	**+0.3**
ULN				pmax	pmax		
comp=Z,4.0nm,0.4s,mb4.7							
ULN	**Ulaanbaatar**	**49.74**	**343**	*e*P	**P**	**17 01 48.0**	**+0.2**
comp=Z,4.4nm,0.4s,mb4.7							
SONM	**Songino Array**	**49.90**	**343**	P	**P**	**17 01 48.4**	**-0.6**
comp=Z,1.6nm,0.4s,mb4.3,baz=158,slow=8.4,SNR=16							
CIT	**Chita**	**52.14**	**350**	*e*P	**P**	**17 02 07.4**	**+1.6**
CIT				pmax	pmax		
comp=Z,58nm,2.3s,mb5.2							
MOY	**Mondy**	**54.95**	**341**	*e*P	**P**	**17 02 27.7**	**+1.2**
BOD	**Bodaibo**	**57.68**	**352**	*e*P	**P**	**17 02 45.9**	**0.0**
BOD				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
MKAR	**Makanchi Array**	**59.66**	**327**	P	**P**	**17 02 58.8**	**-1.0**
comp=Z,4.7nm,0.4s,mb4.9,baz=120,slow=7.6,SNR=90							
YAK	**Yakutsk**	**61.14**	**2**	*e*P	**P**	**17 03 10.4**	**+0.7**
YAK				pmax	pmax		
comp=Z,6.0nm,0.3s,mb5.1							
YAK	**Yakutsk**	**61.14**	**2**	*e*P	**P**	**17 03 10.4**	**+0.7**
comp=Z,5.9nm,0.3s,mb5.1							
ZAL	**Zalesovo**	**62.95**	**334**	P	**P**	**17 03 21.8**	**-0.2**
comp=Z,3.2nm,0.4s,mb4.6,baz=354,slow=4.3,SNR=16							
NVS	**Novosibirsk**	**64.24**	**334**	*i* P	**P**	**17 03 29.3**	**-1.0**
CHKZ	**Chkalovo**	**69.67**	**328**	*e*P	**P**	**17 04 04.2**	**-0.3**
CHKZ				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.4							
CHKZ	**Chkalovo**	**69.67**	**328**	*e*P	**P**	**17 04 04.2**	**-0.3**
comp=Z,6.4nm,0.9s,mb4.5							
VNDA	**Vanda**	**80.60**	**173**	P	**P**	**17 05 08.6**	**+2.1**
comp=Z,1.5nm,0.6s,mb4.0,baz=304,slow=4.3,SNR=11							
ILAR	**Eielson Array**	**87.98**	**25**	P	**P**	**17 05 43.6**	**0.0**
comp=Z,0.5nm,0.5s,mb3.8,baz=254,slow=4.3,SNR=13							
BRTR	**Keskin Array B**	**91.45**	**310**	P	**P**	**17 06 01.4**	**+0.9**
comp=Z,0.5nm,0.8s,mb3.7,baz=162,slow=4.6,SNR=3.1							
ARCES	**ARCESS Array B**	**93.00**	**340**	P	**P**	**17 06 08.2**	**+1.3**
comp=Z,1.8nm,0.6s,mb4.6,baz=91,slow=5.8,SNR=6.8							

ISC 12 17:19:56.6±1.2, 37.87N±0.10×29.14E±0.09, h9km±16km, n6, σ0°52/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.15**	**216**	PG	**Pg**	**17 19 59.9**	**0.0**
DNZL	**Cakiroluk**	**0.20**	**203**	*i* P	**Pg**	**17 20 00.8**	**-0.1**
DNZL				*i* S	**Sg**	**17 20 04.1**	**+0.3**
MANT	**Manisa**	**0.77**	**323**	*i* P	**Pb**	**17 20 11.7**	**+0.1**
MANT				*i* S	**Sb**	**17 20 22.2**	**+0.3**
TKTP	**Tekketepe**	**0.94**	**79**	*i* P	**Pb**	**17 20 14.9**	**+0.2**
TKTP				*i* S	**Sb**	**17 20 34.4**	**+7.4**
YER	**Yerkesik**	**1.01**	**223**	*e*PG	**Pg**	**17 20 15.5**	**-1.2**
YER				*e*SG	**Sg**	**17 20 30.9**	**+0.7**
AYDN	**Tasoluk**	**1.02**	**258**	*i* P	**Pb**	**17 20 15.5**	**-0.5**

*DMN **12** 17:34:08.8±0.7, 29.42N×82.17E, h10km, Ml4.9/6, Error ellipse: s-maj=22.2km s-min=12.8km az=27.0*
*IDC **12** 17:34:08.6±0.9, 29.14N×82.08E, mb4.3/15, mb1 4.5/16, mb1mx4.4/22, mbtmp4.3/16, ML4.2/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/29, Error ellipse: s-maj=22.9km s-min=19.4km az=35.0*
*BJI **12** 17:34:11.2, 29.32N×82.04E, h25km, mB4.7, mb4.6, ML4.0, Ms4.1, Msz3.7*
*NDI **12** 17:34:13.1±4.2, 29.24N×82.04E, h10km, mb4.7, ML4.4, mb4.7(NEIC)*
*MOS **12** 17:34:13.2±0.9, 29.38N×82.07E, h33km, mb4.8/9, Error ellipse: s-maj=13.9km s-min=7.0km az=112.0*
*NEIC **12** 17:34:14.7±0.3, 29.28N×82.02E, h35km, mb4.7/7, Error ellipse: s-maj=10.4km s-min=4.9km az=224.0*

ISC 12 17:34:10.2±0.2, 29.37N±0.03×81.98E±0.03, h10km, n75, σ1°30/86, mb4.4/25, MS3.5/6, 1C-1D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**2.14**	**138**	*e*Pn	**Pn**	**17 34 48.2**	**+1.7**
KOLN	**Koldanda**	**2.14**	**138**	*e*Sn	**Sn**	**17 35 16.7**	**+3.4**
2μm,0.4s							
GKN	**Gorkha**	**2.71**	**120**	*e*Pn	**Pn**	**17 34 55.5**	**+1.0**
GKN	**Gorkha**	**2.71**	**120**	*e*Sn	**Sn**	**17 35 30.4**	**+2.8**
5μm,0.4s							
KALG	**Kalgarh**	**2.82**	**274**	*e*P	**Pn**	**17 34 56.9**	**+0.8**
DMN	**Daman**	**3.27**	**122**	*e*Pn	**Pn**	**17 35 03.1**	**+0.6**
DMN				*e*Sn	**Sn**	**17 35 43.7**	**+1.9**
KKN	**Kakani**	**3.30**	**118**	*e*Pn	**Pn**	**17 35 03.3**	**+0.3**
KKN				*e*Sn	**Sn**	**17 35 44.8**	**+2.0**
753nm,0.4s							
PKI	**Pulchoki**	**3.51**	**120**	*e*Pn	**Pn**	**17 35 06.8**	**+0.8**
PKI				*e*Sn	**Sn**	**17 35 49.1**	**+1.0**
1μm,0.6s							
GUN	**Gumba**	**3.73**	**112**	*e*Pn	**Pn**	**17 35 08.6**	**-0.4**
GUN				*e*Sn	**Sn**	**17 35 53.9**	**+0.4**
618nm,0.3s							
KLP	**Kalpa**	**3.87**	**305**	*e*P	**Pn**	**17 35 16.0**	**+4.9**
KLP				*e*x	x	17 36 27.7	
KLP				AML	AML	17 36 31.2	
comp=E,1μm,0.7s							
KLP				AML	AML	17 36 31.2	
comp=N,1μm,1.2s							
JIRN	**Jiri**	**4.08**	**114**	*e*Pn	**Pn**	**17 35 13.5**	**-0.6**
JIRN				*e*Sn	**Sn**	**17 36 02.2**	**-0.2**
comp=N,431nm,0.3s							
NDI	**New Delhi**	**4.22**	**262**	*e*PN	**Pn**	**17 35 18.0**	**+1.9**
NDI				*e*PG	**Pg**	**17 35 33.0**	**-1.5**
NDI				*e*SN	**Sn**	**17 36 06.5**	**+0.4**
NDI				*e*x	x	17 36 26.0	
AYAN	**Aya Nagar**	**4.34**	**259**	*e*P	**Pn**	**17 35 20.0**	**+2.1**
AYAN				AMb	AMB	17 35 21.9	
comp=Z,30nm,0.9s							
SONA	**Sohna**	**4.44**	**257**	*e*x	x	17 36 33.3	
KUDL	**Kundal**	**4.97**	**257**	*e*P	**Pn**	**17 35 29.4**	**+2.7**
KHET	**Khetri**	**5.57**	**258**	*e*P	**Pn**	**17 35 36.9**	**+1.8**
KHET				*e*S	**Sn**	**17 36 38.2**	**-1.8**
BOK	**Bokaro**	**6.56**	**147**	*e*P	**Pn**	**17 35 47.2**	**-1.9**
BOK				AMb	AMB	17 35 48.2	
comp=Z,14nm,0.2s							
BOK				*e*S	**Sn**	**17 36 58.2**	**-6.7**
AJM	**Ajmer**	**7.10**	**248**	*e*P	**Pn**	**17 35 56.4**	**-0.3**
AJM				AMb	AMB	17 35 58.2	
comp=Z,44nm,1.3s							
AJM				*e*S	**Sn**	**17 37 13.3**	**-4.9**
BHPL	**Bhopal**	**7.34**	**215**	*e*P	**Pn**	**17 35 58.3**	**-1.8**
BHPL				AMb	AMB	17 36 01.6	
comp=Z,20nm,0.6s							
BHPL				*e*S	**Sn**	**17 37 16.0**	**-8.4**
LSA	**Lhasa**	**8.00**	**85**	P	**Pn**	**17 36 09.2**	**-0.1**
LSA				S	**Sn**	**17 37 34.0**	**-6.7**
LSA				Smax			
comp=N,20nm,0.4s							
LSA				Smax			
comp=E,30nm,0.7s							
VIS	**Vishakhapatnam**	**11.66**	**174**	*e*P	**P**	**17 36 55.0**	**-4.8**
HYB	**Hyderabad**	**12.31**	**196**	*i* P	**P**	**17 37 04.0**	**-4.5**
HYB				*e*S	**S**	**17 39 11.0**	**-16**
HYB	**Hyderabad**	**12.31**	**196**	*e*P	**P**	**17 37 04.0**	**-4.5**
HYB				*e*S	**S**	**17 39 11.0**	**-16**
BOM	**Bombay**	**13.36**	**221**	*e*x	x	17 36 20.0	
comp=E,71nm,1.6s							
BOM				*e*x	x	17 40 18.4	
KAD	**Karad**	**13.97**	**212**	*e*P	**P**	**17 37 28.4**	**-2.2**
KAD				AMb	AMB	17 37 30.7	
comp=Z,14nm,0.9s							
TKM2	**Tokmak 2**	**14.46**	**341**	P	**P**	**17 37 38.1**	**+1.2**
SNR=6.0							
FRU	**Bishkek**	**14.68**	**338**	*e*P	**P**	**17 37 42.0**	**+2.2**
FRU				pmax	pmax		
comp=Z,51nm,1.0s							
MKAR	**Makanchi Array**	**17.40**	**1**	Pn	**P**	**17 38 13.1**	**-1.4**
comp=Z,0.8nm,0.3s,baz=180,slow=12,SNR=41							
MKAR				LR	LR	17 46 05.5	
comp=Z,142nm,20.0s,baz=190,slow=41							
GTA	**Gaotai**	**17.77**	**51**	P	**P**	**17 38 17.5**	**-1.8**
GTA				AMB	AMB		
comp=Z,30nm,0.6s							
KMI	**Kunming**	**18.93**	**98**	P	**P**	**17 38 31.9**	**-1.8**
KMI				AMB	AMB		
comp=Z,10.0nm,0.9s							
LZH	**Lanzhou**	**19.56**	**64**	*e*P	**P**	**17 38 39.0**	**-1.9**
LZH				AP		17 38 49.0	
LZH				XP		17 38 52.9	
LZH				AMB	AMB		
comp=Z,20nm,1.0s							
LZH				AMB	AMB		
comp=Z,90nm,4.0s							
XAN	**Xi'an**	**23.36**	**72**	P	**P**	**17 39 18.5**	**-1.2**
XAN				AP		17 39 27.7	
XAN				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.3							

	comp=Z,8.0nm,1.0s,mb4.6						
BRG	**Berggiesshubel**	**54.24**	**314**	*e*P	**P**	**17 43 38.6**	**+0.4**
	comp=Z,8.3nm,1.0s,mb4.6						
GERES	**GERESS Array B**	**54.57**	**311**	P	**P**	**17 43 41.0**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=84,slow=7.2,SNR=7.2						
KHC	**Kasperske Hory**	**54.62**	**311**	*e*P	**P**	**17 43 41.0**	**0.0**
NB2	**NORSAR Subarra**	**55.51**	**326**	P	**P**	**17 43 46.2**	**-1.2**
	comp=Z,3.5nm,0.6s,mb4.6,baz=88,slow=7.0						
NB2	**NORSAR Subarra**	**55.51**	**326**	P	**P**	**17 43 46.2**	**-1.2**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
NOA	**NORSAR Array B**	**55.51**	**326**	P	**P**	**17 43 46.5**	**-0.9**
	comp=Z,6.5nm,0.8s,mb4.7,baz=90,slow=7.0,SNR=12						
NOA				LR	LR	18 09 40.3	
	comp=Z,45nm,21.6s,MS3.5,baz=130,slow=38						
WRA	**Warramunga Arr**	**70.36**	**128**	P	**P**	**17 45 23.8**	**-2.7**
	comp=Z,3.7nm,0.6s,mb4.5,baz=322,slow=6.2,SNR=80						
WB2	**Warramunga Arr**	**70.37**	**128**	*e*P	**P**	**17 45 23.9**	**-2.7**
TORD	**Torodi Ar. Bea**	**75.30**	**277**	P	**P**	**17 45 53.3**	**-2.4**
	comp=Z,1.3nm,0.7s,mb3.9,baz=56,slow=4.6,SNR=9.1						
ILAR	**Eielson Array**	**78.77**	**19**	P	**P**	**17 46 12.7**	**-1.4**
	comp=Z,2.4nm,0.7s,mb4.2,baz=303,slow=4.7,SNR=29						
DBIC	**Dimbokro**	**84.02**	**274**	P	**P**	**17 46 42.6**	**-0.1**
	comp=Z,0.5nm,0.3s,mb4.1,baz=64,slow=6.7,SNR=3.7						
YKA	**Yellowknife Ar**	**87.49**	**8**	P	**P**	**17 46 57.8**	**-0.9**
	comp=Z,1.1nm,0.4s,mb4.4,baz=339,slow=4.9,SNR=33						
LPAZ	**La Paz**	**149.63**	**289**	PKPbc	PKPdf	17 54 01.5	+2.5
	comp=Z,0.6nm,0.4s,baz=100,slow=4.2,SNR=3.0						

MAN 12 17:59:46.6,5.71N×127.24E,h72km,mb3.8,ML2.5,MS2.1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MATI	**Mati**	**1.57**	**321**	*e*P		P	18 00 13.8		+0.7
MATI				*e*S		S	18 00 28.0		-4.7
BUKP	**Musuan**	**3.05**	**315**	*e*P		P	18 00 33.2		-0.5
BUKP				*e*S		S	18 01 02.2		-7.0
BUTP	**Butuan**	**3.61**	**334**	*e*P		P	18 00 42.3		+0.7
BUTP				*e*S		S	18 01 23.7		+0.4
PAGZ	**Pagadian**	**4.38**	**299**	*e*P		P	18 00 51.5		-0.8
MSLP	**Maasin**	**4.99**	**332**	*e*P		P	18 00 59.4		-1.3
IPIL	**Ipil**	**5.08**	**294**	*e*P		P	18 01 03.0		+1.1

IDC ***12*** *18:14:06.5±2.4, 18.59N×145.62E, h173km±22km, mb3.6/10, mb1 3.8/11, mb1mx3.6/22, mbtmp4.1/11, Error ellipse: s-maj=29.8km s-min=14.6km az=93.0*
NEIC ***12*** *18:14:08.1±1.5, 18.59N×145.61E, h189km±14km, mb4.3/2, Error ellipse: s-maj=16.7km s-min=9.3km az=78.0*

ISC 12 18:14:07.0±1.9, 18.52N±0.09×145.6E±0.2, h191km±17km, n22, σ0s79/24, mb3.8/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
GUMO	**Guam**	**4.95**	**188**	P		**P**	**18 15 22.5**		**+1.3**
	4.6nm,0.3s,baz=358,slow=20,SNR=4.9								
GUMO				S		**S**	**18 16 17.5**		**-1.3**
	9.4nm,0.3s,baz=2.4,slow=23,SNR=6.7								
GUMO	**Guam**	**4.95**	**188**	P		**P**	**18 15 22.5**		**+1.3**
GUMO				S		**S**	**18 16 17.5**		**-1.3**
NACB	**Ninganchiao**	**23.03**	**288**	*e*P		**P**	**18 18 56.6**		**+0.3**
YHNB	**Yeheng**	**23.31**	**289**	P		**P**	**18 18 58.9**		**-0.1**
CTA	**Charters Tower**	**38.37**	**179**	P		**P**	**18 21 12.5**		**+1.2**
	1.9nm,0.8s,mb3.8,baz=4.4,slow=13,SNR=3.1								
CTA	**Charters Tower**	**38.37**	**179**	P		**P**	**18 21 12.5**		**+1.2**
CTAO	**Charters Tower**	**38.37**	**179**	*e*P		**P**	**18 21 11.4**		**0.0**
WB2	**Warramunga Arr**	**39.78**	**197**	*e*P		**P**	**18 21 23.7**		**+0.7**
WRA	**Warramunga Arr**	**39.78**	**197**	P		**P**	**18 21 23.1**		**+0.1**
	1.7nm,0.4s,mb4.0,baz=10,slow=8.0,SNR=62								
WRA				PcP		PcP	18 23 25.0		-0.9
	0.6nm,0.4s,baz=15,slow=3.6,SNR=7.2								
FITZ	**Fitzroy Crossi**	**41.34**	**209**	*e*P		**P**	**18 21 36.6**		**+0.9**
	6.3nm,0.6s,mb4.4								
FITZ	**Fitzroy Crossi**	**41.34**	**209**	P		**P**	**18 21 36.2**		**+0.4**
	2.2nm,0.3s,mb4.3,baz=33,slow=10.0,SNR=37								
SONM	**Songino Array**	**43.22**	**322**	P		**P**	**18 21 50.6**		**-0.1**
	0.6nm,0.7s,mb3.4,baz=154,slow=9.9,SNR=4.7								
MBWA	**Marble Bar**	**46.87**	**214**	*e*P		**P**	**18 22 20.5**		**+0.7**
	14nm,1.2s,mb4.5								
STKA	**Stephens Creek**	**50.26**	**184**	*e*P		**P**	**18 22 43.9**		**-1.8**
NWAO	**Narrogin (SRO)**	**57.90**	**208**	P		**P**	**18 23 40.9**		**-0.4**
	4.6nm,0.7s,mb4.4,baz=41,slow=7.6,SNR=5.0								
MKAR	**Makanchi Array**	**58.51**	**314**	P		**P**	**18 23 45.1**		**-0.2**
	0.2nm,0.4s,mb3.3,baz=90,slow=7.6,SNR=4.6								
YKA	**Yellowknife Ar**	**78.19**	**28**	P		**P**	**18 25 46.0**		**-0.4**
	0.3nm,0.7s,mb3.0,baz=290,slow=5.7,SNR=6.2								
YKA	**Yellowknife Ar**	**78.19**	**28**	P		**P**	**18 25 46.0**		**-0.4**
ARCES	**ARCESS Array B**	**82.63**	**342**	P		**P**	**18 26 09.6**		**0.0**
	3.2nm,1.0s,mb4.0,baz=80,slow=5.5,SNR=3.5								
NVAR	**Mina Array Bea**	**83.33**	**52**	P		**P**	**18 26 14.5**		**+0.6**
	0.5nm,0.5s,mb3.5,baz=258,slow=7.5,SNR=5.0								
FINES	**FINESS Array B**	**87.00**	**335**	P		**P**	**18 26 30.3**		**-1.1**
	2.2nm,0.8s,mb4.0,baz=27,slow=4.3,SNR=3.8								
FINES	**FINESS Array B**	**87.00**	**335**	P		**P**	**18 26 30.3**		**-1.1**

SKHL 12 18:43:26.4±0.1, 55.22N×125.27E, h10km, mb4.0/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KROS	**Kirovskiy**	**1.26**	**128**	*i*Pg		Pg	18 43 49.5		-2.1
KROS				AMB		AMB	18 43 57.0		
	21nm,0.3s								
KROS				*e*Sg		Sg	18 44 06.5		-2.0
KROS				A			18 44 08.4		
	220nm,0.5s								
KROS				A			18 44 08.4		
	160nm,0.5s								
KROS				A			18 44 08.4		
	94nm,0.5s								
ZEA	**Zeya**	**1.88**	**141**	*e*Pg		Pg	18 44 00.5		-3.5
ZEA				AMB		AMB	18 44 01.7		
	110nm,0.4s								
ZEA				AMB		AMB	18 44 01.7		
	130nm,0.4s								
ZEA				*e*Sg		Sg	18 44 25.4		-3.7
ZEA				A			18 44 26.1		
	88nm,0.5s								
ZEA				A			18 44 26.1		
	300nm,0.5s								
ZEA				A			18 44 26.5		
	600nm,1.0s								
ZEA				A			18 44 26.5		
	200nm,1.0s								
BMKR	**Bomnak**	**2.12**	**102**	*e*Pg		Pg	18 44 04.7		-4.1
BMKR				*e*S		Sn	18 44 28.5		-0.6
BMKR				*e*Sg		Sg	18 44 32.6		-4.5
BMKR				A			18 44 35.3		
	306nm,0.4s								
YASR	**Yasnyy**	**2.50**	**139**	*e*Pn		Pn	18 44 07.0		-0.9
YASR				*e*Pg		Pg	18 44 11.1		-5.3
YASR				AMB		AMB	18 44 11.5		
	18nm,0.2s								
YASR				AMB		AMB	18 44 11.5		
	20nm,0.2s								
YASR				AMB		AMB	18 44 11.5		
	21nm,0.2s								
YASR				*e*Sg		Sg	18 44 44.0		-5.8
YASR				A			18 44 47.3		
	120nm,0.3s								
YASR				A			18 44 47.3		
	70nm,0.3s								
YASR				A			18 44 47.3		
	60nm,0.3s								
TUP	**Tupik**	**3.18**	**258**	*e*Pn		Pn	18 44 18.4		+0.9
TUP				*e*Pg		Pg	18 44 25.2		-4.7
TUP				AMB		AMB	18 44 25.7		
	7.0nm,0.2s								
TUP				*e*Sn		Sn	18 44 55.1		-0.7
TUP				*e*Sg		Sg	18 45 05.9		-6.3
TUP				A			18 45 15.0		
	50nm,0.4s								
EKMR	**Ekimchan**	**5.00**	**112**	*e*Pn		Pn	18 44 41.4		-2.0
EKMR				*e*S		Sn	18 45 37.4		-4.6
EKMR				*e*Sg		Sg	18 46 01.7		-11
EKMR				A			18 46 11.0		
	23nm,0.5s								
EKMR				A			18 46 11.0		
	19nm,0.5s								
EKMR				A			18 46 11.0		
	20nm,0.5s								
KLR	**Kul'dur**	**7.20**	**144**	*e*rx		rx	18 47 16.3		

MOS ***12*** *18:44:38.9±2.2, 57.40N×120.85E, h2km, mb4.0/1, Error ellipse: s-maj=22.5km s-min=19.4km az=141.4*

BYKL 12 18:44:38.5±0.5, 57.45N×120.85E, 1C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KHNR	**Khani**	**0.71**	**222**	*e*Pg		Pg	18 44 52.0		-0.7
KHNR				*e*Sg		Sg	18 45 00.6		-1.6
CRS	**Chara**	**1.51**	**250**	⇓*i*Pg		Pg	18 45 06.5		-2.1
CRS				*e*Sg		Sg	18 45 25.5		-3.3
CRS				Pmax					
	222nm,0.8s								
CRS				Smax					
	315nm,0.8s								
CRS	**Chara**	**1.51**	**250**	*e*P		Pn	18 45 06.5		-0.4
CRS				*e*			18 45 25.8		
CRS				pmax	pmax				
	comp=Z,202nm,0.4s								
CRS				smax					
	comp=E,300nm,0.4s								
NRGR	**Nerungri**	**2.26**	**109**	*e*P		Pn	18 45 18.1		+0.5
NRGR				S		Sn	18 45 47.0		+0.4
CLNS	**Chul'man**	**2.29**	**104**	*e*P		Pn	18 45 22.6		+4.6
CLNS				*e*			18 45 48.6		
CLNS				pmax	pmax				
	comp=Z,38nm,0.3s								
CLNS				pmax	pmax				
	comp=N,10.0nm,0.2s								
CLNS				pmax	pmax				
	comp=E,48nm,0.4s								
CLNS				smax					
	comp=N,316nm,0.4s								
CLNS				smax					
	comp=Z,230nm,0.5s								
CLNS				smax					
	comp=E,436nm,0.4s								
IENR	**Iengra**	**2.52**	**117**	*e*Pg		Pg	18 45 24.9		-4.0
IENR				*e*Sg		Sg	18 45 56.9		-5.6
ALDR	**Aldan**	**2.69**	**62**	*e*		Pn	18 45 11.3		-12
ALDR				*e*			18 45 56.1		
ALDR				*e*Sg		Sg	18 46 01.1		-6.9
ALDR				Smax					
	comp=E,1μm,0.3s								
NLYR	**Nelyaty**	**2.98**	**253**	*e*Pn		Pn	18 45 27.7		-0.2
NLYR				*e*Pg		Pg	18 45 32.3		-5.6
NLYR				*e*Sg		Sg	18 46 10.1		-7.5
NLYR				Pmax					
	comp=E,83nm,0.7s								
NLYR				Smax					
	comp=E,209nm,1.3s								
NLYR	**Nelyaty**	**2.98**	**253**	*e*P		Pn	18 45 27.6		-0.3
NLYR				*e*			18 46 09.4		
NLYR				pmax	pmax				
	comp=Z,85nm,0.6s								
NLYR				smax					
	comp=E,205nm,1.5s								
TUP	**Tupik**	**3.07**	**190**	*e*Pn		Pn	18 45 28.2		-1.1
TUP				*e*Pg		Pg	18 45 33.7		-6.2
TUP				*e*Sn		Sn	18 46 03.7		-3.6
TUP				*e*Sg		Sg	18 46 12.5		-8.3
TUP				Pmax					
	comp=E,66nm,0.5s								
TUP				Smax					
	comp=E,285nm,0.9s								
TUP	**Tupik**	**3.07**	**190**	*e*P		Pn	18 45 28.4		-0.9
TUP				*e*S		Sn	18 46 03.7		-3.6
TUP				pmax	pmax				
	comp=Z,49nm,0.3s								
TUP				smax					
	comp=E,182nm,0.5s								
BOD	**Bodaibo**	**3.70**	**279**	*e*Pn		Pn	18 45 37.2		-0.9
BOD				*e*Pg		Pg	18 45 45.2		-7.2
BOD				*e*Sg		Sg	18 46 31.9		-10
BOD				Pmax					
	comp=E,19nm,0.2s								
BOD				Smax					
	comp=E,144nm,1.0s								
BOD	**Bodaibo**	**3.70**	**279**	*e*P		Pn	18 45 36.6		-1.5
BOD				*e*			18 46 31.9		
BOD				pmax	pmax				
	comp=Z,20nm,0.2s								
BOD				smax					
	comp=N,128nm,0.6s								
SVKR	**Severomuysk**	**4.23**	**255**	*e*Pg		Pg	18 45 55.7		-7.2
SVKR				*e*Sg		Sg	18 46 49.8		-9.4
SVKR				Pmax					
	comp=N,41nm,0.1s								
SVKR				Smax					
	comp=N,189nm,0.8s								
UKT	**Uakit**	**4.46**	**247**	*e*Pg		Pg	18 45 58.6		-9.0
UKT				*e*Sg		Sg	18 46 54.8		-12
UKT				Pmax					
	comp=N,13nm,0.6s								
UKT				Smax					
	comp=N,60nm,1.2s								
UKT	**Uakit**	**4.46**	**247**	*e*P		Pn	18 45 58.0		+9.0
UKT				pmax	pmax				
	comp=Z,13nm,0.5s								
KROS	**Kirovskiy**	**4.58**	**129**	*e*		Pn	18 45 57.9		+7.2
KROS				*e*			18 46 38.4		
KROS				*e*Sg		Sg	18 46 58.2		-13
YOA	**Uoyan**	**5.19**	**259**	*e*Sg		Sg	18 47 18.9		-12
YOA				Smax					
	comp=Z,299nm,0.3s								
YOA	**Uoyan**	**5.19**	**259**	⇑*i*P		Pn	18 46 12.2		+13
YOA				pmax	pmax				
	comp=Z,58nm,1.2s								
KMO	**Kumora**	**5.55**	**258**	*e*Pg		Pg	18 46 18.4		-11
KMO				*e*Sg		Sg	18 47 29.1		-14
KMO				Pmax					
	comp=Z,8.0nm,0.7s								
KMO				Smax					
	comp=Z,105nm,1.1s								
YLYR	**Ulyunkhan**	**6.00**	**249**	*e*		Pn	18 46 28.8		+18
YLYR				*e*Sg		Sg	18 47 42.6		-16
YLYR				max					
	comp=Z,4.0nm,0.5s								
YLYR				Smax					
	comp=Z,67nm,1.9s								
TBGR	**Tabaga**	**6.25**	**42**	*e*		Pn	18 47 03.4		+49
TBGR				*e*Sg		Sg	18 47 49.8		-17
CIT	**Chita**	**6.88**	**221**	*e*		Pn	18 47 27.4		+64
CIT				*e*Sg		Sg	18 48 10.7		-17
CIT				Smax					
	comp=Z,101nm,1.2s								
KPC	**Khapcheranga**	**9.24**	**217**	*e*Sg		Sg	18 49 23.0		-23
KPC				Smax					
	comp=Z,51nm,1.9s								
ZAK	**Zakamensk**	**12.52**	**243**	*e*P		P	18 47 47.5		+6.9
ZAK				pmax	pmax				
	comp=Z,1.0nm,1.2s								

BYKL ***12*** *18:48:23.8±0.5, 57.45N×120.92E, h1km±14km*
IDC ***12*** *18:48:23.8±3.4, 57.15N×121.30E, mb3.6/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=86.6km s-min=26.9km az=158.0*
NEIC ***12*** *18:48:24.9, 57.36N×120.87E, h5km, mb3.8/1, After BYKL.*
MOS ***12*** *18:48:25.3±1.7, 57.52N×120.82E, h15km, mb4.3/2, Error ellipse: s-maj=16.3km s-min=12.7km az=51.1*

ISC 12 18:48:25.5±0.3, 57.47N±0.04×120.91E±0.04, h10km, n53, σ1§52/81, mb3.6/6, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KHNR	**Khani**	**0.74**	**223**	⇓*i*Pg		**Pg**	**18 48 37.6**		**-2.8**
KHNR				*i* Sg		**Sg**	**18 48 46.3**		**-4.1**
CRS	**Chara**	**1.54**	**250**	⇓*i*Pg		**Pg**	**18 48 52.2**		**-4.2**
CRS				Pmax			18 48 52.7		
	2μm,0.8s								
CRS				*e*Sg		**Sg**	**18 49 11.4**		**-5.6**
CRS				Smax			18 49 13.7		
	2μm,0.7s								
CRS	**Chara**	**1.54**	**250**	*e*P		**Pn**	**18 48 52.1**		**-1.1**
CRS				*e*			18 49 12.0		
CRS				pmax	pmax				
	comp=Z,2μm,0.7s								
CRS				smax					
	comp=E,2μm,0.4s								
NRGR	**Nerungri**	**2.24**	**110**	*e*P		**Pn**	**18 49 03.3**		**+0.2**
NRGR				S		**Sn**	**18 49 32.4**		**+1.4**

CLNS	**Chul'man**	**2.26**	**105**	*e*Pg		**Pb**	**18 49 04.9**		**-1.1**
CLNS				Pmax			18 49 08.3		
	comp=E,3μm,0.5s								
CLNS				*e*Sg		**Sb**	**18 49 34.5**		**+0.5**
CLNS				Smax			18 49 36.2		
	comp=E,6μm,0.4s								
CLNS	**Chul'man**	**2.26**	**105**	*e*P		**Pn**	**18 49 03.9**		**+0.4**
CLNS				*e*			18 49 34.7		
CLNS				pmax	pmax				
	comp=N,155nm,0.5s								
CLNS				pmax	pmax				
	comp=Z,338nm,0.5s								
CLNS				pmax	pmax				
	comp=E,40nm,0.2s								
CLNS				smax					
	comp=N,1μm,0.4s								
CLNS				smax					
	comp=Z,270nm,0.3s								
CLNS				smax					
	comp=E,1μm,0.4s								
CLNS				MLR	MLR				
	comp=Z,45nm,10.0s								
IENR	**Iengra**	**2.50**	**118**	*e*Pg		**Pb**	**18 49 10.6**		**+0.5**
IENR				*e*Sg		**Sb**	**18 49 42.6**		**+1.6**
ALDR	**Aldan**	**2.65**	**63**	*e*		**Pb**	**18 49 11.3**		**-1.4**
ALDR				max			18 49 15.0		
	comp=Z,256nm,0.3s								
ALDR				*e*Sg		**Sb**	**18 49 46.8**		**+1.4**
ALDR				Smax			18 49 48.9		
	comp=Z,4μm,0.3s								
NLYR	**Nelyaty**	**3.01**	**253**	*e*Pn		**Pn**	**18 49 13.0**		**-1.2**
NLYR				*e*Pg		**Pb**	**18 49 17.2**		**-1.6**
NLYR				Pmax			18 49 19.7		
	comp=Z,502nm,0.9s								
NLYR				*e*			18 49 48.5		
NLYR				*e*Sg		**Sb**	**18 49 55.0**		**-0.8**
NLYR				Smax			18 50 07.8		
	comp=Z,2μm,1.6s								
NLYR	**Nelyaty**	**3.01**	**253**	*e*Pn		**Pn**	**18 49 12.3**		**-1.9**
NLYR				*e*Pg		**Pb**	**18 49 17.7**		**-1.1**
TUP	**Tupik**	**3.10**	**190**	*e*Pn		**Pn**	**18 49 13.3**		**-2.1**
TUP				*e*Pg		**Pb**	**18 49 18.7**		**-1.6**
TUP				Pmax			18 49 21.4		
	comp=Z,431nm,0.7s								
TUP				*e*Sg		**Sb**	**18 49 57.7**		**-0.6**
TUP				Smax			18 50 02.4		
	comp=Z,2μm,1.0s								
TUP	**Tupik**	**3.10**	**190**	*e*P		**Pn**	**18 49 18.6**		**+3.2**
TUP				*e*			18 49 58.0		
TUP				pmax	pmax				
	comp=Z,372nm,0.4s								
TUP				smax					
	comp=E,2μm,0.9s								
BOD	**Bodaibo**	**3.73**	**278**	*e*Pn		**Pn**	**18 49 22.7**		**-1.7**
BOD				*e*Pg		**Pb**	**18 49 30.7**		**-0.4**
BOD				Pmax			18 49 32.6		
	comp=E,138nm,1.0s								
BOD				*e*Sg		**Sb**	**18 50 18.1**		**+1.5**
BOD				Smax			18 50 21.9		
	comp=E,1μm,1.2s								
BOD	**Bodaibo**	**3.73**	**278**	*e*P		**Pn**	**18 49 22.6**		**-1.8**
SVKR	**Severomuysk**	**4.26**	**255**	*e*Pg		**Pb**	**18 49 40.5**		**+0.3**
SVKR				Pmax			18 49 45.6		
	comp=E,278nm,1.0s								
SVKR				*e*Sg		**Sb**	**18 50 35.2**		**+3.1**
SVKR				Smax			18 50 51.3		
	comp=E,1μm,1.0s								
SVKR	**Severomuysk**	**4.26**	**255**	*e*P		**Pn**	**18 49 40.3**		**+8.3**
SVKR				pmax	pmax				
	comp=Z,273nm,0.7s								
UKT	**Uakit**	**4.50**	**247**	*e*		**Pn**	**18 49 35.8**		**+0.5**
UKT				*e*Pg		**Pb**	**18 49 43.8**		**-0.4**
UKT				Pmax			18 49 46.6		
	comp=Z,135nm,1.2s								
UKT				*e*Sg		**Sb**	**18 50 41.1**		**+2.1**
UKT				Smax			18 50 50.5		
	comp=Z,519nm,1.4s								
UKT	**Uakit**	**4.50**	**247**	*e*P		**Pn**	**18 49 43.9**		**+8.6**
UKT				pmax	pmax				
	comp=Z,104nm,0.6s								
YOA	**Uoyan**	**5.22**	**259**	*e*Pg		**Pb**	**18 49 58.1**		**+1.5**
YOA				Pmax			18 50 06.4		
	comp=Z,392nm,1.3s								
YOA				*e*Sg		**Sb**	**18 51 04.9**		**+4.9**
YOA				Smax			18 51 22.9		
	comp=Z,3μm,1.8s								
YOA	**Uoyan**	**5.22**	**259**	⇑*i*P		**Pb**	**18 49 58.3**		**+1.7**
YOA				pmax	pmax				
	comp=Z,380nm,1.0s								
KMO	**Kumora**	**5.58**	**258**	*e*Pn		**Pn**	**18 49 48.8**		**-1.8**
KMO				*e*Pg		**Pb**	**18 50 04.0**		**+1.2**
KMO				Pmax			18 50 09.1		
	comp=Z,84nm,1.5s								
KMO				*e*Sg		**Sb**	**18 51 15.0**		**+4.6**
KMO				Smax			18 51 29.6		
	comp=Z,635nm,1.4s								
KMO	**Kumora**	**5.58**	**258**	*e*P		**Pn**	**18 49 49.5**		**-1.1**
KMO				pmax	pmax				
	comp=Z,53nm,0.4s								
YLYR	**Ulyunkhan**	**6.03**	**249**	*e*		**Pn**	**18 49 54.7**		**-2.3**
YLYR				*e*Pg		**Pb**	**18 50 12.5**		**+2.0**
YLYR				Pmax			18 50 16.0		
	comp=Z,45nm,0.7s								
YLYR				*e*Sg		**Sb**	**18 51 30.0**		**+6.5**
YLYR				Smax			18 51 45.0		
	comp=Z,340nm,1.0s								
YLYR	**Ulyunkhan**	**6.03**	**249**	*e*P		**Pn**	**18 49 54.8**		**-2.2**
YLYR				pmax	pmax				
	comp=Z,45nm,0.8s								
TBGR	**Tabaga**	**6.21**	**42**	*e*		**Sn**	**18 51 06.6**		**-4.8**
TBGR				*e*Sg		**Sb**	**18 51 34.9**		**+6.1**
YAK	**Yakutsk**	**6.37**	**40**	*e*		**Pb**	**18 50 20.5**		**+4.2**
YAK				*e*			18 51 08.6		
YAK				*e*Sg		**Sb**	**18 51 38.0**		**+4.7**
YAK				Smax			18 51 47.8		
	comp=Z,1μm,0.5s								
YAK	**Yakutsk**	**6.37**	**40**	*e*P		**Pn**	**18 50 05.5**		**+3.8**
YAK				*e*S		**Sn**	**18 51 08.5**		**-6.8**
YAK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
YAK				pmax	pmax				
	comp=Z,8.0nm,0.7s								
YAK				smax					
	comp=E,22nm,0.7s								
YAK				smax					
	comp=N,403nm,0.7s								
YAK				MLR	MLR				
	comp=Z,31nm,7.0s								
YAK	**Yakutsk**	**6.37**	**40**	*e*Pg		**Pb**	**18 50 20.4**		**+4.1**
YAK				*e*Sn		**Sn**	**18 51 10.6**		**-4.7**
NIZ	**Nizh Angarsk**	**6.50**	**260**	*e*		**Pn**	**18 50 12.6**		**+9.0**
NIZ				*e*Pg		**Pb**	**18 50 21.0**		**+2.5**
NIZ				Pmax			18 50 45.5		
	comp=Z,37nm,1.0s								
NIZ				*e*Sg		**Sb**

comp=Z,122nm,0.1s
IRK **Irkutsk** **10.91 248** *e*Sg Sx 18 54 02.7
IRK Smax 18 54 18.4
comp=Z,187nm,0.8s
ARS **Arshan** **12.03 250** *e* Px 18 54 03.3
ARS *e*Sg Sx 18 54 38.8
ARS Smax 18 55 02.6
comp=Z,141nm,1.1s
ULN **Ulaanbaatar** **12.75 227** *i* P **P** **18 51 27.4 -2.0**
MOY **Mondy** **12.91 252** *e*P **P** **18 51 22.7 -8.9**
MOY pmax pmax
comp=Z,4.0nm,0.6s
ORL **Orlik** **13.05 257** *e* Px 18 54 40.2
ORL *e*Sg Sx 18 55 09.5
ORL Smax 18 55 21.4
comp=Z,55nm,1.4s
TIXI **Tiksi** **14.62 10** *i* P **P** **18 51 46.9 -7.0**
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI MLR MLR
comp=Z,100nm,16.0s
SEY **Seymchan** **16.45 57** *i* P **P** **18 52 28.6 +11**
ZAL **Zalesovo** **20.49 276** P **P** **18 53 05.2 -0.6**
comp=Z,0.7nm,0.3s,baz=71,slow=15,SNR=3.6
BILL **Bilibino** **22.71 44** P **P** **18 53 26.0 -2.0**
MKAR **Makanchi Array** **25.65 262** P **P** **18 53 55.4 -1.1**
comp=Z,0.4nm,0.7s,mb3.1,baz=52,slow=10,SNR=4.3
CHKZ **Chkalovo** **28.15 284** *e*P **P** **18 54 16.1 -3.2**
comp=Z,1.0nm,0.7s,mb3.5
BVAR **Borovoye Array** **28.59 283** P **P** **18 54 25.5 +2.2**
comp=Z,0.5nm,0.5s,mb3.5,baz=16,slow=10,SNR=3.0
ILAR **Eielson Array** **41.30 40** P **P** **18 56 11.3 -0.7**
comp=Z,0.3nm,0.6s,mb3.1,baz=296,slow=5.0,SNR=6.2
FINES **FINESS Array B** **44.27 317** P **P** **18 56 37.7 +1.5**
comp=Z,5.4nm,1.1s,mb4.2,baz=72,slow=6.0,SNR=3.7
FINES **FINESS Array B** **44.27 317** P **P** **18 56 37.7 +1.5**
FINES pmax pmax
comp=Z,5.0nm,1.1s
NOA **NORSAR Array B** **49.73 323** P **P** **18 57 18.6 -0.5**
comp=Z,1.3nm,0.8s,mb4.0,baz=42,slow=7.7,SNR=3.6
NOA **NORSAR Array B** **49.73 323** P **P** **18 57 18.6 -0.5**
NOA pmax pmax
comp=Z,1.0nm,0.8s
BR131 **Keskin Array S** **56.26 292** *e*P **P** **18 58 04.6 -3.3**

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*IDC **12** 19:11:14.4±9.0,36.45N×71.21E,h200km±76km, mb3.0/3, mb1 3.2/4, mb1mx2.9/18, mbtmp3.5/4, Error ellipse: s-maj=69.5km s-min=26.7km az=41.0*
*NNC **12** 19:11:19.5±49.0, 37.15N×70.23E, mpv3.2, Error ellipse: s-maj=734.9km s-min=397.3km az=108.0*
ISC 12 19:11:15.4±2.0,36.6N±0.2×71.3E±0.3,h216km±20km,n13, σ0§55/14,mb3.0/3,1C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.54**	**355**	⇓P	**P**	**19 12 49.6**	**-0.9**
	0.7nm,0.3s,baz=180,slow=14,SNR=30						
KK31				⇓S	**S**	**19 13 58.8**	**-5.9**
	15nm,0.6s,baz=180,slow=22						
MKAR	**Makanchi Array**	**13.10**	**35**	P	**P**	**19 14 14.7**	**+0.2**
	0.1nm,0.3s,baz=209,slow=12,SNR=4.4						
KOLN	**Koldanda**	**13.64**	**127**	*e*P	**P**	**19 14 21.0**	**-0.3**
	5.2nm,0.5s						
GKN	**Gorkha**	**14.17**	**123**	*e*P	**P**	**19 14 27.8**	**-0.1**
	10nm,0.3s						
DMN	**Daman**	**14.74**	**123**	*e*P	**P**	**19 14 35.1**	**+0.2**
	8.4nm,0.4s						
KKN	**Kakani**	**14.75**	**122**	*e*P	**P**	**19 14 34.4**	**-0.5**
	5.7nm,0.4s						
PKI	**Pulchoki**	**14.97**	**123**	*e*P	**P**	**19 14 38.3**	**+0.6**
GUN	**Gumba**	**15.08**	**121**	*e*P	**P**	**19 14 38.9**	**-0.1**
	8.4nm,0.5s						
AB31	**Akbulak array**	**15.11**	**330**	⇑P	**P**	**19 14 40.3**	**+1.0**
	0.9nm,0.6s,baz=144,slow=12,SNR=12						
JIRN	**Jiri**	**15.45**	**121**	*e*P	**P**	**19 14 44.3**	**+0.7**
	12nm,0.4s						
NOA	**NORSAR Array B**	**44.44**	**323**	P	**P**	**19 19 05.7**	**-0.4**
	0.2nm,0.5s,mb2.7,baz=99,slow=7.6,SNR=3.1						
YKA	**Yellowknife Ar**	**81.15**	**3**	P	**P**	**19 23 07.9**	**+0.4**
	0.3nm,0.4s,mb3.3,baz=352,slow=5.5,SNR=12						
WRA	**Warramunga Arr**	**81.86**	**122**	P	**P**	**19 23 11.3**	**-0.7**
	0.5nm,1.1s,mb3.1,baz=326,slow=4.9,SNR=4.3						

IDC 12 19:25:58.4±1.4,8.72S×157.21E,mb3.8/3,mb1 3.9/4, mb1mx3.8/13,mbtmp3.8/4,ML3.6/1,MS3.2/3,Ms1 3.1/3, ms1mx3.0/16,Error ellipse: s-maj=41.3km s-min=31.2km az=6.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.79**	**105**	Pn	Pn	19 26 44.2	-1.0
	8.8nm,0.3s,baz=186,slow=11,SNR=3.5						
HNR				Sn	Sn	19 27 29.6	+10
	81nm,0.3s,baz=3.6,slow=21,SNR=16						
PMG	**Port Moresby**	**9.95**	**265**	LR	LR	19 32 12.8	
	comp=Z,128nm,18.6s,baz=94,slow=38						
CTA	**Charters Tower**	**15.49**	**222**	LR	LR	19 34 57.5	
	comp=Z,50nm,18.8s,baz=53,slow=35						
WB2	**Warramunga Arr**	**24.76**	**241**	*e*P	P	19 31 22.2	-1.0
WRA	**Warramunga Arr**	**24.77**	**241**	P	P	19 31 22.2	-1.1
	1.6nm,0.7s,baz=66,slow=9.9,SNR=19						
STKA	**Stephens Creek**	**27.23**	**210**	LR	LR	19 42 40.0	
	comp=Z,66nm,21.2s,baz=188,slow=37						
SONM	**Songino Array**	**71.97**	**327**	P	P	19 37 24.8	-0.9
	0.5nm,0.8s,baz=149,slow=5.4,SNR=3.1						
MKAR	**Makanchi Array**	**86.14**	**318**	P	P	19 38 40.2	-2.5
	0.6nm,0.6s,baz=101,slow=6.2,SNR=4.2						

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*MOS **12** 20:19:51.0±1.6,57.29N×120.80E,h5km,mb4.0/1, Error ellipse: s-maj=32.9km s-min=24.5km az=154.0*
BYKL 12 20:19:47.9±0.5,57.48N×120.87E,2C-2D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.74**	**221**	⇓*i*Pg	Pg	20 20 01.8	-0.9
KHNR				*e*Sg	Sg	20 20 10.5	-2.1
YKLR	**Yuktali**	**0.99**	**154**	*e*Pg	Pg	20 20 06.6	-1.0
YKLR				*e*Sg	Sg	20 20 19.4	-1.4
YKLR				Smax			
	379nm,0.3s						
CRS	**Chara**	**1.53**	**249**	⇓*i*Pg	Pg	20 20 16.4	-2.1
CRS				*e*Sg	Sg	20 20 35.3	-3.6
CRS				Pmax			
	270nm,0.8s						
CRS				Smax			
	374nm,0.8s						
CRS	**Chara**	**1.53**	**249**	*e*P	Pn	20 20 16.4	-0.2
CRS				*e*		20 20 35.6	
CRS				pmax	pmax		
	comp=Z,229nm,0.7s						
CRS				smax			
	comp=E,298nm,0.4s						
NRGR	**Nerungri**	**2.26**	**110**	*e*P	Pn	20 20 28.9	+1.9
NRGR				S	Sn	20 20 56.5	+0.5
CLNS	**Chul'man**	**2.29**	**105**	*e*Pg	Pg	20 20 28.8	-4.7
CLNS				*e*Sg	Sg	20 20 58.7	-5.3
CLNS				Pmax			
	comp=E,136nm,0.2s						
CLNS				Smax			
	comp=E,5μm,0.6s						
CLNS	**Chul'man**	**2.29**	**105**	*e*P	Pn	20 20 28.8	+1.4
CLNS				*e*		20 20 58.2	
CLNS				pmax	pmax		
	comp=Z,31nm,0.3s						
CLNS				pmax	pmax		
	comp=N,27nm,0.4s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.2s						
CLNS				smax			
	comp=E,467nm,0.4s						
CLNS				smax			
	comp=Z,195nm,0.7s						
CLNS				smax			
	comp=N,402nm,0.5s						
IENR	**Iengra**	**2.53**	**118**	*e*Pg	Pg	20 20 34.5	-3.8
IENR				*e*Sg	Sg	20 21 06.7	-5.3
ALDR	**Aldan**	**2.67**	**63**	*e*Pg	Pg	20 20 35.8	-5.3
ALDR				*e*		20 21 05.9	
ALDR				*e*Sg	Sg	20 21 10.9	-5.8
ALDR				Pmax			
	comp=N,70nm,0.2s						
ALDR				Smax			
	comp=N,1μm,0.3s						
NLYR	**Nelyaty**	**3.00**	**253**	⇑*i*Pn	Pn	20 20 37.6	+0.1
NLYR				*e*Pg	Pg	20 20 42.0	-5.7
NLYR				*e*		20 21 13.0	
NLYR				*e*Sg	Sg	20 21 19.5	-8.2
NLYR				Pmax			
	comp=N,78nm,0.8s						
NLYR				Smax			
	comp=N,240nm,1.6s						
NLYR	**Nelyaty**	**3.00**	**253**	*e*P	Pn	20 20 37.2	-0.3
NLYR				*e*		20 21 19.1	
NLYR				pmax	pmax		
	comp=Z,79nm,0.3s						
NLYR				smax			
	comp=N,235nm,1.1s						
TUP	**Tupik**	**3.11**	**190**	*e*Pn	Pn	20 20 37.6	-1.5
TUP				*e*Pg	Pg	20 20 42.8	-7.1
TUP				*e*Sg	Sg	20 21 22.2	-9.1
TUP				Pmax			
	comp=N,67nm,0.4s						
TUP				Smax			
	comp=N,267nm,0.8s						
TUP	**Tupik**	**3.11**	**190**	*e*P	Pn	20 20 37.6	-1.5
TUP				*e*S	Sn	20 21 13.5	-4.0
TUP				pmax	pmax		
	comp=Z,68nm,0.4s						
TUP				smax			
	comp=E,209nm,0.5s						
TNDR	**Tynda**	**3.17**	**136**	*e*	Pn	20 20 39.7	-0.4
TNDR				*e*Pg	Pg	20 20 45.5	-5.7
TNDR				*e*		20 21 17.7	
TNDR				*e*Sg	Sg	20 21 25.8	-7.7
TNDR				Pmax			
	comp=E,148nm,0.2s						
TNDR				Smax			
	comp=E,2μm,0.2s						
BOD	**Bodaibo**	**3.71**	**278**	*e*Pn	Pn	20 20 47.1	-0.5
BOD				*e*Pg	Pg	20 20 55.3	-6.6
BOD				*e*Sg	Sg	20 21 42.4	-8.9
BOD				Pmax			
	comp=E,26nm,0.6s						
BOD				Smax			
	comp=E,175nm,1.1s						
SVKR	**Severomuysk**	**4.25**	**254**	*e*Pg	Pg	20 21 05.2	-7.5
SVKR				*e*Sg	Sg	20 21 58.7	-11
SVKR				Pmax			
	comp=E,64nm,0.1s						
SVKR				Smax			
	comp=E,157nm,0.7s						
UKT	**Uakit**	**4.48**	**247**	*e*Pg	Pg	20 21 08.6	-8.8
UKT				*e*Sg	Sg	20 22 04.8	-12
UKT				Pmax			
	comp=E,34nm,1.5s						
UKT				Smax			
	comp=E,66nm,1.6s						
KROS	**Kirovskiy**	**4.59**	**129**	*e*	Pn	20 20 58.1	-2.1
KROS				⇑*i*Pg	Pg	20 21 10.0	-10
KROS				*e*Sg	Sg	20 22 08.2	-13
YOA	**Uoyan**	**5.21**	**259**	*e*Pn	Pn	20 21 08.6	-0.3
YOA				*e*Pg	Pg	20 21 22.6	-9.2
YOA				*e*Sg	Sg	20 22 30.2	-11
YOA				Pmax			
	comp=E,33nm,0.7s						
YOA				Smax			
	comp=E,371nm,1.5s						
YOA	**Uoyan**	**5.21**	**259**	*e*P	Pn	20 21 22.9	+14
YOA				pmax	pmax		
	comp=Z,56nm,1.3s						
ZEA	**Zeya**	**5.21**	**133**	*e*	Pn	20 21 21.3	+12
ZEA				*e*Sg	Sg	20 22 27.2	-14
KMO	**Kumora**	**5.56**	**257**	*e*Pg	Pg	20 21 27.2	-12
KMO				*e*Sg	Sg	20 22 37.3	-16
KMO				Pmax			
	comp=Z,9.0nm,0.5s						
KMO				Smax			
	comp=Z,99nm,1.6s						
YLYR	**Ulyunkhan**	**6.02**	**248**	*e*	Pn	20 21 19.9	-0.4
YLYR				*e*Pg	Pg	20 21 38.1	-10
YLYR				*e*Sg	Sg	20 22 55.7	-13
YLYR				Pmax			
	comp=Z,7.0nm,0.6s						
YLYR				Smax			
	comp=Z,69nm,1.9s						
TBGR	**Tabaga**	**6.22**	**42**	*e*	Pn	20 22 30.4	+67
TBGR				*e*Sg	Sg	20 22 58.1	-17
YAK	**Yakutsk**	**6.37**	**41**	*e*	Pn	20 22 34.1	+69
YAK				*e*Sg	Sg	20 23 01.9	-18
YAK				Smax			
	comp=Z,763nm,1.0s						
NIZ	**Nizh Angarsk**	**6.48**	**260**	*e*P	Pn	20 21 28.3	+1.4
NIZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CIT	**Chita**	**6.92**	**221**	*e*Sg	Sg	20 23 20.2	-18
CIT				Smax			
	comp=Z,97nm,1.5s						
KPC	**Khapcheranga**	**9.28**	**216**	*e*	P	20 22 15.1	+9.2
KPC				*e*		20 22 51.6	
KPC				*e*Sg	Sg	20 24 32.0	-25
KPC				max			
	comp=Z,2.0nm,0.8s						
KPC				Smax			
	comp=Z,46nm,2.2s						

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*IDC **12** 20:28:40.1±4.2,28.27S×177.75W,mb4.1/2,mb1 4.3/2, mb1mx4.0/12,mbtmp4.1/2,MS3.4/1,Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=82.2km s-min=23.9km az=75.0*
*NEIC **12** 20:28:43.9±0.9,28.37S×177.49W,h35km,mb4.6/4, Error ellipse: s-maj=25.0km s-min=16.8km az=107.0*
ISC 12 20:28:43.9±1.5,28.31S±0.1×177.4W±0.2,h59km±12km, n16,σ1§36/16,mb4.5/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.06**	**207**	Pn	**P**	**20 29 00.9**	**-2.0**
	334nm,0.3s,baz=83,slow=17,SNR=9.4						
RAO				Sn	**S**	**20 29 18.7**	**+1.7**
	719nm,0.3s,baz=96,slow=23,SNR=9.4						
RAO	**Raoul Island**	**1.06**	**207**	*e*Pn	**P**	**20 29 01.2**	**-1.7**
RAO				*e*Sn	**S**	**20 29 18.6**	**+1.6**
AFI	**Afiamalu**	**15.24**	**21**	*e*Pn	**P**	**20 32 17.4**	**+0.4**
RPZ	**Rata Peaks**	**17.98**	**208**	LR	LR	20 39 54.8	
	comp=Z,120nm,18.4s,baz=191,slow=38						
CTAO	**Charters Tower**	**34.08**	**276**	*e*P	**P**	**20 35 26.3**	**+1.4**
	30nm,2.3s,mb4.8						
STKA	**Stephens Creek**	**35.54**	**254**	P	**P**	**20 35 35.1**	**-2.1**
	1.3nm,0.4s,mb4.2,baz=112,slow=9.2,SNR=3.1						
STKA	**Stephens Creek**	**35.54**	**254**	P	**P**	**20 35 33.5**	**-3.8**
WB2	**Warramunga Arr**	**44.61**	**270**	*e*P	**P**	**20 36 52.3**	**-0.1**
WRA	**Warramunga Arr**	**44.62**	**270**	P	**P**	**20 36 52.4**	**-0.1**
	1.2nm,0.4s,mb4.1,baz=111,slow=7.9,SNR=40						
SBA	**Scott Base**	**50.16**	**184**	P	**P**	**20 37 34.2**	**-0.8**
	2.0nm,0.6s,mb4.3						
NWAO	**Narrogin (SRO)**	**55.68**	**248**	P	**P**	**20 38 18.7**	**+2.2**
	6.1nm,0.9s,mb4.6						
MBWA	**Marble Bar**	**57.03**	**262**	*e*P	**P**	**20 38 23.8**	**-2.6**
CASY	**Casey**	**57.24**	**207**	*e*P	**P**	**20 38 26.4**	**-0.9**
QSPA	**South Pole Qui**	**61.79**	**180**	P	**P**	**20 38 58.8**	**+0.4**
	7.5nm,0.7s,mb4.9						
SNAA	**Sanae**	**80.22**	**178**	*e*P	**P**	**20 40 50.2**	**+1.1**
	10nm,1.5s,mb4.5						
FINES	**FINESS Array B**	**143.37**	**341**	PKP	PKPdf	20 48 14.9	+4.0
	4.3nm,0.8s,baz=63,slow=4.3,SNR=6.3						

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*KRSC **12** 20:35:00.5±2.1,49.41N×157.13E,h32km±13km,ML4.1*
*IDC **12** 20:35:04.5±1.1,49.41N×158.33E,mb3.8/4,mb1 4.2/6, mb1mx3.7/21,mbtmp3.9/6,ML3.7/2, Error ellipse: s-maj=77.9km s-min=20.9km az=141.0*
*MOS **12** 20:35:05.6±2.2,49.94N×157.78E,h10km,mb4.0/3, Error ellipse: s-maj=52.1km s-min=18.1km az=70.4*
ISC 12 20:35:08.6±1.7,49.9N±0.1×157.7E±0.2,h47km±18km,n25, σ1§04/30,mb3.8/4,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.32**	**309**	*e*P	**P**	**20 35 24.6**	**-6.6**
SKR				*i* S	**S**	**20 35 43.0**	**-4.9**
PAU	**Pauzhetka**	**1.71**	**340**	*i* P	**P**	**20 35 35.2**	**-1.4**
PAU				*e*S	**S**	**20 35 58.0**	**+0.6**
PAU				Smax			
	870nm,0.4s						
ALID	**Alaid**	**1.72**	**307**	*e*P	**P**	**20 35 31.0**	**-5.8**
RUS	**Russkaya**	**2.62**	**11**	P	**P**	**20 35 47.5**	**-2.1**
RUS				S	**S**	**20 36 18.6**	**-1.8**
RUS	**Russkaya**	**2.62**	**11**	*e*P	**P**	**20 35 49.5**	**-0.1**
RUS				*e*S	**S**	**20 36 24.5**	**+4.1**
GRL	**Gorelyy**	**2.70**	**4**	*e*P	**P**	**20 35 50.7**	**0.0**
PET	**Petropavlovsk**	**3.22**	**10**	*e*PN	**P**	**20 35 59.5**	**+1.5**
PET				*e*S	**S**	**20 36 40.2**	**+4.7**
PET				smax			
	comp=E,79nm,0.7s						
PET				smax			
	comp=N,129nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
UGLR	**Uglovaya**	**3.42**	**11**	*e*P	**P**	**20 36 01.8**	**+0.9**
AVH	**Avacha**	**3.47**	**10**	*e*P	**P**	**20 36 01.3**	**-0.2**
SMAR	**Somma**	**3.47**	**11**	*e*P	**P**	**20 36 02.8**	**+1.2**
KOK	**Koryaka**	**3.48**	**9**	*e*P	**P**	**20 36 02.0**	**+0.3**
SPN	**Mys Shipunski**	**3.54**	**23**	*e*S	**S**	**20 36 50.0**	**+6.3**
GNL	**Ganaly**	**3.84**	**2**	*e*P	**P**	**20 36 05.6**	**-1.2**
KBTR	**Krutoberegovo**	**7.06**	**24**	*e*P	**P**	**20 36 51.1**	**-0.8**
BKI	**Bering**	**7.34**	**40**	*e*S	**S**	**20 38 14.4**	**-4.2**
BKI				Smax			
	comp=Z,20nm,0.7s						
ASAJ	**Asahikawa**	**11.82**	**247**	Pn	**P**	**20 37 58.4**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=52,slow=17,SNR=4.9						
ASAJ	**Asahikawa**	**11.82**	**247**	PN	**P**	**20 37 58.4**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**19.41**	**234**	P	**P**	**20 39 33.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=33,slow=8.2,SNR=3.3						
YKA	**Yellowknife Ar**	**46.57**	**40**	P	**P**	**20 43 33.0**	**0.0**
	comp=Z,1.1nm,0.9s,mb3.8,baz=297,slow=7.8,SNR=8.4						
YKA				pP	pP	20 43 43.5	-2.3
	comp=Z,0.8nm,0.8s,baz=298,slow=8.0,SNR=5.7						
YKA	**Yellowknife Ar**	**46.57**	**40**	P	**P**	**20 43 33.0**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**60.45**	**58**	P	**P**	**20 45 16.2**	**+0.7**
	comp=Z,0.8nm,0.9s,mb3.8,baz=333,slow=3.3,SNR=5.4						
WRA	**Warramunga Arr**	**72.52**	**203**	P	**P**	**20 46 30.7**	**-1.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=18,slow=6.1,SNR=6.7						
WRA				pP	pP	20 46 40.9	-5.0
	comp=Z,0.6nm,0.7s,baz=16,slow=6.0,SNR=8.4						
WRA	**Warramunga Arr**	**72.52**	**203**	P	**P**	**20 46 30.7**	**-1.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**73.32**	**64**	P	**P**	**20 46 37.8**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=291,slow=4.2,SNR=5.1						
TXAR	**Lajitas Array**	**73.32**	**64**	P	**P**	**20 46 37.8**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

ISC 12 20:47:38.7±1.1,38.38N±0.10×38.33E±0.08,h10km,n6, σ0§80/9,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYA	**Malataya**	**0.09**	**126**	*i* PG	**Pg**	**20 47 42.4**	**+1.2**
ELZG	**Elazig**	**0.53**	**77**	*i* P	**Pg**	**20 47 49.1**	**-0.3**
ELZG				*i* S	**Sg**	**20 47 57.4**	**+0.9**
PTK	**Pertek**	**0.97**	**58**	PG	**Pg**	**20 47 57.2**	**-1.0**
URFA	**Urfa**	**1.01**	**157**	*e*PG	**Pg**	**20 47 58.2**	**-0.8**
GZT	**Gaziantep**	**1.19**	**211**	*i* P	**Pb**	**20 48 00.0**	**-0.9**
GZT				*i* S	**Sb**	**20 48 16.2**	**0.0**
KAHT	**Ahir Dag**	**1.37**	**237**	*i* P	**Pn**	**20 48 04.2**	**+0.2**
KAHT				*i* S	**Sb**	**20 48 22.4**	**+0.9**

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*NEIC **12** 21:00:55.2,43.90S×168.46E,h5km,ML3.9(WEL), After WEL.*
WEL 12 21:00:54.9±0.3,43.90S×168.44E,h5km,ML3.8/13,4D, Error ellipse: s-maj=1.7km s-min=1.7km az=0.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.29**	**127**	⇓PG	Pg	21 01 01.1	+0.4
JCZ				SG	Sg	21 01 05.0	+0.3
JCZ	**Jackson Bay**	**0.29**	**127**	⇓P	Pg	21 01 01.1	+0.4
JCZ				S	Sg	21 01 05.0	+0.4
MSZ	**Milford Sound**	**0.85**	**205**	P*	Pb	21 01 11.2	-0.6
MSZ				S*	Sb	21 01 23.0	-0.4
MSZ	**Milford Sound**	**0.85**	**205**	P	Pb	21 01 11.2	-0.7
MSZ				S	Sb	21 01 22.8	-0.6
FOZ	**Fox Glacier**	**0.97**	**70**	P*	Pb	21 01 14.2	+0.4
FOZ				S*	Sb	21 01 28.6	+2.0
FOZ	**Fox Glacier**	**0.97**	**70**	P	Pb	21 01 14.2	+0.5
WKZ	**Wanaka**	**1.02**	**156**	P*	Pb	21 01 14.2	-0.4
WKZ				S*	Sb	21 01 27.3	-0.8
WKZ	**Wanaka**	**1.02**	**156**	P	Pb	21 01 14.2	-0.4
LBZ	**Lake Benmore**	**1.35**	**112**	⇓PN	Pn	21 01 20.3	-0.1
LBZ	**Lake Benmore**	**1.35**	**112**	⇓P	Pb	21 01 20.3	0.0
LBZ				S	Sb	21 01 37.0	-0.7
MLZ	**Mavora Lakes**	**1.46**	**187**	PN	Pn	21 01 22.0	0.0
MLZ	**Mavora Lakes**	**1.46**	**187**	P	Pn	21 01 22.0	0.0
EAZ	**Earnscleugh**	**1.47**	**155**	PN	Pn	21 01 22.3	+0.1
EAZ	**Earnscleugh**	**1.47**	**155**	P	Pn	21 01 22.3	+0.1
DCZ	**Deep Cove**	**1.82**	**210**	*e*PN	Pn	21 01 26.1	-1.2
DCZ	**Deep Cove**	**1.82**	**210**	*e*P	Pn	21 01 25.2	-2.0
WVZ	**Waitaha Valley**	**1.86**	**65**	PN	Pn	21 01 24.9	-2.8
WVZ	**Waitaha Valley**	**1.86**	**65**	P	Pn	21 01 24.8	-3.0
RPZ	**Rata Peaks**	**1.90**	**85**	*e*PN	Pn	21 01 27.8	-0.6
RPZ	**Rata Peaks**	**1.90**	**85**	*e*P	Pn	21 01 26.2	-2.1
ODZ	**Otahua Downs**	**1.95**	**127**	PN	Pn	21 01 28.4	-0.6
ODZ	**Otahua Downs**	**1.95**	**127**	P	Pn	21 01 28.9	-0.1
WHZ	**Wether Hill Ro**	**2.02**	**190**	*e*PN	Pn	21 01 30.1	0.0
WHZ	**Wether Hill Ro**	**2.02**	**190**	*e*P	Pn	21 01 30.3	+0.2
TUZ	**Tuapeka**	**2.22**	**158**	*e*PN	Pn	21 01 33.0	+0.1
LTZ	**Lake Taylor**	**3.01**	**70**	*e*PN	Pn	21 01 41.9	-2.3
LTZ	**Lake Taylor**	**3.01**	**70**	*e*P	Pn	21 01 41.6	-2.6
DSZ	**Denniston Nort**	**3.28**	**50**	*e*PN	Pn	21 01 44.4	-3.6
THZ	**Tophouse**	**3.92**	**58**	*e*PN	Pn	21 01 54.3	-2.8
THZ	**Tophouse**	**3.92**	**58**	*e*P	Pn	21 01 54.3	-2.8
QRZ	**Quartz Range**	**4.31**	**46**	*e*PN	Pn	21 01 59.4	-3.3
QRZ	**Quartz Range**	**4.31**	**46**	*e*P	Pn	21 01 58.9	-3.8
NNZ	**Nelson**	**4.53**	**55**	*e*PN	Pn	21 02 03.3	-2.5
NNZ	**Nelson**	**4.53**	**55**	*e*P	Pn	21 02 02.2	-3.5
TUWZ	**Tuamarina**	**4.75**	**61**	*e*PN	Pn	21 02 06.8	-2.1

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*NIED **12** 21:01:00,43.20N×139.40E,h8km,Mw5.4 Best double couple: M0 1.25×10^17 NP1:φs348°,δ61°,λ77°. NP2:φs194°, δ32°,λ113°.*
*CSEM **12** 21:01:36.1,43.14N×139.39E,h10km,mb5.8*
*BJI **12** 21:01:36.5,43.31N×139.80E,h43km,mB5.5,mb5.3, ML5.1,Ms5.4,Msz5.2*
*IDC **12** 21:01:36.2±0.3,43.28N×139.35E,mb5.5/27,mb1 5.6/29, mb1mx5.6/30,mbtmp5.5/29,ML4.4/4,MS4.5/14,Ms1 4.5/14, ms1mx4.3/54, Error ellipse: s-maj=10.9km s-min=9.7km az=28.0*
*JMA **12** 21:01:37.5±0.1,43.21N×139.41E,h29km±2km,M5.5*
*JMA

Moment tensor: Scale 10^{17}Nm; M_{rr}1.26±.02; $M_{\theta\theta}$0.10±.02; $M_{\phi\phi}$-1.36±.02; $M_{r\theta}$-0.26±.06; $M_{r\phi}$-0.03±.02; $M_{\theta\phi}$0.07±.06; Best double couple: $M_0$1.34×10^{17} NP1:ϕ_s193°,δ45°,λ107°. NP2:ϕ_s349°,δ48°,λ74°. Principal axes: T 1.317, Plg78°, Azm187°; N .044, Plg12°, Azm1°; P -1.362, Plg1°, Azm91°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

MOS 12 21:01:43.6±0.8, 43.36N×139.36E, h58km, mb6.0/114, MS5.0/23 Error ellipse: s-maj=6.9km s-min=3.6km az=107.1

ISC 12 21:01:38.9±0.1,**43.13N**±0.02×**139.37E**±0.02,**h27**km, **h27**km±.6km:**pP-P,n1002,**σ0**90/990,mb5.7**/272,**MS1.1**/35, **214C-43D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSH	**Shimam**	**0.69**	**134**	⇑P	**Pb**	**21 01 51.2**	**-1.2**
JSH				*e*S	**Sb**	**21 02 00.7**	**-0.9**
JSK	**Shakotan**	**0.84**	**74**	⇓P	**Pb**	**21 01 52.2**	**-2.6**
JSK				*e*S	**Sb**	**21 02 02.0**	**-3.6**
JOSM	**Okushiri--Mats**	**1.05**	**176**	⇑P	**Pn**	**21 01 56.9**	**-1.1**
JOSM				*e*S	**Sb**	**21 02 11.1**	**-0.6**
JYM2	**Yakumo 2**	**1.25**	**144**	⇑P	**Pn**	**21 02 00.4**	**-0.5**
JYM2				*e*S	**Sn**	**21 02 16.5**	**-0.4**
JNB	**Noboribetsu**	**1.39**	**118**	⇑P	**Pn**	**21 02 01.7**	**-1.2**
JNB				*e*S	**Sn**	**21 02 19.4**	**-1.1**
JEW	**Eniwo**	**1.55**	**100**	⇓P	**Pn**	**21 02 04.1**	**-1.1**
JKB	**Kayabe**	**1.75**	**135**	P	**Pn**	**21 02 07.1**	**-0.8**
JSR	**Shiriuchi**	**1.78**	**154**	⇑P	**Pn**	**21 02 08.1**	**-0.3**
JHR	**Hokuryu**	**1.82**	**69**	⇓P	**Pn**	**21 02 07.3**	**-1.7**
JHR				*e*S	**Sn**	**21 02 29.2**	**-2.2**
JYG	**Yagishiri**	**1.98**	**48**	⇓P	**Pn**	**21 02 08.9**	**-2.3**
JYG				*e*S	**Sn**	**21 02 31.5**	**-3.8**
JAB	**Ashibetsu**	**2.12**	**79**	⇓P	**Pn**	**21 02 11.9**	**-1.3**
JSI2	**Shiura 2**	**2.21**	**159**	⇑P	**Pn**	**21 02 14.3**	**-0.3**
JFR	**Furan**	**2.36**	**88**	⇓P	**Pn**	**21 02 15.5**	**-1.2**
ASAJ	**Asahikawa**	**2.54**	**66**	Pn	**Pn**	**21 02 17.1**	**-2.2**
	30nm,0.3s,baz=257,slow=16,SNR=237						
ASAJ				Sn	**Sn**	**21 02 49.4**	**-0.3**
	247nm,0.3s,baz=90,slow=26,SNR=6.7						
ASAJ				LR	LR	21 03 22.4	
	comp=Z,26μm,19.8s,baz=46,slow=42						
ASAJ	**Asahikawa**	**2.54**	**66**	PN	**Pn**	**21 02 17.1**	**-2.2**
ASAJ						21 02 49.4	
ASAJ				pmax	pmax		
	comp=Z,30nm,0.3s						
ASAJ				smax			
	comp=N,247nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,26μm,19.8s						
JIW	**Iwasaki**	**2.58**	**169**	⇑P	**Pn**	**21 02 19.0**	**-0.9**
JTM	**Tenmabayashi**	**2.66**	**151**	⇑P	**Pn**	**21 02 20.6**	**-0.4**
JAH	**Hinai**	**3.09**	**162**	P	**Pn**	**21 02 26.4**	**-0.7**
JANG	**Nango**	**3.19**	**149**	⇑P	**Pn**	**21 02 28.2**	**-0.3**
JTH	**Tanohata**	**3.70**	**149**	P	**Pn**	**21 02 35.2**	**-0.5**
YSS	**Yuzh-Sakhalins**	**4.51**	**31**	*be*PN	**Pn**	**21 02 45.0**	**-2.4**
YSS				*e*		21 03 42.0	
YSS				pmax	pmax		
	comp=N,130nm,1.0s						
YSS				pmax	pmax		
	comp=Z,150nm,1.0s						
YSS				pmax	pmax		
	comp=Z,2μm,7.0s						
YSS				pmax	pmax		
	comp=N,2μm,6.0s						
YSS				MLR	MLR		
	comp=Z,19μm,12.0s						
YSS				MLR	MLR		
	comp=N,15μm,11.0s						
YSS				MLR	MLR		
	comp=E,32μm,13.0s						
YSS				MLR	MLR		
	comp=N,24μm,10.0s						
YSS				MLR	MLR		
	comp=Z,19μm,10.0s						
YSS				MLR	MLR		
	comp=E,11μm,8.0s						
YSS	**Yuzh-Sakhalins**	**4.51**	**31**	Pn	**Pn**	**21 02 46.4**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**4.80**	**77**	*e*PN	**Pn**	**21 02 54.1**	**+2.7**
YUK				*i* S	**Sn**	**21 03 55.0**	**+8.1**
YUK				pmax	pmax		
	comp=Z,3μm,0.9s						
YUK				pmax	pmax		
	comp=E,2μm,0.8s						
YUK				pmax	pmax		
	comp=Z,8μm,1.6s						
YUK				pmax	pmax		
	comp=N,10μm,1.1s						
YUK				pmax	pmax		
	comp=E,8μm,1.1s						
YUK				smax			
	comp=N,3μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,25μm,2.8s						
YUK				smax			
	comp=E,15μm,3.4s						
YUK				MLR	MLR		
	comp=N,21μm,10.0s						
YUK				MLR	MLR		
	comp=E,37μm,10.0s						
YUK				MLR	MLR		
	comp=Z,52μm,10.0s						
VLA	**Vladivostok**	**5.47**	**272**	*i* PN	**Pn**	**21 02 59.8**	**-1.1**
VLA				pmax	pmax		
	comp=Z,1μm,1.1s						
VLA				MLR	MLR		
	comp=Z,15μm,13.0s						
JJN	**Nakama**	**6.09**	**189**	P	**Pn**	**21 03 18.5**	**+8.9**
HABR	**Khabarovsk**	**6.14**	**332**	*i* PN	**Pn**	**21 03 08.2**	**-2.1**
HABR				*e*		21 04 18.2	
HABR				pmax	pmax		
	comp=Z,65nm,0.7s						
HABR				pmax	pmax		
	comp=Z,164nm,0.7s						
HABR				MLR	MLR		
	comp=Z,12μm,12.0s						
JSB	**Shiboa**	**6.17**	**176**	P	**Pn**	**21 03 15.9**	**+5.2**
UGL	**Uglegorsk**	**6.24**	**17**	*e*PN	**Pn**	**21 03 11.0**	**-0.7**
UGL				pmax	pmax		
	comp=Z,238nm,1.2s						
UGL				pmax	pmax		
	comp=Z,1μm,3.0s						
UGL				MLR	MLR		
	comp=N,25μm,11.0s						
UGL				MLR	MLR		
	comp=E,26μm,11.0s						
UGL				MLR	MLR		
	comp=Z,28μm,11.0s						
KUR	**Kuril'sk**	**6.46**	**68**	⇓*i* PN	**Pn**	**21 03 14.4**	**-0.4**
KUR				*i* S	**Sn**	**21 04 32.0**	**+3.6**
KUR				pmax	pmax		
	comp=Z,5μm,2.0s						
KUR				smax			
	comp=N,13μm,8.0s						
KUR				smax			
	comp=E,20μm,8.0s						
KUR				MLR	MLR		
	comp=N,22μm,10.0s						
KUR				MLR	MLR		
	comp=E,10μm,10.0s						
KUR				MLR	MLR		
	comp=Z,12μm,10.0s						
JHO	**Hitachi**	**6.58**	**172**	P	**Pn**	**21 03 16.9**	**+0.5**
MAJO	**Matsushiro**	**6.64**	**188**	PN	**Pn**	**21 03 19.0**	**+1.7**
MAT	**Matsushiro**	**6.64**	**188**	P	**Pn**	**21 03 18.6**	**+1.3**
MAT				*e*S	**Sn**	**21 04 33.0**	**+0.1**
MAT	**Matsushiro**	**6.64**	**188**	*e*PN	**Pn**	**21 03 19.0**	**+1.7**
MAT				*e*S	**Sn**	**21 04 42.0**	**+9.1**
MAT				pmax	pmax		
	comp=Z,46nm,0.8s						
MAT	**Matsushiro**	**6.64**	**188**	*e*P	**Pn**	**21 03 19.0**	**+1.7**
	comp=Z,46nm,0.8s						
MAT				*e*S	**Sn**	**21 04 42.0**	**+9.1**
MJAR	**Matsushiro Arr**	**6.64**	**188**	Pn	**Pn**	**21 03 17.1**	**-0.3**
	comp=Z,3.4nm,0.3s,baz=2.4,slow=14,SNR=38						
MJAR				LR	LR	21 05 40.7	
	comp=Z,7μm,18.6s,baz=355,slow=36						
JTT	**Ttatey**	**6.70**	**194**	P	**Pn**	**21 03 27.1**	**+8.9**
JRY	**Ryogami san**	**7.11**	**183**	P	**Pn**	**21 03 28.6**	**+4.6**
MDJ	**Mudanjiang**	**7.22**	**285**	P	**Pn**	**21 03 24.8**	**-0.7**
MDJ				AP		21 03 28.7	
MDJ				S	**Sn**	**21 04 44.2**	**-3.3**
MDJ				XS		21 04 57.3	
MDJ				AMB	AMB		
	comp=Z,50nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,1μm,13.4s						
MDJ				LR	LR		
	comp=N,11μm,10.1s						
MDJ				LR	LR		
	comp=Z,12μm,11.4s						
JNT	**Takato**	**7.31**	**188**	P	**Pn**	**21 03 32.8**	**+6.1**
JNY	**Yasuok**	**7.85**	**189**	P	**Pn**	**21 03 39.4**	**+5.1**
KLR	**Kul'dur**	**8.07**	**322**	*e*PN	**P**	**21 03 32.0**	**-5.4**
KLR				MLR	MLR		
	comp=Z,83μm,12.0s						
JEG	**Eigenji**	**8.31**	**197**	P	**P**	**21 03 48.2**	**+7.5**
JHE	**Heguri**	**8.94**	**200**	P	**P**	**21 03 56.1**	**+6.7**
JIE	**Ise**	**8.97**	**194**	P	**P**	**21 03 55.5**	**+5.7**
CN2	**Changchun**	**10.15**	**279**	*e*P	**P**	**21 04 08.8**	**+2.8**
CN2				*e*XP		21 04 18.2	
CN2				*e*S	**S**	**21 05 58.6**	**-1.3**
CN2				AMB	AMB		
	comp=Z,70nm,1.2s						
CN2				AMB	AMB		
	comp=Z,2μm,7.0s						
CN2				LR	LR		
	comp=N,10μm,10.0s						
CN2				LR	LR		
	comp=E,14μm,10.0s						
CN2				LR	LR		
	comp=Z,12μm,11.0s						
KS15	**Wonju Array Si**	**10.45**	**241**	*e*Pn	**P**	**21 04 12.0**	**+1.9**
INCN	**Inchon**	**11.24**	**244**	Pn	**P**	**21 04 23.9**	**+2.9**
SNY	**Shenyang**	**11.74**	**269**	⇑P	**P**	**21 04 30.0**	**+2.3**
SNY				AP		21 04 36.4	
SNY				XP		21 04 42.0	
SNY				S	**S**	**21 06 50.0**	**+11**
SNY				AMB	AMB		
	comp=Z,120nm,1.4s						
SNY				AMB	AMB		
	comp=Z,2μm,12.0s						
SNY				LR	LR		
	comp=E,12μm,12.3s						
SNY				LR	LR		
	comp=Z,12μm,10.8s						
JNU	**Nakatsue**	**12.01**	**217**	Pn	**P**	**21 04 35.1**	**+3.7**
	comp=Z,2.2nm,0.3s,baz=110,slow=19,SNR=7.6						
JNU				LR	LR	21 08 32.8	
	comp=Z,2μm,20.0s,baz=33,slow=34						
DL2	**Dalian**	**14.04**	**259**	*i* PR		21 05 01.8	
DL2				AP		21 05 07.9	
DL2				*e*S	**S**	**21 07 36.3**	**+2.2**
DL2				XS		21 07 48.2	
DL2				AMB	AMB		
	comp=Z,320nm,1.1s						
DL2				AMB	AMB		
	comp=Z,900nm,6.4s						
DL2				LR	LR		
	comp=N,5μm,10.9s						
DL2				LR	LR		
	comp=E,2μm,10.2s						
DL2				LR	LR		
	comp=Z,3μm,11.0s						
CBIJ	**Chichi jima**	**16.16**	**171**	Pn	**P**	**21 05 25.2**	**-0.6**
	comp=Z,9.7nm,0.3s,baz=274,slow=23,SNR=5.1						
CBIJ				LR	LR	21 11 12.3	
	comp=Z,1μm,21.8s,baz=354,slow=35						
PET	**Petropavlovsk**	**16.20**	**46**	*d i*P	**P**	**21 05 27.9**	**+1.8**
PET				*i* S	**S**	**21 08 29.0**	**+4.4**
PET				pmax	pmax		
	comp=Z,137nm,1.1s						
PET				pmax	pmax		
	comp=Z,2μm,6.4s						
PET				pmax	pmax		
	comp=Z,1μm,14.4s						
PET				smax			
	comp=N,3μm,13.7s						
PET				smax			
	comp=N,2μm,11.4s						
PET				MLR	MLR		
	comp=Z,8μm,17.0s						
PET				MLR	MLR		
	comp=Z,8μm,16.0s						
PET	**Petropavlovsk**	**16.20**	**46**	*e*Pn	**P**	**21 05 27.6**	**+1.5**
	comp=Z,373nm,1.7s						
NRGR	**Nerungri**	**16.45**	**330**	S	**S**	**21 08 29.2**	**-1.2**
CLNS	**Chul'man**	**16.53**	**331**	*e*P	**P**	**21 05 30.2**	**-0.1**
CLNS				*e*S	**S**	**21 08 33.9**	**+1.7**
CLNS				pmax	pmax		
	comp=Z,75nm,1.2s						
CLNS				pmax	pmax		
	comp=N,113nm,0.9s						
CLNS				pmax	pmax		
	comp=E,28nm,1.3s						
CLNS				pmax	pmax		
	comp=N,290nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,170nm,1.1s						
CLNS				pmax	pmax		
	comp=E,152nm,0.9s						
CLNS				smax			
	comp=N,40nm,1.0s						
CLNS				smax			
	comp=E,37nm,1.0s						
CLNS				smax			
	comp=Z,15nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,6μm,12.0s						
CLNS				MLR	MLR		
	comp=N,2μm,11.0s						
CLNS				MLR	MLR		
	comp=E,4μm,11.0s						
MA2	**Magadan**	**17.89**	**19**	*e*P	**P**	**21 05 47.5**	**+0.2**
MA2				*e*S	**S**	**21 09 06.7**	**+3.4**
MA2				pmax	pmax		
	comp=N,50nm,1.0s						
MA2				pmax	pmax		
	comp=E,30nm,1.0s						
MA2				pmax	pmax		
	comp=Z,100nm,1.0s						
MA2				MLR	MLR		
	comp=Z,3μm,15.0s						
MA2	**Magadan**	**17.89**	**19**	Pn	**P**	**21 05 47.5**	**+0.2**
TIA	**Tai'an**	**18.44**	**255**	⇑P	**P**	**21 05 55.4**	**+1.1**
TIA				S	**S**	**21 09 25.0**	**+9.2**
TIA				AMB	AMB		
	comp=Z,340nm,1.0s						
TIA				AMB	AMB		
	comp=Z,4μm,6.0s						
TIA				LR	LR		
	comp=N,4μm,11.0s						
TIA				LR	LR		
	comp=E,7μm,11.0s						
JOW	**Kunigami**	**18.60**	**213**	P	**P**	**21 05 58.0**	**+1.7**
	comp=E,3.2nm,0.3s,baz=128,slow=19,SNR=2.3						
JOW				LR	LR	21 13 31.4	
	comp=E,3μm,19.6s,baz=102,slow=38						
SSE	**Sheshan**	**18.78**	**236**	⇑P	**P**	**21 05 59.0**	**+0.5**
SSE				AP		21 06 08.8	
SSE				XP		21 06 14.3	
SSE				S	**S**	**21 09 27.8**	**+4.2**
SSE				SCS	ScS	21 17 36.3	-1.3
SSE				AMB	AMB		
	comp=Z,190nm,1.7s						
SSE				AMB	AMB		
	comp=Z,210nm,3.5s						
SSE				LR	LR		
	comp=N,4μm,11.8s						
SSE				LR	LR		
	comp=E,2μm,11.8s						
SSE				LR	LR		
	comp=Z,4μm,10.9s						
CIT	**Chita**	**19.47**	**306**	*e*P	**P**	**21 06 05.2**	**-1.2**
CIT				pmax	pmax		
	comp=Z,1μm,2.1s						
NJ2	**Nanjing**	**19.61**	**242**	*e*P	**P**	**21 06 08.2**	**+0.1**
NJ2				AP		21 06 18.6	
NJ2				XP		21 06 24.5	
NJ2				PP	PP	21 06 27.5	+1.4
NJ2				S	**S**	**21 09 37.0**	**-5.1**
NJ2				AMB	AMB		
	comp=Z,260nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,2μm,9.3s						
NJ2				LR	LR		
	comp=N,14μm,13.1s						
NJ2				LR	LR		
	comp=E,21μm,13.3s						
NJ2				LR	LR		
	comp=Z,8μm,13.1s						
YAK	**Yakutsk**	**19.79**	**346**	*c i*P	**P**	**21 06 07.5**	**-2.3**
YAK				pmax	pmax		
	comp=Z,839nm,0.8s						
YAK				MLR	MLR		
	comp=Z,6μm,13.0s						
YAK	**Yakutsk**	**19.79**	**346**	P	**P**	**21 06 08.1**	**-1.7**
HHC	**Hu-ho-hao-te**	**20.76**	**273**	*e*P	**P**	**21 06 19.6**	**-0.5**
HHC				AP		21 06 26.4	
HHC				PP	PP	21 06 40.4	-1.8
HHC				S	**S**	**21 10 05.6**	**+0.1**
HHC				SS	SS	21 10 35.0	-2.1
HHC				PCS		21 14 05.5	
HHC				AMB	AMB		
	comp=Z,170nm,1.0s						
HHC				AMB	AMB		
	comp=Z,3μm,3.3s						
HHC				LR	LR		
	comp=N,4μm,8.9s						
HHC				LR	LR		
	comp=E,7μm,11.6s						
HHC				LR	LR		
	comp=Z,7μm,11.3s,MS5.3						
SEY	**Seymchan**	**21.24**	**17**	*i* P	**P**	**21 06 23.0**	**-1.9**
SEY				*e*S	**S**	**21 10 16.1**	**+1.5**
SEY				pmax	pmax		
	comp=N,90nm,1.1s						
SEY				pmax	pmax		
	comp=Z,250nm,1.1s,mb5.5						
SEY				pmax	pmax		
	comp=E,120nm,1.3s						
SEY				smax			
	comp=N,3μm,8.8s						
SEY				smax			
	comp=E,660nm,8.0s						
SEY				MLR	MLR		
	comp=Z,9μm,13.0s,MS5.4						
SEY				MLR	MLR		
	comp=N,5μm,14.0s,MS5.2						
SEY				MLR	MLR		
	comp=E,4μm,14.0s,MS5.2						
SEY	**Seymchan**	**21.24**	**17**	⇓*i*P	**P**	**21 06 22.5**	**-2.4**
BOD	**Bodaibo**	**21.65**	**322**	*e*P	**P**	**21 06 26.1**	**-2.9**
BOD				pmax	pmax		
	comp=Z,141nm,1.2s,mb5.3						
BTO	**Baotou**	**21.95**	**273**	*e*P	**P**	**21 06 31.8**	**-0.3**
BTO				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.8						
BTO				LR	LR		
	comp=E,4μm,11.2s						
ULN	**Ulaanbaatar**	**23.04**	**293**	*e*P	**P**	**21 06 41.8**	**-0.9**
ULN				*e*		21 10 32.5	
ULN				pmax	pmax		
	comp=Z,118nm,1.1s,mb5.2						
ULN	**Ulaanbaatar**	**23.04**	**293**	*e*P	**P**	**21 06 41.8**	**-1.0**
	comp=Z,118nm,1.1s,mb5.2						
ULN				*e*PcP	PcP	21 10 32.5	-0.6
SONM	**Songino Array**	**23.49**	**293**	P	**P**	**21 06 47.0**	**0.0**
	comp=Z,56nm,1.1s,mb4.9,baz=82,slow=7.1,SNR=138						
SONM				PcP	PcP	21 10 33.2	-0.9
	comp=Z,10nm,0.9s,baz=148,slow=2.6,SNR=4.8						
SONM				LR	LR	21 15 58.3	
	comp=Z,3μm,21.6s,MS4.7,baz=91,slow=37						
WHN	**Wuhan**	**23.54**	**246**	P	**P**	**21 06 45.6**	**-2.1**
WHN				LR	LR		
	comp=N,2μm,11.9s,MS5.5						
WHN				LR	LR		
	comp=E,10μm,10.8s,MS5.5						
WHN				LR	LR		
	comp=Z,9μm,12.2s,MS5.5						
FX1	**Attu Island--F**	**24.42**	**55**	P	**P**	**21 06 54.4**	**-1.7**
	comp=Z,61nm,0.6s,mb5.2,baz=37,slow=12,SNR=9.6						
FX1				LR	LR	21 15 44.6	
	comp=Z,65nm,18.7s,baz=265,slow=35						
FX1	**Attu Island--F**	**24.42**	**55**	P	**P**	**21 06 56.0**	**0.0**
QZH	**Quanzhou**	**24.90**	**230**	⇑*i*P	**P**	**21 07 01.4**	**+0.4**
QZH				S	**S**	**21 11 24.0**	**+4.4**
QZH				AMB	AMB		
	comp=Z,170nm,0.6s,mb5.8						
QZH				LR	LR		
	comp=N,6μm,11.7s,MS5.5						
QZH				LR	LR		
	comp=E,5μm,10.2s,MS5.5						
QZH				LR	LR		
	comp=Z,7μm,11.3s,MS5.4						
IRK	**Irkutsk**	**25.11**	**304**	*e*P	**P**	**21 07 00.0**	**-2.7**
IRK				*e*		21 07 22.5	
IRK				pmax	pmax		
	comp=Z,265nm,2.1s,mb5.4						
XAN	**Xi'an**	**25.36**	**259**	P	**P**	**21 07 04.0**	**-1.3**
XAN				AMB	AMB		
	comp=Z,260nm,1.4s,mb5.6						
XAN				AMB	AMB		
	comp=Z,840nm,8.1s						
XAN				LR	LR		
	comp=N,2μm,11.3s,MS5.1						
XAN				LR	LR		
	comp=E,3μm,10.4s,MS5.1						
XAN				LR	LR		
	comp=Z,3μm,12.6s,MS5.0						
ZAK	**Zakamensk**	**25.57**	**299**	*e*P	**P**	**21 07 05.9**	**-1.2**
ZAK				*e*		21 10 38.7	
ZAK				pmax	pmax		
	comp=Z,59nm,1.1s,mb5.0						
MOY	**Mondy**	**27.08**	**302**	*e*P	**P**	**21 07 19.2**	**-1.7**
MOY				pmax	pmax		
	comp=Z,283nm,1.6s,mb5.5						
LZH	**Lanzhou**	**28.11**	**268**	⇑P	**P**	**21 07 29.5**	**-0.9**
LZH				AP	pP	21 07 41.7	+3.3
LZH				XP	sP	21 07 46.7	+4.8
LZH				PP	PP	21 08 20.5	-0.4
LZH				PCP	PcP	21 10 45.1	+0.5
LZH				S	**S**	**21 12 09.8**	**-2.3**
LZH				XS		21 12 27.0	
LZH				SCP		21 14 20.8	
LZH				PCS		21 14 25.8	
LZH				AMB	AMB		
	comp=Z,290nm,1.5s,mb5.7						
LZH				AMB	AMB		
	comp=Z,900nm,4.7s						
LZH				LR	LR		
	comp=N,8μm,12.8s						
LZH				LR	LR		
	comp=Z,10μm,14.0s,MS5.6						
BILL	**Bilibino**	**28.75**	**21**	*e*P	**P**	**21 07 33.4**	**-2.5**
BILL				*e**PP	pP	21 07 44.7	+0.9
BILL				*e*		21 10 40.6	
BILL				pmax	pmax		
	comp=Z,36nm,1.4s,mb4.9						
BILL	**Bilibino**	**28.75**	**21**	*e*P	**P**	**21 07 33.4**	**-2.5**
	comp=Z,36nm,1.4s,mb4.9						
BILL				*e*pP	pP	21 07 44.7	+0.9
BILL				*e*PcP	PcP	21 10 40.6	-5.3
TIXI	**Tiksi**	**29.06**	**353**	*c i*P	**P**	**21 07 35.0**	**-3.6**
TIXI				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,4μm,16.0s,MS5.2						
TIXI	**Tiksi**	**29.06**	**353**	⇑*i*P	**P**	**21 07 35.1**	**-3.5**
GTA	**Gaotai**	**29.77**	**276**	*e*P	**P**	**21 07 44.0**	**-1.4**
GTA				AP	pP	21 07 56.2	+2.8
GTA				XP	sP	21 08 02.0	+5.1
GTA				PP	PP	21 08 42.4	-0.1
GTA				PPP	PPP	21 08 56.5	+0.2
GTA				PCP	PcP	21 10 47.7	-1.0
GTA				S	**S**	**21 12 36.6**	**-2.1**
GTA				XS		21 12 55.7	
GTA				SS	SS	21 14 13.2	-1.2
GTA				SCP		21 14 25.1	
GTA				PCS		21 14 28.4	
GTA				SCS	ScS	21 18 17.6	-3.6
GTA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
GTA				AMB	AMB		
	comp=Z,350nm,5.7s						
GTA				LR	LR		
	comp=N,4μm,13.3s,MS5.4						
GTA				LR	LR		
	comp=E,4μm,12.9s,MS5.4						
GTA				LR	LR		
	comp=Z,5μm,15.6s,MS5.3						
CD2	**Chengdu**	**30.71**	**259**	⇑*i*P	**P**	**21 07 51.3**	**-2.5**
CD2				AP	pP	21 08 03.3	+1.6

CD2 PP PP 21 08 56.2 +1.4
CD2 PPP PPP 21 09 07.3 -2.3
CD2 S **S** **21 12 48.7 -5.0**
CD2 XS 21 13 08.5
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.3
CD2 AMB AMB
comp=Z,220nm,6.3s
CD2 LR LR
comp=N,3μm,10.8s
CD2 LR LR
comp=Z,2μm,12.6s,MS4.9
GYA Guiyang 31.34 249⇑*i*P **P** **21 07 56.4 -2.9**
GYA AP pP 21 08 08.6 +1.3
GYA XP sP 21 08 13.8 +3.0
GYA PP PP 21 08 59.4 -3.6
GYA PCP PcP 21 10 52.5 -0.5
GYA S **S** **21 12 57.1 -6.4**
GYA SCP 21 14 29.2
GYA SCS ScS 21 18 24.9 -4.0
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,270nm,4.8s
GYA LR LR
comp=N,1μm,14.2s,MS5.1
GYA LR LR
comp=E,2μm,13.2s,MS5.1
GYA LR LR
comp=Z,3μm,12.8s,MS5.1
TGY Tagaytay City 32.99 214 P **P** **21 08 14.8 +1.0**
comp=Z,242nm,0.7s,mb6.2,baz=162,slow=3.4,SNR=13
QIZ Qiongzhong 34.57 235 P **P** **21 08 28.2 +0.7**
QIZ S **S** **21 13 54.0 +0.1**
QIZ XS 21 14 10.7
QIZ LR LR
comp=N,3μm,14.2s,MS5.3
QIZ LR LR
comp=E,3μm,13.0s,MS5.3
QIZ LR LR
comp=Z,4μm,13.6s,MS5.4
KMI Kunming 34.90 251 ⇑P **P** **21 08 28.3 -1.9**
KMI AP pP 21 08 36.7 -1.6
KMI PP PP 21 09 45.5 -2.8
KMI PPP PPP 21 10 05.8 -0.5
KMI PCP PcP 21 11 03.3 +0.4
KMI S **S** **21 13 53.7 -5.1**
KMI SCS ScS 21 18 45.4 -1.9
KMI AMB AMB
comp=Z,50nm,1.5s,mb5.2
KMI AMB AMB
comp=Z,400nm,4.3s
KMI LR LR
comp=N,3μm,13.0s,MS5.3
KMI LR LR
comp=E,2μm,12.3s,MS5.3
KMI LR LR
comp=Z,2μm,14.1s,MS5.0
TNA Tin City 36.49 34 P **P** **21 08 40.8 -2.5**
ZAL Zalesovo 36.84 307 P **P** **21 08 45.8 -0.6**
comp=Z,44nm,0.7s,mb5.4,baz=23,slow=8.5,SNR=139
ZAL PcP PcP 21 11 08.2 -0.1
comp=Z,31nm,0.9s,baz=24,slow=2.8,SNR=17
ZAL ScP 21 14 53.9
comp=Z,2.7nm,1.1s,baz=39,slow=23,SNR=8.4
ZAL LR LR 21 24 46.8
comp=Z,949nm,22.0s,MS4.5,baz=29,slow=38
WMQ Urumqi 37.00 289 P **P** **21 08 46.6 -1.2**
WMQ AP pP 21 08 58.8 +2.9
WMQ XP sP 21 09 04.3 +5.0
WMQ SCS ScS 21 18 49.0 -10
WMQ AMB AMB
comp=Z,70nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,390nm,6.8s
WMQ LR LR
comp=N,3μm,18.0s,MS5.2
WMQ LR LR
comp=E,2μm,17.0s,MS5.2
WMQ LR LR
comp=Z,3μm,18.8s,MS5.1
DCPH Dipolog City 37.16 207⇓*e*P **P** **21 08 49.6 +0.1**
DAV Davao City (W) 37.91 203 *e*P **P** **21 08 56.1 +0.3**
MKAR Makanchi Array 39.80 296 P **P** **21 09 09.6 -1.6**
comp=Z,19nm,0.8s,mb4.9,baz=80,slow=9.0,SNR=47
MKAR PcP PcP 21 11 16.2 -1.3
comp=Z,20nm,0.9s,baz=72,slow=3.8,SNR=8.3
MKAR ScP 21 15 05.3
comp=Z,5.5nm,1.0s,baz=68,slow=6.5,SNR=5.6
MKAR LR LR 21 25 01.0
comp=Z,922nm,18.1s,MS4.7,baz=80,slow=35
MKAR Makanchi Array 39.80 296 P **P** **21 09 09.6 -1.6**
MKAR PcP PcP 21 11 16.2 -1.3
MKAR ScP 21 15 05.3
MKAR LR LR 21 25 01.0
CHRT Chiangrai 40.43 248 ⇑P **P** **21 09 16.5 -0.1**
comp=Z,300nm,0.9s,mb6.0
LSA Lhasa 40.52 267 P **P** **21 09 18.0 +0.7**
LSA AMB AMB
comp=Z,30nm,1.3s,mb4.8
CHG Chiang Mai 41.73 247 ⇑P **P** **21 09 26.8 -0.5**
comp=Z,36nm,0.9s,mb5.0
KKM Kota Kinabalu 42.21 216 P **P** **21 09 32.4 +1.0**
KKM Kota Kinabalu 42.21 216 *e*P **P** **21 09 32.8 +1.4**
KKM *e*pP pP 21 09 45.7 +6.2
TSM Tawau 43.12 212 P **P** **21 09 39.4 +0.6**
KDAK Kodiak Island 43.80 46 P **P** **21 09 42.6 -1.0**
comp=Z,100nm,0.9s,mb5.5,baz=310,slow=3.7,SNR=25
KDAK PcP PcP 21 11 29.8 -0.8
comp=Z,31nm,0.8s,baz=297,slow=2.6,SNR=5.8
AGT Agartala 43.81 260 *ex* **P** **21 09 48.0 +3.8**
SLKM Skilak Lake 44.49 42 *e*P **P** **21 09 47.7 -1.5**
SLKM *e* 21 11 32.2
MCK McKinley 44.57 37 *e*P **P** **21 09 48.3 -1.6**
MCK *e* 21 11 32.6
MCK pmax pmax
comp=Z,28nm,1.0s,mb5.0
MCK McKinley 44.57 37 *e*P **P** **21 09 48.3 -1.5**
comp=Z,28nm,1.0s,mb5.0
MCK *e*PcP PcP 21 11 32.6 -0.5
PMR Palmer 44.82 40 P **P** **21 09 50.3 -1.6**
PMR Palmer 44.82 40 *e*P **P** **21 09 50.7 -1.2**
comp=Z,10.0nm,0.7s,mb4.8
COLA College 44.88 35 *e*P **P** **21 09 50.8 -1.6**
COLA pmax pmax
comp=Z,75nm,0.9s,mb5.5
COLA College 44.88 35 *e*P **P** **21 09 50.8 -1.6**
comp=Z,75nm,0.9s,mb5.5
CHKZ Chkalovo 45.14 309 *i* P **P** **21 09 53.2 -1.4**
CHKZ pmax pmax
comp=Z,45nm,0.8s,mb5.3
CHKZ Chkalovo 45.14 309 P **P** **21 09 53.4 -1.1**
SML Sawmill 45.15 40 P **P** **21 09 53.7 -0.8**
SML Sawmill 45.15 40 *e*P **P** **21 09 53.2 -1.3**
SML *e*pP pP 21 10 05.8 +3.1
JIRN Jiri 45.27 268 *e*P **P** **21 09 55.4 -0.6**
comp=Z,173nm,1.2s,mb5.8
ILAR Eielson Array 45.31 35 P **P** **21 09 53.3 -2.4**
comp=Z,39nm,0.8s,mb5.3,baz=276,slow=6.5,SNR=182
ILAR LR LR 21 29 39.1
comp=Z,763nm,19.7s,MS4.6,baz=115,slow=37
GUN Gumba 45.36 269 *e*P **P** **21 09 55.7 -0.9**
comp=Z,153nm,0.8s,mb5.9
ULHL Ulahol 45.41 292 P **P** **21 09 56.3 -0.6**
SNR=11
BVAR Borovoye Array 45.45 308 P **P** **21 09 56.4 -0.6**
comp=Z,65nm,0.7s,mb5.6,baz=80,slow=9.0,SNR=320
BVAR PcP PcP 21 11 35.9 -0.3
comp=Z,32nm,0.7s,baz=89,slow=2.6,SNR=8.4
BVAR S **S** **21 16 35.8 -0.3**
comp=Z,1.4nm,1.0s,baz=78,slow=13,SNR=2.4
TKM2 Tokmak 2 45.59 293 P **P** **21 09 58.2 0.0**
SNR=196
KKN Kakani 45.87 269 *e*P **P** **21 09 59.6 -1.0**
comp=Z,181nm,1.2s,mb5.9
KKN Kakani 45.87 269 *e*P **P** **21 09 59.6 -1.0**
KKN pmax pmax
comp=Z,91nm,1.2s,mb5.6
PKI Pulchoki 45.90 269 *e*P **P** **21 09 59.9 -1.0**
comp=Z,115nm,1.0s,mb5.8
PKI Pulchoki 45.90 269 *e*P **P** **21 09 59.9 -1.0**
PKI pmax pmax
comp=Z,57nm,1.0s,mb5.5
THY Trims Highway 46.03 37 *e*P **P** **21 10 01.1 -0.3**
DMN Daman 46.10 269 *e*P **P** **21 10 01.5 -1.0**
comp=Z,276nm,1.2s,mb6.0
CHMS Chumysh 46.12 293 P **P** **21 10 01.6 -0.8**
SNR=27
KBK Karagaybulak 46.13 293 P **P** **21 10 02.2 -0.2**
SNR=238
KZA Kyzart 46.16 292 P **P** **21 10 03.2 +0.5**
SNR=83
USP Ospenovka 46.19 294 P **P** **21 10 02.3 -0.6**
SNR=47
GKN Gorkha 46.22 270 *e*P **P** **21 10 02.0 -1.4**
comp=Z,90nm,0.8s,mb5.8
FRU Bishkek 46.28 293⇑*i*P **P** **21 10 03.0 -0.7**
FRU pmax pmax
comp=Z,264nm,2.0s,mb5.8
DIV Divide 46.50 40 P **P** **21 10 04.7 -0.5**
comp=Z,160nm,1.1s,mb5.9
UCH Uchtor 46.60 292 P **P** **21 10 06.2 0.0**
SNR=41
KSH Kashi 46.74 288 P **P** **21 10 08.0 +0.6**
KSH AP pP 21 10 20.3 +4.7
KSH XP sP 21 10 25.3 +6.4
KSH *e*PCP PcP 21 11 42.3 +1.3
KSH *e*PP PP 21 11 57.6 +0.6
KSH *e*PPP PPP 21 12 42.3 -0.8
KSH *e*SCP 21 15 31.1
KSH *e*PCS 21 15 36.5
KSH *e*S **S** **21 16 52.0 -2.7**
KSH XS 21 17 12.5
KSH *e*SCS ScS 21 19 56.6 -1.0
KSH *e*SS SS 21 20 10.1 -3.7
KSH AMB AMB
comp=Z,490nm,3.0s
KSH LR LR
comp=N,2μm,10.3s,MS5.7
KSH LR LR
comp=E,5μm,11.9s,MS5.7
EKS2 Erkin-Say 46.92 293 P **P** **21 10 08.1 -0.7**
SNR=83
MENT Mentasta 47.03 38 *e*P **P** **21 10 09.4 0.0**
KOLN Koldanda 47.11 270 *e*P **P** **21 10 09.5 -1.0**
comp=E,221nm,1.1s,mb6.0
AML Almayashu 47.19 292 P **P** **21 10 11.1 +0.1**
SNR=62
BOK Bokaro 47.75 264 *e*P **P** **21 10 13.8 -1.8**
BOK AMb AMB 21 10 15.3
comp=Z,25nm,1.1s,mb5.2
BOK *e*S **S** **21 17 10.3 +1.1**
DAWY Dawson 48.64 35 P **P** **21 10 21.2 -0.6**
KSM Kuching 48.92 220 *e*P **P** **21 10 25.6 +0.9**
INK Inuvik 49.75 29 P **P** **21 10 28.8 -1.6**
SOKR Solikamsk 50.62 319*c* *i*P **P** **21 10 35.0 -2.1**
SOKR S **S** **21 17 49.1 +0.4**
SOKR pmax pmax
comp=Z,90nm,1.1s,mb5.6
SOKR MLR MLR
comp=Z,730nm,12.0s,MS4.9
ARU Arti 50.85 315⇑*i*P **P** **21 10 38.0 -0.9**
ARU *e* 21 11 54.0
ARU *e* 21 12 32.4
ARU *e*PPP PPP 21 13 28.9 -6.3
ARU *e*S **S** **21 17 52.1 +0.2**
ARU *e*SS SS 21 21 26.7 +2.4
ARU pmax pmax
comp=Z,73nm,0.9s,mb5.6
ARU MLR MLR
comp=Z,2μm,15.0s,MS5.1
ARU MLR MLR
comp=N,700nm,14.0s,MS5.1
ARU MLR MLR
comp=E,1μm,14.0s,MS5.1
ARU Arti 50.85 315⇑*i*P **P** **21 10 38.1 -0.8**
KULM Kulim 50.86 233 *e*P **P** **21 10 39.9 +0.3**
IPM Ipoh 51.30 232 P **P** **21 10 42.8 -0.1**
KGM Kluang 52.02 228 P **P** **21 10 49.2 +0.8**
PMG Port Moresby 52.76 170 P **P** **21 10 53.3 -0.7**
comp=E,22nm,0.9s,mb5.1,baz=346,slow=9.7,SNR=6.9
PMG Port Moresby 52.76 170 P **P** **21 10 53.3 -0.6**
PMG pmax pmax
comp=Z,22nm,0.9s
PMG Port Moresby 52.76 170 P **P** **21 10 53.5 -0.4**
VIS Vishakhapatnam 53.43 260 AMb AMB 21 11 00.1
comp=Z,69nm,1.1s,mb5.5
VIS *e*S **S** **21 18 31.5 +3.9**
AKTK Aktyubinsk 53.55 308 P **P** **21 10 58.6 -0.6**
AKTK S **S** **21 18 31.9 +3.0**
AKTO Aktyubinsk 53.55 308 P **P** **21 10 58.6 -0.6**
comp=Z,105nm,0.7s,mb5.9,baz=69,slow=7.5,SNR=253
AKTO S **S** **21 18 31.9 +3.0**
comp=Z,0.9nm,0.7s,baz=215,slow=18,SNR=3.7
PSI Prapat 53.88 233 LR LR 21 34 57.8
comp=Z,516nm,18.6s,MS4.6,baz=187,slow=37
BHPL Bhopal 54.27 269 *e*P **P** **21 11 02.1 -2.7**
BHPL AMb AMB 21 11 09.0
comp=Z,97nm,1.2s,mb5.6
BHPL *e*S **S** **21 18 43.8 +4.7**
KBS Kingsbay 54.39 349⇓*e*P **P** **21 11 04.2 -0.8**
AJM Ajmer 54.39 275 *e*P **P** **21 11 04.6 -1.1**
AJM AMb AMB 21 11 08.8
comp=Z,116nm,1.8s,mb5.5
AJM *e*S **S** **21 18 41.8 +1.2**
DLBC Dease Lake 54.88 40 P **P** **21 11 09.5 +0.6**
HNR Honiara 55.57 155 LR LR 21 33 09.2
comp=Z,329nm,18.4s,MS4.5,baz=265,slow=34
HNR Honiara 55.57 155 *e*P **P** **21 11 14.1 -0.4**
HNR pmax pmax
comp=Z,204nm,1.0s,mb6.1
HNR Honiara 55.57 155 *e*P **P** **21 11 14.1 -0.5**
comp=Z,204nm,1.0s,mb6.1
APA Apatity 56.51 334⇑*e*P **P** **21 11 27.8 +7.2**
APA *i* 21 11 45.6
APA *i* 21 12 23.7
APA pmax pmax
comp=Z,27nm,1.7s,mb5.0
HYB Hyderabad 57.08 263⇑*i*P **P** **21 11 23.0 -2.3**
comp=Z,100nm,1.0s,mb5.8
HYB *e*PcP PcP 21 12 19.0 -0.8
HYB Hyderabad 57.08 263⇑*e*P **P** **21 11 23.0 -2.3**
HYB *e* 21 12 19.0
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 57.08 263⇑*e*P **P** **21 11 23.0 -2.3**
comp=Z,100nm,1.0s,mb5.8
HYB *e* 21 12 19.0
RES Resolute Bay 57.11 15 P **P** **21 11 22.0 -2.7**
RES pmax pmax
comp=Z,42nm,0.9s,mb5.5
RES Resolute Bay 57.11 15 P **P** **21 11 22.0 -2.7**
comp=Z,42nm,0.9s,mb5.5
KEV Kevo 57.21 337 *ep* **P** **21 11 22.5 -3.0**
ARCES ARCESS Array B 57.76 338 P **P** **21 11 27.4 -1.9**
comp=Z,3.8nm,0.5s,mb4.7,baz=54,slow=8.5,SNR=31
ARCES PcP PcP 21 12 20.2 -1.5
comp=Z,11nm,0.9s,baz=46,slow=2.2,SNR=7.1
KLMR Klimovskoe 57.82 325*d* *i*P **P** **21 11 28.6 -1.2**
KLMR *i* SS SS 21 23 16.2 -1.7
KLMR pmax pmax
comp=Z,120nm,1.5s,mb5.7
PECR Pechory 58.13 319⇓*e*P **P** **21 11 30.6 -1.5**
YKW3 Yellowknife Ar 59.33 31 P **P** **21 11 38.7 -1.7**
YKA Yellowknife Ar 59.37 31 P **P** **21 11 39.0 -1.7**
comp=Z,34nm,0.9s,mb5.4,baz=305,slow=6.3,SNR=360
YKA PcP PcP 21 12 27.8 -0.3
comp=Z,22nm,0.8s,baz=308,slow=3.6,SNR=22
YKA LR LR 21 38 23.1
comp=Z,538nm,19.3s,MS4.7,baz=290,slow=37
YKA PKPPKP 21 41 03.9
comp=Z,0.8nm,1.0s,baz=157,slow=2.0,SNR=4.6
YKA Yellowknife Ar 59.37 31 P **P** **21 11 39.0 -1.7**
YKA PcP PcP 21 12 27.8 -0.3
YKA LR LR 21 38 23.1
YKA P'P' 21 41 03.9
DAG Danmarks Havn 59.57 354⇓*i*P **P** **21 11 38.6 -3.3**
comp=Z,36nm,0.9s,mb5.4
DAG Danmarks Havn 59.57 354⇓*i*P **P** **21 11 38.6 -3.3**
DAG pmax pmax
comp=Z,36nm,0.9s,mb5.4
POO Poona 59.80 268 *e*P **P** **21 11 43.5 -0.7**
POO AMb AMB 21 11 45.6
comp=Z,217nm,1.1s,mb6.1
JOF Joensuu 59.88 330 *ep* **P** **21 11 41.2 -3.0**
BHJ Bhuj 59.95 275 *e*P **P** **21 11 44.0 -1.1**
BHJ AMb AMB 21 11 46.8
comp=Z,217nm,1.4s,mb6.0
BHJ *e*S **S** **21 19 54.5 +0.7**
KAD Karad 60.34 266 *e*P **P** **21 11 46.4 -1.5**
KAD AMb AMB 21 11 48.3
comp=Z,270nm,0.9s,mb6.3
KAD *e*S **S** **21 20 00.8 +1.9**
MOS Moscow 61.48 321α *i*P **P** **21 11 53.1 -2.0**
MOS *e* 21 12 38.1
MOS *e*S **S** **21 20 10.5 -2.5**
MOS pmax pmax
comp=Z,600nm,2.4s,mb6.3
MOS pmax pmax
comp=Z,248nm,2.3s,mb5.9
MOS MLR MLR
comp=E,900nm,11.0s
MOS MLR MLR
comp=Z,3μm,11.0s,MS5.8
VRHR Novokhopersk 62.20 315 *e*P **P** **21 11 58.8 -1.2**
VRHR pmax pmax
comp=Z,170nm,0.6s,mb6.3
VRHR pmax pmax
comp=N,60nm,0.8s
VRHR pmax pmax
comp=E,90nm,0.9s
KAF Kangasniemi 62.20 331 *ep* **P** **21 11 56.8 -3.1**
comp=E,19nm,0.7s,mb5.3,baz=44,slow=5.9
KAF Kangasniemi 62.20 331 *e*P **P** **21 11 56.8 -3.1**
KAF pmax pmax
comp=Z,19nm,0.7s,mb5.3
FITZ Fitzroy Crossi 62.22 195⇑*i*P **P** **21 12 00.1 -0.5**
comp=Z,181nm,1.0s,mb6.2
OBN Obninsk 62.33 321α *i*P **P** **21 11 59.3 -1.6**
OBN *e* 21 12 40.0
OBN PPP PPP 21 15 45.0 -4.7
OBN *e* 21 20 27.1
OBN SS SS 21 24 31.0 +1.7
OBN SSS SSS 21 27 01.0 -11
OBN pmax pmax
comp=Z,197nm,1.8s,mb5.9
OBN MLR MLR
comp=Z,1μm,14.0s,MS5.2
OBN Obninsk 62.33 321⇑*i*P **P** **21 11 59.1 -1.8**
OBN LR LR
comp=Z,1μm,14.0s,MS5.2
FINES FINESS Array B 62.72 330 P **P** **21 12 01.1 -2.2**
comp=Z,42nm,0.8s,mb5.6,baz=56,slow=6.7,SNR=66
FINES PcP PcP 21 12 40.2 -1.4
comp=Z,15nm,0.7s,baz=62,slow=4.9,SNR=4.5
WB2 Warramunga Arr 62.92 185⇑*i*P **P** **21 12 03.8 -1.4**
WRA Warramunga Arr 62.93 185 P **P** **21 12 03.7 -1.6**
comp=Z,157nm,0.9s,mb6.2,baz=2.2,slow=6.9,SNR=11
WRA PcP PcP 21 12 42.7 -0.3
comp=Z,17nm,0.8s,baz=355,slow=4.9,SNR=5.3
WRA PKPPKP 21 41 07.3
comp=Z,3.5nm,0.9s,baz=193,slow=2.1,SNR=7.2
CTA Charters Tower 63.22 173⇑*i*P **P** **21 12 06.2 -1.0**
comp=Z,14nm,1.0s,mb5.0
CTA Charters Tower 63.22 173 LR LR 21 34 26.4
comp=Z,239nm,20.7s,MS4.3,baz=228,slow=31
CTAO Charters Tower 63.22 173 P **P** **21 12 06.6 -0.6**
comp=Z,43nm,1.3s,mb5.4
PGC Sidney 63.31 47 P **P** **21 12 06.8 -0.6**
comp=Z,101nm,0.9s,mb6.0
PGC *e*pP pP 21 12 14.3 -1.5
VRSR Storozhevoye 63.37 316*c* *i*P **P** **21 12 06.7 -1.1**
VRSR pmax pmax
comp=Z,60nm,0.9s,mb5.7
VRSR pmax pmax
comp=N,30nm,1.1s
VRSR pmax pmax
comp=E,30nm,0.7s
OCWA Octopus Mounta 63.44 49 *e*P **P** **21 12 08.5 +0.2**
comp=E,66nm,1.3s,mb5.6
OCWA *e*pP pP 21 12 16.8 +0.1
MAK Makhachkala 63.57 305*c* *i*P **P** **21 12 08.0 -1.2**
MAK *e* 21 12 53.0
MAK *e*PPP PPP 21 16 08.8 +6.5
MAK *i* S **S** **21 20 38.5 -1.0**
MAK *i* 21 21 51.4
MAK *e*SS SS 21 24 51.2 +2.5
MAK pmax pmax
comp=Z,427nm,1.3s,mb6.3
OSD Olympics--Snow 63.66 48 P **P** **21 12 10.0 +0.4**
TRD Trivandrum 64.19 257 *e*P **P** **21 12 12.3 -1.4**
TRD AMb AMB 21 12 14.8
comp=Z,195nm,1.3s,mb6.0
GNW Green Mountain 64.29 48 P **P** **21 12 14.1 +0.4**
VSU Vasula 64.44 327⇑*e*P **P** **21 12 13.0 -1.6**
RPW Rockport 64.47 47 P **P** **21 12 14.2 -0.7**
SUMG Summit 64.59 359 P **P** **21 12 14.7 -0.6**
GOF Gofitskoye 64.96 309 *e*P **P** **21 12 14.8 -3.4**
GOF *e*S **S** **21 21 09.1 +13**
GOF pmax pmax
comp=Z,1μm,1.0s
FMW Mount Fremont 65.30 48 P **P** **21 12 20.2 -0.1**
LON Longmire 65.33 48 P **P** **21 12 20.5 0.0**
LTY Liberty 65.64 47 P **P** **21 12 21.9 -0.6**
CBSW Chelan Butte S 65.64 47 P **P** **21 12 22.1 -0.4**
TBM Table Mountain 65.73 47 P **P** **21 12 23.2 +0.1**
DGRG David-gareji 65.74 305 P **P** **21 12 20.9 -2.3**
WTV Waterville 65.75 47 P **P** **21 12 22.7 -0.5**
KIV Kislovodsk 65.82 308⇑*i*P **P** **21 12 24.1 +0.4**
SCO Scoresbysund 65.89 353 *i* P **P** **21 12 21.4 -2.3**
comp=Z,39nm,1.4s,mb5.2
SCO Scoresbysund 65.89 353 *i* P **P** **21 12 21.4 -2.3**
SCO pmax pmax
comp=Z,39nm,1.4s,mb5.2
MTA Mtatsminda 65.94 305 P **P** **21 12 24.3 -0.3**
TI2 Plekhanov 65.95 305⇑*i*P **P** **21 12 24.0 -0.5**
TI2 *i* 21 12 38.0
TBLG Delisi 65.95 305 P **P** **21 12 25.2 +0.6**
ONI Oni 66.21 307 P **P** **21 12 26.8 +0.6**
KEBM Edson Butte 66.25 53 P **P** **21 12 27.8 +1.4**
HOOD Mount Hood Mea 66.29 50 P **P** **21 12 27.1 +0.4**
MBWA Marble Bar 66.47 200 P **P** **21 12 27.3 -1.0**
comp=Z,83nm,0.9s,mb5.8
MDW Midway 66.53 48 P **P** **21 12 27.9 -0.3**
OD2 Odessa Site #2 66.61 46 P **P** **21 12 27.8 -0.9**
KBO Bosley Butte 66.71 53 P **P** **21 12 30.7 +1.3**
WRD Warden 66.74 47 P **P** **21 12 28.7 -0.9**
HAWA Hanford 66.79 48 P **P** **21 12 29.4 -0.4**
HAWA *e*pP pP 21 12 37.2 -1.1
HUMO Hull Mountain 67.21 53 P **P** **21 12 33.0 +0.4**
KRMB Red Mountain 67.32 54 *e*P **P** **21 12 34.4 +1.1**
KRMB *e*pP pP 21 12 43.6 +1.8
DIGO Kars 67.57 305 *i* P **P** **21 12 33.4 -1.6**
SOC Sochi 67.75 309*c* *i*P **P** **21 12 35.4 -0.5**
SOC *e* 21 13 00.3
SOC *e* 21 15 14.4
SOC *e*S S 21 21 35.1 +4.7
SOC *e**SS 21 21 46.7
SOC *e* 21 22 27.8
SOC pmax pmax
comp=Z,433nm,1.3s,mb6.3
SOC MLR MLR
comp=Z,1μm,22.0s,MS5.2
KHMM Horse Mountain 67.83 54 P **P** **21 12 37.4 +0.9**
YBH Yreka Blue Hor 67.90 53 P **P** **21 12 37.2 +0.3**
BANOM Banah 67.93 285⇓P **P** **21 12 36.8 -0.7**
SNR=24
ARTV Artvin 67.96 306 *i* P **P** **21 12 34.3 -3.0**
NB2 NORSAR Subarra 67.98 336 P **P** **21 12 35.3 -1.8**
comp=Z,44nm,0.9s,mb5.5,baz=39,slow=6.2
NB2 NORSAR Subarra 67.98 336 P **P** **21 12 35.3 -1.8**
baz=39,slow=6.5
NB2 NORSAR Subarra 67.98 336 P **P** **21 12 35.3 -1.8**
NB2 pmax pmax
comp=Z,44nm,0.9s,mb5.5
NOA NORSAR Array B 67.98 336 P **P** **21 12 35.1 -2.0**
comp=Z,24nm,0.8s,mb5.3,baz=38,slow=6.2,SNR=48
NOA PcP PcP 21 13 01.4 -1.9
comp=Z,8.9nm,0.8s,baz=36,slow=6.1,SNR=5.0
CLDR Caldiran 68.03 303 P **P** **21 12 37.5 -0.3**
WBK Wadi Bani Khal 68.09 281⇓P **P** **21 12 39.0 +0.5**
SNR=77
BIDO Bidbid 68.12 282⇓P **P** **21 12 38.3 -0.3**
SNR=33
NAO01 NORSAR Array S 68.23 336 P **P** **21 12 37.5 -1.2**
comp=Z,67nm,1.3s,mb5.5
ANN Anapa 68.25 311*c* *i*P **P** **21 12 37.9 -1.2**
ANN *i* S S 21 21 37.5 +1.1
ANN *e* 21 22 29.0
ANN pmax pmax
comp=Z,386nm,1.4s,mb6.2
ANN MLR MLR
comp=Z,1μm,18.0s,MS5.2
BSMT Bassoo Peak 68.35 44 P **P** **21 12 39.6 0.0**

SMDO **Samad** 68.47 282 ⇓P P 21 12 40.6 -0.2
AKASG **Malin Array Be** 68.57 320 P P 21 12 40.0 -0.9
comp=Z,224nm,0.9s,mb6.1,baz=45,slow=6.5,SNR=478
KIPM Iron Peak 68.64 55 *eP* P 21 12 41.9 +0.3
KIPM *epP* pP 21 12 48.2 -1.9
HOQ Hoqain 68.67 283 ⇓P P 21 12 41.8 -0.2
SNR=27
VANB Van 68.69 303 P P 21 12 42.2 +0.3
WDC Whiskeytown Da 68.72 54 P P 21 12 41.8 -0.3
WDC pmax pmax
comp=Z,42nm,1.2s,mb5.2
WDC Whiskeytown Da 68.72 54 P P 21 12 41.8 -0.2
comp=Z,42nm,1.2s,mb5.2
TVAN Van 68.72 303 *i* P P 21 12 40.1 -2.1
JMDO Jabal Madar 68.86 281 ⇑P P 21 12 43.2 0.0
ASHO Ashiyiah 68.87 284 ⇑P P 21 12 43.0 -0.3
SNR=60
SUW Suwalki 68.95 325 *eP* P 21 12 42.2 -1.0
SUW Suwalki 68.95 325 P P 21 12 42.4 -0.8
SUW pmax pmax
comp=Z,110nm,0.9s,mb5.8
SUW Suwalki 68.95 325 *eP* P 21 12 42.2 -1.0
BMO Blue Mountains 68.97 48 P P 21 12 44.1 +0.6
comp=Z,64nm,1.1s,mb5.5
BMO *epP* pP 21 12 51.0 -1.0
ERZM Erzurum 69.09 305 *i* P P 21 12 42.0 -2.4
EZM Erzurum 69.10 305 P P 21 12 45.5 +1.1
HAKT HAKKARI 69.14 302 *i* P P 21 12 39.1 -5.6
MOD Modoc 69.19 52 P P 21 12 44.8 -0.2
FCC Fort Churchill 69.26 27 P P 21 12 43.9 -1.1
FCC *e*PP pP 21 12 54.9 +1.4
BSY Bisya 69.27 282 ⇓P P 21 12 45.8 0.0
MACK Trabzon 69.38 307 *i* P P 21 12 38.1 -8.0
ARQ Araqi 69.39 283 ⇑P P 21 12 46.4 -0.1
SNR=47
HOPS Hopland 69.40 56 P P 21 12 46.2 0.0
comp=Z,43nm,1.2s,mb5.2
MSO Missoula 69.46 45 P P 21 12 46.2 -0.3
MSO *epP* pP 21 12 54.0 -0.9
DZM Mont Dzumac 69.50 153⇑*eP* P 21 12 47.8 +0.7
KONO Kongsberg 69.58 335 P P 21 12 46.4 -0.6
KONO pmax pmax
comp=Z,145nm,1.7s,mb5.6
KONO Kongsberg 69.58 335 P P 21 12 46.4 -0.6
comp=Z,144nm,1.7s,mb5.6
CHMT Chamberlain Mo 69.76 44 P P 21 12 47.6 -0.7
WVOR Wild Horse Val 69.80 50 *eP* P 21 12 48.5 -0.1
WVOR *e*SP sP 21 13 04.4 +4.3
WVOR pmax pmax
comp=Z,56nm,1.0s,mb5.5
WVOR Wild Horse Val 69.80 50 *eP* P 21 12 48.5 -0.1
comp=Z,56nm,1.0s,mb5.5
WVOR *epP* pP 21 12 58.4 +1.2
WVOR *es*P sP 21 13 04.4 +4.2
GUMT Gumushane 69.86 307 P P 21 12 49.7 +0.6
SFJD Kangerlussuaq 69.94 4 *eP* P 21 12 48.4 -0.6
SFJD *epP* pP 21 12 56.2 -1.4
SIM Simferopol' 69.95 313*c iP* P 21 12 48.8 -0.7
SIM *eS* S 21 21 59.8 +3.3
SIM pmax pmax
comp=Z,171nm,1.0s,mb5.9
SIM MLR MLR
comp=Z,610nm,15.3s,MS5.0
BTMT Batman 70.11 304 P P 21 12 51.1 +0.5
OHCM Honcut 70.14 54 P P 21 12 50.4 -0.4
KELT Kelkit 70.19 307 *i* P P 21 12 49.6 -1.4
GRSN GIRESUNGRSN 70.27 308 *i* P P 21 12 45.8 -5.7
MSL Mosul 70.33 301 *ex* x 21 12 52.0
MSL *ex* x 21 22 02.0
HRY Holter Researc 70.61 44 P P 21 12 53.5 0.0
EGMT Eagleton 70.75 42 *eP* P 21 12 53.9 -0.4
comp=Z,104nm,0.9s,mb5.8
EGMT *epP* pP 21 13 04.9 +2.1
LRM Limekiln Ridge 70.90 45 P P 21 12 55.2 -0.1
PTK Pertek 70.92 306 P P 21 12 55.0 -0.5
DIY Diyarbakir 71.06 304 *eP* P 21 12 57.0 +0.6
MARD Mardin 71.10 304 *i* P P 21 12 53.5 -3.1
DLMT Dillon 71.14 45 *eP* P 21 12 56.5 -0.2
comp=Z,184nm,1.0s,mb6.0
DLMT *epP* pP 21 13 06.7 +1.5
BSD Bornholm Skovb 71.36 330 *i* P P 21 12 56.6 -1.3
comp=Z,65nm,0.9s,mb5.6
BSD Bornholm Skovb 71.36 330 *i* P P 21 12 56.6 -1.3
BSD pmax pmax
comp=Z,65nm,0.9s,mb5.6
MCMT McKenzie Canyo 71.37 46 *eP* P 21 12 57.8 -0.3
MCMT *epP* pP 21 13 08.2 +1.6
HLID Hailey 71.39 47 P P 21 12 58.3 0.0
ELZG Elazig 71.42 305 *i* P P 21 12 56.4 -2.2
BHD Baghdad 71.42 298 *ex* x 21 12 58.0
KVT Kavak 71.44 309 P P 21 12 58.1 -0.5
BOZ Bozeman (W) 71.44 44 P P 21 12 58.8 +0.3
BOZ pmax pmax
comp=Z,76nm,1.0s,mb5.6
BOZ Bozeman (W) 71.44 44 P P 21 12 58.8 +0.3
comp=Z,76nm,1.0s,mb5.6
BOZ *epP* pP 21 13 06.6 -0.4
LVV L'vov 71.58 322*c iP* P 21 12 59.2 -0.1
LVV *eS* S 21 22 18.0 +2.7
UMR Umm Al-Rimmam 71.59 293 *eP* P 21 12 58.4 -1.3
UMR AMb AMB 21 12 59.8
comp=Z,263nm,0.6s,mb6.3
CMB Columbia Colle 71.63 55 P P 21 12 59.5 -0.3
CMB pmax pmax
comp=Z,74nm,1.0s,mb5.6
CMB Columbia Colle 71.63 55 P P 21 12 59.5 -0.3
comp=Z,74nm,1.0s,mb5.6
CMB *epP* pP 21 13 07.2 -1.1
MIB Mutribah 71.68 294 *eP* P 21 12 59.0 -1.2
MIB AMb AMB 21 13 00.4
comp=Z,450nm,0.9s,mb6.4
SVST Sivas 71.78 308 *i* P P 21 12 57.3 -3.3
IAS Iasi 71.78 318 ⇑P P 21 13 00.6 +0.1
COP Copenhagen 71.81 332⇑*iP* P 21 13 00.1 -0.4
comp=Z,73nm,1.0s,mb5.6
COP Copenhagen 71.81 332⇑*iP* P 21 13 00.1 -0.4
COP pmax pmax
comp=Z,73nm,1.0s,mb5.6
SAO San Andreas Ge 71.81 57 P P 21 13 00.8 -0.1
KBD Kabd 71.84 293 *eP* P 21 13 00.1 -1.2
KBD AMb AMB 21 13 02.8
comp=Z,677nm,1.2s,mb6.5
BOYT Boyabat 71.86 310 *i* P P 21 12 58.3 -2.8
WAKR Walker 71.89 54 P P 21 13 01.6 +0.2
BYBT Boyabat 71.90 310 *eP* P 21 13 01.8 +0.4
QRN Al-Qurain 71.97 293 *eP* P 21 13 00.9 -1.1
QRN AMb AMB 21 13 02.2
comp=Z,356nm,0.6s,mb6.5
RDF Al-Radifah 72.10 293 *eP* P 21 13 01.5 -1.3
RDF AMb AMB 21 13 03.2
comp=Z,450nm,0.9s,mb6.4
NAY Al-Naaiem 72.10 293 *eP* P 21 13 01.2 -1.6
NAY AMb AMB 21 13 02.8
comp=Z,140nm,0.8s,mb6.0
QLMT Earthquake Lak 72.10 45 P P 21 13 02.6 +0.1
URFA Urfa 72.20 305 P P 21 13 02.8 -0.4
MUD Monsted U'grnd 72.29 334 *i* P P 21 13 03.6 +0.2
comp=Z,88nm,1.0s,mb5.7
MUD Monsted U'grnd 72.29 334 *i* P P 21 13 03.6 +0.2
MUD pmax pmax
comp=Z,89nm,1.0s,mb5.7
KWP Kalwaria 72.31 322 *eP* P 21 13 04.2 +0.6
GCMT Greycliff 72.34 43 *eP* P 21 13 04.0 +0.2
GCMT *epP* pP 21 13 10.9 -1.4
RGN Rugen 72.39 330 P P 21 13 04.1 +0.1
CTKT Corum 72.45 309 *i* P P 21 13 03.1 -1.6
YMR Madison River 72.45 45 *eP* P 21 13 05.0 +0.4
comp=Z,66nm,1.1s,mb5.5
YMR *epP* pP 21 13 12.7 -0.4
ATAB Bozova 72.50 305 *i* P P 21 12 02.1 -2.9
BURAR Bucovina Array 72.61 320 ⇓P P 21 13 06.0 +0.6
TOS Tosya 72.61 310 P P 21 13 06.9 +1.4
NVAR Mina Array Bea 72.61 54 P P 21 13 05.8 +0.3
comp=Z,35nm,0.8s,mb5.3,baz=278,slow=8.1,SNR=218
NVAR Mina Array Bea 72.61 54 P P 21 13 05.8 +0.3
BALT Daday 72.63 311 *i* P P 21 13 05.0 -0.6
YFT Old Faithful 72.67 45 P P 21 13 08.0 +2.2
MNV Mina 72.69 53 P P 21 13 06.1 0.0
MNV pmax pmax
comp=Z,50nm,1.0s,mb5.4
MNV Mina 72.69 53 P P 21 13 06.2 +0.1
comp=Z,50nm,1.0s,mb5.4
LKWY Lake 72.82 45 P P 21 13 08.5 +1.8
LKWY pmax pmax
comp=Z,47nm,1.0s,mb5.4
LKWY Lake 72.82 45 P P 21 13 08.5 +1.9
comp=Z,47nm,1.0s,mb5.4
ELK Elko 72.83 50 *eP* P 21 13 06.8 0.0
ELK pmax pmax
comp=Z,28nm,1.1s
ELK Elko 72.83 50 *eP* P 21 13 06.8 0.0
comp=Z,28nm,1.1s,mb5.1
ELK *epP* pP 21 13 14.6 -0.7
CFR Carcaliu 72.90 316 ⇓P P 21 13 06.2 -0.9
IMW Indian Meadow 73.00 45 *eP* P 21 13 08.6 +0.8
comp=Z,44nm,0.8s,mb5.4
IMW *epP* pP 21 13 16.6 +0.3
KOLS Kolonicke sedl 73.01 322 *i* P P 21 13 07.9 +0.2
BNN Bunyan 73.03 307 P P 21 13 08.7 +0.7
DGMT Dagmar 73.05 39 *eP* P 21 13 07.7 -0.2
comp=Z,158nm,1.1s,mb5.9
DGMT *epP* pP 21 13 15.1 -1.4
STHS Stebnicka Huta 73.12 323 *i* P P 21 13 09.3 +1.0
VRI Vrincioaia 73.12 318 P P 21 13 08.9 +0.5
VRI Vrincioaia 73.12 318 ⇓P P 21 13 09.4 +1.0
CANT Cankiri 73.12 310 *eP* P 21 13 09.7 +1.1
OJC Ojcow 73.15 324⇑*iP* P 21 13 08.7 +0.2
RRI2 Red Ridge 73.18 46 P P 21 13 09.6 +0.8
SAFT Safranbolu 73.21 311 P P 21 13 09.3 +0.3
KAHT Ahir Dag 73.24 306 *i* P P 21 13 08.8 -0.5
TIRR Tirgusor 73.27 316 *eP* P 21 13 08.9 -0.4
TPAW Teton Pass 73.28 46 *eP* P 21 13 10.1 +0.7
comp=Z,125nm,1.3s,mb5.7
TPAW *epP* pP 21 13 18.4 +0.5
PTRM Twissleman Ran 73.29 57 *eP* P 21 13 09.9 +0.3
ELDT Eldivan 73.31 310 *i* P P 21 13 05.0 -4.6
GAZ Gaziantep 73.34 305 P P 21 13 10.7 +0.8
HARR Harsova 73.35 316 ⇓P P 21 13 09.2 -0.6
CDAG Cicekdag 73.36 309 *i* P P 21 13 04.0 -5.9
LOHW Long Hollow 73.38 45 *eP* P 21 13 09.9 0.0
comp=Z,6.6nm,1.3s
LAO LASA Array 73.39 41 P P 21 13 10.0 0.0
comp=Z,115nm,1.1s,mb5.7
CRVS Cervenica-Dubn 73.40 323 *i* P P 21 13 10.3 +0.3
CRVS *eS* S 21 22 39.1 +3.1
CRVS *eL* 21 46 40.2
SNOW Snow King Moun 73.40 46 *eP* P 21 13 10.8 +0.7
comp=Z,82nm,1.2s,mb5.5
SNOW *epP* pP 21 13 18.7 +0.1
REDW Red Top Meadow 73.42 46 P P 21 13 11.0 +0.8
SHAO Shalim 73.42 279 ⇓P P 21 13 10.6 -0.1
SNR=25
TPH Tonopah 73.48 53 P P 21 13 10.8 +0.1
TPH pmax pmax
comp=Z,82nm,1.0s,mb5.6
TPH Tonopah 73.48 53 P P 21 13 11.2 +0.5
comp=Z,82nm,1.0s,mb5.6
TPH *epP* pP 21 13 18.6 -0.6
HVU Hansel Valley 73.48 48 P P 21 13 10.9 +0.3
NIE Niedzica 73.52 323⇑*iP* P 21 13 11.4 +0.7
AVNT Avonos 73.65 308 *i* P P 21 13 09.8 -1.9
AHID Auburn Hatcher 73.70 46 P P 21 13 12.4 +0.6
comp=Z,38nm,1.0s,mb5.3
BR131 Keskin Array S 73.71 309 P P 21 13 12.2 +0.2
BRTR Keskin Array B 73.71 309 P P 21 13 12.0 0.0
comp=Z,26nm,0.9s,mb5.2,baz=56,slow=4.5,SNR=111
BRTR PP PP 21 15 44.9 -13
comp=Z,6.1nm,0.8s,baz=55,slow=8.9,SNR=3.7
MLR Muntele Rosu 73.77 318 P P 21 13 12.8 +0.6
MLR Muntele Rosu 73.77 318 ⇓P P 21 13 13.1 +0.9
RUE Ruedersdorf 73.84 329 P P 21 13 12.5 0.0
KAMT Kaman 73.91 309 P P 21 13 13.2 0.0
PSN Preselentsi 73.93 315 P P 21 13 14.0 +0.9
RAC Raciborz 73.93 325 *eP* P 21 13 13.9 +0.9
RAC MLR MLR 21 45 46.8
BGU Big Grassy Mou 73.93 49 *eP* P 21 13 13.7 +0.5
BGU *epP* pP 21 13 23.9 +2.2
BSEG Bad Segeberg 73.94 331 *eP* P 21 13 12.8 -0.2
KOZT Kozan 73.96 306 P P 21 13 13.9 +0.5
SPUT South Promonto 73.99 48 P P 21 13 14.4 +0.9
SGKT Sivrigoynuk 74.02 311 *i* P P 21 13 11.7 -2.0
ANTO Ankara 74.09 310 *eP* P 21 13 14.7 +0.6
ANTO *e**PP pP 21 13 22.7 0.0
ANTO pmax pmax
comp=Z,145nm,1.1s,mb5.8
ANTO Ankara 74.09 310 *eP* P 21 13 14.7 +0.6
comp=Z,145nm,1.1s,mb5.8
ANTO *epP* pP 21 13 22.7 0.0
LOD Lodumlu 74.09 310 *eP* P 21 13 14.4 +0.2
KSP Ksiaz 74.13 326 *eP* P 21 13 14.9 +0.8
KSP Ksiaz 74.13 326⇑*eP* P 21 13 14.4 +0.3
KSP *eS* S 21 22 45.5 +1.4
KSP MLR MLR
comp=Z,3μm,15.2s,MS5.7
KSP Ksiaz 74.13 326⇑*eP* P 21 13 14.4 +0.3
KSP *epP* pP 21 13 22.0 -0.7
KSP *eS* S 21 22 45.5 +1.4
KSP LR LR
comp=Z,3μm,15.2s,MS5.7
OKC Ostrava-Krasne 74.14 325⇑*iP* P 21 13 14.6 +0.4
KECS Kecovo 74.14 323 *iP* P 21 13 14.5 +0.2
VOIR 74.25 318 ⇑P P 21 13 15.8 +0.8
HWUT Hardware Ranch 74.26 47 P P 21 13 15.5 +0.4
comp=Z,94nm,1.1s,mb5.6
FORT Forrest 74.28 190 *eP* P 21 13 15.6 +0.2
comp=Z,169nm,0.8s,mb6.0
CEYT Ceyhan 74.32 306 P P 21 13 16.2 +0.7
LIKS Likavka 74.32 324 *eP* P 21 13 16.0 +0.7
ISA Isabella 74.34 56 *eP* P 21 13 14.5 -1.2
ISA pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
ISA Isabella 74.34 56 *eP* P 21 13 14.5 -1.2
comp=Z,3.5nm,0.3s,mb4.8
ISA *epP* pP 21 13 22.5 -1.8
COBT Iskenderun 74.35 305 *iP* P 21 13 12.7 -3.1
DRGR 74.38 320 P P 21 13 15.5 -0.2
DRGR 74.38 320 ⇓P P 21 13 15.6 -0.1
MTUR Matau 74.40 318 P P 21 13 16.1 +0.3
MORC Moravsky Berou 74.44 325 P P 21 13 16.4 +0.5
MORC *e**PP pP 21 13 24.7 +0.2
MORC pmax pmax
comp=Z,160nm,1.0s,mb5.9
MORC Moravsky Berou 74.44 325 P P 21 13 16.4 +0.5
comp=Z,160nm,1.0s,mb5.9
MORC *epP* pP 21 13 24.7 +0.2
DAC Darwin (Calif) 74.46 55 P P 21 13 16.2 -0.2
DAC *epP* pP 21 13 23.9 -1.0
HENT Hendek 74.48 312 *iP* P 21 13 11.7 -4.7
DPC Dobruska-Polom 74.50 326⇑*iP* P 21 13 17.0 +0.7
DPC AMS AMS 21 50 40.0
comp=Z,2μm,9.5s
DPC Dobruska-Polom 74.50 326⇑*iP* P 21 13 17.0 +0.7
UPC Upice 74.50 326⇑*iP* P 21 13 16.7 +0.4
BW06 Boulder Array 74.51 45 P P 21 13 16.5 0.0
comp=Z,97nm,0.9s,mb5.7
PDAR Pinedale Array 74.51 45 P P 21 13 16.4 -0.2
comp=Z,70nm,0.8s,mb5.6,baz=304,slow=1.8,SNR=316
BUC1 Bucharest 74.55 317 P P 21 13 17.4 +0.7
DUG Dugway 74.56 49 P P 21 13 17.2 +0.4
DUG pmax pmax
comp=Z,62nm,1.1s,mb5.5
DUG Dugway 74.56 49 P P 21 13 17.2 +0.4
comp=Z,62nm,1.1s,mb5.5
MDU Mudurnu 74.56 311 P P 21 13 16.8 0.0
KARA Karaisali 74.56 307 P P 21 13 17.5 +0.6
NOQ North Oquirrh 74.62 48 P P 21 13 18.2 +1.0
STKA Stephens Creek 74.67 178⇑*iP* P 21 13 18.0 +0.3
comp=Z,25nm,0.9s,mb5.2
STKA Stephens Creek 74.67 178 P P 21 13 18.1 +0.5
comp=Z,41nm,1.1s,mb5.3,baz=352,slow=7.1,SNR=22
TCUT Toone Canyon 74.68 48 P P 21 13 18.4 +0.8
HTY Hatay 74.69 305 P P 21 13 18.2 +0.6
RBK Rabkut 74.78 280 ⇑P P 21 13 17.6 -1.0
SNR=26
TPNV Topopah Spring 74.81 54 *eP* P 21 13 18.5 +0.1
TPNV pmax pmax
comp=Z,77nm,0.9s,mb5.6
TPNV Topopah Spring 74.81 54 *eP* P 21 13 18.5 +0.1
comp=Z,77nm,0.9s,mb5.6
TPNV *epP* pP 21 13 25.2 -1.7
WHFO Wadi Hawf 74.83 280 ⇓P P 21 13 17.8 -1.0
SNR=44
PSZ Piszkesteto 74.83 323⇑*iP* P 21 13 18.9 +0.6
PSZ Piszkesteto 74.83 323 P P 21 13 19.1 +0.8
PSZ *e**PP pP 21 13 27.9 +1.1
PSZ pmax pmax
comp=Z,160nm,1.3s,mb5.8
PSZ Piszkesteto 74.83 323 P P 21 13 19.1 +0.8
comp=Z,160nm,1.3s,mb5.8
PSZ *epP* pP 21 13 27.9 +1.0
KRTS Karatas 74.84 306 P P 21 13 19.4 +0.8
VYHS Vyhne 74.86 324 *i* P P 21 13 19.1 +0.7
VYHS *eS* S 21 22 55.8 +3.5
VYHS *eL* 21 47 08.0
BRG Berggiesshubel 75.04 328 *i* P P 21 13 19.4 0.0
BRG *i* pP 21 13 26.8 -1.2
BRG *i* 21 16 02.7
BRG S S 21 22 59.0 +4.7
BRG pmax pmax
comp=Z,98nm,1.0s,mb5.7
BRG Berggiesshubel 75.04 328 *i* P P 21 13 19.4 0.0
comp=Z,98nm,1.0s,mb5.7
BRG *i* pP 21 13 26.8 -1.2
BRG *i* 21 16 02.7
BRG S S 21 22 59.0 +4.7
BRG *e* 21 30 21.7
CLL Collm 75.06 328 ⇑P P 21 13 19.2 -0.3
comp=Z,logA/T=2.4,mb6.1
CLL *i* *PP pP 21 13 26.9 -1.2
CLL Collm 75.06 328⇑*iP* P 21 13 19.2 -0.3
CLL *i* pP 21 13 26.9 -1.2
CLL pmax pmax
comp=Z,228nm,0.9s,mb6.1
CLL Collm 75.06 328⇑*iP* P 21 13 19.2 -0.3
comp=Z,228nm,0.9s,mb6.1
CLL *i* pP 21 13 26.9 -1.2
PVCC Panska Ves 75.07 327⇑*iP* P 21 13 20.0 +0.4
NLU North Lily Min 75.13 49 P P 21 13 21.1 +1.0
MERS Mersin 75.14 307 P P 21 13 20.4 +0.1
HRT Hereke 75.15 312 *eP* P 21 13 19.5 -0.8
VRAC Vranov 75.19 325 P P 21 13 21.1 +0.8
VRAC Vranov 75.19 325 ⇓P P 21 13 21.4 +1.1
DAU Daniels Canyon 75.26 48 P P 21 13 21.5 +0.6
DAU Daniels Canyon 75.26 48 *eP* P 21 13 21.6 +0.7
DAU *epP* pP 21 13 30.8 +1.3
ULM Lac du Bonnet 75.27 33 P P 21 13 19.8 -0.9
comp=Z,99nm,0.8s,mb5.8,baz=321,slow=6.4,SNR=160
KIZT Kizilcal 75.28 310 P P 21 13 20.9 -0.2
ISK Istanbul-Kandi 75.31 313 P P 21 13 19.9 -1.2
MPU Maple Canyon 75.33 49 P P 21 13 22.2 +0.9
SZH Strazhica 75.38 316 P P 21 13 22.0 +0.5
ZIMR 75.38 317 ⇓P P 21 13 21.8 +0.3
BORA Eskisehir 75.38 311 *iP* P 21 13 16.5 -5.1
KDHN Kadinhani 75.40 309 *iP* P 21 13 23.2 +1.5
ESKT Eskisehir 75.41 311 P P 21 13 21.5 -0.3
ESKT Eskisehir 75.41 311 *iP* P 21 13 20.3 -1.5
SMOL Smolenice 75.45 324 *iP* P 21 13 23.0 +1.2
PRA Prague 75.48 327 ⇑P P 21 13 23.0 +1.1
YLV Yalova 75.49 312 P P 21 13 21.3 -0.9
PRU Pruhonice 75.50 327⇑*iP* P 21 13 22.5 +0.4
PRU AMS AMS 21 50 10.0
comp=Z,2μm,9.7s
ABTO Aybut 75.53 280 ⇓P P 21 13 22.2 -0.7
SNR=24
BUD Budapest 75.54 323⇑*eP* P 21 13 22.9 +0.5
MEST Erdemli 75.55 307 *iP* P 21 13 22.2 -0.4
MWC Mount Wilson 75.56 57 P P 21 13 22.2 -0.6
MWC Mount Wilson 75.56 57 P P 21 13 22.3 -0.5
ELBA Catalca 75.59 313 *iP* P 21 13 16.5 -6.3
GSC Goldstone 75.59 55 P P 21 13 22.8 -0.1
SRO Srobarova 75.61 323 *iP* P 21 13 24.0 +1.3
JMB Yambol 75.62 315 P P 21 13 23.0 +0.1
CLZ Clausthal 75.62 330 *eP* P 21 13 22.8 +0.1
CLZ *e* 21 13 34.2
CLZ pmax pmax
comp=Z,238nm,1.0s,mb6.1
CLZ Clausthal 75.62 330 *eP* P 21 13 22.8 +0.1
comp=Z,238nm,1.0s,mb6.1
CLZ *e*PcP PcP 21 13 34.2 -1.6
KONT Konya--Tatoy 75.65 309 P P 21 13 23.3 +0.1
TREC Trest 75.66 326⇑*iP* P 21 13 23.4 +0.4
TREC AMS AMS 21 51 00.0
comp=Z,2μm,11.2s
PVL Pavlikeni 75.72 316 P P 21 13 24.0 +0.6
SHPR Sheep Range 75.75 53 P P 21 13 24.2 +0.5
BZS Buzias 75.76 320 P P 21 13 23.9 +0.3
BZS Buzias 75.76 320 ⇓P P 21 13 24.1 +0.4
FKH Fakeheh 75.80 304 *eP* P 21 13 24.6 +0.5
ZST Bratislava 75.83 324 *iP* P 21 13 25.4 +1.4
ZST *eL* 21 46 24.8
ARUT Antelope Range 75.86 51 *eP* P 21 13 24.6 +0.2
ULDT Uludag 75.92 312 *iP* P 21 13 22.2 -2.4
EDRB Edirne 75.98 315 P P 21 13 25.3 +0.4
IKL Isikli 76.06 307 P P 21 13 25.1 -0.4
MVU Marysvale 76.06 50 P P 21 13 27.9 +2.4
comp=Z,48nm,1.1s,mb5.3
TMUT Trail Mountain 76.07 49 P P 21 13 26.0 +0.5
MSU Marysvale 76.08 50 P P 21 13 26.4 +0.8
VKA Vienna 76.11 325⇑*iP* P 21 13 26.5 +0.9
WIT Witteveen 76.12 333⇑*iP* P 21 13 26.3 +0.9
comp=Z,956nm,1.0s,mb6.7
MOX Moxa 76.12 329 *iP* P 21 13 25.6 0.0
comp=Z,logA/T=2.1,mb5.8
MOX QM 21 45 14.0
MOX RM 21 48 05.0
MOX Moxa 76.12 329 *eP* P 21 13 25.6 0.0
MOX pmax pmax
comp=Z,186nm,1.5s,mb5.8
MOX MLR MLR
comp=Z,1μm,17.0s,MS5.2
MOX Moxa 76.12 329 *eP* P 21 13 25.6 0.0
comp=Z,186nm,1.5s,mb5.8
MOX LR LR
comp=Z,1μm,17.0s,MS5.2
NKC Novy Kostel 76.13 328⇑*iP* P 21 13 26.1 +0.5
NKC AMS AMS 21 48 20.0
comp=Z,2μm,12.0s
ERMK Ermenek 76.23 307 *iP* P 21 13 19.4 -7.1
RSSD Black Hills 76.32 42 P P 21 13 27.1 +0.3
RSSD pmax pmax
comp=Z,81nm,1.1s,mb5.6
RSSD Black Hills 76.32 42 P P 21 13 27.1 +0.3
comp=Z,81nm,1.1s,mb5.6
MFT Murefte 76.46 314 P P 21 13 26.6 -1.1
DIM Dimitrovgrad 76.46 316 P P 21 13 28.8 +1.2
SOP Sopron 76.46 324⇑*iP* P 21 13 28.7 +1.2
BHL Bhannes 76.48 304 *eP* P 21 13 27.9 0.0
RWWY Rawlins 76.50 45 P P 21 13 27.9 +0.1
NEN Nelson 76.52 54 *eP* P 21 13 28.3 +0.2
KHC Kasperske Hory 76.56 327⇑*iP* P 21 13 28.6 +0.5
KHC AMS AMS 21 50 30.0
comp=Z,2μm,13.2s
SRU San Rafael 76.58 49 P P 21 13 28.6 +0.2
SRU pmax pmax
comp=Z,79nm,1.0s,mb5.6
SRU San Rafael 76.58 49 P P 21 13 28.4 0.0
PKSM Moragy 76.68 322 P P 21 13 28.7 -0.1
PHNC Paralimni 76.70 306 P P 21 13 29.3 +0.1
GEC2 GERESS Array S 76.74 327 *eP* P 21 13 29.1 0.0
GEC2 *e* pP 21 13 39.3 +1.6
GEC2 pmax pmax
comp=Z,137nm,1.6s,mb5.6
GEC2 GERESS Array S 76.74 327 *eP* P 21 13 29.1 0.0
comp=Z,137nm,1.6s,mb5.6
GEC2 *e*PcP PcP 21 13 39.3 -1.4
GERES GERESS Array B 76.74 327 P P 21 13 29.3 +0.2
comp=Z,19nm,0.8s,mb5.0,baz=34,slow=4.8,SNR=90
LDFC Landfair 76.76 54 *eP* P 21 13 29.4 0.0
ISP Isparta 76.78 310 P P 21 13 29.7 +0.2
WTSB Winterswijk 76.78 332⇑*iP* P 21 13 29.1 -0.1
comp=Z,237nm,1.0s,mb6.1
BTOK Tokmak 76.79 312 *iP* P 21 13 28.0 -1.5
PGB Panagyurishte 76.79 317 P P 21 13 30.0 +0.5
WET Wettzell 76.83 327 *eP* P 21 13 30.1 +0.5
WET pmax pmax
comp=Z,207nm,1.3s,mb5.9
WET Wettzell 76.83 327 *eP* P 21 13 30.1 +0.5
comp=Z,207nm,1.3s,mb5.9
MZLS Mizel 76.87 291 P P 21 13 30.0 -0.3
SVIS Svilajnac 76.94 319⇓*iP* P 21 13 30.0 -0.3
HILS Ha'il 76.95 295 P P 21 13 30.8 +0.1
KLBR Kellerberrin 76.95 199 *eP* P 21 13 30.2 -0.4
comp=Z,63nm,0.9s,mb5.5
BALB Balikesir 76.95 312 P P 21 13 29.7 -0.8
KSDI Kefar Szold 76.96 303 P P 21 13 30.6 0.0
ALN Alexandroupoli 77.03 314 *eP* P 21 13 31.2 +0.4
GRA1 Grafenberg Arr 77.04 328 *eP* P 21 13 31.3 +0.6
comp=Z,407nm,1.2s,mb6.2
GRF Grafenberg Arr 77.04 328 *eP* P 21 13 31.3 +0.6

GRF pmax pmax
comp=Z,407nm,1.2s,mb6.2
GRF MLR MLR
comp=Z,700nm,18.5s,MS5.0
GRF Grafenberg Arr 77.04 328 *eP* **P 21 13 31.3 +0.6**
comp=Z,407nm,1.2s,mb6.2
GRF LR LR
comp=Z,700nm,18.5s,MS5.0
MAMC Mammari 77.07 306 P **P 21 13 30.4 -0.8**
RZN Rozhen 77.14 316 P **P 21 13 32.0 +0.6**
CSS Prodhromos 77.15 306 P **P 21 13 31.7 +0.1**
CSS Prodhromos 77.15 306 *eP* **P 21 13 31.5 -0.1**
comp=Z,111nm,1.3s,mb5.6
QURS Qurayyt al Mil 77.15 301 P **P 21 13 32.5 +0.7**
VTS Vitosha 77.24 317 P **P 21 13 32.7 +0.7**
VTS Vitosha 77.24 317 ⇓*iP* **P 21 13 33.2 +1.2**
ARSA Arzberg 77.24 325 ⇓*iP* **P 21 13 32.0 +0.1**
comp=Z,1μm,4.5s,SNR=15
ARSA Arzberg 77.24 325 ⇓*iP* **P 21 13 32.0 +0.1**
comp=Z,1μm,4.4s
MOA Molln 77.30 326 *iP* **P 21 13 32.7 +0.5**
comp=Z,486nm,3.0s,SNR=13
MOA Molln 77.30 326 *iP* **P 21 13 32.7 +0.5**
comp=Z,486nm,3.0s
HNTI Hanita 77.33 303 P **P 21 13 33.0 +0.3**
BAR Barrett 77.46 57 P **P 21 13 33.0 -0.4**
GRUS Gruza 77.48 319 *eP* **P 21 13 33.1 -0.2**
MMLI Mount Malkishu 77.62 303 P **P 21 13 35.1 +0.8**
HAF Haifa 77.63 303 P **P 21 13 34.5 +0.2**
TNS Taunus Mts 77.64 330 *eP* **P 21 13 34.1 +0.1**
TNS pmax pmax
comp=Z,191nm,1.4s,mb5.8
TNS Taunus Mts 77.64 330 *eP* **P 21 13 34.1 +0.1**
comp=Z,191nm,1.4s,mb5.8
DIVS Divcibare 77.67 320 ⇓*iP* **P 21 13 33.4 -0.9**
PHWY Pilot Hill 77.69 44 P **P 21 13 34.7 +0.2**
MUN Mundaring 77.70 200 *eP* **P 21 13 35.0 +0.3**
DNZL Cakiroluk 77.70 310 *iP* **P 21 13 30.9 -3.8**
GOLH Golhisar 77.74 310 *iP* **P 21 13 25.1 -10**
BARS Barje 77.75 318 ⇓*iP* **P 21 13 34.5 -0.3**
OFRI 'Ofer 77.76 303 P **P 21 13 35.4 +0.3**
PPCY Paphos 77.78 306 ⇑P **P 21 13 34.8 -0.3**
AYVA Ayvalik 77.83 313 *iP* **P 21 13 31.8 -3.5**
KKB Krupnik 77.83 317 P **P 21 13 36.0 +0.7**
ELL Elmali 77.89 309 P **P 21 13 35.5 -0.1**
PERS Pernice 77.90 324 *eP* **P 21 13 36.1 +0.6**
PERS *e* pP 21 13 43.6 -0.5
SIND Sindeldorf 77.93 329 ⇑*eP* **P 21 13 35.7 +0.1**
TOD Tromm 78.02 330 ⇑*eP* **P 21 13 36.4 +0.3**
TOD Tromm 78.02 330 ⇑*eP* **P 21 13 36.5 +0.4**
HGN Heimansgroeve 78.08 332 ⇑*iP* **P 21 13 36.1 -0.3**
comp=Z,155nm,1.1s,mb5.8
HGN *eS* S 21 23 28.2 +0.8
comp=Z,149nm,1.3s
BBLS Bajina Basta - 78.11 320 *eP* **P 21 13 38.8 +2.1**
SRS Serrai 78.13 316 *eP* **P 21 13 37.1 +0.2**
SWS Schriesheim 78.16 330 ⇑*eP* **P 21 13 37.1 +0.2**
GOLS Golise 78.17 324 *iP* **P 21 13 37.1 +0.1**
KDAG Bornova 78.17 312 *iP* **P 21 13 32.8 -4.4**
IZM Izmir 78.18 312 P **P 21 13 37.1 -0.1**
OBKA Obir 78.24 325 ⇑*iP* **P 21 13 37.8 +0.4**
comp=Z,601nm,3.4s,SNR=8.2
ABH Alteburg 78.25 331 ⇑*eP* **P 21 13 37.6 +0.2**
FUR Furstenfeldbru 78.25 327 *eP* **P 21 13 37.9 +0.5**
FUR *e* pP 21 13 46.3 +0.3
FUR pmax pmax
comp=Z,371nm,1.4s,mb6.1
FUR Furstenfeldbru 78.25 327 *eP* **P 21 13 37.9 +0.5**
comp=Z,371nm,1.4s,mb6.1
FUR *e*PcP PcP 21 13 46.3 -0.9
GCIS Gornji Cirnik 78.28 324 *iP* **P 21 13 37.9 +0.3**
KBA Koelnbreinsper 78.29 326 ⇓*iP* **P 21 13 38.4 +0.8**
comp=Z,395nm,1.8s,mb6.0,SNR=20
KBA Koelnbreinsper 78.29 326 ⇓*iP* **P 21 13 38.4 +0.8**
KBA pmax pmax
comp=Z,395nm,1.8s,mb6.0
GLA Glamis 78.33 56 *eP* **P 21 13 38.3 +0.2**
HDH Heidenheim 78.33 328 ⇑*eP* **P 21 13 37.9 +0.1**
WIM Isle of Man 78.33 339 ⇑*eP* **P 21 13 37.7 -0.1**
WIM AMb AMB 21 13 39.1
comp=Z,258nm,1.2s,mb6.0
NWAO Narrogin (SRO) 78.36 199 P **P 21 13 38.8 +0.5**
NWAO pmax pmax
comp=Z,139nm,1.0s
NWAO Narrogin (SRO) 78.36 199 P **P 21 13 38.8 +0.5**
comp=Z,139nm,1.0s,mb5.8
AYDN Tasoluk 78.37 311 *iP* **P 21 13 38.5 +0.2**
AKAS Kas 78.42 309 *iP* **P 21 13 32.8 -5.8**
MZDA Masada 78.43 302 P **P 21 13 39.3 +0.6**
FETY Fethiye 78.43 310 P **P 21 13 36.4 -2.2**
AFFS 'Afif 78.44 292 P **P 21 13 38.9 -0.1**
SMCO Snowmass 78.45 47 *eP* **P 21 13 39.3 +0.6**
comp=Z,70nm,1.0s,mb5.5
SMCO *e*pP pP 21 13 49.3 +2.0
KNT Kendrikon 78.45 316 *eP* **P 21 13 38.0 -0.7**
SOH Sokhos 78.47 316 *eP* **P 21 13 38.6 -0.1**
OUR Ouranopolis 78.51 316 *eP* **P 21 13 39.7 +0.7**
KTD Kalmit 78.52 330 *eP* **P 21 13 39.1 +0.2**
YER Yerkesik 78.53 310 P **P 21 13 39.9 +0.8**
STU Stuttgart 78.56 329 *eP* **P 21 13 39.3 +0.2**
STU *e* pP 21 13 46.9 -0.8
STU pmax pmax
comp=Z,181nm,1.1s,mb5.9
STU Stuttgart 78.56 329 *eP* **P 21 13 39.3 +0.2**
comp=Z,181nm,1.1s,mb5.9
STU *e*PcP PcP 21 13 46.9 -1.6
RUP Ruppelstein 78.58 331 ⇑*eP* **P 21 13 39.4 +0.2**
RUP Ruppelstein 78.58 331 ⇑*eP* **P 21 13 39.5 +0.3**
LJU Ljubljana 78.61 324 *iP* **P 21 13 39.9 +0.5**
WUAZ Wupatki 78.64 52 P **P 21 13 40.8 +1.0**
comp=Z,64nm,1.1s,mb5.5
WUAZ *e*PcP PcP 21 13 48.2 -0.9
MLSB Milas 78.69 311 P **P 21 13 40.4 +0.4**
ISCO Idaho Springs 78.71 45 P **P 21 13 40.8 +0.7**
ISCO pmax pmax
comp=Z,59nm,1.1s,mb5.4
ISCO Idaho Springs 78.71 45 P **P 21 13 40.9 +0.8**
comp=Z,59nm,1.2s,mb5.4
BOJS Bojanci 78.73 324 *eP* **P 21 13 40.1 +0.1**
LBG Lerchenberg 78.80 329 ⇑*eP* **P 21 13 40.7 +0.3**
WATA Walderalm 78.80 327 ⇓*iP* **P 21 13 41.0 +0.6**
comp=Z,184nm,1.5s,mb5.8,SNR=23
WATA Walderalm 78.80 327 ⇓*iP* **P 21 13 41.0 +0.5**
WATA pmax pmax
comp=Z,184nm,1.5s,mb5.8
THE Thessaloniki 78.81 316 *eP* **P 21 13 40.2 -0.5**
EYMN Ely 78.84 32 P **P 21 13 40.4 -0.3**
comp=Z,153nm,1.1s,mb5.8
EYMN *e*pP pP 21 13 50.5 +1.2
WTTA Wattenberg 78.84 327 *iP* **P 21 13 41.4 +0.7**
comp=Z,515nm,2.0s,mb6.1,SNR=19
GRG Griva 78.85 317 *eP* **P 21 13 41.1 +0.2**
WME Myndd Eilian 78.91 339 *eP* **P 21 13 40.6 -0.3**
WLF Walferdange 78.93 331 P **P 21 13 41.3 +0.2**
WLF pmax pmax
comp=Z,250nm,1.7s,mb5.9
WLF Walferdange 78.93 331 P **P 21 13 41.8 +0.7**
comp=Z,252nm,1.8s,mb5.8
WLF *e*PcP PcP 21 13 49.0 -1.1
WPM1 Penmaenmawr 78.93 339 ⇑*eP* **P 21 13 41.0 0.0**
WPM1 AMb AMB 21 13 42.6
comp=Z,255nm,1.2s,mb6.0
PAIG Paliouri 78.97 315 *eP* **P 21 13 41.5 0.0**
MOTA Moosalm 78.98 327 ⇑*iP* **P 21 13 42.1 +0.6**
comp=Z,199nm,1.2s,mb5.9,SNR=38
MOTA Moosalm 78.98 327 ⇑*iP* **P 21 13 42.1 +0.6**
MOTA pmax pmax
comp=Z,199nm,1.2s,mb5.9
WCB1 Church Bay 78.99 339 ⇑*eP* **P 21 13 40.9 -0.5**
WCB1 AMb AMB 21 13 42.5
comp=Z,119nm,1.3s,mb5.7
GIVF Givet 79.02 332 ⇑*iP* **P 21 13 41.1 -0.5**
comp=Z,142nm,1.0s,mb5.5
GIVF Givet 79.02 332 ⇑*iP* **P 21 13 41.1 -0.5**
GIVF pmax pmax
comp=Z,71nm,1.0s,mb5.5
WLF1 Llynfaes 79.03 339 ⇑*eP* **P 21 13 41.3 -0.3**
WLF1 AMb AMB 21 13 43.6
comp=Z,117nm,1.3s,mb5.7
SQTA Sankt Quirin 79.04 327 ⇑*iP* **P 21 13 42.4 +0.6**
comp=Z,175nm,1.4s,mb5.8,SNR=10
SQTA Sankt Quirin 79.04 327 ⇑*iP* **P 21 13 42.4 +0.6**
SQTA pmax pmax
comp=Z,175nm,1.4s,mb5.8

ZFRI Zfri 79.06 302 P **P 21 13 42.9 +0.7**
SBD1 Bryn Du 79.07 338 ⇑*eP* **P 21 13 42.1 +0.3**
SBD1 AMb AMB 21 13 43.6
comp=Z,333nm,1.0s,mb6.2
UBR Uberruh 79.10 328 ⇑*eP* **P 21 13 42.3 +0.2**
YLL Llanberis 79.11 339 *eP* **P 21 13 42.0 0.0**
YRC Rhoscolyn 79.12 339 *eP* **P 21 13 41.9 -0.2**
GUT Gutenstein 79.17 329 ⇑*eP* **P 21 13 42.7 +0.3**
BFO Black Forest 79.25 329 *eP* **P 21 13 43.0 +0.1**
BFO *e* pP 21 13 51.4 -0.1
BFO pmax pmax
comp=Z,278nm,1.4s,mb6.0
BFO Black Forest 79.25 329 *eP* **P 21 13 43.0 +0.1**
comp=Z,278nm,1.4s,mb6.0
BFO *e*PcP PcP 21 13 51.4 -0.1
SPAK Spaichingen 79.27 329 ⇑*eP* **P 21 13 43.3 +0.3**
SPAK Spaichingen 79.27 329 ⇑*eP* **P 21 13 43.4 +0.4**
BAIF Baives 79.27 332 ⇑*iP* **P 21 13 42.6 -0.3**
comp=Z,170nm,1.3s,mb5.5
BAIF Baives 79.27 332 ⇑*iP* **P 21 13 42.6 -0.3**
BAIF pmax pmax
comp=Z,85nm,1.3s,mb5.5
ARG Arkhangelos 79.27 310 *eP* **P 21 13 43.5 +0.3**
KZIT Kziot 79.31 302 P **P 21 13 43.9 +0.3**
HLM1 Long Mynd 79.31 338 ⇑*eP* **P 21 13 43.0 -0.1**
HLM1 AMb AMB 21 13 45.7
comp=Z,126nm,1.3s,mb5.7
YRE Yr Eifl 79.32 339 ⇑*eP* **P 21 13 43.2 0.0**
YRE AMb AMB 21 13 45.3
comp=Z,217nm,2.0s,mb5.7
SKP1 Kophill 79.42 336 ⇑*eP* **P 21 13 43.2 -0.5**
LIT Litokhoron 79.45 316 *eP* **P 21 13 43.9 -0.2**
SSP1 Stoney Pound 79.47 338 ⇑*eP* **P 21 13 43.9 0.0**
SSP1 AMb AMB 21 13 46.2
comp=Z,110nm,1.2s,mb5.7
SSW Stow on the Wo 79.51 337 ⇑*eP* **P 21 13 43.2 -1.0**
DAVA Damuels 79.52 328 ⇑*iP* **P 21 13 44.9 +0.6**
comp=Z,607nm,3.2s,SNR=25
DAVA Damuels 79.52 328 ⇑*iP* **P 21 13 44.9 +0.6**
comp=Z,607nm,3.2s
MENF Mencas 79.52 334 *eP* **P 21 13 44.0 -0.3**
WLS Welschbruch 79.54 330 *eP* **P 21 13 44.6 +0.1**
CDF Champ du Feu 79.57 330 ⇑*iP* **P 21 13 44.6 0.0**
comp=Z,359nm,1.4s,mb5.8
CDF Champ du Feu 79.57 330 ⇑*iP* **P 21 13 44.6 0.0**
CDF pmax pmax
comp=Z,180nm,1.4s,mb5.8
DLF Lyons Farm 79.58 340 ⇑*iP* **P 21 13 44.5 0.0**
DSB Dublin 79.59 340 *eP* **P 21 13 44.6 0.0**
comp=Z,112nm,1.1s,mb5.7
DSB *e*PcP PcP 21 13 52.4 -0.4
XOR Xorichti 79.64 315 *eP* **P 21 13 45.0 -0.2**
LIBD Limburg 79.67 329 ⇑*eP* **P 21 13 45.6 +0.5**
LIBD Limburg 79.67 329 *eP* **P 21 13 45.4 +0.3**
KBRS Khaybar 79.69 296 P **P 21 13 46.3 +0.6**
KIZ Kirchzarten 79.72 329 ⇑*eP* **P 21 13 45.3 -0.1**
DCN Croghan 79.72 340 ⇑*iP* **P 21 13 45.4 +0.1**
FELD Feldberg 79.75 329 ⇑*eP* **P 21 13 45.6 0.0**
MBH Mount Berech 79.75 301 P **P 21 13 46.7 +0.7**
KAMS Al Khamasin 79.77 288 P **P 21 13 45.9 -0.3**
ECH Echery 79.78 330 ⇑*eP* **P 21 13 45.7 0.0**
TBKS Tabuk 79.80 299 P **P 21 13 46.9 +0.7**
MCH1 Michaelchurch 79.81 337 ⇑*eP* **P 21 13 45.7 -0.1**
MCH1 AMb AMB 21 13 47.3
comp=Z,155nm,1.2s,mb5.8
HTR Trewern Hill 79.81 338 ⇑*eP* **P 21 13 45.9 +0.1**
HTR AMb AMB 21 13 47.4
comp=Z,171nm,1.5s,mb5.8
EIL Elat 79.82 301 P **P 21 13 46.8 +0.5**
SCHQ Schefferville 79.89 15 P **P 21 13 46.0 -0.2**
comp=Z,64nm,0.9s,mb5.5,baz=352,slow=6.7,SNR=29
SCHQ Schefferville 79.89 15 *eP* **P 21 13 46.0 -0.2**
comp=Z,107nm,1.1s,mb5.7
SWN1 Swindon 79.90 337 ⇑*eP* **P 21 13 46.6 +0.4**
FUORN Ofenpass 79.91 327 P **P 21 13 47.5 +1.0**
BRMO Bormio 79.98 327 P **P 21 13 47.6 +0.7**
ALWS Ilw as Safayha 79.99 301 P **P 21 13 48.0 +0.7**
JMOS Jabal al Moall 80.06 301 P **P 21 13 48.4 +0.7**
HGH Gray Hill 80.08 337 ⇑*eP* **P 21 13 46.8 -0.4**
HGH AMb AMB 21 13 48.7
comp=Z,303nm,1.1s,mb6.1
MOF Molkenrain 80.09 330 ⇑*eP* **P 21 13 47.5 +0.1**
THEF They Montfort 80.20 330 *eP* **P 21 13 48.1 +0.1**
HINF Hinteralfeld 80.23 330 ⇑*iP* **P 21 13 47.6 -0.5**
comp=Z,303nm,1.8s,mb5.6
HINF Hinteralfeld 80.23 330 ⇑*iP* **P 21 13 47.6 -0.5**
HINF pmax pmax
comp=Z,152nm,1.8s,mb5.6
HAU Haudompre 80.25 330 ⇑*iP* **P 21 13 48.0 -0.3**
comp=Z,155nm,1.3s,mb5.5
HAU *e*R
comp=Z,876nm,19.8s
HAU Haudompre 80.25 330 ⇑*iP* **P 21 13 48.0 -0.3**
HAU pmax pmax
comp=Z,78nm,1.3s,mb5.5
HAU MLR MLR
comp=Z,880nm,19.8s,MS5.1
HAQS Haql 80.26 301 P **P 21 13 49.4 +0.8**
BBS Basel-Blauen 80.28 329 ⇑*eP* **P 21 13 48.7 +0.3**
SDCO Great Sand Dun 80.28 47 P **P 21 13 49.1 +0.5**
comp=Z,45nm,1.1s,mb5.3
MEZF Maizieres J'vi 80.30 331 ⇑*iP* **P 21 13 48.6 +0.1**
comp=Z,448nm,1.4s,mb5.9
AGG Agios Georgios 80.34 315 *eP* **P 21 13 48.3 -0.6**
SWK Warminster 80.35 337 ⇑*eP* **P 21 13 49.0 +0.3**
MUKL Al Mukalla 80.50 281 ⇑*eP* **P 21 13 50.1 -0.1**
MUKL AMb AMB 21 13 50.9
comp=Z,60nm,0.7s,mb5.6
TOO Toolangi 80.51 175 *eP* **P 21 13 50.8 +0.9**
comp=Z,22nm,1.5s,mb4.9
TOO Toolangi 80.51 175 *eP* **P 21 13 50.8 +0.9**
TOO pmax pmax
comp=Z,22nm,1.5s,mb4.9
BDAS Al Bad' 80.58 300 P **P 21 13 51.1 +0.7**
JAN Janina 80.61 317 *eP* **P 21 13 51.0 +0.7**
LOMF Lomont 80.63 329 ⇑*eP* **P 21 13 50.6 +0.3**
AYUS 'Aynunah 80.64 300 P **P 21 13 51.4 +0.7**
EVR Evrytania 80.68 316 *eP* **P 21 13 50.0 -0.7**
IGT Igoumenitsa 80.97 317 *eP* **P 21 13 52.0 -0.2**
MUGIO Muggio 80.97 327 P **P 21 13 51.7 -0.4**
TATS Tatihith 81.05 288 P **P 21 13 53.6 +0.5**
KEK Kerkira 81.10 317 *eP* **P 21 13 53.0 +0.1**
VAI Varese 81.12 328 P **P 21 13 52.6 -0.3**
VAI pmax pmax
comp=Z,300nm,1.2s,mb6.1
VAI Varese 81.12 328 P **P 21 13 52.6 -0.3**
comp=Z,300nm,1.2s,mb6.1
TUC Tucson 81.26 54 P **P 21 13 54.5 +0.6**
MMK Mattmark 81.28 328 P **P 21 13 54.3 +0.6**
MCGN Macugnaga 81.35 328 P **P 21 13 54.6 +0.5**
UMJS Umm Lajj 81.36 296 P **P 21 13 55.2 +0.6**
LKD Levkas 81.43 316 *eP* **P 21 13 55.1 +0.4**
SFI Santa Sofia 81.47 325 P **P 21 13 55.8 +1.1**
DIX Grande Dixence 81.47 328 P **P 21 13 55.6 +0.9**
ZCCA Zocca 81.47 325 P **P 21 13 56.5 +1.8**
SNTG Esanatoglia 81.52 324 P **P 21 13 55.9 +0.9**
YNBS Yanbu' al Bahr 81.52 295 P **P 21 13 55.9 +0.5**
CABF La Chapelle 81.52 330 ⇑*iP* **P 21 13 54.8 -0.2**
comp=Z,234nm,1.7s,mb5.5
CABF La Chapelle 81.52 330 ⇑*iP* **P 21 13 54.8 -0.2**
CABF pmax pmax
comp=Z,117nm,1.7s,mb5.5
OG01 Vacheresse 81.54 329 *eP* **P 21 13 54.9 -0.1**
VMG Vicchio 81.55 325 P **P 21 13 57.1 +1.9**
FNVD Fontana Vidola 81.56 325 P **P 21 13 56.4 +1.2**
RGNG Rignano Grg 81.59 321 P **P 21 13 55.8 +0.4**
ORO Oropa 81.63 328 P **P 21 13 54.9 -0.6**
ORO pmax pmax
comp=Z,38nm,0.8s,mb5.4
ORO Oropa 81.63 328 P **P 21 13 54.9 -0.6**
comp=Z,38nm,0.8s,mb5.4
GSCL Gusciola 81.63 326 P **P 21 13 56.7 +1.1**
ERBM Eremo 81.65 326 P **P 21 13 57.0 +1.3**
CRE Caprese Michel 81.65 324 P **P 21 13 56.5 +0.8**
CRE pmax pmax
comp=Z,480nm,2.2s,mb6.0
CRE Caprese Michel 81.65 324 P **P 21 13 56.5 +0.8**
comp=Z,480nm,2.2s,mb6.0
EMV Vieux Emosson 81.68 329 P **P 21 13 56.2 +0.4**
BOB Bobbio (Coli) 81.76 326 P **P 21 13 56.7 +0.5**
BOB pmax pmax
comp=Z,30nm,0.8s,mb5.3
BOB Bobbio (Coli) 81.76 326 P **P 21 13 56.7 +0.5**
comp=Z,30nm,0.8s,mb5.3
LOR Lormes 81.77 331 ⇑*iP* **P 21 13 56.0 -0.2**
comp=Z,302nm,1.2s,mb5.8
LOR *e*R
comp=Z,1μm,21.5s
LOR Lormes 81.77 331 ⇑*iP* **P 21 13 56.0 -0.2**
LOR pmax pmax
comp=Z,151nm,1.2s,mb5.8
LOR MLR MLR
comp=Z,1μm,21.5s,MS5.2
ANMO Albuquerque 81.82 49 P **P 21 13 57.8 +1.1**
comp=Z,35nm,1.0s,mb5.2,baz=313,slow=7.3,SNR=53
ANMO Albuquerque 81.82 49 P **P 21 13 57.7 +0.9**
ANMO pmax pmax
comp=Z,69nm,1.1s
ANMO Albuquerque 81.82 49 P **P 21 13 57.8 +1.0**
comp=Z,68nm,1.2s,mb5.5
LAZ Ladron 81.85 50 *eP* **P 21 13 58.0 +1.1**
LAZ *e*pP pP 21 14 05.9 +0.3
VLS Valsamata 81.87 316 *eP* **P 21 13 57.0 +0.1**
VLC Villacollemand 81.87 326 *eP* **P 21 13 57.5 +0.7**
comp=Z,113nm,1.2s,mb5.7
VLC *e*pP pP 21 14 08.0 +2.5
FLN La Foliniere 81.93 334 ⇑*iP* **P 21 13 56.6 -0.4**
comp=Z,189nm,1.1s,mb5.6
FLN *e*R
comp=Z,988nm,20.5s
FLN La Foliniere 81.93 334 ⇑*iP* **P 21 13 56.6 -0.4**
FLN pmax pmax
comp=Z,94nm,1.1s,mb5.6
FLN MLR MLR
comp=Z,990nm,20.5s,MS5.2
ITM Ithomi 81.93 314 *eP* **P 21 13 57.0 -0.3**
LDF La Druitiere 81.96 334 ⇑*iP* **P 21 13 56.7 -0.5**
comp=Z,375nm,1.5s,mb5.8
LDF La Druitiere 81.96 334 ⇑*iP* **P 21 13 56.7 -0.5**
LDF pmax pmax
comp=Z,188nm,1.5s,mb5.8
AQU L'Aquila 82.04 323 P **P 21 13 58.3 +0.6**
AQU pmax pmax
comp=Z,118nm,1.1s,mb5.7
AQU L'Aquila 82.04 323 P **P 21 13 58.3 +0.6**
comp=Z,118nm,1.1s,mb5.7
CSNT Castellina Chi 82.05 325 P **P 21 13 57.4 -0.4**
SSF Saint Saulge 82.07 331 ⇑*iP* **P 21 13 57.5 -0.3**
comp=Z,150nm,1.3s,mb5.5
SSF Saint Saulge 82.07 331 ⇑*iP* **P 21 13 57.5 -0.3**
SSF pmax pmax
comp=Z,75nm,1.3s,mb5.5
RSL Roselend 82.10 329 *eP* **P 21 13 58.1 +0.1**
LENM Lemitar 82.11 50 P **P 21 13 59.3 +1.0**
BLJS Baljurashi 82.12 290 P **P 21 13 59.5 +0.9**
PII Pisa 82.17 325 P **P 21 13 57.7 -0.7**
PII pmax pmax
comp=Z,48nm,1.0s,mb5.4
PII Pisa 82.17 325 P **P 21 13 57.7 -0.7**
comp=Z,48nm,1.0s,mb5.4
HYF Humbligny 82.20 332 *eP* **P 21 13 58.7 +0.3**
LPM Los Pinos Moun 82.20 50 P **P 21 13 59.8 +1.0**
LPL La Plagne 82.20 329 ⇑*iP* **P 21 13 59.0 +0.5**
comp=Z,147nm,1.1s,mb5.5
LPL La Plagne 82.20 329 ⇑*iP* **P 21 13 59.0 +0.5**
LPL pmax pmax
comp=Z,74nm,1.1s,mb5.5
LPG La Plagne 82.21 329 ⇑*iP* **P 21 13 59.3 +0.8**
comp=Z,225nm,1.0s,mb5.7
LPG La Plagne 82.21 329 ⇑*iP* **P 21 13 59.3 +0.8**
LPG pmax pmax
comp=Z,113nm,1.0s,mb5.8
DJNS Zahran al Janu 82.24 287 P **P 21 14 00.4 +1.2**
OG05 Jujurieux 82.24 330 *eP* **P 21 13 59.2 +0.5**
SMF Signal de Mont 82.31 331 ⇑*iP* **P 21 13 58.9 -0.2**
comp=Z,354nm,1.4s,mb5.8
SMF Signal de Mont 82.31 331 ⇑*iP* **P 21 13 58.9 -0.2**
SMF pmax pmax
comp=Z,177nm,1.4s,mb5.8
BNM Barren Site 82.32 50 *eP* **P 21 14 00.7 +1.3**
BNM *e*pP pP 21 14 08.2 +0.2
MNS Montasola 82.33 323 P **P 21 13 59.0 -0.3**
MNS pmax pmax
comp=Z,233nm,1.8s,mb5.8
MNS Montasola 82.33 323 P **P 21 13 59.0 -0.3**
comp=Z,233nm,1.8s,mb5.8
AVF Avril sur Loir 82.36 331 ⇑*iP* **P 21 13 59.2 -0.1**
comp=Z,428nm,1.3s,mb5.9
AVF Avril sur Loir 82.36 331 ⇑*iP* **P 21 13 59.2 -0.1**
AVF pmax pmax
comp=Z,214nm,1.3s,mb5.9
SGG Gregorio Mates 82.37 322 P **P 21 14 00.0 +0.5**
GRR Gorron 82.38 335 ⇑*iP* **P 21 13 59.2 -0.1**
comp=Z,308nm,1.2s,mb5.8
GRR Gorron 82.38 335 ⇑*iP* **P 21 13 59.2 -0.1**
GRR pmax pmax
comp=Z,154nm,1.2s,mb5.8
SLCN Sala Consilina 82.58 320 P **P 21 14 01.1 +0.5**
SGO Sicignano 82.60 320 P **P 21 14 00.6 -0.1**
SGO pmax pmax
comp=Z,48nm,1.2s,mb5.4
SGO Sicignano 82.60 320 P **P 21 14 00.6 -0.1**
comp=Z,48nm,1.2s,mb5.4
BNI Bardonecchia 82.61 328 P **P 21 14 01.6 +1.0**
BNI pmax pmax
comp=Z,43nm,1.1s,mb5.4
BNI Bardonecchia 82.61 328 P **P 21 14 01.6 +0.9**
comp=Z,43nm,1.1s,mb5.4
BNI *e*pP pP 21 14 09.6 +0.3
RFI Roccamonfina 82.62 322 P **P 21 14 01.8 +1.0**
comp=Z,97nm,1.8s,mb5.5
GDM Grand'Madon 82.70 329 *eP* **P 21 14 01.7 +0.6**
OG22 Abries 82.70 328 *eP* **P 21 14 01.2 +0.1**
FIN Finale Ligure 82.72 327 P **P 21 14 00.9 -0.3**
BGF Bois d'Agland 82.74 331 ⇑*iP* **P 21 14 01.4 +0.1**
comp=Z,149nm,1.4s,mb5.5
BGF Bois d'Agland 82.74 331 ⇑*iP* **P 21 14 01.4 +0.1**
BGF pmax pmax
comp=Z,75nm,1.4s,mb5.5
GRN Grenoble 82.81 329 *eP* **P 21 14 02.6 +0.9**
TDS Terranova Siba 82.82 319 P **P 21 14 03.0 +1.1**
TDS pmax pmax
comp=Z,219nm,1.0s,mb6.1
TDS Terranova Siba 82.82 319 P **P 21 14 03.0 +1.1**
comp=Z,219nm,1.0s,mb6.1
MBDF Montbardon 82.85 328 ⇑*iP* **P 21 14 01.7 -0.2**
comp=Z,49nm,0.8s,mb5.3
MBDF Montbardon 82.85 328 ⇑*iP* **P 21 14 01.7 -0.2**
MBDF pmax pmax
comp=Z,24nm,0.8s,mb5.3
PLDF La Plantade 82.97 331 *eP* **P 21 14 02.2 -0.3**
SGMF Saint Gilles 83.02 335 ⇑*iP* **P 21 14 02.8 +0.1**
comp=Z,277nm,1.2s,mb5.9
SGMF Saint Gilles 83.02 335 ⇑*iP* **P 21 14 02.8 +0.1**
SGMF pmax pmax
comp=Z,138nm,1.2s,mb5.9
ORIF Oris-en-Rattie 83.03 329 ⇑*iP* **P 21 14 03.0 +0.2**
comp=Z,89nm,1.0s,mb5.4
ORIF *e*R
comp=Z,1μm,18.2s
SURF Saint Ours 83.04 328 ⇑*eP* **P 21 14 03.4 +0.5**
AGO Saint Agoulin 83.07 331 *eP* **P 21 14 03.1 +0.1**
IMI Imperia 83.09 327 P **P 21 14 03.5 +0.3**
ROSF Rostrenen 83.16 336 ⇑*iP* **P 21 14 03.8 +0.4**
comp=Z,221nm,1.0s,mb5.8
ROSF Rostrenen 83.16 336 ⇑*iP* **P 21 14 03.8 +0.4**
ROSF pmax pmax
comp=Z,110nm,1.0s,mb5.8
TCF Toulx Ste Croi 83.19 332 ⇑*iP* **P 21 14 03.7 +0.1**
comp=Z,219nm,1.4s,mb5.7
TCF Toulx Ste Croi 83.19 332 ⇑*iP* **P 21 14 03.7 +0.1**
TCF pmax pmax
comp=Z,110nm,1.4s,mb5.7
AUTN L'Aution 83.20 327 *eP* **P 21 14 03.6 -0.1**
TOUF Mont Tournerai 83.26 327 ⇑*eP* **P 21 14 03.9 -0.1**
SBF Sospel 83.31 327 ⇑*iP* **P 21 14 03.9 -0.4**
comp=Z,258nm,1.2s,mb5.8
SBF Sospel 83.31 327 ⇑*iP* **P 21 14 03.9 -0.4**
SBF pmax pmax
comp=Z,129nm,1.2s,mb5.8
COLF Collangettes 83.33 330 *eP* **P 21 14 05.0 +0.7**
MVIF Mont Vial 83.40 327 ⇑*eP* **P 21 14 04.2 -0.5**
OG25 Le Caire 83.42 328 ⇑*eP* **P 21 14 05.1 +0.3**
QUIF Quistinic 83.51 336 ⇑*iP* **P 21 14 05.2 +0.1**
comp=Z,106nm,1.0s,mb5.6
QUIF Quistinic 83.51 336 ⇑*iP* **P 21 14 05.2 +0.1**
QUIF pmax pmax
comp=Z,53nm,1.0s,mb5.6

OCF Saint Nazaire 83.54 329⇑ *e*P P 21 14 05.9 +0.5
OG26 St.-Nazaire-De 83.54 329⇑ *e*P P 21 14 05.9 +0.5
VIVF Saint-Julien-I 83.54 329⇑ *i*P P 21 14 05.5 +0.2
comp=Z,250nm,1.4s,mb5.8
VIVF Saint-Julien-I 83.54 329⇑ *i*P P 21 14 05.5 +0.2
VIVF pmax pmax
comp=Z,125nm,1.4s,mb5.8
LBOS 83.62 283⇑ *e*P P 21 14 06.9 +0.5
MFF Saint Martin d 83.72 333⇑ *i*P P 21 14 06.6 +0.4
comp=Z,146nm,1.0s,mb5.8
MFF Saint Martin d 83.72 333⇑ *i*P P 21 14 06.6 +0.4
MFF pmax pmax
comp=Z,73nm,1.0s,mb5.8
KSU1 Kansas State U 83.73 40 P P 21 14 06.2 -0.2
LBL Lubilhac 83.74 330 *e*P P 21 14 07.2 +0.8
DHBB Dhamar BB 83.76 284⇑ *e*P P 21 14 07.6 +0.5
PGF Pioggiola 83.77 326⇑ *i*P P 21 14 05.7 -0.9
comp=Z,96nm,1.2s,mb5.5
PGF Pioggiola 83.77 326⇑ *i*P P 21 14 05.7 -0.9
PGF pmax pmax
comp=Z,48nm,1.2s,mb5.5
FRNF Fournols 83.85 331 *e*P P 21 14 07.7 +0.8
LCHF La Chataignera 83.85 334 *e*P P 21 14 07.5 +0.6
FRF La Foret Royal 83.88 328⇑ *i*P P 21 14 06.8 -0.3
comp=Z,174nm,1.3s,mb5.7
FRF La Foret Royal 83.88 328⇑ *i*P P 21 14 06.8 -0.3
FRF pmax pmax
comp=Z,87nm,1.3s,mb5.7
FRSS Farasan al Kab 83.89 287 P P 21 14 09.1 +1.3
SMRF Simiane la Rot 83.94 328 *e*P P 21 14 07.8 +0.4
comp=Z,228nm,1.6s,mb5.8
TAVF Tavernes 84.06 328 *e*P P 21 14 08.3 +0.3
LMR La Mourre 84.12 327⇑ *i*P P 21 14 08.1 -0.2
comp=Z,455nm,1.4s,mb6.1
LMR La Mourre 84.12 327⇑ *i*P P 21 14 08.1 -0.2
LMR pmax pmax
comp=Z,228nm,1.4s,mb6.1
CEL Celeste 84.14 319 P P 21 14 08.4 -0.2
SOI Samo 84.21 318 P P 21 14 09.3 +0.4
SCLL Scilla 84.23 319 P P 21 14 08.1 -0.9
PRAF Pradon 84.24 329 *e*P P 21 14 09.7 +0.8
RJF Les Rejaudoux 84.29 332⇑ *i*P P 21 14 09.5 +0.4
comp=Z,127nm,1.3s,mb5.6
RJF Les Rejaudoux 84.29 332⇑ *i*P P 21 14 09.5 +0.4
RJF pmax pmax
comp=Z,64nm,1.3s,mb5.6
SLNA Salina 84.41 320 P P 21 14 09.8 -0.1
OSPF L'Ospedale 84.42 325 *e*P P 21 14 10.0 +0.1
CAF Calviac 84.42 331⇑ *i*P P 21 14 10.2 +0.4
comp=Z,376nm,1.5s,mb6.0
CAF Calviac 84.42 331⇑ *i*P P 21 14 10.2 +0.4
CAF pmax pmax
comp=Z,188nm,1.5s,mb6.0
MTTG Motta San Giov 84.44 319 P P 21 14 10.4 +0.3
LASF Ste Croix 84.51 330⇑ *i*P P 21 14 10.9 +0.6
comp=Z,258nm,1.5s,mb5.8
CPRX Cap Rock 84.69 49 *e*P P 21 14 12.0 +0.6
CPRX *e*pP pP 21 14 19.2 -1.0
MNTX Cornudas Mount 84.84 51 P P 21 14 12.6 +0.4
comp=Z,50nm,1.1s,mb5.6
MNTX *e*pP pP 21 14 20.3 -0.6
LFF La Frestale 84.88 332⇑ *i*P P 21 14 13.0 +0.9
comp=Z,538nm,1.4s,mb6.2
LFF La Frestale 84.88 332⇑ *i*P P 21 14 13.0 +0.9
LFF pmax pmax
comp=Z,269nm,1.4s,mb6.2
GDL2 Guadalupe Moun 85.03 50 P P 21 14 14.2 +1.0
MTLF Montolieu 85.74 330⇑ *i*P P 21 14 17.2 +0.8
comp=Z,248nm,1.4s,mb6.0
MTLF Montolieu 85.74 330⇑ *i*P P 21 14 17.2 +0.8
MTLF pmax pmax
comp=Z,124nm,1.4s,mb6.0
WMOK Wichita Mounta 86.09 45 P P 21 14 18.6 +0.2
WMOK pmax pmax
comp=Z,56nm,1.1s,mb5.7
WMOK Wichita Mounta 86.09 45 P P 21 14 18.6 +0.2
comp=Z,56nm,1.1s,mb5.7
WMOK *e*pP pP 21 14 26.1 -1.0
VSL Villasalto 86.13 324 P P 21 14 18.7 +0.2
VSL *e*pP pP 21 14 28.3 +1.1
MLS Moulis 86.48 331⇑ *e*P P 21 14 21.0 +0.9
AAM Ann Arbor 86.58 30 *e*P P 21 14 21.2 +0.6
AAM pmax pmax
comp=Z,186nm,1.3s,mb6.2
AAM Ann Arbor 86.58 30 *e*P P 21 14 21.2 +0.6
comp=Z,186nm,1.3s,mb6.2
AAM *e*pP pP 21 14 28.5 -0.8
MELF Melles 86.68 331 *e*P P 21 14 21.3 +0.2
EPF Esparros 86.69 331⇑ *i*P P 21 14 21.3 +0.2
comp=Z,107nm,1.0s,mb5.7
EPF Esparros 86.69 331⇑ *i*P P 21 14 21.3 +0.2
EPF pmax pmax
comp=Z,53nm,1.0s,mb5.7
RESF Ens 86.88 331 *e*P P 21 14 23.8 +1.7
VIEF Viey 86.93 331⇑ *e*P P 21 14 23.8 +1.5
SLM Saint Louis 87.02 37 P P 21 14 23.2 +0.4
SLM *e*pP pP 21 14 33.8 +2.3
EBIE Bielsa 87.06 331 P P 21 14 24.4 +1.5
comp=Z,63nm,1.0s,mb5.8
ETSF Etsaut 87.12 332⇑ *i*P P 21 14 23.9 +0.7
comp=Z,145nm,1.0s,mb5.8
ETSF Etsaut 87.12 332⇑ *i*P P 21 14 23.9 +0.7
ETSF pmax pmax
comp=Z,72nm,1.0s,mb5.9
SJPF Ste Jean 87.16 332⇑ *i*P P 21 14 23.8 +0.4
comp=Z,88nm,1.0s,mb5.6
EALK Alkurruntz 87.16 332 P P 21 14 24.5 +1.1
comp=Z,52nm,1.1s,mb5.7
EGRA Graus 87.43 331 P P 21 14 26.4 +1.7
comp=Z,62nm,1.0s,mb5.8
FVM French Village 87.48 37 *e*P P 21 14 25.0 0.0
FVM pmax pmax
comp=Z,130nm,1.4s,mb6.0
FVM French Village 87.48 37 *e*P P 21 14 25.0 0.0
comp=Z,130nm,1.4s,mb6.0
FVM *e*pP pP 21 14 34.6 +0.8
LOZ Lake Ozonia 87.53 24 *e*P P 21 14 24.7 -0.4
LTX Lajitas 87.58 51 P P 21 14 26.6 +0.8
LTX pmax pmax
comp=Z,52nm,1.3s,mb5.6
LTX Lajitas 87.58 51 P P 21 14 26.6 +0.8
comp=Z,52nm,1.3s,mb5.6
LTX *e*pP pP 21 14 36.0 +1.5
TXAR Lajitas Array 87.58 51 P P 21 14 26.0 +0.2
comp=Z,15nm,0.9s,mb5.2,baz=297,slow=2.8,SNR=59
TXAR PKKPbc 21 32 15.1
comp=Z,0.6nm,0.4s,baz=153,slow=5.6,SNR=6.0
TXAR Lajitas Array 87.58 51 P P 21 14 26.0 +0.2
TXAR PKKPbc 21 32 15.1
FRNY Flat Rock 87.62 23 P P 21 14 25.4 -0.2
FRNY *e*pP pP 21 14 32.0 -2.3
ELAN Lanestosa 87.78 334 P P 21 14 27.7 +1.3
comp=Z,53nm,1.0s,mb5.7
EPOB Peblet 87.89 330 P P 21 14 27.8 +0.8
comp=Z,36nm,1.1s,mb5.5
ERPA Erie 88.05 28 *e*P P 21 14 28.2 +0.5
comp=Z,67nm,0.7s,mb6.0
ERPA *e*pP pP 21 14 35.9 -0.5
ESAC San Caprasio 88.12 331 P P 21 14 29.8 +1.8
comp=Z,69nm,0.9s,mb5.9
NCB Newcomb 88.22 24 P P 21 14 28.9 +0.4
comp=Z,58nm,1.0s,mb5.8
SIUC Southern Illin 88.23 37 P P 21 14 29.5 +0.8
SIUC *e*pP pP 21 14 37.2 -0.2
MIV Mineville/With 88.33 23 P P 21 14 29.0 +0.1
MIV *e*pP pP 21 14 36.0 -1.7
ALLY Alegheny Colle 88.41 28 P P 21 14 30.0 +0.5
ALLY *e*pP pP 21 14 38.1 -0.1
ERTA Horta de San J 88.51 330 P P 21 14 30.5 +0.6
comp=Z,34nm,0.9s,mb5.7
EBR Ebro Roquetas 88.57 330 *e*PCP PcP 21 14 29.0 -3.1
ACSO Alum Creek Sta 88.62 31 *e*P P 21 14 30.6 +0.1
comp=Z,110nm,0.9s,mb6.2
ACSO *e*pP pP 21 14 38.8 -0.5
LBNH Lisbon 88.63 22 *e*P P 21 14 31.0 +0.6
LBNH pmax pmax
comp=Z,22nm,0.8s,mb5.5
LBNH Lisbon 88.63 22 *e*P P 21 14 31.0 +0.6
comp=Z,22nm,0.8s,mb5.5
USIN University of 88.69 35 P P 21 14 31.5 +0.7
USIN *e*pP pP 21 14 41.8 +2.2
MIAR Mount Ida 88.83 41 *e*P P 21 14 32.1 +0.5
MIAR pmax pmax
comp=Z,91nm,1.4s,mb5.9
MIAR Mount Ida 88.83 41 *e*P P 21 14 32.1 +0.5
comp=Z,91nm,1.4s,mb5.9
MIAR *e*pP pP 21 14 41.6 +1.2
EPON Pontenova 88.85 336 P P 21 14 32.1 +0.7
comp=Z,52nm,1.1s,mb5.8
JCT Junction City 88.86 48 P P 21 14 31.8 -0.1
JCT pmax pmax
comp=Z,65nm,1.2s,mb5.8
JCT Junction City 88.86 48 P P 21 14 31.8 0.0
comp=Z,65nm,1.2s,mb5.8
TIAR Tiarei 88.86 115 *e*P P 21 14 33.8 +1.7
comp=Z,8.5nm,1.0s,mb5.0
PARMO Parma 88.87 37 *e*P P 21 14 32.7 +1.0
PARMO *e*pP pP 21 14 40.1 -0.4
ACCN Adirondack Com 88.92 23 *e*P P 21 14 31.8 -0.1
ACCN *e*pP pP 21 14 39.6 -1.0
HNH Hanover 89.02 22 *e*P P 21 14 33.0 +0.7
comp=Z,14nm,1.8s,mb5.0
HNH *e*pP pP 21 14 40.9 -0.1
WCI Wyandotte Cave 89.04 34 P P 21 14 32.0 -0.5
WCI *e*pP pP 21 14 40.2 -1.1
TVO Taravao 89.08 115 *e*P P 21 14 34.9 +1.7
comp=Z,117nm,1.1s,mb6.1
EMOS Mosqueruela 89.32 300 P P 21 14 34.4 +0.6
comp=Z,31nm,0.8s,mb5.7
GNAR Gosnell 89.33 38 *e*P P 21 14 35.0 +1.1
comp=Z,180nm,1.0s,mb6.3
GNAR *e*pP pP 21 14 45.8 +3.2
GLAT Glass 89.40 37 *e*P P 21 14 35.5 +1.2
GLAT *e*pP pP 21 14 43.6 +0.6
FFD Franklin Falls 89.42 22 *e*P P 21 14 35.3 +1.1
comp=Z,206nm,1.4s,mb6.3
FFD *e*pP pP 21 14 42.8 -0.1
UTMT University of 89.53 37 *e*P P 21 14 33.9 -1.0
HALT Halls 89.68 38 *e*P P 21 14 37.0 +1.4
HALT *e*pP pP 21 14 44.6 +0.3
ERUA La Rua 89.70 336 P P 21 14 35.4 -0.1
ERUA pmax pmax
comp=Z,21nm,1.0s,mb5.4
ERUA La Rua 89.70 336 P P 21 14 35.4 -0.2
comp=Z,21nm,1.0s,mb5.4
EMAZ Mazaricos 89.72 337 P P 21 14 35.9 +0.3
comp=Z,49nm,1.0s,mb5.8
ECAL Calabor 89.99 335 P P 21 14 37.7 +0.8
comp=Z,42nm,1.1s,mb5.7
MET Memphis--Engin 90.07 38 *e*P P 21 14 37.3 -0.2
MET *e*pP pP 21 14 49.5 +3.3
PBRG Braganca 90.12 335 *e*P P 21 14 37.8 +0.3
comp=Z,59nm,1.2s,mb5.8
WVT Waverly 90.16 36 *e*P P 21 14 38.0 +0.2
WVT pmax pmax
comp=Z,18nm,0.6s,mb5.6
WVT Waverly 90.16 36 *e*P P 21 14 38.0 +0.1
comp=Z,18nm,0.6s,mb5.6
WVT *e*pP pP 21 14 48.3 +1.7
MCWV Mont Chateau 90.28 29 P P 21 14 39.2 +1.0
MCWV *e*pP pP 21 14 46.9 -0.1
QUA2 Belchertown 90.32 23 *e*P P 21 14 38.4 0.0
comp=Z,89nm,1.5s,mb5.9
HRV Harvard--Oak R 90.33 22 *e*P P 21 14 39.0 +0.5
HRV pmax pmax
comp=Z,100nm,1.0s,mb6.1
HRV Harvard--Oak R 90.33 22 *e*P P 21 14 39.0 +0.6
comp=Z,100nm,1.0s,mb6.1
HRV *e*pP pP 21 14 47.0 -0.2
GUD Guadarrama 90.34 333 P P 21 14 38.8 +0.2
EZAM Zamans 90.38 337 P P 21 14 41.2 +2.5
EZAM pmax pmax
comp=Z,49nm,1.2s,mb5.7
EZAM Zamans 90.38 337 P P 21 14 41.2 +2.5
comp=Z,49nm,1.2s,mb5.7
ELOB Lobios 90.45 336 P P 21 14 39.4 +0.4
WES Weston 90.51 22 P P 21 14 40.3 +1.0
WES *e*pP pP 21 14 47.7 -0.4
NATX Nacogdoches 90.54 44 P P 21 14 41.0 +1.3
NATX *e*pP pP 21 14 48.3 -0.1
PCAB Cabril 90.59 336 *e*P P 21 14 40.7 +1.0
comp=Z,104nm,1.4s,mb6.0
OXF Oxford 90.81 38 P P 21 14 41.2 +0.3
PVRL Vila Real 90.89 336 *e*P P 21 14 41.2 +0.1
comp=Z,114nm,1.2s,mb6.1
PAL Palisades 91.03 25 P P 21 14 42.5 +0.8
PAL *e*pP pP 21 14 49.6 -0.8
BRNJ Basking Ridge 91.12 25 P P 21 14 43.5 +1.4
ESDC Sonseca Array 91.15 333 P P 21 14 42.3 0.0
comp=Z,11nm,1.0s,mb5.2,baz=29,slow=3.4,SNR=27
ESDC Sonseca Array 91.15 333 P P 21 14 42.9 +0.6
comp=Z,6.4nm,0.8s,mb5.0
ESLA Sonseca Array 91.15 333 *e*P P 21 14 43.0 +0.7
comp=Z,17nm,1.6s,mb5.1
ESLA *e*pP pP 21 14 54.2 +3.2
MVL Millersville 91.17 27 P P 21 14 42.8 +0.4
CPNY Central Park 91.21 25 P P 21 14 43.3 +0.7
CPNY *e*pP pP 21 14 50.4 -0.9
ETOB Tobarra 91.23 330 P P 21 14 43.7 +1.0
comp=Z,18nm,1.0s,mb5.4
PVIS Viseu 91.46 336 *e*P P 21 14 44.0 +0.3
comp=Z,93nm,1.6s,mb5.9
EVIA Vianos 91.57 331 P P 21 14 45.5 +1.2
EVIA pmax pmax
comp=Z,60nm,1.0s,mb5.9
EVIA Vianos 91.57 331 P P 21 14 45.5 +1.2
comp=Z,60nm,1.0s,mb5.9
TZTN Tazewell 91.60 33 P P 21 14 44.9 +0.4
MTE Manteigas 91.64 335 *i*P P 21 14 45.1 +0.6
comp=Z,95nm,1.1s,mb6.0
MTE Manteigas 91.64 335 *e*P P 21 14 44.9 +0.4
comp=Z,71nm,1.0s,mb6.0
MTE *e*pP pP 21 14 52.9 -0.4
PCBR Castelo Branco 92.14 335 *e*P P 21 14 47.3 +0.5
comp=Z,41nm,1.4s,mb5.6
CPCT Cooper Cave 92.15 35 P P 21 14 47.2 +0.2
CPCT *e*pP pP 21 14 55.3 -0.4
EHUE Huescar 92.34 331 P P 21 14 48.9 +1.1
EBAN Banos Encina 92.45 332 P P 21 14 48.8 +0.5
EQES Quesada 92.52 331 P P 21 14 48.5 -0.1
PTOM Tomar 92.62 336 *e*P P 21 14 49.1 0.0
comp=Z,76nm,1.3s,mb6.0
EADA Adamuz 92.72 332 P P 21 14 49.5 -0.1
EBAD Badajoz 92.98 334 P P 21 14 50.5 -0.3
ELUQ Luque 93.16 332 P P 21 14 52.0 +0.4
ECOG Cogollos-Vega 93.17 331 P P 21 14 51.5 -0.1
ERON Agron 93.48 331 P P 21 14 52.0 -1.1
comp=Z,9.8nm,0.8s,mb5.3
ELOJ Sierra Loja 93.49 332 P P 21 14 52.9 -0.2
EVO Evora 93.50 335 *e*P P 21 14 53.0 -0.1
comp=Z,60nm,1.3s,mb5.5
EMIN Mina Concepcio 93.77 334 P P 21 14 54.2 -0.2
PBEJ Beja 93.92 335 *e*P P 21 14 55.0 -0.1
comp=Z,62nm,1.8s,mb5.7
EMIJ Mijas 94.23 332 P P 21 14 54.9 -1.6
EGRO El Granado 94.25 334 P P 21 14 55.2 -1.4
ESPR Espera 94.32 333 P P 21 14 56.0 -1.0
comp=Z,23nm,1.0s,mb5.5
EJIF Jimena Fronter 94.57 332 P P 21 14 57.7 -0.4
PTEO Sao Teotonio 94.63 335 *e*P P 21 14 58.4 +0.1
comp=Z,106nm,1.9s,mb5.9
KMBO Kilima Mbogo 99.61 277 P P 21 15 22.2 +0.7
comp=Z,12nm,1.0s,mb5.3,baz=28,slow=6.4,SNR=21
TORD Torodi Ar. Bea 111.92 315 PKiKP 21 20 12.3
comp=Z,5.8nm,1.0s,baz=359,slow=1.7,SNR=11
TORD PP PP 21 20 48.0 -11
comp=Z,6.5nm,0.9s,baz=30,slow=5.7,SNR=12
TORD PKKPbc 21 31 06.3
comp=Z,3.0nm,0.9s,baz=220,slow=2.8,SNR=14
DBIC Dimbokro 120.76 317 PKP PKPdf 21 20 29.4 -4.4
comp=Z,13nm,0.8s,baz=50,slow=3.0,SNR=14
DBIC PP PP 21 21 53.7 -7.7
comp=Z,8.2nm,0.9s,baz=21,slow=9.5,SNR=4.8
DBIC PKKPbc 21 30 33.1
comp=Z,3.1nm,0.8s,baz=190,slow=11,SNR=3.9
DBIC Dimbokro 120.76 317 PKIKP PKPdf 21 20 29.4 -4.4
DBIC 21 21 53.7
DBIC pmax pmax
comp=Z,13nm,0.8s
DBIC pmax pmax
comp=Z,8.0nm,0.9s
DBIC Dimbokro 120.76 317 PKPdf PKPdf 21 20 29.8 -4.0
DBIC *e*PP PP 21 21 49.7 -12
VNDA Vanda 121.18 174 PKP PKPdf 21 20 29.4 -3.8
comp=Z,6.6nm,0.9s,baz=313,slow=4.0,SNR=23
VNDA PKKPbc 21 30 31.3
comp=Z,2.0nm,1.0s,baz=262,slow=3.2,SNR=3.0
VNDA Vanda 121.18 174 PKPdf PKPdf 21 20 29.0 -4.2
VNDA *e*PP PP 21 21 56.3 -6.7
LIC Lamto 121.23 317 *e*PKIKP PKPdf 21 20 30.3 -4.4
comp=Z,62nm,1.0s
SDV Santo Domingo 121.46 35 PKP PKPdf 21 20 31.7 -3.4
comp=Z,32nm,0.7s,baz=179,slow=0.2,SNR=25
SDV Santo Domingo 121.46 35 *e*PKPdf PKPdf 21 20 31.3 -3.8
SBA Scott Base 121.87 173 PKIKP PKPdf 21 20 31.5 -3.0
ROSC El Rosal 123.34 41 PKP PKPdf 21 20 35.4 -3.3
comp=Z,7.2nm,0.6s,baz=89,slow=21,SNR=6.0
LBTB Lobatse 123.66 266 PKIKP PKPdf 21 20 35.9 -3.2
MAW Mawson 124.31 207 PKP PKPdf 21 20 35.5 -3.9
comp=Z,18nm,0.8s,baz=8.0,slow=2.2,SNR=22
MAW Mawson 124.31 207 PKIKP PKPdf 21 20 35.5 -3.9
MAW pmax pmax
comp=Z,18nm,0.8s
MAW Mawson 124.31 207 *e*PKPdf PKPdf 21 20 35.9 -3.5
OTAV Otavalo 125.14 49 *e*PKPdf PKPdf 21 20 39.4 -2.9
OTAV *ep*PKPdf 21 20 47.5
TSUM Tsumeb 125.96 277 PKPdf PKPdf 21 20 40.3 -3.3
QSPA South Pole Qui 132.86 180 PKPdf PKPdf 21 20 51.6 -3.8
SAML Samuel 140.65 37 *e*PKPdf PKPdf 21 21 08.1 -3.2
SAML *ep*PKPdf 21 21 17.3
NVL N'lazarevskaya 142.23 205 *e*PKHKP 21 21 04.9
NVL pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 144.44 50 PKP PKPdf 21 21 13.6 -4.1
comp=Z,16nm,0.9s,baz=3.2,slow=6.8,SNR=6.5
LPAZ La Paz 144.44 50 PKIKP PKPdf 21 21 13.6 -4.1
LPAZ pmax pmax
comp=Z,16nm,0.9s
LPAZ La Paz 144.44 50 PKPdf PKPdf 21 21 13.4 -4.3
SNAA Sanae 146.02 200 P PKPbc 21 21 15.3 +0.3
SNAA Sanae 146.02 200⇑ *i* PKPbc 21 21 16.2 +1.2
SNAA Sanae 146.02 200 PKPbc 21 21 19.9 +4.9
SNAA Sanae 146.02 200 PKPbc PKPbc 21 21 15.8 +0.7
comp=Z,55nm,1.0s,baz=174,slow=6.5,SNR=62
SNAA PP PP 21 24 37.4 -3.2
comp=Z,4.1nm,1.0s,baz=166,slow=5.9,SNR=3.0
SNAA Sanae 146.02 200 PKIKP PKPdf 21 21 15.8 -3.1
SNAA 21 24 37.4
SNAA pmax pmax
comp=Z,55nm,1.0s
SNAA pmax pmax
comp=Z,4.0nm,1.0s
VNA2 Neumayer--Watz 147.63 200⇑ *i*P PKPdf 21 21 18.6 -3.0
VNA2 Neumayer--Watz 147.63 200⇑ *i* PKPdf 21 21 21.9 +0.3
VNA2 Neumayer--Watz 147.63 200 PKPdf 21 21 25.7 +4.1
VNA2 Neumayer--Watz 147.63 200 PKPdf 21 21 33.0 +11
VNA2 Neumayer--Watz 147.63 200 PKPdf 21 21 39.4 +18
SIV San Ignacio 147.81 39 PKP PKPdf 21 21 19.4 -4.0
comp=Z,64nm,0.8s,baz=337,slow=2.7,SNR=25
SIV PKPbc PKPdf 21 21 23.4 0.0
comp=Z,61nm,0.8s,baz=331,slow=3.3,SNR=27
SIV PP PP 21 24 47.3 -5.6
comp=Z,3.4nm,0.9s,baz=310,slow=9.2,SNR=3.7
VNA3 Neumayer Olymp 147.96 198⇑ *i*P PKPdf 21 21 18.9 -3.2
VNA3 Neumayer Olymp 147.96 198⇑ *i* PKPdf 21 21 22.3 +0.2
VNA3 Neumayer Olymp 147.96 198 PKPdf 21 21 24.9 +2.8
VNA3 Neumayer Olymp 147.96 198 PKPdf 21 21 35.0 +13
VNA3 Neumayer Olymp 147.96 198 PKPdf 21 21 42.2 +20
VNA1 Neumayer--Stat 148.03 200⇑ *i*P PKPdf 21 21 19.4 -2.8
VNA1 Neumayer--Stat 148.03 200⇑ *i* PKPdf 21 21 23.1 +0.9
VNA1 Neumayer--Stat 148.03 200 PKPdf 21 21 31.2 +9.0
VNA1 Neumayer--Stat 148.03 200 PKPdf 21 21 36.8 +15
BAO Brasilia Array 151.88 15 PKPdf PKPdf 21 21 27.4 -2.4
BDFB Brasilia 151.88 15 PKP PKPdf 21 21 26.5 -3.3
comp=Z,18nm,1.1s,baz=12,slow=3.3,SNR=9.1
BDFB PKPbc PKPdf 21 21 33.5 +3.8
comp=Z,59nm,0.9s,baz=319,slow=1.5,SNR=32
TLL Tololo Astrono 152.71 72 *e*P PKPdf 21 21 34.7 +4.1
CFAA Coronel Fontan 155.34 71 PKP PKPdf 21 21 30.8 -3.3
comp=Z,1.4nm,1.1s,baz=280,slow=2.4,SNR=11
CFAA PKPbc PKPdf 21 21 39.8 +5.7
comp=Z,1.3nm,0.7s,baz=276,slow=3.5,SNR=12
CFAA PKPab PKPab 21 21 56.4 -0.7
comp=Z,2.2nm,1.0s,baz=287,slow=3.8,SNR=5.8
CFAA Coronel Fontan 155.34 71 PKP PKPdf 21 21 30.8 -3.3
CFAA PKPbc PKPdf 21 21 39.8 +5.8
CFAA PKPab PKPab 21 21 56.4 -0.7
PLCA Paso Flores 157.66 94 PKP PKPdf 21 21 32.6 -4.3
comp=Z,3.3nm,1.0s,baz=95,slow=1.4,SNR=3.1
PLCA PKPbc PKPdf 21 21 45.0 +8.1
comp=Z,9.0nm,1.0s,baz=256,slow=3.1,SNR=6.4
PLCA PKPab PKPab 21 22 07.4 +0.7
comp=Z,24nm,0.9s,baz=264,slow=3.9,SNR=21
CPUP Villa Florida 158.41 44 PKIKP PKPdf 21 21 35.7 -2.6
USHA Ushuaia 158.48 133 PKP PKPdf 21 21 32.7 -4.8
comp=Z,7.4nm,1.0s,baz=216,slow=18,SNR=1.9
USHA PKPab PKPab 21 22 10.6 +0.8
comp=Z,6.5nm,0.7s,baz=281,slow=4.4,SNR=4.4

IDC ***12*** *21:07:34.9±0.7, 1.93S×80.01W, h28km±4km, mb4.1/11, mb1 4.2/13, mb1mx4.1/22, mbtmp4.3/13, ML4.0/2, MS3.9/5, Ms1 3.9/5, ms1mx3.5/42, Error ellipse: s-maj=24.6km s-min=13.1km az=61.0*
IGQ ***12*** *21:07:35.2, 1.60S×80.01W, h10km±4km, mb4.8, Error ellipse: s-maj=8.0km s-min=2.1km az=128.3*
NEIC ***12*** *21:07:35.7±0.4, 1.94S×79.99W, mb4.3/2, MD4.8(IGQ), Error ellipse: s-maj=13.6km s-min=8.2km az=76.0*
NEIC Felt [III] at Guayaquil and [II] at Ambato, Manta and Riobamba.

ISC 12 21:07:33.8±0.5, 1.93S±0.04×80.23W±0.04, h29km, h29km±3km:pP-P,n68,σ1§19/56, mb4.3/13, MS3.9/1, 8C-9D,
Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
IGUA	**Igualata**	**1.65**	**75**	**⇑P**	**Pn**	**21 08 01.5**	**+0.2**
JAMA	**Jama**	**1.66**	**1**	**⇓P**	**Pn**	**21 07 59.9**	**-1.5**
QIL1	**Quilotoa**	**1.69**	**50**	**⇑P**	**Pn**	**21 08 00.0**	**-1.8**
CUSU	**Cusua**	**1.82**	**74**	**⇓P**	**Pn**	**21 08 04.2**	**+0.5**
JUIV	**Juive**	**1.84**	**74**	**⇓P**	**Pn**	**21 08 04.3**	**+0.3**
PATA	**Patacocha**	**1.85**	**77**	**⇓P**	**Pn**	**21 08 04.6**	**+0.5**
RETU	**Refugio**	**1.85**	**75**	**P**	**Pn**	**21 08 05.2**	**+1.1**
RETU				S	**Sn**	**21 08 26.2**	**-0.5**
ULBA	**Ulba**	**1.89**	**75**	**⇓P**	**Pn**	**21 08 05.2**	**+0.6**
MAG1	**Magdalena**	**1.91**	**14**	**⇓P**	**Pn**	**21 08 04.0**	**-0.9**
CAMI	**Rancho Maria**	**2.13**	**54**	**⇑P**	**Pn**	**21 08 09.0**	**+0.8**
TAMB	**Tambo**	**2.23**	**57**	**⇓P**	**Pn**	**21 08 10.8**	**+1.1**
VC1	**Cotopaxi 1**	**2.23**	**55**	**⇑P**	**Pn**	**21 08 10.8**	**+1.1**
JUA2	**San Juan 2**	**2.36**	**44**	**⇑P**	**Pn**	**21 08 11.1**	**-0.4**
TERV	**Terraza Guagua**	**2.39**	**43**	**P**	**Pn**	**21 08 11.2**	**-0.6**
GGP	**Refugio Guagua**	**2.40**	**43**	**⇑P**	**Pn**	**21 08 11.3**	**-0.6**
PINO	**Pino**	**2.40**	**43**	**⇑P**	**Pn**	**21 08 11.2**	**-0.8**
YANA	**Yana**	**2.45**	**43**	**⇑P**	**Pn**	**21 08 12.1**	**-0.7**
ANTI	**Antisana**	**2.54**	**55**	**⇓P**	**Pn**	**21 08 15.1**	**+1.0**
OTAV	**Otavalo**	**2.80**	**40**	***e*Pn**	**Pn**	**21 08 16.6**	**-1.1**
OTAV				*e*Sn	**Sn**	**21 08 48.4**	**-2.4**
COTA	**Cotacachi**	**2.94**	**40**	**P**	**Pn**	**21 08 19.6**	**-0.1**
CAYR	**Refugio Cayamb**	**2.95**	**49**	**P**	**Pn**	**21 08 21.3**	**+1.4**
ANGU	**Angureal**	**2.97**	**49**	**⇓P**	**Pn**	**21 08 21.4**	**+1.3**
CAYA	**Cayambe**	**3.00**	**48**	**P**	**Pn**	**21 08 21.7**	**+1.2**
LAV3	**Lava3-Reventad**	**3.18**	**55**	**P**	**Pn**	**21 08 25.1**	**+2.1**
CONE	**Cono NE Rev Vo**	**3.18**	**54**	**P**	**Pn**	**21 08 27.3**	**+4.2**
ROSC	**El Rosal**	**8.96**	**41**	**Pn**	**P**	**21 09 45.6**	**+1.2**
	1.8nm,0.3s,baz=106,slow=20,SNR=2.9						
ROSC				LR	LR	21 13 37.0	
	comp=Z,475nm,18.6s,baz=195,slow=41						
JTS	**JuntasAbangare**	**13.02**	**339**	**Pn**	**P**	**21 10 42.1**	**+2.5**
	0.1nm,0.3s,baz=174,slow=13,SNR=9.4						
JTS				LR	LR	21 14 49.8	
	comp=Z,437nm,19.9s,baz=155,slow=33						
SDV	**Santo Domingo**	**14.39**	**42**	**Pn**	**P**	**21 10 56.4**	**-1.3**
	0.9nm,0.3s,baz=106,slow=19,SNR=4.5						
SDV				LR	LR	21 16 47.2	
	comp=Z,516nm,21.9s,baz=235,slow=39						
SAML	**Samuel**	**18.34**	**113**	***e*Pn**	**P**	**21 11 41.8**	**-6.3**
	7.1nm,1.2s						
SAML				*e*Sn	**S**	**21 15 08.2**	**-0.2**
LPAZ	**La Paz**	**18.59**	**141**	**P**	**P**	**21 11 50.1**	**-0.9**
	0.2nm,0.3s,baz=329,slow=10.0,SNR=15						
LPAZ				LR	LR	21 20 17.5	
	comp=Z,496nm,20.6s,baz=69,slow=41						
SIV	**San Ignacio**	**23.48**	**128**	**P**	**P**	**21 12 41.5**	**-0.7**
	9.3nm,0.8s,mb4.3,baz=298,slow=9.6,SNR=44						
SJG	**San Juan**	**24.27**	**34**	**P**	**P**	**21 12 49.8**	**-0.1**
	14nm,0.6s,mb4.6,baz=204,slow=4.8,SNR=5.5						
MTP	**Monte Pirata**	**24.59**	**35**	***e*P**	**P**	**21 12 53.2**	**+0.2**
CFAA	**Coronel Fontan**	**31.61**	**160**	**P**	**P**	**21 13 54.8**	**-1.7**
	0.1nm,0.3s,baz=323,slow=15,SNR=2.3						
BDFB	**Brasilia**	**34.55**	**115**	**P**	**P**	**21 14 18.8**	**-3.4**
	10nm,1.0s,mb4.7,baz=299,slow=3.2,SNR=6.5						
BDFB				LR	LR	21 29 26.0	
	comp=Z,201nm,19.0s,MS3.9,baz=165,slow=38						

OXF	**Oxford**	**37.26**	**347**	*eP*		**P**	**21**	**14**	**39.8 -5.2**
	178nm,1.2s								
PLCA	**Paso Flores**	**39.60**	**168**	P		**P**	**21**	**15**	**03.6 -0.8**
	2.3nm,0.7s,mb4.0,baz=334,slow=9.7,SNR=9.1								
ANMO	**Albuquerque**	**44.16**	**329**	P		**P**	**21**	**15**	**43.5 +1.6**
	7.2nm,1.1s,mb4.3,baz=144,slow=17,SNR=2.6								
ANMO				pP		pP	21	15	52.2 +1.5
	11nm,1.0s,baz=145,slow=11,SNR=5.0								
ANMO	**Albuquerque**	**44.16**	**329**	P		**P**	**21**	**15**	**43.5 +1.5**
ANMO				pP		pP	21	15	52.2 +1.5
RSSD	**Black Hills**	**50.55**	**338**	*eP*		**P**	**21**	**16**	**27.1 -4.7**
	56nm,1.3s,mb5.3								
PDAR	**Pinedale Array**	**51.76**	**333**	pP		pP	21	16	49.6 -0.3
	1.8nm,0.8s,baz=108,slow=8.6,SNR=4.1								
RRI2	**Red Ridge**	**53.02**	**332**	*eP*		**P**	**21**	**16**	**51.1 +0.6**
RRI2				epP		pP	21	17	00.4 +0.9
NVAR	**Mina Array Bea**	**53.33**	**323**	P		**P**	**21**	**16**	**53.2 +0.5**
	0.8nm,0.9s,mb3.7,baz=149,slow=5.3,SNR=4.7								
ULM	**Lac du Bonnet**	**53.69**	**348**	P		**P**	**21**	**16**	**53.4 -1.8**
	2.4nm,0.6s,mb4.3,baz=160,slow=11,SNR=5.0								
YKA	**Yellowknife Ar**	**69.31**	**344**	P		**P**	**21**	**18**	**38.6 -1.7**
	0.7nm,0.9s,mb3.6,baz=135,slow=5.7,SNR=5.0								
YKA				pP		pP	21	18	47.7 -1.8
	1.4nm,0.6s,baz=144,slow=6.0,SNR=13								
YKA	**Yellowknife Ar**	**69.31**	**344**	P		**P**	**21**	**18**	**38.6 -1.7**
YKA				pP		pP	21	18	47.7 -1.8
DBIC	**Dimbokro**	**75.71**	**83**	P		**P**	**21**	**19**	**17.4 -1.8**
	7.8nm,0.8s,mb4.7,baz=244,slow=3.9,SNR=12								
DAWY	**Dawson**	**78.74**	**337**	*eP*		**P**	**21**	**19**	**42.5 +7.6**
ILAR	**Eielson Array**	**81.98**	**337**	P		**P**	**21**	**19**	**52.3 +0.2**
	0.4nm,0.8s,mb3.4,baz=153,slow=2.0,SNR=2.8								
ILAR				pP		pP	21	20	01.6 +0.1
	0.8nm,0.8s,baz=162,slow=5.8,SNR=4.9								
VNA3	**Neumayer Olymp**	**81.99**	**162**	P		**P**	**21**	**19**	**53.6 +1.6**
VNA3	**Neumayer Olymp**	**81.99**	**162**			pP	21	20	03.8 +2.4
TORD	**Torodi Ar. Bea**	**82.58**	**77**	P		**P**	**21**	**19**	**54.4 -1.8**
	1.3nm,0.4s,mb4.3,baz=279,slow=5.7,SNR=36								
VNA2	**Neumayer--Watz**	**82.61**	**162**	P		**P**	**21**	**19**	**56.5 +1.2**
VNA2	**Neumayer--Watz**	**82.61**	**162**			pP	21	20	08.8 +4.1
SNAA	**Sanae**	**84.22**	**162**	P		**P**	**21**	**20**	**03.3 -0.1**
SNAA	**Sanae**	**84.22**	**162**			pP	21	20	14.2 +1.4
QSPA	**South Pole Qui**	**88.13**	**180**	*eP*		**P**	**21**	**20**	**24.5 +2.0**
	3.3nm,0.4s,mb4.9								
MKAR	**Makanchi Array**	**132.79**	**16**	PKP		PKPdf	21	26	46.5 -5.0
	0.4nm,0.7s,baz=304,slow=4.4,SNR=4.0								
WB2	**Warramunga Arr**	**139.71**	**236**	*eP*		PKPdf	21	27	03.4 -1.5
WRA	**Warramunga Arr**	**139.72**	**236**	PKhKP			21	26	54.3
	0.3nm,0.6s,baz=121,slow=2.1,SNR=7.2								
WRA				PKP		PKPdf	21	27	00.2 -4.7
	0.6nm,0.6s,baz=118,slow=2.0,SNR=8.8								
FITZ	**Fitzroy Crossi**	**147.67**	**231**	*eP*		PKPdf	21	27	18.6 -0.2
	6.0nm,0.8s								
FITZ	**Fitzroy Crossi**	**147.67**	**231**	PKPbc		PKPdf	21	27	17.3 -1.5
	3.6nm,0.8s,baz=135,slow=4.4,SNR=8.0								
FITZ				pPKPbc			21	27	27.1
	2.5nm,0.7s,baz=201,slow=4.7,SNR=3.7								
KOLN	**Koldanda**	**150.01**	**30**	*eP*		PKPdf	21	27	21.2 -1.1
	14nm,1.1s								
GKN	**Gorkha**	**150.31**	**28**	*eP*		PKPdf	21	27	21.7 -1.0
	26nm,1.1s								
KKN	**Kakani**	**150.79**	**27**	*eP*		PKPdf	21	27	23.5 0.0
	12nm,0.8s								
DMN	**Daman**	**150.87**	**27**	*eP*		PKPdf	21	27	24.7 +1.1
	41nm,1.5s								
GUN	**Gumba**	**150.95**	**26**	*eP*		PKPdf	21	27	25.0 +1.3
	38nm,1.3s								
JIRN	**Jiri**	**151.31**	**26**	*eP*		PKPdf	21	27	26.2 +2.0
	16nm,1.0s								

JMA 12 21:14:18.1±0.1, 43.21N×139.44E, h35km±3km, M3.8, 1C-1D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JSH	**Shimam**	**0.72**	**142**	P		P	21 14 31.6	-0.2
JSH				*eS*		S	21 14 41.2	-0.6
JSK	**Shakotan**	**0.77**	**79**	⇓P		P	21 14 32.4	-0.1
JSK				*eS*		S	21 14 42.2	-0.8
JOSM	**Okushiri--Mats**	**1.13**	**179**	⇑P		P	21 14 37.6	0.0
JYM2	**Yakumo 2**	**1.29**	**148**	P		P	21 14 40.8	+0.9
JYM2				*eS*		S	21 14 57.0	+0.7
JNB	**Noboribetsu**	**1.39**	**122**	P		P	21 14 42.0	+0.6
JNB				*eS*		S	21 14 59.2	+0.4

IDC 12 21:33:29.1±2.3, 7.45N×75.38W, h77km±23km, mb3.3/4, mb1 3.6/6, mb1mx3.3/23, mbtmp3.7/6, Error ellipse: s-maj=21.6km s-min=14.2km az=111.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROSC	**El Rosal**	**2.78**	**158**	P		P	21 34 11.0	-1.3
	23nm,0.3s,baz=243,slow=0.7,SNR=20							
ROSC				S		S	21 34 46.0	+1.2
	19nm,0.3s,baz=260,slow=18,SNR=5.8							
SDV	**Santo Domingo**	**4.91**	**73**	P		P	21 34 40.3	-1.6
	3.8nm,0.3s,baz=252,slow=3.4,SNR=14							
SDV				S		S	21 35 36.5	-1.5
	6.0nm,0.3s,baz=52,slow=19,SNR=2.9							
SIV	**San Ignacio**	**27.26**	**149**	P		P	21 39 05.0	-3.4
	0.9nm,0.7s,baz=331,slow=13,SNR=4.8							
TXAR	**Lajitas Array**	**34.39**	**313**	P		P	21 40 09.6	-1.4
	0.3nm,0.3s,baz=150,slow=7.3,SNR=3.1							
YKA	**Yellowknife Ar**	**61.92**	**341**	P		P	21 43 40.0	-2.8
	0.1nm,0.4s,baz=135,slow=6.9,SNR=4.3							
TORD	**Torodi Ar. Bea**	**75.80**	**78**	P		P	21 45 08.3	-0.8
	0.4nm,0.5s,baz=276,slow=6.3,SNR=12							
TBI	**Tubuai**	**78.51**	**244**	*e*LR		LR	21 44 24.8	
	636nm,25.2s,baz=322							
WRA	**Warramunga Arr**	**148.64**	**244**	PKPbc		PKPdf	21 53 07.5	+3.1
	0.2nm,0.7s,baz=107,slow=2.8,SNR=5.9							

BGS **12** *21:47:34.0, 35.20N×72.51E, h225km, mb5.9*
CRAAG **12** *21:47:42.3, 36.37N×70.97E, Mb6.6*
BJI **12** *21:47:43.9, 36.54N×71.12E, h209km, mB6.6, mb6.2*
MOS **12** *21:47:44.7±0.8, 36.42N×71.13E, h224km, mb6.0/94, Error ellipse: s-maj=5.6km s-min=2.7km az=43.7*
IDC **12** *21:47:45.8±0.2, 36.37N×71.22E, h221km±1km, mb5.7/53, mb1 5.8/56, mb1mx5.8/56, mbtmp6.3/56, Error ellipse: s-maj=5.0km s-min=4.6km az=25.0*
HRVD **12** *21:47:46.1±0.1, 36.45N×71.06E, h210km, MW6.5/91, Centroid moment Tensor Solution. LP body waves: s87, c225; Mantle waves: s91, c417; Half duration: 4s6 Moment tensor: Scale 10^19 Nm; Mr 0.76±.00; Mθθ -0.82±.01; Mφφ 0.06±.01; Mrθ 0.17±.00; Mθφ -0.01±.01; Mφr 0.13±.00; Best double couple: M0 .82×10^19 NP1: φs 279°, δ 40°, λ 106°. NP2: φs 80°, δ 52°, λ 77°. Principal axes: T .802, Plg 78°, Azm 299°; N .037, Plg 10°, Azm 87°; P -.839, Plg 6°, Azm 178°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC **12** *21:47:46.1±0.1, 36.36N×71.09E, mb6.0/189, ME6.2, MW6.5 Error ellipse: s-maj=3.7km s-min=2.1km az=192.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^18 Nm; Mrr 7.85; Mθθ -6.86; Mφφ -0.97; Mrθ 1.39; Mθφ 0.08; Mφr 1.19; Best double couple: M0 7.5×10^18 NP1: φs 278°, δ 40°, λ 102°. NP2: φs 83°, δ 51°, λ 80°. Principal axes: T 8.14, Plg 81°, Azm 305°; N -1.15, Plg 7°, Azm 89°; P -6.99, Plg 5°, Azm 180°; Depth from broadband displacement seismograms. Energy computed from MT mechanism.*
NEIC Five people killed at Tili. At least one person injured at Jalalabad. At least 300 livestock killed and 100 houses damaged in Badakhshan. Felt [V] at Charikar, [IV] at Kabul and [III] at Bagrami. Also felt at Asadabad and Baghlan. Felt strongly at Chitral, [V] at Lahore and Rawalpindi and [IV] at Abottabad and Islamabad, Pakistan. Also felt at Balakot, Mansehra and Peshawar. Landslides blocked several roads near Bagh, Kashmir. Felt at Gilgit and Muzaffarabad. Several houses damaged at Baramulla, Fariabad and Uri, India. Felt [IV] at Chandigarh. Also felt at Amritsar and New Delhi. Felt at Tash-Kumyr and [V] at Osh, Kyrgyzstan. Felt [IV] at Tashkent, Uzbekistan and [III] at Dushanbe, Tajikistan. Felt at Kashi, China.
NNC **12** *21:47:48.5±2.8, 36.80N×71.03E, h210km±23km Error ellipse: s-maj=23.1km s-min=16.4km az=11.0*
ISC 12 21:47:44.7±0.1, **36.41N**±0.01×**71.10E**±0.01, **h224**km, **h224**km±4km: **pP-P, n1389,** c0: **98**/1339, **mb6.0**/305,

2005 DEC

402C-53D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CEP	**Cherat**	**2.66**	**165**	⇓P		**P**	**21**	**48**	**31.4 -0.8**
CHCP	**Chirah Chowk**	**3.26**	**146**	⇓P		**P**	**21**	**48**	**38.4 -0.7**
THW	**Thamme Wali**	**3.64**	**171**	⇑P		**P**	**21**	**48**	**42.6 -1.0**
SRNI	**Srinagar**	**3.83**	**126**	*ex*		**P**	**21**	**48**	**42.4 -3.5**
SRNI				*ex*		**S**	**21**	**49**	**20.0 -13**
SBDP	**Sheikh Budin**	**4.10**	**184**	⇑P		**P**	**21**	**48**	**47.6 -1.6**
SARP	**Sargodha**	**4.66**	**163**	⇓P		**P**	**21**	**48**	**54.4 -1.6**
DRP	**Derazinda**	**4.71**	**189**	⇓P		**P**	**21**	**48**	**55.6 -1.0**
KSH	**Kashi**	**4.94**	**50**	*i* PR			21	48	59.0
KSH				S		**S**	**21**	**49**	**55.0 -2.8**
KSH				LR		LR			
	comp=N,867μm,3.0s								
KSH				LR		LR			
	comp=E,637μm,5.0s								
PONG	**Pong**	**5.99**	**136**	*eP*		**P**	**21**	**49**	**12.0 -0.8**
PONG				*eS*		**S**	**21**	**50**	**17.0 -4.5**
AML	**Almayashu**	**6.06**	**19**	P		**P**	**21**	**49**	**12.6 -1.1**
UCH	**Uchtor**	**6.39**	**23**	P		**P**	**21**	**49**	**16.9 -1.0**
KZA	**Kyzart**	**6.51**	**28**	P		**P**	**21**	**49**	**17.5 -2.0**
EKS2	**Erkin-Say**	**6.58**	**17**	P		**P**	**21**	**49**	**19.2 -1.2**
KK31	**Karatay Array**	**6.71**	**356**	⇓P		**P**	**21**	**49**	**20.5 -1.5**
	baz=178,slow=13								
KK31				⇓S		**S**	**21**	**50**	**32.5 -5.4**
	baz=186,slow=24								
KBK	**Karagaybulak**	**6.91**	**24**	P		**P**	**21**	**49**	**23.6 -1.0**
	SNR=5350								
FRU	**Bishkek**	**6.97**	**22**	⇓*i* PN		**P**	**21**	**49**	**25.5 +0.2**
FRU				*eS*		**S**	**21**	**50**	**44.0 0.0**
FRU				pmax		pmax			
	comp=N,224μm,2.0s								
FRU				smax					
	comp=N,400μm,3.0s								
ULHL	**Ulahol**	**7.06**	**33**	P		**P**	**21**	**49**	**24.7 -1.9**
	SNR=1787								
CHMS	**Chumysh**	**7.16**	**22**	P		**P**	**21**	**49**	**26.2 -1.6**
USP	**Ospenovka**	**7.33**	**20**	P		**P**	**21**	**49**	**28.0 -2.0**
TKM2	**Tokmak 2**	**7.37**	**27**	P		**P**	**21**	**49**	**29.4 -1.2**
	SNR=2884								
TKM2	**Tokmak 2**	**7.37**	**27**	⇓P		**P**	**21**	**49**	**29.5 -1.1**
TKM2				⇑S		**S**	**21**	**50**	**50.4 -2.9**
KLP	**Kalpa**	**7.67**	**127**	*eP*		**P**	**21**	**49**	**33.4 -1.0**
KLP				*eS*		**S**	**21**	**50**	**52.9 -7.3**
KKR	**Kurukshetra**	**8.01**	**142**	*ex*		**P**	**21**	**49**	**34.6 -4.2**
KKR				*ex*		x	21	50	23.0
AAA	**Alma-Ata**	**8.20**	**31**	*i* PN		**P**	**21**	**49**	**39.7 -1.5**
KHET	**Khetri**	**9.21**	**153**	*ex*		**P**	**21**	**49**	**51.5 -2.8**
KHET				AMb		AMB	21	49	53.2
	comp=Z,2μm,0.2s								
KHET				*eS*		**S**	**21**	**51**	**28.6 -7.1**
AYAN	**Aya Nagar**	**9.39**	**146**	*eP*		**P**	**21**	**49**	**54.8 -1.8**
KALG	**Kalgarh**	**9.41**	**135**	*ex*		**P**	**21**	**49**	**51.2 -5.6**
KALG				*eS*		**S**	**21**	**51**	**31.3 -9.0**
KUDL	**Kundal**	**9.41**	**150**	⇓*i* P		**P**	**21**	**49**	**54.6 -2.2**
KUDL				AMb		AMB	21	49	55.9
	comp=Z,7μm,0.5s								
KUDL				*eS*		**S**	**21**	**51**	**33.2 -7.1**
JASL	**Jaisalmer**	**9.45**	**181**	*ex*		**P**	**21**	**49**	**55.4 -1.9**
BISR	**Bishrakh**	**9.47**	**144**	*eP*		**P**	**21**	**49**	**56.0 -1.5**
SONA	**Sohna**	**9.57**	**146**	⇓*i* P		**P**	**21**	**49**	**56.9 -2.0**
AJM	**Ajmer**	**10.35**	**162**	*i* x		**P**	**21**	**50**	**06.9 -1.9**
AJM				*eS*		**S**	**21**	**51**	**57.4 -4.5**
VAN	**Vannovskaya**	**10.48**	**282**	*eP*		**P**	**21**	**50**	**08.6 -2.0**
AGRA	**Agra**	**10.84**	**146**	*ex*		**P**	**21**	**50**	**12.8 -2.3**
AGRA				*eS*		**S**	**21**	**52**	**05.5 -7.7**
BHJ	**Bhuj**	**13.17**	**186**	*ex*		**P**	**21**	**50**	**43.6 -0.7**
BHJ				AMb		AMB	21	50	45.1
	comp=Z,11μm,0.8s								
BHJ				*eS*		**S**	**21**	**53**	**03.2 -3.1**
MK31	**Makanchi Array**	**13.32**	**35**	⇓P		**P**	**21**	**50**	**44.1 -2.1**
	comp=Z,8μm,0.8s,baz=189,slow=8.9								
MKAR	**Makanchi Array**	**13.32**	**35**	P		**P**	**21**	**50**	**44.0 -2.2**
	comp=Z,187nm,0.3s,baz=219,slow=9.7,SNR=830								
MKAR				S		**S**	**21**	**53**	**10.2 +0.6**
	baz=219,slow=23,SNR=2.4								
KOLN	**Koldanda**	**13.64**	**126**	*eP*		**P**	**21**	**50**	**43.9 -6.3**
	comp=Z,5μm,0.5s								
KOLN	**Koldanda**	**13.64**	**126**	*eP*		**P**	**21**	**50**	**43.9 -6.3**
	comp=Z,2μm,0.5s								
GKN	**Gorkha**	**14.18**	**122**	*eP*		**P**	**21**	**50**	**50.2 -6.7**
GKN	**Gorkha**	**14.18**	**122**	*eP*		**P**	**21**	**50**	**50.3 -6.6**
	comp=Z,10μm,0.8s								
BHPL	**Bhopal**	**14.21**	**156**	*eP*		**P**	**21**	**50**	**55.2 -2.2**
BHPL				AMb		AMB	21	51	02.9
	comp=Z,13μm,1.0s								
BHPL				*ex*		**S**	**21**	**53**	**25.1 -4.7**
WMQ	**Urumqi**	**14.68**	**55**	⇓*i* P		**P**	**21**	**51**	**01.8 -1.2**
WMQ				XP			21	51	58.3
WMQ				S		**S**	**21**	**53**	**39.1 -1.0**
WMQ				PCP		PcP	21	55	59.8 -0.2
WMQ				SCP			21	59	09.8
WMQ				PCS			21	59	32.8
WMQ				SCS		ScS	22	02	46.8 -1.1
WMQ				AMB		AMB			
	comp=Z,6μm,1.2s								
WMQ				AMB		AMB			
	comp=Z,39μm,5.0s								
WMQ				LR		LR			
	comp=N,17μm,17.0s								
WMQ				LR		LR			
	comp=E,10μm,13.0s								
WMQ				LR		LR			
	comp=Z,18μm,13.6s								
DMN	**Daman**	**14.75**	**123**	*eP*		**P**	**21**	**50**	**57.7 -6.3**
KKN	**Kakani**	**14.76**	**122**	*eP*		**P**	**21**	**50**	**57.5 -6.5**
KKN	**Kakani**	**14.76**	**122**	*eP*		**P**	**21**	**50**	**57.5 -6.5**
	comp=Z,18μm,0.9s								
PKI	**Pulchoki**	**14.98**	**122**	*eP*		**P**	**21**	**51**	**00.3 -6.5**
PKI	**Pulchoki**	**14.98**	**122**	*eP*		**P**	**21**	**51**	**00.3 -6.5**
	comp=Z,38μm,1.4s								
GUN	**Gumba**	**15.10**	**120**	*eP*		**P**	**21**	**51**	**01.6 -6.6**
AB31	**Akbulak array**	**15.21**	**331**	P		**P**	**21**	**51**	**07.7 -1.6**
	comp=Z,3μm,0.6s,baz=148,slow=12								
AB31				⇓S		**S**	**21**	**53**	**52.0 +0.2**
	comp=Z,2μm,0.8s,baz=140,slow=24,SNR=6.4								
KURK	**Kurchatov**	**15.29**	**18**	⇓P		**P**	**21**	**51**	**08.0 -2.4**
	comp=Z,16μm,1.6s								
JIRN	**Jiri**	**15.47**	**120**	*eP*		**P**	**21**	**51**	**06.7 -6.0**
JIRN	**Jiri**	**15.47**	**120**	*eP*		**P**	**21**	**51**	**06.8 -5.9**
	comp=Z,14μm,0.5s								
VOSK	**Vostochnaya**	**16.32**	**360**	⇓P		**P**	**21**	**51**	**21.1 -1.6**
	comp=Z,15μm,2.4s								
BANOM	**Banah**	**16.40**	**235**	⇑P		**P**	**21**	**51**	**23.1 -0.8**
	SNR=359								
BVA0	**Borovoye Array**	**16.62**	**358**	P		**P**	**21**	**51**	**24.9 -1.4**
	comp=Z,4μm,2.4s,baz=166,slow=10								
BVA0				⇓S		**S**	**21**	**54**	**23.9 +0.9**
	comp=Z,150nm,1.1s,baz=168,slow=24,SNR=5.1								
BVAR	**Borovoye Array**	**16.62**	**358**	P		**P**	**21**	**51**	**24.9 -1.4**
	comp=Z,200nm,0.3s,baz=160,slow=11,SNR=838								
BVAR				S		**S**	**21**	**54**	**22.8 -0.2**
	comp=Z,24nm,0.3s,baz=313,slow=28,SNR=2.4								
AKTK	**Aktyubinsk**	**16.90**	**330**	P		**P**	**21**	**51**	**28.9 -0.5**
AKTK				S		**S**	**21**	**54**	**34.2 +5.2**
AKTO	**Aktyubinsk**	**16.90**	**330**	P		**P**	**21**	**51**	**28.9 -0.5**
	comp=Z,127nm,0.3s,baz=139,slow=10,SNR=3283								
AKTO				S		**S**	**21**	**54**	**34.2 +5.2**
	comp=Z,31nm,0.3s,baz=233,slow=20,SNR=3.8								
BIDO	**Bidbid**	**17.04**	**225**	⇓P		**P**	**21**	**51**	**31.5 +0.3**
	SNR=11								
CHKZ	**Chkalovo**	**17.27**	**359**	⇓P		**P**	**21**	**52**	**32.4 -0.9**
	comp=Z,7μm,1.9s								
CHKZ	**Chkalovo**	**17.27**	**359**	*eP*		**P**	**21**	**52**	**32.1 -1.3**
WBK	**Wadi Bani Khal**	**17.31**	**221**	⇑P		**P**	**21**	**54**	**34.8 +0.8**
	SNR=11								
WBK				P			21	51	34.9
	SNR=356								
ASHO	**Ashiyiah**	**17.42**	**232**	⇑P		**P**	**21**	**51**	**35.2 +0.1**
	SNR=258								
SMDO	**Samad**	**17.45**	**224**	⇑P		**P**	**21**	**51**	**35.9 +0.4**
	SNR=231								
HOQ	**Hoqain**	**17.47**	**227**	⇑P		**P**	**21**	**51**	**35.4 -0.2**
	SNR=45								
BOK	**Bokaro**	**17.90**	**131**	*eP*		**P**	**21**	**51**	**39.7 -0.5**
JMDO	**Jabal Madar**	**17.97**	**222**	⇓P		**P**	**21**	**51**	**41.9 +1.1**
	SNR=27								
LSA	**Lhasa**	**18.07**	**106**	P		**P**	**21**	**51**	**43.8 +1.9**
LSA				S		**S**	**21**	**54**	**53.5 +0.8**
LSA				AMB		AMB			
	comp=Z,2μm,0.9s								
LSA				LR		LR			
	comp=N,26μm,12.2s								
LSA				LR		LR			
	comp=E,38μm,12.2s								
ARQ	**Araqi**	**18.12**	**228**	⇓P		**P**	**21**	**51**	**43.1 +0.7**
	SNR=106								
BSYO	**Bisya**	**18.17**	**225**	P		**P**	**21**	**51**	**44.2 +1.3**
	SNR=12								
BSY	**Bisya**	**18.18**	**225**	⇑P		**P**	**21**	**51**	**44.2 +1.2**
	SNR=12								
KAD	**Karad**	**19.22**	**171**	*eP*		**P**	**21**	**51**	**54.4 +0.8**
KAD				AMb		AMB	21	51	57.6
	comp=Z,1μm,1.1s								
MAK	**Makhachkala**	**19.27**	**297**	⇓*i* P		**P**	**21**	**51**	**54.0 -0.1**
MAK				*i* S		**S**	**21**	**55**	**21.5 +6.1**
MAK				pmax		pmax			
	comp=Z,467nm,1.5s								
MAK				smax					
	comp=N,2μm,1.3s								
MAK				smax					
	comp=E,2μm,1.8s								
ZAL	**Zalesovo**	**19.95**	**24**	P		**P**	**21**	**52**	**01.3 +0.5**
	baz=255,slow=7.9								
ZAL				S		**S**	**21**	**55**	**31.1 +3.3**
	comp=E,23nm,0.3s,baz=131,slow=20,SNR=6.8								
HYB	**Hyderabad**	**20.03**	**159**	⇓*i* P		**P**	**21**	**52**	**02.5 +0.6**
	comp=E,1μm,1.0s								
HYB				*e*sP			21	53	04.0
HYB				*e*S		**S**	**21**	**55**	**32.0 +2.5**
HYB				LR		LR	22	00	08.0
	comp=E,200nm,7.0s								
HYB	**Hyderabad**	**20.03**	**159**	⇓*i* P		**P**	**21**	**52**	**02.5 +0.6**
HYB				*e*S		**S**	**21**	**55**	**32.0 +2.5**
HYB				pmax		pmax			
	comp=Z,1μm,1.0s								
HYB	**Hyderabad**	**20.03**	**159**	⇓*i* P		**P**	**21**	**52**	**02.5 +0.6**
	comp=Z,1μm,1.0s								
HYB				*e*sP			21	53	00.0
HYB				*e*S		**S**	**21**	**55**	**32.0 +2.5**
NVS	**Novosibirsk**	**20.24**	**21**	*i* P		**P**	**21**	**52**	**03.7 0.0**
NVS				*i* *PP			21	53	08.1
NVS				*i* S		**S**	**21**	**55**	**36.2 +3.1**
NVS				pmax		pmax			
	comp=Z,5μm,1.4s								
NVS				pmax		pmax			
	comp=N,6μm,1.6s								
NVS				pmax		pmax			
	comp=E,2μm,1.0s								
NVS				smax					
	comp=N,7μm,1.8s								
NVS				smax					
	comp=E,3μm,0.7s								
DGRG	**David-gareji**	**20.61**	**292**	P		**P**	**21**	**52**	**08.8 +1.3**
UMR	**Umm Al-Rimmam**	**20.75**	**257**	*eP*		**P**	**21**	**52**	**09.6 +0.7**
UMR				AMb		AMB	21	52	18.9
	comp=Z,3μm,0.8s								
KBD	**Kabd**	**20.93**	**257**	*eP*		**P**	**21**	**52**	**11.4 +0.6**
KBD				AMb		AMB	21	52	17.9
	comp=Z,11μm,1.3s								
MIB	**Mutribah**	**20.94**	**259**	*eP*		**P**	**21**	**52**	**11.5 +0.7**
MIB				AMb		AMB	21	52	19.6
	comp=E,6μm,1.1s								
QRN	**Al-Qurain**	**20.95**	**255**	*eP*		**P**	**21**	**52**	**11.5 +0.6**
GNI	**Garni**	**21.00**	**288**	P		**P**	**21**	**52**	**14.4 +3.0**
	comp=Z,2μm,1.1s,mb6.5,baz=91,slow=0.9,SNR=417								
SAMG	**Sameba**	**21.05**	**293**	P		**P**	**21**	**52**	**11.7 -0.2**
MTA	**Mtatsminda**	**21.07**	**293**	P		**P**	**21**	**52**	**13.3 +1.3**
TI2	**Plekhanov**	**21.10**	**293**	⇑*i* P		**P**	**21**	**52**	**14.0 +1.7**
TBLG	**Delisi**	**21.11**	**293**	P		**P**	**21**	**52**	**14.2 +1.7**
TBLG				S			21	53	03.8
RDF	**Al-Radifah**	**21.15**	**256**	*eP*		**P**	**21**	**52**	**13.8 +0.9**
RDF				AMb		AMB	21	52	21.7
	comp=Z,4μm,1.1s,mb6.9								
NAY	**Al-Naaiem**	**21.25**	**257**	*eP*		**P**	**21**	**52**	**14.9 +1.0**
NAY				AMb		AMB	21	52	22.5
	comp=Z,3μm,1.2s,mb6.7								
AGT	**Agartala**	**21.38**	**120**	*ex*		**P**	**21**	**52**	**20.0 +4.9**
AGT				*ex*		x	21	54	55.0
VIS	**Vishakhapatnam**	**21.52**	**147**	*i* P		**P**	**21**	**52**	**18.0 +1.4**
CLDR	**Calidiran**	**21.64**	**285**	P		**P**	**21**	**52**	**19.9 +2.4**
ARU	**Arti**	**21.75**	**341**	⇑*i* P		**P**	**21**	**52**	**20.2 +1.7**
ARU				*eS*		**S**	**21**	**56**	**06.9 +7.1**
ARU				pmax		pmax			
	comp=Z,2μm,1.0s,mb6.7

ELZG	**Elazig**	**25.52**	**284**	*i* P		**P**	**21 52 54.4**	**+0.2**
VRHR	**Novokhopersk**	**25.65**	**314**	*e*P		**P**	**21 52 55.1**	**-0.2**
VRHR				*e**PP		pP	21 53 37.4	-1.4
VRHR				*e*S		**S**	**21 57 02.1**	**-2.8**
VRHR				pmax	pmax			
	comp=E,470nm,0.9s							
VRHR				pmax	pmax			
	comp=Z,610nm,0.9s,mb6.2							
VRHR				pmax	pmax			
	comp=N,300nm,1.2s							
VRHR				smax				
	comp=N,5μm,8.3s							
VRHR				smax				
	comp=Z,7μm,9.3s							
VRHR				smax				
	comp=E,19μm,13.5s							
URFA	**Urfa**	**25.77**	**282**	P		**P**	**21 52 57.0**	**+0.5**
GRSN	**GIRESUNGRSN**	**25.94**	**290**	*i* P		**P**	**21 52 55.4**	**-2.7**
MYA	**Malataya**	**25.97**	**284**	P		**P**	**21 53 00.4**	**+2.1**
MOY	**Mondy**	**26.11**	**45**	*e*P		**P**	**21 53 01.2**	**+1.7**
MOY				*i*		pP	21 53 46.0	+2.8
ATAB	**Bozova**	**26.18**	**282**	*i* P		**P**	**21 52 56.4**	**-3.9**
LZH	**Lanzhou**	**26.34**	**81**	⇑P		**P**	**21 53 03.3**	**+1.5**
LZH				AP		pP	21 53 46.1	+0.5
LZH				PP		PP	21 53 56.9	+3.1
LZH				XP		sP	21 54 12.4	+0.1
LZH				PCP		PcP	21 56 24.1	+2.2
LZH				S		**S**	**21 57 18.0**	**+1.6**
LZH				XS			21 58 36.0	
LZH				SCS		ScS	22 03 30.0	+1.9
LZH				AMB		AMB		
	comp=Z,2μm,1.4s,mb6.5							
LZH				AMB		AMB		
	comp=Z,18μm,4.1s							
HILS	**Ha'il**	**26.38**	**258**	P		**P**	**21 53 02.4**	**+0.1**
ANN	**Anapa**	**26.75**	**299***c*	*i* P		**P**	**21 53 04.8**	**-0.6**
ANN				*i **PP		pP	21 53 49.6	+0.2
ANN				*e*S		**S**	**21 57 25.4**	**+2.5**
ANN				pmax	pmax			
	comp=Z,358nm,0.7s,mb6.1							
ANN				MLR		MLR		
	comp=Z,31μm,16.0s							
ZAK	**Zakamensk**	**26.99**	**49**⇓	*i* P		**P**	**21 53 08.1**	**+0.6**
ZAK				pmax	pmax			
	comp=Z,224nm,0.8s,mb5.8							
SVST	**Sivas**	**26.99**	**288**	*i* P		**P**	**21 53 05.9**	**-1.7**
GAZ	**Gaziantep**	**27.07**	**282**	P		**P**	**21 53 09.8**	**+1.4**
AFFS	**'Afif**	**27.19**	**251**	P		**P**	**21 53 09.5**	**-0.1**
KAHT	**Ahir Dag**	**27.27**	**283**	*i* P		**P**	**21 53 09.8**	**-0.4**
KVT	**Kavak**	**27.62**	**291**	P		**P**	**21 53 13.2**	**-0.1**
CD2	**Chengdu**	**27.65**	**92**⇑	*i* P		**P**	**21 53 14.7**	**+1.1**
CD2				AP		pP	21 54 00.1	+2.1
CD2				PP		PP	21 54 15.5	+4.2
CD2				XP		sP	21 54 22.9	-1.5
CD2				S		**S**	**21 57 38.9**	**+1.5**
CD2				SS		SS	21 59 20.1	+1.0
CD2				AMB		AMB		
	comp=Z,480nm,1.5s,mb5.9							
CD2				AMB		AMB		
	comp=Z,4μm,5.9s							
CD2				LR		LR		
	comp=N,15μm,9.3s							
CD2				LR		LR		
	comp=Z,11μm,13.2s							
BNN	**Bunyan**	**27.93**	**286**	P		**P**	**21 53 17.2**	**+1.1**
COBT	**Iskenderun**	**27.94**	**281**	*i* P		**P**	**21 53 15.5**	**-0.7**
HTY	**Hatay**	**28.11**	**280**	P		**P**	**21 53 18.5**	**+0.8**
KOZT	**Kozan**	**28.12**	**283**	P		**P**	**21 53 18.7**	**+0.9**
KAMS	**Al Khamasin**	**28.19**	**243**	P		**P**	**21 53 17.6**	**-1.0**
IRK	**Irkutsk**	**28.21**	**45**	*e*P		**P**	**21 53 18.4**	**-0.1**
IRK				*e*		pP	21 54 03.3	+0.3
IRK				pmax	pmax			
	comp=Z,1μm,3.2s							
CEYT	**Ceyhan**	**28.25**	**282**	P		**P**	**21 53 20.5**	**+1.5**
TRD	**Trivandrum**	**28.28**	**168**⇓	*i* P		**P**	**21 53 20.4**	**+0.9**
FKH	**Fakeheh**	**28.31**	**276**	*e*P		**P**	**21 53 20.8**	**+1.2**
SONM	**Songino Array**	**28.32**	**55**	P		**P**	**21 53 20.2**	**+0.7**
	comp=Z,390nm,0.8s,mb6.1,baz=258,slow=9.4,SNR=1108							
SONM				pP		pP	21 54 03.6	-0.5
	comp=Z,155nm,1.0s,baz=262,slow=7.5,SNR=1.9							
SONM				P3KPbc			22 25 34.4	
	comp=Z,11nm,0.8s,baz=82,slow=3.5,SNR=28							
SONM				P3KP			22 26 31.2	
	comp=Z,9.3nm,0.9s,baz=85,slow=3.5,SNR=9.7							
SONM	**Songino Array**	**28.32**	**55**	P		**P**	**21 53 20.2**	**+0.7**
SONM				pP		pP	21 54 03.6	-0.5
SONM				*e*			22 25 34.4	
QURS	**Qurayyt al Mil**	**28.39**	**270**	P		**P**	**21 53 21.2**	**+0.8**
BOYT	**Boyabat**	**28.47**	**291**	*i* P		**P**	**21 53 19.4**	**-1.5**
BYBT	**Boyabat**	**28.57**	**291**	P		**P**	**21 53 22.2**	**+0.4**
CTKT	**Corum**	**28.59**	**290**	*i* P		**P**	**21 53 20.3**	**-1.7**
KRTS	**Karatas**	**28.63**	**281**	P		**P**	**21 53 23.4**	**+1.1**
AVNT	**Avonos**	**28.70**	**286**	*i* P		**P**	**21 53 22.2**	**-0.8**
KARA	**Karaisali**	**28.76**	**283**	P		**P**	**21 53 24.5**	**+1.0**
ULN	**Ulaanbaatar**	**28.76**	**55**	P		**P**	**21 53 24.3**	**+0.9**
ULN				*PP		pP	21 54 13.0	+4.8
ULN				pmax	pmax			
	comp=Z,430nm,0.9s,mb6.1							
ULN	**Ulaanbaatar**	**28.76**	**55**	P		**P**	**21 53 24.2**	**+0.8**
	comp=Z,430nm,0.9s,mb6.1							
ULN				pP		pP	21 54 13.0	+4.9
NIG	**Nigde**	**28.98**	**284**	P		**P**	**21 53 27.2**	**+1.7**
CDAG	**Cicekdag**	**28.99**	**288**	*i* P		**P**	**21 53 22.2**	**-3.3**
BHL	**Bhannes**	**29.00**	**276**	*e*P		**P**	**21 53 26.9**	**+1.2**
SIM	**Simferopol'**	**29.11**	**299***c*	*i* P		**P**	**21 53 26.0**	**-0.6**
SIM				*i **PP		pP	21 54 12.0	+0.6
SIM				*i* S		**S**	**21 58 05.4**	**+4.8**
SIM				pmax	pmax			
	comp=Z,2μm,4.4s							
KBRS	**Khaybar**	**29.13**	**258**	P		**P**	**21 53 28.2**	**+1.3**
TOS	**Tosya**	**29.15**	**291**	P		**P**	**21 53 27.4**	**+0.5**
KSDI	**Kefar Szold**	**29.18**	**274**	P		**P**	**21 53 27.7**	**+0.4**
MERS	**Mersin**	**29.25**	**282**	P		**P**	**21 53 28.7**	**+0.8**
KMI	**Kunming**	**29.29**	**104**	P		**P**	**21 53 28.5**	**+0.1**
KMI				AP		pP	21 54 10.9	-2.4
KMI				XP		sP	21 54 34.4	-5.1
KMI				PP		PP	21 54 37.6	+5.0
KMI				PCP		PcP	21 56 29.4	+0.2
KMI				S		**S**	**21 58 06.7**	**+3.1**
KMI				XS			21 59 21.7	
KMI				SCP			21 59 51.7	
KMI				SS		SS	22 00 01.6	+5.3
KMI				PCS			22 00 11.0	
KMI				SSS		SSS	22 00 28.7	-5.4
KMI				SCS		ScS	22 03 44.3	+2.8
KMI				AMB		AMB		
	comp=Z,160nm,1.6s,mb5.4							
KMI				AMB		AMB		
	comp=Z,6μm,4.7s							
KMI				LR		LR		
	comp=N,12μm,14.9s							
KMI				LR		LR		
	comp=E,14μm,15.4s							
KMI				LR		LR		
	comp=Z,16μm,13.3s							
BSTP	**Nigde**	**29.39**	**284**	*i* P		**P**	**21 53 28.0**	**-1.1**
MUKL	**Al Mukalla**	**29.43**	**228**⇑	*e*P		**P**	**21 53 30.4**	**+0.7**
TATS	**Tathlith**	**29.48**	**243**	P		**P**	**21 53 29.5**	**-0.5**
CANT	**Cankiri**	**29.48**	**290**	P		**P**	**21 53 30.6**	**+0.7**
KAMT	**Kaman**	**29.52**	**287**	P		**P**	**21 53 30.6**	**+0.4**
BR131	**Keskin Array S**	**29.54**	**288**	P		**P**	**21 53 30.8**	**+0.4**
BR131				*e*pP		pP	21 54 15.9	+0.5
BRTR	**Keskin Array B**	**29.54**	**288**	P		**P**	**21 53 30.8**	**+0.4**
	comp=Z,283nm,0.8s,mb6.0,baz=98,slow=8.1,SNR=1000							
BRTR				pP		pP	21 54 14.6	-0.9
	comp=Z,72nm,0.9s,baz=97,slow=7.3,SNR=2.3							
BRTR				ScP			21 59 48.9	
	comp=Z,18nm,1.0s,baz=121,slow=4.6,SNR=4.4							
BRTR				P3KP			22 26 27.9	
	comp=Z,1.3nm,0.8s,baz=252,slow=3.9,SNR=4.8							
MMLI	**Mount Malkishu**	**29.59**	**273**	P		**P**	**21 53 32.1**	**+1.2**
MMLI	**Mount Malkishu**	**29.59**	**273**	⇑P		**P**	**21 53 32.1**	**+1.2**
MEST	**Erdemli**	**29.60**	**282**	*i* P		**P**	**21 53 30.9**	**-0.1**
HNTI	**Hanita**	**29.60**	**274**	P		**P**	**21 53 32.1**	**+1.1**
HNTI	**Hanita**	**29.60**	**274**	⇑P		**P**	**21 53 32.1**	**+1.1**
BALT	**Daday**	**29.61**	**292**	*i* P		**P**	**21 53 29.9**	**-1.1**
ELDT	**Eldivan**	**29.64**	**290**	*i* P		**P**	**21 53 28.9**	**-2.3**
MOS	**Moscow**	**29.79**	**321***a*	*i* P		**P**	**21 53 32.4**	**0.0**
MOS				*i **PP		pP	21 54 16.6	-0.8
MOS				*i*			21 56 29.1	
MOS				*e*S		**S**	**21 58 12.3**	**+1.3**
MOS				pmax	pmax			
	comp=Z,4μm,1.4s,mb6.8							
MOS				pmax	pmax			
	comp=Z,3μm,1.4s,mb6.7							
MOS				pmax	pmax			
	comp=N,700nm,1.1s							
MOS				pmax	pmax			
	comp=E,600nm,1.1s							
OFRI	**'Ofer**	**29.89**	**273**	P		**P**	**21 53 34.5**	**+1.0**
OFRI	**'Ofer**	**29.89**	**273**	⇑P		**P**	**21 53 34.5**	**+1.0**
MZDA	**Masada**	**30.00**	**271**	P		**P**	**21 53 35.3**	**+0.8**
PHNC	**Paralimni**	**30.02**	**278**	P		**P**	**21 53 35.6**	**+0.9**
CHRT	**Chiangrai**	**30.03**	**115**	⇑PN		**P**	**21 53 35.0**	**+0.2**
CHRT				PG		Px	21 53 40.5	
CHRT				SG		pP	21 54 18.0	-2.0
IKL	**Isikli**	**30.03**	**281**	P		**P**	**21 53 33.9**	**-0.8**
OBN	**Obninsk**	**30.06**	**319**α	*i* P		**P**	**21 53 34.9**	**+0.1**
OBN				*i **PP		pP	21 54 19.1	-0.9
OBN				*i **SP		sP	21 54 47.7	+1.6
OBN				*e*S		**S**	**21 58 17.0**	**+1.6**
OBN				pmax	pmax			
	comp=Z,3μm,1.5s,mb6.7							
OBN				MLR		MLR		
	comp=E,17μm,16.0s							
OBN	**Obninsk**	**30.06**	**319**⇑	*i* P		**P**	**21 53 34.0**	**-0.8**
CHG	**Chiang Mai**	**30.10**	**118**	⇑P		**P**	**21 53 34.9**	**-0.6**
	comp=Z,150nm,0.7s,mb5.7							
SAFT	**Safranbolu**	**30.15**	**291**	P		**P**	**21 53 36.1**	**+0.4**
ANTO	**Ankara**	**30.18**	**288**	*e*P		**P**	**21 53 36.1**	**+0.1**
ANTO				*e**PP		pP	21 54 23.5	+2.4
ANTO				pmax	pmax			
	comp=Z,402nm,1.0s,mb6.0							
ANTO	**Ankara**	**30.18**	**288**	*e*P		**P**	**21 53 36.1**	**+0.1**
	comp=Z,402nm,1.0s,mb6.0							
ANTO				*e*pP		pP	21 54 23.5	+2.3
LOD	**Lodumlu**	**30.20**	**288**	P		**P**	**21 53 36.8**	**+0.7**
TBKS	**Tabuk**	**30.20**	**264**	P		**P**	**21 53 37.4**	**+1.1**
ZFRI	**Zfri**	**30.41**	**269**	P		**P**	**21 53 39.2**	**+1.1**
ZFRI	**Zfri**	**30.41**	**269**	⇑P		**P**	**21 53 39.2**	**+1.1**
ERMK	**Ermenek**	**30.56**	**282**	*i* P		**P**	**21 53 35.7**	**-3.7**
BTO	**Baotou**	**30.57**	**70**	*e*P		**P**	**21 53 40.5**	**+1.1**
BTO				AMB		AMB		
	comp=Z,1μm,1.2s,mb6.4							
BTO				LR		LR		
	comp=E,15μm,6.8s							
CSS	**Prodhromos**	**30.59**	**279**	⇑P		**P**	**21 53 40.4**	**+0.8**
CSS	**Prodhromos**	**30.59**	**279**	*e*P		**P**	**21 53 39.2**	**-0.4**
	comp=E,325nm,1.2s,mb5.8							
BLJS	**Baljurashi**	**30.62**	**245**	P		**P**	**21 53 40.8**	**+0.7**
MAMC	**Mammari**	**30.63**	**279**	⇑P		**P**	**21 53 41.0**	**+1.0**
DJNS	**Zahran al Janu**	**30.64**	**240**	P		**P**	**21 53 40.8**	**+0.6**
SGKT	**Sivrigoynuk**	**30.67**	**290**	*i* P		**P**	**21 53 37.6**	**-2.7**
AQBJ	**Aqaba**	**30.81**	**268**	P		**P**	**21 53 42.3**	**+0.7**
YNBS	**Yanbu' al Bahr**	**30.84**	**256**	P		**P**	**21 53 42.8**	**+0.9**
XAN	**Xi'an**	**30.86**	**83**	P		**P**	**21 53 42.1**	**+0.2**
XAN				AP		pP	21 54 25.5	-1.8
XAN				S		**S**	**21 58 26.8**	**-1.3**
XAN				AMB		AMB		
	comp=Z,790nm,1.2s,mb6.2							
XAN				AMB		AMB		
	comp=Z,5μm,8.2s							
XAN				LR		LR		
	comp=N,10μm,9.7s							
XAN				LR		LR		
	comp=E,15μm,13.4s							
XAN				LR		LR		
	comp=Z,19μm,12.1s							
KDHN	**Kadinhani**	**30.86**	**286**	*i* P		**P**	**21 53 44.3**	**+2.3**
MBH	**Mount Berech**	**30.90**	**268**	P		**P**	**21 53 43.4**	**+1.1**
MBH	**Mount Berech**	**30.90**	**268**	⇑P		**P**	**21 53 43.4**	**+1.1**
EIL	**Elat**	**30.91**	**268**	P		**P**	**21 53 43.4**	**+0.9**
EIL	**Elat**	**30.91**	**268**	⇑P		**P**	**21 53 43.4**	**+0.9**
KZIT	**Kziot**	**30.92**	**271**	P		**P**	**21 53 43.5**	**+1.0**
KZIT	**Kziot**	**30.92**	**271**	⇑P		**P**	**21 53 43.5**	**+1.0**
UMJS	**Umm Laji**	**30.94**	**258**	P		**P**	**21 53 43.9**	**+1.2**
ALWS	**Ilw as Safaytha**	**30.96**	**267**	P		**P**	**21 53 43.5**	**+0.6**
JMOS	**Jabal al Moall**	**30.98**	**267**	P		**P**	**21 53 43.6**	**+0.6**
KIZT	**Kizilcal**	**31.00**	**287**	P		**P**	**21 53 43.0**	**-0.1**
SZAC	**Souni-Zanaja**	**31.00**	**278**	⇑P		**P**	**21 53 44.6**	**+1.4**
ALFC	**Alevga**	**31.13**	**279**	⇑P		**P**	**21 53 45.1**	**+0.8**
HAQS	**Haql**	**31.17**	**267**	P		**P**	**21 53 45.1**	**+0.4**
AYUS	**'Aynunah**	**31.24**	**265**	P		**P**	**21 53 45.8**	**+0.4**
BDAS	**Al Bad'**	**31.28**	**266**	P		**P**	**21 53 45.9**	**+0.3**
MDU	**Mudurnu**	**31.32**	**290**	P		**P**	**21 53 46.5**	**+0.5**
PPCY	**Paphos**	**31.39**	**279**	⇑P		**P**	**21 53 47.6**	**+1.0**
HENT	**Hendek**	**31.53**	**290**	*i* P		**P**	**21 53 43.3**	**-4.4**
KLMR	**Klimovskoe**	**31.60**	**331***c*	*i* P		**P**	**21 53 47.9**	**-0.3**
KLMR				*i **PP		pP	21 54 32.5	-1.2
KLMR				*i*			21 54 54.8	
KLMR				*i* S		**S**	**21 58 40.8**	**+1.4**
KLMR				*i **SS			22 00 04.6	
KLMR				pmax	pmax			
	comp=Z,4μm,1.4s,mb6.7							
KLMR				pmax	pmax			
	comp=Z,3μm,6.8s							
KLMR				smax				
	comp=E,12μm,5.3s							
ESKT	**Eskisehir**	**31.71**	**288**	P		**P**	**21 53 49.0**	**-0.3**
ESKT	**Eskisehir**	**31.71**	**288**	*i* P		**P**	**21 53 46.2**	**-3.1**
HHC	**Hu-ho-hao-te**	**31.72**	**69**⇑	*i* P		**P**	**21 53 50.6**	**+1.2**
HHC				AP		pP	21 54 34.8	-0.2
HHC				XP		sP	21 55 01.8	+0.9
HHC				PP		PP	21 55 05.0	+2.0
HHC				PCP		PcP	21 56 36.4	+1.0
HHC				S		**S**	**21 58 43.6**	**+2.2**
HHC				SCP			21 59 57.4	
HHC				XS			22 00 02.1	
HHC				PCS			22 00 20.0	
HHC				SS		SS	22 00 50.9	-0.2
HHC				SCS		ScS	22 03 54.8	+1.6
HHC				AMB		AMB		
	comp=Z,610nm,1.3s,mb6.0							
HHC				AMB		AMB		
	comp=Z,7μm,5.4s							
GYA	**Guiyang**	**31.77**	**98**⇑	*i* P		**P**	**21 53 50.2**	**+0.2**
GYA				AP		pP	21 54 30.9	-4.7
GYA				XP		sP	21 55 01.2	-0.3
GYA				PCP		PcP	21 56 35.7	+0.1
GYA				S		**S**	**21 58 43.8**	**+1.5**
GYA				SCP			21 59 56.7	
GYA				PCS			22 00 19.4	
GYA				SS		SS	22 00 53.0	+0.6
GYA				SCS		ScS	22 03 53.8	+0.2
GYA				AMB		AMB		
	comp=Z,550nm,1.0s,mb6.0							
GYA				AMB		AMB		
	comp=Z,5μm,6.9s							
GYA				LR		LR		
	comp=N,29μm,12.0s							
GYA				LR		LR		
	comp=E,55μm,11.4s							
GYA				LR		LR		
	comp=Z,30μm,14.5s							
BDHA	**Al Bayda'**	**31.96**	**232**⇑	*e*P		**P**	**21 53 52.5**	**+0.9**
BORA	**Eskisehir**	**31.96**	**289**	*i* P		**P**	**21 53 49.1**	**-2.5**
HAJJ	**Hajjah**	**32.00**	**237**⇑	*e*P		**P**	**21 53 52.7**	**+0.7**
HAJJ				AMb		AMB	21 53 55.0	
	comp=Z,2μm,1.2s,mb6.5							
GPA	**Golpazari**	**32.03**	**290**	P		**P**	**21 53 52.0**	**-0.1**
ISP	**Isparta**	**32.22**	**285***c*	*i* P		**P**	**21 53 53.8**	**0.0**
ISP	**Isparta**	**32.22**	**285**	P		**P**	**21 53 53.9**	**+0.1**
	comp=Z,246nm,0.9s,mb5.7							
ISP				pP		pP	21 54 39.6	+0.2
BCK	**Bucak**	**32.23**	**284**	*e*P		**P**	**21 53 52.5**	**-1.4**
LBOS		**32.24**	**233**⇑	*e*P		**P**	**21 53 54.8**	**+0.7**
DHBB	**Dhamar BB**	**32.28**	**235**⇑	*e*P		**P**	**21 53 54.4**	**-0.1**
ANTB	**Antalya**	**32.29**	**283**	*e*P		**P**	**21 53 52.2**	**-2.2**
FRSS	**Farasan al Kab**	**32.30**	**240**	P		**P**	**21 53 55.4**	**+0.8**
TKTP	**Tekketepe**	**32.34**	**285**	*i* P		**P**	**21 53 52.0**	**-2.8**
ALT	**Altintas**	**32.34**	**287**	*e*P		**P**	**21 53 54.5**	**-0.2**
HRT	**Hereke**	**32.46**	**291**	*e*P		**P**	**21 53 55.6**	**-0.1**
YLV	**Yalova**	**32.71**	**290**	*e*P		**P**	**21 53 58.0**	**+0.1**
TIY	**Taiyuan**	**32.82**	**75**	PR			21 53 57.0	
TIY				S		**S**	**21 58 50.0**	**-8.5**
TIY				LR		LR		
	comp=N,24μm,14.0s							
BADT	**Buyukada**	**32.87**	**291**	*e*P		**P**	**21 53 59.8**	**+0.5**
ISK	**Istanbul-Kandi**	**32.89**	**291**	*e*P		**P**	**21 53 58.6**	**-0.9**
ELL	**Elmali**	**32.90**	**283**	*e*P		**P**	**21 54 00.3**	**+0.7**
KHL	**Karahalli**	**32.91**	**286**	*e*P		**P**	**21 54 00.1**	**+0.4**
KIS	**Kishinev**	**32.93**	**302***a*	*i* P		**P**	**21 53 59.0**	**-0.8**
KIS				*i **PP		pP	21 54 47.0	+1.3
KIS				*i*			21 55 08.0	
KIS				*i* S		**S**	**21 58 57.0**	**-3.1**
KIS				*i **SS			22 00 18.0	
KIS				pmax	pmax			
	comp=E,1μm,2.0s							
KIS				pmax	pmax			
	comp=Z,1μm,2.0s,mb6.0							
KIS				pmax	pmax			
	comp=E,7μm,4.0s							
KIS				pmax	pmax			
	comp=Z,700nm,4.0s							
KIS				smax				
	comp=E,12μm,12.0s							
KIS				MLR		MLR		
	comp=Z,18μm,15.0s							
KIS				MLR		MLR		
	comp=N,11μm,13.0s							
KIS				MLR		MLR		
	comp=E,19μm,13.0s							
KIS				MLR		MLR		
	comp=Z,18μm,16.0s							
ULDT	**Uludag**	**32.94**	**289**	*i* P		**P**	**21 53 57.7**	**-2.2**
NST	**Nakhon Sawan**	**33.06**	**121**	⇑P		**P**	**21 54 02.1**	**+1.0**
	comp=Z,912nm,0.5s,mb6.6							
AKASG	**Malin Array Be**	**33.07**	**309**	P		**P**	**21 54 00.4**	**-0.5**
	comp=Z,405nm,0.8s,mb6.0,baz=82,slow=7.6,SNR=1250							
AKASG				pP		pP	21 54 46.0	-0.8
	comp=Z,404nm,0.8s,baz=89,slow=7.2,SNR=6.6							
AKASG				P3KPbc			22 25 11.6	
	comp=Z,1.5nm,0.7s,baz=269,slow=3.7,SNR=8.0							
AKASG	**Malin Array Be**	**33.07**	**309**	P		**P**	**21 54 00.4**	**-0.5**
AKASG				pP		pP	21 54 46.0	-0.8
AKASG				*e*			22 25 11.6	
GOLH	**Golhisar**	**33.08**	**284**	*i* P		**P**	**21 53 53.9**	**-7.2**
ORLT	**Orhaneli**	**33.13**	**289**	*e*P		**P**	**21 54 01.8**	**+0.3**
TIRR	**Tirgusor**	**33.17**	**297**	⇑P		**P**	**21 54 01.9**	**+0.1**
AKAS	**Kas**	**33.25**	**282**	*i* P		**P**	**21 53 55.8**	**-6.8**
KSL	**Kastellorizon**	**33.29**	**282**	*e*P		**P**	**21 54 02.0**	**-0.9**
PSN	**Preselentsi**	**33.35**	**296**	P		**P**	**21 54 05.0**	**+1.6**
ELBA	**Catalca**	**33.35**	**291**	*i* P		**P**	**21 53 59.6**	**-3.8**
CTT	**Catalca**	**33.36**	**291**	*e*P		**P**	**21 54 03.5**	**+0.1**
CFR	**Carcaliu**	**33.36**	**299**	⇑P		**P**	**21 54 02.7**	**-0.7**
DENT	**Denizli**	**33.39**	**285**	*e*P		**P**	**21 54 03.6**	**-0.1**
DNZL	**Cakiroluk**	**33.39**	**285**	*i* P		**P**	**21 54 01.5**	**-2.2**
DST	**Dursunbey**	**33.40**	**289**	*e*P		**P**	**21 54 04.2**	**+0.4**
TRBA	**At Turbah**	**33.44**	**233**⇑	*e*P		**P**	**21 54 05.3**	**+0.8**
HARR	**Harsova**	**33.51**	**298**	⇑P		**P**	**21 54 04.0**	**-0.7**
FETY	**Fethiye**	**33.58**	**283**	*e*P		**P**	**21 54 02.8**	**-2.5**
MANT	**Manisa**	**33.63**	**287**	*i* P		**P**	**21 54 04.4**	**-1.3**
CIT	**Chita**	**33.65**	**49**⇑	*i* P		**P**	**21 54 06.3**	**+0.5**
CIT				pmax	pmax			
	comp=Z,3μm,1.6s,mb6.6							
IAS	**Iasi**	**33.80**	**302**	P		**P**	**21 54 07.2**	**+0.1**
BTOK	**Tokmak**	**33.83**	**289**	*i* P		**P**	**21 54 07.3**	**-0.2**
BNT	**Bandirma**	**33.83**	**290**	*e*P		**P**	**21 54 08.4**	**+0.9**
EDC	**Edincik**	**33.88**	**290**	*e*P		**P**	**21 54 07.8**	**-0.1**
DALT	**Dalyan (Mudla)**	**33.90**	**284**	*e*P		**P**	**21 54 06.4**	**-1.7**
PRD	**Provadia**	**33.95**	**295**	P		**P**	**21 54 08.8**	**+0.3**
BALB	**Balikesir**	**33.96**	**289**	*e*P		**P**	**21 54 09.0**	**+0.4**
MRMT	**Marmara Adasi**	**34.05**	**291**	*e*P		**P**	**21 54 08.7**	**-0.7**
YER	**Yerkesik**	**34.10**	**284**	*e*P		**P**	**21 54 08.5**	**-1.2**
AKS	**Akhisar**	**34.13**	**287**	*e*P		**P**	**21 54 10.2**	**+0.1**
MFT	**Murefte**	**34.26**	**291**	*e*P		**P**	**21 54 09.9**	**-1.2**
AYDN	**Tasoluk**	**34.30**	**285**	*i* P		**P**	**21 54 08.2**	**-3.3**
VRI	**Vrincioaia**	**34.35**	**300**	⇑P		**P**	**21 54 13.0**	**+1.2**
VRI	**Vrincioaia**	**34.35**	**300**	P		**P**	**21 54 12.8**	**+1.0**
VRI	**Vrincioaia**	**34.35**	**300**	⇑P		**P**	**21 54 13.0**	**+1.2**
SART	**Tekirdag**	**34.35**	**291**	*i* P		**P**	**21 54 03.5**	**-8.4**
ARG	**Arkhangelos**	**34.42**	**283**	*e*P		**P**	**21 54 12.0**	**-0.6**
ARG	**Arkhangelos**	**34.42**	**283**	P		**P**	**21 54 09.4**	**-3.2**
MLSB	**Milas**	**34.46**	**285**	*e*P		**P**	**21 54 11.7**	**-1.1**
KKTK	**Khon Kaen**	**34.51**	**117**	⇑P		**P**	**21 54 13.0**	**-0.5**
	comp=Z,7μm,0.5s							
EDRB	**Edirne**	**34.54**	**293**	*e*P		**P**	**21 54 13.2**	**-0.3**
JMB	**Yambol**	**34.60**	**294**	P		**P**	**21 54 15.0**	**+1.0**
JMB	**Yambol**	**34.60**	**294**	P		**P**	**21 54 15.1**	**+1.1**
KDAG	**Bornova**	**34.64**	**287**	*i* P		**P**	**21 54 12.1**	**-2.3**
IZM	**Izmir**	**34.64**	**287**	*e*P		**P**	**21 54 14.5**	**+0.1**
MNK	**Minsk**	**34.65**	**315**	*e*P		**P**	**21 54 12.0**	**-2.3**
MNK				*e**PP		pP	21 54 56.0	-4.6
MNK				*e*			21 55 36.0	
MNK				*e*S		**S**	**21 59 20.0**	**-6.6**
MNK				*e*SS		SS	22 01 50.0

WHN				LR	LR			
	comp=E,30µm,11.8s							
WHN				LR	LR			
	comp=Z,32µm,10.8s							
PGB	**Panagyurishte**	**36.37**	**294**	P	**P**	**21 54 30.0**	**+1.1**
CRAR	**CRAIOVA**	**36.48**	**297**	P	**P**	**21 54 31.0**	**+1.2**
SANT	**Santorini**	**36.48**	**284**	P	**P**	**21 54 29.5**	**-0.4**
	comp=Z,807nm,1.1s,mb6.2							
SANT				*e*pP	pP	21 55 17.7	+1.2
THR1	**Thera Island**	**36.48**	**284**	*e*P	**P**	**21 54 29.6**	**-0.2**
THR3	**Thira Island,**	**36.51**	**284**	*e*P	**P**	**21 54 29.9**	**-0.3**
NPS	**Neapolis**	**36.64**	**282**	*e*P	**P**	**21 54 31.0**	**-0.2**
XRY	**Khrisi**	**36.68**	**281**	*e*P	**P**	**21 54 31.0**	**-0.6**
UBT	**Ubonrachathani**	**36.81**	**116**	P	**P**	**21 54 34.5**	**+1.7**
TIA	**Tai'an**	**36.81**	**76**	⇑P	**P**	**21 54 33.5**	**+0.8**
TIA				AP	pP	21 55 16.7	-2.7
TIA				XP	sP	21 55 40.0	-5.3
TIA				PP	PP	21 56 06.8	+3.9
TIA				PCP	PcP	21 56 51.6	+1.6
TIA				S	**S**	**22 00 03.0**	**+3.2**
TIA				AMB	AMB			
	comp=Z,2µm,1.5s,mb6.3							
TIA				AMB	AMB			
	comp=Z,10µm,5.0s							
TIA				LR	LR			
	comp=N,12µm,11.0s							
TIA				LR	LR			
	comp=E,11µm,12.0s							
OUR	**Ouranopolis**	**36.81**	**291**	*e*P	**P**	**21 54 33.1**	**+0.4**
MMB	**Musomiste**	**36.82**	**293**	P	**P**	**21 54 33.0**	**+0.3**
SRS	**Serrai**	**36.98**	**292**	*e*P	**P**	**21 54 34.5**	**+0.4**
VTS	**Vitosha**	**37.07**	**295**	P	**P**	**21 54 36.0**	**+1.2**
VTS	**Vitosha**	**37.07**	**295**	P	**P**	**21 54 35.7**	**+0.9**
PAIG	**Paliouri**	**37.11**	**290**	*e*P	**P**	**21 54 35.7**	**+0.6**
DRGR		**37.12**	**302**	⇑P	**P**	**21 54 35.4**	**+0.3**
DRGR		**37.12**	**302**	P	**P**	**21 54 35.3**	**+0.2**
DRGR		**37.12**	**302**	⇑P	**P**	**21 54 35.4**	**+0.2**
KWP	**Kalwaria**	**37.13**	**306**	⇑*i*P	**P**	**21 54 36.2**	**+1.0**
	comp=E,25µm,7.2s							
KWP				*e*pP	pP	21 55 24.3	+2.3
KWP				*e*sP	sP	21 55 46.8	-1.2
KWP				*e*PP	PP	21 56 01.4	-4.9
KWP				*e*S	**S**	**22 00 06.6**	**+2.1**
KWP				*e*sS		22 01 29.3		
KWP				*e*SS	SS	22 02 49.9	-0.4
KWP				MLR	MLR	22 11 47.1		
	comp=E,14µm,20.5s							
KWP	**Kalwaria**	**37.13**	**306**	⇑*i*P	**P**	**21 54 36.2**	**+1.0**
KWP				*e**PP	pP	21 55 24.3	+2.3
KWP				*e**SP	sP	21 55 46.8	-1.1
KWP				*e*S	**S**	**22 00 06.6**	**+2.1**
KWP				*e*SS		22 01 29.3		
KWP				*e*SS	SS	22 02 49.9	-0.4
KWP	**Kalwaria**	**37.13**	**306**	⇑*i*P	**P**	**21 54 36.2**	**+1.0**
KWP				*e*pP	pP	21 55 24.3	+2.3
KWP				*e*sP	sP	21 55 46.8	-1.1
KWP				*e*PP	PP	21 56 01.4	-4.9
KWP				*e*S	**S**	**22 00 06.6**	**+2.1**
KWP				*e*SS		22 01 29.3		
KWP				*e*SS	SS	22 02 49.9	-0.4
IDI	**Anoyia**	**37.20**	**282**	P	**P**	**21 54 35.4**	**-0.5**
	comp=E,251nm,0.8s,mb5.8,baz=53,slow=8.3,SNR=132							
IDI				pP	pP	21 55 23.5	+0.8
	comp=E,125nm,0.7s,baz=108,slow=19,SNR=2.2							
IDI				sP	sP	21 55 46.8	-1.8
	comp=E,111nm,0.7s,baz=82,slow=11,SNR=1.5							
SOH	**Sokhos**	**37.21**	**292**	*e*P	**P**	**21 54 36.9**	**+0.9**
PLG	**Polygyros**	**37.21**	**291**	*e*P	**P**	**21 54 36.8**	**+0.8**
SUW	**Suwalki**	**37.24**	**314**	⇑*i*P	**P**	**21 54 36.0**	**0.0**
	comp=E,21µm,7.1s							
SUW				*e*pP	pP	21 55 22.6	-0.2
SUW				*e*sP	sP	21 55 44.8	-4.0
SUW				*e*PP	PP	21 56 02.8	-4.6
SUW				*e*S	**S**	**22 00 04.7**	**-1.4**
SUW				*e*sS		22 01 29.2		
SUW				MLR	MLR	22 11 51.6		
	comp=E,24µm,20.3s							
SUW	**Suwalki**	**37.24**	**314**	⇑*i*P	**P**	**21 54 36.1**	**0.0**
SUW				*e**PP	pP	21 55 22.6	-0.2
SUW				*e**SP	sP	21 55 44.8	-4.0
SUW				*e*S	**S**	**22 00 04.7**	**-1.3**
SUW				*e*SS		22 01 29.2		
SUW	**Suwalki**	**37.24**	**314**	⇑*i*P	**P**	**21 54 36.1**	**0.0**
SUW				*e*pP	pP	21 55 22.6	-0.2
SUW				*e*sP	sP	21 55 44.8	-4.0
SUW				*e*PP	PP	21 56 02.8	-4.6
SUW				*e*S	**S**	**22 00 04.7**	**-1.3**
SUW				*e*SS		22 01 29.2		
KKB	**Krupnik**	**37.26**	**293**	P	**P**	**21 54 37.0**	**+0.7**
PTL	**Penteli**	**37.34**	**287**	*e*P	**P**	**21 54 37.8**	**+0.8**
UZH	**Uzhgorod**	**37.38**	**305**	*d*iP	**P**	**21 54 38.0**	**+0.7**
UZH				*e*S	**S**	**22 00 07.0**	**-1.2**
KOLS	**Kolonicke sedl**	**37.40**	**305**	*i*P	**P**	**21 54 38.1**	**+0.7**
KOL				*i*pP	pP	21 55 24.1	-0.1
MPAR	**Parnis Oros**	**37.41**	**287**	*e*P	**P**	**21 54 38.5**	**+0.8**
PKT	**Phuket**	**37.47**	**132**	P	**P**	**21 54 40.0**	**+1.7**
ATH	**Athens Observa**	**37.47**	**287**	*e*P	**P**	**21 54 38.5**	**+0.4**
KNT	**Kendrikon**	**37.50**	**292**	*e*P	**P**	**21 54 38.7**	**+0.3**
THE	**Thessaloniki**	**37.53**	**291**	*e*P	**P**	**21 54 38.8**	**+0.2**
NEO	**Neokhori**	**37.57**	**289**	*e*P	**P**	**21 54 39.5**	**+0.5**
LVZ	**Lovozero**	**37.58**	**338**	⇓*i*P	**P**	**21 54 39.1**	**+0.4**
LVZ				*e*		21 56 08.1		
LVZ				*e*		21 56 50.9		
LVZ				*e*SS	SS	22 03 01.4	+1.5
LVZ				pmax	pmax			
	comp=E,295nm,1.0s							
LVZ				pmax	pmax			
	comp=Z,1µm,1.0s,mb6.4							
LVZ				pmax	pmax			
	comp=N,271nm,0.9s							
XOR	**Xorichti**	**37.58**	**289**	*e*P	**P**	**21 54 39.4**	**+0.4**
FINES	**FINESS Array B**	**37.61**	**326**	P	**P**	**21 54 39.4**	**+0.4**
	comp=N,506nm,0.7s,mb6.2,baz=100,slow=12,SNR=750							
FINES				pP	pP	21 55 25.1	-0.7
	comp=N,430nm,1.0s,baz=101,slow=9.7,SNR=4.1							
NAIG	**Nisos Aigina**	**37.69**	**287**	*e*P	**P**	**21 54 39.8**	**-0.2**
VAM	**Vamos**	**37.71**	**283**	*e*P	**P**	**21 54 40.0**	**-0.2**
VAY	**Valandovo**	**37.72**	**293**	P	**P**	**21 54 39.8**	**-0.3**
KAF	**Kangasniemi**	**37.75**	**327**	*e*p	**P**	**21 54 39.9**	**-0.3**
	comp=N,1µm,1.1s,mb6.3,baz=113,slow=7.8							
KAF	**Kangasniemi**	**37.75**	**327**	*e*P	**P**	**21 54 39.9**	**-0.3**
KAF				pmax	pmax			
	comp=Z,1µm,1.1s,mb6.3							
APA	**Apatity**	**37.76**	**337**	⇑*i*P	**P**	**21 54 40.0**	**-0.2**
APA				*i**PP	pP	21 55 25.0	-2.1
APA				*i*S	**S**	**22 00 13.0**	**-0.6**
APA				*i**SS		22 01 31.0		
APA				pmax	pmax			
	comp=Z,650nm,1.0s,mb6.1							
APA				pmax	pmax			
	comp=N,4µm,6.0s							
APA				pmax	pmax			
	comp=E,7µm,6.0s							
APA				pmax	pmax			
	comp=Z,15µm,6.0s							
APA				MLR	MLR			
	comp=Z,120µm,13.0s							
BOLS	**Boljevac**	**37.84**	**297**	⇓*i*P	**P**	**21 54 41.9**	**+0.7**
GRG	**Griva**	**37.90**	**292**	*e*P	**P**	**21 54 41.7**	**0.0**
BSI	**Banda Aceh**	**37.93**	**138**	P	**P**	**21 54 38.6**	**-3.6**
BZS	**Buzias**	**37.93**	**300**	⇑P	**P**	**21 54 43.0**	**+1.1**
CRVS	**Cervenica-Dubn**	**37.93**	**305**	*i*P	**P**	**21 54 39.8**	**-2.1**
CRVS				*e*		21 56 19.0		
CRVS				*e*S	**S**	**22 00 17.4**	**+0.9**
CRVS	**Cervenica-Dubn**	**37.93**	**305**	*i*P	**P**	**21 54 39.8**	**-2.1**
CRVS				*e*sP	sP	21 55 45.6	-9.1
CRVS				*e*PP	PP	21 56 19.0	+4.3
CRVS				*e*PcP	PcP	21 57 11.1	+18
CRVS				*e*S	**S**	**22 00 17.4**	**+0.9**
CRVS				*e*sS		22 01 32.7		
CRVS				*e*SS	SS	22 02 47.6	-20
CRVS	**Cervenica-Dubn**	**37.93**	**305**	*i*	**P**	**21 54 39.8**	**-2.1**
CRVS				*e*		21 55 45.6		
CRVS				*e*		21 56 19.0		
CRVS				*e*		21 57 11.1		
CRVS				*e*S	**S**	**22 00 17.4**	**+0.9**
CRVS				*e*sS		22 01 32.7		
CRVS				*e*		22 02 47.6		
GVD	**Gavdhos**	**37.96**	**282**	*e*P	**P**	**21 54 42.5**	**+0.3**
GVD	**Gavdhos**	**37.96**	**282**	*e*P	**P**	**21 54 41.7**	**-0.5**
	comp=Z,956nm,0.9s,mb6.3							
GVD				*e*pP	pP	21 55 30.3	+1.2
LIT	**Litokhoron**	**37.98**	**291**	*e*P	**P**	**21 54 42.7**	**+0.3**
BARS	**Barje**	**38.05**	**295**	⇓*i*P	**P**	**21 54 43.5**	**+0.6**
STHS	**Stebnicka Huta**	**38.08**	**306**	*i* P	**P**	**21 54 42.5**	**-0.6**
QIZ	**Qiongzhong**	**38.11**	**106**	⇑*i*P	**P**	**21 54 43.6**	**-0.1**
QIZ				AP	pP	21 55 27.7	-2.9
QIZ				XP	sP	21 55 49.8	-6.8
QIZ				AMB	AMB			
	comp=Z,190nm,1.6s,mb5.4							
QIZ				AMB	AMB			
	comp=Z,6µm,7.1s							
AGG	**Agios Georgios**	**38.31**	**289**	*e*P	**P**	**21 54 44.9**	**-0.2**
SVIS	**Svilajnac**	**38.32**	**298**	⇓*i*P	**P**	**21 54 45.8**	**+0.6**
WAR	**Warsaw**	**38.34**	**311**	*e*P	**P**	**21 54 48.6**	**+3.4**
WAR				*e*pP	pP	21 55 38.5	+6.3
WAR				*e*sP	sP	21 55 57.7	-0.5
WAR				*e*PP	PP	21 56 18.1	-1.2
WAR				*e*PcP	PcP	21 56 51.6	-3.0
WAR				*e*S	**S**	**22 00 08.8**	**-14**
WAR				*e*SS	SS	22 03 08.6	-7.3
WAR				MLR	MLR	22 11 04.6		
	comp=Z,23µm,20.0s							
WAR	**Warsaw**	**38.34**	**311**	*e*P	**P**	**21 54 48.6**	**+3.4**
WAR				*e**PP	pP	21 55 38.5	+6.3
WAR				*e**SP	sP	21 55 57.7	-0.5
WAR				*e*		21 56 18.1		
WAR				*e*		21 56 51.6		
WAR				MLR	MLR			
	comp=Z,23µm,20.0s							
WAR	**Warsaw**	**38.34**	**311**	*e*P	**P**	**21 54 48.6**	**+3.4**
WAR				*e*pP	pP	21 55 38.5	+6.3
WAR				*e*sP	sP	21 55 57.7	-0.5
WAR				*e*PP	PP	21 56 18.1	-1.2
WAR				*e*PcP	PcP	21 56 51.6	-3.0
WAR				*e*S	**S**	**22 00 08.8**	**-14**
WAR				*e*SS	SS	22 03 08.6	-7.3
WAR				LR	LR			
	comp=Z,23µm,20.0s							
VLI	**Velíai**	**38.36**	**285**	*e*P	**P**	**21 54 44.0**	**-1.6**
KYTH	**Kithira**	**38.40**	**285**	*e*P	**P**	**21 54 43.5**	**-2.4**
KECS	**Kecovo**	**38.58**	**304**	*i* P	**P**	**21 54 47.3**	**0.0**
KECS				*i*	pP	21 55 36.0	+1.7
NIE	**Niedzica**	**38.69**	**306**	⇑*i*P	**P**	**21 54 49.7**	**+1.6**
NIE				*i*pP	pP	21 55 37.9	+2.7
GZH	**Guangzhou**	**38.70**	**98**	P	**P**	**21 54 48.8**	**+0.3**
GZH				S	**S**	**22 00 31.5**	**+3.2**
GZH				LR	LR			
	comp=N,9µm,15.8s							
GZH				LR	LR			
	comp=E,9µm,9.9s							
GZH				LR	LR			
	comp=Z,16µm,15.2s							
EVR	**Evrytania**	**38.73**	**289**	*e*P	**P**	**21 54 48.5**	**-0.1**
GRUS	**Gruza**	**38.73**	**297**	*e*P	**P**	**21 54 48.8**	**+0.3**
BEO	**Belgrade**	**38.82**	**299**	⇓*i*P	**P**	**21 54 49.6**	**+0.4**
PSZ	**Piszkesteto**	**38.99**	**304**	*i* spP	**P**	**21 54 51.9**	**+1.2**
PSZ				*i* PcP	pP	21 55 37.7	-0.1
PSZ				*e*		21 57 26.4		
PSZ	**Piszkesteto**	**38.99**	**304**	P	**P**	**21 54 51.6**	**+0.9**
				*PP	pP	21 55 40.9	+3.1
OJC	**Ojcow**	**39.03**	**307**	⇑*i*P	**P**	**21 54 51.5**	**+0.6**
OJC				*e*pP	pP	21 55 38.4	+0.4
OJC				*e*PP	PP	21 56 29.0	+1.8
OJC				*e*S	**S**	**22 00 36.7**	**+3.8**
OJC				*e*sS		22 01 56.7		
OJC				*e*SS	SS	22 03 25.4	-3.5
OJC				MLR	MLR	22 14 39.9		
	comp=Z,17µm,17.1s							
ITM	**Ithomi**	**39.03**	**286**	*e*P	**P**	**21 54 50.0**	**-1.1**
ITM	**Ithomi**	**39.03**	**286**	P	**P**	**21 54 48.2**	**-2.9**
DIVS	**Divcibare**	**39.22**	**298**	⇓*i*P	**P**	**21 54 53.2**	**+0.6**
JAN	**Janina**	**39.30**	**290**	*e*P	**P**	**21 54 53.5**	**+0.2**
LSK	**Leskovik**	**39.39**	**291**	*i* Pn	**P**	**21 54 53.3**	**-0.7**
NJ2	**Nanjing**	**39.41**	**82**	*e*P	**P**	**21 54 55.4**	**+1.2**
NJ2				AP	pP	21 55 41.6	+0.2
NJ2				XP	sP	21 56 07.5	+0.1
NJ2				PP	PP	21 56 34.1	+2.7
NJ2				S	**S**	**22 00 38.0**	**-0.7**
NJ2				AMB	AMB			
	comp=Z,2µm,1.0s,mb6.5							
NJ2				AMB	AMB			
	comp=Z,8µm,5.8s							
NJ2				LR	LR			
	comp=N,25µm,24.0s							
NJ2				LR	LR			
	comp=E,18µm,11.9s							
NJ2				LR	LR			
	comp=Z,10µm,19.2s							
PVY	**Plav**	**39.44**	**295**	⇑*i*P	**P**	**21 54 54.3**	**-0.1**
IVA	**Berane**	**39.45**	**296**	⇑*i*P	**P**	**21 54 55.0**	**+0.5**
LIKS	**Likavka**	**39.48**	**305**	*i* P	**P**	**21 54 55.2**	**+0.5**
LIKS				*i*	pP	21 55 43.1	+1.3
BUD	**Budapest**	**39.60**	**303**	⇑*e*pP	**P**	**21 54 56.6**	**+0.9**
BUD	**Budapest**	**39.60**	**303**	P	**P**	**21 54 55.9**	**+0.2**
SNG	**Songkhla**	**39.65**	**130**	P	**P**	**21 54 57.0**	**+0.6**
	comp=Z,940nm,1.0s,mb6.2							
LKD	**Levkas**	**39.66**	**289**	*e*P	**P**	**21 54 55.5**	**-0.7**
QSH	**Qafa e Shtames**	**39.66**	**294**	*i* Pn	**P**	**21 54 55.4**	**-0.8**
DL2	**Dalian**	**39.67**	**71**	⇑*i*P	**P**	**21 54 57.7**	**+1.4**
DL2				AP	pP	21 55 43.8	+0.3
DL2				XP	sP	21 56 07.2	-2.3
DL2				S	**S**	**22 00 44.8**	**+2.3**
DL2				XS		22 02 05.4		
DL2				AMB	AMB			
	comp=Z,750nm,0.7s,mb6.2							
DL2				AMB	AMB			
	comp=Z,4µm,5.6s							
BBLS	**Bajina Basta -**	**39.67**	**297**	*e*P	**P**	**21 54 58.1**	**+1.9**
VYHS	**Vyhne**	**39.68**	**305**	*i* P	**P**	**21 54 56.9**	**+0.6**
VYHS				*i* pP	pP	21 55 43.5	0.0
VYHS				*e*sP	sP	21 56 06.0	-3.5
VYHS				*e*		21 57 14.9		
VYHS				*e*S	**S**	**22 00 43.0**	**+0.4**
VYHS				*e*		22 01 56.9		
VYHS				*e*SS	SS	22 03 50.5	+9.2
VYHS	**Vyhne**	**39.68**	**305**	*i* P	**P**	**21 54 56.9**	**+0.6**
VYHS				*i **PP	pP	21 55 43.5	0.0
VYHS				*e**SP	sP	21 56 06.0	-3.5
VYHS				*e*S	**S**	**22 00 43.0**	**+0.4**
IGT	**Igoumenitsa**	**39.72**	**290**	*e*P	**P**	**21 54 55.9**	**-0.8**
TIR	**Tirane**	**39.72**	**293**	P	**P**	**21 54 56.0**	**-0.7**
PLE	**Pljevlja**	**39.75**	**296**	*e*P	**P**	**21 54 57.9**	**+0.9**
HKC	**Hong Kong**	**39.76**	**99**	⇑*i*P	**P**	**21 54 58.0**	**+0.8**
HKC				*i* S	**S**	**22 00 44.0**	**0.0**
VLS	**Valsamata**	**39.82**	**288**	*e*P	**P**	**21 54 56.0**	**-1.6**
PKSM	**Moragy**	**39.96**	**301**	P	**P**	**21 54 59.5**	**+0.9**
TTG	**Podgorica**	**39.98**	**295**	⇑*i*P	**P**	**21 54 57.9**	**-1.0**
SRO2	**Moca**	**40.01**	**303**	*i* P	**P**	**21 55 00.4**	**+1.4**
SRO2				*i* pP	pP	21 55 47.9	+1.6
RAC	**Raciborz**	**40.06**	**307**	*e*P	**P**	**21 55 00.4**	**+1.0**
RAC				*e*pP	pP	21 55 46.9	+0.3
RAC				*e*PP	PP	21 56 38.2	+0.2
RAC				*e*S	**S**	**22 00 51.0**	**+2.8**
RAC				MLR	MLR	22 15 11.7		
	comp=Z,13µm,17.6s							
SRO	**Srobarova**	**40.06**	**303**	*i* P	**P**	**21 55 00.7**	**+1.3**
SRO				*i* pP	pP	21 55 48.9	+2.2
ULC	**Ulcinj**	**40.07**	**294**	⇑*i*P	**P**	**21 54 58.9**	**-0.7**
KEK	**Kerkira**	**40.09**	**291**	*e*P	**P**	**21 54 58.5**	**-1.2**
KEK	**Kerkira**	**40.09**	**291**	P	**P**	**21 54 58.3**	**-1.4**
OKC	**Ostrava-Krasne**	**40.09**	**307**	*i* P	**P**	**21 55 00.4**	**+0.7**
OKC				*e*pP	pP	21 56 46.0	-0.9
OKC				*e*sP	sP	21 56 09.2	-3.7
OKC				*e*S	**S**	**22 00 46.0**	**-2.7**
OKC				*e*XS		22 02 08.8		
NKY	**Niksic**	**40.12**	**296**	⇑*i*P	**P**	**21 54 58.7**	**-1.3**
UPM	**Unac-Piva**	**40.12**	**296**	⇑*i*P	**P**	**21 54 59.8**	**-0.1**
BUM	**Brajici-Budva**	**40.27**	**295**	⇑*i*P	**P**	**21 55 00.8**	**-0.4**
BRY	**Bratogost**	**40.43**	**296**	⇑*i*P	**P**	**21 55 02.0**	**-0.5**
JAVC	**Velka Javorina**	**40.44**	**305**	P	**P**	**21 55 03.2**	**+0.7**
MORC	**Moravsky Berou**	**40.49**	**307**	P	**P**	**21 55 04.1**	**+1.2**
MORC				*PP	pP	21 55 52.9	+2.7
MORC				pmax	pmax			
	comp=Z,377nm,0.9s,mb5.8							
MORC	**Moravsky Berou**	**40.49**	**307**	P	**P**	**21 55 04.1**	**+1.2**
	comp=Z,378nm,0.9s,mb5.8							
MORC				pP	pP	21 55 52.9	+2.7
HCY	**Herceg Novi**	**40.54**	**295**	⇑*i*P	**P**	**21 55 03.3**	**-0.2**
SNY	**Shenyang**	**40.55**	**66**	⇑P	**P**	**21 55 03.8**	**+0.3**
SNY				S	**S**	**22 00 51.7**	**-3.8**
SNY				AMB	AMB			
	comp=Z,530nm,0.6s,mb6.2							
SNY				AMB	AMB			
	comp=Z,6µm,10.8s							
SNY				LR	LR			
	comp=N,20µm,14.3s							
SNY				LR	LR			
	comp=Z,18µm,13.3s							
SMOL	**Smolenice**	**40.61**	**305**	*i* P	**P**	**21 55 04.9**	**+0.9**
SMOL				*i*	pP	21 55 53.4	+2.1
NRGR	**Nerungri**	**40.81**	**43**	*e*P	**P**	**21 55 02.9**	**-2.6**
ZST	**Bratislava**	**40.85**	**304**	*i* P	**P**	**21 55 06.1**	**+0.2**
ZST				*i* pP	pP	21 55 54.9	+1.6
ZST				*e*		21 57 44.9		
KEV	**Kevo**	**40.92**	**338**	*e*p	**P**	**21 55 06.1**	**-0.2**
	comp=Z,1µm,0.8s,mb6.3							
KEV	**Kevo**	**40.92**	**338**	*e*P	**P**	**21 55 06.1**	**-0.2**
KEV				pmax	pmax			
	comp=Z,1µm,0.8s,mb6.3							
KEV	**Kevo**	**40.92**	**338**	*e*P	**P**	**21 55 06.8**	**+0.5**
KEV				*e*pP	pP	21 55 54.3	+0.7
CLNS	**Chul'man**	**40.92**	**43**	*e*P	**P**	**21 55 07.4**	**+1.0**
CLNS				*e*		21 56 44.0		
CLNS				*e*		21 57 01.1		
CLNS				*e*S	**S**	**22 01 01.7**	**+0.9**
CLNS				*e*SS	SS	22 04 05.4	-1.1
CLNS				pmax	pmax			
	comp=N,153nm,1.0s							
CLNS				pmax	pmax			
	comp=E,367nm,1.0s							
CLNS				pmax	pmax			
	comp=Z,617nm,1.0s,mb6.0							
CLNS				pmax	pmax			
	comp=Z,335nm,0.9s,mb5.8							
CLNS				pmax	pmax			
	comp=N,305nm,0.8s							
CLNS				pmax	pmax			
	comp=E,467nm,1.1s							
CLNS				smax				
	comp=E,272nm,1.4s							
CLNS				smax				
	comp=N,149nm,1.1s							
CLNS				smax				
	comp=Z,132nm,1.1s							
STON	**Ston**	**41.05**	**296**	*i* P	**P**	**21 55 07.2**	**-0.4**
VRAC	**Vranov**	**41.12**	**306**	P	**P**	**21 55 09.3**	**+1.2**
	comp=Z,394nm,0.9s,mb5.9,baz=90,slow=8.5,SNR=262							
VRAC				pP	pP	21 55 56.3	+0.8
	comp=Z,569nm,1.0s,baz=88,slow=8.6,SNR=7.8							
VRAC				sP	sP	21 56 19.7	-1.7
	comp=Z,249nm,1.0s,baz=92,slow=11,SNR=2.4							
KULM	**Kulim**	**41.15**	**132**	*e*P	**P**	**21 55 09.4**	**+0.7**
KULM				*e*pP	pP	21 55 56.9	+0.8
SOP	**Sopron**	**41.25**	**303**	⇑*i*pP	**P**	**21 55 10.0**	**+0.8**
SOP				*i*	pP	21 55 56.4	-0.2
SOP	**Sopron**	**41.25**	**303**	P	**P**	**21 55 07.4**	**-1.8**
DPC	**Dobruska-Polom**	**41.26**	**307**	*i* P	**P**	**21 55 10.4**	**+1.2**
DPC				*e*pP	pP	21 55 55.7	-0.9
DPC				*e*sP	sP	21 56 19.4	-3.1
DPC				*e*S	**S**	**22 01 08.1**	**+2.3**
DPC				*e*x	x	22 02 21.2		
KSP	**Ksiaz**	**41.26**	**308**	⇑*e*P	**P**	**21 55 10.1**	**+0.9**
	comp=Z,16µm,7.5s							
KSP				*e*pP	pP	21 55 57.9	+1.2
KSP				*e*sP	sP	21 56 19.7	-2.9
KSP				*e*PP	PP	21 56 47.5	-2.5
KSP				*e*S	**S**	**22 01 08.9**	**+3.0**
KSP				*e*sS		22 02 25.4		
KSP				*e*SS	SS	22 04 10.1	-2.7
KSP				MLR	MLR	22 16 39.1		
	comp=Z,25µm,17.0s							
KSP	**Ksiaz**	**41.26**	**308**	⇑*i*P	**P**	**21 55 09.8**	**+0.6**
KSP				*e**PP	pP	21 55 55.9	-0.7
KSP				*e**SP	sP	21 56 19.0	-3.6
KSP				*e*S	**S**	**22 01 06.0**	**+0.2**
KSP				*e*sS		22 02 25.2		
KSP				*e*SS	SS	22 04 12.0	-0.8
KSP	**Ksiaz**	**41.26**	**308**	⇑*i*P	**P**	**21 55 09.8**	**+0.6**
KSP				*e*pP	pP	21 55 55.9	-0.7
KSP				*e*sP	sP	21 56 19.0	-3.6
KSP				*e*		21 57 42.0		
KSP				*e*S	**S**	**22 01 06.0**	**+0.2**
KSP				*e*sS		22 02 25.2		
KSP				*e*SS	SS	22 04 12.0	-0.8
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**21 55 09.8**	**+0.8**
	comp=Z,1µm,0.8s,mb6.4,baz=114,slow=8.5,SNR=1523							
ARCES				pP	pP	21 55 56.2	-0.2
	comp=Z,802nm,0.8s,baz=117,slow=8.1,SNR=7.2							
ARE0	**ARCESS Array S**	**41.26**	**338**	P	**P**	**21 55 09.9**	**+0.9**
ARE0				*e*pP	pP	21 55 56.8	+0.3
KRUC	**Moravsky**	**41.27**	**306**	P	**P**	**21 55 08.9**	**-0.4**
VKA	**Vienna**	**41.37**	**304**	⇑*i*P	**P**	**21 55 11.1**	**+1.0**
UPC	**Upice**	**41.45**	**308**	*i* P	**P**	**21 55 11.7**	**+1.0**
UPC				*e*pP	pP	21 55 57.7	-0.5
UPC				*e*sP	sP	21 56 20.3	-3.8
UPC				*e*PP	PP	21 57 02.2	+10
CN2	**Changchun**	**41.58**	**62**	*e*P	**P**	**21 55 12.1**	**+0.3**
CN2				*e*AP	pP	21 55 59.8	+0.5
CN2				PCP	PcP	21 57 05.7	+0.6
CN2				PPP	PPP	21 57 32.8	+1.0
CN2				*e*S	**S**	**22 01 08.2**	**-2.3**
CN2				SS	SS	22 04 13.6	-4.9
CN2				AMB	AMB			
	comp=Z,230nm,1.0s,mb5.6							
CN2				AMB	AMB			
	comp=Z,8µm,5.0s							
CN2			

BSD *i* 22 02 29.7
comp=Z,18µm,19.0s
BSD Bornholm Skovb 42.13 315⇑*iP* **P 21 55 15.6 -0.6**
BSD *e* 21 57 41.9
BSD *i* 22 01 17.9
BSD pmax pmax
comp=Z,492nm,0.9s,mb5.9
PSI Prapat 42.16 136 P **P 21 55 16.6 -0.3**
comp=Z,442nm,0.6s,mb6.1,baz=330,slow=10.0,SNR=221
PSI sP sP 21 56 27.1 -3.2
comp=Z,555nm,1.0s,baz=328,slow=14,SNR=2.6
PSI S **S 22 01 17.9 -1.4**
comp=Z,80nm,1.2s,baz=176,slow=19,SNR=7.4
PERS Pernice 42.34 302 *eP* **P 21 55 18.9 +0.9**
PVCC Panska Ves 42.37 308 *i* P **P 21 55 19.0 +0.9**
PVCC *ep*P pP 21 56 06.7 +1.0
PVCC *es*P sP 21 56 28.3 -3.3
BOJS Bojanci 42.39 300 *eP* **P 21 55 19.2 +0.8**
PRU Pruhonice 42.42 307 *i* P **P 21 55 19.4 +0.9**
PRU *ep*P pP 21 56 06.8 +0.7
PRU *es*P sP 21 56 27.8 -4.2
PRU *eS* **S 22 01 25.3 +2.7**
PRU *ex* x 22 02 41.1
PRU Pruhonice 42.42 307 *i* P **P 21 55 19.4 +0.9**
PRU *e**PP pP 21 56 06.8 +0.7
PRU *eS* **S 22 01 25.3 +2.7**
PRA Prague 42.48 307 P **P 21 55 20.0 +0.9**
PRA *ex* x 21 55 25.0
PRA pP pP 21 56 10.0 +3.3
PRA sP sP 21 56 30.0 -2.5
PRA *ex* x 21 58 11.0
PDKS Podkum 42.49 301 *i* P **P 21 55 20.2 +1.1**
TIP Timpagrande 42.50 291 P **P 21 55 19.3 -0.1**
ORI Oriolo Calabro 42.52 292 P **P 21 55 20.1 +0.6**
TDS Terranova Siba 42.70 292 P **P 21 55 21.7 +0.7**
OBKA Obir 42.74 302⇓*iP* pP 21 56 09.6 +0.8
comp=Z,9µm,3.4s
OBKA Obir 42.74 302 *i* P **P 21 55 22.1 +0.9**
comp=Z,9µm,5.2s
OBKA *e* pP 21 56 09.6 +0.8
BRG Berggiesshubel 42.75 308⇑*iP* **P 21 55 22.0 +0.8**
BRG S **S 22 01 26.0 -1.4**
BRG SS SS 22 04 47.0 +7.6
BRG pmax pmax
comp=Z,551nm,0.9s,mb6.0
BRG Berggiesshubel 42.75 308⇑*iP* **P 21 55 22.0 +0.8**
comp=Z,551nm,0.9s,mb6.0
BRG *i* pP pP 21 56 10.7 +1.9
BRG sP sP 21 56 27.0 -7.7
BRG *i* 21 58 00.0
BRG S **S 22 01 26.0 -1.4**
BRG sS 22 04 43.0
BRG SS SS 22 04 47.0 +7.6
BRG LR LR
comp=Z,12µm,16.1s
MOA Molln 42.78 304⇓*iP* pP 21 56 10.5 +1.3
comp=Z,6µm,3.6s
MOA Molln 42.78 304 *i* P **P 21 55 21.8 +0.3**
comp=Z,2µm,1.8s,mb6.2
MOA *e* pP 21 56 10.5 +1.3
RUE Ruedersdorf 42.79 311 *eP* **P 21 55 21.9 +0.5**
comp=Z,680nm,0.9s,mb6.1
RUE *ep*P pP 21 56 09.6 +0.5
RGNG Rignano Grg 42.81 295 P **P 21 55 21.8 -0.1**
LJU Ljubljana 42.82 301 *eP* **P 21 55 22.6 +0.8**
LJU *ep*P pP 21 56 11.3 +1.8
LJU *es*P sP 21 56 33.8 -1.6
LJU *e* 21 58 10.8
LJU *e*ScP 22 01 32.6
LJU *eS* **S 22 01 33.9 +5.4**
LJU *es*S 22 02 54.1
LJU *es*SS SS 22 04 54.7 +14
LJU Ljubljana 42.82 301 *eP* **P 21 55 22.6 +0.8**
LJU *e**PP pP 21 56 11.3 +1.8
LJU *e**SP sP 21 56 33.8 -1.6
LJU *eS* **S 22 01 33.9 +5.4**
LJU *e**SS 22 02 54.1
LJU *eS*S SS 22 04 54.7 +14
GRI Girifalco 42.84 290 P **P 21 55 22.3 +0.2**
CUC Castrocucco 43.01 292 P **P 21 55 24.1 +0.6**
RGN Rugen 43.04 314 *eP* **P 21 55 24.4 +0.9**
comp=Z,3µm,1.0s,mb6.6
RGN *ep*P pP 21 56 12.6 +1.3
GEC2 GERESS Array S 43.05 305 *eP* **P 21 55 24.1 +0.4**
GEC2 *e**PP pP 21 56 13.1 +1.7
GEC2 pmax pmax
comp=Z,192nm,1.1s,mb5.4
GEC2 GERESS Array S 43.05 305 *eP* **P 21 55 24.1 +0.4**
comp=Z,192nm,1.1s,mb5.4
GEC2 *ep*P pP 21 56 13.1 +1.7
GERES GERESS Array B 43.05 305 P **P 21 55 24.2 +0.5**
comp=Z,69nm,0.8s,mb5.1,baz=90,slow=6.7,SNR=271
GERES pP pP 21 56 12.6 +1.2
comp=Z,80nm,0.8s,baz=80,slow=8.1,SNR=6.5
GERES PP PP 21 57 11.7 +3.4
comp=Z,124nm,1.0s,baz=90,slow=6.7,SNR=4.2
SLCN Sala Consilina 43.06 293 P **P 21 55 24.8 +0.9**
MRLC Muro Lucano 43.08 293 P **P 21 55 24.7 +0.7**
KHC Kasperske Hory 43.11 306 *i* P **P 21 55 24.5 +0.4**
KHC *ep*P pP 21 56 10.6 -1.2
KHC *es*P sP 21 56 33.5 -4.2
KHC *e*PP PP 21 57 16.1 +7.3
KHC *eS* **S 22 01 34.3 +1.6**
KHC *e*XS 22 02 56.3
MGR Morigerati 43.17 292 P **P 21 55 25.1 +0.3**
comp=Z,839nm,1.5s,mb6.0
HFS Hagfors 43.19 322 P **P 21 55 24.8 +0.1**
comp=Z,899nm,0.8s,mb6.2,baz=90,slow=8.9,SNR=503
HFS pP pP 21 56 12.9 +0.6
comp=Z,503nm,0.6s,baz=90,slow=8.9,SNR=4.9
HFA0 Hagfors New Ar 43.20 322 P **P 21 55 24.3 -0.4**
VOY Vojsko 43.26 301⇑*eP* **P 21 55 25.8 +0.4**
SGO Sicignano 43.26 293 P **P 21 55 26.2 +0.7**
SGO pmax pmax
comp=Z,327nm,1.0s,mb5.7
SGO Sicignano 43.26 293 P **P 21 55 26.2 +0.7**
comp=Z,326nm,1.0s,mb5.7
CIGN Sant'Elia a Pi 43.32 295 P **P 21 55 26.8 +0.9**
CLL Collm 43.32 309⇑P **P 21 55 26.1 +0.3**
comp=Z,logA/T=2.6,mb5.8
CLL *i* *PP pP 21 56 14.7 +1.2
CLL *e**SP sP 21 56 36.0 -3.3
CLL *i* PP PP 21 57 16.2 +5.4
CLL *i* *PPP 21 57 50.4
CLL *e**SPP 21 58 09.0
CLL *e*PPP PPP 21 58 18.0 +24
CLL *i* 21 58 40.9
CLL *e*PCS 22 01 10.0
CLL *eS* **S 22 01 38.0 +2.4**
CLL *e**SS 22 02 54.0
CLL *eS*CS ScS 22 04 41.0 -18
CLL *eS*S SS 22 05 01.0 +11
CLL *e* 22 08 40.0
CLL Collm 43.32 309⇑*iP* **P 21 55 26.1 +0.3**
CLL *i* *PP pP 21 56 14.7 +1.2
CLL *e**SP sP 21 56 36.0 -3.3
CLL *eS* **S 22 01 38.0 +2.4**
CLL pmax pmax
comp=Z,369nm,1.0s,mb5.8
CLL Collm 43.32 309⇑*iP* **P 21 55 26.1 +0.3**
comp=Z,369nm,1.0s,mb5.8
CLL *i* pP pP 21 56 14.7 +1.2
CLL *es*P sP 21 56 36.0 -3.3
CLL *eS* **S 22 01 38.0 +2.4**
CLL *es*S 22 02 54.0
CEL Celeste 43.38 290 P **P 21 55 26.8 +0.3**
TRO Tromso 43.39 336 *eP* **P 21 55 25.6 -0.6**
TRO AMb AMB 21 55 27.8
comp=Z,1µm,1.1s,mb6.2
TRO *eS* **S 22 01 35.9 -0.5**
TRO *eS*S SS 22 05 02.0 +11
TRO AMS AMS 22 15 04.1
comp=Z,23µm,19.0s
TRO Tromso 43.39 336 *eP* **P 21 55 25.6 -0.6**
comp=Z,1µm,1.1s,mb6.3
TRO LR LR
comp=Z,22970µm,19.0s
TRI Trieste 43.39 301 P **P 21 55 24.0 -2.5**
KBA Koelnbreinsper 43.49 303⇓*iP* pP 21 56 16.1 +1.1
comp=Z,6µm,3.8s
KBA Koelnbreinsper 43.49 303 *i* P **P 21 55 27.7 +0.5**
comp=Z,4µm,4.1s
KBA *e* pP 21 56 16.1 +1.1

ROBS Robic 43.49 302 *eP* **P 21 55 27.5 +0.2**
SCLL Scilla 43.52 290 P **P 21 55 27.6 0.0**
WET Wettzell 43.56 306 *eP* **P 21 55 28.1 +0.3**
WET *e**PP pP 21 56 16.9 +1.3
WET *eS* **S 22 01 42.8 +3.6**
WET pmax pmax
comp=Z,191nm,1.5s,mb5.2
WET Wettzell 43.56 306 *eP* **P 21 55 28.1 +0.3**
comp=Z,191nm,1.5s,mb5.2
WET *ep*P pP 21 56 16.9 +1.3
WET *eS* **S 22 01 42.8 +3.6**
COP Copenhagen 43.57 315 *i* P **P 21 55 25.3 -2.4**
comp=Z,811nm,1.0s,mb6.0
COP *i* pP 21 56 15.1 -0.4
COP *e* 21 58 08.7
COP *i* 21 58 16.7
COP *i* S **S 22 01 42.0 +2.8**
COP *i* 22 02 56.8
comp=Z,6µm,21.0s
COP Copenhagen 43.57 315 *i* P **P 21 55 25.3 -2.4**
COP *i* pP 21 56 15.1 -0.4
COP *i* S **S 22 01 42.0 +2.8**
COP pmax pmax
comp=Z,811nm,1.0s,mb6.0
COP MLR MLR
comp=Z,6µm,21.0s
PTCC Patocco-Chiusa 43.58 302 P **P 21 55 28.1 +0.2**
COLI Coloredo 43.60 302⇑*ePn* **P 21 55 28.5 +0.4**
GMNA Gemona 43.67 302 P **P 21 55 29.2 +0.5**
BAD Bernadia 43.67 302⇑*ePn* **P 21 55 28.7 0.0**
PLRO Paularo 43.70 302 *ePn* **P 21 55 29.2 +0.4**
NKC Novy Kostel 43.74 308 *i* P **P 21 55 30.4 +1.2**
NKC *ep*P pP 21 56 18.4 +1.4
NKC *es*P sP 21 56 39.8 -3.0
NKC *e*PP PP 21 57 15.7 +0.7
NKC *eS* **S 22 01 45.9 +4.1**
NKC *ex* x 22 02 59.9
BUA Buia 43.76 302⇑*ePn* **P 21 55 29.4 0.0**
BOO Bordano 43.76 302 *ePn* **P 21 55 29.3 -0.1**
ZOU Zoufplan 43.81 302⇑*ePn* **P 21 55 30.0 +0.2**
TLI Talmassons 43.82 301 *ePn* **P 21 55 30.1 +0.2**
INCN Inchon 43.84 71 P **P 21 55 30.5 +0.4**
comp=Z,651nm,1.0s,mb5.9
INCN pP pP 21 56 18.4 +0.4
MPRI Monte Prat 43.85 302⇑*ePn* **P 21 55 30.5 +0.4**
FVI Forni Avoltri 43.94 302 P **P 21 55 30.8 0.0**
YAK Yakutsk 43.99 35*c iP* **P 21 55 30.6 -0.4**
YAK *i* *PP pP 21 56 18.5 -0.4
YAK *e* 21 57 13.7
YAK *e* 21 57 16.0
YAK *e*PPP PPP 21 58 01.0 -1.8
YAK *eS* **S 22 01 43.0 -2.2**
YAK *i* *SS 22 03 03.0
YAK *eS*S SS 22 05 07.1 +5.7
YAK pmax pmax
comp=Z,1µm,0.8s,mb6.3
YAK pmax pmax
comp=N,98nm,0.9s
YAK pmax pmax
comp=E,376nm,1.3s
YAK pmax pmax
comp=N,139nm,1.0s
YAK pmax pmax
comp=Z,623nm,1.0s,mb5.9
YAK pmax pmax
comp=E,675nm,1.2s
YAK smax
comp=N,224nm,1.0s
YAK smax
comp=Z,152nm,1.0s
YAK smax
comp=E,596nm,1.3s
YAK Yakutsk 43.99 35 P **P 21 55 30.9 -0.2**
YAK pP pP 21 56 19.0 +0.1
MLNI Malnisio 44.12 302⇑*ePn* **P 21 55 32.4 +0.2**
MOX Moxa 44.24 308⇑*iP* **P 21 55 33.8 +0.7**
comp=E,logA/T=2.7,mb5.8
MOX pP pP 21 56 23.0 +2.0
MOX sP sP 21 56 45.0 -1.8
MOX S **S 22 01 30.0 -19**
MOX SS SS 22 05 08.0 +1.9
MOX L 22 12 42.0
MOX Moxa 44.24 308⇑*iP* **P 21 55 33.8 +0.7**
MOX *e* pP 21 56 22.6 +1.6
MOX pmax pmax
comp=Z,1µm,1.9s,mb5.8
MOX MLR MLR
comp=Z,9µm,20.0s
MOX Moxa 44.24 308⇑*iP* **P 21 55 33.8 +0.7**
comp=Z,1µm,1.9s,mb5.8
MOX *e* pP 21 56 22.6 +1.6
MOX LR LR
comp=Z,9µm,20.0s
CSM Casamicciola 44.26 294⇑*ePn* **P 21 55 31.8 -1.6**
AQU L'Aquila 44.26 296 P **P 21 55 34.0 +0.6**
AQU *PP pP 21 56 23.7 +2.4
CAE Caneva 44.26 301⇑*ePn* **P 21 55 33.7 +0.3**
CSO Casso 44.30 302⇑*ePn* **P 21 55 33.8 +0.1**
TATO Taipei 44.36 90 P **P 21 55 36.1 +1.7**
comp=Z,644nm,1.4s,mb5.8
TATO pP pP 21 56 23.6 +1.3
MDJ Mudanjiang 44.38 61 P **P 21 55 34.4 +0.1**
MDJ AP pP 21 56 22.1 -0.1
MDJ XP sP 21 56 46.2 -1.8
MDJ S **S 22 01 51.5 +0.5**
MDJ XS 22 03 14.6
MDJ AMB AMB
comp=Z,220nm,1.9s,mb5.2
MDJ AMB AMB
comp=Z,6µm,10.9s
YHNB Yeheng 44.41 91 *eP* **P 21 55 36.3 +1.5**
YHNB *ep*P pP 21 56 22.8 0.0
NB2 NORSAR Subarra 44.51 323 P **P 21 55 34.9 -0.2**
comp=Z,2µm,1.0s,mb6.3,baz=97,slow=7.9
NB2 NORSAR Subarra 44.51 323 P **P 21 55 34.9 -0.2**
baz=97,slow=7.9
NB2 NORSAR Subarra 44.51 323 P **P 21 55 34.9 -0.2**
NB2 pmax pmax
comp=Z,2µm,1.0s,mb6.3
NOA NORSAR Array B 44.51 323 P **P 21 55 34.8 -0.3**
comp=Z,807nm,0.9s,mb6.1,baz=96,slow=7.8,SNR=1046
NOA pP pP 21 56 22.9 -0.2
comp=Z,461nm,0.9s,baz=96,slow=8.0,SNR=4.7
STOK Stokkvaagen 44.54 331⇑*iP* **P 21 55 35.3 0.0**
STOK AMb AMB 21 55 42.3
comp=Z,1µm,1.5s,mb6.0
STOK *ep*P pP 21 56 23.4 +0.1
STOK Stokkvaagen 44.54 331⇑*iP* **P 21 55 35.3 0.0**
comp=Z,1µm,1.5s,mb6.0
FAU Forcella Aurin 44.54 302 *ePn* **P 21 55 35.9 +0.3**
GRA1 Grafenberg Arr 44.58 307 *eP* **P 21 55 37.3 +1.4**
comp=Z,580nm,1.1s,mb5.8
GRA1 *ep*P pP 21 56 26.4 +2.6
GRA1 *es*S SS 22 05 26.5 +14
GRF Grafenberg Arr 44.58 307 *eP* **P 21 55 37.3 +1.4**
GRF *e**PP pP 21 56 26.4 +2.6
GRF pmax pmax
comp=Z,580nm,1.1s,mb5.8
GRF Grafenberg Arr 44.58 307 *eP* **P 21 55 37.3 +1.4**
GRF *e**PP pP 21 56 26.4 +2.6
GRF pmax pmax
comp=Z,580nm,1.1s,mb5.8
GRF Grafenberg Arr 44.58 307 *eP* **P 21 55 37.3 +1.4**
comp=Z,580nm,1.1s,mb5.8
GRF *ep*P pP 21 56 26.4 +2.6
GRF *es*S SS 22 05 26.5 +14
WTTA Wattenberg 44.62 303⇓*iP* pP 21 56 24.6 +0.4
comp=Z,4µm,3.5s
WTTA Wattenberg 44.62 303 *i* P **P 21 55 36.1 -0.1**
WTTA *e* pP 21 56 24.6 +0.5
WTTA pmax pmax
comp=Z,2µm,2.9s,mb6.0
WTTA Wattenberg 44.62 303 *i* P **P 21 55 36.1 -0.1**
comp=Z,2µm,2.9s,mb6.0
WTTA *e* pP 21 56 24.6 +0.4
NSS Namsos 44.62 328 *eS* **S 22 01 54.8 +0.6**
NSS *es*S SS 22 05 20.9 +7.9
NSS AMS AMS 22 07 00.2
comp=Z,16µm,19.3s
NAO01 NORSAR Array S 44.65 323 P **P 21 55 35.9 -0.3**
comp=Z,842nm,1.0s,mb6.0
NAO01 *ep*P pP 21 56 24.7 +0.5
WATA Walderalm 44.65 303⇑*iP* pP 21 56 25.3 +0.9
comp=Z,770nm,1.3s

WATA Walderalm 44.65 303⇑*iP* **P 21 55 36.1 -0.3**
WATA *e* pP 21 56 25.3 +0.9
WATA pmax pmax
comp=Z,165nm,1.1s,mb5.3
WATA Walderalm 44.65 303⇑*iP* **P 21 55 36.1 -0.3**
comp=Z,165nm,1.1s,mb5.3
WATA *e* pP 21 56 25.3 +0.9
OSL Oslo 44.66 321⇑*iP* **P 21 55 35.8 -0.5**
OSL AMb AMB 21 55 37.5
comp=Z,712nm,1.0s,mb6.0
OSL *ep*P pP 21 56 25.1 +0.8
OSL Oslo 44.66 321⇑*iP* **P 21 55 35.8 -0.5**
comp=Z,712nm,1.0s,mb6.0
CGRP Cima Grappa 44.72 301⇑*ePn* **P 21 55 37.2 +0.2**
VAE Valguarnera 44.73 289 P **P 21 55 38.3 +1.1**
comp=Z,250nm,1.0s,mb5.5,baz=49,slow=2.2,SNR=36
VAE sP sP 21 56 50.0 -0.9
comp=Z,305nm,0.8s,baz=327,slow=5.0,SNR=2.8
VAE Valguarnera 44.73 289 P **P 21 55 38.3 +1.1**
VAE sP sP 21 56 50.0 -0.9
FUR Furstenfeldbru 44.73 305 *eP* **P 21 55 38.0 +0.9**
FUR pmax pmax
comp=Z,860nm,1.3s,mb5.9
FUR Furstenfeldbru 44.73 305 *eP* **P 21 55 38.0 +0.9**
comp=Z,860nm,1.3s,mb5.9
FUR *es*S 22 03 23.6
LOF Lofoten 44.77 333⇑*iP* **P 21 55 38.3 +1.2**
LOF AMb AMB 21 55 44.8
comp=Z,780nm,2.3s,mb5.6
LOF Lofoten 44.77 333⇑*iP* **P 21 55 38.3 +1.2**
comp=Z,780nm,2.3s,mb5.6
KS15 Wonju Array Si 44.81 71 *eP* **P 21 55 37.9 +0.1**
KS15 *ep*P pP 21 56 26.9 +1.1
NACB Ninganchiao 44.81 91 *eP* **P 21 55 39.1 +1.0**
NACB *ep*P pP 21 56 28.0 +2.0
BSEG Bad Segeberg 44.82 313 *eP* **P 21 55 38.6 +1.0**
BSEG *e* 21 57 28.1
BSEG *eS* **S 22 02 01.6 +4.5**
SQTA Sankt Quirin 44.91 303⇑*iP* pP 21 56 27.7 +1.1
comp=Z,660nm,1.3s
SQTA Sankt Quirin 44.91 303⇑*iP* **P 21 55 38.0 -0.5**
SQTA *e* pP 21 56 27.7 +1.2
SQTA pmax pmax
comp=Z,152nm,1.0s,mb5.3
SQTA Sankt Quirin 44.91 303⇑*iP* **P 21 55 38.0 -0.5**
comp=Z,152nm,1.0s,mb5.3
SQTA *e* pP 21 56 27.7 +1.1
CLZ Clausthal 44.92 310 *eP* **P 21 55 39.2 +0.7**
CLZ *e**PP pP 21 56 28.1 +1.6
CLZ pmax pmax
comp=Z,836nm,1.3s,mb5.9
CLZ Clausthal 44.92 310 *eP* **P 21 55 39.2 +0.7**
comp=Z,836nm,1.3s,mb5.9
CLZ *ep*P pP 21 56 28.1 +1.6
MOTA Moosalm 44.96 304⇑*iP* pP 21 56 27.8 +0.9
comp=Z,485nm,1.1s
MOTA Moosalm 44.96 304⇑*iP* **P 21 55 38.5 -0.4**
MOTA *e* pP 21 56 27.8 +0.8
MOTA pmax pmax
comp=Z,193nm,0.9s,mb5.4
MOTA Moosalm 44.96 304⇑*iP* **P 21 55 38.5 -0.4**
comp=Z,192nm,0.9s,mb5.4
MOTA *e* pP 21 56 27.8 +0.8
WDD Wield Dalam 45.12 287 P **P 21 55 38.1 -2.2**
KLR Kul'dur 45.13 54⇓*iP* **P 21 55 37.5 -2.7**
KLR *e**PP pP 21 56 24.7 -3.6
KLR *eS* **S 22 01 53.0 -8.7**
KLR *eS*S SS 22 05 21.5 -1.1
KLR pmax pmax
comp=E,670nm,2.0s
KLR pmax pmax
comp=Z,930nm,2.0s,mb5.8
KLR pmax pmax
comp=E,4µm,12.0s
KLR pmax pmax
comp=Z,11µm,12.0s
KLR smax
comp=N,6µm,12.0s
KLR smax
comp=E,17µm,12.0s
KONO Kongsberg 45.21 321 *eP* **P 21 55 40.2 -0.5**
KONO *eS* **S 22 02 01.6 -1.1**
KONO Kongsberg 45.21 321 P **P 21 55 40.2 -0.5**
KONO *e**PP pP 21 56 27.8 -1.0
KONO pmax pmax
comp=Z,687nm,1.0s,mb5.9
KONO Kongsberg 45.21 321 P **P 21 55 40.2 -0.5**
comp=Z,687nm,1.0s,mb5.9
KONO *ep*P pP 21 56 27.8 -1.0
BJO Bjornoya 45.34 343⇑*iP* **P 21 55 46.2 +4.6**
BJO AMb AMB 21 55 48.2
comp=Z,3µm,0.9s,mb6.6
BJO *es*P sP 21 56 55.6 +0.3
BJO *eS*S SS 22 05 36.2 +10
BJO AMS AMS 22 17 18.9
comp=Z,28µm,19.3s
KGM Kluang 45.35 132 P **P 21 55 43.5 +1.1**
HDH Heidenheim 45.38 305⇑*eP* **P 21 55 42.5 +0.3**
MUD Monsted U'grnd 45.39 317⇑*iP* **P 21 55 42.9 +0.7**
comp=Z,530nm,1.1s,mb5.8
MUD *i* pP 21 56 30.4 +0.1
MUD *i* 21 56 52.3
MUD *i* S 22 03 26.7
MUD *i* 22 05 34.2
comp=Z,13µm,19.0s
MUD Monsted U'grnd 45.39 317⇑*iP* **P 21 55 42.9 +0.7**
MUD *i* pP 21 56 30.4 +0.1
MUD *i* 21 56 52.3
MUD *i* 22 05 34.2
MUD pmax pmax
comp=Z,530nm,1.1s,mb5.8
UBR Uberruh 45.58 304⇑*eP* **P 21 55 43.7 -0.1**
UBR Uberruh 45.58 304 P **P 21 55 43.8 0.0**
DOMB Dombas 45.62 324⇑*iP* **P 21 55 43.9 0.0**
DOMB AMb AMB 21 55 46.4
comp=Z,1µm,1.6s,mb6.0
DOMB *ep*P pP 21 56 32.0 -0.1
DOMB Dombas 45.62 324⇑*iP* **P 21 55 43.9 0.0**
comp=Z,1µm,1.6s,mb6.0
FUORN Ofenpass 45.65 303⇑*iP* **P 21 55 44.0 -0.3**
SIND Sindeldorf 45.67 307⇑*eP* **P 21 55 45.0 +0.5**
SIND Sindeldorf 45.67 307 P **P 21 55 45.1 +0.6**
DAVA Damuels 45.80 304⇑*iP* pP 21 56 32.2 -1.5
comp=Z,7µm,4.2s
DAVA Damuels 45.80 304 *i* P **P 21 55 45.3 -0.2**
comp=Z,2µm,1.9s,mb6.1
DAVA *e* pP 21 56 32.2 -1.5
TIXI Tiksi 45.83 22 *eP* **P 21 55 40.7 -4.7**
TIXI *e**PP pP 21 56 28.5 -5.2
TIXI *eS* **S 22 02 05.2 -6.1**
TIXI *eS*S SS 22 05 30.9 -3.4
TIXI pmax pmax
comp=Z,595nm,1.0s,mb5.9
TIXI pmax pmax
comp=N,75nm,0.9s
TIXI pmax pmax
comp=E,119nm,0.8s
TIXI pmax pmax
comp=Z,10µm,4.7s
TIXI MLR MLR
comp=Z,10µm,13.0s
TIXI Tiksi 45.83 22⇑*iP* **P 21 55 45.2 -0.2**
BERNI Berninapass 45.85 302⇑*iP* **P 21 55 45.5 -0.4**
DAVOX Davos 45.88 303 P **P 21 55 45.9 -0.3**
comp=Z,227nm,0.8s,mb5.5,baz=100,slow=6.2,SNR=194
DAVOX pP pP 21 56 35.0 +0.5
comp=Z,288nm,1.0s,baz=103,slow=17,SNR=5.0
DAVOX Davos 45.88 303⇑*iP* **P 21 55 45.9 -0.3**
STU Stuttgart 46.02 306 P **P 21 55 47.7 +0.5**
STU pmax pmax
comp=Z,350nm,0.9s,mb5.7
STU Stuttgart 46.02 306 P **P 21 55 47.8 +0.6**
STU *ep*P pP 21 56 36.9 +1.4
VLC Villacollemand 46.03 299 P **P 21 55 47.7 +0.3**
VLC *ep*P pP 21 56 35.6 -0.1
TOD Tromm 46.15 307⇑*eP* **P 21 55 48.7 +0.5**
PLONS Plons 46.17 303⇑*iP* **P 21 55 48.0 -0.4**
GUT Gutenstein 46.18 305⇑*eP* **P 21 55 48.4 0.0**
GUT Gutenstein 46.18 305 P **P 21 55 48.5 +0.1**
VDL Val di Lei 46.21 303⇑*iP* **P 21 55 48.4 -0.3**
VDL Val di Lei 46.21 303⇑P **P 21 55 48.2 -0.5**
SWS Schriesheim 46.24 307⇑*eP* **P 21 55 49.3 +0.4**
SWS Schriesheim 46.24 307 P **P 21 55 49.5 +0.6**
LBG Lerchenberg 46.30 306⇑*eP* **P 21 55 49.9 +0.6**

LBG Lerchenberg 46.30 306 P **P** **21 55 50.0 +0.7**
TUE Stuetta 46.30 303 P **P** **21 55 48.0 -1.4**
TNS Taunus Mts 46.30 308 *eP* **P** **21 55 49.8 +0.5**
TNS *e* 21 57 43.3
TNS *eS* **S** **22 02 21.7 +3.5**
TNS pmax pmax
comp=Z,268nm,1.1s,mb5.5
TNS Taunus Mts 46.30 308 *eP* **P** **21 55 49.8 +0.5**
comp=Z,268nm,1.1s,mb5.5
TNS *e*PP PP 21 57 43.3 +3.2
TNS *eS* **S** **22 02 21.7 +3.5**
VLA Vladivostok 46.31 62 *d iP* **P** **21 55 47.6 -1.9**
VLA *i* *PP pP 21 56 36.8 -1.1
VLA *e*SP sP 21 56 58.0 -5.4
VLA *i* S **S** **22 02 18.1 -0.4**
VLA *e*SS 22 03 42.9
VLA pmax pmax
comp=Z,1µm,0.9s,mb6.2
SISB Singen-Sch Ber 46.34 304 P **P** **21 55 49.5 -0.2**
WEIN Weingarten 46.35 304⇑ *iP* **P** **21 55 49.3 -0.5**
MOL Molde 46.36 325⇑ *iP* **P** **21 55 50.9 +1.3**
MOL AMb AMB 21 55 58.8
comp=Z,784nm,1.8s,mb5.7
MOL *ep*P pP 21 56 38.6 +0.6
MOL Molde 46.36 325⇑ *iP* **P** **21 55 50.9 +1.3**
comp=Z,784nm,1.8s,mb5.7
SPAK Spaichingen 46.39 305⇑ *eP* **P** **21 55 50.3 +0.2**
STEIN Stein am Rhein 46.41 304⇑ *iP* **P** **21 55 49.8 -0.4**
WILA Wila 46.43 304⇑ *iP* **P** **21 55 49.9 -0.5**
WILA Wila 46.43 304 ⇑ *iP* **P** **21 55 50.0 -0.4**
SNART Snartemo 46.43 319⇑ *iP* **P** **21 55 50.7 +0.5**
SNART AMb AMB 21 55 52.3
comp=Z,827nm,1.4s,mb5.9
SNART *ep*P pP 21 56 38.7 +0.1
SNART Snartemo 46.43 319⇑ *iP* **P** **21 55 50.7 +0.5**
comp=Z,827nm,1.4s,mb5.9
LLS Linth-Limmern 46.46 303⇑ *eP* **P** **21 55 50.0 -0.6**
LLS Linth-Limmern 46.46 303 ⇑ *iP* **P** **21 55 50.2 -0.4**
IBBN Ibbenburen 46.48 311 P **P** **21 55 50.3 -0.4**
TRULL Truellikon 46.54 304⇑ *iP* **P** **21 55 50.7 -0.5**
MUGIO Muggio 46.61 302⇑ *iP* **P** **21 55 50.6 -1.2**
SLE Schleitheim 46.64 305⇑ *iP* **P** **21 55 51.4 -0.6**
SLE Schleitheim 46.64 305 ⇑ *iP* **P** **21 55 51.5 -0.5**
ZUR Zurich 46.65 304⇑ *iP* **P** **21 55 51.4 -0.7**
ZUR Zurich 46.65 304 ⇑ *iP* **P** **21 55 51.6 -0.5**
BFO Black Forest 46.66 305 *eP* **P** **21 55 51.9 -0.2**
BFO *e* 21 57 45.7
BFO pmax pmax
comp=Z,172nm,1.1s,mb5.3
BFO Black Forest 46.66 305 *eP* **P** **21 55 51.9 -0.2**
comp=Z,172nm,1.1s,mb5.3
BFO *e*PP PP 21 57 45.7 +2.1
BFO *e*SS 22 03 58.2
KTD Kalmit 46.66 307⇑ *eP* **P** **21 55 52.7 +0.6**
KTD Kalmit 46.66 307 *eP* **P** **21 55 52.9 +0.8**
MUO Muotathal 46.69 303⇑ *iP* **P** **21 55 52.2 -0.2**
FUSIO Fusio 46.77 303⇑ *eP* **P** **21 55 52.2 -0.8**
BLS5 Blasjo 46.81 321⇑ *iP* **P** **21 55 54.1 +1.0**
BLS5 AMb AMB 21 55 55.8
comp=Z,657nm,1.2s,mb5.8
BLS5 Blasjo 46.81 321⇑ *iP* **P** **21 55 54.1 +1.0**
comp=Z,657nm,1.2s,mb5.8
BNALP Bannalp 46.85 303⇑ *iP* **P** **21 55 53.3 -0.3**
BUG Bochum--Univer 46.88 310 P **P** **21 55 52.9 -0.9**
JTU Tsushima 46.89 74 P pP 21 56 42.3 -0.3
LANF Langenberg 46.89 306 P **P** **21 55 55.6 +1.7**
ABH Alteburg 46.92 308⇑ *eP* **P** **21 55 54.7 +0.6**
SULZ Sulz-Cheisache 46.94 304⇑ *iP* **P** **21 55 53.7 -0.6**
FELD Feldberg 46.95 305⇑ *eP* **P** **21 55 54.2 -0.2**
HYA Hoyanger 46.95 323⇓ *iP* **P** **21 55 52.2 +1.0**
HYA AMb AMB 21 55 58.6
comp=Z,714nm,1.4s,mb5.8
HYA Hoyanger 46.95 323⇓ *iP* **P** **21 55 55.2 +1.0**
comp=Z,714nm,1.4s,mb5.8
STR Strasbourg 46.98 306 *eP* **P** **21 55 55.0 +0.4**
KIZ Kirchzarten 46.99 305⇑ *eP* **P** **21 55 54.2 -0.5**
KIZ Kirchzarten 46.99 305 P **P** **21 55 54.5 -0.2**
JFU Fukue jima 2 47.04 77 P pP 21 56 44.1 +0.3
HASLI Hasliberg 47.05 303⇑ *iP* **P** **21 55 54.8 -0.4**
WIT Witteveen 47.09 312⇑ *iP* **P** **21 55 55.8 +0.5**
comp=Z,2µm,1.1s,mb6.2
WIT *i* x x 21 56 00.0
comp=Z,3µm,1.5s
WIT *ep*P pP 21 56 44.9 +1.0
WIT *ex* x 21 57 04.9
WTSB Winterswijk 47.11 310⇑ *iP* **P** **21 55 55.9 +0.4**
comp=Z,744nm,1.1s,mb5.9
WTSB *i* x x 21 56 00.0
comp=Z,1µm,1.9s
WTSB *ep*P pP 21 56 45.1 +1.0
WTSB *ex* x 21 57 05.2
LIBD Limburg 47.16 305⇑ *eP* **P** **21 55 56.1 0.0**
LIBD Limburg 47.16 305 *eP* **P** **21 55 56.0 -0.1**
STAV Stavanger 47.20 320⇑ *iP* **P** **21 55 56.5 +0.3**
STAV AMb AMB 21 55 58.1
comp=Z,648nm,1.2s,mb5.8
STAV *ep*P pP 21 56 45.2 +0.4
STAV Stavanger 47.20 320⇑ *iP* **P** **21 55 56.5 +0.3**
comp=Z,648nm,1.2s,mb5.8
HSP Hornsund 47.25 345 P **P** **21 55 57.7 +1.3**
HSP Hornsund 47.25 345 *eP* **P** **21 55 57.7 +1.3**
BALST Balsthal 47.25 304⇑ *iP* **P** **21 55 56.0 -0.8**
RUP Ruppelstein 47.26 307⇑ *eP* **P** **21 55 57.3 +0.5**
RUP Ruppelstein 47.26 307 *eP* **P** **21 55 57.6 +0.8**
WLS Welschbruch 47.28 306 *eP* **P** **21 55 56.8 -0.2**
MMK Mattmark 47.32 302⇑ *iP* **P** **21 55 56.4 -0.9**
MMK Mattmark 47.32 302 ⇑ *iP* **P** **21 55 56.6 -0.7**
CDF Champ du Feu 47.33 306⇑ *iP* **P** **21 55 57.1 -0.3**
comp=Z,249nm,0.9s,mb5.3
CDF *ep*P pP 21 56 46.1 +0.1
CDF Champ du Feu 47.33 306⇑ *iP* **P** **21 55 57.1 -0.3**
CDF *e*PP pP 21 56 46.1 +0.1
CDF pmax pmax
comp=Z,124nm,0.9s,mb5.2
RUND Rundenannen 47.35 322⇑ *iP* **P** **21 55 57.6 +0.3**
RUND AMb AMB 21 55 59.3
comp=Z,874nm,1.2s,mb6.0
RUND *ep*P pP 21 56 46.3 +0.4
BBS Basel-Blauen 47.35 304⇑ *eP* **P** **21 55 57.1 -0.4**
BBS Basel-Blauen 47.35 304 *eP* **P** **21 55 56.9 -0.6**
BER Bergen 47.37 322⇑ *iP* **P** **21 55 57.6 +0.1**
BER *ep*P pP 21 56 46.6 +0.5
BER AMS AMS 22 07 06.1
comp=Z,16µm,18.6s
BER Bergen 47.37 322⇑ *iP* **P** **21 55 57.6 +0.1**
BER LR LR
comp=Z,16400µm,18.6s
PGF Pioggiola 47.39 297⇑ *iP* **P** **21 55 57.4 -0.5**
comp=Z,802nm,1.2s,mb5.6
PGF *ep*P pP 21 56 45.9 -0.6
PGF Pioggiola 47.39 297⇑ *iP* **P** **21 55 57.4 -0.5**
PGF *e*PP pP 21 56 45.9 -0.6
PGF pmax pmax
comp=Z,401nm,1.2s,mb5.6
HABR Khabarovsk 47.40 54 *i P* **P** **21 55 57.9 0.0**
HABR *i* pP 21 56 45.8 -0.7
HABR *i* 21 57 07.9
HABR *i* S **S** **22 02 36.0 +2.2**
HABR *i* 22 03 57.5
HABR pmax pmax
comp=Z,650nm,0.9s,mb6.0
EGD Espegrend 47.42 322⇑ *iP* **P** **21 55 57.9 0.0**
EGD AMb AMB 21 55 59.3
comp=Z,1µm,1.2s,mb6.1
EGD *ep*P pP 21 56 48.1 +1.6
EGD Espegrend 47.42 322⇑ *iP* **P** **21 55 57.9 0.0**
comp=Z,1µm,1.2s,mb6.1
WIMIS Wimmis 47.43 303⇑ *iP* **P** **21 55 57.5 -0.7**
ASK Askoy 47.43 322⇑ *iP* **P** **21 55 58.3 +0.3**
ASK AMb AMB 21 55 59.3
comp=Z,1µm,1.1s,mb6.2
ASK *ep*P pP 21 56 47.4 +0.8
ASK Askoy 47.43 322⇑ *iP* **P** **21 55 58.3 +0.3**
comp=Z,1µm,1.1s,mb6.2
ECH Echery 47.45 305 *eP* **P** **21 55 57.9 -0.4**
OSPF L'Ospedale 47.47 296 *eP* **P** **21 55 57.5 -1.1**
LKBD Leukerbad 47.48 303⇑ *iP* **P** **21 55 58.2 -0.4**
LKBD Leukerbad 47.48 303 ⇑ *iP* **P** **21 55 57.6 -1.0**
FOO Floro 47.51 324⇑ *iP* **P** **21 55 58.6 +0.1**
FOO AMb AMB 21 56 00.3
comp=Z,723nm,1.4s,mb5.8
FOO *ep*P pP 21 56 47.4 +0.2
FOO Floro 47.51 324⇑ *iP* **P** **21 55 58.6 +0.1**
comp=Z,723nm,1.4s,mb5.8
MOF Molkenrain 47.53 305 *eP* **P** **21 55 58.9 0.0**
BOURR Bourrignon 47.55 304⇑ *iP* **P** **21 55 58.6 -0.5**
SUE Sulen 47.64 323 *epP* pP 21 56 48.7 +0.4
DIX Grande Dixence 47.69 302⇑ *iP* **P** **21 56 00.3 +0.1**
DIX Grande Dixence 47.69 302 ⇑ *iP* **P** **21 55 59.4 -0.8**
SENIN Lac Senin 47.71 303⇑ *iP* **P** **21 56 00.2 -0.1**
HINF Hinteralfeld 47.72 305⇑ *iP* **P** **21 56 00.0 -0.4**
comp=Z,414nm,0.8s,mb5.5
HINF Hinteralfeld 47.72 305⇑ *iP* **P** **21 56 00.0 -0.4**
HINF pmax pmax
comp=Z,207nm,0.8s,mb5.5
HGN Heimansgroeve 47.81 309⇑ *iP* **P** **21 56 01.2 +0.1**
HGN *ex* x 21 56 03.6
HGN *i* x x 21 56 05.0
comp=Z,357nm,2.3s
HGN *ep*P pP 21 56 50.2 +0.5
HGN *ex* x 21 57 06.2
HGN *e*PPP PPP 21 59 00.8 +8.7
HGN *eS* **S** **22 02 48.9 +9.4**
HGN *e*SS SS 22 06 38.9 +31
LOMF Lomont 47.83 304 *eP* **P** **21 56 00.8 -0.5**
WLF Walferdange 47.85 307 P **P** **21 56 02.2 +0.8**
WLF *e*PP pP 21 56 50.2 +0.1
WLF pmax pmax
comp=Z,512nm,0.9s,mb5.9
WLF Walferdange 47.85 307 P **P** **21 56 02.2 +0.9**
comp=Z,512nm,0.9s,mb5.8
WLF *ep*P pP 21 56 50.2 +0.1
TORNY Torny 47.85 303⇑ *iP* **P** **21 56 01.2 -0.3**
GRYON Gryon 47.86 303⇑ *iP* **P** **21 56 01.3 -0.2**
VSL Villasalto 47.93 293 *eP* **P** **21 56 01.2 -1.0**
comp=Z,608nm,1.5s,mb5.7
VSL *ep*P pP 21 56 49.4 -1.6
AIGLE Aigle 47.95 303⇑ *iP* **P** **21 56 01.9 -0.3**
SALAN Lac Salanfe 47.98 303⇑ *iP* **P** **21 56 02.4 0.0**
HAU Haudompre 48.02 305⇑ *iP* **P** **21 56 02.3 -0.4**
comp=Z,750nm,1.1s,mb5.6
HAU *e*R
comp=Z,9µm,23.0s
HAU Haudompre 48.02 305⇑ *iP* **P** **21 56 02.3 -0.4**
HAU pmax pmax
comp=Z,375nm,1.1s,mb5.6
HAU MLR MLR
comp=Z,9µm,23.0s
BCPH Baguio City Da 48.03 101⇑ *iP* **P** **21 56 03.8 +0.6**
EMV Vieux Emosson 48.04 303⇑ *iP* **P** **21 56 03.0 +0.1**
OG01 Vacheresse 48.13 303 *eP* **P** **21 56 03.8 +0.2**
BRANT Les Verrieres 48.15 304⇑ *iP* **P** **21 56 03.6 -0.1**
AUTN L'Aution 48.15 300 *eP* **P** **21 56 04.4 +0.6**
SBF Sospel 48.17 300⇑ *iP* **P** **21 56 03.9 -0.1**
comp=Z,1µm,1.1s,mb5.9
SBF Sospel 48.17 300⇑ *iP* **P** **21 56 03.9 -0.1**
SBF pmax pmax
comp=Z,695nm,1.1s,mb5.9
THEF They Montfort 48.21 306 *eP* **P** **21 56 04.5 +0.3**
REVF Revere 48.25 299 *eP* **P** **21 56 05.4 +0.8**
LPG La Plagne 48.27 302⇑ *iP* **P** **21 56 05.0 +0.3**
comp=Z,821nm,0.9s,mb5.8
LPG *ep*P pP 21 56 54.0 +0.6
LPG La Plagne 48.27 302⇑ *iP* **P** **21 56 05.0 +0.3**
LPG *e*PP pP 21 56 54.0 +0.6
LPG pmax pmax
comp=Z,411nm,0.9s,mb5.8
TOUF Mont Tournerai 48.27 300 *eP* **P** **21 56 05.3 +0.6**
LPL La Plagne 48.28 302⇑ *iP* **P** **21 56 05.0 +0.3**
comp=Z,832nm,0.9s,mb5.8
LPL La Plagne 48.28 302⇑ *iP* **P** **21 56 05.0 +0.3**
LPL pmax pmax
comp=Z,416nm,0.9s,mb5.8
OG22 Abries 48.29 301 *eP* **P** **21 56 04.2 -0.6**
RSL Roselend 48.31 302 *eP* **P** **21 56 05.3 +0.3**
MVIF Mont Vial 48.37 300 *eP* **P** **21 56 05.8 +0.4**
GIMEL Gimel 48.37 303⇑ *iP* **P** **21 56 05.6 +0.2**
BNI Bardonecchia 48.42 301 *eP* **P** **21 56 05.5 -0.3**
BNI *e*PP pP 21 56 56.1 +1.5
BNI pmax pmax
comp=Z,1µm,1.3s,mb6.1
BNI Bardonecchia 48.42 301 *eP* **P** **21 56 05.5 -0.3**
comp=Z,1µm,1.3s,mb6.1
BNI *ep*P pP 21 56 56.1 +1.5
MBDF Montbardon 48.43 301⇑ *iP* **P** **21 56 05.4 -0.5**
comp=Z,503nm,0.8s,mb5.6
MBDF *ep*P pP 21 56 56.0 +1.3
MBDF Montbardon 48.43 301⇑ *iP* **P** **21 56 05.4 -0.5**
MBDF *e*PP pP 21 56 56.0 +1.3
MBDF pmax pmax
comp=Z,251nm,0.8s,mb5.6
SURF Saint Ours 48.46 300 *eP* **P** **21 56 06.7 +0.6**
CABF La Chapelle 48.48 303⇑ *iP* **P** **21 56 06.3 +0.1**
comp=Z,1µm,1.1s,mb5.8
CABF *ep*P pP 21 56 55.3 +0.3
CABF La Chapelle 48.48 303⇑ *iP* **P** **21 56 06.3 +0.1**
CABF *e*PP pP 21 56 55.3 +0.3
CABF pmax pmax
comp=Z,552nm,1.1s,mb5.8
JNU Nakatsue 48.53 75 P **P** **21 56 07.6 +0.7**
comp=Z,562nm,0.8s,mb5.9,baz=305,slow=6.3,SNR=35
JNU *ep*P pP 21 56 53.8 -2.0
comp=Z,354nm,0.8s,baz=292,slow=11,SNR=2.6
GIVF Givet 48.62 308⇑ *iP* **P** **21 56 07.7 +0.4**
comp=Z,2µm,1.4s,mb5.9
GIVF Givet 48.62 308⇑ *iP* **P** **21 56 07.7 +0.4**
GIVF pmax pmax
comp=Z,862nm,1.4s,mb5.9
KBS Kingsbay 48.72 347 *eP* **P** **21 56 08.2 +0.5**
KBS *esP* sP 21 57 20.1 -1.7
KBS *eS* **S** **22 02 53.8 +1.8**
KBS AMS AMS 22 07 56.6
comp=Z,11µm,20.8s
KBS Kingsbay 48.72 347 P **P** **21 56 08.3 +0.6**
KBS pmax pmax
comp=Z,2µm,1.1s,mb6.3
KBS Kingsbay 48.72 347 P **P** **21 56 08.7 +1.0**
KBS *ep*P pP 21 56 57.8 +1.2
GDM Grand'Maison 48.77 302 *eP* **P** **21 56 08.4 -0.1**
MEZF Maizieres J'vi 48.77 306⇑ *iP* **P** **21 56 08.7 +0.3**
comp=Z,2µm,1.4s,mb6.0
FRF La Foret Royal 48.80 299⇑ *iP* **P** **21 56 08.2 -0.5**
comp=Z,542nm,1.0s,mb5.5
FRF La Foret Royal 48.80 299⇑ *iP* **P** **21 56 08.2 -0.5**
FRF pmax pmax
comp=Z,271nm,1.0s,mb5.5
KMBO Kilima Mbogo 48.83 228 P **P** **21 56 11.1 +1.7**
comp=Z,195nm,0.7s,mb5.5,baz=32,slow=11,SNR=293
PCPH Palayan 48.90 102⇑ *eP* **P** **21 56 09.1 -0.7**
LMR La Mourre 48.96 299⇑ *iP* **P** **21 56 09.1 -0.8**
comp=Z,651nm,1.6s,mb5.4
LMR La Mourre 48.96 299⇑ *iP* **P** **21 56 09.1 -0.8**
LMR pmax pmax
comp=Z,326nm,1.6s,mb5.4
JOW Kunigami 49.00 84 P **P** **21 56 09.7 -0.8**
comp=Z,132nm,0.4s,mb5.6,baz=308,slow=7.4,SNR=24
OG25 Le Caire 49.00 301 *eP* **P** **21 56 09.7 -0.5**
ORIF Oris-en-Rattie 49.00 301⇑ *iP* **P** **21 56 09.3 -0.9**
comp=Z,236nm,1.0s,mb5.2
ORIF *e*R
comp=Z,11µm,21.2s
BAIF Baives 49.02 308⇑ *iP* **P** **21 56 10.8 +0.5**
comp=Z,2µm,1.2s,mb6.0
BAIF *ep*P pP 21 56 59.8 +0.6
BAIF Baives 49.02 308⇑ *iP* **P** **21 56 10.8 +0.5**
BAIF *e*PP pP 21 56 59.8 +0.6
BAIF pmax pmax
comp=Z,857nm,1.2s,mb6.0
GRN Grenoble 49.02 302 *eP* **P** **21 56 10.5 +0.2**
OG05 Jujurieux 49.03 303 *eP* **P** **21 56 10.6 +0.2**
TAVF Tavernes 49.20 300 *eP* **P** **21 56 11.8 0.0**
STOF St-Etienne Org 49.21 300 *eP* **P** **21 56 12.3 +0.5**
SMRF Simiane la Rot 49.45 300⇑ *iP* **P** **21 56 13.5 -0.2**
comp=Z,324nm,1.0s,mb5.3
BERF Bertagne 49.54 299 *eP* **P** **21 56 14.4 0.0**
JHS Saijyo 49.59 72 P pP 21 57 03.5 -0.5
TGY Tagaytay City 49.61 103 P **P** **21 56 15.9 +0.6**
comp=Z,847nm,0.6s,mb6.3,baz=323,slow=1.5,SNR=18
TGY Tagaytay City 49.61 103⇑ *eP* **P** **21 56 16.3 +1.1**
GELF Grande-Étoile 49.71 299 *eP* **P** **21 56 15.6 0.0**
PRAF Pradon 49.78 300 *eP* **P** **21 56 16.5 +0.4**
LOR Lormes 49.82 305⇑ *iP* **P** **21 56 15.8 -0.6**
comp=Z,1µm,1.6s,mb5.7
LOR *ep*P pP 21 57 05.0 -0.5
LOR *e*R
comp=Z,10µm,22.0s
LOR Lormes 49.82 305⇑ *iP* **P** **21 56 15.8 -0.6**
LOR *e*PP pP 21 57 05.0 -0.5
LOR pmax pmax
comp=Z,560nm,1.6s,mb5.6
LOR MLR MLR
comp=Z,10µm,22.0s
VIVF Saint-Julien-l 49.85 301⇑ *iP* **P** **21 56 16.5 -0.2**
VIVF *ep*P pP 21 57 06.0 +0.2
SMF Signal de Mont 49.98 304⇑ *iP* **P** **21 56 17.2 -0.4**
comp=Z,726nm,0.8s,mb5.8
SMF Signal de Mont 49.98 304⇑ *iP* **P** **21 56 17.2 -0.4**
SMF pmax pmax
comp=Z,363nm,0.8s,mb5.8
SSF Saint Saulge 50.10 305⇑ *iP* **P** **21 56 18.1 -0.5**
comp=Z,1µm,1.3s,mb5.7
SSF Saint Saulge 50.10 305⇑ *iP* **P** **21 56 18.1 -0.5**
SSF pmax pmax
comp=Z,536nm,1.3s,mb5.7
KSM Kuching 50.21 125 *eP* **P** **21 56 20.1 +0.3**
KSM *ep*P pP 21 57 09.0 0.0
MENF Mencas 50.21 309 *eP* **P** **21 56 19.4 +0.1**
AVF Avril sur Loir 50.27 304⇑ *iP* **P** **21 56 19.3 -0.5**
comp=Z,692nm,0.8s,mb5.8
AVF Avril sur Loir 50.27 304⇑ *iP* **P** **21 56 19.3 -0.5**
AVF pmax pmax
comp=Z,346nm,0.8s,mb5.7
PLDF La Plantade 50.29 303 *eP* **P** **21 56 19.9 -0.1**
APAE Packway 50.29 312⇑ *eP* **P** **21 56 19.8 -0.2**
COLF Collangettes 50.35 303 *eP* **P** **21 56 20.8 +0.3**
CGMA Guelma 50.37 290 P **P** **21 56 21.0 +0.3**
AEU East Anglia Un 50.38 312⇑ *eP* **P** **21 56 20.5 -0.1**
ABA1 Baconsthorpe 50.39 312⇑ *eP* **P** **21 56 20.2 -0.4**
JAD Aida 50.42 72 P pP 21 57 08.9 -1.5
AWH Whinburgh 50.55 312⇑ *iP* **P** **21 56 21.5 -0.3**
AGO Saint Agoulin 50.60 303 *eP* **P** **21 56 22.2 -0.1**
LASF Ste Croix 50.62 301⇑ *iP* **P** **21 56 22.4 -0.1**
comp=Z,900nm,1.0s,mb5.9
LRW Lerwick 50.62 322⇑ *iP* **P** **21 56 21.9 -0.4**
HYF Humbligny 50.63 305⇑ *iP* **P** **21 56 22.4 -0.1**
JMN Monobe 50.64 73 P pP 21 57 12.2 +0.1
BGF Bois d'Agland 50.66 304⇑ *iP* **P** **21 56 22.1 -0.7**
comp=Z,295nm,0.9s,mb5.4
BGF *ep*P pP 21 57 11.7 -0.4
BGF Bois d'Agland 50.66 304⇑ *iP* **P** **21 56 22.1 -0.7**
BGF *e*PP pP 21 57 11.7 -0.4
BGF pmax pmax
comp=Z,148nm,0.9s,mb5.4
SAN1 Sandwick 50.66 322⇑ *iP* **P** **21 56 22.0 -0.6**
CAEH 'Ain El Ouahch 50.68 291 P **P** **21 56 22.0 -1.1**
SJMP San Jose 50.73 105 *eP* **P** **21 56 24.4 +0.8**
LBL Lubilhac 50.73 302 *eP* **P** **21 56 23.1 -0.2**
WAL1 Walls 50.83 322⇑ *iP* **P** **21 56 23.2 -0.6**
CKFL Kef-Lekhel 50.91 290 P **P** **21 56 25.0 +0.2**
GQP Guinayangan 50.92 102⇑ *eP* **P** **21 56 25.6 +0.5**
KKM Kota Kinabalu 51.09 115 P **P** **21 56 27.8 +1.3**
KKM Kota Kinabalu 51.09 115 *eP* **P** **21 56 27.6 +1.2**
KKM *ep*P pP 21 57 14.5 -1.3
VERF Verneugheol 51.11 303 *eP* **P** **21 56 26.4 +0.3**
CASM Ain Smara 51.13 290 P **P** **21 56 26.0 -0.4**
FRNF Fournols 51.15 303 *eP* **P** **21 56 27.0 +0.5**
TCF Toulx Ste Croi 51.16 304⇑ *iP* **P** **21 56 26.3 -0.2**
comp=Z,1µm,1.1s,mb5.9
TCF Toulx Ste Croi 51.16 304⇑ *iP* **P** **21 56 26.3 -0.2**
TCF pmax pmax
comp=Z,511nm,1.1s,mb5.9
LWH Whinny Nab 51.19 314⇑ *iP* **P** **21 56 26.2 -0.3**
JWT Wachi 51.24 71 P pP 21 57 16.9 +0.2
CTEI Djebel Teioual 51.27 290 P **P** **21 56 27.0 -0.4**
OTRP Odiongan 51.49 104 *eP* **P** **21 56 28.7 -0.6**
DFRA Djebel Bou Aff 51.50 291 P **P** **21 56 29.0 -0.1**
CAF Calviac 51.62 302⇑ *iP* **P** **21 56 29.9 0.0**
comp=Z,623nm,1.1s,mb5.7
CAF *ep*P pP 21 57 19.5 +0.1
CAF Calviac 51.62 302⇑ *iP* **P** **21 56 29.9 0.0**
CAF *e*PP pP 21 57 19.5 +0.1
CAF pmax pmax
comp=Z,311nm,1.1s,mb5.7
CUYO Cuyo Island 51.62 107 *eP* **P** **21 56 31.1 +0.7**
SJAF Saint Jean de 51.75 299 *eP* **P** **21 56 30.4 -0.5**
EJON La Jonquera 51.76 299 P **P** **21 56 30.0 -0.9**
comp=Z,656nm,1.7s,mb5.8
EDR Drumtochty 51.78 318⇑ *eP* **P** **21 56 30.5 -0.4**
SKP1 Kophill 51.80 311⇑ *iP* **P** **21 56 30.7 -0.4**
LDU Leeds Universi 51.80 314⇑ *eP* **P** **21 56 30.6 -0.6**
CMER Merouana 51.81 290 P **P** **21 56 31.0 -0.5**
RJF Les Rejaudoux 51.89 303⇑ *iP* **P** **21 56 31.9 0.0**
comp=Z,2µm,1.8s,mb6.0
RJF Les Rejaudoux 51.89 303⇑ *iP* **P** **21 56 31.9 0.0**
RJF pmax pmax
comp=Z,995nm,1.8s,mb5.9
KBI1 Birley Grange 51.90 313⇑ *iP* **P** **21 56 31.1 -0.8**
MME1 Meikle Cairn 51.94 318⇑ *iP* **P** **21 56 31.5 -0.5**
FILF Fillols 51.96 299 *eP* **P** **21 56 32.8 +0.4**
CKHR Kef el Ahmar 51.96 290 P **P** **21 56 32.0 -0.6**
MTLF Montolieu 51.97 300⇑ *iP* **P** **21 56 32.2 -0.3**
comp=Z,459nm,1.0s,mb5.5
MTLF Montolieu 51.97 300⇑ *iP* **P** **21 56 32.2 -0.3**
MTLF pmax pmax
comp=Z,230nm,1.0s,mb5.6
SET Setif 51.98 291 P **P** **21 56 34.0 +1.3**
LHO Holmfirth 52.03 314⇑ *iP* **P** **21 56 31.8 -1.0**
MCD Coleburn Disti 52.05 319⇑ *iP* **P** **21 56 32.7 -0.2**
LDF La Druitiere 52.10 307⇑ *iP* **P** **21 56 32.5 -0.9**
comp=Z,156nm,0.5s,mb5.4
LDF *ep*P pP 21 57 22.2 -0.8
LDF La Druitiere 52.10 307⇑ *iP* **P** **21 56 32.5 -0.9**
LDF *e*PP pP 21 57 22.2 -0.8
LDF pmax pmax
comp=Z,78nm,0.5s,mb5.4
JWZ Kozaga 52.13 73 P pP 21 57 22.9 -0.6
KWE Weaver Farm 52.13 313⇑ *iP* **P** **21 56 32.7 -0.9**
JSH Shimam 52.21 61 P pP 21 57 22.9 -1.0
CARF Carcanieres 52.23 299 *eP* **P** **21 56 34.1 -0.4**
EBL Broad Law 52.26 317⇑ *iP* **P** **21 56 34.0 -0.5**
EBL AMb AMB 21 56 39.1
comp=Z,411nm,1.3s,mb5.7
FLN La Foliniere 52.29 307⇑ *iP* **P** **21 56 33.9 -0.9**
comp=Z,720nm,1.1s,mb5.7
FLN *e*R
comp=Z,10µm,21.8s
FLN La Foliniere 52.29 307⇑ *iP* **P** **21 56 33.9 -0.9**
FLN pmax pmax
comp=Z,360nm,1.1s,mb5.7
FLN MLR MLR
comp=Z,10µm,21.8s
EDI Edinburgh 52.31 317⇑ *iP* **P** **21 56 34.2 -0.7**
EDI AMb AMB 21 56 38.9
comp=Z,846nm,1.1s,mb6.1
SSW Stow on the Wo 52.37 312⇑ *iP* **P** **21 56 34.8 -0.5**
SIW Isle of Wight 52.38 310⇑ *iP* **P** **21 56 35.1 -0.3**
EKA Eskdalemuir Ar 52.41 316 P **P** **21 56 35.0 -0.6**
comp=Z,448nm,1.0s,mb5.9,baz=90,slow=7.2,SNR=402
EKA *ep*P pP 21 57 25.0 -0.2
comp=Z,127nm,0.8s,baz=91,slow=6.6,SNR=2.8
JSD Sado 52.42 67 P pP 21 57 24.6 -0.9
ECK Cauldkaine Hil 52.42 316⇑ *iP* **P** **21 56 34.9 -0.8**
ECK AMb AMB 21 56 39.6
comp=Z,607nm,1.1s,mb5.9
SWN1 Swindon 52.45 311⇑ *iP* **P** **21 56 35.5 -0.4**
EAU Auchinoon 52.47 317⇑ *iP* **P** **21 56 35.4 -0.7**
EAU AMb AMB 21 56 40.9
comp=Z,1µm,1.3s,mb6.2
MVH1 Achvaich 52.48 319⇑ *iP* **P** **21 56 35.4 -0.7**
LFF La Frestale 52.52 303⇑ *iP* **P** **21 56 36.4 -0.1**
comp=Z,668nm,1.0s,mb5.7
LFF La Frestale 52.52 303⇑ *iP* **P** **21 56 36.4 -0.1**
LFF pmax pmax
comp=Z,334nm,1.0s,mb5.7
CKE Keswick 52.53 315⇑ *iP* **P** **21 56 36.1 -0.4**
RCP Roxas 52.53 105⇑ *eP* **P** **21 56 37.0 -0.1**
JIE Ise 52.57 72 P pP 21 57 26.6 -0.1
JGF Kuroka 52.61 70 P pP 21 57 26.3 -0.7
GRR Gorron 52.63 307⇑ *iP* **P** **21 56 36.3 -1.0**
comp=Z,694nm,1.1s,mb5.7
GRR *ep*P pP 21 57 26.6 -0.4
GRR Gorron 52.63 307⇑ *iP* **P** **21 56 36.3 -1.0**
GRR *e*PP pP 21 57 26.6 -0.4
GRR pmax pmax
comp=Z,347nm,1.0s,mb5.7
CDU1 Dunnerdale 52.64 315⇑ *iP* **P** **21 56 36.9 -0.4**
MFF Saint Martin d 52.64 305⇑ *iP* **P** **21 56 36.5 -0.9**
comp=Z,1µm,1.4s,mb5.8
MFF Saint Martin d 52.64 305⇑ *iP* **P** **21 56 36.5 -0.9**
MFF pmax pmax

comp=Z,604nm,1.4s,mb5.8
MDO Dochfour 52.66 319⇑ iP P 21 56 36.8 -0.6
ETOS Mallorca 52.66 296 P P 21 56 36.7 -1.0
comp=Z,762nm,1.5s,mb5.9
JNW Jan Mayen West 52.67 336 eP P 21 56 39.0 +1.6
JMIC Jan Mayen 52.71 336 P P 21 56 38.9 +1.3
comp=Z,402nm,0.8s,mb5.9,baz=75,slow=2.3,SNR=18
JMIC pP pP 21 57 27.3 0.0
comp=Z,206nm,0.7s,baz=253,slow=6.2,SNR=3.9
JMIC Jan Mayen 52.71 336⇑ iP P 21 56 38.7 +1.1
JMIC AMb AMB 21 56 45.4
comp=Z,1μm,1.9s,mb6.0
JMIC eS S **22 03 47.2 +0.7**
JMIC eSS SS 22 07 31.4 +3.7
JMIC AMS AMS 22 19 50.5
comp=Z,11μm,20.6s
XDE Dent Fell 52.77 315⇑ iP P 21 56 38.0 -0.3
XDE AMb AMB 21 56 43.0
comp=Z,1μm,1.2s,mb6.2
SWK Warminster 52.80 311⇑ iP P 21 56 37.8 -0.8
YSS Yuzh-Sakhalins 52.81 55α iP P 21 56 38.1 -0.6
YSS e*PP pP 21 57 26.0 -2.4
YSS e*SP sP 21 57 52.0 -1.2
YSS i S S **22 03 45.0 -3.2**
YSS e*SS 22 05 10.0
YSS e 22 06 06.0
YSS e 22 07 35.0
YSS pmax pmax
comp=N,280nm,1.0s
YSS pmax pmax
comp=E,520nm,1.0s
YSS pmax pmax
comp=Z,1μm,1.0s,mb6.3
YSS pmax pmax
comp=Z,8μm,8.0s
YSS pmax pmax
comp=E,4μm,7.0s
YSS smax
comp=E,8μm,11.0s
YSS MLR MLR
comp=E,14μm,14.0s
YSS MLR MLR
comp=Z,16μm,14.0s
YSS Yuzh-Sakhalins 52.81 55 P P 21 56 38.6 -0.1
YSS epP pP 21 57 28.6 +0.3
SALF Salau 52.86 300 eP P 21 56 38.0 -1.1
HLM1 Long Mynd 52.86 313⇑ iP P 21 56 38.4 -0.6
HLM1 AMb AMB 21 56 43.7
comp=Z,810nm,1.3s,mb6.0
MLS Moulis 52.86 300 eP P 21 56 38.5 -0.6
EMIR Miracle 52.89 299 P P 21 56 39.1 -0.2
comp=Z,1μm,1.5s,mb6.1
EAB Aberfoyle 52.89 317⇑ iP P 21 56 38.5 -0.7
EAB AMb AMB 21 56 45.4
comp=Z,618nm,1.6s,mb5.8
MAJO Matsushiro 52.91 68 P P 21 56 38.6 -1.0
MAJO e*PP pP 21 57 28.5 -0.8
MAJO pmax pmax
comp=Z,320nm,0.9s,mb5.8
MAJO Matsushiro 52.91 68 P P 21 56 38.6 -1.0
comp=Z,320nm,0.9s,mb5.8
MAJO epP pP 21 57 28.5 -0.8
MAT Matsushiro 52.91 68 P P 21 56 38.5 -1.1
MAT S S **22 03 50.0 +0.3**
MAT Matsushiro 52.91 68 P pP 21 57 28.3 -1.0
MAT Matsushiro 52.91 68 eP P 21 56 39.0 -0.6
MAT eS S **22 03 51.0 +1.3**
MAT pmax pmax
comp=Z,380nm,1.0s,mb5.8
MAT Matsushiro 52.91 68 eP P 21 56 39.0 -0.6
comp=Z,380nm,1.0s,mb5.8
MAT eS S **22 03 51.0 +1.3**
MJAR Matsushiro Arr 52.91 68 P P 21 56 38.9 -0.6
comp=Z,234nm,1.0s,mb5.6,baz=290,slow=10.0,SNR=142
MJAR pP pP 21 57 29.1 -0.2
comp=Z,274nm,1.0s,baz=288,slow=9.1,SNR=5.4
MATF Mathat 52.95 304 eP P 21 56 40.2 +0.4
GUIM Jordan 52.98 106 eP P 21 56 40.5 +0.2
SBD1 Bryn Du 52.99 313⇑ iP P 21 56 39.5 -0.5
LCHF La Chataignera 53.02 305 eP P 21 56 40.7 +0.5
SSP1 Stoney Pound 53.02 312⇑ iP P 21 56 39.8 -0.4
HGH Gray Hill 53.02 311⇑ iP P 21 56 39.4 -0.8
HGH AMb AMB 21 56 41.0
comp=Z,1μm,1.4s,mb6.2
MCH1 Michaelchurch 53.05 312⇑ iP P 21 56 39.6 -0.8
MELF Melles 53.12 300 eP P 21 56 39.8 -1.3
HTR Trewern Hill 53.20 312⇑ iP P 21 56 40.8 -0.7
HTR AMb AMB 21 56 42.2
comp=Z,1μm,1.5s,mb6.1
WPM1 Penmaenmawr 53.29 314⇑ iP P 21 56 41.6 -0.5
WPM1 AMb AMB 21 56 43.2
comp=Z,864nm,1.5s,mb6.0
JYA Atsumi 53.30 66 P pP 21 57 32.4 +0.2
JOT Ohata 53.32 62 P pP 21 57 31.2 -1.1
EPF Esparros 53.37 300⇑ iP P 21 56 41.4 -1.4
comp=Z,228nm,0.8s,mb5.4
EPF Esparros 53.37 300⇑ iP P 21 56 41.4 -1.4
EPF pmax pmax
comp=Z,114nm,0.8s,mb5.3
GIM North Isle of 53.38 315⇑ iP P 21 56 42.5 -0.3
EPOB Poblet 53.39 298 P P 21 56 41.7 -1.3
comp=Z,5μm,4.5s
RESF Ens 53.44 300 eP P 21 56 43.3 -0.1
YLL Llanberis 53.47 314⇑ iP P 21 56 42.8 -0.7
TSM Tawau 53.49 115 P P 21 56 44.1 0.0
WME Myndd Eilian 53.49 314⇑ iP P 21 56 42.9 -0.6
WIM Isle of Man 53.53 315⇑ iP P 21 56 43.5 -0.3
WIM AMb AMB 21 56 48.8
comp=Z,2μm,1.3s,mb6.4
ASAJ Asahikawa 53.53 58 P P 21 56 43.4 -0.7
comp=Z,114nm,0.6s,mb5.6,baz=275,slow=10,SNR=50
ASAJ pP pP 21 57 32.8 -1.1
comp=Z,73nm,0.9s,baz=306,slow=18,SNR=1.2
ASAJ Asahikawa 53.53 58 P P 21 56 43.4 -0.6
ASAJ *PP pP 21 57 32.8 -1.1
ASAJ pmax pmax
comp=Z,114nm,0.6s
ABA Alger-Bouzarea 53.54 292 P P 21 56 43.5 -0.7
LABF Labassere 53.55 300 eP P 21 56 43.1 -1.1
WLF1 Llynfaes 53.57 314⇑ iP P 21 56 43.5 -0.7
LRYF La Roche-sur-Y 53.58 305 eP P 21 56 43.7 -0.6
JSG Sagara 53.59 71 P pP 21 57 34.6 +0.2
EBIE Bielsa 53.62 300 P P 21 56 43.5 -1.2
comp=Z,2μm,2.3s,mb6.2
JRY Ryogami san 53.62 69 P pP 21 57 33.6 -1.1
OLEF Ile d'Oleron 53.63 304 eP P 21 56 44.4 -0.3
VIEF Viey 53.63 300 eP P 21 56 44.8 0.0
WCB1 Church Bay 53.64 314⇑ iP P 21 56 44.1 -0.6
WCB1 AMb AMB 21 56 49.3
comp=Z,504nm,1.4s,mb5.8
EGRA Graus 53.65 299 P P 21 56 44.5 -0.4
comp=Z,169nm,0.9s,mb5.6
YRE Yr Eifl 53.66 313⇑ iP P 21 56 44.3 -0.6
YRE AMb AMB 21 56 51.4
comp=Z,587nm,1.4s,mb5.9
YRC Rhoscolyn 53.68 314⇑ iP P 21 56 44.7 -0.3
YRC AMb AMB 21 56 46.1
comp=Z,595nm,1.5s,mb5.9
SGMF Saint Gilles 53.76 307⇑ iP P 21 56 44.9 -0.7
comp=Z,2μm,1.4s,mb6.1
SGMF Saint Gilles 53.76 307⇑ iP P 21 56 44.9 -0.7
SGMF pmax pmax
comp=Z,972nm,1.4s,mb6.1
HEX Exmoor 53.77 311⇑ iP P 21 56 44.5 -1.2
HSA Swansea 53.81 312⇑ iP P 21 56 45.1 -0.9
EMHD Djebel Mahouad 53.82 292 P P 21 56 45.0 -1.2
EBR Ebro Roquetas 53.98 298 iP P 21 56 47.0 -0.3
EBR i Ts pP 21 57 37.0 -0.2
EIBI Ibiza 53.99 295 P P 21 56 46.8 -0.6
comp=Z,2μm,1.8s,mb6.3
ETSF Etsaut 54.03 300⇑ iP P 21 56 47.4 -0.3
comp=Z,474nm,0.7s,mb5.8
ETSF epP pP 21 57 37.4 -0.2
ETSF Etsaut 54.03 300⇑ iP P 21 56 47.4 -0.3
ETSF e*PP pP 21 57 37.4 -0.2
ETSF pmax pmax
comp=Z,237nm,0.7s,mb5.8
ERTA Horta de San J 54.05 298 P P 21 56 46.9 -1.0
comp=Z,1μm,1.8s,mb6.2
JOD2 Odawara 2 54.05 70 P pP 21 57 37.4 -0.4
ATE Arette 54.07 301 eP P 21 56 47.0 -1.0
ROSF Rostrenen 54.19 308⇑ iP P 21 56 47.9 -0.8
comp=Z,635nm,0.9s,mb5.8
ROSF Rostrenen 54.19 308⇑ iP P 21 56 47.9 -0.8
ROSF pmax pmax
comp=Z,317nm,0.9s,mb5.8
ORDF Ordiarp 54.20 301 eP P 21 56 47.9 -0.9
HTL Hartland 54.21 311⇑ eP P 21 56 47.8 -1.0
LLP Lapu-Lapu 54.24 105⇑ eP P 21 56 49.6 0.0
LLP eS pP 21 57 37.5 -1.9
QUIF Quistinic 54.24 307⇑ iP P 21 56 48.1 -1.0
comp=Z,1μm,1.2s,mb6.0
QUIF epP pP 21 57 38.1 -1.0
QUIF Quistinic 54.24 307⇑ iP P 21 56 48.1 -1.0
QUIF e*PP pP 21 57 38.1 -1.0
QUIF pmax pmax
comp=Z,571nm,1.2s,mb6.0
SNPH Sibulan 54.27 106 i P P 21 56 50.5 +0.8
LARF Larrau 54.29 301 eP P 21 56 49.5 0.0
OCLP Ormoc 54.30 104 eP P 21 56 58.6 +8.7
ESAC San Caprasio 54.36 299 P P 21 56 48.9 -1.2
comp=Z,2μm,1.7s,mb6.3
MA2 Magadan 54.39 38c iP P 21 56 49.8 -0.2
MA2 e*PP pP 21 57 40.7 +0.7
MA2 e*SP sP 21 58 03.8 -0.9
MA2 eS S **22 04 09.9 +0.8**
MA2 e*SS 22 05 38.5
MA2 pmax pmax
comp=E,100nm,1.0s
MA2 pmax pmax
comp=Z,200nm,1.0s,mb5.6
MA2 Magadan 54.39 38 P P 21 56 50.0 0.0
comp=Z,290nm,0.8s,mb5.9
MA2 epP pP 21 57 40.8 +0.8
OSSF Osses 54.41 301 eP P 21 56 49.4 -1.0
SJPF Ste Jean 54.43 301⇑ iP P 21 56 50.0 -0.5
comp=Z,158nm,0.8s,mb5.3
SJPF Ste Jean 54.43 301⇑ iP P 21 56 50.0 -0.5
SJPF pmax pmax
comp=Z,79nm,0.8s,mb5.3
SEY Seymchan 54.45 34⇑ eP P 21 56 49.7 -0.7
JYT Yasato 54.52 68 P pP 21 57 39.8 -1.4
PLP Palo 54.52 103 eP P 21 56 50.4 -1.2
PLP eS pP 21 57 33.2 -8.4
TBP Tagbilaran 54.54 105⇑ eP P 21 56 51.5 -0.2
EALK Alkurruntz 54.59 301 P P 21 56 50.3 -1.4
comp=Z,2μm,2.8s,mb6.2
CSA1 St Austell 54.63 310⇑ iP P 21 56 50.8 -1.1
IPIL Ipil 54.72 108 eP P 21 56 53.7 +0.6
DSB Dublin 54.73 314 P P 21 56 52.0 -0.6
comp=Z,488nm,1.6s,mb5.8
DSB epP pP 21 57 42.5 -0.1
DLF Lyons Farm 54.81 314⇑ iP P 21 56 52.4 -0.7
DCPH Dipolog City 54.83 107⇑ eP P 21 56 53.4 -0.4
DCPH eS pP 21 57 43.5 -0.3
EMOS Mosqueruela 54.83 298 P P 21 56 53.5 0.0
comp=Z,6μm,4.5s
DAG Danmarks Havn 54.84 344⇓ iP P 21 56 53.7 +0.6
comp=Z,342nm,1.2s,mb5.8
DAG i pP 21 57 42.9 -0.3
DAG Danmarks Havn 54.84 344⇓ iP P 21 56 53.7 +0.6
DAG i pP 21 57 42.9 -0.3
DAG pmax pmax
comp=Z,342nm,1.2s,mb5.8
EBNR Beni Rached 54.85 292 P P 21 56 53.5 -0.2
CMA1 Manaccan 54.85 310⇑ iP P 21 56 52.7 -0.8
CRQ2 Rosemanowes 2 54.86 310⇑ iP P 21 56 52.1 -1.4
CRQ2 AMb AMB 21 56 54.1
comp=Z,831nm,1.2s,mb6.1
CCA1 Carnmenellis 54.89 310⇑ iP P 21 56 52.7 -1.0
CGH1 Goonhilly 54.89 310⇑ iP P 21 56 52.6 -1.1
CGW Gweek 54.91 310⇑ iP P 21 56 53.0 -0.9
ECHA Ech Chlef 55.03 292 P P 21 56 55.0 +0.1
MSLP Maasin 55.05 104 eP P 21 56 55.6 +0.2
CPZ Penzance 55.12 310⇑ iP P 21 56 54.4 -1.0
CPZ AMb AMB 21 56 59.5
comp=Z,369nm,1.3s,mb5.8
DCN Croghan 55.23 314⇑ iP P 21 56 55.1 -1.0
DCN Croghan 55.23 314⇑ iP P 21 56 55.8 -0.3
DCN Croghan 55.23 314⇑ iP P 21 56 55.8 -0.3
EBEN Beniarda 55.25 296 P P 21 56 55.5 -1.0
comp=Z,2μm,2.2s,mb6.2
EANR 'Ain N'Sour 55.30 292 P P 21 56 56.0 -0.9
PAGZ Pagadian 55.31 108 eP P 21 56 57.6 +0.4
ETRT Tiaret 55.37 291 P P 21 56 56.0 -1.4
OKGL Djebel Kef Gue 55.61 292 P P 21 57 05.0 +5.9
OJGS Djebel Guires 55.74 292 P P 21 57 01.0 +1.0
SCPH Surigao 55.75 104⇑ eP P 21 56 59.6 -0.7
SCPH eS pP 21 57 49.1 -1.4
YUK Yuzh-Kuril'sk 55.79 57⇑ iP P 21 56 59.0 -1.2
YUK i *PP pP 21 57 49.0 -1.4
YUK e 21 57 56.0
YUK e 21 59 07.0
YUK i S S **22 04 28.0 +0.1**
YUK pmax pmax
comp=N,5μm,3.0s
YUK pmax pmax
comp=E,8μm,3.0s
YUK pmax pmax
comp=Z,12μm,3.0s
YUK pmax pmax
comp=N,270nm,0.6s
YUK pmax pmax
comp=Z,470nm,0.6s,mb6.2
YUK pmax pmax
comp=E,90nm,0.5s
YUK pmax pmax
comp=Z,8μm,1.6s,mb7.0
YUK pmax pmax
comp=N,4μm,1.8s
YUK pmax pmax
comp=E,8μm,2.0s
YUK smax
comp=E,9μm,5.0s
YUK smax
comp=N,10μm,6.0s
ELAN Lanestosa 55.91 302 P P 21 57 00.7 -0.5
comp=N,1μm,1.5s,mb6.3
CGP Cagayan de Oro 55.94 106⇓ iP P 21 57 01.0 -0.7
comp=N,198μm,1.4s
OJBR Djebel Berber 56.01 292 P P 21 57 04.0 +2.1
ETOB Tobarra 56.23 296 P P 21 57 02.6 -0.8
comp=N,7μm,4.5s
EMUR La Murta 56.31 295 P P 21 57 02.6 -1.4
comp=N,1μm,1.6s,mb6.3
BUTP Butuan 56.35 105 eP P 21 57 04.1 -0.5
BUKP Musuan 56.58 106 eP P 21 57 07.0 +0.7
USTO Oran 56.62 292 P P 21 57 06.0 -0.3
EVIA Vianos 56.92 296 P P 21 57 07.7 -0.7
EVIA pmax pmax
comp=Z,156nm,0.8s,mb5.7
EVIA Vianos 56.92 296 P P 21 57 07.7 -0.6
comp=Z,156nm,0.8s,mb5.7
OTSS Djebel Tessala 56.98 292 P P 21 57 03.0 -5.9
EARI Arriondas 57.10 302 P P 21 57 08.4 -1.1
comp=Z,4μm,3.8s
SCO Scoresbysund 57.17 336 i P P 21 57 10.6 +0.9
comp=Z,298nm,1.1s,mb5.8
SCO i S S **22 04 50.4 +4.6**
SCO i S S **22 04 53.6 +7.8**
SCO Scoresbysund 57.17 336 i P P 21 57 08.9 -0.8
SCO i S S **22 04 53.6 +7.8**
SCO pmax pmax
comp=Z,300nm,1.1s,mb5.8
SCO Scoresbysund 57.17 336 i P P 21 57 08.9 -0.8
comp=Z,298nm,1.1s,mb5.8
SCO i S S **22 04 53.6 +7.8**
EHUE Huescar 57.31 295 P P 21 57 10.3 -0.8
comp=Z,426nm,1.2s,mb6.0
GUD Guadarrama 57.34 299 P P 21 57 10.8 -0.5
comp=Z,178nm,0.8s,mb5.8
ENIJ Nijar 57.36 294 P P 21 57 11.0 -0.4
comp=Z,3.4nm,0.9s
VAL Valentia 57.37 313 eP P 21 57 09.3 -2.0
VAL i SS 22 06 16.5
BIPH Bislig 57.41 105⇑ eP P 21 57 09.8 -2.2
BIPH i S pP 21 57 55.4 -7.2
DMPH Davao City--Mi 57.42 107 eP P 21 57 12.7 +0.5
ESDC Sonseca Array 57.58 298 P P 21 57 12.2 -0.7
comp=Z,132nm,0.8s,mb5.6,baz=60,slow=7.3,SNR=333
ESDC pP pP 21 58 02.5 -1.0
comp=Z,252nm,1.1s,baz=60,slow=7.7,SNR=6.2
ESDC sP sP 21 58 25.7 -2.2
comp=Z,80nm,0.8s,baz=66,slow=5.9,SNR=2.4
ESDC PKP2bc 22 27 06.3
comp=Z,0.7nm,0.6s,baz=240,slow=1.4,SNR=4.3
ESLA Sonseca Array 57.58 298 eP P 21 57 12.1 -0.8
comp=Z,194nm,1.3s,mb5.6
ESLA epP pP 21 58 02.6 -0.9
GSPH General Santos 57.62 108⇑ iP P 21 57 14.8 +1.2
GSPH eS pP 21 58 03.8 -0.4
EQES Quesada 57.66 296 P P 21 57 12.1 -1.5
comp=Z,2μm,2.1s,mb6.4
EBER Berja 57.89 295 P P 21 57 13.8 -1.4
comp=Z,2μm,2.6s,mb6.3
EBAN Banos Encina 58.04 296 P P 21 57 15.6 -0.6
comp=Z,181nm,0.8s,mb5.8
MATI Mati 58.09 106 eP P 21 57 15.3 -1.5
ECOG Cogollos-Vega 58.23 295 P P 21 57 15.4 -2.1
comp=Z,99nm,0.8s,mb5.5
EPON Pontenova 58.41 303 P P 21 57 17.4 -1.3
comp=Z,1μm,1.9s,mb6.2
ERON Agron 58.51 295 P P 21 57 18.2 -1.3
comp=Z,116nm,0.7s,mb5.6
EADA Adamuz 58.61 297 P P 21 57 18.2 -1.9
comp=Z,1μm,1.7s,mb6.3
ELUQ Luque 58.63 296 P P 21 57 18.6 -1.6
comp=Z,234nm,0.8s,mb5.9
ECAL Calabor 58.65 301 P P 21 57 18.8 -1.6
comp=Z,2μm,2.0s,mb6.3
BILL Bilibino 58.66 26 P P 21 57 21.9 +1.9
BILL pmax pmax
comp=Z,2μm,1.5s,mb6.6
BILL Bilibino 58.66 26⇑ iP P 21 57 20.4 +0.4
PBRG Braganca 58.71 301 i P P 21 57 20.3 -0.4
comp=Z,336nm,1.6s,mb5.7
PBRG epP pP 21 58 11.9 +0.4
PBRG eSP sP 21 58 33.3 -2.6
ELOJ Sierra Loja 58.71 295 P P 21 57 18.8 -2.1
comp=Z,60nm,0.9s,mb5.2
BORG Borgarnes 58.73 330 P P 21 57 21.3 +0.7
comp=Z,254nm,0.9s,mb5.9,baz=83,slow=4.7,SNR=47
ERUA La Rua 58.76 302 P P 21 57 20.5 -0.6
comp=Z,132nm,0.8s,mb5.6
OPO Ambohidratompo 59.17 207 P P 21 57 25.0 +0.8
comp=Z,118nm,0.9s,mb5.5,baz=22,slow=6.1,SNR=99
OPO PKP2bc 22 27 04.8
comp=Z,3.6nm,0.9s,baz=322,slow=5.1,SNR=4.2
OPO Ambohidratompo 59.17 207 P P 21 57 25.0 +0.8
OPO ⇑e 22 27 04.8
EMIJ Mijas 59.40 295 P P 21 57 22.0 -3.6
comp=Z,2μm,3.4s
STS Santiago 59.52 303 P P 21 57 25.5 -0.9
comp=Z,106nm,0.8s,mb5.5
PVRL Vila Real 59.59 301 i P P 21 57 26.4 -0.4
comp=Z,305nm,1.5s,mb5.7
PVRL epP pP 21 58 17.5 -0.3
PVRL eSP sP 21 58 39.5 -2.5
ELOB Lobios 59.59 302 P P 21 57 25.8 -1.0
comp=Z,2μm,2.0s,mb6.3
PCAB Cabril 59.63 302 i P P 21 57 26.9 -0.2
comp=Z,586nm,1.3s,mb6.0
PCAB epP pP 21 58 18.2 +0.2
PCAB eSP sP 21 58 39.9 -2.4
EMAZ Mazaricos 59.79 303 P P 21 57 26.9 -1.2
comp=Z,2μm,2.3s,mb6.3
MTE Manteigas 59.82 300 i P P 21 57 28.4 0.0
comp=Z,726nm,1.4s,mb6.1
MTE epP pP 21 58 19.8 +0.4
MTE eSP sP 21 58 40.5 -3.1
MTE eS S **22 05 22.4 +2.0**
MTE e- 22 06 41.7
MTE Manteigas 59.82 300 eP P 21 57 28.1 -0.2
comp=Z,678nm,0.6s,mb6.5
MTE epP pP 21 58 19.5 +0.1
EZAM Zamans 59.91 302 P P 21 57 28.1 -0.9
comp=Z,95nm,0.8s,mb5.5
PVIS Viseu 59.94 300 i P P 21 57 29.1 0.0
comp=Z,517nm,1.1s,mb6.1
PVIS epP pP 21 58 20.3 +0.1
PVIS eSP sP 21 58 42.1 -2.3
EJIF Jimena Fronter 59.96 295 P P 21 57 27.5 -1.8
comp=Z,343nm,1.4s,mb5.8
PCBR Castelo Branco 60.00 299 i P P 21 57 29.1 -0.5
comp=Z,234nm,1.9s,mb5.5
PCBR epP pP 21 58 21.2 +0.6
PCBR eSP sP 21 58 42.6 -2.2
ESPR Espera 60.07 296 P P 21 57 27.8 -2.3
comp=Z,1μm,2.0s,mb6.3
EBAD Badajoz 60.11 298 P P 21 57 28.8 -1.6
comp=Z,2μm,1.5s,mb6.5
EMIN Mina Concepcio 60.28 297 P P 21 57 29.7 -1.8
comp=Z,1μm,1.8s,mb6.3
SFS San Fernando 60.49 295 P P 21 57 32.1 -0.9
SFS e*PP pP 21 58 24.5 +0.4
SFS pmax pmax
comp=Z,227nm,0.8s,mb5.8
SFS San Fernando 60.49 295 P P 21 57 32.0 -0.9
comp=Z,227nm,0.8s,mb5.8
SFS epP pP 21 58 24.5 +0.4
PET Petropavlovsk 60.54 44α iP P 21 57 30.5 -2.6
PET e 21 58 12.9
PET i *PP pP 21 58 20.4 -3.8
PET e*SP sP 21 58 42.2 -6.2
PET i S S **22 05 26.5 -3.0**
PET e*SS 22 06 58.0
PET eSS SS 22 09 35.1 +2.1
PET eSSS SSS 22 12 11.7 -4.7
PET pmax pmax
comp=Z,201nm,1.1s,mb5.7
PET pmax pmax
comp=Z,5μm,8.4s
PET pmax pmax
comp=Z,3μm,13.1s
PET MLR MLR
comp=Z,6μm,16.2s
PET Petropavlovsk 60.54 44 P P 21 57 30.8 -2.2
PET epP pP 21 58 23.7 -0.5
PTOM Tomar 60.74 299 i P P 21 57 34.4 -0.2
comp=Z,637nm,1.3s,mb6.1
PTOM epP pP 21 58 26.2 +0.4
PTOM eSP sP 21 58 47.7 -2.2
MDT Midelt 60.90 291 P P 21 57 35.2 -0.5
comp=Z,178nm,1.2s,mb5.6,baz=73,slow=7.0,SNR=118
MDT sP sP 21 58 49.3 -1.8
comp=Z,75nm,1.1s,baz=80,slow=8.7,SNR=2.2
MDT PKPPKP 22 26 51.1
comp=Z,3.4nm,1.0s,baz=265,slow=5.0,SNR=5.0
EVO Evora 60.92 298⇑ iP P 21 57 35.8 0.0
comp=Z,1μm,1.4s,mb6.1
EVO epP pP 21 58 26.2 -0.8
EVO eR
comp=Z,10μm,22.8s
EGRO El Granado 60.96 297 P P 21 57 34.4 -1.7
comp=Z,1μm,1.6s,mb6.3
PBEJ Beja 61.03 298 i P P 21 57 36.3 -0.2
comp=Z,470nm,1.3s,mb6.0
PBEJ epP pP 21 58 28.0 +0.2
PBEJ eSP sP 21 58 49.6 -2.3
ALMR Almeirim 61.05 299 eP P 21 57 35.8 -0.9
MOE Montemor 61.16 298 eP P 21 57 37.2 -0.2
MOE epP pP 21 58 28.8 +0.1
SUMG Summit 61.18 341 eP P 21 57 38.0 +1.0
comp=Z,2μm,1.0s,mb6.6
SUMG epP pP 21 58 29.1 +0.8
PLOU Loures 61.58 299 i P P 21 57 40.0 -0.2
comp=Z,656nm,1.3s,mb6.1
PLOU epP pP 21 58 32.1 +0.6
PLOU eSP sP 21 58 53.4 -2.2
LIS Lisbon 61.65 299 eP P 21 57 40.3 -0.3
LIS eS S **22 05 45.6 +2.1**
LIS eS S **22 05 46.6 +3.0**
LIS AMS AMS 22 17 31.4
comp=N,6μm,16.5s
PTEO Sao Teotonio 61.85 297 i P P 21 57 41.9 -0.1
comp=N,705nm,1.4s,mb6.1
PTEO epP pP 21 58 34.2 +0.8
PTEO eSP sP 21 58 55.2 -2.3
MORF Marmelete 61.90 297 eP P 21 57 43.0 +0.7
MORF eS S **22 05 51.6 +4.9**
MORF AMS AMS 22 15 37.2
comp=Z,3μm,19.9s
LSZ Lusaka 65.45 226 P P 21 58 06.0 +0.3
comp=Z,340nm,0.8s,mb6.0,baz=40,slow=6.5,SNR=582
LSZ S S 22 06 34.8 +4.0
comp=Z,34nm,1.2s,baz=228,slow=15,SNR=5.1
LSZ PKP2bc 22 26 46.9
comp=Z,5.7nm,1.1s,baz=212,slow=4.2,SNR=8.3
LSZ Lusaka 65.45 226 P P 21 58 06.0 +0.3
comp=Z,336nm,0.8s,mb6.0
LSZ epP pP 21 58 57.5 -0.2
TORD Torodi Ar. Bea 65.80 269 P P 21 58 06.1 -1.9
comp=Z,238nm,0.6s,mb6.0,baz=46,slow=5.1,SNR=1316

TORD pP pP 21 58 58.2 -1.9
comp=Z,141nm,0.9s,baz=48,slow=5.3,SNR=2.6
TORD PKPPKP 22 26 39.9
comp=Z,14nm,1.2s,baz=272,slow=1.6,SNR=13
SFJD Kangerlussuaq 67.88 339 P **P** **21 58 19.6 -0.5**
comp=Z,271nm,0.9s,mb5.9,baz=27,slow=7.0,SNR=70
SFJD pP pP 21 59 11.2 -1.3
comp=Z,335nm,0.8s,baz=5.8,slow=6.6,SNR=8.1
SFJD Kangerlussuaq 67.88 339 P **P** **21 58 19.6 -0.5**
SFJD pP pP 21 59 11.2 -1.3
FX1 Attu Island--F 68.42 40 P **P** **21 58 23.5 -0.2**
comp=Z,574nm,0.8s,mb6.2,baz=324,slow=4.0,SNR=24
FX1 pP pP 21 59 14.8 -1.4
comp=Z,463nm,0.7s,baz=316,slow=4.9,SNR=3.2
FX1 Attu Island--F 68.42 40 P **P** **21 58 23.5 -0.2**
FX1 *PP pP 21 59 14.8 -1.4
FX1 pmax pmax
comp=Z,574nm,0.8s
FX1 Attu Island--F 68.42 40 *eP* **P** **21 58 23.2 -0.4**
FX1 *epP* pP 21 59 16.0 -0.1
GAMB Gambell 68.56 25 P **P** **21 58 24.6 +0.2**
TNA Tin City 68.62 23 P **P** **21 58 25.1 +0.4**
comp=Z,206nm,1.1s,mb5.7
TNA *e*PcP PcP 21 58 49.0 +0.7
TNA *epP* pP 21 59 17.6 +0.4
RES Resolute Bay 68.80 356 P **P** **21 58 25.9 +0.2**
RES *epP* pP 21 59 18.5 +0.3
GUMO Guam 69.07 88 P **P** **21 58 27.0 -1.2**
comp=Z,91nm,0.7s,mb5.5,baz=198,slow=19,SNR=3.5
GUMO Guam 69.07 88 P **P** **21 58 30.0 +1.7**
GUMO pmax pmax
comp=Z,560nm,1.4s,mb6.0
GUMO Guam 69.07 88 P **P** **21 58 27.0 -1.2**
EFAM Famara 69.38 291 P **P** **21 58 29.3 -0.6**
comp=Z,1μm,1.7s,mb6.3
MATP Matopo 69.40 223 P **P** **21 58 30.4 +0.2**
comp=Z,789nm,0.8s,mb6.4,baz=25,slow=7.5,SNR=700
MATP pP pP 21 59 22.9 +0.1
comp=Z,395nm,1.0s,baz=10,slow=8.1,SNR=3.0
MATP S S 22 07 19.4 +1.8
comp=Z,10nm,1.0s,baz=162,slow=20,SNR=5.4
MATP Matopo 69.40 223 P **P** **21 58 30.4 +0.2**
MATP pP pP 21 59 22.9 +0.1
MATP S S 22 07 19.4 +1.8
CFTV Fuerteventura 70.16 291 P **P** **21 58 34.0 -0.8**
comp=Z,196nm,1.4s,mb5.5
EOSO Osorio 71.45 291 P **P** **21 58 42.1 -0.3**
EBAJ Bajamar 71.79 292 P **P** **21 58 43.9 -0.7**
comp=Z,1μm,2.7s,mb6.1
CCAN Las Canadas 72.16 292 P **P** **21 58 46.8 +0.1**
comp=Z,137nm,1.1s,mb5.5
EGOM La Gomera 72.64 292 P **P** **21 58 48.7 -0.8**
comp=Z,646nm,1.4s,mb6.1
EHIG Higuera 72.87 293 P **P** **21 58 51.3 +0.3**
comp=Z,756nm,1.2s,mb6.2
MBWA Marble Bar 73.40 133 P **P** **21 58 53.6 -0.6**
comp=Z,303nm,1.0s,mb5.9
MBWA *epP* pP 21 59 46.3 -0.8
CHIE El Hierro 73.43 292 P **P** **21 58 54.3 0.0**
comp=Z,326nm,1.2s,mb5.8
SPIA Saint Paul Isl 73.45 30 P **P** **21 58 54.6 +0.9**
INK Inuvik 73.98 9 P **P** **21 58 57.2 +0.6**
comp=Z,1μm,1.2s,mb6.4,baz=358,slow=7.2,SNR=818
INK pP pP 21 59 49.2 -0.4
comp=Z,801nm,1.1s,baz=355,slow=8.3,SNR=8.0
INK S S 22 08 11.1 +2.3
comp=Z,23nm,1.1s,baz=166,slow=19,SNR=7.7
INK Inuvik 73.98 9 P **P** **21 58 57.5 +0.9**
INK *epP* pP 21 59 50.4 +0.7
COLA College 74.55 16 *eP* **P** **21 59 00.0 +0.2**
COLA pmax pmax
comp=Z,650nm,0.9s,mb6.3
COLA College 74.55 16 ⇑*iP* **P** **21 59 00.3 +0.5**
LBTB Lobatse 74.66 222 P **P** **21 59 02.0 +0.6**
comp=Z,526nm,0.9s,mb6.2,baz=49,slow=5.1,SNR=491
LBTB pP pP 21 59 54.2 -0.3
comp=Z,507nm,1.1s,baz=66,slow=5.6,SNR=5.1
LBTB S S 22 08 19.4 +2.3
comp=Z,11nm,1.0s,baz=236,slow=15,SNR=3.3
LBTB Lobatse 74.66 222 P **P** **21 59 02.0 +0.7**
LBTB *PP pP 21 59 54.2 -0.3
LBTB S S 22 08 19.5 +2.3
LBTB pmax pmax
comp=Z,527nm,0.9s,mb6.2
LBTB Lobatse 74.66 222 P **P** **21 59 02.1 +0.7**
LBTB *epP* pP 21 59 54.9 +0.4
FITZ Fitzroy Crossi 74.77 127 ⇑*iP* **P** **21 59 01.7 -0.3**
comp=Z,364nm,0.6s,mb6.2
FITZ *epP* pP 21 59 53.7 -1.5
FITZ *esP* sP 22 00 20.7 +1.9
FITZ *eS* S 22 08 18.6 +0.1
FITZ Fitzroy Crossi 74.77 127 P **P** **21 59 01.7 -0.3**
comp=Z,202nm,0.7s,mb5.9,baz=329,slow=5.5,SNR=310
FITZ pP pP 21 59 53.9 -1.3
comp=Z,443nm,1.1s,baz=349,slow=5.3,SNR=6.8
FITZ S S 22 08 20.0 +1.5
comp=Z,8.0nm,0.9s,baz=128,slow=19,SNR=6.2
DBIC Dimbokro 74.78 267 P **P** **21 59 00.7 -1.5**
comp=Z,106nm,0.9s,mb5.5,baz=35,slow=7.4,SNR=121
DBIC pP pP 21 59 54.1 -1.3
comp=Z,126nm,0.9s,baz=51,slow=6.4,SNR=4.8
DBIC Dimbokro 74.78 267 P **P** **21 59 00.7 -1.5**
DBIC *PP pP 21 59 54.1 -1.2
DBIC pmax pmax
comp=Z,106nm,0.9s
DBIC Dimbokro 74.78 267 P **P** **21 59 00.8 -1.4**
comp=Z,391nm,1.3s,mb5.9
DBIC *epP* pP 21 59 54.4 -1.0
ILAR Eielson Array 74.85 16 P **P** **21 59 00.8 -0.7**
comp=Z,240nm,0.9s,mb5.8,baz=321,slow=4.2,SNR=490
ILAR pP pP 21 59 54.0 -0.7
comp=Z,380nm,0.9s,baz=324,slow=6.4,SNR=12
ILAR S S 22 08 18.5 +0.1
comp=Z,1.4nm,0.9s,baz=212,slow=38,SNR=3.9
ILAR PKKPbc 22 18 22.1
comp=Z,1.7nm,0.7s,baz=181,slow=2.6,SNR=5.8
ILAR PKPPKP 22 26 27.6
comp=Z,2.1nm,0.9s,baz=183,slow=0.9,SNR=4.1
TSUM Tsumeb 74.92 232 P **P** **21 59 03.2 +0.3**
comp=Z,270nm,0.7s,mb6.0,baz=16,slow=6.3,SNR=327
TSUM pP pP 21 59 55.9 -0.2
comp=Z,80nm,1.1s,baz=325,slow=6.3,SNR=1.8
TSUM S S 22 08 24.0 +3.8
comp=Z,4.9nm,1.0s,baz=252,slow=20,SNR=1.6
TSUM Tsumeb 74.92 232 P **P** **21 59 03.3 +0.4**
comp=Z,292nm,0.8s,mb6.0
TSUM *epP* pP 21 59 55.3 -0.8
LIC Lamto 75.17 267 ⇑*iP* **P** **21 59 03.0 -1.4**
comp=Z,314nm,0.9s,mb5.6
LIC *e*R 22 00 21.2
comp=Z,9μm,19.2s
FRB Frobisher Bay 75.18 343 P **P** **21 59 03.8 +0.3**
comp=Z,427nm,1.0s,mb6.0,baz=23,slow=5.9,SNR=104
FRB pP pP 21 59 56.2 -0.4
comp=Z,316nm,0.8s,baz=36,slow=6.6,SNR=6.7
FRB S S 22 08 26.2 +4.2
comp=Z,15nm,0.9s,baz=49,slow=18,SNR=1.8
MCK McKinley 75.27 17 P **P** **21 59 03.3 -0.6**
MCK pmax pmax
comp=Z,280nm,1.1s,mb5.8
MCK McKinley 75.27 17 P **P** **21 59 03.5 -0.5**
MCK *epP* pP 21 59 57.7 +0.5
KAKA Kakadu 75.62 118 ⇑*iP* Px 21 59 28.7
comp=Z,382nm,0.8s
KAKA *e* x 22 00 21.2
SVW2 Sparrevohn 75.66 21 *eP* **P** **21 59 06.2 0.0**
THY Trims Highway 76.27 16 P **P** **21 59 09.8 +0.2**
THY *epP* pP 22 00 02.7 -0.2
DAWY Dawson 77.00 13 *eP* **P** **21 59 13.9 +0.4**
DAWY *epP* pP 22 00 07.3 +0.4
PMR Palmer 77.03 18 *eP* **P** **21 59 13.4 -0.3**
PMR pmax pmax
comp=Z,387nm,1.1s,mb6.0
PMR Palmer 77.03 18 *eP* **P** **21 59 13.4 -0.4**
comp=Z,387nm,1.1s,mb6.0
FIB Fire Island 77.12 19 P **P** **21 59 15.5 +1.3**
FIB pmax pmax
comp=Z,410nm,0.9s,mb6.1
FIB Fire Island 77.12 19 P **P** **21 59 15.4 +1.2**
UNV Unalaska Vale 77.30 31 P **P** **21 59 14.2 -1.2**
SLKM Skilak Lake 77.66 20 *eP* **P** **21 59 16.7 -0.5**
DIV Divide 78.26 17 P **P** **21 59 21.1 +0.6**
SDPT Sand Point 78.54 27 *eP* **P** **21 59 21.2 -0.9**
comp=Z,332nm,1.0s,mb5.9
SDPT LR LR 22 00 21.2
comp=Z,7μm,18.0s

KDAK Kodiak Island 79.25 22 P **P** **21 59 26.3 +0.4**
comp=Z,693nm,0.8s,mb6.3,baz=350,slow=3.2,SNR=200
KDAK pP pP 22 00 18.6 -1.2
comp=Z,516nm,0.8s,baz=355,slow=4.9,SNR=6.8
KDAK PKKPbc 22 18 13.6
comp=Z,12nm,0.9s,baz=260,slow=3.7,SNR=4.1
KDAK Kodiak Island 79.25 22 P **P** **21 59 26.3 +0.4**
KDAK pP pP 22 00 18.6 -1.2
KDAK PKKPbc 22 18 13.6
MUN Mundaring 80.07 142 *eP* **P** **21 59 29.5 -1.3**
MUN *epP* pP 22 00 22.8 -2.0
MUN *eS* S 22 09 11.3 -3.5
KLBR Kellerberrin 80.53 141 ⇑*iP* **P** **21 59 31.8 -1.4**
comp=Z,88nm,0.7s,mb5.5
KLBR *epP* pP 22 00 26.2 -1.1
YKW3 Yellowknife Ar 81.27 3 *eP* **P** **21 59 36.9 +0.5**
YKW3 *epP* pP 22 00 30.9 +0.4
YKA Yellowknife Ar 81.34 3 P **P** **21 59 37.2 +0.4**
comp=Z,312nm,0.8s,mb6.0,baz=349,slow=5.3,SNR=2329
YKA pP pP 22 00 30.9 0.0
comp=Z,521nm,0.9s,baz=348,slow=5.3,SNR=11
YKA S S 22 09 30.0 +2.9
comp=Z,6.3nm,1.1s,slow=7.7,SNR=4.1
YKA PKKPbc 22 18 07.6
comp=Z,11nm,0.6s,baz=169,slow=2.3,SNR=62
YKA tx tx 22 19 03.3
comp=Z,2.8nm,0.6s,baz=167,slow=2.0,SNR=6.4
YKA PKPPKP 22 26 09.6
comp=Z,1.6nm,0.7s,baz=155,slow=2.1,SNR=12
YKA Yellowknife Ar 81.34 3 P **P** **21 59 37.2 +0.4**
YKA pP pP 22 00 30.9 0.0
YKA S S 22 09 30.0 +2.9
YKA PKKPbc 22 18 07.6
YKA P'P' 22 26 09.6
NWAO Narrogin (SRO) 81.34 142 P **P** **21 59 36.3 -1.1**
comp=Z,85nm,0.6s,mb5.6,baz=314,slow=5.0,SNR=79
NWAO pP pP 22 00 29.9 -1.7
comp=Z,535nm,1.1s,baz=318,slow=6.0,SNR=14
NWAO Narrogin (SRO) 81.34 142 P **P** **21 59 36.3 -1.2**
NWAO *PP pP 22 00 29.9 -1.7
NWAO pmax pmax
comp=Z,85nm,0.6s
NWAO Narrogin (SRO) 81.34 142 P **P** **21 59 36.4 -1.0**
NWAO *epP* pP 22 00 28.6 -3.0
WRA Warramunga Arr 81.87 122 P **P** **21 59 39.7 -0.7**
comp=Z,338nm,0.8s,mb6.0,baz=325,slow=5.0,SNR=2531
WRA pP pP 22 00 32.8 -1.8
comp=Z,264nm,1.0s,baz=321,slow=5.0,SNR=4.6
WRA S S 22 09 31.8 -1.6
comp=Z,3.6nm,0.9s,baz=309,slow=5.3,SNR=6.4
WRA PKKP PKKP 22 17 59.6 +28
comp=Z,2.1nm,0.8s,baz=158,slow=1.4,SNR=5.3
WRA PKKPbc 22 18 09.5
comp=Z,16nm,0.7s,baz=133,slow=2.1,SNR=54
WRA tx tx 22 19 05.8
comp=Z,11nm,0.9s,baz=134,slow=2.0,SNR=7.3
WRA PKPPKP 22 26 12.6
comp=Z,9.3nm,1.0s,baz=149,slow=2.2,SNR=7.0
WRA Warramunga Arr 81.87 122 P **P** **21 59 39.7 -0.7**
WRA pP pP 22 00 32.8 -1.8
WRA S S 22 09 31.8 -1.6
WRA PKKP PKKP 22 17 59.6 +28
WRA PKKPbc 22 18 09.5
WRA P'P' 22 26 12.6
WB2 Warramunga Arr 81.88 122 *eP* **P** **21 59 39.7 -0.7**
WB2 *epP* pP 22 00 33.7 -0.9
WB2 *esP* sP 22 01 05.2 +7.3
WB2 *eS* S 22 09 31.5 -1.9
WB2 *epS* 22 10 40.1
WB2 *e* 22 11 06.7
SCHQ Schefferville 82.22 337 P **P** **21 59 42.0 +0.6**
comp=Z,163nm,0.9s,mb5.7,baz=39,slow=5.3,SNR=99
SCHQ pP pP 22 00 34.9 -0.7
comp=Z,129nm,0.8s,baz=51,slow=5.2,SNR=6.8
SCHQ S S 22 09 39.0 +2.9
comp=Z,9.7nm,1.0s,baz=128,slow=19,SNR=2.0
SCHQ PKKPbc 22 18 06.0
comp=Z,7.8nm,0.9s,baz=66,slow=5.1,SNR=6.5
SCHQ Schefferville 82.22 337 P **P** **21 59 42.0 +0.6**
SCHQ pP pP 22 00 34.9 -0.7
SCHQ S S 22 09 39.0 +2.9
SCHQ PKKPbc 22 18 06.0
WAKE Wake Island 83.09 71 P **P** **21 59 46.6 -0.1**
WAKE *epP* pP 22 00 42.2 +1.2
DLBC Dease Lake 83.87 11 P **P** **21 59 51.1 +1.4**
comp=Z,154nm,1.0s,mb5.7,baz=343,slow=5.1,SNR=84
DLBC pP pP 22 00 43.7 -0.4
comp=Z,58nm,0.8s,baz=353,slow=5.8,SNR=3.0
DLBC S S 22 09 52.6 +0.1
comp=Z,3.2nm,0.9s,baz=3.7,slow=19,SNR=2.1
DLBC Dease Lake 83.87 11 P **P** **21 59 51.1 +1.4**
DLBC *epP* pP 22 00 45.5 +1.4
SIT Sitka 84.25 14 P **P** **21 59 53.7 +2.1**
SIT pmax pmax
comp=Z,275nm,1.0s,mb5.9
SIT Sitka 84.25 14 P **P** **21 59 53.7 +2.1**
comp=Z,275nm,1.0s,mb5.9
FCC Fort Churchill 84.39 352 P **P** **21 59 53.1 +0.8**
FCC *e*PP pP 22 00 47.6 +0.9
PMG Port Moresby 84.50 106 P **P** **21 59 53.6 -0.3**
comp=Z,139nm,0.9s,mb5.7,baz=2.2,slow=4.2,SNR=49
PMG pP pP 22 00 46.9 -1.4
comp=Z,158nm,0.7s,baz=358,slow=5.8,SNR=5.4
PMG Port Moresby 84.50 106 P **P** **21 59 53.3 -0.6**
PMG pmax pmax
comp=Z,270nm,0.9s
PMG Port Moresby 84.50 106 P **P** **21 59 53.6 -0.3**
comp=Z,380nm,1.3s,mb6.0
PMG *epP* pP 22 00 48.6 +0.3
FORT Forrest 85.54 134 ⇑*iP* **P** **21 59 58.5 -0.2**
comp=Z,1μm,0.6s,mb6.7
FORT *epP* pP 22 00 54.9 +1.6
FORT *eS* S 22 10 12.7 +3.3
FORT *es*SKS 22 11 44.4
MIDW Midway 89.04 55 P **P** **22 00 15.6 +0.2**
MIDW *epP* pP 22 01 11.5 +1.2
BBB Bella Bella 90.19 12 P **P** **22 00 20.1 -0.1**
comp=Z,50nm,1.1s,mb5.3,baz=286,slow=3.4,SNR=3.7
BBB pP pP 22 01 14.3 -0.9
comp=Z,85nm,0.9s,baz=346,slow=5.5,SNR=5.5
BBB Bella Bella 90.19 12 P **P** **22 00 20.1 -0.1**
BBB pP pP 22 01 14.3 -0.9
CTA Charters Tower 90.42 115 ⇑*iP* **P** **22 00 21.6 -0.4**
comp=Z,184nm,0.6s,mb6.1
CTA *epP* pP 22 01 15.9 -1.1
CTA Charters Tower 90.42 115 P **P** **22 00 21.7 -0.4**
comp=Z,198nm,0.6s,mb6.1,baz=310,slow=5.5,SNR=279
CTA pP pP 22 01 15.4 -1.7
comp=Z,184nm,1.1s,baz=314,slow=5.3,SNR=5.3
CTA Charters Tower 90.42 115 P **P** **22 00 21.7 -0.3**
CTA *PP pP 22 01 15.4 -1.6
CTA pmax pmax
comp=Z,198nm,0.6s
CTAO Charters Tower 90.42 115 P **P** **22 00 21.5 -0.5**
CTAO *e*PP pP 22 01 17.0 0.0
CTAO pmax pmax
comp=Z,205nm,0.6s,mb6.1
CTAO Charters Tower 90.42 115 P **P** **22 00 21.5 -0.5**
comp=Z,205nm,0.6s,mb6.1
CTAO *epP* pP 22 01 17.0 0.0
EDM Edmonton 90.66 3 P **P** **22 00 23.6 +1.3**
ULM Lac du Bonnet 92.95 352 P **P** **22 00 33.2 +0.1**
comp=Z,142nm,0.9s,mb6.0,baz=6.4,slow=4.8,SNR=174
ULM pP pP 22 01 26.9 -1.3
comp=Z,70nm,1.0s,baz=3.7,slow=5.3,SNR=5.3
ULM PKKPbc 22 17 39.1
comp=Z,4.2nm,0.6s,baz=208,slow=4.3,SNR=7.3
ULM Lac du Bonnet 92.95 352 P **P** **22 00 33.2 +0.1**
ULM pP pP 22 01 26.9 -1.3
ULM PKKPbc 22 17 39.1
LBNH Lisbon 93.01 334 P **P** **22 00 34.9 +1.5**
LBNH *epP* pP 22 01 31.0 +2.5
FRNY Flat Rock 93.05 336 P **P** **22 00 34.5 +0.9**
FRNY *epP* pP 22 01 30.6 +1.9
LOZ Lake Ozonia 93.57 336 *eP* **P** **22 00 36.6 +0.7**
LOZ *epP* pP 22 01 32.2 +1.2
HNH Hanover 93.60 334 *eP* **P** **22 00 36.2 +0.1**
comp=Z,3.9nm,1.0s
HNH *epP* pP 22 01 31.7 +0.5
MIV Mineville/With 93.70 335 *eP* **P** **22 00 37.5 +0.9**
MIV *epP* pP 22 01 34.0 +2.3
NCB Newcomb 94.03 336 *eP* **P** **22 00 38.9 +0.9**
comp=Z,41nm,1.1s,mb5.4
NCB *epP* pP 22 01 34.8 +1.6

SNB Saturna Island 94.25 9 P **P** **22 00 40.7 +1.8**
PGC Sidney 94.33 10 P **P** **22 00 40.8 +1.5**
comp=Z,126nm,1.0s,mb5.9
ACCN Adirondack Com 94.36 335 *eP* **P** **22 00 40.3 +0.8**
ACCN *epP* pP 22 01 37.0 +2.3
HRV Harvard--Oak R 94.39 333 *eP* **P** **22 00 40.0 +0.3**
comp=Z,36nm,1.0s,mb5.4
HRV *epP* pP 22 01 36.2 +1.3
MBW Mount Baker 94.40 9 P **P** **22 00 40.2 +0.6**
WES Weston 94.41 333 P **P** **22 00 41.1 +1.3**
comp=Z,249nm,1.8s,mb5.9
EYMN Ely 94.60 348 P **P** **22 00 41.3 +0.7**
EYMN *epP* pP 22 01 36.7 +1.0
HNR Honiara 94.60 98 *epP* pP 22 01 34.2 -2.2
comp=Z,31nm,0.3s,baz=197,slow=12,SNR=1.4
HNR Honiara 94.60 98 P **P** **22 00 40.3 -1.0**
HNR *epP* pP 22 01 33.8 -2.6
STKA Stephens Creek 94.67 126 ⇑*iP* **P** **22 00 39.8 -1.5**
comp=Z,35nm,0.7s,mb5.6
STKA *epP* pP 22 01 35.1 -1.3
STKA *eS* 22 10 51.0
STKA Stephens Creek 94.67 126 P **P** **22 00 40.0 -1.3**
comp=Z,38nm,0.7s,mb5.7,baz=317,slow=6.0,SNR=85
STKA pP pP 22 01 34.2 -2.1
comp=Z,17nm,0.6s,baz=290,slow=5.6,SNR=2.4
STKA PKKPbc 22 17 37.0
comp=Z,5.9nm,0.8s,baz=69,slow=9.6,SNR=5.3
RPW Rockport 94.78 8 P **P** **22 00 41.9 +0.5**
SADO Sadowa 94.83 339 P **P** **22 00 42.3 +0.6**
comp=Z,39nm,1.0s,mb5.5,baz=35,slow=4.0,SNR=17
SADO pP pP 22 01 36.3 -0.5
comp=Z,37nm,1.0s,baz=47,slow=9.1,SNR=4.3
QUA2 Belchertown 94.87 334 *eP* **P** **22 00 42.5 +0.5**
comp=Z,142nm,1.4s,mb5.9
BRYW Bryant College 94.89 333 *eP* **P** **22 00 43.4 +1.3**
comp=Z,123nm,1.2s,mb5.9
BRYW *epP* pP 22 01 39.4 +2.2
OCWA Octopus Mounta 95.11 10 P **P** **22 00 45.5 +2.6**
comp=Z,67nm,1.0s,mb5.7
NEW Newport 95.39 6 P **P** **22 00 45.4 +1.2**
comp=Z,27nm,0.8s,mb5.4,baz=336,slow=4.4,SNR=34
NEW pP pP 22 01 38.8 -0.5
comp=Z,112nm,0.8s,baz=325,slow=3.1,SNR=7.9
DGMT Dagmar 95.40 357 P **P** **22 00 45.8 +1.6**
DGMT *epP* pP 22 01 40.5 +1.2
GNW Green Mountain 95.48 9 P **P** **22 00 46.4 +1.8**
WTV Waterville 95.69 7 P **P** **22 00 45.9 +0.3**
EGMT Eagleton 95.94 1 *eP* **P** **22 00 47.5 +0.9**
comp=Z,952nm,2.2s,mb6.6
EGMT *epP* pP 22 01 43.1 +1.4
BSMT Bassoo Peak 95.95 4 P **P** **22 00 48.3 +1.6**
OD2 Odessa Site #2 96.12 7 P **P** **22 00 48.3 +0.9**
FMW Mount Fremont 96.25 9 P **P** **22 00 49.0 +0.9**
LON Longmire 96.41 9 P **P** **22 00 55.6 +6.8**
PAL Palisades 96.55 334 P **P** **22 00 50.3 +0.7**
MSO Missoula 97.02 3 P **P** **22 00 52.5 +0.8**
comp=Z,92nm,1.6s,mb5.8
MSO *epP* pP 22 01 47.7 +1.0
HAWA Hanford 97.03 7 P **P** **22 00 52.6 +0.9**
HAWA *epP* pP 22 01 47.9 +1.1
LAO LASA Array 97.25 358 P **P** **22 00 54.4 +1.8**
LAO *epP* pP 22 01 49.5 +1.8
ERPA Erie 97.50 339 P **P** **22 00 55.0 +1.0**
comp=Z,85nm,1.0s,mb6.0
ERPA *epP* pP 22 01 51.0 +2.0
HOOD Mount Hood Mea 97.84 9 P **P** **22 00 56.2 +0.8**
ALLY Alegheny Colle 97.98 339 P **P** **22 00 57.0 +0.9**
ALLY *epP* pP 22 01 52.8 +1.6
GCMT Greycliff 98.18 1 *eP* **P** **22 01 58.3 +1.5**
GCMT *epP* pP 22 01 53.9 +1.9
CROR Criterion Ridg 98.25 9 P **P** **22 00 58.5 +1.2**
MVL Millersville 98.28 335 P **P** **22 00 58.0 +0.5**
BOZ Bozeman (W) 98.29 2 *eP* **P** **22 00 58.6 +1.3**
comp=Z,116nm,1.5s,mb6.0
BOZ *epP* pP 22 01 53.9 +1.4
COR Corvallis 98.33 10 P **P** **22 00 58.3 +0.6**
comp=Z,164nm,1.5s,mb6.1
COR *epP* pP 22 01 54.0 +1.3
AAM Ann Arbor 98.34 341 P **P** **22 00 58.6 +0.8**
AAM *epP* pP 22 01 53.1 +0.3
DLMT Dillon 98.54 3 *eP* **P** **22 00 59.8 +1.2**
comp=Z,258nm,1.5s,mb6.3
DLMT *epP* pP 22 01 54.5 +0.9
BMO Blue Mountains 98.76 6 *eP* **P** **22 00 59.6 0.0**
comp=Z,6.8nm,1.4s
BMO *epP* pP 22 01 54.2 -0.5
VIPM Ingram Point 98.77 8 P **P** **22 01 00.8 +1.2**
SDMD Soldier's Deli 98.98 335 Pdif **P** **22 00 55.0 -5.8**
SDMD *epP* pP 22 01 51.1 -4.8
MCMT McKenzie Canyo 99.06 3 *e*Pdif **P** **22 01 01.9 +0.9**
MCMT *epP* pP 22 01 55.9 -0.1
QLMT Earthquake Lak 99.11 2 Pdif **P** **22 01 02.6 +1.4**
YMR Madison River 99.28 1 *e*Pdif **P** **22 01 03.3 +1.4**
comp=Z,41nm,1.1s,mb5.7
YMR *epP* pP 22 01 58.0 +0.9
LKWY Lake 99.39 1 Pdif **P** **22 01 05.5 +3.0**
comp=Z,95nm,1.4s,mb5.9
LKWY *epP* pP 22 02 01.2 +3.6
YFT Old Faithful 99.50 1 Pdif **P** **22 01 06.0 +3.0**
YFT *epP* pP 22 01 59.8 +1.8
MCWV Mont Chateau 99.72 338 Pdif **P** **22 01 05.0 +0.9**
comp=Z,116nm,1.1s,mb6.2
MCWV *epP* pP 22 02 01.1 +2.0
RSSD Black Hills 99.73 356 P **P** **22 01 05.2 +1.2**
RSSD *e*PP pP 22 02 00.8 +1.7
RSSD pmax pmax
comp=Z,58nm,0.9s,mb6.0
RSSD Black Hills 99.73 356 Pdif **P** **22 01 05.2 +1.2**
comp=Z,58nm,0.9s,mb6.0
RSSD *epP* pP 22 02 00.8 +1.7
IMW Indian Meadow 100.05 1 Pdif P 22 01 07.5 +2.0
ACSO Alum Creek Sta 100.10 340 Pdif P 22 01 06.1 +0.3
ACSO *epP* 22 02 02.4
HLID Hailey 100.25 4 Pdif P 22 01 07.4 +1.0
HUMO Hull Mountain 100.32 11 Pdif P 22 01 08.2 +1.5
HUMO *e* 22 02 02.9
LOHW Long Hollow 100.34 1 Pdif P 22 01 08.5 +1.7
LOHW *e* 22 02 04.3
TPAW Teton Pass 100.46 2 Pdif P 22 01 09.6 +2.3
SNOW Snow King Moun 100.49 1 *e*Pdif P 22 01 09.2 +1.8
comp=Z,54nm,1.4s
REDW Red Top Meadow 100.59 1 Pdif P 22 01 09.8 +1.9
RRI2 Red Ridge 100.59 2 Pdif P 22 01 09.5 +1.6
TOO Toolangi 100.73 129 *eP* P 22 01 08.0 -0.7
comp=Z,14nm,0.8s
WVOR Wild Horse Val 101.03 7 *e*Pdif P 22 01 11.3 +1.4
comp=Z,44nm,1.4s
BW06 Boulder Array 101.20 0 Pdif P 22 01 11.3 +0.7
BW06 *e* 22 02 06.6
PDAR Pinedale Array 101.20 0 P P 22 01 11.4 +0.8
comp=Z,9.9nm,0.8s,baz=34,slow=2.6,SNR=36
PDAR pP 22 02 05.3
comp=Z,9.1nm,0.8s,baz=42,slow=2.2,SNR=6.0
PDAR PP PP 22 05 13.4 -11
comp=Z,10nm,1.0s,baz=18,slow=4.7,SNR=4.1
PDAR PKiKP 22 05 35.1
comp=Z,12nm,0.8s,baz=45,slow=3.8,SNR=3.5
PDAR PKKPbc 22 17 16.8
comp=Z,5.3nm,0.7s,baz=159,slow=4.4,SNR=10
PDAR tx tx 22 18 39.4
comp=Z,5.1nm,0.9s,baz=198,slow=4.7,SNR=6.9
PDAR PKPPKP 22 25 33.4
comp=Z,0.9nm,0.7s,baz=162,slow=4.7,SNR=3.5
YBH Yreka Blue Hor 101.22 10 Pdif P 22 01 15.0 +4.3
MOD Modoc 101.37 9 Pdif P 22 01 12.7 +1.3
HVU Hansel Valley 102.11 3 *e*Pdif Pdif 22 01 16.0 +1.3
comp=Z,26nm,1.0s
RWWY Rawlins 102.27 359 Pdif Pdif 22 01 16.5 +1.1
HWUT Hardware Ranch 102.33 2 Pdif Pdif 22 01 17.4 +1.8
SPUT South Promonto 102.59 3 Pdif Pdif 22 01 18.7 +1.9
PHWY Pilot Hill 102.60 357 Pdif Pdif 22 01 17.9 +1.1
TCUT Toone Canyon 102.82 2 Pdif Pdif 22 01 20.3 +2.5
WCI Wyandotte Cave 102.85 342 *e*Pdif Pdif 22 01 18.3 +0.3
comp=Z,25nm,0.8s
BGU Big Grassy Mou 102.95 3 *e*Pdif Pdif 22 01 19.4 +1.0
ELK Elko 103.00 5 Pdiff Pdif 22 01 20.6 +2.0
comp=Z,4.8nm,1.0s,baz=341,slow=2.1,SNR=13
ELK pPdiff 22 02 14.0
comp=Z,5.3nm,0.9s,baz=310,slow=7.2,SNR=2.6
ELK PP PP 22 05 35.0 -3.2
comp=Z,17nm,1.0s,baz=24,slow=6.5,SNR=3.5
ELK Elko 103.00 5 Pdif Pdif 22 01 28.1 +10
USIN University of 103.44 343 *e*Pdif Pdif 22 01 21.4 +0.8
DAU Daniels Canyon 103.53 2 Pdif Pdif 22 01 23.5 +2.6

DUG	**Dugway**	**103.69**	**3**	Pdif	Pdif	22 01 23.6	+1.9
OHCM	**Honcut**	**103.74**	**10**	Pdif	Pdif	22 01 19.8	-2.1
MAW	**Mawson**	**103.88**	**183**	Pdiff	Pdif	22 01 22.7	+0.9
	comp=Z,5.2nm,0.8s,baz=39,slow=5.5,SNR=4.2						
MAW				*e*Pdiff		22 02 17.2	
	comp=Z,41nm,1.2s,baz=334,slow=7.5,SNR=8.3						
MAW				pPKiKP		22 06 35.3	
	comp=Z,19nm,1.1s,baz=357,slow=12,SNR=3.5						
MAW				PKKPbc		22 17 10.2	
	comp=Z,7.8nm,0.8s,baz=193,slow=4.5,SNR=7.4						
MAW				tx	tx	22 18 08.0	
	comp=Z,10nm,0.9s,baz=199,slow=4.0,SNR=5.1						
MAW	**Mawson**	**103.88**	**183**	*e*Pdif	Pdif	22 01 22.3	+0.5
	comp=Z,60nm,1.3s						
MAW				*e*PKiKP		22 05 38.2	
MAW				PKKPbc		22 17 10.2	
KSU1	**Kansas State U**	**104.02**	**350**	Pdif	Pdif	22 01 24.4	+1.3
SIUC	**Southern Illin**	**104.03**	**344**	Pdif	Pdif	22 01 24.5	+1.2
FVM	**French Village**	**104.03**	**345**	Pdif	Pdif	22 01 23.2	0.0
ISCO	**Idaho Springs**	**104.11**	**357**	Pdif	Pdif	22 01 25.5	+2.0
TMUT	**Trail Mountain**	**104.64**	**2**	Pdif	Pdif	22 01 28.5	+2.6
SMCO	**Snowmass**	**104.77**	**358**	*e*Pdif	Pdif	22 01 28.7	+2.3
	comp=Z,52nm,1.6s						
SRU	**San Rafael**	**104.84**	**1**	Pdif	Pdif	22 01 28.4	+1.6
NVAR	**Mina Array Bea**	**105.03**	**8**	Pdiff	Pdif	22 01 28.8	+1.2
	comp=Z,4.1nm,0.8s,baz=35,slow=4.5,SNR=18						
NVAR				pPdiff		22 02 24.7	
	comp=Z,7.1nm,0.8s,baz=308,slow=3.6,SNR=7.9						
NVAR				PKiKP		22 05 42.0	
	comp=Z,5.7nm,0.8s,baz=271,slow=1.5,SNR=3.8						
NVAR				pPKiKP		22 06 39.7	
	comp=Z,19nm,1.0s,baz=46,slow=2.8,SNR=5.2						
NVAR				PKKPbc		22 17 08.9	
	comp=Z,6.0nm,0.7s,baz=199,slow=6.6,SNR=20						
NVAR				tx	tx	22 18 05.8	
	comp=Z,4.8nm,0.8s,baz=207,slow=7.0,SNR=7.4						
NVAR				PKPPKP		22 25 25.1	
	comp=Z,1.4nm,0.8s,baz=208,slow=5.0,SNR=3.6						
NVAR	**Mina Array Bea**	**105.03**	**8**	Pdif	Pdif	22 01 28.8	+1.2
NVAR				PKPdif		22 05 42.0	
NVAR				PKKPbc		22 17 08.9	
NVAR				P'P'		22 25 25.1	
MNV	**Mina**	**105.04**	**8**	Pdif	Pdif	22 01 29.6	+2.0
JSC	**Jenkinsville**	**105.10**	**337**	*e*Pdif	Pdif	22 01 28.5	+0.5
CMB	**Columbia Colle**	**105.17**	**9**	Pdif	Pdif	22 01 29.8	+1.5
CMB				PKiKP		22 05 45.9	
WVT	**Waverly**	**105.22**	**342**	*e*Pdif	Pdif	22 01 28.4	-0.1
	comp=Z,37nm,1.3s						
MSU	**Marysvale**	**105.39**	**3**	Pdif	Pdif	22 01 32.5	+3.3
MSU				*e*PKiKP		22 05 46.9	
MVU	**Marysvale**	**105.40**	**3**	Pdif	Pdif	22 01 34.5	+5.3
MVU				*e*PP	PP	22 05 48.8	-6.9
SDCO	**Great Sand Dun**	**106.15**	**357**	Pdif	Pdif	22 01 34.5	+2.0
SDCO				*e*PP	PP	22 05 57.4	-3.7
TPNV	**Topopah Spring**	**106.70**	**6**	*e*Pdif	Pdif	22 01 36.2	+1.2
	comp=Z,40nm,2.3s						
DZM	**Mont Dzumac**	**106.88**	**105**	Pdiff	Pdif	22 01 36.6	+0.5
	comp=Z,7.3nm,0.9s,baz=326,slow=12,SNR=6.8						
DZM				PKKPbc		22 17 04.5	
	comp=Z,6.3nm,0.7s,baz=46,slow=15,SNR=7.5						
DAC	**Darwin (Calif)**	**107.23**	**7**	Pdif	Pdif	22 01 39.8	+2.4
DAC				*e*PKiKP		22 05 47.8	
SYO	**Syowa Base**	**107.66**	**191**	⇑Pdiff	Pdif	22 01 39.2	+0.8
SYO	**Syowa Base**	**107.66**	**191**	⇓pPdiff		22 02 33.0	
SYO	**Syowa Base**	**107.66**	**191**	⇓sPdiff		22 02 56.2	
SYO	**Syowa Base**	**107.66**	**191**	⇓X		22 06 07.8	
SYO	**Syowa Base**	**107.66**	**191**	⇑*e*Pdif	Pdif	22 01 39.2	+0.8
MIAR	**Mount Ida**	**107.98**	**347**	*e*PKiKP		22 05 47.9	
MIAR				*e*PP	PP	22 06 11.9	-2.7
GSC	**Goldstone**	**108.28**	**7**	Pdif	Pdif	22 01 43.9	+2.0
WUAZ	**Wupatki**	**108.41**	**2**	Pdif	Pdif	22 01 45.6	+3.1
WMOK	**Wichita Mounta**	**108.60**	**351**	Pdif	Pdif	22 01 45.0	+1.6
WMOK				*e*		22 02 39.9	
WMOK				*e*PKiKP		22 05 49.9	
ANMO	**Albuquerque**	**108.97**	**358**	Pdiff	Pdif	22 01 47.1	+2.1
	comp=Z,4.7nm,0.8s,baz=22,slow=6.6,SNR=11						
ANMO	**Albuquerque**	**108.97**	**358**	Pdif	Pdif	22 01 48.3	+3.2
ANMO				PP	PP	22 06 14.9	-7.6
LAZ	**Ladron**	**109.54**	**358**	*e*Pdif	Pdif	22 01 49.1	+1.6
LAZ				*e*		22 02 45.8	
BNM	**Barren Site**	**109.78**	**358**	*e*PKiKP		22 05 54.4	
MNTX	**Cornudas Mount**	**112.17**	**357**	*e*Pdif	Pdif	22 02 01.7	+2.5
MNTX				*e*PKiKP		22 05 54.5	
TXAR	**Lajitas Array**	**114.42**	**355**	Pdiff	Pdif	22 02 11.4	+2.2
	comp=Z,2.7nm,0.9s,baz=27,slow=2.8,SNR=8.6						
TXAR				PKP	PKPdf	22 05 59.6	+1.9
	comp=Z,4.9nm,0.8s,baz=73,slow=0.4,SNR=5.1						
TXAR				pPKP		22 06 54.8	
	comp=Z,20nm,1.1s,baz=342,slow=4.0,SNR=6.7						
TXAR				PKKPbc		22 16 37.7	
	comp=Z,5.6nm,0.7s,baz=183,slow=6.0,SNR=15						
TXAR				PKKPab		22 16 46.4	
	comp=Z,4.5nm,0.8s,baz=196,slow=9.1,SNR=5.3						
TXAR				tx	tx	22 17 33.9	
	comp=Z,6.6nm,0.7s,baz=186,slow=7.0,SNR=5.7						
TXAR	**Lajitas Array**	**114.42**	**355**	Pdif	Pdif	22 02 11.4	+2.2
TXAR				PKP	PKPdf	22 05 59.6	+1.9
TXAR				pPKP		22 06 54.8	
TXAR				PKKPbc		22 16 37.7	
TXAR				PKKPab		22 16 46.4	
NVL	**N'lazarevskaya**	**114.89**	**198**	*e*PKiKP	PKPdf	22 05 58.0	+0.3
NVL				*e*		22 07 08.2	
NVL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DRV	**Dumont d'Urvil**	**115.23**	**156**	PP	PP	22 07 08.0	+1.6
DRV				SP	SP	22 16 26.0	+6.2
DRV				SS	SS	22 23 04.0	+21
LMGC	**Las Mercedes**	**116.26**	**326**	P	PP	22 07 15.9	+1.2
SNAA	**Sanae**	**119.34**	**200**	⇑*i*P	PKPdf	22 06 06.4	+0.1
SNAA	**Sanae**	**119.34**	**200**		PKPdf	22 06 10.7	+4.4
SNAA	**Sanae**	**119.34**	**200**			22 07 03.5	
SNAA	**Sanae**	**119.34**	**200**			22 07 07.9	
SNAA	**Sanae**	**119.34**	**200**	PKP	PKPdf	22 06 06.6	+0.3
	comp=Z,13nm,0.7s,baz=110,slow=2.0,SNR=67						
SNAA				pPKP		22 07 03.7	
	comp=Z,13nm,1.0s,baz=157,slow=5.5,SNR=3.4						
SNAA				PKKPbc		22 16 19.5	
	comp=Z,6.1nm,0.9s,baz=256,slow=3.4,SNR=19						
AFI	**Afiamalu**	**119.88**	**85**	PKP	PKPdf	22 06 10.3	+1.7
	comp=Z,133nm,0.9s,baz=184,slow=0.9,SNR=18						
VNA2	**Neumayer--Watz**	**120.34**	**202**	⇑*i*P	PKPdf	22 06 09.7	+1.4
VNA2	**Neumayer--Watz**	**120.34**	**202**		PKPdf	22 06 12.6	+4.3
VNA2	**Neumayer--Watz**	**120.34**	**202**	⇑*i*		22 07 06.7	
VNA2	**Neumayer--Watz**	**120.34**	**202**			22 07 09.5	
VNA1	**Neumayer--Stat**	**120.50**	**202**	⇑*i*P	PKPdf	22 06 09.9	+1.3
VNA1	**Neumayer--Stat**	**120.50**	**202**	⇑*i*		22 07 07.1	
VNA1	**Neumayer--Stat**	**120.50**	**202**			22 07 09.6	
RPZ	**Rata Peaks**	**120.53**	**124**	PKP	PKPdf	22 06 09.6	+0.3
	comp=Z,40nm,0.6s,baz=143,slow=2.2,SNR=20						
VNA3	**Neumayer Olymp**	**121.15**	**202**	⇑*i*P	PKPdf	22 06 10.8	+0.9
VNA3	**Neumayer Olymp**	**121.15**	**202**	⇑*i*		22 07 07.9	
VNA3	**Neumayer Olymp**	**121.15**	**202**			22 07 11.1	
CAM4	**Nova Friburgo**	**121.55**	**264**	*e*P	PKPdf	22 06 12.0	+0.3
CAM4				*i*		22 06 13.3	
CAM4				*i*		22 06 15.6	
CAM4				*i*		22 06 18.8	
SDV	**Santo Domingo**	**122.36**	**314**	PKP	PKPdf	22 06 13.6	+0.1
	comp=Z,39nm,0.9s,baz=119,slow=1.4,SNR=6.1						
SDV				pPKP		22 07 10.5	
	comp=Z,43nm,0.9s,baz=54,slow=9.5,SNR=3.8						
BAO	**Brasilia Array**	**122.43**	**274**	PKPdf	PKPdf	22 06 17.0	+3.5
BDFB	**Brasilia**	**122.45**	**274**	PKP	PKPdf	22 06 14.7	+1.1
	comp=Z,8.5nm,0.5s,baz=87,slow=0.8,SNR=14						
BDFB				PKKPbc		22 16 10.1	
	comp=Z,18nm,0.8s,baz=247,slow=3.4,SNR=12						
URZ	**Urewera**	**122.65**	**116**	PKhKP		22 06 11.9	
	comp=Z,88nm,0.6s,baz=311,slow=2.2,SNR=43						
PPM	**Popocatepetl**	**123.98**	**348**	*i*P		22 07 14.3	
PLIG	**Platanillo**	**124.78**	**349**	*i*P	PKPdf	22 06 18.8	+0.7
CMIG	**Matias Romero**	**125.17**	**344**	*i*P		22 07 15.3	
CCIG	**Comitan**	**125.26**	**340**	*i*P		22 07 16.7	
VNDA	**Vanda**	**125.38**	**165**	PKP	PKPdf	22 06 17.7	-0.1
	comp=Z,22nm,0.7s,baz=292,slow=5.0,SNR=50						
VNDA				pPKP		22 07 14.4	
	comp=Z,15nm,0.8s,baz=339,slow=6.4,SNR=3.2						
VNDA				PKKPbc		22 15 59.2	
	comp=Z,6.8nm,1.0s,baz=333,slow=2.4,SNR=5.1						
VNDA	**Vanda**	**125.38**	**165**	PKIKP	PKPdf	22 06 14.7	-3.1
VNDA	**Vanda**	**125.38**	**165**	PKP	PKPdf	22 06 17.7	-0.1
VNDA				pPKP		22 07 14.4	
VNDA				PKKPbc		22 15 59.2	
VHO	**Vista Hermosa**	**125.58**	**346**	*i*P		22 07 18.4	
QSPA	**South Pole Qui**	**126.20**	**180**	PKPdf	PKPdf	22 06 19.6	+0.3
QSPA				*e*pPKPdf		22 07 17.0	
CAIG	**El Cayaco**	**126.22**	**350**	*i*P		22 07 16.4	
SBA	**Scott Base**	**126.47**	**165**	PKIKP	PKPdf	22 06 17.7	-2.1
SBA				*e*		22 07 17.0	
HUIG	**Huatulco**	**126.72**	**345**	*i*P		22 07 19.9	
ROSC	**El Rosal**	**127.75**	**314**	PKP	PKPdf	22 06 25.8	+1.8
	comp=Z,165nm,0.8s,baz=91,slow=23,SNR=7.8						
ROSC				pPKP		22 07 22.6	
	comp=Z,98nm,0.8s,baz=110,slow=7.0,SNR=4.9						
SAML	**Samuel**	**130.38**	**292**	*e*PKPdf	PKPdf	22 06 29.7	+0.8
SIV	**San Ignacio**	**133.06**	**283**	PKhKP		22 06 29.5	
	comp=Z,5.4nm,0.7s,baz=89,slow=5.8,SNR=21						
SIV				PKP	PKPdf	22 06 34.8	+0.9
	comp=Z,42nm,0.7s,baz=101,slow=2.3,SNR=84						
OTAV	**Otavalo**	**133.87**	**315**	PKPdf	PKPdf	22 06 33.3	-2.3
OTAV				*e*pPKPdf		22 07 33.5	
CPUP	**Villa Florida**	**135.29**	**268**	*e*PKIKP	PKPdf	22 06 38.4	+0.6
CPUP				*e*		22 07 35.7	
LPAZ	**La Paz**	**138.72**	**288**	PKhKP		22 06 36.4	
	comp=Z,6.9nm,0.8s,baz=30,slow=4.8,SNR=27						
LPAZ				PKP	PKPdf	22 06 45.8	+1.4
	comp=Z,29nm,0.8s,baz=41,slow=6.1,SNR=38						
LPAZ	**La Paz**	**138.72**	**288**	PKHKP		22 06 34.8	
LPAZ	**La Paz**	**138.72**	**288**	PKP	PKPdf	22 06 36.4	-7.9
LPAZ				PKPdf	PKPdf	22 06 46.0	+1.6
LPAZ				*e*pPKPdf		22 07 43.5	
LPA	**La Plata**	**138.96**	**256**	*ce*PKP	PKPdf	22 06 45.0	+0.6
LPA				*es*PKP		22 08 06.0	
LPA				*e*PP	PP	22 09 46.0	+3.6
LPA				*e*PKS	PKS	22 10 19.0	+0.2
LPA				*e*PKS	PKS	22 10 29.0	+10
	comp=Z,3μm,22.0s						
PPT	**Papeete**	**139.54**	**73**	*e*PKIKP	PKPdf	22 06 47.0	+1.2
	comp=Z,107nm,1.2s						
PPT	**Papeete**	**139.54**	**73**	PKP	PKPdf	22 06 48.5	+2.6
	comp=Z,98nm,0.7s,baz=48,slow=8.0,SNR=6.4						
PAE	**Paea**	**139.59**	**74**	*e*PKIKP	PKPdf	22 06 46.7	+0.8
	comp=Z,146nm,1.1s						
TIAR	**Tiarei**	**139.72**	**73**	*e*PKIKP	PKPdf	22 06 47.4	+1.3
	comp=Z,6.8nm,0.8s						
TVO	**Taravao**	**139.92**	**73**	*e*PKIKP	PKPdf	22 06 47.0	+0.5
	comp=Z,140nm,0.7s						
TAOE	**Nuku Hiva Isla**	**140.53**	**54**	*e*PKIKP	PKPdf	22 06 48.7	+1.0
	comp=Z,787nm,1.0s						
MEH	**Mehetia**	**140.89**	**72**	*e*PKIKP	PKPdf	22 06 49.3	+1.1
	comp=Z,83nm,1.0s						
PMSA	**Palmer Station**	**141.17**	**209**	*e*PKPdf	PKPdf	22 06 43.7	-3.5
PMSA				*ep*PKPdf		22 07 43.4	
ARE	**Arequipa**	**141.38**	**291**	*e*PKIKP	PKPdf	22 06 47.0	-2.1
TBI	**Tubuai**	**142.76**	**81**	*e*PKIKP	PKPdf	22 06 49.8	-1.5
TBI	**Tubuai**	**142.76**	**81**	*e*PP	PP	22 10 03.1	-2.4
TBI	**Tubuai**	**142.76**	**81**	*e*SS	SS	22 28 38.6	+17
TRQA	**Tornquist**	**142.91**	**253**	PKPdf	PKPdf	22 06 48.8	-2.3
TRQA				*ep*PKPdf		22 07 49.9	
CEN1	**Los Morros**	**144.27**	**280**	⇓*i*P	PKPbc	22 06 54.6	+1.0
CFAA	**Coronel Fontan**	**146.13**	**266**	PKPbc	PKPbc	22 06 58.9	+0.6
	comp=Z,51nm,0.8s,baz=51,slow=3.4,SNR=319						
CFAA				pPKPbc		22 07 55.8	
	comp=Z,51nm,1.1s,baz=55,slow=4.4,SNR=5.1						
USHA	**Ushuaia**	**146.33**	**223**	PKPbc	PKPbc	22 06 59.0	-0.1
	comp=Z,134nm,0.8s,baz=81,slow=2.2,SNR=52						
USHA				pPKPbc		22 07 58.6	
	comp=Z,154nm,0.9s,baz=108,slow=6.6,SNR=4.3						
TLL	**Tololo Astrono**	**147.71**	**270**	⇑*i*P	PKPdf	22 07 02.1	+2.6
CMCH	**Combarbala**	**148.22**	**268**	⇑*i*P	PKPdf	22 07 02.1	+1.8
FCH	**Farellones**	**148.31**	**264**	⇑*i*P	PKPdf	22 07 02.9	+2.5
JACH	**Jahuel**	**148.37**	**265**	*i*P	PKPdf	22 07 02.8	+2.3
PCH	**Pirque**	**148.58**	**264**	*e*P	PKPdf	22 07 03.3	+2.5
PEL	**Peldehue**	**148.58**	**265**	⇓*i*P	PKPdf	22 07 02.9	+2.0
CACH	**El Canelo**	**148.78**	**265**	⇓*i*P	PKPdf	22 07 03.7	+2.6
TACH	**Talagante**	**148.93**	**264**	*e*P	PKPdf	22 07 03.2	+1.9
SFDO	**San Fernando**	**149.24**	**262**	*i*P	PKPdf	22 07 03.5	+1.6
PLCA	**Paso Flores**	**149.87**	**250**	PKP	PKPdf	22 07 04.4	+1.7
	comp=Z,111nm,1.2s,baz=122,slow=1.7,SNR=47						
PLCA				PKPbc	PKPdf	22 07 09.5	+6.8
	comp=Z,331nm,0.8s,baz=58,slow=1.9,SNR=164						
PLCA				pPKPbc		22 08 04.6	
	comp=Z,68nm,0.9s,slow=1.0,SNR=1.9						
PLCA	**Paso Flores**	**149.87**	**250**	PKP2	PKPab	22 07 09.5	-6.8
PLCA				pmax	pmax		
	comp=Z,331nm,0.8s						
PLCA	**Paso Flores**	**149.87**	**250**	PKPdf	PKPdf	22 07 04.5	+1.9
RKT	**Rikitea**	**153.87**	**67**	*e*PKiKP		22 07 19.1	
	comp=Z,334nm,1.1s						
RKT	**Rikitea**	**153.87**	**67**	*e*PP	PP	22 11 06.7	-3.4
RKT	**Rikitea**	**153.87**	**67**	*e*SS	SS	22 30 50.4	+25
RPN	**Rapa Nui**	**170.74**	**2**	PKP	PKPdf	22 07 28.7	+3.4
	comp=Z,142nm,1.1s,baz=10,slow=1.1,SNR=7.2						
RPN				pPKP		22 08 25.8	
	comp=Z,113nm,1.1s,baz=332,slow=3.4,SNR=3.5						

IDC 12 22:07:11.7±2.4, 6.58S×152.43E, mb4.2/6, mb1 4.4/7, mb1mx4.3/14, mbtmp4.2/7, ML3.0/1, Error ellipse: s-maj=76.2km s-min=22.5km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.92**	**241**	Pn	Pn	22 08 42.2	-0.6
	2.4nm,0.3s,baz=57,slow=10,SNR=7.2						
PMG				Sn	Sn	22 09 50.4	-2.0
	3.6nm,0.3s,baz=46,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**22.02**	**231**	P	P	22 12 07.5	-2.1
	7.9nm,0.8s,baz=55,slow=9.9,SNR=7.4						
FITZ	**Fitzroy Crossi**	**28.52**	**244**	P	P	22 13 08.9	-2.2
	2.7nm,0.5s,baz=43,slow=8.7,SNR=17						
SONM	**Songino Array**	**67.63**	**328**	P	P	22 18 11.3	-1.2
	1.2nm,0.7s,baz=125,slow=3.4,SNR=4.0						
MKAR	**Makanchi Array**	**81.42**	**319**	P	P	22 19 30.3	-1.7
	1.7nm,0.9s,baz=90,slow=8.6,SNR=2.8						
ZAL	**Zalesovo**	**82.43**	**327**	P	P	22 19 35.8	-1.3
	1.3nm,0.5s,baz=16,slow=6.4,SNR=3.2						
ILAR	**Eielson Array**	**83.94**	**22**	P	P	22 19 43.2	-1.4
	1.1nm,0.7s,baz=244,slow=4.9,SNR=5.4						

NEIC ***12*** *22:24:37.5±2.5, 5.69S×149.11E, h146km±23km, mb4.2/1, Error ellipse: s-maj=22.0km s-min=20.4km az=141.0*
IDC ***12*** *22:24:38.3±2.0, 5.74S×149.12E, h153km±18km, mb3.7/7, mb1 3.9/8, mb1mx3.7/15, mbtmp4.2/8, MS4.0/1, Ms1 4.0/1, ms1mx3.1/28, Error ellipse: s-maj=22.8km s-min=13.3km az=125.0*
ISC 12 22:24:37.2±2.6, 5.7S±0.2×149.1E±0.1, h157km±23km, n12, σ0s78/13, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.14**	**207**	P	P	**22 25 39.8**	**-0.4**
	14nm,0.3s,baz=347,slow=6.2,SNR=28						
PMG				S	S	**22 26 29.1**	**+0.4**
	25nm,0.3s,baz=150,slow=19,SNR=30						
PMG				LR	LR	22 27 12.2	
	comp=Z,2μm,18.1s,baz=139,slow=37						
WB2	**Warramunga Arr**	**20.12**	**224**	*e*P	P	**22 29 01.1**	**+0.3**
WRA	**Warramunga Arr**	**20.13**	**224**	P	P	**22 29 00.9**	**0.0**
	9.2nm,0.4s,baz=52,slow=11,SNR=120						
WRA				S	S	**22 32 38.6**	**+5.7**
	0.8nm,0.9s,baz=43,slow=21,SNR=2.8						
DZM	**Mont Dzumac**	**23.41**	**136**	P	P	**22 29 33.2**	**+0.1**
	3.3nm,0.5s,mb4.0,baz=247,slow=12,SNR=9.8						
FITZ	**Fitzroy Crossi**	**25.97**	**240**	*e*P	P	**22 29 57.0**	**-0.2**
	26nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**25.97**	**240**	P	P	**22 29 57.2**	**0.0**
	15nm,0.5s,mb4.9,baz=53,slow=11,SNR=46						
STKA	**Stephens Creek**	**26.97**	**194**	P	P	**22 30 06.8**	**+0.7**
	2.3nm,0.8s,mb3.9,baz=14,slow=12,SNR=2.4						
MBWA	**Marble Bar**	**32.30**	**239**	*e*P	P	**22 30 51.9**	**-1.7**
	2.2nm,0.5s,mb4.1						
SONM	**Songino Array**	**65.15**	**330**	P	P	**22 35 04.9**	**+1.3**
	0.5nm,0.6s,mb3.5,baz=133,slow=3.9,SNR=5.0						
MKAR	**Makanchi Array**	**78.57**	**320**	P	P	**22 36 23.3**	**+0.4**
	0.2nm,0.4s,mb3.1,baz=108,slow=9.1,SNR=4.3						
ILAR	**Eielson Array**	**84.41**	**23**	P	P	**22 36 51.8**	**-1.1**
	1.5nm,0.7s,mb3.8,baz=246,slow=5.2,SNR=15						
TORD	**Torodi Ar. Bea**	**146.98**	**285**	PKPbc	PKPbc	22 44 03.8	+2.0
	0.6nm,0.3s,baz=84,slow=3.1,SNR=52						

NEIC ***12*** *22:42:51.4±3.0, 36.29N×141.46E, h35km, mb3.7/1, Error ellipse: s-maj=41.6km s-min=30.6km az=98.0*
JMA ***12*** *22:42:55.4±0.1, 36.61N×141.00E, h47km±1km, M3.5*
JMA Felt I J1.
ISC 12 22:42:54.3±1.4, 36.60N±0.06×141.1E±0.1, h48km±8km, n15, σ0s79/26, mb3.8/1, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.40**	**272**	⇓P	P	**22 43 04.7**	**+0.4**
JHO				S	S	**22 43 10.9**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.55**	**337**	⇓P	P	**22 43 06.3**	**+0.2**
ONAJ				S	S	**22 43 13.7**	**-0.9**
JFK	**Kawauchi**	**0.79**	**349**	⇓P	P	**22 43 09.3**	**+0.1**
JFK				S	S	**22 43 19.1**	**-1.0**
JYT	**Yasato**	**0.80**	**243**	P	P	**22 43 09.7**	**+0.4**
JYT				S	S	**22 43 19.8**	**-0.6**
JFT	**Otama**	**1.09**	**328**	⇓P	P	**22 43 14.5**	**+1.1**
JFT				S	S	**22 43 28.2**	**+0.5**
JMM	**Marumori**	**1.29**	**350**	⇓P	P	**22 43 16.5**	**+0.3**
JMM				S	S	**22 43 32.2**	**-0.4**
JAG	**Ashikaga**	**1.31**	**263**	⇓P	P	**22 43 16.8**	**+0.1**
JAG				S	S	**22 43 32.6**	**-0.7**
JFY	**Yanaizu**	**1.36**	**307**	⇓P	P	**22 43 17.9**	**+0.5**
JKT	**Katashina**	**1.47**	**277**	P	P	**22 43 19.7**	**+0.8**
JKT				S	S	**22 43 37.1**	**-0.1**
MAJO	**Matsushiro**	**2.31**	**270**	*e*Pn	P	**22 43 31.9**	**+1.2**
MAJO				*e*Sn	S	**22 44 02.0**	**+4.1**
MAT	**Matsushiro**	**2.31**	**270**	P	P	**22 43 31.4**	**+0.7**
MAT				S	S	**22 44 01.9**	**+4.0**
MAT	**Matsushiro**	**2.31**	**270**	*e*P	P	**22 43 31.0**	**+0.3**
MAT				*e*S	S	**22 44 02.0**	**+4.1**
YHNB	**Yeheng**	**20.66**	**240**	*e*P	P	**22 47 28.3**	**-4.0**
NACB	**Ninganchiao**	**20.82**	**239**	*e*P	P	**22 47 32.3**	**-1.8**
CHKZ	**Chkalovo**	**50.41**	**313**	*e*P	P	**22 51 48.4**	**-0.3**
	0.5nm,0.5s,mb3.8						

ISC 12 22:54:07.4±0.8, 38.24N±0.07×26.75E±0.05, h8km±10km, n8, σ0s73/14, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.17**	**316**	*i*P	P	**22 54 10.6**	**-0.4**
URLA				*i*S	S	**22 54 14.1**	**+0.7**
BLCB	**Balcova**	**0.28**	**58**	PG	Pg	**22 54 13.2**	**+0.1**
BLCB				SG	Sg	**22 54 16.9**	**+0.1**
IZM	**Izmir**	**0.44**	**69**	PG	Pg	**22 54 16.4**	**+0.3**
KDAG	**Bornova**	**0.44**	**68**	*i*P	Pg	**22 54 15.4**	**-0.9**
KDAG				*i*S	Sg	**22 54 22.3**	**0.0**
AKS	**Akhisar**	**1.05**	**52**	*e*PN	Pn	**22 54 26.3**	**-2.1**
AYDN	**Tasoluk**	**1.07**	**122**	*i*P	Pb	**22 54 27.8**	**+0.1**
AYDN				*i*S	Sb	**22 54 41.2**	**-0.4**
BDRM	**Kayabasi**	**1.30**	**154**	*i*P	Pb	**22 54 31.4**	**-0.2**
BDRM				*i*S	Sb	**22 54 48.7**	**+0.4**
MANT	**Manisa**	**1.45**	**79**	*i*P	Pn	**22 54 35.0**	**+1.0**
MANT				*i*S	Sb	**22 54 53.5**	**+0.9**

BJI ***12*** *23:16:41.9, 28.31N×128.55E, h197km, mB5.0, mb4.5*
IDC ***12*** *23:16:47.6±0.5, 28.74N×128.07E, h190km±6km, mb3.6/13, mb1 3.8/15, mb1mx3.7/23, mbtmp4.1/15, Error ellipse: s-maj=16.6km s-min=9.3km az=76.0*
NEIC ***12*** *23:16:48.7±0.5, 28.84N×128.08E, h197km±5km, mb4.0/3, Error ellipse: s-maj=9.1km s-min=6.1km az=105.0*
JMA ***12*** *23:16:49.1±0.2, 28.93N×127.94E, h152km, M4.2*
**ISC 12 23:16:47.0±0.3, 28.78N±0.04×128.

PDAR	**Pinedale Array**	**91.24**	**39**	P		**P**		**23 29 32.4**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=43,slow=0.3,SNR=4.6								
ULM	**Lac du Bonnet**	**92.19**	**27**	P		**P**		**23 29 36.0**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=315,slow=7.1,SNR=2.9								
DBIC	**Dimbokro**	**122.64**	**300**	PKP		PKPdf		23 35 21.3	+1.2
	comp=Z,2.9nm,1.0s,baz=342,slow=12,SNR=5.7								

SKHL ***12*** *23:45:18.6±0.3, 44.47N×148.59E, h59km±27km, mb5.2/2*
JMA ***12*** *23:45:21.1±0.3, 44.00N×147.99E, M4.5*
NEIC ***12*** *23:45:21.1, 44.00N×147.99E, MG4.5(JMA), After JMA.*

ISC 12 23:45:18.3±2.0, 44.4N±0.1×148.28E±0.09, h20km±19km, n18,σ1§23/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.87**	**341**	*i*	P		**Pb**	**23 45 33.8**	**-0.8**
KUR					AMB		AMB	23 45 34.4	
	140nm,0.5s								
KUR					AMB		AMB	23 45 34.4	
	150nm,0.5s								
KUR					AMB		AMB	23 45 34.4	
	300nm,0.5s								
KUR				*i*	S		**Sb**	**23 45 45.0**	**-0.8**
KUR					A			23 45 50.0	
	5μm,1.6s								
YUK	**Yuzh-Kuril'sk**	**1.78**	**259**	*e*	P		**Pn**	**23 45 49.3**	**+0.9**
YUK					AMB		AMB	23 45 50.7	
	190nm,0.2s								
YUK					AMB		AMB	23 45 50.7	
	250nm,0.2s								
YUK					AMB		AMB	23 45 50.7	
	810nm,0.2s								
YUK				*i*	S		**Sn**	**23 46 12.6**	**+2.0**
YUK					A			23 46 18.7	
	1μm,0.3s								
YUK					A			23 46 18.7	
	630nm,0.3s								
YUK					A			23 46 19.0	
	3μm,1.0s								
YUK					A			23 46 19.0	
	2μm,1.0s								
NEM2	**Nemuro 2**	**2.11**	**241**	P			**Pn**	**23 45 53.0**	**-0.2**
NEM2					eS		**Sn**	**23 46 16.4**	**-2.6**
JRA	**Rausu**	**2.32**	**259**	P			**Pn**	**23 45 57.9**	**+1.7**
JRA					eS		**Sn**	**23 46 24.9**	**+0.5**
JNK	**Nakash**	**2.70**	**253**	P			**Pn**	**23 46 02.4**	**+0.8**
JNK					eS		**Sn**	**23 46 33.0**	**-1.0**
JAK	**Akkeshi**	**2.96**	**243**	P			**Pn**	**23 46 05.2**	**-0.1**
JTKR	**Abashiri--Toko**	**3.17**	**264**	P			**Pn**	**23 46 11.0**	**+2.7**
JAR	**Ashorobuto**	**3.44**	**253**	P			**Pn**	**23 46 13.5**	**+1.3**
JAR					eS		**Sn**	**23 46 51.9**	**-1.0**
JCH	**Churui**	**4.00**	**245**	P			**Pn**	**23 46 19.9**	**-0.2**
JCH					eS		**Sn**	**23 47 04.1**	**-2.8**
JNBK	**Urakawa-nobuka**	**4.56**	**244**	P			**Pn**	**23 46 27.9**	**-0.1**
JKB	**Kayabe**	**5.87**	**247**	P			**Pn**	**23 46 46.3**	**-0.2**
JKB					eS		**Sn**	**23 47 49.5**	**-4.5**
MAJO	**Matsushiro**	**10.97**	**228**	*e*	Pn		**P**	**23 47 53.0**	**-4.3**
MA2	**Magadan**	**15.26**	**5**	*e*	Pn		Px	23 49 03.5	
TATO	**Taipei**	**29.14**	**237**	*e*	P		**P**	**23 51 18.7**	**-1.4**
YHNB	**Yeheng**	**29.43**	**237**	*e*	P		**P**	**23 51 23.6**	**+0.8**
NACB	**Ninganchiao**	**29.67**	**236**	*e*	P		**P**	**23 51 25.6**	**+0.6**
PMG	**Port Moresby**	**53.57**	**181**	P			**P**	**23 54 38.7**	**-1.6**
MBWA	**Marble Bar**	**70.28**	**208**	P			**P**	**23 56 33.0**	**+0.7**

CNRM ***12*** *23:56:43.5, 31.14N×8.09W, h4km, MD3.5*

CSEM 12 23:56:41.9±0.4, 30.99N×7.92W, h12km, MD3.5, Error ellipse: s-maj=14.7km s-min=6.9km az=139.0, Morocco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OUK	**Oukaimeden**	**0.23**	**11**	*i*	P		Pg	23 56 47.0	+0.1
OUK					*i*	S	Sg	23 56 51.0	+0.7
CIA	**Chichaoua**	**0.92**	**309**	*i*	P		Pb	23 56 57.0	-2.4
CIA					*i*	S	Sb	23 57 05.0	-6.4
AFS	**Agadir Fac de**	**1.48**	**248**	*e*	P		Pn	23 57 10.0	+1.6
AFS					*i*	S	Sb	23 57 29.0	+1.6
TZC	**Tazercounte**	**1.68**	**46**	*i*	P		Pn	23 57 11.0	-0.4
TZC					*i*	S	Sn	23 57 33.5	+0.5
CZD	**Col de Zad**	**3.18**	**49**	*e*	P		Pn	23 57 34.0	+1.2
ZFT	**Errachidia**	**3.22**	**70**	*e*	P		Pn	23 57 35.0	+1.6
ZFT					eS		Sn	23 58 11.5	-0.5
MIF	**Mishlifen**	**3.32**	**43**	*e*	P		Pn	23 57 36.0	+1.2
MIF					*i*	S	Sn	23 58 13.0	-1.6
PTEO	**Sao Teotonio**	**6.58**	**354**	*e*	Pn		Pn	23 58 16.2	-4.7
PTEO					eS		Sn	23 59 25.9	-11
PBEJ	**Beja**	**7.03**	**0**	*e*	Sn		Sn	23 59 36.6	-11
PCBR	**Castelo Branco**	**8.84**	**2**	*e*	Sn		Sn	00 00 21.6	-12

TIF ***13*** *00:00:32.0, 43.12N×47.02E, h12km±2km*
CSEM ***13*** *00:00:32.3±0.4, 43.12N×46.85E, h10km, mb4.0, Error ellipse: s-maj=8.8km s-min=7.8km az=96.0*
NNC ***13*** *00:00:44.3±190.0, 43.98N×47.87E, Error ellipse: s-maj=10000.0km s-min=78.5km az=48.0*

MOS 13 00:00:31.7±1.9, 43.17N×47.03E, h14km, mb4.0/1, 4C-2D, Error ellipse: s-maj=10.5km s-min=8.5km az=114.2, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.21**	**224**	⇑*i*	PG		Pg	00 00 32.0	-4.6
DBC					pmax		pmax		
	comp=Z,618nm,0.1s								
DBC	**Dubki**	**0.21**	**224**	*i*	Pg		Pg	00 00 32.0	-4.6
	comp=Z,618nm,0.1s								
DLMR	**Dylym**	**0.31**	**251**	*i*	PG		Pg	00 00 35.0	-3.4
DLMR					pmax		pmax		
	comp=Z,525nm,0.2s								
DLMR	**Dylym**	**0.31**	**251**	*i*	Pg		Pg	00 00 35.0	-3.4
	comp=Z,525nm,0.2s								
BUJR	**Buynaksk**	**0.35**	**171**	*i*	Pg		Pg	00 00 38.0	-1.1
BUJR					*i*	Sg	Sg	00 00 43.2	-0.9
MAK	**Makhachkala**	**0.41**	**121**	⇓*i*	PG		Pg	00 00 42.2	+2.0
MAK					*i*			00 00 48.5	
MAK					pmax		pmax		
	comp=Z,6.0nm,0.1s								
MAK					smax				
	comp=N,137nm,0.4s								
MAK					smax				
	comp=E,213nm,0.3s								
MAK	**Makhachkala**	**0.41**	**121**	*i*	Pg		Pg	00 00 42.2	+2.0
	comp=E,6.0nm,0.1s								
MAK					*i*	Sg	Sg	00 00 48.5	+2.6
	comp=E,137nm,0.4s								
ARKR	**Arakani**	**0.57**	**183**	*e*	PG		Pg	00 00 43.0	-0.3
ARKR					*i*	S	Sb	00 00 51.5	+1.0
ARKR					pmax		pmax		
	comp=Z,130nm,0.2s								
ARKR	**Arakani**	**0.57**	**183**	*e*	Pg		Pg	00 00 43.0	-0.3
	comp=Z,130nm,0.2s								
ARKR					*i*	Sg	Sg	00 00 51.5	+0.4
MNSR	**Manas**	**0.69**	**132**	*e*	PG		Pg	00 00 46.5	+0.8
MNSR					*i*	S	Sb	00 00 56.8	+2.8
MNSR					pmax		pmax		
	comp=Z,164nm,0.2s								
MNSR	**Manas**	**0.69**	**132**	*e*	Pg		Pg	00 00 46.5	+0.8
	comp=Z,164nm,0.2s								
MNSR					*i*	Sg	Sg	00 00 56.8	+1.8
GNBR	**Gunib**	**0.78**	**184**	*e*	PG		Pg	00 00 47.0	-0.5
GNBR					eS		Sb	00 01 00.2	+3.4
GNBR					pmax		pmax		
	comp=Z,85nm,0.3s								
GNBR	**Gunib**	**0.78**	**184**	*e*	Pg		Pg	00 00 47.0	-0.5
	comp=Z,85nm,0.3s								
GNBR					eSg		Sg	00 01 00.2	+2.1
URKR	**Urkarakh**	**1.10**	**156**	*i*	PG		Pg	00 00 49.5	-4.3
URKR					*i*	S	Sb	00 01 04.5	-1.4
URKR					pmax		pmax		
	comp=Z,80nm,0.2s								
URKR	**Urkarakh**	**1.10**	**156**	*i*	Pg		Pg	00 00 49.5	-4.3
	comp=Z,80nm,0.2s								
URKR					*i*	Sg	Sg	00 01 04.5	-4.0
KSMR	**Kasumkent**	**1.77**	**152**	*e*	Pn		Pn	00 01 03.0	+0.8
KSMR					eSg		Sg	00 01 26.5	-4.1
KMSR	**Komsomolskaya**	**2.01**	**277**	*e*	PN		Pn	00 01 07.8	+2.1
ARNR	**Ardon**	**2.01**	**271**	*e*	PN		Pn	00 01 08.1	+2.4
LACR	**Lac**	**2.04**	**261**	*e*	PN		Pn	00 01 08.7	+2.7
LACR					*i*	S	Sn	00 01 35.3	+3.9
PRTR	**Priterechnaya**	**2.08**	**287**	*e*	PN		Pn	00 01 08.7	+2.0
PRTR					eS		Sn	00 01 35.2	+2.6
DGRG	**David-gareji**	**2.11**	**216**	P			Pn	00 01 09.6	+2.5
DGRG					S		Sn	00 01 39.8	+6.5
KORR	**Kora**	**2.17**	**269**	*e*	PN		Pn	00 01 10.4	+2.4
KORR					*i*	S	Sn	00 01 38.4	+3.6
MTA	**Mtatsminda**	**2.22**	**229**	S			Sn	00 01 41.5	+5.5
TBLG	**Delisi**	**2.22**	**230**	P			Pn	00 01 18.9	+10
TBLG					S		Sn	00 01 41.1	+4.9
LSNR	**Lesken**	**2.35**	**274**	*e*	PN		Pn	00 01 12.8	+2.2
LSNR					*e*S		Sn	00 01 42.6	+3.2
DIGR	**Digorskoe uzhe**	**2.54**	**265**	*e*	PN		Pn	00 01 15.6	+2.3
DIGR					*e*S		Sn	00 01 47.8	+3.5
AKTO	**Aktyubinsk**	**10.46**	**42**	⇑	Pn		P	00 03 02.3	-2.0
	comp=Z,1.6nm,1.7s								
AKTO				⇓	Sn		S	00 04 49.7	-12
	comp=Z,0.4nm,0.7s								
AB31	**Akbulak array**	**10.81**	**51**	⇑	Pn		P	00 03 06.8	-2.3
	comp=Z,0.1nm,0.2s,baz=246,slow=13,SNR=9.0								
AB31				⇑	Sn		S	00 04 59.5	-11
	comp=Z,0.6nm,0.3s,baz=235,slow=18,SNR=12								

NEIC ***13*** *00:18:02.0, 32.13S×70.18W, h113km, MD3.5(GUC), After GUC.*

GUC 13 00:18:02.0±0.8, 32.13S×70.18W, h113km±6km, MD3.5, ML3.5, 10C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.65**	**212**	⇓*i*	P		P	00 18 20.6	+0.2
JACH					*i*	S	S	00 18 34.9	+0.6
ROCH	**El Roble**	**1.10**	**220**	⇓*i*	P		P	00 18 24.9	+0.2
ROCH					*i*	S	S	00 18 42.5	+0.7
PEL	**Peldehue**	**1.10**	**203**	⇓*i*	P		P	00 18 24.7	-0.1
PEL					*i*	S	S	00 18 41.7	-0.1
PEL					AMP			00 18 42.8	
	comp=E,2μm,0.7s								
CHNG	**Los Chungos**	**1.15**	**282**	⇑*i*	P		P	00 18 25.6	+0.2
CHNG					*i*	S	S	00 18 42.7	-0.1
CHNG					AMP			00 18 45.9	
	comp=E,445nm,0.5s								
FCH	**Farellones**	**1.20**	**184**	⇑*i*	P		P	00 18 26.5	+0.5
FCH					*i*	S	S	00 18 45.2	+1.3
FCH					AMP			00 18 48.4	
	comp=E,756nm,0.5s								
MDZ	**Mendoza**	**1.35**	**124**	⇑*i*	P		P	00 18 26.8	-0.9
MDZ					*i*	S	S	00 18 46.0	-1.1
SAN	**Santiago**	**1.38**	**197**	*i*	S		S	00 18 48.0	+0.3
SAN					AMP			00 18 48.6	
	comp=E,623nm,0.3s								
ZON	**Zonda**	**1.40**	**66**	⇓*i*	P		P	00 18 30.7	+2.4
ZON					eS		S	00 18 34.6	-14
RCDM	**Rinconada Maip**	**1.46**	**201**	*e*	P		P	00 18 29.0	+0.1
RCDM					*i*	S	S	00 18 49.3	+0.1
RCDM					AMP			00 18 50.5	
	comp=E,1μm,0.1s								
ANTU	**Antumapu**	**1.49**	**195**	⇑*i*	P		P	00 18 29.4	+0.2
ANTU					*i*	S	S	00 18 50.1	+0.3
ANTU					AMP			00 18 50.8	
	comp=E,1μm,0.4s								
PCH	**Pirque**	**1.52**	**191**	*e*	P		P	00 18 30.0	+0.4
PCH					*i*	S	S	00 18 51.3	+0.9
TACH	**Talagante**	**1.65**	**203**	⇑*i*	P		P	00 18 30.8	-0.5
TACH					*i*	S	S	00 18 53.1	-0.1
LCCH	**Las Cruces**	**1.78**	**221**	*e*	P		P	00 18 33.2	+0.4
CHCH	**Chadas Angostu**	**1.84**	**192**	⇑*i*	P		P	00 18 33.4	-0.2
CHCH					*i*	S	S	00 18 57.6	+0.3
CACH	**El Canelo**	**2.02**	**190**	⇑*i*	P		P	00 18 36.3	+0.6
CACH					*i*	S	S	00 19 02.7	+1.6
TLL	**Tololo Astrono**	**2.03**	**345**	⇑*i*	P		P	00 18 36.7	+0.8
TLL					*i*	S	S	00 19 02.4	+1.0
TLL					AMP			00 19 04.4	
	comp=N,689nm,0.7s								
LNV	**Longovilo**	**2.10**	**209**	⇑*i*	P		P	00 18 36.0	-0.8
CICH	**Cipreses**	**2.19**	**185**	*e*	P		P	00 18 38.5	+0.4
LSCH	**La Serena**	**2.39**	**337**	*i*	P		P	00 18 40.7	-0.2
LSCH					*i*	S	S	00 19 09.6	-0.5
LSCH					AMP			00 19 11.7	
	comp=N,539nm,0.3s								
SFDO	**San Fernando**	**2.58**	**195**	⇑*i*	P		P	00 18 42.2	-1.1
SFDO					*i*	S	S	00 19 13.7	-0.7

ATH ***13*** *00:23:06.2, 40.02N×23.49E, h24km±4km, MD2.9/3*
THE ***13*** *00:23:06.9, 40.00N×23.57E, h6km, ML2.3*
NEIC ***13*** *00:23:06.1, 40.01N±23.68E, h10km, MD2.9(ATH), After ATH.*
CSEM ***13*** *00:23:07.0±0.1, 39.99N×23.57E, h8km, ML2.3, Error ellipse: s-maj=2.8km s-min=1.9km az=82.0*

ISC 13 00:23:06.7±0.5, 39.97N±0.02×23.62E±0.05, h18km±5km, n13,σ1§07/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.06**	**135**	*e*	Pg		**Pb**	**00 23 09.2**	**-0.9**
PAIG					eSg		**Sb**	**00 23 11.5**	**-0.9**
PLG	**Polygyros**	**0.42**	**342**	*e*	PB		**Pb**	**00 23 13.6**	**-1.8**
PLG					eSB		**Sb**	**00 23 19.0**	**-2.2**
OUR	**Ouranopolis**	**0.46**	**37**	*e*	Pg		**Pb**	**00 23 16.1**	**+0.2**
	comp=Z,12nm,0.2s								
OUR					eSg		**Sb**	**00 23 22.9**	**+0.7**
XOR	**Xorichti**	**0.69**	**209**	*e*	Pg		**Pb**	**00 23 20.4**	**+0.4**
	comp=Z,3.8nm,0.2s								
XOR					eSg		**Sb**	**00 23 30.8**	**+1.8**
NEO	**Neokhori**	**0.73**	**205**	*e*	PN		**Pn**	**00 23 21.0**	**-1.1**
NEO					eSN		**Sn**	**00 23 31.4**	**-1.4**
AOS	**Alonnisos**	**0.83**	**166**	*e*	Pg		**Pb**	**00 23 22.4**	**+0.1**
AOS					eSg		**Sb**	**00 23 35.1**	**+2.2**
THE	**Thessaloniki**	**0.83**	**323**	*e*	Pg		**Pb**	**00 23 22.4**	**+0.1**
THE					eSg		**Sb**	**00 23 33.9**	**+1.0**
SOH	**Sokhos**	**0.87**	**347**	*e*	Pg		**Pb**	**00 23 22.0**	**-1.0**
SOH					eSg		**Sb**	**00 23 34.0**	**-0.2**
LIT	**Litokhoron**	**0.88**	**279**	*e*	Pg		**Pb**	**00 23 22.2**	**-0.9**
LIT					eSg		**Sb**	**00 23 34.3**	**-0.1**
SRS	**Serrai**	**1.14**	**359**	*e*	Pg		**Pb**	**00 23 27.8**	**+0.2**
SRS					eSg		**Sb**	**00 23 43.4**	**+1.3**
KNT	**Kendrikon**	**1.31**	**335**	*e*	Pg		**Pn**	**00 23 30.3**	**-0.1**
KNT					eSg		**Sb**	**00 23 48.5**	**+1.7**
GRG	**Griva**	**1.35**	**317**	*e*	Pg		**Pn**	**00 23 30.5**	**-0.5**
GRG					eSg		**Sb**	**00 23 49.4**	**+1.2**
NVR	**Nevrokopi**	**1.39**	**8**	*e*	PN		**Pn**	**00 23 31.4**	**0.0**

IDC ***13*** *00:23:47.8±1.0, 34.85N×25.64E, mb4.0/10, mb1 4.1/15, mb1mx4.0/26, mbtmp3.9/15, ML3.6/2, Error ellipse: s-maj=19.4km s-min=9.6km az=19.0*
CSEM ***13*** *00:23:47.1±0.1, 34.71N×25.70E, h10km, MD3.8, Error ellipse: s-maj=2.2km s-min=1.4km az=33.0*
MOS ***13*** *00:23:47.7±1.0, 34.80N×25.65E, h10km, mb4.4/1, Error ellipse: s-maj=11.4km s-min=5.1km az=79.3*
ATH ***13*** *00:23:49.3, 34.93N×25.66E, h10km±1km, MD3.8/17*
NEIC ***13*** *00:23:49.3, 34.93N×25.66E, h10km, mb4.2/1, MD3.8(ATH), ML4.0(ISK), After ATH.*
HLW ***13*** *00:23:51.9, 34.89N×25.84E, h23km, Mb3.4*

ISC 13 00:23:48.0±0.3, 34.79N±0.02×25.69E±0.03, h10km, n112, σ1§18/123, mb4.0/11, 2C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.09**	**5**	*e*	PG		**Pg**	**00 23 51.5**	**+1.0**
NPS	**Neapolis**	**0.48**	**353**	*e*	PB		**Pg**	**00 23 55.5**	**-2.2**
NPS					eSB		**Sg**	**00 24 00.3**	**-3.9**
IDI	**Anoyia**	**0.82**	**308**		Pg		**Pg**	**00 24 02.0**	**-2.5**
	54nm,0.3s,baz=115,slow=15,SNR=661								
IDI					Lg			00 24 13.3	
	493nm,0.3s,baz=51,slow=17,SNR=62								
GVD	**Gavdhos**	**1.31**	**273**	*e*	PB		**Pb**	**00 24 14.0**	**+1.7**
VAM	**Vamos**	**1.36**	**297**	*e*	PG		**Pn**	**00 24 13.1**	**-0.1**
VAM					eSB		**Sb**	**00 24 31.2**	**+0.6**
KARP	**Karpathos**	**1.43**	**58**	*e*	PB		**Pb**	**00 24 15.1**	**+0.8**
SANT	**Santorini**	**1.59**	**353**	*e*	Pn		**Pn**	**00 24 14.7**	**-1.7**
SANT					eSn		**Sn**	**00 24 35.1**	**-2.0**
SANT	**Santorini**	**1.59**	**353**	*e*	Pn		**Pn**	**00 24 14.7**	**-1.7**
SANT					eSn		**Sn**	**00 24 35.1**	**-2.0**
NISR	**Nisiros**	**2.17**	**32**	*e*	PN		**Pn**	**00 24 26.5**	**+1.9**
APE	**Apeiranthos**	**2.28**	**357**	*e*	PN		**Pn**	**00 24 28.0**	**+1.7**
ARG	**Arkhangelos**	**2.45**	**54**	*e*	PN		**Pn**	**00 24 30.5**	**+1.8**
ARG					eSN		**Sn**	**00 25 01.3**	**+2.3**
KYTH	**Kithira**	**2.62**	**305**	*e*	PN		**Pn**	**00 24 33.0**	**+1.8**
BODT	**Bodrum**	**2.62**	**30**		Pn		**Pn**	**00 24 31.8**	**+0.6**
BODT					Sg		**Sn**	**00 25 03.8**	**+0.4**
BODT	**Bodrum**	**2.62**	**30**		Pn		**Pn**	**00 24 31.8**	**+0.6**
BODT					Sg		**Sn**	**00 25 03.8**	**+0.4**
VLI	**Veliai**	**2.95**	**312**	*e*	PB		**Pn**	**00 24 36.5**	**+0.7**
MLSB	**Milas**	**3.02**	**34**	Pn			**Pn**	**00 24 37.6**	**+0.7**
MLSB	**Milas**	**3.02**	**34**	Pn			**Pn**	**00 24 37.6**	**+0.7**
SMG	**Samos**	**3.06**	**17**	*e*	PB		**Pn**	**00 24 38.5**	**+1.1**
DALT	**Dalyan (Mudla)**	**3.11**	**50**	Pn			**Pn**	**00 24 39.6**	**+1.5**
DALT	**Dalyan (Mudla)**	**3.11**	**50**	Pn			**Pn**	**00 24 39.6**	**+1.5**
YER	**Yerkesik**	**3.15**	**41**	Pn			**Pn**	**00 24 39.8**	**+1.1**
YER	**Yerkesik**	**3.15**	**41**	Pn			**Pn**	**00 24 39.8**	**+1.1**
FETY	**Fethiye**	**3.32**	**55**	Pn			**Pn**	**00 24 41.0**	**-0.1**
FETY	**Fethiye**	**3.32**	**55**	Pn			**Pn**	**00 24 41.0**	**-0.1**
NAIG	**Nisos Aigina**	**3.46**	**330**	*e*	PB		**Pn**	**00 24 44.5**	**+1.5**
NAIG	**Nisos Aigina**	**3.46**	**330**	*e*	Pb		**Pn**	**00 24 45.0**	**+2.0**
KSL	**Kastellorizon**	**3.46**	**66**	*e*	PN		**Pn**	**00 24 44.5**	**+1.4**
PTL	**Penteli**	**3.57**	**336**	*e*	PN		**Pn**	**00 24 44.0**	**-0.6**
MPAR	**Parnis Oros**	**3.71**	**335**	*e*	PN		**Pn**	**00 24 46.5**	**-0.1**
BLCB	**Balcova**	**3.75**	**17**	Pn			**Pn**	**00 24 46.3**	**-1.0**
BLCB	**Balcova**	**3.75**	**17**	Pn			**Pn**	**00 24 46.3**	**-0.9**
IZM	**Izmir**	**3.82**	**19**	Pn			**Pn**	**00 24 47.7**	**-0.5**
IZM	**Izmir**	**3.82**	**19**	Pn			**Pn**	**00 24 47.7**	**-0.5**
HMAT	**Matruh**	**3.87**	**162**	*e*	P		**Pn**	**00 24 50.2**	**+1.2**
HMAT					S		**Sn**	**00 25 32.6**	**-2.4**
ITM	**Ithomi**	**3.87**	**309**	*e*	PN		**Pn**	**00 24 50.5**	**+1.6**
ELL	**Elmali**	**3.95**	**59**	Pn			**Pn**	**00 24 51.5**	**+1.4**
ELL	**Elmali**	**3.95**	**59**	Pn			**Pn**	**00 24 51.5**	**+1.4**
LKR	**Lokris**	**4.42**	**332**	*e*	PN		**Pn**	**00 24 57.0**	**+0.3**
AKS	**Akhisar**	**4.42**	**22**	Pn			**Pn**	**00 24 51.9**	**-4.9**
AKS	**Akhisar**	**4.42**	**22**	Pn			**Pn**	**00 24 51.9**	**-4.9**
KHL	**Karahalli**	**4.69**	**40**	Pn			**Pn**	**00 25 01.1**	**+0.6**
KHL	**Karahalli**	**4.69**	**40**	Pn			**Pn**	**00 25 01.1**	**+0.5**
BCK	**Bucak**	**4.78**	**55**	Pn			**Pn**	**00 25 03.3**	**+1.4**
BCK	**Bucak**	**4.78**	**55**	Pn			**Pn**	**00 25 03.3**	**+1.4**
NEO	**Neokhori**	**4.92**	**337**	*e*	PN		**Pn**	**00 25 04.5**	**+0.7**
ISP	**Isparta**	**4.95**	**51**	*e*	Pn		**Pn**	**00 25 04.8**	**+0.6**
ISP	**Isparta**	**4.95**	**51**	*e*	Pn		**Pn**	**00 25 04.8**	**+0.6**
XOR	**Xorichti**	**4.99**	**337**	*e*	P		**Pn**	**00 25 05.4**	**+0.7**
AGG	**Agios Georgios**	**5.01**	**329**	*e*	P		**Pn**	**00 25 05.4**	**+0.4**
EZN	**Ezine**	**5.05**	**6**	Pn			**Pn**	**00 25 03.6**	**-2.1**
EZN	**Ezine**	**5.05**	**6**	Pn			**Pn**	**00 25 03.6**	**-2.1**
BALB	**Balikesir**	**5.15**	**19**	Pn			**Pn**	**00 25 06.6**	**-0.4**
BALB	**Balikesir**	**5.15**	**19**	Pn			**Pn**	**00 25 06.6**	**-0.5**
EVR	**Evrytania**	**5.16**	**324**	*e*	PN		**Pn**	**00 25 08.0**	**+0.8**
DST	**Dursunbey**	**5.35**	**25**	Pn			**Pn**	**00 25 09.7**	**-0.2**
DST	**Dursunbey**	**5.35**	**25**	Pn			**Pn**	**00 25 09.7**	**-0.2**
SWA1		**5.51**	**180**	⇓*e*	P		**Pn**	**00 25 13.4**	**+1.3**
SWA1					S		**Sn**	**00 26 12.5**	**-3.8**
SWA2		**5.53**	**182**	*e*	P		**Pn**	**00 25 13.7**	**+1.2**
ALT	**Altintas**	**5.54**	**38**	Pn			**Pn**	**00 25 12.9**	**+0.3**
ALT	**Altintas**	**5.54**	**38**	Pn			**Pn**	**00 25 12.9**	**+0.3**
EDC	**Edincik**	**5.81**	**17**	Pn			**Pn**	**00 25 15.2**	**-1.2**
LIT	**Litokhoron**	**5.88**	**335**	*e*	P		**Pn**	**00 25 16.8**	**-0.5**
THE	**Thessaloniki**	**6.22**	**341**	*e*	P		**Pn**	**00 25 21.9**	**-0.2**
ESKT	**Eskisehir**	**6.27**	**40**	Pn			**Pn**	**00 25 22.8**	**-0.1**
ESKT	**Eskisehir**	**6.27**	**40**	Pn			**Pn**	**00 25 22.8**	**-0.1**
CSS	**Prodhromos**	**6.29**	**86**	*e*	Pn		**Pn**	**00 25 22.1**	**-1.0**
	7.5nm,0.4s								
CSS	**Prodhromos**	**6.29**	**86**	*e*	Pn		**Pn**	**00 25 22.1**	**-1.0**
	7.5nm,0.4s								
SOH	**Sokhos**	**6.30**	**344**	*e*	P		**Pn**	**00 25 24.3**	**+1.0**
SRS	**Serrai**	**6.53**	**346**	*e*	P		**Pn**	**00 25 26.9**	**+0.3**
GRG	**Griva**	**6.68**	**338**	*e*	P		**Pn**	**00 25 28.1**	**-0.6**
KNT	**Kendrikon**	**6.73**	**342**	*e*	P		**Pn**	**00 25 29.9**	**+0.6**
RZN	**Rozhen**	**6.93**	**354**	*e*	P		**Pn**	**00 25 34.0**	**+1.8**
MMB	**Musomiste**	**6.96**	**348**	*e*	P		**Pn**	**00 25 33.0**	**+0.4**
AWBH		**7.01**	**156**	⇓*e*	P		**Pn**	**00 25 33.3**	**+0.1**
EDRB	**Edirne**	**7.10**	**6**	Pn			**Pn**	**00 25

*IDC **13** 00:31:09.5±1.5,9.01S×158.06E,mb4.2/3,mb1 4.3/4, mb1mx4.0/14,mbtmp4.1/4,ML3.5/1,MS4.4/1,Ms1 4.4/1, ms1mx3.2/21,Error ellipse: s-maj=38.7km s-min=22.1km az=178.0*

ISC 13 00:31:08.7±5.7,9.2S±0.2×158.03E±0.08,h1km±36km,n7, σ0§92/7,mb4.2/3,MS4.3/1,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.91**	**99**	Pn	**Pn**	**00 31 42.9**	**+0.2**
	41nm,0.3s,baz=209,slow=4.8,SNR=5.1						
HNR				Sn	**Sn**	**00 32 07.5**	**-0.3**
	80nm,0.3s,baz=221,slow=8.5,SNR=10						
HNR				LR	LR	00 32 25.0	
	comp=Z,528nm,19.9s,baz=46,slow=40						
CTA	**Charters Tower**	**15.74**	**225**	Pn	**P**	**00 34 52.8**	**-0.7**
	0.1nm,0.3s,baz=56,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**25.28**	**242**	P	**P**	**00 36 37.8**	**-0.6**
	4.6nm,0.7s,mb4.3,baz=68,slow=9.2,SNR=25						
STKA	**Stephens Creek**	**27.28**	**212**	*e*P	**P**	**00 36 58.0**	**+1.3**
	1.4nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**27.28**	**212**	P	**P**	**00 36 58.0**	**+1.3**
	4.3nm,0.9s,mb4.2,baz=33,slow=10,SNR=5.6						
URZ	**Urewera**	**33.69**	**152**	LR	LR	00 48 53.5	
	comp=Z,615nm,20.4s,MS4.3,baz=51,slow=32						
MKAR	**Makanchi Array**	**87.00**	**318**	P	**P**	**00 43 57.2**	**+0.1**
	0.6nm,0.6s,mb4.0,baz=110,slow=6.2,SNR=7.0						

*MAN **13** 00:46:24.4, 10.61N×121.81E,h196km,mb3.8,ML2.6, MS2.2*

ISC 13 00:47:02.6±1.4,7.1N±0.1×123.59E±0.05,h33km,n5, σ0§64/10,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.66**	**83**	⇓*i*P	**P**	**00 47 14.8**	**-0.6**
CTBH				*i* S	**S**	**00 47 23.8**	**-0.9**
PAGZ	**Pagadian**	**0.73**	**344**	*e*P	**P**	**00 47 15.8**	**-0.6**
PAGZ				*e*S	**S**	**00 47 26.7**	**+0.2**
IPIL	**Ipil**	**1.20**	**303**	*e*P	**P**	**00 47 23.5**	**+0.4**
IPIL				*e*S	**S**	**00 47 38.5**	**0.0**
DCPH	**Dipolog City**	**1.45**	**351**	*e*P	**P**	**00 47 26.9**	**+0.1**
DCPH				*e*S	**S**	**00 47 44.3**	**-0.6**
BUKP	**Musuan**	**1.64**	**63**	*e*P	**P**	**00 47 30.5**	**+1.1**
BUKP				*e*S	**S**	**00 47 50.4**	**+0.9**

IDC 13 00:57:32.1±3.1,10.20S×161.26E,h88km±25km,mb3.6/6, mb1 3.9/6,mb1mx3.7/14,mbtmp3.9/6,MS3.4/1,Ms1 3.4/1, ms1mx2.7/19,Error ellipse: s-maj=36.9km s-min=25.6km az=102.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.50**	**300**	P	P	00 57 57.5	-0.8
	84nm,0.3s,baz=169,slow=6.1,SNR=21						
HNR				S	S	00 58 23.0	+5.5
	247nm,0.3s,baz=183,slow=23,SNR=16						
DZM	**Mont Dzumac**	**12.81**	**158**	P	P	01 00 24.3	-7.8
	0.3nm,0.3s,baz=106,slow=20,SNR=6.8						
PMG	**Port Moresby**	**13.92**	**272**	LR	LR	01 04 53.3	
	comp=Z,128nm,18.2s,baz=254,slow=32						
WB2	**Warramunga Arr**	**27.69**	**246**	*e*P	P	01 03 12.4	-1.8
WRA	**Warramunga Arr**	**27.70**	**246**	P	P	01 03 12.3	-2.0
	1.9nm,0.7s,baz=76,slow=9.1,SNR=22						
FITZ	**Fitzroy Crossi**	**35.37**	**253**	*e*P	P	01 04 19.6	-1.7
	2.8nm,0.5s						
VNDA	**Vanda**	**67.31**	**180**	P	P	01 08 17.1	-2.1
	0.4nm,0.7s,baz=333,slow=2.3,SNR=3.1						
SONM	**Songino Array**	**75.42**	**325**	P	P	01 09 06.8	-1.2
	1.8nm,0.8s,baz=148,slow=4.8,SNR=9.4						
NVAR	**Mina Array Bea**	**88.88**	**51**	P	P	01 10 17.6	-0.4
	0.5nm,0.7s,baz=234,slow=7.7,SNR=4.9						
MKAR	**Makanchi Array**	**89.91**	**318**	P	P	01 10 21.2	-1.4
	0.5nm,0.6s,baz=92,slow=6.1,SNR=6.3						
YKA	**Yellowknife Ar**	**96.26**	**28**	P	P	01 10 49.3	-2.1
	0.3nm,0.8s,baz=261,slow=4.9,SNR=4.5						

NEIC 13 01:03:53.1,62.17N×149.25W,h44km,ML3.5(PMR), **ML3.4**(AEIC),**After AEIC.,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHO	**Glory Hole Cre**	**0.43**	**159**	P	P	01 04 02.5	-0.6
GHO				S	S	01 04 11.0	+0.8
CUT	**Chulitna**	**0.53**	**297**	P	P	01 04 03.6	-0.8
SML	**Sawmill**	**0.56**	**130**	P	P	01 04 04.1	-0.8
SML				S	S	01 04 14.1	+0.8
PMR	**Palmer**	**0.58**	**174**	P	P	01 04 03.9	-1.2
PMR				S	S	01 04 13.2	-0.5
HUR	**Hurricane**	**0.83**	**348**	P	P	01 04 07.8	-0.7
HUR				S	S	01 04 19.8	0.0
KNK	**Knik Glacier**	**0.85**	**153**	P	P	01 04 07.5	-0.9
SCM	**Sheep Creek Mo**	**0.97**	**110**	P	P	01 04 09.6	-0.8
FIB	**Fire Island**	**1.10**	**204**	P	P	01 04 12.1	-0.2
FIB				S	S	01 04 28.4	+1.8
RC01	**Rabbit Creek A**	**1.11**	**192**	P	P	01 04 11.4	-1.0
RC01				S	S	01 04 26.7	0.0
TRF	**Thorofare Moun**	**1.37**	**340**	P	P	01 04 15.3	-1.0
STLK	**Strandline Lak**	**1.40**	**242**	P	P	01 04 15.1	-1.5
STLK				S	S	01 04 33.6	-0.5
CGLM	**Capps Glacier**	**1.57**	**238**	P	P	01 04 17.8	-1.2
MCK	**McKinley**	**1.58**	**5**	P	P	01 04 18.4	-0.8
KTH	**Kantishna Hill**	**1.59**	**332**	P	P	01 04 18.2	-1.1
KTH				S	S	01 04 38.1	-0.7
GLI	**Glacier Island**	**1.66**	**140**	P	P	01 04 19.1	-1.2
SPU	**Mount Spurr**	**1.66**	**235**	P	P	01 04 19.0	-1.3
MPA	**Moose Pass**	**1.69**	**182**	P	P	01 04 19.3	-1.4
KLU	**Klutina**	**1.72**	**112**	P	P	01 04 20.3	-0.8
SLKM	**Skilak Lake**	**1.73**	**196**	P	P	01 04 20.1	-1.2
SLKM				S	S	01 04 41.0	-1.4
VLZ	**Valdez**	**1.74**	**125**	P	P	01 04 19.8	-1.6
VLZ				S	S	01 04 43.0	+0.5
BGL	**Barrier Glacie**	**1.75**	**240**	P	P	01 04 20.9	-0.7
CKL	**Chakachamna La**	**1.77**	**238**	P	P	01 04 20.9	-0.9
SDG	**Sourdough**	**1.77**	**77**	P	P	01 04 21.8	0.0
TZL	**Tazlina**	**1.80**	**92**	P	P	01 04 22.8	+0.4
PAX	**Paxson**	**1.93**	**64**	P	P	01 04 23.6	-0.5
FID	**Port Fidalgo**	**1.95**	**136**	P	P	01 04 23.0	-1.4
DIV	**Divide**	**1.96**	**121**	P	P	01 04 23.0	-1.5
DIV				S	S	01 04 46.0	-2.0
BWN	**Browne**	**2.01**	**357**	P	P	01 04 24.2	-1.1
THY	**Trims Highway**	**2.04**	**51**	P	P	01 04 25.1	-0.6
SEW	**Seward**	**2.08**	**183**	P	P	01 04 25.0	-1.2
SEW				S	S	01 04 50.0	-0.9
RDT	**Redoubt**	**2.21**	**225**	P	P	01 04 26.2	-1.9
HIN	**Hinchinbrook I**	**2.22**	**142**	P	P	01 04 26.8	-1.4
EYAK	**Cordova Ski Ar**	**2.34**	**132**	P	P	01 04 28.5	-1.5
WRH	**Wood River Hil**	**2.37**	**12**	P	P	01 04 28.9	-1.5
BMRM	**Bremner River**	**2.53**	**116**	P	P	01 04 30.7	-2.0
CCB	**Clear Creek Bu**	**2.57**	**14**	P	P	01 04 31.4	-1.9
MENT	**Mentasta**	**2.68**	**71**	*e*P	P	01 04 33.7	-1.1
GLB	**Gilahina Butte**	**2.68**	**103**	P	P	01 04 33.4	-1.5
COLA	**College**	**2.79**	**12**	P	P	01 04 34.6	-1.8
DOT	**Dot Lake**	**2.80**	**56**	P	P	01 04 34.3	-2.3
INE	**Iliamna NE**	**2.81**	**223**	P	P	01 04 35.1	-1.6
CNPM	**China Poot**	**2.83**	**201**	P	P	01 04 35.7	-1.2
MDM	**Murphy Dome**	**2.84**	**9**	P	P	01 04 35.4	-1.7
RAGM	**Ragged Mountai**	**2.84**	**127**	P	P	01 04 36.0	-1.1
GLM	**Gilmore Dome**	**2.95**	**16**	P	P	01 04 36.6	-2.0
MLY	**Manley**	**2.95**	**348**	P	P	01 04 36.7	-1.9
OPT	**Oil Point**	**3.19**	**219**	P	P	01 04 40.5	-1.5
SVW2	**Sparrevohn**	**3.21**	**253**	P	P	01 04 39.6	-2.7
BALM	**Baldy**	**3.49**	**106**	P	P	01 04 43.9	-2.4
GCSA	**Galena City Sc**	**4.29**	**310**	P	P	01 04 54.1	-3.6
IM3	**Indian Mountai**	**4.31**	**335**	P	P	01 04 54.9	-3.0
KAPH	**Katmai Pasha**	**4.39**	**217**	P	P	01 04 56.5	-2.5
KDAK	**Kodiak Island**	**4.71**	**202**	P	P	01 04 58.9	-4.7
DAWY	**Dawson**	**4.86**	**63**	P	P	01 05 03.3	-2.5
KABR	**Katmai Barrier**	**4.96**	**218**	P	P	01 05 03.9	-3.1
MGLS	**Mageik LS**	**5.00**	**220**	P	P	01 05 05.0	-2.6
CAHL	**Cahill**	**5.12**	**219**	P	P	01 05 06.5	-2.8
BM3	**Burnt Mountain**	**5.63**	**19**	P	P	01 05 13.9	-2.5
TNA	**Tin City**	**8.90**	**301**	P	P	01 05 59.0	-3.0

*IDC **13** 01:05:23.9±1.1,6.27N×92.74E,mb4.0/8,mb1 4.2/9, mb1mx4.0/21,mbtmp4.0/9,ML3.9/1,Error ellipse: s-maj=47.2km s-min=17.8km az=51.0*

*MOS **13** 01:05:27.4±1.1,6.51N×93.02E,h33km,mb4.7/3,Error ellipse: s-maj=44.9km s-min=17.5km az=120.9*

*NEIC **13** 01:05:28.6±0.7,6.33N×92.87E,h30km,mb4.4/1,Error ellipse: s-maj=25.3km s-min=8.3km az=40.0*

ISC 13 01:05:26.6±0.7,6.4N±0.1×93.0E±0.1,h30km,n24, σ1§09/27,mb4.3/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.91**	**120**	Pn	**Pn**	**01 07 08.2**	**-0.4**
	1.9nm,0.3s,baz=328,slow=18,SNR=10						
PSI				Sn	**Sn**	**01 08 25.8**	**-1.2**
	0.1nm,0.3s,baz=53,slow=16,SNR=1.8						
KULM	**Kulim**	**7.72**	**97**	*e*Pn	**P**	**01 07 20.7**	**+0.8**
HYB	**Hyderabad**	**17.86**	**309**	*i* P	**P**	**01 09 35.0**	**+0.2**
HYB				*e*S	**S**	**01 12 50.0**	**-0.3**
HYB	**Hyderabad**	**17.86**	**309**	*e*P	**P**	**01 09 35.0**	**+0.2**
HYB				*e*S	**S**	**01 12 50.0**	**-0.3**
JIRN	**Jiri**	**22.15**	**344**	*e*P	**P**	**01 10 22.2**	**+0.5**
	20nm,0.8s,mb4.6						
PKI	**Pulchoki**	**22.29**	**342**	*e*P	**P**	**01 10 24.7**	**+1.6**
	49nm,0.9s,mb4.9						
DMN	**Daman**	**22.42**	**341**	*e*P	**P**	**01 10 25.6**	**+1.2**
	30nm,0.8s,mb4.8						
GUN	**Gumba**	**22.47**	**343**	*e*P	**P**	**01 10 23.7**	**-1.2**
KKN	**Kakani**	**22.53**	**342**	*e*P	**P**	**01 10 25.8**	**+0.2**
	23nm,0.8s,mb4.7						
GKN	**Gorkha**	**22.94**	**341**	*e*P	**P**	**01 10 28.0**	**-1.6**
	28nm,0.7s,mb4.8						
KOLN	**Koldanda**	**23.08**	**338**	*e*P	**P**	**01 10 32.5**	**+1.5**
MKAR	**Makanchi Array**	**41.33**	**349**	P	**P**	**01 13 11.8**	**+0.5**
	1.1nm,0.5s,mb3.7,baz=165,slow=8.3,SNR=11						
SONM	**Songino Array**	**42.90**	**13**	P	**P**	**01 13 25.1**	**+0.9**
	0.6nm,0.6s,mb3.5,baz=202,slow=8.6,SNR=7.4						
ZAL	**Zalesovo**	**47.91**	**354**	P	**P**	**01 14 05.1**	**+1.0**
	2.0nm,0.6s,mb4.3,baz=299,slow=6.3,SNR=13						
WRA	**Warramunga Arr**	**48.36**	**124**	P	**P**	**01 14 09.3**	**+1.2**
	1.8nm,0.6s,mb4.3,baz=304,slow=9.1,SNR=25						
WB2	**Warramunga Arr**	**48.37**	**124**	*e*P	**P**	**01 14 09.3**	**+1.2**
BVAR	**Borovoye Array**	**50.06**	**342**	P	**P**	**01 14 18.7**	**-1.9**
	0.9nm,0.6s,mb4.0,baz=149,slow=8.6,SNR=4.4						
CHKZ	**Chkalovo**	**50.56**	**343**	*e*P	**P**	**01 14 23.8**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**50.56**	**343**	*e*P	**P**	**01 14 23.8**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.3						
BOD	**Bodaibo**	**53.89**	**14**	*e*P	**P**	**01 14 48.0**	**-1.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**59.93**	**132**	P	**P**	**01 15 32.9**	**+0.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=307,slow=12,SNR=4.3						
BRTR	**Keskin Array B**	**62.55**	**312**	P	**P**	**01 15 49.5**	**-0.7**
	comp=Z,1.6nm,0.8s,mb4.2,baz=123,slow=7.5,SNR=9.0						
TIXI	**Tiksi**	**68.94**	**11**	*e*P	**P**	**01 16 28.3**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
GERES	**GERESS Array B**	**78.18**	**318**	P	**P**	**01 17 24.7**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=79,slow=6.8,SNR=8.4						

JMA 13 02:11:30.4±0.5,34.13N×138.87E,h249km±4km,M3.5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIZS	**Izushimoda**	**0.59**	**1**	P	P	02 12 03.7	0.0
OMA	**Omae zaki**	**0.72**	**311**	P	P	02 12 04.6	+0.4
JIM2	**Oshima 3**	**0.75**	**38**	P	P	02 12 04.6	+0.3
JOD2	**Odawara 2**	**1.15**	**9**	P	P	02 12 06.5	+0.1
JYN	**Shimob**	**1.39**	**349**	P	P	02 12 08.4	+0.3
BSO1	**Boso 1**	**1.82**	**73**	P	P	02 12 11.3	-0.2
BSO1				*e*S	S	02 12 43.7	+0.3
JRY	**Ryogami san**	**1.88**	**1**	P	P	02 12 12.5	+0.5
JAG	**Ashikaga**	**2.34**	**12**	P	P	02 12 15.6	-0.8
MAT	**Matsushiro**	**2.47**	**348**	P	P	02 12 16.9	-0.7
MAT				*e*S	S	02 12 54.2	-0.1
MAT	**Matsushiro**	**2.47**	**348**	P	P	02 12 17.4	-0.2
JWZ	**Kozaga**	**2.69**	**258**	P	P	02 12 18.8	-1.2

*KNET **13** 02:44:27.6, 40.96N×73.70E,ml2.4*

*NNC **13** 02:44:28.0±3.9, 40.95N×73.55E,mpv2.9,Error ellipse: s-maj=36.6km s-min=14.4km az=177.0*

ISC 13 02:44:26.7±1.4,40.75N±0.08×73.42E±0.10,h10km,n12, σ1§38/23,15C-9D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**1.40**	**9**	⇑P	**Pn**	**02 44 50.3**	**-2.0**
	18nm,0.2s,SNR=29						
AML				⇓S	**Sb**	**02 45 08.1**	**-2.2**
	55nm,0.3s						
UCH	**Uchtor**	**1.69**	**29**	⇓P	**Pn**	**02 44 54.8**	**-1.8**
	6.0nm,0.2s,SNR=15						
UCH				⇑S	**Sn**	**02 45 16.4**	**-2.0**
	58nm,0.5s						
KZA	**Kyzart**	**1.92**	**45**	⇑P	**Pn**	**02 44 58.4**	**-1.3**
	9.6nm,0.2s,SNR=12						
KZA				⇓S	**Sn**	**02 45 22.4**	**-1.7**
	10nm,0.2s						
EKS2	**Erkin-Say**	**1.93**	**8**	⇑P	**Pn**	**02 45 00.2**	**+0.2**
	3.5nm,0.1s,SNR=19						
EKS2				⇑S	**Sn**	**02 45 23.8**	**-0.7**
	11nm,0.2s						
AAK	**Ala-Archa**	**2.05**	**23**	⇓P	**Pn**	**02 45 01.9**	**+0.2**
	9.1nm,0.2s,SNR=7.4						
AAK				⇑S	**Sn**	**02 45 27.3**	**-0.3**
	19nm,0.3s						
KBK	**Karagaybulak**	**2.23**	**31**	⇓P	**Pn**	**02 45 04.8**	**+0.6**
	4.4nm,0.1s,SNR=17						
KBK				⇓S	**Sn**	**02 45 32.6**	**+0.6**
	33nm,0.2s						
CHMS	**Chumysh**	**2.46**	**23**	⇑P	**Pn**	**02 45 08.5**	**+1.0**
	3.8nm,0.2s,SNR=5.4						
CHMS				⇑S	**Sn**	**02 45 39.8**	**+1.8**
	25nm,0.6s						
ULHL	**Ulahol**	**2.60**	**54**	P	**Pn**	**02 45 08.8**	**-0.7**
	6.6nm,0.3s,SNR=8.4						
ULHL				⇓S	**Sn**	**02 45 43.0**	**+1.6**
	13nm,0.3s						
USP	**Ospenovka**	**2.65**	**17**	⇑P	**Pn**	**02 45 11.0**	**+0.8**
	4.7nm,0.3s,SNR=8.6						
USP				⇓S	**Sn**	**02 45 45.0**	**+2.4**
	9.0nm,0.2s						
TKM2	**Tokmak 2**	**2.72**	**36**	⇓P	**Pn**	**02 45 10.5**	**-0.6**
	6.3nm,0.3s,SNR=9.2						
TKM2				⇑S	**Sn**	**02 45 46.4**	**+2.0**
	18nm,0.4s						
TKM2	**Tokmak 2**	**2.72**	**36**	⇑Pn	**Pn**	**02 45 11.4**	**+0.2**
	5.7nm,0.7s						
TKM2				⇑Lg		02 45 46.2	
	10nm,0.6s						
KK31	**Karatay Array**	**3.20**	**318**	⇑Pn	**Pn**	**02 45 19.6**	**+1.5**
	1.0nm,0.3s,baz=130,slow=13,SNR=4.5						
KK31				⇑Pg	**Pg**	**02 45 24.6**	**-5.9**
	1.1nm,0.2s,baz=126,slow=17,SNR=4.7						
KK31				⇑Lg		02 46 07.4	
	4.1nm,0.3s,baz=131,slow=28						

*ATH **13** 02:50:31.8, 38.15N×26.53E,h32km±6km,MD2.8/3*

*CSEM **13** 02:50:31.7±0.1,38.21N×26.56E,h8km,MD3.2,Error ellipse: s-maj=3.1km s-min=2.4km az=86.0*

*ISK **13** 02:50:32.0, 38.17N×26.60E,h7km,MD3.2*

*NEIC **13** 02:50:32.0, 38.14N×26.65E,h5km,MD3.0(ISK), MD2.8(ATH),After ISK.*

ISC 13 02:50:30.9±1.0,38.16N±0.03×26.50E±0.05,h3km±7km, n24,σ0§95/35,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.21**	**21**	*i* P	**Pg**	**02 50 35.5**	**+0.3**
URLA				*i* S	**Sg**	**02 50 38.4**	**+0.4**
BLCB	**Balcova**	**0.48**	**62**	PG	**Pg**	**02 50 40.5**	**0.0**
BLCB				SG	**Sg**	**02 50 46.6**	**-0.4**
BLCB	**Balcova**	**0.48**	**62**	Pg	**Pg**	**02 50 40.7**	**+0.2**
SMG	**Samos**	**0.53**	**149**	*e*PN	**Pn**	**02 50 42.7**	**-2.2**
SMG				*e*SN	**Sn**	**02 50 50.7**	**-3.7**
IZM	**Izmir**	**0.64**	**68**	PG	**Pg**	**02 50 43.3**	**-0.5**
IZM				SG	**Sg**	**02 50 52.4**	**0.0**
IZM	**Izmir**	**0.64**	**68**	Pg	**Pg**	**02 50 43.9**	**+0.1**
IZM				Sg	**Sg**	**02 50 52.9**	**+0.5**
KDAG	**Bornova**	**0.65**	**68**	*i* P	**Pg**	**02 50 42.6**	**-1.3**
KDAG				*i* S	**Sg**	**02 50 51.4**	**-1.2**
PRK	**Paraskevi**	**1.10**	**351**	*e*PN	**Pn**	**02 50 52.9**	**-0.2**
PRK				*e*SN	**Sn**	**02 51 07.9**	**-1.0**
AYDN	**Tasoluk**	**1.20**	**114**	*i* P	**Pb**	**02 50 54.3**	**+0.3**
AYDN				*i* S	**Sb**	**02 51 09.2**	**-0.6**
AKS	**Akhisar**	**1.25**	**55**	*e*PN	**Pn**	**02 50 55.3**	**0.0**
AKS	**Akhisar**	**1.25**	**55**	Pn	**Pn**	**02 50 55.4**	**0.0**
BODT	**Bodrum**	**1.27**	**149**	*e*PN	**Pn**	**02 50 55.9**	**+0.3**
BODT	**Bodrum**	**1.27**	**149**	Pn	**Pn**	**02 50 55.9**	**+0.3**
BDRM	**Kayabasi**	**1.33**	**145**	*i* P	**Pb**	**02 50 56.5**	**+0.4**
BDRM				*i* S	**Sb**	**02 51 14.1**	**+0.7**
MLSB	**Milas**	**1.33**	**130**	*e*PN	**Pn**	**02 50 57.0**	**+0.6**
APE	**Apeiranthos**	**1.34**	**215**	*e*PN	**Pn**	**02 50 56.3**	**-0.2**
APE				*e*SN	**Sn**	**02 51 14.0**	**-1.0**
MANT	**Manisa**	**1.65**	**78**	*i* P	**Pn**	**02 51 03.6**	**+2.6**
MANT				*i* S	**Sb**	**02 51 22.3**	**-0.5**
DAT	**Datca**	**1.67**	**149**	*e*PN	**Pn**	**02 51 02.6**	**+1.4**
YER	**Yerkesik**	**1.75**	**125**	*e*PN	**Pn**	**02 51 02.5**	**+0.1**
YER	**Yerkesik**	**1.75**	**125**	Pn	**Pn**	**02 51 02.5**	**+0.1**
BALB	**Balikesir**	**1.83**	**36**	*e*PN	**Pn**	**02 51 04.8**	**+1.3**
BALB	**Balikesir**	**1.83**	**36**	Pn	**Pn**	**02 51 05.6**	**+2.1**
DST	**Dursunbey**	**2.20**	**48**	*e*PN	**Pn**	**02 51 08.5**	**-0.3**
DST	**Dursunbey**	**2.20**	**48**	Pn	**Pn**	**02 51 10.4**	**+1.6**

IDC 13 03:15:15.1±1.4,14.72S×178.84W,mb4.0/6,mb1 4.4/6, mb1mx4.1/14,mbtmp4.0/6,Error ellipse: s-maj=105.5km s-min=22.6km az=147.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.88**	**238**	P	P	03 22 50.5	-2.0
	8.9nm,1.0s,baz=61,slow=6.0,SNR=6.2						
WRA	**Warramunga Arr**	**44.88**	**256**	P	P	03 23 31.9	-1.6
	2.5nm,1.0s,baz=88,slow=8.6,SNR=10						
NVAR	**Mina Array Bea**	**77.44**	**44**	P	P	03 27 11.3	-2.8
	0.1nm,0.3s,baz=252,slow=8.6,SNR=3.0						
ILAR	**Nelson Array**	**82.89**	**13**	P	P	03 27 41.3	-1.4
	2.0nm,1.1s,baz=230,slow=7.0,SNR=5.6						
TXAR	**Lajitas Array**	**84.66**	**58**	P	P	03 27 51.5	-0.9
	1.1nm,0.9s,baz=233,slow=6.3,SNR=5.0						
PDAR	**Pinedale Array**	**85.34**	**44**	P	P	03 27 56.4	+0.8
	0.9nm,0.9s,baz=214,slow=5.3,SNR=6.8						

*IDC **13** 03:16:04.7±0.4,15.12S×178.68W,mb5.3/22,mb1 5.4/24, mb1mx5.4/24,mbtmp5.3/24,MS6.7/22,Ms1 6.7/22, ms1mx6.4/28,Error ellipse: s-maj=15.3km s-min=10.5km az=157.0*

*BJI **13** 03:16:05.3, 15.30S×178.60W,h10km,mB6.5,mb5.6, Ms6.8,Msz6.5*

*MOS **13** 03:16:05.3±1.6,15.26S×178.59W,h10km,mb6.1/52, MS6.8/50,Error ellipse: s-maj=8.0km s-min=6.7km az=68.8*

*HRVD **13** 03:16:06.4±0.1,15.04S×178.43W,h15km,MW6.7/93, Centroid moment Tensor Solution. LP body waves: s91,c230;Mantle waves: s93,c450; Half duration: 5s3 Moment tensor: Scale 10¹⁹Nm; Mrr-0.17±.01; Mθθ0.11±.01; Mϕϕ0.06±.01; Mrθ-0.06±.02; Mθϕ1.25±.01; Mϕr-0.10±.02; Best double couple: M₀1.255×10¹⁹ NP1: ϕs271°,δ86°,λ2°. NP2:ϕs180°,δ88°,λ176°. Principal axes: T 1.345, Plg4°, Azm135°; N -.182, Plg85°, Azm337°; P -1.164, Plg2°, Azm226°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **13** 03:16:06.4±0.1,15.27S×178.57W,h10km,mb6.1/93, ME7.1,MS6.8/107,MW6.7 Error ellipse: s-maj=6.3km s-min=4.0km az=132.0 Broadband fault plane solution: P waves. NP1:ϕs270°,δ85°,λ2°. NP2:ϕs180°,δ88°,λ175°. Principal axes: T Plg5°, Azm135°; N Plg0°, Azm0°; P Plg2°, Azm225°; Moment Tensor Solution. s52 Moment tensor: Scale 10¹⁹ Nm; Mrr-0.02; Mθθ-0.20; Mϕϕ0.22; Mrθ0.00; Mθϕ1.22; Mϕr0.26; Best double couple: M₀1.3×10¹⁹ NP1: ϕs85°,δ78°,λ1°. NP2:ϕs355°,δ89°,λ168°. Principal axes: T 1.28, Plg9°, Azm310°; N -.03, Plg78°, Azm172°; P -1.25, Plg8°, Azm41°; Energy computed from BB mechanism.*

*CRAAG **13** 03:16:09.0, 15.30S×178.53W,Mw6.6*

ISC 13 03:16:08.2±0.1,15.32S±0.03×178.59W±0.03,h33km, (h34km±1.4km:pP-P),n768,σ1§02/370,mb5.8/130, MS6.8/162,27C-23D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.74**	**79**	Pn	**Pn**	**03 17 40.8**	**-6.7**
	18nm,0.3s,baz=1.9,slow=0.9,SNR=19						
AFI				Sn	**Sn**	**03 18 55.1**	**-8.8**
	baz=345,slow=23,SNR=1.2						
AFI	**Afiamalu**	**6.74**	**79**	⇓*e*P	**P**	**03 17 39.4**	**-8.0**
AFI				pmax	pmax		
	comp=Z,1μm,1.1s						
AFI	**Afiamalu**	**6.74**	**79**	⇓*e*P	**P**	**03 17 39.4**	**-8.0**
	comp=Z,1μm,1.1s						
RAO	**Raoul Island**	**13.88**	**178**	Pn	**P**	**03 19 26.4**	**+1.5**
	comp=Z,72nm,0.3s,baz=82,slow=

FOZ Fox Glacier 29.88 197 P **P** **03 22 12.9 -2.0**
JCZ Jackson Bay 30.62 198 P* **P** **03 22 20.0 -1.5**
JCZ Jackson Bay 30.62 198 P **P** **03 22 20.0 -1.5**
MLZ Mavora Lakes 31.95 198 P* **P** **03 22 32.3 -0.9**
MLZ Mavora Lakes 31.95 198 P **P** **03 22 32.3 -0.9**
WHZ Wether Hill Ro 32.51 198 P* **P** **03 22 37.2 -0.9**
WHZ Wether Hill Ro 32.51 198 P **P** **03 22 37.2 -0.9**
RIV Riverview 32.93 230 *e*P **P** **03 22 43.2 +1.3**
CTA Charters Tower 33.79 257 *e*P **P** **03 22 50.2 +0.8**
comp=Z,28nm,1.0s,mb5.2
CTA *e*S **S** **03 28 17.1 +7.2**
CTA *e*SS SS 03 30 41.7 +25
CTA Charters Tower 33.79 257 P **P** **03 22 49.5 +0.2**
comp=Z,23nm,1.0s,mb5.1,baz=83,slow=12,SNR=18
CTA Charters Tower 33.79 257 *e*P **P** **03 22 50.2 +0.8**
CTA *e*S **S** **03 28 17.1 +7.2**
CTA *e*SS SS 03 30 41.7 +25
CTA pmax pmax
comp=Z,28nm,1.0s
CTAO Charters Tower 33.79 257 *e*P **P** **03 22 50.0 +0.6**
CTAO pmax pmax
comp=Z,334nm,2.0s,mb5.9
CTAO MLR MLR
comp=Z,86µm,19.0s,MS6.5
CTAO Charters Tower 33.79 257 *e*P **P** **03 22 50.0 +0.6**
comp=Z,334nm,2.0s,mb5.9
CTAO LR LR
comp=Z,86µm,19.0s,MS6.5
PMG Port Moresby 33.94 276 P **P** **03 22 50.4 -0.3**
comp=Z,58nm,1.1s,mb5.4,baz=113,slow=7.8,SNR=15
PMG S **S** **03 28 14.3 +1.9**
comp=Z,3.1nm,0.4s,baz=345,slow=17,SNR=1.9
PMG LR LR 03 35 32.8
comp=Z,113µm,18.6s,MS6.6,baz=316,slow=34
PMG Port Moresby 33.94 276⇑ *e*P **P** **03 22 50.7 -0.1**
PMG pmax pmax
comp=Z,153nm,1.4s
PMG MLR MLR
comp=Z,105µm,19.0s
PMG Port Moresby 33.94 276⇑ *e*P **P** **03 22 50.7 0.0**
comp=Z,153nm,1.4s,mb5.7
PMG LR LR
comp=Z,105µm,19.0s,MS6.6
CNB Canberra Magne 34.92 229 *e*P **P** **03 22 59.5 +0.5**
CNB *e*S **S** **03 28 36.6 +9.3**
WAKE Wake Island 37.33 337 P **P** **03 23 17.5 -2.0**
comp=Z,4µm,2.5s,mb6.8
WAKE *e*PP PP 03 24 43.2 -4.3
WAKE LR LR
comp=Z,114µm,19.0s,MS6.7
TAOE Nuku Hiva Isla 38.09 85 *e*LQ 03 31 44.5
TAOE Nuku Hiva Isla 38.09 85 *e*PP PP 03 24 52.8 -3.8
TAOE *e*S **S** **03 29 13.5 -2.6**
TAOE *e*LR LR 03 33 20.4
comp=Z,448µm,28.7s,baz=259
TOO Toolangi 38.71 228 *e*P **P** **03 23 32.0 +1.2**
comp=Z,114nm,1.2s,mb5.5
TOO *e*S **S** **03 29 34.6 +9.2**
TOO Toolangi 38.71 228 *e*P **P** **03 23 32.0 +1.2**
TOO *e*S **S** **03 29 34.6 +9.2**
TOO pmax pmax
comp=Z,114nm,1.2s,mb5.5
STKA Stephens Creek 39.78 238⇓ *i*P **P** **03 23 41.2 +1.4**
comp=Z,130nm,1.0s,mb5.6
STKA *e*S **S** **03 29 49.6 +8.1**
STKA Stephens Creek 39.78 238 P **P** **03 23 41.2 +1.4**
comp=Z,105nm,1.0s,mb5.5,baz=70,slow=7.4,SNR=46
STKA S **S** **03 29 44.8 +3.3**
comp=Z,0.7nm,0.6s,baz=121,slow=20,SNR=1.9
STKA LR LR 03 38 25.9
comp=Z,169µm,21.2s,MS6.9,baz=76,slow=34
POHA Pohakuloa 41.58 34 PFAKE 03 24 10.0 +15
POHA LR LR
comp=Z,114µm,21.0s,MS6.7
KIP Kipapa 41.72 29 PFAKE 03 24 10.0 +14
KIP LR LR
comp=Z,143µm,21.0s,MS6.8
RKT Rikitea 41.78 108 *e*S **S** **03 30 10.6 -0.9**
RKT *e*LQ 03 33 38.1
RKT *e*LR LR 03 35 20.8
comp=Z,216µm,26.5s
MIDW Midway 43.29 2 *e*P **P** **03 24 07.2 -1.6**
comp=Z,464nm,1.7s,mb5.9
MIDW LR LR
comp=Z,54µm,22.0s,MS6.4
WB2 Warramunga Arr 44.98 257⇓ *i*P **P** **03 24 21.9 -0.5**
WB2 *e*S **S** **03 31 05.0 +7.0**
WB2 *e*SS SS 03 34 28.5 +17
WRA Warramunga Arr 44.99 257 P **P** **03 24 21.6 -0.9**
comp=Z,65nm,1.1s,mb5.4,baz=89,slow=7.3,SNR=73
WRA S **S** **03 30 59.4 +1.3**
comp=Z,2.2nm,1.3s,baz=64,slow=13,SNR=2.6
GUMO Guam 46.17 307 P **P** **03 24 31.1 -0.9**
comp=Z,239nm,1.0s,mb6.1,baz=178,slow=9.6,SNR=4.8
GUMO LR LR 03 40 59.7
comp=Z,47µm,18.7s,MS6.5,baz=141,slow=32
GUMO Guam 46.17 307 *e*P **P** **03 24 31.5 -0.5**
GUMO pmax pmax
comp=Z,430nm,1.3s,mb6.2
GUMO MLR MLR
comp=Z,44µm,19.0s,MS6.4
GUMO Guam 46.17 307 *e*P **P** **03 24 31.4 -0.6**
comp=Z,430nm,1.3s,mb6.2
GUMO LR LR
comp=Z,44µm,19.0s,MS6.4
KAKA Kakadu 47.51 267 *e*P Px 03 25 04.7
comp=Z,107nm,0.8s
FORT Forrest 50.99 243 *e*P **P** **03 25 08.6 -0.5**
comp=Z,72nm,0.7s,mb5.7
FITZ Fitzroy Crossi 53.32 259 *e*P **P** **03 25 27.0 +0.3**
comp=Z,96nm,1.7s,mb5.5
FITZ *e*S **S** **03 33 02.6 +8.1**
FITZ Fitzroy Crossi 53.32 259 S **S** **03 32 59.3 +4.7**
comp=Z,1.5nm,0.8s,baz=84,slow=19,SNR=1.6
FITZ LR LR 03 46 31.3
comp=Z,46µm,22.0s,MS6.5,baz=350,slow=34
CBIJ Chichi jima 56.81 318 LR LR 03 46 55.8
comp=Z,89µm,19.6s,MS6.9,baz=157,slow=33
DRV Dumont d'Urvil 58.05 198 P **P** **03 26 05.0 +4.9**
DRV SP SP 03 34 10.0 +0.3
DRV L 03 40 00.0
MBWA Marble Bar 58.57 254 *e*P **P** **03 26 04.4 0.0**
comp=Z,162nm,1.5s,mb5.8
MBWA LR LR
comp=Z,58µm,23.6s,MS6.6
MATI Mati 58.95 288 *e*P **P** **03 26 03.3 -3.9**
BIPH Bislig 59.33 289⇑ *i*P **P** **03 26 07.8 -2.0**
BIPH *i*S **S** **03 34 23.6 +9.3**
DAV Davao City (W) 59.62 288⇓ *e*P **P** **03 26 16.0 +4.2**
DAV Davao City (W) 59.62 288 PFAKE 03 26 20.0 +8.2
DAV LR LR
comp=Z,14µm,20.0s,MS6.1
KLBR Kellerberrin 59.85 242 *e*P **P** **03 26 11.5 -1.6**
comp=Z,150nm,1.2s,mb5.9
NWAO Narrogin (SRO) 60.30 241 LR LR 03 51 59.8
comp=Z,98µm,18.6s,MS7.0,baz=90,slow=36
NWAO Narrogin (SRO) 60.30 241 *e*P **P** **03 26 14.6 -1.6**
NWAO pmax pmax
comp=Z,135nm,1.4s
NWAO MLR MLR
comp=Z,78µm,19.0s
NWAO Narrogin (SRO) 60.30 241 *e*P **P** **03 26 14.6 -1.6**
comp=Z,135nm,1.4s,mb5.8
NWAO LR LR
comp=Z,78µm,19.0s,MS6.9
BUKP Musuan 60.40 288 *e*P **P** **03 26 17.7 +0.6**
MUN Mundaring 61.16 242 *e*P **P** **03 26 22.3 +0.2**
MSLP Maasin 61.46 291 *e*P **P** **03 26 23.9 -0.3**
PAGZ Pagadian 61.93 288 *e*P **P** **03 26 27.4 0.0**
OCLP Ormoc 62.05 292 *e*P **P** **03 26 27.4 -0.8**
TBP Tagbilaran 62.19 290 *e*P **P** **03 26 29.0 -0.1**
JHJ Hachijo jima 2 62.45 321 LR LR 03 54 10.2
comp=Z,45µm,18.2s,MS6.7,baz=264,slow=37
SBA Scott Base 62.98 183 *e*P **P** **03 26 34.2 +0.6**
SBA pmax pmax
comp=Z,125nm,1.1s,mb6.0
SBA MLR MLR
comp=Z,13µm,20.0s,MS6.1
SBA Scott Base 62.98 183 *e*P **P** **03 26 34.2 +0.6**
comp=Z,125nm,1.1s,mb6.0
SBA LR LR
comp=Z,13µm,20.0s,MS6.1
VNDA Vanda 62.99 185 P **P** **03 26 33.8 0.0**
comp=Z,24nm,1.1s,mb5.3,baz=2.6,slow=7.3,SNR=34
VNDA LR LR 03 50 08.0
comp=Z,15µm,20.4s,MS6.2,baz=131,slow=32
VNDA Vanda 62.99 185 *e*P **P** **03 26 33.1 -0.6**
VNDA pmax pmax
comp=Z,140nm,1.5s
VNDA Vanda 62.99 185 *e*P **P** **03 26 33.1 -0.7**
comp=Z,140nm,1.5s,mb5.9
PVCP Virac 63.51 294 *e*P **P** **03 26 37.2 -0.8**
GUIM Jordan 63.71 290 *e*P **P** **03 26 37.4 -1.9**
RCP Roxas 63.93 291⇑ *i*P **P** **03 26 40.4 -0.4**
AUQP San Andres 64.70 293 *e*P **P** **03 26 47.1 +1.4**
OTRP Odiongan 64.90 292 *e*P **P** **03 26 46.6 -0.4**
RPN Rapa Nui 64.93 113 P **P** **03 26 47.6 +0.5**
comp=Z,33nm,0.9s,mb5.4,baz=294,slow=5.8,SNR=2.7
BOAC Boac 65.50 293 *e*P **P** **03 26 51.4 +0.6**
MJAR Matsushiro Arr 65.75 323 P **P** **03 26 50.4 -1.7**
comp=Z,72nm,1.0s,mb5.6,baz=157,slow=5.3,SNR=38
MJAR LR LR 03 49 44.1
comp=Z,33µm,21.1s,MS6.5,baz=135,slow=31
MAJO Matsushiro 65.75 323 *e*P **P** **03 26 50.4 -1.8**
MAJO pmax pmax
comp=Z,125nm,1.1s,mb5.9
MAJO MLR MLR
comp=Z,47µm,22.0s,MS6.7
MAJO Matsushiro 65.75 323 *e*P **P** **03 26 50.4 -1.8**
comp=Z,125nm,1.1s,mb5.8
MAJO LR LR
comp=Z,47µm,22.0s,MS6.7
MAT Matsushiro 65.75 323 P **P** **03 26 50.0 -2.2**
MAT S S 03 35 34.0 -0.6
MAT Matsushiro 65.75 323 *e*P **P** **03 26 50.0 -2.2**
MAT *e*S S 03 35 34.0 -0.6
MAT pmax pmax
comp=Z,222nm,1.5s,mb6.0
MAT MLR MLR
comp=Z,33µm,20.0s,MS6.5
MAT Matsushiro 65.75 323 *e*P **P** **03 26 50.0 -2.2**
comp=Z,222nm,1.5s,mb6.0
MAT *e*S S 03 35 34.0 -0.6
MAT LR LR
comp=Z,33µm,20.0s,MS6.5
SJMP San Jose 65.75 291 *e*P **P** **03 26 53.2 +0.7**
TSM Tawau 65.84 282 P **P** **03 26 51.3 -1.9**
POLP Polillo Island 65.93 294 *e*P **P** **03 26 53.0 -0.6**
BUSP Coron 66.40 291 *e*P **P** **03 26 53.7 -2.9**
JOW Kunigami 66.46 309 LR LR 03 50 16.1
comp=Z,41µm,21.7s,MS6.6,baz=104,slow=31
TGY Tagaytay City 66.56 293 LR LR 03 53 00.9
comp=Z,347nm,18.8s,baz=114,slow=33
BALP Baler 66.67 295 *e*P **P** **03 26 58.1 -0.2**
CAUP Cauayan 66.96 296 *e*P **P** **03 26 59.9 -0.2**
LUBP Lubang 67.03 292 *e*P **P** **03 26 58.6 -1.9**
YUK Yuzh-Kuril'sk 67.40 333⇓ *i*P **P** **03 27 05.0 +2.6**
YUK *e* 03 29 39.0
YUK *e*PPP PPP 03 31 10.0 +0.1
YUK *i*S S 03 36 06.0 +12
YUK *e*PS PS 03 36 30.0 +7.9
YUK *e*SS SS 03 40 11.0 -5.3
YUK *e*SSS SSS 03 43 17.0 +2.5
YUK smax
comp=N,24µm,13.0s
YUK smax
comp=E,8µm,10.0s
BATP Bataraza 67.42 286 *e*P **P** **03 27 03.4 +0.4**
APYP Conner 67.85 297 *e*P **P** **03 27 06.3 +0.6**
KKM Kota Kinabalu 67.97 283 P **P** **03 27 06.7 +0.2**
KKM Kota Kinabalu 67.97 283 *e*P **P** **03 27 06.5 -0.1**
SMY Shemya 68.06 355 PFAKE 03 27 20.0 +14
SMY LR LR
comp=Z,57µm,22.0s,MS6.8
ABRA Dolores 68.22 296 *e*P **P** **03 27 04.4 -3.6**
FX1 Attu Island--F 68.29 355 P **P** **03 27 05.7 -2.1**
comp=Z,36nm,0.9s,mb5.4,baz=162,slow=9.6,SNR=2.9
CASY Casey 68.41 204 *e*P **P** **03 27 08.5 +0.1**
CASY *e*S S 03 36 11.9 +5.8
UNV Unalaska Valle 69.66 8 PFAKE 03 27 30.0 +14
UNV LR LR
comp=Z,81µm,22.0s,MS6.9
NACB Ninganchiao 70.36 303 *e*P **P** **03 27 20.4 -0.6**
YHNB Yeheng 70.76 303 *e*P **P** **03 27 23.1 -0.4**
TATO Taipei 70.82 304 PFAKE 03 27 40.0 +16
TATO LR LR
comp=Z,45µm,22.0s,MS6.7
PET Petropavlovsk 70.84 346*c* *i*P **P** **03 27 24.5 +1.0**
PET *e* 03 27 41.8
PET *e* 03 30 04.2
PET *e*S S 03 36 38.2 +3.3
PET *e*PS PS 03 37 06.3 -0.8
PET *e*SS SS 03 41 10.1 +0.5
PET pmax pmax
comp=Z,116nm,3.1s
PET pmax pmax
comp=Z,2µm,12.8s
PET pmax pmax
comp=Z,3µm,16.1s
PET smax
comp=E,11µm,15.9s
PET smax
comp=E,12µm,9.7s
PET smax
comp=N,13µm,11.7s
PET smax
comp=N,13µm,20.9s
PET Petropavlovsk 70.84 346 PFAKE 03 27 30.0 +6.5
PET LR LR
comp=Z,51µm,21.0s,MS6.8
YSS Yuzh-Sakhalins 71.04 333*ce* *i*P **P** **03 27 20.0 -4.8**
YSS *e*S S 03 36 38.0 +0.7
YSS *i*PPS PPS 03 37 12.0 -11
YSS *e*SS SS 03 41 20.0 +7.1
YSS pmax pmax
comp=Z,190nm,1.2s,mb5.9
YSS pmax pmax
comp=Z,4µm,9.0s
YSS Yuzh-Sakhalins 71.04 333 *e*P **P** **03 27 24.4 -0.5**
comp=Z,216nm,1.4s,mb5.9
KSM Kuching 72.20 277 *e*P **P** **03 27 33.4 +1.2**
KS15 Wonju Array Si 72.69 318 *e*P **P** **03 27 35.0 +0.2**
QZH Quanzhou 73.14 302⇑ *i*P **P** **03 27 36.5 -1.3**
QZH S S 03 37 12.5 +11
QZH PS PS 03 37 37.6 -1.0
QZH AMB AMB
comp=Z,730nm,2.0s,mb6.3
QZH AMB AMB
comp=Z,8µm,4.9s
QZH LR LR
comp=N,17µm,16.4s,MS6.6
QZH LR LR
comp=E,24µm,18.7s,MS6.6
QZH LR LR
comp=Z,110µm,33.8s
INCN Inchon 73.53 317 *e*P **P** **03 27 40.0 +0.3**
comp=Z,100nm,1.1s,mb5.7
INCN LR LR
comp=Z,46µm,22.0s,MS6.7
VLA Vladivostok 73.75 325*d* *i*P **P** **03 27 40.0 -0.9**
VLA *i* 03 27 54.5
VLA *e*S S 03 37 10.0 +1.6
VLA *e* 03 37 47.6
VLA pmax pmax
comp=Z,179nm,1.3s,mb5.8
SSE Sheshan 73.97 309⇑ P **P** **03 27 42.3 -0.2**
SSE AP pP 03 27 53.8 +1.0
SSE PCP PcP 03 27 56.3 -1.7
SSE PP PP 03 30 26.6 -2.8
SSE S S 03 37 12.4 +1.3
SSE SCS ScS 03 37 48.5 +2.1
SSE AMB AMB
comp=Z,30nm,1.1s,mb5.1
SSE AMB AMB
comp=Z,3µm,9.1s
SSE LR LR
comp=N,21µm,38.4s,MS6.4
SSE LR LR
comp=E,32µm,38.5s,MS6.4
SSE LR LR
comp=Z,45µm,35.5s,MS6.5
SAO San Andreas Ge 74.70 44 *e*P **P** **03 27 46.0 -0.5**
SAO pmax pmax
comp=Z,160nm,1.5s,mb5.7
SAO MLR MLR
comp=Z,54µm,20.0s,MS6.8
SAO San Andreas Ge 74.70 44 *e*P **P** **03 27 46.0 -0.5**
comp=Z,160nm,1.5s,mb5.7
SAO LR LR
comp=Z,54µm,20.0s,MS6.8
QSPA South Pole Qui 74.72 180 *e*P **P** **03 27 46.1 +0.2**
comp=Z,102nm,0.8s,mb5.8
QSPA LR LR
comp=Z,17µm,19.0s,MS6.4
LRV Little Rabbit 74.80 45 *e*P **P** **03 27 47.8 +0.6**
HOPS Hopland 74.86 42 *e*P **P** **03 27 47.9 +0.5**
comp=Z,194nm,1.4s,mb5.8
KCPM Cahto Peak 74.93 41 *e*P **P** **03 27 46.8 -1.0**
PTRM Twissleman Ran 74.95 46 *e*P **P** **03 27 48.5 +0.4**
KIPM Iron Peak 75.06 41 *e*P **P** **03 27 48.7 +0.1**
MIR Mirnyy 75.44 204 *e*P **P** **03 27 53.0 +2.8**
MIR *e*S S 03 37 34.0 +7.3
MIR smax
comp=N,8µm,20.0s
MIR smax
comp=E,7µm,20.0s
KHMM Horse Mountain 75.52 40 *e*P **P** **03 27 51.0 -0.2**
KHMM *e*PcP PcP 03 28 02.1 -2.4
HABR Khabarovsk 75.69 330 *i*P **P** **03 27 52.3 +0.3**
HABR *i* 03 27 54.3
HABR *e* 03 30 41.1
HABR *i* 03 37 40.2
HABR *i* 03 42 23.2
HABR pmax pmax
comp=Z,375nm,3.1s
HABR MLR MLR
comp=Z,41µm,19.7s,MS6.7
HKC Hong Kong 75.72 298⇑ *i*P **P** **03 27 54.0 +1.3**
HKC *i*S S 03 37 30.0 -0.7
MWC Mount Wilson 75.74 48 P **P** **03 27 52.1 -0.5**
MWC Mount Wilson 75.74 48 *e*P **P** **03 27 51.7 -0.9**
KDAK Kodiak Island 75.94 14 P **P** **03 27 51.8 -1.5**
comp=Z,45nm,0.8s,mb5.4,baz=197,slow=2.6,SNR=14
MDJ Mudanjiang 75.98 325 P **P** **03 27 53.8 +0.1**
MDJ AP pP 03 28 03.8 -0.3
MDJ XP sP 03 28 07.0 -0.7
MDJ PP PP 03 30 46.3 +0.1
MDJ S S 03 37 39.8 +6.6
MDJ AMB AMB
comp=Z,70nm,1.8s,mb5.3
MDJ AMB AMB
comp=Z,5µm,7.9s
MDJ LR LR
comp=N,15µm,19.6s,MS6.5
MDJ LR LR
comp=E,19µm,17.6s,MS6.5
MDJ LR LR
comp=Z,28µm,23.6s
BAR Barrett 76.00 50 *e*P **P** **03 27 53.4 -0.7**
KBO Bosley Butte 76.00 38 *e*P **P** **03 27 54.2 +0.3**
OHCM Honcut 76.07 42 *e*P **P** **03 27 53.9 -0.5**
CMB Columbia Colle 76.09 44 P **P** **03 27 53.9 -0.6**
CMB pmax pmax
comp=Z,270nm,1.6s,mb5.9
CMB Columbia Colle 76.09 44 *e*P **P** **03 27 53.3 -1.2**
comp=Z,267nm,1.7s,mb5.9
CMB LR LR
comp=Z,73µm,22.0s,MS7.0
WDC Whiskeytown Da 76.09 41 P **P** **03 27 54.6 +0.1**
WDC pmax pmax
comp=Z,250nm,1.6s,mb5.9
WDC Whiskeytown Da 76.09 41 *e*P **P** **03 27 54.3 -0.1**
comp=Z,255nm,1.6s,mb5.9
WDC LR LR
comp=Z,113µm,22.0s,MS7.1
ISA Isabella 76.17 47 *e*P **P** **03 27 54.3 -0.7**
ISA pmax pmax
comp=Z,1µm,3.6s
ISA MLR MLR
comp=Z,11µm,21.0s,MS6.1
ISA Isabella 76.17 47 *e*P **P** **03 27 54.3 -0.7**
comp=Z,1µm,3.6s
ISA LR LR
comp=Z,11µm,21.0s,MS6.1
NJ2 Nanjing 76.18 309 *e*P **P** **03 27 56.0 +0.9**
NJ2 AP pP 03 28 06.5 +1.1
NJ2 XP sP 03 28 09.3 +0.2
NJ2 PP PP 03 30 48.5 +0.5
NJ2 S S 03 37 35.0 -0.5
NJ2 XS 03 37 52.0
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,3µm,9.2s
NJ2 LR LR
comp=N,59µm,30.0s
NJ2 LR LR
comp=E,106µm,39.0s
NJ2 LR LR
comp=Z,51µm,36.0s
KEBM Edson Butte 76.33 38 *e*P **P** **03 27 58.0 +2.2**
KTRM Thompson Ridge 76.34 39 P **P** **03 27 57.0 +1.2**
YBH Yreka Blue Hor 76.64 40 P **P** **03 27 57.7 +0.1**
YBH pmax pmax
comp=Z,210nm,1.4s
YBH Yreka Blue Hor 76.64 40 *e*P **P** **03 27 57.1 -0.4**
comp=Z,213nm,1.4s,mb5.9
YBH LR LR
comp=Z,78µm,21.0s,MS7.0
GZH Guangzhou 76.73 299 P **P** **03 27 59.9 +1.5**
GZH S S 03 37 47.1 +5.3
GZH LR LR
comp=N,5µm,21.8s,MS6.2
GZH LR LR
comp=E,10µm,17.1s,MS6.2
GZH LR LR
comp=Z,13µm,19.3s,MS6.3
HUMO Hull Mountain 76.99 39 *e*P **P** **03 27 59.7 +0.2**
comp=Z,316nm,1.8s,mb5.9
HUMO LR LR
comp=Z,56µm,20.0s,MS6.9
DAC Darwin (Calif) 77.09 46 P **P** **03 28 00.1 -0.1**
DAC pmax pmax
comp=Z,170nm,1.6s,mb5.7
DAC Darwin (Calif) 77.09 46 *e*P **P** **03 27 59.9 -0.3**
comp=Z,172nm,1.6s,mb5.7
DAC LR LR
comp=Z,55µm,22.0s,MS6.8
LPIG La Paz 77.31 60 *i*P **P** **03 28 01.7 0.0**
DL2 Dalian 77.61 316⇑ *i*P **P** **03 28 04.4 +1.4**
DL2 S S 03 37 57.4 +6.5
DL2 AMB AMB
comp=Z,80nm,1.3s,mb5.5
DL2 AMB AMB
comp=Z,2µm,4.1s
DL2 LR LR
comp=N,16µm,20.0s,MS6.4
DL2 LR LR
comp=E,8µm,21.3s,MS6.4
DL2 LR LR
comp=Z,20µm,22.8s,MS6.4
PAHR Pah Rah Range 77.64 43 *e*P **P** **03 28 03.1 -0.1**
comp=Z,331nm,2.0s,mb5.9
PAHR *e* 03 28 10.5
NVAR Mina Array Bea 77.69 44 P **P** **03 28 03.3 -0.2**
comp=Z,13nm,0.8s,mb4.9,baz=231,slow=9.2,SNR=41
MNV Mina 77.80 44 *e*P **P** **03 28 04.0 -0.1**
MNV *e* pP 03 28 14.5 +0.1
MNV pmax pmax
comp=Z,403nm,1.6s,mb6.1
MNV MLR MLR
comp=Z,60µm,22.0s,MS6.9
MNV Mina 77.80 44 *e*P **P** **03 28 04.0 -0.1**
comp=Z,403nm,1.6s,mb6.1
MNV *e*PcP PcP 03 28 14.5 +0.2
MNV LR LR
comp=Z,60µm,22.0s,MS6.9
KLR Kul'dur 77.81 329 *e*P **P** **03 28 00.0 -3.9**
KLR *e*S S 03 38 03.5 +11
KLR pmax pmax
comp=E,200nm,3.0s
KLR pmax pmax
comp=Z,580nm,3.0s
KLR pmax pmax
comp=N,2µm,13.0s
KLR pmax pmax
comp=E,1µm,13.0s
KLR pmax pmax
comp=Z,12µm,13.0s
CN2 Changchun 77.88 322⇑ P **P** **03 28 04.3 -0.1**
CN2 *e*AP pP 03 28 15.1 +0.3
CN2 PP PP 03 31 03.4 +1.1
CN2 SS SS 03 42 59.1 +1.5
CN2 AMB AMB
comp=Z,120nm,1.3s,mb5.7
CN2 AMB AMB

comp=Z,7μm,4.0s
CN2 LR LR
comp=N,16μm,19.0s,MS6.6
CN2 LR LR
comp=E,26μm,19.0s,MS6.6
CN2 LR LR
comp=Z,29μm,22.0s,MS6.6
SNY Shenyang 77.91 320 ⇑P **P 03 28 04.8 +0.2**
SNY AMB AMB
comp=Z,150nm,1.6s,mb5.7
SNY LR LR
comp=N,15μm,23.7s,MS6.5
SNY LR LR
comp=E,23μm,20.4s,MS6.5
SNY LR LR
comp=Z,19μm,21.6s,MS6.4
COR Corvallis 77.94 37 *eP* **P 03 28 02.7 -2.0**
COR pmax pmax
comp=Z,643nm,2.0s,mb6.2
COR MLR MLR
comp=Z,71μm,22.0s,MS7.0
COR Corvallis 77.94 37 *eP* **P 03 28 02.7 -2.0**
comp=Z,643nm,2.0s,mb6.2
COR LR LR
comp=Z,71μm,22.0s,MS7.0
MOD Modoc 78.23 40 *eP* **P 03 28 06.0 -0.4**
comp=Z,596nm,2.0s,mb6.2
MOD LR LR
comp=Z,77μm,21.0s,MS7.0
TPH Tonopah 78.25 45 *eP* **P 03 28 06.8 +0.3**
TPH *e* 03 28 13.4
TPH pmax pmax
comp=Z,340nm,1.5s,mb6.1
TPH MLR MLR
comp=Z,51μm,21.0s,MS6.8
TPH Tonopah 78.25 45 *eP* **P 03 28 06.8 +0.2**
comp=Z,340nm,1.5s,mb6.1
TPH *e*PcP PcP 03 28 13.3 -2.9
TPH LR LR
comp=Z,51μm,21.0s,MS6.8
QIZ Qiongzhong 78.26 294 ⇑P **P 03 28 08.6 +1.7**
QIZ AMB AMB
comp=Z,3μm,7.1s
QIZ LR LR
comp=N,15μm,21.0s,MS6.6
QIZ LR LR
comp=E,27μm,21.7s,MS6.6
QIZ LR LR
comp=Z,42μm,21.7s,MS6.7
LDFC Landfair 78.28 49 *eP* **P 03 28 06.8 0.0**
SVW2 Sparrevohn 78.35 11 *eP* **P 03 28 04.7 -1.9**
TPNV Topopah Spring 78.36 46 *eP* **P 03 28 06.6 -0.6**
TPNV *e* 03 28 14.1
TPNV *e* 03 28 14.2
TPNV pmax pmax
comp=Z,790nm,2.1s,mb6.3
TPNV MLR MLR
comp=Z,56μm,20.0s,MS6.9
TPNV Topopah Spring 78.36 46 *eP* **P 03 28 06.6 -0.6**
comp=Z,790nm,2.1s,mb6.3
TPNV *e*PcP PcP 03 28 14.1 -2.7
TPNV *e* 03 28 14.2
TPNV LR LR
comp=Z,56μm,20.0s,MS6.9
FRIS Frissel Point 78.43 38 P **P 03 28 07.5 +0.1**
MA2 Magadan 78.67 345 *eP* **P 03 28 10.0 +1.6**
MA2 *e* pP 03 28 19.0 +0.3
MA2 *e*S S 03 38 06.3 +4.5
MA2 *e*PS PS 03 38 46.3 -2.4
MA2 *e*SS SS 03 43 08.0 -1.0
MA2 pmax pmax
comp=Z,200nm,2.6s,mb5.6
MA2 MLR MLR
comp=Z,19μm,21.0s,MS6.4
MA2 Magadan 78.67 345 *eP* **P 03 28 06.9 -1.5**
comp=Z,307nm,1.6s,mb6.0
MA2 LR LR
comp=Z,64μm,22.0s,MS6.9
NEN Nelson 78.74 48 *eP* **P 03 28 08.8 -0.5**
SLKM Skilak Lake 78.93 14 P **P 03 28 09.0 -0.8**
SLKM Skilak Lake 78.93 14 *eP* **P 03 28 08.6 -1.3**
WHN Wuhan 78.95 306 ⇑P **P 03 28 11.1 +0.5**
WHN SS SS 03 43 14.0 +0.1
WHN AMB AMB
comp=Z,5μm,10.6s
WHN LR LR
comp=N,11μm,18.0s,MS6.8
WHN LR LR
comp=E,44μm,19.4s,MS6.8
WHN LR LR
comp=Z,48μm,20.8s,MS6.8
KGM Kluang 79.06 275 P **P 03 28 10.8 -0.7**
OCWA Octopus Mounta 79.33 34 PFAKE 03 28 20.0 +7.8
OCWA LR LR
comp=Z,45μm,21.0s,MS6.8
TIA Tai'an 79.39 312 *eP* **P 03 28 13.0 +0.2**
TIA AMB AMB
comp=Z,80nm,1.2s,mb5.5
TIA LR LR
comp=N,8μm,15.0s,MS6.4
TIA LR LR
comp=E,12μm,15.0s,MS6.4
CROR Criterion Ridg 79.52 38 P **P 03 28 12.1 -1.2**
FIB Fire Island 79.53 14 P **P 03 28 13.6 +0.6**
FIB pmax pmax
comp=Z,48nm,0.8s,mb5.5
FIB Fire Island 79.53 14 *eP* **P 03 28 13.1 +0.1**
comp=Z,48nm,0.8s,mb5.5
FIB LR LR
comp=Z,14μm,22.0s,MS6.3
WVOR Wild Horse Val 79.56 41 *eP* **P 03 28 14.1 +0.5**
WVOR pmax pmax
comp=Z,153nm,1.3s,mb5.8
WVOR MLR MLR
comp=Z,129μm,20.0s,MS7.3
WVOR Wild Horse Val 79.56 41 *eP* **P 03 28 14.1 +0.4**
comp=Z,153nm,1.3s,mb5.8
WVOR LR LR
comp=Z,129μm,20.0s,MS7.3
HDW Hoodsport 79.88 34 P **P 03 28 15.6 +0.4**
PMR Palmer 80.14 14 *eP* **P 03 28 14.9 -1.4**
PMR pmax pmax
comp=Z,316nm,2.0s,mb5.9
PMR Palmer 80.14 14 *eP* **P 03 28 14.9 -1.4**
comp=Z,316nm,2.0s,mb5.9
PGC Sidney 80.26 34 *eP* **P 03 28 15.9 -1.3**
comp=Z,1μm,2.1s,mb6.5
TUC Tucson 80.27 53 P **P 03 28 18.2 +0.6**
TUC pmax pmax
comp=Z,420nm,1.8s,mb6.1
TUC Tucson 80.27 53 *eP* **P 03 28 18.1 +0.4**
comp=Z,420nm,1.8s,mb6.1
TUC *e*PcP PcP 03 28 25.2 +0.1
TUC LR LR
comp=Z,66μm,20.0s,MS7.0
SML Sawmill 80.52 14 P **P 03 28 18.1 -0.2**
SML Sawmill 80.52 14 *eP* **P 03 28 17.0 -1.3**
SML *e*PcP PcP 03 28 24.4 -1.1
SIT Sitka 80.56 22 PFAKE 03 28 30.0 +11
SIT LR LR
comp=Z,52μm,19.0s,MS6.9
DIV Divide 80.56 15 *eP* **P 03 28 17.2 -1.4**
comp=Z,472nm,1.3s,mb6.3
DIV *e*PcP PcP 03 28 25.3 -0.4
DIV LR LR
comp=Z,78μm,20.0s,MS7.1
ARUT Antelope Range 80.73 47 *eP* **P 03 28 20.1 +0.1**
ARUT *e* 03 28 27.0
ELK Elko 80.90 43 P **P 03 28 20.6 -0.2**
ELK pmax pmax
comp=Z,130nm,1.5s
ELK Elko 80.90 43 *eP* **P 03 28 20.5 -0.3**
comp=Z,130nm,1.5s,mb5.6
ELK *e*PcP PcP 03 28 27.7 +0.1
ELK LR LR
comp=Z,69μm,20.0s,MS7.0
TNA Tin City 81.04 4 *eP* **P 03 28 20.8 -0.2**
comp=Z,130nm,1.2s,mb5.7
TNA LR LR
comp=Z,20μm,22.0s,MS6.4
HAWA Hanford 81.15 37 *eP* **P 03 28 21.6 -0.3**
comp=Z,36nm,2.0s,mb5.0
HAWA LR LR
comp=Z,5μm,21.0s,MS5.8
WUAZ Wupatki 81.20 50 *eP* **P 03 28 23.1 +0.6**
comp=Z,946nm,2.4s,mb6.3
WUAZ LR LR
comp=Z,61μm,20.0s,MS7.0
SEY Seymchan 81.23 347 *eP* **P 03 28 21.4 -0.6**
SEY 03 31 27.5
SEY *e*S S 03 38 33.1 +4.6
SEY PS PS 03 39 25.6 +4.9
SEY SS SS 03 43 49.3 +1.9
SEY pmax pmax
comp=N,80nm,1.1s
SEY pmax pmax
comp=Z,150nm,1.1s,mb5.8
SEY pmax pmax
comp=E,10.0nm,0.8s
SEY smax
comp=N,28μm,18.4s
SEY smax
comp=E,15μm,10.7s
SEY MLR MLR
comp=N,6μm,17.0s,MS6.7
SEY MLR MLR
comp=E,29μm,19.0s,MS6.7
SEY MLR MLR
comp=Z,23μm,19.0s,MS6.5
SEY Seymchan 81.23 347 ⇑*eP* **P 03 28 21.8 -0.2**
WTV Waterville 81.62 36 P **P 03 28 23.5 -0.9**
EPH Ephrata 81.64 36 P **P 03 28 24.2 -0.3**
BMO Blue Mountains 81.65 39 *eP* **P 03 28 23.8 -0.8**
comp=Z,734nm,2.3s,mb6.2
BMO LR LR
comp=Z,65μm,20.0s,MS7.0
MVU Marysvale 81.92 47 *eP* **P 03 28 28.1 +2.0**
comp=Z,592nm,2.2s,mb6.1
MVU LR LR
comp=Z,37μm,20.0s,MS6.8
IPM Ipoh 81.94 277 P **P 03 28 28.6 +1.9**
MSU Marysvale 81.95 47 P **P 03 28 27.1 +0.8**
MSU Marysvale 81.95 47 *eP* **P 03 28 26.9 +0.7**
MSU *e*PcP PcP 03 28 33.6 +1.3
MCK McKinley 82.07 13 *eP* **P 03 28 25.4 -1.0**
comp=Z,110nm,1.4s,mb5.6
MCK LR LR
comp=Z,16μm,19.0s,MS6.4
OD2 Odessa Site #2 82.16 36 P **P 03 28 27.0 -0.2**
DUG Dugway 82.27 45 *eP* **P 03 28 28.3 +0.4**
comp=Z,130nm,1.4s,mb5.7
DUG LR LR
comp=Z,42μm,22.0s,MS6.8
BGU Big Grassy Mou 82.46 44 *eP* **P 03 28 28.7 -0.2**
THY Trims Highway 82.52 14 *eP* **P 03 28 28.6 -0.1**
KULM Kulim 82.52 278 P **P 03 28 29.2 -0.5**
NLU North Lily Min 82.67 45 *eP* **P 03 28 30.6 +0.6**
HLID Hailey 82.80 41 *eP* **P 03 28 30.7 +0.1**
comp=Z,238nm,1.7s,mb6.0
HLID LR LR
comp=Z,84μm,22.0s,MS7.1
NOQ North Oquirrh 82.95 45 *eP* **P 03 28 31.8 +0.4**
comp=Z,450nm,1.7s,mb6.2
TMUT Trail Mountain 82.97 46 *eP* **P 03 28 32.4 +0.8**
MPU Maple Canyon 83.00 45 *eP* **P 03 28 31.9 +0.3**
comp=Z,140nm,1.3s,mb5.8
MPU LR LR
comp=Z,43μm,21.0s,MS6.8
HVU Hansel Valley 83.03 43 *eP* **P 03 28 31.9 +0.2**
comp=Z,214nm,1.5s,mb6.0
SPUT South Promonto 83.03 44 *eP* **P 03 28 31.8 +0.1**
SNG Songkhla 83.08 279 P **P 03 28 35.0 +2.5**
COLA College 83.30 13 *eP* **P 03 28 31.4 -1.3**
comp=Z,320nm,1.5s,mb6.1
COLA LR LR
comp=Z,28μm,19.0s,MS6.7
SRU San Rafael 83.37 47 *eP* **P 03 28 33.7 +0.1**
comp=Z,223nm,1.4s,mb6.0
ILAR Eielson Array 83.42 13 P **P 03 28 32.4 -0.9**
comp=Z,113nm,1.2s,mb5.8,baz=229,slow=5.7,SNR=70
TIY Taiyuan 83.42 312 ⇑P **P 03 28 37.0 +3.2**
TIY S S 03 39 02.0 +11
TIY LR LR
comp=E,11μm,17.0s
DAU Daniels Canyon 83.43 45 *eP* **P 03 28 34.1 +0.3**
DLBC Dease Lake 83.54 23 *eP* **P 03 28 33.8 -0.2**
GYA Guiyang 83.62 300 ⇑*iP* **P 03 28 36.1 +1.0**
GYA AP pP 03 28 45.9 +0.3
GYA XP sP 03 28 49.6 +0.5
GYA SKS SKS 03 38 56.1 +4.8
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,3μm,8.4s
GYA LR LR
comp=N,13μm,23.1s,MS6.5
GYA LR LR
comp=E,22μm,21.9s,MS6.5
GYA LR LR
comp=Z,23μm,21.0s,MS6.5
TCUT Toone Canyon 83.64 44 *eP* **P 03 28 35.3 +0.4**
CAIG El Cayaco 83.66 70 *iP* **P 03 28 36.4 +0.9**
HWUT Hardware Ranch 83.75 44 *eP* **P 03 28 35.5 0.0**
comp=Z,529nm,1.9s,mb6.3
HWUT *e* 03 28 41.8
HWUT LR LR
comp=Z,85μm,21.0s,MS7.1
BILL Bilibino 83.85 354 *c iP* **P 03 28 34.3 -1.1**
BILL *e* 03 31 46.0
BILL *e*S S 03 38 56.7 +1.8
BILL *e*SS SS 03 44 24.8 -1.0
BILL pmax pmax
comp=Z,151nm,2.4s,mb5.7
BILL Bilibino 83.85 354 *eP* **P 03 28 34.5 -0.8**
comp=Z,48nm,1.1s,mb5.5
BILL LR LR
comp=Z,34μm,20.0s,MS6.7
LAZ Ladron 83.91 52 *eP* **P 03 28 36.9 +0.4**
LENM Lemitar 83.94 52 *eP* **P 03 28 37.2 +0.6**
BNM Barren Site 84.20 52 *eP* **P 03 28 38.1 +0.2**
MNTX Cornudas Mount 84.24 55 *eP* **P 03 28 38.4 +0.2**
comp=Z,346nm,1.8s,mb6.2
MNTX LR LR
comp=Z,64μm,20.0s,MS7.0
LPM Los Pinos Moun 84.26 52 *eP* **P 03 28 38.9 +0.7**
MCMT McKenzie Canyo 84.40 41 *eP* **P 03 28 38.8 +0.1**
XAN Xi'an 84.56 307 P **P 03 28 40.0 +0.3**
XAN S S 03 39 11.1 +8.3
XAN SS SS 03 44 37.3 +0.2
XAN AMB AMB
comp=Z,2μm,12.2s
XAN LR LR
comp=N,8μm,18.6s
XAN LR LR
comp=E,16μm,25.6s
XAN LR LR
comp=Z,21μm,20.2s,MS6.5
AHID Auburn Hatcher 84.58 43 *eP* **P 03 28 40.1 +0.4**
comp=Z,160nm,1.3s,mb6.0
AHID LR LR
comp=Z,40μm,20.0s,MS6.8
ANMO Albuquerque 84.63 52 *eP* **P 03 28 40.4 +0.3**
ANMO pmax pmax
comp=Z,560nm,1.9s
ANMO Albuquerque 84.63 52 *eP* **P 03 28 40.3 +0.3**
comp=Z,241nm,1.8s,mb6.0
DAWY Dawson 84.66 16 *eP* **P 03 28 39.0 -0.5**
MSO Missoula 84.67 39 *eP* **P 03 28 39.8 -0.2**
comp=Z,147nm,1.8s,mb5.8
MSO LR LR
comp=Z,40μm,20.0s,MS6.8
RRI2 Red Ridge 84.70 43 *eP* **P 03 28 40.7 +0.5**
comp=Z,463nm,1.6s,mb6.4
LTX Lajitas 84.77 58 P **P 03 28 42.3 +1.4**
LTX pmax pmax
comp=Z,450nm,1.5s,mb6.4
LTX Lajitas 84.77 58 *eP* **P 03 28 41.9 +1.0**
comp=Z,451nm,1.5s,mb6.4
TXAR Lajitas Array 84.77 58 P **P 03 28 41.8 +0.9**
comp=Z,45nm,0.9s,mb5.6,baz=225,slow=5.3,SNR=52
TXAR PKKPbc 03 46 50.9
comp=Z,0.3nm,0.7s,baz=90,slow=3.8,SNR=4.8
TXAR LR LR 03 59 45.5
comp=Z,86μm,18.9s,MS7.2,baz=195,slow=31
TXAR Lajitas Array 84.77 58 P **P 03 28 41.8 +0.9**
TXAR LR LR 03 59 45.5
PLIG Platanillo 84.77 69 *eP* **P 03 28 40.4 -0.7**
DLMT Dillon 84.80 40 *eP* **P 03 28 40.5 -0.1**
comp=Z,808nm,2.1s,mb6.5
TPAW Teton Pass 85.00 43 *eP* **P 03 28 42.2 +0.5**
comp=Z,372nm,1.5s,mb6.3
REDW Red Top Meadow 85.01 43 *eP* **P 03 28 42.0 +0.3**
comp=Z,368nm,1.4s,mb6.3
SNOW Snow King Moun 85.12 43 *eP* **P 03 28 42.7 +0.4**
comp=Z,684nm,1.8s,mb6.5
CHMT Chamberlain Mo 85.13 39 *eP* **P 03 28 41.7 -0.5**
IMW Indian Meadow 85.19 42 *eP* **P 03 28 43.1 +0.5**
comp=Z,197nm,1.4s,mb6.0
GDL2 Guadalupe Moun 85.23 55 *eP* **P 03 28 44.0 +0.9**
LOHW Long Hollow 85.28 43 *eP* **P 03 28 43.1 0.0**
comp=Z,778nm,2.2s,mb6.5
QLMT Earthquake Lak 85.29 41 *eP* **P 03 28 44.0 +0.9**
HHC Hu-ho-hao-te 85.35 314 ⇑P **P 03 28 44.6 +1.1**
HHC AP pP 03 28 49.3 -4.7
HHC XP sP 03 28 51.6 -5.9
HHC PP PP 03 32 04.3 +1.1
HHC SKS SKS 03 39 04.9 +2.3
HHC S S 03 39 13.0 +2.6
HHC SS SS 03 44 50.3 +1.6
HHC AMB AMB
comp=Z,70nm,1.5s,mb5.6
HHC AMB AMB
comp=Z,5μm,4.0s
HHC LR LR
comp=N,12μm,14.7s
HHC LR LR
comp=E,23μm,25.5s
HHC LR LR
comp=Z,46μm,26.1s
YFT Old Faithful 85.50 42 *eP* **P 03 28 46.4 +2.3**
YMR Madison River 85.52 41 *eP* **P 03 28 45.4 +1.2**
comp=Z,257nm,1.3s,mb6.3
YMR LR LR
comp=Z,76μm,22.0s,MS7.0
BOZ Bozeman (W) 85.54 40 *eP* **P 03 28 44.2 -0.1**
BOZ pmax pmax
comp=Z,142nm,1.5s,mb6.0
BOZ Bozeman (W) 85.54 40 *eP* **P 03 28 44.2 0.0**
comp=Z,142nm,1.5s,mb6.0
BW06 Boulder Array 85.60 44 *eP* **P 03 28 44.5 -0.2**
comp=Z,148nm,1.4s,mb6.0
BW06 LR LR
comp=Z,57μm,20.0s,MS7.0
PDAR Pinedale Array 85.60 44 P **P 03 28 44.5 -0.2**
comp=Z,11nm,0.8s,mb5.2,baz=213,slow=2.5,SNR=47
PDAR PKKPbc 03 46 49.5
comp=Z,0.3nm,0.5s,baz=79,slow=7.6,SNR=4.2
PDAR LR LR 03 59 58.4
comp=Z,50μm,20.8s,MS6.9,baz=249,slow=31
PDAR Pinedale Array 85.60 44 P **P 03 28 44.5 -0.2**
PDAR LR LR 03 59 58.4
CLNB Carlsbad 85.64 55 *eP* **P 03 28 41.3 -3.8**
PPM Popocatepetl 85.77 69 *iP* **P 03 28 47.3 +1.3**
CLNS Chul'man 85.80 333 *eP* **P 03 28 45.6 +0.3**
CLNS *e*S S 03 39 10.1 -4.2
CLNS pmax pmax
comp=E,32nm,1.2s
CLNS pmax pmax
comp=Z,51nm,1.2s,mb5.6
CLNS pmax pmax
comp=N,28nm,1.3s
CLNS smax
comp=N,1μm,12.3s
CLNS smax
comp=Z,1μm,14.6s
CLNS smax
comp=E,5μm,12.3s
CLNS MLR MLR
comp=Z,13μm,17.0s,MS6.4
CLNS MLR MLR
comp=N,4μm,16.0s,MS6.3
CLNS MLR MLR
comp=E,8μm,16.0s,MS6.3
LKWY Lake 85.83 42 P **P 03 28 47.8 +2.1**
LKWY pmax pmax
comp=Z,190nm,1.4s,mb6.1
LKWY Lake 85.83 42 *eP* **P 03 28 47.6 +1.9**
comp=Z,191nm,1.4s,mb6.1
LKWY LR LR
comp=Z,48μm,20.0s,MS6.9
HRY Holter Researc 85.90 39 *eP* **P 03 28 45.5 -0.5**
SMCO Snowmass 85.91 48 *eP* **P 03 28 47.0 +0.8**
comp=Z,106nm,1.3s,mb5.9
CPRX Cap Rock 85.92 54 *eP* **P 03 28 46.6 +0.2**
NST Nakhon Sawan 85.96 287 P **P 03 28 45.0 -2.0**
MAW Mawson 86.22 200 *eP* **P 03 28 48.9 +1.8**
comp=Z,32nm,1.0s,mb5.5
MAW Mawson 86.22 200 P **P 03 28 48.6 +1.5**
comp=Z,13nm,0.9s,mb5.2,baz=99,slow=4.2,SNR=14
MAW LR LR 04 04 04.3
comp=Z,26μm,21.3s,MS6.6,baz=223,slow=33
MAW Mawson 86.22 200 P **P 03 28 49.2 +2.1**
MAW pmax pmax
comp=Z,70nm,1.1s
PMSA Palmer Station 86.24 157 PFAKE 03 29 00.0 +13
PMSA LR LR
comp=Z,25μm,22.0s,MS6.6
BTO Baotou 86.32 314 *eP* **P 03 28 48.5 +0.3**
BTO AMB AMB
comp=Z,130nm,1.7s,mb5.9
BTO LR LR
comp=N,490nm,5.5s
BTO LR LR
comp=E,3μm,13.5s
SDCO Great Sand Dun 86.42 49 *eP* **P 03 28 49.0 +0.2**
comp=E,386nm,2.1s,mb6.3
SDCO LR LR
comp=Z,51μm,19.0s,MS7.0
KMI Kunming 86.51 297 ⇑P **P 03 28 50.8 +1.3**
KMI AP pP 03 29 02.4 +2.4
KMI PP PP 03 32 14.5 +1.1
KMI SKS SKS 03 39 11.3 +0.6
KMI S S 03 39 22.3 +0.4
KMI XS 03 39 41.3
KMI PS PS 03 40 27.0 +0.1
KMI SS SS 03 45 06.0 +0.1
KMI SSS SSS 03 48 36.0 +0.1
KMI AMB AMB
comp=Z,50nm,2.0s,mb5.4
KMI AMB AMB
comp=Z,2μm,5.0s
KMI LR LR
comp=N,13μm,21.8s,MS6.8
KMI LR LR
comp=E,46μm,22.3s,MS6.8
KMI LR LR
comp=Z,74μm,22.7s,MS7.0
RWWY Rawlins 86.74 45 *eP* **P 03 28 51.2 +0.9**
comp=Z,1μm,2.1s,mb6.7
GCMT Greycliff 86.83 41 *eP* **P 03 28 50.4 -0.2**
VHO Vista Hermosa 86.90 71 *iP* **P 03 28 53.0 +1.4**
ISCO Idaho Springs 87.12 48 *eP* **P 03 28 53.5 +1.3**
ISCO pmax pmax
comp=Z,488nm,2.3s,mb6.3
ISCO MLR MLR
comp=Z,28μm,21.0s,MS6.6
ISCO Idaho Springs 87.12 48 *eP* **P 03 28 53.5 +1.3**
comp=Z,488nm,2.3s,mb6.3
ISCO LR LR
comp=Z,28μm,21.0s,MS6.6
YAK Yakutsk 87.12 338 *eP* **P 03 28 49.9 -1.7**
YAK *e*S S 03 39 26.0 -0.9
YAK pmax pmax
comp=Z,33nm,1.0s,mb5.5
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK smax
comp=N,5μm,19.4s
YAK smax
comp=E,2μm,13.1s
YAK Yakutsk 87.12 338 *eP* **P 03 28 49.8 -1.8**
comp=E,22nm,0.6s,mb5.6
YAK LR LR
comp=Z,21μm,19.0s,MS6.6
CD2 Chengdu 87.53 303 P **P 03 28 55.6 +1.2**
CD2 PP PP 03 32 23.4 +1.5
CD2 PPP PPP 03 34 21.0 +1.5
CD2 SKS SKS 03 39 17.8 +0.7
CD2 S S 03 39 33.1 +1.6
CD2 SS SS 03 45 20.3 -0.3
CD2 AMB AMB
comp=Z,60nm,1.6s,mb5.6
CD2 AMB AMB
comp=Z,2μm,8.8s
CD2 LR LR
comp=E,12μm,20.4s

CD2 LR LR
comp=Z,12µm,24.0s,MS6.2
EGMT Eagleton 87.75 39 *e*P **P 03 28 55.1 +0.1**
comp=Z,786nm,2.4s,mb6.5
EGMT LR LR
comp=Z,30µm,21.0s,MS6.7
PHWY Pilot Hill 87.80 46 *e*P **P 03 28 55.0 -0.4**
EDM Edmonton 88.10 33 *e*P **P 03 28 55.8 -0.7**
JCT Junction City 88.31 58 P **P 03 28 59.5 +1.4**
JCT pmax pmax
comp=Z,220nm,1.8s,mb6.1
JCT Junction City 88.31 58 *e*P **P 03 28 58.0 -0.1**
comp=Z,225nm,1.9s,mb6.1
JCT LR LR
comp=Z,58µm,19.0s,MS7.0
CMIG Matias Romero 88.59 72 *i* P **P 03 28 59.9 +0.2**
CIT Chita 88.95 325 *e*P **P 03 29 01.2 +0.6**
CIT *e*S S 03 39 55.2 +11
CIT pmax pmax
comp=Z,507nm,3.1s
LZH Lanzhou 89.18 308 ⇑P **P 03 29 03.8 +1.7**
LZH AP pP 03 29 15.3 +2.6
LZH PP PP 03 32 36.9 +1.9
LZH SKS SKS 03 39 29.3 +2.0
LZH S S 03 39 48.6 +1.8
LZH XS 03 40 06.5
LZH PS PS 03 41 00.8 +2.2
LZH SS SS 03 45 45.8 +1.5
LZH AMB AMB
comp=Z,290nm,1.2s,mb6.5
LZH AMB AMB
comp=Z,3µm,8.1s
LZH LR LR
comp=N,17µm,16.3s
LZH LR LR
comp=Z,27µm,19.0s,MS6.7
LAO LASA Array 89.38 41 *e*P **P 03 29 03.4 +0.6**
comp=Z,122nm,1.3s,mb6.1
LAO LR LR
comp=Z,67µm,21.0s,MS7.0
INK Inuvik 89.45 15 LR LR 04 07 38.7
comp=Z,14µm,18.9s,MS6.4,baz=225,slow=35
INK Inuvik 89.45 15 P **P 03 29 01.4 -1.2**
INK pmax pmax
comp=Z,28nm,1.4s
INK Inuvik 89.45 15 *e*P **P 03 29 01.0 -1.6**
comp=Z,28nm,1.4s,mb5.4
RSSD Black Hills 89.83 44 *e*P **P 03 29 04.8 -0.2**
RSSD pmax pmax
comp=Z,227nm,1.7s,mb6.2
RSSD MLR MLR
comp=Z,37µm,19.0s,MS6.8
RSSD Black Hills 89.83 44 *e*P **P 03 29 04.8 -0.2**
comp=Z,227nm,1.7s,mb6.2
RSSD LR LR
comp=Z,37µm,19.0s,MS6.8
WMOK Wichita Mounta 90.48 54 *e*P **P 03 29 07.6 -0.6**
WMOK pmax pmax
comp=Z,41nm,1.6s,mb5.5
WMOK MLR MLR
comp=Z,63µm,20.0s,MS7.0
WMOK Wichita Mounta 90.48 54 *e*P **P 03 29 07.6 -0.6**
comp=Z,41nm,1.6s,mb5.5
WMOK LR LR
comp=Z,63µm,20.0s,MS7.0
CCIG Comitan 90.91 73 *i* P **P 03 29 10.7 0.0**
ULN Ulaanbaatar 91.09 320 *e*P **P 03 29 11.7 +0.9**
ULN pmax pmax
comp=Z,161nm,1.6s,mb6.1
ULN MLR MLR
comp=Z,24µm,19.0s,MS6.7
ULN Ulaanbaatar 91.09 320 *e*P **P 03 29 11.7 +1.0**
comp=Z,161nm,1.6s,mb6.1
ULN LR LR
comp=Z,24µm,19.0s,MS6.7
DGMT Dagmar 91.33 40 *e*P **P 03 29 11.9 +0.1**
comp=Z,182nm,1.3s,mb6.2
DGMT LR LR
comp=Z,60µm,21.0s,MS7.0
BOD Bodaibo 91.34 330 *e*P **P 03 29 09.6 -2.1**
BOD pmax pmax
comp=Z,27nm,1.5s,mb5.4
SONM Songino Array 91.49 319 P **P 03 29 13.4 +0.7**
comp=Z,14nm,1.2s,mb5.2,baz=104,slow=2.8,SNR=20
SONM LR LR 04 09 39.0
comp=Z,27µm,18.2s,MS6.7,baz=122,slow=35
SYO Syowa Base 91.63 193 ⇑⇑P **P 03 29 11.4 -1.4**
SYO Syowa Base 91.63 193 ⇑*e*P **P 03 29 11.4 -1.4**
YKA Yellowknife Ar 92.06 25 P **P 03 29 14.2 -0.7**
comp=Z,3.2nm,0.7s,mb4.8,baz=244,slow=4.4,SNR=48
YKA LR LR 04 06 49.3
comp=Z,98µm,18.4s,MS7.3,baz=240,slow=33
YKA Yellowknife Ar 92.06 25 P **P 03 29 14.2 -0.7**
YKA LR LR 04 06 49.3
YKW3 Yellowknife Ar 92.09 25 *e*P **P 03 29 14.7 -0.4**
NATX Nacogdoches 92.90 58 *e*P **P 03 29 20.3 +0.7**
comp=Z,125nm,1.0s,mb6.3
NATX LR LR
comp=Z,83µm,22.0s,MS7.2
SNAA Sanae 93.17 179 P **P 03 29 20.1 +0.3**
SNAA Sanae 93.17 179 *e* pP 03 29 31.2 +0.8
SNAA Sanae 93.17 179 *e* sP 03 29 37.0 +3.2
PLCA Paso Flores 93.23 134 P **P 03 29 22.5 +1.7**
comp=Z,2.6nm,0.9s,baz=251,slow=3.2,SNR=4.3
PLCA LR LR 04 03 03.6
comp=Z,23µm,21.3s,MS6.6,baz=221,slow=30
PLCA Paso Flores 93.23 134 P **P 03 29 20.5 -0.3**
PLCA pmax pmax
comp=Z,52nm,1.9s
PLCA Paso Flores 93.23 134 P **P 03 29 20.5 -0.3**
comp=Z,52nm,1.9s,mb5.6
GTA Gaotai 93.26 310 *e*P **P 03 29 21.1 +0.1**
GTA AP pP 03 29 32.5 +0.9
GTA PP PP 03 33 08.1 +0.6
GTA PPP PPP 03 35 12.0 +2.2
GTA SKS SKS 03 39 51.5 +0.6
GTA S S 03 40 24.9 +2.0
GTA XS 03 40 42.0
GTA PS PS 03 41 46.3 +1.0
GTA SS SS 03 46 44.8 +1.7
GTA AMB AMB
comp=Z,2µm,7.2s
GTA LR LR
comp=N,11µm,20.1s,MS6.7
GTA LR LR
comp=E,25µm,23.2s,MS6.7
GTA LR LR
comp=Z,43µm,25.8s,MS6.8
VNA3 Neumayer Olymp 93.32 176 P **P 03 29 21.1 +0.6**
VNA3 Neumayer Olymp 93.32 176 *e* pP 03 29 32.2 +1.1
VNA3 Neumayer Olymp 93.32 176 *e* sP 03 29 37.3 +2.8
KSU1 Kansas State U 93.45 51 *e*P **P 03 29 22.7 +0.9**
TIXI Tiksi 93.62 345 *e*P **P 03 29 18.4 -3.5**
TIXI *e*SSS SSS 03 50 22.9 -4.8
TIXI pmax pmax
comp=Z,35nm,1.3s,mb5.6
TIXI pmax pmax
comp=N,8.0nm,1.2s
TIXI pmax pmax
comp=E,11nm,1.2s
TIXI pmax pmax
comp=Z,2µm,4.4s
TIXI Tiksi 93.62 345 ⇑*i*P **P 03 29 20.6 -1.3**
TIXI LR LR
comp=Z,57µm,20.0s,MS7.0
VNA2 Neumayer--Watz 93.76 177 P **P 03 29 23.2 +0.7**
VNA2 Neumayer--Watz 93.76 177 *e* pP 03 29 33.1 0.0
VNA2 Neumayer--Watz 93.76 177 *e* sP 03 29 39.9 +3.4
MAIT Maitri 93.82 183 *e*P **P 03 29 22.7 -0.1**
NVL N'lazarevskaya 93.83 183 *e*P **P 03 29 21.9 -0.9**
NVL *e* 03 29 22.5
NVL *e*S 03 39 52.5
NVL MLR MLR
comp=Z,2µm,19.6s
VNA1 Neumayer--Stat 93.98 177 P **P 03 29 24.4 +0.9**
VNA1 Neumayer--Stat 93.98 177 *e* pP 03 29 34.6 +0.5
VNA1 Neumayer--Stat 93.98 177 *e* sP 03 29 40.0 +2.5
ZAK Zakamensk 94.28 321 *e*P **P 03 29 25.5 +0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.8
IRK Irkutsk 94.30 323 *e*P **P 03 29 25.5 +0.2**
IRK pmax pmax
comp=Z,187nm,5.7s
MIAR Mount Ida 94.53 56 P **P 03 29 29.1 +2.3**
MIAR pmax pmax
comp=Z,68nm,1.5s,mb5.9
MIAR Mount Ida 94.53 56 *e*P **P 03 29 28.7 +1.8**
comp=Z,68nm,1.5s,mb5.9
MIAR LR LR
comp=Z,39µm,21.0s,MS6.8
UALR University of 95.57 56 *e*P **P 03 29 32.3 +0.7**
comp=Z,77nm,1.4s,mb5.9
MOY Mondy 96.05 322 *e*P **P 03 29 34.0 +0.7**
MOY pmax pmax
comp=Z,124nm,3.1s
AGT Agartala 96.21 293 *e*P **P 03 29 40.0 +5.3**
ULM Lac du Bonnet 97.05 40 P **P 03 29 38.3 +0.3**
comp=Z,2.8nm,0.9s,baz=276,slow=6.2,SNR=3.2
ULM LR LR 04 07 01.7
comp=Z,35µm,20.6s,MS6.8,baz=254,slow=32
HBAR Harrisburg 97.10 55 *e*P **P 03 29 38.2 -0.4**
LSA Lhasa 97.66 299 P **P 03 29 44.8 +3.6**
LSA LR LR
comp=N,12µm,27.0s,MS6.6
LSA LR LR
comp=E,24µm,30.7s,MS6.6
GNAR Gosnell 97.70 55 *e*P **P 03 29 44.0 +2.8**
FVM French Village 97.84 53 P **P 03 29 42.3 +0.5**
FVM pmax pmax
comp=Z,120nm,1.6s,mb6.2
FVM French Village 97.84 53 *e*P **P 03 29 41.9 +0.1**
comp=Z,116nm,1.6s,mb6.2
OXF Oxford 97.86 56 *e*P **P 03 29 45.1 +3.1**
OXF pmax pmax
comp=Z,82nm,1.3s,mb6.1
OXF MLR MLR
comp=Z,67µm,20.0s,MS7.1
OXF Oxford 97.86 56 *e*P **P 03 29 45.1 +3.2**
comp=Z,82nm,1.3s,mb6.1
OXF LR LR
comp=Z,67µm,20.0s,MS7.1
SLM Saint Louis 98.14 52 *e*P **P 03 29 43.8 +0.7**
GLAT Glass 98.34 55 P **P 03 29 46.0 +1.9**
EYMN Ely 99.29 43 PFAKE 03 30 00.0 +12
EYMN LR LR
comp=Z,39µm,19.0s,MS6.9
WVT Waverly 99.47 55 PFAKE 03 30 00.0 +11
WVT LR LR
comp=Z,57µm,22.0s,MS7.0
TRQA Tornquist 100.37 134 PFAKE 03 30 10.0 +17
TRQA LR LR
comp=Z,17µm,22.0s,MS6.5
WCI Wyandotte Cave 101.08 53 PFAKE 03 30 10.0 +14
WCI LR LR
comp=Z,46µm,19.0s,MS7.0
DWPF Disney 103.25 64 PFAKE 03 30 20.0 +14
DWPF LR LR
comp=Z,13µm,21.0s,MS6.4
MGV Manicaragua 103.43 71 P PP 03 34 24.8 -1.1
AAM Ann Arbor 103.75 50 PFAKE 03 30 20.0 +12
AAM LR LR
comp=Z,38µm,19.0s,MS7.0
ACSO Alum Creek Sta 103.95 52 PFAKE 03 30 20.0 +11
ACSO LR LR
comp=Z,48µm,20.0s,MS7.0
LPAZ La Paz 104.52 112 PKiKP 03 34 29.1
comp=Z,0.8nm,0.7s,baz=256,slow=4.0,SNR=5.7
LPAZ La Paz 104.52 112 PFAKE 03 30 20.0 +7.8
LPAZ LR LR
comp=Z,26µm,22.0s,MS6.7
NHSC New Hope 105.14 59 PFAKE 03 34 40.0
NHSC LR LR
comp=Z,58µm,22.0s,MS7.1
CCCC Cccc 105.28 72 P PP 03 34 39.7 -0.1
BLA Blacksburg 105.52 55 PFAKE 03 34 40.0
BLA LR LR
comp=Z,62µm,21.0s,MS7.1
ERPA Erie 106.43 50 PFAKE 03 34 40.0
ERPA LR LR
comp=Z,20µm,19.0s,MS6.7
HYB Hyderabad 106.45 284 *i* Pdiff Pdif 03 30 24.0 +3.4
HYB *e*PP PP 03 34 49.0 +0.5
HYB *e* 03 41 32.0
HYB *e* 03 42 24.0
HYB Hyderabad 106.45 284 *e*P Pdif 03 30 24.0 +3.4
HYB *e* 03 34 49.0
HYB Hyderabad 106.45 284 *e*P Pdif 03 30 24.0 +3.4
HYB *e*PKP 03 34 35.0
HYB *e*PP PP 03 34 49.0 +0.5
HYB *e*SKS 03 42 24.0
HLGC Holguin 106.78 72 P PP 03 34 51.2 0.0
RCC Rio Carpintero 106.96 73 P PP 03 34 50.3 -2.3
NVS Novosibirsk 107.07 323 *e*P Pdif 03 30 22.2 -0.3
NVS pmax pmax
comp=Z,24nm,2.1s
MKAR Makanchi Array 107.21 315 Pdiff Pdif 03 30 24.5 +1.2
comp=Z,2.6nm,1.2s,baz=72,slow=9.1,SNR=4.4
MKAR PKiKP 03 34 31.6
comp=Z,1.5nm,0.9s,baz=63,slow=2.7,SNR=4.8
MKAR PKKPbc 03 45 48.9
comp=Z,0.9nm,0.8s,baz=297,slow=2.7,SNR=3.7
MASC Masc 108.35 73 P PP 03 35 03.3 +0.6
SDV Santo Domingo 109.53 86 PFAKE 03 34 50.0
SDV LR LR
comp=Z,11µm,21.0s,MS6.4
LBNH Lisbon 112.42 48 PFAKE 03 34 50.0 +9.0
LBNH LR LR
comp=Z,49µm,21.0s,MS7.1
CHKZ Chkalovo 114.51 322 PKIKP PKPdf 03 34 45.5 +0.6
BVAR Borovoye Array 114.73 322 PKP PKPdf 03 34 45.5 +0.2
comp=Z,1.2nm,0.6s,baz=27,slow=1.3,SNR=8.6
SCHQ Schefferville 114.90 36 PFAKE 03 35 00.0 +14
SCHQ LR LR
comp=Z,27µm,22.0s,MS6.8
SJG San Juan 115.56 77 PFAKE 03 35 00.0 +12
SJG LR LR
comp=Z,13µm,21.0s,MS6.5
KBS Kingsbay 116.17 358 *e* Px 03 36 46.6
KBS *e* 03 51 53.0
KBS AMS AMS 04 16 50.5
comp=Z,5µm,23.2s,MS6.1
KBS Kingsbay 116.17 358 PFAKE 03 35 00.0 +12
KBS LR LR
comp=Z,11µm,22.0s,MS6.4
DAG Danmarks Havn 117.66 5 *i* P PP 03 36 02.0 -6.3
comp=Z,22nm,1.2s
BBSR BB Station 118.07 61 PFAKE 03 35 10.0 +18
BBSR LR LR
comp=Z,14µm,20.0s,MS6.6
BJO Bjornoya 120.00 355 *e*SS SS 03 52 52.0 +7.4
BJO AMS AMS 04 28 12.0
comp=Z,13µm,23.9s,MS6.5
SOKR Solikamsk 120.34 331 ⇓*i*PKIKP PKPdf 03 34 57.4 +1.4
SOKR 03 36 21.3
SOKR 03 42 02.8
SOKR SS SS 03 52 46.5 -2.8
SOKR pmax pmax
comp=Z,20nm,1.3s
ARU Arti 120.60 327 *i* PKIKP PKPdf 03 34 57.7 +1.1
BDFB Brasilia 122.30 120 PKP PKPdf 03 35 02.4 +1.6
comp=Z,3.1nm,0.9s,baz=90,slow=2.0,SNR=2.7
BAO Brasilia Array 122.32 120 PKPdf PKPdf 03 35 02.5 +1.7
LVZ Lovozero 123.26 346 *i* PKIKP PKPdf 03 34 45.7 -16
LVZ *e*SS SS 03 53 24.9 -2.0
LVZ MLR MLR
comp=N,14µm,19.0s,MS6.8
LVZ MLR MLR
comp=Z,30µm,19.0s,MS7.0
LVZ MLR MLR
comp=E,16µm,17.0s,MS6.8
KEV Kevo 123.30 350 PFAKE 03 35 10.0 +8.5
KEV LR LR
comp=Z,6µm,21.0s,MS6.3
OPO Ambohidratompo 123.73 235 PKP PKPdf 03 35 04.7 +1.2
comp=Z,17nm,1.1s,baz=81,slow=3.5,SNR=8.7
ARCES ARCESS Array B 123.75 350 PKP PKPdf 03 35 03.0 +0.6
comp=Z,11nm,1.0s,SNR=7.1
JMIC Jan Mayen 124.03 4 *e* 03 53 26.2
JMIC AMS AMS 04 29 01.9
comp=Z,11µm,19.2s,MS6.5
TRO Tromso 124.62 353 *e* 03 53 50.1
TRO AMS AMS 04 35 23.6
comp=Z,10µm,19.2s,MS6.5
TRIS Tristan da Cun 126.31 166 PFAKE 03 35 20.0 +12
TRIS LR LR
comp=Z,9µm,20.0s,MS6.5
KLMR Klimovskoe 126.92 338 *e*PKIKP PKPdf 03 35 09.8 +1.2
KLMR pmax pmax
comp=Z,70nm,1.9s
KLMR MLR MLR
comp=Z,29µm,20.0s,MS7.0
PECR Pechory 127.83 331 *e*PKIKP PKPdf 03 35 11.0 +0.5
PECR *e*PS PS 03 47 10.4 -8.3
PECR *e*SS SS 03 54 26.0 +2.0
PECR MLR MLR
comp=Z,34µm,22.0s,MS7.0
PECR MLR MLR
comp=N,16µm,21.0s,MS6.8
PECR MLR MLR
comp=E,16µm,21.0s,MS6.8
NSS Namsos 130.31 354 AMS AMS 04 41 02.1
comp=Z,15µm,18.2s,MS6.7
FINES FINESS Array B 130.66 345 PKP PKPdf 03 35 14.3 -1.4
comp=Z,6.9nm,1.1s,baz=97,slow=2.7,SNR=2.9
PUL Pulkovo 130.84 341 *i* PKIKP PKPdf 03 35 14.1 -2.0
PUL *e*SP SP 03 47 44.1 +3.6
PUL *e*SSS SSS 03 59 49.8 -3.7
MOS Moscow 131.06 334 *e*PKIKP PKPdf 03 35 24.0 +7.3
MOS *i* SS SS 03 55 06.1 +2.4
MOS pmax pmax
comp=N,2µm,4.5s
MOS pmax pmax
comp=E,500nm,4.5s
MOS pmax pmax
comp=Z,1µm,4.5s
MOS MLR MLR
comp=N,12µm,21.0s,MS6.6
MOS MLR MLR
comp=E,6µm,21.0s,MS6.6
MOS MLR MLR
comp=Z,23µm,21.0s,MS6.9
OBN Obninsk 131.93 334 *d i* PKIKP PKPdf 03 35 18.8 +0.5
OBN *e* 03 37 37.9
OBN *e* 03 42 29.7
OBN *e*SS SS 03 55 14.6 -0.3
OBN pmax pmax
comp=Z,17nm,1.3s
OBN MLR MLR
comp=Z,19µm,19.0s,MS6.8
OBN Obninsk 131.93 334 *i* PKPr PKPdf 03 35 18.8 +0.5
OBN LR LR
comp=Z,19µm,19.0s,MS6.8
MAK Makhachkala 132.03 315 *c i* PKIKP PKPdf 03 35 21.7 +2.8
MAK *i* 03 37 41.8
MAK *i* PPP PPP 03 40 41.6 +5.9
MAK *i* 03 42 25.1
MAK *i* SP SP 03 47 57.9 +7.2
MAK *i* SS SS 03 55 37.3 +21
MAK pmax pmax
comp=Z,130nm,1.8s
VRSR Storozhevoye 133.14 328 *i* PKIKP PKPdf 03 35 21.3 +0.5
NB2 NORSAR Subarra 133.80 353 PKPabc PKPdf 03 35 24.0 +2.3
comp=Z,43nm,2.0s,baz=19,slow=3.8
NOA NORSAR Array B 133.80 353 PKP PKPdf 03 35 23.0 +1.3
comp=Z,1.9nm,0.9s,baz=19,slow=1.6,SNR=4.3
NAO01 NORSAR Array S 134.03 354 PFAKE 03 35 40.0 +18
NAO01 LR LR
comp=Z,19µm,21.0s,MS6.8
DGRG David-gareji 134.05 313 P PKPdf 03 35 33.5 +11
DGRG S 03 55 51.9
GOF Gofitskoye 134.15 319 *e*PKIKP PKPdf 03 35 25.2 +2.4
TI2 Plekhanov 134.38 314 *e*PKIKP PKPdf 03 35 25.0 +1.7
TI2 *e* 03 38 01.0
KIV Kislovodsk 134.86 318 *i* PKHKP 03 35 17.8
KIV *e* 03 42 32.2
KIV *e*SSS SSS 04 00 47.0 -5.3
KIV pmax pmax
comp=Z,7.0nm,1.2s
KIV MLR MLR
comp=Z,34µm,18.0s,MS7.1
BER Bergen 134.91 357 *e*SS SS 03 55 48.8 -1.6
BER AMS AMS 04 34 10.5
comp=Z,19µm,22.0s,MS6.8
ONI Oni 134.94 316 P PKPdf 03 35 26.5 +2.1
GNI Garni 134.96 312 PKP PKPdf 03 35 26.6 +2.1
comp=Z,1.3nm,0.5s,baz=165,slow=17,SNR=3.9
KONO Kongsberg 135.33 354 *e*SS SS 03 55 57.5 +2.1
KONO Kongsberg 135.33 354 PFAKE 03 35 40.0 +15
KONO LR LR
comp=Z,4µm,19.0s,MS6.1
MATP Matopo 135.61 218 PKP PKPdf 03 35 29.1 +2.9
comp=Z,9.9nm,1.1s,baz=142,slow=3.0,SNR=5.4
MNK Minsk 135.83 338 *e*PKIKP PKPdf 03 35 22.0 -3.6
MNK *e* 03 38 08.0
MNK *e*SS SS 03 56 26.0 +24
MNK MLR MLR
comp=E,12µm,20.0s
MNK MLR MLR
comp=Z,15µm,20.0s,MS6.7
HAKT HAKKARI 136.60 309 *i* P PKPdf 03 35 21.1 -6.5
SOC Sochi 136.94 319 *i* PKIKP PKPdf 03 35 32.7 +4.7
SOC *e* 03 38 09.1
SOC *e*PPP PPP 03 41 08.4 -7.5
SOC *e* 03 42 36.5
SOC *e*SS SS 03 56 20.3 +5.3
SOC *e*SSS SSS 04 01 18.7 -2.9
SOC pmax pmax
comp=Z,10.0nm,0.8s
SOC MLR MLR
comp=Z,35µm,22.0s,MS7.0
BHD Baghdad 137.30 303 *ex* x 03 35 42.0
BHD *ex* x 03 38 14.0
BHD *ex* x 03 41 20.0
BHD *ex* x 03 45 04.0
ERZM Erzurum 137.46 313 *i* P PKPdf 03 35 30.9 +1.9
MSL Mosul 137.48 307 *ex* x 03 35 33.0
MSL *ex* x 03 37 55.0
MSL *ex* x 03 39 18.0
ANN Anapa 137.73 322 *i* PKHKP 03 35 18.1
ANN pmax pmax
comp=Z,73nm,0.9s
ANN MLR MLR
comp=Z,13µm,20.0s,MS6.7
SUW Suwalki 137.80 341 *e*Pdiff Pdif 03 32 37.0 -0.8
SUW *e*PP PP 03 38 11.9 -8.9
SUW *e*SKS SKS 03 42 20.3 -14
SUW *e*SS SS 03 56 36.1 +11
SUW MLR MLR 04 36 30.0
comp=Z,33µm,21.2s,MS7.0
SUW Suwalki 137.80 341 *e*P Pdif 03 32 37.0 -0.7
SUW MLR MLR
comp=Z,33µm,21.2s,MS7.0
AKASG Malin Array Be 138.19 334 PKP PKPdf 03 35 29.5 -0.5
comp=Z,5.7nm,1.0s,baz=30,slow=1.7,SNR=14
AKASG PP PP 03 38 18.5 -4.9
comp=Z,1.3nm,0.7s,baz=45,slow=6.9,SNR=4.9
MUD Monsted U'grnd 138.52 354 *i* PKPdf 03 36 20.9 +50
MUD *e* 03 38 43.6
MUD *i* 03 56 35.0
comp=Z,21µm,22.0s
COP Copenhagen 138.83 351 *i* P PKPdf 03 35 24.8 -6.3
COP *i* 03 38 23.7
COP *e* 03 39 11.5
COP *i* 03 56 45.0
comp=Z,8µm,23.0s
COP Copenhagen 138.83 351 *e*PKHKP 03 35 24.8
COP *i* 03 38 23.7
COP *i* 03 56 45.0
COP MLR MLR
comp=Z,8µm,23.0s,MS6.4
COP Copenhagen 138.83 351 *e*P PKPdf 03 35 24.8 -6.3
COP *i* 03 38 23.7
COP *e* 03 39 11.5
COP *i* 03 56 45.0
COP LR LR
comp=Z,8µm,23.0s,MS6.4
SIM Simferopol' 139.59 324 *i* PKIKP PKPdf 03 35 31.1 -1.6
SIM SS SS 03 57 16.0 +30
SIM MLR MLR
comp=Z,28µm,21.0s,MS7.0
LSZ Lusaka 139.70 222 PKhKP 03 35 31.9
comp=Z,3.4nm,0.8s,baz=217,slow=5.1,SNR=4.3
LSZ PKP PKPdf 03 35 35.5 +1.9
comp=Z,3.1nm,0.6s,baz=260,slow=0.8,SNR=4.9
ATAB Bozova 140.64 311 *i* P PKPdf 03 35 39.3 +4.4
KMBO Kilima Mbogo 140.98 248 PKhKP 03 35 34.5
comp=Z,3.1nm,1.0s,baz=33,slow=11,SNR=4.2
KMBO PKP PKPdf 03 35 38.4 +2.2
comp=Z,9.2nm,1.0s,baz=15,slow=3.1,SNR=8.8
KIS Kishinev 141.06 330 *e*PKIKP PKPdf 03 35 34.0 -1.3
KIS *e* 03 38 38.0
KIS MLR MLR
comp=Z,41µm,21.0s,MS7.2
CTKT Corum 141.59 318 *i* P PKPdf 03 35 46.3 +10

KWP **Kalwaria** **141.63 338** *e*PKP PKPdf 03 35 33.1 -3.1
KWP *e*SKS SKS 03 42 40.6 -0.2
KWP MLR MLR 04 30 32.6
comp=Z,33µm,28.1s,MS6.9
KWP **Kalwaria** **141.63 338** *e*PKP PKPdf 03 35 33.1 -3.1
KWP *e*PKPdf PKPdf 03 35 37.9 +1.7
KWP *e*SKS SKS 03 42 40.6 -0.3
OJC **Ojcow** **142.13 341** *e*PKPdf PKPdf 03 35 37.6 +0.6
TSUM **Tsumeb** **142.18 205** PKhKP 03 35 36.0
comp=Z,5.2nm,0.8s,baz=176,slow=5.5,SNR=2.7
TSUM PKP PKPdf 03 35 40.5 +2.5
comp=Z,12nm,1.0s,baz=84,slow=3.9,SNR=5.2
TSUM **Tsumeb** **142.18 205** PKP PKPdf 03 35 36.0 -2.0
TSUM *e*PKPdf PKPdf 03 35 39.5 +1.4
STHS **Stebnicka Huta** **142.34 339** *e*PKP PKPdf 03 35 35.6 -1.8
KOLS **Kolonicke sedl** **142.37 337** *e* PKPdf 03 35 37.6 +0.1
AVNT **Avonos** **142.48 315** *i* P PKPdf 03 35 33.8 -4.2
ELDT **Eldivan** **142.54 318** *i* P PKPdf 03 35 37.4 -0.7
KSP **Ksiaz** **142.59 344** *e*PKP PKPdf 03 35 36.3 -1.5
KSP *e*PP PP 03 38 46.2 -3.5
KSP *e*SKS SKS 03 42 45.8 +3.5
KSP *e*SS SS 03 57 31.7 +11
KSP MLR MLR 04 40 55.8
comp=Z,50µm,22.2s,MS7.2
KSP **Ksiaz** **142.59 344** *e*PKIKP PKPdf 03 35 36.4 -1.4
KSP MLR MLR
comp=Z,58µm,22.2s,MS7.3
NIE **Niedzica** **142.66 340** *e*PKP PKPdf 03 35 35.2 -2.8
CFR **Carcaliu** **142.67 328** ⇓P PKPdf 03 35 36.4 -1.7
CRVS **Cervenica-Dubn** **142.69 338** *i* PKPdf 03 35 35.3 -2.7
RAC **Raciborz** **142.75 342** *e*PKPdf PKPdf 03 35 40.3 +2.2
RAC LMN 04 37 52.8
RAC MLR MLR 04 38 08.1
RAC LME 04 42 39.7
comp=Z,22µm,19.1s
RAC **Raciborz** **142.75 342** *e*PKIKP PKPdf 03 35 40.3 +2.2
RAC MLR MLR
comp=N,28µm,21.9s
RAC MLR MLR
comp=Z,28µm,21.2s,MS7.0
BR131 **Keskin Array S** **142.81 317** *e*PKPdf PKPdf 03 35 36.7 -1.8
BR131 LR LR
comp=Z,11µm,20.0s,MS6.6
BRTR **Keskin Array B** **142.81 317** PKhKP 03 35 36.2
comp=Z,9.2nm,1.1s,baz=51,slow=2.1,SNR=22
BRTR PKP PKPdf 03 35 39.2 +0.7
comp=Z,9.0nm,1.1s,baz=90,slow=1.4,SNR=22
BRTR PP PP 03 38 47.5 -3.9
comp=Z,0.2nm,0.5s,baz=92,slow=38,SNR=3.4
BRTR **Keskin Array B** **142.81 317** PKIKP PKPdf 03 35 36.2 -2.3
BRTR 03 35 39.3
BRTR 03 38 47.5
CLL **Collm** **142.91 348** *i* PKPdf 03 35 36.8 -1.5
CLL *i* PKIKP PKPdf 03 35 43.6 +5.3
CLL *i* *PPKP 03 35 48.3
CLL *i* 03 35 56.6
CLL *e* 03 37 55.0
CLL *e* 03 39 00.0
CLL *e* 03 40 15.0
CLL *e* 03 40 39.0
CLL *e* 03 43 23.0
CLL *e* 03 45 17.0
CLL *e*PS PS 03 49 34.0 0.0
CLL *e*PPS PPS 03 51 15.0 -3.4
CLL *e*SS SS 03 57 19.0 -5.2
CLL *e*SSS SSS 04 02 26.0 -21
CLL *e* 04 05 30.0
CLL *e* 04 06 42.0
CLL **Collm** **142.91 348** ⇓*i* PKIKP PKPdf 03 35 36.8 -1.5
CLL *i* 03 35 43.6
CLL MLR MLR
comp=Z,33µm,19.5s,MS7.1
CLL **Collm** **142.91 348** *i* PKP PKPdf 03 35 36.8 -1.5
CLL ⇓*i* PKP PKPdf 03 35 43.6 +5.3
CLL *i* pPKP 03 35 48.3
CLL LR LR
comp=Z,33µm,19.5s,MS7.1
UPC **Upice** **142.97 344** *e*PKP PKPdf 03 35 37.3 -1.1
OKC **Ostrava-Krasne** **142.98 342** *e*PKP PKPdf 03 35 37.0 -1.5
OKC *e*SS SS 03 57 32.9 +7.9
OKC *ex* x 04 02 42.2
OKC AMS AMS 04 42 20.0
comp=Z,18µm,19.1s
TIRR **Tirgusor** **143.03 327** *e*PKIKP PKPdf 03 35 37.3 -1.5
DPC **Dobruska-Polom** **143.03 344** *e*PKP PKPdf 03 35 37.2 -1.4
DPC *e*SS SS 03 57 36.9 +11
DPC *ex* x 04 02 48.6
DPC AMS AMS 04 40 40.0
comp=Z,23µm,21.3s
DPC **Dobruska-Polom** **143.03 344** *e*PKIKP PKPdf 03 35 37.2 -1.4
DPC *e* 04 02 48.6
DPC MLR MLR
comp=Z,23µm,21.3s,MS6.9
HARR **Harsova** **143.12 328** ⇓P PKPbc 03 35 36.3 -0.7
BRG **Berggiesshubel** **143.12 347** *e*PKIKP PKPdf 03 35 37.8 -0.9
BRG *e* 03 35 42.5
BRG 03 51 21.0
BRG SS SS 03 57 28.0 +1.3
BRG MLR MLR
comp=Z,33µm,20.0s,MS7.1
BRG MLR MLR
comp=N,18µm,19.8s,MS7.0
BRG MLR MLR
comp=E,18µm,22.5s,MS7.0
BRG **Berggiesshubel** **143.12 347** *e*PKP PKPdf 03 35 37.8 -0.9
BRG *e* 03 35 42.5
BRG *i* 03 35 56.9
BRG SKKS 03 51 21.0
BRG SS SS 03 57 28.0 +1.3
BRG LR LR
comp=Z,33µm,20.4s,MS7.1
WTSB **Winterswijk** **143.19 354** *e*PKP PKPdf 03 35 41.2 +2.4
MORC **Moravsky Berou** **143.21 342** *e*PKHKP 03 35 36.3
ANTO **Ankara** **143.29 318** PKIKP PKPdf 03 35 38.6 -0.7
ANTO **Ankara** **143.29 318** *e*PKPdf PKPdf 03 35 38.3 -1.1
ANTO LR LR
comp=Z,11µm,20.0s,MS6.6
PVCC **Panska Ves** **143.31 346** *e*PKP PKPdf 03 35 38.6 -0.4
PVCC *e*SS SS 03 57 34.8 +5.9
PVCC AMS AMS 04 39 40.0
comp=Z,25µm,19.9s
SGKT **Sivrigoynuk** **143.37 319** *i* P PKPbc 03 35 36.1 -1.7
BSTP **Nigde** **143.39 314** *i* P PKPbc 03 35 38.3 +0.3
KECS **Kecovo** **143.40 339** *i* PKPbc 03 35 37.8 +0.1
MLR **Muntele Rosu** **143.52 331** PKhKP 03 35 37.2
comp=Z,25nm,1.2s,baz=13,slow=2.8,SNR=12
MLR PKP PKPdf 03 35 40.8 +1.2
comp=Z,25nm,1.2s,baz=3.7,slow=7.8,SNR=12
MLR **Muntele Rosu** **143.52 331** ⇓P PKPbc 03 35 41.3 +3.2
MLR **Muntele Rosu** **143.52 331** PKIKP PKPdf 03 35 39.0 -0.5
PRA **Prague** **143.76 346** PKP PKPdf 03 35 38.0 -1.8
PRA *ex* x 03 36 00.0
PRA *ex* x 03 36 38.0
MOX **Moxa** **143.81 349** *i* P PKPbc 03 35 40.6 +1.8
comp=Z,logA/T=1.2
MOX *e* 03 48 50.0
MOX SS SS 03 57 37.0 +2.0
MOX L 04 44 45.0
MOX **Moxa** **143.81 349** *e*PKIKP PKPdf 03 35 40.6 +0.7
MOX MLR MLR
comp=Z,21µm,21.0s,MS6.9
PRU **Pruhonice** **143.81 346** *e*PKP PKPdf 03 35 39.3 -0.6
PRU *e*SS SS 03 57 38.9 +3.9
PRU *ex* x 04 02 49.3
PRU AMS AMS 04 39 40.0
comp=Z,24µm,20.8s
PRU **Pruhonice** **143.81 346** *e*PKIKP PKPdf 03 35 39.3 -0.6
PRU *e*SS SS 03 57 38.9 +3.9
PRU MLR MLR
comp=Z,24µm,20.8s,MS6.9
SNX **Sinaia** **143.83 331** ⇓P PKPbc 03 35 39.0 -0.1
VRAC **Vranov** **143.90 343** PKIKP PKPdf 03 35 39.7 -0.4
HENT **Hendek** **143.94 321** *i* P PKPbc 03 35 35.3 -4.2
WHY **Vyhne** **143.95 340** *i* PKP PKPdf 03 35 38.9 -1.3
DRGR **143.95 335** ⇓P PKPbc 03 35 38.4 -1.0
BHL **Bhannes** **144.02 307** *e*P PKPbc 03 35 39.0 -1.0
NKC **Novy Kostel** **144.05 348** *e*PKP PKPdf 03 35 42.3 +2.0
NKC *e*SS SS 03 57 41.0 +3.3
NKC *ex* x 04 03 09.1
NKC AMS AMS 04 38 20.0
comp=Z,23µm,21.0s
PSZ **Piszkesteto** **144.09 339** ⇓*i* PKP/p PKPdf 03 35 39.8 -0.6
PSZ **Piszkesteto** **144.09 339** PKIKP PKPdf 03 35 39.9 -0.5
PSZ **Piszkesteto** **144.09 339** *e*PKPdf PKPdf 03 35 39.7 -0.8
TREC **Trest** **144.22 344** *e*PKP PKPdf 03 35 40.1 -0.5
TREC *e*SS SS 03 57 49.7 +10
TREC *ex* x 04 03 06.3
TREC AMS AMS 04 43 00.0
comp=Z,22µm,21.1s
KSDI **Kefar Szold** **144.28 306** P PKPbc 03 35 40.4 -0.4
BUC1 **Bucharest** **144.32 329** PKIKP PKPdf 03 35 41.0 0.0
SMOL **Smolenice** **144.37 342** *i* PKP PKPdf 03 35 41.9 +0.9
PRD **Provadia** **144.43 327** P PKPbc 03 35 42.0 +1.2
KDHN **Kadinhani** **144.45 316** *i* P PKPbc 03 35 43.1 +2.1
HGN **Heimansgroeve** **144.46 355** *e*PKP PKPdf 03 35 40.2 -0.9
comp=Z,58nm,1.5s
HGN *ex* x 03 35 59.5
comp=Z,181nm,3.1s
HGN *ex* x 03 36 39.6
comp=Z,205nm,5.1s
HGN *e*PP PP 03 38 47.1 -14
HNTI **Hanita** **144.70 306** P PKPbc 03 35 42.0 +0.1
SRO **Srobarova** **144.71 340** *i* PKP PKPdf 03 35 42.6 +1.0
TNS **Taunus Mts** **144.72 352** *e*PKIKP PKPdf 03 35 41.3 -0.2
ESKT **Eskisehir** **144.73 319** *i* P PKPbc 03 35 40.2 -1.6
MMLI **Mount Malkishu** **144.74 305** P PKPbc 03 35 42.6 +0.5
ZST **Bratislava** **144.75 342** *i* PKP PKPbc 03 35 42.9 +1.3
BUD **Budapest** **144.76 339** *e*PKP/p PKPdf 03 35 41.8 +0.1
BORA **Eskisehir** **144.77 320** *i* P PKPbc 03 35 39.3 -2.6
GRA1 **Grafenberg Arr** **144.80 349** *e*PKPbc PKPbc 03 35 41.8 +0.1
GRF **Grafenberg Arr** **144.80 349** *e*PKIKP PKPdf 03 35 41.8 +0.1
GRF MLR MLR
comp=Z,26µm,21.5s,MS7.0
GRF **Grafenberg Arr** **144.80 349** *e*PKIKP PKPdf 03 35 41.8 +0.1
GRF MLR MLR
comp=Z,26µm,21.5s,MS7.0
KHC **Kasperske Hory** **144.84 346** *e*PKP PKPdf 03 35 42.4 +0.6
KHC *x* x 03 35 55.0
KHC *e*SS SS 03 57 50.5 +4.0
KHC *ex* x 04 03 15.0
KHC AMS AMS 04 40 10.0
comp=Z,36µm,21.4s
KHC **Kasperske Hory** **144.84 346** *e*PKIKP PKPdf 03 35 42.4 +0.6
KHC *e*SS SS 03 57 50.5 +4.0
KHC *e* 04 03 15.0
KHC MLR MLR
comp=Z,36µm,21.4s,MS7.1
KHC **Kasperske Hory** **144.84 346** *e*PKP PKPdf 03 35 42.4 +0.6
KHC *e* 03 35 55.0
KHC *e*SS SS 03 57 50.5 +4.0
KHC *e* 04 03 15.0
KHC LR LR
comp=Z,36µm,21.4s,MS7.1
MENF **Mencas** **144.85 359** PKP PKPdf 03 35 41.3 -0.4
ERMK **Ermenek** **144.86 313** *i* P PKPdf 03 35 34.5 -7.7
VKA **Vienna** **144.93 343** ⇑*i* P PKPdf 03 35 42.6 +0.7
WET **Wettzell** **144.99 347** *e*PKIKP PKPdf 03 35 42.4 +0.4
OFRI **'Ofer** **145.02 306** P PKPdf 03 35 42.8 +0.2
GEC2 **GERESS Array S** **145.08 346** *e*PKIKP PKPdf 03 35 42.7 +0.5
GERES **GERESS Array B** **145.08 346** PKP PKPdf 03 35 43.0 +0.8
comp=Z,20nm,0.9s,baz=27,slow=3.0,SNR=42
SZH **Strazhica** **145.15 328** P PKPdf 03 35 44.0 +1.5
ABH **Alteburg** **145.17 353** *e*P PKPdf 03 35 42.8 +0.5
ABH **Alteburg** **145.17 353** PKP PKPdf 03 35 42.3 0.0
MZDA **Masada** **145.17 303** P PKPdf 03 35 43.5 +0.6
GIVF **Givet** **145.20 356** *e*PKP1 PKPbc 03 35 42.3 -0.4
comp=Z,317nm,1.4s
ELBA **Catalca** **145.22 323** *i* P PKPdf 03 35 39.3 -3.4
BAIF **Baives** **145.28 357** *e*PKP1 PKPbc 03 35 42.8 -0.1
comp=Z,103nm,1.0s
TOD **Tromm** **145.28 352** *e*P PKPdf 03 35 43.0 +0.5
CSS **Prodhromos** **145.33 310** *e*PKPbc PKPbc 03 35 44.7 +1.1
BZS **Buzias** **145.35 335** ⇓P PKPdf 03 35 42.5 -0.3
JMB **Yambol** **145.37 326** P PKPdf 03 35 45.0 +2.1
SOP **Sopron** **145.38 342** ⇑*e*PKP/p PKPdf 03 35 44.0 +1.3
RUP **Ruppelstein** **145.40 354** *e*P PKPdf 03 35 43.3 +0.6
RUP **Ruppelstein** **145.40 354** PKIKP PKPdf 03 35 43.5 +0.8
CRAR **CRAIOVA** **145.41 331** PKIKP PKPdf 03 35 45.3 +2.4
SIND **Sindeldorf** **145.41 351** *e*P PKPdf 03 35 43.1 +0.4
SWS **Schriesheim** **145.41 352** *e*P PKPdf 03 35 43.2 +0.5
ULDT **Uludag** **145.43 321** *i* P PKPdf 03 35 43.4 +0.3
PVL **Pavlikeni** **145.49 328** P PKPdf 03 35 45.0 +1.9
WLF **Walferdange** **145.53 355** *e*PKPdf PKPdf 03 35 44.9 +2.0
ZFRI **Zfri** **145.57 302** P PKPdf 03 35 45.0 +1.4
KTD **Kalmit** **145.66 352** *e*P PKPdf 03 35 44.4 +1.2
KTD **Kalmit** **145.66 352** PKIKP PKPdf 03 35 44.0 +0.8
ADH **Angra Heroismo** **145.73 42** *i* LR LR 04 24 12.5
GDZ **Gediz** **145.84 319** *i* P PKPdf 03 35 43.1 -0.7
MOA **Molln** **145.87 345** ⇑*i* P PKPdf 03 35 45.4 +1.9
comp=Z,10µm,5.1s,SNR=41
ISP **Isparta** **145.89 317** ⇑*e*PKIKP PKPdf 03 35 44.8 +0.9
TKTP **Tekketepe** **145.90 317** *i* P PKPdf 03 35 43.0 -1.0
PKSM **Moragy** **145.99 338** PKP2 PKPab 03 35 45.8 -1.4
MBH **Mount Berech** **146.02 301** P PKPdf 03 35 46.6 +2.2
EIL **Elat** **146.03 301** P PKPdf 03 35 46.5 +2.1
STU **Stuttgart** **146.03 351** *e*PKP2 PKPab 03 35 46.1 -1.2
HDH **Heidenheim** **146.05 350** *e*P PKPdf 03 35 45.5 +1.6
ARSA **Arzberg** **146.07 343** *i* P PKPdf 03 35 45.9 +1.9
comp=Z,8µm,5.5s,SNR=11
ARSA **Arzberg** **146.07 343** *i* P PKPdf 03 35 45.9 +1.9
KZIT **Kziot** **146.09 303** P PKPdf 03 35 46.4 +1.9
LBG **Lerchenberg** **146.20 351** *e*P PKPdf 03 35 46.1 +2.0
DIM **Dimitrovgrad** **146.22 327** P PKPdf 03 35 47.0 +2.6
FUR **Furstenfeldbru** **146.25 348** *e*PKP2 PKPab 03 35 46.4 -1.8
STR **Strasbourg** **146.42 352** PKP PKPdf 03 35 47.3 +2.8
BEO **Belgrade** **146.47 335** ⇓*i* PKP PKPdf 03 35 46.9 +2.2
KDZ **Kurdzhali** **146.56 326** P PKPdf 03 35 49.0 +4.0
PGB **Panagyurishte** **146.56 329** P PKPdf 03 35 48.0 +3.1
SVIS **Svilajnac** **146.58 334** ⇓*i* PKP PKPdf 03 35 46.9 +2.0
BFO **Black Forest** **146.59 352** *e*PKP2 PKPab 03 35 46.9 -2.6
PLD **Plovdiv** **146.61 328** *e*P PKPdf 03 35 49.0 +4.0
FLN **La Foliniere** **146.62 2** *e*PKP1 PKPbc 03 35 46.8 +0.6
comp=Z,94nm,1.0s
FLN *e*R
comp=Z,46µm,22.2s
BOLS **Boljevac** **146.63 332** ⇓*i* PKP PKPdf 03 35 44.8 -0.2
WLS **Welschbruch** **146.64 353** PKP PKPdf 03 35 45.9 +1.0
CDF **Champ du Feu** **146.65 353** *e*PKP1 PKPbc 03 35 47.1 +0.8
comp=Z,508nm,1.5s
GUT **Gutenstein** **146.73 351** *e*P PKPdf 03 35 47.0 +2.0
PERS **Pernice** **146.75 343** *e*PKPbc PKPbc 03 35 48.1 +1.6
PERS *e*SS SS 03 58 19.2 +11
SPAK **Spaichingen** **146.75 351** *e*P PKPdf 03 35 47.5 +2.4
SPAK **Spaichingen** **146.75 351** PKP PKPdf 03 35 47.7 +2.6
MANT **Manisa** **146.78 319** *i* P PKPdf 03 35 47.5 +2.1
MEZF **Maizieres J'vi** **146.78 356** *e*PKP1 PKPbc 03 35 47.4 +0.8
comp=Z,398nm,1.4s
LDF **La Druitiere** **146.80 2** *e*PKP1 PKPbc 03 35 46.8 +0.2
comp=Z,215nm,1.4s
KBA **Koelnbreinsper** **146.81 345** *i* P PKPdf 03 35 47.9 +2.7
comp=Z,6µm,4.8s,SNR=31
GOLH **Golhisar** **146.85 316** *i* P PKPdf 03 35 40.3 -5.3
ROSF **Rostrenen** **146.85 6** *e*PKP1 PKPbc 03 35 47.1 +0.4
comp=Z,232nm,1.2s
ECH **Echery** **146.86 353** PKP PKPdf 03 35 47.8 +2.6
LIBD **Limburg** **146.87 352** *e*P PKPdf 03 35 47.9 +2.6
LIBD **Limburg** **146.87 352** PKP2 PKPab 03 35 47.8 -2.8
RZN **Rozhen** **146.90 327** P PKPdf 03 35 49.0 +3.5
DNZL **Cakiroluk** **146.93 318** *i* P PKPdf 03 35 48.7 +2.9
UBR **Uberruh** **146.94 349** *e*P PKPdf 03 35 47.1 +1.7
THEF **They Montfort** **146.97 354** PKP PKPdf 03 35 48.0 +2.6
GRR **Gorron** **146.97 3** *e*PKP1 PKPbc 03 35 47.7 +0.7
comp=Z,191nm,1.2s
SGMF **Saint Gilles** **147.00 5** *e*PKP1 PKPbc 03 35 47.4 +0.3
comp=Z,539nm,1.5s
VTS **Vitosha** **147.00 330** P PKPdf 03 35 49.0 +3.3
KIZ **Kirchzarten** **147.02 352** *e*P PKPdf 03 35 47.5 +2.0
FELD **Feldberg** **147.08 352** *e*P PKPdf 03 35 47.9 +2.3
GRUS **Gruza** **147.12 334** *e*PKP PKPdf 03 35 48.2 +2.4
HAU **Haudompre** **147.16 354** *e*PKP1 PKPdf 03 35 48.6 +2.9
comp=Z,578nm,1.5s
HAU *e*R
comp=Z,43µm,21.8s
MOF **Molkenrain** **147.22 353** PKP PKPdf 03 35 48.3 +2.5
DIVS **Divcibare** **147.25 335** ⇑*i* PKP PKPdf 03 35 49.1 +3.1
PDA **Ponta Delgada** **147.26 42** *e*LR LR 04 25 32.0
QUIF **Quistinic** **147.28 6** *e*PKP1 PKPdf 03 35 48.3 +2.4
comp=Z,147nm,1.2s
HINF **Hinteralfeld** **147.29 353** *e*PKP1 PKPdf 03 35 48.9 +3.0
comp=Z,438nm,1.7s
DAVA **Damuels** **147.36 349** ⇑*i* P PKPdf 03 35 49.4 +3.4
comp=Z,8µm,4.8s,SNR=31
DAVA **Damuels** **147.36 349** ⇑*i* P PKPdf 03 35 49.4 +3.4
AKAS **Kas** **147.36 315** *i* P PKPdf 03 35 46.0 -0.4
SEST **Monte Rota** **147.39 346** PKP PKPdf 03 35 49.9 +3.7
FVI **Forni Avoltri** **147.40 345** PKP2 PKPab 03 35 49.7 -3.0
PTCC **Patocco-Chiusa** **147.44 345** PKP PKPdf 03 35 49.2 +3.0
LJU **Ljubljana** **147.46 343** *e*PKPbc PKPdf 03 35 49.4 +3.1
BARS **Barje** **147.48 331** ⇓*i* PKP PKPdf 03 35 49.8 +3.4
MMB **Musomiste** **147.49 328** P PKPdf 03 35 50.0 +3.5
CADS **Cadrg** **147.50 344** *e*PKPbc PKPdf 03 35 48.8 +2.4
CADS *e* 03 42 50.4
BRES **Bressanone** **147.55 347** PKP PKPdf 03 35 50.6 +4.2
BBS **Basel-Blauen** **147.55 352** *e*P PKPdf 03 35 48.7 +2.3
BBS **Basel-Blauen** **147.55 352** PKIKP PKPdf 03 35 47.7 +1.3
GMNA **Gemona** **147.59 345** PKP PKPdf 03 35 49.9 +3.4
KKB **Krupnik** **147.60 329** P PKPdf 03 35 48.0 +1.3
KDAG **Bornova** **147.64 320** *i* P PKPdf 03 35 48.5 +1.6
BBLS **Bajina Basta -** **147.68 335** *e*PKP PKPdf 03 35 50.4 +3.7
AYDN **Tasoluk** **147.70 319** *i* P PKPdf 03 35 47.9 +0.9
BOJS **Bojanci** **147.73 342** *e*PKPbc PKPdf 03 35 50.6 +3.8
BOJS *e* 03 54 55.5
LOMF **Lomont** **147.75 353** PKP PKPdf 03 35 50.4 +3.7
APPI **Appiano** **147.87 347** PKP PKPdf 03 35 50.6 +3.7
SRS **Serrai** **147.90 328** *e*P PKPdf 03 35 50.6 +3.5
FUORN **Ofenpass** **147.93 348** PKP PKPdf 03 35 51.5 +4.5
BRMO **Bormio** **148.05 348** PKP PKPdf 03 35 52.2 +5.0
URLA **Izmir** **148.08 321** *i* P PKPdf 03 35 47.3 -0.2
LOR **Lormes** **148.08 357** *e*PKP1 PKPdf 03 35 51.0 +3.8
comp=Z,128nm,1.2s
LOR *e*R
comp=Z,41µm,22.2s
HYF **Humbligny** **148.13 358** *e*PKP1 PKPdf 03 35 51.3 +4.0
CTI **Castel Tesino** **148.19 346** PKP2 PKPab 03 35 51.9 -3.9
KNT **Kendrikon** **148.22 328** *e*P PKPdf 03 35 51.9 +4.2
SOH **Sokhos** **148.24 327** *e*P PKPdf 03 35 51.2 +3.5
TUE **Stuetta** **148.24 350** PKP PKPdf 03 35 50.6 +3.1
SSF **Saint Saulge** **148.31 357** *e*PKP1 PKPdf 03 35 51.8 +4.2
comp=Z,273nm,1.3s
ARG **Arkhangelos** **148.37 316** *e*P PKPdf 03 35 54.5 +6.4
CABF **La Chapelle** **148.56 354** *e*PKP1 PKPdf 03 35 52.9 +4.9
comp=Z,210nm,1.1s
THE **Thessaloniki** **148.58 328** *e*P PKPdf 03 35 52.4 +4.1
AVF **Avril sur Loir** **148.58 357** *e*PKP1 PKPdf 03 35 52.2 +4.1
comp=Z,111nm,1.2s
GRG **Griva** **148.62 329** *e*P PKPdf 03 35 53.5 +5.2
SMF **Signal de Mont** **148.71 357** *e*PKP1 PKPdf 03 35 52.4 +4.1
comp=Z,612nm,1.8s
PAIG **Paliouri** **148.71 326** *e*P PKPdf 03 35 52.8 +4.4
MFF **Saint Martin d** **148.79 2** *e*PKP1 PKPdf 03 35 52.6 +4.2
comp=Z,425nm,1.6s
MUGIO **Muggio** **148.83 350** PKP PKPdf 03 35 52.7 +4.2
BGF **Bois d'Agland** **148.84 358** *e*PKP1 PKPdf 03 35 53.0 +4.5
comp=Z,109nm,1.2s
MMK **Mattmark** **148.87 351** PKIKP PKPdf 03 35 51.3 +2.8
DIX **Grande Dixence** **148.93 352** PKP2 PKPab 03 35 53.3 -5.5
VAI **Varese** **148.93 350** PKP2 PKPab 03 35 53.7 -5.2
TCF **Toulx Ste Croi** **149.12 359** *e*PKP1 PKPdf 03 35 53.7 +4.8
STON **Ston** **149.19 336** *i* P PKPdf 03 35 56.2 +7.1
LIT **Litokhoron** **149.21 327** *e*P PKPdf 03 35 50.6 +1.3
ORO **Oropa** **149.29 351** PKP2 PKPab 03 35 54.5 -5.8
AGO **Saint Agoulin** **149.33 358** PKP PKPdf 03 35 54.0 +4.7
PLDF **La Plantade** **149.39 357** PKP PKPdf 03 35 54.7 +5.3
NEO **Neokhori** **149.40 326** *e*P PKPdf 03 35 44.5 -5.1
LPL **La Plagne** **149.57 353** *e*PKP1 PKPdf 03 35 55.8 +6.1
comp=Z,900nm,1.8s
LPG **La Plagne** **149.58 353** *e*PKP1 PKPdf 03 35 55.6 +5.9
comp=Z,604nm,1.6s
BOB **Bobbio (Coli)** **149.87 349** PKP2 PKPab 03 35 56.6 -6.2
PTL **Panteli** **149.91 323** *e*P PKPdf 03 35 55.5 +5.0
MPAR **Parnis Oros** **149.91 323** *e*P PKPdf 03 35 56.0 +5.5
GDM **Grand'Maison** **149.95 353** PKP PKPdf 03 35 57.1 +6.8
GDM **Grand'Maison** **149.95 353** PKP PKPdf 03 35 57.2 +6.9
ERBM **Eremo** **150.01 347** PKP PKPdf 03 35 57.4 +7.0
SANT **Santorini** **150.02 319** *e*PKPbc PKPdf 03 35 56.6 +5.9
BNI **Bardonecchia** **150.03 353** *e*PKHKP 03 35 53.2
GSCL **Gusciola** **150.03 347** PKP PKPdf 03 35 54.4 +3.9
AGG **Agios Georgios** **150.08 326** *e*P PKPdf 03 35 57.2 +6.5
FNVD **Fontana Vidola** **150.09 346** PKP PKPdf 03 35 52.0 +1.5
RJF **Les Rejaudoux** **150.11 360** *e*PKP1 PKPdf 03 35 56.1 +5.6
comp=Z,640nm,1.9s
LBL **Lubilhac** **150.14 357** PKP PKPdf 03 35 55.9 +5.3
SFI **Santa Sofia** **150.16 345** PKP PKPdf 03 35 55.3 +4.6
VMG **Vicchio** **150.18 345** PKP PKPdf 03 35 53.3 +2.6
ORIF **Oris-en-Rattie** **150.26 354** *e*PKP1 PKPdf 03 35 57.2 +6.4
ORIF *e*R
comp=Z,30µm,22.8s
VLC **Villacollemand** **150.26 347** *e*PKPbc PKPdf 03 35 57.7 +6.9
MBDF **Montbardon** **150.34 352** *e*PKP1 PKPdf 03 35 57.3 +6.4
comp=Z,81nm,1.0s
JAN **Janina** **150.38 329** *e*P PKPdf 03 35 55.0 +3.8
BADI **Badiali** **150.42 344** PKP PKPdf 03 35 55.4 +4.3
VIVF **Saint-Julien-l** **150.43 355** *e*PKP1 PKPdf 03 35 57.1 +6.0
comp=Z,242nm,1.5s
EVR **Evrytania** **150.44 327** *e*P PKPdf 03 35 58.0 +6.7
LFF **La Frestale** **150.47 1** *e*PKP1 PKPdf 03 35 56.9 +5.8
comp=Z,108nm,1.2s
CAF **Calvac** **150.49 359** *e*PKP1 PKPdf 03 35 56.8 +5.7
comp=Z,86nm,1.2s
SURF **Saint Ours** **150.58 352** PKP PKPdf 03 35 58.8 +7.5
FIN **Finale Ligure** **150.63 350** PKP PKPdf 03 35 57.3 +5.9
CSNT **Castellina Chi** **150.70 345** PKP PKPdf 03 35 57.3 +5.8
IGT **Igoumenitsa** **150.74 329** *e*P PKPdf 03 35 57.5 +5.8
KEK **Kerkira** **150.86 330** *e*P PKPdf 03 35 59.0 +7.1
AUTN **L'Aution** **150.97 351** PKP PKPdf 03 36 00.2 +8.3
TOUF **Mont Tournerai** **150.97 351** PKP PKPdf 03 36 02.0 +10
SBF **Sospel** **151.09 351** *e*PKP1 PKPdf 03 35 59.1 +7.0
comp=Z,217nm,1.2s
MVIF **Mont Vial** **151.10 351** PKP PKPdf 03 36 00.3 +8.2
AQU **L'Aquila** **151.15 341** *e*PKPbc PKPdf 03 36 00.3 +8.1
STOF **St-Etienne Org** **151.16 353** PKP PKPdf 03 36 02.4 +10
LKD **Levkas** **151.20 328** *e*P PKPdf 03 36 01.0 +8.6
SMRF **Simiane la Rot** **151.22 354** *e*PKP1 PKPdf 03 35 59.3 +7.0
comp=Z,220nm,1.4s
REVF **Revere** **151.22 351** PKP PKPdf 03 36 00.2 +7.9
LASF **Ste Croix** **151.26 356** *e*PKP1 PKPdf 03 35 59.0 +6.7
comp=Z,268nm,1.7s
PRAF **Pradon** **151.43 354** PKP PKPdf 03 36 01.0 +8.4
FRF **La Foret Royal** **151.50 352** *e*PKP1 PKPdf 03 35 59.5 +6.8
comp=Z,158nm,1.4s
ITM **Ithomi** **151.62 324** *e*P PKPdf 03 36 00.0 +6.9
VLS **Valsamata** **151.63 327** *e*P PKPdf 03 36 00.5 +7.4
LMR **La Mourre** **151.74 352** *e*PKP1 PKPdf 03 36 00.7 +7.6
comp=Z,175nm,1.4s
GELF **Grande-Etoile** **151.82 354** PKP PKPdf 03 36 03.8 +11
BERF **Bertagne** **151.86 353** PKP PKPdf 03 36 06.9 +14
MTLF **Montolieu** **152.07 359** *e*PKP1 PKPdf 03 36 01.2 +7.7
comp=Z,284nm,1.8s
PGF **Pioggiola** **152.09 348** *e*PKP1 PKPdf 03 36 01.5 +7.9
comp=Z,169nm,1.1s
SJPF **Ste Jean** **152.21 4** *e*PKP1 PKPdf 03 36 01.2 +7.4
EPF **Esparros** **152.37 2** *e*PKP1 PKPdf 03 36 01.6 +7.6
ETSF **Etsaut** **152.47 3** *e*PKP1 PKPdf 03 36 02.0 +7.9
comp=Z,299nm,1.7s
PCAB **Cabril** **152.47 15** *e*PKPab PKPab 03 36 16.0 +2.2
TIP **Timpagrande** **152.68 333** *e*PKPbc PKPdf 03 36 03.2 +8.6
PBRG **Braganca** **152.69 13** *e*PKPab PKPab 03 36 14.8 +0.1
PVRL **Vila Real** **152.95 15** *e*PKPab PKPab 03 36 16.4 +0.6
PVIS **Viseu** **153.43 16** *e*PKPab PKPab 03 36 20.2 +2.3
MTE **Manteigas** **153.82 16** *e*PKPdf PKPdf 03 36 00.1 +4.0
MTE **Manteigas** **153.82 16** *e*PKPab PKPab 03 36 18.3 -1.2
MTE **Manteigas** **153.82 16** *e*SS SS 03 59 33.4 +6.8
MTE *e*- 04 05 14.6
MTE **Manteigas** **153.82 16** *e*LQ 04 19 29.8
MTE **Manteigas** **153.82 16** *e*LR LR 04 30 36.9
comp=Z,39µm,20.7s
PTOM **Tomar** **154.31 18** *e*PKPab PKPab 03 36 19.9 -1.7
PCBR **Castelo Branco** **154.36 16** *e*PKPab PKPab 03 36 18.1 -3.7
EBR **Ebro Roquetas** **154.58 2** *e*PCP PKPab 03 36 23.0 +0.3
PLOU **Loures** **154.75 20** *e*PKPdf PKPdf 03 36 04.7 +7.3
PLOU **Loures** **154.75 20** *e*PKPab PKPab 03 36 23.2 -0.3
LIS **Lisbon** **154.91 20** *e*P PKPdf 03 35 59.2 +1.6
LIS *e*SS SS 03 59 40.3 +1.7
LIS *e*SS SS 03 59 40.9 +2.3
LIS AMS AMS 04 41 58.8
comp=Z,42µm,20.2s,MS7.3
ESDC **Sonseca Array** **155.29 10** PKPbc PKPdf 03

PTEO	Sao Teotonio	156.11	20	*e*PKPab	PKPab	03 36 28.2	-1.1
EBNR	Beni Rached	159.12	360	P	PKPab	03 36 41.5	-0.8
EMHD	Djebel Mahouad	159.16	356	P	PKPab	03 36 37.0	-5.5
ECHA	Ech Chlef	159.26	0	P	PKPab	03 36 42.0	-0.9
EANR	'Ain N'Sour	159.46	1	P	PKPab	03 36 43.0	-0.7
ETRT	Tiaret	160.01	0	P	PKPab	03 36 45.0	-1.2
LIC	Lamto	168.97	144	*e*PKIKP	PKPdf	03 36 13.1	+0.6
	comp=Z,175nm,1.6s						
LIC				*e*R			
	comp=Z,42μm,22.8s						
DBIC	Dimbokro	169.43	144	PKP	PKPdf	03 36 16.2	+3.4
	comp=Z,9.9nm,1.1s,baz=270,slow=1.0,SNR=4.7						
DBIC	Dimbokro	169.43	144	*e*PKIKP	PKPdf	03 36 16.1	+3.3

NEIC ***13*** *03:20:42.1, 38.35S×176.21E, h151km, MG4.0(WEL), After WEL.*

WEL 13 03:20:42.3±0.3, 38.36S×176.22E, h150km±2km, ML3.9/7, 5C-1D, Error ellipse: s-maj=2.4km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	Paeroa	0.04	124	PN	P	03 21 02.6	+0.1
PATZ	Paeroa	0.04	124	P	P	03 21 02.6	+0.1
TAZ	Tarawera	0.26	61	PN	P	03 21 02.8	-0.3
TAZ	Tarawera	0.26	61	P	P	03 21 02.8	-0.3
RATZ	Rangitukua	0.62	215	PN	P	03 21 04.3	-0.4
RATZ	Rangitukua	0.62	215	P	P	03 21 04.3	-0.4
URZ	Urewera	0.71	82	PN	P	03 21 04.2	-0.9
URZ				SN	S	03 21 21.2	-1.5
URZ	Urewera	0.71	82	⇑P	P	03 21 04.5	-0.7
BKZ	Black Stump Fm	0.83	165	⇑PN	P	03 21 06.0	0.0
BKZ				SN	S	03 21 23.6	-0.5
BKZ	Black Stump Fm	0.83	165	⇓P	P	03 21 06.0	0.0
BKZ				S	S	03 21 23.5	-0.7
OTVZ	Oturere	0.91	208	PN	P	03 21 06.7	+0.2
NGZ	Ngauruhoe	0.95	210	PN	P	03 21 06.5	-0.3
NGZ	Ngauruhoe	0.95	210	P	P	03 21 06.5	-0.3
CNZ	Chateau	0.99	212	PN	P	03 21 06.9	-0.2
CNZ	Chateau	0.99	212	P	P	03 21 06.9	-0.2
TUVZ	Tukino	1.01	206	PN	P	03 21 07.4	+0.1
TUVZ				SN	S	03 21 26.7	+0.2
TUVZ	Tukino	1.01	206	P	P	03 21 07.4	+0.2
TUVZ				S	S	03 21 26.7	+0.3
MWZ	Matawai	1.03	89	PN	P	03 21 07.2	-0.3
MWZ				SN	S	03 21 26.3	-0.5
MWZ	Matawai	1.03	89	P	P	03 21 07.2	-0.2
FWVZ	Far West T-bar	1.03	210	PN	P	03 21 07.5	0.0
FWVZ	Far West T-bar	1.03	210	P	P	03 21 07.3	-0.2
TRVZ	Turoa	1.07	209	PN	P	03 21 07.9	+0.1
WNVZ	Wahianoa	1.08	206	PN	P	03 21 07.9	-0.1
WNVZ	Wahianoa	1.08	206	⇑P	P	03 21 07.9	0.0
MOVZ	Moawhango	1.11	199	PN	P	03 21 07.7	-0.5
MOVZ				SN	S	03 21 26.9	-1.2
MOVZ	Moawhango	1.11	199	P	P	03 21 07.7	-0.5
PKVZ	Pokaka	1.15	216	PN	P	03 21 08.2	-0.4
PKVZ				SN	S	03 21 28.5	-0.4
MTVZ	Mangateitei	1.18	209	PN	P	03 21 08.5	-0.3
KNZ	Kokohu	1.31	121	PN	P	03 21 10.4	+0.2
PUZ	Puketiti	1.63	80	PN	P	03 21 12.9	-0.6
PUZ				SN	S	03 21 35.8	-1.9
WAZ	Wanganui	1.69	214	PN	P	03 21 13.5	-0.7
WAZ	Wanganui	1.69	214	P	P	03 21 13.5	-0.7
TSZ	Takapari Road	1.71	187	PN	P	03 21 13.7	-0.7
TSZ	Takapari Road	1.71	187	P	P	03 21 13.7	-0.7
PXZ	Pawanui	1.74	164	PN	P	03 21 14.5	-0.3
MXZ	Matakaoa Point	1.83	65	PN	P	03 21 15.2	-0.5
MXZ	Matakaoa Point	1.83	65	*e*P	P	03 21 15.2	-0.6
BFZ	Birch Farm	2.32	179	PN	P	03 21 20.1	-1.6
BFZ	Birch Farm	2.32	179	*e*P	P	03 21 20.1	-1.6
MRZ	Mangatainoka R	2.35	192	⇑PN	P	03 21 20.1	-1.9
MRZ	Mangatainoka R	2.35	192	⇑P	P	03 21 20.2	-1.9
KIW	Kapiti Island	2.70	202	PN	P	03 21 23.6	-2.9
KIW	Kapiti Island	2.70	202	P	P	03 21 23.6	-2.8
CAW	Cannon Point	2.88	198	PN	P	03 21 26.0	-2.9
CAW	Cannon Point	2.88	198	P	P	03 21 25.7	-3.2
TRWZ	Traveller	3.06	188	PN	P	03 21 28.2	-2.9
PAWZ	Paruwai Farm	3.08	191	PN	P	03 21 28.3	-3.1
PAWZ	Paruwai Farm	3.08	191	P	P	03 21 28.3	-3.1
MRW	Makara Radio	3.10	202	PN	P	03 21 28.3	-3.3
MRW	Makara Radio	3.10	202	P	P	03 21 28.3	-3.3
MSWZ	Moikau Station	3.14	193	PN	P	03 21 28.9	-3.3
MSWZ	Moikau Station	3.14	193	P	P	03 21 28.9	-3.3
BHW	Baring Head	3.22	198	PN	P	03 21 29.6	-3.6
TUWZ	Tuamarina	3.53	209	PN	P	03 21 33.6	-3.6
THZ	Tophouse	4.25	216	P*	P	03 21 50.4	+3.8
THZ	Tophouse	4.25	216	PN	P	03 21 43.4	-3.2
THZ				SN	S	03 22 30.4	-5.7
THZ	Tophouse	4.25	216	*e*P	P	03 21 50.2	+3.6
KHZ	Kahutara	4.54	206	PN	P	03 21 46.1	-4.4
KHZ	Kahutara	4.54	206	P	P	03 21 46.1	-4.4
LTZ	Lake Taylor	5.34	213	P*	P	03 21 59.1	-2.0
LTZ	Lake Taylor	5.34	213	*e*P	P	03 21 59.1	-2.0
MQZ	McQueen's Vall	5.98	206	SN	S	03 23 06.6	-11

IDC 13 03:29:01.5±2.3, 6.50S×152.47E, mb4.0/4, mb1 4.2/5, mb1mx3.9/14, mbtmp4.0/5, ML2.8/1, Error ellipse: s-maj=77.9km s-min=23.7km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.00	241	Pn	Pn	03 30 33.3	-0.4
	1.5nm,0.3s,baz=44,slow=7.7,SNR=3.9						
PMG				Sn	Sn	03 31 40.8	-3.4
	1.2nm,0.3s,baz=51,slow=13,SNR=3.9						
WB2	Warramunga Arr	22.09	231	*e*P	P	03 33 58.0	-2.2
WRA	Warramunga Arr	22.10	231	P	P	03 33 59.7	-0.6
	3.1nm,0.8s,baz=56,slow=10,SNR=11						
FITZ	Fitzroy Crossi	28.59	244	*e*P	P	03 34 59.0	-2.7
	5.8nm,1.0s						
FITZ	Fitzroy Crossi	28.59	244	P	P	03 34 58.3	-3.4
	3.0nm,0.7s,baz=81,slow=8.0,SNR=11						
SONM	Songino Array	67.59	328	P	P	03 40 01.1	-1.1
	0.6nm,0.6s,baz=146,slow=5.2,SNR=4.5						
ILAR	Eielson Array	83.85	22	P	P	03 41 32.2	-1.8
	0.8nm,0.7s,baz=254,slow=5.3,SNR=5.9						

IDC ***13*** *03:30:47.2±7.5, 24.47N×94.59E, h90km±72km, mb3.9/13, mb1 4.1/13, mb1mx3.9/22, mbtmp4.2/13, Error ellipse: s-maj=30.8km s-min=14.5km az=65.0*

ISC 13 03:30:46.7±1.9, 24.7N±0.1×94.15E±0.09, h78km±15km, n26, σ1s09/33, mb4.2/15, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	7.75	294	*e*Pn	P	03 32 39.8	+0.9
JIRN				*e*Sn	S	03 34 06.4	+0.6
	155nm,0.3s						
GUN	Gumba	8.10	295	*e*Pn	P	03 32 44.2	+0.6
GUN				*e*Sn	S	03 34 16.2	+1.9
	167nm,0.4s						
PKI	Pulchoki	8.37	292	*e*Pn	P	03 32 47.8	+0.4
PKI				*e*Sn	S	03 34 19.9	-1.3
	132nm,0.8s						
KKN	Kakani	8.55	293	*e*Pn	P	03 32 49.0	-0.8
KKN				*e*Sn	S	03 34 25.0	-0.5
	83nm,0.3s						
DMN	Daman	8.64	292	*e*Pn	P	03 32 51.1	+0.1
DMN				*e*Sn	S	03 34 27.5	-0.2
	56nm,0.3s						
GKN	Gorkha	9.16	293	*e*Pn	P	03 32 58.1	0.0
GKN				*e*Sn	S	03 34 39.4	-1.0
	180nm,0.3s						
KOLN	Koldanda	9.96	290	*e*Pn	P	03 33 09.0	-0.1
KOLN				*e*Sn	S	03 34 57.5	-2.5
	120nm,0.4s						
PSI	Prapat	22.23	167	P	P	03 35 34.7	-3.3
	4.1nm,0.8s,mb3.8,baz=330,slow=8.1,SNR=2.8						
MKAR	Makanchi Array	24.03	340	P	P	03 35 57.0	+1.8
	7.8nm,0.5s,mb4.3,baz=150,slow=9.8,SNR=129						
SONM	Songino Array	25.07	20	P	P	03 36 04.4	-0.9
	1.0nm,0.6s,mb3.5,baz=204,slow=8.9,SNR=6.7						
BVAR	Borovoye Array	33.51	334	P	P	03 37 20.8	+0.2
	1.7nm,0.7s,mb4.0,baz=129,slow=10.0,SNR=5.0						
RDF	Al-Radifah	41.61	286	*e*P	P	03 38 30.9	+2.2
RDF				AMb	AMB	03 38 31.6	
	comp=Z,28nm,0.5s,mb5.3						
MIB	Mutribah	41.72	288	*e*P	P	03 38 31.9	+2.3
NAY	Al-Naaiem	41.85	287	*e*P	P	03 38 32.6	+1.9
NAY				AMb	AMB	03 38 37.0	
	comp=Z,19nm,1.5s,mb4.6						
BRTR	Keskin Array B	52.44	302	P	P	03 39 54.0	+0.5
	comp=Z,1.3nm,0.5s,mb4.2,baz=135,slow=9.9,SNR=16						
AKASG	Malin Array Be	55.56	316	P	P	03 40 15.2	-1.0
	comp=Z,1.3nm,0.4s,mb4.3,baz=80,slow=7.2,SNR=9.4						
JOF	Joensuu	56.00	331	*e*pkp	P	03 40 19.1	-0.2
MLR	Muntele Rosu	57.82	309	P	P	03 40 32.4	+0.1
	comp=Z,4.2nm,0.8s,mb4.5,baz=22,slow=16,SNR=4.1						
KAF	Kangasniemi	58.15	329	*e*pkp	P	03 40 33.9	-0.5
FINES	FINESS Array B	58.18	328	P	P	03 40 33.7	-1.0
	comp=Z,1.3nm,0.4s,mb4.3,baz=86,slow=7.1,SNR=13						
WRA	Warramunga Arr	59.13	135	P	P	03 40 35.3	-6.5
	comp=Z,1.7nm,0.4s,mb4.5,baz=324,slow=7.3,SNR=34						
ARCES	ARCESS Array B	59.66	338	P	P	03 40 44.3	-0.5
	comp=Z,2.3nm,0.8s,mb4.2,baz=100,slow=6.4,SNR=8.3						
NB2	NORSAR Subarra	65.35	328	P	P	03 41 21.5	-1.1
	comp=Z,0.6nm,0.4s,mb3.8,baz=92,slow=5.3						
NOA	NORSAR Array B	65.35	328	P	P	03 41 21.9	-0.7
	comp=Z,1.9nm,0.7s,mb4.0,baz=86,slow=5.8,SNR=4.2						
GERES	GERESS Array B	65.71	314	P	P	03 41 24.9	-0.2
	comp=Z,1.3nm,0.5s,mb4.0,baz=67,slow=7.2,SNR=16						
LBTB	Lobatse	82.69	238	P	P	03 43 03.5	0.0
	comp=Z,1.6nm,0.7s,mb4.0,baz=53,slow=5.0,SNR=7.1						

IDC 13 03:35:05.5±1.4, 4.66S×150.28E, mb3.7/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, Error ellipse: s-maj=57.2km s-min=29.8km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.72	224	P	P	03 39 56.6	-3.9
	0.7nm,0.6s,baz=55,slow=10.0,SNR=7.6						
FITZ	Fitzroy Crossi	27.55	239	P	P	03 40 54.7	-1.5
	1.2nm,0.6s,baz=79,slow=5.8,SNR=7.3						
VNDA	Vanda	73.07	177	P	P	03 46 38.2	-0.8
	0.9nm,0.6s,baz=358,slow=6.0,SNR=8.4						
ILAR	Eielson Array	82.98	23	P	P	03 47 31.7	-1.9
	0.5nm,0.7s,baz=250,slow=5.3,SNR=6.4						

IDC 13 03:52:26.9±2.5, 16.37S×179.85W, mb3.7/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.7/3, Error ellipse: s-maj=134.4km s-min=33.7km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.58	258	P	P	04 00 33.2	-1.5
	0.5nm,0.3s,baz=97,slow=7.9,SNR=20						
ILAR	Eielson Array	84.71	14	P	P	04 05 01.2	-2.4
	0.9nm,1.1s,baz=223,slow=4.6,SNR=5.8						
TXAR	Lajitas Array	86.34	58	P	P	04 05 12.6	-0.1
	0.4nm,0.9s,baz=219,slow=8.0,SNR=3.6						

BJI ***13*** *04:14:24.8, 28.10N×143.50E, h40km, mB5.5, mb4.6*
IDC ***13*** *04:14:26.6±0.5, 28.08N×143.42E, h40km±4km, mb4.2/15, mb1 4.4/17, mb1mx4.4/21, mbtmp4.4/17, ML4.5/2, Error ellipse: s-maj=13.5km s-min=7.2km az=129.0*
JMA ***13*** *04:14:26.1±0.1, 28.24N×143.18E, h64km, M4.7*
NEIC ***13*** *04:14:26.9±0.3, 28.15N×143.50E, mb4.5/18, Error ellipse: s-maj=8.0km s-min=7.1km az=198.0*
MOS ***13*** *04:14:27.5±0.9, 28.49N×143.47E, h46km, mb4.7/15, Error ellipse: s-maj=17.2km s-min=7.8km az=115.2*

ISC 13 04:14:27.3±0.4, 28.53N±0.05×143.43E±0.06, h41km, h41km±1.1km: pP-P, n91, σ0s97/94, mb4.5/36, 2C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.80	218	P	P	04 14 50.2	-6.4
	415nm,0.3s,baz=293,slow=19,SNR=21						
CBIJ				S	S	04 15 08.0	-10
	257nm,0.3s,baz=311,slow=22,SNR=5.8						
CBIJ	Chichi jima	1.80	218	P	P	04 14 50.6	-5.9
CBIJ				eS	S	04 15 08.5	-10
JHHJ	Haha-jima-NKT	2.19	211	P	P	04 14 55.9	-6.2
JHJ2	Mitsune	5.53	327	P	P	04 15 49.3	+0.1
JHJ2				eS	S	04 16 52.0	-0.4
JHJ	Hachijo jima 2	5.55	326	P	P	04 15 50.0	+0.4
	31nm,0.3s,baz=80,slow=21,SNR=14						
JHJ				S	S	04 16 51.9	-1.0
	38nm,0.3s,baz=79,slow=23,SNR=3.6						
BSO1	Boso 1	6.45	342	P	P	04 16 00.8	-1.5
BSO1				eS	S	04 17 16.4	+0.9
JHU	Hanno	8.10	335	P	P	04 16 25.2	0.0
JHU				eS	S	04 17 53.6	-2.9
JAG	Ashikaga	8.56	338	P	P	04 16 31.0	-0.6
MJAR	Matsushiro Arr	9.12	332	P	P	04 16 39.5	+0.2
	6.3nm,0.3s,baz=162,slow=12,SNR=26						
MJAR				S	S	04 18 22.4	+0.6
	1.9nm,0.3s,baz=312,slow=24,SNR=6.1						
MAJO	Matsushiro	9.12	332	*e*P	P	04 16 39.0	-0.4
MAJO				pmax	pmax		
	comp=Z,23nm,0.4s						
MAJO	Matsushiro	9.12	332	*e*Pn	P	04 16 39.0	-0.3
	comp=Z,23nm,0.4s						
MAT	Matsushiro	9.12	332	P	P	04 16 39.0	-0.4
MAT				S	S	04 18 21.6	-0.3
MAT	Matsushiro	9.12	332	P	P	04 16 39.8	+0.4
MAT				eS	S	04 18 21.6	-0.3
MAT	Matsushiro	9.12	332	*e*P	P	04 16 39.0	-0.4
MAT				eS	S	04 18 22.0	+0.1
MAT				pmax	pmax		
	comp=Z,15nm,0.4s						
MAT	Matsushiro	9.12	332	*e*P	P	04 16 39.0	-0.4
	comp=Z,15nm,0.4s						
MAT				eS	S	04 18 22.0	+0.1
MDJ	Mudanjiang	19.48	329	P	P	04 18 52.3	-1.2
MDJ				AMB	AMB		
	comp=Z,20nm,2.4s						
MDJ				AMB	AMB		
	comp=Z,3μm,11.3s						
YHNB	Yeheng	20.09	264	*e*P	P	04 18 57.0	-3.2
KLR	Kul'dur	22.53	340	*e*P	P	04 19 24.8	+0.1
XAN	Xi'an	29.91	289	P	P	04 20 31.3	-2.2
ULN	Ulaanbaatar	34.08	315	*e*P	P	04 21 11.9	+2.1
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ULN	Ulaanbaatar	34.08	315	*e*P	P	04 21 11.8	+2.0
	comp=Z,5.4nm,0.6s,mb4.7						
ULN				*e*		04 21 19.2	
SONM	Songino Array	34.48	314	P	P	04 21 14.8	+1.5
	comp=Z,3.0nm,0.8s,mb4.3,baz=110,slow=7.4,SNR=13						
BOD	Bodaibo	35.76	333	*e*P	P	04 21 24.5	+0.4
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ZAK	Zakamensk	37.29	317	*e*P	P	04 21 38.7	+1.6
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
GTA	Gaotai	37.44	298	*e*P	P	04 21 38.4	-0.1
GTA				AP	pP	04 21 51.6	+1.8
GTA				XP	sP	04 21 59.5	+4.5
BILL	Bilibino	41.82	13	*e*P	P	04 22 15.5	+1.2
BILL				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
BILL	Bilibino	41.82	13	*e*P	P	04 22 15.5	+1.2
	comp=Z,4.2nm,0.5s,mb4.3						
WB2	Warramunga Arr	48.98	191	*e*P	P	04 23 06.1	-5.9
WB2				*e*	pP	04 23 18.1	-5.5
WRA	Warramunga Arr	48.98	191	P	P	04 23 06.1	-5.9
	comp=Z,7.2nm,0.6s,mb4.9,baz=12,slow=8.4,SNR=72						
WRA				pP	pP	04 23 18.1	-5.5
	comp=Z,8.8nm,0.5s,baz=11,slow=8.4,SNR=15						
ZAL	Zalesovo	49.16	318	P	P	04 23 14.2	+1.3
	comp=Z,1.7nm,0.3s,mb4.6,baz=49,slow=7.5,SNR=5.0						
JIRN	Jiri	50.08	283	*e*P	P	04 23 20.1	-0.3
	comp=Z,36nm,0.7s,mb5.5						
GUN	Gumba	50.28	284	*e*P	P	04 23 21.5	-0.4
	comp=Z,31nm,0.8s,mb5.4						
MKAR	Makanchi Array	50.43	309	P	P	04 23 23.6	+0.8
	comp=Z,4.6nm,0.8s,mb4.5,baz=97,slow=9.8,SNR=12						
PKI	Pulchoki	50.77	284	*e*P	P	04 23 24.6	-1.0
KKN	Kakani	50.82	284	*e*P	P	04 23 25.5	-0.5
DMN	Daman	51.02	284	*e*P	P	04 23 26.6	-0.9
GKN	Gorkha	51.32	284	*e*P	P	04 23 28.8	-0.9
KOLN	Koldanda	52.26	284	*e*P	P	04 23 36.1	-0.7
	comp=Z,14nm,0.8s,mb5.0						
MCK	McKinley	54.94	30	*e*P	P	04 23 55.3	-0.8
MCK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MCK	McKinley	54.94	30	*e*P	P	04 23 55.3	-0.8
	comp=Z,4.3nm,1.0s,mb4.4						
TKM2	Tokmak 2	55.51	304	P	P	04 24 01.8	+1.3
	SNR=7.7						
KZA	Kyzart	55.90	303	P	P	04 24 05.3	+2.0
	SNR=10						
ILAR	Eielson Array	55.93	29	P	P	04 24 02.3	-0.9
	comp=Z,4.5nm,1.0s,mb4.4,baz=261,slow=5.7,SNR=22						
ILAR				pP	pP	04 24 14.3	-0.8
	comp=Z,2.1nm,0.8s,baz=260,slow=6.7,SNR=7.1						
KBK	Karagaybulak	56.02	304	P	P	04 24 05.3	+1.1
	SNR=11						
USP	Ospenovka	56.25	305	P	P	04 24 06.5	+0.6
	SNR=6.8						
UCH	Uchtor	56.41	304	P	P	04 24 08.8	+1.8
	SNR=14						
EKS2	Erkin-Say	56.88	304	P	P	04 24 11.3	+1.0
	SNR=5.8						
AML	Almayashu	57.03	304	P	P	04 24 13.5	+2.0
	SNR=5.6						
VOSK	Vostochnaya	57.42	317	P	P	04 24 13.4	-0.6
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CHKZ	Chkalovo	57.55	318	*e*P	P	04 24 14.3	-0.7
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
CHKZ	Chkalovo	57.55	318	*e*P	P	04 24 14.3	-0.6
	comp=Z,3.4nm,0.5s,mb4.6						
BVA0	Borovoye Array	57.75	317	P	P	04 24 16.2	-0.1
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
STKA	Stephens Creek	60.10	182	P	P	04 24 26.4	-6.5
	comp=Z,3.7nm,0.9s,mb4.4,baz=320,slow=8.7,SNR=4.3						
STKA				pP	pP	04 24 39.4	-5.4
	comp=Z,3.0nm,0.7s,baz=0.2,slow=10,SNR=3.6						
INK	Inuvik	61.27	25	*e*P	P	04 24 40.0	-0.4
INK				*e**PP	pP	04 24 52.6	+0.3
INK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
INK	Inuvik	61.27	25	*e*P	P	04 24 40.0	-0.4
	comp=Z,4.5nm,1.0s,mb4.5						
INK				*e*pP	pP	04 24 52.6	+0.3
ARU	Arti	63.97	322	*e*P	P	04 24 58.0	-0.4
AB31	Akbulak array	64.89	314	*i* P	P	04 25 04.6	+0.1
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
YKA	Yellowknife Ar	70.36	29	P	P	04 25 37.6	-0.9
	comp=Z,1.8nm,0.7s,mb4.1,baz=294,slow=6.2,SNR=28						
YKA				pP	pP	04 25 50.1	-0.5
	comp=Z,0.8nm,0.6s,baz=294,slow=6.5,SNR=7.4						
ARCES	ARCESS Array B	72.55	341	P	P	04 25 52.8	+1.4
	comp=Z,4.3nm,0.8s,mb4.4,baz=74,slow=8.8,SNR=5.5						
ARCES				pP	pP	04 26 03.9	+0.3
	comp=Z,8.6nm,1.1s,baz=63,slow=8.1,SNR=2.2						
JOF	Joensuu	74.29	334	*e*p	P	04 26 02.2	+0.6
KAF	Kangasniemi	76.66	335	*e*p	P	04 26 15.7	+0.5
FINES	FINESS Array B	77.15	334	P	P	04 26 18.4	+0.4
	comp=Z,3.0nm,0.4s,mb4.5,baz=61,slow=6.3,SNR=33						
FINES				pP	pP	04 26 29.6	-0.7
	comp=Z,1.6nm,0.5s,baz=73,slow=5.9,SNR=2.1						
NVAR	Mina Array Bea	78.77	52	P	P	04 26 27.6	+0.2
	comp=Z,2.7nm,0.9s,mb4.2,baz=283,slow=4.2,SNR=18						
NVAR				pP	pP	04 26 39.7	0.0
	comp=Z,1.0nm,0.6s,baz=293,slow=6.2,SNR=5.4						
HLID	Hailey	78.96	46	*e*P	P	04 26 28.2	-0.1
	comp=Z,2.5nm,1.3s,mb4.0						
ELK	Elko	79.77	49	*e*P	P	04 26 33.0	+0.2
ELK				*e**PP	pP	04 26 45.3	+0.2
ELK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ELK	Elko	79.77	49	*e*P	P	04 26 33.0	+0.2
	comp=Z,2.7nm,1.0s,mb4.1						
ELK				*e*pP	pP	04 26 45.3	+0.2
TPNV	Topopah Spring	80.91	53	*e*P	P	04 26 38.2	-0.7
TPNV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
TPNV	Topopah Spring	80.91	53	*e*P	P	04 26 38.2	-0.7
	comp=Z,5.6nm,0.9s,mb4.5						
DUG	Dugway	81.65	49	*e*P	P	04 26 42.6	-0.1
DUG				*e**PP	pP	04 26 54.1	-1.0
DUG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
DUG	Dugway	81.65	49	*e*P	P	04 26 42.6	-0.1
	comp=Z,8.6nm,1.1s,mb4.6						
DUG				*e*pP	pP	04 26 54.1	-1.0
HWUT	Hardware Ranch	81.75	47	*e*P	P	04 26 43.5	+0.2
	comp=Z,3.3nm,0.9s,mb4.3						
HWUT				*e*pP	pP	04 26 55.5	-0.1
AKASG	Malin Array Be	82.11	324	P	P	04 26 43.0	-1.9
	comp=Z,1.4nm,0.6s,mb4.1,baz=48,slow=5.1,SNR=6.7						
BW06	Boulder Array	82.42	45	*e*P	P	04 26 46.6	-0.1
	comp=Z,3.4nm,0.9s,mb4.3						
PDAR	Pinedale Array	82.42	45	P	P	04 26 46.0	-0.6
	comp=Z,2.3nm,0.9s,mb4.1,baz=270,slow=3.0,SNR=13						
NB2	NORSAR Subarra	82.69	339	P	P	04 26 48.0	+0.4
	comp=Z,2.3nm,0.7s,mb4.3,baz=41,slow=5.0						
NB2	NORSAR Subarra	82.69	339	P	P	04 26 48.0	+0.4
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
NOA	NORSAR Array B	82.69	339	P	P	04 26 48.2	+0.7
	comp=Z,5.8nm,0.9s,mb4.6,baz=41,sl

CNP	**Catarman**	**0.84**	**69**	*e*P	Pb	05 03 51.1	-0.1
CNP				*e*S	Sg	05 04 04.3	+2.0
RCP	**Roxas**	**1.27**	**239**⇓	*e*P	Pb	05 03 58.1	-0.5
RCP				*e*S	Sb	05 04 16.1	+1.0
OCLP	**Ormoc**	**1.37**	**148**	*e*P	Pb	05 04 00.2	0.0
OCLP				*e*S	Sb	05 04 20.7	+2.8
PVCP	**Virac**	**1.41**	**12**	*e*P	Pb	05 03 59.8	-1.1
PVCP				*e*S	Sb	05 04 14.1	-4.9
AUQP	**San Andres**	**1.60**	**314**	*e*P	Pn	05 04 03.9	+0.2
AUQP				*e*S	Sb	05 04 26.7	+2.0
BESP	**Borongan**	**1.66**	**111**	*e*P	Pn	05 04 02.7	-1.7
BESP				*e*S	Sb	05 04 26.8	+0.4
OTRP	**Odiongan**	**1.81**	**275**	*e*P	Pn	05 04 04.8	-1.8
OTRP				*e*S	Sn	05 04 24.3	-5.9
GUIM	**Jordan**	**2.01**	**219**	*e*P	Pn	05 04 08.9	-0.6
GUIM				*e*S	Sn	05 04 36.3	+0.9
MSLP	**Maasin**	**2.29**	**155**	*e*P	Pn	05 04 13.9	+0.5
MSLP				*e*S	Sn	05 04 49.2	+6.8
BOAC	**Boac**	**2.33**	**302**	*e*P	Pn	05 04 18.8	+4.8
BOAC				*e*S	Sn	05 04 44.2	+0.8
LUBP	**Lubang**	**3.84**	**294**	*e*P	Pn	05 04 53.9	+18
LUBP				*e*S	Sn	05 05 15.3	-6.3

NEIC ***13*** *05:09:20.4, 32.35S×71.42W, h33km, ML3.2(GUC), After GUC.*

GUC 13 05:09:20.4±0.6, 32.35S×71.42W, h33km±1km, MD3.7, ML3.2, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**352**⇑	*i*P	Pb	05 09 30.2	-0.3
CHNG				*i* S	Sb	05 09 37.5	0.0
CHNG				AMP		05 09 38.0	
	comp=E,1μm,0.2s						
IHA	**Instituto Hidr**	**0.70**	**196**⇑	*i*P	Pn	05 09 34.0	0.0
IHA				*i* S	Sb	05 09 43.7	+0.2
ROCH	**El Roble**	**0.71**	**151**⇑	*i*P	Pn	05 09 34.6	+0.5
ROCH				*i* S	Sb	05 09 44.9	+1.1
JACH	**Jahuel**	**0.77**	**115**⇑	*i*P	Pn	05 09 35.4	+0.4
JACH				*i* S	Sn	05 09 46.1	+0.6
PEL	**Peldehue**	**1.00**	**142**	AMP		05 09 53.6	
	comp=N,5μm,0.2s						
LCCH	**Las Cruces**	**1.13**	**186**	*i* P	Pn	05 09 40.2	+0.1
LCCH				*i* S	Sn	05 09 55.5	+0.9
RCDM	**Rinconada Maip**	**1.25**	**156**	*i* P	Pn	05 09 42.0	+0.2
RCDM				*i* S	Sn	05 09 58.7	+1.1
RCDM				AMP		05 10 02.8	
	comp=E,1μm,0.1s						
STL	**Santa Lucia**	**1.26**	**149**⇑	*i*P	Pn	05 09 42.5	+0.5
STL				*i* S	Sn	05 09 59.5	+1.5
STL				AMP		05 10 00.7	
	comp=N,406nm,0.3s						
SAN	**Santiago**	**1.27**	**150**	AMP		05 10 03.7	
	comp=E,535nm,0.4s						
FCH	**Farellones**	**1.36**	**136**⇑	*i*P	Pn	05 09 44.0	+0.6
FCH				*i* S	Sn	05 10 02.3	+1.8
TACH	**Talagante**	**1.36**	**163**	*e*P	Pn	05 09 43.8	+0.4
TACH				*i* S	Sn	05 10 01.8	+1.3
ANTU	**Antumapu**	**1.38**	**152**⇓	*i*P	Pn	05 09 44.3	+0.6
ANTU				*i* S	Sn	05 10 02.8	+1.7
ANTU				AMP		05 10 04.3	
	comp=E,646nm,0.3s						
SJCH	**San Jose de Ma**	**1.57**	**145**⇓	*i*P	Pn	05 09 46.0	-0.4
SJCH				*i* S	Sn	05 10 06.3	+0.6
SJCH				AMP		05 10 07.2	
	comp=E,333nm,0.2s						
LNV	**Longovilo**	**1.60**	**180**	*i* S	Sn	05 10 08.5	+1.9
CHCH	**Chadas Angostu**	**1.70**	**158**⇑	*i*P	Pn	05 09 49.1	+0.7
CHCH				*i* S	Sn	05 10 11.5	+2.3
LMEL	**Las Melosas**	**1.81**	**146**⇓	*i*P	Pn	05 09 51.0	+1.2
LMEL				*i* S	Sn	05 10 14.4	+2.6
LMEL				AMP		05 10 15.3	
	comp=N,638nm,0.1s						
CACH	**El Canelo**	**1.89**	**159**	*i* P	Pn	05 09 52.4	+1.4
CACH				*i* S	Sn	05 10 17.2	+3.3
CICH	**Cipreses**	**2.13**	**157**⇑	*i*P	Pn	05 09 55.5	+1.0
CICH				*i* S	Sn	05 10 22.2	+2.1
TLL	**Tololo Astrono**	**2.24**	**14**	*i* P	Pn	05 09 57.4	+1.3
TLL				*i* S	Sn	05 10 25.1	+2.2
TLL				AMP		05 10 32.1	
	comp=E,478nm,0.6s						
SFDO	**San Fernando**	**2.28**	**172**	*e*P	Pn	05 09 57.0	+0.4
SFDO				*i* S	Sn	05 10 25.5	+1.6

NEIC ***13*** *05:13:11.0±0.8, 38.20N×73.75E, h92km±10km, mb3.9/5, Error ellipse: s-maj=11.1km s-min=5.2km az=57.0*
BJI ***13*** *05:13:13.7, 38.46N×73.65E, h124km, mB4.5, mb4.0*
IDC ***13*** *05:13:13.9±4.5, 38.29N×73.76E, h114km±38km, mb3.8/13, mb1 4.0/17, mb1mx3.9/23, mbtmp4.2/17, Error ellipse: s-maj=26.0km s-min=15.3km az=179.0*
MOS ***13*** *05:13:18.9±0.9, 38.80N×73.65E, h152km, mb4.1/3, Error ellipse: s-maj=12.9km s-min=6.1km az=95.7*
NNC ***13*** *05:13:20.7±2.7, 38.92N×73.55E, h180km±20km, mpv4.2, Error ellipse: s-maj=30.2km s-min=10.6km az=9.0*

ISC 13 05:13:11.2±0.5, 38.20N±0.03×73.75E±0.06, h112km±6km, n81, σ1°18/107, mb3.9/16, 9C-16D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.18**	**52**⇑	*i*P	**P**	**05 13 50.8**	**+3.7**
KSH				S	**S**	**05 14 18.3**	**+4.2**
KSH				Smax			
	comp=N,2μm,0.8s						
KSH				Smax			
	comp=E,3μm,1.0s						
AML	**Almayashu**	**3.93**	**359**	P	**P**	**05 14 11.8**	**+1.0**
	SNR=214						
KZA	**Kyzart**	**4.04**	**16**	P	**P**	**05 14 13.3**	**+1.0**
	SNR=53						
UCH	**Uchtor**	**4.07**	**8**	P	**P**	**05 14 13.9**	**+1.2**
	SNR=89						
EKS2	**Erkin-Say**	**4.46**	**0**	P	**P**	**05 14 19.6**	**+1.6**
	SNR=35						
ULHL	**Ulahol**	**4.47**	**24**	P	**P**	**05 14 18.9**	**+0.8**
	SNR=45						
KBK	**Karagaybulak**	**4.55**	**11**	P	**P**	**05 14 20.4**	**+1.3**
	SNR=10						
CHMS	**Chumysh**	**4.86**	**9**	P	**P**	**05 14 24.2**	**+0.8**
	SNR=6.6						
TKM2	**Tokmak 2**	**4.92**	**16**	P	**P**	**05 14 25.3**	**+1.0**
	SNR=25						
TKM2	**Tokmak 2**	**4.92**	**16**	⇑P	**P**	**05 14 25.2**	**+1.0**
	comp=E,15nm,0.5s						
TKM2				⇑S	**S**	**05 15 18.3**	**-2.2**
	comp=E,125nm,0.8s						
USP	**Ospenovka**	**5.10**	**6**	P	**P**	**05 14 28.4**	**+1.8**
	SNR=5.8						
KK31	**Karatay Array**	**5.49**	**334**	⇓P	**P**	**05 14 31.7**	**-0.1**
	comp=E,23nm,0.3s,baz=138,slow=13,SNR=643						
KK31				S	**S**	**05 15 28.2**	**-6.0**
	comp=E,43nm,0.3s,baz=153,slow=25,SNR=25						
KK31	**Karatay Array**	**5.49**	**334**	⇓PN	**P**	**05 14 31.7**	**-0.1**
KK31				S	**S**	**05 15 28.2**	**-6.0**
KK31				pmax	pmax		
	comp=Z,23nm,0.3s						
KK31	**Karatay Array**	**5.49**	**334**	⇓P	**P**	**05 14 31.7**	**-0.1**
	comp=Z,23nm,0.3s						
KK31				S	**S**	**05 15 28.2**	**-6.0**
KKAR	**Karatay Array**	**5.49**	**334**	*e*PN	**S**	**05 14 31.7**	**-0.1**
KKAR				*e*S	**S**	**05 15 28.2**	**-6.0**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KKAR				smax			
	comp=Z,15nm,0.2s						
KLP	**Kalpa**	**7.60**	**150**	*e*P	**P**	**05 14 59.5**	**-1.2**
KLP				*e*S	**S**	**05 16 21.4**	**-4.4**
KKR	**Kurukshetra**	**8.60**	**162**	*e*P	**P**	**05 15 14.2**	**0.0**
KKR				*e*S	**S**	**05 16 46.8**	**-3.2**
KALG	**Kalgarh**	**9.61**	**153**	*e*P	**P**	**05 15 26.8**	**-1.0**
KALG				*e*S	**S**	**05 17 05.9**	**-8.5**
BISR	**Bishrakh**	**10.08**	**161**	*e*S	**S**	**05 17 21.0**	**-4.6**
AYAN	**Aya Nagar**	**10.09**	**163**	*e*P	**P**	**05 15 36.9**	**+2.8**
AYAN				*e*S	**S**	**05 17 20.2**	**-5.6**
KHET	**Khetri**	**10.24**	**170**	*e*P	**P**	**05 15 37.9**	**+1.7**
KHET				*e*S	**S**	**05 17 22.7**	**-6.8**
KHET				AML	AML	05 17 32.0	
	comp=N,44nm,0.4s						
KHET				AML	AML	05 17 32.8	
	comp=E,40nm,0.3s						

MK31	**Makanchi Array**	**10.65**	**34**	⇓P	**P**	**05 15 41.9**	**+0.4**
	comp=E,7.9nm,0.9s						
MK31	**Makanchi Array**	**10.65**	**34**	⇓P	**P**	**05 15 41.9**	**+0.4**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MK31	**Makanchi Array**	**10.65**	**34**	⇓P	**P**	**05 15 41.9**	**+0.4**
	comp=Z,7.9nm,0.9s						
MKAR	**Makanchi Array**	**10.65**	**34**	P	**P**	**05 15 41.9**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=213,slow=13,SNR=16						
JASL	**Jaisalmer**	**11.49**	**193**	*e*P	**P**	**05 15 52.7**	**-0.1**
WMQ	**Urumqi**	**11.93**	**58**	*e*P	**P**	**05 15 58.8**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,50nm,5.2s						
KURK	**Kurchatov**	**12.99**	**14**	⇓P	**P**	**05 16 10.6**	**-1.7**
	comp=Z,5.8nm,0.7s						
KOLN	**Koldanda**	**13.27**	**139**	*e*P	**P**	**05 16 15.9**	**-0.2**
KOLN				*e*S	**S**	**05 18 35.8**	**-5.5**
GKN	**Gorkha**	**13.65**	**135**	*e*P	**P**	**05 16 20.7**	**-0.3**
GKN				*e*S	**S**	**05 18 43.1**	**-7.0**
KKN	**Kakani**	**14.17**	**134**	*e*P	**P**	**05 16 27.2**	**-0.5**
DMN	**Daman**	**14.21**	**135**	*e*P	**P**	**05 16 27.8**	**-0.5**
	comp=Z,12nm,0.6s						
PKI	**Pulchoki**	**14.41**	**134**	*e*P	**P**	**05 16 30.0**	**-0.8**
GUN	**Gumba**	**14.43**	**132**	*e*P	**P**	**05 16 31.1**	**+0.1**
	comp=Z,13nm,0.6s						
VOSK	**Vostochnaya**	**14.66**	**353**	⇓P	**P**	**05 16 31.1**	**-2.7**
	comp=Z,5.5nm,0.8s						
VOSK	**Vostochnaya**	**14.66**	**353**	⇓P	**P**	**05 16 31.1**	**-2.7**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VOSK	**Vostochnaya**	**14.66**	**353**	⇓P	**P**	**05 16 31.1**	**-2.7**
	comp=Z,5.5nm,0.8s						
JIRN	**Jiri**	**14.80**	**132**	*e*P	**P**	**05 16 35.3**	**-0.5**
	comp=Z,15nm,0.3s						
AB31	**Akbulak array**	**14.87**	**322**	⇑P	**P**	**05 16 34.1**	**-2.4**
	comp=Z,7.7nm,0.5s,baz=131,slow=12,SNR=122						
AB31				S	**S**	**05 19 06.7**	**-12**
	comp=Z,3.9nm,0.5s,baz=135,slow=25,SNR=8.6						
AB31	**Akbulak array**	**14.87**	**322**	⇑P	**P**	**05 16 34.2**	**-2.3**
AB31				S	**S**	**05 19 06.7**	**-12**
AB31				pmax	pmax		
	comp=Z,8.0nm,0.5s						
AB31	**Akbulak array**	**14.87**	**322**	⇑P	**P**	**05 16 34.1**	**-2.4**
	comp=Z,7.7nm,0.5s						
AB31				S	**S**	**05 19 06.7**	**-12**
BVA0	**Borovoye Array**	**15.01**	**352**	⇓P	**P**	**05 16 36.5**	**-1.8**
	comp=Z,2.3nm,0.6s						
BVA0				⇑S	**S**	**05 19 13.4**	**-8.4**
	comp=Z,1.1nm,1.1s,baz=160,slow=21,SNR=4.0						
BVA0	**Borovoye Array**	**15.01**	**352**	⇓P	**P**	**05 16 36.5**	**-1.8**
BVA0				S	**S**	**05 19 13.4**	**-8.4**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVA0	**Borovoye Array**	**15.01**	**352**	⇓P	**P**	**05 16 36.5**	**-1.8**
	comp=Z,2.3nm,0.6s						
BVA0				S	**S**	**05 19 13.4**	**-8.4**
BVAR	**Borovoye Array**	**15.01**	**352**	P	**P**	**05 16 36.8**	**-1.5**
	comp=Z,4.5nm,0.3s,baz=164,slow=9.4,SNR=26						
BVAR				S	**S**	**05 19 13.4**	**-8.4**
	comp=Z,0.3nm,0.3s,baz=159,slow=20,SNR=5.2						
CHKZ	**Chkalovo**	**15.63**	**353**	⇓P	**P**	**05 16 44.3**	**-1.8**
	comp=Z,8.1nm,1.2s						
CHKZ				⇑S	**S**	**05 19 29.1**	**-6.8**
	comp=Z,8.2nm,1.4s						
AKTK	**Aktyubinsk**	**16.59**	**323**	⇓P	**P**	**05 16 56.9**	**-1.1**
AKTK				S	**S**	**05 19 48.0**	**-10**
AKTO	**Aktyubinsk**	**16.59**	**323**	⇓P	**P**	**05 16 56.9**	**-1.1**
	comp=Z,3.7nm,0.8s						
AKTO				⇑S	**S**	**05 19 48.0**	**-10**
	comp=Z,0.8nm,0.6s						
AKTO	**Aktyubinsk**	**16.59**	**323**	P	**P**	**05 16 57.1**	**-0.9**
	comp=Z,2.9nm,0.3s,baz=127,slow=12,SNR=53						
AKTO				S	**S**	**05 19 51.2**	**-6.4**
	comp=Z,0.5nm,0.3s,baz=136,slow=23,SNR=5.7						
AKTO	**Aktyubinsk**	**16.59**	**323**	P	**P**	**05 16 57.2**	**-0.8**
AKTO				S	**S**	**05 19 51.2**	**-6.4**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
ZAL	**Zalesovo**	**17.47**	**22**	P	**P**	**05 17 08.2**	**-0.8**
NVS	**Novosibirsk**	**17.85**	**18**	*e*P	**P**	**05 17 11.3**	**-2.2**
NVS				*e*S	**S**	**05 20 24.8**	**-1.0**
NVS				pmax	pmax		
	comp=N,8.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NVS				smax			
	comp=N,26nm,1.8s						
NVS				smax			
	comp=E,8.0nm,1.0s						
GTA	**Gaotai**	**20.33**	**78**	*e*P	**P**	**05 17 45.8**	**+5.5**
ARU	**Arti**	**20.86**	**336**	*e*P	**P**	**05 17 44.6**	**-0.9**
HYB	**Hyderabad**	**21.12**	**167**	*i* P	**P**	**05 17 52.5**	**+4.1**
HYB	**Hyderabad**	**21.12**	**167**	*e*P	**P**	**05 17 52.5**	**+4.1**
ZAK	**Zakamensk**	**24.22**	**50**	*e*P	**P**	**05 18 20.5**	**+2.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.4						
SONM	**Songino Array**	**25.57**	**57**	P	**P**	**05 18 33.2**	**+2.1**
	comp=Z,1.7nm,0.8s,mb3.5,baz=265,slow=9.8,SNR=6.7						
ULN	**Ulaanbaatar**	**26.01**	**57**	*e*P	**P**	**05 18 35.2**	**0.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
ULN	**Ulaanbaatar**	**26.01**	**57**	*e*P	**P**	**05 18 35.1**	**0.0**
	comp=Z,1.9nm,0.8s,mb3.6						
BR131	**Keskin Array S**	**31.05**	**286**	*e*P	**P**	**05 19 21.6**	**+1.1**
	comp=Z,0.8nm,0.7s,mb3.6						
BRTR	**Keskin Array B**	**31.05**	**286**	P	**P**	**05 19 21.7**	**+1.2**
	comp=Z,1.3nm,0.9s,mb3.7,baz=98,slow=7.1,SNR=6.4						
AKASG	**Malin Array Be**	**33.65**	**306**	P	**P**	**05 19 42.8**	**-0.1**
	comp=Z,0.9nm,0.4s,mb3.9,baz=82,slow=7.8,SNR=6.7						
JOF	**Joensuu**	**35.55**	**328**	*e*P	**P**	**05 19 58.6**	**-0.3**
FINES	**FINESS Array B**	**37.35**	**324**	P	**P**	**05 20 14.3**	**+0.3**
	comp=Z,5.3nm,0.4s,mb4.8,baz=105,slow=10,SNR=62						
KAF	**Kangasniemi**	**37.44**	**325**	*e*P	**P**	**05 20 14.8**	**0.0**
KEV	**Kevo**	**40.08**	**337**	*e*P	**P**	**05 20 36.4**	**-0.1**
ARCES	**ARCESS Array B**	**40.45**	**336**	P	**P**	**05 20 40.4**	**+0.8**
	comp=Z,4.9nm,0.5s,mb4.6,baz=111,slow=8.3,SNR=58						
GERES	**GERESS Array B**	**43.77**	**304**	P	**P**	**05 21 08.8**	**+1.9**
	comp=Z,0.5nm,0.5s,mb3.5,baz=59,slow=7.8,SNR=5.4						
KHC	**Kasperske Hory**	**43.80**	**305**	*e*P	**P**	**05 21 08.5**	**+1.4**
NB2	**NORSAR Subarra**	**44.38**	**322**	P	**P**	**05 21 11.6**	**0.0**
	comp=Z,7.4nm,0.6s,mb4.6,baz=92,slow=7.9						
NB2	**NORSAR Subarra**	**44.38**	**322**	P	**P**	**05 21 11.6**	**0.0**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
NOA	**NORSAR Array B**	**44.38**	**322**	P	**P**	**05 21 11.8**	**+0.2**
	comp=Z,9.0nm,0.7s,mb4.6,baz=92,slow=7.7,SNR=51						
NAO01	**NORSAR Array S**	**44.53**	**322**	P	**P**	**05 21 12.3**	**-0.6**
	comp=Z,5.4nm,0.7s,mb4.4						
ESDC	**Sonseca Array**	**58.60**	**298**	P	**P**	**05 22 58.2**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=50,slow=7.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**67.94**	**270**	P	**P**	**05 24 00.5**	**+0.4**
	comp=Z,2.3nm,0.5s,mb4.2,baz=48,slow=5.6,SNR=48						
ILAR	**Eielson Array**	**72.54**	**17**	P	**P**	**05 24 26.9**	**-0.1**
	comp=Z,1.3nm,0.9s,mb3.8,baz=314,slow=4.7,SNR=13						
DBIC	**Dimbokro**	**76.96**	**268**	P	**P**	**05 24 54.2**	**+1.0**
	comp=Z,1.5nm,0.9s,mb3.7,baz=62,slow=17,SNR=3.2						
YKA	**Yellowknife Ar**	**79.43**	**4**	P	**P**	**05 25 06.5**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.1,baz=350,slow=5.5,SNR=56						
YKA	**Yellowknife Ar**	**79.43**	**4**	P	**P**	**05 25 06.6**	**+0.8**
WRA	**Warramunga Arr**	**81.07**	**124**	P	**P**	**05 25 16.5**	**+1.1**
	comp=Z,0.9nm,0.9s,mb3.6,baz=221,slow=3.9,SNR=7.8						

IDC ***13*** *05:20:44.5±0.9, 26.07N×142.82E, mb3.9/8, mb1 4.2/8, mb1mx3.9/21, mbtmp3.9/8, Error ellipse: s-maj=27.0km s-min=18.8km az=65.0*

ISC 13 05:20:43.4±5.7, 25.97N±0.08×143.0E±0.1, h6km±36km, n12, σ1°12/12, mb3.9/8, 1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.31**	**328**	Pn	**Pn**	**05 21 09.2**	**+0.9**
	51nm,0.3s,baz=285,slow=20,SNR=4.8						
CBIJ				Sn	**Sn**	**05 21 27.4**	**+1.1**
	151nm,0.3s,baz=121,slow=23,SNR=12						
SCPH	**Surigao**	**23.10**	**229**⇓	*e*P	**P**	**05 25 50.7**	**-0.5**
WB2	**Warramunga Arr**	**46.40**	**191**	*e*P	**P**	**05 29 13.8**	**+1.1**
WRA	**Warramunga Arr**	**46.40**	**191**	P	**P**	**05 29 13.7**	**+0.9**
	2.8nm,0.6s,mb4.4,baz=11,slow=8.5,SNR=38						
MKAR	**Makanchi Array**	**51.72**	**310**	P	**P**	**05 29 52.0**	**-1.5**
	0.4nm,0.7s,mb3.4,baz=233,slow=36,SNR=2.7						
ILAR	**Eielson Array**	**58.37**	**28**	P	**P**	**05 30 41.0**	**-0.5**
	0.9nm,1.0s,mb3.8,baz=267,slow=8.0,SNR=5.7						
BVAR	**Borovoye Array**	**59.33**	**318**	P	**P**	**05 30 46.4**	**-2.0**
	0.8nm,0.6s,mb3.9,baz=82,slow=10,SNR=4.8						
INK	**Inuvik**	**63.76**	**24**	P	**P**	**05 31 16.6**	**-1.3**
	2.9nm,1.3s,mb4.2,baz=281,slow=4.6,SNR=3.3						
YKA	**Yellowknife Ar**	**72.80**	**28**	P	**P**	**05 32 14.8**	**+0.5**
	1.0nm,0.8s,mb3.8,baz=293,slow=5.7,SNR=14						
FINES	**FINESS Array B**	**79.25**	**334**	P	**P**	**05 32 50.1**	**-0.6**
	1.2nm,0.5s,mb4.1,baz=45,slow=5.4,SNR=8.7						
NVAR	**Mina Array Bea**	**80.67**	**52**	P	**P**	**05 33 00.3**	**+1.6**
	0.5nm,0.6s,mb3.6,baz=268,slow=7.6,SNR=4.9						
LPAZ	**La Paz**	**149.51**	**78**	PKPbc	PKPdf	05 40 37.9	+5.5
	1.0nm,0.6s,baz=327,slow=4.3,SNR=6.5						

IDC 13 05:51:03.5±3.3, 21.55S×172.72E, mb3.9/3, mb1 4.2/3, mb1mx3.9/12, mbtmp3.8/3, MS3.8/1, Ms1 3.8/1, ms1mx3.6/16, Error ellipse: s-maj=268.6km s-min=33.4km az=165.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.85**	**264**	LR	LR	05 54 09.4	
	comp=Z,746nm,18.0s,baz=14,slow=32						
WRA	**Warramunga Arr**	**35.87**	**265**	P	P	05 58 05.3	-2.0
	0.2nm,0.2s,baz=96,slow=8.4,SNR=16						
TXAR	**Tujitas Array**	**95.03**	**61**	P	P	06 04 27.0	-2.8
	0.6nm,0.9s,baz=225,slow=5.3,SNR=5.2						
PDAR	**Pinedale Array**	**95.82**	**46**	P	P	06 04 33.8	+0.7
	0.5nm,0.7s,baz=207,slow=3.3,SNR=4.0						

IDC ***13*** *05:59:43.4±3.3, 36.22N×136.69E, h269km±21km, mb3.0/2, mb1 3.4/2, mb1mx2.7/21, mbtmp3.6/2, Error ellipse: s-maj=101.9km s-min=24.8km az=107.0*
JMA ***13*** *05:59:43.4±0.4, 36.21N×136.99E, h288km±4km, M2.8*

ISC 13 05:59:43.6±0.9, 36.2N±0.2×137.0E±0.2, h284km±7km, n12, σ0°26/13, mb2.8/2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.25**	**80**	P	**P**	**06 00 20.1**	**0.0**
JGM	**Miyama**	**0.53**	**206**	P	**P**	**06 00 20.6**	**-0.1**
JKG	**Kaga**	**0.56**	**280**	P	**P**	**06 00 20.8**	**0.0**
MJAR	**Matsushiro Arr**	**1.03**	**69**	P	**P**	**06 00 22.9**	**+0.2**
	1.9nm,0.3s,baz=255,slow=7.2,SNR=9.4						
MJAR				S	**S**	**06 00 53.0**	**-0.2**
	0.4nm,0.3s,baz=293,slow=9.9,SNR=5.4						
JRY	**Ryogami san**	**1.54**	**95**	*e*S	**S**	**06 00 58.3**	**-0.3**
JWT	**Wachi**	**1.58**	**236**	P	**P**	**06 00 25.9**	**-0.1**
JOD2	**Odawara 2**	**1.92**	**118**	P	**P**	**06 00 29.2**	**+0.7**
JAG	**Ashikaga**	**1.99**	**82**	P	**P**	**06 00 29.0**	**-0.1**
JNS	**Sasagawa**	**2.47**	**48**	P	**P**	**06 00 33.4**	**0.0**
JWZ	**Kozaga**	**2.85**	**202**	P	**P**	**06 00 37.3**	**+0.2**
ILAR	**Eielson Array**	**52.10**	**32**	P	**P**	**06 08 26.4**	**+0.1**
	0.2nm,0.6s,mb2.6,baz=265,slow=4.7,SNR=4.2						
WRA	**Warramunga Arr**	**55.87**	**183**	P	**P**	**06 08 53.6**	**-0.4**
	0.2nm,0.3s,mb3.0,baz=358,slow=7.6,SNR=7.7						

NNC ***13*** *06:34:40.8±7.6, 40.02N×77.25E, mpv3.1, Error ellipse: s-maj=59.6km s-min=39.6km az=171.0*
BJI ***13*** *06:34:45.9, 39.87N×77.11E, h10km, ML3.2*

ISC 13 06:34:41.7±4.7, 39.6N±0.3×77.4E±0.2, h10km, n9, σ1°05/10, 5C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.06**	**268**⇑	*i*PG	**Pg**	**06 35 02.9**	**-0.2**
KSH				SG	**Sg**	**06 35 17.9**	**+0.6**
KSH				Smax			
	comp=N,250nm,0.5s						
KSH				Smax			
	comp=E,120nm,0.5s						
ULHL	**Ulahol**	**2.80**	**343**	P	**Pn**	**06 35 27.7**	**+0.2**
	SNR=8.1						
KZA	**Kyzart**	**2.97**	**328**	P	**Pn**	**06 35 31.7**	**+1.8**
	SNR=16						
UCH	**Uchtor**	**3.42**	**322**	P	**Pn**	**06 35 36.3**	**+0.1**
	SNR=8.0						
KBK	**Karagaybulak**	**3.58**	**330**	P	**Pn**	**06 35 41.9**	**+3.4**
	SNR=5.3						
TKM2	**Tokmak 2**	**3.60**	**339**	⇑Pg	**Pn**	**06 35 38.5**	**-0.3**
	comp=E,2.3nm,0.5s						
TKM2				⇑Lg		06 36 19.8	
	comp=E,13nm,0.7s						
AML	**Almayashu**	**3.77**	**314**	P	**Pn**	**06 35 40.6**	**-0.7**
	SNR=28						
EKS2	**Erkin-Say**	**4.10**	**320**	P	**Pn**	**06 35 45.6**	**-0.3**
	SNR=11						
KK31	**Karatay Array**	**6.24**	**307**	⇑Pg	**Pb**	**06 36 28.3**	**-2.0**
	comp=E,2.8nm,0.8s,baz=131,slow=16,SNR=10						
KK31				⇑Lg		06

PGF					*e*Sn		**Sn**	**07 13 31.1**	**+0.6**
	15nm,0.7s								
VOY	**Vojsko**	**3.38**	**14**	*e*Pn			**Pn**	**07 13 09.1**	**+2.8**
VOY				*e*(Sn)			**Sn**	**07 13 46.9**	**+0.2**
VOY				*e*				07 13 57.0	
VOY	**Vojsko**	**3.38**	**14**	*e*Pn			**Pn**	**07 13 09.1**	**+2.8**
VOY				Sn			**Sn**	**07 13 46.9**	**+0.2**
VOY				*e*				07 13 57.0	
OBKA	**Obir**	**3.98**	**19**	⇑*i*Pn			**Pn**	**07 13 16.1**	**+1.3**
OBKA	**Obir**	**3.98**	**19**	⇑*i*Sn			**Sn**	**07 14 02.4**	**+0.7**
OBKA	**Obir**	**3.98**	**19**	⇑Pn			**Pn**	**07 13 16.1**	**+1.3**
OBKA				Sn			**Sn**	**07 14 02.4**	**+0.6**
OBKA	**Obir**	**3.98**	**19**	⇑Pn			**Pn**	**07 13 16.0**	**+1.3**
SBF	**Sospel**	**4.00**	**288**	*e*Pn			**Pn**	**07 13 15.5**	**+0.4**
KBA	**Koelnbreinsper**	**4.35**	**6**	⇑*i*Pn			**Pn**	**07 13 21.4**	**+1.4**
KBA	**Koelnbreinsper**	**4.35**	**6**	⇑*i*Sn			**Sn**	**07 14 11.5**	**+0.3**
KBA	**Koelnbreinsper**	**4.35**	**6**	⇑Pn			**Pn**	**07 13 21.4**	**+1.4**
KBA				Sn			**Sn**	**07 14 11.4**	**+0.3**
FRF	**La Foret Royal**	**4.50**	**282**	*e*Pn			**Pn**	**07 13 22.0**	**-0.2**
FRF				*e*Sn			**Sn**	**07 14 12.5**	**-2.6**
	1.3nm,0.3s								
LMR	**La Mourre**	**4.58**	**279**	*e*Pn			**Pn**	**07 13 23.0**	**-0.3**
MBDF	**Montbardon**	**4.73**	**297**	*e*Pn			**Pn**	**07 13 24.9**	**-0.5**
LPG	**La Plagne**	**5.09**	**305**	*e*Pn			**Pn**	**07 13 29.5**	**-1.0**
LPL	**La Plagne**	**5.11**	**305**	*e*Pn			**Pn**	**07 13 30.8**	**0.0**
MOA	**Mollin**	**5.21**	**12**	⇓*i*Pn			**Pn**	**07 13 32.4**	**+0.2**
MOA	**Mollin**	**5.21**	**12**	⇓*i*Sn			**Sn**	**07 14 32.0**	**-1.0**
MOA	**Mollin**	**5.21**	**12**	⇓Pn			**Pn**	**07 13 32.4**	**+0.2**
MOA				Sn			**Sn**	**07 14 32.0**	**-1.0**
SMRF	**Simiane la Rot**	**5.34**	**286**	*e*Pn			**Pn**	**07 13 33.6**	**-0.4**
ORIF	**Oris-en-Rattie**	**5.39**	**296**	*e*Pn			**Pn**	**07 13 33.7**	**-1.0**
ORIF	**Oris-en-Rattie**	**5.39**	**296**	*e*P			**Pn**	**07 13 37.8**	**+3.1**
ORIF	**Oris-en-Rattie**	**5.39**	**296**	*e*P			**Pn**	**07 13 37.8**	**+3.1**

IDC ***13*** *07:32:26.3±0.7, 15.34S×178.48W, mb4.3/11, mb1 4.5/12, mb1mx4.5/16, mbtmp4.3/12, MS4.7/19, Ms1 4.7/19, ms1mx4.6/22, Error ellipse: s-maj=28.7km s-min=17.4km az=149.0*

MOS ***13*** *07:32:29.4±1.1, 15.35S×178.50W, h10km, mb5.2/20, Error ellipse: s-maj=16.2km s-min=11.1km az=136.2*

HRVD ***13*** *07:32:30.9±0.3, 15.31S×178.39W, h12km, MW5.2/74, Centroid moment Tensor Solution. LP body waves: s22,c24;Mantle waves: s74,c136; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr=0.08±.03; Mθθ-0.61±.03; Mφφ0.68±.03; Mrθ 0.03±.09; Mθφ 0.56±.03; Mφr 0.27±.08; Best double couple: M₀.893×10^17 NP1:φs66°, δ76°, λ6°. NP2:φs335°, δ84°, λ166°. Principal axes: T .961, Plg14°, Azm290°; N -.136, Plg75°, Azm132°; P -.826, Plg6°, Azm21°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *07:32:30.9±0.3, 15.33S×178.41W, h10km, mb5.1/30 Error ellipse: s-maj=14.6km s-min=7.8km az=146.0*

BJI ***13*** *07:32:32.0, 14.71S×178.71W, h9km, mB5.3, mb4.8, Ms5.3, Msz4.8*

ISC 13 07:32:32.8±0.3, 15.40S±0.09×178.48W±0.06, h33km, (h8km±6.2km: pP-P), n137, σ1 9.25/117, mb4.9/48, MS4.7/20, 4C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.65**	**78**	Pn		**Pn**	**07 34 05.7**	**-5.1**
	1.4nm,0.3s,baz=273,slow=20,SNR=5.0							
AFI	**Afiamalu**	**6.65**	**78**	*e*P		**P**	**07 34 06.0**	**-4.7**
AFI				pmax	pmax			
	comp=Z,99nm,1.1s							
AFI	**Afiamalu**	**6.65**	**78**	*e*Pn		**Pn**	**07 34 06.0**	**-4.8**
	comp=Z,99nm,1.1s							
RAO	**Raoul Island**	**13.80**	**178**	LR		LR	07 40 29.0	
	comp=Z,4μm,18.2s,baz=171,slow=35							
DZM	**Mont Dzumac**	**15.74**	**243**	Pn		**P**	**07 36 15.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=43,slow=18,SNR=3.5							
DZM				LR		LR	07 41 12.4	
	comp=Z,1μm,18.9s,baz=46,slow=33							
RAR	**Rarotonga**	**18.67**	**111**	LR		LR	07 42 15.7	
	comp=Z,2μm,19.4s,baz=320,slow=32							
HNR	**Honiara**	**21.88**	**283**	LR		LR	07 44 30.9	
	comp=Z,9μm,19.8s,MS5.2,baz=142,slow=33							
HNR	**Honiara**	**21.88**	**283**	*e*P		**P**	**07 37 25.5**	**+0.7**
HNR				pmax	pmax			
	comp=Z,61nm,0.9s,mb5.0							
HNR	**Honiara**	**21.88**	**283**	*e*P		**P**	**07 37 25.5**	**+0.7**
	comp=Z,61nm,0.9s,mb5.0							
URZ	**Urewera**	**23.10**	**189**	P		**P**	**07 37 31.1**	**-5.6**
	comp=Z,9.2nm,0.8s,mb4.2,baz=349,slow=8.5,SNR=5.3							
URZ				LR		LR	07 44 59.3	
	comp=Z,2μm,18.8s,MS4.6,baz=254,slow=32							
PPT	**Papeete**	**27.78**	**99**	*e*S		**S**	**07 42 52.2**	**-7.7**
PPT				*e*LQ			07 44 06.1	
PPT				*e*LR		LR	07 45 07.8	
	comp=Z,5μm,26.5s,baz=264							
TBI	**Tubuai**	**28.45**	**111**	*e*LQ			07 44 38.8	
TBI				*e*LR		LR	07 45 33.3	
	comp=Z,6μm,29.0s,baz=283							
CTAO	**Charters Tower**	**33.87**	**257**	*e*P		**P**	**07 39 14.4**	**-0.3**
CTAO				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
CTAO	**Charters Tower**	**33.87**	**257**	*e*P		**P**	**07 39 14.4**	**-0.3**
	comp=Z,11nm,1.1s,mb4.7							
PMG	**Port Moresby**	**34.06**	**276**	P		**P**	**07 39 13.6**	**-2.7**
	comp=Z,7.3nm,0.6s,mb4.8,baz=144,slow=5.2,SNR=3.6							
PMG				LR		LR	07 49 17.5	
	comp=Z,714nm,19.4s,MS4.4,baz=121,slow=30							
PMG	**Port Moresby**	**34.06**	**276**	*e*P		**P**	**07 39 15.1**	**-1.3**
TAOE	**Nuku Hiva Isla**	**37.99**	**85**	*e*LR		LR	07 49 48.6	
	comp=Z,6μm,27.3s							
STKA	**Stephens Creek**	**39.83**	**238**	*e*P		**P**	**07 40 01.8**	**-3.0**
	comp=Z,16nm,1.2s,mb4.6							
STKA	**Stephens Creek**	**39.83**	**238**	P		**P**	**07 40 02.5**	**-2.3**
	comp=Z,30nm,1.1s,mb4.9,baz=45,slow=7.4,SNR=11							
STKA				LR		LR	07 54 41.4	
	comp=Z,1μm,20.6s,MS4.8,baz=72,slow=34							
RKT	**Rikitea**	**41.66**	**108**	*e*S		**S**	**07 46 31.5**	**-2.7**
RKT				*e*LR		LR	07 51 37.2	
	comp=Z,3μm,28.0s,baz=272							
WB2	**Warramunga Arr**	**45.06**	**257**	*e*P		**P**	**07 40 41.2**	**-6.5**
WRAB	**Tennant Creek**	**45.07**	**257**	*i* P		**P**	**07 40 47.1**	**-0.6**
WRA	**Warramunga Arr**	**45.08**	**257**	P		**P**	**07 40 42.5**	**-5.3**
	comp=Z,5.6nm,0.9s,mb4.4,baz=89,slow=7.7,SNR=42							
KAKA	**Kakadu**	**47.61**	**267**	*e*P		Px	07 41 26.7	
	comp=Z,14nm,0.9s							
FITZ	**Fitzroy Crossi**	**53.41**	**259**	LR		LR	08 02 32.5	
	comp=Z,1μm,21.1s,MS4.9,baz=41,slow=34							
NWAO	**Narrogin (SRO)**	**60.35**	**241**	LR		LR	08 07 39.1	
	comp=Z,683nm,19.3s,MS4.8,baz=97,slow=35							
SBA	**Scott Base**	**62.91**	**183**	*e*P		**P**	**07 42 58.6**	**+0.9**
SBA				pmax	pmax			
	comp=Z,17nm,1.2s,mb5.0							
SBA	**Scott Base**	**62.91**	**183**	*e*P		**P**	**07 42 58.6**	**+0.9**
	comp=Z,17nm,1.2s,mb5.0							
VNDA	**Vanda**	**62.92**	**185**	P		**P**	**07 42 54.6**	**-3.3**
	comp=Z,2.4nm,1.1s,mb4.2,baz=357,slow=8.3,SNR=3.4							
VNDA				LR		LR	08 05 20.1	
	comp=Z,313nm,19.5s,MS4.5,baz=36,slow=31							
VNDA	**Vanda**	**62.92**	**185**	*e*P		**P**	**07 42 57.9**	**0.0**
VNDA				pmax	pmax			
	comp=Z,7.0nm,1.2s							
VNDA	**Vanda**	**62.92**	**185**	*e*P		**P**	**07 42 57.9**	**0.0**
	comp=Z,7.0nm,1.2s,mb4.7							
VNDA				LR		LR	08 05 20.1	
MJAR	**Matsushiro Arr**	**65.87**	**323**	P		**P**	**07 43 13.4**	**-4.1**
	comp=Z,0.6nm,0.3s,mb4.1,baz=108,slow=7.7,SNR=2.9							
MJAR				LR		LR	08 06 19.5	
	comp=Z,395nm,20.3s,MS4.6,baz=155,slow=31							
CASY	**Casey**	**68.38**	**204**	*e*P		**P**	**07 43 32.9**	**+0.1**
	comp=Z,30nm,1.1s,mb5.2							
YSS	**Yuzh-Sakhalins**	**71.16**	**333**	*i* P		**P**	**07 43 49.6**	**-0.5**
YSS				pmax	pmax			
	comp=Z,69nm,1.9s,mb5.3							
SSE	**Sheshan**	**74.11**	**309**	*e*P		**P**	**07 44 06.1**	**-1.7**
SSE				AP		pP	07 44 15.6	-2.5
SSE				XP		sP	07 44 19.0	-2.8
SSE				PCP		PcP	07 44 21.6	-1.6
SSE				PP		PP	07 46 49.3	-5.9
SSE				S		S	07 53 36.3	-0.9
SSE				SCS		ScS	07 54 12.8	+0.7
SSE				SS		SS	07 58 18.8	-6.0
SSE				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
SSE				AMB		AMB		
	comp=Z,180nm,4.0s							
SSE				LR		LR		
	comp=N,130nm,40.6s,MS4.2							
SSE				LR		LR		
	comp=E,190nm,40.5s,MS4.2							
SSE				LR		LR		
	comp=Z,300nm,37.4s,MS4.3							
OHCM	**Honcut**	**76.06**	**42**	*e*P		**P**	**07 44 18.3**	**-0.6**
OHCM				*e*			07 44 44.9	
CMB	**Columbia Colle**	**76.07**	**44**	*e*P		**P**	**07 44 18.9**	**-0.1**
CMB				pmax	pmax			
	comp=Z,24nm,1.4s,mb4.9							
CMB	**Columbia Colle**	**76.07**	**44**	*e*P		**P**	**07 44 18.9**	**-0.1**
	comp=Z,24nm,1.4s,mb4.9							
MDJ	**Mudanjiang**	**76.11**	**325**	P		**P**	**07 44 19.8**	**+0.7**
MDJ				AMB		AMB		
	comp=Z,10.0nm,2.1s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,150nm,4.4s							
ISA	**Isabella**	**76.14**	**47**	*e*P		**P**	**07 44 19.3**	**-0.1**
ISA				pmax	pmax			
	comp=Z,30nm,1.4s,mb5.0							
ISA	**Isabella**	**76.14**	**47**	*e*P		**P**	**07 44 19.3**	**-0.1**
	comp=Z,30nm,1.4s,mb5.0							
NJ2	**Nanjing**	**76.31**	**309**	*e*P		**P**	**07 44 20.5**	**0.0**
NJ2				AP		pP	07 44 24.0	-6.8
NJ2				XP		sP	07 44 26.3	-8.2
NJ2				PP		PP	07 47 13.3	-0.4
NJ2				S		S	07 54 01.0	-0.6
NJ2				XS			07 54 12.0	
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,160nm,4.6s							
NJ2				LR		LR		
	comp=N,530nm,15.4s							
NJ2				LR		LR		
	comp=E,810nm,27.2s							
NJ2				LR		LR		
	comp=Z,500nm,24.8s							
YBH	**Yreka Blue Hor**	**76.63**	**39**	*e*P		**P**	**07 44 22.6**	**+0.5**
YBH				pmax	pmax			
	comp=Z,15nm,1.3s							
YBH	**Yreka Blue Hor**	**76.63**	**39**	*e*P		**P**	**07 44 22.6**	**+0.5**
	comp=Z,15nm,1.3s,mb4.8							
NVAR	**Mina Array Bea**	**77.67**	**44**	P		**P**	**07 44 25.0**	**-3.0**
	comp=Z,3.2nm,0.8s,mb4.3,baz=222,slow=6.8,SNR=14							
NVAR				LR		LR	08 10 02.1	
	comp=Z,186nm,20.5s,MS4.4,baz=270,slow=29							
MNV	**Mina**	**77.78**	**44**	*e*P		**P**	**07 44 28.4**	**-0.1**
MNV				pmax	pmax			
	comp=Z,139nm,2.2s,mb5.5							
MNV	**Mina**	**77.78**	**44**	*e*P		**P**	**07 44 28.4**	**-0.1**
	comp=Z,139nm,2.2s,mb5.5							
CN2	**Changchun**	**78.01**	**322**	*e*P		**P**	**07 44 31.0**	**+1.3**
TPH	**Tonopah**	**78.22**	**45**	*e*P		**P**	**07 44 32.3**	**+1.3**
TPH				pmax	pmax			
	comp=Z,28nm,1.4s,mb5.0							
TPH	**Tonopah**	**78.22**	**45**	*e*P		**P**	**07 44 32.3**	**+1.3**
	comp=Z,28nm,1.4s,mb5.0							
LDFC	**Landfair**	**78.25**	**48**	*e*P		**P**	**07 44 31.5**	**+0.3**
TPNV	**Topopah Spring**	**78.34**	**46**	*e*P		**P**	**07 44 32.6**	**+0.9**
TPNV				pmax	pmax			
	comp=Z,31nm,1.6s,mb5.0							
TPNV	**Topopah Spring**	**78.34**	**46**	*e*P		**P**	**07 44 32.5**	**+0.9**
	comp=Z,31nm,1.6s,mb5.0							
NEN	**Nelson**	**78.71**	**48**	*e*P		**P**	**07 44 33.9**	**+0.2**
TUC	**Tucson**	**80.23**	**53**	*e*P		**P**	**07 44 42.7**	**+0.7**
TUC				pmax	pmax			
	comp=Z,24nm,1.5s,mb4.9							
TUC	**Tucson**	**80.23**	**53**	*e*P		**P**	**07 44 42.7**	**+0.6**
	comp=Z,24nm,1.5s,mb4.9							
ARUT	**Antelope Range**	**80.70**	**47**	*e*P		**P**	**07 44 44.7**	**+0.3**
TNA	**Tin City**	**81.11**	**4**	*e*P		**P**	**07 44 45.9**	**-0.1**
	comp=Z,10nm,1.2s,mb4.6							
MSU	**Marysvale**	**81.92**	**47**	*e*P		**P**	**07 44 51.3**	**+0.6**
DUG	**Dugway**	**82.25**	**45**	*e*P		**P**	**07 44 53.3**	**+0.9**
DUG				pmax	pmax			
	comp=Z,16nm,1.4s,mb4.8							
DUG	**Dugway**	**82.25**	**45**	*e*P		**P**	**07 44 53.3**	**+0.9**
	comp=Z,16nm,1.4s,mb4.8							
HLID	**Hailey**	**82.79**	**41**	*e*P		**P**	**07 44 55.8**	**+0.7**
	comp=Z,23nm,1.4s,mb5.0							
TMUT	**Trail Mountain**	**82.95**	**46**	*e*P		**P**	**07 44 54.6**	**-1.4**
HVU	**Hansel Valley**	**83.01**	**43**	*e*P		**P**	**07 44 57.5**	**+1.3**
HVU				pmax	pmax			
	comp=Z,27nm,1.4s,mb5.1							
HVU	**Hansel Valley**	**83.01**	**43**	*e*P		**P**	**07 44 57.5**	**+1.3**
	comp=Z,27nm,1.4s,mb5.1							
SPUT	**South Promonto**	**83.01**	**44**	*e*P		**P**	**07 44 56.7**	**+0.5**
SRU	**San Rafael**	**83.34**	**47**	*e*P		**P**	**07 44 56.1**	**-1.9**
SRU				pmax	pmax			
	comp=Z,27nm,1.3s,mb5.1							
SRU	**San Rafael**	**83.34**	**47**	*e*P		**P**	**07 44 56.1**	**-1.9**
	comp=Z,27nm,1.3s,mb5.1							
COLA	**College**	**83.35**	**13**	*e*P		**P**	**07 44 57.0**	**-0.5**
COLA				pmax	pmax			
	comp=Z,29nm,1.4s,mb5.1							
COLA	**College**	**83.35**	**13**	*e*P		**P**	**07 44 57.0**	**-0.5**
	comp=Z,29nm,1.4s,mb5.1							
DAU	**Daniels Canyon**	**83.41**	**45**	*e*P		**P**	**07 44 59.4**	**+1.1**
ILAR	**Eielson Array**	**83.47**	**13**	P		**P**	**07 44 54.2**	**-3.9**
	comp=Z,7.4nm,1.1s,mb4.6,baz=230,slow=6.2,SNR=11							
ILAR				LR		LR	08 17 56.4	
	comp=Z,269nm,19.2s,MS4.6,baz=56,slow=33							
TCUT	**Toone Canyon**	**83.62**	**44**	*e*P		**P**	**07 45 00.1**	**+0.7**
HWUT	**Hardware Ranch**	**83.73**	**44**	*e*P		**P**	**07 44 60.0**	**0.0**
	comp=Z,11nm,1.2s,mb4.8							
LAZ	**Ladron**	**83.87**	**52**	*e*P		**P**	**07 45 01.7**	**+0.9**
BILL	**Bilibino**	**83.94**	**354**	*e*P		**P**	**07 44 59.3**	**-1.1**
BILL				*e*			07 48 12.4	
BILL				*e*S		S	07 55 21.4	+1.0
BILL				*e*SS		SS	08 00 54.2	+2.6
BILL				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.3							
BNM	**Barren Site**	**84.16**	**52**	*e*P		**P**	**07 45 00.1**	**-2.3**
MNTX	**Cornudas Mount**	**84.20**	**55**	*e*P		**P**	**07 45 02.9**	**+0.3**
	comp=Z,11nm,1.2s,mb4.9							
LPM	**Los Pinos Moun**	**84.22**	**52**	*e*P		**P**	**07 45 02.9**	**+0.3**
MCMT	**McKenzie Canyo**	**84.38**	**41**	*e*P		**P**	**07 45 01.2**	**-2.0**
AHID	**Auburn Hatcher**	**84.56**	**43**	*e*P		**P**	**07 45 05.5**	**+1.4**
ANMO	**Albuquerque**	**84.60**	**52**	*e*P		**P**	**07 45 02.1**	**-2.4**
ANMO				pmax	pmax			
	comp=Z,16nm,1.2s							
ANMO	**Albuquerque**	**84.60**	**52**	*e*P		**P**	**07 45 02.1**	**-2.4**
	comp=Z,16nm,1.2s,mb5.0							
RRI2	**Red Ridge**	**84.68**	**42**	*e*P		**P**	**07 45 02.2**	**-2.5**
	comp=Z,38nm,1.2s,mb5.4							
DAWY	**Dawson**	**84.71**	**16**	*e*P		**P**	**07 45 04.2**	**-0.1**
LTX	**Lajitas**	**84.72**	**58**	*e*P		**P**	**07 45 06.4**	**+1.2**
LTX				pmax	pmax			
	comp=Z,57nm,1.4s,mb5.5							
LTX	**Lajitas**	**84.72**	**58**	*e*P		**P**	**07 45 06.4**	**+1.2**
	comp=Z,56nm,1.4s,mb5.5							
TXAR	**Lajitas Array**	**84.72**	**58**	P		**P**	**07 45 03.5**	**-1.7**
	comp=Z,4.5nm,1.0s,mb4.6,baz=225,slow=5.3,SNR=21							
TXAR				LR		LR	08 15 47.9	
	comp=Z,440nm,18.6s,MS4.9,baz=220,slow=31							
TPAW	**Teton Pass**	**84.98**	**42**	*e*P		**P**	**07 45 07.6**	**+1.4**
	comp=Z,28nm,1.4s,mb5.2							
REDW	**Red Top Meadow**	**84.99**	**43**	*e*P		**P**	**07 45 04.0**	**-2.2**
	comp=Z,40nm,1.4s,mb5.3							
IMW	**Indian Meadow**	**85.17**	**42**	*e*P		**P**	**07 45 05.2**	**-1.9**
	comp=Z,36nm,1.3s,mb5.3							
QLMT	**Earthquake Lak**	**85.28**	**41**	*e*P		**P**	**07 45 10.3**	**+2.7**
HHC	**Hu-ho-hao-te**	**85.48**	**314**	*e*P		**P**	**07 45 08.8**	**+0.1**
HHC				AP		pP	07 45 13.3	-5.9
HHC				XP		sP	07 45 15.6	-7.1
HHC				PP		PP	07 48 28.3	-0.6
HHC				SKS		SKS	07 55 29.3	+1.2
HHC				S		S	07 55 37.5	+1.3
HHC				XS			07 55 44.8	
HHC				PS		PS	07 56 34.6	-3.7
HHC				SS		SS	08 01 14.1	-1.2
HHC				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.5							
HHC				AMB		AMB		
	comp=Z,120nm,4.9s							
HHC				LR		LR		
	comp=N,170nm,14.3s,MS4.8							
HHC				LR		LR		
	comp=E,210nm,15.5s,MS4.8							
HHC				LR		LR		
	comp=Z,190nm,20.2s,MS4.5							
YMR	**Madison River**	**85.50**	**41**	*e*P		**P**	**07 45 09.2**	**+0.5**
	comp=Z,44nm,1.6s,mb5.4							
PDAR	**Pinedale Array**	**85.58**	**44**	P		**P**	**07 45 05.9**	**-3.3**
	comp=Z,4.3nm,1.1s,mb4.6,baz=206,slow=1.4,SNR=7.8							
PDAR				LR		LR	08 16 10.4	
	comp=Z,373nm,20.1s,MS4.8,baz=252,slow=31							
SMCO	**Snowmass**	**85.88**	**48**	*e*P		**P**	**07 45 12.6**	**+1.8**
	comp=Z,6.1nm,1.1s,mb4.7							
HRY	**Holter Researc**	**85.89**	**39**	*e*P		**P**	**07 45 10.9**	**+0.4**
MAW	**Mawson**	**86.19**	**200**	LR		LR	08 21 30.9	
	comp=Z,497nm,18.3s,MS5.0,baz=86,slow=34							
KMI	**Kunming**	**86.64**	**297**	P		**P**	**07 45 16.4**	**+1.7**
YAK	**Yakutsk**	**87.24**	**338**	*i* P		**P**	**07 45 17.4**	**+0.6**
YAK				pmax	pmax			
	comp=Z,200nm,26.0s							
EDM	**Edmonton**	**88.10**	**33**	*e*P		**P**	**07 45 21.7**	**+0.6**
LZH	**Lanzhou**	**89.32**	**308**	*e*P		**P**	**07 45 27.8**	**+0.4**
LZH				AP		pP	07 45 31.1	-6.8
LZH				XP		sP	07 45 32.5	-8.9
LZH				PP		PP	07 49 01.3	+0.6
LZH				SKS		SKS	07 55 55.3	+2.6
LZH				*e*S		S	07 56 15.3	+2.7
LZH				XS			07 56 23.3	
LZH				AMB		AMB		
	comp=Z,20nm,1.2s,mb5.3							
LZH				AMB		AMB		
	comp=Z,120nm,7.6s							
LZH				LR		LR		
	comp=N,510nm,16.5s							
LZH				LR		LR		
	comp=Z,750nm,18.3s,MS5.2							
RSSD	**Black Hills**	**89.81**	**44**	*e*P		**P**	**07 45 30.6**	**+1.1**
RSSD				pmax	pmax			
	comp=Z,26nm,1.5s,mb5.3							
RSSD	**Black Hills**	**89.81**	**44**	*e*P		**P**	**07 45 30.6**	**+1.2**
	comp=Z,26nm,1.5s,mb5.3							
ULN	**Ulaanbaatar**	**91.22**	**320**	*i* P		**P**	**07 45 38.1**	**+2.1**
SYO	**Syowa Base**	**91.57**	**193**	⇓P		**P**	**07 45 36.2**	**-0.9**
SYO	**Syowa Base**	**91.57**	**193**	⇓*e*P		**P**	**07 45 36.2**	**-0.9**
SONM	**Songino Array**	**91.62**	**319**	P		**P**	**07 45 36.6**	**-1.2**
	comp=Z,0.4nm,0.6s,mb3.9,baz=333,slow=3.2,SNR=2.6							
YKA	**Yellowknife Ar**	**92.09**	**25**	P		**P**	**07 45 36.6**	**-3.0**
	comp=Z,0.5nm,0.8s,mb3.9,baz=244,slow=4.5,SNR=6.6							
YKA				LR		LR	08 20 49.8	
	comp=Z,862nm,20.1s,MS5.2,baz=250,slow=32							
SNAA	**Sanae**	**93.09**	**179**	*i* P		**P**	**07 45 45.1**	**+1.0**
SNAA	**Sanae**	**93.09**	**179**	*e*		**P**	**07 45 47.3**	**+3.2**
SNAA	**Sanae**	**93.09**	**179**	*e*		**P**	**07 45 55.9**	**+12**
SNAA	**Sanae**	**93.09**	**179**	*e*		**P**	**07 45 59.9**	**+16**
PLCA	**Paso Flores**	**93.10**	**134**	LR		LR	08 18 10.2	
	comp=Z,149nm,20.1s,MS4.4,baz=245,slow=30							
VNA3	**Neumayer Olymp**	**93.23**	**176**	⇑*i* P		**P**	**07 45 49.4**	**+4.7**
VNA3	**Neumayer Olymp**	**93.23**	**176**	*e*		**P**	**07 45 51.9**	**+7.2**
VNA3	**Neumayer Olymp**	**93.23**	**176**	*e*		**P**	**07 45 57.8**	**+13**
VNA3	**Neumayer Olymp**	**93.23**	**176**	*e*		**P**	**07 46 00.5**	**+16**
VNA2	**Neumayer--Watz**	**93.67**	**177**	⇑*i* P		**P**	**07 45 47.3**	**+0.6**
VNA2	**Neumayer--Watz**	**93.67**	**177**	*e*		**P**	**07 45 50.6**	**+3.9**
VNA2	**Neumayer--Watz**	**93.67**	**177**	*e*		**P**	**07 45 55.8**	**+9.1**
VNA2	**Neumayer--Watz**	**93.67**	**177**	*e*		**P**	**07 45 58.7**	**+12**
TIXI	**Tiksi**	**93.73**	**345**	*e*P		**P**	**07 45 44.7**	**-2.2**
TIXI				pmax	pmax			
	comp=Z,5.0nm,2.0s,mb4.6							
VNA1	**Neumayer--Stat**	**93.90**	**177**	⇑*i* P		**P**	**07 45 49.5**	**+1.8**
VNA1	**Neumayer--Stat**	**93.90**	**177**	*e*		**P**	**07 45 53.0**	**+5.3**
VNA1	**Neumayer--Stat**	**93.90**	**177**	*e*		**P**	**07 45 58.8**	**+11**
VNA1	**Neumayer--Stat**	**93.90**	**177**	*e*		**P**	**07 46 02.2**	**+14**
ULM	**Lac du Bonnet**	**97.04**	**40**	LR		LR	08 21 57.1	
	comp=Z,400nm,21.2s,MS4.9,baz=268,slow=31							
OBN	**Obninsk**	**132.04**	**334**	*e*PKIKP		PKPdf	07 51 43.3	+0.2
OBN				*e*			07 54 03.0	
OBN				*e*			07 58 54.4	
OBN				*e*SS		SS	08 11 42.2	+1.2
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ANN	**Anapa**	**137.86**	**322**	*i* PKHKP			07 51 40.9	
ANN				pmax	pmax			
	comp=Z,48nm,0.9

1.5nm,0.3s,baz=302,slow=14,SNR=36
WRA Sn **S** **08 11 13.5 -6.1**
0.8nm,0.3s,baz=308,slow=25,SNR=5.0
WRAB Tennant Creek 13.78 134 *i* P **P** **08 08 47.2 +0.4**
WB2 Warramunga Arr 13.79 134 *eP* **P** **08 08 45.9 -1.0**
WB2 *eS* **S** **08 11 13.4 -6.4**
KSM Kuching 17.98 311 Pn **P** **08 09 40.0 -0.6**
KKM Kota Kinabalu 18.16 335 Pn **P** **08 09 44.0 +1.2**
FORT Forrest 20.49 169 *eP* **P** **08 10 12.7 +3.6**
29nm,0.8s
PMG Port Moresby 23.04 89 P **P** **08 10 38.8 +4.0**
PMG pmax pmax
comp=Z,15nm,1.0s
PMG Port Moresby 23.04 89 P **P** **08 10 38.8 +3.9**
comp=Z,15nm,1.0s,mb4.4
NWAO Narrogin (SRO) 23.05 194 P **P** **08 10 39.2 +4.5**
NWAO pmax pmax
comp=Z,9.0nm,0.9s
NWAO Narrogin (SRO) 23.05 194 P **P** **08 10 39.2 +4.4**
comp=Z,8.7nm,0.9s,mb4.2
CTA Charters Tower 23.61 116 *eP* **P** **08 10 49.5 +9.2**
comp=Z,4.5nm,1.0s,mb3.9
CTA Charters Tower 23.61 116 P **P** **08 10 49.7 +9.4**
comp=Z,7.0nm,0.9s,mb4.1,baz=282,slow=13,SNR=7.3
STKA Stephens Creek 26.83 145 *eP* **P** **08 11 16.7 +5.9**
comp=Z,4.2nm,0.9s,mb4.0
STKA Stephens Creek 26.83 145 P **P** **08 11 16.2 +5.4**
comp=Z,4.7nm,0.8s,mb4.0,baz=331,slow=13,SNR=5.4
STKA S **S** **08 16 03.5 +21**
comp=Z,1.8nm,0.7s,baz=132,slow=23,SNR=2.0
STKA LR LR 08 23 17.4
comp=Z,207nm,19.2s,baz=201,slow=39
XAN Xi'an 46.57 343 P **P** **08 13 55.4 -2.6**
XAN AP pP 08 14 01.9 -6.3
MJAR Matsushiro Arr 48.80 15 P **P** **08 14 15.8 +0.5**
comp=Z,1.0nm,0.4s,mb4.2,baz=197,slow=8.9,SNR=3.6
GTA Gaotai 54.51 337 *eP* **P** **08 14 57.9 -0.4**
GTA AP pP 08 15 04.9 -3.8
GTA XP sP 08 15 08.9 -3.8
CASY Casey 56.36 186 *eP* **P** **08 15 12.1 +0.8**
comp=Z,44nm,1.5s,mb5.3
CASY pP pP 08 15 23.4 +1.7
SONM Songino Array 60.18 347 P **P** **08 15 37.2 -1.0**
comp=Z,2.0nm,0.6s,mb4.3,baz=161,slow=7.9,SNR=10.0
ZAK Zakamensk 63.29 345 *eP* **P** **08 15 55.2 -3.9**
KSH Kashi 66.73 321 *eP* **P** **08 16 23.1 +1.7**
KSH *eAP* pP 08 16 32.6 +0.5
KSH *eXP* sP 08 16 38.3 +2.4
KSH AMB AMB
comp=Z,80nm,4.4s
MKAR Makanchi Array 68.08 331 P **P** **08 16 30.1 +0.3**
comp=Z,11nm,0.9s,mb4.9,baz=137,slow=7.7,SNR=41
MKAR Makanchi Array 68.08 331 *i* P **P** **08 16 29.7 0.0**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
BOD Bodaibo 68.63 354 *eP* **P** **08 16 32.2 -0.8**
BOD pmax pmax
comp=Z,5.0nm,1.7s,mb4.2
MAW Mawson 69.42 201 P **P** **08 16 38.8 +1.1**
MAW pmax pmax
comp=Z,11nm,1.2s
MAW Mawson 69.42 201 P **P** **08 16 38.8 +1.1**
comp=Z,11nm,1.2s,mb4.7
VNDA Vanda 69.73 172 LR LR 08 45 10.0
comp=Z,91nm,18.4s,MS4.1,baz=272,slow=34
YAK Yakutsk 72.53 3 *i* P **P** **08 16 56.2 -0.2**
NVS Novosibirsk 73.54 337 *eP* **P** **08 17 01.5 -1.1**
AB31 Akbulak array 81.60 324 *i* P **P** **08 17 48.0 +0.6**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
TIXI Tiksi 82.11 2 *eP* **P** **08 17 49.1 -0.5**
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LBTB Lobatse 92.89 244 *eP* **P** **08 18 43.9 +1.2**
LBTB pmax pmax
comp=Z,43nm,1.9s,mb5.5
LBTB Lobatse 92.89 244 *eP* **P** **08 18 43.9 +1.1**
comp=Z,43nm,1.9s,mb5.6
TORD Torodi Ar. Bea 123.38 279 PKP PKPdf 08 24 30.5 +4.5
comp=Z,0.7nm,0.8s,baz=47,slow=2.8,SNR=4.0
PDAR Pinedale Array 123.75 45 PKP PKPdf 08 24 32.2 +6.1
comp=Z,0.4nm,0.8s,baz=270,slow=0.9,SNR=3.1
TXAR Lajitas Array 132.02 60 PKP PKPdf 08 24 47.7 +5.3
comp=Z,0.5nm,0.8s,baz=225,slow=1.3,SNR=4.4
LPAZ La Paz 150.81 156 PKPbc PKPdf 08 25 28.4 +13
comp=Z,0.8nm,0.7s,baz=117,slow=4.5,SNR=3.8
BDFB Brasilia 152.71 197 PKPbc PKPdf 08 25 32.0 +14
comp=Z,3.3nm,0.9s,baz=135,slow=2.9,SNR=3.2

*IDC **13** 08:09:42.5±1.0,41.02S×174.85E,mb4.3/1,mb1 4.2/3, mb1mx3.9/11,mbtmp3.9/3,ML3.4/2,MS3.6/3,Ms1 3.6/3, ms1mx3.3/15,Error ellipse: s-maj=41.7km s-min=12.8km az=129.0*
*WEL **13** 08:09:48.3±0.0,41.10S×174.86E,h30km,ML4.6/47,Error ellipse: s-maj=0.4km s-min=0.4km az=90.0,MM 6.*
WEL Felt between Wanganui, Marlborough and Wairarapa, maximum reported intensity.
*NEIC **13** 08:09:48.2,41.09S×174.87E,h30km,ML4.6(WEL),After WEL.*
NEIC Felt in the Wellington area.
ISC 13 08:09:47.7±0.3,41.17S±0.02×174.84E±0.03,h42km±4km, n99,σ1.9 10/111,mb4.2/1,MS3.7/2,18C-5D,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRW	**Makara Radio**	**0.12**	**238**	P*	**P**	**08 09 54.2**	**-0.3**
MRW				S*	**S**	**08 09 58.9**	**-0.5**
WEL	**Wellington**	**0.13**	**204**	P*	**P**	**08 09 54.5**	**-0.1**
WEL				S*	**S**	**08 09 59.4**	**-0.1**
WEL	**Wellington**	**0.13**	**204**	P	**P**	**08 09 54.5**	**-0.1**
SNZO	**South Karori**	**0.18**	**215**	P*	**P**	**08 09 54.9**	**0.0**
SNZO				S*	**S**	**08 09 59.7**	**-0.2**
SNZO	**South Karori**	**0.18**	**215**	P	**P**	**08 09 54.8**	**-0.1**
CAW	**Cannon Point**	**0.18**	**72**	⇑P*	**P**	**08 09 54.0**	**-0.9**
CAW				S*	**S**	**08 09 58.5**	**-1.5**
CAW	**Cannon Point**	**0.18**	**72**	⇑P	**P**	**08 09 54.0**	**-0.9**
CAW				S	**S**	**08 09 58.5**	**-1.5**
BHW	**Baring Head**	**0.24**	**175**	⇑P*	**P**	**08 09 55.7**	**+0.2**
BHW				S*	**S**	**08 10 01.2**	**+0.3**
BHW	**Baring Head**	**0.24**	**175**	⇑P	**P**	**08 09 55.7**	**+0.2**
KIW	**Kapiti Island**	**0.31**	**10**	⇓P*	**P**	**08 09 54.8**	**-1.4**
KIW				S*	**S**	**08 09 59.4**	**-2.7**
KIW	**Kapiti Island**	**0.31**	**10**	⇓P	**P**	**08 09 54.8**	**-1.4**
MSWZ	**Moikau Station**	**0.40**	**129**	⇑P*	**P**	**08 09 57.8**	**+0.7**
MSWZ				S*	**S**	**08 10 05.2**	**+1.4**
MSWZ	**Moikau Station**	**0.40**	**129**	⇑P	**P**	**08 09 57.8**	**+0.6**
PAWZ	**Paruwai Farm**	**0.49**	**116**	⇑P*	**P**	**08 09 58.9**	**+0.5**
PAWZ				S*	**S**	**08 10 07.3**	**+1.4**
PAWZ	**Paruwai Farm**	**0.49**	**116**	⇑P	**P**	**08 09 58.9**	**+0.5**
MTW	**Mount Morrison**	**0.50**	**90**	⇑P*	**P**	**08 09 58.6**	**+0.1**
MTW				S*	**S**	**08 10 06.7**	**+0.6**
MTW	**Mount Morrison**	**0.50**	**90**	⇑P	**P**	**08 09 58.6**	**+0.1**
TRWZ	**Traveller**	**0.68**	**110**	⇓P*	**P**	**08 10 01.3**	**+0.4**
TRWZ				S*	**S**	**08 10 11.7**	**+1.1**
TUWZ	**Tuamarina**	**0.73**	**248**	⇓P*	**P**	**08 10 02.4**	**+0.9**
CMWZ	**Cape Campbell**	**0.75**	**219**	P*	**P**	**08 10 04.2**	**+2.4**
CMWZ	**Cape Campbell**	**0.75**	**219**	P	**P**	**08 10 04.4**	**+2.5**
MRZ	**Mangatainoka R**	**0.75**	**48**	⇑P*	**P**	**08 10 01.4**	**-0.5**
MRZ				S*	**S**	**08 10 12.6**	**+0.3**
MRZ	**Mangatainoka R**	**0.75**	**48**	⇑P	**P**	**08 10 01.4**	**-0.5**
DUWZ	**D'Urville Isla**	**0.78**	**297**	⇑P*	**P**	**08 10 03.0**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.91**	**233**	P*	**P**	**08 10 05.8**	**+1.7**
BSWZ	**Blackbirch Sta**	**0.91**	**233**	P	**P**	**08 10 05.8**	**+1.7**
NNZ	**Nelson**	**1.10**	**267**	PN	**P**	**08 10 08.0**	**+1.2**
NNZ				SN	**S**	**08 10 22.5**	**+1.4**
NNZ	**Nelson**	**1.10**	**267**	P	**P**	**08 10 08.0**	**+1.1**
BFZ	**Birch Farm**	**1.17**	**66**	⇓P*	**P**	**08 10 07.0**	**-0.8**
BFZ	**Birch Farm**	**1.17**	**66**	⇑P	**P**	**08 10 07.0**	**-0.8**
TSZ	**Takapari Road**	**1.40**	**38**	PN	**P**	**08 10 10.6**	**-0.6**
TSZ	**Takapari Road**	**1.40**	**38**	P	**P**	**08 10 10.5**	**-0.6**
WAZ	**Wanganui**	**1.41**	**5**	PN	**P**	**08 10 10.7**	**-0.7**
THZ	**Tophouse**	**1.57**	**247**	⇑PN	**P**	**08 10 14.6**	**+0.9**
THZ	**Tophouse**	**1.57**	**247**	⇑P	**P**	**08 10 14.5**	**+0.9**
KHZ	**Kahutara**	**1.58**	**217**	PN	**P**	**08 10 14.5**	**+0.7**
KHZ				S*	**S**	**08 10 33.8**	**+0.5**
KHZ	**Kahutara**	**1.58**	**217**	⇑P	**P**	**08 10 14.5**	**+0.7**
QRZ	**Quartz Range**	**1.78**	**280**	PN	**P**	**08 10 17.5**	**+0.9**
QRZ	**Quartz Range**	**1.78**	**280**	P	**P**	**08 10 17.5**	**+0.9**
MTVZ	**Mangateitei**	**1.84**	**15**	PN	**P**	**08 10 17.8**	**+0.4**
MOVZ	**Moawhango**	**1.89**	**22**	PN	**P**	**08 10 17.7**	**-0.4**
PXZ	**Pawanui**	**1.91**	**54**	PN	**P**	**08 10 16.2**	**-2.2**
PKVZ	**Pokaka**	**1.91**	**12**	PN	**P**	**08 10 18.6**	**+0.1**
WNVZ	**Wahianoa**	**1.92**	**18**	PN	**P**	**08 10 18.7**	**+0.1**
TRVZ	**Turoa**	**1.94**	**16**	PN	**P**	**08 10 19.2**	**+0.4**
NRZ	**Ngariki Road**	**1.95**	**339**	PN	**P**	**08 10 20.4**	**+1.4**
NRZ	**Ngariki Road**	**1.95**	**339**	P	**P**	**08 10 20.4**	**+1.4**
DRZ	**Dome Shelter**	**1.97**	**17**	PN	**P**	**08 10 19.5**	**+0.3**
NEZ	**North Egmont**	**1.98**	**343**	PN	**P**	**08 10 20.8**	**+1.5**
FWVZ	**Far West T-bar**	**1.98**	**16**	PN	**P**	**08 10 19.8**	**+0.4**
TUVZ	**Tukino**	**1.99**	**18**	PN	**P**	**08 10 20.0**	**+0.4**
TUVZ	**Tukino**	**1.99**	**18**	P	**P**	**08 10 20.2**	**+0.6**
NWEZ	**Newall Road**	**2.03**	**338**	*e*PN	**P**	**08 10 21.3**	**+1.2**
WPVZ	**Whakapapa**	**2.03**	**16**	PN	**P**	**08 10 20.5**	**+0.4**
CNZ	**Chateau**	**2.04**	**16**	PN	**P**	**08 10 20.5**	**+0.3**
VRZ	**Vera Road**	**2.04**	**358**	PN	**P**	**08 10 20.5**	**+0.3**
NGZ	**Ngauruhoe**	**2.07**	**17**	*e*PN	**P**	**08 10 21.3**	**+0.6**
PKE	**Pukeiti**	**2.07**	**341**	PN	**P**	**08 10 21.9**	**+1.2**
OTVZ	**Oturere**	**2.10**	**18**	PN	**P**	**08 10 21.3**	**+0.3**
WTVZ	**West Tongariro**	**2.12**	**16**	PN	**P**	**08 10 20.8**	**-0.7**
WTVZ	**West Tongariro**	**2.12**	**16**	P	**P**	**08 10 22.1**	**+0.6**
TWVZ	**Taurewa**	**2.14**	**13**	PN	**P**	**08 10 21.4**	**-0.3**
TWVZ	**Taurewa**	**2.14**	**13**	P	**P**	**08 10 21.9**	**+0.2**
KRVZ	**Karewarewa**	**2.16**	**17**	PN	**P**	**08 10 21.7**	**-0.2**
KATZ	**Kakaramea**	**2.28**	**17**	PN	**P**	**08 10 24.0**	**+0.3**
DSZ	**Denniston Nort**	**2.36**	**255**	PN	**P**	**08 10 25.1**	**+0.4**
DSZ	**Denniston Nort**	**2.36**	**255**	⇑P	**P**	**08 10 25.2**	**+0.4**
BKZ	**Black Stump Fm**	**2.36**	**33**	PN	**P**	**08 10 22.9**	**-2.0**
LTZ	**Lake Taylor**	**2.51**	**229**	PN	**P**	**08 10 26.7**	**-0.2**
WATZ	**Wairara**	**2.55**	**16**	*e*P	**P**	**08 10 28.9**	**+1.4**
HIZ	**Hauiti**	**2.65**	**0**	PN	**P**	**08 10 29.2**	**+0.3**
MQZ	**McQueen's Vall**	**3.01**	**212**	PN	**P**	**08 10 31.9**	**-2.2**
KNZ	**Kokohu**	**3.05**	**46**	PN	**P**	**08 10 30.7**	**-3.9**
URZ	**Urewera**	**3.39**	**32**	Pn	**P**	**08 10 36.0**	**-3.5**
	3.0nm,0.3s,baz=214,slow=7.0,SNR=12						
URZ				Pg	**P**	**08 10 43.2**	**+3.8**
	10.0nm,0.3s,baz=245,slow=10,SNR=26						
URZ				Sn	**S**	**08 11 14.5**	**-4.4**
	24nm,0.3s,baz=217,slow=20,SNR=6.5						
URZ				Lg		08 11 25.5	
	17nm,0.3s,baz=346,slow=17,SNR=3.3						
URZ	**Urewera**	**3.39**	**32**	PN	**P**	**08 10 35.3**	**-4.1**
MWZ	**Matawai**	**3.50**	**37**	PN	**P**	**08 10 35.7**	**-5.4**
MWZ	**Matawai**	**3.50**	**37**	P	**P**	**08 10 37.0**	**-4.1**
WVZ	**Waitahia Valley**	**3.60**	**237**	PN	**P**	**08 10 41.4**	**-1.1**
RPZ	**Rata Peaks**	**3.79**	**226**	Pn	**P**	**08 10 44.2**	**-0.9**
	2.9nm,0.3s,baz=93,slow=2.4,SNR=4.6						
RPZ				Pg	**P**	**08 10 54.0**	**+8.9**
	17nm,0.3s,baz=5.9,slow=15,SNR=27						
RPZ				Sn	**S**	**08 11 24.6**	**-4.4**
	11nm,0.3s,baz=331,slow=3.9,SNR=4.3						
RPZ				Lg		08 11 45.4	
	9.8nm,0.3s,baz=63,slow=16,SNR=7.2						
RPZ				LR	LR	08 12 31.7	
	comp=Z,271nm,18.5s,baz=182,slow=44						
PUZ	**Puketiti**	**4.06**	**42**	PN	**P**	**08 10 43.4**	**-5.5**
KUZ	**Kuaotunu**	**4.46**	**9**	*e*P	**P**	**08 10 54.3**	**-0.4**
MXZ	**Matakaoa Point**	**4.49**	**38**	*e*P	**P**	**08 10 51.2**	**-3.8**
FOZ	**Fox Glacier**	**4.51**	**236**	PN	**P**	**08 10 52.2**	**-3.1**
FOZ	**Fox Glacier**	**4.51**	**236**	*e*P	**P**	**08 10 52.4**	**-2.9**
LBZ	**Lake Benmore**	**4.70**	**225**	PN	**P**	**08 10 56.5**	**-1.5**
LBZ	**Lake Benmore**	**4.70**	**225**	*e*P	**P**	**08 10 56.5**	**-1.5**
ODZ	**Otahua Downs**	**4.95**	**217**	PN	**P**	**08 10 58.6**	**-2.9**
WCZ	**Waipu Caves**	**5.23**	**356**	PN	**P**	**08 11 04.1**	**-1.3**
JCZ	**Jackson Bay**	**5.35**	**235**	*e*P	**P**	**08 11 04.6**	**-2.5**
EAZ	**Earnscleugh**	**5.73**	**223**	PN	**P**	**08 11 10.0**	**-2.4**
EAZ	**Earnscleugh**	**5.73**	**223**	*e*P	**P**	**08 11 10.4**	**-2.0**
TUZ	**Tuapeka**	**6.10**	**217**	PN	**P**	**08 11 15.2**	**-2.4**
DZM	**Mont Dzumac**	**20.31**	**337**	LR	LR	08 20 25.0	
	comp=Z,221nm,19.9s,MS3.5,baz=13,slow=32						
CTA	**Charters Tower**	**32.11**	**302**	LR	LR	08 28 29.1	
	comp=Z,200nm,19.3s,MS3.8,baz=55,slow=35						
WRA	**Warramunga Arr**	**40.32**	**289**	P	**P**	**08 17 21.5**	**-1.3**
	2.5nm,0.5s,mb4.2,baz=126,slow=8.3,SNR=9.2						
YKA	**Yellowknife Ar**	**117.65**	**30**	PKP	PKPdf	08 28 27.9	-0.6
	0.2nm,0.7s,baz=259,slow=1.6,SNR=4.8						
ARCES	**ARCESS Array B**	**147.38**	**341**	PKPbc	PKPdf	08 29 25.7	+2.5
	2.2nm,0.8s,baz=54,slow=1.7,SNR=13						
BRTR	**Keskin Array B**	**150.60**	**280**	PKPbc	PKPdf	08 29 34.9	+5.7
	2.0nm,0.8s,baz=146,slow=4.5,SNR=7.8						
BRTR				PKPab	PKPab	08 29 43.6	-0.1
	0.9nm,0.8s,baz=90,slow=1.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**151.45**	**194**	PKPbc	PKPdf	08 29 38.8	+7.6
	0.5nm,0.7s,baz=152,slow=2.3,SNR=5.1						
TORD				PKPab	PKPab	08 29 47.6	-0.4
	1.2nm,0.8s,baz=152,slow=2.4,SNR=6.5						

MAN 13 08:18:25.6,12.19N×126.25E,h25km,mb4.2,ML3.1, MS2.8,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.98**	**234**	*e*P	Pb	08 18 43.1	-0.8
BESP				*e*S	Sb	08 18 56.8	+0.3
CNP	**Catarman**	**1.58**	**282**	*e*P	Pn	08 18 53.6	+1.1
CNP				*e*S	Sn	08 19 13.7	+1.4
MSLP	**Maasin**	**2.45**	**214**	*e*P	Pn	08 19 05.2	+0.3
MSLP				*e*S	Sn	08 19 34.7	+0.3
PVCP	**Virac**	**2.48**	**305**	*e*P	Pn	08 19 04.8	-0.5
PVCP				*e*S	Sn	08 19 35.3	+0.2
SCPH	**Surigao**	**2.50**	**197**	⇑*e*P	Pn	08 19 05.4	-0.3
OTRP	**Odiongan**	**4.14**	**273**	*e*P	Pn	08 19 28.9	0.0
BOLP	**Bolinao**	**7.42**	**305**	*e*P	Pn	08 20 12.4	-2.8

*MOS **13** 08:20:34.8±1.2,57.34N×120.67E,h13km,mb4.2/1,Error ellipse: s-maj=23.8km s-min=15.9km az=141.4*
BYKL 13 08:20:32.7±0.5,57.43N×120.85E,1C-2D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.70**	**223**	⇑*i*Pg	Pg	08 20 45.4	-1.2
KHNR				*e*Sg	Sg	08 20 53.7	-2.2
YKLR	**Yuktali**	**0.95**	**152**	*e*Pg	Pg	08 20 50.3	-1.3
YKLR				*e*Sg	Sg	08 21 03.5	-0.8
YKLR				Smax			
	2μm,0.5s						
CRS	**Chara**	**1.50**	**250**	⇓*i*Pg	Pg	08 21 00.0	-2.7
CRS				*e*Sg	Sg	08 21 19.8	-2.9
CRS				Pmax			
	479nm,0.9s						
CRS				Smax			
	516nm,0.6s						
CRS	**Chara**	**1.50**	**250**	*e*P	Pn	08 21 00.2	-0.8
CRS				*e*		08 21 20.0	
CRS				pmax	pmax		
	comp=Z,442nm,0.5s						
CRS				smax			
	comp=E,494nm,0.5s						
NRGR	**Nerungri**	**2.25**	**108**	*e*P	Pn	08 21 14.1	+2.4
NRGR				S	Sn	08 21 41.8	+1.1
CLNS	**Chul'man**	**2.28**	**103**	*e*Pg	Pg	08 21 13.7	-4.6
CLNS				*e*Sg	Sg	08 21 43.2	-5.5
CLNS				Pmax			
	comp=E,489nm,0.3s						
CLNS				Smax			
	comp=E,4μm,0.4s						
CLNS	**Chul'man**	**2.28**	**103**	*e*P	Pn	08 21 14.7	+2.5
CLNS				*e*		08 21 43.7	
CLNS				pmax	pmax		
	comp=N,32nm,0.3s						
CLNS				pmax	pmax		
	comp=E,39nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,47nm,0.3s						
CLNS				smax			
	comp=N,776nm,0.5s						
CLNS				smax			
	comp=E,461nm,0.4s						
CLNS				smax			
	comp=Z,141nm,0.4s						
CLNS				MLR	MLR		
	comp=Z,100nm,15.0s						
IENR	**Iengra**	**2.51**	**117**	*e*Pg	Pg	08 21 18.2	-4.7
IENR				*e*Sg	Sg	08 21 49.5	-6.9
ALDR	**Aldan**	**2.70**	**62**	*e*	Pn	08 21 20.9	+2.8
ALDR				*e*		08 21 26.0	
ALDR				*e*Sg	Sg	08 21 56.2	-6.4
ALDR				Smax			
	comp=Z,2μm,0.2s						
NLYR	**Nelyaty**	**2.97**	**254**	*e*Pn	Pn	08 21 21.4	-0.6
NLYR				*e*Pg	Pg	08 21 25.8	-6.2
NLYR				*e*		08 21 56.9	
NLYR				*e*Sg	Sg	08 22 02.7	-8.9
NLYR				Pmax			
	comp=Z,198nm,0.4s						
NLYR				Smax			
	comp=Z,502nm,1.3s						
NLYR	**Nelyaty**	**2.97**	**254**	*e*P	Pn	08 21 21.4	-0.6
NLYR				*e*		08 22 02.3	
NLYR				pmax	pmax		
	comp=Z,197nm,0.4s						
NLYR				smax			
	comp=E,501nm,1.3s						
TUP	**Tupik**	**3.05**	**190**	*e*Pn	Pn	08 21 21.7	-1.5
TUP				*e*Pg	Pg	08 21 26.5	-7.2
TUP				*e*Sg	Sg	08 22 05.6	-8.8
TUP				Pmax			
	comp=E,97nm,0.5s						
TUP				Smax			
	comp=E,491nm,0.7s						
TUP	**Tupik**	**3.05**	**190**	*e*P	Pn	08 21 21.6	-1.6
TUP				*e*S	Sn	08 21 57.7	-3.3
TUP				pmax	pmax		
	comp=Z,82nm,0.5s						
TUP				smax			
	comp=E,414nm,0.8s						
TNDR	**Tynda**	**3.15**	**135**	*e*	Pn	08 21 23.9	-0.6
TNDR				*e*Pg	Pg	08 21 30.0	-5.5
TNDR				*e*		08 22 01.2	
TNDR				*e*Sg	Sg	08 22 10.2	-7.2
TNDR				Pmax			
	comp=E,274nm,0.2s						
TNDR				Smax			
	comp=E,1μm,0.2s						
BOD	**Bodaibo**	**3.70**	**279**	*e*Pn	Pn	08 21 31.0	-1.4
BOD				*e*Pg	Pg	08 21 38.7	-7.9
BOD				*e*Sg	Sg	08 22 25.9	-10
BOD				Pmax			
	comp=E,49nm,0.5s						
BOD				Smax			
	comp=E,289nm,0.7s						
BOD	**Bodaibo**	**3.70**	**279**	*e*P	Pn	08 21 30.1	-2.3
BOD				*e*S	Sn	08 22 24.9	+7.5
BOD				smax			
	comp=N,246nm,0.5s						
SVKR	**Severomuysk**	**4.22**	**255**	*e*Pg	Pg	08 21 49.3	-7.7
SVKR				*e*Sg	Sg	08 22 44.0	-9.3
SVKR				Pmax			
	comp=N,113nm,0.3s						
SVKR				Smax			
	comp=N,299nm,1.0s						
UKT	**Uakit**	**4.45**	**247**	*e*Pg	Pg	08 21 52.0	-10
UKT				*e*Sg	Sg	08 22 48.7	-12
UKT				Pmax			
	comp=N,29nm,1.0s						
UKT				Smax			
	comp=N,76nm,1.4s						
UKT	**Uakit**	**4.45**	**247**	*e*P	Pn	08 21 52.2	+9.1
UKT				pmax	pmax		
	comp=Z,20nm,0.6s						
KROS	**Kirovskiy**	**4.57**	**129**	*e*	Pn	08 21 40.5	-4.2
KROS				⇓*i*		08 21 53.8	
KROS				*i* Sg	Sg	08 22 53.0	-12
ZEA	**Zeya**	**5.18**	**133**	*e*	Pn	08 22 06.9	+14
ZEA				*e*Sg	Sg	08 23 11.8	-13
YOA	**Uoyan**	**5.18**	**259**	*e*Sg	Sg	08 23 12.2	-13
YOA				Smax			
	comp=Z,762nm,1.3s						
YOA	**Uoyan**	**5.18**	**259**	*e*P	Pn	08 22 07.2	+14
YOA				pmax	pmax		
	comp=Z,118nm,1.0s						
KMO	**Kumora**	**5.54**	**258**	*e*Pn	Pn	08 21 57.2	-1.3
KMO				*e*Pg	Pg	08 22 12.5	-11
KMO				*e*Sg	Sg	08 23 23.1	-14
KMO				Pmax			
	comp=Z,11nm,0.5s						
KMO				Smax			
	comp=Z,151nm,0.8s						
KMO	**Kumora**	**5.54**	**258**	*e*P	Pn	08 21 55.3	-3.2
KMO				*e*S	Sn	08 22 57.5	-6.3
KMO				pmax	pmax		
	comp=Z,14nm,0.5s						
KMO				smax			
	comp=N,150nm,1.1s						
YLYR	**Ulyunkhan**	**5.99**	**249**	*e*Pn	Pn	08 22 03.3	-1.4
YLYR				*e*		08 22 18.6	
YLYR				*e*Sg	Sg	08 23 39.7	-12
YLYR				max			
	comp=N,4.0nm,0.3s						
YLYR				Smax			
	comp=N,94nm,1.3s						
YLYR	**Ulyunkhan**	**5.99**	**249**	*e*P	Pn	08 22 03.5	-1.2
YLYR				pmax	pmax		
	comp=Z,16nm,0.6s						
TBGR	**Tabaga**	**6.26**	**42**	*e*	Pn	08 23 15.8	+67
TBGR				*e*Sg	Sg	08 23 44.2	-17
YAK	**Yakutsk**	**6.42**	**40**	*e*P	Pn	08 22 29.5	+19
NIZ	**Nizh Angarsk**	**6.46**	**260**	*e*	Pn	08 22 21.1	+10
NIZ				*e*Pg	Pg	08 22 30.1	-12
NIZ				*e*Sg	Sg	08 23 53.1	-15
NIZ				Pmax			
	comp=Z,6.0nm,0.9s						
NIZ				Smax			
	comp=Z,62nm,1.8s						
CIT	**Chita**	**6.87**	**221**	*e*Pg	Pg	08 22 35.8	-14
CIT				*e*Sg	Sg	08 24 03.8	-18
CIT				Pmax			
	comp=Z,4.0nm,0.4s						
CIT				Smax			
	comp=Z,186nm,1.3s						
SYVR	**Suvo**	**7.22**	**243**	*e*	Pn	08 22 41.7	+20
SYVR				*e*Sg	Sg	08 24 17.4	-16
SYVR				max			
	comp=Z,4.0nm,0.7s						
SYVR				Smax			
	comp=Z,130nm,1.6s						
KPC	**Khapcheranga**	**9.23**	**217**	*e*		08 24 54.7	
KPC				*e*Sg	Sg	08 25 16.2	-24
KPC				Smax			
	comp=Z,78nm,1.4s						

*NNC **13** 08:43:00.9±7.2,39.40N×71.56E,h29km±32km,mpv3.1, Error ellipse: s-maj=44.9km s-min=29.4km az=34.0*
ISC 13 08:42:54.4±2.7,38.9N±0.2×71.4E±0.2,h33km,n8, σ0.6 74/10,5C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.70**	**28**	P	**P**	**08 43 50.5**	**-0.1**
	SNR=11						
UCH	**Uchtor**	**4.11**	**35**	P	**P**	**08 43 56.2**	**-0.3**
	SNR=6.8

RAO				S		**S**	**08 47 13.5**	**-0.4**	
	34nm,0.3s,baz=66,slow=23,SNR=2.5								
AFI	**Afiamalu**	**11.21**	**43**	P		**P**	**08 46 27.4**	**-0.8**	
	0.7nm,0.3s,baz=266,slow=21,SNR=2.8								
AFI				S		**S**	**08 48 19.7**	**-10**	
	0.5nm,0.3s,baz=350,slow=17,SNR=2.0								
AFI	**Afiamalu**	**11.21**	**43**	P		**P**	**08 46 27.4**	**-0.8**	
AFI				S		**S**	**08 48 19.7**	**-10**	
DZM	**Mont Dzumac**	**12.91**	**268**	P		**P**	**08 46 47.1**	**+1.8**	
	0.3nm,0.3s,baz=83,slow=18,SNR=4.6								
URZ	**Urewera**	**16.13**	**189**	P		**P**	**08 47 16.8**	**-0.3**	
	1.1nm,0.3s,baz=134,slow=1.5,SNR=6.6								
URZ				S		**S**	**08 49 52.6**	**-5.8**	
	0.4nm,0.3s,baz=342,slow=19,SNR=5.5								
ARMA	**Armidale**	**26.93**	**247**	⇓*i* P		**P**	**08 48 57.2**	**+1.1**	
CTA	**Charters Tower**	**31.85**	**268**	⇓*i* P		**P**	**08 49 39.0**	**+0.6**	
	11nm,0.4s,mb4.8								
CTAO	**Charters Tower**	**31.85**	**268**	⇓*e* P		**P**	**08 49 39.0**	**+0.6**	
	25nm,0.7s,mb4.8								
PMG	**Port Moresby**	**34.34**	**287**	P		**P**	**08 49 59.4**	**0.0**	
	36nm,0.8s,mb5.0,baz=94,slow=4.7,SNR=12								
STKA	**Stephens Creek**	**35.65**	**246**	⇓*i* P		**P**	**08 50 10.8**	**+0.7**	
	9.7nm,0.5s,mb4.6								
STKA	**Stephens Creek**	**35.65**	**246**	P		**P**	**08 50 10.8**	**+0.7**	
	13nm,0.5s,mb4.7,baz=91,slow=9.7,SNR=48								
STKA	**Stephens Creek**	**35.65**	**246**	*e*P		**P**	**08 50 10.7**	**+0.6**	
WB2	**Warramunga Arr**	**42.87**	**264**	*e*P		**P**	**08 51 07.6**	**-0.9**	
WRA	**Warramunga Arr**	**42.88**	**264**	P		**P**	**08 51 07.8**	**-0.8**	
	7.1nm,0.4s,mb4.5,baz=98,slow=8.1,SNR=50								
WRA				PcP		PcP	08 52 47.1	-0.1	
	0.6nm,0.3s,baz=90,slow=3.3,SNR=3.4								
WRA				ScP			08 55 43.5		
	2.9nm,1.0s,baz=97,slow=4.3,SNR=3.7								
WRA				S		**S**	**08 56 54.6**	**+0.6**	
	1.0nm,0.3s,baz=98,slow=14,SNR=7.3								
FORT	**Forrest**	**47.20**	**248**	*e*P		**P**	**08 51 40.8**	**-1.0**	
	33nm,0.6s,mb5.0								
FITZ	**Fitzroy Crossi**	**51.31**	**264**	⇓*i* P		**P**	**08 52 11.6**	**-0.8**	
	15nm,0.6s,mb4.6								
VNDA	**Vanda**	**55.97**	**185**	P		**P**	**08 52 44.9**	**+0.4**	
	1.4nm,0.7s,mb3.3,baz=349,slow=7.5,SNR=15								
VNDA	**Vanda**	**55.97**	**185**	P		**P**	**08 52 44.9**	**+0.4**	
MBWA	**Marble Bar**	**56.00**	**259**	*e*P		**P**	**08 52 44.0**	**-1.4**	
	22nm,0.6s,mb4.6								
QSPA	**South Pole Qui**	**67.75**	**180**	*e*P		**P**	**08 54 00.7**	**0.0**	
	6.2nm,0.6s,mb4.3								
MJAR	**Matsushiro Arr**	**70.80**	**325**	P		**P**	**08 54 18.6**	**-0.9**	
	5.8nm,0.9s,mb4.1,baz=155,slow=7.1,SNR=9.7								
NVAR	**Mina Array Bea**	**83.39**	**44**	P		**P**	**08 55 28.2**	**+0.9**	
	0.9nm,0.8s,mb3.4,baz=221,slow=8.3,SNR=9.1								
TXAR	**Lajitas Array**	**89.31**	**58**	P		**P**	**08 55 56.5**	**+0.6**	
	1.8nm,0.9s,mb3.9,baz=206,slow=5.4,SNR=17								
ANMO	**Albuquerque**	**89.72**	**52**	*e*P		**P**	**08 55 57.6**	**+0.1**	
	1.6nm,1.0s,mb3.8								
PDAR	**Pinedale Array**	**91.32**	**44**	P		**P**	**08 56 05.3**	**+0.6**	
	0.7nm,0.8s,mb3.6,baz=180,slow=1.5,SNR=6.1								
HFS	**Hagfors**	**141.07**	**349**	PKhKP			09 02 17.6		
	1.1nm,0.5s,baz=76,slow=6.1,SNR=6.1								
AKASG	**Malin Array Be**	**143.82**	**329**	PKhKP			09 02 26.6		
	2.0nm,0.4s,baz=43,slow=4.0,SNR=12								
BR131	**Keskin Array S**	**146.88**	**309**	*e*PKPdf		PKPdf	09 02 36.2	+1.9	
BRTR	**Keskin Array B**	**146.88**	**309**	PKPbc		PKPbc	09 02 37.8	+1.3	
	1.0nm,0.5s,baz=162,slow=5.1,SNR=5.2								

ISC 13 09:23:35.7±0.7, 40.31N±0.05×31.49E±0.07, h20km±13km, n7, σ0°78/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDU	**Mudurnu**	**0.26**	**307**	PG	**Sb**	**09 23 46.2**	**+0.4**
SGKT	**Sivrigoynuk**	**0.51**	**58**	*i* P	**Pb**	**09 23 45.8**	**0.0**
SGKT				*i* S	**Sb**	**09 23 52.4**	**-0.3**
HENT	**Hendek**	**0.68**	**319**	*i* P	**Pb**	**09 23 48.7**	**-0.1**
HENT				*i* S	**Sb**	**09 23 57.7**	**-0.1**
ESKT	**Eskisehir**	**0.93**	**212**	*e*PG	**Pb**	**09 23 53.7**	**+0.8**
ESKT				*e*SG	**Sb**	**09 24 06.5**	**+1.7**
ESKT	**Eskisehir**	**0.93**	**212**	*i* P	**Pb**	**09 23 51.0**	**-1.8**
ESKT				*i* S	**Sb**	**09 24 04.8**	**+0.1**
KIZT	**Kizilcal**	**1.46**	**168**	*e*PN	**Pn**	**09 24 00.1**	**-1.1**
ELDT	**Eldivan**	**1.49**	**82**	*i* P	**Pn**	**09 24 01.4**	**-0.3**
ELDT				*i* S	**Sn**	**09 24 22.0**	**+1.2**

MOS 13 09:28:43.7±1.2,57.35N×120.78E,h10km,mb4.0/1, Error ellipse: s-maj=27.4km s-min=19.5km az=150.1

BYKL 13 09:28:41.6±0.4, 57.48N×120.87E, 1C-4D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.74**	**221**	⇓*i* Pg	Pg	09 28 55.8	-0.6
KHNR				*e*Sg	Sg	09 29 04.4	-1.9
YKLR	**Yuktali**	**0.99**	**154**	*e*Pg	Pg	09 29 00.5	-0.8
YKLR				*e*Sg	Sg	09 29 13.0	-1.5
YKLR				Smax			
	538nm,0.2s						
CRS	**Chara**	**1.53**	**249**	⇓*i* Pg	Pg	09 29 10.4	-1.8
CRS				*e*Sg	Sg	09 29 29.3	-3.3
CRS				Pmax			
	299nm,0.7s						
CRS				Smax			
	352nm,0.5s						
CRS	**Chara**	**1.53**	**249**	*e*P	Pn	09 29 10.4	+0.1
CRS				*e*		09 29 30.3	
CRS				pmax	pmax		
	comp=Z,236nm,0.5s						
CRS				smax			
	comp=E,336nm,0.4s						
CLNS				Smax			
	comp=E,4μm,0.4s						
CLNS	**Chul'man**	**2.29**	**105**	*e*P	Pn	09 29 22.9	+1.8
CLNS				*e*		09 29 53.8	
CLNS				pmax	pmax		
	comp=N,11nm,0.3s						
CLNS				pmax	pmax		
	comp=E,18nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,32nm,0.3s						
CLNS				smax			
	comp=N,157nm,0.3s						
CLNS				smax			
	comp=Z,84nm,0.3s						
CLNS				smax			
	comp=E,482nm,0.4s						
IENR	**Iengra**	**2.53**	**118**	⇑*i* Pg	Pg	09 29 27.8	-4.2
IENR				*e*Sg	Sg	09 29 59.2	-6.5
ALDR	**Aldan**	**2.67**	**63**	*e*Pg	Pg	09 29 29.7	-5.1
ALDR				*e*Sg	Sg	09 30 04.6	-5.8
ALDR				Smax			
	comp=E,918nm,0.3s						
NLYR	**Nelyaty**	**3.00**	**253**	*e*Pn	Pn	09 29 31.5	+0.3
NLYR				*e*Pg	Pg	09 29 36.0	-5.4
NLYR				*e*Sg	Sg	09 30 13.4	-8.0
NLYR				Pmax			
	comp=E,101nm,1.1s						
NLYR				Smax			
	comp=E,282nm,1.3s						
NLYR	**Nelyaty**	**3.00**	**253**	*e*P	Pn	09 29 31.4	+0.2
NLYR				*e*		09 30 13.4	
NLYR				pmax	pmax		
	comp=Z,98nm,0.3s						
NLYR				smax			
	comp=E,279nm,1.5s						
TUP	**Tupik**	**3.11**	**190**	*e*Pn	Pn	09 29 31.5	-1.3
TUP				⇓*i* Pg	Pg	09 29 36.6	-7.0
TUP				*e*Sg	Sg	09 30 16.0	-9.0
TUP				Pmax			
	comp=E,81nm,0.6s						
TUP				Smax			
	comp=E,362nm,0.8s						
TUP	**Tupik**	**3.11**	**190**	*e*P	Pn	09 29 31.6	-1.2
TUP				*e*S	Sn	09 30 07.1	-4.1
TUP				pmax	pmax		
	comp=Z,66nm,0.4s						
TUP				smax			
	comp=E,239nm,0.5s						
TNDR	**Tynda**	**3.17**	**136**	*e*	Pn	09 29 34.9	+1.1
TNDR				*e*Pg	Pg	09 29 39.8	-5.1
TNDR				*e*		09 30 11.6	
TNDR				*e*Sg	Sg	09 30 19.7	-7.5
TNDR				Pmax			
	comp=E,159nm,0.2s						
TNDR				Smax			
	comp=E,1μm,0.3s						
BOD	**Bodaibo**	**3.71**	**278**	*e*Pn	Pn	09 29 40.9	-0.4
BOD				*e*Pg	Pg	09 29 49.0	-6.6
BOD				*e*Sg	Sg	09 30 35.9	-9.1
BOD				Pmax			
	comp=E,24nm,0.8s						
BOD				Smax			
	comp=E,185nm,1.3s						
BOD	**Bodaibo**	**3.71**	**278**	*e*P	Pn	09 29 39.7	-1.6
SVKR	**Severomuysk**	**4.25**	**254**	*e*Pg	Pg	09 29 59.1	-7.3
SVKR				*e*Sg	Sg	09 30 54.1	-8.8
SVKR				Pmax			
	comp=E,67nm,0.4s						
SVKR				Smax			
	comp=E,192nm,0.6s						
UKT	**Uakit**	**4.48**	**247**	*e*Pn	Pn	09 29 50.7	-1.7
UKT				*e*Pg	Pg	09 30 02.3	-8.8
UKT				*e*Sg	Sg	09 30 59.0	-12
UKT				Pmax			
	comp=E,25nm,0.6s						
UKT				Smax			
	comp=E,79nm,1.1s						
UKT	**Uakit**	**4.48**	**247**	*e*P	Pn	09 30 02.3	+10
UKT				pmax	pmax		
	comp=Z,17nm,0.6s						
KROS	**Kirovskiy**	**4.59**	**129**	⇓*i*	Pn	09 29 53.0	-0.9
KROS				*i* Sg	Sg	09 31 02.0	-12
YOA	**Uoyan**	**5.21**	**259**	*e*Sg	Sg	09 31 23.2	-12
YOA				Smax			
	comp=Z,485nm,1.4s						
ZEA	**Zeya**	**5.21**	**133**	*e*	Pn	09 30 14.8	+12
ZEA				*e*Sg	Sg	09 31 21.3	-14
KMO	**Kumora**	**5.56**	**257**	*e*Pg	Pg	09 30 22.4	-10
KMO				*e*Sg	Sg	09 31 32.4	-14
KMO				Pmax			
	comp=Z,10.0nm,0.6s						
KMO				Smax			
	comp=Z,95nm,1.5s						
KMO	**Kumora**	**5.56**	**257**	*e*P	Pn	09 30 06.4	-1.3
KMO				*e*S	Sn	09 31 08.6	-4.7
KMO				pmax	pmax		
	comp=Z,14nm,0.4s						
KMO				smax			
	comp=N,97nm,1.2s						
YLYR	**Ulyunkhan**	**6.02**	**248**	*e*Pn	Pn	09 30 12.6	-1.4
YLYR				*e*Pg	Pg	09 30 30.0	-12
YLYR				*e*Sg	Sg	09 31 46.3	-16
YLYR				Pmax			
	comp=N,6.0nm,0.6s						
YLYR				Smax			
	comp=N,61nm,1.2s						
YLYR	**Ulyunkhan**	**6.02**	**248**	*e*P	Pn	09 30 30.9	+17
YLYR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TBGR	**Tabaga**	**6.22**	**42**	*e*	Pn	09 31 25.0	+68
TBGR				*e*Sg	Sg	09 31 52.5	-16
YAK	**Yakutsk**	**6.37**	**41**	*e*	Pn	09 31 27.0	+68
YAK				*e*Sg	Sg	09 31 56.5	-17
YAK				Smax			
	comp=Z,488nm,0.7s						
NIZ	**Nizh Angarsk**	**6.48**	**260**	*e*	Pb	09 31 43.5	+68
NIZ				*e*Sg	Sg	09 32 01.3	-16
NIZ				Smax			
	comp=Z,56nm,2.2s						
CIT	**Chita**	**6.92**	**221**	*e*Pg	Pg	09 30 44.9	-15
CIT				*e*Sg	Sg	09 32 14.1	-18
CIT				Pmax			
	comp=Z,5.0nm,0.6s						
CIT				Smax			
	comp=Z,149nm,2.0s						
SYVR	**Suvo**	**7.25**	**243**	*e*	Pn	09 30 47.5	+16
SYVR				*e*Sg	Sg	09 32 27.8	-15
SYVR				Smax			
	comp=Z,89nm,1.8s						

CASC 13 09:30:26.9±2.7, 13.00N×89.12W, h33km±80km, MD3.8, 4C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.62**	**6**	⇓*i* P	Pn	09 30 42.9	+3.5
LFRS				*e*S	Sb	09 30 52.1	+4.1
LCBS	**La Ceiba**	**0.67**	**12**	⇓*e* P	Pn	09 30 43.4	+3.4
LCBS				*e*S	Sb	09 30 55.0	+5.8
SNVI	**San Vicente**	**0.67**	**24**	*e*P	Pn	09 30 43.8	+3.8
SNVI				*e*S	Sb	09 30 54.5	+5.3
SNET	**Serv Nac Est T**	**0.69**	**351**	⇑*i* P	Pn	09 30 40.3	0.0
SNET				*e*S	Sb	09 30 50.6	+0.8
LBRS	**Las Brisas**	**0.74**	**6**	⇓*i* P	Pn	09 30 44.8	+3.7
LBRS				*e*S	Sb	09 30 54.9	+3.7
BOQS	**Boqueron**	**0.74**	**348**	⇓*i* P	Pn	09 30 44.6	+3.4
BOQS				*e*S	Sb	09 30 55.5	+4.1
VSM	**San Miguel**	**0.93**	**63**	*e*P	Pn	09 30 48.0	+4.3
VSM				*e*S	Sn	09 31 02.1	+6.1
SBLS	**San Blas**	**0.96**	**330**	⇓*e* P	Pn	09 30 47.0	+2.7
SBLS				*e*S	Sn	09 31 00.2	+3.2
BLLM	**Bellamira**	**0.97**	**63**	⇑*e* P	Pn	09 30 48.7	+4.3
BLLM				*e*S	Sn	09 31 02.5	+5.5
SNJE	**San Jose**	**0.98**	**331**	*e*P	Pn	09 30 47.2	+2.7
SNJE				*e*S	Sn	09 31 00.1	+2.8
RTR	**El Retiro**	**1.03**	**330**	⇓*e* P	Pn	09 30 48.0	+2.8
RTR				*e*S	Sn	09 31 01.5	+3.0
CAHU	**Cacacuatique**	**1.17**	**49**	⇓*e* P	Pn	09 30 52.1	+4.8
CAHU				*e*S	Sn	09 31 07.7	+5.5
CNCH	**Conchagua**	**1.28**	**78**	⇑*e* P	Pn	09 30 53.0	+4.2
CNCH				*e*S	Sn	09 31 10.6	+5.5
MTO2	**Montecristo 2**	**1.41**	**351**	⇓*e* P	Pn	09 30 53.9	+3.2
MTO2				*e*S	Sn	09 31 11.1	+2.8
LEON	**Leon**	**2.25**	**105**	⇑*e* P	Pn	09 31 01.9	-0.9
TEL3	**Telica 3**	**2.26**	**101**	*e*P	Pn	09 31 02.8	-0.1
TEL3				*e*S	Sn	09 31 29.7	-0.2
MIRN	**Miramar**	**2.42**	**103**	*e*P	Pn	09 31 04.0	-1.1
MIRN				*e*S	Sn	09 31 33.7	-0.2
MOMJ	**Momotombo**	**2.59**	**103**	*e*P	Pn	09 31 06.5	-1.0
COPN	**Copaltepe**	**2.60**	**108**	*e*P	Pn	09 31 08.8	+1.1
COPN				*e*S	Sn	09 31 37.0	-1.5
MGAN	**Managua**	**2.93**	**107**	*e*S	Sn	09 31 45.5	-1.5
WILN	**Americas 2**	**2.98**	**106**	*e*S	Sn	09 31 47.1	-1.1

NEIC 13 09:31:36.3±1.3,4.73S×145.32E,h10km,mb4.5/2, Error ellipse: s-maj=23.4km s-min=20.2km az=85.0
IDC 13 09:31:42.8±6.6,5.14S×145.61E,h59km±64km,mb3.8/3, mb1 4.0/5,mb1mx3.7/14,mbtmp4.0/5,ML3.6/2, Error ellipse: s-maj=42.9km s-min=32.8km az=152.0

ISC 13 09:31:41.4±4.5, 5.1S±0.2×145.5E±0.2, h60km±41km, n11, σ0°77/13, mb4.1/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.62**	**159**	P	**P**	**09 32 50.5**	**0.0**
	6.3nm,0.3s,baz=335,slow=9.8,SNR=15						
PMG				S	**S**	**09 33 39.2**	**-4.2**
	11nm,0.3s,baz=168,slow=20,SNR=7.7						
PMG	**Port Moresby**	**4.62**	**159**	*e*Pn	**P**	**09 32 50.4**	**-0.1**
PMG				*e*Sn	**S**	**09 33 43.1**	**-0.3**
CTA	**Charters Tower**	**14.96**	**177**	P	**P**	**09 35 14.4**	**+3.5**
	0.2nm,0.3s,baz=9.6,slow=16,SNR=4.0						
KAKA	**Kakadu**	**14.98**	**239**	*e*P	**P**	**09 35 32.4**	**+21**
	29nm,1.5s						
WB2	**Warramunga Arr**	**18.36**	**215**	*e*P	**P**	**09 35 54.1**	**+0.6**
WRA	**Warramunga Arr**	**18.36**	**215**	P	**P**	**09 35 52.5**	**-1.1**
	0.5nm,0.3s,baz=40,slow=12,SNR=8.5						
FITZ	**Fitzroy Crossi**	**23.35**	**235**	*e*P	**P**	**09 36 45.9**	**+0.5**
	10nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**23.35**	**235**	P	**P**	**09 36 46.0**	**+0.6**
	6.1nm,0.7s,mb4.2,baz=52,slow=9.0,SNR=26						
STKA	**Stephens Creek**	**26.93**	**187**	P	**P**	**09 37 19.6**	**+0.3**
	2.3nm,0.7s,mb3.8,baz=49,slow=11,SNR=3.7						
NWAO	**Narrogin (SRO)**	**38.26**	**220**	P	**P**	**09 38 57.0**	**-0.6**
	9.2nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**85.21**	**23**	P	**P**	**09 44 12.2**	**-0.1**
	0.9nm,1.2s,mb3.8,baz=240,slow=5.1,SNR=4.4						

IDC 13 09:39:03.8±0.7,39.10N×72.26E,mb4.1/14,mb1 4.4/18, mb1mx4.2/26,mbtmp4.2/18,ML4.2/4,MS3.5/3,Ms1 3.5/3, ms1mx3.0/21,Error ellipse: s-maj=14.4km s-min=12.2km az=33.0
BJI 13 09:39:10.2,39.55N×72.53E,h37km,mB4.8,mb4.7,ML4.6, Ms3.9,Msz3.9
NEIC 13 09:39:10.3±0.6,39.45N×72.37E,h35km,mb4.6/10,Error ellipse: s-maj=11.2km s-min=9.9km az=189.0
MOS 13 09:39:10.5±2.5,39.56N×72.28E,h33km,mb4.7/9,Error ellipse: s-maj=9.8km s-min=5.7km az=92.1
NNC 13 09:39:11.4±3.7,39.61N×72.05E,h20km±23km,mpv5.0, Error ellipse: s-maj=22.3km s-min=19.5km az=2.0

ISC 13 09:39:10.1±0.6, 39.23N±0.03×72.28E±0.06, h59km±6km, n94, σ1°32/114, mb4.3/28, MS3.4/4, 20C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.88**	**83**	⇑P	**P**	**09 39 56.3**	**+1.7**
KSH				Smax			
	comp=N,2μm,0.6s						
KSH				Smax			
	comp=E,3μm,0.8s						
UCH	**Uchtor**	**3.45**	**29**	P	**P**	**09 40 03.6**	**+0.9**
	SNR=130						
EKS2	**Erkin-Say**	**3.62**	**18**	P	**P**	**09 40 06.4**	**+1.4**
	SNR=83						
KZA	**Kyzart**	**3.64**	**37**	P	**P**	**09 40 05.9**	**+0.6**
	SNR=130						
KBK	**Karagaybulak**	**3.98**	**30**	P	**P**	**09 40 11.1**	**+1.1**
	SNR=55						
FRU	**Bishkek**	**4.01**	**25**	*i* PN	**P**	**09 40 12.0**	**+1.4**
FRU				*i* S	**S**	**09 41 06.0**	**+9.2**
FRU				*i*		09 41 12.0	
FRU				pmax	pmax		
	comp=Z,240nm,1.4s						
FRU				pmax	pmax		
	comp=E,900nm,1.6s						
KK31	**Karatay Array**	**4.10**	**342**	⇓Pn	**P**	**09 40 11.1**	**-0.7**
	comp=E,38nm,0.3s,baz=144,slow=12,SNR=1317						
KK31				⇓Sn	**S**	**09 40 58.0**	**-0.9**
	comp=E,426nm,0.6s,baz=147,slow=23,SNR=12						
KK31	**Karatay Array**	**4.10**	**342**	⇓Pn	**P**	**09 40 11.1**	**-0.7**
KK31				Sn	**S**	**09 40 58.0**	**-0.9**
KKAR	**Karatay Array**	**4.10**	**342**	PN	**P**	**09 40 11.0**	**-0.8**
KKAR				S	**S**	**09 40 57.9**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,40nm,0.4s						
KKAR				smax			
	comp=Z,75nm,0.3s						
CHMS	**Chumysh**	**4.21**	**26**	P	**P**	**09 40 14.1**	**+0.8**
	SNR=214						
ULHL	**Ulahol**	**4.26**	**44**	P	**P**	**09 40 14.3**	**+0.2**
	SNR=48						
USP	**Ospenovka**	**4.37**	**22**	P	**P**	**09 40 16.0**	**+0.4**
	SNR=304						
TKM2	**Tokmak 2**	**4.46**	**33**	P	**P**	**09 40 17.5**	**+0.6**
	SNR=26						
TKM2	**Tokmak 2**	**4.46**	**33**	⇑Pn	**P**	**09 40 17.5**	**+0.7**
	comp=Z,42nm,0.5s						
TKM2				⇑Lg		09 41 25.1	
	comp=Z,224nm,0.7s						
TKM2	**Tokmak 2**	**4.46**	**33**	⇑Pn	**P**	**09 40 17.5**	**+0.6**
TKM2				Lg		09 41 25.1	
CEP	**Cherat**	**5.40**	**183**	P	**P**	**09 40 33.4**	**+3.5**
CEP				S	**S**	**09 41 45.0**	**+14**
CHCP	**Chirah Chowk**	**5.61**	**172**	P	**P**	**09 40 35.0**	**+2.2**
KLP	**Kalpa**	**9.09**	**146**	*e*P	**P**	**09 41 20.6**	**-0.4**
KLP				AMb	AMB	09 41 23.3	
	comp=Z,12nm,1.4s						
KLP				*e*S	**S**	**09 42 56.0**	**-6.8**
KKR	**Kurukshetra**	**9.97**	**157**	*i* P	**P**	**09 41 33.2**	**+0.2**
MK31	**Makanchi Array**	**10.53**	**41**	⇑Pn	**P**	**09 41 39.9**	**-0.6**
	comp=Z,17nm,1.1s,baz=219,slow=12,SNR=38						
MK31				⇑Lg		09 44 39.6	
	comp=Z,12nm,0.8s,baz=225,slow=29,SNR=3.5						
MK31	**Makanchi Array**	**10.53**	**41**	⇑Pn	**P**	**09 41 39.9**	**-0.6**
	comp=Z,17nm,1.0s						
MK31				Lg		09 44 39.6	
MKAR	**Makanchi Array**	**10.53**	**41**	Pn	**P**	**09 41 39.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=226,slow=12,SNR=22						
MKAR				Lg		09 44 30.9	
	comp=Z,0.3nm,0.3s,baz=231,slow=25,SNR=3.7						
KALG	**Kalgarh**	**11.07**	**149**	*i* P	**P**	**09 41 47.3**	**-0.7**
ASOR	**Asosra**	**11.39**	**155**	*i* P	**P**	**09 41 48.6**	**-3.7**
AYAN	**Aya Nagar**	**11.44**	**158**	*i* P	**P**	**09 41 52.1**	**-0.9**
AYAN				AMb	AMB	09 41 53.8	
	comp=Z,17nm,0.8s						
AYAN				*e*S	**S**	**09 43 52.1**	**-8.0**
BISR	**Bishrakh**	**11.46**	**157**	*i* P	**P**	**09 41 50.4**	**-2.8**
BISR				AMb	AMB	09 41 51.2	
	comp=Z,3.7nm,0.5s						
KHET	**Khetri**	**11.50**	**164**	*i* P	**P**	**09 41 51.6**	**-2.2**
KHET				AMb	AMB	09 41 54.2	
	comp=Z,11nm,1.1s						
KHET				*e*S	**S**	**09 43 50.2**	**-11**
KUDL	**Kundal**	**11.59**	**161**	*e*P	**P**	**09 41 51.4**	**-3.6**
KUDL				AMb	AMB	09 41 55.1	
	comp=Z,16nm,1.1s						
SONA	**Sohna**	**11.65**	**159**	*e*P	**P**	**09 41 51.9**	**-3.9**
SONA				AMb	AMB	09 41 58.0	
	comp=Z,23nm,0.7s						
SONA				*e*S	**S**	**09 43 57.1**	**-8.0**
JASL	**Jaisalmer**	**12.32**	**186**	*e*P	**P**	**09 42 02.3**	**-2.5**
JASL				AMb	AMB	09 42 02.6	
KURK	**Kurchatov**	**12.33**	**19**	⇑Pn	**P**	**09 41 59.6**	**-5.2**
	comp=Z,5.3nm,1.5s						
KURK				⇑Lg		09 45 32.4	
	comp=Z,22nm,1.0s						
WMQ	**Urumqi**	**12.43**	**63**	*e*P	**P**	**09 41 58.8**	**-7.4**
WMQ				AP		09 42 08.8	
WMQ				XP		09 42 12.8	
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,100nm,5.4s						
WMQ				LR	LR		
	comp=N,220nm,20.0s						
WMQ				LR	LR		
	comp=E,220nm,16.0s						
AB31	**Akbulak array**	**13.35**	**323**	⇑Pn	**P**	**09 42 13.5**	**-4.8**
	comp=E,16nm,0.6s,baz=136,slow=17,SNR=213						
AB31				⇑Sn	**S**	**09 44 36.0**	**-10**
	comp=E,19nm,0.7s						
AB31	**Akbulak array**	**13.35**	**323**	*i* P	**P**	**09 42 13.6**	**-4.7**
AB31				S	**S**	**09 44 38.9**	**-6.9**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.5s						
AB31				smax			
	comp=Z,12nm,0.7s						
AB31	**Akbulak array**	**13.35**	**323**	⇑Pn	**P**	**09 42 13.5**	**-4.8**
	comp=Z,16nm,0.6s						
AB31				Sn	**S**	**09 44 36.0**	**-10**
VOSK	**

comp=Z,2.9nm,0.9s
AKTO Aktyubinsk 15.07 323 Pn P 09 42 37.0 -3.6
comp=Z,0.4nm,0.3s,baz=126,slow=15,SNR=22
AKTO Sn S 09 45 16.6 -10
comp=Z,0.4nm,0.3s,baz=182,slow=19,SNR=4.2
AKTO Lg 09 47 05.0
comp=Z,0.3nm,0.3s,baz=28,slow=17,SNR=1.9
AKTO LR LR 09 49 02.5
comp=Z,227nm,18.4s,slow=40
AKTO Aktyubinsk 15.07 323 P P **09 42 36.9 -3.7**
AKTO S S **09 45 17.9 -8.4**
AKTO pmax pmax
comp=Z,5.0nm,0.8s
AKTO smax
comp=Z,3.0nm,1.0s
BHPL Bhopal 16.52 163 *ex* x 09 44 57.4
ZAL Zalesovo 17.01 26 Pn P **09 43 03.4 -1.6**
comp=Z,5.8nm,0.3s,baz=245,slow=5.9,SNR=23
ZAL Lg 09 48 03.5
comp=Z,0.2nm,0.3s,baz=93,slow=15,SNR=1.7
NVS Novosibirsk 17.28 22 *e*P P **09 43 06.0 -2.5**
ARU Arti 19.46 337 *e*P P **09 43 33.1 -1.2**
GNI Garni 21.18 281 P P **09 43 53.0 +0.6**
comp=Z,7.7nm,0.7s,mb4.2,baz=100,slow=4.4,SNR=9.4
GNI LR LR 09 53 44.2
comp=Z,49nm,19.8s,MS2.9,baz=157,slow=42
GTA Gaotai 21.28 81 *e*P P **09 43 54.3 +1.0**
GTA AP 09 44 01.8
GTA XP 09 44 05.6
GTA AMB AMB
comp=Z,20nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,90nm,5.7s
GTA LR LR
comp=N,190nm,16.4s,MS3.7
GTA LR LR
comp=E,200nm,16.0s,MS3.7
GTA LR LR
comp=Z,260nm,10.6s
GOF Gofitskoye 22.38 295 *e*P P **09 44 05.4 +1.2**
MIB Mutribah 22.54 253 *e*P P **09 44 08.3 +2.4**
MIB AMb AMB 09 44 14.0
comp=Z,54nm,0.7s,mb5.1
KIV Kislovodsk 22.57 292 *e*P P **09 44 09.7 +3.7**
KIV pmax pmax
comp=Z,21nm,1.0s,mb4.5
KIV MLR MLR
comp=Z,71nm,19.0s,MS3.1
RDF Al-Radifah 22.85 251 *e*P P **09 44 12.7 +3.7**
RDF AMb AMB 09 44 28.1
comp=Z,16nm,0.7s,mb4.6
NAY Al-Naaiem 22.90 252 *e*P P **09 44 12.6 +3.2**
NAY AMb AMB 09 44 20.2
comp=Z,7.4nm,0.6s,mb4.3
ZAK Zakamensk 24.48 53 *e*P P **09 44 26.2 +1.7**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb3.9
SONM Songino Array 26.02 59 P P **09 44 39.5 +0.5**
comp=Z,1.7nm,0.7s,mb3.7,baz=264,slow=9.1,SNR=8.6
SONM LR LR 09 55 51.8
comp=Z,203nm,19.8s,MS3.7,baz=318,slow=39
VOR Voronezh 26.11 310 P P **09 44 40.0 +0.1**
VOR pmax pmax
comp=N,500nm,0.4s
VOR pmax pmax
comp=E,950nm,0.4s
VOR pmax pmax
comp=Z,2μm,0.4s
ULN Ulaanbaatar 26.46 60 *e*P P **09 44 43.5 +0.4**
ULN pmax pmax
comp=Z,5.0nm,1.1s,mb4.0
ULN Ulaanbaatar 26.46 60 *e*P P **09 44 43.5 +0.4**
comp=Z,5.4nm,1.1s,mb4.0
BR131 Keskin Array S 29.68 283 *e*P P **09 45 13.8 +1.5**
comp=Z,1.7nm,0.7s,mb3.9
BRTR Keskin Array B 29.68 283 P P **09 45 13.2 +1.0**
comp=Z,5.5nm,0.9s,mb4.3,baz=100,slow=7.5,SNR=19
CSS Prodhromos 31.19 275 P P **09 45 28.6 +2.9**
comp=Z,9.9nm,0.6s,mb4.8
BOD Bodaibo 32.62 41 *e*P P **09 45 35.4 -2.5**
FINES FINESS Array B 35.84 324 P P **09 46 05.3 -0.2**
comp=Z,0.8nm,0.5s,mb4.0,baz=124,slow=6.9,SNR=5.6
ARCES ARCESS Array B 39.04 336 P P **09 46 32.3 +0.2**
comp=Z,1.8nm,0.5s,mb4.1,baz=110,slow=8.5,SNR=18
ARE0 ARCESS Array S 39.04 336 *e*P P **09 46 31.2 -1.0**
GERES GERESS Array B 42.24 303 P P **09 47 00.0 +1.4**
comp=Z,0.2nm,0.2s,mb3.3,baz=243,slow=33,SNR=4.0
NB2 NORSAR Subarra 42.85 321 P P **09 47 02.8 -0.8**
comp=Z,2.4nm,0.8s,mb4.0,baz=93,slow=7.9
NB2 NORSAR Subarra 42.85 321 P P **09 47 02.8 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
NOA NORSAR Array B 42.85 321 P P **09 47 03.2 -0.3**
comp=Z,0.6nm,0.5s,mb3.6,baz=91,slow=7.7,SNR=3.8
TIXI Tiksi 42.87 23 *e*P P **09 47 02.3 -1.3**
TIXI pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
LPG La Plagne 47.62 300 *e*P P **09 47 47.1 +5.3**
comp=Z,8.2nm,0.7s,mb4.6
LPG La Plagne 47.62 300 *e*P P **09 47 47.1 +5.3**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LPL La Plagne 47.63 300 *e*P P **09 47 47.6 +5.8**
comp=Z,6.5nm,0.6s,mb4.5
LPL La Plagne 47.63 300 *e*P P **09 47 47.6 +5.8**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CABF La Chapelle 47.75 302 *e*P P **09 47 48.8 +6.0**
comp=Z,30nm,1.1s,mb4.9
CABF La Chapelle 47.75 302 *e*P P **09 47 48.8 +6.0**
CABF pmax pmax
comp=Z,15nm,1.1s,mb4.9
MBDF Montbardon 47.84 299 *e*P P **09 47 48.5 +5.0**
AVF Avril sur Loir 49.50 303 *e*P P **09 48 01.0 +4.7**
comp=Z,30nm,1.3s,mb4.9
AVF Avril sur Loir 49.50 303 *e*P P **09 48 01.0 +4.7**
AVF pmax pmax
comp=Z,15nm,1.3s,mb4.9
MJAR Matsushiro Arr 51.06 71 P P **09 48 08.3 0.0**
comp=Z,2.0nm,0.8s,mb4.1,baz=305,slow=8.3,SNR=4.1
SUMG Summit 58.82 341 *e*P P **09 49 04.9 +0.8**
comp=Z,14nm,1.3s,mb4.8
TORD Torodi Ar. Bea 66.81 268 P P **09 49 56.7 -1.0**
comp=Z,3.9nm,0.9s,mb4.5,baz=46,slow=5.7,SNR=6.8
INK Inuvik 71.06 10 P P **09 50 23.6 +0.6**
comp=Z,5.7nm,0.5s,mb4.8,baz=356,slow=6.2,SNR=102
INK Inuvik 71.06 10 P P **09 50 23.7 +0.7**
INK pmax pmax
comp=Z,6.0nm,0.5s
INK Inuvik 71.06 10 *e*P P **09 50 23.6 +0.6**
comp=Z,5.6nm,0.5s,mb4.8
ILAR Eielson Array 71.89 17 P P **09 50 27.5 -0.5**
comp=Z,1.2nm,0.9s,mb3.8,baz=326,slow=5.9,SNR=12
FITZ Fitzroy Crossi 75.73 128 P P **09 50 51.2 0.0**
comp=Z,3.8nm,1.1s,mb4.2,baz=297,slow=9.0,SNR=3.2
YKA Yellowknife Ar 78.48 3 P P **09 51 06.2 +0.6**
comp=Z,1.9nm,0.8s,mb4.1,baz=351,slow=5.7,SNR=30
WRA Warramunga Arr 82.60 123 P P **09 51 28.7 +0.4**
comp=Z,2.4nm,0.8s,mb4.3,baz=326,slow=5.2,SNR=11

NNC ***13*** *09:50:53.2±2.9, 39.55N×72.05E, mpv5.2, Error ellipse: s-maj=28.2km s-min=14.0km az=15.0*
IDC ***13*** *09:50:53.7±3.4, 39.19N×72.34E, h26km±22km, mb4.2/14, mb1 4.5/18, mb1mx4.4/23, mbtmp4.5/18, ML4.6/4, MS3.9/8, Ms1 3.9/8, ms1mx3.7/19, Error ellipse: s-maj=14.6km s-min=12.3km az=177.0*
MOS ***13*** *09:50:53.5±1.2, 39.37N×72.37E, h33km, mb4.9/26, MS3.8/12, Error ellipse: s-maj=8.1km s-min=5.0km az=109.4*
NEIC ***13*** *09:50:54.1±0.3, 39.22N×72.55E, h35km, mb4.8/25, MS4.1/1, Error ellipse: s-maj=8.1km s-min=4.9km az=44.0*
BJI ***13*** *09:50:55.7, 39.49N×72.36E, h51km, mB5.0, mb4.8, ML5.0, Ms4.4, Msz4.0*
ISC 13 09:50:53.4±0.5, 39.07N±0.02×72.31E±0.04, h41km±4km, h33km±2.5km:pP-P,n171,σ1§30/199, mb4.6/49, MS3.9/17, 26C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
KSH	**Kashi**	**2.88**	**80**	⇑*i*P		**P**	**09 51 41.6**	**+3.7**
KSH				Smax				
	comp=N,4μm,0.9s							
KSH				Smax				
	comp=E,6μm,0.8s							
AML Almayashu 3.24 19 P P **09 51 43.9 +0.9**
SNR=1091
UCH Uchtor 3.57 27 P P **09 51 49.0 +1.2**
SNR=292
KZA Kyzart 3.75 36 P P **09 51 51.3 +1.1**
SNR=162
EKS2 Erkin-Say 3.76 17 P P **09 51 51.6 +1.2**
SNR=114
AAK Ala-Archa 3.93 24 P P **09 51 54.1 +1.3**
SNR=148
KBK Karagaybulak 4.11 28 P P **09 51 56.6 +1.3**
SNR=89
FRU Bishkek 4.15 24 *i* PN P **09 51 58.0 +2.1**
FRU *i* 09 52 11.0
FRU *i* S S **09 52 48.0 +4.2**
FRU pmax pmax
comp=Z,320nm,1.6s
FRU smax
comp=E,960nm,1.6s
KK31 Karatay Array 4.25 342 ⇑Pn P **09 51 56.5 -1.0**
comp=E,64nm,0.3s,baz=145,slow=11,SNR=2405
KK31 ⇓Sn S **09 52 44.9 -1.6**
comp=E,1μm,0.5s
KK31 Karatay Array 4.25 342 ⇑Pn P **09 51 56.5 -1.0**
KK31 Sn S **09 52 44.9 -1.6**
KKAR Karatay Array 4.25 342 PN P **09 51 56.4 -1.1**
KKAR S S **09 52 45.3 -1.2**
KKAR pmax pmax
comp=Z,37nm,0.3s
KKAR smax
comp=Z,249nm,0.3s
CHMS Chumysh 4.34 24 P P **09 51 59.4 +0.8**
SNR=385
ULHL Ulahol 4.36 42 P P **09 51 59.8 +0.9**
SNR=42
USP Ospenovka 4.51 21 P P **09 52 01.5 +0.4**
SNR=190
TKM2 Tokmak 2 4.58 32 P P **09 52 02.9 +0.8**
SNR=37
TKM2 Tokmak 2 4.58 32 ⇑Pn P **09 52 02.7 +0.6**
comp=Z,107nm,0.6s
TKM2 ⇓Lg 09 53 08.2
comp=Z,374nm,0.7s
CEP Cherat 5.24 184 P P **09 52 17.6 +6.2**
CEP S S **09 53 26.0 +15**
CHCP Chirah Chowk 5.45 172 P P **09 52 20.8 +6.5**
AAA Alma-Ata 5.46 38 *e*PN P **09 52 27.0 +13**
THW Thamme Wali 6.28 184 P P **09 52 31.1 +5.2**
SBDP Sheikh Budin 6.86 191 P P **09 52 37.5 +3.4**
KLP Kalpa 8.95 145 *e*P P **09 53 04.0 +1.1**
KLP *e*S S **09 54 37.5 -6.1**
KLP AML AML 09 55 00.6
comp=N,364nm,0.6s
KLP AML AML 09 55 12.4
comp=E,379nm,0.8s
MK31 Makanchi Array 10.63 40 ⇑Pn P **09 53 25.3 -0.8**
comp=E,33nm,1.1s,baz=218,slow=12,SNR=86
MK31 ⇑Lg 09 56 22.3
comp=E,44nm,1.1s,baz=225,slow=26,SNR=4.0
MK31 Makanchi Array 10.63 40 ⇑Pn P **09 53 25.3 -0.8**
comp=E,33nm,1.0s
MK31 Lg 09 56 22.3
MKAR Makanchi Array 10.63 40 Pn P **09 53 25.1 -0.9**
comp=E,1.3nm,0.3s,baz=226,slow=13,SNR=39
MKAR Lg 09 56 20.1
comp=E,0.6nm,0.3s,baz=227,slow=22,SNR=2.9
KALG Kalgarh 10.92 149 *e*P P **09 53 28.4 -1.6**
KALG *e*S S **09 55 28.1 -3.9**
NDI New Delhi 11.13 157 *e*P P **09 53 32.5 -0.4**
NDI *e*S S **09 55 30.0 -7.0**
AYAN Aya Nagar 11.29 158 *e*P P **09 53 34.5 -0.5**
AYAN *e*S S **09 55 36.6 -4.3**
KHET Khetri 11.34 164 *e*P P **09 53 34.9 -0.9**
KHET *e*S S **09 55 35.5 -6.7**
KHET AML AML 09 55 46.2
comp=E,11nm,0.5s
KHET AML AML 09 55 46.8
comp=N,15nm,0.7s
KUDL Kundal 11.44 161 *e*P P **09 53 35.6 -1.4**
KUDL *e*S S **09 55 38.8 -5.7**
SONA Sohna 11.50 158 *e*P P **09 53 39.2 +1.3**
SONA *e*S S **09 53 39.3 -6.6**
SONA AML AML 09 55 53.3
comp=N,18nm,0.4s
SONA AML AML 09 55 53.6
comp=E,45nm,0.6s
KURK Kurchatov 12.47 19 ⇑Pn P **09 53 46.0 -4.9**
comp=E,7.4nm,1.1s
KURK ⇑Lg 09 57 13.8
comp=E,53nm,1.1s
KURK Kurchatov 12.47 19 ⇑Pn P **09 53 46.0 -4.9**
KURK Lg 09 57 13.8
WMQ Urumqi 12.48 63 P P **09 53 49.0 -2.0**
WMQ AP 09 53 59.0
WMQ XP 09 54 03.0
WMQ AMB AMB
comp=Z,20nm,0.8s
WMQ AMB AMB
comp=Z,200nm,5.2s
WMQ LR LR
comp=N,360nm,15.0s
WMQ LR LR
comp=E,350nm,14.6s
WMQ LR LR
comp=Z,350nm,15.4s
AJM Ajmer 12.71 170 *e*P P **09 53 55.2 +1.1**
AJM AMb AMB 09 53 59.8
comp=Z,19nm,0.9s
AJM *e*S S **09 56 08.1 -7.0**
AB31 Akbulak array 13.49 323 ⇑Pn P **09 53 58.6 -5.8**
comp=Z,49nm,0.7s
AB31 ⇑Sn S **09 56 19.0 -15**
comp=Z,97nm,0.7s
AB31 Akbulak array 13.49 323 ⇑Pn P **09 53 58.6 -5.8**
comp=Z,49nm,0.6s
AB31 Sn S **09 56 19.0 -15**
VOSK Vostochnaya 13.69 357 ⇑Pn P **09 54 01.3 -5.6**
comp=Z,6.5nm,0.7s
VOSK Vostochnaya 13.69 357 ⇑P P **09 54 01.3 -5.6**
VOSK pmax pmax
comp=Z,7.0nm,0.7s
BVA0 Borovoye Array 14.02 355 Pn P **09 54 06.1 -5.1**
comp=Z,1.9nm,0.5s,baz=165,slow=15,SNR=83
BVA0 Borovoye Array 14.02 355 P P **09 54 06.1 -5.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVA0 Borovoye Array 14.02 355 Pn P **09 54 06.1 -5.1**
comp=Z,1.9nm,0.5s
BVAR Borovoye Array 14.02 355 Pn P **09 54 06.3 -5.0**
comp=Z,1.2nm,0.3s,baz=160,slow=12,SNR=25
BVAR Sn S **09 56 34.8 -12**
comp=Z,1.9nm,0.3s,baz=170,slow=26,SNR=4.8
BVAR Lg 09 58 04.9
comp=Z,1.0nm,0.3s,baz=180,slow=25,SNR=3.5
CHKZ Chkalovo 14.66 356 ⇑Pn P **09 54 14.9 -4.6**
comp=Z,11nm,1.2s
KOLN Koldanda 14.68 137 *e*P P **09 54 17.7 -2.3**
comp=Z,31nm,0.4s
GKN Gorkha 15.06 133 *e*P P **09 54 22.2 -2.8**
AKTK Aktyubinsk 15.21 323 Pn P **09 54 22.4 -4.3**
AKTK Sn S **09 57 03.9 -10**
AKTK Lg 09 58 44.9
AKTK LR LR 10 00 37.4
AKTO Aktyubinsk 15.21 323 ⇑Pn P **09 54 22.4 -4.3**
comp=Z,16nm,1.2s
AKTO ⇑Sn S **09 57 03.8 -11**
comp=Z,6.6nm,0.8s
AKTO Aktyubinsk 15.21 323 Pn P **09 54 22.4 -4.3**
comp=Z,1.6nm,0.3s,baz=130,slow=12,SNR=45
AKTO Sn S **09 57 03.9 -10**
comp=Z,2.1nm,0.3s,baz=141,slow=19,SNR=5.5
AKTO Lg 09 58 44.9
baz=243,slow=23,SNR=1.5
AKTO LR LR 10 00 37.4
comp=Z,555nm,18.0s,slow=39
KKN Kakani 15.59 132 *e*P P **09 54 29.5 -2.3**
comp=Z,219nm,0.5s
KKN Kakani 15.59 132 *e*P P **09 54 29.5 -2.3**
KKN pmax pmax
comp=Z,110nm,0.5s
DMN Daman 15.63 133 *e*P P **09 54 29.7 -2.6**
comp=Z,47nm,0.5s
PKI Pulchoki 15.83 132 *e*P P **09 54 32.7 -2.2**
comp=Z,219nm,0.7s
PKI Pulchoki 15.83 132 *e*P P **09 54 32.7 -2.2**
PKI pmax pmax
comp=Z,110nm,0.7s
GUN Gumba 15.85 131 *e*P P **09 54 32.9 -2.2**
JIRN Jiri 16.22 130 *e*P P **09 54 38.2 -1.6**
comp=Z,89nm,0.6s
BHPL Bhopal 16.37 163 *e*P P **09 54 42.7 +1.0**
BHPL AMb AMB 09 54 47.5
comp=Z,28nm,0.8s
BHPL *ex* x 09 57 41.6
ZAL Zalesovo 17.14 26 P P **09 54 49.7 -1.4**
comp=Z,14nm,0.3s,baz=254,slow=12,SNR=68
ZAL S S **09 57 55.9 -2.9**
comp=Z,0.3nm,0.3s,baz=280,slow=18,SNR=1.6
ZAL Lg 09 59 51.4
comp=Z,0.2nm,0.3s,baz=158,slow=24,SNR=2.5
ZAL LR LR 10 02 18.8
comp=Z,128nm,19.1s,baz=265,slow=40
ZAL Zalesovo 17.14 26 P P **09 54 49.7 -1.4**
ZAL S S **09 57 55.9 -2.9**
ZAL Lg 09 59 51.4
ZAL LR LR 10 02 18.8
NVS Novosibirsk 17.42 21 *e*P P **09 54 51.2 -3.5**
NVS *e*S S **09 58 07.4 +2.3**
NVS pmax pmax
comp=Z,15nm,0.9s
NVS pmax pmax
comp=N,21nm,1.0s
NVS pmax pmax
comp=E,10.0nm,0.6s
NVS smax
comp=N,22nm,1.4s
NVS smax
comp=E,8.0nm,0.5s
LSA Lhasa 18.11 115 *e*P P **09 55 06.3 +2.8**
BOK Bokaro 19.09 139 *e*P P **09 55 13.2 -2.1**
BOK AMb AMB 09 55 16.8
comp=Z,31nm,0.6s
MAK Makhachkala 19.10 290 ⇑*i*P P **09 55 04.0 -11**
MAK pmax pmax
comp=Z,12nm,0.4s
MAK MLR MLR
comp=Z,739nm,16.0s
ARU Arti 19.61 337 ⇑*i*P P **09 55 18.5 -2.3**
ARU *e*S S **09 58 55.6 +1.1**
ARU pmax pmax
comp=Z,19nm,0.9s
ARU MLR MLR
comp=Z,200nm,15.0s
ARU MLR MLR
comp=N,200nm,18.0s
ARU MLR MLR
comp=E,100nm,15.0s
DGRG David-gareji 20.67 285 P P **09 55 30.9 -1.2**
TI2 Plekhanov 21.12 286 *e*P P **09 55 37.0 +0.3**
TI2 *i* S 09 55 53.0
GNI Garni 21.24 282 P P **09 55 39.0 +1.1**
comp=E,12nm,0.5s,mb4.5,baz=339,slow=3.7,SNR=14
GNI LR LR 10 05 19.4
comp=E,162nm,18.5s,MS3.4,baz=149,slow=41
GNI Garni 21.24 282 P P **09 55 39.0 +1.1**
GNI pmax pmax
comp=Z,12nm,0.5s
GNI MLR MLR
comp=Z,162nm,18.5s
GNI Garni 21.24 282 *e*P P **09 55 38.6 +0.8**
comp=Z,115nm,1.2s,mb5.1
GTA Gaotai 21.28 80 ⇑*i*P P **09 55 39.8 +1.5**
GTA AP 09 55 50.8
GTA XP 09 55 55.9
GTA PP PP 09 56 07.9 +5.3
GTA XS 09 59 51.1
GTA AMB AMB
comp=Z,40nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,240nm,6.1s
GTA LR LR
comp=N,240nm,11.8s
GTA LR LR
comp=E,320nm,17.1s
GTA LR LR
comp=Z,370nm,16.0s,MS3.9
ONI Oni 22.07 288 P P **09 55 46.8 +0.7**
HYB Hyderabad 22.25 164 *i* P P **09 55 50.0 +1.9**
HYB Hyderabad 22.25 164 *e*P P **09 55 50.0 +1.9**
GOF Gofitskoye 22.47 295 *e*P P **09 55 51.4 +1.3**
GOF pmax pmax
comp=Z,70nm,1.0s,mb5.0
KIV Kislovodsk 22.65 292 *e*P P **09 55 54.3 +2.5**
KIV *e*S S **09 59 59.9 +7.5**
KIV pmax pmax
comp=Z,53nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,241nm,19.0s,MS3.6
SOKR Solikamsk 22.77 339 ⇑*i*P P **09 55 55.6 +2.8**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb4.5
MOY Mondy 23.59 48 *e*P P **09 56 02.9 +2.0**
ZAK Zakamensk 24.56 52 *e*P P **09 56 11.3 +0.9**
ZAK pmax pmax
comp=Z,12nm,0.8s,mb4.5
SOC Sochi 24.80 291 *e*P P **09 56 17.4 +4.7**
SOC *e* 09 56 56.6
SOC *e*S S **10 00 38.2 +8.5**
SOC pmax pmax
comp=Z,22nm,1.1s,mb4.6
SOC MLR MLR
comp=Z,317nm,18.0s,MS3.9
LZH Lanzhou 25.10 87 *e*P P **09 56 16.9 +1.2**
LZH AP pP 09 56 25.1 -1.5
LZH AMB AMB
comp=Z,20nm,1.3s,mb4.5
LZH AMB AMB
comp=Z,50nm,5.6s
LZH LR LR
comp=E,380nm,13.4s
LZH LR LR
comp=Z,490nm,17.5s,MS4.1
SONM Songino Array 26.07 59 P P **09 56 25.2 +0.5**
comp=Z,3.0nm,0.6s,mb4.0,baz=263,slow=9.4,SNR=19
SONM ScP 10 03 31.5
comp=Z,0.8nm,1.0s,baz=207,slow=3.3,SNR=4.3
SONM LR LR 10 07 37.4
comp=Z,486nm,20.1s,MS4.0,baz=199,slow=39
VRSR Storozhevoye 26.10 309 *e*P P **09 56 24.8 -0.1**
VRSR pmax pmax
comp=Z,1.0nm,0.7s
VRSR pmax pmax
comp=N,1.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,0.9s
ULN Ulaanbaatar 26.52 59 *c*i P P **09 56 29.1 +0.3**
ULN Ulaanbaatar 26.52 59 *e*P P **09 56 29.3 +0.5**
comp=E,14nm,1.0s,mb4.5
CD2 Chengdu 26.92 98 P P **09 56 35.3 +2.6**
CD2 AMB AMB
comp=Z,30nm,1.1s,mb4.7
OBN Obninsk 28.75 316 *e*P P **09 56 48.5 -0.4**
OBN *e* 09 57 37.0
OBN *e* 09 59 59.6
OBN *e*S S **10 01 33.6 -0.3**
OBN *e*SS SS 10 02 55.3 -7.4
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
OBN MLR MLR
comp=Z,200nm,18.0s,MS3.8
XAN Xi'an 29.70 88 P P **09 56 58.1 +0.5**
BR131 Keskin Array S 29.74 284 *e*P P **09 56 59.1 +1.2**
comp=Z,3.3nm,0.8s,mb4.1
BR131 *e* 09 57 03.1
BRTR Keskin Array B 29.74 284 P P **09 56 58.9 +1.0**
comp=Z,13nm,0.9s,mb4.7,baz=98,slow=5.7,SNR=20
HHC Hu-ho-hao-te 29.97 74 *e*P P **09 57 00.8 +0.8**
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
HHC AMB AMB
comp=Z,130nm,6.8s
ANTO Ankara 30.35 284 *e*P P **09 57 04.4 +1.1**
ANTO pmax pmax
comp=Z,31nm,1.2s,mb4.9
ANTO Ankara 30.35 284 *e*P P **09 57 04.4 +1.1**
comp=Z,31nm,1.2s,mb4.9
AKASG Malin Array Be 32.23 305 P P **09 57 18.1 -1.6**
comp=Z,0.6nm,0.3s,mb3.9,baz=78,slow=7.8,SNR=5.1
BOD Bodaibo 32.72 41 *e*P P **09 57 21.8 -2.1**
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
JOF Joensuu 34.21 328 *ep* P **09 57 35.3 -1.4**

WHN	**Wuhan**	**35.30**	**91**	P		**P**		**09 57 48.8**	**+2.4**
FINES	**FINES Array B**	**35.98**	**324**	P		**P**		**09 57 50.9**	**-1.0**
	comp=Z,1.9nm,0.4s,mb4.4,baz=102,slow=8.8,SNR=20								
FINES				LR		LR		10 13 38.7	
	comp=Z,196nm,18.9s,MS3.9,baz=355,slow=38								
KAF	**Kangasniemi**	**36.08**	**325**	*ep*		**P**		**09 57 51.3**	**-1.4**
NJ2	**Nanjing**	**38.17**	**86**	*eP*		**P**		**09 58 13.0**	**+2.5**
NJ2				AP		pP		09 58 24.1	+2.1
NJ2				XP		sP		09 58 27.1	-0.1
NJ2				PP		PP		09 59 42.1	+0.5
NJ2				S		**S**		**10 04 02.0**	**+1.3**
NJ2				XS				10 04 18.0	
NJ2				AMB		AMB			
	comp=Z,490nm,7.6s								
NJ2				LR		LR			
	comp=N,290nm,14.3s								
NJ2				LR		LR			
	comp=E,340nm,19.9s								
NJ2				LR		LR			
	comp=Z,190nm,30.0s								
KEV	**Kevo**	**38.83**	**337**	*ep*		**P**		**09 58 13.1**	**-2.5**
ARCES	**ARCESS Array B**	**39.20**	**336**	P		**P**		**09 58 18.0**	**-0.7**
	comp=Z,4.6nm,0.5s,mb4.5,baz=111,slow=8.5,SNR=50								
ARE0	**ARCESS Array S**	**39.20**	**336**	*eP*		**P**		**09 58 18.2**	**-0.5**
SSE	**Sheshan**	**40.38**	**86**	*eP*		**P**		**09 58 29.4**	**+0.5**
SSE				AP		pP		09 58 38.8	-1.6
SSE				PP		PP		10 00 02.3	-3.2
SSE				PCP		PcP		10 00 33.3	+1.1
SSE				S		**S**		**10 04 34.8**	**+0.9**
SSE				XS				10 04 51.0	
SSE				AMB		AMB			
	comp=Z,40nm,0.7s,mb5.3								
SSE				AMB		AMB			
	comp=Z,90nm,5.2s								
SSE				LR		LR			
	comp=N,50nm,20.7s,MS3.4								
SSE				LR		LR			
	comp=E,30nm,20.7s,MS3.4								
SSE				LR		LR			
	comp=Z,70nm,16.2s,MS3.6								
YAK	**Yakutsk**	**41.28**	**37**	*eP*		**P**		**09 58 36.0**	**0.0**
YAK				pmax		pmax			
	comp=Z,15nm,0.9s,mb4.6								
YAK				MLR		MLR			
	comp=Z,100nm,22.0s,MS3.6								
BRG	**Berggiesshubel**	**41.90**	**306**	*eP*		**P**		**09 58 47.3**	**+6.2**
BRG				pmax		pmax			
	comp=Z,8.0nm,1.2s,mb4.2								
GERES	**GERESS Array B**	**42.35**	**303**	P		**P**		**09 58 45.7**	**+0.9**
	comp=Z,1.1nm,0.5s,mb3.7,baz=62,slow=8.8,SNR=11								
GERES				PP		PP		10 00 26.0	0.0
	comp=Z,1.4nm,0.8s,baz=76,slow=11,SNR=4.0								
KHC	**Kasperske Hory**	**42.38**	**304**	*eP*		**P**		**09 58 45.7**	**+0.6**
KHC	**Kasperske Hory**	**42.38**	**304**⇑	*eP*		**P**		**09 58 46.0**	**+0.9**
CLL	**Collm**	**42.44**	**307**	P		**P**		**09 58 50.0**	**+4.5**
TIP	**Timpagrande**	**42.51**	**288**	*eP*		**P**		**09 58 47.6**	**+1.3**
NB2	**NORSAR Subarra**	**42.99**	**321**	P		**P**		**09 58 48.8**	**-1.1**
	comp=Z,4.5nm,0.7s,mb4.3,baz=92,slow=7.9								
NB2	**NORSAR Subarra**	**42.99**	**321**	P		**P**		**09 58 48.8**	**-1.1**
NB2				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.3								
NOA	**NORSAR Array B**	**42.99**	**321**	P		**P**		**09 58 48.9**	**-1.0**
	comp=Z,1.7nm,0.4s,mb4.1,baz=91,slow=8.0,SNR=11								
NOA				LR		LR		10 17 35.2	
	comp=Z,178nm,18.3s,MS4.0,baz=90,slow=37								
NOA	**NORSAR Array B**	**42.99**	**321**	P		**P**		**09 58 48.9**	**-1.0**
NOA				LR		LR		10 17 35.1	
TIXI	**Tiksi**	**43.01**	**23**	*c iP*		**P**		**09 58 48.6**	**-1.3**
TIXI				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.6								
TIXI				MLR		MLR			
	comp=Z,100nm,15.0s,MS3.8								
GRA1	**Grafenberg Arr**	**43.80**	**305**	*eP*		**P**		**09 58 58.0**	**+1.3**
	comp=Z,11nm,1.2s,mb4.5								
GRF	**Grafenberg Arr**	**43.80**	**305**	*eP*		**P**		**09 58 58.0**	**+1.3**
GRF				pmax		pmax			
	comp=Z,11nm,1.2s,mb4.5								
GRF				MLR		MLR			
	comp=Z,200nm,18.2s,MS4.1								
GRF	**Grafenberg Arr**	**43.80**	**305**	*eP*		**P**		**09 58 58.0**	**+1.3**
GRF				pmax		pmax			
	comp=Z,11nm,1.2s,mb4.5								
GRF				MLR		MLR			
	comp=Z,200nm,18.2s,MS4.1								
GRF	**Grafenberg Arr**	**43.80**	**305**	*eP*		**P**		**09 58 58.0**	**+1.3**
	comp=Z,11nm,1.2s,mb4.5								
GRF				LR		LR			
	comp=Z,200nm,18.2s,MS4.1								
HABR	**Khabarovsk**	**45.11**	**57**	*eP*		**P**		**09 59 04.0**	**-3.1**
HABR				*eS*		**S**		**10 05 40.5**	**-2.3**
HABR				MLR		MLR			
	comp=Z,279nm,16.6s,MS4.3								
CDF	**Champ du Feu**	**46.61**	**304**	*eP*		**P**		**09 59 18.0**	**-1.0**
LPG	**La Plagne**	**47.72**	**300**	*eP*		**P**		**09 59 28.2**	**+0.4**
	comp=Z,29nm,0.9s,mb5.0								
LPG	**La Plagne**	**47.72**	**300**	*eP*		**P**		**09 59 28.2**	**+0.4**
LPG				pmax		pmax			
	comp=Z,15nm,0.9s,mb5.0								
LPL	**La Plagne**	**47.73**	**300**	*eP*		**P**		**09 59 28.4**	**+0.5**
	comp=Z,11nm,0.6s,mb4.8								
LPL	**La Plagne**	**47.73**	**300**	*eP*		**P**		**09 59 28.4**	**+0.5**
LPL				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.8								
SBF	**Sospel**	**47.74**	**298**	*eP*		**P**		**09 59 28.2**	**+0.2**
	comp=Z,38nm,0.7s,mb5.2								
SBF	**Sospel**	**47.74**	**298**	*eP*		**P**		**09 59 28.2**	**+0.2**
SBF				pmax		pmax			
	comp=Z,19nm,0.7s,mb5.2								
CABF	**La Chapelle**	**47.85**	**302**	*eP*		**P**		**09 59 28.9**	**+0.1**
	comp=Z,17nm,0.9s,mb4.8								
CABF	**La Chapelle**	**47.85**	**302**	*eP*		**P**		**09 59 28.9**	**+0.1**
CABF				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.8								
MBDF	**Montbardon**	**47.93**	**299**	*eP*		**P**		**09 59 29.6**	**+0.1**
	comp=Z,13nm,0.8s,mb4.7								
MBDF	**Montbardon**	**47.93**	**299**	*eP*		**P**		**09 59 29.6**	**+0.1**
MBDF				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.7								
FRF	**La Foret Royal**	**48.38**	**298**	*eP*		**P**		**09 59 32.8**	**-0.1**
ORIF	**Oris-en-Rattie**	**48.48**	**300**	*eP*		**P**		**09 59 34.1**	**+0.4**
ORIF				*eR*					
	comp=Z,126nm,21.8s								
SMRF	**Simiane la Rot**	**48.98**	**298**	*eP*		**P**		**09 59 37.8**	**+0.2**
SMF	**Signal de Mont**	**49.33**	**302**	*eP*		**P**		**09 59 39.7**	**-0.5**
SSF	**Saint Saulge**	**49.42**	**303**	*eP*		**P**		**09 59 41.0**	**+0.1**
	comp=Z,8.1nm,0.8s,mb4.5								
SSF	**Saint Saulge**	**49.42**	**303**	*eP*		**P**		**09 59 41.0**	**+0.1**
SSF				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
AVF	**Avril sur Loir**	**49.60**	**303**	*eP*		**P**		**09 59 41.8**	**-0.5**
	comp=Z,31nm,1.0s,mb5.0								
AVF	**Avril sur Loir**	**49.60**	**303**	*eP*		**P**		**09 59 41.8**	**-0.5**
AVF				pmax		pmax			
	comp=Z,15nm,1.0s,mb5.0								
BGF	**Bois d'Agland**	**50.01**	**302**	*eP*		**P**		**09 59 45.3**	**-0.1**
LASF	**Ste Croix**	**50.12**	**299**	*eP*		**P**		**09 59 46.5**	**+0.1**
	comp=Z,64nm,1.0s,mb5.3								
CAF	**Calviac**	**51.05**	**301**	*eP*		**P**		**09 59 53.6**	**+0.2**
MJAR	**Matsushiro Arr**	**51.09**	**71**	P		**P**		**09 59 52.8**	**-1.1**
	comp=Z,5.7nm,0.9s,mb4.5,baz=287,slow=8.9,SNR=6.4								
MJAR				LR		LR		10 24 44.0	
	comp=Z,104nm,18.1s,MS3.9,baz=180,slow=40								
RJF	**Les Rejaudoux**	**51.29**	**301**	*eP*		**P**		**09 59 55.4**	**+0.2**
LDF	**La Druitiere**	**51.29**	**306**	*eP*		**P**		**09 59 54.4**	**-0.8**
	comp=Z,18nm,0.6s,mb4.9								
LDF	**La Druitiere**	**51.29**	**306**	*eP*		**P**		**09 59 54.4**	**-0.8**
LDF				pmax		pmax			
	comp=Z,9.0nm,0.6s,mb4.9								
KMBO	**Kilima Mbogo**	**51.33**	**227**	P		**P**		**09 59 58.4**	**+2.5**
	comp=Z,4.8nm,0.8s,mb4.5,baz=35,slow=14,SNR=4.9								
MTLF	**Montolieu**	**51.49**	**299**	*eP*		**P**		**09 59 57.0**	**+0.3**
GRR	**Gorron**	**51.82**	**306**	*eP*		**P**		**09 59 57.6**	**-1.5**
EPF	**Esparros**	**52.88**	**299**	*eP*		**P**		**10 00 07.0**	**-0.2**
SGMF	**Saint Gilles**	**52.94**	**306**	*eP*		**P**		**10 00 06.9**	**-0.6**
	comp=Z,50nm,1.1s,mb5.1								
SGMF	**Saint Gilles**	**52.94**	**306**	*eP*		**P**		**10 00 06.9**	**-0.6**
SGMF				pmax		pmax			
	comp=Z,25nm,1.1s,mb5.1								
ETSF	**Etsaut**	**53.54**	**299**	*eP*		**P**		**10 00 12.5**	**+0.4**
BILL	**Bilibino**	**55.85**	**27**	*eP*		**P**		**10 00 28.0**	**-0.5**
BILL				*e*		pP		10 00 38.1	-2.4
BILL				*e*				10 01 25.8	
BILL				*eS*		**S**		**10 08 09.0**	**-2.2**
BILL				*eSS*		SS		10 11 56.1	-1.0
BILL				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.3								
BILL				MLR		MLR			
	comp=Z,100nm,20.0s,MS3.9								
SUMG	**Summit**	**58.98**	**341**	*eP*		**P**		**10 00 50.4**	**-0.2**
	comp=Z,8.7nm,0.6s,mb5.0								
TORD	**Torodi Ar. Bea**	**66.83**	**268**	P		**P**		**10 01 42.9**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.3,baz=46,slow=6.0,SNR=17								
INK	**Inuvik**	**71.21**	**10**	*eP*		**P**		**10 02 09.0**	**-0.3**
INK				pmax		pmax			
	comp=Z,8.0nm,0.5s								
INK	**Inuvik**	**71.21**	**10**	*eP*		**P**		**10 02 09.0**	**-0.3**
	comp=Z,8.4nm,0.5s,mb4.9								
COLA	**College**	**71.72**	**17**	*i* P		**P**		**10 02 12.5**	**0.0**
COLA	**College**	**71.72**	**17**	*eP*		**P**		**10 02 12.0**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.4								
ILAR	**Eielson Array**	**72.03**	**17**	P		**P**		**10 02 13.1**	**-1.2**
	comp=Z,2.7nm,0.9s,mb4.2,baz=325,slow=5.5,SNR=32								
SML	**Sawmill**	**74.22**	**19**	*eP*		**P**		**10 02 26.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**75.62**	**128**	*eP*		**P**		**10 02 36.9**	**+0.9**
	comp=Z,9.1nm,1.4s,mb4.5								
DBIC	**Dimbokro**	**75.87**	**267**	P		**P**		**10 02 40.6**	**+3.1**
	comp=Z,6.1nm,1.0s,mb4.5,baz=359,slow=5.8,SNR=4.0								
DBIC				LR		LR		10 42 58.4	
	comp=Z,46nm,18.4s,MS3.8,baz=73,slow=41								
YKA	**Yellowknife Ar**	**78.63**	**3**	P		**P**		**10 02 51.7**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.3,baz=351,slow=5.7,SNR=75								
WRA	**Warramunga Arr**	**82.49**	**123**	P		**P**		**10 03 14.2**	**+0.9**
	comp=Z,5.6nm,0.8s,mb4.6,baz=324,slow=5.1,SNR=37								
WB2	**Warramunga Arr**	**82.50**	**123**⇑	*i*P		**P**		**10 03 14.1**	**+0.8**
CTA	**Charters Tower**	**90.68**	**115**	*eP*		**P**		**10 03 54.8**	**+1.6**
	comp=Z,3.3nm,0.7s,mb4.8								
CTA	**Charters Tower**	**90.68**	**115**	*eP*		**P**		**10 03 54.8**	**+1.6**
CTA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
PLCA	**Paso Flores**	**151.59**	**255**	PKPbc		PKPdf		10 10 45.8	+9.3
	comp=Z,3.0nm,0.9s,baz=206,slow=3.7,SNR=7.1								
PLCA	**Paso Flores**	**151.59**	**255**	PKIKP		PKPdf		10 10 45.8	+9.4
PLCA				pmax		pmax			
	comp=Z,3.0nm,0.9s								

IDC ***13*** *10:09:35.0±0.8, 19.85S×169.06E, mb3.8/6, mb1 4.1/8, mb1mx4.0/15, mbtmp3.9/8, ML4.1/2, MS3.4/3, Ms1 3.4/3, ms1mx3.1/19, Error ellipse: s-maj=28.4km s-min=22.5km az=130.0*

NEIC ***13*** *10:09:40.4±0.9, 19.92S×169.09E, h35km, mb4.3/1, Error ellipse: s-maj=21.7km s-min=18.7km az=176.0*

ISC 13 10:09:39.1±0.7, 20.1S±0.1×168.88E±0.10, h33km, (h35km±1.5km: pP-P), n42, σ1s15/18, mb3.9/6, MS3.4/1, 2C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.02**	**228**	*eP*		**P**		**10 10 26.1**	**+0.3**
DZM				*eS*		**S**		**10 11 00.2**	**-1.0**
DZM	**Mont Dzumac**	**3.02**	**228**	Pn		**Pn**		**10 10 26.2**	**+0.3**
	18nm,0.3s,baz=59,slow=18,SNR=444								
DZM				Sn		**Sn**		**10 11 01.0**	**-0.5**
	71nm,0.3s,baz=302,slow=23,SNR=8.7								
HNR	**Honiara**	**13.65**	**320**	LR		LR		10 17 16.3	
	comp=Z,145nm,19.3s,baz=153,slow=34								
AFI	**Afiamalu**	**19.48**	**75**	LR		LR		10 20 10.6	
	comp=Z,138nm,20.4s,baz=168,slow=33								
URZ	**Urewera**	**19.48**	**160**	P		**P**		**10 14 06.4**	**+0.2**
	0.6nm,0.3s,baz=34,slow=16,SNR=3.1								
CTA	**Charters Tower**	**21.25**	**266**	P		**P**		**10 14 26.9**	**+2.2**
	2.4nm,0.6s,mb3.7,baz=94,slow=16,SNR=5.3								
CTAO	**Charters Tower**	**21.25**	**266**	*eP*		**P**		**10 14 28.1**	**+3.4**
	12nm,0.8s,mb4.3								
CTAO				*e*				10 14 39.5	
STKA	**Stephens Creek**	**27.12**	**239**	LR		LR		10 26 34.9	
	comp=Z,88nm,18.7s,MS3.4,baz=23,slow=37								
STKA	**Stephens Creek**	**27.12**	**239**	P		**P**		**10 15 24.4**	**+3.2**
WRA	**Warramunga Arr**	**32.42**	**264**	P		**P**		**10 16 07.6**	**-0.9**
	0.6nm,0.5s,mb3.7,baz=92,slow=8.4,SNR=11								
VNDA	**Vanda**	**57.60**	**182**	P		**P**		**10 19 27.8**	**0.0**
	0.4nm,0.7s,mb3.5,baz=313,slow=15,SNR=2.4								
SONM	**Songino Array**	**87.68**	**323**	P		**P**		**10 22 25.9**	**+0.4**
	1.2nm,0.8s,mb4.2,baz=146,slow=6.5,SNR=5.6								
SNAA	**Sanae**	**88.32**	**183**	*e*		pP		10 22 36.4	-2.2
SNAA	**Sanae**	**88.32**	**183**	*e*		sP		10 22 38.9	-3.2
SNAA	**Sanae**	**88.32**	**183**	P		**P**		**10 22 28.1**	**0.0**
SNAA				*e*		pP		10 22 38.9	+0.3
VNA3	**Neumayer Olymp**	**88.93**	**180**	*e*		**P**		**10 22 36.7**	**+5.7**
VNA3	**Neumayer Olymp**	**88.93**	**180**	*e*		pP		10 22 39.3	-2.2
VNA3	**Neumayer Olymp**	**88.93**	**180**	*e*		sP		10 22 43.1	-1.9
VNA3	**Neumayer Olymp**	**88.93**	**180**	*e*		Px		10 22 53.9	
VNA3	**Neumayer Olymp**	**88.93**	**180**⇑	*i*P		**P**		**10 22 31.1**	**+0.1**
VNA3				*e*		pP		10 22 43.1	+1.6
VNA3				*e*				10 22 53.9	
VNA2	**Neumayer--Watz**	**89.21**	**181**	*e*		**P**		**10 22 38.8**	**+6.5**
VNA2	**Neumayer--Watz**	**89.21**	**181**	*e*		pP		10 22 41.1	-1.8
VNA2	**Neumayer--Watz**	**89.21**	**181**	*e*		sP		10 22 44.5	-1.8
VNA2	**Neumayer--Watz**	**89.21**	**181**	*e*		Px		10 22 56.4	
VNA2	**Neumayer--Watz**	**89.21**	**181**⇑	*i*P		**P**		**10 22 33.9**	**+1.6**
VNA2				*e*		pP		10 22 44.5	+1.6
VNA2				*e*				10 22 56.4	
NVAR	**Mina Array Bea**	**89.60**	**49**	P		**P**		**10 22 33.6**	**-1.3**
	0.5nm,0.6s,mb4.0,baz=228,slow=7.5,SNR=6.6								
ILAR	**Eielson Array**	**91.12**	**17**	P		**P**		**10 22 38.5**	**-2.8**
	0.7nm,0.8s,mb4.0,baz=240,slow=4.6,SNR=10								
YKA	**Yellowknife Ar**	**101.56**	**27**	P		P		10 23 28.1	-0.7
	0.2nm,0.6s,baz=252,slow=4.6,SNR=8.7								
ARCES	**ARCESS Array B**	**125.78**	**345**	PKP		PKPdf		10 28 37.5	+0.4
	2.0nm,0.6s,baz=78,slow=2.1,SNR=12								
EKA	**Eskdalemuir Ar**	**144.28**	**352**	PKP		PKPdf		10 29 09.4	-2.0
	0.9nm,0.6s,baz=11,slow=3.6,SNR=4.3								
GERES	**GERESS Array B**	**145.05**	**331**	PKP		PKPdf		10 29 12.9	-0.1
	1.4nm,0.6s,baz=28,slow=4.3,SNR=13								
CDF	**Champ du Feu**	**148.07**	**337**	*e*PKP1		PKPdf		10 29 22.1	+4.1
	5.0nm,0.5s								
DAVOX	**Davos**	**148.31**	**332**	PKPbc		PKPdf		10 29 23.9	+5.4
	6.9nm,0.5s,baz=202,slow=4.2,SNR=10								
CABF	**La Chapelle**	**150.01**	**336**	*e*PKP1		PKPdf		10 29 27.6	+6.4
LOR	**Lormes**	**150.25**	**339**	*e*PKP1		PKPdf		10 29 27.6	+6.1
	4.8nm,0.6s								
SSF	**Saint Saulge**	**150.55**	**339**	*e*PKP1		PKPdf		10 29 29.3	+7.3
	3.6nm,0.4s								
LPL	**La Plagne**	**150.65**	**334**	*e*PKP1		PKPdf		10 29 29.2	+7.0
LPG	**La Plagne**	**150.66**	**334**	*e*PKP1		PKPdf		10 29 29.4	+7.2
	5.9nm,0.7s								
MBDF	**Montbardon**	**151.27**	**333**	*e*PKP1		PKPdf		10 29 31.8	+8.6
ORIF	**Oris-en-Rattie**	**151.49**	**334**	*e*PKP1		PKPdf		10 29 30.8	+7.3
	33nm,1.1s								
TCF	**Toulx Ste Croi**	**151.65**	**340**	*e*PKP1		PKPdf		10 29 32.5	+8.8
PGF	**Pioggiola**	**151.89**	**327**	*e*PKP1		PKPdf		10 29 32.1	+7.9

NAO ***13*** *10:24:20.5±1.8, 59.29N×26.67E, ML2.1*

BER ***13*** *10:24:21.0±3.2, 59.32N×26.95E, ML2.1(NAO), Suspected explosion*

IDC ***13*** *10:24:22.6±1.2, 59.45N×26.98E, mb1 3.2/5, mb1mx3.0/23, mbtmp3.1/5, ML3.0/4, Error ellipse: s-maj=12.0km s-min=8.9km az=101.0*

HEL 13 10:24:20.9±0.1, 59.32N×26.89E, ML1.7, ML2.1(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.86**	**185**	*eP*		Pg		10 24 36.5	-1.5
VSU				*eS*		Sg		10 24 47.2	-2.3
VSU	**Vasula**	**0.86**	**185**	Pg		Pg		10 24 36.3	-1.7
VSU				Lg				10 24 47.8	
VJF	**Virojoki**	**1.27**	**15**	*eP*		Pb		10 24 42.6	-2.9
VJF				*eS*		Sb		10 24 59.9	-2.3
PVF	**Pernaja**	**1.34**	**338**	*eP*		Pb		10 24 45.1	-1.4
PVF				*eS*		Sb		10 25 02.1	-2.0
FIA0	**FINESS Array S**	**2.17**	**350**	*eP*		Pn		10 24 57.9	-0.9
FIA0				*eS*		Sn		10 25 25.5	-1.3
FIA0	**FINESS Array S**	**2.17**	**350**	Pn		Pn		10 24 58.1	-0.6
	baz=154,slow=16								
FIA0				Pg		Pg		10 24 59.4	-4.9
	baz=164,slow=16								
FIA0				Lg				10 25 28.5	
	baz=172,slow=37								
FIA0				Rg				10 25 41.5	
	baz=164,slow=37								
FINES	**FINESS Array B**	**2.17**	**350**	Pn		Pn		10 24 58.0	-0.7
	2.1nm,0.3s,baz=165,slow=16,SNR=43								
FINES				Pg		Pg		10 24 59.6	-4.7
	2.1nm,0.3s,baz=166,slow=17,SNR=43								
FINES				Sn		Sn		10 25 25.9	-0.9
	2.4nm,0.3s,baz=167,slow=24,SNR=16								
FINES				Lg				10 25 28.6	
	2.4nm,0.3s,baz=169,slow=28,SNR=15								
FINES				Rg				10 25 41.4	
	21nm,1.0s,baz=177,slow=28,SNR=7.5								
KAF	**Kangasniemi**	**2.82**	**354**	*eP*		Pn		10 25 06.7	-1.3
KAF				*eS*		Sn		10 25 40.8	-2.5
KAF				*eSG*		Sg		10 25 48.0	-6.8
KAF				MSG				10 25 49.1	
	comp=Z,2.1nm,0.2s								
SUF	**Sumiainen**	**3.43**	**354**	*eP*		Pn		10 25 16.0	-0.8
SUF				*eS*		Sn		10 25 56.1	-2.7
SUF				*eSG*		Sg		10 26 07.4	-7.8
SUF				MSG				10 26 09.0	
	comp=Z,1.3nm,0.2s								
HFS	**Hagfors**	**6.72**	**283**	Pn		Pn		10 26 00.8	-2.5
	comp=Z,0.0nm,0.3s,baz=84,slow=13,SNR=2.8								
HFS				Sn		Sn		10 27 14.8	-6.8
	comp=Z,0.1nm,0.3s,baz=93,slow=27,SNR=3.4								
HFS				Lg				10 27 50.7	
	comp=Z,0.0nm,0.3s,baz=90,slow=29,SNR=2.6								
HFS	**Hagfors**	**6.72**	**283**	*eS*		Sn		10 27 14.3	-7.3
HFS				*eSG*		Sg		10 27 47.4	-17
HFS	**Hagfors**	**6.72**	**283**	Sn		Sn		10 27 14.3	-7.3
	baz=96,slow=28								
HFS				Lg				10 27 47.4	
	baz=78,slow=37								
NOA	**NORSAR Array B**	**8.00**	**289**	Pn		P		10 26 16.9	-4.3
	comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=2.6								
NOA				Sn		Sn		10 27 45.7	-7.9
	comp=Z,0.1nm,0.3s,baz=189,slow=19,SNR=3.0								
NOA				Lg				10 28 30.8	
	comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=3.2								
AKASG	**Malin Array Be**	**8.74**	**170**	Pn		P		10 26 27.4	-4.0
	comp=Z,0.5nm,0.3s,baz=356,slow=14,SNR=2.9								
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn		P		10 26 46.6	-6.0
	baz=173,slow=16								
ARA0	**ARCESS Array S**	**10.28**	**357**	*eP*		P		10 26 46.6	-6.0
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn		P		10 26 46.0	-6.5
	comp=Z,0.1nm,0.3s,baz=172,slow=14,SNR=5.7								

IDC 13 10:53:02.0±1.6, 13.08N×143.76E, h146km±20km, mb3.1/4, mb1 3.3/4, mb1mx3.2/19, mbtmp3.5/4, Error ellipse: s-maj=44.5km s-min=25.1km az=94.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.19**	**65**	P		P		**10 53 28.6**	**+0.2**
	37nm,0.3s,baz=188,slow=1.4,SNR=41								
GUMO				S		S		10 53 48.0	-0.7
	86nm,0.3s,baz=15,slow=23,SNR=11								
WRA	**Warramunga Arr**	**34.10**	**196**	P		P		10 59 32.8	-2.0
	0.2nm,0.5s,baz=19,slow=9.5,SNR=5.3								
SONM	**Songino Array**	**46.53**	**326**	P		P		11 01 15.3	-1.2
	0.5nm,0.6s,baz=143,slow=6.9,SNR=4.1								
MKAR	**Makanchi Array**	**61.11**	**316**	P		P		11 03 00.2	-2.8
	0.6nm,0.5s,baz=96,slow=8.0,SNR=7.0								
YKA	**Yellowknife Ar**	**83.80**	**27**	P		P		11 05 15.0	-0.9
	0.1nm,0.4s,baz=286,slow=5.1,SNR=5.4								

IDC 13 10:58:17.7±1.6, 15.55S×178.41W, mb3.9/5, mb1 4.2/5, mb1mx3.9/14, mbtmp3.9/5, MS3.8/8, Ms1 3.8/8, ms1mx3.6/16, Error ellipse: s-maj=109.0km s-min=24.1km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**21.98**	**284**	LR		LR		11 10 21.9	
	comp=Z,361nm

FITZ	Fitzroy Crossi	28.53 241	*e*P	P	12 19 54.0	-1.4			
	46nm,0.9s,mb5.2								
FITZ	Fitzroy Crossi	28.53 241	P	P	12 19 54.0	-1.4			
	26nm,0.8s,mb5.0,baz=84,slow=8.1,SNR=37								
FITZ			LR	LR	12 33 09.7				
	comp=Z,80nm,18.8s,MS3.4,baz=236,slow=40								
MJAR	Matsushiro Arr	43.49 344	LR	LR	12 36 56.2				
	comp=Z,203nm,18.6s,MS4.1,baz=220,slow=31								
MAJO	Matsushiro	43.49 344	P	P	12 22 02.9	+0.2			
	7.0nm,0.7s,mb4.5								
MAJO			pP	pP	12 22 19.2	+13			
YSS	Yuzh-Sakhalins	52.61 352	P	P	12 23 12.7	-0.9			
	12nm,0.8s,mb4.9								
SONM	Songino Array	66.18 328	P	P	12 24 47.4	0.0			
	2.3nm,0.4s,mb4.6,baz=151,slow=5.3,SNR=13								
SONM			LR	LR	12 52 15.9				
	comp=Z,96nm,19.9s,MS4.0,baz=117,slow=35								
VNDA	Vanda	72.40 178	P	P	12 25 24.2	-1.0			
	0.8nm,0.8s,mb3.7,baz=324,slow=4.2,SNR=2.8								
VNDA	Vanda	72.40 178	P	P	12 25 24.2	-1.0			
MKAR	Makanchi Array	80.01 319	P	P	12 26 08.8	+0.3			
	3.3nm,0.9s,mb4.2,baz=100,slow=5.1,SNR=6.1								
MKAR			LR	LR	13 00 26.6				
	comp=Z,69nm,18.2s,MS4.0,baz=24,slow=35								
ZAL	Zalesovo	80.98 327	LR	LR	13 03 10.3				
	comp=Z,85nm,18.1s,MS4.1,baz=151,slow=36								
ILAR	Eielson Array	82.98 22	P	P	12 26 23.8	+0.1			
	1.7nm,0.6s,mb4.2,baz=265,slow=5.4,SNR=23								
ILAR			LR	LR	13 00 39.8				
	comp=Z,73nm,18.1s,MS4.1,baz=358,slow=34								
MAW	Mawson	84.74 203	LR	LR	13 01 13.7				
	comp=Z,86nm,18.4s,MS4.2,baz=249,slow=34								
BVAR	Borovoye Array	89.00 323	P	P	12 26 53.5	-0.1			
	2.6nm,0.7s,mb4.7,baz=90,slow=5.9,SNR=7.2								
NVAR	Mina Array Bea	93.18 52	P	P	12 27 15.5	+2.1			
	2.0nm,0.8s,mb4.6,baz=248,slow=4.3,SNR=16								
PDAR	Pinedale Array	99.93 48	P	P	12 27 44.8	+0.8			
	1.2nm,0.8s,mb4.4,baz=280,slow=5.5,SNR=5.8								
GERES	GERESS Array B	123.91 328	PKP	PKPdf	12 32 57.4	-1.9			
	1.6nm,0.6s,baz=45,slow=1.9,SNR=11								
EKA	Eskdalemuir Ar	126.18 343	PKP	PKPdf	12 33 01.6	-1.8			
	1.2nm,0.8s,baz=15,slow=2.5,SNR=3.4								
MDT	Midelt	144.84 324	PKP	PKPdf	12 33 36.8	-1.6			
	1.1nm,0.4s,baz=352,slow=2.6,SNR=8.7								
TORD	Torodi Ar. Bea	149.47 287	PKPbc	PKPdf	12 33 48.9	+2.3			
	16nm,0.7s,baz=77,slow=2.5,SNR=69								
BDFB	Brasilia	151.44 137	PKPbc	PKPdf	12 33 53.0	+3.5			
	6.0nm,0.8s,baz=244,slow=3.7,SNR=5.8								
DBIC	Dimbokro	156.71 275	PKPab	PKPab	12 34 24.6	-0.9			
	2.8nm,0.9s,baz=101,slow=6.3,SNR=3.2								

BGS ***13*** *12:14:29.0±2.4, 44.31N×28.17E, h145km, mb4.8*
PRU ***13*** *12:14:40.2, 45.38N×26.51E, M4.8*
THE ***13*** *12:14:41.5, 45.70N×27.13E, h149km, ML5.0*
HRVD ***13*** *12:14:42.6±0.5, 45.82N×26.69E, h138km±8km, MW4.8/53, Centroid moment Tensor Solution. LP body waves: s8,c10;Mantle waves: s53,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.65±.17; $M_{\theta\theta}$0.54±.19; $M_{\phi\phi}$-1.19±.21; $M_{r\theta}$-0.89±.10; $M_{\theta\phi}$-0.53±.13; $M_{r\phi}$-1.21±.11; Best double couple: $M_0$1.855×10^{16} NP1:ϕ_s339°,δ26°,λ33°, NP2:ϕ_s219°,δ76°,λ112°. Principal axes: T 1.622, Plg53°, Azm156°; N .468, Plg22°, Azm34°; P -2.088, Plg28°, Azm292°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *12:14:42.6, 45.77N×26.78E, h145km, mb4.8/108, MD5.2(BUC), After BUC.*
NEIC Felt [III] at Bucharest and Brazov. Felt at Galati, Ploesti and Uziceni. Also felt at Shumen, Bulgaria and Chisinau, Moldova.
CSEM ***13*** *12:14:44.0, 45.78N×26.79E, h144km, mb5.0*
MOS ***13*** *12:14:44.7±0.9, 45.74N×26.66E, h139km, mb4.7/21, Error ellipse: s-maj=3.4km s-min=2.7km az=130.7*
SOF ***13*** *12:14:44.2, 45.75N×26.66E, h144km, MD4.0*
PDG ***13*** *12:14:45.1±0.2, 45.65N×26.76E, h140km±1km*
BUC ***13*** *12:14:45.6±0.9, 45.68N×26.70E, h137km±10km, MD5.3/5, Error ellipse: s-maj=7.7km s-min=6.7km az=46.0*
BJI ***13*** *12:14:45.6, 45.80N×26.80E, h144km, mB5.1, mb4.8*
IDC ***13*** *12:14:46.3±0.3, 45.70N×26.49E, h135km±2km, mb4.1/20, mb1 4.2/26, mb1mx4.2/30, mbtmp4.5/26, MS3.5/7, Ms1 3.6/7, ms1mx3.2/29, Error ellipse: s-maj=11.1km s-min=7.5km az=152.0*

ISC 13 12:14:44.9±0.1, 45.72N±0.01×26.63E±0.01, h134km, h134km±1.5km: pP-P, n547, σ1°17/604, mb4.6/89, 43C-57D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h	m	s	Res ISC
				Op						
PLOR	Plostina	0.13	7	S		S	12 15 18.5			+0.8
PLOR	Plostina	0.13	7	⇑P		P	12 15 04.8			+1.3
VRI	Vrincioaia	0.16	26	⇑P		P	12 15 05.1			+1.5
VRI				*i* S		S	12 15 18.5			+0.7
VRI	Vrincioaia	0.16	26	⇑P		P	12 15 05.0			+1.4
VRI				S		S	12 15 18.7			+0.9
VRI	Vrincioaia	0.16	26	⇑ *i* P		P	12 15 05.1			+1.5
VRI				*i* S		S	12 15 18.5			+0.6
VRI	Vrincioaia	0.16	26	P		P	12 15 05.0			+1.4
VRI				S		S	12 15 18.7			+0.9
BRD	Bordesti	0.33	120	P		P	12 15 04.3			+0.1
BRD	Bordesti	0.33	120	P		P	12 15 04.3			+0.1
MLR	Muntele Rosu	0.53	245	P		P	12 15 06.5			+1.3
	5μm,0.3s,baz=344,slow=6.4									
MLR				S		S	12 15 21.9			+1.2
	31μm,0.3s,baz=143,slow=20,SNR=84									
MLR	Muntele Rosu	0.53	245	⇓ *i* P		P	12 15 05.7			+0.5
MLR	Muntele Rosu	0.53	245	⇓ *i* P		P	12 15 05.7			+0.5
ISR	Istrita	0.60	186	⇑ *i* P		P	12 15 06.2			+0.6
SNX	Sinaia	0.86	245	⇑ *i* P		P	12 15 08.3			+1.0
VOIR		1.14	256	⇑ *i* P		P	12 15 11.2			+1.3
VOIR				*i* S		S	12 15 29.5			+0.5
CFR	Carcaliu	1.19	116	⇓ *i* P		P	12 15 09.9			-0.5
CFR	Carcaliu	1.19	116	⇑P		P	12 15 09.8			-0.6
CFR	Carcaliu	1.19	116	⇓ *i* P		P	12 15 09.8			-0.5
CFR	Carcaliu	1.19	116	P		P	12 15 09.8			-0.6
MTUR	Matau	1.21	246	⇑ *i* P		P	12 15 11.5			+1.0
MTUR	Matau	1.21	246	⇓P		P	12 15 11.4			+0.9
MTUR				S		S	12 15 31.9			+1.8
MTUR	Matau	1.21	246	⇑ *i* P		P	12 15 11.5			+1.0
MTUR	Matau	1.21	246	P		P	12 15 11.4			+0.9
MR				S		S	12 15 31.9			+1.8
HARR	Harsova	1.38	138	⇓ *i* P		P	12 15 12.4			0.0
BUC1	Bucharest	1.44	197	⇓ *i* P		P	12 15 14.4			+1.4
BUC1				*i* S		S	12 15 35.1			+0.6
BUC1	Bucharest	1.44	197	⇓P		P	12 15 14.3			+1.3
BUC1				S		S	12 15 35.1			+0.6
BUC1	Bucharest	1.44	197	P		P	12 15 14.3			+1.3
BUC1				*i* S		S	12 15 35.1			+0.6
IAS	Iasi	1.61	23	⇑ *i* P		P	12 15 15.8			+0.9
IAS				*i* S		S	12 15 37.3			-0.6
TIRR	Tirgusor	1.79	134	⇓ *i* P		P	12 15 17.8			+0.9
TIRR				*i* S		S	12 15 40.0			-1.4
KIS	Kishinev	1.98	49K	*i* P		P	12 15 20.5			+1.2
KIS				*i* S		S	12 15 45.0			-0.6
KIS				pmax	pmax					
	comp=N,840nm,1.0s									
KIS				pmax	pmax					
	comp=E,640nm,1.0s									
KIS				pmax	pmax					
	comp=Z,2μm,1.0s									
KIS				pmax	pmax					
	comp=N,800nm,1.0s									
KIS				pmax	pmax					
	comp=E,700nm,1.0s									
KIS				pmax	pmax					
	comp=Z,2μm,1.0s									
KIS				smax						
	comp=N,98μm,1.2s									
KIS				smax						
	comp=E,83μm,1.2s									
KIS	Kishinev	1.98	49	*i* P		P	12 15 20.5			+1.2
KIS				*i* S		S	12 15 45.0			-0.6
BURAR	Bucovina Array	2.13	333	⇑ *i* P		P	12 15 23.6			+2.5
BURAR	Bucovina Array	2.13	333	⇑ *i* P		P	12 15 23.6			+2.5
PSN	Preselentsi	2.32	151	*i* P		P	12 15 23.5			-0.1
SZH	Strazhica	2.50	192	*i* P		P	12 15 25.5			-0.5
PRD	Provadia	2.58	167	*i* P		P	12 15 28.0			+1.0
PVL	Pavlikeni	2.67	201	*i* P		P	12 15 29.5			+1.4
DRGR		2.92	293	⇑ *i* P		P	12 15 30.6			-0.8
DRGR		2.92	293	⇑ *i* P		P	12 15 30.6			-0.8
DRGR		2.92	293	P		P	12 15 30.9			-0.5

JMB	Yambol	3.25 181	*i* P	P	12 15 35.7	-0.1			
PGB	Panagyurishte	3.63 210	*i* P	P	12 15 41.7	+0.9			
DIM	Dimitrovgrad	3.75 193	*i* P	P	12 15 42.5	+0.1			
BOLS	Boljevac	3.82 242	⇓ *i* Pn	P	12 15 42.0	-1.3			
BOLS			Sn	S	12 16 26.4	-1.7			
PLD	Plovdiv	3.87 202	*i* P	P	12 15 43.5	-0.5			
VTS	Vitosha	3.98 219	*i* P	P	12 15 44.7	-0.7			
VTS	Vitosha	3.98 219	⇑ *i* P	P	12 15 45.6	+0.2			
SVIS	Svilajnac	4.09 252	⇓ *i* Pn	P	12 15 46.7	-0.2			
SVIS			Sn	S	12 16 33.7	-0.7			
UZH	Uzhgorod	4.15 316	*i* P	P	12 15 48.0	+0.3			
UZH			*i* S	S	12 16 37.0	+1.1			
KDZ	Kurdzhali	4.16 193	*i* P	P	12 15 47.3	-0.6			
RZN	Rozhen	4.26 200	*i* P	P	12 15 49.0	+0.3			
KOLS	Kolonicke sedl	4.37 319	*e*PN	P	12 15 51.7	+1.1			
KOLS			*e*SN	S	12 16 44.1	+2.9			
LVV	L'vov	4.46 338	*e*P	P	12 15 52.0	+0.2			
LVV			*e*S	S	12 16 43.0	-0.3			
LVV			MLR	MLR					
	comp=Z,1μm,6.0s								
LVV	L'vov	4.46 338	*e*P	P	12 15 52.0	+0.2			
	comp=Z,1μm,6.0s								
LVV			*e*S	S	12 16 43.0	-0.3			
BARS	Barje	4.50 232	⇓ *i* Pn	P	12 15 52.5	+0.1			
BARS			Sn	S	12 16 34.0	-10			
GRUS	Gruza	4.59 249	*e*Pn	P	12 15 52.9	-0.6			
GRUS			Sn	S	12 16 30.2	-16			
KKB	Krupnik	4.63 215	*i* P	P	12 15 55.0	+0.9			
MMB	Musomiste	4.63 208	*i* P	P	12 15 54.0	+0.2			
KWP	Kalwaria	4.72 327	⇓ *i* Pn	P	12 15 56.5	+1.2			
	comp=Z,500nm,0.9s								
KWP			*e*Sn	S	12 16 52.5	+2.8			
KWP	Kalwaria	4.72 327	⇓ *i* P	P	12 15 56.5	+1.1			
KWP			*e*		12 16 52.4				
KWP			pmax	pmax					
	comp=Z,500nm,0.9s								
KWP	Kalwaria	4.72 327	⇓ *i* Pn	P	12 15 56.5	+1.1			
	comp=Z,0.2nm,0.9s								
KWP			*e*Sn	S	12 16 52.4	+2.8			
CRVS	Cervenica-Dubn	4.74 314	*e*PN	P	12 15 56.2	+0.6			
CRVS			*e*SN	S	12 16 53.1	+3.1			
ELBA	Catalca	4.76 163	*i* P	P	12 15 55.4	-0.4			
ALN	Alexandroupoli	4.84 185	*e*Pn	P	12 15 54.9	-2.0			
ALN	Alexandroupoli	4.84 185	P	P	12 15 56.7	-0.2			
ALN	Alexandroupoli	4.84 185	P	P	12 15 56.7	-0.2			
DIVS	Divcibare	4.98 253	⇓ *i* Pn	P	12 15 58.5	-0.4			
DIVS			Sn	S	12 16 41.7	-14			
KECS	Kecovo	5.02 306	*e*PN	P	12 15 59.8	+0.5			
KECS			*e*		12 16 54.3				
SART	Tekirdag	5.04 175	*i* P	P	12 15 57.6	-2.0			
SRS	Serrai	5.10 207	*e*Pn	P	12 15 59.8	-0.6			
SRS	Serrai	5.10 207	P	P	12 16 00.8	+0.4			
SRS	Serrai	5.10 207	P	P	12 16 00.8	+0.4			
PSZ	Piszkesteto	5.12 298	⇓ *i* P	P	12 16 00.6	0.0			
STHS	Stebnicka Huta	5.19 317	*e*PN	P	12 16 02.3	+0.7			
AKASG	Malin Array Be	5.28 18	P	P	12 16 01.9	-0.8			
	comp=Z,34nm,0.3s,baz=205,slow=11,SNR=75								
AKASG			S	S	12 16 58.4	-4.6			
	comp=Z,74nm,0.3s,baz=202,slow=21,SNR=15								
KNT	Kendrikon	5.30 212	*e*Pn	P	12 16 03.9	+0.8			
KNT	Kendrikon	5.30 212	*e*Pn	P	12 16 03.8	+0.7			
SIM	Simferopol'	5.34 96	⇓ *e*P	P	12 16 02.9	-0.6			
SIM			*e*S	S	12 17 01.1	-3.3			
SIM			pmax	pmax					
	comp=Z,276nm,0.8s								
SIM			MLR	MLR					
	comp=Z,200nm,24.0s								
SIM	Simferopol'	5.34 96	*e*P	P	12 16 02.9	-0.6			
	comp=Z,276nm,0.8s								
SIM			*e*S	S	12 17 01.1	-3.3			
	comp=Z,200nm,24.0s								
SOH	Sokhos	5.45 207	*e*Pn	P	12 16 05.0	0.0			
SOH	Sokhos	5.45 207	P	P	12 16 05.6	+0.6			
SOH	Sokhos	5.45 207	P	P	12 16 05.6	+0.6			
BBLS	Bajina Basta -	5.46 253	*e*Pn	P	12 16 06.3	+1.2			
BBLS			Sn	S	12 17 06.0	-1.3			
BUD	Budapest	5.53 291	P	P	12 16 05.7	-0.4			
PKSM	Moragy	5.59 278	⇓ *i* P	P	12 16 07.6	+0.7			
IVA	Berane	5.61 242	⇑ *i* Pn	P	12 16 08.0	+0.8			
IVA			*e*Sn	S	12 17 10.4	-0.4			
NIE	Niedzica	5.65 313	*e*Pn	P	12 16 08.9	+1.2			
GRG	Griva	5.67 214	*e*Pn	P	12 16 08.7	-0.1			
GRG	Griva	5.67 214	P	P	12 16 08.4	+0.4			
PLE	Pljevlja	5.70 248	⇑ *i* Pn	P	12 16 09.7	+1.4			
PLE			*e*Sn	S	12 17 12.9	-0.2			
PVY	Plav	5.71 239	⇑ *i* Pn	P	12 16 09.8	+1.3			
PVY			*e*Sn	S	12 17 12.8	-0.7			
OUR	Ouranopolis	5.72 201	*e*Pn	P	12 16 07.8	-0.8			
OUR	Ouranopolis	5.72 201	P	P	12 16 08.0	-0.7			
THE	Thessaloniki	5.75 209	*e*Pn	P	12 16 09.5	+0.5			
HENT	Hendek	5.80 146	*i* P	P	12 16 06.9	-2.9			
ULDT	Uludag	5.87 161	*i* P	P	12 16 09.7	-1.0			
LOS	Limnos	5.89 192	*e*Pn	P	12 16 10.3	-0.7			
VYHS	Vyhne	6.00 300	*e*PN	P	12 16 12.8	+0.4			
BTOK	Tokmak	6.04 170	*i* P	P	12 16 12.1	-0.9			
UPM	Unac-Piva	6.07 248	⇑ *i* Pn	P	12 16 15.3	+1.9			
UPM			*e*Sn	S	12 17 21.7	-0.3			
SRO	Srobarova	6.08 293	*e*PN	P	12 16 14.9	+1.4			
LIKS	Likavka	6.10 306	*e*PN	P	12 16 13.8	+0.1			
PAIG	Paliouri	6.18 202	*e*Pn	P	12 16 13.9	-1.0			
PAIG	Paliouri	6.18 202	P	P	12 16 15.8	+0.9			
TTG	Podgorica	6.24 241	⇑ *i* Pn	P	12 16 16.7	+0.9			
TTG			*e*Sn	S	12 17 25.4	-0.8			
LIT	Litokhoron	6.38 210	*e*Pn	P	12 16 17.8	+0.1			
OJC	Ojcow	6.42 317	⇓ *i* Pn	P	12 16 17.6	-0.6			
OJC			*e*PP	PP	12 16 25.8	-0.4			
OJC			*e*Sn	S	12 17 34.1	+3.4			
OJC	Ojcow	6.42 317	⇓ *i* P	P	12 16 17.6	-0.6			
OJC			*e*		12 17 34.1				
OJC	Ojcow	6.42 317	*i* P	P	12 16 17.6	-0.6			
OJC			*e*S	S	12 17 34.1	+3.4			
QSH	Qafa e Shtames	6.43 232	*i* Pg	P	12 16 21.0	+2.7			
BALT	Daday	6.45 128	*i* P	P	12 16 16.3	-2.2			
BRY	Bratogost	6.45 247	⇑ *i* Pn	P	12 16 20.4	+1.8			
BRY			*e*Sn	S	12 17 30.5	-0.7			
BORA	Eskisehir	6.48 153	*i* P	P	12 16 18.7	-0.3			
SGKT	Sivrigoynuk	6.50 140	*i* P	P	12 16 17.5	-1.7			
ULC	Ulcinj	6.52 237	⇑ *i* Pn	P	12 16 21.2	+1.7			
ULC			*e*Sn	S	12 17 31.8	-1.2			
ULC	Ulcinj	6.52 237	*e*S	S	12 17 31.8	-1.2			
BUM	Brajici-Budva	6.54 241	⇑ *i* Pn	P	12 16 21.4	+1.7			
BUM			*e*Sn	S	12 17 32.4	-1.0			
HCY	Herceg Novi	6.70 244	⇑ *i* Pn	P	12 16 23.6	+1.5			
HCY			*e*Sn	S	12 17 36.4	-1.0			
XOR	Xorichti	6.84 203	*e*Pn	P	12 16 23.3	-0.5			
XOR	Xorichti	6.84 203	P	P	12 16 23.3	-0.5			
AOS	Alonnisos	6.85 198	*e*Pn	P	12 16 23.5	-0.5			
JAVC	Velka Javorina	6.85 300	P	P	12 16 24.3	+0.3			
SMOL	Smolenice	6.87 297	*e*PN	P	12 16 24.7	+0.4			
ESKT	Eskisehir	6.93 152	*i* P	P	12 16 23.0	-2.2			
GDZ	Gediz	6.96 161	*i* P	P	12 16 23.9	-1.5			
ZST	Bratislava	6.97 294	*e*PN	P	12 16 26.0	+0.3			
STON	Ston	7.01 249	Pn	P	12 16 29.1	+3.0			
OKC	Ostrava-Krasne	7.04 309	*e*PN	P	12 16 25.6	-1.0			
RAC	Raciborz	7.15 311	*e*P	P	12 16 27.5	-0.6			
SOP	Sopron	7.20 289	*e*Pn	P	12 16 29.0	+0.3			
ELDT	Eldivan	7.21 134	*i* P	P	12 16 27.3	-1.6			
KOGS	Kog	7.25 279	*i* Pn	P	12 16 30.5	+1.0			
KOGS			*i*		12 16 36.9				
MORC	Moravsky Berou	7.34 307	⇓ *i* P	P	12 16 29.4	-1.3			
MORC			pmax	pmax					
	comp=Z,41nm,1.0s								
MORC	Moravsky Berou	7.34 307	⇓ *i* P	P	12 16 29.4	-1.3			
	comp=Z,41nm,1.0s								
MANT	Manisa	7.37 168	*i* P	P	12 16 30.0	-1.0			
BOYT	Boyabat	7.39 123	*i* P	P	12 16 28.6	-2.7			
ANTO	Ankara	7.40 140	⇓ *i* P	P	12 16 30.9	-0.5			
AGG	Agios Georgios	7.41 207	*e*Pn	P	12 16 32.2	+0.7			
AGG	Agios Georgios	7.41 207	P	P	12 16 31.4	-0.1			
VKA	Vienna	7.49 294	⇓ *i* P	P	12 16 33.2	+0.5			
VRAC	Vranov	7.68 301	P	P	12 16 35.4	+0.2			
	comp=Z,1.6nm,0.3s,baz=113,slow=13,SNR=70								
VRAC	Vranov	7.68 301	⇓ *i* P	P	12 16 34.7	-0.5			
VRAC	Vranov	7.68 301	⇓ *i* P	P	12 16 34.7	-0.5			
VRAC	Vranov	7.68 301	P	P	12 16 35.6	+0.4			
ANN	Anapa	7.68 93	*e*P	P	12 16 31.9	-3.3			
ANN			*e*S	S	12 17 55.2	-5.9			
ANN			pmax	pmax					
	comp=Z,160μm,1.3s								
ANN	Anapa	7.68 93	*e*P	P	12 16 31.9	-3.3			
	comp=Z,60μm,1.3s								

KRUC	Moravsky	7.71 299	P	P	12 16 34.0	-1.5			
CRES	Cresnjev	7.81 275	*e*Pn	P	12 16 38.1	+1.2			
ARSA	Arzberg	7.82 285	⇓ *i* P	P	12 16 38.0	+1.0			
	comp=Z,45nm,1.0s,SNR=12								
ARSA	Arzberg	7.82 285	⇓ *i* P	P	12 16 38.0	+1.0			
	comp=Z,45nm,1.0s								
CTKT	Corum	7.84 128	*i* P	P	12 16 34.8	-2.5			
BR131	Keskin Array S	7.91 137	⇓ *i* Pn	P	12 16 37.6	-0.7			
	comp=Z,75nm,0.8s								
BRTR	Keskin Array B	7.91 137	P	P	12 16 37.6	-0.6			
	comp=Z,4.7nm,0.3s,baz=324,slow=11,SNR=295								
BOJS	Bojanci	7.98 273	*e*Pn	P	12 16 40.7	+1.5			
AYDN	Tasoluk	8.11 173	*i* P	P	12 16 37.8	-3.1			
TKTP	Tekketepe	8.15 159	*i* P	P	12 16 41.0	-0.5			
DNZL	Cakiroluk	8.22 166	*i* P	P	12 16 41.1	-1.4			
KDHN	Kadinhani	8.27 149	*i* P	P	12 16 47.6	+4.6			
LKD	Levkas	8.29 214	*e*Pn	P	12 16 45.2	+1.8			
LKD	Levkas	8.29 214	P	P	12 16 47.7	+4.3			
DPC	Dobruska-Polom	8.31 308	*e*PN	P	12 16 42.5	-1.1			
CDAG	Cicekdag	8.34 134	*i* P	P	12 16 42.4	-1.6			
TREC	Trest	8.35 299	*e*PN	P	12 16 44.5	+0.4			
ISP	Isparta	8.39 158	⇓ *i* P	P	12 16 44.8	+0.2			
OBKA	Obir	8.43 280	⇓ *i* P	P	12 16 46.2	+1.0			
	comp=Z,47nm,1.1s,SNR=5.6								
OBKA	Obir	8.43 280	⇓ *i* Sn	S	12 18 17.7	-1.3			
	comp=Z,10nm,0.5s								
LJU	Ljubljana	8.45 277	*e*Pn	P	12 16 47.2	+1.7			
CEY	Cerknica	8.54 274	*i* Pn	P	12 16 47.9	+1.3			
UPC	Upice	8.56 308	*e*PN	P	12 16 46.2	-0.8			
KSP	Ksiaz	8.59 310	*e*P	P	12 16 46.6	-0.7			
	comp=Z,200nm,1.1s								
KSP			*e*		12 16 51.5				
KSP			*e*		12 17 03.4				
KSP	Ksiaz	8.59 310	⇓ *e*P	P	12 16 46.0	-1.3			
KSP			*e*		12 17 04.5				
KSP			*e*		12 17 12.5				
SUW	Suwalki	8.59 346	*e*P	P	12 16 45.6	-1.7			
SUW			*e*Sn	S	12 18 17.6	-5.4			
SUW	Suwalki	8.59 346	*e*Pn	P	12 16 45.6	-1.8			
SUW			*e*Sn	S	12 18 17.6	-5.4			
MOA	Molln	8.75 289	⇓ *i* P	P	12 16 50.8	+1.4			
	comp=Z,33nm,1.2s,SNR=9.4								
MOA	Molln	8.75 289	⇓ *i* P	P	12 16 50.8	+1.3			
	comp=Z,33nm,1.2s								
GOLH	Golhisar	8.76 164	*i* P	P	12 16 49.7	+0.1			
JAVS	Javornik	8.78 276	*i* Pn	P	12 16 51.0	+1.1			
MNK	Minsk	8.82 5	*e*P	P	12 16 45.0	-5.5			
VOY	Vojsko	8.89 277	*e*(Pn)	P	12 16 53.2	+1.9			
TRI	Trieste	9.00 275	P	P	12 16 54.6	+1.8			
PRU	Pruhonice	9.18 302	*e*PN	P	12 16 54.9	-0.2			
AVNT	Avronos	9.23 136	*i* P	P	12 16 56.3	+0.4			
PRA	Prague	9.27 302	PN	P	12 16 56.0	-0.4			
KBA	Koelnbreinsper	9.28 283	⇑ *i* P	P	12 16 58.1	+1.6			
	comp=Z,122nm,1.1s,SNR=22								
KBA	Koelnbreinsper	9.28 283	⇑ *i* P	P	12 16 58.1	+1.6			
KBA			pmax	pmax					
	comp=Z,122nm,1.1s								
KBA	Koelnbreinsper	9.28 283	⇑ *i* P	P	12 16 58.1	+1.6			
	comp=Z,122nm,1.1s								
GEC2	GERESS Array S	9.32 294	*e*P	P	12 16 58.2	+1.1			
GERES	GERESS Array B	9.32 294	P	P	12 16 57.8	+0.8			

MOX pmax pmax
comp=Z,62nm,1.3s
MOX Moxa 11.16 302 *e*P **P 12 17 22.4 +1.1**
comp=Z,62nm,1.3s
OBN Obninsk 11.33 30 *e*P **P 12 17 22.5 -1.0**
OBN pmax pmax
comp=Z,18nm,1.5s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 11.33 30 *e*P **P 12 17 22.5 -1.0**
comp=Z,100nm,14.0s
KIV Kislovodsk 11.54 93 *e*P **P 12 17 25.6 -0.7**
KIV *e*S **S 12 19 32.3 -0.7**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,129nm,13.0s
KIV Kislovodsk 11.54 93 P **P 12 17 25.5 -0.8**
KIV Kislovodsk 11.54 93 *e*P **P 12 17 25.6 -0.7**
comp=Z,129nm,13.0s
KIV *e*S **S 12 19 32.3 -0.7**
GOF Gofitskoye 11.56 87⇓ *i*P **P 12 17 25.1 -1.5**
GOF *e*S **S 12 19 28.2 -5.2**
GOF pmax pmax
comp=Z,190nm,1.3s
GOF Gofitskoye 11.56 87 *i* P **P 12 17 25.1 -1.5**
comp=Z,190nm,1.3s
DAVOX Davos 11.65 281 P **P 12 17 29.2 +1.5**
comp=Z,0.6nm,0.3s,baz=143,slow=15,SNR=6.1
DAVOX LR LR 12 22 09.4
comp=Z,59nm,20.6s,baz=91,slow=38
DAVOX Davos 11.65 281 P **P 12 17 37.3 +10**
DAVOX LR LR 12 22 09.4
DAVA Damuels 11.65 284⇑ *i*P **P 12 17 27.6 -0.1**
comp=Z,20nm,0.8s,SNR=7.3
DAVA ⇑ *i*P 12 17 36.8
comp=Z,49nm,0.9s
DAVA Damuels 11.65 284⇑ *i*P **P 12 17 27.6 -0.1**
comp=Z,20nm,0.8s
ELZG Elazig 11.67 124 *i* P **P 12 17 28.4 +0.4**
GZT Gaziantep 11.70 132 *i* P **P 12 17 28.4 +0.1**
CSS Prodhromos 11.89 152 *e*Pn **P 12 17 32.5 +1.5**
comp=Z,26nm,0.6s
BSD Bornholm Skovb 11.99 326⇓ *i*P **P 12 17 28.1 -4.1**
comp=Z,29nm,0.7s
BSD Bornholm Skovb 11.99 326⇓ *i*P **P 12 17 28.1 -4.1**
BSD pmax pmax
comp=Z,29nm,0.7s
ARTV Artvin 12.01 107 *i* P **P 12 17 28.9 -3.5**
TUE Stuetta 12.02 280 P **P 12 17 32.6 0.0**
MOS Moscow 12.20 31 *e* **S 12 19 37.6 -11**
STU Stuttgart 12.23 291 P **P 12 17 36.4 +1.1**
STU pmax pmax
comp=Z,98nm,1.2s
STU Stuttgart 12.23 291 P **P 12 17 36.4 +1.1**
comp=Z,98nm,1.2s
MUGIO Muggio 12.27 277 P **P 12 17 41.3 +5.4**
ERZM Erzurum 12.28 113 *i* P **P 12 17 34.0 -2.0**
ONI Oni 12.49 99 P **P 12 17 39.9 +1.2**
BFO Black Forest 12.75 288 *e*P **P 12 17 42.6 +0.5**
VSU Vasula 12.76 0⇓ *e*P **P 12 17 39.3 -2.9**
VSU Vasula 12.76 0 P **P 12 17 38.8 -3.4**
TNS Taunus Mts 12.98 297 *e*P **P 12 17 46.1 +1.0**
MMK Mattmark 13.01 278 P **P 12 17 51.2 +5.7**
PGF Pioggiola 13.05 262 *e*P **P 12 17 45.0 -1.0**
comp=Z,161nm,1.0s
PGF Pioggiola 13.05 262 *e*P **P 12 17 45.0 -1.0**
PGF pmax pmax
comp=Z,80nm,1.0s
DIGO Kars 13.34 107 *i* P **P 12 17 50.6 +0.9**
DIX Grande Dixence 13.39 278 P **P 12 17 52.6 +2.3**
COP Copenhagen 13.40 323 *i* P **P 12 17 48.8 -1.7**
comp=Z,43nm,0.8s
COP *e* 12 20 11.4
COP Copenhagen 13.40 323 *e*P **P 12 17 48.8 -1.7**
COP *e* 12 20 11.4
COP pmax pmax
comp=Z,43nm,0.8s
COP Copenhagen 13.40 323 *e*P **P 12 17 48.8 -1.7**
comp=Z,43nm,0.8s
COP *e* 12 20 11.4
CDF Champ du Feu 13.46 288 *e*P **P 12 17 50.7 -0.5**
comp=Z,113nm,1.4s
CDF Champ du Feu 13.46 288 *e*P **P 12 17 50.7 -0.5**
CDF pmax pmax
comp=Z,57nm,1.4s
ABH Alteburg 13.48 295 *e*P **P 12 17 57.0 +5.6**
MARD Mardin 13.51 123 *i* P **P 12 17 56.2 +4.3**
ECH Echery 13.53 288 *e*P **P 12 17 48.6 -3.4**
MOF Molkenrain 13.53 286 *e*P **P 12 17 55.5 +3.5**
SAOF Saorge 13.64 270 *e*P **P 12 17 52.8 -0.7**
TBLG Delisi 13.69 100 P **P 12 17 55.9 +1.8**
TBLG Delisi 13.69 100 P **P 12 18 02.1 +8.0**
HINF Hinteralfeld 13.71 286 *e*P **P 12 17 53.8 -0.6**
comp=Z,72nm,1.1s
HINF Hinteralfeld 13.71 286 *e*P **P 12 17 53.8 -0.6**
HINF pmax pmax
comp=Z,36nm,1.1s
LOMF Lomont 13.73 284 *e*P **P 12 17 54.8 +0.2**
AUTN L'Aution 13.73 270 *e*P **P 12 17 55.8 +1.2**
AUTN L'Aution 13.73 270 *e*P **P 12 17 56.3 +1.7**
DOI San Damiano 13.74 272 P **P 12 17 57.8 +3.0**
EMV Vieux Emosson 13.75 279 P **P 12 17 55.3 +0.5**
RUP Ruppelstein 13.76 294 *e*P **P 12 17 54.7 -0.2**
SBF Sospel 13.76 269 *e*P **P 12 17 54.2 -0.8**
TOUF Mont Tournerai 13.85 270 *e*P **P 12 17 58.2 +2.0**
LPG La Plagne 13.92 276 *e*P **P 12 17 57.1 +0.1**
comp=Z,208nm,0.9s
LPG La Plagne 13.92 276 *e*P **P 12 17 57.1 +0.1**
LPG pmax pmax
comp=Z,104nm,0.9s
LPL La Plagne 13.93 276 *e*P **P 12 17 56.9 -0.2**
comp=Z,201nm,0.9s
LPL La Plagne 13.93 276 *e*P **P 12 17 56.9 -0.2**
LPL pmax pmax
comp=Z,101nm,0.9s
BUG Bochum--Univer 14.02 301 P **P 12 18 00.2 +2.0**
MBDF Montbardon 14.03 273 *e*P **P 12 17 58.4 -0.1**
comp=Z,207nm,1.0s
MBDF Montbardon 14.03 273 *e*P **P 12 17 58.4 -0.1**
MBDF pmax pmax
comp=Z,103nm,1.0s
BNI Bardonecchia 14.04 274 P **P 12 17 58.6 +0.1**
SURF Saint Ours 14.05 272 *e*P **P 12 18 01.1 +2.4**
HAU Haudompre 14.06 287 *e*P **P 12 17 58.3 -0.5**
comp=Z,105nm,1.2s
HAU *e*R
comp=Z,190nm,17.8s
VSL Villasalto 14.13 250 *e*Pn **P 12 18 00.4 +0.6**
comp=Z,6.0nm,0.6s
CABF La Chapelle 14.26 281 *e*P **P 12 17 59.7 -1.7**
comp=Z,180nm,0.7s
CABF La Chapelle 14.26 281 *e*P **P 12 17 59.7 -1.7**
CABF pmax pmax
comp=Z,90nm,0.7s
WLF Walferdange 14.33 293 P **P 12 17 59.6 -2.7**
WLF pmax pmax
comp=Z,55nm,1.4s
WLF Walferdange 14.33 293 Pn **P 12 17 59.6 -2.7**
comp=Z,55nm,1.4s
GNI Garni 14.38 106 P **P 12 18 06.4 +3.4**
comp=Z,0.7nm,0.3s,baz=344,slow=8.2,SNR=20
FRF La Foret Royal 14.39 269 *e*P **P 12 18 01.7 -1.3**
comp=Z,89nm,0.8s
FRF La Foret Royal 14.39 269 *e*P **P 12 18 01.7 -1.3**
FRF pmax pmax
comp=Z,45nm,0.8s
GDM Grand'Maison 14.40 275 *e*P **P 12 18 04.5 +1.3**
WTSB Winterswijk 14.45 303⇓ *e*P **P 12 18 08.6 +4.8**
comp=Z,205nm,1.6s
LMR La Mourre 14.54 268 *e*P **P 12 18 03.4 -1.6**
comp=Z,280nm,1.4s
LMR La Mourre 14.54 268 *e*P **P 12 18 03.4 -1.6**
LMR pmax pmax
comp=Z,140nm,1.4s
OFRI 'Ofer 14.59 151 P **P 12 18 09.4 +3.8**
ORIF Oris-en-Rattie 14.62 274 *e*P **P 12 18 05.4 -0.6**
comp=Z,192nm,1.2s
ORIF *e*R
comp=Z,78nm,19.2s
GRN Grenoble 14.66 276 *e*P **P 12 18 08.4 +2.0**
HGN Heimansgroeve 14.67 298⇓ *e*P **P 12 18 11.6 +5.1**
comp=Z,103nm,1.1s
HGN *e*S **S 12 20 58.1 +12**
WIT Witteveen 14.81 306⇓ *e*P **P 12 18 12.6 +4.4**
comp=Z,829nm,1.2s
MEZF Maizieres J'vi 14.94 288 *e*P **P 12 18 09.8 -0.3**
comp=Z,162nm,1.1s
VILF Villemus 14.96 270 *e*P **P 12 18 11.8 +1.5**
SMRF Simiane la Rot 15.03 271 *e*P **P 12 18 10.4 -0.8**
comp=Z,94nm,0.9s
OCF Saint Nazaire 15.09 273 *e*P **P 12 18 13.2 +1.3**
OG26 St.-Nazaire-De 15.09 273 *e*P **P 12 18 13.2 +1.3**
GIVF Givet 15.25 295 *e*P **P 12 18 14.3 +0.5**
MUD Monsted U'grnd 15.30 321⇓ *i*P **P 12 18 17.6 +3.1**
VIVF Saint-Julien-l 15.47 275 *e*P **P 12 18 16.1 -0.6**
comp=Z,144nm,1.2s
VIVF Saint-Julien-l 15.47 275 *e*P **P 12 18 16.1 -0.6**
VIVF pmax pmax
comp=Z,72nm,1.2s
MSL Mosul 15.57 121 *ex* x 12 18 22.0
MSL *ex* x 12 21 23.0
BAIF Baives 15.63 294 *e*P **P 12 18 19.1 +0.4**
comp=Z,119nm,1.2s
BAIF Baives 15.63 294 *e*P **P 12 18 19.1 +0.4**
BAIF pmax pmax
comp=Z,60nm,1.2s
LOR Lormes 15.75 284 *e*P **P 12 18 20.0 -0.1**
comp=Z,182nm,1.1s
LOR Lormes 15.75 284 *e*P **P 12 18 20.0 -0.1**
LOR pmax pmax
comp=Z,91nm,1.1s
FINES FINESS Array B 15.76 359 P **P 12 18 17.8 -2.4**
comp=Z,1.2nm,0.3s,baz=150,slow=13,SNR=20
FINES LR LR 12 24 20.2
comp=Z,63nm,20.6s,baz=163,slow=36
MKRJ Makawir 15.79 151 P **P 12 18 22.9 +2.2**
SMF Signal de Mont 15.80 282 *e*P **P 12 18 20.9 +0.1**
MZDA Masada 15.91 152 P **P 12 18 25.0 +2.7**
SSF Saint Saulge 16.00 283 *e*P **P 12 18 22.8 -0.5**
SSF pmax pmax
comp=Z,91nm,1.2s
SSF Saint Saulge 16.00 283 *e*P **P 12 18 22.8 -0.5**
comp=Z,91nm,1.2s
COLF Collangettes 16.04 278 *e*P **P 12 18 22.8 -1.0**
AVF Avril sur Loir 16.12 282 *e*P **P 12 18 24.2 -0.6**
comp=Z,146nm,1.0s
AVF Avril sur Loir 16.12 282 *e*P **P 12 18 24.2 -0.6**
AVF pmax pmax
comp=Z,73nm,1.0s
LASF Ste Croix 16.21 272 *e*P **P 12 18 25.5 -0.4**
comp=Z,133nm,0.9s
AGO Saint Agoulin 16.36 280 *e*P **P 12 18 29.1 +1.4**
HFS Hagfors 16.36 337 P **P 12 18 23.9 -3.8**
comp=Z,0.6nm,0.3s,baz=146,slow=13,SNR=24
HFA0 Hagfors New Ar 16.37 337 Pn **P 12 18 26.3 -1.5**
LBL Lubilhac 16.40 277 *e*P **P 12 18 29.1 +0.9**
KAF Kangasniemi 16.43 359 *e*p **P 12 18 23.4 -5.1**
BGF Bois d'Agland 16.49 281 *e*P **P 12 18 29.2 -0.2**
comp=Z,84nm,0.9s
BGF Bois d'Agland 16.49 281 *e*P **P 12 18 29.2 -0.2**
BGF pmax pmax
comp=Z,42nm,0.9s
HYF Humbligny 16.58 284 *e*P **P 12 18 30.4 0.0**
PRNI Paran 16.68 154 P **P 12 18 34.7 +2.8**
KMTI Karmit 16.83 155 P **P 12 18 35.2 +1.5**
FRNF Fournols 16.85 278 *e*P **P 12 18 34.4 +0.7**
KLMR Klimovskoe 16.95 22 *e*P **P 12 18 31.4 -3.5**
KLMR *e*S **S 12 21 28.1 -9.4**
KLMR pmax pmax
comp=Z,30nm,0.6s
KLMR smax
comp=E,1µm,4.6s
MBH Mount Berech 17.18 155 P **P 12 18 40.1 +2.1**
KONO Kongsberg 17.27 330 P **P 12 18 37.6 -1.3**
KONO pmax pmax
comp=Z,96nm,1.3s
KONO Kongsberg 17.27 330 Pn **P 12 18 37.6 -1.2**
comp=Z,96nm,1.3s
KONO Kongsberg 17.27 330 P **P 12 18 37.6 -1.3**
comp=Z,96nm,1.3s
CAF Calviac 17.28 276 *e*P **P 12 18 37.8 -1.2**
comp=Z,80nm,1.0s
CAF Calviac 17.28 276 *e*P **P 12 18 37.8 -1.2**
CAF pmax pmax
comp=Z,40nm,1.0s
EIL Elat 17.31 155 P **P 12 18 40.4 +0.9**
EJON La Jonquera 17.35 268 P **P 12 18 38.1 -1.8**
comp=Z,14nm,0.9s
JOF Joensuu 17.44 7 *e*p **P 12 18 35.5 -5.4**
MTLF Montolieu 17.55 271 *e*P **P 12 18 40.9 -1.4**
comp=Z,63nm,1.1s
MTLF Montolieu 17.55 271 *e*P **P 12 18 40.9 -1.4**
MTLF pmax pmax
comp=Z,31nm,1.1s
RJF Les Rejaudoux 17.59 278 *e*P **P 12 18 42.0 -0.8**
comp=Z,85nm,0.8s
RJF Les Rejaudoux 17.59 278 *e*P **P 12 18 42.0 -0.8**
RJF pmax pmax
comp=Z,43nm,0.8s
NAO01 NORSAR Array S 17.75 334 *e*P **P 12 18 41.8 -2.8**
comp=Z,85nm,0.9s
NB2 NORSAR Subarra 17.81 335 P **P 12 18 41.1 -4.2**
comp=Z,24nm,1.1s,baz=141,slow=12
NB2 NORSAR Subarra 17.81 335 P **P 12 18 41.1 -4.2**
NB2 pmax pmax
comp=Z,25nm,1.1s
NOA NORSAR Array B 17.81 335 P **P 12 18 41.8 -3.5**
comp=Z,2.1nm,0.3s,baz=144,slow=11,SNR=27
NOA LR LR 12 26 41.8
comp=Z,50nm,19.5s,baz=320,slow=40
LFF La Frestale 18.20 277 *e*P **P 12 18 48.2 -1.5**
comp=Z,200nm,0.8s
LFF La Frestale 18.20 277 *e*P **P 12 18 48.2 -1.5**
LFF pmax pmax
comp=Z,100nm,0.8s
LDF La Druitiere 18.38 289 *e*P **P 12 18 50.0 -1.7**
comp=Z,139nm,0.8s
LDF La Druitiere 18.38 289 *e*P **P 12 18 50.0 -1.7**
LDF pmax pmax
comp=Z,69nm,0.8s
MLS Moulis 18.45 271 *e*P **P 12 18 51.8 -0.6**
EMIR Miracle 18.48 267 P **P 12 18 52.6 -0.2**
comp=Z,14nm,0.7s
MFF Saint Martin d 18.54 282 *e*P **P 12 18 51.5 -1.9**
comp=Z,344nm,1.3s
MFF Saint Martin d 18.54 282 *e*P **P 12 18 51.5 -1.9**
MFF pmax pmax
comp=Z,172nm,1.3s
FLN La Foliniere 18.62 289 *e*P **P 12 18 52.5 -1.7**
comp=Z,355nm,1.2s
FLN *e*R
comp=Z,131nm,21.0s
GRR Gorron 18.88 288 *e*P **P 12 18 55.6 -1.4**
comp=Z,132nm,1.0s
GRR Gorron 18.88 288 *e*P **P 12 18 55.6 -1.4**
GRR pmax pmax
comp=Z,66nm,1.0s
EPF Esparros 18.95 271 *e*P **P 12 18 56.6 -1.2**
comp=Z,40nm,0.8s
EPF Esparros 18.95 271 *e*P **P 12 18 56.6 -1.2**
EPF pmax pmax
comp=Z,20nm,0.8s
EPOB Poblet 19.00 266 P **P 12 18 58.4 +0.1**
comp=Z,39nm,0.9s
EBIE Bielsa 19.20 270 P **P 12 19 00.2 -0.1**
comp=Z,20nm,0.6s
EGRA Graus 19.23 269 P **P 12 18 58.4 -2.4**
comp=Z,12nm,0.8s
EBR Ebro Roquetas 19.61 265 *e*P **P 12 19 03.0 -1.7**
ETSF Etsaut 19.62 271 *e*P **P 12 19 03.9 -0.9**
comp=Z,111nm,1.1s
ETSF Etsaut 19.62 271 *e*P **P 12 19 03.9 -0.9**
ETSF pmax pmax
comp=Z,56nm,1.1s
ERTA Horta de San J 19.67 265 P **P 12 19 04.2 -1.1**
comp=Z,14nm,0.6s
EIBI Ibiza 19.79 259 P **P 12 19 07.4 +0.8**
comp=Z,64nm,0.8s
LARF Larrau 19.88 272 *e*P **P 12 19 07.5 0.0**
ESAC San Caprasio 19.95 268 P **P 12 19 06.4 -1.8**
comp=Z,47nm,1.1s
SGMF Saint Gilles 20.02 288 *e*P **P 12 19 08.3 -0.5**
comp=Z,112nm,0.9s
SGMF Saint Gilles 20.02 288 *e*P **P 12 19 08.3 -0.5**
SGMF pmax pmax
comp=Z,56nm,0.9s
SJPF Ste Jean 20.02 273 *e*P **P 12 19 07.7 -1.3**
comp=Z,19nm,0.5s
SJPF Ste Jean 20.02 273 *e*P **P 12 19 07.7 -1.3**
SJPF pmax pmax
comp=Z,9.0nm,0.5s
HAE Alders End 20.11 299 *e*P **P 12 19 09.0 -0.8**
HAE AMb AMB 12 19 14.0
comp=Z,173nm,1.2s
EALK Alkurruntz 20.19 273 P **P 12 19 10.1 -0.5**
comp=Z,8.5nm,0.7s
HGH Gray Hill 20.23 298 *e*P **P 12 19 10.1 -0.8**
HGH AMb AMB 12 19 13.4
comp=Z,161nm,1.2s
HLM1 Long Mynd 20.38 300 *e*P **P 12 19 11.7 -0.8**
HLM1 AMb AMB 12 19 14.9
comp=Z,86nm,1.1s
MCH1 Michaelchurch 20.39 299 *e*P **P 12 19 11.4 -1.1**
MCH1 AMb AMB 12 19 14.7
comp=Z,82nm,1.1s
QUIF Quistinic 20.45 287 *e*P **P 12 19 12.4 -0.8**
comp=Z,198nm,1.0s
QUIF Quistinic 20.45 287 *e*P **P 12 19 12.4 -0.8**
QUIF pmax pmax
comp=Z,99nm,1.0s
EMOS Mosqueruela 20.47 265 P **P 12 19 13.8 +0.3**
comp=Z,25nm,0.6s
ROSF Rostrenen 20.49 288 *e*P **P 12 19 13.0 -0.6**
SSP1 Stoney Pound 20.50 300 *e*P **P 12 19 13.2 -0.5**
SSP1 AMb AMB 12 19 15.5
comp=Z,113nm,1.3s
HTR Trewern Hill 20.56 299 *e*P **P 12 19 13.3 -1.0**
HTR AMb AMB 12 19 15.7
comp=Z,62nm,1.4s
SBD1 Bryn Du 20.66 301 *e*P **P 12 19 14.9 -0.3**
SBD1 AMb AMB 12 19 17.4
comp=Z,92nm,1.1s
EBEN Beniarda 21.02 260 P **P 12 19 20.4 +1.4**
comp=Z,32nm,0.8s,mb4.7
ECRI Cripan 21.08 272 P **P 12 19 18.8 -0.8**
ECRI pmax pmax
comp=Z,14nm,0.6s,mb4.5
ECRI Cripan 21.08 272 P **P 12 19 18.8 -0.8**
comp=Z,14nm,0.6s,mb4.5
EKA Eskdalemuir Ar 21.09 308 P **P 12 19 18.5 -1.0**
comp=Z,16nm,0.7s,mb4.5,baz=104,slow=12,SNR=22
AKTK Aktyubinsk 21.40 66 P **P 12 19 23.6 +0.9**
AKTO Aktyubinsk 21.40 66 P **P 12 19 23.6 +0.9**
comp=Z,20nm,0.6s,mb4.6,baz=266,slow=9.9,SNR=68
ELAN Lanestosa 21.54 274 P **P 12 19 23.4 -0.6**
comp=Z,69nm,0.8s,mb5.1
ETOB Tobarra 21.97 261 P **P 12 19 27.9 -0.5**
comp=Z,9.5nm,0.6s,mb4.4
APA Apatity 22.19 7⇓ *i*P **P 12 19 35.2 +4.9**
APA *i* 12 20 05.8
APA *i* S **S 12 23 27.0 +6.2**
APA *i* *SS 12 24 06.7
APA pmax pmax
comp=Z,110nm,1.1s,mb5.2
ARU Arti 22.54 50⇑ *i*P **P 12 19 34.0 +0.4**
ARU *e* 12 19 59.1
ARU *e*PPP PPP 12 20 09.3 -10
ARU *e*S **S 12 23 31.4 +4.6**
ARU pmax pmax
comp=Z,32nm,0.8s,mb4.8
LVZ Lovozero 22.63 8⇓ *i*P **P 12 19 41.3 +6.9**
LVZ pmax pmax
comp=Z,163nm,0.8s,mb5.5
LVZ pmax pmax
comp=N,126nm,0.9s
LVZ pmax pmax
comp=E,43nm,0.9s
EVIA Vianos 22.63 262 P **P 12 19 36.1 +1.4**
EVIA pmax pmax
comp=Z,32nm,0.7s,mb4.9
EVIA Vianos 22.63 262 P **P 12 19 36.1 +1.4**
comp=Z,32nm,0.7s,mb4.9
DLF Lyons Farm 22.66 302⇑ *i*P **P 12 19 35.3 +0.4**
AB31 Akbulak array 22.68 69 *i* P **P 12 19 35.9 +0.8**
AB31 pmax pmax
comp=Z,20nm,0.7s,mb4.7
SOKR Solikamsk 22.70 42⇓ *i*P **P 12 19 38.2 +3.0**
SOKR *PP 12 20 02.5
SOKR S **S 12 23 33.0 +3.4**
SOKR pmax pmax
comp=Z,30nm,1.6s,mb4.5
MIB Mutribah 22.72 127 *i* P **P 12 19 37.4 +1.8**
MIB AMb AMB 12 19 38.4
comp=Z,362nm,0.7s
EARI Arriondas 22.75 275 P **P 12 19 35.5 -0.3**
comp=Z,41nm,0.7s,mb5.0
EHUE Huescar 23.09 260 P **P 12 19 40.1 +1.0**
EHUE pmax pmax
comp=Z,13nm,0.9s,mb4.4
EHUE Huescar 23.09 260 P **P 12 19 40.1 +0.9**
comp=Z,13nm,0.9s,mb4.4
NAY Al-Naaiem 23.09 128 *i* P **P 12 19 40.9 +1.7**
NAY AMb AMB 12 19 42.0
comp=Z,117nm,0.8s,mb5.4
DCN Croghan 23.11 302⇑ *i*P **P 12 19 39.7 +0.5**
UMR Umm Al-Rimmam 23.12 127 *e*P **P 12 19 41.2 +1.7**
ESDC Sonseca Array 23.19 266 P **P 12 19 39.6 -0.5**
comp=Z,5.5nm,0.5s,mb4.2,baz=57,slow=9.6,SNR=20
ESLA Sonseca Array 23.19 266 *e*P **P 12 19 39.8 -0.3**
comp=Z,54nm,1.7s,mb4.7
KBD Kabd 23.39 128 *i* P **P 12 19 44.2 +2.0**
KBD AMb AMB 12 19 45.4
comp=Z,672nm,0.4s
EQES Quesada 23.42 261 P **P 12 19 43.7 +1.4**
comp=Z,15nm,0.8s,mb4.5
RDF Al-Radifah 23.51 128 *e*P **P 12 19 45.0 +1.7**
RDF AMb AMB 12 19 46.6
comp=Z,246nm,0.8s
EBER Berja 23.75 259 P **P 12 19 46.4 +0.9**
comp=Z,26nm,1.0s,mb4.7
QRN Al-Qurain 23.85 128 *e*P **P 12 19 48.3 +1.7**
QRN AMb AMB 12 19 50.1
comp=Z,303nm,0.3s
ARCES ARCESS Array B 23.89 359 P **P 12 19 47.0 +0.5**
comp=Z,4.2nm,0.4s,mb4.3,baz=182,slow=12,SNR=69
ARE0 ARCESS Array S 23.89 359 *e*P **P 12 19 47.3 +0.7**
ARE0 *e* 12 19 57.1
ECOG Cogollos-Vega 24.02 260 P **P 12 19 47.7 -0.5**
ECOG pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
ECOG Cogollos-Vega 24.02 260 P **P 12 19 47.7 -0.5**
comp=Z,9.0nm,0.6s,mb4.5
EPON Pontenova 24.10 276 P **P 12 19 48.2 -0.6**
comp=Z,51nm,0.8s,mb5.1
KEV Kevo 24.10 0 *e*p **P 12 19 48.4 -0.2**
ECAL Calabor 24.26 273 P **P 12 19 49.0 -1.4**
comp=Z,36nm,0.8s,mb5.3
EADA Adamuz 24.29 263 P **P 12 19 50.4 -0.3**
comp=Z,9.7nm,0.8s,mb4.4
PBRG Braganca 24.31 273 *e*P **P 12 19 50.0 -0.8**
comp=Z,34nm,0.9s,mb4.9
ERON Agron 24.32 260 P **P 12 19 51.6 +0.6**
comp=Z,16nm,0.7s,mb4.7
ERUA La Rua 24.39 274 P **P 12 19 50.6 -1.0**
ERUA pmax pmax
comp=Z,14nm,0.8s,mb4.5
ERUA La Rua 24.39 274 P **P 12 19 50.6 -1.0**
comp=Z,14nm,0.8s,mb4.5
ECAB El Cabril 24.92 264 P **P 12 19 56.0 -0.7**
comp=Z,7.0nm,0.6s,mb4.4
PVRL Vila Real 25.18 272 *e*P **P 12 19 57.9 -1.2**
comp=Z,45nm,1.1s,mb4.9
ELOB Lobios 25.21 274 P **P 12 19 58.7 -0.6**
comp=Z,7.0nm,0.9s,mb4.2
STS Santiago 25.21 276 P **P 12 19 59.7 +0.4**
STS pmax pmax
comp=Z,19nm,0.7s,mb4.7
STS Santiago 25.21 276 P **P 12 19 59.7 +0.4**
comp=Z,19nm,0.7s,mb4.7
EMIJ Mijas 25.22 260 P **P 12 19 58.7 -0.8**
comp=Z,12nm,0.6s,mb4.6
MTE Manteigas 25.40 270 *e*P **P 12 20 00.3 -0.8**
comp=Z,36nm,0.9s,mb4.9
MTE Manteigas 25.40 270 P **P 12 20 00.2 -0.9**
comp=Z,29nm,0.9s,mb4.8
EMAZ Mazaricos 25.49 277 P **P 12 20 01.9 0.0**
comp=Z,45nm,0.5s,mb5.3
PVIS Viseu 25.52 271 *e*P **P 12 20 01.2 -1.1**
comp=Z,29nm,1.2s,mb4.8
PCBR Castelo Branco 25.58 269 *e*P **P 12 20 01.7 -1.1**
comp=Z,25nm,1.5s,mb4.6
EBAD Badajoz 25.72 266 P **P 12 20 03.3 -0.8**
comp=Z,7.2nm,0.7s,mb4.4
EMIN Mina Concepcio 25.94 264 P **P 12 20 03.5 -2.7**
comp=Z,6.6nm,1.0s,mb4.2
EGRO El Granado 26.62 264 P **P 12 20 10.1 -2.3**

comp=Z,9.7nm,0.9s,mb4.4
MDT Midelt 27.22 253 P **P** **12 20 16.2 -1.7**
comp=Z,6.2nm,0.9s,mb4.3,baz=89,slow=13,SNR=8.2
BVAR Borovoye Array 29.04 59 P **P** **12 20 34.5 +0.4**
comp=Z,3.9nm,0.5s,mb4.4,baz=270,slow=7.4,SNR=34
BVAR pP pP 12 21 02.3 -0.5
comp=Z,2.9nm,0.6s,baz=280,slow=9.0,SNR=4.1
CHKZ Chkalovo 29.14 58 P **P** **12 20 35.2 +0.2**
CHKZ *e* pP 12 21 03.8 +0.1
CHKZ pmax pmax
comp=Z,13nm,1.0s,mb4.6
CHKZ Chkalovo 29.14 58 P **P** **12 20 35.2 +0.2**
comp=Z,12nm,1.0s,mb4.6
CHKZ *e* pP 12 21 03.8 +0.1
BANOM Banah 30.86 120 P **P** **12 20 50.3 -0.2**
SNR=11
KKAR Karatay Array 31.17 79 P **P** **12 20 53.6 +0.6**
KKAR pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
BORG Borgarnes 32.24 323 LR LR 12 33 10.4
comp=Z,214nm,18.3s,baz=242,slow=34
HOQ Hoqain 33.21 121 P **P** **12 21 10.3 -0.6**
SNR=8.6
EKS2 Erkin-Say 33.57 78 P **P** **12 21 15.4 +1.7**
SNR=37
AML Almayashu 33.71 79 P **P** **12 21 16.8 +1.8**
SNR=14
BSY Bisya 33.78 122 ⇓P **P** **12 21 15.3 -0.5**
SNR=19
USP Ospenovka 33.84 77 P **P** **12 21 17.1 +1.0**
SNR=15
UCH Uchtor 34.23 78 P **P** **12 21 21.6 +2.2**
SNR=15
KBK Karagaybulak 34.37 77 P **P** **12 21 22.7 +2.1**
SNR=11
TKM2 Tokmak 2 34.72 77 P **P** **12 21 25.8 +2.3**
SNR=14
KZA Kyzart 34.80 78 P **P** **12 21 26.7 +2.5**
SNR=19
ULHL Ulahol 35.41 77 P **P** **12 21 31.1 +1.7**
SNR=6.2
WHFO Wadi Hawf 35.73 132 P **P** **12 21 32.5 +0.2**
SNR=27
ABTO Aybut 35.96 133 P **P** **12 21 34.8 +0.6**
SNR=19
RBK Rabkut 36.30 132 P **P** **12 21 37.5 +0.4**
SNR=12
KSH Kashi 36.36 82 *e*P **P** **12 21 40.0 +2.6**
KSH *e*AP pP 12 22 11.4 +4.1
KSH *e*XP sP 12 22 26.4 +3.3
KSH *e*PCP PcP 12 24 02.5 +3.0
KSH *e*S **S** **12 27 10.0 +2.1**
KSH *e*XS 12 28 05.5
KSH AMB AMB
comp=Z,100nm,2.4s,mb5.0
ZAL Zalesovo 37.45 56 P **P** **12 21 47.6 +1.2**
comp=Z,14nm,0.3s,mb5.0,baz=184,slow=7.7,SNR=63
ZAL pP pP 12 22 14.9 -1.4
comp=Z,5.3nm,0.5s,baz=188,slow=8.7,SNR=5.7
MKAR Makanchi Array 37.82 68 P **P** **12 21 50.4 +0.9**
comp=Z,9.1nm,0.4s,mb4.8,baz=271,slow=8.1,SNR=177
MKAR pP pP 12 22 19.1 -0.5
comp=Z,4.5nm,0.5s,baz=281,slow=7.7,SNR=7.1
TORD Torodi Ar. Bea 38.73 221 P **P** **12 21 57.4 0.0**
comp=Z,10.0nm,0.3s,mb4.9,baz=27,slow=8.8,SNR=167
TORD ScP 12 27 39.2
comp=Z,1.1nm,0.7s,baz=31,slow=3.6,SNR=3.6
WMQ Urumqi 42.47 70 *e*P **P** **12 22 29.8 +2.0**
WMQ AP pP 12 23 01.1 +3.0
WMQ XP sP 12 23 17.3 +3.4
WMQ PP PP 12 24 12.8 +2.1
WMQ AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
WMQ AMB AMB
comp=Z,210nm,5.1s
WMQ LR LR
comp=N,860nm,21.0s
WMQ LR LR
comp=E,980nm,22.0s
WMQ LR LR
comp=Z,960nm,22.0s
DBIC Dimbokro 47.48 225 P **P** **12 23 06.6 -1.4**
comp=Z,10nm,0.3s,mb4.9,baz=16,slow=8.7,SNR=80
DBIC Dimbokro 47.48 225 P **P** **12 23 06.6 -1.5**
DBIC pmax pmax
comp=Z,10.0nm,0.3s
DBIC Dimbokro 47.48 225 *e*P **P** **12 23 06.4 -1.6**
comp=Z,12nm,0.4s,mb4.9
KMBO Kilima Mbogo 47.59 166 P **P** **12 23 09.0 +0.2**
comp=Z,2.1nm,0.6s,mb4.0,baz=14,slow=18,SNR=6.1
LIC Lamto 47.95 225 ⇑*i*P **P** **12 23 10.2 -1.5**
comp=Z,5.8nm,0.3s,mb4.7
KOLN Koldanda 48.01 92 *e*P **P** **12 23 12.8 +0.9**
comp=Z,67nm,0.9s,mb5.3
GKN Gorkha 48.59 91 *e*P **P** **12 23 17.1 +0.6**
DMN Daman 49.16 91 *e*P **P** **12 23 21.7 +0.9**
comp=Z,53nm,1.0s,mb5.1
KKN Kakani 49.17 90 *e*P **P** **12 23 21.4 +0.5**
comp=Z,63nm,0.7s,mb5.3
KKN Kakani 49.17 90 *e*P **P** **12 23 21.4 +0.5**
KKN pmax pmax
comp=Z,31nm,0.7s,mb5.0
ZAK Zakamensk 49.33 55 *e*P **P** **12 23 23.0 +1.2**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
PKI Pulchoki 49.39 90 *e*P **P** **12 23 23.1 +0.5**
comp=Z,30nm,0.9s,mb5.0
PKI Pulchoki 49.39 90 *e*P **P** **12 23 23.1 +0.5**
PKI pmax pmax
comp=Z,15nm,0.9s,mb4.6
GUN Gumba 49.52 90 *e*P **P** **12 23 24.3 +0.7**
comp=Z,90nm,0.8s,mb5.4
JIRN Jiri 49.89 90 *e*P **P** **12 23 27.4 +1.0**
comp=Z,82nm,0.8s,mb5.4
TIXI Tiksi 50.97 23 *i*P **P** **12 23 32.8 -1.2**
BOD Bodaibo 51.69 43 *e*P **P** **12 23 37.4 -2.2**
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
LSA Lhasa 52.13 84 P **P** **12 23 44.4 +1.1**
SONM Songino Array 52.33 57 P **P** **12 23 45.2 +0.7**
comp=Z,12nm,0.8s,mb4.6,baz=298,slow=8.6,SNR=48
SONM pP pP 12 24 15.7 -0.2
comp=Z,7.4nm,0.7s,baz=295,slow=8.9,SNR=12
GTA Gaotai 52.54 69 *e*P **P** **12 23 46.6 +0.4**
GTA AP pP 12 24 17.5 -0.2
GTA XP sP 12 24 35.8 +3.4
GTA PCP PcP 12 24 54.0 -0.7
GTA PP PP 12 25 51.3 +3.8
GTA PPP PPP 12 27 01.5 +5.3
GTA SCP 12 28 35.4
GTA PCS 12 28 51.9
GTA S **S** **12 31 05.3 +4.5**
GTA XS 12 32 01.9
GTA SCS ScS 12 33 18.9 0.0
GTA AMB AMB
comp=Z,40nm,5.7s
GTA LR LR
comp=N,130nm,12.5s
GTA LR LR
comp=E,130nm,12.6s
GTA LR LR
comp=Z,120nm,12.5s
ULN Ulaanbaatar 52.70 57 *e*P **P** **12 23 47.6 +0.3**
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ULN Ulaanbaatar 52.70 57 *e*P **P** **12 23 47.6 +0.3**
comp=Z,3.8nm,0.8s,mb4.2
YAK Yakutsk 56.31 34 *i*P **P** **12 24 12.3 -1.0**
YAK pmax pmax
comp=Z,13nm,0.8s,mb4.8
YAK MLR MLR
comp=Z,100nm,21.0s
LZH Lanzhou 57.04 70 *e*P **P** **12 24 19.0 +0.2**
LZH AP pP 12 24 50.5 -0.2
LZH XP sP 12 25 05.6 0.0
LZH *e*S **S** **12 32 00.5 -0.4**
LZH XS 12 32 56.5
LZH *e*SS SS 12 35 52.3 -0.7
LZH AMB AMB
comp=Z,20nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,70nm,7.1s
LZH LR LR
comp=N,260nm,15.2s
LZH LR LR
comp=Z,380nm,18.0s

HHC Hu-ho-hao-te 59.22 62 *e*P **P** **12 24 33.6 -0.3**
HHC AP pP 12 25 07.3 +1.2
HHC PCP PcP 12 25 21.6 +1.1
HHC PP PP 12 26 47.3 -0.7
HHC SCP 12 29 06.3
HHC PCS 12 29 20.6
HHC S **S** **12 32 26.3 -2.8**
HHC XS 12 33 25.3
HHC SCS ScS 12 34 06.1 -0.6
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
HHC AMB AMB
comp=Z,150nm,5.5s
HHC LR LR
comp=N,240nm,13.1s
HHC LR LR
comp=E,170nm,17.8s
HHC LR LR
comp=Z,130nm,14.3s
CD2 Chengdu 60.08 75 ⇑*i*P **P** **12 24 40.3 +0.4**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
LSZ Lusaka 60.72 178 *e*P **P** **12 24 44.2 -0.3**
LSZ pmax pmax
comp=Z,15nm,1.0s,mb4.8
LSZ Lusaka 60.72 178 *e*P **P** **12 24 44.2 -0.3**
comp=Z,15nm,1.0s,mb4.8
XAN Xi'an 61.60 69 P **P** **12 24 50.1 -0.1**
XAN AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
BILL Bilibino 62.59 16 *e*P **P** **12 24 54.9 -1.4**
BILL *e* pP 12 25 29.3 +0.5
BILL *e**SP sP 12 25 42.3 -1.2
BILL *e* 12 27 10.7
BILL *e*S **S** **12 33 10.0 -1.6**
BILL pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
KMI Kunming 63.02 81 P **P** **12 25 00.1 +0.4**
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
ENH Enshi 64.33 72 *e*P **P** **12 25 07.8 -0.3**
comp=Z,14nm,0.8s,mb4.8
GYA Guiyang 64.86 77 ⇑*i*P **P** **12 25 11.3 -0.4**
GYA AP pP 12 25 45.1 +0.8
GYA SCP 12 29 30.8
GYA S **S** **12 33 40.3 +0.1**
GYA SCS ScS 12 34 48.5 -0.9
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,70nm,3.9s
FCC Fort Churchill 65.00 330 P **P** **12 25 10.4 -1.7**
FCC pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
FCC Fort Churchill 65.00 330 P **P** **12 25 10.4 -1.6**
comp=Z,5.2nm,1.0s,mb4.3
TSUM Tsumeb 65.13 189 *e*P **P** **12 25 12.2 -1.4**
comp=Z,3.5nm,0.8s,mb4.2
KLR Kul'dur 65.23 44 *e*P **P** **12 25 11.0 -2.7**
INK Inuvik 65.33 352 *e*P **P** **12 25 13.0 -1.0**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 65.33 352 *e*P **P** **12 25 13.0 -1.0**
comp=Z,6.9nm,1.2s,mb4.4
CN2 Changchun 65.52 52 *e*P **P** **12 25 15.3 -0.4**
CN2 *e*AP pP 12 25 46.3 -2.0
CN2 *e*S S 12 33 47.6 -0.4
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
MDJ Mudanjiang 67.22 49 P **P** **12 25 23.3 -3.1**
MDJ AMB AMB
comp=Z,10.0nm,1.9s,mb4.3
MDJ AMB AMB
comp=Z,90nm,4.4s
YKA Yellowknife Ar 67.77 342 P **P** **12 25 28.6 -0.8**
comp=Z,1.2nm,0.5s,mb3.9,baz=30,slow=5.8,SNR=15
YKA pP pP 12 26 02.4 +0.1
comp=Z,3.3nm,0.7s,baz=28,slow=6.0,SNR=14
NJ2 Nanjing 69.28 65 *e*P **P** **12 25 40.4 +1.1**
NJ2 AP pP 12 26 11.5 -0.8
NJ2 XP sP 12 26 24.9 -2.1
NJ2 PP PP 12 28 19.9 +4.0
NJ2 S S 12 34 38.0 +4.8
NJ2 XS 12 35 32.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,280nm,11.6s
NJ2 LR LR
comp=N,810nm,23.6s
NJ2 LR LR
comp=E,620nm,26.3s
NJ2 LR LR
comp=Z,270nm,22.2s
COLA College 69.66 357 P **P** **12 25 40.2 -0.8**
COLA pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
COLA College 69.66 357 P **P** **12 25 40.2 -0.8**
comp=Z,2.1nm,0.9s,mb3.9
ILAR Eielson Array 69.73 357 P **P** **12 25 41.6 +0.2**
comp=Z,0.5nm,0.7s,baz=4.9,slow=4.9,SNR=8.0
DAWY Dawson 70.00 354 *e*P **P** **12 25 43.2 +0.1**
DAWY *e*pP pP 12 26 13.8 -2.4
LBTB Lobatse 70.40 181 *e*P **P** **12 25 46.2 0.0**
LBTB pmax pmax
comp=Z,18nm,0.8s,mb4.8
LBTB Lobatse 70.40 181 *e*P **P** **12 25 46.1 0.0**
comp=Z,18nm,0.8s,mb4.8
SSE Sheshan 71.40 64 *e*P **P** **12 25 49.9 -2.1**
SSE PCP PcP 12 26 09.3 -1.7
SSE AP pP 12 26 23.8 -1.5
SSE XP sP 12 26 39.9 0.0
SSE PP PP 12 28 29.0 -4.7
SSE S S 12 34 55.4 -2.3
SSE XS 12 35 53.4
SSE AMB AMB
comp=Z,50nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,200nm,4.3s
SSE LR LR
comp=N,30nm,19.0s
SSE LR LR
comp=E,50nm,19.0s
SSE LR LR
comp=Z,50nm,20.3s
ULM Lac du Bonnet 72.22 325 P **P** **12 25 55.5 -1.0**
comp=Z,2.6nm,0.7s,mb4.1,baz=10,slow=3.5,SNR=7.6
ULM pP pP 12 26 29.9 +0.1
comp=Z,3.7nm,0.9s,baz=67,slow=5.8,SNR=5.1
ULM Lac du Bonnet 72.22 325 P **P** **12 25 55.5 -1.0**
ULM pP pP 12 26 29.9 +0.1
NEW Newport 81.18 336 P **P** **12 26 46.9 +0.5**
comp=Z,0.8nm,0.5s,mb3.6,baz=76,slow=12,SNR=2.7
NEW pP pP 12 27 21.4 +1.0
comp=Z,3.4nm,0.9s,baz=34,slow=3.6,SNR=4.3
BW06 Boulder Array 83.66 329 *e*P **P** **12 26 59.1 0.0**
comp=Z,1.5nm,0.8s,mb3.8
BW06 *e*pP pP 12 27 34.8 +1.4
BW06 Boulder Array 83.66 329 *e*P **P** **12 26 59.1 0.0**
comp=Z,1.5nm,0.8s,mb3.8
BW06 *e*pP pP 12 27 34.8 +1.5
PDAR Pinedale Array 83.66 329 P **P** **12 26 59.4 +0.3**
comp=Z,1.7nm,0.9s,mb3.8,baz=40,slow=4.4,SNR=12
PDAR pP pP 12 27 34.8 +1.5
comp=Z,1.5nm,0.8s,baz=45,slow=4.2,SNR=6.3
PDAR LR LR 13 05 26.6
comp=Z,100nm,18.4s,baz=112,slow=36
BMO Blue Mountains 84.33 335 *e*P **P** **12 27 02.1 -0.3**
comp=Z,5.4nm,0.8s,mb4.3
BMO *e*pP pP 12 27 36.5 -0.2
BMO Blue Mountains 84.33 335 *e*P **P** **12 27 02.2 -0.2**
comp=Z,5.4nm,0.8s,mb4.3
BMO *e*pP pP 12 27 36.5 -0.2
ANMO Albuquerque 89.21 323 P **P** **12 27 26.0 -0.3**
comp=Z,0.9nm,0.9s,mb3.7,baz=25,slow=6.2,SNR=3.6
BDFB Brasilia 90.71 248 P **P** **12 27 33.8 +0.1**
comp=Z,3.8nm,0.7s,mb4.5,baz=58,slow=6.0,SNR=5.0
TXAR Lajitas Array 92.74 318 P **P** **12 27 42.7 -0.1**
comp=Z,0.4nm,0.8s,mb3.6,baz=90,slow=5.0,SNR=4.4
TXAR pP pP 12 28 16.4 -1.2
comp=Z,0.5nm,0.9s,baz=63,slow=8.4,SNR=3.9
TXAR LR LR 13 09 27.2
comp=Z,107nm,18.7s,baz=255,slow=35
TXAR Lajitas Array 92.74 318 P **P** **12 27 42.7 -0.1**
TXAR pP pP 12 28 16.4 -1.2
TXAR LR LR 13 09 27.2
CTAO Charters Tower 124.69 84 PKIKP PKPdf 12 33 29.4 +0.7
VNDA Vanda 143.58 165 PKhKP 12 33 58.6
comp=Z,1.3nm,0.7s,baz=301,slow=5.6,SNR=7.7
VNDA PKP PKPdf 12 34 03.0 +1.1
comp=Z,1.5nm,0.7s,baz=302,slow=5.3,SNR=14
VNDA Vanda 143.58 165 *e*PKIKP PKPdf 12 34 00.3 -1.6
SBA Scott Base 144.22 167 *e*PKIKP PKPdf 12 34 03.1 +0.1

MAN 13 12:26:12.7, 17.95N×120.58E, h34km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.32**	**156**	*e*P		P 12 26 22.1	+1.3
ABRA				*e*S		S 12 26 28.8	+2.3
PIP	**Pasuquin**	**0.38**	**6**	⇓*i*P		P 12 26 23.0	+1.4
PIP				*e*S		S 12 26 29.6	+1.9
APYP	**Conner**	**0.64**	**97**	*e*P		P 12 26 26.5	+1.3
APYP				*e*S		S 12 26 35.5	+1.2

MAN 13 12:32:43.9, 13.27N×120.15E, h1km, mb4.1, ML2.9, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.47**	**11**	*e*P		P 12 32 53.0	-0.3
LUBP				*e*S		Sg 12 32 58.4	-1.1
PGP	**Puerto Galera**	**0.81**	**73**	⇑*e*P		Pg 12 32 59.1	-1.0
PGP				*e*S		Sg 12 33 09.0	-1.9
SJMP	**San Jose**	**1.24**	**130**	*e*P		Pb 12 33 07.7	-0.1
SJMP				*e*S		Sb 12 33 24.3	+0.2
BUSP	**Coron**	**1.26**	**178**	*e*P		Pb 12 33 08.5	+0.4
BUSP				*e*S		Sb 12 33 25.1	+0.3
BOAC	**Boac**	**1.66**	**83**	*e*P		Pn 12 33 14.0	-0.2
OTRP	**Odiongan**	**2.03**	**116**	*e*P		Pn 12 33 20.0	+0.4
ENPP	**El Nido**	**2.17**	**199**	*e*P		Pn 12 33 21.5	-0.1
ENPP				*e*S		Sn 12 33 47.8	-1.7
CUYO	**Cuyo Island**	**2.55**	**161**	*e*P		Pn 12 33 26.1	-0.9
CUYO				*e*S		Sn 12 33 56.0	-3.1
GUIM	**Jordan**	**3.55**	**138**	*e*P		Pn 12 33 22.7	-19

MEX 13 12:35:09.4±0.8, 18.69N×99.35W, h6km±9km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLIG	**Platanillo**	**0.33**	**206**	*i*P		Pg 12 35 15.3	-0.7
PLIG				*i*S		Sg 12 35 20.3	0.0
PPM	**Popocatepetl**	**0.79**	**61**	*i*P		Pb 12 35 23.1	-2.0
PPM				*i*S		Sg 12 35 35.0	-0.6
ACX	**Acapulco**	**1.89**	**197**	*i*P		Pn 12 35 41.5	-1.1
ACX				*i*S		Sn 12 36 04.5	-2.5

ISC 13 12:36:27.8±0.7, 40.83N±0.05×39.86E±0.06, h11km±6km, n8, σ1§08/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACK	**Trabzon**	**0.13**	**328**	*i*P	**Pg**	**12 36 30.6**	**-0.4**
MACK				*i*S	**Sg**	**12 36 33.9**	**+0.7**
GUMT	**Gumushane**	**0.47**	**218**	*i*PG	**Pg**	**12 36 37.5**	**+0.1**
GUMT				*i*SG	**Sg**	**12 36 43.1**	**-0.8**
KELT	**Kelkit**	**0.82**	**214**	*i*P	**Pb**	**12 36 43.0**	**-0.7**
KELT				*i*S	**Sb**	**12 36 54.2**	**-0.4**
GRSN	**GIRESUNGRSN**	**1.21**	**275**	*i*P	**Pb**	**12 36 48.5**	**-1.8**
GRSN				*i*S	**Sb**	**12 37 07.0**	**+1.3**
EZM	**Erzurum**	**1.48**	**128**	PN	**Pn**	**12 36 56.5**	**+2.0**
ERZM	**Erzurum**	**1.48**	**128**	*i*P	**Pn**	**12 36 55.6**	**+1.0**
ARTV	**Artvin**	**1.61**	**77**	*i*P	**Pn**	**12 36 55.2**	**-1.2**
ARTV				*i*S	**Sn**	**12 37 16.3**	**-0.9**
PTK	**Pertek**	**1.97**	**191**	*e*PN	**Pn**	**12 37 02.9**	**+1.3**

*NEIC **13** 12:40:17.3, 37.22S×176.66E, h221km, MG4.1(WEL), After WEL.*

WEL 13 12:40:16.7±0.2, 37.23S×176.63E, h225km±2km, ML4.1/6, Error ellipse: s-maj=3.0km s-min=2.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.10**	**160**	PN	P	12 40 49.8	-0.2
URZ				SN	S	12 41 15.0	-0.8
URZ	**Urewera**	**1.10**	**160**	P	P	12 40 49.8	-0.2
MWZ	**Matawai**	**1.31**	**148**	PN	P	12 40 51.4	-0.2
MWZ				SN	S	12 41 18.4	-0.2
MWZ	**Matawai**	**1.31**	**148**	P	P	12 40 51.6	0.0
MWZ				S	S	12 41 18.5	-0.1
MXZ	**Matakaoa Point**	**1.38**	**105**	PN	P	12 40 51.7	-0.4
MXZ				SN	S	12 41 18.8	-0.6
MXZ				SN	S	12 41 19.2	-0.2
MXZ	**Matakaoa Point**	**1.38**	**105**	P	P	12 40 51.7	-0.4
MXZ				S	S	12 41 18.8	-0.6
PUZ	**Puketiti**	**1.54**	**124**	PN	P	12 40 53.0	-0.4
PUZ				SN	S	12 41 20.4	-1.4
PUZ	**Puketiti**	**1.54**	**124**	P	P	12 40 53.0	-0.4
BKZ	**Black Stump Fm**	**1.94**	**183**	PN	P	12 40 56.7	-0.2
BKZ				SN	S	12 41 27.7	-0.3
BKZ	**Black Stump Fm**	**1.94**	**183**	P	P	12 40 56.8	-0.1
BKZ				S	S	12 41 27.7	-0.3
KNZ	**Kokohu**	**1.97**	**156**	PN	P	12 40 57.1	-0.1
KNZ				SN	S	12 41 27.2	-1.2
KNZ	**Kokohu**	**1.97**	**156**	P	P	12 40 57.1	-0.1
KNZ				S	S	12 41 27.7	-0.8
OTVZ	**Oturere**	**2.08**	**201**	PN	P	12 40 59.1	+0.8
OTVZ				SN	S	12 41 31.6	+1.2
CNZ	**Chateau**	**2.15**	**203**	PN	P	12 40 59.5	+0.5
TUVZ	**Tukino**	**2.18**	**200**	PN	P	12 40 59.7	+0.4
TUVZ	**Tukino**	**2.18**	**200**	P	P	12 40 59.9	+0.6
WCZ	**Waipu Caves**	**2.24**	**304**	PN	P	12 41 00.3	+0.3
WCZ	**Waipu Caves**	**2.24**	**304**	P	P	12 41 00.3	+0.3
WNVZ	**Wahianoa**	**2.25**	**201**	PN	P	12 41 00.4	+0.3
MOVZ	**Moawhango**	**2.28**	**197**	PN	P	12 41 00.1	-0.3
MOVZ	**Moawhango**	**2.28**	**197**	P	P	12 41 00.1	-0.3
MTVZ	**Mangateitei**	**2.34**	**203**	PN	P	12 41 01.1	+0.1
VRZ	**Vera Road**	**2.40**	**217**	PN	P	12 41 03.0	+1.3
VRZ	**Vera Road**	**2.40**	**217**	*e*P	P	12 41 03.0	+1.4
PXZ	**Pawanui**	**2.81**	**176**	PN	P	12 41 05.2	-0.8
WAZ	**Wanganui**	**2.84**	**207**	PN	P	12 41 06.6	+0.3
WAZ	**Wanganui**	**2.84**	**207**	*e*P	P	12 41 06.6	+0.3
TSZ	**Takapari Road**	**2.88**	**190**	PN	P	12 41 05.9	-0.9
TSZ	**Takapari Road**	**2.88**	**190**	P	P	12 41 03.1	-3.7
BFZ	**Birch Farm**	**3.46**	**185**	PN	P	12 41 12.1	-1.6
BFZ	**Birch Farm**	**3.46**	**185**	P	P	12 41 12.1	-1.5
MRZ	**Mangatainoka R**	**3.53**	**193**	PN	P	12 41 12.4	-1.9
MRZ	**Mangatainoka R**	**3.53**	**193**	P	P	12 41 12.5	-1.8
KIW	**Kapiti Island**	**3.87**	**200**	PN	P	12 41 16.4	-2.0
KIW	**Kapiti Island**	**3.87**	**200**	P	P	12 41 16.5	-1.9
MTW	**Mount Morrison**	**4.02**	**192**	PN	P	12 41 17.8	-2.5
MTW	**Mount Morrison**	**4.02**	**192**	P	P	12 41 17.9	-2.4
CAW	**Cannon Point**	**4.06**	**197**	PN	P	12 41 18.4	-2.3
CAW	**Cannon Point**	**4.06**	**197**	P	P	12 41 18.4	-2.4
DUWZ	**D'Urville Isla**	**4.15**	**210**	PN	P	12 41 19.7	-2.1
TRWZ	**Traveller**	**4.23**	**190**	PN	P	12 41 20.9	-1.9
PAWZ	**Paruwai Farm**	**4.25**	**192**	PN	P	12 41 20.5	-2.7
PAWZ	**Paruwai Farm**	**4.25**	**192**	P	P	12 41 20.5	-2.6
PAWZ				S	S	12 42 11.0	-3.7
MRW	**Makara Radio**	**4.27**	**200**	PN	P	12 41 20.9	-2.4
WEL	**Wellington**	**4.30**	**199**	PN	P	12 41 21.3	-2.4
WEL	**Wellington**	**4.30**	**199**	P	P	12 41 21.3	-2.4
MSWZ	**Moikau Station**	**4.32**	**194**	PN	P	12 41 21.1	-2.8
MSWZ	**Moikau Station**	**4.32**	**194**	P	P	12 41 21.2	-2.7
SNZO	**South Karori**	**4.34**	**200**	PN	P	12 41 21.6	-2.6
SNZO	**South Karori**	**4.34**	**200**	P	P	12 41 21.6	-2.6
BHW	**Baring Head**	**4.39**	**198**	PN	P	12 41 22.1	-2.7
BHW	**Baring Head**	**4.39**	**198**	P	P	12 41 22.2	-2.6
TUWZ	**Tuamarina**	**4.69**	**206**	PN	P	12 41 25.7	-2.8
NNZ	**Nelson**	**4.72**	**211**	PN	P	12 41 26.4	-2.5
NNZ	**Nelson**	**4.72**	**211**	*e*P	P	12 41 26.4	-2.5
QRZ	**Quartz Range**	**4.81**	**220**	PN	P	12 41 27.3	-2.7
QRZ	**Quartz Range**	**4.81**	**220**	*e*P	P	12 41 27.3	-2.7
BSWZ	**Blackbirch Sta**	**4.96**	**205**	PN	P	12 41 29.2	-2.7
BSWZ	**Blackbirch Sta**	**4.96**	**205**	P	P	12 41 29.3	-2.6
THZ	**Tophouse**	**5.37**	**211**	PN	P	12 41 34.1	-2.9
THZ	**Tophouse**	**5.37**	**211**	P	P	12 41 34.2	-2.9
KHZ	**Kahutara**	**5.70**	**204**	PN	P	12 41 38.6	-2.7
DSZ	**Denniston Nort**	**5.86**	**218**	PN	P	12 41 39.3	-3.9

DSZ	**Denniston Nort**	**5.86**	**218**	P	P	12 41 39.3	-3.9
LTZ	**Lake Taylor**	**6.48**	**210**	PN	P	12 41 47.3	-3.9
LTZ	**Lake Taylor**	**6.48**	**210**	P	P	12 41 47.2	-4.0
MQZ	**McQueen's Vall**	**7.15**	**204**	PN	P	12 41 55.4	-4.3
MQZ	**McQueen's Vall**	**7.15**	**204**	P	P	12 41 55.4	-4.3
WVZ	**Waitaha Valley**	**7.38**	**216**	PN	P	12 41 59.1	-3.7
WVZ	**Waitaha Valley**	**7.38**	**216**	*e*P	P	12 41 59.1	-3.7
RPZ	**Rata Peaks**	**7.75**	**212**	PN	P	12 42 03.6	-3.9
RPZ	**Rata Peaks**	**7.75**	**212**	*e*P	P	12 42 03.6	-3.9
FOZ	**Fox Glacier**	**8.25**	**218**	PN	P	12 42 08.6	-5.3
FOZ	**Fox Glacier**	**8.25**	**218**	*e*P	P	12 42 08.7	-5.3
ODZ	**Otahua Downs**	**9.02**	**208**	PN	P	12 42 20.9	-3.0
ODZ	**Otahua Downs**	**9.02**	**208**	*e*P	P	12 42 20.9	-3.0
JCZ	**Jackson Bay**	**9.08**	**219**	PN	P	12 42 20.7	-4.0
JCZ	**Jackson Bay**	**9.08**	**219**	*e*P	P	12 42 20.7	-4.0
WKZ	**Wanaka**	**9.52**	**215**	PN	P	12 42 25.8	-4.4
WKZ	**Wanaka**	**9.52**	**215**	*e*P	P	12 42 25.7	-4.5

*CSEM **13** 12:42:57.6±0.1, 37.19N×20.84E, h40km, ML3.8, Error ellipse: s-maj=4.1km s-min=1.8km az=79.0*
*ATH **13** 12:42:59.1, 37.44N×21.10E, h17km±1km, MD3.9/9, ML3.8*
*NEIC **13** 12:42:59.0, 37.44N×21.11E, h17km, MD3.9(ATH), After ATH.*
*THE **13** 12:43:00.8, 37.37N×21.30E, h9km*
*IDC **13** 12:43:00.9±4.3, 37.09N×20.73E, h58km±28km, mb3.4/4, mb1 3.6/8, mb1mx3.3/25, mbtmp3.6/8, ML3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/13, Error ellipse: s-maj=65.7km s-min=16.7km az=46.0*
*HLW **13** 12:43:01.1, 37.23N×21.20E, h25km, Mb4.1*

ISC 13 12:42:56.6±0.9, 37.33N±0.03×20.98E±0.05, h10km±7km, n48, σ1⚲50/64, mb3.5/4, 3C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.77**	**101**	*e*PB	**Pb**	**12 43 12.3**	**+0.8**
ITM				*e*SB	**Sb**	**12 43 22.9**	**+1.2**
RLS	**Riolos of Patr**	**0.83**	**28**	*e*PB	**Pb**	**12 43 11.9**	**-0.6**
RLS				*e*SB	**Sb**	**12 43 22.1**	**-1.4**
VLS	**Valsamata**	**0.91**	**340**	*e*PN	**Pn**	**12 43 15.0**	**-0.2**
VLS				*e*SN	**Sn**	**12 43 27.6**	**-0.7**
LKD	**Levkas**	**1.41**	**349**	*e*Pg	**Pg**	**12 43 23.7**	**-1.0**
VLI	**Veliai**	**1.68**	**111**	*e*PN	**Pn**	**12 43 29.0**	**+2.8**
VLI				*e*SN	**Sn**	**12 43 51.1**	**+3.2**
EVR	**Evrytania**	**1.72**	**22**	*e*PN	**Pn**	**12 43 28.8**	**+2.0**
EVR				*e*SN	**Sn**	**12 43 49.5**	**+0.6**
KYTH	**Kithira**	**1.95**	**122**	*e*PN	**Pn**	**12 43 34.0**	**+3.9**
AGG	**Agios Georgios**	**2.00**	**32**	*e*Pb	**Pb**	**12 43 33.4**	**+0.7**
AGG	**Agios Georgios**	**2.00**	**32**	*e*Pb	**Pb**	**12 43 33.3**	**+0.7**
NAIG	**Nisos Aigina**	**2.04**	**77**	*e*PN	**Pn**	**12 43 33.0**	**+1.6**
NAIG	**Nisos Aigina**	**2.04**	**77**	*e*Pb	**Pb**	**12 43 32.0**	**-1.3**
LKR	**Lokris**	**2.07**	**50**	*e*PB	**Pb**	**12 43 32.4**	**-1.4**
LKR				*e*SN	**Sn**	**12 43 57.8**	**-0.1**
IGT	**Igoumenitsa**	**2.26**	**347**	*e*Pn	**Pn**	**12 43 40.6**	**+6.0**
ATH	**Athens Observa**	**2.26**	**73**	*e*PN	**Pn**	**12 43 37.0**	**+2.4**
JAN	**Janina**	**2.33**	**358**	*e*PN	**Pn**	**12 43 38.0**	**+2.4**
MPAR	**Parnis Oros**	**2.33**	**68**	*e*PB	**Pb**	**12 43 36.5**	**-1.8**
PTL	**Penteli**	**2.40**	**72**	*e*PB	**Pb**	**12 43 38.2**	**-1.2**
KEK	**Kerkira**	**2.56**	**339**	*e*PN	**Pn**	**12 43 40.9**	**+2.1**
NEO	**Neokhori**	**2.65**	**41**	*e*PB	**Pb**	**12 43 41.5**	**-2.2**
NEO				*e*SN	**Sn**	**12 44 12.8**	**+0.2**
AOS	**Alonnisos**	**2.93**	**50**	*e*PN	**Pn**	**12 43 42.9**	**-1.2**
AOS				*e*Sn	**Sn**	**12 44 18.9**	**-0.8**
LIT	**Litokhoron**	**3.01**	**23**	*e*Pn	**Pn**	**12 43 46.1**	**+0.9**
LIT				*e*Sn	**Sn**	**12 44 23.1**	**+1.3**
PAIG	**Paliouri**	**3.35**	**38**	*e*Pn	**Pn**	**12 43 50.5**	**+0.4**
PAIG				*e*Sn	**Sn**	**12 44 27.9**	**-2.4**
GVD	**Gavdhos**	**3.53**	**134**	Pn	**Pn**	**12 43 55.0**	**+2.3**
GVD				*e*Sn	**Sn**	**12 44 27.5**	**-7.4**
PLG	**Polygyros**	**3.60**	**32**	*e*PN	**Pn**	**12 43 54.7**	**+1.1**
APE	**Apeiranthos**	**3.64**	**93**	*e*PN	**Pn**	**12 43 57.0**	**+2.8**
IDI	**Anoyia**	**3.75**	**122**	P	**Pn**	**12 43 58.8**	**+3.0**
	2.5nm,0.3s,baz=302,slow=20,SNR=6.8						
IDI				S	**Sn**	**12 44 41.1**	**+0.5**
	24nm,0.3s,baz=327,slow=22,SNR=12						
IDI				LR	LR	12 45 26.2	
	comp=Z,131nm,20.9s,baz=128,slow=38						
IDI	**Anoyia**	**3.75**	**122**	S	**Sn**	**12 44 41.1**	**+0.6**
GRG	**Griva**	**3.79**	**16**	*e*Pn	**Pn**	**12 43 56.4**	**+0.1**
OUR	**Ouranopolis**	**3.81**	**37**	*e*Pn	**Pn**	**12 43 58.2**	**+1.6**
OUR				*e*Sn	**Sn**	**12 44 39.5**	**-2.5**
SOH	**Sokhos**	**3.95**	**27**	*e*Pn	**Pn**	**12 43 59.6**	**+1.0**
SOH				*e*Sn	**Sn**	**12 44 45.4**	**-0.1**
SOH	**Sokhos**	**3.95**	**27**	*e*Pn	**Pn**	**12 43 59.6**	**+1.0**
SOH				*e*Sn	**Sn**	**12 44 45.3**	**-0.2**
KNT	**Kendrikon**	**4.11**	**21**	*e*Pn	**Pn**	**12 44 01.2**	**+0.3**
QSH	**Qafa e Shtames**	**4.27**	**349**	*e*Pg	**Pg**	**12 44 12.0**	**-10**
NVR	**Nevrokopi**	**4.60**	**28**	*e*PN	**Pn**	**12 44 08.0**	**+0.2**
SLUM		**6.79**	**148**	⇓*e*P	**Pn**	**12 44 37.2**	**-1.5**
HMAT	**Matruh**	**8.02**	**139**	⇓*e*P	**P**	**12 44 53.2**	**-2.6**
HMAT	**Matruh**	**8.02**	**139**	P	**P**	**12 44 53.2**	**-2.7**
DABA	**Dabaa**	**8.73**	**134**	⇓*e*P	**P**	**12 45 02.9**	**-2.9**
SWA2		**8.88**	**154**	⇓*e*P	**P**	**12 45 05.7**	**-2.3**
SWA1		**8.96**	**152**	⇑P	**P**	**12 45 06.5**	**-2.5**
SWA1				S	**Sn**	**12 46 38.4**	**-13**
MLR	**Muntele Rosu**	**8.97**	**23**	P	**P**	**12 45 12.8**	**+3.7**
	0.4nm,0.3s,baz=166,slow=12,SNR=2.7						
HBRG	**Burj al 'Arab**	**9.97**	**130**	⇑*e*P	**P**	**12 45 20.2**	**-2.7**
BRTR	**Keskin Array B**	**10.20**	**73**	P	**P**	**12 45 27.3**	**+1.2**
	0.3nm,0.3s,baz=257,slow=13,SNR=6.6						
GERES	**GERESS Array B**	**12.68**	**338**	P	**P**	**12 45 59.2**	**-0.5**
	0.1nm,0.3s,baz=167,slow=13,SNR=2.6						
HFS	**Hagfors**	**23.30**	**351**	P	**P**	**12 48 04.6**	**-0.5**
	0.6nm,0.5s,mb3.3,baz=186,slow=13,SNR=3.0						
FINES	**FINESS Array B**	**24.35**	**6**	P	**P**	**12 48 16.4**	**+1.0**
	2.6nm,0.9s,mb3.7,baz=180,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**45.44**	**58**	P	**P**	**12 51 15.7**	**-1.4**
	0.3nm,0.4s,mb3.4,baz=267,slow=6.6,SNR=4.2						
ZAL	**Zalesovo**	**45.98**	**48**	P	**P**	**12 51 20.6**	**-0.8**
	0.5nm,0.4s,mb3.8,baz=254,slow=7.3,SNR=3.3						

MEX 13 12:43:37.5±0.5, 15.20N×95.87W, h15km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.61**	**338**	*i* P	Pb	12 43 47.6	-1.7
HUIG				*i* S	Sb	12 43 55.2	-2.2
VHO	**Vista Hermosa**	**2.04**	**336**	*i* P	Pn	12 44 08.6	-3.2
VHO				*i* S	Sn	12 44 33.7	-3.9
OXX	**Oaxaca**	**2.05**	**336**	*e*P	Pn	12 44 10.0	-1.9
OXX				*i* S	Sn	12 44 35.0	-2.3
CMIG	**Matias Romero**	**2.11**	**27**	*i* P	Pn	12 44 09.1	-3.6
CMIG				*i* S	Sn	12 44 33.9	-4.9

*MAN **13** 13:29:41.5, 19.24N×121.87E, mb4.4, ML3.3, MS3.1*
*IDC **13** 13:29:41.5±1.1, 20.44N×122.58E, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=63.2km s-min=23.3km az=63.0*

ISC 13 13:29:38.0±2.9, 19.56N±0.05×121.9E±0.1, h9km±20km, n13, σ1⚲13/17, mb3.8/7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.32**	**174**	*e*P	**Pb**	**13 30 00.5**	**-1.9**
SGCP				*e*S	**Sb**	**13 30 20.3**	**+1.0**
PIP	**Pasuquin**	**1.73**	**225**	⇓*i*P	**Pn**	**13 30 08.6**	**+0.1**
PIP				*e*S	**Sn**	**13 30 30.9**	**0.0**
APYP	**Conner**	**1.80**	**201**	*e*P	**Pn**	**13 30 08.2**	**-1.3**
APYP				*e*S	**Sn**	**13 30 26.7**	**-6.0**
ABRA	**Dolores**	**2.21**	**211**	*e*P	**Pn**	**13 30 16.0**	**+0.6**
ABRA				*e*S	**Sn**	**13 30 42.5**	**-0.7**
CAUP	**Cauayan**	**2.60**	**182**	*e*P	**Pn**	**13 30 22.6**	**+1.6**
BALP	**Baler**	**3.81**	**185**	*e*P	**Pn**	**13 30 38.5**	**+0.4**
SONM	**Songino Array**	**30.89**	**339**	P	**P**	**13 35 53.9**	**-3.1**
	0.4nm,0.4s,mb3.6,baz=153,slow=6.4,SNR=4.3						
WRA	**Warramunga Arr**	**41.10**	**162**	P	**P**	**13 37 32.6**	**+8.6**
	0.4nm,0.7s,mb3.2,baz=342,slow=9.2,SNR=2.2						
MKAR	**Makanchi Array**	**42.19**	**319**	P	**P**	**13 37 34.4**	**+1.7**
	1.7nm,0.4s,mb4.0,baz=110,slow=8.7,SNR=30						
ZAL	**Zalesovo**	**44.52**	**329**	P	**P**	**13 37 52.3**	**+0.7**
	0.9nm,0.5s,mb3.9,baz=6.5,slow=4.2,SNR=5.5						
BVAR	**Borovoye Array**	**51.71**	**323**	P	**P**	**13 38 48.1**	**+0.6**
	0.9nm,0.6s,mb3.9,baz=108,slow=9.4,SNR=4.7						
FINES	**FINESS Array B**	**75.77**	**330**	P	**P**	**13 41 24.9**	**-0.7**
	2.6nm,0.8s,mb4.2,baz=34,slow=6.9,SNR=4.8						
YKA	**Yellowknife Ar**	**86.95**	**23**	P	**P**	**13 42 23.5**	**-0.8**
	0.7nm,0.5s,mb4.2,baz=308,slow=4.6,SNR=20						

*NDI **13** 13:30:07.0±4.1, 34.39N×73.17E, h10km, MD3.5, ML3.3*
*NNC **13** 13:30:11.0±2.3, 35.25N×72.39E, mpv4.0, Error ellipse: s-maj=34.9km s-min=19.9km az=109.0*

ISC 13 13:30:03.9±1.2, 34.75N±0.08×73.30E±0.08, h34km±35km, n10, σ1⚲01/14, 3C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**1.08**	**181**	P	**P**	**13 30 21.1**	**-1.7**
CEP	**Cherat**	**1.47**	**232**	P	**P**	**13 30 27.2**	**-1.2**
CEP				S	**S**	**13 30 48.0**	**+1.4**
THW	**Thamme Wali**	**2.34**	**214**	P	**P**	**13 30 40.6**	**-0.2**
THN	**Thein Dam**	**3.07**	**138**	*ex*	x	13 30 45.8	
THN				*e*SB	**S**	**13 31 36.3**	**+9.2**
DLH	**Dalhousie**	**3.13**	**134**	*e*SB	**S**	**13 31 35.0**	**+6.3**
SDNR	**Sundarnagar**	**4.47**	**135**	*e*P	**P**	**13 31 12.2**	**+1.1**
SDNR				*e*S	**S**	**13 32 02.0**	**-0.6**
KLP	**Kalpa**	**5.25**	**126**	*e*P	**P**	**13 31 23.0**	**+1.0**
KLP				*e*S	**S**	**13 32 22.1**	**-0.1**
KLP				AML	AML	13 32 58.9	
	comp=N,58nm,0.8s						
KLP				AML	AML	13 32 59.4	
	comp=E,59nm,0.5s						
KK31	**Karatay Array**	**8.62**	**346**	⇑Pn	**P**	**13 32 10.8**	**+1.5**
	comp=E,2.3nm,0.3s,baz=160,slow=12,SNR=45						
KK31				⇓Sn	**S**	**13 33 45.6**	**-0.8**
	comp=E,0.8nm,0.4s,baz=162,slow=22,SNR=6.6						
AB31	**Akbulak array**	**17.53**	**330**	⇑P	**P**	**13 34 06.3**	**-0.8**
	comp=E,0.2nm,0.3s,slow=0.1,SNR=9.8						
AKTO	**Aktyubinsk**	**19.24**	**329**	⇑P	**P**	**13 34 28.1**	**+0.2**
	comp=E,2.1nm,2.4s						

*MAN **13** 13:34:36.9, 19.22N×121.96E, h2km, mb4.6, ML3.5, MS3.4*
*IDC **13** 13:34:44.9±1.3, 21.85N×122.83E, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=68.2km s-min=28.8km az=66.0*

ISC 13 13:34:35.4±3.0, 19.4N±0.1×122.1E±0.1, h22km±24km, n7, σ0⚲50/11, mb3.6/2, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.16**	**182**	*e*P	**Pn**	**13 34 56.4**	**-0.1**
SGCP				*e*S	**Sb**	**13 35 11.1**	**-0.3**
APYP	**Conner**	**1.73**	**207**	*e*P	**Pn**	**13 35 04.8**	**+0.1**
APYP				*e*S	**Sn**	**13 35 25.8**	**-0.5**
PIP	**Pasuquin**	**1.75**	**232**	⇓*i*P	**Pn**	**13 35 04.9**	**-0.1**
PIP				*e*S	**Sn**	**13 35 26.5**	**-0.4**
ABRA	**Dolores**	**2.18**	**217**	*e*P	**Pn**	**13 35 17.7**	**+6.7**
ABRA				*e*S	**Sn**	**13 35 38.3**	**+0.7**
CAUP	**Cauayan**	**2.47**	**186**	*e*P	**Pn**	**13 35 16.2**	**+1.0**
MKAR	**Makanchi Array**	**42.41**	**319**	P	**P**	**13 42 30.3**	**+0.3**
	0.6nm,0.5s,mb3.5,baz=112,slow=8.6,SNR=10						
YKA	**Yellowknife Ar**	**87.03**	**23**	P	**P**	**13 47 19.3**	**-0.7**
	0.3nm,0.5s,mb3.8,baz=308,slow=4.5,SNR=7.6						

ISC 13 13:40:15.0±0.7, 39.45N±0.05×40.77E±0.06, h10km, n7, σ0⚲88/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZM	**Erzurum**	**0.65**	**45**	*i* PG	**Pg**	**13 40 28.3**	**+0.2**
EZM				*i* SG	**Sg**	**13 40 37.9**	**+1.1**
ERZM	**Erzurum**	**0.65**	**45**	*i* P	**Pb**	**13 40 26.9**	**-1.1**
ERZM				*i* S	**Sb**	**13 40 36.0**	**-0.8**
PTK	**Pertek**	**1.20**	**243**	PG	**Pg**	**13 40 37.6**	**-1.5**
KELT	**Kelkit**	**1.36**	**301**	*i* P	**Pb**	**13 40 40.6**	**+0.5**
GUMT	**Gumushane**	**1.41**	**316**	PG	**Pg**	**13 40 43.6**	**+0.3**
BEST	**Besiri**	**1.61**	**166**	*i* P	**Pn**	**13 40 43.0**	**-0.7**
BEST				*i* S	**Sn**	**13 41 05.4**	**+0.8**
ELZG	**Elazig**	**1.68**	**236**	*i* P	**Pn**	**13 40 45.8**	**+1.0**

MAN 13 13:50:37.8, 13.47N×120.16E, h27km, mb3.8, ML2.6, MS2.1, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.28**	**17**	*e*P	Pb	13 50 46.2	+1.5
LUBP				*e*S	Sb	13 50 51.6	+2.3
PGP	**Puerto Galera**	**0.77**	**87**	*e*P	Pb	13 50 52.4	-0.1
SJMP	**San Jose**	**1.37**	**137**	*e*P	Pn	13 51 01.0	-0.4
SJMP				*e*S	Sn	13 51 17.6	-1.1
BUSP	**Coron**	**1.46**	**179**	*e*P	Pn	13 51 03.0	+0.3
BUSP				*e*S	Sn	13 51 18.6	-2.4
BOAC	**Boac**	**1.64**	**90**	*e*P	Sn	13 51 36.5	+11
ENPP	**El Nido**	**2.36**	**198**	*e*P	Pn	13 51 14.8	-0.8
ENPP				*e*S	Sn	13 51 40.9	-3.0

*IDC **13** 13:52:24.8±1.2, 5.13S×150.99E, mb4.1/4, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, ML3.5/2, Error ellipse: s-maj=61.9km s-min=22.3km az=123.0*
*NEIC **13** 13:52:29.2±9.1, 5.24S×150.90E, h26km±61km, mb4.6/3, Error ellipse: s-maj=31.8km s-min=27.6km az=208.0*

ISC 13 13:52:30.4±3.9, 5.3S±0.2×150.9E±0.2, h56km±32km, n16, σ1⚲01/15, mb4.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**223**	Pn	**P**	**13 53 52.6**	**+0.8**
	5.5nm,0.3s,baz=45,slow=9.4,SNR=20						
PMG				Sn	**S**	**13 54 52.8**	**-1.9**
	9.5nm,0.3s,baz=122,slow=22,SNR=3.7						
PMG	**Port Moresby**	**5.51**	**223**	*e*Pn	**P**	**13 53 51.1**	**-0.8**
	56nm,0.5s						
PMG				*e*Sn	**S**	**13 54 56.1**	**+1.4**
CTA	**Charters Tower**	**15.36**	**197**	Pn	**P**	**13 56 05.1**	**-0.1**
	0.2nm,0.3s,baz=21,slow=14,SNR=5.1						
CTAO	**Charters Tower**	**15.36**	**197**	*e*Pn	**P**	**13 56 05.1**	**0.0**
	3.0nm,1.0s						
WB2	**Warramunga Arr**	**21.71**	**227**	*e*P	**P**	**13 57 18.0**	**-0.5**
WRA	**Warramunga Arr**	**21.72**	**227**	P	**P**	**13 57 18.2**	**-0.4**
	2.2nm,0.6s,mb3.8,baz=53,slow=10,SNR=16						
WRA				PcP	PcP	14 01 18.2	-0.4
	0.5nm,0.6s,baz=44,slow=2.1,SNR=6.7						
FITZ	**Fitzroy Crossi**	**27.78**	**241**	*e*P	**P**	**13 58 17.1**	**+0.7**
	3.1nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.78**	**241**	P	**P**	**13 58 17.1**	**+0.7**
	1.6nm,0.3s,mb4.1,baz=60,slow=9.5,SNR=9.6						
STKA	**Stephens Creek**	**27.82**	**197**	P	**P**	**13 58 18.9**	**+2.3**
	2.9nm,1.0s,mb3.9,baz=31,slow=12,SNR=3.0						
MBWA	**Marble Bar**	**34.10**	**240**	*e*P	**P**	**13 59 12.3**	**+0.4**
	7.7nm,0.9s,mb4.6						
KULM	**Kulim**	**51.31**	**281**	P	**P**	**14 01 31.6**	**0.0**
CASY	**Casey**	**66.97**	**197**	P	**P**	**14 03 17.4**	**-1.7**
	5.1nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**83.35**	**22**	P	**P**	**14 04 52.5**	**0.0**
	1.0nm,0.7s,mb4.0,baz=247,slow=5.2,SNR=13						
GERES	**GERESS Array B**	**123.52**	**327**	PKP	PKPdf	14 11 24.2	+2.4
	0.2nm,0.2s,baz=53,slow=6.7,SNR=3.5						
LPAZ	**La Paz**	**135.78**	**120**	PKPdf	PKPdf	14 11 51.4	+5.6
TORD	**Torodi Ar. Bea**	**148.69**	**287**	PKPbc	PKPdf	14 12 15.0	+6.4
	1.8nm,0.7s,baz=72,slow=2.2,SNR=11						

*CASC **13** 14:14:30.0±2.5, 13.35N×90.51W, h35km±16km, MD4.0, mb4.4(NEIC)*
*IDC **13** 14:14:34.7±3.1, 13.84N×89.86W, h97km±33km, mb3.6/9, mb1 3.8/10, mb1mx3.6/22, mbtmp3.9/10, MS3.5/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=43.4km s-min=16.3km az=49.0*
*NEIC **13** 14:14:34.8±1.9, 13.69N×90.01W, h105km±23km, mb4.4/3, Error ellipse: s-maj=32.1km s-min=14.1km az=45.0*

ISC 13 14:14:29.8±0.9, 13.38N±0.08×90.43W±0.07, h79km±7km, n41, σ1⚲21/37, mb4.0/11, 12C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.79**	**359**	⇑*e*P	**P**	**14 14 45.0**	**-1.7**
IXG				*e*S	**S**	**14 14 56.3**	**-2.8**
SBLS	**San Blas**	**0.91**	**60**	⇑*i*P	Px	14 14 53.1	
SBLS				*e*S	Sx	14 15 06.4	
RTR	**El Retiro**	**0.92**	**56**	⇑*i*P	Px	14 14 53.4	
RTR				*e*S	Sx	14 15 06.6	
SNJE	**San Jose**	**0.94**	**59**	⇑*e*P	Px	14 14 53.5	
SNJE				*e*S	Sx	14 15 07.5	
PCG	**Pacaya**	**1.02**	**351**	⇓*e*P	**P**	**14 14 49.6**	**+0.3**
PCG				*e*S	**S**	**14 15 02.2**	**-1.8**
RBDL	**Robledal**	**1.03**	**45**	⇑*e*P	Px	14 14 59.3	
RBDL				*e*S	Sx	14 15 14.1	
BOQS	**Boqueron**	**1.18**	**72**	⇓*e*P	Px	14 14 57.0	
BOQS				*e*S	Sx	14 15 13.6	
NBG	**Las Nubes**	**1.21**	**4**	⇓*e*P	**P**	**14 14 52.9**	**+1.3**
NBG				*e*S	**S**	**14 15 10.0**	**+1.9**
SNET	**Serv Nac Est T**	**1.21**	**75**	*e*P	**P**	**14 14 51.9**	**+0.1**
SNET				*e*S	**S**	**14 15 09.2**	**+1.0**
LFRS	**El Faro**	**1.36**	**79**	⇑*e*P	Px	14 14 58.6	
LFRS				*e*S	Sx	14 15 18.1	
LBRS	**Las Brisas**	**1.40**	**75**	⇑*e*P	Px	14 14 59.7	
LBRS				*e*S	Sx	14 15 17.9	
LCBS	**La Ceiba**	**1.44**	**79**	⇓*e*P	Px	14 15 00.5	
LCBS				*e*S	Sx	14 15 19.4	
MTO2	**Montecristo 2**	**1.46**	**46**	⇑*i*P	Px	14 15 00.1	
MTO2				*e*S	Sx	14 15 20.4	
TP2	**Tecpan 2**	**1.51**	**338**	⇑*e*P	**P**	**14 14 55.1**	**-0.7**
TP2				*e*S	**S**	**14 15 14.0**	**-0.8**
SNVI	**San Vicente**	**1.57**	**81**	⇑*e*P	Px	14 15 02.3	
SNVI				*e*S	Sx	14 15 23.6	
MRL	**Marmol**	**1.83**	**23**	⇑*i*P	**P**	**14 15 00.6**	**+0.7**
MRL				*e*S	**S**	**14 15 23.1**	**+1.0**
VSM	**San Miguel**	**2.10**	**88**	⇓*e*P	Px	14 15 10.1	
VSM				*e*S	Sx	14 15 37.2	
BLLM	**Bellamira**	**2.14**	**88**	⇓*e*P	Px	14 15 10.5	
BLLM				*e*S	Sx	14 15 37.8	
CNCH	**Conchagua**	**2.53**	**92**	⇑*e*P	Px	14 15 15.2	
CNCH				*e*S	Sx	14 15 46.2	
LEON	**Leon**	**3.58**	**105**	*e*P	**P**	**14 15 25.2**	**+0.8**
TEL3	**Telica 3**	**3.59**	**102**	*e*P	**P**	**14 15 24.7**	**+0.2**
TEL3				*e*S	**S**	**14 16 05.7**	**-0.2**
MIRN	**Miramar**	**3.75**	**104**	*e*P	**P**	**14 15 26.9**	**+0.2**
MIRN				*e*S	**S**	**14 16 10.2**	**+0.4**
MOMJ	**Momotombo**	**3.92**	**104**	*e*P	**P**	**14 15 29.6**	**+0.5**
MOMJ				*e*S	**S**	**14 16 13.4**	**-0.7**
COPN	**Copaltepe**	**3.93**	**107**	*e*P	**P**	**14 15 29.2**	**0.0**
COPN				*e*S	**S**	**14 16 13.3**	**-1.2**
TICN	**Ticuantepe**	**4.31**	**108**	*e*P	**P**	**14 15 35.8**	**+1.3**
JTS	**JuntasAbangare**	**6.18**	**119**	P	**P**	**14 16 01.0**	**+0.7**
	1.8nm,0.3s,baz=305,slow=22,SNR=17						
JTS				S	**S**	**14 17 07.5**	**-2.7**
	2.5nm,0.3s,baz=323,slow=20,SNR=4.0						
TXAR	**Lajitas Array**	**20.07**	**324**	P	**P**	**14 19 00.1**	**+0.8**
	3.1nm,0.7s,baz=150,slow=12,SNR=22						
MNTX	**Cornudas Mount**	**22.82**	**325**	*e*P	**P**	**14 19 27.4**	**+0.6**
	11nm,1.1s,mb4.1						
WCI	**Wyandotte Cave**	**25.02**	**8**	*e*P	**P**	**14 19 47.0**	**-1.0**
	18nm,0.7s,mb4.6						
SADO	**Sadowa**	**32.74**	**15**	LR	LR	14 34 42.9	
	comp=Z,84nm,19.7s,baz=122,slow=38						
PDAR	**Pinedale Array**	**33.63**	**334**	P	**P**	**14 21 04.7**	**-0.2**
	0.1nm,0.4s,mb3.0,baz=128,slow=10,SNR=3.0						
ELK	**Elko**	**34.84**	**326**	P	**P**	**14 21 16.3**	**+1.0**
	0.9nm,0.4s,mb3.9,baz=135,slow=8.6,SNR=3.7						
ELK	**Elko**	**34.84**	**326**	P	**P**	**14 21 16.3**	**+1.0**
MNV	**Mina**	**35.02**	**320**	*e*P	**P**	**14 21 18.6**	**+1.8**
	5.8nm,1.1s,mb4.3						
NVAR	**Mina Array Bea**	**35.11**	**320**	P	**P**	**14 21 19.6**	**+2.0**
	3.5nm,0.8s,mb4.2,baz=125,slow=10,SNR=33						
ULM	**Lac du Bonnet**	**37.04**	**354**	P	**P**	**14 21 30.3**	**-3.4**
	2.8nm,0.6s,mb4.3,baz=179,slow=11,SNR=7.1						
ULM				LR	LR	14 39 04.8	
	comp=Z,59nm,18.3s,baz=33,slow=40						
SIV	**San Ignacio**	**41.16**	**134**	P	**P**	**14 22 08.5**	**+0.3**
	3.5nm,0.7s,mb3.9,baz=297,slow=9.7,SNR=7.1						
SCHQ	**Schefferville**	**45.29**	**19**	P	**P**	**14 22 39.0**	**-2.3**
	2.6nm,0.6s,mb4

SONM	**Songino Array**	**28.95**	**55**	P	**P**	**14 25 59.9**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FINES	**FINESS Array B**	**37.60**	**327**	P	**P**	**14 27 15.3**	**+0.8**
	comp=Z,3.8nm,0.9s,mb4.2,baz=112,slow=10,SNR=5.1						
FINES	**FINESS Array B**	**37.60**	**327**	P	**P**	**14 27 15.3**	**+0.8**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**41.38**	**338**	P	**P**	**14 27 46.5**	**+0.9**
	comp=Z,3.3nm,0.9s,mb4.2,baz=108,slow=7.7,SNR=10.0						
ARCES	**ARCESS Array B**	**41.38**	**338**	P	**P**	**14 27 46.5**	**+0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**81.70**	**2**	P	**P**	**14 32 15.8**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.1,baz=353,slow=5.1,SNR=5.2						

*SOF **13** 14:32:23.7, 40.39N×26.09E, h4km, MD3.2*
*ISK **13** 14:32:25.4, 40.42N×26.01E, h11km, MD3.2*
*ATH **13** 14:32:26.9, 40.42N×26.04E, h32km±2km, MD3.5/4*
*CSEM **13** 14:32:26.6±0.1, 40.45N×26.08E, h18km±1km, ML3.5, Error ellipse: s-maj=1.6km s-min=1.1km az=20.0*
*THE **13** 14:32:27.8, 40.41N×26.01E, h13km, ML3.5*
*NEIC **13** 14:32:27.0, 40.38N×26.20E, h11km, MD3.5(ATH), MD3.2(SOF), ML3.2(ISK), After ISK.*

ISC 13 14:32:25.7±0.5, 40.42N±0.02×26.01E±0.02, h8km±3km, n64, σ0§91/85, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.48**	**3**	*e*Pg	**Pg**	**14 32 36.9**	**+1.6**
	comp=Z,38nm,0.3s						
ALN				*e*Sg	**Sg**	**14 32 43.9**	**+2.1**
LPK	**Lapseki**	**0.57**	**95**	*i* PG	**Pg**	**14 32 37.6**	**+0.4**
EZN	**Ezine**	**0.64**	**158**	*i* PG	**Pg**	**14 32 38.4**	**-0.2**
EZN				*i* SG	**Sg**	**14 32 46.6**	**-0.6**
RDO	**Rodhopi**	**0.81**	**334**	*e*PN	**Pn**	**14 32 43.1**	**-0.1**
RDO				*e*SN	**Sn**	**14 32 54.3**	**-1.2**
LIA	**Limnos Island**	**0.82**	**231**	↑*i*PN	**Pn**	**14 32 43.2**	**-0.2**
LIA				*e*SN	**Sn**	**14 32 55.3**	**-0.5**
LOS	**Limnos**	**0.86**	**236**	*e*Pg	**Pg**	**14 32 44.0**	**+1.0**
LOS				*e*Sg	**Sg**	**14 32 56.3**	**+1.7**
RKY	**Sarkoy-Tekirda**	**0.93**	**73**	*i* PG	**Pg**	**14 32 43.3**	**-1.0**
SART	**Tekirdag**	**0.93**	**73**	*i* P	**Pb**	**14 32 42.6**	**-1.0**
SART				*i* S	**Sb**	**14 32 55.6**	**-0.3**
PRK	**Paraskevi**	**1.19**	**170**	*e*PN	**Pn**	**14 32 49.1**	**+0.4**
PRK				*e*SN	**Sn**	**14 33 04.9**	**-0.2**
MRMT	**Marmara Adasi**	**1.22**	**81**	PN	**Pn**	**14 32 48.2**	**-0.9**
AYVA	**Ayvalik**	**1.23**	**155**	*i* P	**Pb**	**14 32 49.4**	**+0.6**
AYVA				*i* S	**Sb**	**14 33 05.2**	**+0.7**
TKR	**Tekirdag**	**1.29**	**63**	PN	**Pn**	**14 32 50.6**	**+0.5**
KDZ	**Kurdzhali**	**1.31**	**340**	*i* P	**Pb**	**14 32 51.0**	**+0.8**
EDC	**Edincik**	**1.41**	**92**	PN	**Pn**	**14 32 51.4**	**-0.5**
BNT	**Bandirma**	**1.46**	**92**	PN	**Pn**	**14 32 52.0**	**-0.5**
EDRB	**Edirne**	**1.53**	**21**	PN	**Pn**	**14 32 53.0**	**-0.5**
OUR	**Ouranopolis**	**1.56**	**267**	*e*Pg	**Pg**	**14 32 54.0**	**-2.8**
	comp=Z,22nm,0.3s						
RZN	**Rozhen**	**1.60**	**323**	*i* P	**Pn**	**14 32 54.7**	**+0.2**
BALB	**Balikesir**	**1.63**	**118**	PN	**Pn**	**14 32 55.4**	**+0.4**
DIM	**Dimitrovgrad**	**1.67**	**348**	P	**Pn**	**14 32 56.0**	**+0.5**
DIM				*i* Pg	**Pg**	**14 32 57.5**	**-1.6**
BTOK	**Tokmak**	**1.68**	**112**	*i* P	**Pn**	**14 32 56.1**	**+0.4**
BTOK				*i* S	**Sn**	**14 33 17.5**	**-0.1**
KCT	**Karacabey**	**1.80**	**94**	PN	**Pn**	**14 32 57.1**	**-0.2**
SLVT	**Silivri**	**1.85**	**63**	PN	**Pn**	**14 32 57.4**	**-0.7**
PAIG	**Paliouri**	**1.86**	**255**	*e*Pb	**Pb**	**14 32 57.9**	**-1.7**
PAIG	**Paliouri**	**1.86**	**255**	*e*Pb	**Pb**	**14 32 57.8**	**-1.7**
NVR	**Nevrokopi**	**1.88**	**300**	*e*PN	**Pn**	**14 32 59.2**	**+0.7**
PLD	**Plovdiv**	**1.95**	**330**	P	**Pn**	**14 33 02.5**	**+3.0**
PLG	**Polygyros**	**1.96**	**269**	*e*PN	**Pn**	**14 32 59.9**	**+0.2**
SRS	**Serrai**	**1.97**	**291**	*e*Pb	**Pb**	**14 33 00.2**	**-1.3**
SRS				*e*Sb	**Sb**	**14 33 24.1**	**-2.0**
CTT	**Catalca**	**1.97**	**68**	PN	**Pn**	**14 32 58.9**	**-0.9**
ELBA	**Catalca**	**1.97**	**68**	*i* P	**Pn**	**14 32 59.3**	**-0.5**
ELBA				*i* S	**Sn**	**14 33 28.0**	**+3.0**
SOH	**Sokhos**	**2.06**	**282**	*e*Pn	**Pn**	**14 33 01.3**	**+0.2**
SOH				*e*Sn	**Sn**	**14 33 27.7**	**+0.4**
AOS	**Alonnisos**	**2.06**	**233**	*e*Pn	**Pn**	**14 33 01.3**	**+0.1**
	comp=Z,3.0nm,0.3s						
AOS				*e*Sn	**Sn**	**14 33 26.9**	**-0.5**
AKS	**Akhisar**	**2.07**	**137**	*e*PN	**Pn**	**14 33 01.7**	**+0.4**
MMB	**Musomiste**	**2.09**	**305**	*i* P	**Pn**	**14 33 01.5**	**0.0**
JMB	**Yambol**	**2.09**	**12**	*i* P	**Pn**	**14 33 02.0**	**+0.5**
URLA	**Izmir**	**2.11**	**167**	*i* P	**Pn**	**14 33 00.8**	**-1.0**
URLA				*i* S	**Sn**	**14 33 32.8**	**+4.3**
DST	**Dursunbey**	**2.17**	**111**	*e*PN	**Pn**	**14 33 03.0**	**+0.4**
BLCB	**Balcova**	**2.18**	**158**	*e*PN	**Pn**	**14 33 03.4**	**+0.5**
BGKT	**Bogazkoy**	**2.23**	**69**	*e*PN	**Pn**	**14 33 02.5**	**-1.0**
KDAG	**Bornova**	**2.24**	**154**	*i* P	**Pn**	**14 33 07.2**	**+3.5**
KDAG				*i* S	**Sn**	**14 33 37.8**	**+6.1**
ORLT	**Orhaneli**	**2.24**	**99**	*e*PN	**Pn**	**14 33 03.4**	**-0.2**
IZM	**Izmir**	**2.24**	**154**	*e*PN	**Pn**	**14 33 03.7**	**0.0**
ISK	**Istanbul-Kandi**	**2.40**	**73**	*e*PN	**Pn**	**14 33 06.0**	**0.0**
ULDT	**Uludag**	**2.40**	**96**	*i* P	**Pn**	**14 33 08.2**	**+2.2**
ULDT				*i* S	**Sn**	**14 33 38.0**	**+2.1**
KLYT	**Kilyos**	**2.44**	**69**	*e*PN	**Pn**	**14 33 07.3**	**+0.7**
KNT	**Kendrikon**	**2.48**	**288**	*e*Pn	**Pn**	**14 33 07.8**	**+0.7**
	comp=Z,6.4nm,0.3s						
KNT				*e*Sn	**Sn**	**14 33 38.4**	**+0.5**
PGB	**Panagyurishte**	**2.54**	**327**	P	**Pn**	**14 33 07.5**	**-0.5**
YLV	**Yalova**	**2.56**	**86**	*e*PN	**Pn**	**14 33 08.0**	**-0.3**
KKB	**Krupnik**	**2.64**	**304**	*i* P	**Pn**	**14 33 10.0**	**+0.6**
MANT	**Manisa**	**2.75**	**134**	*i* P	**Pn**	**14 33 11.2**	**+0.2**
MANT				*i* S	**Sn**	**14 33 44.4**	**-0.5**
GRG	**Griva**	**2.80**	**282**	*e*Pn	**Pn**	**14 33 11.9**	**+0.3**
HRT	**Hereke**	**2.81**	**81**	*e*PN	**Pn**	**14 33 11.8**	**0.0**
SILT	**Silе**	**2.85**	**74**	*e*PN	**Pn**	**14 33 11.2**	**-0.8**
PRD	**Provadia**	**2.96**	**20**	P	**Pn**	**14 33 13.5**	**-0.5**
VTS	**Vitosha**	**3.02**	**317**	*i* P	**Pn**	**14 33 15.0**	**+0.1**
KHL	**Karahalli**	**3.43**	**126**	*e*PN	**Pn**	**14 33 20.5**	**-0.2**
ALT	**Altintas**	**3.44**	**112**	*e*PN	**Pn**	**14 33 21.0**	**+0.2**
BORA	**Eskisehir**	**3.44**	**98**	*i* P	**Pn**	**14 33 20.9**	**+0.1**
BORA				*i* S	**Sn**	**14 33 57.2**	**-5.1**
HENT	**Hendek**	**3.74**	**82**	*i* P	**Pg**	**14 33 38.1**	**-2.3**
HENT				*i* S	**Sb**	**14 34 23.0**	**+5.5**
ESKT	**Eskisehir**	**3.82**	**102**	*e*PN	**Pn**	**14 33 25.8**	**-0.4**
BARS	**Barje**	**3.95**	**309**	↑*i*Pn	**Pn**	**14 33 28.6**	**+0.5**
ISP	**Isparta**	**4.34**	**125**	Pn	**Pn**	**14 33 34.2**	**+0.7**
KIZT	**Kizilcal**	**4.78**	**107**	*e*PN	**Pn**	**14 33 39.5**	**-0.3**

*FUNV **13** 14:43:06.2, 11.26N×61.77W, h26km, MW2.7*
*TRN **13** 14:43:07.4, 11.29N×61.81W, h9km, MD2.8*
*NEIC **13** 14:43:07.4, 11.29N×61.80W, h10km, MD2.8(TRN), After TRN.*

ISC 13 14:43:07.8±0.5, 11.26N±0.04×61.93W±0.03, h33km, n11, σ1§28/21, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.68**	**205**	*e*P	**P**	**14 43 20.5**	**-0.4**
GUIV				*e*S	**S**	**14 43 30.9**	**+0.6**
TRN	**Trinidad (W)**	**0.80**	**140**	↑*i*P	**P**	**14 43 21.8**	**-0.9**
TRN				*e*S	**S**	**14 43 32.2**	**-1.4**
GRW	**Mount Saint Ca**	**0.93**	**16**	*e*P	**P**	**14 43 25.1**	**+0.6**
GRW				*e*S	**S**	**14 43 37.2**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.05**	**153**	*e*P	**P**	**14 43 27.4**	**+1.1**
TPP				*e*S	**S**	**14 43 43.0**	**+3.0**
TPR	**Prospect**	**1.13**	**94**	*e*P	**P**	**14 43 25.6**	**-1.9**
TPR				*e*S	**S**	**14 43 42.2**	**+0.1**
TBH	**Brigand Hill**	**1.15**	**132**	*e*P	**P**	**14 43 28.2**	**+0.6**
TBH				*e*S	**S**	**14 43 44.2**	**+1.8**
ITEV	**Isla Los Testi**	**1.18**	**275**	*e*P	**P**	**14 43 28.4**	**+0.3**
ITEV				*e*S	**S**	**14 43 45.3**	**+2.1**
BOT	**Bacolet**	**1.19**	**95**	*e*P	**P**	**14 43 28.0**	**-0.3**
GUNV	**Guanoco**	**1.48**	**222**	*e*P	**P**	**14 43 31.9**	**-0.5**
GUNV				*e*S	**S**	**14 43 51.0**	**+0.2**
CAOV	**Caicara del Or**	**5.84**	**228**	*e*P	**P**	**14 44 31.3**	**-3.0**
CAOV				*e*S	**S**	**14 45 33.5**	**-7.5**
BAUV	**El Baul**	**6.44**	**250**	*e*P	**P**	**14 44 39.8**	**-3.1**
BAUV				*e*S	**S**	**14 45 48.8**	**-7.3**

IDC 13 15:18:02.9±2.2, 5.53S×150.48E, mb3.6/3, mb1 3.9/3, mb1mx3.7/11, mbtmp3.6/3, Error ellipse: s-maj=79.5km s-min=33.7km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**21.24**	**226**	*e*P	P	15 22 50.6	-2.4
WRA	**Warramunga Arr**	**21.25**	**226**	P	P	15 22 51.0	-2.1
	0.9nm,0.6s,baz=52,slow=11,SNR=16						
SONM	**Songino Array**	**65.73**	**329**	P	P	15 28 49.9	-1.8
	0.3nm,0.4s,baz=148,slow=6.1,SNR=4.1						
ILAR	**Eielson Array**	**83.71**	**23**	P	P	15 30 33.2	-1.5
	0.5nm,0.7s,baz=248,slow=5.7,SNR=8.7						

*STR **13** 15:37:10.4±0.3, 44.73N×3.22E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **13** 15:37:10.6±0.0, 44.76N×3.22E, h5km, Md3.0/2, Ml3.1/35, Error ellipse: s-maj=0.8km s-min=0.7km az=11.0*
*NEIC **13** 15:37:10.6, 44.76N×3.22E, h5km, ML3.1(LDG), ML2.9(STR), After LDG.*
*CSEM **13** 15:37:10.9±0.1, 44.77N×3.24E, h10km, ML3.1/35, Error ellipse: s-maj=1.2km s-min=1.0km az=38.0*

ISC 13 15:37:07.9±0.3, 44.79N±0.01×3.26E±0.02, h7km±2km, n95, σ1§27/258, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBL	**Lubilhac**	**0.45**	**359**	Pg	**Pg**	**15 37 19.8**	**+2.8**
LBL				Sg	**Sg**	**15 37 27.0**	**+4.0**
FRNF	**Fournols**	**0.78**	**321**	Pg	**Pg**	**15 37 25.7**	**+2.2**
COLF	**Collangettes**	**0.79**	**23**	Pg	**Pg**	**15 37 25.7**	**+1.9**
COLF				Sg	**Sg**	**15 37 39.7**	**+5.2**
LASF	**Ste Croix**	**0.83**	**149**	*e*Pn	**Pn**	**15 37 26.5**	**+0.7**
LASF				*e*Sg	**Sg**	**15 37 37.1**	**+1.5**
LASF				*e*Sn	**Sn**	**15 37 39.2**	**+0.9**
	194nm,0.4s						
LASF	**Ste Croix**	**0.83**	**149**	*e*Pg	**Pg**	**15 37 25.3**	**+0.8**
LASF				*e*Pn	**Pn**	**15 37 26.5**	**+0.7**
LASF				*e*Sg	**Sg**	**15 37 37.1**	**+1.5**
LASF				*e*Sn	**Sn**	**15 37 39.2**	**+0.9**
LASF	**Ste Croix**	**0.83**	**149**	*e*Pn	**Pn**	**15 37 26.5**	**+0.7**
LASF				*e*Sg	**Sg**	**15 37 37.1**	**+1.5**
LASF				*e*Sn	**Sn**	**15 37 39.2**	**+0.9**
	97nm,0.4s						
CAF	**Calviac**	**0.86**	**280**	*e*Pn	**Pn**	**15 37 27.7**	**+1.4**
CAF				*e*Sg	**Sg**	**15 37 36.9**	**+0.2**
	172nm,0.4s						
CAF				*e*Sn	**Sn**	**15 37 39.7**	**+0.5**
CAF	**Calviac**	**0.86**	**280**	*e*Pg	**Pg**	**15 37 26.8**	**+1.6**
CAF				*e*Pn	**Pn**	**15 37 27.7**	**+1.4**
CAF				*e*Sg	**Sg**	**15 37 36.9**	**+0.2**
CAF				*e*Sn	**Sn**	**15 37 39.7**	**+0.5**
CAF	**Calviac**	**0.86**	**280**	*e*Pn	**Pn**	**15 37 27.7**	**+1.4**
CAF				*e*Sg	**Sg**	**15 37 36.9**	**+0.2**
	86nm,0.4s						
CAF				*e*Sn	**Sn**	**15 37 39.7**	**+0.5**
VIVF	**Saint-Julien-l**	**1.01**	**85**	*e*Pn	**Pn**	**15 37 29.8**	**+1.5**
VIVF				*e*Sg	**Sg**	**15 37 43.3**	**+1.8**
VIVF				*e*Sn	**Sn**	**15 37 44.5**	**+1.6**
	396nm,0.4s						
VIVF	**Saint-Julien-l**	**1.01**	**85**	*e*Pg	**Pg**	**15 37 29.4**	**+1.3**
VIVF				*e*Pn	**Pn**	**15 37 29.8**	**+1.5**
VIVF				*e*Sg	**Sg**	**15 37 43.3**	**+1.8**
VIVF				*e*Sn	**Sn**	**15 37 44.5**	**+1.6**
VIVF	**Saint-Julien-l**	**1.01**	**85**	*e*Pn	**Pn**	**15 37 29.8**	**+1.5**
VIVF				*e*Sg	**Sg**	**15 37 43.3**	**+1.8**
VIVF				*e*Sn	**Sn**	**15 37 44.5**	**+1.6**
	198nm,0.4s						
VERF	**Verneugheol**	**1.11**	**331**	Pg	**Pg**	**15 37 32.6**	**+2.5**
VERF				Sg	**Sg**	**15 37 47.9**	**+2.9**
PLDF	**La Plantade**	**1.21**	**12**	Pg	**Pg**	**15 37 33.8**	**+1.6**
AGO	**Saint Agoulin**	**1.27**	**356**	Pg	**Pg**	**15 37 35.1**	**+1.8**
AGO				Sg	**Sg**	**15 37 52.9**	**+2.6**
RJF	**Les Rejaudoux**	**1.34**	**293**	*e*Pg	**Pg**	**15 37 35.2**	**+0.4**
RJF				*e*Sg	**Sg**	**15 37 54.3**	**+1.6**
	101nm,0.4s						
RJF	**Les Rejaudoux**	**1.34**	**293**	*e*Pn	**Pn**	**15 37 32.6**	**-0.5**
RJF				*e*Pg	**Pg**	**15 37 35.2**	**+0.4**
RJF				*e*Sg	**Sg**	**15 37 54.3**	**+1.6**
RJF	**Les Rejaudoux**	**1.34**	**293**	*e*Pg	**Pg**	**15 37 35.2**	**+0.4**
RJF				*e*Sg	**Sg**	**15 37 54.3**	**+1.6**
	50nm,0.4s						
MTLF	**Montolieu**	**1.63**	**208**	*e*Pg	**Pg**	**15 37 40.4**	**-0.1**
MTLF				*e*Sn	**Sn**	**15 37 57.6**	**-1.0**
MTLF				*e*Sg	**Sg**	**15 38 00.8**	**-1.4**
	52nm,0.4s						
MTLF	**Montolieu**	**1.63**	**208**	*e*Pn	**Pn**	**15 37 37.6**	**+0.4**
MTLF				*e*Pg	**Pg**	**15 37 40.4**	**-0.1**
MTLF				*e*Sn	**Sn**	**15 37 57.6**	**-1.0**
MTLF				*e*Sg	**Sg**	**15 38 00.8**	**-1.4**
MTLF	**Montolieu**	**1.63**	**208**	*e*Pg	**Pg**	**15 37 40.4**	**-0.1**
MTLF				*e*Sn	**Sn**	**15 37 57.6**	**-1.0**
MTLF				*e*Sg	**Sg**	**15 38 00.8**	**-1.4**
	26nm,0.4s						
TCF	**Toulx Ste Croi**	**1.68**	**334**	*e*Pg	**Pg**	**15 37 42.3**	**+0.9**
TCF				*e*Sn	**Sn**	**15 37 59.7**	**-0.1**
TCF				*e*Sg	**Sg**	**15 38 03.8**	**+0.1**
	35nm,0.4s						
TCF	**Toulx Ste Croi**	**1.68**	**334**	*e*Pn	**Pn**	**15 37 39.2**	**+1.3**
TCF				*e*Pg	**Pg**	**15 37 42.3**	**+0.9**
TCF				*e*Sn	**Sn**	**15 37 59.7**	**-0.1**
TCF				*e*Sg	**Sg**	**15 38 03.8**	**+0.1**
TCF	**Toulx Ste Croi**	**1.68**	**334**	*e*Pg	**Pg**	**15 37 42.3**	**+0.9**
TCF				*e*Sn	**Sn**	**15 37 59.7**	**-0.1**
TCF				*e*Sg	**Sg**	**15 38 03.8**	**+0.1**
	18nm,0.4s						
PRAF	**Pradon**	**1.69**	**125**	Pg	**Pg**	**15 37 42.5**	**+0.9**
PRAF				Sg	**Sg**	**15 38 05.7**	**+1.6**
BGF	**Bois d'Agland**	**1.80**	**351**	*e*Pg	**Pg**	**15 37 44.5**	**+0.7**
BGF				*e*Sn	**Sn**	**15 38 01.9**	**-1.0**
BGF				*e*Sg	**Sg**	**15 38 07.8**	**0.0**
	163nm,0.4s						
BGF	**Bois d'Agland**	**1.80**	**351**	*e*Pn	**Pn**	**15 37 41.0**	**+1.4**
BGF				*e*Pg	**Pg**	**15 37 44.5**	**+0.7**
BGF				*e*Sn	**Sn**	**15 38 01.9**	**-1.0**
BGF				*e*Sg	**Sg**	**15 38 07.8**	**0.0**
BGF	**Bois d'Agland**	**1.80**	**351**	*e*Pg	**Pg**	**15 37 44.5**	**+0.7**
BGF				*e*Sn	**Sn**	**15 38 01.9**	**-1.0**
BGF				*e*Sg	**Sg**	**15 38 07.8**	**0.0**
	82nm,0.4s						
LFF	**La Frestale**	**1.80**	**276**	*e*Pg	**Pg**	**15 37 43.6**	**-0.3**
LFF				*e*Sg	**Sg**	**15 38 06.6**	**-1.3**
	108nm,0.5s						
LFF	**La Frestale**	**1.80**	**276**	*e*Pn	**Pn**	**15 37 40.3**	**+0.6**
LFF				*e*Pg	**Pg**	**15 37 43.6**	**-0.3**
LFF				*e*Sg	**Sg**	**15 38 06.6**	**-1.3**
LFF	**La Frestale**	**1.80**	**276**	*e*Pg	**Pg**	**15 37 43.6**	**-0.3**
LFF				*e*Sg	**Sg**	**15 38 06.6**	**-1.3**
	54nm,0.5s						
SMRF	**Simiane la Rot**	**1.85**	**115**	*e*Pg	**Pg**	**15 37 45.4**	**+0.6**
SMRF				*e*Sn	**Sn**	**15 38 04.3**	**+0.1**
SMRF				*e*Sg	**Sg**	**15 38 09.6**	**+0.2**
	30nm,0.4s						
SMRF	**Simiane la Rot**	**1.85**	**115**	*e*Pn	**Pn**	**15 37 41.8**	**+1.5**
SMRF				*e*Pg	**Pg**	**15 37 45.4**	**+0.6**
SMRF				*e*Sn	**Sn**	**15 38 04.3**	**+0.1**
SMRF				*e*Sg	**Sg**	**15 38 09.6**	**+0.2**
SMRF	**Simiane la Rot**	**1.85**	**115**	*e*Pg	**Pg**	**15 37 45.4**	**+0.6**
SMRF				*e*Sn	**Sn**	**15 38 04.3**	**+0.1**
SMRF				*e*Sg	**Sg**	**15 38 09.6**	**+0.2**
	15nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.87**	**85**	*e*Pg	**Pg**	**15 37 46.6**	**+1.4**
ORIF				*e*Sn	**Sn**	**15 38 04.8**	**+0.1**
ORIF				*e*Sg	**Sg**	**15 38 10.8**	**+0.7**
	30nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.87**	**85**	*e*Pn	**Pn**	**15 37 42.3**	**+1.6**
ORIF				*e*Pg	**Pg**	**15 37 46.6**	**+1.4**
ORIF				*e*Sn	**Sn**	**15 38 04.8**	**+0.1**
ORIF				*e*Sg	**Sg**	**15 38 10.8**	**+0.7**
ORIF	**Oris-en-Rattie**	**1.87**	**85**	*e*Pg	**Pg**	**15 37 46.6**	**+1.4**
ORIF				*e*Sn	**Sn**	**15 38 04.8**	**+0.1**
ORIF				*e*Sg	**Sg**	**15 38 10.8**	**+0.7**
	15nm,0.5s						
SMF	**Signal de Mont**	**1.90**	**12**	*e*Pg	**Pg**	**15 37 46.0**	**0.0**
SMF				*e*Sn	**Sn**	**15 38 05.5**	**-0.2**
SMF				*e*Sg	**Sg**	**15 38 11.5**	**+0.1**
	69nm,0.5s						
SMF	**Signal de Mont**	**1.90**	**12**	*e*Pn	**Pn**	**15 37 42.8**	**+1.6**
SMF				*e*Pg	**Pg**	**15 37 46.0**	**0.0**
SMF				*e*Sn	**Sn**	**15 38 05.5**	**-0.2**
SMF				*e*Sg	**Sg**	**15 38 11.5**	**+0.1**
SMF	**Signal de Mont**	**1.90**	**12**	*e*Pg	**Pg**	**15 37 46.0**	**0.0**
SMF				*e*Sn	**Sn**	**15 38 05.5**	**-0.2**
SMF				*e*Sg	**Sg**	**15 38 11.5**	**+0.1**
	34nm,0.5s						
AVF	**Avril sur Loir**	**2.01**	**2**	*e*Pg	**Pg**	**15 37 48.6**	**+0.6**
AVF				*e*Sn	**Sn**	**15 38 06.4**	**-1.9**
AVF				*e*Sg	**Sg**	**15 38 14.7**	**-0.1**
	34nm,0.4s						
AVF	**Avril sur Loir**	**2.01**	**2**	*e*Pn	**Pn**	**15 37 44.4**	**+1.7**
AVF				*e*Pg	**Pg**	**15 37 48.6**	**+0.6**
AVF				*e*Sn	**Sn**	**15 38 06.4**	**-1.9**
AVF				*e*Sg	**Sg**	**15 38 14.7**	**-0.1**
AVF	**Avril sur Loir**	**2.01**	**2**	*e*Pg	**Pg**	**15 37 48.6**	**+0.6**
AVF				*e*Sn	**Sn**	**15 38 06.4**	**-1.9**
AVF				*e*Sg	**Sg**	**15 38 14.7**	**-0.1**
	17nm,0.4s						
SSF	**Saint Saulge**	**2.28**	**4**	*e*Pg	**Pg**	**15 37 53.5**	**0.0**
SSF				*e*Sn	**Sn**	**15 38 13.7**	**-1.6**
SSF				*e*Sg	**Sg**	**15 38 22.6**	**-1.4**
	28nm,0.4s						
SSF	**Saint Saulge**	**2.28**	**4**	*e*Pn	**Pn**	**15 37 47.6**	**+1.0**
SSF				*e*Pg	**Pg**	**15 37 53.5**	**0.0**
SSF				*e*Sn	**Sn**	**15 38 13.7**	**-1.6**
SSF				*e*Sg	**Sg**	**15 38 22.6**	**-1.4**
SSF	**Saint Saulge**	**2.28**	**4**	*e*Pg	**Pg**	**15 37 53.5**	**0.0**
SSF				*e*Sn	**Sn**	**15 38 13.7**	**-1.6**
SSF				*e*Sg	**Sg**	**15 38 22.6**	**-1.4**
	14nm,0.4s						
TAVF	**Tavernes**	**2.33**	**119**	Pg	**Pg**	**15 37 54.2**	**-0.2**
TAVF				Sg	**Sg**	**15 38 26.2**	**+0.8**
MBDF	**Montbardon**	**2.50**	**90**	*e*Pg	**Pg**	**15 37 58.0**	**+0.1**
MBDF				*e*Sn	**Sn**	**15 38 19.0**	**-1.8**
MBDF				*e*Sg	**Sg**	**15 38 30.3**	**-0.9**
	13nm,0.7s						
MBDF	**Montbardon**	**2.50**	**90**	*e*Pn	**Pn**	**15 37 50.9**	**+1.2**
MBDF				*e*Pg	**Pg**	**15 37 58.0**	**+0.1**
MBDF				*e*Sn	**Sn**	**15 38 19.0**	**-1.8**
MBDF				*e*Sg	**Sg**	**15 38 30.3**	**-0.9**
MBDF	**Montbardon**	**2.50**	**90**	*e*Pg	**Pg**	**15 37 58.0**	**+0.1**
MBDF				*e*Sn	**Sn**	**15 38 19.0**	**-1.8**
MBDF				*e*Sg	**Sg**	**15 38 30.3**	**-0.9**
	6.4nm,0.7s						
LOR	**Lormes**	**2.52**	**9**	*e*Pn	**Pn**	**15 37 51.2**	**+1.2**
	baz=197						
LOR	**Lormes**	**2.52**	**9**	*e*Pg	**Pg**	**15 37 58.3**	**+0.1**
	baz=192						
LOR				*e*Sn	**Sn**	**15 38 20.3**	**-1.0**
LOR				*e*Sg	**Sg**	**15 38 29.7**	**-2.1**
	30nm,0.4s						
LOR	**Lormes**	**2.52**	**9**	*e*Pn	**Pn**	**15 37 51.2**	**+1.2**
LOR				*e*Pg	**Pg**	**15 37 58.3**	**+0.1**
LOR				*e*Sn	**Sn**	**15 38 20.3**	**-1.0**
LOR				*e*Sg	**Sg**	**15 38 29.7**	**-2.1**
LOR	**Lormes**	**2.52**	**9**	*e*Pg	**Pg**	**15 37 58.3**	**+0.1**
LOR				*e*Sn	**Sn**	**15 38 20.3**	**-1.0**
LOR				*e*Sg	**Sg**	**15 38 29.7**	**-2.1**
	15nm,0.4s						
HYF	**Humbligny**	**2.52**	**350**	*e*Pg	**Pg**	**15 37 57.8**	**-0.5**
HYF				*e*Sg	**Sg**	**15 38 30.3**	**-1.6**
LPL	**La Plagne**	**2.56**	**72**	*e*Pg	**Pg**	**15 37 58.0**	**-1.1**
LPL				*e*Sn	**Sn**	**15 38 21.6**	**-0.8**
LPL				*e*Sg	**Sg**	**15 38 32.3**	**-1.0**
	18nm,0.4s						
LPL	**La Plagne**	**2.56**	**72**	*e*Pn	**Pn**	**15 37 52.1**	**+1.5**
LPL				*e*Pg	**Pg**	**15 37 58.0**	**-1.1**
LPL				*e*Sn	**Sn**	**15 38 21.6**	**-0.8**
LPL				*e*Sg	**Sg**	**15 38 32.3**	**-1.0**
LPL	**La Plagne**	**2.56**	**72**	*e*Pg	**Pg**	**15 37 58.0**	**-1.1**
LPL				*e*Sn	**Sn**	**15 38 21.6**	**-0.8**
LPL				*e*Sg	**Sg**	**15 38 32.3**	**-1.0**
	8.8

CDF				*e*Sg	**Sg**	**15 39 34.6**	**-5.3**
	4.9nm,0.4s								
GRR	**Gorron**	**4.59**	**323**	*e*Pn	**Pn**	**15 38 18.9**	**-0.5**
GRR				*e*Sg	**Sg**	**15 39 33.1**	**-7.6**
	12nm,0.5s								
PGF	**Pioggiola**	**4.72**	**116**	*e*Pn	**Pn**	**15 38 20.7**	**-0.6**
SGMF	**Saint Gilles**	**5.31**	**313**	*e*Sg	**Sg**	**15 39 55.9**	**-8.7**
	17nm,0.6s								
BAIF	**Baives**	**5.32**	**7**	*e*Pn	**Pn**	**15 38 29.7**	**0.0**
QUIF	**Quistinic**	**5.44**	**307**	*e*Sg	**Sg**	**15 39 59.8**	**-9.3**
	28nm,0.8s								
ROSF	**Rostrenen**	**5.74**	**311**	*e*Pn	**Pn**	**15 38 34.2**	**-1.4**
ROSF				*e*Sg	**Sg**	**15 40 08.3**	**-11**
	8.2nm,0.5s								

IDC 13 15:40:45.2±2.1, 18.50S×177.78W, h314km±23km, mb3.1/7, mb1 3.5/8, mb1mx3.4/16, mbtmp3.9/8, Error ellipse: s-maj=27.6km s-min=14.2km az=130.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.35**	**52**	P	P	15 42 33.1	+1.4
	14nm,0.3s,baz=68,slow=2.2,SNR=26						
AFI				S	S	15 43 55.2	-0.2
	2.1nm,0.3s,baz=70,slow=22,SNR=3.4						
URZ	**Urewera**	**20.18**	**192**	P	P	15 44 56.4	-1.1
	5.5nm,0.9s,baz=196,slow=5.3,SNR=3.2						
STKA	**Stephens Creek**	**38.88**	**242**	P	P	15 47 40.3	-2.2
	1.9nm,0.9s,baz=125,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**45.12**	**260**	P	P	15 48 31.8	-1.2
	0.5nm,0.5s,baz=98,slow=6.7,SNR=20						
VNDA	**Vanda**	**59.91**	**185**	P	P	15 50 18.7	-1.5
	0.6nm,0.6s,baz=343,slow=8.8,SNR=5.5						
NVAR	**Mina Array Bea**	**79.44**	**43**	P	P	15 52 17.6	-0.9
	0.4nm,0.7s,baz=222,slow=6.0,SNR=4.4						
TXAR	**Lajitas Array**	**85.81**	**57**	P	P	15 52 50.9	-0.2
	0.4nm,0.3s,baz=225,slow=7.7,SNR=4.2						
ILAR	**Eielson Array**	**86.33**	**13**	P	P	15 52 50.8	-2.0
	0.3nm,0.4s,baz=216,slow=5.3,SNR=9.4						

IDC 13 16:03:41.6±1.6, 0.87N×97.33E, mb4.0/6, mb1 4.1/6, mb1mx3.8/20, mbtmp4.0/6, ML2.8/1, Error ellipse: s-maj=49.2km s-min=19.4km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.49**	**40**	Pn	Pn	16 04 22.9	-1.2
	2.0nm,0.3s,baz=188,slow=8.1,SNR=15						
PSI				Sn	Sn	16 04 50.1	-5.6
	6.0nm,0.3s,baz=80,slow=23,SNR=6.3						
FITZ	**Fitzroy Crossi**	**33.63**	**125**	P	P	16 10 24.0	-2.3
	0.9nm,0.8s,baz=352,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**41.75**	**122**	P	P	16 11 32.9	-1.6
	0.7nm,0.5s,baz=301,slow=9.0,SNR=17						
SONM	**Songino Array**	**47.44**	**8**	P	P	16 12 17.6	-2.3
	0.7nm,0.5s,baz=187,slow=10,SNR=8.5						
MKAR	**Makanchi Array**	**47.59**	**346**	P	P	16 12 19.3	-1.8
	1.8nm,0.5s,baz=157,slow=8.0,SNR=12						
ZAL	**Zalesovo**	**53.90**	**351**	P	P	16 13 07.0	-1.9
	3.1nm,0.5s,baz=317,slow=5.7,SNR=15						
BVAR	**Borovoye Array**	**56.60**	**341**	P	P	16 13 25.8	-2.8
	1.2nm,0.6s,baz=140,slow=9.4,SNR=14						

MOS 13 16:18:09.4±1.2, 54.98N×111.67E, h17km, mb4.0/1, 1C-1D, Error ellipse: s-maj=81.6km s-min=38.5km az=60.1, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.31**	**251**	⇓*i*Pg	Pb	16 18 15.8	-0.3
YLYR				*e*		16 18 20.6	
YLYR				pmax	pmax		
	comp=Z,168nm,0.1s						
YLYR				smax			
	comp=E,4μm,0.1s						
YOA	**Uoyan**	**1.16**	**1**	⇑*i*Pg	Pb	16 18 29.2	-1.3
YOA				*i*		16 18 45.2	
YOA				pmax	pmax		
	comp=Z,55nm,0.4s						
YOA				smax			
	comp=N,872nm,0.5s						
UKT	**Uakit**	**1.23**	**65**	*e*PG	Pb	16 18 31.3	-0.5
UKT				*e*		16 18 47.8	
UKT				pmax	pmax		
	comp=Z,67nm,0.2s						
UKT				smax			
	comp=N,289nm,0.3s						
CRS	**Chara**	**4.18**	**60**	*e*PN	Pn	16 19 13.8	-0.2
CRS				*e*		16 19 25.0	
CRS				*e*		16 20 18.7	
CRS				pmax	pmax		
	comp=Z,15nm,1.3s						
CRS				smax			
	comp=E,129nm,1.4s						

*MOS **13** 16:47:10.6±1.4, 55.12N×111.41E, h15km, mb4.3/2, Error ellipse: s-maj=22.3km s-min=9.1km az=69.0*
BYKL 13 16:47:10.3±0.2, 55.03N×111.61E, h15km±4km, 6C-4D, FELT I=II MSK at Ulyunkhan, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.30**	**239**	⇓*i*Pg	Pg	16 47 16.8	-0.1
YLYR				*e*Sg	Sg	16 47 21.6	+0.3
YLYR				Pmax			
	220nm,0.1s						
YLYR				Smax			
	6μm,0.1s						
YLYR	**Ulyunkhan**	**0.30**	**239**	*e*PG	Pg	16 47 16.8	-0.1
YLYR				*e*		16 47 21.6	
YLYR				pmax	pmax		
	comp=Z,261nm,0.2s						
YLYR				smax			
	comp=N,6μm,0.2s						
KMO	**Kumora**	**0.89**	**345**	⇑*i*Pg	Pg	16 47 26.6	-1.7
KMO				*e*Sg	Sg	16 47 38.3	-2.0
KMO				Pmax			
	comp=N,257nm,0.4s						
KMO				Smax			
	comp=N,587nm,1.1s						
KMO	**Kumora**	**0.89**	**345**	⇑*i*PG	Pg	16 47 26.5	-1.8
KMO				*e*		16 47 38.4	
KMO				pmax	pmax		
	comp=Z,252nm,0.4s						
KMO				smax			
	comp=E,539nm,0.8s						
YOA	**Uoyan**	**1.11**	**3**	*e*Pg	Pg	16 47 30.9	-1.7
YOA				*e*Sg	Sg	16 47 46.1	-1.3
YOA				*e*		16 47 50.8	
YOA				Pmax			
	comp=E,300nm,0.2s						
YOA				Smax			
	comp=E,4μm,0.5s						
YOA	**Uoyan**	**1.11**	**3**	⇑*i*PG	Pg	16 47 30.4	-2.2
YOA				*e*		16 47 46.1	
YOA				pmax	pmax		
	comp=Z,214nm,0.3s						
YOA				smax			
	comp=N,3μm,0.5s						
UKT	**Uakit**	**1.24**	**67**	⇑*i*Pg	Pg	16 47 32.3	-3.0
UKT				*e*Pb	Pb	16 47 34.1	+1.2
UKT				*i* Sg	Sg	16 47 48.8	-3.1
UKT				max			
	comp=N,245nm,0.6s						
UKT				Smax			
	comp=N,1μm,0.9s						
UKT	**Uakit**	**1.24**	**67**	*e*PG	Pg	16 47 32.3	-3.0
UKT				*e*		16 47 48.8	
UKT				pmax	pmax		
	comp=Z,226nm,0.3s						
UKT				smax			
	comp=N,875nm,0.3s						
NIZ	**Nizh Angarsk**	**1.40**	**303**	⇑*i*Pg	Pg	16 47 36.0	-2.3
NIZ				*e*Sg	Sg	16 47 54.4	-2.6
NIZ				Pmax			
	comp=N,303nm,0.4s						
NIZ				Smax			
	comp=N,401nm,0.4s						
SVKR	**Severomuysk**	**1.55**	**45**	⇓*i*Pg	Pg	16 47 38.9	-2.5
SVKR				*e*Sg	Sg	16 47 59.9	-2.3
SVKR				Pmax			
	comp=N,480nm,0.3s						
SVKR				Smax			
	comp=N,2μm,0.6s						
SYVR	**Suvo**	**1.67**	**215**	*e*Pg	Pg	16 47 40.6	-3.1
SYVR				*e*		16 47 45.6	
SYVR				*e*Sg	Sg	16 48 02.9	-3.1
SYVR				max			
	comp=N,119nm,0.5s						
SYVR				Smax			
	comp=N,471nm,1.1s						
SYVR	**Suvo**	**1.67**	**215**	⇑*i*PN	Pn	16 47 40.0	+0.7
SYVR				*e*		16 48 01.9	
SYVR				pmax	pmax		
	comp=Z,113nm,0.6s						
SYVR				smax			
	comp=E,321nm,0.5s						
OGRR	**Ongureny**	**2.73**	**241**	*e*Pn	Pn	16 47 54.8	+0.3
OGRR				*e*Pg	Pg	16 47 59.4	-5.5
OGRR				*e*		16 48 29.8	
OGRR				*e*Sg	Sg	16 48 35.1	-6.2
OGRR				Pmax			
	comp=E,31nm,0.4s						
OGRR				Smax			
	comp=E,185nm,0.8s						
OGRR	**Ongureny**	**2.73**	**241**	*e*PN	Pn	16 47 54.8	+0.3
OGRR				*e*		16 47 59.6	
OGRR				*e*		16 48 37.2	
OGRR				pmax	pmax		
	comp=Z,32nm,0.3s						
OGRR				smax			
	comp=N,185nm,0.8s						
NLYR	**Nelyaty**	**2.74**	**56**	⇓*i*Pn	Pn	16 47 54.4	-0.2
NLYR				*e*Pg	Pg	16 47 59.6	-5.4
NLYR				*e*		16 48 21.3	
NLYR				*e*Sg	Sg	16 48 34.6	-7.0
NLYR				Pmax			
	comp=N,46nm,0.5s						
NLYR				Smax			
	comp=N,437nm,0.9s						
NLYR	**Nelyaty**	**2.74**	**56**	*e*PN	Pn	16 47 58.5	+3.9
NLYR				*e*		16 48 33.5	
NLYR				pmax	pmax		
	comp=Z,31nm,0.3s						
NLYR				smax			
	comp=N,440nm,1.0s						
BOD	**Bodaibo**	**3.10**	**24**	*e*Pn	Pn	16 47 59.4	-0.3
BOD				*e*Pg	Pg	16 48 04.8	-7.4
BOD				*e*Sn	Sn	16 48 35.2	-1.5
BOD				*e*Sg	Sg	16 48 44.0	-9.5
BOD				Pmax			
	comp=N,11nm,0.4s						
BOD				Smax			
	comp=N,134nm,1.6s						
CIT	**Chita**	**3.23**	**158**	*e*Pg	Pg	16 48 08.3	-6.5
CIT				*e*		16 48 13.5	
CIT				*e*Sg	Sg	16 48 49.9	-8.0
CIT				max			
	comp=N,38nm,0.4s						
CIT				Smax			
	comp=N,228nm,0.7s						
CIT	**Chita**	**3.23**	**158**	*e*PN	Pn	16 48 06.7	+5.1
CIT				pmax	pmax		
	comp=Z,39nm,0.5s						
TRTB	**Turuntaevo**	**3.67**	**222**	*e*Pg	Pg	16 48 17.0	-6.6
TRTB				*e*Sg	Sg	16 49 05.2	-7.4
TRTB				Pmax			
	comp=Z,18nm,0.4s						
TRTB				Smax			
	comp=Z,141nm,1.7s						
TRG	**Tyrgan**	**3.85**	**236**	*e*Pn	Pn	16 48 10.2	-0.2
TRG				*e*Pg	Pg	16 48 19.2	-8.1
TRG				*e*Sn	Sn	16 48 54.6	-1.3
TRG				*e*Sg	Sg	16 49 09.3	-9.4
TRG				Pmax			
	comp=Z,12nm,0.8s						
TRG				Smax			
	comp=Z,130nm,1.4s						
TRG	**Tyrgan**	**3.85**	**236**	*e*PN	Pn	16 48 10.5	+0.1
TRG				*e*		16 48 19.7	
TRG				*e*S	Sn	16 48 54.9	-1.0
TRG				*e*		16 49 08.5	
TRG				pmax	pmax		
	comp=Z,28nm,0.9s						
TRG				smax			
	comp=E,111nm,0.4s						
FFNB	**Fofonovo**	**4.16**	**226**	*e*	Pn	16 48 22.8	+8.1
FFNB				*e*Sg	Sg	16 49 18.7	-10
FFNB				Smax			
	comp=E,257nm,0.6s						
CRS	**Chara**	**4.18**	**61**	*e*Pn	Pn	16 48 14.6	-0.5
CRS				*e*Pg	Pg	16 48 25.9	-8.0
CRS				*e*Sg	Sg	16 49 19.6	-10
CRS				Pmax			
	comp=E,27nm,0.7s						
CRS				Smax			
	comp=E,436nm,1.3s						
CRS	**Chara**	**4.18**	**61**	*e*PN	Pn	16 48 14.5	-0.6
CRS				*e*		16 48 26.0	
CRS				*e*		16 49 19.7	
CRS				pmax	pmax		
	comp=Z,34nm,0.8s						
CRS				smax			
	comp=E,437nm,1.5s						
HRMR	**Khuramsha**	**4.40**	**221**	*e*	Pn	16 48 28.7	+10
HRMR				*e*Sg	Sg	16 49 28.0	-9.0
HRMR				max			
	comp=E,34nm,0.5s						
HRMR				Smax			
	comp=E,324nm,0.7s						
TUP	**Tupik**	**4.88**	**94**	⇓*i*Pn	Pn	16 48 23.1	-1.8
TUP				*e*Pg	Pg	16 48 37.7	-10
TUP				*e*Sg	Sg	16 49 40.8	-12
TUP				Pmax			
	comp=E,18nm,0.6s						
TUP				Smax			
	comp=E,231nm,1.1s						
TUP	**Tupik**	**4.88**	**94**	*e*PN	Pn	16 48 36.3	+11
TUP				pmax	pmax		
	comp=Z,15nm,0.3s						
LSTR	**Listvyanka**	**5.14**	**235**	*e*Sg	Sg	16 49 48.6	-13
LSTR				Smax			
	comp=Z,63nm,1.3s						
KPC	**Khapcheranga**	**5.36**	**175**	*e*Pg	Pg	16 48 46.3	-11
KPC				*e*Sn	Sn	16 49 32.5	-1.3
KPC				*e*Sg	Sg	16 49 55.7	-13
KPC				Pmax			
	comp=Z,8.0nm,0.5s						
KPC				Smax			
	comp=Z,121nm,1.1s						
KPC	**Khapcheranga**	**5.36**	**175**	*e*PN	Pn	16 48 47.1	+15
KPC				*e*		16 49 56.9	
KPC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KPC				smax			
	comp=E,71nm,1.0s						
TLY	**Talaya**	**5.83**	**238**	*e*Pg	Pg	16 48 54.9	-12
TLY				*e*Sg	Sg	16 50 08.8	-16
TLY				Pmax			
	comp=E,7.0nm,0.2s						
TLY				Smax			
	comp=E,44nm,1.0s						
TLY	**Talaya**	**5.83**	**238**	*e*PN	Pn	16 48 37.5	-0.9
TLY				*e*		16 48 55.0	
ARS	**Arshan**	**6.31**	**244**	*e*	Pn	16 48 44.0	-1.1
ARS				*e*		16 49 04.7	
ARS				*e*Sg	Sg	16 50 23.5	-17
ARS				max			
	comp=E,13nm,0.3s						
ARS				Smax			
	comp=E,195nm,0.8s						
ZAK	**Zakamensk**	**6.87**	**231**	*e*	Pn	16 49 17.8	+25
ZAK				*e*		16 50 22.0	
ZAK				*e*Sg	Sg	16 50 43.3	-16
ZAK				max			
	comp=E,3.0nm,0.8s						
ZAK				Smax			
	comp=E,20nm,1.0s						
MOY	**Mondy**	**7.19**	**246**	*e*	Pn	16 48 56.0	-1.6
MOY				*e*		16 50 16.5	
MOY				*e*Sg	Sg	16 50 50.8	-19
MOY				max			
	comp=E,6.0nm,0.6s						
MOY				Smax			
	comp=E,75nm,1.7s						
MOY	**Mondy**	**7.19**	**246**	*e*PN	Pn	16 48 57.3	-0.3
MOY				*e*S	Sn	16 50 53.1	+33
MOY				smax			
	comp=N,75nm,1.6s						
ORL	**Orlik**	**7.42**	**255**	*e*Pn	Pn	16 48 59.6	-1.2
ORL				*e*		16 50 21.6	
ORL				*e*Sg	Sg	16 50 59.7	-18
ORL				max			
ORL				Smax			
	comp=N,66nm,1.0s						
YAK	**Yakutsk**	**11.73**	**46**	*i* P	P	16 49 51.6	-8.4
BILL	**Bilibino**	**28.01**	**41**	*e*P	P	16 52 56.7	-5.4
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
OBN	**Obninsk**	**41.01**	**302**	*e*P	P	16 54 48.9	-5.0
OBN				*e*		16 56 49.0	
OBN				*e*S	S	17 01 00.0	-5.4
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						

*IDC **13** 16:51:34.6±4.7, 5.25S×145.51E, h70km±39km, mb4.1/4, mb1 4.3/6, mb1mx3.9/14, mbtmp4.4/6, ML4.0/2, MS3.2/4, Ms1 3.2/4, ms1mx3.0/20, Error ellipse: s-maj=31.9km s-min=28.6km az=130.0*
*NEIC **13** 16:51:34.5±3.2, 5.18S×145.34E, h71km±27km, mb4.7/1, Error ellipse: s-maj=31.4km s-min=17.8km az=152.0*
ISC 13 16:51:35.3±3.6, 5.4S±0.2×145.5E±0.1, h93km±32km, n15, σ0s95/13, mb4.3/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.36**	**157**	P	**P**	**16 52 41.3**	**+0.7**
	20nm,0.3s,baz=30,slow=6.9,SNR=65						
PMG				S	**S**	**16 53 29.9**	**-0.7**
	9.6nm,0.3s,baz=8.5,slow=22,SNR=4.4						
CTA	**Charters Tower**	**14.66**	**177**	*e*P	**P**	**16 55 05.3**	**+6.0**
	1.9nm,0.4s						
CTA	**Charters Tower**	**14.66**	**177**	P	**P**	**16 55 04.1**	**+4.8**
	0.7nm,0.3s,baz=22,slow=14,SNR=12						
CTA				LR	LR	17 00 26.2	
	comp=Z,70nm,21.1s,baz=42,slow=36						
WB2	**Warramunga Arr**	**18.09**	**216**	*e*P	**P**	**16 55 41.9**	**-0.1**
WRA	**Warramunga Arr**	**18.09**	**216**	P	**P**	**16 55 41.8**	**-0.3**
	0.8nm,0.3s,baz=38,slow=12,SNR=70						
WRA				PcP	PcP	17 00 12.5	+0.2
	0.1nm,0.3s,baz=20,slow=1.7,SNR=6.9						
GUMO	**Guam**	**18.83**	**358**	LR	LR	17 01 29.0	
	comp=Z,132nm,20.8s,baz=52,slow=32						
FITZ	**Fitzroy Crossi**	**23.14**	**235**	P	**P**	**16 56 35.6**	**+1.4**
	16nm,0.6s,mb4.6,baz=52,slow=9.1,SNR=92						
FITZ				LR	LR	17 06 07.9	
	comp=Z,28nm,19.6s,baz=272,slow=38						
STKA	**Stephens Creek**	**26.63**	**187**	P	**P**	**16 57 08.0**	**+0.8**
	5.8nm,0.7s,mb4.2,baz=351,slow=10,SNR=12						
STKA				LR	LR	17 07 43.2	
	comp=Z,73nm,20.3s,baz=215,slow=36						
STKA	**Stephens Creek**	**26.63**	**187**	P	**P**	**16 57 08.0**	**+0.8**
STKA				LR	LR	17 07 43.2	
MBWA	**Marble Bar**	**29.49**	**235**	*e*P	**P**	**16 57 30.6**	**-2.4**
	24nm,1.3s,mb4.7						
VNDA	**Vanda**	**72.64**	**176**	P	**P**	**17 02 54.5**	**+0.3**
	1.2nm,0.6s,mb3.9,baz=330,slow=8.7,SNR=8.4						
VNDA	**Vanda**	**72.64**	**176**	P	**P**	**17 02 54.5**	**+0.3**
ILAR	**Eielson Array**	**85.50**	**23**	P	**P**	**17 04 03.3**	**-0.4**
	1.5nm,0.8s,mb4.0,baz=258,slow=5.0,SNR=14						
PLCA	**Paso Flores**	**123.48**	**148**	PKP	PKPdf	17 10 25.2	+3.0
	0.8nm,0.5s,baz=141,slow=2.0,SNR=4.4						
DBIC	**Dimbokro**	**150.46**	**274**	PKPbc	PKPdf	17 11 19.9	+8.2
	1.8nm,0.7s,baz=65,slow=4.8,SNR=4.5						

*NNC **13** 17:00:21.3±1.7, 36.43N×67.46E, h33km, mpv3.5, Error ellipse: s-maj=18.4km s-min=13.3km az=133.0*
ISC 13 17:00:17.7±3.4, 36.07N±0.08×67.7E±0.1, h80km±53km, n13, σ0s78/15, 7C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**7.34**	**16**	⇓Pn	**P**	**17 02 04.3**	**+0.1**
	1.1nm,0.3s,baz=191,slow=12,SNR=16						
KK31				⇑Sn	**S**	**17 03 26.2**	**-0.5**
	2.7nm,0.5s,baz=199,slow=24,SNR=4.1						
KK31				⇑Lg		17 04 08.0	
	6.2nm,0.6s,baz=200,slow=29,SNR=4.7						
TKM2	**Tokmak 2**	**9.14**	**39**	⇑Pn	**P**	**17 02 30.0**	**+1.2**
	2.7nm,0.7s						
TKM2				⇑Sn	**S**	**17 04 10.4**	**-0.4**
	3.8nm,0.6s						
AB31	**Akbulak array**	**14.36**	**339**	⇑P	**P**	**17 03 36.7**	**-1.3**
	0.9nm,0.5s,baz=153,slow=12,SNR=14						
KOLN	**Koldanda**	**15.79**	**117**	*e*P	**P**	**17 03 54.8**	**-1.7**
AKTO	**Aktyubinsk**	**15.99**	**337**	P	**P**	**17 03 59.3**	**+0.5**
	3.5nm,3.0s						
GKN	**Gorkha**	**16.41**	**115**	*e*P	**P**	**17 04 04.3**	**0.0**
	14nm,0.8s						
DMN	**Daman**	**16.98**	**115**	*e*P	**P**	**17 04 10.8**	**-0.5**
	11nm,0.6s						
KKN	**Kakani**	**17.01**	**114**	*e*P	**P**	**17 04 11.6**	**-0.1**
	10nm,0.7s						
BVA0	**Borovoye Array**	**17.05**	**5**	⇑P	**P**	**17 04 12.8**	**+0.7**
	1.0nm,1.7s,baz=177,slow=13,SNR=9.5						
PKI	**Pulchoki**	**17.22**	**115**	*e*P	**P**	**17 04 14.3**	**-0.1**
GUN	**Gumba**	**17.39**	**113**	*e*P	**P**	**17 04 17.5**	**+1.0**
	8.3nm,0.5s						
CHKZ	**Chkalovo**	**17.72**	**6**	⇑P	**P**	**17 04 20.5**	**+0.1**
	3.2nm,1.3s						
JIRN	**Jiri**	**17.75**	**113**	*e*P	**P**	**17 04 21.9**	**+0.9**
	18nm,0.8s						

*ATH **13** 17:06:48.8, 38.26N×27.10E, h38km±3km, MD3.1/3*
*CSEM **13** 17:06:49.5±0.1, 38.21N×26.60E, h5km, MD3.0, Error ellipse: s-maj=3.7km s-min=2.1km az=124.0*
*ISK **13** 17:06:50.8, 38.18N×26.66E, h8km, MD3.0*
*NEIC **13** 17:06:50.0, 38.17N×26.67E, h7km, MD3.1(ISK), MD3.1(ATH), After ISK.*
ISC 13 17:06:50.1±0.8, 38.22N±0.02×26.56E±0.05, h2km±6km, n19, σ0s85/27, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.14**	**11**	*i* P	**Pg**	**17 06 52.3**	**-0.6**
URLA				*i* S	**Sg**	**17 06 55.0**	**+0.2**
BLCB	**Balcova**	**0.41**	**67**	PG	**Pg**	**17 06 57.7**	**-0.6**
SMG	**Samos**	**0.56**	**157**	⇑*i*PN	**Pg**	**17 07 01.4**	**+0.1**
SMG				*e*SN	**Sg**	**17 07 10.2**	**+1.5**
IZM	**Izmir**	**0.58**	**72**	*i* PG	**Pg**	**17 07 01.1**	**-0.6**
IZM				*i* SG	**Sg**	**17 07 09.6**	**+0.2**
PRK	**Paraskevi**	**1.05**	**348**	*e*PN	**Pn**	**17 07 10.3**	**-1.3**
PRK				*e*SN	**Sn**	**17 07 26.3**	**-0.6**
AYVA	**Ayvalik**	**1.09**	**5**	*i* P	**Pb**	**17 07 11.4**	**+0.1**
AYVA				*i* S	**Sb**	**17 07 27.6**	**+1.8**
AKS	**Akhisar**	**1.18**	**56**	PN	**Pn**	**17 07 13.8**	**+0.3**
AYDN	**Tasoluk**	**1.18**	**118**	*i* P	**Pb**	**17 07 12.5**	**-0.4**
AYDN				*i* S	**Sb**	**17 07 28.2**	**-0.3**
BODT	**Bodrum**	**1.30**	**153**	PN	**Pn**	**17 07 14.7**	**-0.6**
MLSB	**Milas**	**1.34**	**133**	*e*PN	**Pn**	**17 07 14.7**	**-1.0**
BDRM	**Kayabasi**	**1.35**	**148**	*i* P	**Pb**	**17 07 16.4**	**+0.7**
BDRM				*i* S	**Sb**	**17 07 34.2**	**+0.8**
APE	**Apeiranthos**	**1.41**	**216**	*e*PN	**Pn**	**17 07 18.0**	**+1.2**
MANT	**Manisa**	**1.59**	**80**	*i* P	**Pn**	**17 07 20.1**	**+0.7**
MANT				*i* S	**Sb**	**17 07 40.4**	**0.0**
EZN	**Ezine**	**1.61**	**354**	*e*PN	**Pn**	**17 07 21.4**	**+1.7**
DAT	**Datca**	**1.70**	**151**	*e*PN	**Pn**	**17 07 20.3**	**-0.6**
YER	**Yerkesik**	**1.75**	**128**	*e*PN	**Pn**	**17 07 20.7**	**-0.9**
SANT	**Santorini**	**2.05**	**206**	*e*Pn	**Pn**	**17 07 24.6**	**-1.3**
SANT	**Santorini**	**2.05**	**206**	*e*Pn	**Pn**	**17 07 24.6**	**-1.3**
DALT	**Dalyan (Mudla)**	**2.20**	**131**	*e*PN	**Pn**	**17 07 28.0**	**-0.1**

MAN 13 17:50:14.4, 17.30N×119.85E, h24km, mb3.9, ML2.6, MS2.2, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.90**	**67**	*e*P	Pb	17 50 31.1	-0.1
ABRA				*e*S	Sb	17 50 42.6	-0.1
BOLP	**Bolinao**	**0.91**	**176**	*e*P	Pb	17 50 31.5	0.0
BOLP				*e*S	Sb	17 50 46.2	+3.0
PIP	**Pasuquin**	**1.26**	**36**	⇓*i*P	Pn	17 50 35.9	-0.9

PIP				*e*S	Sn	17 50 50.4	-2.7
APYP	**Conner**	**1.45**	**67**	*e*P	Pn	17 50 39.2	-0.3
APYP				*e*S	Sn	17 50 55.1	-2.7
SCZP	**Santa Cruz**	**1.51**	**178**	*e*P	Pn	17 50 40.3	-0.1
SCZP				*e*S	Sn	17 50 59.5	0.0
CAUP	**Cauayan**	**1.92**	**100**	*e*P	Pn	17 50 49.2	+2.9
BALP	**Baler**	**2.27**	**133**	*e*P	Pn	17 50 50.7	-0.5

IDC 13 18:00:01.1±11.0, 13.99N×91.53W, mb3.7/3, mb1 3.9/4, mb1mx3.7/20, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=241.8km s-min=95.8km az=12.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**18.97**	**326**	P	P	18 04 23.8	-2.6
	0.1nm,0.3s,baz=157,slow=14,SNR=4.3						
NVAR	**Mina Array Bea**	**33.97**	**321**	P	P	18 06 47.0	-1.5
	0.4nm,0.7s,baz=146,slow=9.8,SNR=3.7						
YKA	**Yellowknife Ar**	**51.15**	**346**	P	P	18 09 06.1	-1.5
	1.3nm,0.7s,baz=150,slow=7.4,SNR=22						
INK	**Inuvik**	**60.58**	**343**	P	P	18 10 12.1	-3.4
	1.1nm,0.8s,baz=162,slow=3.2,SNR=4.0						

KRSC 13 18:00:33.4±1.5, 52.68N×160.57E, h18km±2km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.53**	**322**	*i* P	Pb	18 00 45.1	+1.2
SPN				*i* S	Sb	18 00 52.4	+1.3
NLC	**Nalytchevo**	**0.89**	**304**	*e*P	Pb	18 00 50.4	+0.4
NLC				*e*S	Sb	18 01 03.4	+2.0
UGLR	**Uglovaya**	**1.18**	**297**	*e*P	Pb	18 00 55.5	+0.5
PET	**Petropavlovsk**	**1.21**	**287**	*i* P	Pb	18 00 55.5	0.0
PET				*e*S	Sb	18 01 12.2	+1.4
SMAR	**Somma**	**1.22**	**299**	*e*P	Pb	18 00 55.8	+0.2
AVH	**Avacha**	**1.25**	**299**	*e*P	Pn	18 00 56.4	+0.2
RUS	**Russkaya**	**1.28**	**260**	*i* P	Pn	18 00 56.5	-0.1
RUS				*e*S	Sb	18 01 14.0	+1.3
KOK	**Koryaka**	**1.32**	**298**	*e*P	Pn	18 00 57.7	+0.6
GRL	**Gorelyy**	**1.53**	**266**	*e*P	Pn	18 01 00.9	+0.8
GRL				*e*S	Sn	18 01 20.3	+0.7
GNL	**Ganaly**	**1.88**	**304**	*e*P	Pn	18 01 06.4	+1.3
APC	**Apacha**	**2.09**	**278**	*e*P	Pn	18 01 07.0	-1.1
APC				Smax			
	90nm,0.8s						
MIPR	**Malaya Ipel'ka**	**2.37**	**262**	*e*P	Pn	18 01 13.5	+1.4
PAU	**Pauzhetka**	**2.62**	**244**	*e*P	Pn	18 01 16.3	+0.6
TUMR	**Tumrok**	**2.62**	**355**	*e*P	Pn	18 01 15.4	-0.3
KMNR	**Kamenistaya**	**3.09**	**357**	*e*P	Pn	18 01 22.7	+0.3
ZLN	**Zelenaya**	**3.35**	**2**	*e*P	Pn	18 01 28.1	+2.0
KOZ	**Kozyrevsk**	**3.41**	**353**	*e*P	Pn	18 01 26.9	-0.1
LGNR	**Loginova**	**3.41**	**1**	*e*P	Pn	18 01 27.5	+0.5
ESO	**Esso**	**3.43**	**342**	*e*P	Pn	18 01 27.8	+0.5
CIRR	**Tsirk**	**3.44**	**2**	*e*P	Pn	18 01 28.8	+1.4
KLY	**Klyuchi**	**3.64**	**1**	*e*P	Pn	18 01 31.0	+0.8
SRDR	**Sredinnyy**	**3.68**	**353**	*e*P	Pn	18 01 31.6	+0.8
KBTR	**Krutoberegovo**	**3.77**	**19**	*e*P	Pn	18 01 32.3	+0.2
SRKR	**Sorokina**	**4.00**	**5**	*e*P	Pn	18 01 34.7	-0.6
BKI	**Bering**	**4.07**	**49**	*e*S	Sn	18 02 17.7	-6.4
BKI				Smax			
	50nm,0.8s						

IDC 13 18:20:49.0±0.7, 55.49S×128.78W, mb4.3/7, mb1 4.5/7, mb1mx4.3/14, mbtmp4.3/7, MS4.3/12, Ms1 4.3/12, ms1mx4.2/17, Error ellipse: s-maj=28.3km s-min=22.3km az=175.0
NEIC 13 18:20:50.7±0.5, 55.20S×128.66W, h10km, mb4.8/6, Error ellipse: s-maj=14.7km s-min=13.0km az=125.0
ISC 13 18:20:49.0±0.5, 55.07S±0.09×128.7W±0.2, h10km, n52, σ1§28/32, mb4.4/12, MS4.3/12, 3C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.24**	**349**	*e*S	**S**	**18 32 30.9**	**-0.8**
RKT				*e*LR	LR	18 35 45.0	
	2μm,29.5s,baz=181						
VNDA	**Vanda**	**32.60**	**202**	P	**P**	**18 27 22.7**	**+0.4**
	1.5nm,0.9s,mb3.9,baz=114,slow=6.5,SNR=6.1						
USHA	**Ushuaia**	**33.69**	**115**	P	**P**	**18 27 30.7**	**-1.2**
	4.5nm,0.5s,mb4.6,baz=276,slow=10,SNR=5.1						
USHA				LR	LR	18 37 49.1	
	comp=Z,431nm,19.6s,MS4.2,baz=230,slow=30						
QSPA	**South Pole Qui**	**35.11**	**180**	*e*P	**P**	**18 27 44.1**	**+0.2**
	88nm,2.0s,mb5.3						
TBI	**Tubuai**	**35.23**	**326**	*e*LR	LR	18 36 58.1	
	2μm,30.0s,baz=163						
PLCA	**Paso Flores**	**40.35**	**94**	LR	LR	18 41 19.8	
	comp=Z,365nm,18.7s,MS4.3,baz=226,slow=30						
PPT	**Papeete**	**40.69**	**329**	*e*S	**S**	**18 34 40.4**	**-0.7**
PPT				*e*LR	LR	18 39 31.3	
	2μm,27.0s,baz=171						
VNA3	**Neumayer Olymp**	**46.87**	**157**	*e*	**P**	**18 29 22.9**	**+2.5**
VNA3	**Neumayer Olymp**	**46.87**	**157**	*e*	**P**	**18 29 36.5**	**+16**
VNA3	**Neumayer Olymp**	**46.87**	**157**	*e*	Px	18 29 45.4	
VNA3	**Neumayer Olymp**	**46.87**	**157**	⇑*i*P	**P**	**18 29 1.8**	**-1.6**
VNA3				*e*		18 29 36.5	
VNA3				*e*		18 29 45.4	
TAOE	**Nuku Hiva Isla**	**46.98**	**344**	*e*LR	LR	18 42 21.6	
	3μm,25.5s						
TRQA	**Tornquist**	**47.05**	**98**	*e*P	**P**	**18 29 21.5**	**-0.8**
	12nm,1.4s,mb4.6						
VNA2	**Neumayer--Watz**	**47.61**	**158**	*e*	**P**	**18 29 28.8**	**+2.5**
VNA2	**Neumayer--Watz**	**47.61**	**158**	*e*	**P**	**18 29 35.4**	**+9.1**
VNA2	**Neumayer--Watz**	**47.61**	**158**	*e*	**P**	**18 29 41.2**	**+15**
VNA2	**Neumayer--Watz**	**47.61**	**158**	*e*	Px	18 29 50.5	
VNA2	**Neumayer--Watz**	**47.61**	**158**	*e*	Px	18 29 56.9	
VNA2	**Neumayer--Watz**	**47.61**	**158**	⇑*i*P	**P**	**18 29 24.4**	**-1.9**
VNA2				*e*		18 29 35.4	
VNA2				*e*		18 29 41.2	
VNA2				*e*		18 29 50.5	
VNA2				*e*		18 29 56.9	
VNA1	**Neumayer--Stat**	**47.62**	**157**	*e*	**P**	**18 29 29.0**	**+2.6**
VNA1	**Neumayer--Stat**	**47.62**	**157**	*e*	**P**	**18 29 33.8**	**+7.4**
VNA1	**Neumayer--Stat**	**47.62**	**157**	*e*	**P**	**18 29 43.0**	**+17**
VNA1	**Neumayer--Stat**	**47.62**	**157**	P	**P**	**18 29 25.4**	**-1.0**
VNA1				*e*		18 29 33.8	
VNA1				*e*		18 29 43.0	
SNAA	**Sanae**	**47.99**	**160**	*e*	**P**	**18 29 31.1**	**+1.9**
SNAA	**Sanae**	**47.99**	**160**	*e*	**P**	**18 29 37.9**	**+8.7**
SNAA	**Sanae**	**47.99**	**160**	*e*	**P**	**18 29 44.1**	**+15**
SNAA	**Sanae**	**47.99**	**160**	*e*	Px	18 29 52.5	
SNAA	**Sanae**	**47.99**	**160**	P	**P**	**18 29 24.7**	**-4.5**
	1.4nm,0.7s,mb4.1,baz=236,slow=6.5,SNR=14						
SNAA	**Sanae**	**47.99**	**160**	⇑*i*P	**P**	**18 29 27.2**	**-2.0**
SNAA				*e*		18 29 37.9	
SNAA				*e*		18 29 44.1	
SNAA				*e*		18 29 52.5	
MAW	**Mawson**	**57.34**	**185**	P	**P**	**18 30 35.8**	**-3.1**
	4.9nm,0.9s,mb4.5,baz=184,slow=8.3,SNR=4.5						
MAW				LR	LR	18 52 38.6	
	comp=Z,253nm,18.6s,MS4.3,baz=349,slow=34						
LPAZ	**La Paz**	**60.06**	**75**	P	**P**	**18 30 59.3**	**+0.8**
	5.4nm,1.1s,mb4.5,baz=205,slow=5.6,SNR=14						
LPAZ				LR	LR	18 49 39.6	
	comp=Z,109nm,19.9s,MS4.0,baz=244,slow=29						
LPAZ	**La Paz**	**60.06**	**75**	*e*P	**P**	**18 30 58.6**	**+0.1**
	10nm,1.2s,mb4.7						
LPAZ				*e*pP	pP	18 31 09.8	+8.3
LPAZ				LR	LR	18 49 39.6	
STKA	**Stephens Creek**	**64.36**	**251**	LR	LR	18 53 14.4	
	comp=Z,438nm,21.8s,MS4.6,baz=302,slow=30						
OTAV	**Otavalo**	**68.64**	**56**	*e*P	**P**	**18 31 55.5**	**+1.0**
	2.4nm,1.0s,mb4.1						
CTA	**Charters Tower**	**70.95**	**262**	LR	LR	19 00 49.2	
	comp=Z,159nm,18.5s,MS4.3,baz=136,slow=34						
BDFB	**Brasilia**	**72.03**	**92**	LR	LR	18 59 57.6	
	comp=Z,275nm,20.8s,MS4.5,baz=33,slow=33						
ROSC	**El Rosal**	**74.64**	**57**	LR	LR	18 58 55.6	
	comp=Z,145nm,19.9s,MS4.3,baz=240,slow=30						
WB2	**Warramunga Arr**	**77.75**	**253**	*e*P	**P**	**18 32 47.4**	**-0.3**
WRA	**Warramunga Arr**	**77.75**	**253**	P	**P**	**18 32 46.2**	**-1.5**
	2.5nm,0.9s,mb4.2,baz=144,slow=4.8,SNR=14						
PMG	**Port Moresby**	**78.98**	**269**	LR	LR	19 04 03.3	
	comp=Z,168nm,18.4s,MS4.4,baz=318,slow=33						
SDV	**Santo Domingo**	**79.93**	**58**	*e*P	**P**	**18 32 59.0**	**-0.8**
	2.8nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**83.96**	**247**	*e*P	**P**	**18 33 22.1**	**+1.6**
	16nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**83.96**	**247**	P	**P**	**18 33 21.7**	**+1.1**
	3.2nm,0.9s,mb4.4,baz=182,slow=6.3,SNR=7.1						
FITZ				LR	LR	19 05 00.1	
	comp=Z,243nm,21.4s,MS4.5,baz=144,slow=32						
TXAR	**Lajitas Array**	**86.78**	**22**	P	**P**	**18 33 36.5**	**+2.1**
	0.3nm,0.3s,mb4.0,baz=265,slow=16,SNR=2.9						
PDAR	**Pinedale Array**	**98.82**	**14**	LR	LR	19 10 47.4	
	comp=Z,199nm,18.5s,MS4.6,baz=208,slow=30						
GUMO	**Guam**	**98.96**	**281**	LR	LR	19 10 15.2	
	comp=Z,35nm,18.6s,MS3.9,baz=91,slow=30						
ILAR	**Eielson Array**	**120.32**	**351**	PKP	PKPdf	18 39 41.1	-1.3
	1.1nm,0.6s,baz=204,slow=2.3,SNR=17						
TORD	**Torodi Ar. Bea**	**123.25**	**118**	PKP	PKPdf	18 39 46.1	-3.1
	0.5nm,0.7s,baz=270,slow=1.4,SNR=2.5						
ULN	**Ulaanbaatar**	**145.34**	**282**	*e*PKPdf	PKPdf	18 40 28.2	-0.8
SONM	**Songino Array**	**145.69**	**281**	PKPbc	PKPbc	18 40 28.2	+0.8
	5.0nm,0.6s,baz=140,slow=4.0,SNR=23						
GERES	**GERESS Array B**	**156.25**	**90**	PKP	PKPdf	18 40 45.2	-0.2
	1.0nm,0.9s,baz=225,slow=1.9,SNR=6.1						
MKAR	**Makanchi Array**	**158.91**	**260**	PKPab	PKPab	18 41 23.4	-1.0
	1.3nm,0.8s,baz=115,slow=4.9,SNR=6.2						

CSEM 13 18:38:57.1±0.7, 38.72N×28.40W, h5km, ML1.7, Error ellipse: s-maj=5.7km s-min=3.8km az=61.0
PDA 13 18:38:57.1±0.7, 38.72N×28.40W, h5km, MD3.0, ML1.7, Error ellipse: s-maj=5.7km s-min=3.8km az=61.0
SVSA 13 18:38:57.1±0.7, 38.72N×28.40W, h5km, MD3.0, ML1.7, Error ellipse: s-maj=5.7km s-min=3.8km az=61.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**0.12**	**90**	*e*rx		18 39 03.6	
ROSA	**Rosais**	**0.12**	**90**	*e*-		18 39 03.6	
PICO	**Pico**	**0.22**	**186**	*e*P	Pg	18 39 01.4	-0.2
PICO				*e*S	Sg	18 39 04.5	0.0
PCND	**Candelaria**	**0.26**	**192**	*e*P	Pg	18 39 02.0	-0.3
PCND				*e*S	Sg	18 39 05.3	-0.4
	69nm,0.4s						
HOR	**Horta**	**0.27**	**224**	*e*P	Pg	18 39 01.6	-0.9
HOR				*e*S	Sg	18 39 05.6	-0.5
CALA	**Caldeira**	**0.28**	**240**	*e*rx		18 39 06.7	
PBOI	**Pico dos Bois**	**0.28**	**177**	*e*S	Sg	18 39 06.0	-0.6
	31nm,0.3s						

IDC 13 19:01:29.7±0.6, 55.95N×161.53E, mb4.1/20, mb1 4.4/21, mb1mx4.3/25, mbtmp4.1/21, ML4.6/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/23, Error ellipse: s-maj=16.8km s-min=11.1km az=11.0
MOS 13 19:01:34.8±0.9, 55.93N×162.07E, h71km, mb4.7/15, Error ellipse: s-maj=14.9km s-min=7.2km az=91.5
BJI 13 19:01:36.4, 55.41N×161.90E, h94km, mB5.0, mb4.8
KRSC 13 19:01:36.1±0.4, 55.83N×162.00E, h45km±7km, ML4.8
NEIC 13 19:01:39.7±1.9, 55.99N×161.47E, h88km±18km, mb4.4/12, Error ellipse: s-maj=13.4km s-min=11.3km az=166.0
ISC 13 19:01:35.5±0.3, 55.86N±0.02×162.00E±0.05, h75km±2km, n115, σ1§16/131, mb4.2/36, 1C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.57**	**52**	P	**P**	**19 01 48.7**	**-1.0**
KBTR	**Krutoberegovo**	**0.57**	**52**	*i* P	**P**	**19 01 48.8**	**-0.9**
ZLN	**Zelenaya**	**0.69**	**284**	*i* P	**P**	**19 01 50.4**	**-0.5**
CIRR	**Tsirk**	**0.75**	**290**	*i* P	**P**	**19 01 51.0**	**-0.5**
LGNR	**Loginova**	**0.77**	**287**	*i* P	**P**	**19 01 51.7**	**-0.1**
SMKR	**Semkarok**	**0.78**	**338**	*i* P	**P**	**19 01 51.8**	**-0.1**
BDR	**Baidarnaya**	**0.84**	**328**	*i* P	**P**	**19 01 52.7**	**+0.2**
BDR				*i* S	**S**	**19 02 04.6**	**-0.6**
KLY	**Klyuchi**	**0.88**	**301**	P	**P**	**19 01 51.2**	**-1.8**
KLY				S	**S**	**19 02 02.5**	**-3.6**
KLY	**Klyuchi**	**0.88**	**301**	*i* P	**P**	**19 01 51.2**	**-1.8**
KLY				*i* S	**S**	**19 02 02.2**	**-3.9**
SRKR	**Sorokina**	**0.92**	**330**	*i* P	**P**	**19 01 53.7**	**+0.2**
SRKR				*i* S	**S**	**19 02 06.3**	**-0.7**
KMNR	**Kamenistaya**	**1.00**	**265**	*i* P	**P**	**19 01 54.6**	**+0.1**
KMNR				*i* S	**S**	**19 02 08.1**	**-0.7**
KPT	**Kopyto**	**1.01**	**277**	*i* P	**P**	**19 01 54.9**	**+0.3**
KPT				*e*S	**S**	**19 02 08.3**	**-0.6**
KOZR	**Kozyr**	**1.20**	**281**	PN	**P**	**19 01 58.0**	**+0.9**
KOZR				S	**S**	**19 02 14.3**	**+1.0**
TUMR	**Tumrok**	**1.20**	**242**	*i* P	**P**	**19 01 57.7**	**+0.6**
TUMR				*e*S	**S**	**19 02 13.3**	**0.0**
KOZ	**Kozyrevsk**	**1.21**	**280**	P	**P**	**19 01 58.0**	**+0.8**
KOZ				S	**S**	**19 02 14.3**	**+0.8**
KOZ	**Kozyrevsk**	**1.21**	**280**	*i* P	**P**	**19 01 58.1**	**+0.9**
SRDR	**Sredinnyy**	**1.36**	**291**	*i* P	**P**	**19 01 59.6**	**+0.3**
SRDR				*e*S	**S**	**19 02 16.9**	**0.0**
ESO	**Esso**	**1.86**	**273**	*i* P	**P**	**19 02 05.9**	**-0.1**
ESO				Smax			
	710nm,0.8s						
KII	**Karymskiy**	**2.35**	**220**	*e*P	**P**	**19 02 11.9**	**-0.9**
BKI	**Bering**	**2.35**	**105**	*i* P	**P**	**19 02 12.4**	**-0.4**
BKI				*i* S	**S**	**19 02 38.6**	**-1.9**
BKI				Smax			
	490nm,0.6s						
SPN	**Mys Shipunski**	**3.00**	**203**	P	**P**	**19 02 21.3**	**-0.6**
SPN				S	**S**	**19 02 53.7**	**-3.1**
SPN	**Mys Shipunski**	**3.00**	**203**	*i* P	**P**	**19 02 21.4**	**-0.5**
SPN				*i* S	**S**	**19 02 54.9**	**-1.9**
NLC	**Nalytchevo**	**3.11**	**211**	*i* P	**P**	**19 02 23.5**	**+0.1**
NLC				*i* S	**S**	**19 02 58.5**	**-1.0**
GNL	**Ganaly**	**3.20**	**229**	*i* P	**P**	**19 02 25.2**	**+0.5**
SMAR	**Somma**	**3.20**	**217**	*i* P	**P**	**19 02 25.6**	**+0.9**
AVH	**Avacha**	**3.22**	**218**	*i* P	**P**	**19 02 26.2**	**+1.2**
AVH				*e*S	**S**	**19 03 02.2**	**-0.1**
KOK	**Koryaka**	**3.23**	**219**	*e*P	**P**	**19 02 26.4**	**+1.2**
UGLR	**Uglovaya**	**3.24**	**216**	*i* P	**P**	**19 02 26.3**	**+1.1**
OSSR	**Ossora**	**3.45**	**9**	*e*P	**P**	**19 02 28.7**	**+0.6**
PET	**Petropavlovsk**	**3.45**	**216**	P	**P**	**19 02 29.0**	**+0.8**
PET				S	**S**	**19 03 07.0**	**-1.1**
PET	**Petropavlovsk**	**3.45**	**216**	*i* P	**P**	**19 02 28.9**	**+0.7**
PET				*e*S	**S**	**19 03 07.0**	**-1.1**
PET	**Petropavlovsk**	**3.45**	**216**	*e*P	**P**	**19 02 28.9**	**+0.7**
PET				*e*Sn	**S**	**19 03 06.8**	**-1.2**
RUS	**Russkaya**	**4.00**	**212**	P	**P**	**19 02 36.7**	**+0.9**
RUS				S	**S**	**19 03 19.5**	**-2.3**
RUS	**Russkaya**	**4.00**	**212**	*e*P	**P**	**19 02 36.6**	**+0.8**
RUS				*e*S	**S**	**19 03 20.6**	**-1.2**
GRL	**Gorelyy**	**4.04**	**216**	*e*P	**P**	**19 02 37.9**	**+1.5**
GRL				*e*S	**S**	**19 03 23.0**	**+0.3**
APC	**Apacha**	**4.08**	**226**	*i* P	**P**	**19 02 38.1**	**+1.1**
APC				Smax			
	80nm,0.8s						
PAU	**Pauzhetka**	**5.38**	**217**	*e*P	**P**	**19 02 56.2**	**+1.4**
KAMR	**Kamenskoye**	**6.96**	**16**	*e*P	**P**	**19 03 18.9**	**+2.1**
FX1	**Attu Island--F**	**7.17**	**110**	Pn	**P**	**19 03 19.6**	**-0.1**
	32nm,0.3s,baz=11,slow=2.7,SNR=46						
FX1				Sn	**S**	**19 04 36.3**	**-4.1**
	15nm,0.3s,baz=146,slow=19,SNR=8.2						
FX1	**Attu Island--F**	**7.17**	**110**	*e*Pn	**P**	**19 03 19.0**	**-0.8**
FX1				*e*Sn	**S**	**19 04 35.0**	**-5.3**
BILL	**Bilibino**	**12.38**	**8**	*i* PN	**P**	**19 04 35.3**	**+5.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
YAK	**Yakutsk**	**17.64**	**304**	*i* P	**P**	**19 05 38.2**	**+0.9**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
YAK	**Yakutsk**	**17.64**	**304**	*e*Pn	**P**	**19 05 36.5**	**-0.8**
	comp=Z,11nm,0.6s						
HABR	**Khabarovsk**	**18.03**	**257**	⇓*e*P	**P**	**19 05 33.5**	**-8.6**
HABR				pmax	pmax		
	comp=Z,31nm,1.8s						
TIXI	**Tiksi**	**21.10**	**331**	⇑*e*P	**P**	**19 06 17.2**	**+1.9**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,100nm,15.0s						
MDJ	**Mudanjiang**	**23.36**	**255**	*e*P	**P**	**19 06 32.9**	**-4.5**
KDAK	**Kodiak Island**	**24.57**	**67**	LR	LR	19 17 48.0	
	comp=Z,260nm,18.5s,baz=348,slow=40						
MAJO	**Matsushiro**	**25.17**	**230**	*e*P	**P**	**19 06 55.4**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.3						
MAJO	**Matsushiro**	**25.17**	**230**	*e*P	**P**	**19 06 55.4**	**+0.4**
	comp=Z,8.4nm,0.7s,mb4.3						
MJAR	**Matsushiro Arr**	**25.17**	**230**	P	**P**	**19 06 56.3**	**+1.3**
	comp=Z,4.0nm,0.7s,mb3.9,baz=33,slow=7.3,SNR=9.1						
MJAR				LR	LR	19 18 02.0	
	comp=Z,79nm,19.9s,baz=70,slow=40						
BOD	**Bodaibo**	**25.90**	**294**	*e*P	**P**	**19 06 58.4**	**-3.2**
ILAR	**Eielson Array**	**26.11**	**49**	P	**P**	**19 07 05.8**	**+2.3**
	comp=Z,1.1nm,0.6s,mb3.5,baz=260,slow=7.3,SNR=17						
INK	**Inuvik**	**31.02**	**41**	P	**P**	**19 07 49.1**	**+1.6**
	comp=Z,1.2nm,0.6s,mb3.8,baz=117,slow=1.9,SNR=9.2						
SONM	**Songino Array**	**34.42**	**280**	P	**P**	**19 08 18.1**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.7,baz=59,slow=7.2,SNR=9.4						
SONM				PcP	PcP	19 10 51.2	-0.2
	comp=Z,0.5nm,0.5s,baz=95,slow=1.5,SNR=4.8						
SSE	**Sheshan**	**37.77**	**246**	*e*P	**P**	**19 08 41.8**	**-3.8**
SSE				AP	pP	19 09 05.3	+1.3
SSE				XP	sP	19 09 15.4	+2.4
SSE				PP	PP	19 10 09.6	-6.1
SSE				PCP	PcP	19 10 58.0	-3.6
SSE				S	**S**	**19 14 23.3**	**-7.0**
SSE				XS		19 15 03.8	
SSE				SCS	ScS	19 18 44.3	-4.3
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,90nm,3.5s						
SSE				LR	LR		
	comp=N,30nm,36.7s						
SSE				LR	LR		
	comp=E,10.0nm,36.6s						
SSE				LR	LR		
	comp=Z,40nm,36.4s						
JOW	**Kunigami**	**37.84**	**234**	LR	LR	19 22 36.5	
	comp=Z,86nm,22.0s,baz=302,slow=34						
NJ2	**Nanjing**	**38.24**	**250**	*e*P	**P**	**19 08 49.1**	**-0.4**
NJ2				AP	pP	19 09 13.0	+5.1
NJ2				XP	sP	19 09 21.4	+4.6
NJ2				PP	PP	19 10 22.3	+1.2
NJ2				S	**S**	**19 14 35.0**	**-2.4**
NJ2				XS		19 15 14.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,290nm,4.5s						
NJ2				LR	LR		
	comp=N,1μm,37.3s						
NJ2				LR	LR		
	comp=E,830nm,23.4s						
NJ2				LR	LR		
	comp=Z,660nm,34.3s						
YKA	**Yellowknife Ar**	**40.39**	**45**	P	**P**	**19 09 10.2**	**+3.2**
	comp=Z,2.0nm,0.6s,mb4.1,baz=300,slow=7.9,SNR=21						
WMQ	**Urumqi**	**47.14**	**288**	*e*P	**P**	**19 10 03.4**	**+1.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,100nm,5.2s						
WMQ				LR	LR		
	comp=N,90nm,22.0s						
WMQ				LR	LR		
	comp=Z,80nm,22.0s						
MKAR	**Makanchi Array**	**47.99**	**295**	P	**P**	**19 10 07.5**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.8,baz=66,slow=6.3,SNR=9.9						
CHKZ	**Chkalovo**	**49.03**	**308**	*e*P	**P**	**19 10 14.3**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**49.03**	**308**	*e*P	**P**	**19 10 14.3**	**-1.8**
	comp=Z,1.9nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**49.56**	**308**	P	**P**	**19 10 19.6**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=67,slow=7.5,SNR=6.9						
KEV	**Kevo**	**50.54**	**341**	*e*p	**P**	**19 10 27.5**	**0.0**
ARCES	**ARCESS Array B**	**51.00**	**342**	P	**P**	**19 10 31.0**	**0.0**
	comp=Z,1.2nm,0.4s,mb4.2,baz=34,slow=8.7,SNR=12						
MCMT	**McKenzie Canyo**	**52.11**	**64**	*e*P	**P**	**19 10 42.7**	**+3.1**
ARU	**Arti**	**52.13**	**317**	⇓*i*P	**P**	**19 10 40.5**	**+1.0**
ARU				*e*		19 12 38.2	
ARU				*e*PPP	PPP	19 13 44.1	-0.6
ARU				*e*S	**S**	**19 17 59.1**	**+2.7**
ARU				*e*SS	SS	19 21 37.8	+5.1
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**53.81**	**73**	P	**P**	**19 10 56.2**	**+3.9**
	comp=Z,1.2nm,0.6s,mb4.1,baz=308,slow=7.4,SNR=12						
AAK	**Ala-Archa**	**54.87**	**296**	*i* P	**P**	**19 10 59.4**	**-0.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
PDAR	**Pinedale Array**	**55.24**	**64**	P	**P**	**19 11 06.2**	**+3.5**
	comp=Z,1.6nm,0.6s,mb4.2,baz=329,slow=2.8,SNR=16						
JOF	**Joensuu**	**55.52**	**335**	*e*p	**P**	**19 11 05.0**	**+0.6**
ULM	**Lac du Bonnet**	**56.13**	**49**	P	**P**	**19 11 11.2**	**+2.2**
	comp=Z,1.8nm,0.5s,mb4.3,baz=321,slow=9.5,SNR=5.6

VNA3				*e*			19 22 21.0		
VNA3				*e*			19 22 46.6		
VNA3				*e*			19 25 05.3		
VNA2	**Neumayer--Watz**	**164.20**	**193**	*e*		PKPdf	19 22 05.9		+38
VNA2	**Neumayer--Watz**	**164.20**	**193**		PKPdf	PKPdf	19 21 27.5		-0.4
VNA2				*e*			19 21 55.2		
VNA2				*e*			19 22 20.7		
VNA2				*e*			19 22 30.6		
VNA2				*e*			19 22 41.3		
VNA2				*e*			19 22 57.2		
VNA2				*e*			19 25 00.6		
VNA1	**Neumayer--Stat**	**164.56**	**192**	P		PKPdf	19 22 06.4		+38
VNA1	**Neumayer--Stat**	**164.56**	**192**	*e*		PKPab	19 23 00.1		+34

IDC 13 19:14:08.1±3.6, 10.17S×160.01E, mb4.0/4, mb1 4.1/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=89.8km s-min=33.7km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WB2	**Warramunga Arr**	**26.58**	**246**	*eP*		P	19 19 48.9	-1.1
WRA	**Warramunga Arr**	**26.59**	**246**	P		P	19 19 48.3	-1.8
	2.1nm,0.8s,baz=74,slow=9.5,SNR=15							
STKA	**Stephens Creek**	**27.52**	**216**	P		P	19 19 56.7	-1.8
	2.3nm,0.6s,baz=50,slow=7.9,SNR=8.5							
FITZ	**Fitzroy Crossi**	**34.20**	**253**	*eP*		P	19 20 56.0	-1.7
	3.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**34.20**	**253**	P		P	19 20 55.6	-2.1
	1.5nm,0.6s,baz=87,slow=8.8,SNR=9.0							
SONM	**Songino Array**	**74.70**	**326**	P		P	19 25 49.9	-1.6
	0.3nm,0.6s,baz=144,slow=4.8,SNR=2.8							

*ATH **13** 19:23:57.9, 37.80N×27.02E, h18km±1km, MD3.6/7*
*ISK **13** 19:23:57.7, 37.55N×26.96E, h21km, MD3.5*
*CSEM **13** 19:23:57.8±0.1, 37.61N×27.11E, h8km, MD3.6, Error ellipse: s-maj=1.5km s-min=1.2km az=84.0*
*NEIC **13** 19:23:58.0, 37.54N×27.07E, h29km, MD3.6(ATH), MD3.4(ISK), After ISK.*
ISC 13 19:23:57.6±0.5, 37.68N±0.02×27.08E±0.03, h1km±4km, n40, σ1°§34°/59, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SMG	**Samos**	**0.19**	**279**	*i*	⇓*i*	Pg	19 24 02.4	+1.0
SMG				*e*	SB	Sg	19 24 05.8	+1.8
AYDN	**Tasoluk**	**0.64**	**91**	*i*	P	Pg	19 24 09.8	-0.5
AYDN				*i*	S	Sg	19 24 17.8	-1.0
BODT	**Bodrum**	**0.64**	**163**		PG	Pg	19 24 09.7	-0.7
BODT					SG	Sg	19 24 17.9	-1.1
MLSB	**Milas**	**0.68**	**124**		PG	Pg	19 24 11.5	+0.4
BDRM	**Kayabasi**	**0.68**	**154**	*i*	P	Pg	19 24 11.3	+0.2
BDRM				*i*	S	Sg	19 24 20.2	+0.1
URLA	**Izmir**	**0.78**	**331**	*i*	P	Pg	19 24 12.3	-0.9
URLA				*i*	S	Sg	19 24 23.0	-0.5
DAT	**Datca**	**1.03**	**157**		PG	Pg	19 24 16.8	-1.3
YER	**Yerkesik**	**1.10**	**119**		PN	Pn	19 24 19.1	-1.0
AKS	**Akhisar**	**1.33**	**26**		PN	Pn	19 24 22.3	-1.0
APE	**Apeiranthos**	**1.37**	**244**	*e*	PN	Pn	19 24 24.5	+0.6
APE				*e*	SN	Sn	19 24 43.5	+0.6
MANT	**Manisa**	**1.43**	**55**	*i*	P	Pn	19 24 24.7	+0.1
MANT				*i*	S	Sb	19 24 43.0	-0.2
DALT	**Dalyan (Mudla)**	**1.54**	**126**		PN	Pn	19 24 24.2	-2.1
DENT	**Denizli**	**1.56**	**87**		PN	Pn	19 24 26.5	0.0
DNZL	**Cakiroluk**	**1.56**	**89**	*i*	P	Pn	19 24 27.2	+0.5
DNZL				*i*	S	Sb	19 24 44.6	-2.6
AYVA	**Ayvalik**	**1.66**	**350**	*i*	P	Pn	19 24 31.1	+3.1
AYVA				*i*	S	Sb	19 24 49.9	0.0
ARG	**Arkhangelos**	**1.68**	**150**	*e*	PN	Pn	19 24 30.6	+2.2
PRK	**Paraskevi**	**1.69**	**338**	*e*	PN	Pn	19 24 26.9	-1.5
PRK				*e*	SN	Sn	19 24 48.4	-2.6
SANT	**Santorini**	**1.84**	**225**	*e*	Pn	Pn	19 24 29.2	-1.3
SANT				*e*	Sn	Sn	19 24 53.0	-1.8
SANT	**Santorini**	**1.84**	**225**	*e*	Pn	Pn	19 24 29.2	-1.3
SANT				*e*	Sn	Sn	19 24 53.0	-1.7
FETY	**Fethiye**	**1.91**	**122**		PN	Pn	19 24 30.5	-1.1
GOLH	**Golhisar**	**2.03**	**102**	*i*	P	Pg	19 24 39.0	+0.9
GOLH				*i*	S	Sg	19 25 10.0	+4.9
BALB	**Balikesir**	**2.06**	**18**		PN	Pn	19 24 34.6	+0.9
KARP	**Karpathos**	**2.13**	**178**	*e*	PN	Pn	19 24 36.9	+2.2
BTOK	**Tokmak**	**2.21**	**19**	*i*	P	Pn	19 24 38.3	+2.4
BTOK				*i*	S	Sn	19 25 12.3	+8.0
EZN	**Ezine**	**2.22**	**345**		PN	Pn	19 24 35.3	-0.8
DST	**Dursunbey**	**2.28**	**32**		PN	Pn	19 24 37.4	+0.6
GDZ	**Gediz**	**2.36**	**53**	*i*	P	Pn	19 24 41.5	+3.5
GDZ				*i*	S	Sn	19 25 12.0	+4.0
ELL	**Elmali**	**2.44**	**111**	*e*	PN	Pn	19 24 37.5	-1.7
AKS	**Kas**	**2.49**	**125**	*i*	P	Pn	19 24 41.3	+1.5
AKAS				*i*	S	Sn	19 25 14.3	+3.0
TKTP	**Tekketepe**	**2.59**	**81**	*i*	P	Pn	19 24 42.7	+1.3
TKTP				*i*	S	Sg	19 25 27.6	+3.6
LIA	**Limnos Island**	**2.67**	**327**	*e*	PN	Pn	19 24 40.5	-1.9
NPS	**Neapolis**	**2.68**	**206**	*e*	PN	Pn	19 24 43.9	+1.3
ALT	**Altintas**	**2.75**	**59**	*e*	PN	Pn	19 24 43.8	+0.1
BNT	**Bandirma**	**2.75**	**14**	*e*	PN	Pn	19 24 44.3	+0.6
ORLT	**Orhaneli**	**2.76**	**30**	*e*	PN	Pn	19 24 44.8	+1.1
ULDT	**Uludag**	**2.94**	**33**	*i*	P	Pn	19 24 50.8	+4.5
ULDT				*i*	S	Sn	19 25 29.0	+6.2
YLV	**Yalova**	**3.39**	**31**	*e*	PN	Pn	19 24 53.5	+0.7
ESKT	**Eskisehir**	**3.48**	**57**	*e*	PN	Pn	19 24 54.4	+0.4
ESKT	**Eskisehir**	**3.48**	**57**	*i*	P	Pg	19 25 01.6	-5.5
ESKT				*i*	S	Sg	19 25 49.9	-3.7
RDO	**Rodhopi**	**3.66**	**342**	*e*	PN	Pn	19 24 54.5	-2.1

*CSEM **13** 19:24:45.6±1.1, 38.73N×28.94W, ML2.0, Error ellipse: s-maj=14.1km s-min=4.9km az=89.0*
*PDA **13** 19:24:45.6±1.1, 38.73N×28.94W, MD3.3, ML2.0, Error ellipse: s-maj=14.1km s-min=4.9km az=89.0*
SVSA 13 19:24:45.6±1.1, 38.73N×28.94W, MD3.3, ML2.0, Error ellipse: s-maj=14.1km s-min=4.9km az=89.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PTCA	**Ponta do Capel**	**0.18**	**141**	*e*	P	Pg	19 24 48.9	-0.3
PTCA				*e*	S	Sg	19 24 52.5	+0.9
	77nm,0.2s							
PTCA	**Ponta do Capel**	**0.18**	**141**	*e*	P	Pg	19 24 48.9	-0.3
PTCA				*e*	S	Sg	19 24 52.5	+0.9
	77nm,0.2s							
PCED	**Cedros**	**0.21**	**117**	*e*	P	Pg	19 24 49.9	+0.1
PCED				*e*	S	Sg	19 24 52.9	+0.3
	161nm,0.1s							
PCED	**Cedros**	**0.21**	**117**	*e*	P	Pg	19 24 49.9	+0.1
PCED				*e*	S	Sg	19 24 52.9	+0.3
	161nm,0.1s							
CALA	**Caldeira**	**0.24**	**127**	*e*	S	Sg	19 24 53.5	0.0
HOR	**Horta**	**0.32**	**129**	*e*	rx		19 24 54.2	
PCND	**Candelaria**	**0.45**	**124**	*e*	S	Sg	19 25 00.3	-0.4
	19nm,0.2s							
PICO	**Pico**	**0.46**	**119**	*e*	P	Pg	19 24 54.0	-0.8
PICO				*e*	S	Sg	19 25 00.4	-0.6
PBOI	**Pico dos Bois**	**0.53**	**123**	*e*	S	Sg	19 25 02.4	-0.8
	33nm,0.2s							
ROSA	**Rosais**	**0.55**	**90**	*e*	P	Pg	19 24 55.5	-1.0
ROSA				*e*	S	Sg	19 25 02.8	-1.0
PPNO	**Prainha do Nor**	**0.59**	**115**	*e*	P	Pg	19 24 56.3	-1.1
PPNO				*e*	S	Sg	19 25 04.1	-1.1
	102nm,0.2s							

MAN 13 19:41:06.2, 11.28N×123.86E, h1km, mb4.0, ML2.8, MS2.5, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
OCLP	**Ormoc**	**0.77**	**107**	*e*	P	Pg	19 41 21.2	-0.4
OCLP				*e*	S	Sg	19 41 38.2	+6.3
LLP	**Lapu-Lapu**	**0.96**	**174**	*e*	P	Pb	19 41 25.0	-0.3
LLP				*e*	S	Sg	19 41 39.9	+1.6
RCP	**Roxas**	**1.13**	**284**	⇑*i*	P	Pb	19 41 28.2	+0.1
RCP				*e*	S	Sb	19 41 44.5	+1.3
GUIM	**Jordan**	**1.41**	**243**	*e*	P	Pb	19 41 32.3	-0.6
GUIM				*e*	S	Sb	19 41 51.4	+0.1
MSLP	**Maasin**	**1.50**	**139**	*e*	P	Pn	19 41 34.5	+0.1
MSLP				*e*	S	Sb	19 41 56.6	+2.4
SJMP	**San Jose**	**2.93**	**294**	*e*	P	Pn	19 41 32.3	-22

*BJI **13** 20:03:02.5, 17.80S×178.70W, h542km, mb4.4*
*NEIC **13** 20:03:02.5±0.9, 17.78S×178.66W, h543km±10km, mb4.7/20, Error ellipse: s-maj=11.2km s-min=7.6km az=141.0*
*IDC **13** 20:03:06.8±1.5, 17.74S×178.77W, h592km±17km, mb4.0/22, mb1 4.1/23, mb1mx4.0/27, mbtmp4.9/23, Error ellipse: s-maj=15.8km s-min=9.8km az=146.0*
ISC 13 20:03:02.5±0.8, 17.80S±0.07×178.72W±0.06, h555km±9km, n128, σ0§96/71, mb4.5/36, 10C-17D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**7.72**	**61**	P		P	20 04 58.3	-0.1
	25nm,0.3s,baz=28,slow=4.4,SNR=28							
AFI					S	S	20 06 32.7	+1.9
	5.6nm,0.3s,baz=4.5,slow=23,SNR=2.7							
AFI	**Afiamalu**	**7.72**	**61**	*eP*		P	20 04 57.4	-1.0
	174nm,1.0s							
AFI				*e*	S	S	20 06 28.6	-2.1
AFI					S	S	20 06 32.7	+1.9
RAO	**Raoul Island**	**11.42**	**176**	P		P	20 05 34.5	-1.0
	102nm,0.3s,baz=90,slow=20,SNR=3.4							
DZM	**Mont Dzumac**	**14.58**	**251**	*eP*		P	20 06 09.4	+2.1
DZM	**Mont Dzumac**	**14.58**	**251**	P		P	20 06 09.7	+2.4
	7.1nm,0.3s,baz=84,slow=17,SNR=24							
URZ	**Urewera**	**20.71**	**189**	P		P	20 07 03.7	-2.0
	21nm,0.8s,baz=27,slow=3.1,SNR=9.3							
HNR	**Honiara**	**22.32**	**289**	P		P	20 07 19.3	-1.3
SNZO	**South Karori**	**24.10**	**192**	*eP*		P	20 07 35.1	-1.3
CTA	**Charters Tower**	**33.17**	**260**	⇓*i*	P	P	20 08 55.6	+0.7
	30nm,0.9s,mb4.8							
CTA	**Charters Tower**	**33.17**	**260**	P		P	20 08 55.6	+0.7
	27nm,0.6s,mb4.9,baz=90,slow=10,SNR=58							
CTA					PcP	PcP	20 11 20.8	-1.1
	3.5nm,0.7s,baz=26,slow=15,SNR=3.0							
CTAO	**Charters Tower**	**33.17**	**260**	⇓*eP*		P	20 08 55.5	+0.6
	31nm,0.7s,mb4.9							
CNB	**Canberra Magne**	**33.26**	**232**	⇓*i*	P	P	20 08 56.9	+1.4
	91nm,0.6s,mb5.5							
PMG	**Port Moresby**	**34.15**	**280**	P		P	20 09 04.7	+1.5
	101nm,0.8s,mb5.4,baz=80,slow=6.1,SNR=27							
PMG	**Port Moresby**	**34.15**	**280**	⇓*eP*		P	20 09 04.7	+1.5
	114nm,0.9s,mb5.4							
TOO	**Toolangi**	**37.01**	**231**	⇓*i*	P	P	20 09 27.9	+1.4
	65nm,0.8s,mb5.2							
STKA	**Stephens Creek**	**38.42**	**241**	⇓*i*	P	P	20 09 39.5	+1.4
	41nm,0.5s,mb5.2							
STKA	**Stephens Creek**	**38.42**	**241**	P		P	20 09 39.6	+1.5
	45nm,0.5s,mb5.3,baz=90,slow=9.8,SNR=141							
STKA	**Stephens Creek**	**38.42**	**241**	⇓*eP*		P	20 09 39.5	+1.4
WB2	**Warramunga Arr**	**44.35**	**259**	⇓*i*	P	P	20 10 24.9	-0.5
WRA	**Warramunga Arr**	**44.36**	**259**	P		P	20 10 24.9	-0.6
	31nm,0.7s,mb5.0,baz=91,slow=6.9,SNR=608							
WRA					PcP	PcP	20 11 57.1	-0.6
	3.7nm,0.5s,baz=92,slow=3.6,SNR=7.0							
WRA					ScP		20 14 54.2	
	1.6nm,0.9s,baz=86,slow=5.6,SNR=4.6							
WRA					S	S	20 16 17.7	-2.5
	0.4nm,0.8s,baz=96,slow=13,SNR=3.0							
WRA	**Warramunga Arr**	**44.36**	**259**	P		P	20 10 24.9	-0.6
WRA					PcP	PcP	20 11 57.1	-0.6
WRA					ScP		20 14 54.2	
WRA					S	S	20 16 17.7	-2.5
GUMO	**Guam**	**47.58**	**309**	P		P	20 10 50.4	+0.2
	59nm,0.5s,mb5.3,baz=225,slow=7.1,SNR=3.8							
GUMO	**Guam**	**47.58**	**309**	P		P	20 10 50.4	+0.2
FORT	**Forrest**	**49.78**	**245**	⇓*i*	P	P	20 11 05.7	-0.8
	72nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**52.75**	**261**	⇓*i*	P	P	20 11 28.0	-0.1
	13nm,0.3s,mb4.8							
FITZ	**Fitzroy Crossi**	**52.75**	**261**	P		P	20 11 28.0	-0.1
	6.5nm,0.3s,mb4.4,baz=123,slow=3.8,SNR=149							
MBWA	**Marble Bar**	**57.81**	**256**	*eP*		P	20 12 02.0	-1.2
	32nm,0.7s,mb4.7							
KLBR	**Kellerberrin**	**58.61**	**243**	⇓*i*	P	P	20 12 07.5	-1.0
	37nm,0.8s,mb4.7							
NWAO	**Narrogin (SRO)**	**59.00**	**242**	P		P	20 12 10.3	-0.7
	8.6nm,0.6s,mb4.2,baz=107,slow=6.3,SNR=16							
NWAO	**Narrogin (SRO)**	**59.00**	**242**	*eP*		P	20 12 10.6	-0.4
MUN	**Mundaring**	**59.91**	**243**	*eP*		P	20 12 16.8	-0.3
SBA	**Scott Base**	**60.51**	**183**	*eP*		P	20 12 21.4	+1.0
VNDA	**Vanda**	**60.52**	**185**	P		P	20 12 21.0	+0.5
	1.9nm,0.6s,mb3.6,baz=358,slow=6.3,SNR=14							
VNDA	**Vanda**	**60.52**	**185**	*eP*		P	20 12 20.5	-0.1
	10nm,1.5s,mb3.9							
MJAR	**Matsushiro Arr**	**67.64**	**324**	P		P	20 13 05.6	-0.5
	4.6nm,0.6s,mb4.2,baz=157,slow=5.9,SNR=10.0							
QSPA	**South Pole Qui**	**72.25**	**180**	*eP*		P	20 13 32.9	+0.3
	21nm,0.9s,mb4.6							
KSM	**Kuching**	**72.38**	**277**	*eP*		P	20 13 34.7	+0.4
ISA	**Isabella**	**77.96**	**46**	*eP*		P	20 14 05.1	+0.3
	11nm,1.0s,mb4.1							
CMB	**Columbia Colle**	**77.97**	**43**	*eP*		P	20 14 04.9	0.0
	18nm,1.3s,mb4.2							
NVAR	**Mina Array Bea**	**79.55**	**44**	P		P	20 14 13.9	+0.7
	4.6nm,0.8s,mb3.9,baz=213,slow=7.4,SNR=17							
SLKM	**Skilak Lake**	**81.36**	**14**	*eP*		P	20 14 21.5	-0.6
WVOR	**Wild Horse Val**	**81.52**	**40**	*eP*		P	20 14 23.2	0.0
	15nm,1.0s,mb4.4							
BBB	**Bella Bella**	**82.37**	**29**	P		P	20 14 27.4	+0.1
	5.7nm,0.9s,mb4.0,baz=43,slow=11,SNR=4.6							
ELK	**Elko**	**82.78**	**43**	P		P	20 14 30.3	+0.7
	4.8nm,0.9s,mb4.0,baz=242,slow=4.3,SNR=6.8							
PSI	**Prapat**	**83.58**	**275**	P		P	20 14 34.0	-0.3
	17nm,0.7s,mb4.7,baz=220,slow=1.2,SNR=9.9							
MAW	**Mawson**	**83.86**	**200**	P		P	20 14 34.9	+0.6
	7.2nm,0.5s,mb4.5,baz=141,slow=5.9,SNR=20							
ENH	**Enshi**	**83.97**	**304**	*eP*		P	20 14 36.7	+1.0
	34nm,1.4s,mb4.7							
MCK	**McKinley**	**84.50**	**13**	*eP*		P	20 14 36.7	-0.9
NEW	**Newport**	**85.60**	**36**	P		P	20 14 41.5	-1.7
	2.8nm,0.6s,mb4.1,baz=234,slow=8.7,SNR=3.3							
COLA	**College**	**85.73**	**13**	*eP*		P	20 14 42.2	-1.4
	4.0nm,0.8s,mb4.1							
DLBC	**Dease Lake**	**85.85**	**23**	P		P	20 14 43.5	-0.7
	1.4nm,0.4s,mb4.0,baz=188,slow=14,SNR=5.1							
ILAR	**Eielson Array**	**85.85**	**13**	P		P	20 14 43.0	-1.1
	2.1nm,0.4s,mb4.1,baz=222,slow=5.2,SNR=60							
XAN	**Xi'an**	**85.96**	**308**	P		P	20 14 46.6	+1.2
XAN					AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4							
TXAR	**Lajitas Array**	**86.19**	**58**	P		P	20 14 48.1	+1.5
	comp=Z,4.9nm,0.8s,mb4.2,baz=217,slow=6.3,SNR=35							
ANMO	**Albuquerque**	**86.26**	**52**	P		P	20 14 46.6	-0.1
	comp=Z,2.2nm,0.9s,mb3.8,baz=229,slow=7.3,SNR=4.3							
ANMO	**Albuquerque**	**86.26**	**52**	*eP*		P	20 14 47.2	+0.4
	comp=Z,3.7nm,1.1s,mb3.9							
RRI2	**Red Ridge**	**86.60**	**42**	*eP*		P	20 14 49.0	+0.9
	comp=Z,12nm,0.8s,mb4.6							
IMW	**Indian Meadow**	**87.11**	**42**	*eP*		P	20 14 51.6	+1.1
	comp=Z,10nm,0.8s,mb4.5							
QLMT	**Earthquake Lak**	**87.24**	**41**	*eP*		P	20 14 51.3	+0.2
PDAR	**Pinedale Array**	**87.48**	**44**	P		P	20 14 52.7	+0.4
	comp=Z,3.3nm,0.6s,mb4.1,baz=225,slow=2.1,SNR=10							
SNAA	**Sanae**	**90.71**	**179**	⇓*i*		P	20 15 05.9	-0.8
VNA3	**Neumayer Olymp**	**90.86**	**176**	⇑*i*		P	20 15 07.5	+0.1
VNA2	**Neumayer--Watz**	**91.30**	**177**	⇑*i*		P	20 15 09.8	+0.4
VNA1	**Neumayer--Stat**	**91.53**	**177**	⇑*i*		P	20 15 11.3	+0.9
INK	**Inuvik**	**91.86**	**15**	P		P	20 15 11.5	-0.5
	comp=Z,3.0nm,0.8s,mb4.4,baz=232,slow=3.6,SNR=6.0							
YKA	**Yellowknife Ar**	**94.36**	**25**	P		P	20 15 22.9	-0.6
	comp=Z,0.6nm,0.5s,mb4.0,baz=246,slow=4.6,SNR=12							
MKAR	**Makanchi Array**	**108.85**	**314**	PKIKP			20 20 28.6	
	comp=Z,1.0nm,0.5s,baz=186,slow=0.5,SNR=27							
BVAR	**Borovoye Array**	**116.58**	**321**	PKIKP			20 20 43.3	
	comp=Z,1.1nm,0.4s,baz=121,slow=2.4,SNR=24							
ARCES	**ARCESS Array B**	**126.16**	**350**	PKP		PKPdf	20 21 02.0	+0.7
	comp=Z,1.4nm,0.6s,baz=43,slow=0.8,SNR=17							
FINES	**FINESS Array B**	**133.01**	**344**	PKP		PKPdf	20 21 13.9	-0.6
	comp=Z,3.6nm,1.0s,baz=63,slow=4.3,SNR=4.9							
NOA	**NORSAR Array B**	**136.24**	**353**	PKP		PKPdf	20 21 20.5	0.0
	comp=Z,0.9nm,0.8s,baz=29,slow=2.3,SNR=2.9							
NOA					SKP		20 24 00.0	
	comp=Z,1.7nm,0.9s,baz=90,slow=2.7,SNR=3.5							
AKASG	**Malin Array Be**	**140.33**	**332**	PKIKP			20 21 22.1	
AKASG	comp=Z,0.8nm,0.4s,baz=43,slow=3.9,SNR=5.8				PKP	PKPdf	20 21 30.6	+2.5
	comp=Z,0.6nm,0.3s,baz=36,slow=3.3,SNR=6.4							
BURAR	**Bucovina Array**	**144.38**	**332**	⇑P		PKPdf	20 21 37.4	+2.2
BURAR	**Bucovina Array**	**144.38**	**332**	⇑P		PKPdf	20 21 37.4	+2.2
BR131	**Keskin Array S**	**144.50**	**315**	*e*	PKPdf	PKPdf	20 21 37.1	+1.5
BRTR	**Keskin Array B**	**144.50**	**315**	PKP		PKPdf	20 21 37.1	+1.4
	comp=Z,5.2nm,0.5s,baz=104,slow=1.6,SNR=34							
STHS	**Stebnicka Huta**	**144.58**	**337**	*e*	PKP	PKPdf	20 21 37.9	+2.4
KOLS	**Kolonicke sedl**	**144.59**	**336**	*e*	PKP	PKPdf	20 21 37.7	+2.2
CFR	**Carcaliu**	**144.68**	**326**	⇑P		PKPdf	20 21 36.0	+0.2
CRVS	**Cervenica-Dubn**	**144.92**	**337**	*e*	PKP	PKPdf	20 21 38.6	+2.5
VRI	**Vrincioaia**	**144.93**	**328**	⇓P		PKPdf	20 21 40.6	+4.3
ANTO	**Ankara**	**145.00**	**315**	*e*	PKPab	PKPab	20 21 39.4	-1.7
HARR	**Harsova**	**145.12**	**326**	⇓P		PKPdf	20 21 38.2	+1.6
OKC	**Ostrava-Krasne**	**145.28**	**341**	*e*	PKP	PKPdf	20 21 40.4	+3.7
CLL	**Collm**	**145.29**	**347**	⇓P		PKPdf	20 21 39.1	+2.4
	comp=Z,logA/T=1.2							
CLL				*e*			20 21 43.0	
CLL				*e*			20 21 51.0	
CLL	**Collm**	**145.29**	**347**	⇓*i*	P	PKPdf	20 21 39.1	+2.4
CLL				*e*			20 21 43.0	
CLL				*e*			20 21 51.0	
UPC	**Upice**	**145.31**	**343**	*e*	PKP	PKPdf	20 21 39.5	+2.8
DPC	**Dobruska-Polom**	**145.36**	**343**	*e*	PKP	PKPdf	20 21 39.9	+3.1
BRG	**Berggiesshubel**	**145.49**	**346**	*e*	P	PKPdf	20 21 39.7	+2.7
MLR	**Muntele Rosu**	**145.59**	**329**	⇓P		PKPdf	20 21 35.8	-1.6
KECS	**Kecovo**	**145.63**	**337**	*e*	PKP	PKPdf	20 21 40.8	+3.4
PVCC	**Panska Ves**	**145.66**	**345**	*e*	PKP	PKPdf	20 21 40.7	+3.4
DRGR		**146.11**	**333**	⇑P		PKPdf	20 21 40.5	+2.3
DRGR		**146.11**	**333**	⇑P		PKPdf	20 21 40.5	+2.3
PRU	**Pruhonice**	**146.17**	**345**	*e*	PKP	PKPdf	20 21 41.9	+3.7
VYHS	**Vyhne**	**146.21**	**339**	*e*	PKP	PKPdf	20 21 42.6	+4.3
TREC	**Trest**	**146.55**	**343**	*e*	PKP	PKPdf	20 21 42.9	+4.0
CSS	**Prodhromos**	**146.78**	**307**	*e*	PKPdf	PKPdf	20 21 38.8	-0.9
CSS				*e*	PKPab	PKPab	20 21 45.8	-2.2
GRA1	**Grafenberg Arr**	**147.19**	**348**	*e*	PKP	PKPdf	20 21 44.6	+4.7
GRF	**Grafenberg Arr**	**147.19**	**348**	*e*	PKP	PKPdf	20 21 44.6	+4.7
KHC	**Kasperske Hory**	**147.20**	**345**	*e*	PKP	PKPdf	20 21 44.8	+4.9
GERES	**GERESS Array B**	**147.43**	**345**	PKP		PKPdf	20 21 41.2	+0.9
	comp=Z,4.3nm,0.6s,baz=315,slow=1.4,SNR=12							
GERES					PKPbc	PKPdf	20 21 45.2	+4.9
	comp=Z,4.5nm,0.6s,baz=25,slow=2.9,SNR=37							
BZS	**Buzias**	**147.50**	**333**	⇑P		PKPdf	20 21 45.0	+4.5
BZS	**Buzias**	**147.50**	**333**	⇑P		PKPdf	20 21 45.0	+4.5
GIVF	**Givet**	**147.65**	**356**	*e*	PKP1	PKPdf	20 21 45.2	+4.6
BAIF	**Baives**	**147.74**	**356**	*e*	PKP1	PKPdf	20 21 45.5	+4.7
	comp=Z,3.6nm,0.4s							
CDF	**Champ du Feu**	**149.08**	**352**	*e*	PKP1	PKPdf	20 21 49.1	+6.2
FLN	**La Foliniere**	**149.09**	**2**	*e*	PKP1	PKPdf	20 21 48.6	+5.7
	comp=Z,9.9nm,0.6s							
MEZF	**Maizieres J'vi**	**149.23**	**355**	*e*	PKP1	PKPdf	20 21 49.3	+6.1
LDF	**La Druitiere**	**149.27**	**2**	*e*	PKP1	PKPdf	20 21 49.2	+6.0
	comp=Z,7.7nm,0.4s							
GRR	**Gorron**	**149.44**	**3**	*e*	PKP1	PKPdf	20 21 49.6	+6.1
	comp=Z,9.7nm,0.4s							
SGMF	**Saint Gilles**	**149.47**	**5**	*e*	PKP1	PKPdf	20 21 49.1	+5.5
	comp=Z,30nm,1.0s							
LOR	**Lormes**	**150.54**	**356**	*e*	PKP1	PKPdf	20 21 52.4	+7.1
	comp=Z,10.0nm,0.4s

OGRR	**Ongureny**	**2.73**	**242**	*e*Pn	Pn	20 08 49.7	+0.9		
OGRR				*e*Pg	Pg	20 08 53.2	-6.0		
OGRR				Pmax		20 09 04.4			
	comp=N,77nm,0.4s								
OGRR				*e*Sn	Sn	20 09 22.0	+0.2		
OGRR				*e*Sg	Sg	20 09 28.6	-7.0		
OGRR				Smax		20 09 32.0			
	comp=N,614nm,0.9s								
OGRR	**Ongureny**	**2.73**	**242**	*e*PN	Pn	20 08 49.6	+0.8		
OGRR				*e*		20 08 54.4			
OGRR				*e*S	Sn	20 09 22.4	+0.6		
OGRR				*e*		20 09 29.8			
OGRR				pmax	pmax				
	comp=Z,54nm,0.4s								
OGRR				smax					
	comp=N,608nm,0.9s								
NLYR	**Nelyaty**	**2.74**	**56**	*e*Pn	Pn	20 08 48.9	0.0		
NLYR				*e*Pg	Pg	20 08 53.2	-6.2		
NLYR				Pmax		20 08 58.5			
	comp=N,124nm,0.8s								
NLYR				*e*Sg	Sg	20 09 27.9	-8.0		
NLYR				Smax		20 09 38.2			
	comp=N,1µm,1.1s								
NLYR	**Nelyaty**	**2.74**	**56**	*e*PN	Pn	20 08 48.5	-0.4		
NLYR				*e*		20 08 53.3			
NLYR				*e*		20 09 28.4			
NLYR				pmax	pmax				
	comp=Z,125nm,0.8s								
NLYR				smax					
	comp=N,1µm,1.2s								
BOD	**Bodaibo**	**3.11**	**24**	*e*Pn	Pn	20 08 53.4	-0.7		
BOD				*e*		20 09 01.7			
BOD				max		20 09 02.8			
	comp=N,69nm,1.0s								
BOD				*e*Sg	Sg	20 09 39.1	-9.1		
BOD				Smax		20 09 46.5			
	comp=N,345nm,1.8s								
BOD	**Bodaibo**	**3.11**	**24**	*e*PN	Pn	20 08 52.9	-1.2		
BOD				*e*		20 08 58.6			
CIT	**Chita**	**3.21**	**158**	*e*Pn	Pn	20 08 55.2	-0.3		
CIT				*e*Pg	Pg	20 09 02.3	-6.4		
CIT				Pmax		20 09 05.0			
	comp=N,71nm,1.8s								
CIT				*e*Sg	Sg	20 09 43.5	-8.0		
CIT				Smax		20 09 50.5			
	comp=N,802nm,1.0s								
CIT	**Chita**	**3.21**	**158**	*e*PN	Pn	20 09 01.9	+6.4		
CIT				*e*		20 09 44.5			
CIT				pmax	pmax				
	comp=Z,81nm,0.7s								
CIT				smax					
	comp=E,802nm,0.7s								
ZRHB	**Zarechye**	**3.62**	**229**	*e*Sg	Sg	20 09 58.1	-7.1		
ZRHB				Smax		20 10 10.5			
	comp=E,2µm,1.3s								
TRTB	**Turuntaevo**	**3.67**	**222**	*e*	Pn	20 09 03.4	+1.4		
TRTB				*e*Pg	Pg	20 09 11.6	-6.2		
TRTB				Pmax		20 09 20.2			
	comp=E,67nm,1.0s								
TRTB				*e*Sg	Sg	20 09 59.8	-6.9		
TRTB				Smax		20 10 05.7			
	comp=E,723nm,1.9s								
TRG	**Tyrgan**	**3.85**	**236**	*e*	Pn	20 09 05.6	+0.9		
TRG				*e*Pg	Pg	20 09 13.1	-8.5		
TRG				Pmax		20 09 20.7			
	comp=E,33nm,0.5s								
TRG				*e*Sn	Sn	20 09 49.2	-1.0		
TRG				*e*Sg	Sg	20 10 03.0	-10		
TRG				Smax		20 10 08.3			
	comp=E,578nm,1.5s								
TRG	**Tyrgan**	**3.85**	**236**	*e*PN	Pn	20 09 05.1	+0.4		
TRG				*e*		20 09 14.2			
TRG				*e*S	Sn	20 09 49.4	-0.8		
TRG				*e*		20 10 03.0			
TRG				pmax	pmax				
	comp=Z,36nm,0.5s								
TRG				smax					
	comp=N,355nm,0.4s								
FFNB	**Fofonovo**	**4.15**	**226**	*e*Pg	Pg	20 09 19.0	-8.5		
FFNB				*e*		20 09 48.3			
FFNB				*e*Sg	Sg	20 10 13.0	-10		
FFNB				Smax		20 10 18.1			
	comp=N,1µm,0.8s								
CRS	**Chara**	**4.18**	**60**	*e*Pn	Pn	20 09 08.9	-0.5		
CRS				*e*Pg	Pg	20 09 19.7	-8.5		
CRS				Pmax		20 09 27.3			
	comp=N,79nm,1.1s								
CRS				*e*Sg	Sg	20 10 13.6	-10		
CRS				Smax		20 10 17.3			
	comp=N,1µm,1.4s								
CRS	**Chara**	**4.18**	**60**	*e*PN	Pn	20 09 09.0	-0.4		
CRS				*e*		20 09 20.7			
CRS				*e*		20 10 14.3			
CRS				pmax	pmax				
	comp=Z,82nm,0.9s								
CRS				smax					
	comp=E,1µm,1.5s								
HRMR	**Khuramsha**	**4.40**	**222**	*e*	Pn	20 09 12.5	+0.1		
HRMR				*e*Pg	Pg	20 09 24.1	-8.3		
HRMR				*e*Sg	Sg	20 10 22.5	-8.5		
HRMR				Smax		20 10 27.2			
	comp=E,2µm,0.8s								
TUP	**Tupik**	**4.86**	**94**	*e*Pn	Pn	20 09 17.6	-1.4		
TUP				*e*Pg	Pg	20 09 31.9	-10		
TUP				Pmax		20 09 33.0			
	comp=E,47nm,0.8s								
TUP				*e*		20 10 13.2			
TUP				*e*Sg	Sg	20 10 35.2	-11		
TUP				Smax		20 10 37.6			
	comp=E,555nm,1.1s								
TUP	**Tupik**	**4.86**	**94**	*e*PN	Pn	20 09 31.1	+12		
TUP				*e*		20 10 34.7			
TUP				pmax	pmax				
	comp=Z,29nm,0.5s								
TUP				smax					
	comp=N,548nm,0.6s								
LSTR	**Listvyanka**	**5.14**	**235**	*e*Pg	Pg	20 09 37.0	-10		
LSTR				Pmax		20 09 44.4			
	comp=N,44nm,1.8s								
LSTR				*e*Sg	Sg	20 10 43.0	-13		
LSTR				Smax		20 10 46.4			
	comp=N,259nm,1.5s								
IRK	**Irkutsk**	**5.18**	**241**	*e*	Pn	20 09 23.0	-0.6		
IRK				*e*Pg	Pg	20 09 36.7	-11		
IRK				Pmax		20 09 44.3			
	comp=N,34nm,0.4s								
IRK				*e*Sg	Sg	20 10 43.4	-14		
IRK				Smax		20 10 51.5			
	comp=N,861nm,1.1s								
IRK	**Irkutsk**	**5.18**	**241**	*e*PN	Pn	20 09 37.5	+14		
IRK				*e*		20 10 45.2			
IRK				pmax	pmax				
	comp=Z,60nm,0.8s								
IRK				smax					
	comp=N,861nm,1.1s								
KPC	**Khapcheranga**	**5.33**	**175**	*e*Pn	Pn	20 09 23.9	-1.8		
KPC				*e*Pg	Pg	20 09 40.6	-11		
KPC				Pmax		20 09 46.3			
	comp=N,267nm,0.2s								
KPC				*e*Sg	Sg	20 10 50.3	-12		
KPC				Smax		20 10 55.5			
	comp=N,502nm,1.3s								
KPC	**Khapcheranga**	**5.33**	**175**	*e*PN	Pn	20 09 24.5	-1.2		
KPC				*e*		20 09 40.6			
KPC				*e*		20 10 50.2			
KPC				pmax	pmax				
	comp=Z,18nm,0.7s								
KPC				smax					
	comp=E,298nm,1.0s								
TLY	**Talaya**	**5.83**	**238**	*e*PN	Pn	20 09 32.8	+0.1		
TLY				*e*		20 09 49.9			
ARS	**Arshan**	**6.31**	**244**	*e*Pn	Pn	20 09 38.2	-1.2		
ARS				*e*Pg	Pg	20 09 56.9	-14		
ARS				Pmax		20 10 08.0			
	comp=E,31nm,0.4s								
ARS				*e*Sg	Sg	20 11 18.4	-16		
ARS				Smax		20 11 23.6			
	comp=E,879nm,0.8s								
ARS	**Arshan**	**6.31**	**244**	*e*PN	Pn	20 09 56.8	+17		
ZAK	**Zakamensk**	**6.87**	**231**	*e*	Pn	20 10 09.4	+22		
ZAK				max		20 10 20.4			
	comp=E,6.0nm,0.8s								
ZAK				*e*Sg	Sg	20 11 37.6	-16		
ZAK				Smax		20 11 49.6			
	comp=E,91nm,1.0s								
ZAK	**Zakamensk**	**6.87**	**231**	*e*PG	Pg	20 10 09.7	-12		
ZAK				*e*		20 11 37.4			
ZAK				pmax	pmax				
	comp=Z,7.0nm,1.1s								
ZAK				smax					
	comp=E,87nm,1.3s								
MOY	**Mondy**	**7.19**	**247**	*e*	Pn	20 09 58.2	+6.3		
MOY				*e*		20 11 13.9			
MOY				*e*Sg	Sg	20 11 46.1	-18		
MOY				Smax		20 11 59.4			
	comp=E,292nm,1.5s								
MOY	**Mondy**	**7.19**	**247**	*e*PN	Pn	20 09 50.9	-1.0		
MOY				*e*		20 10 15.5			
MOY				*e*S	Sn	20 11 08.7	-5.4		
MOY				*e*		20 11 46.5			
MOY				pmax	pmax				
	comp=Z,13nm,0.6s								
MOY				smax					
	comp=N,292nm,1.6s								
ORL	**Orlik**	**7.43**	**255**	⇓*i*Pn	Pn	20 09 54.2	-1.0		
ORL				max		20 10 17.8			
	comp=N,34nm,1.0s								
ORL				*e*Sg	Sg	20 11 53.0	-19		
ORL				Smax		20 12 05.7			
	comp=N,209nm,1.2s								
ORL	**Orlik**	**7.43**	**255**	*e*PN	Pn	20 09 53.9	-1.3		
ORL				*e*		20 10 18.1			
ORL				*e*		20 11 54.8			
ORL				pmax	pmax				
	comp=Z,37nm,1.2s								
ORL				smax					
	comp=N,231nm,1.2s								
TIXI	**Tiksi**	**18.27**	**17**	*e*P	P	20 12 14.0	-4.8		
TIXI				pmax	pmax				
	comp=Z,2.0nm,0.7s								
BILL	**Bilibino**	**28.02**	**41**	*e*P	P	20 13 50.2	-6.3		
BILL				*e*		20 14 38.7			
BILL				pmax	pmax				
	comp=E,5.0nm,1.6s								
BILL				MLR	MLR				
	comp=Z,100nm,15.0s								
OBN	**Obninsk**	**41.03**	**302**	*e*P	P	20 15 39.3	-9.1		
OBN				*e*SS	SS	20 24 53.1	-4.7		
OBN				pmax	pmax				
	comp=Z,3.0nm,1.0s								

WEL 13 20:10:19.6±0.3, 38.64S×175.85E, h136km±2km, ML3.5/13, 1C, Error ellipse: s-maj=2.1km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.52**	**203**	PN	P	20 10 39.6	-0.4
TWVZ	**Taurewa**	**0.54**	**217**	PN	P	20 10 39.5	-0.6
OTVZ	**Oturere**	**0.55**	**196**	PN	P	20 10 39.9	-0.2
NGZ	**Ngauruhoe**	**0.57**	**200**	PN	P	20 10 39.8	-0.5
CNZ	**Chateau**	**0.61**	**203**	PN	P	20 10 40.1	-0.4
TUVZ	**Tukino**	**0.65**	**194**	PN	P	20 10 40.5	-0.2
FWVZ	**Far West T-bar**	**0.66**	**201**	PN	P	20 10 40.3	-0.5
TRVZ	**Turoa**	**0.70**	**200**	PN	P	20 10 40.9	-0.2
WNVZ	**Wahianoa**	**0.72**	**196**	PN	P	20 10 40.9	-0.3
BKZ	**Black Stump Fm**	**0.73**	**137**	⇑PN	P	20 10 41.1	-0.1
BKZ				SN	S	20 10 57.3	-0.5
PKVZ	**Pokaka**	**0.76**	**211**	PN	P	20 10 40.9	-0.6
MOVZ	**Moawhango**	**0.78**	**186**	PN	P	20 10 40.9	-0.6
MOVZ				SN	S	20 10 57.2	-1.1
URZ	**Urewera**	**1.06**	**70**	PN	P	20 10 43.3	-0.4
URZ				SN	S	20 11 01.3	-1.0
MWZ	**Matawai**	**1.35**	**78**	PN	P	20 10 46.5	-0.3
MWZ				SN	S	20 11 06.5	-1.1
TSZ	**Takapari Road**	**1.43**	**177**	PN	P	20 10 46.5	-1.2
TSZ				SN	S	20 11 07.8	-1.3
KNZ	**Kokohu**	**1.47**	**106**	PN	P	20 10 48.4	+0.3
PXZ	**Pawanui**	**1.60**	**151**	PN	P	20 10 48.8	-0.8
PXZ				SN	S	20 11 10.9	-1.6
MRZ	**Mangatainoka R**	**2.04**	**186**	PN	P	20 10 52.4	-2.3
BFZ	**Birch Farm**	**2.06**	**172**	PN	P	20 10 53.2	-1.9
KIW	**Kapiti Island**	**2.34**	**198**	PN	P	20 10 55.6	-3.0
MTW	**Mount Morrison**	**2.53**	**186**	PN	P	20 10 57.6	-3.5
MRW	**Makara Radio**	**2.74**	**199**	PN	P	20 10 60.0	-3.8
TRWZ	**Traveller**	**2.76**	**183**	PN	P	20 11 00.7	-3.4
MSWZ	**Moikau Station**	**2.81**	**189**	PN	P	20 11 00.8	-3.9
BHW	**Baring Head**	**2.87**	**195**	PN	P	20 11 01.4	-4.1
TUWZ	**Tuamarina**	**3.15**	**207**	PN	P	20 11 04.6	-4.6
KHZ	**Kahutara**	**4.17**	**204**	PN	P	20 11 17.5	-5.2

*NEIC **13** 20:14:49.5±1.1, 2.47N×127.99E, h30km, Error ellipse: s-maj=155.0km s-min=12.0km az=69.0*
*IDC **13** 20:14:55.5±11.0, 1.83N×126.66E, h77km±110km, mb3.7/6, mb1 3.8/6, mb1mx3.6/16, mbtmp4.1/6, Error ellipse: s-maj=63.2km s-min=19.7km az=76.0*
ISC 13 20:14:47.7±1.1, 2.7N±0.2×128.6E±0.3, h33km, n15, σ0§63/13, mb4.3/8, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**166**	P	**P**	**20 19 53.7**	**+0.5**
	1.6nm,0.4s,mb3.8,baz=338,slow=10,SNR=51						
WB2	**Warramunga Arr**	**23.25**	**166**	⇓*i*P	**P**	**20 19 53.8**	**+0.5**
STKA	**Stephens Creek**	**36.59**	**161**	P	**P**	**20 21 51.7**	**-1.0**
	1.3nm,0.3s,mb4.2,baz=325,slow=12,SNR=6.8						
STKA	**Stephens Creek**	**36.59**	**161**	P	**P**	**20 21 51.7**	**-1.0**
ASAJ	**Asahikawa**	**43.04**	**15**	P	Px	20 22 58.9	
	6.5nm,0.4s,baz=299,slow=32,SNR=5.0						
JIRN	**Jiri**	**47.43**	**306**	*e*P	**P**	**20 23 21.7**	**+0.4**
	9.9nm,0.7s,mb4.9						
GUN	**Gumba**	**47.78**	**306**	*e*P	**P**	**20 23 24.5**	**+0.4**
	17nm,0.7s,mb5.2						
KKN	**Kakani**	**48.22**	**305**	*e*P	**P**	**20 23 27.4**	**-0.1**
DMN	**Daman**	**48.29**	**305**	*e*P	**P**	**20 23 28.1**	**+0.1**
SONM	**Songino Array**	**48.83**	**340**	P	**P**	**20 23 33.1**	**+1.2**
	0.3nm,0.6s,mb3.5,baz=155,slow=11,SNR=4.1						
GKN	**Gorkha**	**48.83**	**305**	*e*P	**P**	**20 23 31.8**	**-0.4**
KOLN	**Koldanda**	**49.59**	**305**	*e*P	**P**	**20 23 38.0**	**0.0**
	13nm,0.7s,mb5.1						
MKAR	**Makanchi Array**	**59.41**	**325**	P	**P**	**20 24 48.8**	**-0.7**
	1.0nm,0.4s,mb4.2,baz=115,slow=8.1,SNR=25						
BVAR	**Borovoye Array**	**69.14**	**327**	P	**P**	**20 25 51.7**	**-1.0**
	0.4nm,0.4s,mb3.7,baz=135,slow=8.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**124.96**	**288**	PKP	PKPdf	20 33 44.6	-1.1
	0.6nm,0.9s,baz=36,slow=1.4,SNR=6.8						

*NEIC **13** 20:18:13.1, 38.01N×25.90E, h53km, MD2.8(ATH), After ATH.*
*CSEM **13** 20:18:13.1±0.6, 38.01N×25.90E, h53km, MD2.8, Error ellipse: s-maj=23.1km s-min=14.9km az=94.0, After ATH*
ATH 13 20:18:10.1, 37.93N×25.70E, h47km±5km, MD2.8/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.83**	**58**	*i*P	P	20 18 18.3	-7.2
URLA				*i*S	S	20 18 20.6	-16
APE	**Apeiranthos**	**0.87**	**189**	*e*P	P	20 18 27.0	+0.9
APE	**Apeiranthos**	**0.87**	**189**	*e*P	P	20 18 31.5	+5.4
SMG	**Samos**	**0.93**	**103**	*e*P	P	20 18 28.3	+1.4
SMG				*e*S	S	20 18 40.4	+1.0
SMG	**Samos**	**0.93**	**103**	*e*P	P	20 18 29.5	+2.6
SMG				*e*S	S	20 18 40.5	+1.1
KDAG	**Bornova**	**1.32**	**69**	*i*P	P	20 18 24.7	-7.9
KDAG				*i*S	S	20 18 34.4	-15
PRK	**Paraskevi**	**1.39**	**19**	*e*P	P	20 18 34.8	+1.3
PRK				*e*S	S	20 18 51.7	+0.8
PRK	**Paraskevi**	**1.39**	**19**	*e*P	P	20 18 37.0	+3.5
PRK				*e*S	S	20 18 51.1	+0.2
AYDN	**Tasoluk**	**1.75**	**98**	*i*P	P	20 18 39.4	+0.8
AYDN				*i*S	S	20 18 55.7	-4.0
MANT	**Manisa**	**2.32**	**75**	*i*P	P	20 18 46.3	-0.4
MANT				*i*S	S	20 19 07.4	-6.7

*CSEM **13** 20:19:59.9±1.6, 38.67N×28.99W, ML3.0, Error ellipse: s-maj=10.8km s-min=4.4km az=58.0, After PDA*
*PDA **13** 20:19:59.9±1.6, 38.67N×28.99W, MD3.1, ML3.0, Error ellipse: s-maj=10.8km s-min=4.4km az=58.0*
SVSA 13 20:19:59.9±1.6, 38.67N×28.99W, MD3.1, ML3.0, Error ellipse: s-maj=10.8km s-min=4.4km az=58.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.17**	**119**	*e*P	Pg	20 20 04.0	+0.7
PTCA				*e*S	Sg	20 20 06.3	+0.7
	2µm,0.2s						
PTCA	**Ponta do Capel**	**0.17**	**119**	*e*P	Pg	20 20 04.0	+0.7
PTCA				*e*S	Sg	20 20 06.3	+0.7
	2µm,0.2s						
PCED	**Cedros**	**0.23**	**100**	*e*P	Pg	20 20 04.2	-0.2
PCED				*e*S	Sg	20 20 07.3	-0.1
	5µm,0.2s						
PCED	**Cedros**	**0.23**	**100**	*e*P	Pg	20 20 04.2	-0.2
PCED				*e*S	Sg	20 20 07.3	-0.1
	5µm,0.2s						
CALA	**Caldeira**	**0.24**	**111**	*e*P	Pg	20 20 04.2	-0.5
CALA				*e*S	Sg	20 20 07.3	-0.6
HOR	**Horta**	**0.31**	**116**	*e*P	Pg	20 20 05.3	-0.8
HOR				*e*S	Sg	20 20 09.6	-0.7
PCND	**Candelaria**	**0.46**	**116**	*e*P	Pg	20 20 08.4	-0.6
PCND				*e*S	Sg	20 20 14.7	-0.4
	373nm,0.3s						
PICO	**Pico**	**0.47**	**110**	*e*P	Pg	20 20 08.2	-1.1
PICO				*e*S	Sg	20 20 15.0	-0.6
PBOI	**Pico dos Bois**	**0.53**	**115**	*e*P	Pg	20 20 09.6	-0.9
PBOI				*e*S	Sg	20 20 16.7	-0.9
	396nm,0.1s						
ROSA	**Rosais**	**0.59**	**85**	*e*P	Pg	20 20 10.0	-1.6
ROSA				*e*S	Sg	20 20 17.5	-1.9
PPNO	**Prainha do Nor**	**0.60**	**109**	*e*P	Pg	20 20 10.2	-1.7
PPNO				*e*S	Sg	20 20 18.5	-1.4
	2µm,0.2s						
PPNO	**Prainha do Nor**	**0.60**	**109**	*e*P	Pg	20 20 10.2	-1.7
PPNO				*e*S	Sg	20 20 18.5	-1.4
	2µm,0.2s						
PAMA	**Santo Amaro**	**0.63**	**89**	*e*P	Pg	20 20 11.4	-1.1
PAMA				*e*S	Sg	20 20 19.6	-1.3
PMAN	**Manadas**	**0.70**	**93**	*e*P	Pg	20 20 11.5	-2.5
PMAN				*e*S	Sg	20 20 21.3	-2.0
	725nm,0.3s						
PMAN	**Manadas**	**0.70**	**93**	*e*P	Pg	20 20 11.5	-2.5
PMAN				*e*S	Sg	20 20 21.3	-2.0
	725nm,0.3s						
PIED	**Piedade**	**0.77**	**108**	*e*P	Pg	20 20 13.4	-1.9
PVIA	**Vitoria**	**0.83**	**61**	*e*P	Pg	20 20 16.3	-0.2
PVIA				*e*S	Sg	20 20 24.3	-3.4
	49nm,0.2s						
PGRA	**Graciosa**	**0.86**	**65**	*e*P	Pg	20 20 14.1	-3.1
PGRA				*e*S	Sg	20 20 24.6	-4.1
	413nm,0.3s						
PGRA	**Graciosa**	**0.86**	**65**	*e*P	Pg	20 20 14.1	-3.1
PGRA				*e*S	Sg	20 20 24.6	-4.1
	413nm,0.3s						
STGR	**Santa Cruz**	**0.87**	**61**	*e*P	Pg	20 20 14.6	-2.7
STGR				*e*S	Sg	20 20 24.9	-4.0
	171nm,0.3s						
STGR	**Santa Cruz**	**0.87**	**61**	*e*P	Pg	20 20 14.6	-2.7
STGR				*e*S	Sg	20 20 24.9	-4.0
	171nm,0.3s						
ASBA	**Santa Barbara**	**1.30**	**87**	*e*S	Sb	20 20 36.4	-5.7
	70nm,0.2s						
ASBA	**Santa Barbara**	**1.30**	**87**	*e*S	Sb	20 20 36.4	-5.7
	70nm,0.2s						
PSBA	**Serra de Santa**	**1.30**	**85**	*e*rx		20 20 29.4	
PSBA	**Serra de Santa**	**1.30**	**85**	*e*-		20 20 29.4	
PPAD	**Pico dos Padre**	**1.33**	**88**	*e*P	Pb	20 20 21.0	-4.4
PPAD				*e*S	Sb	20 20 36.8	-6.1
	49nm,0.2s						
PPAD	**Pico dos Padre**	**1.33**	**88**	*e*P	Pb	20 20 21.0	-4.4
PPAD				*e*S	Sb	20 20 36.8	-6.1
	49nm,0.2s						
PBIS	**Biscoitos**	**1.36**	**85**	*e*P	Pb	20 20 21.5	-4.4
PBIS				*e*S	Sb	20 20 37.7	-6.1
	40nm,0.2s						
PBIS	**Biscoitos**	**1.36**	**85**	*e*P	Pb	20 20 21.5	-4.4
PBIS				*e*S	Sb	20 20 37.7	-6.1
	40nm,0.2s						
ADH	**Angra Heroismo**	**1.37**	**90**	*e*S	Sb	20 20 37.9	-6.2
RIB2	**Ribeirinha**	**1.42**	**89**	*e*P	Pb	20 20 22.3	-4.7
RIB2				*e*S	Sb	20 20 38.9	-6.6
	46nm,0.3s						
PVNV	**Vila Nova**	**1.44**	**86**	*e*P	Pn	20 20 22.6	-4.6
PVNV				*e*S	Sb	20 20 38.7	-7.3
	22nm,0.2s						
PSCM	**Serra do Cume**	**1.46**	**88**	*e*P	Pn	20 20 22.3	-5.3
PSCM				*e*S	Sb	20 20 39.8	-7.0
	82nm,0.4s						
PFAV	**Pico das Favas**	**1.49**	**88**	*e*P	Pn	20 20 23.2	-4.8
PFAV				*e*S	Sb	20 20 41.0	-6.5
	33nm,0.4s						
SET2	**Ginetes**	**2.63**	**107**	*e*P	Pn	20 20 39.9	-4.5
PFET	**Feteiras**	**2.66**	**108**	*e*P	Pn	20 20 39.3	-5.4
PSAN	**Santo Antonio**	**2.69**	**107**	*e*P	Pn	20 20 41.5	-4.7
FAC	**Faja de Cima**	**2.77**	**108**	*e*rx		20 20 42.2	
CML	**Cha da Macela**	**2.85**	**107**	*e*rx		20 20 43.5	

*BJI **13** 20:24:23.7, 57.60N×120.60E, h13km, mB4.7, ML4.5*
*IDC **13** 20:24:26.9±0.8, 57.35N×120.92E, mb3.8/10, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, MS2.9/1, Ms1 2.9/1, ms1mx2.5/27, Error ellipse: s-maj=23.6km s-min=20.7km az=69.0*
*BYKL **13** 20:24:27.8±0.6, 57.46N×120.85E, h2km±13km*
*MOS **13** 20:24:28.9±1.4, 57.60N×120.68E, h15km, mb4.3/3, Error ellipse: s-maj=16.9km s-min=10.3km az=84.4*
*NEIC **13** 20:24:30.8±5.4, 57.57N×120.56E, h13km±37km, mb4.2/1, Error ellipse: s-maj=30.6km s-min=10.8km az=145.0*
ISC 13 20:24:27.4±0.3, 57.49N±0.03×120.86E±0.03, h2km, n58, σ1§53/86, mb3.8/11, 1C-4D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.74**	**221**	⇓*i*Pg	**Pg**	**20 24 40.8**	**-1.4**
KHNR				*e*Sg	**Sg**	**20 24 49.4**	**-2.7**
YKLR	**Yuktali**	**1.00**	**154**	*e*Pg	**Pn**	**20 24 45.5**	**-2.7**
YKLR				*e*Sg	**Sn**	**20 24 57.5**	**-5.5**
YKLR				Smax		20 24 58.6	
	4µm,0.5s						
CRS	**Chara**	**1.53**	**248**	⇓*i*Pg	**Pn**	**20 24 55.5**	**-0.3**
CRS				Pmax		20 24 58.8	
	691nm,1.0s						
CRS				*e*Sg	**Sn**	**20 25 14.2**	**-2.3**
CRS				Smax		20 25 14.8	
	2µm,0.7s						
CRS	**Chara**	**1.53**	**248**	*e*P	**Pn**	**20 24 55.7**	**-0.1**
CRS				*e*		20 25 14.5	
CRS				pmax	pmax		
	comp=Z,448nm,0.7s						
CRS				smax			
	comp=E,1µm,0.5s						
NRGR	**Nerungri**	**2.27**	**110**	*e*P	**Pn**	**20 25 08.7**	**+2.3**
NRGR				S	**Sn**	**20 25 36.4**	**+1.0**
CLNS	**Chul'man**	**2.29**	**105**	*e*Pg	**Pn**	**20 25 08.3**	**+1.5**
CLNS				*e*		20 25 12.0	
CLNS				max		20 25 15.3	
	comp=E,702nm,0.4s						
CLNS				*e*Sg

CLNS				smax				
	comp=Z,204nm,0.3s							
CLNS				MLR	MLR			
	comp=Z,100nm,14.0s							
IENR	**Iengra**	**2.54**	**118**	⇓*i*Pn	**Pn**	**20 25 10.3**	**0.0**	
IENR				*e*Pg	**Pb**	**20 25 13.6**	**+0.2**	
IENR				*e*Sg	**Sb**	**20 25 45.4**	**+0.3**	
ALDR	**Aldan**	**2.67**	**63**	*e*	**Pn**	**20 25 15.6**	**+3.4**	
ALDR				*e*		20 25 45.0		
ALDR				*e*Sg	**Sb**	**20 25 50.0**	**+1.0**	
ALDR				Smax		20 25 51.0		
	comp=Z,8μm,0.7s							
NLYR	**Nelyaty**	**2.99**	**253**	*e*Pn	**Pn**	**20 25 16.6**	**-0.2**	
NLYR				*e*Pg	**Pb**	**20 25 21.1**	**-0.1**	
NLYR				Pmax		20 25 24.5		
	comp=Z,300nm,0.5s							
NLYR				*e*Sg	**Sb**	**20 25 58.3**	**-0.1**	
NLYR				Smax		20 26 07.5		
	comp=Z,872nm,1.3s							
NLYR	**Nelyaty**	**2.99**	**253**	*e*P	**Pn**	**20 25 16.6**	**-0.2**	
NLYR				*e*		20 25 58.3		
NLYR				pmax	pmax			
	comp=Z,285nm,0.6s							
NLYR				smax				
	comp=N,878nm,1.2s							
TUP	**Tupik**	**3.11**	**190**	*e*Pn	**Pn**	**20 25 16.9**	**-1.5**	
TUP				*e*Pg	**Pb**	**20 25 22.5**	**-0.7**	
TUP				Pmax		20 25 25.1		
	comp=N,331nm,0.7s							
TUP				*e*		20 25 53.7		
TUP				*e*Sg	**Sb**	**20 26 01.0**	**-0.8**	
TUP				Smax		20 26 03.2		
	comp=N,2μm,0.8s							
TUP	**Tupik**	**3.11**	**190**	*e*P	**Pn**	**20 25 23.0**	**+4.6**	
TUP				*e*		20 26 00.8		
TUP				pmax	pmax			
	comp=Z,322nm,0.6s							
TUP				smax				
	comp=E,2μm,0.8s							
TNDR	**Tynda**	**3.18**	**136**	*e*	**Pn**	**20 25 18.8**	**-0.7**	
TNDR				*e*		20 25 55.0		
TNDR				*e*Sg	**Sb**	**20 26 04.5**	**+0.6**	
TNDR				Smax		20 26 12.6		
	comp=E,7μm,0.5s							
BOD	**Bodaibo**	**3.70**	**278**	*e*Pn	**Pn**	**20 25 26.3**	**-0.5**	
BOD				*e*Pg	**Pb**	**20 25 33.1**	**-0.2**	
BOD				Pmax		20 25 42.6		
	comp=E,58nm,0.4s							
BOD				*e*		20 26 10.2		
BOD				*e*Sg	**Sb**	**20 26 20.0**	**+1.1**	
BOD				Smax		20 26 27.7		
	comp=E,743nm,1.0s							
BOD	**Bodaibo**	**3.70**	**278**	*e*P	**Pb**	**20 25 35.4**	**+2.1**	
BOD				pmax	pmax			
	comp=E,39nm,0.2s							
SVKR	**Severomuysk**	**4.24**	**254**	*e*	**Pn**	**20 25 35.9**	**+1.4**	
SVKR				*e*Pg	**Pb**	**20 25 44.8**	**+2.3**	
SVKR				Pmax		20 25 50.2		
	comp=Z,146nm,0.5s							
SVKR				*e*Sg	**Sb**	**20 26 39.7**	**+5.1**	
SVKR				Smax		20 26 54.9		
	comp=Z,901nm,1.4s							
UKT	**Uakit**	**4.48**	**247**	*e*Pn	**Pn**	**20 25 36.8**	**-1.1**	
UKT				*e*Pg	**Pb**	**20 25 47.7**	**+1.1**	
UKT				Pmax		20 25 52.7		
	comp=E,64nm,0.8s							
UKT				*e*Sg	**Sb**	**20 26 44.0**	**+2.4**	
UKT				Smax		20 26 56.5		
	comp=Z,240nm,0.9s							
UKT	**Uakit**	**4.48**	**247**	*e*P	**Pb**	**20 25 49.6**	**+3.0**	
UKT				pmax	pmax			
	comp=Z,45nm,0.6s							
KROS	**Kirovskiy**	**4.60**	**129**	*e*	**Pn**	**20 25 36.3**	**-3.3**	
KROS				⇓*i*		20 25 48.4		
KROS				*i*Sg	**Sb**	**20 26 49.4**	**+4.4**	
YOA	**Uoyan**	**5.20**	**259**	*e*	**Pn**	**20 25 50.3**	**+2.2**	
YOA				*e*Pg	**Pb**	**20 26 02.1**	**+3.2**	
YOA				Pmax		20 26 17.6		
	comp=Z,131nm,1.2s							
YOA				*e*Sg	**Sb**	**20 27 08.7**	**+6.3**	
YOA				Smax		20 27 22.4		
	comp=Z,2μm,1.4s							
YOA	**Uoyan**	**5.20**	**259**	*e*P	**Pb**	**20 26 00.1**	**+1.2**	
YOA				pmax	pmax			
	comp=Z,122nm,1.3s							
KMO	**Kumora**	**5.56**	**257**	*e*Pn	**Pn**	**20 25 51.9**	**-1.3**	
KMO				*e*Pg	**Pb**	**20 26 08.0**	**+2.9**	
KMO				Pmax		20 26 17.4		
	comp=Z,30nm,0.8s							
KMO				*e*Sg	**Sb**	**20 27 19.1**	**+6.2**	
KMO				Smax		20 27 24.9		
	comp=Z,442nm,1.0s							
KMO	**Kumora**	**5.56**	**257**	*e*P	**Pb**	**20 26 07.8**	**+2.7**	
KMO				pmax	pmax			
	comp=Z,22nm,0.7s							
YLYR	**Ulyunkhan**	**6.01**	**248**	*e*Pg	**Pb**	**20 26 15.7**	**+2.8**	
YLYR				Pmax		20 26 33.1		
	comp=Z,20nm,0.8s							
YLYR				*e*Sg	**Sb**	**20 27 31.8**	**+5.7**	
YLYR				Smax		20 27 37.8		
	comp=Z,195nm,1.4s							
TBGR	**Tabaga**	**6.22**	**42**	*e*	**Sn**	**20 27 07.0**	**-8.1**	
TBGR				*e*Sg	**Sb**	**20 27 39.1**	**+7.0**	
YAK	**Yakutsk**	**6.37**	**41**	*e*P	**Pn**	**20 26 06.1**	**+1.4**	
YAK				*e*S	**Sn**	**20 27 10.0**	**-9.0**	
YAK				pmax	pmax			
	comp=N,4.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,22nm,1.0s							
YAK				pmax	pmax			
	comp=N,19nm,1.1s							
YAK				pmax	pmax			
	comp=E,17nm,1.1s							
YAK				smax				
	comp=E,39nm,0.9s							
YAK				smax				
	comp=Z,25nm,0.8s							
YAK				smax				
	comp=N,44nm,0.9s							
YAK				smax				
	comp=E,130nm,0.9s							
YAK				smax				
	comp=Z,81nm,1.0s							
YAK				smax				
	comp=N,133nm,0.8s							
YAK				MLR	MLR			
	comp=Z,48nm,16.0s							
YAK	**Yakutsk**	**6.37**	**41**	*i*P	**Pn**	**20 26 06.2**	**+1.5**	
NIZ	**Nizh Angarsk**	**6.48**	**259**	*e*	**Pb**	**20 26 26.3**	**+5.5**	
NIZ				*e*Sg	**Sb**	**20 27 47.6**	**+8.1**	
NIZ				Smax		20 27 59.0		
	comp=Z,164nm,0.9s							
CIT	**Chita**	**6.91**	**221**	*e*	**Pn**	**20 26 21.1**	**+8.8**	
CIT				*e*Pg	**Pb**	**20 26 31.3**	**+3.0**	
CIT				Pmax		20 26 59.3		
	comp=Z,57nm,1.8s							
CIT				*e*Sg	**Sb**	**20 27 58.8**	**+6.5**	
CIT				Smax		20 28 02.5		
	comp=Z,536nm,1.4s							
SYVR	**Suvo**	**7.25**	**243**	*e*Pg	**Pb**	**20 26 39.5**	**+5.5**	
SYVR				Pmax		20 26 43.0		
	comp=Z,34nm,1.1s							
SYVR				*e*Sg	**Sb**	**20 28 13.6**	**+12**	
SYVR				Smax		20 28 20.1		
	comp=Z,264nm,1.3s							
OGRR	**Ongureny**	**8.44**	**249**	*e*	**Sb**	**20 28 42.8**	**+6.2**	
OGRR				*e*Sg	**Sg**	**20 28 49.5**	**-19**	
OGRR				Smax		20 28 57.1		
	comp=Z,73nm,1.6s							
KPC	**Khapcheranga**	**9.28**	**216**	*e*	Sx	20 27 16.3		
KPC				*e*Sg	Sx	20 29 12.2		
KPC				Smax		20 29 30.8		
	comp=Z,152nm,1.4s							
TRG	**Tyrgan**	**9.56**	**246**	*e*Sg	Sx	20 29 22.5		
TRG				Smax		20 29 30.8		
	comp=Z,70nm,1.6s							
LSTR	**Listvyanka**	**10.84**	**246**	*e*Sg	Sx	20 30 04.4		
LSTR				Smax		20 30 22.9		
	comp=Z,74nm,1.5s							
ARS	**Arshan**	**12.01**	**250**	*e*Sg	Sx	20 30 39.2		
ARS				Smax		20 31 02.5		

	comp=Z,135nm,1.0s							
HABR	**Khabarovsk**	**12.41**	**131**	⇑*i*P	Px	20 27 42.8		
HABR				*i*	**S**	**20 29 52.4**	**+4.5**	
HABR				pmax	pmax			
	comp=Z,38nm,2.2s							
HABR				MLR	MLR			
	comp=Z,104nm,5.8s							
ZAK	**Zakamensk**	**12.54**	**243**	*e*Sg	Sx	20 30 56.8		
ZAK				Smax		20 31 07.2		
	comp=Z,29nm,1.3s							
SONM	**Songino Array**	**13.03**	**228**	LR	LR	20 32 21.1		
	comp=Z,50nm,18.3s,baz=51,slow=37							
TIXI	**Tiksi**	**14.61**	**10**	*i*P	**P**	**20 27 54.5**	**-2.1**	
BILL	**Bilibino**	**22.72**	**44**	*i*P	**P**	**20 29 33.3**	**+2.1**	
MKAR	**Makanchi Array**	**25.62**	**262**	P	**P**	**20 29 58.9**	**-0.5**	
	comp=Z,1.1nm,0.7s,mb3.5,baz=45,slow=7.0,SNR=9.0							
SSE	**Sheshan**	**26.39**	**179**	*e*P	**P**	**20 30 06.0**	**-0.7**	
SSE				AMB	AMB			
	comp=Z,60nm,3.5s							
AAK	**Ala-Archa**	**32.54**	**263**	*i*P	**P**	**20 31 01.6**	**0.0**	
ARCES	**ARCESS Array B**	**39.64**	**327**	P	**P**	**20 32 01.4**	**-0.2**	
	comp=Z,1.7nm,0.8s,mb3.8,baz=60,slow=9.8,SNR=5.9							
ILAR	**Eielson Array**	**41.30**	**40**	P	**P**	**20 32 14.9**	**-0.4**	
	comp=Z,0.7nm,0.6s,mb3.5,baz=293,slow=5.2,SNR=17							
OBN	**Obninsk**	**43.97**	**305**	P	**P**	**20 32 35.6**	**-1.4**	
OBN				*e**PP	pP	20 32 39.9	+2.3	
OBN				*eS*	**S**	**20 39 04.2**	**-5.0**	
OBN				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.1							
FINES	**FINESS Array B**	**44.24**	**317**	P	**P**	**20 32 37.8**	**-1.4**	
	comp=Z,1.8nm,0.8s,mb3.9,baz=53,slow=9.5,SNR=4.8							
NB2	**NORSAR Subarra**	**49.70**	**323**	P	**P**	**20 33 20.8**	**-1.3**	
	comp=Z,1.6nm,0.6s,mb4.2,baz=40,slow=7.4							
NB2	**NORSAR Subarra**	**49.70**	**323**	P	**P**	**20 33 20.8**	**-1.3**	
NB2				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
NOA	**NORSAR Array B**	**49.70**	**323**	P	**P**	**20 33 21.3**	**-0.7**	
	comp=Z,1.6nm,0.7s,mb4.2,baz=43,slow=7.9,SNR=4.4							
NOA	**NORSAR Array B**	**49.70**	**323**	P	**P**	**20 33 21.4**	**-0.7**	
AKASG	**Malin Array Be**	**50.23**	**304**	P	**P**	**20 33 24.1**	**-2.2**	
	comp=Z,1.8nm,0.5s,mb4.4,baz=41,slow=8.5,SNR=8.6							
YKA	**Yellowknife Ar**	**52.90**	**29**	P	**P**	**20 33 43.9**	**-2.4**	
	comp=Z,0.5nm,0.9s,mb3.5,baz=326,slow=6.7,SNR=4.0							
GERES	**GERESS Array B**	**58.23**	**312**	P	**P**	**20 34 22.8**	**-2.2**	
	comp=Z,0.2nm,0.4s,mb3.5,baz=34,slow=4.8,SNR=4.5							
FITZ	**Fitzroy Crossi**	**75.40**	**175**	P	**P**	**20 36 11.3**	**-2.9**	
	comp=Z,0.9nm,0.5s,mb3.9,baz=23,slow=7.7,SNR=7.2							
WRA	**Warramunga Arr**	**77.95**	**167**	P	**P**	**20 36 25.7**	**-2.8**	
	comp=Z,0.8nm,0.8s,mb3.7,baz=352,slow=6.6,SNR=6.8							
WRA	**Warramunga Arr**	**77.95**	**167**	P	**P**	**20 36 25.7**	**-2.7**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							

*CSEM **13** 20:27:30.8±0.2, 35.07N×3.89W, h5km, MD3.3, Error ellipse: s-maj=6.5km s-min=4.6km az=71.0*
*MDD **13** 20:27:32.0±0.3, 35.17N×3.92W, h8km±2km, mbLg2.3/14, Error ellipse: s-maj=4.1km s-min=2.7km az=58.0, PRXIMO*
*SFS **13** 20:27:31.0, 34.97N×3.74W, h80km, ML3.0*
*CNRM **13** 20:27:32.1, 35.15N×3.97W, h6km, MD3.3*
*INMG **13** 20:27:33.7±0.9, 35.22N×3.89W, h31km, ML2.2, Error ellipse: s-maj=7.3km s-min=2.8km az=25.0*

ISC 13 20:27:30.8±0.4, 35.19N±0.02×4.02W±0.03, h17km±4km, n40,σ1s18/68, 1C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPAL	**Palemas**	**0.07**	**61**	P	**Pb**	**20 27 34.0**	**-0.1**
MPAL				S	**Sb**	**20 27 35.0**	**-1.3**
MPAL	**Palemas**	**0.07**	**61**	*i*P	**Pb**	**20 27 34.0**	**-0.1**
TOU	**Touzarine**	**0.31**	**136**	P	**Pb**	**20 27 36.5**	**-1.1**
TOU				S	**Sb**	**20 27 40.0**	**-2.2**
TOU	**Touzarine**	**0.31**	**136**	*i*P	**Pb**	**20 27 36.5**	**-1.1**
EMEL	**Melilla**	**0.88**	**83**	⇑P	**Pb**	**20 27 46.9**	**-0.3**
	197nm,0.1s,SNR=18						
EMEL				S	**Sb**	**20 27 57.8**	**-0.6**
	190nm,0.4s,SNR=6.5						
MELI	**Melilla**	**0.89**	**83**	⇓P	**Pb**	**20 27 47.1**	**-0.4**
MELI				S	**Sb**	**20 27 58.8**	**0.0**
MELI	**Melilla**	**0.89**	**83**	*i*P	**Pb**	**20 27 47.1**	**-0.4**
MELI				*i*S	**Sb**	**20 27 58.8**	**-0.1**
ZAI	**Zaio**	**1.07**	**102**	*i*P	**Pb**	**20 27 50.0**	**-0.4**
ZAI				*i*S	**Sb**	**20 28 06.0**	**+2.1**
TZK	**Tazeka**	**1.11**	**187**	*i*P	**Pb**	**20 27 52.0**	**+0.9**
TZK				*i*S	**Sb**	**20 28 07.5**	**+2.4**
EMIJ	**Mijas**	**1.50**	**336**	P	**Pn**	**20 27 56.9**	**-0.4**
	3.5nm,0.1s,SNR=21						
EMIJ				S	**Sb**	**20 28 17.0**	**+0.5**
	11nm,0.2s,SNR=5.2						
REAL	**Reales**	**1.61**	**324**	P	**Pn**	**20 27 59.1**	**+0.2**
REAL	**Reales**	**1.61**	**324**	*e*P	**Pn**	**20 27 59.1**	**+0.2**
EJIF	**Jimena Fronter**	**1.72**	**317**	P	**Pn**	**20 28 01.8**	**+1.4**
	1.7nm,0.2s,SNR=8.3						
EJIF				S	**Sn**	**20 28 26.3**	**+4.1**
	1.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.93**	**28**	P	**Pn**	**20 28 02.9**	**-0.5**
	2.6nm,0.2s,SNR=16						
EBER				S	**Sn**	**20 28 27.3**	**-0.2**
	21nm,0.3s,SNR=9.5						
ELOJ	**Sierra Loja**	**1.96**	**357**	P	**Pn**	**20 28 05.0**	**+1.2**
	2.2nm,0.3s,SNR=8.4						
MIF	**Mishlifen**	**2.04**	**210**	P	**Pn**	**20 28 05.0**	**0.0**
MIF				S	**Sn**	**20 28 28.0**	**-2.2**
MIF	**Mishlifen**	**2.04**	**210**	*i*P	**Pn**	**20 28 05.0**	**0.0**
LIJA	**Lijar**	**2.05**	**327**	P	**Pn**	**20 28 07.8**	**+2.7**
LIJA				S	**Sn**	**20 28 36.0**	**+5.6**
LIJA	**Lijar**	**2.05**	**327**	*i*P	**Pn**	**20 28 07.8**	**+2.7**
LIJA				*e*S	**Sn**	**20 28 36.0**	**+5.6**
EQUE	**Quentar**	**2.06**	**13**	P	**Pn**	**20 28 06.2**	**+0.8**
	1.2nm,0.2s,SNR=4.8						
EQUE				S	**Sn**	**20 28 31.3**	**+0.5**
	14nm,0.4s,SNR=9.3						
ECOG	**Cogollos-Vega**	**2.11**	**10**	P	**Pn**	**20 28 07.5**	**+1.5**
	1.6nm,0.2s,SNR=4.0						
ECOG				S	**Sn**	**20 28 32.1**	**0.0**
	4.6nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.24**	**319**	P	**Pn**	**20 28 09.9**	**+2.0**
	3.2nm,0.2s,SNR=5.3						
ESPR				S	**Sn**	**20 28 38.6**	**+3.3**
	3.8nm,0.3s,SNR=5.4						
CZD	**Col de Zad**	**2.31**	**202**	*i*P	**Pn**	**20 28 10.0**	**+1.1**
CZD				*i*S	**Sn**	**20 28 36.0**	**-1.2**
ELUQ	**Luque**	**2.37**	**355**	P	**Pn**	**20 28 12.0**	**+2.2**
	3.4nm,0.3s,SNR=6.1						
EQES	**Quesada**	**2.72**	**16**	P	**Pn**	**20 28 15.9**	**+1.3**
	2.0nm,0.1s,SNR=20						
EQES				S	**Sn**	**20 28 46.0**	**-1.4**
	18nm,0.5s,SNR=8.5						
EHUE	**Huescar**	**2.86**	**23**	P	**Pn**	**20 28 17.9**	**+1.2**
	1.3nm,0.2s,SNR=4.0						
EHUE				S	**Sn**	**20 28 47.9**	**-3.1**
	3.7nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**2.97**	**4**	P	**Pn**	**20 28 19.8**	**+1.5**
	1.1nm,0.2s,SNR=4.0						
EBAN				S	**Sn**	**20 28 52.5**	**-1.4**
	6.0nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.00**	**352**	P	**Pn**	**20 28 19.6**	**+0.9**
	1.3nm,0.1s,SNR=12						
EADA				S	**Sn**	**20 28 54.0**	**-0.7**
	1.6nm,0.1s,SNR=4.5						
EMIN	**Mina Concepcio**	**3.34**	**321**	⇓P	**Pn**	**20 28 23.6**	**0.0**
	2.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**20 29 02.1**	**-1.2**
	1.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.65**	**311**	⇓P	**Pn**	**20 28 27.8**	**-0.1**
	1.8nm,0.1s,SNR=18						
EGRO				S	**Sn**	**20 29 10.2**	**-0.8**
	4.8nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**4.19**	**314**	*e*Pn	**Pn**	**20 28 36.0**	**+0.3**
EBAD	**Badajoz**	**4.29**	**327**	P	**Pn**	**20 28 36.7**	**-0.3**
	1.4nm,0.1s,SNR=15						
EBAD				S	**Sn**	**20 29 25.2**	**-2.0**
	5.0nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.47**	**303**	*e*Pn	**Pn**	**20 28 39.5**	**0.0**
PTEO				*e*Sn	**Sn**	**20 29 29.5**	**-2.2**
	3.6nm,0.4s						
PTEO	**Sao Teotonio**	**4.47**	**303**	Pn	**Pn**	**20 28 39.5**	**0.0**
PTEO				Sn	**Sn**	**20 29 29.5**	**-2.2**
	1.8nm,0.4s						
ESDC	**Sonseca Array**	**4.48**	**1**	P	**Pn**	**20 28 40.0**	**+0.4**
	1.5nm,0.2s,baz=174,slow=12,SNR=7.9						
PCBR	**Castelo Branco**	**5.39**	**330**	*e*Pn	**Pn**	**20 28 52.1**	**-0.5**
PCBR				*e*Sn	**Sn**	**20 29 50.4**	**-4.7**
PTOM	**Tomar**	**5.63**	**323**	*e*Pn	**Pn**	**20 28 55.5**	**-0.5**
MTE	**Manteigas**	**5.90**	**333**	*e*Pn	**Pn**	**20 28 59.3**	**-0.5**
PVRL	**Vila Real**	**6.74**	**336**	*e*Pn	**Pn**	**20 29 10.7**	**-0.8**
PVRL				*e*Sn	**Sn**	**20 30 23.2**	**-5.4**
PBRG	**Braganca**	**6.94**	**343**	*e*Pn	**Pn**	**20 29 14.0**	**-0.4**

NEIC 13 20:35:22.8, 35.13N×117.56W, ML3.7(PAS), After PAS., Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWC	**Mount Wilson**	**0.99**	**205**	*e*P	Pb	20 35 40.8	-1.7
MWC				*e*S	Sg	20 35 54.5	-1.3
DAC	**Darwin (Calif)**	**1.15**	**359**	*e*P	Pb	20 35 43.8	-1.5
LDFC	**Landfair**	**2.01**	**91**	*e*P	Pn	20 35 55.2	-3.1
TPNV	**Topopah Spring**	**2.10**	**30**	*e*Pn	Pn	20 35 58.5	-1.2
PTRM	**Twissleman Ran**	**2.23**	**284**	*e*Pn	Pn	20 36 00.2	-1.3
NEN	**Nelson**	**2.28**	**76**	*e*Pn	Pn	20 35 60.0	-2.2
BAR	**Barrett**	**2.55**	**163**	*e*Pn	Pn	20 36 04.3	-1.8
TPH	**Tonopah**	**2.95**	**5**	*e*Pn	Pn	20 36 09.6	-2.2
GLA	**Glamis**	**3.07**	**132**	*e*Pn	Pn	20 36 10.8	-2.7
LRV	**Little Rabbit**	**3.10**	**296**	*e*Pn	Pn	20 36 12.1	-1.8
MNV	**Mina**	**3.33**	**352**	*e*Pn	Pn	20 36 15.4	-1.8
SAO	**San Andreas Ge**	**3.55**	**298**	*e*Pn	Pn	20 36 18.4	-2.0
CMB	**Columbia Colle**	**3.69**	**323**	*e*Pn	Pn	20 36 20.4	-1.9
ARUT	**Antelope Range**	**4.25**	**50**	Pn	Pn	20 36 27.6	-2.6
WUAZ	**Wupatki**	**5.07**	**84**	Pn	Pn	20 36 38.6	-3.3
MVU	**Marysvale**	**5.45**	**50**	Pn	Pn	20 36 45.0	-2.3
MSU	**Marysvale**	**5.48**	**50**	Pn	Pn	20 36 45.3	-2.3
ELK	**Elko**	**5.90**	**17**	Pn	Pn	20 36 49.2	-4.4
DUG	**Dugway**	**6.30**	**35**	Pn	Pn	20 36 55.6	-3.7
NLU	**North Lily Min**	**6.49**	**40**	Pn	Pn	20 36 58.7	-3.3

*CSEM **13** 21:33:17.6±0.2, 38.23N×26.59E, h10km, MD3.0, Error ellipse: s-maj=4.3km s-min=3.0km az=109.0*
*ATH **13** 21:33:18.3, 38.18N×26.56E, h37km±9km, MD3.1/3*
*ISK **13** 21:33:18.8, 38.23N×26.65E, h17km, MD3.0*

ISC 13 21:33:17.0±0.9, 38.19N±0.04×26.54E±0.05, h6km±6km, n14,σ0s94/23, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.17**	**15**	*i*P	**Pg**	**21 33 20.8**	**+0.2**
URLA				*i*S	**Sg**	**21 33 23.1**	**+0.1**
BLCB	**Balcova**	**0.44**	**64**	*i*PG	**Pg**	**21 33 26.3**	**+0.5**
BLCB				*i*SG	**Sg**	**21 33 31.7**	**0.0**
SMG	**Samos**	**0.54**	**154**	⇓*i*PN	**Pn**	**21 33 29.5**	**-1.4**
SMG				*e*SN	**Sn**	**21 33 38.0**	**-2.3**
IZM	**Izmir**	**0.60**	**70**	*i*PG	**Pg**	**21 33 29.4**	**+0.3**
IZM				*i*SG	**Sg**	**21 33 37.4**	**+0.2**
KDAG	**Bornova**	**0.61**	**70**	*i*P	**Pg**	**21 33 27.9**	**-1.3**
KDAG				*i*S	**Sg**	**21 33 35.4**	**-1.9**
PRK	**Paraskevi**	**1.07**	**349**	*e*PN	**Pn**	**21 33 38.4**	**-0.1**
PRK				*e*SN	**Sn**	**21 33 53.8**	**-0.1**
AYDN	**Tasoluk**	**1.19**	**116**	*i*P	**Pb**	**21 33 40.7**	**+1.1**
AYDN				*i*S	**Sb**	**21 33 55.8**	**+0.8**
AKS	**Akhisar**	**1.21**	**55**	PN	**Pn**	**21 33 40.2**	**-0.3**
BODT	**Bodrum**	**1.28**	**151**	PN	**Pn**	**21 33 42.3**	**+0.7**
APE	**Apeiranthos**	**1.38**	**216**	*e*PN	**Pn**	**21 33 43.0**	**0.0**
APE				*e*SN	**Sn**	**21 34 00.9**	**-0.8**
MANT	**Manisa**	**1.61**	**79**	*i*P	**Pn**	**21 33 47.8**	**+1.5**
MANT				*i*S	**Sb**	**21 34 07.0**	**-0.4**
DAT	**Datca**	**1.68**	**150**	*e*PN	**Pn**	**21 33 48.7**	**+1.5**
YER	**Yerkesik**	**1.74**	**127**	PN	**Pn**	**21 33 48.3**	**+0.2**
DALT	**Dalyan (Mudla)**	**2.19**	**130**	*e*PN	**Pn**	**21 33 55.5**	**+0.9**

MAN 13 21:49:57.7, 11.27N×126.03E, h28km, mb3.5, ML2.2, MS1.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.66**	**300**	*e*P	Pb	21 50 11.4	+0.8
BESP				*e*S	Sb	21 50 20.3	+0.8
OCLP	**Ormoc**	**1.41**	**261**	*e*P	Pn	21 50 21.2	-0.7
SCPH	**Surigao**	**1.57**	**200**	⇓*e*P	Pn	21 50 24.3	+0.1
MSLP	**Maasin**	**1.61**	**225**	*e*P	Pn	21 50 24.6	-0.2
MSLP				*e*S	Sn	21 50 42.4	-2.4
CNP	**Catarman**	**1.81**	**313**	*e*P	Pn	21 50 27.0	-0.7
CNP				*e*S	Sn	21 50 50.2	+0.3
PAGZ	**Pagadian**	**4.29**	**218**	*e*P	Pn	21 51 23.6	+21

*NEIC **13** 22:05:35.5±3.0, 6.61N×127.12E, h60km±27km, mb4.4/3, Error ellipse: s-maj=38.2km s-min=12.6km az=78.0*
*MAN **13** 22:05:36.3, 6.28N×126.44E, mb4.8, ML3.7, MS3.6*
*IDC **13** 22:05:39.1±12.0, 6.58N×126.99E, h93km±113km, mb3.9/6, mb1 4.0/6, mb1mx3.7/18, mbtmp4.2/6, Error ellipse: s-maj=48.9km s-min=23.7km az=70.0*

ISC 13 22:05:34.7±1.4, 6.57N±0.07×126.9E±0.1, h66km±14km, n19,σ1s102/23, mb4.3/7, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.75**	**300**	*e*P	**P**	**22 05 49.8**	**-0.2**
MATI				*e*S	**S**	**22 06 01.6**	**+0.1**
DAV	**Davao City (W)**	**1.42**	**291**	*e*Pn	**P**	**22 06 01.6**	**+2.6**
BIPH	**Bislig**	**1.69**	**341**	⇑*e*P	**P**	**22 06 02.2**	**-0.5**
BIPH				*e*S	**S**	**22 06 22.4**	**-0.9**

BUSP				*e*S	Sn	22 41 19.4	-3.5	
SJMP	**San Jose**	**2.54**	**133**	*e*P	Pn	22 40 55.5	-0.5	
SJMP				*e*S	Sn	22 41 23.3	-3.3	
BALP	**Baler**	**2.74**	**56**	*e*P	Pn	22 40 59.1	+0.3	
BALP				*e*S	Sn	22 41 31.9	+0.2	
ENPP	**El Nido**	**2.99**	**176**	*e*P	Pn	22 41 01.6	-0.9	
ENPP				*e*S	Sn	22 41 31.9	-6.2	
PAGZ	**Pagadian**	**7.53**	**147**	*e*P	Pn	22 42 11.1	+4.6	

NEIC ***13*** *23:29:56.3, 32.23S×71.72W, h24km, ML3.0(GUC), After GUC.*

GUC 13 23:29:56.3±0.9, 32.23S×71.72W, h24km±6km, MD3.6, ML3.0, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.39**	**142**	⇑*i*P	Pb	23 30 04.7	+0.1
PACH				*i* S	Sb	23 30 10.8	+0.6
CHNG	**Los Chungos**	**0.39**	**28**	⇓*i*P	Pb	23 30 04.6	-0.1
CHNG				*i* S	Sb	23 30 11.0	+0.6
CHNG				AMP		23 30 11.3	
	comp=E,1μm,0.3s						
ROCH	**El Roble**	**0.95**	**141**	⇑*i*P	Pb	23 30 13.5	-0.5
ROCH				*i* S	Sb	23 30 26.8	+0.6
JACH	**Jahuel**	**1.05**	**116**	⇑*i*P	Pn	23 30 15.1	-0.5
JACH				*i* S	Sb	23 30 29.5	+0.4
CMCH	**Combarbala**	**1.22**	**30**	⇓*i*P	Pn	23 30 17.4	-0.7
CMCH				*i* S	Sn	23 30 33.4	-0.4
CMCH				AMP		23 30 37.9	
	comp=E,880nm,0.6s						
LCCH	**Las Cruces**	**1.25**	**174**	⇑*i*P	Pn	23 30 17.7	-0.8
LCCH				*i* S	Sn	23 30 34.0	-0.6
PEL	**Peldehue**	**1.26**	**137**	⇓*i*P	Pn	23 30 18.8	+0.2
PEL				*i* S	Sn	23 30 35.4	+0.5
PEL				AMP		23 30 37.9	
	comp=N,540nm,0.3s						
RCDM	**Rinconada Maip**	**1.47**	**149**	*e*P	Pn	23 30 21.7	0.0
RCDM				*i* S	Sn	23 30 41.0	+0.7
RCDM				AMP		23 30 42.8	
	comp=E,433nm,0.1s						
TACH	**Talagante**	**1.56**	**155**	⇓*i*P	Pn	23 30 23.3	+0.3
TACH				*i* S	Sn	23 30 43.8	+1.2
FCH	**Farellones**	**1.63**	**133**	⇑*i*P	Pn	23 30 24.3	+0.4
FCH				*i* S	Sn	23 30 45.7	+1.5
FCH				AMP		23 30 48.0	
	comp=E,200nm,0.4s						
PCH	**Pirque**	**1.72**	**144**	⇑*i*P	Pn	23 30 25.9	+0.7
CHCH	**Chadas Angostu**	**1.92**	**153**	⇓*i*P	Pn	23 30 28.5	+0.4
TLL	**Tololo Astrono**	**2.20**	**21**	*e*P	Pn	23 30 33.4	+1.3
TLL				AMP		23 31 07.9	
	comp=N,242nm,0.7s						
CICH	**Cipreses**	**2.35**	**153**	*e*P	Pn	23 30 35.0	+0.7

KRSC ***14*** *00:01:55.9±2.4, 55.38N×166.86E, h25km±3km, ML3.8*
IDC ***14*** *00:02:03.2±1.4, 55.75N×167.80E, mb3.5/3, mb1 3.9/4, mb1mx3.5/21, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=37.4km s-min=14.8km az=45.0*

ISC 14 00:01:57.5±0.5, 55.33N±0.06×166.66E±0.06, h25km, n24, σ0≥99/30, mb3.4/2, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.41**	**252**	*i* P	**Pb**	**00 02 06.0**	**-0.3**
BKI				*i* S	**Sb**	**00 02 14.8**	**+2.6**
BKI				Smax			
	7μm,1.0s						
BDR	**Baidarnaya**	**3.31**	**294**	*e*P	**Pn**	**00 02 48.5**	**-0.5**
SRKR	**Sorokina**	**3.36**	**295**	*e*P	**Pn**	**00 02 48.7**	**-1.0**
ZLN	**Zelenaya**	**3.39**	**284**	*e*P	**Pn**	**00 02 50.3**	**+0.2**
ZLN				*e*S	**Sn**	**00 03 28.8**	**-1.1**
CIRR	**Tsirk**	**3.43**	**286**	*e*P	**Pn**	**00 02 51.0**	**+0.2**
LGNR	**Loginova**	**3.46**	**285**	*e*P	**Pn**	**00 02 51.4**	**+0.2**
KLY	**Klyuchi**	**3.53**	**289**	S	**Sn**	**00 03 29.6**	**-3.9**
KMNR	**Kamenistaya**	**3.67**	**279**	*e*P	**Pn**	**00 02 54.9**	**+0.7**
KMNR				*e*S	**Sn**	**00 03 36.6**	**-0.6**
TUMR	**Tumrok**	**3.72**	**272**	*e*P	**Pn**	**00 02 55.9**	**+1.0**
TUMR				*e*S	**Sn**	**00 03 38.3**	**-0.2**
KOZ	**Kozyrevsk**	**3.91**	**283**	*e*P	**Pn**	**00 02 58.6**	**+1.1**
KOZ				*e*S	**Sn**	**00 03 43.1**	**-0.1**
SRDR	**Sredinnyy**	**4.04**	**287**	*e*P	**Pn**	**00 02 59.5**	**+0.1**
SPN	**Mys Shipunski**	**4.49**	**243**	*e*P	**Pn**	**00 03 05.0**	**-0.8**
FX1	**Attu Island--F**	**4.55**	**120**	Pn	**Pn**	**00 03 06.6**	**0.0**
	3.4nm,0.3s,baz=108,slow=22,SNR=13						
FX1				Sn	**Sn**	**00 03 57.7**	**-1.6**
	6.5nm,0.3s,baz=173,slow=20,SNR=10						
NLC	**Nalytchevo**	**4.80**	**246**	*e*P	**Pn**	**00 03 09.2**	**-1.0**
SMAR	**Somma**	**5.05**	**249**	*e*P	**Pn**	**00 03 13.9**	**+0.2**
UGLR	**Uglovaya**	**5.06**	**248**	*e*P	**Pn**	**00 03 13.8**	**-0.1**
AVH	**Avacha**	**5.08**	**249**	*e*P	**Pn**	**00 03 14.4**	**+0.3**
AVH				*e*S	**Sn**	**00 04 09.9**	**-2.9**
KOK	**Koryaka**	**5.12**	**250**	*e*P	**Pn**	**00 03 14.9**	**+0.2**
GNL	**Ganaly**	**5.34**	**256**	*e*P	**Pn**	**00 03 18.2**	**+0.5**
GRL	**Gorelyy**	**5.79**	**245**	*e*P	**Pn**	**00 03 24.3**	**+0.2**
KAMR	**Kamenskoye**	**7.15**	**358**	*i* P	**Pn**	**00 03 41.7**	**-1.6**
ILAR	**Eielson Array**	**24.47**	**49**	P	**P**	**00 07 16.8**	**+1.6**
	1.0nm,0.8s,mb3.3,baz=258,slow=8.6,SNR=7.2						
MKAR	**Makanchi Array**	**50.59**	**298**	P	pP	00 11 07.0	+3.5
	0.7nm,0.7s,baz=59,slow=7.8,SNR=3.8						
TXAR	**Lajitas Array**	**66.25**	**73**	P	**P**	**00 12 47.2**	**+1.8**
	0.3nm,0.6s,mb3.5,baz=303,slow=4.7,SNR=5.4						

MOS ***14*** *00:06:27.1±1.8, 55.01N×111.65E, h13km, mb4.4/1, Error ellipse: s-maj=13.7km s-min=7.4km az=67.2*

BYKL 14 00:06:27.4±0.2, 55.02N×111.63E, h16km±4km, 9C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.31**	**242**	⇑*i*Pg	Pb	00 06 34.0	0.0
YLYR				Pmax		00 06 34.2	
	335nm,0.1s						
YLYR				*e*Sg	Sb	00 06 38.7	+0.2
YLYR				Smax		00 06 39.3	
	8μm,0.2s						
YLYR	**Ulyunkhan**	**0.31**	**242**	*e*PG	Pb	00 06 34.0	0.0
YLYR				*i*		00 06 38.7	
YLYR				pmax	pmax		
	comp=Z,352nm,0.2s						
YLYR				smax			
	comp=N,5μm,0.1s						
KMO	**Kumora**	**0.90**	**344**	⇑*i*Pg	Pb	00 06 43.8	-0.4
KMO				Pmax		00 06 48.9	
	comp=N,494nm,0.4s						
KMO				*e*Sg	Sb	00 06 55.6	-0.2
KMO				Smax		00 07 03.8	
	comp=N,2μm,0.7s						
KMO	**Kumora**	**0.90**	**344**	⇑*i*PG	Pb	00 06 43.8	-0.4
KMO				*e*		00 06 55.5	
KMO				pmax	pmax		
	comp=Z,492nm,0.4s						
KMO				smax			
	comp=E,2μm,0.6s						
YOA	**Uoyan**	**1.12**	**3**	⇑*i*Pg	Pb	00 06 48.1	+0.3
YOA				Pmax		00 06 51.4	
	comp=E,574nm,0.2s						
YOA				*i* Sg	Sb	00 07 03.6	+1.6
YOA				Smax		00 07 06.4	
	comp=E,11μm,0.5s						
YOA	**Uoyan**	**1.12**	**3**	⇑*i*PG	Pb	00 06 47.8	0.0
YOA				*e*		00 07 03.5	
YOA				pmax	pmax		
	comp=Z,336nm,0.4s						
YOA				smax			
	comp=N,500nm,0.5s						
UKT	**Uakit**	**1.24**	**67**	⇑*i*Pg	Pb	00 06 49.5	-0.4
UKT				*e*		00 06 51.2	
UKT				max		00 06 51.9	
	comp=N,516nm,0.6s						
UKT				*e*Sg	Sb	00 07 05.9	+0.5
UKT				Smax		00 07 06.9	
	comp=N,3μm,0.4s						
UKT				*e*Sb	Sb	00 07 09.6	+4.2
UKT	**Uakit**	**1.24**	**67**	*e*PG	Pb	00 06 47.4	-2.5
UKT				*e*		00 07 05.4	
UKT				pmax	pmax		
	comp=Z,246nm,0.2s						
UKT				smax			
	comp=N,8μm,0.4s						
NIZ	**Nizh Angarsk**	**1.41**	**303**	⇑*i*Pg	Pn	00 06 53.1	+0.5
NIZ				Pmax		00 06 53.6	
	comp=N,485nm,0.4s						
NIZ				*e*Sg	Sb	00 07 12.2	+1.7
NIZ				Smax		00 07 13.1	
	comp=N,802nm,0.5s						
NIZ	**Nizh Angarsk**	**1.41**	**303**	*e*PG	Pn	00 06 53.0	+0.4
NIZ				*e*		00 07 12.2	
NIZ				pmax	pmax		
	comp=Z,460nm,0.6s						
NIZ				smax			
	comp=N,773nm,0.5s						
SVKR	**Severomuysk**	**1.55**	**44**	*e*Pg	Pn	00 06 56.0	+1.4
SVKR				Pmax		00 06 57.1	
	comp=N,1μm,0.3s						
SVKR				*e*		00 07 01.5	
SVKR				*i* Sg	Sn	00 07 17.3	+2.8
SVKR				Smax		00 07 20.4	
	comp=N,7μm,0.6s						
SYVR	**Suvo**	**1.67**	**216**	*e*Pg	Pn	00 06 57.2	+1.0
SYVR				*e*		00 07 02.8	
SYVR				max		00 07 03.7	
	comp=N,158nm,0.8s						
SYVR				*e*Sg	Sn	00 07 21.0	+3.6
SYVR				Smax		00 07 22.8	
	comp=N,740nm,1.2s						
SYVR				*e*		00 07 27.3	
SYVR	**Suvo**	**1.67**	**216**	*e*PN	Pn	00 06 57.2	+1.0
SYVR				*e*		00 07 19.0	
SYVR				pmax	pmax		
	comp=Z,143nm,0.6s						
SYVR				smax			
	comp=E,498nm,0.5s						
NLYR	**Nelyaty**	**2.73**	**56**	*e*Pn	Pn	00 07 11.5	0.0
NLYR				*e*Pg	Pn	00 07 16.5	+5.0
NLYR				Pmax		00 07 22.9	
	comp=E,116nm,0.7s						
NLYR				*e*Sg	Sn	00 07 52.3	+7.8
NLYR				Smax		00 07 53.2	
	comp=E,1μm,0.9s						
NLYR	**Nelyaty**	**2.73**	**56**	*e*PN	Pn	00 07 11.4	-0.1
NLYR				*e*		00 07 16.2	
NLYR				*e*		00 07 51.6	
NLYR				pmax	pmax		
	comp=Z,106nm,0.3s						
NLYR				smax			
	comp=N,1μm,1.0s						
OGRR	**Ongureny**	**2.74**	**241**	*e*Pn	Pn	00 07 12.2	+0.6
OGRR				*e*Pg	Pn	00 07 15.8	+4.2
OGRR				Pmax		00 07 22.1	
	comp=N,45nm,0.5s						
OGRR				*e*Sn	Sn	00 07 43.0	-1.6
OGRR				*e*Sg	Sn	00 07 52.5	+7.9
OGRR				Smax		00 07 56.4	
	comp=N,318nm,1.0s						
OGRR	**Ongureny**	**2.74**	**241**	*e*PN	Pn	00 07 12.4	+0.8
OGRR				*e*		00 07 17.2	
OGRR				*e*		00 07 52.5	
OGRR				pmax	pmax		
	comp=Z,34nm,0.4s						
OGRR				smax			
	comp=E,318nm,0.3s						
BOD	**Bodaibo**	**3.10**	**24**	*e*Pn	Pn	00 07 16.2	-0.5
BOD				*e*Pg	Pn	00 07 22.2	+5.5
BOD				*e*		00 07 29.6	
BOD				max		00 07 30.7	
	comp=E,70nm,0.7s						
BOD				*e*Sn	Sn	00 07 52.4	-1.4
BOD				*e*Sg	Sn	00 08 01.5	+7.7
BOD				Smax		00 08 04.5	
	comp=E,420nm,0.4s						
BOD	**Bodaibo**	**3.10**	**24**	*e*PN	Pn	00 07 15.6	-1.1
BOD				*e*		00 07 21.6	
BOD				*e*S	Sn	00 07 52.1	-1.7
BOD				*e*		00 08 00.8	
BOD				pmax	pmax		
	comp=Z,57nm,0.5s						
BOD				smax			
	comp=N,423nm,0.4s						
CIT	**Chita**	**3.22**	**158**	*e*	Pn	00 07 20.4	+2.0
CIT				*e*Pg	Pn	00 07 24.6	+6.2
CIT				Pmax		00 07 34.4	
	comp=N,70nm,0.6s						
CIT				*e*Sn	Sn	00 07 53.6	-3.1
CIT				*e*Sg	Sn	00 08 07.2	+10
CIT				Smax		00 08 13.3	
	comp=N,364nm,0.8s						
CIT	**Chita**	**3.22**	**158**	*e*PN	Pn	00 07 24.4	+6.0
CIT				*e*		00 08 07.1	
CIT				pmax	pmax		
	comp=Z,71nm,0.6s						
CIT				smax			
	comp=E,357nm,0.8s						
TRTB	**Turuntaevo**	**3.67**	**222**	*e*Pg	Pn	00 07 32.4	+7.6
TRTB				Pmax		00 07 42.0	
	comp=E,66nm,1.0s						
TRTB				*e*Sg	Sn	00 08 21.6	+13
TRTB				Smax		00 08 28.5	
	comp=E,306nm,1.4s						
TRG	**Tyrgan**	**3.86**	**236**	*e*Pn	Pn	00 07 27.7	+0.2
TRG				*e*Pg	Pn	00 07 35.4	+7.9
TRG				*e*		00 07 42.5	
TRG				max		00 07 43.2	
	comp=E,28nm,1.0s						
TRG				*e*Sg	Sn	00 08 26.5	+14
TRG				Smax		00 08 31.0	
	comp=E,221nm,1.4s						
TRG	**Tyrgan**	**3.86**	**236**	*e*PN	Pn	00 07 28.2	+0.7
TRG				*e*		00 07 37.2	
TRG				*e*S	Sn	00 08 12.3	-0.7
TRG				*e*		00 08 26.0	
TRG				pmax	pmax		
	comp=Z,30nm,0.8s						
TRG				smax			
	comp=E,176nm,0.8s						
FFNB	**Fofonovo**	**4.16**	**226**	*e*	Pn	00 07 44.3	+13
FFNB				*e*Sg	Sn	00 08 37.1	+17
FFNB				Smax		00 08 40.8	
	comp=E,390nm,0.8s						
CRS	**Chara**	**4.18**	**60**	⇑*i*Pn	Pn	00 07 31.6	-0.5
CRS				*e*Pg	Pn	00 07 42.8	+11
CRS				Pmax		00 07 50.9	
	comp=E,82nm,0.8s						
CRS				*e*Sg	Sn	00 08 36.9	+16
CRS				Smax		00 08 40.0	
	comp=E,1μm,1.6s						
CRS	**Chara**	**4.18**	**60**	*e*PN	Pn	00 07 31.6	-0.5
CRS				*e*		00 07 43.5	
CRS				*e*		00 08 37.1	
CRS				pmax	pmax		
	comp=Z,83nm,0.8s						
CRS				smax			
	comp=E,1μm,1.3s						
KAB	**Kabansk**	**4.20**	**227**	*e*Sg	Sn	00 08 37.4	+16
KAB				Smax		00 08 57.5	
	comp=E,906nm,1.8s						
HRMR	**Khuramsha**	**4.40**	**221**	*e*Pg	Pn	00 07 46.0	+11
HRMR				Pmax		00 07 55.4	
	comp=E,51nm,0.9s						
HRMR				*e*Sg	Sn	00 08 44.5	+18
HRMR				Smax		00 08 55.9	
	comp=E,507nm,1.0s						
TUP	**Tupik**	**4.86**	**94**	⇑*i*Pn	Pn	00 07 40.6	-1.2
TUP				*e*		00 07 46.8	
TUP				*e*Pg	Pn	00 07 54.6	+13
TUP				Pmax		00 08 01.4	
	comp=E,42nm,0.6s						
TUP				*e*Sg	Sn	00 08 57.6	+19
TUP				Smax		00 08 59.9	
	comp=E,482nm,0.8s						
TUP	**Tupik**	**4.86**	**94**	*e*PN	Pn	00 07 40.4	-1.4
TUP				*e*		00 07 53.8	
TUP				*e*S	Sn	00 08 34.2	-4.2
TUP				*e*		00 08 56.1	
TUP				pmax	pmax		
	comp=Z,33nm,0.7s						
TUP				smax			
	comp=N,485nm,1.2s						
LSTR	**Listvyanka**	**5.14**	**235**	*e*Sg	Sn	00 09 06.5	+21
LSTR				Smax		00 09 09.4	
	comp=N,136nm,1.3s						
IRK	**Irkutsk**	**5.19**	**241**	*e*Sg	Sn	00 09 07.8	+21
IRK				Smax		00 09 14.4	
	comp=N,435nm,1.2s						
KPC	**Khapcheranga**	**5.34**	**175**	*e*Pn	Pn	00 07 46.2	-2.4
KPC				*e*Pg	Pn	00 08 02.7	+14
KPC				*e*		00 08 11.1	
KPC				Pmax		00 08 13.4	
	comp=N,13nm,0.5s						
KPC				*e*Sn	Sn	00 08 48.7	-1.8
KPC				*e*Sg	Sn	00 09 13.6	+23
KPC				Smax		00 09 18.4	
	comp=N,220nm,1.4s						
KPC	**Khapcheranga**	**5.34**	**175**	*e*PN	Pn	00 07 47.4	-1.2
KPC				*e*		00 08 03.6	
KPC				*e*		00 09 14.5	
KPC				pmax	pmax		
	comp=Z,13nm,0.6s						
KPC				smax			
	comp=E,120nm,1.1s						
TLY	**Talaya**	**5.83**	**238**	*e*Sg	Sn	00 09 27.5	+25
TLY				Smax		00 09 36.4	
	comp=E,87nm,1.4s						
TLY	**Talaya**	**5.83**	**238**	*e*PN	Pn	00 07 54.8	-0.7
TLY				*e*		00 08 11.8	
TLY				*e*		00 09 26.1	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.3s						
TLY				smax			
	comp=N,88nm,1.5s						
ARS	**Arshan**	**6.31**	**244**	*e*Pg	Pn	00 08 20.8	+19
ARS				Pmax		00 08 30.8	
	comp=N,18nm,0.3s						
ARS				*e*Sg	Sn	00 09 41.7	+27
ARS				Smax		00 09 45.8	
	comp=N,291nm,0.9s						
ARS	**Arshan**	**6.31**	**244**	*e*PN	Pn	00 08 19.5	+17
ARS				*e*		00 09 41.0	
ARS				pmax	pmax		
	comp=Z,17nm,0.3s						
ARS				smax			
	comp=E,289nm,0.8s						
ZAK	**Zakamensk**	**6.88**	**231**	*e*	Pn	00 08 40.1	+30
ZAK				*e*Sg	Sn	00 10 00.6	+32
ZAK				Smax		00 10 18.0	
	comp=E,46nm,1.3s						
ZAK	**Zakamensk**	**6.88**	**231**	*e*PG	Pn	00 08 30.2	+20
ZAK				*e*		00 09 58.6	
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZAK				smax			
	comp=E,46nm,1.1s						
MOY	**Mondy**	**7.20**	**247**	*e*Pn	Pn	00 08 13.4	-1.3
MOY				*e*		00 08 43.0	
MOY				max		00 08 48.7	
	comp=E,11nm,0.8s						
MOY				*e*Sg	Sn	00 10 09.3	+32
MOY				Smax		00 10 22.5	
	comp=E,170nm,1.5s						
MOY	**Mondy**	**7.20**	**247**	*e*PG	Pn	00 08 36.7	+22
MOY				*e*		00 10 09.3	
MOY				pmax	pmax		
	comp=Z,13nm,0.6s						
MOY				smax			
	comp=N,170nm,1.6s						
ORL	**Orlik**	**7.43**	**255**	*e*Sn	Sn	00 09 38.2	-4.5
ORL				*e*Sg	Sn	00 10 16.6	+34
ORL				Smax		00 10 28.5	
	comp=N,126nm,1.0s						
ORL	**Orlik**	**7.43**	**255**	*e*PN	Pn	00 08 16.7	-1.2
ORL				*e*		00 08 40.9	
ORL				*e*		00 10 16.6	
ORL				pmax	pmax		
	comp=Z,20nm,0.6s						
ORL				smax			
	comp=N,126nm,1.3s						
TDJR	**Todzha**	**9.57**	**260**	*e*Sg	Sn	00 11 22.8	+47

RSPR 14 00:36:30.4, 19.75N×68.99W, h51km±15km, MD3.9/12, MD3.9/12, 13C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.19**	**125**	⇑*e*P	P	00 37 03.4	-1.6
AGPR				*e*S	S	00 37 29.6	-1.4
CRPR	**Cabo Rojo, PR**	**2.48**	**134**	*e*S	S	00 37 36.9	-1.7
CRPR	**Cabo Rojo, PR**	**2.48**	**134**	⇑*e*P	P	00 37 07.4	-1.9
LRS	**Lares**	**2.49**	**125**	⇑*e*P	P	00 37 07.4	-2.0
LRS				*e*S	S	00 37 36.5	-2.2
MGP	**Maguayo**	**2.50**	**134**	⇑*e*P	P	00 37 07.5	-2.1
MGP				*e*S	S	00 37 37.5	-1.4
AOPR	**Arecibo Observ**	**2.54**	**123**	*e*S	S	00 37 38.2	-1.6
AOPR	**Arecibo Observ**	**2.54**	**123**	⇑*e*P	P	00 37 08.5	-1.5
CELP	**Cerrillos**	**2.82**	**126**	⇑*e*P	P	00 37 12.4	-1.7
CELP				*e*S	S	00 37 45.5	-1.7
ICM	**Isla Caja Muer**	**2.98**	**128**	⇑*e*P	P	00 37 15.1	-1.3
ICM	**Isla Caja Muer**	**2.98**	**128**	*e*S	S	00 37 49.0	-2.1
SJG	**San Juan**	**3.14**	**121**	⇑*e*P	P	00 37 17.0	-1.7
SJG	**San Juan**	**3.14**	**121**	*e*S	S	00 37 53.0	-2.2
SJG	**San Juan**	**3.14**	**121**	⇓*e*P	P	00 37 17.2	-1.5
SJG				*e*S	S	00 37 53.2	-2.0
CBYP	**Canovanas**	**3.31**	**116**	⇑*e*P	P	00 37 19.1	-1.9
CBYP	**Canovanas**	**3.31**	**116**	*e*S	S	00 37 57.4	-2.0
CPD	**Cerro la Pandu**	**3.37**	**120**	⇑*e*P	P	00 37 20.4	-1.4
CPD	**Cerro la Pandu**	**3.37**	**120**	*e*S	S	00 37 58.8	-2.1
HUMP	**Col San Antoni**	**3.37**	**118**	⇑*e*P	P	00 37 20.1	-1.8
HUMP	**Col San Antoni**	**3.37**	**118**	*e*S	S	00 37 59.1	-1.9
MTP	**Monte Pirata**	**3.64**	**116**	⇑*e*P	P	00 37 24.2	-1.5
MTP	**Monte Pirata**	**3.64**	**116**	*e*S	S	00 38 05.9	-1.9
STVI	**Saint Thomas**	**4.05**	**109**	⇑*e*P	P	00 37 29.8	-1.6
STVI	**Saint Thomas**	**4.05**	**109**	*e*S	S	00 38 15.9	-2.2

MOS ***14*** *01:19:44.6±0.6, 33.08N×136.92E, h382km, mb3.5/5, Error ellipse: s-maj=23.2km s-min=13.5km az=99.1*
BJI ***14*** *01:19:45.3, 33.10N×137.00E, h379km, mb4.6*
JMA ***14*** *01:19:45.6±0.4, 33.21N×137.06E, h389km±4km, M4.1*
IDC ***14*** *01:19:46.6±1.1, 33.11N×137.03E, h382km±11km, mb3.4/13, mb1 3.6/16, mb1mx3.4/26, mbtmp4.1/16, Error ellipse: s-maj=13.5km s-min=13.3km az=129.0*
NEIC ***14*** *01:19:46.3±0.6, 33.12N×137.04E, h379km±4km, mb4.7/1, Error ellipse: s-maj=11.4km s-min=7.8km az=150.0*

ISC 14 01:19:45.8±0.4, 33.23N±0.07×137.03E±0.06, h386km±3km, n47, σ0≥80/56, mb3.7/19, 9C-1D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.71**	**41**	P	**P**	**01 20 34.7**	**0.0**
TK02	**Tokai 2**	**0.94**	**40**	⇑P	**P**	**01 20 36.2**	**+0.8**
JWZ	**Kozaga**	**1.14**	**286**	⇑P	**P**	**01 20 36.0**	**-0.2**
JIE	**Ise**	**1.19**	**347**	⇑P	**P**	**01 20 36.7**	**+0.3**
JWY	**Kouya**	**1.55**	**310**	⇑P	**P**	**01 20 38.6**	**+0.4**
JAI	**Aioi**	**2.23**	**285**	⇑P	**P**	**01 20 42.6**	**+0.2**
JHJ	**Hachijo jima 2**	**2.31**	**92**	P	**P**	**01 20 43.8**	**+0.8**
	34nm,0.3s,baz=81,slow=1.1,SNR=6.6						
JHJ2	**Mitsune**	**2.34**	**92**	P	**P**	**01 20 43.4**	**+0.2**
JWT	**Wachi**	**2.46**	**327**	⇑P	**P**	**01 20 44.3**	**+0.3**
JWT				S	**S**	**01 21 29.3**	**-0.4**
JGM	**Miyama**	**2.48**	**354**	⇑P	**P**	**01 20 44.1**	**-0.1**
JGM				S	**S**	**01 21 30.7**	**+0.6**
JIM2	**Oshima 3**	**2.49**	**53**	P	**P**	**01 20 44.1**	**-0.1**
JYN	**Shimob**	**2.59**	**29**	P	**P**	**01 20 46.2**	**+1.2**
JOD2	**Odawara 2**	**2.65**	**39**	P	**P**	**01 20 45.3**	**-0.2**
JOD2				S	**S**	**01 21 32.4**	**0.0**
JMN	**Monobe**	**2.68**	**282**	⇑P	**P**	**01 20 45.9**	**+0.2**
JRY	**Ryogami san**	**3.18**	**28**	⇓P	**P**	**01 20 50.1**	**+0.2**
JRY				S	**S**	**01 21 39.8**	**-0.5**
MJAR	**Matsushiro Arr**	**3.45**	**16**	P	**P**	**01 20 52.4**	**+0.2**
	4.1nm,0.3s,baz=184,slow=9.3,SNR=37						
MJAR				S	**S**	**01 21 43.2**	**-1.3**
	1.4nm,0.3s,baz=104,slow=17,SNR=7.2						
MAJO	**Matsushiro**	**3.45**	**16**	*e*P	**P**	**01 20 52.3**	**+0.1**
MAT	**

XAN					AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.3								
ENH	**Enshi**	**23.58**	**270**	*eP*	**P**	**P**	**01 24 24.1**	**-0.9**	
	comp=Z,33nm,0.9s,mb4.8								
SONM	**Songino Array**	**27.26**	**311**	P	P	**P**	**01 24 58.6**	**+0.7**	
	comp=Z,2.5nm,0.6s,mb3.9,baz=106,slow=7.8,SNR=17								
ZAK	**Zakamensk**	**30.10**	**315**	*eP*	**P**		**01 25 33.3**	**+11**	
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.1s,mb3.4								
MKAR	**Makanchi Array**	**43.22**	**305**	P	P	**P**	**01 27 11.9**	**+0.2**	
	comp=Z,2.3nm,0.4s,mb3.9,baz=88,slow=9.5,SNR=60								
MKAR	**Makanchi Array**	**43.22**	**305**	*eP*	**P**	**P**	**01 27 11.8**	**+0.1**	
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
VOSK	**Vostochnaya**	**50.22**	**314**	P	P	**P**	**01 28 04.8**	**-0.8**	
VOSK					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.5								
BVA0	**Borovoye Array**	**50.55**	**314**	*i* P		**P**	**01 28 07.5**	**-0.6**	
BVAR	**Borovoye Array**	**50.55**	**314**	P	P	**P**	**01 28 07.7**	**-0.4**	
	comp=Z,1.1nm,0.4s,mb3.5,baz=101,slow=7.3,SNR=19								
BVAR					PcP	PcP	01 29 18.7	-1.1	
	comp=Z,0.4nm,0.4s,baz=119,slow=4.9,SNR=4.2								
KKAR	**Karatay Array**	**51.98**	**301**	*i* P		**P**	**01 28 18.1**	**-0.7**	
KKAR					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb3.7								
KDAK	**Kodiak Island**	**52.32**	**40**	P		**P**	**01 28 20.6**	**-0.5**	
	comp=Z,9.4nm,0.6s,mb4.2,baz=283,slow=4.4,SNR=8.9								
WRA	**Warramunga Arr**	**52.93**	**183**	P	P	**P**	**01 28 24.2**	**-1.8**	
	comp=Z,0.7nm,0.3s,mb3.4,baz=0,slow=7.6,SNR=32								
ILAR	**Eielson Array**	**54.61**	**31**	P	P	**P**	**01 28 37.1**	**-0.4**	
	comp=Z,0.5nm,0.4s,mb3.1,baz=254,slow=5.6,SNR=8.7								
AB31	**Akbulak array**	**57.67**	**311**	*i* P		**P**	**01 28 58.2**	**-0.9**	
AB31					pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.4								
INK	**Inuvik**	**59.39**	**26**	P		**P**	**01 29 10.7**	**+0.3**	
	comp=Z,1.7nm,0.5s,mb3.6,baz=296,slow=6.2,SNR=7.5								
STKA	**Stephens Creek**	**64.90**	**176**	P		**P**	**01 29 45.5**	**-1.3**	
	comp=Z,0.9nm,0.7s,mb3.5,baz=118,slow=15,SNR=2.8								
YKA	**Yellowknife Ar**	**68.88**		P		**P**	**01 30 11.2**	**+0.3**	
	comp=Z,0.5nm,0.5s,mb3.4,baz=299,slow=6.2,SNR=7.9								
FINES	**FINESS Array B**	**70.47**	**332**	P		**P**	**01 30 21.4**	**+0.8**	
	comp=Z,1.7nm,0.8s,mb3.6,baz=90,slow=3.8,SNR=5.1								
HLID	**Hailey**	**79.60**	**44**	*eP*		**P**	**01 31 13.6**	**+1.5**	
NVAR	**Mina Array Bea**	**80.16**	**50**	P		**P**	**01 31 16.6**	**+1.4**	
	comp=Z,0.5nm,0.5s,mb3.4,baz=314,slow=4.1,SNR=7.1								
PDAR	**Pinedale Array**	**82.90**	**43**	P		**P**	**01 31 30.3**	**+1.2**	
	comp=Z,0.9nm,0.8s,mb3.5,baz=327,slow=2.5,SNR=7.0								
TXAR	**Lajitas Array**	**95.30**	**50**	P		**P**	**01 32 29.0**	**+1.1**	
	comp=Z,0.5nm,0.6s,mb3.7,baz=284,slow=3.3,SNR=6.7								

*NEIC **14** 01:23:06.1, 16.49N×99.39W, h11km, MD3.6(MEX), After MEX.*

MEX 14 01:23:06.0±1.1, 16.54N×99.40W, h9km±21km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ACX	**Acapulco**	**0.59**	**303**	*i* P		Pg	01 23 15.8	-2.2
ACX				*i* S		Sg	01 23 24.3	-1.6
CAIG	**El Cayaco**	**0.97**	**301**	*i* P		Pb	01 23 23.0	-1.6
CAIG				*i* S		Sb	01 23 35.9	-1.6
CAIG	**El Cayaco**	**0.97**	**301**	*i* P		Pb	01 23 23.2	-1.4
CAIG				*i* S		Sb	01 23 36.0	-1.4
PLIG	**Platanillo**	**1.84**	**357**	*i* P		Pn	01 23 34.7	-3.4
PLIG				*i* S		Sn	01 23 56.4	-5.4
PLIG	**Platanillo**	**1.84**	**357**	*i* P		Pn	01 23 35.8	-2.4
PLIG				*i* S		Sn	01 23 58.5	-3.3
VHO	**Vista Hermosa**	**2.60**	**78**	*eP*		Pn	01 23 48.1	-1.0
VHO				*i* S		Sn	01 24 16.3	-4.9
OXX	**Oaxaca**	**2.62**	**78**	*eP*		Pn	01 23 50.0	+0.8
OXX				*i* S		Sn	01 24 15.0	-6.5
PPM	**Popocatepetl**	**2.62**	**16**	*i* P		Pn	01 23 46.0	-3.3
PPM				*i* S		Sn	01 24 17.1	-4.4
PPM	**Popocatepetl**	**2.62**	**16**	*i* P		Pn	01 23 47.0	-2.2
PPM				*i* S		Sn	01 24 17.8	-3.6

IDC 14 01:38:13.3±1.4, 15.56S×178.68W, mb4.1/6, mb1 4.5/6, mb1mx4.1/14, mbtmp4.1/6, MS4.0/12, Ms1 4.0/12, ms1mx3.7/27, Error ellipse: s-maj=105.4km s-min=22.2km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.49**	**243**	LR		LR	01 46 35.1	
	comp=Z,160nm,21.5s,baz=23,slow=32							
RAR	**Rarotonga**	**18.80**	**110**	LR		LR	01 47 40.9	
	comp=Z,360nm,21.5s,baz=281,slow=30							
HNR	**Honiara**	**21.72**	**284**	LR		LR	01 50 06.6	
	comp=Z,555nm,20.6s,baz=352,slow=33							
PPT	**Papeete**	**27.96**	**98**	*e*LR		LR	01 50 51.3	
	172nm,26.2s							
TBI	**Tubuai**	**28.58**	**110**	*e*LR		LR	01 51 08.1	
	362nm,25.8s							
TAOE	**Nuku Hiva Isla**	**38.20**	**85**	*e*LR		LR	01 55 36.4	
	2µm,32.1s							
STKA	**Stephens Creek**	**39.58**	**239**	P		P	01 45 46.8	-1.3
	7.5nm,0.9s,baz=75,slow=4.4,SNR=9.3							
STKA					LR	LR	02 00 17.0	
	comp=Z,233nm,19.6s,baz=26,slow=33							
RKT	**Rikitea**	**41.80**	**107**	*e*LR		LR	01 57 15.8	
	228nm,28.2s							
WRA	**Warramunga Arr**	**44.84**	**257**	P		P	01 46 29.2	-2.1
	1.8nm,0.9s,baz=90,slow=7.9,SNR=14							
MJAR	**Matsushiro Arr**	**65.88**	**323**	LR		LR	02 10 40.3	
	comp=Z,89nm,20.8s,baz=230,slow=30							
NVAR	**Mina Array Bea**	**77.93**	**44**	P		P	01 50 15.6	+0.7
	0.3nm,0.6s,baz=234,slow=7.8,SNR=4.6							
BBB	**Bella Bella**	**80.39**	**29**	LR		LR	02 19 12.6	
	comp=Z,113nm,18.6s,baz=347,slow=31							
ILAR	**Eielson Array**	**83.67**	**13**	P		P	01 50 43.0	-1.8
	1.0nm,1.0s,baz=226,slow=7.6,SNR=4.7							
NEW	**Newport**	**83.78**	**36**	LR		LR	02 18 44.1	
	comp=Z,106nm,19.8s,baz=197,slow=29							
DLBC	**Dease Lake**	**83.79**	**23**	LR		LR	02 27 55.2	
	comp=Z,115nm,18.2s,baz=164,slow=36							
TXAR	**Lajitas Array**	**84.97**	**58**	P		P	01 50 49.6	-2.5
	1.2nm,1.0s,baz=233,slow=6.3,SNR=7.9							
TXAR					LR	LR	02 22 10.9	
	comp=Z,100nm,18.7s,baz=195,slow=31							
PDAR	**Pinedale Array**	**85.84**	**44**	P		P	01 50 55.0	-1.2
	1.0nm,1.0s,baz=243,slow=3.3,SNR=5.7							
PDAR					LR	LR	02 22 07.1	
	comp=Z,73nm,18.9s,baz=101,slow=31							
SONM	**Songino Array**	**91.61**	**319**	LR		LR	02 31 04.1	
	comp=Z,58nm,18.3s,baz=122,slow=35							
YKA	**Yellowknife Ar**	**92.32**	**25**	LR		LR	02 27 43.4	
	comp=Z,107nm,19.8s,baz=255,slow=32							

*IDC **14** 01:47:40.3±1.2, 32.71N×88.90E, mb3.6/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, Error ellipse: s-maj=38.6km s-min=28.8km az=17.0*
*NEIC **14** 01:47:49.5±0.8, 32.83N×88.98E, h67km±11km, mb3.9/1, Error ellipse: s-maj=10.8km s-min=8.7km az=119.0*
ISC 14 01:47:48.3±1.3, 32.81N±0.09×89.0E±0.1, h76km±17km, n16, σ0°63/16, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**3.62**	**148**	*eP*		**P**	**01 48 44.0**	**+0.6**
GUN	**Gumba**	**5.56**	**209**	*eP*		**P**	**01 49 09.5**	**-0.7**
	14nm,0.6s							
JIRN	**Jiri**	**5.67**	**206**	*eP*		**P**	**01 49 12.6**	**+0.9**
	21nm,0.5s							
KKN	**Kakani**	**5.93**	**213**	*eP*		**P**	**01 49 15.0**	**-0.3**
	10nm,0.5s							
PKI	**Pulchoki**	**6.06**	**211**	*eP*		**P**	**01 49 16.8**	**-0.3**
	11nm,0.4s							
GKN	**Gorkha**	**6.08**	**219**	*eP*		**P**	**01 49 17.3**	**0.0**
	6.4nm,0.3s							
DMN	**Daman**	**6.17**	**214**	*eP*		**P**	**01 49 18.3**	**-0.3**
	5.9nm,0.4s							
MKAR	**Makanchi Array**	**14.87**	**342**	Pn		**P**	**01 51 15.9**	**+0.4**
	0.1nm,0.3s,baz=168,slow=13,SNR=3.8							
SONM	**Songino Array**	**19.98**	**36**	P		**P**	**01 52 16.3**	**-0.5**
	1.5nm,1.0s,baz=214,slow=12,SNR=7.8							
ULN	**Ulaanbaatar**	**20.33**	**37**	*eP*		**P**	**01 52 19.7**	**-0.8**
	3.3nm,0.6s							
BRTR	**Keskin Array B**	**44.54**	**295**	P		**P**	**01 55 54.6**	**+0.5**
	0.5nm,0.7s,mb3.3,baz=117,slow=11,SNR=3.6							
GERES	**GERESS Array B**	**56.88**	**310**	P		**P**	**01 57 28.5**	**+1.0**
	0.6nm,0.7s,mb3.8,baz=79,slow=6.8,SNR=7.8							
WRA	**Warramunga Arr**	**68.06**	**134**	P		**P**	**01 58 42.4**	**+0.4**
	1.4nm,1.4s,mb3.6,baz=326,slow=6.2,SNR=4.2							

TORD	**Torodi Ar. Bea**	**80.74**	**280**	P		**P**	**01 59 54.1**	**-1.1**	
	0.9nm,0.9s,mb3.6,baz=53,slow=4.2,SNR=6.2								
YKA	**Yellowknife Ar**	**83.15**	**11**	P		**P**	**02 00 06.9**	**+0.2**	
	0.5nm,0.8s,mb3.4,baz=333,slow=5.1,SNR=8.0								
YKA	**Yellowknife Ar**	**83.15**	**11**	P		**P**	**02 00 06.9**	**+0.2**	

IDC 14 02:02:53.3±8.0, 5.50N×95.81E, h74km±45km, mb3.5/3, mb1 3.7/4, mb1mx3.3/19, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=255.4km s-min=25.8km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**4.10**	**131**	P		P	02 03 54.7	-0.3
	1.6nm,0.3s,baz=324,slow=17,SNR=6.5							
MKAR	**Makanchi Array**	**42.77**	**346**	P		P	02 10 43.2	-1.8
	0.3nm,0.8s,baz=173,slow=9.4,SNR=5.2							
WRA	**Warramunga Arr**	**45.55**	**125**	P		P	02 11 05.7	-2.0
	2.6nm,0.7s,baz=302,slow=9.2,SNR=42							
STKA	**Stephens Creek**	**57.28**	**134**	P		P	02 12 33.8	-2.0
	0.7nm,0.4s,baz=293,slow=7.7,SNR=3.7							

*FUNV **14** 02:04:39.3, 10.27N×62.25W, h0km, MW3.1*
*IDC **14** 02:04:42.2±3.0, 10.36N×62.39W, h39km±26km, mb3.2/6, mb1 3.6/8, mb1mx3.4/24, mbtmp3.6/8, ML3.3/2, Error ellipse: s-maj=25.9km s-min=20.7km az=130.0*
*NEIC **14** 02:04:43.8, 10.60N×62.15W, MD3.6(TRN), After TRN.*
*TRN **14** 02:04:44.3, 10.62N×62.12W, h5km, MD3.6, Md3.7(FDF)*
ISC 14 02:04:39.0±0.3, 10.32N±0.03×62.43W±0.03, h10km, n34, σ1°43/49, mb3.4/6, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GUIV	**Guiria**	**0.38**	**32**	*eP*		**Pg**	**02 04 46.7**	**-0.1**
GUIV				*eS*		**Sg**	**02 04 51.8**	**-0.3**
GUNV	**Guanoco**	**0.53**	**253**	*eP*		**Pg**	**02 04 52.4**	**+2.6**
GUNV				*eS*		**Sg**	**02 05 03.1**	**+6.1**
ALNG	**Atlantic LNG**	**0.74**	**101**	*eP*		**Pb**	**02 04 56.6**	**+3.0**
CRUV	**Carupano**	**0.87**	**294**	*eP*		**Pb**	**02 04 57.5**	**+1.8**
CRUV				*eS*		**Sb**	**02 05 11.6**	**+4.4**
SIPA	**Siparia**	**0.93**	**101**	*eP*		**Pb**	**02 04 59.5**	**+2.8**
TPP	**Pointe-a-Pierr**	**0.96**	**90**	*eP*		**Pb**	**02 04 57.7**	**+0.3**
TPP				*eS*		**Sb**	**02 05 12.6**	**+2.8**
TRN	**Trinidad (W)**	**1.06**	**72**	*i*P		**Pb**	**02 04 57.4**	**-1.6**
TRN				*eS*		**Sb**	**02 05 08.8**	**-4.0**
TBH	**Brigand Hill**	**1.35**	**83**	*eP*		**Pb**	**02 05 04.2**	**+0.2**
ORIV	**Oritupano**	**1.58**	**218**	*eP*		**Pn**	**02 05 09.7**	**+2.4**
ORIV				*eS*		**Sb**	**02 05 31.8**	**+4.1**
TPR	**Prospect**	**1.84**	**62**	*eP*		**Pn**	**02 05 11.3**	**+0.3**
TPR				*eS*		**Sn**	**02 05 36.2**	**+1.8**
BOT	**Bacolet**	**1.88**	**63**	*eP*		**Pn**	**02 05 12.6**	**+1.0**
GRW	**Mount Saint Ca**	**1.98**	**22**	*eP*		**Pn**	**02 05 13.8**	**+0.9**
GRHS	**Sauteurs**	**2.04**	**22**	*eP*		**Pn**	**02 05 14.0**	**+0.1**
GRHS				*eS*		**Sn**	**02 05 38.7**	**-1.0**
GURV	**El Guri**	**2.63**	**194**	*eP*		**Pn**	**02 05 21.8**	**-0.5**
GURV				*eS*		**Sn**	**02 05 53.2**	**-1.4**
SVB	**Belmont**	**3.15**	**21**	*eP*		**Pn**	**02 05 30.3**	**+0.6**
SVB				*eS*		**Sn**	**02 06 07.2**	**-0.6**
CUPV	**Cœpira**	**3.32**	**266**	*eP*		**Pn**	**02 05 34.2**	**+2.1**
CUPV				*eS*		**Sn**	**02 06 14.4**	**+2.4**
MERV	**Las Mercedes**	**3.96**	**255**	*eP*		**Pn**	**02 05 42.2**	**+1.0**
MERV				*eS*		**Sn**	**02 06 28.9**	**+0.6**
MVM	**Montagne Vaucl**	**4.46**	**19**	*eP*		**Pn**	**02 05 47.6**	**-0.8**
FDF	**Fort de France**	**4.56**	**16**	*eP*		**Pn**	**02 05 48.1**	**-1.6**
CRM	**Caravelle**	**4.65**	**18**	*eP*		**Pn**	**02 05 50.6**	**-0.4**
CAOV	**Caicara del Or**	**4.87**	**233**	*eP*		**Pn**	**02 05 53.6**	**-0.4**
CAOV				*eS*		**Sn**	**02 06 48.8**	**-2.3**
BAUV	**El Baul**	**5.70**	**257**	*eP*		**Pn**	**02 06 05.6**	**-0.3**
BAUV				*eS*		**Sn**	**02 07 09.4**	**-2.7**
SCG	**Saint Claude**	**5.72**	**7**	*eP*		**Pn**	**02 06 06.9**	**+0.7**
SCG				*eS*		**Sn**	**02 07 12.6**	**0.0**
BCG	**Bois Riant Cap**	**5.78**	**8**	*eP*		**Pn**	**02 06 07.9**	**+0.9**
LZG	**Guadaloupe-1**	**5.82**	**6**	*eP*		**Pn**	**02 06 06.5**	**-1.1**
SDV	**Santo Domingo**	**8.22**	**261**	Pn		**P**	**02 06 39.5**	**-1.7**
	3.0nm,0.3s,baz=96,slow=7.9,SNR=15							
ROSC	**El Rosal**	**12.98**	**246**	Pn		**P**	**02 07 45.8**	**-0.6**
	0.7nm,0.3s,baz=75,slow=20,SNR=3.4							
SIV	**San Ignacio**	**26.18**	**177**	P		**P**	**02 10 13.2**	**-2.6**
	0.4nm,0.7s,mb3.1,baz=351,slow=13,SNR=3.0							
TXAR	**Lajitas Array**	**42.87**	**302**	P		**P**	**02 12 37.6**	**-1.8**
	0.2nm,0.7s,mb3.0,baz=124,slow=4.5,SNR=3.4							
TXAR					PcP	PcP	02 14 28.9	-2.1
	0.2nm,0.5s,baz=123,slow=5.0,SNR=5.6							
TXAR	**Lajitas Array**	**42.87**	**302**	P		**P**	**02 12 37.6**	**-1.8**
TXAR					PcP	PcP	02 14 28.9	-2.1
PDAR	**Pinedale Array**	**52.16**	**317**	P		**P**	**02 13 48.4**	**-3.6**
	0.3nm,0.6s,mb3.4,baz=85,slow=10.0,SNR=3.1							
TORD	**Torodi Ar. Bea**	**62.70**	**80**	P		**P**	**02 15 03.0**	**-3.8**
	0.3nm,0.8s,mb3.5,baz=293,slow=6.9,SNR=4.6							
YKA	**Yellowknife Ar**	**64.03**	**336**	P		**P**	**02 15 10.3**	**-4.6**
	0.1nm,0.4s,mb3.2,baz=107,slow=7.3,SNR=4.1							
FINES	**FINESS Array B**	**80.30**	**29**	P		**P**	**02 16 49.5**	**-2.0**
	1.1nm,0.6s,mb4.0,baz=270,slow=3.8,SNR=5.9							

WEL 14 02:31:03.7±0.4, 38.41S×175.84E, h164km±3km, ML3.5/11, 1C, Error ellipse: s-maj=4.5km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CNZ	**Chateau**	**0.83**	**196**		PN	P	02 31 28.8	+0.1
BKZ	**Black Stump Fm**	**0.92**	**146**		PN	P	02 31 29.5	+0.2
BKZ					SN	S	02 31 48.5	-0.5
WNVZ	**Wahianoa**	**0.94**	**192**		PN	P	02 31 29.8	+0.3
WNVZ					SN	S	02 31 49.7	+0.3
MOVZ	**Moawhango**	**1.00**	**184**	⇑	PN	P	02 31 29.8	-0.1
MOVZ					SN	S	02 31 49.4	-0.8
URZ	**Urewera**	**1.01**	**82**		PN	P	02 31 29.8	-0.1
URZ					SN	S	02 31 49.8	-0.4
MWZ	**Matawai**	**1.33**	**88**		PN	P	02 31 32.7	-0.2
WAZ	**Wanganui**	**1.50**	**206**	*e*	PN	P	02 31 33.8	-0.9
KNZ	**Kokohu**	**1.56**	**114**	*e*	PN	P	02 31 35.2	0.0
TSZ	**Takapari Road**	**1.66**	**177**		PN	P	02 31 35.5	-0.7
PXZ	**Pawanui**	**1.81**	**154**		PN	P	02 31 37.2	-0.6
PXZ					SN	S	02 32 03.1	-1.1
MRZ	**Mangatainoka R**	**2.26**	**185**		PN	P	02 31 41.0	-2.1
BFZ	**Birch Farm**	**2.29**	**172**		PN	P	02 31 41.7	-1.8
KIW	**Kapiti Island**	**2.56**	**196**		PN	P	02 31 43.8	-2.9
MTW	**Mount Morrison**	**2.76**	**185**		PN	P	02 31 46.0	-3.2
CAW	**Cannon Point**	**2.77**	**192**		PN	P	02 31 46.3	-3.0
DUWZ	**D'Urville Isla**	**2.82**	**211**		PN	P	02 31 46.6	-3.4
TRWZ	**Traveller**	**2.99**	**182**		PN	P	02 31 48.8	-3.4
SNZO	**South Karori**	**3.03**	**196**		PN	P	02 31 48.8	-3.8
MSWZ	**Moikau Station**	**3.04**	**188**		PN	P	02 31 49.1	-3.7
TCW	**Tory Channel**	**3.05**	**203**		PN	P	02 31 49.1	-3.8
BHW	**Baring Head**	**3.09**	**194**		PN	P	02 31 49.6	-3.8
QRZ	**Quartz Range**	**3.52**	**226**		PN	P	02 31 53.7	-5.2
THZ	**Tophouse**	**4.04**	**213**		PN	P	02 32 01.1	-4.5
MQZ	**McQueen's Vall**	**5.82**	**203**		SN	S	02 33 24.3	-11

*BJI **14** 02:33:04.7, 3.31S×151.37E, h455km, mb4.1*
*IDC **14** 02:33:05.6±1.5, 3.63S×150.94E, h444km±15km, mb3.8/13, mb1 4.1/15, mb1mx4.1/16, mbtmp4.6/15, Error ellipse: s-maj=14.8km s-min=10.5km az=101.0*
*NEIC **14** 02:33:06.6±1.1, 3.62S×150.88E, h458km±13km, mb4.7/9, Error ellipse: s-maj=13.0km s-min=8.8km az=95.0*
ISC 14 02:33:06.1±1.1, 3.64S±0.07×150.92E±0.09, h463km±12km, n49, σ0°88/46, mb4.3/23, 2D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.83**	**213**	P		**P**	**02 34 50.0**	**-0.5**
	9.6nm,0.3s,baz=32,slow=5.3,SNR=34							
PMG					S	**S**	**02 36 14.6**	**+1.4**
	2.1nm,0.3s,baz=173,slow=24,SNR=14							
CTA	**Charters Tower**	**16.97**	**195**	⇓	*i*P	**P**	**02 36 39.3**	**+1.5**
	70nm,0.6s							
CTA					*e*S	**S**	**02 39 38.1**	**+9.2**
CTA	**Charters Tower**	**16.97**	**195**		P	**P**	**02 36 39.3**	**+1.5**
	9.9nm,0.3s,baz=14,slow=11,SNR=172							
CTA					S	**S**	**02 39 38.4**	**+9.4**
	baz=218,slow=17,SNR=7.4							
CTAO	**Charters Tower**	**16.97**	**195**	*e*P		**P**	**02 36 39.0**	**+1.2**
	76nm,0.6s							
WB2	**Warramunga Arr**	**22.88**	**224**	⇓	*i*P	**P**	**02 37 33.5**	**-0.8**
WB2					*e*S	**S**	**02 41 09.0**	**-0.6**
WRA	**Warramunga Arr**	**22.89**	**224**	P		**P**	**02 37 33.7**	**-0.7**
	2.6nm,0.3s,mb4.1,baz=47,slow=9.3,SNR=110							

WRA					S	**S**	**02 41 10.7**	**+0.9**	
	1.7nm,0.7s,baz=43,slow=16,SNR=4.4								
WRA					ScP		02 44 05.7		
	1.3nm,0.6s,baz=49,slow=2.8,SNR=9.4								
DZM	**Mont Dzumac**	**23.72**	**142**	*eP*		**P**	**02 37 41.4**	**-0.4**	
DZM	**Mont Dzumac**	**23.72**	**142**	P		**P**	**02 37 41.0**	**-0.8**	
	19nm,0.6s,mb4.7,baz=349,slow=7.7,SNR=18								
ARMA	**Armidale**	**26.64**	**179**	*eP*		**P**	**02 38 08.3**	**+0.4**	
FITZ	**Fitzroy Crossi**	**28.62**	**238**	*eP*		**P**	**02 38 23.8**	**-1.6**	
	11nm,0.5s,mb4.5								
FITZ	**Fitzroy Crossi**	**28.62**	**238**	P		**P**	**02 38 23.7**	**-1.7**	
	7.8nm,0.6s,mb4.3,baz=72,slow=8.7,SNR=40								
STKA	**Stephens Creek**	**29.42**	**196**	*eP*		**P**	**02 38 31.0**	**-1.2**	
	3.9nm,0.3s,mb4.3								
STKA	**Stephens Creek**	**29.42**	**196**	P		**P**	**02 38 31.0**	**-1.3**	
	5.0nm,0.4s,mb4.3,baz=44,slow=15,SNR=20								
STKA	**Stephens Creek**	**29.42**	**196**	*eP*		**P**	**02 38 30.4**	**-1.9**	
CNB	**Canberra Magne**	**31.55**	**182**	*eP*		**P**	**02 38 50.9**	**+0.4**	
	32nm,0.6s,mb4.9								
FORT	**Forrest**	**34.55**	**216**	*eP*		**P**	**02 39 14.3**	**-1.5**	
	18nm,0.6s,mb4.7								
MBWA	**Marble Bar**	**34.96**	**238**	*eP*		**P**	**02 39 17.6**	**-1.7**	
MJAR	**Matsushiro Arr**	**41.70**	**345**	P		**P**	**02 40 13.2**	**-1.2**	
	2.1nm,0.7s,mb3.7,baz=171,slow=7.4,SNR=5.7								
HIA	**Hailar**	**59.23**	**337**	*eP*		**P**	**02 42 23.3**	**-0.1**	
	5.2nm,0.6s,mb4.0								
GTA	**Gaotai**	**63.54**	**318**	*eP*		**P**	**02 42 52.9**	**+1.0**	
SONM	**Songino Array**	**64.36**	**328**	P		**P**	**02 42 57.6**	**+0.7**	
	2.4nm,0.5s,mb4.0,baz=145,slow=4.9,SNR=22								
JIRN	**Jiri**	**69.59**	**301**	*eP*		**P**	**02 43 30.2**	**+0.8**	
	6.9nm,0.7s,mb4.3								
GUN	**Gumba**	**69.92**	**301**	*eP*		**P**	**02 43 32.2**	**+0.8**	
	14nm,0.7s,mb4.6								
PKI	**Pulchoki**	**70.23**	**301**	*eP*		**P**	**02 43 33.7**	**+0.4**	
KKN	**Kakani**	**70.40**	**301**	*eP*		**P**	**02 43 34.6**	**+0.4**	
	9.8nm,0.6s,mb4.5								
DMN	**Daman**	**70.50**	**301**	*eP*		**P**	**02 43 35.5**	**+0.7**	
GKN	**Gorkha**	**71.00**	**301**	*eP*		**P**	**02 43 38.1**	**+0.3**	
	8.6nm,0.6s,mb4.5								
KOLN	**Koldanda**	**71.83**	**301**	*eP*		**P**	**02 43 41.8**	**-0.8**	
VNDA	**Vanda**	**74.05**	**178**	P		**P**	**02 43 55.2**	**+0.7**	
	3.2nm,0.5s,mb4.1,baz=334,slow=6.6,SNR=41								
MKAR	**Makanchi Array**	**78.23**	**319**	P		**P**	**02 44 18.6**	**+0.6**	
	1.5nm,0.5s,mb3.7,baz=96,slow=7.5,SNR=20								
SLKM	**Skilak Lake**	**78.43**	**26**	*eP*		**P**	**02 44 18.7**	**-0.2**	
COLA	**College**	**81.49**	**22**	*eP*		**P**	**02 44 33.9**	**-0.7**	
	6.1nm,0.6s,mb4.3								
ILAR	**Eielson Array**	**81.81**	**23**	P		**P**	**02 44 35.0**	**-1.3**	
	7.0nm,0.7s,mb4.3,baz=245,slow=5.1,SNR=109								
DAWY	**Dawson**	**84.51**	**24**	*eP*		**P**	**02 44 50.6**	**+0.8**	
MAW	**Mawson**	**85.91**	**203**	P		**P**	**02 44 57.2**	**+0.7**	
	5.3nm,0.5s,mb4.4,baz=107,slow

VNA3	Neumayer Olymp	56.95	161			P	02 44 56.0	-0.2
VNA3	Neumayer Olymp	56.95	161	*e*		P	02 45 00.0	+3.8
VNA1	Neumayer--Stat	57.15	160	*e*		P	02 45 02.6	+5.0
VNA1	Neumayer--Stat	57.15	160	*e*P		P	02 44 58.2	+0.6
VNA1				*e*			02 45 02.6	
VNA2	Neumayer--Watz	57.52	160			P	02 45 00.1	-0.1
VNA2	Neumayer--Watz	57.52	160	*e*		P	02 45 04.2	+4.0
SNAA	Sanae	59.15	161			P	02 45 10.9	-0.7
SNAA	Sanae	59.15	161	*e*		P	02 45 15.6	+4.0
JSC	Jenkinsville	59.73	346	*e*P		P	02 45 15.4	-0.7
WVT	Waverly	63.16	341	*e*P		P	02 45 37.1	-1.8
	comp=E,6.1nm,0.8s,mb4.5							
TXAR	Lajitas Array	63.83	325	P		P	02 45 43.0	-0.5
	comp=E,0.4nm,0.7s,mb3.4,baz=152,slow=7.4,SNR=7.0							
TXAR				PcP		PcP	02 46 18.3	+0.7
	comp=E,0.6nm,0.7s,baz=129,slow=5.8,SNR=4.9							
ACSO	Alum Creek Sta	65.82	347	*e*P		P	02 45 55.5	-0.7
	comp=E,2.9nm,0.6s,mb4.3							
QSPA	South Pole Qui	65.97	180	*e*P		P	02 45 56.7	+0.2
	comp=E,59nm,0.8s,mb5.5							
DBIC	Dimbokro	67.94	71	P		P	02 46 08.9	-1.0
	comp=E,12nm,0.8s,mb4.7,baz=212,slow=7.2,SNR=22							
DBIC				LR		LR	03 15 37.3	
	comp=E,93nm,18.4s,baz=113,slow=36							
VNDA	Vanda	74.46	190	P		P	02 46 49.1	+1.5
	comp=E,15nm,1.0s,mb4.7,baz=139,slow=4.1,SNR=27							
NEN	Nelson	74.76	321	*e*P		P	02 46 51.0	+1.0
MSU	Marysvale	75.38	325	*e*P		P	02 46 54.7	+1.2
TPNV	Topopah Spring	76.48	321	*e*P		P	02 47 01.5	+1.9
TORD	Torodi Ar. Bea	76.71	69	P		P	02 47 01.0	-0.3
	comp=E,31nm,0.9s,mb4.9,baz=258,slow=5.3,SNR=210							
PDAR	Pinedale Array	77.31	329	P		P	02 47 04.5	+0.3
	comp=E,0.5nm,0.6s,mb3.3,baz=135,slow=6.3,SNR=4.8							
ULM	Lac du Bonnet	78.42	342	P		P	02 47 09.4	-0.7
	comp=E,1.5nm,0.3s,mb4.1,baz=160,slow=5.4,SNR=8.3							
NVAR	Mina Array Bea	78.68	321	P		P	02 47 12.8	+1.1
	comp=E,1.6nm,1.0s,mb3.6,baz=135,slow=6.6,SNR=7.3							
NVAR	Mina Array Bea	78.68	321	P		P	02 47 12.8	+1.1
SCHQ	Schefferville	78.74	0	P		P	02 47 10.9	-0.8
	comp=E,4.0nm,0.7s,mb4.2,baz=195,slow=15,SNR=8.2							
MCMT	McKenzie Canyo	80.42	329	*e*P		P	02 47 22.9	+2.0
MAW	Mawson	81.23	163	*e*P		P	02 47 25.5	+0.7
	comp=E,19nm,0.9s,mb4.7							
MAW	Mawson	81.23	163	P		P	02 47 25.4	+0.6
	comp=E,19nm,0.8s,mb4.8,baz=221,slow=6.9,SNR=24							
MAW				LR		LR	03 22 49.1	
	comp=E,53nm,19.5s,baz=65,slow=35							
FCC	Fort Churchill	85.67	346	*e*P		P	02 47 47.9	+0.6
	comp=E,7.2nm,0.6s,mb4.6							
ESDC	Sonseca Array	86.61	44	P		P	02 47 54.0	+1.8
	comp=E,3.9nm,0.8s,mb4.3,baz=237,slow=5.1,SNR=12							
EDM	Edmonton	86.94	334	*e*P		P	02 47 53.4	-0.1
LSZ	Lusaka	88.51	106	*e*P		P	02 48 04.7	+2.9
	comp=E,6.4nm,0.9s,mb4.5							
YKA	Yellowknife Ar	94.32	340	P		P	02 48 27.9	+0.3
	comp=E,1.2nm,0.7s,mb4.2,baz=129,slow=4.5,SNR=23							
WB2	Warramunga Arr	131.38	207	*e*P		PKPdf	02 54 21.3	+1.4
WB2				*e*S		PKS	02 57 46.2	-8.9
WRA	Warramunga Arr	131.39	207	PKP		PKPdf	02 54 21.0	+1.1
	comp=E,3.1nm,0.4s,baz=163,slow=1.5,SNR=5.0							
WRA				SKPbc			02 57 29.9	
	comp=E,6.4nm,0.7s,baz=154,slow=3.7,SNR=55							
FITZ	Fitzroy Crossi	136.13	198	PKP		PKPdf	02 54 30.4	+1.6
	comp=E,1.4nm,0.3s,baz=227,slow=4.1,SNR=13							
FITZ				SKPbc			02 57 46.4	
	comp=E,4.7nm,0.9s,baz=177,slow=4.7,SNR=7.3							
BVAR	Borovoye Array	137.02	37	SKPbc			02 57 48.7	
	comp=E,0.9nm,0.6s,baz=305,slow=3.1,SNR=7.0							
MKAR	Makanchi Array	146.75	40	PKP		PKPdf	02 54 48.6	+1.9
	comp=E,6.3nm,0.5s,baz=331,slow=1.5,SNR=67							
MKAR				PKPbc		PKPbc	02 54 50.9	+2.6
	comp=E,6.6nm,0.6s,baz=299,slow=3.5,SNR=66							
MKAR				SKPbc			02 58 13.5	
	comp=E,3.0nm,0.9s,baz=348,slow=2.2,SNR=7.1							
HYB	Hyderabad	147.22	95	*e*P		PKPdf	02 54 56.0	+7.7
MJAR	Matsushiro Arr	155.06	305	PKPab		PKPab	02 55 27.4	+0.2
	comp=E,1.2nm,0.4s,baz=70,slow=2.8,SNR=6.9							
SONM	Songino Array	155.88	11	PKP		PKPdf	02 55 02.5	+2.5
	comp=E,0.4nm,0.8s,baz=135,slow=4.1,SNR=5.6							
SONM				PKPab		PKPab	02 55 31.0	+0.7
	comp=E,1.3nm,0.7s,baz=323,slow=4.1,SNR=6.3							

IDC 14 02:39:05.7±13.0, 49.73N×154.06E, mb3.6/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=388.6km s-min=33.1km az=167.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	Eielson Array	33.85	41	P		02 45 50.2	-1.2
	0.6nm,0.5s,baz=254,slow=5.1,SNR=6.5						
MKAR	Makanchi Array	46.19	295	P		02 47 32.0	-1.6
	0.3nm,0.4s,baz=58,slow=7.1,SNR=6.4						
YKA	Yellowknife Ar	48.17	39	P		02 47 46.3	-2.7
	0.7nm,0.5s,baz=304,slow=7.2,SNR=16						

*BJI **14** 02:51:35.1, 1.45N×96.80E, h48km, mB5.1, mb4.8*
*IDC **14** 02:51:36.3±0.9, 2.09N×96.36E, mb4.2/11, mb1 4.3/12, mb1mx4.1/20, mbtmp4.2/12, ML3.6/1, Error ellipse: s-maj=38.8km s-min=15.2km az=46.0*
*MOS **14** 02:51:39.5±1.1, 2.09N×96.38E, h33km, mb4.8/4, Error ellipse: s-maj=21.1km s-min=11.8km az=117.9*
*NEIC **14** 02:51:43.4±2.9, 2.23N×96.56E, h48km±23km, mb4.8/3, Error ellipse: s-maj=29.5km s-min=8.9km az=55.0*
ISC 14 02:51:39.6±0.6, 2.13N±0.10×96.49E±0.09, h33km, n33, σ1$02/31, mb4.4/21, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	2.52	75	Pn	Pn	02 52 20.8	+1.5
	11nm,0.3s,baz=280,slow=6.7,SNR=42						
KULM	Kulim	5.20	53	*e*P	P	02 52 57.3	+0.2
JIRN	Jiri	27.23	340	*e*P	P	02 57 23.4	+0.6
	38nm,0.8s,mb5.0						
PKI	Pulchoki	27.43	338	*e*P	P	02 57 26.6	+1.9
GUN	Gumba	27.57	339	*e*P	P	02 57 26.3	+0.4
	23nm,0.6s,mb5.0						
DMN	Daman	27.58	338	*e*P	P	02 57 28.4	+2.4
KKN	Kakani	27.68	338	*e*P	P	02 57 27.8	+0.9
GKN	Gorkha	28.11	337	*e*P	P	02 57 30.9	+0.1
	20nm,0.8s,mb4.8						
KOLN	Koldanda	28.32	335	*e*P	P	02 57 34.0	+1.3
ENH	Enshi	30.58	22	*e*P	P	02 57 50.7	-2.1
	7.1nm,0.7s,mb4.6						
XAN	Xi'an	33.80	19	P	P	02 58 19.3	-1.6
XAN				AP	pP	02 58 27.0	-3.5
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	35.05	126	*e*P	P	02 58 30.9	-0.8
	comp=Z,9.8nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	35.05	126	P	P	02 58 31.1	-0.5
	comp=Z,5.5nm,0.8s,mb4.6,baz=305,slow=7.4,SNR=11						
GTA	Gaotai	37.23	4	*e*P	P	02 58 49.8	-0.1
GTA				AP	pP	02 58 58.1	-1.6
GTA				XP	sP	02 59 02.5	-1.4
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
WRA	Warramunga Arr	43.13	122	P	P	02 59 39.2	+0.2
	comp=Z,3.1nm,0.7s,mb4.2,baz=301,slow=9.2,SNR=26						
WRA				PcP	PcP	03 01 28.6	-0.4
	comp=Z,1.0nm,0.8s,baz=311,slow=2.9,SNR=5.5						
WB2	Warramunga Arr	43.14	122	*i*P	P	02 59 39.3	+0.2
MKAR	Makanchi Array	46.18	346	P	P	03 00 02.9	-0.2
	comp=Z,4.6nm,0.4s,mb4.8,baz=159,slow=9.0,SNR=150						
SONM	Songino Array	46.33	9	P	P	03 00 04.3	0.0
	comp=Z,1.5nm,0.5s,mb4.2,baz=187,slow=10,SNR=7.2						
SONM				PcP	PcP	03 01 39.8	+0.2
	comp=Z,0.7nm,0.4s,baz=181,slow=2.6,SNR=5.8						
KKAR	Karatay Array	46.91	334	*e*P	P	03 00 09.2	+0.3
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
STKA	Stephens Creek	54.50	132	P	P	03 01 07.0	+0.2
	comp=Z,4.1nm,0.8s,mb4.5,baz=305,slow=7.9,SNR=6.2						
VOSK	Vostochnaya	54.70	341	P	P	03 01 06.6	-1.3
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BVA0	Borovoye Array	55.15	341	P	P	03 01 09.8	-1.3
BVAR	Borovoye Array	55.15	341	P	P	03 01 09.7	-1.4
	comp=Z,4.8nm,0.7s,mb4.7,baz=142,slow=8.8,SNR=36						
CHKZ	Chkalovo	55.63	342	*e*P	P	03 01 13.6	-0.9
CHKZ				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
CHKZ	Chkalovo	55.63	342	*e*P	P	03 01 13.6	-1.0
	comp=Z,11nm,0.7s,mb5.0						
AB31	Akbulak array	56.37	332	*i*P	P	03 01 18.9	-1.0
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRTR	Keskin Array B	67.97	312	P	P	03 02 37.8	+0.2
	comp=Z,0.4nm,0.7s,mb3.6,baz=144,slow=6.8,SNR=3.5						
AKASG	Malin Array Be	74.09	322	P	P	03 03 13.2	-1.1
	comp=Z,0.2nm,0.3s,mb3.6,baz=92,slow=5.0,SNR=5.5						
FINES	FINESS Array B	78.85	333	P	P	03 03 40.6	-0.3
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=3.8,SNR=4.7						
ARCES	ARCESS Array B	81.43	340	P	P	03 03 55.1	+0.7
	comp=Z,2.2nm,0.8s,mb4.1,baz=76,slow=5.0,SNR=9.0						
GERES	GERESS Array B	83.65	319	P	P	03 04 07.5	+1.2
	comp=Z,0.5nm,0.7s,mb3.8,baz=90,slow=6.7,SNR=6.8						
NVAR	Mina Array Bea	128.44	35	PKP	PKPdf	03 10 46.3	+2.6
	comp=Z,0.2nm,0.5s,baz=355,slow=3.5,SNR=3.5						
TXAR	Lajitas Array	143.24	30	PKP	PKPdf	03 11 13.8	+2.7
	comp=Z,0.2nm,0.7s,baz=243,slow=2.8,SNR=4.3						

IDC 14 02:56:25.9±4.8, 56.37N×165.55E, mb3.3/3, mb1 3.7/4, mb1mx3.4/21, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=91.6km s-min=18.3km az=59.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FX1	Attu Island--F	5.63	125	Pn	Pn	02 57 49.4	-3.5
	1.2nm,0.3s,baz=181,slow=17,SNR=4.4						
FX1				Sn	Sn	02 58 52.4	-6.9
	1.0nm,0.3s,baz=246,slow=22,SNR=3.0						
ILAR	Eielson Array	24.27	50	P	P	03 01 44.6	-0.5
	0.6nm,0.9s,baz=268,slow=10,SNR=4.2						
YKA	Yellowknife Ar	38.61	47	P	P	03 03 50.3	-1.6
	0.3nm,0.5s,baz=298,slow=8.1,SNR=5.7						
TXAR	Lajitas Array	66.53	72	P	P	03 07 17.0	-2.4
	0.2nm,0.6s,baz=307,slow=4.5,SNR=3.2						

*CSEM **14** 03:30:24.5±0.1, 53.05N×5.62W, h10km, ML3.2/14, Error ellipse: s-maj=2.3km s-min=1.5km az=59.0*
*BGS **14** 03:30:25.5±0.4, 53.00N×5.64W, h10km±6km, ML2.8*
*LDG **14** 03:30:25.9±0.3, 52.97N×5.61W, h10km, Ml3.2/14, Error ellipse: s-maj=5.7km s-min=4.4km az=114.0*
*NEIC **14** 03:30:25.5, 53.00N×5.64W, h10km, ML3.2(LDG), ML2.8(BGS), After BGS.*
NEIC Felt at Cill Mhantain, Ireland.
ISC 14 03:30:22.3±0.3, 52.78N±0.02×5.63W±0.05, h10km, n64, σ1$24/88, 4C-2D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DSB	Dublin	0.65	316	*e*P	Pb	03 30 35.0	-0.3
DSB				*e*S	Sb	03 30 41.8	-2.3
DSB				AML	AML	03 30 42.6	
	comp=N,951nm,0.4s						
DSB				AML	AML	03 30 42.8	
	comp=Z,549nm,0.2s						
DSB	Dublin	0.65	316	*e*P	Pb	03 30 35.0	-0.3
DSB				*e*S	Sb	03 30 41.8	-2.3
DSB				AML	AML	03 30 42.6	
	comp=N,951nm,0.4s						
DSB				AML	AML	03 30 42.8	
	comp=Z,549nm,0.2s						
DSB	Dublin	0.65	316	*e*P	Pb	03 30 35.0	-0.3
DSB	Dublin	0.65	316	*e*P	Pb	03 30 35.0	-0.3
	SNR=100						
DSB				*e*S	Sb	03 30 41.8	-2.3
	comp=Z,190nm,0.3s,SNR=100						
DLF	Lyons Farm	0.75	314	*e*P	Pb	03 30 37.2	+0.2
DLF				*e*S	Sb	03 30 45.1	-2.0
YRE	Yr Eifl	0.76	74	*e*P	Pb	03 30 38.9	+1.7
YRC	Rhoscolyn	0.80	53	*i*P	Pb	03 30 38.4	+0.6
WCB1	Church Bay	0.89	47	*i*P	Pb	03 30 39.6	+0.2
WCB1				*e*S	Sb	03 30 48.9	-2.2
WCB1				AML	AML	03 30 50.0	
	comp=N,502nm,0.4s						
WCB1				AML	AML	03 30 51.1	
	comp=E,599nm,0.4s						
WCB1	Church Bay	0.89	47	*i*P	Pb	03 30 39.6	+0.2
	SNR=69						
WCB1				*e*S	Sb	03 30 48.9	-2.2
	comp=E,34nm,0.3s,SNR=69						
WLF1	Llynfaes	0.91	55	*i*P	Pb	03 30 40.3	+0.6
YLL	Llanberis	0.96	67	*e*P	Pb	03 30 42.0	+1.4
WME	Myndd Eilian	1.01	52	*e*P	Pb	03 30 42.0	+0.5
DCN	Croghan	1.14	300	*e*P	Pb	03 30 44.9	+1.2
DCN				*e*S	Sb	03 30 58.9	+0.5
WPM1	Penmaenmawr	1.15	65	*e*P	Pb	03 30 45.0	+1.1
HSA	Swansea	1.38	138	*e*P	Pn	03 30 52.2	+4.5
SBD1	Bryn Du	1.45	84	*i*P	Pn	03 30 50.6	+1.9
WIM	Isle of Man	1.49	22	*e*P	Pn	03 30 48.4	-0.9
SSP1	Stoney Pound	1.58	102	*e*P	Pn	03 30 53.8	+3.2
SSP1				*e*S	Sb	03 31 14.7	+3.6
SSP1				AML	AML	03 31 16.7	
	comp=N,190nm,0.3s						
SSP1				AML	AML	03 31 16.9	
	comp=E,308nm,0.4s						
HTR	Trewern Hill	1.61	115	*e*P	Pn	03 30 54.6	+3.6
GIM	North Isle of	1.67	24	*e*P	Pn	03 30 51.0	-0.9
HLM1	Long Mynd	1.70	98	*e*P	Pn	03 30 55.2	+2.9
MCH1	Michaelchurch	1.79	115	*e*P	Pn	03 30 57.4	+3.7
MCH1				*e*S	Sn	03 31 20.3	+3.7
MCH1				AML	AML	03 31 24.3	
	comp=N,34nm,0.3s						
MCH1				AML	AML	03 31 28.7	
	comp=E,41nm,0.4s						
MCH1	Michaelchurch	1.79	115	*e*P	Pn	03 30 57.3	+3.6
	SNR=49						
MCH1				*e*S	Sn	03 31 20.3	+3.6
	SNR=49						
HTL	Hartland	1.92	158	*e*P	Pn	03 31 00.5	+4.9
HTL				AML	AML	03 31 32.2	
	comp=N,36nm,0.5s						
HTL				AML	AML	03 31 32.9	
	comp=E,43nm,0.4s						
HTL	Hartland	1.92	158	*e*P	Pn	03 31 00.2	+4.7
HTL				AML	AML	03 31 32.2	
	comp=N,36nm,0.5s						
HTL				AML	AML	03 31 32.9	
	comp=E,43nm,0.4s						
HTL	Hartland	1.92	158	*e*P	Pn	03 31 00.4	+4.9
	SNR=49						
HEX	Exmoor	2.06	146	*e*P	Pn	03 31 02.0	+4.6
HGH	Gray Hill	2.08	122	*e*P	Pn	03 31 01.8	+4.0
SBD	Saint Breward	2.29	165	*i*P	Pn	03 30 50.6	-10
	SNR=49						
VAL	Valentia	2.95	255	*e*P	Pn	03 31 11.6	+1.4
ROSF	Rostrenen	4.69	160	*e*Pn	Pn	03 31 37.9	+2.9
ROSF				*e*Sn	Sn	03 32 30.5	+0.3
	comp=E,9.2nm,0.4s						
SGMF	Saint Gilles	4.94	155	*e*Pn	Pn	03 31 40.4	+2.0
SGMF				*e*Sn	Sn	03 32 36.2	-0.1
	comp=E,4.1nm,0.3s						
QUIF	Quistinic	5.12	161	*e*Pn	Pn	03 31 43.6	+2.7
QUIF				*e*Sn	Sn	03 32 40.6	-0.2
	comp=E,2.1nm,0.3s						
FLN	La Foliniere	5.18	139	*e*Pn	Pn	03 31 43.1	+1.3
	baz=320						
FLN				*e*Sn	Sn	03 32 40.9	-1.5
	comp=E,1.8nm,0.2s,baz=318						
GRR	Gorron	5.34	143	*e*Pn	Pn	03 31 45.8	+1.7
GRR				*e*Sn	Sn	03 32 45.0	-1.5
	comp=E,5.7nm,0.3s						
LDF	La Druitiere	5.46	138	*e*Pn	Pn	03 31 46.8	+1.0
LDF				*e*Sn	Sn	03 32 47.7	-1.7
	comp=E,1.7nm,0.3s						
BAIF	Baives	6.73	110	*e*Pn	Pn	03 32 04.7	+1.0
GIVF	Givet	7.06	108	*e*Pn	Pn	03 32 08.7	+0.3
MFF	Saint Martin d	7.13	148	*e*Pn	Pn	03 32 10.0	+0.7
MFF				*e*Sn	Sn	03 33 27.6	-3.6
	comp=E,1.7nm,0.4s						
HYF	Humbligny	7.67	133	*e*Pn	Pn	03 32 16.4	-0.4
MEZF	Maizieres J'vi	8.03	118	*e*Pn	P	03 32 20.7	-1.1
	baz=300						
MEZF				*e*Sn	Sn	03 33 48.2	-5.4
	comp=E,2.7nm,0.3s						
SFTF	Sexfontaines	8.20	120	*e*Pn	P	03 32 23.6	-0.6
	baz=304						
SSF	Saint Saulge	8.21	131	*e*Pn	P	03 32 24.7	+0.3
SSF				*e*Sn	Sn	03 33 53.0	-5.3
	comp=E,0.9nm,0.4s						
LOR	Lormes	8.23	128	*e*Pn	P	03 32 24.2	-0.5
	baz=311						
LOR				*e*Sn	Sn	03 33 53.1	-5.6
	comp=E,2.3nm,0.3s,baz=304						
TCF	Toulx Ste Croi	8.26	139	*e*Pn	P	03 32 24.8	-0.2
TCF				*e*Sn	Sn	03 33 54.7	-4.6
	comp=E,1.9nm,0.3s						
BGF	Bois d'Agland	8.30	135	*e*Pn	P	03 32 25.4	-0.3
BGF				*e*Sn	Sn	03 33 55.4	-5.1
	comp=E,5.0nm,0.4s						
AVF	Avril sur Loir	8.35	132	*e*Pn	P	03 32 25.6	-0.7
SMF	Signal de Mont	8.68	131	*e*Pn	P	03 32 28.6	-2.3
RJF	Les Rejaudoux	8.83	145	*e*Pn	P	03 32 33.0	0.0
RJF				*e*Sn	Sn	03 34 08.0	-5.6
	comp=E,3.3nm,0.4s						
LFF	La Frestale	8.89	149	*e*Pn	P	03 32 34.2	+0.3
LFF				*e*Sn	Sn	03 34 10.0	-5.2
	comp=E,2.9nm,0.3s						
HAU	Haudompre	9.02	117	*e*Pn	P	03 32 33.0	-2.6
CDF	Champ du Feu	9.30	113	*e*Pn	P	03 32 38.5	-1.0
CAF	Calviac	9.35	144	*e*Pn	P	03 32 39.5	-0.7
HINF	Hinteralfeld	9.40	117	*e*Pn	P	03 32 39.7	-1.3
CABF	La Chapelle	9.78	124	*e*Pn	P	03 32 45.2	-0.8
SJPF	Ste Jean	10.11	161	*e*Pn	P	03 32 50.8	+0.2
VIVF	Saint-Julien-l	10.43	135	*e*Pn	P	03 32 54.7	-0.3
ETSF	Etsaut	10.45	159	*e*Pn	P	03 32 55.5	+0.2
EPF	Esparros	10.54	155	*e*Pn	P	03 32 56.8	+0.3
MTLF	Montolieu	10.80	148	*e*Pn	P	03 32 59.9	-0.1
LPL	La Plagne	10.87	127	*e*Pn	P	03 33 00.4	-0.6
LPG	La Plagne	10.89	127	*e*Pn	P	03 33 01.0	-0.3
ORIF	Oris-en-Rattie	10.92	132	*e*Pn	P	03 32 59.8	-1.8
MBDF	Montbardon	11.47	130	*e*Pn	P	03 33 08.7	-0.5

IDC 14 03:49:39.2±2.1, 4.03N×126.95E, mb3.7/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, MS3.7/1, Ms1 3.7/1, ms1mx3.0/17, Error ellipse: s-maj=190.7km s-min=26.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	17.51	162	*e*P	P	03 54 08.6	+22
	2.4nm,0.6s						
JOW	Kunigami	22.71	3	LR	LR	04 02 18.3	
	comp=Z,212nm,20.8s,baz=32,slow=33						
WRA	Warramunga Arr	24.91	163	P	P	03 55 04.7	-0.8
	1.4nm,0.6s,baz=342,slow=10,SNR=24						
WB2	Warramunga Arr	24.91	163	*e*P	P	03 55 03.8	-1.7
STKA	Stephens Creek	38.34	160	P	P	03 57 00.9	-2.7
	1.0nm,0.6s,baz=331,slow=10,SNR=3.5						
MKAR	Makanchi Array	57.43	325	P	P	03 59 29.8	-2.3
	0.3nm,0.6s,baz=123,slow=6.9,SNR=5.6						

MEX 14 03:52:37.0±0.6, 15.81N×98.30W, h15km±38km, MD3.7, 1C, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.60	16	*i*P	Pb	03 52 46.7	-1.9
PNIG				*i* S	Sb	03 52 54.8	-1.8
VHO	Vista Hermosa	1.96	50	*i* P	Pn	03 53 07.1	-3.0
VHO				*i* S	Sn	03 53 28.6	-5.9
OXX	Oaxaca	1.97	50	*e*P	Pn	03 53 07.0	-3.3

GUC 14 04:25:54.4±0.6, 26.87S×70.73W, h46km±3km, ML4.1, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	Caldera	0.22	202	*i*P	P	04 26 02.5	+0.1
CDCH				*i* S	S	04 26 08.6	+0.6
CDCH				AMP		04 26 08.7	
	comp=N,10μm,0.3s						
CRCH	Chaqaral	0.53	11	*i*P	P	04 26 06.1	+0.4
CRCH				*i* S	S	04 26 14.4	+0.5
CRCH				AMP		04 26 15.6	
	comp=E,10μm,0.2s						
CPCH	Copiapo	0.59	145	*i*P	P	04 26 07.2	+0.6
CPCH				*i* S	S	04 26 16.2	+0.8
CPCH				AMP		04 26 17.4	
	comp=N,90μm,0.1s						
TLL	Tololo Astrono	3.29	181	*i*P	P	04 26 44.6	-0.2

*IDC **14** 04:26:58.3±4.2, 2.73S×149.97E, h44km±39km, mb4.2/11, mb1 4.4/13, mb1mx4.3/17, mbtmp4.4/13, MS4.3/15, Ms1 4.3/15, ms1mx4.2/22, Error ellipse: s-maj=23.9km s-min=19.8km az=69.0*
*MOS **14** 04:26:58.2±0.9, 2.69S×149.89E, h56km, mb5.0/10, Error ellipse: s-maj=15.5km s-min=8.9km az=81.8*
*BJI **14** 04:26:59.5, 2.80S×149.80E, h78km, mB5.2, mb4.8, Ms4.8, Msz4.4*
*NEIC **14** 04:27:01.9±2.1, 2.77S×149.81E, h78km±20km, mb4.7/14, Error ellipse: s-maj=13.3km s-min=11.5km az=92.0*
ISC 14 04:26:58.5±1.5, 2.77S±0.06×149.84E±0.08, h57km±14km, h76km±2.3km; pP-P, n94, σ1$14/86, mb4.8/39, MS4.4/19, 2C-2D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.12	202	P	P	04 28 42.5	0.0
	4.0nm,0.3s,baz=17,slow=8.9,SNR=30						
PMG		

comp=Z,20nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,290nm,4.5s
SSE LR LR
comp=N,110nm,20.0s,MS4.1
SSE LR LR
comp=E,190nm,20.0s,MS4.1
SSE LR LR
comp=Z,260nm,20.0s,MS4.1
RPZ Rata Peaks 44.91 158 LR LR 04 51 27.2
comp=Z,593nm,20.9s,MS4.5,baz=342,slow=33
NJ2 Nanjing 45.43 322 *e*P **P** **04 35 11.9 -1.8**
NJ2 PP PP 04 36 58.8 -2.4
NJ2 S **S** **04 41 48.0 -2.2**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
NJ2 AMB AMB
comp=Z,330nm,4.7s
NJ2 LR LR
comp=N,970nm,28.8s,MS4.8
NJ2 LR LR
comp=E,1μm,23.8s,MS4.8
NJ2 LR LR
comp=Z,540nm,24.7s,MS4.4
YSS Yuzh-Sakhalins 49.90 354 *e*P **P** **04 35 46.6 -1.8**
MDJ Mudanjiang 50.52 341 P **P** **04 35 53.6 +0.4**
MDJ AP pP 04 36 10.8 +2.5
MDJ XP sP 04 36 19.3 +4.5
MDJ PP PP 04 37 50.0 -0.1
MDJ S **S** **04 43 03.3 +1.6**
MDJ XS 04 43 33.9
MDJ AMB AMB
comp=Z,180nm,6.0s
MDJ LR LR
comp=N,210nm,16.6s
MDJ LR LR
comp=E,260nm,6.5s
MDJ LR LR
comp=Z,380nm,10.4s
ENH Enshi 50.62 314 P **P** **04 35 51.4 -2.7**
comp=Z,7.5nm,0.8s,mb4.7
PSI Prapat 51.20 276 P **P** **04 35 59.2 +0.4**
comp=Z,2.6nm,0.4s,mb4.5,baz=66,slow=5.1,SNR=4.1
CN2 Changchun 51.27 337 *e*P **P** **04 36 00.5 +1.6**
XAN Xi'an 53.13 317 P **P** **04 36 12.0 -0.9**
XAN AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
KMI Kunming 53.41 304 P **P** **04 36 15.3 +0.2**
CD2 Chengdu 55.18 311 P **P** **04 36 28.0 0.0**
CD2 PP PP 04 38 33.8 +0.5
CD2 PPP PPP 04 39 48.0 +0.7
CD2 S **S** **04 44 03.0 -2.2**
CD2 SS SS 04 47 47.3 -2.3
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,110nm,5.1s
CD2 LR LR
comp=N,230nm,12.0s
CD2 LR LR
comp=Z,210nm,18.0s
HHC Hu-ho-hao-te 55.69 325 *e*P **P** **04 36 33.5 +1.9**
HHC AP pP 04 36 52.8 +5.9
HHC XP sP 04 37 01.3 +7.9
HHC PCP PcP 04 37 31.1 +0.9
HHC PP PP 04 38 38.9 +1.2
HHC SCP 04 41 21.9
HHC PCS 04 41 30.3
HHC S **S** **04 44 13.1 +1.2**
HHC XS 04 44 46.3
HHC SS SS 04 47 58.6 +0.9
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,180nm,5.2s
HHC LR LR
comp=N,200nm,15.5s,MS4.6
HHC LR LR
comp=E,320nm,15.5s,MS4.6
HHC LR LR
comp=Z,310nm,17.8s,MS4.4
LZH Lanzhou 57.73 316 *e*P **P** **04 36 46.5 +0.4**
LZH AP pP 04 37 06.8 +5.3
LZH XP sP 04 37 15.3 +7.3
LZH PP PP 04 38 56.9 +0.8
LZH *e*S **S** **04 44 37.5 -1.2**
LZH PS PS 04 45 02.8 +2.4
LZH XS 04 45 11.8
LZH *e*SS SS 04 48 31.6 +0.3
LZH AMB AMB
comp=Z,20nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,90nm,6.5s
LZH LR LR
comp=N,360nm,15.0s
LZH LR LR
comp=Z,540nm,17.9s,MS4.7
HIA Hailar 58.00 337 *e*P **P** **04 36 47.0 -0.8**
HIA pmax pmax
comp=Z,7.0nm,0.7s
HIA Hailar 58.00 337 *e*P **P** **04 36 47.0 -0.8**
comp=Z,6.6nm,0.7s,mb4.8
PPT Papeete 61.16 108 *e*LR LR 04 55 16.1
comp=Z,99nm,22.8s
TBI Tubuai 62.08 115 *e*LR LR 04 55 41.1
comp=Z,251nm,33.5s
GTA Gaotai 62.17 318 *e*P **P** **04 37 16.9 +0.5**
GTA AP pP 04 37 36.1 +4.1
GTA XP sP 04 37 44.0 +5.5
GTA PCP PcP 04 37 56.3 +0.5
GTA PP PP 04 39 37.3 +1.4
GTA PPP PPP 04 41 09.6 +4.1
GTA S **S** **04 45 38.8 +2.9**
GTA PS PS 04 46 07.8 +6.7
GTA XS 04 46 11.5
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,160nm,9.1s
GTA LR LR
comp=N,160nm,14.1s,MS4.4
GTA LR LR
comp=E,160nm,16.7s,MS4.4
GTA LR LR
comp=Z,140nm,18.6s,MS4.2
ULN Ulaanbaatar 62.73 329 *i*P **P** **04 37 20.5 +0.4**
SONM Songino Array 63.05 329 P **P** **04 37 21.3 -0.9**
SONM LR LR 05 04 08.9
comp=Z,2.2nm,0.6s,mb4.4,baz=149,slow=6.0,SNR=9.9
comp=Z,361nm,19.8s,MS4.5,baz=133,slow=35
LSA Lhasa 64.66 305 *e*P **P** **04 37 34.3 +1.3**
LSA Lhasa 64.66 305 P **P** **04 37 31.5 -1.5**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LSA Lhasa 64.66 305 P **P** **04 37 31.5 -1.5**
comp=Z,6.1nm,0.8s,mb4.7
ZAK Zakamensk 66.24 329 *e*P **P** **04 37 41.6 -1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
YAK Yakutsk 66.43 350 *i*P **P** **04 37 43.6 -0.2**
YAK pmax pmax
comp=Z,55nm,2.4s,mb5.2
BOD Bodaibo 66.87 340 *e*P **P** **04 37 41.8 -4.8**
MOY Mondy 68.17 330 *e*P **P** **04 37 55.4 +0.6**
JIRN Jiri 68.22 301 *e*P **P** **04 37 56.6 +1.0**
comp=Z,30nm,0.7s,mb5.5
GUN Gumba 68.55 301 *e*P **P** **04 37 58.8 +1.2**
comp=Z,53nm,0.7s,mb5.5
PKI Pulchoki 68.86 301 *e*P **P** **04 38 00.6 +1.0**
KKN Kakani 69.03 301 *e*P **P** **04 38 01.5 +0.9**
comp=Z,35nm,0.8s,mb5.3
DMN Daman 69.13 301 *e*P **P** **04 38 02.3 +1.1**
comp=Z,40nm,0.8s,mb5.4
GKN Gorkha 69.63 301 *e*P **P** **04 38 05.2 +0.9**
comp=Z,44nm,0.9s,mb5.4
KOLN Koldanda 70.47 301 *e*P **P** **04 38 10.0 +0.7**
comp=Z,30nm,0.9s,mb5.2
BILL Bilibino 71.58 6 *i*P **P** **04 38 15.2 -0.1**
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
WMQ Urumqi 72.26 318 *e*P **P** **04 38 19.6 -0.2**
WMQ AP pP 04 38 39.6 +3.9
WMQ XP sP 04 38 48.1 +6.3
WMQ PP PP 04 41 01.6 -1.1
WMQ PPP PPP 04 42 44.8 -0.3
WMQ *e*S S 04 47 37.0 0.0
WMQ SCS ScS 04 48 15.4 -2.3
WMQ SS SS 04 52 13.6 -4.0
WMQ AMB AMB
comp=Z,70nm,5.0s
WMQ LR LR
comp=N,80nm,20.0s,MS4.2
WMQ LR LR
comp=E,110nm,21.0s,MS4.2
WMQ LR LR
comp=Z,140nm,22.0s,MS4.2
VNDA Vanda 74.97 177 P **P** **04 38 35.4 +0.4**
comp=Z,3.9nm,0.8s,mb4.4,baz=333,slow=6.2,SNR=22
VNDA LR LR 05 09 54.9
comp=Z,121nm,18.4s,MS4.2,baz=347,slow=34
VNDA Vanda 74.97 177 *e*P **P** **04 38 35.2 +0.2**
VNDA pmax pmax
comp=Z,61nm,2.2s
VNDA Vanda 74.97 177 *e*P **P** **04 38 35.2 +0.2**
comp=Z,61nm,2.2s,mb5.1
AGRA Agra 75.25 299 *e*P **P** **04 38 36.1 -1.5**
AGRA AMb AMB 04 38 36.8
comp=Z,42nm,0.2s,mb6.0
RKT Rikitea 75.29 113 *e*LR LR 05 01 48.5
comp=Z,173nm,29.8s
TIXI Tiksi 75.52 353 *i*P **P** **04 38 40.8 +2.6**
TIXI MLR MLR
comp=Z,100nm,19.0s,MS4.1
KLP Kalpa 75.85 303 *e*P **P** **04 38 40.9 -0.1**
KLP AMb AMB 04 38 44.4
comp=Z,27nm,1.1s,mb5.1
AYAN Aya Nagar 76.20 300 *e*P **P** **04 38 39.4 -3.6**
KUDL Kundal 76.69 300 *e*P **P** **04 38 43.0 -2.8**
KUDL AMb AMB 04 38 48.9
comp=Z,5.3nm,1.1s,mb4.4
MKAR Makanchi Array 76.86 319 P **P** **04 38 46.9 +0.6**
comp=Z,1.4nm,0.8s,mb4.0,baz=97,slow=7.7,SNR=7.2
MKAR LR LR 05 12 29.1
comp=Z,108nm,19.9s,MS4.2,baz=180,slow=36
KHET Khetri 77.27 299 *e*P **P** **04 38 49.4 +0.4**
KSH Kashi 79.38 311 *e*P **P** **04 39 03.0 +2.7**
KSH *e*PCP PcP 04 39 11.5 +2.9
KSH *e*AP pP 04 39 25.6 +9.2
KSH *e*XP sP 04 39 31.4 +8.7
KSH *e*PP PP 04 42 05.0 +2.7
KSH AMB AMB
comp=Z,130nm,3.6s
KURK Kurchatov 80.36 322 *e*P **P** **04 39 05.5 +0.2**
COLA College 81.09 22 *e*P **P** **04 39 08.6 -0.3**
COLA College 81.09 22 *e*P **P** **04 39 07.7 -1.2**
comp=Z,5.9nm,0.9s,mb4.5
JASL Jaisalmer 81.40 298 *e*P **P** **04 39 11.8 +0.5**
ILAR Eielson Array 81.42 23 P **P** **04 39 09.2 -1.4**
comp=Z,3.7nm,0.8s,mb4.4,baz=253,slow=4.9,SNR=29
DAWY Dawson 84.17 25 *e*P **P** **04 39 25.6 +1.0**
CHKZ Chkalovo 85.84 324 *e*P **P** **04 39 33.2 +0.1**
CHKZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
CHKZ Chkalovo 85.84 324 *e*P **P** **04 39 33.2 +0.1**
comp=Z,4.3nm,1.1s,mb4.6
MAW Mawson 86.30 203 LR LR 05 14 05.1
comp=Z,210nm,21.5s,MS4.5,baz=61,slow=33
DLBC Dease Lake 87.17 31 *e*P **P** **04 39 40.9 +1.4**
INK Inuvik 87.63 21 *e*P **P** **04 39 40.8 -0.7**
INK pmax pmax
comp=Z,23nm,1.6s
INK Inuvik 87.63 21 *e*P **P** **04 39 40.8 -0.7**
comp=Z,23nm,1.6s,mb5.2
NVAR Mina Array Bea 93.16 52 P **P** **04 40 06.9 -1.1**
comp=Z,0.6nm,0.7s,mb4.1,baz=276,slow=4.4,SNR=6.0
MNV Mina 93.27 52 *e*P **P** **04 40 09.5 +0.9**
YKA Yellowknife Ar 95.01 28 P **P** **04 40 16.0 +0.2**
comp=Z,1.3nm,0.7s,mb4.5,baz=274,slow=4.6,SNR=19
YKA LR LR 05 19 56.0
comp=Z,182nm,18.6s,MS4.6,baz=285,slow=34
PDAR Pinedale Array 99.66 47 LR LR 05 17 50.1
comp=Z,240nm,20.3s,MS4.7,baz=271,slow=31
ANMO Albuquerque 102.80 55 *i*P Pdif 04 40 49.0 -2.8
PMSA Palmer Station 108.18 165 *e*PKiKP 04 45 18.9
GERES GERESS Array B 120.78 328 PKP PKPdf 04 45 45.5 +1.0
comp=Z,0.9nm,0.6s,SNR=11
LPAZ La Paz 137.97 118 PKhKP 04 46 13.5
comp=Z,0.8nm,0.6s,baz=24,slow=1.6,SNR=3.6
TORD Torodi Ar. Bea 146.86 290 PKPbc PKPbc 04 46 37.5 +2.2
comp=Z,10nm,1.1s,baz=66,slow=2.7,SNR=25

IDC ***14*** *04:32:05.9±8.2,20.03S×178.11W,h622km±81km, mb3.3/6, mb1 3.4/7, mb1mx3.1/16, mbtmp4.3/7, Error ellipse: s-maj=82.8km s-min=39.6km az=126.0*
NEIC ***14*** *04:32:09.3±4.5,20.06S×178.23W,h664km±43km, mb4.3/1, Error ellipse: s-maj=68.8km s-min=31.4km az=128.0*
ISC 14 04:32:02.9±2.8,19.9S±0.5×178.1W±0.5,h600km,n14, σθ6⁴/10,mb3.8/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.58**	**259**	P	**P**	**04 35 10.6**	**+3.7**
	0.4nm,0.3s,baz=97,slow=19,SNR=5.0						
CTA	**Charters Tower**	**33.44**	**264**	P	**P**	**04 37 55.6**	**+0.4**
	3.8nm,0.5s,mb4.3,baz=91,slow=11,SNR=7.1						
CTAO	**Charters Tower**	**33.44**	**264**	*e*P	**P**	**04 37 55.6**	**+0.4**
	3.7nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**37.94**	**243**	P	**P**	**04 38 32.4**	**+0.3**
	1.8nm,0.5s,mb3.9,baz=18,slow=6.4,SNR=2.5						
STKA	**Stephens Creek**	**37.94**	**243**	P	**P**	**04 38 32.4**	**+0.3**
WRA	**Warramunga Arr**	**44.58**	**262**	P	**P**	**04 39 24.3**	**-0.5**
	2.3nm,0.4s,mb4.1,baz=98,slow=7.2,SNR=124						
FITZ	**Fitzroy Crossi**	**53.00**	**262**	P	**P**	**04 40 27.0**	**-0.2**
	1.5nm,0.5s,mb3.6,baz=299,slow=20,SNR=13						
MBWA	**Marble Bar**	**57.87**	**257**	P	**P**	**04 41 00.1**	**-0.7**
MJAR	**Matsushiro Arr**	**69.69**	**324**	P	**P**	**04 42 15.1**	**-0.1**
	0.5nm,0.3s,mb3.4,baz=160,slow=6.3,SNR=4.0						
ILAR	**Eielson Array**	**87.79**	**13**	P	**P**	**04 43 50.1**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=225,slow=4.1,SNR=6.4						
BVAR	**Borovoye Array**	**118.58**	**320**	PKP	PKPdf	04 49 43.7	+0.5
	0.6nm,0.4s,baz=222,slow=2.1,SNR=4.0						
AKASG	**Malin Array Be**	**142.47**	**331**	PKP	PKPdf	04 50 26.4	-1.5
	1.0nm,0.4s,baz=44,slow=4.2,SNR=9.8						
BRTR	**Keskin Array B**	**146.38**	**313**	PKPbc	PKPbc	04 50 39.2	+2.3
	1.2nm,0.7s,baz=137,slow=4.7,SNR=7.4						
GERES	**GERESS Array B**	**149.63**	**344**	PKPbc	PKPdf	04 50 47.2	+7.3
	1.0nm,0.8s,baz=27,slow=3.0,SNR=7.9						

IDC 14 04:32:19.9±2.6,50.17S×120.03E,mb4.1/3,mb1 4.2/3, mb1mx3.9/11,mbtmp4.1/3,MS4.1/6,Ms1 4.1/6, ms1mx3.9/11,Error ellipse: s-maj=79.8km s-min=53.4km az=108.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.35**	**352**	LR	LR	04 41 19.9	
	comp=Z,883nm,21.9s,baz=349,slow=31						
STKA	**Stephens Creek**	**24.32**	**49**	P	P	04 37 38.9	-1.1
	3.8nm,0.8s,baz=209,slow=13,SNR=8.0						
VNDA	**Vanda**	**31.61**	**164**	LR	LR	04 50 43.5	
	comp=Z,425nm,18.8s,baz=312,slow=35						
FITZ	**Fitzroy Crossi**	**32.30**	**10**	P	P	04 38 50.3	-2.3
	2.9nm,0.8s,baz=190,slow=7.5,SNR=5.0						
FITZ				LR	LR	04 50 54.8	
	comp=Z,377nm,18.3s,baz=126,slow=34						
MAW	**Mawson**	**32.76**	**217**	LR	LR	04 50 27.3	
	comp=Z,175nm,18.3s,baz=71,slow=33						
CTA	**Charters Tower**	**36.52**	**44**	P	P	04 39 27.2	-1.7
	2.8nm,0.8s,baz=202,slow=11,SNR=3.7						
MJAR	**Matsushiro Arr**	**87.81**	**15**	LR	LR	05 23 38.3	
	comp=Z,105nm,19.8s,baz=85,slow=35						
PLCA	**Paso Flores**	**89.01**	**172**	LR	LR	05 27 19.2	
	comp=Z,101nm,18.3s,baz=190,slow=37						
PDAR	**Pinedale Array**	**145.60**	**83**	PKPbc	PKPbc	04 51 59.5	-0.5
	0.4nm,0.6s,baz=214,slow=3.3,SNR=4.6						
YKA	**Yellowknife Ar**	**148.33**	**46**	PKPbc	PKPdf	04 52 06.0	+0.9
	0.8nm,0.6s,baz=271,slow=2.3,SNR=35						

IDC 14 05:26:30.4±3.1,15.87S×175.20W,h94km±30km,mb3.6/4, mb1 4.0/5,mb1mx3.7/15,mbtmp4.0/5,Error ellipse: s-maj=40.9km s-min=20.8km az=136.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.84**	**60**	P	P	05 27 28.6	+0.1
	8.7nm,0.3s,baz=169,slow=1.9,SNR=23						
AFI				S	S	05 28 11.6	-1.1
	46nm,0.3s,baz=223,slow=23,SNR=21						
WRA	**Warramunga Arr**	**48.05**	**257**	P	P	05 34 59.8	-2.7
	1.0nm,0.4s,baz=96,slow=6.8,SNR=28						
VNDA	**Vanda**	**62.74**	**185**	P	P	05 36 45.8	-1.7
	0.7nm,0.7s,baz=22,slow=7.0,SNR=6.6						
ILAR	**Eielson Array**	**83.25**	**12**	P	P	05 38 47.7	+0.3
	0.7nm,0.6s,baz=224,slow=5.4,SNR=19						
PDAR	**Pinedale Array**	**83.77**	**42**	P	P	05 38 47.7	-2.8
	1.4nm,0.6s,baz=218,slow=2.4,SNR=9.2						

MAN 14 05:30:19.7,9.58N×126.07E,h20km,mb4.0,ML2.8,MS2.5, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.61**	**290**	*e*P	Pb	05 30 32.6	+1.1
SCPH				*e*S	Sb	05 30 42.1	+2.5
BUTP	**Butuan**	**0.75**	**216**	*e*P	Pb	05 30 33.1	-0.8
BUTP				*e*S	Sb	05 30 48.1	+4.4
MSLP	**Maasin**	**1.31**	**295**	*e*P	Pn	05 30 43.5	+0.3
MSLP				*e*S	Sb	05 31 00.2	+0.2
PLP	**Palo**	**1.91**	**326**	*e*P	Pn	05 30 50.5	-1.1
PLP				*e*S	Sn	05 31 11.7	-3.6
BUKP	**Musuan**	**1.96**	**211**	*e*P	Pn	05 30 53.7	+1.3
BUKP				*e*S	Sn	05 31 19.3	+2.7
BESP	**Borongan**	**2.10**	**343**	*e*P	Pn	05 30 54.1	-0.4
BESP				*e*S	Sn	05 31 20.6	+0.2
PAGZ	**Pagadian**	**3.16**	**237**	*e*P	Pn	05 31 09.6	0.0
PAGZ				*e*S	Sn	05 31 46.7	-0.5
PVCP	**Virac**	**4.41**	**335**	*e*P		05 30 02.5	
PVCP				*e*S		05 30 03.4	
OTRP	**Odiongan**	**4.84**	**305**	*e*P	Pn	05 31 31.4	-2.1
OTRP				*e*S	Sn	05 31 42.6	-47
BATP	**Bataraza**	**8.20**	**265**	*e*P		05 29 15.6	

NEIC ***14*** *05:36:41.8, 17.45N×61.98W, h24km, MD3.1(TRN), MD2.9(FDF), After TRN.*
TRN 14 05:36:41.8,17.45N×61.98W,h24km,MD3.1,1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPB	**Codrington**	**0.24**	**37**	↑*i*P	Pb	05 36 50.2	+2.3
CPB				*e*S	Sb	05 36 53.8	+1.7
BPA	**Boggy Peak**	**0.41**	**164**	*e*P	Pb	05 36 53.1	+2.6
BPA				*e*S	Sb	05 36 59.2	+2.7
STAT	**Sint Eustatius**	**0.95**	**273**	*e*P	Pb	05 37 01.9	+2.3
STAT				*e*S	Sb	05 37 14.8	+3.0
LZG	**Guadaloupe-1**	**1.31**	**171**	*e*P	Pn	05 37 06.8	+1.9
LZG				*e*S	Sn	05 37 24.2	+2.5
BCG	**Bois Riant Cap**	**1.40**	**166**	*e*P	Pn	05 37 08.0	+1.9
DEG	**La Desirade**	**1.43**	**142**	*e*P	Pn	05 37 07.6	+1.0
SCG	**Saint Claude**	**1.44**	**168**	*e*P	Pn	05 37 08.6	+1.9
SCG				*e*S	Sn	05 37 27.3	+2.4

NIED ***14*** *05:52:00, 38.20N×144.60E, h5km, Mw3.8 Best double couple: M0 5.47×10¹⁴ NP1:φ=207°, δ=73°, λ=-87°. NP2:φ=16°, δ=17°, λ=-100°.*
JMA 14 05:52:46.6±0.2,38.21N×144.64E,h57km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.48**	**291**	P	P	05 53 25.7	+0.1
MIYJ	**Miyakonagasawa**	**2.59**	**303**	P	P	05 53 27.1	0.0
MIYJ				S	S	05 53 57.2	-0.2
JIO	**Ouri**	**2.60**	**276**	P	P	05 53 27.3	+0.1
JIO				S	S	05 53 57.5	-0.2
JMK	**Ichinoseki**	**2.78**	**287**	P	P	05 53 30.0	+0.2
JMK				*e*S	S	05 54 02.7	+0.4
JOT	**Ohata**	**4.21**	**320**	*e*S	S	05 54 35.8	-2.4
JCH	**Churui**	**4.51**	**348**	P	P	05 53 52.7	-1.4
JCH				*e*S	S	05 54 41.2	-4.5
JRY	**Ryogami san**	**5.08**	**246**	P	P	05 54 01.1	-1.0
JRY				*e*S	S	05 54 56.2	-4.0
NEM2	**Nemuro 2**	**5.22**	**9**	*e*S	S	05 54 55.1	-8.4
MAT	**Matsushiro**	**5.39**	**254**	P	P	05 54 06.1	-0.2
MAT				S	S	05 55 09.4	+1.6
JTKR	**Abashiri--Toko**	**5.78**	**355**	*e*S	S	05 55 10.1	-7.5

BJI ***14*** *06:01:26.6, 51.85N×177.65W, h78km, mB5.1, mb4.8, Ms4.8, Msz4.3*
HRVD ***14*** *06:01:26.4±0.6, 52.07N×176.61W, h103km±8km, MW4.8/47, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s47,c65; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.56±.14; Mθθ=0.52±.19; Mφφ=1.08±.14; Mrθ=-1.17±.08; Mθφ=0.81±.10; Mφr=0.10±.08; Best double couple: M0 1.681×10¹⁶ NP1: φ=13°, δ=51°, λ=-23°. NP2:φ=118°, δ=72°, λ=-139°. Principal axes: T 1.506, Plg13°, Azm241°; N .351, Plg45°, Azm137°; P -1.855, Plg42°, Azm343°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***14*** *06:01:26.8±0.4, 52.27N×176.76W, h100km±3km, mb4.0/21, mb1 4.2/24, mb1mx4.2/27, mbtmp4.4/24, MS3.2/5, Ms1 3.3/5, ms1mx3.0/28 Error ellipse: s-maj=13.9km s-min=7.7km az=164.0*
NEIC ***14*** *06:01:26.4±0.3, 52.23N×176.82W, mb4.9/59, Error ellipse: s-maj=9.2km s-min=4.4km az=174.0*
MOS ***14*** *06:01:29.3±1.0, 52.35N×176.81W, h136km, mb4.8/28, Error ellipse: s-maj=11.0km s-min=8.1km az=140.9*
ISC 14 06:01:25.1±0.2,52.18N±0.06×176.77W±0.04,h95km, h95km±.8km:pP-P,n210,σ1s09/205,mb4.7/87,1C-3D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.59**	**88**	P	**P**	**06 01 53.3**	**+0.6**
ATKA				S	**S**	**06 02 12.9**	**0.0**
OKCD	**Okmok Cone D**	**5.40**	**73**	P	**P**	**06 02 45.8**	**+1.1**
SMY	**Shemya**	**5.61**	**279**	P	**P**	**06 02 49.8**	**+2.3**
FX1	**Attu Island--F**	**6.18**	**281**	P	**P**	**06 02 57.1**	**+1.7**
	18nm,0.3s,baz=231,slow=1.5,SNR=18						
FX1				S	**S**	**06 04 06.8**	**+1.4**
	baz=129,slow=18,SNR=2.3						
FX1	**Attu Island--F**	**6.18**	**281**	P	**P**	**06 02 57.1**	**+1.7**
FX1				S	**S**	**06 04 06.8**	**+1.5**
FX1				pmax	pmax		
	comp=Z,18nm,0.3s						
FX1	**Attu Island--F**	**6.18**	**281**	P	**P**	**06 02 58.1**	**+2.7**
UNV	**Unalaska Vale**	**6.42**	**71**	P	**P**	**06 02 59.7**	**+1.0**
AKLV	**Akutan Long Va**	**6.80**	**69**	P	**P**	**06 03 05.5**	**+1.5**
AKUT	**Akutan**	**6.90**	**69**	P	**P**	**06 03 07.2**	**+1.8**
SDPT	**Sand Point**	**10.16**	**65**	*e*P	**P**	**06 03 49.4**	**+0.1**
SDPT				*e*P		06 03 49.9	
KDAK	**Kodiak Island**	**14.93**	**58**	P	**P**	**06 04 50.0**	**-1.9**
	comp=Z,22nm,0.3s,baz=269,slow=5.7,SNR=64						
KDAK				S	**S**	**06 07 37.0**	**+1.8**
	comp=Z,3.6nm,0.3s,baz=36,slow=20,SNR=7.1						
PET	**Petropavlovsk**	**14.94**	**283**	*e*P	**P**	**06 04 59.9**	**+7.8**
PET				pmax	pmax		
	comp=Z,118nm,1.3s						
TT01	**Tatalina**	**15.39**	**38**	P	**P**	**06 05 01.8**	**+4.0**
SLKM	**Skilak Lake**	**16.81**	**50**	*e*P	**P**	**06 05 17.5**	**+2.0**
PMR	**Palmer**	**17.67**	**47**	*e*P	**P**	**06 05 27.1**	**+1.0**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PMR	**Palmer**	**17.67**	**47**	*e*P	**P**	**06 05 27.1**	**+1.0**
	comp=Z,3.5nm,0.3s						
BILL	**Bilibino**	**17.90**	**339**	*d*iP	**P**	**06 05 32.1**	**+3.2**
BILL				pmax	pmax		
	comp=Z,254nm,1.6s						
BILL	**Bilibino**	**17.90**	**339**	*e*P	**P**	**06 05 31.8**	**+2.9**
	comp=Z,225nm,1.4s						
COLA	**College**	**19.51**	**38**	*e*P	**P**	**06 05 47.8**	**+1.0**
COLA	**College**	**19.51**	**38**	*e*P	**P**	**06 05 46.9**	**+0.1**
	comp=Z,34nm,0.8s						
SEY	**Seymchan**	**19.53**	**315**	*i*P	**P**	**06 05 49.7**	**+2.7**
ILAR	**Eielson Array**	**19.83**	**39**	P	**P**	**06 05 48.5**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=240,slow=8.9,SNR=71						
ILAR				S	**S**	**06 09 24.9**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=212,slow=14,SNR=3.3						
ILAR				PcP	PcP	06 10 01.6	-2.6
	comp=Z,0.3nm,0.3s,baz=282,slow=3.2,SNR=7.1						
ILAR				LR	LR	06 12 35.3	
	comp=Z,94nm,21.1s,baz=196,slow=34						

ILAR ScP 06 13 27.4
comp=Z,0.2nm,0.3s,baz=274,slow=3.7,SNR=15
MENT Mentasta 20.49 45 *eP* **P 06 05 59.1 +2.1**
DAWY Dawson 22.66 44 *eP* **P 06 06 19.0 +0.7**
INK Inuvik 26.08 35 P **P 06 06 51.0 +0.1**
comp=Z,4.1nm,0.3s,mb4.3,baz=238,slow=6.8,SNR=123
INK PcP PcP 06 10 14.9 -1.9
comp=Z,2.4nm,0.4s,baz=237,slow=1.3,SNR=7.2
INK ScP 06 13 43.6
comp=Z,5.5nm,1.0s,baz=242,slow=3.0,SNR=11
INK LR LR 06 17 38.1
comp=Z,54nm,18.4s,baz=16,slow=37
INK Inuvik 26.08 35 P **P 06 06 51.0 0.0**
INK 06 10 14.9
INK pmax pmax
comp=Z,4.0nm,0.3s
INK pmax pmax
comp=Z,2.0nm,0.4s
INK pmax pmax
comp=N,6.0nm,1.0s
INK MLR MLR
comp=Z,54nm,18.4s
INK Inuvik 26.08 35 *eP* **P 06 06 50.5 -0.5**
comp=Z,45nm,1.1s,mb4.8
DLBC Dease Lake 26.87 58 P **P 06 06 58.0 -0.2**
comp=Z,0.7nm,0.5s,mb3.5,baz=14,slow=22,SNR=4.4
DLBC PcP PcP 06 10 17.8 -0.9
comp=Z,4.3nm,0.8s,baz=295,slow=3.7,SNR=6.3
DLBC Dease Lake 26.87 58 P **P 06 06 58.0 -0.2**
DLBC PcP PcP 06 10 17.8 -0.9
ASAJ Asahikawa 27.97 270 P **P 06 07 08.9 +0.4**
comp=Z,5.7nm,0.6s,mb4.3,baz=161,slow=28,SNR=3.6
ASAJ Asahikawa 27.97 270 P **P 06 07 08.9 +0.4**
ASAJ pmax pmax
comp=Z,6.0nm,0.6s
BBB Bella Bella 29.39 70 P **P 06 07 21.0 -0.1**
comp=Z,7.0nm,0.8s,mb4.3,baz=278,slow=11,SNR=6.5
BBB PcP PcP 06 10 24.2 -0.8
comp=Z,14nm,0.9s,baz=171,slow=8.4,SNR=5.9
BBB Bella Bella 29.39 70 P **P 06 07 21.0 -0.1**
BBB PcP PcP 06 10 24.2 -0.8
PGC Sidney 33.52 74 *eP* **P 06 07 57.5 +0.3**
comp=Z,22nn,0.8s,mb5.0
YKA Yellowknife Ar 33.77 48 P **P 06 07 58.0 -1.1**
comp=Z,3.9nm,0.7s,mb4.4,baz=277,slow=8.5,SNR=93
YKA PcP PcP 06 10 35.2 -1.4
comp=Z,0.3nm,0.3s,baz=282,slow=3.1,SNR=4.1
YKA pPcP 06 11 03.2
comp=Z,1.8nm,0.9s,baz=287,slow=2.7,SNR=6.4
YKA ScP 06 14 08.5
comp=Z,0.6nm,0.5s,baz=284,slow=3.4,SNR=9.8
YKA LR LR 06 21 45.2
comp=Z,79nm,20.8s,baz=305,slow=36
YKA Yellowknife Ar 33.77 48 P **P 06 07 58.0 -1.1**
YKA PcP PcP 06 10 35.2 -1.4
YKA pPcP 06 11 03.2
YKA ScP 06 14 08.6
YKA LR LR 06 21 45.2
MJAR Matsushiro Arr 35.15 262 P **P 06 08 12.2 +1.0**
comp=Z,3.5nm,0.6s,mb4.4,baz=46,slow=7.0,SNR=8.4
MJAR PcP PcP 06 10 40.1 -0.7
comp=Z,4.5nm,0.7s,baz=77,slow=1.4,SNR=9.1
MJAR LR LR 06 24 37.9
comp=Z,31nm,18.0s,baz=50,slow=40
MJAR Matsushiro Arr 35.15 262 P **P 06 08 12.2 +1.0**
MJAR PcP PcP 06 10 40.1 -0.7
MJAR LR LR 06 24 37.9
MAT Matsushiro 35.15 262 P **P 06 08 11.8 +0.6**
MAT Matsushiro 35.15 262 P **P 06 08 12.0 +0.8**
MDJ Mudanjiang 35.68 280 P **P 06 08 15.8 +0.1**
MDJ AMB AMB
comp=Z,120nm,5.2s
TBM Table Mountain 35.91 75 P **P 06 08 18.6 +1.1**
EBG Ellensburg 36.06 75 P **P 06 08 20.1 +1.3**
WAH2 Wahluke Slope 36.73 75 P **P 06 08 25.4 +0.9**
HUMO Hull Mountain 36.88 83 *eP* **P 06 08 26.8 +1.0**
comp=Z,3.2nm,0.7s,mb4.4
HAWA Hanford 36.94 76 *eP* **P 06 08 26.5 +0.3**
comp=Z,4.6nm,0.6s,mb4.6
WRD Warden 36.96 75 P **P 06 08 26.3 -0.1**
EDM Edmonton 37.33 62 *eP* **P 06 08 28.1 -1.3**
KHMM Horse Mountain 37.40 86 P **P 06 08 31.5 +1.4**
YBH Yreka Blue Hor 37.53 84 *eP* **P 06 08 32.6 +1.4**
YBH pmax pmax
comp=Z,14nm,0.8s
YBH Yreka Blue Hor 37.53 84 *eP* **P 06 08 32.6 +1.4**
comp=Z,14nm,0.8s,mb4.8
WDC Whiskeytown Da 38.31 86 *eP* **P 06 08 38.9 +1.3**
WDC pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
WDC Whiskeytown Da 38.31 86 *eP* **P 06 08 38.9 +1.2**
comp=Z,9.1nm,1.0s,mb4.6
RES Resolute Bay 38.49 25 *eP* **P 06 08 39.4 +0.5**
RES pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
RES Resolute Bay 38.49 25 *eP* **P 06 08 39.4 +0.6**
comp=Z,2.7nm,0.6s,mb4.2
CN2 Changchun 38.63 281 *eP* **P 06 08 42.1 +1.8**
MOD Modoc 38.91 82 *eP* **P 06 08 43.8 +1.1**
comp=Z,12nm,0.6s,mb4.9
BMO Blue Mountains 39.07 76 *eP* **P 06 08 44.2 +0.3**
comp=Z,13nm,0.6s,mb4.9
WVOR Wild Horse Val 39.62 80 *eP* **P 06 08 49.4 +0.9**
WVOR pmax pmax
comp=Z,36nm,0.9s,mb5.2
WVOR Wild Horse Val 39.62 80 *eP* **P 06 08 49.4 +0.9**
comp=Z,36nm,0.9s,mb5.2
MSO Missoula 40.02 72 *eP* **P 06 08 51.1 -0.6**
comp=Z,10nm,0.6s,mb4.8
MSO *e*PcP PcP 06 10 54.4 -1.3
CHMT Chamberlain Mo 40.37 71 *eP* **P 06 08 54.0 -0.7**
HRY Holter Researc 41.31 71 *eP* **P 06 09 02.0 -0.4**
HLID Hailey 41.52 76 *eP* **P 06 09 04.6 +0.5**
comp=Z,21nm,0.8s,mb4.9
HLID *e*PcP PcP 06 11 00.2 -0.4
DLMT Dillon 41.59 73 *eP* **P 06 09 04.3 -0.3**
comp=Z,4.6nm,0.6s,mb4.4
DLMT *e*PcP PcP 06 10 60.0 -0.8
MCMT McKenzie Canyo 41.74 74 *eP* **P 06 09 05.9 +0.1**
JNU Nakatsue 41.91 264 P **P 06 09 08.7 +1.3**
comp=Z,17nm,0.7s,mb4.9,baz=51,slow=16,SNR=7.1
BOZ Bozeman (W) 42.00 72 *eP* **P 06 09 08.1 +0.1**
BOZ pmax pmax
comp=Z,29nm,0.6s,mb5.2
BOZ Bozeman (W) 42.00 72 *eP* **P 06 09 08.1 +0.2**
comp=Z,29nm,0.6s,mb5.2
NVAR Mina Array Bea 42.22 85 P **P 06 09 11.1 +1.2**
comp=Z,4.5nm,0.7s,mb4.3,baz=302,slow=6.1,SNR=40
NVAR pP pP 06 09 32.9 +0.6
comp=Z,2.6nm,0.7s,baz=303,slow=5.8,SNR=6.0
NVAR sP sP 06 09 44.5 +1.1
comp=Z,7.8nm,0.9s,baz=302,slow=6.8,SNR=8.4
NVAR PcP PcP 06 11 02.8 -0.2
comp=Z,1.7nm,0.7s,baz=303,slow=1.3,SNR=4.4
NVAR pPcP 06 11 28.5
comp=Z,0.7nm,0.7s,baz=306,slow=1.3,SNR=3.8
NVAR ScP 06 14 41.9
comp=Z,0.7nm,0.6s,baz=314,slow=2.3,SNR=7.1
MNV Mina 42.31 85 *eP* **P 06 09 11.6 +1.0**
MNV pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MNV Mina 42.31 85 *eP* **P 06 09 11.6 +1.0**
comp=Z,8.6nm,1.0s,mb4.4
QLMT Earthquake Lak 42.58 73 *eP* **P 06 09 12.7 0.0**
ELK Elko 42.67 80 *eP* **P 06 09 14.3 +0.8**
ELK pmax pmax
comp=Z,18nm,0.9s
ELK Elko 42.67 80 *eP* **P 06 09 14.3 +0.8**
comp=Z,18nm,0.9s,mb4.8
PTRM Twissleman Ran 42.81 90 P **P 06 09 15.7 +0.9**
YMR Madison River 42.94 73 *eP* **P 06 09 15.7 0.0**
comp=Z,29nm,0.8s,mb5.1
YMR *e*PcP PcP 06 11 05.0 -0.2
TPH Tonopah 43.10 85 *eP* **P 06 09 17.7 +0.6**
TPH pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
TPH Tonopah 43.10 85 *eP* **P 06 09 17.7 +0.6**
comp=Z,9.5nm,0.6s,mb4.7
TPH *e*pP pP 06 09 40.0 +0.4
YFT Old Faithful 43.14 73 *eP* **P 06 09 18.2 +0.9**
YFT *e*PcP PcP 06 11 07.3 +1.4
LKWY Lake 43.33 73 *eP* **P 06 09 19.7 +0.9**
LKWY *e* 06 11 07.6
LKWY pmax pmax
comp=Z,18nm,0.7s,mb4.9
LKWY Lake 43.33 73 *eP* **P 06 09 19.7 +0.9**
comp=Z,18nm,0.7s,mb4.9
LKWY *e*PcP PcP 06 11 07.6 +1.1
IMW Indian Meadow 43.40 74 *eP* **P 06 09 19.4 0.0**
comp=Z,16nm,0.8s,mb4.8
IMW *e*PcP PcP 06 11 06.2 -0.6
RRI2 Red Ridge 43.49 75 *eP* **P 06 09 20.5 +0.4**
comp=Z,23nm,0.6s,mb5.1
RRI2 *e*PcP PcP 06 11 06.1 -1.0
HVU Hansel Valley 43.54 77 *eP* **P 06 09 21.1 +0.5**
HVU pmax pmax
comp=Z,38nm,0.6s,mb5.3
HVU Hansel Valley 43.54 77 *eP* **P 06 09 21.1 +0.5**
comp=Z,38nm,0.6s,mb5.3
TPAW Teton Pass 43.62 74 *eP* **P 06 09 21.7 +0.5**
comp=Z,9.2nm,0.6s,mb4.7
TPAW *e*PcP PcP 06 11 07.0 -0.6
REDW Red Top Meadow 43.76 74 *eP* **P 06 09 22.5 +0.1**
comp=Z,5.0nm,0.7s,mb4.3
REDW *e*PcP PcP 06 11 07.4 -0.6
SNOW Snow King Moun 43.76 74 *eP* **P 06 09 22.8 +0.5**
comp=Z,8.2nm,0.6s,mb4.6
SNOW *e*PcP PcP 06 11 08.0 0.0
LOHW Long Hollow 43.76 74 *eP* **P 06 09 22.3 0.0**
comp=Z,9.4nm,0.6s,mb4.7
LOHW *e*PcP PcP 06 11 07.2 -0.8
ISA Isabella 43.88 88 *eP* **P 06 09 23.4 0.0**
ISA pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ISA Isabella 43.88 88 *eP* **P 06 09 23.4 0.0**
comp=Z,2.9nm,0.8s,mb4.1
BGU Big Grassy Mou 43.90 79 *eP* **P 06 09 23.9 +0.4**
HWUT Hardware Ranch 44.37 77 *eP* **P 06 09 27.7 +0.5**
comp=Z,12nm,0.6s,mb4.8
HWUT *e*PcP PcP 06 11 09.4 -0.7
TPNV Topopah Spring 44.41 85 *eP* **P 06 09 28.2 +0.5**
TPNV pmax pmax
comp=Z,19nm,0.7s,mb4.9
TPNV Topopah Spring 44.41 85 *eP* **P 06 09 28.2 +0.5**
comp=Z,19nm,0.7s,mb4.9
TPNV *e*pP pP 06 09 50.6 +0.4
DUG Dugway 44.47 79 *eP* **P 06 09 28.5 +0.4**
DUG pmax pmax
comp=Z,13nm,0.6s,mb4.8
DUG Dugway 44.47 79 *eP* **P 06 09 28.5 +0.4**
comp=Z,14nm,0.6s,mb4.8
FCC Fort Churchill 44.50 48 *eP* **P 06 09 26.6 -1.4**
FCC pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
FCC Fort Churchill 44.50 48 *eP* **P 06 09 26.6 -1.4**
comp=Z,7.4nm,0.7s,mb4.5
NOQ North Oquirrh 44.61 78 *eP* **P 06 09 30.0 +0.8**
comp=Z,27nm,0.7s,mb5.1
TCUT Toone Canyon 44.76 77 *eP* **P 06 09 31.1 +0.7**
TCUT *e*PcP PcP 06 11 10.8 -0.6
BW06 Boulder Array 44.87 74 *eP* **P 06 09 31.0 -0.3**
comp=Z,45nm,0.6s,mb5.4
BW06 *e*pP pP 06 09 54.1 +0.2
PDAR Pinedale Array 44.87 74 P **P 06 09 31.4 +0.1**
comp=Z,46nm,0.6s,mb5.4,baz=302,slow=3.9,SNR=405
PDAR pP pP 06 09 55.0 +1.1
comp=Z,12nm,0.8s,baz=299,slow=5.6,SNR=4.4
PDAR PcP PcP 06 11 11.2 -0.7
comp=Z,2.9nm,0.5s,baz=129,slow=0.9,SNR=4.5
DAU Daniels Canyon 45.28 78 *eP* **P 06 09 35.3 +0.8**
DAU *e* 06 11 12.8
MPU Maple Canyon 45.30 79 *eP* **P 06 09 34.8 +0.2**
comp=Z,14nm,0.6s,mb4.9
MPU *e*pP pP 06 09 57.9 +0.5
MPU *e*sP sP 06 10 08.0 -0.3
ARUT Antelope Range 45.60 82 *eP* **P 06 09 37.1 0.0**
MVU Marysvale 45.89 81 P **P 06 09 39.8 +0.4**
comp=Z,8.3nm,0.9s,mb4.5
MVU *e*sP sP 06 10 13.2 +0.2
MSU Marysvale 45.91 81 *eP* **P 06 09 40.0 +0.5**
MSU *e* 06 11 15.8
TMUT Trail Mountain 46.00 79 *eP* **P 06 09 40.4 +0.1**
LDFC Landfair 46.33 86 *eP* **P 06 09 42.6 -0.3**
SRU San Rafael 46.53 79 *eP* **P 06 09 44.7 +0.3**
SRU pmax pmax
comp=Z,27nm,0.6s,mb5.2
SRU San Rafael 46.53 79 *eP* **P 06 09 44.7 +0.2**
comp=Z,27nm,0.6s,mb5.2
RWWY Rawlins 46.91 74 *eP* **P 06 09 46.3 -1.1**
comp=Z,15nm,0.6s,mb4.9
RWWY *e*PcP PcP 06 11 17.8 -1.2
ULN Ulaanbaatar 47.03 297 *eP* **P 06 09 45.8 -2.5**
RSSD Black Hills 47.30 69 *eP* **P 06 09 48.8 -1.6**
RSSD pmax pmax
comp=Z,12nm,0.5s,mb4.9
RSSD Black Hills 47.30 69 *eP* **P 06 09 48.8 -1.6**
comp=Z,12nm,0.5s,mb4.9
SONM Songino Array 47.41 297 P **P 06 09 51.0 -0.2**
comp=Z,0.6nm,0.6s,mb3.5,baz=47,slow=9.1,SNR=4.7
SONM PcP PcP 06 11 19.4 -1.3
comp=Z,2.2nm,0.6s,baz=62,slow=2.7,SNR=15
SONM ScP 06 15 02.5
comp=Z,4.4nm,1.0s,baz=19,slow=3.1,SNR=14
SONM LR LR 06 32 25.1
comp=Z,17nm,19.7s,baz=358,slow=39
PHWY Pilot Hill 48.19 73 *eP* **P 06 09 55.2 -2.1**
ULM Lac du Bonnet 48.19 58 P **P 06 09 55.5 -1.8**
comp=Z,1.1nm,0.5s,mb3.9,baz=305,slow=9.7,SNR=6.0
WUAZ Wupatki 48.33 83 *eP* **P 06 09 58.7 +0.2**
comp=Z,14nm,0.7s,mb4.9
WUAZ *e*pP pP 06 10 21.0 -0.4
HHC Hu-ho-hao-te 48.68 286 *eP* **P 06 09 58.3 -2.8**
HHC AP pP 06 10 21.8 -2.2
HHC XP sP 06 10 32.3 -2.4
HHC PP PP 06 11 50.5 -4.4
HHC S **S** **06 16 49.0 -5.9**
HHC XS 06 17 28.4
HHC SS SS 06 20 14.8 -7.0
HHC AMB AMB
comp=Z,180nm,5.9s
HHC LR LR
comp=N,150nm,14.3s
HHC LR LR
comp=E,190nm,16.7s
HHC LR LR
comp=Z,110nm,13.1s
ISCO Idaho Springs 49.04 75 *eP* **P 06 10 03.5 -0.4**
ISCO pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ISCO Idaho Springs 49.04 75 *eP* **P 06 10 03.5 -0.4**
comp=Z,9.7nm,0.7s,mb4.8
SSE Sheshan 49.26 270 P **P 06 10 05.4 -0.4**
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,240nm,4.7s
NJ2 Nanjing 50.04 273 *eP* **P 06 10 13.6 +1.9**
NJ2 PP PP 06 12 11.0 +2.6
NJ2 S **S** **06 17 16.0 +2.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,350nm,5.0s
NJ2 LR LR
comp=N,1μm,24.8s
NJ2 LR LR
comp=E,710nm,25.1s
NJ2 LR LR
comp=Z,330nm,25.6s
SDCO Great Sand Dun 50.43 77 *eP* **P 06 10 14.5 -0.2**
comp=Z,19nm,0.7s,mb5.1
TUC Tucson 50.85 86 *eP* **P 06 10 17.5 -0.4**
TUC pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TUC Tucson 50.85 86 *eP* **P 06 10 17.5 -0.5**
comp=Z,5.2nm,0.8s,mb4.6
TUC *e*pP pP 06 10 40.2 -0.8
LAZ Ladron 51.66 81 *eP* **P 06 10 24.0 0.0**
LAZ *e*pP pP 06 10 46.7 -0.5
LAZ *e*sP sP 06 10 58.1 +0.4
ANMO Albuquerque 51.70 80 *eP* **P 06 10 24.1 -0.2**
ANMO pmax pmax
comp=Z,2.0nm,0.6s
ANMO Albuquerque 51.70 80 *eP* **P 06 10 24.1 -0.2**
comp=Z,1.7nm,0.6s,mb4.2
LPM Los Pinos Moun 52.03 81 *eP* **P 06 10 26.5 -0.3**
ZAL Zalesovo 54.41 314 PcP PcP 06 11 45.0 -1.3
comp=Z,12nm,0.6s,baz=78,slow=4.6,SNR=4.9
CPRX Cap Rock 54.59 80 *eP* **P 06 10 45.0 -0.6**
MNTX Cornudas Mount 54.59 82 *eP* **P 06 10 44.7 -0.9**
comp=Z,15nm,0.9s,mb5.0
MNTX *e*pP pP 06 11 07.4 -1.6
MNTX *e*sP sP 06 11 18.2 -1.4
KSU1 Kansas State U 54.78 70 *eP* **P 06 10 44.8 -2.1**
KSU1 *e*PcP PcP 06 11 46.7 -1.3
GDL2 Guadalupe Moun 54.86 81 *eP* **P 06 10 46.9 -0.7**
GDL2 *e*PcP PcP 06 11 48.9 +0.5
CLNB Carlsbad 55.11 81 P **P 06 10 48.6 -0.8**
LZH Lanzhou 56.36 287 *eP* **P 06 10 58.6 +0.2**
LZH AP pP 06 11 22.3 +0.4
LZH XP sP 06 11 33.3 +0.7
LZH PP PP 06 13 06.8 +0.6
LZH *e*S **S** **06 18 38.5 -1.0**
LZH PS PS 06 19 05.9 -0.8
LZH XS 06 19 19.8
LZH *e*SS SS 06 22 26.8 -1.4
LZH AMB AMB
comp=Z,20nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,90nm,6.7s
LZH LR LR
comp=N,430nm,15.2s
LZH LR LR
comp=Z,630nm,17.8s
WMOK Wichita Mounta 56.47 75 *eP* **P 06 10 57.8 -1.3**
WMOK pmax pmax
comp=Z,17nm,0.7s,mb5.2
WMOK Wichita Mounta 56.47 75 *eP* **P 06 10 57.8 -1.4**
comp=Z,17nm,0.7s,mb5.2
ENH Enshi 57.02 278 *eP* **P 06 11 02.5 -0.6**
comp=Z,8.2nm,0.6s,mb4.9
LTX Lajitas 57.30 83 *eP* **P 06 11 03.7 -1.4**
LTX pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LTX Lajitas 57.30 83 *eP* **P 06 11 03.7 -1.4**
comp=Z,8.8nm,0.7s,mb4.9
LTX *e*pP pP 06 11 27.2 -1.5
TXAR Lajitas Array 57.30 83 P **P 06 11 03.8 -1.2**
comp=Z,7.3nm,0.6s,mb4.9,baz=302,slow=4.9,SNR=78
TXAR pP pP 06 11 27.7 -1.0
comp=Z,8.0nm,0.6s,baz=299,slow=4.9,SNR=13
TXAR sP sP 06 11 39.2 -0.2
comp=Z,6.7nm,0.8s,baz=299,slow=4.5,SNR=5.8
TXAR PcP PcP 06 11 57.6 -0.4
comp=Z,1.8nm,0.5s,baz=321,slow=1.3,SNR=4.0
TXAR ScP 06 15 45.6
comp=Z,0.6nm,0.8s,baz=270,slow=2.8,SNR=4.1
TXAR Lajitas Array 57.30 83 P **P 06 11 03.8 -1.3**
TXAR *SP sP 06 11 39.2 -0.2
TXAR 06 11 57.6
TXAR Lajitas Array 57.30 83 P **P 06 11 03.8 -1.2**
TXAR pP pP 06 11 27.7 -0.9
TXAR sP sP 06 11 39.2 -0.2
TXAR PcP PcP 06 11 57.6 -0.4
TXAR ScP 06 15 45.6
ARCES ARCESS Array B 57.51 351 P **P 06 11 03.7 -2.4**
comp=Z,3.9nm,0.8s,mb4.5,baz=28,slow=8.6,SNR=12
ARCES PcP PcP 06 11 56.3 -1.9
comp=Z,2.2nm,0.8s,baz=14,slow=5.0,SNR=4.3
CCM Cathedral Cave 58.56 67 *eP* **P 06 11 10.4 -3.4**
CCM *e* 06 12 01.1
CCM pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
CCM Cathedral Cave 58.56 67 *eP* **P 06 11 10.4 -3.4**
comp=Z,7.6nm,0.6s,mb4.9
CCM *e*PcP PcP 06 12 01.1 -1.7
SCHQ Schefferville 58.59 40 P **P 06 11 12.3 -1.4**
comp=Z,9.2nm,0.6s,mb5.0,baz=307,slow=6.1,SNR=30
SCHQ Schefferville 58.59 40 P **P 06 11 12.3 -1.4**
JCT Junction City 58.84 79 *eP* **P 06 11 14.2 -1.5**
JCT pmax pmax
comp=Z,17nm,0.6s,mb5.2
JCT Junction City 58.84 79 *eP* **P 06 11 14.2 -1.6**
comp=Z,17nm,0.6s,mb5.3
KURK Kurchatov 59.37 314 *d iP* **P 06 11 17.9 -1.2**
MIAR Mount Ida 59.67 72 *eP* **P 06 11 19.8 -1.7**
MIAR *e* 06 12 06.2
MIAR pmax pmax
comp=Z,11nm,0.7s,mb5.0
MIAR Mount Ida 59.67 72 *eP* **P 06 11 19.8 -1.7**
comp=Z,11nm,0.7s,mb5.0
MIAR *e*PcP PcP 06 12 06.2 -1.0
WMQ Urumqi 59.96 304 *eP* **P 06 11 28.8 +5.5**
WMQ PCP PcP 06 12 13.5 +5.3
WMQ PP PP 06 13 44.0 +5.5
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,150nm,5.2s
WMQ LR LR
comp=N,550nm,21.0s
WMQ LR LR
comp=E,550nm,22.0s
WMQ LR LR
comp=Z,550nm,20.0s
CD2 Chengdu 60.04 283 *eP* **P 06 11 24.8 +0.8**
MKAR Makanchi Array 60.52 309 P **P 06 11 24.9 -2.2**
comp=Z,1.3nm,0.5s,mb4.2,baz=46,slow=5.6,SNR=18
NATX Nacogdoches 61.01 75 *eP* **P 06 11 29.3 -1.3**
WCI Wyandotte Cave 61.22 64 *eP* **P 06 11 29.6 -2.3**
WCI pmax pmax
comp=Z,11nm,0.6s,mb5.1
WCI Wyandotte Cave 61.22 64 *eP* **P 06 11 29.6 -2.3**
comp=Z,11nm,0.6s,mb5.1
GYA Guiyang 61.48 277 P **P 06 11 33.9 0.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
WVT Waverly 61.85 67 *eP* **P 06 11 33.8 -2.4**
WVT pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
WVT Waverly 61.85 67 *eP* **P 06 11 33.8 -2.4**
comp=Z,4.8nm,0.7s,mb4.6
OXF Oxford 62.11 69 *eP* **P 06 11 35.7 -2.3**
OXF pmax pmax
comp=Z,33nm,0.6s,mb5.5
OXF Oxford 62.11 69 *eP* **P 06 11 35.6 -2.3**
comp=Z,33nm,0.6s,mb5.5
ARU Arti 62.58 329 ⇑ *iP* **P 06 11 41.1 +0.3**
ARU *e* 06 12 15.7
ARU *e* 06 13 55.2
ARU *e*S **S** **06 19 52.8 -6.5**
ARU *e*SS SS 06 24 00.4 -6.6
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MYNC Murphy 64.70 65 *eP* **P 06 11 52.7 -2.2**
MYNC pmax pmax
comp=Z,13nm,0.6s,mb4.9
MYNC Murphy 64.70 65 *eP* **P 06 11 52.7 -2.2**
comp=Z,12nm,0.6s,mb4.9
KMI Kunming 64.85 279 P **P 06 11 57.3 +1.2**
KMI AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
FINES FINESS Array B 65.28 348 P **P 06 11 56.4 -1.8**
comp=Z,1.2nm,0.6s,mb3.9,baz=45,slow=8.1,SNR=4.8
NOA NORSAR Array B 66.96 356 P **P 06 12 07.9 -0.9**
comp=Z,1.0nm,0.6s,mb3.8,baz=5.4,slow=6.4,SNR=3.0
NOA pP pP 06 12 34.1 +1.1
comp=Z,1.9nm,0.8s,baz=4.3,slow=6.5,SNR=3.6
AAK Ala-Archa 67.31 311 *d iP* **P 06 12 09.8 -1.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
OBN Obninsk 69.56 340 *eP* **P 06 12 24.3 -0.7**
OBN *e* 06 12 41.4
OBN *e* 06 14 57.7
OBN pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
GUN Gumba 72.71 293 *eP* **P 06 12 44.6 +0.3**
comp=Z,17nm,0.4s,mb5.3
JIRN Jiri 72.73 293 *eP* **P 06 12 44.5 +0.1**
comp=Z,20nm,0.7s,mb5.1
KKN Kakani 73.14 294 *eP* **P 06 12 46.8 0.0**
PKI Pulchoki 73.24 293 *eP* **P 06 12 47.2 -0.1**
GKN Gorkha 73.34 294 *eP* **P 06 12 47.4 -0.5**
DMN Daman 73.38 294 *eP* **P 06 12 48.4 +0.2**
KOLN Koldanda 74.10 295 *eP* **P 06 12 51.9 -0.5**
AKASG Malin Array Be 75.16 343 P **P 06 12 56.8 -1.2**
comp=Z,0.3nm,0.3s,mb3.5,baz=18,slow=6.1,SNR=5.4
CLL Collm 76.56 354 P **P 06 13 10.4 +4.5**
CLL Collm 76.56 354 *i* P **P 06 13 10.4 +4.5**
KIV Kislovodsk 78.37 332 *eP* **P 06 13 14.9 -1.1**
CTA Charters Tower 78.85 215 *eP* **pP** 06 13 43.7 -0.4
comp=Z,5.1nm,0.9s
CTAO Charters Tower 78.85 215 P **P 06 13 19.7 +0.5**
CTAO *e*pP pP 06 13 43.2 -0.9
GERES GERESS Array B 78.96 353 P **P 06 13 18.7 -0.5**
comp=Z,0.6nm,0.7s,mb3.6,baz=9.5,slow=8.1,SNR=3.9

JTS	**JuntasAbangare**	**83.07**	**82**	*e*P	**P**	**06 13 39.3**	**-2.1**
WB2	**Warramunga Arr**	**83.46**	**226**	*e*P	pP	06 14 08.0	-0.5
WRA	**Warramunga Arr**	**83.47**	**226**	P	**P**	**06 13 42.9**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.8,baz=34,slow=6.0,SNR=24						
WRA				pP	pP	06 14 07.8	-0.7
	comp=Z,5.0nm,0.9s,baz=38,slow=6.4,SNR=18						
BR131	**Keskin Array S**	**84.72**	**337**	*e*P	**P**	**06 13 49.4**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.1						
BRTR	**Keskin Array B**	**84.73**	**337**	P	**P**	**06 13 48.5**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=63,slow=2.7,SNR=15						
FITZ	**Fitzroy Crossi**	**85.95**	**234**	*e*P	pP	06 14 21.4	+0.4
	comp=Z,8.8nm,0.7s						
STKA	**Stephens Creek**	**91.29**	**214**	P	**P**	**06 14 20.6**	**-0.1**
	comp=Z,1.2nm,0.4s,mb4.3,baz=147,slow=23,SNR=3.3						
STKA				pP	pP	06 14 46.6	+0.3
	comp=Z,5.2nm,0.6s,baz=336,slow=8.5,SNR=4.6						
STKA				sP	sP	06 14 56.8	+0.5
	comp=Z,2.4nm,0.6s,baz=324,slow=10,SNR=2.3						
STKA	**Stephens Creek**	**91.29**	**214**	*e*P	**P**	**06 14 20.7**	**-0.1**
STKA				epP	pP	06 14 46.3	-0.1
SDV	**Santo Domingo**	**92.77**	**72**	*e*P	**P**	**06 14 27.9**	**-0.1**
	comp=Z,8.1nm,0.8s,mb5.1						
TORD	**Torodi Ar. Bea**	**114.94**	**2**	PKP	PKPdf	06 19 54.2	-0.6
	comp=Z,0.4nm,0.4s,baz=351,slow=2.5,SNR=16						
DBIC	**Dimbokro**	**120.98**	**9**	PKP	PKPdf	06 20 06.5	-0.1
	comp=Z,1.4nm,0.3s,baz=2.0,slow=2.0,SNR=10						
BDFB	**Brasilia**	**125.63**	**68**	PKP	PKPdf	06 20 15.9	+0.5
	comp=Z,5.6nm,0.5s,baz=198,slow=3.3,SNR=10						
PLCA	**Paso Flores**	**130.00**	**108**	PKP	PKPdf	06 20 24.1	+0.8
	comp=Z,2.0nm,0.8s,baz=88,slow=3.1,SNR=5.8						
MAW	**Mawson**	**147.89**	**218**	PKPbc	PKPdf	06 20 58.5	+4.1
	comp=Z,5.3nm,0.7s,baz=104,slow=3.9,SNR=8.7						
MAW				pPKPbc		06 21 24.8	
	comp=Z,12nm,0.8s,baz=35,slow=2.4,SNR=9.9						
MAW	**Mawson**	**147.89**	**218**	PKP2	PKPab	06 20 58.5	-3.9
MAW				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAW				pmax	pmax		
	comp=Z,12nm,0.9s						
MAW	**Mawson**	**147.89**	**218**	PKP	PKPdf	06 20 55.4	+1.1
LBTB	**Lobatse**	**148.00**	**319**	PKIKP	PKPdf	06 20 56.7	+0.9
VNA3	**Neumayer Olymp**	**160.00**	**168**	P	PKPab	06 21 48.7	-4.7
VNA2	**Neumayer--Watz**	**160.58**	**170**	P	PKPab	06 21 48.7	-7.2

IGQ 14 06:21:50.0, 0.85N×79.14W, h21km±3km, mb4.0, 3C-2D, Error ellipse: s-maj=3.4km s-min=1.4km az=85.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COTA	**Cotacachi**	**0.95**	**123**	P	Pb	06 22 08.3	+0.5
COTA				S	Sb	06 22 22.3	+2.4
MAG1	**Magdalena**	**1.11**	**215**	⇑P	Pb	06 22 10.7	+0.2
YANA	**Yana**	**1.12**	**149**	⇑P	Pb	06 22 11.6	+1.0
YANA				S	Sb	06 22 27.3	+2.7
PINO	**Pino**	**1.13**	**152**	P	Pb	06 22 11.6	+0.8
JUA2	**San Juan 2**	**1.18**	**153**	⇓P	Pn	06 22 12.6	+1.0
ANGU	**Angureal**	**1.38**	**125**	⇑P	Pn	06 22 16.2	+1.7
CAYA	**Cayambe**	**1.39**	**124**	P	Pn	06 22 17.4	+3.0
CAYR	**Refugio Cayamb**	**1.40**	**126**	P	Pn	06 22 17.4	+2.7
JAMA	**Jama**	**1.54**	**224**	P	Pn	06 22 18.2	+1.6
JAMA				S	Sn	06 22 37.5	+1.4
ANTI	**Antisana**	**1.62**	**143**	P	Pn	06 22 20.1	+2.3
CAMI	**Rancho Maria**	**1.64**	**157**	⇓P	Pn	06 22 20.6	+2.4
VC1	**Cotopaxi 1**	**1.66**	**154**	P	Pn	06 22 21.0	+2.7
TAMB	**Tambo**	**1.72**	**153**	P	Pn	06 22 22.1	+2.9

IDC ***14*** *06:44:01.2±1.2, 14.19N×145.43E, h84km±12km, mb3.6/9, mb1 3.7/9, mb1mx3.6/21, mbtmp3.9/9, Error ellipse: s-maj=29.9km s-min=22.9km az=105.0*

NEIC ***14*** *06:44:02.3±1.5, 14.19N×145.41E, h94km±16km, mb3.8/1, Error ellipse: s-maj=31.1km s-min=24.3km az=97.0*

ISC 14 06:44:01.2±1.3, 14.2N±0.2×145.4E±0.2, h98km±13km, n15, σ1§04/16, mb3.7/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.75**	**219**	P	**P**	**06 44 20.1**	**+0.9**
	664nm,0.3s,baz=3.5,slow=1.0,SNR=313						
GUMO				S	**S**	**06 44 31.9**	**-0.6**
	668nm,0.3s,baz=154,slow=23,SNR=17						
GUMO	**Guam**	**0.75**	**219**	P	**P**	**06 44 20.1**	**+0.9**
GUMO				S	**S**	**06 44 31.9**	**-0.6**
HNR	**Honiara**	**27.56**	**148**	PFAKE		06 49 50.0	+8.8
HNR				LR	LR		
	comp=Z,8μm,19.0s						
WRA	**Warramunga Arr**	**35.60**	**198**	P	**P**	**06 50 51.2**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.0,baz=23,slow=9.9,SNR=18						
SONM	**Songino Array**	**46.53**	**324**	P	**P**	**06 52 21.8**	**+1.3**
	comp=Z,0.4nm,0.8s,mb3.2,baz=138,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**61.40**	**316**	P	**P**	**06 54 09.6**	**+0.3**
	comp=Z,0.6nm,0.3s,mb4.1,baz=92,slow=8.5,SNR=19						
MKAR	**Makanchi Array**	**61.40**	**316**	P	**P**	**06 54 09.6**	**+0.3**
ILAR	**Eielson Array**	**67.84**	**25**	P	**P**	**06 54 48.8**	**-1.7**
	comp=Z,0.5nm,0.3s,mb3.8,baz=253,slow=5.7,SNR=21						
BVAR	**Borovoye Array**	**69.76**	**322**	P	**P**	**06 55 01.9**	**-0.7**
	comp=Z,0.7nm,0.3s,mb3.9,baz=103,slow=7.3,SNR=5.2						
INK	**Inuvik**	**73.64**	**23**	P	**P**	**06 55 25.6**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.5,baz=250,slow=4.0,SNR=5.1						
INK	**Inuvik**	**73.64**	**23**	*e*P	**P**	**06 55 24.9**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.7						
YKA	**Yellowknife Ar**	**82.12**	**27**	P	**P**	**06 56 12.0**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.3,baz=286,slow=5.1,SNR=12						
YKA	**Yellowknife Ar**	**82.12**	**27**	P	**P**	**06 56 12.0**	**-0.1**
ELK	**Elko**	**87.83**	**49**	P	**P**	**06 56 43.4**	**+2.6**
	comp=Z,0.6nm,0.5s,mb3.9,baz=305,slow=4.3,SNR=4.1						
FINES	**FINESS Array B**	**90.83**	**335**	P	**P**	**06 56 53.5**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.8,baz=53,slow=9.5,SNR=3.4						

BJI ***14*** *06:45:40.3, 14.51S×168.57E, h22km, mB5.7, mb5.2, Ms5.6, Ms2.5.1*

HRVD ***14*** *06:45:41.9±0.1, 14.63S×168.04E, h12km, MW5.6/86, Centroid moment Tensor Solution. LP body waves: s80,c152;Mantle waves: s86,c188; Half duration: 1§5 Moment tensor: Scale 10^17^Nm; Mrr2.59±.03; Mθθ-0.03±.03; Mφφ-2.56±.03; Mrθ0.17±.09; Mθφ0.27±.03; Mφr1.47±.09; Best double couple: M0 2.982×10^17^ NP1: φs168°, δ31°, λ79°. NP2:φs0°, δ60°, λ96°. Principal axes: T 2.999, Plg74°, Azm287°; N -.03, Plg5°, Azm177°; P -2.966, Plg15°, Azm86°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***14*** *06:45:41.3±1.4, 14.61S×167.88E, h10km, mb5.3/34, MS5.1/34 Error ellipse: s-maj=9.2km s-min=8.5km az=48.6*

NEIC ***14*** *06:45:41.9±0.1, 14.60S×167.93E, h10km, mb5.2/39, MS5.2/107, MW5.5, Error ellipse: s-maj=6.0km s-min=5.0km az=117.0, Moment Tensor Solution. s21 Moment tensor: Scale 1017Nm; Mrr2.83; Mθθ-0.92; Mφφ-1.92; Mrθ0.05; Mθφ0.13; Mφr0.21; Best double couple: M0 2.4×10^17^ NP1:φs172°, δ43°, λ88°. NP2:φs354°, δ47°, λ92°. Principal axes: T 2.84, Plg87°, Azm288°; N -.89, Plg1°, Azm173°; P -1.94, Plg2°, Azm83°;*

LDG ***14*** *06:45:42.4±0.2, 14.43S×167.50E, h10km, Mb5.4/4, Ms4.9/8 Error ellipse: s-maj=29.1km s-min=7.2km az=90.0*

CSEM ***14*** *06:45:45.7, 14.91S×167.57E, h33km, mb5.6*

IDC ***14*** *06:45:48.0±3.7, 14.59S×167.87E, h57km±31km, mb4.8/21, mb1 4.9/22, mb1mx4.9/24, mbtmp5.0/22, ML5.3/1, MS4.9/19, Ms1 4.9/19, ms1mx4.7/28, Error ellipse: s-maj=18.4km s-min=12.9km az=77.0*

ISC 14 06:45:41.0±0.2, 14.67S±0.03×167.86E±0.04, h13km, h13km±.9km: pP-P, n376, σ1§02/187, mb5.2/75, MS5.2/129, 9C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.01**	**173**	*i*P	**Pn**	**06 46 29.1**	**-0.3**
DZM	**Mont Dzumac**	**7.49**	**190**	*e*P	**Pn**	**06 47 31.1**	**-1.6**
DZM				*e*S	**Sn**	**06 48 50.9**	**-7.4**
DZM	**Mont Dzumac**	**7.49**	**190**	P	**Pn**	**06 47 30.9**	**-1.8**
	16nm,0.3s,baz=47,slow=18,SNR=87						
DZM				S	**Sn**	**06 48 54.9**	**-3.3**
	baz=312,slow=22,SNR=3.0						
DZM				LR	LR	06 49 28.3	
	comp=Z,2μm,21.8s,baz=17,slow=29						
HNR	**Honiara**	**9.32**	**303**	P	**P**	**06 47 58.5**	**+0.4**
	32nm,0.3s,baz=189,slow=2.7,SNR=9.5						
HNR				S	**Sn**	**06 49 43.4**	**-0.6**
	9.4nm,0.3s,baz=148,slow=22,SNR=1.5						
HNR	**Honiara**	**9.32**	**303**	*e*P	**P**	**06 47 58.2**	**+0.1**
HNR				*e*S	**Sn**	**06 49 46.7**	**+2.8**
HNR				pmax	pmax		
	comp=Z,646nm,0.9s						
HNR	**Honiara**	**9.32**	**303**	*e*Pn	**P**	**06 47 58.2**	**0.0**
	comp=Z,646nm,0.9s						
HNR				*e*S	**Sn**	**06 49 46.6**	**+2.7**
RAO	**Raoul Island**	**19.59**	**140**	LR	LR	06 56 14.3	
	comp=Z,1μm,19.3s,baz=320,slow=32						
AFI	**Afiamalu**	**19.75**	**90**	LR	LR	06 56 03.1	
	comp=Z,4μm,20.4s,baz=285,slow=31						
PMG	**Port Moresby**	**20.90**	**282**	P	**P**	**06 50 26.7**	**+0.9**
	comp=Z,104nm,0.8s,baz=95,slow=7.0,SNR=17						
PMG				LR	LR	06 57 35.0	
	comp=Z,8μm,19.8s,MS5.1,baz=57,slow=34						
PMG	**Port Moresby**	**20.90**	**282**	*e*P	**P**	**06 50 27.1**	**+1.3**
PMG				pmax	pmax		
	comp=Z,108nm,0.8s						
PMG				MLR	MLR		
	comp=Z,9μm,20.0s						
PMG	**Port Moresby**	**20.90**	**282**	*e*P	**P**	**06 50 27.1**	**+1.3**
	comp=Z,108nm,0.8s						
PMG				LR	LR		
	comp=Z,9μm,20.0s,MS5.1						
OUZ	**Omahuta**	**21.11**	**167**	*e*PN	**P**	**06 50 28.0**	**+0.2**
CTA	**Charters Tower**	**21.30**	**252**	*e*P	**P**	**06 50 32.1**	**+2.3**
	comp=Z,63nm,0.7s,mb5.1						
CTA				*e*S	**S**	**06 54 33.9**	**+13**
CTA	**Charters Tower**	**21.30**	**252**	P	**P**	**06 50 31.9**	**+2.1**
	comp=Z,89nm,0.8s,mb5.2,baz=78,slow=12,SNR=50						
CTA				LR	LR	06 58 01.1	
	comp=Z,11μm,18.5s,MS5.3,baz=84,slow=34						
CTA	**Charters Tower**	**21.30**	**252**	*e*P	**P**	**06 50 32.1**	**+2.3**
CTA				*e*S	**S**	**06 54 33.9**	**+13**
CTA				pmax	pmax		
	comp=Z,63nm,0.7s						
CTAO	**Charters Tower**	**21.30**	**252**	*e*P	**P**	**06 50 31.5**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.1						
CTAO				MLR	MLR		
	comp=Z,11μm,20.0s,MS5.3						
CTAO	**Charters Tower**	**21.30**	**252**	*e*P	**P**	**06 50 31.5**	**+1.7**
	comp=Z,80nm,0.8s,mb5.1						
CTAO				LR	LR		
	comp=Z,11μm,20.0s,MS5.3						
WCZ	**Waipu Caves**	**21.97**	**166**	PN	**P**	**06 50 37.2**	**+0.7**
WCZ	**Waipu Caves**	**21.97**	**166**	P	**P**	**06 50 37.2**	**+0.7**
RIV	**Riverview**	**24.34**	**215**	*e*P	**P**	**06 51 02.2**	**+2.4**
URZ	**Urewera**	**24.89**	**162**	P	**P**	**06 51 05.9**	**+0.9**
	comp=Z,78nm,0.8s,mb5.3,baz=28,slow=6.5,SNR=19						
URZ				LR	LR	06 58 49.6	
	comp=Z,3μm,20.8s,MS4.8,baz=197,slow=31						
URZ	**Urewera**	**24.89**	**162**	PN	**P**	**06 51 05.7**	**+0.7**
URZ	**Urewera**	**24.89**	**162**	*e*P	**P**	**06 51 05.8**	**+0.8**
PUZ	**Puketitti**	**25.07**	**160**	*e*PN	**P**	**06 51 06.3**	**-0.4**
PUZ	**Puketitti**	**25.07**	**160**	*e*P	**P**	**06 51 06.3**	**-0.4**
BKZ	**Black Stump Fm**	**25.56**	**164**	*e*PN	**P**	**06 51 11.0**	**-0.4**
BKZ	**Black Stump Fm**	**25.56**	**164**	*e*P	**P**	**06 51 11.0**	**-0.4**
KNZ	**Kokohu**	**25.76**	**162**	*e*PN	**P**	**06 51 13.9**	**+0.7**
KNZ	**Kokohu**	**25.76**	**162**	*e*P	**P**	**06 51 13.9**	**+0.7**
CNB	**Canberra Magne**	**26.44**	**216**	*e*P	**P**	**06 51 20.5**	**+1.0**
	comp=Z,53nm,0.9s,mb5.1						
SNZO	**South Karori**	**27.21**	**169**	*e*P	**P**	**06 51 26.9**	**+0.5**
SNZO				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
RPZ	**Rata Peaks**	**29.08**	**175**	P	**P**	**06 51 44.4**	**+1.0**
	comp=Z,23nm,0.8s,mb4.9,baz=251,slow=2.0,SNR=3.8						
RPZ				LR	LR	07 02 27.1	
	comp=Z,2μm,18.3s,MS4.9,baz=242,slow=34						
STKA	**Stephens Creek**	**29.47**	**230**	⇑*i*P	**P**	**06 51 47.7**	**+0.7**
	comp=Z,113nm,0.9s,mb5.6						
STKA				*e*PcP	PcP	06 54 53.3	+0.6
STKA				*e*S	**S**	**06 56 38.5**	**-1.1**
STKA	**Stephens Creek**	**29.47**	**230**	P	**P**	**06 51 47.8**	**+0.8**
	comp=Z,141nm,0.9s,mb5.7,baz=45,slow=7.6,SNR=63						
STKA				PcP	PcP	06 54 52.8	0.0
	comp=Z,13nm,0.7s,baz=58,slow=4.0,SNR=3.6						
STKA				LR	LR	07 04 00.3	
	comp=Z,3μm,18.3s,MS4.9,baz=53,slow=37						
TOO	**Toolangi**	**30.24**	**217**	*e*P	**P**	**06 51 53.9**	**+0.1**
	comp=Z,39nm,0.9s,mb5.1						
TOO				*e*S	**S**	**06 56 55.8**	**+4.0**
TOO	**Toolangi**	**30.24**	**217**	*e*P	**P**	**06 51 53.9**	**+0.1**
TOO				*e*S	**S**	**06 56 55.8**	**+4.0**
TOO				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.1						
RAR	**Rarotonga**	**31.44**	**107**	LR	LR	07 01 58.1	
	comp=Z,3μm,21.4s,MS5.0,baz=281,slow=31						
WB2	**Warramunga Arr**	**32.38**	**256**	*e*P	**P**	**06 52 11.7**	**-1.1**
WB2				*e*S	**S**	**06 57 24.7**	**-0.8**
WB2				*e*PCS		06 58 44.4	
WRAB	**Tennant Creek**	**32.38**	**256**	*e*P	**P**	**06 52 11.5**	**-1.3**
WRA	**Warramunga Arr**	**32.39**	**256**	P	**P**	**06 52 11.4**	**-1.5**
	comp=Z,20nm,0.8s,mb5.0,baz=85,slow=9.1,SNR=80						
ASPA	**Alice Springs**	**33.23**	**249**	⇑*i*P	**P**	**06 52 19.1**	**-1.1**
GUMO	**Guam**	**36.14**	**320**	LR	LR	07 06 07.1	
	comp=Z,3μm,21.1s,MS5.0,baz=134,slow=34						
GUMO	**Guam**	**36.14**	**320**	PFAKE		06 53 00.0	+15
GUMO				LR	LR		
	comp=Z,3μm,22.0s,MS5.0						
FORT	**Forrest**	**39.82**	**239**	⇑*i*P	**P**	**06 53 16.2**	**+0.3**
	comp=Z,97nm,0.6s,mb5.7						
FITZ	**Fitzroy Crossi**	**40.59**	**259**	⇑*i*P	**P**	**06 53 22.2**	**-0.1**
	comp=Z,76nm,0.9s,mb5.3						
FITZ	**Fitzroy Crossi**	**40.59**	**259**	LR	LR	07 10 17.4	
	comp=Z,6μm,18.4s,MS5.5,baz=5.1,slow=36						
PPT	**Papeete**	**40.94**	**100**	*e*S	**S**	**06 59 28.9**	**-7.5**
PPT				*e*LQ		07 03 02.0	
PPT				*e*LR	LR	07 04 49.5	
	comp=Z,9μm,28.8s,baz=264						
TBI	**Tubuai**	**41.15**	**109**	*e*S	**S**	**06 59 33.9**	**-5.5**
TBI				*e*LQ		07 03 03.8	
TBI				*e*LR	LR	07 04 56.3	
	comp=Z,7μm,27.8s,baz=274						
MBWA	**Marble Bar**	**46.11**	**255**	*e*P	**P**	**06 54 07.1**	**0.0**
	comp=Z,85nm,0.8s,mb5.7						
MBWA				LR	LR		
	comp=Z,5μm,20.0s,MS5.5						
KLBR	**Kellerberrin**	**48.63**	**241**	*e*P	**P**	**06 54 26.0**	**-0.7**
	comp=Z,37nm,1.0s,mb5.4						
NWAO	**Narrogin (SRO)**	**49.27**	**239**	*e*P	**P**	**06 54 31.1**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,71nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,4μm,20.0s						
NWAO	**Narrogin (SRO)**	**49.27**	**239**	*e*P	**P**	**06 54 31.1**	**-0.5**
	comp=Z,71nm,1.0s,mb5.7						
NWAO				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
POHA	**Pohakuloa**	**49.67**	**47**	PFAKE		06 54 50.0	+15
POHA				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
MUN	**Mundaring**	**49.99**	**240**	*e*P	**P**	**06 54 38.7**	**+1.5**
TAOE	**Nuku Hiva Isla**	**51.14**	**90**	*e*S	**S**	**07 01 55.8**	**-6.6**
TAOE				*e*SS	SS	07 05 38.8	+3.1
TAOE				*e*LR	LR	07 09 17.8	
	comp=Z,12μm,29.7s,baz=264						
RKT	**Rikitea**	**54.46**	**108**	*e*S	**S**	**07 02 41.5**	**-6.0**
RKT				*e*SS	SS	07 06 25.3	-4.4
RKT				*e*LR	LR	07 11 03.1	
	comp=Z,5μm,29.8s,baz=268						
DRV	**Dumont d'Urvil**	**55.13**	**193**	P	**P**	**06 55 20.0**	**+4.8**
KKM	**Kota Kinabalu**	**55.18**	**288**	*e*P	**P**	**06 55 15.8**	**-0.4**
JOW	**Kunigami**	**56.39**	**317**	P	**P**	**06 55 24.4**	**-0.3**
	comp=Z,47nm,0.7s,mb5.6,baz=173,slow=7.0,SNR=6.6						
MJAR	**Matsushiro Arr**	**58.11**	**332**	P	**P**	**06 55 34.1**	**-2.7**
	comp=Z,11nm,0.8s,mb4.9,baz=166,slow=8.6,SNR=17						
MAJO	**Matsushiro**	**58.12**	**332**	PFAKE		06 55 50.0	+13
MAJO				LR	LR		
	comp=Z,699nm,22.0s,MS4.7						
MAT	**Matsushiro**	**58.12**	**332**	P	**P**	**06 55 35.2**	**-1.6**
MAT				*e*S	**S**	**07 03 33.8**	**-2.0**
MAT	**Matsushiro**	**58.12**	**332**	*e*P	**P**	**06 55 35.0**	**-1.8**
MAT				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
MAT	**Matsushiro**	**58.12**	**332**	*e*P	**P**	**06 55 35.0**	**-1.8**
	comp=Z,17nm,0.9s,mb5.1						
KSM	**Kuching**	**59.15**	**281**	*e*P	**P**	**06 55 43.9**	**-0.5**
JNU	**Nakatsue**	**59.20**	**324**	P	**P**	**06 55 43.2**	**-1.2**
	comp=Z,61nm,0.8s,mb5.7,baz=159,slow=6.4,SNR=15						
NACB	**Ninganchiao**	**59.42**	**310**	*e*P	**P**	**06 55 45.1**	**-1.0**
TATO	**Taipei**	**59.97**	**311**	PFAKE		06 56 00.0	+10
TATO				LR	LR		
	comp=Z,776nm,20.0s,MS4.8						
VNDA	**Vanda**	**62.94**	**181**	P	**P**	**06 56 08.3**	**-0.9**
	comp=Z,5.2nm,0.7s,mb4.8,baz=8.8,slow=5.8,SNR=21						
VNDA				LR	LR	07 19 52.4	
	comp=Z,602nm,20.2s,MS4.8,baz=18,slow=32						
VNDA	**Vanda**	**62.94**	**181**	*e*P	**P**	**06 56 08.6**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VNDA				MLR	MLR		
	comp=Z,631nm,22.0s						
VNDA	**Vanda**	**62.94**	**181**	*e*P	**P**	**06 56 08.6**	**-0.6**
	comp=Z,7.0nm,0.8s,mb4.8						
VNDA				LR	LR		
	comp=Z,631nm,22.0s,MS4.7						
SBA	**Scott Base**	**63.20**	**180**	*e*P	**P**	**06 56 11.0**	**+0.1**
SBA				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.5						
SBA	**Scott Base**	**63.20**	**180**	*e*P	**P**	**06 56 11.0**	**+0.1**
	comp=Z,43nm,1.2s,mb5.5						
CASY	**Casey**	**63.80**	**202**	*e*P	**P**	**06 56 14.8**	**-0.1**
CASY				LR	LR		
	comp=Z,912nm,22.0s,MS4.9						
SSE	**Sheshan**	**63.87**	**316**	P	**P**	**06 56 16.5**	**+0.5**
SSE				AP	pP	06 56 19.8	-0.1
SSE				PP	PP	06 58 37.0	-1.3
SSE				S	**S**	**07 04 53.8**	**+4.4**
SSE				SS	SS	07 09 03.0	+3.7
SSE				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.7						
SSE				AMB	AMB		
	comp=Z,380nm,5.8s						
SSE				LR	LR		
	comp=N,240nm,20.0s,MS4.7						
SSE				LR	LR		
	comp=E,380nm,20.0s,MS4.7						
SSE				LR	LR		
	comp=Z,460nm,20.0s,MS4.7						
INCN	**Inchon**	**64.75**	**325**	PFAKE		06 56 30.0	+8.4
INCN				LR	LR		
	comp=Z,816nm,22.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**65.35**	**341**	*e*P	**P**	**06 56 25.7**	**+0.4**
YSS				S	S	07 05 08.0	+0.7
YSS				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.5						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**65.35**	**341**	*e*P	**P**	**06 56 25.6**	**+0.3**
YSS				LR	LR		
	comp=Z,821nm,20.0s,MS4.9						
NJ2	**Nanjing**	**66.03**	**315**	*e*P	**P**	**06 56 30.0**	**+0.1**
NJ2				AP	pP	06 56 34.8	+1.0
NJ2				XP	sP	06 56 37.0	+1.8
NJ2				PP	PP	06 58 57.8	+0.1
NJ2				S	S	07 05 16.0	0.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,550nm,5.4s						
NJ2				LR	LR		
	comp=N,9μm,28.8s,MS6.0						
NJ2				LR	LR		
	comp=E,8μm,27.1s,MS6.0						
NJ2				LR	LR		
	comp=Z,8μm,29.6s,MS5.7						
QIZ	**Qiongzhong**	**66.20**	**299**	*e*P	**P**	**06 56 33.3**	**+2.1**
QIZ				S	S	07 05 23.9	+5.6
QIZ				PS	PS	07 05 54.4	+13
QIZ				LR	LR		
	comp=Z,2μm,24.0s,MS5.1						
QIZ	**Qiongzhong**	**66.20**	**299**	PFAKE		06 56 40.0	+8.8
QIZ				LR	LR		
	comp=Z,710nm,20.0s,MS4.9						
FX1	**Attu Island--F**	**67.42**	**3**	LR	LR	07 19 49.7	
	comp=Z,68nm,19.5s,baz=203,slow=30						
PET	**Petropavlovsk**	**67.88**	**354**	*e*P	**P**	**06 56 41.6**	**+0.4**
PET				*e*		07 06 30.8	
PET				pmax	pmax		
	comp=Z,300nm,12.5s						
PET	**Petropavlovsk**	**67.88**	**354**	PFAKE		06 56 50.0	+8.8
PET				LR	LR		
	comp=Z,766nm,21.0s,MS4.9						
MDJ	**Mudanjiang**	**68.49**	**332**	P	**P**	**06 56 46.1**	**+0.9**
MDJ				AP	pP	06 56 49.0	-0.2
MDJ				PCP	PcP	06 57 10.5	-0.1
MDJ				PP	PP	06 59 17.8	-0.8
MDJ				S	S	07 05 50.5	+5.1
MDJ				SS	SS	07 10 16.0	+5.0
MDJ				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,550nm,5.3s						
MDJ				LR	LR		
	comp=N,530nm,20.7s,MS4.8						
MDJ				LR	LR		
	comp=E,340nm,19.0s,MS4.8						
MDJ				LR	LR		
	comp=Z,580nm,21.3s,MS4.8						
MDJ	**Mudanjiang**	**68.49**	**332**	*e*P	**P**	**06 56 44.3**	**-0.9**
	comp=Z,28nm,0.9s,mb5.3						
MDJ				LR	LR		
	comp=Z,459nm,19.0s,MS4.7						
DL2	**Dalian**	**68.59**	**323**	P	**P**	**06 56 46.3**	**+0.3**
DL2

KMI LR LR
comp=Z,930nm,20.0s
CHRT Chiangrai 75.22 295 ⇑P **P 06 57 24.0 -1.8**
comp=Z,237nm,0.8s,mb6.2
MA2 Magadan 75.27 351 PFAKE 06 57 40.0 +15
MA2 LR LR
comp=Z,666nm,20.0s,MS4.9
QSPA South Pole Qui 75.36 180 PFAKE 06 57 40.0 +15
QSPA LR LR
comp=Z,671nm,19.0s,MS5.0
HHC Hu-ho-hao-te 75.91 319 *e*P **P 06 57 29.1 -0.2**
HHC AP pP 06 57 33.6 +0.3
HHC PCP PcP 06 57 41.8 -0.4
HHC PP PP 07 00 20.0 -1.6
HHC S S 07 07 09.0 -1.2
HHC SKS SKS 07 07 33.0 -6.9
HHC SCS ScS 07 07 39.3 -0.8
HHC PS PS 07 07 48.4 -1.1
HHC SS SS 07 12 04.1 -1.6
HHC AMB AMB
comp=Z,20nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,610nm,5.0s
HHC LR LR
comp=N,3μm,15.5s,MS5.7
HHC LR LR
comp=E,1μm,19.0s,MS5.7
HHC LR LR
comp=Z,2μm,16.1s,MS5.5
CD2 Chengdu 76.42 307 *e*P **P 06 57 33.8 +1.4**
HIA Hailar 76.52 330 *e*P **P 06 57 33.7 +1.1**
HIA pmax pmax
comp=Z,46nm,1.5s
HIA MLR MLR
comp=Z,2μm,20.0s
HIA Hailar 76.52 330 *e*P **P 06 57 33.7 +1.2**
comp=Z,46nm,1.5s,mb5.2
HIA LR LR
comp=Z,2μm,20.0s,MS5.3
RPN Rapa Nui 77.17 115 LR LR 07 24 43.2
comp=Z,407nm,21.9s,MS4.7,baz=81,slow=30
LZH Lanzhou 78.70 312 ⇑P **P 06 57 47.5 +2.6**
LZH AP pP 06 57 50.8 +1.9
LZH XP sP 06 57 52.3 +2.1
LZH PP PP 07 00 48.0 +3.0
LZH *e*S S 07 07 43.5 +3.0
LZH SKS SKS 07 07 57.6 -2.6
LZH PS PS 07 08 29.5 +4.6
LZH SS SS 07 12 52.8 +5.0
LZH AMB AMB
comp=Z,80nm,1.1s,mb5.6
LZH AMB AMB
comp=Z,380nm,7.6s
LZH LR LR
comp=N,3μm,16.3s
LZH LR LR
comp=Z,3μm,18.2s,MS5.7
CIT Chita 81.31 329 *e*P **P 06 57 58.9 +0.4**
CIT pmax pmax
comp=Z,136nm,3.4s
YAK Yakutsk 82.14 343 *e*P **P 06 58 01.8 -0.8**
YAK MLR MLR
comp=Z,665nm,21.0s,MS5.0
MAW Mawson 82.16 202 P **P 06 58 02.0 -0.6**
comp=Z,8.2nm,0.9s,mb4.7,baz=119,slow=5.3,SNR=11
MAW LR LR 07 28 30.1
comp=Z,565nm,22.0s,MS4.9,baz=74,slow=31
MAW Mawson 82.16 202 *e*P **P 06 58 02.0 -0.6**
MAW pmax pmax
comp=Z,23nm,1.3s
MAW Mawson 82.16 202 *e*P **P 06 58 02.0 -0.6**
comp=Z,23nm,1.3s,mb4.9
ULN Ulaanbaatar 82.42 324 *e*P **P 06 58 04.3 -0.1**
ULN Ulaanbaatar 82.42 324 *e*P **P 06 58 03.8 -0.5**
comp=Z,32nm,1.0s,mb5.2
ULN LR LR
comp=Z,1μm,19.0s,MS5.2
BILL Bilibino 82.48 359 *e*P **P 06 58 05.4 +1.1**
BILL *i* S S 07 08 26.1 +6.9
BILL pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.5
BILL Bilibino 82.48 359 *e*P **P 06 58 05.0 +0.7**
comp=Z,5.0nm,0.7s,mb4.5
BILL LR LR
comp=Z,388nm,19.0s,MS4.8
SONM Songino Array 82.78 323 P **P 06 58 06.5 +0.2**
comp=Z,11nm,0.9s,mb4.9,baz=146,slow=5.0,SNR=42
GTA Gaotai 83.03 314 *e*P **P 06 58 08.5 +0.8**
GTA AP pP 06 58 14.0 +2.2
GTA XP sP 06 58 16.9 +3.8
GTA PP PP 07 01 22.6 +2.0
GTA PPP PPP 07 03 15.1 +1.4
GTA SKS SKS 07 08 25.8 -4.8
GTA S S 07 08 27.8 +2.4
GTA SS SS 07 13 55.8 +3.1
GTA AMB AMB
comp=Z,20nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,680nm,7.6s
GTA LR LR
comp=N,500nm,15.6s
GTA LR LR
comp=E,460nm,9.9s
GTA LR LR
comp=Z,600nm,12.2s,MS5.2
PMR Palmer 83.25 19 PFAKE 06 58 20.0 +12
PMR LR LR
comp=Z,890nm,21.0s,MS5.1
KCPM Cahto Peak 83.52 46 *e*P **P 06 58 10.6 +0.4**
HOPS Hopland 83.58 47 PFAKE 06 58 20.0 +9.4
HOPS LR LR
comp=Z,2μm,22.0s,MS5.4
KIPM Iron Peak 83.64 46 *e*P **P 06 58 11.1 +0.2**
SAO San Andreas Ge 83.86 50 *e*P **P 06 58 10.8 -1.3**
SAO pmax pmax
comp=Z,13nm,0.9s,mb5.1
SAO MLR MLR
comp=Z,1μm,22.0s,MS5.2
SAO San Andreas Ge 83.86 50 *e*P **P 06 58 10.8 -1.2**
comp=Z,13nm,0.9s,mb5.0
SAO LR LR
comp=Z,1μm,22.0s,MS5.2
PTRM Twissleman Ran 84.35 51 P **P 06 58 16.1 +1.6**
WDC Whiskeytown Da 84.61 46 *e*P **P 06 58 15.8 0.0**
WDC pmax pmax
comp=Z,31nm,1.4s,mb5.2
WDC MLR MLR
comp=Z,1μm,20.0s,MS5.3
WDC Whiskeytown Da 84.61 46 *e*P **P 06 58 15.8 +0.1**
comp=Z,31nm,1.4s,mb5.2
WDC LR LR
comp=Z,1μm,20.0s,MS5.3
BOD Bodaibo 84.67 334 *e*P **P 06 58 09.9 -5.7**
BOD pmax pmax
comp=Z,14nm,1.7s,mb4.8
YBH Yreka Blue Hor 84.97 45 *e*P **P 06 58 17.7 +0.2**
YBH pmax pmax
comp=Z,24nm,1.3s
YBH MLR MLR
comp=Z,1μm,22.0s
YBH Yreka Blue Hor 84.97 45 *e*P **P 06 58 17.7 +0.2**
comp=Z,24nm,1.3s,mb5.2
YBH LR LR
comp=Z,1μm,22.0s,MS5.3
CMB Columbia Colle 85.13 49 *e*P **P 06 58 17.3 -1.1**
CMB pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
CMB MLR MLR
comp=Z,2μm,19.0s,MS5.4
CMB Columbia Colle 85.13 49 *e*P **P 06 58 17.3 -1.1**
comp=Z,6.4nm,0.8s,mb4.8
CMB LR LR
comp=Z,2μm,19.0s,MS5.4
HUMO Hull Mountain 85.17 44 *e*P **P 06 58 18.1 -0.4**
comp=Z,14nm,0.9s,mb5.1
HUMO LR LR
comp=Z,1μm,21.0s,MS5.2
MWC Mount Wilson 85.47 53 *e*P **P 06 58 19.1 -1.1**
SIT Sitka 85.49 27 PFAKE 06 58 30.0 +10
SIT LR LR
comp=Z,2μm,20.0s,MS5.5
ISA Isabella 85.67 52 PFAKE 06 58 30.0 +8.9
ISA LR LR
comp=Z,208nm,19.0s,MS4.5

COR Corvallis 85.78 42 PFAKE 06 58 30.0 +8.5
COR LR LR
comp=Z,686nm,20.0s,MS5.0
ZAK Zakamensk 85.83 325 ⇑*i*P **P 06 58 20.9 -0.7**
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
LSA Lhasa 86.01 302 P **P 06 58 25.6 +2.6**
LSA AMB AMB
comp=Z,20nm,0.9s,mb5.3
LSA Lhasa 86.01 302 *e*P **P 06 58 23.4 +0.4**
LSA pmax pmax
comp=Z,17nm,0.8s,mb5.3
LSA MLR MLR
comp=Z,414nm,21.0s,MS4.8
LSA Lhasa 86.01 302 *e*P **P 06 58 23.4 +0.4**
comp=Z,17nm,0.8s,mb5.3
LSA LR LR
comp=Z,414nm,21.0s,MS4.8
BAR Barrett 86.01 55 *e*P **P 06 58 21.8 -1.2**
COLA College 86.09 17 *e*P **P 06 58 22.6 +0.1**
COLA pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
COLA MLR MLR
comp=Z,881nm,19.0s,MS5.2
COLA College 86.09 17 *e*P **P 06 58 22.6 +0.1**
comp=Z,5.8nm,0.6s,mb5.0
COLA LR LR
comp=Z,881nm,19.0s,MS5.2
ILAR Eielson Array 86.29 18 LR LR 07 33 44.1
comp=Z,678nm,18.3s,MS5.1,baz=256,slow=33
DAC Darwin (Calif) 86.55 51 *e*P **P 06 58 24.7 -0.8**
DAC pmax pmax
comp=Z,21nm,1.4s,mb5.2
DAC MLR MLR
comp=Z,530nm,19.0s,MS5.0
DAC Darwin (Calif) 86.55 51 *e*P **P 06 58 24.7 -0.8**
comp=Z,20nm,1.4s,mb5.2
DAC LR LR
comp=Z,530nm,19.0s,MS5.0
OCWA Octopus Mounta 86.60 39 PFAKE 06 58 40.0 +15
OCWA LR LR
comp=Z,930nm,19.0s,MS5.2
MOD Modoc 86.69 45 *e*P **P 06 58 26.3 +0.3**
comp=Z,32nm,1.4s,mb5.3
MOD LR LR
comp=Z,1μm,19.0s,MS5.2
NVAR Mina Array Bea 86.80 49 P **P 06 58 25.9 -0.7**
comp=Z,5.8nm,1.1s,mb4.7,baz=223,slow=4.6,SNR=27
MNV Mina 86.91 49 *e*P **P 06 58 27.0 -0.2**
MNV pmax pmax
comp=Z,20nm,1.1s,mb5.3
MNV MLR MLR
comp=Z,1μm,22.0s,MS5.3
MNV Mina 86.91 49 *e*P **P 06 58 27.0 -0.2**
comp=Z,20nm,1.1s,mb5.2
MNV LR LR
comp=Z,1μm,22.0s,MS5.3
TPH Tonopah 87.47 50 *e*P **P 06 58 29.0 -0.9**
TPH MLR MLR
comp=Z,856nm,22.0s,MS5.1
TPNV Topopah Spring 87.80 51 *e*P **P 06 58 30.0 -1.5**
TPNV pmax pmax
comp=Z,17nm,1.2s,mb5.2
TPNV MLR MLR
comp=Z,842nm,19.0s,MS5.2
TPNV Topopah Spring 87.80 51 *e*P **P 06 58 30.0 -1.5**
comp=Z,17nm,1.2s,mb5.2
TPNV LR LR
comp=Z,842nm,19.0s,MS5.2
WVOR Wild Horse Val 88.04 45 PFAKE 06 58 40.0 +7.5
WVOR LR LR
comp=Z,1μm,20.0s,MS5.2
LDFC Landfair 88.04 53 *e*P **P 06 58 32.2 -0.5**
SYO Syowa Base 88.93 196 ⇑P **P 06 58 36.2 +0.1**
SYO Syowa Base 88.93 196 ⇓PcP PcP 06 58 38.6 +0.6
SYO Syowa Base 88.93 196 ⇑*e*P **P 06 58 36.2 +0.1**
SYO ⇓*e*PcP PcP 06 58 38.6 +0.6
HAWA Hanford 88.93 41 PFAKE 06 58 50.0 +13
HAWA LR LR
comp=Z,48nm,19.0s
JIRN Jiri 89.53 299 *e*P **P 06 58 40.2 +0.2**
comp=Z,58nm,1.0s,mb5.9
BMO Blue Mountains 89.82 43 PFAKE 06 58 50.0 +9.1
BMO LR LR
comp=Z,682nm,22.0s,MS5.0
ELK Elko 89.83 48 P **P 06 58 40.4 -0.6**
comp=Z,4.2nm,0.9s,mb4.8,baz=239,slow=5.2,SNR=14
ELK Elko 89.83 48 *e*P **P 06 58 40.6 -0.5**
ELK pmax pmax
comp=Z,17nm,1.3s
ELK MLR MLR
comp=Z,1μm,21.0s
ELK Elko 89.83 48 *e*P **P 06 58 40.6 -0.5**
comp=Z,17nm,1.3s,mb5.2
ELK LR LR
comp=Z,1μm,21.0s,MS5.3
GUN Gumba 89.86 299 *e*P **P 06 58 41.6 +0.1**
comp=Z,88nm,1.2s,mb6.0
TIXI Tiksi 90.02 349 *e*P **P 06 58 38.0 -3.2**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,2μm,15.0s,MS5.6
TIXI Tiksi 90.02 349 PFAKE 06 58 50.0 +8.8
TIXI LR LR
comp=Z,1μm,19.0s,MS5.3
PKI Pulchoki 90.17 298 *e*P **P 06 58 42.9 -0.1**
comp=Z,73nm,1.0s,mb6.0
ARUT Antelope Range 90.19 51 *e*P **P 06 58 42.8 0.0**
KKN Kakani 90.34 299 *e*P **P 06 58 42.8 -0.9**
comp=Z,49nm,0.9s,mb5.8
DMN Daman 90.44 298 *e*P **P 06 58 44.1 -0.1**
comp=Z,99nm,1.0s,mb6.1
TUC Tucson 90.61 57 *e*P **P 06 58 44.4 -0.5**
TUC pmax pmax
comp=Z,15nm,1.4s,mb5.1
TUC MLR MLR
comp=Z,773nm,20.0s,MS5.1
TUC Tucson 90.61 57 *e*P **P 06 58 44.4 -0.5**
comp=Z,15nm,1.4s,mb5.1
TUC LR LR
comp=Z,773nm,20.0s,MS5.1
GKN Gorkha 90.94 299 *e*P **P 06 58 45.9 -0.6**
comp=Z,45nm,1.0s,mb5.8
WUAZ Wupatki 91.08 54 *e*P **P 06 58 47.5 +0.6**
comp=Z,23nm,1.0s,mb5.5
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.5
NEW Newport 91.15 40 P **P 06 58 47.8 +0.8**
comp=Z,4.2nm,0.9s,mb4.8,baz=266,slow=2.7,SNR=7.0
MVU Marysvale 91.33 51 PFAKE 06 59 00.0 +12
MVU LR LR
comp=Z,888nm,20.0s,MS5.2
HLID Hailey 91.33 45 *e*P **P 06 58 47.6 -0.4**
comp=Z,4.7nm,0.9s,mb4.8
HLID LR LR
comp=Z,1μm,21.0s,MS5.3
MSU Marysvale 91.36 51 *e*P **P 06 58 49.4 +1.2**
DUG Dugway 91.40 49 *e*P **P 06 58 49.6 +1.3**
DUG pmax pmax
comp=Z,23nm,1.6s,mb5.3
DUG MLR MLR
comp=Z,1μm,21.0s,MS5.3
DUG Dugway 91.40 49 *e*P **P 06 58 49.6 +1.3**
comp=Z,24nm,1.6s,mb5.3
DUG LR LR
comp=Z,1μm,21.0s,MS5.3
KOLN Koldanda 91.76 298 *e*P **P 06 58 49.0 -1.3**
comp=Z,19nm,1.0s,mb5.4
MPU Maple Canyon 92.21 49 PFAKE 06 59 00.0 +7.9
MPU LR LR
comp=Z,2μm,21.0s,MS5.5
MSO Missoula 92.70 42 PFAKE 06 59 10.0 +16
MSO LR LR
comp=Z,437nm,20.0s,MS4.9
TCUT Toone Canyon 92.70 48 P **P 06 58 55.2 +0.9**
HWUT Hardware Ranch 92.73 48 PFAKE 06 59 10.0 +16
HWUT LR LR
comp=Z,965nm,22.0s,MS5.2
WMQ Urumqi 93.09 314 *e*P **P 06 58 57.0 +1.0**
WMQ AP pP 06 59 01.8 +1.8
WMQ XP sP 06 59 04.0 +2.7
WMQ PP PP 07 02 43.3 +1.3
WMQ PPP PPP 07 04 45.5 +1.4
WMQ SKS SKS 07 09 29.0 -4.7
WMQ *e*S S 07 10 00.8 +1.5

WMQ AMB AMB
comp=Z,20nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,340nm,5.0s
WMQ LR LR
comp=N,2μm,20.0s,MS5.8
WMQ LR LR
comp=E,2μm,22.0s,MS5.8
WMQ LR LR
comp=Z,2μm,22.0s,MS5.6
DLMT Dillon 93.13 44 *e*P **P 06 58 56.2 +0.1**
comp=Z,3.6nm,0.8s,mb4.8
NVL N'lazarevskaya 93.19 188 ⇓*i*P **P 06 58 56.1 +0.3**
NVL *e**PP pP 06 58 59.7 -0.2
NVL *e**SP sP 06 59 01.0 -0.2
NVL pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
NVL MLR MLR
comp=Z,72nm,17.4s,MS4.2
AHID Auburn Hatcher 93.40 47 PFAKE 06 59 10.0 +13
AHID LR LR
comp=Z,1μm,21.0s,MS5.3
RRI2 Red Ridge 93.41 46 *e*P **P 06 58 59.5 +2.1**
SNAA Sanae 93.64 183 *e*P **P 06 58 55.7 -2.2**
SNAA pmax pmax
comp=Z,6.0nm,0.8s
SNAA Sanae 93.64 183 *e*P **P 06 58 55.7 -2.2**
comp=Z,6.4nm,0.8s,mb5.1
BOZ Bozeman (W) 93.87 44 PFAKE 06 59 10.0 +10
BOZ LR LR
comp=Z,760nm,21.0s,MS5.1
YMR Madison River 94.03 45 PFAKE 06 59 10.0 +10
YMR LR LR
comp=Z,2μm,22.0s,MS5.4
VNA3 Neumayer Olymp 94.29 181 *e* **P 06 59 04.3 +3.4**
VNA3 Neumayer Olymp 94.29 181 *e* **P 06 59 05.9 +5.0**
VNA3 Neumayer Olymp 94.29 181 P **P 06 59 01.4 +0.5**
VNA3 *e* pP 06 59 04.3 -0.6
VNA3 *e* pP 06 59 05.9 +1.0
LKWY Lake 94.39 45 PFAKE 06 59 10.0 +8.0
LKWY LR LR
comp=Z,2μm,20.0s,MS5.5
BNM Barren Site 94.46 56 *e*P **P 06 59 03.7 +1.1**
BW06 Boulder Array 94.49 47 PFAKE 06 59 10.0 +7.5
BW06 LR LR
comp=Z,740nm,20.0s,MS5.2
PDAR Pinedale Array 94.49 47 P **P 06 59 03.4 +0.9**
comp=Z,0.5nm,0.5s,mb4.2,baz=225,slow=5.1,SNR=4.5
PDAR PKKPbc 07 15 59.8
comp=Z,1.0nm,0.8s,baz=72,slow=4.7,SNR=7.1
PDAR LR LR 07 40 14.5
comp=Z,492nm,18.2s,MS5.0,baz=268,slow=35
VNA2 Neumayer--Watz 94.56 182 *e* **P 06 59 05.5 +3.4**
VNA2 Neumayer--Watz 94.56 182 *e* **P 06 59 07.3 +5.2**
VNA2 Neumayer--Watz 94.56 182 P **P 06 59 02.3 +0.2**
VNA2 *e* pP 06 59 05.5 -0.7
VNA2 *e* pP 06 59 07.3 +1.1
ANMO Albuquerque 94.80 55 P **P 06 59 05.0 +1.0**
comp=Z,3.1nm,0.9s,mb4.7,baz=207,slow=3.4,SNR=10
ANMO Albuquerque 94.80 55 P **P 06 59 05.1 +1.0**
ANMO MLR MLR
comp=Z,1μm,22.0s
MNTX Cornudas Mount 94.87 59 *e*P **P 06 59 05.8 +1.3**
comp=Z,24nm,2.1s,mb5.3
MNTX LR LR
comp=Z,487nm,20.0s,MS5.0
LTX Lajitas 95.75 61 PFAKE 06 59 20.0 +11
LTX LR LR
comp=Z,827nm,19.0s,MS5.2
TXAR Lajitas Array 95.75 61 P **P 06 59 07.8 -0.8**
comp=Z,1.5nm,0.6s,mb4.6,baz=222,slow=5.5,SNR=21
TXAR PKKPbc 07 15 59.8
comp=Z,0.3nm,0.8s,baz=127,slow=6.3,SNR=3.5
TXAR LR LR 07 32 40.7
comp=Z,669nm,21.7s,MS5.1,baz=195,slow=29
EGMT Eagleton 95.76 42 PFAKE 06 59 20.0 +12
EGMT LR LR
comp=Z,384nm,19.0s,MS4.9
SDCO Great Sand Dun 96.22 53 PFAKE 06 59 20.0 +9.4
SDCO LR LR
comp=Z,2μm,20.0s,MS5.6
ISCO Idaho Springs 96.62 51 PFAKE 06 59 20.0 +7.7
ISCO LR LR
comp=Z,1μm,20.0s,MS5.4
YKA Yellowknife Ar 97.23 27 P **P 06 59 12.2 -2.3**
comp=Z,4.6nm,0.8s,mb5.0,baz=255,slow=4.5,SNR=49
YKA PKKPbc 07 15 52.2
comp=Z,0.7nm,0.9s,baz=74,slow=2.7,SNR=9.4
YKA LR LR 07 42 02.6
comp=Z,366nm,18.2s,MS4.9,baz=225,slow=35
YKA Yellowknife Ar 97.23 27 P **P 06 59 12.2 -2.3**
YKA PKKPbc 07 15 52.2
YKA LR LR 07 42 02.6
MKAR Makanchi Array 97.55 316 P **P 06 59 15.9 -0.3**
comp=Z,14nm,0.7s,mb5.6,baz=100,slow=5.9,SNR=48
ZAL Zalesovo 97.69 324 P **P 06 59 16.0 -0.7**
comp=Z,2.4nm,0.8s,mb4.8,baz=353,slow=5.8,SNR=15
LAO LASA Array 97.76 44 PFAKE 06 59 30.0 +13
LAO LR LR
comp=Z,502nm,19.0s,MS5.0
RSSD Black Hills 98.72 47 PFAKE 06 59 30.0 +8.4
RSSD LR LR
comp=Z,965nm,21.0s,MS5.3
JCT Junction City 99.27 61 PFAKE 06 59 40.0 +16
JCT LR LR
comp=Z,887nm,21.0s,MS5.2
DGMT Dagmar 99.48 42 PFAKE 06 59 40.0 +15
DGMT LR LR
comp=Z,620nm,19.0s,MS5.1
WMOK Wichita Mounta 100.92 57 PFAKE 06 59 40.0 +8.1
WMOK LR LR
comp=Z,712nm,21.0s,MS5.2
PLCA Paso Flores 102.81 138 PFAKE 06 59 50.0 +10
PLCA LR LR
comp=Z,247nm,19.0s,MS4.8
NATX Nacogdoches 103.84 60 PFAKE 07 00 00.0 +15
NATX LR LR
comp=Z,672nm,20.0s,MS5.2
MIAR Mount Ida 105.13 58 PFAKE 07 04 20.0
MIAR LR LR
comp=Z,591nm,19.0s,MS5.2
CHKZ Chkalovo 105.95 322 *e*PKiKP 07 04 05.4
RES Resolute Bay 105.96 16 *e*PKiKP 07 04 04.7
CCM Cathedral Cave 107.39 54 PFAKE 07 04 20.0
CCM LR LR
comp=Z,931nm,20.0s,MS5.3
EYMN Ely 107.85 44 PFAKE 07 04 20.0
EYMN LR LR
comp=Z,806nm,20.0s,MS5.3
OXF Oxford 108.55 58 PFAKE 07 04 20.0
OXF LR LR
comp=Z,633nm,19.0s,MS5.2
TRQA Tornquist 109.78 140 PFAKE 07 04 30.0
TRQA LR LR
comp=Z,305nm,20.0s,MS4.9
WVT Waverly 109.96 57 PFAKE 07 04 30.0
WVT LR LR
comp=Z,914nm,20.0s,MS5.3
LRAL Lakeview Retre 110.42 60 PFAKE 07 04 30.0 +13
LRAL LR LR
comp=Z,11nm,22.0s
WCI Wyandotte Cave 111.30 54 PFAKE 07 04 30.0 +12
WCI LR LR
comp=Z,1μm,20.0s,MS5.4
OTAV Otavalo 112.95 96 PFAKE 07 04 30.0 +7.9
OTAV LR LR
comp=Z,525nm,22.0s,MS5.1
AAM Ann Arbor 113.35 50 PFAKE 07 04 30.0 +7.8
AAM LR LR
comp=Z,1μm,20.0s,MS5.5
GOGA Godfrey 113.40 60 PFAKE 07 04 30.0 +7.5
GOGA LR LR
comp=Z,865nm,20.0s,MS5.3
ACSO Alum Creek Sta 113.90 52 PFAKE 07 04 30.0 +6.7
ACSO LR LR
comp=Z,863nm,20.0s,MS5.3
KBS Kingsbay 114.69 355 PFAKE 07 04 30.0 +6.0
KBS LR LR
comp=Z,985nm,19.0s,MS5.4
DWPF Disney 114.85 66 PFAKE 07 04 40.0 +15
DWPF LR LR
comp=Z,424nm,20.0s,MS5.0
BLA Blacksburg 115.94 56 PFAKE 07 04 40.0 +13
BLA LR LR
comp=Z,1μm,22.0s,MS5.5

ERPA	**Erie**	**116.08**	**50**	PFAKE		07 04 40.0	+12
ERPA				LR	LR			
	comp=Z,1μm,21.0s,MS5.5							
NHSC	**New Hope**	**116.14**	**60**	PFAKE		07 04 40.0	+12
NHSC				LR	LR			
	comp=Z,575nm,20.0s,MS5.2							
MCWV	**Mont Chateau**	**116.32**	**53**	PFAKE		07 04 40.0	+12
MCWV				LR	LR			
	comp=Z,2μm,20.0s,MS5.7							
LPAZ	**La Paz**	**116.73 117**		PKP	PKPdf	07 04 28.1	-1.2
	comp=Z,0.9nm,0.7s,baz=43,slow=4.2,SNR=4.5							
LPAZ	**La Paz**	**116.73 117**		PKIKP	PKPdf	07 04 28.2	-1.1
LPAZ				MLR	MLR			
	comp=Z,300nm,20.0s							
CBN	**Corbin**	**118.32**	**54**	PFAKE		07 04 40.0	+8.0
CBN				LR	LR			
	comp=Z,2μm,20.0s,MS5.7							
NCB	**Newcomb**	**120.08**	**48**	PFAKE		07 04 40.0	+4.8
NCB				LR	LR			
	comp=Z,667nm,19.0s,MS5.3							
ARCES	**ARCESS Array B**	**120.33 346**		PKP	PKPdf	07 04 31.3	-3.8
	comp=Z,5.0nm,0.6s,baz=69,slow=1.2,SNR=28							
LBNH	**Lisbon**	**121.67**	**47**	PFAKE		07 04 50.0	+12
LBNH				LR	LR			
	comp=Z,2μm,19.0s,MS5.7							
SCHQ	**Schefferville**	**121.93**	**34**	PFAKE		07 04 50.0	+11
SCHQ				LR	LR			
	comp=Z,2μm,19.0s,MS5.8							
HRV	**Harvard--Oak R**	**122.24**	**49**	PFAKE		07 04 50.0	+11
HRV				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
WES	**Weston**	**122.44**	**49**	PFAKE		07 04 50.0	+10
WES				LR	LR			
	comp=Z,2μm,20.0s,MS5.7							
SDV	**Santo Domingo**	**122.58**	**89**	PFAKE		07 04 50.0	+9.3
SDV				LR	LR			
	comp=Z,508nm,21.0s,MS5.2							
SIV	**San Ignacio**	**122.87 120**		PKP	PKPdf	07 04 37.5	-3.7
	comp=Z,3.4nm,1.0s,baz=307,slow=1.3,SNR=13							
JOF	**Joensuu**	**123.04 338**		*ep*	PKPdf	07 04 36.0	-4.4
	comp=Z,9.2nm,0.8s							
OBN	**Obninsk**	**124.95 328**		*i* PKIKP	PKPdf	07 04 41.9	-2.5
OBN				*i*		07 06 29.9		
OBN				pmax	pmax			
	comp=Z,15nm,0.8s							
VRSR	**Storozhevoye**	**125.17 323**		*e*PKIKP	PKPdf	07 04 41.9	-3.0
VRSR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
VRSR				pmax	pmax			
	comp=N,2.0nm,0.9s							
VRSR				pmax	pmax			
	comp=E,2.0nm,0.9s							
KIV	**Kislovodsk**	**125.22 314**		*i* PKIKP	PKPdf	07 04 45.0	-0.2
KIV				pmax	pmax			
	comp=Z,17nm,1.0s							
KAF	**Kangasniemi**	**125.34 339**		*ep*	PKPdf	07 04 40.8	-4.1
	comp=Z,5.3nm,0.9s							
FINES	**FINESS Array B**	**125.88 338**		PKP	PKPdf	07 04 42.7	-3.3
	comp=Z,4.6nm,0.9s,baz=45,slow=5.4,SNR=8.6							
LBTB	**Lobatse**	**126.06 223**		PFAKE		07 05 00.0	+13
LBTB				LR	LR			
	comp=Z,707nm,20.0s,MS5.3							
MSL	**Mosul**	**126.45 304**		*ex*	x	07 01 04.5		
SOC	**Sochi**	**127.39 314**		*i* PKIKP	PKPdf	07 04 46.4	-2.9
SOC				*e*		07 06 46.6		
SOC				*e*SSS	SSS	07 28 41.4	+0.4
SOC				MLR	MLR			
	comp=Z,237nm,23.0s,MS4.8							
SJG	**San Juan**	**128.22**	**78**	PFAKE		07 05 00.0	+8.3
SJG				LR	LR			
	comp=Z,497nm,21.0s,MS5.2							
CPD	**Cerro la Pandu**	**128.44**	**78**	*e*PKIKP	PKPdf	07 04 51.5	-0.6
LSZ	**Lusaka**	**130.25 235**		*e*PKIKP	PKPdf	07 04 53.0	-2.6
LSZ				MLR	MLR			
	comp=Z,774nm,20.0s,MS5.4							
NB2	**NORSAR Subarra**	**130.71 345**		PKPdf	PKPdf	07 04 52.0	-3.2
	comp=Z,3.9nm,1.1s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**130.71 345**		PKP	PKPdf	07 04 52.0	-3.2
	comp=Z,2.8nm,0.8s,baz=32,slow=2.0,SNR=6.8							
AKASG	**Malin Array Be**	**131.00 326**		PKP	PKPdf	07 04 52.8	-3.3
	comp=Z,3.2nm,0.8s,baz=59,slow=1.8,SNR=14							
BR131	**Keskin Array S**	**132.90 311**		*e*PKPdf	PKPdf	07 04 57.2	-2.8
BR131				LR	LR			
	comp=Z,275nm,19.0s,MS5.0							
BRTR	**Keskin Array B**	**132.90 311**		PKP	PKPdf	07 04 57.0	-3.1
	comp=Z,4.7nm,0.9s,baz=90,slow=1.2,SNR=15							
ANTO	**Ankara**	**133.47 311**		PFAKE		07 05 10.0	+9.0
ANTO				LR	LR			
	comp=Z,263nm,21.0s,MS4.9							
BDFB	**Brasilia**	**133.49 129**		PKP	PKPdf	07 05 00.3	-1.3
	comp=Z,2.9nm,0.7s,baz=218,slow=7.8,SNR=4.2							
TSUM	**Tsumeb**	**135.40 222**		PFAKE		07 05 20.0	+15
TSUM				LR	LR			
	comp=Z,959nm,20.0s,MS5.5							
KOLS	**Kolonicke sedl**	**135.70 328**		*e*PKP	PKPdf	07 05 05.3	+0.4
STHS	**Stebnicka Huta**	**135.91 329**		*e*PKP	PKPdf	07 05 07.8	+2.5
CRVS	**Cervenica-Dubn**	**136.13 328**		*e*PKP	PKPdf	07 05 06.2	+0.6
DPC	**Dobruska-Polom**	**137.58 333**		*e*PKPdf	PKPdf	07 05 07.9	-0.4
UPC	**Upice**	**137.60 333**		*e*PKPdf	PKPdf	07 05 07.6	-0.7
BRG	**Berggiesshubel**	**138.19 335**		*e*PKIKP	PKPdf	07 05 08.8	-0.6
BRG						07 08 02.0		
BRG				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BRG				MLR	MLR			
	comp=Z,175nm,11.4s,MS5.0							
BRG				MLR	MLR			
	comp=N,680nm,14.0s,MS5.7							
BRG				MLR	MLR			
	comp=E,590nm,12.8s,MS5.7							
BRG	**Berggiesshubel**	**138.19 335**		*e*PKP	PKPdf	07 05 08.8	-0.6
BRG				PP	PP	07 08 02.0	+2.8
BRG				SS	SS	07 26 20.0	+12
BRG				LR	LR			
	comp=Z,180nm,11.4s,MS5.0							
PVCC	**Panska Ves**	**138.20 335**		*e*PKPdf	PKPdf	07 05 12.0	+2.6
CLL	**Collm**	**138.23 336**		*i* PKIKP	PKPdf	07 05 10.4	+0.9
	comp=Z,logA/T=0.8							
CLL	**Collm**	**138.23 336**		*i* PKIKP	PKPdf	07 05 10.4	+0.9
CLL				pmax	pmax			
	comp=Z,7.0nm,1.0s							
CLL	**Collm**	**138.23 336**		*i* PKP	PKPdf	07 05 10.4	+0.9
CLL				*e*		07 05 22.0		
PRU	**Pruhonice**	**138.62 334**		*e*PKPdf	PKPdf	07 05 11.7	+1.5
PRU				AMS	AMS	07 57 50.0		
	comp=Z,500nm,28.4s							
TREC	**Trest**	**138.72 333**		AMS	AMS	08 02 20.0		
	comp=Z,600nm,24.0s							
KHC	**Kasperske Hory**	**139.68 334**		*e*PKPdf	PKPdf	07 05 09.6	-2.5
KHC				pPKP		07 05 13.5		
KHC				AMS	AMS	08 02 10.0		
	comp=Z,600nm,26.0s							
KHC	**Kasperske Hory**	**139.68 334**		*e*PKIKP	PKPdf	07 05 09.6	-2.5
KHC				*e*		07 05 13.5		
KHC				MLR	MLR			
	comp=Z,600nm,26.0s,MS5.2							
GERES	**GERESS Array B**	**139.84 333**		PKhKP		07 05 06.0		
	comp=Z,1.1nm,0.6s,baz=63,slow=3.0,SNR=4.7							
GRA1	**Grafenberg Arr**	**140.20 336**		*e*PKP	PKPdf	07 05 13.6	+0.5
GRF	**Grafenberg Arr**	**140.20 336**		*e*PKIKP	PKPdf	07 05 13.6	+0.5
GRF				MLR	MLR			
	comp=Z,300nm,21.4s,MS5.0							
GRF	**Grafenberg Arr**	**140.20 336**		*e*PKIKP	PKPdf	07 05 13.6	+0.5
GRF				MLR	MLR			
	comp=Z,300nm,21.4s,MS5.0							
LJU	**Ljubljana**	**141.53 330**		*i* PKPbc	PKPdf	07 05 10.5	-5.1
BOJS	**Bojanci**	**141.55 329**		*e*PKPdf	PKPdf	07 05 14.4	-1.2
GIVF	**Givet**	**142.06 342**		*e*PKP1	PKPdf	07 05 13.4	-2.9
BAIF	**Baives**	**142.27 343**		*e*PKP1	PKPdf	07 05 14.8	-1.9
CDF	**Champ du Feu**	**142.73 339**		*e*PKP1	PKPdf	07 05 12.9	-4.6
BRMO	**Bormio**	**143.10 334**		PKP	PKPdf	07 05 13.7	-4.5
HAU	**Haudompre**	**143.40 339**		*e*PKP1	PKPbc	07 05 14.1	+0.3
HAU				*e*R				
	comp=Z,279nm,19.8s							
VAI	**Varese**	**144.26 335**		PKIKP	PKPdf	07 05 16.1	-4.1
SNTG	**Esanatoglia**	**144.31 328**		PKP	PKPdf	07 05 16.8	-3.6
SFI	**Santa Sofia**	**144.39 330**		PKIKP	PKPdf	07 05 17.2	-3.3
ORI	**Oriolo Calabro**	**144.44 321**		PKIKP	PKPdf	07 05 18.8	-1.9
MMK	**Mattmark**	**144.44 336**		PKIKP	PKPdf	07 05 20.0	-0.5
ZCCA	**Zocca**	**144.47 331**		PKP	PKPdf	07 05 19.5	-1.2
BADI	**Badiali**	**144.48 329**		PKP	PKPdf	07 05 18.3	-2.4
VMG	**Vicchio**	**144.50 330**		PKP	PKPdf	07 05 19.1	-1.6
MCGN	**Macugnaga**	**144.51 336**		PKP	PKPdf	07 05 18.3	-2.4
FNVD	**Fontana Vidola**	**144.54 331**		PKP	PKPdf	07 05 19.3	-1.5
GSCL	**Gusciola**	**144.66 331**		PKP	PKPdf	07 05 19.3	-1.7
FLN	**La Foliniere**	**144.67 347**		*e*PKP1	PKPbc	07 05 17.9	+0.5
	comp=Z,57nm,1.0s							
FLN				*e*R				
	comp=Z,338nm,19.8s							
CABF	**La Chapelle**	**144.68 338**		*e*PKP1	PKPbc	07 05 18.5	+1.0
	comp=Z,57nm,1.1s							
ERBM	**Eremo**	**144.68 332**		PKP	PKPdf	07 05 15.6	-5.4
AQU	**L'Aquila**	**144.70 326**		*e*PKIKP	PKPdf	07 05 20.1	-1.0
AQU	**L'Aquila**	**144.70 326**		PKP	PKPdf	07 05 20.3	-0.8
LDF	**La Druitiere**	**144.75 346**		*e*PKP1	PKPbc	07 05 18.8	+1.2
	comp=Z,35nm,0.8s							
TDS	**Terranova Siba**	**144.75 320**		PKIKP	PKPdf	07 05 17.5	-3.8
TIP	**Timpagrande**	**144.77 319**		*e*PKPdf	PKPdf	07 05 18.3	-3.0
ORO	**Oropa**	**144.78 335**		PKIKP	PKPdf	07 05 18.9	-2.3
SGO	**Sicignano**	**144.82 322**		PKIKP	PKPdf	07 05 19.4	-2.0
BOB	**Bobbio (Coli)**	**144.85 333**		PKIKP	PKPdf	07 05 18.5	-2.8
LOR	**Lormes**	**144.87 341**		*e*PKP1	PKPbc	07 05 17.4	-0.6
	comp=Z,47nm,1.1s							
VVLD	**Villa Vallelon**	**144.91 326**		PKP	PKPdf	07 05 17.4	-4.1
PTQR	**Pietraquaria**	**144.93 326**		PKP	PKPdf	07 05 18.8	-2.8
MGR	**Morigerati**	**144.94 322**		PKP	PKPdf	07 05 19.3	-2.3
MNS	**Montasola**	**145.06 327**		PKP2	PKPab	07 05 18.5	-1.4
GRR	**Gorron**	**145.11 347**		*e*PKP1	PKPbc	07 05 19.6	+1.0
	comp=Z,58nm,0.8s							
SSF	**Saint Saulge**	**145.16 341**		*e*PKP1	PKPbc	07 05 18.6	-0.2
	comp=Z,110nm,1.0s							
PII	**Pisa**	**145.16 331**		PKIKP	PKPdf	07 05 19.5	-2.4
GRI	**Girifalco**	**145.19 319**		PKIKP	PKPdf	07 05 21.9	-0.2
HYF	**Humbligny**	**145.24 342**		*e*PKP1	PKPbc	07 05 19.1	+0.1
LPL	**La Plagne**	**145.37 336**		*e*PKP1	PKPbc	07 05 19.8	+0.4
	comp=Z,43nm,0.8s							
LPG	**La Plagne**	**145.38 336**		*e*PKP1	PKPbc	07 05 19.9	+0.5
	comp=Z,62nm,0.8s							
SMF	**Signal de Mont**	**145.42 340**		*e*PKP1	PKPbc	07 05 19.2	-0.3
	comp=Z,94nm,1.2s							
AVF	**Avril sur Loir**	**145.45 341**		*e*PKP1	PKPbc	07 05 19.2	-0.3
	comp=Z,51nm,1.1s							
SGMF	**Saint Gilles**	**145.58 349**		*e*PKP1	PKPbc	07 05 20.7	+0.9
	comp=Z,118nm,1.0s							
ROSF	**Rostrenen**	**145.64 349**		*e*PKP1	PKPbc	07 05 20.9	+1.0
	comp=Z,62nm,1.0s							
BNI	**Bardonecchia**	**145.77 336**		*e*PKP2	PKPab	07 05 22.0	-0.5
BGF	**Bois d'Agland**	**145.82 341**		*e*PKP1	PKPbc	07 05 20.5	0.0
	comp=Z,78nm,1.1s							
MBDF	**Montbardon**	**146.01 336**		*e*PKP1	PKPbc	07 05 21.3	+0.3
	comp=Z,27nm,0.7s							
QUIF	**Quistinic**	**146.02 349**		*e*PKP1	PKPbc	07 05 21.4	+0.5
PLDF	**La Plantade**	**146.09 340**		PKP	PKPdf	07 05 23.4	0.0
MTTG	**Motta San Giov**	**146.14 319**		PKP	PKPdf	07 05 22.3	-1.4
AGO	**Saint Agoulin**	**146.18 341**		PKP	PKPdf	07 05 24.6	+1.1
ORIF	**Oris-en-Rattie**	**146.20 337**		*e*PKP1	PKPbc	07 05 22.1	+0.7
	comp=Z,78nm,0.7s							
ORIF				*e*R				
	comp=Z,416nm,21.2s							
IMI	**Imperia**	**146.21 334**		PKP	PKPdf	07 05 23.5	-0.2
TCF	**Toulx Ste Croi**	**146.25 342**		*e*PKP1	PKPbc	07 05 21.9	+0.4
	comp=Z,27nm,0.9s							
SAOF	**Saorge**	**146.29 334**		PKP	PKPdf	07 05 22.3	-1.5
AUTN	**L'Aution**	**146.34 334**		PKP	PKPdf	07 05 23.5	-0.4
TOUF	**Mont Tournerai**	**146.40 334**		PKP	PKPdf	07 05 24.5	+0.5
SBF	**Sospel**	**146.44 334**		*e*PKP1	PKPbc	07 05 22.1	+0.1
	comp=Z,191nm,0.8s							
MFF	**Saint Martin d**	**146.61 345**		*e*PKP1	PKPbc	07 05 22.8	+0.5
	comp=Z,66nm,0.8s							
VIVF	**Saint-Julien-l**	**146.70 338**		*e*PKP1	PKPbc	07 05 23.4	+0.8
	comp=Z,44nm,1.1s							
PGF	**Pioggiola**	**146.78 331**		*e*PKP1	PKPbc	07 05 23.5	+0.7
	comp=Z,140nm,1.0s							
LBL	**Lubilhac**	**146.87 340**		PKP	PKPdf	07 05 25.0	+0.3
FRF	**La Foret Royal**	**147.02 335**		*e*PKP1	PKPdf	07 05 24.0	-1.0
	comp=Z,139nm,1.1s							
SMRF	**Simiane la Rot**	**147.11 336**		*e*PKP1	PKPdf	07 05 24.8	-0.4
	comp=Z,51nm,0.9s							
LMR	**La Mourre**	**147.26 334**		*e*PKP1	PKPdf	07 05 24.7	-0.7
	comp=Z,83nm,0.9s							
RJF	**Les Rejaudons**	**147.35 342**		*e*PKP1	PKPdf	07 05 25.6	+0.1
	comp=Z,91nm,1.2s							
CAF	**Calviac**	**147.52 341**		*e*PKP1	PKPdf	07 05 25.9	+0.1
	comp=Z,41nm,1.0s							
BERF	**Bertagne**	**147.62 335**		PKP	PKPdf	07 05 28.3	+2.3
LASF	**Ste Croix**	**147.67 338**		*e*PKP1	PKPdf	07 05 26.2	+0.1
	comp=Z,46nm,0.8s							
LFF	**La Frestale**	**147.91 343**		*e*PKP1	PKPdf	07 05 26.7	+0.3
	comp=Z,40nm,0.7s							
RCBR	**Riachuelo**	**148.86 129**		PFAKE		07 05 40.0	+11
RCBR				LR	LR			
	comp=Z,551nm,20.0s,MS5.3							
MTLF	**Montolieu**	**148.88 340**		*e*PKP1	PKPdf	07 05 29.5	+1.5
	comp=Z,77nm,0.8s							
EPF	**Esparros**	**149.77 342**		*e*PKP1	PKPdf	07 05 31.9	+2.4
	comp=Z,34nm,0.9s							
RESF	**Ens**	**149.97 341**		PKP	PKPdf	07 05 32.7	+2.9
VIEF	**Viey**	**150.00 342**		PKP	PKPdf	07 05 33.4	+3.6
SJPF	**Ste Jean**	**150.14 344**		*e*PKP1	PKPdf	07 05 32.5	+2.4
	comp=Z,53nm,1.1s							
ETSF	**Etsaut**	**150.15 343**		*e*PKP1	PKPdf	07 05 33.0	+2.9
	comp=Z,23nm,0.8s							
ESLA	**Sonseca Array**	**154.07 345**		PFAKE		07 05 50.0	+14
ESLA				LR	LR			
	comp=Z,2μm,20.0s,MS6.0							
TORD	**Torodi Ar. Bea**	**166.48 265**		PKP	PKPdf	07 05 46.9	-3.4
	comp=Z,5.5nm,0.9s,baz=332,slow=1.3,SNR=20							
TORD				PKPab	PKPab	07 06 49.2	-1.7
	comp=Z,11nm,0.8s,baz=94,slow=3.5,SNR=19							
LIC	**Lamto**	**169.08 221**		*e*PKIKP	PKPdf	07 05 50.1	-1.8
	comp=Z,47nm,1.2s							
LIC				*e*R				
	comp=Z,608nm,19.8s							
DBIC	**Dimbokro**	**169.31 223**		PKP	PKPdf	07 05 50.1	-2.0
	comp=Z,3.6nm,0.9s,baz=74,slow=2.2,SNR=4.2							
DBIC				PKPab	PKPab	07 07 03.3	-0.1
	comp=Z,2.3nm,0.7s,baz=169,slow=4.1,SNR=2.9							
DBIC	**Dimbokro**	**169.31 223**		PKIKP	PKPdf	07 05 50.1	-2.0
DBIC						07 07 03.3		
DBIC				MLR	MLR			
	comp=Z,977nm,20.0s							

LDG ***14*** *07:09:47.3±0.1,30.47N×79.21E,h10km,Mb5.3/37, Ms4.2/1, Error ellipse: s-maj=7.0km s-min=3.7km az=24.0*

IDC ***14*** *07:09:47.6±0.4,30.42N×79.21E,mb5.0/29,mb1 5.0/30, mb1mx5.0/33,mbtmp5.0/30,ML4.3/1,MS4.5/8,Ms1 4.5/8, ms1mx4.2/28,Error ellipse: s-maj=13.2km s-min=10.5km az=38.0*

DMN ***14*** *07:09:50.2±0.7,30.16N×79.31E,h10km,Ml5.6/5,Error ellipse: s-maj=55.8km s-min=14.7km az=25.0*

NDI ***14*** *07:09:50.7±4.4,30.48N×79.33E,h10km,ML4.9,MW4.9, mb5.3(NEIC)*

MOS ***14*** *07:09:51.2±0.8,30.48N×79.20E,h33km,mb5.4/78, MS4.3/9,Error ellipse: s-maj=7.0km s-min=3.4km az=125.9*

BJI ***14*** *07:09:52.2,30.56N×79.20E,h44km,mB5.2,mb4.9,ML5.4, Ms4.9,Msz4.6*

HRVD ***14*** *07:09:54.2±0.5,30.12N×78.83E,h34km±2km,MW5.1/61, Centroid moment Tensor Solution. LP body waves: s18,c23;Mantle waves: s61,c94; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.25±.40; Mθθ-3.75±.24; Mφφ0.50±.28; Mrθ3.49±.30; Mθφ2.62±.18; Mφr-1.77±.32; Best double couple: M0:5.685×10^16 NP1:ϕ293°,δ23°,λ86°. NP2:ϕs117°,δ67°,λ92°. Principal axes: T 4.813, Plg68°, Azm30°; N 1.752, Plg1°, Azm296°; P -6.558, Plg22°, Azm206°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***14*** *07:09:54.2±0.9,30.48N×79.26E,h44km±8km,mb5.3/98 Error ellipse: s-maj=5.5km s-min=3.2km az=199.0*

NEIC One person killed at Jausari. Three people injured at Chamoli and one at Nandaprayag. One building destroyed at Phata and several damaged at Chamoli, Daida, Dasholi, Devaal, Ghat, Gopeshwar, Joshimath, Ravigram and Tharali; a wall collapsed at Bageshwar; minor damage occurred at Devaprayag, Gairsain, Gochar, Pauri, Pokhri and Srinagar. Felt [IV] at Dehra Dun. Felt strongly at Badrinath. Felt at Almora, Chamba, Champawat, Khatima, Lohaghat, Naini Tal, Pithoragarh and Uttarkashi. Felt by people in high-rise buildings at Chandigarh and in the Delhi area. Landslides occurred at Jausari and Rudraprayag.

NNC ***14*** *07:09:56.2±3.8,31.28N×79.07E,mb4.8,Error ellipse: s-maj=63.2km s-min=34.3km az=95.0*

ISC 14 07:09:51.8±0.1,**30.52N**±0.02×**79.25E**±0.02,**h37**km,
h37km±3.7km:**pP-P,n465,**σ0**93**/509,**mb5.2**/161,**MS4.5**/26,
41C-28D,Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**1.05**	**260**	*ex*	**P**	**07 10 08.5**	**-1.7**
DDI				*e*S	**S**	**07 10 25.5**	**+1.7**
KALG	**Kalgarh**	**1.09**	**203**	*e*P	**P**	**07 10 07.8**	**-3.0**
KALG				*e*S	**S**	**07 10 22.4**	**-2.6**
KALG				AML	AML	07 10 28.6	
	comp=E,32μm,0.5s						
KALG				AML	AML	07 10 29.2	
	comp=N,15μm,0.2s						
KLP	**Kalpa**	**1.33**	**320**	*e*P	**P**	**07 10 15.7**	**+1.5**
KLP				*ex*	**S**	**07 10 32.1**	**+1.2**
KLP				AML	AML	07 10 42.3	
	comp=N,69μm,0.9s						
KLP				AML	AML	07 10 42.9	
	comp=E,59μm,0.6s						
LGTI	**Lohaghat**	**1.37**	**141**	*e*P	**P**	**07 10 15.3**	**+0.5**
LGTI				*ex*	**S**	**07 10 37.8**	**+5.9**
SMLA	**Simla**	**1.89**	**289**	*e*P	**P**	**07 10 23.7**	**+1.5**
SMLA				*e*S	**S**	**07 10 50.0**	**+4.9**
KKR	**Kurukshetra**	**2.17**	**256**	*e*P	**P**	**07 10 25.5**	**-0.7**
ASOR	**Ausora**	**2.17**	**217**	*e*P	**P**	**07 10 28.1**	**+1.8**
ASOR				*e*S	**S**	**07 10 56.8**	**+4.5**
SDNR	**Sundarnagar**	**2.19**	**297**	*e*P	**P**	**07 10 29.6**	**+3.1**
BISR	**Bishrakh**	**2.50**	**220**	*e*P	**P**	**07 10 34.4**	**+3.5**
BISR				*ex*	**S**	**07 11 08.6**	**+8.2**
NDI	**New Delhi**	**2.54**	**225**	*e*P	**P**	**07 10 32.0**	**+0.4**
NDI				*e*S	**S**	**07 11 03.0**	**+1.4**
BHGR	**Bahadurgarh**	**2.71**	**228**	*e*P	**P**	**07 10 35.3**	**+1.3**
AYAN	**Aya Nagar**	**2.74**	**223**	*e*P	**P**	**07 10 35.7**	**+1.3**
AYAN				*ex*	**S**	**07 11 03.1**	**-3.6**
SONA	**Sohna**	**2.94**	**220**	*e*P	**P**	**07 10 38.9**	**+1.6**
SONA				*i* x	x	07 10 42.7	
SONA				*e*S	**S**	**07 11 14.7**	**+2.9**
SONA				AML	AML	07 11 24.4	
	comp=N,4μm,0.7s						
SONA				AML	AML	07 11 25.3	
	comp=E,6μm,0.5s						
PONG	**Pong**	**3.17**	**298**	*e*P	**P**	**07 10 42.0**	**+1.5**
PONG				*ex*	**S**	**07 11 22.5**	**+5.0**
KUDL	**Kundal**	**3.38**	**226**	*e*P	**P**	**07 10 43.9**	**+0.5**
KUDL				*e*S	**S**	**07 11 24.1**	**+1.3**
DLH	**Dalhousie**	**3.46**	**307**	*e*P	**P**	**07 10 46.0**	**+1.5**
THN	**Thein Dam**	**3.57**	**303**	*e*P	**P**	**07 10 47.3**	**+1.1**
THN				*e*S	**S**	**07 11 28.7**	**+0.9**
KHET	**Khetri**	**3.87**	**232**	*e*PN	**P**	**07 10 50.0**	**-0.4**
KHET				*i* x	x	07 11 01.4	
KHET				*e*SN	**S**	**07 11 33.8**	**-1.4**
KHET				*ex*	x	07 11 35.6	
KHET				*i* SB	**S**	**07 11 50.1**	**+15**
JMU	**Jammu**	**4.31**	**302**	*e*P	**P**	**07 11 00.0**	**+3.3**
JMU				*ex*	**S**	**07 11 52.5**	**+6.1**
KOLN	**Koldanda**	**4.69**	**125**	*e*Pn	**P**	**07 11 02.2**	**+0.2**
KOLN	**Koldanda**	**4.69**	**125**	*e*Sn	**S**	**07 11 55.7**	**-0.2**
	comp=E,2μm,0.5s						
JHNI	**Jhansi**	**5.07**	**187**	*e*P	**P**	**07 11 04.0**	**-3.4**
JHNI				*e*S	**S**	**07 12 03.0**	**-2.5**
SRNI	**Srinagar**	**5.16**	**315**	*e*P	**P**	**07 11 09.5**	**+0.8**
SRNI				*ex*	**S**	**07 12 13.4**	**+5.5**
GKN	**Gorkha**	**5.33**	**117**	*e*Pn	**P**	**07 11 11.3**	**+0.3**
GKN	**Gorkha**	**5.33**	**117**	*e*Sn	**S**	**07 12 12.1**	**0.0**
	comp=E,2μm,0.3s						
AJM	**Ajmer**	**5.71**	**226**	*e*P	**P**	**07 11 17.4**	**+1.0**
AJM				*e*S	**S**	**07 12 20.7**	**-0.9**
SARP	**Sargodha**	**5.81**	**286**	P	**P**	**07 11 17.0**	**-0.7**
DMN	**Daman**	**5.89**	**118**	*e*Pn	**P**	**07 11 19.5**	**+0.7**
KKN	**Kakani**	**5.93**	**116**	*e*Pn	**P**	**07 11 20.1**	**+0.7**
KKN	**Kakani**	**5.93**	**116**	*e*Sn	**S**	**07 12 26.9**	**-0.2**
	comp=E,1μm,0.4s						
CHCP	**Chirah Chowk**	**5.97**	**303**	⇓P	**P**	**07 11 19.6**	**-0.4**
PKI	**Pulchoki**	**6.14**	**117**	*e*Pn	**P**	**07 11 22.7**	**+0.4**
PKI	**Pulchoki**	**6.14**	**117**	*e*Sn	**S**	**07 12 32.3**	**0.0**
	comp=E,1μm,0.4s						
GUN	**Gumba**	**6.35**	**112**	*e*Pn	**P**	**07 11 25.6**	**+0.3**
JIRN	**Jiri**	**6.71**	**113**	*e*Pn	**P**	**07 11 30.7**	**+0.3**
JIRN	**Jiri**	**6.71**	**113**	*e*Sn	**S**	**07 12 45.5**	**-0.9**
	comp=E,3μm,0.4s						
THW	**Thamme Wali**	**6.79**	**291**

VIS Vishakhapatnam 13.27 163 *e*P **P** **07 12 55.7 -4.5**
VIS *e*S **S** **07 15 14.0 -13**
USP Ospenovka 13.28 345 P **P** **07 13 00.6 +0.3**
SNR=13
KK31 Karatay Array 14.37 333 ⇑P **P** **07 13 10.5 -4.1**
comp=Z,36nm,0.5s,baz=134,slow=12,SNR=248
KK31 ⇑S **S** **07 15 40.8 -13**
comp=Z,125nm,0.8s,baz=150,slow=21,SNR=18
KK31 Karatay Array 14.37 333 ⇑P **P** **07 13 10.4 -4.1**
comp=Z,36nm,0.5s
KK31 S **S** **07 15 40.8 -13**
KKAR Karatay Array 14.37 333 *e*P **P** **07 13 10.9 -3.6**
KKAR pmax pmax
comp=Z,11nm,0.4s
WMQ Urumqi 14.88 24 *e*P **P** **07 13 25.0 +3.9**
WMQ PP PP 07 13 37.8 +4.9
WMQ *e*S **S** **07 16 10.4 +4.9**
WMQ PCP PcP 07 18 32.4 +1.8
WMQ SCS ScS 07 25 38.0 +1.1
WMQ AMB AMB
comp=Z,80nm,0.8s
WMQ AMB AMB
comp=Z,480nm,4.0s
WMQ LR LR
comp=N,2μm,16.0s
WMQ LR LR
comp=E,2μm,16.0s
WMQ LR LR
comp=Z,2μm,17.0s
MK31 Makanchi Array 16.43 7 ⇓P **P** **07 13 39.1 -1.9**
comp=Z,12nm,0.5s,baz=187,slow=12,SNR=207
MK31 ⇓S **S** **07 16 29.7 -12**
comp=Z,106nm,1.1s,baz=183,slow=23
MK31 Makanchi Array 16.43 7 ⇓P **P** **07 13 39.0 -1.9**
comp=Z,12nm,0.5s
MK31 S **S** **07 16 29.6 -12**
MKAR Makanchi Array 16.43 7 Pn **P** **07 13 39.3 -1.7**
comp=Z,1.1nm,0.3s,baz=182,slow=13,SNR=30
MKAR Sn **S** **07 16 31.8 -10**
comp=Z,1.7nm,0.3s,baz=185,slow=21,SNR=7.7
MKAR LR LR 07 20 53.4
comp=Z,2μm,18.0s,baz=181,slow=40
MKAR Makanchi Array 16.43 7 Pn **P** **07 13 39.3 -1.7**
MKAR Sn **S** **07 16 31.8 -10**
MKAR LR LR 07 20 53.4
GTA Gaotai 19.02 57 *e*P **P** **07 14 11.5 -1.7**
GTA AP 07 14 22.3
GTA XP 07 14 28.3
GTA PP PP 07 14 28.6 -1.2
GTA S **S** **07 17 39.8 -0.4**
GTA PCP PcP 07 18 37.8 +0.7
GTA LG1 07 19 34.1
GTA LG2 07 20 14.1
GTA AMB AMB
comp=Z,410nm,5.3s
GTA LR LR
comp=N,3μm,18.6s
GTA LR LR
comp=E,2μm,13.3s
GTA LR LR
comp=Z,3μm,12.2s
KURK Kurchatov 20.18 359 ⇑P **P** **07 14 24.1 -1.8**
comp=Z,37nm,1.1s
KURK ⇓S **S** **07 18 04.5 -0.9**
comp=Z,15nm,1.3s
CD2 Chengdu 21.07 83 P **P** **07 14 36.0 +0.9**
CD2 PP PP 07 14 59.9 +1.3
CD2 S **S** **07 18 22.4 -0.2**
CD2 SS SS 07 18 56.6 +0.2
CD2 LR LR
comp=E,3μm,10.0s
LZH Lanzhou 21.27 68 *e*P **P** **07 14 37.6 +0.5**
LZH AP 07 14 46.1
LZH XP 07 14 50.4
LZH PP PP 07 15 01.6 +0.5
LZH *e*S **S** **07 18 27.3 +1.0**
LZH XS 07 18 40.5
LZH SS SS 07 19 00.8 -0.5
LZH AMB AMB
comp=Z,100nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,430nm,4.5s
LZH LR LR
comp=N,3μm,13.2s
LZH LR LR
comp=Z,4μm,15.3s,MS4.9
CHRT Chiangrai 21.36 115 ⇑P **P** **07 14 35.0 -3.0**
comp=Z,290nm,0.6s,mb5.8
KMI Kunming 21.44 99 P **P** **07 14 37.6 -1.3**
KMI AP 07 14 49.8
KMI XP 07 14 55.8
KMI PP PP 07 15 04.0 +0.5
KMI PPP PPP 07 15 13.8 +0.8
KMI S **S** **07 18 29.5 -0.1**
KMI XS 07 18 49.8
KMI SS SS 07 19 07.9 +2.1
KMI SSS SSS 07 19 22.9 +2.2
KMI AMB AMB
comp=Z,20nm,0.6s,mb4.6
KMI AMB AMB
comp=Z,400nm,6.7s
KMI LR LR
comp=N,360nm,11.8s,MS4.2
KMI LR LR
comp=E,680nm,15.9s,MS4.2
KMI LR LR
comp=Z,930nm,20.3s,MS4.2
VOSK Vostochnaya 23.00 347 ⇑P **P** **07 14 54.1 0.0**
comp=Z,57nm,1.0s,mb5.0
VOSK Vostochnaya 23.00 347 ⇑P **P** **07 14 54.1 0.0**
VOSK pmax pmax
comp=Z,57nm,1.0s,mb5.0
VOSK Vostochnaya 23.00 347 ⇑P **P** **07 14 54.1 0.0**
comp=Z,57nm,1.0s,mb5.0
BVA0 Borovoye Array 23.41 346 ⇓P **P** **07 14 59.2 +1.2**
comp=Z,3.5nm,0.7s,baz=157,slow=18,SNR=70
BVA0 ⇑S **S** **07 19 11.9 +6.9**
comp=Z,2.2nm,0.8s
BVA0 Borovoye Array 23.41 346 ⇓P **P** **07 14 59.2 +1.2**
BVA0 S **S** **07 19 11.9 +6.9**
BVA0 pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 23.41 346 P **P** **07 14 59.5 +1.4**
comp=Z,12nm,0.4s,mb4.6,baz=156,slow=12,SNR=58
BVAR S **S** **07 19 14.1 +9.1**
comp=Z,3.4nm,0.8s,baz=163,slow=15,SNR=4.1
ZAL Zalesovo 23.75 8 P **P** **07 15 02.4 +1.0**
comp=Z,16nm,0.5s,mb4.7,baz=270,slow=8.1,SNR=46
AB31 Akbulak array 23.75 327 ⇓P **P** **07 15 01.7 +0.3**
comp=Z,25nm,0.6s,mb4.8,baz=131,slow=9.3,SNR=179
AB31 ⇑S **S** **07 19 16.0 +5.0**
comp=Z,14nm,0.7s
AB31 Akbulak array 23.75 327 ⇓P **P** **07 15 01.7 +0.3**
AB31 S **S** **07 19 16.0 +5.0**
AB31 pmax pmax
comp=Z,25nm,0.6s,mb4.8
AB31 Akbulak array 23.75 327 ⇓P **P** **07 15 01.7 +0.3**
comp=Z,25nm,0.6s,mb4.8
AB31 S **S** **07 19 16.0 +5.0**
NST Nakhon Sawan 24.17 123 P **P** **07 15 07.5 +1.7**
GYA Guiyang 24.41 93 ⇑P **P** **07 15 09.8 +1.8**
GYA AP 07 15 21.5
GYA PP PP 07 15 49.3 +5.3
GYA S **S** **07 19 30.8 +8.3**
GYA AMB AMB
comp=Z,50nm,0.6s,mb5.1
GYA AMB AMB
comp=Z,110nm,3.2s
GYA LR LR
comp=N,660nm,11.1s
GYA LR LR
comp=E,690nm,9.9s
GYA LR LR
comp=Z,840nm,10.8s,MS4.5
NVS Novosibirsk 24.48 6 *i*P **P** **07 15 09.2 +0.8**
NVS *e*S **S** **07 19 26.7 +3.3**
NVS *e*SS SS 07 20 14.8 -4.6
NVS pmax pmax
comp=Z,59nm,2.2s,mb4.6
NVS pmax pmax
comp=E,62nm,2.0s
NVS smax
comp=N,46nm,1.8s
NVS smax
comp=E,37nm,1.4s

XAN Xi'an 25.29 74 P **P** **07 15 16.3 -0.1**
XAN AP pP 07 15 22.8 -3.7
XAN AMB AMB
comp=Z,30nm,1.0s,mb4.8
XAN LR LR
comp=N,560nm,9.5s
XAN LR LR
comp=E,850nm,12.1s
XAN LR LR
comp=Z,1μm,14.3s,MS4.6
AKTK Aktyubinsk 25.47 327 ⇑P **P** **07 15 18.7 +0.8**
AKTK S **S** **07 19 54.3 +14**
AKTO Aktyubinsk 25.47 327 ⇑P **P** **07 15 18.7 +0.8**
comp=Z,5.3nm,0.7s,mb4.2
AKTO ⇓S **S** **07 19 54.3 +14**
comp=Z,3.6nm,1.3s
AKTO Aktyubinsk 25.47 327 P **P** **07 15 18.6 +0.7**
comp=Z,33nm,0.6s,mb5.0,baz=125,slow=8.7,SNR=84
AKTO LR LR 07 26 20.0
comp=Z,613nm,18.1s,MS4.2,slow=39
KKTK Khon Kaen 25.75 118 P **P** **07 15 21.5 +0.6**
comp=Z,988nm,0.4s
ENH Enshi 26.05 83 *e*P **P** **07 15 23.5 0.0**
comp=Z,29nm,0.8s,mb4.9
MOY Mondy 26.55 31 *e*P **P** **07 15 28.9 +0.9**
ZAK Zakamensk 26.78 35 *e*P **P** **07 15 30.1 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
BTO Baotou 26.86 60 *e*P **P** **07 15 32.6 +1.7**
SONM Songino Array 27.03 43 P **P** **07 15 33.6 +1.2**
comp=Z,7.4nm,0.7s,mb4.3,baz=232,slow=9.7,SNR=54
SONM PcP PcP 07 18 53.3 -0.1
comp=Z,1.1nm,0.5s,baz=213,slow=3.2,SNR=4.7
QRN Al-Qurain 27.25 274 *e*P **P** **07 15 34.6 0.0**
KBD Kabd 27.36 275 *e*P **P** **07 15 35.1 -0.6**
KBD AMb AMB 07 15 40.0
comp=Z,184nm,0.4s,mb6.0
ULN Ulaanbaatar 27.43 43 ⇑*e*P **P** **07 15 37.9 +1.8**
ULN Ulaanbaatar 27.43 43 *e*P **P** **07 15 37.2 +1.1**
comp=Z,9.9nm,0.9s,mb4.3
RDF Al-Radifah 27.53 275 *e*P **P** **07 15 37.2 0.0**
RDF AMb AMB 07 15 38.1
comp=Z,56nm,0.7s,mb5.3
NAY Al-Naaiem 27.74 276 *e*P **P** **07 15 38.6 -0.4**
NAY AMb AMB 07 15 40.0
comp=Z,46nm,0.6s,mb5.3
DGRG David-gareji 29.33 301 P **P** **07 15 53.3 +0.2**
GNI Garni 29.59 298 P **P** **07 15 56.2 +0.7**
comp=Z,28nm,1.1s,mb4.9,baz=148,slow=7.9,SNR=13
GNI LR LR 07 30 57.4
comp=Z,173nm,18.3s,MS3.7,baz=274,slow=43
ARU Arti 29.70 337 ⇑*i*P **P** **07 15 56.7 +0.4**
ARU *e* 07 17 04.9
ARU *e* 07 18 54.2
ARU *e*SS SS 07 22 39.4 +15
ARU pmax pmax
comp=Z,17nm,0.8s,mb4.8
WHN Wuhan 30.16 81 ⇑P **P** **07 16 01.8 +1.1**
WHN AP pP 07 16 14.0 +3.0
KIV Kislovodsk 31.78 305 *e*P **P** **07 16 14.8 0.0**
KIV *e* 07 19 00.6
KIV pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
KIV MLR MLR
comp=Z,316nm,16.0s,MS4.1
BTMT Batman 31.93 294 *e*P **P** **07 16 17.3 +1.0**
EZM Erzurum 32.14 297 *e*P **P** **07 16 19.3 +1.3**
SOKR Solikamsk 32.77 339 *d*P **P** **07 16 24.3 +1.0**
SOKR SSS SSS 07 24 04.7 +4.8
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.3
SOKR MLR MLR
comp=Z,590nm,16.0s,MS4.4
PSI Prapat 33.26 142 P **P** **07 16 26.4 -1.6**
comp=Z,7.5nm,0.7s,mb4.8,baz=217,slow=23,SNR=5.5
PTK Pertek 33.60 295 *e*P **P** **07 16 30.6 -0.1**
NJ2 Nanjing 33.75 77 *e*P **P** **07 16 32.8 +0.7**
NJ2 AP pP 07 16 44.8 +2.3
NJ2 PP PP 07 17 46.8 +1.1
NJ2 S **S** **07 21 54.0 +2.0**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,330nm,5.4s
NJ2 LR LR
comp=N,2μm,21.8s
NJ2 LR LR
comp=E,1μm,12.3s
NJ2 LR LR
comp=Z,530nm,17.6s,MS4.3
SOC Sochi 33.83 304 *e*P **P** **07 16 32.0 -0.5**
SOC *e* 07 18 08.9
SOC pmax pmax
comp=Z,16nm,0.6s,mb5.1
SOC MLR MLR
comp=Z,394nm,14.0s,MS4.3
MYA Malataya 34.35 294 *e*P **P** **07 16 38.4 +1.3**
GRSN GIRESUNGRSN 34.58 299 *i*P **P** **07 16 38.2 -0.9**
VRHR Novokhopersk 34.60 317 *e*P **P** **07 16 39.1 -0.1**
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.4
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.5s
GZT Gaziantep 35.04 293 *i*P **P** **07 16 42.8 -0.2**
GAZ Gaziantep 35.32 292 *e*P **P** **07 16 46.5 +1.0**
KBRS Khaybar 35.44 272 P **P** **07 16 48.2 +1.7**
ANN Anapa 35.64 305 *e*P **P** **07 16 47.4 -0.7**
ANN pmax pmax
comp=Z,27nm,0.7s,mb5.3
HIA Hailar 35.74 47 *e*P **P** **07 16 50.8 +1.9**
SSE Sheshan 35.87 78 P **P** **07 16 49.5 -0.7**
SSE AP pP 07 17 02.6 +1.9
SSE S **S** **07 22 25.5 +0.7**
SSE PCS 07 23 02.3
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,450nm,7.7s
SSE LR LR
comp=N,800nm,14.2s,MS4.7
SSE LR LR
comp=E,300nm,14.2s,MS4.7
SSE LR LR
comp=Z,640nm,10.2s,MS4.7
VRSR Storozhevoye 36.08 317 *e*P **P** **07 16 51.8 +0.1**
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=N,3.0nm,1.0s
VRSR pmax pmax
comp=E,5.0nm,1.0s
BOD Bodaibo 36.27 31 *e*P **P** **07 16 50.9 -2.4**
KOZT Kozan 36.41 293 *e*P **P** **07 16 54.7 0.0**
YNBS Yanbu' al Bahr 36.98 271 P **P** **07 17 01.0 +1.4**
TBKS Tabuk 37.12 277 P **P** **07 17 01.9 +1.1**
BOYT Boyabat 37.14 299 *i*P **P** **07 17 00.3 -0.4**
UMJS Umm Lajj 37.29 272 P **P** **07 17 04.1 +2.0**
JMQS Jabal Moqyreh 37.54 279 P **P** **07 17 06.0 +1.7**
KAMT Kaman 38.02 296 *e*P **P** **07 17 08.0 -0.2**
BR131 Keskin Array S 38.08 297 *e*P **P** **07 17 08.6 -0.1**
comp=E,8.6nm,0.7s,mb4.6
BRTR Keskin Array B 38.08 297 P **P** **07 17 08.8 +0.2**
comp=E,13nm,0.9s,mb4.7,baz=108,slow=7.8,SNR=56
JMOS Jabal al Moall 38.13 279 P **P** **07 17 10.4 +1.2**
AYUS 'Aynunah 38.23 278 P **P** **07 17 11.1 +1.1**
ELDT Eldivan 38.24 298 *i*P **P** **07 17 09.8 -0.1**
DGAR Diego Garcia 38.27 191 *e*P **P** **07 17 15.9 +5.4**
HAQS Haql 38.31 279 P **P** **07 17 11.7 +1.1**
MOS Moscow 38.60 323 *e*P **P** **07 17 13.0 +0.2**
MOS *e* 07 18 38.3
MOS pmax pmax
comp=Z,53nm,1.0s,mb5.2
MOS MLR MLR
comp=Z,900nm,14.0s,MS4.7
ATD Arta Tunnel 38.64 249 LR LR 07 31 31.6
comp=Z,183nm,20.7s,MS3.9,baz=352,slow=34
CN2 Changchun 38.65 57 *e*P **P** **07 17 14.4 +1.1**
CN2 *e*AP pP 07 17 27.1 +3.2
CN2 *e*S **S** **07 23 07.3 +0.2**
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,270nm,3.0s
CN2 LR LR
comp=N,1μm,12.0s,MS5.1
CN2 LR LR
comp=E,920nm,12.0s,MS5.1
CN2 LR LR
comp=Z,1μm,13.0s,MS4.9
SAFT Safranbolu 38.81 299 *e*P **P** **07 17 15.1 +0.5**
OBN Obninsk 38.92 322 *e*P **P** **07 17 16.0 +0.5**
OBN *i* 07 17 23.3
OBN *e* 07 18 46.5
OBN pmax pmax
comp=Z,80nm,0.9s,mb5.5
SGKT Sivrigoynuk 39.28 298 *i*P **P** **07 17 18.0 -0.6**
KIZT Kizilcal 39.47 295 *e*P **P** **07 17 20.1 -0.1**
HENT Hendek 40.16 298 *i*P **P** **07 17 25.4 -0.6**
ESKT Eskisehir 40.24 296 *e*P **P** **07 17 26.2 -0.4**
HRT Hereke 41.09 298 *e*P **P** **07 17 30.8 -2.8**
ELL Elmali 41.19 292 *e*P **P** **07 17 35.2 +0.8**
ULDT Uludag 41.53 297 *i*P **P** **07 17 36.2 -1.0**
MDJ Mudanjiang 41.67 56 P **P** **07 17 38.5 +0.2**
AKASG Malin Array Be 42.06 313 P **P** **07 17 40.9 -0.5**
comp=Z,16nm,0.6s,mb4.8,baz=81,slow=6.8,SNR=49
AKASG Malin Array Be 42.06 313 P **P** **07 17 40.9 -0.5**
VRI Vrincioaia 43.25 306 ⇑P **P** **07 17 52.2 +0.9**
VLA Vladivostok 43.32 58 *e*P **P** **07 17 47.3 -4.5**
VLA pmax pmax
comp=Z,40nm,0.7s,mb5.3
JNU Nakatsue 43.59 73 P **P** **07 17 55.4 +1.2**
comp=Z,21nm,0.4s,mb5.2,baz=206,slow=4.3,SNR=11
PUL Pulkovo 43.73 326 ⇓*e*P **P** **07 17 55.5 +0.6**
PUL pmax pmax
comp=Z,60nm,0.6s,mb5.5
PUL pmax pmax
comp=N,83nm,0.7s
PUL pmax pmax
comp=E,21nm,0.4s
MLR Muntele Rosu 43.79 305 ⇑P **P** **07 17 56.4 +0.8**
BURAR Bucovina Array 44.36 308 ⇑P **P** **07 18 00.4 +0.2**
BURAR Bucovina Array 44.36 308 ⇑P **P** **07 18 00.4 +0.3**
VOIR 44.42 305 ⇑P **P** **07 18 05.1 +4.4**
JOF Joensuu 44.45 331 *e*p **P** **07 17 59.7 -1.0**
comp=E,49nm,0.6s,mb5.4
RZN Rozhen 44.78 300 *i*P **P** **07 18 04.0 +0.4**
VSU Vasula 45.10 324 ⇑*e*P **P** **07 18 06.6 +0.7**
PGB Panagyurishte 45.14 301 *i*P **P** **07 18 07.0 +0.6**
YAK Yakutsk 45.19 31 *e*P **P** **07 18 06.4 -0.2**
YAK pmax pmax
comp=Z,17nm,0.8s,mb4.9
YAK Yakutsk 45.19 31 ⇑*e*P **P** **07 18 07.2 +0.6**
YAK pmax pmax
comp=Z,19nm,0.6s,mb5.1
YAK Yakutsk 45.19 31 *e*P **P** **07 18 06.1 -0.5**
comp=Z,47nm,0.8s,mb5.4
IDI Anoyia 45.42 291 P **P** **07 18 08.0 -0.8**
comp=Z,14nm,0.6s,mb5.0,baz=71,slow=12,SNR=11
MMB Musomiste 45.53 300 *i*P **P** **07 18 09.5 -0.1**
LVZ Lovozero 45.56 338 ⇓*e*P **P** **07 18 09.1 -0.4**
LVZ pmax pmax
comp=Z,41nm,1.0s,mb5.3
LVZ pmax pmax
comp=N,5.0nm,0.8s
LVZ pmax pmax
comp=E,12nm,1.0s
LVZ MLR MLR
comp=Z,936nm,11.0s,MS5.0
LVZ MLR MLR
comp=Z,803nm,10.0s
LVZ MLR MLR
comp=N,495nm,13.0s
APA Apatity 45.79 337 ⇑*i*P **P** **07 18 12.0 +0.6**
APA pmax pmax
comp=Z,22nm,0.6s,mb5.3
APA MLR MLR
comp=Z,2μm,13.0s,MS5.2
VTS Vitosha 45.84 301 *i*P **P** **07 18 12.0 -0.1**
KKB Krupnik 45.99 300 *i*P **P** **07 18 13.0 -0.2**
KWP Kalwaria 46.12 311 *e*P **P** **07 18 14.8 +0.7**
KWP MLR MLR 08 04 23.9
comp=Z,300nm,25.2s,MS4.1
SUW Suwalki 46.20 317 *e*P **P** **07 18 14.5 -0.3**
SUW MLR MLR 07 58 35.3
comp=Z,500nm,26.4s,MS4.3
FINES FINESS Array B 46.24 328 P **P** **07 18 15.1 +0.2**
comp=Z,21nm,0.4s,mb5.4,baz=107,slow=9.5,SNR=168
KAF Kangasniemi 46.34 329 *e*p **P** **07 18 14.8 -0.9**
comp=Z,26nm,0.8s,mb5.2
KAF Kangasniemi 46.34 329 *e*P **P** **07 18 14.8 -0.9**
KAF pmax pmax
comp=Z,26nm,0.8s,mb5.2
KOLS Kolonicke sedl 46.37 310 *e*P **P** **07 18 15.2 -0.9**
KOLS *e* 07 19 51.9
CRVS Cervenica-Dubn 46.91 310 *e*P **P** **07 18 21.8 +1.5**
STHS Stebnicka Huta 47.06 311 *e*P **P** **07 18 21.9 +0.4**
STHS *e* pP 07 18 30.4 -1.8
KECS Kecovo 47.55 310 *e*P **P** **07 18 27.9 +2.5**
KECS *e* 07 18 43.4
NIE Niedzica 47.67 311 *e*P **P** **07 18 27.8 +1.5**
PSZ Piszkesteto 47.95 309 *e*P **P** **07 18 28.3 -0.3**
PSZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
PSZ Piszkesteto 47.95 309 *e*P **P** **07 18 28.3 -0.3**
comp=Z,5.3nm,0.6s,mb4.8
OJC Ojcow 48.01 312 *e*P **P** **07 18 29.9 +0.9**
VYHS Vyhne 48.65 310 *e*P **P** **07 18 33.9 0.0**
KEV Kevo 48.89 339 *e*p **P** **07 18 35.0 -0.5**
comp=Z,38nm,0.7s,mb5.5
KEV Kevo 48.89 339 *e*P **P** **07 18 35.0 -0.5**
KEV pmax pmax
comp=Z,38nm,0.7s,mb5.5
TIXI Tiksi 48.98 19 ⇑*e*P **P** **07 18 37.4 +1.2**
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SRO Srobarova 49.02 309 *e*P **P** **07 18 37.8 +1.0**
OKC Ostrava-Krasne 49.08 311 *e*P **P** **07 18 37.3 +0.1**
ARCES ARCESS Array B 49.27 338 P **P** **07 18 39.0 +0.5**
comp=Z,58nm,0.6s,mb5.8,baz=110,slow=7.0,SNR=202
ARE0 ARCESS Array S 49.27 338 *e*P **P** **07 18 38.6 +0.1**
MORC Moravsky Berou 49.47 311 *e*P **P** **07 18 40.2 -0.1**
MORC pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
MORC Moravsky Berou 49.47 311 *e*P **P** **07 18 40.2 0.0**
comp=Z,9.4nm,0.7s,mb4.9
KTK1 Kautokeino 49.83 337 *e*P **P** **07 18 43.8 +1.0**
KTK1 AMb AMB 07 18 44.9
comp=Z,68nm,0.6s,mb5.8
KTK1 Kautokeino 49.83 337 *e*P **P** **07 18 43.8 +1.0**
comp=Z,68nm,0.6s,mb5.9
DPC Dobruska-Polom 50.24 312 *e*P **P** **07 18 46.5 +0.3**
KSP Ksiaz 50.25 313 *e*P **P** **07 18 46.5 +0.3**
KSP MLR MLR 08 00 49.6
comp=Z,1μm,25.9s,MS4.8
KSP Ksiaz 50.25 313 *e*P **P** **07 18 45.9 -0.3**
UPC Upice 50.44 312 *e*P **P** **07 18 48.1 +0.5**
YSS Yuzh-Sakhalins 50.82 52 *e*P **P** **07 18 50.4 -0.2**
YSS pmax pmax
comp=Z,48nm,1.7s,mb5.2
TREC Trest 50.83 311 *e*P **P** **07 18 51.0 +0.4**
KMBO Kilima Mbogo 50.85 240 P **P** **07 18 51.6 +0.3**
comp=Z,6.0nm,0.9s,mb4.5,baz=41,slow=14,SNR=8.9
ARSA Arzberg 50.94 308 ⇑*i*P **P** **07 18 51.9 +0.4**
comp=Z,17nm,1.1s,mb4.9
ASAJ Asahikawa 51.00 56 P **P** **07 18 52.0 0.0**
comp=Z,10nm,0.8s,mb4.8,baz=37,slow=33,SNR=3.2
ASAJ LR LR 07 42 03.1
comp=Z,794nm,18.4s,MS4.8,baz=12,slow=38
ASAJ Asahikawa 51.00 56 P **P** **07 18 52.1 +0.1**
ASAJ pmax pmax
comp=Z,11nm,0.8s
ASAJ MLR MLR
comp=Z,794nm,18.4s
BSD Bornholm Skovb 51.08 318 *i*P **P** **07 18 51.7 -0.7**
comp=Z,28nm,0.9s,mb5.2
comp=Z,180nm,16.0s
BSD Bornholm Skovb 51.08 318 *i*P **P** **07 18 51.7 -0.7**
BSD pmax pmax
comp=Z,28nm,0.9s,mb5.2
BSD MLR MLR
comp=Z,190nm,16.0s,MS4.2
PERS Pernice 51.28 307 *e*P **P** **07 18 54.8 +0.7**
BOJS Bojanci 51.30 306 *e*P **P** **07 18 54.5 +0.3**
PVCC Panska Ves 51.36 312 *e*P **P** **07 18 54.5 -0.1**
PRU Pruhonice 51.40 312 *e*P **P** **07 18 55.7 +0.8**
TRO Tromso 51.48 337 *e*P **P** **07 18 54.3 -0.9**
TRO AMb AMB 07 18 57.8
comp=Z,76nm,2.1s,mb5.2

TRO Tromso 51.48 337 *e*P P **07 18 54.3 -0.9**
comp=Z,76nm,2.1s,mb5.3

OBKA Obir 51.68 307⇑ *i*P P **07 18 57.5 +0.4**
comp=Z,25nm,1.2s,mb5.0

BRG Berggiesshubel 51.74 313⇓ *i*P P **07 18 57.3 -0.1**
BRG pmax pmax
comp=Z,26nm,0.9s,mb5.2

BRG Berggiesshubel 51.74 313⇓ *i*P P **07 18 57.3 -0.1**
comp=Z,26nm,0.9s,mb5.2

MOA Mollin 51.74 309⇑ *i*P P **07 18 57.3 -0.2**
comp=Z,22nm,0.9s,mb5.1

GEC2 GERESS Array S 52.03 310 *e*P P **07 18 59.2 -0.5**
GEC2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7

GEC2 GERESS Array S 52.03 310 *e*P P **07 18 59.2 -0.5**
comp=Z,10.0nm,1.0s,mb4.7

GERES GERESS Array B 52.03 310 P P **07 18 58.9 -0.8**
comp=Z,3.3nm,0.6s,mb4.5,baz=84,slow=6.2,SNR=30
GERES PcP PcP 07 20 11.4 -0.3
comp=Z,2.0nm,0.6s,baz=90,slow=2.9,SNR=4.7

KHC Kasperske Hory 52.09 311 *e*P P **07 19 00.2 +0.1**
KHC x x 07 19 11.0

KHC Kasperske Hory 52.09 311 *e*P P **07 19 00.2 +0.1**
KHC *e* pP 07 19 11.0 +0.1

CLL Collm 52.30 313 P P **07 19 01.1 -0.6**
comp=Z,logA/T=1.3,mb5.0

CLL Collm 52.30 313 *i* P P **07 19 01.1 -0.6**
CLL *e**PP pP 07 19 10.0 -2.5
CLL *e**SP sP 07 19 17.0 +0.1
CLL pmax pmax
comp=Z,25nm,1.2s,mb5.0

CLL Collm 52.30 313 *i* P P **07 19 01.1 -0.6**
comp=Z,25nm,1.2s,mb5.0

CLL *e*pP pP 07 19 10.0 -2.5
CLL *e*sP sP 07 19 17.0 +0.1

MOR8 Moi Rana 52.35 332 *e*P P **07 19 00.8 -1.0**
MOR8 AMb AMB 07 19 02.0
comp=Z,48nm,1.5s,mb5.2

MOR8 Moi Rana 52.35 332 *e*P P **07 19 00.8 -1.0**
comp=Z,48nm,1.5s,mb5.2

ROBS Robic 52.42 307 *e*P P **07 19 02.2 -0.4**

KBA Koelnbreinsper 52.44 308⇓ *i*P P **07 19 02.6 -0.1**
comp=Z,15nm,0.8s,mb5.0

PTCC Patocco-Chiusa 52.51 307 P P **07 19 03.2 -0.1**

WET Wettzell 52.54 311 *e*P P **07 19 04.1 +0.6**

GMNA Gemona 52.61 307 P P **07 19 03.9 -0.1**

NKC Novy Kostel 52.73 312 *e*P P **07 19 05.7 +0.8**

STOK Stokkvaagen 52.94 332 *e*P P **07 19 06.0 -0.3**

LOF Lofoten 53.03 335 *e*P P **07 19 07.7 +0.8**
LOF AMb AMB 07 19 09.2
comp=Z,148nm,1.6s,mb5.7

LOF Lofoten 53.03 335 *e*P P **07 19 07.7 +0.8**
comp=Z,148nm,1.6s,mb5.7

PTQR Pietraquaria 53.13 302 P P **07 19 08.1 +0.1**

MOX Moxa 53.23 313 *i* P P **07 19 09.0 +0.4**
comp=Z,logA/T=1.5,mb5.2

MOX L 07 44 18.0

MOX Moxa 53.23 313 *e*P P **07 19 09.0 +0.4**
MOX pmax pmax
comp=Z,42nm,1.2s,mb5.2

MOX MLR MLR
comp=Z,300nm,22.0s,MS4.3

MOX Moxa 53.23 313 *e*P P **07 19 09.0 +0.4**
comp=Z,42nm,1.2s,mb5.2

MOX LR LR
comp=Z,300nm,22.0s,MS4.3

NB2 NORSAR Subarra 53.24 326 P P **07 19 07.7 -0.9**
comp=Z,17nm,0.6s,mb5.2,baz=94,slow=7.4

NB2 NORSAR Subarra 53.24 326 P P **07 19 07.7 -0.9**
baz=94,slow=7.4

NB2 NORSAR Subarra 53.24 326 P P **07 19 07.7 -0.9**
NB2 pmax pmax
comp=Z,17nm,0.6s,mb5.2

NB2 NORSAR Subarra 53.24 326 P P **07 19 07.7 -0.9**
comp=Z,17nm,0.6s,mb5.2

NOA NORSAR Array B 53.24 326 P P **07 19 07.7 -0.8**
comp=Z,19nm,0.7s,mb5.1,baz=94,slow=7.2,SNR=69

SNTG Esanatoglia 53.25 303 P P **07 19 09.0 +0.1**

NAO01 NORSAR Array S 53.39 325 *e*P P **07 19 08.7 -1.0**
comp=Z,9.4nm,0.4s,mb5.1

GRA1 Grafenberg Arr 53.57 312 *e*P P **07 19 11.0 -0.1**
comp=Z,41nm,1.2s,mb5.2

GRF Grafenberg Arr 53.57 312 *e*P P **07 19 11.0 -0.1**
GRF pmax pmax
comp=Z,41nm,1.2s,mb5.2

GRF MLR MLR
comp=Z,200nm,18.4s,MS4.2

GRF Grafenberg Arr 53.57 312 *e*P P **07 19 11.0 -0.1**
GRF pmax pmax
comp=Z,41nm,1.2s,mb5.2

GRF MLR MLR
comp=Z,200nm,18.4s,MS4.2

GRF Grafenberg Arr 53.57 312 *e*P P **07 19 11.0 -0.1**
comp=Z,41nm,1.2s,mb5.2

GRF LR LR
comp=Z,200nm,18.4s,MS4.2

WTTA Wattenberg 53.58 308⇑ *i*P P **07 19 10.4 -0.8**
comp=Z,42nm,1.2s,mb5.2

WATA Walderalm 53.61 309⇓ *i*P P **07 19 10.6 -0.8**
comp=Z,17nm,1.0s,mb4.9

CTI Castel Tesino 53.73 307 P P **07 19 12.3 -0.1**
CTI pmax pmax
comp=Z,22nm,0.9s,mb5.1

CTI Castel Tesino 53.73 307 P P **07 19 12.3 -0.1**
comp=Z,22nm,0.9s,mb5.1

BSEG Bad Segeberg 53.78 317 *e*P P **07 19 12.8 +0.1**
BSEG pmax pmax
comp=Z,55nm,0.8s,mb5.5

SQTA Sankt Quirin 53.87 308⇑ *i*P P **07 19 12.3 -1.1**
comp=Z,44nm,1.4s,mb5.2

CLZ Clausthal 53.90 314 *e*P P **07 19 12.9 -0.7**
CLZ pmax pmax
comp=Z,70nm,0.8s,mb5.6

CLZ Clausthal 53.90 314 *e*P P **07 19 12.9 -0.7**
comp=Z,70nm,0.8s,mb5.6

MOTA Moosalm 53.92 309⇑ *i*P P **07 19 12.5 -1.3**
comp=Z,22nm,1.0s,mb5.1

SFI Santa Sofia 53.93 304 P P **07 19 14.0 +0.1**

KONO Kongsberg 54.01 324 *e*P P **07 19 13.2 -1.1**
KONO pmax pmax
comp=Z,13nm,0.6s,mb5.0

KONO Kongsberg 54.01 324 *e*P P **07 19 13.2 -1.1**
comp=Z,13nm,0.6s,mb5.0

VMG Vicchio 54.13 304 P P **07 19 16.3 +0.9**

DOMB Dombas 54.31 327 *e*P P **07 19 16.1 -0.3**
DOMB AMb AMB 07 19 17.1
comp=Z,22nm,0.7s,mb5.2

DOMB Dombas 54.31 327 *e*P P **07 19 16.1 -0.3**
comp=Z,22nm,0.7s,mb5.2

GSCL Gusciola 54.74 305 P P **07 19 20.2 +0.4**

DAVA Damuels 54.76 309⇑ *i*P P **07 19 19.1 -0.8**
comp=Z,71nm,0.7s,mb5.8

ERBM Eremo 54.85 305 P P **07 19 21.7 +1.1**

PII Pisa 54.90 304 P P **07 19 19.7 -1.3**

TOD Tromm 55.14 312 *e*P P **07 19 22.6 0.0**

TNS Taunus Mts 55.29 312 *e*P P **07 19 22.5 -1.2**
TNS pmax pmax
comp=Z,19nm,0.9s,mb5.1

TNS Taunus Mts 55.29 312 *e*P P **07 19 22.5 -1.2**
comp=Z,19nm,0.9s,mb5.1

BFO Black Forest 55.63 310 *e*P P **07 19 24.9 -1.3**
BFO pmax pmax
comp=Z,13nm,0.9s,mb5.0

BFO Black Forest 55.63 310 *e*P P **07 19 24.9 -1.3**
comp=Z,13nm,0.9s,mb5.0

SEY Seymchan 55.68 32⇑ *e*P P **07 19 27.4 +1.1**

KBS Kingsbay 55.94 348 *e*P P **07 19 26.1 -2.0**

RUP Ruppelstein 56.25 312 *e*P P **07 19 30.5 -0.1**

WLS Welschbruch 56.26 310 *e*P P **07 19 31.6 +0.9**

CDF Champ du Feu 56.31 310 *e*P P **07 19 30.9 -0.2**
comp=Z,24nm,0.9s,mb4.9

CDF Champ du Feu 56.31 310 *e*P P **07 19 30.9 -0.2**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.9

BBS Basel-Blauen 56.32 309 *e*P P **07 19 30.5 -0.6**

MOF Molkenrain 56.50 310 *e*P P **07 19 31.6 -0.9**

HINF Hinteralfeld 56.69 310 *e*P P **07 19 33.2 -0.6**
comp=Z,58nm,0.8s,mb5.3

HINF Hinteralfeld 56.69 310 *e*P P **07 19 33.2 -0.6**
HINF pmax pmax
comp=Z,29nm,0.8s,mb5.4

SAOF Saorge 56.95 305 *e*P P **07 19 35.4 -0.4**

HAU Haudompre 56.99 310 *e*P P **07 19 35.5 -0.5**
comp=Z,82nm,0.7s,mb5.5

HAU Haudompre 56.99 310 *e*P P **07 19 35.5 -0.5**
HAU pmax pmax
comp=Z,41nm,0.7s,mb5.6

AUTN L'Aution 57.04 305 *e*P P **07 19 38.1 +1.7**

SBF Sospel 57.07 305 *e*P P **07 19 36.1 -0.5**
comp=Z,146nm,0.9s,mb5.7

SBF Sospel 57.07 305 *e*P P **07 19 36.1 -0.5**
SBF pmax pmax
comp=Z,73nm,0.9s,mb5.7

TOUF Mont Tournerai 57.17 305 *e*P P **07 19 37.3 0.0**

THEF They Montfort 57.19 310 *e*P P **07 19 37.0 -0.4**

LPG La Plagne 57.20 307 *e*P P **07 19 37.6 +0.1**
comp=Z,161nm,0.8s,mb5.8

LPG La Plagne 57.20 307 *e*P P **07 19 37.6 +0.1**
LPG pmax pmax
comp=Z,81nm,0.8s,mb5.8

LPL La Plagne 57.21 307 *e*P P **07 19 37.7 +0.1**
comp=Z,192nm,0.7s,mb5.9

LPL La Plagne 57.21 307 *e*P P **07 19 37.7 +0.1**
LPL pmax pmax
comp=Z,96nm,0.7s,mb5.9

MVIF Mont Vial 57.26 305 *e*P P **07 19 38.0 +0.1**

BNI Bardonecchia 57.34 307 *e*P P **07 19 37.6 -0.9**
BNI pmax pmax
comp=Z,47nm,1.1s,mb5.4

BNI Bardonecchia 57.34 307 *e*P P **07 19 37.6 -0.9**
comp=Z,47nm,1.1s,mb5.4

MBDF Montbardon 57.35 306 *e*P P **07 19 37.7 -0.9**
comp=Z,109nm,1.2s,mb5.5

MBDF Montbardon 57.35 306 *e*P P **07 19 37.7 -0.9**
MBDF pmax pmax
comp=Z,54nm,1.2s,mb5.5

CABF La Chapelle 57.43 308 *e*P P **07 19 38.9 -0.2**
comp=Z,29nm,0.7s,mb5.1

CABF La Chapelle 57.43 308 *e*P P **07 19 38.9 -0.2**
CABF pmax pmax
comp=Z,14nm,0.7s,mb5.1

GIVF Givet 57.61 313 *e*P P **07 19 40.3 0.0**
comp=Z,77nm,0.9s,mb5.4

GIVF Givet 57.61 313 *e*P P **07 19 40.3 0.0**
GIVF pmax pmax
comp=Z,38nm,0.9s,mb5.4

FRF La Foret Royal 57.69 305 *e*P P **07 19 40.1 -0.9**
comp=Z,89nm,0.9s,mb5.5

FRF La Foret Royal 57.69 305 *e*P P **07 19 40.1 -0.9**
FRF pmax pmax
comp=Z,44nm,0.9s,mb5.5

MEZF Maizieres J'vi 57.75 311 *e*P P **07 19 41.1 -0.2**
comp=Z,64nm,0.8s,mb5.4

ORIF Oris-en-Rattie 57.93 307 *e*P P **07 19 42.3 -0.3**
comp=Z,27nm,0.8s,mb5.0

ORIF Oris-en-Rattie 57.93 307 *e*P P **07 19 42.3 -0.3**
ORIF pmax pmax
comp=Z,13nm,0.8s,mb5.0

BAIF Baives 58.01 313 *e*P P **07 19 43.0 0.0**
comp=Z,39nm,0.9s,mb5.2

BAIF Baives 58.01 313 *e*P P **07 19 43.0 0.0**
BAIF pmax pmax
comp=Z,20nm,0.9s,mb5.2

SMRF Simiane la Rot 58.35 306 *e*P P **07 19 45.6 0.0**
comp=Z,53nm,1.0s,mb5.2

VIVF Saint-Julien-l 58.78 307 *e*P P **07 19 48.2 -0.3**
comp=Z,46nm,0.8s,mb5.3

VIVF Saint-Julien-l 58.78 307 *e*P P **07 19 48.2 -0.3**
VIVF pmax pmax
comp=Z,23nm,0.8s,mb5.3

SMF Signal de Mont 58.94 309 *e*P P **07 19 49.0 -0.6**
comp=Z,112nm,0.9s,mb5.6

SMF Signal de Mont 58.94 309 *e*P P **07 19 49.0 -0.6**
SMF pmax pmax
comp=Z,56nm,0.9s,mb5.6

SSF Saint Saulge 59.07 309 *e*P P **07 19 49.8 -0.7**
comp=Z,73nm,0.9s,mb5.4

SSF Saint Saulge 59.07 309 *e*P P **07 19 49.8 -0.7**
SSF pmax pmax
comp=Z,37nm,0.9s,mb5.4

AVF Avril sur Loir 59.23 309 *e*P P **07 19 50.9 -0.8**
comp=Z,63nm,0.9s,mb5.3

AVF Avril sur Loir 59.23 309 *e*P P **07 19 50.9 -0.8**
AVF pmax pmax
comp=Z,31nm,0.9s,mb5.3

PLDF La Plantade 59.24 308 *e*P P **07 19 50.9 -0.8**

LASF Ste Croix 59.53 306 *e*P P **07 19 53.7 -0.1**
comp=Z,77nm,1.0s,mb5.4

AGO Saint Agoulin 59.55 308 *e*P P **07 19 53.7 -0.2**

HYF Humbligny 59.60 310 *e*P P **07 19 54.0 -0.2**

BGF Bois d'Agland 59.63 309 *e*P P **07 19 53.6 -0.8**
comp=Z,37nm,0.9s,mb5.1

BGF Bois d'Agland 59.63 309 *e*P P **07 19 53.6 -0.8**
BGF pmax pmax
comp=Z,18nm,0.9s,mb5.1

LBL Lubilhac 59.67 307 *e*P P **07 19 53.3 -1.4**

TCF Toulx Ste Croi 60.12 309 *e*P P **07 19 57.6 -0.2**
comp=Z,88nm,0.9s,mb5.5

TCF Toulx Ste Croi 60.12 309 *e*P P **07 19 57.6 -0.2**
TCF pmax pmax
comp=Z,44nm,0.9s,mb5.5

CAF Calviac 60.56 307 *e*P P **07 20 00.7 -0.1**
comp=Z,48nm,0.9s,mb5.3

CAF Calviac 60.56 307 *e*P P **07 20 00.7 -0.1**
CAF pmax pmax
comp=Z,24nm,0.9s,mb5.3

RJF Les Rejaudoux 60.84 308 *e*P P **07 20 02.7 0.0**
comp=Z,80nm,1.2s,mb5.4

RJF Les Rejaudoux 60.84 308 *e*P P **07 20 02.7 0.0**
RJF pmax pmax
comp=Z,40nm,1.2s,mb5.4

MTLF Montolieu 60.87 306 *e*P P **07 20 02.6 -0.3**
comp=Z,41nm,0.8s,mb5.3

MTLF Montolieu 60.87 306 *e*P P **07 20 02.6 -0.3**
MTLF pmax pmax
comp=Z,21nm,0.8s,mb5.3

BILL Bilibino 60.99 25 *e*P P **07 20 02.3 -1.1**
BILL *e* pP 07 20 12.3 -2.1
BILL pmax pmax
comp=Z,15nm,0.8s,mb5.2

BILL Bilibino 60.99 25 *e*P P **07 20 03.3 -0.1**
comp=Z,14nm,0.8s,mb5.1

LDF La Druitiere 61.09 312 *e*P P **07 20 03.5 -0.8**
comp=Z,42nm,0.7s,mb5.4

LDF La Druitiere 61.09 312 *e*P P **07 20 03.5 -0.8**
LDF pmax pmax
comp=Z,21nm,0.7s,mb5.4

FLN La Foliniere 61.28 312 *e*P P **07 20 04.6 -1.0**
comp=Z,30nm,0.7s,mb5.2

FLN La Foliniere 61.28 312 *e*P P **07 20 04.6 -1.0**
FLN pmax pmax
comp=Z,15nm,0.7s,mb5.2

LFF La Frestale 61.46 308 *e*P P **07 20 06.7 -0.2**

GRR Gorron 61.61 312 *e*P P **07 20 06.9 -0.9**
comp=Z,76nm,1.0s,mb5.5

GRR Gorron 61.61 312 *e*P P **07 20 06.9 -0.9**
GRR pmax pmax
comp=Z,38nm,1.0s,mb5.5

MFF Saint Martin d 61.61 310 *e*P P **07 20 07.0 -0.9**
comp=Z,88nm,0.8s,mb5.2

MFF Saint Martin d 61.61 310 *e*P P **07 20 07.0 -0.9**
MFF pmax pmax
comp=Z,14nm,0.8s,mb5.1

EMIR Miracle 61.76 304 P P **07 20 08.2 -0.7**
comp=Z,398nm,2.5s,mb6.1

EPOB Poblet 62.24 304 P P **07 20 11.9 -0.3**
comp=Z,600nm,3.6s

EPF Esparros 62.27 306 *e*P P **07 20 11.1 -1.2**

EBIE Bielsa 62.51 305 P P **07 20 14.2 +0.2**
comp=Z,472nm,3.4s

EGRA Graus 62.54 305⇓ P P **07 20 14.2 +0.1**
comp=Z,14nm,0.5s,mb5.3

SGMF Saint Gilles 62.74 312 *e*P P **07 20 14.9 -0.5**
comp=Z,81nm,0.9s,mb5.6

SGMF Saint Gilles 62.74 312 *e*P P **07 20 14.9 -0.5**
SGMF pmax pmax
comp=Z,40nm,0.9s,mb5.5

EBR Ebro Roquetas 62.83 303 *e*P P **07 20 14.0 -2.1**

ETSF Etsaut 62.94 306 *e*P P **07 20 16.9 +0.1**

ROSF Rostrenen 63.18 312 *e*P P **07 20 17.6 -0.7**
comp=Z,66nm,0.8s,mb5.5

ROSF Rostrenen 63.18 312 *e*P P **07 20 17.6 -0.7**
ROSF pmax pmax
comp=Z,33nm,0.8s,mb5.5

QUIF Quistinic 63.23 312 *e*P P **07 20 17.7 -0.9**
comp=Z,48nm,0.9s,mb5.3

QUIF Quistinic 63.23 312 *e*P P **07 20 17.7 -0.9**
QUIF pmax pmax
comp=Z,24nm,0.9s,mb5.3

SJPF Ste Jean 63.34 306 *e*P P **07 20 20.1 +0.6**

EALK Alkurruntz 63.51 306 P P **07 20 19.8 -0.7**
comp=Z,45nm,1.2s,mb5.4

EMOS Mosqueruela 63.67 303 P P **07 20 21.5 -0.1**
comp=Z,165nm,1.7s,mb5.8

ETOB Tobarra 65.02 301 P P **07 20 31.1 +0.6**
comp=Z,26nm,0.9s,mb5.3

EVIA Vianos 65.72 302⇓ P P **07 20 35.3 +0.4**
EVIA pmax pmax
comp=Z,13nm,0.6s,mb5.1

EVIA Vianos 65.72 302⇓ P P **07 20 35.3 +0.4**
comp=Z,12nm,0.6s,mb5.1

EARI Arriondas 66.04 307 P P **07 20 33.9 -3.0**
comp=Z,179nm,1.7s,mb5.8

EHUE Huescar 66.08 301⇓ P P **07 20 37.5 +0.3**
EHUE pmax pmax
comp=Z,15nm,0.6s,mb5.2

EHUE Huescar 66.08 301⇓ P P **07 20 37.5 +0.3**
comp=Z,15nm,0.6s,mb5.2

ESDC Sonseca Array 66.42 303 P P **07 20 38.6 -0.8**
comp=Z,15nm,0.7s,mb5.1,baz=62,slow=7.0,SNR=44

ESDC Sonseca Array 66.42 303 P P **07 20 39.0 -0.3**
comp=Z,11nm,0.8s,mb4.9

ESLA Sonseca Array 66.42 303 *e*P P **07 20 38.8 -0.5**
comp=Z,3.0nm,0.8s,mb4.4

EQES Quesada 66.44 301 P P **07 20 39.0 -0.4**
comp=Z,61nm,1.2s,mb5.5

EBER Berja 66.63 300 P P **07 20 41.0 +0.3**
comp=Z,62nm,0.8s,mb5.7

KAKA Kakadu 66.79 122 *e*P Px 07 21 03.3
comp=Z,12nm,0.6s

EBAN Banos Encina 66.84 302⇓ P P **07 20 42.0 0.0**
EBAN pmax pmax
comp=Z,30nm,0.8s,mb5.4

EBAN Banos Encina 66.84 302⇓ P P **07 20 42.0 +0.1**
comp=Z,30nm,0.8s,mb5.4

LSZ Lusaka 66.97 235 P P **07 20 42.4 -0.7**
comp=Z,2.9nm,0.6s,mb4.5,baz=56,slow=7.5,SNR=5.4

LSZ Lusaka 66.97 235 *e*P P **07 20 42.1 -1.1**
LSZ pmax pmax
comp=Z,11nm,1.3s,mb4.7

LSZ Lusaka 66.97 235 *e*P P **07 20 42.0 -1.1**
comp=Z,11nm,1.3s,mb4.7

ECOG Cogollos-Vega 67.00 301 P P **07 20 42.7 -0.3**
ECOG pmax pmax
comp=Z,7.0nm,0.6s,mb4.9

ECOG Cogollos-Vega 67.00 301 P P **07 20 42.7 -0.3**
comp=Z,6.6nm,0.6s,mb4.8

ELUQ Luque 67.41 301 P P **07 20 45.1 -0.5**
ELUQ pmax pmax
comp=Z,9.0nm,0.7s,mb4.9

ELUQ Luque 67.41 301 P P **07 20 45.1 -0.5**
comp=Z,8.7nm,0.7s,mb4.9

EADA Adamuz 67.42 302 P P **07 20 44.5 -1.1**
comp=Z,20nm,1.0s,mb5.1

ERUA La Rua 67.69 307 P P **07 20 45.9 -1.4**
ERUA pmax pmax
comp=Z,16nm,0.8s,mb5.1

ERUA La Rua 67.69 307 P P **07 20 45.9 -1.4**
comp=Z,16nm,0.8s,mb5.1

ECAB El Cabril 68.07 302 P P **07 20 49.2 -0.5**
comp=Z,16nm,0.6s,mb5.2

FX1 Attu Island--F 68.52 41 P P **07 20 52.6 +0.4**
comp=Z,25nm,0.6s,mb5.3,baz=297,slow=14,SNR=4.7

FX1 Attu Island--F 68.52 41 P P **07 20 52.6 +0.4**
FX1 pmax pmax
comp=Z,25nm,0.6s

MTE Manteigas 68.72 305 *e*P P **07 20 54.5 +0.8**
comp=Z,62nm,1.2s,mb5.4

EJIF Jimena Fronter 68.72 301 P P **07 20 53.1 -0.7**
EJIF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8

EJIF Jimena Fronter 68.72 301 P P **07 20 53.1 -0.7**
comp=Z,10nm,0.8s,mb4.8

PVIS Viseu 68.84 306 *e*P P **07 20 55.1 +0.6**

SUMG Summit 68.85 343 *e*P P **07 20 54.6 +0.6**
comp=Z,29nm,1.0s,mb5.2

ESPR Espera 68.85 301 P P **07 20 53.9 -0.7**
comp=Z,41nm,1.0s,mb5.3

PCBR Castelo Branco 68.88 305 *e*P P **07 20 55.1 +0.4**
comp=Z,27nm,1.0s,mb5.1

EBAD Badajoz 68.97 303 P P **07 20 54.9 -0.3**
comp=Z,49nm,0.7s,mb5.5

EMIN Mina Concepcio 69.10 302 P P **07 20 56.0 -0.1**
comp=Z,24nm,0.8s,mb5.2

PTOM Tomar 69.63 305 *e*P P **07 21 00.0 +0.7**
comp=Z,72nm,0.8s,mb5.7

EVO Evora 69.77 303⇑ *i*P P **07 21 00.8 +0.6**
comp=Z,41nm,0.9s,mb5.1

EGRO El Granado 69.78 302 P P **07 21 00.4 +0.1**
comp=Z,26nm,0.7s,mb5.3

PBEJ Beja 69.87 303 *e*P P **07 21 01.3 +0.5**
comp=Z,40nm,1.2s,mb5.2

PTEO Sao Teotonio 70.68 303 *e*P P **07 21 06.5 +0.8**
comp=Z,57nm,0.9s,mb5.5

TORD Torodi Ar. Bea 72.82 275 P P **07 21 18.1 -0.9**
comp=Z,20nm,0.9s,mb5.1,baz=49,slow=4.8,SNR=101

WRA Warramunga Arr 72.94 126 P P **07 21 18.9 -0.7**
comp=Z,11nm,0.6s,mb5.0,baz=323,slow=5.9,SNR=115

WB2 Warramunga Arr 72.95 126 *e*P P **07 21 18.9 -0.7**

RES Resolute Bay 75.00 358 *e*P P **07 21 30.4 0.0**
RES pmax pmax
comp=Z,6.0nm,1.2s,mb4.4

RES Resolute Bay 75.00 358 *e*P P **07 21 30.4 -0.1**
comp=Z,6.2nm,1.2s,mb4.4

ASPA Alice Springs 75.16 129⇑ *i*P P **07 21 31.6 -0.8**

LBTB Lobatse 75.43 229 *e*P P **07 21 33.0 -0.9**
LBTB pmax pmax
comp=Z,17nm,1.3s,mb4.8

LBTB Lobatse 75.43 229 *e*P P **07 21 33.0 -0.9**
comp=Z,17nm,1.3s,mb4.8

PMG Port Moresby 76.22 110 P P **07 21 39.1 +0.5**
comp=Z,28nm,1.0s,mb5.2,baz=311,slow=4.8,SNR=8.1

PMG Port Moresby 76.22 110⇑ *e*P P **07 21 40.2 +1.6**

FORT Forrest 76.59 138 *e*P P **07 21 40.5 +0.1**
comp=Z,19nm,0.7s,mb5.1

COLA College 78.11 19 *c i*P P **07 21 48.3 +0.2**

COLA College 78.11 19 *e*P P **07 21 48.1 0.0**
comp=Z,20nm,0.8s,mb5.1

ILAR Eielson Array 78.45 18 P P **07 21 49.2 -0.8**
comp=Z,12nm,0.8s,mb4.9,baz=314,slow=4.4,SNR=154

ILAR PP PP 07 24 44.7 -4.8
comp=Z,3.9nm,0.8s,baz=315,slow=6.3,SNR=13

ILAR LR LR 08 01 22.7
comp=Z,399nm,20.1s,MS4.7,baz=351,slow=39

INK Inuvik 78.51 12 *e*P P **07 21 50.1 -0.1**
INK pmax pmax
comp=Z,8.0nm,0.7s

INK Inuvik 78.51 12 *e*P P **07 21 50.1 -0.1**
comp=Z,8.0nm,0.7s,mb4.8

PMR Palmer 80.24 21 *e*P P **07 21 59.7 0.0**
PMR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8

PMR Palmer 80.24 21 *e*P P **07 21 59.7 0.0**
comp=Z,10nm,0.8s,mb4.8

SLKM Skilak Lake 80.70 22 *e*P P **07 22 02.7 +0.5**

DAWY Dawson 80.95 16 *e*P P **07 22 03.4 0.0**

DBIC Dimbokro 81.59 273 P P **07 22 07.4 -0.4**
comp=Z,14nm,0.8s,mb4.9,baz=40,slow=6.2,SNR=24

DBIC Dimbokro 81.59 273 *e*P P **07 22 07.9 +0.1**
DBIC pmax pmax
comp=Z,16nm,0.8s

DBIC Dimbokro 81.59 273 *e*P P **07 22 07.9 +0.1**
comp=Z,16nm,0.8s,mb5.0

CTA Charters Tower 81.70 119⇑ *i*P P **07 22 08.7 +0.5**
comp=Z,19nm,0.6s,mb5.2

CTA Charters Tower 81.70 119 P P **07 22 08.6 +0.4**
comp=Z,24nm,0.7s,mb5.3,baz=312,slow=5.4,SNR=32

CTA Charters Tower 81.70 119⇑ *i*P P **07 22 08.7 +0.5**
CTA pmax pmax
comp=Z,19nm,0.6s

CTAO Charters Tower 81.70 119 *e*P P **07 22 08.2 0.0**
CTAO pmax pmax
comp=Z,27nm,0.8s,mb5.2

CTAO Charters Tower 81.70 119 *e*P P **07 22 08.2 -0.1**
comp=Z,26nm,0.8s,mb5.2

KDAK Kodiak Island 81.90 25 P P **07 22 09.7 +1.2**

LIC Lamto 81.95 272 *e*P P **07 22 09.7 0.0**
comp=Z,23nm,0.6s,mb5.0

STKA Stephens Creek 85.68 131 *e*P P **07 22 27.5 -0.7**
comp=Z,4.8nm,0.4s,mb5.1

STKA Stephens Creek 85.68 131 P P **07 22 27.2 -1.0**
comp=Z,6.3nm,0.4s,mb5.2,baz=331,slow=3.9,SNR=22

YKA Yellowknife Ar 86.65 6 P P **07 22 31.8 -0.3**
comp=Z,2.6nm,0.6s,mb4.6,baz=340,slow=5.2,SNR=62

YKA PKKPbc 07 40 26.2
comp=Z,0.2nm,0.7s,baz=159,slow=2.2,SNR=5.9

YKA Yellowknife Ar 86.65 6 P P **07 22 31.8 -0.3**
YKA PKKPbc 07 40 26.2

DLBC Dease Lake 88.07 15 P P **07 22 40.5 +1.5**

comp=Z,2.3nm,0.7s,mb4.5,baz=317,slow=5.2,SNR=8.5
SCHQ Schefferville 90.13 341 P **P** 07 22 49.0 0.0
comp=Z,1.8nm,0.4s,mb4.8,baz=68,slow=2.7,SNR=12
EDM Edmonton 95.90 8 *eP* **P** 07 23 16.1 +0.7
MAW Mawson 98.59 186 LR LR 08 01 50.1
comp=Z,446nm,18.6s,MS5.0,baz=165,slow=32
ULM Lac du Bonnet 99.48 357 LR LR 08 10 31.0
comp=Z,224nm,18.0s,MS4.7,baz=25,slow=37
TXAR Lajitas Array 120.42 3 PKP PKPdf 07 28 40.9 +1.2
comp=Z,0.6nm,0.7s,baz=159,slow=0.9,SNR=9.6
LPAZ La Paz 147.02 288 PKPbc PKPdf 07 29 32.3 +3.1
comp=Z,3.8nm,0.9s,baz=53,slow=4.0,SNR=14
LPAZ La Paz 147.02 288 *e*PKP2 PKPab 07 29 32.4 -2.5
TRQA Tornquist 147.28 246 *e*PKPbc PKPdf 07 29 32.6 +3.6
PLCA Paso Flores 153.53 239 PKPbc PKPdf 07 29 47.8 +9.4
comp=Z,4.8nm,0.9s,baz=68,slow=5.2,SNR=8.7
PLCA Paso Flores 153.53 239 PKIKP PKPdf 07 29 47.8 +9.4
PLCA pmax pmax
comp=Z,5.0nm,0.9s

*IDC **14** 07:10:13.2±1.9,30.20S×177.81W,h49km±16km,mb4.1/7, mb1 4.3/8,mb1mx4.1/15,mbtmp4.4/8,ML4.5/1,Error ellipse: s-maj=25.5km s-min=17.0km az=118.0*
*NEIC **14** 07:10:13.3±1.4,30.15S×177.78W,h52km±11km,mb4.9/2, Error ellipse: s-maj=16.8km s-min=11.5km az=108.0*
ISC 14 07:10:11.1±0.9,30.59S±0.06×178.1W±0.2,h33km,n37, σ1$24/27,mb4.4/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.34**	**5**	P	**P**	**07 10 30.4**	**-3.2**
	448nm,0.3s,baz=45,slow=2.5,SNR=14						
RAO				S	**S**	**07 10 43.2**	**-7.2**
	4μm,0.3s,baz=152,slow=21,SNR=31						
RAO	**Raoul Island**	**1.34**	**5**	*e*P	**P**	**07 10 29.3**	**-4.4**
RAO				P		07 10 30.4	
RAO				S	**S**	**07 10 43.2**	**-7.2**
PUZ	**Puketiti**	**8.06**	**201**	*e*PN	**P**	**07 12 03.8**	**-4.9**
PUZ				SN	**Sn**	**07 13 39.2**	**-0.7**
URZ	**Urewera**	**8.63**	**206**	P	**P**	**07 12 14.2**	**-2.4**
	0.6nm,0.3s,baz=102,slow=8.8,SNR=8.4						
URZ				S	**S**	**07 13 54.6**	**+0.8**
	4.6nm,0.3s,baz=229,slow=17,SNR=14						
URZ	**Urewera**	**8.63**	**206**	*e*PN	**P**	**07 12 14.1**	**-2.4**
URZ				SN	**Sn**	**07 13 53.3**	**-0.7**
MRZ	**Mangatainoka R**	**11.30**	**205**	SN	**S**	**07 14 53.1**	**-6.4**
NNZ	**Nelson**	**12.67**	**211**	SN	**S**	**07 15 25.7**	**-6.8**
THZ	**Tophouse**	**13.32**	**211**	SN	**S**	**07 15 41.1**	**-7.0**
LTZ	**Lake Taylor**	**14.42**	**210**	SN	**S**	**07 16 04.9**	**-9.5**
RPZ	**Rata Peaks**	**15.70**	**210**	P	**P**	**07 13 57.9**	**+6.6**
	1.6nm,0.3s,baz=58,slow=15,SNR=4.7						
CTA	**Charters Tower**	**33.78**	**280**	P	**P**	**07 16 53.3**	**+1.2**
	12nm,0.7s,mb4.9,baz=111,slow=11,SNR=17						
CTAO	**Charters Tower**	**33.78**	**280**	*e*P	**P**	**07 16 53.7**	**+1.6**
	10nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**34.39**	**257**	P	**P**	**07 16 58.9**	**+1.6**
	14nm,0.8s,mb4.9,baz=90,slow=8.8,SNR=21						
STKA	**Stephens Creek**	**34.39**	**257**	P	**P**	**07 16 58.9**	**+1.6**
STKA				*e*P		07 16 59.2	
WB2	**Warramunga Arr**	**44.04**	**272**	*e*P	**P**	**07 18 17.1**	**-0.6**
WRA	**Warramunga Arr**	**44.05**	**272**	P	**P**	**07 18 17.3**	**-0.5**
	4.7nm,0.5s,mb4.5,baz=111,slow=8.0,SNR=87						
VNDA	**Vanda**	**47.90**	**186**	P	**P**	**07 18 49.0**	**+1.4**
	0.7nm,0.6s,mb3.8,baz=38,slow=4.9,SNR=3.6						
VNDA	**Vanda**	**47.90**	**186**	P	**P**	**07 18 49.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**52.31**	**270**	P	**P**	**07 19 21.4**	**-0.5**
	2.1nm,0.7s,mb4.2,baz=90,slow=12,SNR=8.5						
QSPA	**South Pole Qui**	**59.52**	**180**	*e*P	**P**	**07 20 14.6**	**+1.5**
	9.1nm,0.8s,mb4.9						
MAW	**Mawson**	**72.11**	**201**	P	**P**	**07 21 34.0**	**+0.5**
	2.2nm,0.7s,mb4.2,baz=162,slow=6.5,SNR=3.8						
NVAR	**Mina Array Bea**	**88.41**	**43**	P	**P**	**07 22 60.0**	**-1.1**
	0.7nm,0.7s,mb4.0,baz=232,slow=9.7,SNR=6.4						
MKAR	**Makanchi Array**	**117.85**	**310**	PKP	PKPdf	07 28 53.1	-1.0
	0.4nm,0.6s,baz=249,slow=2.0,SNR=5.9						
BVAR	**Borovoye Array**	**126.50**	**316**	PKP	PKPdf	07 29 09.1	-1.6
	1.9nm,0.8s,baz=106,slow=0.8,SNR=10.0						
AKTK	**Aktyubinsk**	**134.19**	**312**	PKP	PKPdf	07 29 23.9	-1.4
AKTO	**Aktyubinsk**	**134.19**	**312**	PKP	PKPdf	07 29 23.9	-1.4
	0.3nm,0.4s,baz=146,slow=4.8,SNR=5.7						
ARCES	**ARCESS Array B**	**138.76**	**348**	PKP	PKPdf	07 29 32.4	-0.8
	2.0nm,0.9s,slow=1.2,SNR=4.4						
ARCES	**ARCESS Array B**	**138.76**	**348**	PKP	PKPdf	07 29 32.4	-0.8
JOF	**Joensuu**	**142.57**	**338**	*ep*	PKPdf	07 29 33.9	-6.1
	4.8nm,0.9s						
KAF	**Kangasniemi**	**144.71**	**340**	*ep*	PKPbc	07 29 38.4	-5.2
	3.9nm,0.9s						
FINES	**FINESS Array B**	**145.30**	**340**	PKPbc	PKPbc	07 29 43.4	-1.8
	6.9nm,0.5s,baz=53,slow=4.8,SNR=39						
NB2	**NORSAR Subarra**	**148.93**	**351**	PKPabc	PKPdf	07 29 53.3	+2.6
	1.6nm,0.6s,baz=15,slow=2.7						
NB2	**NORSAR Subarra**	**148.93**	**351**	PKPab	PKPab	07 29 53.3	-7.6
NOA	**NORSAR Array B**	**148.93**	**351**	PKPbc	PKPdf	07 29 53.6	+2.9
	1.8nm,0.6s,baz=14,slow=4.2,SNR=6.5						
AKASG	**Malin Array Be**	**151.42**	**322**	PKPbc	PKPdf	07 30 00.1	+5.3
	5.5nm,0.7s,baz=47,slow=2.6,SNR=12						
BRTR	**Keskin Array B**	**152.64**	**298**	PKPbc	PKPdf	07 30 04.2	+7.1
	1.2nm,0.8s,baz=146,slow=6.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**162.64**	**179**	PKPab	PKPab	07 30 60.0	-0.7
	1.3nm,0.6s,baz=202,slow=3.2,SNR=9.5						

MAN 14 07:25:55.2,13.55N×119.95E,h54km,mb3.8,ML2.6, MS2.2,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.34**	**57**	*e*P	P	07 26 06.6	+1.5
LUBP				*e*S	S	07 26 12.1	-0.2
PGP	**Puerto Galera**	**0.98**	**93**	*i* P	P	07 26 13.9	+1.0
BUSP	**Coron**	**1.56**	**171**	*e*P	P	07 26 21.8	+0.7
BUSP				*e*S	S	07 26 38.7	-1.6
SJMP	**San Jose**	**1.57**	**133**	*e*P	P	07 26 21.2	-0.1
SJMP				*e*S	S	07 26 36.9	-3.7
BOAC	**Boac**	**1.84**	**93**	*e*P	P	07 26 26.3	+1.2
OTRP	**Odiongan**	**2.34**	**120**	*e*P	P	07 26 31.3	-0.8
OTRP				*e*S	S	07 26 55.8	-3.9

*NDI **14** 07:35:48.7±4.0,30.61N×79.20E,h10km,ML3.0*
*NNC **14** 07:35:57.4±438.0,30.05N×74.65E,mb3.7,Error ellipse: s-maj=6960.9km s-min=3643.6km az=76.0*
ISC 14 07:35:48.4±1.5,30.61N±0.04×79.39E±0.09,h32km±11km, n16,σ1$28/28,Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**1.19**	**256**	*e*P	**Pn**	**07 36 06.6**	**-2.4**
DDI				*e*S	**Sn**	**07 36 23.3**	**-0.8**
KLP	**Kalpa**	**1.34**	**314**	*e*P	**Pn**	**07 36 11.7**	**+0.4**
KLP				*e*S	**Sn**	**07 36 27.8**	**-0.2**
KLP				AML	AML	07 36 34.4	
	comp=N,481nm,0.6s						
KLP				AML	AML	07 36 34.9	
	comp=E,640nm,0.2s						
SMLA	**Simla**	**1.98**	**286**	*e*P	**Pn**	**07 36 20.3**	**0.0**
SMLA				*e*S	**Sn**	**07 36 45.1**	**+0.8**
SDNR	**Sundarnagar**	**2.26**	**294**	*e*P	**Pn**	**07 36 26.4**	**+2.1**
SDNR				*e*SB	**Sb**	**07 36 57.0**	**+0.9**
KKR	**Kurukshetra**	**2.31**	**254**	*i* P	**Pn**	**07 36 23.2**	**-1.9**
KKR				*e*S	**Sn**	**07 36 49.8**	**-2.9**
ASOR	**Ausora**	**2.32**	**218**	*e*P	**Pn**	**07 36 26.8**	**+1.5**
ASOR				*e*S	**Sn**	**07 36 52.9**	**-0.1**
BISR	**Bishrakh**	**2.65**	**220**	*e*PB	**Pb**	**07 36 33.7**	**-1.3**
BISR				*e*S	**Sn**	**07 37 01.6**	**+0.3**
NDI	**New Delhi**	**2.69**	**225**	*e*P	**Pn**	**07 36 29.5**	**-1.1**
NDI				*e*S	**Sn**	**07 37 04.0**	**+1.6**
BHGR	**Bahadurgarh**	**2.87**	**229**	*e*P	**Pn**	**07 36 35.3**	**+2.3**
BHGR				*ex*	x	07 36 59.4	
AYAN	**Aya Nagar**	**2.89**	**223**	*e*P	**Pn**	**07 36 34.1**	**+0.6**
AYAN				*e*S	**Sn**	**07 37 06.6**	**-0.9**
SONA	**Sohna**	**3.09**	**221**	*e*P	**Pn**	**07 36 37.0**	**+0.7**
SONA				*e*S	**Sn**	**07 37 13.4**	**+0.9**
SONA				AML	AML	07 37 20.2	
	comp=E,89nm,0.3s						
SONA				AML	AML	07 37 20.4	
	comp=N,72nm,0.2s						
PONG	**Pong**	**3.23**	**295**	*e*P	**Pn**	**07 36 38.5**	**+0.3**
PONG				*ex*	x	07 37 19.5	
DLH	**Dalhousie**	**3.50**	**304**	*e*P	**Pn**	**07 36 43.0**	**+1.0**
DLH				*ex*	x	07 37 26.0	
THN	**Thein Dam**	**3.62**	**301**	*e*P	**Pn**	**07 36 43.3**	**-0.5**
THN				*ex*	x	07 37 27.5	
KHET	**Khetri**	**4.02**	**232**	*i* P	**Pn**	**07 36 46.2**	**-3.3**
KHET				*i* S	**Sn**	**07 37 31.1**	**-4.9**
KHET				AML	AML	07 37 31.9	
	comp=E,18nm,0.3s						
KHET				AML	AML	07 37 32.0	
	comp=N,18nm,0.4s						
KK31	**Karatay Array**	**14.34**	**333**	P	**P**	**07 39 09.4**	**-1.7**
	comp=N,0.3nm,0.2s,baz=142,slow=14,SNR=6.6						
KK31				S	**S**	**07 41 40.9**	**-9.0**
	comp=N,1.8nm,0.5s,baz=173,slow=21,SNR=9.3						

*CSEM **14** 07:38:38.4±0.2,42.91N×46.92E,h5km,mb3.5,Error ellipse: s-maj=6.0km s-min=4.9km az=76.0,After OBN*
MOS 14 07:38:38.4±2.6,42.91N×46.92E,h5km,mb3.5/1,3D, Error ellipse: s-maj=30.5km s-min=19.1km az=96.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRNR	**Karanay**	**0.08**	**187**	*i*PG	Pg	07 38 41.3	+1.0
KRNR				pmax	pmax		
	comp=Z,50nm,0.2s						
KRNR	**Karanay**	**0.08**	**187**	*i* Pg	Pg	07 38 41.3	+1.0
	comp=Z,50nm,0.2s						
DBC	**Dubki**	**0.13**	**329**	*i*PG	Pg	07 38 42.0	+0.9
DBC				pmax	pmax		
	comp=Z,247nm,0.1s						
DBC	**Dubki**	**0.13**	**329**	*i* Pg	Pg	07 38 42.0	+0.9
	comp=Z,247nm,0.1s						
BUJR	**Buynaksk**	**0.16**	**121**	*i* PG	Pg	07 38 43.3	+1.5
BUJR				*i* S	Sg	07 38 46.4	+2.4
BUJR				pmax	pmax		
	comp=Z,117nm,0.2s						
BUJR	**Buynaksk**	**0.16**	**121**	*i* Pg	Pg	07 38 43.3	+1.5
	comp=Z,117nm,0.2s						
BUJR				*i* Sg	Sg	07 38 46.4	+2.4
UNCR	**Uncukul**	**0.22**	**205**	*i*PG	Pg	07 38 44.0	+1.2
UNCR				*i* S	Sg	07 38 48.0	+2.2
UNCR				pmax	pmax		
	comp=Z,57nm,0.2s						
UNCR	**Uncukul**	**0.22**	**205**	*i* Pg	Pg	07 38 44.0	+1.2
	comp=Z,57nm,0.2s						
UNCR				*i* Sg	Sg	07 38 48.0	+2.2
MAK	**Makhachkala**	**0.43**	**83**	*e*PG	Pg	07 38 53.9	+6.8
MAK				*i*		07 38 55.3	
MAK				smax			
	comp=N,53nm,0.3s						
MAK				smax			
	comp=E,82nm,0.3s						

*NEIC **14** 07:59:00.8,31.63S×71.75W,h29km,ML3.2(GUC),After GUC.*
GUC 14 07:59:00.8±0.8,31.63S×71.75W,h29km±3km,MD3.7, ML3.2,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.33**	**141**	*i*P	Pb	07 59 08.7	+0.1
CHNG				*i* S	Sb	07 59 13.8	-0.1
CHNG				AMP		07 59 14.1	
	comp=N,4μm,0.2s						
CMCH	**Combarbala**	**0.78**	**55**	*i*P	Pb	07 59 15.5	-0.2
CMCH				*i* S	Sb	07 59 26.2	+0.2
CMCH				AMP		07 59 26.9	
	comp=E,3μm,0.6s						
JACH	**Jahuel**	**1.44**	**137**	*e*P	Pn	07 59 26.0	+0.8
JACH				*i* S	Sn	07 59 45.1	+1.8
ROCH	**El Roble**	**1.48**	**155**	*i*P	Pn	07 59 26.4	+0.6
ROCH				*i* S	Sn	07 59 46.3	+1.9
TLL	**Tololo Astrono**	**1.66**	**29**	*e*P	Pn	07 59 29.7	+1.3
TLL				AMP		07 59 56.6	
	comp=N,474nm,0.4s						
PEL	**Peldehue**	**1.76**	**150**	AMP		07 59 57.0	
	comp=E,451nm,0.5s						
RCDM	**Rinconada Maip**	**2.02**	**157**	AMP		08 00 07.5	
	comp=E,158nm,0.2s						
FCH	**Farellones**	**2.10**	**144**	*i* P	Pn	07 59 36.0	+1.3
FCH				*i* S	Sn	08 00 02.8	+2.7
FCH				AMP		08 00 05.5	
	comp=E,168nm,0.1s						
TACH	**Talagante**	**2.13**	**162**	*i* P	Pn	07 59 35.7	+0.4
ANTU	**Antumapu**	**2.15**	**154**	AMP		08 00 15.7	
	comp=E,142nm,0.5s						

*IDC **14** 08:07:28.3±0.9,8.82N×93.92E,mb3.9/12,mb1 4.0/12, mb1mx3.9/22,mbtmp3.9/12,Error ellipse: s-maj=44.9km s-min=20.6km az=59.0*
*NEIC **14** 08:07:32.8±0.6,8.76N×93.97E,h30km,mb4.2/4,Error ellipse: s-maj=24.3km s-min=10.4km az=63.0*
ISC 14 08:07:31.5±6.1,8.7N±0.2×93.9E±0.2,h36km±49km,n24, σ0$57/20,mb4.0/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIRN	**Jiri**	**20.20**	**340**	*e*P	**P**	**08 12 06.0**	**0.0**
	6.3nm,0.4s						
PKI	**Pulchoki**	**20.40**	**338**	*e*P	**P**	**08 12 08.8**	**+0.7**
GUN	**Gumba**	**20.54**	**339**	*e*P	**P**	**08 12 09.4**	**-0.2**
DMN	**Daman**	**20.55**	**337**	*e*P	**P**	**08 12 10.2**	**+0.6**
LSA	**Lhasa**	**21.03**	**353**	*e*P	**P**	**08 12 14.4**	**-0.2**
	4.9nm,0.5s,mb4.1						
GKN	**Gorkha**	**21.08**	**337**	*e*P	**P**	**08 12 15.1**	**0.0**
	17nm,0.6s,mb4.5						
KOLN	**Koldanda**	**21.30**	**334**	*e*P	**P**	**08 12 17.6**	**+0.3**
	8.3nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**39.22**	**347**	P	**P**	**08 14 57.6**	**-0.3**
	0.4nm,0.6s,mb3.3,baz=170,slow=10,SNR=4.2						
SONM	**Songino Array**	**40.39**	**13**	P	**P**	**08 15 07.1**	**-0.6**
	0.7nm,1.0s,mb3.4,baz=45,slow=2.1,SNR=3.8						
ZAL	**Zalesovo**	**45.68**	**352**	P	**P**	**08 15 51.3**	**+0.7**
	2.3nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**48.12**	**341**	P	**P**	**08 16 08.8**	**-1.0**
	0.4nm,0.4s,mb3.8,baz=135,slow=8.4,SNR=4.0						
CHKZ	**Chkalovo**	**48.60**	**342**	*e*P	**P**	**08 16 12.9**	**-0.6**
	2.9nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**48.94**	**126**	P	**P**	**08 16 16.5**	**0.0**
	0.5nm,0.5s,mb3.8,baz=305,slow=8.6,SNR=13						
WRA				PcP	PcP	08 17 41.0	+0.3
	0.2nm,0.6s,baz=314,slow=2.9,SNR=6.4						
BRTR	**Keskin Array B**	**61.71**	**310**	P	**P**	**08 17 47.3**	**-1.3**
	0.8nm,0.7s,mb4.0,baz=135,slow=4.1,SNR=3.3						
FINES	**FINESS Array B**	**71.86**	**332**	P	**P**	**08 18 52.3**	**-0.1**
	0.7nm,0.7s,mb3.7,baz=98,slow=14,SNR=3.4						
ARCES	**ARCESS Array B**	**74.40**	**340**	P	**P**	**08 19 07.5**	**+0.4**
	5.3nm,1.1s,mb4.4,baz=100,slow=7.4,SNR=5.9						
HFS	**Hagfors**	**77.61**	**330**	P	**P**	**08 19 25.7**	**+0.1**
	1.9nm,0.6s,mb4.2,baz=108,slow=9.4,SNR=5.2						
NOA	**NORSAR Array B**	**78.89**	**331**	P	**P**	**08 19 32.6**	**0.0**
	1.2nm,0.8s,mb3.9,baz=95,slow=5.4,SNR=2.9						
EKA	**Eskdalemuir Ar**	**86.90**	**325**	P	**P**	**08 20 14.9**	**+1.2**
	1.1nm,0.6s,mb4.3,baz=96,slow=5.9,SNR=4.9						
ILAR	**Eielson Array**	**94.05**	**22**	P	**P**	**08 20 47.2**	**+0.4**
	0.5nm,1.0s,mb3.9,baz=299,slow=4.3,SNR=4.7						
TXAR	**Lajitas Array**	**138.55**	**23**	PKP	PKPdf	08 26 57.7	+3.5
	0.1nm,0.4s,baz=322,slow=3.2,SNR=3.9						
TXAR	**Lajitas Array**	**138.55**	**23**	PKP	PKPdf	08 26 57.7	+3.5
PLCA	**Paso Flores**	**145.25**	**201**	PKPbc	PKPbc	08 27 08.8	+2.6
	2.6nm,0.8s,baz=153,slow=1.7,SNR=7.1						
PLCA	**Paso Flores**	**145.25**	**201**	PKPbc	PKPbc	08 27 08.8	+2.6

*CSEM **14** 08:14:54.9±0.4,38.06N×26.09W,ML2.1,Error ellipse: s-maj=9.0km s-min=5.4km az=154.0,After PDA*
*PDA **14** 08:14:54.9±1.0,38.06N×26.09W,MD2.5,ML2.1,Error ellipse: s-maj=13.8km s-min=2.0km az=43.0*
SVSA 14 08:14:54.9±1.0,38.06N×26.09W,MD2.5,ML2.1,Error ellipse: s-maj=13.8km s-min=2.0km az=43.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SET4	**Mosteiros**	**0.30**	**129**	*e*P	Pg	08 15 00.7	-0.1
SET4				*e*S	Sg	08 15 04.7	-0.1
SET2	**Ginetes**	**0.31**	**134**	*e*P	Pg	08 15 01.0	-0.1
PFET	**Feteiras**	**0.34**	**136**	*e*P	Pg	08 15 01.2	-0.5
PSAN	**Santo Antonio**	**0.36**	**126**	*e*P	Pg	08 15 01.3	-0.7
PSET	**Sete Cidades**	**0.38**	**129**	*e*P	Pg	08 15 01.0	-1.4
PSET				*e*S	Sg	08 15 07.0	-0.4
	152nm,0.4s						
FAC	**Faja de Cima**	**0.45**	**130**	*e*P	Pg	08 15 03.4	-0.5
CML	**Cha da Macela**	**0.52**	**124**	*e*P	Pg	08 15 04.0	-1.3
CML				*e*S	Sg	08 15 11.0	-1.2
PVER	**Pico Vermelho**	**0.53**	**120**	*e*P	Pg	08 15 04.2	-1.2
PVER				*e*S	Sg	08 15 11.7	-0.7
	61nm,0.3s						
PMAT	**Coroa da Mata**	**0.55**	**117**	*e*S	Sg	08 15 12.0	-1.1
	60nm,0.3s						
LFA	**Lagoa do Fogo**	**0.56**	**121**	*e*P	Pg	08 15 05.3	-0.8
MESC	**Monte Escuro**	**0.58**	**118**	*e*P	Pg	08 15 05.4	-1.0
MESC				*e*S	Sg	08 15 13.3	-0.8
PRCH	**Ribeira Ch**	**0.59**	**125**	*e*S	Sg	08 15 13.3	-1.1
	90nm,0.3s						
VIF	**Vila Franca**	**0.60**	**122**	*e*S	Sg	08 15 14.0	-1.0
	19nm,0.3s						
PCNG	**Congro**	**0.62**	**118**	*e*S	Sg	08 15 14.7	-0.9
	48nm,0.3s						
PFAD	**Fenais da Ajud**	**0.65**	**110**	*e*S	Sg	08 15 14.5	-1.9
MIRA	**Miradouro**	**0.70**	**113**	*e*P	Pg	08 15 06.8	-2.0
PSCM	**Serra do Cume**	**1.03**	**309**	*e*P	Pb	08 15 11.9	-3.4
PSCM				*e*S	Sg	08 15 24.1	-5.1
	32nm,0.3s						

*IDC **14** 08:44:38.5±1.6,32.30N×101.73E,mb3.4/4,mb1 3.7/5, mb1mx3.5/20,mbtmp3.4/5,ML2.6/1,Error ellipse: s-maj=77.0km s-min=27.2km az=62.0*
*BJI **14** 08:44:41.5,32.27N×101.55E,h10km,mb4.6,ML3.7, Ms3.7,Msz3.2*
ISC 14 08:44:38.9±0.8,32.44N±0.04×101.79E±0.06,h10km,n10, σ0$98/15,mb3.6/3,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.27**	**132**	*i*PG	**Pg**	**08 45 23.6**	**-0.5**
CD2				SG	**Sg**	**08 45 55.0**	**+0.6**
CD2				Smax			
	comp=N,700nm,0.9s						
CD2				Smax			
	comp=E,300nm,0.8s						
LZH	**Lanzhou**	**4.01**	**24**	PG	**Pg**	**08 45 57.5**	**-1.5**
LZH				SG	**Sg**	**08 46 52.5**	**0.0**
LZH				Smax			
	comp=N,150nm,1.1s						
LZH				Smax			
	comp=E,300nm,1.2s						
LZH				LR	LR		
	comp=N,400nm,4.3s						
LZH				LR	LR		
	comp=Z,640nm,8.2s						
XAN	**Xi'an**	**6.18**	**73**	P	**Pn**	**08 46 13.4**	**+0.9**
XAN				PG	**Pg**	**08 46 38.0**	**-4.2**
XAN				S	**Sn**	**08 47 32.1**	**+8.1**
XAN				SG	**Sg**	**08 48 04.4**	**-0.2**
XAN				Smax			
	comp=N,30nm,0.8s						
XAN				Smax			
	comp=E,40nm,0.9s						
GTA	**Gaotai**	**7.14**	**348**	PG	Px	08 46 46.8	
GTA				SG	**Sg**	**08 48 26.9**	**-10**
GTA				Smax			
	comp=E,10.0nm,1.7s						
GTA				LR	LR		
	comp=N,160nm,8.7s						
GTA				LR	LR		
	comp=E,530nm,10.3s						
GTA				LR	LR		
	comp=Z,130nm,8.4s						
HHC	**Hu-ho-hao-te**	**11.48**	**40**	*e*P	**P**	**08 47 35.3**	**+9.4**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s						
SONM	**Songino Array**	**15.77**	**11**	Pn	**P**	**08 48 23.3**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=197,slow=15,SNR=2.5						
MKAR	**Makanchi Array**	**20.68**	**320**	P	**P**	**08 49 20.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=126,slow=12,SNR=2.3						
ZAL	**Zalesovo**	**24.68**	**336**	P	**P**	**08 50 01.9**	**+1.1**
	comp=Z,1.0nm,0.4s,mb3.7,baz=321,slow=14,SNR=3.9						
WRA	**Warramunga Arr**	**60.69**	**145**	P	**P**	**08 54 51.1**	**-1.8**
	comp=Z,0.9nm,0.9s,mb3.9,baz=336,slow=7.5,SNR=4.9						
YKA	**Yellowknife Ar**	**80.98**	**16**	P	**P**	**08 56 55.7**	**+1.2**
	comp=Z,0.2nm,0.8s,mb3.1,baz=333,slow=5.9,SNR=3.7						

IDC 14 09:00:01.0±3.5,51.97N×36.07E,mb3.2/1,mb1 3.5/4, mb1mx3.3/19,mbtmp3.3/4,ML3.5/3,Error ellipse: s-maj=51.2km s-min=16.4km az=135.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**4.47**	**256**	Pn	Pn	09 01 09.7	-2.0
	1.2nm,0.3s,baz=55,slow=11,SNR=5.4						
AKASG				Sn	Sn	09 01 60.0	-5.3
	2.6nm,0.3s,baz=64,slow=34,SNR=4.0						
AKASG				Lg		09 02 15.7	
	3.7nm,0.3s,baz=65,slow=30,SNR=5.5						
FINES	**FINESS Array B**	**10.96**	**334**	Pn	P	09 02 34.2	-7.8
	0.3nm,0.3s,baz=139,slow=12,SNR=6.6						
JOF	**Joensuu**	**11.27**	**349**	*ep*	P	09 02 44.7	-1.6
KAF	**Kangasniemi**	**11.46**	**336**	*ep*	P	09 02 47.3	-1.6
HFS	**Hagfors**	**14.88**	**312**	Pn	P	09 03 27.3	-6.8
	0.0nm,0.3s,baz=112,slow=16,SNR=4.6						
ARCES	**ARCESS Array B**	**18.32**	**348**	P	P	09 04 14.6	-3.3
	0.4nm,0.3s,baz=166,slow=10.0,SNR=15						
YKA	**Yellowknife Ar**	**63.55**	**345**	P	P	09 10 32.5	-2.3
	0.1nm,0.6s,baz=18,slow=6.8,SNR=5.2						

*MOS **14** 09:20:12.5±2.4,16.89S×170.33E,h10km,mb4.9/6,Error ellipse: s-maj=26.8km s-min=18.2km az=6.9*
*BJI **14** 09:20:30.2,14.60S×168.00E,h10km,mB5.3,mb4.8, Ms5.1,Msz4.8*
*H

24nm,0.8s,mb4.6
ARMA Armidale 21.64 221 *e*P **P 09 25 25.7 +3.0**
URZ Urewera 24.82 163 P **P 09 25 55.2 +1.3**
26nm,0.8s,mb4.8,baz=347,slow=2.5,SNR=12
STKA Stephens Creek 29.47 230 *e*P **P 09 26 37.3 +0.9**
32nm,0.9s,mb5.1
STKA Stephens Creek 29.47 230 P **P 09 26 37.8 +1.4**
26nm,0.6s,mb5.2,baz=39,slow=7.5,SNR=70
STKA LR LR 09 38 49.6
comp=Z,303nm,18.9s,MS3.9,baz=50,slow=37
RAR Rarotonga 31.38 107 LR LR 09 36 46.5
comp=Z,437nm,21.5s,MS4.1,baz=256,slow=31
WB2 Warramunga Arr 32.41 256‖ *i*P **P 09 27 01.7 -0.9**
WRAB Tennant Creek 32.41 256 *e*P **P 09 27 01.1 -1.5**
WRA Warramunga Arr 32.42 256 P **P 09 27 01.8 -0.9**
3.3nm,0.8s,mb4.2,baz=82,slow=7.0,SNR=42
ASPA Alice Springs 33.26 249 *e*P **P 09 27 08.6 -1.2**
GUMO Guam 36.21 320 LR LR 09 41 04.2
comp=Z,349nm,18.0s,MS4.2,baz=271,slow=34
FORT Forrest 39.83 239 *e*P **P 09 28 06.0 +0.7**
28nm,0.7s,mb5.1
FITZ Fitzroy Crossi 40.62 259 *e*P **P 09 28 11.8 -0.1**
12nm,0.9s,mb4.5
FITZ Fitzroy Crossi 40.62 259 P **P 09 28 12.3 +0.3**
9.3nm,0.9s,mb4.4,baz=84,slow=7.3,SNR=17
PPT Papeete 40.88 100 *e*S **S 09 34 17.0 -6.1**
PPT *e*LR LR 09 39 37.4
1µm,28.2s,baz=262
TBI Tubuai 41.08 109 *e*S **S 09 34 21.6 -4.5**
TBI *e*LQ 09 37 51.8
TBI *e*LR LR 09 39 43.5
857nm,27.2s,baz=273
MBWA Marble Bar 46.14 255 *e*P **P 09 28 56.6 -0.1**
42nm,1.3s,mb5.2
NWAO Narrogin (SRO) 49.28 239 P **P 09 29 21.1 0.0**
20nm,1.1s,mb5.1,baz=71,slow=11,SNR=5.5
NWAO LR LR 09 48 46.9
comp=Z,466nm,21.6s,MS4.4,baz=244,slow=34
TAOE Nuku Hiva Isla 51.09 90 *e*LR LR 09 44 04.4
1µm,28.7s
RKT Rikitea 54.40 108 *e*S **S 09 37 29.7 -4.4**
RKT *e*LR LR 09 45 51.1
524nm,29.2s
JOW Kunigami 56.46 317 P **P 09 30 13.9 -0.6**
19nm,0.5s,mb5.4,baz=27,slow=6.8,SNR=3.7
MJAR Matsushiro Arr 58.18 332 P **P 09 30 24.5 -2.0**
3.7nm,1.1s,mb4.3,baz=27,slow=2.8,SNR=4.7
VNDA Vanda 62.89 181 P **P 09 30 58.0 0.0**
6.7nm,1.3s,mb4.6,baz=16,slow=3.2,SNR=5.0
VNDA LR LR 09 57 24.8
comp=Z,45nm,18.0s,MS3.7,baz=88,slow=35
YSS Yuzh-Sakhalins 65.41 341 *e*P **P 09 31 13.6 -1.3**
YSS pmax pmax
comp=Z,39nm,1.7s,mb5.2
YSS MLR MLR
comp=Z,100nm,16.0s,MS4.1
NJ2 Nanjing 66.10 315 *e*P **P 09 31 22.8 +3.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
CN2 Changchun 69.95 329 *e*P **P 09 31 43.0 -0.3**
CN2 *e*XP sP 09 31 50.4 -6.9
CN2 *e*S S 09 40 53.3 +3.5
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.9
CN2 AMB AMB
comp=Z,150nm,3.0s
CN2 LR LR
comp=N,590nm,13.0s,MS5.1
CN2 LR LR
comp=E,430nm,13.0s,MS5.1
CN2 LR LR
comp=Z,500nm,15.0s,MS4.9
ENH Enshi 71.83 309 *e*P **P 09 31 54.2 -0.6**
KMI Kunming 74.82 302 P **P 09 32 14.8 +2.2**
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
QSPA South Pole Qui 75.31 180 *e*P **P 09 32 13.2 -1.1**
HHC Hu-ho-hao-te 75.98 319 *e*P **P 09 32 19.4 +0.6**
HHC AP pP 09 32 24.3 -4.8
HHC XP sP 09 32 27.0 -5.8
HHC PCP PcP 09 32 31.6 +0.1
HHC PP PP 09 35 11.0 -0.3
HHC S S 09 42 00.9 +2.7
HHC SKS SKS 09 42 24.4 +2.6
HHC SS SS 09 46 56.3 +2.2
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,190nm,5.2s
HHC LR LR
comp=N,190nm,13.1s,MS4.6
HHC LR LR
comp=E,110nm,15.5s,MS4.6
HHC LR LR
comp=Z,170nm,15.5s,MS4.5
LZH Lanzhou 78.77 312 *e*P **P 09 32 34.6 +0.1**
LZH AP pP 09 32 37.8 -7.1
LZH PP PP 09 35 35.1 +0.4
LZH *e*S S 09 42 31.8 +3.4
LZH XS 09 42 39.0
LZH SKS SKS 09 42 44.6 +2.6
LZH PS PS 09 43 16.5 +0.9
LZH *e*SS SS 09 47 39.8 +3.7
LZH AMB AMB
comp=Z,20nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,110nm,6.7s
LZH LR LR
comp=E,430nm,15.6s
LZH LR LR
comp=Z,580nm,18.3s,MS5.0
MAW Mawson 82.12 202 LR LR 10 06 06.1
comp=Z,57nm,19.9s,MS3.9,baz=244,slow=33
YAK Yakutsk 82.20 343 *i* P **P 09 32 49.3 -2.8**
YAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ULN Ulaanbaatar 82.49 324*d* *i*P **P 09 32 54.2 +0.3**
ULN Ulaanbaatar 82.49 324 *e*P **P 09 32 53.6 -0.4**
comp=Z,33nm,1.6s,mb5.0
BILL Bilibino 82.54 359 *e*P **P 09 32 50.4 -3.4**
BILL pmax pmax
comp=Z,4.0nm,1.6s,mb4.2
SONM Songino Array 82.85 323 P **P 09 32 56.3 +0.5**
comp=Z,2.5nm,1.0s,mb4.2,baz=115,slow=3.3,SNR=15
GTA Gaotai 83.11 314 *e*P **P 09 32 58.4 +1.2**
GTA AP pP 09 33 07.1 -0.6
GTA XP sP 09 33 11.3 +0.1
ZAK Zakamensk 85.90 325 *e*P **P 09 33 09.3 -1.7**
LSA Lhasa 86.08 302 *e*P **P 09 33 14.5 +2.2**
LSA Lhasa 86.08 302 P **P 09 33 13.4 +1.1**
COLA College 86.12 17 *e*P **P 09 33 04.3 -7.4**
COLA College 86.12 17 P **P 09 33 10.1 -1.6**
ILAR Eielson Array 86.33 18 P **P 09 33 11.9 -0.8**
comp=Z,1.4nm,0.7s,mb4.3,baz=244,slow=5.1,SNR=24
ILAR LR LR 10 09 45.5
comp=Z,96nm,18.1s,MS4.2,baz=180,slow=34
NVAR Mina Array Bea 86.80 49 P **P 09 33 16.1 +0.4**
comp=Z,2.2nm,1.1s,mb4.3,baz=240,slow=4.2,SNR=13
MNV Mina 86.91 49 *e*P **P 09 33 17.1 +0.9**
comp=Z,14nm,1.5s,mb5.0
TPNV Topopah Spring 87.80 51 *e*P **P 09 33 20.1 -0.4**
comp=Z,13nm,1.6s,mb4.9
LDFC Landfair 88.03 53 *e*P **P 09 33 20.7 -1.1**
NEN Nelson 88.43 53 *e*P **P 09 33 24.3 +0.8**
SYO Syowa Base 88.89 196‖ P **P 09 33 25.3 +0.3**
SYO Syowa Base 88.89 196‖ *e*P **P 09 33 25.3 +0.3**
ELK Elko 89.83 48 *e*P **P 09 33 31.0 +0.9**
comp=Z,7.8nm,1.5s,mb4.8
TIXI Tiksi 90.08 348 *e*P **P 09 33 25.4 -5.2**
TIXI pmax pmax
comp=Z,2.0nm,1.7s,mb4.2
TIXI MLR MLR
comp=Z,100nm,22.0s,MS4.2
ARUT Antelope Range 90.19 51 P **P 09 33 31.9 +0.1**
MSU Marysvale 91.36 51 *e*P **P 09 33 37.4 +0.1**
DUG Dugway 91.40 49 P **P 09 33 38.1 +0.6**
WMQ Urumqi 93.16 314 *e*P **P 09 33 46.0 +0.6**
WMQ AP pP 09 33 50.8 -5.3
WMQ XP sP 09 33 53.0 -6.4
WMQ PP PP 09 37 32.3 +0.6
WMQ AMB AMB
comp=Z,80nm,5.0s
WMQ LR LR
comp=N,460nm,20.0s,MS5.0
WMQ LR LR
comp=E,440nm,22.0s,MS5.0
WMQ LR LR
comp=Z,400nm,22.0s,MS4.8
PDAR Pinedale Array 94.49 47 LR LR 10 10 38.7
comp=Z,76nm,19.7s,MS4.2,baz=252,slow=32
TXAR Lajitas Array 95.73 61 P **P 09 33 58.0 +0.5**
comp=Z,0.3nm,0.7s,mb3.9,baz=230,slow=5.6,SNR=4.7
TXAR LR LR 10 15 01.4
comp=Z,92nm,18.0s,MS4.3,baz=205,slow=34
YKA Yellowknife Ar 97.25 27 P **P 09 34 02.7 -0.9**
comp=Z,0.9nm,0.9s,mb4.2,baz=254,slow=4.5,SNR=12
YKA LR LR 10 17 54.9
comp=Z,62nm,18.4s,MS4.1,baz=55,slow=35
YKA Yellowknife Ar 97.25 27 P **P 09 34 02.7 -0.9**
YKA LR LR 10 17 54.9
MKAR Makanchi Array 97.62 316 P **P 09 34 06.5 +0.9**
comp=Z,3.9nm,0.9s,mb4.9,baz=94,slow=6.2,SNR=13
ZAL Zalesovo 97.76 324 LR LR 10 23 01.3
comp=Z,57nm,18.0s,MS4.1,baz=147,slow=38
ARCES ARCESS Array B 120.40 346 PKP PKPdf 09 39 21.2 +0.2
comp=Z,2.5nm,0.8s,baz=90,slow=2.4,SNR=5.8
ARCES ARCESS Array B 120.40 346 PKP PKPdf 09 39 21.2 +0.2
SSF Saint Saulge 145.23 341 *e*PKP1 PKPbc 09 40 08.3 +0.4
comp=Z,24nm,0.9s
LPL La Plagne 145.43 336 *e*PKP1 PKPbc 09 40 09.6 +1.1
LPG La Plagne 145.44 336 *e*PKP1 PKPbc 09 40 09.7 +1.2
comp=Z,9.4nm,0.8s
SMF Signal de Mont 145.49 340 *e*PKP1 PKPbc 09 40 08.8 +0.2
AVF Avril sur Loir 145.51 341 *e*PKP1 PKPbc 09 40 09.0 +0.3
SGMF Saint Gilles 145.64 349 *e*PKP1 PKPbc 09 40 09.2 +0.3
comp=Z,97nm,1.2s
ROSF Rostrenen 145.69 350 *e*PKP1 PKPbc 09 40 10.6 +1.5
BNI Bardonecchia 145.84 336 *e*PKPdf PKPdf 09 40 10.8 +2.1
BGF Bois d'Agland 145.88 342 *e*PKP1 PKPbc 09 40 10.2 +0.6
MBDF Montbardon 146.07 336 *e*PKP1 PKPbc 09 40 10.9 +0.8
ORIF Oris-en-Rattie 146.26 337 *e*PKP1 PKPbc 09 40 11.8 +1.3
comp=Z,17nm,0.7s
ORIF *e*R
comp=Z,77nm,18.8s
MFF Saint Martin d 146.68 345 *e*PKP1 PKPbc 09 40 13.6 +2.2
comp=Z,34nm,1.0s
PGF Pioggiola 146.85 331 *e*PKP1 PKPbc 09 40 13.2 +1.2
comp=Z,94nm,1.1s
FRF La Foret Royal 147.09 335 *e*PKP1 PKPdf 09 40 14.0 +3.2
comp=Z,50nm,1.1s
SMRF Simiane la Rot 147.17 336 *e*PKP1 PKPdf 09 40 14.2 +3.3
RJF Les Rejaudoux 147.41 342 *e*PKP1 PKPdf 09 40 14.9 +3.6
MTLF Montolieu 148.95 340 *e*PKP1 PKPdf 09 40 19.1 +5.3
comp=Z,14nm,0.9s
SJPF Ste Jean 150.20 344 *e*PKP1 PKPdf 09 40 22.5 +6.7
comp=Z,46nm,1.3s
ETSF Etsaut 150.22 343 *e*PKP1 PKPdf 09 40 22.6 +6.8
TORD Torodi Ar. Bea 166.52 265 PKP PKPdf 09 40 37.0 +1.1
comp=Z,2.3nm,1.2s,baz=188,slow=1.6,SNR=5.9
TORD PKPab PKPab 09 41 39.4 -0.6
comp=Z,2.2nm,0.9s,baz=92,slow=2.3,SNR=9.7

NEIC ***14*** *09:53:34.6, 27.28S×70.59W, h69km, MD3.6(GUC), After GUC.*
GUC 14 09:53:34.6±0.7, 27.28S×70.59W, h69km±4km, MD3.1, ML3.4, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.22**	**110**	⇑*i*	P	09 53 45.4	+0.3
CPCH				*i*	S	09 53 53.4	+0.4
CPCH				AMP		09 53 54.5	
	comp=E,35µm,0.1s						
CDCH	**Caldera**	**0.30**	**314**	⇓*i*	P	09 53 45.7	0.0
CDCH				*i*	S	09 53 54.2	+0.3
CRCH	**Chaqaral**	**0.93**	**358**	⇓*i*	P	09 53 52.8	+0.4
CRCH				*i*	S	09 54 05.5	-0.1
CRCH				AMP		09 54 06.2	
	comp=E,554nm,0.3s						
CPN1	**Cerro Paranal**	**2.65**	**4**	AMP		09 54 48.5	
	comp=E,59nm,0.4s						
TLL	**Tololo Astrono**	**2.88**	**184**	⇑*i*	P	09 54 19.2	-0.1
TLL				AMP		09 55 16.4	
	comp=N,94nm,0.5s						

MOS ***14*** *10:32:05.4±1.9, 52.32N×159.53E, h33km, mb4.5/6, Error ellipse: s-maj=13.2km s-min=6.7km az=89.5*
KRSC ***14*** *10:32:07.9±0.7, 52.44N×159.57E, h13km±3km, ML4.7*
IDC ***14*** *10:32:09.3±3.1, 52.61N×159.33E, h42km±30km, mb3.9/18, mb1 4.1/20, mb1mx4.1/25, mbtmp4.1/20, ML4.0/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/21, Error ellipse: s-maj=21.5km s-min=12.6km az=163.0*
NEIC ***14*** *10:32:11.0±1.2, 52.57N×159.34E, h60km±9km, mb4.5/6, Error ellipse: s-maj=13.6km s-min=8.8km az=161.0*
ISC 14 10:32:08.8±0.6, 52.41N±0.05×159.54E±0.06, h60km±4km, n81, σ1s25/96, mb4.2/23, 6D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.63**	**273**	P	**P**	**10 32 21.6**	**-0.8**
RUS				S	**S**	**10 32 30.8**	**-1.6**
RUS	**Russkaya**	**0.63**	**273**	*i* P	**P**	**10 32 21.7**	**-0.7**
RUS				*i* S	**S**	**10 32 31.1**	**-1.3**
SPN	**Mys Shipunski**	**0.75**	**23**	P	**P**	**10 32 22.2**	**-1.6**
SPN				S	**S**	**10 32 31.8**	**-3.2**
SPN	**Mys Shipunski**	**0.75**	**23**	*i* P	**P**	**10 32 22.2**	**-1.6**
SPN				*i* S	**S**	**10 32 32.5**	**-2.5**
NLC	**Nalytchevo**	**0.78**	**351**	P	**P**	**10 32 22.8**	**-1.4**
NLC				S	**S**	**10 32 32.9**	**-2.6**
NLC	**Nalytchevo**	**0.78**	**351**	*i* P	**P**	**10 32 22.7**	**-1.5**
NLC				*i* S	**S**	**10 32 33.3**	**-2.2**
PET	**Petropavlovsk**	**0.82**	**319**	*i* P	**P**	**10 32 24.0**	**-0.7**
PET				*e*S	**S**	**10 32 35.0**	**-1.6**
PET	**Petropavlovsk**	**0.82**	**319**	⇓PN	**P**	**10 32 24.1**	**-0.6**
PET				*e*S	**S**	**10 32 35.6**	**-1.0**
PET				pmax	pmax		
	comp=E,1µm,0.6s						
PET				pmax	pmax		
	comp=N,2µm,0.7s						
PET				pmax	pmax		
	comp=Z,5µm,0.7s						
PET				pmax	pmax		
	comp=Z,5µm,0.7s						
PET				pmax	pmax		
	comp=E,2µm,0.5s						
PET				pmax	pmax		
	comp=N,3µm,0.7s						
PET				smax			
	comp=E,9µm,1.5s						
PET				smax			
	comp=E,5µm,1.0s						
PET				smax			
	comp=N,4µm,0.5s						
PET				smax			
	comp=N,4µm,0.7s						
PET	**Petropavlovsk**	**0.82**	**319**	*e*P	**P**	**10 32 23.9**	**-0.8**
GRL	**Gorelyy**	**0.91**	**280**	*i* P	**P**	**10 32 26.3**	**+0.4**
GRL				*e*S	**S**	**10 32 39.4**	**+0.8**
UGLR	**Uglovaya**	**0.92**	**332**	*i* P	**P**	**10 32 25.7**	**-0.3**
KRMR	**Karymshinskiy**	**0.96**	**297**	*i* P	**P**	**10 32 25.4**	**-1.2**
KRMR				*i* S	**S**	**10 32 39.0**	**-0.8**
SMAR	**Somma**	**0.97**	**333**	*i* P	**P**	**10 32 26.1**	**-0.6**
AVH	**Avacha**	**0.99**	**331**	*i* P	**P**	**10 32 26.8**	**-0.2**
AVH				*e*S	**S**	**10 32 40.3**	**-0.2**
KOK	**Koryaka**	**1.04**	**329**	*i* P	**P**	**10 32 27.5**	**-0.3**
APC	**Apacha**	**1.54**	**291**	*i* P	**P**	**10 32 35.7**	**+1.0**
APC				*i* S	**S**	**10 32 56.0**	**+2.2**
APC				Smax			
	comp=N,2µm,0.6s						
GNL	**Ganaly**	**1.61**	**324**	*i* P	**P**	**10 32 35.9**	**+0.3**
GNL				*i* S	**S**	**10 32 56.8**	**+1.4**
KII	**Karymskiy**	**1.63**	**358**	P	**P**	**10 32 36.6**	**+0.7**
MIPR	**Malaya Ipel'ka**	**1.71**	**267**	*i* P	**P**	**10 32 39.0**	**+2.0**
PAU	**Pauzhetka**	**1.94**	**242**	*e*P	**P**	**10 32 41.0**	**+0.9**
PAU				Smax			
	comp=N,2µm,0.6s						
TUMR	**Tumrok**	**2.91**	**7**	*e*P	**P**	**10 32 55.2**	**+1.4**
KMNR	**Kamenistaya**	**3.38**	**7**	*i* P	**P**	**10 33 01.8**	**+1.3**
ESO	**Esso**	**3.56**	**352**	*i* P	**P**	**10 33 04.1**	**+1.1**
ESO				Smax			
	comp=N,190nm,1.2s						
KPT	**Kopyto**	**3.59**	**6**	*e*P	**P**	**10 33 04.7**	**+1.3**
KOZ	**Kozyrevsk**	**3.67**	**3**	P	**P**	**10 33 05.9**	**+1.4**
KOZ	**Kozyrevsk**	**3.67**	**3**	*e*P	**P**	**10 33 06.0**	**+1.5**
KOZR	**Kozyr**	**3.67**	**3**	PN	**P**	**10 33 05.9**	**+1.3**
ZLN	**Zelenaya**	**3.69**	**11**	*e*P	**P**	**10 33 05.7**	**+0.8**
LGNR	**Loginova**	**3.75**	**10**	*e*P	**P**	**10 33 07.3**	**+1.7**
CIRR	**Tsirk**	**3.78**	**10**	*e*P	**P**	**10 33 07.7**	**+1.6**
SRDR	**Sredinnyy**	**3.92**	**1**	*e*P	**P**	**10 33 09.7**	**+1.6**
KLY	**Klyuchi**	**3.97**	**9**	P	**P**	**10 33 09.8**	**+1.1**
KLY	**Klyuchi**	**3.97**	**9**	*e*P	**P**	**10 33 09.6**	**+0.9**
KBTR	**Krutoberegovo**	**4.26**	**25**	P	**P**	**10 33 12.8**	**-0.1**
KBTR				S	**S**	**10 34 00.6**	**-1.3**
KBTR	**Krutoberegovo**	**4.26**	**25**	*e*P	**P**	**10 33 12.7**	**-0.2**
BDR	**Baidarnaya**	**4.28**	**12**	*e*P	**P**	**10 33 14.8**	**+1.7**
SRKR	**Sorokina**	**4.36**	**12**	*e*P	**P**	**10 33 15.5**	**+1.3**
BKI	**Bering**	**4.73**	**51**	*e*P	**P**	**10 33 16.9**	**-2.5**
BKI				Smax			
	comp=N,70nm,0.5s						
FX1	**Attu Island--F**	**8.30**	**81**	P	**P**	**10 34 07.4**	**-1.5**
	comp=N,4.9nm,0.3s,baz=269,slow=14,SNR=8.7						
FX1				S	**S**	**10 35 33.8**	**-8.3**
	comp=N,9.3nm,0.3s,baz=76,slow=22,SNR=7.7						
MA2	**Magadan**	**8.70**	**329**	‖*i* PN	**P**	**10 34 11.0**	**-3.4**
MA2				pmax	pmax		
	comp=Z,57nm,1.4s						
KAMR	**Kamenskoye**	**10.69**	**17**	*i* P	**P**	**10 34 43.5**	**+2.1**
YSS	**Yuzh-Sakhalins**	**12.16**	**250**	*e*PN	**P**	**10 34 56.8**	**-4.4**
YSS				pmax	pmax		
	comp=Z,85nm,1.7s						
YSS				MLR	MLR		
	comp=Z,100nm,18.0s						
ASAJ	**Asahikawa**	**13.98**	**240**	P	**P**	**10 35 25.8**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=96,slow=27,SNR=11						
ASAJ				LR	LR	10 40 20.4	
	comp=Z,72nm,21.1s,baz=32,slow=35						
ASAJ	**Asahikawa**	**13.98**	**240**	P	**P**	**10 35 25.8**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,72nm,21.1s						
BILL	**Bilibino**	**16.02**	**9**	*e*P	**P**	**10 35 51.3**	**+0.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s						
YAK	**Yakutsk**	**18.65**	**313***d*	*i*P	**P**	**10 36 24.1**	**+0.3**
YAK				pmax	pmax		
	comp=Z,51nm,0.8s						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s						
YAK	**Yakutsk**	**18.65**	**313**	*e*P	**P**	**10 36 23.2**	**-0.6**
	comp=Z,51nm,0.8s						
MJAR	**Matsushiro Arr**	**21.86**	**232**	P	**P**	**10 36 59.2**	**+1.5**
	comp=Z,3.5nm,0.6s,mb4.0,baz=18,slow=12,SNR=9.6						
TIXI	**Tiksi**	**23.57**	**336**‖	*i*P	**P**	**10 37 14.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,200nm,20.0s						
COLA	**College**	**29.13**	**44**	*e*P	**P**	**10 38 01.7**	**-3.9**
ILAR	**Eielson Array**	**29.54**	**44**	P	**P**	**10 38 07.6**	**-1.7**
	comp=Z,1.5nm,0.7s,mb3.8,baz=262,slow=7.4,SNR=17						
SONM	**Songino Array**	**33.74**	**284**	P	**P**	**10 38 45.1**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=63,slow=8.3,SNR=3.5						
SONM				PcP	PcP	10 41 25.0	+0.3
	comp=Z,1.1nm,0.7s,baz=87,slow=1.4,SNR=8.4						
SONM				LR	LR	10 54 09.1	
	comp=Z,77nm,18.8s,baz=100,slow=39						
INK	**Inuvik**	**34.62**	**37**	P	**P**	**10 38 53.6**	**0.0**
	comp=Z,2.7nm,0.8s,mb4.2,baz=287,slow=7.2,SNR=22						
INK	**Inuvik**	**34.62**	**37**	P	**P**	**10 38 53.6**	**0.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**34.62**	**37**	*e*P	**P**	**10 38 53.5**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**43.90**	**42**	P	**P**	**10 40 10.9**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.0,baz=299,slow=8.0,SNR=26						
RES	**Resolute Bay**	**44.09**	**22**	*e*P	**P**	**10 40 11.7**	**-0.2**
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
RES	**Resolute Bay**	**44.09**	**22**	*e*P	**P**	**10 40 11.7**	**-0.2**
	comp=Z,3.2nm,0.9s,mb4.0						
KURK	**Kurchatov**	**47.81**	**302**	*e*P	**P**	**10 40 40.0**	**-1.7**
MKAR	**Makanchi Array**	**48.15**	**296**	P	**P**	**10 40 42.7**	**-1.7**
	comp=Z,0.7nm,0.6s,mb3.9,baz=58,slow=6.7,SNR=10						
MKAR				LR	LR	11 00 25.2	
	comp=Z,36nm,18.1s,baz=89,slow=35						
MKAR	**Makanchi Array**	**48.15**	**296**	P	**P**	**10 40 42.7**	**-1.7**
MKAR				LR	LR	11 00 25.2	
CHKZ	**Chkalovo**	**50.05**	**309**	*e*P	**P**	**10 40 56.1**	**-2.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**50.05**	**309**	*e*P	**P**	**10 40 56.1**	**-2.8**
	comp=Z,3.3nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**50.56**	**309**	P	**P**	**10 41 00.4**	**-2.4**
	comp=Z,2.9nm,0.7s,mb4.3,baz=54,slow=8.9,SNR=8.4						
BVAR				PcP	PcP	10 42 18.7	-1.3
	comp=Z,0.7nm,0.6s,baz=77,slow=5.6,SNR=2.8						
ARU	**Arti**	**53.68**	**317**‖	*i*P	**P**	**10 41 25.0**	**-1.1**
ARU				*e*		10 42 28.9	
ARU				*e*		10 43 22.7	
ARU				*e*S	**S**	**10 48 58.0**	**+4.3**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**53.84**	**342**	P	**P**	**10 41 25.4**	**-1.7**
	comp=Z,2.4nm,0.7s,mb4.2,baz=45,slow=7.7,SNR=4.4						
SUMG	**Summit**	**54.68**	**7**	*e*P	**P**	**10 41 33.6**	**+0.3**
	comp=Z,12nm,0.8s,mb5.0						
NVAR	**Mina Array Bea**	**56.30**	**69**	P	**P**	**10 41 45.8**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=314,slow=6.7,SNR=5.2						
PDAR	**Pinedale Array**	**58.15**	**60**	P	**P**	**10 41 59.2**	**+0.9**
	comp=Z,2.3nm,0.7s,mb4.3,baz=324,slow=2.8,SNR=18						
ULM	**Lac du Bonnet**	**59.54**	**46**	P	**P**	**10 42 08.0**	**+0.2**
	comp=Z,1.0nm,0.4s,mb4.2,baz=297,slow=7.5,SNR=4.6						
FINES	**FINESS Array B**	**60.62**	**336**	P	**P**	**10 42 13.9**	**-1.1**
	comp=Z,2.1nm,0.7s,mb4.4,baz=37,slow=9.5,SNR=6.5						
HNR	**Honiara**	**61.59**	**180**	LR	LR	11 03 52.1	
	comp=Z,68nm,21.1s,baz=82,slow=31						
NB2	**NORSAR Subarra**	**64.11**	**343**	P	**P**	**10 42 37.1**	**-1.0**
	comp=Z,2.9nm,0.5s,mb4.6,baz=22,slow=6.5						
NB2	**NORSAR Subarra**	**64.11**	**343**	P	**P**	**10 42 37.1**	**-1.0**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
NOA	**NORSAR Array B**	**64.11**	**343**	P	**P**	**10 42 37.4**	**-0.7**
	comp=Z,4.9nm,0.7s,mb4.7,baz=21,slow=6.7,SNR=19						
AKASG	**Malin Array Be**	**69.03**	**329**	P	**P**	**10 43 08.2**	**-1.3**
	comp=Z,2.2nm,0.5s,mb4.4,baz=27,slow=6.4,SNR=7.7						
TXAR	**Lajitas Array**	**71.22**	**66**	P	**P**	**10 43 24.3**	**+1.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=298,slow=4.3,SNR=27						
KHC	**Kasperske Hory**	**74.78**	**338**‖	*i*P	**P**	**10 43 44.5**	**+0.9**
GERES	**GERESS Array B**	**75.02**	**337**	P	**P**	**10 43 45.4**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=35,slow=5.6,SNR=12						
GERES				LR	LR	11 17 44.0	
	comp=Z,56nm,19.9s,baz=297,slow=37						
WRA	**Warramunga Arr**	**75.31**	**204**	P	**P**	**10 43 48.1**	**+0.9**
	comp=Z,1.4nm,1.0s,mb3.9,baz=20,slow=6.2,SNR=7.2						
BRTR	**Keskin Array B**	**76.94**	**320**	P	**P**	**10 43 55.5**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.0,baz=49,slow=2.9,SNR=5.9						

IDC ***14*** *10:38:21.9±1.4, 19.49S×177.47W, h536km±16km, mb3.6/8, mb1 3.7/11, mb1mx3.5/20, mbtmp4.6/11, Error ellipse: s-maj=19.5km s-min=12.3km az=138.0*
NEIC ***14*** *10:38:22.6±0.8, 19.48S×177.57W, h544km±9km, mb4.7/3, Error ellipse: s-maj=16.7km s-min=8.9km az=146.0*
ISC 14 10:38:21.3±0.9, 19.5S±0.1×177.6W±0.1, h541km±17km, n37, σ1s07/20, mb4.1/9, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.82**	**46**	P	**P**	**10 40 18.3**	**+0.5**
	4.0nm,0.3s,baz=149,slow=23,SNR=8.2						
AFI				S	**S**	**10 41 49.7**	**-0.9**
	10nm,0.3s,baz=41,slow=23,SNR=12						
DZM	**Mont Dzumac**	**15.18**	**257**	P	**P**	**10 41 34.9**	**+2.5**
	0.6nm,0.3s,baz=76,slow=19,SNR=9.7						
URZ	**Urewera**	**19.30**	**193**	P	**P**	**10 42 10.9**	**-1.2**
	4.1nm,0.3s,baz=300,slow=1.2,SNR=24						
RPZ	**Rata Peaks**	**26.01**	**199**	P	**P**	**10 43 13.5**	**+0.7**
	6.3nm,0.6s,mb4.4,baz=24,slow=18,SNR=3.6

STKA	**Stephens Creek**	**38.62**	**243**	P		**P**		**10**	**45**	**00.7**	**+1.4**
	5.7nm,0.6s,mb4.3,baz=83,slow=8.3,SNR=15										
STKA	**Stephens Creek**	**38.62**	**243**	*e*P		**P**		**10**	**44**	**60.0**	**+0.7**
WB2	**Warramunga Arr**	**45.15**	**261**	⇓*i*P		**P**		**10**	**45**	**50.1**	**-1.2**
WRA	**Warramunga Arr**	**45.16**	**261**	P		**P**		**10**	**45**	**50.4**	**-1.0**
	6.7nm,0.3s,mb4.7,baz=97,slow=7.6,SNR=297										
WRA				PcP		PcP		10	47	19.7	-0.9
	1.6nm,0.8s,baz=96,slow=3.6,SNR=5.5										
ASPA	**Alice Springs**	**45.17**	**256**	*e*P		**P**		**10**	**45**	**51.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.58**	**261**	*e*P		**P**		**10**	**46**	**52.8**	**-1.0**
	7.3nm,1.7s,mb3.7										
MBWA	**Marble Bar**	**58.49**	**257**	*e*P		**P**		**10**	**47**	**26.2**	**-1.4**
MAW	**Mawson**	**82.68**	**200**	P		**P**		**10**	**49**	**48.6**	**+0.1**
	1.3nm,0.6s,mb3.6,baz=124,slow=7.3,SNR=5.1										
TXAR	**Lajitas Array**	**86.15**	**57**	P		**P**		**10**	**50**	**08.2**	**+1.8**
	0.3nm,0.7s,mb3.0,baz=214,slow=4.5,SNR=4.2										
ILAR	**Eielson Array**	**87.21**	**13**	P		**P**		**10**	**50**	**10.4**	**0.0**
	0.6nm,0.6s,mb3.4,baz=228,slow=5.2,SNR=12										
MKAR	**Makanchi Array**	**110.78**	**314**	PKIKP				10	55	52.7	
	0.5nm,0.4s,baz=270,slow=1.2,SNR=5.0										
MKAR	**Makanchi Array**	**110.78**	**314**	PKPdf		PKPdf		10	55	52.7	+0.5
BVAR	**Borovoye Array**	**118.54**	**320**	PKP		PKPdf		10	56	07.9	+0.7
	1.4nm,0.3s,baz=121,slow=2.0,SNR=9.7										
AKTK	**Aktyubinsk**	**126.56**	**319**	PKP		PKPdf		10	56	23.9	+1.1
AKTO	**Aktyubinsk**	**126.56**	**319**	PKP		PKPdf		10	56	23.9	+1.1
	0.9nm,0.7s,baz=90,slow=6.1,SNR=3.5										
ARCES	**ARCESS Array B**	**127.97**	**350**	PKP		PKPdf		10	56	25.9	+0.9
	1.5nm,0.5s,baz=117,slow=2.7,SNR=4.0										
AKASG	**Malin Array Be**	**142.29**	**332**	PKhKP				10	56	49.0	
	1.2nm,0.5s,baz=40,slow=3.6,SNR=7.5										
BSEG	**Bad Segeberg**	**145.05**	**352**	*e*PKPbc		PKPbc		10	56	58.9	+1.7
BR131	**Keskin Array S**	**146.43**	**314**	*e*PKPdf		PKPdf		10	57	02.7	+3.6
BRTR	**Keskin Array B**	**146.43**	**314**	PKPbc		PKPbc		10	57	03.1	+2.1
	2.9nm,0.6s,baz=131,slow=4.1,SNR=12										
CLZ	**Clausthal**	**147.08**	**351**	*e*PKPab		PKPab		10	57	08.1	-0.6
VYHS	**Vyhne**	**148.14**	**339**	*e*PKP		PKPdf		10	57	07.6	+6.0
TNS	**Taunus Mts**	**148.93**	**353**	*e*PKPbc		PKPdf		10	57	09.7	+6.9
GEC2	**GERESS Array S**	**149.30**	**345**	*e*PKPbc		PKPdf		10	57	10.4	+7.0
GERES	**GERESS Array B**	**149.30**	**345**	PKPbc		PKPdf		10	57	10.3	+6.9
	2.6nm,0.7s,baz=45,slow=1.9,SNR=14										
BFO	**Black Forest**	**150.80**	**352**	*e*PKPbc		PKPdf		10	57	14.0	+8.2
DBIC	**Dimbokro**	**165.45**	**150**	PKP		PKPdf		10	57	25.5	+1.5
	3.0nm,1.0s,baz=214,slow=1.4,SNR=3.6										
TORD	**Torodi Ar. Bea**	**173.69**	**173**	PKP		PKPdf		10	57	29.1	+0.4
	0.6nm,1.0s,baz=268,slow=0.6,SNR=3.9										

GUC **14** *10:52:07.7±1.0,31.07S×71.80W,h54km±13km,ML5.5*
MOS **14** *10:52:07.5±1.1,31.06S×71.58W,h63km,mb5.6/24,Error ellipse: s-maj=14.3km s-min=6.5km az=101.5*
BJI **14** *10:52:08.5,31.00S×71.60W,h57km,mB5.2,Ms5.2, Msz5.1*
HRVD **14** *10:52:08.6±0.2,31.22S×72.05W,h58km±2km,MW5.3/71, Centroid moment Tensor Solution. LP body waves: s68,c104;Mantle waves: s71,c129; Half duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr=0.27±.03; Mθθ0.23±.02; Mφφ0.04±.03; Mrθ-0.12±.02; Mθφ0.43±.02; Mφr-0.98±.03; Best double couple: M0 1.108×10^17 NP1: φs266°, δ24°, λ-18°. NP2:φs12°, δ83°, λ-113°. Principal axes: T 1.081, Plg34°, Azm122°; N .055, Plg23°, Azm15°; P -1.135, Plg47°, Azm258°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC **14** *10:52:08.5±0.5,30.99S×71.84W,h56km±4km,mb4.6/12, mb1 4.8/16,mb1mx4.8/18,mbtmp5.0/16,MS4.4/13, Ms1 4.4/13,ms1mx4.3/19 Error ellipse: s-maj=13.9km s-min=10.0km az=26.0*
NEIC **14** *10:52:08.6±0.1,31.05S×71.61W,mb5.2/49,Error ellipse: s-maj=5.5km s-min=2.3km az=73.0*
NEIC Felt [V] at Illapel; [IV] at Ovalle; [III] at Valparaiso and Vina del Mar; [II] at Santiago.
ISC 14 10:52:07.2±0.2,31.07S±0.02×71.80W±0.04,h57km, h57km±.9km:pP-P,n209,σ0s93/189,mb5.1/61,MS4.6/12, 23C-11D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
CMCH	**Cambarbala**	**0.69**	**99**	⇑*i*P		**P**	**10**	**52 22.1**	**+0.9**
CMCH				*i*S		**S**	**10**	**52 33.2**	**+1.6**
CMCH				AMP			10	52 36.8	
	comp=E,768μm,0.9s								
ILCH	**Illapel**	**0.78**	**137**	⇑*i*P		**P**	**10**	**52 23.1**	**+0.7**
ILCH				*i*S		**S**	**10**	**52 34.3**	**+0.6**
ILCH				AMP			10	52 35.3	
	comp=E,358μm,0.5s								
CHNG	**Los Chungos**	**0.85**	**163**	⇑*i*P		**P**	**10**	**52 23.7**	**+0.4**
CHNG				*i*S		**S**	**10**	**52 35.4**	**+0.1**
CHNG				AMP			10	52 36.7	
	comp=E,192μm,0.6s								
TLL	**Tololo Astrono**	**1.24**	**44**	⇓*i*P		**P**	**10**	**52 29.5**	**+0.9**
TLL				*i*S		**S**	**10**	**52 46.2**	**+1.7**
TLL				AMP			10	52 50.2	
	comp=N,129μm,0.7s								
LSCH	**La Serena**	**1.25**	**23**	⇑*i*P		**P**	**10**	**52 29.7**	**+1.0**
LSCH				*i*S		**S**	**10**	**52 45.4**	**+0.6**
LSCH				AMP			10	52 49.0	
	comp=N,109μm,0.7s								
PACH	**Papudo**	**1.50**	**168**	⇑*i*P		**P**	**10**	**52 32.4**	**+0.1**
JACH	**Jahuel**	**1.91**	**148**	⇓*i*P		**P**	**10**	**52 38.8**	**+0.8**
ROCH	**El Roble**	**2.02**	**161**	⇓*i*P		**P**	**10**	**52 39.9**	**+0.4**
PEL	**Peldehue**	**2.28**	**156**	⇑*i*P		**P**	**10**	**52 43.6**	**+0.4**
PEL				*i*S		**S**	**10**	**53 10.1**	**0.0**
PEL				AMP			10	53 19.1	
	comp=N,67μm,0.4s								
LCCH	**Las Cruces**	**2.41**	**175**	⇓*i*P		**P**	**10**	**52 44.7**	**-0.4**
CLCH	**Cerro Calan**	**2.56**	**156**	⇑*i*P		**P**	**10**	**52 48.1**	**+0.9**
CLCH				*i*S		**S**	**10**	**53 17.7**	**+0.5**
CLCH				AMP			10	53 32.8	
	comp=E,57μm,0.4s								
RCDM	**Rinconada Maip**	**2.56**	**161**	*e*P		**P**	**10**	**52 47.2**	**0.0**
RCDM				*i*S		**S**	**10**	**53 17.0**	**-0.3**
RCDM				AMP			10	53 19.9	
	comp=E,18μm,0.1s								
STL	**Santa Lucia**	**2.56**	**158**	⇓*i*P		**P**	**10**	**52 47.5**	**+0.3**
STL				*i*S		**S**	**10**	**53 17.3**	**+0.1**
STL				AMP			10	53 30.3	
	comp=N,12μm,0.7s								
SAN	**Santiago**	**2.57**	**158**	*e*P		**P**	**10**	**52 47.3**	**-0.1**
SAN				*i*S		**S**	**10**	**53 17.3**	**-0.2**
SAN				AMP			10	53 31.3	
	comp=N,21μm,0.6s								
FCH	**Farellones**	**2.59**	**151**	⇑*i*P		**P**	**10**	**52 48.4**	**+0.7**
FCH				AMP			10	53 22.5	
	comp=E,18μm,0.4s								
TACH	**Talagante**	**2.68**	**164**	⇑*i*P		**P**	**10**	**52 49.1**	**+0.2**
ANTU	**Antumapu**	**2.69**	**159**	⇑*i*P		**P**	**10**	**52 49.1**	**+0.1**
ANTU				*i*S		**S**	**10**	**53 20.1**	**-0.4**
ANTU				AMP			10	53 38.4	
	comp=N,22μm,0.6s								
SJCH	**San Jose de Ma**	**2.84**	**155**	⇑*i*P		**P**	**10**	**52 50.8**	**-0.5**
SJCH				*i*S		**S**	**10**	**53 23.6**	**-0.9**
SJCH				AMP			10	53 36.1	
	comp=N,11μm,0.4s								
CHCH	**Chadas Angostu**	**3.02**	**162**	⇓*i*P		**P**	**10**	**52 53.6**	**-0.1**
LMEL	**Las Melosas**	**3.08**	**155**	⇑*i*P		**P**	**10**	**52 55.2**	**+0.5**
LMEL				*i*S		**S**	**10**	**53 30.6**	**0.0**
LMEL				AMP			10	53 47.0	
	comp=N,14μm,0.6s								
CFAA	**Coronel Fontan**	**3.09**	**101**	P		**P**	**10**	**52 56.9**	**+2.0**
	comp=N,29nm,0.3s,baz=275,slow=17,SNR=954								
CFAA				S		**S**	**10**	**53 34.0**	**+3.2**
	comp=N,119nm,0.3s,baz=179,slow=20,SNR=9.1								
CFAA				LR		LR	10	54 18.3	
	comp=N,2μm,20.0s,baz=309,slow=41								
CACH	**El Canelo**	**3.21**	**162**	⇑*i*P		**P**	**10**	**52 56.8**	**+0.4**
CICH	**Cipreses**	**3.45**	**161**	⇓*i*P		**P**	**10**	**53 00.0**	**+0.2**
SFDO	**San Fernando**	**3.60**	**170**	⇓*i*P		**P**	**10**	**53 01.2**	**-0.7**
CPCH	**Copiapo**	**3.90**	**19**	⇑*i*P		**P**	**10**	**53 05.2**	**-1.0**
CPCH				*i*S		**S**	**10**	**53 49.9**	**-1.2**
PLCA	**Paso Flores**	**9.70**	**174**	P		**P**	**10**	**54 24.7**	**-1.9**
	comp=N,11nm,0.3s,baz=342,slow=12,SNR=248								
PLCA				LR		LR	10	58 05.9	
	comp=N,1μm,20.4s,baz=348,slow=37								
PLCA	**Paso Flores**	**9.70**	**174**	*e*P		**P**	**10**	**54 24.0**	**-2.6**
	comp=N,0.1nm,0.2s								
TRQA	**Tornquist**	**10.68**	**133**	*e*P		**P**	**10**	**54 37.1**	**-2.8**
	comp=N,326nm,1.0s								
LPA	**La Plata**	**12.26**	**112**	*ce*P		**P**	**10**	**54 57.0**	**-4.2**
LPA				*es*P			10	55 15.0	
CPUP	**Villa Florida**	**13.54**	**73**	*e*P		**P**	**10**	**55 13.5**	**-4.7**
CPUP				pmax		pmax			
	comp=Z,26nm,1.7s								
CPUP	**Villa Florida**	**13.54**	**73**	*e*P		**P**	**10**	**55 13.5**	**-4.8**
	comp=Z,26nm,1.7s								
ARE	**Arequipa**	**14.54**	**1**	*e*P		**P**	**10**	**55 32.0**	**+0.7**
ARE				*e*			10	59 25.0	
LPAZ	**La Paz**	**15.09**	**14**	P		**P**	**10**	**55 39.9**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=175,slow=9.6,SNR=62								
LPAZ	**La Paz**	**15.09**	**14**	*e*P		**P**	**10**	**55 34.5**	**-3.9**
LPAZ				pmax		pmax			
	comp=Z,132nm,0.7s								
LPAZ	**La Paz**	**15.09**	**14**	*e*P		**P**	**10**	**55 34.5**	**-3.9**
	comp=Z,132nm,0.7s								
LPAZ				*e*			10	55 39.7	
LPAZ				P			10	55 39.9	
SIV	**San Ignacio**	**17.92**	**36**	P		**P**	**10**	**56 12.1**	**-2.0**
	comp=Z,2.8nm,0.3s,baz=224,slow=11,SNR=75								
USHA	**Ushuaia**	**23.88**	**175**	P		**P**	**10**	**57 17.0**	**+0.9**
	comp=Z,48nm,0.9s,mb4.9,baz=326,slow=5.9,SNR=19								
USHA				LR		LR	11	07 02.2	
	comp=Z,767nm,19.4s,MS4.2,baz=338,slow=37								
BDFB	**Brasilia**	**26.61**	**60**	P		**P**	**10**	**57 40.9**	**-1.4**
	comp=Z,307nm,1.0s,mb5.8,baz=242,slow=6.7,SNR=130								
BDFB				LR		LR	11	09 19.7	
	comp=Z,3μm,18.2s,MS4.9,baz=231,slow=39								
BAO	**Brasilia Array**	**26.63**	**60**	P		**P**	**10**	**57 41.0**	**-1.5**
OTAV	**Otavalo**	**31.77**	**347**	*e*P		**P**	**10**	**58 30.6**	**+2.2**
	comp=Z,30nm,1.4s,mb4.9								
SDV	**Santo Domingo**	**39.74**	**2**	LR		LR	11	15 04.5	
	comp=Z,212nm,19.4s,MS4.0,baz=207,slow=35								
SDV	**Santo Domingo**	**39.74**	**2**	*e*P		**P**	**10**	**59 35.5**	**-0.5**
	comp=Z,17nm,0.8s,mb4.8								
CPD	**Cerro la Pandu**	**49.15**	**7**	*e*P		**P**	**11**	**00 49.6**	**-1.9**
CPD				*e*		pP	11	01 05.5	-0.9
SJG	**San Juan**	**49.19**	**7**	*e*P		**P**	**11**	**00 50.4**	**-1.4**
SJG				pmax		pmax			
	comp=Z,29nm,0.7s								
SJG	**San Juan**	**49.19**	**7**	*e*P		**P**	**11**	**00 50.4**	**-1.5**
	comp=Z,29nm,0.7s,mb5.4								
VNA3	**Neumayer Olymp**	**52.00**	**159**	⇑*i*P		**P**	**11**	**01 11.8**	**-0.7**
VNA3				*e*		pP	11	01 25.7	-1.8
VNA3				*e*			11	01 33.6	
VNA1	**Neumayer--Stat**	**52.30**	**158**	⇑*i*P		**P**	**11**	**01 14.3**	**-0.4**
VNA1				*e*		pP	11	01 28.7	-1.0
VNA1				*e*			11	01 35.2	
VNA2	**Neumayer--Watz**	**52.64**	**158**	⇑*i*P		**P**	**11**	**01 16.4**	**-0.9**
VNA2				*e*		pP	11	01 31.6	-0.7
VNA2				*e*			11	01 38.7	
SNAA	**Sanae**	**54.23**	**159**	⇑*i*P		**P**	**11**	**01 27.6**	**-1.4**
SNAA				*e*		pP	11	01 42.4	-1.7
SNAA				*e*			11	01 48.8	
RKT	**Rikitea**	**56.15**	**262**	*e*LR		LR	11	17 52.9	
	comp=Z,919nm,27.8s,baz=134								
NVL	**N'lazarevskaya**	**58.94**	**157**	⇓*i*P		**P**	**11**	**02 00.2**	**-2.3**
NVL				*e*PP		pP	11	02 15.2	-2.6
NVL				*e*SP		sP	11	02 21.9	-2.5
NVL				*e*PPP		PPP	11	05 35.8	-3.8
NVL				pmax		pmax			
	comp=Z,2.0nm,1.2s,mb4.0								
GOGA	**Godfrey**	**65.07**	**349**	*e*P		**P**	**11**	**02 42.6**	**-1.4**
GOGA				pmax		pmax			
	comp=Z,25nm,1.0s,mb5.2								
GOGA	**Godfrey**	**65.07**	**349**	*e*P		**P**	**11**	**02 42.6**	**-1.5**
	comp=Z,25nm,1.0s,mb5.2								
SBA	**Scott Base**	**65.98**	**191**	*e*P		**P**	**11**	**02 49.7**	**+0.5**
NATX	**Nacogdoches**	**66.13**	**339**	*e*P		**P**	**11**	**02 50.8**	**-0.1**
JCT	**Junction City**	**66.74**	**334**	*e*P		**P**	**11**	**02 54.3**	**-0.4**
JCT				*e*PP		pP	11	03 10.1	-0.2
JCT				pmax		pmax			
	comp=Z,107nm,1.4s,mb5.7								
JCT	**Junction City**	**66.74**	**334**	*e*P		**P**	**11**	**02 54.3**	**-0.4**
	comp=Z,107nm,1.4s,mb5.7								
JCT				*ep*P		pP	11	03 10.1	-0.3
TAOE	**Nuku Hiva Isla**	**66.96**	**273**	*e*S		S	11	11 53.2	+9.5
TAOE				*e*LR		LR	11	22 56.7	
	comp=Z,2μm,31.7s,baz=116								
VNDA	**Vanda**	**67.01**	**191**	P		**P**	**11**	**02 56.0**	**+0.4**
	comp=Z,5.1nm,1.0s,mb4.5,baz=116,slow=6.0,SNR=10								
VNDA	**Vanda**	**67.01**	**191**	*e*P		**P**	**11**	**02 55.8**	**+0.1**
VNDA				pmax		pmax			
	comp=Z,11nm,1.2s								
VNDA	**Vanda**	**67.01**	**191**	*e*P		**P**	**11**	**02 55.8**	**+0.1**
	comp=Z,11nm,1.2s,mb4.8								
SWET	**Sewanee**	**67.26**	**347**	*e*P		**P**	**11**	**02 55.6**	**-2.3**
SWET				*ep*P		pP	11	03 12.9	-0.6
LTX	**Lajitas**	**67.29**	**330**	*e*P		**P**	**11**	**02 57.8**	**-0.4**
LTX				*e*PP		pP	11	03 14.1	+0.3
LTX				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.7								
LTX	**Lajitas**	**67.29**	**330**	*e*P		**P**	**11**	**02 57.8**	**-0.4**
	comp=Z,5.5nm,0.7s,mb4.7								
LTX				*ep*P		pP	11	03 14.1	+0.3
TXAR	**Lajitas Array**	**67.29**	**330**	P		**P**	**11**	**02 57.9**	**-0.3**
	comp=Z,9.0nm,0.8s,mb4.8,baz=151,slow=8.7,SNR=82								
TXAR				LR		LR	11	27 43.5	
	comp=Z,300nm,18.5s,MS4.5,baz=100,slow=32								
OXF	**Oxford**	**67.31**	**344**	*e*P		**P**	**11**	**02 56.7**	**-1.5**
OXF				*e*PP		pP	11	03 09.5	-4.3
OXF				pmax		pmax			
	comp=Z,154nm,1.1s,mb6.0								
OXF	**Oxford**	**67.31**	**344**	*e*P		**P**	**11**	**02 56.7**	**-1.5**
	comp=Z,154nm,1.1s,mb6.0								
OXF				*ep*P		pP	11	03 09.5	-4.3
TBI	**Tubuai**	**68.23**	**255**	*e*S		S	11	12 07.9	+9.0
TBI				*e*LR		LR	11	23 31.3	
	comp=Z,1μm,29.8s,baz=109								
WVT	**Waverly**	**68.51**	**346**	*e*P		**P**	**11**	**03 04.3**	**-1.4**
WVT				*e*PP		pP	11	03 18.2	-3.2
WVT				pmax		pmax			
	comp=Z,105nm,1.4s,mb5.6								
WVT	**Waverly**	**68.51**	**346**	*e*P		**P**	**11**	**03 04.3**	**-1.4**
	comp=Z,105nm,1.4s,mb5.6								
WVT				*ep*P		pP	11	03 18.2	-3.2
SYO	**Syowa Base**	**68.52**	**159**	⇑P		**P**	**11**	**03 03.3**	**-1.9**
SYO	**Syowa Base**	**68.52**	**159**	⇑sP		sP	11	03 23.0	-4.0
SYO	**Syowa Base**	**68.52**	**159**	⇑*e*P		**P**	**11**	**03 03.3**	**-1.9**
SYO				⇑*es*P		sP	11	03 23.0	-4.0
UTMT	**University of**	**68.94**	**345**	*e*P		**P**	**11**	**03 07.2**	**-1.1**
PVMO	**Portageville**	**69.19**	**345**	*e*P		**P**	**11**	**03 09.8**	**0.0**
PARMO	**Parma**	**69.44**	**345**	*e*P		**P**	**11**	**03 10.6**	**-0.8**
PARMO				*ep*P		pP	11	03 25.3	-1.8
MNTX	**Cornudas Mount**	**70.07**	**330**	*e*P		**P**	**11**	**03 13.8**	**-1.5**
	comp=Z,32nm,1.0s,mb5.2								
WMOK	**Wichita Mounta**	**70.21**	**337**	*e*P		**P**	**11**	**03 14.5**	**-1.6**
WMOK				*e*PP		pP	11	03 29.8	-2.1
WMOK				pmax		pmax			
	comp=Z,63nm,1.7s,mb5.3								
WMOK	**Wichita Mounta**	**70.21**	**337**	*e*P		**P**	**11**	**03 14.5**	**-1.6**
	comp=Z,63nm,1.7s,mb5.3								
WMOK				*ep*P		pP	11	03 29.8	-2.1
PAE	**Paea**	**70.85**	**261**	*e*P		**P**	**11**	**03 20.7**	**+0.5**
	comp=Z,131nm,1.1s,mb5.8								
FVM	**French Village**	**70.86**	**345**	*e*P		**P**	**11**	**03 18.5**	**-1.5**
FVM				pmax		pmax			
	comp=Z,62nm,1.1s,mb5.5								
FVM	**French Village**	**70.86**	**345**	*e*P		**P**	**11**	**03 18.4**	**-1.5**
	comp=Z,62nm,1.1s,mb5.5								
PPT	**Papeete**	**70.89**	**261**	*e*P		**P**	**11**	**03 21.1**	**+0.6**
	comp=Z,86nm,1.2s,mb5.6								
PPT	**Papeete**	**70.89**	**261**	*e*S		S	11	12 39.7	+10
PPT				*e*LR		LR	11	24 34.2	
	comp=Z,864nm,25.2s,baz=119								
PPT	**Papeete**	**70.89**	**261**	P		**P**	**11**	**03 21.6**	**+1.1**
	comp=Z,49nm,0.8s,mb5.5,baz=91,slow=6.9,SNR=5.2								
CCM	**Cathedral Cave**	**71.12**	**344**	*e*P		**P**	**11**	**03 20.7**	**-0.8**
CCM				pmax		pmax			
	comp=Z,48nm,1.0s,mb5.4								
CCM	**Cathedral Cave**	**71.12**	**344**	*e*P		**P**	**11**	**03 20.7**	**-0.9**
	comp=Z,48nm,1.0s,mb5.4								
SLM	**Saint Louis**	**71.44**	**345**	*e*P		**P**	**11**	**03 22.5**	**-0.9**
SLM				*e*PP		pP	11	03 40.1	+0.9
ACSO	**Alum Creek Sta**	**71.69**	**351**	*e*P		**P**	**11**	**03 23.9**	**-1.0**
	comp=Z,24nm,1.0s,mb5.1								
BNM	**Barren Site**	**72.71**	**330**	*e*P		**P**	**11**	**03 31.6**	**+0.5**
LPM	**Los Pinos Moun**	**72.85**	**330**	*e*P		**P**	**11**	**03 32.2**	**+0.3**
LENM	**Lemitar**	**72.87**	**330**	*e*P		**P**	**11**	**03 32.6**	**+0.7**
TUC	**Tucson**	**73.04**	**326**	*e*P		**P**	**11**	**03 33.1**	**+0.1**
TUC				pmax		pmax			
	comp=Z,29nm,1.5s,mb5.0								
TUC	**Tucson**	**73.04**	**326**	*e*P		**P**	**11**	**03 33.1**	**0.0**
	comp=Z,29nm,1.5s,mb5.0								
LAZ	**Ladron**	**73.14**	**330**	*e*P		**P**	**11**	**03 34.5**	**+0.9**
ANMO	**Albuquerque**	**73.32**	**331**	*e*P		**P**	**11**	**03 35.0**	**+0.4**
ANMO				pmax		pmax			
	comp=Z,43nm,1.3s								
ANMO	**Albuquerque**	**73.32**	**331**	*e*P		**P**	**11**	**03 35.0**	**+0.3**
	comp=Z,43nm,1.3s,mb5.2								
KSU1	**Kansas State U**	**73.53**	**340**	*e*P		**P**	**11**	**03 34.5**	**-1.3**
DBIC	**Dimbokro**	**74.06**	**72**	P		**P**	**11**	**03 38.5**	**-0.9**
	comp=Z,24nm,1.0s,mb5.1,baz=209,slow=6.1,SNR=20								
DBIC				pP		pP	11	03 53.7	-1.5
	comp=Z,40nm,0.8s,baz=213,slow=5.7,SNR=20								
DBIC				LR		LR	11	33 21.6	
	comp=Z,772nm,20.0s,MS5.0,baz=213,slow=33								
DBIC	**Dimbokro**	**74.06**	**72**	*e*P		**P**	**11**	**03 38.3**	**-1.1**
DBIC				*e*PP		pP	11	03 53.6	-1.6
DBIC				pmax		pmax			
	comp=Z,83nm,1.0s								
DBIC	**Dimbokro**	**74.06**	**72**	*e*P		**P**	**11**	**03 38.3**	**-1.1**
	comp=Z,83nm,1.0s,mb5.6								
DBIC				*ep*P		pP	11	03 53.6	-1.6
SDCO	**Great Sand Dun**	**75.35**	**333**	*e*P		**P**	**11**	**03 46.9**	**+0.6**
	comp=Z,33nm,1.1s,mb5.2								
MAW	**Mawson**	**75.93**	**164**	P		**P**	**11**	**03 48.8**	**-0.2**
	comp=Z,10.0nm,0.5s,mb5.0,baz=224,slow=7.6,SNR=32								
MAW				pP		pP	11	04 04.7	-0.2
	comp=Z,12nm,0.9s,baz=246,slow=9.2,SNR=6.4								
MAW				LR		LR	11	36 26.1	
	comp=Z,412nm,21.3s,MS4.7,baz=227,slow=35								
WUAZ	**Wupatki**	**75.96**	**328**	*e*P		**P**	**11**	**03 50.6**	**+0.8**
	comp=Z,69nm,1.2s,mb5.5								
ISCO	**Idaho Springs**	**77.18**	**334**	*e*P		**P**	**11**	**03 57.1**	**+0.5**
ISCO				pmax		pmax			
	comp=Z,48nm,1.5s,mb5.2								
ISCO	**Idaho Springs**	**77.18**	**334**	*e*P		**P**	**11**	**03 57.1**	**+0.5**
	comp=Z,48nm,1.5s,mb5.2								
LDFC	**Landfair**	**77.39**	**325**	*e*P		**P**	**11**	**03 59.0**	**+1.2**
NEN	**Nelson**	**77.71**	**325**	*e*P		**P**	**11**	**03 59.8**	**+0.2**
MWC	**Mount Wilson**	**78.22**	**322**	*e*P		**P**	**11**	**04 02.7**	**+0.3**
PHWY	**Pilot Hill**	**78.43**	**335**	*e*P		**P**	**11**	**04 03.8**	**+0.3**
SRU	**San Rafael**	**78.56**	**330**	*e*P		**P**	**11**	**04 04.3**	**+0.1**
SRU				pmax		pmax			
	comp=Z,29nm,1.0s,mb5.2								
SRU	**San Rafael**	**78.56**	**330**	*e*P		**P**	**11**	**04 04.3**	**0.0**
	comp=Z,29nm,1.0s,mb5.2								
ARUT	**Antelope Range**	**78.77**	**328**	*e*P		**P**	**11**	**04 06.7**	**+1.3**
MSU	**Marysvale**	**78.79**	**329**	*e*P		**P**	**11**	**04 06.1**	**+0.6**
MSU				*e*PP		pP	11	04 22.4	+1.0
MVU	**Marysvale**	**78.80**	**329**	*e*P		**P**	**11**	**04 08.0**	**+2.5**
	comp=Z,41nm,1.3s,mb5.2								
TMUT	**Trail Mountain**	**79.01**	**330**	*e*P		**P**	**11**	**04 07.5**	**+0.8**
RWWY	**Rawlins**	**79.42**	**334**	*e*P		**P**	**11**	**04 08.2**	**-0.7**
	comp=Z,45nm,1.1s,mb5.3								
TPNV	**Topopah Spring**	**79.43**	**325**

BMO Blue Mountains 86.17 329 *e*P **P** **11 04 43.0 -0.2**
comp=Z,21nm,1.5s,mb5.2
KTRM Thompson Ridge 86.77 324 P **P** **11 04 47.5 +1.3**
VIPM Ingram Point 87.39 327 P **P** **11 04 50.3 +1.1**
FRIS Frissel Point 87.86 326 P **P** **11 04 52.3 +0.8**
BROR Big Rock Looko 88.07 326 P **P** **11 04 52.7 +0.2**
HAWA Hanford 88.34 329 *e*P **P** **11 04 54.2 +0.4**
comp=Z,3.5nm,1.5s,mb4.4
GBL Gable Mountain 88.47 329 P **P** **11 04 55.0 +0.6**
OD2 Odessa Site #2 88.76 330 P **P** **11 04 55.9 +0.1**
NEW Newport 88.79 332 LR LR 11 40 29.0
comp=Z,233nm,19.4s,MS4.6,baz=154,slow=33
EBG Ellensburg 89.20 329 P **P** **11 04 58.6 +0.9**
MDT Midelt 89.81 51 LR LR 11 42 49.6
comp=Z,203nm,22.0s,MS4.5,baz=182,slow=34
LSZ Lusaka 90.53 108 *e*P **P** **11 05 05.6 +0.9**
LSZ pmax pmax
comp=Z,40nm,1.3s,mb5.6
LSZ Lusaka 90.53 108 *e*P **P** **11 05 05.5 +0.8**
comp=Z,40nm,1.3s,mb5.6
JCW Jim Creek 90.78 329 P **P** **11 05 04.6 -0.5**
EDM Edmonton 91.38 336 *e*P **P** **11 05 06.1 -1.8**
FCC Fort Churchill 91.40 349 *e*P **P** **11 05 07.2 -0.6**
FCC *e**PP pP 11 05 23.7 -0.5
FCC pmax pmax
comp=Z,21nm,1.3s,mb5.3
FCC Fort Churchill 91.40 349 *e*P **P** **11 05 07.2 -0.7**
comp=Z,21nm,1.3s,mb5.3
FCC *e*pP pP 11 05 23.7 -0.5
FRB Frobisher Bay 94.52 1 LR LR 11 50 21.8
comp=Z,124nm,18.6s,MS4.4,baz=149,slow=37
SFJD Kangerlussuaq 99.07 8 LR LR 11 47 21.2
comp=Z,148nm,18.1s,MS4.5,baz=174,slow=34
YKA Yellowknife Ar 99.35 341 P **P** **11 05 42.6 -1.3**
comp=Z,0.7nm,0.8s,mb4.2,baz=145,slow=4.8,SNR=13
BRTR Keskin Array B 120.20 59 PKP PKPdf 11 10 53.4 +1.4
comp=Z,0.4nm,0.5s,baz=252,slow=4.6,SNR=2.6
WB2 Warramunga Arr 123.41 210 ⇓*i*P PKPdf 11 10 58.6 0.0
WRA Warramunga Arr 123.41 210 PKP PKPdf 11 10 58.6 0.0
comp=Z,8.9nm,0.8s,baz=159,slow=1.7,SNR=100
OBN Obninsk 125.14 42 *i* PKIKP PKPdf 11 11 04.0 +3.0
OBN pmax pmax
comp=Z,8.0nm,1.8s
BHD Baghdad 126.69 70 *ex* x 11 10 42.0
FITZ Fitzroy Crossi 128.32 201 *e*P PKPdf 11 11 08.3 +0.2
comp=Z,16nm,0.8s
BILL Bilibino 130.28 335 *i* PKIKP PKPdf 11 11 09.3 -1.2
BILL pmax pmax
comp=Z,6.0nm,1.4s
KAKA Kakadu 130.64 212 ⇓*i*P PKPdf 11 11 35.0 +22
comp=Z,14nm,1.2s
CHKZ Chkalovo 144.81 39 *e*PKIKP PKPdf 11 11 37.5 +0.3
BVA0 Borovoye Array 144.96 40 *i* PKIKP PKPdf 11 11 38.5 +1.0
BVA0 pmax pmax
comp=Z,2.0nm,1.1s
YAK Yakutsk 146.03 342 *e*PKP2 PKPab 11 11 40.9 -1.7
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK Yakutsk 146.03 342 *e*P PKPdf 11 11 39.9 +0.8
KKAR Karatay Array 147.88 57 *i* PKP2 PKPab 11 11 46.8 -3.7
KKAR pmax pmax
comp=Z,4.0nm,0.7s
HYB Hyderabad 149.85 110 *i* PKP PKPdf 11 11 52.5 +5.9
HYB *e* 11 12 09.0
HYB Hyderabad 149.85 110 *e*PKP2 PKPab 11 11 52.5 -6.8
NVS Novosibirsk 150.32 30 *e*PKIKP PKPdf 11 11 51.8 +5.6
NVS *e* 11 15 25.6
NVS pmax pmax
comp=Z,50nm,1.4s
MKAR Makanchi Array 154.61 44 PKP PKPdf 11 11 53.6 +1.1
comp=Z,0.8nm,0.8s,baz=270,slow=3.6,SNR=4.7
MKAR pPKPab 11 12 33.8
comp=Z,11nm,0.9s,baz=297,slow=2.7,SNR=10
WMQ Urumqi 159.40 46 *e*PKP PKPdf 11 11 59.5 +0.7
WMQ PP PP 11 16 20.3 -0.8
WMQ SKS SKS 11 18 59.8 +3.2
WMQ PPP PPP 11 20 02.3 -1.9
WMQ SS SS 11 36 19.3 -0.9
WMQ PP PP
comp=Z,100nm,5.6s
WMQ LR LR
comp=N,100nm,20.0s,MS4.8
WMQ LR LR
comp=E,110nm,20.0s,MS4.8
WMQ LR LR
comp=Z,140nm,20.0s,MS4.8
CN2 Changchun 161.36 318 *e*PKP PKPdf 11 12 05.9 +5.1
CN2 PP PP 11 16 37.5 +5.6
CN2 PP PP
comp=Z,310nm,6.0s
CN2 LR LR
comp=N,390nm,21.0s
CN2 LR LR
comp=E,170nm,21.0s
CN2 LR LR
comp=Z,320nm,23.0s
SONM Songino Array 163.19 4 PKP PKPdf 11 12 03.7 +1.2
comp=Z,0.7nm,0.8s,baz=75,slow=2.9,SNR=4.8
SSE Sheshan 168.87 274 PKP PKPdf 11 12 11.8 +4.3
SSE PP PP 11 17 15.3 +4.5
SSE PP PP
comp=Z,40nm,12.0s
SSE LR LR
comp=N,60nm,20.0s
SSE LR LR
comp=E,70nm,20.0s
SSE LR LR
comp=Z,120nm,24.5s
GTA Gaotai 169.22 37 *e*PKP PKPdf 11 12 09.9 +2.4
KMI Kunming 172.37 139 PKP PKPdf 11 12 09.9 +0.1
LZH Lanzhou 173.81 35 *e*PKP PKPdf 11 12 08.5 -1.5
LZH APKP 11 12 25.8
LZH XPKP 11 12 32.3
LZH PKS PKS 11 15 39.6 -1.7
LZH SKS SKS 11 19 03.6 -2.0
LZH SKKS 11 24 11.8
LZH *e*SS SS 11 38 41.5 -3.3
LZH PP PP
comp=Z,150nm,8.5s
LZH LR LR
comp=N,280nm,18.2s
LZH LR LR
comp=Z,490nm,20.3s
GYA Guiyang 175.22 163 PKP PKPdf 11 12 12.4 +1.7
GYA APKP 11 12 23.3
GYA PP PP
comp=Z,120nm,7.9s
GYA LR LR
comp=N,280nm,20.4s
GYA LR LR
comp=E,340nm,21.0s
GYA LR LR
comp=Z,260nm,20.8s

*IDC **14** 11:08:29.6±0.8, 6.75N×72.94W, h161km±11km, mb3.4/6, mb1 3.8/8, mb1mx3.5/22, mbtmp4.0/8, Error ellipse: s-maj=33.9km s-min=8.3km az=131.0*
*NEIC **14** 11:08:30.5±0.7, 6.77N×72.93W, h170km±10km, mb4.1/1, Error ellipse: s-maj=28.4km s-min=9.5km az=127.0*
ISC 14 11:08:29.6±0.7, 6.9N±0.3×73.1W±0.4, h160km±29km, n12, σ0§64/14, mb3.6/6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.39**	**211**	P		**P**	**11 09 11.0**	**+0.6**
	58nm,0.3s,baz=260,slow=22,SNR=105							
ROSC				S		**S**	**11 09 40.8**	**-1.0**
	49nm,0.3s,baz=86,slow=19,SNR=7.3							
SDV	**Santo Domingo**	**3.12**	**51**	P		**P**	**11 09 20.6**	**+1.0**
	118nm,0.3s,baz=235,slow=6.0,SNR=585							
SDV				S		**S**	**11 09 57.5**	**-0.5**
	32nm,0.3s,baz=292,slow=21,SNR=8.1							
SDV	**Santo Domingo**	**3.12**	**51**	*e*P		**P**	**11 09 20.2**	**+0.6**
SDV				S		**S**	**11 09 57.5**	**-0.5**
OTAV	**Otavalo**	**8.52**	**219**	*e*P		**P**	**11 10 31.6**	**+0.8**
	4.0nm,0.6s							
TXAR	**Lajitas Array**	**36.41**	**312**	P		**P**	**11 15 21.0**	**+0.6**
	1.0nm,0.7s,mb3.6,baz=125,slow=9.1,SNR=17							
TXAR	**Lajitas Array**	**36.41**	**312**	P		**P**	**11 15 21.0**	**+0.6**
ULM	**Lac du Bonnet**	**47.20**	**340**	P		**P**	**11 16 47.3**	**-0.5**
	2.9nm,0.5s,mb4.2,baz=138,slow=6.3,SNR=12							
PDAR	**Pinedale Array**	**48.01**	**324**	P		**P**	**11 16 54.6**	**+0.4**
	0.6nm,0.5s,mb3.5,baz=122,slow=8.3,SNR=6.7							
NVAR	**Mina Array Bea**	**51.42**	**315**	P		**P**	**11 17 20.1**	**-0.2**
	0.2nm,0.4s,mb3.1,baz=110,slow=7.7,SNR=3.6							
YKA	**Yellowknife Ar**	**63.17**	**340**	P		**P**	**11 18 41.6**	**-0.9**
	1.8nm,0.5s,mb4.1,baz=133,slow=6.6,SNR=93							
ILAR	**Eielson Array**	**76.88**	**335**	P		**P**	**11 20 05.1**	**-0.1**
	0.2nm,0.5s,mb3.0,baz=92,slow=4.6,SNR=4.7							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		PKPdf	**11 28 02.8**	**+5.5**
	0.5nm,0.4s,baz=106,slow=2.9,SNR=25							

IDC 14 12:02:04.2±7.1, 2.86N×96.34E, h74km±56km, mb3.3/3, mb1 3.4/4, mb1mx3.2/18, mbtmp3.5/4, Error ellipse: s-maj=68.3km s-min=27.4km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.58**	**91**	P		P	12 02 43.4	-1.4
	3.7nm,0.3s,baz=302,slow=15,SNR=7.7							
PSI				S		S	12 03 15.4	+0.3
	7.2nm,0.3s,baz=108,slow=5.9,SNR=8.1							
WRA	**Warramunga Arr**	**43.65**	**123**	P		P	12 10 01.6	-1.9
	0.3nm,0.6s,baz=299,slow=9.3,SNR=4.3							
MKAR	**Makanchi Array**	**45.44**	**346**	P		P	12 10 15.9	-1.5
	1.4nm,0.6s,baz=159,slow=9.0,SNR=21							
SONM	**Songino Array**	**45.64**	**9**	P		P	12 10 16.9	-2.1
	0.5nm,0.5s,baz=188,slow=10,SNR=6.8							
TXAR	**Lajitas Array**	**142.69**	**30**	pPKP			12 21 42.6	
	0.4nm,0.6s,baz=342,slow=2.9,SNR=5.8							

WEL 14 12:15:05.9±0.3, 37.92S×175.95E, h276km±3km, ML3.5/12, 1C-1D, Error ellipse: s-maj=6.7km s-min=5.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.98**	**111**	PN		P	12 15 43.5	-0.3
URZ				SN		S	12 16 13.1	-0.3
MWZ	**Matawai**	**1.31**	**109**	PN		P	12 15 45.7	-0.1
MWZ				SN		S	12 16 16.8	0.0
BKZ	**Black Stump Fm**	**1.32**	**161**	⇓PN		P	12 15 45.7	-0.1
BKZ				SN		S	12 16 16.1	-0.8
TUVZ	**Tukino**	**1.37**	**190**	PN		P	12 15 46.3	+0.2
MOVZ	**Moawhango**	**1.50**	**186**	PN		P	12 15 46.5	-0.5
KNZ	**Kokohu**	**1.75**	**130**	⇑PN		P	12 15 48.5	-0.3
PUZ	**Puketiti**	**1.83**	**96**	*e*PN		P	12 15 49.1	-0.4
WAZ	**Wanganui**	**1.98**	**202**	SN		S	12 16 25.3	-0.2
TSZ	**Takapari Road**	**2.14**	**180**	PN		P	12 15 51.0	-1.1
MRZ	**Mangatainoka R**	**2.76**	**186**	*e*PN		P	12 15 56.2	-1.8
MRZ				SN		S	12 16 36.1	-2.3
BFZ	**Birch Farm**	**2.77**	**175**	*e*PN		P	12 15 56.7	-1.4
KIW	**Kapiti Island**	**3.05**	**195**	*e*PN		P	12 15 58.5	-2.5
CAW	**Cannon Point**	**3.26**	**192**	*e*PN		P	12 16 00.5	-2.7
DUWZ	**D'Urville Isla**	**3.28**	**208**	SN		S	12 16 45.7	-2.5
MRW	**Makara Radio**	**3.45**	**196**	*e*PN		P	12 16 03.0	-2.2
SNZO	**South Karori**	**3.52**	**195**	*e*PN		P	12 16 03.5	-2.6
TCW	**Tory Channel**	**3.54**	**201**	*e*PN		P	12 16 03.7	-2.5
TUWZ	**Tuamarina**	**3.84**	**203**	*e*PN		P	12 16 06.4	-3.1
NNZ	**Nelson**	**3.85**	**210**	PN		P	12 16 06.4	-3.3
NNZ				SN		S	12 16 55.3	-4.0
QRZ	**Quartz Range**	**3.93**	**221**	*e*PN		P	12 16 06.7	-3.9
THZ	**Tophouse**	**4.50**	**210**	*e*PN		P	12 16 13.4	-3.8
KHZ	**Kahutara**	**4.86**	**202**	*e*PN		P	12 16 18.0	-3.4
DSZ	**Denniston Nort**	**4.98**	**219**	*e*PN		P	12 16 18.4	-4.4
LTZ	**Lake Taylor**	**5.61**	**209**	*e*PN		P	12 16 26.0	-4.4
MQZ	**McQueen's Vall**	**6.30**	**202**	SN		S	12 17 45.0	-6.8
WVZ	**Waitaha Valley**	**6.51**	**216**	*e*PN		P	12 16 36.6	-4.8

*MAN **14** 12:31:27.4, 6.51N×123.64E, h1km, mb4.4, ML3.3, MS3.1*
ISC 14 12:31:29.0±1.3, 6.66N±0.07×123.59E±0.07, h1km, n6, σ0§73/8, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.86**	**49**	⇑*i*P		**Pg**	**12 31 45.5**	**-0.7**
CTBH				*i* S		**Sg**	**12 31 58.1**	**+0.4**
PAGZ	**Pagadian**	**1.20**	**350**	*e*P		**Pb**	**12 31 52.9**	**+0.6**
PAGZ							12 32 11.4	
GSPH	**General Santos**	**1.47**	**113**	⇑*e*P		**Pn**	**12 31 55.9**	**-0.8**
GSPH				*e*S		**Sb**	**12 32 17.1**	**+1.2**
IPIL	**Ipil**	**1.51**	**318**	*e*P		**Pn**	**12 31 57.8**	**+0.5**
IPIL							12 32 18.3	
BUKP	**Musuan**	**1.90**	**50**	*e*P		**Pn**	**12 32 02.3**	**-0.6**
BUKP							12 32 29.7	
DAV	**Davao City (W)**	**2.02**	**78**	*e*P		**Pn**	**12 32 04.0**	**-0.6**

IDC 14 12:37:24.8±1.9, 14.52S×168.06E, mb3.8/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/20, Error ellipse: s-maj=65.9km s-min=31.3km az=122.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.66**	**191**	Pn		Pn	12 39 16.9	-3.5
	1.5nm,0.3s,baz=44,slow=13,SNR=16							
DZM				Sn		Sn	12 40 40.0	-9.0
	0.6nm,0.3s,baz=288,slow=21,SNR=2.4							
DZM				LR		LR	12 41 44.0	
	comp=Z,130nm,19.0s,baz=17,slow=34							
AFI	**Afiamalu**	**19.55**	**91**	LR		LR	12 47 24.8	
	comp=Z,69nm,20.3s,baz=196,slow=31							
CTA	**Charters Tower**	**21.54**	**252**	LR		LR	12 49 03.4	
	comp=Z,84nm,19.2s,baz=57,slow=32							
STKA	**Stephens Creek**	**29.71**	**230**	P		P	12 43 33.8	-1.1
	2.6nm,0.8s,baz=48,slow=9.8,SNR=4.5							
WRA	**Warramunga Arr**	**32.62**	**256**	P		P	12 43 57.8	-2.8
	0.2nm,0.7s,baz=81,slow=7.0,SNR=5.1							
ILAR	**Eielson Array**	**86.09**	**18**	P		P	12 50 07.2	-1.2
	0.3nm,0.6s,baz=225,slow=5.1,SNR=6.1							

*MOS **14** 12:57:09.6±0.9, 32.28N×70.81E, h33km, mb4.4/15, Error ellipse: s-maj=13.4km s-min=7.2km az=114.1*
*BJI **14** 12:57:10.5, 31.81N×71.26E, h61km, ML4.9*
*IDC **14** 12:57:12.6±0.9, 32.28N×70.70E, h39km±4km, mb3.9/13, mb1 4.1/14, mb1mx3.9/22, mbtmp4.1/14, ML4.1/1, Error ellipse: s-maj=22.1km s-min=17.1km az=36.0*
*NEIC **14** 12:57:12.0±1.2, 32.28N×70.83E, h35km±14km, mb4.5/7, Error ellipse: s-maj=12.8km s-min=8.7km az=215.0*
*NDI **14** 12:57:14.4±2.6, 32.09N×70.89E, h10km, ML4.1, mb4.5(NEIC)*
*NNC **14** 12:57:21.9±4.1, 32.91N×70.93E, h84km±30km, mb3.7, Error ellipse: s-maj=31.7km s-min=26.2km az=155.0*
ISC 14 12:57:10.3±0.3, 32.30N±0.04×70.71E±0.03, h33km, n100, σ1§17/121, mb4.2/18, 7C-9D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SBDP	**Sheikh Budin**	**0.08**	**89**	⇓P		**S**	**12 57 23.4**	**+3.5**
DRP	**Derazinda**	**0.70**	**218**	⇓P		**P**	**12 57 30.6**	**+6.9**
THW	**Thamme Wali**	**1.00**	**60**	P		**P**	**12 57 32.0**	**+4.0**
CEP	**Cherat**	**1.82**	**33**	⇓P		**P**	**12 57 43.9**	**+4.1**
CHCP	**Chirah Chowk**	**2.54**	**57**	⇓P		**P**	**12 57 53.5**	**+3.5**
THN	**Thein Dam**	**4.24**	**87**	*e*P		**P**	**12 58 16.6**	**+2.4**
THN				*e*S		**S**	**12 59 03.5**	**+0.3**
DLH	**Dalhousie**	**4.45**	**85**	*e*P		**P**	**12 58 19.0**	**+1.8**
DLH				*e*S		**S**	**12 59 09.0**	**+0.5**
PONG	**Pong**	**4.46**	**93**	*e*P		**P**	**12 58 20.0**	**+2.7**
PONG				*e*S		**S**	**12 59 09.0**	**+0.3**
JASL	**Jaisalmer**	**5.36**	**178**	*e*P		**P**	**12 58 32.0**	**+2.0**
JASL				*e*S		**S**	**12 59 25.5**	**-5.9**
SDNR	**Sundarnagar**	**5.38**	**97**	*e*P		**P**	**12 58 31.0**	**+0.7**
SDNR				*e*S		**S**	**12 59 29.4**	**-2.6**
SMLA	**Simla**	**5.62**	**100**	*e*P		**P**	**12 58 35.1**	**+1.4**
KHET	**Khetri**	**6.10**	**132**	*e*P		**P**	**12 58 40.6**	**+0.3**
KHET				*e*S		**S**	**12 59 43.8**	**-6.1**
KLP	**Kalpa**	**6.45**	**95**	*e*P		**P**	**12 58 47.3**	**+1.9**
KLP				*e*S		**S**	**12 59 54.6**	**-4.1**
KLP				AML	AML		13 00 18.0	
	comp=N,295nm,1.1s							
KLP				AML	AML		13 00 55.6	
	comp=E,328nm,0.9s							
DDI	**Dehra Dun**	**6.58**	**105**	*e*P		**P**	**12 58 48.3**	**+1.1**
DDI				*ex*		x	13 00 02.5	
NDI	**New Delhi**	**6.67**	**121**	*e*P		**P**	**12 58 49.3**	**+0.8**
AYAN	**Aya Nagar**	**6.72**	**123**	*e*P		**P**	**12 58 49.6**	**+0.5**
AYAN				*e*S		**S**	**12 59 58.0**	**-7.4**
AJM	**Ajmer**	**6.74**	**148**	*ex*		x	12 58 41.9	
AJM				*e*S		**S**	**12 59 59.7**	**-6.1**
SONA	**Sohna**	**6.83**	**125**	*e*P		**P**	**12 58 50.6**	**-0.1**
SONA				*e*S		**S**	**13 00 00.7**	**-7.4**
SONA				AML	AML		13 00 04.9	
	comp=N,183nm,0.3s							
SONA				AML	AML		13 00 06.2	
	comp=E,183nm,0.2s							
KSH	**Kashi**	**8.37**	**29**	⇓P		**P**	**12 59 16.0**	**+3.9**
KSH				S		**S**	**13 00 42.6**	**-3.9**
KSH				Smax				
	comp=N,210nm,0.3s							
KSH				Smax				
	comp=E,230nm,0.6s							
BHJ	**Bhuj**	**9.06**	**186**	*e*S		**S**	**13 00 56.6**	**-7.0**
AML	**Almayashu**	**10.10**	**13**	P		**P**	**12 59 36.7**	**+0.7**
	SNR=81							
UCH	**Uchtor**	**10.36**	**16**	P		**P**	**12 59 39.9**	**+0.3**
	SNR=38							
KZA	**Kyzart**	**10.41**	**19**	P		**P**	**12 59 40.5**	**+0.2**
	SNR=15							
EKS2	**Erkin-Say**	**10.63**	**12**	P		**P**	**12 59 44.6**	**+1.3**
	SNR=30							
KK31	**Karatay Array**	**10.79**	**359**	⇑P		**P**	**12 59 44.4**	**-1.1**
	comp=E,3.5nm,0.2s,baz=174,slow=12,SNR=130							
KK31				⇑S		**S**	**13 01 38.5**	**-7.6**
	comp=E,12nm,0.5s,baz=178,slow=22,SNR=12							
KKAR	**Karatay Array**	**10.79**	**359**	P		**P**	**12 59 44.7**	**-0.8**
KKAR				*e*S		**S**	**13 01 38.5**	**-7.6**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.2s							
KKAR				smax				
	comp=Z,2.0nm,0.3s							
BHPL	**Bhopal**	**10.80**	**145**	*e*P		**P**	**12 59 45.5**	**-0.2**
BHPL				*ex*		x	13 01 37.3	
BHPL				AML	AML		13 01 41.3	
	comp=N,73nm,0.3s							
BHPL				AML	AML		13 01 41.4	
	comp=E,43nm,0.2s							
KBK	**Karagaybulak**	**10.87**	**17**	P		**P**	**12 59 48.4**	**+1.8**
	SNR=7.6							
CHMS	**Chumysh**	**11.15**	**16**	P		**P**	**12 59 50.5**	**+0.1**
	SNR=10							
TKM2	**Tokmak 2**	**11.29**	**19**	P		**P**	**12 59 52.7**	**+0.4**
	SNR=10							
TKM2	**Tokmak 2**	**11.29**	**19**	⇓P		**P**	**12 59 52.3**	**0.0**
	comp=E,6.9nm,0.8s							
TKM2				⇑S		**S**	**13 01 49.2**	**-9.0**
	comp=E,9.9nm,0.6s							
USP	**Ospenovka**	**11.35**	**14**	P		**P**	**12 59 54.1**	**+1.0**
	SNR=9.4							
KOLN	**Koldanda**	**12.04**	**109**	*e*P		**P**	**13 00 01.1**	**-1.4**
	comp=E,13nm,0.3s							
KOLN				*e*S		**S**	**13 02 08.5**	**-8.1**
GKN	**Gorkha**	**12.79**	**106**	*e*P		**P**	**13 00 10.7**	**-1.8**
	comp=E,21nm,0.3s							
GKN				*e*S		**S**	**13 02 24.3**	**-10**
AKL	**Akola**	**12.85**	**152**	*ex*		x	12 59 25.8	
KKN	**Kakani**	**13.39**	**106**	*e*P		**P**	**13 00 17.6**	**-2.9**
	comp=E,63nm,0.6s							
KKN				*e*S		**S**	**13 02 39.4**	**-10**
KKN	**Kakani**	**13.39**	**106**	*e*P		**P**	**13 00 17.6**	**-2.9**
KKN				*e*S		**S**	**13 02 39.4**	**-10**
KKN				pmax	pmax			
	comp=Z,31nm,0.6s							
PKI	**Pulchoki**	**13.59**	**106**	*e*P		**P**	**13 00 20.5**	**-2.5**
	comp=Z,18nm,0.3s							
PKI	**Pulchoki**	**13.59**	**106**	*e*P		**P**	**13 00 20.5**	**-2.5**
PKI				pmax	pmax			
	comp=Z,9.0nm,0.3s							
GUN	**Gumba**	**13.84**	**104**	*e*P		**P**	**13 00 24.3**	**-2.0**
	comp=Z,24nm,0.3s							
JIRN	**Jiri**	**14.19**	**105**	*e*P		**P**	**13 00 28.8**	**-2.1**
	comp=Z,31nm,0.6s							
BOK	**Bokaro**	**15.84**	**119**	*ex*		x	13 03 25.5	
MK31	**Makanchi Array**	**16.98**	**28**	⇑P		**P**	**13 01 07.0**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=202,slow=12,SNR=42							
MKAR	**Makanchi Array**	**16.98**	**28**	P		**P**	**13 01 06.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=212,slow=9.4,SNR=34							
MKAR				sP			13 01 21.6	
	comp=Z,0.5nm,0.3s,baz=198,slow=10,SNR=6.3							
MKAR	**Makanchi Array**	**16.98**	**28**	P		**P**	**13 01 06.7**	**0.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AB31	**Akbulak array**	**18.77**	**338**	⇑P		**P**	**13 01 27.9**	**-1.1**
	comp=Z,2.7nm,0.5s,baz=146,slow=11,SNR=64							
AB31				⇑S		**S**	**13 04 40.9**	**-13**
	comp=Z,0.6nm,0.4s							
AB31	**Akbulak array**	**18.77**	**338**	*i* P		**P**	**13 01 27.8**	**-1.1**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**19.31**	**15**	⇓P		**P**	**13 01 32.5**	**-2.6**
	comp=Z,8.4nm,1.9s							
KURK	**Kurchatov**	**19.31**	**15**	P		**P**	**13 01 33.0**	**-2.2**
KURK				pmax	pmax			
	comp=Z,16nm,1.9s							
VOSK	**Vostochnaya**	**20.41**	**0**	⇓P		**P**	**13 01 46.2**	**-0.8**
	comp=Z,8.0nm,0.5s							
AKTK	**Aktyubinsk**	**20.42**	**336**	P		**P**	**13 01 47.0**	**-0.2**
AKTK				S		**S**	**13 05 25.0**	**-4.0**
AKTO	**Aktyubinsk**	**20.42**	**336**	⇑P		**P**	**13 01 46.9**	**-0.2**
	comp=Z,4.9nm,0.8s							
AKTO	**Aktyubinsk**	**20.42**	**336**	P		**P**	**13 01 47.0**	**-0.2**
	comp=Z,25nm,0.7s,baz=160,slow=10,SNR=58							
AKTO				S		**S**	**13 05 25.0**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=62,slow=7.7,SNR=2.0							
AKTO	**Aktyubinsk**	**20.42**	**336**	P		**P**	**13 01 47.0**	**-0.1**
AKTO				S		**S**	**13 05 25.0**	**-4.0**
AKTO				pmax	pmax			
	comp=Z,25nm,0.7s							
BVA0	**Borovoye Array**	**20.72**	**359**	P		**P**	**13 01 49.2**	**-1.0**
	comp=Z,1.9nm,1.1s,baz=173,slow=13,SNR=37							
BVA0	**Borovoye Array**	**20.72**	**359**	*i* P		**P**	**13 01 49.1**	**-1.1**
BVA0				pmax	pmax			
	comp=Z,2.0nm,1.1s							
BVAR	**Borovoye Array**	**20.72**	**359**	P		**P**	**13 01 49.6**	**-0.6**
	comp=Z,6.8nm,0.6s,baz=173,slow=11,SNR=41							
BVAR				sP			13 02 04.0	
	comp=Z,4.0nm,0.5s,baz=166,slow=9.1,SNR=7.6							
BVAR				S		**S**	**13 05 30.7**	**-4.0**
	comp=Z,0.3nm,0.4s,baz=226,slow=39,SNR=2.5							
BVAR	**Borovoye Array**	**20.72**	**359**	P		**P**	**13 01 49.6**	**-0.6**
BVAR				*SP			13 02 04.0	
BVAR				S		**S**	**13 05 30.7**	**-4.0**
BVAR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
BVAR				pmax	pmax			
	comp=Z,4.0nm,0.5s							
CHKZ	**Chkalovo**	**21.37**	**360**	⇓P		**P**	**13 01 55.4**	**-1.4**
	comp=Z,4.7nm,0.6s,mb4.0							
CHKZ	**Chkalovo**	**21.37**	**360**	*e*P		**P**	**13 01 55.3**	**-1.5**
CHKZ				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.2							
CHKZ	**Chkalovo**	**21.37**	**360**	*e*P		**P**	**13 01 55.3**	**-1.5**
	comp=Z,7.1nm,0.6s,mb4.2							
GNI	**Garni**	**22.31**	**298**	P		**P**	**13 02 09.5**	**+3.2**
	comp=Z,5.5nm,0.4s,mb4.3,baz=311,slow=3.6,SNR=4.6							
GNI	**Garni**	**22.31**	**298**	P		**P**	**13 02 09.5**	**+3.2**
GNI				pmax	pmax			
	comp=Z,6.0nm,0.4s							
ARU	**Arti**	**25.57**	**

comp=Z,8.4nm,0.6s,mb4.8,baz=112,slow=6.5,SNR=46
ARCES ARCESS Array B 44.96 339 P **P** **13 05 24.1 +0.6**
ARCES pmax pmax
comp=Z,8.0nm,0.6s
GERES GERESS Array B 45.27 309 P **P** **13 05 26.7 +0.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=90,slow=6.7,SNR=8.3
GERES GERESS Array B 45.27 309 P **P** **13 05 26.7 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 47.64 325 P **P** **13 05 44.4 -0.5**
comp=Z,2.4nm,0.6s,mb4.4,baz=99,slow=7.9
NB2 NORSAR Subarra 47.64 325 P **P** **13 05 44.4 -0.5**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
NOA NORSAR Array B 47.64 325 P **P** **13 05 44.3 -0.5**
comp=Z,3.5nm,0.7s,mb4.5,baz=99,slow=7.7,SNR=13
NOA sP sP 13 06 01.2 +2.4
comp=Z,1.0nm,0.8s,baz=101,slow=7.8,SNR=2.5
NOA NORSAR Array B 47.64 325 P **P** **13 05 44.3 -0.6**
NOA *SP sP 13 06 01.2 +2.3
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA pmax pmax
comp=Z,1.0nm,0.8s
LPG La Plagne 50.25 305 *eP* **P** **13 06 05.0 -0.2**
comp=Z,9.9nm,0.8s,mb4.6
LPG La Plagne 50.25 305 *eP* **P** **13 06 05.0 -0.2**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LPL La Plagne 50.26 305 *eP* **P** **13 06 05.1 -0.1**
comp=Z,5.7nm,0.4s,mb4.6
LPL La Plagne 50.26 305 *eP* **P** **13 06 05.1 -0.1**
LPL pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
FRF La Foret Royal 50.62 302 *eP* **P** **13 06 08.9 +0.8**
GIVF Givet 50.98 311 *eP* **P** **13 06 11.6 +1.0**
BAIF Baives 51.38 311 *eP* **P** **13 06 14.4 +0.8**
VIVF Saint-Julien-l 51.80 304 *eP* **P** **13 06 17.5 +0.6**
SMF Signal de Mont 52.08 307 *eP* **P** **13 06 18.6 -0.3**
comp=Z,19nm,0.8s,mb4.8
SMF Signal de Mont 52.08 307 *eP* **P** **13 06 18.6 -0.3**
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SSF Saint Saulge 52.24 307 *eP* **P** **13 06 19.8 -0.3**
comp=Z,6.6nm,0.7s,mb4.4
SSF Saint Saulge 52.24 307 *eP* **P** **13 06 19.8 -0.3**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AVF Avril sur Loir 52.38 307 *eP* **P** **13 06 20.8 -0.4**
comp=Z,8.6nm,0.9s,mb4.4
AVF Avril sur Loir 52.38 307 *eP* **P** **13 06 20.8 -0.4**
AVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TCF Toulx Ste Croi 53.25 306 *eP* **P** **13 06 27.6 -0.1**
TORD Torodi Ar. Bea 65.44 270 P **P** **13 07 51.1 -1.2**
comp=Z,1.1nm,0.5s,mb4.2,baz=48,slow=5.8,SNR=16
ILAR Eielson Array 78.88 15 P **P** **13 09 10.2 -1.1**
comp=Z,0.6nm,0.6s,mb3.7,baz=321,slow=2.5,SNR=4.2
ILAR Eielson Array 78.88 15 P **P** **13 09 10.2 -1.1**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 80.00 121 P **P** **13 09 18.0 -0.2**
comp=Z,0.3nm,0.5s,mb3.5,baz=323,slow=5.2,SNR=9.0
WRA pP pP 13 09 31.0 +2.4
comp=Z,0.9nm,0.6s,baz=322,slow=5.3,SNR=6.1
WRA Warramunga Arr 80.00 121 P **P** **13 09 18.0 -0.2**
WRA *PP pP 13 09 31.0 +2.4
WRA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 85.44 2 P **P** **13 09 45.3 +0.2**
comp=Z,1.0nm,0.5s,mb4.2,baz=349,slow=5.1,SNR=36
YKA pP pP 13 09 58.1 +2.5
comp=Z,0.6nm,0.5s,baz=350,slow=5.2,SNR=6.1
YKA sP sP 13 10 01.9 +2.8
comp=Z,0.6nm,0.5s,baz=350,slow=5.1,SNR=6.4

*NEIC **14** 13:04:39.9,33.40S×72.31W,h15km,ML2.7(GUC),After GUC.*
GUC 14 13:04:39.9±0.7,33.40S×72.31W,h15km±9km,MD3.8, ML2.7,5C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.62**	**97**	⇑*i*P	Pb	13 04 51.2	-0.8
LCCH				*i* S	Sb	13 04 59.9	-0.3
LNV	**Longovilo**	**0.93**	**127**	⇑*i*P	Pb	13 04 56.6	-0.7
LNV				*i* S	Sb	13 05 09.2	0.0
PACH	**Papudo**	**1.13**	**41**	*e*P	Pb	13 04 59.6	-1.1
PACH				*i* S	Sb	13 05 14.9	-0.1
TACH	**Talagante**	**1.17**	**103**	⇑*i*P	Pb	13 05 00.5	-0.8
TACH				*i* S	Sb	13 05 16.1	-0.1
RCDM	**Rinconada Maip**	**1.26**	**94**	⇑*i*P	Pb	13 05 01.6	-1.3
RCDM				*i* S	Sb	13 05 17.7	-1.0
RCDM				AMP		13 05 19.6	
	comp=N,124nm,0.2s						
PEL	**Peldehue**	**1.39**	**80**	*i* P	Pn	13 05 04.5	-0.3
PEL				*i* S	Sb	13 05 23.8	+1.4
PEL				AMP		13 05 28.3	
	comp=E,440nm,0.4s						
CHCH	**Chadas Angostu**	**1.48**	**111**	⇓*i*P	Pn	13 05 05.2	-1.0
PCH	**Pirque**	**1.52**	**99**	⇓*i*P	Pn	13 05 06.1	-0.6
PCH				*i* S	Sb	13 05 26.1	0.0
CACH	**El Canelo**	**1.59**	**117**	⇓*i*P	Pn	13 05 07.8	-0.1
CACH				*i* S	Sn	13 05 29.5	+1.3
SFDO	**San Fernando**	**1.62**	**139**	⇑*i*P	Pn	13 05 08.1	-0.1
SFDO				*i* S	Sn	13 05 28.0	-0.8
FCH	**Farellones**	**1.69**	**88**	⇓*i*P	Pn	13 05 09.1	-0.1
FCH				*i* S	Sn	13 05 31.9	+1.2
FCH				AMP		13 05 36.3	
	comp=E,135nm,0.4s						
CICH	**Cipreses**	**1.82**	**121**	*i* S	Sn	13 05 34.0	0.0

*IDC **14** 13:10:21.9±0.5,37.47S×51.42E,mb4.2/16,mb1 4.3/16, mb1mx4.2/21,mbtmp4.2/16,MS4.1/13,Ms1 4.1/13, ms1mx3.9/25,Error ellipse: s-maj=22.7km s-min=15.3km az=46.0*
*BJI **14** 13:10:22.7,37.50S×51.30E,h10km,mB5.1,mb4.9,Ms5.0, Msz4.7*
*MOS **14** 13:10:22.2±0.9,37.50S×51.39E,h10km,mb5.0/8,Error ellipse: s-maj=21.7km s-min=13.3km az=94.8*
*NEIC **14** 13:10:23.7±0.2,37.53S×51.34E,h10km,mb4.8/11,Error ellipse: s-maj=10.1km s-min=6.8km az=51.0*
ISC 14 13:10:21.6±8.4,37.50S±0.07×51.4E±0.1,h7km±52km, h18km±4.0km:pP-P,n79,σ0$78/61,mb4.7/33,MS4.2/18, 1C-6D,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.22**	**348**	P	**P**	**13 14 49.7**	**+0.8**
	0.4nm,0.3s,baz=151,slow=11,SNR=2.5						
LBTB	**Lobatse**	**25.23**	**292**	P	**P**	**13 15 49.3**	**-0.3**
	2.9nm,0.8s,mb3.9,baz=149,slow=12,SNR=6.2						
LBTB				LR	LR	13 24 31.3	
	comp=Z,93nm,20.1s,MS3.3,baz=6.5,slow=34						
LBTB	**Lobatse**	**25.23**	**292**	*e*P	**P**	**13 15 49.2**	**-0.4**
LBTB				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.4						
LBTB	**Lobatse**	**25.23**	**292**	*e*P	**P**	**13 15 49.2**	**-0.4**
	comp=Z,15nm,1.2s,mb4.4						
MATP	**Matopo**	**26.17**	**304**	P	**P**	**13 15 58.1**	**-0.3**
	comp=Z,1.8nm,0.7s,mb3.7,baz=132,slow=9.6,SNR=4.2						
MATP				LR	LR	13 24 29.3	
	comp=Z,865nm,21.1s,MS4.3,baz=137,slow=32						
LSZ	**Lusaka**	**30.21**	**311**	P	**P**	**13 16 35.7**	**+0.7**
	comp=Z,1.5nm,0.5s,mb4.0,baz=94,slow=8.7,SNR=2.4						
LSZ				LR	LR	13 27 28.7	
	comp=Z,448nm,18.3s,MS4.1,baz=133,slow=34						
LSZ	**Lusaka**	**30.21**	**311**	*e*P	**P**	**13 16 35.9**	**+0.9**
LSZ				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.6						
LSZ	**Lusaka**	**30.21**	**311**	*e*P	**P**	**13 16 35.9**	**+0.9**
	comp=Z,19nm,1.5s,mb4.6						
MAW	**Mawson**	**30.84**	**171**	P	**P**	**13 16 39.9**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.1,baz=21,slow=10.0,SNR=3.8						
MAW				PP	PP	13 17 39.6	-1.6
	comp=Z,6.0nm,0.4s,baz=332,slow=15,SNR=28						
MAW				LR	LR	13 25 48.5	
	comp=Z,581nm,20.8s,MS4.2,baz=62,slow=30						
SYO	**Syowa Base**	**32.22**	**188**	⇓PnPn		13 17 57.1	
TSUM	**Tsumeb**	**34.64**	**292**	P	**P**	**13 17 13.3**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.4,baz=146,slow=3.1,SNR=5.5						
TSUM				LR	LR	13 30 41.2	
	comp=Z,82nm,19.7s,MS3.5,baz=141,slow=35						
TSUM	**Tsumeb**	**34.64**	**292**	P	**P**	**13 17 13.3**	**-0.3**
TSUM				LR	LR	13 30 41.1	
KMBO	**Kilima Mbogo**	**38.47**	**337**	LR	LR	13 31 38.7	
	comp=Z,589nm,21.4s,MS4.4,baz=96,slow=33						
SNAA	**Sanae**	**43.76**	**202**	P	**P**	**13 18 29.9**	**+1.0**
	comp=Z,1.9nm,0.8s,mb3.9,baz=90,slow=5.7,SNR=11						
SNAA	**Sanae**	**43.76**	**202**	*i* P	**P**	**13 18 30.1**	**+1.3**
SNAA	**Sanae**	**43.76**	**202**	*e*P	**P**	**13 18 29.2**	**+0.4**
	comp=Z,9.2nm,1.0s,mb4.5						
CASY	**Casey**	**43.99**	**150**	P	**P**	**13 18 30.5**	**-0.2**
QSPA	**South Pole Qui**	**52.69**	**180**	*e*P	**P**	**13 19 38.6**	**+0.4**
	comp=Z,23nm,1.0s,mb5.1						
VNDA	**Vanda**	**57.91**	**166**	P	**P**	**13 20 14.8**	**-1.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=250,slow=17,SNR=2.4						
VNDA				LR	LR	13 42 54.6	
	comp=Z,463nm,18.4s,MS4.6,baz=241,slow=34						
VNDA	**Vanda**	**57.91**	**166**	P	**P**	**13 20 14.6**	**-1.5**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VNDA	**Vanda**	**57.91**	**166**	P	**P**	**13 20 14.6**	**-1.4**
	comp=Z,2.2nm,1.0s,mb4.1						
MBWA	**Marble Bar**	**60.56**	**95**	*e*P	**P**	**13 20 33.5**	**-1.6**
	comp=Z,12nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	**66.89**	**96**	⇓*i*P	**P**	**13 21 16.9**	**+0.2**
	comp=Z,18nm,1.0s,mb5.1						
DBIC	**Dimbokro**	**68.34**	**297**	P	**P**	**13 21 25.8**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.4,baz=111,slow=11,SNR=5.0						
DBIC				LR	LR	13 48 15.7	
	comp=Z,80nm,19.2s,MS4.0,baz=115,slow=33						
DBIC	**Dimbokro**	**68.34**	**297**	*e*P	**P**	**13 21 25.5**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DBIC	**Dimbokro**	**68.34**	**297**	*e*P	**P**	**13 21 25.5**	**-0.5**
	comp=Z,7.7nm,0.9s,mb4.7						
TORD	**Torodi Ar. Bea**	**68.65**	**307**	P	**P**	**13 21 27.1**	**-0.7**
	comp=Z,2.2nm,1.1s,mb4.0,baz=136,slow=6.5,SNR=6.1						
STKA	**Stephens Creek**	**71.57**	**116**	*e*P	**P**	**13 21 46.0**	**+0.6**
	comp=Z,8.5nm,1.3s,mb4.5						
STKA	**Stephens Creek**	**71.57**	**116**	P	**P**	**13 21 45.6**	**+0.3**
	comp=Z,6.9nm,0.8s,mb4.6,baz=246,slow=16,SNR=9.8						
STKA				LR	LR	13 45 17.5	
	comp=Z,152nm,20.8s,MS4.2,baz=206,slow=29						
KOLN	**Koldanda**	**71.62**	**30**	*e*P	**P**	**13 21 44.7**	**-1.1**
	comp=Z,107nm,1.3s,mb5.6						
DMN	**Daman**	**72.09**	**31**	*e*P	**P**	**13 21 47.3**	**-1.2**
	comp=Z,81nm,1.4s,mb5.5						
PKI	**Pulchoki**	**72.18**	**31**	*e*P	**P**	**13 21 48.7**	**-0.4**
GKN	**Gorkha**	**72.25**	**31**	*e*P	**P**	**13 21 48.3**	**-1.2**
	comp=Z,32nm,1.0s,mb5.2						
KKN	**Kakani**	**72.32**	**31**	*e*P	**P**	**13 21 49.2**	**-0.7**
	comp=Z,74nm,1.3s,mb5.5						
JIRN	**Jiri**	**72.58**	**32**	*e*P	**P**	**13 21 50.8**	**-0.7**
	comp=Z,45nm,1.1s,mb5.3						
GUN	**Gumba**	**72.67**	**32**	*e*P	**P**	**13 21 51.5**	**-0.5**
	comp=Z,115nm,1.2s,mb5.7						
WRA	**Warramunga Arr**	**72.70**	**102**	P	**P**	**13 21 51.8**	**-0.5**
	comp=Z,17nm,1.0s,mb4.9,baz=232,slow=5.1,SNR=126						
WB2	**Warramunga Ar**	**72.71**	**102**	⇓*i*P	**P**	**13 21 53.0**	**+0.6**
WRAB	**Tennant Creek**	**72.72**	**102**	*d*⇓*i*P	**P**	**13 21 52.9**	**+0.5**
LSA	**Lhasa**	**76.52**	**35**	P	**P**	**13 22 15.3**	**+1.2**
LSA	**Lhasa**	**76.52**	**35**	*e*P	**P**	**13 22 14.4**	**+0.3**
LSA				*e*		13 22 20.2	
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**76.52**	**35**	*e*P	**P**	**13 22 14.4**	**+0.3**
	comp=Z,2.6nm,0.6s,mb4.3						
LSA				*e*		13 22 20.2	
GNI	**Garni**	**77.52**	**355**	LR	LR	13 55 55.2	
	comp=Z,146nm,18.7s,MS4.3,baz=158,slow=35						
BRTR	**Keskin Array B**	**78.56**	**346**	P	**P**	**13 22 24.4**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=117,slow=2.8,SNR=3.7						
KMI	**Kunming**	**78.80**	**46**	P	**P**	**13 22 32.8**	**+6.0**
KIV	**Kislovodsk**	**81.46**	**354**	*e*P	**P**	**13 22 41.4**	**+0.8**
KIV				*e*		13 25 48.5	
KIV				*e*PPP	PPP	13 27 38.5	-1.9
KIV				*e*SS	SS	13 38 11.1	+0.5
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
KIV				MLR	MLR		
	comp=Z,131nm,18.0s,MS4.3						
CTA	**Charters Tower**	**81.75**	**109**	*e*P	**P**	**13 22 44.1**	**+1.6**
	comp=Z,7.9nm,1.0s,mb4.6						
CTA	**Charters Tower**	**81.75**	**109**	*e*P	**P**	**13 22 44.1**	**+1.6**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AAK	**Ala-Archa**	**82.49**	**17**	⇓*i*P	**P**	**13 22 46.3**	**+0.4**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
PLCA	**Paso Flores**	**85.74**	**220**	P	**P**	**13 23 02.0**	**-0.4**
	comp=Z,5.3nm,1.0s,mb4.7,baz=185,slow=1.7,SNR=7.1						
WMQ	**Urumqi**	**87.39**	**25**	*e*P	**P**	**13 23 11.9**	**+1.5**
WMQ				AP	pP	13 23 16.8	+4.1
WMQ				XP	sP	13 23 18.9	+5.5
WMQ				AMB	AMB		
	comp=Z,80nm,5.0s						
WMQ				LR	LR		
	comp=N,310nm,20.0s,MS4.9						
WMQ				LR	LR		
	comp=E,300nm,20.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,380nm,19.2s,MS4.8						
AKTK	**Aktyubinsk**	**87.76**	**4**	P	**P**	**13 23 12.2**	**+0.2**
AKTO	**Aktyubinsk**	**87.76**	**4**	P	**P**	**13 23 12.2**	**+0.2**
	comp=Z,0.7nm,0.6s,mb4.0,baz=196,slow=8.5,SNR=2.7						
LZH	**Lanzhou**	**87.88**	**40**	*e*P	**P**	**13 23 17.8**	**+4.9**
LZH				AP	pP	13 23 21.1	+5.9
LZH				XP	sP	13 23 22.6	+6.7
LZH				PP	PP	13 26 46.5	+5.1
LZH				SKS	SKS	13 33 43.6	0.0
LZH				*e*S	S	13 34 00.4	+6.1
LZH				XS		13 34 05.9	
LZH				PS	PS	13 35 04.8	+5.6
LZH				SS	SS	13 39 50.8	+5.9
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,90nm,7.5s						
LZH				LR	LR		
	comp=N,350nm,15.7s						
LZH				LR	LR		
	comp=Z,540nm,18.5s,MS5.0						
MKAR	**Makanchi Array**	**88.38**	**21**	P	**P**	**13 23 16.0**	**+1.0**
	comp=Z,0.6nm,0.8s,mb3.9,baz=209,slow=25,SNR=3.4						
MKAR				LR	LR	13 57 59.2	
	comp=Z,59nm,21.8s,MS4.0,baz=180,slow=32						
GTA	**Gaotai**	**88.54**	**35**	*e*P	**P**	**13 23 16.6**	**+0.6**
GTA				AP	pP	13 23 22.9	+4.6
GTA				XP	sP	13 23 26.5	+7.5
PMG	**Port Moresby**	**88.88**	**101**	*e*P	**P**	**13 23 18.6**	**+0.4**
KURK	**Kurchatov**	**91.06**	**17**	*e*P	**P**	**13 23 28.1**	**+0.6**
BVAR	**Borovoye Array**	**91.66**	**11**	P	**P**	**13 23 29.8**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.6,baz=178,slow=5.6,SNR=14						
GERES	**GERESS Array B**	**92.25**	**336**	P	**P**	**13 23 33.3**	**+0.3**
	comp=Z,0.3nm,0.3s,mb4.2,baz=45,slow=1.9,SNR=3.9						
NJ2	**Nanjing**	**93.52**	**52**	*e*P	**P**	**13 23 38.8**	**-0.5**
NJ2				AP	pP	13 23 49.3	+7.7
NJ2				XP	sP	13 23 53.3	+11
NJ2				SKS	SKS	13 34 09.0	-7.9
NJ2				S	S	13 34 41.0	-4.1
NJ2				XS		13 34 59.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,200nm,5.0s						
NJ2				LR	LR		
	comp=N,1μm,27.1s						
NJ2				LR	LR		
	comp=E,510nm,21.8s						
NJ2				LR	LR		
	comp=Z,300nm,29.0s,MS4.6						
ARU	**Arti**	**93.77**	**4**	⇑*i*P	**P**	**13 23 40.6**	**+0.8**
ARU				*e*		13 27 25.0	
ARU				*e*S	SKS	13 34 11.9	-5.7
ARU				*e*PS	PS	13 36 05.3	-1.3
ARU				*e*SS	SS	13 41 06.6	-2.4
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.9						
SSE	**Sheshan**	**94.36**	**54**	P	**P**	**13 23 44.3**	**+1.1**
SSE				XP	sP	13 23 57.5	+11
SSE				PP	PP	13 27 31.3	-1.7
SSE				S	S	13 34 54.4	+2.1
SSE				XS		13 35 10.5	
SSE				SS	SS	13 41 17.3	-0.6
SSE				AMB	AMB		
	comp=Z,180nm,3.9s						
SSE				LR	LR		
	comp=N,40nm,20.1s,MS4.0						
SSE				LR	LR		
	comp=E,40nm,20.2s,MS4.0						
SSE				LR	LR		
	comp=Z,60nm,16.9s,MS4.1						
DZM	**Mont Dzumac**	**94.93**	**122**	LR	LR	14 01 21.0	
	comp=Z,75nm,18.7s,MS4.2,baz=216,slow=32						
NVS	**Novosibirsk**	**95.95**	**18**	*e*P	**P**	**13 23 48.7**	**-1.2**
SONM	**Songino Array**	**98.09**	**34**	LR	LR	14 05 18.3	
	comp=Z,143nm,18.1s,MS4.5,baz=236,slow=34						
KBS	**Kingsbay**	**118.43**	**352**	*i* PKIKP	PKPdf	13 29 12.3	+0.6
BILL	**Bilibino**	**133.44**	**28**	*i* PKIKP	PKPdf	13 29 41.7	+1.2
SWET	**Sewanee**	**145.76**	**279**	*e*PKP	PKPdf	13 30 01.8	-1.7
INK	**Inuvik**	**149.02**	**4**	*e*PKIKP	PKPdf	13 30 06.6	-1.2
COLA	**College**	**150.32**	**17**	*e*PKIKP	PKPdf	13 30 13.9	+4.0
CCM	**Cathedral Cave**	**150.59**	**283**	*e*PKIKP	PKPdf	13 30 15.4	+4.2
ILAR	**Eielson Array**	**150.62**	**16**	PKPbc	PKPdf	13 30 14.3	+3.9
	comp=Z,3.8nm,0.8s,baz=324,slow=3.6,SNR=17						
DAWY	**Dawson**	**152.63**	**10**	*e*PKPbc	PKPdf	13 30 19.7	+6.3
YKA	**Yellowknife Ar**	**153.53**	**345**	PKP	PKPdf	13 30 12.7	-1.9
	comp=Z,0.8nm,1.1s,baz=26,slow=1.5,SNR=5.9						
YKA				PKPbc	PKPdf	13 30 20.5	+5.9
	comp=Z,0.5nm,0.6s,baz=26,slow=1.5,SNR=14						
TXAR	**Lajitas Array**	**157.69**	**256**	PKP	PKPdf	13 30 21.3	+0.1
	comp=Z,0.9nm,1.0s,baz=153,slow=2.8,SNR=5.4						
PDAR	**Pinedale Array**	**164.52**	**296**	PKP	PKPdf	13 30 24.7	-3.3
	comp=Z,0.3nm,0.5s,baz=315,slow=4.2,SNR=3.4						
PDAR				PP	PP	13 35 08.7	-1.1
	comp=Z,0.4nm,0.8s,baz=79,slow=7.6,SNR=4.2						
SRU	**San Rafael**	**165.70**	**282**	*e*PKIKP	PKPdf	13 30 29.0	-0.2
NVAR	**Mina Array Bea**	**171.80**	**280**	PKP	PKPdf	13 30 32.6	-0.5
	comp=Z,0.1nm,0.3s,baz=127,slow=1.2,SNR=6.2						

IDC 14 13:29:40.8±1.9,22.61S×67.32W,h149km±19km,mb3.6/2, mb1 3.7/5,mb1mx3.4/16,mbtmp4.1/5,MS3.2/1,Ms1 3.2/1, ms1mx2.1/26,Error ellipse: s-maj=36.7km s-min=16.9km az=93.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.33**	**353**	P	P	13 31 13.7	+0.9
	1.4nm,0.3s,baz=157,slow=7.5,SNR=21						
LPAZ				S	S	13 32 24.1	-0.3
	0.1nm,0.3s,baz=329,slow=25,SNR=3.9						
SIV	**San Ignacio**	**8.83**	**43**	P	P	13 31 44.9	-1.3
	12nm,0.3s,baz=226,slow=10,SNR=102						
SIV				S	S	13 33 14.2	-10
	0.8nm,0.3s,baz=320,slow=23,SNR=3.5						
CFAA	**Coronel Fontan**	**9.00**	**185**	P	P	13 31 47.6	-0.9
	0.1nm,0.3s,baz=325,slow=12,SNR=5.1						
CFAA				S	S	13 33 19.6	-8.6
	0.1nm,0.3s,baz=244,slow=15,SNR=5.6						
PLCA	**Paso Flores**	**18.28**	**188**	P	P	13 33 42.8	-2.8
	0.1nm,0.3s,baz=355,slow=7.3,SNR=5.3						
PLCA				LR	LR	13 40 12.3	
	comp=Z,70nm,18.8s,baz=175,slow=35						
TORD	**Torodi Ar. Bea**	**76.34**	**69**	P	P	13 41 13.9	-1.6
	1.0nm,0.4s,baz=253,slow=5.6,SNR=30						
YKA	**Yellowknife Ar**	**92.72**	**340**	P	P	13 42 34.8	-1.8
	0.3nm,0.7s,baz=127,slow=4.4,SNR=7.4						
MKAR	**Makanchi Array**	**145.62**	**38**	PKPbc	PKPbc	13 49 01.8	-0.1
	0.1nm,0.5s,baz=315,slow=2.4,SNR=4.2						

*NEIC **14** 13:38:42.5±2.6,35.34N×70.33E,h60km±24km,mb4.1/2, Error ellipse: s-maj=37.5km s-min=9.7km az=58.0*
*IDC **14** 13:38:50.8±9.0,35.73N×70.46E,h127km±80km,mb3.1/3, mb1 3.2/6,mb1mx3.0/21,mbtmp3.5/6,Error ellipse: s-maj=48.0km s-min=30.9km az=7.0*
*NNC **14** 13:38:52.0±3.9,36.11N×70.32E,h74km±64km,mb3.3, mpv3.7,Error ellipse: s-maj=50.1km s-min=31.2km az=81.0*
ISC 14 13:38:44.4±1.8,35.67N±0.07×70.7E±0.1,h86km±22km, n21,σ1$09/23,mb3.3/3,4C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**7.42**	**359**	P	**P**	**13 40 31.9**	**-0.1**
	1.7nm,0.3s,baz=177,slow=13,SNR=51						
KK31				⇑S	**S**	**13 41 50.1**	**-5.2**
	2.8nm,0.4s,baz=194,slow=28,SNR=6.8						
TKM2	**Tokmak 2**	**8.16**	**26**	⇑P	**P**	**13 40 44.0**	**+2.0**
	2.3nm,0.7s						
TKM2				⇑S	**S**	**13 42 12.0**	**-1.4**
	5.4nm,0.6s						
KOLN	**Koldanda**	**13.48**	**122**	*e*P	**P**	**13 41 52.5**	**-0.7**
	14nm,0.6s						
GKN	**Gorkha**	**14.07**	**119**	*e*P	**P**	**13 42 00.3**	**-0.5**
	7.0nm,0.2s						
MKAR	**Makanchi Array**	**14.09**	**34**	P	**P**	**13 42 05.9**	**+4.8**
	0.1nm,0.3s,baz=210,slow=10,SNR=6.2						
DMN	**Daman**	**14.64**	**119**	*e*P	**P**	**13 42 08.6**	**+0.4**
KKN	**Kakani**	**14.65**	**118**	*e*P	**P**	**13 42 08.4**	**0.0**
	10nm,0.4s						
PKI	**Pulchoki**	**14.87**	**119**	*e*P	**P**	**13 42 10.0**	**-1.3**
	9.7nm,0.4s						
GUN	**Gumba**	**15.02**	**117**	*e*P	**P**	**13 42 14.0**	**+0.9**
	8.3nm,0.3s						
JIRN	**Jiri**	**15.38**	**117**	*e*P	**P**	**13 42 18.2**	**+0.4**
	21nm,0.3s						
AB31	**Akbulak array**	**15.71**	**333**	P	**P**	**13 42 21.2**	**-0.5**
	2.8nm,0.6s,baz=151,slow=12,SNR=44						
BVA0	**Borovoye Array**	**17.35**	**359**	P	**P**	**13 42 45.6**	**+3.4**
	0.2nm,0.6s,baz=165,slow=10,SNR=7.7						
BVAR	**Borovoye Array**	**17.35**	**359**	P	**P**	**13 42 43.3**	**+1.1**
	0.2nm,0.3s,baz=180,slow=10,SNR=10						
AKTK	**Aktyubinsk**	**17.40**	**332**	P	**P**	**13 42 43.5**	**+0.6**
AKTO	**Aktyubinsk**	**17.40**	**332**	⇑P	**P**	**13 42 43.0**	**+0.1**
	0.9nm,0.9s						
AKTO	**Aktyubinsk**	**17.40**	**332**

PPT					*e*LR		LR		14 09 46.4	
	241nm,23.0s									
SIV	**San Ignacio**	**44.27**	**76**	P			**P**		**13 58 19.5**	**-0.3**
	1.8nm,0.9s,mb3.8,baz=240,slow=10,SNR=7.4									
RAR	**Rarotonga**	**49.02**	**272**	LR			LR		14 13 26.3	
	comp=Z,266nm,21.6s,MS4.2,baz=125,slow=28									
ROSC	**El Rosal**	**49.79**	**43**	LR			LR		14 16 04.8	
	comp=Z,294nm,20.8s,MS4.3,baz=21,slow=31									
QSPA	**South Pole Qui**	**54.78**	**180**	*e*P			**P**		**13 59 40.0**	**+0.3**
	4.9nm,0.5s,mb4.8									
BDFB	**Brasilia**	**54.97**	**85**	LR			LR		14 21 45.6	
	comp=Z,263nm,18.3s,MS4.3,baz=82,slow=34									
VNDA	**Vanda**	**56.22**	**195**	LR			LR		14 20 20.7	
	comp=Z,114nm,20.1s,MS4.0,baz=96,slow=32									
VNA3	**Neumayer Olymp**	**58.81**	**158**	*e*			**P**		**14 00 17.4**	**+8.8**
VNA3	**Neumayer Olymp**	**58.81**	**158**	*e*			**P**		**14 00 24.8**	**+16**
VNA3	**Neumayer Olymp**	**58.81**	**158**	P			**P**		**14 00 08.3**	**-0.3**
VNA3				*e*					14 00 17.4	
VNA3				*e*					14 00 24.8	
VNA3				*e*					14 01 01.7	
VNA1	**Neumayer--Stat**	**59.45**	**157**				**P**		**14 00 11.3**	**-1.7**
VNA2	**Neumayer--Watz**	**59.62**	**158**	*e*			**P**		**14 00 22.6**	**+8.4**
VNA2	**Neumayer--Watz**	**59.62**	**158**	*e*			**P**		**14 00 30.2**	**+16**
VNA2	**Neumayer--Watz**	**59.62**	**158**	P			**P**		**14 00 13.7**	**-0.5**
VNA2				*e*					14 00 22.6	
VNA2				*e*					14 00 30.2	
VNA2				*e*					14 01 06.1	
VNA2				*e*					14 01 39.6	
URZ	**Urewera**	**60.03**	**242**	LR			LR		14 19 45.3	
	comp=Z,262nm,21.0s,MS4.3,baz=351,slow=30									
SNAA	**Sanae**	**60.70**	**159**	P			**P**		**14 00 20.6**	**-0.9**
SNAA				*e*					14 00 30.5	
SNAA				*e*					14 00 37.9	
SNAA				*e*					14 01 14.6	
SNAA				*e*					14 01 50.2	
RPZ	**Rata Peaks**	**62.09**	**235**	LR			LR		14 21 00.6	
	comp=Z,334nm,19.1s,MS4.5,baz=19,slow=30									
AFI	**Afiamalu**	**62.57**	**272**	LR			LR		14 20 26.8	
	comp=Z,130nm,20.5s,MS4.1,baz=161,slow=29									
TXAR	**Lajitas Array**	**64.45**	**2**	P			**P**		**14 00 46.1**	**-0.9**
	0.9nm,0.7s,mb3.9,baz=179,slow=9.3,SNR=9.8									
LAZ	**Ladron**	**69.48**	**359**	P			**P**		**14 01 19.1**	**+0.3**
TPNV	**Topopah Spring**	**72.66**	**351**	*e*P			**P**		**14 01 38.5**	**+0.7**
	2.0nm,0.7s,mb4.2									
SRU	**San Rafael**	**74.30**	**356**	*e*P			**P**		**14 01 46.9**	**-0.4**
	4.7nm,0.8s,mb4.5									
NVAR	**Mina Array Bea**	**74.39**	**350**	P			**P**		**14 01 48.0**	**+0.1**
	1.8nm,0.9s,mb4.0,baz=162,slow=6.6,SNR=12									
TMUT	**Trail Mountain**	**74.52**	**356**	*e*P			**P**		**14 01 49.0**	**+0.4**
MAW	**Mawson**	**76.93**	**176**	P			**P**		**14 02 03.6**	**+1.9**
	1.2nm,0.5s,mb4.1,baz=169,slow=10,SNR=5.8									
MAW				LR			LR		14 33 28.7	
	comp=Z,90nm,18.8s,MS4.1,baz=182,slow=34									
MAW	**Mawson**	**76.93**	**176**	P			**P**		**14 02 03.2**	**+1.5**
	19nm,1.2s,mb4.9									
MAW				LR			LR		14 33 28.7	
PDAR	**Pinedale Array**	**77.89**	**357**	P			**P**		**14 02 07.1**	**-0.5**
	3.2nm,0.9s,mb4.3,baz=166,slow=6.1,SNR=17									
WVOR	**Wild Horse Val**	**78.37**	**350**	*e*P			**P**		**14 02 11.1**	**+0.9**
	12nm,1.4s,mb4.6									
BMO	**Blue Mountains**	**80.58**	**352**	*e*P			**P**		**14 02 22.7**	**+0.6**
ULM	**Lac du Bonnet**	**85.76**	**6**	P			**P**		**14 02 49.0**	**+0.6**
	1.9nm,0.7s,mb4.4,baz=213,slow=14,SNR=5.4									
STKA	**Stephens Creek**	**87.92**	**232**	P			**P**		**14 02 59.5**	**+0.1**
	1.9nm,0.9s,mb4.3,baz=92,slow=14,SNR=3.2									
STKA				LR			LR		14 34 19.7	
	comp=Z,261nm,19.1s,MS4.7,baz=207,slow=30									
STKA	**Stephens Creek**	**87.92**	**232**	P			**P**		**14 02 59.5**	**+0.1**
STKA				LR			LR		14 34 19.7	
SCHQ	**Schefferville**	**95.93**	**21**	LR			LR		14 42 18.0	
	comp=Z,76nm,19.9s,MS4.2,baz=20,slow=33									
YKA	**Yellowknife Ar**	**97.84**	**356**	P			**P**		**14 03 44.6**	**+0.3**
	0.1nm,0.5s,mb3.6,baz=162,slow=5.2,SNR=3.6									
HIA	**Hailar**	**144.16**	**307**	*e*PKPpre					14 09 40.9	
BRTR	**Keskin Array B**	**147.77**	**70**	PKPbc		PKPdf			14 09 54.2	+1.1
	1.8nm,0.9s,baz=180,slow=1.2,SNR=6.7									
ENH	**Enshi**	**150.01**	**270**	*e*PKPbc		PKPdf			14 10 00.1	+3.1
SONM	**Songino Array**	**153.13**	**307**	PKPbc		PKPdf			14 10 06.0	+5.0
	0.9nm,0.6s,baz=150,slow=2.0,SNR=7.0									
AKTO	**Aktyubinsk**	**160.95**	**33**	PKPab		PKPab			14 10 55.0	+2.2
	0.4nm,0.3s,baz=290,slow=3.5,SNR=3.0									

PRU ***14*** *14:43:59.9, 50.58N×14.52E*
VIE ***14*** *14:44:01.1±0.5, 49.27N×11.31E, mb2.1/1, ML2.5/1, Error ellipse: s-maj=3.7km s-min=1.7km az=62.0*
CSEM 14 14:44:02.7±1.3, 49.06N×11.03E, h30km, ML3.1/3, 2C-1D, Error ellipse: s-maj=33.5km s-min=15.1km az=67.0, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NKC	**Novy Kostel**	**1.49**	**38**	*e*PG			Pn	14 44 25.7	-2.2
NKC				*e*SG			Sn	14 44 43.6	-2.9
	19nm,0.2s								
KHC	**Kasperske Hory**	**1.68**	**87**	*e*PG			Pn	14 44 29.8	-0.7
KHC				*e*SG			Sn	14 44 49.6	-1.6
	14nm,0.2s								
MOA	**Molln**	**2.48**	**118**	⇑*i*Pn			Pn	14 44 42.1	+0.2
MOA				⇑*e*Pg			Pn	14 44 47.1	+5.1
MOA				⇓*e*Sg			Sn	14 45 20.7	+9.2
	comp=E,3.2nm,0.2s								
MOA	**Molln**	**2.48**	**118**	Pn			Pn	14 44 42.1	+0.1
MOA				Sg			Sn	14 45 20.7	+9.2
	3.2nm,0.2s								
VRAC	**Vranov**	**3.66**	**84**	*e*Pg			Pn	14 44 56.1	-2.7

NEIC ***14*** *15:03:24.9, 32.67S×71.79W, h23km, ML2.9(GUC), After GUC.*
GUC 14 15:03:24.9±0.9, 32.67S×71.79W, h23km±10km, MD3.8, ML2.9, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PACH	**Papudo**	**0.33**	**65**	⇓*i*P			Pb	15 03 32.4	+0.2
PACH				*i* S			Sb	15 03 37.9	+0.8
ROCH	**El Roble**	**0.72**	**115**	⇑*i*P			Pb	15 03 38.6	-0.1
ROCH				*i* S			Sb	15 03 48.9	+0.8
LCCH	**Las Cruces**	**0.82**	**167**	*e*P			Pb	15 03 39.8	-0.6
LCCH				*i* S			Sb	15 03 50.7	-0.3
CHNG	**Los Chungos**	**0.82**	**17**	⇓*i*P			Pb	15 03 39.6	-0.9
CHNG				*i* S			Sb	15 03 50.8	-0.3
CHNG				AMP				15 03 52.3	
	comp=E,272nm,0.3s								
JACH	**Jahuel**	**1.01**	**91**	⇑*i*P			Pb	15 03 42.8	-0.8
JACH				*i* S			Sb	15 03 56.5	+0.1
PEL	**Peldehue**	**1.04**	**117**	⇑*i*P			Pb	15 03 43.8	-0.3
PEL				*i* S			Sb	15 03 58.1	+0.8
PEL				AMP				15 04 00.3	
	comp=E,2μm,0.3s								
RCDM	**Rinconada Maip**	**1.16**	**135**	*e*P			Pn	15 03 45.4	-0.5
RCDM				AMP				15 04 05.9	
	comp=E,374nm,0.1s								
TACH	**Talagante**	**1.21**	**144**	⇓*i*P			Pn	15 03 46.0	-0.6
TACH				*i* S			Sb	15 04 01.5	-0.7
SAN	**Santiago**	**1.22**	**130**	AMP				15 04 07.0	
	comp=N,364nm,0.6s								
ANTU	**Antumapu**	**1.32**	**133**	AMP				15 04 09.4	
	comp=N,385nm,0.4s								
FCH	**Farellones**	**1.42**	**118**	⇓*i*P			Pn	15 03 49.6	0.0
FCH				*i* S			Sn	15 04 08.5	+0.9
FCH				AMP				15 04 09.5	
	comp=E,413nm,0.2s								
PCH	**Pirque**	**1.43**	**132**	*e*P			Pn	15 03 48.9	-0.8
CHCH	**Chadas Angostu**	**1.58**	**143**	⇓*i*P			Pn	15 03 52.3	+0.4
CHCH				*e*S			Sn	15 04 12.4	+0.8
CACH	**El Canelo**	**1.75**	**146**	⇓*i*P			Pn	15 03 55.4	+1.0
CACH				*i* S			Sn	15 04 18.2	+2.2
SFDO	**San Fernando**	**2.04**	**162**	*e*P			Pn	15 03 59.4	+0.9

BJI ***14*** *15:25:40.7, 1.83S×127.70E, h25km, mB5.2, mb4.9, Ms5.0, Msz4.8*
IDC ***14*** *15:25:40.5±0.5, 1.23S×127.80E, mb4.6/14, mb1 4.7/16, mb1mx4.6/21, mbtmp4.6/16, ML4.4/2, MS4.1/7, Ms1 4.1/7, ms1mx3.6/22, Error ellipse: s-maj=25.1km s-min=13.8km az=69.0*
HRVD ***14*** *15:25:41.8±0.5, 1.20S×127.86E, h12km, MW4.8/52, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s52,c65; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.22±.12; Mθθ -0.52±.09; Mφφ -0.69±.12; Mrθ 0.10±.37; Mrφ 1.48±.07; Mθφ 0.42±.33; Best double couple: M0 1.785×10^16 NP1:φ108°, δ49°, λ46°, NP2:φ344°, δ57°, λ129°. Principal axes: T 1.462, Plg58°, Azm310°; N .65, Plg32°, Azm140°; P -2.109, Plg4°, Azm47°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *15:25:41.8±5.6, 1.28S×127.82E, h9km±35km, mb5.0/14 Error ellipse: s-maj=13.9km s-min=7.9km az=57.0*
MOS ***14*** *15:25:43.5±1.3, 1.34S×127.78E, h33km, mb5.0/7, Error ellipse: s-maj=16.3km s-min=8.0km az=118.5*
ISC 14 15:25:39.4±2.0, 1.30S±0.04×127.91E±0.07, h5km±12km, h31km±2.9km: pP-P, n108, σ1§19/94, mb4.9/46, MS4.4/11, 2C-3D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DAV	**Davao City (W)**	**8.63**	**344**	P			**P**	**15 27 46.3**	**-1.6**
KAKA	**Kakadu**	**12.20**	**159**	*e*P			Px	15 28 57.3	
	30nm,0.5s								
FITZ	**Fitzroy Crossi**	**16.84**	**187**	*e*P			**P**	**15 29 37.0**	**-0.7**
	14nm,0.7s								
FITZ	**Fitzroy Crossi**	**16.84**	**187**	Pn			**P**	**15 29 38.7**	**+1.0**
	0.3nm,0.3s,baz=21,slow=17,SNR=14								
KSM	**Kuching**	**17.81**	**279**	*e*P			**P**	**15 29 50.7**	**+0.9**
WRAB	**Tennant Creek**	**19.56**	**162**	*c i*P			**P**	**15 30 09.3**	**-1.7**
WRA	**Warramunga Arr**	**19.57**	**162**	P			**P**	**15 30 09.3**	**-1.7**
	2.2nm,0.3s,baz=342,slow=12,SNR=101								
WRA				S			**S**	**15 33 47.4**	**+1.3**
	0.3nm,0.3s,baz=341,slow=22,SNR=4.4								
WRA	**Warramunga Arr**	**19.57**	**162**	P			**P**	**15 30 09.3**	**-1.7**
WRA				S			**S**	**15 33 47.5**	**+1.3**
WB2	**Warramunga Arr**	**19.57**	**162**	*e*P			**P**	**15 30 09.4**	**-1.7**
PMG	**Port Moresby**	**20.78**	**113**	P			**P**	**15 30 23.9**	**-0.1**
PMG				pmax			pmax		
	comp=Z,22nm,1.0s								
PMG	**Port Moresby**	**20.78**	**113**	P			**P**	**15 30 23.9**	**-0.1**
	comp=Z,22nm,1.0s								
MBWA	**Marble Bar**	**21.29**	**201**	*e*P			**P**	**15 30 28.0**	**-1.2**
	comp=Z,100nm,1.1s,mb5.1								
GUMO	**Guam**	**22.40**	**48**	LR			LR	15 38 12.8	
	comp=Z,362nm,19.7s,MS3.8,baz=227,slow=34								
ASPA	**Alice Springs**	**22.98**	**166**	*e*P			**P**	**15 30 46.5**	**+0.4**
CTA	**Charters Tower**	**25.89**	**137**	*e*P			**P**	**15 31 17.1**	**+2.9**
	comp=Z,17nm,0.9s,mb4.6								
CTA	**Charters Tower**	**25.89**	**137**	P			**P**	**15 31 16.9**	**+2.8**
	comp=Z,18nm,0.9s,mb4.6,baz=310,slow=9.8,SNR=15								
CTA	**Charters Tower**	**25.89**	**137**	*e*P			**P**	**15 31 17.1**	**+2.9**
CTA				pmax			pmax		
	comp=Z,17nm,0.9s								
CTAO	**Charters Tower**	**25.89**	**137**	*e*P			**P**	**15 31 16.4**	**+2.2**
CTAO				pmax			pmax		
	comp=Z,68nm,1.4s,mb5.0								
CTAO	**Charters Tower**	**25.89**	**137**	*e*P			**P**	**15 31 16.4**	**+2.2**
	comp=Z,68nm,1.4s,mb5.0								
JOW	**Kunigami**	**27.97**	**1**	LR			LR	15 42 50.3	
	comp=Z,458nm,18.1s,MS4.1,baz=325,slow=37								
PSI	**Prapat**	**29.26**	**278**	P			**P**	**15 31 44.6**	**-0.3**
	comp=Z,28nm,0.9s,mb5.0,baz=93,slow=3.2,SNR=12								
FORT	**Forrest**	**29.32**	**180**	*e*P			**P**	**15 31 43.5**	**-1.7**
	comp=Z,27nm,0.7s,mb5.1								
CBIJ	**Chichi jima**	**31.40**	**25**	LR			LR	15 43 21.9	
	comp=Z,367nm,21.0s,MS4.0,baz=218,slow=34								
SSE	**Sheshan**	**32.84**	**349**	P			**P**	**15 32 18.6**	**+2.3**
SSE				S			**S**	**15 37 26.8**	**-6.2**
SSE				AMB			AMB		
	comp=Z,40nm,0.7s,mb5.5								
SSE				AMB			AMB		
	comp=Z,240nm,4.5s								
NWAO	**Narrogin (SRO)**	**33.02**	**197**	LR			LR	15 45 19.5	
	comp=Z,254nm,18.5s,MS4.0,baz=302,slow=36								
STKA	**Stephens Creek**	**33.05**	**158**	*e*P			**P**	**15 32 18.8**	**+0.8**
	comp=Z,19nm,0.8s,mb5.1								
STKA	**Stephens Creek**	**33.05**	**158**	P			**P**	**15 32 19.4**	**+1.4**
	comp=Z,23nm,0.8s,mb5.2,baz=329,slow=9.1,SNR=40								
WHN	**Wuhan**	**34.20**	**339**	P			**P**	**15 32 34.0**	**+5.9**
NJ2	**Nanjing**	**34.26**	**346**	*e*P			**P**	**15 32 29.8**	**+1.2**
NJ2				PP			PP	15 33 50.4	+7.0
NJ2				S			**S**	**15 37 53.0**	**-2.0**
NJ2				AMB			AMB		
	comp=Z,20nm,0.6s,mb5.2								
NJ2				AMB			AMB		
	comp=Z,210nm,5.4s								
NJ2				LR			LR		
	comp=N,3μm,18.0s,MS5.0								
NJ2				LR			LR		
	comp=E,2μm,23.0s,MS5.0								
NJ2				LR			LR		
	comp=Z,1μm,17.6s								
JNU	**Nakatsue**	**34.35**	**4**	LR			LR	15 44 18.8	
	comp=Z,358nm,21.5s,MS4.1,baz=184,slow=33								
KMI	**Kunming**	**35.83**	**319**	P			**P**	**15 32 44.3**	**+2.2**
KMI				AMB			AMB		
	comp=Z,10.0nm,1.5s,mb4.5								
ENH	**Enshi**	**35.97**	**332**	*e*P			**P**	**15 32 39.8**	**-3.4**
	comp=Z,10nm,0.7s,mb4.9								
ARMA	**Armidale**	**36.68**	**144**	*e*P			**P**	**15 32 51.9**	**+2.8**
MJAR	**Matsushiro Arr**	**38.85**	**13**	P			**P**	**15 33 07.9**	**+0.6**
	comp=Z,3.2nm,1.0s,mb4.0,baz=192,slow=9.5,SNR=3.4								
MJAR				LR			LR	15 47 55.6	
	comp=Z,409nm,20.2s,MS4.2,baz=200,slow=34								
CD2	**Chengdu**	**39.42**	**326**	*e*P			**P**	**15 33 16.4**	**+4.3**
CD2				AMB			AMB		
	comp=Z,10.0nm,1.9s,mb4.2								
XAN	**Xi'an**	**39.42**	**335**	P			**P**	**15 33 12.8**	**+0.7**
LZH	**Lanzhou**	**43.43**	**331**	*e*P			**P**	**15 33 47.5**	**+2.5**
LZH				AP			pP	15 33 58.1	+12
LZH				XP			sP	15 34 02.3	+15
LZH				PP			PP	15 35 30.6	+2.5
LZH				*e*S			**S**	**15 40 13.5**	**+0.1**
LZH				XS				15 40 30.3	
LZH				SS			SS	15 43 20.5	+0.3
LZH				AMB			AMB		
	comp=Z,30nm,1.2s,mb4.9								
LZH				AMB			AMB		
	comp=Z,170nm,6.3s								
LZH				LR			LR		
	comp=E,1μm,15.5s								
LZH				LR			LR		
	comp=Z,2μm,17.7s,MS5.0								
CN2	**Changchun**	**44.95**	**357**	*e*P			**P**	**15 34 00.8**	**+3.6**
LSA	**Lhasa**	**46.70**	**314**	P			**P**	**15 34 13.3**	**+2.0**
LSA	**Lhasa**	**46.70**	**314**	*e*P			**P**	**15 34 12.6**	**+1.3**
LSA				pmax			pmax		
	comp=Z,39nm,0.8s,mb5.4								
LSA	**Lhasa**	**46.70**	**314**	*e*P			**P**	**15 34 12.6**	**+1.3**
	comp=Z,39nm,0.8s,mb5.4								
VIS	**Vishakhapatnam**	**47.78**	**295**	*e*P			**P**	**15 34 19.6**	**-0.3**
VIS				AMb			AMB	15 34 28.0	
	comp=Z,29nm,1.4s,mb5.1								
GTA	**Gaotai**	**48.01**	**331**	*e*P			**P**	**15 34 21.4**	**0.0**
GTA				AP			pP	15 34 28.8	+5.8
GTA				XP			sP	15 34 32.5	+8.9
GTA				AMB			AMB		
	comp=Z,80nm,5.7s								
GTA				LR			LR		
	comp=N,300nm,14.1s,MS4.7								
GTA				LR			LR		
	comp=E,510nm,15.6s,MS4.7								
GTA				LR			LR		
	comp=Z,500nm,12.9s,MS4.7								
JIRN	**Jiri**	**49.34**	**309**	*e*P			**P**	**15 34 32.5**	**+0.6**
	comp=Z,94nm,1.1s,mb5.7								
GUN	**Gumba**	**49.70**	**309**	*e*P			**P**	**15 34 34.9**	**+0.2**
	comp=Z,102nm,1.0s,mb5.8								
YSS	**Yuzh-Sakhalins**	**49.79**	**13**	*e*P			**P**	**15 34 37.0**	**+1.9**
YSS				pmax			pmax		
	comp=Z,132nm,2.5s,mb5.5								
PKI	**Pulchoki**	**49.91**	**308**	*e*P			**P**	**15 34 36.0**	**-0.3**
KKN	**Kakani**	**50.12**	**309**	*e*P			**P**	**15 34 37.7**	**-0.1**
	comp=Z,55nm,0.9s,mb5.6								
DMN	**Daman**	**50.17**	**308**	*e*P			**P**	**15 34 38.1**	**-0.1**
	comp=Z,87nm,1.0s,mb5.7								
GKN	**Gorkha**	**50.72**	**308**	*e*P			**P**	**15 34 42.1**	**-0.3**
	comp=Z,68nm,0.9s,mb5.6								
KOLN	**Koldanda**	**51.43**	**308**	*e*P			**P**	**15 34 47.9**	**+0.1**
	comp=Z,179nm,1.0s,mb5.9								
TRD	**Trivandrum**	**51.70**	**282**	*e*P			**P**	**15 34 50.4**	**+0.4**
TRD				AMb			AMB	15 34 55.0	
	comp=Z,17nm,0.5s,mb5.3								
HYB	**Hyderabad**	**52.05**	**293**	*i* P			**P**	**15 34 51.5**	**-1.1**
	comp=Z,50nm,1.0s,mb5.4								
HYB	**Hyderabad**	**52.05**	**293**	*e*P			**P**	**15 34 51.5**	**-1.1**
HYB				pmax			pmax		
	comp=Z,50nm,1.0s,mb5.4								
HYB	**Hyderabad**	**52.05**	**293**	*e*P			**P**	**15 34 51.5**	**-1.1**
	comp=Z,50nm,1.0s,mb5.4								
ULN	**Ulaanbaatar**	**52.23**	**342**	*e*P			**P**	**15 34 54.8**	**+1.2**
ULN	**Ulaanbaatar**	**52.23**	**342**	*e*P			**P**	**15 34 52.9**	**-0.7**
	comp=Z,8.9nm,1.1s,mb4.6								
SONM	**Songino Array**	**52.41**	**342**	P			**P**	**15 34 55.0**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=150,slow=8.4,SNR=8.7								
BHPL	**Bhopal**	**54.81**	**300**	*e*P			**P**	**15 35 15.7**	**+2.7**
BHPL				AMb			AMB	15 35 18.1	
	comp=Z,29nm,1.2s,mb5.2								
KAD	**Karad**	**56.05**	**292**	*e*P			**P**	**15 35 24.5**	**+2.5**
KAD				AMb			AMB	15 35 32.5	
	comp=Z,20nm,1.4s,mb5.0								
WMQ	**Urumqi**	**57.52**	**326**	P			**P**	**15 35 31.5**	**-0.6**
WMQ				AP			pP	15 35 41.6	+7.9
WMQ				XP			sP	15 35 45.5	+11
WMQ				PCP			PcP	15 36 25.0	-0.5
WMQ				PP			PP	15 37 40.8	-0.6
WMQ				PPP			PPP	15 39 01.8	-0.3
WMQ				*e*S			**S**	**15 43 24.3**	**-4.0**
WMQ				SCS			ScS	15 45 14.6	-4.1
WMQ				AMB			AMB		
	comp=Z,10.0nm,1.0s,mb4.8								
WMQ				AMB			AMB		
	comp=Z,100nm,5.2s								
WMQ				LR			LR		
	comp=N,1μm,22.0s,MS5.1								
WMQ				LR			LR		
	comp=E,1μm,21.0s,MS5.1								
WMQ				LR			LR		
	comp=Z,1μm,22.0s,MS4.9								
AJM	**Ajmer**	**58.27**	**302**	*e*P			**P**	**15 35 39.7**	**+2.1**
AJM				AMb			AMB	15 35 43.5	
	comp=Z,14nm,1.8s,mb4.7								
MKAR	**Makanchi Array**	**62.35**	**326**	P			**P**	**15 36 04.5**	**-0.7**
	comp=Z,6.6nm,0.5s,mb5.0,baz=120,slow=8.2,SNR=76								
YAK	**Yakutsk**	**63.18**	**1**	*e*P			**P**	**15 36 11.4**	**+0.9**
YAK				pmax			pmax		
	comp=Z,11nm,0.9s,mb5.0								
YAK				pmax			pmax		
	comp=Z,5.0nm,0.9s,mb4.6								
YAK	**Yakutsk**	**63.18**	**1**	*e*P			**P**	**15 36 09.8**	**-0.7**
	comp=Z,22nm,0.8s,mb5.3								
KZA	**Kyzart**	**64.12**	**319**	P			**P**	**15 36 17.6**	**+0.5**
	SNR=8.8								
TKM2	**Tokmak 2**	**64.30**	**320**	P			**P**	**15 36 17.5**	**-0.7**
	SNR=6.5								
UCH	**Uchtor**	**64.68**	**319**	P			**P**	**15 36 21.0**	**+0.3**
	SNR=10								
AAK	**Ala-Archa**	**64.88**	**319**	*d i*P			**P**	**15 36 20.9**	**-1.1**
AAK				pmax			pmax		
	comp=Z,4.0nm,1.0s,mb4.4								
USP	**Ospenovka**	**65.17**	**320**	P			**P**	**15 36 23.1**	**-0.7**
	SNR=12								
AML	**Almayashu**	**65.18**	**318**	P			**P**	**15 36 15.8**	**-8.1**
	SNR=15								
EKS2	**Erkin-Say**	**65.36**	**319**	P			**P**	**15 36 25.0**	**-0.1**
	SNR=8.9								
KURK	**Kurchatov**	**66.60**	**328**	⇑*e*P			**P**	**15 36 31.8**	**-1.0**
SEY	**Seymchan**	**66.66**	**12**	*e*P			**P**	**15 36 33.4**	**+0.4**
NVS	**Novosibirsk**	**66.87**	**334**	*e*P			**P**	**15 36 32.1**	**-2.4**
NVS				pmax			pmax		
	comp=Z,16nm,1.6s,mb4.8								
NVS				pmax			pmax		
	comp=E,12nm,1.5s								
BVAR	**Borovoye Array**	**72.16**	**328**	P			**P**	**15 37 05.9**	**-1.1**
	comp=E,4.5nm,0.9s,mb4.4,baz=135,slow=6.3,SNR=24								
CHKZ	**Chkalovo**	**72.34**	**328**	*e*P			**P**	**15 37 06.2**	**-1.9**
CHKZ				pmax			pmax		
	comp=Z,10.0nm,1.1s,mb4.7								
CHKZ	**Chkalovo**	**72.34**	**328**	*e*P			**P**	**15 37 06.2**	**-1.9**
	comp=Z,9.6nm,1.1s,mb4.6								
TIXI	**Tiksi**	**72.83**	**0**	*e*P			**P**	**15 37 10.9**	**+0.3**
BILL	**Bilibino**	**74.10**	**14**	*e*P			**P**	**15 37 18.2**	**+0.2**
BILL				*e*				15 37 31.3	
BILL				pmax			pmax		
	comp=Z,4.0nm,1.8s,mb4.0								
AKTK	**Aktyubinsk**	**78.32**	**322**	P			**P**	**15 37 41.4**	**-0.8**
AKTO	**Aktyubinsk**	**78.32**	**322**	P			**P**	**15 37 41.4**	**-0.8**
	comp=Z,7.8nm,0.8s,mb4.7,baz=115,slow=6.6,SNR=21								
VNDA	**V

AFI	**Afiamalu**	**61.03**	**105**	LR	LR	16 00 02.6	
	comp=Z,15nm,19.1s,MS3.2,slow=32						
MKAR	**Makanchi Array**	**62.24**	**326**	P	**P**	**15 38 01.8**	**-0.5**
	5.3nm,0.8s,mb4.7,baz=125,slow=7.5,SNR=6.6						
BVAR	**Borovoye Array**	**72.05**	**328**	P	**P**	**15 39 03.7**	**-0.2**
	3.2nm,0.9s,mb4.3,baz=135,slow=6.3,SNR=5.1						
CHKZ	**Chkalovo**	**72.24**	**328**	*eP*	**P**	**15 39 04.1**	**-0.9**
	3.4nm,0.9s,mb4.3						
AKTK	**Aktyubinsk**	**78.20**	**322**	P	**P**	**15 39 39.0**	**-0.3**
AKTO	**Aktyubinsk**	**78.20**	**322**	P	**P**	**15 39 39.0**	**-0.3**
	3.6nm,0.8s,mb4.4,baz=127,slow=5.0,SNR=5.8						
VNDA	**Vanda**	**78.40**	**173**	P	**P**	**15 39 41.4**	**+1.6**
	1.9nm,0.8s,mb4.1,baz=325,slow=3.8,SNR=3.7						
VNDA	**Vanda**	**78.40**	**173**	P	**P**	**15 39 41.4**	**+1.5**
OPO	**Ambohidratompo**	**80.71**	**251**	P	**P**	**15 39 52.9**	**-0.6**
	5.2nm,0.9s,mb4.4,baz=82,slow=6.1,SNR=4.0						
QSPA	**South Pole Qui**	**88.70**	**180**	*eP*	**P**	**15 40 33.2**	**+1.1**
	4.0nm,0.6s,mb4.9						
ILAR	**Eielson Array**	**89.10**	**25**	P	**P**	**15 40 33.9**	**-0.5**
	1.0nm,0.9s,mb4.2,baz=268,slow=5.0,SNR=6.3						
DAWY	**Dawson**	**92.34**	**26**	*eP*	**P**	**15 40 48.8**	**-0.6**
INK	**Inuvik**	**94.36**	**22**	P	**P**	**15 40 59.0**	**+0.5**
	2.0nm,1.0s,mb4.5,baz=285,slow=5.5,SNR=4.4						
TXAR	**Lajitas Array**	**123.66**	**55**	PKP	PKPdf	15 46 39.4	+3.0
	0.4nm,0.8s,baz=180,slow=2.5,SNR=3.4						
TXAR	**Lajitas Array**	**123.66**	**55**	PKP	PKPdf	15 46 39.4	+3.0
TORD	**Torodi Ar. Bea**	**125.36**	**285**	PKP	PKPdf	15 46 42.0	+1.9
	2.9nm,0.8s,baz=52,slow=2.3,SNR=6.9						
CPUP	**Villa Florida**	**152.15**	**170**	PKPbc	PKPdf	15 47 37.0	+10

MAN 14 15:35:25.0, 8.38N×125.27E, h12km, mb4.3, ML3.2, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.54**	**203**	*eP*	Pb	15 35 36.0	+0.1
BUKP						15 35 42.8	
CGP	**Cagayan de Oro**	**0.57**	**277**	⇑*iP*	Pb	15 35 36.3	-0.2
CGP				*i* S	Sb	15 35 41.9	-2.4
PAGZ	**Pagadian**	**1.94**	**254**	*eP*	Pn	15 35 57.8	-0.5
PAGZ						15 36 23.0	
IPIL	**Ipil**	**2.74**	**258**	*eP*	Pn	15 36 13.1	+3.5
IPIL						15 36 46.1	

GUC 14 16:06:12.5±0.7, 22.36S×68.60W, h142km±9km, ML3.5, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**0.66**	**146**	⇑*iP*	P	16 06 34.5	+0.2
SPCH				*i* S	S	16 06 52.1	+1.1
SPCH				AMP		16 06 52.7	
	comp=N,1μm,0.5s						
CEN1	**Los Morros**	**1.80**	**235**	⇓*iP*	P	16 06 48.4	+3.2
CEN1				*i* S	S	16 07 15.3	+5.2
CEN1				AMP		16 07 20.5	
	comp=N,249nm,0.6s						
ANCH	**Antofagasta**	**2.12**	**231**	*eP*	P	16 06 49.6	+0.6
ANCH				*i* S	S	16 07 17.1	0.0
CPN1	**Cerro Paranal**	**2.80**	**216**	⇑*iP*	P	16 06 59.0	+1.4
CPN1				*e*S	S	16 07 34.1	+1.9
CPN1				AMP		16 07 46.5	
	comp=E,212nm,0.6s						

*IDC **14** 16:14:57.2±1.5, 0.01S×97.75E, mb4.1/4, mb1 4.1/5, mb1mx3.9/16, mbtmp4.0/5, ML3.2/1, MS3.8/3, Ms1 3.8/3, ms1mx3.3/13, Error ellipse: s-maj=46.8km s-min=25.5km az=57.0*

*BJI **14** 16:14:59.6, 0.00N×97.90E, h29km, mB4.9, mb4.7, Ms4.4, Msz4.4*

*NEIC **14** 16:15:01.6±10.0, 0.03N×97.87E, h29km±69km, mb4.4/2, Error ellipse: s-maj=47.4km s-min=18.0km az=52.0*

ISC 14 16:15:00.8±1.2, 0.1N±0.1×97.9E±0.2, h33km, n12, σ0§65/9, mb4.3/7, MS3.9/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.85**	**21**	Pn	**Pn**	**16 15 44.9**	**-0.3**
	3.1nm,0.3s,baz=191,slow=7.2,SNR=12						
PSI				LR	LR	16 17 13.0	
	comp=Z,1μm,18.5s,baz=137,slow=46						
LSA	**Lhasa**	**30.11**	**348**	*eP*	**P**	**16 21 10.9**	**+1.1**
	7.0nm,1.1s,mb4.3						
ENH	**Enshi**	**31.95**	**19**	P	**P**	**16 21 25.5**	**-0.6**
XAN	**Xi'an**	**35.29**	**16**	P	**P**	**16 21 54.5**	**-0.3**
XAN				AP	pP	16 22 02.4	-2.1
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**40.87**	**121**	P	**P**	**16 22 41.8**	**+0.2**
	comp=Z,2.0nm,0.8s,mb3.8,baz=302,slow=9.0,SNR=16						
SONM	**Songino Array**	**48.10**	**8**	P	**P**	**16 23 39.8**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=195,slow=8.2,SNR=13						
SONM				LR	LR	16 44 38.5	
	comp=Z,135nm,18.1s,MS4.0,baz=0.3,slow=37						
MKAR	**Makanchi Array**	**48.45**	**346**	P	**P**	**16 23 42.9**	**+0.8**
	comp=Z,6.8nm,0.8s,mb4.8,baz=158,slow=7.7,SNR=56						
STKA	**Stephens Creek**	**52.11**	**132**	LR	LR	16 46 59.0	
	comp=Z,92nm,18.1s,MS3.9,baz=204,slow=37						
CHKZ	**Chkalovo**	**57.97**	**341**	*eP*	**P**	**16 24 52.0**	**-0.4**
	comp=Z,3.6nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**70.36**	**312**	P	**P**	**16 26 12.4**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=117,slow=8.3,SNR=4.0						
GERES	**GERESS Array B**	**86.08**	**319**	pP	pP	16 27 50.0	-0.1
	comp=Z,0.5nm,0.7s,baz=117,slow=6.0,SNR=3.0						
TXAR	**Lajitas Array**	**144.20**	**33**	PKP	PKPdf	16 34 35.0	+0.1
	comp=Z,0.8nm,0.8s,baz=277,slow=1.3,SNR=9.8						

*NNC **14** 16:25:20.2±6.7, 39.69N×72.11E, h13km±33km, mb3.8, mpv3.4, Error ellipse: s-maj=39.5km s-min=23.7km az=31.0*

ISC 14 16:25:17.9±7.0, 39.3N±0.6×72.2E±0.2, h33km, n10, σ0§99/13, 5C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**3.40**	**30**	P	**P**	**16 26 10.3**	**+0.3**
	SNR=19						
EKS2	**Erkin-Say**	**3.56**	**19**	P	**P**	**16 26 12.8**	**+0.7**
	SNR=18						
KZA	**Kyzart**	**3.61**	**39**	P	**P**	**16 26 12.7**	**-0.2**
	SNR=8.5						
KBK	**Karagaybulak**	**3.94**	**31**	P	**P**	**16 26 17.9**	**+0.3**
	SNR=12						
KK31	**Karatay Array**	**4.00**	**342**	⇑Pn	**Pn**	**16 26 17.9**	**-0.6**
	4.9nm,0.4s,baz=153,slow=12,SNR=65						
KK31				⇑Sn	**Sn**	**16 27 06.2**	**+1.3**
	9.4nm,0.4s,baz=141,slow=23,SNR=8.2						
KK31				⇑Lg		16 27 19.4	
	13nm,0.5s,baz=157,slow=29,SNR=3.8						
CHMS	**Chumysh**	**4.16**	**27**	P	**P**	**16 26 20.6**	**-0.1**
	SNR=9.7						
USP	**Ospenovka**	**4.32**	**23**	P	**P**	**16 26 22.6**	**-0.4**
	SNR=22						
TKM2	**Tokmak 2**	**4.43**	**34**	⇑Pn	**Pn**	**16 26 24.0**	**-0.6**
	4.1nm,0.5s						
TKM2				⇑Lg		16 27 30.4	
	15nm,0.9s						
AB31	**Akbulak array**	**13.25**	**323**	⇓Pn	**P**	**16 28 20.4**	**-5.7**
	0.9nm,0.6s,baz=133,slow=13,SNR=21						
AB31				⇓Sn	**S**	**16 30 44.0**	**-9.2**
	1.3nm,0.7s,baz=127,slow=22,SNR=4.0						
AKTO	**Aktyubinsk**	**14.97**	**323**	Pn	**P**	**16 28 49.7**	**+1.2**
AKTO				Sn	**S**	**16 31 25.9**	**-8.0**

MAN 14 16:25:36.6, 13.33N×120.81E, h64km, mb3.6, ML2.3, MS1.7, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.22**	**38**	*eP*	P	16 25 48.0	+1.4
LUBP	**Lubang**	**0.69**	**306**	*eP*	P	16 25 53.2	+2.2
LUBP				*e*S	S	16 26 04.0	+2.2
SJMP	**San Jose**	**0.91**	**161**	*eP*	P	16 25 54.8	+1.0
SJMP				*e*S	S	16 26 07.2	+0.5
BOAC	**Boac**	**1.01**	**82**	*eP*	P	16 25 55.6	+0.4
BOAC				*e*S	S	16 26 10.2	+1.2
BUSP	**Coron**	**1.45**	**205**	*eP*	P	16 26 01.3	+0.1
OTRP	**Odiongan**	**1.52**	**129**	*eP*	P	16 26 02.8	+0.6
OTRP				*e*S	S	16 26 20.7	-0.4
ENPP	**El Nido**	**2.51**	**213**	*eP*	P	16 26 09.8	-6.2
ENPP				*e*S	S	16 26 42.4	-3.0

CASC 14 18:21:19.1±2.1, 13.05N×89.20W, h32km±10km, MD3.7, 2C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.59**	**13**	⇓*eP*	Pb	18 21 48.3	+17
LFRS				*e*S	Sb	18 21 57.6	+18
SNET	**Serv Nac Est T**	**0.64**	**357**	*eP*	Pb	18 21 32.1	+0.3
SNET				*e*S	Sb	18 21 41.4	+0.9
LCBS	**La Ceiba**	**0.64**	**20**	⇓*eP*	Pb	18 21 48.7	+17
LCBS				*e*S	Sb	18 21 57.5	+17
SNVI	**San Vicente**	**0.66**	**32**	⇓*eP*	Pb	18 21 49.2	+17
SNVI				*e*S	Sb	18 21 59.3	+18
BOQS	**Boqueron**	**0.69**	**353**	⇓*eP*	Pb	18 21 49.9	+17
BOQS				*e*S	Sb	18 22 00.2	+18
LFU	**La Fuente**	**0.70**	**7**	⇓*eP*	Pb	18 21 49.9	+17
LFU				*e*S	Sb	18 22 01.2	+19
LBRS	**Las Brisas**	**0.70**	**12**	⇓*eP*	Pb	18 21 49.9	+17
LBRS				*e*S	Sb	18 22 01.8	+19
SBLS	**San Blas**	**0.89**	**332**	⇓*eP*	Pn	18 21 52.7	+17
SBLS				*e*S	Sn	18 22 06.1	+19
SNJE	**San Jose**	**0.91**	**334**	*eP*	Pn	18 21 52.9	+17
SNJE				*e*S	Sn	18 22 05.7	+18
RTR	**El Retiro**	**0.95**	**333**	⇓*eP*	Pn	18 21 53.6	+17
RTR				*e*S	Sn	18 22 08.3	+19
VSM	**San Miguel**	**0.98**	**67**	⇑*eP*	Pn	18 21 54.0	+17
VSM				*e*S	Sn	18 22 07.9	+18
BLLM	**Bellamira**	**1.01**	**67**	⇓*eP*	Pn	18 21 54.0	+17
BLLM				*e*S	Sn	18 22 07.8	+17
RBDL	**Robledal**	**1.16**	**336**	⇑*eP*	Pn	18 21 49.7	+10
RBDL				*e*S	Sn	18 22 06.4	+12
CNCH	**Conchagua**	**1.35**	**80**	*eP*	Pn	18 21 58.7	+17
CNCH				*e*S	Sn	18 22 17.0	+18
MTO2	**Montecristo 2**	**1.35**	**353**	⇓*eP*	Pn	18 21 58.1	+16
MTO2				*e*S	Sn	18 22 14.9	+16
IXG	**Ixpaco**	**1.66**	**313**	*eP*	Pn	18 21 46.1	-0.4
IXG				*e*S	Sn	18 22 06.5	-0.3
TP2	**Tecpan 2**	**2.47**	**314**	*eP*	Pn	18 21 59.2	+1.1
TP2				*e*S	Sn	18 22 30.7	+3.2

*IDC **14** 18:26:34.0±0.9, 13.47N×92.73E, mb4.0/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, MS3.1/1, Ms1 3.1/1, ms1mx2.5/33, Error ellipse: s-maj=46.1km s-min=16.6km az=52.0*

*NEIC **14** 18:26:38.6±0.6, 13.45N×92.73E, h30km, mb4.1/3, Error ellipse: s-maj=26.9km s-min=11.0km az=57.0*

ISC 14 18:26:37.2±0.6, 13.53N±0.09×92.78E±0.09, h33km, n25, σ1§13/25, mb4.0/11, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**12.28**	**150**	LR	LR	18 34 08.3	
	comp=Z,91nm,20.2s,baz=258,slow=37						
HYB	**Hyderabad**	**14.24**	**288**	*i* P	**P**	**18 30 09.0**	**+10**
HYB				*e*S	**S**	**18 32 37.0**	**+0.6**
HYB	**Hyderabad**	**14.24**	**288**	*eP*	**P**	**18 30 09.0**	**+10**
JIRN	**Jiri**	**15.34**	**337**	*eP*	**P**	**18 30 12.8**	**-0.1**
	9.3nm,0.4s						
PKI	**Pulchoki**	**15.57**	**335**	*eP*	**P**	**18 30 17.2**	**+1.3**
	17nm,0.6s						
GUN	**Gumba**	**15.68**	**337**	*eP*	**P**	**18 30 15.3**	**-2.1**
DMN	**Daman**	**15.73**	**334**	*eP*	**P**	**18 30 18.0**	**+0.1**
	29nm,0.7s						
KKN	**Kakani**	**15.81**	**335**	*eP*	**P**	**18 30 17.2**	**-1.9**
LSA	**Lhasa**	**16.16**	**355**	*eP*	**P**	**18 30 25.8**	**+2.4**
	4.3nm,0.7s						
GKN	**Gorkha**	**16.27**	**333**	*eP*	**P**	**18 30 21.1**	**-3.8**
KOLN	**Koldanda**	**16.55**	**330**	*eP*	**P**	**18 30 26.5**	**-1.9**
MKAR	**Makanchi Array**	**34.30**	**347**	P	**P**	**18 33 23.4**	**+0.8**
	1.1nm,0.8s,mb3.9,baz=168,slow=6.3,SNR=9.5						
SONM	**Songino Array**	**36.03**	**16**	P	**P**	**18 33 38.7**	**+1.5**
	0.3nm,0.8s,mb3.2,baz=225,slow=4.1,SNR=2.2						
BVAR	**Borovoye Array**	**43.24**	**340**	P	**P**	**18 34 36.1**	**-0.9**
	0.6nm,0.6s,mb3.5,baz=149,slow=8.6,SNR=4.6						
CHKZ	**Chkalovo**	**43.71**	**341**	*eP*	**P**	**18 34 41.6**	**+0.8**
	2.2nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**45.16**	**133**	P	**P**	**18 34 52.3**	**-0.5**
	1.0nm,0.5s,mb3.9,baz=319,slow=11,SNR=15						
WRA	**Warramunga Arr**	**52.72**	**128**	P	**P**	**18 35 50.6**	**-0.5**
	3.7nm,0.5s,mb4.5,baz=297,slow=9.7,SNR=136						
WRA				PcP	PcP	18 37 01.2	+0.6
	1.0nm,0.5s,baz=319,slow=3.0,SNR=12						
WB2	**Warramunga Arr**	**52.73**	**128**	⇑*iP*	**P**	**18 35 51.4**	**+0.2**
ASPA	**Alice Springs**	**54.63**	**132**	⇑*iP*	**P**	**18 36 05.4**	**+0.2**
BR131	**Keskin Array S**	**57.80**	**309**	*eP*	**P**	**18 36 28.7**	**+1.0**
	2.3nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**57.80**	**309**	P	**P**	**18 36 28.3**	**+0.5**
	1.9nm,0.7s,mb4.2,baz=113,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**67.12**	**331**	P	**P**	**18 37 29.2**	**-0.1**
	2.9nm,1.0s,mb4.3,baz=117,slow=4.3,SNR=5.6						
ARCES	**ARCESS Array B**	**69.52**	**340**	P	**P**	**18 37 43.3**	**-0.8**
	2.0nm,0.8s,mb4.1,baz=90,slow=7.3,SNR=7.2						
GERES	**GERESS Array B**	**72.76**	**317**	P	**P**	**18 38 05.5**	**+1.5**
	1.3nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=11						
NOA	**NORSAR Array B**	**74.18**	**330**	P	**P**	**18 38 11.1**	**-0.9**
	1.2nm,0.9s,mb3.8,baz=51,slow=9.3,SNR=3.3						

*CSEM **14** 18:32:43.0±1.1, 38.71N×29.00W, h1km±12km, ML1.7, Error ellipse: s-maj=16.3km s-min=5.5km az=77.0, After PDA*

*PDA **14** 18:32:43.0±1.1, 38.71N×29.00W, h1km±12km, MD3.0, ML1.7, Error ellipse: s-maj=16.3km s-min=5.5km az=77.0*

SVSA 14 18:32:43.0±1.1, 38.71N×29.00W, h1km±12km, MD3.0, ML1.7, Error ellipse: s-maj=16.3km s-min=5.5km az=77.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.20**	**127**	*e*S	Sg	18 32 50.3	+0.6
	29nm,0.1s						
PTCA	**Ponta do Capel**	**0.20**	**127**	*e*S	Sg	18 32 50.3	+0.6
	29nm,0.1s						
PCED	**Cedros**	**0.25**	**108**	*eP*	Pg	18 32 47.7	-0.2
PCED				*e*S	Sg	18 32 51.4	+0.2
	70nm,0.1s						
PCED	**Cedros**	**0.25**	**108**	*eP*	Pg	18 32 47.7	-0.2
PCED				*e*S	Sg	18 32 51.4	+0.2
	70nm,0.1s						
CALA	**Caldeira**	**0.27**	**118**	*e*S	Sg	18 32 51.5	-0.3
HOR	**Horta**	**0.34**	**122**	*e*S	Sg	18 32 53.7	-0.7
PCND	**Candelaria**	**0.48**	**119**	*e*S	Sg	18 32 58.4	-0.7
	9.6nm,0.1s						
PICO	**Pico**	**0.49**	**114**	*eP*	Pg	18 32 51.8	-1.1
PICO				*e*S	Sg	18 32 58.7	-0.8
ROSA	**Rosais**	**0.59**	**88**	*eP*	Pg	18 32 53.5	-1.4
ROSA				*e*S	Sg	18 33 01.3	-1.5
PPNO	**Prainha do Nor**	**0.62**	**112**	*e*S	Sg	18 33 02.1	-1.7
	34nm,0.2s						
PMAN	**Manadas**	**0.72**	**96**	*e*S	Sg	18 33 04.5	-2.4
	41nm,0.2s						

*IDC **14** 18:32:52.9±10.0, 41.88N×142.64E, mb3.5/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=208.7km s-min=44.1km az=93.0*

*JMA **14** 18:32:54.9±0.1, 41.58N×143.12E, h30km±2km, M3.4*

ISC 14 18:32:54.2±1.0, 41.55N±0.05×143.15E±0.10, h30km, n14, σ0§96/19, mb3.4/3, 1C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.47**	**1**	⇓*iP*	**Pb**	**18 33 04.2**	**+0.1**
JEM				S	**Sb**	**18 33 10.6**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.79**	**338**	⇓*iP*	**Pb**	**18 33 09.1**	**-0.2**
JNBK				S	**Sb**	**18 33 20.0**	**+0.3**
JCH	**Churui**	**1.07**	**8**	⇓*iP*	**Pn**	**18 33 13.7**	**+0.3**
JCH				*e*S	**Sn**	**18 33 27.4**	**0.0**
JBT2	**Biratori 2**	**1.36**	**335**	P	**Pn**	**18 33 17.8**	**+0.3**
JOB	**Onbets**	**1.45**	**20**	P	**Pn**	**18 33 20.0**	**+1.3**
JOT	**Ohata**	**1.59**	**265**	P	**Pn**	**18 33 21.0**	**+0.3**
JKB	**Kayabe**	**1.62**	**283**	P	**Pn**	**18 33 21.3**	**+0.1**
JKB				*e*S	**Sn**	**18 33 41.0**	**-0.2**
JFR	**Furan**	**1.66**	**346**	P	**Pn**	**18 33 22.4**	**+0.6**
JANG	**Nango**	**1.71**	**227**	P	**Pn**	**18 33 22.7**	**+0.3**
JTM	**Tenmabayashi**	**1.75**	**245**	⇑P	**Pn**	**18 33 23.6**	**+0.6**
JTM				*e*S	**Sn**	**18 33 45.3**	**+0.9**
MJAR	**Matsushiro Arr**	**6.31**	**219**	Pn	**Pn**	**18 34 27.7**	**0.0**
	0.3nm,0.3s,baz=31,slow=13,SNR=5.2						
SONM	**Songino Array**	**26.69**	**296**	P	**P**	**18 38 29.4**	**-3.0**
	0.4nm,0.5s,mb3.2,baz=78,slow=7.9,SNR=3.5						
MKAR	**Makanchi Array**	**43.01**	**298**	P	**P**	**18 40 49.7**	**-2.7**
	0.5nm,0.6s,mb3.4,baz=82,slow=8.8,SNR=7.0						
BVAR	**Borovoye Array**	**48.63**	**310**	P	**P**	**18 41 34.1**	**-2.7**
	0.2nm,0.3s,mb3.6,baz=80,slow=11,SNR=4.4						

*NEIC **14** 19:01:26.9±1.4, 14.72S×168.34E, h10km, mb4.4/2, Error ellipse: s-maj=25.4km s-min=17.7km az=89.0*

*IDC **14** 19:01:32.1±3.6, 14.77S×168.18E, h48km±33km, mb3.8/5, mb1 4.0/7, mb1mx3.7/16, mbtmp4.1/7, ML4.1/2, MS3.2/3, Ms1 3.2/3, ms1mx3.0/23, Error ellipse: s-maj=36.8km s-min=25.5km az=96.0*

ISC 14 19:01:29.5±2.9, 14.78S±0.09×168.1E±0.2, h35km±23km, n15, σ1§05/16, mb4.1/6, MS3.0/1, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.42**	**192**	*eP*	**P**	**19 03 17.9**	**-0.2**
DZM				*e*S	**S**	**19 04 41.7**	**-0.3**
DZM	**Mont Dzumac**	**7.42**	**192**	P	**P**	**19 03 17.8**	**-0.3**
	2.2nm,0.3s,baz=69,slow=16,SNR=24						
DZM				S	**S**	**19 04 41.8**	**-0.1**
	0.6nm,0.3s,baz=136,slow=23,SNR=3.6						
HNR	**Honiara**	**9.57**	**303**	P	**P**	**19 03 48.7**	**+0.6**
	2.9nm,0.3s,baz=181,slow=13,SNR=3.2						
HNR				S	**S**	**19 05 31.6**	**-4.0**
	1.1nm,0.3s,baz=117,slow=23,SNR=3.4						
HNR				LR	LR	19 06 40.4	
	comp=Z,144nm,18.6s,baz=136,slow=32						
AFI	**Afiamalu**	**19.53**	**90**	LR	LR	19 11 37.8	
	comp=Z,56nm,18.0s,baz=311,slow=31						
PMG	**Port Moresby**	**21.14**	**282**	LR	LR	19 12 20.9	
	comp=Z,63nm,20.1s,MS3.0,baz=275,slow=31						
CTA	**Charters Tower**	**21.48**	**253**	P	**P**	**19 06 19.0**	**+1.7**
	3.2nm,0.7s,mb3.7,baz=137,slow=13,SNR=3.6						
CTA	**Charters Tower**	**21.48**	**253**	P	**P**	**19 06 19.0**	**+1.7**
CTAO	**Charters Tower**	**21.48**	**253**	*eP*	**P**	**19 06 18.7**	**+1.4**
	3.6nm,0.7s,mb3.8						
STKA	**Stephens Creek**	**29.57**	**230**	P	**P**	**19 07 34.1**	**+0.8**
	4.6nm,0.7s,mb4.3,baz=40,slow=9.7,SNR=10.0						
STKA	**Stephens Creek**	**29.57**	**230**	*eP*	**P**	**19 07 34.7**	**+1.3**
WRA	**Warramunga Arr**	**32.58**	**256**	P	**P**	**19 07 58.2**	**-1.9**
	0.4nm,0.5s,mb3.6,baz=81,slow=6.9,SNR=13						
ASPA	**Alice Springs**	**33.40**	**249**	*eP*	**P**	**19 08 06.3**	**-0.9**
MBWA	**Marble Bar**	**46.30**	**255**	*eP*	**P**	**19 09 54.6**	**+0.6**
	12nm,0.9s,mb4.8						
ILAR	**Eielson Array**	**86.33**	**18**	P	**P**	**19 14 08.2**	**-0.5**
	0.4nm,0.6s,mb3.8,baz=231,slow=4.9,SNR=9.2						
MKAR	**Makanchi Array**	**97.79**	**316**	P	**P**	**19 15 02.9**	**+0.5**
	0.6nm,0.7s,mb4.3,baz=76,slow=5.0,SNR=4.4						

*IDC **14** 19:16:14.8±1.0, 67.13N×21.06E, mb1 3.0/4, mb1mx2.9/21, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=18.2km s-min=9.9km az=117.0*

*BER **14** 19:16:18.4±3.9, 67.16N×20.51E, ML1.8, Suspected explosion*

HEL 14 19:16:15.8±0.1, 67.09N×20.93E, ML2.1, ML2.2(UPP), ML1.8(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.14**	**282**	*i* P	Pg	19 16 18.1	-0.6
DUNU				*i* S	Sg	19 16 20.7	0.0
MASU	**Masugnsbyn**	**0.55**	**48**	*i* P	Pg	19 16 25.5	-1.3
ERTU	**Ertsjaerv**	**0.73**	**137**	*i* P	Pg	19 16 27.3	-3.2
PAJU	**Pajala**	**0.86**	**94**	*i* P	Pg	19 16 30.7	-2.2
KUA	**Kurravaara**	**0.90**	**345**	*eP*	Pg	19 16 31.6	-2.1
SALU	**Saltoluokta**	**0.99**	**288**	*eP*	Pb	19 16 33.3	-2.1
LANU	**Lannavaara**	**1.04**	**22**	*eP*	Pb	19 16 34.2	-2.2
NIKU	**Nikkaluokta**	**1.07**	**318**	*eP*	Pb	19 16 34.8	-2.1
KIF	**Kilpisjarvi**	**1.92**	**359**	*eP*	Pn	19 16 50.3	+0.2
KIF				*e*S	Sn	19 17 16.0	+0.7
KIF				MSG		19 17 20.4	
	comp=Z,24nm,0.1s						
KTK1	**Kautokeino**	**2.11**	**23**	*eP*	Pn	19 16 53.6	+0.8
KTK1				*e*SG	Sg	19 17 23.4	-2.8
KTK1				AML	AML	19 17 26.4	
	comp=Z,15nm,0.2s						
SGF	**Sodankyl**	**2.20**	**78**	*eP*	Pn	19 16 53.5	-0.5
SGF				*e*S	Sn	19 17 22.4	-0.1
SGF				MSG		19 17 26.9	
	comp=Z,7.0nm,0.1s						
TRO	**Tromso**	**2.66**	**345**	*eP*	Pn	19 17 00.2	-0.4
TRO				*e*SG	Sg	19 17 37.7	-6.6
TRO				AML	AML	19 17 39.6	
	comp=Z,8.0nm,0.5s						
MOR8	**Moi Rana**	**2.75**	**253**	*e*SB	Sb	19 17 33.4	-6.6
MOR8				AML	AML	19 17 38.9	
	comp=Z,8.2nm,0.3s						
OUL	**Oulu**	**2.85**	**133**	*eP*	Pn	19 17 03.2	-

comp=E,502nm,0.6s
CHCH **Chadas Angostu** 1.64 148 ||iP Pn 19 18 42.8 +0.8
CHCH i S Sn 19 19 04.8 +2.6
CACH **El Canelo** 1.82 150 ||iP Pn 19 18 45.8 +1.3
CACH i S Sn 19 19 10.3 +3.5
CICH **Cipreses** 2.07 149 eP Pn 19 18 49.1 +1.1

TRN 14 19:35:52.5,17.95N×62.24W,h27km,M3.7(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.50**	**128**	eP	Pb	19 36 04.7	+2.0
CPB				eS	Sb	19 36 13.5	+3.7
BPA	**Boggy Peak**	**0.97**	**158**	eP	Pn	19 36 11.6	+1.1
BPA				eS	Sb	19 36 25.4	+2.3
LZG	**Guadaloupe-1**	**1.85**	**166**	eP	Pn	19 36 24.7	+1.6
BCG	**Bois Riant Cap**	**1.95**	**162**	eP	Pn	19 36 25.6	+1.2
DEG	**La Desirade**	**1.98**	**145**	eP	Pn	19 36 25.2	+0.2
DEG				eS	Sn	19 36 51.3	+2.2
SCG	**Saint Claude**	**1.98**	**164**	eP	Pn	19 36 26.4	+1.5

CASC 14 19:42:03.9±3.1,12.40N×87.83W,h46km±226km,MD3.5, ML3.6,7C-4D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.81**	**69↑**	eP	P	19 42 20.3	+1.2
CNCH	**Conchagua**	**0.87**	**360↑**	eP	P	19 42 37.4	+18
CNCH				eS	S	19 42 49.7	+18
TEL3	**Telica 3**	**0.97**	**80**	||eP	P	19 42 21.6	+0.3
TELN	**Telica**	**0.99**	**78**	eP	P	19 42 21.7	+0.1
MIRN	**Miramar**	**1.09**	**88↑**	eP	P	19 42 23.1	+0.2
MIRN				eS	S	19 42 37.2	+0.1
MIRN				*i*		19 42 46.1	
	comp=Z,1μm,0.3s						
CNGN	**Cerro Negro**	**1.11**	**85↑**	eP	P	19 42 23.3	+0.1
BLLM	**Bellamira**	**1.11**	**339**	||eP	P	19 42 40.5	+17
BLLM				eS	S	19 42 55.6	+18
VSM	**San Miguel**	**1.11**	**337**	||eP	P	19 42 41.3	+18
VSM				eS	S	19 42 56.5	+19
COPN	**Copaltepe**	**1.23**	**100↑**	eP	P	19 42 24.9	0.0
COPN				eS	S	19 42 40.2	-0.4
MOMJ	**Momotombo**	**1.26**	**90↑**	eP	P	19 42 25.5	+0.2
XAVN	**Gruta Xavier**	**1.49**	**100**	eS	S	19 42 45.6	-1.5
SNVI	**San Vicente**	**1.56**	**321**	eP	P	19 42 48.3	+19
SNVI				eS	S	19 43 06.3	+18
MGAN	**Managua**	**1.56**	**99**	eP	P	19 42 29.3	-0.5
MGAN				eS	S	19 42 48.4	-0.6
LCBS	**La Ceiba**	**1.68**	**318↑**	eP	P	19 42 49.1	+18
LCBS				eS	S	19 43 08.9	+17
LFRS	**El Faro**	**1.71**	**315**	||eP	P	19 42 49.2	+17
LFRS				eS	S	19 43 10.3	+18
LBRS	**Las Brisas**	**1.78**	**318**	eP	P	19 42 52.4	+20
LBRS				eS	S	19 43 11.8	+17
RTR	**El Retiro**	**2.31**	**310**	eP	P	19 42 58.9	+19
RTR				eS	S	19 43 26.3	+19

*NIED **14** 19:43:00,33.40N×142.50E,h5km,Mw4.0 Best double couple: M₀1.05×10¹⁵ NP1:φs148°,δ60°,λ-86°. NP2: φs320°,δ30°,λ-97°.*
*IDC **14** 19:43:35.2±0.7,33.42N×142.52E,mb3.9/13,mb1 4.2/17, mb1mx4.1/24,mbtmp4.0/17,ML4.2/4,MS3.1/1,Ms1 3.1/1, ms1mx2.4/22,Error ellipse: s-maj=19.8km s-min=15.7km az=85.0*
*JMA **14** 19:43:37.9±0.3,33.39N×142.51E,h84km,M3.9*
*MOS **14** 19:43:38.2±1.2,33.51N×142.57E,h33km,mb4.3/12,Error ellipse: s-maj=21.1km s-min=9.8km az=124.3*
*BJI **14** 19:43:39.2,33.38N×142.74E,h55km,mB4.9,mb4.0*
*NEIC **14** 19:43:40.5±1.6,33.38N×142.45E,h36km±12km,mb4.3/3, Error ellipse: s-maj=13.7km s-min=12.5km az=95.0*

ISC 14 19:43:36.2±1.4,33.39N±0.04×142.53E±0.05,h19km±10km, n69,σ1§08/84,mb4.2/20,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.80**	**315**	P	**Pn**	**19 44 07.5**	**+0.8**
BSO1				S	**Sn**	**19 44 29.8**	**+0.6**
BSO2	**Boso 2**	**2.00**	**313**	S	**Sn**	**19 44 36.0**	**+1.7**
BSO3	**Boso 3**	**2.19**	**311**	P	**Pn**	**19 44 13.1**	**+0.8**
BSO3				S	**Sn**	**19 44 40.3**	**+1.3**
JHJ2	**Mitsune**	**2.29**	**264**	P	**Pn**	**19 44 14.4**	**+0.7**
JHJ2				S	**Sn**	**19 44 41.4**	**-0.2**
JHJ	**Hachijo jima 2**	**2.31**	**264**	Pn	**Pn**	**19 44 14.3**	**+0.3**
	133nm,0.3s,baz=83,slow=9.4,SNR=44						
JHJ				Sn	**Sn**	**19 44 41.0**	**-1.3**
	198nm,0.3s,baz=243,slow=23,SNR=7.4						
BSO4	**Boso 4**	**2.42**	**312**	P	**Pn**	**19 44 17.0**	**+1.5**
BSO4				S	**Sn**	**19 44 46.1**	**+1.2**
KTR	**Katsuura**	**2.54**	**314**	P	**Pn**	**19 44 18.5**	**+1.3**
KTR				S	**Sn**	**19 44 47.9**	**0.0**
CHOJ	**Chosi**	**2.69**	**330**	P	**Pn**	**19 44 19.5**	**+0.1**
JIM2	**Oshima 3**	**2.89**	**298**	P	**Pn**	**19 44 21.9**	**-0.4**
JIZS	**Izushimoda**	**3.31**	**295**	S	**Sn**	**19 45 05.3**	**-2.1**
JOD2	**Odawara 2**	**3.40**	**304**	P	**Pn**	**19 44 29.1**	**-0.5**
JOD2				S	**Sn**	**19 45 07.3**	**-2.6**
JYT	**Yasato**	**3.42**	**327**	P	**Pn**	**19 44 30.6**	**+0.8**
JHO	**Hitachi**	**3.59**	**334**	P	**Pn**	**19 44 31.3**	**-1.0**
JHU	**Hanno**	**3.63**	**313**	P	**Pn**	**19 44 33.2**	**+0.4**
JYN	**Shimob**	**3.90**	**304**	P	**Pn**	**19 44 37.7**	**+1.0**
JYN				eS	**Sn**	**19 45 23.2**	**+0.6**
JAG	**Ashikaga**	**3.94**	**321**	P	**Pn**	**19 44 37.3**	**+0.1**
JRY	**Ryogami san**	**3.97**	**312**	P	**Pn**	**19 44 38.0**	**+0.3**
JRY				eS	**Sn**	**19 45 24.2**	**-0.1**
JMM	**Marumori**	**4.68**	**343**	P	**Pn**	**19 44 46.0**	**-1.8**
MJAR	**Matsushiro Arr**	**4.74**	**313**	Pn	**Pn**	**19 44 48.8**	**+0.2**
	11nm,0.3s,baz=195,slow=9.3,SNR=97						
MJAR				Sn	**Sn**	**19 45 42.1**	**-1.5**
	5.8nm,0.3s,baz=147,slow=21,SNR=8.5						
MJAR	**Matsushiro Arr**	**4.74**	**313**	P	**Pn**	**19 44 48.8**	**+0.3**
MJAR						19 45 42.1	
MJAR				pmax	pmax		
	comp=Z,11nm,0.3s						
MJAR				smax			
	comp=N,6.0nm,0.3s						
MAJO	**Matsushiro**	**4.74**	**313**	eP	**Pn**	**19 44 49.1**	**+0.5**
MAT	**Matsushiro**	**4.74**	**313**	P	**Pn**	**19 44 48.6**	**0.0**
MAT				S	**Sn**	**19 45 40.2**	**-3.5**
MAT	**Matsushiro**	**4.74**	**313**	eP	**Pn**	**19 44 49.0**	**+0.4**
MAT				eS	**Sn**	**19 45 40.0**	**-3.7**
JNS	**Sasagawa**	**5.13**	**330**	P	**Pn**	**19 44 53.5**	**-0.6**
JNS				eS	**Sn**	**19 45 51.3**	**-2.3**
JGM	**Miyama**	**5.32**	**297**	P	**Pn**	**19 44 57.6**	**+0.9**
JMK	**Ichinoseki**	**5.65**	**350**	P	**Pn**	**19 44 59.0**	**-2.4**
JMK				eS	**Sn**	**19 45 59.5**	**-7.1**
JYK	**Kaneyama**	**5.79**	**343**	P	**Pn**	**19 45 01.8**	**-1.6**
JYK				eS	**Sn**	**19 46 02.6**	**-7.4**
CBIJ	**Chichi jima**	**6.28**	**183**	Pn	**Pn**	**19 45 08.7**	**-1.6**
	comp=N,16nm,0.3s,baz=271,slow=20,SNR=2.3						
ASAJ	**Asahikawa**	**10.71**	**0**	Pn	**P**	**19 46 08.0**	**-3.8**
	comp=N,2.6nm,0.3s,baz=234,slow=8.2,SNR=6.9						
ASAJ				LR	LR	19 50 45.2	
	comp=N,94nm,19.7s,baz=277,slow=40						
ASAJ	**Asahikawa**	**10.71**	**0**	P	**P**	**19 46 08.0**	**-3.8**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,94nm,19.7s						
HIA	**Hailar**	**23.20**	**320**	eP	**P**	**19 48 44.1**	**+1.4**
HHC	**Hu-ho-hao-te**	**25.69**	**296**	eP	**P**	**19 49 09.1**	**+2.3**
HHC				AP	pP	19 49 20.3	+8.0
HHC				XP	sP	19 49 24.9	+10
HHC				AMB	AMB		
	comp=Z,130nm,4.2s						
ENH	**Enshi**	**28.18**	**273**	eP	**P**	**19 49 28.2**	**-1.4**
	comp=Z,4.2nm,0.4s,mb4.4						
ULN	**Ulaanbaatar**	**30.26**	**309**	eP	**P**	**19 49 47.7**	**-0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**30.26**	**309**	eP	**P**	**19 49 47.7**	**-0.3**
	comp=Z,5.5nm,1.0s,mb4.2						
SONM	**Songino Array**	**30.68**	**309**	P	**P**	**19 49 52.6**	**+0.8**
	comp=Z,1.2nm,0.6s,mb3.9,baz=90,slow=2.9,SNR=8.4						
SONM	**Songino Array**	**30.68**	**309**	P	**P**	**19 49 52.6**	**+0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.89**	**305**	P	**P**	**19 52 07.4**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=84,slow=9.0,SNR=22						
MKAR	**Makanchi Array**	**46.89**	**305**	P	**P**	**19 52 07.4**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JIRN	**Jiri**	**48.37**	**279**	eP	**P**	**19 52 19.6**	**+0.7**
	comp=Z,16nm,0.4s,mb5.4						
GUN	**Gumba**	**48.54**	**279**	eP	**P**	**19 52 20.7**	**+0.5**
	comp=Z,6.2nm,0.4s,mb5.0						
PKI	**Pulchoki**	**49.05**	**279**	eP	**P**	**19 52 23.9**	**-0.2**
KKN	**Kakani**	**49.08**	**280**	eP	**P**	**19 52 24.1**	**-0.2**
	comp=Z,7.2nm,0.6s,mb4.9						
DMN	**Daman**	**49.28**	**279**	eP	**P**	**19 52 25.9**	**-0.1**
GKN	**Gorkha**	**49.53**	**280**	eP	**P**	**19 52 27.9**	**+0.1**
	comp=Z,8.2nm,0.6s,mb4.9						
KOLN	**Koldanda**	**50.47**	**280**	eP	**P**	**19 52 35.2**	**+0.2**
ILAR	**Eielson Array**	**52.12**	**31**	P	**P**	**19 52 45.2**	**-1.8**
	comp=Z,1.8nm,1.2s,mb3.9,baz=182,slow=20,SNR=3.9						
ILAR	**Eielson Array**	**52.12**	**31**	P	**P**	**19 52 45.2**	**-1.8**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
CHKZ	**Chkalovo**	**53.50**	**315**	eP	**P**	**19 52 56.9**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**53.50**	**315**	eP	**P**	**19 52 56.9**	**-0.5**
	comp=Z,3.3nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**53.60**	**190**	P	**P**	**19 52 57.9**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.2,baz=7.5,slow=7.7,SNR=40						
WRA				PcP	PcP	19 54 06.1	+1.0
	comp=Z,0.8nm,0.6s,baz=0.5,slow=4.1,SNR=6.6						
WRA	**Warramunga Arr**	**53.60**	**190**	P	**P**	**19 52 57.9**	**-0.7**
WRA						19 54 06.1	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.68**	**200**	P	**P**	**19 52 58.8**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.3,baz=16,slow=8.7,SNR=16						
BVAR	**Borovoye Array**	**53.73**	**315**	P	**P**	**19 52 57.6**	**-1.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=90,slow=5.9,SNR=5.1						
BVAR	**Borovoye Array**	**53.73**	**315**	P	**P**	**19 52 57.6**	**-1.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**66.51**	**30**	P	**P**	**19 54 26.6**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.6,baz=296,slow=6.3,SNR=7.3						
YKA	**Yellowknife Ar**	**66.51**	**30**	P	**P**	**19 54 26.6**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**66.51**	**30**	P	**P**	**19 54 26.6**	**+0.2**
FINES	**FINESS Array B**	**72.46**	**333**	P	**P**	**19 55 03.3**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.0,baz=72,slow=6.0,SNR=3.7						
FINES	**FINESS Array B**	**72.46**	**333**	P	**P**	**19 55 03.3**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**76.45**	**53**	P	**P**	**19 55 27.9**	**+1.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=295,slow=9.9,SNR=3.8						
AKASG	**Malin Array Be**	**77.75**	**323**	P	**P**	**19 55 33.6**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=45,slow=6.2,SNR=4.3						
AKASG	**Malin Array Be**	**77.75**	**323**	P	**P**	**19 55 33.6**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**77.90**	**338**	P	**P**	**19 55 34.6**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=42,slow=5.6						
NOA	**NORSAR Array B**	**77.90**	**338**	P	**P**	**19 55 34.2**	**+0.3**
	comp=Z,1.7nm,0.8s,mb4.1,baz=261,slow=2.8,SNR=4.1						
NOA	**NORSAR Array B**	**77.90**	**338**	P	**P**	**19 55 34.2**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**81.96**	**313**	P	**P**	**19 55 56.3**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=96,slow=3.9,SNR=5.6						
BRTR	**Keskin Array B**	**81.96**	**313**	P	**P**	**19 55 56.3**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**91.60**	**53**	P	**P**	**19 56 45.4**	**+2.0**
	comp=Z,0.4nm,0.6s,mb3.9,baz=304,slow=2.8,SNR=6.6						

IDC 14 19:45:42.6±0.8,6.76N×72.93W,h159km±12km,mb3.1/2, mb1 3.6/4,mb1mx3.2/22,mbtmp3.8/4,Error ellipse: s-maj=42.4km s-min=7.5km az=132.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.35**	**217**	P	P	19 46 23.9	+1.1
	50nm,0.3s,baz=287,slow=23,SNR=33						
ROSC				S	S	19 46 54.0	+0.3
	60nm,0.3s,baz=72,slow=22,SNR=14						
SDV	**Santo Domingo**	**3.11**	**47**	P	P	19 46 33.6	+1.2
	22nm,0.3s,baz=230,slow=2.8,SNR=78						
SDV				S	S	19 47 10.0	-0.5
	32nm,0.3s,baz=269,slow=22,SNR=44						
TXAR	**Lajitas Array**	**36.65**	**312**	P	P	19 52 34.1	-1.4
	0.2nm,0.4s,baz=131,slow=9.3,SNR=4.4						
YKA	**Yellowknife Ar**	**63.39**	**340**	P	P	19 55 54.6	-2.4
	0.5nm,0.6s,baz=134,slow=6.6,SNR=12						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPdf	20 05 15.9	+5.4
	0.4nm,0.4s,baz=108,slow=2.7,SNR=18						

*CSEM **14** 20:28:23.9±0.1,39.73N×54.17E,h45km,ML3.2/3,Error ellipse: s-maj=16.8km s-min=3.0km az=111.0*
*NNC **14** 20:28:35.8±1.8,40.42N×55.12E,h88km±139km,mb2.9, Error ellipse: s-maj=41.8km s-min=9.6km az=67.0*
*TEH **14** 20:28:40.0,38.64N×53.50E,h15km,Mn3.2*

ISC 14 20:28:18.2±0.7,40.00N±0.06×54.5E±0.1,h33km,n11, σ0§29/12,4C-2D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIR	**Firoozkooh**	**4.55**	**198**	Lg		20 30 15.0	
IFIR	**Firoozkooh**	**4.55**	**198**	Pn	**Pn**	**20 29 27.3**	**+0.7**
IDMV	**Damavand**	**4.81**	**204**	Pn	**Pn**	**20 29 30.3**	**0.0**
IDMV	**Damavand**	**4.81**	**204**	Lg		20 30 21.9	
IMHD	**Mahdasht**	**5.24**	**216**	Pn	**Pn**	**20 29 36.0**	**-0.3**
IVRN	**Varamin**	**5.44**	**204**	Pn	**Pn**	**20 29 39.0**	**-0.1**
IRAZ	**Razeghan**	**5.82**	**219**	Pn	**Pn**	**20 29 44.5**	**0.0**
ISFB	**Sefidab**	**5.90**	**198**	Pn	**Pn**	**20 29 45.4**	**-0.3**
AB31	**Akbulak array**	**10.05**	**21**	||Pn	**P**	**20 30 48.8**	**+5.6**
	0.4nm,0.4s,baz=184,slow=12,SNR=7.9						
AB31				||Sn	**S**	**20 32 36.1**	**+0.2**
	0.4nm,0.3s,baz=184,slow=24,SNR=11						
AKTO	**Aktyubinsk**	**10.74**	**12**	↑Pn	**P**	**20 30 59.3**	**+6.7**
	0.1nm,0.2s						
AKTO				↑Sn	**S**	**20 32 52.6**	**-0.1**
	0.2nm,0.3s						
KK31	**Karatay Array**	**12.43**	**70**	↑Pn	**P**	**20 31 22.2**	**+6.7**
	0.2nm,0.4s,baz=264,slow=14						
KK31				↑Sn	**S**	**20 33 33.7**	**-0.1**
	1.3nm,0.9s,baz=260,slow=23						

*IDC **14** 20:30:17.3±1.7,18.47S×177.92W,h550km±20km, mb3.6/10,mb1 3.8/12,mb1mx3.7/18,mbtmp4.5/12,Error ellipse: s-maj=21.8km s-min=12.9km az=151.0*
*NEIC **14** 20:30:17.2±0.9,18.43S×177.91W,h550km±10km,mb4.6/7, Error ellipse: s-maj=17.7km s-min=8.2km az=146.0*

ISC 14 20:30:15.9±0.8,18.4S±0.1×178.0W±0.1,h543km±13km, n43,σ1§04/30,mb4.2/15,5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.41**	**54**	P	**P**	**20 32 09.1**	**+0.7**
	21nm,0.3s,baz=61,slow=2.4,SNR=8.6						
AFI				S	**S**	**20 33 37.0**	**-1.0**
	6.6nm,0.3s,baz=200,slow=23,SNR=4.3						
DZM	**Mont Dzumac**	**15.09**	**253**	P	**P**	**20 33 28.1**	**+2.0**
	2.0nm,0.3s,baz=86,slow=17,SNR=15						
URZ	**Urewera**	**20.29**	**191**	P	**P**	**20 34 13.3**	**-2.5**
	5.7nm,0.6s,baz=13,slow=5.7,SNR=5.1						
ARMA	**Armidale**	**30.08**	**241**	eP	**P**	**20 35 43.7**	**+0.9**
CNB	**Canberra Magne**	**33.49**	**233**	||iP	**P**	**20 36 12.3**	**+0.7**
	15nm,0.9s,mb4.5						
CTA	**Charters Tower**	**33.79**	**261**	||iP	**P**	**20 36 14.6**	**+0.3**
	30nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**33.79**	**261**	eP	**P**	**20 36 14.4**	**+0.2**
	26nm,0.6s,mb4.9						
PMG	**Port Moresby**	**34.95**	**280**	P	**P**	**20 36 25.0**	**+1.1**
	44nm,0.8s,mb5.0,baz=82,slow=3.5,SNR=13						
PMG	**Port Moresby**	**34.95**	**280**	P	**P**	**20 36 25.0**	**+1.1**
TOO	**Toolangi**	**37.22**	**231**	eP	**P**	**20 36 43.3**	**+0.9**
	11nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**38.78**	**242**	||iP	**P**	**20 36 56.1**	**+0.9**
	11nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**38.78**	**242**	P	**P**	**20 36 56.1**	**+1.0**
	21nm,0.7s,mb4.8,baz=92,slow=9.7,SNR=38						
STKA	**Stephens Creek**	**38.78**	**242**	eP	**P**	**20 36 55.8**	**+0.6**
WB2	**Warramunga Arr**	**44.95**	**260**	eP	**P**	**20 37 43.3**	**-1.0**
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**20 37 43.8**	**-0.6**
	14nm,0.7s,mb4.7,baz=97,slow=6.8,SNR=306						
WRA				PcP	PcP	20 39 13.0	-1.4
	1.2nm,0.5s,baz=93,slow=3.4,SNR=5.0						
ASPA	**Alice Springs**	**45.08**	**255**	||iP	**P**	**20 37 44.9**	**-0.4**
GUMO	**Guam**	**48.48**	**308**	P	**P**	**20 38 10.0**	**-1.3**
	74nm,0.4s,baz=35,slow=22,SNR=4.4						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	||iP	**P**	**20 38 46.1**	**-0.7**
	7.1nm,0.5s,mb4.2						
MBWA	**Marble Bar**	**58.37**	**256**	eP	**P**	**20 39 19.9**	**-1.5**
KLBR	**Kellerberrin**	**59.01**	**244**	eP	**P**	**20 39 24.2**	**-1.3**
	13nm,0.5s,mb4.4						
MUN	**Mundaring**	**60.30**	**243**	eP	**P**	**20 39 33.3**	**-0.7**
MJAR	**Matsushiro Arr**	**68.52**	**323**	P	**P**	**20 40 25.3**	**-0.5**
	2.3nm,0.5s,mb4.0,baz=157,slow=6.3,SNR=7.9						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**20 41 28.5**	**+1.3**
	1.3nm,0.8s,mb3.3,baz=216,slow=7.8,SNR=10						
ENH	**Enshi**	**84.87**	**304**	eP	**P**	**20 41 55.7**	**+1.0**
	2.3nm,0.5s,mb4.0						
TXAR	**Lajitas Array**	**85.88**	**57**	P	**P**	**20 42 01.2**	**+1.6**
	1.7nm,0.8s,mb3.8,baz=220,slow=6.8,SNR=20						
ILAR	**Eielson Array**	**86.23**	**13**	P	**P**	**20 41 59.9**	**-0.5**
	0.6nm,0.4s,mb3.6,baz=218,slow=4.5,SNR=16						
PDAR	**Pinedale Array**	**87.39**	**43**	P	**P**	**20 42 06.7**	**+0.3**
	0.7nm,0.7s,mb3.4,baz=206,slow=2.2,SNR=6.1						
YKA	**Yellowknife Ar**	**94.56**	**25**	P	**P**	**20 42 38.5**	**-0.4**
	0.3nm,0.8s,mb3.5,baz=265,slow=10,SNR=4.2						
YKA	**Yellowknife Ar**	**94.56**	**25**	P	**P**	**20 42 38.5**	**-0.4**
MKAR	**Makanchi Array**	**109.75**	**314**	PKiKP		20 47 44.8	
	0.2nm,0.5s,baz=184,slow=0.5,SNR=10						
ARCES	**ARCESS Array B**	**126.83**	**350**	PKP	PKPdf	20 48 17.5	+0.2
	3.4nm,0.9s,baz=315,slow=8.6,SNR=4.2						
AKASG	**Malin Array Be**	**141.15**	**332**	PKhKP		20 48 39.1	
	0.4nm,0.3s,baz=45,slow=2.8,SNR=4.4						
EKA	**Eskdalemuir Ar**	**142.88**	**5**	PKhKP		20 48 43.9	
	1.7nm,1.0s,baz=346,slow=3.4,SNR=3.7						
BR131	**Keskin Array S**	**145.40**	**315**	ePKPdf	PKPdf	20 48 53.9	+2.0
BRTR	**Keskin Array B**	**145.40**	**315**	PKPbc	PKPbc	20 48 53.2	+0.1
	1.7nm,0.7s,baz=123,slow=4.1,SNR=8.9						
UMJS	**Umm Lajj**	**146.61**	**288**	P	PKPdf	20 48 58.7	+4.4
TBKS	**Tabuk**	**146.91**	**294**	P	PKPdf	20 48 59.3	+4.6
JMOS	**Jabal al Moall**	**147.98**	**296**	P	PKPdf	20 49 01.5	+5.1
ALWS	**Ilw as Safayha**	**147.98**	**296**	P	PKPdf	20 49 01.6	+5.2
AYUS	**'Aynunah**	**148.03**	**294**	P	PKPdf	20 49 01.6	+5.1
HAQS	**Haql**	**148.15**	**296**	P	PKPdf	20 49 01.9	+5.2
GERES	**GERESS Array B**	**148.16**	**345**	PKPbc	PKPdf	20 49 01.5	+5.4
	1.5nm,0.7s,baz=27,slow=3.0,SNR=10						
DAVOX	**Davos**	**150.93**	**349**	PKPbc	PKPdf	20 49 08.6	+8.1
	baz=335,slow=19						

*IDC **14** 20:46:05.8±0.7,9.86N×126.37E,mb4.1/10,mb1 4.3/10, mb1mx4.1/19,mbtmp4.1/10,Error ellipse: s-maj=48.5km s-min=15.8km az=79.0*
*NEIC **14** 20:46:08.3±0.6,9.79N×126.25E,h15km,mb4.6/4,Error ellipse: s-maj=37.9km s-min=12.5km az=78.0*
*MAN **14** 20:46:10.7,9.90N×126.39E,h16km,mb5.1,ML4.0,MS4.1*

ISC 14 20:46:11.5±0.7,9.93N±0.03×126.41E±0.05,h46km±7km, n60,σ1§07/88,mb4.3/17,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.92**	**261**	||eP	**P**	**20 46 26.7**	**-1.5**
SCPH				eS	**S**	**20 46 39.0**	**-1.4**
BUTP	**Butuan**	**1.23**	**219**	eP	**P**	**20 46 31.6**	**-0.9**
BUTP				eS	**S**	**20 46 47.6**	**-0.6**
BUTP	**Butuan**	**1.23**	**219**	eP	**P**	**20 46 31.6**	**-0.9**
BUTP				eS	**S**	**20 46 47.6**	**-0.6**
MSLP	**Maasin**	**1.54**	**278**	eP	**P**	**20 46 36.4**	**-0.6**
MSLP				eS	**S**	**20 46 56.2**	**+0.2**
MSLP	**Maasin**	**1.54**	**278**	eP	**P**	**20 46 36.4**	**-0.6**
MSLP				eS	**S**	**20 46 56.2**	**+0.2**
BIPH	**Bislig**	**1.73**	**182↑**	eP	**P**	**20 46 38.7**	**-1.1**
BIPH				eS	**S**	**20 47 00.1**	**-0.6**
PLP	**Palo**	**1.87**	**311**	eP	**P**	**20 46 42.2**	**+0.5**
BESP	**Borongan**	**1.92**	**330**	eP	**P**	**20 46 43.2**	**+0.8**
BESP				eS	**S**	**20 47 11.9**	**+6.5**
BESP	**Borongan**	**1.92**	**330**	eP	**P**	**20 46 43.2**	**+0.8**
BESP				eS	**S**	**20 47 11.9**	**+6.5**
OCLP	**Ormoc**	**2.09**	**302**	eP	**P**	**20 46 45.9**	**+1.1**
OCLP				eS	**S**	**20 47 13.6**	**+3.8**
OCLP	**Ormoc**	**2.09**	**302**	eP	**P**	**20 46 45.9**	**+1.1**
OCLP				eS	**S**

7.4nm,1.0s,mb4.9
FINES FINESS Array B 86.26 332 P **P** **20 58 49.0 -0.3**
0.7nm,0.4s,mb4.2,baz=72,slow=6.0,SNR=8.8
YKA Yellowknife Ar 94.02 24 P **P** **20 59 26.6 +1.0**
0.3nm,0.6s,mb3.9,baz=300,slow=4.5,SNR=8.3
TORD Torodi Ar. Bea 120.52 292 PKP PKPdf 21 04 59.8 +0.6
0.2nm,0.7s,baz=105,slow=1.5,SNR=4.5

IDC ***14*** *21:22:35.1±0.8, 18.69N×100.86W, h56km±6km, mb4.6/23, mb1 4.8/23, mb1mx4.7/25, mbtmp4.9/23, MS4.0/18, Ms1 4.0/18, ms1mx4.0/22, Error ellipse: s-maj=21.3km s-min=11.1km az=59.0*

MEX ***14*** *21:22:36.8±0.6, 18.39N×101.19W, h49km±27km, MD4.6*

BJI ***14*** *21:22:37.9, 18.70N×101.00W, h81km, mB5.1, Ms4.9, Msz4.5*

NEIC ***14*** *21:22:37.9±0.4, 18.66N×100.97W, h82km±3km, mb5.0/128, MD4.6(MEX), Error ellipse: s-maj=6.1km s-min=2.7km az=217.0*

HRVD ***14*** *21:22:37.9±0.5, 18.70N×100.93W, h59km±2km, MW4.9/54, Centroid moment Tensor Solution. LP body waves: s36,c48;Mantle waves: s54,c82; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.20±.17; $M_{\theta\theta}$2.61±.11; $M_{\phi\phi}$-0.40±.13; $M_{r\theta}$1.36±.09; $M_{\theta\phi}$-0.16±.12; $M_{r\phi}$0.19±.10; Best double couple: $M_0$2.776×10^{16} NP1:$\phi_1$101°,δ31°, λ-78°. NP2:$\phi_2$267°,δ60°,λ-97°. Principal axes: T 2.971, Plg15°, Azm2°; N -.387, Plg6°, Azm270°; P -2.582, Plg74°, Azm158°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***14*** *21:22:38.7±0.9, 18.77N×100.96W, h94km, mb5.1/66, MS4.2/5 Error ellipse: s-maj=6.5km s-min=4.1km az=87.4*

ISC 14 21:22:34.9±0.4, 18.48N±0.03×101.13W±0.03, h74km±3km, n414, σ1Ψ07/410, mb5.0/153, 14C-1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MOIG	**Morelia**	**1.19**	**357**	*i*P		**P**	**21 22 56.5**	**+0.2**
MOIG				*i*S		**S**	**21 23 12.9**	**+0.5**
MRX	**Morelia**	**1.22**	**357**	*i*P		**P**	**21 22 57.3**	**+0.6**
PLIG	**Platanillo**	**1.55**	**93**	⇑*i*P		**P**	**21 23 01.6**	**+0.5**
PLIG				*e*S		**S**	**21 23 20.3**	**-0.2**
CAIG	**El Cayaco**	**1.64**	**150**	⇑*i*P		**P**	**21 23 00.9**	**-1.5**
CAIG				*e*S		**S**	**21 23 19.8**	**-2.9**
ACX	**Acapulco**	**1.98**	**144**	*e*P		**P**	**21 23 05.5**	**-1.4**
ACX				*i*S		**S**	**21 23 28.8**	**-1.7**
ACX	**Acapulco**	**1.98**	**144**	*i*P		**P**	**21 23 06.2**	**-0.7**
YAIG	**Yautepec**	**1.99**	**79**	⇑*i*P		**P**	**21 23 08.1**	**+0.9**
YAIG				*i*S		**S**	**21 23 31.4**	**+0.5**
UNM	**Universidad Na**	**2.03**	**65**	⇑*i*P		**P**	**21 23 09.2**	**+1.5**
UNM				*i*P			21 23 10.0	
UNM				*i*S		**S**	**21 23 32.0**	**+0.1**
UNM				*i*S		**S**	**21 23 32.3**	**+0.4**
UNM	**Universidad Na**	**2.03**	**65**	⇑*i*P		**P**	**21 23 09.2**	**+1.5**
UNM				*i*S		**S**	**21 23 32.3**	**+0.4**
MDVM	**Presa Madin**	**2.07**	**59**	*i*P		**P**	**21 23 08.6**	**+0.4**
MDVM				*i*S		**S**	**21 23 34.5**	**+1.5**
PTVM	**Pico Tres Padr**	**2.21**	**60**	*i*P		**P**	**21 23 10.3**	**+0.2**
PTVM				*i*S		**S**	**21 23 37.5**	**+1.3**
PPM	**Popocatepetl**	**2.44**	**76**	*i*P		**P**	**21 23 14.3**	**+0.9**
PPM				⇑*i*P			21 23 15.1	
PPM				*i*P			21 23 15.2	
PPM				*i*S		**S**	**21 23 44.0**	**+1.8**
PPM	**Popocatepetl**	**2.44**	**76**	⇑*i*P		**P**	**21 23 15.1**	**+1.6**
COLM	**Colima**	**2.52**	**286**	*i*P		**P**	**21 23 14.7**	**+0.1**
SFJM	**Santa Fe**	**2.69**	**318**	*i*P		**P**	**21 23 16.8**	**-0.1**
PNIG	**Pinotepa**	**3.54**	**125**	*i*P		**P**	**21 23 28.1**	**-0.7**
PNIG				*i*S		**S**	**21 24 05.8**	**-3.9**
VHO	**Vista Hermosa**	**4.42**	**108**	*i*P		**P**	**21 23 41.5**	**+0.5**
VHO				*i*S		**S**	**21 24 28.0**	**-3.6**
OXX	**Oaxaca**	**4.42**	**108**	*i*P		**P**	**21 23 42.2**	**+1.1**
ZAIG	**Zacatecas**	**4.47**	**343**	*i*P		**P**	**21 23 41.3**	**-0.5**
ZAIG				*i*S		**S**	**21 24 38.7**	**+5.6**
HUIG	**Huatulco**	**5.51**	**119**	*i*P		**P**	**21 23 56.3**	**+0.3**
HUIG				*i*S		**S**	**21 24 57.3**	**-1.4**
TUIG	**Tuzandepetl**	**6.39**	**93**	*i*P		**P**	**21 24 07.7**	**-0.6**
TUIG				*i*S		**S**	**21 25 18.5**	**-2.0**
LTX	**Lajitas**	**11.05**	**348**	*e*P		**P**	**21 25 13.2**	**+1.2**
LTX					pmax	pmax		
	comp=Z,58nm,1.3s							
LTX	**Lajitas**	**11.05**	**348**	*e*P		**P**	**21 25 13.2**	**+1.2**
	comp=Z,58nm,1.3s							
TXAR	**Lajitas Array**	**11.05**	**348**	P		**P**	**21 25 13.6**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=166,slow=16,SNR=46							
TXAR					LR	LR	21 29 57.0	
	comp=Z,1μm,20.2s,baz=155,slow=40							
TXAR	**Lajitas Array**	**11.05**	**348**	P		**P**	**21 25 13.6**	**+1.5**
TXAR					LR	LR	21 29 57.0	
JCT	**Junction City**	**12.01**	**6**	*e*P		**P**	**21 25 25.4**	**+0.6**
JCT					pmax	pmax		
	comp=Z,142nm,1.1s							
JCT	**Junction City**	**12.01**	**6**	*e*P		**P**	**21 25 25.4**	**+0.5**
	comp=Z,142nm,1.1s							
MNTX	**Cornudas Mount**	**13.71**	**345**	*e*P		**P**	**21 25 47.9**	**+0.6**
	comp=Z,55nm,0.9s							
CLNB	**Carlsbad**	**13.95**	**350**	*e*P		**P**	**21 25 52.2**	**+1.9**
GDL2	**Guadalupe Moun**	**13.97**	**349**	*e*P		**P**	**21 25 52.7**	**+2.0**
NATX	**Nacogdoches**	**14.46**	**23**	*e*P		**P**	**21 25 55.8**	**-1.2**
	comp=Z,491nm,1.1s							
CPRX	**Cap Rock**	**14.70**	**351**	*e*P		**P**	**21 26 01.3**	**+1.2**
TUC	**Tucson**	**16.29**	**330**	*e*P		**P**	**21 26 20.9**	**+0.6**
TUC					pmax	pmax		
	comp=Z,29nm,1.0s							
TUC	**Tucson**	**16.29**	**330**	*e*P		**P**	**21 26 20.9**	**+0.6**
	comp=Z,29nm,1.0s							
WMOK	**Wichita Mounta**	**16.33**	**7**	*e*P		**P**	**21 26 18.8**	**-2.0**
WMOK					pmax	pmax		
	comp=Z,30nm,0.9s							
WMOK	**Wichita Mounta**	**16.33**	**7**	*e*P		**P**	**21 26 18.8**	**-2.0**
	comp=Z,30nm,0.9s							
BNM	**Barren Site**	**16.36**	**344**	*e*P		**P**	**21 26 22.6**	**+1.4**
LENM	**Lemitar**	**16.47**	**343**	*e*P		**P**	**21 26 24.3**	**+1.7**
LPM	**Los Pinos Moun**	**16.51**	**344**	*e*P		**P**	**21 26 24.6**	**+1.5**
LAZ	**Ladron**	**16.74**	**343**	*e*P		**P**	**21 26 27.6**	**+1.7**
ANMO	**Albuquerque**	**17.08**	**345**	P		**P**	**21 26 31.9**	**+1.7**
	baz=156,slow=12,SNR=49							
ANMO					LR	LR	21 33 43.2	
	comp=Z,1μm,19.4s,baz=113,slow=39							
ANMO	**Albuquerque**	**17.08**	**345**	*e*P		**P**	**21 26 31.6**	**+1.5**
ANMO					pmax	pmax		
	comp=Z,46nm,0.9s							
ANMO	**Albuquerque**	**17.08**	**345**	*e*P		**P**	**21 26 31.6**	**+1.5**
	comp=Z,46nm,0.9s							
MIAR	**Mount Ida**	**17.36**	**21**	*e*P		**P**	**21 26 31.5**	**-2.2**
MIAR					pmax	pmax		
	comp=Z,75nm,0.9s							
MIAR	**Mount Ida**	**17.36**	**21**	*e*P		**P**	**21 26 31.5**	**-2.3**
	comp=Z,75nm,0.9s							
JTS	**JuntasAbangare**	**17.65**	**115**	*e*P		**P**	**21 26 39.9**	**+2.5**
UALR	**University of**	**18.02**	**24**	*e*P		**P**	**21 26 39.7**	**-2.0**
	comp=Z,53nm,0.9s							
GLA	**Glamis**	**19.02**	**322**	*e*P		**P**	**21 26 53.4**	**0.0**
OXF	**Oxford**	**19.08**	**31**	*e*P		**P**	**21 26 51.4**	**-2.7**
OXF					pmax	pmax		
	comp=Z,125nm,0.9s							
OXF	**Oxford**	**19.08**	**31**	*e*P		**P**	**21 26 51.4**	**-2.7**
	comp=Z,125nm,0.9s							
WUAZ	**Wupatki**	**19.25**	**334**	*e*P		**P**	**21 26 56.5**	**+0.6**
LRAL	**Lakeview Retre**	**19.26**	**38**	P		**P**	**21 26 51.6**	**-4.4**
HBAR	**Harrisburg**	**19.38**	**27**	*e*P		**P**	**21 26 54.7**	**-2.6**
SDCO	**Great Sand Dun**	**19.57**	**350**	*e*P		**P**	**21 26 59.2**	**-0.2**
	comp=Z,88nm,0.8s							
BAR	**Barrett**	**19.88**	**318**	*e*P		**P**	**21 27 02.3**	**-0.4**
HALT	**Halls**	**20.25**	**29**	P		**P**	**21 27 05.0**	**-1.6**
CBKS	**Cedar Bluff**	**20.30**	**3**	*e*P		**P**	**21 27 05.4**	**-1.6**
CBKS					pmax	pmax		
	comp=Z,87nm,0.6s							
CBKS	**Cedar Bluff**	**20.30**	**3**	*e*P		**P**	**21 27 05.4**	**-1.6**
	comp=Z,87nm,0.6s							
GLAT	**Glass**	**20.57**	**28**	P		**P**	**21 27 07.7**	**-2.2**
PV01	**Paradox Valley**	**20.63**	**343**	*e*P		**P**	**21 27 10.1**	**-0.4**
PARMO	**Parma**	**20.70**	**27**	*e*P		**P**	**21 27 08.2**	**-3.0**
UTMT	**University of**	**20.83**	**29**	*e*P		**P**	**21 27 09.4**	**-3.0**
KSU1	**Kansas State U**	**20.92**	**10**	*e*P		**P**	**21 27 10.1**	**-3.3**
NEN	**Nelson**	**20.97**	**327**	*e*P		**P**	**21 27 14.0**	**+0.1**
PV10	**Paradox Valley**	**20.99**	**342**	*e*P		**P**	**21 27 13.1**	**-1.0**
WVT	**Waverly**	**21.14**	**31**	*e*P		**P**	**21 27 12.6**	**-3.1**
WVT					pmax	pmax		
	comp=Z,48nm,0.9s,mb4.8							
WVT	**Waverly**	**21.14**	**31**	*e*P		**P**	**21 27 12.6**	**-3.1**
	comp=Z,48nm,0.9s,mb4.8							
SWET	**Sewanee**	**21.44**	**36**	*e*P		**P**	**21 27 14.4**	**-4.3**
FVM	**French Village**	**21.57**	**24**	*e*P		**P**	**21 27 16.9**	**-3.0**
FVM					pmax	pmax		
	comp=Z,33nm,0.4s,mb5.0							
FVM	**French Village**	**21.57**	**24**	*e*P		**P**	**21 27 16.9**	**-3.0**
	comp=Z,33nm,0.4s,mb5.0							
ISCO	**Idaho Springs**	**21.60**	**351**	*e*P		**P**	**21 27 20.0**	**-0.1**
ISCO					pmax	pmax		
	comp=Z,50nm,0.6s,mb5.0							
ISCO	**Idaho Springs**	**21.60**	**351**	*e*P		**P**	**21 27 20.0**	**-0.2**
	comp=Z,50nm,0.6s,mb5.0							
GOGA	**Godfrey**	**21.71**	**43**	*e*P		**P**	**21 27 17.6**	**-3.7**
GOGA					pmax	pmax		
	comp=Z,18nm,0.3s,mb4.9							
GOGA	**Godfrey**	**21.71**	**43**	*e*P		**P**	**21 27 17.6**	**-3.6**
	comp=Z,18nm,0.3s,mb4.9							
MWC	**Mount Wilson**	**21.77**	**319**	*e*P		**P**	**21 27 22.3**	**+0.5**
GSC	**Goldstone**	**21.77**	**323**	*e*P		**P**	**21 27 22.8**	**+0.9**
ARUT	**Antelope Range**	**22.05**	**333**	*e*P		**P**	**21 27 25.9**	**+1.3**
SRU	**San Rafael**	**22.12**	**340**	*e*P		**P**	**21 27 25.4**	**+0.1**
SRU					pmax	pmax		
	comp=Z,53nm,0.8s,mb4.9							
SRU	**San Rafael**	**22.12**	**340**	*e*P		**P**	**21 27 25.4**	**+0.2**
	comp=Z,53nm,0.8s,mb4.9							
MSU	**Marysvale**	**22.16**	**337**	*e*P		**P**	**21 27 26.6**	**+0.9**
MVU	**Marysvale**	**22.17**	**336**	*e*P		**P**	**21 27 28.0**	**+2.2**
	comp=Z,26nm,0.8s,mb4.6							
SLM	**Saint Louis**	**22.21**	**23**	*e*P		**P**	**21 27 24.7**	**-1.5**
CPCT	**Cooper Cave**	**22.41**	**38**	*e*P		**P**	**21 27 25.0**	**-3.1**
TMUT	**Tmail Mountain**	**22.51**	**339**	*e*P		**P**	**21 27 30.1**	**+1.0**
TPNV	**Topopah Spring**	**22.70**	**327**	*e*P		**P**	**21 27 32.2**	**+1.2**
TPNV					pmax	pmax		
	comp=Z,61nm,1.2s,mb4.8							
TPNV	**Topopah Spring**	**22.70**	**327**	*e*P		**P**	**21 27 32.2**	**+1.2**
	comp=Z,61nm,1.2s,mb4.8							
USIN	**University of**	**22.70**	**28**	*e*P		**P**	**21 27 29.5**	**-1.5**
	comp=Z,52nm,0.8s,mb4.9							
DAC	**Darwin (Calif)**	**22.92**	**324**	*e*P		**P**	**21 27 33.8**	**+0.7**
DAC					pmax	pmax		
	comp=Z,43nm,1.4s,mb4.6							
DAC	**Darwin (Calif)**	**22.92**	**324**	*e*P		**P**	**21 27 33.8**	**+0.7**
	comp=Z,43nm,1.4s,mb4.6							
ISA	**Isabella**	**22.99**	**322**	*e*P		**P**	**21 27 34.6**	**+0.8**
ISA					pmax	pmax		
	comp=Z,51nm,1.4s,mb4.7							
ISA	**Isabella**	**22.99**	**322**	*e*P		**P**	**21 27 34.6**	**+0.8**
	comp=Z,51nm,1.4s,mb4.7							
PHWY	**Pilot Hill**	**23.05**	**352**	*e*P		**P**	**21 27 35.0**	**+0.6**
MPU	**Maple Canyon**	**23.30**	**339**	*e*P		**P**	**21 27 37.5**	**+0.7**
	comp=Z,44nm,1.3s,mb4.6							
NLU	**North Lily Min**	**23.40**	**338**	*e*P		**P**	**21 27 39.0**	**+1.3**
DAU	**Daniels Canyon**	**23.53**	**340**	*e*P		**P**	**21 27 39.8**	**+0.8**
WCI	**Wyandotte Cave**	**23.55**	**30**	*e*P		**P**	**21 27 37.3**	**-1.9**
WCI					pmax	pmax		
	comp=Z,51nm,0.8s,mb4.9							
WCI	**Wyandotte Cave**	**23.55**	**30**	*e*P		**P**	**21 27 37.3**	**-1.9**
	comp=Z,51nm,0.8s,mb4.9							
JSC	**Jenkinsville**	**23.69**	**44**	*e*P		**P**	**21 27 38.2**	**-2.4**
RWWY	**Rawlins**	**23.71**	**349**	*e*P		**P**	**21 27 39.7**	**-1.0**
	comp=Z,181nm,1.4s,mb5.2							
TZTN	**Tazewell**	**23.74**	**37**	*e*P		**P**	**21 27 39.0**	**-2.1**
DUG	**Dugway**	**23.87**	**337**	*e*P		**P**	**21 27 43.1**	**+0.8**
DUG					pmax	pmax		
	comp=Z,17nm,0.6s,mb4.5							
DUG	**Dugway**	**23.87**	**337**	*e*P		**P**	**21 27 43.1**	**+0.8**
	comp=Z,17nm,0.6s,mb4.6							
TPH	**Tonopah**	**24.05**	**328**	*e*P		**P**	**21 27 45.0**	**+0.9**
TPH					pmax	pmax		
	comp=Z,32nm,0.9s,mb4.7							
TPH	**Tonopah**	**24.05**	**328**	*e*P		**P**	**21 27 45.0**	**+0.9**
	comp=Z,32nm,0.9s,mb4.7							
TCUT	**Toone Canyon**	**24.22**	**341**	*e*P		**P**	**21 27 46.2**	**+0.5**
BGU	**Big Grassy Mou**	**24.59**	**338**	*e*P		**P**	**21 27 49.2**	**-0.2**
HWUT	**Hardware Ranch**	**24.72**	**341**	*e*P		**P**	**21 27 50.4**	**-0.2**
	comp=Z,9μm,0.9s							
MNV	**Mina**	**24.80**	**327**	*e*P		**P**	**21 27 52.5**	**+1.1**
MNV					pmax	pmax		
	comp=Z,51nm,0.9s,mb5.0							
MNV	**Mina**	**24.80**	**327**	*e*P		**P**	**21 27 52.5**	**+1.1**
	comp=Z,51nm,0.9s,mb5.0							
NVAR	**Mina Array Bea**	**24.88**	**327**	P		**P**	**21 27 53.5**	**+1.4**
	comp=Z,30nm,0.7s,mb4.8,baz=146,slow=10,SNR=194							
NVAR					pP		21 28 08.0	
	comp=Z,3.7nm,0.8s,baz=268,slow=22,SNR=2.6							
NVAR					PcP	PcP	21 31 27.9	+0.7
	comp=Z,0.8nm,0.7s,baz=180,slow=1.8,SNR=4.7							
NVAR					pPcP		21 31 45.0	
	comp=Z,2.5nm,1.0s,baz=141,slow=3.5,SNR=5.6							
NVAR					LR	LR	21 38 47.2	
	comp=Z,116nm,19.7s,baz=105,slow=39							
LRV	**Little Rabbit**	**25.03**	**320**	*e*P		**P**	**21 27 54.4**	**+0.8**
BW06	**Boulder Array**	**25.24**	**345**	*e*P		**P**	**21 27 54.5**	**-1.0**
	comp=Z,124nm,1.1s,mb5.2							
PDAR	**Pinedale Array**	**25.24**	**345**	P		**P**	**21 27 54.9**	**-0.6**
	comp=Z,82nm,0.9s,mb5.2,baz=148,slow=11,SNR=131							
PDAR					PcP	PcP	21 31 27.4	-0.6
	comp=Z,1.7nm,0.7s,baz=129,slow=4.2,SNR=5.7							
PDAR					pPcP		21 31 43.8	
	comp=Z,1.9nm,0.8s,baz=135,slow=2.1,SNR=5.1							
PDAR					LR	LR	21 38 55.7	
	comp=Z,638nm,18.8s,baz=176,slow=39							
HVU	**Hansel Valley**	**25.26**	**339**	*e*P		**P**	**21 27 55.3**	**-0.4**
HVU					pmax	pmax		
	comp=Z,28nm,0.8s,mb4.7							
HVU	**Hansel Valley**	**25.26**	**339**	*e*P		**P**	**21 27 55.3**	**-0.4**
	comp=Z,28nm,0.8s,mb4.7							
ELK	**Elko**	**25.29**	**334**	P		**P**	**21 27 56.3**	**+0.4**
	comp=Z,5.3nm,0.8s,mb4.0,baz=146,slow=7.5,SNR=19							
ELK					PcP	PcP	21 31 28.2	+0.1
	comp=Z,0.6nm,0.4s,baz=230,slow=5.6,SNR=3.0							
ELK					pPcP		21 31 45.3	
	comp=Z,2.6nm,0.9s,baz=168,slow=5.3,SNR=4.9							
ELK					LR	LR	21 38 58.3	
	comp=Z,701nm,18.3s,baz=153,slow=39							
ELK	**Elko**	**25.29**	**334**	*e*P		**P**	**21 27 55.8**	**-0.1**
ELK					pmax	pmax		
	comp=Z,11nm,1.0s							
ELK	**Elko**	**25.29**	**334**	*e*P		**P**	**21 27 55.8**	**-0.1**
	comp=Z,11nm,1.0s,mb4.2							
AHID	**Auburn Hatcher**	**25.64**	**343**	*e*P		**P**	**21 27 58.2**	**-1.1**
	comp=Z,12nm,0.6s,mb4.5							
RSSD	**Black Hills**	**25.68**	**355**	*e*P		**P**	**21 27 58.6**	**-1.0**
RSSD					pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.3							
RSSD	**Black Hills**	**25.68**	**355**	*e*P		**P**	**21 27 58.5**	**-1.0**
	comp=Z,7.8nm,0.6s,mb4.3							
CMB	**Columbia Colle**	**25.73**	**323**	*e*P		**P**	**21 28 00.1**	**0.0**
CMB					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2							
CMB	**Columbia Colle**	**25.73**	**323**	*e*P		**P**	**21 28 00.1**	**-0.1**
	comp=Z,7.6nm,0.8s,mb4.2							
BLA	**Blacksburg**	**26.04**	**40**	*e*P		**P**	**21 28 00.0**	**-3.0**
BLA					pmax	pmax		
	comp=Z,22nm,0.6s,mb4.8							
BLA	**Blacksburg**	**26.04**	**40**	*e*P		**P**	**21 27 60.0**	**-3.1**
	comp=Z,22nm,0.6s,mb4.8							
REDW	**Red Top Meadow**	**26.13**	**344**	*e*P		**P**	**21 28 02.5**	**-1.3**
	comp=Z,112nm,1.4s,mb5.1							
SNOW	**Snow King Moun**	**26.20**	**344**	*e*P		**P**	**21 28 03.7**	**-0.7**
	comp=Z,138nm,1.1s,mb5.3							
RRI2	**Red Ridge**	**26.24**	**343**	*e*P		**P**	**21 28 04.2**	**-0.6**
	comp=Z,26nm,1.2s,mb4.5							
TPAW	**Teton Pass**	**26.28**	**344**	*e*P		**P**	**21 28 04.7**	**-0.4**
	comp=Z,104nm,0.8s,mb5.3							
LOHW	**Long Hollow**	**26.30**	**344**	*e*P		**P**	**21 28 04.3**	**-1.0**
	comp=Z,75nm,0.7s,mb5.2							
IMW	**Indian Meadow**	**26.65**	**344**	*e*P		**P**	**21 28 07.2**	**-1.4**
	comp=Z,28nm,0.6s,mb5.0							
YFT	**Old Faithful**	**27.14**	**345**	P		**P**	**21 28 13.1**	**0.0**
OHCM	**Honcut**	**27.25**	**324**	*e*P		**P**	**21 28 13.9**	**-0.2**
YMR	**Madison River**	**27.38**	**345**	*e*P		**P**	**21 28 14.6**	**-0.6**
	comp=Z,28nm,1.0s,mb4.7							
HLID	**Hailey**	**27.40**	**339**	*e*P		**P**	**21 28 14.6**	**-0.8**
	comp=Z,12nm,0.6s,mb4.6							
QLMT	**Earthquake Lak**	**27.65**	**344**	*e*P		**P**	**21 28 17.5**	**-0.2**
AAM	**Ann Arbor**	**28.01**	**28**	*e*P		**P**	**21 28 19.4**	**-1.6**
AAM					pmax	pmax		
	comp=Z,74nm,0.6s,mb5.4							
AAM	**Ann Arbor**	**28.01**	**28**	*e*P		**P**	**21 28 19.4**	**-1.6**
	comp=Z,74nm,0.6s,mb5.4							
MCMT	**McKenzie Canyo**	**28.04**	**342**	*e*P		**P**	**21 28 20.5**	**-0.7**
DLMT	**Dillon**	**28.46**	**343**	*e*P		**P**	**21 28 24.2**	**-0.7**
	comp=Z,42nm,1.1s,mb4.9							
BOZ	**Bozeman (W)**	**28.46**	**344**	*e*P		**P**	**21 28 23.4**	**-1.5**
BOZ					pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3							
BOZ	**Bozeman (W)**	**28.46**	**344**	*e*P		**P**	**21 28 23.4**	**-1.6**
	comp=Z,8.7nm,0.9s,mb4.3							
MOD	**Modoc**	**28.50**	**329**	*e*P		**P**	**21 28 24.4**	**-0.9**
	comp=Z,28nm,1.0s,mb4.8							
KCPM	**Cahto Peak**	**28.69**	**322**	*e*P		**P**	**21 28 27.6**	**+0.5**
KIPM	**Iron Peak**	**28.71**	**322**	*e*P		**P**	**21 28 27.4**	**+0.2**
OTAV	**Otavalo**	**28.72**	**127**	*e*P		**P**	**21 28 29.2**	**+1.6**
	comp=Z,14nm,1.4s,mb4.4							
HRY	**Holter Researc**	**29.50**	**345**	*e*P		**P**	**21 28 33.0**	**-1.2**
BMO	**Blue Mountains**	**29.57**	**336**	*e*P		**P**	**21 28 33.0**	**-1.8**
	comp=Z,22nm,1.2s,mb4.7							
YBH	**Yreka Blue Hor**	**29.60**	**326**	P		**P**	**21 28 33.5**	**-1.7**
	comp=Z,7.5nm,0.8s,mb4.4,baz=98,slow=4.7,SNR=28							
YBH					LR	LR	21 40 34.3	
	comp=Z,103nm,18.8s,baz=134,slow=36							
YBH	**Yreka Blue Hor**	**29.60**	**326**	*e*P		**P**	**21 28 32.9**	**-2.2**
YBH					pmax	pmax		
	comp=Z,7.0nm,0.7s							
YBH	**Yreka Blue Hor**	**29.60**	**326**	*e*P		**P**	**21 28 32.9**	**-2.2**
	comp=Z,6.7nm,0.7s,mb4.4							
KRMB	**Red Mountain**	**30.10**	**325**	*e*P		**P**	**21 28 38.8**	**-0.7**
MSO	**Missoula**	**30.18**	**342**	*e*P		**P**	**21 28 38.6**	**-1.6**
	comp=Z,13nm,1.1s,mb4.5							
HUMO	**Hull Mountain**	**30.35**	**327**	*e*P		**P**	**21 28 41.1**	**-0.6**
	comp=Z,7.8nm,1.1s,mb4.2							
KBO	**Bosley Butte**	**30.74**	**325**	*e*P		**P**	**21 28 44.8**	**-0.4**
SDV	**Santo Domingo**	**31.08**	**104**	*e*P		**P**	**21 28 48.7**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.5							
FRIS	**Frissel Point**	**31.11**	**330**	P		**P**	**21 28 47.8**	**-0.6**
KEBM	**Edson Butte**	**31.26**	**326**	*e*P		**P**	**21 28 49.7**	**0.0**
BROR	**Big Rock Looko**	**31.31**	**330**	P		**P**	**21 28 49.4**	**-0.8**
RNO	**Roman Nose**	**31.68**	**328**	P		**P**	**21 28 53.7**	**+0.2**
ULM	**Lac du Bonnet**	**31.98**	**6**	P		**P**	**21 28 52.8**	**-3.1**
	comp=Z,22nm,0.7s,mb5.0,baz=188,slow=9.3,SNR=35							
ULM					PcP	PcP	21 31 44.2	-0.3
	comp=Z,3.8nm,0.5s,baz=167,slow=3.4,SNR=6.0							
ULM					LR	LR	21 42 55.4	
	comp=Z,293nm,18.6s,baz=214,slow=38							
ULM	**Lac du Bonnet**	**31.98**	**6**	P		**P**	**21 28 52.8**	**-3.1**
ULM					PcP	PcP	21 31 44.2	-0.3
ULM					LR	LR	21 42 55.4	
SADO	**Sadowa**	**32.01**	**30**	P		**P**	**21 28 52.2**	**-4.1**
	comp=Z,18nm,0.6s,mb4.9,baz=238,slow=9.8,SNR=9.2							
SADO	**Sadowa**	**32.01**	**30**	P		**P**	**21 28 52.2**	**-4.1**
OD2	**Odessa Site #2**	**32.23**	**337**	P		**P**	**21 28 56.7**	**-1.5**
ASR	**Mount Adams--S**	**32.37**	**333**	P		**P**	**21 29 00.1**	**+0.7**
ETW	**Entiat**	**33.02**	**336**	P		**P**	**21 29 04.8**	**-0.3**
SJG	**San Juan**	**33.19**	**85**	P		**P**	**21 29 07.0**	**+0.3**
	comp=Z,132nm,0.7s,mb5.9,baz=274,slow=6.1,SNR=52							
SJG	**San Juan**	**33.19**	**85**	*e*P		**P**	**21 29 06.4**	**-0.3**
SJG					pmax	pmax		
	comp=Z,121nm,0.8s							
SJG	**San Juan**	**33.19**	**85**	*e*P		**P**	**21 29 06.4**	**-0.3**
	comp=Z,121nm,0.8s,mb5.8							
CPD	**Cerro la Pandu**	**33.41**	**85**	*e*P		**P**	**21 29 08.0**	**-0.7**
MTP	**Monte Pirata**	**33.75**	**85**	*e*P		**P**	**21 29 10.5**	**-1.1**
NCB	**Newcomb**	**34.00**	**36**	*e*P		**P**	**21 29

comp=Z,14nm,1.1s,mb4.7
PLCA ePP pP 21 33 35.1 +3.6
BILL Bilibino 74.00 337 eP **P** **21 34 02.9 -0.9**
BILL pmax pmax
comp=Z,18nm,0.9s,mb4.8
BILL Bilibino 74.00 337 eP **P** **21 34 02.9 -0.9**
comp=Z,18nm,0.9s,mb4.8
KBS Kingsbay 76.28 11 eP **P** **21 34 17.2 +0.5**
AFI Afiamalu 76.69 250 LR LR 21 59 33.7
comp=Z,69nm,19.8s,baz=113,slow=29
ELOB Lobios 80.12 49 P **P** **21 34 38.4 -0.1**
comp=Z,38nm,0.9s,mb5.2
PCAB Cabril 80.19 49 eP **P** **21 34 38.8 0.0**
comp=Z,56nm,1.6s,mb5.1
EPON Pontenova 80.37 48 P **P** **21 34 40.0 +0.3**
comp=Z,28nm,0.7s,mb5.2
PTOM Tomar 80.49 51 eP **P** **21 34 41.1 +0.6**
comp=Z,83nm,1.1s,mb5.5
PVRL Vila Real 80.54 50 eP **P** **21 34 41.1 +0.4**
comp=Z,40nm,1.3s,mb5.1
PVIS Viseu 80.56 50 eP **P** **21 34 40.1 -0.7**
comp=Z,28nm,1.2s,mb5.0
PTEO Sao Teotonio 80.82 54 eP **P** **21 34 43.4 +1.1**
comp=Z,103nm,1.1s,mb5.6
MTE Manteigas 80.91 51 eP **P** **21 34 42.8 +0.1**
comp=Z,55nm,1.4s,mb5.2
SEY Seymchan 80.97 334 i/ *i* P **P** **21 34 43.7 +1.2**
EVO Evora 81.09 52 eP **P** **21 34 43.5 -0.1**
comp=Z,121nm,1.0s,mb5.4
EVO eR
comp=Z,70nm,20.2s
PBRG Braganca 81.09 49 eP **P** **21 34 44.2 +0.6**
comp=Z,42nm,1.5s,mb5.0
PCBR Castelo Branco 81.11 51 eP **P** **21 34 44.3 +0.5**
comp=Z,44nm,1.5s,mb5.1
PBEJ Beja 81.34 53 eP **P** **21 34 45.7 +0.7**
comp=Z,22nm,0.8s,mb5.0
PET Petropavlovsk 81.41 323 eP **P** **21 34 46.3 +1.3**
PET pmax pmax
comp=Z,16nm,0.8s,mb4.9
ROSF Rostrenen 81.48 42 eP **P** **21 34 45.0 -0.5**
comp=Z,105nm,1.3s,mb5.2
ROSF Rostrenen 81.48 42 eP **P** **21 34 45.0 -0.5**
ROSF pmax pmax
comp=Z,52nm,1.3s,mb5.2
QUIF Quistinic 81.69 42 eP **P** **21 34 46.0 -0.5**
comp=Z,21nm,0.8s,mb4.7
QUIF Quistinic 81.69 42 eP **P** **21 34 46.0 -0.5**
QUIF pmax pmax
comp=Z,11nm,0.8s,mb4.7
EARI Arriondas 81.73 47 P **P** **21 34 48.5 +1.6**
comp=Z,20nm,0.8s,mb5.0
EBAD Badajoz 81.77 52 P **P** **21 34 47.9 +0.7**
comp=Z,8.8nm,0.8s,mb4.6
EGRO El Granado 81.77 53 P **P** **21 34 48.1 +0.9**
comp=Z,21nm,0.9s,mb5.0
SGMF Saint Gilles 81.97 42 eP **P** **21 34 47.4 -0.6**
comp=Z,33nm,0.9s,mb4.9
SGMF Saint Gilles 81.97 42 eP **P** **21 34 47.4 -0.6**
SGMF pmax pmax
comp=Z,17nm,0.9s,mb4.9
EMIN Mina Concepcio 82.32 53 P **P** **21 34 51.0 +0.9**
comp=Z,17nm,0.7s,mb5.0
GRR Gorron 82.99 41 eP **P** **21 34 53.2 0.0**
comp=Z,69nm,0.8s,mb5.3
GRR Gorron 82.99 41 eP **P** **21 34 53.2 0.0**
GRR pmax pmax
comp=Z,34nm,0.8s,mb5.2
MA2 Magadan 83.04 331 P **P** **21 34 48.1 -5.1**
MA2 e*PP pP 21 35 09.4 -4.1
MA2 e*SP sP 21 35 27.3 +5.6
MA2 e 21 45 00.7
MA2 ePS PS 21 46 31.7 +24
MA2 pmax pmax
comp=Z,40nm,1.5s,mb5.0
MA2 MLR MLR
comp=Z,100nm,24.4s
FLN La Foliniere 83.10 41 eP **P** **21 34 54.0 +0.2**
comp=Z,66nm,0.8s,mb5.2
FLN eR
comp=Z,119nm,22.2s
FLN La Foliniere 83.10 41 eP **P** **21 34 54.0 +0.2**
FLN pmax pmax
comp=Z,33nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,120nm,22.2s
ESPR Espera 83.21 54 P **P** **21 34 56.3 +1.7**
comp=Z,21nm,0.8s,mb5.0
LDF La Druitiere 83.38 41 eP **P** **21 34 55.3 +0.1**
comp=Z,45nm,0.8s,mb5.0
LDF La Druitiere 83.38 41 eP **P** **21 34 55.3 +0.1**
LDF pmax pmax
comp=Z,23nm,0.8s,mb5.1
ESDC Sonseca Array 83.75 50 P **P** **21 34 57.4 +0.1**
comp=Z,6.3nm,0.7s,mb4.5,baz=299,slow=5.0,SNR=37
ESDC Sonseca Array 83.75 50 P **P** **21 34 58.2 +0.9**
comp=Z,6.0nm,0.8s,mb4.5
TIXI Tiksi 83.94 346 *c i* P **P** **21 34 57.1 -0.4**
TIXI pmax pmax
comp=Z,46nm,1.3s,mb5.2
MFF Saint Martin d 84.06 43 eP **P** **21 34 58.7 +0.1**
comp=Z,42nm,1.0s,mb4.9
MFF Saint Martin d 84.06 43 eP **P** **21 34 58.7 +0.1**
MFF pmax pmax
comp=Z,21nm,1.0s,mb4.9
KONO Kongsberg 84.22 29 eP **P** **21 34 59.3 +0.2**
KONO pmax pmax
comp=Z,16nm,0.8s,mb4.9
KONO Kongsberg 84.22 29 eP **P** **21 34 59.3 +0.2**
comp=Z,16nm,0.8s,mb4.9
NB2 NORSAR Subarra 84.28 27 P **P** **21 35 00.1 +0.7**
comp=Z,12nm,0.8s,mb4.8,baz=300,slow=5.0
NB2 NORSAR Subarra 84.28 27 P **P** **21 35 00.1 +0.7**
baz=300,slow=5.3
NB2 NORSAR Subarra 84.28 27 P **P** **21 35 00.1 +0.7**
NB2 pmax pmax
comp=Z,12nm,0.8s,mb4.8
NOA NORSAR Array B 84.28 27 P **P** **21 35 00.0 +0.6**
comp=Z,5.9nm,0.6s,mb4.6,baz=301,slow=4.9,SNR=19
NOA LR LR 22 16 15.7
comp=Z,37nm,18.4s,baz=10.0,slow=38
ARCES ARCESS Array B 84.51 16 P **P** **21 35 00.5 +0.1**
comp=Z,21nm,0.7s,mb5.2,baz=315,slow=5.1,SNR=23
ARCES LR LR 22 15 36.0
comp=Z,245nm,18.2s,baz=301,slow=38
ARCES ARCESS Array B 84.51 16 P **P** **21 35 00.5 +0.1**
ARCES LR LR 22 15 36.0
SJPF Ste Jean 84.55 46 eP **P** **21 35 01.3 +0.1**
comp=Z,32nm,0.9s,mb5.0
SJPF Ste Jean 84.55 46 eP **P** **21 35 01.3 +0.1**
SJPF pmax pmax
comp=Z,16nm,0.9s,mb5.0
LARF Larrau 84.74 46 eP **P** **21 35 03.5 +1.4**
KEV Kevo 84.76 16 ep **P** **21 35 01.0 -0.6**
comp=Z,20nm,0.7s,mb5.2
KEV Kevo 84.76 16 eP **P** **21 35 01.0 -0.6**
KEV pmax pmax
comp=Z,20nm,0.7s,mb5.2
EQES Quesada 85.02 52 P **P** **21 35 04.8 +1.2**
comp=Z,18nm,1.0s,mb5.0
ETSF Etsaut 85.08 46 eP **P** **21 35 04.5 +0.7**
comp=Z,37nm,0.6s,mb5.2
ETSF Etsaut 85.08 46 eP **P** **21 35 04.5 +0.7**
ETSF pmax pmax
comp=Z,18nm,0.6s,mb5.2
LFF La Frestale 85.23 44 eP **P** **21 35 04.8 +0.3**
comp=Z,145nm,1.0s,mb5.6
LFF La Frestale 85.23 44 eP **P** **21 35 04.8 +0.3**
LFF pmax pmax
comp=Z,72nm,1.0s,mb5.6
EBER Berja 85.45 53 P **P** **21 35 06.9 +1.1**
comp=Z,32nm,0.7s,mb5.3
BAIF Baives 85.47 39 eP **P** **21 35 06.2 +0.7**
comp=Z,91nm,1.1s,mb5.3
BAIF Baives 85.47 39 eP **P** **21 35 06.2 +0.7**
BAIF pmax pmax
comp=Z,46nm,1.1s,mb5.3
ESAC San Caprasio 85.56 48 P **P** **21 35 07.4 +1.1**
comp=Z,21nm,0.5s,mb5.3
HYF Humbligny 85.59 42 eP **P** **21 35 06.8 +0.6**
RJF Les Rejaudoux 85.61 44 eP **P** **21 35 06.6 +0.2**
comp=Z,157nm,1.0s,mb5.6
RJF Les Rejaudoux 85.61 44 eP **P** **21 35 06.6 +0.2**
RJF pmax pmax
comp=Z,79nm,1.0s,mb5.6
EPF Esparros 85.65 46 eP **P** **21 35 06.9 +0.3**
comp=Z,105nm,1.1s,mb5.4
EPF Esparros 85.65 46 eP **P** **21 35 06.9 +0.3**
EPF pmax pmax
comp=Z,53nm,1.1s,mb5.4
TCF Toulx Ste Croi 85.69 43 eP **P** **21 35 06.9 +0.1**
comp=Z,128nm,0.9s,mb5.6
TCF Toulx Ste Croi 85.69 43 eP **P** **21 35 06.9 +0.1**
TCF pmax pmax
comp=Z,64nm,0.9s,mb5.5
RESF Ens 85.73 46 eP **P** **21 35 08.2 +1.2**
GIVF Givet 85.81 38 eP **P** **21 35 08.0 +0.8**
comp=Z,44nm,0.9s,mb5.1
GIVF Givet 85.81 38 eP **P** **21 35 08.0 +0.8**
GIVF pmax pmax
comp=Z,22nm,0.9s,mb5.1
BGF Bois d'Agland 86.00 42 eP **P** **21 35 08.5 +0.3**
comp=Z,64nm,0.8s,mb5.3
BGF Bois d'Agland 86.00 42 eP **P** **21 35 08.5 +0.3**
BGF pmax pmax
comp=Z,32nm,0.8s,mb5.3
MELF Melles 86.00 46 eP **P** **21 35 09.7 +1.4**
CAF Calviac 86.11 44 eP **P** **21 35 09.0 +0.2**
comp=Z,37nm,1.0s,mb5.0
CAF Calviac 86.11 44 eP **P** **21 35 09.0 +0.2**
CAF pmax pmax
comp=Z,18nm,1.0s,mb5.0
MLS Moulis 86.19 46 eP **P** **21 35 10.2 +0.9**
SSF Saint Saulge 86.22 42 eP **P** **21 35 09.5 +0.2**
comp=Z,94nm,0.7s,mb5.5
SSF Saint Saulge 86.22 42 eP **P** **21 35 09.5 +0.2**
SSF pmax pmax
comp=Z,47nm,0.7s,mb5.5
AVF Avril sur Loir 86.23 42 eP **P** **21 35 09.1 -0.3**
comp=Z,60nm,0.7s,mb5.3
AVF Avril sur Loir 86.23 42 eP **P** **21 35 09.1 -0.3**
AVF pmax pmax
comp=Z,30nm,0.7s,mb5.3
SALF Salau 86.33 46 eP **P** **21 35 11.5 +1.5**
LOR Lormes 86.36 41 eP **P** **21 35 10.5 +0.5**
comp=Z,174nm,0.6s,mb5.9
LOR Lormes 86.36 41 eP **P** **21 35 10.5 +0.5**
LOR pmax pmax
comp=Z,87nm,0.6s,mb5.9
ERTA Horta de San J 86.40 48 P **P** **21 35 11.6 +1.3**
comp=Z,16nm,0.6s,mb5.1
EBR Ebro Roquetas 86.56 48 eP **P** **21 35 12.5 +1.4**
SMF Signal de Mont 86.59 42 eP **P** **21 35 11.1 -0.1**
comp=Z,58nm,0.8s,mb5.3
SMF Signal de Mont 86.59 42 eP **P** **21 35 11.1 -0.1**
SMF pmax pmax
comp=Z,29nm,0.8s,mb5.3
MEZF Maizieres J'vi 86.60 40 eP **P** **21 35 11.0 -0.1**
comp=Z,58nm,0.8s,mb5.3
PLDF La Plantade 86.72 42 eP **P** **21 35 12.1 +0.3**
LBL Lubilhac 86.77 43 eP **P** **21 35 13.0 +1.0**
WLF Walferdange 86.78 38 eP **P** **21 35 12.2 +0.2**
WLF pmax pmax
comp=Z,30nm,0.9s,mb5.2
WLF Walferdange 86.78 38 eP **P** **21 35 12.2 +0.3**
comp=Z,30nm,0.9s,mb5.2
EBEN Beniarda 86.81 50 P **P** **21 35 14.6 +2.2**
comp=Z,14nm,0.6s,mb5.1
EMIR Miracle 86.88 47 P **P** **21 35 14.2 +1.5**
comp=Z,30nm,0.7s,mb5.3
BSEG Bad Segeberg 87.20 33 eP **P** **21 35 14.6 +0.7**
BSEG pmax pmax
comp=Z,21nm,1.0s,mb5.0
THEF They Montfort 87.28 40 eP **P** **21 35 14.7 +0.2**
RUP Ruppelstein 87.29 38 eP **P** **21 35 15.6 +1.1**
ABH Alteburg 87.50 38 eP **P** **21 35 16.7 +1.2**
HAU Haudompre 87.59 40 eP **P** **21 35 15.6 -0.4**
comp=Z,36nm,0.8s,mb5.1
HAU eR
comp=Z,113nm,20.0s
HAU Haudompre 87.59 40 eP **P** **21 35 15.6 -0.4**
HAU pmax pmax
comp=Z,18nm,0.8s,mb5.2
HAU MLR MLR
comp=Z,110nm,20.0s
LASF Ste Croix 87.62 44 eP **P** **21 35 16.5 +0.3**
comp=Z,42nm,0.8s,mb5.2
VIVF Saint-Julien-l 87.84 43 eP **P** **21 35 17.5 +0.2**
comp=Z,32nm,1.1s,mb5.0
VIVF Saint-Julien-l 87.84 43 eP **P** **21 35 17.5 +0.2**
VIVF pmax pmax
comp=Z,16nm,1.1s,mb5.0
TNS Taunus Mts 87.87 37 eP **P** **21 35 17.7 +0.5**
TNS pmax pmax
comp=Z,19nm,0.9s,mb5.1
TNS Taunus Mts 87.87 37 eP **P** **21 35 17.7 +0.5**
comp=Z,19nm,0.9s,mb5.1
CDF Champ du Feu 87.98 39 eP **P** **21 35 17.3 -0.5**
comp=Z,25nm,1.1s,mb4.9
CDF Champ du Feu 87.98 39 eP **P** **21 35 17.3 -0.5**
CDF pmax pmax
comp=Z,12nm,1.1s,mb4.8
HINF Hinteralfeld 87.98 40 eP **P** **21 35 17.1 -0.7**
comp=Z,12nm,0.7s,mb4.7
HINF Hinteralfeld 87.98 40 eP **P** **21 35 17.1 -0.7**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ECH Echery 87.99 39 eP **P** **21 35 18.4 +0.5**
CABF La Chapelle 88.02 41 eP **P** **21 35 18.6 +0.5**
comp=Z,9.4nm,0.6s,mb4.7
CABF La Chapelle 88.02 41 eP **P** **21 35 18.6 +0.5**
CABF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MOF Molkenrain 88.14 40 eP **P** **21 35 19.4 +0.8**
LOMF Lomont 88.17 40 eP **P** **21 35 19.4 +0.7**
CLZ Clausthal 88.21 35 eP **P** **21 35 19.7 +0.9**
CLZ pmax pmax
comp=Z,32nm,1.1s,mb5.3
CLZ Clausthal 88.21 35 eP **P** **21 35 19.7 +0.9**
comp=Z,32nm,1.1s,mb5.3
ORIF Oris-en-Rattie 88.60 43 eP **P** **21 35 20.8 0.0**
comp=Z,9.7nm,0.7s,mb4.6
ORIF eR
comp=Z,125nm,17.2s
BFO Black Forest 88.65 39 eP **P** **21 35 21.0 0.0**
BFO pmax pmax
comp=Z,12nm,1.4s,mb4.7
BFO Black Forest 88.65 39 eP **P** **21 35 21.0 0.0**
comp=Z,12nm,1.4s,mb4.7
LPL La Plagne 88.89 42 eP **P** **21 35 22.6 +0.4**
comp=Z,20nm,0.9s,mb4.8
LPL La Plagne 88.89 42 eP **P** **21 35 22.6 +0.4**
LPL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LPG La Plagne 88.91 42 eP **P** **21 35 22.9 +0.6**
comp=Z,21nm,0.9s,mb4.8
LPG La Plagne 88.91 42 eP **P** **21 35 22.9 +0.6**
LPG pmax pmax
comp=Z,11nm,0.9s,mb4.9
MBDF Montbardon 89.26 43 eP **P** **21 35 24.0 +0.1**
comp=Z,17nm,0.8s,mb4.8
MBDF Montbardon 89.26 43 eP **P** **21 35 24.0 +0.1**
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MOX Moxa 89.47 36 *i* P **P** **21 35 25.3 +0.5**
comp=Z,logA/T=0.9,mb4.7
MOX Moxa 89.47 36 eP **P** **21 35 25.3 +0.5**
MOX pmax pmax
comp=Z,12nm,1.6s,mb4.7
MOX Moxa 89.47 36 P **P** **21 35 25.3 +0.5**
comp=Z,12nm,1.6s,mb4.7
KAF Kangasniemi 89.61 22 ep **P** **21 35 23.1 -2.1**
comp=Z,11nm,0.9s,mb5.0
KAF Kangasniemi 89.61 22 eP **P** **21 35 23.1 -2.1**
KAF pmax pmax
comp=Z,11nm,0.9s,mb5.0
LMR La Mourre 89.68 44 eP **P** **21 35 25.7 -0.3**
comp=Z,27nm,0.9s,mb5.1
LMR La Mourre 89.68 44 eP **P** **21 35 25.7 -0.3**
LMR pmax pmax
comp=Z,14nm,0.9s,mb5.1
GRA1 Grafenberg Arr 89.70 37 eP **P** **21 35 26.8 +0.9**
comp=Z,30nm,1.3s,mb5.3
GRF Grafenberg Arr 89.70 37 eP **P** **21 35 26.8 +0.9**
GRF pmax pmax
comp=Z,30nm,1.3s,mb5.3
GRF Grafenberg Arr 89.70 37 eP **P** **21 35 26.8 +0.9**
GRF pmax pmax
comp=Z,30nm,1.3s,mb5.3
GRF Grafenberg Arr 89.70 37 eP **P** **21 35 26.8 +0.9**
comp=Z,30nm,1.3s,mb5.3
CLL Collm 89.91 35 P **P** **21 35 26.0 -0.8**
comp=Z,logA/T=1.2,mb5.1
CLL e*SP sP 21 36 09.0 +14
CLL Collm 89.91 35 eP **P** **21 35 26.0 -0.8**
CLL pmax pmax
comp=Z,28nm,1.6s,mb5.1
CLL Collm 89.91 35 eP **P** **21 35 26.0 -0.8**
comp=Z,28nm,1.6s,mb5.1
CLL esP sP 21 36 09.0 +14
FINES FINESS Array B 89.97 23 P **P** **21 35 26.1 -0.7**
comp=Z,3.5nm,0.8s,mb4.6,baz=315,slow=2.7,SNR=11
FINES LR LR 22 16 06.4
comp=Z,146nm,18.1s,baz=336,slow=36
DAVA Damuels 90.05 39 i/ *i* P **P** **21 35 28.3 +0.7**
comp=Z,11nm,0.7s,mb5.1
NKC Novy Kostel 90.13 36 eP **P** **21 35 28.7 +0.8**
YAK Yakutsk 90.28 339 eP **P** **21 35 28.5 +0.2**
YAK pmax pmax
comp=Z,32nm,0.9s,mb5.5
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
YAK Yakutsk 90.28 339 eP **P** **21 35 28.9 +0.6**
comp=Z,68nm,0.8s,mb5.8
BRG Berggiesshubel 90.64 35 eP **P** **21 35 30.3 0.0**
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.9
BRG Berggiesshubel 90.64 35 eP **P** **21 35 30.3 0.0**
comp=Z,11nm,1.0s,mb5.0
JOF Joensuu 90.75 20 ep **P** **21 35 28.3 -2.2**
MOTA Moosalm 90.76 39 i/ *i* P **P** **21 35 31.3 +0.4**
comp=Z,4.4nm,0.8s,mb4.6
WET Wettzell 90.92 37 eP **P** **21 35 32.2 +0.6**
WET pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
WET Wettzell 90.92 37 eP **P** **21 35 32.2 +0.6**
comp=Z,7.0nm,1.0s,mb4.8
PVCC Panska Ves 91.16 35 eP **P** **21 35 28.5 -4.2**
KHC Kasperske Hory 91.32 37 eP **P** **21 35 33.9 +0.4**
PRU Pruhonice 91.42 36 eP **P** **21 35 34.0 +0.1**
GEC2 GERESS Array S 91.54 37 eP **P** **21 35 34.8 +0.3**
GEC2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
GEC2 GERESS Array S 91.54 37 eP **P** **21 35 34.8 +0.3**
comp=Z,6.0nm,0.8s,mb4.9
GERES GERESS Array B 91.54 37 P **P** **21 35 34.6 +0.1**
comp=Z,3.4nm,0.7s,mb4.7,baz=315,slow=3.8,SNR=26
GERES LR LR 22 18 32.8
comp=Z,53nm,19.3s,baz=339,slow=37
UPC Upice 91.95 35 eP **P** **21 35 36.9 +0.6**
VSU Vasula 92.19 25 eP **P** **21 35 37.2 0.0**
DPC Dobruska-Polom 92.20 35 eP **P** **21 35 38.2 +0.7**
TREC Trest 92.31 36 eP **P** **21 35 38.2 +0.2**
MORC Moravsky Berou 93.17 35 eP **P** **21 35 42.2 +0.2**
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
MORC Moravsky Berou 93.17 35 eP **P** **21 35 42.2 +0.2**
comp=Z,5.5nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 93.25 322 eP **P** **21 35 45.3 +2.9**
YSS pmax pmax
comp=Z,77nm,1.7s,mb5.8
OKC Ostrava-Krasne 93.47 34 eP **P** **21 35 43.7 +0.4**
ZST Bratislava 93.80 36 eP **P** **21 35 46.4 +1.6**
LIC Lamto 93.81 82 eP **P** **21 35 45.9 +0.2**
comp=Z,18nm,1.0s,mb5.1
LIC eR
comp=Z,95nm,21.2s
DBIC Dimbokro 93.82 82 P **P** **21 35 45.6 -0.1**
comp=Z,4.4nm,1.0s,mb4.7,baz=316,slow=6.2,SNR=4.6
LIKS Likavka 94.43 35 eP **P** **21 35 46.3 -1.4**
VYHS Vyhne 94.60 35 eP **P** **21 35 49.1 +0.6**
STHS Stebnicka Huta 95.36 34 *i* P **P** **21 35 52.9 +1.0**
KECS Kecovo 95.50 35 eP **P** **21 35 53.0 +0.4**
CRVS Cervenica-Dubn 95.78 34 eP **P** **21 35 54.5 +0.7**
KOLS Kolonicke sedl 96.19 34 *i* P **P** **21 35 56.4 +0.7**
TORD Torodi Ar. Bea 97.70 73 P **P** **21 36 02.8 -0.6**
comp=Z,1.1nm,0.7s,mb4.5,baz=308,slow=5.6,SNR=7.5
TORD pP pP 21 36 18.7 -5.3
comp=Z,2.3nm,0.9s,baz=285,slow=4.8,SNR=9.6
OBN Obninsk 98.36 23 i/ *i* P **P** **21 36 05.1 -0.3**
OBN pmax pmax
comp=Z,27nm,1.6s,mb5.5
AKASG Malin Array Be 98.49 29 *i* P **P** **21 36 04.8 -1.3**
comp=Z,0.9nm,0.5s,mb4.6,baz=290,slow=4.0,SNR=9.8
AKASG Malin Array Be 98.49 29 *i* P **P** **21 36 05.6 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
MDJ Mudanjiang 102.04 326 P Pdif 21 36 22.0 -0.3
VNA3 Neumayer Olymp 107.81 160 Pdif Pdif 21 36 48.7 +1.6
VNA3 *e* 21 37 17.2
VNA1 Neumayer--Stat 108.23 159 P Pdif 21 36 48.5 -0.4
VNA2 Neumayer--Watz 108.53 160 Pdif Pdif 21 36 52.2 +2.0
VNA2 *e* 21 37 22.3
VNA2 *e* 21 37 33.8
SNAA Sanae 110.01 161 Pdif Pdif 21 36 59.4 +2.7
SNAA *e* 21 37 25.8
MKAR Makanchi Array 114.96 357 PKP PKPdf 21 41 08.1 +0.7
comp=Z,0.5nm,0.8s,baz=3.5,slow=2.1,SNR=4.5
MKAR Makanchi Array 114.96 357 i/ PKIKP PKPdf 21 41 10.3 +3.0
NJ2 Nanjing 116.82 322 ePKP PKPdf 21 41 15.5 +4.3
WMQ Urumqi 117.48 353 ePKP PKPdf 21 41 12.5 +0.3
WMQ PP PP 21 42 29.0 -0.8
WMQ PKS PKS 21 44 47.9 -0.2
WMQ PPP PPP 21 44 59.3 -0.7
WMQ SKKS 21 49 10.9
WMQ PP PP
comp=Z,30nm,6.0s
WMQ LR LR
comp=N,120nm,20.0s
WMQ LR LR
comp=E,120nm,20.2s
WMQ LR LR
comp=Z,110nm,19.2s
AAK Ala-Archa 119.06 4 *i* PKIKP PKPdf 21 41 21.7 +6.4
AAK MLR MLR
comp=Z,100nm,15.0s
STKA Stephens Creek 122.38 244 eP PKPdf 21 41 23.8 +1.8
comp=Z,4.9nm,0.7s
STKA Stephens Creek 122.38 244 PKP PKPdf 21 41 23.7 +1.7
comp=Z,6.7nm,0.8s,baz=170,slow=2.2,SNR=12
STKA pPKP 21 41 41.0
comp=Z,5.6nm,0.7s,baz=118,slow=5.1,SNR=5.3
CD2 Chengdu 125.38 334 ePKP PKPdf 21 41 30.0 +2.1
WB2 Warramunga Arr 127.79 259 eP PKPdf 21 41 34.4 +1.6
WRA Warramunga Arr 127.80 259 PKP PKPdf 21 41 34.1 +1.3
comp=Z,6.3nm,0.6s,baz=79,slow=2.3,SNR=132
WRA pPKP 21 41 51.6
comp=Z,4.3nm,0.7s,baz=78,slow=1.9,SNR=8.8
MAW Mawson 129.84 172 PKP PKPdf 21 41 37.7 +2.3
comp=Z,11nm,0.8s,baz=218,slow=2.8,SNR=16
LSA Lhasa 130.66 346 ePKP PKPdf 21 41 41.8 +3.7
KMI Kunming 130.82 331 PKP PKPdf 21 41 41.6 +3.1
HYB Hyderabad 144.33 1 *i* P PKPbc 21 42 03.0 +0.2

*NEIC **14** 21:32:12.1, 8.33N×70.62W, h1 km, MW4.3(CAR), Mw4.3(CAR), After CAR.*

FUNV 14 21:32:12.1, 8.33N×70.62W, h1 km, MW3.6, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m	s	Res ISC
SOCV	**Socops**	**0.23**	**258**	eP	Pg	21 32 16.4		-0.4
SOCV				eS	Sg	21 32 20.2		+0.3
SDV	**Santo Domingo**	**0.55**	**359**	eP	Pg	21 32 19.9		-3.2
SDV				eS	Sg	21 32 26.3		-4.1
SANV	**Sanarito**	**1.58**	**43**	eP	Pn	21 32 41.0		-0.4
SANV				eS	Sb	21 33 01.5		-0.7
CAPV	**Capacho**	**1.74**	**255**	eP	Pn	21 32 44.0		+0.3
CAPV				eS	Sn	21 33 06.5		-0.2
QARV	**Quebrada Arrib**	**1.87**	**3**	eP	Pn	21 32 44.8		-0.6
QARV				eS	Sn	21 33 08.9		-1.1
TEPV	**Terepaima**	**2.15**	**41**	eP	Pn	21 32 48.9		-0.6
TEPV				eS	Sn	21 33 16.5		-0.7
SIQV	**Siquisique**	**2.44**	**19**	eP	Pn	21 32 53.0		-0.6
SIQV				eS	Sn	21 33 23.2		-1.3
DABV	**Dabajuro**	**2.57**	**360**	eP	Pn	21 32 54.2		-1.4
DABV				eS	Sn	21 33 25.6		-2.4
BAUV	**El Baul**	**2.62**	**76**	eP	Pn	21 32 54.4		-1.9
BAUV				eS	Sn	21 33 25.6		-3.6
VIRV	**Villa del Rosa**	**2.78**	**321**	eP	Pn	21 32 56.1		-2.5
VIRV				eS	Sn	21 33 29.0		-4.3
MONV	**Montecano**	**3.66**	**10**	eP	Pn	21 33 08.3		-2.7
MONV				eS	Sn	21 33 50.2		-5.2

IDC 14 21:39:52.5±29.0, 18.70N×145.55E, h354km±323km, mb2.9/5, mb1 3.2/5, mb1mx3.0/17, mbtmp3.6/5, Error ellipse: s-maj=53.9km s-min=31.5km az=61.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.95**	**197**	P	P	21 46 55.0	-0.1
	0.5nm,0.7s,baz=19,slow=8.8,SNR=7.7						
STKA	**Stephens Creek**	**50.43**	**184**	P	P	21 48 13.2	-3.8
	1.2nm,0.7s,baz=14,slow=8.3,SNR=4.2						
MKAR	**Makanchi Array**	**58.36**	**314**	P	P	21 49 11.3	-2.2
	0.2nm,0.5s,baz=91,slow=8.4,SNR=5.7						
ILAR	**Eielson Array**	**63.70**	**26**	P	P	21 49 46.1	-2.4
	0.6nm,0.9s,baz=266,slow=4.2,SNR=5.2						
YKA	**Yellowknife Ar**	**78.05**	**28**	P	P	21 51 13.6	0.0
	0.4nm,0.7s,baz=288,slow=5.6,SNR=5.2						

MAN 14 21:48:35.5, 11.95N×125.24E, h5km, mb4.0, ML2.8, MS2.5, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.40**	**151**	*e*P	Pg	21 48 43.7	+0.3
BESP				*e*S	Sg	21 48 51.6	+2.8
CNP	**Catarman**	**0.79**	**315**	*e*P	Pg	21 48 51.1	-0.2
CNP				*e*S	Sg	21 49 04.3	+2.4
PLP	**Palo**	**0.82**	**198**	*e*P	Pb	21 48 51.6	-0.3
PLP				*e*S	Sg	21 49 03.4	+0.5
OCLP	**Ormoc**	**1.09**	**215**	*e*P	Pb	21 48 48.2	-8.2
MSLP	**Maasin**	**1.84**	**192**	*e*P	Pn	21 49 08.3	+0.2
PVCP	**Virac**	**1.95**	**327**	*e*P	Pn	21 49 09.3	-0.2
PVCP				*e*S	Sn	21 49 39.3	+4.6

MAN 14 21:59:25.3, 9.63N×126.18E, h6km, mb4.2, ML3.1, MS2.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.70**	**282**	⇓*e*P	Pg	21 59 39.2	-0.2
SCPH				*e*S	Sg	21 59 50.6	+2.0
BUTP	**Butuan**	**0.86**	**220**	*e*P	Pb	21 59 42.0	-0.3
BUTP						21 59 57.1	
MSLP	**Maasin**	**1.40**	**291**	*e*P	Pn	21 59 50.2	-1.2
MSLP						22 00 10.2	
BUKP	**Musuan**	**2.06**	**213**	*e*P	Pn	22 00 00.9	-0.1
BUKP						22 00 29.9	

*MOS **14** 22:23:26.9±1.2,57.34N×120.79E, h11km, mb4.0/1, Error ellipse: s-maj=40.3km s-min=28.4km az=144.5*
BYKL 14 22:23:25.3±0.4, 57.47N×120.85E, h7km±25km, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.73**	**221**	⇓*i*Pg	Pg	22 23 39.1	-0.8
KHNR				*e*Sg	Sg	22 23 48.1	-1.5
YKLR	**Yuktali**	**0.98**	**153**	*e*Pg	Pg	22 23 43.9	-1.1
YKLR				*e*Pb	Pb	22 23 47.0	+2.7
YKLR				*e*Sg	Sg	22 23 57.3	-0.8
YKLR				Smax			
	713nm,0.4s						
CRS	**Chara**	**1.52**	**249**	⇓*i*Pg	Pg	22 23 53.7	-1.9
CRS				*e*Sg	Sg	22 24 12.6	-3.3
CRS				Pmax			
	276nm,0.9s						
CRS				Smax			
	402nm,1.1s						
CRS	**Chara**	**1.52**	**249**	*e*P	Pn	22 23 53.6	+0.6
CRS				*e*		22 24 12.8	
CRS				pmax	pmax		
	comp=Z,237nm,0.7s						
CRS				smax			
	comp=E,371nm,0.5s						
CLNS	**Chul'man**	**2.29**	**104**	*e*	Pn	22 24 06.2	+2.1
CLNS				⇑*i*Pg	Pg	22 24 07.5	-3.6
CLNS				*e*Sn	Sn	22 24 30.8	-2.1
CLNS				*e*Sg	Sg	22 24 37.1	-4.6
CLNS				Pmax			
	comp=E,526nm,0.4s						
CLNS				Smax			
	comp=E,4μm,0.4s						
CLNS	**Chul'man**	**2.29**	**104**	*e*P	Pn	22 24 07.4	+3.3
CLNS				*e*		22 24 35.8	
CLNS				pmax	pmax		
	comp=Z,66nm,0.4s						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.1s						
CLNS				pmax	pmax		
	comp=E,26nm,0.5s						
CLNS				smax			
	comp=N,198nm,0.3s						
CLNS				smax			
	comp=E,98nm,0.2s						
CLNS				smax			
	comp=Z,42nm,0.2s						
IENR	**Iengra**	**2.53**	**118**	*e*	Pn	22 24 09.8	+2.3
IENR				*e*Pg	Pg	22 24 11.9	-4.0
IENR				*e*Sg	Sg	22 24 44.2	-5.4
ALDR	**Aldan**	**2.68**	**63**	*e*Pg	Pg	22 24 13.1	-5.7
ALDR				*e*		22 24 18.9	
ALDR				*e*Sg	Sg	22 24 48.1	-6.5
ALDR				max			
	comp=Z,71nm,0.2s						
ALDR				Smax			
	comp=Z,2μm,0.2s						
NLYR	**Nelyaty**	**2.98**	**253**	*e*Pn	Pn	22 24 14.7	+0.7
NLYR				*e*Pg	Pg	22 24 19.4	-5.5
NLYR				*e*Sg	Sg	22 24 56.8	-7.8
NLYR				Pmax			
	comp=Z,69nm,0.4s						
NLYR				Smax			
	comp=Z,270nm,0.8s						
NLYR	**Nelyaty**	**2.98**	**253**	*e*P	Pn	22 24 14.5	+0.5
NLYR				*e*		22 24 56.5	
NLYR				pmax	pmax		
	comp=Z,69nm,0.4s						
NLYR				smax			
	comp=N,209nm,1.0s						
TUP	**Tupik**	**3.09**	**190**	*e*Pn	Pn	22 24 14.8	-0.7
TUP				*e*Pg	Pg	22 24 19.9	-7.2
TUP				*e*Sn	Sn	22 24 50.2	-3.0
TUP				*e*Sg	Sg	22 25 00.1	-8.2
TUP				Pmax			
	comp=N,82nm,0.7s						
TUP				Smax			
	comp=N,236nm,0.8s						
TUP	**Tupik**	**3.09**	**190**	*e*P	Pn	22 24 14.7	-0.8
TUP				*e*S	Sn	22 24 50.3	-2.9
TUP				pmax	pmax		
	comp=Z,75nm,0.5s						
TUP				smax			
	comp=E,170nm,0.7s						
BOD	**Bodaibo**	**3.70**	**278**	*e*Pn	Pn	22 24 23.9	-0.2
BOD				*e*Pg	Pg	22 24 31.5	-7.6
BOD				*e*Sg	Sg	22 25 19.4	-9.0
BOD				Pmax			
	comp=E,23nm,0.3s						
BOD				Smax			
	comp=E,158nm,1.2s						
BOD	**Bodaibo**	**3.70**	**278**	*e*P	Pn	22 24 23.3	-0.8
BOD				pmax	pmax		
	comp=Z,14nm,0.2s						
SVKR	**Severomuysk**	**4.23**	**254**	*e*Pg	Pg	22 24 41.8	-8.0
SVKR				*e*Sg	Sg	22 25 36.7	-10
SVKR				Pmax			
	comp=Z,85nm,0.2s						
SVKR				Smax			
	comp=Z,179nm,0.5s						
UKT	**Uakit**	**4.47**	**247**	*e*	Pn	22 24 38.4	+3.3
UKT				*e*Pg	Pg	22 24 46.3	-8.2
UKT				*e*Sg	Sg	22 25 42.7	-11
UKT				Pmax			
	comp=Z,21nm,0.7s						
UKT				Smax			
	comp=Z,77nm,1.0s						
UKT	**Uakit**	**4.47**	**247**	*e*P	Pn	22 24 46.6	+12
UKT				pmax	pmax		
	comp=Z,15nm,0.5s						
KROS	**Kirovskiy**	**4.59**	**129**	*e*Pn	Pn	22 24 33.1	-3.7
KROS				*e*Pg	Pg	22 24 46.5	-10
KROS				*e*Sn	Sn	22 25 24.0	-7.2
KROS				*e*Sg	Sg	22 25 44.8	-13
KROS				Pmax			
	comp=Z,7.0nm,0.5s						
KROS				Smax			
	comp=Z,64nm,0.6s						
YOA	**Uoyan**	**5.19**	**259**	*e*	Pn	22 24 53.6	+8.3
YOA				*e*Pg	Pg	22 24 58.8	-10
YOA				*e*Sg	Sg	22 26 06.2	-12
YOA				Pmax			
	comp=Z,82nm,1.2s						
YOA				Smax			
	comp=Z,379nm,0.7s						
YOA	**Uoyan**	**5.19**	**259**	*e*P	Pn	22 24 58.7	+13
YOA				pmax	pmax		
	comp=Z,51nm,0.6s						
ZEA	**Zeya**	**5.21**	**133**	*e*Sg	Sg	22 26 04.4	-14
ZEA				Smax			
	comp=Z,200nm,0.9s						
KMO	**Kumora**	**5.55**	**257**	*e*Sg	Sg	22 26 15.6	-15
KMO				Smax			
	comp=Z,86nm,1.3s						
YLYR	**Ulyunkhan**	**6.00**	**248**	*e*Sg	Sg	22 26 31.1	-14
YLYR				Smax			
	comp=Z,51nm,1.1s						
TBGR	**Tabaga**	**6.23**	**42**	*e*Pn	Pn	22 24 57.8	-2.2
TBGR				*e*Pg	Pg	22 25 16.6	-13
TBGR				*e*		22 26 09.2	
TBGR				*e*Sg	Sg	22 26 37.5	-15
YAK	**Yakutsk**	**6.39**	**41**	*e*Sg	Sg	22 26 40.2	-18
YAK				Smax			
	comp=Z,624nm,0.8s						
NIZ	**Nizh Angarsk**	**6.47**	**260**	*e*Sg	Sg	22 26 46.3	-14
NIZ				*e*L		22 27 10.6	
NIZ				Smax			
	comp=Z,37nm,1.2s						
CIT	**Chita**	**6.90**	**221**	*e*Sg	Sg	22 26 57.6	-17
CIT				Smax			
	comp=Z,113nm,1.5s						
SYVR	**Suvo**	**7.24**	**243**	*e*Sn	Sn	22 26 41.8	+4.3
SYVR				*e*Sg	Sg	22 27 10.0	-16
SYVR				Smax			
	comp=Z,91nm,1.8s						
KPC	**Khapcheranga**	**9.26**	**216**	*e*		22 27 39.8	
KPC				*e*Sg	Sg	22 28 09.0	-25
KPC				Smax			
	comp=Z,45nm,2.1s						
ARS	**Arshan**	**12.00**	**250**	*e*Sg	S	22 29 33.4	+58
ARS				Smax			
	comp=Z,40nm,0.8s						
MOY	**Mondy**	**12.88**	**252**	*e*Sg	S	22 30 02.4	+66
MOY				Smax			
	comp=Z,41nm,1.5s						
UNR	**Ust'-Nera**	**12.91**	**47**	*e*Sg	S	22 30 04.6	+68

*IDC **14** 22:33:05.4±1.0, 13.04N×144.05E, h120km±9km, mb3.7/9, mb1 3.9/9, mb1mx3.8/21, mbtmp4.1/9, Error ellipse: s-maj=25.2km s-min=16.7km az=95.0*
*NEIC **14** 22:33:05.5±1.1, 13.03N×144.00E, h123km±9km, mb3.8/1, Error ellipse: s-maj=20.2km s-min=13.9km az=92.0*
ISC 14 22:33:03.6±1.5, 13.0N±0.1×143.9E±0.2, h117km±13km, n13, σ0s73/13, mb3.9/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.12**	**59**	P	**P**	**22 33 27.9**	**+0.9**
	139nm,0.3s,baz=214,slow=2.9,SNR=23						
GUMO				S	**S**	**22 33 43.8**	**-0.7**
	260nm,0.3s,baz=35,slow=23,SNR=17						
WRA	**Warramunga Arr**	**34.07**	**196**	P	**P**	**22 39 38.9**	**+0.1**
	2.7nm,0.8s,mb4.1,baz=18,slow=9.2,SNR=32						
STKA	**Stephens Creek**	**44.69**	**183**	P	**P**	**22 41 06.4**	**-0.2**
	1.9nm,0.9s,mb3.8,baz=350,slow=11,SNR=3.2						
SONM	**Songino Array**	**46.65**	**326**	P	**P**	**22 41 23.3**	**+1.4**
	0.6nm,0.6s,mb3.5,baz=134,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**61.23**	**316**	P	**P**	**22 43 08.2**	**-0.3**
	0.8nm,0.6s,mb4.0,baz=90,slow=8.6,SNR=17						
CHKZ	**Chkalovo**	**69.70**	**323**	*e*P	**P**	**22 44 01.2**	**-1.3**
	1.3nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**69.78**	**322**	P	**P**	**22 44 02.8**	**-0.2**
	1.8nm,0.5s,mb4.2,baz=103,slow=8.5,SNR=11						
YKA	**Yellowknife Ar**	**83.81**	**27**	P	**P**	**22 45 19.9**	**-0.8**
	0.4nm,0.5s,mb3.5,baz=287,slow=4.9,SNR=9.8						
NEW	**Newport**	**86.30**	**41**	P	**P**	**22 45 33.4**	**0.0**
	2.4nm,0.7s,mb4.2,baz=280,slow=11,SNR=4.0						
NVAR	**Mina Array Bea**	**88.03**	**51**	P	**P**	**22 45 42.4**	**+0.4**
	1.6nm,0.8s,mb4.1,baz=252,slow=4.4,SNR=8.9						
NVAR	**Mina Array Bea**	**88.03**	**51**	P	**P**	**22 45 42.4**	**+0.4**
ELK	**Elko**	**89.68**	**48**	P	**P**	**22 45 50.4**	**+0.7**
	1.3nm,0.9s,mb4.1,baz=316,slow=3.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**134.38**	**303**	PKP	PKPdf	22 52 11.0	+2.3
	0.3nm,0.5s,baz=44,slow=1.8,SNR=4.6						

*MOS **14** 22:40:53.2±1.1,57.37N×120.76E, h10km, mb4.0/1, Error ellipse: s-maj=30.4km s-min=20.0km az=135.1*
BYKL 14 22:40:51.5±0.4, 57.47N×120.85E, h3km±25km, 2C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.73**	**221**	⇑*i*Pg	Pg	22 41 05.3	-0.7
KHNR				*e*Sg	Sg	22 41 14.3	-1.4
YKLR	**Yuktali**	**0.98**	**153**	*e*Pg	Pg	22 41 10.6	-0.6
YKLR				*e*Pb	Pb	22 41 13.2	+2.4
YKLR				*e*Sg	Sg	22 41 21.1	-3.2
YKLR				*e*		22 41 28.7	
YKLR				max			
	2μm,0.7s						
CRS	**Chara**	**1.52**	**249**	⇓*i*Pg	Pg	22 41 19.9	-1.9
CRS				*e*Sg	Sg	22 41 38.7	-3.3
CRS				Pmax			
	340nm,0.8s						
CRS				Smax			
	511nm,0.5s						
CRS	**Chara**	**1.52**	**249**	*e*P	Pn	22 41 19.8	+0.1
CRS				*e*		22 41 38.7	
CRS				pmax	pmax		
	comp=Z,317nm,0.7s						
CRS				smax			
	comp=N,612nm,0.7s						
NRGR	**Nerungri**	**2.27**	**109**	*e*P	Pn	22 41 33.1	+2.7
NRGR				S	Sn	22 42 01.0	+1.8
CLNS	**Chul'man**	**2.29**	**104**	*e*Pn	Pn	22 41 31.1	+0.3
CLNS				⇑*i*Pg	Pg	22 41 33.7	-3.6
CLNS				*e*Sg	Sg	22 42 01.4	-6.4
CLNS				*e*		22 42 03.3	
CLNS				Pmax			
	comp=N,277nm,0.3s						
CLNS				max			
	comp=N,5μm,0.4s						
CLNS	**Chul'man**	**2.29**	**104**	*e*P	Pn	22 41 33.7	+2.9
CLNS				*e*		22 42 01.3	
CLNS				pmax	pmax		
	comp=N,15nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,29nm,0.3s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.2s						
CLNS				smax			
	comp=N,318nm,0.4s						
CLNS				smax			
	comp=E,571nm,0.4s						
CLNS				smax			
	comp=Z,166nm,0.4s						
IENR	**Iengra**	**2.53**	**118**	*e*Pg	Pg	22 41 37.5	-4.5
IENR				*e*Sg	Sg	22 42 10.2	-5.6
ALDR	**Aldan**	**2.68**	**63**	*e*Pg	Pg	22 41 38.3	-6.7
ALDR				*e*		22 41 45.3	
ALDR				*e*Sg	Sg	22 42 14.3	-6.4
ALDR				max			
	comp=Z,233nm,0.3s						
ALDR				Smax			
	comp=Z,1μm,0.3s						
NLYR	**Nelyaty**	**2.98**	**253**	*e*Pn	Pn	22 41 40.7	+0.1
NLYR				⇓*i*Pg	Pg	22 41 45.6	-5.5
NLYR				*e*Sg	Sg	22 42 23.0	-7.8
NLYR				Pmax			
	comp=Z,86nm,0.4s						
NLYR				Smax			
	comp=Z,392nm,0.8s						
NLYR	**Nelyaty**	**2.98**	**253**	*e*P	Pn	22 41 40.8	+0.2
NLYR				*e*		22 42 22.7	
NLYR				pmax	pmax		
	comp=Z,85nm,0.4s						
NLYR				smax			
	comp=N,387nm,0.8s						
TUP	**Tupik**	**3.09**	**190**	*e*Pn	Pn	22 41 40.8	-1.4
TUP				*e*Pg	Pg	22 41 46.2	-7.1
TUP				*e*Sn	Sn	22 42 17.8	-2.4
TUP				*e*Sg	Sg	22 42 26.3	-8.2
TUP				Pmax			
	comp=N,116nm,0.8s						
TUP				Smax			
	comp=N,320nm,0.8s						
TUP	**Tupik**	**3.09**	**190**	*e*P	Pn	22 41 41.0	-1.2
TUP				*e*		22 42 25.6	
TUP				pmax	pmax		
	comp=Z,117nm,0.5s						
TUP				smax			
	comp=N,238nm,0.8s						
BOD	**Bodaibo**	**3.70**	**278**	*e*Pn	Pn	22 41 50.7	0.0
BOD				*e*Pg	Pg	22 41 58.4	-6.9
BOD				*e*Sg	Sg	22 42 45.1	-9.5
BOD				Pmax			
	comp=N,24nm,0.4s						
BOD				Smax			
	comp=N,200nm,0.9s						
SVKR	**Severomuysk**	**4.23**	**254**	*e*Sg	Sg	22 43 01.3	-11
SVKR				Smax			
	comp=N,210nm,1.1s						
UKT	**Uakit**	**4.47**	**247**	*e*	Pn	22 42 01.7	0.0
UKT				*e*Pg	Pg	22 42 11.9	-8.8
UKT				*e*Sg	Sg	22 43 08.7	-12
UKT				Pmax			
	comp=N,23nm,0.7s						
UKT				Smax			
	comp=N,115nm,1.0s						
UKT	**Uakit**	**4.47**	**247**	*e*P	Pn	22 42 11.6	+10
UKT				pmax	pmax		
	comp=Z,19nm,0.5s						
KROS	**Kirovskiy**	**4.59**	**129**	*e*Pn	Pn	22 42 00.5	-3.0
KROS				*e*Pg	Pg	22 42 12.5	-11
KROS				*i* Sn	Sn	22 42 51.0	-7.1
KROS				*e*Sg	Sg	22 43 12.0	-12
KROS				Pmax			
	comp=Z,10.0nm,0.5s						
KROS				Smax			
	comp=Z,83nm,0.6s						
YOA	**Uoyan**	**5.19**	**259**	*e*Sg	Sg	22 43 31.9	-12
YOA				Smax			
	comp=Z,544nm,0.7s						
YOA	**Uoyan**	**5.19**	**259**	*e*P	Pn	22 42 25.9	+14
ZEA	**Zeya**	**5.21**	**133**	*e*Sg	Sg	22 43 30.6	-14
ZEA				Smax			
	comp=Z,230nm,0.9s						
KMO	**Kumora**	**5.55**	**257**	*e*Sg	Sg	22 43 42.1	-14
KMO				Smax			
	comp=Z,177nm,1.6s						
KMO	**Kumora**	**5.55**	**257**	*e*P	Pn	22 42 14.9	-2.1
KMO				*e*S	Sn	22 43 17.0	-5.3
KMO				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KMO				smax			
	comp=E,172nm,1.5s						
YLYR	**Ulyunkhan**	**6.00**	**248**	*e*Sg	Sg	22 43 57.3	-14
YLYR				Smax			
	comp=E,89nm,1.0s						
TBGR	**Tabaga**	**6.23**	**42**	*e*Pn	Pn	22 42 23.1	-3.6
TBGR				*e*Sn	Sn	22 43 33.0	-6.3
TBGR				*e*Sg	Sg	22 44 01.2	-18
YAK	**Yakutsk**	**6.39**	**41**	*e*Sn	Sn	22 43 37.1	-6.1
YAK				*e*Sg	Sg	22 44 06.3	-18
YAK				Smax			
	comp=E,673nm,0.7s						
YAK	**Yakutsk**	**6.39**	**41**	*e*P	Pn	22 42 39.8	+11
YAK				*e*		22 43 40.1	
YAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
YAK				pmax	pmax		
	comp=E,10.0nm,0.7s						
NIZ	**Nizh Angarsk**	**6.47**	**260**	*e*Sg	Sg	22 44 11.5	-15
NIZ				Smax			
	comp=E,66nm,1.8s						
CIT	**Chita**	**6.90**	**221**	*e*Sg	Sg	22 44 23.8	-17
CIT				Smax			
	comp=E,191nm,1.5s						
SYVR	**Suvo**	**7.24**	**243**	*e*	Pn	22 43 35.5	+55
SYVR				*e*Sg	Sg	22 44 35.7	-17
SYVR				Smax			
	comp=E,113nm,2.0s						
KPC	**Khapcheranga**	**9.26**	**216**	*e*Sg	Sg	22 45 36.7	-23
KPC				Smax			
	comp=E,58nm,1.8s						
TRG	**Tyrgan**	**9.55**	**247**	*e*Sg	Sg	22 45 45.6	-24
TRG				Smax			
	comp=E,47nm,1.9s						
ARS	**Arshan**	**12.00**	**250**	*e*Sg	S	22 47 02.8	+61
ARS				Smax			
	comp=E,37nm,1.0s						
UNR	**Ust'-Nera**	**12.91**	**47**	*e*Sg		22 47 34.5	

*NEIC **14** 22:42:35.8±1.0,57.31N×121.83E, h20km, Error ellipse: s-maj=20.7km s-min=11.8km az=115.0*
*BYKL **14** 22:42:37.4±0.4,57.44N×120.87E, h2km±24km*
*IDC **14** 22:42:37.3±2.3,57.44N×120.74E, mb3.9/8, mb1 3.9/9, mb1mx3.7/23, mbtmp3.8/9, ML3.1/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/34, Error ellipse: s-maj=51.9km s-min=24.3km az=148.0*
*MOS **14** 22:42:37.3±1.4,57.49N×120.76E, h10km, mb4.2/10, Error ellipse: s-maj=12.1km s-min=10.4km az=84.3*
*BJI **14** 22:42:38.1,57.31N×121.11E, h20km, mb4.7, ML4.5, Ms4.3, Msz3.9*
ISC 14 22:42:37.6±0.3, 57.46N±0.03×120.77E±0.03, h10km, n79, σ1s30/84, mb4.0/12, MS3.4/5, 2C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.69**	**219**	*e*Pg	**Pg**	**22 42 51.1**	**-0.5**
KHNR				*e*Sg	**Sg**	**22 42 59.9**	**-1.0**
YKLR	**Yuktali**	**1.00**	**151**	*i* Pg	**Pg**	**22 42 55.8**	**-1.9**
YKLR				*e*Pb	**Pb**	**22 42 58.7**	**+2.1**
YKLR				*e*Sg	**Sg**	**22 43 08.7**	**-2.3**
YKLR				*e*Sb	**Sb**	**22 43 13.5**	**+3.9**
YKLR				max		22 43 14.0	
	16μm,0.6s						
CRS	**Chara**	**1.47**	**248**	⇓*i*Pg	**Pg**	**22 43 05.5**	**-1.6**
CRS				Pmax		22 43 06.7	
	2μm,0.9s						
CRS				*e*Sg	**Sg**	**22 43 24.6**	**-2.1**
CRS				Smax		22 43 26.9	
	5μm,1.1s						
CRS	**Chara**	**1.47**	**248**	*e*P	**Pn**	**22 43 05.6**	**+1.2**
CRS				*e*		22 43 24.8	
CRS				pmax	pmax		
	comp=Z,2μm,0.7s						
CRS				smax			
	comp=E,2μm,0.4s						
NRGR	**Nerungri**	**2.31**	**109**	*e*P	**Pn**	**22 43 17.6**	**+1.3**
NRGR				S	**Sn**	**22 43 46.4**	**+1.4**
CLNS	**Chul'man**	**2.33**	**104**	*e*	**Pn**	**22 43 17.7**	**+1.0**
CLNS				*e*Pg	**Pb**	**22 43 19.4**	**0.0**
CLNS				Pmax		22 43 21.5	
	comp=E,2μm,0.3s						
CLNS				*e*Sn	**Sn**	**22 43 46.5**	**+0.8**
CLNS				*e*Sg	**Sb**	**22 43 49.0**	**+0.7**
CLNS				Smax		22 43 49.6	
	comp=E,35μm,0.4s						
CLNS	**Chul'man**	**2.33**	**104**	*e*P	**Pn**	**22 43 18.2**	**+1.5**
CLNS				*e*		22 43 47.7	
CLNS				pmax	pmax		
	comp=N,51nm,0.3s						
CLNS				pmax	pmax		
	comp=E,97nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,184nm,0.3s						
CLNS				smax			
	comp=Z,2μm,0.5s						
CLNS				smax			
	comp=N,1μm,0.3s						
CLNS				smax			
	comp=E,4μm,0.4s						
IENR	**Iengra**	**2.57**	**117**	*e*Pn	**Pn**	**22 43 20.1**	**+0.1**
IENR				*e*Pg	**Pb**	**22 43 23.2**	**-0.2**

IENR eSg Sb 22 43 55.7 +0.6
ALDR Aldan 2.72 63 ePg Pb 22 43 25.0 -1.1
ALDR Pmax 22 43 27.6
comp=E,388nm,0.3s
ALDR eSn Sn 22 43 52.5 -3.1
ALDR eSg Sb 22 43 59.7 +0.1
ALDR Smax 22 44 00.3
comp=E,10μm,0.2s
NLYR Nelyaty 2.94 253 ⇑iPn Pn 22 43 26.7 +1.4
NLYR ePg Pb 22 43 31.3 +1.6
NLYR Pmax 22 43 31.8
comp=E,5μm,0.5s
NLYR eSn Sn 22 44 01.0 0.0
NLYR eSg Sb 22 44 08.8 +2.9
NLYR Smax 22 44 15.7
comp=E,19μm,0.9s
NLYR Nelyaty 2.94 253 *e*P Pn 22 43 26.4 +1.1
NLYR *e* 22 44 08.3
NLYR pmax pmax
comp=Z,540nm,0.6s
NLYR smax
comp=E,3μm,1.7s
TUP Tupik 3.08 189 *e*Pn Pn 22 43 26.9 -0.4
TUP ⇑*i*Pg Pb 22 43 31.9 -0.3
TUP Pmax 22 43 34.9
comp=E,737nm,0.7s
TUP *i* Sg Sb 22 44 11.6 +1.6
TUP Smax 22 44 20.5
comp=E,3μm,1.1s
TUP Tupik 3.08 189 *e*P Pn 22 43 27.1 -0.2
TUP *e*S Sn 22 44 02.2 -2.4
TUP pmax pmax
comp=Z,717nm,0.8s
TUP smax
comp=E,3μm,0.9s
BOD Bodaibo 3.65 278 *e*Pn Pn 22 43 34.6 -0.9
BOD ePg Pb 22 43 43.8 +1.8
BOD Pmax 22 43 46.1
comp=E,277nm,1.3s
BOD eSg Sb 22 44 31.7 +5.1
BOD Smax 22 44 36.4
comp=E,2μm,1.7s
BOD Bodaibo 3.65 278 *e*P Pb 22 43 43.1 +1.1
BOD pmax pmax
comp=Z,280nm,1.1s
SVKR Severomuysk 4.19 254 *e*Pg Pb 22 43 53.3 +2.2
SVKR Pmax 22 43 57.1
comp=Z,508nm,1.5s
SVKR eSg Sb 22 44 49.6 +7.5
SVKR Smax 22 44 58.3
comp=E,2μm,1.2s
UKT Uakit 4.43 246 *e*Pg Pb 22 43 57.6 +2.4
UKT Pmax 22 44 00.0
comp=Z,203nm,0.8s
UKT *e* 22 44 24.9
UKT eSg Sb 22 44 54.3 +5.3
UKT Smax 22 45 04.1
comp=E,1μm,2.1s
UKT Uakit 4.43 246 *e*P Pb 22 43 59.2 +4.0
UKT pmax pmax
comp=Z,121nm,0.6s
YOA Uoyan 5.15 259 eSg Sx 22 45 18.2
YOA Smax 22 45 36.8
comp=E,5μm,1.5s
YOA Uoyan 5.15 259 *e*P Pb 22 44 11.4 +3.9
KMO Kumora 5.51 257 ePg Pb 22 44 18.0 +4.3
KMO Pmax 22 44 23.7
comp=Z,133nm,1.6s
KMO eSg Sb 22 45 29.0 +8.6
KMO Smax 22 45 43.3
comp=E,1μm,1.4s
KMO Kumora 5.51 257 *e*P Pn 22 44 03.2 +1.5
KMO pmax pmax
comp=Z,63nm,1.0s
YLYR Ulyunkhan 5.96 248 eSg Sx 22 45 43.2
YLYR Smax 22 45 58.6
comp=Z,648nm,1.3s
YAK Yakutsk 6.42 41 *e* Pn 22 44 08.6 -6.0
YAK max 22 44 32.4
comp=Z,315nm,0.5s
YAK eSn Sn 22 45 22.4 -6.4
YAK eSg Sb 22 45 51.7 +4.7
YAK Smax 22 45 57.4
comp=E,7μm,0.7s
YAK Yakutsk 6.42 41 *de*P Pn 22 44 08.8 -5.8
YAK Yakutsk 6.42 41 *e*P Pn 22 44 04.8 -10
comp=E,73nm,0.6s
NIZ Nizh Angarsk 6.42 259 eSg Sx 22 45 57.5
NIZ Smax 22 46 20.4
comp=E,414nm,1.8s
CIT Chita 6.87 220 eSg Sx 22 46 08.5
CIT Smax 22 46 13.3
comp=E,2μm,1.7s
SYVR Suvo 7.20 243 eSg Sx 22 46 22.2
SYVR Smax 22 46 28.5
comp=E,1μm,2.0s
HIA Hailar 8.23 185 *e*P P 22 44 34.5 -5.5
HIA Hailar 8.23 185 *e*P P 22 44 33.7 -6.3
comp=E,6.9nm,0.4s
OGRR Ongureny 8.39 248 eSg Sx 22 46 59.8
OGRR Smax 22 47 19.3
comp=E,180nm,1.4s
KPC Khapcheranga 9.23 216 *e* Sx 22 47 00.8
KPC eSg Sx 22 47 20.5
KPC Smax 22 47 32.6
comp=Z,546nm,1.7s
TRG Tyrgan 9.51 246 eSg Sx 22 47 32.5
TRG Smax 22 47 44.7
comp=Z,235nm,1.6s
KAB Kabansk 9.79 242 eSg Sx 22 47 40.6
KAB Smax 22 48 08.2
comp=Z,3μm,1.6s
KLR Kul'dur 10.53 137 *e*P P 22 45 10.2 -1.4
KLR *e* 22 47 11.2
KLR MLR MLR
comp=N,2μm,13.5s
KLR MLR MLR
comp=E,2μm,13.5s
LSTR Listvyanka 10.78 245 eSg Sx 22 48 12.2
LSTR Smax 22 48 47.7
comp=E,239nm,2.2s
IRK Irkutsk 10.84 248 eSg Sx 22 48 14.2
IRK Smax 22 48 31.2
comp=E,75nm,1.1s
TLY Talaya 11.49 247 eSg Sx 22 48 34.2
TLY Smax 22 48 45.3
comp=E,111nm,2.8s
ARS Arshan 11.96 250 eSg Sx 22 48 45.9
ARS Smax 22 49 05.9
comp=E,298nm,1.0s
BTGS Batagay 12.02 26 eSg Sx 22 48 49.1
HABR Khabarovsk 12.43 130 *e*P P 22 45 37.9 +0.5
ZAK Zakamensk 12.48 243 eSg Sx 22 49 03.3
ZAK Smax 22 49 18.0
comp=E,571nm,1.2s
ULN Ulaanbaatar 12.69 227 *e*P P 22 45 41.8 +1.0
MOY Mondy 12.83 252 eSg Sx 22 49 15.1
MOY Smax 22 49 31.8
comp=E,217nm,1.6s
MOY Mondy 12.83 252 *e*P P 22 45 42.6 -0.1
MOY pmax pmax
comp=Z,2.0nm,0.4s
UNR Ust'-Nera 12.95 47 *e* Sx 22 48 53.9
UNR eSg Sx 22 49 18.1
SONM Songino Array 12.97 228 Pn P 22 45 42.8 -1.8
comp=Z,0.1nm,0.3s,baz=34,slow=10,SNR=3.5
SONM Lg 22 49 23.2
comp=Z,0.8nm,0.3s,baz=43,slow=30,SNR=7.3
SONM LR LR 22 49 54.0
comp=Z,48nm,18.9s,baz=19,slow=34
ORL Orlik 12.98 257 eSg Sx 22 49 20.6
ORL Smax 22 49 43.9
comp=Z,127nm,1.3s
MOMR Moma 13.80 40 eSg Sx 22 49 42.6
TIXI Tiksi 14.64 10 *e*P P 22 45 59.5 -6.7
TDJR Todzha 15.01 261 eSg Sx 22 50 24.1
NVS Novosibirsk 20.89 279 *e*P P 22 47 20.1 -2.1
NVS eS S 22 51 19.2 +9.0
NVS pmax pmax
comp=Z,18nm,1.7s
NVS smax
comp=N,27nm,2.2s
BILL Bilibino 22.77 44 *e*P P 22 47 40.1 -0.6
BILL pmax pmax
comp=Z,2.0nm,1.3s,mb3.4
BILL MLR MLR
comp=Z,100nm,20.0s,MS3.2
MJAR Matsushiro Arr 23.94 143 LR LR 22 57 05.4
comp=Z,19nm,21.4s,MS2.5,slow=36
KURK Kurchatov 25.28 273 *e*P P 22 48 03.9 -1.3
MKAR Makanchi Array 25.57 262 P P 22 48 07.7 -0.3
comp=Z,2.1nm,0.8s,mb3.7,baz=51,slow=7.8,SNR=12
MKAR LR LR 22 58 19.1
comp=E,88nm,18.0s,MS3.3,baz=273,slow=37
MKAR Makanchi Array 25.57 262 P P 22 48 07.7 -0.3
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR MLR MLR
comp=Z,88nm,18.0s
SSE Sheshan 26.36 179 P P 22 48 14.8 -0.7
SSE AMB AMB
comp=Z,30nm,0.7s,mb4.9
BVAR Borovoye Array 28.51 283 P P 22 48 33.4 -1.4
comp=Z,0.6nm,0.5s,mb3.6,baz=50,slow=11,SNR=3.5
BVAR Borovoye Array 28.51 283 P P 22 48 33.4 -1.4
BVAR pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 32.49 263 *e*P P 22 49 09.2 -1.0
AAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.8
AKTK Aktyubinsk 36.38 287 P P 22 49 43.6 +0.2
AKTO Aktyubinsk 36.38 287 P P 22 49 43.6 +0.2
comp=Z,0.9nm,0.6s,mb3.9,baz=63,slow=12,SNR=4.1
AKTO Aktyubinsk 36.38 287 P P 22 49 43.7 +0.2
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ARCES ARCESS Array B 39.63 327 P P 22 50 11.3 +0.8
comp=Z,3.5nm,0.9s,mb4.1,baz=54,slow=10,SNR=4.5
ARCES ARCESS Array B 39.63 327 P P 22 50 11.3 +0.8
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 39.63 327 P P 22 50 11.3 +0.8
ILAR Eielson Array 41.35 40 P P 22 50 24.4 -0.3
comp=Z,0.4nm,0.5s,mb3.3,baz=285,slow=4.5,SNR=8.6
FINES FINESS Array B 44.22 317 P P 22 50 47.5 -0.5
comp=Z,1.8nm,0.7s,mb3.9,baz=45,slow=7.9,SNR=4.6
FINES FINESS Array B 44.22 317 *i* P P 22 50 48.0 0.0
FINES pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 48.50 289 *e*P P 22 51 22.4 +0.3
KIV pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
KIV MLR MLR
comp=Z,76nm,19.0s,MS3.7
NB2 NORSAR Subarra 49.69 323 P P 22 51 30.1 -0.8
comp=Z,3.4nm,0.9s,mb4.4,baz=40,slow=7.4
NOA NORSAR Array B 49.69 323 P P 22 51 29.7 -1.2
comp=Z,1.2nm,0.7s,mb4.0,baz=42,slow=7.6,SNR=4.5
NOA NORSAR Array B 49.69 323 P P 22 51 29.7 -1.2
NOA pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 50.20 304 P P 22 51 33.4 -1.7
comp=Z,2.6nm,0.6s,mb4.4,baz=41,slow=8.5,SNR=14
AKASG Malin Array Be 50.20 304 *i* P P 22 51 34.5 -0.5
AKASG pmax pmax
comp=Z,3.0nm,0.6s
ANN Anapa 50.54 294 *e*P P 22 51 40.2 +2.5
ANN pmax pmax
comp=Z,46nm,1.6s
NEW Newport 64.28 39 LR LR 23 23 28.6
comp=Z,119nm,19.5s,MS4.1,baz=65,slow=38

*CASC **14** 22:52:46.0±2.2, 12.26N×88.34W, h28km±13km, MD4.1, mb4.1(NEIC)*
*IDC **14** 22:52:50.0±6.3, 12.77N×87.61W, h60km±57km, mb3.9/11, mb1 4.1/11, mb1mx3.8/22, mbtmp4.1/11, MS3.8/2, Ms1 3.8/2, ms1mx3.0/27, Error ellipse: s-maj=48.4km s-min=16.1km az=55.0*
*NEIC **14** 22:52:53.2±3.2, 12.67N×87.84W, h96km±30km, mb4.1/5, Error ellipse: s-maj=28.0km s-min=9.4km az=225.0*
ISC 14 22:52:46.8±0.7, 12.30N±0.08×88.30W±0.06, h59km±6km, n54, σ1°03/46, mb4.2/15, MS3.8/2, 9C-18D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.07**	**25**	⇓*e*P	**P**	22 53 24.7	
CNCH				*e*S	Sx	22 53 39.7	
VSM	**San Miguel**	**1.12**	**1**	⇑*e*P	Px	22 53 25.3	
VSM				*e*S	Sx	22 53 42.0	
BLLM	**Bellamira**	**1.14**	**3**	⇓*e*P	Px	22 53 25.5	
BLLM				*e*S	Sx	22 53 42.7	
CRIN	**San Cristobal**	**1.28**	**72**	⇓*e*P	**P**	**22 53 09.3**	**+0.4**
LEON	**Leon**	**1.38**	**85**	⇓*e*P	**P**	**22 53 09.3**	**-1.0**
SNVI	**San Vicente**	**1.41**	**338**	⇓*e*P	Px	22 53 28.3	
SNVI				*e*S	Sx	22 53 47.5	
TEL3	**Telica 3**	**1.44**	**79**	⇓*e*P	**P**	**22 53 10.5**	**-0.7**
CAHU	**Cacaouatique**	**1.46**	**3**	⇓*e*P	Px	22 53 31.3	
CAHU				*e*S	Sx	22 53 51.6	
TELN	**Telica**	**1.46**	**78**	⇓*e*P	**P**	**22 53 10.7**	**-0.9**
LCBS	**La Ceiba**	**1.50**	**334**	⇑*e*P	Px	22 53 29.1	
LCBS				*e*S	Sx	22 53 48.4	
LFRS	**El Faro**	**1.51**	**331**	⇑*e*P	Px	22 53 29.0	
LFRS				*e*S	Sx	22 53 50.3	
MIRN	**Miramar**	**1.56**	**85**	⇑*e*P	**P**	**22 53 11.8**	**-0.9**
CNGN	**Cerro Negro**	**1.57**	**83**	⇑*e*P	**P**	**22 53 12.3**	**-0.7**
LBRS	**Las Brisas**	**1.60**	**333**	⇓*e*P	Px	22 53 30.9	
LBRS				*e*S	Sx	22 53 52.0	
LFU	**La Fuente**	**1.64**	**331**	⇑*e*P	Px	22 53 31.8	
LFU				*e*S	Sx	22 53 53.0	
COPN	**Copaltepe**	**1.67**	**94**	⇑*e*P	**P**	**22 53 13.3**	**-1.0**
COPN				*e*S	**S**	**22 53 36.3**	**+1.6**
BOQS	**Boqueron**	**1.72**	**326**	⇑*e*P	Px	22 53 32.7	
BOQS				*e*S	Sx	22 53 54.5	
MOMJ	**Momotombo**	**1.72**	**86**	⇓*e*P	**P**	**22 53 14.1**	**-0.9**
MOMJ				*e*S	**S**	**22 53 37.8**	**+1.9**
SBLS	**San Blas**	**2.00**	**320**	⇓*e*P	Px	22 53 36.2	
SBLS				*e*S	Sx	22 54 02.0	
MGAN	**Managua**	**2.01**	**94**	⇑*e*P	**P**	**22 53 18.2**	**-0.8**
MGAN				*e*S	**S**	**22 53 43.7**	**+0.7**
SNJE	**San Jose**	**2.01**	**321**	⇓*e*P	Px	22 53 36.3	
SNJE				*e*S	Sx	22 54 01.9	
TICN	**Ticuantepe**	**2.04**	**97**	⇓*e*P	**P**	**22 53 19.6**	**+0.2**
RTR	**El Retiro**	**2.06**	**321**	⇓*e*P	Px	22 53 37.2	
RTR				*e*S	Sx	22 54 02.3	
WILN	**Americas 2**	**2.07**	**94**	*e*P	**P**	**22 53 19.4**	**-0.5**
WILN				*e*S	**S**	**22 53 45.1**	**+0.7**
MTO2	**Montecristo 2**	**2.33**	**334**	⇓*e*P	Px	22 53 41.9	
MTO2				*e*S	Sx	22 54 12.1	
SSNN	**San Juan del S**	**2.60**	**113**	*e*P	**P**	**22 53 28.7**	**+1.2**
SSNN				*e*S	**S**	**22 53 58.2**	**+0.3**
IXG	**Ixpaco**	**2.81**	**312**	⇓*e*P	**P**	**22 53 30.1**	**-0.3**
IXG				*e*S	**S**	**22 54 02.5**	**-0.6**
MRL	**Marmol**	**3.06**	**334**	⇓*e*P	**P**	**22 53 34.0**	**0.0**
TP2	**Tecpan 2**	**3.62**	**313**	⇓*e*P	**P**	**22 53 42.1**	**+0.3**
TP2				*e*S	**S**	**22 54 24.3**	**+0.6**
PRS1	**Puriscal**	**4.54**	**120**	*e*P	**P**	**22 53 54.5**	**-0.2**
PRS1				*e*S	**S**	**22 54 45.3**	**-1.5**
LCR2	**La Lucha 2**	**4.92**	**121**	*e*P	**P**	**22 54 01.6**	**+1.5**
URSC	**Urasca**	**5.07**	**118**	*e*P	**P**	**22 54 03.0**	**+0.9**
SDV	**Santo Domingo**	**17.69**	**99**	P	**P**	**22 56 50.1**	**-0.7**
JCT	**Junction City**	**20.99**	**331**	*e*P	**P**	**22 57 27.1**	**-0.4**
	7.1nm,0.6s						
LTX	**Lajitas**	**22.17**	**322**	*e*P	**P**	**22 57 40.9**	**+1.7**
	6.6nm,1.0s,mb4.0						
TXAR	**Lajitas Array**	**22.17**	**322**	P	**P**	**22 57 40.6**	**+1.4**
	3.9nm,0.7s,mb4.0,baz=146,slow=11,SNR=40						
TXAR				PcP	PcP	23 01 35.8	+0.4
	0.4nm,0.8s,baz=153,slow=4.0,SNR=4.6						
MIAR	**Mount Ida**	**22.66**	**349**	*e*P	**P**	**22 57 44.4**	**+0.5**
	11nm,0.9s,mb4.3						
WMOK	**Wichita Mounta**	**24.28**	**339**	*e*P	**P**	**22 57 59.9**	**+0.1**
	4.8nm,0.9s,mb3.9						
PDAR	**Pinedale Array**	**35.52**	**333**	P	**P**	**22 59 42.0**	**+2.0**
	1.0nm,0.9s,mb3.8,baz=117,slow=6.6,SNR=3.6						
PDAR				PcP	PcP	23 02 09.3	+0.9
	0.7nm,0.6s,baz=128,slow=4.6,SNR=5.2						
REDW	**Red Top Meadow**	**36.57**	**332**	*e*P	**P**	**22 59 49.7**	**+0.8**
	10nm,1.1s,mb4.6						
ULM	**Lac du Bonnet**	**38.35**	**352**	P	**P**	**23 00 02.0**	**-1.6**
	7.0nm,0.6s,mb4.6,baz=174,slow=9.5,SNR=18						
MCMT	**McKenzie Canyo**	**38.62**	**332**	*e*P	**P**	**23 00 06.5**	**+0.6**
SIV	**San Ignacio**	**38.93**	**136**	P	**P**	**23 00 09.1**	**+0.3**
	5.0nm,0.7s,mb4.3,baz=307,slow=8.8,SNR=35						
SCHQ	**Schefferville**	**45.66**	**17**	P	**P**	**23 00 59.5**	**-3.7**
	5.3nm,0.9s,mb4.5,baz=247,slow=7.7,SNR=4.8						
BDFB	**Brasilia**	**48.58**	**124**	P	**P**	**23 01 26.2**	**-0.4**
	1.6nm,0.4s,mb4.4,baz=254,slow=7.4,SNR=3.8						
BDFB				LR	LR	23 23 13.2	
	comp=Z,90nm,18.2s,MS3.8,baz=109,slow=38						
FRB	**Frobisher Bay**	**53.22**	**11**	LR	LR	23 25 28.5	
	comp=Z,98nm,18.6s,MS3.9,baz=329,slow=37						
YKA	**Yellowknife Ar**	**53.54**	**345**	P	**P**	**23 02 02.3**	**-1.2**
	1.9nm,0.8s,mb4.0,baz=141,slow=7.5,SNR=27						
YKA				PcP	PcP	23 03 09.3	-0.3
	0.4nm,0.7s,baz=139,slow=3.9,SNR=5.7						
DLBC	**Dease Lake**	**55.69**	**335**	P	**P**	**23 02 20.5**	**+1.2**
	1.6nm,0.6s,mb4.2,baz=120,slow=8.1,SNR=4.4						
INK	**Inuvik**	**63.10**	**343**	P	**P**	**23 03 09.1**	**-1.1**
	2.8nm,0.9s,mb4.4,baz=127,slow=10,SNR=5.9						
INK	**Inuvik**	**63.10**	**343**	*e*P	**P**	**23 03 08.5**	**-1.8**
ILAR	**Eielson Array**	**65.82**	**336**	P	**P**	**23 03 27.1**	**-0.8**
	0.9nm,0.9s,mb3.8,baz=136,slow=4.9,SNR=5.4						
NOA	**NORSAR Array B**	**83.90**	**29**	P	**P**	**23 05 08.0**	**-3.2**
	1.7nm,0.8s,mb4.2,baz=276,slow=4.3,SNR=3.5						
NOA	**NORSAR Array B**	**83.90**	**29**	P	**P**	**23 05 08.0**	**-3.2**
WRA	**Warramunga Arr**	**138.43**	**254**	PKP	PKPdf	23 12 09.8	+3.1
	0.4nm,0.9s,baz=94,slow=2.2,SNR=4.5						

*CSEM **14** 22:56:50.5±1.3, 38.66N×29.02W, ML2.4, Error ellipse: s-maj=12.5km s-min=4.3km az=66.0, After PDA*
*PDA **14** 22:56:50.5±1.3, 38.66N×29.02W, MD3.0, ML2.4, Error ellipse: s-maj=12.5km s-min=4.3km az=66.0*
SVSA 14 22:56:50.5±1.3, 38.66N×29.02W, MD3.0, ML2.4, Error ellipse: s-maj=12.5km s-min=4.3km az=66.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.19**	**112**	*e*P	Pg	22 56 55.1	+0.8
PTCA				*e*S	Sg	22 56 57.4	+0.6
	468nm,0.2s						
PTCA	**Ponta do Capel**	**0.19**	**112**	*e*P	Pg	22 56 55.1	+0.8
PTCA				*e*S	Sg	22 56 57.4	+0.6
	468nm,0.2s						
PCED	**Cedros**	**0.25**	**96**	*i* P	Pg	22 56 55.3	-0.2
PCED				*i* S	Sg	22 56 59.1	+0.2
	989nm,0.1s						
PCED	**Cedros**	**0.25**	**96**	*i* S	Sg	22 56 59.1	+0.2
	989nm,0.1s						
CALA	**Caldeira**	**0.26**	**106**	*i* P	Pg	22 56 55.3	-0.4
CALA				*e*S	Sg	22 56 59.1	-0.1
CALA	**Caldeira**	**0.26**	**106**	*e*S	Sg	22 56 59.1	-0.1
HOR	**Horta**	**0.33**	**113**	*e*P	Pg	22 56 56.5	-0.6
HOR				*e*S	Sg	22 57 01.2	-0.4
PLUZ	**Luz**	**0.36**	**6**	*e*S	Sg	22 57 16.7	+14
	21nm,0.1s						
PCND	**Candelaria**	**0.48**	**113**	*e*P	Pg	22 56 59.7	-0.3
PCND				*i* S	Sg	22 57 06.1	-0.3
	91nm,0.2s						
PICO	**Pico**	**0.49**	**108**	*e*P	Pg	22 56 59.3	-1.0
PICO				*e*S	Sg	22 57 06.3	-0.6
PBOI	**Pico dos Bois**	**0.55**	**113**	*e*P	Pg	22 57 00.7	-0.8
PBOI				*i* S	Sg	22 57 07.9	-1.0
	50nm,0.1s						
ROSA	**Rosais**	**0.61**	**84**	*e*P	Pg	22 57 01.3	-1.5
ROSA				*e*S	Sg	22 57 08.8	-2.1
PPNO	**Prainha do Nor**	**0.62**	**107**	*e*P	Pg	22 57 01.5	-1.4
PPNO				*e*S	Sg	22 57 10.1	-1.1
	171nm,0.1s						
PPNO	**Prainha do Nor**	**0.62**	**107**	*e*P	Pg	22 57 01.5	-1.4
PPNO				*e*S	Sg	22 57 10.1	-1.1
	171nm,0.1s						
PAMA	**Santo Amaro**	**0.66**	**88**	*e*P	Pg	22 57 02.3	-1.4
PAMA				*i* S	Sg	22 57 10.9	-1.6
PMAN	**Manadas**	**0.73**	**91**	*e*P	Pg	22 57 02.6	-2.5
PMAN				*e*S	Sg	22 57 11.9	-2.9
	171nm,0.3s						
PMAN	**Manadas**	**0.73**	**91**	*e*P	Pg	22 57 02.6	-2.5
PMAN				*e*S	Sg	22 57 11.9	-2.9
	171nm,0.3s						
PIED	**Piedade**	**0.80**	**107**	*e*P	Pg	22 57 04.5	-1.9
PVIA	**Vitoria**	**0.86**	**61**	*e*S	Sg	22 57 15.6	-3.6
	14nm,0.1s						
PGRA	**Graciosa**	**0.90**	**65**	*e*S	Sg	22 57 15.7	-4.6
	28nm,0.3s						
STGR	**Santa Cruz**	**0.90**	**62**	*e*S	Sg	22 57 17.0	-3.5
	25nm,0.1s						
ASBA	**Santa Barbara**	**1.33**	**87**	*e*S	Sb	22 57 27.3	-6.2
	19nm,0.2s						
PPAD	**Pico dos Padre**	**1.36**	**88**	*e*S	Sb	22 57 28.1	-6.2
	8.7nm,0.1s						

*IDC **14** 22:58:05.2±9.8, 20.11N×145.52E, h62km±90km, mb3.7/9, mb1 3.9/10, mb1mx3.8/21, mbtmp4.0/10, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/30, Error ellipse: s-maj=29.2km s-min=21.7km az=94.0*
*NEIC **14** 22:58:05.8±1.5, 20.08N×145.50E, h69km±16km, mb3.8/1, Error ellipse: s-maj=19.3km s-min=11.2km az=80.0*
ISC 14 22:58:04.0±2.5, 20.1N±0.1×145.5E±0.2, h68km±25km, n17, σ0°72/15, mb3.8/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.48**	**185**	P	**P**	**22 59 38.6**	**-0.2**
JOW	**Kunigami**	**17.15**	**296**	LR	LR	23 07 40.1	
	comp=Z,117nm,18.6s,baz=288,slow=34						
MJAR	**Matsushiro Arr**	**17.59**	**340**	P	**P**	**23 02 06.9**	**+0.7**
	0.4nm,0.3s,baz=167,slow=11,SNR=3.4						
PMG	**Port Moresby**	**29.34**	**177**	LR		23 14 48.7	
	comp=Z,79nm,18.5s,baz=22,slow=34						
WRA	**Warramunga Arr**	**41.24**	**196**	P	**P**	**23 05 44.4**	**+0.3**
	0.8nm,0.4s,mb3.9,baz=20,slow=9.0,SNR=21						
SONM	**Songino Array**	**41.95**	**321**	P	**P**	**23 05 49.1**	**-0.4**
	0.3nm,0.5s,mb3.3,baz=132,slow=6.2,SNR=5.9						
MKAR	**Makanchi Array**	**57.37**	**313**	P	**P**	**23 07 47.8**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=91,slow=7.7,SNR=12						
ILAR	**Eielson Array**	**62.51**	**27**	P	**P**	**23 08 21.1**	**-1.4**
	1.5nm,0.8s,mb4.0,baz=261,slow=5.5,SNR=12						
CHKZ	**Chkalovo**	**65.14**	**321**	*e*P	**P**	**23 08 39.5**	**-0.3**
	0.7nm,0.6s,mb3.7						
BVAR	**Borovoye Array**	**65.29**	**320**	P	**P**	**23 08 40.4**	**-0.4**
	0.9nm,0.4s,mb4.0,baz=93,slow=7.8,SNR=7.0						
INK	**Inuvik**	**68.19**	**23**	P	**P**	**23 08 58.0**	**-0.8**
	1.7nm,0.7s,mb4.0,baz=275,slow=7.1,SNR=7.4						
YKA	**Yellowknife Ar**	**76.87**	**28**	P	**P**	**23 09 50.5**	**+0.5**
	1.6nm,0.6s,mb4.0,baz=289,slow=5.5,SNR=19						
YKA	**Yellowknife Ar**	**76.87**	**28**	P	**P**	**23 09 50.5**	**+0.5**
NVAR	**Mina Array Bea**	**82.46**	**52**	P	**P**	**23 10 21.9**	**+1.4**
	1.4nm,0.7s,mb3.9,baz=270,slow=4.6,SNR=10						
NVAR	**Mina Array Bea**	**82.46**	**52**	P	**P**	**23 10 21.9**	**+1.4**
FINES	**FINESS Array B**	**85.55**	**335**	P	**P**	**23 10 36.2**	**+0.7**
	2.3nm,0.9s,mb4.1,baz=45,slow=5.4,SNR=5.2						
FINES	**FINESS Array B**	**85.55**	**335**	P	**P**	**23 10 36.2**	**+0.6**

*MOS **14** 23:06:31.5±2.2, 57.32N×120.77E, h18km, mb4.0/1, Error ellipse: s-maj=20.3km s-min=14.2km az=50.5*
BYKL 14 23:06:30.3±0.4, 57.42N×120.85E, h6km±30km, 2C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.69**	**224**	⇑*i*Pg	Pg	23 06 43.3	-0.8
KHNR				*e*Sg	Sg	23 06 52.2	-1.1
YKLR	**Yuktali**	**0.94**	**152**	*i* Pg	Pg	23 06 48.1	-1.0
YKLR				Pmax		23 06 49.1	
	548nm,0.4s						
YKLR				*e*Sg	Sg	23 07 00.7	-0.9
YKLR				Smax		23 07 02.2	
	3μm,0.7s						
CRS	**Chara**	**1.50**	**251**	⇓*i*Pg	Pg	23 06 57.8	-2.5
CRS				Pmax		23 06 59.0	
	707nm,0.8s						
CRS				*e*Sg	Sg	23 07 17.1	-3.2
CRS				Smax		23 07 19.2	
	777nm,1.2s						
CRS	**Chara**	**1.50**	**251**	*e*P	Pn	23 06 57.9	0.0
CRS				*e*		23 07 17.2	
CRS				pmax	pmax		
	comp=Z,642nm,0.7s						
CRS				smax			
	comp=E,597nm,0.6s						
NRGR	**Nerungri**	**2.25**	**108**	*e*P	Pn	23 07 11.3	+2.7
NRGR				S	Sn	23 07 38.5	+1.5
CLNS	**Chul'man**	**2.28**	**103**	*e*	Pn	23 07 10.1	+1.1
CLNS				*e*Pg	Pg	23 07 11.6	-4.2
CLNS				Pmax		23 07 13.7	
	comp=E,2μm,0.4s						

CLNS				*e*Sn	Sn	23 07 38.2	+0.4
CLNS				*e*Sg	Sg	23 07 41.1	-5.1
CLNS				Smax		23 07 41.7	
	comp=E,15μm,0.4s						
CLNS	**Chul'man**	**2.28**	**103**	*e*P	Pn	23 07 10.4	+1.4
CLNS				*e*S	Sn	23 07 38.0	+0.2
CLNS				pmax	pmax		
	comp=N,20nm,0.3s						
CLNS				pmax	pmax		
	comp=E,20nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,52nm,0.3s						
CLNS				pmax	pmax		
	comp=N,95nm,0.4s						
CLNS				pmax	pmax		
	comp=E,74nm,0.4s						
CLNS				pmax	pmax		
	comp=Z,216nm,0.4s						
CLNS				smax			
	comp=E,32nm,0.2s						
CLNS				smax			
	comp=Z,34nm,0.3s						
CLNS				smax			
	comp=N,32nm,0.2s						
CLNS				smax			
	comp=N,1μm,0.5s						
CLNS				smax			
	comp=Z,349nm,0.3s						
CLNS				smax			
	comp=E,2μm,0.4s						
IENR	**Iengra**	**2.51**	**117**	*e*	Pn	23 07 12.9	+0.6
IENR				*e*Pg	Pg	23 07 15.9	-4.5
IENR				*e*Sg	Sg	23 07 48.1	-5.7
ALDR	**Aldan**	**2.70**	**62**	*e*	Pn	23 07 15.9	+0.8
ALDR				*e*Pg	Pg	23 07 17.2	-7.1
ALDR				Pmax		23 07 20.0	
	comp=E,1μm,0.7s						
ALDR				*e*		23 07 21.9	
ALDR				*e*Sn	Sn	23 07 47.2	-1.3
ALDR				*e*Sg	Sg	23 07 52.0	-8.3
ALDR				Smax		23 07 52.4	
	comp=E,7μm,0.3s						
NLYR	**Nelyaty**	**2.97**	**254**	*e*Pn	Pn	23 07 18.7	-0.2
NLYR				⇓*i*Pg	Pg	23 07 23.6	-6.0
NLYR				Pmax		23 07 25.5	
	comp=E,148nm,0.8s						
NLYR				*e*Sn	Sn	23 07 53.2	-2.0
NLYR				*e*Sg	Sg	23 08 01.0	-8.2
NLYR				Smax		23 08 07.6	
	comp=E,998nm,1.0s						
NLYR	**Nelyaty**	**2.97**	**254**	*e*P	Pn	23 07 23.3	+4.4
NLYR				*e*		23 08 00.5	
NLYR				pmax	pmax		
	comp=Z,149nm,0.9s						
NLYR				smax			
	comp=N,997nm,1.0s						
TUP	**Tupik**	**3.04**	**190**	*e*Pn	Pn	23 07 19.0	-0.9
TUP				*e*Pg	Pg	23 07 24.2	-6.9
TUP				Pmax		23 07 27.1	
	comp=N,178nm,0.8s						
TUP				*e*Sn	Sn	23 07 54.4	-2.8
TUP				*e*Sg	Sg	23 08 03.0	-8.7
TUP				Smax		23 08 07.6	
	comp=N,717nm,1.0s						
TUP	**Tupik**	**3.04**	**190**	*e*P	Pn	23 07 18.9	-1.1
TUP				*e*		23 08 02.5	
TUP				pmax	pmax		
	comp=Z,145nm,0.7s						
TUP				smax			
	comp=E,789nm,1.0s						
BOD	**Bodaibo**	**3.70**	**279**	*e*Pn	Pn	23 07 28.1	-1.2
BOD				*e*Pg	Pg	23 07 36.3	-8.0
BOD				Pmax		23 07 38.2	
	comp=E,64nm,1.5s						
BOD				*e*Sn	Sn	23 08 10.5	-3.3
BOD				*e*Sg	Sg	23 08 24.0	-10
BOD				Smax		23 08 27.8	
	comp=E,443nm,1.2s						
BOD	**Bodaibo**	**3.70**	**279**	*e*P	Pn	23 07 27.5	-1.8
BOD				pmax	pmax		
	comp=Z,62nm,0.5s						
SVKR	**Severomuysk**	**4.22**	**255**	*e*Pg	Pg	23 07 46.1	-8.4
SVKR				Pmax		23 07 51.4	
	comp=Z,160nm,1.0s						
SVKR				*e*Sn	Sn	23 08 24.1	-2.8
SVKR				*e*Sg	Sg	23 08 40.3	-10
SVKR				Smax		23 08 59.9	
	comp=Z,432nm,0.9s						
UKT	**Uakit**	**4.45**	**247**	*e*Pn	Pn	23 07 40.7	+0.8
UKT				*e*Pg	Pg	23 07 49.8	-9.3
UKT				Pmax		23 07 52.3	
	comp=Z,63nm,0.7s						
UKT				*e*Sn	Sn	23 08 28.8	-3.9
UKT				*e*Sg	Sg	23 08 46.8	-12
UKT				Smax		23 08 56.3	
	comp=Z,278nm,2.1s						
UKT	**Uakit**	**4.45**	**247**	*e*P	Pn	23 07 49.6	+10
UKT				pmax	pmax		
	comp=Z,47nm,0.7s						
KROS	**Kirovskiy**	**4.56**	**128**	⇑*i*Pn	Pn	23 07 37.3	-4.2
KROS				*e*Pg	Pg	23 07 50.7	-11
KROS				*e*Sn	Sn	23 08 31.0	-4.6
KROS				*e*Sg	Sg	23 08 50.7	-11
ZEA	**Zeya**	**5.18**	**133**	*e*Sg	Sg	23 09 08.7	-14
ZEA				Smax		23 09 11.2	
	comp=Z,49nm,0.9s						
YOA	**Uoyan**	**5.18**	**259**	*e*Pg	Pg	23 08 01.2	-13
YOA				*e*		23 08 10.6	
YOA				max		23 08 12.5	
	comp=Z,269nm,1.3s						
YOA				*e*Sg	Sg	23 09 09.8	-13
YOA				Smax		23 09 29.0	
	comp=Z,1μm,2.1s						
YOA	**Uoyan**	**5.18**	**259**	*e*P	Pn	23 08 04.1	+14
YOA				pmax	pmax		
	comp=Z,77nm,0.6s						
KMO	**Kumora**	**5.54**	**258**	*e*	Pn	23 07 56.3	+1.0
KMO				*e*Pg	Pg	23 08 09.6	-11
KMO				Pmax		23 08 15.2	
	comp=Z,42nm,1.6s						
KMO				*e*Sg	Sg	23 09 20.9	-14
KMO				Smax		23 09 35.5	
	comp=Z,265nm,1.1s						
KMO	**Kumora**	**5.54**	**258**	*e*P	Pn	23 07 52.8	-2.5
KMO				*e*S	Sn	23 08 55.1	-5.1
KMO				pmax	pmax		
	comp=Z,22nm,0.9s						
KMO				smax			
	comp=E,255nm,1.1s						
YLYR	**Ulyunkhan**	**5.99**	**249**	*e*Pg	Pg	23 08 18.8	-11
YLYR				*e*Sg	Sg	23 09 35.2	-14
YLYR				Smax		23 09 48.2	
	comp=E,137nm,1.8s						
YLYR	**Ulyunkhan**	**5.99**	**249**	*e*P	Pn	23 08 17.9	+16
YAK	**Yakutsk**	**6.43**	**40**	*e*P	Pn	23 08 06.6	-1.2
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,14nm,5.0s						
NIZ	**Nizh Angarsk**	**6.46**	**260**	*e*Sg	Sg	23 09 51.3	-14
NIZ				Smax		23 10 13.3	
	comp=Z,120nm,2.0s						
CIT	**Chita**	**6.86**	**221**	*e*Sg	Sg	23 10 02.8	-16
CIT				Smax		23 10 05.6	
	comp=Z,342nm,1.6s						
SYVR	**Suvo**	**7.22**	**243**	*e*	Pn	23 08 38.0	+19
SYVR				*e*Sg	Sg	23 10 13.8	-17
SYVR				Smax		23 10 20.7	
	comp=Z,246nm,2.0s						
KPC	**Khapcheranga**	**9.22**	**217**	*e*		23 10 42.0	
KPC				*e*Sg	Sg	23 11 14.6	-23
KPC				Smax		23 11 25.1	
	comp=Z,113nm,1.6s						
TRG	**Tyrgan**	**9.53**	**247**	*e*Sg	Sg	23 11 26.6	-21
TRG				Smax		23 11 35.3	
	comp=Z,64nm,2.7s						
KAB	**Kabansk**	**9.81**	**243**	*e*Sg	Sg	23 11 32.3	-24
ARS	**Arshan**	**11.99**	**250**	*e*Sg	S	23 12 42.1	+62
ARS				Smax		23 12 58.2	
	comp=Z,69nm,1.0s						
BTGS	**Batagay**	**12.04**	**26**	*e*Sg	S	23 12 43.2	+62
ZAK	**Zakamensk**	**12.51**	**243**	*e*Sg	S	23 12 54.7	+62
ZAK				Smax		23 13 10.0	
	comp=Z,22nm,1.3s						
MOY	**Mondy**	**12.86**	**252**	*e*Sg	S	23 13 10.2	+69
MOY				Smax		23 13 38.6	
	comp=Z,49nm,2.4s						
UNR	**Ust'-Nera**	**12.95**	**47**	*e*Sg	S	23 13 11.6	+69
MOMR	**Moma**	**13.80**	**40**	*e*Sg		23 13 36.3	
TIXI	**Tiksi**	**14.67**	**10**	*e*P	P	23 10 01.6	+1.7
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s						

BJI ***14*** *23:12:12.7,57.64N×120.91E,h15km,mB4.7,mb4.5, ML5.0,Ms4.7,Msz4.2*
BYKL ***14*** *23:12:13.3±0.2,57.46N×120.88E,h2km±13km*
MOS ***14*** *23:12:13.2±1.0,57.55N×120.71E,h12km,mb4.4/17,Error ellipse: s-maj=10.6km s-min=8.4km az=78.4*
IDC ***14*** *23:12:14.5±0.9,57.57N×120.43E,mb4.0/14,mb1 4.2/15, mb1mx4.0/23,mbtmp4.0/15,ML3.4/1,MS3.6/8,Ms1 3.6/8, ms1mx3.4/39,Error ellipse: s-maj=23.4km s-min=16.9km az=165.0*
NEIC ***14*** *23:12:17.6±0.6,57.63N×120.44E,h20km,mb4.3/3,Error ellipse: s-maj=13.8km s-min=8.4km az=149.0*
ISC 14 23:12:12.0±0.8,57.51N×0.03×120.78E±0.03,h2km±5km, n111,σ1$14/146,mb4.1/23,MS3.9/12,8C-4D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.74**	**216**	*e*Pg		**Pg**	**23 12 26.9**	**+0.2**
KHNR				*e*			23 12 27.8	
KHNR				*e*Sg		**Sg**	**23 12 36.0**	**-0.6**
YKLR	**Yuktali**	**1.04**	**152**	⇑*i*Pg		**Pg**	**23 12 31.6**	**-1.2**
YKLR				Pmax			23 12 32.6	
	5μm,0.3s							
YKLR				*e*Sg		**Sg**	**23 12 44.3**	**-2.4**
YKLR				Smax			23 12 49.9	
	39μm,0.6s							
CRS	**Chara**	**1.50**	**247**	⇓*i*Pg		**Pg**	**23 12 41.3**	**-0.6**
CRS				Pmax			23 12 42.0	
	7μm,0.8s							
CRS				*e*Sg		**Sg**	**23 13 00.4**	**-1.5**
CRS				Smax			23 13 02.6	
	12μm,1.2s							
CRS	**Chara**	**1.50**	**247**	*e*P		**Pn**	**23 12 41.6**	**+1.6**
CRS				*e*			23 13 00.7	
CRS				pmax	pmax			
	comp=Z,7μm,0.7s							
CRS				smax				
	comp=E,8μm,0.6s							
NRGR	**Nerungri**	**2.32**	**110**	*e*P		**Pn**	**23 12 54.3**	**+2.5**
NRGR				S		**Sn**	**23 13 21.7**	**+0.4**
CLNS	**Chul'man**	**2.34**	**105**	*e*Pn		**Pn**	**23 12 53.6**	**+1.5**
CLNS				⇓*i*Pg		**Pb**	**23 12 55.0**	**+0.3**
CLNS				Pmax			23 12 56.7	
	comp=E,8μm,0.5s							
CLNS				*e*Sn		**Sn**	**23 13 22.1**	**+0.2**
CLNS				*e*Sg		**Sb**	**23 13 24.7**	**+0.6**
CLNS				Smax			23 13 25.5	
	comp=E,57μm,0.4s							
CLNS	**Chul'man**	**2.34**	**105**	*e*P		**Pn**	**23 12 53.7**	**+1.6**
CLNS				*e*S		**Sn**	**23 13 21.4**	**-0.5**
CLNS				pmax	pmax			
	comp=N,127nm,0.4s							
CLNS				pmax	pmax			
	comp=Z,284nm,0.4s							
CLNS				pmax	pmax			
	comp=E,32nm,0.2s							
CLNS				pmax	pmax			
	comp=N,503nm,0.6s							
CLNS				pmax	pmax			
	comp=Z,1μm,0.6s							
CLNS				pmax	pmax			
	comp=E,294nm,0.5s							
CLNS				smax				
	comp=E,495nm,0.3s							
CLNS				smax				
	comp=Z,471nm,0.4s							
CLNS				smax				
	comp=N,291nm,0.2s							
CLNS				smax				
	comp=E,7μm,0.4s							
CLNS				smax				
	comp=Z,5μm,0.6s							
CLNS				smax				
	comp=N,5μm,0.4s							
CLNS				MLR	MLR			
	comp=Z,1μm,11.0s							
IENR	**Iengra**	**2.59**	**118**	*e*Pn		**Pn**	**23 12 55.9**	**+0.3**
IENR				*e*Pg		**Pb**	**23 12 59.5**	**+0.6**
IENR				*e*Sg		**Sb**	**23 13 30.9**	**-0.4**
ALDR	**Aldan**	**2.70**	**64**	*e*Pn		**Pn**	**23 12 58.0**	**+0.8**
ALDR				*e*Pg		**Pb**	**23 13 00.5**	**-0.3**
ALDR				Pmax			23 13 03.6	
	comp=Z,2μm,0.4s							
ALDR				*e*Sn		**Sn**	**23 13 30.2**	**-0.7**
ALDR				*e*Sg		**Sb**	**23 13 35.6**	**+1.2**
ALDR				Smax			23 13 35.9	
	comp=Z,29μm,0.3s							
NLYR	**Nelyaty**	**2.96**	**252**	*e*Pn		**Pn**	**23 13 02.2**	**+1.3**
NLYR				*e*Pg		**Pb**	**23 13 07.2**	**+1.9**
NLYR				Pmax			23 13 11.7	
	comp=Z,2μm,0.7s							
NLYR				*e*Sg		**Sb**	**23 13 45.4**	**+3.3**
NLYR				Smax			23 13 51.3	
	comp=Z,9μm,1.0s							
NLYR	**Nelyaty**	**2.96**	**252**	*e*P		**Pn**	**23 13 02.0**	**+1.1**
NLYR				*e*			23 13 44.2	
NLYR				pmax	pmax			
	comp=Z,1μm,0.6s							
NLYR				smax				
	comp=N,9μm,1.0s							
TUP	**Tupik**	**3.13**	**189**	⇑*i*Pn		**Pn**	**23 13 02.5**	**-0.9**
TUP				⇓*i*Pg		**Pb**	**23 13 07.8**	**-0.4**
TUP				Pmax			23 13 10.6	
	comp=N,2μm,0.7s							
TUP				*e*			23 13 27.9	
TUP				*e*Sg		**Sb**	**23 13 47.9**	**+0.8**
TUP				*e*SgSg			23 13 55.2	
TUP				max			23 13 57.2	
	comp=N,6μm,1.5s							
TUP	**Tupik**	**3.13**	**189**	*e*P		**Pn**	**23 13 02.4**	**-1.0**
TUP				*e*			23 13 47.1	
TUP				pmax	pmax			
	comp=Z,2μm,0.7s							
TUP				smax				
	comp=E,7μm,0.9s							
TNDR	**Tynda**	**3.23**	**136**	⇑*i*Pn		**Pn**	**23 13 04.4**	**-0.4**
TNDR				*e*Pg		**Pb**	**23 13 09.8**	**-0.1**
TNDR				*e*Sn		**Sn**	**23 13 42.9**	**-1.6**
TNDR				*e*Sg		**Sb**	**23 13 50.8**	**+0.8**
BOD	**Bodaibo**	**3.65**	**278**	*e*Pn		**Pn**	**23 13 11.7**	**+0.9**
BOD				*e*Pg		**Pb**	**23 13 19.7**	**+2.6**
BOD				Pmax			23 13 22.0	
	comp=E,617nm,1.4s							
BOD				*e*Sn		**Sn**	**23 13 53.9**	**-1.2**
BOD				*e*Sg		**Sb**	**23 14 07.0**	**+4.8**
BOD				Smax			23 14 12.2	
	comp=E,5μm,1.6s							
BOD	**Bodaibo**	**3.65**	**278**	*e*P		**Pn**	**23 13 11.3**	**+0.5**
BOD				pmax	pmax			
	comp=Z,617nm,0.6s							
SVKR	**Severomuysk**	**4.21**	**254**	*e*Pn		**Pn**	**23 13 19.1**	**+0.4**
SVKR				*e*Pg		**Pb**	**23 13 29.0**	**+2.4**
SVKR				Pmax			23 13 32.9	
	comp=Z,1μm,1.4s							
SVKR				*e*Sg		**Sb**	**23 14 23.7**	**+5.4**
SVKR				Smax			23 14 43.5	
	comp=Z,4μm,0.9s							
SVKR	**Severomuysk**	**4.21**	**254**	*e*P		**Pb**	**23 13 29.6**	**+3.0**
SVKR				pmax	pmax			
	comp=Z,1μm,1.5s							
UKT	**Uakit**	**4.45**	**246**	⇑*i*Pn		**Pn**	**23 13 22.9**	**+0.8**
UKT				*e*Pg		**Pb**	**23 13 33.3**	**+2.5**
UKT				Pmax			23 13 35.9	
	comp=Z,609nm,1.0s							
UKT				*e*Sg		**Sb**	**23 14 30.4**	**+5.0**
UKT				Smax			23 14 38.3	
	comp=Z,2μm,1.0s							
UKT	**Uakit**	**4.45**	**246**	*e*P		**Pb**	**23 13 33.4**	**+2.6**
UKT				pmax	pmax			
	comp=Z,428nm,0.6s							
YOA	**Uoyan**	**5.16**	**258**	*e*		**Pn**	**23 13 34.0**	**+1.8**
YOA				*e*Pg		**Pb**	**23 13 46.7**	**+3.7**
YOA				*e*			23 13 55.5	
YOA				max			23 13 58.1	
	comp=Z,2μm,1.5s							
YOA				*e*Sg		**Sb**	**23 14 53.9**	**+7.9**
YOA				Smax			23 15 11.9	
	comp=Z,11μm,1.5s							
YOA	**Uoyan**	**5.16**	**258**	⇑*i*P		**Pb**	**23 13 47.5**	**+4.5**
KMO	**Kumora**	**5.52**	**257**	*e*Pn		**Pn**	**23 13 37.2**	**-0.1**
KMO				*e*Pg		**Pb**	**23 13 53.4**	**+4.3**
KMO				Pmax			23 13 59.4	
	comp=Z,339nm,1.6s							
KMO				*e*Sg		**Sb**	**23 15 05.7**	**+9.2**
KMO				Smax			23 15 19.2	
	comp=Z,3μm,1.2s							
KMO	**Kumora**	**5.52**	**257**	*e*P		**Pb**	**23 13 53.7**	**+4.6**
KMO				pmax	pmax			
	comp=Z,199nm,0.7s							
YLYR	**Ulyunkhan**	**5.98**	**248**	*e*Pn		**Pn**	**23 13 44.0**	**+0.2**
YLYR				*e*Pg		**Pb**	**23 14 01.4**	**+4.4**
YLYR				Pmax			23 14 07.6	
	comp=Z,171nm,1.4s							
YLYR				*e*Sg		**Sb**	**23 15 19.2**	**+9.3**
YLYR				Smax			23 15 33.9	
	comp=Z,1μm,1.2s							
YLYR	**Ulyunkhan**	**5.98**	**248**	*e*P		**Pn**	**23 13 43.9**	**+0.1**
YLYR				pmax	pmax			
	comp=Z,211nm,0.7s							
TBGR	**Tabaga**	**6.23**	**42**	*e*Pn		**Pn**	**23 13 45.8**	**-1.4**
TBGR				*e*Pg		**Pb**	**23 14 04.9**	**+3.7**
TBGR				*e*Sn		**Sn**	**23 14 54.9**	**-5.0**
TBGR				*e*Sg		**Sb**	**23 15 23.7**	**+6.8**
YAK	**Yakutsk**	**6.38**	**41**	*e*Pn		**Pn**	**23 13 49.1**	**-0.3**
YAK				*e*Pg		**Pb**	**23 14 07.6**	**+3.8**
YAK				Pmax			23 14 08.2	
	comp=Z,619nm,0.6s							
YAK				*e*Sn		**Sn**	**23 14 58.6**	**-5.2**
YAK				*e*Sg		**Sb**	**23 15 28.0**	**+6.6**
YAK				Smax			23 15 33.0	
	comp=Z,14μm,0.9s							
YAK	**Yakutsk**	**6.38**	**41**	*e*P		**Pn**	**23 13 49.4**	**0.0**
YAK				*e*S		**Sn**	**23 14 57.9**	**-5.9**
YAK				pmax	pmax			
	comp=Z,7.0nm,0.5s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.7s							
YAK				pmax	pmax			
	comp=E,7.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,62nm,0.7s							
YAK				pmax	pmax			
	comp=N,35nm,0.8s							
YAK				pmax	pmax			
	comp=E,27nm,0.7s							
YAK				smax				
	comp=N,52nm,0.7s							
YAK				smax				
	comp=Z,68nm,0.7s							
YAK				smax				
	comp=E,59nm,0.8s							
YAK				smax				
	comp=N,1μm,0.8s							
YAK				smax				
	comp=E,1μm,0.8s							
YAK				smax				
	comp=Z,654nm,0.8s							
YAK				MLR	MLR			
	comp=Z,233nm,7.0s							
YAK	**Yakutsk**	**6.38**	**41**	P		**Pn**	**23 13 48.9**	**-0.5**
	comp=Z,148nm,0.7s							
NIZ	**Nizh Angarsk**	**6.44**	**259**	*e*Pn		**Pn**	**23 13 50.0**	**-0.2**
NIZ				*e*Pg		**Pb**	**23 14 09.7**	**+4.9**
NIZ				Pmax			23 14 13.9	
	comp=Z,122nm,0.6s							
NIZ				*e*Sg		**Sb**	**23 15 34.7**	**+12**
NIZ				Smax			23 15 56.9	
	comp=Z,1μm,2.0s							
NIZ	**Nizh Angarsk**	**6.44**	**259**	*e*P		**Pn**	**23 13 51.7**	**+1.5**
CIT	**Chita**	**6.91**	**220**	*e*		**Pn**	**23 14 03.1**	**+6.3**
CIT				*e*Pg		**Pb**	**23 14 16.7**	**+3.9**
CIT				Pmax			23 14 21.8	
	comp=Z,119nm,1.5s							
CIT				*e*Sg		**Sb**	**23 15 45.2**	**+8.5**
CIT				Smax			23 15 48.2	
	comp=Z,4μm,1.8s							
SYVR	**Suvo**	**7.23**	**242**	*e*Pn		**Pn**	**23 14 00.1**	**-1.2**
SYVR				*e*Pg		**Pb**	**23 14 23.5**	**+5.3**
SYVR				Pmax			23 14 26.7	
	comp=Z,137nm,1.5s							
SYVR				*e*Sg		**Sb**	**23 15 57.9**	**+12**
SYVR				Smax			23 16 04.4	
	comp=Z,2μm,2.1s							
HIA	**Hailar**	**8.29**	**185**	*e*P		**P**	**23 14 09.7**	**-6.4**
HIA				pmax	pmax			
	comp=Z,27nm,0.4s							
HIA	**Hailar**	**8.29**	**185**	*e*P		**P**	**23 14 09.7**	**-6.4**
	comp=Z,27nm,0.4s							
OGRR	**Ongureny**	**8.41**	**248**	*e*Sg		Sx	23 16 34.8	
OGRR				Smax			23 16 49.7	
	comp=Z,408nm,1.0s							
KPC	**Khapcheranga**	**9.27**	**216**	*e*Pn		**P**	**23 14 27.5**	**-2.3**
KPC				*e*Sn		**Sn**	**23 16 09.4**	**-6.5**
KPC				*e*Sg		Sg	23 16 57.5	-23
KPC				Smax			23 17 01.8	
	comp=Z,1μm,1.5s							
KPC	**Khapcheranga**	**9.27**	**216**	*e*P		**P**	**23 14 29.1**	**-0.7**
KPC				pmax	pmax			
	comp=Z,11nm,0.8s							
TRG	**Tyrgan**	**9.53**	**246**	*e*Sg		Sx	23 17 10.4	
TRG				Smax			23 17 17.0	
	comp=Z,423nm,2.2s							
KAB	**Kabansk**	**9.81**	**242**	*e*Sg		Sx	23 17 17.7	
KLR	**Kul'dur**	**10.56**	**137**	*e*P		**P**	**23 14 41.4**	**-6.0**
KLR				*e*			23 16 45.3	
KLR				MLR	MLR			
	comp=N,4μm,13.5s							
KLR				MLR	MLR			
	comp=E,3μm,13.5s							
LSTR	**Listvyanka**	**10.81**	**245**	*e*Sg		Sx	23 17 49.3	
LSTR				Smax			23 17 58.7	
	comp=E,459nm,1.3s							
IRK	**Irkutsk**	**10.86**	**248**	*e*		Sx	23 17 15.7	
IRK				*e*Sg		Sx	23 17 50.5	
IRK				Smax			23 18 07.1	
	comp=E,153nm,1.1s							
TLY	**Talaya**	**11.51**	**247**	*e*Sg		Sx	23 18 10.7	
TLY				Smax			23 18 21.4	
	comp=E,218nm,2.5s							
BTGS	**Batagay**	**11.97**	**26**	*e*Sg		Sx	23 18 25.0	
ARS	**Arshan**	**11.98**	**250**	*e*Sg		Sx	23 18 24.2	
ARS				Smax			23 18 41.8	
	comp=E,731nm,1.0s							
ZAK	**Zakamensk**	**12.51**	**243**	*e*Sg		Sx	23 18 39.7	
ZAK				Smax			23 18 52.8	
	comp=E,257nm,1.6s							
ZAK	**Zakamensk**	**12.51**	**243**	*e*P		**P**	**23 15 14.2**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.1s							
MOY	**Mondy**	**12.86**	**251**	*e*		Sx	23 17 55.1	
MOY				Smax			23 18 07.5	
	comp=Z,447nm,1.5s							
MOY				*e*Sg		Sx	23 18 51.8	
MOY	**Mondy**	**12.86**	**251**	*e*P		**P**	**23 15 12.5**	**-5.9**
MOY				*e*S		**S**	**23 17 43.1**	**-0.2**
MOY				pmax	pmax			
	comp=Z,18nm,1.0s							
MOY				smax				
	comp=N,447nm,1.6s							
UNR	**Ust'-Nera**	**12.91**	**48**	*e*Sn		**S**	**23 17 36.0**	**-8.7**
UNR				*e*Sg		S	23 18 53.0	+68
ORL	**Orlik**	**12.99**	**256**	*e*		Sx	23 17 35.6	
ORL				*e*Sg		Sx	23 18 55.7	
ORL				Smax			23 19 10.6	
	comp=N,302nm,1.4s							
SONM	**Songino Array**	**13.01**	**228**	Pn		**P**	**23 15 20.2**	**-0.4**
	comp=N,0.2nm,0.3s,baz=32,slow=14,SNR=4.7							
SONM				Lg			23 18 59.8	
	comp=N,5.4nm,0.3s,baz=41,slow=29,SNR=13							
SONM				LR		LR	23 19 42.1	
	comp=N,81nm,21.6s,baz=62,slow=35							
MOMR	**Moma**	**13.76**	**40**	*e*Sg		Sx	23 19 19.7	
TIXI	**Tiksi**	**14.59**	**10**	*d*/*i*P		**P**	**23 15 35.3**	**-5.7**
TIXI				pmax	pmax			
	comp=Z,21nm,1.3s							
TIXI				MLR	MLR			
	comp=Z,300nm,19.0s							
SEY	**Seymchan**	**16.49**	**58**	*e*P		**P**	**23 16 04.5**	**-1.2**
ASAJ	**Asahikawa**	**19.11**	**125**	LR		LR	23 25 03.7	

comp=Z,25nm,20.8s,baz=30,slow=40
NVS Novosibirsk 20.89 279 *e*P **P 23 16 57.3 -0.5**
NVS *e*S **S 23 20 42.9 -3.7**
NVS pmax pmax
comp=N,20nm,1.4s
NVS pmax pmax
comp=E,38nm,1.4s
NVS pmax pmax
comp=Z,28nm,1.4s
NVS smax
comp=E,18nm,1.1s
GTA Gaotai 22.67 226 *e*P **P 23 17 15.9 +0.3**
GTA AP 23 17 23.6
GTA XP 23 17 27.9
GTA S **S 23 21 15.8 -3.9**
GTA LG1 23 23 50.8
GTA LG2 23 24 23.9
GTA AMB AMB
comp=Z,160nm,5.3s
GTA LR LR
comp=N,790nm,12.5s,MS4.6
GTA LR LR
comp=E,1μm,12.9s,MS4.6
GTA LR LR
comp=Z,400nm,8.0s
BILL Bilibino 22.73 44 *e*P **P 23 17 08.1 -7.8**
BILL *e* 23 17 55.9
BILL pmax pmax
comp=Z,4.0nm,1.8s,mb3.5
BILL MLR MLR
comp=Z,100nm,19.0s,MS3.3
LZH Lanzhou 24.23 215 *e*P **P 23 17 35.5 +4.6**
LZH AP 23 17 39.3
LZH XP 23 17 42.5
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.4
LZH AMB AMB
comp=Z,100nm,4.3s
LZH LR LR
comp=N,1μm,12.1s
LZH LR LR
comp=Z,1μm,14.3s,MS4.5
KURK Kurchatov 25.29 273⇑ *i*P **P 23 17 40.5 -0.4**
MKAR Makanchi Array 25.59 262 P **P 23 17 43.5 -0.3**
comp=Z,3.5nm,0.8s,mb3.9,baz=50,slow=6.8,SNR=26
MKAR LR LR 23 28 13.9
comp=Z,246nm,20.1s,MS3.7,baz=54,slow=38
MKAR Makanchi Array 25.59 262 P **P 23 17 43.5 -0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR MLR MLR
comp=Z,247nm,20.2s
MKAR Makanchi Array 25.59 262 P **P 23 17 43.5 -0.3**
MKAR LR LR 23 28 13.9
CHKZ Chkalovo 28.07 284 *e*P **P 23 18 04.4 -2.1**
CHKZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
CHKZ Chkalovo 28.07 284 *e*P **P 23 18 04.3 -2.1**
comp=Z,6.2nm,0.8s,mb4.3
BVAR Borovoye Array 28.51 283 P **P 23 18 09.2 -1.1**
comp=Z,1.5nm,0.5s,mb4.0,baz=66,slow=9.2,SNR=12
BVAR Borovoye Array 28.51 283 P **P 23 18 09.2 -1.2**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
AAK Ala-Archa 32.50 263⇑ *i*P **P 23 18 45.3 -0.6**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
AAK MLR MLR
comp=Z,100nm,15.0s,MS3.6
AKTK Aktyubinsk 36.37 287 P **P 23 19 18.6 -0.5**
AKTO Aktyubinsk 36.37 287 P **P 23 19 18.6 -0.5**
comp=Z,1.2nm,0.5s,mb4.1,baz=83,slow=12,SNR=6.3
AKTO Aktyubinsk 36.37 287 P **P 23 19 18.6 -0.5**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
KEV Kevo 39.02 327 *e*p **P 23 19 39.8 -1.4**
ARCES ARCESS Array B 39.59 327 P **P 23 19 46.3 +0.5**
comp=Z,3.3nm,0.8s,mb4.1,baz=66,slow=8.9,SNR=3.0
ARCES ARCESS Array B 39.59 327 P **P 23 19 46.3 +0.5**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 41.30 40 P **P 23 20 00.4 +0.4**
comp=Z,1.2nm,0.6s,mb3.7,baz=292,slow=5.1,SNR=14
ILAR Eielson Array 41.30 40 P **P 23 20 00.4 +0.4**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
JOF Joensuu 41.34 316 *e*p **P 23 19 59.4 -0.9**
comp=Z,6.2nm,0.9s,mb4.2
KAF Kangasniemi 43.68 317 *e*p **P 23 20 18.2 -1.0**
comp=Z,7.2nm,0.9s,mb4.4
KAF Kangasniemi 43.68 317 *e*P **P 23 20 18.2 -1.0**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
OBN Obninsk 43.92 305 *e*P **P 23 20 20.7 -0.6**
OBN *e* 23 22 06.0
OBN pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.9
FINES FINESS Array B 44.19 317 P **P 23 20 22.9 -0.5**
comp=Z,3.5nm,0.9s,mb4.1,baz=42,slow=11,SNR=12
FINES LR LR 23 38 50.6
comp=Z,142nm,18.3s,MS3.9,baz=4.4,slow=36
FINES FINESS Array B 44.19 317 P **P 23 20 22.9 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES MLR MLR
comp=Z,142nm,18.3s
FINES FINESS Array B 44.19 317 P **P 23 20 22.9 -0.5**
FINES LR LR 23 38 50.6
VSU Vasula 45.88 313 *e*P **P 23 20 37.0 +0.1**
KIV Kislovodsk 48.49 289 *e*P **P 23 20 56.9 -0.8**
KIV *e*S **S 23 27 59.2 +0.6**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,107nm,16.0s,MS3.9
HFS Hagfors 49.50 321 LR LR 23 42 35.9
comp=Z,130nm,18.9s,MS4.0,baz=244,slow=37
NB2 NORSAR Subarra 49.65 323 P **P 23 21 06.2 -0.2**
comp=Z,1.3nm,0.6s,mb4.1,baz=53,slow=7.9
NB2 NORSAR Subarra 49.65 323 P **P 23 21 06.2 -0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
NOA NORSAR Array B 49.65 323 P **P 23 21 06.2 -0.1**
comp=Z,3.3nm,0.8s,mb4.4,baz=41,slow=7.7,SNR=7.9
NOA LR LR 23 43 21.8
comp=Z,77nm,20.7s,MS3.7,baz=15,slow=38
NOA NORSAR Array B 49.65 323 P **P 23 21 06.3 -0.1**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA MLR MLR
comp=Z,77nm,20.7s
AKASG Malin Array Be 50.18 304 P **P 23 21 09.1 -1.5**
comp=Z,4.7nm,0.5s,mb4.8,baz=41,slow=8.5,SNR=35
AKASG Malin Array Be 50.18 304 P **P 23 21 09.1 -1.4**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 50.18 304 P **P 23 21 09.1 -1.5**
ANN Anapa 50.53 294⇑ *i*P **P 23 21 24.2 +11**
ANN pmax pmax
comp=Z,32nm,1.1s,mb5.2
YKA Yellowknife Ar 52.90 29 P **P 23 21 32.1 +1.2**
comp=Z,0.6nm,0.7s,mb3.6,baz=329,slow=7.1,SNR=9.1
YKA Yellowknife Ar 52.90 29 P **P 23 21 32.2 +1.2**
MLR Muntele Rosu 55.50 302 LR LR 23 49 22.7
comp=Z,89nm,19.7s,MS3.9,baz=216,slow=40
BRTR Keskin Array B 56.17 292 P **P 23 21 54.6 -0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=53,slow=4.5,SNR=4.9
BRTR Keskin Array B 56.17 292 P **P 23 21 54.7 -0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
KHC Kasperske Hory 58.00 312 *e*P **P 23 22 07.0 -1.0**
GERES GERESS Array B 58.17 312 P **P 23 22 08.0 -1.3**
comp=Z,0.9nm,0.8s,mb3.9,baz=45,slow=7.5,SNR=5.9
GERES GERESS Array B 58.17 312 P **P 23 22 08.0 -1.2**
GERES pmax pmax
comp=Z,1.0nm,0.8s
FRB Frobisher Bay 58.86 5 LR LR 23 46 30.3
comp=Z,60nm,21.9s,MS3.7,baz=56,slow=35
PDAR Pinedale Array 71.58 37 P **P 23 23 38.0 +1.8**
comp=Z,0.5nm,0.6s,mb3.6,baz=45,slow=2.1,SNR=4.0
NVAR Mina Array Bea 72.34 45 P **P 23 23 44.3 +3.5**
comp=Z,0.2nm,0.4s,mb3.4,baz=333,slow=2.0,SNR=3.2
WRAB Tennant Creek 77.98 167 *e*P **P 23 24 05.2 -8.0**
WRA Warramunga Arr 77.99 167 P **P 23 24 14.7 +1.4**
comp=Z,1.0nm,0.8s,mb3.8,baz=352,slow=6.6,SNR=12
WRA Warramunga Arr 77.99 167 P **P 23 24 14.7 +1.4**
WRA pmax pmax
comp=Z,1.0nm,0.8s

WEL 14 23:16:26.0±0.2, 44.96S×167.56E, h69km±1km, ML3.5/8, 2D, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.39**	**42**	PN	P	23 16 37.6	-0.2
MSZ				SN	S	23 16 46.1	-0.5
MSZ				SN	S	23 16 46.2	-0.4
MLZ	**Mavora Lakes**	**0.58**	**132**	⇓PN	P	23 16 39.2	-0.5
MLZ				SN	S	23 16 48.8	-1.0
DCZ	**Deep Cove**	**0.59**	**209**	PN	P	23 16 39.3	-0.6
DCZ				SN	S	23 16 49.9	-0.2
WHZ	**Wether Hill Ro**	**0.97**	**164**	PN	P	23 16 44.0	-0.4
WHZ				SN	S	23 16 57.6	-0.5
WKZ	**Wanaka**	**1.04**	**83**	⇓PN	P	23 16 45.0	-0.2
JCZ	**Jackson Bay**	**1.23**	**44**	PN	P	23 16 47.3	-0.4
EAZ	**Earnscleugh**	**1.27**	**103**	PN	P	23 16 47.8	-0.5
TUZ	**Tuapeka**	**1.77**	**125**	PN	P	23 16 54.2	-0.9
LBZ	**Lake Benmore**	**1.96**	**74**	PN	P	23 16 55.8	-1.8
LBZ				SN	S	23 17 17.5	-3.5
FOZ	**Fox Glacier**	**2.07**	**48**	PN	P	23 16 58.5	-0.8
ODZ	**Otahua Downs**	**2.19**	**93**	PN	P	23 16 59.1	-1.8
ODZ				SN	S	23 17 22.3	-4.5
WVZ	**Waitaha Valley**	**2.96**	**52**	*e*PN	P	23 17 09.6	-2.2
MQZ	**McQueen's Vall**	**3.86**	**73**	SN	S	23 17 59.8	-9.0
LTZ	**Lake Taylor**	**4.04**	**59**	*e*PN	P	23 17 22.9	-4.0
THZ	**Tophouse**	**5.04**	**53**	*e*PN	P	23 17 37.1	-3.7
QRZ	**Quartz Range**	**5.51**	**43**	*e*PN	P	23 17 44.7	-2.5

IDC 14 23:53:00.1±4.4, 2.75S×150.29E, mb3.5/2, mb1 3.8/2, mb1mx3.5/12, mbtmp3.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/28, Error ellipse: s-maj=143.6km s-min=36.9km az=105.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.31**	**205**	LR	LR	23 56 49.0	
	comp=Z,63nm,19.0s,baz=71,slow=31						
CTA	**Charters Tower**	**17.68**	**193**	LR	LR	00 02 29.9	
	comp=Z,54nm,19.0s,baz=231,slow=32						
WRA	**Warramunga Arr**	**23.12**	**221**	P	P	23 58 08.0	-1.1
	1.5nm,0.8s,baz=46,slow=9.6,SNR=17						
SONM	**Songino Array**	**63.27**	**328**	P	P	00 03 30.6	-2.3
	0.4nm,0.7s,baz=141,slow=7.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**147.27**	**290**	PKPbc	PKPdf	00 12 46.3	+0.2
	0.7nm,0.8s,baz=60,slow=3.4,SNR=2.2						

MAN 15 00:08:58.1, 6.10N×125.84E, h119km, mb4.6, ML3.5, MS3.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.89**	**269**⇑	*e*P	P	00 09 19.6	+0.4
GSPH				*e*S	S	00 09 34.8	-0.2
MATI	**Mati**	**0.93**	**26**	*e*P	P	00 09 19.4	-0.2
MATI				*e*S	S	00 09 35.0	-0.8
BUKP	**Musuan**	**1.93**	**336**	*e*P	P	00 09 31.1	+0.1
BUKP				*e*S	S	00 09 55.7	-0.2
BIPH	**Bislig**	**2.13**	**14**⇑	*i*P	P	00 09 34.2	+0.6
BIPH				*i*S	S	00 10 00.2	-0.2
BUTP	**Butuan**	**2.85**	**356**	*e*P	P	00 09 43.3	0.0
BUTP				*e*S	S	00 10 18.5	+1.0
PAGZ	**Pagadian**	**3.00**	**305**	*e*P	P	00 09 45.0	-0.2

*NEIC **15** 00:11:31.4, 18.43N×101.19W, h67km, MD3.9(MEX), After MEX.*

MEX 15 00:11:31.2±0.7, 18.44N×101.20W, h68km±19km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.87**	**197**	*e*P	P	00 11 46.3	-1.7
ZIIG				*i*S	S	00 11 58.8	-1.8
MOIG	**Morelia**	**1.23**	**0**	*i*P	P	00 11 51.8	-1.2
MOIG				*i*S	S	00 12 06.7	-2.4
MOIG	**Morelia**	**1.23**	**0**	*i*P	P	00 11 51.8	-1.2
MOIG				*i*S	S	00 12 06.3	-2.7
PLIG	**Platanillo**	**1.61**	**91**	*e*P	P	00 11 57.8	-0.3
PLIG				*i*S	S	00 12 16.7	-1.3
CAIG	**El Cayaco**	**1.64**	**147**	*e*P	P	00 11 56.1	-2.5
CAIG				*i*S	S	00 12 15.8	-2.9
ACX	**Acapulco**	**1.98**	**142**	*i*P	P	00 12 01.0	-2.2
ACX				*i*S	S	00 12 27.0	+0.2
PPM	**Popocatepetl**	**2.51**	**75**	*i*P	P	00 12 08.1	-2.6
PPM				*e*P		00 12 10.0	
PPM				*i*S	S	00 12 37.5	-2.7
PPM	**Popocatepetl**	**2.51**	**75**	*i*P	P	00 12 08.1	-2.6
PPM				*i*S	S	00 12 35.7	-4.5
OXX	**Oaxaca**	**4.47**	**107**	*e*P	P	00 12 40.0	+1.9

*CSEM **15** 00:38:08.6±0.8, 38.64N×29.00W, ML1.9, Error ellipse: s-maj=8.4km s-min=6.0km az=27.0, After PDA*
*PDA **15** 00:38:08.6±0.8, 38.64N×29.00W, MD3.0, ML1.9, Error ellipse: s-maj=8.4km s-min=6.0km az=27.0*

SVSA 15 00:38:08.6±0.8, 38.64N×29.00W, MD3.0, ML1.9, Error ellipse: s-maj=8.4km s-min=6.0km az=27.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.23**	**92**	*i*P	Pg	00 38 13.2	0.0
PCED				*e*S	Sg	00 38 16.8	+0.5
	45nm,0.1s						
PCED	**Cedros**	**0.23**	**92**	*e*S	Sg	00 38 16.8	+0.5
	45nm,0.1s						
CALA	**Caldeira**	**0.24**	**103**	*e*P	Pg	00 38 12.9	-0.5
CALA				*e*S	Sg	00 38 16.5	0.0
PICO	**Pico**	**0.47**	**106**	*e*P	Pg	00 38 17.5	-0.4
PICO				*e*S	Sg	00 38 23.9	-0.3
ROSA	**Rosais**	**0.60**	**82**	*e*P	Pg	00 38 19.1	-1.4
ROSA				*e*S	Sg	00 38 26.9	-1.6

*MOS **15** 00:52:25.9±1.5, 57.31N×120.68E, h17km, mb4.2/1, Error ellipse: s-maj=25.5km s-min=16.4km az=155.0*

BYKL 15 00:52:21.7±0.4, 57.47N×120.87E, 2C-3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.73**	**222**	*e*Pg	Pg	00 52 36.1	-0.2
KHNR				*e*Sg	Sg	00 52 45.4	-0.7
CRS	**Chara**	**1.53**	**249**	⇓*i*Pg	Pg	00 52 50.7	-1.5
CRS				Pmax		00 52 51.3	
	371nm,0.8s						
CRS				*i*Sg	Sg	00 53 10.1	-2.4
CRS				Smax		00 53 11.4	
	570nm,1.2s						
CRS	**Chara**	**1.53**	**249**	*e*P	Pn	00 52 50.7	+0.4
CRS				*e*		00 53 09.8	
CRS				pmax	pmax		
	comp=Z,353nm,0.4s						
CRS				smax			
	comp=N,547nm,0.7s						
NRGR	**Nerungri**	**2.26**	**110**	*e*P	Pn	00 53 02.7	+1.9
NRGR				S	Sn	00 53 31.5	+1.8
CLNS	**Chul'man**	**2.28**	**104**	*e*Pg	Pg	00 53 03.2	-4.1
CLNS				Pmax		00 53 06.5	
	comp=N,322nm,0.3s						
CLNS				*e*		00 53 31.5	
CLNS				*e*Sg	Sg	00 53 33.8	-3.9
CLNS				Smax		00 53 34.7	
	comp=N,3μm,0.3s						
CLNS	**Chul'man**	**2.28**	**104**	*e*P	Pn	00 53 02.8	+1.7
CLNS				*e*S	Sn	00 53 30.7	+0.3
CLNS				pmax	pmax		
	comp=N,12nm,0.4s						
CLNS				pmax	pmax		
	comp=Z,25nm,0.4s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,38nm,0.3s						
CLNS				pmax	pmax		
	comp=N,31nm,0.4s						
CLNS				pmax	pmax		
	comp=E,18nm,0.3s						
CLNS				smax			
	comp=E,35nm,0.3s						
CLNS				smax			
	comp=N,11nm,0.2s						
CLNS				smax			
	comp=Z,9.0nm,0.2s						
CLNS				smax			
	comp=N,624nm,0.5s						
CLNS				smax			
	comp=Z,291nm,0.4s						
CLNS				smax			
	comp=E,338nm,0.3s						
CLNS				MLR	MLR		
	comp=Z,40nm,11.0s						
IENR	**Iengra**	**2.52**	**118**	*e*Pg	Pg	00 53 08.1	-3.9
IENR				*e*		00 53 12.1	
IENR				*e*		00 53 16.5	
IENR				*e*Sg	Sg	00 53 40.8	-4.9
ALDR	**Aldan**	**2.67**	**63**	*e*Pg	Pg	00 53 09.8	-5.2
ALDR				Pmax		00 53 13.2	
	comp=Z,122nm,0.2s						
ALDR				*e*		00 53 40.0	
ALDR				*e*Sg	Sg	00 53 44.6	-6.0
ALDR				Smax		00 53 46.4	
	comp=Z,641nm,0.3s						
NLYR	**Nelyaty**	**2.99**	**253**	⇓*i*Pn	Pn	00 53 11.5	+0.2
NLYR				⇓*i*Pg	Pg	00 53 14.2	-7.3
NLYR				*e*		00 53 16.6	
NLYR				*e*		00 53 20.2	
NLYR				max		00 53 22.3	
	comp=Z,91nm,0.4s						
NLYR				*i*Sg	Sg	00 53 53.6	-7.8
NLYR				Smax		00 54 01.0	
	comp=Z,561nm,0.8s						
NLYR	**Nelyaty**	**2.99**	**253**	*e*P	Pn	00 53 11.3	0.0
NLYR				*e*		00 53 52.9	
NLYR				pmax	pmax		
	comp=Z,83nm,0.4s						
NLYR				smax			
	comp=N,560nm,0.9s						
TUP	**Tupik**	**3.10**	**190**⇑	*i*Pn	Pn	00 53 11.9	-0.9
TUP				*e*		00 53 15.1	
TUP				⇑*i*Pg	Pg	00 53 17.1	-6.4
TUP				*e*		00 53 19.7	
TUP				max		00 53 20.4	
	comp=N,117nm,0.6s						
TUP				*e*Sn	Sn	00 53 47.5	-3.5
TUP				*i*Sg	Sg	00 53 56.8	-8.0
TUP				Smax		00 54 06.1	
	comp=N,393nm,1.0s						
TUP	**Tupik**	**3.10**	**190**	*e*P	Pn	00 53 11.8	-1.0
TUP				*e*S	Sn	00 53 47.5	-3.5
TUP				pmax	pmax		
	comp=Z,110nm,0.4s						
TUP				smax			
	comp=E,363nm,0.7s						
TNDR	**Tynda**	**3.17**	**136**	*e*Pn	Pn	00 53 14.2	+0.4
TNDR				*e*Pg	Pg	00 53 19.0	-5.9
TNDR				Pmax		00 53 26.6	
	comp=E,365nm,0.3s						
TNDR				*e*Sn	Sn	00 53 51.5	-1.3
TNDR				*e*Sg	Sg	00 54 00.1	-7.0
TNDR				Smax		00 54 00.6	
	comp=E,3μm,0.4s						
BOD	**Bodaibo**	**3.71**	**278**	*e*Pn	Pn	00 53 21.1	-0.3
BOD				*e*		00 53 24.1	
BOD				*e*Pg	Pg	00 53 27.2	-8.5
BOD				*e*		00 53 29.4	
BOD				max		00 53 31.0	
	comp=E,41nm,1.1s						
BOD				*e*Sg	Sg	00 54 17.1	-8.0
BOD				Smax		00 54 20.7	
	comp=E,154nm,0.8s						
BOD	**Bodaibo**	**3.71**	**278**	*e*P	Pn	00 53 20.3	-1.1
BOD				*e*		00 54 15.8	
BOD				pmax	pmax		
	comp=Z,29nm,0.3s						
BOD				smax			
	comp=N,198nm,0.4s						
SVKR	**Severomuysk**	**4.24**	**254**	*e*	Pn	00 53 32.0	+2.9
SVKR				*e*Pg	Pg	00 53 36.8	-10
SVKR				*e*		00 53 42.3	
SVKR				max		00 53 44.6	
	comp=N,73nm,0.5s						
SVKR				*e*Sg	Sg	00 54 32.9	-10
SVKR				Smax		00 54 47.8	
	comp=N,239nm,0.8s						
UKT	**Uakit**	**4.48**	**247**	*e*Pn	Pn	00 53 32.1	-0.3
UKT				*e*		00 53 42.4	
UKT				*e*Sg	Sg	00 54 39.6	-11
UKT				Smax		00 54 48.1	
	comp=N,103nm,1.0s						
UKT	**Uakit**	**4.48**	**247**	*e*P	Pn	00 53 42.5	+10
UKT				pmax	pmax		
	comp=Z,20nm,0.6s						
ZEA	**Zeya**	**5.20**	**133**	*e*	Pn	00 53 55.3	+13
ZEA				*e*Sg	Sg	00 55 00.5	-14
ZEA				Smax		00 55 04.4	
	comp=Z,380nm,1.2s						
YOA	**Uoyan**	**5.20**	**259**	*e*Sg	Sg	00 55 03.3	-12
YOA				Smax		00 55 13.2	
	comp=Z,452nm,1.2s						
YOA	**Uoyan**	**5.20**	**259**	*e*P	Pn	00 53 59.6	+17
KMO	**Kumora**	**5.56**	**258**	*e*Pn	Pn	00 53 46.7	-1.0
KMO				*e*Pg	Pg	00 54 00.2	-13
KMO				Pmax		00 54 08.0	
	comp=Z,26nm,1.5s						
KMO				*e*Sg	Sg	00 55 12.0	-15
KMO				Smax		00 55 28.4	
	comp=Z,142nm,1.4s						
KMO	**Kumora**	**5.56**	**258**	*e*P	Pn	00 53 47.7	0.0
KMO				*e*S	Sn	00 54 49.8	-3.5
KMO				pmax	pmax		
	comp=Z,16nm,0.5s						
KMO				smax			
	comp=E,141nm,1.2s						
YLYR	**Ulyunkhan**	**6.01**	**248**	*e*Pn	Pn	00 53 53.5	-0.6
YLYR				*e*Pg	Pg	00 54 10.2	-12
YLYR				*e*Sg	Sg	00 55 28.4	-13
YLYR				Smax		00 55 48.4	
	comp=E,73nm,1.0s						
YLYR	**Ulyunkhan**	**6.01**	**248**	*e*P	Pn	00 54 10.2	+16
YLYR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TBGR	**Tabaga**	**6.23**	**42**	*e*Pg	Pg	00 54 13.6	-12
TBGR				*e*Sn	Sn	00 55 03.8	-6.1
TBGR				*e*Sg	Sg	00 55 34.7	-14
YAK	**Yakutsk**	**6.38**	**41**	*e*Sn	Sn	00 55 07.9	-5.9
YAK				*e*Sg	Sg	00 55 36.7	-17
YAK				Smax		00 55 43.7	
	comp=Z,612nm,0.7s						
NIZ	**Nizh Angarsk**	**6.48**	**260**	*e*Pg	Pg	00 54 18.4	-13
NIZ				Pmax		00 54 22.7	
	comp=Z,24nm,1.1s						
NIZ				*e*Sg	Sg	00 55 43.3	-14
NIZ				Smax		00 55 51.6	
	comp=Z,51nm,1.6s						
NIZ	**Nizh Angarsk**	**6.48**	**260**	*e*P	Pn	00 54 00.9	+0.2
NIZ				pmax	pmax		
	comp=Z,16nm,1.0s						
CIT	**Chita**	**6.91**	**221**	*e*Pn	Pn	00 54 35.0	+28
CIT				*e*Sg	Sg	00 55 55.6	-16
CIT				Smax		00 55 58.5	
	comp=Z,182nm,1.6s						
SYVR	**Suvo**	**7.25**	**243**	*e*Pg	Pg	00 54 32.8	-14
SYVR				Pmax		00 54 53.2	
	comp=Z,27nm,2.3s						
SYVR				*e*Sg	Sg	00 56 06.6	-16
SYVR				Smax		00 56 13.7	
	comp=Z,125nm,2.7s						
OGRR	**Ongureny**	**8.44**	**249**	*e*Sg	Sg	00 56 41.1	-22
OGRR				Smax		00 56 57.2	
	comp=Z,64nm,2.1s						
KPC	**Khapcheranga**	**9.27**	**217**	*e*Pn	P	00 54 38.7	-0.9
KPC				*e*Sg	Sg	00 57 08.0	-22
KPC				Smax		00 57 10.5	
	comp=Z,56nm,1.5s						
TRG	**Tyrgan**	**9.56**	**247**	*e*Sg	Sg	00 57 15.3	-24
TRG				Smax		00 57 23.7	

comp=Z,62nm,2.3s

WEL 15 00:56:51.4±0.2, 35.56S×178.52E, h33km, ML3.5/4, Error ellipse: s-maj=3.7km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.01**	**185**	P*	Pb	00 57 22.7	-4.4
MXZ				S*	Sb	00 57 46.5	-5.4
PUZ	**Puketiti**	**2.52**	**185**	PN	Pn	00 57 29.7	-1.3
PUZ				*e*SN	Sn	00 57 57.7	-3.2
MWZ	**Matawai**	**2.88**	**196**	P*	Pb	00 57 35.4	-6.6
MWZ				S*	Sb	00 58 08.4	-8.8
URZ	**Urewera**	**2.92**	**202**	P*	Pb	00 57 35.8	-6.9
URZ				*e*S*	Sb	00 58 09.8	-8.6

IDC 15 01:00:03.8±0.9, 12.53N×142.63E, mb3.8/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.8/5, MS3.2/3, Ms1 3.2/3, ms1mx2.9/25, Error ellipse: s-maj=45.1km s-min=22.0km az=77.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.42**	**64**	LR	LR	01 01 18.6	
	comp=Z,360nm,19.9s,baz=244,slow=31						
CBIJ	**Chichi jima**	**14.50**	**358**	LR	LR	01 08 22.9	
	comp=Z,128nm,18.6s,baz=131,slow=34						
PMG	**Port Moresby**	**22.25**	**168**	LR	LR	01 13 44.3	
	comp=Z,64nm,18.2s,baz=229,slow=37						
CTA	**Charters Tower**	**32.60**	**174**	P	P	01 06 38.0	-1.5
	1.8nm,0.6s,baz=12,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**33.28**	**194**	P	P	01 06 42.9	-2.5
	2.3nm,0.7s,baz=14,slow=9.6,SNR=13						
SONM	**Songino Array**	**46.38**	**327**	P	P	01 08 32.8	-0.8
	0.6nm,0.8s,baz=135,slow=6.3,SNR=3.9						
MKAR	**Makanchi Array**	**60.76**	**317**	P	P	01 10 17.3	-2.4
	1.3nm,0.8s,baz=90,slow=7.2,SNR=11						
YKA	**Yellowknife Ar**	**84.80**	**27**	P	P	01 12 39.6	-1.4
	0.1nm,0.5s,baz=291,slow=4.8,SNR=5.2						
CFAA	**Coronel Fontan**	**145.85**	**129**	PKPbc	PKPbc	01 19 44.9	-1.0
	0.3nm,0.6s,baz=233,slow=5.1,SNR=4.6						
LPAZ	**La Paz**	**149.99**	**101**	PKPbc	PKPdf	01 19 57.1	+3.1
	1.8nm,0.8s,baz=220,slow=7.9,SNR=8.3						

CSEM 15 01:03:56.9±0.9, 38.69N×28.54W, h5km, ML1.3, Error ellipse: s-maj=4.7km s-min=2.9km az=167.0, After PDA
PDA 15 01:03:56.9±0.9, 38.69N×28.54W, h5km, MD2.9, ML1.3, Error ellipse: s-maj=4.7km s-min=2.9km az=167.0
SVSA 15 01:03:56.9±0.9, 38.69N×28.54W, h5km, MD2.9, ML1.3, Error ellipse: s-maj=4.7km s-min=2.9km az=167.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.14**	**245**	*e*S	Sg	01 04 02.0	+0.1
	18nm,0.2s						
PCED	**Cedros**	**0.14**	**245**	*e*S	Sg	01 04 02.0	+0.1
	18nm,0.2s						
CALA	**Caldeira**	**0.17**	**230**	*e*P	Pg	01 03 59.9	-0.5
PICO	**Pico**	**0.21**	**155**	*e*P	Pg	01 04 00.6	-0.5
PICO				*e*S	Sg	01 04 04.0	+0.1
ROSA	**Rosais**	**0.23**	**82**	*e*P	Pg	01 04 01.5	-0.1
ROSA				*e*S	Sg	01 04 04.9	+0.1
PMAN	**Manadas**	**0.35**	**99**	*e*S	Sg	01 04 08.0	-0.8
	32nm,0.2s						

IDC 15 01:10:54.1±2.5, 22.60S×68.69W, mb3.9/2, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=56.4km s-min=49.5km az=34.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.30**	**5**	Pn	Pn	01 12 29.4	-1.1
	1.1nm,0.3s,baz=177,slow=7.2,SNR=38						
SIV	**San Ignacio**	**9.74**	**49**	Pn	P	01 13 14.9	-3.7
	0.3nm,0.3s,baz=231,slow=15,SNR=6.6						
TORD	**Torodi Ar. Bea**	**77.54**	**70**	P	P	01 22 52.5	-1.4
	0.4nm,0.4s,baz=253,slow=5.1,SNR=13						
YKA	**Yellowknife Ar**	**92.28**	**341**	P	P	01 24 05.3	-1.6
	0.3nm,0.5s,baz=133,slow=4.5,SNR=12						

THR 15 01:12:09.8±0.8, 32.47N×48.91E, h29km±5km, ML3.2
KISR 15 01:12:09.0±0.3, 32.50N×49.08E, h33km, ML3.4
CSEM 15 01:12:09.2±0.1, 32.54N×48.96E, h14km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.1km az=114.0
TEH 15 01:12:13.3, 32.75N×48.99E, h10km, Mn3.0
ISC 15 01:12:09.0±1.1, 32.50N±0.03×49.01E±0.06, h8km±9km, n28, σ0966/30, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.42**	**204**	*e*Pg	**Pg**	**01 12 18.1**	**+0.6**
IKOM	**Komasi**	**2.09**	**324**	Pn	**Pn**	**01 12 45.4**	**+0.6**
ASAO	**Ashtian**	**2.21**	**22**	*e*Pn	**Pn**	**01 12 48.1**	**+1.5**
ASAO				*e*Sg	**Sg**	**01 13 20.0**	**-2.8**
ASAO				AML	AML	01 13 24.9	
	comp=N,208nm,0.7s						
IGHG	**Ghaleghazi**	**2.74**	**313**	Pn	**Pn**	**01 12 53.9**	**-0.2**
SNGE	**Sanandaj**	**2.94**	**332**	*e*Pn	**Pn**	**01 12 56.8**	**-0.1**
SNGE				AML	AML	01 13 43.4	
	comp=N,85nm,0.3s						
MIB	**Mutribah**	**3.04**	**208**	*e*P	**Pn**	**01 12 58.6**	**+0.2**
IDHR	**Dehrash**	**3.10**	**316**	Pn	**Pn**	**01 12 58.9**	**-0.3**
UMR	**Umm Al-Rimmam**	**3.14**	**201**	*e*P	**Pn**	**01 12 59.6**	**-0.1**
UMR				AML	AML	01 13 46.5	
	comp=Z,97nm,0.4s						
NASN	**Na'in**	**3.22**	**84**	*e*Pn	**Pn**	**01 13 02.2**	**+1.3**
ISFB	**Sefidab**	**3.27**	**55**	Pn	**Pn**	**01 13 02.5**	**+0.7**
ISFB	**Sefidab**	**3.27**	**55**	Lg		01 13 51.6	
IVRN	**Varamin**	**3.37**	**42**	Pn	**Pn**	**01 13 03.1**	**+0.1**
IMHD	**Mahdasht**	**3.47**	**23**	Pn	**Pn**	**01 13 04.0**	**-0.4**
IMHD	**Mahdasht**	**3.47**	**23**	Lg		01 13 53.7	
KBD	**Kabd**	**3.50**	**199**	*e*P	**Pn**	**01 13 04.9**	**0.0**
KBD				*e*S	**Sn**	**01 13 46.7**	**-0.3**
KBD				AML	AML	01 13 56.2	
	comp=Z,158nm,0.3s						
NAY	**Al-Naaiem**	**3.58**	**206**	*e*P	**Pn**	**01 13 05.9**	**-0.1**
NAY				*e*S	**Sn**	**01 13 48.9**	**0.0**
NAY				AML	AML	01 13 51.6	
	comp=Z,30nm,0.6s						
RDF	**Al-Radifah**	**3.77**	**200**	*e*P	**Pn**	**01 13 08.9**	**+0.1**
RDF				*e*S	**Sn**	**01 13 53.8**	**-0.2**
RDF				AML	AML	01 13 55.3	
	comp=Z,50nm,0.3s						
CHTH	**Charan**	**3.83**	**27**	*e*Pn	**Pn**	**01 13 09.5**	**-0.1**
QRN	**Al-Qurain**	**3.86**	**194**	*e*P	**Pn**	**01 13 09.9**	**0.0**
QRN				*e*S	**Sn**	**01 13 55.6**	**-0.5**
QRN				AML	AML	01 13 57.5	
	comp=Z,58nm,0.2s						
IDMV	**Damavand**	**3.97**	**38**	Pn	**Pn**	**01 13 11.3**	**-0.3**
DAMV	**Damavand**	**3.98**	**37**	*e*Pn	**Pn**	**01 13 12.2**	**+0.6**
DAMV				AML	AML	01 14 23.9	
	comp=N,22nm,0.8s						
DAMV	**Damavand**	**3.98**	**37**	*e*Pn	**Pn**	**01 13 12.2**	**+0.5**
	SNR=54						
ILAS	**Lasjerd**	**4.37**	**48**	Pn	**Pn**	**01 13 17.5**	**+0.3**
IFIR	**Firoozkooh**	**4.42**	**44**	Pn	**Pn**	**01 13 17.7**	**-0.2**
IFIR	**Firoozkooh**	**4.42**	**44**	Lg		01 14 25.7	
ICHK	**Chekchek**	**4.58**	**92**	Pn	**Pn**	**01 13 19.7**	**-0.5**
IGLO	**Galoogah**	**5.31**	**43**	Pn	**Pn**	**01 13 34.7**	**+4.1**
IBAF	**Bafgh**	**5.64**	**97**	Pn	**Pn**	**01 13 34.1**	**-1.2**

BJI 15 01:19:56.5, 34.83N×77.05E, h27km, ML4.1, Ms4.1
NEIC 15 01:19:56.8±1.0, 34.81N×77.47E, h10km, mb4.0/1, Error ellipse: s-maj=24.5km s-min=15.4km az=43.0
IDC 15 01:19:58.2±1.9, 35.12N×77.29E, mb3.5/6, mb1 3.7/8, mb1mx3.5/21, mbtmp3.5/8, ML3.5/2, Error ellipse: s-maj=40.2km s-min=26.6km az=150.0
ISC 15 01:20:01.7±0.6, 35.62N±0.03×77.3E±0.1, h10km, n19, σ1824/25, mb3.5/6, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.25**	**200**	*ex*	**Pn**	**01 20 54.0**	**+0.2**
DLH				*e*SB	**Sb**	**01 21 37.0**	**-1.9**
THN	**Thein Dam**	**3.42**	**202**	*e*P	**Pn**	**01 20 57.6**	**+1.4**
THN				*e*SB	**Sb**	**01 21 45.2**	**+1.2**
PONG	**Pong**	**3.81**	**197**	*e*P	**Pn**	**01 21 07.0**	**+5.2**
PONG				*e*SB	**Sb**	**01 21 57.0**	**+1.7**
KSH	**Kashi**	**4.02**	**346**	*e*PG	**Pg**	**01 21 20.0**	**-2.0**
KSH				Smax			
	comp=N,120nm,0.7s						
KSH				Smax			
	comp=E,100nm,0.5s						
SDNR	**Sundarnagar**	**4.11**	**183**	*e*P	**Pn**	**01 21 11.4**	**+5.4**
SDNR				*e*SB	**Sb**	**01 22 02.4**	**-1.6**
KLP	**Kalpa**	**4.16**	**168**	*e*P	**Pn**	**01 21 10.6**	**+3.9**
KLP				*e*S	**Sn**	**01 21 49.3**	**-6.6**
KLP				AML	AML	01 22 14.8	
	comp=E,258nm,0.8s						
KLP				AML	AML	01 22 17.9	
	comp=N,192nm,0.7s						
DDI	**Dehra Dun**	**5.32**	**173**	*ex*	**Pn**	**01 21 22.4**	**-0.8**
KHET	**Khetri**	**7.62**	**190**	*e*P	**Pn**	**01 21 48.8**	**-6.7**
KHET				*e*S	Px	01 23 02.0	
MKAR	**Makanchi Array**	**11.79**	**17**	Pn	**P**	**01 22 55.2**	**+2.4**
	comp=N,0.4nm,0.3s,baz=200,slow=14,SNR=12						
MKAR				Sn	**S**	**01 25 09.8**	**+4.2**
	comp=N,0.2nm,0.3s,baz=201,slow=23,SNR=5.5						
BVAR	**Borovoye Array**	**18.07**	**347**	P	**P**	**01 24 15.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=157,slow=11,SNR=5.0						
AKTK	**Aktyubinsk**	**20.33**	**323**	P	**P**	**01 24 40.0**	**-0.6**
AKTO	**Aktyubinsk**	**20.33**	**323**	P	**P**	**01 24 40.0**	**-0.6**
	comp=N,1.6nm,0.7s,baz=118,slow=12,SNR=7.6						
SONM	**Songino Array**	**24.78**	**52**	P	**P**	**01 25 24.0**	**-0.7**
	comp=N,0.1nm,0.3s,mb2.8,baz=259,slow=9.0,SNR=3.2						
YHNB	**Yeheng**	**39.40**	**94**	*e*P	**P**	**01 27 23.6**	**-10**
FINES	**FINESS Array B**	**41.07**	**325**	P	**P**	**01 27 47.2**	**+0.5**
	comp=N,3.1nm,1.0s,mb3.9,baz=104,slow=7.9,SNR=4.6						
PSZ	**Piszkesteto**	**43.56**	**305**	P	**P**	**01 28 07.0**	**-0.2**
	comp=N,1.6nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**48.12**	**323**	P	**P**	**01 28 42.8**	**-0.4**
	comp=N,0.8nm,0.7s,mb3.8,baz=91,slow=7.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**70.79**	**273**	P	**P**	**01 31 16.8**	**-3.8**
	comp=N,0.2nm,0.5s,mb3.3,baz=49,slow=5.5,SNR=7.7						
YKA	**Yellowknife Ar**	**81.76**	**6**	P	**P**	**01 32 21.8**	**+0.4**
	comp=N,0.3nm,0.7s,mb3.4,baz=344,slow=5.3,SNR=6.5						

IDC 15 01:25:50.2±2.0, 1.47S×99.49E, mb4.0/6, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, ML3.2/1, Error ellipse: s-maj=93.0km s-min=20.0km az=57.0
NEIC 15 01:25:55.4±1.0, 1.33S×99.71E, h30km, Error ellipse: s-maj=36.5km s-min=11.5km az=64.0
ISC 15 01:25:56.0±4.1, 1.1S±0.3×99.9E±0.3, h44km±29km, n12, σ058/11, mb4.3/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.04**	**346**	Pn	**P**	**01 26 57.5**	**+0.6**
	1.4nm,0.3s,baz=165,slow=16,SNR=4.3						
PSI	**Prapat**	**4.04**	**346**	Pn	**P**	**01 26 57.5**	**+0.6**
KULM	**Kulim**	**6.43**	**7**	*e*Pn	**P**	**01 27 30.0**	**-0.6**
WRA	**Warramunga Arr**	**38.52**	**121**	P	**P**	**01 33 16.3**	**+0.1**
	1.1nm,0.3s,mb4.0,baz=302,slow=9.2,SNR=28						
SONM	**Songino Array**	**49.11**	**6**	P	**P**	**01 34 41.4**	**+0.2**
	1.0nm,0.7s,mb4.0,baz=183,slow=8.8,SNR=7.5						
STKA	**Stephens Creek**	**49.80**	**132**	P	**P**	**01 34 46.1**	**-0.6**
	1.9nm,0.9s,mb4.1,baz=204,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**50.18**	**344**	P	**P**	**01 34 49.4**	**0.0**
	0.9nm,0.3s,mb4.3,baz=158,slow=8.5,SNR=34						
MKAR	**Makanchi Array**	**50.18**	**344**	P	**P**	**01 34 49.4**	**0.0**
BVAR	**Borovoye Array**	**59.35**	**340**	P	**P**	**01 35 55.0**	**-1.0**
	0.6nm,0.6s,mb3.8,baz=140,slow=8.3,SNR=6.0						
HNR	**Honiara**	**60.29**	**100**	*e*P	**P**	**01 36 03.6**	**+0.6**
	26nm,0.6s,mb5.4						
ARCES	**ARCESS Array B**	**85.64**	**340**	P	**P**	**01 38 31.5**	**+0.7**
	4.7nm,1.0s,mb4.7,baz=90,slow=4.9,SNR=4.2						
TXAR	**Lajitas Array**	**144.09**	**37**	PKP	PKPdf	01 45 28.4	+0.8
	0.5nm,0.4s,baz=202,slow=0.8,SNR=15						

IDC 15 01:33:21.6±1.9, 0.94N×97.21E, mb3.8/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=50.4km s-min=27.2km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.53**	**43**	Pn	Pn	01 34 03.1	-1.4
	2.6nm,0.3s,baz=222,slow=11,SNR=7.6						
PSI				Sn	Sn	01 34 43.6	+7.2
	2.3nm,0.3s,baz=211,slow=16,SNR=8.4						
WRA	**Warramunga Arr**	**41.89**	**122**	P	P	01 41 13.8	-1.8
	0.7nm,0.8s,baz=300,slow=9.1,SNR=7.1						
SONM	**Songino Array**	**47.39**	**8**	P	P	01 41 57.5	-1.9
	1.0nm,0.6s,baz=191,slow=9.0,SNR=7.9						
MKAR	**Makanchi Array**	**47.50**	**346**	P	P	01 41 58.6	-1.8
	1.1nm,0.5s,baz=161,slow=8.1,SNR=6.7						
BVAR	**Borovoye Array**	**56.50**	**341**	P	P	01 43 05.0	-2.8
	0.6nm,0.5s,baz=145,slow=8.1,SNR=6.7						
TXAR	**Lajitas Array**	**143.89**	**32**	PKP	PKPdf	01 53 00.0	-1.4
	0.2nm,0.7s,slow=1.8,SNR=3.4						

BJI 15 01:37:46.4, 5.80S×151.70E, h36km, mB5.0, mb4.5, Ms4.7, Msz4.6
NEIC 15 01:37:46.4±1.8, 5.83S×151.75E, h36km±17km, mb4.6/7, Error ellipse: s-maj=17.8km s-min=11.7km az=148.0
IDC 15 01:37:49.0±4.7, 5.78S×151.43E, h53km±40km, mb4.0/10, mb1 4.2/12, mb1mx4.2/15, mbtmp4.3/12, ML3.4/2, MS3.7/8, Ms1 3.7/8, ms1mx3.5/19, Error ellipse: s-maj=30.5km s-min=22.0km az=101.0
ISC 15 01:37:50.9±3.0, 5.96S±0.10×151.4E±0.1, h83km±26km, n38, σ1909/29, mb4.2/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.43**	**231**	P	**P**	**01 39 11.0**	**+0.1**
	7.6nm,0.3s,baz=43,slow=8.1,SNR=39						
PMG				S	**S**	**01 40 11.6**	**-1.2**
	14nm,0.3s,baz=85,slow=16,SNR=8.2						
PMG	**Port Moresby**	**5.43**	**231**	*e*Pn	**P**	**01 39 11.2**	**+0.2**
	131nm,0.8s						
PMG				*e*Sn	**S**	**01 40 04.0**	**-8.8**
HNR	**Honiara**	**9.13**	**113**	LR	LR	01 42 52.5	
	comp=Z,276nm,18.4s,baz=286,slow=33						
HNR	**Honiara**	**9.13**	**113**	Pn	**P**	**01 39 50.0**	**-12**
CTA	**Charters Tower**	**14.91**	**199**	P	**P**	**01 41 19.2**	**+0.6**
	0.1nm,0.3s,baz=32,slow=18,SNR=2.3						
CTA				LR	LR	01 45 48.2	
	comp=Z,197nm,20.6s,baz=52,slow=32						
CTA	**Charters Tower**	**14.91**	**199**	P	**P**	**01 41 19.2**	**+0.6**
CTA				LR	LR	01 45 48.2	
CTAO	**Charters Tower**	**14.91**	**199**	*e*P	**P**	**01 41 19.1**	**+0.5**
	5.1nm,0.8s						
DZM	**Mont Dzumac**	**21.62**	**139**	LR	LR	01 50 05.0	
	comp=Z,155nm,19.2s,baz=221,slow=34						
WRA	**Warramunga Arr**	**21.65**	**228**	P	**P**	**01 42 36.2**	**+0.1**
	6.8nm,0.7s,mb4.1,baz=54,slow=10,SNR=50						
WRA				PcP	PcP	01 46 36.2	+0.6
	1.4nm,0.7s,baz=41,slow=1.9,SNR=4.7						
STKA	**Stephens Creek**	**27.37**	**198**	P	**P**	**01 43 30.2**	**-0.3**
	7.7nm,1.0s,mb4.2,baz=10.0,slow=12,SNR=2.7						
STKA				LR	LR	01 55 33.6	
	comp=Z,199nm,18.2s,baz=25,slow=39						
FITZ	**Fitzroy Crossi**	**27.90**	**242**	P	**P**	**01 43 35.2**	**-0.3**
	9.5nm,0.7s,mb4.5,baz=70,slow=7.6,SNR=60						
CBIJ	**Chichi jima**	**34.05**	**345**	LR	LR	01 56 10.0	
	comp=Z,100nm,20.6s,baz=121,slow=32						
MBWA	**Marble Bar**	**34.20**	**241**	*e*P	**P**	**01 44 30.3**	**-0.4**
	12nm,0.6s,mb4.9						
AFI	**Afiamalu**	**37.06**	**105**	LR	LR	01 57 48.2	
	comp=Z,66nm,18.5s,baz=306,slow=32						
RAO	**Raoul Island**	**37.08**	**132**	LR	LR	01 56 02.3	
	comp=Z,455nm,20.6s,baz=52,slow=29						
MJAR	**Matsushiro Arr**	**44.05**	**345**	LR	LR	02 03 02.5	
	comp=Z,72nm,19.5s,baz=195,slow=34						
MDJ	**Mudanjiang**	**54.04**	**341**	P	**P**	**01 47 10.3**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,150nm,4.9s						
CN2	**Changchun**	**54.81**	**337**	*e*P	**P**	**01 47 16.4**	**+1.7**
LZH	**Lanzhou**	**61.12**	**317**	*e*P	**P**	**01 48 01.8**	**+2.9**
LZH				AP	pP	01 48 12.3	-7.9
LZH				XP	sP	01 48 16.4	-13
LZH				PP	PP	01 50 18.8	+2.3
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.9						
LZH				LR	LR		
	comp=N,350nm,15.5s						
LZH				LR	LR		
	comp=Z,430nm,18.3s						
ULN	**Ulaanbaatar**	**66.26**	**329**	*e*P	**P**	**01 48 31.5**	**-0.9**
	comp=Z,3.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**66.58**	**329**	P	**P**	**01 48 33.4**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.7,baz=146,slow=5.0,SNR=6.4						
VNDA	**Vanda**	**71.73**	**178**	P	**P**	**01 49 06.4**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.6,baz=12,slow=6.0,SNR=6.0						
VNDA	**Vanda**	**71.73**	**178**	*e*P	**P**	**01 49 05.6**	**0.0**
	comp=Z,5.1nm,1.4s,mb4.2						
WMQ	**Urumqi**	**75.67**	**318**	*e*P	**P**	**01 49 31.0**	**+2.0**
WMQ				AP	pP	01 49 41.0	-10
WMQ				XP	sP	01 49 45.0	-15
WMQ				AMB	AMB		
	comp=Z,80nm,5.0s						
WMQ				LR	LR		
	comp=N,400nm,20.0s						
WMQ				LR	LR		
	comp=E,310nm,22.0s						
WMQ				LR	LR		
	comp=Z,380nm,21.0s						
MKAR	**Makanchi Array**	**80.30**	**319**	P	**P**	**01 49 54.0**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.5,baz=100,slow=6.7,SNR=5.1						
MKAR	**Makanchi Array**	**80.30**	**319**	P	**P**	**01 49 54.0**	**-0.5**
MCK	**McKinley**	**82.46**	**23**	*e*P	**P**	**01 50 03.9**	**-1.4**
	comp=Z,8.4nm,1.0s,mb4.5						
COLA	**College**	**83.43**	**22**	*e*P	**P**	**01 50 09.7**	**-0.6**
	comp=Z,1.0nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**83.75**	**22**	P	**P**	**01 50 10.0**	**-1.8**
	comp=Z,3.6nm,0.8s,mb4.3,baz=246,slow=5.5,SNR=25						
QSPA	**South Pole Qui**	**84.01**	**180**	*e*P	**P**	**01 50 14.0**	**+1.2**
	comp=Z,6.1nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**89.34**	**323**	P	**P**	**01 50 38.0**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=108,slow=4.7,SNR=5.6						
NVAR	**Mina Array Bea**	**93.88**	**52**	P	**P**	**01 51 01.5**	**+0.9**
	comp=Z,0.9nm,0.8s,mb4.1,baz=248,slow=5.9,SNR=8.1						
YKA	**Yellowknife Ar**	**97.09**	**28**	P	**P**	**01 51 14.3**	**-0.3**
	comp=Z,0.6nm,0.7s,mb4.1,baz=269,slow=4.6,SNR=4.4						
PDAR	**Pinedale Array**	**100.64**	**48**	P	P	01 51 30.6	-0.6
	comp=Z,0.5nm,0.8s,baz=323,slow=4.5,SNR=4.5						
NOA	**NORSAR Array B**	**117.52**	**339**	PKP	PKPdf	01 56 27.2	+0.3
	comp=Z,1.0nm,0.9s,baz=90,slow=5.3,SNR=3.3						
LSZ	**Lusaka**	**119.94**	**249**	*e*PKPdf	PKPdf	01 56 34.8	+2.1
GERES	**GERESS Array B**	**124.30**	**327**	PKP	PKPdf	01 56 42.0	+1.6
	comp=Z,1.2nm,0.7s,baz=78,slow=1.8,SNR=11						
TORD	**Torodi Ar. Bea**	**149.33**	**286**	PKPbc	PKPdf	01 57 32.7	+6.0
	comp=Z,7.8nm,0.9s,baz=66,slow=2.5,SNR=37						

IDC 15 01:46:33.2±1.8, 13.07N×143.33E, h197km±31km, mb3.5/7, mb1 3.6/7, mb1mx3.4/21, mbtmp4.0/7, Error ellipse: s-maj=58.7km s-min=14.5km az=83.0
NEIC 15 01:46:34.1±1.1, 13.09N×143.47E, h211km±19km, mb4.8/3, Error ellipse: s-maj=42.0km s-min=13.2km az=78.0
ISC 15 01:46:32.9±1.2, 13.1N±0.1×143.5E±0.3, h213km±22km, n14, σ089/16, mb4.0/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.44**	**69**	P	**P**	**01 47 08.2**	**+0.5**
	43nm,0.3s,baz=181,slow=22,SNR=8.6						
GUMO				S	**S**	**01 47 33.9**	**-0.6**
	54nm,0.3s,baz=6.7,slow=20,SNR=8.5						
GUMO	**Guam**	**1.44**	**69**	P	**P**	**01 47 08.2**	**+0.5**
GUMO				S	**S**	**01 47 33.9**	**-0.6**
PMG	**Port Moresby**	**22.63**	**171**	P	**P**	**01 51 18.8**	**+2.1**
	8.0nm,0.8s,mb4.3,baz=214,slow=16,SNR=3.0						
PMG	**Port Moresby**	**22.63**	**171**	P	**P**	**01 51 18.8**	**+2.0**
	11nm,0.9s,mb4.4						
JNU	**Nakatsue**	**23.04**	**332**	P	**P**	**01 51 21.5**	**+1.1**
	6.3nm,0.5s,mb4.4,baz=129,slow=6.5,SNR=4.3						
YHNB	**Yeheng**	**23.85**	**302**	P	**P**	**01 51 28.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**33.78**	**359**	P	**P**	**01 52 50.3**	**-6.1**
	21nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**34.02**	**196**	P	**P**	**01 52 57.9**	**-0.8**
	2.1nm,0.6s,mb3.8,baz=15,slow=9.3,SNR=33						
FITZ	**Fitzroy Crossi**	**35.63**	**210**	P	**P**	**01 53 11.4**	**-0.9**
	0.8nm,0.8s,mb3.3,baz=32,slow=12,SNR=5.0						
PET	**Petropavlovsk**	**41.65**	**14**	P	**P**	**01 54 07.4**	**+5.7**
	46nm,1.0s,mb4.9						
SONM	**Songino Array**	**46.39**	**326**	P	**P**	**01 54 39.1**	**-0.4**
	0.3nm,0.5s,mb2.9,baz=147,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**60.93**	**316**	P	**P**	**01 56 25.1**	**-0.3**
	0.4nm,0.6s,mb3.2,baz=96,slow=8.3,SNR=7.5						
FINES	**FINESS Array B**	**91.05**	**335**	P	**P**	**01 59 13.1**	**-0.7**
	4.0nm,1.1s,mb4.2,baz=45,slow=5.9,SNR=4.2						
FINES	**FINESS Array B**	**91.05**	**335**	P	**P**	**01 59 13.1**	**-0.8**

NEIC 15 02:31:33.4, 32.66S×71.78W, h25km, ML2.7(GUC), After GUC.
GUC 15 02:31:33.4±0.9, 32.66S×71.78W, h25km±8km, MD3.5, ML2.7, 8C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.32**	**68**	↓*i*P	Pb	02 31 40.9	+0.2
PACH				*i* S	Sb	02 31 46.4	+0.8
ROCH	**El Roble**	**0.72**	**116**	↑*i*P	Pb	02 31 47.1

CLNS				pmax	pmax			
	comp=E,10.0nm,0.2s							
CLNS				pmax	pmax			
	comp=N,23nm,0.3s							
CLNS				pmax	pmax			
	comp=E,26nm,0.3s							
CLNS				pmax	pmax			
	comp=Z,61nm,0.3s							
CLNS				smax				
	comp=E,28nm,0.2s							
CLNS				smax				
	comp=Z,15nm,0.2s							
CLNS				smax				
	comp=N,41nm,0.3s							
CLNS				smax				
	comp=E,850nm,0.4s							
CLNS				smax				
	comp=Z,164nm,0.3s							
CLNS				smax				
	comp=N,494nm,0.4s							
CLNS				MLR	MLR			
	comp=Z,40nm,11.0s							
IENR	**Iengra**	**2.53**	**118**	*e*Pn	Pn	02 54 05.1	0.0	
IENR				*e*Pg	Pg	02 54 08.5	-4.1	
IENR				*e*Sg	Sg	02 54 41.2	-5.2	
ALDR	**Aldan**	**2.67**	**63**	*e*Pg	Pg	02 54 10.2	-5.2	
ALDR				Pmax		02 54 16.1		
	comp=Z,161nm,0.2s							
ALDR				*e*Sg	Sg	02 54 45.0	-6.0	
ALDR				Smax		02 54 45.4		
	comp=Z,1μm,0.3s							
NLYR	**Nelyaty**	**2.99**	**253**	⇑*i*Pn	Pn	02 54 11.9	+0.2	
NLYR				*e*Pg	Pg	02 54 15.9	-5.9	
NLYR				Pmax		02 54 18.3		
	comp=Z,102nm,1.0s							
NLYR				*e*Sn	Sn	02 54 43.3	-5.5	
NLYR				*i* Sg	Sg	02 54 54.0	-7.7	
NLYR				Smax		02 55 01.0		
	comp=Z,536nm,0.8s							
NLYR	**Nelyaty**	**2.99**	**253**	*e*P	Pn	02 54 11.7	0.0	
NLYR				*e*		02 54 53.7		
NLYR				pmax	pmax			
	comp=Z,103nm,0.1s							
NLYR				smax				
	comp=N,536nm,0.9s							
TUP	**Tupik**	**3.10**	**190**	⇑*i*Pn	Pn	02 54 12.0	-1.3	
TUP				*e*		02 54 14.6		
TUP				*e*Pg	Pg	02 54 17.1	-7.0	
TUP				*e*		02 54 18.7		
TUP				max		02 54 20.1		
	comp=N,128nm,0.8s							
TUP				*i* Sn	Sn	02 54 47.6	-4.0	
TUP				*i* Sg	Sg	02 54 57.0	-8.5	
TUP				Smax		02 55 00.5		
	comp=N,374nm,0.9s							
TUP	**Tupik**	**3.10**	**190**	*e*P	Pn	02 54 11.9	-1.4	
TUP				*e*		02 54 56.7		
TUP				pmax	pmax			
	comp=Z,95nm,0.5s							
TUP				smax				
	comp=E,270nm,0.9s							
TNDR	**Tynda**	**3.18**	**136**	*e*Pn	Pn	02 54 14.3	0.0	
TNDR				*e*Pg	Pg	02 54 18.5	-7.0	
TNDR				Pmax		02 54 23.1		
	comp=E,454nm,0.3s							
TNDR				*e*Sn	Sn	02 54 50.8	-2.7	
TNDR				*e*Sg	Sg	02 54 59.6	-8.3	
TNDR				Smax		02 55 02.5		
	comp=E,3μm,0.4s							
BOD	**Bodaibo**	**3.70**	**278**	*e*Pn	Pn	02 54 21.3	-0.4	
BOD				*e*Pg	Pg	02 54 28.4	-7.6	
BOD				Pmax		02 54 33.5		
	comp=E,29nm,0.3s							
BOD				*e*Sg	Sg	02 55 15.7	-10	
BOD				Smax		02 55 23.7		
	comp=E,161nm,1.1s							
BOD	**Bodaibo**	**3.70**	**278**	*e*P	Pn	02 54 20.5	-1.2	
BOD				pmax	pmax			
	comp=Z,44nm,0.2s							
SVKR	**Severomuysk**	**4.24**	**254**	*e*Pg	Pg	02 54 37.2	-10	
SVKR				Pmax		02 54 44.6		
	comp=Z,78nm,0.4s							
SVKR				*e*Sg	Sg	02 55 33.6	-10	
SVKR				Smax		02 55 47.8		
	comp=Z,237nm,0.9s							
UKT	**Uakit**	**4.48**	**247**	*e*Pn	Pn	02 54 32.8	0.0	
UKT				*e*Pg	Pg	02 54 42.6	-8.9	
UKT				Pmax		02 54 45.3		
	comp=Z,33nm,0.7s							
UKT				*e*Sg	Sg	02 55 40.2	-11	
UKT				Smax		02 55 50.2		
	comp=Z,122nm,1.4s							
UKT	**Uakit**	**4.48**	**247**	*e*P	Pn	02 54 42.7	+10	
UKT				pmax	pmax			
	comp=Z,26nm,0.6s							
YOA	**Uoyan**	**5.20**	**259**	*e*Sg	Sg	02 55 59.4	-16	
YOA				Smax		02 56 21.1		
	comp=Z,580nm,1.6s							
KMO	**Kumora**	**5.56**	**257**	*e*Pn	Pn	02 54 46.8	-1.3	
KMO				max		02 55 06.3		
	comp=Z,17nm,0.9s							
KMO				*e*Sg	Sg	02 56 12.1	-15	
KMO				Smax		02 56 28.4		
	comp=Z,138nm,1.3s							
KMO	**Kumora**	**5.56**	**257**	*e*P	Pn	02 54 48.0	-0.1	
KMO				pmax	pmax			
	comp=Z,17nm,0.7s							
TBGR	**Tabaga**	**6.22**	**42**	*e*Pn	Pn	02 54 54.8	-2.6	
TBGR				*e*Sn	Sn	02 56 05.5	-4.7	
TBGR				*e*Sg	Sg	02 56 34.6	-15	
YAK	**Yakutsk**	**6.38**	**41**	*e*Sn	Sn	02 56 05.6	-8.5	
YAK				*e*Sg	Sg	02 56 36.7	-18	
YAK				Smax		02 56 42.6		
	comp=Z,972nm,0.8s							
YAK	**Yakutsk**	**6.38**	**41**	*e*P	Pn	02 55 08.1	+8.5	
YAK				*e*S	Sn	02 56 11.1	-3.0	
YAK				pmax	pmax			
	comp=Z,6.0nm,0.5s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.2s							
YAK				smax				
	comp=E,9.0nm,0.7s							
YAK				smax				
	comp=N,8.0nm,0.8s							
YAK				smax				
	comp=N,88nm,0.7s							
YAK				smax				
	comp=E,64nm,0.8s							
YAK				smax				
	comp=Z,43nm,0.8s							
YAK				MLR	MLR			
	comp=Z,23nm,7.0s							
NIZ	**Nizh Angarsk**	**6.48**	**259**	*e*Pn	Pn	02 54 48.2	-13	
NIZ				max		02 54 54.9		
	comp=Z,9.0nm,0.2s							
NIZ				*e*Sg	Sg	02 56 43.6	-14	
NIZ				Smax		02 56 48.1		
	comp=Z,50nm,1.4s							
CIT	**Chita**	**6.91**	**221**	*e*Pn	Pn	02 55 16.1	+8.9	
CIT				max		02 55 22.2		
	comp=Z,8.0nm,0.4s							
CIT				*e*Sg	Sg	02 56 54.8	-17	
CIT				Smax		02 56 58.5		
	comp=Z,185nm,1.6s							
SYVR	**Suvo**	**7.25**	**243**	*e*Pg	Pg	02 55 32.9	-14	
SYVR				Pmax		02 55 35.3		
	comp=Z,24nm,1.6s							
SYVR				*e*Sg	Sg	02 57 07.3	-16	
SYVR				Smax		02 57 13.7		
	comp=Z,111nm,2.0s							
OGRR	**Ongureny**	**8.44**	**249**	*e*Sg	Sg	02 57 44.9	-18	
OGRR				Smax		02 57 53.2		
	comp=Z,58nm,1.9s							
KPC	**Khapcheranga**	**9.27**	**216**	*e*Pn	P	02 55 39.6	-0.5	
KPC				*e*Sg	Sg	02 58 08.1	-23	
KPC				Smax		02 58 17.8		
	comp=Z,56nm,1.8s							
TRG	**Tyrgan**	**9.56**	**247**	*e*Sg	Sg	02 58 17.5	-23	
TRG				Smax		02 58 26.1		
	comp=Z,45nm,2.4s							
ARS	**Arshan**	**12.01**	**250**	*e*Sg	S	02 59 33.0	+60	
ARS				Smax		03 00 02.6		
	comp=Z,36nm,1.0s							

STR ***15*** *03:12:46.5±0.2,43.08N×0.18W,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***15*** *03:12:46.9±0.2,43.11N×0.18W,h7km±4km,mbLg1.9/18, Error ellipse: s-maj=3.1km s-min=1.3km az=9.0,PRXIMO*
LDG ***15*** *03:12:46.6±0.1,43.05N×0.19W,h10km,Md2.6/2,Ml2.6/9, Error ellipse: s-maj=1.4km s-min=1.0km az=167.0*
NEIC ***15*** *03:12:46.6,43.05N×0.19W,h10km,ML2.6(LDG), ML2.3(STR),After LDG.*
CSEM ***15*** *03:12:46.8±0.1,43.06N×0.19W,h10km,ML2.6/9,Error ellipse: s-maj=1.2km s-min=0.9km az=171.0*

ISC 15 03:12:45.0±0.3,43.16N±0.02×0.16W±0.02,h13km±3km, n48,σ1§10/90,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.19**	**242**	Pg	**Pg**	**03 12 49.6**	**0.0**
REYF				Sg	**Sg**	**03 12 52.0**	**-0.6**
REYF	**Montagne du Re**	**0.19**	**242**	Pg	**Pg**	**03 12 49.6**	**0.0**
REYF				Lg		03 12 52.0	
LABF	**Labassere**	**0.20**	**124**	Pg	**Pg**	**03 12 50.1**	**+0.4**
LABF				Sg	**Sg**	**03 12 53.0**	**+0.1**
LABF	**Labassere**	**0.20**	**124**	Pg	**Pg**	**03 12 50.1**	**+0.4**
LABF				Lg		03 12 53.8	
VIEF	**Viey**	**0.31**	**154**	Pg	**Pg**	**03 12 51.6**	**0.0**
VIEF				Sg	**Sg**	**03 12 55.3**	**-0.7**
VIEF	**Viey**	**0.31**	**154**	Pg	**Pg**	**03 12 51.7**	**+0.1**
VIEF				Lg		03 12 55.5	
EPF	**Esparros**	**0.39**	**109**	*e*Pg	**Pg**	**03 12 54.3**	**+1.2**
EPF				*e*Sg	**Sg**	**03 12 58.8**	**+0.3**
	32nm,0.2s						
ETSF	**Etsaut**	**0.39**	**228**	*e*Pg	**Pg**	**03 12 53.0**	**-0.2**
ETSF				*e*Sg	**Sg**	**03 12 57.1**	**-1.6**
	24nm,0.2s						
ATE	**Arette**	**0.40**	**259**	Pg	**Pg**	**03 12 53.8**	**+0.4**
ATE				Sg	**Sg**	**03 12 59.0**	**0.0**
ATE	**Arette**	**0.40**	**259**	Pg	**Pg**	**03 12 53.8**	**+0.4**
ATE				Lg		03 12 59.2	
RESF	**Ens**	**0.51**	**134**	Pg	**Pg**	**03 12 55.7**	**+0.3**
RESF				Sg	**Sg**	**03 13 02.7**	**+0.3**
RESF	**Ens**	**0.51**	**134**	Pg	**Pg**	**03 12 55.6**	**+0.2**
RESF				Lg		03 13 02.5	
ORDF	**Ordiarp**	**0.57**	**276**	Pg	**Pg**	**03 12 57.6**	**+0.9**
ORDF				Sg	**Sg**	**03 13 06.0**	**+1.6**
ORDF	**Ordiarp**	**0.57**	**276**	Pg	**Pg**	**03 12 57.5**	**+0.8**
ORDF				Lg		03 13 05.2	
LARF	**Larrau**	**0.62**	**259**	Pg	**Pg**	**03 12 57.8**	**+0.2**
LARF				Sg	**Sg**	**03 13 06.9**	**+0.9**
LARF	**Larrau**	**0.62**	**259**	Pg	**Pg**	**03 12 58.0**	**+0.4**
LARF				Lg		03 13 06.5	
LARF	**Larrau**	**0.62**	**259**	Pg	**Pg**	**03 12 57.8**	**+0.2**
LARF				Sg	**Sg**	**03 13 06.8**	**+0.8**
MELF	**Melles**	**0.73**	**113**	Pg	**Pg**	**03 13 00.2**	**+0.4**
MELF				Sg	**Sg**	**03 13 10.9**	**+1.2**
MELF	**Melles**	**0.73**	**113**	Pg	**Pg**	**03 13 00.2**	**+0.4**
MELF				Lg		03 13 10.4	
SJPF	**Ste Jean**	**0.78**	**267**	*e*Pg	**Pg**	**03 12 59.3**	**-1.5**
SJPF				*e*Sg	**Sg**	**03 13 10.4**	**-0.9**
	7.9nm,0.3s						
EALK	**Alkurruntz**	**0.99**	**274**	Pg	**Pg**	**03 13 06.5**	**+1.6**
	0.6nm,0.1s,SNR=7.9						
EALK				Lg		03 13 19.6	
	7.5nm,0.3s,SNR=5.2						
EGRA	**Graus**	**1.03**	**160**	Pg	**Pg**	**03 13 05.6**	**-0.1**
	2.5nm,0.3s,SNR=12						
EGRA				Lg		03 13 20.5	
	4.4nm,0.1s,SNR=4.0						
IUSE	**Utxeti**	**1.04**	**259**	Lg		03 13 21.1	
	2.4nm,0.1s,SNR=7.9						
SALF	**Salau**	**1.07**	**112**	Pg	**Pg**	**03 13 08.9**	**+2.4**
SALF	**Salau**	**1.07**	**112**	Lg		03 13 20.7	
ESAC	**San Caprasio**	**1.46**	**189**	Pg	**Pg**	**03 13 14.2**	**0.0**
	3.5nm,0.1s,SNR=8.5						
ESAC				Lg		03 13 33.3	
	49nm,0.2s,SNR=8.9						
EMIR	**Miracle**	**1.76**	**134**	Pg	**Pg**	**03 13 19.9**	**-0.4**
	3.8nm,0.1s,SNR=13						
EMIR				Lg		03 13 43.3	
	26nm,0.3s,SNR=9.3						
LFF	**La Frestale**	**1.89**	**20**	*e*Pg	**Pg**	**03 13 24.1**	**+1.2**
LFF				*e*Sn	**Sn**	**03 13 42.8**	**+1.6**
LFF				*e*Sg	**Sg**	**03 13 50.1**	**+1.9**
	12nm,0.3s						
LFF	**La Frestale**	**1.89**	**20**	Pn	**Pn**	**03 13 19.3**	**+1.9**
LFF				Pg	**Pg**	**03 13 24.1**	**+1.2**
LFF				Sn	**Sn**	**03 13 42.8**	**+1.6**
LFF				Lg		03 13 50.1	
	6.1nm,0.3s						
LFF	**La Frestale**	**1.89**	**20**	*e*Pn	**Pn**	**03 13 19.3**	**+1.9**
LFF				*e*Pg	**Pg**	**03 13 24.1**	**+1.2**
LFF				*e*Sn	**Sn**	**03 13 42.8**	**+1.6**
LFF				*e*Sg	**Sg**	**03 13 50.1**	**+1.9**
LFF	**La Frestale**	**1.89**	**20**	*e*Pg	**Pg**	**03 13 24.1**	**+1.2**
LFF				*e*Sn	**Sn**	**03 13 42.8**	**+1.6**
LFF				*e*Sg	**Sg**	**03 13 50.1**	**+1.9**
	6.1nm,0.3s						
ERTA	**Horta de San J**	**2.23**	**170**	Pg	**Pg**	**03 13 28.3**	**-1.4**
	0.2nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**03 13 48.3**	**-1.6**
	2.8nm,0.2s,SNR=7.9						
ERTA				Lg		03 13 58.3	
	3.0nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.35**	**107**	Lg		03 14 03.0	
	8.7nm,0.8s,SNR=7.9						
CAF	**Calviac**	**2.38**	**41**	*e*Pg	**Pg**	**03 13 34.5**	**+1.8**
CAF				*e*Sn	**Sn**	**03 13 54.1**	**+0.4**
CAF				*e*Sg	**Sg**	**03 14 04.1**	**-0.4**
	4.7nm,0.2s						
CAF	**Calviac**	**2.38**	**41**	Pn	**Pn**	**03 13 25.5**	**+1.1**
CAF				Sn	**Sn**	**03 13 54.1**	**+0.4**
CAF				Lg		03 14 04.1	
	2.3nm,0.2s						
CAF	**Calviac**	**2.38**	**41**	*e*Pn	**Pn**	**03 13 25.5**	**+1.1**
CAF				*e*Pg	**Pg**	**03 13 34.5**	**+1.8**
CAF				*e*Sn	**Sn**	**03 13 54.1**	**+0.4**
CAF				*e*Sg	**Sg**	**03 14 04.1**	**-0.4**
CAF	**Calviac**	**2.38**	**41**	*e*Pg	**Pg**	**03 13 34.5**	**+1.8**
CAF				*e*Sn	**Sn**	**03 13 54.1**	**+0.4**
CAF				*e*Sg	**Sg**	**03 14 04.1**	**-0.4**
	2.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.46**	**29**	*e*Pg	**Pg**	**03 13 34.4**	**+0.2**
RJF				*e*Sn	**Sn**	**03 13 56.2**	**+0.6**
RJF				*e*Sg	**Sg**	**03 14 06.7**	**-0.3**
	4.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.46**	**29**	Pn	**Pn**	**03 13 26.3**	**+0.8**
RJF				Pg	**Pg**	**03 13 34.4**	**+0.2**
RJF				Sn	**Sn**	**03 13 56.2**	**+0.6**
RJF				Lg		03 14 06.7	
	2.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.46**	**29**	*e*Pn	**Pn**	**03 13 26.3**	**+0.8**
RJF				*e*Pg	**Pg**	**03 13 34.4**	**+0.2**
RJF				*e*Sn	**Sn**	**03 13 56.2**	**+0.6**
RJF				*e*Sg	**Sg**	**03 14 06.7**	**-0.3**
RJF	**Les Rejaudoux**	**2.46**	**29**	*e*Pg	**Pg**	**03 13 34.4**	**+0.2**
RJF				*e*Sn	**Sn**	**03 13 56.2**	**+0.6**
RJF				*e*Sg	**Sg**	**03 14 06.7**	**-0.3**
	2.2nm,0.2s						
LASF	**Ste Croix**	**3.06**	**71**	*e*Pg	**Pg**	**03 13 44.4**	**-1.7**
LASF				*e*Sg	**Sg**	**03 14 24.3**	**-2.6**
	2.7nm,0.2s						
MFF	**Saint Martin d**	**3.44**	**0**	*e*Pn	**Pn**	**03 13 39.9**	**+0.4**
MFF				*e*Sn	**Sn**	**03 14 19.2**	**-1.3**
MFF				*e*Sg	**Sg**	**03 14 37.8**	**-1.9**
	2.9nm,0.3s						
TCF	**Toulx Ste Croi**	**3.55**	**28**	*e*Pg	**Pg**	**03 13 54.7**	**-1.3**
TCF				*e*Sn	**Sn**	**03 14 22.6**	**-0.8**
TCF				*e*Sg	**Sg**	**03 14 42.0**	**-1.4**
	2.1nm,0.3s						
VIVF	**Saint-Julien-l**	**3.88**	**62**	*e*Sg	**Sg**	**03 14 50.5**	**-3.6**
	2.1nm,0.3s						
BGF	**Bois d'Agland**	**4.01**	**31**	*e*Pn	**Pn**	**03 13 47.7**	**+0.1**
BGF				*e*Sg	**Sg**	**03 14 56.6**	**-2.1**
	8.1nm,0.4s						
GRR	**Gorron**	**5.25**	**355**	*e*Pn	**Pn**	**03 14 04.5**	**-0.7**
FLN	**La Foliniere**	**5.61**	**358**	*e*Pn	**Pn**	**03 14 09.3**	**-0.9**

KISR ***15*** *03:14:55.3±0.9,27.06N×55.75E,h33km,ML3.1*
CSEM ***15*** *03:14:56.4±0.9,27.00N×55.64E,h10km,ML3.1,Error ellipse: s-maj=26.8km s-min=6.4km az=167.0*
THR ***15*** *03:14:59.4±0.3,27.09N×55.79E,h14km±3km,ML2.9*

ISC 15 03:14:56.6±1.7,27.0N±0.1×55.64E±0.05,h10km,n10, σ0§90/19,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.59**	**53**	*e*PG	**Pg**	**03 15 08.7**	**+0.1**
BNDS				*e*SG	**Sg**	**03 15 15.5**	**-1.1**
BNDS				AML	AML	03 15 38.5	
	comp=N,717nm,0.8s						
BNDS	**Bandar-Abbas**	**0.59**	**53**	*e*Pg	**Pg**	**03 15 08.7**	**+0.1**
	SNR=90						
BNDS				*e*Sg	**Sg**	**03 15 15.5**	**-1.1**
	comp=N,717nm,0.8s,SNR=90						
GHIR	**Ghir-Karzin**	**2.66**	**298**	*e*PN	**Pn**	**03 15 45.3**	**+5.1**
GHIR				*e*SG	**Sg**	**03 16 25.7**	**+0.7**
GHIR				AML	AML	03 16 56.2	
	comp=N,72nm,0.5s						
KRBR	**Kerman**	**3.09**	**18**	*e*PN	**Pn**	**03 15 49.0**	**+2.6**
RDF	**Al-Radifah**	**7.39**	**287**	*e*P	**Pn**	**03 16 47.2**	**0.0**
RDF				AMb	AMB	03 16 48.9	
	comp=Z,10nm,0.4s						
RDF				*e*S	**Sn**	**03 18 11.8**	**-0.1**
RDF				AML	AML	03 18 12.4	
	comp=Z,3.2nm,0.3s						
RDF	**Al-Radifah**	**7.39**	**287**	*e*P	**Pn**	**03 16 47.2**	**0.0**
RDF				*e*S	**Sn**	**03 18 11.8**	**-0.2**
NAY	**Al-Naaiem**	**7.73**	**288**	*e*P	**Pn**	**03 16 52.0**	**+0.1**
NAY				AMb	AMB	03 16 53.7	
	comp=Z,16nm,0.4s						
NAY				*e*S	**Sn**	**03 18 19.3**	**-1.1**
NAY				AML	AML	03 18 20.3	
	comp=Z,1.4nm,0.4s						
NAY	**Al-Naaiem**	**7.73**	**288**	*e*P	**Pn**	**03 16 52.0**	**+0.1**
NAY				*e*S	**Sn**	**03 18 19.3**	**-1.1**
MIB	**Mutribah**	**7.80**	**293**	*e*P	**Pn**	**03 16 53.4**	**+0.4**
MIB				AMb	AMB	03 16 55.7	
	comp=Z,27nm,0.5s						
MIB				*e*S	**Sn**	**03 18 21.6**	**-0.7**
MIB	**Mutribah**	**7.80**	**293**	*e*P	**Pn**	**03 16 53.3**	**+0.3**
MIB				*e*S	**Sn**	**03 18 21.6**	**-0.7**

NDI ***15*** *03:53:19.6±4.1,34.96N×73.77E,h33km,MD3.5,ML3.1*
NNC ***15*** *03:53:30.4±1.1,35.73N×75.45E,mb3.4,mpv3.1,Error ellipse: s-maj=28.1km s-min=9.6km az=64.0*

ISC 15 03:53:26.2±0.9,34.9N±0.1×74.6E±0.3,h33km,n6, σ0§87/11,2C,Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**2.61**	**154**	*e*P	**P**	**03 54 08.0**	**+1.0**
DLH				*e*x	**S**	**03 54 42.0**	**+4.1**
THN	**Thein Dam**	**2.63**	**159**	*e*P	**P**	**03 54 05.9**	**-1.3**
THN				*e*S	**S**	**03 54 38.7**	**+0.4**
SDNR	**Sundarnagar**	**3.93**	**149**	*e*P	**P**	**03 54 21.5**	**-4.2**
SDNR				*e*x	**S**	**03 55 20.9**	**+10**
KLP	**Kalpa**	**4.54**	**137**	*e*P	**P**	**03 54 33.4**	**-0.9**
KLP				*e*S	**S**	**03 55 27.0**	**+0.4**
KLP				AML	AML	03 55 51.9	
	comp=E,99nm,0.3s						
KLP				AML	AML	03 55 52.6	
	comp=N,68nm,0.4s						
KHET	**Khetri**	**6.89**	**171**	*e*P	**P**	**03 54 59.5**	**-7.9**
KHET				AML	AML	03 56 50.8	
	comp=N,6.2nm,0.3s						
KHET				AML	AML	03 56 54.1	
	comp=E,7.7nm,0.4s						
KK31	**Karatay Array**	**8.79**	**340**	⇑Pn	**P**	**03 55 34.5**	**+0.7**
	comp=E,0.3nm,0.3s,baz=151,slow=12,SNR=9.6						
KK31				⇑Sn	**Sn**	**03 57 12.7**	**-0.2**
	comp=E,0.4nm,0.3s,baz=151,slow=22,SNR=5.8						

IDC ***15*** *03:53:47.1±1.1,54.09N×101.40E,mb3.6/4,mb1 3.6/7, mb1mx3.5/24,mbtmp3.5/7,ML3.2/3,Error ellipse: s-maj=20.6km s-min=17.9km az=166.0*
NEIC ***15*** *03:53:48.8±0.5,54.17N×101.38E,h10km,mb4.0/2,Error ellipse: s-maj=10.7km s-min=8.1km az=206.0*
MOS ***15*** *03:53:48.2±1.5,54.21N×101.45E,h15km,mb4.3/6,Error ellipse: s-maj=15.3km s-min=8.5km az=97.5*
BYKL ***15*** *03:53:50.4±0.6,53.99N×101.20E,h24km±20km,FELT I=IV MSK at Urunkuy, III-IV at Bolshoy Kashelak, Batama, II at Sayansk*

ISC 15 03:53:46.6±0.7,54.21N±0.02×101.39E±0.04,h4km±5km, n64,σ1§40/105,mb4.0/7,1C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**1.93**	**210**	⇓*i*Pg	**Pn**	**03 54 21.6**	**+1.1**
ORL				*e*		03 54 26.3	
ORL				max		03 54 27.4	
	241nm,0.5s						
ORL				*e*Sg	**Sn**	**03 54 44.2**	**-1.2**
ORL				Smax		03 54 47.2	
	2μm,0.5s						
ORL	**Orlik**	**1.93**	**210**	*e*PN	**Pn**	**03 54 21.8**	**+1.3**
ORL				*e*		03 54 44.7	
ORL				pmax	pmax		
	comp=Z,230nm,0.3s						
ORL				smax			
	comp=N,2μm,0.7s						
ARS	**Arshan**	**2.38**	**164**	*e*Pn	**Pn**	**03 54 27.5**	**+0.5**
ARS				⇓*i*Pg	**Pb**	**03 54 30.4**	**+0.7**
ARS				Pmax		03 54 32.5	
	comp=N,931nm,0.3s						
ARS				*e*Sn	**Sn**	**03 54 56.5**	**-0.4**
ARS				*e*Sg	**Sb**	**03 54 59.9**	**+0.4**
ARS				Smax		03 55 05.9	
	comp=N,9μm,0.6s						
ARS	**Arshan**	**2.38**	**164**	*e*PN	**Pn**	**03 54 27.5**	**+0.5**
ARS				*e*		03 54 30.3	
ARS				*e*		03 54 59.5	
ARS				pmax	pmax		
	comp=Z,931nm,0.3s						
ARS				smax			
	comp=E,9μm,0.6s						
MOY	**Mondy**	**2.56**	**186**	*e*PN	**Pg**	**03 54 35.8**	**-1.9**
MOY				*e*S	**Sb**	**03 55 04.4**	**-0.3**
IRK	**Irkutsk**	**2.63**	**138**	*e*Pg	**Pb**	**03 54 35.3**	**+1.4**
IRK				Pmax		03 54 38.4	
	comp=E,377nm,0.5s						
IRK				*e*Sg	**Sb**	**03 55 07.7**	**+1.1**
IRK				Smax		03 55 22.3	
	comp=E,5μm,0.5s						
IRK	**Irkutsk**	**2.63**	**138**	*e*PN	**Pn**	**03 54 36.1**	**+5.6**
IRK				*e*		03 55 11.0	
IRK				pmax	pmax		
	comp=Z,394nm,0.4s						
IRK				smax			
	comp=N,3μm,0.5s						
TLY	**Talaya**	**2.88**	**151**	*e*Pn	**Pn**	**03 54 34.1**	**0.0**
TLY				*e*Pg	**Pb**	**03 54 39.6**	**+1.3**
TLY				Pmax		03 54 42.2	
	comp=N,449nm,0.2s						
TLY				*e*Sn	**Sn**	**03 55 09.0**	**-0.6**
TLY				*e*Sg	**Sb**	**03 55 14.1**	**+0.1**
TLY				*e*SgSg		03 55 17.6	
TLY				max		03 55 18.2	
	comp=N,1μm,0.5s						
TLY	**Talaya**	**2.88**	**151**	*e*PN	**Pn**	**03 54 35.2**	**+1.1**
TLY				*e*		03 54 39.7	
TLY				*e*S	**Sn**	**03 55 07.4**	**-2.2**
TLY				*e*		03 55 14.1	
TLY				pmax	pmax		
	comp=Z,446nm,0.2s						
TLY				smax			
	comp=N,1μm,0.5s						
LSTR	**Listvyanka**	**3.14**	**137**	*e*Pn	**Pn**	**

TRG ePg Pg 03 54 50.7 -1.8
TRG Pmax 03 54 51.6
comp=N,240nm,0.3s
TRG eSn Sn 03 55 18.8 -1.5
TRG eSg Sg 03 55 33.9 -2.6
TRG Smax 03 55 38.9
comp=N,605nm,0.3s
TRG Tyrgan 3.30 114 ePN Pb 03 54 50.9 +5.4
TRG eS Sn 03 55 22.1 +1.8
TRG e 03 55 33.0
TRG pmax pmax
comp=Z,238nm,0.3s
TRG smax
comp=E,604nm,0.2s
STDB Stepnoy Dvoret 3.63 122 ePn Pn 03 54 46.7 +2.0
STDB ePg Pg 03 54 55.0 -4.0
STDB e 03 54 57.5
STDB max 03 54 59.7
comp=E,156nm,0.3s
STDB eSn Sn 03 55 30.4 +1.9
STDB eSg Sg 03 55 41.7 -5.7
STDB Smax 03 55 48.1
comp=E,3μm,0.9s
TDJR Todzha 3.66 242 ePn Pn 03 54 44.2 -0.9
TDJR ePg Pb 03 54 51.3 -0.2
TDJR eSg Sb 03 55 35.4 -1.1
OGRR Ongureny 3.71 96 ePn Pn 03 54 48.7 +2.7
OGRR ePg Pb 03 54 58.4 +5.9
OGRR Pmax 03 55 01.9
comp=E,162nm,0.6s
OGRR eSn Sn 03 55 28.8 -1.9
OGRR eSg Sb 03 55 47.3 +9.1
OGRR Smax 03 55 49.8
comp=E,2μm,0.6s
OGRR Ongureny 3.71 96 ePN Pn 03 54 48.9 +2.9
OGRR e 03 54 58.2
OGRR e 03 55 47.3
OGRR pmax pmax
comp=Z,151nm,0.4s
OGRR smax
comp=N,2μm,0.9s
ZRHB Zarechye 3.83 113 ePn Pn 03 54 50.0 +2.4
ZRHB ePg Pb 03 54 59.1 +4.6
ZRHB Pmax 03 55 10.4
comp=N,380nm,1.0s
ZRHB eSn Sn 03 55 34.8 +1.1
ZRHB eSg Sb 03 55 50.6 +9.0
ZRHB Smax 03 56 05.1
comp=N,2μm,1.1s
KAB Kabansk 3.84 122 e Pn 03 54 53.7 +5.9
KAB ePg Pg 03 54 59.2 -4.1
KAB Pmax 03 55 10.2
comp=N,352nm,0.4s
KAB eSn Sn 03 55 33.2 -0.7
KAB eSg Sg 03 55 48.7 -5.8
KAB Smax 03 55 52.4
comp=N,4μm,0.8s
KAB Kabansk 3.84 122 ePn Pg 03 55 00.7 -2.6
FFNB Fofonovo 3.90 122 ePn Pn 03 54 48.7 +0.1
FFNB ePg Pb 03 55 00.7 +5.0
FFNB eSn Sn 03 55 33.3 -2.1
FFNB eSg Sb 03 55 51.0 +7.5
FFNB Smax 03 55 53.5
comp=N,3μm,0.5s
ZAK Zakamensk 4.01 162 ePn Pn 03 54 51.1 +0.9
ZAK ePg Pb 03 54 59.2 +1.6
ZAK Pmax 03 55 04.0
comp=N,66nm,0.5s
ZAK eSg Sb 03 55 48.4 +1.6
ZAK Smax 03 56 00.7
comp=N,479nm,0.6s
ZAK Zakamensk 4.01 162 ePN Pn 03 54 49.3 -0.9
ZAK e 03 54 59.1
ZAK e 03 55 49.4
ZAK pmax pmax
comp=Z,65nm,0.5s
ZAK smax
comp=E,540nm,0.8s
TRTB Turuntaevo 4.24 115 ePn Pn 03 54 54.0 +0.5
TRTB e 03 54 55.5
TRTB ePg Pg 03 55 07.3 -4.0
TRTB e 03 55 08.8
TRTB max 03 55 09.5
comp=E,154nm,0.4s
TRTB eSn Sn 03 55 42.1 -2.1
TRTB eSg Sg 03 56 01.9 -6.0
TRTB Smax 03 56 03.5
comp=E,452nm,1.0s
HRMR Khuramsha 4.25 125⇑ *i*Pn Pn 03 54 53.6 0.0
HRMR e 03 54 57.5
HRMR ePg Pb 03 55 06.6 +4.9
HRMR Pmax 03 55 10.0
comp=E,294nm,0.7s
HRMR eSn Sn 03 55 42.5 -1.8
HRMR eSg Sb 03 56 01.8 +8.1
HRMR Smax 03 56 03.2
comp=E,2μm,0.6s
NIZ Nizh Angarsk 4.95 68 ePn Pn 03 55 05.5 +2.0
NIZ e 03 55 12.7
NIZ e 03 55 13.0
NIZ max 03 55 25.2
comp=E,106nm,0.5s
NIZ eSg Sg 03 56 26.6 -4.8
NIZ Smax 03 56 33.7
comp=E,1μm,1.2s
NIZ Nizh Angarsk 4.95 68 ePG Pg 03 55 23.1 -2.3
SYVR Suvo 5.12 93 ePn Pn 03 55 07.3 +1.4
SYVR ePg Pb 03 55 23.8 +7.2
SYVR Pmax 03 55 27.5
comp=E,50nm,0.7s
SYVR eSn Sn 03 56 06.2 -0.1
SYVR eSg Sb 03 56 30.9 +12
SYVR Smax 03 56 34.9
comp=E,592nm,1.7s
SYVR Suvo 5.12 93 ePG Pg 03 55 25.5 -3.3
SYVR e 03 56 32.4
SYVR pmax pmax
comp=E,44nm,0.5s
SYVR smax
comp=N,281nm,0.9s
KMO Kumora 5.88 69 ePn Pn 03 55 19.0 +2.3
KMO e 03 55 22.8
KMO eSn Sn 03 56 24.8 -0.7
KMO eSg Sx 03 56 59.4
KMO Smax 03 57 09.2
comp=N,299nm,1.0s
KMO Kumora 5.88 69 ePG Px 03 55 38.1
KMO pmax pmax
comp=Z,45nm,0.4s
YOA Uoyan 6.23 68 eSg Sx 03 57 10.5
YOA Smax 03 57 35.5
comp=Z,1μm,1.3s
SONM Songino Array 7.12 152 Pn Pn 03 55 32.0 -2.1
comp=Z,0.5nm,0.3s,baz=330,slow=13,SNR=12
SONM Pg Px 03 55 55.7
comp=Z,6.1nm,0.3s,baz=333,slow=17,SNR=39
SONM Lg 03 57 28.2
comp=Z,9.6nm,0.3s,baz=315,slow=32,SNR=9.9
UKT Uakit 7.18 75 ePn Pn 03 55 35.7 +0.7
UKT e 03 56 03.7
UKT max 03 56 06.4
UKT eSn Sn 03 56 54.1 -3.8
UKT eSg Sx 03 57 35.0
UKT Smax 03 57 42.8
comp=Z,337nm,1.4s
UKT Uakit 7.18 75 ePG Px 03 56 02.4
UKT e 03 57 36.6
UKT pmax pmax
comp=Z,11nm,0.7s
UKT smax
comp=N,124nm,0.7s
SVKR Severomuysk 7.23 70 *i* Sg Sx 03 57 40.5
SVKR Smax 03 57 44.6
comp=N,709nm,0.8s
ULN Ulaanbaatar 7.29 148 ePN Pn 03 55 35.5 -1.0
ULN e 03 55 59.3
ULN e 03 57 32.5
ULN pmax pmax
comp=Z,7.0nm,0.5s
ULN Ulaanbaatar 7.29 148 ePn Pn 03 55 35.5 -1.0
comp=Z,7.3nm,0.5s
ULN ePg Px 03 55 59.3
ULN eSg Sx 03 57 32.5
CIT Chita 7.64 102 eSg Sx 03 57 49.6
CIT Smax 03 57 55.9
comp=Z,253nm,1.6s
BOD Bodaibo 7.94 58 *e* Pn 03 55 46.0 +0.5
BOD max 03 55 46.6
comp=Z,24nm,0.5s
BOD eSg Sx 03 58 01.9
BOD Smax
comp=Z,419nm,1.2s
BOD Bodaibo 7.94 58 ePN Pn 03 55 45.6 +0.1
BOD pmax pmax
comp=Z,9.0nm,0.5s
KPC Khapcheranga 8.15 119 ePg Px 03 56 18.0
KPC Pmax 03 56 25.5
comp=Z,6.0nm,0.8s
KPC e 03 56 45.6
KPC eSg Sx 03 58 03.3
KPC Smax 03 58 11.2
comp=Z,83nm,1.0s
NLYR Nelyaty 8.47 69 ePn P 03 55 54.5 +1.5
NLYR max 03 56 01.2
comp=Z,8.0nm,0.3s
NLYR eSn Sn 03 57 29.0 -1.1
NLYR eSg Sx 03 58 19.1
NLYR Smax 03 58 27.4
comp=Z,294nm,1.2s
ZAL Zalesovo 9.76 275 Pg Px 03 56 42.8
comp=Z,0.3nm,0.3s,baz=29,slow=12,SNR=5.5
ZAL Lg 03 58 48.3
comp=Z,1.3nm,0.3s,baz=116,slow=23,SNR=8.3
CRS Chara 9.93 67 eSg Sx 03 59 03.9
CRS Smax 03 59 14.4
comp=Z,208nm,1.3s
TUP Tupik 10.85 81 eSg Sx 03 59 29.7
TUP Smax 03 59 38.1
comp=Z,135nm,1.5s
MKAR Makanchi Array 14.21 246 Pn P 03 57 09.4 -1.1
comp=Z,0.0nm,0.3s,baz=48,slow=9.7,SNR=2.4
MKAR Lg 04 01 13.8
comp=Z,0.1nm,0.3s,baz=50,slow=32,SNR=3.5
MKAR Makanchi Array 14.21 246 *i* P P 03 57 16.2 +5.7
MKAR pmax pmax
comp=Z,1.0nm,0.7s
CHKZ Chkalovo 18.06 281 ePN P 03 57 59.7 0.0
CHKZ pmax pmax
comp=Z,1.0nm,0.6s
CHKZ Chkalovo 18.06 281 *e*P P 03 57 59.7 0.0
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 18.36 279 P P 03 58 02.5 -1.0
comp=Z,0.2nm,0.3s,baz=69,slow=13,SNR=5.5
TIXI Tiksi 21.14 24 *e*P P 03 58 33.1 -1.3
TIXI pmax pmax
comp=Z,9.0nm,0.7s,mb4.2
AKTK Aktyubinsk 26.46 280 P P 03 59 26.4 +0.4
AKTO Aktyubinsk 26.46 280 P P 03 59 26.4 +0.4
comp=Z,0.6nm,0.4s,mb3.5,baz=73,slow=12,SNR=3.0
AKTO Aktyubinsk 26.46 280 P P 03 59 26.4 +0.3
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
VOR Voronezh 36.47 292 P P 04 00 57.0 +2.9
KIV Kislovodsk 38.73 279 *e*P P 04 01 23.3 +10
KIV pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BRTR Keskin Array B 46.63 281 P P 04 02 17.3 -0.1
comp=Z,0.6nm,0.8s,mb3.6,baz=90,slow=6.2,SNR=3.6
BRTR Keskin Array B 46.63 281 P P 04 02 17.3 -0.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
COLA College 49.99 31 P P 04 02 42.4 -0.8
COLA pmax pmax
comp=Z,26nm,1.6s,mb5.0
COLA College 49.99 31 P P 04 02 42.4 -0.7
comp=Z,26nm,1.6s,mb5.0
ILAR Eielson Array 50.35 31 P P 04 02 45.9 -0.1
comp=Z,0.8nm,0.8s,mb3.8,baz=302,slow=6.5,SNR=8.2
ILAR Eielson Array 50.35 31 P P 04 02 45.9 -0.1
ILAR pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 60.26 18 P P 04 03 56.7 -1.0
comp=Z,0.3nm,0.6s,mb3.5,baz=333,slow=7.0,SNR=5.9

NEIC ***15*** *04:04:16.8±1.3,50.21N×19.18E,h5km,MG2.6(WAR), Error ellipse: s-maj=23.5km s-min=7.2km az=173.0*
PRU ***15*** *04:04:17.0,50.26N×19.11E*
WAR 15 04:04:16.0,50.27N×19.27E,h1km,MW2.6,Mw2.5,1C-2D, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.35**	**99**	⇓*i*	Pg	04 04 23.0	0.0
OJC				⇓*e*	Sg	04 04 28.0	+0.4
OJC	**Ojcow**	**0.35**	**99**	*i*	Pg	04 04 23.0	0.0
OJC				*e*	Sg	04 04 28.3	+0.7
OKC	**Ostrava-Krasne**	**0.84**	**239**	*e*	Pg	04 04 32.1	-0.8
OKC				*e*	Sg	04 04 43.1	-1.0
20nm,0.5s							
NIE	**Niedzica**	**1.09**	**141**⇑	*e*	Pg	04 04 36.9	-0.9
NIE				*e*	Sg	04 04 52.5	+0.1
MORC	**Moravsky Berou**	**1.22**	**247**	*e*	Pg	04 04 38.1	-2.3
MORC				*e*	Sg	04 04 53.6	-2.9
LIKS	**Likavka**	**1.23**	**185**	*e*	SN	04 04 56.0	-1.8
STHS	**Stebnicka Huta**	**1.54**	**123**	*e*	PN	04 04 45.8	+1.0
STHS				*e*	SN	04 05 08.6	+2.9
STHS				*e*	LG	04 05 20.0	
VYHS	**Vyhne**	**1.80**	**189**	*e*	PN	04 04 46.8	-1.7
VYHS				*e*	SN	04 05 10.3	-2.1
DPC	**Dobruska-Polom**	**1.89**	**273**	*e*	Pg	04 04 48.3	-5.4
DPC				*e*	Sg	04 05 13.3	-5.6
30nm,0.6s							
KECS	**Kecovo**	**1.96**	**156**	*e*	PN	04 04 50.0	-0.8
KECS				*e*	SN	04 05 17.1	+0.7
KECS				*e*	LG	04 05 30.0	
KSP	**Ksiaz**	**1.98**	**288**	*e*	Pg	04 04 53.0	-2.6
KSP				*e*	Sg	04 05 18.0	-4.0
KSP	**Ksiaz**	**1.98**	**288**	*e*	Pg	04 04 53.1	-2.5
KSP				*e*	Sg	04 05 18.3	-3.7
CRVS	**Cervenica-Dubn**	**1.98**	**133**	*e*	PN	04 04 53.6	+2.5
CRVS				*e*	SN	04 05 17.6	+0.7
UPC	**Upice**	**2.10**	**278**	*e*	SG	04 05 19.1	-6.7
KWP	**Kalwaria**	**2.31**	**105**	*e*	Pn	04 04 57.8	+2.0
KWP				*e*	Sn	04 05 35.5	+10
KOLS	**Kolonicke sedl**	**2.37**	**123**	*e*	PN	04 04 59.7	+3.0
PRU	**Pruhonice**	**3.05**	**266**	*e*	SG	04 05 50.9	-6.8
KHC	**Kasperske Hory**	**3.87**	**255**	*e*	PN	04 05 16.0	-1.9
KHC				*e*	SG	04 06 17.5	-7.2
CLL	**Collm**	**4.11**	**287**	*e*	SG	04 06 30.0	-2.8

IDC 15 04:39:34.7±2.5,14.76N×55.69E,mb3.8/7,mb1 3.9/7, mb1mx3.7/19,mbtmp3.8/7,MS3.4/5,Ms1 3.4/5, ms1mx3.2/23,Error ellipse: s-maj=63.9km s-min=25.8km az=131.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**24.13**	**231**	P	P	04 44 51.5	-1.9
0.5nm,0.3s,baz=40,slow=18,SNR=4.1							
KMBO				LR	LR	04 55 25.0	
comp=Z,103nm,18.2s,baz=101,slow=39							
GNI	**Garni**	**27.05**	**341**	LR		04 57 44.3	
comp=Z,40nm,21.4s,baz=163,slow=40							
AKTO	**Aktyubinsk**	**35.63**	**3**	LR	LR	05 01 49.1	
comp=Z,81nm,19.3s,slow=38							
MKAR	**Makanchi Array**	**38.90**	**29**	P	P	04 47 03.2	-0.5
0.7nm,0.7s,baz=219,slow=7.8,SNR=6.4							
MKAR				LR	LR	05 02 28.7	
comp=Z,44nm,19.9s,baz=359,slow=35							
TSUM	**Tsumeb**	**50.46**	**229**	LR	LR	05 09 09.6	
comp=Z,76nm,19.4s,baz=136,slow=35							
FINES	**FINESS Array B**	**51.23**	**342**	P	P	04 48 39.4	-2.5
1.7nm,0.6s,baz=128,slow=8.5,SNR=5.9							
TORD	**Torodi Ar. Bea**	**52.32**	**275**	P	P	04 48 50.1	-0.8
0.5nm,0.6s,baz=87,slow=5.6,SNR=9.2							
HFS	**Hagfors**	**54.62**	**336**	P	P	04 49 04.4	-2.8
6.3nm,1.1s,baz=153,slow=6.6,SNR=4.4							
ESDC	**Sonseca Array**	**57.44**	**308**	P	P	04 49 26.2	-1.6
1.1nm,0.6s,baz=91,slow=6.7,SNR=6.4							
ARCES	**ARCESS Array B**	**57.92**	**348**	P	P	04 49 26.4	-4.4
6.0nm,1.2s,baz=141,slow=5.8,SNR=4.9							

LDG ***15*** *04:45:27.1±0.2, 15.78S×71.19W,h90km,Mb5.1/22, Ms3.9/7,Error ellipse: s-maj=12.8km s-min=5.4km az=55.0*
MOS ***15*** *04:45:29.8±0.9,16.03S×70.90W,h113km,mb5.1/43, Error ellipse: s-maj=10.9km s-min=6.1km az=108.4*
HRVD ***15*** *04:45:33.6±0.3,16.45S×71.21W,h139km±2km,MW5.1/72, Centroid moment Tensor Solution. LP body waves: s37,c46;Mantle waves: s72,c114; Half duration: 0 Moment tensor: Scale 10^16Nm; Mr-4.32±. 17; Mθθ-1.22±.18; Mφφ5.54±.20; Mrθ2.35±. 12; Mrφ-1.38±.21; Mθφ-1.69±.18; Best double couple: Mo5.953×10^16 NP1: φs193°,δ39°,λ-50°. NP2:φs326°,δ61°,λ-118°. Principal axes: T 6.254, Plg12°, Azm76°; N -.602, Plg24°, Azm340°; P -5.652, Plg63°, Azm190°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***15*** *04:45:33.8±0.4, 16.16S×70.99W,h136km±3km, mb4.5/28, mb1 4.7/29,mb1mx4.7/30,mbtmp4.9/29,MS3.8/3, Ms1 3.8/3,ms1mx3.3/23 Error ellipse: s-maj=11.6km s-min=8.5km az=55.0*
NEIC ***15*** *04:45:33.6±0.1, 16.15S×70.86W,mb5.0/85,Error ellipse: s-maj=6.0km s-min=3.7km az=52.0*
NEIC Felt [III] at Mollendo, Moquegua and Punta de Bombon; [II] at Arequipa.
BJI ***15*** *04:45:34.6, 16.20S×70.90W,h137km,mB5.4*
ISC 15 04:45:31.8±0.2,16.20S±0.03×70.98W±0.04,h137km, h137km±.7km:pP-P,n282,σ1§02/256,mb4.8/107,4C-5D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**0.56**	**242**⇓	*i*	P	**04 45 50.5**	**-2.0**
ARE				*e*	S	**04 46 04.0**	**-4.4**
LPAZ	**La Paz**	**2.73**	**92**	P	P	**04 46 20.4**	**+4.4**
455nm,0.3s,baz=275,slow=11,SNR=6735							
LPAZ				S	S	**04 46 55.2**	**+5.6**
39nm,0.3s,baz=268,slow=15,SNR=4.7							
LPAZ	**La Paz**	**2.73**	**92**⇑	*i*	Pn	**04 46 20.9**	**+4.9**
LPAZ				*e*	Sn	**04 46 56.1**	**+6.5**
SPCH	**San Pedro de A**	**7.17**	**159**	*e*	P	**04 47 13.6**	**-1.6**
SPCH				*i*	S	**04 48 37.1**	**+1.5**
SPCH	**San Pedro de A**	**7.17**	**159**	*e*	P	**04 47 13.6**	**-1.6**
SPCH				*i*	S	**04 48 35.5**	**-0.1**
CEN1	**Los Morros**	**7.19**	**174**	*e*	P	**04 47 13.6**	**-2.0**
CEN1				*i*	S	**04 48 29.8**	**-6.4**
ANCH	**Antofagasta**	**7.46**	**176**	*i*	P	**04 47 12.4**	**-6.8**
ANCH				*i*	S	**04 48 31.8**	**-11**
ANCH	**Antofagasta**	**7.46**	**176**	*i*	P	**04 47 12.4**	**-6.8**
ANCH				*i*	S	**04 48 34.4**	**-8.4**
CPN1	**Cerro Paranal**	**8.40**	**176**	*i*	P	**04 47 25.4**	**-6.3**
CPN1				*i*	S	**04 48 52.4**	**-13**
SIV	**San Ignacio**	**9.52**	**90**	P	P	**04 47 46.0**	**-0.7**
13nm,0.3s,baz=272,slow=13,SNR=178							
SIV				S	S	**04 49 32.9**	**+0.8**
5.4nm,0.3s,baz=60,slow=18,SNR=1.8							
TLL	**Tololo Astrono**	**13.91**	**179**	*e*	P	**04 48 43.2**	**-0.8**
CMCH	**Combarbala**	**14.91**	**180**	*e*	P	**04 48 54.4**	**-2.7**
CFAA	**Coronel Fontan**	**15.54**	**171**	P	P	**04 49 02.7**	**-1.9**
0.2nm,0.3s,baz=344,slow=13,SNR=61							
CFAA				S	S	**04 51 41.2**	**-12**
0.1nm,0.3s,baz=326,slow=7.6,SNR=1.8							
CFAA	**Coronel Fontan**	**15.54**	**171**	P	P	**04 49 02.7**	**-1.9**
CFAA				S	S	**04 51 41.2**	**-12**
CPUP	**Villa Florida**	**16.22**	**131**	*e*	P	**04 49 11.5**	**-1.6**
CPUP				pmax	pmax		
comp=Z,26nm,0.5s							
CPUP	**Villa Florida**	**16.22**	**131**	*e*	P	**04 49 11.5**	**-1.6**
comp=Z,26nm,0.5s							
FCH	**Farellones**	**17.07**	**178**	*e*	P	**04 49 23.1**	**-0.4**
OTAV	**Otavalo**	**17.92**	**335**	*e*	P	**04 49 36.8**	**+3.0**
comp=Z,40nm,1.0s							
ROSC	**El Rosal**	**21.18**	**351**	P	P	**04 50 07.7**	**0.0**
comp=Z,6.4nm,0.5s,mb4.2,baz=88,slow=22,SNR=7.7							
ROSC				S	S	**04 54 01.8**	**+12**
comp=Z,2.5nm,0.4s,baz=282,slow=20,SNR=2.4							
ROSC				LR	LR	04 58 16.8	
comp=Z,177nm,19.6s,baz=195,slow=36							
BDFB	**Brasilia**	**22.09**	**92**	P	P	**04 50 17.4**	**+0.8**
comp=Z,38nm,0.5s,mb5.1,baz=269,slow=11,SNR=104							
BAO	**Brasilia Array**	**22.11**	**92**	P	P	**04 50 18.0**	**+1.2**
TRQA	**Tornquist**	**23.17**	**162**	*e*	P	**04 50 26.9**	**-0.1**
TRQA				*e*		04 50 38.6	
PLCA	**Paso Flores**	**24.45**	**179**	P	P	**04 50 39.4**	**+0.2**
comp=Z,102nm,1.0s,mb5.3,baz=2.5,slow=12,SNR=75							
PLCA				PcP	PcP	04 54 15.7	+0.2
comp=Z,7.1nm,0.9s,baz=320,slow=6.0,SNR=5.0							
PLCA	**Paso Flores**	**24.45**	**179**	*e*	P	**04 50 39.0**	**-0.2**
PLCA				*e**PP		04 51 05.5	
PLCA				*e**SP		04 51 21.6	
PLCA				*e*		04 54 15.6	
PLCA				pmax	pmax		
comp=Z,188nm,1.2s							
PLCA	**Paso Flores**	**24.45**	**179**	*e*	P	**04 50 39.0**	**-0.3**
comp=Z,188nm,1.2s,mb5.5							
PLCA				*e*pP		04 51 05.5	
PLCA				*e*sP		04 51 21.6	
PLCA				*e*PcP	PcP	04 54 15.6	+0.1
SDV	**Santo Domingo**	**24.92**	**1**	P	P	**04 50 43.1**	**-0.8**
comp=Z,74nm,1.0s,mb5.2,baz=228,slow=8.0,SNR=31							
SDV	**Santo Domingo**	**24.92**	**1**	*e*	P	**04 50 42.8**	**-1.1**
comp=Z,88nm,1.0s,mb5.2							
SDV				*e*pP		04 51 14.3	
SDV				*e*S	S	**04 55 08.0**	**+13**
CPD	**Cerro la Pandu**	**34.38**	**9**	*e*	P	**04 52 05.6**	**-2.3**
SJG	**San Juan**	**34.42**	**8**	*e*	P	**04 52 05.6**	**-2.6**
SJG				pmax	pmax		
comp=Z,13nm,0.6s							
SJG	**San Juan**	**34.42**	**8**	*e*	P	**04 52 05.5**	**-2.7**
comp=Z,13nm,0.6s,mb4.8							
MTP	**Monte Pirata**	**34.49**	**9**	*e*	P	**04 52 06.1**	**-2.7**
RCBR	**Riachuelo**	**35.88**	**77**	*e*	P	**04 52 20.9**	**+0.3**
RPN	**Rapa Nui**	**37.14**	**246**	P	P	**04 52 30.1**	**-1.0**
comp=Z,48nm,0.9s,mb5.1,baz=8.0,slow=5.0,SNR=2.7							
USHA	**Ushuaia**	**38.61**	**178**	P	P	**04 52 43.3**	**+0.3**
comp=Z,48nm,0.7s,mb5.2,baz=347,slow=7.0,SNR=48							
USHA				PcP	PcP	04 54 52.5	-0.6
comp=Z,9.2nm,0.7s,baz=58,slow=3.1,SNR=4.5							
DWPF	**Disney**	**45.19**	**347**	*e*	P	**04 53 37.4**	**+0.4**
comp=Z,28nm,0.6s,mb5.1							
PMSA	**Palmer Station**	**48.76**	**176**	*e*	P	**04 54 03.9**	**-0.4**
comp=Z,59nm,1.1s,mb5.1							
NHSC	**New Hope**	**49.81**	**350**	*e*	P	**04 54 13.4**	**+0.6**
comp=Z,113nm,1.0s,mb5.5							
NHSC				*e*pP	pP	04 54 44.2	-0.2
SWET	**Sewanee**	**53.06**	**345**	*e*	P	**04 54 34.7**	**-2.5**
SWET				*e*pP	pP	04 55 07.4	-1.7
OXF	**Oxford**	**53.39**	**341**	*e*	P	**04 54 37.6**	**-2.0**
OXF				pmax	pmax		
comp=Z,26nm,1.0s,mb4.9							
OXF	**Oxford**	**53.39**	**341**	*e*	P	**04 54 37.6**	**-2.1**
comp=Z,26nm,1.0s,mb4.9							
TZTN	**Tazewell**	**53.78**	**347**	*e*	P	**04 54 41.4**	**-1.1**
TZTN				*e*pP	pP	04 55 13.7	-0.8
BLA	**Blacksburg**	**53.86**	**351**	*e*	P	**04 54 42.9**	**-0.1**
BLA				*e*PP	pP	04 55 13.6	-1.4
BLA				*e*SP	sP	04 55 27.2	-2.9
BLA				pmax	pmax		
comp=Z,81nm,1.4s,mb5.3							
BLA	**Blacksburg**	**53.86**	**351**	*e*	P	**04 54 42.9**	**-0.2**
comp=Z,81nm,1.4s,mb5.3							
BLA				*e*pP	pP	04 55 13.6	-1.4
BLA				*e*sP	sP	04 55 27.2	-2.8
JCT	**Junction City**	**54.07**	**329**	*e*	P	**04 54 43.9**	**-0.8**
JCT				pmax	pmax		
comp=Z,23nm,1.0s,mb4.9							
JCT	**Junction City**	**54.07**	**329**	*e*	P	**04 54 43.9**	**-0.8**
comp=Z,23nm,1.0s,mb4.8							
WVT	**Waverly**	**54.43**	**343**	*e*	P	**04 54 45.0**	**-2.2**
WVT				pmax	pmax		
comp=Z,12nm,0.8s,mb4.7							
WVT	**Waverly**	**54.43**	**343**	*e*	P	**04 54 45.0**	**-2.2**
comp=Z,12nm,0.8s,mb4.7							
WVT				*e*pP	pP	04 55 18.0	-1.2
MIAR	**Mount Ida**	**54.85**	**337**	*e*	P	**04 54 49.4**	**-0.9**
MIAR				pmax	pmax		
comp=Z,27nm,1.2s,mb4.8							
MIAR	**Mount Ida**	**54.85**	**337**	*e*	P	**04 54 49.4**	**-0.9**
comp=Z,27nm,1.2s,mb4.9							
MIAR				*e*pP	pP	04 55 22.7	+0.3
LTX	**Lajitas**	**55.18**	**325**	*e*	P	**04 54 52.1**	**-0.7**
LTX				pmax	pmax		
comp=Z,36nm,1.6s,mb4.8							
LTX	**Lajitas**	**55.18**	**325**	*e*	P	**04 54 52.1**	**-0.7**
comp=Z,36nm,1.6s,mb4.8							
TXAR	**Lajitas Array**	**55.18**	**325**	P	P	**04 54 51.2**	**-1.5**

comp=Z,4.9nm,0.8s,mb4.3,baz=150,slow=8.4,SNR=54
TXAR pP pP 04 55 25.0 +0.1
comp=Z,5.6nm,1.1s,baz=135,slow=8.8,SNR=3.8
TXAR PcP PcP 04 55 51.8 -0.2
comp=Z,1.6nm,0.8s,baz=153,slow=8.1,SNR=3.4
TXAR Lajitas Array 55.18 325 P **P** **04 54 51.3 -1.5**
TXAR 04 55 51.8
WCI Wyandotte Cave 56.01 345 *e*P **P** **04 54 56.4 -2.2**
WCI pmax pmax
comp=Z,84nm,1.5s,mb5.3
WCI Wyandotte Cave 56.01 345 *e*P **P** **04 54 56.4 -2.2**
comp=Z,84nm,1.5s,mb5.3
WCI *e*pP pP 04 55 29.5 -1.4
MCWV Mont Chateau 56.18 352 *e*P **P** **04 54 59.2 -0.6**
comp=Z,46nm,1.3s,mb5.2
SIUC Southern Illin 56.30 343 *e*P **P** **04 54 59.4 -1.3**
comp=Z,125nm,1.1s,mb5.7
SIUC *e*pP pP 04 55 32.7 -0.3
FVM French Village 56.91 342 *e*P **P** **04 55 03.6 -1.3**
FVM pmax pmax
comp=Z,75nm,1.3s,mb5.4
FVM French Village 56.91 342 *e*P **P** **04 55 03.6 -1.4**
comp=Z,75nm,1.3s,mb5.4
FVM *e*pP pP 04 55 37.5 +0.2
WMOK Wichita Mounta 57.13 333 *e*P **P** **04 55 04.9 -1.7**
WMOK *e* 04 55 59.5
WMOK pmax pmax
comp=Z,35nm,1.5s,mb5.0
WMOK Wichita Mounta 57.13 333 *e*P **P** **04 55 04.9 -1.6**
comp=Z,35nm,1.5s,mb5.0
WMOK *e*pP pP 04 55 38.1 -0.8
WMOK *e*PcP PcP 04 55 59.5 0.0
ACSO Alum Creek Sta 57.24 349 *e*P **P** **04 55 05.0 -2.2**
comp=Z,55nm,1.4s,mb5.2
ACSO *e*pP pP 04 55 38.4 -1.1
GDL2 Guadalupe Moun 57.78 327 *e*P **P** **04 55 11.1 -0.1**
GDL2 *e*pP pP 04 55 44.2 +0.6
BRYW Bryant College 57.82 360 *e*P **P** **04 55 09.7 -1.5**
comp=Z,94nm,1.2s,mb5.5
MNTX Cornudas Mount 57.94 325 *e*P **P** **04 55 10.3 -2.0**
comp=Z,29nm,1.4s,mb4.9
MNTX *e*pP pP 04 55 43.9 -0.8
CPRX Cap Rock 58.17 328 *e*P **P** **04 55 13.1 -0.7**
CPRX *e*pP pP 04 55 43.6 -2.7
ALLY Alegheny Colle 58.17 352 *e*P **P** **04 55 12.6 -1.1**
ERPA Erie 58.61 352 *e*P **P** **04 55 16.3 -0.5**
comp=Z,54nm,0.8s,mb5.4
ERPA *e*pP pP 04 55 48.3 -1.1
KSU1 Kansas State U 60.01 337 *e*P **P** **04 55 25.2 -1.2**
RKT Rikitea 60.26 252 *e*S **S** **05 03 31.7 +2.0**
RKT *e*LR LR 05 13 13.5
comp=Z,122nm,30.5s
BNM Barren Site 60.49 326 *e*P **P** **04 55 29.8 0.0**
BNM *e*pP pP 04 56 03.1 +0.6
LPM Los Pinos Moun 60.62 326 *e*P **P** **04 55 30.2 -0.5**
LPM *e*pP pP 04 56 03.2 -0.2
LAZ Ladron 60.96 326 *e*P **P** **04 55 33.1 +0.1**
LAZ *e*pP pP 04 56 06.3 +0.6
CBKS Cedar Bluff 60.99 335 *e*P **P** **04 55 32.4 -0.7**
CBKS pmax pmax
comp=Z,75nm,1.6s,mb5.3
CBKS Cedar Bluff 60.99 335 *e*P **P** **04 55 32.4 -0.7**
comp=Z,75nm,1.6s,mb5.3
CBKS *e*pP pP 04 56 06.0 +0.1
ANMO Albuquerque 61.02 327 P **P** **04 55 33.0 -0.3**
comp=Z,6.5nm,0.9s,mb4.5,baz=143,slow=7.6,SNR=22
ANMO pP pP 04 56 06.0 -0.1
comp=Z,4.5nm,0.9s,baz=118,slow=7.8,SNR=4.8
ANMO Albuquerque 61.02 327 *e*P **P** **04 55 32.6 -0.7**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 61.02 327 *e*P **P** **04 55 32.6 -0.7**
comp=Z,6.7nm,1.0s,mb4.4
ANMO *e*pP pP 04 56 06.1 0.0
SADO Sadowa 61.12 353 P **P** **04 55 32.4 -1.5**
comp=Z,9.4nm,0.7s,mb4.7,baz=204,slow=4.6,SNR=7.0
SADO pP pP 04 56 05.2 -1.6
comp=Z,13nm,0.8s,baz=231,slow=6.3,SNR=2.7
SADO Sadowa 61.12 353 P **P** **04 55 32.4 -1.5**
SADO pP pP 04 56 05.2 -1.6
SDCO Great Sand Dun 62.71 330 *e*P **P** **04 55 44.5 -0.1**
comp=Z,33nm,0.9s,mb5.2
SDCO *e*pP pP 04 56 17.4 -0.1
WUAZ Wupatki 64.11 324 *e*P **P** **04 55 53.8 -0.1**
comp=Z,31nm,1.1s,mb5.0
WUAZ *e*pP pP 04 56 27.5 +0.6
ISCO Idaho Springs 64.39 331 *e*P **P** **04 55 54.9 -0.7**
ISCO *e**PP pP 04 56 28.6 0.0
ISCO pmax pmax
comp=Z,14nm,0.9s,mb4.8
ISCO Idaho Springs 64.39 331 *e*P **P** **04 55 54.9 -0.7**
comp=Z,14nm,0.9s,mb4.8
ISCO *e*pP pP 04 56 28.6 0.0
PV01 Paradox Valley 64.54 328 *e*P **P** **04 55 56.9 +0.3**
PV01 *e*pP pP 04 56 29.7 0.0
PV10 Paradox Valley 64.96 328 *e*P **P** **04 55 58.4 -1.0**
BAR Barrett 65.36 318 *e*P **P** **04 56 02.0 0.0**
BAR *e*pP pP 04 56 32.3 -2.8
NEN Nelson 66.22 322 *e*P **P** **04 56 07.8 +0.4**
NEN *e*pP pP 04 56 40.6 0.0
SRU San Rafael 66.28 327 *e*P **P** **04 56 07.0 -0.7**
SRU *e**PP pP 04 56 36.0 -4.9
SRU pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
SRU San Rafael 66.28 327 *e*P **P** **04 56 07.0 -0.7**
comp=Z,6.1nm,0.7s,mb4.5
SRU *e*pP pP 04 56 36.0 -4.9
MSU Marysvale 66.72 326 *e*P **P** **04 56 10.6 +0.1**
MSU *e**PP pP 04 56 44.5 +0.7
MVU Marysvale 66.73 326 *e*P **P** **04 56 12.7 +2.1**
comp=Z,55nm,1.6s,mb5.1
MVU *e*pP pP 04 56 46.3 +2.4
ARUT Antelope Range 66.90 324 *e*P **P** **04 56 12.9 +1.3**
ARUT *e**PP pP 04 56 46.0 +1.1
RSSD Black Hills 67.19 335 *e*P **P** **04 56 13.4 0.0**
RSSD pmax pmax
comp=Z,45nm,1.5s,mb5.1
RSSD Black Hills 67.19 335 *e*P **P** **04 56 13.3 0.0**
comp=Z,45nm,1.5s,mb5.1
MWC Mount Wilson 67.24 319 *e*P **P** **04 56 14.3 +0.5**
MPU Maple Canyon 67.53 327 *e*P **P** **04 56 15.6 +0.1**
comp=Z,9.8nm,1.0s,mb4.5
MPU *e*pP pP 04 56 49.0 +0.2
DAU Daniels Canyon 67.63 328 *e*P **P** **04 56 16.7 +0.6**
DAU *e*pP pP 04 56 50.6 +1.1
NLU North Lily Mtn 67.71 327 *e*P **P** **04 56 17.4 +0.7**
SNAA Sanae 67.90 162 *e*P **P** **04 56 17.4 +0.1**
TPNV Topopah Spring 67.93 322 *e*P **P** **04 56 18.8 +0.7**
TPNV *e**PP pP 04 56 51.2 -0.2
TPNV pmax pmax
comp=Z,11nm,0.9s,mb4.6
TPNV Topopah Spring 67.93 322 *e*P **P** **04 56 18.8 +0.8**
comp=Z,11nm,0.9s,mb4.6
TPNV *e*pP pP 04 56 51.2 -0.2
TCUT Toone Canyon 68.22 328 *e*P **P** **04 56 20.3 +0.5**
DUG Dugway 68.28 327 *e*P **P** **04 56 20.6 +0.5**
DUG *e**PP pP 04 56 53.6 +0.1
DUG pmax pmax
comp=Z,29nm,1.4s,mb4.8
DUG Dugway 68.28 327 *e*P **P** **04 56 20.6 +0.5**
comp=Z,29nm,1.4s,mb4.8
DUG *e*pP pP 04 56 53.6 +0.1
DAC Darwin (Calif) 68.29 321 *e*P **P** **04 56 20.9 +0.6**
DAC *e* 04 56 44.7
DAC pmax pmax
comp=Z,50nm,1.6s,mb5.0
DAC Darwin (Calif) 68.29 321 *e*P **P** **04 56 20.9 +0.7**
comp=Z,50nm,1.6s,mb5.0
DAC *e*PcP PcP 04 56 44.7 -0.2
DAC *e*pP pP 04 56 54.3 +0.6
ISA Isabella 68.43 320 *e*P **P** **04 56 22.1 +1.0**
ISA *e**PP pP 04 56 55.4 +0.9
ISA pmax pmax
comp=Z,52nm,1.4s,mb5.1
ISA Isabella 68.43 320 *e*P **P** **04 56 22.1 +0.9**
comp=Z,52nm,1.4s,mb5.1
ISA *e*pP pP 04 56 55.4 +0.8
PDAR Pinedale Array 68.56 330 P **P** **04 56 21.4 -0.5**
comp=Z,4.3nm,0.8s,mb4.2,baz=153,slow=6.6,SNR=22
HWUT Hardware Ranch 68.67 328 *e*P **P** **04 56 22.2 -0.3**
comp=Z,12nm,1.0s,mb4.6
HWUT *e*PcP PcP 04 56 45.4 -1.0
HWUT *e*pP pP 04 56 56.1 +0.2
BGU Big Grassy Mou 68.92 327 *e*P **P** **04 56 24.4 +0.3**
BGU *e*pP pP 04 56 58.2 +0.7
LIC Lamto 68.93 77 *i*P **P** **04 56 24.4 -0.2**
comp=Z,32nm,0.5s,mb5.0
LIC *e*R 04 56 26.5 0.0
comp=Z,167nm,18.5s
DBIC Dimbokro 69.24 76 P **P**
comp=Z,20nm,0.4s,mb5.2,baz=229,slow=6.1,SNR=81
DBIC *e*pP pP 04 56 59.0 -0.9
comp=Z,3.1nm,0.6s,baz=235,slow=7.8,SNR=1.4
DBIC *e*LR LR 05 25 28.9
comp=Z,95nm,18.8s,baz=299,slow=35
DBIC Dimbokro 69.24 76 *e*P **P** **04 56 26.2 -0.3**
DBIC pmax pmax
comp=Z,46nm,0.9s
DBIC Dimbokro 69.24 76 *e*P **P** **04 56 26.2 -0.3**
comp=Z,46nm,0.9s,mb5.2
TPH Tonopah 69.26 322 *e*P **P** **04 56 26.6 +0.4**
TPH pmax pmax
comp=Z,29nm,1.4s,mb4.8
TPH Tonopah 69.26 322 *e*P **P** **04 56 26.6 +0.4**
comp=Z,29nm,1.4s,mb4.8
AHID Auburn Hatcher 69.30 330 *e*P **P** **04 56 25.9 -0.5**
comp=Z,39nm,1.5s,mb4.9
AHID *e*pP pP 04 57 00.6 +0.7
HVU Hansel Valley 69.41 328 *e*P **P** **04 56 26.9 -0.1**
HVU *e* 04 56 46.3
HVU *e**PP pP 04 57 00.4 -0.1
HVU pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
HVU Hansel Valley 69.41 328 *e*P **P** **04 56 26.9 -0.1**
comp=Z,7.8nm,0.7s,mb4.5
HVU *e*PcP PcP 04 56 46.3 -3.2
HVU *e*pP pP 04 57 00.4 -0.1
REDW Red Top Meadow 69.63 330 *e*P **P** **04 56 28.2 -0.1**
comp=Z,51nm,1.6s,mb5.0
REDW *e*pP pP 04 57 02.6 +0.8
SNOW Snow King Moun 69.66 330 *e*P **P** **04 56 28.8 +0.3**
comp=Z,11nm,0.9s,mb4.6
LOHW Long Hollow 69.70 330 *e*P **P** **04 56 29.1 +0.4**
comp=Z,8.8nm,1.0s,mb4.4
LOHW *e*pP pP 04 57 03.1 +0.8
ULM Lac du Bonnet 69.70 343 P **P** **04 56 27.7 -0.9**
comp=Z,17nm,0.8s,mb4.8,baz=152,slow=5.1,SNR=31
ULM pP pP 04 57 01.6 -0.5
comp=Z,6.2nm,0.6s,baz=162,slow=6.0,SNR=3.1
TPAW Teton Pass 69.77 330 *e*P **P** **04 56 29.8 +0.5**
comp=Z,17nm,1.2s,mb4.6
TPAW *e*PcP PcP 04 56 51.8 +0.8
TPAW *e*pP pP 04 57 03.4 +0.7
RRI2 Red Ridge 69.84 330 *e*P **P** **04 56 30.0 +0.4**
comp=Z,130nm,1.5s,mb5.4
RRI2 *e*pP pP 04 57 04.4 +1.2
ELK Elko 69.97 326 P **P** **04 56 30.6 +0.1**
comp=Z,4.5nm,0.9s,mb4.2,baz=111,slow=4.3,SNR=20
ELK PcP PcP 04 56 52.0 +0.1
comp=Z,1.9nm,0.8s,baz=143,slow=2.9,SNR=4.0
ELK pP pP 04 57 04.0 +0.1
comp=Z,3.8nm,0.9s,baz=83,slow=2.9,SNR=4.8
ELK Elko 69.97 326 *e*P **P** **04 56 31.0 +0.6**
ELK *e* 04 56 51.5
ELK *e**PP pP 04 57 03.6 -0.4
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 69.97 326 *e*P **P** **04 56 31.0 +0.6**
comp=Z,4.3nm,0.9s,mb4.2
ELK *e* 04 56 46.0
ELK *e*PcP PcP 04 56 51.5 -0.4
ELK *e*pP pP 04 57 03.6 -0.4
IMW Indian Meadow 70.07 330 *e*P **P** **04 56 30.9 -0.1**
comp=Z,42nm,1.4s,mb5.0
NVAR Mina Array Bea 70.13 322 P **P** **04 56 32.7 +1.2**
comp=Z,3.7nm,0.8s,mb4.1,baz=134,slow=7.6,SNR=27
NVAR pP pP 04 57 05.7 +0.6
comp=Z,2.4nm,0.9s,baz=138,slow=8.1,SNR=4.3
NVAR Mina Array Bea 70.13 322 P **P** **04 56 32.7 +1.2**
NVAR *e*pP pP 04 57 05.7 +0.7
LKWY Lake 70.33 331 *e*P **P** **04 56 33.7 +1.2**
LKWY pmax pmax
comp=Z,16nm,1.0s,mb4.7
LKWY Lake 70.33 331 *e*P **P** **04 56 33.6 +1.1**
comp=Z,16nm,1.0s,mb4.7
YFT Old Faithful 70.44 331 *e*P **P** **04 56 34.5 +1.3**
LRV Little Rabbit 70.50 319 *e*P **P** **04 56 35.6 +1.8**
LRV *e*pP pP 04 57 07.8 +0.4
YMR Madison River 70.67 331 *e*P **P** **04 56 35.7 +1.1**
comp=Z,42nm,1.4s,mb5.0
YMR *e*pP pP 04 57 10.1 +1.9
SCHQ Schefferville 70.83 3 P **P** **04 56 35.0 -0.3**
comp=Z,3.9nm,0.7s,mb4.2,baz=171,slow=4.6,SNR=6.7
SCHQ pP pP 04 57 09.4 +0.4
comp=Z,5.7nm,0.8s,baz=193,slow=4.7,SNR=3.0
GCMT Greycliff 70.93 332 *e*P **P** **04 56 36.9 +0.8**
GCMT *e*pP pP 04 57 11.1 +1.3
QLMT Earthquake Lak 71.01 331 *e*P **P** **04 56 37.0 +0.4**
QLMT *e*pP pP 04 57 11.1 +0.8
CMB Columbia Colle 71.12 321 *e*P **P** **04 56 38.0 +0.6**
CMB pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
CMB Columbia Colle 71.12 321 *e*P **P** **04 56 38.0 +0.6**
comp=Z,9.8nm,1.3s,mb4.4
HLID Hailey 71.53 328 *e*P **P** **04 56 40.5 +0.8**
comp=Z,12nm,1.1s,mb4.5
HLID *e*pP pP 04 57 15.1 +1.7
MCMT McKenzie Canyo 71.68 330 *e*P **P** **04 56 41.8 +1.2**
MCMT *e*pP pP 04 57 15.5 +1.1
BOZ Bozeman (W) 71.71 331 *e*P **P** **04 56 41.3 +0.5**
BOZ *e* 04 56 55.3
BOZ *e**PP pP 04 57 13.8 -0.7
BOZ pmax pmax
comp=Z,32nm,1.5s,mb4.8
BOZ Bozeman (W) 71.71 331 *e*P **P** **04 56 41.2 +0.5**
comp=Z,32nm,1.5s,mb4.8
BOZ *e*PcP PcP 04 56 55.3 -4.0
BOZ *e*pP pP 04 57 13.8 -0.7
DLMT Dillon 71.95 330 *e*P **P** **04 56 42.9 +0.7**
comp=Z,30nm,1.5s,mb4.8
MAIT Maitri 72.43 160 *i*P **P** **04 56 45.5 +0.9**
NVL N'lazarevskaya 72.46 160 *i*P **P** **04 56 45.3 +0.5**
NVL *e**PP pP 04 57 01.4 -17
NVL *e**SP sP 04 57 09.6 -24
NVL pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
HRY Holter Researc 72.61 332 *e*P **P** **04 56 46.7 +0.7**
EGMT Eagleton 72.70 334 *e*P **P** **04 56 46.5 -0.1**
comp=Z,38nm,1.3s,mb5.0
EGMT *e*pP pP 04 57 20.2 -0.2
WVOR Wild Horse Val 72.98 325 *e*P **P** **04 56 47.5 -0.8**
WVOR pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
WVOR Wild Horse Val 72.98 325 *e*P **P** **04 56 47.5 -0.9**
comp=Z,7.4nm,1.2s,mb4.3
CHMT Chamberlain Mo 73.41 331 *e*P **P** **04 56 51.1 +0.4**
MOD Modoc 73.56 324 *e*P **P** **04 56 52.6 +0.9**
comp=Z,34nm,1.3s,mb4.9
MOD *e*pP pP 04 57 25.8 +0.2
BMO Blue Mountains 73.92 328 *e*P **P** **04 56 54.3 +0.6**
comp=Z,34nm,1.6s,mb4.8
BMO *e*pP pP 04 57 28.1 +0.5
BMO *e*sP sP 04 57 43.7 +1.2
QSPA South Pole Qui 73.97 180 *e*P **P** **04 56 54.0 +0.7**
comp=Z,55nm,1.0s,mb5.2
PPT Papeete 74.67 256 *e*S S 05 06 23.9 +2.2
YBH Yreka Blue Hor 74.84 322 P **P** **04 56 58.6 -0.5**
comp=Z,6.8nm,0.9s,mb4.3,baz=121,slow=12,SNR=6.9
YBH pP pP 04 57 32.0 -1.1
comp=Z,5.9nm,1.0s,baz=156,slow=2.4,SNR=2.6
KTRM Thompson Ridge 75.34 322 P **P** **04 57 03.4 +1.5**
HBO Huckleberry Mo 75.94 324 P **P** **04 57 06.3 +1.1**
HAWA Hanford 76.11 328 *e*P **P** **04 57 07.4 +1.3**
comp=Z,3.6nm,1.5s,mb3.8
HAWA *e*pP pP 04 57 41.2 +0.9
HAWA *e*sP sP 04 57 57.0 +1.8
OD2 Odessa Site #2 76.37 329 P **P** **04 57 09.0 +1.5**
EBG Ellensburg 76.99 328 P **P** **04 57 12.9 +1.9**
MPOR Mary's Peak 77.05 324 P **P** **04 57 13.4 +2.0**
FCC Fort Churchill 77.06 348 *e*P **P** **04 57 11.2 0.0**
FCC *e**PP pP 04 57 44.6 -0.8
FCC pmax pmax
comp=Z,13nm,0.9s,mb4.6
FCC Fort Churchill 77.06 348 *e*P **P** **04 57 11.2 +0.1**
comp=Z,13nm,0.9s,mb4.6
FCC *e*pP pP 04 57 44.6 -0.8
TORD Torodi Ar. Bea 77.52 72 P **P** **04 57 14.4 -0.2**
comp=Z,24nm,0.7s,mb5.0,baz=264,slow=5.6,SNR=221
TORD pP pP 04 57 48.6 -0.2
comp=Z,8.5nm,0.7s,baz=254,slow=5.1,SNR=3.2
EDM Edmonton 78.15 336 *e*P **P** **04 57 17.0 -0.3**
EDM *e**PP pP 04 57 49.8 -1.8
FRB Frobisher Bay 79.71 1 P **P** **04 57 25.7 +0.2**
comp=Z,22nm,1.1s,mb4.7,baz=146,slow=2.5,SNR=8.6
MDT Midelt 79.93 52 P **P** **04 57 29.5 +2.2**
comp=Z,5.0nm,1.1s,mb4.1,baz=261,slow=9.6,SNR=5.1
EVO Evora 80.18 45 *e*P **P** **04 57 26.5 -2.1**
comp=Z,61nm,1.5s,mb4.7
EVO *e*R
comp=Z,131nm,21.5s
SBA Scott Base 80.66 190 *e*P **P** **04 57 32.0 +1.6**
VNDA Vanda 81.70 190 P **P** **04 57 37.2 +1.4**
comp=Z,11nm,0.9s,mb4.5,baz=130,slow=4.6,SNR=32
VNDA Vanda 81.70 190 *e*P **P** **04 57 37.0 +1.1**
VNDA *e**SP sP 04 58 23.6 -1.8
VNDA pmax pmax
comp=Z,26nm,1.4s
VNDA Vanda 81.70 190 *e*P **P** **04 57 37.0 +1.1**
comp=Z,26nm,1.4s,mb4.7
VNDA *e*sP sP 04 58 23.6 -1.9
SYO Syowa Base 82.13 160 *i*P **P** **04 57 38.6 +0.4**
SYO Syowa Base 82.13 160 *i*P **P** **04 57 38.6 +0.4**
TSUM Tsumeb 83.48 108 P **P** **04 57 47.8 +1.8**
comp=Z,17nm,0.9s,mb4.8,baz=252,slow=5.5,SNR=19
TSUM pP pP 04 58 21.7 +1.0
comp=Z,11nm,0.9s,baz=219,slow=6.0,SNR=3.5
TSUM Tsumeb 83.48 108 *e*P **P** **04 57 47.3 +1.3**
comp=Z,22nm,1.0s,mb4.8
TSUM *e*pP pP 04 58 21.8 +1.1
ESDC Sonseca Array 83.49 46 P **P** **04 57 47.6 +1.9**
comp=Z,3.7nm,0.7s,mb4.2,baz=254,slow=5.2,SNR=18
ESDC pP pP 04 58 20.6 +0.3
comp=Z,5.1nm,0.7s,baz=249,slow=4.7,SNR=4.2
YKA Yellowknife Ar 85.56 341 P **P** **04 57 55.4 0.0**
comp=Z,6.3nm,0.6s,mb4.5,baz=137,slow=5.2,SNR=185
YKA pP pP 04 58 30.7 +0.4
comp=Z,14nm,0.8s,baz=136,slow=5.1,SNR=11
YKA *e*LR LR 05 39 21.8
comp=Z,49nm,18.2s,baz=265,slow=38
YKA Yellowknife Ar 85.56 341 P **P** **04 57 55.4 0.0**
YKA pP pP 04 58 30.7 +0.4
YKA LR LR 05 39 21.9
YKW3 Yellowknife Ar 85.62 341 *e*P **P** **04 57 55.9 +0.2**
YKW3 *e*pP pP 04 58 30.7 +0.2
SJPF Ste Jean 86.86 43 *e*P **P** **04 58 02.0 -0.2**
ETSF Etsaut 87.21 44 *e*P **P** **04 58 04.3 +0.4**
comp=Z,14nm,0.9s,mb4.5
ETSF Etsaut 87.21 44 *e*P **P** **04 58 04.3 +0.4**
ETSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
QUIF Quistinic 87.77 39 *e*P **P** **04 58 06.5 +0.1**
EPF Esparros 87.87 44 *e*P **P** **04 58 07.2 +0.2**
comp=Z,8.7nm,0.9s,mb4.3
EPF Esparros 87.87 44 *e*P **P** **04 58 07.2 +0.2**
EPF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ROSF Rostrenen 87.89 38 *e*P **P** **04 58 07.1 +0.1**
DLBC Dease Lake 88.62 333 *e*P **P** **04 58 12.1 +1.9**
DLBC *e*pP pP 04 58 45.5 +0.2
LFF La Frestale 88.91 42 *e*P **P** **04 58 12.3 +0.4**
LBTB Lobatse 89.04 116 P **P** **04 58 14.2 +1.2**
comp=Z,3.5nm,0.9s,mb4.3,baz=212,slow=9.9,SNR=4.1
LBTB Lobatse 89.04 116 *e*P **P** **04 58 13.6 +0.6**
MFF Saint Martin d 89.04 41 *e*P **P** **04 58 12.2 -0.3**
comp=Z,8.9nm,0.8s,mb4.5
MFF Saint Martin d 89.04 41 *e*P **P** **04 58 12.2 -0.3**
MFF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GRR Gorron 89.36 39 *e*P **P** **04 58 13.9 0.0**
comp=Z,24nm,1.0s,mb4.8
GRR Gorron 89.36 39 *e*P **P** **04 58 13.9 0.0**
GRR pmax pmax
comp=Z,12nm,1.0s,mb4.8
RJF Les Rejaudoux 89.56 42 *e*P **P** **04 58 15.1 +0.1**
comp=Z,20nm,1.1s,mb4.7
RJF Les Rejaudoux 89.56 42 *e*P **P** **04 58 15.1 +0.1**
RJF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
FLN La Foliniere 89.75 39 *e*P **P** **04 58 15.4 -0.3**
comp=Z,53nm,1.2s,mb5.0
FLN *e*R
comp=Z,80nm,17.0s
FLN La Foliniere 89.75 39 *e*P **P** **04 58 15.4 -0.3**
FLN pmax pmax
comp=Z,26nm,1.3s,mb5.0
FLN MLR MLR
comp=Z,80nm,17.0s
CAF Calviac 89.77 43 *e*P **P** **04 58 16.4 +0.4**
LDF La Druitiere 89.89 39 *e*P **P** **04 58 16.8 +0.4**
comp=Z,17nm,0.9s,mb4.7
LDF La Druitiere 89.89 39 *e*P **P** **04 58 16.8 +0.4**
LDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MAW Mawson 89.94 164 *e*P **P** **04 58 17.5 +1.3**
comp=Z,20nm,1.1s,mb5.0
MAW Mawson 89.94 164 P **P** **04 58 18.0 +1.8**
comp=Z,25nm,1.0s,mb5.1,baz=233,slow=6.0,SNR=21
MAW pP pP 04 58 50.8 -0.7
comp=Z,7.8nm,1.0s,baz=278,slow=5.0,SNR=2.9
MAW Mawson 89.94 164 *e*P **P** **04 58 17.5 +1.3**
MAW pmax pmax
comp=Z,20nm,1.1s
TCF Toulx Ste Croi 90.40 42 *e*P **P** **04 58 19.0 +0.1**
BGF Bois d'Agland 90.91 42 *e*P **P** **04 58 21.3 0.0**
comp=Z,17nm,0.7s,mb4.9
BGF Bois d'Agland 90.91 42 *e*P **P** **04 58 21.3 0.0**
BGF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
SUMG Summit 91.16 9 *e*P **P** **04 58 24.1 +2.3**
comp=Z,49nm,1.3s,mb5.4
SUMG *e*pP pP 04 58 58.5 +1.4
AVF Avril sur Loir 91.32 41 *e*P **P** **04 58 22.6 -0.6**
comp=Z,8.4nm,0.8s,mb4.5
AVF Avril sur Loir 91.32 41 *e*P **P** **04 58 22.6 -0.6**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
VIVF Saint-Julien-l 91.46 44 *e*P **P** **04 58 23.6 -0.3**
comp=Z,56nm,1.3s,mb5.1
VIVF Saint-Julien-l 91.46 44 *e*P **P** **04 58 23.6 -0.3**
VIVF pmax pmax
comp=Z,28nm,1.3s,mb5.1
SSF Saint Saulge 91.52 41 *e*P **P** **04 58 23.9 -0.2**
comp=Z,4.6nm,0.7s,mb4.3
SSF Saint Saulge 91.52 41 *e*P **P** **04 58 23.9 -0.2**
SSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
SMF Signal de Mont 91.58 42 *e*P **P** **04 58 23.8 -0.6**
comp=Z,18nm,0.9s,mb4.8
SMF Signal de Mont 91.58 42 *e*P **P** **04 58 23.8 -0.6**
SMF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
LOR Lormes 91.82 41 *e*P **P** **04 58 25.1 -0.4**
LOR *e*R
comp=Z,92nm,17.2s
RES Resolute Bay 91.94 354 P **P** **04 58 25.2 -0.2**
RES *e**PP pP 04 58 59.0 -1.7
RES pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
RES Resolute Bay 91.94 354 P **P** **04 58 25.2 -0.2**
comp=Z,4.4nm,1.0s,mb4.4
RES *e*pP pP 04 58 59.0 -1.7
ORIF Oris-en-Rattie 92.28 44 *e*P **P** **04 58 27.9 +0.3**
comp=Z,17nm,0.9s,mb4.8
ORIF *e*R
comp=Z,136nm,21.2s
FRF La Foret Royal 92.33 45 *e*P **P** **04 58 27.7 -0.2**
comp=Z,110nm,1.4s,mb5.4
FRF La Foret Royal 92.33 45 *e*P **P** **04 58 27.7 -0.2**
FRF pmax pmax
comp=Z,55nm,1.4s,mb5.4
SBF Sospel 92.97 45 *e*P **P** **04 58 30.4 -0.4**
comp=Z,42nm,1.0s,mb5.2
SBF Sospel 92.97 45 *e*P **P** **04 58 30.4 -0.4**
SBF pmax pmax
comp=Z,21nm,1.0s,mb5.2
MATP Matopo 92.99 112 P **P** **04 58 33.0 +1.6**
comp=Z,11nm,0.9s,mb5.0,baz=238,slow=6.2,SNR=20
LPL La Plagne 93.06 43 *e*P **P** **04 58 30.9 -0.3**
comp=Z,7.9nm,0.7s,mb4.7
LPL La Plagne 93.06 43 *e*P **P** **04 58 30.9 -0.3**
LPL pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
LPG La Plagne 93.06 43 *e*P **P** **04 58 31.1 -0.1**
LSZ Lusaka 94.31 107 *e*P **P** **04 58 37.4 -0.1**
LSZ pmax pmax

comp=Z,4.0nm,1.1s,mb4.5
LSZ Lusaka 94.31 107 *e*P **P 04 58 37.4 -0.1**
comp=Z,3.7nm,1.1s,mb4.4
INK Inuvik 95.32 341 *e*P **P 04 58 37.5 -3.4**
INK *e**PP pP 04 59 15.7 -0.5
INK pmax pmax
comp=Z,19nm,1.4s
INK Inuvik 95.32 341 *e*P **P 04 58 37.5 -3.4**
comp=Z,19nm,1.4s,mb5.1
INK *e*pP pP 04 59 15.7 -0.5
DAVOX Davos 95.53 43 P **P 04 58 43.5 +1.1**
comp=Z,4.6nm,0.9s,mb4.8,baz=314,slow=7.4,SNR=3.9
GERES GERESS Array B 98.58 42 P **P 04 58 56.4 +0.2**
comp=Z,1.1nm,0.7s,mb4.4,SNR=4.7
ILAR Eielson Array 98.64 335 P **P 04 58 55.3 -0.8**
comp=Z,0.6nm,0.8s,mb4.1,baz=130,slow=2.6,SNR=7.7
ILAR pP pP 04 59 31.6 +0.2
comp=Z,0.8nm,0.9s,baz=158,slow=3.6,SNR=3.8
ILAR PP PP 05 02 52.0 -8.5
comp=Z,0.6nm,0.8s,baz=98,slow=6.8,SNR=5.5
COLA College 99.06 335 *e*P **P 04 58 57.6 -0.4**
COLA pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
COLA College 99.06 335 *e*P **P 04 58 57.6 -0.4**
comp=Z,6.3nm,1.0s,mb5.0
BRTR Keskin Array B 111.31 53 PKiKP 05 03 52.1
comp=Z,1.0nm,0.9s,baz=207,slow=2.8,SNR=4.1
STKA Stephens Creek 122.90 213 PKP PKPdf 05 04 14.2 +1.9
comp=Z,5.7nm,0.8s,baz=66,slow=4.3,SNR=3.9
TIXI Tiksi 123.31 353 *i* PKIKP PKPdf 05 04 12.5 +0.4
TIXI pmax pmax
comp=Z,2.0nm,0.8s
AKTK Aktyubinsk 126.85 38 PKP PKPdf 05 04 22.0 +2.6
AKTK pPKP 05 04 58.0
AKTO Aktyubinsk 126.85 38 PKP PKPdf 05 04 22.0 +2.6
comp=Z,5.4nm,0.9s,baz=309,slow=1.5,SNR=14
AKTO pPKP 05 04 58.0
comp=Z,4.5nm,1.0s,baz=278,slow=3.2,SNR=4.2
CTA Charters Tower 128.64 227 ⇑*i*P PKPdf 05 04 25.9 +2.2
comp=Z,4.7nm,0.9s
CTAO Charters Tower 128.64 227 *e*PKIKP PKPdf 05 04 25.7 +2.0
CHKZ Chkalovo 132.12 30 *e*PKIKP PKPdf 05 04 32.2 +2.8
CHKZ *e* 05 05 07.9
WB2 Warramunga Arr 136.31 216 *e* PKPdf 05 04 39.7 +1.7
WB2 *e* 05 05 14.3
WB2 *e*S PKS 05 08 11.2 -2.0
WRA Warramunga Arr 136.31 216 PKhKP 05 04 24.9
comp=Z,1.3nm,0.8s,baz=136,slow=3.8,SNR=14
WRA PKP PKPdf 05 04 40.0 +2.0
comp=Z,12nm,0.9s,baz=154,slow=1.5,SNR=35
WRA pPKP 05 05 14.5
comp=Z,5.3nm,0.8s,baz=148,slow=1.5,SNR=4.5
NVS Novosibirsk 136.60 21 *e*PKIKP PKPdf 05 04 39.9 +2.3
NVS *e* 05 05 15.4
NVS pmax pmax
comp=Z,29nm,1.7s
FITZ Fitzroy Crossi 142.19 206 *e*P PKPdf 05 04 45.0 -3.7
comp=Z,19nm,0.7s
MKAR Makanchi Array 142.28 30 PKhKP 05 04 46.5
comp=Z,4.2nm,0.8s,baz=323,slow=3.6,SNR=20
KSH Kashi 143.00 45 *e*PKP PKPdf 05 04 54.3 +4.8
KSH *e*PKS PKS 05 08 29.0 +4.9
KSH *e*SKS SKS 05 11 41.5 -2.1
KSH PP PP
comp=Z,280nm,9.1s
KAKA Kakadu 143.11 220 *e*P PKPbc 05 05 10.4 +22
comp=Z,5.8nm,0.6s
MOY Mondy 144.04 9 *e*PKIKP PKPdf 05 04 51.9 +1.0
MOY pmax pmax
comp=Z,73nm,3.1s
ZAK Zakamensk 145.59 7 ⇓*i*PKP2 PKPab 05 04 57.3 +0.5
ZAK pmax pmax
comp=Z,20nm,1.2s
ZAK pmax pmax
comp=Z,16nm,1.1s
HIA Hailar 145.88 347 *e*PKPdf PKPdf 05 04 56.7 +2.6
HIA *ep*PKPdf 05 05 32.2
MDJ Mudanjiang 146.77 333 PKP PKPdf 05 04 58.9 +3.1
MDJ Mudanjiang 146.77 333 *e*PKPdf PKPdf 05 04 58.6 +2.8
WMQ Urumqi 147.04 29 *e*PKP PKPdf 05 05 00.0 +3.7
WMQ LR LR
comp=N,40nm,20.0s
WMQ LR LR
comp=E,40nm,21.2s
WMQ LR LR
comp=Z,30nm,19.0s
MAJO Matsushiro 147.13 314 *e*PKIKP PKPdf 05 04 59.2 +2.6
MAJO *e* 05 05 01.4
MAT Matsushiro 147.13 314 PKP PKPdf 05 05 00.5 +3.9
MAT Matsushiro 147.13 314 *e*PKP2 PKPab 05 05 01.0 -2.2
MJAR Matsushiro Arr 147.13 314 PKPbc PKPdf 05 05 01.3 +4.6
comp=Z,66nm,0.8s,baz=97,slow=1.7,SNR=124
MJAR pPKPbc 05 05 37.8
comp=Z,8.3nm,0.8s,baz=76,slow=1.7,SNR=2.5
MJAR Matsushiro Arr 147.13 314 PKPbc PKPdf 05 05 01.3 +4.6
MJAR pPKPbc 05 05 37.8
SONM Songino Array 148.38 3 PKP PKPdf 05 05 01.5 +3.1
comp=Z,17nm,0.7s,baz=316,slow=1.0,SNR=43
SONM PKPbc PKPdf 05 05 05.0 +6.6
comp=Z,17nm,0.7s,baz=298,slow=1.6,SNR=44
SONM pPKP 05 05 36.5
comp=Z,4.7nm,0.8s,baz=24,slow=1.0,SNR=2.3
SONM pPKPbc 05 05 39.9
comp=Z,10nm,0.8s,baz=332,slow=1.9,SNR=3.0
ULN Ulaanbaatar 148.38 3 *e*PKIKP PKPdf 05 05 01.6 +3.3
ULN *e* 05 05 05.5
ULN *e* 05 05 40.6
CN2 Changchun 149.15 336 *e*PKP PKPdf 05 05 04.4 +4.7
CN2 *e*PKP2 PKPab 05 05 15.3 +4.2
CN2 PP PP
comp=Z,270nm,6.0s
HYB Hyderabad 150.82 83 *i* PKP PKPdf 05 05 06.5 +3.5
HYB *es*PKP 05 05 41.0
HYB *e* 05 05 48.0
HYB Hyderabad 150.82 83 *e*PKIKP PKPdf 05 05 06.5 +3.5
HYB *e* 05 05 41.0
HHC Hu-ho-hao-te 155.34 355 *e*PKP PKPdf 05 05 12.4 +3.8
HHC PKS PKS 05 08 44.5 +2.6
HHC SKS SKS 05 11 59.6 -0.1
HHC PP PP
comp=Z,110nm,8.4s
HHC LR LR
comp=N,190nm,14.3s
HHC LR LR
comp=E,100nm,14.3s
HHC LR LR
comp=Z,100nm,13.1s
GTA Gaotai 155.51 17 PKP PKPdf 05 05 12.8 +3.9
GTA PP PP 05 09 16.8 +1.0
GTA PP PP
comp=Z,110nm,8.0s
GTA LR LR
comp=N,70nm,13.3s
GTA LR LR
comp=E,120nm,12.9s
GTA LR LR
comp=Z,60nm,11.8s
LZH Lanzhou 159.66 12 *e*PKP PKPdf 05 05 13.6 -0.7
LZH APKP 05 05 50.5
LZH XPKP 05 06 05.3
LZH PKS PKS 05 08 46.5 -0.2
LZH *e*PP PP 05 09 35.6 -2.5
LZH SKKS 05 16 08.9
LZH PP PP
comp=Z,110nm,8.3s
LZH LR LR
comp=N,210nm,18.3s
LZH LR LR
comp=Z,290nm,20.0s
NJ2 Nanjing 161.86 332 *e*PKP PKPdf 05 05 16.6 0.0
NJ2 APKP 05 05 58.5
NJ2 PKP2 PKPab 05 06 05.1 -0.5
NJ2 PKS PKS 05 08 52.0 +3.0
NJ2 PP PP 05 09 49.0 -1.3
NJ2 PP PP
comp=Z,390nm,6.6s
NJ2 LR LR
comp=N,2μm,33.2s
NJ2 LR LR
comp=E,1μm,35.5s
NJ2 LR LR
comp=Z,670nm,24.5s
XAN Xi'an 162.23 0 PKP PKPdf 05 05 20.0 +3.1
CD2 Chengdu 164.58 17 *e*PKP PKPdf 05 05 23.3 +3.9
KMI Kunming 169.35 32 PKP PKPdf 05 05 26.9 +3.9
KMI XPKP 05 06 14.8
KMI SS SS 05 31 08.6 -2.3
KMI LR LR
comp=Z,40nm,23.9s
GYA Guiyang 169.56 12 *e*PKP PKPdf 05 05 26.6 +3.5
GYA PKS PKS 05 08 58.4 +3.8
GYA PP PP
comp=Z,120nm,8.0s
GYA LR LR
comp=N,290nm,21.4s
GYA LR LR
comp=E,310nm,21.8s
GYA LR LR
comp=Z,390nm,22.0s

*ROM **15** 06:00:32.8±0.1,42.75N×12.77E,h19km±2km,Md3.1/18, Ml3.3/14, Error ellipse: s-maj=1.0km s-min=0.6km az=60.0*
*NEIC **15** 06:00:32.8, 42.75N×12.77E,h19km, ML3.3(ROM), ML3.3(LDG),After ROM.*
*CSEM **15** 06:00:33.0±0.1,42.75N×12.84E,h10km, ML3.3/10, Error ellipse: s-maj=2.8km s-min=2.0km az=57.0*
*LDG **15** 06:00:35.5±0.2,42.74N×12.80E,h10km, Ml3.3/10, Error ellipse: s-maj=6.8km s-min=4.3km az=68.0*
*PRU **15** 06:00:38.1,43.00N×12.89E*
ISC 15 06:00:33.8±0.3,42.71N±0.02×12.73E±0.03,h22km±4km, n64,σ1s04/91,8C-11D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.25**	**116**	Pg	**Pb**	**06 00 39.2**	**-0.7**
LNSS				Sg	**Sb**	**06 00 43.6**	**-0.4**
MNS	**Montasola**	**0.33**	**187**	Pg	**Pb**	**06 00 41.1**	**0.0**
MNS				Sg	**Sb**	**06 00 47.8**	**+1.8**
873nm,0.5s							
FIAM	**Fiamignano**	**0.53**	**147**	Pg	**Pb**	**06 00 44.1**	**-0.2**
FIAM				Sg	**Sb**	**06 00 52.8**	**+1.3**
2μm,0.8s							
CAMP	**Campotosto**	**0.53**	**109**	Pg	**Pb**	**06 00 43.8**	**-0.5**
CAMP				Sg	**Sb**	**06 00 52.2**	**+0.6**
2μm,0.8s							
SNTG	**Esanatoglia**	**0.56**	**16**	Pg	**Pb**	**06 00 43.6**	**-1.3**
MURB	**Monte Urbino**	**0.57**	**345**	Pg	**Pb**	**06 00 44.4**	**-0.6**
MURB				Sg	**Sb**	**06 00 53.1**	**+0.4**
8μm,0.3s							
AQU	**L'Aquila**	**0.61**	**126**	*e*Pg	**Pb**	**06 00 45.5**	**-0.3**
AQU	**L'Aquila**	**0.61**	**126**	*e*Pg	**Pb**	**06 00 45.5**	**-0.2**
SACS	**San Casciano d**	**0.62**	**283**	Pg	**Pb**	**06 00 46.0**	**+0.1**
1μm,0.5s							
TERO	**Teramo**	**0.65**	**98**	Pg	**Pb**	**06 00 45.5**	**-0.8**
TERO				Sg	**Sb**	**06 00 55.2**	**+0.2**
2μm,1.0s							
MTCE	**Montecelio**	**0.69**	**179**	Pg	**Pb**	**06 00 47.2**	**+0.1**
646nm,0.4s							
CING	**Cingoli**	**0.74**	**27**	Pg	**Pb**	**06 00 47.0**	**-0.9**
CING				Sg	**Sb**	**06 00 57.9**	**+0.3**
1μm,0.4s							
CERT	**Cerreto**	**0.79**	**166**	Pg	**Pb**	**06 00 48.7**	**0.0**
747nm,0.6s							
ARV	**Arcevia**	**0.80**	**11**	Pg	**Pb**	**06 00 47.8**	**-1.1**
ARV				Sg	**Sb**	**06 00 59.8**	**+0.6**
PIEI	**Pieia**	**0.83**	**350**	Pg	**Pb**	**06 00 49.0**	**-0.5**
PIEI				Sg	**Sb**	**06 01 01.8**	**+1.6**
541nm,0.4s							
TOLF	**Tolfa**	**0.85**	**220**	Pg	**Pb**	**06 00 50.3**	**+0.6**
577nm,0.4s							
PTQR	**Pietraquaria**	**0.85**	**144**	Pg	**Pb**	**06 00 49.8**	**0.0**
172nm,0.4s							
BADI	**Badiali**	**0.87**	**336**	Pg	**Pb**	**06 00 49.8**	**-0.3**
1μm,0.5s							
VCEL	**Villa Celiera**	**0.88**	**111**	Pg	**Pb**	**06 00 50.3**	**+0.1**
2μm,0.7s							
FSSB	**Fossombrone**	**0.98**	**2**	Pg	**Pb**	**06 00 51.5**	**-0.4**
439nm,0.6s							
AOI	**Ancona**	**1.05**	**37**	Pg	**Pb**	**06 00 52.9**	**-0.2**
764nm,0.5s							
CRE	**Caprese Michel**	**1.07**	**328**	Pg	**Pb**	**06 00 53.7**	**+0.2**
264nm,0.3s							
PGF	**Pioggiola**	**2.76**	**268**	*e*Pn	**Pn**	**06 01 18.3**	**+0.6**
PGF				*e*Sn	**Sn**	**06 01 50.4**	**-0.4**
7.0nm,0.4s							
JAVS	**Javornik**	**3.32**	**16**	*e*Pn	**Pn**	**06 01 25.9**	**+0.3**
JAVS				*e*Sn	**Sn**	**06 02 05.0**	**+0.1**
BOJS	**Bojanci**	**3.33**	**32**	*i* Pn	**Pn**	**06 01 23.1**	**-2.7**
BOJS				*e*Sn	**Sn**	**06 02 07.0**	**+1.9**
VOY	**Vojsko**	**3.42**	**14**	*e*Pn	**Pn**	**06 01 27.2**	**+0.1**
VOY				*e*Sn	**Sn**	**06 02 06.8**	**-0.7**
VISS	**Visnje**	**3.44**	**25**	*i* Pn	**Pn**	**06 01 28.4**	**+1.0**
VISS				*e*Sn	**Sn**	**06 02 09.2**	**+1.3**
LJU	**Ljubljana**	**3.57**	**21**	*e*Pn	**Pn**	**06 01 30.6**	**+1.4**
LJU				*e*Sn	**Sn**	**06 02 12.5**	**+1.3**
OBKA	**Obir**	**4.01**	**18**	⇓*i*Pn	**Pn**	**06 01 35.2**	**-0.3**
OBKA	**Obir**	**4.01**	**18**	⇑*i*Sn	**Sn**	**06 02 21.3**	**-1.1**
SBF	**Sospel**	**4.03**	**288**	*e*Pn	**Pn**	**06 01 35.8**	**-0.1**
SBF				*e*Sn	**Sn**	**06 02 21.5**	**-1.5**
24nm,0.6s							
SCE	**Schlegeis**	**4.38**	**351**	⇓*i*Pn	**Pn**	**06 01 41.5**	**+0.7**
KBA	**Koelnbreinsper**	**4.39**	**5**	⇑*i*Pn	**Pn**	**06 01 41.5**	**+0.7**
KBA	**Koelnbreinsper**	**4.39**	**5**	⇓*i*Sn	**Sn**	**06 02 31.7**	**-0.3**
FRF	**La Foret Royal**	**4.53**	**283**	*e*Pn	**Pn**	**06 01 42.1**	**-0.8**
LMF	**Le Mourre**	**4.61**	**280**	*e*Pn	**Pn**	**06 01 42.9**	**-1.1**
WTTA	**Wattenberg**	**4.62**	**351**	⇑*i*Pn	**Pn**	**06 01 45.5**	**+1.4**
WTTA	**Wattenberg**	**4.62**	**351**	⇓*i*Sn	**Sn**	**06 02 38.3**	**+0.6**
SQTA	**Sankt Quirin**	**4.63**	**347**	⇑*i*Pn	**Pn**	**06 01 44.7**	**+0.3**
SQTA	**Sankt Quirin**	**4.63**	**347**	⇑*i*Sn	**Sn**	**06 02 39.9**	**+1.7**
WATA	**Walderalm**	**4.69**	**350**	⇓*i*Pn	**Pn**	**06 01 46.2**	**+1.0**
WATA	**Walderalm**	**4.69**	**350**	⇓*i*Sn	**Sn**	**06 02 41.1**	**+1.4**
MBDF	**Montbardon**	**4.77**	**297**	*e*Pn	**Pn**	**06 01 46.7**	**+0.5**
MBDF				*e*Sn	**Sn**	**06 02 37.5**	**-4.0**
21nm,0.8s							
MOTA	**Moosalm**	**4.77**	**347**	⇓*i*Pn	**Pn**	**06 01 47.4**	**+1.1**
MOTA	**Moosalm**	**4.77**	**347**	⇑*i*Sn	**Sn**	**06 02 43.2**	**+1.6**
ARSA	**Arzberg**	**4.95**	**23**	⇑*i*Pn	**Pn**	**06 01 47.7**	**-1.1**
ARSA	**Arzberg**	**4.95**	**23**	⇓*i*Sn	**Sn**	**06 02 43.4**	**-2.8**
DAVA	**Damuels**	**5.00**	**337**	⇓*i*Pn	**Pn**	**06 01 50.8**	**+1.2**
DAVA	**Damuels**	**5.00**	**337**	⇓*i*Sn	**Sn**	**06 02 49.1**	**+1.7**
LPG	**La Plagne**	**5.13**	**305**	*e*Pn	**Pn**	**06 01 52.0**	**+0.7**
LPG				*e*Sn	**Sn**	**06 02 47.0**	**-3.6**
20nm,0.9s							
LPL	**La Plagne**	**5.15**	**305**	*e*Pn	**Pn**	**06 01 52.0**	**+0.4**
LPL				*e*Sn	**Sn**	**06 02 46.9**	**-4.2**
7.2nm,0.5s							
MOA	**Molln**	**5.25**	**11**	⇓*i*Pn	**Pn**	**06 01 53.0**	**0.0**
MOA	**Molln**	**5.25**	**11**	⇑*i*Sn	**Sn**	**06 02 51.7**	**-1.9**
SMRF	**Simiane la Rot**	**5.37**	**286**	*e*Pn	**Pn**	**06 01 54.8**	**+0.1**
ORIF	**Oris-en-Rattie**	**5.43**	**296**	*e*Pn	**Pn**	**06 01 56.5**	**+1.0**
15nm,0.6s							
CABF	**La Chapelle**	**6.13**	**312**	*e*Pn	**Pn**	**06 02 05.8**	**+0.3**
CABF				*e*Sn	**Sn**	**06 03 10.0**	**-5.8**
10nm,0.8s							
GEC2	**GERESS Array S**	**6.17**	**6**	*e*Pn	**Pn**	**06 02 04.7**	**-1.3**
GEC2				*e*Sn	**Sn**	**06 03 12.4**	**-4.3**
WET	**Wettzell**	**6.43**	**1**	*e*Pn	**Pn**	**06 02 08.0**	**-1.7**
WET				*e*Sn	**Sn**	**06 03 17.6**	**-5.6**
KHC	**Kasperske Hory**	**6.45**	**5**	*e*PN	**Pn**	**06 02 08.9**	**-1.0**
KHC				x	x	06 02 18.0	
KHC				x	x	06 02 26.0	
KHC				*e*SN	**Sn**	**06 03 17.7**	**-5.9**
KHC	**Kasperske Hory**	**6.45**	**5**	*e*Pn	**Pn**	**06 02 08.9**	**-1.0**
KHC				*e*		06 02 18.0	
KHC				*e*		06 02 26.0	
KHC				*e*Sn	**Sn**	**06 03 17.7**	**-5.9**
HINF	**Hinteralfeld**	**6.58**	**323**	*e*Pn	**Pn**	**06 02 09.9**	**-1.8**
HINF				*e*Sn	**Sn**	**06 03 20.2**	**-6.6**
6.6nm,0.5s							
CDF	**Champ du Feu**	**6.86**	**328**	*e*Pn	**Pn**	**06 02 13.6**	**-2.2**
CDF				*e*Sn	**Sn**	**06 03 27.6**	**-6.4**
3.4nm,0.4s							
HAU	**Haudompre**	**6.94**	**322**	*e*Pn	**Pn**	**06 02 15.4**	**-1.5**
HAU				*e*Sn	**Sn**	**06 03 28.9**	**-7.1**
13nm,0.4s							
NKC	**Novy Kostel**	**7.52**	**359**	*e*SN	**Sn**	**06 03 43.6**	**-7.0**

*IDC **15** 06:13:46.3±0.5,7.79S×129.00E,mb4.6/13,mb1 4.7/14, mb1mx4.6/16,mbtmp4.6/14,ML3.9/1,MS4.0/10,Ms1 4.0/10, ms1mx3.9/17,Error ellipse: s-maj=22.5km s-min=14.5km az=68.0*
*NEIC **15** 06:13:50.9±0.2,7.89S×128.94E,h30km,mb4.8/23,Error ellipse: s-maj=9.9km s-min=6.7km az=68.0*
*MOS **15** 06:13:50.2±1.5,7.83S×128.93E,h33km,mb4.9/16,Error ellipse: s-maj=12.9km s-min=8.4km az=113.8*
*BJI **15** 06:13:51.7,7.90S×128.90E,h30km,mB5.0,mb4.8,Ms4.9, Msz4.5*
ISC 15 06:13:49.4±0.3,7.95S±0.05×128.93E±0.07,h33km,n107, σ1s35/94,mb4.7/41,MS4.1/10,8C-2D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.59**	**197**	*e*P	**P**	**06 16 18.2**	**-3.8**
62nm,0.4s							
FITZ				*e*S	**S**	**06 18 09.8**	**-11**
FITZ	**Fitzroy Crossi**	**10.59**	**197**	Pn	**P**	**06 16 18.1**	**-3.9**
10nm,0.3s,baz=33,slow=11,SNR=110							
FITZ				Sn	**S**	**06 18 07.8**	**-13**
13nm,0.3s,baz=82,slow=21,SNR=12							
FITZ				LR	LR	06 21 05.8	
comp=Z,577nm,18.6s,baz=16,slow=41							
WRA	**Warramunga Arr**	**13.03**	**157**	Pn	**P**	**06 16 48.8**	**-6.1**
3.9nm,0.3s,baz=349,slow=13,SNR=156							
WRA				Sn	**S**	**06 19 05.1**	**-14**
8.4nm,0.3s,baz=331,slow=23,SNR=20							
WB2	**Warramunga Arr**	**13.03**	**157**	⇑*i*P	**P**	**06 16 48.3**	**-6.6**
WB2				*e*S	**S**	**06 19 04.9**	**-15**
MBWA	**Marble Bar**	**15.85**	**213**	*e*Pn	**P**	**06 17 28.1**	**-3.8**
29nm,0.8s							
MBWA				*e*Sn	**S**	**06 20 08.8**	**-18**
ASPA	**Alice Springs**	**16.34**	**164**	*e*P	**P**	**06 17 33.9**	**-4.1**
ASPA				*e*		06 17 41.7	
ASPA				*e*S	**S**	**06 20 25.8**	**-12**
PMG	**Port Moresby**	**18.08**	**96**	P	**P**	**06 17 59.5**	**-0.5**
1.2nm,0.3s,baz=288,slow=8.6,SNR=9.1							
PMG				LR	LR	06 25 51.6	
comp=Z,474nm,19.1s,baz=257,slow=40							
PMG	**Port Moresby**	**18.08**	**96**	⇑*i*P	**P**	**06 18 00.0**	**0.0**
PMG	**Port Moresby**	**18.08**	**96**	*e*P	**P**	**06 17 59.1**	**-0.8**
159nm,1.4s							
CTA	**Charters Tower**	**20.67**	**128**	⇑*i*P	**P**	**06 18 29.5**	**+0.4**
40nm,0.9s							
CTA	**Charters Tower**	**20.67**	**128**	P	**P**	**06 18 28.4**	**-0.8**
50nm,0.9s,baz=313,slow=12,SNR=54							
CTA				LR	LR	06 27 23.0	
comp=Z,660nm,18.2s,MS4.0,baz=44,slow=39							
CTA	**Charters Tower**	**20.67**	**128**	⇑*i*P	**P**	**06 18 29.5**	**+0.4**
CTA				pmax	pmax		
comp=Z,40nm,0.9s							
CTAO	**Charters Tower**	**20.67**	**128**	*e*P	**P**	**06 18 28.1**	**-1.0**
CTAO				pmax	pmax		
comp=Z,62nm,0.9s							
CTAO	**Charters Tower**	**20.67**	**128**	*e*P	**P**	**06 18 28.1**	**-1.0**
comp=Z,62nm,0.9s							
KSM	**Kuching**	**20.79**	**296**	P	**P**	**06 18 32.3**	**+1.8**
FORT	**Forrest**	**22.73**	**182**	*e*P	**P**	**06 18 50.3**	**+0.5**
comp=Z,57nm,0.6s,mb5.2							
KLBR	**Kellerberrin**	**25.73**	**202**	*e*P	**P**	**06 19 19.6**	**+0.9**
comp=Z,16nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**26.57**	**155**	⇓*i*P	**P**	**06 19 26.3**	**-0.2**
comp=Z,13nm,0.8s,mb4.5							
STKA				*e*S	S	06 24 25.5	+29
STKA	**Stephens Creek**	**26.57**	**155**	P	**P**	**06 19 25.9**	**-0.7**
comp=Z,18nm,0.8s,mb4.7,baz=327,slow=9.0,SNR=22							
STKA				LR	LR	06 31 09.2	
comp=Z,318nm,19.9s,MS3.9,baz=3.4,slow=39							
GUMO	**Guam**	**26.62**	**37**	*e*P	**P**	**06 19 29.5**	**+2.4**
GUMO				pmax	pmax		
comp=Z,357nm,1.3s,mb5.7							
GUMO	**Guam**	**26.62**	**37**	*e*P	**P**	**06 19 29.5**	**+2.4**
comp=Z,357nm,1.3s,mb5.7							
MUN	**Mundaring**	**26.68**	**205**	*e*P	**P**	**06 19 28.0**	**+0.5**
NWAO	**Narrogin (SRO)**	**27.11**	**202**	P	**P**	**06 19 31.7**	**+0.2**
comp=Z,7.5nm,0.5s,mb4.5,baz=38,slow=11,SNR=8.7							
NWAO				LR	LR	06 31 10.5	
comp=Z,305nm,21.4s,MS3.8,baz=245,slow=38							
NWAO	**Narrogin (SRO)**	**27.11**	**202**	*e*P	**P**	**06 19 31.6**	**+0.1**
NWAO				pmax	pmax		
comp=Z,14nm,0.8s							
NWAO	**Narrogin (SRO)**	**27.11**	**202**	*e*P	**P**	**06 19 31.6**	**+0.1**
comp=Z,14nm,0.8s,mb4.5							
KULM	**Kulim**	**31.12**	**294**	*e*P	**P**	**06 20 07.1**	**-0.4**
PSI	**Prapat**	**31.78**	**288**	P	**P**	**06 20 12.8**	**-0.5**
comp=Z,11nm,0.7s,mb4.8,baz=95,slow=10,SNR=5.1							
PSI				LR	LR	06 33 40.4	
comp=Z,194nm,21.3s,MS3.8,baz=43,slow=38							
PSI	**Prapat**	**31.78**	**288**	P	**P**	**06 20 12.8**	**-0.5**
PSI				LR	LR	06 33 40.4	
CNB	**Canberra Magne**	**33.06**	**148**	*e*P	**P**	**06 20 24.8**	**+0.6**
comp=Z,12nm,0.8s,mb4.9							
TOO	**Toolangi**	**33.09**	**155**	*e*P	**P**	**06 20 25.9**	**+1.4**
comp=Z,9.8nm,0.9s,mb4.7							
TOO	**Toolangi**	**33.09**	**155**	*e*P	**P**	**06 20 25.9**	**+1.4**
TOO				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
NJ2	**Nanjing**	**40.92**	**347**	*e*P	**P**	**06 21 38.1**	**+7.6**
NJ2				PCP	PcP	06 23 28.4	-2.8
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.6							
KMI	**Kunming**	**41.61**	**323**	P	**P**	**06 21 39.8**	**+3.5**
KMI				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5							
MJAR	**Matsushiro Arr**	**45.10**	**11**	P	**P**	**06 22 01.7**	**-2.8**
comp=Z,4.7nm,0.9s,mb4.3,baz=185,slow=9.2,SNR=7.8							
LZH	**Lanzhou**	**49.75**	**333**	*e*P	**P**	**06 22 40.1**	**-0.8**
LZH				PP	PP	06 24 35.9	-0.3
LZH				*e*S	**S**	**06 29 49.8**	**+3.3**
LZH				SS	SS	06 33 19.3	+3.8
LZH				AMB	AMB		
comp=Z,20nm,1.2s,mb5.0							
LZH				AMB	AMB		
comp=Z,90nm,6.5s							
LZH				LR	LR		
comp=E,410nm,15.2s							
LZH				LR	LR		
comp=Z,790nm,17.8s,MS4.8							
LSA	**Lhasa**	**52.16**	**318**	*e*P	**P**	**06 23 00.3**	**+1.1**
LSA				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.8							
LSA	**Lhasa**	**52.16**	**318**	*e*P	**P**	**06 23 00.3**	**+1.2**
comp=Z,7.2nm,0.6s,mb4.8							
MDJ	**Mudanjiang**	**52.32**	**1**	P	**P**	**06 23 02.1**	**+1.9**
MDJ				AMB	AMB		
comp=Z,10.0nm,1.3s,mb4.6							
MDJ				AMB	AMB		
comp=Z,80nm,4.3s							
MDJ	**Mudanjiang**	**52.32**	**1**	P	**P**	**06 23 02.7**	**+2.5**
GTA	**Gaotai**	**54.30**	**332**	*e*P	**P**	**06 23 14.8**	**-0.1**
GTA				AP	pP	06 23 28.1	+3.1
GTA				XP	sP	06 23 33.1	+4.2
JIRN	**Jiri**	**54.42**	**312**	*e*P	**P**	**06 23 15.7**	**-0.3**
comp=Z,14nm,0.8s,mb5.0							
GUN	**Gumba**	**54.79**	**312**	*e*P	**P**	**06 23 18.4**	**-0.2**
comp=Z,33nm,0.9s,mb5.4							
KKN	**Kakani**	**55.16**	**312**	*e*P	**P**	**06 23 20.8**	**-0.6**
GKN	**Gorkha**	**55.75**	**312**	*e*P	**P**	**06 23 24.9**	**-0.7**
comp=Z,10.0nm,0.5s,mb5.1							
KOLN	**Kolđanda**	**56.40**	**311**	*e*P	**P**	**06 23 25.7**	**-4.6**
ULN	**Ulaanbaatar**	**58.84**	**343**	*e*P	**P**	**06 23 49.4**	**+2.2**
ULN				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
ULN	**Ulaanbaatar**	**58.84**	**343**	*e*P	**P**	**06 23 49.4**	**+2.2**
comp=Z,4.1nm,0.9s,mb4.5							
SONM	**Songino Array**	**59.01**	**342**	P	**P**	**06 23 48.0**	**-0.4**
comp=Z,3.1nm,1.0s,mb4.3,baz=138,slow=6.3,SNR=11							
SONM				LR	LR	06 48 34.9	
comp=Z,50nm,21.7s,MS3.6,baz=146,slow=36							
ZAK	**Zakamensk**	**62.22**	**342**	*e*P	**P**	**06 24 14.7**	**+4.6**
WMQ	**Urumqi**	**63.61**	**328**	*e*P	**P**	**06 24 21.3**	**+1.8**
WMQ				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.8							
W

comp=Z,24nm,0.7s,mb5.2
YAK Yakutsk 69.77 0 P **P** 06 24 57.5 -0.6
comp=Z,24nm,0.7s,mb5.2
TKM2 Tokmak 2 70.04 321 P **P** 06 25 00.7 +0.6
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AAK Ala-Archa 70.58 320⇑*eP* **P** 06 25 03.0 -0.4
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VNDA Vanda 71.64 173 P **P** 06 25 09.2 0.0
comp=Z,1.7nm,0.9s,mb4.0,baz=301,slow=9.4,SNR=6.2
VNDA LR LR 06 55 28.3
comp=Z,200nm,19.1s,MS4.4,baz=336,slow=35
VNDA Vanda 71.64 173 *eP* **P** 06 25 08.2 -1.0
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 71.64 173 *eP* **P** 06 25 08.2 -1.0
comp=Z,3.2nm,1.0s,mb4.2
KURK Kurchatov 72.77 329⇑*eP* **P** 06 25 15.5 -0.8
SEY Seymchan 72.93 11*d iP* **P** 06 25 17.1 +0.1
KKAR Karatay Array 73.36 319 *i* P **P** 06 25 20.0 +0.1
MAW Mawson 73.68 201 P **P** 06 25 23.4 +2.0
comp=Z,7.5nm,0.8s,mb4.7,baz=85,slow=6.5,SNR=12
MAW LR LR 06 53 13.4
comp=Z,114nm,19.4s,MS4.2,baz=244,slow=32
VOSK Vostochnaya 77.84 328 P **P** 06 25 44.5 -0.8
VOSK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BVA0 Borovoye Array 78.30 328 *i* P **P** 06 25 47.6 -0.2
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
BVAR Borovoye Array 78.30 328 P **P** 06 25 46.2 -1.6
comp=Z,2.4nm,0.8s,mb4.2,baz=143,slow=7.4,SNR=12
CHKZ Chkalovo 78.51 329 *eP* **P** 06 25 48.1 -0.9
CHKZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CHKZ Chkalovo 78.51 329 *eP* **P** 06 25 48.1 -0.9
comp=Z,4.9nm,1.0s,mb4.4
TIXI Tiksi 79.43 360 *eP* **P** 06 25 51.6 -2.0
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
QSPA South Pole Qui 82.03 180 *eP* **P** 06 26 08.1 +0.8
comp=Z,12nm,0.9s,mb4.8
SYO Syowa Base 82.40 201⇑P **P** 06 26 11.4 +2.1
SYO Syowa Base 82.40 201⇑*eP* **P** 06 26 11.4 +2.1
AB31 Akbulak array 82.59 322 *i* P **P** 06 26 10.4 -0.2
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
AKTK Aktyubinsk 84.17 323 P **P** 06 26 18.5 -0.2
AKTO Aktyubinsk 84.17 323 P **P** 06 26 18.5 -0.2
comp=Z,2.2nm,0.7s,mb4.4,baz=101,slow=3.1,SNR=6.7
KMBO Kilima Mbogo 91.50 269 P **P** 06 26 57.2 +2.4
comp=Z,1.0nm,0.5s,mb4.4,baz=33,slow=14,SNR=4.5
MCK McKinley 93.60 26 *eP* **P** 06 27 02.2 -1.0
MCK pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
MCK McKinley 93.60 26 *eP* **P** 06 27 02.2 -1.0
comp=Z,6.4nm,1.1s,mb5.0
COLA College 94.26 25 *eP* **P** 06 27 06.6 +0.4
COLA pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
COLA College 94.26 25 *eP* **P** 06 27 06.6 +0.4
comp=Z,6.9nm,1.0s,mb5.0
SNAA Sanae 94.50 194 *eP* **P** 06 27 09.4 +2.3
SNAA pmax pmax
comp=Z,4.0nm,0.9s
SNAA Sanae 94.50 194 *eP* **P** 06 27 09.4 +2.2
comp=Z,3.6nm,0.9s,mb4.8
ILAR Eielson Array 94.65 25 P **P** 06 27 06.5 -1.4
comp=Z,3.3nm,0.9s,mb4.8,baz=262,slow=3.7,SNR=18
ILAR LR LR 07 07 56.0
comp=Z,63nm,18.9s,MS4.1,baz=192,slow=34
LSZ Lusaka 98.17 253 *eP* **P** 06 27 22.1 -3.0
LSZ pmax pmax
comp=Z,4.0nm,0.8s,mb5.0
LSZ Lusaka 98.17 253 *eP* **P** 06 27 22.1 -2.9
comp=Z,3.9nm,0.8s,mb5.0
YKA Yellowknife Ar 109.07 26 PKiKP 06 32 17.4
comp=Z,0.9nm,0.7s,baz=294,slow=1.5,SNR=22
GERES GERESS Array B 112.46 320 PKiKP 06 32 24.1
comp=Z,1.0nm,0.8s,baz=45,slow=1.9,SNR=4.3
REDW Red Top Meadow 117.23 45 *eP* PKPdf 06 32 35.2 +3.6
SNOW Snow King Moun 117.27 45 *eP* PKPdf 06 32 35.7 +4.0
MSU Marysvale 117.43 51 *e*PKIKP PKPdf 06 32 35.8 +3.7
PDAR Pinedale Array 118.31 45 PKP PKPdf 06 32 35.4 +1.7
comp=Z,1.0nm,0.7s,SNR=8.2
RSSD Black Hills 121.67 42 *e*PKIKP PKPdf 06 32 42.1 +1.9
ANMO Albuquerque 122.72 53 *e*PKIKP PKPdf 06 32 45.5 +2.9
ULM Lac du Bonnet 123.82 33 PKP PKPdf 06 32 45.7 +1.4
comp=Z,4.4nm,0.8s,baz=326,slow=5.5,SNR=8.3
TXAR Lajitas Array 126.33 59 PKP PKPdf 06 32 52.1 +2.4
comp=Z,1.4nm,0.9s,baz=297,slow=6.8,SNR=6.8
TORD Torodi Ar. Bea 127.94 280 PKP PKPdf 06 32 55.1 +2.0
comp=Z,5.2nm,0.8s,baz=72,slow=1.9,SNR=28
PLCA Paso Flores 128.34 161 PKP PKPdf 06 32 56.5 +3.2
comp=Z,2.3nm,0.8s,baz=70,slow=2.3,SNR=5.4
JCT Junction City 129.30 57 *e*PKIKP PKPdf 06 32 57.8 +2.4
DBIC Dimbokro 134.16 272 PKP PKPdf 06 33 08.0 +3.0
comp=Z,6.4nm,1.0s,baz=193,slow=2.4,SNR=5.9
DBIC Dimbokro 134.16 272 *e*PKIKP PKPdf 06 33 06.3 +1.3
CPUP Villa Florida 145.39 170 *e*PKP2 PKPab 06 33 26.9 0.0
LPAZ La Paz 150.59 145 PKPbc PKPdf 06 33 42.6 +9.2
comp=Z,7.0nm,0.9s,baz=338,slow=4.4,SNR=27
LPAZ La Paz 150.59 145 *e*PKIKP PKPdf 06 33 36.9 +3.5
LPAZ *e* 06 33 42.5
LPAZ *e* 06 33 49.4
BDFB Brasilia 156.37 187 PKP PKPdf 06 33 44.0 +2.6
comp=Z,5.6nm,0.9s,baz=75,slow=2.2,SNR=6.0
ROSC El Rosal 156.69 96 PKPab PKPab 06 34 15.6 +1.8
comp=Z,8.0nm,0.7s,baz=87,slow=21,SNR=9.2

*CSEM **15** 06:37:35.9±1.5,38.68N×28.57W,h5km±11km,ML1.6, Error ellipse: s-maj=5.1km s-min=3.2km az=169.0,After PDA*
*PDA **15** 06:37:35.9±1.5,38.68N×28.57W,h5km±11km,MD2.9, ML1.6,Error ellipse: s-maj=5.1km s-min=3.2km az=169.0*
SVSA 15 06:37:35.9±1.5,38.68N×28.57W,h5km±11km,MD2.9, ML1.6,Error ellipse: s-maj=5.1km s-min=3.2km az=169.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.12**	**247**	*eP*	Pg	06 37 37.7	-0.7
PCED				*eS*	Sg	06 37 40.0	-0.1
	68nm,0.1s						
PCED	**Cedros**	**0.12**	**247**	*eP*	Pg	06 37 37.7	-0.7
	68nm,0.1s						
PCED				*eS*	Sg	06 37 40.0	-0.1
CALA	**Caldeira**	**0.14**	**229**	*i P*	Pg	06 37 38.3	-0.6
PTCA	**Ponta do Capel**	**0.20**	**244**	*eS*	Sg	06 37 43.1	+0.3
	22nm,0.2s						
PTCA	**Ponta do Capel**	**0.20**	**244**	*eS*	Sg	06 37 43.1	+0.3
	22nm,0.2s						
PICO	**Pico**	**0.20**	**148**	*eP*	Pg	06 37 39.5	-0.6
PICO				*eS*	Sg	06 37 42.8	-0.1
PCND	**Candelaria**	**0.22**	**159**	*eP*	Pg	06 37 40.4	0.0
PCND				*eS*	Sg	06 37 43.2	-0.2
	30nm,0.1s						
ROSA	**Rosais**	**0.26**	**80**	*eP*	Pg	06 37 40.7	-0.4
ROSA				*eS*	Sg	06 37 44.3	-0.3
PPNO	**Prainha do Nor**	**0.31**	**131**	*eS*	Sg	06 37 45.6	-0.8
	49nm,0.2s						
PMAN	**Manadas**	**0.38**	**96**	*eS*	Sg	06 37 47.6	-0.9
	15nm,0.2s						

*NEIC **15** 06:39:37.0±3.6,3.15N×125.90E,h55km±33km,mb4.3/5, Error ellipse: s-maj=20.7km s-min=8.3km az=77.0*
*IDC **15** 06:39:39.2±3.6,3.10N×125.98E,h75km±32km,mb3.8/9, mb1 4.0/9,mb1mx3.9/17,mbtmp4.1/9,MS3.4/1,Ms1 3.4/1, ms1mx2.5/21,Error ellipse: s-maj=43.9km s-min=11.9km az=75.0*
ISC 15 06:39:31.9±3.7,3.18N±0.07×125.9E±0.2,h26km±26km, n24,σ0.54/22,mb4.4/13,MS3.4/1,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.15**	**181**	*eP*	**P**	**06 44 17.2**	**-0.2**
	5.7nm,0.9s,mb3.9						
FITZ				*e*		06 44 20.8	
FITZ	**Fitzroy Crossi**	**21.15**	**181**	P	**P**	**06 44 16.4**	**-1.0**
	7.9nm,0.8s,mb4.1,baz=11,slow=9.9,SNR=8.6						
WRA	**Warramunga Arr**	**24.41**	**161**	P	**P**	**06 44 49.9**	**+0.2**
	11nm,0.5s,mb4.6,baz=333,slow=11,SNR=114						
WRA				PcP	PcP	06 48 28.6	-1.1
	0.4nm,0.6s,baz=316,slow=2.2,SNR=5.0						
WRA				S	**S**	**06 49 04.5**	**-0.4**
	2.0nm,0.8s,baz=331,slow=20,SNR=7.9						
WB2	**Warramunga Arr**	**24.41**	**161**	*eP*	**P**	**06 44 49.9**	**+0.2**
WB2				*eS*	**S**	**06 49 05.1**	**+0.2**
MBWA	**Marble Bar**	**24.94**	**194**	*eP*	**P**	**06 44 55.0**	**+0.3**
	11nm,1.1s,mb4.3						
ASPA	**Alice Springs**	**27.79**	**164**	*eP*	**P**	**06 45 20.6**	**-0.4**
JNU	**Nakatsue**	**30.15**	**8**	P	**P**	**06 45 42.2**	**+0.2**
	35nm,0.5s,mb5.4,baz=134,slow=0.5,SNR=12						
FORT	**Forrest**	**33.83**	**177**	*eP*	**P**	**06 46 14.1**	**-0.2**
	18nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**37.90**	**158**	*eP*	**P**	**06 46 49.5**	**+0.6**
	5.3nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**37.90**	**158**	P	**P**	**06 46 49.2**	**+0.4**
	3.6nm,0.5s,mb4.4,baz=327,slow=8.4,SNR=9.8						
LSA	**Lhasa**	**42.22**	**312**	P	**P**	**06 47 24.3**	**-0.3**
SONM	**Songino Array**	**47.57**	**342**	P	**P**	**06 48 08.2**	**+0.8**
	0.4nm,0.7s,mb3.5,baz=124,slow=5.2,SNR=3.5						
SONM				LR	LR	07 09 23.0	
	comp=Z,36nm,19.2s,MS3.4,baz=64,slow=37						
MKAR	**Makanchi Array**	**57.56**	**326**	P	**P**	**06 49 21.4**	**-0.3**
	0.4nm,0.3s,mb3.9,baz=118,slow=8.0,SNR=8.9						
MKAR				PcP	PcP	06 50 14.7	0.0
	1.6nm,0.6s,baz=119,slow=3.4,SNR=10						
MA2	**Magadan**	**59.43**	**14**	*eP*	**P**	**06 49 33.4**	**-1.2**
	78nm,1.4s,mb5.5						
VNDA	**Vanda**	**82.98**	**173**	P	**P**	**06 51 56.2**	**+0.5**
	0.9nm,0.9s,mb3.8,baz=305,slow=9.1,SNR=4.1						
VNDA	**Vanda**	**82.98**	**173**	*eP*	**P**	**06 51 55.7**	**+0.1**
	1.3nm,0.8s,mb4.0						
PPT	**Papeete**	**85.69**	**108**	*e*LR	LR	06 51 24.5	
	73nm,22.8s						
ILAR	**Eielson Array**	**85.94**	**25**	P	**P**	**06 52 10.7**	**0.0**
	0.4nm,0.6s,mb3.9,baz=240,slow=5.1,SNR=8.2						
ARCES	**ARCESS Array B**	**90.69**	**340**	P	**P**	**06 52 34.2**	**+1.0**
	4.4nm,1.1s,mb4.7,baz=9.5,slow=7.4,SNR=4.0						
AKASG	**Malin Array Be**	**91.82**	**321**	P	**P**	**06 52 38.4**	**-0.4**
	1.0nm,0.6s,mb4.4,baz=69,slow=4.8,SNR=4.2						
AKASG	**Malin Array Be**	**91.82**	**321**	P	**P**	**06 52 38.4**	**-0.4**
YKA	**Yellowknife Ar**	**100.32**	**24**	P	P	06 53 18.2	+0.9
	0.2nm,0.7s,baz=300,slow=4.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**122.34**	**288**	PKP	PKPdf	06 58 26.5	-3.9
	0.2nm,0.5s,baz=44,slow=1.7,SNR=4.3						
TXAR	**Lajitas Array**	**122.56**	**52**	PKP	PKPdf	06 58 26.6	-3.9
	0.3nm,0.7s,baz=45,slow=3.5,SNR=3.7						

*MOS **15** 07:13:38.5±1.2,57.40N×120.82E,h10km,mb4.0/1,Error ellipse: s-maj=25.9km s-min=18.8km az=45.2*
BYKL 15 07:13:37.4±0.4,57.44N×120.94E,h5km±20km,1C-4D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.74**	**226**⇑	*i*Pg	Pg	07 13 51.4	-0.8
KHNR				*e*Sg	Sg	07 14 00.1	-1.9
CRS	**Chara**	**1.55**	**251**⇓	*i*Pg	Pg	07 14 05.9	-2.5
CRS				Pmax		07 14 06.5	
	610nm,0.9s						
CRS				*e*Sg	Sg	07 14 25.0	-4.1
CRS				Smax		07 14 27.1	
	675nm,1.2s						
CRS	**Chara**	**1.55**	**251**	*eP*	Pn	07 14 05.9	+0.1
CRS				*e*		07 14 25.2	
CRS				pmax	pmax		
	comp=Z,544nm,0.7s						
CRS				smax			
	comp=E,615nm,0.4s						
NRGR	**Nerungri**	**2.21**	**109**	*eP*	Pn	07 14 18.2	+2.9
NRGR				S	Sn	07 14 46.5	+3.2
CLNS	**Chul'man**	**2.24**	**104**	*ePg*	Pg	07 14 18.5	-3.6
CLNS				Pmax		07 14 21.7	
	comp=E,740nm,0.3s						
CLNS				*e*Sg	Sg	07 14 48.5	-3.4
CLNS				Smax		07 14 49.8	
	comp=E,12μm,0.4s						
CLNS	**Chul'man**	**2.24**	**104**	*eP*	Pn	07 14 18.9	+3.2
CLNS				*e*S	Sn	07 14 46.6	+2.6
CLNS				pmax	pmax		
	comp=Z,32nm,0.2s						
CLNS				pmax	pmax		
	comp=N,22nm,0.3s						
CLNS				pmax	pmax		
	comp=E,18nm,0.3s						
CLNS				pmax	pmax		
	comp=N,38nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,91nm,0.3s						
CLNS				pmax	pmax		
	comp=E,79nm,0.4s						
CLNS				smax			
	comp=N,46nm,0.2s						
CLNS				smax			
	comp=E,60nm,0.2s						
CLNS				smax			
	comp=Z,22nm,0.2s						
CLNS				smax			
	comp=E,1μm,0.4s						
CLNS				smax			
	comp=Z,272nm,0.3s						
CLNS				smax			
	comp=N,1μm,0.5s						
CLNS				MLR	MLR		
	comp=Z,80nm,13.0s						
IENR	**Iengra**	**2.48**	**118**	*e*	Pn	07 14 20.8	+1.8
IENR				*ePg*	Pg	07 14 23.2	-3.6
IENR				*e*Sg	Sg	07 14 55.4	-4.4
ALDR	**Aldan**	**2.65**	**62**	*ePg*	Pg	07 14 25.0	-5.3
ALDR				Pmax		07 14 26.0	
	comp=Z,99nm,0.2s						
ALDR				*e*Sg	Sg	07 15 00.2	-5.5
ALDR				Smax		07 15 03.9	
	comp=Z,8μm,0.5s						
NLYR	**Nelyaty**	**3.02**	**254**⇓	*i*Pn	Pn	07 14 26.9	+0.1
NLYR				⇓*i*Pg	Pg	07 14 31.7	-6.0
NLYR				Pmax		07 14 33.5	
	comp=Z,180nm,0.8s						
NLYR				*e*Sg	Sg	07 15 09.7	-8.3
NLYR				Smax		07 15 15.5	
	comp=Z,769nm,0.9s						
NLYR	**Nelyaty**	**3.02**	**254**	*eP*	Pn	07 14 26.8	0.0
NLYR				*e*		07 15 09.0	
NLYR				pmax	pmax		
	comp=Z,180nm,0.3s						
NLYR				smax			
	comp=N,768nm,1.0s						
TUP	**Tupik**	**3.07**	**191**	*ePn*	Pn	07 14 27.0	-0.6
TUP				⇓*i*Pg	Pg	07 14 32.3	-6.5
TUP				Pmax		07 14 35.0	
	comp=N,158nm,0.6s						
TUP				*e*Sg	Sg	07 15 11.6	-8.1
TUP				Smax		07 15 15.6	
	comp=N,680nm,0.9s						
TUP	**Tupik**	**3.07**	**191**	*eP*	Pn	07 14 27.0	-0.6
TUP				*e*S	Sn	07 15 03.0	-2.2
TUP				pmax	pmax		
	comp=Z,122nm,0.5s						
TUP				smax			
	comp=E,483nm,1.0s						
TNDR	**Tynda**	**3.12**	**136**	*ePg*	Pg	07 14 34.4	-5.3
TNDR				Pmax		07 14 38.3	
	comp=E,409nm,0.4s						
TNDR				*e*		07 15 06.2	
TNDR				*e*Sg	Sg	07 15 15.3	-5.9
TNDR				Smax		07 15 19.1	
	comp=E,3μm,0.3s						
BOD	**Bodaibo**	**3.75**	**279**	*ePn*	Pn	07 14 36.2	-1.0
BOD				*ePg*	Pg	07 14 44.5	-7.7
BOD				Pmax		07 14 47.1	
	comp=E,50nm,0.2s						
BOD				*e*Sg	Sg	07 15 32.9	-9.3
BOD				Smax		07 15 36.5	
	comp=E,372nm,1.0s						
BOD	**Bodaibo**	**3.75**	**279**	*eP*	Pn	07 14 35.3	-1.9
BOD				*e*S	Sn	07 15 18.6	-3.7
BOD				pmax	pmax		
	comp=Z,58nm,0.5s						
BOD				smax			
	comp=N,346nm,0.7s						
SVKR	**Severomuysk**	**4.27**	**255**	*ePg*	Pg	07 14 55.1	-7.6
SVKR				Pmax		07 14 59.8	
	comp=N,133nm,0.4s						
SVKR				*e*Sg	Sg	07 15 50.7	-8.9
SVKR				Smax		07 16 07.9	
	comp=N,372nm,1.2s						
UKT	**Uakit**	**4.50**	**247**	*ePn*	Pn	07 14 47.7	-0.2
UKT				*ePg*	Pg	07 14 57.8	-9.5
UKT				Pmax		07 15 00.3	
	comp=N,52nm,0.6s						
UKT				*e*Sg	Sg	07 15 55.2	-12
UKT				Smax		07 16 04.6	
	comp=N,185nm,1.1s						
UKT	**Uakit**	**4.50**	**247**	*eP*	Pn	07 14 57.8	+10
UKT				pmax	pmax		
	comp=Z,38nm,0.6s						
ZEA	**Zeya**	**5.15**	**133**	*ePg*	Pg	07 15 09.4	-11
ZEA				*e*		07 15 50.3	
ZEA				*e*Sg	Sg	07 16 14.8	-14
YOA	**Uoyan**	**5.23**	**259**	*ePg*	Pg	07 15 11.2	-11
YOA				Pmax		07 15 16.4	
	comp=Z,191nm,0.1s						
YOA				*e*Sg	Sg	07 16 19.8	-12
YOA				Smax		07 16 37.1	
	comp=Z,890nm,1.8s						
KMO	**Kumora**	**5.59**	**258**	*ePn*	Pn	07 15 00.5	-2.8
KMO				*ePg*	Pg	07 15 17.6	-11
KMO				Pmax		07 15 22.1	
	comp=Z,31nm,0.9s						
KMO				*e*		07 16 14.2	
KMO				*e*Sg	Sg	07 16 29.4	-14
KMO				Smax		07 16 43.4	
	comp=Z,225nm,1.4s						
KMO	**Kumora**	**5.59**	**258**	*eP*	Pn	07 15 01.3	-2.0
KMO				*e*S	Sn	07 16 03.5	-5.3
KMO				smax			
	comp=E,225nm,1.1s						
TBGR	**Tabaga**	**6.22**	**41**	*e*	Pn	07 16 18.4	+66
TBGR				*e*Sg	Sg	07 16 49.1	-15
YAK	**Yakutsk**	**6.38**	**40**	*e*	Pn	07 16 23.3	+69
YAK				*e*Sg	Sg	07 16 51.7	-18
YAK				Smax		07 16 54.8	
	comp=E,525nm,0.4s						
YAK	**Yakutsk**	**6.38**	**40**	*eP*	Pn	07 15 24.1	+10
YAK				*e*S	Sn	07 16 23.3	-5.2
YAK				pmax	pmax		
	comp=N,9.0nm,1.4s						
YAK				smax			
	comp=N,8.0nm,0.9s						
YAK				smax			
	comp=E,8.0nm,0.8s						
YAK				smax			
	comp=N,171nm,0.8s						
YAK				smax			
	comp=Z,52nm,0.8s						
YAK				smax			
	comp=E,60nm,0.6s						
YAK				MLR	MLR		
	comp=Z,27nm,7.0s						
CIT	**Chita**	**6.91**	**221**	*e*	Pg	07 16 52.8	+57
CIT				*e*Sg	Sg	07 17 09.9	-18
CIT				Smax		07 17 13.1	
	comp=Z,244nm,1.6s						
SYVR	**Suvo**	**7.27**	**243**	*e*	Pn	07 15 32.6	+5.7
SYVR				*ePg*	Pg	07 15 48.7	-14
SYVR				Pmax		07 15 49.6	
	comp=Z,4.0nm,0.8s						
SYVR				*e*Sg	Sg	07 17 22.7	-17
SYVR				Smax		07 17 31.6	
	comp=Z,185nm,1.9s						
KPC	**Khapcheranga**	**9.27**	**217**	*e*		07 17 45.5	
KPC				*e*Sg	Sg	07 18 22.8	-23
KPC				Smax		07 18 35.2	
	comp=Z,98nm,1.3s						
TRG	**Tyrgan**	**9.58**	**247**	*e*		07 17 32.5	
TRG				*e*Sg	Sg	07 18 33.5	-23
TRG				Smax		07 18 39.9	
	comp=Z,43nm,1.5s						
ARS	**Arshan**	**12.04**	**251**	*e*		07 18 08.9	
ARS				*e*Sg	S	07 19 50.2	+62
ARS				Smax		07 20 06.3	
	comp=Z,62nm,0.6s						
ORL	**Orlik**	**13.06**	**257**	*e*		07 19 55.7	
ORL				*e*Sg		07 20 24.0	
ORL				Smax		07 20 40.5	
	comp=Z,24nm,1.8s						

*IDC **15** 07:23:16.3±0.8,18.13N×120.05E,mb3.9/9,mb1 4.1/10, mb1mx4.0/21,mbtmp4.0/10,ML4.8/1,MS3.8/4,Ms1 3.8/4, ms1mx3.2/26,Error ellipse: s-maj=49.0km s-min=17.1km az=66.0*
*MOS **15** 07:23:21.6±1.5,17.97N×119.80E,h58km,mb4.8/4,Error ellipse: s-maj=44.9km s-min=13.4km az=108.0*
*MAN **15** 07:23:22.7,17.95N×119.54E,h19km,mb4.7,ML3.6, MS3.6*
*NEIC **15** 07:23:22.3±0.5,18.20N×119.94E,h45km,mb4.5/6,Error ellipse: s-maj=27.0km s-min=9.8km az=73.0*
ISC 15 07:23:21.3±0.9,18.03N±0.04×119.37E±0.06,h49km±9km, n39,σ1919/45,mb4.1/16,MS3.8/4,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**1.33**	**106**	*eP*	**P**	**07 23 42.6**	**-1.4**
ABRA				*eS*	**S**	**07 23 59.2**	**-1.5**
BOLP	**Bolinao**	**1.72**	**162**	*eP*	**P**	**07 23 50.0**	**+0.6**
BOLP				*eS*	**S**	**07 24 10.2**	**0.0**
BCPH	**Baguio City Da**	**2.01**	**145**⇑	*i P*	**P**	**07 23 52.7**	**-0.7**
BCPH				*eS*	**S**	**07 24 17.3**	**0.0**
SCZP	**Santa Cruz**	**2.30**	**167**	*eP*	**P**	**07 23 58.2**	**+0.6**
SCZP				*eS*	**S**	**07 24 23.6**	**-1.2**
SGCP	**Mt. Cagua**	**2.55**	**85**	*eP*	**P**	**07 24 01.1**	**0.0**
SGCP				*eS*	**S**	**07 24 31.2**	**+0.1**
CAUP	**Cauayan**	**2.58**	**114**	*eP*	**P**	**07 24 02.8**	**+1.3**
PCPH	**Palayan**	**2.96**	**146**	*eP*	**P**	**07 24 08.2**	**+1.2**
PCPH				*eS*	**S**	**07 24 42.6**	**+1.1**
BALP	**Baler**	**3.10**	**137**	*eP*	**P**	**07 24 10.2**	**+1.2**
BALP				*eS*	**S**	**07 24 47.8**	**+2.6**
TGY	**Tagaytay City**	**4.19**	**159**	Pn	**P**	**07 24 18.9**	**-5.4**
	54nm,0.3s,baz=180,slow=3.0,SNR=3.3						
BUSP	**Coron**	**6.05**	**172**	*eP*	**P**	**07 24 49.2**	**-1.0**
ENPP	**El Nido**	**6.79**	**180**	*eP*	**P**	**07 25 00.1**	**-0.7**
YHNB	**Yeheng**	**6.86**	**15**	P	**P**	**07 24 54.6**	**-7.2**
QIZ	**Qiongzhong**	**9.10**	**278**	*ePn*	**P**	**07 25 28.9**	**-3.7**
QIZ				*eSn*	**S**	**07 27 03.3**	**-11**
ENH	**Enshi**	**15.15**	**325**	*eP*	**P**	**07 26 53.0**	**-0.7**
	13nm,1.0s						
GUMO	**Guam**	**24.92**	**97**	LR	LR	07 36 03.8	
	comp=Z,229nm,19.3s,MS3.7,baz=264,slow=32						
SONM	**Songino Array**	**31.57**	**343**	P	**P**	**07 29 42.0**	**+0.8**
	0.7nm,0.7s,mb3.6,baz=169,slow=9.6,SNR=6.0						
SONM				LR	LR	07 42 11.9	
	comp=Z,144nm,20.7s,MS3.6,baz=360,slow=36						
ZAK	**Zakamensk**	**34.75**	**342**	*eP*	**P**	**07 30 13.9**	**+5.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
FITZ	**Fitzroy Crossi**	**36.43**	**170**	*eP*	**P**	**07 30 23.5**	**+0.2**
	comp=Z,4.0nm,0.7s,mb4.5						
MBWA	**Marble Bar**	**38.95**	**179**	P	**P**	**07 30 43.7**	**-0.6**
	comp=Z,5.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**40.49**	**158**	P	**P**	**07 30 56.6**	**-0.6**
	comp=Z,2.8nm,0.7s,mb4.1,baz=340,slow=9.1,SNR=35						
WB2	**Warramunga Arr**	**40.50**	**158**	*eP*	**P**	**07 30 57.2**	**0.0**
MKAR	**Makanchi Array**	**41.83**	**322**	P	**P**	**07 31 10.9**	**+3.0**
	comp=Z,0.5nm,0.6s,mb3.3,baz=129,slow=9.2,SNR=3.8						
MKAR				PcP	PcP	07 33 05.1	+1.2
	comp=Z,1.8nm,0.9s,baz=90,slow=4.9,SNR=5.6						
MKAR				LR	LR	07 49 27.9	
	comp=Z,128nm,18.4s,MS3.8,baz=80,slow=37						
MKAR	**Makanchi Array**	**41.83**	**322**	P	**P**	**07 31 10.9**	**+3.0**
MKAR				PcP	PcP	07 33 05.1	+1.2
MKAR				LR	LR	07 49 27.9	
ASPA	**Alice Springs**	**43.80**	**161**	*eP*	**P**	**07 31 24.7**	**+0.4**
ZAL	**Zalesovo**	**44.66**	**331**	LR	LR	07 51 29.9	
	comp=Z,116nm,18.2s,MS3.8,baz=184,slow=38			

NWAO	**Narrogin (SRO)**	**50.71**	**182**	*e*P		**P**		**07 32 18.6**	**+0.3**
	comp=Z,16nm,1.0s,mb4.9								
BVAR	**Borovoye Array**	**51.51**	**324**	P		**P**		**07 32 26.1**	**+2.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=129,slow=9.5,SNR=7.9								
BVAR				PcP		PcP		07 33 37.7	-0.1
	comp=Z,0.8nm,0.7s,baz=124,slow=5.3,SNR=3.8								
TIXI	**Tiksi**	**53.91**	**4**	*e*P		**P**		**07 32 40.2**	**-1.5**
TIXI				pmax		pmax			
	comp=Z,6.0nm,1.2s,mb4.4								
STKA	**Stephens Creek**	**54.01**	**157**	P		**P**		**07 32 41.0**	**-1.9**
	comp=Z,3.4nm,0.8s,mb4.3,baz=12,slow=9.1,SNR=3.6								
BILL	**Bilibino**	**58.02**	**19**	P		**P**		**07 33 05.1**	**-6.1**
BILL				pmax		pmax			
	comp=Z,10.0nm,1.2s,mb4.7								
BILL	**Bilibino**	**58.02**	**19**	P		**P**		**07 33 05.1**	**-6.1**
	comp=Z,9.9nm,1.2s,mb4.7								
AKTK	**Aktyubinsk**	**58.12**	**319**	P		**P**		**07 33 13.4**	**+1.4**
AKTO	**Aktyubinsk**	**58.12**	**319**	P		**P**		**07 33 13.4**	**+1.4**
	comp=Z,1.5nm,0.6s,mb4.2,baz=81,slow=10,SNR=5.7								
ILAR	**Eielson Array**	**75.44**	**26**	P		**P**		**07 35 00.0**	**-1.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=269,slow=5.0,SNR=4.7								
FINES	**FINESS Array B**	**75.91**	**330**	P		**P**		**07 35 05.7**	**+1.6**
	comp=Z,2.4nm,1.0s,mb4.1,baz=45,slow=8.1,SNR=4.3								
YKA	**Yellowknife Ar**	**89.27**	**22**	P		**P**		**07 36 11.7**	**-1.2**
	comp=Z,0.5nm,0.6s,mb4.0,baz=310,slow=3.8,SNR=7.7								

IDC ***15*** *07:37:33.9±1.1,52.53N×159.18E,mb3.6/9,mb1 3.9/9, mb1mx3.7/23,mbtmp3.6/9,Error ellipse: s-maj=33.8km s-min=21.4km az=161.0*

KRSC ***15*** *07:37:39.4±0.7,52.45N×159.63E,h15km±3km,ML4.5*

MOS ***15*** *07:37:39.5±2.0,52.45N×159.67E,h11km,mb4.4/1,Error ellipse: s-maj=28.9km s-min=11.7km az=89.0*

ISC 15 07:37:40.0±0.8,52.38N±0.05×159.70E±0.08,h49km±8km, n44,σ1§08/61,mb3.5/9,1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.73**	**275**	*i* P	**P**	**07 37 53.6**	**-0.5**
RUS				*e*S	**S**	**07 38 03.7**	**-0.8**
SPN	**Mys Shipunski**	**0.75**	**15**	P	**P**	**07 37 53.4**	**-1.0**
SPN				S	**S**	**07 38 03.6**	**-1.4**
SPN	**Mys Shipunski**	**0.75**	**15**	*i* P	**P**	**07 37 53.4**	**-1.0**
SPN				*i* S	**S**	**07 38 03.9**	**-1.1**
NLC	**Nalytchevo**	**0.82**	**345**	*i* P	**P**	**07 37 54.3**	**-1.1**
NLC				*e*S	**S**	**07 38 05.1**	**-1.7**
PET	**Petropavlovsk**	**0.91**	**316**	P	**P**	**07 37 55.9**	**-0.7**
PET				S	**S**	**07 38 07.5**	**-1.4**
PET	**Petropavlovsk**	**0.91**	**316**	*i* P	**P**	**07 37 55.8**	**-0.8**
PET				*e*S	**S**	**07 38 07.5**	**-1.4**
PET	**Petropavlovsk**	**0.91**	**316**	⇓PN	**P**	**07 37 55.9**	**-0.7**
PET				*e*S	**S**	**07 38 07.7**	**-1.2**
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax			
	comp=N,2μm,0.4s						
PET				smax			
	comp=E,2μm,0.5s						
UGLR	**Uglovaya**	**0.99**	**328**	*i* P	**P**	**07 37 57.4**	**-0.3**
GRL	**Gorelyy**	**1.01**	**281**	*i* P	**P**	**07 37 58.4**	**+0.4**
GRL				*e*S	**S**	**07 38 12.1**	**+0.7**
SMAR	**Somma**	**1.04**	**329**	*i* P	**P**	**07 37 57.8**	**-0.7**
KRMR	**Karymshinskiy**	**1.06**	**296**	*i* P	**P**	**07 37 58.3**	**-0.4**
KRMR				*e*S	**S**	**07 38 11.3**	**-1.3**
AVH	**Avacha**	**1.06**	**327**	*i* P	**P**	**07 37 58.5**	**-0.3**
AVH				*i* S	**S**	**07 38 12.2**	**-0.5**
KOK	**Koryaka**	**1.12**	**325**	*i* P	**P**	**07 37 59.3**	**-0.3**
APC	**Apacha**	**1.64**	**291**	*i* P	**P**	**07 38 07.7**	**+0.7**
APC				*i* S	**S**	**07 38 28.0**	**+1.0**
APC				Smax			
	comp=E,340nm,0.8s						
GNL	**Ganaly**	**1.69**	**322**	*i* P	**P**	**07 38 07.9**	**+0.2**
GNL				*i* S	**S**	**07 38 28.6**	**+0.3**
MIPR	**Malaya Ipel'ka**	**1.81**	**268**	*e*P	**P**	**07 38 10.7**	**+1.4**
PAU	**Pauzhetka**	**2.01**	**244**	*e*P	**P**	**07 38 13.0**	**+0.9**
TUMR	**Tumrok**	**2.92**	**5**	*e*P	**P**	**07 38 25.9**	**+0.7**
TUMR				*e*S	**S**	**07 39 00.2**	**+0.9**
KMNR	**Kamenistaya**	**3.40**	**5**	*e*P	**P**	**07 38 33.4**	**+1.4**
ESO	**Esso**	**3.60**	**351**	*e*P	**P**	**07 38 35.1**	**+0.3**
KPT	**Kopyto**	**3.61**	**5**	*e*P	**P**	**07 38 35.5**	**+0.6**
KOZ	**Kozyrevsk**	**3.69**	**2**	P	**P**	**07 38 37.3**	**+1.3**
KOZ	**Kozyrevsk**	**3.69**	**2**	*e*P	**P**	**07 38 37.1**	**+1.1**
KOZR	**Kozyr**	**3.70**	**2**	PN	**P**	**07 38 37.3**	**+1.1**
ZLN	**Zelenaya**	**3.70**	**10**	*e*P	**P**	**07 38 37.6**	**+1.4**
LGNR	**Loginova**	**3.76**	**9**	*e*P	**P**	**07 38 38.6**	**+1.6**
CIRR	**Tsirk**	**3.80**	**9**	*e*P	**P**	**07 38 38.5**	**+1.0**
SRDR	**Sredinnyy**	**3.95**	**0**	*i* P	**P**	**07 38 40.5**	**+0.8**
KLY	**Klyuchi**	**3.98**	**8**	P	**P**	**07 38 42.5**	**+2.3**
KLY				S	**S**	**07 39 27.5**	**+1.4**
KLY	**Klyuchi**	**3.98**	**8**	*e*P	**P**	**07 38 42.3**	**+2.1**
KLY				*e*S	**S**	**07 39 26.4**	**+0.3**
KBTR	**Krutoberegovo**	**4.25**	**24**	P	**P**	**07 38 43.6**	**-0.4**
KBTR				S	**S**	**07 39 30.1**	**-2.8**
KBTR	**Krutoberegovo**	**4.25**	**24**	*e*P	**P**	**07 38 43.8**	**-0.2**
BIDR	**Baidarnaya**	**4.29**	**11**	*e*P	**P**	**07 38 45.4**	**+0.9**
SRKR	**Sorokina**	**4.37**	**11**	*e*P	**P**	**07 38 47.0**	**+1.3**
BKI	**Bering**	**4.67**	**50**	*i* P	**P**	**07 38 47.7**	**-2.2**
BKI				*i* S	**S**	**07 39 38.3**	**-5.3**
BKI				Smax			
	comp=E,40nm,0.3s						
ILAR	**Eielson Array**	**29.49**	**44**	P	**P**	**07 43 39.8**	**-1.5**
	comp=E,0.5nm,0.9s,mb3.2,baz=263,slow=7.3,SNR=3.7						
INK	**Inuvik**	**34.59**	**37**	P	**P**	**07 44 25.2**	**-0.4**
	comp=E,0.8nm,0.9s,mb3.7,baz=288,slow=6.4,SNR=3.2						
YKA	**Yellowknife Ar**	**43.86**	**42**	P	**P**	**07 45 41.4**	**-1.2**
	comp=E,0.2nm,0.8s,mb2.9,baz=300,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**48.25**	**296**	P	**P**	**07 46 13.2**	**-4.4**
	comp=E,0.3nm,0.5s,mb3.6,baz=64,slow=6.4,SNR=4.9						
BVAR	**Borovoye Array**	**50.65**	**309**	P	**P**	**07 46 31.2**	**-4.7**
	comp=E,0.4nm,0.4s,mb3.7,baz=54,slow=13,SNR=3.0						
PDAR	**Pinedale Array**	**58.09**	**60**	P	**P**	**07 47 30.6**	**+0.3**
	comp=E,0.3nm,0.6s,mb3.5,baz=315,slow=3.8,SNR=3.1						
FINES	**FINESS Array B**	**60.68**	**336**	P	**P**	**07 47 45.3**	**-2.7**
	comp=E,3.4nm,1.0s,mb4.4,baz=53,slow=9.5,SNR=3.7						
TXAR	**Lajitas Array**	**71.14**	**66**	P	**P**	**07 48 55.2**	**0.0**
	comp=E,0.2nm,0.5s,mb3.3,baz=304,slow=4.5,SNR=3.4						
WRA	**Warramunga Arr**	**75.33**	**205**	P	**P**	**07 49 19.1**	**-0.7**
	comp=E,0.2nm,0.6s,mb3.2,baz=19,slow=5.8,SNR=5.0						

CSEM ***15*** *07:39:09.1±0.6,38.74N×29.00W,ML1.4,Error ellipse: s-maj=11.0km s-min=3.4km az=84.0,After PDA*

PDA ***15*** *07:39:09.1±0.6,38.74N×29.00W,MD2.9,ML1.4,Error ellipse: s-maj=11.0km s-min=3.4km az=84.0*

SVSA 15 07:39:09.1±0.6,38.74N×29.00W,MD2.9,ML1.4,Error ellipse: s-maj=11.0km s-min=3.4km az=84.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.22**	**133**	*e*S	Sg	07 39 16.8	+0.4
	15nm,0.1s						
PTCA	**Ponta do Capel**	**0.22**	**133**	*e*S	Sg	07 39 16.8	+0.4
	15nm,0.1s						
PCED	**Cedros**	**0.26**	**114**	*e*P	Pg	07 39 13.9	-0.4
PCED				*e*S	Sg	07 39 17.8	+0.1
	38nm,0.1s						
PCED	**Cedros**	**0.26**	**114**	*e*P	Pg	07 39 13.9	-0.4
PCED				*e*S	Sg	07 39 17.8	+0.1
	38nm,0.1s						
CALA	**Caldeira**	**0.28**	**123**	*e*P	Pg	07 39 14.5	-0.2
CALA				*e*S	Sg	07 39 18.6	+0.2
PICO	**Pico**	**0.51**	**117**	*e*P	Pg	07 39 18.3	-1.0
PICO				*e*S	Sg	07 39 25.5	-0.5
ROSA	**Rosais**	**0.59**	**91**	*e*P	Pg	07 39 19.9	-1.1
ROSA				*e*S	Sg	07 39 27.5	-1.4

NIED ***15*** *07:41:00,29.40N×130.00E,h44km,Mw4.9 Best double couple: Mo2.7×10^16 NP1:φs115°,δ64°,λ-83°. NP2:φs279°, δ27°,λ-105°.*

BJI ***15*** *07:41:35.8,29.20N×130.24E,h55km,mB4.9,mb4.8, Ms4.3,Msz4.1*

IDC ***15*** *07:41:38.0±1.7,29.46N×129.77E,h44km±15km,mb4.5/21, mb1 4.7/25,mb1mx4.7/29,mbtmp4.8/25,ML4.7/4,MS4.2/19, Ms1 4.2/19,ms1mx4.0/27,Error ellipse: s-maj=14.5km s-min=13.9km az=117.0*

JMA ***15*** *07:41:37.6±0.1,29.42N×129.99E,h53km±3km,M4.8*

JMA Felt III J1.

HRVD ***15*** *07:41:39.4±0.3,29.31N×129.96E,h45km±1km,MW4.9/54, Centroid moment Tensor Solution. LP body waves: s43,c57;Mantle waves: s54,c86; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.33±.17; Mθφ2.63±.10; Mθθ-0.29±.12; Mrθ-1.14±.09; Mrφ-0.85±.08; Mφφ0.27±.09; Best double couple: Mo2.848×10^16 NP1:φs286°,δ33°, λ-88°. NP2:φs104°,δ57°,λ-91°. Principal axes: T 3.114, Plg12°, Azm195°; N -.522, Plg1°, Azm105°; P -2.583, Plg78°, Azm10°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***15*** *07:41:39.4±0.6,29.46N×129.78E,h55km±5km,mb5.0/41, MW4.9(NIED) Error ellipse: s-maj=6.3km s-min=4.9km az=146.0*

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

MOS ***15*** *07:41:39.2±0.9,29.93N×129.76E,h45km,mb5.0/28,Error ellipse: s-maj=9.3km s-min=6.1km az=101.8*

ISC 15 07:41:37.5±0.3,29.41N±0.02×129.93E±0.03,h51km±2km, h42km±3.1km:pP-P,n229,σ1§14/236,mb4.8/74,MS4.2/27, 6C-1D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.43**	**354**	P	**P**	**07 41 48.2**	**+0.1**
JNN				S	**S**	**07 41 55.7**	**0.0**
JAM	**Amami Oshima**	**1.03**	**196**	P	**P**	**07 41 55.2**	**-0.7**
JAM				S	**S**	**07 42 09.2**	**-0.4**
JKC	**Kuchinoerabu**	**1.07**	**12**	P	**P**	**07 41 56.5**	**0.0**
JKC				S	**S**	**07 42 10.2**	**-0.4**
JZK	**Kikaishima**	**1.09**	**178**	P	**P**	**07 41 58.1**	**+1.4**
JTN	**Tanegashima 3**	**1.54**	**36**	P	**P**	**07 42 02.6**	**-0.5**
JTK	**Tokunoshima**	**1.83**	**208**	P	**P**	**07 42 06.7**	**-0.5**
JTK				*e*S	**S**	**07 42 29.5**	**+0.3**
JTSR	**Tashiro 2**	**1.95**	**26**	P	**P**	**07 42 08.5**	**-0.4**
JSU	**Suzuyama**	**2.14**	**12**	P	**P**	**07 42 11.5**	**0.0**
JSU				S	**S**	**07 42 36.4**	**-0.5**
JSJ	**Shimokoshiki**	**2.27**	**355**	P	**P**	**07 42 13.8**	**+0.4**
JNAR	**Kushima--Naru**	**2.41**	**28**	P	**P**	**07 42 15.3**	**-0.1**
JIH	**Iheya**	**2.93**	**217**	P	**P**	**07 42 22.2**	**-0.6**
JIH				S	**S**	**07 42 55.4**	**-1.6**
JOW	**Kunigami**	**2.95**	**210**	P	**P**	**07 42 22.9**	**-0.3**
	294nm,0.3s,baz=70,slow=13,SNR=142						
JOW				S	**S**	**07 43 00.7**	**+3.0**
	173nm,0.3s,baz=170,slow=29,SNR=6.3						
JOW				LR	LR	07 43 53.0	
	comp=Z,4μm,21.2s,baz=82,slow=46						
JAGN	**Aguni-jima**	**3.68**	**221**	P	**P**	**07 42 33.6**	**+0.2**
JNU	**Nakatsue**	**3.79**	**12**	P	**P**	**07 42 36.2**	**+1.3**
	56nm,0.3s,baz=181,slow=14,SNR=193						
JNU				S	**S**	**07 43 20.9**	**+2.2**
	33nm,0.3s,baz=86,slow=10.0,SNR=3.5						
JKE	**Kume jima 2**	**4.14**	**223**	P	**P**	**07 42 40.0**	**+0.1**
INCN	**Inchon**	**8.51**	**342**	*e*Pn	**P**	**07 43 40.8**	**0.0**
	32nm,0.6s						
TATO	**Taipei**	**8.72**	**242**	*e*Pn	**P**	**07 43 46.0**	**+2.4**
YHNB	**Yeheng**	**8.97**	**240**	*e*Pn	**P**	**07 43 47.1**	**0.0**
NACB	**Ninganchiao**	**9.09**	**237**	*e*Pn	**P**	**07 43 52.9**	**+4.1**
NACB				*e*		07 44 08.1	
JHJ	**Hachijo jima 2**	**9.21**	**64**	P	**P**	**07 43 50.1**	**-0.3**
	92nm,0.3s,baz=59,slow=22,SNR=8.1						
JHJ				S	**S**	**07 45 31.8**	**-1.9**
	22nm,0.3s,baz=75,slow=21,SNR=3.6						
JHJ				LR	LR	07 47 04.6	
	comp=Z,1μm,20.6s,baz=289,slow=35						
NJ2	**Nanjing**	**9.89**	**288**	*e*P	**P**	**07 44 01.8**	**+2.0**
NJ2				S	**S**	**07 45 52.0**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,210nm,6.2s						
NJ2				LR	LR		
	comp=N,1μm,12.2s						
NJ2				LR	LR		
	comp=E,3μm,18.8s						
NJ2				LR	LR		
	comp=Z,760nm,15.1s						
MAJO	**Matsushiro**	**9.94**	**42**	*e*P	**P**	**07 43 59.3**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,35nm,0.3s						
MAJO	**Matsushiro**	**9.94**	**42**	*e*Pn	**P**	**07 43 59.3**	**-1.2**
	comp=Z,35nm,0.3s						
MAJO				*e*		07 44 07.9	
MAT	**Matsushiro**	**9.94**	**42**	P	**P**	**07 43 59.3**	**-1.2**
MAT				S	**S**	**07 45 48.4**	**-3.3**
MAT	**Matsushiro**	**9.94**	**42**	*e*P	**P**	**07 43 59.0**	**-1.5**
MAT				*e*S	**S**	**07 45 48.0**	**-3.7**
MAT				pmax	pmax		
	comp=Z,13nm,0.5s						
MAT	**Matsushiro**	**9.94**	**42**	*e*P	**P**	**07 43 59.0**	**-1.5**
	comp=Z,13nm,0.5s						
MAT				*e*S	**S**	**07 45 48.0**	**-3.7**
MJAR	**Matsushiro Arr**	**9.94**	**42**	P	**P**	**07 43 59.1**	**-1.4**
	comp=Z,6.5nm,0.3s,baz=249,slow=14,SNR=28						
SNY	**Shenyang**	**13.42**	**339**	⇑P	**P**	**07 44 49.3**	**+2.1**
SNY				S	**S**	**07 47 16.8**	**+1.2**
SNY				AMB	AMB		
	comp=Z,30nm,1.9s						
SNY				LR	LR		
	comp=N,1μm,16.2s						
SNY				LR	LR		
	comp=Z,1μm,15.9s						
CN2	**Changchun**	**14.80**	**347**	⇑P	**P**	**07 45 09.6**	**+4.4**
CN2				*e*PP	PP	07 45 23.0	+5.8
CN2				*e*S	**S**	**07 47 49.9**	**+1.5**
CN2				*e*SS	SS	07 48 09.5	+2.9
CN2				AMB	AMB		
	comp=Z,70nm,0.8s						
CN2				AMB	AMB		
	comp=Z,250nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,18.0s						
CN2				LR	LR		
	comp=E,590nm,18.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
MDJ	**Mudanjiang**	**15.18**	**359**	P	**P**	**07 45 11.8**	**+1.7**
MDJ				S	**S**	**07 48 00.5**	**+3.3**
MDJ				PCP	PcP	07 50 14.4	-0.7
MDJ				SCP		07 53 43.1	
MDJ				PCS		07 53 49.1	
MDJ				AMB	AMB		
	comp=Z,120nm,3.8s						
MDJ				LR	LR		
	comp=N,510nm,35.9s						
MDJ				LR	LR		
	comp=E,170nm,27.2s						
MDJ				LR	LR		
	comp=Z,700nm,25.6s						
MDJ	**Mudanjiang**	**15.18**	**359**	P	**P**	**07 45 12.6**	**+2.5**
	comp=Z,33nm,1.4s						
GZH	**Guangzhou**	**16.15**	**251**	P	**P**	**07 45 22.0**	**-0.6**
GZH				S	**S**	**07 48 23.1**	**+3.4**
GZH				LR	LR		
	comp=N,880nm,15.5s						
GZH				LR	LR		
	comp=E,670nm,14.6s						
GZH				LR	LR		
	comp=Z,750nm,24.5s						
ENH	**Enshi**	**17.76**	**278**	*e*P	**P**	**07 45 44.5**	**+1.8**
	comp=Z,51nm,0.7s						
ASAJ	**Asahikawa**	**17.81**	**31**	P	**P**	**07 45 41.4**	**-1.9**
	comp=Z,2.0nm,0.3s,baz=228,slow=18,SNR=20						
HHC	**Hu-ho-hao-te**	**18.83**	**312**	*e*P	**P**	**07 45 56.3**	**+0.7**
HHC				AP		07 46 09.4	
HHC				PP	PP	07 46 14.8	+2.5
HHC				S	**S**	**07 49 17.8**	**-2.5**
HHC				XS		07 49 38.8	
HHC				PCP	PcP	07 50 22.5	+1.7
HHC				LG		07 51 55.3	
HHC				AMB	AMB		
	comp=Z,20nm,0.6s						
HHC				AMB	AMB		
	comp=Z,290nm,6.1s						
HHC				LR	LR		
	comp=N,470nm,11.6s						
HHC				LR	LR		
	comp=E,470nm,10.7s						
HHC				LR	LR		
	comp=Z,470nm,14.3s						
HABR	**Khabarovsk**	**19.44**	**10**	⇓*e*P	**P**	**07 45 54.0**	**-8.4**
HABR				pmax	pmax		
	comp=Z,19nm,0.3s						
HABR				MLR	MLR		
	comp=Z,667nm,16.5s						
BTO	**Baotou**	**19.72**	**310**	*e*P	**P**	**07 46 06.1**	**+0.6**
BTO				AMB	AMB		
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**19.84**	**4**	*e*P	**P**	**07 46 02.8**	**-4.0**
KLR				*e*		07 49 30.8	
YSS	**Yuzh-Sakhalins**	**20.16**	**26**	⇑*i*P	**P**	**07 46 14.2**	**+4.0**
YSS				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.0						
YSS	**Yuzh-Sakhalins**	**20.16**	**26**	*e*P	**P**	**07 46 13.8**	**+3.6**
	comp=Z,104nm,1.3s						
GUMO	**Guam**	**20.96**	**136**	LR	LR	07 53 10.1	
	comp=Z,281nm,19.0s,MS3.7,baz=260,slow=33						
HIA	**Hailar**	**21.30**	**341**	*e*P	**P**	**07 46 19.8**	**-2.0**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HIA	**Hailar**	**21.30**	**341**	*e*P	**P**	**07 46 19.8**	**-2.0**
	comp=Z,6.6nm,0.7s,mb4.1						
LZH	**Lanzhou**	**22.89**	**294**	*e*P	**P**	**07 46 37.5**	**-0.1**
LZH				AP		07 46 53.4	
LZH				XP		07 47 02.5	
LZH				PP	PP	07 47 09.1	+0.9
LZH				*e*S	**S**	**07 50 37.6**	**-1.9**
LZH				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,250nm,5.6s						
LZH				LR	LR		
	comp=N,1μm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,13.7s,MS4.7						
KMI	**Kunming**	**24.52**	**266**	P	**P**	**07 46 55.1**	**+1.5**
KMI				AP		07 47 10.8	
KMI				PP	PP	07 47 32.5	+1.9
KMI				S	**S**	**07 51 06.4**	**-1.4**
KMI				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,150nm,3.9s						
KMI				LR	LR		
	comp=N,360nm,18.0s,MS4.1						
KMI				LR	LR		
	comp=E,370nm,16.8s,MS4.1						
KMI				LR	LR		
	comp=Z,360nm,16.8s,MS3.9						
ULN	**Ulaanbaatar**	**25.51**	**323**	*e*P	**P**	**07 47 01.7**	**-1.1**
ULN				pmax	pmax		
	comp=Z,27nm,0.7s,mb4.9						
ULN	**Ulaanbaatar**	**25.51**	**323**	*e*P	**P**	**07 47 01.7**	**-1.1**
	comp=Z,27nm,0.7s,mb4.9						
SONM	**Songino Array**	**25.84**	**322**	P	**P**	**07 47 05.1**	**-0.8**
	comp=Z,20nm,0.7s,mb4.7,baz=141,slow=8.5,SNR=80						
SONM				PcP	PcP	07 50 33.5	-1.3
	comp=Z,1.2nm,0.6s,baz=131,slow=2.9,SNR=4.5						
SONM				ScP		07 54 09.6	
	comp=Z,2.3nm,1.0s,baz=96,slow=1.6,SNR=5.1						
SONM				LR	LR	07 58 00.3	
	comp=Z,593nm,21.8s,MS4.1,baz=248,slow=38						
GTA	**Gaotai**	**26.67**	**300**	*e*P	**P**	**07 47 14.8**	**+1.2**
GTA				AP	pP	07 47 26.8	+0.4
GTA				PP	PP	07 48 02.5	+3.4
GTA				PPP	PPP	07 48 14.3	+3.1
GTA				PCP	PcP	07 50 36.6	-0.1
GTA				S	**S**	**07 51 48.0**	**+4.8**
GTA				SS	SS	07 53 04.0	+6.6
GTA				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.1						
GTA				AMB	AMB		
	comp=Z,230nm,5.7s						
GTA				LR	LR		
	comp=N,410nm,20.2s,MS4.2						
GTA				LR	LR		
	comp=E,500nm,17.1s,MS4.2						
GTA				LR	LR		
	comp=Z,510nm,16.3s,MS4.2						
ZAK	**Zakamensk**	**29.01**	**324**	*e*P	**P**	**07 47 33.2**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
PET	**Petropavlovsk**	**31.62**	**34**	P	**P**	**07 47 57.0**	**-0.7**
PET				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
PET	**Petropavlovsk**	**31.62**	**34**	P	**P**	**07 47 57.0**	**-0.7**
	comp=Z,30nm,1.0s,mb5.1						
LSA	**Lhasa**	**33.63**	**280**	*e*P	**P**	**07 48 21.3**	**+5.9**
LSA	**Lhasa**	**33.63**	**280**	P	**P**	**07 48 20.8**	**+5.4**
LSA				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
LSA	**Lhasa**	**33.63**	**280**	P	**P**	**07 48 20.8**	**+5.4**
	comp=Z,12nm,1.1s,mb4.7						
WMQ	**Urumqi**	**36.42**	**305**	*e*P	**P**	**07 48 39.5**	**+0.5**
WMQ				AP	pP	07 48 56.0	+3.6
WMQ				XP	sP	07 49 04.5	+5.9
WMQ				PP	PP	07 50 04.0	+0.3
WMQ				PPP	PPP	07 50 25.4	+1.4
WMQ				PCP	PcP	07 51 03.8	+1.0
WMQ				*e*S	**S**	**07 54 19.5**	**+3.1**
WMQ				SCS	ScS	07 58 46.8	-1.9
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,290nm,5.0s						
WMQ				LR	LR		
	comp=N,2μm,20.2s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,19.2s,MS5.1						
WMQ				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
SEY	**Seymchan**	**36.55**	**17**	*e*P	**P**	**07 48 38.6**	**-1.3**
JIRN	**Jiri**	**38.30**	**278**	*e*P	**P**	**07 48 56.9**	**+2.0**
	comp=Z,14nm,0.7s,mb4.8						
GUN	**Gumba**	**38.51**	**279**	*e*P	**P**	**07 48 58.0**	**+1.3**
	comp=Z,60nm,0.8s,mb5.4						
PKI	**Pulchoki**	**39.00**	**278**	*e*P	**P**	**07 49 01.0**	**+0.3**
	comp=Z,19nm,0.6s,mb5.0						
KKN	**Kakani**	**39.06**	**279**	*e*P	**P**	**07 49 02.2**	**+1.0**
DMN	**Daman**	**39.25**	**279**	*e*P	**P**	**07 49 02.9**	**+0.1**
FX1	**Attu Island--F**	**39.30**	**41**	P	**P**	**07 49 04.3**	**+1.4**
	comp=Z,21nm,0.7s,mb5.0,baz=271,slow=22,SNR=4.1						
GKN	**Gorkha**	**39.56**	**279**	*e*P	**P**	**07 49 05.5**	**+0.1**
KOLN	**Koldanda**	**40.51**	**279**	*e*P	**P**	**07 49 12.4**	**-0.9**
MKAR	**Makanchi Array**	**40.63**	**309**	P	**P**	**07 49 13.4**	**-0.6**
	comp=Z,2.8nm,0.7s,mb4.0,baz=94,slow=10.0,SNR=25						
MKAR				PcP	PcP	07 51 14.5	-1.4
	comp=Z,5.9nm,1.0s,baz=83,slow=2.8,SNR=3.6						
MKAR				ScP		07 55

CHKZ e 07 51 40.8
CHKZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CHKZ Chkalovo 48.88 317 *e*P **P 07 50 17.1 -2.9**
comp=Z,4.3nm,0.8s,mb4.5
CHKZ *e*PcP PcP 07 51 40.8 -3.4
BVA0 Borovoye Array 48.97 316 *i* P **P 07 50 18.8 -1.8**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BVAR Borovoye Array 48.97 316 P P **07 50 18.8 -1.8**
comp=Z,12nm,0.8s,mb5.0,baz=98,slow=9.0,SNR=40
BVAR PcP PcP 07 51 42.9 -1.6
comp=Z,2.8nm,0.6s,baz=119,slow=3.7,SNR=6.1
WRA Warramunga Arr 49.25 175 P P **07 50 22.0 -1.2**
comp=Z,10nm,0.6s,mb5.0,baz=353,slow=8.3,SNR=118
WB2 Warramunga Arr 49.25 175 *e*P **P 07 50 22.2 -1.0**
WB2 *e* pP 07 50 33.3 -3.6
MBWA Marble Bar 51.23 192 *e*P **P 07 50 27.3 -11**
CTAO Charters Tower 51.66 160 P P **07 50 49.3 +7.7**
CTAO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CTAO Charters Tower 51.66 160 P P **07 50 49.3 +7.7**
comp=Z,6.8nm,0.8s,mb4.6
TNA Tin City 52.13 28 *e*P **P 07 50 43.8 -0.7**
comp=Z,12nm,0.8s,mb4.9
ASPA Alice Springs 52.91 175 *e*P **P 07 50 49.9 -1.0**
ASPA *e* pP 07 51 01.2 -3.5
AB31 Akbulak array 55.62 312 P P **07 51 09.1 -1.3**
AB31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
AKTO Aktyubinsk 56.72 313 LR LR 08 16 52.9
comp=Z,376nm,21.2s,MS4.5,slow=37
SVW2 Sparrevohn 57.29 34 *e*P **P 07 51 21.4 -0.8**
KDAK Kodiak Island 59.08 38 P P **07 51 33.0 -1.7**
comp=Z,37nm,0.9s,mb5.4,baz=261,slow=3.9,SNR=6.6
MCK McKinley 60.18 30 *e*P **P 07 51 40.8 -1.4**
MCK pmax pmax
comp=Z,18nm,0.9s,mb5.1
MCK McKinley 60.18 30 *e*P **P 07 51 40.8 -1.3**
comp=Z,18nm,0.9s,mb5.1
PMR Palmer 60.35 33 *e*P **P 07 51 42.1 -1.2**
PMR pmax pmax
comp=Z,51nm,1.2s,mb5.4
PMR Palmer 60.35 33 *e*P **P 07 51 42.1 -1.2**
comp=Z,51nm,1.2s,mb5.4
COLA College 60.52 29 *e*P **P 07 51 43.7 -0.8**
COLA pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
COLA College 60.52 29 *e*P **P 07 51 43.7 -0.8**
comp=Z,8.5nm,0.6s,mb5.0
ILAR Eielson Array 60.94 29 P P **07 51 45.5 -1.8**
comp=Z,6.4nm,0.7s,mb4.8,baz=269,slow=5.3,SNR=82
ILAR LR LR 08 22 44.6
comp=Z,118nm,18.1s,MS4.1,baz=184,slow=40
STKA Stephens Creek 61.95 169 P P **07 51 53.1 -1.5**
comp=Z,1.9nm,0.6s,mb4.4,baz=284,slow=24,SNR=5.0
STKA LR LR 08 20 15.2
comp=Z,120nm,19.3s,MS4.1,baz=223,slow=37
MENT Mentasta 62.62 31 *e*P **P 07 51 58.8 +0.2**
DAWY Dawson 64.27 29 *e*P **P 07 52 08.6 -0.7**
INK Inuvik 65.39 24 P P **07 52 15.4 -1.1**
comp=Z,16nm,0.8s,mb5.1,baz=286,slow=6.2,SNR=54
INK Inuvik 65.39 24 *e*P **P 07 52 15.5 -1.0**
INK pmax pmax
comp=Z,22nm,0.9s
INK Inuvik 65.39 24 *e*P **P 07 52 15.5 -1.0**
comp=Z,22nm,0.9s,mb5.2
ARCES ARCESS Array B 67.61 338 P P **07 52 28.2 -2.3**
comp=Z,5.8nm,0.9s,mb4.6,baz=59,slow=7.1,SNR=6.4
ARCES PcP PcP 07 52 55.8 -1.5
comp=Z,2.8nm,0.7s,baz=72,slow=7.7,SNR=3.9
ARCES LR LR 08 26 51.9
comp=Z,453nm,18.6s,MS4.7,baz=58,slow=40
JOF Joensuu 68.01 331 *e*p **P 07 52 30.2 -2.9**
comp=Z,4.1nm,0.6s,mb4.6
JOF Joensuu 68.01 331 *e*P **P 07 52 30.2 -2.9**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
GNI Garni 68.29 305 LR LR 08 27 30.6
comp=Z,82nm,19.7s,MS4.0,baz=163,slow=40
KIV Kislovodsk 68.39 309 *e*P **P 07 52 37.2 +1.3**
KIV *e*S S 08 01 33.0 +1.0
KIV pmax pmax
comp=Z,11nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,94nm,16.0s,MS4.1
DLBC Dease Lake 70.40 33 P P **07 52 48.4 +0.6**
comp=Z,7.7nm,0.9s,mb4.6,baz=288,slow=6.0,SNR=8.1
DLBC Dease Lake 70.40 33 P P **07 52 48.4 +0.6**
KAF Kangasniemi 70.46 331 *e*p **P 07 52 45.4 -2.8**
comp=Z,5.6nm,0.7s,mb4.6
KAF Kangasniemi 70.46 331 *e*P **P 07 52 45.4 -2.8**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FINES FINESS Array B 70.85 330 P P **07 52 48.4 -2.1**
comp=Z,3.3nm,0.6s,mb4.5,baz=64,slow=6.3,SNR=16
FINES LR LR 08 26 44.3
comp=Z,300nm,18.4s,MS4.6,baz=330,slow=38
FINES FINESS Array B 70.85 330 P P **07 52 48.4 -2.1**
FINES LR LR 08 26 44.3
RES Resolute Bay 72.15 11 *e*P **P 07 52 57.6 -0.5**
RES pmax pmax
comp=Z,29nm,0.8s,mb5.3
RES Resolute Bay 72.15 11 *e*P **P 07 52 57.6 -0.6**
comp=Z,29nm,0.8s,mb5.3
AKASG Malin Array Be 74.10 319 P P **07 53 07.5 -2.4**
comp=Z,2.6nm,0.6s,mb4.4,baz=57,slow=6.2,SNR=13
AKASG Malin Array Be 74.10 319 P P **07 53 07.5 -2.4**
MZLS Mizel 74.27 289 P P **07 53 11.6 +0.2**
YKW3 Yellowknife Ar 74.98 26 *e*P **P 07 53 14.6 -0.1**
YKA Yellowknife Ar 75.02 26 P P **07 53 15.0 +0.1**
comp=Z,23nm,0.7s,mb5.2,baz=304,slow=5.6,SNR=393
YKA LR LR 08 25 45.6
comp=Z,142nm,20.5s,MS4.2,baz=305,slow=35
HILS Ha'il 75.60 293 P P **07 53 19.2 +0.2**
AFFS 'Afif 76.13 290 P P **07 53 22.1 +0.1**
BRTR Keskin Array B 76.28 308 P P **07 53 22.1 -0.5**
comp=Z,3.4nm,0.8s,mb4.3,baz=88,slow=5.7,SNR=12
NB2 NORSAR Subarra 77.13 334 P P **07 53 24.7 -2.3**
comp=Z,3.9nm,0.8s,mb4.4,baz=48,slow=5.6
NB2 NORSAR Subarra 77.13 334 P P **07 53 24.7 -2.3**
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
NOA NORSAR Array B 77.13 334 P P **07 53 24.3 -2.6**
comp=Z,5.5nm,0.8s,mb4.5,baz=50,slow=5.5,SNR=10
NOA LR LR 08 33 38.7
comp=Z,174nm,18.7s,MS4.4,baz=40,slow=40
TATS Tathlith 77.68 286 P P **07 53 30.6 -0.2**
SUMG Summit 77.97 356 *e*P **P 07 53 31.1 -0.3**
comp=Z,30nm,1.0s,mb5.2
DJNS Zahran al Janu 78.46 284 P P **07 53 34.1 -1.0**
STHS Stebnicka Huta 79.20 321 *e*P **P 07 53 39.0 +0.4**
OJC Ojcow 79.54 322 *e*P **P 07 53 39.9 -0.5**
JMQS Jabal Moqyreh 79.59 297 P P **07 53 41.1 -0.1**
HTW Haystack Looko 79.86 41 P P **07 53 43.0 +0.8**
YNBS Yanbu' al Bahr 80.02 292 P P **07 53 43.9 +0.4**
ALWS Ilw as Safayha 80.02 298 P P **07 53 42.5 -0.9**
JMOS Jabal al Moall 80.05 298 P P **07 53 43.3 -0.3**
KECS Kecovo 80.13 320 *e*P **P 07 53 43.9 +0.3**
UMJS Umm Lajj 80.15 293 P P **07 53 45.3 +1.1**
HAQS Haql 80.25 298 P P **07 53 44.6 0.0**
AYUS 'Aynunah 80.39 297 P P **07 53 45.0 -0.4**
TBM Table Mountain 80.87 41 P P **07 53 48.2 +0.7**
KSP Ksiaz 81.03 324 *e*P **P 07 53 48.9 +0.6**
EBG Ellensburg 81.03 41 P P **07 53 49.5 +1.1**
VYHS Vyhne 81.03 321 *e*P **P 07 53 49.8 +1.4**
EDM Edmonton 81.12 33 *e*P **P 07 53 48.9 +0.2**
DPC Dobruska-Polom 81.30 324 *e*P **P 07 53 49.8 +0.1**
MXC Moxie City 81.37 41 P P **07 53 51.2 +1.0**
GBL Gable Mountain 81.83 41 P P **07 53 53.7 +1.1**
HAWA Hanford 81.91 41 *e*P **P 07 53 53.0 +0.1**
comp=Z,0.9nm,0.9s,mb3.7
HAWA *e* pP 07 54 05.3 -2.4
ATD Arta Tunnel 81.92 279 LR LR 08 35 30.5
comp=Z,40nm,19.3s,MS3.8,baz=95,slow=40
H2OWA Water 81.97 41 P P **07 53 54.4 +1.1**
CLL Collm 82.40 326 P P **07 53 54.7 -0.7**
comp=Z,logA/T=1.0,mb4.7
NKC Novy Kostel 83.35 325 *e*P **P 07 54 01.4 +1.2**
KHC Kasperske Hory 83.46 324 *e*P **P 07 54 01.4 +0.6**
GERES GERESS Array B 83.57 323 P P **07 54 01.1 -0.3**
comp=Z,2.3nm,0.7s,mb4.4,baz=45,slow=3.8,SNR=9.9
GERES LR LR 08 34 59.8
comp=Z,242nm,18.9s,MS4.6,baz=46,slow=38
BSMT Bassoo Peak 83.68 38 P P **07 54 03.4 +1.4**

MOD Modoc 83.99 45 *e*P **P 07 54 04.5 +0.8**
comp=Z,15nm,1.1s,mb5.0
BMO Blue Mountains 84.08 41 *e*P **P 07 54 04.6 +0.6**
comp=Z,20nm,1.4s,mb5.1
GRA1 Grafenberg Arr 84.30 325 *e*P **P 07 54 05.4 +0.4**
comp=Z,15nm,1.1s,mb5.0
GRF Grafenberg Arr 84.30 325 *e*P **P 07 54 05.4 +0.4**
GRF pmax pmax
comp=Z,15nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,200nm,18.8s,MS4.5
GRF Grafenberg Arr 84.30 325 *e*P **P 07 54 05.4 +0.4**
GRF pmax pmax
comp=Z,15nm,1.1s,mb5.0
GRF LR LR
comp=Z,200nm,18.8s,MS4.5
WVOR Wild Horse Val 84.70 44 *e*P **P 07 54 07.8 +0.6**
WVOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
WVOR Wild Horse Val 84.70 44 *e*P **P 07 54 07.8 +0.6**
comp=Z,6.2nm,0.8s,mb4.8
FCC Fort Churchill 84.84 21 *e*P **P 07 54 07.5 0.0**
FCC pmax pmax
comp=Z,39nm,0.9s,mb5.5
FCC Fort Churchill 84.84 21 *e*P **P 07 54 07.5 0.0**
comp=Z,39nm,0.9s,mb5.5
HRY Holter Researc 85.96 37 *e*P **P 07 54 13.9 +0.6**
CMB Columbia Colle 86.12 48 *e*P **P 07 54 14.2 -0.1**
CMB *e* pP 07 54 26.5 -2.6
CMB pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
CMB Columbia Colle 86.12 48 *e*P **P 07 54 14.2 -0.1**
comp=Z,8.3nm,0.7s,mb5.1
CMB *e* pP 07 54 26.5 -2.6
EGMT Eagleton 86.19 36 *e*P **P 07 54 15.0 +0.6**
comp=Z,15nm,1.0s,mb5.2
DLMT Dillon 86.41 39 *e*P **P 07 54 16.6 +1.1**
comp=Z,23nm,1.0s,mb5.4
HLID Hailey 86.51 41 *e*P **P 07 54 17.4 +1.4**
comp=Z,9.2nm,0.9s,mb5.0
MCMT McKenzie Canyo 86.61 39 *e*P **P 07 54 17.3 +0.8**
LRV Little Rabbit 86.61 50 *e*P **P 07 54 18.6 +1.9**
CDF Champ du Feu 87.10 326 *e*P **P 07 54 18.3 -0.5**
NVAR Mina Array Bea 87.23 47 P **P 07 54 21.2 +1.5**
comp=Z,2.3nm,0.6s,mb4.6,baz=313,slow=3.6,SNR=25
MNV Mina 87.33 47 *e*P **P 07 54 21.4 +1.2**
MNV pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
MNV Mina 87.33 47 *e*P **P 07 54 21.4 +1.2**
comp=Z,5.4nm,1.2s,mb4.7
QLMT Earthquake Lak 87.38 39 *e*P **P 07 54 22.0 +1.7**
BAIF Baives 87.41 328 *e*P **P 07 54 20.3 0.0**
HINF Hinteralfeld 87.71 326 *e*P **P 07 54 20.6 -1.2**
YMR Madison River 87.74 39 *e*P **P 07 54 24.2 +2.2**
comp=Z,10nm,0.9s,mb5.1
HAU Haudompre 87.83 326 *e*P **P 07 54 22.3 -0.1**
HAU *e*R
comp=Z,281nm,17.0s
MEZF Maizieres J'vi 88.11 327 *e*P **P 07 54 23.3 -0.4**
IMW Indian Meadow 88.25 39 *e*P **P 07 54 26.5 +2.0**
comp=Z,12nm,1.1s,mb5.0
TPAW Teton Pass 88.51 39 *e*P **P 07 54 27.6 +1.9**
comp=Z,4.7nm,0.8s,mb4.9
HVU Hansel Valley 88.57 42 *e*P **P 07 54 27.1 +1.1**
HVU pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
HVU Hansel Valley 88.57 42 *e*P **P 07 54 27.1 +1.0**
comp=Z,3.2nm,0.7s,mb4.8
CABF La Chapelle 88.92 325 *e*P **P 07 54 26.7 -0.9**
LPG La Plagne 89.35 324 *e*P **P 07 54 29.6 0.0**
HWUT Hardware Ranch 89.38 41 *e*P **P 07 54 31.3 +1.5**
comp=Z,17nm,1.1s,mb5.3
DUG Dugway 89.54 43 *e*P **P 07 54 32.2 +1.5**
DUG pmax pmax
comp=Z,28nm,1.6s,mb5.3
DUG Dugway 89.54 43 *e*P **P 07 54 32.2 +1.5**
comp=Z,28nm,1.6s,mb5.3
PDAR Pinedale Array 89.75 39 P **P 07 54 32.4 +0.8**
comp=Z,3.5nm,0.8s,mb4.8,baz=341,slow=1.4,SNR=30
MBDF Montbardon 89.86 323 *e*P **P 07 54 31.7 -0.4**
SMF Signal de Mont 90.00 326 *e*P **P 07 54 31.6 -1.1**
HYF Humbligny 90.13 327 *e*P **P 07 54 33.0 -0.3**
AVF Avril sur Loir 90.13 327 *e*P **P 07 54 32.2 -1.1**
LDF La Druitiere 90.43 329 *e*P **P 07 54 33.5 -1.1**
comp=Z,15nm,0.8s,mb5.1
LDF La Druitiere 90.43 329 *e*P **P 07 54 33.5 -1.1**
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
FLN La Foliniere 90.46 330 *e*P **P 07 54 33.7 -1.1**
FLN *e*R
comp=Z,274nm,19.2s
GRR Gorron 90.91 330 *e*P **P 07 54 36.0 -0.9**
comp=Z,31nm,1.0s,mb5.3
GRR Gorron 90.91 330 *e*P **P 07 54 36.0 -0.9**
GRR pmax pmax
comp=Z,16nm,1.0s,mb5.3
ULM Lac du Bonnet 90.91 27 P **P 07 54 36.9 0.0**
comp=Z,14nm,0.9s,mb5.3,baz=314,slow=4.2,SNR=20
ULM LR LR 08 36 11.3
comp=Z,96nm,19.0s,MS4.2,baz=83,slow=36
MSU Marysvale 90.99 44 *e*P **P 07 54 39.1 +1.6**
TCF Toulx Ste Croi 91.04 327 *e*P **P 07 54 36.8 -0.8**
NEN Nelson 91.11 47 *e*P **P 07 54 38.9 +0.7**
SRU San Rafael 91.59 43 *e*P **P 07 54 41.5 +1.2**
SRU pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
SRU San Rafael 91.59 43 *e*P **P 07 54 41.5 +1.2**
comp=Z,6.0nm,0.7s,mb5.0
RSSD Black Hills 91.76 36 *e*P **P 07 54 41.2 +0.3**
RSSD pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
RSSD Black Hills 91.76 36 *e*P **P 07 54 41.1 +0.2**
comp=Z,8.4nm,1.0s,mb5.0
MFF Saint Martin d 91.92 328 *e*P **P 07 54 40.9 -0.7**
KMBO Kilima Mbogo 92.88 270 LR LR 08 40 09.0
comp=Z,73nm,18.1s,MS4.2,baz=87,slow=38
PV10 Paradox Valley 92.95 42 *e*P **P 07 54 48.2 +1.7**
PV01 Paradox Valley 93.39 42 *e*P **P 07 54 49.9 +1.3**
WUAZ Wupatki 93.40 46 *e*P **P 07 54 50.0 +1.4**
comp=Z,14nm,1.1s,mb5.3
SCHQ Schefferville 94.87 10 LR LR 08 41 22.4
comp=Z,159nm,18.2s,MS4.5,baz=312,slow=38
ANMO Albuquerque 96.79 44 *i* P **P 07 55 05.0 +0.9**
TXAR Lajitas Array 102.36 46 P Pdif 07 55 30.4 +1.0
comp=Z,0.8nm,0.9s,baz=243,slow=5.6,SNR=4.3
TORD Torodi Ar. Bea 114.56 303 PKP PKPdf 08 00 13.1 +0.4
comp=Z,2.6nm,0.8s,baz=21,slow=2.8,SNR=16
TORD PKKPbc 08 10 52.3
comp=Z,0.9nm,0.9s,baz=238,slow=4.1,SNR=4.6
QSPA South Pole Qui 119.17 180 *e*PKPdf PKPdf 08 00 21.0 +0.8
DBIC Dimbokro 123.66 302 PKP PKPdf 08 00 30.8 +0.4
comp=Z,7.4nm,0.8s,baz=42,slow=1.8,SNR=12
LIC Lamto 124.08 302 ⇑ *i*PKIKP PKPdf 08 00 31.9 +0.7
comp=Z,27nm,0.9s
SDV Santo Domingo 137.08 31 *e*PKPdf PKPdf 08 00 56.2 +0.4
USHA Ushuaia 151.35 158 PKPbc PKPdf 08 01 27.2 +8.3
comp=Z,19nm,0.9s,baz=205,slow=1.5,SNR=7.3
LPAZ La Paz 158.88 56 PKP PKPdf 08 01 33.0 +2.9
comp=Z,1.4nm,0.8s,baz=325,slow=3.6,SNR=7.7
LPAZ PKPab PKPab 08 02 08.2 -0.6
comp=Z,6.4nm,0.9s,baz=330,slow=2.8,SNR=11
LPAZ La Paz 158.88 56 *e*PKIKP PKPdf 08 01 33.2 +3.1
LPAZ *e* 08 02 07.6

MOS **15** *07:44:12.3±0.9,57.36N×120.77E,h19km,mb4.0/1,Error ellipse: s-maj=22.6km s-min=14.4km az=58.2*
BYKL 15 07:44:09.8±0.5, 57.47N×120.92E, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KHNR	**Khani**	**0.75**	**223**	⇑ *i*Pg		Pg	07 44 23.8	-1.0
KHNR				*e*Sg		Sg	07 44 32.7	-2.1
CRS	**Chara**	**1.55**	**250**	⇓ *i*Pg		Pg	07 44 38.3	-2.5
CRS				Pmax			07 44 38.8	
	357nm,0.8s							
CRS				*e*Sg		Sg	07 44 57.4	-4.1
CRS				Smax			07 44 58.9	
	863nm,1.2s							
CRS	**Chara**	**1.55**	**250**	*e*P		Pn	07 44 38.2	-0.6
CRS				*e*			07 44 57.5	

CRS pmax pmax
comp=Z,315nm,0.4s
CRS smax
comp=N,849nm,0.6s
NRGR Nerungri 2.23 110 *e*P Pn 07 44 50.1 +1.6
NRGR S Sn 07 45 18.5 +1.3
CLNS Chul'man 2.26 105 *e* Pn 07 44 50.6 +1.7
CLNS *e*Pg Pg 07 44 51.6 -3.2
CLNS Pmax 07 44 56.6
comp=N,252nm,0.2s
CLNS *e* 07 45 19.2
CLNS *e*Sg Sg 07 45 21.5 -3.4
CLNS Smax 07 45 22.5
comp=N,4μm,0.3s
CLNS Chul'man 2.26 105 *e*P Pn 07 44 50.7 +1.8
CLNS *e*S Sn 07 45 18.4 +0.6
CLNS pmax pmax
comp=Z,18nm,0.4s
CLNS pmax pmax
comp=N,2.0nm,0.2s
CLNS pmax pmax
comp=E,4.0nm,0.2s
CLNS pmax pmax
comp=N,7.0nm,0.3s
CLNS pmax pmax
comp=Z,27nm,0.3s
CLNS pmax pmax
comp=E,6.0nm,0.2s
CLNS smax
comp=N,92nm,0.3s
CLNS smax
comp=E,73nm,0.3s
CLNS smax
comp=Z,16nm,0.3s
CLNS smax
comp=N,346nm,0.3s
CLNS smax
comp=Z,277nm,0.5s
CLNS smax
comp=E,437nm,0.3s
IENR Iengra 2.50 118 *e*Pg Pg 07 44 55.8 -3.9
IENR *e*Sg Sg 07 45 27.7 -5.3
ALDR Aldan 2.65 63 *e*Pg Pg 07 44 57.6 -5.0
ALDR Pmax 07 45 02.6
comp=E,127nm,0.3s
ALDR *e* 07 45 27.2
ALDR *e*Sg Sg 07 45 31.3 -6.6
ALDR Smax 07 45 35.5
comp=E,2μm,0.3s
NLYR Nelyaty 3.02 253 ⇓ *i*Pn Pn 07 44 59.2 -0.6
NLYR *e*Pg Pg 07 45 03.9 -6.2
NLYR Pmax 07 45 04.9
comp=E,83nm,0.4s
NLYR *e*Sg Sg 07 45 41.6 -8.7
NLYR Smax 07 45 45.8
comp=E,452nm,0.7s
NLYR Nelyaty 3.02 253 *e*P Pn 07 44 58.9 -0.9
NLYR *e* 07 45 41.3
NLYR pmax pmax
comp=Z,82nm,0.3s
NLYR smax
comp=N,456nm,0.7s
TUP Tupik 3.10 190 *e*Pn Pn 07 44 59.7 -1.2
TUP *e*Pg Pg 07 45 04.5 -7.2
TUP *e* 07 45 06.5
TUP max 07 45 07.3
comp=N,159nm,0.7s
TUP *e*Sg Sg 07 45 43.8 -9.2
TUP Smax 07 45 45.0
comp=N,569nm,0.7s
TUP *e* 07 45 51.9
TUP Tupik 3.10 190 *e*P Pn 07 44 59.3 -1.6
TUP *e*S Sn 07 45 35.4 -3.8
TUP pmax pmax
comp=Z,137nm,0.5s
TUP smax
comp=E,564nm,0.8s
TNDR Tynda 3.15 136 *e*Pn Pn 07 45 01.2 -0.4
TNDR *e*Pg Pg 07 45 06.2 -6.4
TNDR Pmax 07 45 10.0
comp=E,436nm,0.3s
TNDR *e*Sn Sn 07 45 38.5 -1.9
TNDR *e*Sg Sg 07 45 47.3 -7.3
TNDR Smax 07 45 51.9
comp=E,2μm,0.2s
BOD Bodaibo 3.73 278 *e*Pn Pn 07 45 08.8 -1.1
BOD *e*Pg Pg 07 45 17.4 -6.9
BOD Pmax 07 45 23.5
comp=E,35nm,0.4s
BOD *e*Sg Sg 07 46 04.6 -10
BOD Smax 07 46 09.1
comp=E,240nm,1.6s
BOD Bodaibo 3.73 278 *e*P Pn 07 45 07.7 -2.2
BOD pmax pmax
comp=Z,47nm,0.5s
SVKR Severomuysk 4.27 255 *e*Pg Pg 07 45 26.7 -8.3
SVKR Pmax 07 45 33.8
comp=Z,49nm,0.2s
SVKR *e*Sg Sg 07 46 21.6 -10
SVKR Smax 07 46 31.2
comp=Z,276nm,0.8s
UKT Uakit 4.50 247 *e*Pn Pn 07 45 19.7 -1.2
UKT *e*Pg Pg 07 45 30.2 -10
UKT Pmax 07 45 32.6
comp=Z,29nm,1.4s
UKT *e*Sg Sg 07 46 27.2 -13
UKT Smax 07 46 41.7
comp=Z,159nm,1.4s
UKT Uakit 4.50 247 *e*P Pn 07 45 30.8 +10
UKT pmax pmax
comp=Z,22nm,0.7s
YOA Uoyan 5.23 259 *e*Sg Sg 07 46 52.6 -11
YOA Smax 07 46 58.8
comp=Z,673nm,1.6s
YOA Uoyan 5.23 259 *e*P Pn 07 45 46.6 +15
KMO Kumora 5.59 258 *e*Pn Pn 07 45 34.4 -1.8
KMO *e*Pg Pg 07 45 49.9 -11
KMO Pmax 07 45 54.3
comp=Z,13nm,0.4s
KMO *e*Sg Sg 07 47 01.0 -15
KMO Smax 07 47 05.9
comp=Z,136nm,0.9s
KMO Kumora 5.59 258 *e*P Pn 07 45 34.7 -1.5
KMO *e*S Sn 07 46 36.7 -5.4
KMO pmax pmax
comp=Z,11nm,0.5s
KMO smax
comp=N,136nm,0.9s
TBGR Tabaga 6.21 42 *e* Pn 07 46 51.9 +67
TBGR *e*Sg Sg 07 47 21.4 -15
YAK Yakutsk 6.36 40 *e*Sg Sg 07 47 23.6 -18
YAK Smax 07 47 28.6
comp=N,679nm,0.8s
YAK Yakutsk 6.36 40 *e*P Pn 07 46 03.9 +17
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK pmax pmax
comp=N,76nm,0.7s
YAK pmax pmax
comp=Z,48nm,0.9s
YAK pmax pmax
comp=E,49nm,0.8s
NIZ Nizh Angarsk 6.51 260 *e*Pg Pg 07 46 05.5 -14
NIZ Pmax 07 46 13.2
comp=E,24nm,1.0s
NIZ *e*Sg Sg 07 47 29.8 -17
NIZ Smax 07 47 51.5
comp=E,62nm,1.3s
CIT Chita 6.92 221 *e* Pn 07 47 04.2 +69
CIT *e*Sg Sg 07 47 42.6 -18
CIT Smax 07 47 45.6
comp=E,189nm,1.6s
SYVR Suvo 7.27 243 *e*Pg Pg 07 46 20.9 -14
SYVR Pmax 07 46 29.1
comp=E,3.0nm,0.7s
SYVR *e*Sg Sg 07 47 54.0 -18
SYVR Smax 07 48 01.0
comp=E,128nm,1.8s
OGRR Ongureny 8.47 249 *e*Sg Sg 07 48 33.6 -18
OGRR Smax 07 48 56.3
comp=E,68nm,1.9s
KPC Khapcheranga 9.28 217 *e* P 07 46 50.1 +22
KPC max 07 47 09.2
comp=E,7.0nm,0.8s
KPC *e*Sg Sg 07 48 55.5 -23

KPC				Smax			07 48 58.6	
	comp=E,67nm,1.4s							
TRG	**Tyrgan**	**9.58**	**247**	*e*Sg	Sg		07 49 09.5	-19
TRG				Smax			07 49 18.9	
	comp=E,44nm,0.6s							
ARS	**Arshan**	**12.04**	**250**	*e*			07 48 42.2	
ARS				*e*Sg	S		07 50 23.5	+62
ARS				Smax			07 50 38.2	
	comp=E,45nm,0.7s							
ORL	**Orlik**	**13.06**	**257**	*e*	P		07 48 00.4	+41
ORL				max			07 48 02.3	
	comp=E,4.0nm,0.9s							
ORL				*e*			07 50 47.9	
ORL				*e*Sg	S		07 50 55.2	+69
ORL				Smax			07 51 13.8	
	comp=E,24nm,2.1s							

BYKL ***15*** *07:55:26.2±0.3,57.45N×120.89E,h5km±27km*
MOS ***15*** *07:55:27.3±3.3,57.39N×120.79E,h10km,mb4.3/5,Error ellipse: s-maj=12.1km s-min=9.2km az=62.8*
IDC ***15*** *07:55:29.1±2.2,57.75N×120.06E,mb3.7/6,mb1 3.8/7, mb1mx3.6/23,mbtmp3.6/7,ML2.9/1,Error ellipse: s-maj=54.4km s-min=23.1km az=153.0*
NEIC ***15*** *07:55:30.4±1.0,57.68N×120.21E,h10km,mb4.4/2,Error ellipse: s-maj=20.2km s-min=18.2km az=151.0*
ISC 15 07:55:26.8±0.3,57.45N±0.03×120.84E±0.03,h5km,n66, σ1$41/91,mb3.9/8,2C-2D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.71**	**222**	⇑*i*Pg	**Pg**	**07 55 39.8**	**-1.2**
KHNR				*e*Sg	**Sg**	**07 55 48.5**	**-2.0**
CRS	**Chara**	**1.51**	**250**	⇓*i*Pg	**Pn**	**07 55 54.2**	**-0.4**
CRS				Pmax		07 55 55.0	
	1μm,0.8s						
CRS				*i* Sg	**Sg**	**07 56 13.5**	**-3.5**
CRS				Smax		07 56 15.6	
	3μm,1.2s						
CRS	**Chara**	**1.51**	**250**	*e*P	**Pn**	**07 55 54.2**	**-0.4**
CRS				*e*		07 56 13.5	
CRS				pmax	pmax		
	comp=Z,1μm,0.7s						
CRS				smax			
	comp=N,3μm,0.8s						
NRGR	**Nerungri**	**2.26**	**109**	*e*P	**Pn**	**07 56 06.3**	**+0.8**
NRGR				S	**Sn**	**07 56 35.0**	**+0.9**
CLNS	**Chul'man**	**2.29**	**104**	*e*Pn	**Pn**	**07 56 06.3**	**+0.5**
CLNS				*e*Pg	**Pb**	**07 56 08.0**	**-0.3**
CLNS				Pmax		07 56 09.5	
	comp=N,3μm,0.8s						
CLNS				*e*Sg	**Sb**	**07 56 37.5**	**+0.5**
CLNS				Smax		07 56 42.6	
	comp=N,19μm,0.7s						
CLNS	**Chul'man**	**2.29**	**104**	*e*P	**Pn**	**07 56 06.1**	**+0.2**
CLNS				*e*S	**Sn**	**07 56 34.6**	**-0.2**
CLNS				pmax	pmax		
	comp=Z,18nm,0.3s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,12nm,0.3s						
CLNS				pmax	pmax		
	comp=N,14nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,46nm,0.3s						
CLNS				pmax	pmax		
	comp=E,32nm,0.4s						
CLNS				smax			
	comp=N,52nm,0.3s						
CLNS				smax			
	comp=E,89nm,0.3s						
CLNS				smax			
	comp=Z,42nm,0.3s						
CLNS				smax			
	comp=N,336nm,0.3s						
CLNS				smax			
	comp=E,485nm,0.3s						
CLNS				smax			
	comp=Z,153nm,0.3s						
CLNS				MLR	MLR		
	comp=Z,400nm,11.0s						
IENR	**Iengra**	**2.53**	**117**	*e*Pn	**Pn**	**07 56 08.7**	**-0.5**
IENR				*e*Pg	**Pb**	**07 56 11.7**	**-0.7**
IENR				*e*Sg	**Sb**	**07 56 44.5**	**+0.7**
ALDR	**Aldan**	**2.69**	**62**	*e*Pn	**Pn**	**07 56 12.5**	**+0.9**
ALDR				*e*Pg	**Pb**	**07 56 13.6**	**-1.6**
ALDR				*e*		07 56 22.0	
ALDR				max		07 56 22.9	
	comp=Z,202nm,0.2s						
ALDR				*e*Sg	**Sb**	**07 56 48.6**	**-0.1**
ALDR				Smax		07 56 50.9	
	comp=Z,6μm,0.4s						
NLYR	**Nelyaty**	**2.97**	**253**	*e*Pn	**Pn**	**07 56 15.1**	**-0.5**
NLYR				⇑*i*Pg	**Pb**	**07 56 20.2**	**+0.2**
NLYR				Pmax		07 56 24.7	
	comp=Z,360nm,0.8s						
NLYR				*e*Sn	**Sn**	**07 56 49.9**	**-2.2**
NLYR				*e*Sg	**Sb**	**07 56 57.6**	**+0.8**
NLYR				Smax		07 57 01.7	
	comp=Z,2μm,0.6s						
NLYR	**Nelyaty**	**2.97**	**253**	*e*P	**Pn**	**07 56 19.7**	**+4.1**
NLYR				*e*		07 56 57.4	
NLYR				pmax	pmax		
	comp=Z,369nm,0.6s						
NLYR				smax			
	comp=N,2μm,0.8s						
TUP	**Tupik**	**3.07**	**190**	*e*Pn	**Pn**	**07 56 15.3**	**-1.7**
TUP				⇓*i*Pg	**Pb**	**07 56 20.6**	**-1.1**
TUP				Pmax		07 56 23.7	
	comp=N,474nm,0.7s						
TUP				*e*Sg	**Sb**	**07 57 00.1**	**+0.4**
TUP				Smax		07 57 09.1	
	comp=N,2μm,1.0s						
TUP	**Tupik**	**3.07**	**190**	*e*P	**Pn**	**07 56 21.4**	**+4.4**
TUP				*e*		07 56 59.9	
TUP				pmax	pmax		
	comp=Z,475nm,0.6s						
TUP				smax			
	comp=E,1μm,0.8s						
TNDR	**Tynda**	**3.16**	**135**	*e*Pn	**Pn**	**07 56 15.8**	**-2.5**
TNDR				*e*Pg	**Pb**	**07 56 21.2**	**-2.0**
TNDR				Pmax		07 56 30.8	
	comp=E,1μm,0.6s						
TNDR				*e*Sn	**Sn**	**07 56 55.7**	**-1.2**
TNDR				*e*Sg	**Sb**	**07 57 03.7**	**+1.4**
TNDR				Smax		07 57 09.1	
	comp=E,14μm,0.9s						
BOD	**Bodaibo**	**3.70**	**279**	*e*Pn	**Pn**	**07 56 24.7**	**-1.2**
BOD				*e*Pg	**Pb**	**07 56 32.5**	**+0.1**
BOD				Pmax		07 56 34.9	
	comp=E,139nm,1.4s						
BOD				*e*Sg	**Sb**	**07 57 19.9**	**+2.1**
BOD				Smax		07 57 25.2	
	comp=E,1μm,1.6s						
BOD	**Bodaibo**	**3.70**	**279**	*e*P	**Pn**	**07 56 24.1**	**-1.8**
BOD				pmax	pmax		
	comp=Z,139nm,0.5s						
SVKR	**Severomuysk**	**4.22**	**255**	*e*Pg	**Pb**	**07 56 42.0**	**+0.6**
SVKR				Pmax		07 56 45.9	
	comp=Z,254nm,1.4s						
SVKR				*e*Sg	**Sb**	**07 57 38.2**	**+5.1**
SVKR				Smax		07 57 47.3	
	comp=Z,1μm,1.0s						
SVKR	**Severomuysk**	**4.22**	**255**	*e*P	**Pb**	**07 56 43.3**	**+1.9**
SVKR				*e*S	**Sn**	**07 57 29.2**	**+5.5**
SVKR				pmax	pmax		
	comp=Z,256nm,1.5s						
SVKR				smax			
	comp=N,1μm,1.1s						
UKT	**Uakit**	**4.46**	**247**	*e*Pn	**Pn**	**07 56 34.6**	**-2.1**
UKT				*e*Pg	**Pb**	**07 56 45.2**	**-0.2**
UKT				Pmax		07 56 48.8	
	comp=N,112nm,0.8s						
UKT				*e*Sg	**Sb**	**07 57 43.3**	**+3.4**
UKT				Smax		07 57 51.2	
	comp=N,528nm,1.0s						
UKT	**Uakit**	**4.46**	**247**	*e*P	**Pb**	**07 56 46.1**	**+0.7**
UKT				pmax	pmax		
	comp=Z,73nm,0.5s						
KROS	**Kirovskiy**	**4.58**	**129**	*e*Pn	**Pn**	**07 56 33.5**	**-5.0**
KROS				*e*Pg	**Pb**	**07 56 47.1**	**-0.5**
KROS				Pmax		07 56 47.6	
	comp=Z,26nm,0.6s						
KROS				*e*Sn	**Sn**	**07 57 23.0**	**-10**
KROS				*e*Sg	**Sb**	**07 57 46.3**	**+2.7**
KROS				Smax		07 57 48.8	
	comp=Z,310nm,0.6s						
YOA	**Uoyan**	**5.18**	**259**	*e*	**Pb**	**07 57 03.2**	**+5.4**
YOA				*e*Sg	**Sb**	**07 58 05.3**	**+4.3**
YOA				Smax		07 58 25.2	
	comp=Z,749nm,1.7s						
KMO	**Kumora**	**5.54**	**258**	*e*	**Pn**	**07 57 00.1**	**+8.1**
KMO				*e*Pg	**Pb**	**07 57 05.9**	**+1.9**
KMO				Pmax		07 57 10.7	
	comp=Z,73nm,1.2s						
KMO				*e*Sg	**Sb**	**07 58 18.6**	**+7.1**
KMO				Smax		07 58 22.0	
	comp=Z,541nm,0.9s						
KMO	**Kumora**	**5.54**	**258**	*e*P	**Pn**	**07 56 50.5**	**-1.5**
KMO				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK	**Yakutsk**	**6.41**	**40**	*e*Pg	**Pb**	**07 57 18.9**	**+0.2**
YAK				*e*Sn	**Sn**	**07 58 14.1**	**-4.5**
YAK				*e*Sg	**Sb**	**07 58 41.9**	**+5.4**
YAK				Smax		07 58 48.7	
	comp=Z,3μm,0.9s						
YAK	**Yakutsk**	**6.41**	**40**	*e*P	**Pn**	**07 57 10.1**	**+5.9**
YAK				*e*S	**Sn**	**07 58 14.6**	**-4.0**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YAK				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
YAK				smax			
	comp=N,25nm,0.8s						
YAK				smax			
	comp=Z,19nm,0.9s						
YAK				smax			
	comp=E,36nm,0.7s						
YAK				smax			
	comp=N,304nm,0.9s						
YAK				smax			
	comp=Z,118nm,0.9s						
YAK				smax			
	comp=E,236nm,1.1s						
YAK				MLR	MLR		
	comp=Z,50nm,8.0s						
YAK	**Yakutsk**	**6.41**	**40**	Pn	**Pb**	**07 57 18.1**	**-0.6**
NIZ	**Nizh Angarsk**	**6.46**	**260**	*e*	**Pn**	**07 57 12.1**	**+7.1**
NIZ				*e*Pg	**Pb**	**07 57 24.2**	**+4.5**
NIZ				Pmax		07 57 39.3	
	comp=Z,37nm,1.4s						
NIZ				*e*Sg	**Sb**	**07 58 47.8**	**+10**
NIZ				Smax		07 59 10.0	
	comp=Z,254nm,2.0s						
CIT	**Chita**	**6.88**	**221**	*e*	**Pn**	**07 57 14.7**	**+3.8**
CIT				*e*Pg	**Pb**	**07 57 28.8**	**+1.9**
CIT				Pmax		07 57 34.7	
	comp=Z,38nm,1.3s						
CIT				*e*Sg	**Sb**	**07 58 57.8**	**+7.5**
CIT				Smax		07 59 01.0	
	comp=Z,822nm,1.7s						
SYVR	**Suvo**	**7.23**	**243**	*e*Pn	**Pn**	**07 57 11.6**	**-4.2**
SYVR				*e*Pg	**Pb**	**07 57 35.7**	**+2.9**
SYVR				Pmax		07 57 43.5	
	comp=Z,11nm,0.7s						
SYVR				*e*Sg	**Sb**	**07 59 10.4**	**+10**
SYVR				Smax		07 59 17.2	
	comp=Z,552nm,2.1s						
SYVR	**Suvo**	**7.23**	**243**	*e*P	**Pb**	**07 57 34.5**	**+1.7**
SYVR				pmax	pmax		
	comp=Z,12nm,0.8s						
OGRR	**Ongureny**	**8.42**	**249**	*e*Sg	Sx	07 59 49.0	
OGRR				Smax		08 00 06.4	
	comp=Z,116nm,1.7s						
KPC	**Khapcheranga**	**9.24**	**217**	*e*Sg	Sx	08 00 11.3	
KPC				Smax		08 00 14.1	
	comp=Z,246nm,1.5s						
TRG	**Tyrgan**	**9.54**	**247**	*e*Sg	Sx	08 00 21.3	
TRG				Smax		08 00 28.5	
	comp=Z,121nm,2.4s						
KAB	**Kabansk**	**9.82**	**243**	*e*Sg	Sx	08 00 31.7	
KLR	**Kul'dur**	**10.49**	**137**	*e*P	**P**	**07 58 03.8**	**+3.0**
KLR				MLR	MLR		
	comp=E,1μm,8.0s						
LSTR	**Listvyanka**	**10.82**	**246**	*e*Sg	Sx	08 01 01.5	
LSTR				Smax		08 01 36.5	
	comp=E,118nm,1.8s						
IRK	**Irkutsk**	**10.87**	**248**	*e*Sg	Sx	08 01 03.4	
IRK				Smax		08 01 16.5	
	comp=E,204nm,0.9s						
TLY	**Talaya**	**11.52**	**247**	*e*Sg	Sx	08 01 23.6	
TLY				Smax		08 01 34.0	
	comp=E,56nm,2.7s						
ARS	**Arshan**	**11.99**	**250**	*e*Sg	Sx	08 01 39.1	
ARS				Smax		08 01 54.5	
	comp=E,153nm,1.0s						
BTGS	**Batagay**	**12.01**	**26**	*e*Sg	Sx	08 01 38.8	
ZAK	**Zakamensk**	**12.52**	**243**	*e*Sg	Sx	08 01 52.7	
ZAK				Smax		08 02 06.4	
	comp=E,63nm,1.3s						
MOY	**Mondy**	**12.87**	**252**	*e*Sg	Sx	08 02 06.4	
MOY				Smax		08 02 20.1	
	comp=E,507nm,1.6s						
MOY	**Mondy**	**12.87**	**252**	*e*P	Sx	07 58 51.5	
MOY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**13.00**	**228**	Pn	**P**	**07 58 35.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=54,slow=12,SNR=3.0						
SONM				Sn	**S**	**08 00 47.6**	**-13**
	comp=Z,0.1nm,0.3s,baz=305,slow=43,SNR=2.9						
SONM				Lg		08 02 08.9	
	comp=Z,0.7nm,0.3s,baz=50,slow=25,SNR=5.9						
ORL	**Orlik**	**13.02**	**257**	*e*	Sx	08 00 43.9	
ORL				*e*	Sx	08 01 28.9	
ORL				*e*Sg	Sx	08 02 09.9	
ORL				Smax		08 02 23.8	
	comp=Z,65nm,1.5s						
MOMR	**Moma**	**13.78**	**40**	*e*Sg	Sx	08 02 32.3	
TIXI	**Tiksi**	**14.64**	**10**	*e*P	**P**	**07 58 48.1**	**-8.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TDJR	**Todzha**	**15.05**	**261**	*e*Sg	Sx	08 03 13.2	
SEY	**Seymchan**	**16.49**	**57**	*i* P	**P**	**07 59 20.5**	**+0.4**
ZAL	**Zalesovo**	**20.46**	**276**	P	**P**	**08 00 04.3**	**-3.3**
	comp=Z,1.5nm,0.6s,baz=131,slow=6.9,SNR=6.2						
ZAL				Lg		08 06 04.5	
	comp=Z,0.6nm,0.5s,baz=152,slow=21,SNR=2.1						
MAJO	**Matsushiro**	**23.90**	**144**	P	**P**	**08 00 47.4**	**+5.4**
MKAR	**Makanchi Array**	**25.61**	**262**	P	**P**	**08 00 54.8**	**-3.6**
	comp=Z,0.6nm,0.6s,mb3.3,baz=56,slow=8.3,SNR=7.1						
MKAR	**Makanchi Array**	**25.61**	**262**	P	**P**	**08 00 54.8**	**-3.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**28.55**	**283**	P	**P**	**08 01 23.4**	**-1.8**
	comp=Z,0.5nm,0.5s,mb3.5,baz=262,slow=40,SNR=2.4						
BVAR	**Borovoye Array**	**28.55**	**283**	P	**P**	**08 01 23.4**	**-1.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**32.53**	**263**	*i* P	**P**	**08 01 55.8**	**-4.7**
AAK				pmax	pmax		
	comp=Z,10.0nm,2.9s,mb4.2						
ILAR	**Eielson Array**	**41.33**	**40**	P	**P**	**08 03 16.4**	**+1.9**
	comp=Z,0.4nm,0.8s,mb3.1,baz=294,slow=4.1,SNR=7.9						
KIV	**Kislovodsk**	**48.55**	**289**	*e*P	**P**	**08 04 17.4**	**+5.0**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
NB2	**NORSAR Subarra**	**49.72**	**323**	P	**P**	**08 04 21.3**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.5,baz=42,slow=7.4						
NB2	**NORSAR Subarra**	**49.72**	**323**	P	**P**	**08 04 21.3**	**+0.1**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
NOA	**NORSAR Array B**	**49.72**	**323**	P	**P**	**08 04 18.6**	**-2.7**
	comp=Z,1.5nm,0.9s,mb4.0,baz=45,slow=9.5,SNR=3.0						
NOA	**NORSAR Array B**	**49.72**	**323**	P	**P**	**08 04 18.6**	**-2.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**50.24**	**304**	P	**P**	**08 04 21.7**	**-3.7**
	comp=Z,0.3nm,0.3s,mb3.9,baz=40,slow=8.3,SNR=6.1						
AKASG	**Malin Array Be**	**50.24**	**304**	P	**P**	**08 04 21.7**	**-3.7**
CTAO	**Charters Tower**	**80.11**	**156**	P	**P**	**08 07 39.2**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
CTAO	**Charters Tower**	**80.11**	**156**	P	**P**	**08 07 39.2**	**+0.1**
	comp=Z,4.3nm,1.0s,mb4.3						

CSEM ***15*** *08:07:25.0±0.9,38.70N×29.03W,h0km±11km,ML1.6, Error ellipse: s-maj=12.7km s-min=6.0km az=82.0,After PDA*
PDA ***15*** *08:07:25.0±0.9,38.70N×29.03W,h0km±11km,MD3.0, ML1.6,Error ellipse: s-maj=12.7km s-min=6.0km az=82.0*
SVSA 15 08:07:25.0±0.9,38.70N×29.03W,h0km±11km,MD3.0, ML1.6,Error ellipse: s-maj=12.7km s-min=6.0km az=82.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.21**	**123**	*e*S	Sg	08 07 32.6	+0.5
	29nm,0.2s						
PTCA	**Ponta do Capel**	**0.21**	**123**	*e*S	Sg	08 07 32.6	+0.5
	29nm,0.2s						
PCED	**Cedros**	**0.26**	**106**	*e*P	Pg	08 07 30.1	-0.2
PCED				*i* S	Sg	08 07 34.0	+0.2
	53nm,0.2s						
PCED	**Cedros**	**0.26**	**106**	*e*P	Pg	08 07 30.1	-0.2
	53nm,0.2s						
PCED				*i* S	Sg	08 07 34.0	+0.2
CALA	**Caldeira**	**0.28**	**115**	*e*S	Sg	08 07 34.1	-0.3
PCND	**Candelaria**	**0.50**	**118**	*e*S	Sg	08 07 41.0	-0.6
	8.6nm,0.2s						
PICO	**Pico**	**0.51**	**113**	*e*P	Pg	08 07 34.3	-0.9
PICO				*e*S	Sg	08 07 41.4	-0.6
ROSA	**Rosais**	**0.61**	**88**	*e*P	Pg	08 07 35.9	-1.4
ROSA				*e*S	Sg	08 07 43.9	-1.5

MOS ***15*** *08:30:30.1±1.3,57.30N×120.80E,h11km,mb4.0/1,Error ellipse: s-maj=45.8km s-min=32.4km az=135.5*
BYKL 15 08:30:27.4±0.3,57.45N×120.85E,h4km±22km,1C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.71**	**222**	*e*Pg	Pg	08 30 40.8	-0.8
KHNR				*e*Sg	Sg	08 30 49.8	-1.3
CRS	**Chara**	**1.51**	**250**	⇓*i*Pg	Pg	08 30 55.4	-2.2
CRS				*e*Sg	Sg	08 31 14.5	-3.2
CRS				Pmax			
	208nm,0.8s						
CRS				Smax			
	282nm,0.8s						
CRS	**Chara**	**1.51**	**250**	*e*P	Pn	08 30 55.5	+0.2
CRS				*e*		08 31 14.6	
CRS				pmax	pmax		
	comp=Z,181nm,0.4s						
CRS				smax			
	comp=E,244nm,0.2s						
CLNS	**Chul'man**	**2.29**	**104**	*e*Pg	Pg	08 31 09.2	-3.9
CLNS				*e*Sg	Sg	08 31 38.7	-4.9
CLNS				Pmax			
	comp=E,74nm,0.1s						
CLNS				Smax			
	comp=E,520nm,0.2s						
CLNS	**Chul'man**	**2.29**	**104**	*e*P	Pn	08 31 10.4	+3.9
CLNS				*e*		08 31 38.5	
CLNS				pmax	pmax		
	comp=Z,13nm,0.3s						
CLNS				pmax	pmax		
	comp=N,2.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.3s						
CLNS				smax			
	comp=N,183nm,0.3s						
CLNS				smax			
	comp=E,178nm,0.3s						
CLNS				smax			
	comp=Z,79nm,0.3s						
IENR	**Iengra**	**2.52**	**117**	*e*Pg	Pg	08 31 12.7	-5.1
IENR				*e*Sg	Sg	08 31 45.9	-5.5
ALDR	**Aldan**	**2.69**	**62**	*e*Pg	Pg	08 31 15.1	-6.0
ALDR				*e*Sg	Sg	08 31 50.1	-6.9
ALDR				Pmax			
	comp=Z,54nm,0.1s						
ALDR				Smax			
	comp=Z,3μm,0.1s						
NLYR	**Nelyaty**	**2.98**	**253**	*e*Pn	Pn	08 31 16.2	-0.1
NLYR				⇑*i*Pg	Pg	08 31 21.3	-5.5
NLYR				*e*Sg	Sg	08 31 58.9	-7.6
NLYR				Pmax			
	comp=Z,56nm,0.4s						
NLYR				Smax			
	comp=Z,169nm,0.8s						
NLYR	**Nelyaty**	**2.98**	**253**	*e*P	Pn	08 31 16.3	0.0
NLYR				*e*		08 31 58.7	
NLYR				pmax	pmax		
	comp=Z,57nm,0.4s						
NLYR				smax			
	comp=N,186nm,1.1s						
TUP	**Tupik**	**3.07**	**190**	*e*Pn	Pn	08 31 16.3	-1.4
TUP				*e*Pg	Pg	08 31 21.8	-7.0
TUP				*e*Sn	Sn	08 31 53.1	-2.3
TUP				*e*Sg	Sg	08 32 01.4	-8.3
TUP				*e*SgSg		08 32 09.0	
TUP				Pmax			
	comp=N,49nm,0.7s						
TUP				Smax			
	comp=N,258nm,0.7s						
TUP	**Tupik**	**3.07**	**190**	*e*P	Pn	08 31 16.4	-1.3
TUP				*e*S	Sn	08 31 52.5	-2.9
TUP				pmax	pmax		
	comp=Z,32nm,0.5s						
TUP				smax			
	comp=E,256nm,0.9s						
BOD	**Bodaibo**	**3.70**	**279**	*e*Pn	Pn	08 31 25.7	-0.9
BOD				*e*Pg	Pg	08 31 33.4	-7.9
BOD				*e*		08 31 39.5	
BOD				*e*Sg	Sg	08 32 20.6	-10
BOD				Pmax			
	comp=E,20nm,0.3s						
BOD				Smax			
	comp=E,87nm,0.5s						
SVKR	**Severomuysk**	**4.23**	**255**	Sg	Sg	08 32 37.4	-11
SVKR				Smax			
	comp=E,130nm,0.7s						
UKT	**Uakit**	**4.46**	**247**	*e*Pg	Pg	08 31 47.2	-9.3
UKT				*e*Sg	Sg	08 32 44.9	-11
UKT				Pmax			
	comp=E,20nm,0.7s						
UKT				Smax			
	comp=E,47nm,1.0s						
KMO	**Kumora**	**5.55**	**258**	Pg	Pg	08 32 06.6	-12
KMO				*e*Sg	Sg	08 33 19.4	-13
KMO				Pmax			
	comp=E,6.0nm,0.5s						
KMO				Smax			
	comp=E,48nm,1.0s						
KMO	**Kumora**	**5.55**	**258**	*e*P	Pn	08 31 53.0	+0.2
KMO				pmax	pmax		
	comp=Z,11nm,0.5s						
NIZ	**Nizh Angarsk**	**6.47**	**260**	*e*Sg	Sg	08 33 47.0	-16
NIZ				Smax			
	comp=Z,39nm,1.4s						
CIT	**Chita**	**6.88**	**221**	*e*Sg	Sg	08 34 00.5	-16
CIT				Smax			
	comp=Z,48nm,0.7s						
SYVR	**Suvo**	**7.23**	**243**	*e*Sg	Sg	08 34 11.4	-17
SYVR				Smax			
	comp=Z,70nm,2.1s						
KPC	**Khapcheranga**	**9.24**	**217**	*e*		08 34 03.9	
KPC				*e*Sg	Sg	08 35 13.2	-22
KPC				Smax			
	comp=Z,16nm,0.9s						

NEIC ***15*** *08:32:06.7,15.40N×95.66W,h20km,MD4.4(MEX),After MEX.*
MEX ***15*** *08:32:07.2±0.6,15.47N×95.72W,h26km±12km,MD4.4*
IDC ***15*** *08:32:26.1±8.3,18.10N×94.69W,mb3.4/3,mb1 3.8/4, mb1mx3.6/20,mbtmp3.3/4,ML3.7/1,Error ellipse: s-maj=176.4km s-min=96.2km az=16.0*
ISC 15 08:32:05.4±0.9,15.49N±0.07×95.72W±0.03,h37km±20km, n30,σ1$38/49,mb3.4/1,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.46**	**307**	*i* P	**P**	**08 32 15.6**	**+0.1**
HUIG				*i* S	**S**	**08 32 21.5**	**-1.2**
HUIG	**Huatulco**	**0.46**	**307**	*i* P	**P**	**08 32 15.6**	**+0.1**
HUIG				*i* S	**S**	**08 32 22.0**	**-0.6**

CMIG	**Matias Romero**	**1.78**	**27**	*i* P		**P**	**08 32 33.5**	**-0.8**
CMIG				*i* S		**S**	**08 32 56.1**	**+0.2**
CMIG	**Matias Romero**	**1.78**	**27**	*e*P		**P**	**08 32 33.5**	**-0.8**
CMIG				*i* S		**S**	**08 32 56.1**	**+0.2**
VHO	**Vista Hermosa**	**1.85**	**328**	*i* P		**P**	**08 32 36.1**	**+1.0**
VHO				*i* S		**S**	**08 32 57.7**	**+0.2**
VHO	**Vista Hermosa**	**1.85**	**328**	*i* P		**P**	**08 32 37.5**	**+2.3**
VHO				*i* S		**S**	**08 33 00.3**	**+2.7**
OXX	**Oaxaca**	**1.85**	**329**	*i* P		**P**	**08 32 37.0**	**+1.8**
OXX				*i* S		**S**	**08 33 01.0**	**+3.4**
OXX	**Oaxaca**	**1.85**	**329**	*i* P		**P**	**08 32 37.7**	**+2.5**
PNIG	**Pinotepa**	**2.48**	**292**	*e*P		**P**	**08 32 44.0**	**-0.2**
PNIG				*i* S		**S**	**08 33 11.6**	**-2.0**
PNIG	**Pinotepa**	**2.48**	**292**	*i* P		**P**	**08 32 45.1**	**+0.9**
PNIG				*i* S		**S**	**08 33 11.8**	**-1.8**
TUIG	**Tuzandepetl**	**2.82**	**26**	*i* P		**P**	**08 32 49.3**	**+0.2**
TUIG				*i* S		**S**	**08 33 21.0**	**-1.1**
TUIG	**Tuzandepetl**	**2.82**	**26**	*i* P		**P**	**08 32 49.3**	**+0.2**
TUIG				*i* S		**S**	**08 33 21.9**	**-0.3**
SCX	**San Cristobal**	**3.21**	**67**	*i* P		**P**	**08 32 55.0**	**+0.3**
SCX	**San Cristobal**	**3.21**	**67**	*i* P		**P**	**08 32 55.2**	**+0.5**
CCIG	**Comitan**	**3.54**	**77**	*e*P		**P**	**08 32 58.1**	**-1.2**
CCIG				*i* S		**S**	**08 33 39.3**	**-1.1**
CCIG	**Comitan**	**3.54**	**77**	*e*P		**P**	**08 32 59.0**	**-0.3**
CCIG				*i* S		**S**	**08 33 38.0**	**-2.5**
ACX	**Acapulco**	**4.26**	**289**	*i* P		**P**	**08 33 10.0**	**+0.5**
ACX				*i* S		**S**	**08 33 56.5**	**-2.1**
ACX	**Acapulco**	**4.26**	**289**	*i* P		**P**	**08 33 10.3**	**+0.8**
PPM	**Popocatepetl**	**4.51**	**322**	*e*P		**P**	**08 33 13.6**	**+0.6**
PPM				*i* P			08 33 19.0	
PPM				*i* S		**S**	**08 34 04.6**	**-0.4**
PPM	**Popocatepetl**	**4.51**	**322**	*e*P		**P**	**08 33 17.9**	**+4.8**
PPM				*i* P			08 33 29.0	
PPM				*i* S		**S**	**08 34 06.2**	**+1.2**
PLIG	**Platanillo**	**4.63**	**309**	*e*P		**P**	**08 33 16.6**	**+1.8**
PLIG				*i* S		**S**	**08 34 05.7**	**-2.3**
PLIG	**Platanillo**	**4.63**	**309**	*i* P		**P**	**08 33 20.2**	**+5.4**
PLIG				*i* S		**S**	**08 34 06.5**	**-1.5**
CAIG	**El Cayaco**	**4.63**	**290**	*e*P		**P**	**08 33 16.4**	**+1.6**
CAIG				*i* S		**S**	**08 34 02.0**	**-6.0**
CAIG				*i* S		**S**	**08 34 02.1**	**-6.0**
CAIG	**El Cayaco**	**4.63**	**290**	*i* P		**P**	**08 33 15.8**	**+1.0**
CAIG				*i* S		**S**	**08 34 02.0**	**-6.0**
YAIG	**Yautepec**	**4.63**	**317**	*i* S		**S**	**08 34 06.4**	**-1.7**
TXAR	**Lajitas Array**	**15.60**	**333**	Pn		**P**	**08 35 47.2**	**+3.0**
	0.1nm,0.3s,baz=135,slow=14,SNR=3.6							
NVAR	**Mina Array Bea**	**30.29**	**323**	P		pP	08 38 26.4	+0.6
	0.2nm,0.4s,baz=140,slow=7.0,SNR=4.8							
YKA	**Yellowknife Ar**	**48.80**	**348**	P		**P**	**08 40 54.0**	**+5.4**
	0.2nm,0.6s,mb3.4,baz=154,slow=7.2,SNR=7.2							
YKA	**Yellowknife Ar**	**48.80**	**348**	P		**P**	**08 40 54.0**	**+5.4**
ILAR	**Eielson Array**	**60.07**	**337**	P		pP	08 42 21.6	-0.3
	0.7nm,0.9s,baz=124,slow=6.5,SNR=4.8							

CSEM ***15*** *08:41:08.8±0.1,37.43N×54.55E,h16km,ML4.6/2,Error ellipse: s-maj=3.9km s-min=1.6km az=168.0*
TEH ***15*** *08:41:12.2,37.18N×54.61E,h10km, Mn4.0*
THR ***15*** *08:41:12.8±1.2,37.49N×54.45E,h43km±10km,ML3.8*
NEIC ***15*** *08:41:12.2,37.18N×54.61E,h10km,ML4.0(TEH),After TEH.*
NNC ***15*** *08:42:15.0±15.0,41.99N×57.04E,mb3.3,mpv3.0,Error ellipse: s-maj=152.8km s-min=136.2km az=29.0*

ISC 15 08:41:08.9±0.5,37.52N±0.06×54.51E±0.05,h10km,n27, σ1ᵗ06/32,2C-1D,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IGLO	**Galoogah**	**1.45**	**214**	Pg		**Pn**	**08 41 28.7**	**-6.7**
IKIA	**Kiasar**	**1.47**	**207**	Pg		**Pn**	**08 41 30.1**	**-5.5**
ISHM	**Shahmirzad**	**1.97**	**210**	Pn		**Pn**	**08 41 43.2**	**+0.5**
IANJ	**Anjiloo**	**2.10**	**193**	Pn		**Pn**	**08 41 44.1**	**-0.6**
IPRN	**Paran-Amol**	**2.22**	**236**	Pn		**Pn**	**08 41 45.4**	**-0.9**
IFIR	**Firoozkooh**	**2.34**	**217**	Pn		**Pn**	**08 41 48.1**	**-0.1**
ILAS	**Lasjerd**	**2.47**	**211**	Pn		**Pn**	**08 41 49.6**	**-0.3**
ISHV	**Shirvan**	**2.54**	**89**	Pn		**Pn**	**08 41 52.0**	**+1.1**
DAMV	**Damavand**	**2.78**	**228**	*e*Pn		**Pn**	**08 41 55.3**	**+1.0**
DAMV				Sn		**Sn**	**08 42 26.8**	**-1.4**
DAMV				AML		AML	08 42 45.3	
	comp=N,283nm,0.4s							
DAMV	**Damavand**	**2.78**	**228**	*e*Pn		**Pn**	**08 41 55.3**	**+1.0**
	SNR=54							
DAMV				Sn		**Sn**	**08 42 26.8**	**-1.4**
	comp=N,283nm,0.4s,SNR=54							
IDMV	**Damavand**	**2.78**	**227**	Pn		**Pn**	**08 41 54.9**	**+0.6**
IAFJ	**Afjeh**	**2.79**	**234**	Pn		**Pn**	**08 41 56.0**	**+1.5**
ISFR	**Esferayen**	**2.83**	**99**	Pn		**Pn**	**08 41 57.0**	**+2.0**
IEMG	**Emamqoli**	**3.30**	**91**	Pn		**Pn**	**08 42 02.3**	**+0.5**
THKV	**Tehran--Karaj**	**3.32**	**242**	*e*Pn		**Pn**	**08 42 04.0**	**+1.9**
THKV				*e*Sg		**Sg**	**08 42 52.5**	**-7.2**
THKV				AML		AML	08 43 04.6	
	comp=E,281nm,0.5s							
THKV	**Tehran--Karaj**	**3.32**	**242**	*e*Pn		**Pn**	**08 42 04.0**	**+1.9**
	SNR=54							
THKV				*e*Sg		**Sg**	**08 42 52.5**	**-7.1**
	comp=E,281nm,0.5s,SNR=94							
IVRN	**Varamin**	**3.37**	**223**	Pn		**Pn**	**08 42 01.7**	**-1.1**
IVRN	**Varamin**	**3.37**	**223**	Pn		**Pn**	**08 42 02.2**	**-0.6**
IVRN	**Varamin**	**3.37**	**223**	Pn		**Pn**	**08 42 02.2**	**-0.6**
ISFB	**Sefidab**	**3.66**	**211**	Lg			08 42 59.5	
IPAY	**Payeh**	**3.75**	**105**	Pn		**Pn**	**08 42 07.6**	**-0.6**
IMOG	**Moghan**	**4.13**	**108**	Pn		**Pn**	**08 42 12.5**	**-1.0**
IMYA	**Miamay**	**4.63**	**103**	Pn		**Pn**	**08 42 19.3**	**-1.4**
GRMI	**Germi**	**5.37**	**286**	*e*Pn		**Pn**	**08 42 31.0**	**-0.1**
GRMI				Sn		**Sn**	**08 43 29.2**	**-4.5**
GRMI	**Germi**	**5.37**	**286**	*e*Pn		**Pn**	**08 42 31.0**	**-0.1**
	SNR=54							
GRMI				Sn		**Sn**	**08 43 29.2**	**-4.5**
	SNR=54							
AB31	**Akbulak array**	**12.38**	**17**	⇑Pn		**P**	**08 44 06.4**	**-1.6**
	comp=E,1.3nm,0.7s,baz=202,slow=14,SNR=8.4							
AB31				Lg			08 46 17.9	
	comp=E,0.4nm,0.3s,baz=194,slow=25,SNR=15							
AKTO	**Aktyubinsk**	**13.16**	**10**	⇑Pn		**P**	**08 44 18.8**	**+0.3**
	comp=E,0.2nm,0.6s							
AKTO				⇓Lg			08 46 40.0	
	comp=E,0.5nm,0.8s							

JMA 15 09:03:18.7±0.2,42.25N×147.87E,h50km,M3.6,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NEM2	**Nemuro 2**	**1.92**	**306**	P		P	09 03 49.8	+0.2
NEM2				*e*S		S	09 04 12.6	0.0
JAK	**Akkeshi**	**2.46**	**289**	P		P	09 03 57.3	0.0
JAK				*e*S		S	09 04 25.8	-0.4
JRA	**Rausu**	**2.63**	**311**	P		P	09 03 59.7	0.0
JRA				*e*S		S	09 04 30.9	+0.4
JAR	**Ashorobuto**	**3.19**	**290**	P		P	09 04 07.9	+0.2
JAR				*e*S		S	09 04 43.8	-1.1
JCH	**Churui**	**3.36**	**278**	P		P	09 04 10.2	+0.2
JCH				*e*S		S	09 04 47.9	-1.1
JTKR	**Abashiri--Toko**	**3.37**	**302**	P		P	09 04 10.8	+0.6
JTKR				*e*S		S	09 04 50.3	+0.9
JNBK	**Urakawa-nobuka**	**3.80**	**272**	P		P	09 04 16.0	-0.2
JNBK				*e*S		S	09 04 59.2	-0.9
JANG	**Nango**	**5.14**	**251**	P		P	09 04 32.1	-3.0
JANG				*e*S		S	09 05 27.7	-6.2
JOT	**Ohata**	**5.17**	**263**	*e*S		S	09 05 31.2	-3.4
JMK	**Ichinoseki**	**6.04**	**239**	P		P	09 04 44.8	-2.8
JMK				*e*S		S	09 05 49.1	-7.2

NEIC 15 09:06:50.0±1.6,34.71S×179.90W,h357km±10km, mb4.3/1,Error ellipse: s-maj=27.7km s-min=20.9km az=144.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**3.20**	**207**	*e*PN		P	09 07 50.5	-1.6
MXZ				*e*SN		S	09 08 50.7	+10
MXZ	**Matakaoa Point**	**3.20**	**207**	P		P	09 07 51.1	-1.1
PUZ	**Puketiti**	**3.68**	**203**	*e*PN		P	09 07 55.2	-1.5
PUZ				*e*SN		S	09 09 01.5	+12
PUZ	**Puketiti**	**3.68**	**203**	*e*P		P	09 07 56.2	-0.5
PUZ				S		S	09 09 03.5	+14
MWZ	**Matawai**	**4.17**	**209**	*e*PN		P	09 08 00.1	-1.6
MWZ				*e*SN		S	09 09 12.2	+14
MWZ	**Matawai**	**4.17**	**209**	*e*P		P	09 08 01.0	-0.7
MWZ				S		S	09 09 12.2	+14
URZ	**Urewera**	**4.29**	**213**	*e*PN		P	09 07 59.9	-3.0
URZ				*e*SN		S	09 09 12.4	+12
URZ	**Urewera**	**4.29**	**213**	P		P	09 08 02.6	-0.3
KNZ	**Kokohu**	**4.73**	**204**	*e*PN		P	09 08 07.3	-0.2
KNZ	**Kokohu**	**4.73**	**204**	*e*P		P	09 08 07.3	-0.3
BKZ	**Black Stump Fm**	**5.31**	**212**	*e*PN		P	09 08 11.7	-2.2
BKZ				*e*SN		S	09 09 33.3	+13
BKZ	**Black Stump Fm**	**5.31**	**212**	*e*P		P	09 08 13.5	-0.4
HIZ	**Hauiti**	**5.68**	**226**	*e*PN		P	09 08 17.5	-0.5
HIZ	**Hauiti**	**5.68**	**226**	*e*P		P	09 08 17.7	-0.4
MOVZ	**Moawhango**	**5.84**	**215**	*e*PN		P	09 08 19.8	-0.1
MOVZ	**Moawhango**	**5.84**	**215**	P		P	09 08 19.9	0.0
WNVZ	**Wahianoa**	**5.86**	**217**	*e*PN		P	09 08 19.3	-0.7
WNVZ	**Wahianoa**	**5.86**	**217**	P		P	09 08 19.8	-0.2
PXZ	**Pawanui**	**5.91**	**205**	*e*PN		P	09 08 20.3	-0.4
PXZ				*e*SN		S	09 09 47.3	+15
MTVZ	**Mangateitei**	**5.96**	**217**	*e*PN		P	09 08 21.2	0.0
TSZ	**Takapari Road**	**6.28**	**210**	*e*PN		P	09 08 23.9	-1.0
TSZ				*e*SN		S	09 09 52.4	+13
TSZ	**Takapari Road**	**6.28**	**210**	*e*P		P	09 08 24.1	-0.8
WAZ	**Wanganui**	**6.49**	**218**	*e*PN		P	09 08 26.0	-1.4
WAZ	**Wanganui**	**6.49**	**218**	P		P	09 08 27.4	+0.1
BFZ	**Birch Farm**	**6.70**	**206**	*e*PN		P	09 08 31.3	+1.5
MRZ	**Mangatainoka R**	**6.94**	**210**	*e*PN		P	09 08 31.1	-1.6
MRZ				*e*SN		S	09 10 06.4	+13
MRZ	**Mangatainoka R**	**6.94**	**210**	P		P	09 08 31.3	-1.4
KIW	**Kapiti Island**	**7.39**	**212**	*e*PN		P	09 08 36.1	-1.8
KIW	**Kapiti Island**	**7.39**	**212**	P		P	09 08 37.1	-0.9
MTW	**Mount Morrison**	**7.40**	**208**	*e*PN		P	09 08 37.9	-0.1
MTW	**Mount Morrison**	**7.40**	**208**	P		P	09 08 38.0	0.0
CAW	**Cannon Point**	**7.53**	**210**	*e*PN		P	09 08 36.9	-2.6
CAW	**Cannon Point**	**7.53**	**210**	P		P	09 08 38.3	-1.2
MSWZ	**Moikau Station**	**7.71**	**208**	P		P	09 08 42.1	+0.4
MRW	**Makara Radio**	**7.79**	**212**	*e*PN		P	09 08 42.0	-0.5
MRW	**Makara Radio**	**7.79**	**212**	P		P	09 08 42.1	-0.5
WEL	**Wellington**	**7.80**	**211**	P		P	09 08 42.0	-0.8
SNZO	**South Karori**	**7.85**	**211**	P		P	09 08 40.8	-2.5
SNZO				*e*S		S	09 10 16.5	+4.0
BHW	**Baring Head**	**7.86**	**210**	P		P	09 08 42.6	-0.8
TCW	**Tory Channel**	**7.96**	**214**	P		P	09 08 42.9	-1.7
NNZ	**Nelson**	**8.39**	**217**	*e*PN		P	09 08 47.6	-2.1
NNZ				*e*SN		S	09 10 36.1	+12
NNZ	**Nelson**	**8.39**	**217**	P		P	09 08 47.7	-2.0
BSWZ	**Blackbirch Sta**	**8.54**	**213**	*e*PN		P	09 08 51.2	-0.3
BSWZ	**Blackbirch Sta**	**8.54**	**213**	P		P	09 08 52.0	+0.5
QRZ	**Quartz Range**	**8.56**	**222**	*e*PN		P	09 08 48.7	-3.1
QRZ	**Quartz Range**	**8.56**	**222**	*e*P		P	09 08 49.1	-2.6
THZ	**Tophouse**	**9.04**	**217**	*e*PN		P	09 08 54.5	-2.9
THZ				*e*SN		S	09 10 51.0	+13
THZ	**Tophouse**	**9.04**	**217**	P		P	09 08 55.4	-2.0
KHZ	**Kahutara**	**9.26**	**212**	*e*PN		P	09 08 59.7	-0.3
KHZ	**Kahutara**	**9.26**	**212**	*e*P		P	09 08 59.7	-0.3
DSZ	**Denniston Nort**	**9.59**	**220**	*e*PN		P	09 09 00.7	-3.3
DSZ	**Denniston Nort**	**9.59**	**220**	*e*P		P	09 09 01.3	-2.7
LTZ	**Lake Taylor**	**10.12**	**215**	*e*PN		P	09 09 08.4	-1.9
LTZ	**Lake Taylor**	**10.12**	**215**	*e*P		P	09 09 08.8	-1.5
MQZ	**McQueen's Vall**	**10.68**	**210**	*e*PN		P	09 09 17.2	+0.2
MQZ				*e*SN		S	09 11 28.3	+15
MQZ	**McQueen's Vall**	**10.68**	**210**	P		P	09 09 17.4	+0.4
WVZ	**Waitaha Valley**	**11.09**	**218**	*e*PN		P	09 09 19.9	-2.0
WVZ	**Waitaha Valley**	**11.09**	**218**	*e*P		P	09 09 19.9	-2.0
FOZ	**Fox Glacier**	**11.98**	**219**	*e*PN		P	09 09 28.8	-3.6
LBZ	**Lake Benmore**	**12.32**	**215**	*e*PN		P	09 09 35.7	-0.8
LBZ	**Lake Benmore**	**12.32**	**215**	*e*P		P	09 09 35.8	-0.8
ODZ	**Otahua Downs**	**12.62**	**212**	*e*PN		P	09 09 40.8	+0.7
ODZ	**Otahua Downs**	**12.62**	**212**	*e*P		P	09 09 40.8	+0.8
KSM	**Kuching**	**74.34**	**283**	P		P	09 17 50.5	-0.6
TRQA	**Tornquist**	**87.51**	**136**	P		P	09 18 57.4	-1.6
	4.4nm,1.1s							

NEIC ***15*** *09:09:30.9±0.3,6.74N×72.94W,mb4.1/14,Error ellipse: s-maj=7.6km s-min=5.1km az=75.0*
IDC ***15*** *09:09:31.3±0.5,6.77N×72.94W,h166km±4km,mb3.6/11, mb1 3.9/13,mb1mx3.7/23,mbtmp4.1/13,Error ellipse: s-maj=10.2km s-min=7.1km az=115.0*

ISC 15 09:09:30.8±0.6,6.75N±0.05×72.91W±0.06,h178km±5km, h162km±1.7km:pP-P,n43,σ0ᵗ73/44,mb3.9/24,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROSC	**El Rosal**	**2.35**	**217**	P		**P**	**09 10 12.1**	**0.0**
	92nm,0.3s,baz=340,slow=2.4,SNR=154							
ROSC				S		**S**	**09 10 44.1**	**+0.1**
	170nm,0.3s,baz=109,slow=19,SNR=11							
SDV	**Santo Domingo**	**3.10**	**47**	P		**P**	**09 10 21.9**	**+0.6**
	35nm,0.3s,baz=244,slow=8.4,SNR=260							
SDV				S		**S**	**09 10 60.0**	**-0.1**
	87nm,0.3s,baz=66,slow=20,SNR=32							
SDV	**Santo Domingo**	**3.10**	**47**	*e*Pn		**P**	**09 10 21.6**	**+0.3**
OTAV	**Otavalo**	**8.50**	**221**	*e*Pn		**P**	**09 11 31.0**	**-0.6**
	3.3nm,0.6s							
MTP	**Monte Pirata**	**13.37**	**32**	*e*Pn		**P**	**09 12 34.0**	**-0.5**
LPAZ	**La Paz**	**23.37**	**168**	P		**P**	**09 14 26.2**	**+1.7**
	1.7nm,0.5s,mb3.7,baz=343,slow=9.5,SNR=13							
LPAZ				pP			09 14 59.2	
	3.5nm,0.8s,baz=351,slow=13,SNR=6.2							
LPAZ	**La Paz**	**23.37**	**168**	*e*P		**P**	**09 14 26.1**	**+1.5**
	3.6nm,0.8s,mb3.9							
LPAZ				*e*pP			09 14 59.2	
SIV	**San Ignacio**	**25.45**	**153**	P		**P**	**09 14 44.3**	**+0.1**
	1.9nm,0.7s,mb3.7,baz=329,slow=8.8,SNR=13							
SIV				pP		pP	09 15 18.0	-1.9
	1.6nm,0.6s,baz=335,slow=11,SNR=4.0							
WVT	**Waverly**	**32.28**	**337**	*e*P		**P**	**09 15 44.8**	**-0.1**
	7.3nm,0.6s,mb4.6							
BDFB	**Brasilia**	**33.21**	**132**	P		**P**	**09 15 53.5**	**+0.5**
	2.1nm,0.4s,mb4.2,baz=307,slow=12,SNR=5.7							
BRNJ	**Basking Ridge**	**33.82**	**358**	*e*P		**P**	**09 16 02.4**	**+4.3**
WMOK	**Wichita Mounta**	**36.66**	**323**	*e*P		**P**	**09 16 20.8**	**-1.3**
	4.1nm,0.7s,mb4.2							
LTX	**Lajitas**	**36.67**	**312**	*e*P		**P**	**09 16 21.6**	**-0.5**
	2.3nm,0.5s,mb4.1							
TXAR	**Lajitas Array**	**36.67**	**312**	P		**P**	**09 16 22.2**	**0.0**
	2.1nm,0.6s,mb3.9,baz=127,slow=9.2,SNR=22							
TXAR				pP		pP	09 16 56.7	-3.7
	0.5nm,0.7s,baz=120,slow=7.3,SNR=2.0							
TXAR	**Lajitas Array**	**36.67**	**312**	P		**P**	**09 16 22.2**	**0.0**
TXAR				pP		pP	09 16 56.7	-3.7
CFAA	**Coronel Fontan**	**38.39**	**174**	P		**P**	**09 16 36.0**	**-0.6**
	0.1nm,0.4s,mb2.8,baz=337,slow=7.7,SNR=3.2							
CFAA	**Coronel Fontan**	**38.39**	**174**	P		**P**	**09 16 36.0**	**-0.6**
MNTX	**Cornudas Mount**	**39.17**	**314**	*e*P		**P**	**09 16 43.0**	**0.0**
	4.7nm,0.7s,mb4.2							
ANMO	**Albuquerque**	**41.71**	**317**	*e*P		**P**	**09 17 04.0**	**+0.1**
	0.9nm,0.6s,mb3.6							
SDCO	**Great Sand Dun**	**42.74**	**321**	*e*P		**P**	**09 17 13.0**	**+0.9**
	4.2nm,0.7s,mb4.2							
PV01	**Paradox Valley**	**44.92**	**319**	*e*P		**P**	**09 17 30.8**	**+1.2**
WUAZ	**Wupatki**	**45.42**	**315**	*e*P		**P**	**09 17 34.3**	**+0.7**
	9.5nm,0.9s,mb4.4							
PLCA	**Paso Flores**	**47.29**	**178**	P		**P**	**09 17 47.5**	**-0.6**
	1.2nm,0.7s,mb3.6,baz=331,slow=10,SNR=2.8							
ULM	**Lac du Bonnet**	**47.43**	**340**	P		**P**	**09 17 48.4**	**-0.7**
	3.8nm,0.4s,mb4.4,baz=141,slow=7.3,SNR=24							
MVU	**Marysvale**	**47.52**	**318**	*e*P		**P**	**09 17 52.5**	**+2.5**
	4.1nm,0.9s,mb4.1							
ARUT	**Antelope Range**	**47.99**	**316**	*e*P		**P**	**09 17 53.2**	**-0.4**
PDAR	**Pinedale Array**	**48.26**	**324**	P		**P**	**09 17 55.7**	**+0.1**
	1.7nm,0.6s,mb3.9,baz=124,slow=8.6,SNR=12							
PDAR				pP		pP	09 18 32.1	-3.3
	0.3nm,0.5s,baz=126,slow=7.8,SNR=1.8							
TCUT	**Toone Canyon**	**48.41**	**321**	*e*P		**P**	**09 17 57.2**	**+0.4**
HWUT	**Hardware Ranch**	**48.79**	**321**	*e*P		**P**	**09 17 59.3**	**-0.4**
TPAW	**Teton Pass**	**49.51**	**324**	*e*P		**P**	**09 18 05.2**	**+0.1**
	2.6nm,0.6s,mb4.0							
RRI2	**Red Ridge**	**49.64**	**324**	*e*P		**P**	**09 18 06.3**	**+0.2**
	5.4nm,0.6s,mb4.3							
IMW	**Indian Meadow**	**49.74**	**324**	*e*P		**P**	**09 18 06.6**	**-0.4**
	2.7nm,0.6s,mb4.0							
YMR	**Madison River**	**50.22**	**325**	*e*P		**P**	**09 18 11.6**	**+1.0**
MCMT	**McKenzie Canyo**	**51.40**	**324**	*e*P		**P**	**09 18 19.7**	**+0.2**
HLID	**Hailey**	**51.62**	**322**	*e*P		**P**	**09 18 19.2**	**-1.9**
	1.5nm,0.7s,mb3.7							
HLID				*e*			09 18 37.4	
NVAR	**Mina Array Bea**	**51.68**	**315**	P		**P**	**09 18 21.9**	**+0.2**
	0.8nm,0.6s,mb3.5,baz=112,slow=7.9,SNR=9.9							
YKA	**Yellowknife Ar**	**63.41**	**340**	P		**P**	**09 19 42.6**	**-0.7**
	3.4nm,0.6s,mb4.4,baz=133,slow=6.6,SNR=114							
YKA				pP		pP	09 20 21.3	-4.0
	0.6nm,0.5s,baz=132,slow=6.9,SNR=3.3							
DBIC	**Dimbokro**	**67.53**	**86**	P		**P**	**09 20 10.6**	**+0.1**
	1.1nm,0.5s,mb3.9,baz=259,slow=7.7,SNR=4.5							
DBIC	**Dimbokro**	**67.53**	**86**	P		**P**	**09 20 10.6**	**+0.1**
SUMG	**Summit**	**69.03**	**11**	P		**P**	**09 20 18.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.55**	**78**	P		**P**	**09 20 46.5**	**-0.2**
	0.1nm,0.4s,mb2.9,baz=287,slow=6.7,SNR=5.2							
SNAA	**Sanae**	**90.21**	**163**	*e*P		**P**	**09 22 10.9**	**-0.8**
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPdf		09 29 03.7	+7.2
	1.2nm,0.5s,baz=109,slow=2.5,SNR=27							
WRA				pPKPbc			09 29 46.1	
	0.5nm,0.4s,baz=107,slow=2.8,SNR=2.0							

IDC ***15*** *09:17:11.2±8.2,2.44N×126.92E,h42km±82km,mb3.8/8, mb1 3.9/8,mb1mx3.8/17,mbtmp4.0/8,MS3.6/6,Ms1 3.6/6, ms1mx3.2/28,Error ellipse: s-maj=55.8km s-min=18.1km az=77.0*
NEIC ***15*** *09:17:13.7±5.4,2.39N×126.75E,h69km±54km,mb4.4/3, Error ellipse: s-maj=25.7km s-min=10.2km az=88.0*

ISC 15 09:17:08.3±0.5,2.43N±0.08×126.7E±0.2,h33km,n16, σ0ᵗ68/13,mb4.2/10,MS3.5/6,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**20.42**	**183**	P		**P**	**09 21 45.4**	**-0.1**
	2.1nm,0.5s,baz=356,slow=11,SNR=12							
GUMO	**Guam**	**21.13**	**57**	LR		LR	09 28 13.7	
	comp=Z,181nm,19.3s,MS3.5,baz=118,slow=32							
GUMO	**Guam**	**21.13**	**57**	P		**P**	**09 21 53.4**	**+0.6**
	207nm,1.1s,mb5.4							
WRA	**Warramunga Arr**	**23.46**	**162**	P		**P**	**09 22 16.2**	**+0.2**
	2.9nm,0.3s,mb4.1,baz=340,slow=11,SNR=54							
WB2	**Warramunga Arr**	**23.47**	**162**	*e*P		**P**	**09 22 16.1**	**0.0**
JHJ	**Hachijo jima 2**	**32.91**	**20**	LR		LR	09 36 31.8	
	comp=Z,81nm,21.2s,MS3.4,baz=100,slow=35							
MJAR	**Matsushiro Arr**	**35.58**	**16**	P		**P**	**09 24 03.7**	**-1.1**
	2.0nm,0.9s,mb4.1,baz=196,slow=9.1,SNR=4.0							
MJAR				LR		LR	09 38 06.6	
	comp=Z,65nm,19.7s,MS3.4,baz=35,slow=35							
STKA	**Stephens Creek**	**36.94**	**159**	P		**P**	**09 24 15.8**	**-0.5**
	3.6nm,0.6s,mb4.4,baz=351,slow=8.5,SNR=9.3							
STKA				LR		LR	09 40 03.7	
	comp=Z,113nm,21.3s,MS3.6,baz=28,slow=37							
ASAJ	**Asahikawa**	**43.85**	**17**	LR		LR	09 40 29.3	
	comp=Z,56nm,21.6s,MS3.4,baz=171,slow=32							
ULN	**Ulaanbaatar**	**48.34**	**342**	P		**P**	**09 25 48.5**	**-0.3**
	3.4nm,1.0s,mb4.3							
SONM	**Songino Array**	**48.51**	**342**	P		**P**	**09 25 51.0**	**+0.9**
	0.5nm,0.4s,mb3.9,baz=162,slow=8.3,SNR=4.9							
MKAR	**Makanchi Array**	**58.59**	**326**	P

*IDC **15** 09:48:22.6±0.7,28.51N×44.85W,mb4.2/14,mb1 4.4/14, mb1mx4.2/26,mbtmp4.2/14,MS3.5/8,Ms1 3.5/8, ms1mx3.3/30,Error ellipse: s-maj=18.2km s-min=17.6km az=165.0*

*NEIC **15** 09:48:24.2±0.4,28.50N×44.79W,h10km,mb4.6/15,Error ellipse: s-maj=9.9km s-min=9.1km az=134.0*

ISC 15 09:48:22.4±0.5,28.53N±0.09×44.78W±0.09,h10km,n48, σ0§70/42,mb4.4/29,MS3.5/8,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**31.19**	**236**	P		**P**		**09 54 43.9**	**-0.3**
SADO	**Sadowa**	**31.69**	**310**	LR		LR		10 04 15.1	
	comp=Z,13nm,21.8s,MS2.5,baz=184,slow=30								
ROSC	**El Rosal**	**36.61**	**235**	LR		LR		10 09 42.3	
	comp=Z,54nm,18.4s,MS3.4,baz=20,slow=35								
WVT	**Waverly**	**36.92**	**293**	P		**P**		**09 55 33.9**	**+0.6**
	4.7nm,1.0s,mb4.3								
DBIC	**Dimbokro**	**43.52**	**112**	LR		LR		10 12 56.3	
	comp=Z,60nm,18.7s,MS3.5,baz=205,slow=34								
BDFB	**Brasilia**	**44.02**	**184**	LR		LR		10 12 59.3	
	comp=Z,79nm,18.5s,MS3.7,baz=200,slow=34								
ULM	**Lac du Bonnet**	**44.02**	**314**	P		**P**		**09 56 30.9**	**-0.8**
	5.9nm,0.7s,mb4.4,baz=83,slow=5.5,SNR=10								
FCC	**Fort Churchill**	**45.21**	**326**	*eP*		**P**		**09 56 41.8**	**+0.6**
	16nm,1.0s,mb4.8								
TORD	**Torodi Ar. Bea**	**45.76**	**100**	P		**P**		**09 56 46.4**	**+0.3**
	3.1nm,0.8s,mb4.3,baz=300,slow=8.2,SNR=18								
WMOK	**Wichita Mounta**	**45.94**	**292**	*eP*		**P**		**09 56 47.2**	**-0.1**
	8.3nm,1.2s,mb4.5								
SIV	**San Ignacio**	**46.98**	**202**	P		**P**		**09 56 55.9**	**+0.2**
	2.2nm,0.8s,mb4.2,baz=25,slow=7.6,SNR=15								
LPAZ	**La Paz**	**49.95**	**210**	P		**P**		**09 57 17.1**	**-1.7**
	1.5nm,0.6s,mb4.2,baz=5.2,slow=11,SNR=8.2								
LPAZ				LR		LR		10 15 45.2	
	comp=Z,43nm,21.0s,MS3.4,baz=93,slow=33								
SDCO	**Great Sand Dun**	**50.89**	**297**	*eP*		**P**		**09 57 27.6**	**+1.9**
	2.3nm,0.8s,mb4.2								
LTX	**Lajitas**	**51.05**	**286**	P		**P**		**09 57 26.3**	**-0.7**
	5.1nm,1.0s,mb4.4								
TXAR	**Lajitas Array**	**51.05**	**286**	P		**P**		**09 57 26.8**	**-0.2**
	1.2nm,0.7s,mb3.9,baz=93,slow=7.5,SNR=10.0								
TXAR	**Lajitas Array**	**51.05**	**286**	P		**P**		**09 57 26.8**	**-0.2**
ANMO	**Albuquerque**	**52.13**	**294**	*eP*		**P**		**09 57 35.6**	**+0.4**
	3.0nm,1.0s,mb4.2								
RES	**Resolute Bay**	**52.56**	**345**	*eP*		**P**		**09 57 36.8**	**-1.1**
	3.4nm,1.1s,mb4.2								
LAZ	**Ladron**	**52.79**	**293**	*eP*		**P**		**09 57 41.2**	**+1.1**
PDAR	**Pinedale Array**	**53.30**	**304**	P		**P**		**09 57 43.8**	**0.0**
	4.6nm,0.6s,mb4.6,baz=80,slow=9.0,SNR=28								
LOHW	**Long Hollow**	**53.96**	**305**	*eP*		**P**		**09 57 48.3**	**-0.2**
	4.2nm,0.7s,mb4.5								
SNOW	**Snow King Moun**	**54.09**	**305**	*eP*		**P**		**09 57 50.0**	**+0.5**
	8.3nm,0.6s,mb4.8								
YMR	**Madison River**	**54.10**	**306**	*eP*		**P**		**09 57 50.7**	**+1.2**
	6.2nm,0.8s,mb4.6								
IMW	**Indian Meadow**	**54.17**	**305**	*eP*		**P**		**09 57 50.3**	**+0.2**
	10nm,1.0s,mb4.7								
TPAW	**Teton Pass**	**54.23**	**305**	*eP*		**P**		**09 57 50.6**	**+0.1**
	7.9nm,0.9s,mb4.6								
RRI2	**Red Ridge**	**54.51**	**305**	*eP*		**P**		**09 57 52.9**	**+0.3**
	10.0nm,0.6s,mb5.0								
SRU	**San Rafael**	**54.57**	**299**	*eP*		**P**		**09 57 53.5**	**+0.4**
	8.2nm,0.7s,mb4.9								
HWUT	**Hardware Ranch**	**54.94**	**303**	*eP*		**P**		**09 57 55.2**	**-0.6**
EDM	**Edmonton**	**55.05**	**317**	*eP*		**P**		**09 57 55.5**	**-0.9**
YKA	**Yellowknife Ar**	**55.83**	**328**	P		**P**		**09 58 00.6**	**-1.3**
	1.5nm,0.8s,mb4.1,baz=93,slow=7.5,SNR=27								
YKA				LR		LR		10 20 04.6	
	comp=Z,71nm,19.8s,MS3.8,baz=85,slow=34								
MSU	**Marysvale**	**55.95**	**299**	*eP*		**P**		**09 58 04.1**	**+1.0**
DUG	**Dugway**	**56.11**	**301**	*eP*		**P**		**09 58 03.8**	**-0.5**
	12nm,1.3s,mb4.8								
BGU	**Big Grassy Mou**	**56.14**	**302**	*eP*		**P**		**09 58 04.3**	**-0.2**
ARCES	**ARCESS Array B**	**56.70**	**23**	P		**P**		**09 58 08.8**	**+0.7**
	1.7nm,0.8s,mb4.1,baz=252,slow=7.7,SNR=5.3								
ARCES	**ARCESS Array B**	**56.70**	**23**	P		**P**		**09 58 08.8**	**+0.7**
HLID	**Hailey**	**56.71**	**305**	*eP*		**P**		**09 58 08.3**	**-0.2**
ARUT	**Antelope Range**	**57.07**	**298**	*eP*		**P**		**09 58 11.5**	**+0.3**
AKASG	**Malin Array Be**	**58.61**	**46**	P		**P**		**09 58 22.1**	**+0.3**
	1.0nm,0.5s,mb4.1,baz=279,slow=6.0,SNR=4.5								
MNV	**Mina**	**60.54**	**300**	*eP*		**P**		**09 58 34.7**	**-0.5**
NVAR	**Mina Array Bea**	**60.65**	**300**	P		**P**		**09 58 35.8**	**-0.2**
	1.1nm,0.6s,mb4.2,baz=81,slow=8.6,SNR=13								
INK	**Inuvik**	**63.37**	**335**	LR		LR		10 25 12.1	
	comp=Z,100nm,18.8s,MS4.0,baz=30,slow=35								
DLBC	**Dease Lake**	**63.74**	**324**	P		**P**		**09 58 55.4**	**-0.9**
BRTR	**Keskin Array B**	**63.98**	**57**	P		**P**		**09 58 57.8**	**-0.5**
	1.0nm,0.8s,mb3.9,baz=350,slow=7.5,SNR=3.8								
ILAR	**Eielson Array**	**69.50**	**333**	P		**P**		**09 59 32.5**	**-0.3**
	1.9nm,0.9s,mb4.0,baz=71,slow=4.1,SNR=17								
PLCA	**Paso Flores**	**72.94**	**200**	P		**P**		**09 59 54.7**	**+0.9**
	1.6nm,0.9s,mb4.0,baz=329,slow=6.5,SNR=3.7								
AKTK	**Aktyubinsk**	**76.08**	**40**	P		**P**		**10 00 11.9**	**+0.2**
AKTO	**Aktyubinsk**	**76.08**	**40**	P		**P**		**10 00 11.9**	**+0.2**
	2.1nm,0.9s,mb4.1,baz=306,slow=4.4,SNR=5.9								
MKAR	**Makanchi Array**	**91.11**	**33**	LR		LR		10 38 48.7	
	comp=Z,33nm,18.9s,MS3.8,baz=90,slow=33								

KRSC 15 10:35:28.6±0.0,52.25N×154.40E,h581km±12km,ML4.1, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**2.27**	**81**	P		P		10 36 42.8	+0.1
RUS	**Russkaya**	**2.53**	**84**	*e*S		S		10 37 39.4	-4.5
GNL	**Ganaly**	**2.58**	**55**	*i* P		P		10 36 43.2	-1.1
KOK	**Koryaka**	**2.78**	**66**	*i* P		P		10 36 45.2	-0.2
AVH	**Avacha**	**2.83**	**67**	*eP*		P		10 36 45.5	-0.1
UGLR	**Uglovaya**	**2.86**	**69**	*eP*		P		10 36 46.2	+0.4
SMAR	**Somma**	**2.86**	**67**	*eP*		P		10 36 45.7	-0.1
NLC	**Nalytchevo**	**3.15**	**71**	*e*S		S		10 37 45.7	-4.5
SPN	**Mys Shipunski**	**3.53**	**74**	*eP*		P		10 36 49.4	-0.6
SPN				*e*S		S		10 37 48.4	-6.1
TUMR	**Tumrok**	**4.57**	**46**	*eP*		P		10 36 57.5	+0.1
KMNR	**Kamenistaya**	**4.92**	**42**	*eP*		P		10 36 59.9	-0.2
KOZ	**Kozyrevsk**	**4.99**	**38**	*eP*		P		10 37 00.6	-0.1
SRDR	**Sredinnyy**	**5.13**	**35**	*eP*		P		10 37 01.7	-0.2
LGNR	**Loginova**	**5.33**	**41**	*eP*		P		10 37 04.0	+0.4
ZLN	**Zelenaya**	**5.33**	**42**	*eP*		P		10 37 03.8	+0.2
KBTR	**Krutoberegovo**	**6.33**	**48**	P		P		10 37 11.9	-0.4
KBTR				S		S		10 38 27.0	-7.7
KBTR	**Krutoberegovo**	**6.33**	**48**	*eP*		P		10 37 11.9	-0.4
KBTR				*e*S		S		10 38 27.3	-7.4

*NEIC **15** 10:52:50.1±2.1,6.25S×148.73E,h51km±17km,mb4.5/5, Error ellipse: s-maj=22.3km s-min=15.6km az=134.0*

*IDC **15** 10:52:51.9±2.7,6.33S×148.71E,h64km±22km,mb3.8/4, mb1 4.1/7,mb1mx3.8/14,mbtmp4.2/7,MS3.7/8,Ms1 3.7/8, ms1mx3.3/34,Error ellipse: s-maj=39.1km s-min=15.4km az=127.0*

ISC 15 10:52:46.9±2.5,6.2S±0.1×148.8E±0.2,h37km±20km,n23, σ1§02/21,mb4.2/7,MS3.7/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.56**	**207**	P		**P**		**10 53 43.3**	**+2.1**
	48nm,0.3s,baz=39,slow=8.9,SNR=99								
PMG				S		**S**		**10 54 22.6**	**-0.1**
	27nm,0.3s,baz=345,slow=14,SNR=7.2								
PMG				LR		LR		10 55 20.1	
	comp=Z,607nm,21.1s,baz=353,slow=43								
PMG	**Port Moresby**	**3.56**	**207**	*e*Pn		**P**		**10 53 42.5**	**+1.4**
PMG				*e*Sn		**S**		**10 54 22.0**	**-0.6**
PMG				S		**S**		**10 54 22.6**	**-0.1**
PMG				LR		LR		10 55 20.1	
CTA	**Charters Tower**	**14.02**	**190**	P		**P**		**10 56 05.1**	**-0.2**
	0.1nm,0.3s,baz=354,slow=16,SNR=2.7								
CTA				LR		LR		11 01 13.4	
	comp=Z,176nm,18.5s,baz=48,slow=36								
CTA	**Charters Tower**	**14.02**	**190**	P		**P**		**10 56 05.1**	**-0.2**
CTA				LR		LR		11 01 13.4	
KAKA	**Kakadu**	**17.35**	**247**	*eP*		**P**		**10 57 08.7**	**+21**
	5.3nm,0.6s								
WB2	**Warramunga Arr**	**19.57**	**224**	*eP*		**P**		**10 57 12.5**	**-2.1**
WRA	**Warramunga Arr**	**19.58**	**224**	P		**P**		**10 57 13.1**	**-1.6**
	1.4nm,0.3s,baz=50,slow=11,SNR=111								
WRA				S		**S**		**11 00 50.4**	**+2.3**
	0.0nm,0.3s,baz=48,slow=23,SNR=5.7								
GUMO	**Guam**	**20.04**	**349**	LR		LR		11 03 35.3	
	comp=Z,139nm,21.0s,MS3.3,baz=138,slow=32								
ASPA	**Alice Springs**	**22.50**	**218**	*eP*		**P**		**10 57 44.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**25.48**	**240**	*eP*		**P**		**10 58 13.5**	**-0.1**
	15nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**25.48**	**240**	P		**P**		**10 58 14.1**	**+0.5**
	5.5nm,0.5s,mb4.3,baz=87,slow=7.6,SNR=40								
STKA	**Stephens Creek**	**26.41**	**194**	P		**P**		**10 58 21.4**	**-0.7**
	1.5nm,0.6s,mb3.7,baz=2.4,slow=13,SNR=6.5								
STKA				LR		LR		11 09 16.2	
	comp=Z,141nm,18.3s,MS3.5,baz=28,slow=38								
STKA	**Stephens Creek**	**26.41**	**194**	P		**P**		**10 58 21.4**	**-0.7**
STKA				LR		LR		11 09 16.2	
MBWA	**Marble Bar**	**31.81**	**239**	P		**P**		**10 59 10.1**	**-0.4**
	11nm,1.0s,mb4.7								
NWAO	**Narrogin (SRO)**	**39.58**	**224**	LR		LR		11 17 53.1	
	comp=Z,124nm,21.7s,MS3.7,baz=113,slow=38								
RPZ	**Rata Peaks**	**42.19**	**156**	LR		LR		11 16 37.8	
	comp=Z,377nm,18.0s,MS4.3,baz=34,slow=34								
MJAR	**Matsushiro Arr**	**43.65**	**348**	LR		LR		11 17 42.1	
	comp=Z,73nm,19.0s,MS3.6,baz=55,slow=34								
SONM	**Songino Array**	**65.44**	**330**	LR		LR		11 33 53.9	
	comp=Z,55nm,19.0s,MS3.8,baz=48,slow=38								
VNDA	**Vanda**	**71.62**	**177**	P		**P**		**11 04 06.3**	**+0.2**
	0.9nm,0.9s,mb3.7,baz=339,slow=6.3,SNR=5.0								
MCK	**McKinley**	**83.71**	**23**	P		**P**		**11 05 13.6**	**+0.6**
	4.5nm,1.0s,mb4.5								
QSPA	**South Pole Qui**	**83.77**	**180**	P		**P**		**11 05 13.1**	**+0.1**
	1.8nm,0.5s,mb4.5								
ILAR	**Eielson Array**	**84.98**	**23**	P		**P**		**11 05 19.9**	**+0.5**
	0.9nm,0.8s,mb4.0,baz=252,slow=4.3,SNR=9.8								
TORD	**Torodi Ar. Bea**	**146.85**	**285**	PKPbc		PKPbc		11 12 27.4	+1.4
	1.4nm,0.5s,baz=58,slow=3.5,SNR=32								

*BYKL **15** 10:58:18.2±0.4,57.41N×120.92E,h3km±15km, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 78.00 48.00 -74.00 16 0 IEC + 235.00 44.00 -107.00 #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 157.00 2.00 247.00 12.00 57.00 78.00 IEC + 2.09 2.31 2.65 1.15 12.99 1.15*

*IDC **15** 10:58:19.3±1.0,57.46N×120.72E,mb4.0/14,mb1 4.2/15, mb1mx4.0/25,mbtmp4.0/15,ML3.2/1,MS3.6/5,Ms1 3.6/5, ms1mx3.2/36,Error ellipse: s-maj=23.0km s-min=18.1km az=157.0*

*MOS **15** 10:58:20.0±1.4,57.40N×120.77E,h20km,mb4.3/14,Error ellipse: s-maj=10.5km s-min=9.4km az=76.8*

*NEIC **15** 10:58:21.3±0.5,57.53N×120.65E,h10km,mb4.1/3,Error ellipse: s-maj=13.7km s-min=8.1km az=139.0*

*BJI **15** 10:58:24.2,56.84N×121.45E,h10km,mb4.7,mb4.2, ML4.8,Ms4.5,Msz3.9*

ISC 15 10:58:19.9±0.5,57.45N±0.03×120.81E±0.03,h18km±4km, n99,σ1§19/128,mb4.1/20,MS3.8/7,4C-4D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.69**	**221**	⇓*i* Pg		**Pb**		**10 58 31.3**	**-1.9**
KHNR				*e*Sg		**Sb**		**10 58 40.1**	**-2.2**
KHNR				*e*Sb		**Sb**		**10 58 43.8**	**+1.5**
CRS	**Chara**	**1.49**	**249**	⇓*i* Pg		**Pn**		**10 58 45.8**	**-0.3**
CRS				Pmax				10 58 46.5	
	5μm,0.9s								
CRS				*e*Sg		**Sn**		**10 59 05.1**	**-0.1**
CRS				Smax				10 59 06.5	
	5μm,1.6s								
CRS	**Chara**	**1.49**	**249**	*eP*		**Pn**		**10 58 46.0**	**-0.1**
CRS				*e*				10 59 05.3	
CRS				pmax	pmax				
	comp=Z,5μm,0.6s								
CRS				smax					
	comp=E,4μm,0.5s								
NRGR	**Nerungri**	**2.28**	**109**	*eP*		**Pn**		**10 58 57.3**	**-0.2**
NRGR				S		**Sn**		**10 59 26.4**	**+1.0**
CLNS	**Chul'man**	**2.31**	**104**	*ePn*		**Pn**		**10 58 57.6**	**-0.3**
CLNS				*ePg*		**Pb**		**10 58 59.7**	**-1.1**
CLNS				Pmax				10 59 01.2	
	comp=E,569nm,0.1s								
CLNS				*e*Sg		**Sb**		**10 59 29.4**	**+0.3**
CLNS				Smax				10 59 36.3	
	comp=E,4μm,0.2s								
CLNS	**Chul'man**	**2.31**	**104**	*eP*		**Pn**		**10 58 57.8**	**-0.1**
CLNS				*e*S		**Sn**		**10 59 26.2**	**+0.1**
CLNS				pmax	pmax				
	comp=N,3.0nm,0.2s								
CLNS				pmax	pmax				
	comp=E,10.0nm,0.2s								
CLNS				pmax	pmax				
	comp=Z,27nm,0.2s								
CLNS				pmax	pmax				
	comp=N,53nm,0.3s								
CLNS				pmax	pmax				
	comp=Z,202nm,0.3s								
CLNS				pmax	pmax				
	comp=E,55nm,0.2s								
CLNS				smax					
	comp=N,140nm,0.3s								
CLNS				smax					
	comp=E,178nm,0.3s								
CLNS				smax					
	comp=Z,83nm,0.3s								
CLNS				smax					
	comp=N,11μm,0.7s								
CLNS				smax					
	comp=Z,471nm,0.3s								
CLNS				smax					
	comp=E,3μm,0.4s								
IENR	**Iengra**	**2.54**	**117**	*ePn*		**Pn**		**10 59 00.7**	**-0.5**
IENR				*ePg*		**Pb**		**10 59 03.5**	**-1.2**
IENR				*e*Sg		**Sb**		**10 59 36.4**	**+0.6**
ALDR	**Aldan**	**2.71**	**63**	*ePn*		**Pn**		**10 59 02.5**	**-1.1**
ALDR				*ePg*		**Pb**		**10 59 05.6**	**-2.0**
ALDR				Pmax				10 59 06.0	
	comp=E,392nm,0.1s								
ALDR				*e*Sg		**Sb**		**10 59 40.3**	**-0.4**
ALDR				Smax				10 59 42.5	
	comp=E,5μm,0.1s								
NLYR	**Nelyaty**	**2.95**	**253**	⇓*i* Pn		**Pn**		**10 59 06.7**	**-0.4**
NLYR				⇑*i* Pg		**Pb**		**10 59 11.8**	**0.0**
NLYR				Pmax				10 59 13.6	
	comp=E,2μm,0.9s								
NLYR				*e*				10 59 18.7	
NLYR				*e*Sg		**Sb**		**10 59 50.2**	**+2.5**
NLYR				Smax				10 59 55.4	
	comp=E,7μm,1.2s								
NLYR	**Nelyaty**	**2.95**	**253**	*eP*		**Pn**		**10 59 11.4**	**+4.3**
NLYR				*e*				10 59 48.7	
NLYR				pmax	pmax				
	comp=Z,2μm,1.1s								
NLYR				smax					
	comp=N,7μm,1.2s								
TUP	**Tupik**	**3.07**	**189**	*ePn*		**Pn**		**10 59 07.1**	**-1.6**
TUP				*ePg*		**Pb**		**10 59 12.3**	**-1.4**
TUP				Pmax				10 59 16.3	
	comp=N,1μm,0.7s								
TUP				*e*				10 59 18.8	
TUP				*e*Sg		**Sb**		**10 59 51.5**	**+0.5**
TUP				Smax				10 59 55.5	
	comp=N,7μm,1.2s								
TUP				*e*SgSg				10 59 58.3	
TUP	**Tupik**	**3.07**	**189**	*eP*		**Pn**		**10 59 13.5**	**+4.8**
TUP				*e*				10 59 51.2	
TUP				pmax	pmax				
	comp=Z,1μm,0.6s								
TUP				smax					
	comp=E,7μm,1.0s								
BOD	**Bodaibo**	**3.68**	**279**	⇑*i* Pn		**Pn**		**10 59 16.8**	**-0.5**
BOD				*ePg*		**Pb**		**10 59 24.4**	**+0.3**
BOD				Pmax				10 59 26.3	
	comp=E,395nm,1.2s								
BOD				*e*Sg		**Sb**		**11 00 12.3**	**+3.7**
BOD				Smax				11 00 15.8	
	comp=E,4μm,1.4s								
BOD	**Bodaibo**	**3.68**	**279**	*eP*		**Pn**		**10 59 15.7**	**-1.6**
BOD				pmax	pmax				
	comp=Z,412nm,0.5s								
SVKR	**Severomuysk**	**4.20**	**255**	*ePn*		**Pn**		**10 59 24.1**	**-0.7**
SVKR				*ePg*		**Pb**		**10 59 34.4**	**+1.3**
SVKR				Pmax				10 59 37.5	
	comp=Z,990nm,1.5s								
SVKR				*e*				11 00 04.3	
SVKR				*e*Sg		**Sb**		**11 00 29.9**	**+6.0**
SVKR				*e*				11 00 44.4	
SVKR				max				11 00 45.9	
	comp=Z,3μm,1.2s								
SVKR	**Severomuysk**	**4.20**	**255**	*eP*		**Pn**		**10 59 34.7**	**+10**
SVKR				pmax	pmax				
	comp=Z,957nm,1.5s								
UKT	**Uakit**	**4.44**	**247**	*ePn*		**Pn**		**10 59 27.4**	**-0.8**
UKT				*ePg*		**Pb**		**10 59 37.7**	**+0.6**
UKT				Pmax				10 59 40.3	
	comp=Z,478nm,0.8s								
UKT				*e*Sg		**Sb**		**11 00 35.2**	**+4.5**
UKT				Smax				11 00 42.5	
	comp=Z,2μm,1.1s								
UKT	**Uakit**	**4.44**	**247**	*eP*		**Pn**		**10 59 37.6**	**+9.4**
UKT				pmax	pmax				
	comp=Z,335nm,0.6s								
YOA	**Uoyan**	**5.16**	**259**	*ePg*		**Pb**		**10 59 51.9**	**+2.4**
YOA				Pmax				10 59 59.6	
	comp=Z,1μm,1.5s								
YOA				*e*Sg		**Sb**		**11 00 59.5**	**+7.8**
YOA				Smax				11 01 17.0	
	comp=Z,11μm,2.0s								
YOA	**Uoyan**	**5.16**	**259**	⇑*i* P		**Pb**		**10 59 51.7**	**+2.2**
YOA				pmax	pmax				
	comp=Z,1μm,0.8s								
ZEA	**Zeya**	**5.21**	**133**	*ePn*		**Pn**		**10 59 34.8**	**-4.3**
ZEA				⇑*i* Pg		**Pb**		**10 59 50.2**	**-0.1**
ZEA				Pmax				10 59 51.1	
	comp=Z,110nm,0.5s								
ZEA				*e*Sn		**Sn**		**11 00 30.9**	**-8.6**
ZEA				*e*Sg		**Sb**		**11 00 55.8**	**+2.7**
ZEA				Smax				11 00 57.8	
	comp=Z,3μm,1.2s								
KMO	**Kumora**	**5.52**	**258**	*ePn*		**Pn**		**10 59 42.3**	**-1.2**
KMO				*ePg*		**Pb**		**10 59 57.7**	**+2.1**
KMO				Pmax				11 00 02.5	
	comp=Z,204nm,1.0s								
KMO				*e*Sg		**Sb**		**11 01 09.7**	**+7.6**
KMO				Smax				11 01 23.5	
	comp=Z,2μm,1.5s								
KMO	**Kumora**	**5.52**	**258**	*eP*		**Pn**		**10 59 42.3**	**-1.2**
KMO				*e*S		**Sn**		**11 00 44.1**	**-3.2**
KMO				pmax	pmax				
	comp=Z,295nm,0.8s								
KMO				smax					
	comp=E,2μm,1.3s								
YLYR	**Ulyunkhan**	**5.97**	**249**	*ePn*		**Pn**		**10 59 48.2**	**-1.6**
YLYR				*ePg*		Px		11 00 05.9	
YLYR				Pmax				11 00 12.1	
	comp=E,142nm,1.3s								
YLYR				*e*Sg		Sx		11 01 24.2	
YLYR				Smax				11 01 38.8	
	comp=E,663nm,1.2s								
YLYR	**Ulyunkhan**	**5.97**	**249**	*eP*		**Pn**		**10 59 48.7**	**-1.1**
YAK	**Yakutsk**	**6.42**	**41**	*eP*		**Pn**		**10 59 47.7**	**-8.5**
YAK				pmax	pmax				
	comp=Z,91nm,0.8s								
YAK	**Yakutsk**	**6.42**	**41**	*eP*		**Pn**		**11 00 01.9**	**+5.7**
YAK				*e*S		**Sn**		**11 01 03.8**	**-6.0**
YAK				pmax	pmax				
	comp=N,4.0nm,0.7s								
YAK				pmax	pmax				
	comp=E,4.0nm,0.7s								
YAK				pmax	pmax				
	comp=Z,9.0nm,0.7s								
YAK				pmax	pmax				
	comp=Z,33nm,0.8s								
YAK				pmax	pmax				
	comp=N,24nm,0.9s								
YAK				pmax	pmax				
	comp=E,24nm,1.2s								
YAK				smax					
	comp=E,66nm,0.8s								
YAK				smax					
	comp=Z,45nm,0.8s								
YAK				smax					
	comp=N,63nm,0.9s								
YAK				smax					
	comp=E,392nm,0.9s								
YAK				smax					
	comp=N,850nm,0.8s								
YAK				smax					
	comp=Z,358nm,0.8s								
YAK				MLR	MLR				
	comp=Z,44nm,6.0s								
YAK	**Yakutsk**	**6.42**	**41**	*ePn*		**Pn**		**10 59 47.7**	**-8.4**
	comp=Z,91nm,0.8s								
YAK				*e*Sn		**Sn**		**11 00 59.2**	**-11**
YAK				*e*				11 01 30.8	
NIZ	**Nizh Angarsk**	**6.44**	**260**	*ePn*		**Pn**		**10 59 55.8**	**-0.6**
NIZ				*ePg*		Px		11 00 15.2	
NIZ				Pmax				11 00 21.8	
	comp=Z,132nm,1.2s								
NIZ				*e*Sg		Sx		11 01 38.6	
NIZ				Smax				11 01 43.5	
	comp=Z,662nm,1.0s								
CIT	**Chita**	**6.87**	**221**	*ePn*		**Pn**		**11 00 00.5**	**-1.9**
CIT				*ePg*		Px		11 00 22.4	
CIT				Pmax				11 00 31.4	
	comp=Z,82nm,1.1s								
CIT				*e*Sg		Sx		11 01 51.3	
CIT				Smax				11 01 53.5	
	comp=Z,3μm,1.9s								
SYVR	**Suvo**	**7.21**	**243**	*ePn*		**Pn**		**11 00 05.8**	**-1.4**
SYVR				*ePg*		Px		11 00 28.4	
SYVR				Pmax				11 00 31.1	
	comp=Z,153nm,1.6s								
SYVR				*e*Sg		Sx		11 02 02.8	

SONM Sn S **11 03 50.5 -0.6**
comp=Z,0.5nm,0.3s,baz=44,slow=18,SNR=3.6
SONM Lg 11 05 01.5
comp=Z,1.2nm,0.3s,baz=38,slow=26,SNR=5.9
ORL Oriik 12.99 257 *e*Pn P **11 01 24.7 -1.7**
ORL *e*Sg Sx 11 04 59.8
ORL Smax 11 05 15.1
comp=Z,238nm,1.8s
TIXI Tiksi 14.65 10 *e*P P **11 01 38.2 -10**
TIXI pmax pmax
comp=Z,11nm,0.7s
TIXI MLR MLR
comp=Z,432nm,14.0s
TDJR Todzha 15.03 261 *e*Sg Sx 11 06 04.4
MA2 Magadan 15.73 70 *i* P P **11 01 56.9 -5.1**
SEY Seymchan 16.51 57 *i* P P **11 02 12.0 +0.1**
HHC Hu-ho-hao-te 17.65 204 *e*P P **11 02 29.0 +2.6**
HHC XP 11 02 35.6
HHC AMB AMB
comp=Z,10.0nm,0.8s
HHC AMB AMB
comp=Z,170nm,4.5s
ASAJ Asahikawa 19.06 125 LR LR 11 11 09.1
comp=Z,27nm,21.1s,baz=204,slow=40
NVS Novosibirsk 20.92 279 *e*P P **11 03 02.8 -0.9**
NVS *e*S S **11 07 04.8 +13**
NVS pmax pmax
comp=N,15nm,1.3s
NVS pmax pmax
comp=E,16nm,1.3s
NVS pmax pmax
comp=Z,13nm,1.3s
GTA Gaotai 22.63 226 *e*P P **11 03 22.8 +1.9**
GTA AP 11 03 32.6
GTA XP 11 03 37.6
GTA S S **11 07 28.8 +5.6**
GTA LG1 11 09 25.8
GTA LG2 11 10 24.3
GTA AMB AMB
comp=Z,150nm,5.7s
GTA LR LR
comp=N,610nm,10.6s,MS4.5
GTA LR LR
comp=E,950nm,15.2s,MS4.5
GTA LR LR
comp=Z,240nm,10.6s,MS3.9
BILL Bilibino 22.77 44 *e*P P **11 03 22.2 +0.2**
BILL pmax pmax
comp=Z,6.0nm,1.7s,mb3.8
BILL MLR MLR
comp=Z,100nm,20.0s,MS3.2
BILL Bilibino 22.77 44 P P **11 03 26.4 +4.5**
comp=Z,5.2nm,0.8s,mb4.0
KURK Kurchatov 25.30 273 *i* P P **11 03 48.0 +1.3**
NJ2 Nanjing 25.43 184 *e*P P **11 03 48.5 +0.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
MKAR Makanchi Array 25.59 262 P P **11 03 48.5 -0.9**
comp=Z,2.7nm,0.8s,mb3.8,baz=58,slow=8.5,SNR=11
MKAR LR LR 11 14 29.1
comp=Z,127nm,21.1s,MS3.4,baz=89,slow=38
MKAR Makanchi Array 25.59 262 P P **11 03 48.5 -0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR MLR MLR
comp=Z,127nm,21.1s
MKAR Makanchi Array 25.59 262 P P **11 03 48.5 -0.9**
MKAR LR LR 11 14 29.1
SSE Sheshan 26.35 179 P P **11 03 57.5 +0.9**
SSE AP pP 11 04 03.4 +1.7
SSE XP sP 11 04 06.3 +2.3
SSE S S **11 08 31.5 +4.8**
SSE PCS 11 11 03.3
SSE AMB AMB
comp=Z,30nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,260nm,4.5s
BVAR Borovoye Array 28.54 283 P P **11 04 14.3 -1.9**
comp=Z,1.3nm,0.6s,mb3.8,baz=67,slow=11,SNR=7.9
BVAR Borovoye Array 28.54 283 P P **11 04 14.3 -1.9**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
ZRNK Zerenda 29.30 284 P P **11 04 22.7 -0.5**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
ZRNK Zerenda 29.30 284 P P **11 04 22.7 -0.4**
comp=Z,1.5nm,0.7s,mb3.8
AAK Ala-Archa 32.51 263 *i* P P **11 04 53.2 +1.6**
ARU Arti 32.93 295 *i* P P **11 04 55.6 +0.6**
AKTK Aktyubinsk 36.41 287 P P **11 05 25.8 +0.9**
AKTO Aktyubinsk 36.41 287 P P **11 05 25.8 +0.9**
comp=Z,1.5nm,0.6s,mb4.1,baz=62,slow=14,SNR=7.6
AKTO Aktyubinsk 36.41 287 P P **11 05 25.8 +0.9**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ARCES ARCESS Array B 39.65 327 P P **11 05 51.8 -0.1**
comp=Z,3.8nm,0.9s,mb4.1,baz=56,slow=8.7,SNR=7.5
ARCES ARCESS Array B 39.65 327 P P **11 05 51.8 -0.1**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
COLA College 40.95 41 *e*P P **11 06 04.2 +1.6**
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
COLA College 40.95 41 *e*P P **11 06 04.2 +1.6**
comp=Z,5.5nm,0.9s,mb4.2
MCK McKinley 41.21 42 P P **11 06 06.4 +1.6**
ILAR Eielson Array 41.35 40 P P **11 06 06.5 +0.6**
comp=Z,1.5nm,0.6s,mb3.8,baz=295,slow=4.9,SNR=25
ILAR Eielson Array 41.35 40 P P **11 06 06.5 +0.6**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 44.25 317 P P **11 06 29.1 -0.3**
comp=Z,1.4nm,0.4s,mb4.0,baz=63,slow=8.5,SNR=6.4
FINES LR LR 11 25 12.0
comp=Z,125nm,19.2s,MS3.8,baz=162,slow=36
FINES FINESS Array B 44.25 317 P P **11 06 29.2 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES MLR MLR
comp=Z,125nm,19.2s
KIV Kislovodsk 48.53 289 *e*P P **11 07 05.5 +2.0**
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KIV MLR MLR
comp=Z,183nm,16.0s,MS4.2
HFS Hagfors 49.56 321 P P **11 07 10.0 -1.2**
comp=Z,7.3nm,0.5s,mb4.9,baz=63,slow=6.6,SNR=24
HFS Hagfors 49.56 321 P P **11 07 10.0 -1.2**
HFS pmax pmax
comp=Z,7.0nm,0.5s
NB2 NORSAR Subarra 49.71 323 P P **11 07 10.9 -1.4**
comp=Z,5.9nm,0.8s,mb4.7,baz=41,slow=7.4
NOA NORSAR Array B 49.71 323 P P **11 07 12.4 +0.1**
comp=Z,4.1nm,0.7s,mb4.6,baz=42,slow=7.7,SNR=11
NOA NORSAR Array B 49.71 323 P P **11 07 12.4 +0.1**
NOA pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 50.23 304 P P **11 07 16.4 -0.1**
comp=Z,1.4nm,0.4s,mb4.3,baz=40,slow=8.4,SNR=12
AKASG Malin Array Be 50.23 304 P P **11 07 16.4 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 52.95 29 P P **11 07 35.9 -0.9**
comp=Z,0.2nm,0.5s,mb3.3,baz=329,slow=6.3,SNR=4.2
YKA LR LR 11 31 13.6
comp=Z,47nm,18.7s,MS3.6,baz=350,slow=37
BORG Borgarnes 54.77 341 LR LR 11 31 06.2
comp=Z,281nm,18.6s,MS4.4,baz=220,slow=36
KHC Kasperske Hory 58.05 312 *i* P P **11 08 13.9 0.0**
GERES GERESS Array B 58.23 312 P P **11 08 15.6 +0.5**
comp=Z,1.2nm,0.7s,mb4.0,baz=9.5,slow=8.1,SNR=4.4
GERES GERESS Array B 58.23 312 P P **11 08 15.6 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 58.82 326 P P **11 08 19.2 +0.1**
comp=Z,2.4nm,0.8s,mb4.3,baz=32,slow=7.9,SNR=5.0
EKA Eskdalemuir Ar 58.82 326 P P **11 08 19.2 +0.1**
EKA pmax pmax
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 71.63 37 P P **11 09 42.6 +0.7**
comp=Z,0.4nm,0.6s,mb3.5,baz=10.0,slow=3.5,SNR=4.5
WRA Warramunga Arr 77.92 167 P P **11 10 18.9 +0.7**
comp=Z,0.3nm,0.5s,mb3.5,baz=352,slow=6.7,SNR=7.6

*IDC **15** 11:01:05.5±1.1,54.96S×28.85W,mb4.0/3,mb1 4.1/3, mb1mx3.9/12,mbtmp4.0/3,MS3.3/2,Ms1 3.3/2, ms1mx3.0/11,Error ellipse: s-maj=65.2km s-min=26.8km az=56.0*
*NEIC **15** 11:01:10.2±0.8,54.93S×28.67W,h35km,mb4.3/4,Error ellipse: s-maj=27.7km s-min=18.2km az=59.0*
ISC 15 11:01:04.3±1.6,54.9S±0.2×28.6W±0.4,h10km,n12, σ0§79/7,mb4.0/3,MS3.3/2,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**20.08**	**226**	P	**P**	**11 05 40.3**	**0.0**
	16nm,1.0s						
SNAA	**Sanae**	**20.11**	**156**	*e*P	**P**	**11 05 39.3**	**-1.3**
	20nm,0.9s						
PLCA	**Paso Flores**	**31.02**	**280**	LR	LR	11 19 42.0	
	comp=Z,44nm,18.5s,MS3.1,baz=353,slow=36						
MAW	**Mawson**	**41.54**	**145**	P	**P**	**11 08 53.6**	**+0.8**
	1.0nm,0.3s,mb3.9,baz=225,slow=13,SNR=6.6						
BDFB	**Brasilia**	**41.98**	**331**	LR	LR	11 24 19.3	
	comp=Z,55nm,20.0s,MS3.4,baz=22,slow=33						
VNDA	**Vanda**	**47.67**	**183**	P	**P**	**11 09 42.7**	**+0.7**
	0.8nm,0.9s,mb3.8,baz=149,slow=6.3,SNR=3.1						
VNDA	**Vanda**	**47.67**	**183**	P	**P**	**11 09 42.7**	**+0.7**
	1.0nm,1.0s,mb3.8						
LPAZ	**La Paz**	**49.06**	**306**	P	**P**	**11 09 53.5**	**+0.1**
	1.9nm,0.8s,mb4.2,baz=152,slow=6.5,SNR=6.4						
LPAZ	**La Paz**	**49.06**	**306**	*e*P	**P**	**11 09 52.9**	**-0.6**
	2.8nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	**134.79**	**319**	PKP	PKPdf	11 20 23.0	-2.2
	0.3nm,0.8s,baz=128,slow=2.2,SNR=5.0						
ILAR	**Eielson Array**	**148.76**	**313**	PKPbc	PKPdf	11 20 53.4	+3.9
	3.0nm,0.9s,baz=124,slow=1.4,SNR=24						
SONM	**Songino Array**	**151.44**	**85**	PKPbc	PKPdf	11 21 00.9	+6.8
	0.9nm,0.9s,baz=217,slow=3.9,SNR=4.8						

*NEIC **15** 11:07:33.1±0.6,35.14S×179.42W,h10km,mb4.6/9,Error ellipse: s-maj=14.2km s-min=7.1km az=113.0*
*IDC **15** 11:07:42.7±2.8,35.10S×179.91E,h67km±23km,mb4.3/9, mb1 4.4/11,mb1mx4.2/16,mbtmp4.5/11,MS3.8/9, Ms1 3.8/9,ms1mx3.7/15,Error ellipse: s-maj=19.3km s-min=16.1km az=95.0*
ISC 15 11:07:41.3±1.2,35.35S±0.06×179.9W±0.1,h74km±10km, n128,σ1§53/109,mb4.6/13,2D,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.62**	**212**	*e*PN	**P**	**11 08 22.3**	**-0.2**
MXZ				*e*SN	**S**	**11 08 56.8**	**+3.6**
MXZ				T		11 11 03.6	
MXZ	**Matakaoa Point**	**2.62**	**212**	P	**P**	**11 08 22.8**	**+0.4**
PUZ	**Puketiti**	**3.08**	**207**	PN	**P**	**11 08 29.3**	**+0.5**
PUZ				*e*SN	**S**	**11 09 06.4**	**+1.8**
PUZ	**Puketiti**	**3.08**	**207**	P	**P**	**11 08 29.3**	**+0.5**
WIZ	**White Island**	**3.18**	**226**	PN	**P**	**11 08 30.0**	**-0.1**
WIZ	**White Island**	**3.18**	**226**	P	**P**	**11 08 30.1**	**0.0**
MWZ	**Matawai**	**3.61**	**213**	PN	**P**	**11 08 35.9**	**-0.3**
MWZ				*e*SN	**S**	**11 09 20.4**	**+2.7**
MWZ	**Matawai**	**3.61**	**213**	*e*P	**P**	**11 08 36.1**	**0.0**
MWZ				S	S	11 09 40.1	+22
MYRZ	**Mayor Island**	**3.64**	**237**	*e*PN	**P**	**11 08 37.1**	**+0.6**
URZ	**Urewera**	**3.75**	**218**	P	**P**	**11 08 38.0**	**-0.1**
	29nm,0.3s,baz=44,slow=6.0,SNR=184						
URZ				S	**S**	**11 09 23.9**	**+2.7**
	37nm,0.3s,baz=94,slow=21,SNR=3.9						
URZ	**Urewera**	**3.75**	**218**	*e*PN	**P**	**11 08 37.8**	**-0.3**
URZ				*e*SN	**S**	**11 09 22.6**	**+1.3**
URZ	**Urewera**	**3.75**	**218**	*e*P	**P**	**11 08 37.8**	**-0.3**
KUZ	**Kuaotunu**	**3.78**	**247**	PN	**P**	**11 08 38.7**	**+0.1**
KUZ	**Kuaotunu**	**3.78**	**247**	*e*P	**P**	**11 08 38.7**	**+0.1**
MARZ	**Manawahe**	**3.79**	**225**	*e*PN	**P**	**11 08 38.8**	**+0.2**
MARZ	**Manawahe**	**3.79**	**225**	P	**P**	**11 08 39.0**	**+0.4**
EDRZ	**Edgecumbe**	**3.83**	**223**	*e*PN	**P**	**11 08 39.5**	**+0.3**
EDRZ	**Edgecumbe**	**3.83**	**223**	P	**P**	**11 08 39.9**	**+0.6**
TGRZ	**Tauranga**	**3.87**	**231**	PN	**P**	**11 08 40.4**	**+0.6**
TGRZ	**Tauranga**	**3.87**	**231**	P	**P**	**11 08 40.4**	**+0.6**
TAZ	**Tarawera**	**4.05**	**224**	P	**P**	**11 08 43.5**	**+1.2**
KNZ	**Kokohu**	**4.13**	**207**	PN	**P**	**11 08 42.4**	**-1.0**
KNZ	**Kokohu**	**4.13**	**207**	P	**P**	**11 08 42.4**	**-1.0**
UTU	**Utuhina**	**4.20**	**227**	P	**P**	**11 08 45.4**	**+1.1**
PATZ	**Paeroa**	**4.29**	**224**	P	**P**	**11 08 47.3**	**+1.6**
MKAZ	**Moumakai**	**4.33**	**245**	PN	**P**	**11 08 47.3**	**+1.1**
MKAZ	**Moumakai**	**4.33**	**245**	P	**P**	**11 08 47.3**	**+1.1**
TOZ	**Tahuroa Road**	**4.37**	**236**	PN	**P**	**11 08 47.8**	**+1.0**
TOZ	**Tahuroa Road**	**4.37**	**236**	P	**P**	**11 08 47.8**	**+1.0**
MTAZ	**Motutapu**	**4.41**	**249**	*e*P	**P**	**11 08 48.6**	**+1.3**
OTAZ	**Otara**	**4.45**	**247**	*e*PN	**P**	**11 08 49.3**	**+1.5**
OTAZ	**Otara**	**4.45**	**247**	P	**P**	**11 08 49.7**	**+1.8**
KAAZ	**Kauri Point**	**4.58**	**250**	P	**P**	**11 08 52.1**	**+2.4**
WCZ	**Waipu Caves**	**4.69**	**261**	PN	**P**	**11 08 51.0**	**-0.2**
WCZ	**Waipu Caves**	**4.69**	**261**	P	**P**	**11 08 51.0**	**-0.2**
WTAZ	**Waiatarua**	**4.71**	**249**	P	**P**	**11 08 53.5**	**+2.0**
BKZ	**Black Stump Fm**	**4.76**	**216**	*e*PN	**P**	**11 08 50.2**	**-1.9**
BKZ	**Black Stump Fm**	**4.76**	**216**	*e*P	**P**	**11 08 50.2**	**-1.9**
HIZ	**Hauiti**	**5.23**	**231**	*e*PN	**P**	**11 08 58.8**	**+0.2**
HIZ	**Hauiti**	**5.23**	**231**	P	**P**	**11 08 59.0**	**+0.4**
CNZ	**Chateau**	**5.26**	**222**	*e*PN	**P**	**11 08 58.8**	**-0.3**
CNZ	**Chateau**	**5.26**	**222**	P	**P**	**11 08 58.9**	**-0.2**
OUZ	**Omahuta**	**5.29**	**270**	PN	**P**	**11 08 58.2**	**-1.2**
OUZ	**Omahuta**	**5.29**	**270**	P	**P**	**11 08 58.2**	**-1.2**
MOVZ	**Moawhango**	**5.31**	**219**	P	**P**	**11 08 57.5**	**-2.2**
PXZ	**Pawanui**	**5.32**	**207**	PN	**P**	**11 08 56.5**	**-3.4**
WNVZ	**Wahianoa**	**5.33**	**220**	P	**P**	**11 08 58.6**	**-1.4**
VRZ	**Vera Road**	**5.67**	**227**	PN	**P**	**11 09 04.2**	**-0.4**
VRZ	**Vera Road**	**5.67**	**227**	P	**P**	**11 09 04.2**	**-0.4**
TSZ	**Takapari Road**	**5.72**	**213**	*e*PN	**P**	**11 09 02.5**	**-2.8**
TSZ	**Takapari Road**	**5.72**	**213**	*e*P	**P**	**11 09 02.5**	**-2.8**
WAZ	**Wanganui**	**5.97**	**221**	*e*PN	**P**	**11 09 07.2**	**-1.6**
BFZ	**Birch Farm**	**6.12**	**208**	*e*PN	**P**	**11 09 07.2**	**-3.7**
BFZ	**Birch Farm**	**6.12**	**208**	*e*P	**P**	**11 09 07.2**	**-3.7**
MRZ	**Mangatainoka R**	**6.38**	**212**	PN	**P**	**11 09 10.3**	**-4.2**
MRZ	**Mangatainoka R**	**6.38**	**212**	*e*P	**P**	**11 09 11.5**	**-3.0**
MTW	**Mount Morrison**	**6.82**	**210**	SN	**S**	**11 10 34.4**	**-3.1**
MTW	**Mount Morrison**	**6.82**	**210**	P	**P**	**11 09 16.7**	**-4.0**
MTW				S	**S**	**11 10 34.4**	**-3.1**
KIW	**Kapiti Island**	**6.84**	**215**	P	**P**	**11 09 17.1**	**-3.9**
CAW	**Cannon Point**	**6.96**	**213**	*e*PN	**P**	**11 09 18.9**	**-3.8**
CAW	**Cannon Point**	**6.96**	**213**	P	**P**	**11 09 19.3**	**-3.4**
CAW				S	S	11 11 16.5	+35
SNZO	**South Karori**	**7.29**	**214**	*e*Pn	**P**	**11 09 22.2**	**-4.9**
	91nm,0.6s						
SNZO				*e*Sn	**S**	**11 10 45.1**	**-4.0**
TCW	**Tory Channel**	**7.41**	**216**	PN	**P**	**11 09 25.4**	**-3.4**
TCW	**Tory Channel**	**7.41**	**216**	P	**P**	**11 09 25.4**	**-3.5**
NNZ	**Nelson**	**7.87**	**220**	*e*PN	**P**	**11 09 30.5**	**-4.6**
NNZ	**Nelson**	**7.87**	**220**	*e*P	**P**	**11 09 31.0**	**-4.1**
QRZ	**Quartz Range**	**8.07**	**225**	PN	**P**	**11 09 32.8**	**-5.1**
QRZ	**Quartz Range**	**8.07**	**225**	P	**P**	**11 09 32.8**	**-5.1**
THZ	**Tophouse**	**8.51**	**219**	*e*PN	**P**	**11 09 38.5**	**-5.4**
THZ				*e*SN	**S**	**11 11 13.4**	**-5.8**
THZ	**Tophouse**	**8.51**	**219**	*e*P	**P**	**11 09 38.9**	**-5.0**
THZ				S	**S**	**11 11 14.6**	**-4.6**
KHZ	**Kahutara**	**8.70**	**214**	PN	**P**	**11 09 41.8**	**-4.6**
KHZ	**Kahutara**	**8.70**	**214**	*e*P	**P**	**11 09 41.9**	**-4.5**
LTZ	**Lake Taylor**	**9.58**	**217**	*e*P	**P**	**11 09 52.5**	**-5.9**
RPZ	**Rata Peaks**	**10.87**	**217**	P	**P**	**11 10 13.0**	**-2.9**
	4.1nm,0.3s,baz=79,slow=2.8,SNR=17						
RPZ				S	**S**	**11 12 07.4**	**-9.0**
	1.8nm,0.3s,baz=16,slow=23,SNR=8.9						
DZM	**Mont Dzumac**	**17.79**	**314**	P	**P**	**11 11 42.9**	**-2.6**
	0.3nm,0.3s,baz=171,slow=11,SNR=3.1						
DZM				LR	LR	11 17 19.7	
	comp=Z,511nm,19.3s,baz=20,slow=33						
AFI	**Afiamalu**	**22.58**	**21**	P	**P**	**11 12 36.0**	**-0.3**
	20nm,0.9s,mb4.4,baz=111,slow=20,SNR=3.3						
TBI	**Tubuai**	**29.02**	**74**	*e*LR	LR	11 20 46.7	
HNR	**Honiara**	**31.66**	**320**	LR	LR	11 22 59.8	
	comp=Z,106nm,18.4s,baz=131,slow=29						
STKA	**Stephens Creek**	**32.09**	**265**	*e*P	**P**	**11 14 05.6**	**+2.3**
	1.8nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**32.09**	**265**	P	**P**	**11 14 03.8**	**+0.5**
	2.5nm,0.5s,mb4.2,baz=96,slow=9.6,SNR=9.2						
STKA				LR	LR	11 24 44.3	
	comp=Z,206nm,19.8s,baz=24,slow=32						
PPT	**Papeete**	**32.26**	**65**	*e*LR	LR	11 22 15.1	
	364nm,26.5s,baz=224						
CTA	**Charters Tower**	**33.37**	**288**	*e*P	**P**	**11 14 15.2**	**+0.6**
	6.6nm,0.8s,mb4.5						
CTA	**Charters Tower**	**33.37**	**288**	P	**P**	**11 14 14.8**	**+0.2**
	9.3nm,0.8s,mb4.7,baz=112,slow=8.9,SNR=11						
CTA				LR	LR	11 24 46.4	
	comp=Z,79nm,19.1s,baz=228,slow=31						
CTAO	**Charters Tower**	**33.37**	**288**	*e*P	**P**	**11 14 14.8**	**+0.2**
PMG	**Port Moresby**	**39.57**	**303**	LR	LR	11 26 49.5	
	comp=Z,77nm,19.5s,baz=140,slow=29						
RKT	**Rikitea**	**40.77**	**85**	*e*LR	LR	11 26 15.2	
	246nm,26.5s,baz=238						
ASPA	**Alice Springs**	**41.49**	**273**	*i*P	**P**	**11 15 22.6**	**+0.1**
WB2	**Warramunga Arr**	**42.92**	**279**	*e*P	**P**	**11 15 33.6**	**-0.7**
WRA	**Warramunga Arr**	**42.93**	**279**	P	**P**	**11 15 34.3**	**-0.1**
	13nm,0.5s,mb4.9,baz=118,slow=7.7,SNR=207						
SBA	**Scott Base**	**43.00**	**184**	*e*P	**P**	**11 15 39.4**	**+5.1**
	10nm,1.2s,mb4.4						
VNDA	**Vanda**	**43.02**	**186**	*e*P	**P**	**11 15 38.2**	**+3.7**
	3.1nm,1.3s,mb3.9						
FITZ	**Fitzroy Crossi**	**50.93**	**275**	*i*P	**P**	**11 16 36.7**	**-0.6**
	16nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**50.93**	**275**	P	**P**	**11 16 36.3**	**-1.0**
	9.7nm,0.8s,mb4.9,baz=144,slow=9.4,SNR=35						
NWAO	**Narrogin (SRO)**	**51.27**	**254**	P	**P**	**11 16 38.6**	**-1.1**
	6.8nm,0.7s,mb4.8,baz=158,slow=5.4,SNR=4.9						
NWAO	**Narrogin (SRO)**	**51.27**	**254**	*e*P	**P**	**11 16 38.2**	**-1.4**
	6.4nm,0.8s,mb4.7						
MBWA	**Marble Bar**	**54.24**	**268**	*e*P	**P**	**11 17 00.1**	**-1.7**
QSPA	**South Pole Qui**	**54.77**	**180**	*e*P	**P**	**11 17 08.7**	**+3.7**
	57nm,0.8s,mb5.7						
MAW	**Mawson**	**67.12**	**202**	P	**P**	**11 18 30.5**	**+2.0**
	3.6nm,0.4s,mb4.5,baz=108,slow=6.1,SNR=23						
MAW				LR	LR	11 46 23.1	
	comp=Z,103nm,18.6s,baz=247,slow=34						
KKM	**Kota Kinabalu**	**72.65**	**291**	P	**P**	**11 18 57.3**	**-5.8**
SNAA	**Sanae**	**73.26**	**179**	P	**P**	**11 19 08.0**	**+2.5**
	7.5nm,1.1s,mb4.4						
PLCA	**Paso Flores**	**80.32**	**133**	P	**P**	**11 19 49.1**	**+3.5**
	2.0nm,0.7s,mb4.1,baz=238,slow=9.5,SNR=7.2						
PLCA				LR	LR	11 48 28.0	
	comp=Z,59nm,18.1s,baz=89,slow=30						
PLCA	**Paso Flores**	**80.32**	**133**	*e*P	**P**	**11 19 49.0**	**+3.4**
	18nm,1.6s,mb4.6						
ASAJ	**Asahikawa**	**86.11**	**334**	LR	LR	11 52 09.6	
	comp=Z,60nm,21.4s,baz=112,slow=31						
NVAR	**Mina Array Bea**	**92.95**	**44**	P	**P**	**11 20 49.4**	**+2.1**
	0.9nm,0.8s,mb4.2,baz=204,slow=6.8,SNR=7.5						
NVAR	**Mina Array Bea**	**92.95**	**44**	P	**P**	**11 20 49.4**	**+2.1**
ELK	**Elko**	**96.26**	**44**	LR	LR	11 58 34.2	
	comp=Z,69nm,19.3s,baz=119,slow=32						
YKA	**Yellowknife Ar**	**110.59**	**27**	PKiKP		11 26 05.7	
	0.3nm,0.5s,baz=259,slow=1.9,SNR=13						
YKA				PKKP	PKKP	11 37 19.5	+8.2
	0.4nm,0.7s,baz=43,slow=3.9,SNR=3.9						
YKA	**Yellowknife Ar**	**110.59**	**27**	PKPdf	PKPdf	11 26 05.7	+1.4
YKA				PKKP	PKKP	11 37 19.5	+8.2
MKAR	**Makanchi Array**	**119.63**	**308**	PKP	PKPdf	11 26 22.3	-0.1
	0.6nm,0.4s,baz=220,slow=1.9,SNR=19						
MKAR	**Makanchi Array**	**119.63**	**308**	PKP	PKPdf	11 26 22.3	-0.1
BVAR	**Borovoye Array**	**128.70**	**313**	PKP	PKPdf	11 26 40.3	+0.7
	1.6nm,0.4s,baz=163,slow=2.2,SNR=8.1						
AKTK	**Aktyubinsk**	**136.06**	**309**	PKP	PKPdf	11 26 54.6	+1.1
AKTO	**Aktyubinsk**	**136.06**	**309**	PKP	PKPdf	11 26 54.6	+1.1
	1.0nm,0.5s,baz=111,slow=5.9,SNR=7.0						
ARCES	**ARCESS Array B**	**143.01**	**345**	PKhKP		11 27 03.0	
	3.5nm,0.8s,baz=45,slow=3.4,SNR=8.3						
ARCES	**ARCESS Array B**	**143.01**	**345**	PKP	PKPdf	11 27 03.0	-2.3
JOF	**Joensuu**	**146.30**	**335**	*ep*	PKPdf	11 27 11.5	+0.3
	7.3nm,0.4s						
KAF	**Kangasniemi**	**148.54**	**337**	*ep*	PKPdf	11 27 18.1	+3.3
	2.9nm,0.3s						
FINES	**FINESS Array B**	**149.10**	**336**	PKPbc	PKPdf	11 27 20.7	+4.9
	7.3nm,0.7s,baz=32,slow=6.2,SNR=23						
FINES	**FINESS Array B**	**149.10**	**336**	PKPbc	PKPdf	11 27 20.7	+4.9
DBIC	**Dimbokro**	**151.10**	**170**	PKPbc	PKPdf	11 27 29.8	+9.5
	7.0nm,0.5s,baz=166,slow=1.9,SNR=19						
DBIC	**Dimbokro**	**151.10**	**170**	*e*PKPbc	PKPdf	11 27 29.5	+9.2
DBIC				*e*		11 27 43.7	
BRTR	**Keskin Array B**	**153.11**	**289**	PKPbc	PKPdf	11 27 30.8	+8.3
	3.3nm,0.4s,baz=143,slow=3.8,SNR=18						
NB2	**NORSAR Subarra**	**153.31**	**348**	PKPabc	PKPdf	11 27 30.9	+8.9
	3.6nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**153.31**	**348**	PKPbc	PKPdf	11 27 31.0	+9.0
	4.5nm,0.6s,baz=14,slow=3.7,SNR=14						
NOA	**NORSAR Array B**	**153.31**	**348**	PKPbc	PKPdf	11 27 31.0	+9.0
HFS	**Hagfors**	**153.67**	**345**	PKPbc	PKPdf	11 27 31.4	+8.8
	7.4nm,0.6s,baz=90,slow=3.0,SNR=17						
AKASG	**Malin Array Be**	**153.95**	**315**	PKPbc	PKPdf	11 27 32.2	+9.0
	2.3nm,0.4s,baz=48,slow=2.8,SNR=15						
TORD	**Torodi Ar. Bea**	**157.85**	**184**	PKP	PKPdf	11 27 32.8	+3.4
	1.0nm,0.9s,baz=302,slow=0.9,SNR=5.0						
TORD				PKPab	PKPab	11 28 06.0	+1.0
	4.1nm,0.6s,baz=176,slow=3.3,SNR=13						

MAN 15 11:09:47.3,12.77N×120.65E,h1km,mb3.8,ML2.6,MS2.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJMP	**San Jose**	**0.55**	**124**	*e*P	Pg	11 09 58.8	+0.5
SJMP				*e*S	Sg	11 10 06.2	+0.5
PGP	**Puerto Galera**	**0.78**	**22**	*e*P	Pg	11 10 03.0	+0.1
BUSP	**Coron**	**0.88**	**210**	*e*P	Pg	11 10 04.2	-0.7
BUSP				*e*S	Sg	11 10 16.6	-0.1
LUBP	**Lubang**	**1.03**	**338**	*e*P	Pb	11 10 08.0	+0.3
LUBP				*e*S	Sb	11 10 23.2	+1.6
BOAC	**Boac**	**1.35**	**59**	*e*P	Pb	11 10 11.6	-1.4
BOAC				*e*S	Sb	11 10 30.9	+0.2
OTRP	**Odiongan**	**1.40**	**107**	*e*P	Pb	11 10 13.0	-0.9
OTRP				*e*S	Sb	11 10 30.3	-1.9
CUYO	**Cuyo Island**	**1.94**	**169**	*e*P	Pn	11 10 22.2	+0.5
CUYO				*e*S	Sn	11 10 42.3	-4.9
ENPP	**El Nido**	**1.96**	**218**	*e*P	Pn	11 10 22.5	+0.4

*IDC **15** 11:13:04.2±7.0, 19.50S×178.79E,h540km±80km,mb3.3/6, mb1 3.6/6,mb1mx3.3/14,mbtmp4.3/6,Error ellipse: s-maj=73.6km s-min=

DBC	**Dubki**	**0.68**	**98**	*i* PG	**Pg**	**11 38 17.5**	**-0.3**
DBC				*i* S	**Sg**	**11 38 28.0**	**+1.0**
DBC				pmax	pmax		
	comp=Z,93nm,0.1s						
DBC	**Dubki**	**0.68**	**98**	*i* Pg	**Pg**	**11 38 17.5**	**-0.3**
	comp=Z,93nm,0.1s						
DBC				*i* Sg	**Sg**	**11 38 28.0**	**+1.0**
KRNR	**Karanay**	**0.79**	**111**	*i* PG	**Pg**	**11 38 19.4**	**-0.5**
KRNR				*i* S	**Sg**	**11 38 31.0**	**+0.5**
KRNR				pmax	pmax		
	comp=Z,100nm,0.2s						
KRNR	**Karanay**	**0.79**	**111**	*i* Pg	**Pg**	**11 38 19.4**	**-0.5**
	comp=Z,100nm,0.2s						
KRNR				*i* Sg	**Sg**	**11 38 31.0**	**+0.5**
XNZR	**Khunzakh**	**0.82**	**134**	*i* PG	**Pg**	**11 38 21.2**	**+0.6**
XNZR				*e*S	**Sg**	**11 38 34.4**	**+2.8**
XNZR				pmax	pmax		
	comp=Z,193nm,0.1s						
XNZR	**Khunzakh**	**0.82**	**134**	*i* Pg	**Pg**	**11 38 21.2**	**+0.6**
	comp=Z,193nm,0.1s						
XNZR				*e*Sg	**Sg**	**11 38 34.4**	**+2.8**
VLKR	**Vladikavkaz**	**0.91**	**266**	*i* PG	**Pg**	**11 38 21.4**	**-0.9**
VLKR				*i* S	**Sb**	**11 38 34.5**	**+1.2**
BUJR	**Buynaksk**	**0.93**	**108**	*e*PG	**Pg**	**11 38 24.8**	**+2.1**
BUJR				*e*S	**Sg**	**11 38 40.3**	**+5.2**
BUJR				pmax	pmax		
	comp=Z,117nm,0.2s						
BUJR	**Buynaksk**	**0.93**	**108**	*e*Pg	**Pg**	**11 38 24.8**	**+2.1**
	comp=Z,117nm,0.2s						
BUJR				*e*Sg	**Sg**	**11 38 40.3**	**+5.2**
TRKR	**Terskaya**	**1.05**	**306**	*i* PG	**Pg**	**11 38 25.4**	**+0.3**
TRKR				*i* S	**Sb**	**11 38 42.4**	**+4.9**
GNBR	**Gunib**	**1.07**	**133**	*e*PG	**Pg**	**11 38 23.5**	**-2.0**
GNBR				*e*S	**Sg**	**11 38 40.5**	**+0.8**
GNBR				pmax	pmax		
	comp=Z,76nm,0.2s						
GNBR	**Gunib**	**1.07**	**133**	*e*Pg	**Pg**	**11 38 23.5**	**-2.0**
	comp=Z,76nm,0.2s						
GNBR				*e*Sg	**Sg**	**11 38 40.5**	**+0.8**
ARNR	**Ardon**	**1.19**	**274**	*i* PG	**Pg**	**11 38 26.2**	**-1.8**
ARNR				*i* S	**Sb**	**11 38 43.2**	**+1.5**
LACR	**Lac**	**1.22**	**257**	*i* PG	**Pg**	**11 38 25.4**	**-3.1**
LACR				*i* S	**Sb**	**11 38 41.6**	**-0.8**
KMKR	**Kumukh**	**1.32**	**138**	⇓*i* PG	**Pg**	**11 38 27.5**	**-3.0**
KMKR				*i* S	**Sb**	**11 38 45.7**	**+0.3**
KMKR				pmax	pmax		
	comp=Z,95nm,0.2s						
KMKR	**Kumukh**	**1.32**	**138**	*i* Pg	**Pg**	**11 38 27.5**	**-3.0**
	comp=Z,95nm,0.2s						
KMKR				*i* Sg	**Sb**	**11 38 45.7**	**+0.3**
PRTR	**Priterechnaya**	**1.34**	**299**	*i* PG	**Pg**	**11 38 29.2**	**-1.8**
PRTR				*i* S	**Sb**	**11 38 49.4**	**+3.4**
KORR	**Kora**	**1.35**	**269**	*i* PG	**Pg**	**11 38 28.2**	**-2.9**
KORR				*i* S	**Sb**	**11 38 46.6**	**+0.4**
LSNR	**Lesken**	**1.54**	**276**	*i* PG	**Pg**	**11 38 31.4**	**-3.5**
LSNR				*i* S	**Sb**	**11 38 52.5**	**+0.8**
TI2	**Plekhanov**	**1.63**	**212**	⇑*i* PG	**Pg**	**11 38 33.6**	**-3.1**
TI2				*i* S	**Sn**	**11 38 55.3**	**+1.1**
TI2	**Plekhanov**	**1.63**	**212**	*i* Pg	**Pg**	**11 38 33.6**	**-3.1**
TI2				*i* Sg	**Sn**	**11 38 55.3**	**+1.1**
SAMG	**Sameba**	**1.64**	**210**	P	**Pn**	**11 38 31.8**	**-1.4**
SAMG				S	**Sn**	**11 38 53.6**	**-0.8**
TBLG	**Delisi**	**1.64**	**212**	P	**Pn**	**11 38 33.1**	**-0.1**
TBLG				S	**Sn**	**11 38 54.8**	**+0.4**
MTA	**Mtatsminda**	**1.65**	**211**	P	**Pn**	**11 38 33.6**	**+0.3**
MTA				S	**Sn**	**11 38 55.3**	**+0.6**
DGRG	**David-gareji**	**1.71**	**194**	P	**Pn**	**11 38 35.4**	**+1.1**
DGRG				S	**Sn**	**11 39 00.1**	**+3.7**
ONI	**Oni**	**1.89**	**254**	P	**Pn**	**11 38 36.0**	**-0.7**
ONI				S	**Sn**	**11 39 01.0**	**+0.3**
AKH	**Akhalkalaki**	**2.48**	**227**	P	**Pn**	**11 38 46.4**	**+1.2**
AKH				S	**Sn**	**11 39 18.1**	**+2.3**

*IDC **15** 12:26:02.9±1.3,6.05S×130.33E,mb4.3/3,mb1 4.2/5, mb1mx4.0/13,mbtmp4.1/5,ML3.8/2,Error ellipse: s-maj=56.5km s-min=23.8km az=66.0*
*NEIC **15** 12:26:07.5±0.8,6.05S×130.45E,h35km,mb4.2/3,Error ellipse: s-maj=23.4km s-min=12.0km az=73.0*
ISC 15 12:26:05.4±0.7,**6.08S**±0.08×**130.6E**±0.1,**h33**km,**n15,** σ1**$25**/19,**mb4.3**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.85**	**164**	*e*P	Px	12 28 13.1	
	18nm,0.4s						
KAKA				*e*S	Sx	12 29 24.4	
FITZ	**Fitzroy Crossi**	**12.88**	**201**	*e*P	**P**	**12 29 09.6**	**+0.7**
	3.0nm,0.3s						
FITZ				*e*S	**S**	**12 31 16.8**	**-15**
FITZ	**Fitzroy Crossi**	**12.88**	**201**	Pn	**P**	**12 29 08.0**	**-0.8**
	0.5nm,0.3s,baz=31,slow=2.6,SNR=31						
FITZ				Sn	**S**	**12 31 18.6**	**-13**
	2.2nm,0.3s,baz=65,slow=15,SNR=13						
WRA	**Warramunga Arr**	**14.26**	**165**	Pn	**P**	**12 29 26.2**	**-1.0**
	0.4nm,0.3s,baz=346,slow=13,SNR=19						
WRA				Sn	**S**	**12 31 53.5**	**-12**
	1.6nm,0.3s,baz=348,slow=20,SNR=8.7						
WB2	**Warramunga Arr**	**14.27**	**165**	*e*P	**P**	**12 29 26.6**	**-0.6**
WB2				*e*S	**S**	**12 31 55.7**	**-10**
ASPA	**Alice Springs**	**17.78**	**170**	*e*P	**P**	**12 30 13.7**	**+1.6**
ASPA				*e*S	**S**	**12 33 18.3**	**-8.3**
MBWA	**Marble Bar**	**18.30**	**214**	*e*P	**P**	**12 30 18.3**	**-0.3**
	4.9nm,0.5s						
KKM	**Kota Kinabalu**	**18.71**	**310**	P	**P**	**12 30 25.9**	**+2.2**
CTA	**Charters Tower**	**20.65**	**134**	P	**P**	**12 30 46.2**	**+1.3**
	7.8nm,0.2s,baz=321,slow=10,SNR=5.9						
CTA	**Charters Tower**	**20.65**	**134**	P	**P**	**12 30 46.2**	**+1.3**
CTAO	**Charters Tower**	**20.65**	**134**	P	**P**	**12 30 46.6**	**+1.6**
ULN	**Ulaanbaatar**	**57.57**	**341**	*e*P	**P**	**12 35 54.2**	**-0.1**
	3.1nm,0.7s,mb4.5						
SONM	**Songino Array**	**57.75**	**341**	P	**P**	**12 35 55.4**	**-0.2**
	1.0nm,0.6s,mb4.0,baz=165,slow=7.1,SNR=10						
MKAR	**Makanchi Array**	**67.76**	**326**	P	**P**	**12 37 01.4**	**-0.5**
	3.3nm,0.4s,mb4.8,baz=115,slow=7.7,SNR=85						
ZRNK	**Zerenda**	**78.29**	**327**	*e*P	**P**	**12 38 01.1**	**-2.6**
	1.8nm,0.7s,mb4.1						

*IDC **15** 12:42:45.0±1.3,31.23N×59.32E,mb3.9/5,mb1 4.1/5, mb1mx3.6/21,mbtmp3.9/5,Error ellipse: s-maj=41.6km s-min=27.1km az=143.0*
*CSEM **15** 12:42:46.8±0.1,31.38N×59.51E,h20km,ML3.9,Error ellipse: s-maj=2.7km s-min=2.2km az=92.0*
*TEH **15** 12:42:47.8,31.22N×59.51E,h1km,Mn3.9*
*THR **15** 12:42:49.3±0.7,31.12N×59.46E,h15km±9km,ML3.4*
ISC 15 12:42:47.0±0.5,**31.39N**±0.05×**59.40E**±0.06,**h10**km,**n29,** σ1**$09**/28,**mb3.9**/5,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZHSF	**Zahedan**	**2.13**	**146**	*e*Pg	**Pn**	**12 43 23.8**	**+0.7**
ZHSF				AML	AML	12 44 00.0	
	comp=N,248nm,0.6s						
KRBR	**Kerman**	**2.67**	**239**	*e*Pn	**Pn**	**12 43 32.6**	**+1.8**
KRBR				*e*Sg	**Sg**	**12 44 10.6**	**-5.1**
IBAF	**Bafgh**	**3.28**	**275**	Pn	**Pn**	**12 43 40.2**	**+0.7**
IMEH	**Mehriz**	**4.09**	**271**	Pn	**Pn**	**12 43 51.5**	**+0.5**
ICHK	**Chekchek**	**4.33**	**283**	Pn	**Pn**	**12 43 54.2**	**-0.2**
IMOG	**Moghan**	**4.71**	**359**	Pn	**Pn**	**12 43 59.3**	**-0.5**
BNDS	**Bandar-Abbas**	**4.87**	**216**	*e*Pn	**Pn**	**12 44 02.1**	**+0.1**
BNDS				AML	AML	12 44 54.8	
	comp=N,40nm,0.4s						
ISAD	**Sadrabad**	**4.90**	**278**	Pn	**Pn**	**12 44 02.1**	**-0.4**
IMYA	**Miamay**	**4.98**	**7**	Pn	**Pn**	**12 44 05.2**	**+1.6**
IPAY	**Payeh**	**5.06**	**356**	Pn	**Pn**	**12 44 05.1**	**+0.3**
IKRD	**Kardeh**	**5.42**	**353**	Pn	**Pn**	**12 44 10.5**	**+0.6**
NASN	**Na'in**	**5.77**	**286**	*e*Pn	**Pn**	**12 44 18.9**	**+4.1**
IEMG	**Emamqoli**	**6.04**	**354**	Pn	**Pn**	**12 44 17.2**	**-1.4**
IZEF	**Zefreh**	**6.18**	**286**	Pn	**Pn**	**12 44 16.0**	**-4.6**
IGAR	**Garneh**	**6.19**	**280**	Pn	**Pb**	**12 44 43.5**	**+8.9**
ISFB	**Sefidab**	**6.71**	**298**	Pn	**Pn**	**12 44 27.3**	**-0.7**
IKLH	**Kalahroud**	**6.89**	**288**	Pn	**Pn**	**12 44 29.4**	**-1.2**
IGLO	**Galoogah**	**6.94**	**317**	Pn	**Pn**	**12 44 32.5**	**+1.2**
IPIR	**Pirpir**	**7.34**	**282**	Pn	Px	12 44 57.3	
IVRN	**Varamin**	**7.37**	**301**	Pn	**Pn**	**12 44 36.5**	**-0.7**
IDMV	**Damavand**	**7.44**	**306**	Lg		12 46 44.9	
IDMV	**Damavand**	**7.44**	**306**	Pn	**Pn**	**12 44 37.7**	**-0.5**
IPRN	**Paran-Amol**	**7.67**	**311**	Pn	**Pb**	**12 45 02.6**	**+2.5**
IAFJ	**Afjeh**	**7.80**	**307**	Pn	**Pn**	**12 44 42.7**	**-0.7**
BVAR	**Borovoye Array**	**23.05**	**17**	P	**P**	**12 47 53.6**	**+0.4**
	comp=N,5.1nm,0.8s,mb4.0,baz=202,slow=8.0,SNR=32						
MKAR	**Makanchi Array**	**23.39**	**42**	P	**P**	**12 47 57.2**	**+0.7**
	comp=N,0.9nm,0.6s,mb3.4,baz=238,slow=10,SNR=8.2						
TORD	**Torodi Ar. Bea**	**55.79**	**265**	P	**P**	**12 52 23.7**	**-3.0**
	comp=N,2.4nm,0.7s,mb4.3,baz=57,slow=6.6,SNR=10						
YKA	**Yellowknife Ar**	**86.33**	**357**	P	**P**	**12 55 28.9**	**-0.9**
	comp=N,0.2nm,0.6s,mb3.5,baz=356,slow=5.3,SNR=5.5						
WRA	**Warramunga Arr**	**88.09**	**115**	P	**P**	**12 55 37.7**	**-1.6**
	comp=N,1.5nm,0.8s,mb4.3,baz=316,slow=4.2,SNR=13						

*CSEM **15** 12:57:02.9±0.8,12.00N×43.87E,h5km,ML3.7,Error ellipse: s-maj=16.7km s-min=14.3km az=61.0,After DHMR*
DHMR 15 12:57:02.9±0.8,**12.00N**×**43.87E**,**h6**km±6km,**ML3.7,2C-7D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.24**	**11**	⇓*i* P	Pb	12 57 26.8	+0.3
TRBA				*i* S	Sb	12 57 43.9	+1.3
TRBA				AML	AML	12 57 50.0	
	comp=N,1μm,0.5s						
UDYN	**Al 'Udayn**	**1.96**	**3**	⇓*i* P	Pn	12 57 37.5	+0.4
UDYN				*i* S	Sn	12 58 05.0	+2.9
UDYN				AML	AML	12 58 14.4	
	comp=N,772nm,0.5s						
UDYN	**Al 'Udayn**	**1.96**	**3**	⇓*i* P	Pn	12 57 37.5	+0.5
UDYN				*i* S	Sn	12 58 05.0	+2.8
	comp=N,386nm,0.5s						
LBOS		**2.29**	**36**	⇓*i* P	Pn	12 57 43.2	+1.4
LBOS				*i* S	Sn	12 58 15.0	+4.3
BDHA	**Al Bayda'**	**2.56**	**40**	⇓*i* P	Pn	12 57 47.6	+1.9
BDHA				*i* S	Sn	12 58 22.4	+4.8
BDHA				AML	AML	12 58 30.3	
	comp=E,563nm,0.4s						
BDHA	**Al Bayda'**	**2.56**	**40**	⇓*i* P	Pn	12 57 47.6	+1.9
BDHA				*i* S	Sn	12 58 22.4	+4.8
	comp=E,282nm,0.4s						
DHBB	**Dhamar BB**	**2.60**	**11**	⇓*i* P	Pn	12 57 48.4	+2.1
DHBB				*i* S	Sn	12 58 23.8	+5.2
HAJJ	**Hajjah**	**3.69**	**356**	⇑*i* P	Pn	12 58 02.9	+1.2
HAJJ				*i* S	Sn	12 58 50.4	+4.4
HAJJ				AML	AML	12 59 00.3	
	comp=N,286nm,0.8s						
HAJJ	**Hajjah**	**3.69**	**356**	⇑*i* P	Pn	12 58 02.9	+1.2
HAJJ				*i* S	Sn	12 58 50.4	+4.4
	comp=N,143nm,0.8s						

*CSEM **15** 12:57:47.4±0.6,37.72N×24.90W,h6km,ML2.6,Error ellipse: s-maj=11.4km s-min=10.3km az=152.0,After PDA*
*PDA **15** 12:57:47.4±1.3,37.72N×24.90W,h6km±5km,MD2.4, ML2.6,Error ellipse: s-maj=9.7km s-min=8.0km az=4.0*
SVSA 15 12:57:47.4±1.3,**37.72N**×**24.90W**,**h6**km±5km,**MD2.4, ML2.6,Error ellipse: s-maj=9.7km s-min=8.0km az=4.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIRA	**Miradouro**	**0.31**	**282**	*e*P	Pg	12 57 53.3	-0.4
MIRA				*e*S	Sg	12 57 57.4	-0.5
FRA1	**Furnas**	**0.37**	**273**	*e*P	Pg	12 57 53.4	-1.4
FRA1				*e*S	Sg	12 57 58.7	-1.0
PCNG	**Congro**	**0.40**	**276**	*e*P	Pg	12 57 54.6	-0.8
PCNG				*e*S	Sg	12 57 59.4	-1.4
	98nm,0.2s						
VIF	**Vila Franca**	**0.43**	**273**	*e*P	Pg	12 57 55.2	-0.9
VIF				*e*S	Sg	12 58 00.6	-1.3
	68nm,0.2s						
MESC	**Monte Escuro**	**0.44**	**279**	*e*P	Pg	12 57 55.2	-1.1
MESC				*e*S	Sg	12 58 01.9	-0.3
PRCH	**Ribeira Ch**	**0.46**	**271**	*e*S	Sg	12 58 01.7	-1.2
	48nm,0.2s						
PMAT	**Coroa da Mata**	**0.47**	**282**	*e*P	Pg	12 57 54.9	-1.9
PMAT				*e*S	Sg	12 58 01.2	-1.8
	50nm,0.2s						
LFA	**Lagoa do Fogo**	**0.47**	**276**	*e*P	Pg	12 57 55.6	-1.2
PVER	**Pico Vermelho**	**0.50**	**279**	*erx*		12 57 58.7	
PSET	**Sete Cidades**	**0.66**	**279**	*e*S	Sg	12 58 06.9	-2.6
	114nm,0.2s						
PSAN	**Santo Antonio**	**0.67**	**281**	*erx*		12 58 03.7	
PFET	**Feteiras**	**0.71**	**278**	*erx*		12 58 04.5	
SET2	**Ginetes**	**0.73**	**280**	*erx*		12 58 02.9	
SET4	**Mosteiros**	**0.73**	**282**	*erx*		12 58 04.5	
PFAV	**Pico das Favas**	**1.99**	**300**	*e*S	Sn	12 58 38.9	-8.5
	24nm,0.2s						
PSCM	**Serra do Cume**	**2.00**	**300**	*e*S	Sn	12 58 38.1	-10
	72nm,0.2s						
RIB2	**Ribeirinha**	**2.03**	**298**	*e*S	Sn	12 58 40.0	-8.5
	65nm,0.2s						
PVNV	**Vila Nova**	**2.06**	**301**	*e*S	Sn	12 58 40.4	-8.9
	24nm,0.1s						
PPAD	**Pico dos Padre**	**2.12**	**298**	*e*S	Sn	12 58 42.2	-8.6
	21nm,0.3s						
ASBA	**Santa Barbara**	**2.16**	**298**	*e*S	Sn	12 58 43.2	-8.5
	36nm,0.2s						

*BJI **15** 12:59:23.0,23.49S×67.57W,h178km,mB5.4*
*HRVD **15** 12:59:24.8±0.5,23.95S×66.59W,h228km±3km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s25,c29;Mantle waves: s60,c77; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.22±.20; Mθθ=0.33±.22; Mφφ=4.55±.29; Mrθ=0.17±.18; Mrφ=0.49±.22; Mθφ=-0.33±.26; Best double couple: M0=4.426×10^16 NP1:ϕs189°,δ43°, λ-86°. NP2:ϕs3°,δ47°,λ-94°. Principal axes: T 4.61, Plg2°, Azm96°; N -.369, Plg3°, Azm5°; P -4.242, Plg86°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **15** 12:59:24.4±1.2,23.93S×66.65W,h186km,mb4.3/1 Error ellipse: s-maj=20.5km s-min=12.6km az=111.5*
*NEIC **15** 12:59:24.8±0.5,23.84S×66.59W,h185km±4km,mb5.0/104, Error ellipse: s-maj=4.9km s-min=4.0km az=55.0*
*GUC **15** 12:59:26.8±0.6,24.11S×66.93W,h210km±8km,ML5.3*
*IDC **15** 12:59:26.4±1.5,23.79S×66.50W,h201km±13km,mb4.5/15, mb1 4.6/19,mb1mx4.6/20,mbtmp5.0/19,MS3.7/1, Ms1 3.7/1,ms1mx2.7/20,Error ellipse: s-maj=11.0km s-min=10.0km az=95.0*
*LDG **15** 12:59:31.5,23.17S×66.00W,h225km*
ISC 15 12:59:24.0±0.5,**23.86S**±0.03×**66.63W**±0.04,**h189**km±4km, **n285,**σ1**$02**/226,**mb4.9**/119,**14C-13D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.73**	**303**	⇑*i* P	**P**	**13 00 04.6**	**+5.4**
SPCH				*i* S	**S**	**13 00 33.3**	**+6.9**
SPCH				AMP		13 00 35.5	
	comp=N,3μm,0.8s						
CEN1	**Los Morros**	**3.31**	**277**	⇓*i* P	**P**	**13 00 21.2**	**+3.8**
CEN1				*i* S	**S**	**13 01 00.3**	**+1.7**
CEN1				AMP		13 01 00.9	
	comp=N,2μm,0.5s						
ANCH	**Antofagasta**	**3.47**	**272**	*e*P	**P**	**13 00 21.5**	**+2.1**
ANCH				*i* S	**S**	**13 01 02.5**	**+0.3**
CPN1	**Cerro Paranal**	**3.53**	**257**	*e*P	**P**	**13 00 22.1**	**+1.9**
CPN1				*i* S	**S**	**13 01 04.1**	**+0.6**
CPN1				AMP		13 01 05.9	
	comp=E,6μm,0.2s						
CRCH	**Chaqaral**	**4.39**	**235**	*e*P	**P**	**13 00 31.5**	**+0.6**
CRCH				*i* S	**S**	**13 01 20.9**	**-1.8**
CRCH				AMP		13 01 22.1	
	comp=E,3μm,0.2s						
CPCH	**Copiapo**	**4.84**	**223**	⇑*i* P	**P**	**13 00 37.5**	**+0.7**
CPCH				*i* S	**S**	**13 01 31.7**	**-1.5**
CDCH	**Caldera**	**4.96**	**229**	*i* P	**P**	**13 00 37.6**	**-0.8**
CDCH				*i* S	**S**	**13 01 32.9**	**-3.1**
CDCH				AMP		13 01 35.1	
	comp=N,720nm,0.1s						
LPAZ	**La Paz**	**7.67**	**349**	P	**P**	**13 01 15.4**	**+1.8**
	comp=N,15nm,0.3s,baz=168,slow=9.3,SNR=188						
LPAZ				S	**S**	**13 02 38.9**	**-0.4**
	baz=36,slow=24,SNR=3.4						
LPAZ	**La Paz**	**7.67**	**349**	*e*P	**P**	**13 01 16.1**	**+2.4**
LPAZ				*e*S	**S**	**13 02 38.1**	**-1.2**
LPAZ				pmax	pmax		
	comp=Z,62nm,0.5s						
LPAZ	**La Paz**	**7.67**	**349**	*e*Pn	**P**	**13 01 16.1**	**+2.5**
	comp=Z,62nm,0.5s						
LPAZ				*e*S	**S**	**13 02 38.1**	**-1.2**
CFAA	**Coronel Fontan**	**7.84**	**190**	P	**P**	**13 01 15.3**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=357,slow=13,SNR=113						
CFAA				S	**S**	**13 02 38.5**	**-5.0**
	comp=Z,10nm,0.3s,baz=227,slow=14,SNR=24						
CFAA	**Coronel Fontan**	**7.84**	**190**	P	**P**	**13 01 15.3**	**-0.8**
CFAA				S	**S**	**13 02 38.5**	**-5.0**
ARE	**Arequipa**	**8.66**	**327**	*e*P	**P**	**13 01 25.0**	**-1.7**
ARE				*e*S	**S**	**13 03 00.0**	**-2.7**
CPUP	**Villa Florida**	**8.78**	**108**	*e*P	**P**	**13 01 28.7**	**+0.5**
CPUP				pmax	pmax		
	comp=Z,825nm,0.8s						
CPUP	**Villa Florida**	**8.78**	**108**	*e*Pn	**P**	**13 01 28.7**	**+0.4**
	comp=Z,825nm,0.8s						
SIV	**San Ignacio**	**9.41**	**35**	P	**P**	**13 01 37.1**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=221,slow=14,SNR=116						
SIV				S	**S**	**13 03 13.6**	**-6.5**
	baz=220,slow=11,SNR=3.5						
TRQA	**Tornquist**	**14.70**	**165**	*e*Pn	**P**	**13 02 42.4**	**-1.5**
	comp=Z,65nm,0.8s						
PLCA	**Paso Flores**	**17.14**	**190**	P	**P**	**13 03 12.7**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=8.0,slow=12,SNR=35						
PLCA				PcP	PcP	13 07 46.3	-1.1
	comp=Z,0.5nm,0.3s,baz=21,slow=1.8,SNR=8.8						
PLCA	**Paso Flores**	**17.14**	**190**	*e*P	**P**	**13 03 12.6**	**-1.0**
PLCA				pmax	pmax		
	comp=Z,57nm,0.8s						
PLCA	**Paso Flores**	**17.14**	**190**	*e*P	**P**	**13 03 12.6**	**-1.0**
	comp=Z,57nm,0.8s						
PLCA				*e*PcP	PcP	13 07 46.6	-0.8
BDFB	**Brasilia**	**19.32**	**68**	P	**P**	**13 03 36.5**	**-0.2**
	comp=Z,9.7nm,0.3s,baz=250,slow=9.7,SNR=113						
BDFB				S	**S**	**13 07 01.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=127,slow=17,SNR=1.9						
BAO	**Brasilia Array**	**19.34**	**68**	P	**P**	**13 03 37.0**	**0.0**
OTAV	**Otavalo**	**26.56**	**333**	P	**P**	**13 04 46.6**	**+0.1**
OTAV				*e*PcP	PcP	13 08 06.5	+0.3
ROSC	**El Rosal**	**29.52**	**344**	P	**P**	**13 05 12.5**	**-0.5**
	comp=Z,3.6nm,0.4s,mb4.5,baz=90,slow=20,SNR=2.7						
ROSC				LR	LR	13 17 18.8	
	comp=Z,130nm,19.7s,baz=199,slow=36						
USHA	**Ushuaia**	**30.96**	**182**	P	**P**	**13 05 24.1**	**-1.1**
	comp=Z,14nm,0.8s,mb4.8,baz=4.0,slow=9.0,SNR=7.4						
SDV	**Santo Domingo**	**32.78**	**353**	*e*P	**P**	**13 05 39.0**	**-2.4**
	comp=Z,24nm,1.0s,mb4.9						
RCBR	**Riachuelo**	**34.55**	**64**	*e*P	**P**	**13 05 55.1**	**-1.5**
JTS	**JuntasAbangare**	**38.38**	**330**	*d*P	**P**	**13 06 30.5**	**+1.9**
PMSA	**Palmer Station**	**40.94**	**178**	*e*P	**P**	**13 06 49.7**	**+0.5**
	comp=Z,20nm,0.8s,mb4.8						
SJG	**San Juan**	**41.72**	**1**	*e*P	**P**	**13 06 53.4**	**-2.7**
	comp=Z,33nm,0.8s,mb5.0						
BBSR	**BB Station**	**55.95**	**2**	*e*P	**P**	**13 08 41.9**	**-2.8**
	comp=Z,63nm,0.9s,mb5.5						
NHSC	**New Hope**	**59.10**	**347**	*e*P	**P**	**13 08 58.8**	**-1.1**
	comp=Z,204nm,1.3s,mb5.8						
GOGA	**Godfrey**	**59.17**	**344**	*e*P	**P**	**13 09 04.9**	**-2.3**
	comp=Z,10nm,0.3s,mb5.1						
SNAA	**Sanae**	**59.37**	**161**	*e*P	**P**	**13 09 07.4**	**-0.7**
	comp=Z,28nm,0.8s,mb5.2						
SNAA				*e*PcP	PcP	13 09 52.5	-1.2
JSC	**Jenkinsville**	**59.47**	**346**	*e*P	**P**	**13 09 07.9**	**-1.4**
NATX	**Nacogdoches**	**61.47**	**333**	*e*P	**P**	**13 09 22.5**	**-0.2**
	comp=Z,34nm,0.6s,mb5.3						
SWET	**Sewanee**	**61.54**	**342**	*e*P	**P**	**13 09 20.0**	**-3.2**
OXF	**Oxford**	**61.95**	**339**	*e*P	**P**	**13 09 23.4**	**-2.7**
	comp=Z,101nm,0.9s,mb5.7						
JCT	**Junction City**	**62.71**	**328**	*e*P	**P**	**13 09 29.9**	**-1.2**
	comp=Z,38nm,0.8s,mb5.3						
JCT				*e*PcP	PcP	13 10 07.3	-0.5
WVT	**Waverly**	**62.94**	**341**	*e*P	**P**	**13 09 30.0**	**-2.5**
MIAR	**Mount Ida**	**63.47**	**335**	*e*P	**P**	**13 09 32.3**	**-3.7**
	comp=Z,35nm,1.0s,mb5.1						
LTX	**Lajitas**	**63.77**	**324**	*e*P	**P**	**13 09 36.5**	**-1.5**
	comp=Z,9.6nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**63.77**	**324**	P	**P**	**13 09 36.6**	**-1.4**
	comp=Z,5.6nm,0.7s,mb4.5,baz=152,slow=8.6,SNR=67						
MAIT	**Maitri**	**63.85**	**159**	⇓*i* P	**P**	**13 09 38.0**	**+0.1**
NVL	**N'lazarevskaya**	**63.88**	**159**	*e*P	**P**	**13 09 37.2**	**-0.9**
NVL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
PARMO	**Parma**	**64.03**	**339**	*e*P	**P**	**13 09 38.4**	**-1.2**
WCI	**Wyandotte Cave**	**64.46**	**343**	*e*P	**P**	**13 09 39.3**	**-3.1**
SIUC	**Southern Illin**	**64.83**	**340**	*e*P	**P**	**13 09 52.5**	**+7.7**
	comp=Z,11nm,0.3s,mb5.2						
PAL	**Palisades**	**64.89**	**354**	*e*P	**P**	**13 09 43.3**	**-1.8**
	comp=Z,2nm,1.0s,mb5.0						
ACSO	**Alum Cre

TPH	Tonopah	77.78	321	*e*P		P	13 11 02.3	+0.5	
	comp=Z,4.4nm,0.8s,mb4.1								
AHID	Auburn Hatcher	77.94	328	*e*P		P	13 11 02.8	+0.2	
	comp=Z,58nm,1.0s,mb5.2								
HVU	Hansel Valley	78.03	327	*e*P		P	13 11 03.3	+0.3	
	comp=Z,24nm,1.0s,mb4.8								
ULM	Lac du Bonnet	78.20	341	P		P	13 11 02.8	-1.0	
	comp=Z,23nm,0.6s,mb5.0,baz=151,slow=6.2,SNR=79								
REDW	Red Top Meadow	78.27	329	*e*P		P	13 11 04.5	+0.2	
	comp=Z,42nm,1.1s,mb5.0								
REDW				*e*PcP		PcP	13 11 12.0	-1.4	
SNOW	Snow King Moun	78.30	329	*e*P		P	13 11 05.3	+0.8	
	comp=Z,32nm,0.8s,mb5.0								
LOHW	Long Hollow	78.34	329	*e*P		P	13 11 05.3	+0.6	
	comp=Z,26nm,0.7s,mb5.0								
SCHQ	Schefferville	78.37	360	P		P	13 11 03.6	-1.0	
	comp=Z,18nm,0.6s,mb4.9,baz=198,slow=4.8,SNR=38								
TPAW	Teton Pass	78.41	329	*e*P		P	13 11 05.5	+0.4	
	comp=Z,58nm,1.2s,mb5.1								
RRI2	Red Ridge	78.48	328	*e*P		P	13 11 06.0	+0.5	
	comp=Z,47nm,1.1s,mb5.0								
ELK	Elko	78.56	324	*e*P		P	13 11 06.0	+0.1	
	comp=Z,18nm,1.1s,mb4.6								
MNV	Mina	78.56	321	*e*P		P	13 11 06.2	+0.2	
	comp=Z,31nm,1.6s,mb4.7								
NVAR	Mina Array Bea	78.64	321	P		P	13 11 07.0	+0.5	
	comp=Z,5.0nm,1.0s,mb4.1,baz=158,slow=6.6,SNR=35								
NVAR	Mina Array Bea	78.64	321	P		P	13 11 07.0	+0.5	
IMW	Indian Meadow	78.72	329	*e*P		P	13 11 07.4	+0.7	
	comp=Z,47nm,0.9s,mb5.1								
LRV	Little Rabbit	78.92	318	*e*P		P	13 11 09.5	+1.5	
LKWY	Lake	78.97	330	*e*P		P	13 11 10.0	+1.9	
	comp=Z,54nm,1.4s,mb5.0								
YFT	Old Faithful	79.09	329	*e*P		P	13 11 10.6	+1.8	
YMR	Madison River	79.31	330	*e*P		P	13 11 11.1	+1.2	
	comp=Z,54nm,0.9s,mb5.2								
DGMT	Dagmar	79.47	336	*e*P		P	13 11 11.0	+0.3	
	comp=Z,101nm,0.8s,mb5.5								
GCMT	Greycliff	79.58	331	*e*P		P	13 11 11.5	+0.2	
CMB	Columbia Colle	79.60	320	*e*P		P	13 11 11.5	-0.1	
	comp=Z,6.1nm,1.0s,mb4.2								
QLMT	Earthquake Lak	79.65	329	*e*P		P	13 11 12.6	+0.9	
HLID	Hailey	80.16	327	*e*P		P	13 11 15.4	+0.9	
	comp=Z,46nm,0.9s,mb5.1								
MCMT	McKenzie Canyo	80.32	329	*e*P		P	13 11 16.1	+0.8	
BOZ	Bozeman (W)	80.36	330	*e*P		P	13 11 15.5	0.0	
	comp=Z,15nm,1.3s,mb4.5								
DLMT	Dillon	80.60	329	*e*P		P	13 11 17.4	+0.7	
	comp=Z,47nm,1.0s,mb5.1								
HRY	Holter Researc	81.26	330	*e*P		P	13 11 20.6	+0.5	
EGMT	Eagleton	81.35	332	*e*P		P	13 11 19.7	-1.0	
	comp=Z,59nm,1.2s,mb5.1								
MAW	Mawson	81.47	163	⇓*i*P		P	13 11 21.4	+0.5	
	comp=Z,28nm,0.9s,mb4.9								
MAW	Mawson	81.47	163	P		P	13 11 21.1	+0.3	
	comp=Z,33nm,0.8s,mb5.0,baz=223,slow=6.5,SNR=45								
WVOR	Wild Horse Val	81.56	324	*e*P		P	13 11 21.6	-0.2	
	comp=Z,5.4nm,1.0s,mb4.1								
CHMT	Chamberlain Mo	82.06	330	*e*P		P	13 11 23.7	-0.6	
MOD	Modoc	82.11	323	*e*P		P	13 11 25.0	+0.3	
	comp=Z,25nm,1.1s,mb4.8								
LBTB	Lobatse	82.13	114	*e*P		P	13 11 24.9	-0.2	
	comp=Z,11nm,1.0s,mb4.4								
MSO	Missoula	82.31	329	*e*P		P	13 11 26.0	+0.4	
	comp=Z,6.1nm,0.8s,mb4.3								
BMO	Blue Mountains	82.54	326	*e*P		P	13 11 26.8	0.0	
	comp=Z,19nm,1.1s,mb4.7								
EGRO	El Granado	82.57	43	⇓P		P	13 11 27.8	+0.7	
	comp=Z,60nm,1.2s,mb5.2								
PBEJ	Beja	82.63	43	*e*P		P	13 11 28.2	+0.7	
EVO	Evora	82.85	42	*e*P		P	13 11 28.2	-0.4	
	comp=Z,20nm,0.8s,mb4.6								
ESPR	Espera	83.21	45	⇑P		P	13 11 31.4	+1.0	
	comp=Z,15nm,0.7s,mb4.8								
EJIF	Jimena Fronter	83.21	45	⇓P		P	13 11 31.5	+1.0	
	comp=Z,12nm,0.9s,mb4.6								
EMIN	Mina Concepcio	83.22	44	⇓P		P	13 11 30.9	+0.4	
	comp=Z,40nm,1.1s,mb5.1								
PTOM	Tomar	83.28	41	*e*P		P	13 11 31.3	+0.6	
	comp=Z,66nm,1.6s,mb5.1								
PCBR	Castelo Branco	83.98	42	*e*P		P	13 11 34.5	+0.2	
BBOR	Butler Butte	84.09	322	P		P	13 11 34.2	-0.5	
MTE	Manteigas	84.28	41	*e*P		P	13 11 36.6	+0.8	
	comp=Z,40nm,1.1s,mb5.1								
ELOJ	Sierra Loja	84.48	45	⇑P		P	13 11 37.7	+0.9	
	comp=Z,5.3nm,0.4s,mb4.6								
ERON	Agron	84.63	46	P		P	13 11 37.7	+0.2	
ELUQ	Luque	84.64	45	⇑P		P	13 11 38.8	+1.2	
	comp=Z,38nm,0.8s,mb5.2								
PVRL	Vila Real	84.72	40	*e*P		P	13 11 38.4	+0.5	
	comp=Z,44nm,1.3s,mb5.0								
HAWA	Hanford	84.73	326	*e*P		P	13 11 37.5	-0.3	
	comp=Z,2.6nm,0.9s,mb4.0								
EADA	Adamuz	84.80	44	⇓P		P	13 11 38.6	+0.3	
	comp=Z,47nm,1.1s,mb5.1								
PCAB	Cabril	84.81	40	*e*P		P	13 11 38.9	+0.6	
WRD	Warden	84.81	327	P		P	13 11 39.5	+1.3	
ELOB	Lobios	84.88	40	P		P	13 11 39.1	+0.4	
	comp=Z,9.2nm,0.4s,mb4.9								
LOCW	Locke Island	84.90	327	P		P	13 11 39.4	+0.7	
GBB	Gable Butte	84.92	326	P		P	13 11 39.4	+0.7	
ECOG	Cogollos-Vega	84.94	46	P		P	13 11 40.0	+0.9	
	comp=Z,7.5nm,0.6s,mb4.6								
EBER	Berja	85.16	46	P		P	13 11 42.3	+2.1	
	comp=Z,12nm,0.7s,mb4.7								
STS	Santiago	85.23	39	P		P	13 11 41.3	+0.9	
MXC	Moxie City	85.24	326	P		P	13 11 41.3	+0.9	
EBAN	Banos Encina	85.30	45	⇑P		P	13 11 41.7	+0.8	
	comp=Z,47nm,0.7s,mb5.3								
FCC	Fort Churchill	85.41	346	*e*P		P	13 11 40.4	-0.5	
	comp=Z,35nm,0.7s,mb5.2								
EQES	Quesada	85.56	45	P		P	13 11 41.7	-0.4	
	comp=Z,66nm,1.2s,mb5.2								
EBG	Ellensburg	85.61	326	P		P	13 11 43.2	+1.1	
PBRG	Braganca	85.62	40	*e*P		P	13 11 43.1	+0.7	
	comp=Z,45nm,1.7s,mb4.9								
ERUA	La Rua	85.75	40	P		P	13 11 43.6	+0.6	
TBM	Table Mountain	85.79	326	P		P	13 11 43.9	+0.9	
WTV	Waterville	85.83	327	P		P	13 11 43.7	+0.5	
ESDC	Sonseca Array	86.06	43	P		P	13 11 44.9	+0.4	
	comp=Z,8.6nm,0.7s,mb4.6,baz=241,slow=4.8,SNR=32								
ESDC	Sonseca Array	86.06	43	P		P	13 11 45.4	+0.9	
	comp=Z,5.4nm,0.6s,mb4.5								
EVIA	Vianos	86.40	45	⇑P		P	13 11 46.7	+0.5	
	comp=Z,12nm,0.7s,mb4.7								
EMUR	La Murta	86.78	46	P		P	13 11 49.6	+1.6	
	comp=Z,76nm,2.1s,mb5.2								
EDM	Edmonton	86.79	334	*e*P		P	13 11 46.4	-1.3	
CMW	Cultus Mountai	87.39	327	P		P	13 11 50.8	+0.1	
LSZ	Lusaka	88.21	106	*e*P		P	13 11 57.0	+1.7	
	comp=Z,22nm,1.1s,mb4.9								
PGC	Sidney	88.21	326	*e*P		P	13 11 54.1	-0.4	
	comp=Z,33nm,1.0s,mb5.1								
ECRI	Cripan	88.64	42	⇑P		P	13 11 57.9	+1.2	
	comp=Z,17nm,0.6s,mb5.2								
SJPF	Ste Jean	89.70	42	*e*P		P	13 12 02.0	+0.3	
	comp=Z,40nm,0.9s,mb5.0								
ETSF	Etsaut	89.99	42	*e*P		P	13 12 03.4	+0.3	
	comp=Z,41nm,0.9s,mb5.0								
CASY	Casey	90.12	179	⇑*i*P		P	13 12 04.6	+1.5	
EGRA	Graus	90.16	43	P		P	13 12 04.7	+0.8	
	comp=Z,19nm,0.7s,mb5.1								
EBIE	Bielsa	90.31	43	P		P	13 12 05.9	+1.4	
	comp=Z,8.3nm,0.7s,mb4.8								
EPF	Esparros	90.62	42	*e*P		P	13 12 05.9	-0.1	
	comp=Z,27nm,0.8s,mb5.0								
SALF	Salau	91.00	43	*e*P		P	13 12 08.7	+0.9	
MLS	Moulis	91.05	43	*e*P		P	13 12 08.4	+0.4	
QUIF	Quistinic	91.29	37	*e*P		P	13 12 07.8	-1.1	
	comp=Z,21nm,0.8s,mb4.5								
ROSF	Rostrenen	91.47	37	*e*P		P	13 12 09.0	-0.8	
	comp=Z,50nm,1.2s,mb5.1								
LFF	La Frestale	91.89	41	*e*P		P	13 12 11.3	-0.5	
	comp=Z,45nm,0.9s,mb5.2								
MFF	Saint Martin d	92.26	39	*e*P		P	13 12 12.9	-0.6	
	comp=Z,47nm,0.9s,mb5.2								
RJF	Les Rejaudoux	92.55	41	*e*P		P	13 12 14.1	-0.8	
CAF	Calviac	92.68	41	*e*P		P	13 12 14.9	-0.6	
	comp=Z,30nm,1.0s,mb5.1								
GRR	Gorron	92.83	37	*e*P		P	13 12 14.8	-1.3	
	comp=Z,29nm,0.8s,mb5.2								
LDF	La Druitiere	93.35	38	*e*P		P	13 12 17.4	-1.0	
	comp=Z,15nm,0.6s,mb5.0								
TCF	Toulx Ste Croi	93.47	40	*e*P		P	13 12 18.2	-0.9	
	comp=Z,10nm,0.7s,mb4.8								
YKA	Yellowknife Ar	94.11	340	P		P	13 12 21.2	-0.3	
	comp=Z,12nm,0.6s,mb5.2,baz=132,slow=4.4,SNR=247								
YKA				PKKPbc			13 29 21.9		
	comp=Z,0.2nm,0.5s,baz=327,slow=3.3,SNR=5.3								
YKW3	Yellowknife Ar	94.17	340	*e*P		P	13 12 21.2	-0.6	
VIVF	Saint-Julien-l	94.24	42	*e*P		P	13 12 22.6	+0.1	
	comp=Z,32nm,1.2s,mb5.0								
AVF	Avril sur Loir	94.41	40	*e*P		P	13 12 22.4	-0.9	
SMF	Signal de Mont	94.63	41	*e*P		P	13 12 23.8	-0.5	
	comp=Z,28nm,0.9s,mb5.2								
SSF	Saint Saulge	94.64	40	*e*P		P	13 12 23.1	-1.2	
	comp=Z,14nm,0.8s,mb4.9								
LOR	Lormes	94.95	40	*e*P		P	13 12 24.7	-1.0	
	comp=Z,13nm,0.8s,mb4.9								
ORIF	Oris-en-Rattie	95.02	43	*e*P		P	13 12 26.6	+0.5	
	comp=Z,22nm,0.8s,mb5.1								
EKA	Eskdalemuir Ar	95.53	31	P		P	13 12 27.1	-1.1	
	comp=Z,1.5nm,0.7s,mb4.4,baz=233,slow=4.2,SNR=3.7								
LPL	La Plagne	95.84	43	*e*P		P	13 12 30.4	+0.6	
	comp=Z,28nm,1.0s,mb5.2								
LPG	La Plagne	95.84	43	*e*P		P	13 12 30.6	+0.8	
	comp=Z,27nm,1.0s,mb5.2								
DLBC	Dease Lake	97.27	332	*e*P		P	13 12 35.9	-0.2	
CDF	Champ du Feu	97.52	40	*e*P		P	13 12 36.5	-0.9	
	comp=Z,17nm,1.1s,mb5.1								
SUMG	Summit	98.07	8	*e*P		P	13 12 39.4	+0.1	
DAVOX	Davos	98.36	42	P		P	13 12 41.6	+0.4	
	comp=Z,7.4nm,0.8s,mb5.2,baz=261,slow=4.9,SNR=8.1								
ILAR	Eielson Array	107.28	334	Pdiff		Pdif	13 13 19.6	-0.8	
	comp=Z,0.4nm,0.6s,baz=145,slow=2.7,SNR=6.3								
ILAR				PKIKP			13 17 25.9		
	comp=Z,0.4nm,0.7s,baz=65,slow=0.3,SNR=4.5								
ILAR				PP		PP	13 17 44.4	-8.0	
	comp=Z,0.8nm,0.8s,baz=93,slow=4.6,SNR=5.1								
OBN	Obninsk	116.70	39	*i* PKIKP		PKPdf	13 17 43.0	-2.3	
OBN				pmax		pmax			
	comp=Z,14nm,0.6s								
SOC	Sochi	117.61	52	*e*P		Pdif	13 14 18.0	+12	
KIV	Kislovodsk	119.80	52	*e*PKIKP		PKPdf	13 17 50.5	-1.1	
KIV				pmax		pmax			
	comp=Z,14nm,1.2s								
MUN	Mundaring	124.41	183	⇑*i*P		PKPdf	13 18 01.6	+0.7	
KLBR	Kellerberrin	124.70	185	⇑*i*P		PKPdf	13 18 02.1	+0.6	
	comp=Z,11nm,0.5s								
BILL	Bilibino	125.48	338	⇑*i*PKIKP		PKPdf	13 18 02.6	+0.6	
BILL				pmax		pmax			
	comp=Z,9.0nm,0.8s								
CTA	Charters Tower	125.83	219	*e*P		PKPdf	13 18 04.9	+1.0	
	comp=Z,5.6nm,0.7s								
ASPA	Alice Springs	128.72	204	⇓*i*P		PKPdf	13 18 09.9	+0.5	
ARU	Arti	128.87	36	*i* PKIKP		PKPdf	13 18 10.5	+1.7	
ARU				*e*			13 20 23.2		
AKTO	Aktyubinsk	129.95	43	PKIKP		PKPdf	13 18 12.3	+1.3	
AKTO				pmax		pmax			
	comp=Z,3.0nm,1.0s								
TIXI	Tiksi	131.38	354	*i* PKIKP		PKPdf	13 18 12.6	-0.6	
TIXI				pmax		pmax			
	comp=Z,8.0nm,1.0s								
AB31	Akbulak array	131.40	45	*i* PKIKP		PKPdf	13 18 14.7	+0.9	
AB31				pmax		pmax			
	comp=Z,12nm,0.8s								
WB2	Warramunga Arr	131.90	207	⇓*i*P		PKPdf	13 18 16.3	+0.8	
WRA	Warramunga Arr	131.91	207	PKP		PKPdf	13 18 16.3	+0.8	
	comp=Z,6.8nm,0.5s,baz=160,slow=1.7,SNR=81								
WRA				SKPbc			13 21 22.3		
	comp=Z,0.8nm,0.6s,baz=159,slow=3.4,SNR=8.4								
ZRNK	Zerenda	135.75	37	PKIKP		PKPdf	13 18 23.6	+1.8	
ZRNK				pmax		pmax			
	comp=Z,15nm,0.8s								
ZRNK	Zerenda	135.75	37	*e*PKPdf		PKPdf	13 18 23.5	+1.7	
ZRNK				*e*SKP			13 21 35.6		
CHKZ	Chkalovo	136.32	36	PKIKP		PKPdf	13 18 24.3	+1.5	
CHKZ				pmax		pmax			
	comp=Z,5.0nm,0.7s								
CHKZ	Chkalovo	136.32	36	*e*PKPdf		PKPdf	13 18 24.1	+1.3	
CHKZ				*e*SKP			13 21 37.3		
BVA0	Borovoye Array	136.48	37	*e*PKIKP		PKPdf	13 18 24.5	+1.4	
BVA0				pmax		pmax			
	comp=Z,2.0nm,1.0s								
FITZ	Fitzroy Crossi	136.61	197	*e*P		PKPdf	13 18 13.6	-11	
	comp=Z,4.2nm,0.8s								
FITZ				*e*			13 18 25.6		
VOSK	Vostochnaya	136.93	37	PKIKP		PKPdf	13 18 25.5	+1.6	
VOSK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KAKA	Kakadu	139.15	209	*e*P		PKPdf	13 18 41.1	+12	
	comp=Z,6.9nm,0.6s								
NVS	Novosibirsk	141.82	28	*e*PKHKP			13 18 27.7		
NVS				pmax		pmax			
	comp=Z,20nm,1.1s								
NVS				pmax		pmax			
	comp=N,3.0nm,0.7s								
NVS				pmax		pmax			
	comp=E,12nm,1.0s								
TRD	Trivandrum	141.99	108	*e*P		PKPdf	13 18 33.5	-0.6	
KURK	Kurchatov	142.06	36	*i* PKIKP		PKPdf	13 18 34.7	+1.6	
EKS2	Erkin-Say	142.37	50	P		PKPdf	13 18 32.3	-1.6	
	SNR=6.2								
AML	Almayashu	142.46	51	P		PKPdf	13 18 32.5	-1.6	
	SNR=6.8								
KAD	Karad	142.82	93	*e*P		PKPdf	13 18 33.4	-2.0	
KAD				AMb		AMB	13 18 40.1		
	comp=Z,19nm,1.2s								
AAK	Ala-Archa	142.88	50	⇑*i*PKHKP			13 18 32.2		
AAK				*i*			13 18 34.5		
UCH	Uchtor	143.02	51	P		PKPbc	13 18 34.5	+1.3	
	SNR=13								
KBK	Karagaybulak	143.19	50	P		PKPbc	13 18 34.8	+1.1	
	SNR=17								
TKM2	Tokmak 2	143.56	49	P		PKPbc	13 18 35.9	+1.1	
	SNR=8.1								
KZA	Kyzart	143.59	51	P		PKPbc	13 18 36.6	+1.7	
	SNR=20								
ULHL	Ulahol	144.23	50	P		PKPbc	13 18 38.5	+1.7	
	SNR=9.2								
KSH	Kashi	144.84	55	PKP		PKPdf	13 18 40.0	+1.7	
KSH				*e*PKS		PKS	13 22 15.0	+2.5	
KSH				*e*SKS		SKS	13 25 27.0	+0.1	
KSH				PP		PP			
	comp=Z,340nm,6.3s								
AJM	Ajmer	144.94	77	*e*P		PKPdf	13 18 39.2	+0.3	
AJM				AMb		AMB	13 18 41.3		
	comp=Z,50nm,1.4s								
BOD	Bodaibo	146.07	359	*e*PKIKP		PKPdf	13 18 40.6	+0.8	
BOD				pmax		pmax			
	comp=Z,47nm,0.7s								
MKAR	Makanchi Array	146.20	40	PKPbc		PKPbc	13 18 42.1	+0.3	
	comp=Z,48nm,0.7s,baz=324,slow=2.0,SNR=164								
MKAR	Makanchi Array	146.20	40	*i* PKIKP		PKPdf	13 18 41.9	+1.5	
MKAR				pmax		pmax			
	comp=Z,17nm,0.5s								
HYB	Hyderabad	146.85	94	*i* PKP		PKPdf	13 18 43.5	+1.2	
	comp=Z,60nm,1.0s								
HYB				*e*			13 19 40.0		
HYB	Hyderabad	146.85	94	*e*P		PKPdf	13 18 43.5	+1.2	
HYB				*e*			13 19 40.0		
MDRS	Chennai	146.88	103	*e*P		PKPdf	13 18 39.9	-2.5	
BHPL	Bhopal	147.09	84	*e*P		PKPdf	13 18 44.8	+2.3	
BHPL				AMb		AMB	13 18 46.7		
	comp=Z,42nm,0.7s								
YSS	Yuzh-Sakhalins	147.09	322	⇑*i*PKP2		PKPab	13 18 45.5	-3.1	
YSS				pmax		pmax			
	comp=Z,60nm,0.9s								
YSS	Yuzh-Sakhalins	147.09	322	*e*PKPdf		PKPdf	13 18 43.8	+2.0	
MOY	Mondy	150.65	16	*e*PKIKP		PKPdf	13 18 55.4	+8.1	
MOY				pmax		pmax			
	comp=Z,82nm,1.5s								
KLR	Kul'dur	150.85	335	*e*PKIKP		PKPdf	13 18 50.2	+2.5	
KLR				pmax		pmax			
	comp=Z,24nm,0.9s								
WMQ	Urumqi	151.02	40	PKP		PKPdf	13 18 48.6	+0.5	
WMQ				LR		LR			
	comp=N,170nm,21.2s								
WMQ				LR		LR			
	comp=E,170nm,22.0s								
WMQ				LR		LR			
	comp=Z,180nm,20.0s								
VIS	Vishakhapatnam	151.29	97	*e*P		PKPdf	13 18 50.1	+0.8	
VIS				AMb		AMB	13 18 58.7		
	comp=Z,36nm,2.0s								
CIT	Chita	151.88	360	*e*PKIKP		PKPdf	13 18 57.8	+8.6	
ZAK	Zakamensk	152.38	14	*e*PKIKP		PKPdf	13 18 51.9	+2.0	
ZAK				*e*			13 19 10.1		
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
ZAK				pmax		pmax			
	comp=Z,6.0nm,0.9s								
ZAK				pmax		pmax			
	comp=Z,7.0nm,0.9s								
KOLN	Koldanda	152.95	75	*e*P		PKPdf	13 18 53.2	+1.7	
	comp=Z,19nm,0.9s								
GKN	Gorkha	153.86	75	*e*P		PKPdf	13 18 54.0	+1.3	
	comp=Z,23nm,0.7s								
DMN	Daman	154.29	76	*e*P		PKPdf	13 18 55.1	+1.9	
KKN	Kakani	154.44	75	*e*P		PKPdf	13 18 55.3	+1.9	
	comp=Z,8.8nm,0.5s								
PKI	Pulchoki	154.56	76	*e*P		PKPdf	13 18 55.6	+2.0	
	comp=Z,19nm,1.0s								
BOK	Bokaro	154.87	85	*e*P		PKPdf	13 18 57.2	+3.1	
BOK				AMb		AMB	13 18 58.0		
	comp=Z,20nm,1.4s								
GUN	Gumba	154.96	75	*e*P		PKPdf	13 18 55.0	+0.9	
	comp=Z,37nm,1.1s								
MJAR	Matsushiro Arr	155.17	306	PKPbc		PKPdf	13 19 03.1	+9.0	
	comp=Z,6.8nm,0.7s,baz=99,slow=1.5,SNR=11								
MAT	Matsushiro	155.18	306	X			13 19 04.2		
MAT	Matsushiro	155.18	306	*e*P		PKPdf	13 19 04.0	+10	
JIRN	Jiri	155.25	75	*e*P		PKPdf	13 18 56.1	+1.6	
	comp=Z,12nm,0.8s								
MDJ	Mudanjiang	155.42	331	PKP		PKPdf	13 18 55.1	+0.9	
SONM	Songino Array	155.44	11	PKP		PKPdf	13 18 56.3	+2.2	
	comp=Z,4.7nm,0.8s,baz=314,slow=1.1,SNR=31								
SONM				PKPbc		PKPdf	13 19 04.7	+11	
	comp=Z,4.5nm,0.7s,baz=326,slow=1.0,SNR=11								
SONM				PKPab		PKPab	13 19 21.8	-1.4	
	comp=Z,9.8nm,0.7s,baz=323,slow=4.4,SNR=26								
ULN	Ulaanbaatar	155.52	10	*e*PKPdf		PKPdf	13 18 56.2	+2.0	
ULN				*e*PKPab		PKPab	13 19 23.4	-0.2	
ULN				*e*PP		PP	13 22 58.4	-3.4	
CN2	Changchun	157.77	336	*e*PKP		PKPdf	13 18 56.3	-1.1	
CN2				*e*PKP2		PKPab	13 19 32.3	-1.1	
LSA	Lhasa	159.34	69	*e*PKPdf		PKPdf	13 19 02.6	+2.9	
LSA				*e*PKPab		PKPab	13 19 41.0	+0.4	
GTA	Gaotai	160.71	33	*e*PKP		PKPdf	13 19 03.0	+2.2	
HHC	Hu-ho-hao-te	162.99	5	*e*PKP		PKPdf	13 19 05.6	+2.5	
HHC				PKS		PKS	13 22 37.0	+1.8	
HHC				PP		PP			
	comp=Z,60nm,9.4s								
LZH	Lanzhou	165.29	32	*e*PKP		PKPdf	13 19 07.6	+2.1	
LZH				AMPKP			13 19 57.5		
LZH				*e*PP		PP	13 23 55.3	+1.0	
LZH				SKKS			13 30 21.3		
LZH				PP		PP			
	comp=Z,110nm,8.5s								
LZH				LR		LR			
	comp=N,210nm,18.4s								
LZH				LR		LR			
	comp=Z,290nm,20.0s								
KMI	Kunming	170.23	80	PKP		PKPdf	13 19 11.3	+2.3	
NJ2	Nanjing	170.51	331	*e*PKP		PKPdf	13 19 09.6	+0.6	
ENH	Enshi	172.74	28	*e*PKPdf		PKPdf	13 19 11.4	+1.1	

ISC 15 13:01:10.1±2.0, 46.05N±0.08×13.6E±0.1, n5, σ0^{s}49/8, 1C, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRE	Drenchia	0.14	27	⇑*i*Pg		Pg		13 01 12.8	-0.1
ROBS	Robic	0.20	351	*i* Pg		Pg		13 01 14.8	+0.7
CADS	Cadrg	0.22	35	*i* Pg		Pg		13 01 14.3	-0.2
CADS				*i* Sg		Sg		13 01 17.7	+0.2
	comp=Z,22nm,0.2s								
VOJS	Vojsko	0.23	94	*i* Pg		Pg		13 01 14.3	-0.4
VOJS				*i* Sg		Sg		13 01 18.5	+0.7
GORS	Gorjuse	0.41	49	*i*

comp=E,1.5nm,0.7s,mb3.7
PV10 Paradox Valley 73.61 326 P **P** 13 25 10.2 -1.8
VNDA Vanda 74.86 190 P **P** 13 25 20.3 +1.8
comp=E,2.7nm,1.0s,mb3.8
RSSD Black Hills 75.86 333 P **P** 13 25 23.3 -1.4
comp=E,4.4nm,0.7s,mb4.2
TORD Torodi Ar. Bea 76.23 69 P **P** 13 25 26.0 -1.2
comp=E,3.7nm,0.5s,mb4.3,baz=257,slow=5.5,SNR=60
PDAR Pinedale Array 77.23 329 P **P** 13 25 32.3 0.0
comp=E,1.0nm,0.7s,mb3.5,baz=133,slow=8.3,SNR=5.2
HWUT Hardware Ranch 77.32 327 *e*P **P** 13 25 33.2 +0.5
comp=E,3.1nm,0.8s,mb4.0
ULM Lac du Bonnet 78.23 341 P **P** 13 25 36.8 -0.8
comp=E,3.0nm,0.5s,mb4.2,baz=149,slow=6.9,SNR=15
SCHQ Schefferville 78.40 360 P **P** 13 25 38.7 +0.3
comp=E,4.3nm,0.7s,mb4.2,baz=216,slow=10,SNR=6.6
SCHQ Schefferville 78.40 360 P **P** 13 25 38.7 +0.3
IMW Indian Meadow 78.74 329 *e*P **P** 13 25 41.9 +1.4
comp=E,5.3nm,1.1s,mb4.1
DGMT Dagmar 79.50 336 *e*P **P** 13 25 45.0 +0.5
comp=E,1nm,0.8s,mb4.6
HLID Hailey 80.18 327 *e*P **P** 13 25 49.9 +1.7
comp=E,8.0nm,1.0s,mb4.3
MCMT McKenzie Canyo 80.34 329 *e*P **P** 13 25 50.9 +1.9
MAW Mawson 81.44 163 P **P** 13 25 55.6 +1.3
comp=E,2.5nm,0.7s,mb4.0,baz=266,slow=13,SNR=3.9
MDT Midelt 81.71 49 P **P** 13 25 57.5 +1.1
comp=E,1.2nm,0.6s,mb3.7,baz=225,slow=6.8,SNR=5.7
ESDC Sonseca Array 86.10 43 P **P** 13 26 19.0 +0.7
comp=E,0.8nm,0.5s,mb3.7,baz=236,slow=5.0,SNR=4.2
LSZ Lusaka 88.22 106 *e*P **P** 13 26 31.5 +2.6
comp=E,3.4nm,1.0s,mb4.1
YKA Yellowknife Ar 94.14 340 P **P** 13 26 55.5 +0.3
comp=E,1.9nm,0.6s,mb4.3,baz=133,slow=4.3,SNR=43
YKA Yellowknife Ar 94.14 340 P **P** 13 26 55.5 +0.3
ARCES ARCESS Array B 112.90 22 Pdiff Pdiff 13 28 20.4 +1.8
comp=E,6.4nm,1.0s,baz=356,slow=12,SNR=2.6
WB2 Warramunga Arr 131.86 207 *e*P PKPdf 13 32 50.7 +1.7
WRA Warramunga Arr 131.87 207 PKP PKPdf 13 32 50.7 +1.7
comp=E,1.5nm,0.5s,baz=158,slow=1.6,SNR=16
MKAR Makanchi Array 146.24 40 PKPbc PKPbc 13 33 16.3 +0.9
comp=E,7.4nm,0.6s,baz=324,slow=2.2,SNR=63
MKAR Makanchi Array 146.24 40 PKPbc PKPbc 13 33 16.3 +0.9
SONM Songino Array 155.48 11 PKPbc PKPdf 13 33 30.7 +3.1
comp=E,1.2nm,1.0s,baz=326,slow=1.9,SNR=5.8
SONM PKPab PKPab 13 33 56.2 -0.8
comp=E,1.6nm,0.7s,baz=323,slow=4.7,SNR=9.4
GTA Gaotai 160.75 33 *e*PKP PKPdf 13 33 37.3 +2.9

BJI **15** *13:28:38.5, 42.70N× 12.80E, h18km, mB4.7, mb4.4, Ms4.6, Msz4.4*
ROM **15** *13:28:39.5± 0.1, 42.74N× 12.76E, h18km± 1km, Md3.5/10, Ml4.2/30, Error ellipse: s-maj=0.9km s-min=0.7km az=74.0*
NEIC **15** *13:28:39.5, 42.74N× 12.76E, h18km, mb4.3/6, MD4.4(PDG), ML4.2(ROM), ML4.2(LDG), ML3.8(STR), After ROM.*
MOS **15** *13:28:39.9± 0.8, 42.80N× 12.68E, h17km, mb4.4/14, Error ellipse: s-maj=4.1km s-min=3.0km az=104.1*
PDG **15** *13:28:40.9± 0.5, 42.79N× 12.71E, h13km*
LDG **15** *13:28:40.6± 0.1, 42.79N× 12.75E, h10km, Ml4.2/25, ms3.1/6, Error ellipse: s-maj=3.0km s-min=2.4km az=33.0*
CSEM **15** *13:28:40.4± 0.0, 42.70N× 12.71E, h20km, mb4.1/5, ML4.3/25, Error ellipse: s-maj=1.0km s-min=0.8km az=22.0*
PRU **15** *13:28:42.2, 42.93N× 12.76E, M4.3*
IDC **15** *13:28:43.6± 3.7, 42.87N× 12.63E, h24km± 26km, mb4.0/11, mb1 4.1/22, mb1mx4.0/31, mbtmp4.1/22, ML4.1/10, MS3.3/5, Ms1 3.4/5, ms1mx3.1/32, Error ellipse: s-maj=13.6km s-min=11.1km az=102.0*
STR **15** *13:28:49.3± 1.0, 43.10N× 12.16E, h20km± 1km, Ml4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 15 13:28:40.3±0.1, 42.75N±0.01×12.69E±0.01, h18km, n310, σ1°11/401, mb4.4/20, MS4.0/5, 38C-20D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.29**	**119**	Pg	**Pb**	**13 28 46.1**	**-0.7**
LNSS				Sg	**Sb**	**13 28 50.4**	**-0.8**
	55μm,0.6s						
MNS	**Montasola**	**0.36**	**181**	Pg	**Pb**	**13 28 47.9**	**-0.1**
MNS				Sg	**Sb**	**13 28 53.9**	**+0.7**
	9μm,0.7s						
MURB	**Monte Urbino**	**0.53**	**347**	Pg	**Pb**	**13 28 51.4**	**+0.6**
MURB				Sg	**Sb**	**13 29 00.4**	**+2.5**
	67μm,0.3s						
SNTG	**Esanatoglia**	**0.54**	**20**	Pg	**Pb**	**13 28 50.5**	**-0.5**
CAMP	**Campotosto**	**0.57**	**112**	Pg	**Pb**	**13 28 50.7**	**-0.8**
CAMP				Sg	**Sb**	**13 28 58.9**	**-0.2**
	15μm,0.8s						
FIAM	**Fiamignano**	**0.57**	**147**	Pg	**Pb**	**13 28 50.9**	**-0.6**
FIAM				Sg	**Sb**	**13 28 59.3**	**+0.1**
	12μm,0.7s						
SACS	**San Casciano d**	**0.58**	**280**	Pg	**Pb**	**13 28 52.8**	**+1.1**
	14μm,0.6s						
AQU	**L'Aquila**	**0.66**	**127**	Pg	**Pb**	**13 28 52.5**	**-0.4**
TERO	**Teramo**	**0.68**	**100**	Pg	**Pb**	**13 28 52.4**	**-1.0**
	15μm,0.9s						
MTCE	**Montecelio**	**0.72**	**177**	Pg	**Pb**	**13 28 54.1**	**0.0**
	7μm,0.7s						
CING	**Cingoli**	**0.73**	**30**	Pg	**Pb**	**13 28 53.9**	**-0.3**
CING				Sg	**Sb**	**13 29 04.9**	**+1.3**
	13μm,0.6s						
ARVD	**Arcevia**	**0.77**	**14**	Pg	**Pb**	**13 28 54.7**	**-0.2**
ARVD				Sg	**Sb**	**13 29 06.7**	**+1.8**
	12μm,0.6s						
PIEI	**Pieia**	**0.80**	**352**	Pg	**Pb**	**13 28 55.9**	**+0.6**
PIEI				Sg	**Sb**	**13 29 08.7**	**+3.0**
	4μm,0.4s						
FAGN	**Fagnano**	**0.82**	**126**	Pg	**Pb**	**13 28 54.8**	**-0.9**
	19μm,0.6s						
CERT	**Cerreto**	**0.83**	**165**	Pg	**Pb**	**13 28 55.4**	**-0.4**
CERT				Sg	**Sb**	**13 29 08.1**	**+1.6**
	6μm,0.7s						
BADI	**Badiali**	**0.83**	**337**	Pg	**Pb**	**13 28 56.7**	**+0.8**
	14μm,0.8s						
TOLF	**Tolfa**	**0.85**	**217**	Pg	**Pb**	**13 28 57.1**	**+0.8**
TOLF				Sg	**Sb**	**13 29 10.7**	**+3.4**
	5μm,0.7s						
PTQR	**Pietraquaria**	**0.90**	**144**	Pg	**Pb**	**13 28 56.1**	**-0.9**
	285nm,0.6s						
VCEL	**Villa Celiera**	**0.92**	**112**	Pg	**Pb**	**13 28 56.8**	**-0.6**
	16μm,0.9s						
FSSB	**Fossombrone**	**0.95**	**4**	Pg	**Pb**	**13 28 58.1**	**+0.2**
	268nm,0.4s						
RDP	**Rocca di Papa**	**0.99**	**179**	Pg	**Pb**	**13 28 58.9**	**+0.3**
RDP				Sg	**Sb**	**13 29 14.8**	**+3.6**
	7μm,0.5s						
CRE	**Caprese Michel**	**1.03**	**328**	Pg	**Pb**	**13 29 00.4**	**+1.1**
	6μm,0.4s						
AOI	**Ancona**	**1.04**	**39**	Pg	**Pb**	**13 28 59.6**	**+0.1**
AOI				Sg	**Sb**	**13 29 15.5**	**+2.8**
	7μm,0.5s						
LAV9	**Lanuvio**	**1.07**	**180**	Pg	**Pb**	**13 29 00.8**	**+0.8**
INTR	**Introdacqua**	**1.16**	**129**	Pg	**Pb**	**13 29 00.9**	**-0.6**
	9μm,0.7s						
MAON	**Monte Argentar**	**1.20**	**255**	Pg	**Pb**	**13 29 02.9**	**+0.8**
	6μm,1.5s						
PESA	**Pesaro**	**1.20**	**5**	Pg	**Pb**	**13 29 03.3**	**+1.1**
	9μm,0.5s						
CSNT	**Castellina Chi**	**1.26**	**306**	Pg	**Pn**	**13 29 04.4**	**+1.3**
	3μm,0.7s						
GIUL	**Giuliano Di Ro**	**1.26**	**160**	Pg	**Pn**	**13 29 03.1**	**-0.1**
	2μm,0.6s						
GRFL	**Gerfalco**	**1.32**	**288**	Pg	**Pn**	**13 29 05.4**	**+1.3**
	545nm,0.7s						
VMG	**Vicchio**	**1.48**	**326**	Pg	**Pn**	**13 29 07.4**	**+1.2**
	2μm,0.5s						
MIDA	**Miranda**	**1.60**	**133**	Pg	**Pn**	**13 29 08.8**	**+0.7**
	5μm,1.4s						
SEI	**Scarperia**	**1.63**	**324**	Pg	**Pn**	**13 29 10.0**	**+1.5**
FNVD	**Fontana Vidola**	**1.82**	**322**	Pg	**Pn**	**13 29 12.4**	**+1.2**
	6μm,1.3s						
PII	**Pisa**	**1.86**	**302**	Pg	**Pn**	**13 29 12.8**	**+1.1**
	446nm,0.5s						
CSM	**Casamicciola**	**2.19**	**155**	*e*Pn	**Sn**	**13 29 39.7**	**-3.7**
VLC	**Villacollemand**	**2.19**	**311**	*e*Pn	**Pn**	**13 29 16.9**	**+0.4**
VLC	**Villacollemand**	**2.19**	**311**	*e*Pn	**Pn**	**13 29 16.9**	**+0.4**
GSCL	**Gusciola**	**2.22**	**317**	Pg	**Pn**	**13 29 18.3**	**+1.4**
MS1	**Monte Sant'Ang**	**2.63**	**112**	*e*Pn	**Pn**	**13 29 25.2**	**+2.5**
CORF	**Corte**	**2.66**	**261**	P	**Pn**	**13 29 24.1**	**+1.0**
TEOL	**Teolo**	**2.71**	**345**	*e*Pn	**Pn**	**13 29 24.6**	**+0.6**
PGF	**Pioggiola**	**2.73**	**267**	*e*Pn	**Pn**	**13 29 24.7**	**+0.5**
PGF				*e*Sn	**Sn**	**13 29 55.6**	**-1.5**
	83nm,0.5s						
TRI	**Trieste**	**3.06**	**14**	Pn	**Pn**	**13 29 29.1**	**+0.2**
	247nm,0.5s						
MTLO	**Montello**	**3.10**	**352**	*e*Pn	**Pn**	**13 29 29.8**	**+0.4**
CDT	**Castel del Mon**	**3.15**	**121**	*e*Pn	**Pn**	**13 29 28.4**	**-1.7**
TLI	**Talmassons**	**3.19**	**5**	*i*Pn	**Pn**	**13 29 31.3**	**+0.6**
CGRP	**Cima Grappa**	**3.20**	**349**	*e*Pn	**Pn**	**13 29 31.2**	**+0.4**
CAE	**Caneva**	**3.26**	**357**	*e*Pn	**Pn**	**13 29 32.4**	**+0.6**
SALO	**Salo**	**3.27**	**332**	Pn	**Pn**	**13 29 33.0**	**+1.2**
	895nm,0.6s						
JAVS	**Javornik**	**3.30**	**17**	*e*Pn	**Pn**	**13 29 32.4**	**+0.2**
JAVS				*e*Sn	**Sn**	**13 30 11.3**	**0.0**
BOJS	**Bojanci**	**3.31**	**33**	*e*Pn	**Pn**	**13 29 33.7**	**+1.2**
BOJS				*e*Sn	**Sn**	**13 30 14.2**	**+2.4**
VOY	**Vojsko**	**3.40**	**14**	*e*Pn	**Pn**	**13 29 33.8**	**+0.2**
VOY				*e*Sn	**Sn**	**13 30 14.4**	**+0.5**
MLNI	**Malnisio**	**3.40**	**359**	*e*Pn	**Pn**	**13 29 34.3**	**+0.5**
COLI	**Coloredo**	**3.42**	**8**	*e*Pn	**Pn**	**13 29 34.6**	**+0.6**
COLI				*e*Sn	**Sn**	**13 30 14.1**	**-0.5**
BUA	**Buia**	**3.48**	**5**	*e*Pn	**Pn**	**13 29 35.4**	**+0.5**
DRE	**Drenchia**	**3.49**	**11**	*i*Pn	**Pn**	**13 29 35.2**	**+0.2**
MPRI	**Monte Prat**	**3.50**	**3**	*e*Pn	**Pn**	**13 29 35.6**	**+0.5**
BAD	**Bernadia**	**3.51**	**6**	*e*Pn	**Pn**	**13 29 35.5**	**+0.2**
BAD				*e*Sn	**Sn**	**13 30 16.2**	**-0.6**
FAU	**Forcella Aurin**	**3.52**	**352**	*e*Pn	**Pn**	**13 29 35.8**	**+0.4**
BAI	**Bari**	**3.53**	**116**	*e*Pn	**Pn**	**13 29 36.3**	**+0.8**
CSO	**Casso**	**3.54**	**356**	*e*Pn	**Pn**	**13 29 35.8**	**+0.2**
SG1	**Sgolgore (BA)**	**3.54**	**121**	*e*Pn	**Pn**	**13 29 37.2**	**+1.5**
ROBS	**Robic**	**3.54**	**9**	*i*Pn	**Pn**	**13 29 36.0**	**+0.3**
ROBS				*e*Sn	**Sn**	**13 30 17.1**	**-0.6**
LJU	**Ljubljana**	**3.55**	**21**	*e*Pn	**Pn**	**13 29 33.9**	**-1.9**
LJU				*e*		13 29 44.5	
LJU				*e*Sn	**Sn**	**13 30 19.5**	**+1.8**
LJU				*e*Sg	Sn	13 30 38.0	+20
LJU	**Ljubljana**	**3.55**	**21**	*e*Pn	**Pn**	**13 29 33.9**	**-1.9**
LJU				*e*Sn	**Sn**	**13 30 19.5**	**+1.8**
GMNA	**Gemona**	**3.55**	**6**	Pn	**Pn**	**13 29 36.2**	**+0.4**
BOO	**Bordano**	**3.58**	**5**	*e*Pn	**Pn**	**13 29 36.7**	**+0.4**
MABI	**Malga Bissina**	**3.66**	**335**	Pn	**Pn**	**13 29 38.0**	**+0.6**
	191nm,0.6s						
STON	**Ston**	**3.69**	**86**	*i*Pn	**Pn**	**13 29 38.0**	**+0.3**
STON				*i*Sn	**Sn**	**13 30 20.7**	**-0.6**
STON	**Ston**	**3.69**	**86**	*i*Pn	**Pn**	**13 29 38.0**	**+0.2**
STON				*i*Sn	**Sn**	**13 30 20.6**	**-0.6**
PTCC	**Patocco-Chiusa**	**3.69**	**7**	Pn	**Pn**	**13 29 37.8**	**0.0**
	533nm,0.9s						
MDI	**Monti di Nese**	**3.71**	**326**	Pn	**Pn**	**13 29 38.7**	**+0.6**
	363nm,0.7s						
CSMI	**Casera Mimoias**	**3.77**	**360**	*e*Pn	**Pn**	**13 29 39.7**	**+0.8**
LSR	**Lussari**	**3.78**	**9**	*e*Pn	**Pn**	**13 29 39.2**	**+0.2**
AFL	**Alpe Faloria**	**3.80**	**355**	*e*Pn	**Pn**	**13 29 40.7**	**+1.3**
ZOU	**Zoufplan**	**3.81**	**3**	*e*Pn	**Pn**	**13 29 40.3**	**+0.7**
PLRO	**Paularo**	**3.82**	**5**	*e*Pn	**Pn**	**13 29 40.1**	**+0.5**
APPI	**Appiano**	**3.88**	**345**	Pn	**Pn**	**13 29 41.2**	**+0.7**
	473nm,0.5s						
SAOF	**Saorge**	**3.94**	**290**	P	**Pn**	**13 29 42.0**	**+0.5**
OBKA	**Obir**	**3.99**	**19**	*i*Pn	**Pn**	**13 29 42.5**	**+0.4**
	comp=Z,90nm,0.4s,SNR=23						
OBKA	**Obir**	**3.99**	**19**	*i*Sn	**Sn**	**13 30 28.8**	**0.0**
OBKA	**Obir**	**3.99**	**19**	Pn	**Pn**	**13 29 42.5**	**+0.4**
	90nm,0.4s,SNR=23						
OBKA				Sn	**Sn**	**13 30 28.8**	**-0.1**
SBF	**Sospel**	**4.00**	**288**	*e*Pn	**Pn**	**13 29 42.1**	**-0.1**
SBF				*e*Sn	**Sn**	**13 30 25.3**	**-3.8**
	171nm,0.5s						
PE1	**Pezze di Greco**	**4.04**	**117**	*e*Pn	**Pn**	**13 29 43.3**	**+0.6**
AUTN	**L'Aution**	**4.04**	**290**	P	**Pn**	**13 29 43.3**	**+0.5**
VSL	**Villasalto**	**4.10**	**219**	*e*Pn	**Pn**	**13 29 43.8**	**+0.1**
VSL	**Villasalto**	**4.10**	**219**	*e*Pn	**Pn**	**13 29 43.8**	**+0.1**
MUGIO	**Muggio**	**4.12**	**322**	Pn	**Pn**	**13 29 44.0**	**+0.1**
TOUF	**Mont Tournerai**	**4.17**	**290**	P	**Pn**	**13 29 45.4**	**+0.8**
PERS	**Pernice**	**4.25**	**23**	*e*Pn	**Pn**	**13 29 46.3**	**+0.5**
PERS				*e*Sn	**Sn**	**13 30 36.4**	**+0.8**
HCY	**Herceg Novi**	**4.30**	**92**	*i*Pn	**Pn**	**13 29 47.0**	**+0.5**
HCY				*e*Sn	**Sn**	**13 30 36.8**	**+0.1**
BRY	**Bratogost**	**4.31**	**86**	*i*Pn	**Pn**	**13 29 47.2**	**+0.6**
BRY				*e*Sn	**Sn**	**13 30 38.1**	**+1.2**
DOI	**San Damiano**	**4.33**	**296**	Pn	**Pn**	**13 29 47.7**	**+0.8**
	82nm,0.4s						
SCE	**Schlegeis**	**4.35**	**351**	*i*Pn	**Pn**	**13 29 48.3**	**+1.1**
KBA	**Koelnbreinsper**	**4.36**	**6**	*i*Pn	**Pn**	**13 29 48.3**	**+1.1**
	comp=Z,108nm,0.5s,SNR=19						
KBA	**Koelnbreinsper**	**4.36**	**6**	*i*Sn	**Sn**	**13 30 38.0**	**-0.2**
KBA	**Koelnbreinsper**	**4.36**	**6**	Pn	**Pn**	**13 29 48.3**	**+1.0**
	108nm,0.5s,SNR=19						
KBA				Sn	**Sn**	**13 30 38.0**	**-0.2**
FRF	**La Foret Royal**	**4.50**	**282**	*e*Pn	**Pn**	**13 29 48.3**	**-1.0**
FRF				*e*Sn	**Sn**	**13 30 36.8**	**-5.0**
	95nm,0.7s						
DAVOX	**Davos**	**4.50**	**335**	Pn	**Pn**	**13 29 50.0**	**+0.6**
	23nm,0.3s,baz=150,slow=16,SNR=71						
DAVOX				Sn	**Sn**	**13 30 41.2**	**-0.7**
	10nm,0.3s,baz=160,slow=20,SNR=3.2						
DAVOX				LR	LR	13 31 39.7	
	comp=Z,208nm,20.1s,baz=148,slow=40						
DAVOX	**Davos**	**4.50**	**335**	Pn	**Pn**	**13 29 50.0**	**+0.6**
DAVOX				Sn	**Sn**	**13 30 41.2**	**-0.7**
DAVOX				LR	LR	13 31 39.7	
LMR	**La Mourre**	**4.57**	**279**	*e*Pn	**Pn**	**13 29 49.3**	**-1.0**
LMR				*e*Sn	**Sn**	**13 30 38.1**	**-5.5**
	48nm,0.7s						
WTTA	**Wattenberg**	**4.58**	**351**	*i*Pn	**Pn**	**13 29 51.8**	**+1.4**
	comp=Z,56nm,0.3s,SNR=32						
WTTA	**Wattenberg**	**4.58**	**351**	*i*Sn	**Sn**	**13 30 45.2**	**+1.4**
WTTA	**Wattenberg**	**4.58**	**351**	Pn	**Pn**	**13 29 51.8**	**+1.3**
	55nm,0.3s,SNR=32						
WTTA				Sn	**Sn**	**13 30 45.2**	**+1.4**
UPM	**Unac-Piva**	**4.58**	**82**	*i*Pn	**Pn**	**13 29 51.6**	**+1.0**
UPM				*e*Sn	**Sn**	**13 30 44.4**	**+0.4**
SQTA	**Sankt Quirin**	**4.59**	**347**	*i*Pn	**Pn**	**13 29 51.7**	**+1.0**
	comp=Z,67nm,0.3s,SNR=27						
SQTA	**Sankt Quirin**	**4.59**	**347**	*i*Sn	**Sn**	**13 30 46.4**	**+2.2**
BUM	**Brajici-Budva**	**4.61**	**93**	*i*Pn	**Pn**	**13 29 51.7**	**+0.9**
BUM				*e*Sn	**Sn**	**13 30 45.0**	**+0.4**
SURF	**Saint Ours**	**4.61**	**294**	P	**Pn**	**13 29 52.2**	**+1.3**
NKY	**Niksic**	**4.64**	**87**	*i*Pn	**Pn**	**13 29 52.0**	**+0.6**
NKY				*e*Sn	**Sn**	**13 30 46.1**	**+0.7**
WATA	**Walderalm**	**4.66**	**351**	*i*Pn	**Pn**	**13 29 52.4**	**+0.8**
	comp=Z,134nm,0.5s,SNR=23						
WATA	**Walderalm**	**4.66**	**351**	*i*Sn	**Sn**	**13 30 47.9**	**+2.1**
	comp=Z,9.0nm,0.0s						
TIP	**Timpagrande**	**4.71**	**138**	*e*Pn	**Pn**	**13 29 55.4**	**+3.1**
MBDF	**Montbardon**	**4.72**	**297**	*e*P	**Pn**	**13 29 53.2**	**+0.7**
MBDF				*e*Sn	**Sn**	**13 30 42.1**	**-5.4**
	122nm,0.7s						
MBDF	**Montbardon**	**4.72**	**297**	*e*P	**Pn**	**13 29 49.9**	**-2.6**
MBDF				*e*		13 30 42.1	
MBDF	**Montbardon**	**4.72**	**297**	*e*Pn	**Pn**	**13 29 49.9**	**-2.6**
MBDF				*e*P		13 29 53.2	
MBDF				*e*Sn	**Sn**	**13 30 42.1**	**-5.4**
MBDF	**Montbardon**	**4.72**	**297**	*e*P	**Pn**	**13 29 53.2**	**+0.7**
MBDF				*e*Sn	**Sn**	**13 30 42.1**	**-5.4**
	61nm,0.7s						
MOTA	**Moosalm**	**4.73**	**347**	*i*Pn	**Pn**	**13 29 53.6**	**+0.9**
	comp=Z,59nm,0.4s,SNR=24						
MOTA	**Moosalm**	**4.73**	**347**	*i*Sn	**Sn**	**13 30 49.1**	**+1.3**
TTG	**Podgorica**	**4.86**	**92**	*i*Pn	**Pn**	**13 29 54.6**	**+0.2**
TTG				*e*Sn	**Sn**	**13 30 50.8**	**-0.1**
BGLD	**Berchtesgaden**	**4.91**	**3**	*i*Pn	**Pn**	**13 29 56.4**	**+1.2**
BNI	**Bardonecchia**	**4.92**	**300**	*e*Pn	**Pn**	**13 29 55.8**	**+0.6**
BNI	**Bardonecchia**	**4.92**	**300**	*e*Pn	**Pn**	**13 29 55.8**	**+0.5**
ULC	**Ulcinj**	**4.92**	**97**	*i*Pn	**Pn**	**13 29 55.7**	**+0.4**
ULC				*e*Sn	**Sn**	**13 30 52.4**	**-0.1**
TAVF	**Tavernes**	**4.93**	**282**	P	**Pn**	**13 29 55.8**	**+0.4**
ARSA	**Arzberg**	**4.93**	**23**	*e*Pn	**Pn**	**13 29 55.0**	**-0.5**
	comp=Z,35nm,0.3s,SNR=14						
ARSA	**Arzberg**	**4.93**	**23**	*i*Sn	**Sn**	**13 30 50.2**	**-2.5**
ARSA	**Arzberg**	**4.93**	**23**	Pn	**Pn**	**13 29 55.0**	**-0.4**
	35nm,0.3s,SNR=14						
ARSA				Sn	**Sn**	**13 30 50.2**	**-2.5**
PLE	**Pljevlja**	**4.95**	**81**	*i*Pn	**Pn**	**13 29 57.1**	**+1.4**
PLE				*e*Sn	**Sn**	**13 30 53.2**	**+0.1**
DAVA	**Damuels**	**4.96**	**337**	*i*Pn	**Pn**	**13 29 57.0**	**+1.2**
	comp=Z,69nm,0.5s,SNR=24						
DAVA	**Damuels**	**4.96**	**337**	*i*Sn	**Sn**	**13 30 56.0**	**+2.6**
RHK3	**Tenkes**	**5.08**	**50**	*e*P	**Pn**	**13 29 56.7**	**-0.8**
LPG	**La Plagne**	**5.08**	**305**	*e*P	**Pn**	**13 29 58.7**	**+1.1**
LPG				*e*Sn	**Sn**	**13 30 48.4**	**-8.2**
	94nm,0.6s						
STOF	**St-Etienne Org**	**5.10**	**286**	P	**Pn**	**13 30 00.3**	**+2.5**
RHK1	**Bakonya**	**5.10**	**47**	*i*P	**Pn**	**13 29 57.0**	**-0.9**
LPL	**La Plagne**	**5.11**	**305**	*e*P	**Pn**	**13 29 58.7**	**+0.8**
LPL				*e*Sn	**Sn**	**13 30 49.7**	**-7.4**
	105nm,0.7s						
BERF	**Bertagne**	**5.16**	**279**	P	**Pn**	**13 29 59.4**	**+0.7**
PUYF	**Puyloubier**	**5.18**	**281**	P	**Pn**	**13 29 59.3**	**+0.4**
VILF	**Villemus**	**5.21**	**285**	P	**Pn**	**13 30 00.4**	**+1.0**
MOA	**Molln**	**5.22**	**12**	*e*Pn	**Pn**	**13 29 59.7**	**+0.1**
	comp=Z,55nm,0.4s,SNR=71						
MOA	**Molln**	**5.22**	**12**	*i*Pn	**Sn**	**13 30 58.5**	**-1.5**
MOA	**Molln**	**5.22**	**12**	Pn	**Pn**	**13 29 59.7**	**+0.2**
	55nm,0.4s,SNR=71						
MOA				Sn	**Sn**	**13 30 58.5**	**-1.5**
IVA	**Berane**	**5.30**	**86**	*e*Pn	**Pn**	**13 30 01.8**	**+1.1**
IVA				*e*Sn	**Sn**	**13 31 01.7**	**-0.4**
SMRF	**Simiane la Rot**	**5.33**	**286**	*e*Pn	**Pn**	**13 29 59.7**	**-1.4**
SMRF				*e*Sn	**Sn**	**13 30 56.1**	**-6.7**
	39nm,0.6s						
GDM	**Grand'Maison**	**5.34**	**300**	P	**Pn**	**13 30 04.7**	**+3.4**
PVY	**Plav**	**5.37**	**89**	*i*Pn	**Pn**	**13 30 02.5**	**+0.8**
PVY				*e*Sn	**Sn**	**13 31 03.4**	**-0.4**
ORIF	**Oris-en-Rattie**	**5.38**	**296**	*e*P	**Pn**	**13 30 03.8**	**+2.0**
ORIF				*e*Sn	**Sn**	**13 30 55.9**	**-8.2**
	113nm,0.7s						
ORIF				*e*R			
	448nm,15.8s						
DIVS	**Divcibare**	**5.49**	**73**	*e*Pn	**Pn**	**13 30 03.2**	**-0.1**
DIVS				Sn	**Sn**	**13 31 05.3**	**-1.3**
PKSM	**Moragy**	**5.49**	**49**	*i*eP	**Pn**	**13 30 02.7**	**-0.6**
SOP	**Sopron**	**5.64**	**28**	*i*Pn	**Pn**	**13 30 05.0**	**-0.4**
GRUS	**Gruza**	**5.96**	**76**	*e*Pn	**Pn**	**13 30 09.6**	**-0.4**
GRUS				Sn	**Sn**	**13 31 16.7**	**-1.9**
BBS	**Basel-Blauen**	**5.97**	**324**	P	**Pn**	**13 30 10.2**	**+0.1**
VKA	**Vienna**	**6.08**	**24**	*i*Pn	**Pn**	**13 30 11.9**	**+0.3**
VKA	**Vienna**	**6.08**	**24**	*i*Sn	**Sn**	**13 31 15.9**	**-5.5**
CABF	**La Chapelle**	**6.09**	**312**	*e*Pn	**Pn**	**13 30 11.7**	**-0.1**
CABF				*e*Sn	**Sn**	**13 31 14.3**	**-7.5**
	54nm,0.6s						
GEC2	**GERESS Array S**	**6.14**	**6**	*e*Pn	**Pn**	**13 30 11.4**	**-1.1**
GEC2				*e*Sn	**Sn**	**13 31 19.6**	**-3.4**
GERES	**GERESS Array B**	**6.14**	**6**	Pn	**Pn**	**13 30 11.8**	**-0.7**
	4.8nm,0.3s,baz=167,slow=13,SNR=26						
GERES				Sn	**Sn**	**13 31 18.8**	**-4.2**
	36nm,0.3s,baz=183,slow=23,SNR=20						
GERES	**GERESS Array B**	**6.14**	**6**	P	**Pn**	**13 30 11.8**	**-0.7**
GERES						13 31 18.8	
GERES				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GERES				smax			
	comp=N,36nm,0.3s						
PKSG		**6.15**	**39**	*e*P	**Pn**	**13 30 12.8**	**+0.1**
VIVF	**Saint-Julien-l**	**6.17**	**293**	*e*Pg	Pn	13 30 33.7	+21
VIVF				*e*Sn	**Sn**	**13 31 15.4**	**-8.5**
	comp=N,38nm,0.9s						
VIVF	**Saint-Julien-l**	**6.17**	**293**	*e*Pn	**Pn**	**13 30 11.8**	**-1.2**
VIVF				*e*Pg	Pn	13 30 33.7	+21
VIVF				*e*Sn	**Sn**	**13 31 15.4**	**-8.5**
VIVF	**Saint-Julien-l**	**6.17**	**293**	*e*Pn	**Pn**	**13 30 11.8**	**-1.2**
VIVF				*e*Sn	**Sn**	**13 31 15.4**	**-8.5**
	comp=N,19nm,0.9s						
LOMF	**Lomont**	**6.20**	**320**	P	**Pn**	**13 30 12.7**	**-0.6**
LOMF				S	**Sn**	**13 31 21.4

MORC	**Moravsky Berou**	**7.79**	**24**	*e*Pn		**Pn**		**13 30 29.5**	**-6.2**
	comp=Z,9.2nm,0.6s								
MORC				*e*Sn		**Sn**		**13 31 59.1**	**-5.2**
MORC	**Moravsky Berou**	**7.79**	**24**	*e*Sn		**Sn**		**13 31 58.6**	**-5.7**
SSF	**Saint Saulge**	**7.82**	**307**	*e*Pn		**Pn**		**13 30 33.9**	**-2.1**
SSF				*e*Sn		**Sn**		**13 31 54.7**	**-10**
	comp=Z,14nm,0.7s								
MEZF	**Maizieres J'vi**	**7.86**	**320**	*e*Pn		**Pn**		**13 30 33.1**	**-3.5**
MEZF				*e*Sn		**Sn**		**13 31 55.2**	**-11**
	comp=Z,76nm,0.9s								
PVCC	**Panska Ves**	**7.89**	**9**	*e*PN		**Pn**		**13 30 35.4**	**-1.6**
KECS	**Kecovo**	**7.92**	**41**	*e*PN		**Pn**		**13 30 37.5**	**+0.1**
KECS				*e*SN		**Sn**		**13 32 01.8**	**-5.7**
MOX	**Moxa**	**7.94**	**355**	*i* P		**Pn**		**13 30 36.6**	**-1.1**
MOX				S		**Sn**		**13 32 00.0**	**-7.9**
MOX	**Moxa**	**7.94**	**355**	*e*Pn		**Pn**		**13 30 36.6**	**-1.1**
MOX				*e*Sg		**Sn**		**13 32 00.7**	**-7.2**
ABH	**Alteburg**	**7.97**	**335**	P		**Pn**		**13 30 38.2**	**0.0**
RUP	**Ruppelstein**	**7.97**	**333**	P		**Pn**		**13 30 37.3**	**-0.9**
BGF	**Bois d'Agland**	**7.99**	**302**	*e*Pn		**Pn**		**13 30 37.3**	**-1.1**
BGF				*e*Sn		**Sn**		**13 31 59.3**	**-10**
	comp=Z,29nm,0.5s								
CAF	**Calviac**	**7.99**	**289**	*e*Pn		**Pn**		**13 30 37.4**	**-1.0**
DPC	**Dobruska-Polom**	**8.01**	**17**	*e*PN		**P**		**13 30 36.0**	**-2.7**
DPC				*e*SN		**Sn**		**13 32 02.6**	**-7.0**
OKC	**Ostrava-Krasne**	**8.03**	**26**	*e*SN		**Sn**		**13 32 04.1**	**-6.2**
UPC	**Upice**	**8.09**	**15**	*e*PN		**P**		**13 30 37.6**	**-2.2**
BRG	**Berggiesshubel**	**8.17**	**6**	P		**P**		**13 30 41.7**	**+0.7**
BRG								13 32 06.6	
BRG				smax					
	comp=N,28nm,0.6s								
DRGR		**8.19**	**57**	⇓P		**P**		**13 30 40.4**	**-0.9**
MMB	**Musomiste**	**8.28**	**94**	*i* P		**P**		**13 30 41.0**	**-1.5**
TCF	**Toulx Ste Croi**	**8.28**	**299**	*e*Pn		**P**		**13 30 40.0**	**-2.5**
TCF				*e*Sn		**Sn**		**13 32 07.6**	**-9.0**
	comp=N,21nm,0.7s								
RJF	**Les Rejaudoux**	**8.45**	**291**	*e*Pn		**P**		**13 30 43.1**	**-1.7**
PGB	**Panagyurishte**	**8.46**	**87**	*i* P		**P**		**13 30 45.0**	**0.0**
KSP	**Ksiaz**	**8.46**	**16**	*e*P		**P**		**13 30 43.6**	**-1.5**
KSP	**Ksiaz**	**8.46**	**16**	*e*P		**P**		**13 30 43.4**	**-1.7**
KSP				*e*Sn		**Sn**		**13 32 12.6**	**-8.5**
KSP				*e*Sg		Sn		13 33 11.0	+50
KSP	**Ksiaz**	**8.46**	**16**	*e*Sn		**Sn**		**13 32 12.6**	**-8.5**
CLL	**Collm**	**8.57**	**1**	*i* PN		**P**		**13 30 46.3**	**-0.2**
CLL				*i* SN		**Sn**		**13 32 16.8**	**-6.8**
CLL				*i* SG		Sn		13 33 28.9	+65
CRVS	**Cervenica-Dubn**	**8.68**	**42**	*e*PN		**P**		**13 30 48.3**	**+0.3**
LFF	**La Frestale**	**8.91**	**288**	*e*Pn		**P**		**13 30 48.6**	**-2.7**
STHS	**Stebnicka Huta**	**8.93**	**39**	*e*PN		**P**		**13 30 51.2**	**-0.3**
RZN	**Rozhen**	**8.99**	**93**	*i* P		**P**		**13 30 52.0**	**-0.3**
EPF	**Esparros**	**9.07**	**276**	*e*Pg		Px		13 31 28.4	
GIVF	**Givet**	**9.14**	**326**	*e*Pn		**P**		**13 30 48.8**	**-5.6**
GIVF				*e*Sn		**Sn**		**13 32 26.4**	**-11**
	comp=N,62nm,1.0s								
VOIR		**9.29**	**69**	⇓P		**P**		**13 30 57.9**	**+1.4**
BAIF	**Baives**	**9.37**	**324**	*e*Pn		**P**		**13 30 51.9**	**-5.6**
BAIF				*e*Sn		**Sn**		**13 32 31.7**	**-12**
	comp=N,112nm,1.3s								
KDZ	**Kurdzhali**	**9.51**	**92**	*i* P		**P**		**13 30 58.0**	**-1.4**
ETSF	**Etsaut**	**9.74**	**275**	*e*P		**P**		**13 31 03.7**	**+1.1**
KWP	**Kalwaria**	**9.77**	**42**	*e*P		**P**		**13 31 06.3**	**+3.3**
MLR	**Muntele Rosu**	**9.92**	**69**	Pn		**P**		**13 31 05.9**	**+0.8**
	comp=N,2.0nm,0.3s,baz=129,slow=19,SNR=16								
MLR	**Muntele Rosu**	**9.92**	**69**	P		**P**		**13 31 05.9**	**+0.8**
MLR				pmax	pmax				
	comp=Z,2.0nm,0.3s								
MFF	**Saint Martin d**	**9.92**	**297**	*e*Pn		**P**		**13 30 59.5**	**-5.6**
TIRR	**Tirgusor**	**11.53**	**76**	*e*P		**P**		**13 31 22.1**	**-5.0**
IDI	**Anoyia**	**12.05**	**124**	Pn		**P**		**13 31 35.2**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=321,slow=17,SNR=3.3								
IDI				Sn		**S**		**13 33 42.3**	**-6.8**
	comp=Z,0.4nm,0.3s,baz=307,slow=21,SNR=2.3								
ESDC	**Sonseca Array**	**12.91**	**262**	Pn		**P**		**13 31 44.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=330,slow=15,SNR=2.7								
SUW	**Suwalki**	**13.23**	**28**	*e*P		**P**		**13 31 47.9**	**-2.0**
AKASG	**Malin Array Be**	**13.83**	**49**	Pn		**P**		**13 31 56.4**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=353,slow=7.5,SNR=3.5								
AKASG	**Malin Array Be**	**13.83**	**49**	P		**P**		**13 31 56.4**	**-1.2**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG	**Malin Array Be**	**13.83**	**49**	Pn		**P**		**13 31 56.3**	**-1.3**
BRTR	**Keskin Array B**	**16.04**	**94**	Pn		**P**		**13 32 30.1**	**+3.6**
	comp=Z,0.1nm,0.3s,baz=287,slow=9.9,SNR=10.0								
EKA	**Eskdalemuir Ar**	**16.28**	**326**	Pn		**P**		**13 32 29.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=141,slow=14,SNR=3.5								
MDT	**Midelt**	**16.87**	**240**	LR		LR		13 38 08.1	
	comp=Z,53nm,19.2s,baz=131,slow=33								
HFS	**Hagfors**	**17.42**	**2**	P		**P**		**13 32 44.2**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=197,slow=20,SNR=3.6								
NB2	**NORSAR Subarra**	**18.34**	**358**	P		**P**		**13 32 56.3**	**+1.0**
	comp=Z,31nm,1.7s,baz=175,slow=11								
NB2	**NORSAR Subarra**	**18.34**	**358**	P		**P**		**13 32 56.3**	**+1.0**
NB2				pmax	pmax				
	comp=Z,31nm,1.7s								
NOA	**NORSAR Array B**	**18.34**	**358**	P		**P**		**13 32 55.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=176,slow=11,SNR=5.8								
OBN	**Obninsk**	**19.86**	**43**	⇑*e*P		**P**		**13 33 12.4**	**-0.7**
OBN				pmax	pmax				
	comp=Z,30nm,1.1s								
OBN	**Obninsk**	**19.86**	**43**	*e*P		**P**		**13 33 12.4**	**-0.7**
	comp=Z,30nm,1.1s								
VRSR	**Storozhevoye**	**19.88**	**56**	*e*P		**P**		**13 33 11.9**	**-1.4**
VRSR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
VRSR				pmax	pmax				
	comp=N,2.0nm,0.9s								
VRSR				pmax	pmax				
	comp=E,3.0nm,0.9s								
VRSR	**Storozhevoye**	**19.88**	**56**	*e*P		**P**		**13 33 11.9**	**-1.4**
	comp=E,2.0nm,0.8s								
FINES	**FINESS Array B**	**20.37**	**19**	P		**P**		**13 33 17.2**	**-1.2**
	comp=E,5.4nm,0.7s,baz=194,slow=7.9,SNR=8.8								
FINES	**FINESS Array B**	**20.37**	**19**	P		**P**		**13 33 17.2**	**-1.2**
FINES				pmax	pmax				
	comp=Z,5.0nm,0.7s								
MOS	**Moscow**	**20.69**	**42**	*e*P		**P**		**13 33 21.6**	**-0.1**
MOS				*e*				13 33 42.2	
MOS				pmax	pmax				
	comp=Z,68nm,1.5s								
MOS	**Moscow**	**20.69**	**42**	*e*P		**P**		**13 33 21.6**	**-0.1**
	comp=E,68nm,1.5s								
KAF	**Kangasniemi**	**21.01**	**18**	*e*p		**P**		**13 33 26.0**	**+1.0**
	comp=Z,5.1nm,0.6s,mb4.0								
KAF	**Kangasniemi**	**21.01**	**18**	*e*P		**P**		**13 33 26.0**	**+1.0**
KAF				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.0								
KIV	**Kislovodsk**	**21.79**	**77**	*e*P		**P**		**13 33 34.5**	**+1.5**
KIV				pmax	pmax				
	comp=Z,52nm,1.2s,mb4.8								
KIV				MLR	MLR				
	comp=Z,66nm,17.0s,MS3.1								
JOF	**Joensuu**	**22.96**	**22**	*e*p		**P**		**13 33 48.5**	**+4.2**
	comp=Z,9.1nm,1.0s,mb4.2								
JOF	**Joensuu**	**22.96**	**22**	*e*P		**P**		**13 33 48.5**	**+4.2**
JOF				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.2								
GNI	**Garni**	**24.09**	**85**	P		**P**		**13 33 58.7**	**+3.2**
	comp=Z,3.5nm,0.4s,mb4.2,baz=35,slow=12,SNR=2.9								
GNI	**Garni**	**24.09**	**85**	P		**P**		**13 33 58.7**	**+3.2**
GNI				pmax	pmax				
	comp=Z,4.0nm,0.4s								
KLMR	**Klimovskoe**	**24.28**	**32**	*e*P		**P**		**13 34 02.9**	**+5.7**
KLMR				pmax	pmax				
	comp=Z,40nm,1.4s,mb4.7								
ARCES	**ARCESS Array B**	**27.66**	**10**	P		**P**		**13 34 29.6**	**+1.0**
	comp=Z,3.0nm,0.9s,mb3.9,baz=180,slow=8.5,SNR=4.6								
ARCES	**ARCESS Array B**	**27.66**	**10**	P		**P**		**13 34 29.6**	**+1.0**
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**30.99**	**201**	P		**P**		**13 34 59.0**	**+0.1**
	comp=Z,4.1nm,0.7s,mb4.3,baz=12,slow=9.0,SNR=30								
ZRNK	**Zerenda**	**38.22**	**54**	*e*P		**P**		**13 36 00.9**	**+0.4**
ZRNK				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.2								
ZRNK	**Zerenda**	**38.22**	**54**	*e*P		**P**		**13 36 00.9**	**+0.4**
	comp=Z,4.9nm,1.0s,mb4.2								
CHKZ	**Chkalovo**	**39.08**	**53**	*e*P		**P**		**13 36 07.9**	**+0.2**
CHKZ				pmax	pmax				
	comp=Z,6.0nm,1.2s,mb4.2								
CHKZ	**Chkalovo**	**39.08**	**53**	*e*P		**P**		**13 36 07.8**	**+0.1**
	comp=Z,5.8nm,1.2s,mb4.2								
CHKZ	**Chkalovo**	**39.08**	**53**	*e*P		**P**		**13 36 07.8**	**+0.1**
	comp=Z,5.8nm,1.2s,mb4.2								
DBIC	**Dimbokro**	**39.13**	**208**	LR		LR		13 53 00.7	
	comp=Z,86nm,18.2s,MS3.6,baz=322,slow=37								

AAK	**Ala-Archa**	**44.50**	**68**	*e*P		**P**		**13 36 51.8**	**-0.4**
KURK	**Kurchatov**	**44.52**	**56**	⇑*e*P		**P**		**13 36 53.1**	**+0.9**
MKAR	**Makanchi Array**	**48.10**	**60**	P		**P**		**13 37 20.8**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.4,baz=288,slow=6.3,SNR=18								
MKAR	**Makanchi Array**	**48.10**	**60**	P		**P**		**13 37 20.8**	**+0.2**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
SCHQ	**Schefferville**	**51.02**	**313**	P		**P**		**13 37 41.9**	**-0.9**
	comp=Z,4.3nm,0.8s,mb4.4,baz=180,slow=3.0,SNR=4.4								
SCHQ	**Schefferville**	**51.02**	**313**	P		**P**		**13 37 41.9**	**-0.9**
WMQ	**Urumqi**	**52.80**	**61**	*e*P		**P**		**13 37 56.9**	**+0.4**
WMQ				AP	pP			13 38 01.8	-0.3
WMQ				XP	sP			13 38 03.9	-0.4
WMQ				AMB	AMB				
	comp=Z,50nm,5.0s								
WMQ				LR	LR				
	comp=N,450nm,22.2s,MS4.7								
WMQ				LR	LR				
	comp=E,500nm,21.2s,MS4.7								
WMQ				LR	LR				
	comp=Z,520nm,22.0s,MS4.5								
TIXI	**Tiksi**	**57.41**	**20**	*e*P		**P**		**13 38 28.7**	**-0.9**
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.2s,mb4.2								
TIXI	**Tiksi**	**57.41**	**20**	*e*P		**P**		**13 38 28.7**	**-0.9**
	comp=Z,3.0nm,1.2s,mb4.2								
LSZ	**Lusaka**	**59.47**	**163**	*e*P		**P**		**13 38 37.5**	**-7.1**
SONM	**Songino Array**	**62.12**	**50**	P		**P**		**13 39 02.1**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.2,baz=290,slow=9.3,SNR=7.1								
SONM	**Songino Array**	**62.12**	**50**	P		**P**		**13 39 02.1**	**-0.1**
SONM				pmax	pmax				
	comp=Z,2.0nm,0.9s								
YAK	**Yakutsk**	**63.97**	**28**	P		**P**		**13 39 06.5**	**-7.6**
YAK				pmax	pmax				
	comp=Z,12nm,0.8s,mb5.0								
YAK	**Yakutsk**	**63.97**	**28**	P		**P**		**13 39 06.5**	**-7.7**
	comp=Z,12nm,0.8s,mb5.0								
INK	**Inuvik**	**66.41**	**347**	P		**P**		**13 39 29.2**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=40,slow=18,SNR=7.2								
INK	**Inuvik**	**66.41**	**347**	P		**P**		**13 39 29.2**	**-0.5**
INK				pmax	pmax				
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**66.41**	**347**	*e*P		**P**		**13 39 28.7**	**-1.0**
	comp=Z,5.5nm,1.2s,mb4.5								
YKA	**Yellowknife Ar**	**66.94**	**336**	P		**P**		**13 39 32.6**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.2,baz=41,slow=5.9,SNR=22								
YKA	**Yellowknife Ar**	**66.94**	**336**	P		**P**		**13 39 32.7**	**-0.5**
LZH	**Lanzhou**	**67.38**	**61**	*e*P		**P**		**13 39 35.6**	**-0.9**
LZH				AP	pP			13 39 38.9	-3.3
LZH				PP	PP			13 42 04.5	-2.3
LZH				AMB	AMB				
	comp=Z,20nm,1.4s,mb5.0								
LZH				AMB	AMB				
	comp=Z,40nm,7.3s								
LZH				LR	LR				
	comp=N,210nm,15.5s								
LZH				LR	LR				
	comp=Z,290nm,18.3s,MS4.5								
ULM	**Lac du Bonnet**	**68.41**	**319**	P		**P**		**13 39 40.6**	**-2.0**
	comp=Z,3.0nm,1.1s,mb4.2,baz=134,slow=6.7,SNR=3.0								
ILAR	**Eielson Array**	**71.63**	**351**	P		**P**		**13 40 02.5**	**+0.5**
	comp=Z,1.5nm,0.9s,mb3.9,baz=359,slow=6.1,SNR=12								
ILAR	**Eielson Array**	**71.63**	**351**	P		**P**		**13 40 02.6**	**+0.6**
ILAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
CN2	**Changchun**	**74.92**	**44**	*e*P		**P**		**13 40 20.3**	**-1.3**
NJ2	**Nanjing**	**79.45**	**56**	*e*P		**P**		**13 40 47.9**	**+0.9**
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.5s,mb5.0								
PDAR	**Pinedale Array**	**80.32**	**321**	LR		LR		14 20 35.1	
	comp=Z,62nm,18.3s,MS4.0,baz=103,slow=39								
SSE	**Sheshan**	**81.54**	**55**	P		**P**		**13 40 56.3**	**-1.8**

*IDC **15** 13:32:46.4±0.8, 5.35N×126.34E, mb4.0/7, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, MS3.5/3, Ms1 3.6/3, ms1mx3.1/24, Error ellipse: s-maj=63.5km s-min=17.3km az=74.0*

*MAN **15** 13:32:47.9, 4.83N×126.62E, h53km, mb4.7, ML3.6, MS3.6*
*NEIC **15** 13:32:51.3±0.6, 5.38N×126.54E, h35km, mb4.2/5, Error ellipse: s-maj=42.6km s-min=10.8km az=72.0*

ISC 15 13:32:54.8±1.1, 5.18N±0.07×126.3E±0.1, h83km±11km, n25, σ1$40/26, mb4.0/10, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.57**	**305**	⇑*i*P			**P**	**13 33 19.1**	**-2.5**
GSPH				*i* S			**S**	**13 33 41.8**	**+0.3**
MATI	**Mati**	**1.75**	**0**	*e*P			**P**	**13 33 21.5**	**-2.5**
MATI				*e*S			**S**	**13 33 48.0**	**+2.5**
BUKP	**Musuan**	**2.92**	**336**	*e*P			**P**	**13 33 39.6**	**-0.6**
BUKP				*e*S			**S**	**13 34 17.0**	**+2.6**
BUTP	**Butuan**	**3.81**	**351**	*e*S			**S**	**13 34 36.5**	**+0.1**
PAGZ	**Pagadian**	**3.89**	**313**	*e*P			**P**	**13 33 54.4**	**+0.8**
IPIL	**Ipil**	**4.47**	**306**	*e*P			**P**	**13 33 57.4**	**-4.3**
IPIL				*e*S			**S**	**13 34 58.9**	**+6.0**
GUMO	**Guam**	**20.17**	**64**	LR			LR	13 43 13.5	
	comp=Z,99nm,20.7s,baz=80,slow=31								
FITZ	**Fitzroy Crossi**	**23.14**	**181**	*e*P			**P**	**13 37 57.1**	**+2.5**
	7.8nm,0.8s,mb4.1								
FITZ	**Fitzroy Crossi**	**23.14**	**181**	P			**P**	**13 37 55.8**	**+1.2**
	1.8nm,0.8s,mb3.5,baz=25,slow=11,SNR=7.1								
PMG	**Port Moresby**	**25.39**	**125**	LR			LR	13 46 39.9	
	comp=Z,61nm,21.9s,baz=86,slow=33								
WRA	**Warramunga Arr**	**26.20**	**163**	P			**P**	**13 38 23.9**	**+0.1**
	3.5nm,0.5s,mb4.0,baz=343,slow=10,SNR=18								
WB2	**Warramunga Arr**	**26.21**	**163**	*e*P			**P**	**13 38 24.4**	**+0.6**
CTAO	**Charters Tower**	**31.90**	**143**	P			**P**	**13 39 11.5**	**-3.1**
NWAO	**Narrogin (SRO)**	**38.85**	**192**	P			**P**	**13 40 08.2**	**-5.4**
	25nm,1.2s,mb4.9								
STKA	**Stephens Creek**	**39.65**	**159**	*e*P			**P**	**13 40 22.0**	**+1.9**
	2.4nm,0.6s,mb4.2								
STKA	**Stephens Creek**	**39.65**	**159**	P			**P**	**13 40 22.1**	**+2.0**
	2.8nm,0.6s,mb4.2,baz=340,slow=10,SNR=6.3								
YSS	**Yuzh-Sakhalins**	**43.98**	**16**	P			**P**	**13 40 45.5**	**-10**
	178nm,1.8s								
ULN	**Ulaanbaatar**	**45.60**	**342**	*e*P			**P**	**13 41 08.1**	**-0.3**
	2.7nm,0.9s,mb4.0								
SONM	**Songino Array**	**45.77**	**341**	P			**P**	**13 41 09.5**	**-0.2**
	0.5nm,0.7s,mb3.4,baz=156,slow=8.9,SNR=3.4								
MKAR	**Makanchi Array**	**56.09**	**325**	P			**P**	**13 42 27.1**	**-0.7**
	1.2nm,0.5s,mb4.2,baz=122,slow=7.7,SNR=24								
MKAR				PcP		PcP		13 43 25.1	+0.5
	1.5nm,0.7s,baz=125,slow=4.2,SNR=7.4								
ZRNK	**Zerenda**	**66.58**	**326**	*e*P			**P**	**13 43 36.6**	**-1.6**
	1.4nm,0.5s,mb4.0								
ILAR	**Eielson Array**	**84.01**	**25**	P			**P**	**13 45 17.4**	**+0.5**
	0.5nm,1.0s,mb3.3,baz=202,slow=7.7,SNR=3.1								
ARCES	**ARCESS Array B**	**88.93**	**340**	P			**P**	**13 45 40.9**	**+0.2**
	5.0nm,0.9s,mb4.5,baz=63,slow=5.4,SNR=7.7								
ARCES	**ARCESS Array B**	**88.93**	**340**	P			**P**	**13 45 40.9**	**+0.2**
NOA	**NORSAR Array B**	**97.28**	**334**	LR			LR	14 37 02.1	
	comp=Z,51nm,19.1s,baz=140,slow=40								

*CSEM **15** 13:45:02.2±0.6, 11.97N×43.77E, h2km, ML3.9, Error ellipse: s-maj=13.1km s-min=11.8km az=77.0, After DHMR*

DHMR 15 13:45:02.2±1.6, 11.97N×43.77E, h2km±10km, ML3.9, 3C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.30**	**15**	*i* P			Pb	13 45 27.1	+0.1
TRBA				*i* S			Sb	13 45 44.6	+0.6
TRBA				AML		AML		13 45 48.2	
	comp=E,2μm,0.6s								
UDYN	**Al 'Udayn**	**2.00**	**6**	*i* P			Pn	13 45 38.1	+0.8
UDYN				*i* S			Sn	13 46 06.7	+3.5
UDYN				AML		AML		13 46 14.9	
	comp=N,1μm,0.6s								
UDYN	**Al 'Udayn**	**2.00**	**6**	*i* P			Pn	13 45 38.1	+0.8
UDYN				*i* S			Sn	13 46 06.7	+3.5
	comp=N,627nm,0.6s								
LBOS		**2.38**	**37**	⇑*i* P			Pn	13 45 43.9	+1.1
LBOS				*i* S			Sn	13 46 17.6	+4.7
BDHA	**Al Bayda'**	**2.66**	**41**	⇓*i* P			Pn	13 45 48.7	+2.0
BDHA				*i* S			Sn	13 46 24.6	+4.6
BDHA				AML		AML		13 46 38.1	
	comp=N,1μm,0.6s								
BDHA	**Al Bayda'**	**2.66**	**41**	⇓*i* P			Pn	13 45 48.7	+1.9
BDHA				*i* S			Sn	13 46 24.6	+4.6
	comp=N,679nm,0.6s								
DHBB	**Dhamar BB**	**2.66**	**13**	*i* P			Pn	13 45 49.4	+2.6
DHBB				*i* S			Sn	13 46 24.9	+4.9
HAJJ	**Hajjah**	**3.71**	**358**	⇑*i* P			Pn	13 46 02.2	+0.5
HAJJ				*i* S			Sn	13 46 50.8	+4.1
HAJJ				AML		AML		13 47 03.1	
	comp=E,269nm,0.7s								
HAJJ	**Hajjah**	**3.71**	**358**	⇑*i* P			Pn	13 46 02.2	+0.4
HAJJ				*i* S			Sn	13 46 50.8	+4.1
	comp=E,134nm,0.7s								

*LDG **15** 14:04:24.5±0.1, 46.82N×0.51W, h2km, Md2.6/1, Ml2.5/10, Error ellipse: s-maj=1.3km s-min=0.8km az=46.0*
*CSEM **15** 14:04:24.4±0.1, 46.82N×0.51W, h2km, ML2.6/9, Error ellipse: s-maj=1.5km s-min=0.9km az=49.0*
*STR **15** 14:04:26.0±0.9, 46.66N×0.89W, h10km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **15** 14:04:26.0, 46.66N×0.89W, h10km, ML2.5(LDG), After STR.*

ISC 15 14:04:21.9±0.4, 46.87N±0.02×0.48W±0.04, h13km±6km, n16, σ1$18/28, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LCHF	**La Chataignera**	**0.27**	**223**			Pg	**Pg**	**14 04 29.0**	**+1.2**
LCHF						Sg	**Sg**	**14 04 31.8**	**+0.1**
MFF	**Saint Martin d**	**0.35**	**139**	*e*Pg			**Pg**	**14 04 31.1**	**+1.8**
MFF				*e*Sg			**Sg**	**14 04 35.6**	**+1.4**
	12nm,0.2s								
CHIF	**Chize**	**0.73**	**176**	Pg			**Pg**	**14 04 38.2**	**+1.4**
CHIF				Sg			**Sg**	**14 04 46.6**	**-0.1**
GRR	**Gorron**	**1.54**	**351**	*e*Sg			**Sg**	**14 05 14.6**	**+1.1**
	8.3nm,0.2s								
LDF	**La Druitiere**	**1.75**	**8**	*e*Pg			**Pg**	**14 04 57.9**	**+1.0**
LDF				*e*Sg			**Sg**	**14 05 20.8**	**+0.6**
	5.3nm,0.2s								
FLN	**La Foliniere**	**1.90**	**360**	*e*Sg			**Sg**	**14 05 25.8**	**+0.5**
	9.1nm,0.3s								
TCF	**Toulx Ste Croi**	**1.94**	**106**	*e*Pg			**Pg**	**14 05 00.7**	**-0.1**
TCF				*e*Sg			**Sg**	**14 05 25.3**	**-1.4**
	3.8nm,0.3s								
SGMF	**Saint Gilles**	**1.98**	**315**	*e*Pg			**Pg**	**14 05 01.5**	**0.0**
SGMF				*e*Sg			**Sg**	**14 05 27.4**	**-0.5**
RJF	**Les Rejaudoux**	**2.09**	**138**	*e*Pg			**Pg**	**14 05 02.9**	**-0.8**
RJF				*e*Sg			**Sg**	**14 05 29.8**	**-1.8**
	4.4nm,0.3s								
RJF	**Les Rejaudoux**	**2.09**	**138**	*e*Pn			**Pn**	**14 04 58.9**	**+1.8**
RJF				*e*Pg			**Pg**	**14 05 02.9**	**-0.8**
RJF				*e*Sg			**Sg**	**14 05 29.8**	**-1.8**
RJF	**Les Rejaudoux**	**2.09**	**138**	*e*Pg			**Pg**	**14 05 02.9**	**-0.8**
RJF				*e*Sg			**Sg**	**14 05 29.8**	**-1.8**
	2.2nm,0.3s								
LFF	**La Frestale**	**2.11**	**156**	*e*Pn			**Pn**	**14 04 57.8**	**+0.5**
LFF				*e*Sg			**Sg**	**14 05 31.1**	**-1.0**
	7.2nm,0.3s								
QUIF	**Quistinic**	**2.11**	**301**	*e*Pg			**Pg**	**14 05 03.3**	**-0.8**
QUIF				*e*Sg			**Sg**	**14 05 30.8**	**-1.4**
	1.9nm,0.2s								
BGF	**Bois d'Agland**	**2.31**	**96**	*e*Sg			**Sg**	**14

BOD				*e*Sg	Sg	14 06 23.3	-9.2		
BOD				Smax		14 06 26.1			
	comp=E,682nm,1.5s								
BOD	**Bodaibo**	**3.72**	**280**	*e*P	Pn	14 05 25.8	-2.6		
BOD				*e*		14 06 20.7			
BOD				pmax	pmax				
	comp=Z,82nm,0.5s								
BOD				smax					
	comp=N,677nm,0.9s								
SVKR	**Severomuysk**	**4.22**	**255**	*e*Pg	Pg	14 05 44.7	-8.3		
SVKR				Pmax		14 05 52.0			
	comp=N,193nm,0.6s								
SVKR				*e*Sg	Sg	14 06 39.6	-10		
SVKR				Smax		14 06 55.1			
	comp=N,609nm,0.9s								
UKT	**Uakit**	**4.45**	**248**	*e*Pn	Pn	14 05 37.7	-1.1		
UKT				*e*Pg	Pg	14 05 48.3	-9.2		
UKT				Pmax		14 05 50.9			
	comp=N,81nm,0.7s								
UKT				*e*		14 05 57.3			
UKT				*e*Sg	Sg	14 06 45.3	-12		
UKT				Smax		14 06 53.2			
	comp=N,267nm,1.3s								
UKT	**Uakit**	**4.45**	**248**	*e*P	Pn	14 05 47.9	+9.1		
UKT				pmax	pmax				
	comp=Z,58nm,0.6s								
KROS	**Kirovskiy**	**4.53**	**128**	*e*Pn	Pn	14 05 36.4	-3.6		
KROS				*e*Pg	Pg	14 05 48.1	-11		
KROS				Pmax		14 05 50.2			
	comp=Z,31nm,0.6s								
KROS				*e*Sn	Sn	14 06 25.9	-8.2		
KROS				*e*Sg	Sg	14 06 47.5	-12		
KROS				Smax		14 06 51.5			
	comp=Z,78nm,0.5s								
ZEA	**Zeya**	**5.15**	**133**	*e*Sg	Sg	14 07 05.7	-14		
ZEA				Smax		14 07 07.0			
	comp=Z,700nm,1.5s								
YOA	**Uoyan**	**5.19**	**260**	*e*Pg	Pg	14 06 02.1	-10		
YOA				Pmax		14 06 16.3			
	comp=Z,215nm,0.9s								
YOA				*e*Sg	Sg	14 07 09.4	-12		
YOA				Smax		14 07 27.6			
	comp=Z,2μm,1.5s								
YOA	**Uoyan**	**5.19**	**260**	⇑*i*P	Pn	14 06 02.0	+13		
YOA				pmax	pmax				
	comp=Z,197nm,0.6s								
KMO	**Kumora**	**5.55**	**258**	*e*Pn	Pn	14 05 52.2	-2.1		
KMO				*e*Pg	Pg	14 06 08.0	-11		
KMO				Pmax		14 06 17.3			
	comp=Z,48nm,0.9s								
KMO				*e*Sg	Sg	14 07 19.8	-14		
KMO				Smax		14 07 33.7			
	comp=Z,380nm,1.5s								
KMO	**Kumora**	**5.55**	**258**	*e*P	Pn	14 05 52.2	-2.1		
KMO				*e*S	Sn	14 06 54.2	-5.3		
KMO				pmax	pmax				
	comp=Z,51nm,0.7s								
KMO				smax					
	comp=E,377nm,1.4s								
YLYR	**Ulyunkhan**	**5.98**	**249**	*e*Pn	Pn	14 05 58.9	-1.5		
YLYR				*e*Pg	Pg	14 06 16.1	-12		
YLYR				*e*		14 06 19.7			
YLYR				max		14 06 20.0			
	comp=E,34nm,0.7s								
YLYR				*e*Sg	Sg	14 07 33.9	-14		
YLYR				*e*		14 07 46.0			
YLYR				max		14 07 48.9			
	comp=E,230nm,1.1s								
YLYR	**Ulyunkhan**	**5.98**	**249**	*e*P	Pn	14 05 58.8	-1.6		
YAK	**Yakutsk**	**6.44**	**40**	*e*P	Pn	14 06 00.9	-6.0		
YAK				*e*S	Sn	14 07 13.4	-8.5		
YAK				pmax	pmax				
	comp=Z,2.0nm,0.7s								
YAK				pmax	pmax				
	comp=Z,7.0nm,0.6s								
YAK				smax					
	comp=N,24nm,1.0s								
YAK				smax					
	comp=Z,10.0nm,0.8s								
YAK				smax					
	comp=E,12nm,0.7s								
YAK				smax					
	comp=N,205nm,0.7s								
YAK				smax					
	comp=Z,83nm,0.8s								
YAK				smax					
	comp=E,109nm,0.7s								
YAK				MLR	MLR				
	comp=Z,50nm,7.0s								
NIZ	**Nizh Angarsk**	**6.47**	**260**	*e*Sg	Sg	14 07 48.0	-16		
NIZ				Smax		14 07 53.7			
	comp=Z,102nm,0.9s								
CIT	**Chita**	**6.85**	**221**	*e*Sg	Sg	14 07 59.9	-17		
CIT				Smax		14 08 03.7			
	comp=Z,428nm,1.7s								
SYVR	**Suvo**	**7.21**	**243**	*e*Pg	Pg	14 06 38.6	-14		
SYVR				Pmax		14 06 42.3			
	comp=Z,25nm,1.3s								
SYVR				*e*Sg	Sg	14 08 10.5	-18		
SYVR				Smax		14 08 19.0			
	comp=Z,371nm,2.0s								
OGRR	**Ongureny**	**8.41**	**249**	*e*Sg	Sg	14 08 47.9	-21		
OGRR				Smax		14 09 07.1			
	comp=Z,94nm,1.5s								
KPC	**Khapcheranga**	**9.20**	**217**	*e*Pn	P	14 06 43.5	-2.0		
KPC				*e*Sg	Sg	14 09 12.7	-22		
KPC				Smax		14 09 26.2			
	comp=Z,170nm,1.3s								
TRG	**Tyrgan**	**9.53**	**247**	*e*Sg	Sg	14 09 24.5	-21		
TRG				Smax		14 09 39.3			
	comp=Z,66nm,1.5s								
KAB	**Kabansk**	**9.80**	**243**	*e*Sg	Sg	14 09 32.2	-23		
ARS	**Arshan**	**11.99**	**251**	*e*Sg	S	14 10 38.4	+59		
ARS				Smax		14 11 10.0			
	comp=Z,106nm,1.1s								
MOY	**Mondy**	**12.86**	**252**	*e*Sg	S	14 11 07.8	+68		
MOY				Smax		14 11 16.7			
	comp=Z,59nm,2.0s								
TIXI	**Tiksi**	**14.70**	**10**	*e*P	P	14 07 50.0	-9.1		
TIXI				pmax	pmax				
	comp=Z,5.0nm,0.7s								
TDJR	**Todzha**	**15.06**	**261**	*e*Sg		14 12 15.2			
KURK	**Kurchatov**	**25.34**	**273**	*i* P	P	14 10 03.8	+5.8		

MAN 15 14:06:56.8, 4.94N×124.48E, h31km, mb4.6, ML3.4, MS3.4, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.23**	**22**	⇓*i*P	Pn	14 07 20.0	+1.8
GSPH				*i* S	Sn	14 07 38.3	+4.4
MATI	**Mati**	**2.67**	**41**	*e*P	Pn	14 07 37.3	-1.4
BUKP	**Musuan**	**2.98**	**11**	*e*P	Pn	14 07 39.5	-3.6
BUKP				*e*S	Sn	14 08 21.4	+3.2
PAGZ	**Pagadian**	**3.09**	**339**	*e*P	Pn	14 07 45.0	+0.3
PAGZ				*e*S	Sn	14 08 20.6	-0.4
IPIL	**Ipil**	**3.41**	**326**	*e*P	Pn	14 07 49.6	+0.4
IPIL				*e*S	Sn	14 08 27.9	-1.2

*NNC **15** 14:11:02.8±14.0, 37.02N×70.78E, h108km±268km, mb3.2, mpv4.2, Error ellipse: s-maj=130.4km s-min=109.7km az=39.0*

ISC 15 14:10:55.3±0.8, 36.71N±0.06×71.0E±0.2, h106km±47km, n14, σ0°93/17, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.97**	**165**	⇓P	P	**14 11 41.5**	**-0.2**
CEP				S	S	**14 12 12.0**	**-4.7**
THW	**Thamme Wali**	**3.95**	**171**	P	P	**14 11 54.2**	**-0.8**
SBDP	**Sheikh Budin**	**4.40**	**182**	P	P	**14 12 00.6**	**-0.6**
DRP	**Derazinda**	**4.99**	**188**	P	P	**14 12 09.9**	**+0.6**
AML	**Almayashu** SNR=66	**5.80**	**20**	P	P	**14 12 20.9**	**+0.7**
UCH	**Uchtor** SNR=21	**6.15**	**25**	P	P	**14 12 25.3**	**+0.4**
KZA	**Kyzart** SNR=6.1	**6.29**	**30**	P	P	**14 12 26.4**	**-0.6**
EKS2	**Erkin-Say** SNR=41	**6.32**	**19**	P	P	**14 12 27.9**	**+0.6**
KK31	**Karatay Array** 10nm,0.5s,baz=181,slow=13,SNR=84	**6.40**	**357**	P	P	**14 12 30.0**	**+1.5**
KK31				⇑S	S	**14 13 39.1**	**-1.6**
	9.3nm,0.6s,baz=176,slow=24,SNR=9.2						
KBK	**Karagaybulak** SNR=8.2	**6.68**	**26**	P	P	**14 12 32.4**	**+0.1**
CHMS	**Chumysh** SNR=12	**6.92**	**23**	P	P	**14 12 35.4**	**-0.2**
USP	**Ospenovka** SNR=19	**7.08**	**21**	P	P	**14 12 37.7**	**-0.1**
TKM2	**Tokmak 2** SNR=7.2	**7.14**	**28**	P	P	**14 12 38.2**	**-0.4**
AB31	**Akbulak array** 0.2nm,0.4s	**14.91**	**331**	⇑P	P	**14 14 23.7**	**+2.3**
AB31				⇑S	S	**14 17 02.7**	**-1.3**
	0.9nm,0.5s,baz=146,slow=23,SNR=4.7						

*BJI **15** 15:05:14.0, 9.10S×118.60E, h109km, mB5.1, mb5.1*
*NEIC **15** 15:05:16.4±1.9, 9.09S×118.58E, h110km±19km, mb4.8/12, Error ellipse: s-maj=14.9km s-min=10.1km az=66.0*
*IDC **15** 15:05:17.2±2.0, 8.96S×118.62E, h110km±17km, mb4.3/12, mb1 4.3/14, mb1mx4.3/18, mbtmp4.6/14, MS3.4/4, Ms1 3.4/4, ms1mx3.0/21, Error ellipse: s-maj=19.3km s-min=11.9km az=74.0*
*MOS **15** 15:05:17.2±1.2, 8.98S×118.70E, h136km, mb4.6/15, Error ellipse: s-maj=19.1km s-min=8.4km az=114.7*

ISC 15 15:05:13.6±1.5, 9.01S±0.06×118.56E±0.08, h97km±15km, n106, σ1°§18/106, mb4.8/51, 7C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 31nm,0.8s	**11.36**	**143**	⇓*i*P	P	**15 07 54.1**	**+0.1**
FITZ				*e*S	S	**15 09 52.6**	**-6.8**
FITZ	**Fitzroy Crossi** 1.5nm,0.3s,baz=332,slow=7.3,SNR=62	**11.36**	**143**	P	P	**15 07 54.3**	**+0.3**
FITZ				S	S	**15 09 51.9**	**-7.5**
	6.5nm,0.3s,baz=152,slow=15,SNR=13						
MBWA	**Marble Bar** 53nm,0.8s	**12.13**	**175**	*e*P	P	**15 08 03.2**	**-1.2**
TSM	**Tawau**	**13.23**	**357**	P	P	**15 08 27.7**	**+8.9**
KSM	**Kuching**	**13.27**	**321**	*e*P	P	**15 08 26.2**	**+6.9**
KAKA	**Kakadu** 39nm,0.5s	**14.12**	**106**	*e*P	P	15 08 52.8	+22
KAKA				*e*S	S	**15 11 16.9**	**+12**
KKM	**Kota Kinabalu**	**15.13**	**351**	P	P	**15 08 50.3**	**+6.9**
KKM	**Kota Kinabalu**	**15.13**	**351**	*e*P	P	**15 08 49.7**	**+6.3**
KGM	**Kluang**	**18.73**	**305**	P	P	**15 09 32.9**	**+5.5**
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=302,slow=12,SNR=47	**18.73**	**127**	P	P	**15 09 27.0**	**-0.3**
WRA				S	S	**15 12 44.9**	**-4.5**
	1.0nm,0.3s,baz=303,slow=25,SNR=12						
WB2	**Warramunga Arr**	**18.74**	**127**	*e*P	P	**15 09 27.8**	**+0.4**
WB2				*e*S	S	**15 12 43.9**	**-5.7**
ASPA	**Alice Springs**	**20.68**	**137**	*e*P	P	**15 09 49.1**	**+1.2**
ASPA				*e*S	S	**15 13 36.2**	**+7.9**
KLBR	**Kellerberrin** 31nm,0.9s,mb4.6	**22.48**	**182**	*e*P	P	**15 10 07.6**	**+2.0**
KLBR				*e*S	S	**15 14 07.2**	**+6.2**
PSI	**Prapat** 6.2nm,0.4s,mb4.3,baz=142,slow=9.3,SNR=7.0	**22.82**	**300**	P	P	**15 10 10.7**	**+1.5**
MUN	**Mundaring**	**22.96**	**185**	*e*P		15 10 28.0	
MUN				*e*S	S	**15 14 18.5**	**+9.1**
TGY	**Tagaytay City** 135nm,0.4s,mb5.6,baz=188,slow=4.4,SNR=6.4	**23.08**	**6**	P	P	**15 10 14.9**	**+3.3**
NWAO	**Narrogin (SRO)** 6.7nm,0.5s,mb4.2,baz=336,slow=19,SNR=11	**23.84**	**183**	P	P	**15 10 20.1**	**+1.4**
NWAO				LR	LR	15 19 35.3	
	comp=Z,89nm,19.0s,baz=222,slow=36						
NWAO	**Narrogin (SRO)**	**23.84**	**183**	*e*P	P	**15 10 16.6**	**-2.1**
NWAO				pmax	pmax		
	comp=Z,15nm,0.6s						
NWAO	**Narrogin (SRO)** comp=Z,15nm,0.6s,mb4.5	**23.84**	**183**	*e*P	P	**15 10 16.6**	**-2.1**
NWAO				*e*S	S	**15 14 37.3**	**+13**
NWAO				LR	LR	15 19 35.3	
PMG	**Port Moresby** comp=Z,60nm,19.0s,baz=89,slow=38	**28.23**	**93**	LR	LR	15 23 10.3	
CTA	**Charters Tower** comp=Z,80nm,20.7s,baz=31,slow=39	**28.93**	**115**	LR	LR	15 23 59.4	
CTAO	**Charters Tower**	**28.93**	**115**	P	P	**15 11 02.8**	**-3.2**
STKA	**Stephens Creek** comp=Z,4.2nm,0.6s,mb4.3	**31.22**	**140**	⇑*i*P	P	**15 11 27.2**	**+1.1**
STKA	**Stephens Creek** comp=Z,4.9nm,0.5s,mb4.5,baz=298,slow=11,SNR=19	**31.22**	**140**	P	P	**15 11 26.6**	**+0.5**
STKA				LR	LR	15 24 17.1	
	comp=Z,99nm,18.9s,baz=108,slow=36						
STKA	**Stephens Creek**	**31.22**	**140**	*e*P	P	**15 11 26.5**	**+0.3**
GYA	**Guiyang**	**37.10**	**342**	⇑*i*P	P	**15 12 17.9**	**+1.4**
GYA				SCS	ScS	15 22 19.8	+1.2
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,90nm,3.0s						
KMI	**Kunming**	**37.26**	**336**	⇑P	P	**15 12 20.8**	**+2.9**
KMI				PCP	PcP	15 14 37.3	+1.3
KMI				S	S	**15 18 01.0**	**+3.6**
KMI				PCS		15 18 23.8	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,230nm,5.3s						
KMI				LR	LR		
	comp=N,290nm,10.3s						
KMI				LR	LR		
	comp=E,300nm,11.6s						
KMI				LR	LR		
	comp=Z,190nm,11.6s						
WHN	**Wuhan**	**39.53**	**354**	P	P	**15 12 38.6**	**+2.0**
SSE	**Sheshan**	**39.95**	**4**	P	P	**15 12 43.3**	**+3.2**
SSE				PP	PP	15 14 19.3	+2.0
SSE				S	S	**15 18 40.3**	**+2.4**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,260nm,5.0s						
SSE				LR	LR		
	comp=N,10.0nm,21.2s						
SSE				LR	LR		
	comp=E,20nm,21.2s						
SSE				LR	LR		
	comp=Z,30nm,16.5s						
ENH	**Enshi** comp=Z,41nm,0.8s,mb5.3	**40.02**	**348**	*e*P	P	**15 12 41.6**	**+1.0**
NJ2	**Nanjing**	**40.83**	**0**	*e*P	P	**15 12 49.3**	**+2.0**
NJ2				PP	PP	15 14 28.9	+2.8
NJ2				S	S	**15 18 51.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,190nm,5.8s						
NJ2				LR	LR		
	comp=N,730nm,24.2s						
NJ2				LR	LR		
	comp=E,370nm,14.5s						
NJ2				LR	LR		
	comp=Z,210nm,21.8s						
CD2	**Chengdu**	**42.15**	**341**	P	P	**15 12 58.8**	**+0.5**
CD2				PP	PP	15 14 42.3	+1.9
CD2				PPP	PPP	15 15 20.1	+6.2
CD2				S	S	**15 19 10.5**	**0.0**
CD2				SS	SS	15 22 18.5	+3.3
CD2				AMB	AMB		
	comp=Z,70nm,0.6s,mb5.6						
CD2				AMB	AMB		
	comp=Z,100nm,5.9s						
XAN	**Xi'an**	**43.78**	**348**	P	P	**15 13 12.0**	**+0.5**
XAN				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.6						
LSA	**Lhasa**	**46.66**	**327**	P	P	**15 13 35.8**	**+1.3**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
LSA	**Lhasa**	**46.66**	**327**	*e*P	P	**15 13 35.5**	**+1.0**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
LSA	**Lhasa** comp=Z,13nm,0.6s,mb4.8	**46.66**	**327**	*e*P	P	**15 13 35.5**	**+1.1**
LZH	**Lanzhou**	**46.95**	**344**	*e*P	P	**15 13 39.8**	**+3.2**
LZH				PP	PP	15 15 32.6	+4.7
LZH				*e*S	S	**15 20 21.8**	**+2.3**
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,90nm,6.2s						
LZH				LR	LR		
	comp=E,230nm,14.2s						
LZH				LR	LR		
	comp=Z,390nm,17.1s						
KS15	**Wonju Array Si**	**47.02**	**10**	*e*P	P	**15 13 37.8**	**+0.6**
DL2	**Dalian**	**47.75**	**3**	*e*P	P	**15 13 44.1**	**+1.2**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
JIRN	**Jiri**	**48.07**	**320**	*e*P	P	**15 13 45.3**	**-0.2**
	comp=Z,37nm,0.5s,mb5.5						
GUN	**Gumba**	**48.44**	**320**	*e*P	P	**15 13 48.3**	**-0.1**
	comp=Z,58nm,0.7s,mb5.5						
PKI	**Pulchoki**	**48.51**	**320**	*e*P	P	**15 13 48.2**	**-0.6**
	comp=Z,20nm,0.5s,mb5.3						
DMN	**Daman**	**48.73**	**319**	*e*P	P	**15 13 50.2**	**-0.3**
	comp=Z,34nm,0.6s,mb5.4						
KKN	**Kakani**	**48.74**	**320**	*e*P	P	**15 13 50.2**	**-0.4**
MJAR	**Matsushiro Arr** comp=Z,5.8nm,0.8s,mb4.6,baz=191,slow=8.0,SNR=15	**48.93**	**21**	P	P	**15 13 51.0**	**-1.0**
GKN	**Gorkha** comp=Z,24nm,0.3s,mb5.6	**49.30**	**319**	*e*P	P	**15 13 54.0**	**-0.9**
KOLN	**Koldanda** comp=Z,15nm,0.3s,mb5.4	**49.81**	**318**	*e*P	P	**15 13 58.0**	**-0.9**
HHC	**Hu-ho-hao-te**	**50.02**	**353**	*e*P	P	**15 13 57.0**	**-3.4**
HHC				AMB	AMB		
	comp=Z,150nm,5.1s						
HHC				LR	LR		
	comp=N,170nm,15.5s						
HHC				LR	LR		
	comp=E,180nm,8.3s						
HHC				LR	LR		
	comp=Z,90nm,10.7s						
SNY	**Shenyang**	**50.79**	**5**	⇑P	P	**15 14 04.9**	**-1.3**
SNY				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GTA	**Gaotai**	**51.22**	**341**	⇑*i*P	P	**15 14 10.3**	**+0.9**
GTA				PCP	PcP	15 15 21.4	-2.1
GTA				PP	PP	15 16 11.3	+3.5
GTA				PCS		15 19 19.1	
GTA				S	S	**15 21 19.3**	**+0.4**
GTA				SS	SS	15 24 55.1	+1.8
GTA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
GTA				AMB	AMB		
	comp=Z,90nm,7.6s						
GTA				LR	LR		
	comp=N,140nm,15.6s						
GTA				LR	LR		
	comp=E,160nm,13.7s						
GTA				LR	LR		
	comp=Z,90nm,14.8s						
CN2	**Changchun**	**52.93**	**6**	*e*P	P	**15 14 20.6**	**-1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MDJ	**Mudanjiang**	**54.30**	**10**	P	P	**15 14 32.6**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.7						
MDJ				AMB	AMB		
	comp=Z,190nm,5.2s						
MDJ	**Mudanjiang** comp=Z,66nm,0.8s,mb5.7	**54.30**	**10**	*e*P	P	**15 14 31.7**	**-0.5**
ULN	**Ulaanbaatar**	**57.53**	**351**	*e*P	P	**15 14 54.9**	**-0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ULN	**Ulaanbaatar** comp=Z,5.5nm,0.7s,mb4.7	**57.53**	**351**	*e*P	P	**15 14 54.9**	**-0.4**
SONM	**Songino Array** comp=Z,13nm,0.7s,mb5.1,baz=168,slow=8.4,SNR=107	**57.61**	**350**	P	P	**15 14 56.0**	**+0.2**
SONM				PcP	PcP	15 15 47.0	-0.7
	comp=Z,1.9nm,0.7s,baz=163,slow=6.8,SNR=2.0						
SONM				ScP		15 19 37.6	
	comp=Z,0.4nm,0.6s,baz=180,slow=4.3,SNR=3.8						
HIA	**Hailar**	**58.03**	**1**	*e*P	P	**15 14 58.2**	**-0.6**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HIA	**Hailar** comp=Z,5.0nm,0.5s,mb4.8	**58.03**	**1**	*e*P	P	**15 14 58.1**	**-0.6**
HABR	**Khabarovsk**	**59.05**	**13**	⇑*i*P	P	**15 15 06.3**	**+0.5**
HABR				pmax	pmax		
	comp=Z,83nm,3.0s						
WMQ	**Urumqi**	**59.57**	**334**	*e*P	P	**15 15 10.5**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,100nm,5.2s						
WMQ				LR	LR		
	comp=N,750nm,22.0s						
WMQ				LR	LR		
	comp=E,720nm,21.0s						
WMQ				LR	LR		
	comp=Z,780nm,22.0s						
ZAK	**Zakamensk**	**60.62**	**349**	*e*P	P	**15 15 15.6**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
MOY	**Mondy**	**62.30**	**348**	*e*P	P	**15 15 26.9**	**-0.9**
KSH	**Kashi**	**62.36**	**324**	*e*P	P	**15 15 28.0**	**-0.4**
KSH				*e*PCP	PcP	15 16 06.4	-0.4
KSH				*e*PP	PP	15 17 47.8	-0.8
KSH				*e*PCS		15 20 09.3	
KSH				AMB	AMB		
	comp=Z,260nm,5.2s						
MKAR	**Makanchi Array** comp=Z,18nm,0.6s,mb5.1,baz=148,slow=7.4,SNR=116	**64.27**	**333**	P	P	**15 15 40.3**	**-0.5**
KZA	**Kyzart** SNR=11	**64.45**	**326**	P	P	**15 15 41.4**	**-0.7**
TKM2	**Tokmak 2** SNR=5.8	**64.82**	**326**	P	P	**15 15 44.2**	**-0.3**
TKM2	**Tokmak 2**	**64.82**	**326**	P	P	**15 15 43.7**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.6						
UCH	**Uchtor** SNR=6.8	**64.97**	**325**	P	P	**15 15 45.8**	**+0.3**
KBK	**Karagaybulak** SNR=9.0	**65.00**	**326**	P	P	**15 15 45.8**	**+0.1**
AAK	**Ala-Archa**	**65.24**	**326**	*i* P	P	**15 15 45.7**	**-1.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
AML	**Almayashu** SNR=19	**65.37**	**325**	P	P	**15 15 48.2**	**+0.2**
USP	**Ospenovka** SNR=8.8	**65.65**	**326**	P	P	**15 15 49.2**	**-0.6**
EKS2	**Erkin-Say** SNR=13	**65.66**	**325**	P	P	**15 15 50.0**	**+0.1**
BOD	**Bodaibo**	**66.70**	**357**	*e*P	P	**15 15 55.3**	**-0.9**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
KKAR	**Karatay Array**	**67.81**	**324**	*i* P	P	**15 16 01.7**	**-1.7**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**68.81**	**334**	*i* P	P	**15 16 08.8**	**-0.7**
MAW	**Mawson** comp=Z,3.6nm,0.6s,mb4.4	**69.08**	**200**	*e*P	P	**15 16 12.1**	**+1.2**
MAW	**Mawson** comp=Z,4.2nm,0.6s,mb4.4,baz=45,slow=7.0,SNR=12	**69.08**	**200**	P	P	**15 16 11.4**	**+0.5**
MAW	**Mawson**	**69.08**	**200**	*e*P	P	**15 16 12.1**	**+1.2**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OPO	**Ambohidratompo** comp=Z,5.1nm,0.7s,mb4.5,baz=60,slow=3.4,SNR=7.6	**69.61**	**254**	P	P	**15 16 16.8**	**+1.9**
NVS	**Novosibirsk**	**70.17**	**339**	*e*P	P	**15 16 14.8**	**-2.8**
NVS				pmax	pmax		
	comp=N,7.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
VNDA	**Vanda** comp=Z,0.9nm,0.4s,mb3.9,baz=320,slow=7.5,SNR=23	**72.05**	**171**	P	P	**15 16 29.8**	**+1.2**
VOSK	**Vostochnaya**	**73.63**	**332**	P	P	**15 16 37.1**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
BVA0	**Borovoye Array**	**74.10**	**332**	*i* P	P	**15 16 40.0**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
CHKZ	**Chkalovo**	**74.42**	**333**	*e*P	P	**15 16 41.9**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo** comp=Z,9.8nm,0.7s,mb4.7	**74.42**	**333**	*e*P	P	**15 16 41.9**	**-0.8**
ZRNK	**Zerenda**	**74.70**	**331**	*e*P	P	**15 16 43.3**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
ZRNK	**Zerenda** comp=Z,11nm,0.6s,mb4.8	**74.70**	**331**	*e*P	P	**15 16 43.3**	**-1.1**
AB31	**Akbulak array**	**77.32**	**325**	*i* P	P	**15 16 58.4**	**-0.8**
AB31		

TIXI	**Tiksi**	**80.77**	**3**	*e*P		**P**	**15 17 15.1**	**-2.4**
TIXI				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.7								
KMBO	**Kilima Mbogo**	**81.24**	**270**	P		**P**	**15 17 22.2**	**+1.0**
	comp=Z,2.0nm,0.6s,mb4.1,baz=62,slow=6.9,SNR=7.1								
KIV	**Kislovodsk**	**86.19**	**315**	*e*P		**P**	**15 17 45.7**	**+0.3**
KIV				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.7								
ANN	**Anapa**	**90.05**	**315**	*e*P		**P**	**15 18 11.6**	**+7.8**
ANN				pmax		pmax			
	comp=Z,35nm,1.2s,mb5.4								
BRTR	**Keskin Array B**	**91.81**	**310**	P		**P**	**15 18 11.3**	**-0.8**
	comp=Z,1.0nm,0.8s,mb4.1,baz=120,slow=3.8,SNR=5.0								
FINES	**FINESS Array B**	**99.03**	**331**	P		**P**	**15 18 44.0**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=4.3								
YKA	**Yellowknife Ar**	**114.37**	**24**	PKP		PKPdf	15 23 42.8	+1.0	
	comp=Z,0.7nm,0.5s,baz=309,slow=1.9,SNR=18								
TORD	**Torodi Ar. Bea**	**118.04**	**280**	PKP		PKPdf	15 23 51.1	+1.2	
	comp=Z,0.7nm,0.4s,baz=41,slow=1.7,SNR=9.7								
NVAR	**Mina Array Bea**	**121.35**	**50**	PKP		PKPdf	15 23 58.8	+2.9	
	comp=Z,0.6nm,0.6s,baz=242,slow=3.5,SNR=7.2								
HLID	**Hailey**	**122.63**	**44**	*e*PKP		PKPdf	15 24 00.0	+1.8	
BOZ	**Bozeman (W)**	**123.67**	**40**	*e*PKIKP		PKPdf	15 24 00.4	+0.2	
MSU	**Marysvale**	**125.94**	**49**	PKIKP		PKPdf	15 24 05.2	+0.4	
TXAR	**Lajitas Array**	**135.60**	**57**	PKP		PKPdf	15 24 26.9	+3.6	
	comp=Z,0.5nm,0.7s,baz=180,slow=1.3,SNR=3.6								
TXAR				SKPbc			15 27 44.8		
	comp=Z,0.3nm,0.3s,baz=270,slow=3.8,SNR=6.2								
TXAR	**Lajitas Array**	**135.60**	**57**	PKP		PKPdf	15 24 26.9	+3.6	
TXAR				SKPbc			15 27 44.8		
PAL	**Palisades**	**146.27**	**17**	*e*PKP2		PKPab	15 24 45.4	-0.9	
LRAL	**Lakeview Retre**	**146.40**	**41**	*e*PKPbc		PKPbc	15 24 45.7	+1.9	

*IDC **15** 15:28:07.1±1.1, 15.23S×173.14W, mb4.0/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, MS3.9/12, Ms1 3.9/12, ms1mx3.8/22, Error ellipse: s-maj=52.5km s-min=18.6km az=134.0*

*NEIC **15** 15:28:08.8±0.6, 15.08S×173.23W, h10km, mb4.0/2, Error ellipse: s-maj=27.6km s-min=11.7km az=140.0*

ISC 15 15:28:07.1±0.7, 15.1S±0.2×173.3W±0.1, h10km, n28, σ0§75/14, mb4.0/7, MS4.0/11, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.87**	**52**	Pn		**Pn**		**15 28 38.6**	**-0.9**
	133nm,0.3s,baz=58,slow=1.1,SNR=210								
AFI				Sn		**Sn**		**15 28 58.6**	**-4.7**
	540nm,0.3s,baz=50,slow=23,SNR=16								
AFI				LR		LR		15 29 22.8	
	comp=Z,639nm,20.6s,baz=209,slow=41								
AFI				T				15 30 39.1	
	61nm,0.3s,baz=219,slow=23,SNR=2.2								
AFI	**Afiamalu**	**1.87**	**52**	Pn		**Pn**		**15 28 38.6**	**-0.9**
AFI				*e*Sn		**Sn**		**15 28 57.9**	**-5.5**
AFI				LR		LR		15 29 22.8	
RAR	**Rarotonga**	**14.23**	**117**	LR		LR		15 35 10.0	
	comp=Z,377nm,19.9s,baz=282,slow=30								
DZM	**Mont Dzumac**	**20.42**	**247**	P		**P**		**15 32 46.5**	**-0.7**
	3.5nm,0.9s,baz=82,slow=19,SNR=2.1								
DZM				LR		LR		15 39 30.4	
	comp=Z,443nm,18.0s,MS3.9,baz=16,slow=33								
PPT	**Papeete**	**22.89**	**99**	LR		LR		15 39 48.8	
	comp=Z,126nm,20.9s,MS3.3,baz=270,slow=31								
URZ	**Urewera**	**24.61**	**198**	P		**P**		**15 33 28.2**	**-0.5**
	10nm,0.8s,mb4.4,baz=38,slow=19,SNR=2.5								
HNR	**Honiara**	**26.73**	**279**	LR		LR		15 42 59.5	
	comp=Z,219nm,19.2s,MS3.7,baz=86,slow=33								
CTAO	**Charters Tower**	**38.82**	**257**	P		**P**		**15 35 34.3**	**+0.2**
	3.0nm,0.8s,mb4.1								
STKA	**Stephens Creek**	**44.29**	**240**	P		**P**		**15 36 18.2**	**-0.7**
	3.1nm,0.8s,mb4.1,baz=44,slow=12,SNR=6.0								
WB2	**Warramunga Arr**	**50.01**	**256**	*e*P		**P**		**15 37 04.3**	**+0.3**
WRA	**Warramunga Arr**	**50.02**	**256**	P		**P**		**15 37 03.7**	**-0.4**
	2.8nm,0.5s,mb4.6,baz=91,slow=6.8,SNR=123								
ASPA	**Alice Springs**	**50.31**	**252**	*i*P		**P**		**15 37 06.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**58.38**	**258**	LR		LR		15 59 30.4	
	comp=Z,39nm,19.1s,MS3.5,baz=179,slow=32								
VNDA	**Vanda**	**63.71**	**186**	LR		LR		16 01 29.4	
	comp=Z,93nm,18.5s,MS4.0,baz=355,slow=32								
VNDA	**Vanda**	**63.71**	**186**	P		**P**		**15 38 41.9**	**+1.2**
	0.6nm,0.7s,mb3.7								
MJAR	**Matsushiro Arr**	**68.75**	**320**	LR		LR		16 02 41.8	
	comp=Z,130nm,21.4s,MS4.1,baz=10.0,slow=30								
TXAR	**Lajitas Array**	**80.34**	**56**	LR		LR		16 10 15.4	
	comp=Z,74nm,18.5s,MS4.1,baz=180,slow=32								
PDAR	**Pinedale Array**	**81.95**	**42**	LR		LR		16 12 05.0	
	comp=Z,81nm,21.1s,MS4.1,baz=48,slow=32								
ILAR	**Eielson Array**	**82.10**	**11**	P		**P**		**15 40 30.1**	**+1.2**
	0.9nm,1.0s,mb3.6,baz=200,slow=5.4,SNR=6.5								
MAW	**Mawson**	**88.14**	**199**	LR		LR		16 15 57.7	
	comp=Z,94nm,18.2s,MS4.2,baz=246,slow=33								
YKA	**Yellowknife Ar**	**89.76**	**23**	P		**P**		**15 41 07.0**	**+0.3**
	0.2nm,0.6s,mb3.6,baz=237,slow=4.6,SNR=6.1								
ULM	**Lac du Bonnet**	**93.61**	**39**	LR		LR		16 16 41.6	
	comp=Z,95nm,19.0s,MS4.3,baz=299,slow=31								
ROSC	**El Rosal**	**99.89**	**88**	LR		LR		16 16 22.5	
	comp=Z,72nm,18.3s,MS4.2,baz=98,slow=29								
KHC	**Kasperske Hory**	**145.57**	**352**	*e*PKP		PKPdf	15 47 48.0	-0.6	
KMBO	**Kilima Mbogo**	**145.77**	**245**	PKPbc		PKPbc	15 47 50.2	+2.3	
	1.0nm,0.5s,baz=60,slow=23,SNR=3.5								
KMBO	**Kilima Mbogo**	**145.77**	**245**	PKPbc		PKPbc	15 47 50.2	+2.3	
BR131	**Keskin Array S**	**145.97**	**321**	*e*PKPbc		PKPbc	15 47 52.9	+5.3	
BRTR	**Keskin Array B**	**145.97**	**321**	PKPbc		PKPbc	15 47 50.9	+3.3	
	7.2nm,1.1s,baz=117,slow=2.8,SNR=12								

*ATH **15** 15:58:28.4, 38.24N×27.03E, h13km±1km, MD3.0/3*
*ISK **15** 15:58:29.2, 38.23N×26.77E, h16km, MD2.9*
*CSEM **15** 15:58:29.4±0.1, 38.16N×26.84E, h8km, MD2.9, Error ellipse: s-maj=3.4km s-min=2.3km az=95.0*

ISC 15 15:58:29.1±0.7, 38.20N±0.03×26.75E±0.04, h3km±6km, n14, σ0§83/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**324**	*i*P		**Pg**		**15 58 32.0**	**-1.1**
URLA				*i*S		**Sg**		**15 58 35.4**	**-0.4**
BLCB	**Balcova**	**0.30**	**51**	*i*PG		**Pg**		**15 58 35.3**	**+0.3**
BLCB				*i*SG		**Sg**		**15 58 39.6**	**+0.6**
IZM	**Izmir**	**0.45**	**64**	*i*PG		**Pg**		**15 58 38.4**	**+0.3**
IZM				*i*SG		**Sg**		**15 58 45.1**	**+1.0**
KDAG	**Bornova**	**0.46**	**63**	*i*P		**Pg**		**15 58 37.5**	**-0.7**
KDAG				*i*S		**Sg**		**15 58 43.8**	**-0.5**
SMG	**Samos**	**0.49**	**172**	*e*PB		**Pg**		**15 58 39.0**	**+0.1**
SMG				*e*SB		**Sg**		**15 58 47.0**	**+1.5**
AYDN	**Tasoluk**	**1.04**	**121**	*i*P		**Pb**		**15 58 49.7**	**+0.2**
AYDN				*i*S		**Sb**		**15 59 03.3**	**-0.1**
AKS	**Akhisar**	**1.08**	**51**	PG		**Pg**		**15 58 50.2**	**-0.4**
AKS				SG		**Sg**		**15 59 04.6**	**-0.3**
PRK	**Paraskevi**	**1.11**	**341**	*e*PB		**Pb**		**15 58 50.5**	**-0.1**
PRK				*e*SB		**Sb**		**15 59 06.5**	**+1.2**
MLSB	**Milas**	**1.22**	**138**	*e*PN		**Pn**		**15 58 51.9**	**-1.1**
BODT	**Bodrum**	**1.22**	**158**	*e*PN		**Pn**		**15 58 51.6**	**-1.4**
BDRM	**Kayabasi**	**1.26**	**154**	*i*P		**Pb**		**15 58 52.7**	**-0.4**
BDRM				*i*S		**Sb**		**15 59 09.1**	**-0.6**
MANT	**Manisa**	**1.45**	**78**	*i*P		**Pn**		**15 58 56.8**	**+0.5**
MANT				*i*S		**Sb**		**15 59 15.8**	**+0.6**
APE	**Apeiranthos**	**1.48**	**221**	*e*PB		**Pb**		**15 58 59.5**	**+2.5**
YER	**Yerkesik**	**1.62**	**131**	*e*PN		**Pn**		**15 58 58.0**	**-0.7**

IDC 15 16:00:22.8±1.6, 19.65S×177.66W, mb3.8/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.8/3, Error ellipse: s-maj=48.6km s-min=38.5km az=107.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.04**	**261**	P		P	P	16 08 40.7	-1.8
	0.7nm,0.3s,baz=97,slow=7.7,SNR=20								
VNDA	**Vanda**	**58.78**	**185**	P		P	P	16 10 22.2	-2.5
	1.0nm,1.1s,baz=355,slow=6.4,SNR=3.4								
ILAR	**Eielson Array**	**87.42**	**13**	P		P	P	16 13 11.6	-1.3
	0.3nm,0.5s,baz=223,slow=4.9,SNR=6.5								

*ISK **15** 16:10:09.9, 39.06N×44.04E, h5km, MD3.5*
*CSEM **15** 16:10:09.9, 39.06N×44.04E, h5km, MD3.5, After ISK*

ISC 15 16:10:10.4±0.8, 39.04N±0.03×44.20E±0.07, h5km, n14, σ1§14/21, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.78**	**235**	PG		**Pg**		**16 10 24.9**	**-1.0**
TVAN	**Van**	**0.81**	**230**	*i*P		**Pb**		**16 10 23.9**	**-2.6**
TVAN				*i*S		**Sg**		**16 10 36.4**	**-0.9**
VANT	**Van**	**0.87**	**227**	PG		**Pg**		**16 10 27.7**	**-0.2**
VANT				SG		**Sg**		**16 10 40.6**	**+1.1**
HKR	**Hakkari**	**1.51**	**194**	PN		**Pn**		**16 10 38.1**	**-0.1**
HKR				SN		**Sn**		**16 11 00.6**	**+2.1**
DIGO	**Kars**	**1.51**	**335**	*i*P		**Pn**		**16 10 36.8**	**-1.5**
DIGO				*i*S		**Sb**		**16 10 59.2**	**+1.3**
HAKT	**HAKKARI**	**1.53**	**195**	*i*P		**Pn**		**16 10 36.9**	**-1.7**
HAKT				*i*S		**Sb**		**16 10 58.4**	**-0.2**
KARS	**Kars**	**1.78**	**332**	*e*PN		**Pn**		**16 10 42.4**	**+0.2**
BTMT	**Batman**	**2.29**	**249**	*e*PN		**Pn**		**16 10 50.4**	**+1.0**
ERZM	**Erzurum**	**2.35**	**292**	*i*P		**Pn**		**16 10 50.0**	**-0.4**
ERZM				*i*S		**Sn**		**16 11 19.2**	**-0.8**
EZM	**Erzurum**	**2.36**	**292**	*e*PN		**Pn**		**16 10 49.7**	**-0.7**
DGRG	**David-gareji**	**2.57**	**20**	P		**Pn**		**16 10 54.1**	**+0.7**
BEST	**Besiri**	**2.57**	**244**	*i*P		**Pn**		**16 10 54.9**	**+1.5**
BEST				*i*S		**Sn**		**16 11 26.9**	**+1.4**
MTA	**Mtatsminda**	**2.69**	**10**	P		**Pn**		**16 10 55.3**	**+0.2**
EZC	**Erzincan**	**3.47**	**283**	*e*PN		**Pn**		**16 11 10.9**	**+4.7**

*MAN **15** 16:37:16.4, 6.46N×127.46E, h1km, mb4.7, ML3.6, MS3.6*
*IDC **15** 16:37:19.6±0.6, 6.83N×126.95E, mb4.1/12, mb1 4.3/12, mb1mx4.2/20, mbtmp4.1/12, Error ellipse: s-maj=37.3km s-min=14.2km az=82.0*
*NEIC **15** 16:37:28.3±1.4, 6.76N×126.90E, h69km±13km, mb4.5/6, Error ellipse: s-maj=16.7km s-min=6.4km az=82.0*

ISC 15 16:37:25.4±1.1, 6.72N±0.05×127.13E±0.08, h57km±10km, n40, σ1§18/49, mb4.2/16, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.90**	**285**	*e*P		**P**		**16 37 40.1**	**-2.0**
DAV	**Davao City (W)**	**1.58**	**283**	*i*P		**P**		**16 37 52.0**	**+0.3**
DAV	**Davao City (W)**	**1.58**	**283**	*e*Pn		**Pn**		**16 37 51.5**	**-0.2**
DAV				*e*Sn		**S**		**16 38 17.5**	**+6.4**
BIPH	**Bislig**	**1.65**	**332**	*e*P		**P**		**16 37 51.3**	**-1.3**
BIPH				*e*S		**S**		**16 38 13.2**	**+0.5**
KCP	**Kidapawan**	**2.05**	**278**	*e*P		**P**		**16 37 58.5**	**+0.3**
KCP				*e*S		**S**		**16 38 24.6**	**+2.1**
GSPH	**General Santos**	**2.25**	**254**	*e*P		**P**		**16 37 59.3**	**-1.9**
GSPH				*i*S		**S**		**16 38 26.0**	**-1.7**
BUKP	**Musuan**	**2.35**	**300**	*e*P		**P**		**16 38 03.3**	**+0.8**
BUKP				*e*S		**S**		**16 38 33.0**	**+2.7**
BUTP	**Butuan**	**2.69**	**326**	*e*P		**P**		**16 38 08.0**	**+0.6**
BUTP				*e*S		**S**		**16 38 45.7**	**+6.9**
CTBH	**Cotabato--PC H**	**2.91**	**280**	*i*P		**P**		**16 38 10.4**	**0.0**
CTBH				*i*S		**S**		**16 38 36.3**	**-8.0**
CGP	**Cagayan de Oro**	**2.97**	**306**	*e*P		**P**		**16 38 10.7**	**-0.6**
CGP				*e*S		**S**		**16 38 49.8**	**+3.9**
SCPH	**Surigao**	**3.45**	**332**	*e*P		**P**		**16 38 19.1**	**+1.0**
PAGZ	**Pagadian**	**3.88**	**287**	*e*P		**P**		**16 38 24.5**	**+0.4**
MSLP	**Maasin**	**4.07**	**327**	*e*P		**P**		**16 38 25.2**	**-1.6**
MSLP				*e*S		**S**		**16 39 19.9**	**+6.2**
IPIL	**Ipil**	**4.65**	**284**	*e*P		**P**		**16 38 34.9**	**+0.1**
PLP	**Palo**	**4.91**	**334**	*e*P		**S**		**16 39 41.9**	**+7.3**
OCLP	**Ormoc**	**4.98**	**330**	*e*P		**P**		**16 38 40.2**	**+0.8**
OCLP				*e*S		**S**		**16 39 50.8**	**+14**
FITZ	**Fitzroy Crossi**	**24.70**	**183**	*e*P		**P**		**16 42 43.7**	**+0.9**
	5.4nm,0.4s,mb4.4								
FITZ	**Fitzroy Crossi**	**24.70**	**183**	P		**P**		**16 42 44.2**	**+1.3**
	2.4nm,0.4s,mb4.1,baz=347,slow=4.4,SNR=13								
WRA	**Warramunga Arr**	**27.42**	**165**	P		**P**		**16 43 08.5**	**+0.4**
	1.9nm,0.4s,mb4.0,baz=339,slow=1.1,SNR=31								
WB2	**Warramunga Arr**	**27.43**	**165**	*e*P		**P**		**16 43 08.1**	**-0.1**
MBWA	**Marble Bar**	**28.64**	**195**	*e*P		**P**		**16 43 18.7**	**-0.3**
	6.8nm,0.9s,mb4.4								
ASPA	**Alice Springs**	**30.91**	**168**	*e*P		**P**		**16 43 39.8**	**+0.6**
MJAR	**Matsushiro Arr**	**31.37**	**17**	P		**P**		**16 43 42.1**	**-1.0**
	3.5nm,0.8s,mb4.3,baz=197,slow=9.4,SNR=7.6								
NWAO	**Narrogin (SRO)**	**40.53**	**193**	P		**P**		**16 45 02.2**	**+1.5**
	10.0nm,0.7s,mb4.6,baz=32,slow=10,SNR=9.8								
NWAO	**Narrogin (SRO)**	**40.53**	**193**	*e*P		**P**		**16 45 00.6**	**-0.2**
	54nm,1.4s,mb5.0								
STKA	**Stephens Creek**	**40.78**	**161**	P		**P**		**16 45 03.3**	**+0.4**
	2.9nm,0.5s,mb4.1,baz=345,slow=8.6,SNR=7.8								
STKA	**Stephens Creek**	**40.78**	**161**	*e*P		**P**		**16 45 03.8**	**+1.0**
YSS	**Yuzh-Sakhalins**	**42.28**	**16**	P		**P**		**16 45 15.1**	**+0.1**
	19nm,1.0s,mb4.7								
SONM	**Songino Array**	**44.63**	**340**	P		**P**		**16 45 33.5**	**-0.5**
	0.4nm,0.6s,mb3.4,baz=157,slow=9.5,SNR=3.4								
MKAR	**Makanchi Array**	**55.37**	**324**	P		**P**		**16 46 54.3**	**-1.7**
	1.5nm,0.5s,mb4.3,baz=121,slow=8.1,SNR=13								
ZRNK	**Zerenda**	**65.81**	**326**	*e*P		**P**		**16 48 04.7**	**-2.1**
	6.3nm,0.8s,mb4.7								
AKTK	**Aktyubinsk**	**71.59**	**321**	P		**P**		**16 48 41.2**	**-1.4**
AKTO	**Aktyubinsk**	**71.59**	**321**	P		**P**		**16 48 41.2**	**-1.4**
	3.0nm,0.7s,mb4.3,baz=96,slow=8.7,SNR=14								
MCK	**McKinley**	**81.33**	**27**	P		**P**		**16 49 38.5**	**+1.4**
	3.0nm,0.9s,mb4.2								
ILAR	**Eielson Array**	**82.25**	**26**	P		**P**		**16 49 42.6**	**+0.8**
	0.7nm,0.5s,mb3.9,baz=237,slow=5.4,SNR=21								
VNDA	**Vanda**	**86.32**	**173**	P		**P**		**16 50 03.2**	**+1.3**
	1.0nm,0.9s,mb4.0,baz=8.9,slow=9.7,SNR=3.8								
VNDA	**Vanda**	**86.32**	**173**	P		**P**		**16 50 03.2**	**+1.3**
AKASG	**Malin Array Be**	**89.84**	**321**	P		**P**		**16 50 18.1**	**-1.2**
	0.9nm,0.6s,mb4.3,baz=66,slow=4.6,SNR=4.8								
YKA	**Yellowknife Ar**	**96.63**	**24**	P		**P**		**16 50 51.4**	**+1.2**
	0.4nm,0.7s,mb3.9,baz=300,slow=4.5,SNR=7.4								
TORD	**Torodi Ar. Bea**	**122.32**	**290**	PKP		PKPdf	16 56 16.2	+1.1	
	0.5nm,0.4s,baz=51,slow=2.0,SNR=9.8								

MAN 15 16:46:55.8, 6.37N×124.04E, h23km, mb4.4, ML3.2, MS3.0, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.87**	**14**	*i*P		Pb		16 47 11.3	-0.7
CTBH				*i*S		Sb		16 47 21.8	-1.4
GSPH	**General Santos**	**0.95**	**107**	*e*P		Pb		16 47 17.2	+3.7
GSPH				*i*S		Sb		16 47 32.4	+6.8
KCP	**Kidapawan**	**1.22**	**59**	*e*P		Pn		16 47 26.7	-1.0
PAGZ	**Pagadian**	**1.60**	**336**	*e*P		Pn		16 47 22.6	-0.5
PAGZ				*e*S		Sn		16 47 43.0	-0.3
BUKP	**Musuan**	**1.81**	**34**	*e*P		Pn		16 47 26.0	-0.1
BUKP				*e*S		Sn		16 47 48.9	+0.3
IPIL	**Ipil**	**2.02**	**314**	*e*P		Pn		16 47 29.2	+0.1
IPIL				*e*S		Sn		16 47 52.9	-1.0
CGP	**Cagayan de Oro**	**2.17**	**17**	*e*P		Pn		16 47 31.5	+0.2
CGP				*e*S		Sn		16 48 01.2	+3.5

*CSEM **15** 16:47:10.2±0.2, 66.40N×13.30E, h10km, ML3.7/2, Error ellipse: s-maj=5.7km s-min=2.7km az=121.0*
*NEIC **15** 16:47:11.9, 66.43N×13.35E, ML2.7(BER), After BER.*
NEIC Felt in the epicentral area.
*NAO **15** 16:47:12.3±1.4, 66.34N×13.87E, ML3.0*
*IDC **15** 16:47:12.0±1.3, 66.36N×13.70E, mb1 3.2/4, mb1mx3.0/20, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=17.0km s-min=6.5km az=118.0*
*BER **15** 16:47:13.1±5.1, 66.43N×13.44E, h9km, MD2.9, ML2.7, MW2.8, ML3.0(NAO)*

HEL 15 16:47:11.3±0.1, 66.41N×13.35E, h10km, ML2.9, ML2.8(UPP), ML2.7(BER), 3C-3D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**0.15**	**240**	*i*P		Pg		16 47 14.0	-0.8
STOK				*e*				16 47 14.2	
STOK				*i*S		Sg		16 47 16.0	-1.2
STOK				AML		AML		16 47 16.5	
	comp=Z,1μm,0.2s								
STOK	**Stokkvaagen**	**0.15**	**240**	*i*P		Pg		16 47 14.0	-0.8
STOK				*e*				16 47 14.2	
	baz=46,slow=16								
STOK				*e*S		Sg		16 47 16.0	-1.2
STOK				AML		AML		16 47 16.5	
	comp=Z,11μm,0.2s								
STOK	**Stokkvaagen**	**0.15**	**240**	*i*P		Pg		16 47 14.0	-0.8
	SNR=112								
STOK				*e*S		Sg		16 47 16.0	-1.2
	comp=Z,11μm,0.2s,SNR=112								
MOR8	**Moi Rana**	**0.50**	**118**	*i*P		Pg		16 47 21.0	-0.6
MOR8				*i*S		Sg		16 47 29.3	+1.0
MOR8				AML		AML		16 47 33.4	
	comp=Z,397nm,0.1s								
MOR8	**Moi Rana**	**0.50**	**118**	*i*P		Pg		16 47 21.0	-0.6
MOR8				*e*S		Sg		16 47 29.3	+1.0
MOR8				AML		AML		16 47 33.4	
	comp=Z,397nm,0.1s								
MOR8	**Moi Rana**	**0.50**	**118**	*i*P		Pg		16 47 21.0	-0.5
	SNR=99								
MOR8				*e*S		Sg		16 47 29.3	+1.0
	comp=Z,397nm,0.1s,SNR=99								
LOF	**Lofoten**	**1.73**	**2**	*e*P		Pn		16 47 41.1	-0.6
LOF				*e*S		Sn		16 48 02.9	-1.1
LOF				AML		AML		16 48 07.9	
	comp=Z,78nm,0.5s								
LOF	**Lofoten**	**1.73**	**2**	*e*P		Pn		16 47 41.1	-0.6
	SNR=50								
LOF				*e*S		Sn		16 48 02.9	-1.1
	comp=Z,78nm,0.5s,SNR=50								
NSS	**Namsos**	**1.97**	**198**	*e*P		Pn		16 47 44.5	-0.7
NSS				*e*S		Sn		16 48 09.7	-0.5
NSS				AML		AML		16 48 14.4	
	comp=Z,99nm,0.3s								
NSS	**Namsos**	**1.97**	**198**	*e*P		Pn		16 47 45.0	-0.2
NSS				*e*S		Sn		16 48 09.7	-0.5
NSS	**Namsos**	**1.97**	**198**	*e*P		Pn		16 47 44.5	-0.7
	SNR=50								
NSS				*e*S		Sn		16 48 09.7	-0.5
	comp=Z,99nm,0.3s,SNR=50								
SALU	**Saltoluokta**	**2.26**	**62**	*e*P		Pn		16 47 49.6	+0.3
NIKU	**Nikkaluokta**	**2.66**	**54**	*e*P		Pn		16 47 54.8	-0.3
NIKU	**Nikkaluokta**	**2.66**	**54**	P		Pn		16 47 54.7	-0.3
LILU	**Lilltraesk**	**2.90**	**110**	*e*P		Pn		16 47 57.8	-0.6
DUNU	**Dundret**	**2.95**	**73**	*e*P		Pn		16 47 58.8	-0.4
DUNU	**Dundret**	**2.95**	**73**	P		Pn		16 47 58.7	-0.5
KUA	**Kurravaara**	**3.13**	**57**	*e*P		Pn		16 48 01.2	-0.5
KUA				*e*S		Sn		16 48 39.1	-0.6
ERTU	**Ertsjaerv**	**3.55**	**84**	*e*P		Pn		16 48 05.0	-2.7
ERTU	**Ertsjaerv**	**3.55**	**84**	P		Pn		16 48 04.9	-2.8
MASU	**Masugnsbyn**	**3.56**	**69**	*e*P		Pn		16 48 07.4	-0.5
MASU	**Masugnsbyn**	**3.56**	**69**	P		Pn		16 48 07.3	-0.6
LANU	**Lannavaara**	**3.74**	**60**	*e*P		Pn		16 48 09.8	-0.6
KIF	**Kilpisjarvi**	**3.85**	**44**	*e*P		Pn		16 48 11.8	-0.2
KIF				*e*SG		Sg		16 49 12.3	-7.3
KIF				MSG				16 49 17.9	
	comp=Z,22nm,0.3s								
KIF	**Kilpisjarvi**	**3.85**	**44**	P		Pn		16 48 11.7	-0.3
KIF				Sg		Sg		16 49 12.3	-7.3
	comp=Z,22nm,0.3s								
TRO	**Tromso**	**3.86**	**30**	*e*P		Pn		16 48 09.8	-2.2
TRO				*e*S		Sn		16 48 55.9	-2.1
TRO				*e*SG		Sg		16 49 09.5	-10
TRO				AML		AML		16 49 23.4	
	comp=Z,18nm,0.5s								
TRO	**Tromso**	**3.86**	**30**	*e*P		Pn		16 48 09.8	-2.2
	SNR=49								
TRO				*e*S		Sn		16 48 55.9	-2.0
	SNR=49								
TRO				*e*Sg		Sg		16 49 09.5	-10
	comp=Z,18nm,0.5s,SNR=91								
PAJU	**Pajala**	**3.93**	**77**	*e*P		Pn		16 48 11.5	-1.5
KTK1	**Kautokeino**	**4.58**	**51**	*e*P		Pn		16 48 21.6	-0.7
KTK1				*e*S		Sn		16 49 14.5	-1.8
KTK1				AML

HFS	**Hagfors**	**6.30**	**178**	Pn		Pn		16 48 44.5	-2.1
	comp=Z,0.1nm,0.3s,baz=12,slow=13,SNR=15								
HFS				Pg		Pg		16 48 57.6	-20
	comp=Z,0.1nm,0.3s,baz=5.7,slow=14,SNR=5.9								
HFS				Sn		Sn		16 49 54.8	-4.7
	comp=Z,0.4nm,0.3s,baz=14,slow=18,SNR=6.1								
HFS				Lg				16 50 25.2	
	comp=Z,0.7nm,0.3s,baz=350,slow=26,SNR=6.3								
HFS	**Hagfors**	**6.30**	**178**	*e*P		Pn		16 48 45.0	-1.6
HFS				e*S*		Sn		16 49 54.5	-5.0
HFS				e*SG*		Sg		16 50 25.4	-16
HFS	**Hagfors**	**6.30**	**178**	Pn		Pn		16 48 45.0	-1.6
	baz=8.1,slow=10								
HFS				Sn		Sn		16 49 54.5	-5.0
	baz=10,slow=18								
HFS				Lg				16 50 25.4	
	baz=354,slow=28								
KJN	**Kajaani**	**6.47**	**104**	*e*P		Pn		16 48 45.6	-3.4
KJN				e*S*		Sn		16 49 54.9	-8.7
KJN				e*SG*		Sg		16 50 31.9	-15
KJN				MSG				16 50 35.1	
	comp=Z,7.6nm,0.3s								
KJN	**Kajaani**	**6.47**	**104**	P		Pn		16 48 45.5	-3.4
KJN				S		Sn		16 49 54.8	-8.8
KJN				Sg		Sg		16 50 31.9	-15
	comp=Z,7.6nm,0.3s								
KU4	**Liikasenvaara**	**6.52**	**83**	*e*P		Pn		16 48 48.5	-1.2
KU4				e*S*		Sn		16 49 57.2	-7.7
KU4				e*SG*		Sg		16 50 32.6	-16
KU4				MSG				16 50 36.9	
	comp=Z,16nm,0.4s								
SUF	**Sumiainen**	**6.64**	**118**	*e*P		Pn		16 48 46.6	-4.7
SUF				e*S*		Sn		16 50 01.1	-6.8
SUF				e*SG*		Sg		16 50 33.4	-19
SUF				MSG				16 50 42.5	
	comp=Z,6.6nm,0.3s								
KON	**Kongsberg**	**7.00**	**196**	Sn		Sn		16 50 12.4	-4.4
KON				Lg				16 50 46.0	
KONO	**Kongsberg**	**7.00**	**196**	e*S*		Sn		16 50 12.4	-4.4
KONO				e*SG*		Sg		16 50 46.0	-18
KONO	**Kongsberg**	**7.00**	**196**	e*Sn*		Sn		16 50 17.0	+0.2
KONO				e*Sg*		Sg		16 50 46.6	-18
KAF	**Kangasniemi**	**7.09**	**121**	e*S*		Sn		16 50 11.1	-8.2
KAF				e*SG*		Sg		16 50 48.2	-19
KAF				MSG				16 50 54.3	
	comp=Z,7.7nm,0.3s								
FIA0	**FINESS Array S**	**7.49**	**126**	*e*P		Pn		16 48 58.5	-4.8
FIA0				e*S*		Sn		16 50 19.3	-10
FIA0				e*SG*		Sg		16 51 01.9	-19
FIA0				MSG				16 51 08.6	
	comp=Z,12nm,0.4s								
FIA0	**FINESS Array S**	**7.49**	**126**	Pn		Pn		16 48 59.3	-4.0
	baz=322,slow=12								
FIA0				Sn		Sn		16 50 21.8	-7.5
	baz=323,slow=22								
FIA0				Lg				16 51 02.2	
	baz=318,slow=37								
FINES	**FINESS Array B**	**7.49**	**126**	Pn		Pn		16 48 59.5	-3.9
	comp=Z,0.3nm,0.3s,baz=323,slow=12,SNR=14								
FINES				Pg		Pg		16 49 16.5	-24
	comp=Z,0.4nm,0.3s,baz=329,slow=12,SNR=5.2								
FINES				Sn		Sn		16 50 21.9	-7.4
	comp=Z,1.1nm,0.3s,baz=323,slow=21,SNR=4.2								
FINES				Lg				16 51 02.9	
	comp=Z,3.9nm,0.3s,baz=323,slow=28,SNR=5.7								
APA0	**Apatity Array**	**7.78**	**72**	Pn		Pn		16 49 02.1	-5.3
	baz=270,slow=12								
APA0				Sn		Sn		16 50 28.0	-8.3
	baz=270,slow=22								
APA0				Lg				16 51 10.4	
	baz=251,slow=22								
APA0	**Apatity Array**	**7.78**	**72**	*e*P		Pn		16 49 02.1	-5.3
APA0				e*S*		Sn		16 50 28.0	-8.3
APA0				e*SG*		Sg		16 51 10.4	-20
PVF	**Pernaja**	**8.11**	**131**	*e*P		P		16 49 09.1	-2.9
PVF				e*S*		Sn		16 50 36.5	-8.2
JOF	**Joensuu**	**8.45**	**106**	*e*P		P		16 49 12.8	-3.9
JOF				e*S*		Sn		16 50 44.0	-9.1
JOF				e*SG*		Sg		16 51 31.0	-22
JOF				MSG				16 51 35.0	
	comp=Z,4.6nm,0.3s								
VJF	**Virojoki**	**8.65**	**126**	e*SG*		Sg		16 51 36.8	-22
VJF				MSG				16 51 44.5	
	comp=Z,8.7nm,0.3s								
VSU	**Vasula**	**10.08**	**136**	Lg				16 52 25.0	
VSU	**Vasula**	**10.08**	**136**	*e*				16 52 25.0	
VSU	**Vasula**	**10.08**	**136**	Lg				16 52 25.0	
SPA0	**Spitsbergen Ar**	**11.86**	**3**	Pn		P		16 49 59.9	-3.5
	baz=176,slow=18								
SPA0	**Spitsbergen Ar**	**11.86**	**3**	*e*P		P		16 49 59.9	-3.5
SPA0	**Spitsbergen Ar**	**11.86**	**3**	Pn		P		16 49 59.8	-3.5
	SNR=4.2								

KRSC ***15*** *17:07:57.9±0.9,51.47N×157.56E,h105km±4km, ML4.0*
MOS ***15*** *17:07:58.3±0.8,51.48N×157.72E,h116km,mb3.7/4, Error ellipse: s-maj=58.0km s-min=10.6km az=66.8*
IDC ***15*** *17:08:11.3±5.3,52.46N×155.60E,h249km±62km,mb3.1/6, mb1 3.3/7,mb1mx3.0/22,mbtmp3.8/7,Error ellipse: s-maj=39.1km s-min=22.7km az=141.0*
ISC 15 17:07:57.8±0.6,51.43N±0.07×157.7E±0.1,h109km±5km, n41,σ1§02/57,mb3.6/4,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**0.54**	**274**	*i* P		**P**	**17 08 15.4**	**+0.5**
PAU				*i* S		**S**	**17 08 28.4**	**+0.5**
PAU				Smax				
	2µm,0.9s							
MIPR	**Malaya Ipel'ka**	**1.02**	**326**	*i* P		**P**	**17 08 18.7**	**-0.7**
RUS	**Russkaya**	**1.13**	**27**	*e*P		**P**	**17 08 21.0**	**+0.4**
RUS				e*S*		**S**	**17 08 37.3**	**-0.5**
GRL	**Gorelyy**	**1.15**	**12**	*i* P		**P**	**17 08 21.8**	**+0.9**
GRL				e*S*		**S**	**17 08 38.5**	**+0.3**
SKR	**Severo-Kuril'**	**1.24**	**233**	*i* P		**P**	**17 08 20.6**	**-1.2**
SKR				*i* S		**S**	**17 08 38.5**	**-1.4**
KRMR	**Karymshinskiy**	**1.43**	**11**	*e*P		**P**	**17 08 24.4**	**+0.3**
KRMR				e*S*		**S**	**17 08 43.6**	**-0.3**
APC	**Apacha**	**1.53**	**348**	*i* P		**P**	**17 08 24.8**	**-0.5**
APC				*i* S		**S**	**17 08 43.9**	**-2.1**
APC				Smax				
	250nm,0.9s							
PET	**Petropavlovsk**	**1.71**	**20**	P		**P**	**17 08 27.9**	**+0.4**
PET				S		**S**	**17 08 49.5**	**-0.2**
PET	**Petropavlovsk**	**1.71**	**20**	*i* P		**P**	**17 08 27.8**	**+0.3**
PET				e*S*		**S**	**17 08 49.5**	**-0.2**
PET	**Petropavlovsk**	**1.71**	**20**	*e*PN		**P**	**17 08 27.8**	**+0.3**
PET				e*S*		**S**	**17 08 50.1**	**+0.4**
PET				pmax	pmax			
	comp=Z,43nm,0.4s							
PET				smax				
	comp=N,302nm,0.4s							
UGLR	**Uglovaya**	**1.92**	**21**	*i* P		**P**	**17 08 31.6**	**+1.5**
AVH	**Avacha**	**1.95**	**19**	*i* P		**P**	**17 08 31.9**	**+1.4**
AVH				*i* S		**S**	**17 08 56.4**	**+1.4**
KOK	**Koryaka**	**1.96**	**17**	*i* P		**P**	**17 08 32.2**	**+1.6**
SMAR	**Somma**	**1.96**	**20**	*i* P		**P**	**17 08 32.0**	**+1.3**
NLC	**Nalytchevo**	**2.02**	**30**	P		**P**	**17 08 31.3**	**-0.2**
NLC				S		**S**	**17 08 55.1**	**-1.6**
NLC	**Nalytchevo**	**2.02**	**30**	*i* P		**P**	**17 08 31.4**	**-0.1**
NLC				*i* S		**S**	**17 08 55.5**	**-1.2**
SPN	**Mys Shipunski**	**2.21**	**40**	P		**P**	**17 08 34.6**	**+0.6**
SPN				S		**S**	**17 09 00.1**	**-1.0**
SPN	**Mys Shipunski**	**2.21**	**40**	*e*P		**P**	**17 08 34.8**	**+0.8**
SPN				e*S*		**S**	**17 09 00.6**	**-0.5**
GNL	**Ganaly**	**2.27**	**4**	*i* P		**P**	**17 08 35.0**	**+0.1**
GNL				e*S*		**S**	**17 09 01.7**	**-1.0**
MKZ	**Mys Kozlova**	**3.98**	**36**	S		**S**	**17 09 40.6**	**-3.3**
TUMR	**Tumrok**	**4.13**	**20**	*e*P		**P**	**17 09 01.8**	**+1.7**
ESO	**Esso**	**4.54**	**7**	*e*P		**P**	**17 09 05.7**	**0.0**
KMNR	**Kamenistaya**	**4.59**	**18**	*e*P		**P**	**17 09 06.9**	**+0.5**
ZLN	**Zelenaya**	**4.96**	**21**	*e*P		**P**	**17 09 11.6**	**+0.3**
CIRR	**Tsirk**	**5.04**	**20**	*e*P		**P**	**17 09 11.9**	**-0.4**
KLY	**Klyuchi**	**5.20**	**19**	P		**P**	**17 09 15.7**	**+1.2**
KLY	**Klyuchi**	**5.20**	**19**	*e*P		**P**	**17 09 15.5**	**+1.0**
SRKR	**Sorokina**	**5.62**	**20**	*e*P		**P**	**17 09 19.8**	**-0.5**
KBTR	**Krutoberegovo**	**5.67**	**30**	*i* P		**P**	**17 09 20.7**	**-0.2**
BKI	**Bering**	**6.24**	**50**	*e*P		**P**	**17 09 27.0**	**-1.8**
BKI				e*S*		**S**	**17 10 31.2**	**-8.1**
BKI				Smax				
	comp=N,130nm,0.3s							
ASAJ	**Asahikawa**	**12.49**	**240**	P		**P**	**17 10 54.3**	**+1.7**
	comp=N,0.5nm,0.3s,baz=50,slow=13,SNR=7.0							
ASAJ	**Asahikawa**	**12.49**	**240**	PN		**P**	**17 10 54.3**	**+1.7**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**20.34**	**231**	P		**P**	**17 12 26.6**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=24,slow=11,SNR=4.8							
MJAR	**Matsushiro Arr**	**20.34**	**231**	P		**P**	**17 12 26.7**	**-0.6**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ILAR	**Eielson Array**	**31.05**	**43**	P		**P**	**17 14 05.3**	**-1.6**
	comp=Z,0.5nm,0.9s,mb3.2,baz=268,slow=8.6,SNR=4.3							
ILAR	**Eielson Array**	**31.05**	**43**	P		**P**	**17 14 05.4**	**-1.5**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
INK	**Inuvik**	**36.09**	**36**	P		**P**	**17 14 49.2**	**-1.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=270,slow=7.1,SNR=4.7							
INK	**Inuvik**	**36.09**	**36**	P		**P**	**17 14 49.2**	**-1.0**
INK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**45.40**	**41**	P		**P**	**17 16 05.9**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.3,baz=296,slow=8.0,SNR=4.4							
TXAR	**Lajitas Array**	**72.67**	**65**	P		**P**	**17 19 16.0**	**+0.8**
	comp=Z,0.7nm,0.4s,mb3.8,baz=293,slow=5.0,SNR=12							
TXAR	**Lajitas Array**	**72.67**	**65**	P		**P**	**17 19 16.0**	**+0.8**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							

CRAAG ***15*** *17:11:05.4,36.48N×3.33E,Ml3.2*
CSEM ***15*** *17:11:06.6±0.3,36.55N×3.31E,h12km,ML3.2, Error ellipse: s-maj=7.6km s-min=4.3km az=126.0*
MDD ***15*** *17:11:07.4±0.9,36.48N×3.33E,mb3.9/3, Error ellipse: s-maj=12.4km s-min=5.2km az=120.0,PRXIMO*
NEIC ***15*** *17:11:10.7,36.79N×3.40E,MG3.5(MDD), After MDD.*
ISC 15 17:11:07.3±0.9,36.56N±0.04×3.22E±0.08,h10km,n21, σ0§91/30,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ABMS	**Boumerdes**	**0.28**	**48**	P		**Pg**	**17 11 12.8**	**-0.3**
ABA	**Alger-Bouzarea**	**0.28**	**328**	P		**Pg**	**17 11 15.0**	**+1.8**
EMHD	**Djebel Mahouad**	**0.42**	**211**	P		**Pg**	**17 11 15.0**	**-0.9**
EBNR	**Beni Rached**	**1.39**	**259**	P		**Pn**	**17 11 32.0**	**-0.8**
ECHA	**Ech Chlef**	**1.56**	**255**	P		**Pn**	**17 11 35.0**	**-0.2**
ECHF	**Ech Chlef**	**1.57**	**256**	P		**Pn**	**17 11 35.0**	**-0.4**
SET	**Setif**	**1.79**	**101**	P		Px	17 11 50.0	
EANR	**'Ain N'Sour**	**1.82**	**251**	P		**Pn**	**17 11 40.0**	**+1.0**
ETRT	**Tiaret**	**1.95**	**234**	P		**Pn**	**17 11 41.0**	**+0.2**
EIBI	**Ibiza**	**2.88**	**329**	P		**Pn**	**17 11 55.2**	**+1.1**
	6.0nm,0.2s,SNR=9.9							
EIBI				S		**Sn**	**17 12 28.8**	**-0.2**
	3.2nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**2.88**	**329**	P		**Pn**	**17 11 55.2**	**+1.1**
EIBI				S		**Sn**	**17 12 27.6**	**-1.5**
EIBI	**Ibiza**	**2.88**	**329**	P		**Pn**	**17 11 55.2**	**+1.1**
EIBI				S		**Sn**	**17 12 27.5**	**-1.6**
ETOS	**Mallorca**	**3.22**	**354**	P		**Pn**	**17 11 58.7**	**-0.2**
	2.6nm,0.2s,SNR=9.7							
ETOS				S		**Sn**	**17 12 37.1**	**-0.6**
	0.8nm,0.1s,SNR=4.0							
ETOS	**Mallorca**	**3.22**	**354**	P		**Pn**	**17 11 58.7**	**-0.2**
ETOS				S		**Sn**	**17 12 32.6**	**-5.0**
ETOS	**Mallorca**	**3.22**	**354**	P		**Pn**	**17 11 58.7**	**-0.2**
ETOS				S		**Sn**	**17 12 32.7**	**-5.0**
EBEN	**Beniarda**	**3.47**	**309**	P		**Pn**	**17 12 03.8**	**+1.2**
EBEN				S		**Sn**	**17 12 44.5**	**+0.4**
EBEN	**Beniarda**	**3.47**	**309**	P		**Pn**	**17 12 03.8**	**+1.3**
EBEN				S		**Sn**	**17 12 44.5**	**+0.3**
EMOS	**Mosqueruela**	**4.78**	**324**	P		**Pn**	**17 12 21.6**	**+0.6**
	1.1nm,0.2s,SNR=8.6							
EMOS				S		**Sn**	**17 13 15.5**	**-1.7**
	SNR=7.9							
EMOS	**Mosqueruela**	**4.78**	**324**	P		**Pn**	**17 12 21.6**	**+0.5**
EMOS				S		**Sn**	**17 13 15.5**	**-1.7**
EPOB	**Poblet**	**5.07**	**341**	P		**Pn**	**17 12 24.7**	**-0.4**
	0.7nm,0.2s,SNR=4.0							
EPOB	**Poblet**	**5.07**	**341**	P		**Pn**	**17 12 24.7**	**-0.5**

NEIC 15 17:29:29.5,45.01S×167.63E,h76km,ML4.2(WEL),After WEL.,South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MSZ	**Milford Sound**	**0.40**	**32**	P		P	17 29 41.7	-0.4
MLZ	**Mavora Lakes**	**0.51**	**132**	*e*P		P	17 29 42.5	-0.6
MLZ				S		S	17 29 53.1	-0.1
EAZ	**Earnscleugh**	**1.21**	**101**	P		P	17 29 50.8	-0.4
JCZ	**Jackson Bay**	**1.23**	**41**	P		P	17 29 51.3	-0.3

CSEM ***15*** *17:33:44.3±0.1,35.48N×26.49E,h40km,MD3.5, Error ellipse: s-maj=1.9km s-min=1.5km az=89.0*
ATH ***15*** *17:33:45.0,35.58N×26.38E,h43km±2km,MD3.5/11*
NEIC ***15*** *17:33:45.0,35.58N×26.38E,h43km,MD3.5(ATH), After ATH.*
ISK ***15*** *17:33:46.2,35.65N×26.44E,h30km,MD3.6*
HLW ***15*** *17:33:48.1,35.45N×26.53E,h31km,Mb3.7*
ISC 15 17:33:44.6±0.4,35.49N±0.03×26.42E±0.04,h61km±11km, n37,σ0§92/45,5C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**0.61**	**84**	*i*P		**P**	**17 33 58.4**	**+0.4**
NPS	**Neapolis**	**0.69**	**252**	*i*P		**P**	**17 33 59.6**	**+0.7**
NPS				e*S*		**S**	**17 34 08.9**	**-0.7**
XRY	**Khrisi**	**0.85**	**224**	*e*P		**P**	**17 34 02.3**	**+1.4**
SANT	**Santorini**	**1.18**	**319**	*e*Pn		**P**	**17 34 05.2**	**-0.1**
SANT				*e*Sn		**S**	**17 34 18.5**	**-2.2**
SANT	**Santorini**	**1.18**	**319**	*e*Pn		**P**	**17 34 05.2**	**-0.1**
SANT				*e*Sn		**S**	**17 34 18.5**	**-2.3**
NISR	**Nisiros**	**1.26**	**27**	*e*P		**P**	**17 34 06.5**	**-0.1**
DAT	**Datca**	**1.56**	**37**	PN		**P**	**17 34 09.4**	**-1.3**
DAT				SN		**S**	**17 34 28.1**	**-1.8**
ARG	**Arkhangelos**	**1.57**	**62**	*e*P		**P**	**17 34 12.1**	**+1.3**
ARG				e*S*		**S**	**17 34 30.7**	**+0.5**
BODT	**Bodrum**	**1.73**	**24**	PN		**P**	**17 34 12.4**	**-0.7**
APE	**Apeiranthos**	**1.73**	**336**	*e*P		**P**	**17 34 13.2**	**+0.1**
APE				e*S*		**S**	**17 34 32.8**	**-1.3**
VAM	**Vamos**	**1.81**	**268**	*e*P		**P**	**17 34 14.4**	**+0.2**
GVD	**Gavdhos**	**2.02**	**252**	*e*P		**P**	**17 34 19.0**	**+2.0**
MLSB	**Milas**	**2.11**	**31**	*e*PN		**P**	**17 34 18.6**	**+0.2**
DALT	**Dalyan (Mudla)**	**2.21**	**54**	*e*PN		**P**	**17 34 19.8**	**+0.1**
YER	**Yerkesik**	**2.23**	**42**	*e*PN		**P**	**17 34 20.5**	**+0.4**
SMG	**Samos**	**2.25**	**9**	*e*P		**P**	**17 34 20.1**	**-0.1**
FETY	**Fethiye**	**2.45**	**61**	*e*PN		**P**	**17 34 23.7**	**+0.6**
KYTH	**Kithira**	**2.86**	**287**	*e*P		**P**	**17 34 29.5**	**+0.6**
BLCB	**Balcova**	**2.94**	**10**	*e*PN		**P**	**17 34 30.3**	**+0.2**
IZM	**Izmir**	**2.98**	**13**	*e*PN		**P**	**17 34 30.9**	**+0.2**
VLI	**Veliai**	**3.08**	**295**	*e*P		**P**	**17 34 32.3**	**+0.3**
DENT	**Denizli**	**3.09**	**42**	*e*PN		**P**	**17 34 32.0**	**-0.2**
ELL	**Elmali**	**3.10**	**65**	*e*PN		**P**	**17 34 33.9**	**+1.6**
KHL	**Karahalli**	**3.77**	**40**	*e*PN		**P**	**17 34 41.9**	**+0.1**
BCK	**Bucak**	**3.90**	**58**	*e*PN		**P**	**17 34 44.7**	**+1.2**
HMAT	**Matruh**	**4.42**	**172**	P		**P**	**17 34 51.3**	**+0.5**
HMAT				S		**S**	**17 35 38.9**	**-2.5**
KIZT	**Kizilcal**	**5.52**	**51**	*e*PN		**P**	**17 35 07.4**	**+1.2**
SWA1		**6.23**	**186**	P		**P**	**17 35 16.5**	**+0.4**
SWA1				S		**S**	**17 36 22.6**	**-4.2**
SWA2		**6.28**	**188**	‖P		**P**	**17 35 17.3**	**+0.6**
HSAF	**As Saff**	**7.28**	**142**	⇑P		**P**	**17 35 30.6**	**-0.1**
GLL	**Jalalah**	**7.39**	**141**	⇑*e*P		**P**	**17 35 31.4**	**-0.8**
AWBH		**7.45**	**163**	⇑P		**P**	**17 35 32.6**	**-0.4**
AMAG	**Maghara**	**7.47**	**128**	P		**P**	**17 35 32.2**	**-1.1**
HRSH	**Kfar Ka'horesh**	**7.60**	**124**	P		**P**	**17 35 34.4**	**-0.8**
RSH		**7.60**	**124**	P		**P**	**17 35 34.4**	**-0.7**
SUZ		**7.80**	**134**	⇑P		**P**	**17 35 37.2**	**-0.7**
HFRF	**Wahat Farafira**	**8.47**	**168**	P		**P**	**17 35 47.0**	**0.0**

ATH ***15*** *17:42:38.6,38.16N×27.11E,h56km±3km,MD3.0/3*
ISK ***15*** *17:42:39.7,38.24N×26.84E,h10km,MD2.9*
CSEM ***15*** *17:42:39.4±0.3,38.20N×26.86E,h12km,MD2.9, Error ellipse: s-maj=6.0km s-min=5.0km az=46.0*
ISC 15 17:42:40.0±0.6,38.24N±0.03×26.82E±0.04,h3km±6km, n13,σ0§90/20,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
URLA	**Izmir**	**0.21**	**305**	*i* P		**Pg**	**17 42 43.6**	**-0.6**
URLA				*i* S		**Sg**	**17 42 47.3**	**+0.2**
BLCB	**Balcova**	**0.23**	**51**	*i* PG		**Pg**	**17 42 44.4**	**-0.2**
IZM	**Izmir**	**0.38**	**66**	*i* PG		**Pg**	**17 42 47.7**	**0.0**
IZM				*i* SG		**Sg**	**17 42 53.3**	**+0.5**
KDAG	**Bornova**	**0.39**	**65**	*i* P		**Pg**	**17 42 46.9**	**-0.9**
KDAG				*i* S		**Sg**	**17 42 52.7**	**-0.2**
SMG	**Samos**	**0.53**	**178**	*e*P		**Pg**	**17 42 51.0**	**+0.4**
SMG				e*S*		**Sg**	**17 42 59.6**	**+2.0**
AKS	**Akhisar**	**1.01**	**50**	PG		**Pg**	**17 42 59.5**	**-0.6**
AYDN	**Tasoluk**	**1.02**	**124**	*i* P		**Pb**	**17 43 00.3**	**+0.5**
AYDN				*i* S		**Sb**	**17 43 13.7**	**+0.2**
PRK	**Paraskevi**	**1.09**	**337**	*e*P		**Pb**	**17 43 01.0**	**-0.1**
PRK				e*S*		**Sb**	**17 43 17.7**	**+2.2**
BODT	**Bodrum**	**1.24**	**161**	*e*PN		**Pn**	**17 43 03.6**	**-0.5**
MANT	**Manisa**	**1.39**	**79**	*i* P		**Pb**	**17 43 06.8**	**+0.6**
MANT				*i* S		**Sb**	**17 43 24.7**	**+0.5**
APE	**Apeiranthos**	**1.55**	**222**	*e*P		**Pn**	**17 43 06.7**	**-1.9**
YER	**Yerkesik**	**1.60**	**133**	*e*PN		**Pn**	**17 43 07.7**	**-1.6**
BALB	**Balikesir**	**1.63**	**30**	*e*PN		**Pn**	**17 43 09.4**	**-0.2**

IDC ***15*** *17:44:57.1±1.8,51.90N×170.54W,mb3.8/8,mb1 4.0/9, mb1mx3.8/23,mbtmp3.7/9,ML3.8/1, Error ellipse: s-maj=48.8km s-min=20.8km az=3.0*
NEIC ***15*** *17:45:02.3±3.5,51.95N×170.45W,h33km±23km, ML3.3(AEIC),Error ellipse: s-maj=27.0km s-min=8.8km az=169.0*
ISC 15 17:45:01.0±1.9,51.8N±0.2×170.4W±0.1,h42km±13km,n16, σ0§93/18,mb3.7/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NIKO	**Nikolski**	**1.47**	**39**	P		**P**	**17 45 25.0**	**-0.6**
NIKO				S		**S**	**17 45 44.3**	**+0.5**
OKCE	**Okmok Cone E**	**2.09**	**40**	P		**P**	**17 45 34.1**	**-0.1**
OKCD	**Okmok Cone D**	**2.11**	**40**	P		**P**	**17 45 35.3**	**+0.7**
ATKA	**Atka Island**	**2.38**	**280**	P		**P**	**17 45 38.3**	**-0.2**
ATKA				S		**S**	**17 46 07.3**	**+0.6**
UNV	**Unalaska Valle**	**3.10**	**48**	P		**P**	**17 45 48.7**	**0.0**
KDAK	**Kodiak Island**	**11.85**	**53**	Pn		**P**	**17 47 47.2**	**-2.8**
	0.4nm,0.3s,baz=252,slow=20,SNR=3.4							
KDAK	**Kodiak Island**	**11.85**	**53**	Pn		**P**	**17 47 47.2**	**-2.9**
ILAR	**Eielson Array**	**17.74**	**34**	P		**P**	**17 49 05.6**	**-0.6**
	0.1nm,0.3s,baz=219,slow=11,SNR=12							
DLBC	**Dease Lake**	**23.70**	**58**	P		**P**	**17 50 10.1**	**+0.7**
	2.8nm,0.9s,mb3.7,baz=249,slow=14,SNR=2.0							
INK	**Inuvik**	**24.13**	**33**	P		**P**	**17 50 14.2**	**+0.7**
	3.6nm,0.6s,mb4.0,baz=254,slow=7.9,SNR=14							
YKA	**Yellowknife Ar**	**31.06**	**48**	P		**P**	**17 51 17.5**	**+0.7**
	0.7nm,0.5s,mb3.8,baz=272,slow=8.0,SNR=17							
PDAR	**Pinedale Array**	**41.12**	**78**	P		**P**	**17 52 44.9**	**+2.5**
	0.3nm,0.5s,mb3.1,baz=304,slow=3.3,SNR=3.4							
SONM	**Songino Array**	**51.03**	**301**	P		**P**	**17 54 00.7**	**+0.1**
	0.4nm,0.5s,mb3.6,baz=72,slow=6.1,SNR=5.0							
TXAR	**Lajitas Array**	**53.39**	**88**	P		**P**	**17 54 17.8**	**-0.8**
	0.5nm,0.6s,mb3.6,baz=292,slow=6.7,SNR=5.3							
MKAR	**Makanchi Array**	**63.71**	**313**	P		**P**	**17 55 29.2**	**-0.9**
	0.9nm,0.8s,mb3.9,baz=45,slow=6.9,SNR=9.2							
FINES	**FINESS Array B**	**66.30**	**351**	P		**P**	**17 55 45.5**	**-1.1**
	0.7nm,0.5s,mb3.9,baz=11,slow=9.7,SNR=4.4							

ISC 15 17:54:28.1±0.8,39.48N±0.04×39.50E±0.07,h10km,n6, σ1§24/11,Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
EZC	**Erzincan**	**0.36**	**42**	PG		**Pg**	**17 54 34.8**	**-0.7**
EZC				SG		**Sg**	**17 54 41.3**	**+0.9**
KELT	**Kelkit**	**0.69**	**344**	*i* P		**Pb**	**17 54 40.7**	**-1.1**
KELT				*i* S		**Sb**	**17 54 52.5**	**+1.4**
ELZG	**Elazig**	**1.06**	**203**	*i* P		**Pb**	**17 54 46.7**	**-1.5**
ELZG				*i* S		**Sb**	**17 55 03.4**	**+1.5**
BNGL	**BINGOL**	**1.38**	**112**	*i* P		**Pn**	**17 54 51.0**	**-2.5**
BNGL				*i* S		**Sb**	**17 55 11.3**	**+0.1**
EZM	**Er

*ATH **15** 19:17:58.8,38.33N×22.04E,h17km±1km,MD3.5/17, ML3.3*
*NEIC **15** 19:17:58.9,38.35N×22.04E,h16km,ML3.3(ATH),After ATH.*
*CSEM **15** 19:17:59.0±0.1,38.37N×22.04E,h8km,ML3.3,Error ellipse: s-maj=2.3km s-min=1.8km az=139.0*
*SOF **15** 19:18:17.1,39.63N×23.03E,h2km,MD2.5*

ISC 15 19:17:58.5±0.9,38.33N±0.03×22.07E±0.03,h3km±7km, n49,σ0s99/61,mb3.9/1,Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.55**	**240**	*e*PN		**Pg**	**19 18 09.2**	**-0.2**
RLS				*e*SN		**Sg**	**19 18 17.4**	**+0.7**
EVR	**Evrytania**	**0.62**	**341**	*e*PB		**Pg**	**19 18 10.3**	**-0.5**
EVR				*e*SB		**Sg**	**19 18 19.9**	**+0.8**
LKR	**Lokris**	**0.80**	**66**	*e*PB		**Pn**	**19 18 13.8**	**-0.8**
MGER	**Gerania Oros**	**1.00**	**110**	*e*PN		**Pn**	**19 18 18.5**	**-0.7**
MGER	**Gerania Oros**	**1.00**	**110**	*e*Pn		**Pn**	**19 18 19.7**	**+0.5**
ITM	**Ithomi**	**1.16**	**186**	*e*PN		**Pn**	**19 18 20.7**	**-0.8**
LKD	**Levkas**	**1.18**	**289**	*e*P		**Pb**	**19 18 20.1**	**-1.0**
LKD	**Levkas**	**1.18**	**289**	P		**Pb**	**19 18 20.1**	**-1.0**
LKD				S		**Sb**	**19 18 39.8**	**+3.3**
LKD	**Levkas**	**1.18**	**289**	P		**Pb**	**19 18 20.1**	**-1.0**
LKD				S		**Sb**	**19 18 39.8**	**+3.2**
VLS	**Valsamata**	**1.18**	**263**	*e*PN		**Pn**	**19 18 20.3**	**-1.4**
VLS				*e*SN		**Sn**	**19 18 37.4**	**-1.1**
VLS	**Valsamata**	**1.18**	**263**	*e*Pb		**Pb**	**19 18 19.7**	**-1.4**
VLS				*e*Sn		**Sn**	**19 18 37.7**	**-0.8**
NAIG	**Nisos Aigina**	**1.26**	**117**	*e*PN		**Pn**	**19 18 23.8**	**+0.9**
NAIG	**Nisos Aigina**	**1.26**	**117**	*e*Pn		**Pn**	**19 18 24.5**	**+1.6**
MPAR	**Parnis Oros**	**1.32**	**97**	*e*PN		**Pn**	**19 18 23.5**	**-0.4**
NEO	**Neokhori**	**1.33**	**42**	*e*PN		**Pn**	**19 18 23.4**	**-0.5**
NEO				*e*SN		**Sn**	**19 18 42.6**	**+0.5**
ATH	**Athens Observa**	**1.35**	**105**	*e*PN		**Pn**	**19 18 25.1**	**+0.9**
XOR	**Xorichti**	**1.35**	**40**	*e*P		**Pb**	**19 18 24.5**	**+0.3**
PTL	**Penteli**	**1.44**	**101**	*e*PN		**Pn**	**19 18 26.8**	**+1.2**
PTL	**Penteli**	**1.44**	**101**	*e*Pn		**Pn**	**19 18 27.2**	**+1.6**
JAN	**Janina**	**1.63**	**325**	*e*PN		**Pn**	**19 18 29.3**	**+1.1**
JAN	**Janina**	**1.63**	**325**	*e*Pn		**Pn**	**19 18 29.8**	**+1.6**
AOS	**Alonnisos**	**1.65**	**59**	*e*P		**Pn**	**19 18 28.0**	**-0.5**
AOS	**Alonnisos**	**1.65**	**59**	P		**Pn**	**19 18 28.0**	**-0.5**
AOS				S		**Sb**	**19 18 50.4**	**+0.2**
AOS	**Alonnisos**	**1.65**	**59**	P		**Pn**	**19 18 28.0**	**-0.5**
AOS				S		**Sb**	**19 18 50.4**	**+0.2**
VLI	**Veliai**	**1.75**	**157**	*e*PN		**Pn**	**19 18 30.3**	**+0.3**
LIT	**Litokhoron**	**1.80**	**10**	*e*P		**Pn**	**19 18 30.6**	**-0.1**
LIT	**Litokhoron**	**1.80**	**10**	P		**Pn**	**19 18 30.6**	**-0.1**
LIT				S		**Sn**	**19 18 57.6**	**+3.4**
LIT	**Litokhoron**	**1.80**	**10**	P		**Pn**	**19 18 30.6**	**0.0**
LIT				S		**Sn**	**19 18 57.7**	**+3.4**
IGT	**Igoumenitsa**	**1.81**	**312**	*e*P		**Pn**	**19 18 32.8**	**+1.9**
IGT	**Igoumenitsa**	**1.81**	**312**	P		**Pn**	**19 18 32.8**	**+1.9**
IGT				S		**Sn**	**19 18 59.4**	**+4.8**
KZN	**Kozani**	**1.99**	**353**	*e*PN		**Pn**	**19 18 33.8**	**+0.4**
KYTH	**Kithira**	**2.19**	**159**	*e*PN		**Pn**	**19 18 37.0**	**+0.8**
KYTH	**Kithira**	**2.19**	**159**	*e*Pn		**Pn**	**19 18 38.5**	**+2.3**
KEK	**Kerkira**	**2.24**	**309**	*e*PN		**Pn**	**19 18 37.3**	**+0.3**
KEK	**Kerkira**	**2.24**	**309**	*e*Pn		**Pn**	**19 18 38.2**	**+1.2**
PLG	**Polygyros**	**2.30**	**27**	*e*PN		**Pn**	**19 18 37.8**	**-0.1**
PLG	**Polygyros**	**2.30**	**27**	*e*Pn		**Pn**	**19 18 36.7**	**-1.2**
OUR	**Ouranopolis**	**2.49**	**36**	*e*P		**Pn**	**19 18 39.9**	**-0.7**
GRG	**Griva**	**2.63**	**5**	*e*P		**Pn**	**19 18 42.5**	**-0.2**
SOH	**Sokhos**	**2.68**	**21**	*e*P		**Pn**	**19 18 43.2**	**0.0**
KNT	**Kendrikon**	**2.90**	**12**	*e*P		**Pn**	**19 18 46.3**	**-0.1**
SRS	**Serrai**	**3.02**	**22**	*e*P		**Pn**	**19 18 47.5**	**-0.7**
NVR	**Nevrokopi**	**3.32**	**24**	*e*PN		**Pn**	**19 18 53.1**	**+0.8**
NVR	**Nevrokopi**	**3.32**	**24**	*e*Pn		**Pn**	**19 18 51.4**	**-0.9**
MMB	**Musomiste**	**3.50**	**21**	*i* P		**Pn**	**19 18 53.5**	**-1.4**
KKB	**Krupnik**	**3.62**	**12**	*i* P		**Pn**	**19 18 56.0**	**-0.6**
RZN	**Rozhen**	**3.92**	**30**	*i* P		**Pn**	**19 19 00.0**	**-0.9**
VTS	**Vitosha**	**4.34**	**11**	*i* P		**Pn**	**19 19 08.0**	**+1.1**
NB2	**NORSAR Subarra**	**23.73**	**347**	P		**P**	**19 23 10.9**	**-1.3**
	4.9nm,1.1s,mb3.9,baz=159,slow=9.3							

NEIC 15 19:38:59.2,47.64S×165.61E,h33km,ML3.7(WEL),After WEL.,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WHZ	**Wether Hill Ro**	**2.37**	**43**	P		P	19 39 34.9	-1.6
WHZ				S		S	19 40 01.4	-3.4
DCZ	**Deep Cove**	**2.41**	**27**	P		P	19 39 36.7	-0.4
MLZ	**Mavora Lakes**	**2.90**	**39**	P		P	19 39 41.9	-2.1
MLZ				S		S	19 40 14.7	-3.4
TUZ	**Tuapeka**	**3.24**	**60**	*e*P		P	19 39 47.5	-1.3
EAZ	**Earnscleugh**	**3.51**	**48**	P		P	19 39 51.3	-1.5
EAZ				S		S	19 40 30.1	-3.6
ODZ	**Otahua Downs**	**4.35**	**55**	*e*P		P	19 40 00.5	-4.1

*NEIC **15** 20:08:37.4±1.4,24.09S×179.25W,h490km±20km,mb4.5/7, Error ellipse: s-maj=19.0km s-min=16.0km az=70.0*
*IDC **15** 20:08:42.9±5.8,24.38S×179.84W,h516km±47km,mb3.5/6, mb1 3.6/8,mb1mx3.4/15,mbtmp4.5/8,Error ellipse: s-maj=68.9km s-min=18.3km az=53.0*

ISC 15 20:08:35.2±1.9,24.1S±0.1×179.4W±0.1,h468km±27km, n19,σ0s94/19,mb4.0/10,2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**12.39**	**37**	*e*Pn		**P**	**20 11 19.1**	**-0.5**
DZM	**Mont Dzumac**	**13.22**	**276**	P		**P**	**20 11 32.1**	**+3.8**
	0.8nm,0.3s,baz=93,slow=16,SNR=13							
URZ	**Urewera**	**14.46**	**191**	P		**P**	**20 11 43.1**	**+1.9**
	4.6nm,0.3s,baz=272,slow=2.3,SNR=19							
URZ				S		**S**	**20 14 06.4**	**-4.9**
	0.5nm,0.3s,baz=134,slow=19,SNR=3.8							
SNZO	**South Karori**	**17.89**	**195**	*e*P		**P**	**20 12 14.9**	**-0.8**
	30nm,0.9s							
RPZ	**Rata Peaks**	**21.12**	**200**	P		**P**	**20 12 45.8**	**-0.8**
	12nm,0.6s,mb4.6,baz=258,slow=3.8,SNR=10							
CTA	**Charters Tower**	**32.06**	**270**	⇓*i* P		**P**	**20 14 24.2**	**+0.5**
	9.2nm,0.3s,mb4.7							
CTAO	**Charters Tower**	**32.06**	**270**	*e*P		**P**	**20 14 24.0**	**+0.3**
	13nm,0.4s,mb4.7							
PMG	**Port Moresby**	**35.10**	**289**	P		**P**	**20 14 49.9**	**+0.6**
	12nm,0.8s,mb4.4,baz=188,slow=7.7,SNR=4.0							
PMG	**Port Moresby**	**35.10**	**289**	*e*P		**P**	**20 14 49.8**	**+0.6**
	15nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**35.20**	**248**	P		**P**	**20 14 49.9**	**0.0**
	0.8nm,0.3s,mb3.6,baz=145,slow=17,SNR=7.9							
STKA	**Stephens Creek**	**35.20**	**248**	*e*P		**P**	**20 14 49.5**	**-0.4**
WB2	**Warramunga Arr**	**42.97**	**266**	⇓*i* P		**P**	**20 15 52.2**	**-1.1**
WRA	**Warramunga Arr**	**42.98**	**266**	P		**P**	**20 15 52.4**	**-1.0**
	4.4nm,0.4s,mb4.3,baz=98,slow=8.2,SNR=154							
FITZ	**Fitzroy Crossi**	**51.40**	**266**	*e*P		**P**	**20 16 57.2**	**-0.5**
	5.0nm,0.8s,mb3.9							
VNDA	**Vanda**	**54.26**	**185**	P		**P**	**20 17 17.9**	**+0.4**
	1.3nm,0.7s,mb3.3,baz=4.4,slow=5.6,SNR=9.9							
MAW	**Mawson**	**77.80**	**200**	P		**P**	**20 19 43.8**	**0.0**
	1.9nm,0.5s,mb3.8,baz=118,slow=6.6,SNR=8.9							
SNAA	**Sanae**	**84.49**	**179**	*e*P		**P**	**20 20 17.9**	**0.0**
	0.9nm,0.6s,mb3.5							
ENH	**Enshi**	**87.02**	**305**	P		**P**	**20 20 32.4**	**+1.3**
	8.9nm,1.1s,mb4.4							
TORD	**Torodi Ar. Bea**	**169.09**	**185**	PKPab		PKPab	20 29 04.1	-0.3
	0.7nm,0.6s,baz=176,slow=4.4,SNR=8.8							

*IDC **15** 20:23:54.5±1.1,49.78S×161.37E,mb4.2/5,mb1 4.4/7, mb1mx4.3/10,mbtmp4.3/7,ML4.1/2,MS4.1/7,Ms1 4.0/7, ms1mx4.0/9,Error ellipse: s-maj=28.5km s-min=25.8km az=82.0*
*NEIC **15** 20:23:58.1±2.5,49.65S×161.41E,h10km,mb4.7/2,Error ellipse: s-maj=52.9km s-min=8.5km az=169.0*

ISC 15 20:23:55.0±0.8,49.8S±0.1×161.59E±0.09,h10km,n44, σ1s24/45,mb4.2/7,MS4.0/5,North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DCZ	**Deep Cove**	**5.71**	**43**	PN		**Pn**	**20 25 22.2**	**+0.3**
DCZ	**Deep Cove**	**5.71**	**43**	P		**Pn**	**20 25 22.2**	**+0.2**
WHZ	**Wether Hill Ro**	**5.78**	**50**	PN		**Pn**	**20 25 24.1**	**+1.2**
WHZ				SN		**Sn**	**20 26 29.4**	**-0.6**
WHZ	**Wether Hill Ro**	**5.78**	**50**	P		**Pn**	**20 25 24.1**	**+1.2**
WHZ				S		**Sn**	**20 26 29.4**	**-0.6**
MLZ	**Mavora Lakes**	**6.28**	**48**	PN		**Pn**	**20 25 31.0**	**+1.0**
MLZ				*e*SN		**Sn**	**20 26 40.5**	**-2.1**
MLZ	**Mavora Lakes**	**6.28**	**48**	P		**Pn**	**20 25 31.0**	**+1.0**
MLZ				S		**Sn**	**20 26 43.1**	**+0.5**
TUZ	**Tuapeka**	**6.62**	**58**	PN		**Pn**	**20 25 35.8**	**+0.9**
TUZ				*e*SN		**Sn**	**20 26 50.3**	**-0.8**
TUZ	**Tuapeka**	**6.62**	**58**	P		**Pn**	**20 25 35.8**	**+1.0**
EAZ	**Earnscleugh**	**6.92**	**52**	PN		**Pn**	**20 25 40.3**	**+1.2**
EAZ				SN		**Sn**	**20 26 55.7**	**-3.0**
EAZ	**Earnscleugh**	**6.92**	**52**	P		**Pn**	**20 25 40.3**	**+1.2**
WKZ	**Wanaka**	**7.07**	**48**	*e*PN		**Pn**	**20 25 41.2**	**+0.1**
WKZ	**Wanaka**	**7.07**	**48**	*e*P		**Pn**	**20 25 43.0**	**+1.9**
JCZ	**Jackson Bay**	**7.52**	**43**	*e*PN		**Pn**	**20 25 45.8**	**-1.6**
JCZ	**Jackson Bay**	**7.52**	**43**	P		**Pn**	**20 25 49.5**	**+2.1**
JCZ				S		**Sn**	**20 27 13.7**	**+0.1**
ODZ	**Otahua Downs**	**7.75**	**56**	*e*P		**Pn**	**20 25 49.8**	**-0.9**
FOZ	**Fox Glacier**	**8.34**	**45**	*e*PN		**P**	**20 26 00.5**	**+1.7**
FOZ	**Fox Glacier**	**8.34**	**45**	*e*P		**P**	**20 26 00.5**	**+1.6**
RPZ	**Rata Peaks**	**8.88**	**51**	Pn		**P**	**20 26 04.6**	**-1.8**
	3.4nm,0.3s,baz=212,slow=5.9,SNR=9.2							
RPZ				LR		LR	20 29 28.5	
	comp=Z,963nm,20.4s,baz=116,slow=37							
WVZ	**Waitaha Valley**	**9.20**	**47**	*e*PN		**P**	**20 26 10.5**	**-0.4**
WVZ	**Waitaha Valley**	**9.20**	**47**	*e*P		**P**	**20 26 10.5**	**-0.3**
DSZ	**Denniston Nort**	**10.73**	**45**	*e*PN		**P**	**20 26 31.5**	**-0.3**
DSZ	**Denniston Nort**	**10.73**	**45**	*e*P		**P**	**20 26 31.5**	**-0.3**
QRZ	**Quartz Range**	**11.79**	**45**	*e*PN		**P**	**20 26 45.9**	**-0.3**
QRZ	**Quartz Range**	**11.79**	**45**	*e*P		**P**	**20 26 45.9**	**-0.3**
SNZO	**South Karori**	**12.48**	**52**	*e*Pn		**P**	**20 26 57.7**	**+2.3**
URZ	**Urewera**	**15.99**	**50**	Pn		**P**	**20 27 41.5**	**-0.1**
	0.4nm,0.3s,baz=189,slow=13,SNR=2.1							
URZ				LR		LR	20 34 17.1	
	comp=Z,669nm,19.7s,baz=232,slow=39							
STKA	**Stephens Creek**	**23.30**	**313**	P		**P**	**20 29 02.1**	**-1.6**
	6.9nm,1.0s,mb4.0,baz=170,slow=11,SNR=3.3							
STKA				LR		LR	20 36 41.3	
	comp=Z,512nm,20.0s,MS4.0,baz=205,slow=33							
STKA	**Stephens Creek**	**23.30**	**313**	*e*P		**P**	**20 29 04.8**	**+1.0**
RAO	**Raoul Island**	**25.73**	**45**	LR		LR	20 39 28.5	
	comp=Z,440nm,18.8s,MS4.0,baz=144,slow=36							
VNDA	**Vanda**	**27.85**	**180**	P		**P**	**20 29 44.9**	**-1.2**
	1.1nm,0.9s,mb3.5,baz=330,slow=6.1,SNR=3.5							
VNDA	**Vanda**	**27.85**	**180**	P		**P**	**20 29 44.9**	**-1.2**
DZM	**Mont Dzumac**	**27.91**	**10**	P		**P**	**20 29 47.1**	**-0.1**
	3.6nm,0.9s,mb4.0,baz=313,slow=19,SNR=2.6							
DZM				LR		LR	20 39 05.5	
	comp=Z,284nm,19.0s,MS3.9,baz=215,slow=33							
CTAO	**Charters Tower**	**32.05**	**332**	*e*P		**P**	**20 30 25.0**	**+1.0**
	11nm,1.0s,mb4.6							
ASPA	**Alice Springs**	**33.88**	**310**	*e*P		**P**	**20 30 40.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**36.70**	**280**	P		**P**	**20 31 06.0**	**+2.2**
	13nm,0.9s,mb4.8							
WB2	**Warramunga Arr**	**36.83**	**314**	*e*P		**P**	**20 31 03.2**	**-1.8**
WRA	**Warramunga Arr**	**36.84**	**314**	P		**P**	**20 31 03.3**	**-1.8**
	13nm,1.0s,mb4.7,baz=147,slow=8.1,SNR=34							
WRA				PcP		PcP	20 33 24.8	-2.6
	0.6nm,0.7s,baz=149,slow=2.8,SNR=4.9							
FITZ	**Fitzroy Crossi**	**42.75**	**305**	P		**P**	**20 31 52.8**	**-1.3**
	3.2nm,0.9s,mb4.0,baz=156,slow=12,SNR=4.8							
MAW	**Mawson**	**48.27**	**210**	LR		LR	20 51 46.0	
	comp=Z,292nm,18.3s,MS4.3,baz=64,slow=35							
GUMO	**Guam**	**64.78**	**342**	P		**P**	**20 34 36.8**	**+0.7**
	222nm,1.3s							
PLCA	**Paso Flores**	**78.90**	**142**	LR		LR	21 01 55.6	
	comp=Z,711nm,21.2s,MS4.0,baz=180,slow=29							
AKASG	**Malin Array Be**	**149.93**	**290**	PKPbc		PKPdf	20 43 44.0	+1.4
	0.5nm,0.4s,baz=81,slow=3.3,SNR=5.1							
ARCES	**ARCESS Array B**	**151.28**	**329**	PKPbc		PKPdf	20 43 49.5	+5.4
	7.1nm,0.8s,baz=72,slow=3.8,SNR=8.0							
FINES	**FINESS Array B**	**152.87**	**312**	PKPbc		PKPdf	20 43 52.3	+5.7
	1.6nm,0.7s,baz=108,slow=6.0,SNR=5.5							

IDC 15 20:50:06.7±2.5,6.71S×152.46E,mb3.6/4,mb1 3.9/4, mb1mx3.8/10,mbtmp3.7/4,Error ellipse: s-maj=83.7km s-min=34.8km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.96**	**231**	P		P	20 55 02.3	-1.7
	1.6nm,0.7s,baz=55,slow=9.5,SNR=4.7							
SONM	**Songino Array**	**67.76**	**328**	P		P	21 01 06.9	-1.5
	0.4nm,0.6s,baz=138,slow=6.3,SNR=4.5							
MKAR	**Makanchi Array**	**81.54**	**319**	P		P	21 02 26.1	-1.5
	0.5nm,0.9s,baz=118,slow=5.2,SNR=3.8							
ILAR	**Eielson Array**	**84.05**	**22**	P		P	21 02 38.6	-1.5
	0.7nm,0.8s,baz=246,slow=6.3,SNR=5.7							

*CSEM **15** 21:12:17.2±0.7,38.78N×29.10W,ML1.6,Error ellipse: s-maj=15.3km s-min=7.2km az=73.0,After PDA*
*PDA **15** 21:12:17.2±0.7,38.78N×29.10W,MD3.1,ML1.6,Error ellipse: s-maj=15.3km s-min=7.2km az=73.0*

SVSA 15 21:12:17.2±0.7,38.78N×29.10W,MD3.1,ML1.6,Error ellipse: s-maj=15.3km s-min=7.2km az=73.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.30**	**129**	*e*S		Sg	21 12 27.3	0.0
	18nm,0.1s							
PTCA	**Ponta do Capel**	**0.30**	**129**	*e*S		Sg	21 12 27.3	0.0
	18nm,0.1s							
PCED	**Cedros**	**0.34**	**115**	*e*P		Pg	21 12 23.4	-0.6
PCED				*e*S		Sg	21 12 28.2	-0.4
	40nm,0.2s							
PCED	**Cedros**	**0.34**	**115**	*e*P		Pg	21 12 23.4	-0.6
PCED				*e*S		Sg	21 12 28.2	-0.4
	40nm,0.2s							
PCND	**Candelaria**	**0.58**	**121**	*e*S		Sg	21 12 35.6	-1.0
	14nm,0.2s							
PICO	**Pico**	**0.59**	**117**	*i* P		Pg	21 12 27.7	-1.3
PICO				*e*S		Sg	21 12 35.7	-1.2
ROSA	**Rosais**	**0.67**	**95**	*e*P		Pg	21 12 29.0	-1.6

MAN 15 21:37:02.6,13.52N×120.75E,h42km,mb3.8,ML2.5, MS2.1,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PGP	**Puerto Galera**	**0.20**	**94**	*e*P		P	21 37 18.0	+8.0
LUBP	**Lubang**	**0.54**	**294**	*e*P		P	21 37 15.8	+1.9
LUBP				*e*S		S	21 37 23.9	+2.0
BOAC	**Boac**	**1.06**	**93**	*e*P		P	21 37 21.4	+0.1
BOAC				*e*S		S	21 37 40.3	+5.2
SJMP	**San Jose**	**1.11**	**161**	*e*P		P	21 37 22.5	+0.6
SJMP				*e*S		S	21 37 36.6	+0.5
BUSP	**Coron**	**1.60**	**200**	*e*P		P	21 37 29.1	+0.2
BUSP				*e*S		S	21 37 44.2	-4.2
SCZP	**Santa Cruz**	**2.39**	**340**	*e*P		P	21 37 39.7	-0.4

*INMG **15** 21:42:23.6±1.1,37.14N×2.59W,h2km±2km,ML3.1,Error ellipse: s-maj=2.0km s-min=1.2km az=128.0*
*IGIL **15** 21:42:24.2,37.10N×2.60W,h2km,ML2.8*
*LDG **15** 21:42:26.2±0.2,37.12N×2.61W,h10km,Ml3.5/4,Error ellipse: s-maj=5.3km s-min=2.1km az=160.0*
*CSEM **15** 21:42:26.1±0.2,36.98N×2.46W,h30km,ML3.8/8,Error ellipse: s-maj=5.3km s-min=2.3km az=144.0*
*SFS **15** 21:42:28.0,37.10N×2.50W,ML2.7*

MDD 15 21:42:23.4±0.3,37.14N×2.57W,mbLg2.9/36,6C-2D, Error ellipse: s-maj=3.0km s-min=1.7km az=123.0, PRXIMO III OLULA DEL O II ABLA ABRUCENA ALBOLODUY BENAHADUX II ANA OHANES TABERNAS I ALHAMA DE A ALSODUX CASTRO DE FILABRAS,Spain

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EBER	**Berja**	**0.35**	**227**	⇑Pg		Pg	21 42 30.0	-0.4
	SNR=18							
EBER				Lg			21 42 34.8	
	2μm,0.3s,SNR=7.9							
EHUE	**Huescar**	**0.68**	**359**	Pg		Pg	21 42 35.8	-1.2
	5.0nm,0.2s,SNR=24							
EHUE				Lg			21 42 45.0	
	60nm,0.3s,SNR=7.9							
EQUE	**Quentar**	**0.70**	**276**	⇑Pg		Pg	21 42 35.9	-1.5
	51nm,0.1s,SNR=18							
EQUE				Lg			21 42 46.1	
	527nm,0.3s,SNR=7.9							
EQES	**Quesada**	**0.77**	**329**	Pg		Pg	21 42 38.0	-0.8
	27nm,0.1s,SNR=155							
EQES				Lg			21 42 47.8	
	82nm,0.1s,SNR=7.9							

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ECOG	**Cogollos-Vega**	**0.81**	**280**	⇓Pg		Pg	21 42 37.9	-1.7
	58nm,0.2s,SNR=18							
ECOG				Lg			21 42 49.4	
	378nm,0.4s,SNR=7.9							
ERON	**Agron**	**0.99**	**263**	⇑Pg		Pg	21 42 41.2	-2.1
	155nm,0.3s,SNR=18							
ERON				Lg			21 42 54.7	
	172nm,0.5s,SNR=7.9							
ELOJ	**Sierra Loja**	**1.26**	**271**	Pg		Pg	21 42 46.0	-2.6
	29nm,0.4s,SNR=23							
ELOJ				Lg			21 43 03.6	
	62nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**1.27**	**56**	⇑Pg		Pg	21 42 46.6	-2.2
	278nm,0.3s,SNR=18							
EMUR				Lg			21 43 03.6	
	253nm,0.4s,SNR=7.9							
CART	**Cartagena**	**1.33**	**70**	P		Pb	21 42 46.4	-2.5
CART	**Cartagena**	**1.33**	**70**	*e*P		Pb	21 42 46.4	-2.6
EBAN	**Banos Encina**	**1.41**	**317**	⇓Pg		Pg	21 42 49.3	-2.2
	46nm,0.1s,SNR=18							
EBAN				Lg			21 43 07.7	
	96nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**1.50**	**2**	Pg		Pg	21 42 50.9	-2.5
	148nm,0.4s,SNR=7.9							
EVIA				Lg			21 43 11.1	
	434nm,0.4s,SNR=7.9							
EMIJ	**Mijas**	**1.86**	**253**	Pn		Pn	21 42 54.6	-2.1
	8.0nm,0.2s,SNR=7.9							
EMIJ				Pg		Pg	21 42 56.6	-3.9
	13nm,0.2s,SNR=14							
EMIJ				Lg			21 43 22.4	
	202nm,0.9s,SNR=4.7							
EMEL	**Melilla**	**1.86**	**190**	Pn		Pn	21 42 54.3	-2.5
	2.5nm,0.1s,SNR=7.9							
EMEL				Pg		Pg	21 42 57.2	-3.4
	37nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**1.89**	**303**	Pn		Pn	21 42 55.9	-1.4
	0.9nm,0.2s,SNR=70							
EADA				Pg		Pg	21 42 57.9	-3.4
	11nm,0.2s,SNR=8.0							
EADA				Sn		Sn	21 43 19.3	-2.9
	19nm,0.2s,SNR=7.9							
EADA				Lg			21 43 23.5	
	416nm,0.6s,SNR=7.9							
REAL	**Reales**	**2.21**	**254**	*e*P		Pn	21 43 04.0	+2.1
LIJA	**Lijar**	**2.28**	**265**	P		Pn	21 43 03.4	+0.6
LIJA	**Lijar**	**2.28**	**265**	*e*P		Pn	21 43 03.4	+0.6
LIJA				*e*S		Sn	21 43 33.0	+1.0
EJIF	**Jimena Fronter**	**2.42**	**254**	Pn		Pn	21 43 02.3	-2.6
	0.6nm,0.2s,SNR=7.9							
EJIF				Pg		Pg	21 43 08.2	-3.6
	36nm,0.5s,SNR=19							
EJIF				Lg			21 43 40.3	
	32nm,0.6s,SNR=4.0							
EBEN	**Beniarda**	**2.43**	**49**	Pn		Pn	21 43 02.3	-2.7
	2.7nm,0.3s,SNR=4.0							
EBEN				Pg		Pg	21 43 07.7	-4.2
	17nm,0.5s,SNR=7.9							
EBEN				Sn		Sn	21 43 33.2	-2.6
	27nm,0.6s,SNR=11							
EBEN				Lg			21 43 41.1	
	122nm,1.6s,SNR=7.9							
ESPR	**Espera**	**2.64**	**265**	Pg		Pg	21 43 11.0	-5.2
	103nm,0.8s,SNR=22							
ESPR				Sn		Sn	21 43 37.5	-3.8
	46nm,0.7s,SNR=19							
ESPR				Lg			21 43 48.1	
	82nm,0.5s,SNR=4.8							
GIBL	**Gibalbin**	**2.74**	**265**	*e*P		Pn	21 43 10.6	+1.2
ESDC	**Sonseca Array**	**2.76**	**337**	Pn		Pn	21 43 08.4	-1.3
	2.5nm,0.3s,baz=156,slow=12,SNR=15							
ESDC				Pg		Pg	21 43 14.4	-4.1
	7.2nm,0.3s,baz=156,slow=17,SNR=22							
ESDC				Sn		Sn	21 43 39.5	-4.7
	4.5nm,0.3s,baz=150,slow

PTOM					*e*Sn		Sn	21 44 39.3	-7.0
	comp=E,31nm,0.7s								
PTOM	**Tomar**	**5.21**	**300**		Pn		Pn	21 43 41.8	-2.7
PTOM					Sn		Sn	21 44 38.7	-7.6
PTOM	**Tomar**	**5.21**	**300**		*e*Pn		Pn	21 43 41.9	-2.6
PTOM					*e*Sn		Sn	21 44 39.3	-7.0
	comp=E,31nm,0.7s								
PVIS	**Viseu**	**5.47**	**312**		*e*Pn		Pn	21 43 45.7	-2.5
PVIS					*e*Sn		Sn	21 44 46.0	-6.9
	comp=E,20nm,0.3s								
PVIS	**Viseu**	**5.47**	**312**		Pn		Pn	21 43 45.6	-2.6
PVIS					Sn		Sn	21 44 45.9	-7.0
PVIS	**Viseu**	**5.47**	**312**		*e*Pn		Pn	21 43 45.7	-2.5
PVIS					*e*Sn		Sn	21 44 46.0	-6.9
	comp=E,20nm,0.3s								
EGRA	**Graus**	**5.52**	**23**		Pn		Pn	21 43 45.1	-3.8
	comp=E,0.3nm,0.2s,SNR=4.0								
EGRA					Pg		Pg	21 44 04.3	-9.3
	comp=E,0.6nm,0.2s,SNR=4.0								
EGRA					Sn		Sn	21 44 46.2	-7.8
	comp=E,6.3nm,0.7s,SNR=7.9								
EGRA					Lg			21 45 20.5	
	comp=E,12nm,0.7s,SNR=7.9								
PBRG	**Braganca**	**5.67**	**327**		*e*Pn		Pn	21 43 48.2	-2.7
PBRG					*e*Sg		Sg	21 45 22.6	-9.5
	comp=E,13nm,0.5s								
PBRG	**Braganca**	**5.67**	**327**		Pn		Pn	21 43 48.5	-2.4
IUNC	**Unciti**	**5.67**	**8**		Lg			21 45 24.7	
	comp=E,2.4nm,0.3s,SNR=4.0								
EMIR	**Miracle**	**5.72**	**32**		Pn		Pn	21 43 49.3	-2.5
	comp=E,0.6nm,0.4s,SNR=7.9								
EMIR					Pg		Pg	21 44 08.2	-10
	comp=E,2.9nm,0.4s,SNR=4.0								
EMIR					Lg			21 45 27.2	
	comp=E,3.1nm,0.4s,SNR=4.0								
PVRL	**Vila Real**	**5.75**	**318**		*e*Pn		Pn	21 43 49.4	-2.6
PVRL					*e*Sn		Sn	21 44 51.9	-7.8
PVRL					*e*Sg		Sg	21 45 23.0	-12
	comp=E,13nm,0.7s								
ECAL	**Calabor**	**5.78**	**327**		Pn		Pn	21 43 49.3	-3.2
	comp=E,0.9nm,0.2s,SNR=7.9								
ECAL					Lg			21 45 27.0	
	comp=E,1.2nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**5.92**	**20**		Pn		Pn	21 43 52.1	-2.4
	comp=E,0.8nm,0.2s,SNR=7.9								
EBIE					Sn		Sn	21 44 55.7	-8.3
	comp=E,2.5nm,0.5s,SNR=7.9								
EBIE					Lg			21 45 32.8	
	comp=E,2.8nm,0.5s,SNR=7.9								
ETSF	**Etsaut**	**5.96**	**14**		*e*Pn		Pn	21 43 53.5	-1.5
ETSF					*e*Sn		Sn	21 44 57.3	-7.6
ETSF					*e*Sg		Sg	21 45 33.9	-7.8
	comp=E,32nm,1.1s								
SJPF	**Ste Jean**	**6.06**	**9**		*e*Pn		Pn	21 43 54.3	-2.1
SJPF					*e*Sn		Sn	21 44 59.5	-7.9
SJPF					*e*Sg		Sg	21 45 36.2	-8.8
	comp=E,14nm,0.7s								
SJPF	**Ste Jean**	**6.06**	**9**		*e*Pn		Pn	21 43 54.3	-2.1
SJPF					*e*Sg		Sg	21 45 36.2	-8.8
	comp=E,7.2nm,0.7s								
EALK	**Alkurruntz**	**6.13**	**7**		Pn		Pn	21 43 54.7	-2.7
	comp=E,0.6nm,0.2s,SNR=7.8								
EALK					Sn		Sn	21 45 00.3	-8.9
	comp=E,12nm,0.4s,SNR=5.3								
EALK					Lg			21 45 38.6	
	comp=E,45nm,0.9s,SNR=7.9								
EPF	**Esparros**	**6.29**	**20**		*e*Pn		Pn	21 43 57.7	-2.1
EPF					*e*Sn		Sn	21 45 05.2	-8.2
EPF					*e*Sg		Sg	21 45 42.3	-11
	comp=E,20nm,0.9s								
ERUA	**La Rua**	**6.32**	**328**		Lg			21 45 44.9	
	comp=E,1.4nm,0.2s,SNR=4.0								
ELOB	**Lobios**	**6.35**	**320**		Pn		Pn	21 43 57.7	-2.8
	comp=E,0.6nm,0.1s,SNR=7.9								
ELOB					Sn		Sn	21 45 05.7	-9.1
	comp=E,0.6nm,0.3s,SNR=7.9								
ELOB					Lg			21 45 46.6	
	comp=E,11nm,0.7s,SNR=4.7								
EARI	**Arriondas**	**6.48**	**343**		Pn		Pn	21 43 59.1	-3.3
	comp=E,0.9nm,0.3s,SNR=7.9								
EARI					Sn		Sn	21 45 08.2	-10
	comp=E,5.6nm,0.5s,SNR=7.9								
EARI					Lg			21 45 49.5	
	comp=E,3.2nm,0.5s,SNR=7.9								
EPON	**Pontenova**	**7.10**	**332**		Pn		Pn	21 44 07.9	-3.3
	comp=E,1.3nm,0.3s,SNR=7.9								
EPON					Sn		Sn	21 45 24.0	-10
	comp=E,1.2nm,0.3s,SNR=7.9								
EPON					Lg			21 46 10.6	
	comp=E,2.2nm,0.4s,SNR=7.9								
LFF	**La Frestale**	**8.18**	**17**		*e*Pn		P	21 44 23.1	-3.2
CAF	**Calviac**	**8.53**	**23**		*e*Pn		P	21 44 28.1	-3.0
MFF	**Saint Martin d**	**9.63**	**10**		*e*Pn		P	21 44 42.5	-3.8
BGF	**Bois d'Agland**	**10.24**	**22**		*e*Pn		P	21 44 51.4	-3.3
PGF	**Pioggiola**	**10.40**	**55**		*e*Pn		P	21 44 53.5	-3.5
AVF	**Avril sur Loir**	**10.60**	**23**		*e*Pn		P	21 44 55.9	-3.7
QUIF	**Quistinic**	**10.78**	**358**		*e*Pn		P	21 44 57.4	-4.7
SGMF	**Saint Gilles**	**11.11**	**0**		*e*Pn		P	21 45 02.0	-4.6
ROSF	**Rostrenen**	**11.20**	**358**		*e*Pn		P	21 45 03.3	-4.6
GRR	**Gorron**	**11.31**	**6**		*e*Pn		P	21 45 05.6	-3.8
FLN	**La Foliniere**	**11.72**	**7**		*e*Pn		P	21 45 10.9	-4.0
MEZF	**Maizieres J'vi**	**12.65**	**24**		*e*Pn		P	21 45 23.5	-3.9

MOS ***15*** *21:54:54.2$_{\pm}$1.0, 12.26N$_{\times}$140.98E, h33^{km}, mb4.7/11, Error ellipse: s-maj=16.3km s-min=10.0km az=111.5*
BJI ***15*** *21:54:58.9, 12.20N$_{\times}$141.10E, h63^{km}, mB5.1, mb4.5, Ms4.8, Msz4.4*
IDC ***15*** *21:54:58.6$_{\pm}$3.7, 12.23N$_{\times}$141.09E, h58$^{km}_{\pm}$33^{km}, mb4.0/11, mb1 4.2/12, mb1mx4.0/18, mbtmp4.3/12, ML4.7/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/27, Error ellipse: s-maj=26.6km s-min=15.3km az=81.0*
NEIC ***15*** *21:54:59.0$_{\pm}$1.7, 12.25N$_{\times}$141.11E, h63$^{km}_{\pm}$16^{km}, mb4.5/10, Error ellipse: s-maj=15.3km s-min=7.5km az=83.0*
ISC 15 21:54:56.6$_{\pm}$2.1, 12.24N$_{\pm}$0.07$_{\times}$141.05E$_{\pm}$0.10, h56$^{km}_{\pm}$20^{km}, n59, σ0^{s}93/51, mb4.5/25, MS3.6/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.96**	**70**	P	**P**	**21 55 56.5**	**+0.1**
	54nm,0.3s,baz=187,slow=7.7,SNR=12						
GUMO	**Guam**	**3.96**	**70**	*e*P	**P**	**21 55 56.0**	**-0.4**
CBIJ	**Chichi jima**	**14.82**	**4**	LR	LR	22 02 34.8	
	comp=Z,198nm,20.5s,baz=113,slow=31						
JOW	**Kunigami**	**18.84**	**322**	LR	LR	22 06 01.0	
	comp=Z,48nm,21.8s,baz=232,slow=35						
PMG	**Port Moresby**	**22.34**	**164**	LR	LR	22 08 13.7	
	comp=Z,68nm,19.3s,MS3.1,baz=143,slow=36						
PMG	**Port Moresby**	**22.34**	**164**	P	**P**	**21 59 51.8**	**+0.7**
PMG				pmax	pmax		
	comp=Z,13nm,0.9s						
PMG	**Port Moresby**	**22.34**	**164**	P	**P**	**21 59 51.8**	**+0.7**
	comp=Z,13nm,0.9s,mb4.4						
YHNB	**Yeheng**	**22.35**	**306**	P	**P**	**21 59 56.1**	**+5.0**
HNR	**Honiara**	**28.56**	**138**	LR	LR	22 09 36.3	
	comp=Z,73nm,19.9s,MS3.3,baz=313,slow=31						
ASAJ	**Asahikawa**	**31.80**	**2**	LR	LR	22 13 54.1	
	comp=Z,67nm,18.5s,MS3.4,baz=228,slow=36						
CTA	**Charters Tower**	**32.52**	**171**	*e*P	**P**	**22 01 24.6**	**0.0**
	comp=Z,4.6nm,0.6s,mb4.6						
CTA	**Charters Tower**	**32.52**	**171**	*e*P	**P**	**22 01 24.6**	**0.0**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CTAO	**Charters Tower**	**32.52**	**171**	*e*P	**P**	**22 01 24.6**	**0.0**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**32.52**	**171**	*e*P	**P**	**22 01 24.6**	**0.0**
	comp=Z,6.5nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**32.65**	**192**	*e*P	**P**	**22 01 24.4**	**-1.3**
WRA	**Warramunga Arr**	**32.65**	**192**	P	**P**	**22 01 24.7**	**-1.0**
	comp=Z,10.0nm,0.8s,mb4.8,baz=11,slow=9.8,SNR=53						
DZM	**Mont Dzumac**	**42.22**	**144**	P	**P**	**22 02 46.8**	**+0.7**
	comp=Z,4.8nm,0.6s,mb4.3,baz=94,slow=19,SNR=8.4						
STKA	**Stephens Creek**	**43.86**	**179**	*e*P	**P**	**22 02 58.7**	**-0.7**
	comp=Z,5.4nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**43.86**	**179**	P	**P**	**22 02 58.6**	**-0.8**
	comp=Z,6.1nm,0.6s,mb4.5,baz=359,slow=8.7,SNR=19						
STKA				LR	LR	22 21 49.1	
	comp=Z,106nm,19.7s,MS3.8,baz=27,slow=37						
GTA	**Gaotai**	**45.36**	**314**	*e*P	**P**	**22 03 12.4**	**+1.1**
GTA				PCP	PcP	22 04 51.4	+0.9
ULN	**Ulaanbaatar**	**45.46**	**328**	*e*P	**P**	**22 03 12.2**	**+0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**45.46**	**328**	*e*P	**P**	**22 03 12.2**	**+0.2**
	comp=Z,4.7nm,1.0s,mb4.3						
SONM	**Songino Array**	**45.78**	**328**	P	**P**	**22 03 15.5**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=127,slow=6.1,SNR=6.2						
SONM				PcP	PcP	22 04 51.4	-0.4
	comp=Z,0.6nm,0.6s,baz=140,slow=5.1,SNR=3.7						
ZAK	**Zakamensk**	**48.97**	**329**	*e*P	**P**	**22 03 38.8**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
LSA	**Lhasa**	**49.34**	**299**	P	**P**	**22 03 44.3**	**+1.8**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**49.34**	**299**	P	**P**	**22 03 44.3**	**+1.8**
	comp=Z,3.3nm,0.9s,mb4.4						
YAK	**Yakutsk**	**50.39**	**353**	P	**P**	**22 03 49.6**	**-0.6**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
YAK	**Yakutsk**	**50.39**	**353**	P	**P**	**22 03 49.6**	**-0.5**
	comp=Z,26nm,0.9s,mb5.3						
JIRN	**Jiri**	**53.40**	**295**	*e*P	**P**	**22 04 12.0**	**-1.2**
AFI	**Afiamalu**	**53.48**	**118**	P	**P**	**22 04 15.8**	**+1.8**
AFI				pmax	pmax		
	comp=Z,74nm,1.2s,mb5.5						
AFI	**Afiamalu**	**53.48**	**118**	P	**P**	**22 04 15.8**	**+1.8**
	comp=Z,74nm,1.2s,mb5.5						
GUN	**Gumba**	**53.69**	**296**	*e*P	**P**	**22 04 15.3**	**-0.1**
PKI	**Pulchoki**	**54.08**	**295**	*e*P	**P**	**22 04 18.2**	**0.0**
DMN	**Daman**	**54.35**	**295**	*e*P	**P**	**22 04 20.2**	**0.0**
	comp=Z,14nm,1.0s,mb4.8						
GKN	**Gorkha**	**54.80**	**296**	*e*P	**P**	**22 04 24.0**	**+0.6**
	comp=Z,30nm,1.4s,mb5.1						
WMQ	**Urumqi**	**55.42**	**315**	*e*P	**P**	**22 04 28.9**	**+1.2**
WMQ				PCP	PcP	22 05 27.3	0.0
WMQ				AMB	AMB		
	comp=Z,80nm,5.2s						
WMQ				LR	LR		
	comp=N,250nm,21.0s,MS4.5						
WMQ				LR	LR		
	comp=E,300nm,21.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,260nm,22.0s,MS4.3						
BILL	**Bilibino**	**58.15**	**11**	*e*P	**P**	**22 04 46.3**	**-0.5**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
BILL	**Bilibino**	**58.15**	**11**	*e*P	**P**	**22 04 46.4**	**-0.3**
	comp=Z,15nm,1.2s,mb4.9						
TIXI	**Tiksi**	**59.84**	**356**	*e*P	**P**	**22 04 56.8**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**59.91**	**317**	P	**P**	**22 04 59.8**	**+0.5**
	comp=Z,1.8nm,0.9s,mb4.1,baz=97,slow=9.8,SNR=11						
KURK	**Kurchatov**	**63.25**	**321**	*i* P	**P**	**22 05 21.2**	**-0.4**
ZRNK	**Zerenda**	**69.52**	**322**	*e*P	**P**	**22 06 01.3**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
ZRNK	**Zerenda**	**69.52**	**322**	*e*P	**P**	**22 06 01.2**	**-0.1**
	comp=Z,8.2nm,1.2s,mb4.5						
ILAR	**Eielson Array**	**71.38**	**25**	P	**P**	**22 06 11.2**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=264,slow=5.7,SNR=7.2						
ARU	**Arti**	**75.75**	**325**	*i* P	**P**	**22 06 39.4**	**+1.4**
YKA	**Yellowknife Ar**	**85.75**	**27**	P	**P**	**22 07 31.0**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.9,baz=291,slow=5.3,SNR=5.7						
YKA	**Yellowknife Ar**	**85.75**	**27**	P	**P**	**22 07 31.1**	**+0.4**
ARCES	**ARCESS Array B**	**87.20**	**341**	P	**P**	**22 07 38.0**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.5,baz=63,slow=5.4,SNR=10						
JOF	**Joensuu**	**87.93**	**334**	*ep*	**P**	**22 07 39.7**	**-1.5**
	comp=Z,2.6nm,0.7s,mb4.6						
JOF	**Joensuu**	**87.93**	**334**	*e*P	**P**	**22 07 39.7**	**-1.5**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
KAF	**Kangasniemi**	**90.38**	**335**	*ep*	**P**	**22 07 51.3**	**-1.5**
	comp=Z,3.5nm,0.7s,mb4.8						
KAF	**Kangasniemi**	**90.38**	**335**	*e*P	**P**	**22 07 51.3**	**-1.5**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.9						
VNDA	**Vanda**	**90.38**	**176**	P	**P**	**22 07 53.0**	**+0.4**
	comp=Z,1.0nm,1.0s,mb4.1,baz=355,slow=6.0,SNR=3.2						
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**22 07 55.7**	**+1.0**
	comp=Z,0.6nm,0.7s,mb4.1,baz=262,slow=3.5,SNR=6.4						
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**22 07 55.7**	**+1.0**
FINES	**FINESS Array B**	**90.78**	**334**	P	**P**	**22 07 54.1**	**-0.7**
	comp=Z,4.5nm,0.7s,mb4.9,baz=56,slow=6.9,SNR=16						
CFAA	**Coronel Fontan**	**146.86**	**130**	PKPbc	PKPbc	22 14 34.8	+1.9
	comp=Z,0.4nm,0.7s,baz=224,slow=3.2,SNR=6.0						
LPAZ	**La Paz**	**151.44**	**102**	PKPbc	PKPdf	22 14 48.2	+9.3
	comp=Z,3.9nm,0.7s,baz=325,slow=1.4,SNR=14						
LPAZ	**La Paz**	**151.44**	**102**	*e*PKIKP	PKPdf	22 14 48.0	+9.0
LPAZ				*e*		22 14 55.9	

NIED ***15*** *22:07:00, 46.60N$_{\times}$152.00E, h86^{km}, Mw4.8 Best double couple: Mo1.5×10^{16} NP1:φ$_{s}$140°, δ50°, λ69°. NP2:φ$_{s}$351°, δ45°, λ113°.*
BJI ***15*** *22:07:53.9, 46.72N$_{\times}$151.89E, h95^{km}, mB5.0, mb5.0*
SKHL ***15*** *22:07:53.5$_{\pm}$1.5, 46.24N$_{\times}$152.30E, h119$^{km}_{\pm}$30^{km}, mb6.0/4, mbh6.4/2, Ms3.8/1, msh5.9/3*
NEIC ***15*** *22:07:56.2$_{\pm}$0.1, 46.70N$_{\times}$151.52E, mb4.8/64, Error ellipse: s-maj=4.8km s-min=3.1km az=153.0*
MOS ***15*** *22:07:57.4$_{\pm}$1.0, 46.60N$_{\times}$151.56E, h112^{km}, mb4.7/52, Error ellipse: s-maj=8.1km s-min=5.9km az=73.7*
IDC ***15*** *22:07:59.4$_{\pm}$1.9, 46.74N$_{\times}$151.54E, h111$^{km}_{\pm}$16^{km}, mb4.2/18, mb1 4.4/21, mb1mx4.4/22, mbtmp4.7/21, MS3.7/6, Ms1 3.7/6, ms1mx3.4/23, Error ellipse: s-maj=15.0km s-min=10.6km az=147.0*
ISC 15 22:07:55.7$_{\pm}$0.5, 46.70N$_{\pm}$0.03$_{\times}$151.61E$_{\pm}$0.04, h92$^{km}_{\pm}$4^{km}, n270, σ0^{s}92/275, mb4.7/99, 1C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.00**	**242**	*i*P	**P**	**22 08 41.8**	**-0.5**
KUR				AMB	AMB	22 08 42.8	
	2μm,2.0s						
KUR				AMB	AMB	22 08 42.8	
	6μm,2.0s						
KUR				AMB	AMB	22 08 42.8	
	10μm,2.0s						
KUR				AMB	AMB	22 08 45.7	
	500nm,0.5s						
KUR				AMB	AMB	22 08 45.7	
	380nm,0.5s						
KUR				AMB	AMB	22 08 45.7	
	2μm,0.5s						
KUR				*i* S	**S**	**22 09 18.0**	**+0.7**
KUR				A		22 09 20.2	
	25μm,1.6s						
KUR				A		22 09 20.2	
	22μm,1.6s						
KUR				A		22 09 20.2	
	40μm,2.0s						
KUR				A		22 09 28.0	
	4μm,0.6s						
KUR				A		22 09 28.0	
	2μm,0.6s						
KUR	**Kuril'sk**	**3.00**	**242**	*d i*PN	**P**	**22 08 41.8**	**-0.5**
KUR				*i* S	**S**	**22 09 18.0**	**+0.7**
KUR				pmax	pmax		
	comp=N,2μm,1.6s						
KUR				pmax	pmax		
	comp=E,6μm,1.6s						
KUR				pmax	pmax		
	comp=Z,10μm,1.6s						
KUR				pmax	pmax		
	comp=N,500nm,0.5s						
KUR				pmax	pmax		
	comp=E,380nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,0.5s						
KUR				smax			
	comp=N,40μm,2.0s						
KUR				smax			
	comp=E,40μm,2.0s						
KUR				smax			
	comp=N,4μm,0.6s						
KUR				smax			
	comp=E,2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.85**	**239**	*e*P	**P**	**22 09 09.0**	**+1.2**
YUK				AMB	AMB	22 09 15.0	
	comp=E,970nm,0.4s						
YUK				AMB	AMB	22 09 15.0	
	comp=E,780nm,0.4s						
YUK				AMB	AMB	22 09 15.0	
	comp=E,2μm,0.4s						
YUK				AMB	AMB	22 09 16.0	
	comp=E,4μm,1.0s						
YUK				AMB	AMB	22 09 16.0	
	comp=E,4μm,1.0s						
YUK				*i* S	**S**	**22 10 04.5**	**+1.4**
YUK				A		22 10 26.3	
	comp=E,4μm,0.5s						
YUK				A		22 10 26.3	
	comp=E,2μm,0.5s						
YUK				A		22 10 28.0	
	comp=E,10μm,1.5s						
YUK				A		22 10 28.0	
	comp=E,5μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**4.85**	**239**	*e*PN	**P**	**22 09 09.0**	**+1.2**
YUK				*i* S	**S**	**22 10 04.5**	**+1.4**
YUK				pmax	pmax		
	comp=N,970nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=E,780nm,0.4s						
YUK				pmax	pmax		
	comp=N,4μm,1.5s						
YUK				pmax	pmax		
	comp=Z,4μm,1.5s						
YUK				pmax	pmax		
	comp=E,4μm,1.0s						
YUK				pmax	pmax		
	comp=N,4μm,0.5s						
YUK				pmax	pmax		
	comp=E,2μm,0.5s						
YUK				pmax	pmax		
	comp=N,10μm,1.5s						
YUK				pmax	pmax		
	comp=E,5μm,0.8s						
SKR	**Severo-Kuril's**	**4.98**	**35**	*e*P	**P**	**22 09 08.1**	**-1.4**
SKR				AMB	AMB	22 09 11.1	
	comp=E,140nm,0.5s						
SKR				AMB	AMB	22 09 11.1	
	comp=E,150nm,0.5s						
SKR				AMB	AMB	22 09 11.1	
	comp=E,390nm,0.5s						
SKR				*e*S	**S**	**22 10 05.1**	**-1.2**
SKR				A		22 10 19.9	
	comp=E,690nm,0.5s						
SKR				A		22 10 19.9	
	comp=E,250nm,0.5s						
SKR				A		22 10 19.9	
	comp=E,320nm,0.5s						
PAU	**Pauzhetka**	**5.87**	**34**	*i* P	**P**	**22 09 22.3**	**+0.7**
PAU				*i* S	**S**	**22 10 27.8**	**-0.3**
YSS	**Yuzh-Sakhalins**	**6.08**	**276**	⇓*i*P	**P**	**22 09 28.3**	**+3.7**
YSS				⇓*i*P		22 09 28.3	
YSS				AMB	AMB	22 09 30.2	
	comp=E,630nm,1.0s						
YSS				AMB	AMB	22 09 30.2	
	comp=E,190nm,1.0s						
YSS				AMB	AMB	22 09 30.2	
	comp=E,710nm,1.0s						
YSS				*i* S	**S**	**22 10 36.8**	**+3.3**
YSS				A		22 10 43.0	
	comp=E,310nm,1.4s						
YSS				A		22 10 43.0	
	comp=E,390nm,1.4s						
YSS				AMS	AMS	22 12 04.0	
	comp=E,500nm,14.0s						
YSS				AMS	AMS	22 12 04.0	
	comp=E,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.08**	**276**	*i*PN	**P**	**22 09 28.3**	**+3.7**
YSS				*i* S	**S**	**22 10 36.8**	**+3.3**
YSS				pmax	pmax		
	comp=N,190nm,1.0s						
YSS				pmax	pmax		
	comp=E,710nm,1.0s						
YSS				pmax	pmax		
	comp=Z,630nm,1.0s						
YSS				smax			
	comp=N,310nm,1.4s						
YSS				smax			
	comp=E,390nm,1.4s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.08**	**276**	*e*P	**P**	**22 09 28.1**	**+3.5**
	comp=Z,533nm,0.9s						
UGL	**Uglegorsk**	**6.85**	**294**	*e*P	**P**	**22 09 39.7**	**+4.5**
UGL				AMB	AMB	22 09 40.5	
	comp=Z,1μm,1.5s						
UGL				AMB	AMB	22 09 41.0	
	comp=Z,250nm,0.8s						
UGL				*e*S	**S**	**22 10 55.5**	**+3.3**
UGL				A		22 11 03.5	
	comp=Z,140nm,0.8s						
UGL				A		22 11 03.5	
	comp=Z,96nm,0.8s						
UGL	**Uglegorsk**	**6.85**	**294**	*e*PN	**P**	**22 09 39.7**	**+4.5**
UGL				S	**S**	**22 10 55.5**	**+3.3**
UGL				pmax	pmax		
	comp=E,250nm,0.8s						
UGL				pmax	pmax		
	comp=Z,1μm,1.5s						
UGL				smax			
	comp=N,140nm,0.8s						
UGL				smax			
	comp=E,96nm,0.8s						
ASAJ	**Asahikawa**	**6.85**	**251**	P	**P**	**22 09 38.4**	**+3.1**
	comp=E,31nm,0.3s,baz=82,slow=15,SNR=253						
ASAJ	**Asahikawa**	**6.85**	**251**	PN	**P**	**22 09 38.4**	**+3.1**
ASAJ				pmax	pmax		
	comp=Z,31nm,0.3s						
PET	**Petropavlovsk**	**7.79**	**33**	*e*P	**P**	**22 09 49.2**	**+1.0**
PET				AMB	AMB	22 09 49.7	
	comp=Z,30nm,0.5s						
PET				AMB	AMB	22 09 54.7	
	comp=Z,290nm,9.0s						
PET				*e*S	**S**	**22 11 14.8**	**-0.6**
PET				A		22 11 18.2	
	comp=Z,200nm,20.0s						
PET				A		22 11 45.4	
	comp=Z,260nm,0.7s						
PET				A		22 11 46.4	
	comp=Z,190nm,0.3s						
PET				AMS	AMS	22 12 41.7	
	comp=Z,520nm,22.0s						
PET	**Petropavlovsk**	**7.79**	**33**	*e*PN	**P**	**22 09 49.2**	**+1.0**
PET				*e*S	**S**	**22 11 14.8**	**-0.6**
PET				pmax	pmax		
	comp=Z,30nm,0.5s						
PET				pmax	pmax		
	comp=Z,300nm,8.8s						
PET				smax			
	comp=N,200nm,19.8s						
PET		

MJAR Matsushiro Arr 14.25 229 P **P** **22 11 11.8 -2.2**
MJAR pmax pmax
comp=Z,4.0nm,0.3s
MJAR MLR MLR
comp=Z,74nm,21.7s
MAT Matsushiro 14.25 229 P **P** **22 11 11.8 -2.2**
MAT *eS* **S** **22 13 45.2 -4.9**
MAT Matsushiro 14.25 229 *eP* **P** **22 11 12.0 -2.0**
MAT S **S** **22 13 45.0 -5.1**
MAT pmax pmax
comp=Z,30nm,0.9s
MAT Matsushiro 14.25 229 *eP* **P** **22 11 12.0 -2.0**
comp=Z,30nm,0.9s
MAT S **S** **22 13 45.0 -5.1**
FX1 Attu Island--F 15.20 58 P **P** **22 11 28.5 +2.3**
comp=Z,17nm,0.3s,baz=274,slow=23,SNR=7.9
FX1 Attu Island--F 15.20 58 P **P** **22 11 28.5 +2.3**
FX1 pmax pmax
comp=Z,17nm,0.3s
MDJ Mudanjiang 15.53 270 P **P** **22 11 31.9 +1.5**
MDJ AMB AMB
comp=Z,30nm,1.0s
MDJ AMB AMB
comp=Z,130nm,7.4s
MDJ LR LR
comp=N,80nm,23.5s
MDJ LR LR
comp=E,90nm,24.3s
MDJ LR LR
comp=Z,220nm,20.6s
MDJ Mudanjiang 15.53 270 *eP* **P** **22 11 31.7 +1.3**
comp=Z,92nm,1.1s
JHJ Hachijo jima 2 16.29 218 P **P** **22 11 40.9 +0.9**
comp=Z,6.5nm,0.3s,baz=45,slow=15,SNR=2.3
JHJ S **S** **22 14 27.8 -10**
comp=Z,29nm,0.3s,baz=243,slow=23,SNR=7.2
BMKR Bomnak 16.45 307 *eP* **P** **22 11 41.5 -0.3**
BMKR AMB AMB 22 11 44.9
comp=Z,350nm,0.6s
YASR Yasnyy 16.52 302 *eP* **P** **22 11 41.8 -0.9**
YASR AMB AMB 22 11 45.4
comp=Z,2.0nm,0.7s
YASR AMB AMB 22 11 45.4
comp=Z,8.0nm,0.7s
YASR AMB AMB 22 11 45.4
comp=Z,13nm,0.7s
ZEA Zeya 17.05 303 *eP* **P** **22 11 48.1 -1.2**
ZEA AMB AMB 22 11 50.2
comp=Z,30nm,0.7s
KROS Kirovskiy 17.39 305 *eP* **P** **22 11 51.9 -1.7**
KROS AMB AMB 22 11 56.6
comp=Z,12nm,0.8s
KROS AMB AMB 22 11 56.6
comp=Z,22nm,0.8s
KROS AMB AMB 22 11 56.6
comp=Z,24nm,0.8s
CN2 Changchun 18.62 271 *eP* **P** **22 12 04.4 -3.8**
YAK Yakutsk 19.82 329 *eP* **P** **22 12 23.1 +2.1**
YAK *eS* **S** **22 15 56.3 +2.3**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax
comp=E,13nm,1.0s
YAK smax
comp=Z,7.0nm,0.9s
YAK smax
comp=N,10.0nm,1.1s
YAK Yakutsk 19.82 329 *eP* **P** **22 12 20.8 -0.1**
comp=N,53nm,0.6s
KS15 Wonju Array Si 19.83 251 *eP* **P** **22 12 21.2 -0.1**
INCN Inchon 20.63 252 *eP* **P** **22 12 29.0 -0.5**
comp=N,43nm,0.6s
JNU Nakatsue 20.82 237 P **P** **22 12 32.2 +0.7**
comp=N,30nm,0.7s,baz=179,slow=6.6,SNR=7.1
CBIJ Chichi jima 20.94 204 S **S** **22 16 14.7 -1.0**
comp=N,61nm,0.5s,baz=270,slow=23,SNR=2.7
HIA Hailar 21.41 289 *eP* **P** **22 12 35.5 -1.7**
HIA pmax pmax
comp=Z,11nm,0.6s
HIA Hailar 21.41 289 *eP* **P** **22 12 35.5 -1.7**
comp=Z,11nm,0.6s,mb4.4
BILL Bilibino 22.68 14 *eP* **P** **22 12 47.9 -1.6**
BILL pmax pmax
comp=Z,11nm,0.9s,mb4.2
BILL Bilibino 22.68 14 *eP* **P** **22 12 47.9 -1.5**
comp=Z,11nm,0.9s,mb4.2
TIXI Tiksi 27.23 344 *eP* **P** **22 13 37.2 +4.8**
TIXI pmax pmax
comp=Z,16nm,1.1s,mb4.5
TIA Tai'an 27.69 260 *eP* **P** **22 13 37.0 0.0**
NJ2 Nanjing 29.00 251 *eP* **P** **22 13 48.6 -0.1**
NJ2 AP pP 22 14 15.1 +5.5
NJ2 PP PP 22 14 49.1 +3.3
NJ2 S **S** **22 18 30.0 -1.6**
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
NJ2 AMB AMB
comp=Z,360nm,4.5s
NJ2 LR LR
comp=N,510nm,17.9s
NJ2 LR LR
comp=E,500nm,14.2s
NJ2 LR LR
comp=Z,560nm,18.0s
HHC Hu-ho-hao-te 29.27 273 *eP* **P** **22 13 50.9 -0.1**
HHC AMB AMB
comp=Z,40nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,150nm,5.3s
HHC LR LR
comp=N,240nm,8.9s
HHC LR LR
comp=E,180nm,9.9s
HHC LR LR
comp=Z,170nm,10.9s
ULN Ulaanbaatar 29.94 289 *eP* **P** **22 13 55.8 -1.1**
ULN pmax pmax
comp=Z,11nm,1.0s,mb4.4
ULN Ulaanbaatar 29.94 289 *eP* **P** **22 13 55.8 -1.1**
comp=Z,12nm,1.0s,mb4.5
WAKE Wake Island 30.00 151 P **P** **22 13 57.2 -0.6**
SONM Songino Array 30.38 289 P **P** **22 14 00.2 -0.5**
comp=Z,2.1nm,0.8s,mb3.8,baz=81,slow=7.6,SNR=18
SONM ScP 22 20 30.4
comp=Z,2.6nm,0.8s,baz=104,slow=2.0,SNR=15
SONM LR LR 22 26 11.9
comp=Z,105nm,18.1s,baz=104,slow=36
SONM Songino Array 30.38 289 P **P** **22 14 00.2 -0.6**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM pmax pmax
comp=N,3.0nm,0.8s
SONM MLR MLR
comp=Z,105nm,18.1s
ZAK Zakamensk 31.76 295 *eP* **P** **22 14 10.0 -2.9**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
WHN Wuhan 32.92 254 P **P** **22 14 24.0 +0.8**
XAN Xi'an 34.48 264 P **P** **22 14 36.0 -0.5**
XAN AMB AMB
comp=Z,20nm,0.8s,mb5.0
KDAK Kodiak Island 34.93 51 P **P** **22 14 39.2 -0.9**
comp=Z,13nm,1.0s,mb4.7,baz=270,slow=11,SNR=3.2
ENH Enshi 36.34 258 *eP* **P** **22 14 51.7 -0.7**
comp=Z,21nm,0.8s,mb5.1
MCK McKinley 36.36 40 *eP* **P** **22 14 50.9 -1.2**
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MCK McKinley 36.36 40 *eP* **P** **22 14 50.9 -1.2**
comp=Z,7.1nm,1.0s,mb4.5
COLA College 36.82 38 *eP* **P** **22 14 55.8 -0.2**
COLA pmax pmax
comp=Z,20nm,0.8s,mb5.1
COLA College 36.82 38 *eP* **P** **22 14 55.8 -0.1**
comp=Z,20nm,0.8s,mb5.1
ILAR Eielson Array 37.23 39 P **P** **22 14 59.2 -0.2**
comp=Z,3.7nm,0.7s,mb4.4,baz=263,slow=6.7,SNR=28
ILAR PcP PcP 22 17 15.5 -2.3
comp=Z,1.2nm,0.5s,baz=279,slow=3.6,SNR=6.2
ILAR Eielson Array 37.23 39 P **P** **22 14 59.2 -0.2**
ILAR 22 17 15.5
ILAR pmax pmax
comp=Z,4.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.5s
GTA Gaotai 37.96 278 *eP* **P** **22 15 06.3 +0.6**
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
CD2 Chengdu 39.85 264 *eP* **P** **22 15 22.0 +0.5**
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.2
GYA Guiyang 40.70 256 ⇑ *iP* **P** **22 15 29.3 +0.8**
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.2
INK Inuvik 42.25 32 *eP* **P** **22 15 41.0 +0.4**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 42.25 32 *eP* **P** **22 15 41.0 +0.4**
comp=Z,6.6nm,0.9s,mb4.4
KMI Kunming 44.22 258 P **P** **22 15 58.1 +0.8**
KMI AMB AMB
comp=Z,20nm,0.9s,mb4.8
MKAR Makanchi Array 46.05 297 P **P** **22 16 10.1 -1.4**
comp=Z,6.4nm,0.6s,mb4.5,baz=68,slow=6.7,SNR=88
MKAR pP pP 22 16 30.0 -3.6
comp=Z,3.4nm,0.7s,baz=68,slow=8.9,SNR=4.5
MKAR PcP PcP 22 17 46.1 -0.8
comp=Z,2.0nm,0.6s,baz=70,slow=4.3,SNR=4.8
MKAR ScP 22 21 28.4
comp=Z,2.1nm,0.7s,baz=65,slow=3.3,SNR=7.6
MKAR LR LR 22 35 59.4
comp=Z,112nm,19.7s,baz=181,slow=36
MKAR Makanchi Array 46.05 297 P **P** **22 16 10.1 -1.4**
MKAR 22 17 46.1
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=N,2.0nm,0.7s
MKAR MLR MLR
comp=Z,112nm,19.7s
DLBC Dease Lake 46.37 45 *eP* **P** **22 16 15.5 +1.7**
LSA Lhasa 49.24 272 P **P** **22 16 38.3 +1.6**
LSA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
LSA Lhasa 49.24 272 *eP* **P** **22 16 37.7 +1.0**
LSA pmax pmax
comp=Z,11nm,0.7s,mb4.9
LSA Lhasa 49.24 272 *eP* **P** **22 16 37.7 +1.0**
comp=Z,11nm,0.7s,mb4.9
CHKZ Chkalovo 49.67 310 *eP* **P** **22 16 37.7 -1.9**
CHKZ pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
CHKZ Chkalovo 49.67 310 *eP* **P** **22 16 37.7 -1.9**
comp=Z,8.3nm,0.5s,mb4.9
BVA0 Borovoye Array 50.09 309 P **P** **22 16 41.4 -1.4**
ZRNK Zerenda 50.86 309 *eP* **P** **22 16 47.2 -1.5**
ZRNK pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
ZRNK Zerenda 50.86 309 *eP* **P** **22 16 47.2 -1.5**
comp=Z,2.6nm,0.4s,mb4.6
YKW3 Yellowknife Ar 51.54 36 *eP* **P** **22 16 52.9 -0.8**
YKA Yellowknife Ar 51.58 36 P **P** **22 16 53.7 -0.2**
comp=Z,8.6nm,0.7s,mb4.9,baz=297,slow=6.9,SNR=96
YKA PcP PcP 22 18 06.1 -0.6
comp=Z,1.8nm,0.7s,baz=299,slow=3.5,SNR=6.0
YKA Yellowknife Ar 51.58 36 P **P** **22 16 53.7 -0.2**
YKA 22 18 06.1
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 51.58 36 P **P** **22 16 53.7 -0.2**
YKA PcP PcP 22 18 06.1 -0.6
JIRN Jiri 53.92 274 *eP* **P** **22 17 11.9 +0.1**
comp=Z,22nm,0.4s,mb5.6
GUN Gumba 53.98 274 *eP* **P** **22 17 11.8 -0.4**
comp=Z,20nm,0.4s,mb5.5
KKN Kakani 54.46 274 *eP* **P** **22 17 16.3 +0.5**
comp=Z,18nm,0.5s,mb5.3
PKI Pulchoki 54.51 274 *eP* **P** **22 17 15.7 -0.4**
comp=Z,12nm,0.4s,mb5.2
DMN Daman 54.70 274 *eP* **P** **22 17 17.5 0.0**
comp=Z,18nm,0.4s,mb5.4
GKN Gorkha 54.77 275 *eP* **P** **22 17 17.7 -0.3**
comp=Z,19nm,0.4s,mb5.5
KKAR Karatay Array 55.12 298 *iP* **P** **22 17 18.8 -1.5**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KOLN Koldanda 55.63 275 *eP* **P** **22 17 24.5 +0.3**
comp=Z,28nm,0.6s,mb5.5
PMG Port Moresby 55.99 185 P **P** **22 17 26.7 -0.3**
PMG pmax pmax
comp=Z,18nm,1.1s
PMG Port Moresby 55.99 185 P **P** **22 17 26.7 -0.3**
comp=Z,18nm,1.1s,mb5.0
TBM Table Mountain 56.74 55 P **P** **22 17 31.9 +0.1**
SSOR Sweet Springs 56.99 58 P **P** **22 17 34.8 +1.1**
EDM Edmonton 57.09 46 *eP* **P** **22 17 33.8 -0.5**
BROR Big Rock Looko 57.34 58 P **P** **22 17 37.0 +0.8**
ARCES ARCESS Array B 57.56 340 P **P** **22 17 37.5 +0.2**
comp=Z,3.1nm,0.8s,mb4.4,baz=27,slow=8.1,SNR=7.1
ARCES LR LR 22 49 59.3
comp=Z,116nm,18.2s,baz=44,slow=44
ARCES ARCESS Array B 57.56 340 P **P** **22 17 37.6 +0.3**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,116nm,18.2s
HBO Huckleberry Mo 57.66 59 P **P** **22 17 39.1 +0.7**
AB31 Akbulak array 57.66 309 *iP* **P** **22 17 37.1 -1.2**
AB31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
CROR Criterion Ridg 57.77 57 P **P** **22 17 39.8 +0.6**
AKTO Aktyubinsk 57.99 311 P **P** **22 17 38.8 -1.8**
BBOR Butler Butte 58.01 60 P **P** **22 17 41.9 +1.1**
VIPM Ingram Point 58.27 57 P **P** **22 17 43.2 +0.6**
BUOR Burton Butte 58.63 60 P **P** **22 17 46.1 +1.0**
WDC Whiskeytown Da 59.47 62 *eP* **P** **22 17 50.9 0.0**
WDC pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WDC Whiskeytown Da 59.47 62 *eP* **P** **22 17 50.9 0.0**
comp=Z,6.3nm,0.8s,mb4.7
BMO Blue Mountains 59.95 55 *eP* **P** **22 17 54.2 -0.1**
comp=Z,2.8nm,0.6s,mb4.5
MOD Modoc 60.01 59 *eP* **P** **22 17 54.9 +0.2**
comp=Z,14nm,0.8s,mb5.0
MSO Missoula 60.61 52 *eP* **P** **22 17 58.0 -0.6**
comp=Z,14nm,1.3s,mb4.8
WVOR Wild Horse Val 60.66 58 *eP* **P** **22 17 59.2 +0.1**
WVOR pmax pmax
comp=Z,13nm,0.8s,mb5.0
WVOR Wild Horse Val 60.66 58 *eP* **P** **22 17 59.2 +0.1**
comp=Z,13nm,0.8s,mb5.0
SUMG Summit 60.82 3 *eP* **P** **22 17 59.6 -0.2**
comp=Z,19nm,0.8s,mb5.2
OHCM Honcut 60.87 62 *eP* **P** **22 18 00.1 -0.5**
CHMT Chamberlain Mo 60.93 51 *eP* **P** **22 18 00.6 -0.3**
HRY Holter Researc 61.81 51 *eP* **P** **22 18 06.7 -0.1**
FCC Fort Churchill 61.87 33 *eP* **P** **22 18 05.8 -1.2**
FCC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FCC Fort Churchill 61.87 33 *eP* **P** **22 18 05.8 -1.2**
comp=Z,9.1nm,0.8s,mb4.9
CMB Columbia Colle 62.35 63 *eP* **P** **22 18 10.4 -0.1**
CMB pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
CMB Columbia Colle 62.35 63 *eP* **P** **22 18 10.4 -0.1**
comp=Z,4.0nm,0.5s,mb4.7
HLID Hailey 62.39 55 *eP* **P** **22 18 10.7 0.0**
comp=Z,1.8nm,0.7s,mb4.2
BOZ Bozeman (W) 62.60 52 *eP* **P** **22 18 12.0 -0.1**
BOZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BOZ Bozeman (W) 62.60 52 *eP* **P** **22 18 12.0 0.0**
comp=Z,6.8nm,0.9s,mb4.6
NVAR Mina Array Bea 63.37 61 P **P** **22 18 17.8 +0.6**
comp=Z,11nm,0.5s,mb5.0,baz=290,slow=7.9,SNR=110
GCMT Greycliff 63.56 51 *eP* **P** **22 18 18.5 +0.2**
FINES FINESS Array B 63.64 334 P **P** **22 18 17.2 -1.4**
comp=Z,1.7nm,0.6s,mb4.1,baz=36,slow=8.3,SNR=12
FINES FINESS Array B 63.64 334 P **P** **22 18 17.2 -1.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
ELK Elko 63.71 58 *eP* **P** **22 18 19.6 +0.2**
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK Elko 63.71 58 *eP* **P** **22 18 19.6 +0.2**
comp=Z,5.8nm,0.9s,mb4.4
TPH Tonopah 64.25 61 *eP* **P** **22 18 23.1 +0.2**
TPH pmax pmax
comp=Z,19nm,0.8s,mb5.0
TPH Tonopah 64.25 61 *eP* **P** **22 18 23.1 +0.2**
comp=Z,19nm,0.8s,mb5.0
RRI2 Red Ridge 64.25 53 *eP* **P** **22 18 23.8 +0.9**
comp=Z,14nm,0.8s,mb4.8
SPUT South Promonto 64.95 56 *eP* **P** **22 18 27.7 +0.3**
ISA Isabella 65.04 64 *eP* **P** **22 18 27.0 -1.1**
ISA pmax pmax
comp=Z,2.0nm,0.3s,mb4.4
ISA Isabella 65.04 64 *eP* **P** **22 18 27.0 -1.2**
comp=Z,2.1nm,0.3s,mb4.5
HWUT Hardware Ranch 65.25 55 *eP* **P** **22 18 29.8 +0.4**
comp=Z,8.1nm,1.1s,mb4.5
DUG Dugway 65.47 57 *eP* **P** **22 18 31.2 +0.4**
DUG pmax pmax
comp=Z,12nm,0.9s,mb4.7
DUG Dugway 65.47 57 *eP* **P** **22 18 31.2 +0.4**
comp=Z,12nm,0.9s,mb4.7
TPNV Topopah Spring 65.57 62 *eP* **P** **22 18 31.7 +0.2**
TPNV pmax pmax
comp=Z,17nm,0.8s,mb4.9
TPNV Topopah Spring 65.57 62 *eP* **P** **22 18 31.7 +0.2**
comp=Z,17nm,0.8s,mb4.9
PDAR Pinedale Array 65.61 53 P **P** **22 18 31.6 0.0**
comp=Z,7.7nm,0.8s,mb4.6,baz=304,slow=2.5,SNR=21
PDAR LR LR 22 47 47.8
comp=Z,50nm,21.2s,baz=167,slow=36
HYB Hyderabad 65.97 270 *i* P **P** **22 18 33.0 -1.3**
HYB Hyderabad 65.97 270 *eP* **P** **22 18 33.0 -1.3**
CTAO Charters Tower 66.65 185 P **P** **22 18 36.6 -2.0**
CTAO pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
CTAO Charters Tower 66.65 185 P **P** **22 18 36.6 -2.0**
comp=Z,5.1nm,0.8s,mb4.4
ARUT Antelope Range 66.69 59 *eP* **P** **22 18 38.4 -0.2**
ULM Lac du Bonnet 67.23 40 P **P** **22 18 40.9 -0.8**
comp=Z,6.2nm,0.6s,mb4.6,baz=313,slow=7.1,SNR=16
ULM Lac du Bonnet 67.23 40 P **P** **22 18 40.9 -0.8**
NEN Nelson 67.28 62 *eP* **P** **22 18 42.3 0.0**
LDFC Landfair 67.50 62 *eP* **P** **22 18 43.7 +0.1**
SRU San Rafael 67.51 57 *eP* **P** **22 18 43.8 +0.1**
SRU pmax pmax
comp=Z,14nm,0.8s,mb4.8
SRU San Rafael 67.51 57 *eP* **P** **22 18 43.8 +0.1**
comp=Z,14nm,0.8s,mb4.8
RSSD Black Hills 67.64 49 *eP* **P** **22 18 44.2 -0.2**
NB2 NORSAR Subarra 67.94 340 P **P** **22 18 45.5 -0.4**
comp=Z,1.4nm,0.5s,mb4.0,baz=27,slow=6.2
NB2 NORSAR Subarra 67.94 340 P **P** **22 18 45.5 -0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
NOA NORSAR Array B 67.94 340 P **P** **22 18 45.5 -0.4**
comp=Z,2.7nm,0.7s,mb4.2,baz=27,slow=6.3,SNR=6.9
NOA NORSAR Array B 67.94 340 P **P** **22 18 45.5 -0.4**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 67.94 340 P **P** **22 18 45.5 -0.4**
BAR Barrett 68.13 65 *eP* **P** **22 18 47.0 -0.6**
WB2 Warramunga Arr 68.14 198 *eP* **P** **22 18 46.7 -1.2**
WRA Warramunga Arr 68.14 198 P **P** **22 18 46.9 -1.0**
comp=Z,7.7nm,0.8s,mb4.6,baz=17,slow=6.8,SNR=41
WRA pP pP 22 19 08.9 -2.7
comp=Z,3.7nm,0.8s,baz=17,slow=4.9,SNR=3.8
WRA Warramunga Arr 68.14 198 P **P** **22 18 46.9 -1.0**
WRA *PP pP 22 19 08.9 -2.7
WRA pmax pmax
comp=Z,8.0nm,0.8s
WRA pmax pmax
comp=Z,4.0nm,0.8s
FITZ Fitzroy Crossi 68.63 207 *eP* **P** **22 18 50.7 -0.2**
comp=Z,9.6nm,0.8s,mb4.7
PV10 Paradox Valley 68.86 56 *eP* **P** **22 18 52.5 +0.5**
WUAZ Wupatki 69.45 60 *eP* **P** **22 18 56.5 +0.8**
comp=Z,5.2nm,0.6s,mb4.5
SMCO Snowmass 69.48 54 *eP* **P** **22 18 55.9 +0.1**
comp=Z,14nm,0.9s,mb4.8
ISCO Idaho Springs 69.80 53 *eP* **P** **22 18 58.0 +0.2**
ISCO pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ISCO Idaho Springs 69.80 53 *eP* **P** **22 18 58.0 +0.3**
comp=Z,6.7nm,0.8s,mb4.5
EYMN Ely 70.87 39 *eP* **P** **22 19 03.1 -0.9**
AKASG Malin Array Be 71.01 325 P **P** **22 19 04.4 -0.4**
comp=Z,3.0nm,0.5s,mb4.4,baz=35,slow=6.3,SNR=13
AKASG Malin Array Be 71.01 325 P **P** **22 19 04.4 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
GNI Garni 71.77 309 LR LR 22 53 51.6
comp=Z,67nm,19.8s,baz=166,slow=38
TUC Tucson 72.01 62 *eP* **P** **22 19 11.4 +0.2**
TUC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TUC Tucson 72.01 62 *eP* **P** **22 19 11.4 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
ANMO Albuquerque 72.73 57 *eP* **P** **22 19 15.9 +0.6**
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO Albuquerque 72.73 57 *eP* **P** **22 19 15.9 +0.6**
comp=Z,4.4nm,0.8s,mb4.3
BNM Barren Site 73.20 58 *eP* **P** **22 19 18.4 +0.4**
SCHQ Schefferville 73.75 22 P **P** **22 19 20.8 -0.1**
comp=Z,5.5nm,0.5s,mb4.6,baz=328,slow=6.0,SNR=35
SCHQ Schefferville 73.75 22 *eP* **P** **22 19 20.6 -0.2**
comp=Z,9.5nm,0.6s,mb4.7
CPRX Cap Rock 75.60 57 *eP* **P** **22 19 31.8 -0.2**
MNTX Cornudas Mount 75.68 59 *eP* **P** **22 19 32.6 +0.2**
comp=Z,7.0nm,0.8s,mb4.4
GDL2 Guadalupe Moun 75.92 58 *eP* **P** **22 19 34.0 +0.3**
ARMA Armidale 76.76 180 *eP* **P** **22 19 40.1 +1.6**
BHD Baghdad 76.98 305 *ex* x 22 20 32.0
BRTR Keskin Array B 77.71 316 P **P** **22 19 43.0 -0.6**
comp=Z,1.3nm,0.7s,mb3.8,baz=99,slow=3.2,SNR=5.7
BRTR Keskin Array B 77.71 316 P **P** **22 19 43.0 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
UMR Umm Al-Rimmam 77.76 300 *eP* **P** **22 19 44.6 +0.5**
UMR AMb AMB 22 19 45.4
comp=Z,35nm,0.5s,mb5.3
MIB Mutribah 77.80 300 *eP* **P** **22 19 44.8 +0.5**
MIB AMb AMB 22 19 45.7
comp=Z,31nm,0.5s,mb5.3
KHC Kasperske Hory 77.83 333 *eP* **P** **22 19 45.2 +1.2**
KHC *e* 22 19 49.3
GERES GERESS Array B 78.04 333 P **P** **22 19 45.6 +0.5**
comp=Z,1.2nm,0.7s,mb3.7,baz=27,slow=6.0,SNR=3.6
GERES GERESS Array B 78.04 333 P **P** **22 19 45.6 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
NAY Al-Naaiem 78.27 300 *eP* **P** **22 19 47.0 +0.2**
NAY AMb AMB 22 19 48.4
comp=Z,13nm,1.1s,mb4.6
RDF Al-Radifah 78.32 300 *eP* **P** **22 19 48.0 +0.8**
RDF AMb AMB 22 19 49.2
comp=Z,32nm,0.6s,mb5.3
LTX Lajitas 78.41 60 *eP* **P** **22 19 48.0 +0.4**
LTX pmax pmax
comp=Z,20nm,0.8s,mb4.9
LTX Lajitas 78.41 60 *eP* **P** **22 19 48.0 +0.3**
comp=Z,20nm,0.8s,mb4.9
TXAR Lajitas Array 78.41 60 P **P** **22 19 48.3 +0.7**
comp=Z,17nm,0.6s,mb5.0,baz=298,slow=4.2,SNR=133
STKA Stephens Creek 78.73 189 *eP* **P** **22 19 49.7 +0.3**
comp=Z,3.0nm,1.0s,mb4.1
STKA Stephens Creek 78.73 189 P **P** **22 19 49.6 +0.2**
comp=Z,3.8nm,0.8s,mb4.3,baz=19,slow=5.9,SNR=4.7
JCT Junction City 79.82 56 *eP* **P** **22 19 54.8 -0.5**
JCT pmax pmax
comp=Z,14nm,0.9s,mb4.8
JCT Junction City 79.82 56 *eP* **P** **22 19 54.8 -0.5**
comp=Z,14nm,0.9s,mb4.8
MIAR Mount Ida 80.15 50 *eP* **P** **22 19 56.8 -0.2**
MIAR pmax pmax
comp=Z,12nm,0.6s,mb4.9
MIAR Mount Ida 80.15 50 *eP* **P** **22 19 56.8 -0.2**
comp=Z,12nm,0.6s,mb4.9
CDF Champ du Feu 80.30 337 *eP* **P** **22 19 56.6 -0.9**
comp=Z,2.9nm,0.6s,mb4.0
CDF Champ du Feu 80.30 337 *eP* **P** **22 19 56.6 -0.9**
CDF pmax pmax
comp=Z,1.0nm,0.6s,mb3.8

MEZF Maizieres J'vi 80.81 338 *e*P P **22 19 59.3 -0.8**
MDV Middlebury 81.39 31 P P **22 20 06.8 +3.5**
FLN La Foliniere 81.87 342 *e*P P **22 20 05.3 -0.4**
comp=Z,29nm,1.1s,mb4.7
FLN La Foliniere 81.87 342 *e*P P **22 20 05.3 -0.4**
FLN pmax pmax
comp=Z,15nm,1.1s,mb4.7
LDF La Druitiere 81.95 341 *e*P P **22 20 05.9 -0.2**
comp=Z,62nm,1.4s,mb5.0
LDF La Druitiere 81.95 341 *e*P P **22 20 05.9 -0.2**
LDF pmax pmax
comp=Z,31nm,1.4s,mb5.0
LOR Lormes 82.25 338 *e*P P **22 20 07.5 -0.2**
comp=Z,5.6nm,0.6s,mb4.3
LOR Lormes 82.25 338 *e*P P **22 20 07.5 -0.2**
LOR pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
GRR Gorron 82.30 342 *e*P P **22 20 07.6 -0.3**
comp=Z,29nm,0.9s,mb4.8
GRR Gorron 82.30 342 *e*P P **22 20 07.6 -0.3**
GRR pmax pmax
comp=Z,14nm,0.9s,mb4.8
SSF Saint Saulge 82.53 339 *e*P P **22 20 09.0 -0.1**
comp=Z,18nm,1.1s,mb4.5
SSF Saint Saulge 82.53 339 *e*P P **22 20 09.0 -0.1**
SSF pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
SGMF Saint Gilles 82.78 343 *e*P P **22 20 09.9 -0.5**
comp=Z,26nm,0.8s,mb4.8
SGMF Saint Gilles 82.78 343 *e*P P **22 20 09.9 -0.5**
SGMF pmax pmax
comp=Z,13nm,0.8s,mb4.8
AVF Avril sur Loir 82.83 339 *e*P P **22 20 10.4 -0.2**
comp=Z,4.8nm,0.5s,mb4.3
AVF Avril sur Loir 82.83 339 *e*P P **22 20 10.4 -0.2**
AVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
SMF Signal de Mont 82.84 338 *e*P P **22 20 11.0 +0.3**
comp=Z,14nm,1.0s,mb4.5
SMF Signal de Mont 82.84 338 *e*P P **22 20 11.0 +0.3**
SMF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ROSF Rostrenen 82.85 343 *e*P P **22 20 10.9 +0.2**
PPT Papeete 82.97 125 *e*LR LR 22 45 33.4
comp=Z,79nm,25.0s,baz=324
LPL La Plagne 83.11 336 *e*P P **22 20 12.4 +0.3**
comp=Z,12nm,0.8s,mb4.5
LPL La Plagne 83.11 336 *e*P P **22 20 12.4 +0.3**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
LPG La Plagne 83.12 336 *e*P P **22 20 12.7 +0.6**
comp=Z,10nm,0.4s,mb4.7
LPG La Plagne 83.12 336 *e*P P **22 20 12.7 +0.6**
LPG pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
BGF Bois d'Agland 83.17 339 *e*P P **22 20 12.5 +0.2**
QUIF Quistinic 83.23 343 *e*P P **22 20 12.9 +0.3**
TCF Toulx Ste Croi 83.58 339 *e*P P **22 20 14.6 +0.3**
comp=Z,26nm,1.1s,mb4.7
TCF Toulx Ste Croi 83.58 339 *e*P P **22 20 14.6 +0.3**
TCF pmax pmax
comp=Z,13nm,1.1s,mb4.7
MBDF Montbardon 83.82 336 *e*P P **22 20 16.1 +0.5**
comp=Z,8.9nm,0.8s,mb4.3
MBDF Montbardon 83.82 336 *e*P P **22 20 16.1 +0.5**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
MFF Saint Martin d 83.83 341 *e*P P **22 20 16.1 +0.5**
comp=Z,40nm,1.3s,mb4.8
MFF Saint Martin d 83.83 341 *e*P P **22 20 16.1 +0.5**
MFF pmax pmax
comp=Z,20nm,1.3s,mb4.8
ORIF Oris-en-Rattie 83.89 336 *e*P P **22 20 16.6 +0.7**
comp=Z,14nm,0.7s,mb4.6
ORIF Oris-en-Rattie 83.89 336 *e*P P **22 20 16.6 +0.7**
ORIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
VIVF Saint-Julien-l 84.28 337 *e*P P **22 20 18.7 +0.8**
SBF Sospel 84.42 335 *e*P P **22 20 19.1 +0.5**
RJF Les Rejaudoux 84.67 339 *e*P P **22 20 20.3 +0.5**
CAF Calviac 84.89 339 *e*P P **22 20 21.8 +0.9**
comp=Z,7.2nm,0.7s,mb4.4
CAF Calviac 84.89 339 *e*P P **22 20 21.8 +0.9**
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
FRF La Foret Royal 84.92 335 *e*P P **22 20 22.3 +1.2**
NWAO Narrogin (SRO) 85.11 208 *e*P P **22 20 22.7 +0.4**
NWAO pmax pmax
comp=Z,17nm,0.8s
NWAO Narrogin (SRO) 85.11 208 *e*P P **22 20 22.7 +0.4**
comp=Z,17nm,0.8s,mb5.0
PGF Pioggiola 85.14 333 *e*P P **22 20 23.4 +1.2**
comp=Z,17nm,0.8s,mb4.7
PGF Pioggiola 85.14 333 *e*P P **22 20 23.4 +1.2**
PGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LFF La Frestale 85.20 340 *e*P P **22 20 23.1 +0.7**
LASF Ste Croix 85.22 337 *e*P P **22 20 23.7 +1.1**
comp=Z,66nm,1.4s,mb5.1
MTLF Montolieu 86.33 338 *e*P P **22 20 29.0 +1.0**
ETSF Etsaut 87.43 340 *e*P P **22 20 34.7 +1.3**
TBI Tubuai 87.67 128 *e*T 23 57 50.6
comp=Z,33nm,0.3s
TORD Torodi Ar. Bea 114.59 328 PKP PKPdf 22 26 25.7 +0.5
comp=Z,1.2nm,0.9s,baz=9.9,slow=2.5,SNR=12
DBIC Dimbokro 122.89 332 PKP PKPdf 22 26 41.9 +0.6
comp=Z,3.1nm,0.7s,baz=114,slow=3.5,SNR=9.5
VNDA Vanda 124.11 177 PKP PKPdf 22 26 42.7 +0.4
comp=Z,2.6nm,0.8s,baz=316,slow=3.2,SNR=13
VNDA Vanda 124.11 177 PKP PKPdf 22 26 42.7 +0.4
LPAZ La Paz 135.27 61 PKP PKPdf 22 27 06.8 +2.0
comp=Z,3.1nm,0.7s,baz=3.4,slow=4.2,SNR=11
SIV San Ignacio 139.09 52 PKhKP 22 27 08.2
comp=Z,2.7nm,0.8s,baz=247,slow=9.2,SNR=6.3
SIV PKP PKPdf 22 27 13.4 +1.6
comp=Z,3.2nm,0.9s,baz=287,slow=1.6,SNR=9.9
PLCA Paso Flores 149.23 94 PKP PKPdf 22 27 28.9 +0.4
comp=Z,19nm,0.9s,baz=304,slow=8.2,SNR=3.3
PLCA PKPbc PKPdf 22 27 35.0 +6.6
comp=Z,24nm,0.7s,baz=269,slow=2.8,SNR=63
PLCA Paso Flores 149.23 94 PKP PKPdf 22 27 28.9 +0.4
PLCA *e*PKPbc PKPdf 22 27 34.9 +6.4
PLCA PKPbc PKPdf 22 27 35.0 +6.6
CPUP Villa Florida 149.38 58 *e*PKP2 PKPab 22 27 34.9 -6.0
SNAA Sanae 152.21 197 PKPbc PKPdf 22 27 40.2 +8.1
comp=Z,1.8nm,0.7s,baz=179,slow=2.6,SNR=17

*MOS **15** 22:08:28.4±1.3,6.10S×29.56E,h10km,mb4.8/24,Error ellipse: s-maj=14.7km s-min=6.2km az=96.1*
*BJI **15** 22:08:29.7,6.30S×29.60E,h10km,mB5.4,mb4.6,Ms5.4,Msz5.3*
*IDC **15** 22:08:29.7±0.7,6.07S×29.42E,mb4.2/13,mb1 4.3/15,mb1mx4.3/20,mbtmp4.3/15,ML4.0/2,MS3.7/7,Ms1 3.7/7,ms1mx3.3/20,Error ellipse: s-maj=23.2km s-min=15.7km az=79.0*
*NEIC **15** 22:08:29.8±0.3,6.26S×29.55E,h10km,mb4.7/30,Error ellipse: s-maj=10.6km s-min=5.9km az=98.0*
ISC 15 22:08:28.2±0.3,6.23S±0.05×29.31E±0.09,h10km,n105,σ1§09/107,mb4.5/43,MS3.9/3,2C,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**9.06**	**187**	Pn	**P**	**22 10 42.9**	**+0.9**
	1.9nm,0.3s,baz=9.4,slow=11,SNR=66						
LSZ				Sn	**Sn**	**22 12 21.5**	**-3.6**
	6.1nm,0.3s,baz=166,slow=22,SNR=9.0						
LSZ				Lg		22 13 13.8	
	6.5nm,0.3s,baz=131,slow=16,SNR=3.5						
LSZ				LR	LR	22 14 42.7	
	comp=Z,410nm,18.2s,baz=198,slow=40						
LSZ	**Lusaka**	**9.06**	**187**	*e*P	**P**	**22 10 42.4**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,104nm,1.1s						
LSZ	**Lusaka**	**9.06**	**187**	*e*Pn	**P**	**22 10 42.4**	**+0.4**
	comp=Z,104nm,1.1s						
LSZ				*e*Sn	**Sn**	**22 12 11.8**	**-13**
KMBO	**Kilima Mbogo**	**9.41**	**58**	Pn	**P**	**22 10 40.5**	**-6.3**
	comp=Z,5.4nm,0.3s,baz=231,slow=16,SNR=68						
KMBO				Sn	**Sn**	**22 12 18.2**	**-15**
	comp=Z,11nm,0.3s,baz=220,slow=20,SNR=6.1						
KMBO				Lg		22 13 10.1	
	comp=Z,41nm,0.3s,baz=300,slow=20,SNR=16						
KMBO				LR	LR	22 14 17.9	

2005 DEC

comp=Z,645nm,18.1s,baz=251,slow=38
MATP Matopo 14.13 183 Pn **P** **22 11 49.1 -1.7**
comp=Z,0.5nm,0.3s,baz=9.2,slow=14,SNR=19
MATP Sn **S** **22 14 23.1 -5.5**
comp=Z,1.8nm,0.3s,baz=53,slow=10,SNR=3.6
MATP Lg 22 15 48.6
comp=Z,0.4nm,0.3s,baz=83,slow=14,SNR=3.6
TSUM Tsumeb 17.22 220 P **P** **22 12 30.4 -0.2**
comp=Z,1.3nm,0.3s,baz=27,slow=11,SNR=19
TSUM S **S** **22 15 34.4 -6.3**
comp=Z,1.3nm,0.3s,baz=145,slow=15,SNR=4.1
TSUM Lg 22 17 33.2
comp=Z,0.9nm,0.3s,baz=107,slow=14,SNR=2.0
TSUM LR LR 22 19 18.9
comp=Z,290nm,20.9s,baz=167,slow=37
TSUM Tsumeb 17.22 220 *e*Pn **P** **22 12 30.1 -0.4**
comp=Z,89nm,1.1s
TSUM *e*Sn **S** **22 15 33.6 -7.1**
LBTB Lobatse 19.01 190 P **P** **22 12 53.5 +0.8**
comp=Z,0.4nm,0.3s,baz=21,slow=13,SNR=14
LBTB S **S** **22 16 16.4 -5.1**
comp=Z,0.3nm,0.3s,baz=79,slow=20,SNR=3.5
LBTB Lg 22 18 20.2
comp=Z,0.5nm,0.3s,baz=115,slow=17,SNR=2.1
LBTB LR LR 22 19 41.8
comp=Z,81nm,20.0s,baz=200,slow=35
LBTB Lobatse 19.01 190 *e*P **P** **22 12 52.8 +0.1**
LBTB pmax pmax
comp=Z,28nm,1.0s
LBTB Lobatse 19.01 190 *e*Pn **P** **22 12 52.8 +0.1**
comp=Z,28nm,1.0s
OPO Ambohidratompo 21.31 127 P **P** **22 13 18.3 +0.8**
comp=Z,3.3nm,0.9s,mb3.7,baz=300,slow=16,SNR=2.4
ATD Arta Tunnel 22.20 37 Lg 22 20 05.2
comp=Z,1.5nm,0.3s,baz=3.7,slow=21,SNR=1.7
TORD Torodi Ar. Bea 33.51 305 P **P** **22 15 10.3 0.0**
comp=Z,8.8nm,0.6s,mb4.8,baz=117,slow=8.5,SNR=81
TORD Lg 22 26 09.1
comp=Z,1.1nm,1.1s,baz=148,slow=14,SNR=3.9
DBIC Dimbokro 36.42 290 P **P** **22 15 37.0 +1.8**
comp=Z,1.5nm,0.6s,mb4.1,baz=195,slow=15,SNR=6.3
DBIC LR LR 22 30 07.1
comp=Z,216nm,21.0s,MS3.9,baz=113,slow=36
DBIC Dimbokro 36.42 290 *e*P **P** **22 15 36.8 +1.7**
LIC Lamto 36.43 289 *e*P **P** **22 15 39.8 +4.5**
comp=Z,15nm,0.8s,mb4.7
LIC *e*R
comp=Z,272nm,22.0s
CSS Prodhromos 41.15 5 P **P** **22 16 13.9 -0.4**
comp=Z,12nm,0.9s,mb4.5
MALT Malatya 45.12 10 *e*P **P** **22 16 46.9 +0.2**
MALT pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
MALT Malatya 45.12 10 *e*P **P** **22 16 46.9 +0.2**
comp=Z,8.4nm,1.1s,mb4.5
BR131 Keskin Array S 45.90 5 *e*P **P** **22 16 52.8 0.0**
comp=Z,7.5nm,1.0s,mb4.6
BRTR Keskin Array B 45.90 5 P **P** **22 16 53.1 +0.3**
comp=Z,5.9nm,0.8s,mb4.5,baz=179,slow=9.1,SNR=39
TIP Timpagrande 46.65 347 *e*P **P** **22 17 00.7 +1.9**
PSZ Piszkesteto 54.55 352 P **P** **22 17 58.2 -0.5**
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
PSZ Piszkesteto 54.55 352 P **P** **22 17 58.2 -0.6**
comp=Z,5.6nm,0.8s,mb4.7
MBDF Mbardon 54.62 340 *e*P **P** **22 17 59.7 +0.4**
comp=Z,11nm,0.8s,mb4.6
MBDF Montbardon 54.62 340 *e*P **P** **22 17 59.7 +0.4**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ESDC Sonseca Array 55.04 329 P **P** **22 18 03.9 +1.4**
comp=Z,1.3nm,0.6s,mb4.1,baz=144,slow=7.8,SNR=7.4
ESLA Sonseca Array 55.04 329 *e*P **P** **22 18 03.0 +0.4**
comp=Z,1.2nm,0.9s,mb3.9
ORIF Oris-en-Rattie 55.09 340 *e*P **P** **22 18 03.0 +0.2**
comp=Z,38nm,1.2s,mb5.0
ORIF *e*R
comp=Z,105nm,22.0s
LPG La Plagne 55.31 341 *e*P **P** **22 18 04.2 -0.2**
comp=Z,4.7nm,0.7s,mb4.3
LPG La Plagne 55.31 341 *e*P **P** **22 18 04.2 -0.2**
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
LPL La Plagne 55.34 341 *e*P **P** **22 18 04.5 0.0**
comp=Z,4.8nm,0.6s,mb4.4
LPL La Plagne 55.34 341 *e*P **P** **22 18 04.5 0.0**
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
SQTA Sankt Quirin 55.58 345 ⇑*i*P **P** **22 18 06.7 +0.5**
comp=Z,3.5nm,0.9s,mb4.4
EPF Esparros 55.63 335 *e*P **P** **22 18 06.9 +0.2**
comp=Z,21nm,1.1s,mb4.8
EPF Esparros 55.63 335 *e*P **P** **22 18 06.9 +0.2**
EPF pmax pmax
comp=Z,11nm,1.1s,mb4.8
ETSF Etsaut 55.92 334 *e*P **P** **22 18 09.4 +0.7**
comp=Z,12nm,1.0s,mb4.6
ETSF Etsaut 55.92 334 *e*P **P** **22 18 09.4 +0.7**
ETSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KWP Kalwaria 55.93 355 *e*P **P** **22 18 08.6 -0.1**
DAVA Damuels 55.99 344 ⇑*i*P **P** **22 18 09.4 +0.2**
comp=Z,10nm,1.0s,mb4.8
SJPF Ste Jean 56.38 333 *e*P **P** **22 18 12.6 +0.5**
comp=Z,37nm,1.3s,mb5.0
SJPF Ste Jean 56.38 333 *e*P **P** **22 18 12.6 +0.5**
SJPF pmax pmax
comp=Z,18nm,1.3s,mb4.9
CAF Calviac 56.49 337 *e*P **P** **22 18 13.0 +0.1**
CABF La Chapelle 56.51 341 *e*P **P** **22 18 12.9 -0.1**
comp=Z,7.6nm,0.7s,mb4.5
CABF La Chapelle 56.51 341 *e*P **P** **22 18 12.9 -0.1**
CABF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
GERES GERESS Array B 56.52 348 P **P** **22 18 12.9 -0.1**
comp=Z,1.4nm,0.7s,mb4.1,baz=162,slow=8.4,SNR=6.6
AKASG Malin Array Be 56.70 360 P **P** **22 18 13.1 -1.2**
comp=Z,2.8nm,0.7s,mb4.4,baz=184,slow=6.7,SNR=7.9
MORC Moravsky Berou 56.71 351 P **P** **22 18 13.2 -1.1**
MORC pmax pmax
comp=Z,18nm,1.5s,mb4.9
MORC Moravsky Berou 56.71 351 P **P** **22 18 13.2 -1.1**
comp=Z,18nm,1.5s,mb4.9
KHC Kasperske Hory 56.82 348 *e*P **P** **22 18 15.2 0.0**
KHC *ex* x **22 18 18.8**
RJF Les Rejaudoux 57.02 337 *e*P **P** **22 18 17.0 +0.3**
LFF La Frestale 57.03 336 *e*P **P** **22 18 16.6 -0.1**
comp=Z,13nm,0.8s,mb4.7
LFF La Frestale 57.03 336 *e*P **P** **22 18 16.6 -0.1**
LFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SMF Signal de Mont 57.30 339 *e*P **P** **22 18 18.4 -0.2**
HINF Hinteralfeld 57.34 342 *e*P **P** **22 18 18.4 -0.5**
DPC Dobruska-Polom 57.46 350 *e*P **P** **22 18 17.8 -1.9**
DPC *ex* x **22 18 23.2**
TCF Toulx Ste Croi 57.58 338 *e*P **P** **22 18 21.3 +0.7**
comp=Z,28nm,1.2s,mb4.9
TCF Toulx Ste Croi 57.58 338 *e*P **P** **22 18 21.3 +0.7**
TCF pmax pmax
comp=Z,14nm,1.2s,mb4.9
AVF Avril sur Loir 57.60 339 *e*P **P** **22 18 20.1 -0.6**
comp=Z,6.6nm,0.8s,mb4.4
AVF Avril sur Loir 57.60 339 *e*P **P** **22 18 20.1 -0.6**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CDF Champ du Feu 57.75 343 *e*P **P** **22 18 21.4 -0.3**
SSF Saint Saulge 57.77 339 *e*P **P** **22 18 21.7 -0.2**
LOR Lormes 57.83 340 *e*P **P** **22 18 22.4 +0.1**
GRA1 Grafenberg Arr 57.88 346 *e*P **P** **22 18 22.9 +0.3**
comp=Z,10.0nm,1.1s,mb4.8
GRF Grafenberg Arr 57.88 346 *e*P **P** **22 18 22.9 +0.3**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
GRF Grafenberg Arr 57.88 346 *e*P **P** **22 18 22.9 +0.3**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
GRF Grafenberg Arr 57.88 346 *e*P **P** **22 18 22.9 +0.3**
comp=Z,10.0nm,1.1s,mb4.8
NKC Novy Kostel 58.10 347 *e*P **P** **22 18 24.6 +0.4**
NKC *ex* x **22 18 32.6**
MOX Moxa 58.67 347 *e*P **P** **22 18 34.0 +5.9**
SUW Suwalki 60.24 356 P **P** **22 18 38.0 -0.9**
GRR Gorron 60.49 337 *e*P **P** **22 18 40.9 +0.2**
OBN Obninsk 61.42 5 *e*P **P** **22 18 45.1 -1.8**
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
RGN Rugen 62.02 350 *e*P **P** **22 18 48.9 -2.0**
comp=Z,226nm,1.0s
MAW Mawson 65.35 167 P **P** **22 19 15.3 +2.7**
comp=Z,2.7nm,0.7s,mb4.4,baz=285,slow=14,SNR=4.6
MAW LR LR 22 44 24.8
comp=Z,59nm,18.2s,MS3.8,baz=66,slow=33
KONO Kongsberg 67.52 349 P **P** **22 19 23.4 -3.1**
KONO pmax pmax
comp=Z,43nm,1.4s,mb5.3
KONO Kongsberg 67.52 349 P **P** **22 19 23.4 -3.2**
comp=Z,44nm,1.4s,mb5.3
ZRNK Zerenda 67.85 25 *e*P **P** **22 19 24.9 -3.8**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ZRNK Zerenda 67.85 25 *e*P **P** **22 19 24.9 -3.8**
comp=Z,3.8nm,0.8s,mb4.5
SNAA Sanae 68.37 190 P **P** **22 19 35.5 +3.8**
SNAA pmax pmax
comp=Z,6.0nm,1.2s
SNAA Sanae 68.37 190 P **P** **22 19 35.5 +3.8**
comp=Z,6.0nm,1.2s,mb4.5
NAO01 NORSAR Array S 68.41 350 P **P** **22 19 23.8 -8.4**
comp=Z,14nm,0.9s,mb5.0
NB2 NORSAR Subarra 68.55 351 P **P** **22 19 32.9 0.0**
comp=Z,2.1nm,0.7s,mb4.2,baz=161,slow=5.8
NB2 NORSAR Subarra 68.55 351 P **P** **22 19 32.9 0.0**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 68.55 351 P **P** **22 19 33.2 +0.3**
comp=Z,3.4nm,0.7s,mb4.4,baz=162,slow=5.9,SNR=6.3
NOA NORSAR Array B 68.55 351 P **P** **22 19 33.2 +0.2**
CHKZ Chkalovo 69.04 25 *e*P **P** **22 19 33.7 -2.4**
CHKZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CHKZ Chkalovo 69.04 25 *e*P **P** **22 19 33.7 -2.4**
comp=Z,5.7nm,0.9s,mb4.5
LSA Lhasa 69.20 55 *e*P **P** **22 19 39.1 +1.6**
LSA Lhasa 69.20 55 *e*P **P** **22 19 37.8 +0.3**
LSA pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
LSA Lhasa 69.20 55 *e*P **P** **22 19 37.8 +0.3**
comp=Z,6.1nm,1.1s,mb4.4
MKAR Makanchi Array 70.55 36 P **P** **22 19 45.1 -0.3**
comp=Z,4.0nm,0.8s,mb4.4,baz=239,slow=7.1,SNR=12
MKAR Makanchi Array 70.55 36 *i* P **P** **22 19 45.0 -0.5**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
NVS Novosibirsk 75.48 29 *e*P **P** **22 20 11.8 -2.5**
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,2.0nm,1.1s
NVS pmax pmax
comp=Z,15nm,1.1s,mb4.8
ARCES ARCESS Array B 75.64 359 P **P** **22 20 15.1 +0.2**
comp=Z,3.9nm,0.9s,mb4.3,baz=243,slow=2.7,SNR=5.5
GTA Gaotai 79.11 48 *e*P **P** **22 20 36.6 +1.8**
LZH Lanzhou 81.29 52 *e*P **P** **22 20 49.3 +2.9**
LZH AMB AMB
comp=Z,20nm,1.6s,mb4.8
MOY Mondy 83.67 37 *e*P **P** **22 21 01.4 +3.0**
SONM Songino Array 85.98 41 P **P** **22 21 11.6 +1.5**
comp=Z,2.2nm,1.0s,mb4.3,baz=252,slow=4.7,SNR=7.1
ULN Ulaanbaatar 86.42 41 *e*P **P** **22 21 13.7 +1.4**
ULN pmax pmax
comp=Z,6.0nm,1.2s,mb4.7
ULN Ulaanbaatar 86.42 41 *e*P **P** **22 21 13.7 +1.4**
comp=Z,6.4nm,1.2s,mb4.7
SIV San Ignacio 88.67 254 P **P** **22 21 27.4 +3.6**
comp=Z,1.2nm,0.7s,mb4.3,baz=75,slow=7.3,SNR=7.2
PLCA Paso Flores 93.40 229 LR LR 22 57 41.1
comp=Z,57nm,19.0s,MS4.0,baz=281,slow=32
YKA Yellowknife Ar 117.94 342 PKP PKPdf 22 27 17.6 -0.4
comp=Z,0.3nm,0.7s,baz=54,slow=2.3,SNR=4.4
YKA Yellowknife Ar 117.94 342 PKP PKPdf 22 27 17.6 -0.4
PDAR Pinedale Array 128.63 322 PKP PKPdf 22 27 39.5 +0.3
comp=Z,0.4nm,0.4s,baz=90,slow=1.8,SNR=4.7

*IDC **15** 22:49:16.3±1.1,34.59N×73.17E,mb3.9/6,mb1 3.9/9,mb1mx3.7/21,mbtmp3.8/9,ML3.4/3,Error ellipse: s-maj=32.2km s-min=23.1km az=56.0*
*NEIC **15** 22:49:17.9±1.0,34.60N×73.15E,h10km,mb3.5/1,Error ellipse: s-maj=21.7km s-min=17.0km az=58.0*
*NDI **15** 22:49:21.9±2.3,34.62N×73.35E,h10km,MD3.3,ML3.3,mb3.5(NEIC)*
*NNC **15** 22:49:29.9±5.2,35.22N×71.79E,mb3.6,mpv4.0,Error ellipse: s-maj=77.6km s-min=40.7km az=90.0*
ISC 15 22:49:17.7±0.4,34.79N±0.04×73.26E±0.07,h10km,n32,σ1§15/33,mb3.9/6,2C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**1.48**	**229**	P	**Pn**	**22 49 44.4**	**-0.1**
THW	**Thamme Wali**	**2.36**	**213**	P	**Pn**	**22 49 58.7**	**+1.5**
SARP	**Sargodha**	**2.91**	**190**	P	**Pn**	**22 50 05.2**	**+0.2**
THN	**Thein Dam**	**3.12**	**138**	*e*P	**Pn**	**22 50 09.4**	**+1.4**
THN				*e*SB	**Sb**	**22 50 52.4**	**+1.1**
DLH	**Dalhousie**	**3.19**	**134**	*e*P	**Pn**	**22 50 10.0**	**+1.1**
DLH				*ex*	x	22 51 51.0	
SBDP	**Sheikh Budin**	**3.22**	**220**	P	**Pn**	**22 50 10.5**	**+1.1**
PONG	**Pong**	**3.62**	**141**	*e*P	**Pn**	**22 50 17.0**	**+1.9**
PONG				*e*SG	**Sg**	**22 51 16.0**	**-2.2**
SDNR	**Sundarnagar**	**4.53**	**136**	*e*P	**Pn**	**22 50 27.5**	**-0.5**
SDNR				*ex*	x	22 50 37.5	
SMLA	**Simla**	**4.91**	**137**	*e*P	**Pn**	**22 50 32.9**	**-0.5**
SMLA				*ex*	x	22 51 30.4	
KLP	**Kalpa**	**5.30**	**126**	*e*P	**Pn**	**22 50 38.9**	**0.0**
KLP				*ex*	x	22 51 39.2	
KLP				AML	AML	22 51 44.9	
	comp=N,200nm,0.9s						
KLP				AML	AML	22 51 45.2	
	comp=E,154nm,0.5s						
BHGR	**Bahadurgarh**	**6.85**	**152**	*ex*	x	22 52 40.7	
KALG	**Kalgarh**	**7.04**	**137**	*ex*	x	22 52 19.8	
KHET	**Khetri**	**7.04**	**161**	*e*P	**Pn**	**22 51 01.0**	**-2.5**
KHET				*e*S	**Sn**	**22 52 15.8**	**-8.7**
KHET				AML	AML	22 52 17.4	
	comp=E,16nm,0.2s						
KHET				AML	AML	22 52 27.8	
	comp=N,15nm,0.3s						
SONA	**Sohna**	**7.29**	**152**	*ex*	x	22 50 18.1	
SONA				*ex*	x	22 52 25.9	
SONA				AML	AML	22 52 27.6	
	comp=E,21nm,0.3s						
SONA				AML	AML	22 52 49.1	
	comp=N,12nm,0.2s						
AGRA	**Agra**	**8.54**	**151**	*ex*	x	22 52 54.4	
KK31	**Karatay Array**	**8.57**	**346**	⇑P	**P**	**22 51 25.8**	**+1.1**
	comp=N,2.9nm,0.3s,baz=153,slow=11,SNR=128						
KK31				⇑S	**Sn**	**22 52 58.8**	**-3.8**
	comp=N,1.7nm,0.3s,baz=172,slow=24,SNR=5.9						
MKAR	**Makanchi Array**	**13.79**	**27**	Pn	**P**	**22 52 36.7**	**+1.1**
	comp=N,0.0nm,0.3s,baz=211,slow=17,SNR=2.4						
MKAR	**Makanchi Array**	**13.79**	**27**	Pn	**P**	**22 52 36.6**	**+1.1**
AB31	**Akbulak array**	**17.47**	**330**	P	**P**	**22 53 22.9**	**-0.1**
	comp=N,0.4nm,0.4s,baz=140,slow=12,SNR=14						
AB31				⇓S	**S**	**22 56 26.5**	**-9.2**
	comp=N,0.6nm,0.7s						
BVAR	**Borovoye Array**	**18.34**	**354**	P	**P**	**22 53 33.5**	**-0.3**
	comp=N,0.3nm,0.3s,baz=159,slow=9.3,SNR=7.3						
ZRNK	**Zerenda**	**18.40**	**352**	*e*P	**P**	**22 53 34.9**	**+0.4**
	comp=N,2.3nm,0.6s						
AKTK	**Aktyubinsk**	**19.18**	**329**	P	**P**	**22 53 43.7**	**-0.2**
AKTO	**Aktyubinsk**	**19.18**	**329**	⇓P	**P**	**22 53 44.5**	**+0.6**
	comp=N,0.4nm,0.8s						
AKTO	**Aktyubinsk**	**19.18**	**329**	P	**P**	**22 53 43.7**	**-0.2**
	comp=N,0.3nm,0.3s,baz=128,slow=11,SNR=7.7						
FINES	**FINESS Array B**	**39.92**	**327**	P	**P**	**22 56 51.7**	**-1.6**
	comp=N,2.5nm,1.0s,mb3.9,baz=126,slow=12,SNR=3.1						
ARCES	**ARCESS Array B**	**43.42**	**338**	P	**P**	**22 57 22.4**	**+0.6**
	comp=N,4.2nm,1.0s,mb4.1,baz=113,slow=7.3,SNR=6.4						
NOA	**NORSAR Array B**	**46.84**	**324**	P	**P**	**22 57 48.7**	**-0.6**
	comp=N,1.5nm,1.0s,mb3.9,baz=109,slow=6.6,SNR=2.4						
NOA	**NORSAR Array B**	**46.84**	**324**	P	**P**	**22 57 48.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**67.55**	**271**	P	**P**	**23 00 14.3**	**-2.3**
	comp=N,0.8nm,0.5s,mb4.0,baz=47,slow=5.8,SNR=42						
WRA	**Warramunga Arr**	**79.52**	**123**	P	**P**	**23 01 25.0**	**-1.6**
	comp=N,0.7nm,0.5s,mb3.8,baz=322,slow=4.9,SNR=20						
YKA	**Yellowknife Ar**	**82.84**	**4**	P	**P**	**23 01 43.2**	**+0.1**
	comp=N,0.3nm,0.5s,mb3.5,baz=344,slow=5.0,SNR=7.4						
YKA	**Yellowknife Ar**	**82.84**	**4**	P	**P**	**23 01 43.2**	**+0.1**

IDC 15 23:06:25.2±0.9, **12.40N**×**142.04E, mb4.0**/6, **mb1 4.2**/6, **mb1mx3.8**/17, **mbtmp4.0**/6, **MS4.3**/2, **Ms1 4.3**/2, **ms1mx3.6**/12, **Error ellipse: s-maj=77.3km s-min=22.3km az=99.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**23.02**	**335**	LR		LR	23 19 44.1	
	comp=Z,651nm,20.7s,baz=42,slow=35							
WRA	**Warramunga Arr**	**33.02**	**193**	P		P	23 13 01.6	-3.0
	1.7nm,0.8s,baz=11,slow=10.0,SNR=12							
STKA	**Stephens Creek**	**44.03**	**181**	P		P	23 14 35.5	-1.1
	1.1nm,0.4s,baz=23,slow=7.7,SNR=6.7							
ILAR	**Eielson Array**	**70.82**	**25**	P		P	23 17 43.1	-2.3
	0.5nm,0.7s,baz=218,slow=7.4,SNR=6.9							
YKA	**Yellowknife Ar**	**85.17**	**27**	P		P	23 19 03.3	-1.0
	0.1nm,0.4s,baz=288,slow=7.8,SNR=3.0							
ARCES	**ARCESS Array B**	**87.35**	**342**	P		P	23 19 14.9	-0.1
	4.0nm,0.9s,baz=68,slow=6.5,SNR=4.6							
FINES	**FINESS Array B**	**91.05**	**334**	P		P	23 19 30.9	-1.6
	1.4nm,0.7s,baz=56,slow=6.9,SNR=7.0							
ULM	**Lac du Bonnet**	**99.76**	**33**	LR		LR	00 02 57.7	
	comp=Z,153nm,18.5s,baz=352,slow=34							

ATH ***15*** *23:07:07.1, 38.13N×26.52E, h37km±5km, MD3.1/3*
ISK ***15*** *23:07:07.4, 38.17N×26.73E, h5km, MD3.2*
CSEM ***15*** *23:07:07.5±0.1, 38.16N×26.71E, h5km, MD3.2, Error ellipse: s-maj=2.8km s-min=1.9km az=86.0*

ISC 15 23:07:07.2±0.6, **38.23N**±0.03×**26.59E**±0.05, **h5km, n19,** σ0§**98**/**29, 2C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URLA	**Izmir**	**0.13**	**2**	*i* P		**Pg**	**23 07 09.3**	**-0.7**
URLA				*i* S		**Sg**	**23 07 11.9**	**0.0**
BLCB	**Balcova**	**0.39**	**66**	*i* PG		**Pg**	**23 07 14.5**	**-0.5**
BLCB				*i* SG		**Sg**	**23 07 20.3**	**0.0**
SMG	**Samos**	**0.55**	**159**⇑	*i* PB		**Pg**	**23 07 18.1**	**-0.2**
SMG				*e*SB		**Sg**	**23 07 26.0**	**+0.3**
SMG	**Samos**	**0.55**	**159**⇑	*i* Pb		**Pg**	**23 07 18.1**	**-0.2**
SMG				*e*Sb		**Sg**	**23 07 26.7**	**+1.0**
IZM	**Izmir**	**0.56**	**72**	*i* PG		**Pg**	**23 07 18.0**	**-0.3**
IZM				*i* SG		**Sg**	**23 07 25.9**	**+0.1**
KDAG	**Bornova**	**0.56**	**72**	*i* P		**Pg**	**23 07 17.0**	**-1.5**
KDAG				*i* S		**Sg**	**23 07 23.8**	**-2.2**
PRK	**Paraskevi**	**1.05**	**346**	*e*PN		**Pn**	**23 07 28.0**	**-0.4**
PRK				*e*SN		**Sn**	**23 07 43.5**	**0.0**
AKS	**Akhisar**	**1.16**	**55**	PN		**Pn**	**23 07 29.6**	**-0.4**
AYDN	**Tasoluk**	**1.17**	**119**	*i* P		**Pb**	**23 07 29.2**	**-0.3**
AYDN				*i* S		**Sb**	**23 07 44.8**	**+0.1**
BODT	**Bodrum**	**1.30**	**154**	PN		**Pn**	**23 07 31.6**	**-0.4**
MLSB	**Milas**	**1.32**	**134**	*e*PN		**Pn**	**23 07 31.5**	**-0.9**
BDRM	**Kayabasi**	**1.34**	**149**	*i* P		**Pb**	**23 07 33.1**	**+0.6**
BDRM				*i* S		**Sb**	**23 07 50.9**	**+1.0**
APE	**Apeiranthos**	**1.43**	**216**	*e*PN		**Pn**	**23 07 30.8**	**-3.1**
MANT	**Manisa**	**1.57**	**80**	*i* P		**Pn**	**23 07 36.6**	**+0.7**
MANT				*i* S		**Sb**	**23 07 57.3**	**+0.9**
YER	**Yerkesik**	**1.73**	**129**	*e*PN		**Pn**	**23 07 37.4**	**-0.8**
BALB	**Balikesir**	**1.73**	**35**	*e*PN		**Pn**	**23 07 39.9**	**+1.7**
DST	**Dursunbey**	**2.10**	**49**	*e*PN		**Pn**	**23 07 44.3**	**+0.8**
EDC	**Edincik**	**2.34**	**25**	*e*PN		**Pn**	**23 07 49.2**	**+2.3**
ORLT	**Orhaneli**	**2.55**	**44**	*e*PN		**Pn**	**23 07 51.2**	**+1.2**

IDC ***15*** *23:07:09.7±0.5, 12.24N×140.98E, mb4.5/19, mb1 4.7/20, mb1mx4.7/22, mbtmp4.5/20, ML4.9/1, Error ellipse: s-maj=19.8km s-min=12.8km az=88.0*
MOS ***15*** *23:07:12.8±0.9, 12.26N×141.05E, h33km, mb5.1/20, Error ellipse: s-maj=12.7km s-min=7.3km az=113.3*
BJI ***15*** *23:07:14.8, 12.57N×141.08E, h23km, mB5.1, mb4.7, Ms4.6, Msz4.4*
HRVD ***15*** *23:07:15.5±0.3, 12.24N×140.85E, h12km, MW5.0/56, Centroid moment Tensor Solution. LP body waves: s25,c33;Mantle waves: s56,c96; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.99±.12; Mθθ2.58±.10; Mφφ0.40±.11; Mrθ2.67±.36; Mθφ0.96±.10; Mφr1.17±.45; Best double couple: M=4.16×10^16 NP1:φs71°,δ23°, λ-86°. NP2:φs247°,δ67°,λ-92°. Principal axes: T 4.137, Plg22°, Azm338°; N .045, Plg1°, Azm248°; P -4.184, Plg68°, Azm154°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***15*** *23:07:15.5±1.7, 12.23N×141.03E, h40km±15km, mb4.9/17 Error ellipse: s-maj=11.7km s-min=6.9km az=87.0*

ISC 15 23:07:13.9±1.5, **12.22N**±0.05×**141.10E**±0.07, **h41km**±14km, **h33**km±4.2km**:pP-P, n115,** σ1§**00**/109, **mb4.7**/50, **MS4.6**/6, **2C-2D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**3.92**	**69**	Pn		**P**	**23 08 13.8**	**+0.6**
	86nm,0.3s,baz=193,slow=6.4,SNR=16							
GUMO	**Guam**	**3.92**	**69**	*e*Pn		**P**	**23 08 13.7**	**+0.4**
PMG	**Port Moresby**	**22.31**	**164**	P		**P**	**23 12 09.3**	**-0.1**
	19nm,0.9s,mb4.5,baz=29,slow=6.5,SNR=6.4							
PMG	**Port Moresby**	**22.31**	**164**	*e*P		**P**	**23 12 09.2**	**-0.2**
PMG				pmax		pmax		
	comp=Z,28nm,0.8s							
PMG	**Port Moresby**	**22.31**	**164**	*e*P		**P**	**23 12 09.2**	**-0.2**
	comp=Z,28nm,0.8s,mb4.7							
YHNB	**Yeheng**	**22.40**	**306**	*e*P		**P**	**23 12 17.4**	**+7.2**
MJAR	**Matsushiro Arr**	**24.36**	**354**	P		**P**	**23 12 28.3**	**-1.1**
	comp=Z,2.4nm,0.8s,mb3.7,baz=173,slow=11,SNR=5.5							
KAKA	**Kakadu**	**26.21**	**199**	*e*P		Px	23 13 08.2	
	comp=Z,14nm,0.6s							
SSE	**Sheshan**	**26.29**	**319**	P		**P**	**23 12 46.3**	**-1.3**
SSE				AP		pP	23 12 54.9	-3.7
SSE				XP		sP	23 12 58.6	-4.9
SSE				S		**S**	**23 17 18.9**	**+3.7**
SSE				AMB		AMB		
	comp=Z,30nm,0.7s,mb4.9							
SSE				AMB		AMB		
	comp=Z,210nm,6.3s							
SSE				LR		LR		
	comp=N,500nm,24.8s,MS4.1							
SSE				LR		LR		
	comp=E,370nm,24.8s,MS4.1							
SSE				LR		LR		
	comp=Z,830nm,21.9s,MS4.2							
NJ2	**Nanjing**	**28.42**	**318**	*e*P		**P**	**23 13 06.6**	**-0.4**
NJ2				AP		pP	23 13 15.9	-2.2
NJ2				XP		sP	23 13 19.8	-3.5
NJ2				PP		PP	23 13 56.9	-2.4
NJ2				PPP		PPP	23 14 10.4	-1.3
NJ2				S		**S**	**23 17 50.0**	**+0.2**
NJ2				XS			23 18 04.0	
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.5							
NJ2				AMB		AMB		
	comp=Z,360nm,5.0s							
NJ2				LR		LR		
	comp=N,1μm,16.1s							
NJ2				LR		LR		
	comp=E,2μm,23.5s							
NJ2				LR		LR		
	comp=Z,860nm,23.7s							
QIZ	**Qiongzhong**	**30.82**	**287**	*e*P		**P**	**23 13 28.4**	**0.0**
QIZ				S		**S**	**23 18 26.5**	**-1.3**
QIZ				LR		LR		
	comp=Z,1μm,18.8s,MS4.5							
CTA	**Charters Tower**	**32.50**	**171**	*e*P		**P**	**23 13 43.6**	**+0.4**
	comp=Z,14nm,0.6s,mb5.1							
CTA	**Charters Tower**	**32.50**	**171**	*e*P		**P**	**23 13 43.6**	**+0.4**
CTA				pmax		pmax		
	comp=Z,14nm,0.6s							
CTAO	**Charters Tower**	**32.50**	**171**	*e*P		**P**	**23 13 43.3**	**+0.1**
CTAO				pmax		pmax		
	comp=Z,15nm,0.6s,mb5.1							
CTAO	**Charters Tower**	**32.50**	**171**	*e*P		**P**	**23 13 43.3**	**+0.1**
	comp=Z,15nm,0.6s,mb5.1							
CTAO				*e*			23 14 09.1	
WB2	**Warramunga Arr**	**32.64**	**192**	*e*P		**P**	**23 13 43.6**	**-0.8**
WRA	**Warramunga Arr**	**32.64**	**192**	P		**P**	**23 13 43.6**	**-0.8**
	comp=Z,20nm,0.7s,mb5.2,baz=10,slow=9.8,SNR=98							
WRA				ScP			23 20 14.1	
	comp=Z,0.9nm,0.9s,baz=4.7,slow=3.4,SNR=4.7							
MDJ	**Mudanjiang**	**33.76**	**345**	P		**P**	**23 13 54.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**33.77**	**207**	*e*P		**P**	**23 13 51.9**	**-2.3**
	comp=Z,5.0nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**33.77**	**207**	P		**P**	**23 13 52.0**	**-2.1**
	comp=Z,3.0nm,0.8s,mb4.3,baz=28,slow=8.3,SNR=6.9							
FITZ				PcP		PcP	23 16 32.3	-0.7
	comp=Z,1.8nm,0.7s,baz=117,slow=3.9,SNR=3.7							
ENH	**Enshi**	**34.33**	**306**	P		**P**	**23 13 59.5**	**+0.6**
	comp=Z,9.9nm,0.8s,mb4.8							
ASPA	**Alice Springs**	**36.35**	**191**	*e*P		**P**	**23 14 16.8**	**+0.7**
XAN	**Xi'an**	**36.46**	**312**	P		**P**	**23 14 17.8**	**+0.9**
HABR	**Khabarovsk**	**36.49**	**353**⇑	*e*P		**P**	**23 14 11.0**	**-6.1**
HABR				MLR		MLR		
	comp=Z,164nm,7.3s							
KLR	**Kul'dur**	**37.70**	**350**	*e*P		**P**	**23 14 25.0**	**-2.2**
CD2	**Chengdu**	**39.14**	**304**	*e*P		**P**	**23 14 44.0**	**+4.6**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
DZM	**Mont Dzumac**	**42.18**	**144**	*e*P		**P**	**23 15 06.6**	**+1.9**
DZM	**Mont Dzumac**	**42.18**	**144**	P		**P**	**23 15 06.4**	**+1.7**
	comp=Z,14nm,0.7s,mb4.7,baz=353,slow=7.8,SNR=24							
PSI	**Prapat**	**42.78**	**261**	P		**P**	**23 15 09.2**	**-0.5**
	comp=Z,3.9nm,0.7s,mb4.3,baz=138,slow=14,SNR=3.2							
STKA	**Stephens Creek**	**43.84**	**179**	*e*P		**P**	**23 15 17.6**	**-0.5**
	comp=Z,11nm,0.5s,mb4.8							
STKA	**Stephens Creek**	**43.84**	**179**	P		**P**	**23 15 17.6**	**-0.5**
	comp=Z,18nm,0.7s,mb4.9,baz=351,slow=7.6,SNR=39							
FORT	**Forrest**	**44.55**	**196**	*e*P		**P**	**23 15 24.0**	**+0.2**
	comp=Z,23nm,0.7s,mb5.1							
GTA	**Gaotai**	**45.40**	**314**	*e*P		**P**	**23 15 31.5**	**+1.0**
GTA				AP		pP	23 15 39.3	-2.8
GTA				XP		sP	23 15 44.6	-2.5
GTA				PCP		PcP	23 17 09.8	+0.1
GTA				PP		PP	23 17 19.8	+2.3
GTA				PPP		PPP	23 18 03.0	+3.2
GTA				SCP			23 20 58.1	
GTA				PCS			23 21 02.5	
GTA				S		**S**	**23 22 11.8**	**+3.8**
GTA				AMB		AMB		
	comp=Z,100nm,6.5s							
GTA				LR		LR		
	comp=N,430nm,19.0s,MS4.5							
GTA				LR		LR		
	comp=E,420nm,19.4s,MS4.5							
GTA				LR		LR		
	comp=Z,520nm,23.2s,MS4.4							
CIT	**Chita**	**45.49**	**336**	*e*P		**P**	**23 15 33.6**	**+2.6**
ULN	**Ulaanbaatar**	**45.50**	**328**	*e*P		**P**	**23 15 30.3**	**-0.8**
ULN				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.6							
ULN	**Ulaanbaatar**	**45.50**	**328**	*e*P		**P**	**23 15 30.3**	**-0.8**
	comp=Z,12nm,1.2s,mb4.6							
SONM	**Songino Array**	**45.82**	**328**	P		**P**	**23 15 34.6**	**+1.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=144,slow=8.9,SNR=12							
SONM				PcP		PcP	23 17 10.4	-0.7
	comp=Z,0.7nm,0.5s,baz=144,slow=4.1,SNR=4.4							
MA2	**Magadan**	**47.82**	**7**	P		**P**	**23 15 49.9**	**+0.7**
MA2				pmax		pmax		
	comp=Z,16nm,0.6s,mb5.2							
MA2	**Magadan**	**47.82**	**7**	P		**P**	**23 15 49.9**	**+0.7**
	comp=Z,16nm,0.6s,mb5.2							
ZAK	**Zakamensk**	**49.01**	**329**	*e*P		**P**	**23 15 58.2**	**-0.3**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.5							
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.6							
LSA	**Lhasa**	**49.38**	**299**	P		**P**	**23 16 04.3**	**+2.6**
LSA	**Lhasa**	**49.38**	**299**	*e*P		**P**	**23 16 03.1**	**+1.4**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
LSA	**Lhasa**	**49.38**	**299**	*e*P		**P**	**23 16 03.1**	**+1.4**
	comp=Z,5.3nm,0.8s,mb4.6							
BOD	**Bodaibo**	**49.95**	**341**	*e*P		**P**	**23 16 03.6**	**-2.1**
BOD				pmax		pmax		
	comp=Z,7.0nm,1.8s,mb4.4							
YAK	**Yakutsk**	**50.41**	**353**	*e*P		**P**	**23 16 08.1**	**-1.1**
YAK				pmax		pmax		
	comp=Z,25nm,0.9s,mb5.2							
YAK				pmax		pmax		
	comp=N,11nm,1.1s							
YAK				pmax		pmax		
	comp=N,31nm,1.0s							
YAK				pmax		pmax		
	comp=N,23nm,1.2s							
YAK	**Yakutsk**	**50.41**	**353**	*e*P		**P**	**23 16 08.8**	**-0.4**
	comp=N,62nm,0.8s,mb5.7							
MOY	**Mondy**	**50.93**	**329**	*e*P		**P**	**23 16 15.5**	**+2.2**
MOY				pmax		pmax		
	comp=Z,50nm,3.3s							
JIRN	**Jiri**	**53.44**	**295**	*e*P		**P**	**23 16 33.2**	**+0.8**
	comp=Z,93nm,1.5s,mb5.5							
GUN	**Gumba**	**53.74**	**296**	*e*P		**P**	**23 16 35.5**	**+0.9**
	comp=Z,76nm,1.0s,mb5.6							
PKI	**Pulchoki**	**54.12**	**295**	*e*P		**P**	**23 16 37.0**	**-0.4**
KKN	**Kakani**	**54.26**	**295**	*e*P		**P**	**23 16 38.0**	**-0.4**
	comp=Z,59nm,1.3s,mb5.3							
DMN	**Daman**	**54.40**	**295**	*e*P		**P**	**23 16 39.9**	**+0.5**
GKN	**Gorkha**	**54.84**	**296**	*e*P		**P**	**23 16 42.9**	**+0.3**
WMQ	**Urumqi**	**55.46**	**315**	P		**P**	**23 16 48.0**	**+1.1**
WMQ				AP		pP	23 16 58.0	-0.8
WMQ				XP		sP	23 17 02.0	-1.6
WMQ				PCP		PcP	23 17 48.0	+1.5
WMQ				PP		PP	23 18 53.3	+0.9
WMQ				PPP		PPP	23 20 07.5	+0.5
WMQ				*e*S		**S**	**23 24 28.0**	**+0.9**
WMQ				SCS		ScS	23 26 31.0	+2.0
WMQ				SS		SS	23 28 13.0	+1.0
WMQ				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,100nm,5.2s							
WMQ				LR		LR		
	comp=N,300nm,22.0s,MS4.6							
WMQ				LR		LR		
	comp=E,440nm,22.0s,MS4.6							
WMQ				LR		LR		
	comp=Z,520nm,22.0s,MS4.6							
KOLN	**Koldanda**	**55.74**	**295**	*e*P		**P**	**23 16 48.8**	**-0.3**
	comp=Z,84nm,1.4s,mb5.6							
BILL	**Bilibino**	**58.15**	**11**	*e*P		**P**	**23 17 04.3**	**-1.4**
BILL				pmax		pmax		
	comp=Z,25nm,1.2s,mb5.1							
BILL	**Bilibino**	**58.15**	**11**	*e*P		**P**	**23 17 04.4**	**-1.3**
	comp=Z,53nm,1.4s,mb5.4							
BILL				*e*			23 17 30.5	
TIXI	**Tiksi**	**59.86**	**356**	*e*P		**P**	**23 17 14.9**	**-2.6**
TIXI				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.9							
MKAR	**Makanchi Array**	**59.95**	**317**	P		**P**	**23 17 18.8**	**+0.3**
	comp=Z,4.6nm,0.7s,mb4.6,baz=92,slow=8.8,SNR=42							
MKAR	**Makanchi Array**	**59.95**	**317**	*i* P		**P**	**23 17 18.4**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,48nm,1.3s							
HYB	**Hyderabad**	**60.47**	**283**	*i* P		**P**	**23 17 22.0**	**-0.4**
HYB				*e*			23 17 47.0	
HYB	**Hyderabad**	**60.47**	**283**	*e*P		**P**	**23 17 22.0**	**-0.4**
HYB				*e*			23 17 47.0	
NVS	**Novosibirsk**	**61.81**	**326**	*e*P		**P**	**23 17 30.5**	**-0.4**
NVS				pmax		pmax		
	comp=N,13nm,1.6s							
NVS				pmax		pmax		
	comp=E,17nm,1.6s							
NVS				pmax		pmax		
	comp=Z,25nm,1.6s,mb5.1							
KSH	**Kashi**	**63.17**	**308**	*e*P		**P**	**23 17 42.5**	**+2.3**
KSH				*e*AP		pP	23 17 56.4	+4.1
KSH				AMB		AMB		
	comp=Z,220nm,4.0s							
KURK	**Kurchatov**	**63.29**	**321**	*d* iP		**P**	**23 17 40.4**	**-0.4**
FRU	**Bishkek**	**64.57**	**312**	*e*P		**P**	**23 17 50.7**	**+1.4**
AAK	**Ala-Archa**	**64.63**	**311**	*i* P		**P**	**23 17 49.4**	**-0.3**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.4							
KKAR	**Karatay Array**	**67.59**	**312**	*i* P		**P**	**23 18 08.3**	**-0.2**
CHKZ	**Chkalovo**	**68.69**	**323**	*e*P		**P**	**23 18 14.5**	**-0.7**
CHKZ				*e*			23 18 37.9	
CHKZ				pmax		pmax		
	comp=Z,18nm,1.1s,mb4.9							
CHKZ	**Chkalovo**	**68.69**	**323**	*e*P		**P**	**23 18 14.5**	**-0.6**
	comp=Z,18nm,1.1s,mb4.9							
CHKZ				*e*			23 18 37.9	
BVA0	**Borovoye Array**	**68.73**	**322**	*i* P		**P**	**23 18 15.9**	**+0.4**
BVA0				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.4							
ZRNK	**Zerenda**	**69.56**	**322**	*e*P		**P**	**23 18 20.4**	**-0.1**
ZRNK				*e*			23 18 45.3	
ZRNK				pmax		pmax		
	comp=Z,32nm,1.1s,mb5.2							
ZRNK	**Zerenda**	**69.56**	**322**	*e*P		**P**	**23 18 20.4**	**-0.1**
	comp=Z,32nm,1.1s,mb5.2							
ZRNK				*e*			23 18 45.2	
MCK	**McKinley**	**70.29**	**26**	P		**P**	**23 18 24.8**	**0.0**
MCK				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.5							
MCK	**McKinley**	**70.29**	**26**	P		**P**	**23 18 24.8**	**0.0**
	comp=Z,7.1nm,1.1s,mb4.5							
ILAR	**Eielson Array**	**71.38**	**25**	P		**P**	**23 18 30.4**	**-0.9**
	comp=Z,3.2nm,0.7s,mb4.3,baz=255,slow=5.4,SNR=21							
PPT	**Papeete**	**74.56**	**112**	*e*LR		LR	23 41 14.6	
	comp=Z,546nm,28.8s							
ARU	**Arti**	**75.79**	**325**⇑	*i* P		**P**	**23 18 57.0**	**-0.2**
ARU				*e*			23 21 43.1	
ARU				*e*S		S	23 28 37.9	+3.0
ARU				*e*SS		SS	23 33 30.9	+0.9
ARU				pmax		pmax		
	comp=Z,28nm,1.9s,mb4.9							
ARU				MLR		MLR		
	comp=N,400nm,21.0s,MS4.8							
ARU				MLR		MLR		
	comp=E,200nm,21.0s,MS4.8							
ARU				MLR		MLR		
	comp=Z,500nm,21.0s,MS4.8							
AKTO	**Aktyubinsk**	**76.29**	**319**	P		**P**	**23 18 59.8**	**-0.4**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
TBI	**Tubuai**	**76.55**	**118**	*e*LR		LR	23 42 10.6	
INK	**Inuvik**	**77.03**	**22**	P		**P**	**23 19 05.0**	**+0.9**
	comp=Z,2.2nm,0.8s,mb4.1,baz=246,slow=7.9,SNR=9.1							
BIDO	**Bidbid**	**78.86**	**292**	P		**P**	**23 19 15.4**	**+0.5**
	SNR=9.5							
DLBC	**Dease Lake**	**79.11**	**32**	P		**P**	**23 19 15.9**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=353,slow=26,SNR=4.7							
DLBC	**Dease Lake**	**79.11**	**32**	P		**P**	**23 19 16.1**	**+0.5**
HOQ	**Hoqain**	**79.59**	**292**	P		**P**	**23 19 19.2**	**+0.2**
	SNR=7.0							
BANOM	**Banah**	**80.14**	**294**	P		**P**	**23 19 22.6**	**+0.7**
	SNR=9.6							
ASHO	**Ashiyiah**	**80.55**	**293**	⇓P		**P**	**23 19 24.2**	**+0.2**
KLMR	**Klimovskoe**	**84.99**	**331**	*e*P		**P**	**23 19 42.5**	**-3.5**
KLMR				pmax		pmax		
	comp=Z,50nm,3.0s							
YKA	**Yellowknife Ar**	**85.75**	**27**	P		**P**	**23 19 50.4**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.4,baz=290,slow=5.3,SNR=14							
YKA	**Yellowknife Ar**	**85.75**	**27**	P		**P**	**23 19 50.4**	**+0.8**
KEV	**Kevo**	**86.66**	**341**	*e*p		**P**	**23 19 53.6**	**-0.4**
ARCES	**ARCESS Array B**	**87.23**	**341**	P		**P**	**23 19 57.1**	**+0.3**
	comp=Z,5.2nm,0.7s,mb4.9,baz=61,slow=3.5,SNR=15							
JOF	**Joensuu**	**87.97**	**334**	*e*p		**P**	**23 19 59.6**	**-0.8**
	comp=Z,8.0nm,0.7s,mb5.1							
OBN	**Obninsk**	**88.21**	**326**	*e*P		**P**	**23 20 01.9**	**+0.1**
OBN				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.7							
OBN				MLR		MLR		
	comp=Z,600nm,26.0s,MS4.9							
RKT	**Rikitea**	**89.25**	**114**	*e*LR		LR	23 48 03.0	
	comp=Z,234nm,28.0s							
VNDA	**Vanda**	**90.36**	**176**	P		**P**	**23 20 12.1**	**+0.5**
	comp=Z,0.7nm,0.7s,mb4.1,baz=312,slow=7.9,SNR=4.0							
VNDA	**Vanda**	**90.36**	**176**	P		**P**	**23 20 12.1**	**+0.5**
KAF	**Kangasniemi**	**90.41**	**335**	*e*p		**P**	**23 20 10.8**	**-1.2**
	comp=Z,13nm,0.7s,mb5.4							
KAF	**Kangasniemi**	**90.41**	**335**	*e*P		**P**	**23 20 10.8**	**-1.2**
KAF				pmax		pmax		
	comp=Z,13nm,0.7s,mb5.4							
NVAR	**Mina Array Bea**	**90.64**	**51**	P		**P**	**23 20 15.5**	**+1.8**
	comp=Z,1.7nm,0.7s,mb4.5,baz=257,slow=6.3,SNR=9.3							
NVAR	**Mina Array Bea**	**90.64**	**51**	P		**P**	**23 20 15.5**	**+1.8**
FINES	**FINESS Array B**	**90.82**	**334**	P		**P**	**23 20 13.2**	**-0.7**
	comp=Z,13nm,0.7s,mb5.4,baz=56,slow=6.9,SNR=37							
AKASG	**Malin Array Be**	**93.97**	**324**	P		**P**	**23 20 26.5**	**-2.1**
	comp=Z,0.8nm,0.5s,mb4.4,baz=58,slow=4.4,SNR=4.7							
AKASG	**Malin Array Be**	**93.97**	**324**	P		**P**	**23 20 26.5**	**-2.1**
BRTR	**Keskin Array B**	**95.30**	**312**	P		**P**	**23 20 35.2**	**+0.2**
	comp=Z,0.7nm,0.7s,mb4.2,baz=60,slow=5.0,SNR=4.3							
NB2	**NORSAR Subarra**	**96.97**	**338**	P		**P**	**23 20 41.5**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.6,baz=49,slow=4.5							
NB2	**NORSAR Subarra**	**96.97**	**338**	P		**P**	**23 20 41.5**	**-0.6**
NB2				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.5							
NOA	**NORSAR Array B**	**96.97**	**338**	P		**P**	**23 20 41.6**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.5,baz=53,slow=4.4,SNR=3.8							
GERES	**GERESS Array B**	**103.55**	**327**	Pdiff		Pdif	23 21 10.8	-1.2
	comp=Z,0.8nm,0.6s,baz=90,slow=1.3,SNR=3.8							
TORD	**Torodi Ar. Baa**	**132.50**	**301**	PKP		PKPdf	23 26 25.8	+0.6
	comp=Z,0.3nm,0.7s,baz=30,slow=2.3,SNR=3.3							
PLCA	**Paso Flores**	**140.28**	**141**	PKP		PKPdf	23 26 39.9	+1.1
	comp=Z,1.4nm,0.6s,baz=304,slow=12,SNR=4.0							
PLCA	**Paso Flores**	**140.28**	**141**	PKP		PKPdf	23 26 39.9

3.6nm,1.2s,mb4.2
AKTK Aktyubinsk 76.18 319 P **P** 23 41 59.3 0.0
AKTO Aktyubinsk 76.18 319 P **P** 23 41 59.3 0.0
0.6nm,0.5s,mb3.8,baz=107,slow=4.9,SNR=4.7
ARCES ARCESS Array B 87.19 341 P **P** 23 42 56.8 +0.3
5.5nm,0.9s,mb4.8,baz=59,slow=7.1,SNR=8.3
FINES FINESS Array B 90.76 334 P **P** 23 43 12.7 -0.8
2.4nm,0.6s,mb4.7,baz=66,slow=6.3,SNR=12
MAW Mawson 96.66 202 LR LR 00 21 44.7
comp=Z,210nm,21.6s,MS4.6,baz=265,slow=32
LPAZ La Paz 151.59 102 PKPbc PKPdf 23 50 07.0 +8.8
1.5nm,0.8s,baz=269,slow=24,SNR=6.8

*IDC **15** 23:51:04.6±1.4, 12.26N×144.31E, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, MS3.5/1, Ms1 3.5/1, ms1mx2.6/30, Error ellipse: s-maj=44.8km s-min=20.7km az=115.0*
*NEIC **15** 23:51:07.7±6.1, 12.29N×144.42E, h20km±43km, mb4.4/1, Error ellipse: s-maj=38.2km s-min=18.8km az=107.0*
ISC 15 23:51:04.7±5.7, 12.2N±0.1×144.3E±0.2, h12km±36km, n11, σ1§28/12, mb3.8/6, MS3.3/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.53**	**21**			Pn	**Pn**	**23 51 33.1**	**+1.1**
	59nm,0.3s,baz=210,slow=6.8,SNR=12								
GUMO						Sn	**Sn**	**23 51 52.7**	**+0.9**
	56nm,0.3s,baz=17,slow=23,SNR=8.9								
GUMO	**Guam**	**1.53**	**21**	*e*	Pn		**Pn**	**23 51 31.7**	**-0.3**
GUMO				*e*	Sn		**Sn**	**23 51 52.4**	**+0.6**
JHJ	**Hachijo jima 2**	**21.28**	**349**	LR		LR	LR	00 03 25.5	
	comp=Z,119nm,20.4s,MS3.3,baz=107,slow=35								
WRA	**Warramunga Arr**	**33.37**	**197**	P			**P**	**23 57 46.2**	**+1.0**
	0.6nm,0.8s,mb3.5,baz=20,slow=10,SNR=5.1								
MKAR	**Makanchi Array**	**62.15**	**317**	P			**P**	**00 01 26.6**	**-1.5**
	0.3nm,0.6s,mb3.6,baz=90,slow=8.4,SNR=7.6								
ILAR	**Eielson Array**	**70.09**	**25**	P			**P**	**00 02 16.4**	**-2.0**
	0.4nm,0.6s,mb3.5,baz=253,slow=5.6,SNR=5.8								
BVAR	**Borovoye Array**	**70.72**	**322**	P			**P**	**00 02 21.1**	**-1.3**
	0.7nm,0.4s,mb4.0,baz=104,slow=7.4,SNR=12								
INK	**Inuvik**	**75.90**	**22**	P			**P**	**00 02 51.8**	**-0.7**
AKTK	**Aktyubinsk**	**78.39**	**319**	P			**P**	**00 03 08.4**	**+1.8**
AKTO	**Aktyubinsk**	**78.39**	**319**	P			**P**	**00 03 08.4**	**+1.7**
	0.5nm,0.5s,mb3.7,baz=94,slow=12,SNR=3.9								
RES	**Resolute Bay**	**86.07**	**13**	*e*	P		**P**	**00 03 45.9**	**-0.2**
	1.9nm,0.7s,mb4.4								

*IDC **16** 00:54:59.7±0.7, 15.18S×173.41W, mb3.9/8, mb1 4.3/8, mb1mx4.2/13, mbtmp3.9/8, MS3.7/8, Ms1 3.7/8, ms1mx3.4/26, Error ellipse: s-maj=39.3km s-min=20.3km az=138.0*
*NEIC **16** 00:55:01.2±0.5, 15.23S×173.41W, h10km, mb4.2/1, Error ellipse: s-maj=27.3km s-min=12.2km az=140.0*
ISC 16 00:55:02.6±0.7, 15.2S±0.2×173.5W±0.2, h33km, n35, σ0§33/15, mb3.9/8, MS3.7/7, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**52**			Pn	**Pn**	**00 55 29.3**	**-7.1**
	44nm,0.3s,baz=32,slow=3.6,SNR=50								
AFI						Sn	**Sn**	**00 55 47.9**	**-14**
	230nm,0.3s,baz=226,slow=23,SNR=21								
AFI	**Afiamalu**	**2.12**	**52**	*i*	⇓P	n	**Pn**	**00 55 29.2**	**-7.3**
RAR	**Rarotonga**	**14.34**	**117**	LR		LR	LR	01 01 58.9	
	comp=Z,272nm,20.6s,baz=280,slow=29								
DZM	**Mont Dzumac**	**20.18**	**247**	LR		LR	LR	01 04 58.1	
	comp=Z,53nm,21.0s,MS2.9,baz=213,slow=30								
PPT	**Papeete**	**23.07**	**99**	*e*	LQ			01 04 22.7	
PPT					eLR		LR	01 05 19.9	
	347nm,25.8s								
TBI	**Tubuai**	**24.07**	**113**	*e*	LQ			01 04 48.6	
TBI					eLR		LR	01 05 48.2	
	410nm,28.5s								
HNR	**Honiara**	**26.55**	**279**	LR			LR	01 09 58.6	
	comp=Z,141nm,18.1s,MS3.5,baz=97,slow=34								
RKT	**Rikitea**	**37.15**	**108**	*e*	LR		LR	01 11 51.4	
	204nm,25.8s								
STKA	**Stephens Creek**	**44.04**	**240**	*e*	P		**P**	**01 03 09.4**	**+0.2**
	3.8nm,0.9s,mb4.1								
STKA	**Stephens Creek**	**44.04**	**240**	P			**P**	**01 03 09.4**	**+0.2**
	3.9nm,0.8s,mb4.2,baz=98,slow=6.5,SNR=6.0								
WB2	**Warramunga Arr**	**49.78**	**257**	*e*	P		**P**	**01 03 54.3**	**-0.1**
WRA	**Warramunga Arr**	**49.79**	**257**	P			**P**	**01 03 54.4**	**-0.2**
	3.8nm,0.6s,mb4.6,baz=91,slow=7.0,SNR=76								
ASPA	**Alice Springs**	**50.08**	**252**	*e*	P		**P**	**01 03 56.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**58.15**	**258**	LR			LR	01 27 16.9	
	comp=Z,107nm,21.4s,MS3.9,baz=260,slow=33								
VNDA	**Vanda**	**63.55**	**186**	P			**P**	**01 05 31.8**	**+0.1**
	1.0nm,0.8s,mb3.9,baz=11,slow=7.0,SNR=5.2								
VNDA						LR	LR	01 28 04.7	
	comp=Z,56nm,20.1s,MS3.7,baz=156,slow=31								
NWAO	**Narrogin (SRO)**	**64.62**	**241**	LR			LR	01 31 43.4	
	comp=Z,104nm,21.0s,MS4.0,baz=359,slow=34								
NVAR	**Mina Array Bea**	**74.26**	**42**	P			**P**	**01 06 37.8**	**-0.6**
	0.5nm,0.8s,mb3.5,baz=228,slow=6.7,SNR=4.4								
TXAR	**Lajitas Array**	**80.59**	**56**	P			**P**	**01 07 13.4**	**-0.4**
	1.5nm,1.1s,mb3.8,baz=231,slow=8.0,SNR=5.8								
PDAR	**Pinedale Array**	**82.11**	**42**	P			**P**	**01 07 22.4**	**+0.5**
	0.5nm,0.7s,mb3.5,baz=225,slow=4.2,SNR=5.8								
ILAR	**Eielson Array**	**82.28**	**11**	P			**P**	**01 07 21.9**	**0.0**
	0.7nm,0.7s,mb3.7,baz=233,slow=6.3,SNR=6.5								
MAW	**Mawson**	**87.93**	**199**	LR			LR	01 47 14.6	
	comp=Z,53nm,19.9s,MS4.0,baz=67,slow=36								
PLCA	**Paso Flores**	**89.71**	**132**	LR			LR	01 39 30.1	
	comp=Z,46nm,18.3s,MS4.0,baz=354,slow=30								
YKA	**Yellowknife Ar**	**89.97**	**23**	P			**P**	**01 08 00.1**	**+0.6**
	0.5nm,0.8s,mb3.9,baz=234,slow=4.6,SNR=7.5								
YKA	**Yellowknife Ar**	**89.97**	**23**	P			**P**	**01 08 00.1**	**+0.6**
PVCC	**Panska Ves**	**144.18**	**351**	*e*	PKP		PKPdf	01 14 37.0	+2.1
KECS	**Kecovo**	**144.88**	**344**	*e*	PKP		PKPdf	01 14 37.8	+1.5
VYHS	**Vyhne**	**145.29**	**346**	*e*	PKP		PKPdf	01 14 40.1	+3.1
GRA1	**Grafenberg Arr**	**145.40**	**355**	*e*	PKP		PKPdf	01 14 40.0	+2.9
KMBO	**Kilima Mbogo**	**145.52**	**245**	PKPbc			PKPbc	01 14 42.1	+3.0
	1.6nm,0.7s,baz=59,slow=4.6,SNR=6.3								
KHC	**Kasperske Hory**	**145.69**	**352**	*e*	PKP		PKPdf	01 14 40.6	+3.0
KHC					x		x	01 14 52.0	
GERES	**GERESS Array B**	**145.95**	**351**	PKPbc			PKPbc	01 14 42.1	+3.0
	1.0nm,0.7s,slow=2.7,SNR=4.3								
BR131	**Keskin Array S**	**145.95**	**321**	*e*	PKPbc		PKPbc	01 14 42.4	+3.0
BRTR	**Keskin Array B**	**145.95**	**321**	PKPbc			PKPbc	01 14 42.9	+3.5
	11nm,1.0s,baz=106,slow=2.0,SNR=33								
ANTO	**Ankara**	**146.37**	**322**	*e*	PKPbc		PKPbc	01 14 43.5	+3.2
TORD	**Torodi Ar. Bea**	**174.91**	**113**	PKPab			PKPab	01 16 47.6	+1.2
	0.7nm,1.0s,baz=243,slow=6.4,SNR=3.5								

*NEIC **16** 01:06:14.5±4.8, 22.40S×179.62W, h589km±55km, mb3.7/1, Error ellipse: s-maj=36.6km s-min=22.2km az=197.0*
*IDC **16** 01:06:17.0±6.1, 22.27S×179.77W, h611km±71km, mb2.8/5, mb1 3.2/5, mb1mx3.1/12, mbtmp3.8/5, Error ellipse: s-maj=38.5km s-min=29.8km az=21.0*
ISC 16 01:06:11.1±0.9, 22.3S±0.2×179.7W±0.2, h550km, n14, σ0§42/8, mb3.4/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.11**	**189**	P			**P**	**01 09 30.7**	**-0.3**
	1.7nm,0.3s,baz=339,slow=7.8,SNR=9.1								
STKA	**Stephens Creek**	**35.63**	**246**	P			**P**	**01 12 25.1**	**+1.0**
	3.0nm,0.9s,mb3.8,baz=101,slow=13,SNR=3.3								
WB2	**Warramunga Arr**	**42.85**	**264**	*e*	P		**P**	**01 13 22.3**	**-0.3**
WRA	**Warramunga Arr**	**42.86**	**264**	P			**P**	**01 13 22.2**	**-0.5**
	0.7nm,0.3s,mb3.7,baz=95,slow=8.1,SNR=16								
FITZ	**Fitzroy Crossi**	**51.29**	**264**	*e*	P		**P**	**01 14 26.5**	**-0.1**
	4.1nm,1.4s,mb3.6								
VNDA	**Vanda**	**55.96**	**185**	P			**P**	**01 14 58.8**	**0.0**
	0.6nm,0.8s,mb2.9,baz=14,slow=4.2,SNR=4.5								
NVAR	**Mina Array Bea**	**83.41**	**44**	P			**P**	**01 17 41.7**	**-0.1**
	0.3nm,0.4s,mb3.2,baz=214,slow=6.8,SNR=4.9								
TXAR	**Lajitas Array**	**89.33**	**58**	P			**P**	**01 18 10.5**	**+0.2**
	0.5nm,0.9s,mb3.4,baz=207,slow=5.6,SNR=4.4								
MKAR	**Makanchi Array**	**111.33**	**313**	PKiKP				01 23 41.6	
	0.2nm,0.4s,baz=159,slow=1.0,SNR=6.9								
ARCES	**ARCESS Array B**	**130.43**	**349**	PKP			PKPdf	01 24 18.1	-0.5
	2.6nm,0.8s,baz=48,slow=2.4,SNR=6.3								
FINES	**FINESS Array B**	**137.07**	**342**	PKP			PKPdf	01 24 30.1	-0.9
	2.5nm,1.1s,baz=135,slow=2.0,SNR=3.3								
AKASG	**Malin Array Be**	**143.82**	**329**	PKP			PKPdf	01 24 41.9	-1.3
	1.5nm,0.3s,baz=43,slow=4.1,SNR=19								
BRTR	**Keskin Array B**	**146.87**	**309**	PKPbc			PKPbc	01 24 51.8	+0.9
	0.8nm,0.6s,baz=135,slow=4.2,SNR=5.5								
BRTR						PKPab	PKPab	01 24 55.9	-1.4
	0.4nm,0.5s,baz=153,slow=2.8,SNR=3.6								
GERES	**GERESS Array B**	**151.50**	**341**	PKPbc		PKPdf		01 25 02.6	+7.0
	0.3nm,0.4s,baz=304,slow=3.5,SNR=3.8								

*IDC **16** 01:23:07.5±2.1, 1.18S×129.70E, mb4.0/3, mb1 4.0/5, mb1mx3.8/15, mbtmp3.9/5, ML4.0/2, Error ellipse: s-maj=1.24km s-min=25.1km az=77.0*
ISC 16 01:23:10.4±1.1, 1.2S±0.1×129.6E±0.4, h33km, n8, σ0§85/10, mb4.1/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.20**	**193**	*e*	P		**P**	**01 27 09.6**	**-0.2**
	1.3nm,0.3s								
FITZ	**Fitzroy Crossi**	**17.20**	**193**	P			**P**	**01 27 09.6**	**-0.3**
	0.2nm,0.3s,baz=22,slow=14,SNR=9.3								
WRA	**Warramunga Arr**	**19.15**	**166**	P			**P**	**01 27 33.3**	**-0.6**
	0.7nm,0.3s,baz=349,slow=11,SNR=24								
WRA						S	**S**	**01 30 56.1**	**-6.6**
	0.2nm,0.3s,baz=355,slow=23,SNR=3.6								
WB2	**Warramunga Arr**	**19.16**	**166**	*e*	P		**P**	**01 27 33.1**	**-0.8**
ASPA	**Alice Springs**	**22.68**	**170**	*e*	P		**P**	**01 28 12.3**	**+2.0**
ASPA					eS		**S**	**01 32 18.2**	**+6.5**
SONM	**Songino Array**	**52.90**	**341**	P			**P**	**01 32 24.9**	**-0.6**
	0.6nm,0.7s,mb3.6,baz=158,slow=7.8,SNR=4.9								
MKAR	**Makanchi Array**	**63.25**	**326**	P			**P**	**01 33 37.9**	**-0.1**
	6.8nm,1.2s,mb4.7,baz=116,slow=7.8,SNR=17								
BVAR	**Borovoye Array**	**73.03**	**327**	P			**P**	**01 34 39.4**	**+0.6**
	2.4nm,0.9s,mb4.1,baz=124,slow=5.3,SNR=9.2								

*IDC **16** 01:48:24.1±1.3, 34.76N×73.42E, mb3.8/5, mb1 3.8/8, mb1mx3.6/21, mbtmp3.7/8, ML3.3/3, MS4.7/1, Ms1 4.7/1, ms1mx3.2/18, Error ellipse: s-maj=34.7km s-min=27.3km az=66.0*
*NEIC **16** 01:48:24.6±0.8, 34.60N×73.20E, h10km, mb3.1/1, Error ellipse: s-maj=21.0km s-min=6.0km az=50.0*
*MOS **16** 01:48:26.5±0.8, 34.68N×73.01E, h33km, mb4.4/3, Error ellipse: s-maj=57.7km s-min=22.4km az=94.8*
*NNC **16** 01:48:31.2±23.0, 34.90N×73.72E, h50km±219km, mb3.3, mpv3.9, Error ellipse: s-maj=351.1km s-min=181.9km az=74.0*
ISC 16 01:48:25.2±1.4, 34.83N±0.04×73.36E±0.06, h13km±9km, n35, σ1§34/39, mb3.7/5, 6C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.17**	**184**	⇑	P		**Pb**	**01 48 46.5**	**-0.2**
CEP	**Cherat**	**1.56**	**231**	⇓	P		**Pn**	**01 48 51.8**	**-1.0**
THW	**Thamme Wali**	**2.44**	**214**	P			**Pn**	**01 49 06.4**	**+1.1**
SARP	**Sargodha**	**2.96**	**191**	P			**Pn**	**01 49 13.3**	**+0.6**
THN	**Thein Dam**	**3.09**	**140**	*e*	P		**Pn**	**01 49 16.7**	**+2.0**
THN					eS		**Sn**	**01 49 57.9**	**+6.1**
DLH	**Dalhousie**	**3.15**	**136**	*e*	P		**Pn**	**01 49 18.0**	**+2.5**
DLH					eS		**Sn**	**01 49 57.0**	**+3.7**
SBDP	**Sheikh Budin**	**3.30**	**221**	P			**Pn**	**01 49 17.8**	**+0.2**
PONG	**Pong**	**3.59**	**142**	*e*	P		**Pn**	**01 49 25.0**	**+3.2**
PONG					eSG		**Sg**	**01 50 24.0**	**-0.9**
DRP	**Derazinda**	**4.06**	**222**	⇑	P		**Pn**	**01 49 28.5**	**+0.1**
SDNR	**Sundarnagar**	**4.49**	**137**	*e*	P		**Pn**	**01 49 35.0**	**+0.4**
SDNR					eS		**Sn**	**01 50 26.5**	**-0.7**
SMLA	**Simla**	**4.88**	**138**	*ex*		x		01 49 46.8	
SMLA					eS		**Sn**	**01 50 39.3**	**+2.2**
KLP	**Kalpa**	**5.25**	**127**	*e*	P		**Pn**	**01 49 46.8**	**+1.5**
KLP					eS		**Sn**	**01 50 45.6**	**-0.8**
KLP					AML		AML	01 51 15.9	
	comp=E,89nm,0.2s								
KLP					AML		AML	01 51 19.4	
	comp=N,127nm,0.6s								
DDI	**Dehra Dun**	**5.99**	**137**	*ex*		x		01 50 48.5	
NDI	**New Delhi**	**6.95**	**151**	*ex*		x		01 50 40.0	
KK31	**Karatay Array**	**8.55**	**346**	⇓	P		**P**	**01 50 32.7**	**+1.1**
	comp=N,1.5nm,0.3s,baz=156,slow=12,SNR=3.6								
KK31				⇑	S		**Sn**	**01 52 08.6**	**-0.3**
	comp=N,2.1nm,0.3s,baz=154,slow=24								
KOLN	**Koldanda**	**11.23**	**126**	*e*	P		**P**	**01 51 06.3**	**-2.1**
	comp=N,4.5nm,0.2s								
GKN	**Gorkha**	**11.79**	**122**	*e*	P		**P**	**01 51 12.9**	**-3.1**
	comp=N,10nm,0.3s								
KKN	**Kakani**	**12.37**	**121**	*e*	P		**P**	**01 51 20.4**	**-3.4**
	comp=N,6.8nm,0.3s								
GUN	**Gumba**	**12.72**	**119**	*e*	P		**P**	**01 51 25.1**	**-3.4**
	comp=N,12nm,0.4s								
JIRN	**Jiri**	**13.09**	**120**	*e*	P		**P**	**01 51 30.5**	**-3.0**
	comp=N,19nm,0.3s								
MKAR	**Makanchi Array**	**13.72**	**27**	Pn			**P**	**01 51 43.1**	**+1.4**
	comp=N,0.0nm,0.3s,baz=215,slow=18,SNR=4.1								
AB31	**Akbulak array**	**17.48**	**330**	⇑	P		**P**	**01 52 30.4**	**+0.2**
	comp=N,0.3nm,0.4s,baz=153,slow=14,SNR=16								
BVA0	**Borovoye Array**	**18.31**	**354**	⇑	P		**P**	**01 52 41.7**	**+1.2**
	comp=N,0.7nm,1.6s,baz=156,slow=10.0,SNR=9.3								
BVAR	**Borovoye Array**	**18.31**	**354**	P			**P**	**01 52 40.6**	**+0.2**
	comp=N,0.4nm,0.3s,baz=159,slow=9.6,SNR=13								
ZRNK	**Zerenda**	**18.38**	**352**	⇑	P		**P**	**01 52 42.0**	**+0.7**
	comp=N,5.5nm,1.9s								
CHKZ	**Chkalovo**	**18.94**	**355**	P			**P**	**01 52 48.1**	**+0.1**
	comp=N,0.7nm,0.5s								
AKTK	**Aktyubinsk**	**19.19**	**329**	P			**P**	**01 52 48.9**	**-2.2**
AKTK						LR	LR	02 00 16.4	
AKTO	**Aktyubinsk**	**19.19**	**329**	P			**P**	**01 52 48.9**	**-2.2**
	comp=N,0.2nm,0.3s,baz=137,slow=5.9,SNR=8.8								
AKTO						LR	LR	02 00 16.4	
	comp=N,2μm,21.9s,slow=37								
FINES	**FINESS Array B**	**39.94**	**327**	P			**P**	**01 55 59.6**	**-0.7**
	comp=N,1.4nm,0.9s,mb3.7,baz=120,slow=11,SNR=3.7								
FINES	**FINESS Array B**	**39.94**	**327**	P			**P**	**01 55 59.6**	**-0.8**
FINES						pmax	pmax		
	comp=Z,1.0nm,0.9s								
ARCES	**ARCESS Array B**	**43.42**	**338**	P			**P**	**01 56 29.1**	**+0.4**
	comp=Z,4.9nm,1.0s,mb4.2,baz=117,slow=8.4,SNR=20								
ARCES	**ARCESS Array B**	**43.42**	**338**	P			**P**	**01 56 29.1**	**+0.4**
ARCES						pmax	pmax		
	comp=Z,5.0nm,1.0s								
TORD	**Torodi Ar. Bea**	**67.63**	**271**	P			**P**	**01 59 24.0**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.6,baz=37,slow=5.0,SNR=5.8								
WRA	**Warramunga Arr**	**79.47**	**123**	P			**P**	**02 00 32.0**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=322,slow=4.9,SNR=4.6								
YKA	**Yellowknife Ar**	**82.80**	**4**	P			**P**	**02 00 49.6**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.5,baz=350,slow=5.1,SNR=7.5								

*SNSN **16** 02:02:36.5, 25.95N×35.51E, Ml2.8*
*HLW **16** 02:02:39.9, 25.95N×35.42E, h18km, Mb3.3*
*CSEM **16** 02:02:39.3±0.1, 25.95N×35.44E, h40km, ML3.3, Error ellipse: s-maj=1.9km s-min=1.3km az=95.0*
ISC 16 02:02:37.1±0.5, 25.97N±0.04×35.48E±0.06, h10km, n21, σ0§63/22, 2C-11D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HADB		**0.99**	**232**	⇓	*e*P		**Pb**	**02 02 56.9**	**+1.0**
HQSR		**1.01**	**258**	⇓	*e*P		**Pb**	**02 02 56.9**	**+0.7**
EMRS	**Mersa Alam**	**1.12**	**212**	⇓	*e*P		**Pb**	**02 02 58.6**	**+0.5**
EMRS						S	**Sb**	**02 03 12.5**	**0.0**
HSFG		**1.52**	**293**	⇓	*e*P		**Pn**	**02 03 04.0**	**-0.4**
HAGS	**Hagol**	**1.65**	**196**	⇓	*e*P		**Pn**	**02 03 06.0**	**-0.3**
UMJS	**Umm Lajj**	**1.81**	**114**	P			**Pn**	**02 03 07.6**	**-0.9**
HHRG	**Al Ghardaqah**	**2.12**	**306**	⇓	*e*P		**Pn**	**02 03 12.9**	**-0.1**
AYUS	**'Aynunah**	**2.22**	**355**	P			**Pn**	**02 03 14.0**	**-0.5**
TBKS	**Tabuk**	**2.44**	**23**	P			**Pn**	**02 03 18.4**	**+0.8**
TR1		**2.44**	**326**	⇓	P		**Pn**	**02 03 17.5**	**-0.2**
YNBS	**Yanbu' al Bahr**	**2.79**	**125**	P			**Pn**	**02 03 22.8**	**+0.1**
HSHL	**Bi'r Shalatayn**	**2.85**	**182**	⇓	*e*P		**Pn**	**02 03 23.8**	**+0.3**
HKAT	**Jabal Katrina**	**2.87**	**333**	⇓	*e*P		**Pn**	**02 03 24.1**	**+0.4**
HAQS	**Haql**	**3.11**	**351**	P			**Pn**	**02 03 27.3**	**+0.1**
JMOS	**Jabal al Moall**	**3.20**	**354**	P			**Pn**	**02 03 28.7**	**+0.2**
GRB	**Gharib**	**3.32**	**314**	⇓	P		**Pn**	**02 03 30.4**	**+0.3**
ALWS	**Ilw as Safayha**	**3.35**	**354**	P			**Pn**	**02 03 31.3**	**+0.8**
GTR	**Jabal at Tayr**	**4.46**	**265**	⇓	*e*P		**Pn**	**02 03 46.9**	**+0.4**
SUZ		**4.51**	**329**	P			**Pn**	**02 03 46.4**	**-0.7**
AKRG	**Al Kharijah**	**4.52**	**265**	⇓	*e*P		**Pn**	**02 03 46.2**	**-1.1**
HDK1	**Dakhla**	**5.50**	**267**	⇑	P		**Pn**	**02 03 59.5**	**-1.5**

*MOS **16** 02:07:56.1±2.1, 57.40N×120.78E, h10km, mb4.0/1, Error ellipse: s-maj=22.6km s-min=15.9km az=60.0*
BYKL 16 02:07:55.3±0.3, 57.45N×120.84E, 1C-3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.71**	**222**	*e*	Pg		Pg	02 08 08.7	-0.7
KHNR					eSg		Sg	02 08 17.7	-1.2
YKLR	**Yuktali**	**0.97**	**152**	*e*	Pg		Pg	02 08 13.5	-1.1
YKLR					eSg		Sg	02 08 26.2	-1.4
YKLR					*e*			02 08 32.3	
YKLR					max			02 08 32.4	
	709nm,0.1s								
CRS	**Chara**	**1.50**	**250**	⇓	*i*Pg		Pg	02 08 23.2	-2.1
CRS					Pmax			02 08 23.8	
	422nm,0.9s								
CRS					*e*			02 08 26.5	
CRS					eSg		Sg	02 08 42.5	-2.9
CRS					Smax			02 08 43.9	
	502nm,1.4s								
CRS	**Chara**	**1.50**	**250**	*e*	P		Pn	02 08 23.3	-0.3
CRS				*e*				02 08 42.5	
CRS					pmax		pmax		
	comp=Z,427nm,0.9s								
CRS					smax				
	comp=E,373nm,0.5s								
NRGR	**Nerungri**	**2.27**	**109**	*e*	P		Pn	02 08 36.7	+2.2
NRGR					S		Sn	02 09 04.2	+0.6
CLNS	**Chul'man**	**2.29**	**104**	*e*	Pg		Pg	02 08 37.2	-3.9
CLNS					Pmax			02 08 39.1	
	comp=E,1μm,0.4s								
CLNS					eSn		Sn	02 09 00.6	-3.7
CLNS					eSg		Sg	02 09 06.9	-4.7
CLNS					Smax			02 09 07.5	
	comp=E,9μm,0.6s								
CLNS	**Chul'man**	**2.29**	**104**	*e*	P		Pn	02 08 36.9	+2.0
CLNS					eS		Sn	02 09 04.0	-0.3
CLNS					pmax		pmax		
	comp=N,4.0nm,0.2s								
CLNS					pmax		pmax		
	comp=E,5.0nm,0.2s								
CLNS					pmax		pmax		
	comp=Z,18nm,0.2s								
CLNS					pmax		pmax		
	comp=Z,125nm,0.4s								
CLNS					pmax		pmax		
	comp=N,23nm,0.3s								
CLNS					pmax		pmax		
	comp=E,53nm,0.4s								
CLNS					smax				
	comp=E,31nm,0.3s								
CLNS					smax				
	comp=N,24nm,0.2s								
CLNS					smax				
	comp=Z,8.0nm,0.2s								
CLNS					smax				
	comp=N,556nm,0.5s								
CLNS					smax				
	comp=E,304nm,0.3s								
CLNS					smax				
	comp=Z,118nm,0.3s								
IENR	**lengra**	**2.53**	**117**	*e*			Pn	02 08 38.6	+0.3
IENR					ePg		Pg	02 08 41.8	-4.0
IENR					eSg		Sg	02 09 13.7	-5.7
ALDR	**Aldan**	**2.69**	**63**	*e*	Pg		Pg	02 08 42.7	-6.4
ALDR					Pmax			02 08 51.8	
	comp=Z,484nm,0.4s								
ALDR					eSg		Sg	02 09 17.7	-7.3
ALDR					Smax			02 09 18.0	
	comp=Z,2μm,0.3s								
NLYR	**Nelyaty**	**2.97**	**253**	⇓	*i*Pn		Pn	02 08 44.2	-0.4
NLYR				⇓	*i*Pg		Pg	02 08 49.1	-5.5
NLYR					Pmax			02 08 50.9	
	comp=Z,132nm,0.8s								
NLYR					eSn		Sn	02 09 18.8	-2.7
NLYR					eSg		Sg	02 09 26.5	-7.7
NLYR					Smax			02 09 38.9	
	comp=Z,547nm,1.8s								
NLYR	**Nelyaty**	**2.97**	**253**	*e*	P		Pn	02 08 44.3	-0.3
NLYR				*e*				02 09 26.5	
NLYR					pmax		pmax		
	comp=Z,154

SYVR	**Suvo**	**7.23**	**243**	*e*Pg	Pg	02 10 05.7	-14
SYVR				Pmax		02 10 12.7	
	comp=Z,3.0nm,0.5s						
SYVR				*e*Sg	Sg	02 11 37.8	-18
SYVR				Smax		02 11 46.2	
	comp=Z,154nm,2.1s						
OGRR	**Ongureny**	**8.42**	**249**	*e*Sg	Sg	02 12 15.6	-20
OGRR				Smax		02 12 32.0	
	comp=Z,61nm,1.9s						
KPC	**Khapcheranga**	**9.24**	**217**	*e*Pn	P	02 10 10.8	-2.0
KPC				*e*Pg	P	02 10 40.8	+28
KPC				Pmax		02 10 41.9	
	comp=Z,1.0nm,0.1s						
KPC				*e*Sn	Sn	02 11 48.6	-10
KPC				*e*Sg	Sg	02 12 40.6	-22
KPC				Smax		02 12 53.0	
	comp=Z,77nm,1.3s						
ARS	**Arshan**	**11.99**	**250**	*e*Sg	S	02 14 04.0	+58
ARS				Smax		02 14 24.1	
	comp=Z,45nm,1.1s						
MOY	**Mondy**	**12.87**	**252**	*e*Sg	S	02 14 33.3	+66
MOY				Smax		02 14 50.3	
	comp=Z,33nm,3.0s						
UNR	**Ust'-Nera**	**12.93**	**47**	*e*Sg	S	02 14 35.5	+67
TIXI	**Tiksi**	**14.64**	**10**	*e*P	P	02 11 27.0	+1.8
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						

NEIC ***16*** *02:42:24.9, 37.62N×20.91E, h5km, ML3.6(ATH), After ATH.*
CSEM ***16*** *02:42:24.9, 37.62N×20.91E, h5km, MD3.4/11, After ATH*

ATH 16 02:42:24.8, 37.62N×20.86E, h8km±1km, MD3.5/11, ML3.6, 2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.60**	**339**	*i*PB	Pb	02 42 36.6	-0.4
VLS				*e*SB	Sb	02 42 44.8	-0.5
VLS	**Valsamata**	**0.60**	**339**	*i*Pg	Pg	02 42 36.6	-0.2
VLS				*e*Sb	Sb	02 42 46.8	+1.5
RLS	**Riolos of Patr**	**0.65**	**48**	*e*PB	Pb	02 42 36.7	-1.2
RLS				*e*SB	Sb	02 42 46.6	-0.3
ITM	**Ithomi**	**0.96**	**117**	*e*PB	Pb	02 42 43.1	-0.1
EVR	**Evrytania**	**1.50**	**30**	*e*PB	Pb	02 42 52.8	+0.4
VLI	**Veliai**	**1.89**	**118**	*e*PN	Pn	02 42 59.5	+1.8
VLI	**Veliai**	**1.89**	**118**	*e*Pn	Pn	02 43 01.5	+3.8
MGER	**Gerania Oros**	**1.94**	**78**	*e*PG	Pg	02 43 00.5	-3.0
LKR	**Lokris**	**1.98**	**58**	*e*PN	Pn	02 43 00.5	+1.5
JAN	**Janina**	**2.03**	**360**	*e*PN	Pn	02 43 01.4	+1.6
JAN	**Janina**	**2.03**	**360**	*e*Pg	Pg	02 43 03.3	-2.1
ATH	**Athens Observa**	**2.29**	**80**	*e*PN	Pn	02 43 05.2	+1.7
MPAR	**Parnis Oros**	**2.34**	**76**	*e*PN	Pn	02 43 05.5	+1.4
PTL	**Penteli**	**2.42**	**79**	*e*PN	Pn	02 43 07.5	+2.2
NEO	**Neokhori**	**2.51**	**47**	*e*PN	Pn	02 43 07.8	+1.3

IDC 16 02:46:07.0±1.1, 12.27N×141.44E, mb4.0/7, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, MS4.0/1, Ms1 4.0/1, ms1mx2.8/22, Error ellipse: s-maj=55.1km s-min=21.8km az=87.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**20.81**	**356**	LR	LR	02 56 47.2	
	comp=Z,465nm,21.0s,baz=106,slow=31						
WRA	**Warramunga Arr**	**32.76**	**192**	P	P	02 52 42.2	-1.9
	0.9nm,0.6s,baz=11,slow=9.8,SNR=9.3						
STKA	**Stephens Creek**	**43.89**	**180**	P	P	02 54 15.2	-2.1
	1.0nm,0.4s,baz=6.6,slow=9.6,SNR=7.1						
MKAR	**Makanchi Array**	**60.15**	**317**	P	P	02 56 17.2	-1.6
	0.5nm,0.8s,baz=104,slow=5.9,SNR=3.3						
BVAR	**Borovoye Array**	**68.90**	**322**	P	P	02 57 13.9	-1.8
	0.7nm,0.5s,baz=104,slow=7.2,SNR=6.0						
ILAR	**Eielson Array**	**71.19**	**25**	P	P	02 57 28.0	-1.5
	0.3nm,0.6s,baz=253,slow=5.7,SNR=6.6						
ARCES	**ARCESS Array B**	**87.29**	**342**	P	P	02 58 55.1	-1.4
	6.5nm,1.1s,baz=76,slow=5.0,SNR=4.8						
FINES	**FINESS Array B**	**90.92**	**334**	P	P	02 59 11.4	-2.4
	1.2nm,0.6s,baz=56,slow=6.9,SNR=6.5						

IDC ***16*** *03:11:40.9±0.9, 6.21S×29.59E, mb4.1/7, mb1 4.3/12, mb1mx4.2/19, mbtmp4.3/12, ML4.2/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/18, Error ellipse: s-maj=25.2km s-min=16.4km az=110.0*
NEIC ***16*** *03:11:42.2±0.5, 6.22S×29.72E, h10km, mb4.3/6, Error ellipse: s-maj=16.2km s-min=8.0km az=103.0*

ISC 16 03:11:39.6±0.5, 6.26S±0.06×29.7E±0.1, h10km, n24, σ1§05/28, mb4.1/10, MS3.8/1, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**9.09**	**189**	Pn	P	**03 13 55.1**	**+1.2**
	3.6nm,0.3s,baz=9.5,slow=12,SNR=26						
LSZ				Sn	Sn	**03 15 33.7**	**-3.5**
	5.5nm,0.3s,baz=298,slow=22,SNR=7.2						
LSZ				Lg		03 16 26.6	
	3.5nm,0.3s,baz=109,slow=15,SNR=8.2						
LSZ	**Lusaka**	**9.09**	**189**	*e*Pn	P	**03 13 55.4**	**+1.5**
LSZ				*e*Sn	Sn	**03 15 36.6**	**-0.7**
LSZ				Lg		03 16 26.6	
KMBO	**Kilima Mbogo**	**9.09**	**56**	Pn	P	**03 13 52.5**	**-1.4**
	2.9nm,0.3s,baz=232,slow=16,SNR=62						
KMBO				Sn	Sn	**03 15 30.7**	**-6.6**
	8.5nm,0.3s,baz=330,slow=18,SNR=8.6						
KMBO				Lg		03 16 22.0	
	20nm,0.3s,baz=298,slow=16,SNR=7.5						
MATP	**Matopo**	**14.13**	**185**	Pn	P	**03 15 02.4**	**+0.1**
	0.9nm,0.3s,baz=0.2,slow=13,SNR=16						
MATP				Sn	S	**03 17 33.3**	**-6.8**
	1.0nm,0.3s,baz=349,slow=10,SNR=3.2						
MATP				Lg		03 19 08.2	
	0.9nm,0.3s,baz=285,slow=13,SNR=3.8						
MATP				LR	LR	03 20 37.4	
	comp=Z,161nm,21.2s,baz=15,slow=38						
TSUM	**Tsumeb**	**17.46**	**221**	P	P	**03 15 45.1**	**+0.1**
	0.5nm,0.3s,baz=31,slow=11,SNR=13						
TSUM				S	S	**03 18 46.5**	**-11**
	0.6nm,0.3s,baz=258,slow=19,SNR=4.2						
TSUM				Lg		03 20 54.4	
	0.4nm,0.3s,baz=259,slow=10,SNR=4.4						
TSUM	**Tsumeb**	**17.46**	**221**	*e*P	P	**03 15 42.0**	**-3.0**
	31nm,0.8s						
TSUM				Lg		03 20 54.4	
LBTB	**Lobatse**	**19.06**	**191**	P	P	**03 16 05.5**	**+0.7**
	0.5nm,0.3s,baz=21,slow=12,SNR=9.3						
LBTB				LR	LR	03 23 14.0	
	comp=Z,29nm,20.8s,baz=7.9,slow=36						
LBTB	**Lobatse**	**19.06**	**191**	*e*P	P	**03 16 05.0**	**+0.3**
	10nm,0.9s						
TORD	**Torodi Ar. Bea**	**33.85**	**305**	P	P	**03 18 23.2**	**-1.5**
	7.6nm,0.7s,mb4.7,baz=117,slow=7.9,SNR=38						
DBIC	**Dimbokro**	**36.80**	**290**	P	P	**03 18 50.4**	**+0.6**
	2.5nm,0.8s,mb4.1,baz=94,slow=9.9,SNR=4.7						
DBIC	**Dimbokro**	**36.80**	**290**	P	P	**03 18 50.4**	**+0.6**
MALT	**Malatya**	**45.08**	**10**	*e*P	P	**03 19 59.2**	**+1.4**
	6.9nm,1.4s,mb4.3						
BRTR	**Keskin Array B**	**45.90**	**4**	P	P	**03 20 04.9**	**+0.7**
	2.9nm,0.9s,mb4.2,baz=178,slow=9.2,SNR=21						
BR131	**Keskin Array S**	**45.90**	**4**	*e*P	P	**03 20 04.8**	**+0.5**
	2.8nm,0.9s,mb4.2						
ESDC	**Sonseca Array**	**55.27**	**329**	P	P	**03 21 15.6**	**-0.1**
	0.6nm,0.8s,mb3.7,baz=139,slow=7.6,SNR=4.6						
KHC	**Kasperske Hory**	**56.93**	**347**	*e*P	P	**03 21 27.0**	**-0.4**
KHC				x	x	03 21 31.0	
KHC	**Kasperske Hory**	**56.93**	**347**	*e*P	P	**03 21 27.0**	**-0.4**
KHC				*e*	pP	03 21 31.0	+0.5
ZRNK	**Zerenda**	**67.71**	**24**	*e*P	P	**03 22 38.9**	**-0.4**
	0.7nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**68.64**	**350**	P	P	**03 22 45.0**	**0.0**
	0.8nm,0.8s,mb3.7,baz=174,slow=8.5,SNR=2.9						
NOA	**NORSAR Array B**	**68.64**	**350**	P	P	**03 22 45.0**	**0.0**
CHKZ	**Chkalovo**	**68.90**	**25**	*e*P	P	**03 22 45.8**	**-0.9**
	2.2nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**70.34**	**35**	P	P	**03 22 56.6**	**+1.0**
	1.9nm,0.9s,mb4.0,baz=239,slow=7.1,SNR=12						
SONM	**Songino Array**	**85.74**	**41**	P	P	**03 24 23.8**	**+3.4**
	1.1nm,1.0s,mb4.0,baz=288,slow=4.7,SNR=4.5						
PLCA	**Paso Flores**	**93.68**	**229**	LR	LR	04 03 30.7	
	comp=Z,36nm,19.5s,MS3.8,baz=93,slow=33						

IDC ***16*** *03:58:43.2±1.1, 15.14S×173.61W, mb3.8/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.0/4, MS3.4/1, Ms1 3.4/1, ms1mx3.0/17, Error ellipse: s-maj=48.2km s-min=24.1km az=142.0*
NEIC ***16*** *03:58:44.6±0.8, 15.04S×173.60W, h10km, mb4.4/2, Error ellipse: s-maj=33.9km s-min=15.6km az=141.0*

ISC 16 03:58:46.0±1.0, 15.0S±0.2×173.7W±0.2, h33km, n9, σ0§98/10, mb4.0/4, MS3.3/1, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.12**	**59**	Pn	Pn	**03 59 19.2**	**-0.7**
	425nm,0.3s,baz=174,slow=1.7,SNR=228						
AFI				Sn	Sn	**03 59 39.1**	**-6.2**
	801nm,0.3s,baz=143,slow=13,SNR=8.4						
AFI	**Afiamalu**	**2.12**	**59**	*i*Pn	Pn	**03 59 19.0**	**-0.9**
AFI				*e*Sn	Sn	**03 59 39.1**	**-6.3**
AFI				Sn	Sn	**03 59 39.1**	**-6.2**
URZ	**Urewera**	**24.56**	**198**	LR	LR	04 11 46.9	
	comp=Z,90nm,20.0s,MS3.3,baz=172,slow=32						
WRA	**Warramunga Arr**	**49.70**	**256**	P	P	**04 07 36.5**	**-0.7**
	0.5nm,0.6s,mb3.7,baz=90,slow=6.9,SNR=16						
VNDA	**Vanda**	**63.74**	**186**	P	P	**04 09 15.6**	**-0.7**
	1.4nm,0.8s,mb4.0,baz=7.7,slow=7.8,SNR=6.3						
VNDA	**Vanda**	**63.74**	**186**	*e*P	P	**04 09 16.2**	**-0.1**
	1.4nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	P	**04 10 22.9**	**+1.5**
	0.7nm,0.9s,mb3.6,baz=233,slow=9.0,SNR=4.5						
QSPA	**South Pole Qui**	**75.03**	**180**	*e*P	P	**04 10 26.1**	**+0.6**
	5.3nm,0.9s,mb4.5						
BRTR	**Keskin Array B**	**145.70**	**321**	PKPbc	PKPbc	04 18 25.1	+3.0
	1.3nm,0.7s,baz=54,slow=0.8,SNR=12						

ISK ***16*** *04:02:28.3, 41.36N×43.75E, h6km, ML4.0*
TIF ***16*** *04:02:29.2, 41.26N×43.83E, h3km±1km*
CSEM ***16*** *04:02:29.5±0.1, 41.27N×43.71E, h10km, mb4.1/7, Error ellipse: s-maj=2.3km s-min=1.8km az=119.0*
IDC ***16*** *04:02:30.2±0.7, 41.11N×43.77E, mb3.9/9, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, ML4.3/4, MS3.4/10, Ms1 3.4/10, ms1mx3.3/21, Error ellipse: s-maj=13.1km s-min=8.3km az=48.0*
MOS ***16*** *04:02:31.8±1.4, 41.25N×43.75E, h18km, mb4.3/11, Error ellipse: s-maj=7.2km s-min=4.7km az=104.2*
NEIC ***16*** *04:02:35.2±0.5, 41.27N×43.76E, h30km, mb4.1/12, ML4.2(TIF), ML4.0(ISK), Error ellipse: s-maj=10.3km s-min=6.0km az=171.0*
NNC ***16*** *04:02:38.0±2.1, 41.61N×44.64E, mb4.0, Error ellipse: s-maj=39.6km s-min=24.8km az=116.0*

ISC 16 04:02:29.5±0.2, 41.22N±0.02×43.80E±0.02, h3km, n140, σ1§32/166, mb4.0/20, MS3.3/9, 9C-10D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.30**	**309**	P	Pg	**04 02 35.4**	**-0.1**
AKH				S	Sg	**04 02 39.6**	**0.0**
KARS	**Kars**	**0.81**	**222**	PG	Pg	**04 02 45.8**	**+0.1**
TBLG	**Delisi**	**0.87**	**54**	P	Pb	**04 02 46.1**	**-0.7**
TBLG				S	Sg	**04 02 58.3**	**-0.2**
DIGO	**Kars**	**0.87**	**202**	*i*P	Pb	**04 02 45.5**	**-1.3**
DIGO				*i*S	Sg	**04 02 58.6**	**+0.2**
TI2	**Plekhanov**	**0.88**	**54**	*i*P	Pb	**04 02 46.2**	**-0.8**
	760nm,0.4s						
TI2				*i*S	Sg	**04 02 58.4**	**-0.3**
	2µm,0.6s						
MTA	**Mtatsminda**	**0.88**	**57**	P	Pb	**04 02 46.1**	**-1.0**
MTA				S	Sg	**04 02 58.1**	**-0.7**
SAMG	**Sameba**	**0.90**	**58**	P	Pb	**04 02 44.8**	**-2.6**
SAMG				S	Sg	**04 02 57.1**	**-2.3**
DGRG	**David-gareji**	**1.21**	**79**	P	Pb	**04 02 51.6**	**-1.0**
DGRG				S	Sb	**04 03 09.6**	**+1.2**
GNI	**Garni**	**1.29**	**146**	Pg	Pg	**04 02 54.6**	**-0.6**
	258nm,0.3s,baz=315,slow=5.1,SNR=247						
GNI				Lg		04 03 11.7	
	898nm,0.3s,baz=43,slow=19,SNR=26						
GNI	**Garni**	**1.29**	**146**	*e*Pn	Pn	**04 03 00.4**	**+6.0**
GNI				Lg		04 03 11.7	
GNI				*e*S	Sb	**04 03 13.1**	**+2.2**
ONI	**Oni**	**1.38**	**349**	P	Pb	**04 02 55.3**	**-0.3**
ONI				S	Sb	**04 03 14.3**	**+0.8**
ARTV	**Artvin**	**1.42**	**269**	*i*P	Pn	**04 02 54.5**	**-1.6**
ARTV				*i*S	Sb	**04 03 15.2**	**+0.8**
LACR	**Lac**	**1.65**	**13**	*i*PN	Pn	**04 03 00.2**	**+0.8**
LACR				*e*S	Sb	**04 03 22.9**	**+1.7**
DIGR	**Digorskoe uzhe**	**1.69**	**354**	*i*PN	Pn	**04 03 00.9**	**+0.9**
DIGR				*e*S	Sb	**04 03 25.3**	**+3.0**
KORR	**Kora**	**1.87**	**6**	*i*PN	Pn	**04 03 04.6**	**+1.9**
KORR				*e*S	Sn	**04 03 30.6**	**+3.4**
VLKR	**Vladikavkaz**	**1.94**	**19**	*i*PN	Pn	**04 03 06.0**	**+2.4**
VLKR				*e*S	Sn	**04 03 31.7**	**+3.0**
ARNR	**Ardon**	**2.00**	**10**	*e*PN	Pn	**04 03 06.8**	**+2.3**
ARNR				*e*S	Sn	**04 03 33.5**	**+3.2**
LSNR	**Lesken**	**2.05**	**0**	*i*PN	Pn	**04 03 07.8**	**+2.5**
LSNR				*e*S	Sn	**04 03 35.6**	**+3.9**
CLDR	**Caldiran**	**2.08**	**178**	PN	Pn	**04 03 06.6**	**+1.0**
CLDR				SN	Sn	**04 03 35.0**	**+2.7**
ERZM	**Erzurum**	**2.27**	**235**	*i*P	Pn	**04 03 09.4**	**+0.9**
ERZM				*i*S	Sn	**04 03 41.8**	**+4.5**
EZM	**Erzurum**	**2.28**	**236**	PN	Pn	**04 03 08.1**	**-0.4**
VANB	**Van**	**2.64**	**187**	*e*PN	Pn	**04 03 14.3**	**+0.6**
TVAN	**Van**	**2.71**	**187**	*i*P	Pn	**04 03 19.5**	**+4.9**
TVAN				*i*S	Sg	**04 04 00.1**	**+0.5**
VANT	**Van**	**2.79**	**187**	*e*PN	Pn	**04 03 17.0**	**+1.1**
KIV	**Kislovodsk**	**2.85**	**344**	*de*PN	Pn	**04 03 18.8**	**+2.1**
KIV				*i*		04 03 24.5	
KIV				pmax	pmax		
	comp=Z,48nm,0.9s						
KIV				pmax	pmax		
	comp=Z,148nm,0.9s						
MACK	**Trabzon**	**3.06**	**266**	*i*P	Pn	**04 03 22.1**	**+2.4**
MACK				*i*S	Sn	**04 04 04.5**	**+7.2**
MAK	**Makhachkala**	**3.26**	**57**	*i*PN	Pn	**04 03 29.3**	**+6.8**
MAK				*i*		04 03 35.7	
MAK				*i*S	Sn	**04 04 13.6**	**+11**
MAK				*i*		04 04 24.4	
MAK				pmax	pmax		
	comp=Z,331nm,1.4s						
MAK				smax			
	comp=N,722nm,0.9s						
MAK				smax			
	comp=E,176nm,0.5s						
MAK				MLR	MLR		
	comp=Z,1µm,9.0s						
GUMT	**Gumushane**	**3.37**	**258**	*e*PN	Pn	**04 03 23.4**	**-0.6**
EZC	**Erzincan**	**3.38**	**245**	*e*PN	Pn	**04 03 28.0**	**+3.8**
BTMT	**Batman**	**3.51**	**211**	*e*PN	Pn	**04 03 27.6**	**+1.5**
KELT	**Kelkit**	**3.62**	**254**	*i*P	Pn	**04 03 33.9**	**+6.3**
KELT				*i*S	Sn	**04 04 23.4**	**+12**
HKR	**Hakkari**	**3.64**	**181**	*e*PN	Pn	**04 03 29.0**	**+1.1**
SOC	**Sochi**	**3.84**	**309**	*d*iPN	Pn	**04 03 30.9**	**+0.2**
SOC				*i*		04 03 38.6	
SOC				*e*		04 04 13.8	
SOC				pmax	pmax		
	comp=Z,42nm,0.6s						
SOC				smax			
	comp=E,180nm,0.7s						
SOC				MLR	MLR		
	comp=Z,890nm,12.0s						
GOF	**Gofitskoye**	**3.88**	**352**	*e*PN	Pn	**04 03 31.4**	**+0.1**
GOF				*e*S	Sg	**04 04 33.7**	**-4.8**
GOF				pmax	pmax		
	comp=Z,54nm,0.8s						
GOF				smax			
	comp=N,557nm,1.3s						
GOF	**Gofitskoye**	**3.88**	**352**	*e*Pn	Pn	**04 03 31.4**	**+0.1**
	comp=N,54nm,0.8s						
PTK	**Pertek**	**4.11**	**237**	*e*PN	Pn	**04 03 34.1**	**-0.5**
GRSN	**GIRESUNGRSN**	**4.19**	**268**	*i*P	Pn	**04 03 36.0**	**+0.2**
GRSN				*i*S	Sn	**04 04 38.6**	**+13**
DIY	**Diyarbakir**	**4.32**	**221**	*e*PN	Pn	**04 03 37.5**	**-0.1**
MSL	**Mosul**	**4.96**	**187**	*ex*	x	04 03 49.0	
MSL				*ex*	x	04 04 05.0	
MSL				*ex*	x	04 05 14.0	
MALT	**Malatya**	**5.06**	**237**	*e*PN	Pn	**04 03 48.1**	**+0.1**
MALT				pmax	pmax		
	comp=Z,19nm,0.9s						
MALT	**Malatya**	**5.06**	**237**	*e*Pn	Pn	**04 03 48.1**	**0.0**
	comp=Z,20nm,0.9s						
MALT				*e*Pg	Pg	**04 04 07.5**	**-3.0**
MALT	**Malatya**	**5.06**	**237**	*e*Pn	Pn	**04 03 48.1**	**+0.1**
	comp=Z,20nm,0.9s						
MALT	**Malatya**	**5.06**	**237**	*e*Pg	Pg	**04 04 07.5**	**-3.0**
SVSK	**Karacayir**	**5.34**	**258**	*e*PN	Pn	**04 03 50.4**	**-1.7**
URFA	**Urfa**	**5.40**	**227**	*e*PN	Pn	**04 03 52.2**	**-0.7**
ANN	**Anapa**	**5.88**	**310**	*c i*P	Pn	**04 04 00.1**	**+0.5**
ANN				*e*S	Sn	**04 05 02.6**	**-5.9**
ANN				pmax	pmax		
	comp=Z,19nm,0.5s						
ANN				MLR	MLR		
	comp=Z,265nm,8.0s						
ANN	**Anapa**	**5.88**	**310**	*i*P	Pn	**04 04 00.1**	**+0.5**
	comp=Z,19nm,0.5s						
BYBT	**Boyabat**	**6.80**	**275**	*e*PN	Pn	**04 04 11.6**	**-1.1**
CORM	**Corum**	**7.05**	**265**	*e*PN	Pn	**04 04 15.0**	**-1.1**
KOZT	**Kozan**	**7.22**	**241**	*e*PN	Pn	**04 04 18.0**	**-0.5**
TOS	**Tosya**	**7.39**	**272**	*e*PN	Pn	**04 04 19.5**	**-1.3**
BR131	**Keskin Array S**	**7.89**	**262**	*e*Pn	Pn	**04 04 26.9**	**-1.0**
	comp=Z,2.4nm,0.6s						
BR131	**Keskin Array S**	**7.89**	**262**	*e*Pn	Pn	**04 04 26.9**	**-1.0**
	comp=Z,2.4nm,0.6s						
BRTR	**Keskin Array B**	**7.89**	**262**	Pn	Pn	**04 04 26.7**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=102,slow=13,SNR=2.6						
SIM	**Simferopol'**	**8.01**	**301**	*e*P	P	**04 04 28.7**	**-0.8**
SIM				S	Sn	**04 05 59.0**	**-2.6**
SIM				pmax	pmax		
	comp=Z,19nm,0.8s						
SIM				MLR	MLR		
	comp=Z,150nm,14.2s						
SIM	**Simferopol'**	**8.01**	**301**	*e*P	P	**04 04 28.7**	**-0.8**
	comp=Z,19nm,0.8s						
SIM				S	Sn	**04 05 59.0**	**-2.6**
	comp=Z,150nm,14.2s						
ANTO	**Ankara**	**8.49**	**264**	Pn	P	**04 04 35.7**	**-0.6**
VRSR	**Storozhevoye**	**10.49**	**344**	*e*P	P	**04 05 02.4**	**-1.4**
VRSR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
VRSR				pmax	pmax		
	comp=N,2.0nm,1.2s						
VRSR				pmax	pmax		
	comp=E,3.0nm,0.9s						
VRSR	**Storozhevoye**	**10.49**	**344**	*e*P	P	**04 05 02.4**	**-1.4**
	comp=E,2.0nm,1.2s						
TIRR	**Tirgusor**	**11.75**	**291**	*e*Pn	P	**04 05 17.3**	**-3.7**
TIRR	**Tirgusor**	**11.75**	**291**	*e*Pn	P	**04 05 17.3**	**-3.7**
AKTK	**Aktyubinsk**	**13.51**	**42**	⇓P	P	**04 05 40.4**	**-4.0**
AKTO	**Aktyubinsk**	**13.51**	**42**	⇓P	P	**04 05 40.4**	**-4.0**
	comp=E,2.4nm,1.1s						
AKTO	**Aktyubinsk**	**13.51**	**42**	Pn	P	**04 05 40.7**	**-3.7**
	comp=E,0.6nm,0.3s,baz=228,slow=11,SNR=15						
AKTO				Sn	S	**04 08 06.5**	**-10**
	comp=E,0.1nm,0.3s,baz=250,slow=20,SNR=2.5						
AKTO				LR	LR	04 12 56.8	
	comp=E,78nm,19.1s,slow=46						
AKTO	**Aktyubinsk**	**13.51**	**42**	P	P	**04 05 40.7**	**-3.7**
AKTO						04 08 06.5	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,78nm,19.1s						
MLR	**Muntele Rosu**	**13.67**	**294**	Pn	P	**04 05 46.6**	**0.0**
	comp=Z,0.7nm,0.3s,baz=122,slow=7.8,SNR=8.7						
AKASG	**Malin Array Be**	**13.86**	**318**	Pn	P	**04 05 45.7**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=132,slow=12,SNR=7.9						
AKASG	**Malin Array Be**	**13.86**	**318**	Pn	P	**04 05 45.7**	**-3.3**
AB31	**Akbulak array**	**13.90**	**49**	⇓P	P	**04 05 46.0**	**-3.6**
	comp=Z,6.3nm,0.9s,baz=241,slow=13						
AB31				⇓S	S	**04 08 14.3**	**-11**
	comp=Z,7.2nm,0.8s,baz=248,slow=25						
AB31	**Akbulak array**	**13.90**	**49**	⇓P	P	**04 05 46.0**	**-3.6**
	comp=Z,6.3nm,0.9s						
AB31				S	S	**04 08 14.3**	**-11**
OBN	**Obninsk**	**14.70**	**343**	*e*P	P	**04 06 10.6**	**+11**
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
IDI	**Anoyia**	**15.98**	**254**	Pn	P	**04 06 16.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=42,slow=14,SNR=7.1						
IDI				LR	LR	04 12 20.5	
	comp=Z,93nm,19.4s,baz=288,slow=37						
KOLS	**Kolonicke sedl**	**17.01**	**304**	*e*P	P	**04 06 30.6**	**+0.8**
KOLS				*e*		04 06 33.7	
CRVS	**Cervenica-Dubn**	**17.51**	**304**	*e*P	P	**04 06 34.9**	**-1.1**
CRVS				*e*		04 06 38.4	
STHS	**Stebnicka Huta**	**17.81**	**305**	*e*	P	**04 06 46.9**	**+7.2**
STHS				*e*		04 07 10.6	
ARU	**Arti**	**17.99**	**27**	⇑P	P	**04 06 38.6**	**-3.4**
ARU				*e*S	S	**04 09 55.2**	**-5.6**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KECS	**Kecovo**	**18.01**	**302**	*e*P	P	**04 06 41.9**	**-0.4**
KECS				*e*		04 06 46.0	
SUW	**Suwalki**	**18.80**	**320**	*e*P	P	**04 06 49.7**	**-2.3**
SUW				pmax	pmax		
	comp=Z,47nm,0.9s						
SUW	**Suwalki**	**18.80**	**320**	*e*P	P	**04 06 49.7**	**-2.3**
	comp=Z,47nm,0.9s						
SUW	**Suwalki**	**18.80**	**320**	*e*P	P	**04 06 49.7**	**-2.3**
	comp=Z,47nm,0.9s						
VYHS	**Vyhne**	**19.08**	**301**	*e*P	P	**04 06 58.7**	**+3.3**
KLMR	**Klimovskoe**	**19.83**	**354**	*e*P	P	**04 07 02.8**	**-1.2**
KLMR				pmax	pmax		
	comp=Z,20nm,2.3s						
KK31	**Karatay Array**	**19.86**	**76**	P	P	**04 07 02.6**	**-1.8**
	comp=Z,4.6nm,0.7s,baz=283,slow=12,SNR=42						
KK31	**Karatay Array**	**19.86**	**76**	P	P	**04 07 02.6**	**-1.8**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.6

FINES LR LR 04 16 42.7
comp=Z,88nm,18.7s,MS3.2,baz=174,slow=37
JOF Joensuu 22.96 345 *ep* **P 04 07 35.4 -0.3**
comp=Z,8.3nm,1.1s,mb4.1
KAF Kangasniemi 23.41 339 *ep* **P 04 07 40.7 +0.6**
comp=Z,12nm,1.5s,mb4.1
KAF Kangasniemi 23.41 339 *eP* **P 04 07 40.7 +0.6**
KAF pmax pmax
comp=Z,12nm,1.5s,mb4.1
GRA1 Grafenberg Arr 24.22 302 *eP* **P 04 07 50.1 +2.1**
comp=Z,11nm,1.4s,mb4.1
GRF Grafenberg Arr 24.22 302 *eP* **P 04 07 50.1 +2.1**
GRF pmax pmax
comp=Z,11nm,1.4s,mb4.1
GRF Grafenberg Arr 24.22 302 *eP* **P 04 07 50.1 +2.1**
GRF pmax pmax
comp=Z,11nm,1.4s,mb4.1
GRF Grafenberg Arr 24.22 302 *eP* **P 04 07 50.1 +2.1**
comp=Z,11nm,1.4s,mb4.1
DAVOX Davos 24.90 294 P **P 04 07 55.5 +0.8**
comp=Z,4.4nm,0.9s,mb4.0,baz=94,slow=6.4,SNR=5.0
DAVOX LR LR 04 19 21.7
comp=Z,108nm,19.4s,MS3.4,baz=80,slow=41
KURK Kurchatov 25.78 57 ⇓P **P 04 08 03.0 0.0**
comp=Z,6.9nm,1.1s,mb4.1
HFS Hagfors 26.50 326 P **P 04 08 09.5 0.0**
comp=Z,5.6nm,0.7s,mb4.2,baz=135,slow=13,SNR=7.3
HFS LR LR 04 18 59.1
comp=Z,86nm,18.4s,MS3.3,baz=250,slow=37
NB2 NORSAR Subarra 28.02 326 P **P 04 08 24.1 +0.8**
comp=Z,1.2nm,0.7s,mb3.6,baz=123,slow=8.6
NB2 NORSAR Subarra 28.02 326 P **P 04 08 24.1 +0.8**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
NOA NORSAR Array B 28.02 326 P **P 04 08 24.1 +0.8**
comp=Z,1.8nm,0.7s,mb3.8,baz=124,slow=8.6,SNR=5.3
MK31 Makanchi Array 28.03 65 P **P 04 08 26.1 +2.5**
comp=Z,0.7nm,0.6s,mb3.5,baz=274,slow=6.6,SNR=4.5
MK31 Makanchi Array 28.03 65 P **P 04 08 26.2 +2.6**
MK31 pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
MK31 Makanchi Array 28.03 65 P **P 04 08 26.1 +2.5**
comp=Z,0.7nm,0.6s,mb3.5,SNR=4.5
MKAR Makanchi Array 28.03 65 P **P 04 08 23.2 -0.4**
comp=Z,0.7nm,0.6s,mb3.5,baz=281,slow=8.1,SNR=6.9
ATD Arta Tunnel 29.59 182 LR LR 04 21 02.9
comp=Z,34nm,18.4s,MS3.0,baz=14,slow=38
ARCES ARCESS Array B 29.95 347 LR LR 04 21 20.2
comp=Z,108nm,20.0s,MS3.5,baz=243,slow=38
KMBO Kilima Mbogo 42.57 190 LR LR 04 27 09.0
comp=Z,49nm,21.1s,MS3.4,baz=231,slow=35
SONM Songino Array 44.02 59 LR LR 04 32 41.4
comp=Z,69nm,20.2s,MS3.6,baz=215,slow=41
ULN Ulaanbaatar 44.44 59 *i* P **P 04 10 41.5 -1.6**
TORD Torodi Ar. Bea 46.09 245 P **P 04 10 55.5 -1.2**
comp=Z,0.5nm,0.9s,mb3.4,baz=90,slow=5.8,SNR=3.1
TIXI Tiksi 49.97 24 *eP* **P 04 11 27.6 +1.4**
TIXI pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
DBIC Dimbokro 55.20 245 P **P 04 12 03.2 -2.8**
comp=Z,2.2nm,0.9s,mb4.2,baz=117,slow=6.8,SNR=2.4
YKA Yellowknife Ar 75.18 350 P **P 04 14 16.3 +2.0**
comp=Z,0.3nm,0.8s,mb3.3,baz=21,slow=6.2,SNR=4.5

ATH ***16*** *05:12:56.9,39.77N×24.54E,h24km±1km,MD3.1/4*
NEIC ***16*** *05:12:56.9,39.77N×24.54E,h24km,MD3.0(ATH),After ATH.*
THE ***16*** *05:12:58.2,39.68N×24.63E,h2km,ML2.6*
CSEM ***16*** *05:12:58.7±0.1,39.70N×24.66E,h20km,ML2.6,Error ellipse: s-maj=3.2km s-min=1.5km az=152.0*
ISC 16 05:12:58.2±0.6,39.68N±0.04×24.69E±0.04,h26km±7km, n15,σ1$31/25,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOS	**Limnos**	**0.40**	**50**	*e*Pg	**Pb**	**05 13 06.7**	**-0.1**
	comp=Z,4.8nm,0.2s						
LOS				*e*Sg	**Sb**	**05 13 12.9**	**+0.3**
LOS	**Limnos**	**0.40**	**50**	*e*Pg	**Pb**	**05 13 06.7**	**-0.1**
	4.8nm,0.2s						
LOS				*e*Sg	**Sb**	**05 13 12.9**	**+0.3**
LIA	**Limnos Island**	**0.44**	**60**	*e*PN	**Pn**	**05 13 07.4**	**-1.3**
AOS	**Alonnisos**	**0.81**	**231**	*e*Pg	**Pb**	**05 13 13.2**	**-0.3**
AOS				*e*Sg	**Sb**	**05 13 25.1**	**+1.0**
PAIG	**Paliouri**	**0.82**	**288**	*e*Pg	**Pb**	**05 13 12.6**	**-1.2**
PAIG				*e*Sg	**Sb**	**05 13 23.7**	**-0.6**
OUR	**Ouranopolis**	**0.85**	**321**	*e*Pg	**Pb**	**05 13 13.8**	**-0.6**
	comp=Z,26nm,0.2s						
OUR				*e*Sg	**Sb**	**05 13 26.7**	**+1.3**
NEO	**Neokhori**	**1.19**	**252**	*e*PN	**Pn**	**05 13 18.3**	**-1.1**
XOR	**Xorichti**	**1.20**	**255**	*e*Pg	**Pn**	**05 13 20.0**	**+0.5**
XOR				*e*Sg	**Sb**	**05 13 35.8**	**+0.5**
PRK	**Paraskevi**	**1.30**	**109**	*e*PN	**Pn**	**05 13 24.3**	**+3.3**
PRK				*e*SN	**Sn**	**05 13 42.8**	**+5.2**
SOH	**Sokhos**	**1.53**	**319**	*e*Pg	**Pn**	**05 13 24.1**	**-0.2**
SOH				*e*Sg	**Sn**	**05 13 46.8**	**+3.3**
ALN	**Alexandroupoli**	**1.60**	**40**	*e*Pb	**Pb**	**05 13 25.4**	**-1.6**
ALN				*e*Sb	**Sb**	**05 13 50.1**	**+3.2**
RDO	**Rodhopi**	**1.60**	**24**	*e*PN	**Pn**	**05 13 25.3**	**0.0**
SRS	**Serrai**	**1.67**	**330**	*e*Pb	**Pb**	**05 13 25.8**	**-2.3**
SRS				*e*Sb	**Sb**	**05 13 50.2**	**+1.5**
NVR	**Nevrokopi**	**1.79**	**340**	*e*PN	**Pn**	**05 13 26.6**	**-1.3**
KNT	**Kendrikon**	**2.02**	**318**	*e*Pn	**Pn**	**05 13 31.9**	**+0.7**

NIED ***16*** *05:15:00,22.00N×121.70E,h8km,Mw5.0 Best double couple: M03.22×10^16 NP1:φs278°,δ78°,λ-104°. NP2: φs149°,δ18°,λ-41°.*
BJI ***16*** *05:15:33.3,22.21N×121.53E,h6km,mB5.0,mb4.7,ML4.6, Ms4.6,Msz4.4*
HRVD ***16*** *05:15:33.5±0.3,21.95N×121.53E,h12km,MW4.9/70, Centroid moment Tensor Solution. LP body waves: s33,c38;Mantle waves: s70,c117; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.26±.08; Mθθ2.35±.06; Mφφ-0.09±.09; Mrθ0.65±.23; Mφθ-0.56±.07; Mφr-0.16±.32; Best double couple: M02.458×10^16 NP1: φs102°,δ37°,λ-91°. NP2:φs283°,δ53°,λ-89°. Principal axes: T 2.564, Plg8°, Azm12°; N -.215, Plg0°, Azm102°; P -2.351, Plg82°, Azm195°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***16*** *05:15:33.5±2.1,21.95N×121.66E,h17km±13km,mb5.1/57, ML4.9(TAP) Error ellipse: s-maj=6.0km s-min=5.1km az=107.0*
NEIC Recorded [4 TAP] in T'ai-tung County.
JMA ***16*** *05:15:34.7±0.3,22.04N×121.71E,h92km,M4.9*
IDC ***16*** *05:15:35.4±2.7,21.90N×121.80E,h30km±17km,mb4.6/21, mb1 4.7/23,mb1mx4.7/24,mbtmp4.8/23,ML4.3/2,MS4.2/18, Ms1 4.2/18,ms1mx4.0/30,Error ellipse: s-maj=16.5km s-min=12.4km az=73.0*
MOS ***16*** *05:15:35.6±0.9,22.22N×121.61E,h33km,mb5.3/58, MS4.5/11,Error ellipse: s-maj=8.9km s-min=4.6km az=119.1*
ISC 16 05:15:31.3±0.9,21.95N±0.02×121.76E±0.02,h14km±5km, h13km±1.4km:pP-P,n298,σ1$07/317,mb5.0/103,MS4.4/41, 21C-10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**2.22**	**356**	⇑*i*	**Pn**	**05 16 07.3**	**-1.0**
YHNB	**Yeheng**	**2.73**	**353**	*e*Pn	**Pn**	**05 16 15.9**	**+0.3**
YOJ	**Yonaguni jima**	**2.75**	**24**	P	**Pn**	**05 16 16.7**	**+0.9**
YOJ				S	**Sn**	**05 16 49.3**	**+4.2**
HATJ	**Hateruma jima**	**2.81**	**42**	P	**Pn**	**05 16 18.1**	**+1.3**
HATJ				S	**Sn**	**05 16 50.8**	**0.0**
IRIF	**Iriomote-Funau**	**2.98**	**37**	P	**Pn**	**05 16 20.4**	**+1.2**
IRIF				S	**Sn**	**05 16 56.2**	**+1.2**
TATO	**Taipei**	**3.02**	**355**	⇑*i*	**Pn**	**05 16 20.2**	**+0.5**
JKRS	**Kuro-shima**	**3.07**	**42**	P	**Pn**	**05 16 21.9**	**+1.4**
JKRS				*e*S	**Sn**	**05 16 56.2**	**-1.1**
JIJ	**Ishigaki jima**	**3.25**	**42**	P	**Pn**	**05 16 23.9**	**+0.9**
JIJ				S	**Sn**	**05 17 00.7**	**-1.1**
SGCP	**Mt. Cagua**	**3.70**	**176**	*e*P	**Pn**	**05 16 30.8**	**+1.4**
SGCP				*e*S	**Sn**	**05 17 13.3**	**+0.1**
JTJ	**Tarama**	**3.80**	**45**	P	**Pn**	**05 16 31.9**	**+1.1**
JTJ				S	**Sn**	**05 17 15.8**	**0.0**
QZH	**Quanzhou**	**4.16**	**316**	P	**Pn**	**05 16 33.8**	**-2.2**
QZH				S	**Sn**	**05 17 17.8**	**-7.2**
QZH				Smax			
	comp=N,480nm,0.6s						
QZH				Smax			
	comp=E,700nm,0.9s						
QZH				LR	LR		
	comp=N,3μm,5.6s						
QZH				LR	LR		
	comp=E,3μm,6.6s						
QZH				LR	LR		
	comp=Z,5μm,10.1s						
JMJ	**Miyako jima 2**	**4.32**	**48**	P	**Pn**	**05 16 39.5**	**+1.4**
JMJ				*e*S	**Sn**	**05 17 28.2**	**-0.6**
JOGS	**Gusukube**	**4.36**	**49**	P	**Pn**	**05 16 39.3**	**+0.5**
JOGS				S	**Sn**	**05 17 28.8**	**-1.1**
ABRA	**Dolores**	**4.39**	**193**	*e*P	**Pn**	**05 16 39.9**	**+0.7**
CAUP	**Cauayan**	**4.98**	**179**	*e*P	**Pn**	**05 16 50.3**	**+2.7**
BCPH	**Baguio City Da**	**5.66**	**192**	⇑*i*P	**Pn**	**05 16 55.0**	**-2.1**
	comp=Z,4μm,1.0s						
BOLP	**Bolinao**	**5.81**	**198**	*e*P	**Pn**	**05 16 52.8**	**-6.5**
BOLP				*e*S	**Sn**	**05 18 06.4**	**-0.1**
BALP	**Baler**	**6.18**	**182**	*e*P	**Pn**	**05 17 07.8**	**+3.3**
JKE	**Kume jima 2**	**6.32**	**46**	P	**Pn**	**05 17 05.3**	**-1.2**
JKE				*e*S	**Sn**	**05 18 15.3**	**-3.9**
SCZP	**Santa Cruz**	**6.39**	**196**	*e*P	**Pn**	**05 17 05.5**	**-1.9**
SCZP				*e*S	**Sn**	**05 18 28.6**	**+7.7**
JOW	**Kunigami**	**7.67**	**49**	Pn	**Pn**	**05 17 24.8**	**-0.6**
	comp=Z,8.6nm,0.3s,baz=203,slow=8.4,SNR=4.1						
TGY	**Tagaytay City**	**7.85**	**186**	Pn	**Pn**	**05 17 32.9**	**+5.0**
	comp=Z,84nm,0.3s,baz=177,slow=7.1,SNR=3.9						
GZH	**Guangzhou**	**7.87**	**280**	P	**Pn**	**05 17 24.6**	**-3.5**
GZH				S	**Sn**	**05 18 51.3**	**-6.5**
GZH				Smax			
	comp=N,170nm,1.1s						
GZH				Smax			
	comp=E,260nm,0.8s						
SSE	**Sheshan**	**9.12**	**357**	P	**P**	**05 17 44.1**	**-1.4**
SSE				XP		05 17 50.1	
SSE				S	**Sn**	**05 19 27.5**	**-1.5**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s						
SSE				AMB	AMB		
	comp=Z,80nm,7.8s						
SSE				LR	LR		
	comp=N,1μm,13.3s						
SSE				LR	LR		
	comp=E,1μm,13.3s						
SSE				LR	LR		
	comp=Z,2μm,17.5s						
NJ2	**Nanjing**	**10.39**	**346**	*e*P	**P**	**05 18 01.1**	**-1.9**
NJ2				AP		05 18 04.3	
NJ2				XP		05 18 07.1	
NJ2				PP	PP	05 18 09.3	-1.8
NJ2				S	**S**	**05 19 54.8**	**-5.4**
NJ2				XS		05 19 59.8	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,290nm,3.8s						
NJ2				LR	LR		
	comp=N,5μm,21.8s						
NJ2				LR	LR		
	comp=E,3μm,14.8s						
NJ2				LR	LR		
	comp=Z,2μm,16.9s						
WHN	**Wuhan**	**10.83**	**324**	P	**P**	**05 18 09.0**	**-0.2**
WHN				LR	LR		
	comp=N,3μm,12.8s						
WHN				LR	LR		
	comp=E,3μm,13.0s						
WHN				LR	LR		
	comp=Z,5μm,16.1s						
QIZ	**Qiongzhong**	**11.54**	**258**	*e*P	**P**	**05 18 19.3**	**+0.4**
QIZ				*e*S	**S**	**05 20 34.0**	**+5.4**
QIZ				LR	LR		
	comp=N,2μm,15.0s						
QIZ				LR	LR		
	comp=E,2μm,14.0s						
QIZ				LR	LR		
	comp=Z,3μm,17.0s						
QIZ	**Qiongzhong**	**11.54**	**258**	P	**P**	**05 18 18.6**	**-0.3**
	comp=Z,56nm,0.8s						
JNU	**Nakatsue**	**13.74**	**34**	Pn	**P**	**05 18 47.5**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=197,slow=15,SNR=4.0						
JNU				LR	LR	05 25 21.7	
	comp=Z,1μm,18.1s,baz=200,slow=43						
ENH	**Enshi**	**13.79**	**309**	*e*Pn	**P**	**05 18 46.8**	**-2.0**
	comp=Z,20nm,0.8s						
GYA	**Guiyang**	**14.49**	**291**	P	**P**	**05 18 58.8**	**+0.8**
GYA				AP		05 19 03.1	
GYA				XP		05 19 05.6	
GYA				S	**S**	**05 21 37.9**	**-1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,110nm,3.0s						
GYA				LR	LR		
	comp=N,790nm,9.6s						
GYA				LR	LR		
	comp=E,1μm,11.7s						
GYA				LR	LR		
	comp=Z,1μm,10.8s						
TIA	**Tai'an**	**14.77**	**345**	P	**P**	**05 19 02.0**	**+0.3**
TIA				LR	LR		
	comp=N,2μm,16.0s						
TIA				LR	LR		
	comp=E,670nm,10.0s						
KS15	**Wonju Array Si**	**16.32**	**18**	*e*Pn	**P**	**05 19 22.3**	**+0.6**
XAN	**Xi'an**	**16.52**	**320**	P	**P**	**05 19 21.8**	**-2.5**
KKM	**Kota Kinabalu**	**16.70**	**200**	*e*Pn	**P**	**05 19 25.7**	**-1.0**
KMI	**Kunming**	**17.73**	**284**	P	**P**	**05 19 40.9**	**+1.4**
KMI				AP		05 19 42.8	
KMI				XP		05 19 45.9	
KMI				PP	PP	05 19 56.4	+2.2
KMI				S	**S**	**05 22 56.5**	**+2.0**
KMI				XS		05 22 59.8	
KMI				AMB	AMB		
	comp=Z,160nm,3.7s						
KMI				LR	LR		
	comp=N,1μm,8.7s						
KMI				LR	LR		
	comp=E,1μm,10.6s						
KMI				LR	LR		
	comp=Z,1μm,11.5s						
CD2	**Chengdu**	**18.41**	**303**	P	**P**	**05 19 48.0**	**0.0**
CD2				PP	PP	05 20 03.5	0.0
CD2				S	**S**	**05 23 10.0**	**0.0**
CD2				SS	SS	05 23 33.0	-1.2
CD2				AMB	AMB		
	comp=Z,60nm,1.1s						
CD2				AMB	AMB		
	comp=Z,120nm,4.7s						
CD2				LR	LR		
	comp=E,1μm,13.2s						
CD2				LR	LR		
	comp=Z,620nm,15.6s						
JHJ	**Hachijo jima 2**	**19.44**	**51**	LR	LR	05 27 10.7	
	comp=Z,683nm,21.4s,baz=87,slow=36						
SNY	**Shenyang**	**19.88**	**4**	⇑P	**P**	**05 20 05.9**	**+0.9**
SNY				AP		05 20 15.8	
SNY				XP		05 20 18.4	
SNY				AMB	AMB		
	comp=Z,20nm,0.6s						
SNY				AMB	AMB		
	comp=Z,230nm,10.5s						
SNY				LR	LR		
	comp=N,920nm,12.7s						
SNY				LR	LR		
	comp=E,750nm,11.8s						
SNY				LR	LR		
	comp=Z,1μm,15.0s						
MAJO	**Matsushiro**	**20.38**	**41**	*e*P	**P**	**05 20 11.9**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,171nm,1.5s						
MAJO	**Matsushiro**	**20.38**	**41**	*e*Pn	**P**	**05 20 11.9**	**+1.5**
	comp=Z,171nm,1.5s						
MAT	**Matsushiro**	**20.38**	**41**	P	**P**	**05 20 11.9**	**+1.5**
MAT				S	**S**	**05 24 00.0**	**+6.9**
MAT	**Matsushiro**	**20.38**	**41**	*e*P	**P**	**05 20 12.0**	**+1.6**
MAT				pmax	pmax		
	comp=Z,110nm,1.3s						
MAT				MLR	MLR		
	comp=Z,350nm,20.0s,MS3.7						
MAT	**Matsushiro**	**20.38**	**41**	*e*P	**P**	**05 20 12.0**	**+1.6**
	comp=Z,110nm,1.3s						
MAT				*e*S	**S**	**05 24 09.0**	**+16**
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS3.7						
MJAR	**Matsushiro Arr**	**20.38**	**41**	P	**P**	**05 20 11.6**	**+1.2**
	comp=Z,35nm,0.9s,baz=232,slow=9.0,SNR=45						
MJAR				LR	LR	05 29 25.2	
	comp=Z,446nm,18.7s,MS3.9,baz=230,slow=41						
CHRT	**Chiangrai**	**20.64**	**268**	⇓P	**P**	**05 20 13.5**	**+0.3**
	comp=Z,184nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.72**	**338**	*e*P	**P**	**05 20 13.0**	**-0.9**
HHC				AP		05 20 17.3	
HHC				XP		05 20 19.9	
HHC				PP	PP	05 20 37.6	+1.8
HHC				S	**S**	**05 24 06.3**	**+6.4**
HHC				AMB	AMB		
	comp=Z,20nm,0.7s						
HHC				AMB	AMB		
	comp=Z,280nm,3.5s						
HHC				LR	LR		
	comp=N,2μm,17.0s,MS4.6						
HHC				LR	LR		
	comp=E,1μm,13.4s,MS4.6						
HHC				LR	LR		
	comp=Z,2μm,18.7s						
LZH	**Lanzhou**	**21.02**	**316**	*e*P	**P**	**05 20 17.8**	**+0.8**
LZH				AP		05 20 23.3	
LZH				XP		05 20 26.5	
LZH				PP	PP	05 20 43.0	+3.0
LZH				S	**S**	**05 24 10.4**	**+4.7**
LZH				AMB	AMB		
	comp=Z,100nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,320nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,10.3s						
LZH				LR	LR		
	comp=Z,2μm,11.6s,MS4.8						
BTO	**Baotou**	**21.09**	**334**	*e*P	**P**	**05 20 19.3**	**+1.6**
BTO				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
CHG	**Chiang Mai**	**21.61**	**266**	⇑P	**P**	**05 20 26.4**	**+3.3**
	comp=Z,54nm,1.1s,mb4.9						
CN2	**Changchun**	**22.00**	**7**	*e*P	**P**	**05 20 27.8**	**+1.0**
CN2				*e*XP		05 20 34.8	
CN2				*e*S	**S**	**05 24 25.0**	**+0.9**
CN2				*e*SS	SS	05 25 03.9	+1.0
CN2				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,180nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,17.0s,MS4.5						
CN2				LR	LR		
	comp=E,840nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=Z,1μm,18.0s,MS4.4						
KSM	**Kuching**	**23.21**	**210**	*e*P	**P**	**05 20 37.9**	**-1.2**
GUMO	**Guam**	**23.50**	**107**	P	**P**	**05 20 46.8**	**+5.0**
	comp=Z,129nm,0.9s,mb5.4,baz=188,slow=17,SNR=3.3						
GUMO				LR	LR	05 28 12.2	
	comp=Z,188nm,18.9s,MS3.6,baz=84,slow=32						
MDJ	**Mudanjiang**	**23.51**	**14**	P	**P**	**05 20 42.5**	**+0.9**
MDJ				AP		05 20 45.9	
MDJ				XP		05 20 47.4	
MDJ				PP	PP	05 21 17.3	+3.5
MDJ				PCP	PcP	05 24 28.4	-0.5
MDJ				S	**S**	**05 24 58.1**	**+7.0**
MDJ				XS		05 25 03.3	
MDJ				SCP		05 28 05.8	
MDJ				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,220nm,3.8s						
MDJ				LR	LR		
	comp=N,970nm,14.2s,MS4.5						
MDJ				LR	LR		
	comp=E,470nm,13.7s,MS4.5						
MDJ				LR	LR		
	comp=Z,1μm,13.9s,MS4.5						
MDJ	**Mudanjiang**	**23.51**	**14**	*e*P	**P**	**05 20 42.6**	**+1.0**
	comp=Z,26nm,0.8s,mb4.7						
MDJ				LR	LR		
	comp=Z,870nm,20.0s,MS4.2						
GTA	**Gaotai**	**25.57**	**318**	⇑P	**P**	**05 21 01.4**	**-0.1**
GTA				AP	pP	05 21 04.8	-0.8
GTA				XP	sP	05 21 07.4	0.0
GTA				PP	PP	05 21 43.3	+2.2
GTA				PPP	PPP	05 21 54.9	+2.3
GTA				PCP	PcP	05 24 32.5	-0.9
GTA				S	**S**	**05 25 29.3**	**+3.2**
GTA				XS		05 25 36.5	
GTA				SCP		05 28 11.0	
GTA				SCS	ScS	05 31 58.8	+0.1
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,220nm,7.6s						
GTA				LR	LR		
	comp=N,390nm,15.6s,MS4.4						
GTA				LR	LR		
	comp=E,870nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=Z,980nm,16.3s,MS4.4						
KULM	**Kulim**	**26.31**	**234**	*e*P	**P**	**05 21 07.1**	**-1.5**
HIA	**Hailar**	**27.30**	**357**	*e*P	**P**	**05 21 16.6**	**-0.8**
HIA				pmax	pmax		
	comp=Z,12nm,0.9s						
HIA	**Hailar**	**27.30**	**357**	*e*P	**P**	**05 21 16.6**	**-0.8**
	comp=Z,12nm,0.9s,mb4.4						
ASAJ	**Asahikawa**	**28.02**	**33**	P	**P**	**05 21 27.6**	**+3.7**
	comp=Z,87nm,0.7s,mb5.5,baz=245,slow=12,SNR=36						
ASAJ				LR	LR	05 32 59.8	
	comp=Z,592nm,20.3s,MS4.2,baz=326,slow=37						
KLR	**Kul'dur**	**28.35**	**14**	*e*P	**P**	**05 21 26.0**	**-0.9**
KLR				MLR	MLR		
	comp=E,1μm,12.0s						
KLR				MLR	MLR		
	comp=Z,4μm,12.0s,MS5.2						
ULN	**Ulaanbaatar**	**28.43**	**339**	*e*P	**P**	**05 21 26.3**	**-1.3**
ULN				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**28.43**	**339**	*e*P	**P**	**05 21 26.3**	**-1.2**
	comp=Z,17nm,0.9s,mb4.7						
HABR	**Khabarovsk**	**28.51**	**19**	⇑*i*P	**P**	**05 21 26.2**	**-2.1**
HABR				*e*S	**S**	**05 26 07.6**	**-6.5**
HABR				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.3						
LSA	**Lhasa**	**28.55**	**292**	P	**P**	**05 21 31.0**	**+2.1**
LSA	**Lhasa**	**28.55**	**292**	*e*P	**P**	**05 21 29.9**	**+1.0**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
LSA				MLR	MLR		
	comp=Z,639nm,22.0s,MS4.2						
LSA	**Lhasa**	**28.55**	**292**	*e*P	**P**	**05 21 29.9**	**+1.0**
	comp=Z,12nm,0.8s,mb4.7						
LSA				LR	LR		
	comp=Z,639nm,22.0s,MS4.2						
SONM	**Songino Array**	**28.62**	**338**	P	**P**	**05 21 28.4**	**-0.9**
	comp=Z,16nm,0.9s,mb4.7,baz=153,slow=9.5,SNR=61						
SONM				PcP	PcP	05 24 39.4	-1.1
	comp=Z,3.0nm,1.0s,baz=168,slow=2.9,SNR=5.1						
SONM				ScP		05 28 20.3	
	comp=Z,1.5nm,0.9s,baz=141,slow=3.0,SNR=5.8						
SONM				LR	LR	05 34 02.1	
PSI	**Prapat**	**29.24**	**233**	P	**P**	**05 21 36.4**	**+1.1**
	comp=Z,36nm,0.9s,mb5.1,baz=31,slow=7.1,SNR=12						
PSI				PcP	PcP	05 24 42.1	-0.3
	comp=Z,7.9nm,0.7s,baz=304,slow=7.3,SNR=4.0						
PSI				LR	LR	05 32 21.7	
	comp=Z,436nm,19.5s,MS4.1,baz=42,slow=34						
YSS	**Yuzh-Sakhalins**	**30.17**	**29**	⇑*eP*	**P**	**05 21 44.0**	**+0.8**
YSS				*e*		05 21 54.8	
YSS				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.3						
YSS				pmax	pmax		
	comp=N,40nm,0.8s						
YSS				pmax	pmax		
	comp=N,50nm,0.9s						
YSS				pmax	pmax		
	comp=Z,110nm,0.9s,mb5.6						
YSS				MLR	MLR		
	comp=N,400nm,17.0s,MS4.3						
YSS				MLR	MLR		
	comp=E,500nm,17.0s,MS4.3						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.2						
YSS	**Yuzh-Sakhalins**	**30.17**	**29**	*eP*	**P**	**05 21 44.2**	**+1.0**
	comp=Z,92nm,0.9s,mb5.5						

ZAK Zakamensk 31.87 337 *e*P **P** **05 21 55.9 -2.3**
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
JIRN Jiri 32.71 287 *e*P **P** **05 22 06.3 +0.6**
comp=Z,143nm,1.1s,mb5.8
GUN Gumba 33.00 288 *e*P **P** **05 22 09.1 +0.9**
comp=Z,129nm,1.0s,mb5.8
PKI Pulchoki 33.40 287 *e*P **P** **05 22 12.0 +0.3**
comp=Z,77nm,1.2s,mb5.5
PKI Pulchoki 33.40 287 *e*P **P** **05 22 12.0 +0.3**
PKI pmax pmax
comp=Z,39nm,1.2s,mb5.2
KKN Kakani 33.52 287 *e*P **P** **05 22 12.9 +0.1**
comp=Z,87nm,1.1s,mb5.6
KKN Kakani 33.52 287 *e*P **P** **05 22 12.9 +0.1**
KKN pmax pmax
comp=Z,43nm,1.1s,mb5.3
DMN Daman 33.67 287 *e*P **P** **05 22 14.4 +0.3**
comp=Z,131nm,1.2s,mb5.8
MOY Mondy 33.76 337 *e*P **P** **05 22 12.6 -1.9**
GKN Gorkha 34.10 288 *e*P **P** **05 22 17.8 +0.1**
comp=Z,81nm,1.1s,mb5.6
KOLN Koldanda 35.01 287 *e*P **P** **05 22 25.9 +0.3**
comp=Z,57nm,0.9s,mb5.5
WMQ Urumqi 35.60 316 P **P** **05 22 30.8 +0.4**
WMQ AP pP 05 22 35.3 +0.7
WMQ XP sP 05 22 37.8 +1.4
WMQ PP PP 05 23 50.8 -0.1
WMQ PPP PPP 05 24 09.8 -0.3
WMQ PCP PcP 05 24 59.8 +0.3
WMQ *e*S **S** **05 28 04.8 -0.4**
WMQ SS SS 05 30 23.8 -0.8
WMQ SCS ScS 05 32 47.3 +0.2
WMQ AMB AMB
comp=Z,20nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,270nm,5.4s
WMQ LR LR
comp=N,2μm,16.8s,MS5.2
WMQ LR LR
comp=E,2μm,15.2s,MS5.2
WMQ LR LR
comp=Z,2μm,15.0s,MS5.0
FITZ Fitzroy Crossi 39.99 174 ⇓ *i*P **P** **05 23 06.1 -1.4**
comp=Z,16nm,1.1s,mb4.7
MKAR Makanchi Array 40.32 318 P **P** **05 23 10.2 +0.3**
comp=Z,22nm,0.8s,mb5.0,baz=112,slow=9.3,SNR=57
MKAR PcP PcP 05 25 13.9 -0.1
comp=Z,4.0nm,0.6s,baz=150,slow=1.0,SNR=12
MKAR ScP 05 29 03.1
comp=Z,0.9nm,0.6s,baz=117,slow=5.4,SNR=4.2
MKAR LR LR 05 40 49.8
comp=Z,223nm,19.2s,MS4.0,baz=144,slow=38
YAK Yakutsk 40.42 6 *i* P **P** **05 23 10.9 +0.3**
YAK pmax pmax
comp=Z,19nm,0.8s,mb4.9
YAK MLR MLR
comp=Z,500nm,16.0s,MS4.5
PET Petropavlovsk 41.86 33 *i* P **P** **05 23 20.8 -1.7**
PET pmax pmax
comp=Z,113nm,1.9s,mb5.2
PET MLR MLR
comp=Z,400nm,17.0s,MS4.4
ZAL Zalesovo 42.41 328 P **P** **05 23 27.1 +0.1**
comp=Z,13nm,0.9s,mb4.6,baz=354,slow=9.2,SNR=36
KSH Kashi 42.58 305 *e*P **P** **05 23 30.8 +2.2**
KSH AP pP 05 23 35.0 +2.2
KSH *e*XP sP 05 23 37.8 +3.2
KSH *e*PP PP 05 25 12.3 +2.1
KSH *e*PCP PcP 05 25 25.0 +3.5
KSH *e*PPP PPP 05 25 45.4 +2.1
KSH *e*SCP 05 29 14.4
KSH *e*S **S** **05 29 52.0 +1.5**
KSH *e*XS 05 29 58.8
KSH *e*SS SS 05 32 55.6 +1.1
KSH *e*SCS ScS 05 33 30.3 +2.7
KSH LR LR
comp=N,470nm,6.2s
KSH LR LR
comp=E,350nm,6.2s
MBWA Marble Bar 42.90 183 *e*P **P** **05 23 30.4 -0.9**
comp=E,12nm,1.0s,mb4.6
WRAB Tennant Creek 43.41 163 *i* P **P** **05 23 34.1 -1.4**
WRA Warramunga Arr 43.41 163 P **P** **05 23 34.9 -0.6**
comp=E,13nm,0.6s,mb4.8,baz=344,slow=8.9,SNR=112
WRA S **S** **05 29 58.5 -4.3**
comp=E,2.2nm,1.1s,baz=347,slow=15,SNR=4.3
WB2 Warramunga Arr 43.42 163 ⇑ *i*P **P** **05 23 34.8 -0.8**
WB2 *e*S **S** **05 29 58.8 -4.1**
TKM2 Tokmak 2 43.57 310 P **P** **05 23 37.4 +0.9**
SNR=10
TKM2 Tokmak 2 43.57 310 P **P** **05 23 37.2 +0.6**
TKM2 pmax pmax
comp=Z,33nm,1.1s,mb5.0
KZA Kyzart 43.63 308 P **P** **05 23 39.6 +2.6**
SNR=7.3
NVS Novosibirsk 43.67 329 *e*P **P** **05 23 35.4 -1.8**
NVS *e*S **S** **05 30 06.7 +0.6**
NVS pmax pmax
comp=Z,25nm,1.2s,mb4.8
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,16nm,1.4s
NVS smax
comp=N,34nm,1.8s
KBK Karagaybulak 43.98 309 P **P** **05 23 38.6 -1.3**
SNR=5.1
KURK Kurchatov 44.15 321 P **P** **05 23 40.4 -0.7**
KURK pmax pmax
comp=Z,13nm,0.8s,mb4.7
KURK Kurchatov 44.15 321 *c i*P **P** **05 23 40.9 -0.2**
CHMS Chumysh 44.20 310 P **P** **05 23 42.6 +1.0**
SNR=6.5
UCH Uchtor 44.20 309 P **P** **05 23 44.0 +2.4**
SNR=14
FRU Bishkek 44.26 309 *e*P **P** **05 23 43.5 +1.4**
FRU pmax pmax
comp=Z,37nm,1.8s,mb4.8
AAK Ala-Archa 44.30 309 *c i*P **P** **05 23 42.8 +0.3**
AAK pmax pmax
comp=Z,18nm,1.3s,mb4.6
AAK MLR MLR
comp=Z,500nm,16.0s,MS4.5
USP Ospenovka 44.44 310 P **P** **05 23 44.4 +0.8**
SNR=8.4
EKS2 Erkin-Say 44.82 309 P **P** **05 23 48.3 +1.6**
SNR=5.7
ASPA Alice Springs 46.86 165 *e*P **P** **05 24 02.9 -0.1**
KKAR Karatay Array 47.26 309 *i* P **P** **05 24 06.5 +0.5**
KKAR pmax pmax
comp=Z,16nm,1.0s,mb4.9
CTA Charters Tower 48.15 148 LR LR 05 42 53.2
comp=Z,292nm,19.1s,MS4.3,baz=14,slow=34
VOSK Vostochnaya 49.30 322 P **P** **05 24 20.7 -1.0**
VOSK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
BVA0 Borovoye Array 49.74 322 *i* P **P** **05 24 24.6 -0.5**
BVA0 pmax pmax
comp=Z,35nm,1.9s,mb5.1
BVAR Borovoye Array 49.74 322 P **P** **05 24 24.9 -0.1**
comp=Z,6.1nm,0.6s,mb4.8,baz=107,slow=9.2,SNR=40
BVAR PcP PcP 05 25 47.3 +1.0
comp=Z,7.6nm,0.6s,baz=112,slow=3.5,SNR=10.0
CHKZ Chkalovo 49.82 323 *e*P **P** **05 24 24.5 -1.1**
CHKZ pmax pmax
comp=Z,24nm,0.7s,mb5.3
CHKZ Chkalovo 49.82 323 *e*P **P** **05 24 24.5 -1.1**
comp=Z,24nm,0.7s,mb5.3
TIXI Tiksi 49.88 3 *i* P **P** **05 24 24.9 -1.0**
TIXI pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
TIXI MLR MLR
comp=Z,900nm,18.0s,MS4.8
ZRNK Zerenda 50.52 321 *e*P **P** **05 24 30.4 -0.6**
ZRNK pmax pmax
comp=Z,35nm,1.0s,mb5.2
ZRNK Zerenda 50.52 321 *e*P **P** **05 24 30.4 -0.6**
comp=Z,35nm,1.0s,mb5.2
FORT Forrest 52.78 173 *e*P **P** **05 24 48.9 +0.5**
comp=Z,22nm,0.6s,mb5.3
KLBR Kellerberrin 53.38 184 *e*P **P** **05 24 51.8 -1.0**
comp=Z,18nm,0.7s,mb5.1
BILL Bilibino 53.60 19 *e*P **P** **05 24 53.7 -0.2**
BILL pmax pmax
comp=Z,26nm,1.7s,mb4.9
BILL MLR MLR
comp=Z,500nm,21.0s,MS4.5
BILL Bilibino 53.60 19 *e*P **P** **05 24 54.8 +0.8**
comp=Z,16nm,1.0s,mb4.9
AB31 Akbulak array 55.39 315 *i* P **P** **05 25 06.8 -0.5**
AB31 pmax pmax
comp=Z,41nm,1.1s,mb5.4
AKTK Aktyubinsk 56.75 317 P **P** **05 25 17.5 +0.5**
AKTO Aktyubinsk 56.75 317 P **P** **05 25 17.5 +0.5**
comp=Z,12nm,0.9s,mb4.9,baz=94,slow=6.1,SNR=31
AKTO Aktyubinsk 56.75 317 P **P** **05 25 16.6 -0.4**
AKTO pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
STKA Stephens Creek 56.79 160 *e*P **P** **05 25 17.6 0.0**
comp=Z,8.1nm,0.6s,mb4.9
STKA Stephens Creek 56.79 160 P **P** **05 25 17.2 -0.5**
comp=Z,8.4nm,0.6s,mb5.0,baz=338,slow=7.8,SNR=16
ARU Arti 57.21 324 ⇓ *i*P **P** **05 25 19.2 -1.0**
ARU *e* 05 26 11.4
ARU *e* 05 27 25.2
ARU *e*S **S** **05 33 15.2 +1.7**
ARU pmax pmax
comp=Z,24nm,0.7s,mb5.3
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.5
ARU MLR MLR
comp=N,100nm,20.5s,MS4.3
ARU MLR MLR
comp=E,200nm,17.0s,MS4.3
SOKR Solikamsk 58.68 327 ⇓ *i*P **P** **05 25 33.7 +3.2**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.1
SOKR MLR MLR
comp=Z,450nm,17.0s,MS4.7
GNI Garni 66.51 305 P **P** **05 26 23.6 +0.7**
comp=Z,1.8nm,0.3s,mb4.6,baz=360,slow=19,SNR=2.7
GNI Garni 66.51 305 *e*P **P** **05 26 21.9 -1.0**
GNI pmax pmax
comp=Z,35nm,1.1s
GNI Garni 66.51 305 *e*P **P** **05 26 21.9 -1.0**
comp=Z,35nm,1.1s,mb5.3
GOF Gofitskoye 67.00 311 *e*P **P** **05 26 25.6 -0.3**
ONI Oni 67.08 308 P **P** **05 26 28.1 +1.6**
KLMR Klimovskoe 67.33 328 *e*P **P** **05 26 26.5 -1.2**
KLMR *e*S S 05 35 23.7 +2.7
KLMR pmax pmax
comp=Z,60nm,2.0s,mb5.3
KLMR smax
comp=E,1μm,5.3s
KLMR MLR MLR
comp=Z,2μm,21.0s,MS5.3
KIV Kislovodsk 67.41 310 *ce*P **P** **05 26 28.8 +0.3**
KIV *e* 05 26 40.5
KIV pmax pmax
comp=Z,68nm,1.0s,mb5.6
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.1
VRSR Storozhevoye 68.63 318 *e*P **P** **05 26 35.1 -0.9**
VRSR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VRSR pmax pmax
comp=N,3.0nm,1.5s
VRSR pmax pmax
comp=E,5.0nm,0.9s
MOS Moscow 68.89 323 *e*P **P** **05 26 35.2 -2.3**
MOS *e* 05 26 58.0
MOS pmax pmax
comp=Z,57nm,0.8s,mb5.5
APA Apatity 69.30 336 ⇓ *i*P **P** **05 26 39.0 -0.9**
APA *i* 05 26 46.3
APA pmax pmax
comp=Z,15nm,0.9s,mb4.9
KDAK Kodiak Island 69.42 35 P **P** **05 26 41.6 +0.9**
comp=Z,23nm,1.0s,mb5.1,baz=252,slow=9.6,SNR=3.5
KDAK LR LR 05 55 46.5
comp=Z,225nm,18.9s,MS4.4,baz=104,slow=35
OBN Obninsk 69.58 322 P **P** **05 26 40.0 -1.8**
OBN *e* 05 26 49.5
OBN *i* 05 26 54.0
OBN pmax pmax
comp=Z,42nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.3
MZLS Mizel 69.64 288 P **P** **05 26 43.3 +0.6**
MCK McKinley 70.25 28 *e*P **P** **05 26 46.2 +0.5**
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MCK McKinley 70.25 28 *e*P **P** **05 26 46.2 +0.5**
comp=Z,4.2nm,0.8s,mb4.4
COLA College 70.52 27 *e*P **P** **05 26 48.4 +1.1**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 70.52 27 *e*P **P** **05 26 48.4 +1.1**
comp=Z,8.4nm,0.8s,mb4.7
JOF Joensuu 70.91 331 *ep* **P** **05 26 48.1 -1.6**
comp=Z,15nm,0.8s,mb5.0
ILAR Eielson Array 70.95 27 P **P** **05 26 50.4 +0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=286,slow=5.6,SNR=19
ILAR LR LR 06 03 39.5
comp=Z,146nm,18.9s,MS4.3,baz=360,slow=41
ANN Anapa 70.96 311 *e*P **P** **05 26 49.6 -0.7**
KEV Kevo 71.24 339 *ep* **P** **05 26 50.2 -1.4**
KAMS Al Khamasin 71.25 285 P **P** **05 26 52.1 -0.4**
AFFS 'Afif 71.61 289 P **P** **05 26 55.4 +0.7**
MALT Malatya 71.69 305 *e*P **P** **05 26 55.8 +1.0**
MALT pmax pmax
comp=Z,39nm,0.9s,mb5.3
MALT Malatya 71.69 305 *e*P **P** **05 26 55.8 +1.0**
comp=Z,39nm,0.9s,mb5.3
HILS Ha'il 71.71 293 P **P** **05 26 56.5 +1.3**
ARCES ARCESS Array B 71.80 338 P **P** **05 26 54.4 -0.6**
comp=Z,3.6nm,0.6s,mb4.5,baz=62,slow=6.0,SNR=14
TATS Tathlith 72.46 284 P **P** **05 26 59.8 +0.1**
SIM Simferopol' 73.22 312 *e*P **P** **05 27 06.0 +2.2**
SIM pmax pmax
comp=Z,42nm,0.8s,mb5.4
SIM MLR MLR
comp=Z,130nm,17.5s,MS4.3
KAF Kangasniemi 73.35 331 *ep* **P** **05 27 03.2 -1.0**
comp=Z,8.6nm,0.9s,mb4.7
KAF Kangasniemi 73.35 331 *e*P **P** **05 27 03.2 -1.0**
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
FINES FINESS Array B 73.64 330 P **P** **05 27 05.2 -0.6**
comp=Z,11nm,0.7s,mb4.9,baz=58,slow=5.3,SNR=15
FINES LR LR 06 03 15.4
comp=Z,218nm,18.6s,MS4.5,baz=14,slow=39
VSU Vasula 74.13 327 *i* P **P** **05 27 07.5 -1.3**
AFI Afiamalu 74.26 112 LR LR 05 56 51.7
comp=Z,54nm,18.4s,MS3.9,baz=145,slow=33
DAWY Dawson 74.27 27 *e*P **P** **05 27 10.5 +1.1**
KBRS Khaybar 74.33 292 P **P** **05 27 12.4 +1.7**
AKASG Malin Array Be 74.89 319 P **P** **05 27 12.2 -1.1**
comp=Z,8.6nm,0.7s,mb4.8,baz=61,slow=6.0,SNR=21
BR131 Keskin Array S 74.93 307 *e*P **P** **05 27 14.3 +0.5**
comp=Z,5.4nm,0.7s,mb4.6
BRTR Keskin Array B 74.93 307 P **P** **05 27 14.1 +0.3**
comp=Z,10nm,0.9s,mb4.8,baz=104,slow=5.1,SNR=28
INK Inuvik 75.09 22 P **P** **05 27 14.2 +0.1**
comp=Z,3.0nm,0.7s,mb4.3,baz=300,slow=5.1,SNR=9.6
INK LR LR 06 03 15.7
comp=Z,167nm,18.2s,MS4.4,baz=139,slow=38
INK Inuvik 75.09 22 *e*P **P** **05 27 14.2 +0.1**
INK pmax pmax
comp=Z,11nm,0.9s
INK Inuvik 75.09 22 *e*P **P** **05 27 14.2 +0.1**
comp=Z,11nm,0.9s,mb4.8
ANTO Ankara 75.51 307 *e*P **P** **05 27 17.4 +0.3**
ANTO pmax pmax
comp=Z,28nm,0.9s,mb5.2
ANTO Ankara 75.51 307 *e*P **P** **05 27 17.4 +0.3**
comp=Z,28nm,0.9s,mb5.2
CSS Prodhromos 76.53 302 *e*P **P** **05 27 22.6 -0.4**
comp=Z,19nm,0.6s,mb5.2
CFR Carcaliu 77.22 314 ⇓ P **P** **05 27 25.8 -0.8**
TIRR Tirgusor 77.26 313 ⇑ P **P** **05 27 25.2 -1.6**
SUW Suwalki 77.39 323 *e*P **P** **05 27 26.6 -0.8**
SUW MLR MLR 06 05 57.1
comp=Z,400nm,17.2s,MS4.8
HARR Harsova 77.51 313 ⇑ P **P** **05 27 27.8 -0.4**
ISP Isparta 77.82 306 *e*P **P** **05 27 29.6 -0.5**
ISP pmax pmax
comp=Z,42nm,1.2s,mb5.2
ISP Isparta 77.82 306 *e*P **P** **05 27 29.6 -0.5**
comp=Z,42nm,1.2s,mb5.2
VRI Vrincioaia 77.94 315 ⇑ P **P** **05 27 30.8 +0.3**
BURAR Bucovina Array 78.34 317 ⇓ P **P** **05 27 33.1 +0.4**
BURAR Bucovina Array 78.34 317 ⇓ P **P** **05 27 33.1 +0.4**
PRD Provadia 78.35 312 *e*P pP 05 27 45.0 +7.7
MLR Muntele Rosu 78.58 314 ⇓ P **P** **05 27 35.1 +1.0**
DAG Danmarks Havn 78.64 351 *i* P **P** **05 27 33.0 -0.8**
DAG Danmarks Havn 78.64 351 *e*P **P** **05 27 33.0 -0.8**
VOIR 79.19 315 ⇓ P **P** **05 27 37.7 +0.3**
KWP Kalwaria 79.20 319 *e*P **P** **05 27 38.2 +0.8**
KOLS Kolonicke sedl 79.72 319 *e*P **P** **05 27 40.6 +0.4**
STHS Stebnicka Huta 80.17 319 *e*P **P** **05 27 42.3 -0.3**
CRVS Cervenica-Dubn 80.23 319 *e*P **P** **05 27 44.2 +1.3**
DRGR 80.23 316 ⇑ P **P** **05 27 42.5 -0.5**
NB2 NORSAR Subarra 80.44 332 P **P** **05 27 42.6 -1.2**
comp=Z,5.8nm,0.7s,mb4.6,baz=63,slow=5.3
NB2 NORSAR Subarra 80.44 332 P **P** **05 27 42.6 -1.2**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
NOA NORSAR Array B 80.44 332 P **P** **05 27 43.0 -0.7**
comp=Z,3.2nm,0.5s,mb4.5,baz=60,slow=5.2,SNR=11
NOA PKKPbc 05 46 25.9
comp=Z,1.4nm,0.9s,baz=8.3,slow=8.8,SNR=3.9
NOA LR LR 06 06 16.4
comp=Z,310nm,19.6s,MS4.7,baz=65,slow=38
DLBC Dease Lake 80.59 30 P **P** **05 27 44.7 +0.1**
comp=Z,4.2nm,1.1s,mb4.3,baz=343,slow=19,SNR=2.3
DLBC Dease Lake 80.59 30 P **P** **05 27 44.7 +0.1**
OJC Ojcow 80.72 320 *e*P **P** **05 27 45.9 +0.4**
RZN Rozhen 80.74 311 P **P** **05 27 46.0 +0.2**
RES Resolute Bay 80.77 9 *e*P **P** **05 27 46.9 +1.6**
RES pmax pmax
comp=Z,11nm,1.0s,mb4.7
RES Resolute Bay 80.77 9 *e*P **P** **05 27 46.9 +1.6**
comp=Z,11nm,1.0s,mb4.7
PGB Panagyurishte 80.81 312 *e*P **P** **05 27 47.5 +1.4**
KECS Kecovo 80.99 319 *e*P **P** **05 27 47.0 +0.1**
BZS Buzias 81.38 316 ⇑ P **P** **05 27 49.4 +0.4**
VTS Vitosha 81.45 312 P **P** **05 27 47.5 -2.0**
MMB Musomiste 81.46 311 P **P** **05 27 50.0 +0.4**
PSZ Piszkesteto 81.57 318 *e*P **P** **05 27 49.1 -0.9**
PSZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PSZ Piszkesteto 81.57 318 *e*P **P** **05 27 49.1 -0.9**
comp=Z,10nm,1.0s,mb4.7
KKB Krupnik 81.81 312 P **P** **05 27 45.5 -5.8**
OKC Ostrava-Krasne 81.85 321 *e*P **P** **05 27 52.0 +0.6**
VYHS Vyhne 81.99 319 *i* P **P** **05 27 52.7 +0.6**
VYHS *e* 05 30 37.1
SANT Santorini 82.12 306 *e*P **P** **05 27 52.4 -0.7**
comp=Z,44nm,1.0s,mb5.3
KSP Ksiaz 82.51 322 *e*P **P** **05 27 55.4 +0.7**
KSP MLR MLR 06 09 01.1
comp=Z,400nm,19.9s,MS4.8
KSP Ksiaz 82.51 322 *e*P **P** **05 27 55.0 +0.2**
DPC Dobruska-Polom 82.70 321 *e*P **P** **05 27 56.1 +0.3**
UPC Upice 82.81 322 *e*P **P** **05 27 58.0 +1.6**
VRAC Vranov 82.99 320 ⇑ P **P** **05 27 58.8 +1.5**
PVCC Panska Ves 83.63 322 *e*P **P** **05 28 00.1 -0.4**
BRG Berggiesshubel 83.83 323 *e*P **P** **05 28 02.5 +1.0**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
BRG Berggiesshubel 83.83 323 *e*P **P** **05 28 02.5 +0.9**
comp=Z,6.3nm,0.9s,mb4.8
CLL Collm 84.15 323 ⇑ P **P** **05 28 03.1 -0.1**
comp=Z,logA/T=1.0,mb4.9
CLL *i* *PP pP 05 28 06.2 -1.5
CLL Collm 84.15 323 ⇑ *i*P **P** **05 28 03.1 -0.1**
CLL pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
CLL Collm 84.15 323 ⇑ *i*P **P** **05 28 03.1 -0.1**
comp=Z,10.0nm,0.9s,mb5.0
CLL *i* pP pP 05 28 06.2 -1.5
SCO Scoresbysund 84.34 348 *i* P **P** **05 28 04.6 +0.9**
YKW3 Yellowknife Ar 84.76 23 *e*P **P** **05 28 06.0 +0.1**
SUMG Summit 84.77 354 *e*P **P** **05 28 06.2 +0.4**
comp=Z,8.2nm,0.7s,mb5.0
YKA Yellowknife Ar 84.81 23 P **P** **05 28 06.6 +0.5**
comp=Z,4.2nm,0.9s,mb4.6,baz=309,slow=4.7,SNR=18
YKA PKKPbc 05 46 14.7
comp=Z,0.3nm,0.4s,baz=131,slow=2.3,SNR=8.9
YKA LR LR 06 07 06.1
comp=Z,113nm,19.4s,MS4.3,baz=315,slow=36
YKA Yellowknife Ar 84.81 23 P **P** **05 28 06.6 +0.5**
YKA PKKPbc 05 46 14.7
YKA LR LR 06 07 06.1
KHC Kasperske Hory 84.84 321 *e*P **P** **05 28 07.1 +0.4**
KHC x x 05 28 09.0
KHC x x 05 30 47.5
KHC Kasperske Hory 84.84 321 *e*P **P** **05 28 07.1 +0.4**
KHC *e* 05 28 09.0
KHC *e* 05 30 47.5
NKC Novy Kostel 84.97 323 *e*P **P** **05 28 01.0 -6.3**
MOX Moxa 85.24 323 *e*P **P** **05 28 10.0 +1.4**
MOX L 06 11 25.0
KMBO Kilima Mbogo 85.33 267 P **P** **05 28 11.6 +1.6**
comp=Z,13nm,1.0s,mb5.0,baz=37,slow=7.3,SNR=28
KMBO LR LR 06 07 20.3
comp=Z,84nm,18.2s,MS4.2,baz=94,slow=36
BOJS Bojanci 85.49 317 *e*P **P** **05 28 13.8 +3.8**
GRA1 Grafenberg Arr 85.92 322 *e*P **P** **05 28 12.8 +0.7**
comp=Z,24nm,1.6s,mb5.2
GRF Grafenberg Arr 85.92 322 *e*P **P** **05 28 12.8 +0.7**
GRF pmax pmax
comp=Z,24nm,1.6s,mb5.2
GRF Grafenberg Arr 85.92 322 *e*P **P** **05 28 12.8 +0.7**
GRF pmax pmax
comp=Z,24nm,1.6s,mb5.2
GRF Grafenberg Arr 85.92 322 *e*P **P** **05 28 12.8 +0.7**
comp=Z,24nm,1.6s,mb5.2
JAVS Javornik 86.05 318 *i* P **P** **05 28 16.8 +4.0**
VOY Vojsko 86.09 318 *e*P **P** **05 28 16.6 +3.6**
ROBS Robic 86.23 319 *e*P **P** **05 28 17.2 +3.5**
AQU L'Aquila 88.13 315 *e*P **P** **05 28 24.6 +1.7**
AQU pmax pmax
comp=Z,26nm,0.6s,mb5.6
AQU L'Aquila 88.13 315 *e*P **P** **05 28 24.6 +1.6**
comp=Z,26nm,0.6s,mb5.6
CDF Champ du Feu 88.81 323 *e*P **P** **05 28 26.2 +0.2**
comp=Z,11nm,0.8s,mb4.9
CDF Champ du Feu 88.81 323 *e*P **P** **05 28 26.2 +0.2**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
MEZF Maizieres J'vi 90.00 324 *e*P **P** **05 28 31.3 -0.4**
CABF La Chapelle 90.46 322 *e*P **P** **05 28 33.6 -0.2**
comp=Z,178nm,1.9s,mb5.8
CABF La Chapelle 90.46 322 *e*P **P** **05 28 33.6 -0.2**
CABF pmax pmax
comp=Z,89nm,1.9s,mb5.8
LPG La Plagne 90.68 320 *e*P **P** **05 28 34.7 -0.2**
comp=Z,18nm,0.9s,mb5.1
LPG La Plagne 90.68 320 *e*P **P** **05 28 34.7 -0.2**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LPL La Plagne 90.68 320 *e*P **P** **05 28 34.7 -0.2**
comp=Z,27nm,1.2s,mb5.2
LPL La Plagne 90.68 320 *e*P **P** **05 28 34.7 -0.2**
LPL pmax pmax
comp=Z,14nm,1.2s,mb5.2
PGF Pioggiola 90.86 317 *e*P **P** **05 28 35.6 -0.2**
BNI Bardonecchia 90.96 320 *e*P **P** **05 28 37.0 +0.8**
BNI pmax pmax
comp=Z,15nm,1.2s,mb5.2
BNI Bardonecchia 90.96 320 *e*P **P** **05 28 37.0 +0.8**
comp=Z,15nm,1.2s,mb5.2
MBDF Montbardon 91.08 320 *e*P **P** **05 28 36.3 -0.4**
comp=Z,20nm,1.1s,mb5.0
MBDF Montbardon 91.08 320 *e*P **P** **05 28 36.3 -0.4**
MBDF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
SBF Sospel 91.15 319 *e*P **P** **05 28 36.4 -0.6**
comp=Z,17nm,0.8s,mb5.2
SBF Sospel 91.15 319 *e*P **P** **05 28 36.4 -0.6**
SBF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
LOR Lormes 91.36 323 *e*P **P** **05 28 37.6 -0.3**
comp=Z,8.6nm,0.8s,mb4.8
LOR *e*R
comp=Z,307nm,19.5s
LOR Lormes 91.36 323 *e*P **P** **05 28 37.6 -0.3**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
LOR MLR MLR
comp=Z,310nm,19.5s,MS4.8

ORIF	**Oris-en-Rattie**	**91.51**	**320**	*e*P		**P**	**05 28 38.1**	**-0.6**
ORIF				*e*R					
	comp=Z,275nm,19.2s								
SSF	**Saint Saulge**	**91.68**	**323**	*e*P		**P**	**05 28 38.0**	**-1.4**
	comp=Z,31nm,1.3s,mb5.2								
SSF	**Saint Saulge**	**91.68**	**323**	*e*P		**P**	**05 28 38.0**	**-1.4**
SSF				pmax	pmax				
	comp=Z,15nm,1.3s,mb5.2								
SMF	**Signal de Mont**	**91.73**	**322**	*e*P		**P**	**05 28 39.0**	**-0.6**
	comp=Z,47nm,1.2s,mb5.4								
SMF	**Signal de Mont**	**91.73**	**322**	*e*P		**P**	**05 28 39.0**	**-0.6**
SMF				pmax	pmax				
	comp=Z,24nm,1.2s,mb5.4								
FRF	**La Foret Royal**	**91.79**	**319**	*e*P		**P**	**05 28 39.4**	**-0.6**
	comp=Z,16nm,0.9s,mb5.1								
FRF	**La Foret Royal**	**91.79**	**319**	*e*P		**P**	**05 28 39.4**	**-0.6**
FRF				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb5.0								
AVF	**Avril sur Loir**	**91.92**	**323**	*e*P		**P**	**05 28 40.2**	**-0.3**
	comp=Z,22nm,1.1s,mb5.1								
AVF	**Avril sur Loir**	**91.92**	**323**	*e*P		**P**	**05 28 40.2**	**-0.3**
AVF				pmax	pmax				
	comp=Z,11nm,1.1s,mb5.1								
SMRF	**Simiane la Rot**	**92.21**	**320**	*e*P		**P**	**05 28 40.6**	**-1.4**
VIVF	**Saint-Julien-l**	**92.26**	**321**	*e*P		**P**	**05 28 41.5**	**-0.6**
NEW	**Newport**	**92.52**	**35**	P		**P**	**05 28 46.6**	**+3.4**
	comp=Z,1.8nm,0.7s,mb4.6,baz=284,slow=8.3,SNR=4.2								
LDF	**La Druitiere**	**92.73**	**326**	*e*P		**P**	**05 28 43.1**	**-1.1**
FLN	**La Foliniere**	**92.81**	**326**	*e*P		**P**	**05 28 43.5**	**-1.1**
	comp=Z,23nm,0.8s,mb5.3								
FLN				*e*R					
	comp=Z,344nm,20.0s								
FLN	**La Foliniere**	**92.81**	**326**	*e*P		**P**	**05 28 43.5**	**-1.1**
FLN				pmax	pmax				
	comp=Z,12nm,0.8s,mb5.4								
FLN				MLR	MLR				
	comp=Z,340nm,20.0s,MS4.8								
TCF	**Toulx Ste Croi**	**92.85**	**323**	*e*P		**P**	**05 28 44.7**	**-0.1**
LASF	**Ste Croix**	**93.18**	**320**	*e*P		**P**	**05 28 45.8**	**-0.6**
GRR	**Gorron**	**93.24**	**326**	*e*P		**P**	**05 28 46.1**	**-0.5**
RJF	**Les Rejaudoux**	**93.83**	**322**	*e*P		**P**	**05 28 48.5**	**-0.8**
	comp=Z,22nm,0.9s,mb5.3								
RJF	**Les Rejaudoux**	**93.83**	**322**	*e*P		**P**	**05 28 48.5**	**-0.8**
RJF				pmax	pmax				
	comp=Z,11nm,0.9s,mb5.3								
MFF	**Saint Martin d**	**93.97**	**324**	*e*P		**P**	**05 28 49.0**	**-0.9**
NVAR	**Mina Array Bea**	**97.69**	**43**	P		**P**	**05 29 12.0**	**+4.9**
	comp=Z,0.4nm,0.6s,mb4.1,baz=292,slow=4.9,SNR=5.0								
NVAR	**Mina Array Bea**	**97.69**	**43**	P		**P**	**05 29 12.0**	**+4.9**
LSZ	**Lusaka**	**98.81**	**257**	*e*P		**P**	**05 29 11.9**	**-0.7**
LSZ				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb5.0								
LSZ	**Lusaka**	**98.81**	**257**	*e*P		**P**	**05 29 11.9**	**-0.8**
	comp=Z,3.8nm,0.8s,mb5.0								
MAW	**Mawson**	**99.18**	**199**	LR		LR	06 06 47.7		
	comp=Z,98nm,20.3s,MS4.3,baz=251,slow=31								
VNDA	**Vanda**	**102.02**	**172**	Pdiff		Pdif	05 29 28.2	+2.3	
	comp=Z,0.7nm,0.9s,baz=345,slow=5.6,SNR=3.4								
EVO	**Evora**	**103.61**	**322**	*e*P		Pdif	05 29 33.3	-0.5	
	comp=Z,20nm,1.2s								
EVO				*e*R					
	comp=Z,310nm,20.8s								
TORD	**Torodi Ar. Bea**	**111.66**	**295**	PKiKP			05 34 07.2		
	comp=Z,0.9nm,0.8s,baz=38,slow=2.4,SNR=6.1								
TORD				PKKPbc			05 45 04.1		
	comp=Z,0.9nm,0.8s,baz=256,slow=3.0,SNR=5.3								
TORD				PKKPab			05 45 12.9		
	comp=Z,1.8nm,0.9s,baz=274,slow=4.4,SNR=7.4								
TXAR	**Lajitas Array**	**112.81**	**42**	PKiKP			05 34 11.4		
	comp=Z,0.8nm,0.7s,baz=251,slow=0.7,SNR=9.5								
DBIC	**Dimbokro**	**120.48**	**292**	PKP		PKPdf	05 34 24.7	-2.2	
	comp=Z,3.0nm,0.7s,baz=3.1,slow=2.8,SNR=8.7								
LIC	**Lamto**	**120.85**	**292**	*e*PKIKP		PKPdf	05 34 23.7	-3.9	
	comp=Z,11nm,0.8s								
LIC				*e*R					
	comp=Z,99nm,20.2s								
SDV	**Santo Domingo**	**147.03**	**23**	*e*PKPdf		PKPdf	05 35 13.9	-2.2	
SDV				*e*PKPbc		PKPdf	05 35 17.7	+1.7	
ROSC	**El Rosal**	**149.04**	**32**	PKPbc		PKPdf	05 35 25.3	+6.0	
	comp=Z,13nm,0.7s,baz=138,slow=0.8,SNR=16								
OTAV	**Otavalo**	**150.42**	**44**	*e*PKPbc		PKPdf	05 35 26.7	+5.2	
BDFB	**Brasilia**	**168.47**	**301**	PKPab		PKPab	05 36 50.9	+1.4	
	comp=Z,3.8nm,0.9s,baz=96,slow=5.5,SNR=2.8								

*PDG **16** 05:27:08.1±0.2,41.96N×20.16E,h11km*
*TIR **16** 05:27:08.7,42.01N×20.06E,h5km*
*NEIC **16** 05:27:08.1,41.96N×20.16E,h11km,MD3.3(PDG),After PDG.*
*THE **16** 05:27:15.1,41.76N×20.46E,h20km*
*ATH **16** 05:27:17.8,41.58N×20.90E,h19km±9km,MD3.6/5*

ISC 16 05:27:07.3±0.4,41.97N±0.02×20.21E±0.03,h9km±3km, n40,σ1§41/63,14C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.25**	**287**	*i* Pg	**Pg**	**05 27 09.0**	**-3.5**
PUK				*i* Sg	**Sg**	**05 27 13.5**	**-2.5**
BCI	**Bajram Curri**	**0.41**	**345**	*i* Pg	**Pg**	**05 27 16.5**	**+0.9**
BCI				*i* Sg	**Sg**	**05 27 23.0**	**+1.8**
LACI	**Lac**	**0.50**	**229**	*i* Pg	**Pg**	**05 27 17.8**	**+0.4**
LACI				*i* Sg	**Sg**	**05 27 24.9**	**+0.7**
SDA	**Shkodra**	**0.54**	**279**	*i* Pg	**Pg**	**05 27 18.1**	**-0.1**
SDA				*i* Sg	**Sg**	**05 27 26.4**	**+1.0**
PVY	**Plav**	**0.65**	**344**	⇑*i*Pg	**Pg**	**05 27 20.5**	**+0.2**
PVY				*e*Sg	**Sg**	**05 27 30.7**	**+1.7**
ULC	**Ulcinj**	**0.72**	**270**	⇑*i*Pg	**Pg**	**05 27 21.0**	**-0.7**
ULC				*e*Sg	**Sg**	**05 27 31.6**	**+0.3**
TTG	**Podgorica**	**0.84**	**303**	⇑*i*Pg	**Pg**	**05 27 22.9**	**-1.3**
TTG				*e*Sg	**Sg**	**05 27 36.2**	**+0.7**
IVA	**Berane**	**0.93**	**346**	⇑*i*Pg	**Pg**	**05 27 25.4**	**-0.5**
IVA				*e*Sg	**Sg**	**05 27 40.1**	**+1.7**
BUM	**Brajici-Budva**	**1.03**	**289**	⇑*i*Pg	**Pg**	**05 27 26.5**	**-1.5**
BUM				*e*Sg	**Sg**	**05 27 42.5**	**+0.7**
NKY	**Niksic**	**1.23**	**314**	⇑*i*Pg	**Pg**	**05 27 30.0**	**-1.9**
NKY				*e*Sg	**Sg**	**05 27 49.5**	**+1.1**
HCY	**Herceg Novi**	**1.36**	**291**	⇑*i*Pg	**Pg**	**05 27 32.2**	**-2.3**
HCY				*e*Sg	**Sg**	**05 27 53.4**	**+0.7**
BARS	**Barje**	**1.47**	**54**	⇓*i*Pg	**Pg**	**05 27 34.8**	**-1.8**
BARS				Sg	**Sg**	**05 27 55.3**	**-0.9**
PLE	**Pljevlja**	**1.49**	**336**	⇑*i*Pg	**Pg**	**05 27 35.4**	**-1.7**
PLE				*e*Sg	**Sg**	**05 27 57.7**	**+0.8**
BRY	**Bratogost**	**1.55**	**308**	⇑*i*Pg	**Pg**	**05 27 35.6**	**-2.6**
BRY				*e*Sg	**Sg**	**05 27 58.6**	**-0.2**
UPM	**Unac-Piva**	**1.56**	**322**	⇑*i*Pg	**Pg**	**05 27 36.5**	**-2.0**
UPM				*e*Sg	**Sg**	**05 27 59.4**	**0.0**
GRG	**Griva**	**1.93**	**121**	*e*Pb	**Pb**	**05 27 42.0**	**-0.3**
GRUS	**Gruza**	**1.95**	**11**	*e*Pn	**Pn**	**05 27 42.1**	**+1.1**
GRUS				Sg	**Sg**	**05 28 14.5**	**+2.2**
KZN	**Kozani**	**2.04**	**144**	*e*P	**Pn**	**05 27 45.7**	**+3.5**
KZN				*e*S	**Sn**	**05 28 06.7**	**-1.3**
STON	**Ston**	**2.07**	**297**	*i* Pn	**Pn**	**05 27 43.6**	**+0.9**
STON				*i* Sn	**Sn**	**05 28 16.3**	**+7.5**
DIVS	**Divcibare**	**2.13**	**356**	*e*Pn	**Pn**	**05 27 44.3**	**+0.7**
DIVS				Sg	**Sg**	**05 28 13.8**	**-4.6**
KNT	**Kendrikon**	**2.17**	**111**	*e*Pb	**Pb**	**05 27 45.4**	**-0.9**
JAN	**Janina**	**2.36**	**168**	*e*PN	**Pn**	**05 27 51.4**	**+4.5**
JAN				*e*SN	**Sn**	**05 28 16.2**	**-0.1**
IGT	**Igoumenitsa**	**2.44**	**178**	*e*Pn	**Pn**	**05 27 50.0**	**+2.1**
LIT	**Litokhoron**	**2.54**	**137**	*e*Pn	**Pn**	**05 27 50.6**	**+1.2**
SOH	**Sokhos**	**2.63**	**115**	*e*Pn	**Pn**	**05 27 53.7**	**+3.0**
SRS	**Serrai**	**2.68**	**107**	*e*Pn	**Pn**	**05 27 52.4**	**+1.0**
NVR	**Nevrokopi**	**2.80**	**102**	*e*PB	**Pb**	**05 27 55.5**	**-1.7**
NVR				*e*SN	**Sn**	**05 28 24.2**	**-3.3**
PLG	**Polygyros**	**2.92**	**122**	*e*P	**Pn**	**05 27 56.1**	**+1.3**
PLG				*e*S	**Sn**	**05 28 25.0**	**-5.3**
EVR	**Evrytania**	**3.28**	**158**	*e*PN	**Pn**	**05 28 03.0**	**+3.0**
PAIG	**Paliouri**	**3.33**	**127**	*e*Pn	**Pn**	**05 28 01.2**	**+0.6**
XOR	**Xorichti**	**3.45**	**138**	*e*Pn	**Pn**	**05 28 03.0**	**+0.7**
OBKA	**Obir**	**6.09**	**320**	⇓*i*Pn	**Pn**	**05 28 40.7**	**+0.9**
OBKA	**Obir**	**6.09**	**320**	⇓*i*Sn	**Sn**	**05 29 50.3**	**-0.2**
VOY	**Vojsko**	**6.10**	**314**	*e*(Pn)	**Pn**	**05 28 40.2**	**+0.3**
VOY				*e*Sn	**Sn**	**05 29 53.1**	**+2.4**
VOY				*e*		05 30 30.8	
ARSA	**Arzberg**	**6.25**	**329**	⇑*i*Pn	**Pn**	**05 28 39.8**	**-2.2**
ARSA	**Arzberg**	**6.25**	**329**	⇑*i*Sn	**Sn**	**05 29 51.9**	**-2.5**
KECS	**Kecovo**	**6.52**	**2**	*e*PN	**Pn**	**05 28 48.8**	**+3.0**
VYHS	**Vyhne**	**6.60**	**352**	*e*SN	**Sn**	**05 30 01.5**	**-1.5**
MOA	**Molln**	**7.24**	**326**	⇑*i*Pn	**Pn**	**05 28 54.4**	**-1.5**
MOA	**Molln**	**7.24**	**326**	⇑*i*Sn	**Sn**	**05 30 17.5**	**-1.5**

*IDC **16** 05:29:02.9±1.2,0.20N×124.80E,mb3.9/4,mb1 4.0/4, mb1mx3.8/15,mbtmp3.9/4,Error ellipse: s-maj=128.2km s-min=24.6km az=64.0*
*NEIC **16** 05:29:08.0±0.8,0.19S×124.11E,h35km,mb4.4/1,Error ellipse: s-maj=124.0km s-min=15.9km az=63.0*

ISC 16 05:29:06.0±1.0,0.2S±0.5×124.1E±0.9,h33km,n6,σ0§34/6, mb4.0/5,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.07**	**154**	P	**P**	**05 33 59.8**	**0.0**
	3.8nm,0.8s,mb3.9,baz=336,slow=11,SNR=16						
WRA				PcP	PcP	05 37 57.9	+0.1
	0.2nm,0.5s,baz=326,slow=2.4,SNR=4.9						
SONM	**Songino Array**	**50.22**	**345**	P	**P**	**05 38 01.0**	**+0.1**
	0.4nm,0.5s,mb3.8,baz=155,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**59.33**	**328**	P	**P**	**05 39 07.1**	**-0.1**
	1.0nm,0.3s,mb4.3,baz=124,slow=8.5,SNR=27						
ZRNK	**Zerenda**	**69.88**	**328**	*e*P	**P**	**05 40 15.0**	**-0.5**
	2.3nm,0.6s,mb4.3						
AKTK	**Aktyubinsk**	**75.11**	**323**	P	**P**	**05 40 46.7**	**+0.2**
AKTO	**Aktyubinsk**	**75.11**	**323**	P	**P**	**05 40 46.7**	**+0.2**
	0.7nm,0.5s,mb3.9,baz=88,slow=7.9,SNR=5.3						

IDC 16 05:36:15.6±8.4,13.79S×166.64E,h92km±86km,mb3.4/3, mb1 3.6/4,mb1mx3.4/14,mbtmp3.7/4,ML3.5/1,Error ellipse: s-maj=68.3km s-min=34.7km az=146.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.23**	**181**	P	P	05 38 13.1	-1.0
	0.5nm,0.3s,baz=180,slow=20,SNR=7.2						
DZM				S	S	05 39 43.3	-3.0
	0.5nm,0.3s,baz=307,slow=20,SNR=3.9						
STKA	**Stephens Creek**	**29.15**	**228**	P	P	05 42 08.9	-1.4
	1.2nm,0.5s,baz=49,slow=8.8,SNR=4.8						
WRA	**Warramunga Arr**	**31.48**	**254**	P	P	05 42 28.4	-2.5
	0.4nm,0.6s,baz=85,slow=9.4,SNR=7.1						
ILAR	**Eielson Array**	**85.83**	**18**	P	P	05 48 44.4	-1.3
	0.3nm,0.6s,baz=233,slow=5.2,SNR=6.2						

*IDC **16** 05:56:10.3±1.1,6.91N×127.08E,mb4.0/5,mb1 4.0/5, mb1mx3.7/17,mbtmp4.0/5,MS3.6/2,Ms1 3.6/2, ms1mx3.0/27,Error ellipse: s-maj=58.0km s-min=22.6km az=77.0*
*NEIC **16** 05:56:19.0±3.1,6.85N×127.03E,h66km±26km,mb4.1/1, Error ellipse: s-maj=43.1km s-min=14.4km az=72.0*
*MAN **16** 05:56:25.6,7.13N×126.07E,h1km,mb4.8,ML3.7,MS3.7*

ISC 16 05:56:14.3±1.8,6.4N±0.1×127.1E±0.1,h64km±14km,n21, σ1§21/24,mb4.0/6,1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.02**	**303**	*e*P	**P**	**05 56 30.6**	**-2.4**
MATI				*e*S	**S**	**05 56 42.8**	**-4.1**
DAV	**Davao City (W)**	**1.67**	**294**	*i* P	**P**	**05 56 44.0**	**+2.1**
DAV	**Davao City (W)**	**1.67**	**294**	*e*Pn	**P**	**05 56 43.2**	**+1.3**
KCP	**Kidapawan**	**2.10**	**287**	⇓*e*P	**P**	**05 56 43.7**	**-4.2**
GSPH	**General Santos**	**2.17**	**262**	⇓*e*P	**P**	**05 56 50.4**	**+1.5**
GSPH				*i* S	**S**	**05 57 01.2**	**-13**
BUKP	**Musuan**	**2.52**	**306**	*e*P	**P**	**05 56 53.7**	**-0.1**
BUKP				*e*S	**S**	**05 57 23.3**	**0.0**
BUTP	**Butuan**	**2.96**	**330**	*e*P	**P**	**05 56 59.3**	**-0.8**
BUTP				*e*S	**S**	**05 57 37.2**	**+2.7**
CGP	**Cagayan de Oro**	**3.16**	**311**	⇓*e*P	**P**	**05 57 02.4**	**-0.4**
CGP				*e*S	**S**	**05 57 39.1**	**-0.4**
SCPH	**Surigao**	**3.73**	**335**	*e*P	**P**	**05 57 11.2**	**+0.2**
BESP	**Borongan**	**5.44**	**342**	*e*P	**P**	**05 57 43.9**	**+9.3**
BESP				*e*S	**S**	**05 58 44.6**	**+8.1**
GUMO	**Guam**	**18.88**	**66**	LR	LR	06 06 16.4	
	comp=Z,92nm,21.1s,baz=74,slow=32						
PSI	**Prapat**	**28.32**	**264**	LR	LR	06 14 26.6	
	comp=Z,259nm,18.4s,baz=251,slow=39						
NWAO	**Narrogin (SRO)**	**40.21**	**193**	P	**P**	**06 03 53.0**	**+6.7**
	7.1nm,0.8s,mb4.4,baz=7.8,slow=8.7,SNR=5.5						
NWAO	**Narrogin (SRO)**	**40.21**	**193**	P	**P**	**06 03 53.0**	**+6.7**
STKA	**Stephens Creek**	**40.48**	**161**	P	**P**	**06 03 54.9**	**+6.4**
	3.7nm,0.8s,mb4.2,baz=4.0,slow=9.4,SNR=5.4						
STKA	**Stephens Creek**	**40.48**	**161**	P	**P**	**06 03 54.9**	**+6.4**
MKAR	**Makanchi Array**	**55.62**	**324**	P	**P**	**06 05 45.1**	**-0.8**
	0.7nm,0.5s,mb3.9,baz=112,slow=7.3,SNR=10.0						
BVAR	**Borovoye Array**	**65.33**	**326**	P	**P**	**06 06 51.2**	**-0.6**
	0.8nm,0.7s,mb3.9,baz=124,slow=5.3,SNR=5.2						
ZRNK	**Zerenda**	**66.06**	**326**	*e*P	**P**	**06 06 56.0**	**-0.6**
	1.7nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**82.55**	**26**	P	**P**	**06 08 32.8**	**+1.4**
	0.2nm,0.6s,mb3.3,baz=233,slow=5.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**122.42**	**290**	PKP	PKPdf	06 15 07.1	+3.8
	0.2nm,0.4s,baz=62,slow=1.8,SNR=6.4						

IDC 16 06:11:02.4±1.7,3.11S×142.21E,mb3.7/4,mb1 4.0/5, mb1mx3.8/13,mbtmp3.7/5,ML3.9/1,Error ellipse: s-maj=65.7km s-min=14.7km az=109.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.41**	**204**	*e*P	P	06 15 19.2	-1.8
WRA	**Warramunga Arr**	**18.41**	**204**	P	P	06 15 19.1	-1.9
	0.4nm,0.3s,baz=29,slow=12,SNR=14						
WRA				S	S	06 18 46.7	+2.3
	0.0nm,0.3s,baz=19,slow=23,SNR=2.8						
FITZ	**Fitzroy Crossi**	**22.04**	**226**	*e*P	P	06 16 00.4	-0.2
	3.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.04**	**226**	P	P	06 15 59.5	-1.1
	2.5nm,0.9s,baz=50,slow=18,SNR=14						
MKAR	**Makanchi Array**	**72.26**	**321**	P	P	06 22 29.8	-1.8
	0.1nm,0.3s,baz=100,slow=7.3,SNR=4.2						
BVAR	**Borovoye Array**	**81.65**	**325**	P	P	06 23 22.8	-1.1
	0.8nm,0.5s,baz=104,slow=5.9,SNR=4.0						
ILAR	**Eielson Array**	**84.76**	**24**	P	P	06 23 38.0	-1.5
	0.7nm,0.7s,baz=260,slow=4.6,SNR=12						

*NEIC **16** 06:13:32.9±10.0,35.35N×70.55E,h97km±71km,mb3.2/1, Error ellipse: s-maj=86.0km s-min=33.6km az=184.0*
*MOS **16** 06:13:34.7±1.1,35.52N×70.33E,h115km,mb4.3/2,Error ellipse: s-maj=30.7km s-min=12.8km az=102.4*
*IDC **16** 06:13:47.6±7.3,36.22N×70.80E,h184km±64km,mb3.4/5, mb1 3.3/8,mb1mx3.1/21,mbtmp3.8/8,Error ellipse: s-maj=51.3km s-min=34.1km az=138.0*
*NNC **16** 06:13:56.6±8.8,36.95N×70.81E,h191km±116km,mb2.7, mpv3.8,Error ellipse: s-maj=84.9km s-min=45.7km az=12.0*

ISC 16 06:13:54.1±2.4,36.8N±0.2×70.8E±0.2,h224km±19km,n24, σ0§67/26,mb3.5/5,5C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.09**	**27**	P	**P**	**06 15 24.1**	**+0.5**
	SNR=32						
EKS2	**Erkin-Say**	**6.25**	**21**	P	**P**	**06 15 25.7**	**+0.1**
	SNR=6.9						
KZA	**Kyzart**	**6.25**	**32**	P	**P**	**06 15 25.7**	**0.0**
	SNR=6.9						
KK31	**Karatay Array**	**6.26**	**358**	⇑P	**P**	**06 15 26.0**	**+0.3**
	1.4nm,0.3s,baz=184,slow=13,SNR=77						
KK31				⇓S	**S**	**06 16 36.6**	**-0.6**
	3.9nm,0.5s,baz=185,slow=22,SNR=8.0						
KBK	**Karagaybulak**	**6.62**	**27**	P	**P**	**06 15 28.9**	**-1.6**
	SNR=6.2						
ULHL	**Ulahol**	**6.83**	**36**	P	**P**	**06 15 33.0**	**-0.1**
	SNR=7.3						
CHMS	**Chumysh**	**6.85**	**25**	P	**P**	**06 15 33.5**	**+0.2**
	SNR=6.3						
USP	**Ospenovka**	**7.01**	**23**	P	**P**	**06 15 35.8**	**+0.4**
	SNR=6.1						
TKM2	**Tokmak 2**	**7.10**	**30**	P	**P**	**06 15 36.5**	**0.0**
	SNR=12						
TKM2	**Tokmak 2**	**7.10**	**30**	⇑P	**P**	**06 15 36.5**	**0.0**
	5.7nm,0.5s						
TKM2				⇑S	**S**	**06 16 56.5**	**0.0**
	9.4nm,1.0s						
MKAR	**Makanchi Array**	**13.11**	**37**	P	**P**	**06 16 52.9**	**-0.1**
	0.1nm,0.3s,baz=215,slow=12,SNR=5.5						
AB31	**Akbulak array**	**14.71**	**331**	⇑P	**P**	**06 17 16.0**	**+3.2**
	0.7nm,0.5s,baz=144,slow=12,SNR=13						
ZRNK	**Zerenda**	**16.16**	**356**	P	**P**	**06 17 30.6**	**+0.3**
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**16.18**	**359**	P	**P**	**06 17 31.7**	**+1.1**
	0.2nm,0.3s,baz=163,slow=8.8,SNR=4.3						
AKTK	**Aktyubinsk**	**16.41**	**330**	P	**P**	**06 17 32.7**	**-0.5**
AKTO	**Aktyubinsk**	**16.41**	**330**	⇑P	**P**	**06 17 33.0**	**-0.2**
	0.5nm,0.7s						
AKTO	**Aktyubinsk**	**16.41**	**330**	P	**P**	**06 17 32.7**	**-0.5**
	0.4nm,0.3s,baz=134,slow=8.6,SNR=7.5						
FINES	**FINESS Array B**	**37.11**	**326**	P	**P**	**06 20 44.1**	**-0.3**
	2.6nm,1.0s,mb3.7,baz=256,slow=5.7,SNR=3.2						
FINES	**FINESS Array B**	**37.11**	**326**	P	**P**	**06 20 44.1**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**40.77**	**337**	P	**P**	**06 21 14.9**	**+0.4**
	comp=Z,1.9nm,0.6s,mb3.7,baz=114,slow=8.2,SNR=12						
ARCES	**ARCESS Array B**	**40.77**	**337**	P	**P**	**06 21 14.9**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**44.02**	**323**	P	**P**	**06 21 40.0**	**-0.6**
	comp=Z,1.5nm,0.9s,mb3.3,baz=115,slow=5.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**65.57**	**268**	P	**P**	**06 24 11.8**	**-4.2**
	comp=Z,0.4nm,0.4s,mb3.4,baz=52,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**80.91**	**3**	P	**P**	**06 25 44.0**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.2,baz=350,slow=5.4,SNR=4.9						

*CSEM **16** 06:15:51.3±1.1,38.66N×29.03W,h2km±9km,ML1.9,Error ellipse: s-maj=13.4km s-min=6.4km az=60.0,After PDA*
*PDA **16** 06:15:51.3±1.1,38.66N×29.03W,h2km±9km,MD2.9, ML1.9,Error ellipse: s-maj=13.4km s-min=6.4km az=60.0*

SVSA 16 06:15:51.3±1.1,38.66N×29.03W,h2km±9km,MD2.9, ML1.9,Error ellipse: s-maj=13.4km s-min=6.4km az=60.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.20**	**113**	*e*P	Pg	06 15 56.0	+0.8
PTCA				*e*S	Sg	06 15 58.9	+1.1
	80nm,0.1s						
PTCA	**Ponta do Capel**	**0.20**	**113**	*e*P	Pg	06 15 56.0	+0.8
PTCA				*e*S	Sg	06 15 58.9	+1.1
	80nm,0.1s						
PCED	**Cedros**	**0.26**	**97**	*i* P	Pg	06 15 56.1	-0.3
PCED				*e*S	Sg	06 15 59.8	0.0
	182nm,0.1s						
PCED	**Cedros**	**0.26**	**97**	*e*S	Sg	06 15 59.8	0.0
	182nm,0.1s						
CALA	**Caldeira**	**0.27**	**108**	*e*P	Pg	06 15 56.1	-0.5
CALA				*e*S	Sg	06 15 59.9	-0.3
HOR	**Horta**	**0.34**	**113**	*e*P	Pg	06 15 57.2	-0.9
HOR				*e*S	Sg	06 16 02.0	-0.6
PCND	**Candelaria**	**0.48**	**113**	*e*P	Pg	06 16 00.5	-0.4
PCND				*e*S	Sg	06 16 06.8	-0.5
	14nm,0.2s						
PICO	**Pico**	**0.50**	**109**	*e*P	Pg	06 16 00.2	-1.0
PICO				*e*S	Sg	06 16 07.0	-0.8
PBOI	**Pico dos Bois**	**0.56**	**114**	*e*S	Sg	06 16 09.2	-0.7
	14nm,0.1s						
ROSA	**Rosais**	**0.62**	**84**	*e*P	Pg	06 16 02.0	-1.6
ROSA				*e*S	Sg	06 16 09.5	-2.3
PPNO	**Prainha do Nor**	**0.63**	**107**	*e*P	Pg	06 16 02.2	-1.6
PPNO				*e*S	Sg	06 16 10.8	-1.4
	65nm,0.1s						
PPNO	**Prainha do Nor**	**0.63**	**107**	*e*P	Pg	06 16 02.2	-1.6
PPNO				*e*S	Sg	06 16 10.8	-1.4
	65nm,0.1s						
PAMA	**Santo Amaro**	**0.66**	**88**	*e*P	Pg	06 16 03.3	-1.2
PAMA				*e*S	Sg	06 16 11.6	-1.7
PMAN	**Manadas**	**0.73**	**92**	*e*P	Pg	06 16 03.4	-2.5
PMAN				*e*S	Sg	06 16 12.7	-3.0
	23nm,0.2s						

*IDC **16** 06:19:11.9±0.5,6.86N×126.94E,mb4.4/18,mb1 4.5/18, mb1mx4.5/20,mbtmp4.4/18,MS3.9/12,Ms1 3.9/12, ms1mx3.7/28,Error ellipse: s-maj=31.6km s-min=11.3km az=76.0*
*MOS **16** 06:19:15.2±0.7,6.86N×126.88E,h33km,mb4.7/6,Error ellipse: s-maj=40.0km s

ASAJ Asahikawa 39.65 17 LR LR 06 42 41.1
comp=Z,249nm,19.7s,MS4.1,baz=7.7,slow=36
NWAO Narrogin (SRO) 40.51 193 P **P** **06 26 54.9 +1.7**
comp=Z,14nm,0.8s,mb4.6,baz=11,slow=10,SNR=6.8
STKA Stephens Creek 40.66 161 *eP* **P** **06 26 56.5 +2.1**
comp=Z,3.8nm,0.6s,mb4.2
STKA Stephens Creek 40.66 161 P **P** **06 26 56.2 +1.8**
comp=Z,6.0nm,0.8s,mb4.3,baz=305,slow=9.8,SNR=13
GTA Gaotai 40.95 327 P **P** **06 26 54.9 -1.8**
SONM Songino Array 44.75 340 P **P** **06 27 24.4 -3.2**
comp=Z,0.9nm,0.9s,mb3.6,baz=207,slow=6.6,SNR=5.2
SONM Songino Array 44.75 340 P **P** **06 27 24.5 -3.1**
MKAR Makanchi Array 55.53 324 P **P** **06 28 47.0 -2.9**
comp=Z,5.2nm,0.9s,mb4.6,baz=122,slow=7.8,SNR=30
MKAR LR LR 06 56 31.1
comp=Z,77nm,18.1s,MS3.8,baz=270,slow=41
ZAL Zalesovo 58.29 332 P **P** **06 29 05.4 -4.0**
comp=Z,1.1nm,0.3s,mb4.4,baz=330,slow=15,SNR=4.2
ZAL LR LR 06 55 46.6
comp=Z,57nm,19.0s,MS3.7,baz=142,slow=38
BVAR Borovoye Array 65.22 326 P **P** **06 29 53.1 -2.9**
comp=Z,4.0nm,0.9s,mb4.4,baz=121,slow=8.6,SNR=16
CHKZ Chkalovo 65.36 327 *eP* **P** **06 29 53.3 -3.5**
CHKZ pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
CHKZ Chkalovo 65.36 327 *eP* **P** **06 29 53.3 -3.5**
comp=Z,6.3nm,1.3s,mb4.5
ZRNK Zerenda 65.97 326 *eP* **P** **06 29 57.4 -3.3**
ZRNK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ZRNK Zerenda 65.97 326 *eP* **P** **06 29 57.4 -3.3**
comp=Z,8.3nm,0.9s,mb4.8
AKTK Aktyubinsk 71.76 321 P **P** **06 30 33.7 -2.9**
AKTK LR LR 07 05 05.5
AKTO Aktyubinsk 71.76 321 P **P** **06 30 33.7 -2.9**
comp=Z,4.5nm,0.8s,mb4.5,baz=102,slow=7.8,SNR=20
AKTO LR LR 07 05 05.5
comp=Z,104nm,18.4s,MS4.1,baz=250,slow=39
MCK McKinley 81.30 27 P **P** **06 31 29.5 -0.3**
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MCK McKinley 81.30 27 P **P** **06 31 29.5 -0.3**
comp=Z,6.1nm,1.0s,mb4.5
COLA College 81.82 25 P **P** **06 31 32.9 +0.4**
COLA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
COLA College 81.82 25 P **P** **06 31 32.9 +0.4**
comp=Z,4.4nm,0.9s,mb4.4
ILAR Eielson Array 82.23 26 P **P** **06 31 34.5 -0.1**
comp=Z,1.9nm,1.0s,mb4.0,baz=254,slow=5.5,SNR=11
VNDA Vanda 86.23 173 P **P** **06 31 55.5 +1.0**
comp=Z,2.1nm,1.0s,mb4.3,baz=301,slow=8.5,SNR=7.7
VNDA Vanda 86.23 173 *eP* **P** **06 31 55.2 +0.6**
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA Vanda 86.23 173 *eP* **P** **06 31 55.2 +0.6**
comp=Z,1.9nm,0.9s,mb4.3
INK Inuvik 87.25 22 LR LR 07 14 35.1
comp=Z,97nm,18.0s,MS4.2,baz=284,slow=38
INK Inuvik 87.25 22 *eP* **P** **06 31 59.9 +0.2**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 87.25 22 *eP* **P** **06 31 59.9 +0.2**
comp=Z,2.4nm,0.9s,mb4.4
ARCES ARCESS Array B 87.93 340 P **P** **06 32 00.6 -2.3**
comp=Z,5.1nm,0.9s,mb4.8,baz=89,slow=4.9,SNR=6.8
BRTR Keskin Array B 88.62 310 P **P** **06 32 04.7 -2.3**
comp=Z,1.0nm,0.8s,mb4.2,baz=76,slow=5.1,SNR=4.8
FINES FINESS Array B 89.55 332 P **P** **06 32 10.9 +0.1**
comp=Z,1.5nm,0.9s,mb4.3,baz=270,slow=2.8,SNR=2.4
AKASG Malin Array Be 90.01 321 P **P** **06 32 10.9 -2.3**
comp=Z,2.8nm,0.8s,mb4.6,baz=69,slow=3.9,SNR=9.6
KMBO Kilima Mbogo 90.20 269 P **P** **06 32 13.1 -1.9**
comp=Z,0.3nm,0.3s,mb4.0,baz=34,slow=7.3,SNR=3.6
DLBC Dease Lake 90.95 31 LR LR 07 06 56.7
comp=Z,156nm,21.7s,MS4.4,baz=174,slow=32
BBB Bella Bella 93.62 37 LR LR 07 11 06.5
comp=Z,189nm,19.4s,MS4.6,baz=310,slow=33
NOA NORSAR Array B 96.45 334 LR LR 07 21 39.6
comp=Z,36nm,20.2s,MS3.9,baz=315,slow=39
YKA Yellowknife Ar 96.61 24 P **P** **06 32 43.6 +0.4**
comp=Z,0.9nm,0.8s,mb4.2,baz=304,slow=4.8,SNR=12
TXAR Lajitas Array 119.34 51 PKP PKPdf 06 38 04.7 -2.0
comp=Z,0.5nm,0.9s,baz=270,slow=1.3,SNR=3.6
TORD Torodi Ar. Bea 122.53 290 PKP PKPdf 06 38 08.9 -4.2
comp=Z,1.2nm,0.9s,baz=26,slow=2.3,SNR=7.4

IDC 16 06:40:31.4±1.2, 24.48N×141.43E, mb3.6/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.6/7, ML3.9/1, Error ellipse: s-maj=43.0km s-min=26.5km az=106.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.69**	**14**	Pn	Pn	06 41 16.3	-0.4
	25nm,0.3s,baz=277,slow=23,SNR=6.3						
CBIJ				Sn	Sn	06 41 47.5	-2.9
	18nm,0.3s,baz=270,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**44.69**	**190**	P	P	06 48 46.1	-2.0
	0.2nm,0.4s,baz=8.8,slow=8.6,SNR=4.5						
MKAR	**Makanchi Array**	**51.65**	**311**	P	P	06 49 41.0	-0.9
	0.2nm,0.5s,baz=94,slow=8.1,SNR=4.3						
ILAR	**Eielson Array**	**60.33**	**28**	P	P	06 50 41.3	-2.8
	0.5nm,0.8s,baz=273,slow=6.0,SNR=6.4						
YKA	**Yellowknife Ar**	**74.75**	**28**	P	P	06 52 13.3	-1.3
	0.3nm,0.6s,baz=293,slow=5.7,SNR=5.4						
FINES	**FINESS Array B**	**79.98**	**334**	P	P	06 52 40.9	-2.8
	4.2nm,1.1s,baz=45,slow=2.7,SNR=4.5						
NVAR	**Mina Array Bea**	**82.67**	**51**	P	P	06 52 58.1	-0.2
	0.3nm,0.7s,baz=288,slow=8.6,SNR=2.9						

*IDC **16** 06:49:53.9±1.8, 7.07N×127.35E, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=123.3km s-min=21.0km az=69.0*
ISC 16 06:50:05.3±2.5, 6.9N±0.3×127.1E±0.7, h110km±23km, n8, σ0°59/8, mb3.7/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**3.24**	**331**	*eP*	**P**	**06 50 55.5**	**0.0**
FITZ	**Fitzroy Crossi**	**24.90**	**183**	*eP*	**P**	**06 55 19.6**	**-0.1**
	1.6nm,0.4s,mb3.8						
FITZ	**Fitzroy Crossi**	**24.90**	**183**	P	**P**	**06 55 19.3**	**-0.4**
	1.9nm,0.8s,mb3.6,baz=18,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**27.64**	**165**	P	**P**	**06 55 45.4**	**+0.5**
	0.9nm,0.5s,mb3.5,baz=348,slow=9.9,SNR=18						
WB2	**Warramunga Arr**	**27.64**	**165**	*eP*	**P**	**06 55 45.4**	**+0.5**
STKA	**Stephens Creek**	**41.00**	**161**	P	**P**	**06 57 38.3**	**-0.8**
	1.4nm,0.6s,mb4.0,baz=342,slow=9.4,SNR=3.3						
MKAR	**Makanchi Array**	**55.16**	**324**	P	**P**	**06 59 29.0**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=127,slow=7.2,SNR=12						
BVAR	**Borovoye Array**	**64.86**	**326**	P	**P**	**07 00 34.7**	**-0.2**
	0.3nm,0.5s,mb3.4,baz=90,slow=5.8,SNR=3.5						

MAN 16 06:52:25.2, 13.63N×120.59E, h96km, mb3.8, ML2.6, MS2.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.35**	**287**	*eP*	P	06 52 41.2	+1.6
LUBP				*eS*	S	06 52 53.2	+2.7
PGP	**Puerto Galera**	**0.38**	**110**	⇑*iP*	P	06 52 40.9	+1.1
BOAC	**Boac**	**1.23**	**98**	*eP*	P	06 52 48.4	-0.1
BOAC				*eS*	S	06 53 06.6	+0.8
BUSP	**Coron**	**1.66**	**193**	*eP*	P	06 52 53.8	+0.1
BUSP				*eS*	S	06 53 16.4	+1.6
OTRP	**Odiongan**	**1.88**	**132**	*eP*	P	06 52 48.8	-7.8
OTRP				*eS*	S	06 53 18.2	-1.5
SCZP	**Santa Cruz**	**2.23**	**343**	*eP*	S	06 53 23.5	-4.6
ENPP	**El Nido**	**2.66**	**205**	*eP*	P	06 53 07.1	-0.2

*IDC **16** 07:07:39.1±1.2, 2.96S×141.91E, mb4.1/5, mb1 4.3/6, mb1mx4.1/12, mbtmp4.1/6, ML4.1/1, MS3.8/3, Ms1 3.8/3, ms1mx3.1/29, Error ellipse: s-maj=52.4km s-min=22.5km az=102.0*
*NEIC **16** 07:07:41.6±0.8, 3.04S×141.90E, h15km, mb4.4/1, Error ellipse: s-maj=26.1km s-min=10.1km az=92.0*
ISC 16 07:07:42.7±1.1, 3.15S±0.06×141.8E±0.2, h33km, n20, σ0°83/18, mb4.5/9, MS4.0/2, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**13.25**	**224**	*eP*		Px	07 11 13.4
	16nm,0.5s						
KAKA				*eS*		Sx	07 13 33.5
CTA	**Charters Tower**	**17.40**	**166**	LR		LR	07 19 06.0
	comp=Z,94nm,18.6s,baz=44,slow=39						
WB2	**Warramunga Arr**	**18.20**	**203**	*eP*		**P**	**07 11 55.3 +0.6**
WB2				*eS*		**S**	**07 15 12.9 -0.6**
WRA	**Warramunga Arr**	**18.20**	**203**	P		**P**	**07 11 55.4 +0.7**
	0.6nm,0.3s,baz=26,slow=12,SNR=28						
WRA				S		**S**	**07 15 12.3 -1.2**
	0.1nm,0.3s,baz=16,slow=22,SNR=4.6						
FITZ	**Fitzroy Crossi**	**21.70**	**226**	*eP*		**P**	**07 12 33.0 +0.1**
	9.8nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**21.70**	**226**	P		**P**	**07 12 32.9 0.0**
	8.8nm,1.0s,mb4.1,baz=56,slow=7.0,SNR=9.9						
FITZ				S		**S**	**07 16 32.1 +6.0**
	1.9nm,0.6s,baz=195,slow=22,SNR=4.9						
FITZ				LR		LR	07 21 34.4
	comp=Z,81nm,19.4s,MS3.1,baz=37,slow=38						
STKA	**Stephens Creek**	**28.58**	**180**	P		**P**	**07 13 40.1 +2.1**
	1.5nm,0.4s,mb4.1,baz=355,slow=11,SNR=3.7						
SONM	**Songino Array**	**59.45**	**333**	P		**P**	**07 17 44.3 -0.4**
	0.4nm,0.8s,mb3.5,baz=156,slow=7.9,SNR=3.6						
GUN	**Gumba**	**61.96**	**304**	*eP*		**P**	**07 18 02.4 +0.4**
	19nm,1.1s,mb5.1						
PKI	**Pulchoki**	**62.23**	**303**	*eP*		**P**	**07 18 03.8 -0.1**
KKN	**Kakani**	**62.41**	**304**	*eP*		**P**	**07 18 05.3 +0.2**
	17nm,0.9s,mb5.2						
DMN	**Daman**	**62.50**	**303**	*eP*		**P**	**07 18 06.3 +0.7**
GKN	**Gorkha**	**63.02**	**304**	*eP*		**P**	**07 18 09.2 +0.1**
	15nm,0.8s,mb5.2						
KOLN	**Koldanda**	**63.81**	**303**	*eP*		**P**	**07 18 14.5 +0.1**
	18nm,1.1s,mb5.0						
ZAL	**Zalesovo**	**73.87**	**329**	P		**P**	**07 19 15.5 -0.5**
	0.6nm,0.3s,mb4.0,baz=351,slow=22,SNR=4.8						
ZAL	**Zalesovo**	**73.87**	**329**	P		**P**	**07 19 15.5 -0.5**
MAW	**Mawson**	**82.88**	**202**	LR		LR	07 53 33.1
	comp=Z,480nm,21.3s,MS4.8,baz=44,slow=33						
ILAR	**Eielson Array**	**84.97**	**24**	P		**P**	**07 20 13.8 -1.8**
	2.5nm,0.8s,mb4.4,baz=261,slow=4.6,SNR=27						
DBIC	**Dimbokro**	**146.57**	**277**	PKPbc		PKPbc	07 27 23.5 +1.7
	3.1nm,0.7s,baz=94,slow=5.6,SNR=6.1						
DBIC	**Dimbokro**	**146.57**	**277**	PKPbc		PKPbc	07 27 23.5 +1.7

*IDC **16** 07:22:16.4±0.6, 3.03S×141.93E, mb4.4/12, mb1 4.6/13, mb1mx4.5/15, mbtmp4.4/13, ML4.6/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/25, Error ellipse: s-maj=24.4km s-min=16.8km az=79.0*
*BJI **16** 07:22:18.2, 3.52S×142.50E, h68km, mB5.2, mb4.8*
*NEIC **16** 07:22:25.4±2.7, 3.11S×141.84E, h69km±25km, mb4.7/20, Error ellipse: s-maj=12.2km s-min=8.6km az=220.0*
ISC 16 07:22:25.7±2.8, 3.23S±0.06×141.77E±0.09, h85km±26km, n56, σ0°96/52, mb4.6/30, 2C, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.15**	**139**	Pn	**P**	**07 24 25.7**	**+2.5**
	2.5nm,0.3s,baz=319,slow=7.3,SNR=5.2						
PMG	**Port Moresby**	**8.15**	**139**	*e*Pn	**P**	**07 24 26.1**	**+2.9**
	54nm,0.9s						
KAKA	**Kakadu**	**13.19**	**224**	*e*P	Px	07 25 50.6	
	53nm,0.5s						
KAKA				*e*S	Sx	07 28 14.5	
GUMO	**Guam**	**16.99**	**10**	LR	LR	07 32 04.1	
	comp=Z,127nm,21.7s,baz=231,slow=35						
CTA	**Charters Tower**	**17.32**	**166**	Pn	**P**	**07 26 25.0**	**+1.5**
	0.2nm,0.3s,baz=336,slow=12,SNR=2.6						
CTA				LR	LR	07 33 26.2	
	comp=Z,332nm,18.2s,baz=207,slow=38						
CTA	**Charters Tower**	**17.32**	**166**	Pn	**P**	**07 26 25.0**	**+1.5**
CTA				LR	LR	07 33 26.2	
CTAO	**Charters Tower**	**17.32**	**166**	P	**P**	**07 26 25.3**	**+1.8**
	6.2nm,0.9s						
WB2	**Warramunga Arr**	**18.12**	**203**	⇑*iP*	**P**	**07 26 32.4**	**-0.9**
WB2				*e*S	**S**	**07 29 48.7**	**-0.6**
WRA	**Warramunga Arr**	**18.13**	**203**	P	**P**	**07 26 32.5**	**-0.9**
	2.0nm,0.3s,baz=24,slow=13,SNR=61						
WRA				S	**S**	**07 29 48.6**	**-0.7**
	0.4nm,0.3s,baz=38,slow=25,SNR=3.8						
WRA				Lg		07 32 00.6	
	baz=21,slow=34,SNR=3.7						
FITZ	**Fitzroy Crossi**	**21.64**	**226**	*e*P	**P**	**07 27 10.3**	**-0.3**
	25nm,0.9s,mb4.5						
FITZ				*e*S	**S**	**07 31 09.2**	**+9.3**
FITZ	**Fitzroy Crossi**	**21.64**	**226**	P	**P**	**07 27 10.5**	**-0.1**
	19nm,0.9s,mb4.4,baz=60,slow=9.7,SNR=36						
FITZ				S	**S**	**07 31 10.4**	**+10**
	12nm,1.0s,baz=197,slow=13,SNR=5.7						
FITZ				LR	LR	07 36 28.9	
	comp=Z,304nm,19.3s,baz=46,slow=39						
ASPA	**Alice Springs**	**21.70**	**200**	*e*P	**P**	**07 27 11.4**	**+0.3**
ASPA				*e*S	**S**	**07 31 15.9**	**+15**
MBWA	**Marble Bar**	**27.88**	**228**	*e*P	**P**	**07 28 09.5**	**-0.3**
	11nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**28.50**	**180**	*e*P	**P**	**07 28 15.4**	**+0.1**
	4.8nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**28.50**	**180**	P	**P**	**07 28 15.7**	**+0.4**
	2.3nm,0.6s,mb3.9,baz=352,slow=14,SNR=4.2						
FORT	**Forrest**	**30.31**	**204**	*e*P	**P**	**07 28 32.4**	**+1.0**
	38nm,0.6s,mb5.2						
DZM	**Mont Dzumac**	**30.41**	**130**	P	**P**	**07 28 30.9**	**-1.4**
	2.7nm,0.6s,mb4.1,baz=240,slow=20,SNR=6.5						
KSM	**Kuching**	**31.79**	**278**	*e*P	**P**	**07 28 44.0**	**-0.5**
JOW	**Kunigami**	**32.60**	**337**	LR	LR	07 39 02.3	
	comp=Z,168nm,21.7s,baz=245,slow=31						
NWAO	**Narrogin (SRO)**	**37.43**	**215**	LR	LR	07 46 07.8	
	comp=Z,143nm,20.0s,baz=9.4,slow=38						
PSI	**Prapat**	**43.24**	**277**	P	**P**	**07 30 19.7**	**-1.0**
	18nm,1.0s,mb4.8,baz=144,slow=3.7,SNR=6.1						
CD2	**Chengdu**	**49.64**	**316**	*e*P	**P**	**07 31 10.8**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GTA	**Gaotai**	**57.33**	**322**	⇑P	**P**	**07 32 07.1**	**-0.2**
GTA				AP	pP	07 32 20.1	-8.7
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
LSA	**Lhasa**	**58.43**	**308**	P	**P**	**07 32 15.2**	**+0.1**
	comp=Z,3.7nm,0.3s,mb4.9						
ULN	**Ulaanbaatar**	**59.25**	**333**	*e*P	**P**	**07 32 19.9**	**-0.7**
	comp=Z,3.2nm,0.9s,mb4.3						
SONM	**Songino Array**	**59.52**	**333**	P	**P**	**07 32 21.6**	**-0.8**
	comp=Z,2.0nm,1.0s,mb4.1,baz=155,slow=9.6,SNR=6.8						
JIRN	**Jiri**	**61.66**	**304**	*e*P	**P**	**07 32 37.5**	**+0.3**
	comp=Z,20nm,1.2s,mb5.0						
GUN	**Gumba**	**62.00**	**304**	*e*P	**P**	**07 32 39.8**	**+0.3**
	comp=Z,62nm,1.3s,mb5.5						
PKI	**Pulchoki**	**62.27**	**303**	*e*P	**P**	**07 32 40.0**	**-1.4**
	comp=Z,13nm,1.1s,mb4.9						
KKN	**Kakani**	**62.46**	**304**	*e*P	**P**	**07 32 42.5**	**-0.1**
	comp=Z,38nm,1.0s,mb5.4						
DMN	**Daman**	**62.54**	**303**	*e*P	**P**	**07 32 43.3**	**+0.2**
	comp=Z,41nm,1.2s,mb5.2						
GKN	**Gorkha**	**63.06**	**304**	*e*P	**P**	**07 32 46.6**	**0.0**
	comp=Z,42nm,0.9s,mb5.4						
KOLN	**Koldanda**	**63.85**	**303**	*e*P	**P**	**07 32 51.8**	**-0.1**
	comp=Z,24nm,1.0s,mb5.0						
MKAR	**Makanchi Array**	**72.08**	**322**	P	**P**	**07 33 42.8**	**+0.1**
	comp=Z,4.0nm,1.0s,mb4.2,baz=103,slow=8.7,SNR=17						
ZAL	**Zalesovo**	**73.94**	**329**	P	**P**	**07 33 52.6**	**-0.8**
	comp=Z,1.0nm,0.5s,mb3.8,baz=357,slow=7.4,SNR=7.1						
KZA	**Kyzart**	**75.00**	**315**	P	**P**	**07 34 02.3**	**+2.5**
	SNR=12						
VNDA	**Vanda**	**75.02**	**176**	P	**P**	**07 34 00.3**	**+1.1**
	comp=Z,1.0nm,0.7s,mb3.6,baz=326,slow=7.6,SNR=5.7						
VNDA				LR	LR	08 07 14.6	
	comp=Z,125nm,18.2s,baz=187,slow=36						
VNDA	**Vanda**	**75.02**	**176**	*e*P	**P**	**07 34 00.2**	**+1.0**
	comp=Z,1.1nm,0.6s,mb3.8						
TKM2	**Tokmak 2**	**75.03**	**316**	P	**P**	**07 34 01.3**	**+1.4**
	SNR=6.8						
UCH	**Uchtor**	**75.57**	**315**	P	**P**	**07 34 05.0**	**+2.0**
	SNR=8.6						
USP	**Ospenovka**	**75.90**	**316**	P	**P**	**07 34 05.5**	**+0.6**
	SNR=10.0						
EKS2	**Erkin-Say**	**76.22**	**315**	P	**P**	**07 34 08.2**	**+1.5**
	SNR=5.0						
BVAR	**Borovoye Array**	**81.49**	**325**	P	**P**	**07 34 35.7**	**+0.6**
	comp=Z,4.3nm,0.6s,mb4.4,baz=113,slow=6.3,SNR=30						
CHKZ	**Chkalovo**	**81.55**	**325**	*e*P	**P**	**07 34 35.3**	**-0.1**
	comp=Z,2.9nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**82.27**	**324**	*e*P	**P**	**07 34 39.6**	**+0.5**
	comp=Z,5.8nm,0.7s,mb4.5						
MAW	**Mawson**	**82.80**	**202**	P	**P**	**07 34 43.9**	**+2.4**
	comp=Z,3.4nm,0.8s,mb4.2,baz=58,slow=7.0,SNR=4.5						
MCK	**McKinley**	**83.86**	**25**	*e*P	**P**	**07 34 46.1**	**-0.8**
	comp=Z,6.5nm,1.0s,mb4.4						
COLA	**College**	**84.69**	**24**	*e*P	**P**	**07 34 50.0**	**-1.0**
	comp=Z,6.3nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**85.05**	**24**	P	**P**	**07 34 51.2**	**-1.6**
	comp=Z,6.9nm,0.7s,mb4.7,baz=259,slow=4.8,SNR=86						
INK	**Inuvik**	**91.01**	**22**	P	**P**	**07 35 20.1**	**-1.2**
	comp=Z,4.2nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**99.13**	**27**	P	**P**	**07 35 58.1**	**-0.3**
	comp=Z,0.6nm,0.7s,mb4.2,baz=280,slow=4.8,SNR=9.0						
ROSC	**El Rosal**	**143.96**	**86**	PKP	PKPdf	07 41 53.5	+1.2
	comp=Z,11nm,0.6s,baz=104,slow=2.3,SNR=13						
DBIC	**Dimbokro**	**146.58**	**277**	PKPbc	PKPbc	07 42 01.4	+3.1
	comp=Z,9.7nm,0.9s,baz=66,slow=4.4,SNR=12						
DBIC	**Dimbokro**	**146.58**	**277**	*e*PKPbc	PKPbc	07 42 01.2	+2.9
SDV	**Santo Domingo**	**147.31**	**79**	PKPbc	PKPdf	07 42 02.2	+4.1
	comp=Z,12nm,0.9s,baz=312,slow=2.4,SNR=17						
SDV	**Santo Domingo**	**147.31**	**79**	*e*PKPbc	PKPdf	07 42 02.5	+4.5

*IDC **16** 07:38:23.1±3.3, 21.39S×68.69W, h80km±28km, mb3.8/6, mb1 3.9/8, mb1mx3.7/16, mbtmp4.1/8, Error ellipse: s-maj=31.2km s-min=19.6km az=114.0*
*NEIC **16** 07:38:25.0±0.8, 21.24S×68.78W, h109km±14km, mb3.9/2, Error ellipse: s-maj=16.7km s-min=10.6km az=108.0*
*GUC **16** 07:38:28.4±0.7, 21.90S×68.86W, h157km±12km, ML4.0*
ISC 16 07:38:28.3±0.7, 21.84S±0.06×68.71W±0.08, h157km, n20, σ1°23/26, mb3.7/5, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.17**	**156**	⇑*iP*	**P**	**07 38 56.3**	**+0.9**
SPCH				*i* S	**S**	**07 39 18.0**	**+1.7**
SPCH				AMP		07 39 28.8	
	comp=E,972nm,0.6s						
CEN1	**Los Morros**	**2.07**	**221**	*eP*	**P**	**07 39 06.4**	**+1.5**
CEN1				*i* S	**S**	**07 39 35.8**	**+2.6**
CEN1				AMP		07 39 42.5	
	comp=N,731nm,0.9s						
ANCH	**Antofagasta**	**2.41**	**220**	*eP*	**P**	**07 39 08.4**	**-0.7**
ANCH				*i* S	**S**	**07 39 38.2**	**-2.4**
ANCH				AMP		07 39 46.1	
	comp=N,779nm,0.4s						
CPN1	**Cerro Paranal**	**3.18**	**209**	*eP*	**P**	**07 39 19.0**	**+0.1**
CPN1				*i* S	**S**	**07 39 57.1**	**-0.6**
CPN1				AMP		07 40 20.9	
	comp=E,422nm,0.5s						
ARE	**Arequipa**	**5.96**	**333**	*eP*	**P**	**07 39 44.0**	**-11**
ARE				*i* S	**S**	**07 40 46.2**	**-17**
SIV	**San Ignacio**	**9.28**	**52**	P	**P**	**07 40 30.7**	**-8.8**
	comp=E,4.4nm,0.3s,baz=247,slow=12,SNR=144						
SIV				S	**S**	**07 42 04.9**	**-17**
	baz=299,slow=22,SNR=2.1						
CFAA	**Coronel Fontan**	**9.74**	**178**	P	**P**	**07 40 45.5**	**0.0**
	comp=E,0.1nm,0.3s,baz=360,slow=14,SNR=14						
CFAA				S	**S**	**07 42 31.3**	**-1.7**
	comp=E,0.2nm,0.3s,baz=122,slow=20,SNR=8.7						
CFAA	**Coronel Fontan**	**9.74**	**178**	P	**P**	**07 40 45.5**	**0.0**
CFAA				S	**S**	**07 42 31.3**	**-1.7**
TRQA	**Tornquist**	**17.17**	**162**	*eP*	**P**	**07 42 23.7**	**+3.6**
	comp=E,2.3nm,0.4s						
PLCA	**Paso Flores**	**18.90**	**184**	P	**P**	**07 42 42.6**	**+3.5**
	comp=E,0.3nm,0.3s,baz=7.0,slow=11,SNR=9.0						
PLCA	**Paso Flores**	**18.90**	**184**	*eP*	**P**	**07 42 44.0**	**+4.9**
	comp=E,7.2nm,0.9s						
BDFB	**Brasilia**	**20.54**	**76**	P	**P**	**07 42 55.1**	**-0.9**
	comp=E,18nm,0.5s,baz=249,slow=8.4,SNR=40						
BAO	**Brasilia Array**	**20.56**	**76**	P	**P**	**07 42 55.0**	**-1.2**
SNAA	**Sanae**	**61.90**	**161**	P	**P**	**07 48 37.0**	**+4.1**
	comp=E,0.8nm,0.6s,mb3.7,baz=282,slow=6.0,SNR=8.9						
DBIC	**Dimbokro**	**68.66**	**73**	P	**P**	**07 49 16.9**	**-0.1**
	comp=E,1.7nm,0.6s,mb4.0,baz=172,slow=8.4,SNR=5.5						
PDAR	**Pinedale Array**	**74.49**	**330**	P	**P**	**07 49 51.2**	**+0.1**
	comp=E,0.4nm,0.8s,mb3.2,baz=124,slow=6.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.30**	**70**	P	**P**	**07 50 07.8**	**+0.3**
	comp=E,2.0nm,0.5s,mb4.0,baz=254,slow=5.3,SNR=27						
YKA	**Yellowknife Ar**	**91.56**	**341**	P	**P**	**07 51 17.9**	**0.0**
	comp=E,0.3nm,0.7s,mb3.5,baz=130,slow=4.1,SNR=6.3						
WRA	**Warramunga Array**	**132.75**	**210**	PKP	PKPdf	07 57 30.2	+4.8
	comp=E,0.4nm,0.6s,baz=156,slow=1.8,SNR=9.5						
MKAR	**Makanchi Array**	**145.80**	**36**	PKPbc	PKPbc	07 57 52.7	+3.8
	comp=E,0.8nm,0.6s,baz=325,slow=3.1,SNR=7.5						

SKHL 16 07:41:53.0±0.1, 52.80N×143.30E, h10km, mb4.0/2, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	**0.78**	**344**	⇑*iP*g	Pg	07 42 10.0	+1.3
OKH				AMB	AMB	07 42 10.2	
	500nm,0.2s						
OKH				*e*rx	rx	07 42 17.5	
OKH				*i* Sg	Sg	07 42 21.8	+2.6
OKH				A		07

s-maj=106.1km s-min=25.2km az=58.0
JMA ***16*** *08:02:23.7±0.2,36.21N×137.25E,h253km±2km,M3.2*
ISC 16 08:02:22.9±0.7,36.2N±0.1×137.2E±0.1,h259km±6km,n18,
σ0§40/21,mb3.0/2,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.08**	**72**	*eS*	**S**	**08 03 21.7**	**-0.5**
JGM	**Miyama**	**0.64**	**219**	P	**P**	**08 02 57.5**	**0.0**
JGM				S	**S**	**08 03 23.6**	**-0.9**
JKG	**Kaga**	**0.72**	**276**	P	**P**	**08 02 58.0**	**+0.2**
MAT	**Matsushiro**	**0.87**	**66**	P	**P**	**08 02 58.5**	**+0.1**
MAT				S	**S**	**08 03 26.4**	**+0.3**
MAT	**Matsushiro**	**0.87**	**66**	P	**P**	**08 02 58.4**	**0.0**
MJAR	**Matsushiro Arr**	**0.87**	**66**	P	**P**	**08 02 58.7**	**+0.3**
	9.5nm,0.3s,baz=242,slow=5.9,SNR=60						
MJAR				S	**S**	**08 03 26.2**	**+0.1**
	baz=252,slow=28,SNR=2.6						
JYN	**Shimob**	**1.28**	**123**	P	**P**	**08 03 00.9**	**0.0**
JRY	**Ryogami san**	**1.37**	**97**	P	**P**	**08 03 01.6**	**+0.1**
JWT	**Wachi**	**1.74**	**239**	P	**P**	**08 03 04.2**	**0.0**
JOD2	**Odawara 2**	**1.78**	**121**	P	**P**	**08 03 04.9**	**+0.3**
JAG	**Ashikaga**	**1.82**	**82**	P	**P**	**08 03 04.3**	**-0.5**
JIE	**Ise**	**1.85**	**193**	P	**P**	**08 03 05.7**	**+0.6**
JSD	**Sado**	**2.02**	**24**	P	**P**	**08 03 06.6**	**+0.1**
JNS	**Sasagawa**	**2.33**	**45**	P	**P**	**08 03 09.5**	**0.0**
JWY	**Kouya**	**2.38**	**214**	P	**P**	**08 03 10.6**	**+0.6**
JWZ	**Kozaga**	**2.94**	**205**	P	**P**	**08 03 15.8**	**+0.1**
MKAR	**Makanchi Array**	**41.71**	**302**	P	**P**	**08 09 48.0**	**+0.1**
	0.2nm,0.5s,mb2.6,baz=94,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**55.90**	**183**	P	**P**	**08 11 35.2**	**-0.8**
	0.6nm,0.3s,mb3.5,baz=0.1,slow=7.7,SNR=16						

IDC ***16*** *08:16:59.4±2.3,30.13N×114.17W,mb3.5/1,mb1 3.5/7, mb1mx3.4/21,mbtmp3.2/7,ML4.0/3,MS3.4/2,Ms1 3.4/2, ms1mx2.9/22, Error ellipse: s-maj=36.6km s-min=13.5km az=33.0*
NEIC ***16*** *08:17:01.4±1.8,30.18N×114.06W,h10km,mb3.9/1,Error ellipse: s-maj=24.5km s-min=9.9km az=206.0*
ISC 16 08:16:59.9±1.5,30.3N±0.1×113.99W±0.09,h10km,n26,
σ1§46/26,mb3.6/2,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	**3.30**	**317**	*eP*	**Pn**	**08 17 46.2**	**-6.5**
TUC	**Tucson**	**3.40**	**53**	*eP*	**Pn**	**08 17 51.9**	**-2.2**
LDFC	**Landfair**	**4.86**	**349**	*eP*	**Pn**	**08 18 12.3**	**-2.6**
MWC	**Mount Wilson**	**5.21**	**320**	P	**Pn**	**08 18 19.6**	**-0.2**
WUAZ	**Wupatki**	**5.65**	**22**	*eP*	**Pn**	**08 18 21.3**	**-4.7**
DAC	**Darwin (Calif)**	**6.68**	**334**	P	**Pn**	**08 18 37.3**	**-3.2**
LAC	**Ladron**	**7.09**	**53**	*eP*	**Pn**	**08 18 48.7**	**+2.4**
BNM	**Barren Site**	**7.32**	**58**	*eP*	**Pn**	**08 18 48.3**	**-1.2**
ARUT	**Antelope Range**	**7.49**	**3**	*eP*	**Pn**	**08 18 47.5**	**-4.3**
MNTX	**Cornudas Mount**	**7.52**	**77**	*eP*	**Pn**	**08 18 51.6**	**-0.7**
ANMO	**Albuquerque**	**7.86**	**52**	Pn	**Pn**	**08 18 58.2**	**+1.2**
	baz=324,slow=6.6,SNR=4.1						
ANMO				Lg		08 21 16.4	
	baz=290,slow=12,SNR=2.4						
MVU	**Marysvale**	**8.32**	**10**	*eP*	**P**	**08 19 02.1**	**-1.3**
MSU	**Marysvale**	**8.33**	**10**	*eP*	**P**	**08 19 03.5**	**-0.1**
NVAR	**Mina Array Bea**	**8.86**	**337**	Pn	**P**	**08 19 11.6**	**+0.6**
	0.0nm,0.3s,baz=163,slow=16,SNR=4.4						
NVAR	**Mina Array Bea**	**8.86**	**337**	Pn	**P**	**08 19 11.6**	**+0.6**
PV01	**Paradox Valley**	**9.01**	**28**	P	**P**	**08 19 12.8**	**-0.3**
LTX	**Lajitas**	**9.02**	**94**	*eP*	**P**	**08 19 12.2**	**-1.0**
TXAR	**Lajitas Array**	**9.02**	**94**	Pn	**P**	**08 19 14.4**	**+1.2**
	0.3nm,0.3s,baz=265,slow=15,SNR=18						
TXAR				Lg		08 21 58.8	
	0.2nm,0.3s,baz=263,slow=30,SNR=4.6						
TXAR				LR	LR	08 23 09.2	
	comp=Z,255nm,18.8s,baz=350,slow=40						
PV10	**Paradox Valley**	**9.04**	**26**	P	**P**	**08 19 15.4**	**+2.0**
SDCO	**Great Sand Dun**	**10.23**	**41**	*eP*	**P**	**08 19 29.7**	**-0.2**
ELK	**Elko**	**10.47**	**355**	Pn	**P**	**08 19 36.6**	**+3.5**
	0.1nm,0.3s,baz=180,slow=15,SNR=2.6						
ELK				Lg		08 22 46.4	
	0.1nm,0.3s,baz=218,slow=17,SNR=2.8						
PDAR	**Pinedale Array**	**12.94**	**15**	Pn	**P**	**08 20 09.8**	**+3.3**
	0.1nm,0.3s,baz=147,slow=15,SNR=4.5						
PDAR				Lg		08 24 05.6	
	0.0nm,0.3s,baz=177,slow=31,SNR=3.2						
YBH	**Yreka Blue Hor**	**13.41**	**331**	Pn	**P**	**08 20 14.1**	**+1.4**
	0.2nm,0.3s,baz=123,slow=17,SNR=2.9						
YBH				LR	LR	08 24 55.3	
	comp=Z,164nm,19.9s,baz=156,slow=35						
EDM	**Edmonton**	**22.91**	**1**	P	**P**	**08 22 07.4**	**+2.6**
FCC	**Fort Churchill**	**31.55**	**20**	P	**P**	**08 23 24.2**	**0.0**
	1.0nm,0.7s,mb3.8						
ILAR	**Eielson Array**	**40.12**	**339**	P	**P**	**08 24 36.4**	**-0.7**
	0.6nm,0.8s,mb3.4,baz=143,slow=7.6,SNR=9.5						

IDC ***16*** *08:54:12.2±1.1,17.44S×176.63W,mb3.7/4,mb1 4.0/5, mb1mx3.9/14,mbtmp3.7/5,MS4.0/11,Ms1 4.0/11, ms1mx3.7/26,Error ellipse: s-maj=50.0km s-min=27.1km az=138.0*
NEIC ***16*** *08:54:15.7±0.7,17.32S×176.66W,h20km,mb4.5/1,Error ellipse: s-maj=28.8km s-min=14.5km az=144.0*
ISC 16 08:54:13.1±4.4,17.5S±0.2×176.6W±0.1,h18km±31km,n26,
σ1§15/10,mb3.9/5,MS4.1/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.80**	**53**	Pn	**Pn**	**08 55 39.8**	**-0.7**
	1.5nm,0.3s,baz=56,slow=21,SNR=4.6						
AFI				LR	LR	08 57 12.4	
	comp=Z,200nm,18.2s,baz=226,slow=31						
AFI	**Afiamalu**	**5.80**	**53**	*e*Pn	**Pn**	**08 55 40.1**	**-0.4**
AFI				LR	LR	08 57 12.4	
RAO	**Raoul Island**	**11.80**	**186**	LR	LR	09 00 47.3	
	comp=Z,1µm,19.8s,baz=20,slow=33						
RAR	**Rarotonga**	**16.27**	**106**	LR	LR	09 02 46.2	
	comp=Z,276nm,19.7s,baz=246,slow=31						
URZ	**Urewera**	**21.45**	**194**	LR	LR	09 06 42.2	
	comp=Z,586nm,19.2s,MS4.0,baz=30,slow=35						
PAE	**Paea**	**25.71**	**95**	*e*T		09 00 28.7	
	8.5nm,0.2s						
PPT	**Papeete**	**25.72**	**94**	*e*T		09 00 28.8	
	2.5nm,0.3s						
PPT	**Papeete**	**25.72**	**94**	*e*LQ		09 04 54.1	
PPT				eLR	LR	09 05 49.7	
	839nm,27.5s,baz=266						
TVO	**Taravao**	**26.02**	**95**	*e*T		09 00 52.9	
	6.3nm,0.4s						
TBI	**Tubuai**	**26.04**	**108**	*e*LQ		09 05 02.5	
TBI				eLR	LR	09 05 58.6	
	555nm,30.0s,baz=288						
CTAO	**Charters Tower**	**35.27**	**260**	*e*P	**P**	**09 01 09.1**	**-0.1**
	7.3nm,1.0s,mb4.6						
TAOE	**Nuku Hiva Isla**	**36.41**	**81**	*e*LR	LR	09 01 47.9	
	430nm,26.2s						
TAOE	**Nuku Hiva Isla**	**36.41**	**81**	*e*LR	LR	09 10 52.4	
	950nm,33.3s						
RKT	**Rikitea**	**39.31**	**105**	*e*S	**S**	**09 07 41.6**	**-1.2**
RKT				eLR	LR	09 12 07.1	
	382nm,27.8s,baz=278						
WRA	**Warramunga Arr**	**46.45**	**259**	P	**P**	**09 02 40.0**	**-1.2**
	1.1nm,0.8s,mb3.8,baz=95,slow=6.1,SNR=9.9						
VNDA	**Vanda**	**61.05**	**185**	P	**P**	**09 04 27.3**	**-0.5**
	0.6nm,0.8s,mb3.8,baz=34,slow=7.7,SNR=3.3						
VNDA				LR	LR	09 27 48.4	
	comp=Z,57nm,19.1s,MS3.7,baz=8.7,slow=33						
VNDA	**Vanda**	**61.05**	**185**	P	**P**	**09 04 27.3**	**-0.5**
VNDA				LR	LR	09 27 48.4	
QSPA	**South Pole Qui**	**72.59**	**180**	*e*P	**P**	**09 05 43.6**	**+2.9**
BBB	**Bella Bella**	**81.09**	**28**	LR	LR	09 34 37.7	
	comp=Z,189nm,20.3s,MS4.4,baz=323,slow=30						
TXAR	**Lajitas Array**	**84.26**	**57**	LR	LR	09 35 59.1	
	comp=Z,106nm,18.8s,MS4.2,baz=285,slow=30						
MAW	**Mawson**	**84.87**	**199**	LR	LR	09 41 29.3	
	comp=Z,70nm,19.8s,MS4.0,baz=240,slow=33						
ILAR	**Eielson Array**	**85.06**	**12**	P	**P**	**09 06 48.6**	**-0.1**
	0.3nm,0.6s,mb3.6,baz=224,slow=6.0,SNR=6.0						
ILAR				LR	LR	09 38 56.7	
	comp=Z,80nm,19.2s,MS4.1,baz=183,slow=32						
PDAR	**Pinedale Array**	**85.81**	**43**	P	**P**	**09 06 54.6**	**+1.6**
	0.4nm,0.7s,mb3.8,baz=256,slow=3.7,SNR=3.5						
USHA	**Ushuaia**	**85.90**	**147**	LR	LR	09 36 48.0	
	comp=Z,97nm,22.0s,MS4.2,baz=50,slow=30						
YKA	**Yellowknife Ar**	**93.19**	**24**	LR	LR	09 41 47.0	
	comp=Z,99nm,20.1s,MS4.3,baz=235,slow=31						
BRTR	**Keskin Array B**	**145.70**	**317**	PKPbc	PKPbc	09 13 54.4	+2.7
	0.6nm,0.5s,baz=153,slow=3.2,SNR=3.1						

BJI ***16*** *09:04:45.6,55.88N×161.65E,h43km,mB4.8,mb4.7, Ms4.5,Msz4.4*
KRSC ***16*** *09:04:45.8±0.7,55.55N×162.18E,h74km±6km,ML5.1*
IDC ***16*** *09:04:45.1±2.2,55.63N×161.87E,h36km±19km,mb4.2/21, mb1 4.5/23,mb1mx4.4/25,mbtmp4.5/23,ML4.4/2,MS3.7/6, Ms1 3.7/6,ms1mx3.3/31,Error ellipse: s-maj=16.6km s-min=11.3km az=170.0*
NEIC ***16*** *09:04:46.7±0.9,55.68N×161.84E,h50km±8km,mb4.7/47, Error ellipse: s-maj=5.2km s-min=3.2km az=171.0*
MOS ***16*** *09:04:46.6±1.0,55.63N×161.88E,h69km,mb4.8/34,Error ellipse: s-maj=10.2km s-min=5.6km az=82.0*
ISC 16 09:04:47.1±0.3,55.56N±0.02×162.02E±0.04,h74km±2km,
h37km±4.1km:pP-P,n213,σ1§05/226,mb4.6/77,4C-2D,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.79**	**35**	*i* P	**P**	**09 05 02.2**	**-1.3**
ZLN	**Zelenaya**	**0.82**	**304**	*i* P	**P**	**09 05 04.1**	**+0.2**
CIRR	**Tsirk**	**0.90**	**308**	*i* P	**P**	**09 05 05.0**	**+0.2**
LGNR	**Loginova**	**0.91**	**305**	*i* P	**P**	**09 05 05.5**	**+0.6**
MKZ	**Mys Kozlova**	**1.02**	**189**	P	**P**	**09 05 04.9**	**-1.4**
MKZ				S	**S**	**09 05 18.4**	**-2.3**
MKZ	**Mys Kozlova**	**1.02**	**189**	*i* P	**P**	**09 05 04.9**	**-1.4**
KMNR	**Kamenistaya**	**1.03**	**282**	*i* P	**P**	**09 05 07.0**	**+0.6**
SMKR	**Semkarok**	**1.07**	**344**	*i* P	**P**	**09 05 07.2**	**+0.3**
KLY	**Klyuchi**	**1.07**	**315**	P	**P**	**09 05 06.0**	**-1.0**
KLY				S	**S**	**09 05 20.3**	**-1.5**
KLY	**Klyuchi**	**1.07**	**315**	*i* P	**P**	**09 05 05.9**	**-1.1**
KPT	**Kopyto**	**1.09**	**293**	*i* P	**P**	**09 05 07.6**	**+0.4**
KPT				*e*S	**S**	**09 05 23.8**	**+1.6**
TUMR	**Tumrok**	**1.10**	**256**	*i* P	**P**	**09 05 08.0**	**+0.6**
TUMR				*e*S	**S**	**09 05 23.8**	**+1.4**
BDR	**Baidarnaya**	**1.10**	**336**	*i* P	**P**	**09 05 07.3**	**-0.1**
SRKR	**Sorokina**	**1.19**	**337**	*i* P	**P**	**09 05 08.9**	**+0.4**
KOZR	**Kozyr**	**1.30**	**294**	PN	**P**	**09 05 11.2**	**+1.2**
KOZ	**Kozyrevsk**	**1.31**	**293**	P	**P**	**09 05 11.2**	**+1.0**
KOZ				S	**S**	**09 05 29.4**	**+2.1**
KOZ	**Kozyrevsk**	**1.31**	**293**	*i* P	**P**	**09 05 11.0**	**+0.8**
KOZ				*e*S	**S**	**09 05 29.4**	**+2.1**
SRDR	**Sredinnyy**	**1.50**	**301**	*i* P	**P**	**09 05 13.3**	**+0.6**
SRDR				*e*S	**S**	**09 05 33.5**	**+1.9**
ESO	**Esso**	**1.91**	**282**	*i* P	**P**	**09 05 18.3**	**+0.1**
ESO				Smax			
	2µm,0.9s						
KII	**Karymskiy**	**2.13**	**225**	P	**P**	**09 05 22.0**	**+0.7**
KII				S	**S**	**09 05 48.5**	**+1.9**
KII	**Karymskiy**	**2.13**	**225**	*i* P	**P**	**09 05 21.8**	**+0.5**
BKI	**Bering**	**2.29**	**97**	*i* P	**P**	**09 05 20.4**	**-3.1**
BKI				*i* S	**S**	**09 05 45.5**	**-5.0**
BKI				Smax			
	2µm,0.2s						
SPN	**Mys Shipunski**	**2.73**	**206**	P	**P**	**09 05 28.5**	**-1.3**
SPN				S	**S**	**09 05 59.4**	**-2.3**
SPN	**Mys Shipunski**	**2.73**	**206**	*i* P	**P**	**09 05 28.6**	**-1.2**
NLC	**Nalytchevo**	**2.86**	**214**	*i* P	**P**	**09 05 31.3**	**-0.3**
NLC				*e*S	**S**	**09 06 04.5**	**-0.4**
SMAR	**Somma**	**2.97**	**221**	*e*P	**P**	**09 05 33.4**	**+0.2**
AVH	**Avacha**	**2.99**	**221**	*e*P	**P**	**09 05 34.0**	**+0.5**
AVH				*e*S	**S**	**09 06 08.8**	**+0.5**
UGLR	**Uglovaya**	**3.01**	**220**	*i* P	**P**	**09 05 34.0**	**+0.4**
KOK	**Koryaka**	**3.01**	**222**	*e*P	**P**	**09 05 34.4**	**+0.7**
GNL	**Ganaly**	**3.02**	**233**	*i* P	**P**	**09 05 34.4**	**+0.6**
PET	**Petropavlovsk**	**3.22**	**219**	*e*P	**P**	**09 05 36.8**	**+0.2**
PET				*e*S	**S**	**09 06 14.2**	**+0.3**
PET	**Petropavlovsk**	**3.22**	**219**	*e*Pn	**P**	**09 05 36.2**	**-0.3**
KRMR	**Karymshinskiy**	**3.56**	**221**	*e*P	**P**	**09 05 42.0**	**+0.6**
KRMR				*e*S	**S**	**09 06 22.3**	**-0.2**
OSSR	**Ossora**	**3.74**	**8**	*i* P	**P**	**09 05 40.2**	**-3.7**
OSSR				Smax			
	320nm,0.4s						
RUS	**Russkaya**	**3.75**	**215**	P	**P**	**09 05 43.5**	**-0.5**
RUS				S	**S**	**09 06 26.0**	**-1.3**
RUS	**Russkaya**	**3.75**	**215**	*i* P	**P**	**09 05 43.3**	**-0.7**
RUS				*e*S	**S**	**09 06 26.0**	**-1.3**
GRL	**Gorelyy**	**3.81**	**219**	*e*P	**P**	**09 05 45.7**	**+0.9**
GRL				*e*S	**S**	**09 06 28.2**	**-0.4**
APC	**Apacha**	**3.88**	**229**	*i* P	**P**	**09 05 45.7**	**-0.2**
APC				Smax			
	200nm,1.0s						
PAU	**Pauzhetka**	**5.14**	**219**	*e*P	**P**	**09 06 03.2**	**-0.1**
PAU				Smax			
	340nm,0.7s						
SKR	**Severo-Kuril's**	**6.04**	**218**	*e*P	**P**	**09 06 14.2**	**-1.5**
FX1	**Attu Island--F**	**7.07**	**108**	Pn	**P**	**09 06 26.5**	**-3.5**
	33nm,0.3s,baz=358,slow=3.8,SNR=12						
FX1				Sn	**S**	**09 07 40.4**	**-9.1**
	32nm,0.3s,baz=131,slow=22,SNR=9.5						
FX1	**Attu Island--F**	**7.07**	**108**	*e*P	**P**	**09 06 26.1**	**-3.9**
KAMR	**Kamenskoye**	**7.25**	**16**	*e*P	**P**	**09 06 30.6**	**-1.9**
KAMR				Smax			
	70nm,1.3s						
BILL	**Bilibino**	**12.68**	**7**	*c i*PN	**P**	**09 07 48.5**	**+2.7**
BILL				pmax	pmax		
	comp=Z,40nm,1.3s						
BILL				MLR	MLR		
	comp=Z,200nm,20.0s						
BILL	**Bilibino**	**12.68**	**7**	P	**P**	**09 07 39.7**	**-6.1**
	comp=Z,42nm,1.3s						
ASAJ	**Asahikawa**	**16.90**	**235**	Pn	**P**	**09 08 40.2**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=65,slow=6.9,SNR=11						
ASAJ	**Asahikawa**	**16.90**	**235**	P	**P**	**09 08 40.3**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**17.81**	**304**	*e*P	**P**	**09 08 51.9**	**+0.7**
YAK				pmax	pmax		
	comp=Z,45nm,1.1s						
YAK				MLR	MLR		
	comp=Z,200nm,20.0s						
YAK	**Yakutsk**	**17.81**	**304**	P	**P**	**09 08 47.5**	**-3.7**
	comp=Z,27nm,0.6s						
HABR	**Khabarovsk**	**17.97**	**258**	*e*P	**P**	**09 08 50.8**	**-2.4**
CLNS	**Chul'man**	**20.53**	**289**	*e*P	**P**	**09 09 27.6**	**+6.2**
CLNS				pmax	pmax		
	comp=N,14nm,0.8s						
CLNS				pmax	pmax		
	comp=E,21nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,19nm,0.8s						
TIXI	**Tiksi**	**21.37**	**332**	*i* P	**P**	**09 09 27.8**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,45nm,1.0s,mb4.8						
MDJ	**Mudanjiang**	**23.29**	**256**	P	**P**	**09 09 48.4**	**-0.2**
MDJ				S	**S**	**09 13 57.8**	**+5.9**
MDJ				AMB	AMB		
	comp=Z,80nm,3.2s						
KDAK	**Kodiak Island**	**24.69**	**66**	P	**P**	**09 10 01.9**	**-0.2**
	comp=Z,22nm,0.8s,mb4.6,baz=128,slow=8.1,SNR=5.7						
MAJO	**Matsushiro**	**24.98**	**230**	*e*P	**P**	**09 10 05.1**	**0.0**
MAJO				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**24.98**	**230**	*e*P	**P**	**09 10 05.1**	**0.0**
	comp=Z,21nm,0.8s,mb4.6						
MAT	**Matsushiro**	**24.98**	**230**	P	**P**	**09 10 05.3**	**+0.2**
MAT	**Matsushiro**	**24.98**	**230**	*e*P	**P**	**09 10 05.0**	**-0.1**
MAT				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.5						
MAT	**Matsushiro**	**24.98**	**230**	*e*P	**P**	**09 10 05.0**	**-0.1**
	comp=Z,18nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**24.98**	**230**	P	**P**	**09 10 05.4**	**+0.4**
	comp=Z,18nm,0.9s,mb4.5,baz=27,slow=8.3,SNR=30						
MJAR				LR	LR	09 20 56.0	
	comp=Z,95nm,19.9s,baz=25,slow=39						
MCK	**McKinley**	**25.49**	**51**	*e*P	**P**	**09 10 08.3**	**-1.2**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
MCK	**McKinley**	**25.49**	**51**	*e*P	**P**	**09 10 08.3**	**-1.2**
	comp=Z,7.7nm,1.1s,mb4.0						
COLA	**College**	**25.89**	**49**	*e*P	**P**	**09 10 12.8**	**-0.4**
COLA	**College**	**25.89**	**49**	*e*P	**P**	**09 10 12.7**	**-0.6**
	comp=Z,9.9nm,1.1s,mb4.2						
SML	**Sawmill**	**25.99**	**56**	*e*P	**P**	**09 10 13.3**	**-0.9**
BOD	**Bodaibo**	**26.03**	**295**	*e*P	**P**	**09 10 12.2**	**-2.4**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
CN2	**Changchun**	**26.10**	**259**	*e*P	**P**	**09 10 16.6**	**+1.1**
HIA	**Hailar**	**26.21**	**274**	*e*P	**P**	**09 10 18.7**	**+2.3**
HIA				pmax	pmax		
	comp=Z,12nm,0.8s						
HIA	**Hailar**	**26.21**	**274**	*e*P	**P**	**09 10 18.7**	**+2.4**
	comp=Z,12nm,0.8s,mb4.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**26.31**	**49**	P	**P**	**09 10 16.9**	**-0.2**
	comp=Z,5.2nm,0.9s,mb4.0,baz=268,slow=7.9,SNR=44						
INK	**Inuvik**	**31.24**	**40**	P	**P**	**09 11 01.2**	**0.0**
	comp=Z,2.4nm,0.5s,mb4.2,baz=271,slow=4.7,SNR=47						
INK				PcP	PcP	09 13 53.7	-0.6
	comp=Z,0.7nm,0.5s,baz=330,slow=3.6,SNR=5.1						
INK	**Inuvik**	**31.24**	**40**	P	**P**	**09 11 01.3**	**0.0**
INK						09 13 53.7	
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**31.24**	**40**	*e*P	**P**	**09 11 00.7**	**-0.5**
	comp=Z,6.5nm,0.9s,mb4.4						
SONM	**Songino Array**	**34.49**	**281**	P	**P**	**09 11 30.2**	**+0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=53,slow=7.2,SNR=8.5						
SONM				PcP	PcP	09 14 03.0	-0.5
	comp=Z,1.4nm,0.5s,baz=69,slow=1.9,SNR=10						
SONM				ScP		09 17 44.6	
	comp=Z,0.5nm,0.7s,baz=72,slow=4.6,SNR=3.4						
SONM				LR	LR	09 25 25.2	
	comp=Z,94nm,19.2s,baz=322,slow=36						
SSE	**Sheshan**	**37.66**	**247**	P	**P**	**09 11 57.0**	**+0.5**
SSE				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,80nm,5.9s						
NJ2	**Nanjing**	**38.14**	**250**	*e*P	**P**	**09 12 02.6**	**+2.1**
NJ2				AP	pP	09 12 12.3	-6.2
NJ2				XP	sP	09 12 16.3	-11
NJ2				PP	PP	09 13 33.3	+1.5
NJ2				S	**S**	**09 17 52.0**	**+4.2**
NJ2				XS		09 18 07.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,130nm,5.3s						
NJ2				LR	LR		
	comp=N,400nm,19.0s						
NJ2				LR	LR		
	comp=E,430nm,20.8s						
NJ2				LR	LR		
	comp=Z,640nm,26.0s						
YKW3	**Yellowknife Ar**	**40.56**	**45**	*e*P	**P**	**09 12 20.0**	**-0.2**
YKA	**Yellowknife Ar**	**40.60**	**45**	P	**P**	**09 12 21.2**	**+0.6**
	comp=Z,3.0nm,0.5s,mb4.4,baz=300,slow=8.2,SNR=15						
YKA				PcP	PcP	09 14 21.8	-0.3
	comp=Z,0.9nm,0.6s,baz=308,slow=3.6,SNR=9.1						
RES	**Resolute Bay**	**40.61**	**23**	*e*P	**P**	**09 12 19.9**	**-0.6**
RES				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
RES	**Resolute Bay**	**40.61**	**23**	*e*P	**P**	**09 12 19.9**	**-0.7**
	comp=Z,7.3nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**42.44**	**301**	LR	LR	09 31 29.9	
	comp=Z,72nm,18.2s,baz=34,slow=38						
GTA	**Gaotai**	**43.48**	**275**	P	**P**	**09 12 50.0**	**+5.7**
GTA				AP	pP	09 13 00.3	-2.2
GTA				XP	sP	09 13 03.9	-7.2
GTA				SCP		09 18 23.8	
GTA				AMB	AMB		
	comp=Z,110nm,10.6s						
GTA				LR	LR		
	comp=N,150nm,15.6s						
GTA				LR	LR		
	comp=E,210nm,13.7s						
GTA				LR	LR		
	comp=Z,210nm,13.3s						
LZH	**Lanzhou**	**43.51**	**268**	*e*P	**P**	**09 12 43.5**	**-1.1**
LZH				AP	pP	09 12 53.4	-9.4
LZH				XP	sP	09 12 57.3	-14
LZH				PP	PP	09 14 26.3	-2.4
LZH				*e*S	**S**	**09 19 07.6**	**+0.2**
LZH				*e*SS	SS	09 22 14.5	-1.7
LZH				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.6						
LZH				AMB	AMB		
	comp=Z,90nm,4.5s						
LZH				LR	LR		
	comp=N,630nm,14.6s						
LZH				LR	LR		
	comp=Z,950nm,15.2s						
EDM	**Edmonton**	**46.41**	**56**	*e*P	**P**	**09 13 07.7**	**+0.2**
CD2	**Chengdu**	**47.35**	**264**	*e*P	**P**	**09 13 15.4**	**+0.2**
CD2				PP	PP	09 15 05.8	-0.7
CD2				PPP	PPP	09 15 53.6	-2.3
CD2				S	**S**	**09 20 05.1**	**+2.7**
CD2				SS	SS	09 23 25.6	+1.1
CD2				LR	LR		
	comp=E,160nm,8.4s						
CD2				LR	LR		
	comp=Z,120nm,10.8s						
MKAR	**Makanchi Array**	**48.12**	**295**	P	**P**	**09 13 19.5**	**-1.5**
	comp=Z,0.9nm,0.4s,mb3.9,baz=45,slow=6.6,SNR=15						
MKAR				LR	LR	09 34 51.8	
	comp=Z,85nm,18.2s,baz=81,slow=38						
MKAR	**Makanchi Array**	**48.12**	**295**	*e*P

comp=Z,13nm,1.1s,mb4.9
SNOW Snow King Moun 54.26 64 *e*P **P 09 14 08.3 +0.9**
comp=Z,5.3nm,1.0s,mb4.5
TPH Tonopah 54.73 73 *e*P **P 09 14 11.9 +1.0**
TPH pmax pmax
comp=Z,22nm,1.0s,mb5.1
TPH Tonopah 54.73 73 *e*P **P 09 14 11.9 +0.9**
comp=Z,22nm,1.0s,mb5.1
FRB Frobisher Bay 54.79 25 LR LR 09 38 46.3
comp=Z,96nm,18.4s,baz=145,slow=37
PTRM Twissleman Ran 54.86 77 *e*P **P 09 14 12.9 +1.0**
AAK Ala-Archa 55.01 296⇓*i*P **P 09 14 12.1 -0.7**
AAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
AAK MLR MLR
comp=Z,100nm,17.0s
HWUT Hardware Ranch 55.18 66 *e*P **P 09 14 14.7 +0.6**
comp=Z,14nm,1.1s,mb4.9
BW06 Boulder Array 55.37 63 *e*P **P 09 14 15.7 +0.2**
comp=Z,13nm,1.2s,mb4.8
PDAR Pinedale Array 55.37 63 P **P 09 14 16.4 +0.9**
comp=Z,7.6nm,0.9s,mb4.7,baz=325,slow=3.1,SNR=47
DUG Dugway 55.55 68 *e*P **P 09 14 17.5 +0.7**
DUG pmax pmax
comp=Z,16nm,1.0s,mb5.0
DUG Dugway 55.55 68 *e*P **P 09 14 17.5 +0.7**
comp=Z,16nm,1.0s,mb5.0
JOF Joensuu 55.80 335 *e*p **P 09 14 16.7 -1.5**
comp=Z,6.8nm,0.5s,mb4.9
TPNV Topopah Spring 56.09 73 *e*P **P 09 14 21.2 +0.5**
TPNV pmax pmax
comp=Z,13nm,1.0s,mb4.9
TPNV Topopah Spring 56.09 73 *e*P **P 09 14 21.2 +0.5**
comp=Z,13nm,1.0s,mb4.9
DAU Daniels Canyon 56.21 67 *e*P **P 09 14 22.7 +1.2**
ULM Lac du Bonnet 56.33 49 P **P 09 14 22.2 0.0**
comp=Z,2.7nm,0.4s,mb4.6,baz=306,slow=8.1,SNR=18
KKAR Karatay Array 56.67 299 *i*P **P 09 14 22.2 -2.6**
TMUT Trail Mountain 57.05 67 *e*P **P 09 14 28.4 +0.9**
AB31 Akbulak array 57.05 310 *e*P **P 09 14 25.5 -1.9**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
RSSD Black Hills 57.13 59 *e*P **P 09 14 28.4 +0.4**
RSSD pmax pmax
comp=Z,19nm,1.2s,mb5.0
RSSD Black Hills 57.13 59 *e*P **P 09 14 28.4 +0.4**
comp=Z,19nm,1.2s,mb5.0
SRU San Rafael 57.55 67 *e*P **P 09 14 31.6 +0.6**
SRU pmax pmax
comp=Z,19nm,1.1s,mb5.0
SRU San Rafael 57.55 67 *e*P **P 09 14 31.6 +0.6**
comp=Z,19nm,1.1s,mb5.0
KAF Kangasniemi 57.65 337 *e*p **P 09 14 29.1 -2.3**
comp=Z,5.7nm,0.4s,mb5.0,baz=31,slow=6.7
KAF Kangasniemi 57.65 337 *e*P **P 09 14 29.1 -2.3**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
NEN Nelson 57.81 73 *e*P **P 09 14 33.5 +0.6**
FINES FINESS Array B 58.29 337 *i*P **P 09 14 35.1 -0.8**
comp=Z,9.3nm,0.5s,mb5.1,baz=43,slow=7.5,SNR=82
PV10 Paradox Valley 58.87 67 *e*P **P 09 14 41.3 +1.1**
SMCO Snowmass 59.34 65 *e*P **P 09 14 44.3 +0.9**
comp=Z,3.5nm,0.8s,mb4.4
GUN Gumba 59.76 276 *e*P **P 09 14 45.8 -0.7**
comp=Z,7.9nm,0.4s,mb5.1
JIRN Jiri 59.77 276 *e*P **P 09 14 45.4 -1.2**
comp=Z,5.2nm,0.6s,mb4.8
GKN Gorkha 60.39 277 *e*P **P 09 14 49.7 -1.1**
OBN Obninsk 61.03 328 P **P 09 14 57.0 +2.2**
OBN pmax pmax
comp=Z,38nm,1.8s,mb5.1
OBN MLR MLR
comp=Z,100nm,16.0s
KOLN Koldanda 61.15 278 *e*P **P 09 14 55.8 -0.2**
comp=Z,3.4nm,0.5s,mb4.7
SDCO Great Sand Dun 61.17 65 *e*P **P 09 14 56.8 +0.8**
comp=Z,7.5nm,1.4s,mb4.5
NB2 NORSAR Subarra 61.48 344 P **P 09 14 56.5 -1.2**
comp=Z,4.6nm,0.8s,mb4.6,baz=19,slow=7.0
NB2 NORSAR Subarra 61.48 344 P **P 09 14 56.5 -1.2**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
NOA NORSAR Array B 61.48 344 P **P 09 14 56.6 -1.0**
comp=Z,5.7nm,0.7s,mb4.7,baz=18,slow=6.9,SNR=16
TUC Tucson 62.53 72 *e*P **P 09 15 05.3 +0.1**
TUC pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
TUC Tucson 62.53 72 *e*P **P 09 15 05.3 +0.1**
comp=Z,4.1nm,1.2s,mb4.2
ANMO Albuquerque 62.81 67 *e*P **P 09 15 07.2 +0.2**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 62.81 67 *e*P **P 09 15 07.2 +0.2**
comp=Z,3.3nm,1.0s,mb4.2
LAZ Ladron 62.88 68 *e*P **P 09 15 08.4 +1.0**
SCHQ Schefferville 62.94 29 P **P 09 15 06.3 -1.2**
comp=Z,5.2nm,0.9s,mb4.5,baz=304,slow=11,SNR=4.0
SCHQ Schefferville 62.94 29 P **P 09 15 06.3 -1.2**
MNTX Cornudas Mount 65.90 69 *e*P **P 09 15 27.4 +0.3**
comp=Z,7.2nm,1.2s,mb4.4
WMOK Wichita Mounta 66.92 62 *e*P **P 09 15 33.2 -0.2**
AKASG Malin Array Be 67.06 330 P **P 09 15 33.2 -0.8**
comp=Z,1.6nm,0.4s,mb4.2,baz=29,slow=6.1,SNR=7.1
AKASG Malin Array Be 67.06 330 P **P 09 15 33.2 -0.8**
KIV Kislovodsk 68.39 317 P **P 09 15 39.0 -3.4**
LTX Lajitas 68.67 69 *e*P **P 09 15 45.3 +0.9**
LTX pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
LTX Lajitas 68.67 69 *e*P **P 09 15 45.3 +0.9**
comp=Z,4.8nm,1.2s,mb4.2
TXAR Lajitas Array 68.67 69 P **P 09 15 45.2 +0.8**
comp=Z,2.2nm,0.7s,mb4.1,baz=296,slow=5.0,SNR=28
ANN Anapa 69.61 321 *i*P **P 09 15 41.7 -8.2**
JCT Junction City 69.79 66 *e*P **P 09 15 50.9 -0.3**
JCT pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
JCT Junction City 69.79 66 *e*P **P 09 15 50.9 -0.3**
comp=Z,4.8nm,0.9s,mb4.3
OJC Ojcow 69.98 335 *e*P **P 09 15 52.5 +0.4**
KSP Ksiaz 70.20 338 *e*P **P 09 15 53.7 +0.4**
KSP Ksiaz 70.20 338 *e*P **P 09 15 53.2 -0.1**
STHS Stebnicka Huta 70.38 334 *i*P **P 09 15 55.8 +1.4**
CLL Collm 70.43 340 P **P 09 15 54.6 -0.1**
comp=Z,logA/T=1.2,mb4.8
CLL Collm 70.43 340 *i*P **P 09 15 54.6 -0.1**
CLL pmax pmax
comp=Z,22nm,1.4s,mb4.8
CLL Collm 70.43 340 *i*P **P 09 15 54.6 -0.1**
comp=Z,22nm,1.4s,mb4.8
CLL *i*pP pP 09 16 04.8 -10
KOLS Kolonicke sedl 70.56 333 *i*P **P 09 15 56.1 +0.5**
UPC Upice 70.57 338 *e*P **P 09 15 55.8 +0.2**
DPC Dobruska-Polom 70.66 337 *e*P **P 09 15 55.9 -0.2**
MORC Moravsky Berou 70.92 337 *e*P **P 09 15 56.6 -1.1**
MORC pmax pmax
comp=Z,18nm,1.4s,mb4.7
MORC Moravsky Berou 70.92 337 *e*P **P 09 15 56.6 -1.1**
comp=Z,18nm,1.4s,mb4.7
KHC Kasperske Hory 72.39 339 *e*P **P 09 16 06.8 +0.3**
KHC Kasperske Hory 72.39 339⇑*e*P **P 09 16 06.5 0.0**
GERES GERESS Array B 72.64 339 P **P 09 16 08.1 +0.3**
comp=Z,2.1nm,0.6s,mb4.1,baz=34,slow=4.8,SNR=4.3
CDF Champ du Feu 74.25 343 *e*P **P 09 16 17.4 +0.1**
comp=Z,16nm,0.9s,mb4.4
CDF Champ du Feu 74.25 343 *e*P **P 09 16 17.4 +0.1**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
HAU Haudompre 74.80 343 *e*P **P 09 16 20.5 +0.1**
BRTR Keskin Array B 75.41 321 P **P 09 16 24.2 +0.1**
comp=Z,1.0nm,0.7s,mb3.6,baz=65,slow=5.3,SNR=4.0
CTAO Charters Tower 76.53 195 *e*P **P 09 16 31.2 +0.4**
CTAO pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
CTAO Charters Tower 76.53 195 *e*P **P 09 16 31.2 +0.4**
comp=Z,6.6nm,1.0s,mb4.3
LPL La Plagne 77.15 342 *e*P **P 09 16 35.0 +1.2**
comp=Z,1.1nm,0.8s,mb4.3
LPL La Plagne 77.15 342 *e*P **P 09 16 35.0 +1.2**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
LPG La Plagne 77.17 342 *e*P **P 09 16 35.4 +1.5**
comp=Z,37nm,1.1s,mb4.7
LPG La Plagne 77.17 342 *e*P **P 09 16 35.4 +1.5**
LPG pmax pmax
comp=Z,19nm,1.1s,mb4.7
DZM Mont Dzumac 77.41 176 LR LR 09 46 22.5

comp=Z,72nm,19.9s,baz=21,slow=32
WB2 Warramunga Arr 78.79 206 *e*P **P 09 16 43.7 +0.4**
WB2 *e* pP 09 16 59.0 -4.3
WRA Warramunga Arr 78.80 206 P **P 09 16 43.4 +0.1**
comp=Z,3.0nm,1.0s,mb4.1,baz=17,slow=5.7,SNR=11
FITZ Fitzroy Crossi 79.58 215 *e*P **P 09 16 48.2 +0.6**
comp=Z,4.4nm,0.7s,mb4.4
ESDC Sonseca Array 84.38 349 P **P 09 17 13.0 +1.1**
comp=Z,1.8nm,0.7s,mb4.0,baz=354,slow=4.8,SNR=8.3
RKT Rikitea 94.81 125 *e*T 09 18 09.0
comp=Z,2.9nm,0.4s
VNDA Vanda 132.82 180 PKP PKPdf 09 23 54.4 +2.1
comp=Z,0.7nm,0.7s,baz=322,slow=4.8,SNR=4.5
VNDA Vanda 132.82 180 *e*PKIKP PKPdf 09 23 54.5 +2.2
PLCA Paso Flores 142.88 89 PKP PKPdf 09 24 13.4 +2.1
comp=Z,2.2nm,1.0s,baz=290,slow=9.9,SNR=3.1
PLCA Paso Flores 142.88 89 *e*PKIKP PKPdf 09 24 14.5 +3.2
QSPA South Pole Qui 145.31 180 *e*PKPdf PKPdf 09 24 15.9 +1.5
TRQA Tornquist 145.88 78 *e*PKPbc PKPbc 09 24 19.0 +1.5

WEL 16 09:12:34.2±0.1, 44.77S×168.70E, h5km, ML3.5/11, 3C-3D, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WKZ	**Wanaka**	**0.23**	**104**	⇓PG	Pg	09 12 39.4	+0.5
WKZ				SG	Sg	09 12 42.7	+0.4
WKZ				SG	Sg	09 12 42.7	+0.5
MSZ	**Milford Sound**	**0.56**	**280**	⇓PG	Pg	09 12 45.7	+0.3
MSZ				SG	Sg	09 12 53.2	+0.3
EAZ	**Earnscleugh**	**0.63**	**137**	⇓P*	Pb	09 12 46.4	-1.0
MLZ	**Mavora Lakes**	**0.69**	**213**	⇑P*	Pb	09 12 48.4	+0.1
JCZ	**Jackson Bay**	**0.70**	**4**	⇑P*	Pb	09 12 47.9	-0.5
JCZ				S*	Sb	09 12 57.3	-0.9
LBZ	**Lake Benmore**	**1.13**	**71**	P*	Pb	09 12 55.7	-0.1
WHZ	**Wether Hill Ro**	**1.24**	**205**	⇑P*	Pb	09 12 57.3	-0.5
WHZ				S*	Sb	09 13 14.1	+0.1
DCZ	**Deep Cove**	**1.30**	**237**	P*	Pb	09 12 58.1	-0.7
TUZ	**Tuapeka**	**1.35**	**151**	PN	Pn	09 12 59.0	-0.8
FOZ	**Fox Glacier**	**1.40**	**31**	PN	Pn	09 13 01.2	+0.7
ODZ	**Otahua Downs**	**1.41**	**102**	PN	Pn	09 12 59.4	-1.2
RPZ	**Rata Peaks**	**2.00**	**59**	*e*PN	Pn	09 13 07.6	-1.4
WVZ	**Waitaha Valley**	**2.25**	**42**	*e*PN	Pn	09 13 11.6	-1.0
LTZ	**Lake Taylor**	**3.26**	**54**	*e*PN	Pn	09 13 24.1	-3.0
DSZ	**Denniston Nort**	**3.78**	**38**	*e*PN	Pn	09 13 31.9	-2.5
QRZ	**Quartz Range**	**4.85**	**37**	*e*PN	Pn	09 13 46.3	-3.3

IDC 16 09:38:51.1±6.7, 3.64N×123.22E, h557km±100km, mb2.8/4, mb1 3.0/4, mb1mx2.8/17, mbtmp3.7/4, Error ellipse: s-maj=97.1km s-min=24.5km az=69.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.74**	**174**	P	P	09 43 02.4	-1.5
	1.3nm,0.7s,slow=9.1,SNR=3.6						
WRA	**Warramunga Arr**	**25.86**	**155**	P	P	09 43 39.2	-1.6
	1.0nm,0.3s,baz=336,slow=9.7,SNR=23						
SONM	**Songino Array**	**46.35**	**344**	P	P	09 46 27.5	-1.5
	0.2nm,0.6s,baz=157,slow=8.9,SNR=4.0						
MKAR	**Makanchi Array**	**55.67**	**327**	P	P	09 47 35.0	-1.9
	0.8nm,0.3s,baz=122,slow=7.7,SNR=37						
MKAR				PcP	PcP	09 48 26.0	-2.0
	0.3nm,0.6s,baz=137,slow=2.5,SNR=3.6						

*NEIC **16** 09:54:27.9, 12.03N×87.59W, h21km, mb4.4/19, MD4.2(CASC), After CASC.*
*CASC **16** 09:54:28.5±1.9, 11.93N×87.70W, h35km±6km, MD4.3, mb4.4(NEIC)*
*IDC **16** 09:54:28.6±6.2, 12.19N×87.49W, h55km±58km, mb4.0/9, mb1 4.1/10, mb1mx3.8/21, mbtmp4.2/10, ML3.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/22, Error ellipse: s-maj=44.1km s-min=15.7km az=55.0*
ISC 16 09:54:28.1±0.5, 11.96N±0.05×87.66W±0.04, h70km±4km, n75, σ0°97/95, mb4.3/28, 5C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**0.87**	**59**	*e*P	**P**	**09 54 45.1**	**-0.1**
LEON				*e*S	**S**	**09 54 55.9**	**-2.0**
CRIN	**San Cristobal**	**0.94**	**39**	*e*P	**P**	**09 54 46.8**	**+0.7**
TEL3	**Telica 3**	**1.00**	**52**	*e*P	**P**	**09 54 47.0**	**+0.2**
TEL3				*e*S	**S**	**09 55 00.5**	**-0.3**
TELN	**Telica**	**1.03**	**51**	*e*P	**P**	**09 54 47.5**	**+0.3**
TELN				*e*S	**S**	**09 55 01.5**	**+0.1**
MIPN	**Miramar**	**1.04**	**63**	*e*P	**P**	**09 54 47.8**	**+0.4**
COPN	**Copaltepe**	**1.06**	**78**	*e*P	**P**	**09 54 47.9**	**+0.2**
CNGN	**Cerro Negro**	**1.08**	**60**	*e*P	**P**	**09 54 48.0**	**+0.2**
MOMJ	**Momotombo**	**1.18**	**68**	*e*P	**P**	**09 54 49.3**	**+0.1**
XAVN	**Gruta Xavier**	**1.31**	**82**	*e*P	**P**	**09 54 51.5**	**+0.4**
CNCH	**Conchagua**	**1.32**	**352**⇑	*e*P	**P**	**09 54 52.0**	**+0.8**
CNCH				*e*S	**S**	**09 55 09.2**	**+0.8**
MGAN	**Managua**	**1.39**	**82**	*e*P	**P**	**09 54 52.2**	**0.0**
MGAN				*e*S	**S**	**09 55 08.4**	**-1.5**
MGAN	**Managua**	**1.39**	**82**⇑	*i*P	**P**	**09 54 50.9**	**-1.2**
TICN	**Ticuantepe**	**1.40**	**87**	*e*P	**P**	**09 54 52.4**	**+0.2**
TICN				*e*S	**S**	**09 55 10.7**	**+0.7**
WILN	**Americas 2**	**1.45**	**82**	*e*P	**P**	**09 54 53.1**	**+0.2**
APON	**Apoyo**	**1.56**	**91**	*e*P	**P**	**09 54 54.1**	**-0.3**
BLLM	**Bellamira**	**1.58**	**339**⇓	*e*P	**P**	**09 54 55.0**	**+0.3**
BLLM				*e*S	**S**	**09 55 15.0**	**+0.7**
VSM	**San Miguel**	**1.58**	**338**⇓	*e*P	**P**	**09 54 55.3**	**+0.7**
VSM				*e*S	**S**	**09 55 15.2**	**+1.0**
SNVI	**San Vicente**	**2.01**	**325**	*e*P	**P**	**09 54 60.0**	**-0.5**
SNVI				*e*S	**S**	**09 55 26.5**	**+2.2**
CONN	**Concepcion**	**2.03**	**101**	*e*P	**P**	**09 55 01.4**	**+0.7**
CONN				*e*S	**S**	**09 55 25.3**	**+0.5**
LCBS	**La Ceiba**	**2.12**	**323**⇑	*e*P	**P**	**09 55 01.0**	**-1.1**
LCBS				*e*S	**S**	**09 55 27.2**	**-0.1**
LFRS	**El Faro**	**2.15**	**320**⇑	*e*P	**P**	**09 55 01.1**	**-1.3**
LFRS				*e*S	**S**	**09 55 28.0**	**+0.1**
MADN	**Villa Maderas**	**2.15**	**105**	*e*P	**P**	**09 55 02.2**	**-0.2**
MADN				*e*S	**S**	**09 55 27.6**	**-0.4**
LBRS	**Las Brisas**	**2.23**	**323**⇑	*e*P	**P**	**09 55 03.1**	**-0.5**
LBRS				*e*S	**S**	**09 55 29.6**	**-0.3**
LFU	**La Fuente**	**2.28**	**322**⇓	*e*P	**P**	**09 55 03.4**	**-0.9**
LFU				*e*S	**S**	**09 55 31.6**	**+0.4**
BOQS	**Boqueron**	**2.37**	**318**⇓	*e*P	**P**	**09 55 04.8**	**-0.8**
BOQS				*e*S	**S**	**09 55 33.6**	**0.0**
SNJE	**San Jose**	**2.69**	**315**	*e*P	**P**	**09 55 08.6**	**-1.5**
SNJE				*e*S	**S**	**09 55 41.0**	**-0.5**
VCR	**Vista de Mar**	**2.70**	**132**	*e*P	**P**	**09 55 11.3**	**+1.1**
VCR				*e*S	**S**	**09 55 42.0**	**+0.3**
VCR	**Vista de Mar**	**2.70**	**132**	*e*P	**P**	**09 55 09.9**	**-0.3**
RTR	**El Retiro**	**2.73**	**315**	*e*P	**P**	**09 55 09.8**	**-0.9**
RTR				*e*S	**S**	**09 55 41.4**	**-1.3**
MTO2	**Montecristo 2**	**2.94**	**326**⇓	*e*P	**P**	**09 55 13.7**	**+0.1**
MTO2				*e*S	**S**	**09 55 49.8**	**+1.9**
FORC	**Fortuna**	**3.28**	**116**	*e*P	**P**	**09 55 18.4**	**0.0**
FORC	**Fortuna**	**3.28**	**116**	*e*P	**P**	**09 55 18.7**	**+0.3**
VPS2	**Volcan Poas 2**	**3.79**	**117**	*e*P	**P**	**09 55 24.7**	**-0.8**
PRS1	**Puriscal**	**3.83**	**121**	*e*P	**P**	**09 55 26.4**	**+0.4**
PRS1	**Puriscal**	**3.83**	**121**	*e*P	**P**	**09 55 26.4**	**+0.4**
LAJ	**Bijagual**	**4.05**	**121**	*e*P	**P**	**09 55 26.0**	**-3.1**
LCR2	**La Lucha 2**	**4.21**	**121**⇓	*e*P	**P**	**09 55 31.0**	**-0.3**
LCR2				*e*P		09 55 31.2	
LCR2				*e*S	**S**	**09 56 21.5**	**+1.9**
LCR2	**La Lucha 2**	**4.21**	**121**	*e*P	**P**	**09 55 31.0**	**-0.4**
BUS	**Buena Vista**	**4.51**	**122**⇓	*e*P	**P**	**09 55 35.2**	**-0.3**
BUS				*e*S	**S**	**09 56 27.7**	**+0.5**
BUS	**Buena Vista**	**4.51**	**122**	*e*P	**P**	**09 55 35.2**	**-0.4**
ROSC	**El Rosal**	**14.95**	**117**	LR	LR	10 04 13.3	
	comp=Z,48nm,21.4s,baz=14,slow=39						
SDV	**Santo Domingo**	**17.02**	**99**	P	**P**	**09 58 22.7**	**-0.3**
	0.3nm,0.3s,baz=316,slow=3.9,SNR=6.4						
SDV	**Santo Domingo**	**17.02**	**99**	*e*P	**P**	**09 58 22.9**	**-0.1**
JCT	**Junction City**	**21.60**	**330**	*e*P	**P**	**09 59 12.7**	**-1.1**
	10nm,0.8s,mb4.2						
LTX	**Lajitas**	**22.83**	**322**	*e*P	**P**	**09 59 26.1**	**+0.1**
	12nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**22.83**	**322**	P	**P**	**09 59 26.4**	**+0.4**
	4.6nm,0.7s,mb3.9,baz=139,slow=10,SNR=44						
UALR	**University of**	**23.11**	**350**	*e*P	**P**	**09 59 28.2**	**-0.4**
	15nm,0.9s,mb4.3						
MIAR	**Mount Ida**	**23.12**	**347**	*e*P	**P**	**09 59 28.9**	**+0.2**
	19nm,0.8s,mb4.5						
WMOK	**Wichita Mounta**	**24.83**	**338**	*e*P	**P**	**09 59 44.4**	**-0.9**
	5.6nm,0.9s,mb4.0						
MNTX	**Cornudas Mount**	**25.55**	**323**	*e*P	**P**	**09 59 52.1**	**0.0**

21nm,1.7s,mb4.3
WCI Wyandotte Cave 26.19 2 *e*P **P 09 59 56.6 -1.4**
11nm,0.7s,mb4.4
SDCO Great Sand Dun 30.24 331 *e*P **P 10 00 35.5 +1.0**
2.9nm,0.8s,mb4.0
SMCO Snowmass 32.08 331 *e*P **P 10 00 51.1 +0.6**
2.6nm,0.7s,mb4.1
SADO Sadowa 33.50 11 P **P 10 01 01.1 -1.7**
6.5nm,0.7s,mb4.6,baz=166,slow=11,SNR=4.5
PDAR Pinedale Array 36.11 332 P **P 10 01 26.1 +1.0**
1.2nm,1.0s,mb3.8,baz=121,slow=8.5,SNR=4.6
PDAR PcP PcP 10 03 51.0 +1.0
0.6nm,0.7s,baz=137,slow=1.9,SNR=4.8
BW06 Boulder Array 36.11 332 P **P 10 01 25.8 +0.7**
2.1nm,0.9s,mb4.1
HWUT Hardware Ranch 36.19 329 *e*P **P 10 01 26.6 +0.7**
3.4nm,0.7s,mb4.4
AHID Auburn Hatcher 36.83 331 *e*P **P 10 01 32.6 +1.5**
6.7nm,0.8s,mb4.6
REDW Red Top Meadow 37.17 332 *e*P **P 10 01 33.7 -0.3**
11nm,0.8s,mb4.8
SNOW Snow King Moun 37.20 332 *e*P **P 10 01 35.4 +1.1**
13nm,0.8s,mb4.9
LOHW Long Hollow 37.25 332 *e*P **P 10 01 37.4 +2.7**
17nm,1.4s,mb4.8
TPAW Teton Pass 37.31 332 *e*P **P 10 01 36.5 +1.3**
8.1nm,0.8s,mb4.7
RRI2 Red Ridge 37.38 331 *e*P **P 10 01 36.4 +0.6**
6.6nm,0.9s,mb4.6
ELK Elko 37.55 325 *e*P **P 10 01 35.4 -1.8**
SIV San Ignacio 38.25 136 P **P 10 01 43.7 +0.4**
6.2nm,0.7s,mb4.5,baz=311,slow=10,SNR=34
ULM Lac du Bonnet 38.77 352 P **P 10 01 45.0 -2.3**
7.1nm,0.8s,mb4.5,baz=168,slow=9.2,SNR=16
ULM LR LR 10 20 14.1
comp=Z,90nm,18.6s,baz=67,slow=40
HLID Hailey 39.05 329 *e*P **P 10 01 51.4 +1.7**
1.1nm,0.7s,mb3.8
MCMT McKenzie Canyo 39.22 331 *e*P **P 10 01 52.7 +1.6**
BOZ Bozeman (W) 39.29 333 *e*P **P 10 01 51.2 -0.4**
9.3nm,1.3s,mb4.5
SCHQ Schefferville 45.80 17 P **P 10 02 42.9 -1.7**
1.6nm,0.3s,mb4.2,baz=80,slow=1.4,SNR=9.9
BDFB Brasilia 47.87 124 P **P 10 03 01.6 +0.3**
10.0nm,1.1s,mb4.5,baz=267,slow=3.5,SNR=4.2
YKA Yellowknife Ar 54.03 345 P **P 10 03 45.0 -2.3**
0.9nm,0.8s,mb3.9,baz=138,slow=7.8,SNR=14
YKA Yellowknife Ar 54.03 345 P **P 10 03 45.0 -2.3**
INK Inuvik 63.61 343 P **P 10 04 51.9 -1.7**
1.5nm,1.1s,mb3.7,baz=101,slow=6.3,SNR=3.1
WRA Warramunga Arr 138.94 253 PKP PKPdf 10 13 50.3 +2.9
0.3nm,0.6s,baz=92,slow=2.2,SNR=3.8

*NEIC **16** 10:00:44.9, 35.02S×70.56W, h18km, ML3.0(GUC), After GUC.*
GUC 16 10:00:44.9±0.6, 35.02S×70.56W, h18km±2km, MD3.7, ML3.0, 7C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFDO	**San Fernando**	**0.55**	**317**⇓	*i*P	Pb	10 00 55.5	-0.1
SFDO				*i* S	Sb	10 01 03.5	+0.5
CICH	**Cipreses**	**0.71**	**10**⇑	*i*P	Pb	10 00 58.2	-0.2
CICH				*i* S	Sb	10 01 08.4	+0.8
CACH	**El Canelo**	**0.90**	**358**	*e*P	Pb	10 01 01.6	-0.1
CACH				*i* S	Sb	10 01 14.0	+0.8
CHCH	**Chadas Angostu**	**1.09**	**356**⇑	*i*P	Pb	10 01 04.7	-0.1
CHCH				*i* S	Sb	10 01 20.3	+1.7
LNV	**Longovilo**	**1.27**	**326**⇓	*i*P	Pn	10 01 07.9	0.0
LNV				*i* S	Sb	10 01 25.2	+1.3
PCH	**Pirque**	**1.40**	**2**⇑	*i*P	Pn	10 01 10.2	+0.5
PCH				*i* S	Sb	10 01 29.8	+2.2
TACH	**Talagante**	**1.40**	**347**⇑	*i*P	Pn	10 01 10.2	+0.4
TACH				*i* S	Sb	10 01 29.0	+1.4
RCDM	**Rinconada Maip**	**1.54**	**352**⇑	*i*P	Pn	10 01 12.6	+0.8
RCDM				*i* S	Sn	10 01 33.4	+2.0
RCDM				AMP		10 01 35.4	
	comp=E,336nm,0.2s						
FCH	**Farellones**	**1.70**	**8**⇑	*i*P	Pn	10 01 15.9	+1.8
FCH				*i* S	Sn	10 01 39.3	+3.7
FCH				AMP		10 01 42.1	
	comp=N,167nm,0.2s						
LCCH	**Las Cruces**	**1.75**	**331**	*e*P	Pn	10 01 15.8	+1.0
LCCH				*i* S	Sn	10 01 39.4	+2.5
PEL	**Peldehue**	**1.87**	**357**⇑	*i*P	Pn	10 01 18.8	+2.2
PEL				*i* S	Sn	10 01 43.9	+3.9
PEL				AMP		10 01 45.6	
	comp=N,432nm,0.7s						
ROCH	**El Roble**	**2.08**	**350**	*e*P	Pn	10 01 21.7	+2.2
JACH	**Jahuel**	**2.33**	**359**	*i*P	Pn	10 01 26.0	+2.8
JACH				*i* S	Sn	10 01 57.7	+6.1

*CSEM **16** 10:20:17.3±1.2, 38.72N×28.94W, ML1.4, Error ellipse: s-maj=10.8km s-min=5.8km az=78.0, After PDA*
*PDA **16** 10:20:17.3±1.2, 38.72N×28.94W, MD2.9, ML1.4, Error ellipse: s-maj=10.8km s-min=5.8km az=78.0*
SVSA 16 10:20:17.3±1.2, 38.72N×28.94W, MD2.9, ML1.4, Error ellipse: s-maj=10.8km s-min=5.8km az=78.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.18**	**140**	*e*S	Sg	10 20 24.3	+1.0
	26nm,0.1s						
PTCA	**Ponta do Capel**	**0.18**	**140**	*e*S	Sg	10 20 24.3	+1.0
	26nm,0.1s						
PCED	**Cedros**	**0.21**	**117**	*e*P	Pg	10 20 21.5	0.0
PCED				*e*S	Sg	10 20 24.3	0.0
	54nm,0.2s						
PCED	**Cedros**	**0.21**	**117**	*e*P	Pg	10 20 21.5	0.0
PCED				*e*S	Sg	10 20 24.3	0.0
	54nm,0.2s						
CALA	**Caldeira**	**0.24**	**127**	*e*P	Pg	10 20 21.7	-0.3
CALA				*e*S	Sg	10 20 25.0	-0.2
PCND	**Candelaria**	**0.45**	**124**	*e*S	Sg	10 20 32.3	-0.1
	12nm,0.1s						
PICO	**Pico**	**0.46**	**119**	*e*P	Pg	10 20 25.7	-0.8
PICO				*e*S	Sg	10 20 32.3	-0.4
ROSA	**Rosais**	**0.55**	**90**	*e*P	Pg	10 20 27.4	-0.9
ROSA				*e*S	Sg	10 20 34.8	-0.8

*IDC **16** 10:24:53.6±0.6, 12.28N×89.54W, mb4.9/19, mb1 5.1/20, mb1mx5.1/20, mbtmp4.9/20, ML5.0/1, MS4.9/21, Ms1 4.9/21, ms1mx4.7/28, Error ellipse: s-maj=21.4km s-min=13.0km az=52.0*
*CASC **16** 10:24:57.4±2.6, 12.17N×89.62W, h34km±15km, MD4.9, ML5.3, mb5.5(NEIC)*
*MOS **16** 10:24:57.5±1.1, 12.27N×89.58W, h33km, mb5.6/44, MS4.9/28, Error ellipse: s-maj=8.5km s-min=4.5km az=112.4*
*BJI **16** 10:24:58.8, 12.30N×89.50W, h34km, mB5.7, Ms5.5, Msz5.3*
*NEIC **16** 10:24:58.9±0.2, 12.25N×89.52W, mb5.5/95,

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.65**	**21**	*i* P	**P**	**10 25 25.8**	**+2.4**
LFRS				*e*S	**S**	**10 25 45.2**	**+1.6**
SNET	**Serv Nac Est T**	**1.66**	**14**⇓	*e*P	**P**	**10 25 22.4**	**-1.2**
SNET				*e*S	**S**	**10 25 43.9**	**0.0**
BOQS	**Boqueron**	**1.69**	**12**⇑	*e*P	**P**	**10 25 26.8**	**+2.7**
BOQS				*e*S	**S**	**10 25 46.8**	**+2.0**
LCBS	**La Ceiba**	**1.70**	**23**⇑	*i* P	**P**	**10 25 26.6**	**+2.3**
LCBS				*e*S	**S**	**10 25 48.6**	**+3.5**
SNVI	**San Vicente**	**1.72**	**27**⇑	*i* P	**P**	**10 25 27.0**	**+2.5**
SNVI				*e*S	**S**	**10 25 48.4**	**+2.8**
SBLS	**San Blas**	**1.75**	**1**⇑	*i* P	**P**	**10 25 27.8**	**+2.8**
SBLS				*e*S	**S**	**10 25 48.6**	**+2.2**
LBRS	**Las Brisas**	**1.76**	**20**⇑	*i* P	**P**	**10 25 27.8**	**+2.7**
LBRS				*e*S	**S**	**10 25 48.0**	**+1.6**
SNJE	**San Jose**	**1.78**	**2**⇑	*i* P	**P**	**10 25 28.2**	**+2.8**
SNJE				*e*S	**S**	**10 25 49.2**	**+2.1**
RTR	**El Retiro**	**1.81**	**0**⇑	*i* P	**P**	**10 25 28.7**	**+2.9**
RTR				*e*S	**S**	**10 25 49.8**	**+2.0**
VSM	**San Miguel**	**1.91**	**45**⇑	*i* P	**P**	**10 25 29.9**	**+2.7**
VSM				*e*S	**S**	**10 25 51.3**	**+1.1**
BLLM	**Bellamira**	**1.94**	**45**⇑	*e*P	**P**	**10 25 30.2**	**+2.5**
BLLM				*e*S	**S**	**10 25 53.0**	**+1.9**
CNCH	**Conchagua**	**2.14**	**56**⇑	*e*P	**P**	**10 25 32.8**	**+2.3**
CNCH				*e*S	**S**	**10 25 58.6**	**+2.3**
CAHU	**Cacacuatique**	**2.20**	**40**	*e*P	**P**	**10 25 34.9**	**+3.5**
CAHU				*e*S	**S**	**10 26 01.0**	**+3.4**
IXG	**Ixpaco**	**2.23**	**340**⇑	*e*P	**P**	**10 25 30.1**	**-1.7**
IXG				*e*S	**S**	**10 25 57.2**	**-1.1**
PCG	**Pacaya**	**2.48**	**338**⇓	*e*P	**P**	**10 25 35.0**	**-0.5**
PCG				*e*S	**S**	**10 26 04.2**	**-0.7**
CRIN	**San Cristobal**	**2.62**	**76**	*e*P	**P**	**10 26 36.8**	**+0.6**
FUG	**Fuego 3**	**2.63**	**334**⇑	*i* P	**P**	**10 25 36.3**	**-1.2**
LEON	**Leon**	**2.72**	**83**	*e*P	**P**	**10 25 37.1**	**-1.7**
TEL3	**Telica 3**	**2.79**	**79**	*e*P	**P**	**10 25 38.5**	**-1.4**
TELN	**Telica**	**2.81**	**79**	*e*P	**P**	**10 25 38.9**	**-1.2**
MIRN	**Miramar**	**2.90**	**82**	*e*P	**P**	**10 25 40.2**	**-1.2**
CNGN	**Cerro Negro**	**2.92**	**81**	*e*P	**P**	**10 25 40.2**	**-1.5**
MRL	**Marmol**	**2.97**	**359**⇑	*e*P	**P**	**10 25 42.1**	**-0.3**
MRL				*e*S	**S**	**10 26 13.4**	**-3.9**
COPN	**Copaltepe**	**3.00**	**88**	*e*P	**P**	**10 25 41.9**	**-0.9**
MOMJ	**Momotombo**	**3.06**	**83**	*e*P	**P**	**10 25 42.4**	**-1.4**
XAVN	**Gruta Xavier**	**3.26**	**88**	*e*P	**P**	**10 25 46.1**	**-0.3**
MGAN	**Managua**	**3.33**	**88**	*e*P	**P**	**10 25 46.5**	**-1.1**
MGAN				*e*S	**S**	**10 26 24.6**	**-2.0**
TICN	**Ticuantepe**	**3.35**	**90**	*e*P	**P**	**10 25 47.5**	**-0.2**
WILN	**Americas 2**	**3.39**	**88**	*e*P	**P**	**10 25 47.3**	**-1.1**
WILN				*e*S	**S**	**10 26 25.2**	**-2.8**
MASN	**Masaya**	**3.43**	**91**	*e*P	**P**	**10 25 48.2**	**-0.7**
APON	**Apoyo**	**3.52**	**92**	*e*P	**P**	**10 25 49.3**	**-0.8**
SSNN	**San Juan del S**	**3.81**	**101**	*e*P	**P**	**10 25 54.2**	**-0.2**
CONN	**Concepcion**	**3.98**	**97**	*e*P	**P**	**10 25 55.4**	**-1.3**
MADN	**Villa Maderas**	**4.09**	**99**	*e*P	**P**	**10 25 57.6**	**-0.7**
VCR	**Vista de Mar**	**4.40**	**116**⇓	*i* P	**P**	**10 26 03.8**	**+1.1**
VCR	**Vista de Mar**	**4.40**	**116**	*e*P	**P**	**10 26 03.7**	**+1.0**
CCIG	**Comitan**	**4.83**	**330**	*i* P	**P**	**10 26 08.6**	**-0.1**
JTS	**JuntasAbangare**	**4.94**	**111**	*c i* P	**P**	**10 26 11.2**	**+0.8**
SCX	**San Cristobal**	**5.46**	**328**	*i* P	**P**	**10 26 17.2**	**-0.4**
VPS2	**Volcan Poas 2**	**5.64**	**109**⇑	*e*P	**P**	**10 26 21.6**	**+1.4**
VPS2	**Volcan Poas 2**	**5.64**	**109**	*e*P	**P**	**10 26 21.7**	**+1.6**
PRS1	**Puriscal**	**5.64**	**111**⇑	*e*P	**P**	**10 26 21.6**	**+1.4**
PRS1				*e*S	**S**	**10 27 25.1**	**+0.4**
PRS1	**Puriscal**	**5.64**	**111**	*e*P	**P**	**10 26 21.7**	**+1.5**
PRS1				*e*S	**S**	**10 27 27.5**	**+2.7**
LAJ	**Bijagual**	**5.86**	**111**⇓	*e*P	**P**	**10 26 19.8**	**-3.5**
LAJ				*e*S	**S**	**10 27 21.5**	**-8.7**
LAJ	**Bijagual**	**5.86**	**111**	*e*P	**P**	**10 26 19.7**	**-3.6**
SJS	**Escuela Geolog**	**5.89**	**111**	*e*P	**P**	**10 26 22.7**	**-1.0**
LCR2	**La Lucha 2**	**6.02**	**112**⇑	*e*P	**P**	**10 26 26.9**	**+1.4**
LCR2				*e*S	**S**	**10 27 33.3**	**-0.8**
LCR2	**La Lucha 2**	**6.02**	**112**	*e*P	**P**	**10 26 26.8**	**+1.3**
BUS	**Buena Vista**	**6.31**	**113**⇓	*e*P	**P**	**10 26 31.9**	**+2.3**
BUS				*e*S	**S**	**10 27 42.6**	**+1.1**
BUS	**Buena Vista**	**6.31**	**113**⇓	*e*P	**P**	**10 26 31.9**	**+2.3**
CMIG	**Matias Romero**	**7.10**	**315**	*e*P	**P**	**10 26 38.6**	**-2.1**
HUIG	**Huatulco**	**7.26**	**301**	*i* P	**P**	**10 26 40.0**	**-3.0**
OXX	**Oaxaca**	**8.46**	**307**	*i* P	**P**	**10 27 00.8**	**+1.2**
VHO	**Vista Hermosa**	**8.46**	**307**	*i* P	**P**	**10 26 59.9**	**+0.2**
PNIG	**Pinotepa**	**9.27**	**299**	*i* P	**P**	**10 27 09.4**	**-1.4**
ACX	**Acapulco**	**11.02**	**297**	*i* P	**P**	**10 27 34.0**	**-0.9**
PPM	**Popocatepetl**	**11.09**	**310**	*i* P	**P**	**10 27 35.7**	**-0.2**
YAIG	**Yautepec**	**11.30**	**308**	*i* P	**P**	**10 27 39.0**	**+0.2**
PLIG	**Platanillo**	**11.39**	**305**	*e*P	**P**	**10 27 40.0**	**+0.1**
CAIG	**El Cayaco**	**11.40**	**297**	*i* P	**P**	**10 27 38.2**	**-2.3**
UNM	**Universidad Na**	**11.66**	**309**	*e*P	**P**	**10 27 45.0**	**+1.4**
SOR	**Soroa**	**12.40**	**30**	*e*P	**P**	**10 27 44.4**	**-9.2**
SOR				*e*S	**S**	**10 30 01.6**	**-10**
	comp=N,9μm,5.4s comp=E,5μm,7.6s						
CVJ	**Coleyville**	**13.20**	**61**⇓	*e*P	**P**	**10 28 03.5**	**-0.7**
MOIG	**Morelia**	**13.42**	**306**	*i* P	**P**	**10 28 07.4**	**+0.4**
BBJ	**Bamboo Saint A**	**13.50**	**61**⇓	*e*P	**P**	**10 28 08.2**	**+0.1**
MGV	**Manicaragua**	**13.60**	**42**	*e*P	**P**	**10 28 03.8**	**-5.8**
STH	**Stony Hill**	**13.76**	**63**⇓	*e*P	**P**	**10 28 11.1**	**-0.6**
GWJ	**Greenwich**	**13.83**	**63**⇓	*e*P	**P**	**10 28 12.1**	**-0.5**
CMJ	**Castle Mountai**	**14.17**	**63**⇓	*e*P	**P**	**10 28 17.9**	**+0.9**
CCCC	**Cccc**	**14.56**	**50**	*e*P	**P**	**10 28 23.9**	**+1.8**
SFJM	**Santa Fe**	**15.32**	**305**	*i* P	**P**	**10 28 35.0**	**+2.9**
RCC	**Rio Carpintero**	**15.55**	**58**	*e*S	**S**	**10 31 33.4**	**+7.0**
	comp=N,3μm,15.1s comp=E,3μm,17.6s						
HLGC	**Holguin**	**15.70**	**54**	*e*P	**P**	**10 28 36.2**	**-0.7**
OTAV	**Otavalo**	**16.18**	**136**	*e*P	**P**	**10 28 46.1**	**+3.0**
	comp=E,102nm,1.3s						
MOAC	**Moa**	**16.47**	**57**	*e*P	**P**	**10 28 44.0**	**-2.8**
MOAC				*e*S	**S**	**10 32 00.3**	**+12**
	comp=N,4μm,5.7s comp=E,4μm,5.5s						
ROSC	**El Rosal**	**16.76**	**114**	Pn	**P**	**10 28 54.5**	**+4.0**
	baz=79,slow=23,SNR=49						
MASC	**Masc**	**16.86**	**60**	*e*P	**P**	**10 28 51.0**	**-0.5**
SDV	**Santo Domingo**	**18.97**	**98**	P	**P**	**10 29 17.1**	**-0.8**
	comp=E,4.8nm,0.3s,baz=284,slow=5.3,SNR=58						
SDV				PcP	PcP	10 33 43.7	+1.3
	comp=E,0.1nm,0.3s,baz=268,slow=2.4,SNR=3.1						
SDV	**Santo Domingo**	**18.97**	**98**⇑	*e*P	**P**	**10 29 16.4**	**-1.5**
SDV				eScP		10 37 17.1	
MAIG	**Mazatlaan**	**19.41**	**307**	*e*P	**P**	**10 29 22.5**	**-0.2**
NATX	**Nacogdoches**	**20.13**	**348**	*e*P	**P**	**10 29 28.1**	**-2.4**
	comp=E,1μm,1.5s						
JCT	**Junction City**	**20.59**	**334**	P	**P**	**10 29 33.4**	**-1.9**
JCT				pmax	pmax		
	comp=Z,570nm,1.5s						
JCT	**Junction City**	**20.59**	**334**	*e*P	**P**	**10 29 32.5**	**-2.7**
	comp=Z,98nm,0.6s						
JCT				LR	LR		
	comp=Z,2μm,22.0s,MS4.4						
LRAL	**Lakeview Retre**	**21.00**	**6**	*e*P	**P**	**10 29 38.3**	**-1.2**
	comp=Z,326nm,1.3s,mb5.5						
LRAL				LR	LR		
	comp=Z,5μm,20.0s,MS4.9						
LTX	**Lajitas**	**21.56**	**325**	P	**P**	**10 29 45.7**	**+0.5**
LTX				pmax	pmax		
	comp=Z,880nm,1.6s,mb5.9						
LTX	**Lajitas**	**21.56**	**325**	*e*P	**P**	**10 29 45.3**	**+0.2**
	comp=Z,717nm,1.5s,mb5.9						
LTX				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
TXAR	**Lajitas Array**	**21.56**	**325**	P	**P**	**10 29 45.6**	**+0.4**
	comp=Z,37nm,0.7s,mb4.9,baz=149,slow=7.3,SNR=194						
TXAR				PcP	PcP	10 33 48.4	+1.2
	comp=Z,5.4nm,1.0s,baz=162,slow=4.0,SNR=5.2						
TXAR				P3KPbc		11 03 39.4	
	comp=Z,0.6nm,1.0s,slow=2.5,SNR=4.7						
GOGA	**Godfrey**	**21.98**	**14**	P	**P**	**10 29 47.7**	**-1.6**
GOGA				pmax	pmax		
	comp=Z,120nm,0.8s,mb5.4						
GOGA	**Godfrey**	**21.98**	**14**	*e*P	**P**	**10 29 47.5**	**-1.8**
	comp=Z,117nm,0.8s,mb5.4						
GOGA				LR	LR		
	comp=Z,5μm,22.0s,MS4.9						
OXF	**Oxford**	**22.34**	**1**	P	**P**	**10 29 52.0**	**-0.8**
OXF				pmax	pmax		
	comp=Z,830nm,1.0s,mb6.1						
OXF	**Oxford**	**22.34**	**1**	*e*P	**P**	**10 29 51.8**	**-1.0**
	comp=Z,830nm,1.0s,mb6.1						
OXF				LR	LR		
	comp=Z,7μm,19.0s,MS5.1						
MIAR	**Mount Ida**	**22.65**	**352**	*e*P	**P**	**10 29 55.1**	**-0.9**
MIAR				*e**PP		10 30 05.5	
MIAR				pmax	pmax		
	comp=Z,578nm,1.4s,mb5.8						
MIAR				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.5						
MIAR	**Mount Ida**	**22.65**	**352**	*e*P	**P**	**10 29 55.1**	**-0.9**
	comp=Z,578nm,1.4s,mb5.8						
MIAR				*e*pP		10 30 05.5	
MIAR				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
NHSC	**New Hope**	**22.66**	**21**	*e*P	**P**	**10 29 56.4**	**+0.3**
	comp=Z,1μm,1.4s,mb6.1						
NHSC				LR	LR		
	comp=Z,8μm,19.0s,MS5.2						
UALR	**University of**	**22.73**	**354**	*e*P	**P**	**10 29 55.5**	**-1.3**
	comp=Z,872nm,1.2s,mb6.1						
UALR				*e*pP		10 30 06.1	
LPIG	**La Paz**	**22.95**	**304**	*i* P	**P**	**10 29 59.9**	**+0.8**
SWET	**Sewanee**	**23.29**	**8**	*e*P	**P**	**10 29 59.9**	**-2.3**
SWET				*e*pP		10 30 09.6	
SWET				*e*S	**S**	**10 34 10.2**	**+1.8**
JSC	**Jenkinsville**	**23.39**	**18**	P	**P**	**10 30 03.1**	**-0.1**
JSC	**Jenkinsville**	**23.39**	**18**	*e*P	**P**	**10 30 02.8**	**-0.5**
HBAR	**Harrisburg**	**23.39**	**358**	*e*P	**P**	**10 30 03.4**	**+0.1**
HBAR				*e*pP		10 30 13.8	
SJG	**San Juan**	**23.46**	**72**	P	**P**	**10 30 03.6**	**-0.4**
	comp=Z,31nm,0.6s,mb4.9,baz=350,slow=20,SNR=7.1						
SJG				LR	LR	10 38 26.9	
	comp=Z,3μm,20.5s,MS4.8,baz=280,slow=35						
SJG	**San Juan**	**23.46**	**72**	P	**P**	**10 30 03.7**	**-0.4**
SJG				pmax	pmax		
	comp=Z,29nm,0.7s						
SJG	**San Juan**	**23.46**	**72**	*e*P	**P**	**10 30 03.2**	**-0.8**
	comp=Z,29nm,0.6s,mb4.9						
SJG				LR	LR		
	comp=Z,5μm,19.0s,MS5.0						
CPD	**Cerro la Pandu**	**23.67**	**73**	P	**P**	**10 30 04.9**	**-1.2**
CPD	**Cerro la Pandu**	**23.67**	**73**	*e*P	**P**	**10 30 04.3**	**-1.8**
CPCT	**Cooper Cave**	**23.73**	**10**	*e*P	**P**	**10 30 05.2**	**-1.3**
HALT	**Halls**	**23.73**	**1**	*e*P	**P**	**10 30 06.3**	**-0.3**
HALT				*e*pP		10 30 14.8	
GNAR	**Gosnell**	**23.79**	**359**	*e*P	**P**	**10 30 07.5**	**+0.4**
	comp=Z,4μm,1.3s						
CLNB	**Carlsbad**	**23.98**	**329**	*e*P	**P**	**10 30 09.4**	**+0.5**
WVT	**Waverly**	**24.01**	**4**	*e*P	**P**	**10 30 08.6**	**-0.6**
WVT				*e*S	**S**	**10 34 21.8**	**+0.8**
WVT				pmax	pmax		
	comp=Z,99nm,1.0s,mb5.2						
WVT				MLR	MLR		
	comp=Z,5μm,22.0s,MS4.9						
WVT	**Waverly**	**24.01**	**4**	*e*P	**P**	**10 30 08.6**	**-0.6**
	comp=Z,99nm,1.0s,mb5.2						
WVT				*e*S	**S**	**10 34 21.8**	**+0.8**
WVT				LR	LR		
	comp=Z,5μm,22.0s,MS4.9						
MTP	**Monte Pirata**	**24.01**	**73**	*e*P	**P**	**10 30 08.2**	**-1.2**
WMOK	**Wichita Mounta**	**24.04**	**341**	*e*P	**P**	**10 30 08.0**	**-1.5**
WMOK				*e*S	**S**	**10 34 25.4**	**+3.9**
WMOK				pmax	pmax		
	comp=Z,379nm,1.4s,mb5.6						
WMOK				MLR	MLR		
	comp=Z,3μm,19.0s,MS4.7						
WMOK	**Wichita Mounta**	**24.04**	**341**	*e*P	**P**	**10 30 08.0**	**-1.5**
	comp=Z,379nm,1.4s,mb5.6						
WMOK				*e*S	**S**	**10 34 25.4**	**+3.8**
WMOK				LR	LR		
	comp=Z,3μm,19.0s,MS4.7						
GLAT	**Glass**	**24.09**	**1**	*e*P	**P**	**10 30 09.9**	**-0.1**
GDL2	**Guadalupe Moun**	**24.17**	**328**	*e*P	**P**	**10 30 11.9**	**+1.1**
UTMT	**University of**	**24.17**	**2**	*e*P	**P**	**10 30 10.2**	**-0.6**
	comp=Z,3μm,1.5s,mb6.5						
PVMO	**Portageville**	**24.23**	**360**	*e*P	**P**	**10 30 11.4**	**0.0**
MNTX	**Cornudas Mount**	**24.32**	**326**	*e*P	**P**	**10 30 11.7**	**-0.6**
	comp=Z,140nm,0.9s,mb5.4						
MNTX				*e*pP		10 30 23.1	
MNTX				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
PARMO	**Parma**	**24.48**	**360**	*e*P	**P**	**10 30 13.7**	**-0.2**
CPRX	**Cap Rock**	**24.59**	**330**	*e*P	**P**	**10 30 14.4**	**-0.5**
TZTN	**Tazewell**	**24.98**	**12**	*e*P	**P**	**10 30 17.6**	**-1.0**
FVM	**French Village**	**25.81**	**359**	P	**P**	**10 30 24.6**	**-1.8**
FVM				pmax	pmax		
	comp=Z,55nm,0.7s,mb5.2						
FVM	**French Village**	**25.81**	**359**	*e*P	**P**	**10 30 24.2**	**-2.2**
	comp=Z,55nm,0.7s,mb5.2						
CCM	**Cathedral Cave**	**25.91**	**357**	*e*P	**P**	**10 30 25.0**	**-2.4**
CCM				pmax	pmax		
	comp=Z,837nm,1.5s,mb6.0						
CCM				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.3						
CCM	**Cathedral Cave**	**25.91**	**357**	*e*P	**P**	**10 30 25.0**	**-2.4**
	comp=Z,837nm,1.5s,mb6.0						
CCM				LR	LR		
	comp=Z,1μm,21.0s,MS4.3						
WCI	**Wyandotte Cave**	**26.22**	**6**	P	**P**	**10 30 28.2**	**-2.0**
WCI				pmax	pmax		
	comp=Z,87nm,0.8s,mb5.3						
WCI	**Wyandotte Cave**	**26.22**	**6**	*e*P	**P**	**10 30 28.1**	**-2.1**
	comp=Z,87nm,0.8s,mb5.3						
WCI				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
BLA	**Blacksburg**	**26.37**	**17**	P	**P**	**10 30 30.6**	**-1.0**
BLA				pmax	pmax		
	comp=Z,58nm,0.8s,mb5.2						
BLA	**Blacksburg**	**26.37**	**17**	*e*P	**P**	**10 30 30.4**	**-1.2**
	comp=Z,58nm,0.8s,mb5.2						
BLA				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
SLM	**Saint Louis**	**26.46**	**359**	P	**P**	**10 30 33.0**	**+0.6**
SLM				pmax	pmax		
	comp=Z,600nm,1.2s,mb6.0						
SLM	**Saint Louis**	**26.46**	**359**	*e*P	**P**	**10 30 32.5**	**+0.1**
	comp=Z,596nm,1.2s,mb6.0						
BNM	**Barren Site**	**26.87**	**328**	*e*P	**P**	**10 30 36.5**	**+0.2**
LPM	**Los Pinos Moun**	**27.00**	**328**	*e*P	**P**	**10 30 37.3**	**-0.2**
LENM	**Lemitar**	**27.07**	**327**	*e*P	**P**	**10 30 38.1**	**+0.1**
LAZ	**Ladron**	**27.34**	**327**	*e*P	**P**	**10 30 40.8**	**+0.3**
ANMO	**Albuquerque**	**27.41**	**329**	P	**P**	**10 30 40.6**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=152,slow=12,SNR=17						
ANMO	**Albuquerque**	**27.41**	**329**⇑	*e*P	**P**	**10 30 41.4**	**+0.2**
ANMO	**Albuquerque**	**27.41**	**329**	*e*P	**P**	**10 30 40.7**	**-0.5**
	comp=Z,2.6nm,1.6s						
ANMO				LR	LR		
	comp=Z,3μm,21.0s						
KSU1	**Kansas State U**	**27.62**	**348**	*e*P	**P**	**10 30 40.2**	**-2.9**
TUC	**Tucson**	**27.97**	**319**	*e*P	**P**	**10 30 47.0**	**+0.7**
TUC				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.2						
TUC				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.6						
TUC	**Tucson**	**27.97**	**319**	*e*P	**P**	**10 30 47.0**	**+0.7**
	comp=Z,70nm,1.2s,mb5.2						
TUC				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
CBKS	**Cedar Bluff**	**28.10**	**343**	*e*P	**P**	**10 30 45.0**	**-2.4**
CBKS				pmax	pmax		
	comp=Z,167nm,1.2s,mb5.5						
CBKS				MLR	MLR		
	comp=Z,3μm,22.0s,MS4.8						
CBKS	**Cedar Bluff**	**28.10**	**343**	*e*P	**P**	**10 30 45.0**	**-2.4**
	comp=Z,167nm,1.2s,mb5.5						
CBKS				LR	LR		
	comp=Z,3μm,22.0s,MS4.8						
CBN	**Corbin**	**28.24**	**21**	PFAKE		10 31 00.0	+11
CBN				LR	LR		
	comp=Z,4μm,21.0s,MS5.0						
ACSO	**Alum Creek Sta**	**28.66**	**11**	*e*P	**P**	**10 30 49.6**	**-2.8**
	comp=Z,34nm,0.8s,mb5.1						
ACSO				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
MCWV	**Mont Chateau**	**28.81**	**16**	PFAKE		10 31 00.0	+6.3
MCWV				LR	LR		
	comp=Z,4μm,19.0s,MS5.1						
SDCO	**Great Sand Dun**	**29.23**	**334**	*e*P	**P**	**10 30 56.6**	**-0.9**
	comp=Z,1μm,1.1s,mb6.5						
SDCO				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
MVL	**Millersville**	**30.20**	**21**	*e*P	**P**	**10 31 04.8**	**-1.3**
WUAZ	**Wupatki**	**30.51**	**324**	*e*P	**P**	**10 31 10.1**	**+1.2**
	comp=Z,269nm,1.8s,mb5.8						
WUAZ				*e*pP	pP	10 31 19.7	+1.0
WUAZ				*e*PcP	PcP	10 34 08.2	+0.7
WUAZ				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
BBSR	**BB Station**	**30.55**	**45**	*e*P	**P**	**10 31 07.4**	**-1.8**
	comp=Z,112nm,1.0s,mb5.7						
BBSR				*e*pP	pP	10 31 16.3	-2.8
BBSR				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
PV01	**Paradox Valley**	**30.96**	**330**	*e*P	**P**	**10 31 12.9**	**0.0**
ISCO	**Idaho Springs**	**31.01**	**336**	P	**P**	**10 31 12.7**	**-0.6**
ISCO				pmax	pmax		
	comp=Z,41nm,1.5s,mb5.0						
ISCO	**Idaho Springs**	**31.01**	**336**	*e*P	**P**	**10 31 12.4**	**-0.9**
	comp=Z,41nm,1.6s,mb5.0						
ISCO				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
SMCO	**Snowmass**	**31.06**	**333**	*e*P	**P**	**10 31 12.4**	**-1.3**
	comp=Z,33nm,1.1s,mb5.1						
ERPA	**Erie**	**31.10**	**14**	*e*P	**P**	**10 31 12.2**	**-1.8**
	comp=Z,42nm,0.5s,mb5.5						
ERPA				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
PV10	**Paradox Valley**	**31.38**	**330**	*e*P	**P**	**10 31 15.7**	**-0.9**
BAR	**Barrett**	**32.16**	**314**	*e*P	**P**	**10 31 24.4**	**+1.0**
PHWY	**Pilot Hill**	**32.24**	**337**	*e*P	**P**	**10 31 22.8**	**-1.2**
PHWY				*e*pP	pP	10 31 33.2	-0.7
PHWY				*e*PcP	PcP	10 34 11.1	-1.0
LDFC	**Landfair**	**32.51**	**319**	*e*P	**P**	**10 31 28.1**	**+1.6**
LDFC				*e*PcP	PcP	10 34 13.8	+0.9
SRU	**San Rafael**	**32.68**	**329**	*e*P	**P**	**10 31 27.8**	**-0.1**
SRU				*e**PP	pP	10 31 38.0	+0.2
SRU				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.3						
SRU	**San Rafael**	**32.68**	**329**	*e*P	**P**	**10 31 27.8**	**-0.1**
	comp=Z,51nm,1.2s,mb5.3						
SRU				*e*pP	pP	10 31 38.0	+0.2
NEN	**Nelson**	**32.70**	**320**	*e*P	**P**	**10 31 28.8**	**+0.6**
NEN				*e*PcP	PcP	10 34 13.8	+0.5
MSU	**Marysvale**	**33.10**	**327**	*e*P	**P**	**10 31 32.3**	**+0.8**
MSU				*e*		10 34 15.4	
MVU	**Marysvale**	**33.11**	**327**	*e*P	**P**	**10 31 33.6**	**+2.0**
	comp=Z,31nm,1.3s,mb5.1						
MVU				*e*PcP	PcP	10 34 16.9	+2.4
MVU				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
RWWY	**Rawlins**	**33.26**	**336**	*e*P	**P**	**10 31 32.5**	**-0.4**
	comp=Z,137nm,1.2s,mb5.8						
RWWY				*e*PcP	PcP	10 34 15.1	+0.3
ARUT	**Antelope Range**	**33.28**	**324**	*e*P	**P**	**10 31 34.0**	**+0.9**
ARUT				*e*		10 34 15.6	
ARE	**Arequipa**	**33.56**	**147**	*e*P	**P**	**10 31 38.0**	**+2.3**
SADO	**Sadowa**	**33.80**	**14**	P	**P**	**10 31 34.8**	**-2.8**
	comp=Z,26nm,0.4s,mb5.5,baz=214,slow=9.4,SNR=27						
MPU	**Maple Canyon**	**33.93**	**329**	*e*P	**P**	**10 31 38.7**	**+0.1**
	comp=Z,24nm,1.0s,mb5.1						
MPU				*e*pP	pP	10 31 49.0	+0.5
MPU				*e*PcP	PcP	10 34 17.2	+0.5
MPU				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
MWC	**Mount Wilson**	**33.97**	**315**	*e*P	**P**	**10 31 40.1**	**+1.0**
MWC				*e*		10 34 17.7	
DAU	**Daniels Canyon**	**34.04**	**330**	*e*P	**P**	**10 31 40.0**	**+0.4**
DAU				*e**PP	pP	10 31 48.9	-0.6
DAU				*e*		10 34 17.8	
WES	**Weston**	**34.16**	**25**	PFAKE		10 31 50.0	+9.4
WES				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
RSSD	**Black Hills**	**34.25**	**341**	P	**P**	**10 31 40.2**	**-1.2**
RSSD				pmax	pmax		
	comp=Z,100nm,1.3s,mb5.6						
RSSD	**Black Hills**	**34.25**	**341**	*e*P	**P**	**10 31 39.9**	**-1.4**
	comp=Z,104nm,1.4s,mb5.6						
TPNV	**Topopah Spring**	**34.40**	**321**	*e*P	**P**	**10 31 44.0**	**+1.2**
TPNV				*e*		10 34 19.2	
TPNV				pmax	pmax		
	comp=Z,260nm,1.8s,mb5.9						
TPNV				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.0						
TPNV	**Topopah Spring**	**34.40**	**321**	*e*P	**P**	**10 31 44.0**	**+1.3**
	comp=Z,260nm,1.8s,mb5.9						
TPNV				*e*PcP	PcP	10 34 19.2	+1.1
TPNV				LR	LR		
	comp=Z,3μm,20.0s,MS5

HVU **Hansel Valley 35.83 330** *e*P P **10 31 54.9 0.0**
comp=Z,59nm,1.4s,mb5.3
HVU *e*PcP PcP 10 34 22.3 +0.1
REDW Red Top Meadow 36.16 333 *e*P P **10 31 57.3 -0.4**
comp=Z,168nm,1.1s,mb5.9
SNOW Snow King Moun 36.20 334 *e*P P **10 31 57.6 -0.4**
comp=Z,42nm,0.6s,mb5.5
PTRM Twissleman Ran 36.23 316 *e*P P **10 32 00.1 +1.7**
LOHW Long Hollow 36.26 334 *e*P P **10 31 57.9 -0.6**
comp=Z,47nm,1.2s,mb5.3
LOHW *e*PcP PcP 10 34 24.1 +0.7
TPAW Teton Pass 36.31 333 *e*P P **10 31 58.9 0.0**
comp=Z,165nm,1.5s,mb5.7
ELK Elko 36.34 326 *e*P P **10 31 59.7 +0.4**
ELK *e**PP pP 10 32 09.7 +0.5
ELK *e* 10 34 24.7
ELK pmax pmax
comp=Z,19nm,0.8s
ELK MLR MLR
comp=Z,2µm,21.0s
ELK Elko 36.34 326 *e*P P **10 31 59.7 +0.5**
comp=Z,19nm,0.8s,mb5.1
ELK *e*pP pP 10 32 09.7 +0.5
ELK *e*PcP PcP 10 34 24.7 +0.9
ELK LR LR
comp=Z,2µm,21.0s,MS5.0
RRI2 Red Ridge 36.36 333 *e*P P **10 31 58.8 -0.5**
comp=Z,164nm,1.6s,mb5.7
RRI2 *e*PcP PcP 10 34 24.6 +0.9
MNV Mina 36.51 321 ⇓*i*P P **10 32 02.5 +1.9**
MNV *e* 10 34 25.0
MNV pmax pmax
comp=Z,367nm,1.6s,mb6.0
MNV MLR MLR
comp=Z,2µm,19.0s,MS5.0
MNV Mina 36.51 321 ⇓*i*P P **10 32 02.5 +1.9**
comp=Z,367nm,1.6s,mb6.0
MNV *e*PcP PcP 10 34 25.0 +0.7
MNV LR LR
comp=Z,2µm,19.0s,MS5.0
NVAR Mina Array Bea 36.60 321 P P **10 32 02.8 +1.4**
comp=Z,31nm,0.8s,mb5.2,baz=126,slow=8.9,SNR=216
NVAR PcP PcP 10 34 25.7 +1.2
comp=Z,2.8nm,0.7s,baz=122,slow=1.3,SNR=6.6
NVAR LR LR 10 49 37.9
comp=Z,772nm,18.0s,MS4.5,baz=160,slow=41
IMW Indian Meadow 36.63 334 *e*P P **10 32 00.5 -1.1**
comp=Z,9.6nm,0.6s,mb4.8
IMW *e*PcP PcP 10 34 25.3 +0.7
LKWY Lake 36.94 335 P P **10 32 06.6 +2.3**
LKWY pmax pmax
comp=Z,160nm,1.8s,mb5.5
LKWY Lake 36.94 335 *e*P P **10 32 04.9 +0.6**
comp=Z,159nm,1.8s,mb5.5
LKWY LR LR
comp=Z,2µm,19.0s,MS5.0
YFT Old Faithful 37.03 335 *e*P P **10 32 06.2 +1.2**
YFT *e*PcP PcP 10 34 27.9 +2.1
LRV Little Rabbit 37.20 316 *e*P P **10 32 06.4 -0.1**
LRV *e*pP pP 10 32 17.3 +0.9
LAO LASA Array 37.23 341 *e*P P **10 32 05.4 -1.2**
comp=Z,302nm,1.5s,mb5.9
LAO LR LR
comp=Z,2µm,21.0s,MS4.9
YMR Madison River 37.26 335 *e*P P **10 32 06.5 -0.4**
comp=Z,89nm,1.4s,mb5.4
YMR *e*PcP PcP 10 34 28.1 +1.6
YMR LR LR
comp=Z,3µm,22.0s,MS5.0
QLMT Earthquake Lak 37.59 334 *e*P P **10 32 09.6 -0.1**
QLMT *e*PcP PcP 10 34 29.0 +1.5
GCMT Greycliff 37.67 337 *e*P P **10 32 09.4 -0.9**
SAO San Andreas Ge 37.67 316 PFAKE 10 32 20.0 +10
SAO LR LR
comp=Z,2µm,19.0s,MS4.9
CMB Columbia Colle 37.68 319 *e*P P **10 32 11.0 +0.5**
CMB *e* 10 34 28.5
CMB pmax pmax
comp=Z,73nm,1.4s,mb5.2
CMB MLR MLR
comp=Z,1µm,19.0s,MS4.8
CMB Columbia Colle 37.68 319 *e*P P **10 32 11.0 +0.5**
comp=Z,73nm,1.4s,mb5.2
CMB *e*PcP PcP 10 34 28.5 +0.6
CMB LR LR
comp=Z,1µm,19.0s,MS4.8
HLID Hailey 37.96 330 *e*P P **10 32 12.7 -0.1**
comp=Z,24nm,1.3s,mb4.8
HLID *e*PcP PcP 10 34 29.7 +1.0
HLID LR LR
comp=Z,2µm,20.0s,MS4.9
MCMT McKenzie Canyo 38.20 333 *e*P P **10 32 15.4 +0.6**
MCMT *e*pP pP 10 32 25.1 +0.4
DGMT Dagmar 38.26 344 *e*P P **10 32 13.7 -1.5**
comp=Z,226nm,0.8s,mb6.0
DGMT LR LR
comp=Z,2µm,22.0s,MS4.8
BOZ Bozeman (W) 38.33 335 P P **10 32 15.4 -0.5**
BOZ pmax pmax
comp=Z,21nm,0.9s,mb4.9
BOZ Bozeman (W) 38.33 335 *e*P P **10 32 15.3 -0.6**
comp=Z,20nm,0.9s,mb4.9
BOZ LR LR
comp=Z,1µm,20.0s,MS4.8
ULM Lac du Bonnet 38.41 354 P P **10 32 14.2 -2.2**
comp=Z,39nm,0.8s,mb5.2,baz=169,slow=8.7,SNR=44
ULM LR LR 10 49 30.3
comp=Z,2µm,21.9s,MS4.9,baz=170,slow=39
DLMT Dillon 38.51 334 *e*P P **10 32 17.4 +0.1**
comp=Z,57nm,1.2s,mb5.2
HRY Holter Researc 39.27 336 *e*P P **10 32 23.0 -0.7**
WVOR Wild Horse Val 39.36 326 *e*P P **10 32 25.1 +0.7**
WVOR *e* 10 34 34.3
WVOR pmax pmax
comp=Z,35nm,0.9s,mb5.1
WVOR MLR MLR
comp=Z,2µm,20.0s,MS4.9
WVOR Wild Horse Val 39.36 326 *e*P P **10 32 25.1 +0.7**
comp=Z,35nm,0.9s,mb5.1
WVOR *e*PcP PcP 10 34 34.3 +1.2
WVOR LR LR
comp=Z,2µm,20.0s,MS4.9
EGMT Eagleton 39.58 339 *e*P P **10 32 25.5 -0.7**
comp=Z,64nm,1.1s,mb5.3
EGMT LR LR
comp=Z,1µm,22.0s,MS4.6
MOD Modoc 39.96 324 *e*P P **10 32 30.4 +1.0**
comp=Z,81nm,1.4s,mb5.3
MOD *e*PcP PcP 10 34 36.6 +1.6
MOD LR LR
comp=Z,2µm,20.0s,MS5.0
HOPS Hopland 39.96 318 *e*P P **10 32 31.3 +1.8**
comp=Z,141nm,1.8s,mb5.4
HOPS LR LR
comp=Z,1µm,20.0s,MS4.7
CHMT Chamberlain Mo 40.02 335 *e*P P **10 32 28.9 -0.9**
MSO Missoula 40.24 334 *e*P P **10 32 31.7 0.0**
comp=Z,45nm,1.3s,mb5.0
MSO *e*PcP PcP 10 34 36.6 +0.7
MSO LR LR
comp=Z,993nm,19.0s,MS4.7
BMO Blue Mountains 40.32 329 *e*P P **10 32 31.9 -0.5**
comp=Z,46nm,1.4s,mb5.0
BMO *e*PcP PcP 10 34 36.9 +0.8
BMO LR LR
comp=Z,2µm,19.0s,MS4.9
WDC Whiskeytown Da 40.51 320 *e*P P **10 32 32.6 -1.4**
WDC *e* 10 34 36.7
WDC pmax pmax
comp=Z,74nm,1.7s,mb5.0
WDC MLR MLR
comp=Z,1µm,21.0s,MS4.7
WDC Whiskeytown Da 40.51 320 *e*P P **10 32 32.6 -1.4**
comp=Z,74nm,1.7s,mb5.0
WDC *e*PcP PcP 10 34 36.7 0.0
WDC LR LR
comp=Z,1µm,21.0s,MS4.7
KCPM Cahto Peak 40.67 319 *e*P P **10 32 37.4 +2.1**
KIPM Iron Peak 40.67 319 *e*P P **10 32 36.9 +1.6**
YBH Yreka Blue Hor 41.28 322 PFAKE 10 32 50.0 +10
YBH LR LR
comp=Z,2µm,19.0s,MS4.9
KHMM Horse Mountain 41.42 320 *e*P P **10 32 42.8 +1.3**
KHMM *e*pP pP 10 32 52.8 +1.3
KHMM *e*PcP PcP 10 34 40.5 +0.8
KTRM Thompson Ridge 41.79 322 P PcP 10 34 42.4 +1.5

HUMO Hull Mountain 41.95 323 *e*P P **10 32 44.4 -1.5**
comp=Z,48nm,1.5s,mb4.9
HUMO LR LR
comp=Z,2µm,21.0s,MS4.9
HBO Huckleberry Mo 42.33 325 P P **10 32 49.8 +0.9**
FRIS Frissel Point 42.44 325 P P **10 32 51.0 +1.2**
KBO Bosley Butte 42.48 321 *e*P P **10 32 51.5 +1.2**
NEW Newport 42.73 333 LR LR 10 54 37.1
comp=Z,2µm,18.9s,MS5.0,baz=135,slow=42
KEBM Edson Butte 42.92 322 ⇓*e*P P **10 32 54.6 +0.8**
RNO Roman Nose 43.19 324 P P **10 32 57.2 +1.2**
COR Corvallis 43.34 325 PFAKE 10 33 10.0 +13
COR LR LR
comp=Z,414nm,21.0s,MS4.3
EDM Edmonton 45.20 340 *e*P P **10 33 10.1 -1.9**
EDM Edmonton 45.20 340 ⇓*e*P P **10 33 10.0 -2.0**
TLL Tololo Astrono 45.75 157 ‖*i*P P **10 33 17.8 +1.0**
OCWA Octopus Mounta 45.79 328 PFAKE 10 33 30.0 +13
OCWA LR LR
comp=Z,2µm,19.0s,MS5.1
PGC Sidney 46.00 329 *e*P P **10 33 19.0 +0.5**
comp=Z,173nm,1.5s,mb5.8
SCHQ Schefferville 46.28 18 P P **10 33 17.4 -3.2**
comp=Z,65nm,1.1s,mb5.5,baz=208,slow=6.5,SNR=17
SCHQ PcP PcP 10 34 55.6 -0.5
comp=Z,11nm,0.7s,baz=250,slow=2.5,SNR=4.3
SCHQ LR LR 10 51 53.6
comp=Z,1µm,21.1s,MS4.9,baz=239,slow=35
SCHQ Schefferville 46.28 18 *e*P P **10 33 17.3 -3.3**
comp=Z,117nm,1.1s,mb5.7
SCHQ *e*pP pP 10 33 27.1 -3.5
SCHQ LR LR
comp=Z,3µm,20.0s,MS5.2
FCC Fort Churchill 46.71 357 *e*P P **10 33 21.1 -2.8**
FCC *e**PP pP 10 33 31.0 -3.0
FCC pmax pmax
comp=Z,69nm,1.1s,mb5.5
FCC Fort Churchill 46.71 357 *e*P P **10 33 21.1 -2.8**
comp=Z,69nm,1.1s,mb5.5
FCC *e*pP pP 10 33 30.9 -3.0
CFAA Coronel Fontan 48.04 155 LR LR 10 50 09.6
comp=Z,75nm,19.7s,baz=18,slow=32
FCH Farellones 48.78 158 ⇓*i*P P **10 33 42.1 +1.7**
CPUP Villa Florida 49.45 141 *e*P P **10 33 45.0 -0.7**
CPUP *e**PP pP 10 33 56.2 +0.4
CPUP pmax pmax
comp=Z,89nm,1.1s
CPUP MLR MLR
comp=Z,218nm,22.0s
CPUP Villa Florida 49.45 141 *e*P P **10 33 45.0 -0.7**
comp=Z,89nm,1.1s,mb5.7
CPUP *e*pP pP 10 33 56.2 +0.4
CPUP LR LR
comp=Z,218nm,22.0s,MS4.1
BDFB Brasilia 49.56 123 P P **10 33 46.3 -0.4**
comp=Z,15nm,1.1s,mb4.9,baz=310,slow=7.6,SNR=7.6
BDFB PcP PcP 10 35 09.2 +0.8
comp=Z,11nm,1.1s,baz=180,slow=1.0,SNR=1.8
BDFB LR LR 10 56 06.7
comp=Z,3µm,18.2s,MS5.3,baz=308,slow=38
BAO Brasilia Array 49.58 123 P P **10 33 47.0 +0.2**
BBB Bella Bella 50.55 330 LR LR 10 57 22.4
comp=Z,914nm,21.7s,MS4.8,baz=119,slow=39
YKA Yellowknife Ar 53.43 346 P P **10 34 12.5 -2.6**
comp=Z,11nm,0.8s,mb4.8,baz=145,slow=7.5,SNR=112
YKA PcP PcP 10 35 21.6 -0.4
comp=Z,8.4nm,0.8s,baz=148,slow=3.3,SNR=3.8
YKA LR LR 11 01 58.4
comp=Z,1µm,18.4s,MS4.9,baz=165,slow=42
YKW3 Yellowknife Ar 53.49 346 *e*P P **10 34 12.9 -2.7**
YKW3 *e*pP pP 10 34 23.0 -2.8
TAOE Nuku Hiva Isla 54.33 250 *e*S S **10 42 00.0 +3.7**
TAOE *e*SS SS 10 45 43.2 +5.1
TAOE *e*LR LR 10 49 43.8
comp=Z,8µm,28.8s,baz=69
DLBC Dease Lake 55.34 336 LR LR 11 01 06.2
comp=Z,872nm,21.0s,MS4.8,baz=123,slow=39
PLCA Paso Flores 55.44 162 P P **10 34 30.7 +0.6**
comp=Z,37nm,1.2s,mb5.3,baz=339,slow=9.2,SNR=21
PLCA LR LR 10 52 39.8
comp=Z,961nm,20.2s,MS4.9,baz=147,slow=30
PLCA Paso Flores 55.44 162 P P **10 34 31.3 +1.1**
PLCA pmax pmax
comp=Z,93nm,1.3s
PLCA Paso Flores 55.44 162 *e*P P **10 34 30.7 +0.5**
comp=Z,93nm,1.4s,mb5.6
PLCA LR LR
comp=Z,903nm,21.0s,MS4.8
LPA La Plata 55.57 148 *ce*P P **10 34 26.0 -5.2**
LPA *e*pP pP 10 34 41.0 -0.5
LPA *e*PP PP 10 36 34.0 -2.8
LPA *e*S S **10 42 16.0 +3.3**
TRQA Tornquist 56.20 154 *e*P P **10 34 35.2 -0.5**
comp=Z,89nm,1.4s,mb5.6
RKT Rikitea 56.49 232 *e*LQ 10 48 50.6
RKT Rikitea 56.49 232 *e*PP PP 10 36 49.5 +4.2
RKT Rikitea 56.49 232 *e*S S **10 42 28.0 +2.9**
RKT *e*SS SS 10 46 18.1 +5.0
RKT *e*LR LR 10 51 02.6
baz=48
SIT Sitka 56.80 332 PFAKE 10 34 50.0 +10
SIT LR LR
comp=Z,3µm,19.0s,MS5.4
SFJD Kangerlussuaq 60.68 16 *i*P P **10 35 03.9 -2.6**
comp=Z,26nm,1.0s,mb5.3
SFJD *i* 10 38 47.0
SFJD *i*S S **10 43 25.3 +6.3**
SFJD *e* 10 48 03.6
SFJD *i* 10 50 30.7
comp=Z,620nm,23.0s
SFJD Kangerlussuaq 60.68 16 *i*P P **10 35 03.9 -2.6**
SFJD *i* 10 38 47.0
SFJD *i*S S **10 43 25.3 +6.3**
SFJD pmax pmax
comp=Z,26nm,1.0s,mb5.3
SFJD MLR MLR
comp=Z,620nm,23.0s,MS4.7
DAWY Dawson 62.31 338 *e*P P **10 35 15.9 -1.7**
RES Resolute Bay 62.66 358 *e*P P **10 35 16.7 -3.1**
RES pmax pmax
comp=Z,24nm,0.6s,mb5.5
RES Resolute Bay 62.66 358 *e*P P **10 35 16.7 -3.1**
comp=Z,24nm,0.6s,mb5.5
INK Inuvik 62.93 343 LR LR 11 05 37.2
comp=Z,1µm,21.6s,MS5.0,baz=126,slow=39
INK Inuvik 62.93 343 *e*P P **10 35 19.6 -2.0**
INK *e* 10 37 37.9
INK pmax pmax
comp=Z,143nm,1.6s
INK Inuvik 62.93 343 *e*P P **10 35 19.6 -2.0**
comp=Z,143nm,1.6s,mb5.8
INK *e*PP PP 10 37 37.9 -3.7
PMR Palmer 65.16 333 *e*P P **10 35 36.3 +0.1**
PMR pmax pmax
comp=Z,40nm,1.1s,mb5.4
PMR MLR MLR
comp=Z,1µm,18.0s,MS5.1
PMR Palmer 65.16 333 *e*P P **10 35 36.3 +0.1**
comp=Z,40nm,1.1s,mb5.4
PMR LR LR
comp=Z,1µm,18.0s,MS5.1
FIB Fire Island 65.47 332 PFAKE 10 35 50.0 +12
FIB LR LR
comp=Z,4µm,21.0s,MS5.6
ILAR Eielson Array 65.50 337 P P **10 35 36.7 -1.6**
comp=Z,18nm,1.0s,mb5.0,baz=122,slow=3.9,SNR=63
ILAR PP PP 10 38 01.6 -3.1
comp=Z,2.2nm,1.1s,baz=142,slow=3.9,SNR=4.7
ILAR LR LR 11 10 25.5
comp=Z,2µm,19.4s,MS5.2,baz=122,slow=42
KDAK Kodiak Island 65.55 328 LR LR 11 08 27.0
comp=Z,792nm,19.0s,MS4.9,baz=102,slow=40
KIP Kipapa 65.69 288 *e*P P **10 35 40.9 +0.6**
KIP Kipapa 65.69 288 *e*P P **10 35 40.0 -0.3**
TVO Taravao 65.88 244 *e*P P **10 35 42.4 +0.8**
comp=Z,167nm,1.3s,mb5.9
MCK McKinley 65.89 335 *e*P P **10 35 39.9 -0.9**
MCK *e**PP pP 10 35 51.0 -0.3
MCK pmax pmax
comp=Z,37nm,1.4s,mb5.2
MCK MLR MLR
comp=Z,622nm,21.0s,MS4.8
MCK McKinley 65.89 335 P P **10 35 40.7 -0.1**
MCK pmax pmax
comp=Z,37nm,1.3s,mb5.2

MCK McKinley 65.89 335 *e*P P **10 35 39.9 -1.0**
comp=Z,37nm,1.4s,mb5.2
MCK *e*pP pP 10 35 51.0 -0.4
MCK LR LR
comp=Z,622nm,21.0s,MS4.8
COLA College 65.92 337 *e*P P **10 35 39.4 -1.6**
COLA *e* 10 36 11.6
COLA pmax pmax
comp=Z,14nm,1.0s,mb5.0
COLA MLR MLR
comp=Z,734nm,21.0s,MS4.9
COLA College 65.92 337 *e*P P **10 35 39.4 -1.6**
comp=Z,14nm,1.0s,mb5.0
COLA *e*PcP PcP 10 36 11.6 0.0
COLA LR LR
comp=Z,734nm,21.0s,MS4.9
PPT Papeete 66.09 245 *e*P P **10 35 43.7 +0.8**
comp=Z,54nm,1.5s,mb5.4
PPT Papeete 66.09 245 *e*LQ 10 52 33.8
PPT Papeete 66.09 245 *e*PP PP 10 38 08.8 -1.9
PPT Papeete 66.09 245 *e*S S 10 44 31.1 +3.9
PPT *e*SS SS 10 48 41.4 -3.0
PPT *e*LR LR 10 55 00.5
comp=Z,4µm,28.5s,baz=62
PAE Paea 66.13 244 *e*P P **10 35 43.8 +0.7**
comp=Z,282nm,1.4s,mb6.1
SUMG Summit 67.49 15 *e*P P **10 35 49.2 -1.6**
comp=Z,474nm,2.1s,mb6.2
SVW2 Sparrevohn 67.94 331 *e*P P **10 35 52.6 -1.2**
TBI Tubuai 68.27 239 *e*LQ 10 52 49.2
TBI Tubuai 68.27 239 *e*PP PP 10 38 32.9 +3.5
TBI Tubuai 68.27 239 *e*S S 10 44 56.6 +3.2
TBI *e*SS SS 10 49 09.9 -8.3
TBI *e*LR LR 10 56 14.8
comp=Z,3µm,30.5s,baz=64
USHA Ushuaia 69.02 167 LR LR 10 59 54.2
comp=Z,1µm,19.8s,MS5.2,baz=310,slow=30
SCO Scoresbysund 71.31 19 *i*P P **10 36 08.0 -6.3**
UNV Unalaska Valle 72.58 323 *e*P P **10 36 22.4 +0.4**
comp=Z,780nm,1.6s,mb6.4
UNV LR LR
comp=Z,5µm,22.0s,MS5.8
DAG Danmarks Havn 74.00 13 ⇓*i*P P **10 36 28.3 -1.7**
comp=Z,16nm,1.1s,mb4.9
DAG Danmarks Havn 74.00 13 ⇓*i*P P **10 36 28.3 -1.7**
DAG pmax pmax
comp=Z,16nm,1.1s,mb4.9
TNA Tin City 74.23 335 *e*P P **10 36 32.8 +1.3**
comp=Z,120nm,1.6s,mb5.6
TNA LR LR
comp=Z,793nm,21.0s,MS5.0
JMIC Jan Mayen 75.78 20 AMS AMS 11 08 02.5
comp=Z,454nm,20.7s,MS4.8
PMSA Palmer Station 79.03 169 *e*P P **10 36 59.9 +1.3**
comp=Z,12nm,0.4s,mb5.2
PMSA LR LR
comp=Z,686nm,22.0s,MS4.9
ESDC Sonseca Array 79.11 52 P P **10 37 00.5 +1.0**
comp=Z,2.1nm,0.6s,baz=283,slow=4.7,SNR=5.5
ESLA Sonseca Array 79.11 52 PFAKE 10 37 10.0 +10
ESLA LR LR
comp=Z,6µm,21.0s,MS5.9
KBS Kingsbay 80.45 11 *e*P P **10 37 05.8 -0.2**
KBS *e*S S 10 47 09.6 +1.2
KBS AMS AMS 11 13 12.6
comp=Z,582nm,21.9s,MS4.9
BER Bergen 82.06 30 AMS AMS 11 08 16.9
comp=Z,360nm,21.5s,MS4.7
DBIC Dimbokro 83.57 85 P P **10 37 24.7 +1.2**
comp=Z,111nm,1.2s,mb5.9,baz=268,slow=5.0,SNR=50
DBIC LR LR 11 11 24.0
comp=Z,522nm,20.5s,MS4.9,baz=263,slow=33
DBIC Dimbokro 83.57 85 ⇓*i*P P **10 37 24.6 +1.2**
DBIC pmax pmax
comp=Z,212nm,1.3s
DBIC MLR MLR
comp=Z,623nm,20.0s
DBIC Dimbokro 83.57 85 ⇓*i*P P **10 37 24.6 +1.2**
comp=Z,212nm,1.3s,mb6.1
DBIC LR LR
comp=Z,623nm,20.0s,MS5.0
BILL Bilibino 84.08 338 *d*iP P **10 37 25.9 +1.1**
BILL *i* pP 10 37 36.2 +0.7
BILL *e*S S 10 47 46.5 +1.1
BILL pmax pmax
comp=Z,263nm,1.6s,mb6.1
BILL Bilibino 84.08 338 ⇓*e*P P **10 37 25.4 +0.6**
comp=Z,223nm,1.4s,mb6.1
BILL *e*pP pP 10 37 35.5 0.0
BILL LR LR
comp=Z,783nm,21.0s,MS5.1
KONO Kongsberg 84.31 30 PFAKE 10 37 40.0 +14
KONO LR LR
comp=Z,1µm,20.0s,MS5.3
NB2 NORSAR Subarra 84.73 29 P P **10 37 28.2 0.0**
comp=Z,44nm,1.4s,mb5.4,baz=285,slow=4.6
NB2 NORSAR Subarra 84.73 29 P P **10 37 28.2 0.0**
baz=285,slow=4.8
NB2 NORSAR Subarra 84.73 29 P P **10 37 28.2 0.0**
NB2 pmax pmax
comp=Z,44nm,1.4s,mb5.4
NOA NORSAR Array B 84.73 29 P P **10 37 29.6 +1.4**
comp=Z,9.8nm,1.0s,mb4.9,baz=286,slow=4.6,SNR=9.0
NOA LR LR 11 17 33.9
comp=Z,380nm,18.4s,MS4.8,baz=275,slow=37
TRO Tromso 85.09 19 *e* P **10 37 34.8 +5.0**
TRO *e*SKSa 10 47 49.0
TRO *e*SKSa 10 47 52.9
TRO AMS AMS 11 14 00.9
comp=Z,229nm,26.7s,MS4.4
AFI Afiamalu 85.38 255 LR LR 11 05 12.8
comp=Z,335nm,20.6s,MS4.7,baz=76,slow=28
ARCES ARCESS Array B 87.23 19 P P **10 37 40.2 0.0**
comp=Z,3.8nm,0.6s,mb4.8,baz=285,slow=4.8,SNR=15
ARCES LR LR 11 17 42.9
comp=Z,440nm,18.2s,MS4.9,baz=307,slow=36
KEV Kevo 87.59 18 PFAKE 10 37 50.0 +8.0
KEV LR LR
comp=Z,2µm,20.0s,MS5.5
DAVA Damuels 87.60 42 ⇓*e*P P **10 37 44.0 +1.5**
comp=Z,45nm,1.7s,mb5.4
MOX Moxa 87.79 39 *i*P P **10 37 45.3 +1.9**
comp=Z,logA/T=1.4,mb5.4
MOX L 11 18 43.0
MOX Moxa 87.79 39 *e*P P **10 37 45.3 +1.9**
MOX pmax pmax
comp=Z,44nm,1.7s,mb5.4
MOX MLR MLR
comp=Z,500nm,21.0s,MS4.9
MOX Moxa 87.79 39 *e*P P **10 37 45.3 +1.9**
comp=Z,44nm,1.7s,mb5.4
MOX LR LR
comp=Z,500nm,21.0s,MS4.9
GRA1 Grafenberg Arr 87.81 40 *e*P P **10 37 43.6 +0.1**
comp=Z,32nm,1.5s,mb5.3
GRF Grafenberg Arr 87.81 40 *e*P P **10 37 43.6 +0.1**
GRF pmax pmax
comp=Z,32nm,1.5s,mb5.3
GRF Grafenberg Arr 87.81 40 *e*P P **10 37 43.6 +0.1**
GRF pmax pmax
comp=Z,32nm,1.5s,mb5.3
GRF Grafenberg Arr 87.81 40 *e*P P **10 37 43.6 +0.1**
comp=Z,32nm,1.5s,mb5.3
NKC Novy Kostel 88.42 39 *e*P P **10 37 48.1 +1.7**
CLL Collm 88.44 38 ⇓P P **10 37 47.6 +1.1**
comp=Z,logA/T=1.4,mb5.4
CLL *e**PP pP 10 37 57.0 -0.2
CLL *i* PP PP 10 41 17.0 0.0
CLL Collm 88.44 38 ⇓*i*P P **10 37 47.6 +1.1**
CLL *e**PP pP 10 37 57.0 -0.2
CLL pmax pmax
comp=Z,34nm,1.5s,mb5.4
CLL Collm 88.44 38 ⇓*i*P P **10 37 47.6 +1.1**
comp=Z,34nm,1.5s,mb5.4
CLL *e*pP pP 10 37 57.0 -0.2
TORD Torodi Ar. Bea 88.59 77 P P **10 37 47.5 -0.6**
comp=Z,7.4nm,1.0s,mb5.0,baz=294,slow=3.2,SNR=37
TORD PKPPKP 11 03 39.3
comp=Z,2.7nm,1.3s,baz=17,slow=0.6,SNR=5.5
BRG Berggiesshubel 89.14 38 *e*P P **10 37 51.3 +1.5**
BRG *e* pP 10 38 01.3 +0.7
BRG pmax pmax
comp=Z,44nm,1.6s,mb5.5
BRG Berggiesshubel 89.14 38 *e*P P **10 37 51.3 +1.5**
comp=Z,44nm,1.6s,mb5.5
BRG *e* pP 10 38 01.4 +0.8

BRG e 10 41 22.1
KHC Kasperske Hory 89.45 40 eP **P** **10 37 52.0 +0.7**
KHC AMS AMS 11 14 40.0
comp=Z,1μm,20.8s
GERES GERESS Array B 89.61 40 P **P** **10 37 52.4 +0.3**
comp=Z,3.6nm,1.0s,mb4.7,baz=270,slow=2.7,SNR=8.7
GERES LR LR 11 15 39.5
comp=Z,598nm,18.9s,MS5.0,baz=318,slow=34
KBA Koelnbreinsper 89.92 42 ⇓iP **P** **10 37 54.9 +1.3**
comp=Z,19nm,1.2s,mb5.3
ROBS Robic 90.29 43 eP **P** **10 37 55.8 +0.4**
UPC Upice 90.50 38 eP **P** **10 37 57.5 +1.3**
TREC Trest 90.58 39 AMS AMS 11 15 50.0
comp=Z,2μm,20.1s
DPC Dobruska-Polom 90.74 38 eP **P** **10 37 57.4 +0.1**
JAVS Javornik 90.76 43 eP **P** **10 37 58.8 +1.3**
FINES FINESS Array B 91.25 26 P **P** **10 37 59.1 -0.4**
comp=Z,3.2nm,1.0s,mb4.6,baz=297,slow=4.3,SNR=4.0
FINES LR LR 11 23 38.4
comp=Z,497nm,18.1s,MS5.0,baz=116,slow=39
ARSA Arzberg 91.28 41⇑eP **P** **10 38 00.2 +0.3**
comp=Z,12nm,1.4s,mb5.0
SEY Seymchan 91.43 336⇑iP **P** **10 38 00.9 +0.6**
MORC Moravsky Berou 91.68 38 eP **P** **10 38 02.6 +0.9**
MORC e*PP pP 10 38 13.2 +0.7
MORC pmax pmax
comp=Z,20nm,1.5s,mb5.2
MORC Moravsky Berou 91.68 38 eP **P** **10 38 02.6 +0.9**
comp=Z,20nm,1.5s,mb5.2
MORC epP pP 10 38 13.2 +0.6
ZST Bratislava 91.96 40 eP **P** **10 38 04.7 +1.6**
ZST Bratislava 91.96 40 eP **P** **10 38 04.5 +1.4**
ZST e 10 38 21.6
ZST e 10 41 44.6
OKC Ostrava-Krasne 92.02 38 eP **P** **10 38 05.2 +1.9**
OKC AMS AMS 11 16 50.0
comp=Z,1μm,16.3s
TIXI Tiksi 92.59 349⇑iP **P** **10 38 05.8 +0.4**
TIXI pmax pmax
comp=Z,68nm,1.4s,mb5.9
TIXI MLR MLR
comp=Z,900nm,21.0s,MS5.2
TIXI Tiksi 92.59 349⇑iP **P** **10 38 05.9 +0.5**
TIXI LR LR
comp=Z,982nm,20.0s,MS5.3
FUNA Funafuti 92.86 262 PFAKE 10 38 20.0 +12
FUNA LR LR
comp=Z,2μm,20.0s,MS5.6
OJC Ojcow 92.87 37 eP **P** **10 38 08.4 +1.2**
VYHS Vyhne 92.93 39 eP **P** **10 38 09.6 +2.1**
VYHS e pP 10 38 19.2 +0.9
PET Petropavlovsk 93.02 326 eP **P** **10 38 10.1 +2.3**
PET eS S 10 49 04.6 -4.1
PET MLR MLR
comp=Z,600nm,21.0s,MS5.0
PSZ Piszkesteto 93.81 39 P **P** **10 38 11.9 +0.4**
PSZ pmax pmax
comp=Z,28nm,1.4s,mb5.5
PSZ Piszkesteto 93.81 39 P **P** **10 38 11.9 +0.4**
comp=Z,28nm,1.4s,mb5.5
MA2 Magadan 93.83 334 P **P** **10 38 17.0 +5.7**
MA2 S S 10 49 24.1 +8.6
MA2 pmax pmax
comp=Z,50nm,2.0s,mb5.6
MA2 MLR MLR
comp=Z,2μm,25.0s,MS5.6
MA2 Magadan 93.83 334 PFAKE 10 38 20.0 +8.7
MA2 LR LR
comp=Z,756nm,19.0s,MS5.2
KECS Kecovo 93.95 39 eP **P** **10 38 10.8 -1.3**
KECS e 10 38 14.5
KECS eSP sP 10 38 25.3 -1.1
KECS Kecovo 93.95 39 eP **P** **10 38 10.8 -1.3**
KECS e 10 38 25.4
KECS Kecovo 93.95 39 eP **P** **10 38 10.8 -1.3**
KECS e 10 38 14.7
KECS e 10 38 25.4
STHS Stebnicka Huta 94.04 38 e **P** **10 38 10.7 -1.8**
STHS e pP 10 38 22.6 -0.7
STHS Stebnicka Huta 94.04 38 eP **P** **10 38 13.4 +0.9**
STHS e pP 10 38 24.1 +0.8
STHS e 10 38 32.9
RAO Raoul Island 94.31 241 PFAKE 10 38 30.0 +16
RAO LR LR
comp=Z,2μm,21.0s,MS5.5
CRVS Cervenica-Dubn 94.38 38 iP **P** **10 38 16.4 +2.4**
CRVS Cervenica-Dubn 94.38 38 eP **P** **10 38 15.1 +1.1**
KOLS Kolonicke sedl 94.86 38 eP **P** **10 38 18.9 +2.7**
KOLS e 10 38 35.3
KOLS e 10 42 30.9
KOLS Kolonicke sedl 94.86 38 eP **P** **10 38 18.8 +2.6**
KOLS e 10 38 35.2
AKASG Malin Array Be 98.05 34 PP PP 10 42 29.2 -3.6
comp=Z,0.2nm,0.3s,baz=301,slow=6.9,SNR=5.5
OBN Obninsk 99.32 28 P **P** **10 38 41.0 +4.7**
OBN e 10 38 47.5
OBN MLR MLR
comp=Z,500nm,17.0s,MS5.1
OBN Obninsk 99.32 28 iP **P** **10 38 36.8 +0.5**
OBN LR LR
comp=Z,400nm,16.0s,MS5.0
YAK Yakutsk 99.98 342 PFAKE 10 38 50.0 +11
YAK LR LR
comp=Z,795nm,22.0s,MS5.2
SNZO South Karori 102.07 230 PFAKE 10 39 00.0 +11
SNZO LR LR
comp=Z,719nm,20.0s,MS5.2
YSS Yuzh-Sakhalins 104.91 326 PFAKE 10 39 10.0 +8.5
YSS LR LR
comp=Z,543nm,21.0s,MS5.1
VNDA Vanda 105.69 192 PFAKE 10 43 30.0
VNDA LR LR
comp=Z,472nm,20.0s,MS5.0
ANTO Ankara 105.74 42 PFAKE 10 43 30.0
ANTO LR LR
comp=Z,411nm,20.0s,MS5.0
BR131 Keskin Array S 106.37 42 PFAKE 10 43 30.0
BR131 LR LR
comp=Z,244nm,20.0s,MS4.8
BRTR Keskin Array B 106.37 42 PP PP 10 43 31.7 -4.0
comp=Z,0.8nm,0.8s,baz=270,slow=4.3,SNR=4.7
BRTR PKKPbc 10 54 41.4
comp=Z,0.4nm,0.5s,baz=166,slow=5.1,SNR=4.3
KIV Kislovodsk 109.39 34 P Pdif 10 39 24.0 +2.7
KIV ePS PS 10 53 24.2 +4.6
KIV SS SS 10 59 27.0 +13
KIV pmax pmax
comp=Z,7.0nm,0.6s
TSUM Tsumeb 109.99 106 PFAKE 10 43 40.0
TSUM LR LR
comp=Z,643nm,19.0s,MS5.2
HNR Honiara 111.73 265 PFAKE 10 43 40.0 +11
HNR LR LR
comp=Z,404nm,21.0s,MS5.0
CHKZ Chkalovo 112.38 13 ePKIKP PKPdf 10 43 30.5 +1.6
ZRNK Zerenda 112.69 14 ePKIKP PKPdf 10 43 30.4 +0.9
GNI Garni 113.02 37 PFAKE 10 43 40.0 +10
GNI LR LR
comp=Z,386nm,22.0s,MS5.0
MDJ Mudanjiang 113.30 331 PDIF Pdif 10 39 38.5 +0.1
MDJ SKS SKS 10 50 42.8 +30
MDJ SS SS 11 00 04.0 -2.4
MDJ PP PP
comp=Z,90nm,3.8s
MDJ LR LR
comp=E,490nm,29.1s
MDJ LR LR
comp=Z,480nm,40.7s
CN2 Changchun 115.85 332 ePDIF Pdif 10 39 50.5 +0.8
CN2 PP PP 10 44 44.8 +0.2
CN2 eSS SS 11 00 45.0 +5.3
CN2 PP PP
comp=Z,830nm,5.0s
CN2 LR LR
comp=N,450nm,20.0s,MS5.2
CN2 LR LR
comp=E,340nm,20.0s,MS5.2
CN2 LR LR
comp=Z,470nm,25.0s,MS5.0
KURK Kurchatov 116.64 8 iPKIKP PKPdf 10 43 37.4 +0.1
ZAK Zakamensk 116.79 351 ePKIKP PKPdf 10 43 39.6 +2.0
ZAK pmax pmax
comp=Z,1.0nm,1.5s
ZAK pmax pmax
comp=Z,3.0nm,1.3s
LBTB Lobatse 117.78 112 ePKIKP PKPdf 10 43 40.3 +0.2
LBTB MLR MLR
comp=Z,505nm,19.0s,MS5.2
ULN Ulaanbaatar 118.50 347 iPKIKP PKPdf 10 43 42.4 +1.5
ULN Ulaanbaatar 118.50 347 ePKPdf PKPdf 10 43 40.5 -0.4
ULN LR LR
comp=Z,420nm,19.0s,MS5.1
SONM Songino Array 118.67 348 PKP PKPdf 10 43 43.4 +2.1
comp=Z,1.6nm,0.7s,baz=311,slow=0.5,SNR=14
SONM PP PP 10 45 01.5 -2.7
comp=Z,1.4nm,1.1s,baz=346,slow=5.9,SNR=2.6
SONM PKKPbc 10 53 59.9
comp=Z,2.0nm,1.0s,baz=184,slow=3.3,SNR=8.6
LSZ Lusaka 119.69 101 ePKIKP PKPdf 10 43 44.1 +0.1
LSZ MLR MLR
comp=Z,508nm,19.0s,MS5.2
INCN Inchon 120.08 327 PFAKE 10 44 00.0 +16
INCN LR LR
comp=Z,691nm,21.0s,MS5.3
MKAR Makanchi Array 120.96 6 PKP PKPdf 10 43 46.3 +0.5
comp=Z,1.9nm,0.8s,slow=2.4,SNR=12
MAW Mawson 121.64 168 PKP PKPdf 10 43 47.9 +1.4
comp=Z,3.5nm,0.9s,baz=249,slow=3.8,SNR=4.8
MAW Mawson 121.64 168 PKIKP PKPdf 10 43 47.9 +1.3
MAW MLR MLR
comp=Z,151nm,20.0s
USP Ospenovka 123.05 14 P PKPdf 10 43 52.2 +2.3
SNR=12
EKS2 Erkin-Say 123.45 15 P PKPdf 10 43 53.9 +3.2
SNR=8.4
FRU Bishkek 123.49 14 ePKIKP PKPdf 10 43 56.0 +5.2
FRU e 10 45 36.0
AAK Ala-Archa 123.65 14⇓iPKIKP PKPdf 10 43 52.5 +1.4
AAK Ala-Archa 123.65 14⇓ePKP PKPdf 10 43 52.6 +1.5
HHC Hu-ho-hao-te 123.80 341 ePKP PKPdf 10 43 54.3 +2.9
HHC XPKP 10 44 08.8
HHC PP PP 10 45 39.8 +0.5
HHC PKS PKS 10 47 29.1 +1.9
HHC SKS SKS 10 50 59.6 +10
HHC SKKS 10 52 30.0
HHC SS SS 11 02 26.3 +4.0
HHC PP PP
comp=Z,230nm,8.4s
HHC LR LR
comp=N,450nm,20.2s,MS5.5
HHC LR LR
comp=E,1μm,21.4s,MS5.5
HHC LR LR
comp=Z,1μm,22.6s,MS5.4
UCH Uchtor 124.04 14 P PKPdf 10 43 55.3 +3.4
SNR=14
CASY Casey 124.16 190 PFAKE 10 44 10.0 +19
CASY LR LR
comp=Z,554nm,20.0s,MS5.2
PMG Port Moresby 124.20 267 PFAKE 10 44 10.0 +17
PMG LR LR
comp=Z,308nm,21.0s,MS4.9
WMQ Urumqi 124.32 2 PKP PKPdf 10 43 54.8 +2.4
WMQ XPKP 10 44 09.1
WMQ PP PP 10 45 44.0 +1.4
WMQ PKS PKS 10 47 30.1 +2.0
WMQ PPP PPP 10 48 21.6 +0.3
WMQ SKKS 10 52 31.6
WMQ SS SS 11 02 27.6 -1.2
WMQ PP PP
comp=Z,270nm,6.0s
WMQ LR LR
comp=N,2μm,24.0s,MS5.8
WMQ LR LR
comp=E,1μm,22.0s,MS5.8
WMQ LR LR
comp=Z,2μm,24.0s,MS5.6
KZA Kyzart 124.36 14 P PKPdf 10 43 55.0 +2.6
SNR=7.5
ULHL Ulahol 124.42 13 P PKPdf 10 43 55.5 +3.0
SNR=16
TIA Tai'an 125.73 333 ePKP PKPdf 10 43 57.4 +2.1
CTA Charters Tower 125.89 254 ePKP PKPdf 10 43 58.0 +2.0
comp=Z,8.7nm,1.1s
CTAO Charters Tower 125.89 254 ePKIKP PKPdf 10 43 56.0 0.0
CTAO MLR MLR
comp=Z,482nm,21.0s,MS5.2
KMBO Kilima Mbogo 126.25 82 PKP PKPdf 10 44 00.1 +3.2
comp=Z,3.7nm,1.0s,baz=50,slow=21,SNR=16
KMBO Kilima Mbogo 126.25 82 PKIKP PKPdf 10 44 00.2 +3.3
KMBO MLR MLR
comp=Z,374nm,19.0s
KSH Kashi 126.96 14 ePKP PKPdf 10 44 01.3 +3.7
KSH eXPKP 10 44 15.1
KSH ePKS PKS 10 47 35.6 +2.4
KSH PPP PPP 10 48 33.3 -10
KSH eSKS SKS 10 51 08.1 +8.9
KSH PP PP
comp=Z,290nm,8.8s
KSH LR LR
comp=N,320nm,6.1s
KSH LR LR
comp=E,370nm,5.5s
SSE Sheshan 127.85 326 PKP PKPdf 10 43 57.0 -2.6
SSE PP PP 10 46 02.6 -3.4
SSE SS SS 11 03 08.8 -4.4
SSE PP PP
comp=Z,270nm,6.3s
SSE LR LR
comp=N,160nm,21.9s,MS4.8
SSE LR LR
comp=E,170nm,21.9s,MS4.8
SSE LR LR
comp=Z,330nm,21.8s,MS5.0
GTA Gaotai 128.03 351 PKP PKPdf 10 44 01.9 +2.2
GTA XPKP 10 44 17.8
GTA PP PP 10 46 04.5 -2.5
GTA PKS PKS 10 47 37.8 +2.5
GTA PPP PPP 10 48 49.3 -2.7
GTA SKS SKS 10 51 08.4 +6.2
GTA SKKS 10 52 51.8
GTA LR LR
comp=N,620nm,25.8s,MS5.2
GTA LR LR
comp=E,370nm,25.5s,MS5.2
GTA LR LR
comp=Z,970nm,26.2s,MS5.4
NJ2 Nanjing 128.33 329 ePKP PKPdf 10 44 02.4 +2.0
NJ2 XPKP 10 44 15.4
NJ2 PP PP 10 46 11.0 +1.7
NJ2 PKS PKS 10 47 38.0 +2.0
NJ2 SKS SKS 10 51 09.0 +5.8
NJ2 PP PP
comp=Z,130nm,10.3s
NJ2 LR LR
comp=N,1μm,21.6s,MS5.7
NJ2 LR LR
comp=E,1μm,23.6s,MS5.7
NJ2 LR LR
comp=Z,750nm,26.5s,MS5.2
STKA Stephens Creek 129.06 239 ePKP PKPdf 10 44 04.3 +2.5
comp=Z,13nm,1.2s
STKA Stephens Creek 129.06 239 PKP PKPdf 10 44 03.3 +1.5
comp=Z,12nm,1.0s,baz=118,slow=4.2,SNR=8.6
LZH Lanzhou 130.43 346 ePKP PKPdf 10 44 07.4 +3.1
LZH XPKP 10 44 21.9
LZH PP PP 10 46 24.3 +1.4
LZH SKS SKS 10 51 14.3 +5.7
LZH SKKS 10 53 15.6
LZH eSS SS 11 03 48.0 +3.0
LZH PP PP
comp=Z,370nm,4.8s
LZH LR LR
comp=E,770nm,15.0s
LZH LR LR
comp=Z,2μm,21.0s
WHN Wuhan 131.74 332 ⇓PKP PKPdf 10 44 10.0 +3.0
ENH Enshi 134.04 337 ePKPdf PKPdf 10 44 11.0 -0.3
ENH eSKPdf 10 47 43.2
WB2 Warramunga Arr 137.08 254 ePKP PKPdf 10 44 18.8 +1.7
WB2 ePKS PKS 10 47 52.1 -0.1
WB2 e 10 48 10.7
WRAB Tennant Creek 137.09 254 iPKIKP PKPdf 10 44 17.4 +0.3
WRA Warramunga Arr 137.09 254 PKhKP 10 44 10.2
comp=Z,2.2nm,1.1s,baz=94,slow=3.2,SNR=10
WRA PKP PKPdf 10 44 19.0 +1.9
comp=Z,6.9nm,0.8s,baz=92,slow=2.9,SNR=19
WRA PP PP 10 47 01.4 -3.5
comp=Z,1.5nm,1.1s,baz=89,slow=7.3,SNR=6.1
WRA SKPbc 10 47 52.7
comp=Z,2.5nm,1.2s,baz=92,slow=5.5,SNR=3.6
ASPA Alice Springs 137.13 248 ePKP PKPdf 10 44 19.5 +2.4
ASPA ePKS PKS 10 47 51.5 -0.7
LSA Lhasa 138.46 359 PKP PKPdf 10 44 23.0 +3.6
LSA Lhasa 138.46 359 ePKIKP PKPdf 10 44 21.6 +2.2
GYA Guiyang 138.54 338⇑iPKP PKPdf 10 44 17.3 -2.3
GYA XPKP 10 44 31.8
GYA PKS PKS 10 47 52.3 -2.4
GYA PP PP
comp=Z,240nm,8.4s
GYA LR LR
comp=N,670nm,22.8s,MS5.5
GYA LR LR
comp=E,840nm,22.5s,MS5.5
GYA LR LR
comp=Z,940nm,23.4s,MS5.5
KAKA Kakadu 138.91 264 ePKP PKPdf 10 44 45.1 +25
comp=Z,20nm,1.2s
BHJ Bhuj 139.47 30 eP PKPdf 10 44 23.2 +1.8
BHJ AMb AMB 10 44 27.4
comp=Z,88nm,1.2s
GKN Gorkha 139.78 8 eP PKPdf 10 44 18.3 -3.5
comp=Z,264nm,1.5s
KOLN Koldanda 139.86 9 eP PKPdf 10 44 18.9 -3.1
comp=Z,198nm,1.6s
GUN Gumba 140.02 6 eP PKPdf 10 44 18.0 -4.2
comp=Z,118nm,1.2s
KKN Kakani 140.07 7 eP PKPdf 10 44 17.3 -5.0
comp=Z,92nm,1.3s
DAV Davao City (W) 140.13 297 PFAKE 10 44 40.0 +17
DAV LR LR
comp=Z,535nm,22.0s,MS5.2
DMN Daman 140.23 7 eP PKPdf 10 44 18.3 -4.3
comp=Z,144nm,1.6s
JIRN Jiri 140.30 6 eP PKPdf 10 44 17.7 -5.1
comp=Z,73nm,1.4s
PKI Pulchoki 140.30 7 eP PKPdf 10 44 18.5 -4.3
comp=Z,81nm,1.2s
FORT Forrest 140.51 236 ePKP PKPdf 10 44 35.5 +12
comp=Z,25nm,0.8s
KMI Kunming 141.10 342 PKP PKPdf 10 44 27.0 +2.6
BHPL Bhopal 142.69 20 eP PKPdf 10 44 25.0 -2.1
BHPL AMb AMB 10 44 34.6
comp=Z,47nm,1.6s
QIZ Qiongzhong 143.60 328 PKP PKPdf 10 44 30.0 +1.3
QIZ PP PP 10 47 51.1 +6.1
QIZ LR LR
comp=N,340nm,52.0s
QIZ LR LR
comp=E,380nm,41.1s
QIZ LR LR
comp=Z,400nm,33.9s
BOK Bokaro 144.09 7 eP PKPbc 10 44 29.7 +1.0
BOK AMb AMB 10 44 35.7
comp=Z,88nm,1.3s
BLSP Bilaspur 145.07 13 eP PKPdf 10 44 32.0 +0.8
BLSP AMb AMB 10 44 34.4
comp=Z,140nm,1.6s
FITZ Fitzroy Crossi 145.44 256⇓iP PKPdf 10 44 34.2 +2.2
comp=Z,161nm,1.2s
KAD Karad 146.72 29 eP PKPdf 10 44 36.6 +2.4
KAD AMb AMB 10 44 43.6
comp=Z,236nm,1.7s
CHRT Chiangrai 146.92 344⇓P PKPdf 10 44 37.0 +2.5
comp=Z,355nm,2.1s
NWAO Narrogin (SRO) 147.80 226 ePKIKP PKPdf 10 44 38.0 +2.5
NWAO MLR MLR
comp=Z,300nm,19.0s
KLBR Kellerberrin 148.14 228 eP PKPdf 10 44 37.7 +1.6
comp=Z,152nm,1.5s
CHG Chiang Mai 148.16 344⇓P PKPdf 10 44 38.4 +1.9
comp=Z,55nm,1.6s
HYB Hyderabad 148.47 22 iPKP PKPdf 10 44 38.0 +1.0
comp=Z,140nm,1.0s
HYB e 10 44 46.0
HYB eSPKP 10 45 02.0
HYB Hyderabad 148.47 22 ePKIKP PKPdf 10 44 38.0 +1.0
MUN Mundaring 149.04 226 eP PKPdf 10 44 39.8 +2.2
VIS Vishakhapatnam 149.59 13 eP PKPdf 10 44 39.3 +0.5
VIS AMb AMB 10 44 54.1
comp=Z,246nm,1.4s
MBWA Marble Bar 150.47 248 ePKPdf PKPdf 10 44 41.2 +1.1
MBWA ePKPbc PKPdf 10 44 47.4 +7.3
MBWA LR LR
comp=Z,531nm,19.0s,MS5.4
TRD Trivandrum 155.60 34 eP PKPdf 10 44 48.5 +1.0
TRD AMb AMB 10 45 01.2
comp=Z,49nm,1.6s
KSM Kuching 156.03 303 ePKPdf PKPdf 10 44 48.6 +0.6
KSM ePKPab PKPab 10 45 15.4 -2.5
KULM Kulim 159.94 329 ePKPdf PKPdf 10 44 53.0 0.0
KULM ePKPab PKPab 10 45 34.2 -0.6

IDC ***16*** *10:46:36.9±0.6,49.72S×8.88W,mb4.0/11,mb1 4.1/11, mb1mx4.0/16,mbtmp4.0/11,Error ellipse: s-maj=19.9km s-min=18.6km az=96.0*

NEIC ***16*** *10:46:38.0±0.7,49.69S×8.91W,h10km,mb4.3/6,Error ellipse: s-maj=18.3km s-min=14.0km az=53.0*

ISC 16 10:46:36.5±0.6,49.70S±0.09×8.9W±0.2,h10km,n24, σ1§09/18,mb4.1/14,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**22.22**	**175**	P	**P**	**10 51 35.0**	**+0.6**
	2.3nm,0.9s,mb3.6,baz=342,slow=9.4,SNR=10						
SNAA	**Sanae**	**22.22**	**175**	eP	**P**	**10 51 35.1**	**+0.7**
	7.7nm,0.8s,mb4.2						
TSUM	**Tsumeb**	**37.09**	**44**	P	**P**	**10 53 49.9**	**+1.2**
	2.3nm,0.7s,mb4.1,baz=236,slow=7.9,SNR=3.8						
TSUM	**Tsumeb**	**37.09**	**44**	eP	**P**	**10 53 52.1**	**+3.4**
	2.9nm,0.9s,mb4.1						
MAW	**Mawson**	**38.72**	**144**	P	**P**	**10 54 01.6**	**-0.4**
	3.6nm,0.9s,mb4.1,baz=287,slow=11,SNR=4.0						
TRQA	**Tornquist**	**39.20**	**267**	eP	**P**	**10 54 03.7**	**-2.6**
	4.4nm,0.6s,mb4.4						
QSPA	**South Pole Qui**	**40.55**	**180**	eP	**P**	**10 54 17.3**	**+0.2**
	6.7nm,0.8s,mb4.4						
MATP	**Matopo**	**41.63**	**59**	P	**P**	**10 54 26.7**	**+0.3**
	1.6nm,0.6s,mb3.8,baz=195,slow=7.6,SNR=5.1						
PLCA	**Paso Flores**	**43.21**	**258**	P	**P**	**10 54 40.3**	**+1.2**
	1.3nm,0.9s,mb3.6,baz=227,slow=16,SNR=2.2						
BDFB	**Brasilia**	**46.42**	**303**	P	**P**	**10 55 06.7**	**+1.6**
	4.4nm,0.9s,mb4.4,baz=154,slow=12,SNR=3.2						
CFAA	**Coronel Fontan**	**47.20**	**269**	P	**P**	**10 55 11.1**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=129,slow=8.9,SNR=10						
CFAA				PcP	PcP	10 56 42.4	-0.7
	0.2nm,0.6s,baz=90,slow=4.0,SNR=4.4						
CFAA	**Coronel Fontan**	**47.20**	**269**	P	**P**	**10 55 11.1**	**-0.1**
CFAA				PcP	PcP	10 56 42.4	-0.7
VNDA	**Vanda**	**52.92**	**177**	P	**P**	**10 55 53.9**	**-0.5**
	3.8nm,1.1s,mb4.3,baz=215,slow=8.0,SNR=8.7						
VNDA	**Vanda**	**52.92**	**177**	eP	**P**	**10 55 53.4**	**-1.0**
	6.9nm,1.2s,mb4.5						
SIV	**San Ignacio**	**53.74**	**290**	P	**P**	**10 56 01.5**	**+0.5**
	2.5nm,0.8s,mb4.2,baz=142,slow=9.3,SNR=11						
DBIC	**Dimbokro**	**56.25**	**5**	P	**P**	**10 56 17.4**	**-2.0**
	3.1nm,1.0s,mb4.3,baz=174,slow=2.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**63.27**	**12**	P	**P**	**10 57 07.7**	**0.0**
	1.0nm,0.6s,mb4.1,baz=220,slow=1.8,SNR=5.9						
SDV	**Santo Domingo**	**79.20**	**298**	eP	**P**	**10 58 42.7**	**-0.6**
	3.1nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**127.06**	**295**	PKP	PKPdf	11 05 41.4	-2.1
	0.5nm,0.8s,baz=124,slow=5.3,SNR=3.8						
ELK	**Elko**	**129.27**	**290**	PKP	PKPdf	11 05 46.2	-1.7
	1.6nm,0.9s,baz=337,slow=1.5,SNR=6.1						
NVAR	**Mina Array Bea**	**129.79**	**285**	PKP	PKPdf	11 05 47.4	-1.6
	0.3nm,0.5s,baz=126,slow=3.6,SNR=3.9						
YKA	**Yellowknife Ar**	**139.03**	**317**	PKhKP		11 05 59.6	
	0.3nm,0.7s,baz=92,slow=3.6,SNR=4.4						
INK	**Inuvik**	**147.46**	**325**	PKPbc	PKPdf	11 06 21.0	+1.3
	1.4nm,0.6s,baz=60,slow=5.8,SNR=10						
ILAR	**Eielson Array**	**153.35**	**320**	PKPab	PKPab	11 06 47.4	-0.5
	0.9nm,0.9s,baz=70,slow=1.4,SNR=6.1						

NEIC ***16*** *10:49:58.0±2.2,30.01N×114.14W,h10km,mb3.9/1,Error ellipse: s-maj=27.4km s-min=10.1km az=199.0*

IDC ***16*** *10:50:04.3±2.8,30.53N×114.04W,mb3.5/2,mb1 3.6/8, mb1mx3.6/21,mbtmp3.3/8,ML3.7/4,Error ellipse: s-maj=45.6km s-min=13.1km az=35.0*

ISC 16 10:50:02.8±1.8,30.6N±0.1×114.01W±0.09,h10km,n33, σ1§37/33,mb3.4/2,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	**3.11**	**314**	*eP*	**Pn**	**10 50 49.4**	**-3.5**
TUC	**Tucson**	**3.27**	**57**	*eP*	**Pn**	**10 50 53.9**	**-1.3**
LDFC	**Landfair**	**4.61**	**349**	*eP*	**Pn**	**10 51 14.3**	**+0.1**
MWC	**Mount Wilson**	**5.01**	**318**	P	**Pn**	**10 51 17.2**	**-2.8**
NEN	**Nelson**	**5.13**	**352**	*eP*	**Pn**	**10 51 19.4**	**-2.3**
WUAZ	**Wupatki**	**5.43**	**23**	*eP*	**Pn**	**10 51 25.0**	**-0.8**
DAC	**Darwin (Calif)**	**6.45**	**333**	P	**Pn**	**10 51 39.3**	**-0.9**
TPNV	**Topopah Spring**	**6.65**	**344**	*eP*	**Pn**	**10 51 44.2**	**+1.1**
LAZ	**Ladron**	**6.96**	**55**	*eP*	**Pn**	**10 51 47.1**	**-0.3**
BNM	**Barren Site**	**7.21**	**58**	*eP*	**Pn**	**10 51 50.7**	**-0.2**
ARUT	**Antelope Range**	**7.24**	**4**	*eP*	**Pn**	**10 51 50.7**	**-0.5**
ANMO	**Albuquerque** baz=250,slow=14,SNR=4.4	**7.73**	**53**	Pn	**Pn**	**10 51 58.6**	**+0.5**
ANMO	**Albuquerque**	**7.73**	**53**	P	**Pn**	**10 51 56.0**	**-2.1**
MVU	**Marysvale**	**8.07**	**10**	*eP*	**P**	**10 52 04.2**	**+1.2**
MSU	**Marysvale**	**8.09**	**10**	*eP*	**P**	**10 52 03.4**	**+0.2**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=163,slow=12,SNR=2.6	**8.62**	**337**	Pn	**P**	**10 52 12.4**	**+1.9**
PV01	**Paradox Valley**	**8.80**	**29**	*eP*	**P**	**10 52 10.8**	**-2.3**
PV10	**Paradox Valley**	**8.82**	**26**	*eP*	**P**	**10 52 12.3**	**-1.1**
TMUT	**Trail Mountain**	**9.03**	**14**	*eP*	**P**	**10 52 16.1**	**-0.1**
LTX	**Lajitas**	**9.06**	**95**	P	**P**	**10 52 09.3**	**-7.3**
TXAR	**Lajitas Array** 0.6nm,0.3s,baz=265,slow=14,SNR=17	**9.06**	**95**	Pn	**P**	**10 52 17.6**	**+1.0**
TXAR	0.0nm,0.3s,baz=276,slow=25,SNR=4.4			Lg		10 54 53.7	
SDCO	**Great Sand Dun**	**10.06**	**42**	P	**P**	**10 52 30.7**	**+0.3**
ELK	**Elko** 0.1nm,0.3s,baz=182,slow=13,SNR=3.6	**10.22**	**355**	Pn	**P**	**10 52 34.6**	**+1.9**
ELK	0.0nm,0.3s,baz=214,slow=10,SNR=2.7			Lg		10 55 39.7	
ELK	**Elko**	**10.22**	**355**	Pn	**P**	**10 52 34.6**	**+1.9**
ELK				Lg		10 55 39.7	
BW06	**Boulder Array**	**12.71**	**15**	P	**P**	**10 53 05.7**	**-0.7**
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=212,slow=14,SNR=3.0	**12.71**	**15**	Pn	**P**	**10 53 09.7**	**+3.4**
MCMT	**McKenzie Canyo**	**14.29**	**3**	P	**P**	**10 53 28.3**	**+1.1**
CHMT	**Chamberlain Mo**	**16.35**	**2**	P	**P**	**10 53 54.8**	**+0.9**
LAO	**LASA Array** 8.0nm,0.8s	**17.21**	**18**	P	**P**	**10 54 04.9**	**+0.1**
NEW	**Newport** 0.1nm,0.3s,baz=183,slow=6.6,SNR=5.8	**17.85**	**353**	P	**P**	**10 54 13.9**	**+1.1**
ULM	**Lac du Bonnet** 1.2nm,0.8s,mb3.4,baz=216,slow=13,SNR=2.3	**23.93**	**30**	P	**P**	**10 55 19.0**	**+1.4**
ULM	**Lac du Bonnet**	**23.93**	**30**	P	**P**	**10 55 19.0**	**+1.4**
ILAR	**Eielson Array** 0.6nm,0.6s,mb3.5,baz=149,slow=7.6,SNR=14	**39.87**	**339**	P	**P**	**10 57 39.4**	**+1.3**

NEIC ***16*** *10:58:07.1±0.6,47.49N×153.99E,h15km,mb4.5/7, Error ellipse: s-maj=18.5km s-min=7.8km az=152.0*
MOS ***16*** *10:58:07.9±1.5,47.54N×154.07E,h33km,mb4.5/5, Error ellipse: s-maj=17.2km s-min=15.6km az=57.4*
IDC ***16*** *10:58:13.5±4.1,47.32N×153.99E,h76km±45km, mb3.6/12, mb1 3.7/14,mb1mx3.6/22,mbtmp3.9/14,ML3.7/2, Error ellipse: s-maj=50.2km s-min=17.4km az=171.0*

ISC 16 10:58:09.0±1.7, 47.0N±0.2×154.1E±0.1, h64km±18km, n43, σ1§50/46, mb4.1/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**6.89**	**242**	P	**P**	**10 59 49.4**	**-0.1**
NEM2				*eS*	**S**	**11 01 05.2**	**-2.0**
JRA	**Rausu**	**6.97**	**248**	P	**P**	**10 59 53.5**	**+2.8**
JAK	**Akkeshi**	**7.73**	**243**	P	**P**	**11 00 00.8**	**-0.3**
JAK				*eS*	**S**	**11 01 26.3**	**-1.7**
YSS	**Yuzh-Sakhalins**	**7.74**	**274**	PN	**P**	**11 00 04.0**	**+2.8**
JAR	**Ashorobuto**	**8.14**	**247**	P	**P**	**11 00 08.2**	**+1.4**
JOB	**Onbets**	**8.31**	**245**	P	**P**	**11 00 09.5**	**+0.4**
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=103,slow=23,SNR=9.0	**8.53**	**255**	PN	**P**	**11 00 16.1**	**+3.9**
ASAJ	**Asahikawa**	**8.53**	**255**	PN	**P**	**11 00 16.1**	**+4.0**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
JKK2	**Kamakawa 2**	**8.53**	**253**	P	**P**	**11 00 14.7**	**+2.6**
JCH	**Churui**	**8.76**	**244**	P	**P**	**11 00 15.1**	**-0.1**
JCH				*eS*	**S**	**11 01 50.4**	**-3.0**
JNBK	**Urakawa-nobuka**	**9.32**	**244**	P	**P**	**11 00 21.9**	**-1.0**
JNB	**Noboribetsu**	**10.29**	**249**	P	**P**	**11 00 36.7**	**+0.6**
JKB	**Kayabe**	**10.60**	**246**	P	**P**	**11 00 39.5**	**-0.8**
JANG	**Nango**	**11.22**	**239**	P	**P**	**11 00 46.2**	**-2.3**
JTM	**Tenmabayashi**	**11.22**	**241**	P	**P**	**11 00 47.3**	**-1.3**
JRG	**Rokugo**	**12.36**	**237**	P	**P**	**11 01 03.4**	**-0.6**
MJAR	**Matsushiro Arr** comp=Z,0.2nm,0.3s,baz=31,slow=12,SNR=3.8	**15.72**	**234**	P	**P**	**11 01 50.6**	**+3.0**
SONM	**Songino Array** comp=Z,0.3nm,0.5s,mb3.3,baz=80,slow=8.8,SNR=3.4	**31.88**	**289**	P	**P**	**11 04 30.0**	**+0.1**
ILAR	**Eielson Array** comp=Z,0.5nm,0.8s,mb3.5,baz=260,slow=8.2,SNR=6.8	**35.98**	**39**	P	**P**	**11 05 03.4**	**-1.6**
INK	**Inuvik** comp=Z,1.3nm,0.4s,mb3.9,baz=293,slow=4.2,SNR=23	**41.13**	**33**	P	**P**	**11 05 47.5**	**-0.3**
INK	**Inuvik**	**41.13**	**33**	*eP*	**P**	**11 05 47.2**	**-0.6**
INK	comp=Z,2.0nm,0.6s			pmax	pmax		
INK	**Inuvik** comp=Z,1.6nm,0.6s,mb3.8	**41.13**	**33**	*eP*	**P**	**11 05 47.2**	**-0.6**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.7s,mb3.7,baz=68,slow=6.5,SNR=6.3	**47.42**	**298**	P	**P**	**11 06 38.0**	**-0.5**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.7s,mb3.4,baz=298,slow=7.5,SNR=4.9	**50.37**	**37**	P	**P**	**11 07 00.5**	**-0.5**
CHKZ	**Chkalovo**	**50.80**	**310**	*eP*	**P**	**11 07 02.2**	**-2.2**
CHKZ	comp=Z,4.0nm,0.6s,mb4.5			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,4.0nm,0.6s,mb4.5	**50.80**	**310**	*eP*	**P**	**11 07 02.2**	**-2.2**
BVAR	**Borovoye Array** comp=Z,1.5nm,0.6s,mb4.1,baz=50,slow=7.8,SNR=8.2	**51.23**	**310**	P	**P**	**11 07 06.6**	**-1.1**
ZRNK	**Zerenda** comp=Z,2.0nm,0.7s,mb4.2	**51.99**	**310**	*eP*	**P**	**11 07 11.7**	**-1.7**
ZRNK				pmax	pmax		
ZRNK	**Zerenda** comp=Z,2.2nm,0.7s,mb4.2	**51.99**	**310**	*eP*	**P**	**11 07 11.7**	**-1.7**
JIRN	**Jiri** comp=Z,7.3nm,0.6s,mb4.9	**55.58**	**275**	*eP*	**P**	**11 07 42.6**	**+2.5**
KKN	**Kakani** comp=Z,4.9nm,0.5s,mb4.8	**56.11**	**276**	*eP*	**P**	**11 07 46.4**	**+2.4**
KKN	**Kakani**	**56.11**	**276**	*eP*	**P**	**11 07 46.4**	**+2.4**
KKN	comp=Z,2.0nm,0.5s,mb4.4			pmax	pmax		
DMN	**Daman**	**56.35**	**276**	*eP*	**P**	**11 07 47.5**	**+1.9**
GKN	**Gorkha** comp=Z,10nm,0.6s,mb5.1	**56.42**	**276**	*eP*	**P**	**11 07 47.9**	**+1.8**
KOLN	**Koldanda**	**57.27**	**277**	*eP*	**P**	**11 07 54.1**	**+1.9**
FINES	**FINESS Array B** comp=Z,1.3nm,0.4s,mb4.3,baz=32,slow=6.9,SNR=13	**64.13**	**335**	P	**P**	**11 08 36.6**	**-1.5**
ULM	**Lac du Bonnet** comp=Z,0.7nm,0.6s,mb3.9,baz=346,slow=8.3,SNR=2.9	**65.94**	**41**	P	**P**	**11 08 49.6**	**-0.4**
NB2	**NORSAR Subarra** comp=Z,2.4nm,0.6s,mb4.4,baz=25,slow=6.2	**68.24**	**342**	P	**P**	**11 09 03.3**	**-0.9**
NB2	**NORSAR Subarra**	**68.24**	**342**	P	**P**	**11 09 03.3**	**-0.9**
NB2	comp=Z,2.0nm,0.6s,mb4.3			pmax	pmax		
NOA	**NORSAR Array B** comp=Z,2.5nm,0.6s,mb4.5,baz=26,slow=6.3,SNR=8.7	**68.24**	**342**	P	**P**	**11 09 03.6**	**-0.6**
AKASG	**Malin Array Be** comp=Z,1.0nm,0.4s,mb4.1,baz=34,slow=6.1,SNR=6.8	**71.73**	**327**	P	**P**	**11 09 24.9**	**-0.8**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.7s,mb3.6,baz=304,slow=3.7,SNR=8.3	**76.83**	**61**	P	**P**	**11 09 56.6**	**+1.3**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=2.5,SNR=4.6	**78.68**	**317**	P	**P**	**11 10 06.8**	**+1.4**

JMA 16 11:40:57.1±0.2, 43.84N×147.17E, h56km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.14**	**246**	P	P	11 41 17.2	+0.1
NEM2				*eS*	S	11 41 32.1	+0.1
JRA	**Rausu**	**1.48**	**274**	P	P	11 41 21.8	-0.2
JRA				*eS*	S	11 41 40.2	-0.3
JNK	**Nakash**	**1.79**	**263**	P	P	11 41 26.0	-0.3
JNK				*eS*	S	11 41 47.8	-0.2
JAK	**Akkeshi**	**1.99**	**246**	P	P	11 41 28.6	-0.4
JAK				*eS*	S	11 41 53.0	+0.3
JTKR	**Abashiri--Toko**	**2.36**	**274**	P	P	11 41 33.8	-0.5
JAR	**Ashorobuto**	**2.53**	**259**	P	P	11 41 36.9	+0.2
JAR				*eS*	S	11 42 06.4	0.0
JOB	**Onbets**	**2.61**	**250**	P	P	11 41 37.9	+0.1
JCH	**Churui**	**3.04**	**248**	P	P	11 41 43.6	-0.4
JCH				*eS*	S	11 42 19.3	0.0

WEL 16 11:44:52.0±0.1, 44.52S×168.35E, h5km, ML3.5/10, 3C-1D, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.34**	**242**	⇑PG	Pg	11 44 59.5	+0.5
MSZ				SG	Sg	11 45 04.3	+0.7
JCZ	**Jackson Bay**	**0.53**	**34**	⇑PG	Pg	11 45 02.8	+0.2
JCZ				SG	Sg	11 45 10.0	+0.3
WKZ	**Wanaka**	**0.57**	**124**	⇓PG	Pg	11 45 03.6	+0.2
WKZ				SG	Sg	11 45 10.8	-0.2
MLZ	**Mavora Lakes**	**0.84**	**189**	⇑P*	Pb	11 45 08.5	-0.3
EAZ	**Earnscleugh**	**0.99**	**137**	P*	Pb	11 45 10.7	-0.6
DCZ	**Deep Cove**	**1.29**	**221**	P*	Pb	11 45 15.2	-1.2
LBZ	**Lake Benmore**	**1.32**	**85**	P*	Pb	11 45 17.4	+0.5
LBZ				S*	Sb	11 45 34.0	+0.1
FOZ	**Fox Glacier**	**1.35**	**46**	PN	Pn	11 45 18.6	+0.9
WHZ	**Wether Hill Ro**	**1.41**	**192**	PN	Pn	11 45 17.9	-0.6
TUZ	**Tuapeka**	**1.70**	**148**	PN	Pn	11 45 22.7	+0.1
ODZ	**Otahua Downs**	**1.71**	**109**	PN	Pn	11 45 23.1	+0.3
RPZ	**Rata Peaks**	**2.10**	**69**	PN	Pn	11 45 28.5	+0.1
WVZ	**Waitaha Valley**	**2.25**	**51**	*e*PN	Pn	11 45 29.3	-1.1
LTZ	**Lake Taylor**	**3.33**	**60**	*e*PN	Pn	11 45 45.0	-0.8
DSZ	**Dennistion Nort**	**3.75**	**44**	*e*PN	Pn	11 45 50.1	-1.7
THZ	**Tophouse**	**4.32**	**52**	*e*PN	Pn	11 45 59.8	-0.1
QRZ	**Quartz Range**	**4.80**	**41**	*e*PN	Pn	11 46 05.4	-1.4

IDC ***16*** *11:45:50.8±2.4,4.77S×152.56E,h98km±21km, mb3.9/7, mb1 4.0/9,mb1mx3.8/15,mbtmp4.2/9, Error ellipse: s-maj=26.7km s-min=13.9km az=132.0*
NEIC ***16*** *11:45:51.5±2.5,4.74S×152.49E,h107km±23km, mb4.4/4, Error ellipse: s-maj=19.3km s-min=16.9km az=140.0*

ISC 16 11:45:50.8±3.4, 4.7S±0.1×152.4E±0.1, h113km±30km, n18, σ1§10/20, mb4.0/10, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 4.7nm,0.3s,baz=46,slow=5.5,SNR=17	**7.00**	**228**	P	**P**	**11 47 32.1**	**0.0**
PMG	4.8nm,0.3s,baz=179,slow=12,SNR=5.5			S	**S**	**11 48 51.4**	**+0.7**
PMG	**Port Moresby**	**7.00**	**228**	*e*Pn	**P**	**11 47 31.4**	**-0.7**
PMG				*e*Sn	**S**	**11 48 47.7**	**-2.9**
CTA	**Charters Tower** 0.1nm,0.3s,baz=19,slow=11,SNR=3.8	**16.40**	**201**	P	**P**	**11 49 36.9**	**+1.2**
DZM	**Mont Dzumac** 5.0nm,0.8s,mb3.9,baz=357,slow=12,SNR=8.1	**21.92**	**143**	P	**P**	**11 50 36.6**	**+0.6**
WB2	**Warramunga Arr**	**23.21**	**228**	⇓*i*P	**P**	**11 50 49.3**	**+0.7**
WRA	**Warramunga Arr** 9.3nm,0.5s,mb4.4,baz=53,slow=9.9,SNR=92	**23.22**	**228**	P	**P**	**11 50 49.5**	**+0.8**
WRA	0.3nm,0.7s,baz=54,slow=15,SNR=3.0			S	**S**	**11 54 56.4**	**+7.8**
ASPA	**Alice Springs**	**25.95**	**222**	*e*P	**P**	**11 51 14.7**	**0.0**
STKA	**Stephens Creek** 3.1nm,1.0s,mb3.9,baz=21,slow=16,SNR=3.2	**28.84**	**199**	P	**P**	**11 51 39.0**	**-1.9**
FITZ	**Fitzroy Crossi** 6.1nm,0.3s,mb4.7	**29.38**	**241**	⇑*i*P	**P**	**11 51 44.9**	**-0.8**
FITZ	**Fitzroy Crossi** 3.2nm,0.4s,mb4.3,baz=50,slow=5.3,SNR=48	**29.38**	**241**	P	**P**	**11 51 44.9**	**-0.8**
MBWA	**Marble Bar** 4.1nm,0.5s,mb4.6	**35.69**	**240**	*e*P	**P**	**11 52 39.7**	**-0.6**
MKAR	**Makanchi Array** 0.3nm,0.5s,mb3.4,baz=101,slow=7.2,SNR=8.9	**80.05**	**319**	P	**P**	**11 57 51.6**	**+2.1**
MCK	**McKinley** 1.3nm,0.6s,mb3.9	**80.95**	**23**	P	**P**	**11 57 52.5**	**-1.4**
ILAR	**Eielson Array** 1.2nm,0.7s,mb3.9,baz=245,slow=5.5,SNR=8.0	**82.24**	**22**	P	**P**	**11 57 59.4**	**-1.3**
CHKZ	**Chkalovo** 0.7nm,0.4s,mb4.0	**88.95**	**324**	*e*P	**P**	**11 58 34.5**	**+0.7**
YKA	**Yellowknife Ar** 0.3nm,0.6s,mb3.9,baz=269,slow=4.7,SNR=7.8	**95.54**	**28**	P	**P**	**11 59 04.6**	**+0.6**
YKA	**Yellowknife Ar**	**95.54**	**28**	P	**P**	**11 59 04.6**	**+0.6**
TORD	**Torodi Ar. Bea** 1.2nm,0.6s,baz=71,slow=2.2,SNR=9.3	**149.95**	**288**	PKPbc	PKPdf	12 05 31.2	+7.4

PGC 16 11:46:45.6, 48.53N×128.70W, h10km, MLSn3.3/1, Mw3.9, 2D, West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.70**	**37**	Pn	Pn	11 47 12.6	-2.9
EDB	comp=Z,14nm,0.2s			Trac		11 47 35.1	
BPBC	**Brooks Peninsu**	**1.74**	**20**	Pn	Pn	11 47 13.7	-2.5
BPBC	comp=Z,45nm,0.3s			Trac		11 47 37.2	
MAYB	**Maynard**	**2.12**	**27**	⇓Pn	Pn	11 47 19.4	-2.2
MAYB				Sn	Sn	11 47 44.3	-4.0
	comp=Z,40nm,0.3s						
MAYB				Trac		11 47 47.0	
	comp=Z,40nm,0.3s						
HOLB	**Holberg**	**2.15**	**10**	Pn	Pn	11 47 20.5	-1.4
HOLB				Sn	Sn	11 47 46.5	-2.3
	comp=Z,15nm,0.1s						
HOLB				Trac		11 47 49.7	
	comp=Z,15nm,0.1s						
WOSB	**Woss**	**2.15**	**40**	⇓Pn	Pn	11 47 19.6	-2.3
WOSB				Trac		11 47 52.0	
	comp=Z,16nm,0.4s						
GDR	**Gold River**	**2.15**	**53**	Pn	Pn	11 47 19.6	-2.5
OZB	**Mount Ozzard**	**2.17**	**77**	Pn	Pn	11 47 19.5	-2.8
OZB				Sn	Sn	11 47 45.0	-4.4
OZB				Trac		11 47 46.6	
	comp=Z,12nm,0.2s						
BTB	**Buttle Lake**	**2.29**	**65**	Pn	Pn	11 47 22.2	-1.9
BTB				Sn	Sn	11 47 48.4	-4.3
	comp=Z,38nm,0.4s						
BTB				Trac		11 47 50.2	
	comp=Z,38nm,0.4s						
PHC	**Port Hardy**	**2.33**	**20**	Pn	Pn	11 47 22.2	-2.4
PHC				Sn	Sn	11 47 48.5	-5.1
PHC				Trac		11 47 52.6	
	comp=Z,11nm,0.3s						
NCRB	**Newcastle Ridg**	**2.55**	**42**	Pn	Pn	11 47 25.8	-1.9
NCRB				Trac		11 47 57.5	
	comp=Z,18nm,0.3s						
CBB	**Campbell River**	**2.65**	**54**	Pn	Pn	11 47 27.7	-1.5
CBB				Sn	Sn	11 47 58.4	-3.4
CBB				Trac		11 48 00.9	
	comp=Z,9.0nm,0.3s						
MGB	**Mount Grey**	**2.69**	**78**	Pn	Pn	11 47 27.2	-2.6
MGB				Sn	Sn	11 47 57.9	-4.9
MGB				Trac		11 47 59.5	
	comp=Z,7.0nm,0.3s						
PFB	**Port Renfrew**	**2.83**	**88**	Pn	Pn	11 47 29.8	-2.0
PFB				Sn	Sn	11 48 00.4	-5.9
PFB				Trac		11 48 04.0	
	comp=Z,3.0nm,0.3s						
TXB	**Texada**	**3.04**	**66**	Pn	Pn	11 47 32.5	-2.2
TXB				Sn	Sn	11 48 07.4	-4.0
	comp=Z,7.0nm,0.3s						
TXB				Trac		11 48 13.4	
	comp=Z,7.0nm,0.3s						
NLLB	**Nanaimo Lost L**	**3.19**	**76**	Pn	Pn	11 47 36.3	-0.6
NLLB				Sn	Sn	11 48 11.2	-4.0
NLLB				Trac		11 48 19.8	
	comp=Z,4.0nm,0.4s						
LZB	**Mount Lazard**	**3.24**	**87**	Pn	Pn	11 47 34.9	-2.7
LZB				Trac		11 48 14.5	
SHB	**Sechelt**	**3.35**	**70**	Pn	Pn	11 47 37.3	-1.8
SHB				Trac		11 48 18.5	
	comp=Z,5.0nm,0.2s						
BIB	**Bowen Island**	**3.66**	**74**	Pn	Pn	11 47 41.3	-2.2
BIB				Trac		11 48 29.0	
	comp=Z,2.0nm,0.4s						
BBB	**Bella Bella**	**3.68**	**6**	Pn	Pn	11 47 41.6	-2.2
BBB				Sn	Sn	11 48 22.9	-4.8
BBB				Trac		11 48 30.4	
	comp=Z,28nm,0.6s						
WPB	**Watts Point**	**3.78**	**71**	Pn	Pn	11 47 43.3	-1.9
WSLR	**Whistler**	**4.10**	**65**	Pn	Pn	11 47 48.7	-1.1
VDB	**Vedder Mountai**	**4.39**	**81**	Pn	Pn	11 47 52.0	-1.9
LLLB	**Lillooet**	**4.90**	**62**	Pn	Pn	11 47 59.1	-2.1

NEIC ***16*** *12:04:31.6±2.4,5.25N×94.28E,h30km,mb4.0/1, Error ellipse: s-maj=81.9km s-min=14.7km az=50.0*
IDC ***16*** *12:04:37.1±7.6,5.46N×94.78E,h67km±54km, mb3.4/3, mb1 3.6/4,mb1mx3.3/20,mbtmp3.7/4,ML3.1/1,MS3.9/1, Ms1 3.9/1,ms1mx3.0/13, Error ellipse: s-maj=150.6km s-min=25.8km az=59.0*

ISC 16 12:04:29.6±2.7, 5.2N±0.4×94.2E±0.5, h33km, n6, σ1§02/5, mb3.7/4, MS4.0/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.8nm,0.3s,baz=320,slow=19,SNR=4.3	**5.31**	**116**	P	**P**	**12 05 49.2**	**+0.7**
MKAR	**Makanchi Array** 1.4nm,0.5s,mb3.9,baz=160,slow=7.7,SNR=25	**42.72**	**348**	P	**P**	**12 12 26.2**	**+0.9**
SONM	**Songino Array** 0.2nm,0.4s,mb3.2,baz=189,slow=9.0,SNR=2.7	**43.79**	**12**	P	**P**	**12 12 33.1**	**-0.9**
WRA	**Warramunga Arr** 1.1nm,0.7s,mb3.9,baz=303,slow=9.1,SNR=8.5	**46.72**	**124**	P	**P**	**12 12 57.0**	**-0.8**
MJAR	**Matsushiro Arr** comp=Z,119nm,18.4s,MS4.0,baz=45,slow=37	**50.99**	**46**	LR	LR	12 35 35.7	
CHKZ	**Chkalovo** 0.9nm,0.5s,mb4.0	**52.04**	**342**	*e*P	**P**	**12 13 38.3**	**+0.1**

BJI ***16*** *12:06:30.1,5.21N×94.30E,h22km,mb4.4*
NEIC ***16*** *12:06:32.3±0.7,5.10N×94.09E,h30km,mb4.5/7, Error ellipse: s-maj=23.8km s-min=7.1km az=221.0*
IDC ***16*** *12:06:35.8±4.8,5.24N×94.39E,h55km±44km, mb3.9/11, mb1 4.1/12,mb1mx3.9/23,mbtmp4.2/12,ML4.2/1,MS3.5/1, Ms1 3.5/1,ms1mx3.1/24, Error ellipse: s-maj=51.3km s-min=16.7km az=53.0*

ISC 16 12:06:30.8±0.8, 5.1N±0.1×94.2E±0.1, h30km, n30, σ1§02/32, mb4.4/21, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 8.2nm,0.3s,baz=300,slow=12,SNR=20	**5.29**	**116**	P	**Pn**	**12 07 51.5**	**+1.7**
PSI				S	**Sn**	**12 08 50.0**	**-0.6**
PSI	2.5nm,0.3s,baz=310,slow=17,SNR=1.8			LR	LR	12 10 13.2	
	comp=Z,567nm,20.6s,baz=334,slow=42						
PSI	**Prapat**	**5.29**	**116**	P	**Pn**	**12 07 51.5**	**+1.7**
PSI				S	**Sn**	**12 08 50.0**	**-0.6**
PSI				LR	LR	12 10 13.2	
KULM	**Kulim**	**6.46**	**88**	*e*Pn	**Pn**	**12 08 05.9**	**-0.6**
KSM	**Kuching**	**16.52**	**102**	Pn	**P**	**12 10 24.2**	**+1.9**
JIRN	**Jiri** 13nm,0.4s,mb4.8	**23.65**	**342**	*e*P	**P**	**12 11 40.3**	**-0.4**
PKI	**Pulchoki** 18nm,0.6s,mb4.7	**23.82**	**340**	*e*P	**P**	**12 11 41.8**	**-0.5**
DMN	**Daman**	**23.96**	**340**	*e*P	**P**	**12 11 44.2**	**+0.6**
GUN	**Gumba** 20nm,0.4s,mb4.9	**23.98**	**342**	*e*P	**P**	**12 11 43.8**	**-0.1**
KKN	**Kakani** 17nm,0.7s,mb4.6	**24.07**	**340**	*e*P	**P**	**12 11 44.4**	**-0.3**
GYA	**Guiyang**	**24.34**	**28**	⇓*i*P	**P**	**12 11 47.8**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
GKN	**Gorkha** comp=Z,16nm,0.3s,mb4.9	**24.48**	**339**	*e*P	**P**	**12 11 49.7**	**+1.0**
LSA	**Lhasa** comp=Z,6.3nm,0.4s,mb4.5	**24.60**	**354**	*e*P	**P**	**12 11 51.8**	**+1.9**
KOLN	**Koldanda** comp=Z,18nm,0.6s,mb4.8	**24.65**	**337**	*e*P	**P**	**12 11 51.6**	**+1.2**
GTA	**Gaotai**	**34.51**	**8**	*e*P	**P**	**12 13 16.0**	**-2.5**
GTA				AP	pP	12 13 26.4	-1.0
GTA				XP	sP	12 13 31.0	-0.2
FITZ	**Fitzroy Crossi** comp=Z,4.6nm,0.6s,mb4.4	**38.70**	**127**	*e*P	**P**	**12 13 52.3**	**-1.7**
FITZ	**Fitzroy Crossi** comp=Z,3.0nm,0.7s,mb4.2,baz=291,slow=7.5,SNR=12	**38.70**	**127**	P	**P**	**12 13 52.8**	**-1.2**
MKAR	**Makanchi Array** comp=Z,8.1nm,0.6s,mb4.6,baz=169,slow=7.7,SNR=73	**42.75**	**348**	P	**P**	**12 14 27.5**	**+0.3**
SONM	**Songino Array** comp=Z,0.6nm,0.5s,mb3.6,baz=192,slow=8.5,SNR=5.6	**43.82**	**12**	P	**P**	**12 14 34.3**	**-1.6**
WRA	**Warramunga Arr** comp=Z,7.4nm,0.7s,mb4.7,baz=302,slow=9.2,SNR=50	**46.70**	**123**	P	**P**	**12 14 58.9**	**-0.2**
WB2	**Warramunga Arr**	**46.71**	**123**	⇓*i*P	**P**	**12 14 59.0**	**-0.2**
ZAL	**Zalesovo** comp=Z,3.4nm,0.5s,mb4.6,baz=293,slow=5.2,SNR=11	**49.25**	**353**	P	**P**	**12 15 18.6**	**0.0**
BVAR	**Borovoye Array** comp=Z,1.8nm,0.6s,mb4.2,baz=145,slow=9.8,SNR=16	**51.58**	**342**	P	**P**	**12 15 35.9**	**-0.4**
ZRNK	**Zerenda** comp=Z,1.9nm,0.6s,mb4.2	**51.95**	**341**	*e*P	**P**	**12 15 38.2**	**-0.9**
CHKZ	**Chkalovo** comp=Z,6.3nm,0.7s,mb4.7	**52.07**	**342**	*e*P	**P**	**12 15 39.9**	**-0.2**
AKTK	**Aktyubinsk**	**54.36**	**332**	P	**P**	**12 15 56.5**	**-0.5**
AKTO	**Aktyubinsk** comp=Z,0.5nm,0.3s,mb4.0,baz=78,slow=3.2,SNR=3.2	**54.36**	**332**	P	**P**	**12 15 56.5**	**-0.5**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.6s,mb4.0,baz=132,slow=6.3,SNR=4.8	**64.24**	**312**	P	**P**	**12 17 05.5**	**-0.1**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=5.1,SNR=4.9	**70.31**	**322**	P	**P**	**12 17 42.6

JNW					AML	AML	12 25 32.5		
	comp=Z,762nm,0.2s								
JNW	**Jan Mayen West**	**1.04**	**112**	*eP*	**Pb**		**12 25 17.4**	**+0.4**	
	SNR=53								
JNW				*eS*	**Sb**		**12 25 30.4**	**-0.1**	
	comp=Z,762nm,0.2s,SNR=53								
JNE	**Jan Mayen East**	**1.10**	**113**	*eP*	**Pb**		**12 25 18.2**	**+0.2**	
JNE				*eS*	**Sb**		**12 25 32.5**	**+0.3**	
JNE				AML	AML		12 25 42.3		
	comp=Z,694nm,0.4s								
JNE	**Jan Mayen East**	**1.10**	**113**	*eP*	**Pb**		**12 25 18.2**	**+0.2**	
	SNR=53								
JNE				*eS*	**Sb**		**12 25 32.5**	**+0.3**	
	comp=Z,694nm,0.4s,SNR=53								
SCO	**Scoresbysund**	**3.59**	**260**	*i* P	**Pn**		**12 25 53.3**	**-1.1**	
	comp=Z,43nm,0.5s								
SCO				*i* S	**Sn**		**12 26 31.0**	**-6.4**	
DAG	**Danmarks Havn**	**5.71**	**343**	⇑*iP*	**Pn**		**12 26 21.0**	**-3.4**	
	comp=Z,153nm,0.5s								
DAG				*i*			12 27 19.1		
BORG	**Borgarnes**	**7.67**	**214**	Pn	**Pn**		**12 26 55.9**	**+4.0**	
	comp=Z,1.4nm,0.3s,baz=48,slow=6.9,SNR=5.9								
SUMG	**Summit**	**8.42**	**290**	*e*Pn	**P**		**12 27 01.2**	**-1.2**	
	comp=Z,26nm,0.6s								
SUMG				*e*Sn	**Sn**		**12 28 28.0**	**-10**	
SUMG	**Summit**	**8.42**	**290**	*e*Pn	**P**		**12 27 01.2**	**-1.1**	
	comp=Z,26nm,0.6s								
SUMG				*e*Sn	**Sn**		**12 28 28.0**	**-10**	
STOK	**Stokkvaagen**	**10.12**	**108**	*e*Pn	**P**		**12 27 24.1**	**-1.5**	
ARCES	**ARCESS Array B**	**12.34**	**81**	Pn	**P**		**12 27 54.3**	**-1.5**	
	comp=Z,0.2nm,0.3s,baz=288,slow=12,SNR=8.7								
ARCES				LR	LR		12 32 06.1		
	comp=Z,94nm,21.2s,baz=172,slow=35								
NOA	**NORSAR Array B**	**13.72**	**128**	LR	LR		12 33 17.4		
	comp=Z,78nm,18.2s,baz=315,slow=36								
HFS	**Hagfors**	**15.13**	**126**	LR	LR		12 33 54.8		
	comp=Z,152nm,21.5s,baz=70,slow=36								
GERES	**GERESS Array B**	**25.47**	**139**	P	**P**		**12 30 28.9**	**+2.3**	
	comp=Z,0.9nm,0.7s,mb3.4,slow=8.8,SNR=3.2								
VRAC	**Vranov**	**25.67**	**135**	LR	LR		12 40 02.8		
	comp=Z,98nm,18.5s,MS3.4,baz=292,slow=35								
DAVOX	**Davos**	**26.71**	**146**	LR	LR		12 40 48.8		
	comp=Z,128nm,18.4s,MS3.5,baz=180,slow=36								
YKW3	**Yellowknife Ar**	**36.33**	**310**	*e*P	**P**		**12 32 03.1**	**+0.6**	
YKW3	**Yellowknife Ar**	**36.33**	**310**	*e*P	**P**		**12 32 03.1**	**+0.5**	
YKA	**Yellowknife Ar**	**36.39**	**310**	P	**P**		**12 32 03.3**	**+0.2**	
	comp=Z,2.5nm,0.8s,mb4.2,baz=30,slow=8.6,SNR=24								
YKA				LR	LR		12 46 28.5		
	comp=Z,165nm,19.7s,MS3.8,baz=10.0,slow=35								
CHKZ	**Chkalovo**	**38.00**	**73**	*e*P	**P**		**12 32 17.5**	**+0.8**	
	comp=Z,1.6nm,0.7s,mb3.9								
CHKZ	**Chkalovo**	**38.00**	**73**	*e*P	**P**		**12 32 17.5**	**+0.8**	
	comp=Z,1.6nm,0.7s,mb3.9								
ZRNK	**Zerenda**	**38.13**	**75**	*e*P	**P**		**12 32 17.6**	**-0.2**	
	comp=Z,0.6nm,0.6s,mb3.5								
ZRNK	**Zerenda**	**38.13**	**75**	*e*P	**P**		**12 32 17.6**	**-0.2**	
	comp=Z,0.6nm,0.6s,mb3.5								
BVAR	**Borovoye Array**	**38.49**	**74**	P	**P**		**12 32 22.0**	**+1.2**	
	comp=Z,1.8nm,1.0s,mb3.8,baz=329,slow=8.6,SNR=5.7								
BVAR				PP	PP		12 33 49.6	-2.9	
	comp=Z,1.4nm,0.9s,baz=333,slow=9.9,SNR=5.0								
BVAR	**Borovoye Array**	**38.49**	**74**	PP	PP		12 33 49.6	-2.9	
ILAR	**Eielson Array**	**40.71**	**333**	P	**P**		**12 32 39.8**	**+0.7**	
	comp=Z,1.9nm,0.9s,mb3.7,baz=17,slow=7.7,SNR=16								
COLA	**College**	**40.75**	**333**	P	**P**		**12 32 41.0**	**+1.6**	
	comp=Z,2.8nm,0.9s,mb3.9								
COLA	**College**	**40.75**	**333**	P	**P**		**12 32 41.0**	**+1.6**	
	comp=Z,2.8nm,0.9s,mb3.9								
GNI	**Garni**	**41.82**	**107**	LR	LR		12 50 28.6		
	comp=Z,65nm,19.2s,MS3.5,baz=335,slow=37								
MKAR	**Makanchi Array**	**47.60**	**68**	P	**P**		**12 33 34.4**	**-0.3**	
	comp=Z,1.6nm,1.0s,mb4.0,baz=352,slow=8.6,SNR=5.9								
MKAR				LR	LR		12 56 46.9		
	comp=Z,40nm,19.9s,MS3.4,baz=177,slow=40								
PDAR	**Pinedale Array**	**52.60**	**293**	P	**P**		**12 34 13.2**	**+0.2**	
	comp=Z,0.5nm,0.9s,mb3.5,baz=45,slow=6.4,SNR=3.6								
TXAR	**Lajitas Array**	**63.22**	**282**	P	**P**		**12 35 27.1**	**-0.6**	
	comp=Z,0.5nm,0.9s,mb3.6,baz=37,slow=4.5,SNR=3.3								

*IDC **16** 12:30:23.0±6.5,8.55S×113.14E,h47km±60km,mb4.1/13, mb1 4.2/13,mb1mx4.2/15,mbtmp4.4/13,MS3.6/1, Ms1 3.6/1,ms1mx2.5/17,Error ellipse: s-maj=28.1km s-min=13.7km az=71.0*
*NEIC **16** 12:30:30.2±1.7,8.54S×113.28E,h114km±16km,mb4.5/15, Error ellipse: s-maj=17.7km s-min=6.9km az=56.0*

ISC 16 12:30:25.6±4.1,8.48S±0.10×113.3E±0.1,h84km±39km, n51,σ0§62/44,mb4.5/25,2C,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSM	**Kuching**	**10.31**	**343**	Pn	**P**		**12 32 58.2**	**+5.8**
FITZ	**Fitzroy Crossi**	**15.38**	**130**	⇑*iP*	**P**		**12 33 58.7**	**-0.5**
	4.9nm,0.3s							
FITZ				*e*S	**S**		**12 36 33.7**	**-14**
WRA	**Warramunga Arr**	**23.37**	**121**	P	**P**		**12 35 28.0**	**+0.5**
	4.4nm,0.7s,mb3.9,baz=297,slow=12,SNR=41							
WRA				PcP	PcP		12 39 12.9	-0.7
	0.6nm,0.3s,baz=297,slow=4.3,SNR=7.6							
KLBR	**Kellerberrin**	**23.38**	**170**	*e*P	**P**		**12 35 39.9**	**+12**
	6.9nm,0.4s,mb4.3							
KLBR				*e*S	**S**		**12 39 39.7**	**+9.0**
WB2	**Warramunga Arr**	**23.38**	**121**	*e*P	**P**		**12 35 28.1**	**+0.5**
MUN	**Mundaring**	**23.55**	**174**	*e*P	**P**		**12 35 42.7**	**+14**
MUN				*e*S	**S**		**12 39 46.1**	**+12**
ASPA	**Alice Springs**	**24.88**	**130**	*e*P	**P**		**12 35 42.5**	**+0.4**
STKA	**Stephens Creek**	**35.15**	**135**	*e*P	**P**		**12 37 13.6**	**+0.4**
	4.5nm,0.7s,mb4.4							
STKA	**Stephens Creek**	**35.15**	**135**	P	**P**		**12 37 13.6**	**+0.4**
	9.3nm,0.9s,mb4.6,baz=310,slow=8.7,SNR=12							
STKA				PcP	PcP		12 39 42.6	-0.5
	2.2nm,0.5s,baz=304,slow=6.7,SNR=3.3							
GUMO	**Guam**	**38.28**	**55**	LR	LR		12 55 40.4	
	comp=Z,75nm,18.3s,baz=107,slow=40							
JIRN	**Jiri**	**44.46**	**325**	*e*P	**P**		**12 38 31.0**	**+0.7**
	11nm,0.5s,mb4.9							
GUN	**Gumba**	**44.83**	**325**	*e*P	**P**		**12 38 33.8**	**+0.6**
	18nm,0.6s,mb5.0							
PKI	**Pulchoki**	**44.84**	**324**	*e*P	**P**		**12 38 33.1**	**-0.2**
	10nm,0.7s,mb4.7							
DMN	**Daman**	**45.05**	**324**	*e*P	**P**		**12 38 35.1**	**+0.1**
	27nm,0.9s,mb5.0							
KKN	**Kakani**	**45.08**	**324**	*e*P	**P**		**12 38 35.3**	**+0.1**
GKN	**Gorkha**	**45.61**	**324**	*e*P	**P**		**12 38 38.7**	**-0.8**
	6.3nm,0.3s,mb4.9							
KOLN	**Koldanda**	**46.06**	**322**	*e*P	**P**		**12 38 42.7**	**-0.3**
	7.5nm,0.5s,mb4.7							
MJAR	**Matsushiro Arr**	**50.54**	**26**	P	**P**		**12 39 16.2**	**-1.4**
	1.7nm,0.5s,mb4.3,baz=206,slow=8.5,SNR=6.2							
SONM	**Songino Array**	**56.39**	**354**	P	**P**		**12 40 00.7**	**+0.1**
	1.0nm,0.3s,mb4.3,baz=171,slow=8.8,SNR=21							
SONM				PcP	PcP		12 40 56.6	+0.2
	0.8nm,0.6s,baz=173,slow=6.0,SNR=3.9							
KZA	**Kyzart**	**61.15**	**328**	P	**P**		**12 40 34.4**	**+0.8**
	SNR=8.0							
MKAR	**Makanchi Array**	**61.55**	**336**	P	**P**		**12 40 36.0**	**-0.2**
	2.8nm,0.4s,mb4.7,baz=148,slow=7.6,SNR=34							
MKAR	**Makanchi Array**	**61.55**	**336**	P	**P**		**12 40 36.0**	**-0.2**
TKM2	**Tokmak 2**	**61.58**	**329**	P	**P**		**12 40 36.6**	**+0.1**
	SNR=9.4							
UCH	**Uchtor**	**61.64**	**328**	P	**P**		**12 40 37.5**	**+0.6**
	SNR=5.2							
KBK	**Karagaybulak**	**61.72**	**329**	P	**P**		**12 40 37.9**	**+0.5**
	SNR=16							
EKS2	**Erkin-Say**	**62.33**	**328**	P	**P**		**12 40 41.6**	**+0.2**
	SNR=11							
ZAL	**Zalesovo**	**66.66**	**342**	P	**P**		**12 41 09.2**	**-0.2**
	2.1nm,0.4s,mb4.4,baz=339,slow=5.7,SNR=9.8							
MAW	**Mawson**	**67.86**	**199**	P	**P**		**12 41 14.5**	**-2.1**
	3.6nm,0.6s,mb4.4,baz=57,slow=5.2,SNR=13							
BVAR	**Borovoye Array**	**71.26**	**334**	P	**P**		**12 41 36.6**	**-1.0**
	2.2nm,0.6s,mb4.1,baz=142,slow=8.6,SNR=16							
CHKZ	**Chkalovo**	**71.62**	**335**	*e*P	**P**		**12 41 39.7**	**-0.1**
	6.1nm,0.8s,mb4.5							
ZRNK	**Zerenda**	**71.81**	**334**	*e*P	**P**		**12 41 40.6**	**-0.3**
	2.5nm,0.6s,mb4.2							
VNDA	**Vanda**	**73.43**	**170**	P	**P**		**12 41 49.7**	**-0.3**
	3.0nm,0.7s,mb4.2,baz=314,slow=7.1,SNR=25							
VNDA	**Vanda**	**73.43**	**170**	*e*P	**P**		**12 41 49.4**	**-0.6**
	2.4nm,0.7s,mb4.1							
AKTK	**Aktyubinsk**	**75.63**	**327**	P	**P**		**12 42 03.5**	**+0.4**
AKTO	**Aktyubinsk**	**75.63**	**327**	P	**P**		**12 42 03.5**	**+0.4**
	3.9nm,0.6s,mb4.3,baz=107,slow=4.7,SNR=14							
KMBO	**Kilima Mbogo**	**75.99**	**271**	P	**P**		**12 42 06.0**	**+0.1**
	1.9nm,0.6s,mb4.0,baz=56,slow=9.0,SNR=8.1							
SYO	**Syowa Base**	**76.30**	**201**	⇑pP	pP		12 42 42.1	+13
QSPA	**South Pole Qui**	**81.52**	**180**	*e*P	**P**		**12 42 35.1**	**+0.3**
	5.0nm,0.2s,mb5.0							
LSZ	**Lusaka**	**83.08**	**256**	*e*P	**P**		**12 42 44.1**	**+0.1**
	5.1nm,0.8s,mb4.4							
BR131	**Keskin Array S**	**87.46**	**311**	*e*P	**P**		**12 43 05.6**	**+0.4**
	2.3nm,0.7s,mb4.2							
BRTR	**Keskin Array B**	**87.46**	**311**	P	**P**		**12 43 05.9**	**+0.7**
	3.7nm,0.8s,mb4.4,baz=127,slow=6.2,SNR=19							
SNAA	**Sanae**		**89.93**	**197**	*e*P	**P**	**12 43 16.6**	**+0.5**
	4.9nm,0.8s,mb4.7							
AKASG	**Malin Array Be**		**92.72**	**321**	P	**P**	**12 43 28.6**	**-1.0**
	0.8nm,0.5s,mb4.3,baz=83,slow=4.7,SNR=5.8							
YKA	**Yellowknife Ar**		**115.97**	**23**	PKP	PKPdf	12 49 00.1	+1.7
	0.8nm,0.5s,baz=319,slow=1.6,SNR=16							
YKA	**Yellowknife Ar**		**115.97**	**23**	PKP	PKPdf	12 49 00.1	+1.7
DBIC	**Dimbokro**		**118.68**	**273**	PKP	PKPdf	12 49 05.9	+1.1
	1.5nm,0.4s,baz=55,slow=2.9,SNR=7.8							
NVAR	**Mina Array Bea**		**125.01**	**49**	PKP	PKPdf	12 49 19.9	+3.3
	0.4nm,0.7s,baz=262,slow=0.9,SNR=3.9							
PDAR	**Pinedale Array**		**129.31**	**40**	SKPbc		12 52 38.7	
	0.5nm,0.8s,baz=180,slow=3.0,SNR=4.3							
ULM	**Lac du Bonnet**		**131.84**	**25**	SKPbc		12 52 48.1	
	3.6nm,0.7s,baz=265,slow=3.7,SNR=9.0							
TXAR	**Lajitas Array**		**139.63**	**54**	SKPbc		12 53 12.8	
	0.6nm,0.9s,slow=1.3,SNR=4.5							
BDFB	**Brasilia**		**149.69**	**218**	PKPbc	PKPdf	12 50 09.1	+7.4
	8.8nm,0.6s,baz=110,slow=1.3,SNR=9.5							

ISC 16 13:10:03.4±0.8,41.07N±0.06×40.75E±0.04,h10km,n7, σ0§93/13,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MACK	**Trabzon**	**0.75**	**261**	*i* P	**Pb**		**13 10 19.6**	**+1.4**
MACK				*i* S	**Sb**		**13 10 28.5**	**+0.4**
ARTV	**Artvin**	**0.90**	**82**	*i* P	**Pb**		**13 10 20.1**	**-0.6**
ARTV				*i* S	**Sb**		**13 10 31.8**	**-0.7**
GUMT	**Gumushane**	**1.14**	**238**	*i* PG	**Pg**		**13 10 24.7**	**-1.5**
GUMT				*i* SG	**Sg**		**13 10 39.3**	**-2.1**
EZM	**Erzurum**	**1.25**	**158**	PN	**Pn**		**13 10 27.5**	**+0.6**
ERZM	**Erzurum**	**1.25**	**158**	*i* P	**Pb**		**13 10 26.7**	**0.0**
ERZM				*i* S	**Sb**		**13 10 43.8**	**+1.1**
KELT	**Kelkit**	**1.46**	**232**	*i* P	**Pn**		**13 10 30.0**	**0.0**
KELT				*i* S	**Sb**		**13 10 48.5**	**-0.2**
GRSN	**GIRESUNGRSN**	**1.88**	**266**	*i* P	**Pn**		**13 10 36.5**	**+0.5**
GRSN				*i* S	**Sn**		**13 11 00.8**	**+0.8**

HLW 16 13:21:32.5,36.47N×31.38E,h33km,Mb3.7,1C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AMAG	**Maghara**	**6.01**	**165**	*e*P	P		13 22 59.3	-2.0
HMAT	**Matruh**	**6.44**	**215**	⇓*e*P	P		13 23 05.4	-2.0
HMAT				S	S		13 24 13.3	-7.3
HSAF	**As Saff**	**6.83**	**179**	⇓*e*P	P		13 23 11.3	-1.7
GLL	**Jalalah**	**6.88**	**178**	⇓*e*P	P		13 23 11.6	-2.0
HDK1	**Dakhla**	**11.02**	**189**	⇓*e*P	P		13 24 09.0	-2.0

*BJI **16** 13:30:46.6,40.67N×77.69E,h15km,ML3.7*
*NNC **16** 13:30:47.6±4.0,40.65N×77.49E,mb3.7,mpv3.4,Error ellipse: s-maj=31.9km s-min=30.1km az=147.0*

ISC 16 13:30:46.8±2.2,40.3N±0.1×78.4E±0.2,h33km,n13, σ0§85/14,5C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSH	**Kashi**	**2.04**	**247**	PG	**P**		**13 31 19.3**	**-0.1**
KSH				SG	**S**		**13 31 44.0**	**+0.1**
KSH				Smax				
	comp=N,410nm,0.4s							
KSH				Smax				
	comp=E,450nm,0.7s							
ULHL	**Ulahol**	**2.51**	**320**	P	**P**		**13 31 21.0**	**-5.1**
	SNR=63							
KZA	**Kyzart**	**2.95**	**307**	P	**P**		**13 31 28.3**	**-4.1**
	SNR=46							
KNDC	**Almaty**	**3.08**	**340**	⇓Pg	**P**		**13 31 34.8**	**+0.6**
KNDC				⇓Lg			13 32 09.3	
TKM2	**Tokmak 2**	**3.33**	**322**	P	**P**		**13 31 33.5**	**-4.4**
	SNR=6.3							
TKM2	**Tokmak 2**	**3.33**	**322**	⇓Pn	**Pn**		**13 31 33.0**	**-5.0**
	comp=E,15nm,0.2s							
TKM2				⇑Lg			13 32 10.9	
	comp=E,40nm,0.3s							
KBK	**Karagaybulak**	**3.48**	**313**	P	**P**		**13 31 38.5**	**-1.5**
	SNR=26							
UCH	**Uchtor**	**3.49**	**304**	P	**P**		**13 31 33.9**	**-6.2**
	SNR=15							
CHMS	**Chumysh**	**3.82**	**315**	P	**P**		**13 31 44.8**	**0.0**
	SNR=9.6							
USP	**Ospenovka**	**4.14**	**316**	P	**P**		**13 31 49.7**	**+0.4**
	SNR=53							
EKS2	**Erkin-Say**	**4.18**	**305**	P	**P**		**13 31 50.9**	**+1.0**
	SNR=12							
KK31	**Karatay Array**	**6.52**	**298**	⇑Pg	**P**		**13 32 34.1**	**+11**
	comp=E,1.0nm,0.5s,baz=118,slow=16,SNR=20							
KK31				⇑Lg			13 33 48.9	
	comp=E,5.6nm,0.5s,baz=118,slow=25							
MK31	**Makanchi Array**	**7.05**	**22**	⇑Pn	**Pn**		**13 32 30.4**	**-0.1**
	comp=E,0.8nm,0.6s,baz=205,slow=11,SNR=21							
MK31				⇑Lg			13 34 31.1	
	comp=E,1.5nm,0.5s							

*IDC **16** 13:51:13.8±1.6,15.99S×176.16W,h356km±21km,mb3.4/4, mb1 3.7/5,mb1mx3.3/14,mbtmp4.2/5,Error ellipse: s-maj=33.0km s-min=22.4km az=141.0*
*NEIC **16** 13:51:13.6±1.2,16.02S×176.13W,h358km±15km,mb4.0/2, Error ellipse: s-maj=27.7km s-min=18.3km az=144.0*

ISC 16 13:51:12.9±1.3,16.1S±0.2×176.2W±0.2,h360km±21km, n14,σ0§51/13,mb3.9/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**4.79**	**64**	P	**P**		**13 52 30.9**	**-0.4**
	11nm,0.3s,baz=266,slow=13,SNR=44							
AFI				S	**S**		**13 53 33.2**	**+0.5**
	18nm,0.3s,baz=245,slow=22,SNR=6.6							
AFI	**Afiamalu**	**4.79**	**64**	*e*Pn	**P**		**13 52 30.4**	**-0.9**
AFI				S	**S**		**13 53 33.2**	**+0.5**
STKA	**Stephens Creek**	**41.37**	**240**	P	**P**		**13 58 27.7**	**+1.1**
	2.5nm,0.7s,mb3.5,baz=82,slow=11,SNR=4.8							
STKA	**Stephens Creek**	**41.37**	**240**	P	**P**		**13 58 27.7**	**+1.1**
WB2	**Warramunga Arr**	**47.04**	**288**	*e*P	**P**		**13 59 11.6**	**0.0**
WRA	**Warramunga Arr**	**47.05**	**258**	P	**P**		**13 59 11.3**	**-0.3**
	5.7nm,0.6s,mb4.0,baz=90,slow=7.0,SNR=128							
MBWA	**Marble Bar**	**60.57**	**254**	*e*P	**P**		**14 00 48.2**	**-0.5**
	3.8nm,0.6s,mb4.0							
VNDA	**Vanda**	**62.47**	**185**	P	**P**		**14 01 00.2**	**-0.2**
	2.8nm,1.0s,mb3.7,baz=24,slow=4.8,SNR=8.7							
VNDA	**Vanda**	**62.47**	**185**	*e*P	**P**		**14 01 00.1**	**-0.3**
	3.8nm,1.1s,mb3.8							
QSPA	**South Pole Qui**	**74.00**	**180**	*e*P	**P**		**14 02 10.8**	**0.0**
	2.9nm,0.2s,mb4.7							
ILAR	**Eielson Array**	**83.62**	**12**	P	**P**		**14 03 02.5**	**+0.1**
	0.2nm,0.6s,mb3.1,baz=212,slow=4.9,SNR=6.6							
KMBO	**Kilima Mbogo**	**142.80**	**246**	PKP	PKPdf		14 10 04.3	-0.5
	1.5nm,0.7s,baz=87,slow=6.7,SNR=4.9							
BR131	**Keskin Array S**	**144.89**	**318**	*e*PKPdf	PKPdf		14 10 09.5	+1.9
BRTR	**Keskin Array B**	**144.89**	**318**	PKP	PKPdf		14 10 09.8	+2.2
	1.2nm,0.8s,baz=96,slow=4.4,SNR=5.5							

*CSEM **16** 13:52:08.9±1.3,39.40N×29.84W,h5km,ML2.7,Error ellipse: s-maj=33.7km s-min=12.0km az=45.0,After PDA*
*PDA **16** 13:52:08.9±1.3,39.40N×29.84W,h5km,MD3.5,ML2.7, Error ellipse: s-maj=33.7km s-min=12.0km az=45.0*

SVSA 16 13:52:08.9±1.3,39.40N×29.84W,h5km,MD3.5,ML2.7, Error ellipse: s-maj=33.7km s-min=12.0km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PTCA	**Ponta do Capel**	**1.15**	**135**	*e*S		Sb	13 52 41.6	-4.4
	36nm,0.2s							
PTCA	**Ponta do Capel**	**1.15**	**135**	*e*S		Sb	13 52 41.6	-4.4
	36nm,0.2s							
PCED	**Cedros**	**1.17**	**131**	*e*P		Pb	13 52 27.0	-4.3
PCED				*e*S		Sb	13 52 40.5	-6.2
	62nm,0.2s							
PCED	**Cedros**	**1.17**	**131**	*e*P		Pb	13 52 27.0	-4.3
PCED				*e*S		Sb	13 52 40.5	-6.2
	62nm,0.2s							
CALA	**Caldeira**	**1.21**	**132**	*e*P		Pb	13 52 27.1	-4.7
CALA				*e*S		Sb	13 52 41.9	-5.7
HOR	**Horta**	**1.28**	**132**	*e*S		Sb	13 52 43.1	-6.7
ROSA	**Rosais**	**1.42**	**118**	*e*S		Sb	13 52 46.4	-7.3
PCND	**Candelaria**	**1.42**	**130**	*e*S		Sb	13 52 47.6	-6.2
	79nm,0.2s							
PICO	**Pico**	**1.42**	**129**	*e*P		Pn	13 52 31.3	-4.2
PICO				*e*S		Sb	13 52 47.2	-6.6
PBOI	**Pico dos Bois**	**1.49**	**130**	*e*S		Sb	13 52 48.4	-7.5
	28nm,0.2s							
PPNO	**Prainha do Nor**	**1.54**	**126**	*e*S		Sb	13 52 50.0	-7.2
	37nm,0.3s							

MAN 16 13:54:01.9,4.05N×126.28E,h10km,mb4.7,ML3.6,MS3.6, 1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GSPH	**General Santos**	**2.42**	**327**	⇓*e*P		Pn	13 54 42.9	+0.7
GSPH				*i* S		Sn	13 55 09.9	-2.2
MATI	**Mati**	**2.88**	**360**	*e*P		Pn	13 54 48.4	-0.4
BUKP	**Musuan**	**3.99**	**342**	*e*P		Pn	13 55 04.6	+0.1
BUKP				*e*S		Sn	13 55 47.4	-4.5
PAGZ	**Pagadian**	**4.74**	**323**	*e*P		Pn	13 55 15.1	-0.2
IPIL	**Ipil**	**5.23**	**315**	*e*P		Pn	13 55 22.0	-0.1
IPIL				*e*S		Sn	13 56 15.7	-7.6

*ISK **16** 14:02:53.8,37.97N×27.34E,h26km,MD3.3*
*CSEM **16** 14:02:53.7±0.1,37.97N×27.44E,h20km,MD3.3,Error ellipse: s-maj=4.0km s-min=1.9km az=68.0*
*ATH **16** 14:02:55.4,37.97N×27.43E,h9km±1km,MD3.3/3*

ISC 16 14:02:53.6±0.5,37.99N±0.02×27.51E±0.03,h4km±5km, n31,σ1§13/46,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AYDN	**Tasoluk**	**0.44**	**138**	*i* P		**Pg**	**14 03 03.0**	**+0.7**
AYDN				*i* S		**Sg**	**14 03 09.4**	**+1.2**
IZM	**Izmir**	**0.46**	**335**	*i* PG		**Pg**	**14 03 03.1**	**+0.4**
KDAG	**Bornova**	**0.46**	**335**	*i* P		**Pg**	**14 03 02.2**	**-0.5**
KDAG				*i* S		**Sg**	**14 03 08.6**	**-0.3**
BLCB	**Balcova**	**0.54**	**318**	*i* PG		**Pg**	**14 03 04.9**	**+0.5**
BLCB				*i* SG		**Sg**	**14 03 11.7**	**0.0**
SMG	**Samos**	**0.60**	**243**	*e*PB		**Pb**	**14 03 05.8**	**-0.4**
SMG				*e*SB		**Sb**	**14 03 13.5**	**-1.2**
MLSB	**Milas**	**0.72**	**163**	PG		**Pg**	**14 03 08.4**	**+0.4**
MLSB				SG		**Sg**	**14 03 20.8**	**+3.2**
URLA	**Izmir**	**0.81**	**298**	*i* P		**Pg**	**14 03 09.3**	**-0.5**
URLA				*i* S		**Sg**	**14 03 19.7**	**-0.9**
BDRM	**Kayabasi**	**0.92**	**183**	*i* P		**Pb**	**14 03 11.6**	**-0.1**
BDRM				*i* S		**Sb**	**14 03 24.5**	**+0.5**
AKS	**Akhisar**	**0.92**	**15**	PG		**Pg**	**14 03 12.0**	**0.0**
BODT	**Bodrum**	**0.93**	**190**	PG		**Pg**	**14 03 11.1**	**-1.1**
BODT				SG		**Sg**	**14 03 23.8**	**-0.9**
MANT	**Manisa**	**0.97**	**58**	*i* P		**Pb**	**14 03 13.6**	**+1.1**
MANT				*i* S		**Sb**	**14 03 24.2**	**-1.3**
YER	**Yerkesik**	**1.05**	**144**	PN		**Pn**	**14 03 14.4**	**-0.5**
AYVA	**Ayvalik**	**1.47**	**334**	*i* P		**Pn**	**14 03 23.0**	**+2.2**
AYVA				*i* S		**Sb**	**14 03 42.6**	**+2.6**
DALT	**Dalyan (Mudla)**	**1.51**	**143**	PN		**Pn**	**14 03 20.8**	**-0.7**
PRK	**Paraskevi**	**1.59**	**323**	*e*PB		**Pb**	**14 03 24.9**	**+1.8**
PRK				*e*SB		**Sb**	**14 03 46.2**	**+2.7**
KHL	**Karahalli**	**1.62**	**77**	*e*PN		**Pn**	**14 03 23.7**	**+0.6**
BALB	**Balikesir**	**

mb1mx4.5/14,mbtmp4.3/10,MS4.5/18,Ms1 4.5/18, ms1mx4.4/24,Error ellipse: s-maj=33.8km s-min=19.4km az=142.0

BJI ***16*** *14:33:33.6, 17.60S×176.70W,h20km,mB5.3,mb4.9, Ms5.1,Msz4.7*

NEIC ***16*** *14:33:33.7±0.3, 17.63S×176.72W,h20km,mb4.9/29, MS4.9/9,Error ellipse: s-maj=15.1km s-min=7.4km az=148.0*

HRVD ***16*** *14:33:33.7±0.2, 17.66S×176.48W,h18km±1km,MW5.2/80, Centroid moment Tensor Solution. LP body waves: s43,c62;Mantle waves: s80,c146; Half duration: 1s0 Moment tensor: Scale 1016Nm; Mrr0.15±.19; Mθθ-6.20±.18; Mϕϕ6.05±.17; Mrθ-0.60±.35; Mθϕ3.69±.15; Mϕr1.80±.39; Best double couple: M07.399×1016 NP1: ϕs61°,δ75°,λ3°. NP2:ϕs330°,δ87°,λ165°. Principal axes: T 7.42, Plg12°, Azm285°; N -.045, Plg75°, Azm139°; P -7.377, Plg8°, Azm16°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***16*** *14:33:38.7±1.5, 16.67S×176.47W,h33km,mb5.0/15, MS4.9/6 Error ellipse: s-maj=22.2km s-min=11.1km az=54.1*

ISC 16 14:33:34.7±0.3, 17.7S±0.1×176.51W±0.07, h33km, (h24km±3.7km: pP-P), n163, σ1s01/93, mb4.8/46, MS4.7/27, 2C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.92**	**51**	Pn		**Pn**		**14 34 57.2**	**-5.3**
	4.1nm,0.3s,baz=38,slow=14,SNR=13								
AFI				LR		LR		14 36 33.3	
	comp=Z,1μm,21.5s,baz=229,slow=30								
AFI	**Afiamalu**	**5.92**	**51**	*e*P		**P**		**14 34 56.3**	**-6.0**
AFI				pmax		pmax			
	comp=Z,160nm,0.8s								
AFI	**Afiamalu**	**5.92**	**51**	*e*P		**P**		**14 34 56.3**	**-6.0**
	comp=Z,160nm,0.8s								
RAO	**Raoul Island**	**11.55**	**186**	LR		LR		14 40 07.1	
	comp=Z,6μm,20.5s,baz=7.8,slow=34								
RAR	**Rarotonga**	**16.16**	**105**	LR		LR		14 42 05.9	
	comp=Z,2μm,20.2s,baz=242,slow=31								
DZM	**Mont Dzumac**	**16.60**	**252**	Pn		**P**		**14 37 27.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=66,slow=16,SNR=7.2								
DZM				LR		LR		14 42 24.1	
	comp=Z,2μm,20.1s,baz=256,slow=32								
NOUC	**Port Laguerre**	**16.74**	**252**	*e*P		**P**		**14 37 30.3**	**+2.1**
URZ	**Urewera**	**21.22**	**194**	LR		LR		14 46 00.9	
	comp=Z,3μm,18.7s,MS4.7,baz=222,slow=35								
HNR	**Honiara**	**24.30**	**287**	LR		LR		14 46 58.7	
	comp=Z,2μm,18.1s,MS4.6,baz=114,slow=34								
PAE	**Paea**	**25.65**	**94**	*e*P		**P**		**14 39 08.7**	**+5.3**
	comp=Z,97nm,1.2s,mb5.2								
PPT	**Papeete**	**25.66**	**94**	*e*LQ				14 44 11.1	
PPT				*e*LR		LR		14 45 08.9	
	comp=Z,4μm,27.5s								
TBI	**Tubuai**	**25.92**	**107**	*e*LQ				14 44 05.9	
TBI				*e*LR		LR		14 45 19.2	
	comp=Z,3μm,29.0s								
TVO	**Taravao**	**25.96**	**94**	*e*P		**P**		**14 39 12.0**	**+5.8**
	comp=Z,133nm,1.3s,mb5.3								
RPZ	**Rata Peaks**	**27.97**	**199**	LR		LR		14 49 42.0	
	comp=Z,3μm,20.8s,MS4.8,baz=39,slow=34								
CTA	**Charters Tower**	**35.26**	**260**	*e*P		**P**		**14 40 26.1**	**-2.4**
	comp=Z,14nm,0.8s,mb5.0								
CTA	**Charters Tower**	**35.26**	**260**	P		**P**		**14 40 25.7**	**-2.8**
	comp=Z,6.8nm,0.9s,mb4.6,baz=96,slow=10,SNR=8.2								
CTAO	**Charters Tower**	**35.26**	**260**	*e*P		**P**		**14 40 25.9**	**-2.6**
	comp=Z,18nm,0.8s,mb5.1								
PMG	**Port Moresby**	**36.21**	**278**	LR		LR		14 53 15.5	
	comp=Z,767nm,18.3s,MS4.5,baz=310,slow=33								
TAOE	**Nuku Hiva Isla**	**36.41**	**81**	*e*LR		LR		14 50 17.7	
	comp=Z,2μm,26.7s								
RKT	**Rikitea**	**39.20**	**105**	*e*LR		LR		14 51 28.1	
	comp=Z,2μm,28.2s								
STKA	**Stephens Creek**	**40.31**	**241**	P		**P**		**14 41 10.6**	**0.0**
	comp=Z,2.2nm,0.8s,mb3.9,baz=67,slow=7.7,SNR=2.4								
STKA				LR		LR		14 56 01.0	
	comp=Z,418nm,19.1s,MS4.3,baz=64,slow=34								
STKA	**Stephens Creek**	**40.31**	**241**	P		**P**		**14 41 09.1**	**-1.5**
WRA	**Warramunga Arr**	**46.44**	**259**	P		**P**		**14 41 57.1**	**-3.4**
	comp=Z,2.8nm,0.9s,mb4.2,baz=96,slow=7.8,SNR=4.0								
VNDA	**Vanda**	**60.79**	**185**	P		**P**		**14 43 45.0**	**-0.4**
	comp=Z,2.7nm,1.0s,mb4.3,baz=7.7,slow=8.2,SNR=7.6								
VNDA				LR		LR		15 04 14.0	
	comp=Z,154nm,19.9s,MS4.2,baz=21,slow=30								
VNDA	**Vanda**	**60.79**	**185**	*e*P		**P**		**14 43 44.8**	**-0.7**
	comp=Z,9.9nm,1.3s,mb4.8								
VNDA				LR		LR			
	comp=Z,201nm,20.0s,MS4.3								
NWAO	**Narrogin (SRO)**	**60.89**	**242**	LR		LR		15 08 19.6	
	comp=Z,371nm,18.2s,MS4.6,baz=94,slow=34								
MJAR	**Matsushiro Arr**	**68.85**	**322**	P		**P**		**14 44 34.3**	**-3.8**
	comp=Z,0.8nm,0.7s,mb3.7,baz=18,slow=16,SNR=3.9								
QSPA	**South Pole Qui**	**72.34**	**180**	*e*P		**P**		**14 44 58.1**	**-0.3**
	comp=Z,23nm,1.0s,mb5.1								
QSPA				LR		LR			
	comp=Z,255nm,19.0s,MS4.5								
KSM	**Kuching**	**74.45**	**277**	*e*P		**P**		**14 45 13.0**	**+1.0**
CMB	**Columbia Colle**	**76.47**	**42**	*e*P		**P**		**14 45 21.8**	**-1.3**
CMB				pmax		pmax			
	comp=Z,11nm,1.0s,mb4.7								
CMB	**Columbia Colle**	**76.47**	**42**	*e*P		**P**		**14 45 21.8**	**-1.3**
	comp=Z,11nm,1.0s,mb4.7								
SSE	**Sheshan**	**77.02**	**309**	P		**P**		**14 45 26.1**	**-0.3**
SSE				AP		pP		14 45 35.3	-1.4
SSE				PCP		PcP		14 45 37.3	-0.3
SSE				S		S		14 55 12.3	+1.1
SSE				SCS		ScS		14 55 41.8	+4.5
SSE				SS		SS		15 00 09.5	-1.9
SSE				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.1								
SSE				AMB		AMB			
	comp=Z,140nm,6.0s								
SSE				LR		LR			
	comp=N,160nm,24.7s,MS4.3								
SSE				LR		LR			
	comp=E,110nm,24.8s,MS4.3								
SSE				LR		LR			
	comp=Z,90nm,17.1s								
NVAR	**Mina Array Bea**	**78.04**	**43**	P		**P**		**14 45 31.5**	**-0.4**
	comp=Z,4.8nm,1.0s,mb4.4,baz=217,slow=7.3,SNR=10								
NVAR				LR		LR		15 13 07.3	
	comp=Z,187nm,18.1s,MS4.5,baz=270,slow=30								
MNV	**Mina**	**78.14**	**43**	*e*P		**P**		**14 45 32.0**	**-0.4**
MNV				pmax		pmax			
	comp=Z,11nm,1.2s,mb4.7								
MNV				MLR		MLR			
	comp=Z,555nm,20.0s,MS4.9								
MNV	**Mina**	**78.14**	**43**	*e*P		**P**		**14 45 31.9**	**-0.5**
	comp=Z,11nm,1.2s,mb4.7								
MNV				LR		LR			
	comp=Z,555nm,20.0s,MS4.9								
LDFC	**Landfair**	**78.39**	**47**	*e*P		**P**		**14 45 34.1**	**+0.2**
TPNV	**Topopah Spring**	**78.60**	**45**	*e*P		**P**		**14 45 33.9**	**-1.0**
TPNV				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.6								
TPNV				MLR		MLR			
	comp=Z,857nm,21.0s,MS5.1								
TPNV	**Topopah Spring**	**78.60**	**45**	*e*P		**P**		**14 45 33.9**	**-1.1**
	comp=Z,8.8nm,1.1s,mb4.6								
TPNV				LR		LR			
	comp=Z,857nm,21.0s,MS5.1								
NEN	**Nelson**	**78.88**	**47**	*e*P		**P**		**14 45 36.5**	**0.0**
MDJ	**Mudanjiang**	**79.08**	**324**	P		**P**		**14 45 39.4**	**+2.0**
MDJ				AMB		AMB			
	comp=Z,10.0nm,1.4s,mb4.5								
MDJ				AMB		AMB			
	comp=Z,100nm,3.1s								
NJ2	**Nanjing**	**79.22**	**309**	*e*P		**P**		**14 45 38.3**	**-0.2**
NJ2				AP		pP		14 45 47.3	-1.5
NJ2				PP		PP		14 48 39.0	-0.8
NJ2				S		S		14 55 32.0	-2.7
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
NJ2				AMB		AMB			
	comp=Z,190nm,5.8s								
NJ2				LR		LR			
	comp=N,2μm,26.0s								
NJ2				LR		LR			
	comp=E,680nm,14.2s								
NJ2				LR		LR			
	comp=Z,140nm,18.6s								
WVOR	**Wild Horse Val**	**80.10**	**40**	*e*P		**P**		**14 45 43.5**	**+0.5**
WVOR				pmax		pmax			
	comp=Z,14nm,1.2s,mb4.8								
TUC	**Tucson**	**80.16**	**52**	*e*P		**P**		**14 45 42.6**	**-0.9**
TUC				pmax		pmax			
	comp=Z,10.0nm,1.4s,mb4.5								
TUC	**Tucson**	**80.16**	**52**	*e*P		**P**		**14 45 42.6**	**-0.9**
	comp=Z,10nm,1.4s,mb4.6								
CN2	**Changchun**	**80.98**	**322**	*e*P		**P**		**14 45 48.6**	**+1.0**
CN2				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.7								
ELK	**Elko**	**81.29**	**42**	*e*P		**P**		**14 45 48.7**	**-0.6**
ELK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
ELK				MLR		MLR			
	comp=Z,509nm,21.0s								
ELK	**Elko**	**81.29**	**42**	*e*P		**P**		**14 45 48.7**	**-0.6**
	comp=Z,8.1nm,1.2s,mb4.5								
ELK				LR		LR			
	comp=Z,509nm,21.0s,MS4.9								
WHN	**Wuhan**	**81.96**	**305**	*e*P		**P**		**14 45 56.0**	**+3.0**
MSU	**Marysvale**	**82.17**	**46**	*e*P		**P**		**14 45 54.8**	**+0.9**
DUG	**Dugway**	**82.58**	**44**	*e*P		**P**		**14 45 56.5**	**+0.5**
DUG				pmax		pmax			
	comp=Z,11nm,1.3s,mb4.7								
DUG				MLR		MLR			
	comp=Z,551nm,20.0s,MS4.9								
DUG	**Dugway**	**82.58**	**44**	*e*P		**P**		**14 45 56.5**	**+0.5**
	comp=Z,10nm,1.3s,mb4.7								
DUG				LR		LR			
	comp=Z,551nm,20.0s,MS4.9								
TMUT	**Trail Mountain**	**83.21**	**45**	*e*P		**P**		**14 46 00.2**	**+1.0**
HLID	**Hailey**	**83.31**	**40**	*e*P		**P**		**14 46 00.3**	**+0.7**
	comp=Z,14nm,1.4s,mb4.8								
HLID				LR		LR			
	comp=Z,540nm,20.0s,MS4.9								
HVU	**Hansel Valley**	**83.41**	**42**	*e*P		**P**		**14 45 59.2**	**-1.0**
HVU				pmax		pmax			
	comp=Z,16nm,1.4s,mb4.9								
HVU	**Hansel Valley**	**83.41**	**42**	*e*P		**P**		**14 45 59.2**	**-1.0**
	comp=Z,16nm,1.4s,mb4.9								
LAZ	**Ladron**	**83.83**	**51**	*e*P		**P**		**14 46 03.1**	**+0.6**
MCK	**McKinley**	**83.97**	**12**	*e*P		**P**		**14 46 01.9**	**-0.6**
MCK				pmax		pmax			
	comp=Z,10.0nm,1.2s,mb4.8								
MCK	**McKinley**	**83.97**	**12**	*e*P		**P**		**14 46 01.9**	**-0.6**
	comp=Z,9.7nm,1.2s,mb4.8								
MNTX	**Cornudas Mount**	**84.00**	**54**	*e*P		**P**		**14 46 03.9**	**+0.4**
	comp=Z,16nm,1.5s,mb4.9								
SEY	**Seymchan**	**84.01**	**346**	*i* P		**P**		**14 46 00.9**	**-1.8**
BNM	**Barren Site**	**84.10**	**52**	*e*P		**P**		**14 46 04.5**	**+0.6**
HWUT	**Hardware Ranch**	**84.11**	**43**	*e*P		**P**		**14 46 02.0**	**-1.8**
	comp=Z,4.3nm,1.0s,mb4.5								
LPM	**Los Pinos Moun**	**84.16**	**51**	*e*P		**P**		**14 46 05.1**	**+0.9**
PV10	**Paradox Valley**	**84.26**	**47**	*e*P		**P**		**14 46 05.2**	**+0.6**
LTX	**Lajitas**	**84.37**	**57**	*e*P		**P**		**14 46 05.9**	**+0.5**
LTX				pmax		pmax			
	comp=Z,14nm,1.4s,mb4.9								
LTX	**Lajitas**	**84.37**	**57**	*e*P		**P**		**14 46 05.9**	**+0.6**
	comp=Z,14nm,1.4s,mb4.9								
TXAR	**Lajitas Array**	**84.37**	**57**	P		**P**		**14 46 06.2**	**+0.9**
	comp=Z,1.5nm,0.9s,mb4.1,baz=202,slow=6.7,SNR=6.8								
TXAR				LR		LR		15 14 52.9	
	comp=Z,178nm,19.9s,MS4.5,baz=215,slow=29								
PV01	**Paradox Valley**	**84.47**	**47**	*e*P		**P**		**14 46 04.1**	**-1.6**
ANMO	**Albuquerque**	**84.57**	**51**⇑	*e*P		**P**		**14 46 06.4**	**+0.2**
ANMO	**Albuquerque**	**84.57**	**51**	*e*P		**P**		**14 46 06.7**	**+0.5**
	comp=Z,13nm,1.4s,mb4.9								
ANMO				LR		LR			
	comp=Z,497nm,22.0s,MS4.8								
MCMT	**McKenzie Canyo**	**84.93**	**40**	*e*P		**P**		**14 46 08.3**	**+0.5**
GDL2	**Guadalupe Moun**	**84.99**	**54**	*e*P		**P**		**14 46 08.8**	**+0.4**
RRI2	**Red Ridge**	**85.13**	**42**	*e*P		**P**		**14 46 09.6**	**+0.8**
	comp=Z,16nm,1.0s,mb5.1								
RW3	**Ridgway**	**85.15**	**47**	*e*P		**P**		**14 46 09.3**	**+0.3**
COLA	**College**	**85.20**	**12**‖	*e*P		**P**		**14 46 07.3**	**-1.3**
COLA	**College**	**85.20**	**12**	*e*P		**P**		**14 46 07.5**	**-1.1**
	comp=Z,15nm,0.8s,mb5.2								
ILAR	**Eielson Array**	**85.31**	**12**	P		**P**		**14 46 07.3**	**-1.8**
	comp=Z,7.1nm,1.1s,mb4.7,baz=216,slow=4.7,SNR=17								
ILAR				LR		LR		15 14 54.6	
	comp=Z,303nm,21.8s,MS4.7,baz=58,slow=29								
TPAW	**Teton Pass**	**85.44**	**42**	*e*P		**P**		**14 46 10.2**	**0.0**
	comp=Z,8.6nm,1.0s,mb4.8								
ENH	**Enshi**	**85.67**	**303**	*e*P		**P**		**14 46 08.8**	**-2.9**
	comp=Z,28nm,1.2s,mb5.4								
LOHW	**Long Hollow**	**85.72**	**42**	*e*P		**P**		**14 46 12.6**	**+0.9**
	comp=Z,9.8nm,1.3s,mb4.9								
CHMT	**Chamberlain Mo**	**85.77**	**38**	*e*P		**P**		**14 46 12.3**	**+0.5**
QLMT	**Earthquake Lak**	**85.80**	**40**	*e*P		**P**		**14 46 12.7**	**+0.7**
BW06	**Boulder Array**	**85.98**	**43**	*e*P		**P**		**14 46 12.7**	**-0.3**
	comp=Z,7.0nm,1.1s,mb4.8								
PDAR	**Pinedale Array**	**85.98**	**43**	P		**P**		**14 46 13.6**	**+0.6**
	comp=Z,4.4nm,1.0s,mb4.6,baz=225,slow=4.2,SNR=11								
SMCO	**Snowmass**	**86.06**	**47**	*e*P		**P**		**14 46 13.2**	**-0.3**
	comp=Z,5.0nm,1.0s,mb4.7								
BOZ	**Bozeman (W)**	**86.09**	**40**	*e*P		**P**		**14 46 13.6**	**+0.2**
BOZ				pmax		pmax			
	comp=Z,16nm,1.4s,mb5.1								
BOZ	**Bozeman (W)**	**86.09**	**40**	*e*P		**P**		**14 46 13.6**	**+0.2**
	comp=Z,16nm,1.4s,mb5.1								
DAWY	**Dawson**	**86.41**	**15**	*e*P		**P**		**14 46 13.1**	**-1.5**
BILL	**Bilibino**	**86.43**	**354**	*e*P		**P**		**14 46 13.9**	**-0.7**
BILL				pmax		pmax			
	comp=Z,16nm,1.1s,mb5.2								
BILL	**Bilibino**	**86.43**	**354**	*e*P		**P**		**14 46 13.9**	**-0.7**
	comp=Z,16nm,1.1s,mb5.2								
SDCO	**Great Sand Dun**	**86.47**	**49**	*e*P		**P**		**14 46 15.9**	**+0.4**
SDCO				LR		LR			
	comp=Z,674nm,20.0s,MS5.0								
HRY	**Holter Researc**	**86.50**	**39**	*e*P		**P**		**14 46 15.8**	**+0.3**
HHC	**Hu-ho-hao-te**	**88.44**	**314**	*e*P		**P**		**14 46 30.4**	**+5.5**
HHC				SKS		SKS		14 56 54.8	+5.8
HHC				S		S		14 57 15.6	+9.4
HHC				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb5.0								
HHC				AMB		AMB			
	comp=Z,150nm,4.3s								
HHC				LR		LR			
	comp=N,180nm,15.5s,MS4.7								
HHC				LR		LR			
	comp=E,160nm,14.3s,MS4.7								
HHC				LR		LR			
	comp=Z,170nm,16.6s,MS4.5								
EDM	**Edmonton**	**89.02**	**32**	P		**P**		**14 46 28.6**	**+1.2**
KMI	**Kunming**	**89.36**	**297**	P		**P**		**14 46 31.3**	**+1.6**
KMI				SKS		SKS		14 56 59.9	+4.8
KMI				S		S		14 57 17.5	+2.4
KMI				SS		SS		15 03 16.4	+2.8
KMI				AMB		AMB			
	comp=Z,110nm,6.5s								
KMI				LR		LR			
	comp=N,240nm,17.6s,MS4.8								
KMI				LR		LR			
	comp=E,240nm,17.1s,MS4.8								
KMI				LR		LR			
	comp=Z,290nm,20.4s,MS4.7								
SYO	**Syowa Base**	**89.73**	**192**	‖PcP		PcP		14 46 30.9	-1.1
PLCA	**Paso Flores**	**90.15**	**133**	LR		LR		15 22 04.6	
	comp=Z,163nm,18.3s,MS4.5,baz=238,slow=32								
RSSD	**Black Hills**	**90.18**	**43**	*e*P		**P**		**14 46 33.2**	**+0.1**
RSSD				pmax		pmax			
	comp=Z,13nm,1.4s,mb5.1								
RSSD	**Black Hills**	**90.18**	**43**	*e*P		**P**		**14 46 33.2**	**+0.1**
	comp=Z,13nm,1.4s,mb5.1								
CD2	**Chengdu**	**90.49**	**302**	*e*P		**P**		**14 46 34.4**	**-0.5**
CD2				SKS		SKS		14 57 03.3	+1.5
CD2				S		S		14 57 25.8	+0.6
CD2				SS		SS		15 03 29.8	-0.2
CD2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb5.2								
CD2				LR		LR			
	comp=E,90nm,13.2s								
CD2				LR		LR			
	comp=Z,90nm,16.8s,MS4.3								
SNAA	**Sanae**	**90.73**	**178**	*e*P		**P**		**14 46 34.2**	**-0.8**
	comp=Z,5.1nm,1.0s,mb4.8								
NVL	**N'lazarevskaya**	**91.56**	**183**⇑	*i*P		**P**		**14 46 44.7**	**+5.8**
NVL				pmax		pmax			
	comp=Z,1.0nm,0.8s,mb4.2								
LZH	**Lanzhou**	**92.21**	**307**	*e*P		**P**		**14 46 42.5**	**-0.2**
LZH				AP		pP		14 46 48.9	-4.4
LZH				PP		PP		14 50 25.1	-0.6
LZH				*e*SKS		SKS		14 57 12.8	+1.3
LZH				*e*S		S		14 57 41.1	+0.8
LZH				*e*SS		SS		15 03 53.5	-0.7
LZH				AMB		AMB			
	comp=Z,20nm,1.6s,mb5.2								
LZH				AMB		AMB			
	comp=Z,60nm,4.5s								
LZH				LR		LR			
	comp=N,350nm,18.9s								
LZH				LR		LR			
	comp=Z,560nm,19.5s,MS5.0								
YKA	**Yellowknife Ar**	**93.41**	**24**	P		**P**		**14 46 47.4**	**-0.1**
	comp=Z,1.0nm,0.9s,mb4.2,baz=239,slow=4.7,SNR=7.6								
YKA				LR		LR		15 19 19.3	
	comp=Z,526nm,20.9s,MS5.0,baz=235,slow=30								
ULN	**Ulaanbaatar**	**94.19**	**319**	*e*P		**P**		**14 47 01.4**	**+10**
SONM	**Songino Array**	**94.59**	**319**	LR		LR		15 24 05.8	
	comp=Z,81nm,20.9s,MS4.2,baz=143,slow=32								
ULM	**Lac du Bonnet**	**97.61**	**40**	LR		LR		15 25 48.3	
	comp=Z,386nm,18.2s,MS4.9,baz=252,slow=32								
MKAR	**Makanchi Array**	**110.30**	**314**	PKIKP				14 52 06.5	
	comp=Z,0.9nm,0.9s,baz=63,slow=2.7,SNR=5.5								
CHKZ	**Chkalovo**	**117.61**	**322**	*e*PKIKP		PKPdf		14 52 17.6	+0.4
BVAR	**Borovoye Array**	**117.83**	**321**	PKP		PKPdf		14 52 16.5	-1.1
	comp=Z,0.4nm,0.4s,baz=226,slow=44,SNR=3.5								
ZRNK	**Zerenda**	**118.67**	**321**	*e*PKIKP		PKPdf		14 52 19.3	0.0
ARU	**Arti**	**123.69**	**327**	*i* PKIKP		PKPdf		14 52 28.0	-1.0
ARU				*e*				14 54 08.7	
ARU				*e*				14 59 26.6	
ARU				*e*SS		SS		15 10 53.4	-5.3
AKTK	**Aktyubinsk**	**125.89**	**320**	PKP		PKPdf		14 52 32.8	-0.5
AKTO	**Aktyubinsk**	**125.89**	**320**	PKP		PKPdf		14 52 32.8	-0.5
	comp=Z,0.5nm,0.7s,baz=205,slow=20,SNR=2.0								
KIV	**Kislovodsk**	**137.96**	**317**	PKIKP		PKPdf		14 52 58.0	+1.7
LVV	**L'vov**	**143.96**	**337**	*e*PKHKP				14 53 04.5	
OJC	**Ojcow**	**145.03**	**342**	*e*PKP		PKPdf		14 53 13.0	+4.5
STHS	**Stebnicka Huta**	**145.27**	**340**	*e*PKP		PKPdf		14 53 11.3	+2.3
STHS				*e*				14 53 14.6	
KOLS	**Kolonicke sedl**	**145.33**	**338**	*e*PKP		PKPdf		14 53 13.4	+4.3
KOLS				*e*				14 53 25.0	
KSP	**Ksiaz**	**145.40**	**346**	*e*PKP		PKPdf		14 53 10.6	+1.5
KSP	**Ksiaz**	**145.40**	**346**	*e*PKP		PKPdf		14 53 10.1	+1.0
KSP				*e*PKPdf		PKPdf		14 53 14.3	+5.2
NIE	**Niedzica**	**145.57**	**340**	*e*PKP		PKPdf		14 53 12.0	+2.5
UZH	**Uzhgorod**	**145.58**	**338**	*e*PKIKP		PKPdf		14 53 12.0	+2.5
CRVS	**Cervenica-Dubn**	**145.64**	**339**	*e*PKP		PKPdf		14 53 12.0	+2.4
CRVS				*e*				14 53 15.8	
UPC	**Upice**	**145.78**	**346**	*e*PKP		PKPdf		14 53 11.6	+1.8
UPC				*ep*PKP				14 53 15.5	
OKC	**Ostrava-Krasne**	**145.85**	**343**	*e*PKP		PKPdf		14 53 12.2	+2.3
OKC				*ep*PKP				14 53 16.2	
DPC	**Dobruska-Polom**	**145.85**	**345**	*e*PKP		PKPdf		14 53 12.4	+2.5
DPC				*ep*PKP				14 53 16.3	
BRG	**Berggiesshubel**	**145.88**	**348**	*e*PKIKP		PKPdf		14 53 11.3	+1.4
BRG				pmax		pmax			
	comp=Z,11nm,1.0s								
BRG				pmax		pmax			
	comp=Z,20nm,1.1s								
BRG	**Berggiesshubel**	**145.88**	**348**	*e*P		PKPdf		14 53 11.3	+1.4
BRG				*e*				14 53 15.1	
BR131	**Keskin Array S**	**145.91**	**316**	*e*PKPdf		PKPdf		14 53 11.6	+1.2
BRTR	**Keskin Array B**	**145.91**	**316**	PKPbc		PKPbc		14 53 12.2	+0.9
	comp=Z,6.8nm,0.9s,baz=153,slow=2.8,SNR=14								
MORC	**Moravsky Berou**	**146.07**	**344**	*e*PKIKP		PKPdf		14 53 12.7	+2.4
PVCC	**Panska Ves**	**146.08**	**347**	*e*PKP		PKPdf		14 53 13.3	+3.0
ANTO	**Ankara**	**146.39**	**317**	*e*PKIKP		PKPdf		14 53 12.3	+1.1
MOX	**Moxa**	**146.51**	**351**	*e*P		PKPdf		14 53 14.0	+3.0
	comp=Z,logA/T=1.4								
MOX	**Moxa**	**146.51**	**351**	*e*PKHKP				14 53 07.3	
PRU	**Pruhonice**	**146.60**	**347**	*e*PKP		PKPdf		14 53 14.4	+3.2
PRU				*e*				14 53 17.8	
GRA1	**Grafenberg Arr**	**147.50**	**351**	*e*PKP		PKPdf		14 53 17.4	+4.7
GRF	**Grafenberg Arr**	**147.50**	**351**	*e*PKP2		PKPab		14 53 17.4	-2.0
GRF	**Grafenberg Arr**	**147.50**	**351**	*e*PKP2		PKPab		14 53 17.4	-2.0
KHC	**Kasperske Hory**	**147.61**	**348**	*e*PKP		PKPdf		14 53 17.9	+5.0
KHC	**Kasperske Hory**	**147.61**	**348**	*i* PKP2		PKPab		14 53 16.9	-3.0
ZST	**Bratislava**	**147.63**	**343**	*e*PKP		PKPdf		14 53 20.6	+7.7
GIVF	**Givet**	**147.68**	**358**	*e*PKP1		PKPdf		14 53 15.3	+2.4
	comp=Z,82nm,1.3s								
BAIF

comp=N,200nm,14.8s,MS4.4
GTA LR LR
comp=E,230nm,14.8s,MS4.4
GTA LR LR
comp=Z,140nm,15.2s,MS4.0
JIRN Jiri 47.50 306 *eP* **P 14 44 04.4 -0.8**
GUN Gumba 47.86 307 *eP* **P 14 44 07.7 -0.3**
comp=Z,23nm,0.7s,mb5.3
PKI Pulchoki 48.10 306 *eP* **P 14 44 09.1 -0.7**
KKN Kakani 48.29 306 *eP* **P 14 44 11.3 0.0**
comp=Z,15nm,0.8s,mb5.0
DMN Daman 48.36 306 *eP* **P 14 44 11.3 -0.5**
comp=Z,11nm,0.8s,mb4.9
GKN Gorkha 48.90 306 *eP* **P 14 44 15.8 -0.2**
ULN Ulaanbaatar 49.12 341 *eP* **P 14 44 17.9 +0.4**
comp=Z,5.8nm,1.0s,mb4.6
SONM Songino Array 49.30 341 P **P 14 44 19.0 +0.1**
comp=Z,2.0nm,0.8s,mb4.2,baz=151,slow=8.5,SNR=7.5
SONM PcP PcP 14 45 41.8 +0.2
comp=Z,1.5nm,0.7s,baz=155,slow=3.8,SNR=5.6
KOLN Koldanda 49.65 305 *eP* **P 14 44 21.3 -0.5**
comp=Z,21nm,0.8s,mb5.2
MKAR Makanchi Array 59.72 325 P **P 14 45 34.6 -0.3**
comp=Z,2.7nm,0.6s,mb4.4,baz=115,slow=6.7,SNR=21
ZAL Zalesovo 62.70 333 P **P 14 45 54.2 -0.7**
comp=Z,0.5nm,0.5s,mb3.9,baz=46,slow=6.2,SNR=3.1
ZAL Zalesovo 62.70 333 P **P 14 45 54.2 -0.7**
BVAR Borovoye Array 69.47 327 P **P 14 46 37.6 -0.4**
comp=Z,1.1nm,0.7s,mb3.9,baz=147,slow=7.9,SNR=8.1
CHKZ Chkalovo 69.63 328 P **P 14 46 38.5 -0.5**
comp=Z,1.4nm,0.8s,mb3.9
ZRNK Zerenda 70.20 326 *eP* **P 14 46 41.9 -0.6**
comp=Z,4.0nm,0.9s,mb4.3
AKTK Aktyubinsk 75.83 322 P **P 14 47 16.4 +0.7**
AKTO Aktyubinsk 75.83 322 P **P 14 47 16.4 +0.7**
comp=Z,2.1nm,0.9s,mb4.1,baz=119,slow=8.0,SNR=7.5
VNDA Vanda 81.64 173 *eP* **P 14 47 47.2 +0.3**
comp=Z,1.3nm,0.9s,mb3.9

NIED ***16*** *14:35:00,25.10N×123.60E,h5km,Mw4.2 Best double couple: M₀2.47×10¹⁵ NP1:φs76°,δ66°,λ-90°. NP2:φs257°, δ24°,λ-89°.*
IDC ***16*** *14:35:56.8±1.4,25.01N×123.41E,mb3.8/3,mb1 3.9/4, mb1mx3.7/19,mbtmp3.8/4,ML3.0/1,MS3.5/3,Ms1 3.5/3, ms1mx2.8/36,Error ellipse: s-maj=42.6km s-min=25.4km az=58.0*
JMA ***16*** *14:35:57.5±0.3,25.15N×123.57E,h21km,M4.4*
BJI ***16*** *14:36:03.3,25.00N×123.60E,h50km,mB4.6,mb4.2, Ms4.3,Msz4.0*
NEIC ***16*** *14:36:03.3±1.3,25.04N×123.56E,h51km±15km,mb4.0/2, Error ellipse: s-maj=19.2km s-min=14.0km az=172.0*
ISC 16 14:35:59.4±1.0,25.06N±0.05×123.62E±0.04,h32km±8km, n21,σ1§09/24,mb3.8/5,MS3.4/3,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.73**	**172**	P		P	**Pb**	**14 36 12.6**	**-1.0**
IRIF				S			**Sb**	**14 36 23.9**	**+0.5**
YOJ	**Yonaguni jima**	**0.82**	**223**	P		P	**Pn**	**14 36 13.3**	**-1.4**
YOJ				eS			**Sb**	**14 36 24.2**	**-1.5**
JIJ	**Ishigaki jima**	**0.84**	**146**	P		P	**Pn**	**14 36 14.3**	**-0.8**
JIJ				eS			**Sb**	**14 36 27.0**	**+0.5**
JKRS	**Kuro-shima**	**0.89**	**157**	P		P	**Pn**	**14 36 15.5**	**-0.4**
JKRS				eS			**Sb**	**14 36 28.9**	**+1.0**
HATJ	**Hateruma jima**	**1.01**	**171**	P		P	**Pn**	**14 36 17.5**	**-0.1**
HATJ				eS			**Sn**	**14 36 32.5**	**+1.7**
JTJ	**Tarama**	**1.07**	**113**	P		P	**Pn**	**14 36 18.8**	**+0.5**
JMJ	**Miyako jima 2**	**1.54**	**99**	eS			**Sn**	**14 36 43.0**	**-1.1**
JOGS	**Gusukube**	**1.65**	**100**	eS			**Sn**	**14 36 45.5**	**-1.4**
YHNB	**Yeheng**	**2.08**	**260**	eP	n	P	**Pn**	**14 36 35.1**	**+2.3**
JKE	**Kume jima 2**	**3.12**	**66**	P		P	**Pn**	**14 36 47.3**	**-0.3**
JIH	**Iheya**	**4.37**	**62**	P		P	**Pn**	**14 37 05.7**	**+0.2**
JOW	**Kunigami**	**4.54**	**66**	Pn		P	**Pn**	**14 37 10.3**	**+2.4**
	1.5nm,0.3s,baz=260,slow=10,SNR=3.2								
CN2	**Changchun**	**18.75**	**4**	*e*P		P		**14 40 18.1**	**0.0**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.8s								
CN2				LR		LR			
	comp=N,490nm,12.0s								
CN2				LR		LR			
	comp=E,240nm,12.0s								
CN2				LR		LR			
	comp=Z,350nm,11.0s								
ASAJ	**Asahikawa**	**24.50**	**34**	LR		LR		14 51 40.2	
	comp=Z,71nm,20.3s,MS3.1,baz=346,slow=38								
GTA	**Gaotai**	**24.61**	**311**	*e*P		P		**14 41 24.5**	**+6.4**
GTA				AP				14 41 32.4	
ULN	**Ulaanbaatar**	**26.26**	**334**	*e*P		P		**14 41 35.5**	**+1.9**
	comp=Z,3.6nm,1.0s,mb3.9								
SONM	**Songino Array**	**26.50**	**333**	P		P		**14 41 35.1**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.1,baz=124,slow=10,SNR=3.3								
SONM				LR		LR		14 52 55.7	
	comp=Z,106nm,20.7s,MS3.4,baz=172,slow=38								
MKAR	**Makanchi Array**	**39.29**	**314**	P		P		**14 43 26.9**	**-0.1**
	comp=Z,2.0nm,1.0s,mb3.8,baz=113,slow=9.2,SNR=9.1								
ZAL	**Zalesovo**	**40.75**	**325**	LR		LR		15 02 24.0	
	comp=Z,112nm,19.1s,MS3.7,baz=348,slow=39								
WRA	**Warramunga Arr**	**45.93**	**166**	P		P		**14 44 21.3**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=349,slow=8.9,SNR=5.4								
CHKZ	**Chkalovo**	**48.45**	**321**	P		P		**14 44 39.8**	**-0.9**
	comp=Z,3.4nm,1.2s,mb4.2								

IDC ***16*** *14:39:53.5±0.8,20.72S×174.30W,mb4.2/7,mb1 4.4/9, mb1mx4.2/18,mbtmp4.2/9,ML4.2/2,Error ellipse: s-maj=30.4km s-min=13.9km az=158.0*
NEIC ***16*** *14:39:55.8±0.6,20.66S×174.34W,h15km,mb4.6/3,Error ellipse: s-maj=19.4km s-min=9.7km az=127.0*
ISC 16 14:39:55.3±0.8,20.7S±0.1×174.1W±0.1,h33km,n21, σ1§61/17,mb4.3/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.13**	**18**	Pn		P	**Pn**	**14 41 37.3**	**-2.9**
	5.5nm,0.3s,baz=121,slow=17,SNR=7.4								
AFI				Sn			**Sn**	**14 42 53.9**	**-6.9**
	4.9nm,0.3s,baz=35,slow=24,SNR=3.4								
AFI	**Afiamalu**	**7.13**	**18**	*e*Pn		P	**Pn**	**14 41 38.3**	**-1.9**
DZM	**Mont Dzumac**	**18.21**	**262**	P		P		**14 44 04.1**	**-3.3**
	1.1nm,0.3s,baz=319,slow=9.9,SNR=18								
DZM				S			**S**	**14 47 28.2**	**+1.9**
	0.2nm,0.3s,baz=89,slow=18,SNR=4.5								
URZ	**Urewera**	**19.06**	**202**	P		P		**14 44 18.0**	**+0.4**
	0.5nm,0.3s,baz=36,slow=19,SNR=3.1								
URZ				S			**S**	**14 47 37.3**	**-8.1**
	0.3nm,0.3s,baz=144,slow=9.1,SNR=2.4								
RPZ	**Rata Peaks**	**26.06**	**205**	P		P		**14 45 27.5**	**0.0**
	5.4nm,0.7s,mb4.2,baz=336,slow=3.2,SNR=3.7								
CTA	**Charters Tower**	**37.15**	**264**	P		P		**14 47 04.1**	**-0.9**
	4.0nm,0.7s,mb4.3,baz=73,slow=8.2,SNR=6.0								
CTAO	**Charters Tower**	**37.15**	**264**	*e*P		P		**14 47 05.4**	**+0.3**
	1.4nm,0.4s,mb4.1								
STKA	**Stephens Creek**	**41.03**	**245**	P		P		**14 47 36.9**	**-0.3**
	2.5nm,0.8s,mb3.9,baz=104,slow=14,SNR=4.2								
WRA	**Warramunga Arr**	**48.23**	**261**	P		P		**14 48 33.3**	**-1.9**
	2.1nm,0.6s,mb4.3,baz=95,slow=7.6,SNR=42								
CASY	**Casey**	**65.33**	**206**	P		P		**14 50 35.1**	**-1.0**
	30nm,0.7s,mb5.4								
MJAR	**Matsushiro Arr**	**72.65**	**321**	P		P		**14 51 22.2**	**+0.5**
	2.7nm,0.8s,mb4.3,baz=155,slow=6.9,SNR=6.4								
NVAR	**Mina Array Bea**	**78.70**	**41**	P		P		**14 51 58.8**	**+2.7**
	1.0nm,0.7s,mb3.8,baz=213,slow=7.8,SNR=8.3								
MCK	**McKinley**	**86.46**	**11**	P		P		**14 52 37.9**	**+2.5**
	2.5nm,0.8s,mb4.5								
ILAR	**Eielson Array**	**87.78**	**11**	P		P		**14 52 43.8**	**+2.0**
	0.6nm,0.9s,mb3.8,baz=223,slow=6.3,SNR=6.6								
MKAR	**Makanchi Array**	**114.06**	**313**	Pdiff		Pdif		14 54 44.0	+3.5
	0.5nm,1.0s,baz=84,slow=5.7,SNR=4.4								
MKAR				PKiKP				14 58 33.9	
	0.6nm,0.7s,baz=93,slow=1.9,SNR=6.8								
MKAR	**Makanchi Array**	**114.06**	**313**	Pdif		Pdif		14 54 44.0	+3.4
MKAR				PKPdf		PKPdf		14 58 33.9	+2.7
BVAR	**Borovoye Array**	**121.64**	**320**	PKP		PKPdf		14 58 49.1	+3.4
	1.3nm,0.6s,baz=126,slow=1.9,SNR=11								
AKASG	**Malin Array Be**	**144.93**	**334**	PKP		PKPdf		14 59 31.2	+2.3
	2.5nm,0.5s,baz=40,slow=4.1,SNR=18								
BRTR	**Keskin Array B**	**149.69**	**315**	PKPbc		PKPdf		14 59 45.5	+8.4
	1.7nm,0.7s,baz=129,slow=3.9,SNR=8.6								
KHC	**Kasperske Hory**	**151.03**	**350**	*e*PKPbc		PKPdf		14 59 49.5	+11
GERES	**GERESS Array B**	**151.28**	**349**	PKPbc		PKPdf		14 59 49.1	+10
	1.1nm,0.8s,slow=1.3,SNR=4.2								

IDC 16 14:44:31.4±17.0,17.76S×178.92W,h696km±248km, mb3.0/5,mb1 3.3/5,mb1mx3.0/14,mbtmp4.0/5,Error ellipse: s-maj=118.5km s-min=80.6km az=177.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.99**	**260**	*e*P		P		14 50 14.2	-1.1
	2.4nm,0.7s								
CTA	**Charters Tower**	**32.99**	**260**	P		P		14 50 13.9	-1.3
	2.4nm,0.6s,baz=96,slow=7.8,SNR=5.7								
WB2	**Warramunga Arr**	**44.17**	**259**	*e*P		P		14 51 43.2	-1.5
WRA	**Warramunga Arr**	**44.18**	**259**	P		P		14 51 43.1	-1.7
	1.6nm,0.5s,baz=96,slow=7.2,SNR=39								
ILAR	**Eielson Array**	**85.85**	**13**	P		P		14 55 60.0	-1.2
	0.4nm,0.4s,baz=221,slow=4.8,SNR=10.0								
TXAR	**Lajitas Array**	**86.33**	**58**	P		P		14 56 03.5	-0.8
	0.4nm,0.4s,baz=217,slow=6.3,SNR=6.2								
PDAR	**Pinedale Array**	**87.58**	**44**	P		P		14 56 08.7	-1.2
	0.6nm,0.6s,baz=180,slow=1.5,SNR=5.3								

IDC ***16*** *15:37:44.8±0.8,3.51S×127.31E,mb4.0/9,mb1 4.2/10, mb1mx4.1/17,mbtmp4.0/10,ML4.2/1,Error ellipse: s-maj=47.6km s-min=16.5km az=67.0*
NEIC ***16*** *15:37:46.9±8.1,3.54S×127.28E,h13km±51km,mb4.4/10, Error ellipse: s-maj=18.1km s-min=9.4km az=55.0*
ISC 16 15:37:46.0±7.5,3.6S±0.1×127.3E±0.1,h20km±56km,n27, σ0§70/26,mb4.2/17,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.55**	**186**	*e*P		P		**15 41 21.9**	**+8.9**
	4.2nm,0.6s								
WRA	**Warramunga Arr**	**17.68**	**158**	P		P		**15 41 52.7**	**-0.4**
	0.9nm,0.3s,baz=342,slow=12,SNR=40								
WB2	**Warramunga Arr**	**17.68**	**158**	*e*P		P		**15 41 52.5**	**-0.6**
CTA	**Charters Tower**	**24.73**	**133**	*e*P		P		**15 43 10.0**	**+2.2**
	3.2nm,0.8s,mb3.9								
CTA	**Charters Tower**	**24.73**	**133**	P		P		**15 43 09.2**	**+1.4**
	3.1nm,0.6s,mb4.0,baz=325,slow=11,SNR=6.3								
CTAO	**Charters Tower**	**24.73**	**133**	*e*P		P		**15 43 09.6**	**+1.8**
	5.2nm,0.8s,mb4.1								
STKA	**Stephens Creek**	**31.21**	**156**	P		P		**15 44 06.2**	**-0.4**
	1.4nm,0.6s,mb4.0,baz=309,slow=18,SNR=2.6								
MJAR	**Matsushiro Arr**	**41.17**	**13**	P		P		**15 45 30.9**	**-0.1**
	1.9nm,0.5s,mb4.0,baz=188,slow=9.0,SNR=8.0								
MAJO	**Matsushiro**	**41.17**	**13**	*e*P		P		**15 45 31.4**	**+0.4**
	5.4nm,0.5s,mb4.4								
JIRN	**Jiri**	**50.31**	**311**	*e*P		P		**15 46 43.5**	**-0.3**
	8.7nm,0.7s,mb4.9								
GUN	**Gumba**	**50.67**	**311**	*e*P		P		**15 46 47.6**	**+1.1**
	18nm,0.9s,mb5.0								
PKI	**Pulchoki**	**50.86**	**310**	*e*P		P		**15 46 48.0**	**+0.1**
KKN	**Kakani**	**51.07**	**310**	*e*P		P		**15 46 49.9**	**+0.4**
DMN	**Daman**	**51.11**	**310**	*e*P		P		**15 46 50.0**	**+0.2**
GKN	**Gorkha**	**51.66**	**310**	*e*P		P		**15 46 53.5**	**-0.6**
	18nm,1.0s,mb5.0								
KOLN	**Koldanda**	**52.34**	**309**	*e*P		P		**15 46 59.5**	**+0.3**
	19nm,0.9s,mb5.0								
ULN	**Ulaanbaatar**	**54.20**	**343**	P		P		**15 47 12.4**	**-0.1**
	2.5nm,0.9s,mb4.1								
SONM	**Songino Array**	**54.36**	**343**	P		P		**15 47 14.4**	**+0.7**
	1.1nm,0.9s,mb3.8,baz=156,slow=9.5,SNR=5.9								
MKAR	**Makanchi Array**	**63.89**	**327**	P		P		**15 48 18.9**	**-1.0**
	0.6nm,0.5s,mb3.9,baz=115,slow=8.0,SNR=11								
BVAR	**Borovoye Array**	**73.73**	**328**	P		P		**15 49 19.8**	**-0.8**
	0.4nm,0.6s,mb3.6,baz=130,slow=12,SNR=4.1								
CHKZ	**Chkalovo**	**73.94**	**329**	P		P		**15 49 21.2**	**-0.6**
	0.8nm,0.7s,mb3.8								
ZRNK	**Zerenda**	**74.43**	**328**	*e*P		P		**15 49 24.1**	**-0.6**
	1.3nm,0.6s,mb4.0								
VNDA	**Vanda**	**76.17**	**173**	P		P		**15 49 34.6**	**+0.4**
	1.2nm,0.8s,mb3.9,baz=309,slow=8.1,SNR=6.6								
AKTK	**Aktyubinsk**	**79.72**	**323**	P		P		**15 49 54.9**	**+0.8**
AKTO	**Aktyubinsk**	**79.72**	**323**	P		P		**15 49 54.9**	**+0.8**
	1.2nm,0.6s,mb4.0,baz=104,slow=9.5,SNR=7.9								
TBI	**Tubuai**	**82.40**	**113**	*e*LR		LR		15 50 39.4	
	1μm,28.2s								
ILAR	**Eielson Array**	**91.40**	**25**	P		P		**15 50 50.4**	**-1.4**
	0.6nm,0.7s,mb4.0,baz=242,slow=6.2,SNR=5.2								

IDC ***16*** *15:43:14.1±2.0,16.91N×145.80E,h158km±21km,mb3.3/9, mb1 3.6/10,mb1mx3.5/21,mbtmp3.8/10,Error ellipse: s-maj=25.0km s-min=18.4km az=97.0*
NEIC ***16*** *15:43:14.3±1.8,16.91N×145.77E,h159km±20km,Error ellipse: s-maj=22.9km s-min=20.7km az=85.0*
ISC 16 15:43:13.7±2.3,16.9N±0.2×145.7E±0.2,h167km±26km, n11,σ0§87/12,mb3.5/9,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.40**	**193**	P		P		**15 44 07.4**	**-0.1**
	15nm,0.3s,baz=6.0,slow=19,SNR=4.5								
GUMO				S			**S**	**15 44 48.9**	**+0.1**
	15nm,0.3s,baz=198,slow=20,SNR=3.1								
WRA	**Warramunga Arr**	**38.29**	**197**	P		P		**15 50 19.3**	**-0.4**
	0.2nm,0.3s,mb3.3,baz=26,slow=8.6,SNR=17								
WRA				PcP		PcP		15 52 30.1	-0.7
	0.2nm,0.4s,baz=18,slow=3.5,SNR=4.5								
SONM	**Songino Array**	**44.53**	**323**	P		P		**15 51 11.0**	**+0.7**
	0.5nm,0.6s,mb3.4,baz=134,slow=8.1,SNR=9.4								
MKAR	**Makanchi Array**	**59.69**	**315**	P		P		**15 53 03.2**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=92,slow=8.1,SNR=5.1								
ILAR	**Eielson Array**	**65.24**	**26**	P		P		**15 53 37.2**	**-2.0**
	0.8nm,0.5s,mb3.8,baz=250,slow=5.9,SNR=13								
BVAR	**Borovoye Array**	**67.83**	**321**	P		P		**15 53 55.0**	**-0.7**
	0.6nm,0.5s,mb3.6,baz=101,slow=7.6,SNR=6.4								
INK	**Inuvik**	**71.01**	**23**	P		P		**15 54 14.2**	**-0.6**
	1.0nm,0.6s,mb3.7,baz=276,slow=11,SNR=6.6								
YKA	**Yellowknife Ar**	**79.56**	**28**	P		P		**15 55 03.1**	**-0.1**
	0.3nm,0.6s,mb3.1,baz=288,slow=5.6,SNR=5.3								
YKA	**Yellowknife Ar**	**79.56**	**28**	P		P		**15 55 03.1**	**-0.1**
NVAR	**Mina Array Bea**	**84.25**	**52**	P		P		**15 55 29.4**	**+1.4**
	1.2nm,0.8s,mb3.7,baz=259,slow=6.4,SNR=9.0								
PDAR	**Pinedale Array**	**89.08**	**45**	P		P		**15 55 52.1**	**+1.0**
	0.4nm,0.5s,mb3.6,baz=156,slow=3.7,SNR=4.2								

IDC ***16*** *15:48:16.3±1.1,17.33S×176.79W,mb3.9/5,mb1 4.2/5, mb1mx4.0/14,mbtmp3.9/5,MS4.7/5,Ms1 4.7/5, ms1mx4.1/34,Error ellipse: s-maj=47.0km s-min=28.0km az=140.0*
NEIC ***16*** *15:48:21.4±0.7,17.44S×176.70W,h35km,mb4.4/2,Error ellipse: s-maj=27.7km s-min=19.8km az=142.0*
ISC 16 15:48:19.2±0.9,17.4S±0.2×176.8W±0.2,h33km,n17, σ0§74/8,mb4.2/6,MS4.6/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.44**	**193**	LR		LR		16 00 48.2	
	comp=Z,3μm,19.0s,MS4.8,baz=48,slow=35								
HNR	**Honiara**	**23.99**	**286**	LR		LR		16 01 34.0	
	comp=Z,2μm,20.4s,MS4.5,baz=151,slow=33								
RPZ	**Rata Peaks**	**28.16**	**199**	LR		LR		16 04 29.5	
	comp=Z,3μm,21.2s,MS4.8,baz=30,slow=34								
CTA	**Charters Tower**	**35.08**	**260**	P		P		**15 55 11.5**	**0.0**
	5.2nm,1.0s,mb4.4,baz=95,slow=11,SNR=4.1								
CTAO	**Charters Tower**	**35.08**	**260**	*e*P		P		**15 55 13.2**	**+1.7**
	9.9nm,1.1s,mb4.7								
PMG	**Port Moresby**	**35.94**	**278**	LR		LR		16 08 20.6	
	comp=Z,609nm,19.3s,MS4.4,baz=295,slow=34								
TAOE	**Nuku Hiva Isla**	**36.60**	**81**	*e*LQ				15 56 06.0	
TAOE				*e*LR		LR		15 57 40.9	
	2μm,31.1s								
RKT	**Rikitea**	**39.51**	**105**	*e*LR		LR		15 56 46.6	
	896nm,28.5s								
WRA	**Warramunga Arr**	**46.27**	**259**	P		P		**15 56 43.1**	**-0.6**
	1.5nm,0.9s,mb3.9,baz=94,slow=7.5,SNR=8.3								
VNDA	**Vanda**	**61.06**	**185**	P		P		**15 58 32.0**	**+0.2**
	1.6nm,1.0s,mb4.1,baz=25,slow=8.4,SNR=3.6								
VNDA	**Vanda**	**61.06**	**185**	*e*P		P		**15 58 32.0**	**+0.2**
	2.0nm,1.1s,mb4.2								
ASAJ	**Asahikawa**	**71.63**	**330**	LR		LR		16 29 38.4	
	comp=Z,242nm,18.8s,MS4.5,baz=174,slow=35								
QSPA	**South Pole Qui**	**72.62**	**180**	*e*P		P		**15 59 44.2**	**-0.4**
	9.6nm,0.2s,mb5.4								
NVAR	**Mina Array Bea**	**78.00**	**43**	P		P		**16 00 17.0**	**+0.8**
	0.3nm,0.6s,mb3.4,baz=225,slow=10,SNR=1.9								
ILAR	**Eielson Array**	**85.08**	**12**	P		P		**16 00 51.8**	**-0.8**
	1.4nm,1.0s,mb4.0,baz=221,slow=6.2,SNR=5.8								
BRTR	**Keskin Array B**	**145.54**	**316**	PKPbc		PKPbc		16 07 57.8	+2.9
	0.5nm,0.5s,baz=163,slow=4.8,SNR=3.2								
GERES	**GERESS Array B**	**147.53**	**347**	PKPbc		PKPdf		16 08 02.3	+5.0
	0.5nm,0.7s,baz=346,slow=16,SNR=2.6								

IDC ***16*** *15:49:56.6±1.1,34.57N×73.09E,mb3.9/7,mb1 4.1/10, mb1mx3.8/22,mbtmp3.9/10,ML3.6/3,Error ellipse: s-maj=26.0km s-min=23.3km az=40.0*
BJI ***16*** *15:49:57.9,34.50N×73.10E,h10km,ML3.8*
NEIC ***16*** *15:49:57.9±0.8,34.53N×73.07E,h10km,mb3.5/2,Error ellipse: s-maj=17.9km s-min=4.9km az=54.0*
NDI ***16*** *15:49:58.6±2.5,34.79N×72.89E,h10km,MD3.9,ML3.9, mb3.5(NEIC)*
MOS ***16*** *15:49:58.4±1.5,34.44N×72.99E,h33km,mb4.0/1,Error ellipse: s-maj=19.6km s-min=11.1km az=95.2*
NNC ***16*** *15:50:07.4±5.2,34.92N×72.78E,h66km±39km,mb3.4, mpv3.8,Error ellipse: s-maj=42.5km s-min=33.4km az=29.0*
ISC 16 15:49:57.4±0.3,34.74N±0.03×73.39E±0.05,h10km,n56, σ1§39/76,mb3.8/6,2C-6D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.09**	**185**	⇓P			**Pb**	**15 50 19.8**	**+1.9**
CEP	**Cherat**	**1.53**	**234**	P		Pn		**15 50 23.4**	**-1.6**
CEP				S			**Sb**	**15 50 45.0**	**+0.2**
THW	**Thamme Wali**	**2.38**	**216**	P		Pn		**15 50 38.6**	**+1.5**
SARP	**Sargodha**	**2.88**	**192**	P		Pn		**15 50 46.0**	**+1.7**
THN	**Thein Dam**	**3.01**	**139**	*e*P		Pn		**15 50 51.5**	**+5.3**
THN				*ex*		x		15 51 34.4	
DLH	**Dalhousie**	**3.07**	**135**	*e*P		Pn		**15 50 52.0**	**+4.9**
DLH				*e*S		Sn		**15 51 32.0**	**+7.7**
SBDP	**Sheikh Budin**	**3.25**	**222**	P		Pn		**15 50 50.8**	**+1.2**
PONG	**Pong**	**3.51**	**142**	*e*P		Pn		**15 50 59.0**	**+5.7**
PONG				*ex*		x		15 51 44.0	
DRP	**Derazinda**	**4.01**	**223**	P		Pn		**15 51 00.4**	**+0.1**
SDNR	**Sundarnagar**	**4.42**	**136**	*e*P		Pn		**15 51 10.5**	**+4.4**
SDNR				*e*S		Sn		**15 52 02.5**	**+4.3**
SMLA	**Simla**	**4.80**	**138**	*e*P		Pn		**15 51 14.4**	**+2.8**
SMLA				*e*S		Sn		**15 52 10.3**	**+2.3**
KLP	**Kalpa**	**5.18**	**127**	*e*P		Pn		**15 51 20.6**	**+3.7**
KLP				*e*S		Sn		**15 52 21.0**	**+3.4**
KLP				AML		AML		15 52 53.5	
	comp=N,431nm,0.5s								
KLP				AML		AML		15 52 57.3	
	comp=E,300nm,0.4s								
KSH	**Kashi**	**5.19**	**23**	*e*P		Pn		**15 51 24.5**	**+7.4**
KSH				S		Sn		**15 52 25.3**	**+7.5**
KSH				Smax					
	comp=N,70nm,1.2s								
KSH				Smax					
	comp=E,50nm,1.1s								
KHET	**Khetri**	**6.96**	**162**	*e*P		Pn		**15 51 42.1**	**0.0**
KHET				*e*S		Sn		**15 52 58.4**	**-3.7**
KHET				AML		AML		15 53 03.0	
	comp=N,57nm,0.4s								
KHET				AML		AML		15 53 03.2	
	comp=E,85nm,0.3s								
AYAN	**Aya Nagar**	**7.01**	**152**	*e*S			**Sn**	**15 52 59.8**	**-3.4**
KUDL	**Kundal**	**7.09**	**157**	*e*P		Pn		**15 51 44.4**	**+0.5**
KUDL				*e*S		Sn		**15 53 04.1**	**-1.3**
KK31	**Karatay Array**	**8.64**	**346**	P		P		**15 52 05.7**	**+0.1**
	comp=E,1.5nm,0.3s,baz=162,slow=12,SNR=56								
KK31				⇑S			**Sn**	**15 53 39.7**	**-4.4**
	comp=E,3.4nm,0.4s,baz=167,slow=22								
KOLN	**Koldanda**	**11.16**	**126**	*e*Pn		P		**15 52 39.8**	**-0.4**
KOLN				*e*Sn		S		**15 54 42.6**	**-3.5**
	comp=E,27nm,0.6s								
KOLN	**Koldanda**	**11.16**	**126**	*e*Pn		P		**15 52 39.8**	**-0.4**
	comp=E,13nm,0.6s								
KOLN				*e*Sn		S		**15 54 42.6**	**-3.5**
GKN	**Gorkha**	**11.72**	**122**	*e*Pn		P		**15 52 46.6**	**-1.2**
GKN				*e*Sn		S		**15 54 55.1**	**-4.7**
	comp=E,42nm,0.4s								
GKN	**Gorkha**	**11.72**	**122**	*e*Pn		P		**15 52 46.6**	**-1.2**
	comp=E,21nm,0.4s								
GKN				*e*Sn		S		**15 54 55.1**	**-4.7**
DMN	**Daman**	**12.29**	**122**	*e*Pn		P		**15 52 55.1**	**-0.4**
DMN				*e*Sn		S		**15 55 08.3**	**-5.3**
**KK

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.61**	**50**	P	**P**	**16 02 15.6**	**-0.6**
YOJ				S	**S**	**16 02 24.4**	**-1.1**
NACB	**Ninganchiao**	**0.84**	**277**	*e*Pn	**P**	**16 02 18.3**	**-1.0**
IRIF	**Iriomote-Funau**	**1.15**	**76**	P	**P**	**16 02 24.0**	**+0.4**
YHNB	**Yeheng**	**1.19**	**300**	⇑*e*Pn	**P**	**16 02 24.8**	**+0.7**
HATJ	**Hateruma jima**	**1.19**	**90**	P	**P**	**16 02 23.8**	**-0.3**
HATJ				S	**S**	**16 02 39.1**	**-0.4**
TATO	**Taipei**	**1.29**	**315**	*e*Pn	**P**	**16 02 27.5**	**+1.8**
JKRS	**Kuro-shima**	**1.39**	**83**	P	**P**	**16 02 27.0**	**-0.1**
JKRS				*e*S	**S**	**16 02 46.2**	**+1.7**
JIJ	**Ishigaki jima**	**1.53**	**79**	P	**P**	**16 02 28.6**	**-0.4**
JIJ				S	**S**	**16 02 48.3**	**+0.5**
JTJ	**Tarama**	**2.08**	**74**	P	**P**	**16 02 37.1**	**+0.3**
JTJ				*e*S	**S**	**16 03 02.6**	**+1.0**
JMJ	**Miyako jima 2**	**2.65**	**73**	*e*S	**S**	**16 03 17.5**	**+1.6**
JOW	**Kunigami**	**5.90**	**61**	P	**P**	**16 03 28.1**	**-2.4**
	1.7nm,0.3s,baz=251,slow=25,SNR=8.1						
JOW				S	**S**	**16 04 35.9**	**-1.8**
	1.1nm,0.3s,baz=135,slow=23,SNR=2.3						
SONM	**Songino Array**	**26.95**	**336**	P	**P**	**16 07 41.3**	**-0.8**
	0.4nm,0.6s,mb3.1,baz=153,slow=8.0,SNR=3.6						
MKAR	**Makanchi Array**	**39.26**	**315**	P	**P**	**16 09 29.6**	**+0.9**
	0.5nm,0.4s,mb3.6,baz=100,slow=9.7,SNR=29						
WRA	**Warramunga Arr**	**45.24**	**164**	P	**P**	**16 10 16.9**	**-1.0**
	1.8nm,0.7s,mb4.0,baz=346,slow=8.8,SNR=19						
BVAR	**Borovoye Array**	**48.53**	**320**	P	**P**	**16 10 43.0**	**-0.2**
	0.7nm,0.5s,mb3.9,baz=106,slow=7.3,SNR=8.2						
CHKZ	**Chkalovo**	**48.58**	**321**	*e*P	**P**	**16 10 43.1**	**-0.6**
	0.6nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**49.32**	**320**	*e*P	**P**	**16 10 49.0**	**-0.4**
	0.4nm,0.6s,mb3.6						
BRTR	**Keskin Array B**	**74.21**	**307**	P	**P**	**16 13 38.1**	**+1.3**
	1.8nm,1.1s,mb3.9,baz=45,slow=4.1,SNR=4.4						
YKA	**Yellowknife Ar**	**82.61**	**23**	P	**P**	**16 14 22.7**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=306,slow=5.4,SNR=6.5						

*IDC **16** 16:07:41.4±0.8, 17.37S×176.85W, mb4.2/11, mb1 4.4/13, mb1mx4.3/18, mbtmp4.2/13, ML2.3/2, MS4.9/20, Ms1 4.9/20, ms1mx4.7/27, Error ellipse: s-maj=41.9km s-min=16.1km az=146.0*

*NEIC **16** 16:07:51.9±4.2, 17.40S×177.02W, h81km±38km, mb4.7/4, Error ellipse: s-maj=26.2km s-min=15.1km az=143.0*

ISC 16 16:07:44.8±0.5, 17.55S±0.1×176.81W±0.10, h33km, n48, σ1§04/23, mb4.3/13, MS4.8/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.05**	**54**	Pn	**Pn**	**16 09 09.4**	**-5.0**
	1.3nm,0.3s,baz=39,slow=16,SNR=4.9						
AFI				LR	LR	16 10 43.2	
	comp=Z,3μm,19.2s,baz=225,slow=30						
AFI	**Afiamalu**	**6.05**	**54**	*e*P	**P**	**16 09 07.2**	**-6.9**
RAO	**Raoul Island**	**11.70**	**185**	LR	LR	16 14 21.4	
	comp=Z,14μm,20.4s,baz=30,slow=34						
DZM	**Mont Dzumac**	**16.38**	**251**	Pn	**P**	**16 11 35.2**	**+1.3**
	0.0nm,0.3s,baz=93,slow=14,SNR=4.3						
DZM				LR	LR	16 16 35.2	
	comp=Z,7μm,21.4s,baz=80,slow=32						
RAR	**Rarotonga**	**16.49**	**106**	LR	LR	16 16 09.1	
	comp=Z,6μm,21.8s,baz=207,slow=31						
HNR	**Honiara**	**23.97**	**287**	LR	LR	16 21 07.8	
	comp=Z,4μm,18.0s,MS4.9,baz=114,slow=34						
PPT	**Papeete**	**25.96**	**94**	LR	LR	16 21 03.9	
	comp=Z,4μm,20.2s,MS5.0,baz=28,slow=31						
RPZ	**Rata Peaks**	**28.04**	**199**	LR	LR	16 23 55.8	
	comp=Z,7μm,20.7s,MS5.2,baz=35,slow=35						
CTA	**Charters Tower**	**35.01**	**260**	*e*P	**P**	**16 14 38.9**	**+2.5**
	10nm,0.9s,mb4.8						
CTA	**Charters Tower**	**35.01**	**260**	P	**P**	**16 14 37.0**	**+0.5**
	10.0nm,0.8s,mb4.8,baz=84,slow=12,SNR=9.4						
CTAO	**Charters Tower**	**35.01**	**260**	*e*P	**P**	**16 14 36.4**	**0.0**
	8.5nm,1.0s,mb4.6						
PMG	**Port Moresby**	**35.91**	**278**	LR	LR	16 24 58.4	
	comp=Z,540nm,21.8s,MS4.3,baz=259,slow=29						
RKT	**Rikitea**	**39.53**	**105**	*e*S	**S**	**16 21 13.3**	**-1.0**
RKT				*e*LR	LR	16 25 39.5	
	6μm,28.2s,baz=274						
STKA	**Stephens Creek**	**40.14**	**241**	P	**P**	**16 15 18.2**	**-1.1**
	3.8nm,0.8s,mb4.2,baz=107,slow=13,SNR=3.4						
WB2	**Warramunga Arr**	**46.18**	**259**	*e*P	**P**	**16 16 08.1**	**-0.5**
WRA	**Warramunga Arr**	**46.19**	**259**	P	**P**	**16 16 07.9**	**-0.8**
	5.3nm,1.0s,mb4.4,baz=95,slow=7.2,SNR=13						
VNDA	**Vanda**	**60.94**	**185**	P	**P**	**16 17 56.6**	**+0.1**
	3.2nm,1.1s,mb4.3,baz=46,slow=6.7,SNR=5.0						
VNDA				LR	LR	16 39 55.7	
	comp=Z,391nm,19.6s,MS4.6,baz=26,slow=32						
RPN	**Rapa Nui**	**62.51**	**112**	LR	LR	16 38 29.8	
	comp=Z,1μm,20.1s,MS5.1,baz=276,slow=30						
YBH	**Yreka Blue Hor**	**77.29**	**38**	P	**P**	**16 19 37.8**	**+0.1**
	3.5nm,1.0s,mb4.2,baz=198,slow=8.1,SNR=5.8						
YBH				LR	LR	16 45 29.1	
	comp=Z,809nm,21.2s,MS5.0,baz=238,slow=29						
NVAR	**Mina Array Bea**	**78.11**	**43**	P	**P**	**16 19 43.2**	**+0.9**
	0.8nm,0.8s,mb3.7,baz=232,slow=9.8,SNR=5.0						
NVAR				LR	LR	16 46 58.5	
	comp=Z,306nm,18.4s,MS4.7,baz=290,slow=30						
ELK	**Elko**	**81.36**	**43**	P	**P**	**16 20 00.5**	**+0.8**
	0.9nm,0.7s,mb3.8,baz=168,slow=16,SNR=3.1						
ELK	**Elko**	**81.36**	**43**	P	**P**	**16 20 00.5**	**+0.8**
TXAR	**Lajitas Array**	**84.52**	**57**	P	**P**	**16 20 17.6**	**+1.4**
	0.5nm,0.3s,mb4.1,baz=270,slow=2.7,SNR=5.6						
TXAR				LR	LR	16 50 21.5	
	comp=Z,397nm,19.1s,MS4.8,baz=235,slow=30						
MAW	**Mawson**	**84.71**	**199**	LR	LR	16 55 36.1	
	comp=Z,1μm,19.7s,MS5.3,baz=98,slow=34						
MCMT	**McKenzie Canyo**	**84.98**	**40**	*e*P	**P**	**16 20 20.2**	**+2.1**
COLA	**College**	**85.10**	**12**	*e*P	**P**	**16 20 17.3**	**-0.9**
	12nm,1.0s,mb5.0						
ILAR	**Eielson Array**	**85.20**	**12**	P	**P**	**16 20 17.6**	**-1.0**
	1.6nm,0.6s,mb4.3,baz=222,slow=6.2,SNR=20						
ILAR				LR	LR	16 50 53.1	
	comp=Z,497nm,19.8s,MS4.9,baz=206,slow=30						
USHA	**Ushuaia**	**85.97**	**147**	LR	LR	16 51 15.6	
	comp=Z,279nm,18.8s,MS4.7,baz=167,slow=30						
PDAR	**Pinedale Array**	**86.05**	**43**	P	**P**	**16 20 23.1**	**-0.3**
	1.3nm,1.0s,mb4.1,baz=236,slow=5.3,SNR=4.5						
PDAR				LR	LR	16 52 13.3	
	comp=Z,400nm,18.7s,MS4.8,baz=248,slow=31						
BILL	**Bilibino**	**86.23**	**354**	*e*P	**P**	**16 20 23.4**	**-0.3**
	7.4nm,1.2s,mb4.8						
PLCA	**Paso Flores**	**90.48**	**133**	LR	LR	16 56 19.6	
	comp=Z,323nm,18.6s,MS4.8,baz=249,slow=32						
YKA	**Yellowknife A**	**93.37**	**24**	P	**P**	**16 20 55.7**	**-1.7**
	0.3nm,0.7s,mb3.8,baz=241,slow=4.4,SNR=4.5						
YKA				LR	LR	16 55 13.1	
	comp=Z,571nm,20.9s,MS5.0,baz=245,slow=31						
YKA	**Yellowknife Ar**	**93.37**	**24**	P	**P**	**16 20 55.7**	**-1.7**
YKA				LR	LR	16 55 13.1	
CFAA	**Coronel Fontan**	**95.92**	**126**	LR	LR	16 54 18.7	
	comp=Z,17nm,18.6s,MS3.6,baz=253,slow=29						
ULM	**Lac du Bonnet**	**97.66**	**40**	LR	LR	17 00 08.7	
	comp=Z,675nm,19.1s,MS5.2,baz=80,slow=32						
CLL	**Collm**	**145.42**	**349**	P	PKPdf	16 27 20.0	+0.8
CLL	**Collm**	**145.42**	**349**	*e*P	PKPdf	16 27 20.0	+0.8
UPC	**Upice**	**145.54**	**345**	*e*PKP	PKPdf	16 27 23.2	+3.7
OKC	**Ostrava-Krasne**	**145.60**	**343**	*e*PKP	PKPdf	16 27 32.1	+13
DPC	**Dobruska-Polom**	**145.62**	**345**	*e*PKP	PKPdf	16 27 23.5	+3.9
BRG	**Berggiesshubel**	**145.66**	**348**	*e*P	PKPdf	16 27 23.4	+3.7
MOX	**Moxa**	**146.29**	**350**	*e*P	PKPdf	16 27 30.0	+9.3
PRU	**Pruhonice**	**146.37**	**347**	*e*PKP	PKPdf	16 27 26.5	+5.6
NKC	**Novy Kostel**	**146.55**	**349**	*e*PKP	PKPdf	16 27 27.1	+5.9
GRA1	**Grafenberg Arr**	**147.28**	**350**	*e*PKP	PKPdf	16 27 33.3	+11
GRF	**Grafenberg Arr**	**147.28**	**350**	*e*PKP	PKPdf	16 27 33.3	+11
KHC	**Kasperske Hory**	**147.38**	**347**	*e*PKP	PKPdf	16 27 29.7	+7.1
GERES	**GERESS Array B**	**147.63**	**347**	PKPbc	PKPdf	16 27 26.9	+3.9
	0.3nm,0.5s,baz=45,slow=26,SNR=3.7						

*NEIC **16** 16:29:25.3, 40.51S×176.00E, h30km, ML3.9(WEL), After WEL.*

WEL 16 16:29:25.2±0.1, 40.50S×176.01E, h30km±1km, ML4.0/35, 15C-8D, Error ellipse: s-maj=1.9km s-min=0.9km az=90.0, MM 4., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.26**	**134**	⇑P*	Pb	16 29 32.5	+0.5
BFZ				S*	Sb	16 29 38.3	+1.7
BFZ				S*	Sb	16 29 38.7	+2.0
BFZ	**Birch Farm**	**0.26**	**134**	⇓P	Pb	16 29 32.5	+0.5
BFZ				S	Sb	16 29 38.3	+1.6
MRZ	**Mangatainoka R**	**0.36**	**244**	P*	Pb	16 29 33.4	0.0
MRZ	**Mangatainoka R**	**0.36**	**244**	P	Pb	16 29 33.4	-0.1
TSZ	**Takapari Road**	**0.44**	**356**	⇓P*	Pb	16 29 33.2	-1.4
TSZ				S*	Sb	16 29 39.4	-1.8
TSZ	**Takapari Road**	**0.44**	**356**	P	Pb	16 29 33.2	-1.5
MTW	**Mount Morrison**	**0.76**	**210**	⇓P*	Pb	16 29 39.6	-0.1
MTW	**Mount Morrison**	**0.76**	**210**	⇓P	Pb	16 29 39.6	-0.2
PXZ	**Pawanui**	**0.81**	**55**	P*	Pb	16 29 39.4	-1.1
KIW	**Kapiti Island**	**0.91**	**246**	⇑P*	Pb	16 29 42.0	-0.2
KIW	**Kapiti Island**	**0.91**	**246**	⇓P	Pn	16 29 42.0	0.0
TRWZ	**Traveller**	**0.93**	**195**	P*	Pb	16 29 41.9	-0.7
CAW	**Cannon Point**	**0.93**	**229**	⇑P*	Pb	16 29 42.1	-0.6
CAW	**Cannon Point**	**0.93**	**229**	⇑P	Pn	16 29 42.1	-0.3
PAWZ	**Paruwai Farm**	**0.98**	**206**	⇓P*	Pb	16 29 42.6	-0.9
PAWZ	**Paruwai Farm**	**0.98**	**206**	⇓P	Pn	16 29 42.6	-0.5
MSWZ	**Moikau Station**	**1.08**	**212**	⇓P*	Pb	16 29 43.6	-1.5
WAZ	**Wanganui**	**1.08**	**313**	⇑PN	Pn	16 29 44.8	+0.3
WAZ	**Wanganui**	**1.08**	**313**	⇑P	Pn	16 29 44.8	+0.3
MOVZ	**Moawhango**	**1.11**	**350**	PN	Pn	16 29 44.3	-0.6
MOVZ	**Moawhango**	**1.11**	**350**	P	Pn	16 29 44.2	-0.7
MTVZ	**Mangateitei**	**1.19**	**340**	⇑PN	Pn	16 29 45.7	-0.3
WNVZ	**Wahianoa**	**1.21**	**345**	PN	Pn	16 29 45.9	-0.5
WEL	**Wellington**	**1.22**	**230**	P*	Pb	16 29 45.8	-1.7
WEL	**Wellington**	**1.22**	**230**	P	Pn	16 29 45.8	-0.7
MRW	**Makara Radio**	**1.23**	**233**	⇑P*	Pb	16 29 45.9	-1.7
MRW	**Makara Radio**	**1.23**	**233**	⇑P	Pn	16 29 45.9	-0.7
BHW	**Baring Head**	**1.25**	**223**	P*	Pb	16 29 45.9	-2.0
BHW	**Baring Head**	**1.25**	**223**	P	Pn	16 29 45.9	-1.0
TRVZ	**Turoa**	**1.25**	**344**	PN	Pn	16 29 46.7	-0.2
TUVZ	**Tukino**	**1.26**	**347**	PN	Pn	16 29 46.7	-0.3
TUVZ	**Tukino**	**1.26**	**347**	P	Pn	16 29 46.7	-0.4
DRZ	**Dome Shelter**	**1.27**	**344**	PN	Pn	16 29 47.0	-0.2
DRZ	**Dome Shelter**	**1.27**	**344**	P	Pn	16 29 47.0	-0.2
SNZO	**South Karori**	**1.27**	**230**	⇑P*	Pb	16 29 46.4	-2.0
SNZO	**South Karori**	**1.27**	**230**	⇑P	Pn	16 29 46.4	-0.8
FWVZ	**Far West T-bar**	**1.29**	**344**	PN	Pn	16 29 47.1	-0.4
FWVZ	**Far West T-bar**	**1.29**	**344**	P	Pn	16 29 47.1	-0.4
PKVZ	**Pokaka**	**1.31**	**337**	⇑PN	Pn	16 29 47.4	-0.4
WPVZ	**Whakapapa**	**1.34**	**345**	PN	Pn	16 29 47.9	-0.3
WPVZ	**Whakapapa**	**1.34**	**345**	P	Pn	16 29 48.1	-0.1
CNZ	**Chateau**	**1.35**	**345**	PN	Pn	16 29 48.1	-0.2
CNZ	**Chateau**	**1.35**	**345**	P	Pn	16 29 48.1	-0.2
NGZ	**Ngauruhoe**	**1.36**	**347**	⇑PN	Pn	16 29 48.2	-0.3
NGZ	**Ngauruhoe**	**1.36**	**347**	⇑P	Pn	16 29 48.2	-0.3
OTVZ	**Oturere**	**1.36**	**349**	⇑PN	Pn	16 29 48.2	-0.3
BKZ	**Black Stump Fm**	**1.39**	**16**	PN	Pn	16 29 47.3	-1.5
BKZ	**Black Stump Fm**	**1.39**	**16**	P	Pn	16 29 47.3	-1.5
WTVZ	**West Tongariro**	**1.42**	**347**	PN	Pn	16 29 48.9	-0.4
WTVZ	**West Tongariro**	**1.42**	**347**	P	Pn	16 29 48.9	-0.4
KRVZ	**Karewarewa**	**1.43**	**349**	PN	Pn	16 29 49.2	-0.3
TCW	**Tory Channel**	**1.49**	**241**	PN	Pn	16 29 49.3	-1.1
TWVZ	**Taurewa**	**1.49**	**343**	PN	Pn	16 29 49.9	-0.5
KATZ	**Kakaramea**	**1.54**	**351**	PN	Pn	16 29 51.1	0.0
KATZ	**Kakaramea**	**1.54**	**351**	P	Pn	16 29 51.1	0.0
DUWZ	**D'Urville Isla**	**1.61**	**259**	*e*PN	Pn	16 29 50.6	-1.4
VRZ	**Vera Road**	**1.68**	**325**	*e*PN	Pn	16 29 52.2	-0.8
RAEZ	**Rainy Point**	**1.73**	**314**	PN	Pn	16 29 54.2	+0.4
TUWZ	**Tuamarina**	**1.82**	**239**	*e*PN	Pn	16 29 53.2	-1.8
NEZ	**North Egmont**	**1.92**	**309**	PN	Pn	16 29 56.9	+0.5
KNZ	**Kokohu**	**1.96**	**42**	*e*PN	Pn	16 29 54.1	-3.0
NRZ	**Ngariki Road**	**1.97**	**305**	PN	Pn	16 29 57.7	+0.4
BSWZ	**Blackbirch Sta**	**2.01**	**232**	PN	Pn	16 29 55.9	-2.0
PKE	**Pukeiti**	**2.03**	**309**	PN	Pn	16 29 58.8	+0.7
NNZ	**Nelson**	**2.12**	**249**	*e*PN	Pn	16 29 57.9	-1.4
HIZ	**Hauiti**	**2.18**	**335**	*e*PN	Pn	16 29 59.0	-1.1
URZ	**Urewera**	**2.40**	**21**	PN	Pn	16 29 59.5	-3.8
MWZ	**Matawai**	**2.46**	**29**	PN	Pn	16 30 00.6	-3.7
THZ	**Tophouse**	**2.66**	**241**	*e*PN	Pn	16 30 04.5	-2.6
KHZ	**Kahutara**	**2.66**	**223**	*e*PN	Pn	16 30 03.8	-3.3
QRZ	**Quartz Range**	**2.66**	**262**	*e*PN	Pn	16 30 05.0	-2.1
DSZ	**Denniston Nort**	**3.41**	**247**	*e*PN	Pn	16 30 14.6	-3.1
LTZ	**Lake Taylor**	**3.61**	**230**	*e*PN	Pn	16 30 17.2	-3.4
MQZ	**McQueen's Vall**	**4.06**	**217**	*e*PN	Pn	16 30 23.4	-3.5
WB2	**Warramunga Arr**	**40.95**	**287**	*e*P	P	16 37 03.4	-3.4

*BUG **16** 16:31:52.8, 51.53N×6.82E, h1km, ML1.5*

*LDG **16** 16:31:53.3±0.2, 51.60N×6.88E, h1km, Ml2.9/8, Error ellipse: s-maj=3.8km s-min=3.3km az=60.0, Suspected Mining induced.*

*CSEM **16** 16:31:53.8±0.1, 51.60N×6.84E, h2km, ML2.8/6, Error ellipse: s-maj=4.3km s-min=2.4km az=123.0*

*BGR **16** 16:31:54.8±0.6, 51.45N×6.94E, h1km, ML2.2/5, Error ellipse: s-maj=7.8km s-min=4.4km az=113.0*

*NEIC **16** 16:31:55.8±7.2, 51.39N×6.64E, h10km, ML2.9(LDG), Error ellipse: s-maj=82.8km s-min=17.2km az=207.0*

ISC 16 16:31:51.6±0.4, 51.47N±0.02×6.86E±0.05, n18, σ1§19/39, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.15**	**1**	Pg	**Pg**	**16 31 54.3**	**-0.4**
BZER				Sg	**Sg**	**16 31 55.6**	**-1.1**
BUG	**Bochum--Univer**	**0.26**	**96**	*e*Pg	**Pg**	**16 31 59.6**	**+2.9**
	SNR=4.8						
WTSB	**Winterswijk**	**0.50**	**355**	*e*Pg	**Pg**	**16 32 01.3**	**-0.3**
	19nm,0.8s						
WTSB				*e*Sg	**Sg**	**16 32 07.5**	**-0.8**
HGN	**Heimansgroeve**	**0.92**	**220**	*e*Pg	**Pg**	**16 32 13.4**	**+3.5**
	5.0nm,0.1s						
HGN				*e*Sg	**Sg**	**16 32 26.5**	**+4.4**
IBBN	**Ibbenburen**	**1.01**	**33**	*e*Pg	**Pg**	**16 32 12.9**	**+1.2**
	SNR=1.7						
IBBN				*e*Sg	**Sg**	**16 32 26.7**	**+1.6**
TNS	**Taunus Mts**	**1.60**	**141**	*e*Pg	**Pg**	**16 32 23.6**	**+0.1**
	SNR=2.3						
TNS				*e*Sg	**Sg**	**16 32 44.5**	**-0.4**
WLF	**Walferdange**	**1.86**	**194**	*e*Pg	**Pg**	**16 32 30.4**	**+1.7**
	SNR=1.6						
WLF				*e*Sg	**Sg**	**16 32 53.2**	**-0.3**
GIVF	**Givet**	**1.88**	**224**	*e*Pg	**Pg**	**16 32 30.4**	**+1.2**
GIVF				*e*Sn	**Sn**	**16 32 50.7**	**+0.6**
GIVF				*e*Sg	**Sg**	**16 32 56.5**	**+2.3**
	24nm,0.3s						
GIVF	**Givet**	**1.88**	**224**	*e*Pn	**Pn**	**16 32 26.3**	**+1.0**
GIVF				*e*Pg	**Pg**	**16 32 30.4**	**+1.2**
GIVF				*e*Sn	**Sn**	**16 32 50.7**	**+0.6**
GIVF				*e*Sg	**Sg**	**16 32 56.5**	**+2.3**
GIVF	**Givet**	**1.88**	**224**	*e*Pg	**Pg**	**16 32 30.4**	**+1.2**
GIVF				*e*Sn	**Sn**	**16 32 50.7**	**+0.6**
GIVF				*e*Sg	**Sg**	**16 32 56.5**	**+2.3**
	12nm,0.3s						
BAIF	**Baives**	**2.20**	**231**	*e*Pn	**Pn**	**16 32 29.9**	**+0.1**
BAIF				*e*Sn	**Sn**	**16 32 57.5**	**-0.6**
BAIF				*e*Sg	**Sg**	**16 33 04.8**	**+0.1**
	9.8nm,0.3s						
CLZ	**Clausthal**	**2.22**	**79**	*e*Pg	**Pg**	**16 32 35.7**	**-0.2**
	SNR=2.5						
CLZ				*e*Sg	**Sg**	**16 33 03.2**	**-2.2**
CDF	**Champ du Feu**	**3.07**	**175**	*e*Pn	**Pn**	**16 32 43.7**	**+1.4**
CDF				*e*Sg	**Sg**	**16 33 34.0**	**+0.2**
	4.8nm,0.3s						
MEZF	**Maizieres J'vi**	**3.19**	**202**	*e*Sg	**Sg**	**16 33 36.9**	**-0.9**
	7.9nm,0.4s						
SFTF	**Sexfontaines**	**3.47**	**201**	*e*Pn	**Pn**	**16 32 47.9**	**-0.1**
SFTF				*e*Sg	**Sg**	**16 33 46.3**	**-0.9**
	6.0nm,0.3s						
LOR	**Lormes**	**4.64**	**206**	*e*Pn	**Pn**	**16 33 04.1**	**-0.5**
LOR				*e*Sn	**Sn**	**16 33 56.9**	**-3.0**
LOR				*e*Sg	**Sg**	**16 34 23.5**	**-2.5**
	4.9nm,0.4s						
SSF	**Saint Saulge**	**4.93**	**208**	*e*Pn	**Pn**	**16 33 08.2**	**-0.4**
GRR	**Gorron**	**5.86**	**241**	*e*Pn	**Pn**	**16 33 20.4**	**-1.4**
GRR				*e*Sn	**Sn**	**16 34 24.1**	**-6.6**

*NEIC **16** 16:44:28.7, 36.32N×21.71E, h24km, MD3.6(ATH), After ATH.*

*CSEM **16** 16:44:28.7, 36.32N×21.71E, h24km, MD3.5/4, After ATH*

ATH 16 16:44:28.7, 36.32N×21.71E, h24km±2km, MD3.6/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.88**	**11**	*e*PN	Pn	16 44 45.5	-0.1
ITM				*e*SN	Sn	16 44 58.1	+0.5
VLI	**Veliai**	**1.06**	**68**	*e*PN	Pn	16 44 49.0	+0.7
VLI				*e*SN	Sn	16 45 04.3	+1.9
KYTH	**Kithira**	**1.07**	**92**	*e*PN	Pn	16 44 49.5	+1.1
RLS	**Riolos of Patr**	**1.75**	**354**	*e*PN	Pn	16 44 59.8	+1.8
VLS	**Valsamata**	**2.06**	**335**	*e*PN	Pn	16 45 04.2	+1.7

*IDC **16** 16:54:24.9±1.6, 30.30N×138.25E, h439km±31km, mb3.2/4, mb1 3.3/6, mb1mx2.8/21, mbtmp3.9/6, Error ellipse: s-maj=89.8km s-min=17.2km az=79.0*

*JMA **16** 16:54:25.6±0.6, 30.60N×138.86E, h465km, M3.3*

ISC 16 16:54:24.7±1.0, 30.5N±0.1×138.9E±0.2, h466km±10km, n20, σ0§93/22, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.71**	**16**	P	**P**	**16 55 32.1**	**+0.6**
	20nm,0.3s,baz=82,slow=23,SNR=16						
JHJ				S	**S**	**16 56 19.8**	**-4.5**
	4.9nm,0.3s,baz=273,slow=21,SNR=1.7						
JHJ2	**Mitsune**	**2.71**	**16**	P	**P**	**16 55 32.1**	**+0.6**
JWZ	**Kozaga**	**4.06**	**319**	P	**P**	**16 55 41.1**	**-1.0**
JIE	**Ise**	**4.30**	**335**	P	**P**	**16 55 44.8**	**+0.6**
JAA	**Atsumi**	**4.38**	**340**	P	**P**	**16 55 45.6**	**+0.7**
BSO1	**Boso 1**	**4.49**	**22**	P	**P**	**16 55 46.6**	**+0.7**
BSO3	**Boso 3**	**4.49**	**17**	P	**P**	**16 55 46.6**	**+0.7**
JNY	**Yasuok**	**4.92**	**350**	P	**P**	**16 55 50.8**	**+0.9**
JYN	**Shimob**	**4.99**	**356**	P	**P**	**16 55 51.1**	**+0.6**
JHU	**Hanno**	**5.34**	**3**	P	**P**	**16 55 53.4**	**-0.6**
JRY	**Ryogami san**	**5.50**	**360**	P	**P**	**16 55 55.7**	**+0.2**
JYT	**Yasato**	**5.80**	**10**	P	**P**	**16 55 57.1**	**-1.5**
JYT				*e*S	**S**	**16 57 10.6**	**-2.1**
JAG	**Ashikaga**	**5.92**	**4**	P	**P**	**16 55 58.9**	**-0.9**
MJAR	**Matsushiro Arr**	**6.05**	**355**	P	**P**	**16 56 00.3**	**-0.7**
	0.6nm,0.3s,baz=170,slow=11,SNR=5.8						
JHO	**Hitachi**	**6.24**	**12**	P	**P**	**16 56 02.9**	**-0.1**
JFK	**Kawauchi**	**7.03**	**13**	P	**P**	**16 56 12.3**	**+1.0**
WRA	**Warramunga Arr**	**50.35**	**186**	P	**P**	**17 02 38.0**	**-1.4**
	0.6nm,0.4s,mb3.3,baz=0.6,slow=7.8,SNR=25						
BVAR	**Borovoye Array**	**53.61**	**316**	P	**P**	**17 03 02.0**	**-0.7**
	0.3nm,0.4s,mb3.0,baz=89,slow=5.3,SNR=5.5						
ARCES	**ARCESS Array B**	**69.38**	**340**	P	**P**	**17 04 46.9**	**+1.4**
	8.4nm,1.0s,mb4.2,baz=73,slow=8.6,SNR=5.7						
FINES	**FINESS Array B**	**73.62**	**333**	P	**P**	**17 05 10.8**	**+0.5**
	1.3nm,0.8s,mb3.5,baz=90,slow=9.7,SNR=3.3						

*CSEM **16** 17:05:42.7±1.2, 13.64N×43.52E, h23km±11km, ML3.5, Error ellipse: s-maj=30.4km s-min=8.8km az=40.0, After DHMR*

DHMR 16 17:05:42.7±1.7, 13.64N×43.52E, h24km±6km, ML3.5, 1C-4D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**0.55**	**53**	⇓*i*P	Pb	17 05 54.5	+0.9
UDYN				*i* S	Sb	17 06 01.9	+0.9
TRBA	**At Turbah**	**0.71**	**125**	*i* P	Pb	17 05 56.3	0.0
TRBA				*i* S	Sb	17 06 05.8	+0.2
TRBA				AML	AML	17 06 08.7	
	comp=N,2μm,0.4s						
DHBB	**Dhamar BB**	**1.26**	**42**	⇑*i*P	Pn	17 06 05.9

ellipse: s-maj=25.1km s-min=11.4km az=146.0
ISC 16 17:19:49.1±0.7, 17.5S±0.2×176.7W±0.1, h33km, n28, σ0$83/17, mb4.1/8, MS4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.93**	**53**	Pn	**Pn**	**17 21 12.1**	**-5.0**
	9.2nm,0.3s,baz=306,slow=22,SNR=19						
AFI				LR	LR	17 23 02.7	
	comp=Z,2μm,19.6s,baz=262,slow=34						
AFI	**Afiamalu**	**5.93**	**53**	*e*Pn	**Pn**	**17 21 11.4**	**-5.6**
RAO	**Raoul Island**	**11.73**	**185**	LR	LR	17 26 23.3	
	comp=Z,475nm,20.7s,baz=2.7,slow=34						
RAR	**Rarotonga**	**16.37**	**106**	LR	LR	17 28 51.9	
	comp=Z,224nm,18.7s,baz=46,slow=34						
DZM	**Mont Dzumac**	**16.51**	**251**	Pn	**P**	**17 23 41.2**	**+1.4**
	0.1nm,0.3s,baz=98,slow=14,SNR=4.5						
DZM				LR	LR	17 27 43.1	
	comp=Z,105nm,19.1s,baz=210,slow=29						
URZ	**Urewera**	**21.36**	**194**	LR	LR	17 31 44.3	
	comp=Z,471nm,20.4s,MS3.9,baz=14,slow=34						
HNR	**Honiara**	**24.09**	**286**	LR	LR	17 33 20.5	
	comp=Z,206nm,18.6s,MS3.6,baz=67,slow=34						
PPT	**Papeete**	**25.84**	**94**	*e*LQ		17 30 03.8	
PPT				*e*LR	LR	17 31 09.0	
	94nm,27.2s						
TBI	**Tubuai**	**26.13**	**107**	*e*LQ		17 30 13.1	
TBI				*e*LR	LR	17 31 19.2	
	308nm,30.0s						
RPZ	**Rata Peaks**	**28.10**	**199**	LR	LR	17 36 34.1	
	comp=Z,658nm,18.2s,MS4.3,baz=200,slow=36						
PMG	**Port Moresby**	**36.03**	**278**	LR	LR	17 39 02.3	
	comp=Z,106nm,19.1s,MS3.6,baz=288,slow=32						
RKT	**Rikitea**	**39.41**	**105**	*e*LR	LR	17 37 27.9	
	238nm,30.0s						
STKA	**Stephens Creek**	**40.26**	**241**	*e*P	**P**	**17 27 24.7**	**+0.1**
	3.1nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**40.26**	**241**	P	**P**	**17 27 24.4**	**-0.2**
	3.5nm,0.8s,mb4.2,baz=78,slow=9.8,SNR=4.3						
STKA				LR	LR	17 41 36.1	
	comp=Z,206nm,20.2s,MS4.0,baz=28,slow=32						
STKA	**Stephens Creek**	**40.26**	**241**	*e*P	**P**	**17 27 24.8**	**+0.1**
WB2	**Warramunga Arr**	**46.31**	**259**	*e*P	**P**	**17 28 14.0**	**+0.1**
WRA	**Warramunga Arr**	**46.32**	**259**	P	**P**	**17 28 12.6**	**-1.4**
	3.7nm,0.8s,mb4.3,baz=94,slow=7.3,SNR=26						
ASPA	**Alice Springs**	**46.48**	**254**	*e*P	**P**	**17 28 14.8**	**-0.4**
VNDA	**Vanda**	**60.97**	**185**	P	**P**	**17 29 59.9**	**-1.1**
	2.4nm,1.1s,mb4.2,baz=354,slow=8.9,SNR=5.4						
VNDA				LR	LR	17 53 58.3	
	comp=Z,50nm,18.2s,MS3.7,baz=91,slow=34						
VNDA	**Vanda**	**60.97**	**185**	P	**P**	**17 29 59.9**	**-1.2**
VNDA				LR	LR	17 53 58.3	
QSPA	**South Pole Qui**	**72.53**	**180**	*e*P	**P**	**17 31 14.5**	**+0.6**
	3.6nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**78.01**	**43**	P	**P**	**17 31 47.0**	**+0.9**
	0.6nm,0.9s,mb3.5,baz=238,slow=8.5,SNR=3.7						
TXAR	**Lajitas Array**	**84.40**	**57**	LR	LR	18 03 01.3	
	comp=Z,124nm,18.4s,MS4.3,baz=280,slow=31						
ILAR	**Eielson Array**	**85.15**	**12**	P	**P**	**17 32 22.1**	**-0.7**
	0.7nm,0.7s,mb3.9,baz=229,slow=5.4,SNR=7.9						
PDAR	**Pinedale Array**	**85.95**	**43**	P	**P**	**17 32 27.5**	**+0.3**
	0.3nm,0.7s,mb3.6,baz=180,slow=1.5,SNR=3.9						
PDAR				LR	LR	18 05 47.2	
	comp=Z,90nm,19.9s,MS4.2,baz=80,slow=32						
PDAR	**Pinedale Array**	**85.95**	**43**	P	**P**	**17 32 27.5**	**+0.3**
PDAR				LR	LR	18 05 47.2	
SNAA	**Sanae**	**90.93**	**178**	P	**P**	**17 32 50.8**	**+0.4**
	3.1nm,0.9s,mb4.6						
BRTR	**Keskin Array B**	**145.66**	**316**	PKPbc	PKPbc	17 39 26.9	+1.8
	1.4nm,0.8s,baz=135,slow=1.7,SNR=5.9						

*NEIC **16** 17:30:10.0±0.7, 15.25S×70.44W, h195km±7km, mb4.1/9, Error ellipse: s-maj=13.3km s-min=10.2km az=59.0*
*IDC **16** 17:30:11.2±1.6, 15.24S×70.31W, h208km±16km, mb3.5/7, mb1 3.6/10, mb1mx3.4/20, mbtmp3.9/10, Error ellipse: s-maj=27.9km s-min=16.8km az=78.0*
ISC 16 17:30:09.4±0.8, 15.28S±0.09×70.47W±0.10, h208km±9km, n30, σ0$89/22, mb3.9/14, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.53**	**220**	*e*P	**P**	**17 30 43.0**	**-1.4**
LPAZ	**La Paz**	**2.47**	**114**	P	**P**	**17 30 55.5**	**+1.7**
	2.3nm,0.3s,baz=318,slow=9.3,SNR=34						
LPAZ				S	**S**	**17 31 28.6**	**+0.5**
	3.0nm,0.3s,baz=193,slow=24,SNR=8.5						
SIV	**San Ignacio**	**9.08**	**96**	P	**P**	**17 32 16.1**	**-1.4**
	0.1nm,0.3s,baz=284,slow=13,SNR=8.6						
CFAA	**Coronel Fontan**	**16.38**	**173**	P	**P**	**17 33 49.8**	**+0.6**
	0.1nm,0.3s,baz=347,slow=11,SNR=12						
SDV	**Santo Domingo**	**24.01**	**360**	P	**P**	**17 35 06.8**	**+0.1**
	1.8nm,0.3s,mb4.1,baz=268,slow=6.9,SNR=4.5						
SDV	**Santo Domingo**	**24.01**	**360**	P	**P**	**17 35 06.7**	**0.0**
	2.2nm,0.3s,mb4.3						
PLCA	**Paso Flores**	**25.36**	**180**	P	**P**	**17 35 18.7**	**-0.4**
	1.4nm,0.5s,mb3.9,baz=360,slow=12,SNR=6.7						
PLCA	**Paso Flores**	**25.36**	**180**	*e*P	**P**	**17 35 19.0**	**0.0**
	1.3nm,0.5s,mb3.8						
TXAR	**Lajitas Array**	**54.72**	**324**	P	**P**	**17 39 19.6**	**+0.1**
	0.2nm,0.3s,mb3.1,baz=166,slow=10,SNR=4.1						
WMOK	**Wichita Mounta**	**56.55**	**332**	*e*P	**P**	**17 39 32.7**	**+0.3**
	1.4nm,0.4s,mb3.9						
MNTX	**Cornudas Mount**	**57.48**	**325**	*e*P	**P**	**17 39 38.5**	**-0.5**
	1.3nm,0.9s,mb3.6						
CBKS	**Cedar Bluff**	**60.38**	**334**	*e*P	**P**	**17 39 58.6**	**-0.2**
	9.2nm,0.6s,mb4.6						
SDCO	**Great Sand Dun**	**62.17**	**329**	*e*P	**P**	**17 40 11.7**	**+0.8**
	2.9nm,0.6s,mb4.1						
RSSD	**Black Hills**	**66.58**	**334**	*e*P	**P**	**17 40 39.9**	**+0.7**
	3.0nm,0.5s,mb4.2						
PDAR	**Pinedale Array**	**68.01**	**330**	P	**P**	**17 40 48.8**	**+0.6**
	0.5nm,0.4s,mb3.5,baz=121,slow=9.3,SNR=9.0						
DBIC	**Dimbokro**	**68.56**	**76**	P	**P**	**17 40 50.3**	**-1.7**
	1.2nm,0.6s,mb3.7,baz=270,slow=6.8,SNR=5.4						
SNAA	**Sanae**	**68.61**	**162**	*e*P	**P**	**17 40 51.5**	**+0.1**
	1.1nm,0.4s,mb3.8						
ULM	**Lac du Bonnet**	**68.97**	**343**	P	**P**	**17 40 52.3**	**-1.6**
	1.3nm,0.3s,mb4.0,baz=143,slow=6.8,SNR=5.1						
RRI2	**Red Ridge**	**69.30**	**329**	P	**P**	**17 40 56.9**	**+0.9**
	2.0nm,0.6s,mb3.9						
YKA	**Yellowknife Ar**	**84.86**	**341**	P	**P**	**17 42 21.9**	**+0.5**
	1.3nm,0.5s,mb3.9,baz=133,slow=5.1,SNR=23						
YKA	**Yellowknife Ar**	**84.86**	**341**	P	**P**	**17 42 21.9**	**+0.4**
ZAL	**Zalesovo**	**136.85**	**21**	PKP	PKPdf	17 49 09.4	+2.4
	1.4nm,0.5s,baz=171,slow=3.3,SNR=6.4						
WRA	**Warramunga Arr**	**137.33**	**216**	PKP	PKPdf	17 49 10.6	+1.8
	0.4nm,0.4s,baz=140,slow=1.7,SNR=8.8						
MKAR	**Makanchi Array**	**141.25**	**30**	PKhKP		17 49 12.0	
	0.2nm,0.5s,baz=354,slow=3.2,SNR=5.4						
MKAR				PKP	PKPdf	17 49 17.4	+2.2
	0.2nm,0.5s,baz=293,slow=1.8,SNR=4.6						
SONM	**Songino Array**	**147.44**	**4**	PKPbc	PKPdf	17 49 31.5	+5.8
	1.6nm,0.6s,baz=326,slow=2.0,SNR=16						
GKN	**Gorkha**	**153.69**	**57**	*e*P	PKPab	17 49 58.3	-1.6
DMN	**Daman**	**154.23**	**58**	*e*P	PKPab	17 49 59.8	-2.4
	4.2nm,0.4s						
KKN	**Kakani**	**154.30**	**57**	*e*P	PKPab	17 50 01.1	-1.3
	6.7nm,0.6s						
GUN	**Gumba**	**154.73**	**56**	*e*P	PKPab	17 50 03.4	-0.9
	6.6nm,0.6s						
JIRN	**Jiri**	**155.09**	**57**	*e*P	PKPab	17 50 04.6	-1.2

*ATH **16** 17:51:49.0, 38.88N×21.12E, h18km±2km, MD3.3/5*
*THE **16** 17:51:49.8, 38.89N×21.14E, h10km, ML2.6*
*NEIC **16** 17:51:49.0, 38.88N×21.12E, h18km, MD3.3(ATH), After ATH.*
*CSEM **16** 17:51:49.1±0.2, 38.88N×21.09E, h3km±1km, ML2.6, Error ellipse: s-maj=2.6km s-min=2.1km az=34.0*
ISC 16 17:51:48.3±0.7, 38.85N±0.03×21.12E±0.03, h1km±5km, n18, σ1$07/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.39**	**249**	*e*P	**Pg**	**17 51 57.4**	**+1.2**
LKD				*e*Sg	**Sg**	**17 52 05.2**	**+3.9**
EVR	**Evrytania**	**0.54**	**83**	*e*PN	**Pg**	**17 51 59.4**	**+0.2**
EVR				*e*SN	**Sg**	**17 52 07.9**	**+1.5**
VLS	**Valsamata**	**0.79**	**212**	*e*PB	**Pb**	**17 52 04.2**	**-0.3**
VLS				*e*SN	**Sn**	**17 52 17.3**	**-1.6**
JAN	**Janina**	**0.83**	**346**	*e*PB	**Pb**	**17 52 04.0**	**-1.2**
JAN				*e*SN	**Sn**	**17 52 15.8**	**-4.2**
RLS	**Riolos of Patr**	**0.84**	**161**	*e*PN	**Pn**	**17 52 05.3**	**-1.7**
IGT	**Igoumenitsa**	**0.91**	**318**	*e*Pg	**Pg**	**17 52 05.8**	**-0.8**
IGT				*e*Sg	**Sg**	**17 52 20.0**	**+1.2**
AGG	**Agios Georgios**	**0.96**	**79**	*e*Pg	**Pg**	**17 52 06.8**	**-0.7**
	comp=Z,5.0nm,0.2s						
AGG				*e*Sg	**Sg**	**17 52 20.9**	**+0.6**
KEK	**Kerkira**	**1.34**	**310**	*e*PN	**Pn**	**17 52 13.9**	**-0.3**
KEK				*e*SN	**Sn**	**17 52 32.7**	**-0.1**
SRN	**Sarande**	**1.34**	**320**	*i* Pn	**Pn**	**17 52 14.5**	**+0.3**
SRN				*i* Sn	**Sn**	**17 52 34.4**	**+1.4**
LKR	**Lokris**	**1.48**	**97**	*e*PN	**Pn**	**17 52 17.0**	**+0.7**
LIT	**Litokhoron**	**1.64**	**40**	*e*Pg	**Pg**	**17 52 18.7**	**-2.3**
LIT				*e*Sg	**Sg**	**17 52 40.7**	**-2.1**
XOR	**Xorichti**	**1.69**	**72**	*e*Pb	**Pb**	**17 52 19.9**	**-0.1**
XOR				*e*Sb	**Sb**	**17 52 43.1**	**+1.3**
NEO	**Neokhori**	**1.70**	**74**	*e*PN	**Pn**	**17 52 19.8**	**+0.4**
ITM	**Ithomi**	**1.79**	**159**	*e*PN	**Pn**	**17 52 21.8**	**+1.2**
AOS	**Alonnisos**	**2.18**	**81**	*e*Pn	**Pn**	**17 52 26.1**	**-0.1**
PAIG	**Paliouri**	**2.26**	**61**	*e*Pn	**Pn**	**17 52 26.7**	**-0.6**
GRG	**Griva**	**2.32**	**25**	*e*Pn	**Pn**	**17 52 28.4**	**+0.2**
KNT	**Kendrikon**	**2.68**	**30**	*e*Pn	**Pn**	**17 52 33.6**	**+0.2**
KNT				*e*Sn	**Sn**	**17 53 07.1**	**+0.1**

*ATH **16** 17:54:55.3, 38.88N×21.11E, h21km±1km, MD3.4/9*
*THE **16** 17:54:55.9, 38.85N×21.16E, h10km, ML2.9*
*NEIC **16** 17:54:55.3, 38.88N×21.11E, h21km, MD3.4(ATH), After ATH.*
*CSEM **16** 17:54:55.4±0.1, 38.87N×21.10E, h7km, ML2.9, Error ellipse: s-maj=2.2km s-min=1.9km az=51.0*
ISC 16 17:54:55.1±0.5, 38.86N±0.03×21.13E±0.03, h4km±4km, n24, σ1$12/39, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.41**	**248**	*e*Pg	**Pg**	**17 55 03.7**	**+0.5**
LKD				*e*Sg	**Sg**	**17 55 11.7**	**+3.0**
LKD	**Levkas**	**0.41**	**248**	*e*Pg	**Pg**	**17 55 03.7**	**+0.5**
LKD				*e*Sg	**Sg**	**17 55 11.6**	**+2.9**
EVR	**Evrytania**	**0.53**	**84**	*e*PN	**Pg**	**17 55 05.8**	**+0.1**
EVR				*e*SN	**Sg**	**17 55 14.4**	**+1.7**
VLS	**Valsamata**	**0.81**	**212**	*e*PB	**Pg**	**17 55 10.6**	**-0.5**
VLS				*e*SN	**Sg**	**17 55 23.7**	**+1.8**
JAN	**Janina**	**0.82**	**345**	*e*PN	**Pn**	**17 55 10.4**	**-2.9**
JAN				*e*SN	**Sn**	**17 55 22.2**	**-3.8**
RLS	**Riolos of Patr**	**0.84**	**162**	*e*PN	**Pn**	**17 55 11.9**	**-1.6**
IGT	**Igoumenitsa**	**0.92**	**317**	*e*Pg	**Pg**	**17 55 12.3**	**-1.0**
IGT				*e*Sg	**Sg**	**17 55 26.9**	**+1.3**
AGG	**Agios Georgios**	**0.95**	**80**	*e*Pg	**Pg**	**17 55 13.2**	**-0.8**
	comp=Z,8.0nm,0.2s						
AGG				*e*Sg	**Sg**	**17 55 27.4**	**+0.8**
KEK	**Kerkira**	**1.34**	**310**	*e*PN	**Pn**	**17 55 20.2**	**-0.4**
KEK				*e*SN	**Sn**	**17 55 38.3**	**-0.8**
SRN	**Sarande**	**1.34**	**320**	*i* Pn	**Pn**	**17 55 20.8**	**+0.1**
SRN				*i* Sn	**Sn**	**17 55 40.2**	**+1.0**
LKR	**Lokris**	**1.47**	**98**	*e*PN	**Pn**	**17 55 22.7**	**+0.1**
KZN	**Kozani**	**1.52**	**19**	*e*PN	**Pn**	**17 55 23.1**	**-0.2**
LIT	**Litokhoron**	**1.62**	**40**	*e*Pg	**Pg**	**17 55 25.4**	**-2.1**
	comp=Z,2.3nm,0.2s						
LIT				*e*Sg	**Sg**	**17 55 48.1**	**-1.0**
XOR	**Xorichti**	**1.68**	**72**	*e*Pb	**Pb**	**17 55 26.5**	**+0.3**
	comp=Z,5.0nm,0.2s						
XOR				*e*Sb	**Sb**	**17 55 49.6**	**+1.9**
NEO	**Neokhori**	**1.69**	**74**	*e*PN	**Pn**	**17 55 26.2**	**+0.6**
NEO				*e*SN	**Sn**	**17 55 48.6**	**+0.7**
ITM	**Ithomi**	**1.79**	**159**	*e*PN	**Pn**	**17 55 27.2**	**+0.1**
AOS	**Alonnisos**	**2.16**	**81**	*e*Pn	**Pn**	**17 55 30.6**	**-1.8**
AOS				*e*Sn	**Sn**	**17 55 59.8**	**-0.2**
PAIG	**Paliouri**	**2.24**	**61**	*e*Pn	**Pn**	**17 55 33.0**	**-0.5**
PAIG				*e*Sn	**Sn**	**17 56 02.6**	**+0.5**
GRG	**Griva**	**2.31**	**25**	*e*Pn	**Pn**	**17 55 34.5**	**0.0**
PLG	**Polygyros**	**2.34**	**49**	*e*PN	**Pn**	**17 55 34.3**	**-0.6**
VLI	**Velíai**	**2.57**	**146**	*e*PB	**Pb**	**17 55 39.6**	**-1.9**
OUR	**Ouranopolis**	**2.65**	**55**	*e*Pn	**Pn**	**17 55 39.1**	**-0.2**
KNT	**Kendrikon**	**2.67**	**30**	*e*Pn	**Pn**	**17 55 40.2**	**+0.6**
KNT				*e*Sn	**Sn**	**17 56 14.8**	**+2.0**
SRS	**Serrai**	**2.94**	**39**	*e*Pn	**Pn**	**17 55 43.7**	**+0.2**

*IDC **16** 18:01:24.2±1.4, 30.31N×79.09E, mb3.8/9, mb1 4.0/10, mb1mx3.7/23, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=45.1km s-min=21.6km az=48.0*
*NDI **16** 18:01:27.7±4.7, 30.56N×79.28E, h10km, MD3.4, ML3.6, mb3.7(NEIC)*
*NEIC **16** 18:01:28.4±7.0, 30.46N×79.14E, h23km±48km, mb3.7/2, Error ellipse: s-maj=34.3km s-min=12.0km az=222.0*
ISC 16 18:01:30.2±0.6, 30.50N±0.04×79.29E±0.05, h51km±7km, n29, σ1$22/40, mb3.8/11, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.25**	**139**	*e*P	**P**	**18 01 50.5**	**-1.1**
PTH				*e*S	**S**	**18 02 08.9**	**+1.4**
LGTI	**Lohaghat**	**1.34**	**141**	*e*P	**P**	**18 02 07.7**	**+15**
LGTI				*e*S	**S**	**18 02 25.4**	**+15**
KLP	**Kalpa**	**1.36**	**319**	*e*P	**P**	**18 01 52.7**	**-0.6**
KLP				*e*S	**S**	**18 02 08.6**	**-1.9**
KLP				AML	AML	18 02 18.0	
	comp=E,1μm,0.7s						
KLP				AML	AML	18 02 20.2	
	comp=N,960nm,0.5s						
SMLA	**Simla**	**1.93**	**289**	*e*P	**P**	**18 02 01.3**	**+0.1**
SMLA				*e*S	**S**	**18 02 25.8**	**+1.6**
	comp=N,5μm,0.3s						
SDNR	**Sundarnagar**	**2.23**	**297**	*e*P	**P**	**18 02 08.9**	**+3.5**
SDNR				*e*S	**S**	**18 02 38.5**	**+6.8**
NDI	**New Delhi**	**2.56**	**225**	*e*P	**P**	**18 02 09.0**	**-1.2**
NDI				*e*S	**S**	**18 02 41.0**	**+0.8**
AYAN	**Aya Nagar**	**2.76**	**224**	*e*P	**P**	**18 02 13.8**	**+0.8**
AYAN				*ex*	x	18 02 49.9	
SONA	**Sohna**	**2.96**	**221**	*e*P	**P**	**18 02 17.1**	**+1.3**
SONA				*e*S	**S**	**18 02 52.0**	**+1.7**
SONA				AML	AML	18 02 59.2	
	comp=E,332nm,0.5s						
SONA				AML	AML	18 03 02.4	
	comp=N,132nm,0.3s						
PONG	**Pong**	**3.21**	**298**	*e*P	**P**	**18 02 21.0**	**+1.7**
PONG				*e*SG	**S**	**18 03 10.0**	**+13**
KUDL	**Kundal**	**3.39**	**227**	*e*P	**P**	**18 02 20.4**	**-1.5**
KUDL				*e*S	**S**	**18 02 60.0**	**-1.3**
AGRA	**Agra**	**3.47**	**200**	*e*PB	**P**	**18 02 30.5**	**+7.5**
DLH	**Dalhousie**	**3.49**	**306**	*e*P	**P**	**18 02 24.0**	**+0.7**
DLH				*e*Sb	**S**	**18 03 14.0**	**+10**
THN	**Thein Dam**	**3.61**	**303**	*e*P	**P**	**18 02 24.3**	**-0.7**
THN				*ex*	x	18 03 09.4	
KHET	**Khetri**	**3.89**	**232**	*e*P	**P**	**18 02 26.5**	**-2.4**
KHET				*e*S	**S**	**18 03 11.4**	**-2.4**
KHET				AML	AML	18 03 27.7	
	comp=N,102nm,0.3s						
KHET				AML	AML	18 03 32.6	
	comp=E,104nm,0.3s						
LSA	**Lhasa**	**10.30**	**91**	Pn	**P**	**18 03 57.3**	**-0.8**
MKAR	**Makanchi Array**	**16.43**	**7**	Pn	**P**	**18 05 17.0**	**-1.5**
	comp=E,0.2nm,0.3s,baz=191,slow=12,SNR=15						
MKAR	**Makanchi Array**	**16.43**	**7**	Pn	**P**	**18 05 17.0**	**-1.5**
BVAR	**Borovoye Array**	**23.43**	**346**	P	**P**	**18 06 36.1**	**+0.9**
	comp=E,0.4nm,0.5s,mb3.1,baz=153,slow=14,SNR=5.8						
ZRNK	**Zerenda**	**23.66**	**344**	*e*P	**P**	**18 06 38.2**	**+0.8**
	comp=E,3.3nm,1.1s,mb3.7						
CHKZ	**Chkalovo**	**24.00**	**347**	*e*P	**P**	**18 06 41.4**	**+0.7**
	comp=E,1.1nm,0.5s,mb3.5						
AKTK	**Aktyubinsk**	**25.50**	**327**	P	**P**	**18 06 55.0**	**-0.1**
AKTO	**Aktyubinsk**	**25.50**	**327**	P	**P**	**18 06 55.0**	**-0.1**
	comp=E,0.7nm,0.5s,mb3.5,baz=126,slow=9.8,SNR=4.0						
SONM	**Songino Array**	**27.02**	**43**	P	**P**	**18 07 11.2**	**+2.0**
	comp=E,0.5nm,0.6s,mb3.2,baz=234,slow=10.0,SNR=4.2						
FINES	**FINESS Array B**	**46.27**	**328**	P	**P**	**18 09 51.6**	**-0.4**
	comp=E,1.2nm,0.6s,mb4.0,baz=127,slow=9.5,SNR=6.8						
ARCES	**ARCESS Array B**	**49.30**	**338**	P	**P**	**18 10 16.0**	**+0.5**
	comp=E,4.9nm,0.9s,mb4.5,baz=120,slow=9.8,SNR=9.6						
HFS	**Hagfors**	**51.99**	**325**	P	**P**	**18 10 35.8**	**-0.3**
	comp=E,2.9nm,0.7s,mb4.3,baz=104,slow=5.9,SNR=6.0						
NOA	**NORSAR Array B**	**53.27**	**326**	P	**P**	**18 10 44.2**	**-1.4**
	comp=E,1.8nm,1.0s,mb4.0,baz=110,slow=6.7,SNR=2.7						
WRA	**Warramunga Arr**	**72.91**	**126**	P	**P**	**18 12 55.9**	**-0.1**
	comp=E,1.1nm,0.6s,mb4.0,baz=321,slow=5.9,SNR=23						
ILAR	**Eielson Array**	**78.45**	**18**	P	**P**	**18 13 26.2**	**-0.4**
	comp=E,0.4nm,0.7s,mb3.5,baz=314,slow=5.6,SNR=4.2						

*NEIC **16** 18:05:21.3, 51.14N×178.55W, h25km, ML3.6(AEIC), After AEIC.*
ISC 16 18:05:19.1±2.7, 51.1N±0.3×178.6W±0.2, h34km±20km, n10, σ0$48/11, mb4.7/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.42**	**55**	P	**P**	**18 05 43.3**	**+0.6**
ADK				S	**S**	**18 06 00.3**	**-0.1**
ATKA	**Atka Island**	**2.94**	**66**	P	**P**	**18 06 05.1**	**+0.7**
SMY	**Shemya**	**4.84**	**293**	P	**P**	**18 06 31.3**	**-0.3**
NIKO	**Nikolski**	**6.28**	**69**	P	**P**	**18 06 50.6**	**-1.1**
GUN	**Gumba**	**72.12**	**292**	*e*P	**P**	**18 16 42.2**	**+0.4**
	16nm,0.7s,mb5.1						
JIRN	**Jiri**	**72.12**	**292**	*e*P	**P**	**18 16 41.9**	**+0.1**
	7.3nm,0.7s,mb4.7						
KKN	**Kakani**	**72.56**	**293**	*e*P	**P**	**18 16 44.2**	**-0.2**
	4.6nm,0.5s,mb4.7						
PKI	**Pulchoki**	**72.65**	**292**	*e*P	**P**	**18 16 44.5**	**-0.4**
	3.1nm,0.5s,mb4.5						
DMN	**Daman**	**72.79**	**293**	*e*P	**P**	**18 16 46.1**	**+0.3**
KOLN	**Koldanda**	**73.55**	**294**	*e*P	**P**	**18 16 50.2**	**0.0**

*IDC **16** 18:13:14.6±1.6, 60.26N×25.24E, mb1 3.3/3, mb1mx3.0/20, mbtmp3.2/3, ML2.4/3, Error ellipse: s-maj=17.1km s-min=6.8km az=144.0*
HEL 16 18:13:14.1±0.3, 60.14N×25.26E, ML1.8, ML1.9(UPP), Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.50**	**36**	*e*P	Pg	18 13 22.5	-1.6
PVF				*e*S	Sg	18 13 28.5	-2.4
VJF	**Virojoki**	**1.21**	**70**	*e*P	Pb	18 13 35.7	-1.8
VJF				*e*S	Sb	18 13 52.4	-1.2
FIA0	**FINESS Array S**	**1.36**	**17**	*e*P	Pb	18 13 37.7	-2.5
FIA0				*e*SN	Sn	18 13 59.9	+0.4
FINES	**FINESS Array B**	**1.36**	**17**	Pg	Pg	18 13 37.7	-3.7
	2.8nm,0.3s,baz=199,slow=16,SNR=110						
FINES				Pn	Pn	18 13 40.3	-0.2
	2.8nm,0.3s,baz=197,slow=12,SNR=61						
FINES				Lg		18 13 54.5	
	0.6nm,0.3s,baz=198,slow=30,SNR=7.9						
FINES				Sn	Sn	18 13 58.8	-0.7
	2.7nm,0.3s,baz=200,slow=22,SNR=19						
KEF	**Keuruu**	**2.04**	**355**	*e*P	Pn	18 13 49.5	-0.6
KEF				*e*S	Sn	18 14 15.8	-0.8
KEF				MSG		18 14 18.3	
	comp=Z,8.0nm,0.1s						
SUF	**Sumiainen**	**2.62**	**9**	*e*P	Pn	18 13 58.5	+0.2
SUF				*e*S	Sn	18 14 30.9	-0.5
SUF				MSG		18 14 32.1	
	comp=Z,1.8nm,0.2s						
AAL	**Aland**	**2.63**	**273**	*e*P	Pn	18 13 57.4	-1.2
GRAU	**Graesoe**	**3.36**	**276**	*e*P	Pn	18 14 06.9	-2.0
GRAU				*e*S	Sn	18 14 47.5	-2.5
NRTU	**Norrtaelje**	**3.37**	**265**	*e*P	Pn	18 14 07.8	-1.3
FLYU	**Flymyra**	**3.69**	**273**	*e*P	Pn	18 14 12.4	-1.2
OSTU	**Oestervaala**	**4.06**	**275**	*e*P	Pn	18 14 17.9	-0.9
BACU	**Backbrunna**	**4.11**	**269**	*e*P	Pn	18 14 18.6	-0.9
HFS	**Hagfors**	**5.78**	**275**	Pn	Pn	18 14 40.2	-3.0
	comp=Z,0.0nm,0.3s,baz=112,slow=12,SNR=2.0						
HFS				Sn	Sn	18 15 43.8	-7.4
	comp=Z,0.0nm,0.3s,baz=87,slow=27,SNR=4.1						
NOA	**NORSAR Array B**	**6.98**	**283**	Pn	Pn	18 14 55.3	-4.8
	comp=Z,0.1nm,0.3s,baz=90,slow=9.8,SNR=2.5						
NOA				Sn	Sn	18 16 10.0	-11
	comp=Z,0.1nm,0.3s,baz=142,slow=16,SNR=2.6						
ARCES	**ARCESS Array B**	**9.43**	**1**	Pn	P	18 15 28.4	-5.9
	comp=Z,0.1nm,0.3s,baz=178,slow=13,SNR=5.7						
ARCES				Sn	Sn	18 17 09.3	-13
	comp=Z,0.1nm,0.3s,baz=14,slow=5.0,SNR=2.3						

*IDC **16** 18:17:23.5±7.2, 3.04S×141.83E, h68km±73km, mb3.6/3, mb1 3.9/5, mb1mx3.6/13

LPAZ La Paz 136.78 121 PKP PKPdf 18 42 22.0 +2.5
0.7nm,0.3s,baz=270,slow=9.0,SNR=4.1
LPAZ La Paz 136.78 121 PKP PKPdf 18 42 22.0 +2.4

NIED ***16*** *18:32:00,38.40N×142.20E,h44km,Mw6.0 Best double couple: M₀1.12×10¹⁸ NP1:φs20°,δ72°,λ91°. NP2:φs196°, δ19°,λ86°.*
BGS ***16*** *18:32:10.1,36.84N×139.82E,h33km,mb5.8*
JMA ***16*** *18:32:13.4±0.2,38.45N×142.18E,h40km±2km,M6.1 Broadband fault plane solution: P waves. NP1:φs212°, δ36°,λ69°. NP2:φs57°,δ56°,λ105°. Principal axes: T Plg74°, Azm8°; N Plg12°, Azm229°; P Plg10°, Azm137°;*
JMA Felt IV J1.
MOS ***16*** *18:32:13.0±1.2,38.59N×141.94E,h26km,mb6.0/110, MS5.8/65 Error ellipse: s-maj=6.0km s-min=3.4km az=104.6*
BJI ***16*** *18:32:14.8,38.43N×142.05E,h62km,mB6.0,mb5.8, Ms6.0,Msz5.9*
HRVD ***16*** *18:32:16.4±0.1,38.47N×142.21E,h36km,MW6.0/72, Centroid moment Tensor Solution. LP body waves: s66,c163;Mantle waves: s72,c241; Half duration: 2s5 Moment tensor: Scale 10¹⁸Nm; Mrr0.78±.01; Mθθ0.01±.01; Mφφ-0.78±.01; Mrθ0.43±.01; Mθφ-0.30±.01; Mφr0.98±.01; Best double couple: M₀1.354×10¹⁸ NP1:φs193°,δ19°,λ80°. NP2:φs23°,δ71°,λ93°. Principal axes: T 1.301, Plg64°, Azm298°; N .106, Plg3°, Azm202°; P -1.407, Plg26°, Azm110°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***16*** *18:32:16.2±0.5,38.49N×141.98E,h51km±3km,mb5.4/28, mb1 5.5/33,mb1mx5.5/33,mbtmp5.6/33,MS5.6/25, Ms1 5.6/25,ms1mx5.4/30 Error ellipse: s-maj=8.2km s-min=6.0km az=108.0*
NEIC ***16*** *18:32:16.4±0.6,38.51N×141.90E,h43km±5km,mb5.8/161, MS5.6/113,MW5.9,MW6.0(NIED),Error ellipse: s-maj=4.9km s-min=3.5km az=157.0,Moment Tensor Solution. s44 Moment tensor: Scale 10¹⁸Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M₀1×10¹⁸ NP1:φs166°,δ19°,λ55°. NP2: φs23°,δ75°,λ101°. Principal axes: T 1.08, Plg59°, Azm309°; N -.08, Plg11°, Azm200°; P -1, Plg29°, Azm104°;*
NEIC Felt strongly at Ishinomaki. Felt [III] at Misawa and Tokyo. Recorded [4 JMA] in Iwate Prefecture, [3 JMA] in northeastern Honshu and [2 JMA] in much of northern and central Honshu.

ISC 16 18:32:15.2±0.1,38.44N±0.02×141.98E±0.02,h45km, h45km±1.0km:pP-P,n998,σ1s23/974,mb5.8/260,MS5.7/177, 65C-67D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.50**	**272**	⇓P	**P**	**18 32 26.2**	**+0.1**
OFUJ	**Ofunato**	**0.68**	**339**	⇓P	**P**	**18 32 27.6**	**-0.9**
JMK	**Ichinoseki**	**0.79**	**311**	⇓P	**P**	**18 32 29.8**	**-0.1**
JOU	**Okura**	**1.04**	**266**	⇓P	**P**	**18 32 34.0**	**+0.5**
JMM	**Marumori**	**1.10**	**239**	⇓P	**P**	**18 32 34.0**	**-0.3**
JMM				*e*S	**S**	**18 32 49.1**	**+0.5**
JOM	**Ohasama**	**1.16**	**333**	⇓P	**P**	**18 32 34.8**	**-0.4**
JOM				*e*S	**S**	**18 32 50.0**	**-0.2**
JYK	**Kaneyama**	**1.36**	**291**	⇓P	**P**	**18 32 38.5**	**+0.4**
JFK	**Kawauchi**	**1.39**	**220**	⇓P	**P**	**18 32 37.7**	**-0.8**
JRG	**Rokugo**	**1.42**	**313**	⇓P	**P**	**18 32 38.9**	**-0.1**
JTH	**Tanohata**	**1.50**	**357**	⇓P	**P**	**18 32 38.1**	**-2.0**
JYS	**Shirataka**	**1.52**	**262**	⇓P	**P**	**18 32 40.9**	**+0.4**
JFT	**Otama**	**1.59**	**235**	⇓P	**P**	**18 32 41.7**	**+0.3**
JKZ	**Kuzumaki**	**1.62**	**342**	⇓P	**P**	**18 32 41.1**	**-0.8**
JAH	**Hinai**	**2.03**	**330**	⇓P	**P**	**18 32 47.5**	**-0.2**
JFY	**Yanaizu**	**2.08**	**241**	P	**P**	**18 32 48.7**	**+0.4**
JHO	**Hitachi**	**2.15**	**212**	⇓P	**P**	**18 32 47.9**	**-1.3**
JHK	**Hiroka**	**2.63**	**244**	⇓P	**P**	**18 32 56.5**	**+0.3**
MAJO	**Matsushiro**	**3.55**	**239**	*e*P	**P**	**18 33 10.3**	**+1.1**
MAT	**Matsushiro**	**3.55**	**239**	P	**P**	**18 33 09.8**	**+0.6**
MAT				*e*S	**S**	**18 33 52.6**	**+2.2**
MAT	**Matsushiro**	**3.55**	**239**	P	**P**	**18 33 10.4**	**+1.2**
MAT	**Matsushiro**	**3.55**	**239**	*e*P	**P**	**18 33 10.0**	**+0.8**
MAT				*e*S	**S**	**18 33 55.0**	**+4.6**
MJAR	**Matsushiro Arr**	**3.55**	**239**	P	**P**	**18 33 09.6**	**+0.4**
	44nm,0.3s,baz=34,slow=14,SNR=155						
MJAR				S	**S**	**18 33 50.3**	**-0.1**
	198nm,0.3s,baz=31,slow=15,SNR=4.8						
MJAR				LR	LR	18 34 49.9	
	comp=Z,198μm,19.3s,baz=55,slow=43						
MJAR	**Matsushiro Arr**	**3.55**	**239**	P	**P**	**18 33 09.6**	**+0.4**
MJAR				S	**S**	**18 33 50.3**	**-0.1**
MJAR				LR	LR	18 34 49.9	
JGN	**Niukaw**	**4.33**	**241**	P	**P**	**18 33 23.4**	**+3.2**
JIZS	**Izushimoda**	**4.48**	**215**	P	**P**	**18 33 21.7**	**-0.6**
JHJ	**Hachijo jima 2**	**5.60**	**199**	P	**P**	**18 33 35.6**	**-2.5**
	396nm,0.3s,baz=69,slow=22,SNR=58						
JHJ				S	**S**	**18 34 37.0**	**-5.0**
	419nm,0.3s,baz=245,slow=21,SNR=5.9						
ASAJ	**Asahikawa**	**5.69**	**4**	P	**P**	**18 33 36.2**	**-3.1**
	19nm,0.3s,baz=202,slow=12,SNR=66						
ASAJ				S	**S**	**18 34 40.0**	**-4.2**
	30nm,0.3s,baz=225,slow=5.3,SNR=3.7						
ASAJ	**Asahikawa**	**5.69**	**4**	P	**P**	**18 33 36.2**	**-3.1**
ASAJ				S	**S**	**18 34 40.1**	**-4.1**
ASAJ				pmax	pmax		
	comp=Z,19nm,0.3s						
ASAJ				smax			
	comp=N,31nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**6.31**	**26**	*e*P	**P**	**18 33 42.5**	**-5.5**
YUK				*i* S	**S**	**18 34 49.0**	**-11**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,790nm,0.5s						
YUK				pmax	pmax		
	comp=E,790nm,0.5s						
YUK				pmax	pmax		
	comp=N,4μm,1.0s						
YUK				pmax	pmax		
	comp=Z,5μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,0.8s						
YUK				smax			
	comp=E,20μm,1.0s						
YUK				smax			
	comp=N,28μm,2.0s						
YUK				smax			
	comp=N,11μm,0.4s						
YUK				smax			
	comp=E,10μm,0.5s						
YUK				MLR	MLR		
	comp=N,36μm,14.0s						
YUK				MLR	MLR		
	comp=E,14μm,14.0s						
YUK				MLR	MLR		
	comp=Z,24μm,14.0s						
JMIK	**Miki**	**6.65**	**239**	P	**P**	**18 33 53.8**	**+1.0**
JKS	**Kasai**	**6.69**	**241**	P	**P**	**18 33 54.5**	**+1.1**
JAD	**Aida**	**7.18**	**243**	P	**P**	**18 34 01.6**	**+1.3**
KUR	**Kuril'sk**	**8.08**	**31**	*e*P	**P**	**18 34 07.0**	**-5.7**
KUR				pmax	pmax		
	comp=N,470nm,1.0s						
KUR				pmax	pmax		
	comp=E,510nm,1.0s						
KUR				pmax	pmax		
	comp=Z,1μm,1.0s						
KUR				MLR	MLR		
	comp=N,31μm,16.5s						
KUR				MLR	MLR		
	comp=E,52μm,16.5s						
KUR				MLR	MLR		
	comp=Z,36μm,16.5s						
YSS	**Yuzh-Sakhalins**	**8.53**	**4**	*e*P	**P**	**18 34 15.9**	**-3.0**
JNU	**Nakatsue**	**10.46**	**243**	P	**P**	**18 34 43.0**	**-2.5**
	comp=Z,16nm,0.3s,baz=53,slow=16,SNR=36						
JNU				LR	LR	18 39 08.8	
	comp=Z,100μm,20.4s,baz=51,slow=39						
UGL	**Uglegorsk**	**10.63**	**0**	*e*P	**P**	**18 34 48.0**	**+0.3**
UGL				S	**S**	**18 36 48.0**	**+1.5**
UGL				pmax	pmax		
	comp=Z,250nm,0.8s						
UGL				pmax	pmax		
	comp=Z,2μm,8.0s						
UGL				smax			
	comp=E,3μm,4.0s						
UGL				smax			
	comp=N,6μm,8.0s						
UGL				MLR	MLR		
	comp=N,38μm,18.0s						
UGL				MLR	MLR		
	comp=E,25μm,18.0s						
UGL				MLR	MLR		
	comp=Z,37μm,18.0s						
MDJ	**Mudanjiang**	**11.14**	**308**	P	**P**	**18 34 55.9**	**+1.2**
MDJ				PP	PP	18 35 05.0	+1.9
MDJ				S	**S**	**18 36 59.9**	**+1.0**
MDJ				XS		18 37 13.6	
MDJ				AMB	AMB		
	comp=Z,160nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,1μm,3.6s						
MDJ				LR	LR		
	comp=N,28μm,16.1s						
MDJ				LR	LR		
	comp=E,40μm,15.8s						
MDJ				LR	LR		
	comp=Z,66μm,17.3s						
MDJ	**Mudanjiang**	**11.14**	**308**	*e*Pn	**P**	**18 34 55.4**	**+0.8**
	comp=Z,400nm,0.9s						
KS15	**Wonju Array Si**	**11.18**	**269**	Pn	**P**	**18 34 57.1**	**+1.9**
HABR	**Khabarovsk**	**11.22**	**336**	*i* P	**P**	**18 34 55.0**	**-0.6**
HABR				*i*		18 36 58.9	
HABR				pmax	pmax		
	comp=Z,143nm,1.0s						
HABR				MLR	MLR		
	comp=Z,58μm,19.0s						
CBIJ	**Chichi jima**	**11.31**	**179**	P	**P**	**18 34 51.0**	**-6.0**
	comp=Z,48nm,0.3s,baz=314,slow=16,SNR=13						
CBIJ				S	**S**	**18 36 48.2**	**-15**
	comp=Z,71nm,0.3s,baz=289,slow=22,SNR=3.8						
INCN	**Inchon**	**12.16**	**270**	Pn	**P**	**18 35 11.5**	**+3.1**
KLR	**Kul'dur**	**13.06**	**329**	*e*P	**P**	**18 35 15.5**	**-4.8**
KLR				*e*		18 37 44.5	
KLR				MLR	MLR		
	comp=Z,100μm,13.0s						
CN2	**Changchun**	**13.56**	**298**	*e*P	**P**	**18 35 28.8**	**+1.9**
CN2				*e*AP		18 35 34.4	
CN2				PP	PP	18 35 39.8	+2.2
CN2				*e*S	**S**	**18 38 00.3**	**+3.3**
CN2				AMB	AMB		
	comp=Z,110nm,1.5s						
CN2				AMB	AMB		
	comp=Z,11μm,10.0s						
CN2				LR	LR		
	comp=N,24μm,17.0s						
CN2				LR	LR		
	comp=E,40μm,17.0s						
CN2				LR	LR		
	comp=Z,42μm,18.0s						
SNY	**Shenyang**	**14.48**	**289**	⇑P	**P**	**18 35 40.6**	**+1.7**
SNY				S	**S**	**18 38 19.4**	**+0.6**
SNY				SS	SS	18 38 36.0	-0.3
SNY				AMB	AMB		
	comp=Z,150nm,0.8s						
SNY				AMB	AMB		
	comp=Z,9μm,12.3s						
SNY				LR	LR		
	comp=E,62μm,17.3s						
SNY				LR	LR		
	comp=Z,72μm,18.6s						
DL2	**Dalian**	**15.91**	**278**	⇑*i*P	**P**	**18 35 59.3**	**+1.9**
DL2				AP		18 36 09.8	
DL2				XS		18 39 09.8	
DL2				AMB	AMB		
	comp=Z,460nm,1.0s						
DL2				AMB	AMB		
	comp=Z,4μm,5.3s						
DL2				LR	LR		
	comp=N,6μm,14.8s						
DL2				LR	LR		
	comp=E,18μm,16.1s						
DL2				LR	LR		
	comp=Z,22μm,18.8s						
JOW	**Kunigami**	**16.33**	**229**	P	**P**	**18 36 01.1**	**-1.6**
	comp=Z,3.5nm,0.3s,baz=43,slow=11,SNR=12						
JOW				S	**S**	**18 39 02.7**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=73,slow=14,SNR=1.6						
SSE	**Sheshan**	**18.57**	**253**	P	**P**	**18 36 29.5**	**-1.2**
SSE				AP		18 36 37.9	
SSE				S	**S**	**18 39 51.9**	**-0.9**
SSE				XS		18 40 11.4	
SSE				AMB	AMB		
	comp=Z,480nm,1.1s						
SSE				AMB	AMB		
	comp=Z,3μm,11.7s						
SSE				LR	LR		
	comp=N,10μm,15.7s						
SSE				LR	LR		
	comp=E,18μm,15.7s						
SSE				LR	LR		
	comp=Z,27μm,15.9s						
PET	**Petropavlovsk**	**18.59**	**33**	*e*P	**P**	**18 36 31.1**	**+0.3**
PET				*e*S	**S**	**18 39 53.9**	**+0.8**
PET				pmax	pmax		
	comp=Z,169nm,1.1s						
PET				pmax	pmax		
	comp=Z,2μm,10.8s						
PET				smax			
	comp=E,7μm,8.1s						
PET				smax			
	comp=E,11μm,11.6s						
PET				MLR	MLR		
	comp=Z,11μm,15.0s						
PET				MLR	MLR		
	comp=Z,13μm,18.0s						
PET	**Petropavlovsk**	**18.59**	**33**	Pn	**P**	**18 36 30.2**	**-0.5**
HIA	**Hailar**	**19.28**	**311**	*e*P	**P**	**18 36 35.8**	**-2.9**
HIA				pmax	pmax		
	comp=Z,218nm,0.8s						
HIA	**Hailar**	**19.28**	**311**	*e*P	**P**	**18 36 35.8**	**-2.9**
	comp=Z,218nm,0.8s						
TIA	**Tai'an**	**19.88**	**271**	P	**P**	**18 36 43.0**	**-2.4**
TIA				PP	PP	18 37 02.5	-2.4
TIA				S	**S**	**18 40 20.3**	**-1.3**
TIA				LR	LR		
	comp=N,5μm,19.4s						
TIA				LR	LR		
	comp=E,7μm,24.1s						
NJ2	**Nanjing**	**19.91**	**258**	*e*P	**P**	**18 36 43.3**	**-2.4**
NJ2				AP		18 36 53.6	
NJ2				PP	PP	18 37 02.3	-3.1
NJ2				S	**S**	**18 40 16.0**	**-6.3**
NJ2				AMB	AMB		
	comp=Z,4μm,10.4s						
NJ2				LR	LR		
	comp=N,31μm,18.9s						
NJ2				LR	LR		
	comp=E,55μm,18.2s						
NJ2				LR	LR		
	comp=Z,25μm,19.0s						
NRGR	**Nerungri**	**21.52**	**333**	*e*P	**P**	**18 36 52.3**	**-10**
NRGR				S	**S**	**18 40 51.9**	**-1.1**
CLNS	**Chul'man**	**21.60**	**334**	*e*P	**P**	**18 37 02.4**	**-0.5**
CLNS				*e**PP		18 37 08.7	
CLNS				*e*PPP	PPP	18 37 26.0	-12
CLNS				*e*S	**S**	**18 40 49.6**	**-4.9**
CLNS				*e*SS	SS	18 41 25.7	-6.7
CLNS				pmax	pmax		
	comp=Z,323nm,1.0s,mb5.7						
CLNS				pmax	pmax		
	comp=N,185nm,0.9s						
CLNS				pmax	pmax		
	comp=E,82nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,424nm,1.4s,mb5.7						
CLNS				pmax	pmax		
	comp=N,197nm,0.9s						
CLNS				pmax	pmax		
	comp=E,214nm,0.8s						
CLNS				smax			
	comp=N,2μm,10.6s						
CLNS				smax			
	comp=Z,4μm,12.5s						
CLNS				smax			
	comp=E,6μm,10.9s						
CLNS				MLR	MLR		
	comp=N,8μm,16.0s,MS5.3						
CLNS				MLR	MLR		
	comp=E,6μm,16.0s,MS5.3						
CLNS				MLR	MLR		
	comp=Z,34μm,16.0s,MS5.8						
MA2	**Magadan**	**21.89**	**12**	*c i*P	**P**	**18 37 04.8**	**-0.9**
MA2				pmax	pmax		
	comp=Z,425nm,0.8s,mb5.9						
MA2				MLR	MLR		
	comp=Z,5μm,18.0s,MS5.0						
MA2	**Magadan**	**21.89**	**12**	*e*P	**P**	**18 37 05.0**	**-0.7**
	comp=Z,409nm,0.8s,mb5.9						
TATO	**Taipei**	**21.94**	**238**	P	**P**	**18 37 06.7**	**+0.2**
	comp=Z,545nm,1.0s,mb5.9						
YHNB	**Yeheng**	**22.22**	**238**	*e*P	**P**	**18 37 08.6**	**-0.7**
NACB	**Ninganchiao**	**22.42**	**237**	*e*P	**P**	**18 37 09.8**	**-1.4**
HHC	**Hu-ho-hao-te**	**23.49**	**286**	⇑P	**P**	**18 37 20.9**	**-0.6**
HHC				AP		18 37 32.5	
HHC				XP		18 37 38.0	
HHC				PP	PP	18 37 56.6	+2.2
HHC				PCP	PcP	18 41 03.6	-4.5
HHC				S	**S**	**18 41 30.3**	**+1.7**
HHC				XS		18 41 50.8	
HHC				SCP		18 44 36.4	
HHC				PCS		18 44 41.8	
HHC				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.1						
HHC				AMB	AMB		
	comp=Z,3μm,4.4s						
HHC				LR	LR		
	comp=N,8μm,13.5s,MS6.1						
HHC				LR	LR		
	comp=E,43μm,14.3s,MS6.1						
HHC				LR	LR		
	comp=Z,52μm,16.8s,MS6.1						
QZH	**Quanzhou**	**23.94**	**243**	⇑*i*P	**P**	**18 37 25.6**	**-0.4**
QZH				S	**S**	**18 41 39.8**	**+3.3**
QZH				AMB	AMB		
	comp=Z,290nm,0.8s,mb5.8						
QZH				AMB	AMB		
	comp=Z,5μm,7.8s						
QZH				LR	LR		
	comp=N,32μm,18.2s,MS6.0						
QZH				LR	LR		
	comp=E,32μm,19.6s,MS6.0						
QZH				LR	LR		
	comp=Z,35μm,21.9s,MS5.8						
CIT	**Chita**	**24.00**	**314**	*e*P	**P**	**18 37 27.6**	**+1.2**
CIT				*e*		18 41 07.9	
CIT				*e*		18 41 43.0	
CIT				pmax	pmax		
	comp=Z,2μm,1.5s,mb6.3						
WHN	**Wuhan**	**24.04**	**259**	⇑P	**P**	**18 37 26.0**	**-0.9**
WHN				S	**S**	**18 41 37.0**	**-1.1**
WHN				AMB	AMB		
	comp=Z,5μm,10.9s						
WHN				LR	LR		
	comp=N,26μm,18.3s,MS6.1						
WHN				LR	LR		
	comp=E,51μm,19.5s,MS6.1						
WHN				LR	LR		
	comp=Z,59μm,19.4s,MS6.1						
BTO	**Baotou**	**24.68**	**285**	*e*P	**P**	**18 37 32.9**	**-0.2**
BTO				AMB	AMB		
	comp=Z,60nm,1.4s,mb4.9						
BTO				LR	LR		
	comp=E,14μm,14.3s						
YAK	**Yakutsk**	**24.81**	**346**	*c i*P	**P**	**18 37 33.8**	**-0.3**
YAK				*i* *PP		18 37 40.1	
YAK				*i* PPP	PPP	18 38 11.4	-11
YAK				*i*		18 41 17.7	
YAK				*e*S	**S**	**18 41 52.2**	**+1.4**
YAK				pmax	pmax		
	comp=Z,366nm,0.9s,mb5.9						
YAK				pmax	pmax		
	comp=N,169nm,1.1s						
YAK				pmax	pmax		
	comp=E,73nm,1.1s						
YAK				pmax	pmax		
	comp=N,129nm,1.0s						
YAK				pmax	pmax		
	comp=E,49nm,1.0s						
YAK				pmax	pmax		
	comp=Z,330nm,1.0s,mb5.8						
YAK				smax			
	comp=N,2μm,12.3s						
YAK				smax			
	comp=Z,3μm,19.2s						
YAK				smax			
	comp=E,1μm,13.1s						
YAK				MLR	MLR		
	comp=Z,11μm,16.0s,MS5.5						
YAK				MLR	MLR		
	comp=N,10μm,17.0s,MS5.4						
YAK				MLR	MLR		
	comp=E,5μm,20.0s,MS5.4						
YAK	**Yakutsk**	**24.81**	**346**	P	**P**	**18 37 31.3**	**-2.8**
	comp=E,210nm,0.6s,mb5.8						
YAK				*e*S	**S**	**18 41 57.4**	**+6.5**
GUMO	**Guam**	**24.88**	**173**	S	**S**	**18 41 55.1**	**+2.5**
	comp=E,18nm,0.4s,baz=252,slow=23,SNR=1.8						
GUMO				LR	LR	18 46 46.6	
	comp=E,8μm,20.8s,MS5.2,baz=180,slow=35						
SEY	**Seymchan**	**25.33**	**11**	*i* P	**P**	**18 37 38.9**	**-0.1**
SEY				*e*		18 38 26.7	
SEY				*e*		18 41 06.8	
SEY				*e*S	**S**	**18 42 03.1**	**+3.6**
SEY				pmax	pmax		
	comp=E,130nm,0.9s						
SEY				pmax	pmax		
	comp=Z,850nm,0.9s,mb6.3						
SEY				pmax	pmax		
	comp=N,320nm,1.0s						
SEY				smax			
	comp=N,18μm,9.6s						
SEY				smax			
	comp=E,3μm,6.2s						
SEY				MLR	MLR		
	comp=Z,9μm,16.0s,MS5.4						
SEY				MLR	MLR		
	comp=N,9μm,18.0s,MS5.3						
SEY				MLR	MLR		
	comp=E,3μm,18.0s,MS5.3						
SEY	**Seymchan**	**25.33**	**11**	⇑*i*P	**P**	**18 37 38.5**	**-0.5**
FX1	**Attu Island--F**	**25.89**	**46**	S	**S**	**18 42 08.7**	**-0.2**
	comp=E,20nm,0.5s,baz=80,slow=18,SNR=2.1						
FX1				LR	LR	18 46 45.7	
	comp=E,365nm,20.4s,baz=264,slow=34						
FX1	**Attu Island--F**	**25.89**	**46**	*e*P	**P**	**18 37 45.6**	**+1.2**
SMY	**Shemya**	**26.37**	**47**	PFAKE		18 38 00.0	+11
SMY				LR	LR		
	comp=Z,9μm,19.5s,MS5.3						
SGCP	**Mt. Cagua**	**26.59**	**226**	*e*P	**P**	**18 37 52.1**	**+0.9**
BOD	**Bodaibo**	**26.60**	**326**	*e*P	**P**	**18 37 48.2**	**-2.7**
BOD				*e*		18 37 51.6	
BOD				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.8						
BOD				pmax	pmax		
	comp=Z,161nm,0.7s,mb5.7						
XAN	**Xi'an**	**26.94**	**271**	P	**P**	**18 37 52.8**	**-1.5**
XAN				S	**S**	**18 42 17.4**	**-8.9**
XAN				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.3						
XAN				AMB	AMB		
	comp=Z,3μm,11.1s						
XAN				LR	LR		
	comp=N,4μm,16.5s,MS5.7						
XAN				LR	LR		
	comp=E,17μm,17.3s,MS5.7						
XAN				LR	LR		
	comp=Z,20μm,17.7s,MS5.7						
ULN	**Ulaanbaatar**	**26.97**	**302**	P	**P**	**18 37 53.9**	**-0.5**
ULN				pmax	pmax		
	comp=Z,60nm,0.6s,mb5.3						
ULN				MLR	MLR		
	comp=Z,19μm,20.0s,MS5.7						
ULN	**Ulaanbaatar**	**26.97**	**302**	P	**P**	**18 37 53.9**	**-0.5**
	comp=Z,60nm,0.6s,mb5.3						
ULN				LR	LR		
	comp=Z,19μm,20.0s,MS5.7						
PIP	**Pasuquin**	**27.35**	**229**	⇓*i*P	**P**	**18 37 59.6**	**+1.4**
SONM	**Songino Array**	**27.40**	**302**	P	**P**	**18 37 57.2**	**-1.2**
	comp=Z,40nm,0.9s,mb4.9,baz=102,slow=9.4,SNR=62						
SONM				S	**S**	**18 42 33.5**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=180,slow=4.4,SNR=2.0						
SONM				LR	LR	18 49 20.5	
	comp=Z,25μm,18.3s,MS5.8,baz=111,slow=37						
CAUP	**Cauayan**	**27.76**	**225**	*e*P	**P**	**18 37 59.0**	**-2.9**
ABRA	**Dolores**	**27.83**	**228**	*e*P	**P**	**18 38 01.9**	**-0.7**
ENH	**Enshi**	**27.93**	**263**	*e*P	**P**	**18 38 01.5**	**-1.8**
	comp=Z,913nm,0.7s,mb6.5						
ENH				LR	LR		

comp=Z,16µm,19.0s,MS5.6
HKC Hong Kong 28.73 244⇑ *i* P **P** **18 38 12.0 +1.4**
HKC *i* S **S** **18 43 00.0 +4.7**
GZH Guangzhou 28.83 246 P **P** **18 38 08.0 -3.4**
GZH S **S** **18 42 54.8 -2.0**
GZH AMB AMB
comp=Z,180nm,0.9s,mb5.8
GZH LR LR
comp=N,20µm,16.5s,MS5.9
GZH LR LR
comp=E,19µm,18.0s,MS5.9
GZH LR LR
comp=Z,19µm,24.9s
BALP Baler 28.88 224 *e*P **P** **18 38 12.9 +1.0**
BCPH Baguio City Da 28.91 226⇓ *i* P **P** **18 38 10.0 -2.2**
comp=Z,5µm,1.0s,mb6.9
PCPH Palayan 29.29 225⇑ *e*P **P** **18 38 14.3 -1.3**
PVCP Virac 29.36 217 *e*P **P** **18 38 16.6 +0.4**
IRK Irkutsk 29.51 310 *e*P **P** **18 38 15.8 -1.4**
IRK pmax pmax
comp=Z,373nm,2.4s,mb5.7
POLP Polillo Island 29.52 222 *e*P **P** **18 38 17.8 +0.2**
ZAK Zakamensk 29.78 306 *e*P **P** **18 38 18.1 -1.5**
ZAK *e* 18 41 22.6
ZAK pmax pmax
comp=Z,149nm,0.8s,mb5.8
ZAK pmax pmax
comp=Z,39nm,0.9s,mb5.1
ZAK pmax pmax
comp=Z,15nm,1.0s
SCZP Santa Cruz 29.78 227 *e*P **P** **18 38 11.8 -8.1**
LZH Lanzhou 30.30 278 *e*P **P** **18 38 22.9 -1.5**
LZH AP pP 18 38 33.8 -2.5
LZH PP PP 18 39 24.1 -0.4
LZH S **S** **18 43 20.0 0.0**
LZH SS SS 18 45 00.0 -1.2
LZH AMB AMB
comp=Z,350nm,1.1s,mb6.0
LZH AMB AMB
comp=Z,2µm,4.1s
LZH LR LR
comp=E,45µm,15.9s
LZH LR LR
comp=Z,62µm,17.6s,MS6.3
NBP Mount Natib 30.33 225⇑ *e*P **P** **18 38 25.1 +0.3**
TGY Tagaytay City 30.57 223 P **P** **18 38 27.1 +0.1**
comp=Z,796nm,1.0s,mb6.5,baz=203,slow=2.5,SNR=16
TGY S **S** **18 43 24.6 +0.2**
comp=Z,35nm,0.3s,baz=0.6,slow=18,SNR=1.7
TGY Tagaytay City 30.57 223⇑ *e*P **P** **18 38 28.1 +1.1**
BOAC Boac 30.63 221 *e*P **P** **18 38 27.6 +0.1**
LUBP Lubang 31.25 224 *e*P **P** **18 38 31.9 -1.0**
OCLP Ormoc 31.39 214 *e*P **P** **18 38 32.1 -2.1**
MOY Mondy 31.40 308 *e*P **P** **18 38 32.8 -1.1**
MOY pmax pmax
comp=Z,447nm,3.5s
OTRP Odiongan 31.47 220 *e*P **P** **18 38 35.5 +0.6**
SJMP San Jose 31.85 221 *e*P **P** **18 38 36.5 -1.7**
GYA Guiyang 31.92 259⇓ *i* P **P** **18 38 36.0 -2.8**
GYA AP pP 18 38 47.8 -2.9
GYA PP PP 18 39 48.3 +2.8
GYA PCP PcP 18 41 27.6 -0.9
GYA S **S** **18 43 44.5 -1.1**
GYA SCP 18 45 05.8
GYA SCS ScS 18 49 02.4 -1.5
GYA AMB AMB
comp=Z,270nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,2µm,6.9s
GYA LR LR
comp=N,8µm,19.1s,MS5.7
GYA LR LR
comp=E,15µm,20.6s,MS5.7
GYA LR LR
comp=Z,15µm,20.6s,MS5.7
MSLP Maasin 32.10 213 *e*P **P** **18 38 35.5 -4.9**
CD2 Chengdu 32.15 268⇓ *i* P **P** **18 38 38.8 -1.9**
CD2 S **S** **18 43 46.5 -2.5**
CD2 AMB AMB
comp=Z,230nm,0.9s,mb6.0
CD2 AMB AMB
comp=Z,1µm,9.3s
CD2 LR LR
comp=E,9µm,16.8s
CD2 LR LR
comp=Z,11µm,18.0s,MS5.6
SCPH Surigao 32.15 212 *e*P **P** **18 38 40.9 +0.1**
BILL Bilibino 32.55 17⇑ *i* P **P** **18 38 41.1 -2.7**
BILL *i* S **S** **18 43 54.5 -0.5**
BILL *i* SS SS 18 45 51.6 -1.8
BILL pmax pmax
comp=Z,157nm,1.0s,mb5.9
BILL MLR MLR
comp=Z,5µm,19.0s,MS5.3
BILL Bilibino 32.55 17 *e*P **P** **18 38 41.0 -2.8**
comp=Z,161nm,1.0s,mb5.9
GTA Gaotai 32.61 285 P **P** **18 38 43.8 -0.8**
GTA AP pP 18 38 55.4 -1.2
GTA PP PP 18 39 54.3 +0.1
GTA PCP PcP 18 41 31.8 +1.6
GTA S **S** **18 43 57.3 +1.2**
GTA XS 18 44 17.0
GTA SCP 18 45 09.0
GTA PCS 18 45 16.3
GTA SS SS 18 45 57.4 +2.5
GTA SCS ScS 18 49 05.3 -2.0
GTA AMB AMB
comp=Z,130nm,0.7s,mb6.0
GTA AMB AMB
comp=Z,2µm,8.8s
GTA LR LR
comp=N,13µm,19.0s,MS6.2
GTA LR LR
comp=E,41µm,17.5s,MS6.2
GTA LR LR
comp=Z,51µm,19.4s,MS6.2
GUIM Jordan 32.69 217 *e*P **P** **18 38 45.7 +0.1**
BUSP Coron 32.71 222 *e*P **P** **18 38 43.9 -1.8**
BUTP Butuan 32.83 211 *e*P **P** **18 38 47.1 +0.3**
ENPP El Nido 33.79 223 *e*P **P** **18 38 55.1 0.0**
QIZ Qiongzhong 33.93 244⇑ P **P** **18 38 57.4 +1.2**
QIZ AP pP 18 39 11.0 +2.7
QIZ PP PP 18 40 10.0 -0.7
QIZ S **S** **18 44 19.1 +2.3**
QIZ XS 18 44 36.9
QIZ AMB AMB
comp=Z,150nm,0.9s,mb5.9
QIZ AMB AMB
comp=Z,2µm,9.4s
QIZ LR LR
comp=N,11µm,19.2s
QIZ LR LR
comp=Z,14µm,18.0s,MS5.7
QIZ Qiongzhong 33.93 244 *e*P **P** **18 38 56.8 +0.5**
comp=Z,192nm,1.0s,mb6.0
QIZ LR LR
comp=Z,13µm,19.0s,MS5.7
TIXI Tiksi 33.95 353⇓ *i* P **P** **18 38 50.6 -5.3**
TIXI *e* 18 40 06.6
TIXI *e*S **S** **18 44 09.3 -7.4**
TIXI *e*SS SS 18 46 16.2 -9.4
TIXI pmax pmax
comp=N,47nm,1.0s
TIXI pmax pmax
comp=E,30nm,1.0s
TIXI pmax pmax
comp=Z,124nm,1.0s,mb5.8
TIXI pmax pmax
comp=Z,711nm,3.5s
TIXI MLR MLR
comp=N,13µm,17.0s,MS5.8
TIXI MLR MLR
comp=E,6µm,17.0s,MS5.8
TIXI MLR MLR
comp=Z,16µm,17.0s,MS5.8
TIXI Tiksi 33.95 353⇑ *i* P **P** **18 38 53.1 -2.8**
BUKP Musuan 34.04 211 *e*P **P** **18 38 56.2 -1.0**
DCPH Dipolog City 34.14 214⇓ *e*P **P** **18 38 57.6 -0.5**
comp=Z,104µm,1.0s
DAV Davao City (W) 34.58 210 PFAKE 18 39 10.0 +8.2
DAV LR LR
comp=Z,3µm,21.0s,MS4.9
PAGZ Pagadian 34.78 214 *e*P **P** **18 39 02.5 -1.0**
IPIL Ipil 35.19 215 *e*P **P** **18 39 06.1 -1.0**
KMI Kunming 35.64 260⇑ P **P** **18 39 11.3 +0.5**
KMI AP pP 18 39 22.6 -0.3
KMI PP PP 18 40 34.3 +2.2
KMI PCP PcP 18 41 38.8 -0.1
KMI S **S** **18 44 45.3 +2.1**
KMI SS SS 18 47 05.8 +1.2
KMI AMB AMB
comp=Z,450nm,0.8s,mb6.5
KMI AMB AMB
comp=Z,2µm,3.1s
KMI LR LR
comp=N,16µm,18.0s,MS5.9
KMI LR LR
comp=E,12µm,20.9s,MS5.9
KMI LR LR
comp=Z,20µm,19.1s,MS5.9
NIKO Nikolski 36.52 50 P **P** **18 39 17.2 -0.8**
BATP Bataraza 36.67 223 *e*P **P** **18 39 21.0 +1.5**
UNV Unalaska Valle 37.97 49 PFAKE 18 39 40.0 +10
UNV LR LR
comp=Z,11µm,20.0s,MS5.7
TNA Tin City 39.41 30 P **P** **18 39 41.9 0.0**
comp=Z,138nm,0.9s,mb5.7
TNA LR LR
comp=Z,2µm,20.0s,MS5.0
KKM Kota Kinabalu 39.82 222 P **P** **18 39 48.0 +2.2**
KKM Kota Kinabalu 39.82 222 *e*P **P** **18 39 46.9 +1.0**
TSM Tawau 40.46 219 P **P** **18 39 53.1 +1.9**
WMQ Urumqi 40.63 295 P **P** **18 39 52.4 +0.2**
WMQ AP pP 18 40 03.3 -1.1
WMQ PP PP 18 41 29.9 +0.5
WMQ S **S** **18 46 00.4 +1.8**
WMQ SS SS 18 48 55.5 +0.5
WMQ AMB AMB
comp=Z,440nm,0.9s,mb6.1
WMQ AMB AMB
comp=Z,5µm,3.8s
WMQ LR LR
comp=N,11µm,21.2s
WMQ LR LR
comp=E,10µm,28.0s
WMQ LR LR
comp=Z,13µm,26.0s,MS5.7
ZAL Zalesovo 41.33 311 P **P** **18 39 56.9 -1.0**
comp=Z,104nm,0.5s,mb5.7,baz=28,slow=8.3,SNR=69
ZAL PcS 18 45 46.8
comp=Z,3.6nm,0.8s,baz=218,slow=21,SNR=3.6
ZAL S **S** **18 46 08.6 -0.4**
comp=Z,4.9nm,0.9s,baz=54,slow=12,SNR=3.0
ZAL LR LR 18 58 19.5
comp=Z,21µm,20.9s,MS6.0,baz=27,slow=38
ZAL Zalesovo 41.33 311 P **P** **18 39 56.9 -1.0**
ZAL S **S** **18 46 08.6 -0.3**
ZAL Zalesovo 41.33 311 P **P** **18 39 56.9 -1.0**
ZAL PcS 18 45 46.8
ZAL S **S** **18 46 08.6 -0.4**
ZAL LR LR 18 58 19.5
NVS Novosibirsk 42.21 313 *i* P **P** **18 40 03.2 -1.8**
NVS *i* PPP PPP 18 41 57.5 -21
NVS *i* S **S** **18 46 12.4 -9.4**
NVS pmax pmax
comp=N,31nm,1.1s
NVS pmax pmax
comp=E,119nm,1.1s
NVS pmax pmax
comp=Z,187nm,1.1s,mb5.6
NVS smax
comp=N,115nm,1.6s
NVS smax
comp=E,135nm,1.6s
LSA Lhasa 42.55 274 P **P** **18 40 08.8 +0.6**
LSA AP pP 18 40 19.8 -0.6
LSA PP PP 18 41 46.9 -2.9
LSA PCP PcP 18 41 57.8 -2.9
LSA SCP 18 45 46.0
LSA PCS 18 45 49.6
LSA S **S** **18 46 28.1 +1.0**
LSA LR LR
comp=N,6µm,15.6s,MS5.9
LSA LR LR
comp=E,12µm,16.7s,MS5.9
LSA Lhasa 42.55 274 *e*P **P** **18 40 09.0 +0.8**
LSA pmax pmax
comp=Z,908nm,0.7s,mb6.6
LSA Lhasa 42.55 274 *e*P **P** **18 40 09.0 +0.8**
comp=Z,908nm,0.7s,mb6.6
MKAR Makanchi Array 43.77 301 P **P** **18 40 16.4 -1.5**
comp=Z,77nm,0.8s,mb5.5,baz=86,slow=8.8,SNR=80
MKAR S **S** **18 46 43.0 -1.7**
comp=Z,2.0nm,0.9s,baz=123,slow=25,SNR=2.4
MKAR LR LR 18 59 09.5
comp=Z,11µm,19.6s,MS5.8,baz=60,slow=37
MKAR Makanchi Array 43.77 301 P **P** **18 40 16.4 -1.5**
MKAR S **S** **18 46 43.0 -1.7**
MKAR LR LR 18 59 09.5
SVW2 Sparrevohn 44.14 38 *e*P **P** **18 40 20.4 -0.2**
AGT Agartala 45.23 267 *ex* x 18 40 33.0
AGT *ex* x 18 42 38.0
KURK Kurchatov 45.43 307 *c i*P **P** **18 40 29.6 -1.6**
NNT Nongplab 45.45 247 P **P** **18 40 33.0 +1.3**
GTK Gangtok 45.60 272 *ex* x 18 40 15.0
FIB Fire Island 46.76 38 PFAKE 18 40 50.0 +8.6
FIB LR LR
comp=Z,2µm,20.0s,MS5.2
KSM Kuching 46.85 226 *e*P **P** **18 40 43.6 +0.7**
MCK McKinley 47.22 34 P **P** **18 40 43.9 -1.1**
MCK pmax pmax
comp=Z,32nm,0.9s,mb5.2
MCK MLR MLR
comp=Z,2µm,20.0s,MS5.0
MCK McKinley 47.22 34 P **P** **18 40 43.9 -1.1**
comp=Z,32nm,0.9s,mb5.2
MCK LR LR
comp=Z,2µm,20.0s,MS5.0
PMR Palmer 47.23 37 *e*P **P** **18 40 44.9 -0.3**
PMR pmax pmax
comp=Z,73nm,0.9s,mb5.6
PMR MLR MLR
comp=Z,4µm,21.0s,MS5.4
PMR Palmer 47.23 37 *e*P **P** **18 40 44.9 -0.3**
comp=Z,72nm,0.9s,mb5.6
PMR LR LR
comp=Z,4µm,21.0s,MS5.4
JIRN Jiri 47.35 274 *e*P **P** **18 40 46.3 -0.3**
comp=Z,318nm,0.6s,mb6.4
GUN Gumba 47.48 275 *e*P **P** **18 40 47.3 -0.3**
comp=Z,861nm,0.6s,mb6.9
SML Sawmill 47.60 37 *e*P **P** **18 40 47.6 -0.5**
COLA College 47.65 33 *e*P **P** **18 40 47.2 -1.3**
COLA pmax pmax
comp=Z,44nm,0.8s,mb5.5
COLA College 47.65 33 *e*P **P** **18 40 47.2 -1.3**
comp=Z,44nm,0.8s,mb5.5
PMG Port Moresby 47.84 173 LR LR 18 58 50.8
comp=Z,3µm,21.6s,MS5.2,baz=305,slow=33
PMG Port Moresby 47.84 173 P **P** **18 40 50.2 -0.4**
PMG pmax pmax
comp=Z,35nm,1.1s
PMG MLR MLR
comp=Z,3µm,22.0s
PMG Port Moresby 47.84 173 P **P** **18 40 50.2 -0.4**
comp=Z,35nm,1.1s,mb5.3
PMG LR LR
comp=Z,3µm,22.0s,MS5.2
KKN Kakani 48.00 275 *e*P **P** **18 40 51.1 -0.6**
comp=Z,1µm,0.8s
KKN Kakani 48.00 275 *e*P **P** **18 40 51.1 -0.6**
KKN pmax pmax
comp=Z,607nm,0.8s,mb6.7
PKI Pulchoki 48.01 275 *e*P **P** **18 40 50.8 -0.9**
comp=Z,339nm,0.7s,mb6.5
PKI Pulchoki 48.01 275 *e*P **P** **18 40 50.8 -0.9**
PKI pmax pmax
comp=Z,170nm,0.7s,mb6.2
ILAR Eielson Array 48.07 33 P **P** **18 40 49.6 -2.1**
comp=Z,70nm,0.8s,mb5.7,baz=270,slow=6.1,SNR=110
ILAR S **S** **18 47 44.1 -1.8**
comp=Z,1.0nm,0.9s,baz=297,slow=5.7,SNR=2.5
ILAR LR LR 19 02 19.0
comp=Z,2µm,21.5s,MS5.1,baz=158,slow=38
ILAR PKPPKP 19 11 39.0
comp=Z,0.3nm,0.5s,baz=210,slow=46,SNR=4.1
DMN Daman 48.23 275 *e*P **P** **18 40 52.6 -0.8**
AAA Alma-Ata 48.32 298 *i* P **P** **18 40 55.6 +1.7**
AAA *i* S **S** **18 47 47.8 -1.9**
AAA pmax pmax
comp=Z,4µm,10.2s
AAA smax
comp=N,4µm,20.2s
AAA MLR MLR
comp=Z,10µm,27.8s,MS5.7
GKN Gorkha 48.41 275 *e*P **P** **18 40 54.0 -0.8**
comp=Z,2µm,1.1s
THY Trims Highway 48.66 35 *e*P **P** **18 40 56.5 +0.2**
DIV Divide 48.89 38 *e*P **P** **18 40 58.0 0.0**
DIV LR LR
comp=Z,15µm,22.0s,MS5.9
KOLN Koldanda 49.33 276 *e*P **P** **18 41 00.9 -1.0**
comp=Z,875nm,1.1s,mb6.7
TKM2 Tokmak 2 49.37 298 P **P** **18 41 01.5 -0.5**
SNR=98
BOK Bokaro 49.49 270 *e*P **P** **18 41 04.1 +0.9**
BOK AMb AMB 18 41 06.2
comp=Z,200nm,0.7s,mb6.3
MENT Mentasta 49.63 35 *e*P **P** **18 41 03.6 -0.1**
CHKZ Chkalovo 49.69 312 P **P** **18 41 02.0 -2.4**
KZA Kyzart 49.89 297 P **P** **18 41 09.3 +3.3**
SNR=41
KBK Karagaybulak 49.91 297 P **P** **18 41 07.6 +1.4**
SNR=8.4
KULM Kulim 49.92 239 *e*P **P** **18 41 05.4 -1.3**
CHMS Chumysh 49.93 298 P **P** **18 41 07.1 +0.7**
SNR=17
BVA0 Borovoye Array 49.97 312 *i* P **P** **18 41 04.4 -2.1**
BVA0 pmax pmax
comp=Z,204nm,1.8s,mb5.8
BVAR Borovoye Array 49.97 312 P **P** **18 41 04.6 -1.9**
comp=Z,62nm,0.8s,mb5.7,baz=73,slow=7.7,SNR=45
BVAR PcP PcP 18 42 26.2 -0.1
comp=Z,102nm,0.8s,baz=63,slow=3.3,SNR=7.2
BVAR PcS 18 46 21.4
comp=Z,3.0nm,0.7s,baz=112,slow=8.0,SNR=2.2
BVAR S **S** **18 48 11.1 -1.4**
comp=Z,1.8nm,1.0s,baz=141,slow=9.5,SNR=1.9
BVAR Borovoye Array 49.97 312 P **P** **18 41 04.6 -1.9**
BVAR 18 42 26.2
BVAR S **S** **18 48 11.1 -1.4**
USP Ospenovka 50.02 298 P **P** **18 41 05.6 -1.4**
SNR=50
BRVK Borovoye 50.02 312⇑ *i* P **P** **18 41 05.8 -1.1**
FRU Bishkek 50.08 298⇑ *i* P **P** **18 41 09.0 +1.5**
FRU *i* pP 18 41 20.5 +0.6
FRU *e* 18 48 20.0
FRU pmax pmax
comp=Z,960nm,2.8s,mb6.3
FRU MLR MLR
comp=Z,12µm,17.5s,MS6.0
KSH Kashi 50.26 293 P **P** **18 41 10.5 +1.6**
KSH AP pP 18 41 21.1 -0.2
KSH PCP PcP 18 42 29.3 +1.7
KSH PP PP 18 43 06.8 +1.5
KSH PCS 18 46 24.8
KSH S **S** **18 48 20.0 +3.3**
KSH AMB AMB
comp=Z,2µm,4.1s
KSH LR LR
comp=N,12µm,17.9s,MS6.2
KSH LR LR
comp=E,17µm,15.8s,MS6.2
IPM Ipoh 50.26 238 P **P** **18 41 10.7 +1.4**
UCH Uchtor 50.35 297 P **P** **18 41 11.2 +1.6**
SNR=26
HNR Honiara 50.49 157 S **S** **18 48 18.0 -2.2**
comp=E,13nm,0.5s,baz=148,slow=9.1,SNR=1.9
HNR LR LR 19 01 12.0
comp=E,11µm,20.7s,MS5.8,baz=324,slow=34
HNR Honiara 50.49 157 P **P** **18 41 11.6 +0.6**
HNR pmax pmax
comp=Z,127nm,1.0s,mb5.9
HNR MLR MLR
comp=Z,10µm,20.0s,MS5.8
HNR Honiara 50.49 157 P **P** **18 41 11.6 +0.6**
comp=Z,127nm,1.0s,mb5.9
HNR LR LR
comp=Z,10µm,20.0s,MS5.8
KGM Kluang 50.62 234 P **P** **18 41 12.0 0.0**
EKS2 Erkin-Say 50.72 298 P **P** **18 41 13.4 +1.0**
SNR=41
ZRNK Zerenda 50.80 312 P **P** **18 41 10.7 -2.1**
ZRNK pmax pmax
comp=Z,180nm,0.9s,mb6.0
ZRNK Zerenda 50.80 312 P **P** **18 41 10.8 -2.0**
AML Almayashu 50.96 297 P **P** **18 41 17.0 +2.8**
SNR=7.5
DAWY Dawson 51.38 33 *e*P **P** **18 41 16.6 -0.4**
SMLA Simla 52.77 283 *e*P **P** **18 41 26.9 -1.1**
SMLA *ex* x 18 48 55.4
comp=Z,396nm,0.9s
KKAR Karatay Array 52.82 299 *e*P **P** **18 41 25.5 -2.6**
KKAR pmax pmax
comp=Z,106nm,0.9s,mb5.8
PSI Prapat 52.90 239 P **P** **18 41 27.7 -1.5**
comp=Z,135nm,0.8s,mb5.9,baz=17,slow=4.6,SNR=65
INK Inuvik 52.93 28 P **P** **18 41 26.6 -2.1**
comp=Z,93nm,1.0s,mb5.7,baz=285,slow=7.0,SNR=46
INK S **S** **18 48 51.1 -1.9**
comp=Z,2.2nm,1.0s,baz=258,slow=16,SNR=2.1
INK Inuvik 52.93 28 P **P** **18 41 26.6 -2.0**
INK S **S** **18 48 51.1 -1.9**
INK pmax pmax
comp=Z,93nm,1.0s
INK smax
comp=N,2.0nm,1.0s
INK Inuvik 52.93 28 P **P** **18 41 26.7 -1.9**
comp=N,88nm,0.9s,mb5.7
BLSP Bilaspur 53.30 270 *e*P **P** **18 41 31.0 -1.0**
BLSP AMb AMB 18 41 34.3
comp=Z,399nm,1.0s,mb6.3
VIS Vishakhapatnam 54.78 265 *e*P **P** **18 41 42.0 -0.9**
VIS *i* x x 18 41 44.1
VIS AMb AMB 18 41 46.0
comp=Z,213nm,0.9s,mb6.2
SIT Sitka 55.03 41 PFAKE 18 42 00.0 +16
SIT LR LR
comp=Z,6µm,20.0s,MS5.7
SOKR Solikamsk 55.50 322 *c i*P **P** **18 41 47.4 -0.1**
SOKR S **S** **18 49 30.2 +2.5**
SOKR pmax pmax
comp=Z,120nm,0.9s,mb5.9
SOKR MLR MLR
comp=Z,7µm,17.0s,MS5.8
ARU Arti 55.61 318 *d i*P **P** **18 41 46.9 -1.5**
ARU pmax pmax
comp=Z,394nm,1.1s,mb6.3
ARU MLR MLR
comp=Z,31µm,18.0s,MS6.4
ARU Arti 55.61 318 *i* Pr 18 41 46.0
BHPL Bhopal 56.41 274 *e*P **P** **18 41 54.1 -0.5**
BHPL AMb AMB 18 41 56.5
comp=Z,153nm,1.2s,mb5.9
AJM Ajmer 56.92 279 *e*P **P** **18 41 56.9 -1.3**
AJM AMb AMB 18 42 00.4
comp=Z,374nm,0.8s,mb6.4
DLBC Dease Lake 57.24 39 P **P** **18 42 00.5 +0.4**
AB31 Akbulak array 57.39 310 *i* P **P** **18 41 58.3 -2.9**
FUNA Funafuti 58.17 135 PFAKE 18 42 20.0 +13
FUNA LR LR
comp=Z,18µm,19.0s,MS6.2
FITZ Fitzroy Crossi 58.30 198⇑ *i* P **P** **18 42 06.0 -1.9**
comp=Z,188nm,1.0s,mb6.1
FITZ *e*S **S** **18 50 07.1 +2.0**
FITZ Fitzroy Crossi 58.30 198 P **P** **18 42 05.7 -2.3**
comp=Z,107nm,1.0s,mb5.8,baz=16,slow=7.7,SNR=133
FITZ S **S** **18 50 05.2 +0.1**
comp=Z,1.6nm,0.9s,baz=143,slow=9.2,SNR=3.1
CTA Charters Tower 58.35 175 *e*P **P** **18 42 06.6 -1.7**
comp=Z,22nm,1.4s,mb5.0
CTA Charters Tower 58.35 175 P **P** **18 42 05.6 -2.7**
comp=Z,23nm,1.1s,mb5.1,baz=354,slow=7.6,SNR=15
CTA S **S** **18 50 06.1 +0.2**
comp=Z,2.8nm,0.9s,baz=40,slow=18,SNR=1.9
CTA Charters Tower 58.35 175 P **P** **18 42 05.6 -2.7**
CTA S **S** **18 50 06.1 +0.2**
CTA pmax pmax
comp=Z,23nm,1.1s
CTA smax
comp=N,3.0nm,0.9s
CTAO Charters Tower 58.35 175 P **P** **18 42 05.9 -2.4**
CTAO pmax pmax
comp=Z,78nm,1.5s,mb5.5
CTAO Charters Tower 58.35 175 P **P** **18 42 05.9 -2.4**
comp=Z,78nm,1.5s,mb5.5

WRAB Tennant Creek 58.50 188*c* *i*P P **18 42 07.0 -2.4**
WB2 Warramunga Arr 58.51 188 *e*P P **18 42 06.5 -2.9**
WB2 *e*S S **18 50 05.6 -2.3**
WRA Warramunga Arr 58.51 188 P P **18 42 06.2 -3.3**
comp=Z,258nm,0.9s,mb6.3,baz=5.7,slow=7.1,SNR=204
WRA pP pP 18 42 21.3 -0.8
comp=Z,154nm,0.8s,baz=5.8,slow=7.2,SNR=12
WRA S S **18 50 06.0 -1.9**
comp=Z,7.6nm,1.1s,baz=4.1,slow=12,SNR=9.4
WRA SS SS 18 54 03.2 +0.7
comp=Z,0.2nm,0.5s,baz=153,slow=44,SNR=3.0
WRA PKPPKP 19 11 44.5
comp=Z,1.1nm,1.0s,baz=208,slow=2.0,SNR=3.5
HYB Hyderabad 58.70 268 *i* P P **18 42 09.0 -1.7**
comp=Z,190nm,1.0s,mb6.1
HYB *e*pP pP 18 42 22.0 -1.4
HYB *e*sP sP 18 42 28.5 -0.1
HYB *e*PcP PcP 18 43 00.5 +0.5
HYB *e*PP PP 18 44 22.0 -0.5
HYB *e*S S **18 50 10.0 -0.4**
HYB LR LR 19 09 40.0
comp=Z,8.5nm,20.0s
HYB Hyderabad 58.70 268 *e*P P **18 42 09.0 -1.7**
HYB *e*S S **18 50 12.0 +1.6**
HYB pmax pmax
comp=Z,190nm,1.0s,mb6.1
HYB Hyderabad 58.70 268 *e*P P **18 42 09.0 -1.7**
comp=Z,190nm,1.0s,mb6.1
HYB *e* 18 42 10.5
HYB *e*S S **18 50 12.0 +1.6**
KBS Kingsbay 59.35 350 P P **18 42 15.0 +0.5**
KBS MLR MLR
comp=Z,4µm,19.8s,MS5.6
MDRS Chennai 59.90 263 *e*P P **18 42 20.7 +1.5**
MDRS *i* x x 18 42 20.9
HSP Hornsund 60.16 348 P P **18 42 21.2 +1.1**
HSP Hornsund 60.16 348 *e*P P **18 42 21.2 +1.1**
LVZ Lovozero 61.02 336 *e*P P **18 42 25.3 -0.7**
LVZ *e* 18 44 40.1
LVZ *e*S S **18 50 40.7 +1.1**
LVZ *e*SS SS 18 54 35.8 -5.1
LVZ pmax pmax
comp=N,57nm,1.0s
LVZ pmax pmax
comp=Z,146nm,1.0s,mb6.1
LVZ pmax pmax
comp=E,35nm,1.2s
LVZ smax
comp=E,1µm,6.2s
LVZ MLR MLR
comp=Z,10µm,18.0s,MS6.0
LVZ MLR MLR
comp=N,5µm,20.0s,MS5.9
LVZ MLR MLR
comp=E,7µm,23.0s,MS5.9
RES Resolute Bay 61.13 15 P P **18 42 23.8 -2.9**
RES pmax pmax
comp=Z,90nm,0.9s,mb5.9
RES Resolute Bay 61.13 15 P P **18 42 23.8 -2.9**
comp=Z,90nm,0.9s,mb5.9
APA Apatity 61.59 336⇑ *i*P P **18 42 28.5 -1.4**
APA *i* pP 18 42 41.6 -1.0
APA *i* 18 43 07.1
APA *e*S S **18 50 48.0 +1.1**
APA *i* PS PS 18 51 07.0 -2.5
APA *i* 18 52 17.0
APA *e*SS SS 18 54 54.0 +3.8
APA pmax pmax
comp=Z,210nm,1.0s,mb6.2
APA pmax pmax
comp=Z,2µm,5.0s
APA MLR MLR
comp=Z,12µm,18.0s,MS6.1
POO Poona 61.77 272 *e*P P **18 42 32.3 +0.6**
KAD Karad 62.19 271 *e*P P **18 42 33.2 -1.3**
KAD *i* x x 18 42 35.5
KAD AMb AMB 18 42 36.7
comp=Z,389nm,1.1s,mb6.5
KEV Kevo 62.29 339 *e*p P **18 42 31.4 -3.1**
comp=Z,124nm,0.9s,mb6.0
KEV Kevo 62.29 339 *e*P P **18 42 31.4 -3.1**
KEV pmax pmax
comp=Z,124nm,0.9s,mb6.0
YKW3 Yellowknife Ar 62.33 31 P P **18 42 31.6 -3.3**
YKA Yellowknife Ar 62.37 31 P P **18 42 32.4 -2.7**
comp=Z,36nm,1.0s,mb5.5,baz=300,slow=6.5,SNR=81
YKA LR LR 19 09 26.0
comp=Z,1µm,20.5s,MS5.1,baz=270,slow=36
YKA PKPPKP 19 11 25.4
comp=Z,1.0nm,1.0s,baz=147,slow=2.3,SNR=3.8
YKA Yellowknife Ar 62.37 31 P P **18 42 32.4 -2.7**
YKA LR LR 19 09 26.0
YKA P'P' 19 11 25.4
BHJ Bhuj 62.47 279 *e*P P **18 42 35.2 -1.1**
BHJ AMb AMB 18 42 38.2
comp=Z,301nm,0.9s,mb6.4
KLMR Klimovskoe 62.81 327*c* *i*P P **18 42 35.9 -2.2**
KLMR *i* 18 44 53.8
KLMR *e*S S **18 50 59.9 -2.4**
KLMR *e*SS SS 18 55 07.0 -2.8
KLMR pmax pmax
comp=Z,270nm,1.3s,mb6.2
KLMR pmax pmax
comp=Z,860nm,6.8s
KLMR smax
comp=E,1µm,5.3s
KLMR MLR MLR
comp=Z,17µm,17.0s,MS6.3
ARCES ARCESS Array B 62.84 339 P P **18 42 35.7 -2.5**
comp=Z,92nm,0.9s,mb5.9,baz=53,slow=6.1,SNR=40
ARCES pP pP 18 42 50.3 -0.7
comp=Z,6.4nm,0.4s,baz=59,slow=4.6,SNR=13
ARCES LR LR 19 13 02.6
comp=Z,6µm,20.7s,MS5.7,baz=49,slow=39
ARCES ARCESS Array B 62.84 339 P P **18 42 35.7 -2.5**
ARCES pP pP 18 42 50.3 -0.7
ARCES LR LR 19 13 02.6
ARE0 ARCESS Array S 62.84 339 P P **18 42 38.3 +0.1**
ARE0 *e*pP pP 18 42 50.4 -0.6
MBWA Marble Bar 62.86 203 P P **18 42 36.7 -2.3**
PECR Pechory 63.00 322 *e*P P **18 42 38.0 -1.4**
PECR *e* 18 44 58.0
PECR *e*S S **18 51 04.0 -0.7**
PECR *e*PS PS 18 51 23.0 -6.1
PECR pmax pmax
comp=Z,2µm,1.0s
PECR pmax pmax
comp=Z,2µm,7.0s
PECR smax
comp=N,2µm,12.0s
PECR smax
comp=E,1µm,12.0s
PECR MLR MLR
comp=Z,6µm,17.0s,MS5.8
PECR MLR MLR
comp=E,2µm,19.0s,MS5.5
PECR MLR MLR
comp=N,2µm,15.0s,MS5.5
KTK1 Kautokeino 63.80 339 *e*P P **18 42 44.8 +0.4**
KTK1 AMb AMB 18 42 46.8
comp=Z,308nm,1.1s,mb6.3
KTK1 *e*pP pP 18 42 57.2 -0.1
KTK1 Kautokeino 63.80 339 *e*P P **18 42 44.8 +0.4**
comp=Z,308nm,1.1s,mb6.2
NOUC Port Laguerre 64.40 155 *e*P P **18 42 48.5 -0.6**
DAG Danmarks Havn 64.41 355⇓ *i*P P **18 42 46.0 -2.3**
comp=Z,208nm,0.9s,mb6.2
DAG Danmarks Havn 64.41 355⇓ *e*P P **18 42 46.0 -2.3**
DAG pmax pmax
comp=Z,210nm,0.9s,mb6.2
DAG Danmarks Havn 64.41 355⇓ *e*P P **18 42 46.0 -2.3**
comp=Z,208nm,0.9s,mb6.2
DZM Mont Dzumac 64.42 155 P P **18 42 49.0 -0.2**
comp=Z,55nm,1.2s,mb5.5,baz=360,slow=7.5,SNR=21
DZM LR LR 19 07 52.4
comp=Z,10µm,21.5s,MS6.0,baz=323,slow=33
TRO Tromso 64.53 341 *e*P P **18 42 45.9 -3.2**
TRO AMb AMB 18 42 50.3
comp=Z,205nm,1.0s,mb6.1
TRO Tromso 64.53 341 *e*P P **18 42 45.9 -3.2**
comp=Z,205nm,1.0s,mb6.1
PGC Sidney 65.04 47 P P **18 42 52.8 0.0**
OCWA Octopus Mounta 65.08 48 *e*P P **18 42 53.6 +0.6**
comp=Z,50nm,0.9s,mb5.5
OCWA LR LR
comp=Z,4µm,20.0s,MS5.6
TRD Trivandrum 65.23 261 *e*P P **18 42 54.7 +0.1**
TRD *i* x 18 42 55.2
HDW Hoodsport 65.78 48 P P **18 42 56.8 -0.7**
MBW Mount Baker 65.86 46 P P **18 42 56.5 -1.5**
CMW Cultus Mountai 65.92 47 P P **18 42 57.5 -0.8**
JCW Jim Creek 66.15 47 P P **18 42 58.7 -1.1**
MOS Moscow 66.39 323 *e*P P **18 42 57.7 -3.5**
MOS *e* pP 18 43 12.1 -2.1
MOS *e* 18 43 26.0
MOS *e* 18 45 22.9
MOS *e*S S 18 51 44.9 -1.5
MOS pmax pmax
comp=Z,485nm,1.4s,mb6.3
MOS MLR MLR
comp=Z,13µm,14.8s,MS6.3
MOS MLR MLR
comp=N,8µm,15.8s,MS6.1
MOS MLR MLR
comp=E,3µm,15.0s,MS6.1
VRHR Novokhopersk 66.95 318 *e*P P **18 43 04.6 -0.2**
VRHR *e*S S 18 51 51.6 -1.7
VRHR pmax pmax
comp=Z,190nm,0.8s,mb6.2
VRHR pmax pmax
comp=N,90nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.5s
VRHR smax
comp=N,740nm,11.6s
VRHR smax
comp=Z,170nm,6.3s
VRHR smax
comp=E,670nm,14.2s
VRHR MLR MLR
comp=Z,17µm,15.0s,MS6.4
VRHR MLR MLR
comp=N,6µm,17.0s,MS6.1
VRHR MLR MLR
comp=E,9µm,17.0s,MS6.1
FMW Mount Fremont 66.96 48 P P **18 43 04.2 -0.8**
LON Longmire 66.97 48 P P **18 43 05.1 0.0**
LOF Lofoten 66.98 341 *e*P P **18 43 07.2 +2.5**
LOF AMb AMB 18 43 15.4
comp=Z,354nm,1.8s,mb6.1
LOF Lofoten 66.98 341 *e*P P **18 43 07.2 +2.5**
comp=Z,354nm,1.8s,mb6.1
NLW Nelson Butte 67.11 46 P P **18 43 05.0 -0.9**
MPOR Mary's Peak 67.12 51 P P **18 43 08.1 +2.1**
PUL Pulkovo 67.22 329 *e*P P **18 43 05.7 -0.6**
PUL *e*S S 18 51 58.3 +2.0
PUL pmax pmax
comp=N,369nm,0.7s
PUL pmax pmax
comp=Z,388nm,0.7s,mb6.5
PUL pmax pmax
comp=E,501nm,1.0s
PUL MLR MLR
comp=Z,14µm,20.0s,MS6.2
PUL MLR MLR
comp=N,4µm,22.0s,MS5.9
PUL MLR MLR
comp=E,7µm,17.0s,MS5.9
PUL Pulkovo 67.22 329 *i* P P **18 43 05.9 -0.4**
COR Corvallis 67.23 51 P P **18 43 08.3 +1.6**
COR *e**PP pP 18 43 20.9 +1.2
COR pmax pmax
comp=Z,46nm,0.9s,mb5.5
COR MLR MLR
comp=Z,4µm,22.0s,MS5.6
COR Corvallis 67.23 51 P P **18 43 08.3 +1.6**
comp=Z,46nm,0.9s,mb5.5
COR *e*pP pP 18 43 20.9 +1.2
COR LR LR
comp=Z,4µm,22.0s,MS5.6
OBN Obninsk 67.24 323κ *i*P P **18 43 05.1 -1.5**
OBN *e* pP 18 43 18.0 -1.6
OBN *e* 18 45 30.8
OBN *e*PPP PPP 18 47 13.2 -0.7
OBN *e*S S 18 51 58.2 +1.5
OBN *e* 18 52 22.6
OBN *e*SS SS 18 56 13.9 -4.5
OBN pmax pmax
comp=Z,900nm,2.1s,mb6.4
OBN pmax pmax
comp=Z,372nm,1.1s,mb6.3
OBN MLR MLR
comp=Z,10µm,14.0s,MS6.2
OBN Obninsk 67.24 323 *i* Pr 18 43 05.1
OBN LR LR
comp=Z,10µm,14.0s,MS6.2
KAF Kangasniemi 67.27 333 *e*p P **18 43 03.3 -3.3**
comp=Z,204nm,1.0s,mb6.1,baz=43,slow=6.2
KAF Kangasniemi 67.27 333 *e*P P **18 43 03.3 -3.3**
KAF pmax pmax
comp=Z,204nm,1.0s,mb6.1
KEBM Edson Butte 67.50 53 *e*P P **18 43 08.4 -0.1**
EBG Ellensburg 67.61 47 P P **18 43 08.5 -0.6**
AFI Afiamalu 67.70 131 LR LR 19 06 23.4
comp=Z,5µm,21.8s,MS5.7,baz=319,slow=30
AFI Afiamalu 67.70 131 PFAKE 18 43 20.0 +10
AFI LR LR
comp=Z,5µm,21.0s,MS5.7
FINES FINESS Array B 67.78 332 P P **18 43 07.7 -2.2**
comp=Z,224nm,0.8s,mb6.2,baz=37,slow=9.5,SNR=76
FINES pP pP 18 43 22.7 -0.1
comp=Z,146nm,0.8s,baz=56,slow=6.9,SNR=12
FINES LR LR 19 14 39.7
comp=Z,8µm,22.0s,MS5.9,baz=53,slow=38
HOOD Mount Hood Mea 67.83 49 P P **18 43 10.2 -0.2**
VOR Voronezh 67.87 319 *e*P P **18 43 08.0 -2.6**
VOR pmax pmax
comp=Z,440nm,1.0s,mb6.4
EPH Ephrata 67.93 47 P P **18 43 09.6 -1.4**
MAK Makhachkala 67.95 308*c* *i*P P **18 43 04.7 -6.6**
MAK *i* PPP PPP 18 47 23.1 +2.6
MAK *i* S S 18 51 59.5 -5.9
MAK *i* 18 52 39.4
MAK pmax pmax
comp=Z,342nm,1.3s,mb6.2
MAK pmax pmax
comp=Z,6µm,5.0s
MAK smax
comp=N,5µm,3.6s
MAK smax
comp=E,4µm,3.9s
MAK MLR MLR
comp=Z,11µm,15.0s,MS6.2
MAK MLR MLR
comp=N,12µm,16.0s,MS6.4
MAK MLR MLR
comp=E,12µm,16.0s,MS6.4
EDM Edmonton 67.97 39 P P **18 43 09.4 -1.8**
EDM Edmonton 67.97 39 P P **18 43 09.5 -1.7**
VRSR Storozhevoye 68.16 319*c* *i*P P **18 43 10.3 -2.1**
VRSR *e* 18 43 36.4
VRSR *e* 18 45 41.8
VRSR *e*S S 18 52 05.1 -2.7
VRSR *e* 18 53 02.2
VRSR pmax pmax
comp=Z,50nm,0.8s,mb5.6
VRSR pmax pmax
comp=N,40nm,0.7s
VRSR pmax pmax
comp=E,20nm,0.6s
VRSR smax
comp=N,190nm,6.0s
VRSR smax
comp=Z,50nm,4.0s
VRSR smax
comp=E,60nm,3.4s
VRSR MLR MLR
comp=N,1µm,17.0s,MS5.3
VRSR MLR MLR
comp=E,1µm,17.0s,MS5.3
VRSR MLR MLR
comp=Z,2µm,17.0s,MS5.5
MOR8 Moi Rana 68.20 340 *e*P P **18 43 11.2 -1.3**
MOR8 AMb AMB 18 43 13.6
comp=Z,269nm,1.2s,mb6.2
MOR8 *e*pP pP 18 43 23.3 -2.1
MOR8 Moi Rana 68.20 340 *e*P P **18 43 11.2 -1.3**
comp=Z,269nm,1.2s,mb6.2
HAWA Hanford 68.49 47 P P **18 43 15.6 +1.0**
HAWA *e*pP pP 18 43 27.1 -0.4
HAWA LR LR
comp=Z,135nm,20.0s
HUMO Hull Mountain 68.50 52 P P **18 43 15.9 +1.2**
HUMO LR LR
comp=Z,3µm,22.0s,MS5.5
VTHM Trough 68.55 49 P P **18 43 14.5 -0.5**
VIPM Ingram Point 68.89 50 P P **18 43 17.4 +0.3**
KHMM Horse Mountain 68.96 54 P P **18 43 18.8 +1.3**
YBH Yreka Blue Hor 69.13 53 P P **18 43 18.5 -0.1**
comp=Z,28nm,0.9s,mb5.2
YBH LR LR
comp=Z,2µm,22.0s,MS5.4
SUMG Summit 69.28 0 P P **18 43 17.7 -1.3**
SUMG *e*pP pP 18 43 33.0 +1.0
GOF Gofitskoye 69.50 312 *e*P P **18 43 18.4 -2.4**
GOF pmax pmax
comp=Z,863nm,0.8s,mb6.7
KCPM Cahto Peak 69.70 55 *e*P P **18 43 22.9 +0.8**
WDC Whiskeytown Da 69.87 54 P P **18 43 23.5 +0.3**
WDC MLR MLR
comp=Z,2µm,19.0s,MS5.4
STKA Stephens Creek 69.96 180 *e*P P **18 43 23.8 0.0**
comp=Z,18nm,0.6s,mb5.2
STKA Stephens Creek 69.96 180 P P **18 43 21.8 -2.1**
comp=Z,24nm,0.9s,mb5.1,baz=1.3,slow=6.4,SNR=15
STKA S S 18 52 28.1 -1.3
comp=Z,4.2nm,1.1s,baz=312,slow=21,SNR=2.3
STKA SS SS 18 56 59.4 -1.2
comp=Z,2.6nm,0.9s,baz=18,slow=21,SNR=1.6
STKA LR LR 19 11 37.5
comp=Z,3µm,21.7s,MS5.6,baz=16,slow=34
FORT Forrest 70.08 193 *e*P P **18 43 24.2 -0.4**
comp=Z,239nm,0.8s,mb6.2
DGRG David-gareji 70.10 307 P P **18 43 23.7 -0.8**
MTA Mtatsminda 70.33 308 P P **18 43 26.2 +0.3**
KIV Kislovodsk 70.33 311*α* *e*P P **18 43 25.3 -0.6**
KIV *e* pP 18 43 38.6 -0.3
KIV *e* 18 43 46.2
KIV *e*PPP PPP 18 47 44.8 +0.6
KIV *e*S S 18 52 34.5 +1.0
KIV *e* 18 53 17.1
KIV pmax pmax
comp=Z,1µm,1.7s,mb6.5
KIV pmax pmax
comp=Z,835nm,1.0s,mb6.6
KIV MLR MLR
comp=Z,6µm,16.0s,MS5.9
KIV Kislovodsk 70.33 311 *i* Pr 18 43 25.8
TI2 Plekhanov 70.33 308 *i* P P **18 43 26.9 +1.0**
TI2 *i* pP 18 43 35.0 -3.9
BSMT Bassoo Peak 70.33 44 P P **18 43 26.1 +0.3**
TBLG Delisi 70.34 308 P P **18 43 26.2 +0.3**
HOPS Hopland 70.41 55 PFAKE 18 43 40.0 +14
HOPS LR LR
comp=Z,4µm,20.0s,MS5.7
MOD Modoc 70.53 52 P P **18 43 28.2 +1.1**
comp=Z,28nm,0.9s,mb5.2
MOD LR LR
comp=Z,3µm,21.0s,MS5.5
BMO Blue Mountains 70.65 48 *e*pP pP 18 43 39.9 -0.9
BMO LR LR
comp=Z,2µm,21.0s,MS5.4
ONI Oni 70.65 309 P P **18 43 28.4 +0.6**
SCO Scoresbysund 70.76 354 *i* P P **18 43 26.2 -1.8**
comp=Z,50nm,0.9s,mb5.4
WBK Wadi Bani Khal 71.04 284⇓ P P **18 43 30.5 0.0**
SNR=97
BIDO Bidbid 71.17 285 P P **18 43 31.1 -0.2**
SNR=82
BANOM Banah 71.19 288 P P **18 43 30.9 -0.5**
SNR=74
WVOR Wild Horse Val 71.25 50 *e*P P **18 43 32.2 +0.8**
WVOR pmax pmax
comp=Z,67nm,1.3s,mb5.4
WVOR MLR MLR
comp=Z,3µm,22.0s,MS5.5
WVOR Wild Horse Val 71.25 50 *e*P P **18 43 32.2 +0.7**
comp=Z,67nm,1.3s,mb5.4
WVOR LR LR
comp=Z,3µm,22.0s,MS5.5
CHVG Ch'k'valeri 71.40 310 P P **18 43 34.6 +2.3**
MSO Missoula 71.40 45 P P **18 43 32.4 +0.2**
MSO LR LR
comp=Z,1µm,21.0s,MS5.2
IZAR Zarasai 71.47 328 *e*P P **18 43 31.2 -1.3**
SMDO Samad 71.48 285 P P **18 43 33.2 +0.1**
SNR=76
IDID Didziasalis 71.55 327 *e*P P **18 43 31.6 -1.4**
MNK Minsk 71.61 326⇓ *e*P P **18 43 30.0 -3.4**
MNK pmax pmax
comp=Z,1µm,1.0s,mb6.7
MNK pmax pmax
comp=N,590nm,1.0s
MNK pmax pmax
comp=E,490nm,1.0s
MNK MLR MLR
comp=Z,10µm,16.0s,MS6.2
MNK MLR MLR
comp=E,5µm,14.0s
ISAL Salakas 71.64 327 *e*P P **18 43 32.3 -1.2**
CHMT Chamberlain Mo 71.73 44 P P **18 43 32.9 -1.3**
IIGN Ignalina 71.74 327 *e*P P **18 43 32.9 -1.2**
HOQ Hoqain 71.75 286⇑ P P **18 43 33.4 -1.3**
SNR=109
JMDO Jabal Madar 71.83 284⇓ P P **18 43 36.5 +1.2**
SNR=124
DIGO Kars 71.94 307 *i* P P **18 43 37.6 +2.0**
ASHO Ashiyiah 72.07 288⇓ P P **18 43 35.4 -1.1**
SNR=76
SOC Sochi 72.30 312*c* *i*P P **18 43 38.3 +0.7**
SOC *e**PP pP 18 43 48.4 -2.3
SOC *e* 18 46 19.4
SOC *e*PPP PPP 18 48 04.4 +1.6
SOC *e*S S 18 53 03.4 +7.2
SOC *e*SS SS 18 57 33.9 -2.8
SOC pmax pmax
comp=Z,182nm,0.6s,mb6.2
SOC pmax pmax
comp=Z,1µm,2.8s,mb6.4
SOC MLR MLR
comp=Z,10µm,17.0s,MS6.2
BSY Bisya 72.31 285 P P **18 43 37.2 -0.9**
SNR=92
CLDR Calderan 72.33 306 *e*P P **18 43 38.7 +0.8**
ARTV Artvin 72.38 309 *i* P P **18 43 38.5 +0.3**
ARQ Araqi 72.48 286 P P **18 43 38.5 -0.6**
SNR=124
FCC Fort Churchill 72.55 27 P P **18 43 36.5 -2.2**
FCC pmax pmax
comp=Z,118nm,0.9s,mb5.8
FCC Fort Churchill 72.55 27 P P **18 43 36.5 -2.3**
comp=Z,118nm,0.9s,mb5.8
HRY Holter Researc 72.63 44 P P **18 43 38.6 -0.9**
CMB Columbia Colle 72.69 55 P P **18 43 40.8 +0.7**
CMB MLR MLR
comp=Z,5µm,22.0s,MS5.7
SAO San Andreas Ge 72.73 57 *e*P P **18 43 41.5 +1.2**
SAO pmax pmax
comp=Z,98nm,1.8s,mb5.4
SAO MLR MLR
comp=Z,3µm,22.0s,MS5.5
SAO San Andreas Ge 72.73 57 *e*P P **18 43 41.5 +1.1**
comp=Z,98nm,1.8s,mb5.4
SAO LR LR
comp=Z,3µm,22.0s,MS5.5
LRM Limekiln Ridge 72.83 45 P P **18 43 40.0 -0.8**
ANN Anapa 72.88 314 *e*P P **18 43 37.7 -3.3**
ANN *i* *PP pP 18 43 48.4 -5.7
ANN *i* 18 43 58.3
ANN *e*S S 18 53 02.0 -0.8
ANN *e*SS SS 18 57 39.8 -6.2
ANN pmax pmax
comp=Z,264nm,1.0s,mb6.1
ANN MLR MLR
comp=Z,8µm,20.0s,MS6.0
DOMB Dombas 72.90 339 *e*P P **18 43 41.4 +0.7**
EGMT Eagleton 72.92 42 *e*P P **18 43 39.6 -1.6**
comp=Z,103nm,0.9s,mb5.8
EGMT LR LR
comp=Z,2µm,19.0s,MS5.4
VANB Van 72.98 306 *e*P P **18 43 43.8 +2.0**
TVAN Van 73.01 306 *i* P P **18 43 41.7 -0.2**
WAKR Walker 73.03 54 P P **18 43 43.1 +1.1**
DLMT Dillon 73.03 45 *e*P P **18 43 41.0 -0.9**
comp=Z,90nm,0.9s,mb5.7

NB2 NORSAR Subarra 73.07 337 P **P** **18 43 40.0 -1.8**
comp=Z,214nm,0.8s,mb6.1,baz=39,slow=6.2
NB2 NORSAR Subarra 73.07 337 P **P** **18 43 40.0 -1.8**
baz=39,slow=6.2
NB2 NORSAR Subarra 73.07 337 P **P** **18 43 40.0 -1.8**
NB2 pmax pmax
comp=Z,214nm,0.8s,mb6.1
NOA NORSAR Array B 73.07 337 P **P** **18 43 40.1 -1.7**
comp=Z,195nm,0.8s,mb6.1,baz=38,slow=6.0,SNR=133
NOA pP pP 18 43 54.8 -0.1
comp=Z,146nm,0.8s,baz=38,slow=5.9,SNR=12
NOA S S 18 53 04.3 -0.2
comp=Z,1.0nm,0.8s,baz=108,slow=13,SNR=2.6
NOA LR LR 19 18 37.6
comp=Z,15μm,20.5s,MS6.2,baz=35,slow=38
HLID Hailey 73.09 48 P **P** **18 43 41.6 -0.7**
HLID *e*pP pP 18 43 55.7 +0.4
HLID LR LR
comp=Z,2μm,20.0s,MS5.5
MCMT McKenzie Canyo 73.22 46 *e*P **P** **18 43 43.8 +0.8**
KLBR Kellerberrin 73.24 201 *e*P **P** **18 43 43.5 +0.1**
comp=Z,108nm,1.0s,mb5.7
NAO01 NORSAR Array S 73.32 337 P **P** **18 43 42.0 -1.3**
NAO01 *e*pP pP 18 43 56.3 0.0
NAO01 LR LR
comp=Z,14μm,19.0s,MS6.3
HKR Hakkari 73.35 305 *e*P **P** **18 43 43.5 -0.5**
HAKT HAKKARI 73.38 305 *i* P **P** **18 43 44.2 +0.1**
BOZ Bozeman (W) 73.39 45 P **P** **18 43 43.4 -0.6**
BOZ pmax pmax
comp=Z,52nm,0.9s,mb5.5
BOZ MLR MLR
comp=Z,2μm,19.0s,MS5.5
BOZ Bozeman (W) 73.39 45 P **P** **18 43 43.4 -0.6**
comp=Z,52nm,0.9s,mb5.5
BOZ LR LR
comp=Z,2μm,19.0s,MS5.5
AKASG Malin Array Be 73.46 322 P **P** **18 43 42.3 -2.1**
comp=Z,232nm,0.8s,mb6.2,baz=46,slow=5.6,SNR=106
AKASG S S 18 53 08.8 -0.3
comp=Z,0.3nm,0.4s,baz=272,slow=36,SNR=2.6
AKASG SS SS 18 57 48.4 -6.2
comp=Z,0.4nm,0.5s,baz=93,slow=37,SNR=2.3
ERZM Erzurum 73.48 308 *i* P **P** **18 43 44.0 -0.7**
EZM Erzurum 73.48 308 *e*P **P** **18 43 44.7 0.0**
NVAR Mina Array Bea 73.79 54 P **P** **18 43 46.2 -0.3**
comp=Z,15nm,0.9s,mb4.9,baz=281,slow=7.2,SNR=40
NVAR S S 18 53 14.8 +1.8
comp=Z,0.1nm,0.3s,baz=57,slow=38,SNR=2.3
MACK Trabzon 73.84 310 *i* P **P** **18 43 48.1 +1.3**
MNV Mina 73.88 54 *e*P **P** **18 43 47.2 +0.2**
MNV pmax pmax
comp=Z,16nm,0.8s,mb5.0
MNV Mina 73.88 54 *e*P **P** **18 43 47.2 +0.1**
comp=Z,16nm,0.8s,mb5.0
SUW Suwalki 73.95 327 *e*P **P** **18 43 46.0 -1.1**
SUW *e*pP pP 18 43 48.4 -12
SUW *e*PcP PcP 18 43 59.2 -3.4
SUW *e*S S 18 53 18.5 +3.9
SUW *e*SKS SKS 18 53 51.6 +5.9
SUW MLR MLR 19 19 41.5
comp=Z,10μm,18.1s,MS6.1
SUW Suwalki 73.95 327 *e*P **P** **18 43 46.0 -1.1**
SUW *e* pP 18 43 59.2 -0.9
SUW *e*S S 18 53 18.5 +4.0
SUW *e* 18 53 51.6
SUW Suwalki 73.95 327 *e*P **P** **18 43 46.0 -1.1**
SUW *e*pP pP 18 43 48.4 -12
SUW *e*PcP PcP 18 43 59.2 -3.4
SUW *e*S S 18 53 18.5 +4.0
SUW *e*SKS SKS 18 53 51.6 +5.9
QLMT Earthquake Lak 74.01 45 *e*P **P** **18 43 48.4 +0.8**
MUN Mundaring 74.06 203 *e*P **P** **18 43 48.4 +0.2**
OSL Oslo 74.09 337 *e*P **P** **18 43 49.6 +1.8**
OSL AMb AMB 18 43 50.7
comp=Z,358nm,1.0s,mb6.2
OSL Oslo 74.09 337 *e*P **P** **18 43 49.6 +1.8**
comp=Z,358nm,1.0s,mb6.2
BNGL BINGOL 74.18 307 *i* P **P** **18 43 50.4 +1.6**
PTRM Twissleman Ran 74.19 57 P **P** **18 43 49.8 +0.9**
ELK Elko 74.30 50 *e*P **P** **18 43 48.9 -0.5**
ELK MLR MLR
comp=Z,3μm,21.0s
GUMT Gumushane 74.31 309 *e*P **P** **18 43 50.9 +1.4**
YMR Madison River 74.37 45 *e*P **P** **18 43 49.1 -0.6**
comp=Z,62nm,1.0s,mb5.5
YMR LR LR
comp=Z,2μm,19.0s,MS5.4
GCMT Greycliff 74.37 44 *e*P **P** **18 43 48.9 -0.8**
BTMT Batman 74.42 306 *e*P **P** **18 43 51.3 +1.1**
SFJD Kangerlussuaq 74.45 5 *e*P **P** **18 43 48.4 -1.3**
MSL Mosul 74.53 304 *i* x x 18 43 52.0
MSL *e*x x 18 44 05.5
MSL *e*x x 18 46 41.0
MSL *e*x x 18 53 19.0
EZC Erzincan 74.53 309 *e*P **P** **18 43 53.4 +2.6**
YFT Old Faithful 74.58 45 *e*P **P** **18 43 52.2 +1.3**
KELT Kelkit 74.63 309 *i* P **P** **18 43 51.7 +0.4**
NWAO Narrogin (SRO) 74.64 201 P **P** **18 43 51.7 +0.2**
comp=Z,109nm,1.0s,mb5.7,baz=33,slow=6.1,SNR=32
NWAO Narrogin (SRO) 74.64 201 P **P** **18 43 51.5 0.0**
NWAO pmax pmax
comp=Z,137nm,1.1s
NWAO Narrogin (SRO) 74.64 201 P **P** **18 43 51.5 0.0**
comp=Z,137nm,1.1s,mb5.8
SIM Simferopol' 74.64 316*c i*P **P** **18 43 50.0 -1.3**
SIM *e* pP 18 44 04.0 -0.3
SIM *e* 18 46 36.0
SIM *e*S S 18 53 23.0 +0.5
SIM *e*PS PS 18 53 53.0 -11
SIM *e*SS SS 18 58 15.0 +2.6
SIM pmax pmax
comp=Z,249nm,0.7s,mb6.2
SIM MLR MLR
comp=Z,5μm,15.8s,MS5.9
KONO Kongsberg 74.66 337 P **P** **18 43 51.4 +0.3**
KONO *e**PP pP 18 44 03.3 -0.8
KONO pmax pmax
comp=Z,109nm,0.9s,mb5.8
KONO Kongsberg 74.66 337 P **P** **18 43 51.4 +0.3**
comp=Z,109nm,0.9s,mb5.8
KONO *e*pP pP 18 44 03.3 -0.9
TPH Tonopah 74.68 53 P **P** **18 43 53.1 +1.4**
TPH pmax pmax
comp=Z,49nm,0.8s,mb5.5
TPH MLR MLR
comp=Z,3μm,22.0s,MS5.5
TPH Tonopah 74.68 53 P **P** **18 43 53.1 +1.4**
comp=Z,49nm,0.8s,mb5.5
TPH LR LR
comp=Z,3μm,22.0s,MS5.5
BEST Besiri 74.74 306 *i* P **P** **18 43 53.2 +1.2**
LKWY Lake 74.75 45 P **P** **18 43 54.5 +2.6**
LKWY pmax pmax
comp=Z,51nm,1.0s,mb5.4
LKWY MLR MLR
comp=Z,3μm,19.0s,MS5.5
LKWY Lake 74.75 45 P **P** **18 43 54.5 +2.6**
comp=Z,51nm,1.0s,mb5.4
LKWY LR LR
comp=Z,3μm,19.0s,MS5.5
GRSN GIRESUNGRSN 74.76 310 *i* P **P** **18 43 51.8 -0.2**
IMW Indian Meadow 74.87 46 *e*P **P** **18 43 52.6 0.0**
comp=Z,92nm,1.0s,mb5.7
RRI2 Red Ridge 75.00 46 P **P** **18 43 53.4 +0.1**
comp=Z,92nm,1.1s,mb5.6
TPAW Teton Pass 75.12 46 P **P** **18 43 54.2 +0.2**
comp=Z,114nm,1.3s,mb5.6
HVU Hansel Valley 75.14 48 *e*P **P** **18 43 53.8 -0.4**
HVU pmax pmax
comp=Z,48nm,0.9s,mb5.4
HVU Hansel Valley 75.14 48 *e*P **P** **18 43 53.8 -0.4**
comp=Z,48nm,0.9s,mb5.4
LOHW Long Hollow 75.23 46 P **P** **18 43 56.0 +1.2**
comp=Z,26nm,0.9s,mb5.2
SNOW Snow King Moun 75.25 46 *e*P **P** **18 43 57.3 +2.6**
comp=Z,39nm,0.8s,mb5.4
REDW Red Top Meadow 75.25 46 P **P** **18 43 55.0 +0.2**
comp=Z,72nm,1.1s,mb5.5
ASK Askoy 75.26 339 *e*P **P** **18 43 55.3 +0.8**
ASK AMb AMB 18 43 58.0
comp=Z,342nm,1.0s,mb6.2
ASK *e*pP pP 18 44 08.5 +0.9
ASK Askoy 75.26 339 *e*P **P** **18 43 55.3 +0.8**
comp=Z,342nm,1.0s,mb6.2

RUND Rundenannen 75.27 339 *e*P **P** **18 43 55.6 +1.0**
RUND AMb AMB 18 43 58.4
comp=Z,220nm,1.4s,mb5.9
BER Bergen 75.30 339 *e*P **P** **18 43 55.9 +1.2**
BER AMb AMB 18 43 58.2
comp=Z,216nm,1.1s,mb6.0
BER Bergen 75.30 339 *e*P **P** **18 43 55.9 +1.2**
comp=Z,216nm,1.1s,mb6.0
PTK Pertek 75.31 308 *e*P **P** **18 43 54.9 -0.4**
ISA Isabella 75.33 56 *e*P **P** **18 43 55.4 0.0**
ISA pmax pmax
comp=Z,3.0nm,0.6s
ISA MLR MLR
comp=Z,558nm,22.0s,MS4.8
ISA Isabella 75.33 56 *e*P **P** **18 43 55.4 0.0**
comp=Z,3.5nm,0.6s
ISA LR LR
comp=Z,558nm,22.0s,MS4.8
UMR Umm Al-Rimmam 75.35 296 *e*P **P** **18 43 55.8 +0.1**
UMR AMb AMB 18 43 57.4
comp=Z,268nm,0.7s,mb6.3
MARD Mardin 75.40 306 *i* P **P** **18 43 56.4 +0.5**
EGD Espegrend 75.43 339 *e*P **P** **18 43 56.6 +1.1**
DGMT Dagmar 75.46 39 P **P** **18 43 54.7 -1.2**
comp=Z,154nm,1.1s,mb5.8
DGMT LR LR
comp=Z,3μm,22.0s,MS5.6
BHD Baghdad 75.46 301 *i* x x 18 43 58.0
BHD *e*x x 18 44 12.0
BHD *e*x x 18 46 45.0
BHD *e*x x 18 53 32.0
AHID Auburn Hatcher 75.49 47 P **P** **18 43 55.6 -0.6**
comp=Z,37nm,1.0s,mb5.3
AHID LR LR
comp=Z,2μm,20.0s,MS5.5
BGU Big Grassy Mou 75.52 49 *e*P **P** **18 43 56.7 +0.3**
DAC Darwin (Calif) 75.53 55 P **P** **18 43 57.5 +0.9**
DAC pmax pmax
comp=Z,21nm,0.9s,mb5.1
DAC MLR MLR
comp=Z,4μm,21.0s,MS5.6
DAC Darwin (Calif) 75.53 55 P **P** **18 43 57.5 +0.9**
comp=Z,21nm,0.9s,mb5.1
DAC LR LR
comp=Z,4μm,21.0s,MS5.6
KBD Kabd 75.59 296 *e*P **P** **18 43 56.5 -0.6**
KBD AMb AMB 18 43 59.2
comp=Z,967nm,0.8s,mb6.8
LAO LASA Array 75.62 41 *e*P **P** **18 43 56.3 -0.6**
comp=Z,158nm,0.9s,mb5.9
LAO LR LR
comp=Z,2μm,20.0s,MS5.5
SPUT South Promonto 75.62 49 *e*P **P** **18 43 56.2 -0.8**
QRN Al-Qurain 75.68 295 *e*P **P** **18 43 57.7 +0.1**
QRN AMb AMB 18 43 59.6
comp=Z,721nm,0.8s,mb6.7
TOO Toolangi 75.71 177 *e*P **P** **18 43 58.7 +1.1**
comp=Z,17nm,0.9s,mb5.0
TOO Toolangi 75.71 177 *e*P **P** **18 43 58.7 +1.1**
TOO pmax pmax
comp=Z,17nm,0.9s,mb5.0
BLS5 Blasjo 75.78 338 *e*P **P** **18 43 59.8 +2.3**
BLS5 AMb AMB 18 44 01.3
comp=Z,140nm,1.2s,mb5.8
BLS5 *e*pP pP 18 44 12.0 +1.4
BLS5 Blasjo 75.78 338 *e*P **P** **18 43 59.8 +2.3**
comp=Z,140nm,1.2s,mb5.8
ELZG Elazig 75.81 308 *i* P **P** **18 43 58.0 -0.1**
RDF Al-Radifah 75.83 296 *e*P **P** **18 43 59.0 +0.5**
RDF AMb AMB 18 44 00.7
comp=Z,852nm,0.8s,mb6.7
NAY Al-Naaiem 75.86 296 *e*P **P** **18 43 58.5 -0.1**
NAY AMb AMB 18 44 00.4
comp=Z,238nm,1.1s,mb6.0
HWUT Hardware Ranch 75.95 48 P **P** **18 43 58.9 +0.1**
comp=Z,77nm,1.1s,mb5.5
HWUT LR LR
comp=Z,2μm,20.0s,MS5.5
KVT Kavak 75.98 311 *e*P **P** **18 43 57.1 -1.9**
TPNV Topopah Spring 75.98 54 *e*P **P** **18 43 59.7 +0.6**
TPNV pmax pmax
comp=Z,119nm,1.1s,mb5.7
TPNV MLR MLR
comp=Z,5μm,20.0s,MS5.8
TPNV Topopah Spring 75.98 54 *e*P **P** **18 43 59.7 +0.6**
comp=Z,119nm,1.1s,mb5.7
TPNV LR LR
comp=Z,5μm,20.0s,MS5.8
DUG Dugway 76.10 50 P **P** **18 43 59.4 -0.3**
DUG pmax pmax
comp=Z,49nm,1.0s,mb5.4
DUG MLR MLR
comp=Z,2μm,22.0s,MS5.4
DUG Dugway 76.10 50 P **P** **18 43 59.4 -0.4**
comp=Z,49nm,1.0s,mb5.4
DUG LR LR
comp=Z,2μm,22.0s,MS5.4
KIS Kishinev 76.12 320 *e*P **P** **18 44 00.0 +0.3**
KIS *e* pP 18 44 12.0 -0.8
KIS *e* 18 46 52.0
KIS *e*PPP PPP 18 48 37.0 -2.8
KIS *e*S S 18 53 39.0 +0.3
KIS *e*PS PS 18 54 04.0 -19
KIS *e* 18 54 32.0
KIS *e*SS SS 18 58 30.0 -5.5
KIS MLR MLR
comp=Z,15μm,18.0s,MS6.3
KIS MLR MLR
comp=N,7μm,17.0s,MS6.3
KIS MLR MLR
comp=E,11μm,18.0s,MS6.3
KIS MLR MLR
comp=Z,5μm,18.0s
SVSK Karacayir 76.14 310 *e*P **P** **18 44 00.7 +0.8**
TOKT Tokat 76.16 311 *e*P **P** **18 44 01.4 +1.4**
NOQ North Oquirrh 76.22 49 *e*P **P** **18 44 02.2 +1.7**
comp=Z,201nm,1.3s,mb5.9
SHAO Shalim 76.24 282 P **P** **18 44 02.5 +1.5**
SNR=7.7
MYA Malataya 76.26 308 *e*P **P** **18 44 02.6 +2.0**
SVST Sivas 76.26 310 *i* P **P** **18 44 03.6 +3.0**
MALT Malatya 76.26 308 P **P** **18 44 00.8 +0.1**
MALT pmax pmax
comp=Z,178nm,1.1s,mb5.9
MALT MLR MLR
comp=Z,4μm,18.5s,MS5.8
MALT Malatya 76.26 308 P **P** **18 44 00.8 +0.1**
comp=Z,178nm,1.1s,mb5.9
MALT LR LR
comp=Z,4μm,18.5s,MS5.8
TCUT Toone Canyon 76.35 48 *e*P **P** **18 44 00.8 -0.4**
BW06 Boulder Array 76.36 46 P **P** **18 43 59.9 -1.3**
comp=Z,30nm,0.8s,mb5.3
BW06 LR LR
comp=Z,3μm,22.0s,MS5.5
PDAR Pinedale Array 76.36 46 P **P** **18 43 59.6 -1.6**
comp=Z,34nm,0.8s,mb5.3,baz=280,slow=2.1,SNR=37
PDAR S S 18 53 42.5 +1.0
comp=Z,0.2nm,0.5s,baz=198,slow=14,SNR=1.8
PDAR LR LR 19 13 40.8
comp=Z,2μm,21.3s,MS5.3,baz=327,slow=32
PDAR Pinedale Array 76.36 46 P **P** **18 43 59.6 -1.6**
PDAR S S 18 53 42.5 +1.0
PDAR LR LR 19 13 40.8
BSD Bornholm Skovb 76.42 332⇑ *i*P **P** **18 44 01.6 +0.4**
comp=Z,274nm,0.9s,mb6.2
BSD *i* pP 18 44 14.3 0.0
BSD *i* S S 18 53 45.4 +3.6
comp=Z,6μm,23.0s
BSD Bornholm Skovb 76.42 332⇑ *i*P **P** **18 44 01.6 +0.4**
BSD *i* pP 18 44 14.3 0.0
BSD *i* S S 18 53 45.4 +3.6
BSD pmax pmax
comp=Z,270nm,0.9s,mb6.2
BSD MLR MLR
comp=Z,6μm,23.0s,MS5.8
MWC Mount Wilson 76.46 57 *e*P **P** **18 44 02.6 +0.7**
BYBT Boyabat 76.48 312 *e*P **P** **18 44 03.5 +1.6**
HASS Wahat al Ahsa' 76.49 291 P **P** **18 44 02.9 +0.7**
LVV L'vov 76.51 324 *e*P **P** **18 44 02.3 +0.5**
LVV *e*S S 18 53 49.0 +6.1
LVV MLR MLR
comp=Z,6μm,17.2s,MS6.0
URFA Urfa 76.56 307 *e*P **P** **18 44 01.8 -0.6**
IAS Iasi 76.62 320⇑ P **P** **18 44 03.8 +1.3**

GSC Goldstone 76.63 56 *e*P **P** **18 44 03.2 +0.4**
COP Copenhagen 76.87 333⇑ *i*P **P** **18 44 05.3 +1.5**
comp=Z,307nm,0.8s,mb6.3
COP *e* pP 18 44 17.3 +0.4
COP *i* 18 46 59.9
COP *i*S S 18 53 49.6 +2.8
comp=Z,7μm,18.0s
COP Copenhagen 76.87 333⇑ *i*P **P** **18 44 05.3 +1.5**
COP *e* pP 18 44 17.3 +0.4
COP *i* 18 46 59.9
COP *i*S S 18 53 49.6 +2.8
COP pmax pmax
comp=Z,310nm,0.8s,mb6.3
COP MLR MLR
comp=Z,7μm,18.0s,MS6.0
DAU Daniels Canyon 76.89 49 P **P** **18 44 04.0 -0.2**
MPU Maple Canyon 76.92 49 *e*P **P** **18 44 04.1 -0.2**
comp=Z,62nm,0.9s,mb5.5
MPU LR LR
comp=Z,3μm,21.0s,MS5.5
SHPR Sheep Range 76.94 54 P **P** **18 44 06.1 +1.5**
RAO Raoul Island 77.06 145 PFAKE 18 44 20.0 +15
RAO LR LR
comp=Z,4μm,21.0s,MS5.8
TOS Tosya 77.19 312 *e*P **P** **18 44 07.3 +1.4**
ARUT Antelope Range 77.22 52 *e*P **P** **18 44 06.8 +0.7**
BALT Daday 77.23 313 *i* P **P** **18 44 05.3 -0.8**
KWP Kalwaria 77.25 324 *e*P **P** **18 44 05.6 -0.5**
KWP *e*pP pP 18 44 08.6 -11
KWP *e*SKS SKS 18 54 39.0 +29
KWP MLR MLR 19 21 35.8
comp=Z,20μm,16.8s,MS6.5
MUD Monsted U'grnd 77.37 335 *i* P **P** **18 44 08.5 +2.0**
comp=Z,164nm,0.9s,mb6.0
MUD *i* S S 18 54 00.6 +8.5
comp=Z,12μm,19.0s
MUD Monsted U'grnd 77.37 335 *i* P **P** **18 44 08.5 +2.0**
MUD *i* S S 18 54 00.6 +8.5
MUD pmax pmax
comp=Z,160nm,0.9s,mb6.0
MUD MLR MLR
comp=Z,12μm,19.0s,MS6.2
CORM Corum 77.38 311 *e*P **P** **18 44 07.9 +0.9**
MVU Marysvale 77.52 51 P **P** **18 44 09.3 +1.5**
comp=Z,37nm,0.9s,mb5.3
MVU LR LR
comp=Z,2μm,22.0s,MS5.5
MSU Marysvale 77.54 51 P **P** **18 44 08.1 +0.2**
MSU Marysvale 77.54 51 *e*P **P** **18 44 09.6 +1.8**
TMUT Trail Mountain 77.62 50 P **P** **18 44 10.7 +2.4**
RBK Rabkut 77.64 283 P **P** **18 44 09.0 +0.3**
SNR=18
CFR Carcaliu 77.69 319⇓ P **P** **18 44 06.7 -1.9**
CFR Carcaliu 77.69 319⇓ P **P** **18 44 06.7 -1.9**
WHFO Wadi Hawf 77.72 283 P **P** **18 44 09.7 +0.4**
SNR=52
GAZ Gaziantep 77.73 308 *e*P **P** **18 44 10.6 +1.7**
SAFT Safranbolu 77.83 313 *e*P **P** **18 44 10.7 +1.3**
LDFC Landfair 77.86 55 *e*P **P** **18 44 08.1 -1.6**
ELDT Eldivan 77.89 312 *i* P **P** **18 44 08.4 -1.3**
CDAG Cicekdag 77.89 311 *i* P **P** **18 44 10.3 +0.5**
VRI Vrincioaia 77.95 320⇑ P **P** **18 44 10.0 +0.1**
KOLS Kolonicke sedl 77.95 324 *e*P **P** **18 44 09.5 -0.4**
KOLS *e* 18 44 12.1
TIRR Tirgusor 78.04 318⇑ P **P** **18 44 09.8 -0.6**
TIRR Tirgusor 78.04 318 P **P** **18 44 08.8 -1.6**
STHS Stebnicka Huta 78.07 325 *i* P **P** **18 44 10.0 -0.5**
STHS *e* 18 44 12.8
STHS *e*sP sP 18 44 28.1 -0.5
ULM Lac du Bonnet 78.08 34 P **P** **18 44 08.6 -1.9**
comp=Z,47nm,0.9s,mb5.4,baz=310,slow=6.2,SNR=38
ULM S S 18 53 58.9 -1.1
comp=Z,1.2nm,0.9s,baz=181,slow=18,SNR=2.2
ULM LR LR 19 21 30.8
comp=Z,2μm,20.1s,MS5.3,baz=329,slow=38
OJC Ojcow 78.12 326 *e*P **P** **18 44 09.9 -0.9**
OJC *e*PcP PcP 18 44 20.2 -0.4
OJC *e*S S 18 54 02.4 +2.0
OJC MLR MLR 19 21 46.6
comp=Z,19μm,18.3s,MS6.5
HARR Harsova 78.13 318⇑ P **P** **18 44 09.3 -1.7**
AVNT Avonos 78.15 310 *i* P **P** **18 44 11.9 +0.7**
SRU San Rafael 78.15 49 *e*P **P** **18 44 10.4 -0.8**
SRU pmax pmax
comp=Z,68nm,0.9s,mb5.6
SRU San Rafael 78.15 49 *e*P **P** **18 44 10.4 -0.8**
comp=Z,68nm,0.9s,mb5.6
UZH Uzhgorod 78.16 324 *e*P **P** **18 44 12.0 +1.0**
UZH *e* 18 47 11.0
UZH *e*S S 18 53 55.0 -5.7
BR131 Keskin Array S 78.26 312 P **P** **18 44 10.8 -1.0**
comp=Z,40nm,0.9s,mb5.3
BR131 LR LR
comp=Z,3μm,20.0s,MS5.6
BRTR Keskin Array B 78.26 312 P **P** **18 44 10.7 -1.1**
comp=Z,38nm,0.9s,mb5.3,baz=87,slow=2.6,SNR=48
BRTR pP pP 18 44 25.1 +0.2
comp=Z,34nm,1.0s,baz=88,slow=3.6,SNR=9.7
BAR Barrett 78.32 58 P **P** **18 44 13.0 +0.8**
CRVS Cervenica-Dubn 78.34 325 *e*P **P** **18 44 11.4 -0.6**
CRVS *e* 18 44 14.0
CRVS *e*pP pP 18 44 25.9 +0.7
CRVS *e* 18 46 57.7
CRVS Cervenica-Dubn 78.34 325 *e*P **P** **18 44 11.4 -0.6**
CRVS *e* pP 18 44 25.9 +0.7
KOZT Kozan 78.39 309 *e*P **P** **18 44 14.0 +1.4**
RWWY Rawlins 78.39 46 *e*P **P** **18 44 11.1 -1.3**
comp=Z,1μm,0.9s,mb6.8
RSSD Black Hills 78.48 42 P **P** **18 44 11.8 -1.1**
RSSD pmax pmax
comp=Z,37nm,0.8s,mb5.4
RSSD MLR MLR
comp=Z,3μm,20.0s,MS5.7
RSSD Black Hills 78.48 42 P **P** **18 44 11.8 -1.1**
comp=Z,37nm,0.8s,mb5.4
RSSD LR LR
comp=Z,3μm,20.0s,MS5.7
NIE Niedzica 78.48 325 *e*P **P** **18 44 14.9 +2.1**
MLR Muntele Rosu 78.60 320⇓ P **P** **18 44 14.4 +0.9**
SGKT Sivrigoynuk 78.62 313 *i* P **P** **18 44 13.2 -0.6**
ANTO Ankara 78.66 312 *e*P **P** **18 44 13.3 -0.7**
ANTO 18 44 16.6
ANTO pmax pmax
comp=Z,150nm,0.8s,mb6.0
ANTO MLR MLR
comp=Z,3μm,19.0s,MS5.6
ANTO Ankara 78.66 312 *e*P **P** **18 44 13.3 -0.7**
comp=Z,150nm,0.8s,mb6.0
ANTO P 18 44 16.6
ANTO LR LR
comp=Z,3μm,19.0s,MS5.6
LOD Lodumlu 78.66 312 *e*P **P** **18 44 14.6 +0.6**
PSN Preselentsi 78.69 317 P **P** **18 44 16.0 +2.0**
COBT Iskenderun 78.73 308 *i* P **P** **18 44 13.7 -0.7**
CEYT Ceyhan 78.73 308 *e*P **P** **18 44 16.5 +2.0**
RUE Ruedersdorf 78.89 331 *e*P **P** **18 44 14.7 -0.3**
comp=Z,244nm,1.0s,mb6.1
SNX Sinaia 78.92 320⇓ P **P** **18 44 11.1 -4.2**
SNX Sinaia 78.92 320⇓ P **P** **18 44 11.2 -4.1**
RAC Raciborz 78.92 327 *e*P **P** **18 44 14.4 -0.8**
RAC MLR MLR 19 21 51.7
comp=Z,10μm,18.5s,MS6.2
KARA Karaisali 79.00 309 *e*P **P** **18 44 17.9 +2.0**
BSEG Bad Segeberg 79.01 333 *e*P **P** **18 44 14.9 -0.7**
HTY Hatay 79.06 308 *e*P **P** **18 44 18.2 +1.9**
VOIR 79.09 320⇑ P **P** **18 44 16.8 +0.6**
HENT Hendek 79.12 314 *i* P **P** **18 44 16.8 +0.3**
OKC Ostrava-Krasne 79.12 327 *e*P **P** **18 44 15.4 -0.9**
OKC AMS AMS 19 22 10.0
comp=Z,9μm,16.3s
KSP Ksiaz 79.14 328 *e*P **P** **18 44 15.6 -0.8**
KSP *e*pP pP 18 44 18.3 -11
KSP *e*S S 18 54 15.0 +3.8
KSP *e*SKS SKS 18 54 36.0 +13
KSP MLR MLR 19 21 42.0
comp=Z,18μm,20.7s,MS6.4
KSP Ksiaz 79.14 328 *e*P **P** **18 44 15.4 -1.0**
KSP *e* pP 18 44 30.4 +0.9
KSP *e*S S 18 54 12.0 +0.8
KSP MLR MLR
comp=Z,21μm,20.7s,MS6.5
KSP Ksiaz 79.14 328 *e*P **P** **18 44 15.4 -1.0**
KSP *e*pP pP 18 44 17.7 -12
KSP *e* pP 18 44 30.4 +0.9

KSP eS S 18 54 12.0 +0.8
KSP LR LR
comp=Z,21µm,20.7s,MS6.5
MTUR Matau 79.23 320 ⇑P **P 18 44 19.1 +2.1**
MTUR Matau 79.23 320 P **P 18 44 19.0 +2.0**
KRTS Karatas 79.25 308 eP **P 18 44 18.2 +0.9**
DRGR 79.28 322 ⇓P **P 18 44 17.8 +0.6**
LIKS Likavka 79.29 326 eP **P 18 44 18.8 +1.6**
LIKS e 18 44 19.8
GLA Glamis 79.31 56 eP **P 18 44 18.6 +0.9**
BUC1 Bucharest 79.36 319 P **P 18 44 18.8 +1.1**
MORC Moravsky Berou 79.43 327 P **P 18 44 17.2 -0.8**
MORC pmax pmax
comp=Z,190nm,0.9s,mb6.0
MORC Moravsky Berou 79.43 327 P **P 18 44 17.2 -0.7**
comp=Z,190nm,0.9s,mb6.0
PRD Provadia 79.43 317 eP **P 18 44 20.0 +1.9**
DPC Dobruska-Polom 79.51 328 eP **P 18 44 18.0 -0.4**
DPC epP pP 18 44 29.1 -2.4
DPC AMS AMS 19 23 00.0
comp=Z,10µm,17.3s
PV10 Paradox Valley 79.51 49 eP **P 18 44 18.6 -0.1**
UPC Upice 79.52 328 eP **P 18 44 17.8 -0.6**
MERS Mersin 79.58 309 eP **P 18 44 19.6 +0.6**
PHWY Pilot Hill 79.62 45 P **P 18 44 19.6 +0.4**
PSZ Piszkesteto 79.78 325 ⇓P **P 18 44 22.2 +2.3**
PSZ Piszkesteto 79.78 325 P **P 18 44 19.4 -0.5**
PSZ pmax pmax
comp=Z,200nm,0.9s,mb6.0
PSZ MLR MLR
comp=Z,8µm,19.8s,MS6.0
PSZ Piszkesteto 79.78 325 P **P 18 44 19.4 -0.5**
comp=Z,200nm,0.9s,mb6.0
PSZ LR LR
comp=Z,8µm,19.8s,MS6.0
VYHS Vyhne 79.83 326 eP **P 18 44 19.7 -0.4**
VYHS e 18 44 22.3
VYHS epP pP 18 44 34.2 +0.9
KDHN Kadinhani 79.94 311 i P **P 18 44 27.1 +6.1**
WUAZ Wupatki 79.95 53 eP **P 18 44 20.7 -0.4**
comp=Z,55nm,1.0s,mb5.4
WUAZ LR LR
comp=Z,4µm,21.0s,MS5.7
PV01 Paradox Valley 79.95 49 eP **P 18 44 21.2 +0.2**
BORA Eskisehir 80.00 313 i P **P 18 44 21.6 +0.3**
ESKT Eskisehir 80.01 313 i P **P 18 44 20.9 -0.4**
BRG Berggiesshubel 80.07 330 i P **P 18 44 20.4 -1.0**
BRG i 18 44 23.1
BRG 18 47 22.0
BRG S S 18 54 22.0 +1.1
BRG SS SS 18 59 30.0 -4.7
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRG pmax pmax
comp=Z,123nm,0.8s,mb5.9
BRG MLR MLR
comp=E,4µm,17.4s
BRG MLR MLR
comp=Z,16µm,17.6s,MS6.4
BRG Berggiesshubel 80.07 330 i P **P 18 44 20.4 -1.0**
comp=Z,11nm,0.9s,mb4.8
BRG i 18 44 23.1
BRG PP PP 18 47 22.0 -3.1
BRG S S 18 54 22.0 +1.1
BRG SS SS 18 59 30.0 -4.7
BRG eP'P' 19 11 14.9
BRG LR LR
comp=Z,16µm,17.6s,MS6.4
PVCC Panska Ves 80.09 329 eP **P 18 44 21.0 -0.5**
PVCC AMS AMS 19 22 30.0
comp=Z,16µm,18.9s
CLL Collm 80.10 330 P **P 18 44 20.6 -0.9**
comp=Z,logA/T=1.5,mb5.2
CLL i 18 44 23.1
CLL i *PP pP 18 44 35.1 +0.4
CLL i *SP sP 18 44 40.4 +0.8
CLL i 18 44 55.3
CLL ePPP PPP 18 49 12.0 -4.6
CLL eS S 18 54 26.0 +4.8
CLL e*SSS 19 00 18.0
CLL eSSS SSS 19 03 30.0 +34
CLL Collm 80.10 330 i P **P 18 44 20.6 -0.9**
CLL i 18 44 23.1
CLL i *PP pP 18 44 35.1 +0.4
CLL eS S 18 54 26.0 +4.8
CLL pmax pmax
comp=Z,277nm,0.9s,mb6.2
CLL MLR MLR
comp=Z,10µm,17.6s,MS6.2
CLL Collm 80.10 330 i P **P 18 44 20.6 -0.9**
comp=Z,277nm,0.9s,mb6.2
CLL i 18 44 23.1
CLL i pP pP 18 44 35.1 +0.4
CLL eS S 18 54 26.0 +4.8
CLL LR LR
comp=Z,10µm,17.6s,MS6.2
YLV Yalova 80.15 314 eP **P 18 44 20.4 -1.7**
ZIMR 80.18 319 ⇓P **P 18 44 23.4 +1.3**
VRAC Vranov 80.19 327 ⇓P **P 18 44 22.0 0.0**
VRAC Vranov 80.19 327 P **P 18 44 21.8 -0.3**
SMCO Snowmass 80.19 47 eP **P 18 44 23.7 +1.5**
comp=Z,139nm,1.7s,mb5.6
ELBA Catalca 80.28 315 i P **P 18 44 23.2 +0.5**
RW3 Ridgway 80.39 48 P **P 18 44 23.4 0.0**
SMOL Smolenice 80.43 326 eP **P 18 44 23.7 +0.4**
SMOL e 18 44 25.7
SMOL epP pP 18 44 37.2 +0.7
SMOL Smolenice 80.43 326 eP **P 18 44 23.7 +0.4**
SMOL e pP 18 44 37.2 +0.7
MZLS Mizel 80.45 293 P **P 18 44 25.1 +1.2**
IKL Isikli 80.50 309 eP **P 18 44 24.5 +0.5**
PRA Prague 80.50 329 P **P 18 44 25.0 +1.3**
PRA pP pP 18 44 38.0 +1.1
PVL Pavlikeni 80.51 319 P **P 18 44 26.0 +2.1**
CRAR CRAIOVA 80.51 320 P **P 18 44 25.3 +1.4**
PRU Pruhonice 80.52 329 eP **P 18 44 23.1 -0.7**
PRU epP pP 18 44 36.7 -0.3
PRU eS S 18 54 46.5 +21
PRU AMS AMS 19 22 30.0
comp=Z,11µm,18.5s
PRU Pruhonice 80.52 329 eP **P 18 44 23.1 -0.7**
PRU e pP 18 44 36.7 -0.3
PRU MLR MLR
comp=Z,11µm,18.5s,MS6.2
ISCO Idaho Springs 80.55 46 P **P 18 44 24.4 +0.2**
ISCO pmax pmax
comp=Z,89nm,1.4s,mb5.5
ISCO MLR MLR
comp=Z,3µm,22.0s,MS5.6
ISCO Idaho Springs 80.55 46 P **P 18 44 24.4 +0.2**
comp=Z,89nm,1.4s,mb5.5
ISCO LR LR
comp=Z,3µm,22.0s,MS5.6
SRO Srobarova 80.57 325 eP **P 18 44 24.5 +0.4**
SRO e 18 44 26.3
SRO epP pP 18 44 38.5 +1.2
SRO Srobarova 80.57 325 eP **P 18 44 24.5 +0.4**
SRO e pP 18 44 38.5 +1.2
ULDT Uludag 80.57 314 i P **P 18 44 25.2 +0.9**
RAR Rarotonga 80.62 126 LR LR 19 13 12.3
comp=Z,3µm,21.3s,MS5.6,baz=298,slow=30
BZS Buzias 80.65 322 ⇑P **P 18 44 23.0 -1.6**
TREC Trest 80.66 328 eP **P 18 44 24.2 -0.4**
TREC epP pP 18 44 37.1 -0.7
TREC AMS AMS 19 23 00.0
comp=Z,13µm,16.8s
CLZ Clausthal 80.67 332 eP **P 18 44 24.0 -0.6**
CLZ pmax pmax
comp=Z,245nm,1.0s,mb6.1
CLZ Clausthal 80.67 332 eP **P 18 44 24.0 -0.6**
comp=Z,245nm,1.0s,mb6.1
ERMK Ermenek 80.70 310 i P **P 18 44 25.5 +0.4**
ALT Altintas 80.75 313 eP **P 18 44 27.3 +2.0**
HILS Ha'il 80.81 298 P **P 18 44 27.3 +1.5**
ZST Bratislava 80.81 326 eP **P 18 44 25.5 +0.1**
ZST e 18 44 28.1
ZST epP pP 18 44 39.7 +1.1
ZST Bratislava 80.81 326 eP **P 18 44 25.5 +0.1**
ZST e pP 18 44 39.7 +1.1
GDZ Gediz 81.09 313 i P **P 18 44 26.7 -0.3**
BNT Bandirma 81.10 315 eP **P 18 44 27.4 +0.3**
MFT Murefte 81.16 316 eP **P 18 44 26.9 -0.5**
MOX Moxa 81.16 331 i P **P 18 44 26.1 -1.1**
comp=Z,logA/T=2.1,mb5.8
MOX S S 18 54 34.0 +1.7
MOX SS SS 19 00 30.0 +39
MOX QM 19 21 55.0
MOX RM 19 23 32.0
MOX Moxa 81.16 331 eP **P 18 44 26.1 -1.1**
MOX pmax pmax
comp=Z,217nm,1.6s,mb5.8
MOX MLR MLR
comp=Z,6µm,18.0s,MS6.0
MOX Moxa 81.16 331 eP **P 18 44 26.1 -1.1**
comp=Z,217nm,1.6s,mb5.8
MOX LR LR
comp=Z,6µm,18.0s,MS6.0
NKC Novy Kostel 81.17 330 eP **P 18 44 26.6 -0.6**
NKC ex x 18 54 55.9
NKC AMS AMS 19 23 30.0
comp=Z,8µm,15.5s
WIT Witteveen 81.19 334 eP **P 18 44 27.9 +0.6**
comp=Z,1µm,1.7s,mb6.5
DIM Dimitrovgrad 81.22 318 eP **P 18 44 30.0 +2.3**
SART Tekirdag 81.28 316 i P **P 18 44 28.5 +0.5**
TKTP Tekketepe 81.31 312 i P **P 18 44 28.1 -0.2**
ISP Isparta 81.33 312 eP **P 18 44 28.9 +0.6**
ISP pmax pmax
comp=Z,63nm,1.0s,mb5.5
ISP MLR MLR
comp=Z,4µm,20.9s,MS5.7
ISP Isparta 81.33 312 eP **P 18 44 28.9 +0.5**
comp=Z,63nm,1.0s,mb5.5
ISP LR LR
comp=Z,4µm,20.9s,MS5.7
SOP Sopron 81.44 326 ⇑i P **P 18 44 30.5 +1.8**
BTOK Tokmak 81.45 315 i P **P 18 44 30.7 +1.8**
EAB Aberfoyle 81.49 342 eP **P 18 44 29.2 +0.4**
EAB AMb AMB 18 44 32.4
comp=Z,297nm,1.2s,mb6.1
EBL Broad Law 81.53 341 eP **P 18 44 28.4 -0.6**
EBL AMb AMB 18 44 32.7
comp=Z,131nm,1.5s,mb5.6
CSS Prodhromos 81.55 308 P **P 18 44 30.6 +1.1**
comp=Z,80nm,0.8s,mb5.7
KDZ Kurdzhali 81.56 317 P **P 18 44 30.0 +0.5**
EAU Auchinoon 81.57 341 eP **P 18 44 28.8 -0.4**
EAU AMb AMB 18 44 32.7
comp=Z,161nm,1.7s,mb5.7
KHC Kasperske Hory 81.58 329 eP **P 18 44 28.4 -1.0**
KHC PCP PcP 18 44 34.0 -1.6
KHC epP pP 18 44 40.5 -2.1
KHC eS S 18 54 57.4 +21
KHC AMS AMS 19 23 10.0
comp=Z,13µm,19.1s
KHC Kasperske Hory 81.58 329 eP **P 18 44 28.4 -1.0**
KHC e 18 44 34.0
KHC e pP 18 44 40.5 -2.1
KHC MLR MLR
comp=Z,13µm,19.1s,MS6.3
KHC Kasperske Hory 81.58 329 eP **P 18 44 28.4 -1.0**
KHC e 18 44 34.0
KHC e pP 18 44 40.5 -2.1
KHC eS S 18 54 57.4 +21
KHC LR LR
comp=Z,13µm,19.1s,MS6.3
PGB Panagyurishte 81.58 319 P **P 18 44 29.8 +0.3**
PKSM Moragy 81.62 324 P **P 18 44 30.4 +0.8**
BALB Balikesir 81.62 315 eP **P 18 44 29.8 0.0**
PLD Plovdiv 81.62 318 P **P 18 44 31.8 +2.1**
HNTI Hanita 81.62 306 P **P 18 44 29.5 -0.4**
EYMN Ely 81.71 33 P **P 18 44 30.2 +0.1**
comp=Z,71nm,1.0s,mb5.5
EYMN LR LR
comp=Z,3µm,19.0s,MS5.7
ALN Alexandroupoli 81.75 316 ePg **P 18 44 31.5 +1.0**
GEC2 GERESS Array S 81.75 328 eP **P 18 44 29.5 -0.8**
GEC2 pmax pmax
comp=Z,85nm,1.0s,mb5.6
GEC2 GERESS Array S 81.75 328 eP **P 18 44 29.5 -0.8**
comp=Z,85nm,1.0s,mb5.6
GERES GERESS Array B 81.75 328 P **P 18 44 29.3 -1.0**
comp=Z,57nm,0.8s,mb5.5,baz=36,slow=4.3,SNR=54
GERES pP pP 18 44 44.1 +0.6
comp=Z,40nm,0.9s,baz=45,slow=5.7,SNR=10
GERES PP PP 18 47 33.2 -6.4
comp=Z,5.0nm,0.8s,baz=34,slow=9.6,SNR=3.5
GERES S S 18 54 38.9 +0.5
comp=Z,0.2nm,0.3s,baz=33,slow=27,SNR=3.0
GERES PKKPbc 19 03 01.2
comp=Z,1.9nm,0.9s,baz=180,slow=2.0,SNR=6.4
GERES LR LR 19 23 42.9
comp=Z,11µm,20.7s,MS6.2,baz=25,slow=38
BOLS Boljevac 81.78 321 ⇑i P **P 18 44 29.9 -0.6**
BEO Belgrade 81.80 322 ⇓iP **P 18 44 29.6 -1.0**
SVIS Svilajnac 81.81 321 eP **P 18 44 29.1 -1.6**
WTSB Winterswijk 81.85 334 eP **P 18 44 28.4 -2.3**
comp=Z,108nm,1.2s,mb5.7
WET Wettzell 81.86 329 eP **P 18 44 30.5 -0.3**
WET pmax pmax
comp=Z,110nm,1.1s,mb5.7
WET Wettzell 81.86 329 eP **P 18 44 30.5 -0.3**
comp=Z,110nm,1.1s,mb5.7
RZN Rozhen 81.91 318 P **P 18 44 31.0 -0.2**
ESK Eskdalemuir 81.98 341 eP **P 18 44 30.5 -0.8**
ESK AMb AMB 18 44 35.3
comp=Z,152nm,1.3s,mb5.8
SDCO Great Sand Dun 82.01 48 eP **P 18 44 31.8 -0.1**
comp=Z,77nm,1.5s,mb5.4
SDCO LR LR
comp=Z,3µm,22.0s,MS5.6
MANT Manisa 82.02 313 i P **P 18 44 32.4 +0.5**
VTS Vitosha 82.05 319 P **P 18 44 31.5 -0.4**
GRA1 Grafenberg Arr 82.08 330 eP **P 18 44 31.8 -0.1**
comp=Z,296nm,0.9s,mb6.2
GRF Grafenberg Arr 82.08 330 eP **P 18 44 31.8 -0.1**
comp=Z,77nm,1.5s,mb5.4
GRF pmax pmax
comp=Z,296nm,0.9s,mb6.2
GRF MLR MLR
comp=Z,9µm,18.6s,MS6.2
GRF Grafenberg Arr 82.08 330 eP **P 18 44 31.8 -0.1**
comp=Z,296nm,0.9s,mb6.2
GRF LR LR
comp=Z,9µm,18.6s,MS6.2
AFFS 'Afif 82.10 294 P **P 18 44 33.9 +1.3**
AKS Akhisar 82.18 314 eP **P 18 44 33.3 +0.6**
ARSA Arzberg 82.22 326 ⇑iP **P 18 44 34.2 +1.4**
comp=Z,429nm,2.1s,mb6.0,SNR=21
SLTI Sal'it 82.25 305 P **P 18 44 32.9 -0.3**
MOA Molln 82.30 327 ⇓iP **P 18 44 32.4 -0.7**
comp=Z,446nm,2.0s,mb6.0,SNR=30
GOLH Golhisar 82.30 312 i P **P 18 44 33.0 -0.3**
HIZ Hauiti 82.33 155 P* pP 18 44 48.1 +1.4
GRUS Gruza 82.36 321 eP **P 18 44 35.1 +1.6**
TUC Tucson 82.40 55 eP **P 18 44 33.1 -0.8**
TUC pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
TUC Tucson 82.40 55 eP **P 18 44 33.1 -0.8**
comp=Z,9.5nm,0.7s,mb4.8
DSI Dead Sea 82.47 304 P **P 18 44 33.9 -0.4**
MMB Musomiste 82.50 318 P **P 18 44 34.0 -0.3**
DIVS Divcibare 82.55 322 eP **P 18 44 36.2 +1.7**
GMK Mull of Kintyr 82.56 342 eP **P 18 44 34.4 +0.2**
BARS Barje 82.59 320 ⇓iP **P 18 44 35.4 +0.7**
KKB Krupnik 82.64 319 P **P 18 44 34.8 -0.2**
TNS Taunus Mts 82.70 332 eP **P 18 44 34.4 -0.7**
TNS pmax pmax
comp=Z,76nm,1.0s,mb5.7
TNS Taunus Mts 82.70 332 eP **P 18 44 34.4 -0.7**
comp=Z,76nm,1.0s,mb5.7
GAL1 Galloway 82.77 341 eP **P 18 44 35.4 +0.1**
KDAG Bornova 82.82 314 i P **P 18 44 34.1 -1.9**
IZM Izmir 82.82 314 eP **P 18 44 37.9 +1.9**
PERS Pernice 82.88 326 eP **P 18 44 36.9 +0.8**
URZ Urewera 82.89 153 LR LR 19 17 24.7
comp=Z,3µm,21.3s,MS5.6,baz=142,slow=33
SRS Serrai 82.91 318 ePg **P 18 44 35.9 -0.4**
GCL Cushendall 82.93 342 eP **P 18 44 36.8 +0.7**
AKAS Kas 82.96 311 i P **P 18 44 37.1 +0.4**
BLCB Balcova 82.96 314 eP **P 18 44 35.6 -1.0**
SIND Sindeldorf 82.98 331 ⇓eP **P 18 44 38.4 +1.9**
AYDN Tasoluk 82.98 313 i P **P 18 44 38.5 +1.7**
BBLS Bajina Basta - 83.01 322 eP **P 18 44 40.0 +3.2**
TOD Tromm 83.07 331 ⇓eP **P 18 44 39.0 +2.0**
TOD Tromm 83.07 331 eP **P 18 44 37.9 +0.9**
YER Yerkesik 83.11 313 eP **P 18 44 39.6 +2.1**
HGN Heimansgroeve 83.15 334 ⇑eP **P 18 44 37.7 +0.3**
comp=Z,131nm,1.7s,mb5.7
HGN ePP PP 18 47 51.0 +0.3
HGN ePPP PPP 18 49 59.7 +15
HGN eS S 18 54 54.6 +2.1
DALT Dalyan (Mudla) 83.16 312 eP **P 18 44 38.8 +1.1**
KAMS Al Khamasin 83.19 290 P **P 18 44 39.9 +1.7**
SWS Schriesheim 83.21 331 ⇓eP **P 18 44 39.5 +1.8**
OBKA Obir 83.22 326 ⇑iP **P 18 44 37.6 -0.3**
comp=Z,654nm,2.5s,mb6.2,SNR=24
KNT Kendrikon 83.24 318 ePg **P 18 44 37.5 -0.6**
SOH Sokhos 83.25 318 ePg **P 18 44 38.6 +0.5**
OUR Ouranopolis 83.26 317 ePg **P 18 44 38.5 +0.3**
ZFRI Zfri 83.26 304 P **P 18 44 38.1 -0.3**
FUR Furstenfeldbru 83.28 329 eP **P 18 44 37.7 -0.4**
FUR e*PP pP 18 44 49.8 -1.5
FUR pmax pmax
comp=Z,261nm,0.9s,mb6.3
FUR Furstenfeldbru 83.28 329 eP **P 18 44 37.7 -0.4**
comp=Z,261nm,0.9s,mb6.3
FUR epP pP 18 44 49.8 -1.5
KBA Koelnbreinsper 83.29 327 ⇑iP **P 18 44 38.1 0.0**
comp=Z,276nm,2.1s,mb5.9,SNR=23
LAZ Ladron 83.29 51 eP **P 18 44 39.9 +1.4**
MLSB Milas 83.30 313 eP **P 18 44 38.5 +0.1**
ABH Alteburg 83.31 332 ⇓eP **P 18 44 40.1 +1.9**
ABH Alteburg 83.31 332 eP **P 18 44 39.1 +0.9**
ANMO Albuquerque 83.34 50 P **P 18 44 40.6 +1.9**
ANMO pmax pmax
comp=Z,48nm,1.2s
ANMO Albuquerque 83.34 50 PFAKE 18 44 50.0 +11
ANMO LR LR
comp=Z,3µm,20.0s,MS5.6
KBI1 Birley Grange 83.36 339 eP **P 18 44 38.3 -0.1**
HDH Heidenheim 83.37 330 ⇓eP **P 18 44 40.2 +1.7**
PLE Pljevlja 83.41 322 ⇑iP **P 18 44 40.9 +2.1**
PRNI Paran 83.51 304 P **P 18 44 39.5 -0.1**
IVA Berane 83.51 321 ⇑iP **P 18 44 39.8 +0.5**
KBRS Khaybar 83.57 298 P **P 18 44 42.1 +2.1**
KTD Kalmit 83.58 332 eP **P 18 44 41.5 +2.0**
KTD Kalmit 83.58 332 eP **P 18 44 40.7 +1.2**
THE Thessaloniki 83.59 318 ePg **P 18 44 41.1 +1.3**
LJU Ljubljana 83.59 326 i P **P 18 44 40.3 +0.7**
STU Stuttgart 83.61 331 P **P 18 44 40.8 +1.1**
STU pmax pmax
comp=Z,160nm,0.9s,mb6.2
STU Stuttgart 83.61 331 PFAKE 18 44 50.0 +10
STU LR LR
comp=Z,6µm,19.0s,MS6.0
RUP Ruppelstein 83.64 332 ⇓eP **P 18 44 41.9 +2.1**
RUP Ruppelstein 83.64 332 eP **P 18 44 40.9 +1.1**
BDRM Kayabasi 83.64 313 i P **P 18 44 41.8 +1.7**
GRG Griva 83.65 318 ePb **P 18 44 39.2 -0.8**
GMM Mts of Mourne 83.65 342 eP **P 18 44 39.1 -0.6**
LPM Los Pinos Moun 83.66 51 eP **P 18 44 41.8 +1.5**
KWE Weaver Farm 83.66 339 eP **P 18 44 39.7 -0.2**
PVY Plav 83.68 321 ⇑iP **P 18 44 39.7 -0.5**
BOJS Bojanci 83.69 325 eP **P 18 44 41.0 +0.8**
PAIG Paliouri 83.72 317 ePg **P 18 44 39.7 -0.7**
BODT Bodrum 83.72 313 eP **P 18 44 38.8 -1.8**
UPM Unac-Piva 83.74 322 ⇑iP **P 18 44 39.7 -0.9**
BNM Barren Site 83.78 51 eP **P 18 44 41.7 +0.8**
BUCH Bad Urach 83.81 330 ⇓eP **P 18 44 42.9 +2.2**
WATA Walderalm 83.82 329 ⇓iP **P 18 44 40.0 -0.8**
comp=Z,227nm,1.8s,mb6.0,SNR=21
LBG Lerchenberg 83.84 331 ⇓eP **P 18 44 43.0 +2.1**
KMTI Karmit 83.85 304 P **P 18 44 40.8 -0.6**
WTTA Wattenberg 83.85 329 ⇑iP **P 18 44 40.5 -0.4**
comp=Z,1µm,4.2s,SNR=12
SCHQ Schefferville 83.86 16 P **P 18 44 39.3 -1.5**
comp=Z,46nm,0.9s,mb5.6,baz=3.6,slow=6.0,SNR=24
SCHQ LR LR 19 23 09.2
comp=Z,2µm,21.2s,MS5.5,baz=341,slow=36
TBKS Tabuk 83.87 301 P **P 18 44 43.3 +1.8**
ROBS Robic 83.88 327 eP **P 18 44 41.6 +0.5**
VOY Vojsko 83.88 327 eP **P 18 44 39.2 -1.9**
VOY e 18 44 42.0
VOY e pP 18 44 51.8 -2.6
VOY e 18 45 10.9
VOY e 18 45 21.7
MBH Mount Berech 83.93 303 P **P 18 44 41.5 -0.3**
LANF Langenberg 83.96 332 eP **P 18 44 42.4 +0.9**
NKY Niksic 83.99 322 eP **P 18 44 40.7 -1.1**
WLF Walferdange 84.00 333 P **P 18 44 43.7 +2.1**
WLF pmax pmax
comp=Z,47nm,1.0s,mb5.6
WLF MLR MLR
comp=Z,8µm,20.0s,MS6.1
WLF Walferdange 84.00 333 PFAKE 18 44 50.0 +8.4
WLF LR LR
comp=Z,8µm,20.1s,MS6.1
MOTA Moosalm 84.01 329 ⇑iP **P 18 44 41.0 -0.7**
comp=Z,122nm,1.1s,mb5.9,SNR=23
SQTA Sankt Quirin 84.06 329 ⇑iP **P 18 44 41.3 -0.7**
comp=Z,179nm,1.7s,mb5.9,SNR=23
GIVF Givet 84.10 334 eP **P 18 44 40.2 -1.9**
comp=Z,200nm,1.2s,mb5.8
GIVF Givet 84.10 334 eP **P 18 44 40.2 -1.9**
GIVF pmax pmax
comp=Z,100nm,1.2s,mb5.8
UBR Uberruh 84.14 330 ⇓eP **P 18 44 44.2 +1.8**
ALWS Ilw as Safayha 84.15 303 P **P 18 44 44.1 +1.2**
BRY Bratogost 84.15 322 ⇑iP **P 18 44 40.7 -1.9**
AOS Alonnisos 84.15 316 ePg **P 18 44 42.6 -0.1**
TTG Podgorica 84.15 321 ⇑iP **P 18 44 41.7 -0.9**
SBD1 Bryn Du 84.16 340 eP **P 18 44 41.9 -0.5**
GUT Gutenstein 84.21 330 ⇓eP **P 18 44 44.7 +2.0**
JMOS Jabal al Moall 84.21 303 P **P 18 44 43.9 +0.6**
LIT Litokhoron 84.22 318 ePb **P 18 44 41.8 -1.2**
BFO Black Forest 84.30 331 eP **P 18 44 42.6 -0.6**
BFO pmax pmax
comp=Z,200nm,1.0s,mb6.2
BFO Black Forest 84.30 331 eP **P 18 44 42.6 -0.6**
comp=Z,200nm,1.0s,mb6.2
STR Strasbourg 84.30 331 eP **P 18 44 44.9 +1.7**
SPAK Spaichingen 84.31 331 ⇓eP **P 18 44 45.4 +2.2**
SPAK Spaichingen 84.31 331 eP **P 18 44 44.4 +1.2**
BAIF Baives 84.34 334 eP **P 18 44 41.6 -1.8**
comp=Z,119nm,1.0s,mb5.7
BAIF Baives 84.34 334 eP **P 18 44 41.6 -1.8**
BAIF pmax pmax
comp=Z,60nm,1.0s,mb5.7
XOR Xorichti 84.38 317 ePg **P 18 44 42.6 -1.2**
HLM1 Long Mynd 84.40 339 eP **P 18 44 43.2 -0.3**
HLM1 AMb AMB 18 44 47.3
comp=Z,96nm,1.3s,mb5.8
HAQS Haql 84.41 303 P **P 18 44 46.4 +2.2**
BUM Brajici-Budva 84.43 321 ⇑iP **P 18 44 42.8 -1.2**
TATS Tatihlith 84.47 290 P **P 18 44 47.2 +2.5**
CBKS Cedar Bluff 84.50 44 eP **P 18 44 43.2 -1.2**
CBKS pmax pmax
comp=Z,64nm,1.0s,mb5.7
CBKS MLR MLR
comp=Z,2µm,19.0s,MS5.5
CBKS Cedar Bluff 84.50 44 eP **P 18 44 43.2 -1.2**
comp=Z,64nm,1.0s,mb5.7
CBKS LR LR
comp=Z,2µm,19.0s,MS5.5
ULC Ulcinj 84.50 321 ⇑iP **P 18 44 44.1 -0.3**
HCY Herceg Novi 84.51 322 ⇑iP **P 18 44 43.5 -0.9**
DAVA Damuels 84.55 330 ⇑iP **P 18 44 44.0 -0.5**
comp=Z,363nm,2.2s,mb6.1,SNR=32
SSP1 Stoney Pound 84.55 339 eP **P 18 44 44.6 +0.3**
STON Ston 84.58 322 i P **P 18 44 44.7 0.0**
WLS Welschbruch 84.60 332 eP **P 18 44 45.7 +1.0**
CDF Champ du Feu 84.63 332 eP **P 18 44 43.2 -1.6**
comp=Z,266nm,1.0s,mb6.0
CDF Champ du Feu 84.63 332 eP **P 18 44 43.2 -1.6**
CDF pmax pmax
comp=Z,133nm,1.0s,mb6.0
DLF Lyons Farm 84.65 342 eP **P 18 44 44.4 -0.4**
DLF Lyons Farm 84.65 342 ⇓iP **P 18 44 47.2 +2.4**
DLF Lyons Farm 84.65 342 eP pP 18 44 58.2 +0.1
THZ Tophouse 84.65 157 PN pP 18 44 57.4 -1.0
DSB Dublin 84.66 342 P **P 18 44 46.9 +2.1**
comp=Z,146nm,1.0s,mb6.1
DSB LR LR
comp=Z,3µm,19.3s,MS5.7
LIBD Limburg 84.72 331 ⇓eP **P 18 44 47.5 +2.2**
LIBD Limburg 84.72 331 eP **P 18 44 46.6 +1.3**
APE Apeiranthos 84.73 314 ⇑P **P 18 44 44.0 -1.6**
APE Apeiranthos 84.73 314 P **P 18 44 46.5 +0.8**
AYUS 'Aynunah 84.75 302 P **P 18 44 47.6 +1.7**
KIZ Kirchzarten 84.76 331 ⇓eP **P 18 44 47.3 +1.8**

DCN Croghan 84.79 342 *e*P P **18 44 45.1 -0.4**
DCN Croghan 84.79 342 ⇓*i*P P **18 44 47.9 +2.4**
DCN Croghan 84.79 342 *e*P pP 18 44 59.0 +0.2
FELD Feldberg 84.80 331 ⇓*e*P P **18 44 47.6 +1.9**
SNZO South Karori 84.80 156 P P **18 44 45.8 -0.1**
comp=Z,171nm,1.5s,mb6.0
ECH Echery 84.83 332 *e*P P **18 44 46.9 +1.0**
PPT Papeete 84.86 117 *e*P P **18 44 48.6 +1.9**
comp=Z,51nm,1.4s,mb5.5
PPT Papeete 84.86 117 *e*SS SS 19 00 52.3 +6.1
PPT *e*LR LR 19 10 14.7
comp=Z,16µm,24.8s,baz=319
PPT Papeete 84.86 117 LR LR 19 14 20.2
comp=Z,5µm,21.8s,MS5.8,baz=143,slow=30
MCH1 Michaelchurch 84.89 339 *e*P P **18 44 45.9 -0.2**
HTR Trewern Hill 84.90 339 *e*P P **18 44 45.9 -0.1**
HTR AMb AMB 18 44 49.4
comp=Z,214nm,1.2s,mb6.1
PAE Paea 84.92 117 *e*P P **18 44 49.0 +2.0**
comp=Z,118nm,1.3s,mb5.8
AGG Agios Georgios 85.09 317 *e*Pn P **18 44 46.0 -1.3**
MOF Molkenrain 85.15 331 *e*P P **18 44 48.0 +0.6**
HGH Gray Hill 85.16 339 *e*P P **18 44 46.0 -1.4**
HGH AMb AMB 18 44 50.4
comp=Z,220nm,1.0s,mb6.2
TVO Taravao 85.23 117 *e*P P **18 44 51.0 +2.5**
comp=Z,161nm,1.3s,mb6.0
THEF They Montfort 85.26 332 *e*P P **18 44 48.7 +0.7**
SANT Santorini 85.27 314 PFAKE 18 45 00.0 +12
SANT LR LR
comp=Z,3µm,18.4s,MS5.8
UMJS Umm Lajj 85.28 298 P P **18 44 50.4 +1.8**
HINF Hinteralfeld 85.28 332 *e*P P **18 44 46.1 -2.0**
comp=Z,112nm,1.1s,mb5.6
HINF Hinteralfeld 85.28 332 *e*P P **18 44 46.1 -2.0**
HINF pmax pmax
comp=Z,56nm,1.1s,mb5.6
BBS Basel-Blauen 85.33 331 ⇓*e*P P **18 44 50.4 +2.1**
BBS Basel-Blauen 85.33 331 *e*P P **18 44 49.1 +0.8**
MEZF Maizieres J'vi 85.37 333 *e*P P **18 44 47.2 -1.3**
comp=Z,301nm,1.1s,mb6.0
YNBS Yanbu' al Bahr 85.38 297 P P **18 44 50.8 +1.7**
HSA Swansea 85.44 340 *e*P P **18 44 48.7 -0.1**
LOMF Lomont 85.68 331 *e*P P **18 44 51.3 +1.3**
IGT Igoumenitsa 85.77 319 *e*Pn P **18 44 49.6 -1.1**
RPZ Rata Peaks 85.91 159 LR LR 19 18 42.8
comp=Z,2µm,21.8s,MS5.6,baz=344,slow=32
HEX Exmoor 85.95 339 *e*P P **18 44 50.2 -1.1**
KSU1 Kansas State U 85.96 42 P P **18 44 53.0 +1.4**
TAOE Nuku Hiva Isla 86.08 104 *e*SKSac 18 55 16.5
TAOE *e*SS SS 19 01 06.5 +2.0
TAOE *e*LR LR 19 10 56.3
comp=Z,33µm,30.1s
MNTX Cornudas Mount 86.21 52 P P **18 44 52.7 -0.3**
comp=Z,18nm,0.9s,mb5.3
MNTX LR LR
comp=Z,1µm,22.0s,MS5.3
LKD Levkas 86.21 318 *e*Pn P **18 44 53.1 +0.3**
GDL2 Guadalupe Moun 86.49 51 *e*P P **18 44 54.7 +0.3**
CABF La Chapelle 86.57 331 *e*P P **18 44 52.8 -1.6**
comp=Z,76nm,0.9s,mb5.6
CABF La Chapelle 86.57 331 *e*P P **18 44 52.8 -1.6**
CABF pmax pmax
comp=Z,38nm,0.9s,mb5.6
OG01 Vacheresse 86.58 331 *e*P P **18 44 56.0 +1.5**
LBOS 86.67 285 *e*P P **18 44 55.8 +0.2**
LOR Lormes 86.84 333 *e*P P **18 44 54.0 -1.7**
comp=Z,318nm,1.0s,mb6.2
LOR *e*R
comp=Z,6µm,23.0s
LOR Lormes 86.84 333 *e*P P **18 44 54.0 -1.7**
LOR pmax pmax
comp=Z,159nm,1.0s,mb6.2
LOR MLR MLR
comp=Z,6µm,23.0s,MS6.0
DHBB Dhamar BB 86.89 286 ⇑*e*P P **18 44 58.9 +2.2**
AQU L'Aquila 86.99 325 *e*P P **18 44 56.3 -0.3**
AQU pmax pmax
comp=Z,60nm,0.8s,mb5.9
AQU L'Aquila 86.99 325 *e*P P **18 44 56.3 -0.3**
comp=Z,60nm,0.8s,mb5.9
FLN La Foliniere 87.01 336 *e*P P **18 44 54.8 -1.7**
comp=Z,340nm,1.2s,mb6.1
FLN *e*R
comp=Z,13µm,19.0s
FLN La Foliniere 87.01 336 *e*P P **18 44 54.8 -1.7**
FLN pmax pmax
comp=Z,170nm,1.2s,mb6.2
FLN MLR MLR
comp=Z,13µm,19.0s,MS6.4
LDF La Druitiere 87.04 336 *e*P P **18 44 54.9 -1.8**
comp=Z,118nm,0.8s,mb5.9
LDF La Druitiere 87.04 336 *e*P P **18 44 54.9 -1.8**
LDF pmax pmax
comp=Z,59nm,0.8s,mb5.9
RSL Roselend 87.14 330 *e*P P **18 44 58.3 +1.1**
GVD Gavdhos 87.14 313 *e*P P **18 44 56.5 -1.0**
comp=Z,106nm,0.8s,mb6.1
GVD LR LR
comp=Z,3µm,19.9s,MS5.6
SSF Saint Saulge 87.14 333 *e*P P **18 44 55.6 -1.6**
comp=Z,231nm,1.1s,mb6.0
SSF Saint Saulge 87.14 333 *e*P P **18 44 55.6 -1.6**
SSF pmax pmax
comp=Z,115nm,1.1s,mb6.0
LPL La Plagne 87.24 330 *e*P P **18 44 56.4 -1.3**
comp=Z,150nm,1.0s,mb5.9
LPL La Plagne 87.24 330 *e*P P **18 44 56.4 -1.3**
LPL pmax pmax
comp=Z,75nm,1.0s,mb5.9
LPG La Plagne 87.25 330 *e*P P **18 44 56.5 -1.3**
comp=Z,160nm,1.0s,mb5.9
LPG La Plagne 87.25 330 *e*P P **18 44 56.5 -1.3**
LPG pmax pmax
comp=Z,80nm,1.0s,mb5.9
HYF Humbligny 87.27 334 *e*P P **18 44 56.6 -1.2**
OG05 Jujurieux 87.29 331 *e*P P **18 44 59.7 +1.8**
SMF Signal de Mont 87.38 333 *e*P P **18 44 56.8 -1.5**
comp=Z,257nm,1.1s,mb6.1
SMF Signal de Mont 87.38 333 *e*P P **18 44 56.8 -1.5**
SMF pmax pmax
comp=Z,129nm,1.1s,mb6.1
AVF Avril sur Loir 87.43 333 *e*P P **18 44 57.0 -1.6**
comp=Z,298nm,1.0s,mb6.2
AVF Avril sur Loir 87.43 333 *e*P P **18 44 57.0 -1.6**
AVF pmax pmax
comp=Z,149nm,1.0s,mb6.2
GRR Gorron 87.46 336 *e*P P **18 44 57.3 -1.4**
comp=Z,426nm,1.0s,mb6.3
GRR Gorron 87.46 336 *e*P P **18 44 57.3 -1.4**
GRR pmax pmax
comp=Z,213nm,1.0s,mb6.3
BNI Bardonecchia 87.65 330 P P **18 45 01.3 +1.6**
BNI pmax pmax
comp=Z,21nm,0.8s,mb5.4
BNI MLR MLR
comp=Z,7µm,21.4s,MS6.0
BNI Bardonecchia 87.65 330 P P **18 45 01.3 +1.6**
comp=Z,21nm,0.8s,mb5.4
BNI LR LR
comp=Z,7µm,21.4s,MS6.0
GDM Grand'Maison 87.74 330 *e*P P **18 45 01.8 +1.7**
BGF Bois d'Agland 87.81 333 *e*P P **18 44 58.9 -1.5**
TIP Timpagrande 87.85 321 P P **18 45 02.2 +1.4**
GRN Grenoble 87.85 331 *e*P P **18 45 02.6 +1.9**
MBDF Montbardon 87.88 330 *e*P P **18 44 58.6 -2.2**
comp=Z,40nm,0.7s,mb5.5
MBDF Montbardon 87.88 330 *e*P P **18 44 58.6 -2.2**
MBDF pmax pmax
comp=Z,20nm,0.7s,mb5.5
WMOK Wichita Mounta 87.98 46 P P **18 45 01.9 +0.4**
WMOK pmax pmax
comp=Z,26nm,1.0s,mb5.4
WMOK MLR MLR
comp=Z,2µm,19.0s,MS5.6
WMOK Wichita Mounta 87.98 46 P P **18 45 01.9 +0.3**
comp=Z,26nm,1.0s,mb5.4
WMOK LR LR
comp=Z,2µm,19.0s,MS5.6
PLDF La Plantade 88.03 332 *e*P P **18 45 02.9 +1.4**
ORIF Oris-en-Rattie 88.07 330 *e*P P **18 45 01.2 -0.5**
comp=Z,63nm,0.8s,mb5.6
ORIF *e*R
comp=Z,6µm,23.0s
SURF Saint Ours 88.07 330 *e*P P **18 45 03.2 +1.5**

SGMF Saint Gilles 88.11 337 *e*P P **18 45 00.6 -1.2**
comp=Z,152nm,1.0s,mb5.9
SGMF Saint Gilles 88.11 337 *e*P P **18 45 00.6 -1.2**
SGMF pmax pmax
comp=Z,76nm,1.0s,mb5.9
AGO Saint Agoulin 88.14 333 *e*P P **18 45 04.3 +2.3**
ROSF Rostrenen 88.25 338 *e*P P **18 45 01.4 -1.1**
comp=Z,216nm,1.1s,mb6.0
ROSF Rostrenen 88.25 338 *e*P P **18 45 01.4 -1.1**
ROSF pmax pmax
comp=Z,108nm,1.1s,mb6.0
TCF Toulx Ste Croi 88.26 333 *e*P P **18 45 01.3 -1.3**
comp=Z,77nm,1.0s,mb5.6
TCF Toulx Ste Croi 88.26 333 *e*P P **18 45 01.3 -1.3**
TCF pmax pmax
comp=Z,38nm,1.0s,mb5.6
SBF Sospel 88.34 329 *e*P P **18 45 01.7 -1.3**
comp=Z,69nm,0.8s,mb5.7
SBF Sospel 88.34 329 *e*P P **18 45 01.7 -1.3**
SBF pmax pmax
comp=Z,35nm,0.8s,mb5.6
COLF Collangettes 88.39 332 *e*P P **18 45 05.1 +1.9**
VIVF Saint-Julien-l 88.59 331 *e*P P **18 45 02.6 -1.6**
comp=Z,94nm,0.9s,mb5.8
VIVF Saint-Julien-l 88.59 331 *e*P P **18 45 02.6 -1.6**
VIVF pmax pmax
comp=Z,47nm,0.9s,mb5.8
QUIF Quistinic 88.59 337 *e*P P **18 45 02.7 -1.4**
comp=Z,66nm,0.9s,mb5.6
QUIF Quistinic 88.59 337 *e*P P **18 45 02.7 -1.4**
QUIF pmax pmax
comp=Z,33nm,0.9s,mb5.7
MFF Saint Martin d 88.80 335 *e*P P **18 45 04.0 -1.1**
comp=Z,208nm,1.0s,mb6.1
MFF Saint Martin d 88.80 335 *e*P P **18 45 04.0 -1.1**
MFF pmax pmax
comp=Z,104nm,1.0s,mb6.1
LBL Lubilhac 88.80 332 *e*P P **18 45 06.0 +0.8**
TBI Tubuai 88.86 121 *e*SKSac 18 55 32.6
TBI *e*SS SS 19 01 50.0 +5.8
LTX Lajitas 88.91 53 *e*P P **18 45 06.5 +0.4**
LTX pmax pmax
comp=Z,17nm,0.7s,mb5.5
LTX MLR MLR
comp=Z,2µm,19.0s,MS5.6
LTX Lajitas 88.91 53 *e*P P **18 45 06.5 +0.4**
comp=Z,16nm,0.7s,mb5.5
LTX LR LR
comp=Z,2µm,19.0s,MS5.6
TXAR Lajitas Array 88.91 53 P P **18 45 05.0 -1.1**
comp=Z,10nm,0.7s,mb5.3,baz=286,slow=3.3,SNR=33
TXAR S S 18 55 30.9 -17
comp=Z,0.4nm,0.3s,baz=258,slow=25,SNR=3.6
TXAR LR LR 19 23 05.9
comp=Z,2µm,21.0s,MS5.5,baz=330,slow=34
FRNF Fournols 88.91 333 *e*P P **18 45 08.5 +2.8**
LCHF La Chataignera 88.93 335 *e*P P **18 45 07.6 +1.8**
SMRF Simiane la Rot 88.98 330 *e*P P **18 45 04.9 -1.2**
LMR La Mourre 89.15 329 *e*P P **18 45 05.1 -1.8**
comp=Z,62nm,1.0s,mb5.6
LMR La Mourre 89.15 329 *e*P P **18 45 05.1 -1.8**
LMR pmax pmax
comp=Z,31nm,1.0s,mb5.6
RJF Les Rejaudoux 89.36 333 *e*P P **18 45 06.6 -1.2**
comp=Z,79nm,0.9s,mb5.7
RJF Les Rejaudoux 89.36 333 *e*P P **18 45 06.6 -1.2**
RJF pmax pmax
comp=Z,40nm,0.9s,mb5.8
CCM Cathedral Cave 89.49 39 P P **18 45 07.5 -1.1**
CCM pmax pmax
comp=Z,81nm,1.0s,mb6.0
CCM MLR MLR
comp=Z,2µm,19.0s,MS5.6
CCM Cathedral Cave 89.49 39 P P **18 45 07.5 -1.1**
comp=Z,81nm,1.0s,mb6.0
CCM LR LR
comp=Z,2µm,19.0s,MS5.6
CAF Calviac 89.49 333 *e*P P **18 45 07.6 -0.9**
comp=Z,91nm,0.9s,mb5.8
CAF Calviac 89.49 333 *e*P P **18 45 07.6 -0.9**
CAF pmax pmax
comp=Z,46nm,0.9s,mb5.8
SLM Saint Louis 89.53 38 *e*P P **18 45 10.1 +1.3**
comp=Z,126nm,1.0s,mb6.2
LASF Ste Croix 89.56 331 *e*P P **18 45 07.3 -1.5**
comp=Z,162nm,1.5s,mb5.8
LFF La Frestale 89.95 334 *e*P P **18 45 09.5 -1.1**
comp=Z,140nm,1.0s,mb6.0
LFF La Frestale 89.95 334 *e*P P **18 45 09.5 -1.1**
LFF pmax pmax
comp=Z,70nm,1.0s,mb6.0
FVM French Village 89.95 39 *e*P P **18 45 10.1 -0.7**
FVM pmax pmax
comp=Z,46nm,1.1s,mb5.7
FVM French Village 89.95 39 *e*P P **18 45 10.1 -0.7**
comp=Z,46nm,1.1s,mb5.7
ATD Arta Tunnel 89.96 285 P P **18 45 11.8 +0.4**
comp=Z,130nm,1.1s,mb6.2,baz=2.0,slow=3.2,SNR=22
ATD Arta Tunnel 89.96 285 P P **18 45 11.8 +0.4**
JCT Junction City 90.46 50 P P **18 45 14.5 +1.1**
JCT pmax pmax
comp=Z,19nm,0.7s,mb5.5
JCT Junction City 90.46 50 *e*P P **18 45 11.8 -1.5**
comp=Z,19nm,0.7s,mb5.5
JCT LR LR
comp=Z,3µm,22.0s,MS5.6
SIUC Southern Illin 90.75 38 P P **18 45 15.7 +1.1**
comp=Z,72nm,0.8s,mb6.1
MTLF Montolieu 90.80 332 *e*P P **18 45 13.3 -1.3**
comp=Z,43nm,1.0s,mb5.5
MTLF Montolieu 90.80 332 *e*P P **18 45 13.3 -1.3**
MTLF pmax pmax
comp=Z,22nm,1.0s,mb5.4
MIAR Mount Ida 90.98 43 *e*P P **18 45 14.7 -1.0**
MIAR pmax pmax
comp=Z,22nm,0.9s,mb5.5
MIAR MLR MLR
comp=Z,2µm,22.0s,MS5.5
MIAR Mount Ida 90.98 43 *e*P P **18 45 14.7 -1.0**
comp=Z,22nm,0.9s,mb5.5
MIAR LR LR
comp=Z,2µm,22.0s,MS5.5
ERPA Erie 91.19 30 P P **18 45 18.7 +2.2**
ERPA LR LR
comp=Z,2µm,19.0s,MS5.7
ALLY Alegheny Colle 91.52 30 *e*P P **18 45 19.2 +1.2**
MLS Moulis 91.54 332 *e*P P **18 45 19.3 +1.2**
ACSO Alum Creek Sta 91.55 33 *e*P P **18 45 18.1 -0.1**
comp=Z,39nm,1.0s,mb5.7
ACSO LR LR
comp=Z,2µm,19.0s,MS5.5
NCB Newcomb 91.67 25 P P **18 45 20.2 +1.5**
comp=Z,38nm,1.0s,mb5.7
NCB LR LR
comp=Z,3µm,21.0s,MS5.8
WCI Wyandotte Cave 91.72 36 *e*P P **18 45 20.1 +1.1**
comp=Z,40nm,0.9s,mb5.8
WCI LR LR
comp=Z,3µm,21.0s,MS5.7
EPF Esparros 91.75 333 *e*P P **18 45 17.2 -1.9**
comp=Z,52nm,1.2s,mb5.4
EPF Esparros 91.75 333 *e*P P **18 45 17.2 -1.9**
EPF pmax pmax
comp=Z,26nm,1.2s,mb5.4
MIV Mineville/With 91.81 25 *e*P P **18 45 20.0 +0.7**
RESF Ens 91.95 333 *e*P P **18 45 22.2 +2.2**
VIEF Viey 91.99 333 *e*P P **18 45 22.6 +2.4**
LBNH Lisbon 92.18 24 PFAKE 18 45 30.0 +9.0
LBNH LR LR
comp=Z,4µm,19.0s,MS5.9
ETSF Etsaut 92.19 333 *e*P P **18 45 20.0 -1.1**
comp=Z,33nm,0.9s,mb5.4
ETSF Etsaut 92.19 333 *e*P P **18 45 20.0 -1.1**
ETSF pmax pmax
comp=Z,16nm,0.9s,mb5.3
SJPF Ste Jean 92.23 334 *e*P P **18 45 19.6 -1.6**
ACCN Adirondack Com 92.38 25 P P **18 45 23.8 +1.9**
NATX Nacogdoches 92.49 45 PFAKE 18 45 30.0 +7.2
NATX LR LR
comp=Z,4µm,20.0s,MS5.9
WVT Waverly 92.68 38 *e*P P **18 45 24.6 +1.1**
comp=Z,28nm,1.1s,mb5.6
WVT LR LR
comp=Z,3µm,19.0s,MS5.7
OXF Oxford 93.18 40 *e*P P **18 45 25.4 -0.4**
comp=Z,35nm,0.8s,mb5.8

OXF LR LR
comp=Z,2µm,20.0s,MS5.6
MCWV Mont Chateau 93.33 31 P P **18 45 28.8 +2.4**
comp=Z,38nm,0.9s,mb5.8
MCWV LR LR
comp=Z,3µm,20.0s,MS5.8
EBR Ebro Roquetas 93.62 332 *e*PDIFF 18 45 30.0
HRV Harvard--Oak R 93.85 24 PFAKE 18 45 40.0 +11
HRV LR LR
comp=Z,3µm,21.0s,MS5.7
WES Weston 94.04 24 PFAKE 18 45 40.0 +11
WES LR LR
comp=Z,4µm,22.0s,MS5.9
SWET Sewanee 94.33 38 P P **18 45 31.3 +0.3**
CPCT Cooper Cave 94.81 36 P P **18 45 34.8 +1.6**
BLA Blacksburg 95.17 33 *e*P P **18 45 35.2 +0.4**
comp=Z,26nm,0.9s,mb5.7
BLA LR LR
comp=Z,3µm,21.0s,MS5.7
PBRG Braganca 95.20 337 *e*P P **18 45 36.4 +1.6**
comp=Z,36nm,1.0s,mb5.8
LRAL Lakeview Retre 95.57 40 PFAKE 18 45 50.0 +13
LRAL LR LR
comp=Z,3µm,22.0s,MS5.7
CBN Corbin 95.57 30 PFAKE 18 45 50.0 +13
CBN LR LR
comp=Z,3µm,20.0s,MS5.8
PVRL Vila Real 95.98 338 *e*P P **18 45 40.1 +1.7**
ESDC Sonseca Array 96.23 334 P P **18 45 38.6 -0.9**
comp=Z,8.3nm,0.8s,mb5.2,baz=19,slow=3.8,SNR=30
ESDC PP PP 18 49 35.5 0.0
comp=Z,4.0nm,1.0s,baz=27,slow=7.1,SNR=5.3
ESDC S 18 56 09.3
comp=Z,0.2nm,0.3s,baz=166,slow=7.4,SNR=3.1
ESLA Sonseca Array 96.23 334 P P **18 45 41.2 +1.6**
comp=Z,2.7nm,0.9s
ESLA LR LR
comp=Z,43µm,19.0s
MTE Manteigas 96.73 337 *e*P P **18 45 43.5 +1.7**
MTE Manteigas 96.73 337 *e*PP PP 18 49 40.3 +0.8
MTE *e*SKSac 18 56 20.7
MTE Manteigas 96.73 337 *e*LQ 19 14 39.0
MTE *e*LR LR 19 19 48.4
comp=Z,8µm,18.2s
MTE Manteigas 96.73 337 *e*P P **18 45 43.0 +1.2**
comp=Z,19nm,1.1s,mb5.4
GOGA Godfrey 96.98 37 PFAKE 18 45 50.0 +6.9
GOGA LR LR
comp=Z,2µm,20.0s,MS5.7
EVO Evora 98.58 337 *e*P P **18 45 51.0 +0.7**
comp=Z,26nm,1.2s,mb5.3
EVO *e*R
comp=Z,10µm,22.2s
NHSC New Hope 98.74 35 PFAKE 18 46 00.0 +8.9
NHSC LR LR
comp=Z,3µm,19.0s,MS5.9
RKT Rikitea 98.87 112 *e*PP PP 18 49 54.8 -1.4
RKT Rikitea 98.87 112 *e*PS PS 18 58 44.4 -6.8
RKT Rikitea 98.87 112 *e*SKSac 18 56 27.5
RKT *e*SS SS 19 04 06.1 -0.2
RKT *e*LR LR 19 16 48.9
comp=Z,9µm,27.2s,baz=307
PBEJ Beja 99.00 336 *e*P P **18 45 53.7 +1.5**
KMBO Kilima Mbogo 102.22 278 P Pdif 18 46 07.8 +0.5
comp=Z,7.4nm,0.9s,baz=28,slow=8.0,SNR=18
KMBO S 18 56 43.9
comp=Z,1.3nm,0.6s,baz=85,slow=23,SNR=1.3
KMBO SP SP 18 59 20.3 -0.4
comp=Z,1.2nm,0.5s,baz=240,slow=22,SNR=2.7
KMBO Kilima Mbogo 102.22 278 P Pdif 18 46 07.8 +0.5
KMBO S 18 56 43.9
KMBO SP SP 18 59 20.3 -0.4
KMBO LR LR
comp=Z,2µm,21.0s,MS5.5
DWPF Disney 102.34 38 PFAKE 18 46 20.0 +13
DWPF LR LR
comp=Z,2µm,21.0s,MS5.7
DRV Dumont d'Urvil 104.79 181 Pdif Pdif 18 46 29.0 +12
VNDA Vanda 116.34 175 PKP PKPdf 18 50 51.8 -1.2
comp=Z,7.3nm,0.9s,baz=310,slow=3.4,SNR=19
VNDA PP PP 18 52 01.2 -3.0
comp=Z,4.2nm,1.0s,baz=334,slow=6.9,SNR=4.0
VNDA Vanda 116.34 175 PKIKP PKPdf 18 50 51.8 -1.1
VNDA 18 52 01.2
VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA pmax pmax
comp=Z,4.0nm,1.0s
VNDA Vanda 116.34 175 PKPdf PKPdf 18 50 54.1 +1.2
VNDA LR LR
comp=Z,1µm,21.0s,MS5.4
SBA Scott Base 117.00 174 PFAKE 18 51 10.0 +16
SBA LR LR
comp=Z,735nm,20.0s,MS5.3
LSZ Lusaka 117.90 272 PKPdf PKPdf 18 50 58.9 +1.7
LSZ LR LR
comp=Z,2µm,21.0s,MS5.6
MAW Mawson 121.00 206 PKP PKPdf 18 51 01.5 -0.6
comp=Z,8.2nm,0.8s,baz=90,slow=2.6,SNR=12
MAW PP PP 18 52 35.5 -0.5
comp=Z,8.1nm,1.0s,baz=58,slow=7.5,SNR=3.0
MAW Mawson 121.00 206 PKIKP PKPdf 18 51 01.5 -0.6
MAW 18 52 35.5
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW pmax pmax
comp=Z,8.0nm,1.0s
MAW Mawson 121.00 206 *e*PKPdf PKPdf 18 51 03.6 +1.5
MAW LR LR
comp=Z,1µm,21.0s,MS5.6
SDV Santo Domingo 123.96 40 *e*PKPdf PKPdf 18 51 08.8 -0.3
SDV LR LR
comp=Z,957nm,20.0s,MS5.5
LBTB Lobatse 125.24 264 PKIKP PKPdf 18 51 11.5 +0.2
LBTB MLR MLR
comp=Z,2µm,21.0s,MS5.8
ROSC El Rosal 125.34 46 PKP PKPdf 18 51 11.7 -0.1
comp=Z,18nm,0.8s,baz=86,slow=19,SNR=8.3
DBIC Dimbokro 125.56 318 PKP PKPdf 18 51 11.5 -0.7
comp=Z,16nm,1.0s,baz=17,slow=1.2,SNR=11
DBIC PP PP 18 52 59.0 -9.3
comp=Z,17nm,0.9s,baz=11,slow=12,SNR=4.7
DBIC Dimbokro 125.56 318 PKIKP PKPdf 18 51 11.5 -0.7
DBIC pmax pmax
comp=Z,17nm,1.0s
DBIC pmax pmax
comp=Z,17nm,0.9s
DBIC Dimbokro 125.56 318 PKPdf PKPdf 18 51 13.8 +1.6
DBIC LR LR
comp=Z,4µm,20.0s,MS6.1
LIC Lamto 126.03 318 *e*PKIKP PKPdf 18 51 14.4 +1.3
LIC comp=Z,64nm,1.1s
*e*R
comp=Z,6µm,21.2s
OTAV Otavalo 126.53 54 PKPdf PKPdf 18 51 17.3 +3.2
QSPA South Pole Qui 128.18 180 PKPdf PKPdf 18 51 14.6 -1.0
TSUM Tsumeb 128.44 275 *e*PKPdf PKPdf 18 51 19.3 +1.7
TSUM LR LR
comp=Z,1µm,20.0s,MS5.7
SYO Syowa Base 129.66 207 ⇓P Pdif 18 48 04.5 -2.1
SYO Syowa Base 129.66 207 ⇓P Pdif 18 48 15.9 +9.3
SYO Syowa Base 129.66 207 ⇑PKPdf PKPdf 18 51 18.5 -0.1
SYO Syowa Base 129.66 207 ⇓*e*P Pdif 18 48 04.5 -2.1
SYO ⇑*e*PKPdf PKPdf 18 51 18.5 -0.1
NVL N'lazarevskaya 138.76 203 ⇓*i*PKIKP PKPdf 18 51 36.3 +0.8
NVL *e**PP 18 51 44.2
NVL *e**SP 18 51 48.6
NVL pmax pmax
comp=Z,2.0nm,1.2s
NVL MLR MLR
comp=Z,12nm,17.1s
MAIT Maitri 138.78 203 *e*PKPdif 18 51 43.5
SNAA Sanae 142.22 197 *e*PKHKP 18 51 36.2
ARE Arequipa 143.41 63 PKIKP PKPdf 18 51 43.0 -2.1
LPAZ La Paz 145.58 58 PKPbc PKPbc 18 51 50.8 +1.2
comp=Z,52nm,1.0s,baz=359,slow=5.3,SNR=38
RCBR Riachuelo 147.48 356 PKPdf PKPdf 18 51 55.2 +3.0
CEN1 Los Morros 148.77 71 ⇑*i*P PKPdf 18 51 57.5 +3.6
PMSA Palmer Station 149.52 158 *e*PKPbc PKPdf 18 52 00.2 +6.3
TLL Tololo Astrono 151.80 83 ⇓*i*P PKPdf 18 52 04.4 +6.0
PEL Peldehue 153.07 89 ⇑*i*P PKPdf 18 52 04.3 +4.1
FCH Farellones 153.44 89 *i*P PKPdf 18 52 03.5 +2.8
PLCA Paso Flores 154.90 106 PKPbc PKPdf 18 52 13.7 +11
comp=Z,12nm,1.0s,baz=258,slow=4.6,SNR=13
PLCA Paso Flores 154.90 106 *e*PKPdf PKPdf 18 52 05.7 +3.3

PLCA				*e*PKPbc	PKPdf	18 52 13.6	+11
PLCA				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
BDFB	**Brasilia**	**155.64**	**24**	PKPbc	PKPdf	18 52 16.1	+12
	comp=Z,13nm,0.9s,baz=359,slow=4.1,SNR=7.0						
BDFB				PKPab	PKPab	18 52 30.3	-2.6
	comp=Z,13nm,0.9s,baz=285,slow=3.7,SNR=4.9						
BDFB	**Brasilia**	**155.64**	**24**	PKP2	PKPab	18 52 30.3	-2.5
BDFB				pmax	pmax		
	comp=Z,13nm,0.9s						
BAO	**Brasilia Array**	**155.64**	**24**	PKPdf	PKPdf	18 52 07.0	+3.0
TRIS	**Tristan da Cun**	**159.65**	**266**	PFAKE		18 52 20.0	+11
TRIS				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
CPUP	**Villa Florida**	**159.75**	**59**	PKPdf	PKPdf	18 52 11.7	+2.7
CPUP				LR	LR		
	comp=Z,300nm,20.0s,MS5.1						
TRQA	**Tornquist**	**161.18**	**96**	PFAKE		18 52 20.0	+10
TRQA				LR	LR		
	comp=Z,3μm,22.0s						
LPA	**La Plata**	**163.64**	**84**	*ce*PKP	PKPdf	18 52 13.0	+0.4
LPA				*ep*PKP		18 52 28.0	
LPA				*e*PP	PP	18 56 56.0	+2.5
	comp=Z,3μm,22.0s						

IDC ***16*** *19:31:09.7±1.5,57.50S×147.29E,mb4.3/5,mb1 4.5/5, mb1mx4.3/9,mbtmp4.4/5,MS4.5/6,Ms1 4.5/6, ms1mx4.1/25,Error ellipse: s-maj=119.9km s-min=20.6km az=85.0*

NEIC ***16*** *19:31:11.3±0.6,57.51S×147.10E,h10km,mb4.6/6,Error ellipse: s-maj=48.7km s-min=8.8km az=85.0*

ISC 16 19:31:09.3±0.9,57.49S±0.10×147.4E±0.9,h10km,n24, σθ?72/14,mb4.4/6,MS4.4/6,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**19.97**	**356**	*e*P		**P**	**19 35 44.0**	**-0.4**
	15nm,0.9s							
VNDA	**Vanda**	**20.73**	**171**	P		**P**	**19 35 51.6**	**-0.5**
	6.3nm,0.9s,baz=340,slow=14,SNR=14							
VNDA	**Vanda**	**20.73**	**171**	*e*P		**P**	**19 35 51.5**	**-0.6**
	47nm,1.6s							
STKA	**Stephens Creek**	**25.92**	**349**	*e*P		**P**	**19 36 45.2**	**+2.1**
	16nm,1.1s,mb4.5							
STKA	**Stephens Creek**	**25.92**	**349**	P		**P**	**19 36 44.0**	**+0.9**
	18nm,1.1s,mb4.5,baz=190,slow=7.2,SNR=6.4							
STKA	**Stephens Creek**	**25.92**	**349**	*e*P		**P**	**19 36 44.6**	**+1.6**
URZ	**Urewera**	**27.37**	**58**	LR		LR	19 45 59.1	
	comp=Z,890nm,21.3s,MS4.3,baz=200,slow=32							
NWAO	**Narrogin (SRO)**	**31.99**	**307**	LR		LR	19 47 20.5	
	comp=Z,1μm,21.1s,MS4.5,baz=241,slow=30							
QSPA	**South Pole Qui**	**32.61**	**180**	*e*P		**P**	**19 37 43.5**	**+1.0**
	13nm,1.1s,mb4.8							
MAW	**Mawson**	**37.13**	**219**	LR		LR	19 52 55.0	
	comp=Z,787nm,21.4s,MS4.5,baz=77,slow=35							
RAO	**Raoul Island**	**37.15**	**56**	LR		LR	19 52 57.4	
	comp=Z,706nm,18.6s,MS4.5,baz=73,slow=35							
CTA	**Charters Tower**	**37.36**	**358**	*e*P		**P**	**19 38 23.8**	**+0.1**
	5.5nm,1.0s,mb4.3							
CTA	**Charters Tower**	**37.36**	**358**	P		**P**	**19 38 23.5**	**-0.2**
	6.9nm,0.9s,mb4.5,baz=214,slow=3.9,SNR=4.0							
CTA				LR		LR	19 52 14.9	
	comp=Z,603nm,21.4s,MS4.4,baz=180,slow=34							
CTAO	**Charters Tower**	**37.36**	**358**	*e*P		**P**	**19 38 23.5**	**-0.2**
	14nm,1.2s,mb4.7							
DZM	**Mont Dzumac**	**38.02**	**30**	LR		LR	19 51 10.8	
	comp=Z,613nm,18.6s,MS4.4,baz=22,slow=32							
WB2	**Warramunga Arr**	**38.71**	**340**	*e*P		**P**	**19 38 34.5**	**-0.5**
WRA	**Warramunga Arr**	**38.71**	**340**	P		**P**	**19 38 34.5**	**-0.6**
	3.9nm,0.8s,mb4.2,baz=166,slow=7.0,SNR=5.1							
FITZ	**Fitzroy Crossi**	**42.52**	**329**	*e*P		**P**	**19 39 06.6**	**+0.2**
	13nm,0.9s,mb4.7							
SNAA	**Sanae**	**49.44**	**192**	P		**P**	**19 40 00.2**	**-0.4**
	1.6nm,1.1s,mb4.0,baz=154,slow=10,SNR=3.9							
MKAR	**Makanchi Array**	**117.08**	**316**	PKP		PKPdf	19 49 55.4	-1.4
	0.4nm,0.7s,baz=150,slow=9.8,SNR=4.7							
AKASG	**Malin Array Be**	**144.24**	**286**	PKP		PKPdf	19 50 44.2	-3.0
	1.8nm,0.7s,baz=109,slow=2.2,SNR=7.9							
AKASG	**Malin Array Be**	**144.24**	**286**	PKP		PKPdf	19 50 44.2	-3.0
FINES	**FINESS Array B**	**150.79**	**303**	PKPbc		PKPdf	19 51 02.4	+4.8
	4.5nm,0.8s,baz=90,slow=5.7,SNR=6.8							
GERES	**GERESS Array B**	**151.42**	**273**	PKPbc		PKPdf	19 51 04.8	+5.8
	1.3nm,0.8s,baz=135,slow=3.8,SNR=6.0							

MOS ***16*** *19:35:44.0±1.0,32.98S×179.15W,h10km,mb5.2/11, Error ellipse: s-maj=13.9km s-min=10.5km az=75.1*

BJI ***16*** *19:35:45.1,33.00S×179.20W,h10km,mB5.4,mb5.1*

HRVD ***16*** *19:35:45.2±1.0,32.79S×178.68W,h42km±3km,MW5.3/24, Centroid moment Tensor Solution. LP body waves: s22,c24;Mantle waves: s24,c27; Half duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr 0.88±.08; Mθθ-0.34±.07; Mϕϕ-0.53±.06; Mrθ-0.36±.09; Mϕθ 0.50±.06; Mϕr 0.37±.07; Best double couple: M◎1.047×10^17 NP1: ϕs143°,δ30°,λ94° NP2:ϕs318°,δ60°,λ88°. Principal axes: T 1.014, Plg75°, Azm222°; N .066, Plg2°, Azm320°; P -1.08, Plg15°, Azm50°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *19:35:45.2±2.6,32.98S×179.17W,h11km±15km,mb5.1/21 Error ellipse: s-maj=10.1km s-min=6.8km az=119.0*

IDC ***16*** *19:35:50.9±2.6,32.91S×179.15W,h51km±21km,mb4.3/13, mb1 4.5/14,mb1mx4.4/15,mbtmp4.6/14,ML5.1/1,MS4.3/2, Ms1 4.3/2,ms1mx3.7/22,Error ellipse: s-maj=17.4km s-min=13.5km az=104.0*

ISC 16 19:35:46.3±1.6,32.93S±0.04×179.21W±0.08, h23km±11km,n247,σ1§24/195,mb4.9/31,MS4.4/5,5C-4D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.83**	**17**	P		**Pn**	**19 36 44.9**	**-0.5**
	176nm,0.3s,baz=109,slow=6.4,SNR=6.1							
RAO				S		**Sn**	**19 37 25.9**	**-4.3**
	231nm,0.3s,baz=110,slow=23,SNR=3.6							
RAO	**Raoul Island**	**3.83**	**17**	*e*P		**Pn**	**19 36 43.6**	**-1.8**
MXZ	**Matakaoa Point**	**5.05**	**203**	PN		**Pn**	**19 37 03.5**	**+0.8**
MXZ				SN		**Sn**	**19 38 02.1**	**+0.9**
MXZ				T(MAX)			19 41 17.9	
MXZ	**Matakaoa Point**	**5.05**	**203**	P		**Pn**	**19 37 04.0**	**+1.2**
MXZ				S		**Sn**	**19 38 05.7**	**+4.5**
WIZ	**White Island**	**5.46**	**212**	PN		**Pn**	**19 37 11.9**	**+3.5**
WIZ	**White Island**	**5.46**	**212**	P		**Pn**	**19 37 12.1**	**+3.7**
WIZ				S		**Sn**	**19 38 15.8**	**+4.5**
PUZ	**Puketiti**	**5.54**	**201**	PN		**Pn**	**19 37 09.2**	**-0.4**
PUZ				SN		**Sn**	**19 38 13.9**	**+0.6**
PUZ	**Puketiti**	**5.54**	**201**	P		**Pn**	**19 37 10.4**	**+0.8**
KUZ	**Kuaotunu**	**5.65**	**226**	PN		**Pn**	**19 37 16.1**	**+5.0**
KUZ	**Kuaotunu**	**5.65**	**226**	P		**Pn**	**19 37 16.7**	**+5.5**
MYRZ	**Mayor Island**	**5.72**	**219**	PN		**Pn**	**19 37 18.2**	**+6.0**
MWZ	**Matawai**	**6.01**	**205**	PN		**Pn**	**19 37 15.6**	**-0.8**
MWZ	**Matawai**	**6.01**	**205**	P		**Pn**	**19 37 16.4**	**0.0**
URZ	**Urewera**	**6.11**	**208**	P		**Pn**	**19 37 18.5**	**+0.8**
	50nm,0.3s,baz=346,slow=2.8,SNR=82							
URZ				S		**Sn**	**19 38 25.9**	**-1.7**
	26nm,0.3s,baz=318,slow=12,SNR=2.6							
URZ	**Urewera**	**6.11**	**208**	PN		**Pn**	**19 37 17.6**	**-0.1**
URZ				SN		**Sn**	**19 38 28.7**	**+1.1**
URZ	**Urewera**	**6.11**	**208**	*e*P		**Pn**	**19 37 18.7**	**+1.0**
WCZ	**Waipu Caves**	**6.12**	**239**	PN		**Pn**	**19 37 24.4**	**+6.6**
WCZ	**Waipu Caves**	**6.12**	**239**	*e*P		**Pn**	**19 37 24.5**	**+6.7**
EDRZ	**Edgecumbe**	**6.13**	**211**	P		**Pn**	**19 37 21.2**	**+3.2**
TAZ	**Tarawera**	**6.34**	**212**	P		**Pn**	**19 37 22.6**	**+1.7**
OUZ	**Omahuta**	**6.39**	**247**	PN		**Pn**	**19 37 28.0**	**+6.4**
OUZ				SN		**Sn**	**19 38 43.4**	**+8.7**
OUZ	**Omahuta**	**6.39**	**247**	*e*P		**Pn**	**19 37 28.1**	**+6.4**
OUZ				S		**Sn**	**19 38 43.5**	**+8.8**
UTU	**Utuhina**	**6.44**	**214**	P		**Pn**	**19 37 27.8**	**+5.4**
PATZ	**Paeroa**	**6.57**	**213**	PN		**Pn**	**19 37 27.9**	**+3.7**
PATZ	**Paeroa**	**6.57**	**213**	P		**Pn**	**19 37 28.0**	**+3.8**
KNZ	**Kokohu**	**6.59**	**202**	PN		**Pn**	**19 37 23.3**	**-1.1**
KNZ	**Kokohu**	**6.59**	**202**	P		**Pn**	**19 37 23.4**	**-1.0**
BKZ	**Black Stump Fm**	**7.13**	**208**	*e*PN		**Pn**	**19 37 31.3**	**-0.8**
BKZ				SN		**Sn**	**19 38 51.8**	**-1.5**
BKZ	**Black Stump Fm**	**7.13**	**208**	*e*P		**Pn**	**19 37 31.7**	**-0.4**
BKZ				S		**Sn**	**19 38 52.6**	**-0.7**
HIZ	**Hauiti**	**7.37**	**219**	PN		**Pn**	**19 37 39.2**	**+3.8**
HIZ	**Hauiti**	**7.37**	**219**	P		**Pn**	**19 37 40.2**	**+4.8**
OTVZ	**Oturere**	**7.48**	**212**	PN		**Pn**	**19 37 38.3**	**+1.3**
NGZ	**Ngauruhoe**	**7.52**	**212**	PN		**Pn**	**19 37 38.4**	**+0.9**
NGZ	**Ngauruhoe**	**7.52**	**212**	P		**Pn**	**19 37 38.5**	**+1.0**
CNZ	**Chateau**	**7.56**	**213**	PN		**Pn**	**19 37 39.5**	**+1.4**
CNZ	**Chateau**	**7.56**	**213**	P		**Pn**	**19 37 39.7**	**+1.6**
WPVZ	**Whakapapa**	**7.57**	**213**	PN		**Pn**	**19 37 39.9**	**+1.7**
WPVZ	**Whakapapa**	**7.57**	**213**	P		**Pn**	**19 37 39.7**	**+1.5**
TUVZ	**Tukino**	**7.57**	**212**	*e*PN		**Pn**	**19 37 39.0**	**+0.8**
TUVZ	**Tukino**	**7.57**	**212**	P		**Pn**	**19 37 39.0**	**+0.8**
FWVZ	**Far West T-bar**	**7.61**	**212**	PN		**Pn**	**19 37 39.8**	**+1.1**
FWVZ	**Far West T-bar**	**7.61**	**212**	P		**Pn**	**19 37 39.4**	**+0.7**
MOVZ	**Moawhango**	**7.64**	**211**	P		**Pn**	**19 37 40.6**	**+1.4**
WNVZ	**Wahianoa**	**7.64**	**212**	*e*PN		**Pn**	**19 37 40.2**	**+0.9**
WNVZ	**Wahianoa**	**7.64**	**212**	P		**Pn**	**19 37 40.2**	**+1.0**
PXZ	**Pawanui**	**7.76**	**203**	PN		**Pn**	**19 37 38.3**	**-2.6**
WAZ	**Wanganui**	**8.27**	**213**	PN		**P**	**19 37 47.9**	**0.0**
WAZ	**Wanganui**	**8.27**	**213**	P		**P**	**19 37 48.5**	**+0.6**
MTW	**Mount Morrison**	**9.24**	**206**	P		**P**	**19 37 56.8**	**-4.6**
CAW	**Cannon Point**	**9.36**	**208**	*e*PN		**P**	**19 37 58.7**	**-4.4**
CAW	**Cannon Point**	**9.36**	**208**	P		**P**	**19 37 59.6**	**-3.4**
TRWZ	**Traveller**	**9.38**	**204**	*e*PN		**P**	**19 37 58.6**	**-4.8**
PAWZ	**Paruwai Farm**	**9.46**	**205**	*e*PN		**P**	**19 38 00.3**	**-4.2**
PAWZ	**Paruwai Farm**	**9.46**	**205**	P		**P**	**19 38 00.9**	**-3.5**
MSWZ	**Moikau Station**	**9.55**	**206**	*e*PN		**P**	**19 38 01.5**	**-4.2**
MSWZ	**Moikau Station**	**9.55**	**206**	P		**P**	**19 38 02.1**	**-3.6**
DUWZ	**D'Urville Isla**	**9.59**	**213**	*e*PN		**P**	**19 38 02.8**	**-3.4**
MRW	**Makara Radio**	**9.61**	**209**	*e*PN		**P**	**19 38 02.5**	**-3.9**
MRW	**Makara Radio**	**9.61**	**209**	P		**P**	**19 38 02.7**	**-3.7**
WEL	**Wellington**	**9.63**	**208**	P		**P**	**19 38 04.6**	**-2.1**
SNZO	**South Karori**	**9.67**	**208**	*e*PN		**P**	**19 38 02.6**	**-4.7**
SNZO	**South Karori**	**9.67**	**208**	*e*Pn		**P**	**19 38 03.2**	**-4.1**
SNZO				*e*Sn		**Sn**	**19 39 48.7**	**-7.7**
BHW	**Baring Head**	**9.69**	**207**	*e*PN		**P**	**19 38 03.3**	**-4.3**
BHW	**Baring Head**	**9.69**	**207**	P		**P**	**19 38 03.3**	**-4.3**
TCW	**Tory Channel**	**9.77**	**210**	*e*PN		**P**	**19 38 03.7**	**-4.9**
TCW	**Tory Channel**	**9.77**	**210**	P		**P**	**19 38 04.6**	**-4.0**
TUWZ	**Tuamarina**	**10.09**	**211**	*e*PN		**P**	**19 38 08.2**	**-4.9**
NNZ	**Nelson**	**10.17**	**213**	PN		**P**	**19 38 09.8**	**-4.3**
NNZ				SN		**S**	**19 40 02.6**	**-6.0**
NNZ	**Nelson**	**10.17**	**213**	*e*P		**P**	**19 38 09.9**	**-4.3**
NNZ				S		**S**	**19 40 02.6**	**-6.0**
QRZ	**Quartz Range**	**10.29**	**218**	*e*PN		**P**	**19 38 11.9**	**-3.9**
QRZ				SN		**S**	**19 40 06.5**	**-4.9**
QRZ	**Quartz Range**	**10.29**	**218**	P		**P**	**19 38 12.4**	**-3.4**
QRZ				S		**S**	**19 40 06.5**	**-5.0**
BSWZ	**Blackbirch Sta**	**10.35**	**210**	*e*PN		**P**	**19 38 12.1**	**-4.5**
BSWZ	**Blackbirch Sta**	**10.35**	**210**	P		**P**	**19 38 12.9**	**-3.8**
THZ	**Tophouse**	**10.82**	**213**	*e*PN		**P**	**19 38 17.3**	**-5.8**
THZ	**Tophouse**	**10.82**	**213**	P		**P**	**19 38 18.2**	**-4.9**
DSZ	**Denniston Nort**	**11.34**	**216**	*e*PN		**P**	**19 38 24.1**	**-6.0**
DSZ	**Denniston Nort**	**11.34**	**216**	*e*P		**P**	**19 38 25.2**	**-4.9**
LTZ	**Lake Taylor**	**11.91**	**212**	*e*PN		**P**	**19 38 31.9**	**-6.0**
LTZ	**Lake Taylor**	**11.91**	**212**	*e*P		**P**	**19 38 32.5**	**-5.4**
MQZ	**McQueen's Vall**	**12.51**	**208**	*e*PN		**P**	**19 38 39.3**	**-6.6**
MQZ	**McQueen's Vall**	**12.51**	**208**	*e*P		**P**	**19 38 39.9**	**-6.0**
WVZ	**Waitaha Valley**	**12.86**	**215**	*e*PN		**P**	**19 38 43.8**	**-6.7**
WVZ				SN		**S**	**19 41 05.8**	**-8.1**
WVZ	**Waitaha Valley**	**12.86**	**215**	*e*P		**P**	**19 38 43.8**	**-6.7**
WVZ				S		**S**	**19 41 05.8**	**-8.1**
RPZ	**Rata Peaks**	**13.20**	**212**	P		**P**	**19 38 49.3**	**-5.7**
	4.6nm,0.3s,baz=57,slow=2.2,SNR=24							
RPZ				S		**S**	**19 41 08.7**	**-13**
	5.2nm,0.3s,baz=80,slow=4.7,SNR=14							
RPZ	**Rata Peaks**	**13.20**	**212**	PN		**P**	**19 38 49.3**	**-5.7**
RPZ				SN		**S**	**19 41 08.4**	**-14**
RPZ	**Rata Peaks**	**13.20**	**212**	*e*P		**P**	**19 38 49.4**	**-5.6**
FOZ	**Fox Glacier**	**13.73**	**216**	*e*PN		**P**	**19 38 55.5**	**-6.5**
FOZ	**Fox Glacier**	**13.73**	**216**	*e*P		**P**	**19 38 56.4**	**-5.6**
LBZ	**Lake Benmore**	**14.11**	**213**	*e*PN		**P**	**19 39 00.6**	**-6.5**
LBZ	**Lake Benmore**	**14.11**	**213**	P		**P**	**19 39 00.6**	**-6.4**
ODZ	**Otahua Downs**	**14.43**	**210**	*e*PN		**P**	**19 39 04.9**	**-6.3**
ODZ	**Otahua Downs**	**14.43**	**210**	*e*P		**P**	**19 39 05.7**	**-5.5**
JCZ	**Jackson Bay**	**14.56**	**217**	*e*PN		**P**	**19 39 06.8**	**-6.1**
JCZ	**Jackson Bay**	**14.56**	**217**	*e*P		**P**	**19 39 07.7**	**-5.2**
DZM	**Mont Dzumac**	**16.68**	**307**	P		**P**	**19 39 46.7**	**+6.3**
	0.5nm,0.3s,baz=118,slow=15,SNR=17							
AFI	**Afiamalu**	**20.11**	**21**	P		**P**	**19 40 19.6**	**-1.9**
	14nm,0.4s,baz=212,slow=19,SNR=2.7							
AFI				S		**S**	**19 43 44.8**	**-16**
	8.7nm,0.5s,baz=108,slow=23,SNR=2.6							
AFI				LR		LR	19 46 27.2	
	comp=Z,515nm,19.1s,MS3.9,baz=241,slow=32							
AFI	**Afiamalu**	**20.11**	**21**	P		**P**	**19 40 18.2**	**-3.3**
HNR	**Honiara**	**30.28**	**316**	P		**P**	**19 41 58.0**	**-0.2**
	88nm,0.5s,mb5.8,baz=134,slow=5.3,SNR=11							
HNR	**Honiara**	**30.28**	**316**	*e*P		**P**	**19 41 57.5**	**-0.7**
HNR				pmax		pmax		
	comp=Z,90nm,0.8s,mb5.5							
HNR	**Honiara**	**30.28**	**316**	*e*P		**P**	**19 41 57.5**	**-0.6**
	comp=Z,90nm,0.8s,mb5.5							
STKA	**Stephens Creek**	**32.98**	**261**	*e*P		**P**	**19 42 24.5**	**+2.8**
	comp=Z,3.9nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**32.98**	**261**	P		**P**	**19 42 23.1**	**+1.4**
	comp=Z,3.1nm,0.5s,mb4.5,baz=109,slow=11,SNR=19							
STKA				PcP		PcP	19 45 03.2	-2.3
	comp=Z,2.6nm,0.6s,baz=90,slow=5.1,SNR=3.5							
STKA				LR		LR	19 54 51.6	
	comp=Z,760nm,18.9s,MS4.4,baz=33,slow=34							
CTA	**Charters Tower**	**33.29**	**284**	*e*P		**P**	**19 42 27.1**	**+2.6**
	comp=Z,34nm,0.6s,mb5.5							
CTA	**Charters Tower**	**33.29**	**284**	P		**P**	**19 42 27.1**	**+2.6**
	comp=Z,44nm,0.6s,mb5.6,baz=112,slow=10,SNR=111							
CTA	**Charters Tower**	**33.29**	**284**	*e*P		**P**	**19 42 27.1**	**+2.6**
CTA				pmax		pmax		
	comp=Z,34nm,0.6s							
CTAO	**Charters Tower**	**33.29**	**284**	*e*P		**P**	**19 42 25.8**	**+1.3**
CTAO				pmax		pmax		
	comp=Z,13nm,0.4s,mb5.2							
CTAO	**Charters Tower**	**33.29**	**284**	*e*P		**P**	**19 42 25.8**	**+1.3**
	comp=Z,13nm,0.4s,mb5.2							
PMG	**Port Moresby**	**38.85**	**299**	P		**P**	**19 43 12.8**	**+1.0**
	comp=Z,38nm,0.5s,mb5.3,baz=116,slow=5.0,SNR=26							
PMG	**Port Moresby**	**38.85**	**299**	⇓*i*P		**P**	**19 43 13.1**	**+1.4**
PMG	**Port Moresby**	**38.85**	**299**	*e*P		**P**	**19 43 13.3**	**+1.6**
	comp=Z,57nm,0.8s,mb5.3							
WB2	**Warramunga Arr**	**43.22**	**275**	*e*P		**P**	**19 43 47.5**	**-0.2**
WRAB	**Tennant Creek**	**43.23**	**276**	⇓*i*P		**P**	**19 43 48.2**	**+0.5**
WRA	**Warramunga Arr**	**43.23**	**275**	P		**P**	**19 43 48.3**	**+0.6**
	comp=Z,56nm,0.8s,mb5.4,baz=113,slow=8.1,SNR=295							
WRA				PcP		PcP	19 45 35.2	-2.2
	comp=Z,4.4nm,0.6s,baz=120,slow=3.0,SNR=4.8							
WRA				PKiKP			19 52 37.9	
	comp=Z,1.5nm,0.5s,baz=106,slow=0.2,SNR=34							
FORT	**Forrest**	**44.45**	**258**	⇓*i*P		**P**	**19 43 58.3**	**+0.8**
	comp=Z,74nm,0.8s,mb5.5							
VNDA	**Vanda**	**45.49**	**186**	*e*P		**P**	**19 44 05.7**	**+0.5**
	comp=Z,1.8nm,0.8s,mb4.0,baz=29,slow=5.7,SNR=8.8							
VNDA	**Vanda**	**45.49**	**186**	*e*P		**P**	**19 44 04.9**	**-0.3**
VNDA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
VNDA	**Vanda**	**45.49**	**186**	*e*P		**P**	**19 44 04.9**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.3							
FITZ	**Fitzroy Crossi**	**51.38**	**273**	⇑*i*P		**P**	**19 44 51.9**	**+0.3**
	comp=Z,30nm,0.9s,mb5.2							
CASY	**Casey**	**52.43**	**209**	*e*P		**P**	**19 44 58.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**52.58**	**251**	P		**P**	**19 44 58.4**	**-2.2**
	comp=Z,8.5nm,0.9s,mb4.7,baz=127,slow=7.2,SNR=5.9							
KLBR	**Kellerberrin**	**52.59**	**253**	*e*P		**P**	**19 44 59.4**	**-1.2**
	comp=Z,41nm,1.2s,mb5.2							
MUN	**Mundaring**	**53.71**	**252**	*e*P		**P**	**19 45 07.9**	**-0.9**
MBWA	**Marble Bar**	**54.97**	**266**	*e*P		**P**	**19 45 16.4**	**-1.9**
QSPA	**South Pole Qui**	**57.19**	**180**	*e*P		**P**	**19 45 35.2**	**+1.8**
MAW	**Mawson**	**69.59**	**201**	*e*P		**P**	**19 46 52.6**	**-2.5**
	comp=Z,5.2nm,0.3s,mb4.9							
MAW	**Mawson**	**69.59**	**201**	P		**P**	**19 46 53.0**	**-2.2**
	comp=Z,5.4nm,0.3s,mb4.9,baz=218,slow=12,SNR=43							
MAW	**Mawson**	**69.59**	**201**	*e*P		**P**	**19 46 52.6**	**-2.5**
MAW				pmax		pmax		
	comp=Z,5.0nm,0.3s							
KKM	**Kota Kinabalu**	**72.39**	**290**	*e*P		**P**	**19 47 11.8**	**-1.2**
SYO	**Syowa Base**	**74.43**	**194**	⇑PcP		**P**	**19 47 23.4**	**-0.4**
KSM	**Kuching**	**74.51**	**282**	*e*P		**P**	**19 47 24.0**	**-1.4**
SNAA	**Sanae**	**75.66**	**179**	P		**P**	**19 47 31.3**	**+0.4**
	comp=Z,4.1nm,0.5s,mb4.6,baz=206,slow=5.8,SNR=47							
SNAA	**Sanae**	**75.66**	**179**	*e*P		**P**	**19 47 30.5**	**-0.4**
SNAA				pmax		pmax		
	comp=Z,24nm,0.9s							
SNAA	**Sanae**	**75.66**	**179**	*e*P		**P**	**19 47 30.4**	**-0.4**
	comp=Z,24nm,0.9s,mb5.1							
MAIT	**Maitri**	**76.30**	**184**	⇑*i*P		**P**	**19 47 34.9**	**+0.5**
NVL	**N'lazarevskaya**	**76.30**	**184**	*e*P		**P**	**19 47 34.2**	**-0.3**
NVL				*e*PP		pP	19 47 43.2	+1.5
NVL				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
NVL				MLR		MLR		
	comp=Z,74nm,16.2s,MS4.1							
MJAR	**Matsushiro Arr**	**79.74**	**326**	P		**P**	**19 47 52.7**	**-1.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=156,slow=6.2,SNR=5.0							
PLCA	**Paso Flores**	**81.54**	**133**	P		**P**	**19 48 03.5**	**+0.1**
	comp=Z,2.9nm,1.0s,mb4.2,baz=206,slow=9.0,SNR=4.9							
ASAJ	**Asahikawa**	**84.21**	**333**	P		**P**	**19 48 17.9**	**+0.7**
	comp=Z,5.7nm,0.6s,mb4.9,baz=146,slow=16,SNR=6.8							
SSE	**Sheshan**	**85.00**	**312**	P		**P**	**19 48 21.8**	**+0.4**
SSE				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.5							
SSE				AMB		AMB		
	comp=Z,130nm,4.9s							
YSS	**Yuzh-Sakhalins**	**86.58**	**335**	*e*P		**P**	**19 48 29.3**	**+0.5**
YSS	**Yuzh-Sakhalins**	**86.58**	**335**	*e*P		**P**	**19 48 29.5**	**+0.8**
	comp=Z,1.1nm,0.4s,mb5.4							
PTRM	**Twissleman Ran**	**87.77**	**44**	*e*P		**P**	**19 48 35.2**	**+0.4**
CMB	**Columbia Colle**	**89.32**	**43**	*e*P		**P**	**19 48 42.0**	**-0.2**
CMB				pmax		pmax		
	comp=Z,12nm,0.9s,mb5.2							
CMB	**Columbia Colle**	**89.32**	**43**	*e*P		**P**	**19 48 42.0**	**-0.2**
	comp=Z,12nm,0.9s,mb5.2							
GLA	**Glamis**	**89.33**	**49**	*e*P		**P**	**19 48 42.7**	**+0.4**
WDC	**Whiskeytown Da**	**89.92**	**40**	*e*P		**P**	**19 48 44.8**	**-0.1**
WDC				pmax		pmax		
	comp=Z,13nm,1.3s,mb5.1							
WDC	**Whiskeytown Da**	**89.92**	**40**	*e*P		**P**	**19 48 44.8**	**-0.1**
	comp=Z,13nm,1.3s,mb5.1							
LDFC	**Landfair**	**90.47**	**48**	*e*P		**P**	**19 48 47.8**	**+0.1**
HABR	**Khabarovsk**	**90.75**	**332**	‖*e*P		**P**	**19 48 49.4**	**+0.8**
HABR				MLR		MLR		
	comp=Z,500nm,24.0s,MS4.9							
NVAR	**Mina Array Bea**	**90.78**	**43**	P		**P**	**19 48 49.2**	**+0.3**
	comp=Z,5.4nm,0.9s,mb4.9,baz=203,slow=6.9,SNR=31							
NVAR	**Mina Array Bea**	**90.78**	**43**	P		**P**	**19 48 49.2**	**+0.3**
MNV	**Mina**	**90.87**	**43**	*e*P		**P**	**19 48 49.0**	**-0.4**
MNV				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.9							
MNV	**Mina**	**90.87**	**43**	*e*P		**P**	**19 48 49.0**	**-0.4**
	comp=Z,7.2nm,1.1s,mb4.9

NAO01 ePKPab PKPab 19 55 46.7 -0.8
HFS Hagfors 151.48 346 PKPbc PKPdf 19 55 37.6 +1.8
comp=Z,14nm,0.4s,baz=135,slow=2.1,SNR=91
SIM Simferopol' 151.63 305 *i* PKIKP PKPdf 19 55 40.0 +3.4
AKASG Malin Array Be 152.60 319 PKP PKPdf 19 55 33.7 -4.1
comp=Z,1.4nm,0.6s,baz=49,slow=1.6,SNR=5.9
AKASG PKPbc PKPdf 19 55 40.8 +3.0
comp=Z,3.0nm,0.4s,baz=64,slow=2.1,SNR=32
AKASG Malin Array Be 152.60 319 PKP PKPdf 19 55 33.7 -4.1
AKASG PKPbc PKPdf 19 55 40.8 +3.0
BR131 Keskin Array S 152.78 294 ePKPbc PKPdf 19 55 41.9 +3.5
BRTR Keskin Array B 152.78 294 PKPbc PKPdf 19 55 41.2 +2.8
comp=Z,5.2nm,0.6s,baz=126,slow=3.2,SNR=26
LIC Lamto 152.89 167 ePKIKP PKPdf 19 55 36.5 -2.8
comp=Z,38nm,0.6s
DBIC Dimbokro 153.35 167 PKP PKPdf 19 55 36.9 -3.1
comp=Z,5.7nm,0.9s,baz=92,slow=3.4,SNR=9.3
DBIC Dimbokro 153.35 167 ePKIKP PKPdf 19 55 36.5 -3.5
ANTO Ankara 153.42 294 ePKIKP PKPdf 19 55 43.4 +4.1
SUW Suwalki 153.59 330 ePKP PKPdf 19 55 43.7 +4.7
EKA Eskdalemuir Ar 157.43 6 PKPab PKPab 19 56 11.8 -1.9
comp=Z,2.1nm,0.7s,baz=315,slow=2.9,SNR=7.7
KSP Ksiaz 158.78 332 ePKP PKPab 19 56 17.8 -1.8
CLL Collm 159.57 338 ePKP2 PKPab 19 56 21.0 -2.1
IDI Anoyia 159.91 283 PKPab PKPab 19 56 23.5 -1.6
comp=Z,11nm,0.8s,baz=284,slow=18,SNR=4.2
GERES GERESS Array B 161.38 332 PKP PKPdf 19 55 45.2 -3.5
comp=Z,0.8nm,0.8s,baz=117,slow=3.0,SNR=4.4
GERES PKPab PKPab 19 56 28.7 -2.3
comp=Z,0.9nm,0.7s,baz=63,slow=6.0,SNR=5.6
CDF Champ du Feu 163.78 344 ePKP2 PKPab 19 56 38.7 -2.7
comp=Z,4.8nm,0.8s
HAU Haudompre 164.36 346 ePKP2 PKPab 19 56 41.1 -2.9
HINF Hinteralfeld 164.43 345 ePKP2 PKPab 19 56 41.5 -2.8
comp=Z,4.9nm,0.6s
SGMF Saint Gilles 164.48 8 ePKP2 PKPab 19 56 40.5 -4.0
comp=Z,116nm,1.2s
DAVOX Davos 164.52 336 PKPab PKPab 19 56 43.6 -1.1
comp=Z,3.4nm,0.8s,baz=320,slow=9.6,SNR=3.3
SSF Saint Saulge 165.73 352 ePKP2 PKPab 19 56 47.2 -2.8
comp=Z,6.0nm,0.6s
SMF Signal de Mont 166.10 351 ePKP2 PKPab 19 56 48.5 -3.1
comp=Z,6.9nm,0.7s
MFF Saint Martin d 166.32 3 ePKP2 PKPab 19 56 49.0 -3.6
comp=Z,67nm,1.5s
LPL La Plagne 166.62 342 ePKP2 PKPab 19 56 51.8 -2.0
LPG La Plagne 166.63 342 ePKP2 PKPab 19 56 52.2 -1.7
comp=Z,11nm,0.8s
MBDF Montbardon 167.33 340 ePKP2 PKPab 19 56 55.1 -1.9
comp=Z,8.0nm,0.9s
ORIF Oris-en-Rattie 167.39 343 ePKP2 PKPab 19 56 54.7 -2.5
comp=Z,16nm,0.9s
RJF Les Rejaudoux 167.63 358 ePKP2 PKPab 19 56 54.7 -3.6
comp=Z,14nm,1.1s
ESDC Sonseca Array 172.25 28 PKPab PKPab 19 57 17.8 -1.1
comp=Z,2.2nm,0.7s,baz=321,slow=4.2,SNR=11
MDT Midelt 175.45 90 PKP PKPdf 19 55 56.7 -2.0
comp=Z,2.9nm,0.8s,baz=52,slow=1.4,SNR=9.1

NEIC ***16*** *20:00:56.7, 18.14N×102.84W, h6km, MD4.2(MEX), After MEX.*

MEX 16 20:01:00.5±1.1, 18.25N×103.08W, h16km±24km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COLM	**Colima**	**1.09**	**328**	*i* P	Pb	20 01 17.5	-3.0
COLM				*i* S	Sb	20 01 35.0	+0.7
ZIIG	**Zihuatanejo**	**1.67**	**112**	*e*P	Pn	20 01 26.5	-2.8
ZIIG				*e*S	Sn	20 01 44.4	-6.1
ZIIG	**Zihuatanejo**	**1.67**	**112**	*e*P	Pn	20 01 19.9	-9.4
ZIIG				*i* S	Sn	20 01 37.5	-13
SFJM	**Santa Fe**	**2.22**	**1**	*i* P	Pn	20 01 33.0	-4.3
SFJM				*i* S	Sn	20 02 00.0	-4.6
SFJM	**Santa Fe**	**2.22**	**1**	*i* P	Pn	20 01 32.5	-4.8
SFJM				*i* S	Sn	20 02 00.0	-4.6
MOIG	**Morelia**	**2.28**	**51**	*i* P	Pn	20 01 34.9	-3.2
MOIG				*i* S	Sn	20 02 01.8	-4.3
MOIG	**Morelia**	**2.28**	**51**	*i* P	Pn	20 01 30.2	-7.9
MOIG				*i* S	Sn	20 01 58.0	-8.1
MRX	**Morelia**	**2.30**	**51**	*e*P	Pn	20 01 40.0	+1.7
MRX				*i* S	Sn	20 02 10.0	+3.6
CAIG	**El Cayaco**	**2.94**	**114**	*e*P	Pn	20 01 44.0	-3.4
CAIG				*i* S	Sn	20 02 18.0	-4.6
CAIG	**El Cayaco**	**2.94**	**114**	*i* P	Pn	20 01 39.9	-7.5
CAIG				*i* S	Sn	20 02 12.6	-10
ACX	**Acapulco**	**3.32**	**114**	*e*P	Pn	20 01 49.0	-3.9
ACX				*i* S	Sn	20 02 26.0	-6.3
PLIG	**Platanillo**	**3.40**	**87**	*e*P	Pn	20 01 49.2	-4.6
PLIG				*i* S	Sn	20 02 30.8	-3.6
PPM	**Popocatepetl**	**4.30**	**78**	*e*P	Pn	20 02 05.0	-1.8
PPM				*i* S	Sn	20 02 53.4	-3.8

JMA 16 20:05:43.8±0.2, 38.18N×144.78E, h57km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.60**	**291**	P	P	20 06 24.6	+0.2
OFUJ				*e*S	S	20 06 55.3	+0.5
MIYJ	**Miyakonagasawa**	**2.70**	**302**	P	P	20 06 25.7	-0.1
MIYJ				S	S	20 06 57.2	-0.2
JIO	**Ouri**	**2.71**	**277**	P	P	20 06 26.2	+0.2
JIO				S	S	20 06 57.8	+0.1
JMK	**Ichinoseki**	**2.90**	**287**	P	P	20 06 28.8	+0.2
JMK				S	S	20 07 02.9	+0.5
JOT	**Ohata**	**4.30**	**319**	*e*S	S	20 07 35.0	-2.8
JCH	**Churui**	**4.56**	**347**	P	P	20 06 50.0	-2.0
JCH				*e*S	S	20 07 39.6	-4.7
JRY	**Ryogami san**	**5.17**	**247**	P	P	20 06 59.6	-0.9
JRY				S	S	20 07 56.0	-3.6
NEM2	**Nemuro 2**	**5.23**	**8**	P	P	20 06 56.7	-4.6
NEM2				*e*S	S	20 07 51.4	-10
JOD	**Odawara 2**	**5.42**	**239**	*e*S	S	20 08 01.6	-4.2
JTKR	**Abashiri--Toko**	**5.82**	**354**	P	P	20 07 06.9	-2.6
JTKR				*e*S	S	20 08 09.1	-6.7

ROM ***16*** *20:12:37.7±0.1, 42.74N×12.75E, h6km±1km, Md3.2/6, Ml3.4/24, Error ellipse: s-maj=1.2km s-min=0.8km az=67.0*
LDG ***16*** *20:12:38.4±0.1, 42.72N×12.86E, h10km, Ml3.4/7, Error ellipse: s-maj=4.3km s-min=2.9km az=66.0*
NEIC ***16*** *20:12:38.8±0.8, 42.66N×12.70E, h10km, ML3.4(LDG), Error ellipse: s-maj=11.7km s-min=7.8km az=181.0*
CSEM ***16*** *20:12:38.2±0.1, 42.73N×12.79E, h12km, ML3.9/23, Error ellipse: s-maj=1.3km s-min=0.8km az=76.0*
PRU ***16*** *20:12:40.1, 42.88N×12.74E*
ISC 16 20:12:38.3±0.2, 42.75N±0.01×12.70E±0.02, h6km, n90, σ1§23/137, 9C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.29**	**119**	Pg	**Pg**	**20 12 44.2**	**0.0**
LNSS				Sg	**Sg**	**20 12 48.4**	**+0.2**
MNS	**Montasola**	**0.36**	**182**	Pg	**Pg**	**20 12 46.1**	**+0.5**
MNS				Sg	**Sg**	**20 12 52.0**	**+1.5**
	1µm,0.3s						
MURB	**Monte Urbino**	**0.53**	**346**	Pg	**Pg**	**20 12 50.2**	**+1.3**
MURB				Sg	**Sg**	**20 12 59.2**	**+3.1**
SNTG	**Esanatoglia**	**0.54**	**19**	Pg	**Pg**	**20 12 49.0**	**-0.1**
SNTG				Sg	**Sg**	**20 12 59.1**	**+2.8**
CAMP	**Campotosto**	**0.57**	**112**	⇑*i*Pg	**Pg**	**20 12 48.7**	**-0.9**
CAMP				Sg	**Sg**	**20 12 57.2**	**0.0**
	4µm,1.0s						
FIAM	**Fiamignano**	**0.57**	**147**	Pg	**Pg**	**20 12 49.0**	**-0.7**
FIAM				Sg	**Sg**	**20 12 57.6**	**+0.2**
	2µm,0.6s						
SACS	**San Casciano d**	**0.59**	**280**	Pg	**Pg**	**20 12 50.9**	**+0.9**
SACS				Sg	**Sg**	**20 13 01.3**	**+3.4**
	3µm,1.2s						
AQU	**L'Aquila**	**0.65**	**127**	Pg	**Pg**	**20 12 50.3**	**-1.1**
AQU				Sg	**Sg**	**20 13 01.5**	**+1.4**
	3µm,0.9s						
AQU	**L'Aquila**	**0.65**	**127**	*e*Pg	**Pg**	**20 12 50.2**	**-1.2**
TERO	**Teramo**	**0.68**	**100**	Pg	**Pg**	**20 12 50.5**	**-1.4**
TERO				Sg	**Sg**	**20 13 01.9**	**+0.9**
MTCE	**Montecelio**	**0.72**	**177**	Pg	**Pg**	**20 12 52.3**	**-0.5**
MTCE				Sg	**Sg**	**20 13 03.4**	**+1.0**
	1µm,0.7s						
CING	**Cingoli**	**0.73**	**30**	Pg	**Pg**	**20 12 52.2**	**-0.6**
CING				Sg	**Sg**	**20 13 03.7**	**+1.1**
	2µm,0.6s						
ARV	**Arcevia**	**0.77**	**13**	Pg	**Pg**	**20 12 53.5**	**-0.2**
ARV				Sg	**Sg**	**20 13 05.1**	**+1.0**
ARVD	**Arcevia**	**0.77**	**13**	Pg	**Pg**	**20 12 53.5**	**-0.2**
ARVD				Sg	**Sg**	**20 13 05.4**	**+1.3**
	2µm,0.6s						
PIEI	**Pieia**	**0.80**	**352**	Pg	**Pg**	**20 12 54.3**	**+0.1**
PIEI				Sg	**Sg**	**20 13 07.9**	**+3.0**
	641nm,0.3s						
FAGN	**Fagnano**	**0.81**	**126**	Pg	**Pg**	**20 12 53.2**	**-1.4**
FAGN				Sg	**Sg**	**20 13 07.1**	**+1.7**
	3µm,0.5s						
CERT	**Cerreto**	**0.82**	**165**	Pg	**Pg**	**20 12 53.6**	**-1.2**
CERT				Sg	**Sg**	**20 13 07.1**	**+1.3**
	934nm,0.4s						
BADI	**Badiali**	**0.83**	**337**	Pg	**Pg**	**20 12 55.1**	**+0.2**
BADI				Sg	**Sg**	**20 13 09.7**	**+3.7**
	1µm,0.6s						
TOLF	**Tolfa**	**0.85**	**217**	Pg	**Pg**	**20 12 55.4**	**0.0**
TOLF				Sg	**Sg**	**20 13 09.0**	**+2.2**
	843nm,0.6s						
PTQR	**Pietraquaria**	**0.89**	**144**	Pg	**Pg**	**20 12 54.8**	**-1.3**
PTQR				Sg	**Sg**	**20 13 08.7**	**+0.7**
	154nm,0.3s						
VCEL	**Villa Celiera**	**0.92**	**112**	Pg	**Pg**	**20 12 55.4**	**-1.2**
VCEL				Sg	**Sg**	**20 13 09.7**	**+0.9**
	3µm,1.0s						
ROM9	**Roma**	**0.93**	**188**	Pg	**Pg**	**20 12 56.9**	**+0.1**
	1µm,1.0s						
FSSB	**Fossombrone**	**0.95**	**4**	Pg	**Pg**	**20 12 56.7**	**-0.5**
FSSB				Sg	**Sg**	**20 13 11.8**	**+1.9**
	370nm,0.5s						
RDP	**Rocca di Papa**	**0.99**	**179**	Pg	**Pg**	**20 12 57.9**	**-0.1**
	1µm,0.7s						
CRE	**Caprese Michel**	**1.03**	**328**	Pg	**Pg**	**20 12 59.3**	**+0.5**
CRE				Sg	**Sg**	**20 13 16.1**	**+3.5**
	313nm,0.4s						
AOI	**Ancona**	**1.04**	**39**	Pg	**Pg**	**20 12 58.2**	**-0.9**
AOI				Sg	**Sg**	**20 13 14.3**	**+1.3**
	901nm,0.4s						
GUAR	**Guarcino**	**1.06**	**154**	Pg	**Pg**	**20 12 58.7**	**-0.7**
GUAR				Sg	**Sg**	**20 13 14.9**	**+1.4**
	1µm,0.8s						
VVLD	**Villa Vallelon**	**1.11**	**142**	Pg	**Pg**	**20 13 00.3**	**-0.2**
VVLD				Sg	**Sg**	**20 13 17.4**	**+2.0**
	3µm,1.1s						
INTR	**Introdacqua**	**1.16**	**129**	Pg	**Pg**	**20 12 59.5**	**-1.9**
	1µm,0.7s						
RSM	**Repubblica di**	**1.20**	**351**	Pg	**Pg**	**20 13 02.6**	**+0.4**
	800nm,0.9s						
MAON	**Monte Argentar**	**1.20**	**255**	Pg	**Pg**	**20 13 01.1**	**-1.1**
MAON				Sg	**Sg**	**20 13 21.1**	**+2.9**
	658nm,1.3s						
PESA	**Pesaro**	**1.20**	**5**	Pg	**Pg**	**20 13 02.3**	**+0.1**
	1µm,0.6s						
GIUL	**Giuliano Di Ro**	**1.26**	**161**	Pg	**Pg**	**20 13 01.1**	**-2.3**
GIUL				Sg	**Sg**	**20 13 22.4**	**+2.2**
	422nm,0.9s						
CSNT	**Castellina Chi**	**1.26**	**306**	Pg	**Pg**	**20 13 02.9**	**-0.5**
	456nm,0.6s						
SFI	**Santa Sofia**	**1.31**	**332**	Pg	**Pg**	**20 13 03.7**	**-0.8**
SFI				Sg	**Sg**	**20 13 24.3**	**+2.3**
	809nm,1.0s						
GRFL	**Gerfalco**	**1.32**	**288**	Pg	**Pg**	**20 13 03.6**	**-1.1**
GRFL				Sg	**Sg**	**20 13 24.4**	**+2.0**
	61nm,0.6s						
VMG	**Vicchio**	**1.48**	**326**	Pg	**Pg**	**20 13 06.8**	**-1.0**
	2µm,0.8s						
SEI	**Scarperia**	**1.63**	**324**	Pg	**Pg**	**20 13 10.5**	**-0.4**
	571nm,0.6s						
RFI	**Roccamonfina**	**1.73**	**146**	Pg	**Pg**	**20 13 10.3**	**-2.6**
PII	**Pisa**	**1.86**	**302**	Pg	**Pg**	**20 13 13.5**	**-2.0**
	77nm,0.6s						
FG2	**Serracapriola**	**2.06**	**116**	Pg	**Pg**	**20 13 15.4**	**-4.0**
GSCL	**Gusciola**	**2.22**	**317**	Pg	**Pg**	**20 13 17.4**	**-5.2**
	111nm,0.8s						
RGNG	**Rignano Grg**	**2.40**	**116**	Pg	**Pg**	**20 13 19.6**	**-6.6**
PGF	**Pioggiola**	**2.73**	**267**	*e*Pn	**Pn**	**20 13 23.3**	**-0.1**
KNDS	**Knezji Dol**	**3.03**	**23**	*e*Pn	**Pn**	**20 13 27.7**	**0.0**
KNDS				*e*Sn	**Sn**	**20 14 04.9**	**+0.2**
BOJS	**Bojanci**	**3.31**	**33**	*i* Pn	**Pn**	**20 13 32.1**	**+0.4**
BOJS				*e*Sn	**Sn**	**20 14 12.6**	**+0.8**
VOY	**Vojsko**	**3.40**	**14**	*e*Pn	**Pn**	**20 13 32.8**	**0.0**
VOY				*e*		20 13 47.7	
VOY				*e*Sn	**Sn**	**20 14 11.4**	**-2.5**
VOY	**Vojsko**	**3.40**	**14**	*e*Pn	**Pn**	**20 13 32.8**	**0.0**
VOY				*e*Sn	**Sn**	**20 14 11.4**	**-2.5**
LJU	**Ljubljana**	**3.55**	**21**	*i* Pn	**Pn**	**20 13 35.8**	**+0.8**
LJU				*e*Sn	**Sn**	**20 14 17.1**	**-0.7**
LJU	**Ljubljana**	**3.55**	**21**	*i* Pn	**Pn**	**20 13 35.8**	**+0.8**
LJU				*e*Sn	**Sn**	**20 14 17.0**	**-0.8**
FVI	**Forni Avoltri**	**3.85**	**1**	Pg	**Pn**	**20 13 39.4**	**+0.1**
	17nm,0.3s						
APPI	**Appiano**	**3.88**	**345**	Pg	**Pn**	**20 13 40.1**	**+0.4**
	75nm,0.5s						
OBKA	**Obir**	**3.99**	**19**	⇓*i*Pn	**Pn**	**20 13 40.8**	**-0.4**
OBKA	**Obir**	**3.99**	**19**	⇑*i*Sn	**Sn**	**20 14 27.1**	**-1.8**
SBF	**Sospel**	**4.00**	**288**	*e*Pn	**Pn**	**20 13 39.2**	**-2.2**
SBF				*e*Sn	**Sn**	**20 14 25.4**	**-3.7**
	35nm,0.6s						
PERS	**Pernice**	**4.25**	**23**	*e*Pn	**Pn**	**20 13 45.7**	**+0.6**
PERS				*e*Sn	**Sn**	**20 14 34.9**	**-0.8**
KBA	**Koelnbreinsper**	**4.36**	**6**	⇓*i*Pn	**Pn**	**20 13 46.6**	**+0.1**
KBA	**Koelnbreinsper**	**4.36**	**6**	⇑*i*Sn	**Sn**	**20 14 36.3**	**-1.9**
FRF	**La Foret Royal**	**4.50**	**282**	*e*Pn	**Pn**	**20 13 47.7**	**-0.8**
LMR	**La Mourre**	**4.57**	**279**	*e*Pn	**Pn**	**20 13 47.6**	**-2.0**
WTTA	**Wattenberg**	**4.58**	**351**	⇑*i*Pn	**Pn**	**20 13 50.4**	**+0.7**
WTTA	**Wattenberg**	**4.58**	**351**	⇑*i*Sn	**Sn**	**20 14 43.3**	**-0.6**
WTTA	**Wattenberg**	**4.58**	**351**	Pn	**Pn**	**20 13 50.3**	**+0.6**
SQTA	**Sankt Quirin**	**4.60**	**347**	⇓*i*Pn	**Pn**	**20 13 51.2**	**+1.3**
SQTA	**Sankt Quirin**	**4.60**	**347**	⇓*i*Sn	**Sn**	**20 14 45.6**	**+1.3**
SQTA	**Sankt Quirin**	**4.60**	**347**	Pn	**Pn**	**20 13 51.2**	**+1.3**
SQTA				Sn	**Sn**	**20 14 45.6**	**+1.3**
WATA	**Walderalm**	**4.66**	**351**	⇓*i*Pn	**Pn**	**20 13 51.5**	**+0.7**
WATA	**Walderalm**	**4.66**	**351**	⇑*i*Sn	**Sn**	**20 14 47.2**	**+1.3**
WATA	**Walderalm**	**4.66**	**351**	Pn	**Pn**	**20 13 51.5**	**+0.7**
WATA				Sn	**Sn**	**20 14 47.2**	**+1.4**
MBDF	**Montbardon**	**4.73**	**297**	*e*Pn	**Pn**	**20 13 51.4**	**-0.4**
MBDF				*e*Sn	**Sn**	**20 14 41.8**	**-5.8**
	12nm,0.6s						
MOTA	**Moosalm**	**4.74**	**347**	⇑*i*Pn	**Pn**	**20 13 52.2**	**+0.4**
MOTA	**Moosalm**	**4.74**	**347**	⇓*i*Sn	**Sn**	**20 14 48.9**	**+1.1**
ARSA	**Arzberg**	**4.93**	**23**	⇓*i*Pn	**Pn**	**20 13 53.8**	**-0.8**
ARSA	**Arzberg**	**4.93**	**23**	⇓*i*Sn	**Sn**	**20 14 48.5**	**-4.3**
DAVA	**Damuels**	**4.96**	**337**	⇓*i*Pn	**Pn**	**20 13 56.3**	**+1.3**
LPG	**La Plagne**	**5.09**	**305**	*e*Pn	**Pn**	**20 13 56.6**	**-0.2**
LPG				*e*Sn	**Sn**	**20 14 50.7**	**-6.0**
	11nm,0.6s						
RHK1	**Bakonya**	**5.10**	**47**	*e*P	**Pn**	**20 13 55.7**	**-1.4**
RHK1				*e*S	**Sn**	**20 14 52.9**	**-4.2**
	0.8nm,0.9s						
LPL	**La Plagne**	**5.11**	**305**	*e*Pn	**Pn**	**20 13 57.1**	**0.0**
LPL				*e*Sn	**Sn**	**20 14 51.3**	**-5.9**
	6.5nm,0.4s						
MOA	**Molln**	**5.22**	**12**	⇑*i*Pn	**Pn**	**20 13 58.5**	**-0.3**
MOA	**Molln**	**5.22**	**12**	⇑*i*Sn	**Sn**	**20 14 59.0**	**-1.1**
SMRF	**Simiane la Rot**	**5.33**	**286**	*e*Pn	**Pn**	**20 13 57.7**	**-2.6**
ORIF	**Oris-en-Rattie**	**5.39**	**296**	*e*P	**Pn**	**20 14 02.5**	**+1.4**
CABF	**La Chapelle**	**6.09**	**312**	*e*Pn	**Pn**	**20 14 10.9**	**-0.1**
KHC	**Kasperske Hory**	**6.42**	**5**	*e*PN	**Pn**	**20 14 14.1**	**-1.5**
KHC				*ex*	x	20 14 23.9	
KHC				*e*SN	**Sn**	**20 15 23.7**	**-6.3**
HINF	**Hinteralfeld**	**6.53**	**323**	*e*Pn	**Pn**	**20 14 15.7**	**-1.5**
HINF				*e*Sn	**Sn**	**20 15 25.1**	**-7.8**
	11nm,0.4s						
CDF	**Champ du Feu**	**6.82**	**328**	*e*Pn	**Pn**	**20 14 18.6**	**-2.7**
CDF				*e*Sn	**Sn**	**20 15 31.7**	**-8.4**
	16nm,0.6s						
HAU	**Haudompre**	**6.90**	**322**	*e*Pn	**Pn**	**20 14 19.0**	**-3.4**
HAU				*e*Sn	**Sn**	**20 15 33.6**	**-8.5**
	22nm,0.6s						
PRU	**Pruhonice**	**7.36**	**9**	*e*SN	**Sn**	**20 15 46.5**	**-7.0**
NKC	**Novy Kostel**	**7.49**	**359**	*e*SN	**Sn**	**20 15 49.9**	**-7.0**
CLL	**Collm**	**8.57**	**1**	*e*SG	**Sg**	**20 17 30.0**	**+6.5**

IDC 16 20:17:43.5±1.9, 2.09N×126.17E, mb3.7/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=201.5km s-min=25.1km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.32**	**160**	P	P	20 22 52.7	-1.6
	1.2nm,0.6s,baz=340,slow=11,SNR=9.4						
STKA	**Stephens Creek**	**36.82**	**158**	P	P	20 24 54.2	-1.0
	2.1nm,0.8s,baz=333,slow=9.0,SNR=3.1						
MKAR	**Makanchi Array**	**58.58**	**326**	P	P	20 27 42.0	-2.5
	0.5nm,0.4s,baz=119,slow=7.3,SNR=9.8						

IDC ***16*** *20:24:47.7±4.0, 24.51S×178.39W, mb4.5/2, mb1 4.7/2, mb1mx4.0/11, mbtmp4.5/2, Error ellipse: s-maj=160.7km s-min=49.7km az=145.0*
NEIC ***16*** *20:25:27.2±1.3, 25.91S×178.59W, h350km, mb3.9/2, Error ellipse: s-maj=43.7km s-min=31.2km az=168.0*
ISC 16 20:25:25.6±5.0, 25.8S±1.0×178.6W±0.6, h350km, n9, σ1§47/6, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.23**	**251**	P	**P**	**20 31 48.8**	**-0.7**
	2.2nm,0.5s,mb3.7,baz=102,slow=11,SNR=13						
STKA	**Stephens Creek**	**35.23**	**251**	*e*P	**P**	**20 31 50.5**	**+1.0**
WB2	**Warramunga Arr**	**43.55**	**268**	*e*P	**P**	**20 32 57.6**	**-0.1**
WRA	**Warramunga Arr**	**43.56**	**268**	P	**P**	**20 32 56.3**	**-1.5**
	4.9nm,0.4s,mb4.0,baz=103,slow=7.7,SNR=118						
FITZ	**Fitzroy Crossi**	**51.96**	**267**	*e*P	**P**	**20 34 03.6**	**+1.6**
	5.0nm,0.5s,mb4.1						
SNAA	**Sanae**	**82.75**	**179**	P	**P**	**20 37 11.4**	**-0.1**
	0.9nm,0.6s,mb3.8						
NB2	**NORSAR Subarra1**	**44.14**	**352**	PKPabc	PKPdf	20 44 20.6	+1.4
	0.9nm,0.6s,baz=10,slow=3.5						
NOA	**NORSAR Array B**	**144.14**	**352**	PKP	PKPdf	20 44 20.6	+1.4
	2.0nm,0.8s,baz=12,slow=2.4,SNR=4.9						
AKASG	**Malin Array Be**	**147.24**	**327**	PKPbc	PKPdf	20 44 29.7	+4.9
	0.7nm,0.3s,baz=45,slow=3.9,SNR=6.3						

NEIC ***16*** *20:26:39.7, 40.90S×175.49E, h23km, ML4.0(WEL), After WEL.*

WEL 16 20:26:39.5±0.1, 40.90S×175.51E, h27km±1km, ML4.0/38, 17C-14D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRZ	**Mangatainoka R**	**0.24**	**13**	⇓P*	Pb	20 26 45.5	-0.3
MRZ				S*	Sb	20 26 50.0	-0.2
MRZ	**Mangatainoka R**	**0.24**	**13**	⇓P	Pb	20 26 45.5	-0.3
MRZ				S	Sb	20 26 50.0	-0.1
MTW	**Mount Morrison**	**0.27**	**181**	⇑P*	Pb	20 26 46.3	+0.1
MTW				S*	Sb	20 26 51.4	+0.7
MTW	**Mount Morrison**	**0.27**	**181**	⇑P	Pb	20 26 46.3	+0.1
CAW	**Cannon Point**	**0.40**	**237**	⇑P*	Pb	20 26 48.0	-0.1
CAW	**Cannon Point**	**0.40**	**237**	⇑P	Pb	20 26 48.0	-0.1
KIW	**Kapiti Island**	**0.46**	**274**	⇓P*	Pb	20 26 49.0	0.0
KIW	**Kapiti Island**	**0.46**	**274**	⇓P	Pb	20 26 49.0	-0.1
PAWZ	**Paruwai Farm**	**0.49**	**187**	⇑P*	Pb	20 26 49.9	+0.2
PAWZ				S*	Sb	20 26 57.5	+1.0
PAWZ	**Paruwai Farm**	**0.49**	**187**	⇑P	Pb	20 26 49.9	+0.3
PAWZ				S	Sb	20 26 57.5	+1.0
TRWZ	**Traveller**	**0.52**	**165**	⇓P*	Pb	20 26 50.2	+0.1
MSWZ	**Moikau Station**	**0.56**	**201**	⇓P*	Pb	20 26 50.7	+0.1
MSWZ	**Moikau Station**	**0.56**	**201**	⇓P	Pb	20 26 50.7	0.0
BFZ	**Birch Farm**	**0.60**	**69**	⇓P*	Pb	20 26 51.3	-0.1
BFZ	**Birch Farm**	**0.60**	**69**	⇑P	Pb	20 26 51.3	-0.1
WEL	**Wellington**	**0.68**	**235**	P*	Pb	20 26 52.6	-0.2
WEL	**Wellington**	**0.68**	**235**	P	Pb	20 26 52.6	-0.2
MRW	**Makara Radio**	**0.70**	**241**	⇑P*	Pb	20 26 52.8	-0.2
MRW	**Makara Radio**	**0.70**	**241**	⇑P	Pb	20 26 52.8	-0.2
BHW	**Baring Head**	**0.70**	**223**	P*	Pb	20 26 52.9	-0.2
BHW	**Baring Head**	**0.70**	**223**	P	Pb	20 26 52.9	-0.2
SNZO	**South Karori**	**0.74**	**235**	⇑P*	Pb	20 26 53.4	-0.2
SNZO	**South Karori**	**0.74**	**235**	⇑P	Pb	20 26 53.4	-0.3
TSZ	**Takapari Road**	**0.90**	**23**	⇑P*	Pb	20 26 56.0	-0.5
TSZ	**Takapari Road**	**0.90**	**23**	⇑P	Pb	20 26 56.0	-0.4
TCW	**Tory Channel**	**0.99**	**251**	⇓P*	Pb	20 26 57.1	-0.8
TCW	**Tory Channel**	**0.99**	**251**	⇓P	Pn	20 26 57.1	-0.6
WAZ	**Wanganui**	**1.21**	**340**	PN	Pn	20 27 01.7	+0.8
WAZ	**Wanganui**	**1.21**	**340**	P	Pn	20 27 01.7	+0.8
DUWZ	**D'Urville Isla**	**1.21**	**274**	⇑P*	Pb	20 27 00.6	-1.0
CMWZ	**Cape Campbell**	**1.30**	**228**	P*	Pb	20 27 01.4	-1.7
TUWZ

GUN				eSn	S	20 35 52.3	-2.2	
PKI	**Pulchoki**	**10.52**	**311**	ePn	P	**20 34 01.4**	**+1.1**	
PKI				eSn	S	20 35 55.1	-2.1	
	107nm,0.9s							
PKI	**Pulchoki**	**10.52**	**311**	ePn	P	**20 34 01.4**	**+1.1**	
	54nm,0.9s							
PKI				eSn	S	20 35 55.1	-2.1	
KKN	**Kakani**	**10.74**	**311**	ePn	P	**20 34 04.6**	**+1.3**	
KKN				eSn	S	20 36 00.4	-2.1	
	15nm,0.2s							
KKN	**Kakani**	**10.74**	**311**	ePn	P	**20 34 04.6**	**+1.3**	
	7.3nm,0.2s							
KKN				eSn	S	20 36 00.4	-2.1	
DMN	**Daman**	**10.75**	**310**	ePn	P	**20 34 04.6**	**+1.1**	
DMN				eSn	S	20 36 00.9	-2.0	
	83nm,0.7s							
DMN	**Daman**	**10.75**	**310**	ePn	P	**20 34 04.6**	**+1.1**	
	41nm,0.7s							
DMN				eSn	S	20 36 00.9	-2.0	
GKN	**Gorkha**	**11.32**	**310**	ePn	P	**20 34 12.0**	**+0.9**	
GKN				eSn	S	20 36 13.2	-3.4	
	61nm,0.4s							
GKN	**Gorkha**	**11.32**	**310**	ePn	P	**20 34 12.0**	**+0.9**	
	30nm,0.4s							
GKN				eSn	S	20 36 13.2	-3.4	
KOLN	**Koldanda**	**11.95**	**307**	ePn	P	**20 34 20.4**	**+0.9**	
KOLN				eSn	S	20 36 28.1	-3.5	
	52nm,0.5s							
KOLN	**Koldanda**	**11.95**	**307**	ePn	P	**20 34 20.4**	**+0.9**	
	26nm,0.5s							
KOLN				eSn	S	20 36 28.1	-3.5	
HYB	**Hyderabad**	**15.35**	**260**	*i* P	S	**20 35 08.0**	**+4.0**	
HYB				eS	S	**20 37 53.0**	**+0.9**	
ENH	**Enshi**	**16.49**	**53**	eP	P	**20 35 17.2**	**-1.0**	
	5.1nm,0.6s							
MKAR	**Makanchi Array**	**27.62**	**342**	P	P	**20 37 13.8**	**+1.1**	
	1.5nm,0.6s,mb3.7,baz=156,slow=8.5,SNR=31							
MKAR				ScP		20 44 01.6		
	0.7nm,0.8s,baz=153,slow=2.7,SNR=4.4							
MKAR	**Makanchi Array**	**27.62**	**342**	P	P	**20 37 13.8**	**+1.1**	
MKAR				ScP		20 44 01.6		
SONM	**Songino Array**	**28.55**	**17**	P	P	**20 37 21.2**	**+0.1**	
	0.1nm,0.4s,mb2.8,baz=205,slow=8.7,SNR=3.4							
SONM				ScP		20 44 03.7		
	0.2nm,0.6s,baz=194,slow=3.0,SNR=3.8							
ZAL	**Zalesovo**	**33.76**	**350**	P	P	**20 38 08.3**	**+1.6**	
	1.3nm,0.6s,mb4.0,baz=322,slow=6.0,SNR=8.7							
ZAL	**Zalesovo**	**33.76**	**350**	P	P	**20 38 08.3**	**+1.5**	
BVAR	**Borovoye Array**	**36.97**	**336**	ScP		20 44 34.6		
	0.4nm,0.6s,baz=176,slow=4.1,SNR=4.7							
CHKZ	**Chkalovo**	**37.40**	**337**	eP	P	**20 38 38.5**	**+0.9**	
	1.3nm,0.4s,mb4.2							
ZRNK	**Zerenda**	**37.46**	**335**	eP	P	**20 38 38.8**	**+0.7**	
	1.1nm,0.5s,mb4.0							
AKTK	**Aktyubinsk**	**41.02**	**325**	P	P	**20 39 09.4**	**+1.8**	
AKTO	**Aktyubinsk**	**41.02**	**325**	P	P	**20 39 09.4**	**+1.8**	
	2.0nm,0.6s,mb4.1,baz=120,slow=8.5,SNR=11							
WRA	**Warramunga Arr**	**56.38**	**133**	P	P	**20 41 04.4**	**-2.2**	
	0.8nm,0.4s,mb4.2,baz=319,slow=7.5,SNR=8.9							
AKASG	**Malin Array Be**	**58.41**	**317**	P	P	**20 41 19.3**	**-1.1**	
	0.9nm,0.5s,mb4.1,baz=82,slow=6.4,SNR=6.5							
AKASG	**Malin Array Be**	**58.41**	**317**	P	P	**20 41 19.3**	**-1.1**	
KMBO	**Kilima Mbogo**	**59.97**	**256**	P	P	**20 41 31.6**	**-0.1**	
	0.3nm,0.3s,mb3.8,baz=45,slow=4.7,SNR=3.8							
FINES	**FINESS Array B**	**61.48**	**329**	P	P	**20 41 40.7**	**-0.5**	
	2.7nm,0.9s,mb4.3,baz=90,slow=11,SNR=3.4							
FINES	**FINESS Array B**	**61.48**	**329**	P	P	**20 41 40.7**	**-0.5**	
ARCES	**ARCESS Array B**	**63.20**	**338**	P	P	**20 41 52.1**	**-0.6**	
	3.7nm,0.9s,mb4.3,baz=108,slow=7.7,SNR=5.0							
GERES	**GERESS Array B**	**68.49**	**316**	P	P	**20 42 27.5**	**+0.9**	
	1.2nm,0.6s,mb3.9,baz=76,slow=5.5,SNR=8.2							
NB2	**NORSAR Subarra**	**68.63**	**329**	P	P	**20 42 26.6**	**-0.6**	
	0.8nm,0.6s,mb3.7,baz=84,slow=6.2							
NB2	**NORSAR Subarra**	**68.63**	**329**	P	P	**20 42 26.6**	**-0.6**	
	0.8nm,0.6s,mb3.7							
NOA	**NORSAR Array B**	**68.63**	**329**	P	P	**20 42 26.6**	**-0.6**	
	1.1nm,0.6s,mb3.9,baz=85,slow=6.5,SNR=3.9							
STKA	**Stephens Creek**	**69.29**	**138**	P	P	**20 42 29.6**	**-2.2**	
	2.1nm,0.7s,mb4.1,baz=300,slow=8.1,SNR=3.7							
ILAR	**Eielson Array**	**82.64**	**22**	P	P	**20 43 45.2**	**-1.3**	
	0.7nm,0.6s,mb3.6,baz=290,slow=5.3,SNR=11							

IDC ***16*** *22:00:48.9±1.2,9.26N×125.55E,mb3.8/5,mb1 4.0/5, mb1mx3.7/18,mbtmp3.8/5,Error ellipse: s-maj=88.4km s-min=26.5km az=65.0*

NEIC ***16*** *22:00:54.3±0.8,9.18N×125.40E,h35km,mb4.2/1,Error ellipse: s-maj=62.2km s-min=19.1km az=65.0*

MAN ***16*** *22:00:55.3,9.30N×125.37E,h12km,mb4.7,ML3.6,MS3.6*

ISC 16 22:00:54.7±1.0,9.22N±0.06×125.50E±0.07,h56km±7km, n12,σ0§82/17,mb3.9/6,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.56**	**359**	*e*P	**P**	**22 01 05.8**	**-1.3**
SCPH				eS	**S**	**22 01 15.8**	**-0.4**
CGP	**Cagayan de Oro**	**1.10**	**226**	⇑*i* P	**P**	**22 01 29.4**	**+0.9**
TBP	**Tagbilaran**	**1.68**	**286**	*e*P	**P**	**22 01 22.7**	**+0.4**
TBP				eS	**S**	**22 01 43.4**	**+0.7**
LLP	**Lapu-Lapu**	**1.86**	**306**	⇓*e*P	**P**	**22 01 24.8**	**0.0**
LLP				eS	**S**	**22 01 45.9**	**-1.3**
PLP	**Palo**	**2.00**	**345**	*e*P	**P**	**22 01 28.0**	**+1.2**
PLP				eS	**S**	**22 01 51.6**	**+1.0**
DCPH	**Dipolog City**	**2.21**	**254**	⇑eP	**P**	**22 01 30.2**	**+0.4**
DCPH				eS	**S**	**22 01 55.0**	**-0.8**
WRA	**Warramunga Arr**	**30.25**	**163**	P	**P**	**22 07 02.2**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=344,slow=9.4,SNR=3.4						
MKAR	**Makanchi Array**	**52.41**	**324**	P	**P**	**22 10 03.8**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=127,slow=7.9,SNR=21						
BVAR	**Borovoye Array**	**62.10**	**326**	P	**P**	**22 11 11.4**	**-0.6**
	0.7nm,0.7s,mb3.9,baz=112,slow=7.8,SNR=4.7						
ZRNK	**Zerenda**	**62.84**	**325**	*e*P	**P**	**22 11 16.4**	**-0.6**
	1.2nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**86.45**	**332**	P	**P**	**22 13 31.7**	**-0.5**
	3.1nm,1.0s,mb4.5,baz=72,slow=4.4,SNR=7.2						
YKA	**Yellowknife Ar**	**95.02**	**24**	P	**P**	**22 14 13.8**	**+1.5**
	0.3nm,0.8s,mb3.8,baz=294,slow=4.1,SNR=3.8						

NIED ***16*** *22:33:00,25.10N×123.60E,h5km,Mw4.2 Best double couple: M0 2.63×10^15 NP1:φs 73°,δ 67°,λ -93°. NP2:φs 260°, δ 23°,λ -84°.*

JMA ***16*** *22:33:27.3±0.3,25.13N×123.58E,h17km±4km,M4.3*

NEIC ***16*** *22:33:31.9±1.0,25.09N×123.65E,h47km±11km,mb4.4/4, Error ellipse: s-maj=15.6km s-min=10.3km az=165.0*

BJI ***16*** *22:33:32.6,25.04N×123.73E,h65km,mB4.5,mb4.1, ML4.2,Ms4.1,Msz3.8*

IDC ***16*** *22:33:34.4±4.7,25.26N×123.83E,h71km±47km,mb3.4/6, mb1 3.6/7,mb1mx3.4/21,mbtmp3.8/7,ML2.8/1,MS3.6/5, Ms1 3.6/5,ms1mx3.1/20,Error ellipse: s-maj=43.4km s-min=22.1km az=57.0*

ISC 16 22:33:27.9±0.4,25.11N±0.03×123.58E±0.03,h17km,n35, σ1§13/39,mb3.9/10,MS3.6/4,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.79**	**170**	P	**Pb**	**22 33 42.1**	**-0.6**
IRIF				eS	**Sb**	**22 33 53.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.83**	**219**	P	**Pb**	**22 33 43.0**	**-0.4**
YOJ				S	**Sb**	**22 33 54.0**	**-0.1**
JIJ	**Ishigaki jima**	**0.91**	**145**	P	**Pb**	**22 33 43.8**	**-0.9**
JIJ				S	**Sb**	**22 33 55.9**	**-0.4**
JKRS	**Kuro-shima**	**0.96**	**156**	P	**Pb**	**22 33 45.0**	**-0.6**
JKRS				eS	**Sb**	**22 33 58.1**	**+0.3**
HATJ	**Hateruma jima**	**1.07**	**169**	P	**Pb**	**22 33 47.0**	**-0.5**
HATJ				S	**Sb**	**22 34 01.7**	**+0.6**
JTJ	**Tarama**	**1.12**	**114**	P	**Pb**	**22 33 48.4**	**0.0**
JTJ				S	**Sb**	**22 34 03.4**	**+0.8**
JMJ	**Miyako jima 2**	**1.58**	**100**	P	**Pn**	**22 33 55.6**	**+0.1**
JMJ				eS	**Sn**	**22 34 15.4**	**-0.3**
JOGS	**Gusukube**	**1.70**	**102**	P	**Pn**	**22 33 57.3**	**+0.2**
TATO	**Taipei**	**1.90**	**266**	ePn	**Pn**	**22 34 02.9**	**+2.9**
NACB	**Ninganchiao**	**2.03**	**243**	ePn	**Pn**	**22 34 03.6**	**+1.7**
YHNB	**Yeheng**	**2.05**	**258**	ePn	**Pn**	**22 34 05.0**	**+2.9**
JKE	**Kume jima 2**	**3.14**	**67**	P	**Pn**	**22 34 19.5**	**+1.9**
JAGN	**Aguni-jima**	**3.61**	**65**	P	**Pn**	**22 34 25.0**	**+0.6**
JJT2	**Tamagusuku 2**	**3.90**	**74**	P	**Pn**	**22 34 28.4**	**-0.1**
JIH	**Iheya**	**4.39**	**63**	P	**Pn**	**22 34 36.5**	**+1.1**
JOW	**Kunigami**	**4.56**	**67**	P	**Pn**	**22 34 37.5**	**-0.3**
	1.2nm,0.3s,baz=252,slow=16,SNR=3.8						
MJAR	**Matsushiro Arr**	**16.94**	**44**	LR	LR	22 44 00.6	
	comp=Z,113nm,19.8s,baz=235,slow=38						
HHC	**Hu-ho-hao-te**	**18.62**	**330**	*e*P	**P**	**22 37 51.1**	**+4.5**
HHC				AP		22 38 01.4	
HHC				XP		22 38 06.1	
HHC				PP	PP	22 38 07.6	+5.1
HHC				AMB	AMB		
	comp=Z,130nm,4.6s						
HHC				LR	LR		
	comp=N,200nm,13.4s						
HHC				LR	LR		
	comp=E,210nm,10.7s						
HHC				LR	LR		
	comp=Z,220nm,9.8s						
CN2	**Changchun**	**18.71**	**4**	*e*P	**P**	**22 37 47.9**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CN2				LR	LR		
	comp=N,430nm,13.0s						
CN2				LR	LR		
	comp=E,210nm,13.0s						
CN2				LR	LR		
	comp=Z,450nm,12.0s						
LZH	**Lanzhou**	**20.16**	**307**	*e*P	**P**	**22 38 07.0**	**+2.7**
LZH				AMB	AMB		
	comp=Z,20nm,1.4s						
HIA	**Hailar**	**24.30**	**354**	P	**P**	**22 38 46.3**	**+0.9**
	comp=Z,3.9nm,0.3s,mb4.3						
ASAJ	**Asahikawa**	**24.48**	**35**	LR	LR	22 47 57.7	
	comp=Z,64nm,18.7s,MS3.1,baz=198,slow=36						
GTA	**Gaotai**	**24.54**	**311**	P	**P**	**22 38 48.1**	**+0.3**
ULN	**Ulaanbaatar**	**26.20**	**334**	*e*P	**P**	**22 39 04.1**	**+0.7**
	comp=Z,3.7nm,1.1s,mb3.8						
SONM	**Songino Array**	**26.44**	**333**	P	**P**	**22 39 03.6**	**-1.9**
	comp=Z,1.3nm,1.1s,mb3.4,baz=134,slow=7.2,SNR=5.2						
SONM				LR	LR	22 50 25.3	
	comp=Z,143nm,18.9s,MS3.5,baz=305,slow=38						
MKAR	**Makanchi Array**	**39.22**	**314**	P	**P**	**22 40 56.3**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.0,baz=104,slow=9.6,SNR=21						
ZAL	**Zalesovo**	**40.69**	**325**	P	**P**	**22 41 08.8**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=349,slow=13,SNR=4.1						
ZAL				LR	LR	22 59 53.7	
	comp=Z,96nm,19.5s,MS3.7,baz=180,slow=39						
ZAL	**Zalesovo**	**40.69**	**325**	P	**P**	**22 41 08.8**	**-0.2**
ZAL				LR	LR	22 59 53.7	
WRA	**Warramunga Arr**	**45.99**	**166**	P	**P**	**22 41 51.2**	**-1.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=350,slow=8.2,SNR=5.8						
BVAR	**Borovoye Array**	**48.36**	**320**	P	**P**	**22 42 08.5**	**-1.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=117,slow=9.9,SNR=5.6						
CHKZ	**Chkalovo**	**48.39**	**321**	*e*P	**P**	**22 42 08.8**	**-1.8**
	comp=Z,3.4nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**49.16**	**319**	*e*P	**P**	**22 42 15.0**	**-1.6**
	comp=Z,4.0nm,0.9s,mb4.5						
FINES	**FINESS Array B**	**71.74**	**330**	LR	LR	23 18 47.5	
	comp=Z,59nm,18.5s,MS3.9,baz=118,slow=38						
YKA	**Yellowknife Ar**	**81.26**	**24**	P	**P**	**22 45 41.4**	**-2.6**
	comp=Z,0.5nm,0.9s,mb3.4,baz=317,slow=5.6,SNR=5.7						
YKA	**Yellowknife Ar**	**81.26**	**24**	P	**P**	**22 45 41.4**	**-2.6**

ATH ***16*** *22:40:06.7,35.74N×21.87E,h36km±4km,MD3.7/6,ML3.9*

NEIC ***16*** *22:40:06.7,35.74N×21.87E,h36km,MD3.7(ATH),After ATH.*

CSEM ***16*** *22:40:07.2±0.1,35.71N×21.90E,h60km,ML3.9,Error ellipse: s-maj=4.8km s-min=2.1km az=80.0*

HLW ***16*** *22:40:08.0,35.72N×21.78E,h33km,Mb3.6*

ISC 16 22:40:06.5±0.9,35.63N±0.04×21.8E±0.1,h36km,n14, σ0§68/18,3C-1D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**1.20**	**57**	*e*PN	**P**	**22 40 27.3**	**+0.3**
VLI	**Veliai**	**1.42**	**40**	*e*PN	**P**	**22 40 30.2**	**-0.1**
VLI				*e*SN	**S**	**22 40 47.4**	**-0.7**
ITM	**Ithomi**	**1.55**	**4**	*e*PB	**P**	**22 40 31.9**	**-0.2**
ITM				eSN	**S**	**22 40 51.3**	**+0.2**
VAM	**Vamos**	**1.98**	**96**	*e*PN	**P**	**22 40 39.3**	**+1.1**
RLS	**Riolos of Patr**	**2.43**	**354**	*e*PN	**P**	**22 40 45.5**	**+0.8**
VLS	**Valsamata**	**2.71**	**340**	*e*PN	**P**	**22 40 48.6**	**-0.2**
ATH	**Athens Observa**	**2.80**	**33**	*e*PN	**P**	**22 40 50.0**	**0.0**
NPS	**Neapolis**	**3.14**	**96**	*e*PN	**P**	**22 40 55.2**	**+0.4**
LKR	**Lokris**	**3.16**	**17**	*e*PN	**P**	**22 40 54.5**	**-0.6**
HMAT	**Matruh**	**6.34**	**140**	⇑eP	**P**	**22 41 40.5**	**+0.6**
SWA2		**7.08**	**153**	⇑⇓eP	**P**	**22 41 50.9**	**+0.5**
SWA2				S	**S**	**22 43 06.4**	**-4.2**
SWA1		**7.16**	**151**	⇓eP	**P**	**22 41 52.0**	**+0.5**
SWA1				S	**S**	**22 43 08.0**	**-4.6**
AWBH		**9.46**	**138**	⇑eP	**P**	**22 42 22.5**	**-1.0**
HFRF	**Wahat Farafira**	**10.12**	**145**	P	**P**	**22 42 31.2**	**-1.4**

TRN ***16*** *22:40:37.2,10.19N×62.24W,MD3.2*

NEIC ***16*** *22:40:37.2,10.19N×62.24W,h5km,MD3.2(TRN),After TRN.*

FUNV ***16*** *22:40:39.6,10.30N×61.90W,h15km,MW2.4*

ISC 16 22:40:40.0±0.9,10.21N±0.04×62.13W±0.03,h10km±7km, n15,σ1§08/25,1C-1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.45**	**348**	⇓*i*P	**Pg**	**22 40 48.9**	**-0.1**
GUIV				eS	**Sg**	**22 40 54.9**	**-0.2**
TPP	**Pointe-a-Pierr**	**0.67**	**81**	*e*P	**Pg**	**22 40 52.4**	**-1.1**
TPP				eS	**Sg**	**22 41 04.2**	**+1.6**
GUNV	**Guanoco**	**0.80**	**267**	*e*P	**Pb**	**22 40 58.0**	**+2.5**
GUNV				eS	**Sb**	**22 41 12.7**	**+6.5**
TRN	**Trinidad (W)**	**0.84**	**58**	⇑*e*P	**Pb**	**22 40 54.4**	**-1.7**
TRN				eS	**Sb**	**22 41 06.8**	**-0.4**
TRN				eS	**Sb**	**22 41 08.6**	**+1.4**
TBH	**Brigand Hill**	**1.08**	**75**	*e*P	**Pb**	**22 41 00.7**	**+0.5**
TBH				eS	**Sb**	**22 41 21.0**	**+6.8**
CRUV	**Carupano**	**1.19**	**293**	*e*P	**Pb**	**22 41 02.7**	**+0.6**
ITEV	**Isla Los Testi**	**1.51**	**319**	*e*P	**Pn**	**22 41 06.3**	**-0.9**
ITEV				eS	**Sb**	**22 41 27.3**	**+0.7**
TPR	**Prospect**	**1.65**	**54**	*e*P	**Pn**	**22 41 08.9**	**-0.3**
BOT	**Bacolet**	**1.68**	**55**	*e*P	**Pn**	**22 41 09.7**	**0.0**
ORIV	**Oritupano**	**1.70**	**228**	*e*P	**Pn**	**22 41 11.7**	**+1.9**
GRW	**Mount Saint Ca**	**1.99**	**13**	*e*P	**Pn**	**22 41 13.4**	**-0.7**
GRW				eS	**Sn**	**22 41 39.8**	**+0.4**
GURV	**El Guri**	**2.61**	**201**	eS	**Sn**	**22 41 55.0**	**0.0**
CUPV	**Cœpira**	**3.61**	**268**	*e*P	**Pn**	**22 41 37.5**	**+0.4**
CAOV	**Caicara del Or**	**5.04**	**236**	*e*P	**Pn**	**22 41 56.4**	**-1.1**
CAOV				eS	**Sn**	**22 42 52.8**	**-3.6**
BAUV	**El Baul**	**5.97**	**258**	*e*P	**Pn**	**22 42 08.9**	**-1.6**
BAUV				eS	**Sn**	**22 43 15.0**	**-4.7**

NNC ***16*** *22:42:24.5±0.8,41.69N×77.33E,mb4.0,mpv3.6,Error ellipse: s-maj=5.5km s-min=4.1km az=177.0*

KNET ***16*** *22:42:25.5,41.69N×77.12E,h8km,ml3.0*

ISC 16 22:42:23.8±1.5,41.63N±0.09×77.43E±0.09,h8km,n13, σ1§36/17,11C-10D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.08**	**305**	⇓P	**Pb**	**22 42 41.8**	**-2.5**
	55nm,0.1s						
ULHL				⇑S	**Sb**	**22 42 55.7**	**-2.7**
	152nm,0.2s						
KNDC	**Almaty**	**1.62**	**348**	⇓P	**Pn**	**22 42 53.1**	**+0.2**
KNDC				⇑S	**Sb**	**22 43 14.3**	**+0.2**
KZA	**Kyzart**	**1.69**	**286**	⇓P	**Pn**	**22 42 52.7**	**-1.2**
	46nm,0.2s,SNR=94						
KZA				⇑S	**Sn**	**22 43 14.4**	**-1.5**
	87nm,0.2s						
TKM2	**Tokmak 2**	**1.87**	**314**	⇓P	**Pn**	**22 42 56.5**	**0.0**
	93nm,0.3s,SNR=21						
TKM2				⇑S	**Sn**	**22 43 21.0**	**+0.4**
	175nm,0.2s						
TKM2	**Tokmak 2**	**1.87**	**314**	⇓P	**Pn**	**22 42 56.5**	**-0.1**
	65nm,0.2s						
TKM2				⇑S	**Sn**	**22 43 20.9**	**+0.3**
	163nm,0.1s						
KBK	**Karagaybulak**	**2.11**	**300**	⇑P	**Pn**	**22 43 00.8**	**+0.9**
	20nm,0.1s,SNR=36						
UCH	**Uchtor**	**2.26**	**286**	⇓P	**Pn**	**22 43 02.8**	**+0.8**
	8.6nm,0.2s,SNR=21						
UCH				⇓S	**Sn**	**22 43 32.3**	**+1.9**
	59nm,0.3s						
CHMS	**Chumysh**	**2.41**	**305**	⇑P	**Pn**	**22 43 05.6**	**+1.4**
	34nm,0.3s,SNR=34						
CHMS				⇓S	**Sn**	**22 43 36.5**	**+2.2**
	76nm,0.3s						
KK31	**Karatay Array**	**5.33**	**288**	⇑Pg	**Pg**	**22 44 00.0**	**-10**
	3.9nm,0.7s,baz=100,slow=16,SNR=29						
KK31				⇓Lg		22 45 10.7	
	5.4nm,0.4s,baz=109,slow=28						
MK31	**Makanchi Array**	**6.23**	**32**	⇑Pn	**Pn**	**22 43 57.7**	**-0.6**
	0.9nm,0.5s,baz=216,slow=12,SNR=12						
MK31				Lg		22 45 42.1	
	3.4nm,0.6s,baz=214,slow=23,SNR=5.2						
KURK	**Kurchatov**	**9.12**	**5**	⇓Lg		22 47 12.7	
	9.0nm,1.3s						
BVA0	**Borovoye Array**	**12.35**	**340**	⇑Lg		22 48 54.4	
	1.5nm,0.8s						
ZRNK	**Zerenda**	**12.67**	**336**	⇑Lg		22 49 05.0	
	6.5nm,1.2s						

ISC 16 23:06:07.4±1.7,37.83N±0.04×43.9E±0.2,h10km,n6, σ0§99/10,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HKR	**Hakkari**	**0.28**	**204**	*i* PG	**Pg**	**23 06 13.3**	**+0.1**
HKR				*i* SG	**Sg**	**23 06 18.1**	**+1.0**
HAKT	**HAKKARI**	**0.30**	**207**	*i* P	**Pg**	**23 06 12.6**	**-1.2**
HAKT				*i* S	**Sg**	**23 06 17.1**	**-1.0**
TVAN	**Van**	**0.79**	**332**	*i* P	**Pb**	**23 06 23.4**	**+0.6**
TVAN				*i* S	**Sb**	**23 06 33.1**	**-0.3**
VANB	**Van**	**0.86**	**333**	PG	**Pg**	**23 06 23.5**	**-1.1**
BTMT	**Batman**	**1.93**	**282**	PN	**Pn**	**23 06 41.6**	**+0.9**
BEST	**Besiri**	**2.07**	**273**	*i* P	**Pn**	**23 06 44.7**	**+2.0**
BEST				*i* S	**Sn**	**23 07 08.0**	**-0.8**

IGIL ***16*** *23:35:06.0,36.54N×9.95W,h2km,ML1.4*

INMG ***16*** *23:35:09.9±0.7,36.65N×9.77W,h8km±4km,ML1.6,Error ellipse: s-maj=5.2km s-min=3.4km az=61.0*

MDD 16 23:35:07.7±1.9,36.67N×9.85W,mb3.9/1,Error ellipse: s-maj=14.8km s-min=12.9km az=82.0,PRXIMO,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**1.16**	**56**	*e*P	Pb	23 35 30.2	0.0
MORF				*e*S	Sb	23 35 44.8	-0.8
MORF				*e*S	Sb	23 35 44.8	-0.8
MORF				AML	AML	23 35 46.0	
	comp=N,4.9nm,0.1s						
PTEO	**Sao Teotonio**	**1.26**	**45**	*e*P	Pb	23 35 31.8	-0.2
PTEO				*e*S	Sb	23 35 48.6	0.0
EGRO	**El Granado**	**2.08**	**65**	P	Pn	23 35 42.8	-1.5
	comp=N,0.2nm,0.0s,SNR=6.5						
EGRO				S	Sn	23 36 07.7	-3.6
	comp=N,1.9nm,0.1s,SNR=8.9						
PBEJ	**Beja**	**2.08**	**49**	*e*Pn	Pn	23 35 42.8	-1.5
PBEJ				*e*Sn	Sn	23 36 07.6	-3.7
MOE	**Montemor**	**2.20**	**32**	*e*Sn	Sn	23 36 11.1	-3.2
PLOU	**Loures**	**2.28**	**14**	*e*Sn	Sn	23 36 12.3	-4.1
EMIN	**Mina Concepcio**	**2.77**	**66**	P	Pn	23 35 51.7	-2.3
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	23 36 23.4	-5.2
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.07**	**46**	P	Pn	23 35 56.0	-2.3
	comp=N,0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	23 36 32.0	-4.3
	comp=N,2.1nm,0.1s,SNR=6.2						
PTOM	**Tomar**	**3.16**	**21**	*e*Pn	Pn	23 35 57.2	-2.4
PTOM				*e*Sn	Sn	23 36 33.7	-4.9
	comp=N,2.7nm,0.1s						
PTOM	**Tomar**	**3.16**	**21**	Pn	Pn	23 35 57.2	-2.4
PTOM				Sn	Sn	23 36 33.7	-4.9
	comp=N,1.4nm,0.1s						
ESPR	**Espera**	**3.21**	**85**	P	Pn	23 35 56.7	-3.7
	comp=N,1.9nm,0.1s,SNR=4.0						
ESPR				S	Sn	23 36 34.5	-5.5
	comp=N,4.3nm,0.3s,SNR=4.0						
PCBR	**Castelo Branco**	**3.68**	**30**	*e*Sn	Sn	23 36 46.0	-5.7
PVIS	**Viseu**	**4.32**	**20**	*e*Sn	Sn	23 37 00.5	-7.6
EADA	**Adamuz**	**4.46**	**69**	P	Pn	23 36 14.8	-3.3
	comp=N,0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	23 37 03.9	-7.6
	comp=N,0.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.38**	**14**	S	Sn	23 37 26.2	-8.4
	comp=N,1.0nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.79**	**24**	S	Sn	23 37 36.9	-8.2
	comp=N,0.7nm,0.2s,SNR=4.0						

IDC ***17*** *00:12:58.5±0.9,2.17N×128.15E,mb4.1/8,mb1 4.3/8, mb1mx4.1/15,mbtmp4.1/8,MS3.5/2,Ms1 3.5/2, ms1mx3.1/18,Error ellipse: s-maj=62.5km s-min=17.8km az=72.0*

BJI ***17*** *00:13:01.5,2.20N×128.20E,h20

180nm,0.3s,baz=212,slow=18,SNR=3075
BRTR Lg 00 16 01.1
1µm,0.3s,baz=217,slow=29,SNR=163
ANTO Ankara 0.53 329 *e*P **Pg** **00 15 54.4 -0.7**
ANTO Ankara 0.53 329 *e*P **Pg** **00 15 54.4 -0.7**
LOD Lodumlu 0.56 328 *i* PG **Pg** **00 15 56.1 +0.4**
LOD *i* SG **Sg** **00 16 03.4 +0.2**
CDAG Cicekdag 0.97 77 *i* P **Pb** **00 16 01.4 -1.9**
CDAG *i* S **Sb** **00 16 15.5 -0.7**
ELDT Eldivan 1.09 11 *i* P **Pb** **00 16 05.2 -0.3**
ELDT *i* S **Sb** **00 16 21.7 +1.8**
KIZT Kizilcal 1.12 242 *i* PN **Pn** **00 16 05.0 -1.8**
KDHN Kadinhani 1.20 222 *i* P **Pb** **00 16 12.0 +4.7**
KDHN *i* S **Sb** **00 16 28.6 +5.5**
CANT Cankiri 1.24 17 *i* PN **Pn** **00 16 08.8 +0.3**
CORM Corum 1.37 56 *i* PN **Pn** **00 16 09.9 -0.4**
CORM *i* SN **Sn** **00 16 30.2 +1.2**
BSTP Nigde 1.64 153 *i* P **Pn** **00 16 15.6 +1.4**
BSTP *i* S **Sb** **00 16 37.4 +1.5**
NIG Nigde 1.73 138 *i* PN **Pn** **00 16 16.1 +0.6**
CTKT Corum 1.74 46 *i* P **Pn** **00 16 16.6 +1.0**
CTKT *i* S **Sn** **00 16 42.9 +4.5**
TOS Tosya 1.75 22 PN **Pn** **00 16 16.4 +0.7**
ESKT Eskisehir 1.79 274 PN **Pn** **00 16 16.8 +0.6**
ESKT Eskisehir 1.79 274 *i* P **Pn** **00 16 15.2 -1.1**
ESKT *i* S **Sn** **00 16 41.9 +2.4**
MDU Mudurnu 1.82 306 PN **Pn** **00 16 17.5 +0.7**
SAFT Safranbolu 1.86 349 PN **Pn** **00 16 17.7 +0.4**
BALT Daday 2.12 5 *i* P **Pn** **00 16 23.6 +2.6**
BALT *i* S **Sn** **00 16 41.8 -6.4**
BORA Eskisehir 2.13 283 *i* P **Pn** **00 16 20.6 -0.6**
BORA *i* S **Sn** **00 16 54.5 +6.1**
HENT Hendek 2.23 310 *i* P **Pn** **00 16 25.8 +3.3**
HENT *i* S **Sn** **00 17 01.8 +11**
GPA Golpazari 2.36 293 PN **Pn** **00 16 24.1 -0.3**
ALT Altintas 2.39 262 PN **Pn** **00 16 25.0 +0.1**
BYBT Boyabat 2.39 30 PN **Pn** **00 16 25.6 +0.7**
EYL Eskiyayla 2.57 297 PN **Pn** **00 16 28.1 +0.6**
ISP Isparta 2.60 234 *e*P **Pn** **00 16 27.3 -0.6**
ISP Isparta 2.60 234 *e*P **Pn** **00 16 27.3 -0.6**
KARA Karaisali 2.62 145 PN **Pn** **00 16 28.4 +0.2**
BZK Bozkurt 2.62 14 PN **Pn** **00 16 28.7 +0.5**
TOKT Tokat 2.76 70 PN **Pn** **00 16 30.7 +0.5**
MERS Mersin 2.76 157 PN **Pn** **00 16 29.8 -0.4**
ERMK Ermenek 2.77 184 *i* P **Pn** **00 16 30.1 -0.3**
ERMK *i* S **Sn** **00 17 11.7 +7.0**
BCK Bucak 2.80 227 PN **Pn** **00 16 30.7 -0.1**
KOZT Kozan 2.85 132 PN **Pn** **00 16 31.5 0.0**
SVST Sivas 2.96 82 *i* P **Pn** **00 16 36.4 +3.3**
SVST *i* S **Sn** **00 17 18.9 +10**
SVSK Karacayir 3.01 79 *e*PN **Pn** **00 16 34.1 +0.4**
HRT Hereke 3.02 299 PN **Pn** **00 16 33.4 -0.5**
KHL Karahalli 3.04 250 *e*PN **Pn** **00 16 34.0 -0.1**
YLV Yalova 3.12 293 *e*PN **Pn** **00 16 35.3 -0.1**
CEYT Ceyhan 3.15 139 *e*PN **Pn** **00 16 35.9 +0.1**
ULDT Uludag 3.18 284 *i* P **Pn** **00 16 42.6 +6.4**
ULDT *i* S **Sn** **00 17 29.0 +14**
IKL Isikli 3.20 172 *e*PN **Pn** **00 16 36.7 +0.3**
BADT Buyukada 3.41 296 *e*PN **Pn** **00 16 39.3 -0.1**
DST Dursunbey 3.50 275 *e*PN **Pn** **00 16 40.7 -0.1**
ISK Istanbul-Kandi 3.54 299 *e*PN **Pn** **00 16 41.3 0.0**
GOLH Golhisar 3.56 234 *i* P **Pn** **00 16 43.0 +1.4**
GOLH *i* S **Sg** **00 17 49.4 +6.2**
COBT Iskenderun 3.79 139 *i* P **Pn** **00 16 52.5 +7.6**
COBT *i* S **Sn** **00 17 36.7 +6.3**
GAZ Gaziantep 3.90 124 *e*PN **Pn** **00 16 46.0 -0.4**
HTY Hatay 4.05 143 *e*PN **Pn** **00 16 49.3 +0.8**
BALB Balikesir 4.08 275 *e*PN **Pn** **00 16 49.7 +0.7**
BNT Bandirma 4.13 285 *e*PN **Pn** **00 16 50.0 +0.3**
AKS Akhisar 4.19 264 *e*PN **Pn** **00 16 50.1 -0.4**
AKAS Kas 4.24 223 *i* P **Pn** **00 16 53.5 +2.3**
AKAS *i* S **Sn** **00 17 43.4 +1.6**
FETY Fethiye 4.25 230 *e*PN **Pn** **00 16 50.2 -1.1**
MYA Malataya 4.26 103 *e*PN **Pn** **00 16 51.7 +0.2**
MALT Malatya 4.26 103 *e*P **Pn** **00 16 51.4 -0.1**
MALT Malatya 4.26 103 *e*P **Pn** **00 16 51.4 -0.1**
KSL Kastellorizon 4.32 222 *e*P **Pn** **00 16 54.5 +2.2**
CSS Prodhromos 4.45 178 *e*P **Pn** **00 16 50.6 -3.6**
CSS Prodhromos 4.45 178 *e*P **Pn** **00 16 50.6 -3.6**
YER Yerkesik 4.46 241 *e*PN **Pn** **00 16 53.6 -0.7**
ATAB Bozova 4.48 114 *i* P **Pn** **00 17 03.4 +8.7**
ATAB *i* S **Sn** **00 18 04.8 +17**
ELZG Elazig 4.64 100 *i* P **Pn** **00 17 01.4 +4.5**
ELZG *i* S **Sg** **00 18 16.7 -2.2**
KDAG Bornova 4.70 259 *i* P **Pg** **00 17 11.5 -6.8**
KDAG *i* S **Sg** **00 18 25.8 +4.7**
IZM Izmir 4.71 259 *e*PN **Pn** **00 16 57.4 -0.4**
MLSB Milas 4.73 245 *e*PN **Pn** **00 16 58.0 -0.1**
KELT Kelkit 4.76 79 *i* P **Pn** **00 16 59.1 +0.5**
KELT *i* S **Sg** **00 18 40.0 +17**
URFA Urfa 4.87 112 *e*PN **Pn** **00 17 00.8 +0.7**
PTK Pertek 4.88 94 *e*PN **Pn** **00 17 01.1 +0.8**
GUMT Gumushane 4.97 76 *e*PN **Pn** **00 17 02.4 +0.8**
AYVA Ayvalik 5.01 271 *i* P **Pg** **00 17 19.7 -4.8**
AYVA *i* S **Sg** **00 18 29.6 -1.6**
ARG Arkhangelos 5.10 233 *e*P **Pn** **00 17 05.1 +1.7**
EZC Erzincan 5.16 84 *e*PN **Pn** **00 16 59.2 -5.0**
SMG Samos 5.24 253 *e*P **Pn** **00 17 04.8 -0.5**
EZN Ezine 5.29 277 *e*PN **Pn** **00 17 05.4 -0.7**
PRK Paraskevi 5.34 270 *e*P **Pn** **00 17 06.4 -0.4**
RDO Rodhopi 6.08 289 *e*P **Pn** **00 17 15.5 -1.7**
TIRR Tirgusor 6.15 326 ⇓P **Pn** **00 17 18.5 +0.2**
BNGL BINGOL 6.23 92 *i* P **Pn** **00 17 20.4 +1.0**
BNGL *i* S **Sg** **00 19 06.1 -5.8**
KDZ Kurdzhali 6.30 293 P **Pn** **00 17 18.5 -1.9**
MARD Mardin 6.35 107 *i* P **Pn** **00 17 17.9 -3.2**
MARD *i* S **Sg** **00 19 10.0 -5.9**
EZM Erzurum 6.35 83 *e*PN **Pn** **00 17 22.2 +1.1**
ERZM Erzurum 6.36 83 *i* P **Pb** **00 17 34.3 -1.2**
ERZM *i* S **Sg** **00 19 14.4 -1.7**
RZN Rozhen 6.81 292 P **Pn** **00 17 25.0 -2.6**
CFR Carcaliu 6.85 329 ⇓P **Pn** **00 17 28.1 0.0**
NVR Nevrokopi 7.35 288 *e*P **Pn** **00 17 34.3 -0.8**
MMB Musomiste 7.50 290 P **Pn** **00 17 36.0 -1.3**
IDI Anoyia 7.76 241 Pn **Pn** **00 17 40.8 -0.1**
1.0nm,0.3s,baz=34,slow=13,SNR=7.4
IDI LR LR 00 21 14.3
comp=Z,325nm,18.8s,baz=54,slow=42
IDI Anoyia 7.76 241 Pn **Pn** **00 17 40.8 -0.1**
IDI LR LR 00 21 14.3
VRI Vrincioaia 8.00 326 ⇓P **Pn** **00 17 53.3 +9.1**
KKB Krupnik 8.04 291 P **P** **00 17 42.0 -2.7**
MLR Muntele Rosu 8.08 321 LR LR 00 21 32.1
comp=Z,381nm,18.4s,baz=332,slow=43
VTS Vitosha 8.16 296 P **P** **00 17 44.0 -2.4**
VOIR 8.49 318 ⇓P **P** **00 17 52.2 +1.2**
GNI Garni 8.96 82 LR LR 00 21 51.2
comp=Z,622nm,19.4s,baz=295,slow=41
VRAC Vranov 15.40 315 LR LR 00 25 56.4
comp=Z,91nm,18.9s,baz=92,slow=40
MOS Moscow 16.60 9 *e*P **P** **00 19 42.0 +2.7**
MOS pmax pmax
comp=Z,72nm,1.3s
GERES GERESS Array B 16.81 310 LR LR 00 27 07.4
comp=Z,84nm,19.9s,baz=111,slow=40
DAVOX Davos 18.48 301 LR LR 00 28 02.3
comp=Z,155nm,18.5s,baz=85,slow=40
LPG La Plagne 20.36 296 *e*P **P** **00 20 25.0 +0.6**
comp=Z,20nm,1.0s
LPG La Plagne 20.36 296 *e*P **P** **00 20 25.0 +0.6**
LPG pmax pmax
comp=Z,10.0nm,1.0s
LPL La Plagne 20.37 296 *e*P **P** **00 20 25.3 +0.7**
comp=Z,39nm,1.4s
LPL La Plagne 20.37 296 *e*P **P** **00 20 25.3 +0.7**
LPL pmax pmax
comp=Z,20nm,1.4s
CDF Champ du Feu 20.62 304 *e*P **P** **00 20 28.1 +1.0**
AKTK Aktyubinsk 20.67 50 P **P** **00 20 25.9 -1.7**
AKTK LR LR 00 31 01.2
AKTK Aktyubinsk 20.67 50 P **P** **00 20 25.9 -1.7**
AKTO Aktyubinsk 20.67 50 P **P** **00 20 25.9 -1.7**
comp=Z,3.7nm,0.7s,baz=238,slow=13,SNR=17
AKTO LR LR 00 31 01.2
comp=Z,57nm,18.4s,MS3.0,slow=44
AKTO Aktyubinsk 20.67 50 P **P** **00 20 25.9 -1.7**
AKTO pmax pmax
comp=Z,4.0nm,0.7s
AKTO MLR MLR
comp=Z,57nm,18.4s,MS3.0
HINF Hinteralfeld 20.73 302 *e*P **P** **00 20 28.7 +0.4**
comp=Z,6.6nm,0.7s
HINF Hinteralfeld 20.73 302 *e*P **P** **00 20 28.7 +0.4**
HINF pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 22.48 351 P **P** **00 20 46.8 +0.9**
comp=Z,1.6nm,0.6s,mb3.7,baz=158,slow=10,SNR=11
FINES LR LR 00 31 33.8
comp=Z,80nm,18.4s,MS3.2,baz=162,slow=42
FINES FINESS Array B 22.48 351 P **P** **00 20 46.8 +1.0**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,80nm,18.4s
LOR Lormes 22.61 300 *e*P **P** **00 20 48.2 +1.1**
comp=Z,15nm,1.0s,mb4.1
LOR Lormes 22.61 300 *e*P **P** **00 20 48.2 +1.1**
LOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
AVF Avril sur Loir 22.88 299 *e*P **P** **00 20 50.5 +0.7**
comp=Z,12nm,1.0s,mb4.0
AVF Avril sur Loir 22.88 299 *e*P **P** **00 20 50.5 +0.7**
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
ARU Arti 23.86 36 *e*P **P** **00 21 00.2 +1.0**
HFS Hagfors 24.07 336 LR LR 00 31 08.7
comp=Z,165nm,18.8s,MS3.5,baz=246,slow=38
NOA NORSAR Array B 25.56 335 LR LR 00 32 26.6
comp=Z,111nm,18.7s,MS3.4,baz=145,slow=39
CHKZ Chkalovo 29.06 48 P **P** **00 21 45.4 -2.1**
CHKZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
CHKZ Chkalovo 29.06 48 P **P** **00 21 45.4 -2.1**
comp=Z,0.6nm,0.6s,mb3.5
CHKZ Chkalovo 29.06 48 P **P** **00 21 45.4 -2.1**
comp=Z,0.6nm,0.6s,mb3.5
ARCES ARCESS Array B 30.46 355 P **P** **00 21 59.6 -0.2**
comp=Z,2.3nm,0.9s,mb3.9,baz=166,slow=5.0,SNR=4.4
ARCES LR LR 00 34 47.8
comp=Z,62nm,18.6s,MS3.3,baz=322,slow=38
ARCES ARCESS Array B 30.46 355 P **P** **00 21 59.6 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES MLR MLR
comp=Z,62nm,18.6s
MKAR Makanchi Array 36.13 62 P **P** **00 22 48.8 -0.4**
comp=Z,0.5nm,0.6s,mb3.7,baz=272,slow=9.8,SNR=7.3
MKAR LR LR 00 38 47.5
comp=Z,48nm,18.3s,MS3.3,baz=360,slow=38
MKAR Makanchi Array 36.13 62 P **P** **00 22 48.8 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,48nm,18.3s
MKAR Makanchi Array 36.13 62 P **P** **00 22 48.8 -0.4**
MKAR LR LR 00 38 47.5
JMIC Jan Mayen 38.09 339 LR LR 00 40 15.2
comp=Z,216nm,20.1s,MS4.0,baz=44,slow=39
WMQ Urumqi 40.39 65 *e*P **P** **00 23 25.4 +0.5**
WMQ AP pP 00 23 30.4 +4.0
WMQ XP sP 00 23 32.4 +5.4
WMQ AMB AMB
comp=Z,40nm,5.0s
WMQ LR LR
comp=N,320nm,22.0s,MS4.3
WMQ LR LR
comp=E,310nm,21.0s,MS4.3
WMQ LR LR
comp=Z,320nm,20.0s,MS4.2
DBIC Dimbokro 47.22 236 P **P** **00 24 18.2 -2.2**
comp=Z,2.0nm,1.0s,mb4.0,baz=23,slow=11,SNR=3.0
DBIC LR LR 00 43 19.7
comp=Z,71nm,20.9s,MS3.6,baz=39,slow=35
DBIC Dimbokro 47.22 236 P **P** **00 24 18.2 -2.1**
DBIC pmax pmax
comp=Z,2.0nm,1.0s
DBIC MLR MLR
comp=Z,71nm,20.9s
DBIC Dimbokro 47.22 236 P **P** **00 24 18.2 -2.2**
DBIC LR LR 00 43 19.7
SONM Songino Array 51.84 55 P **P** **00 24 55.9 +0.4**
comp=Z,0.4nm,0.7s,mb3.5,baz=284,slow=5.9,SNR=3.3
LZH Lanzhou 54.67 70 *e*P **P** **00 25 13.5 -3.0**
LZH AP pP 00 25 20.5 +2.4
LZH PP PP 00 27 17.3 -3.4
LZH *e*S **S** **00 32 50.5 -4.9**
LZH *e*SS SS 00 36 33.1 -4.8
LZH AMB AMB
comp=Z,10.0nm,1.6s,mb4.6
LZH AMB AMB
comp=Z,50nm,4.5s
LZH LR LR
comp=N,350nm,14.5s
LZH LR LR
comp=Z,560nm,15.8s,MS4.7
CD2 Chengdu 57.02 75 *e*P **P** **00 25 33.0 -0.6**
CN2 Changchun 65.56 53 *e*P **P** **00 26 28.3 -2.8**
MDJ Mudanjiang 67.63 50 P **P** **00 26 40.6 -3.6**
MDJ AMB AMB
comp=Z,60nm,4.2s
YKA Yellowknife Ar 75.18 345 P **P** **00 27 28.3 -0.7**
comp=Z,0.3nm,0.6s,mb3.4,baz=25,slow=5.4,SNR=8.8

CASC 17 00:17:23.5±2.4,**13.72N**×**90.03W,h97**km±13km,**MD3.7, 8C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.41**	**65**	⇑*e*P		P		00 17 42.3	+3.9
RTR				*e*S		S		00 17 54.6	+4.9
SBLS	**San Blas**	**0.41**	**73**	⇑*i*P		P		00 17 42.3	+3.9
SBLS				*e*S		S		00 17 54.2	+4.5
SNJE	**San Jose**	**0.44**	**70**	⇑*i*P		P		00 17 42.4	+3.8
IXG	**Ixpaco**	**0.61**	**318**	⇓*e*P		P		00 17 40.1	+0.1
IXG				*e*S		S		00 17 53.5	+1.1
BOQS	**Boqueron**	**0.73**	**89**	⇑*e*P		P		00 17 44.5	+3.4
BOQS				*e*S		S		00 17 59.3	+5.1
SNET	**Serv Nac Est T**	**0.78**	**92**	*e*P		P		00 17 41.4	-0.2
SNET				*e*S		S		00 17 54.5	-0.4
PCG	**Pacaya**	**0.87**	**320**	*e*P		P		00 17 43.9	+1.4
NBG	**Las Nubes**	**0.92**	**340**	*e*P		P		00 17 44.5	+1.5
LFRS	**El Faro**	**0.95**	**96**	⇑*e*P		P		00 17 46.6	+3.2
LFRS				*e*S		S		00 18 02.0	+3.8
LBRS	**Las Brisas**	**0.96**	**89**	⇑*e*P		P		00 17 46.8	+3.4
LCBS	**La Ceiba**	**1.02**	**94**	⇑*e*P		P		00 17 47.4	+3.2
LCBS				*e*S		S		00 18 03.8	+4.0
SNVI	**San Vicente**	**1.16**	**95**	*e*P		P		00 17 49.0	+3.0
SNVI				*e*S		S		00 18 06.5	+3.8
MRL	**Marmol**	**1.38**	**14**	⇑*e*P		P		00 17 48.4	-0.1
MRL				*e*S		S		00 18 08.2	+1.2
TP2	**Tecpan 2**	**1.43**	**318**	⇓*e*P		P		00 17 49.7	+0.6
TP2				*e*S		S		00 18 07.9	-0.2

NIED ***17*** *00:22:00,31.80N×129.20E,h5km,Mw3.9 Best double couple: Mo8.21×10¹⁴ NP1:φs104°,δ84°,λ-23°. NP2: φs197°,δ67°,λ-173°.*

JMA 17 00:22:39.9±0.1,**31.76N**×**129.16E,h14**km±1km,**M4.0, 2C-3D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.48**	**100**	⇑P		P		00 22 49.2	-0.4
JSJ						S		00 22 55.6	-0.6
JFU	**Fukue jima 2**	**0.96**	**339**	⇑P		P		00 22 57.8	0.0
JFU						S		00 23 11.3	+1.2
NGSJ	**Nagasakinomoza**	**1.02**	**32**	P		P		00 22 58.6	-0.3
NGSJ						S		00 23 12.8	+0.8
JHD	**Hondo**	**1.09**	**49**	⇓P		P		00 22 59.7	-0.3
JHD						S		00 23 15.0	+1.2
JSU	**Suzuyama**	**1.13**	**103**	⇓P		P		00 23 00.7	-0.1
JSU						S		00 23 16.4	+1.3
JZO	**Okuchi**	**1.28**	**72**	⇓P		P		00 23 02.6	-0.7
JZO						S		00 23 19.8	+0.4
JIU2	**Izumi 2**	**1.61**	**60**	P		P		00 23 07.5	-0.6
JTZ	**Takazaki**	**1.65**	**85**	P		P		00 23 08.0	-0.7

IDC 17 00:25:54.9±0.9,**57.55S**×**26.17W,mb4.1**/2,**mb1 4.2**/2, **mb1mx3.8**/11,**mbtmp4.1**/2,**MS3.8**/2,**Ms1 3.7**/2, **ms1mx3.0**/20,**Error ellipse: s-maj=68.9km s-min=31.5km az=98.0,South Sandwich Islands region**

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

BDFB Brasilia 44.94 330 LR LR 00 51 20.2
comp=Z,105nm,19.5s,baz=111,slow=34
VNDA Vanda 45.10 182 P P 00 34 12.5 -1.2
1.8nm,0.5s,baz=178,slow=6.8,SNR=14
ROSC El Rosal 73.29 309 LR LR 01 07 35.2
comp=Z,53nm,18.7s,baz=151,slow=34
TORD Torodi Ar. Bea 74.10 28 P P 00 37 33.8 -0.8
0.6nm,0.5s,baz=198,slow=6.0,SNR=6.3
FINES FINESS Array B 125.45 28 PKP PKPdf 00 44 54.9 -3.6
2.8nm,1.0s,baz=135,slow=5.4,SNR=4.3
YKA Yellowknife Ar 137.65 316 PKP PKPdf 00 45 18.9 -2.6
1.0nm,0.7s,baz=132,slow=2.1,SNR=12
INK Inuvik 147.31 319 PKPbc PKPdf 00 45 38.0 0.0
1.8nm,0.5s,baz=104,slow=3.4,SNR=8.9
SONM Songino Array 150.24 88 PKPbc PKPdf 00 45 45.7 +2.4
0.9nm,0.5s,baz=223,slow=3.5,SNR=12
ILAR Eielson Array 151.52 309 PKPbc PKPdf 00 45 48.8 +4.1
3.4nm,0.9s,baz=140,slow=1.9,SNR=14

ATH ***17*** *00:26:25.7,38.18N×26.65E,h22km±1km,MD3.0/3*
ISK ***17*** *00:26:25.4,38.21N×26.70E,h15km,MD2.8*
CSEM ***17*** *00:26:26.1±0.1,38.22N×26.76E,h17km±1km,MD2.8, Error ellipse: s-maj=2.7km s-min=1.5km az=105.0*

ISC 17 00:26:25.8±0.7,**38.19N**±0.03×**26.67E**±0.05,**h8**km±5km, **n15**,σ1**s01**/25,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**341**	*i*P		P		**00 26 29.6**	**-0.2**
URLA				*i*S		S		**00 26 33.1**	**+0.8**
BLCB	**Balcova**	**0.35**	**56**	PG		P		**00 26 32.5**	**-0.5**
BLCB				SG		S		**00 26 37.3**	**-0.5**
SMG	**Samos**	**0.50**	**165**	*e*PB		P		**00 26 35.8**	**-0.6**
SMG				*e*SB		S		**00 26 42.8**	**-0.7**
IZM	**Izmir**	**0.51**	**66**	PG		P		**00 26 36.0**	**-0.1**
IZM				SG		S		**00 26 42.9**	**-0.1**
AYDN	**Tasoluk**	**1.09**	**119**	*i*P		P		**00 26 46.3**	**-0.2**
AYDN				*i*S		S		**00 27 00.6**	**-0.1**
PRK	**Paraskevi**	**1.10**	**344**	*e*PN		P		**00 26 46.9**	**-0.5**
PRK				*e*SN		S		**00 27 02.1**	**-0.8**
AYVA	**Ayvalik**	**1.12**	**1**	*i*P		P		**00 26 48.1**	**+1.1**
AYVA				*i*S		S		**00 27 04.4**	**+2.9**
AKS	**Akhisar**	**1.13**	**52**	PN		P		**00 26 46.3**	**-1.6**
AKS				SN		S		**00 27 03.0**	**-0.6**
BODT	**Bodrum**	**1.23**	**156**	*e*PN		P		**00 26 49.4**	**0.0**
MLSB	**Milas**	**1.25**	**135**	*e*PN		P		**00 26 48.1**	**-1.5**
BDRM	**Kayabasi**	**1.28**	**151**	*i*P		P		**00 26 51.8**	**+2.1**
BDRM				*i*S		S		**00 27 07.8**	**+1.6**
APE	**Apeiranthos**	**1.44**	**219**	*e*PN		P		**00 26 52.3**	**0.0**
MANT	**Manisa**	**1.51**	**78**	*i*P		P		**00 26 54.9**	**+1.6**
MANT				*i*S		S		**00 27 14.4**	**+1.4**
YER	**Yerkesik**	**1.66**	**129**	*e*PN		P		**00 26 54.9**	**-0.5**
BALB	**Balikesir**	**1.73**	**33**	*e*PN		P		**00 26 55.4**	**-1.0**

FUNV ***17*** *00:32:35.4,6.68N×73.15W,h173km,MW3.2*
IDC ***17*** *00:32:36.0±0.5,6.72N×72.97W,h161km±5km,mb3.5/9, mb1 3.7/12,mb1mx3.5/23,mbtmp4.1/12,Error ellipse: s-maj=12.2km s-min=7.1km az=125.0*
NEIC ***17*** *00:32:36.2±0.4,6.76N×72.97W,mb3.8/1,Error ellipse: s-maj=10.5km s-min=7.9km az=92.0*

ISC 17 00:32:35.5±0.5,**6.81N**±0.05×**72.97W**±0.06,**h173**km±5km, **n32**,σ1**s02**/37,**mb3.7**/10,**2C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**32**	⇓*i*P		P		**00 33 05.7**	**+1.0**
ROSC	**El Rosal**	**2.37**	**215**	P		P		**00 33 17.3**	**+0.5**
ROSC	78nm,0.3s,baz=88,slow=24,SNR=135			S		S		**00 33 46.0**	**-2.5**
SOCV	**Socops**	**2.56**	**55**	⇓*i*P		P		**00 33 20.5**	**+1.4**
SOCV	55nm,0.3s,baz=108,slow=17,SNR=12			*e*S		S		**00 33 52.8**	**+0.2**
VIGV	**El Vigia**	**2.57**	**38**	*e*P		P		**00 33 20.2**	**+1.1**
VIGV				*e*S		S		**00 33 53.6**	**+0.8**
SDV	**Santo Domingo**	**3.10**	**48**	P		P		**00 33 27.1**	**+1.4**
SDV	61nm,0.3s,baz=246,slow=5.5,SNR=233			S		S		**00 34 05.2**	**+0.8**
VIRV	**Villa del Rosa**	**3.71**	**9**	*e*P		P		**00 33 32.6**	**-0.9**
VIRV	54nm,0.3s,baz=233,slow=23,SNR=24			*e*S		S		**00 34 15.6**	**-2.5**
QARV	**Quebrada Arrib**	**4.15**	**35**	⇓*i*P		P		**00 33 40.1**	**+1.0**
QARV				*e*S		S		**00 34 27.0**	**-1.2**
SANV	**Sanarito**	**4.32**	**52**	*e*P		P		**00 33 41.9**	**+0.6**
DABV	**Dabajuro**	**4.69**	**29**	*e*P		P		**00 33 46.7**	**+0.6**
DABV				*e*S		S		**00 34 39.2**	**-1.4**
TEPV	**Terepaima**	**4.88**	**50**	*e*P		P		**00 33 49.3**	**+0.7**
SIQV	**Siquisique**	**4.93**	**39**	*e*P		P		**00 33 49.5**	**+0.3**
SIQV				*e*S		S		**00 34 44.6**	**-1.6**
BAUV	**El Baul**	**5.32**	**66**	*e*P		P		**00 33 53.7**	**-0.6**
BAUV				*e*S		S		**00 34 52.6**	**-2.8**
MONV	**Montecano**	**5.91**	**30**	⇑*i*P		P		**00 34 01.8**	**-0.2**
MERV	**Las Mercedes**	**7.04**	**69**	*e*P		P		**00 34 17.0**	**-0.1**
OTAV	**Otavalo**	**8.52**	**220**	*e*P		P		**00 34 25.9**	**-11**
SJG	**San Juan**	**13.05**	**30**	P		P		**00 35 35.9**	**+0.5**
LPAZ	0.8nm,0.3s,baz=221,slow=20,SNR=2.7 **La Paz** 0.5nm,0.3s,mb3.4,baz=27,slow=6.8,SNR=5.2	**23.45**	**168**	P		P		**00 37 31.1**	**+0.5**
LPAZ				pP				00 38 02.5	
SIV	2.3nm,0.7s,baz=348,slow=16,SNR=6.1 **San Ignacio** 0.8nm,0.7s,mb3.5,baz=312,slow=10,SNR=4.5	**25.54**	**153**	P		P		**00 37 48.8**	**-1.4**
BDFB	**Brasilia** 2.3nm,0.6s,mb4.1,baz=295,slow=13,SNR=6.5	**33.30**	**132**	P		P		**00 38 59.5**	**+0.5**
TXAR	**Lajitas Array** 0.8nm,0.6s,mb3.5,baz=125,slow=9.0,SNR=13	**36.58**	**312**	P		P		**00 39 27.4**	**+0.7**
MNTX	**Cornudas Mount** 1.1nm,0.5s,mb3.7	**39.09**	**314**	*e*P		P		**00 39 47.7**	**+0.2**
SCHQ	**Schefferville** 5.8nm,0.6s,mb4.4,baz=187,slow=5.4,SNR=15	**48.14**	**5**	P		P		**00 41 00.5**	**+0.7**
PDAR	**Pinedale Array** 0.2nm,0.5s,mb3.0,baz=119,slow=9.3,SNR=3.1	**48.17**	**324**	P		P		**00 41 00.9**	**+0.7**
FRB	**Frobisher Bay** baz=182,slow=1	**56.92**	**2**	P		P		**00 42 04.0**	**-0.5**
YKA	**Yellowknife Ar** 0.6nm,0.6s,mb3.6,baz=134,slow=6.6,SNR=10	**63.32**	**340**	P		P		**00 42 47.9**	**-0.2**
YKA	0.3nm,0.4s,baz=134,slow=6.5,SNR=2.7			pP		pP		00 43 26.7	-2.2
YKA	**Yellowknife Ar**	**63.32**	**340**	P		P		**00 42 47.9**	**-0.2**
YKA				pP		pP		00 43 26.7	-2.2
DBIC	**Dimbokro** 2.8nm,0.5s,mb4.3,baz=266,slow=8.5,SNR=12	**67.59**	**86**	P		P		**00 43 15.7**	**-0.4**
TORD	**Torodi Ar. Bea** 0.4nm,0.3s,mb3.6,baz=286,slow=6.3,SNR=17	**73.59**	**78**	P		P		**00 43 51.4**	**-0.9**
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=299,slow=2.5,SNR=22	**122.28**	**20**	PKP		PKPdf		00 51 12.1	+2.0
SONM	**Songino Array** 0.7nm,0.5s,baz=312,slow=1.8,SNR=8.6	**125.59**	**1**	PKP		PKPdf		00 51 19.2	+2.8
WB2	**Warramunga Arr**	**150.45**	**241**	⇑*i*P		PKPdf		00 52 09.0	+7.2
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=93,slow=1.8,SNR=6.2	**150.46**	**241**	PKP		PKPdf		00 52 04.2	+2.4
WRA	1.5nm,0.5s,baz=108,slow=2.5,SNR=49			PKPbc		PKPdf		00 52 09.1	+7.3
WRA	1.0nm,0.5s,baz=107,slow=2.3,SNR=4.2			pPKPbc				00 52 51.0	

NEIC ***17*** *00:39:44.2,37.43S×177.93E,h84km,ML4.3(WEL),After WEL.*

WEL 17 00:39:44.1±0.2,**37.43S**×**177.92E,h84**km±1km,**ML4.2**/10, **4C-2D,Error ellipse: s-maj=1.4km s-min=1.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.34**	**114**	⇑P*		P		00 39 56.9	-0.2
MXZ				S*		S		00 40 06.9	-0.1
MXZ	**Matakaoa Point**	**0.34**	**114**	⇑P		P		00 39 56.9	-0.2
MXZ				S

KNZ	**Kokohu**	**1.60 187**	PN	P	00 40 10.6	-0.9		
KNZ			SN	S	00 40 31.0	-0.6		
KNZ	**Kokohu**	**1.60 187**	P	P	00 40 10.6	-0.8		
PATZ	**Paeroa**	**1.62 234**	*eP**	P	00 40 11.9	+0.2		
PATZ	**Paeroa**	**1.62 234**	P	P	00 40 12.2	+0.5		
KUZ	**Kuaotunu**	**1.89 290**	PN	P	00 40 14.8	-0.4		
KUZ	**Kuaotunu**	**1.89 290**	P	P	00 40 14.8	-0.4		
TOZ	**Tahuroa Road**	**1.95 260**	⇑PN	P	00 40 16.0	+0.1		
TOZ	**Tahuroa Road**	**1.95 260**	⇑P	P	00 40 16.0	0.0		
BKZ	**Black Stump Fm**	**2.07 212**	PN	P	00 40 17.2	-0.5		
BKZ			SN	S	00 40 41.8	-0.6		
BKZ	**Black Stump Fm**	**2.07 212**	P	P	00 40 17.2	-0.5		
MKAZ	**Moumakai**	**2.22 277**	⇓PN	P	00 40 19.8	+0.1		
MKAZ	**Moumakai**	**2.22 277**	⇓P	P	00 40 19.8	0.0		
OTAZ	**Otara**	**2.44 280**	P	P	00 40 23.2	+0.4		
OTVZ	**Oturere**	**2.48 225**	*e*PN	P	00 40 23.0	-0.4		
MTAZ	**Motutapu**	**2.49 284**	P	P	00 40 23.6	0.0		
NGZ	**Ngauruhoe**	**2.53 226**	*e*PN	P	00 40 24.0	-0.1		
TUVZ	**Tukino**	**2.56 223**	*e*PN	P	00 40 24.1	-0.4		
CNZ	**Chateau**	**2.57 226**	PN	P	00 40 24.8	+0.1		
CNZ	**Chateau**	**2.57 226**	P	P	00 40 24.8	+0.1		
MOVZ	**Moawhango**	**2.61 220**	PN	P	00 40 23.9	-1.3		
MOVZ			*e*SN	S	00 40 53.6	-2.3		
MOVZ	**Moawhango**	**2.61 220**	P	P	00 40 23.9	-1.3		
WNVZ	**Wahianoa**	**2.63 223**	PN	P	00 40 24.8	-0.7		
WNVZ	**Wahianoa**	**2.63 223**	P	P	00 40 24.8	-0.8		
PXZ	**Pawanui**	**2.73 197**	*e*PN	P	00 40 23.8	-3.1		
WCZ	**Waipu Caves**	**3.23 296**	*e*PN	P	00 40 33.1	-0.8		
WCZ	**Waipu Caves**	**3.23 296**	*e*P	P	00 40 34.4	+0.5		
WAZ	**Wanganui**	**3.27 224**	*e*PN	P	00 40 33.4	-1.0		
WAZ	**Wanganui**	**3.27 224**	*e*P	P	00 40 33.4	-1.0		
BFZ	**Birch Farm**	**3.50 201**	*e*PN	P	00 40 33.9	-3.7		
BFZ	**Birch Farm**	**3.50 201**	*e*P	P	00 40 33.9	-3.7		
MRZ	**Mangatainoka R**	**3.71 209**	*e*PN	P	00 40 36.7	-3.8		
MRZ			SN	S	00 41 17.4	-5.8		
MRZ	**Mangatainoka R**	**3.71 209**	*e*P	P	00 40 36.7	-3.8		
KIW	**Kapiti Island**	**4.15 213**	*e*PN	P	00 40 42.3	-4.3		
MTW	**Mount Morrison**	**4.17 206**	*e*PN	P	00 40 41.9	-5.0		
MTW	**Mount Morrison**	**4.17 206**	*e*P	P	00 40 41.9	-5.0		
CAW	**Cannon Point**	**4.29 210**	*e*PN	P	00 40 44.0	-4.5		
CAW	**Cannon Point**	**4.29 210**	*e*P	P	00 40 44.0	-4.5		
TRWZ	**Traveller**	**4.33 203**	*e*PN	P	00 40 44.2	-4.9		
PAWZ	**Paruwai Farm**	**4.40 205**	*e*PN	P	00 40 45.1	-4.8		
PAWZ	**Paruwai Farm**	**4.40 205**	*e*P	P	00 40 45.1	-4.9		
MSWZ	**Moikau Station**	**4.49 207**	*e*PN	P	00 40 46.0	-5.2		
MSWZ	**Moikau Station**	**4.49 207**	*e*P	P	00 40 46.0	-5.2		
MRW	**Makara Radio**	**4.54 212**	*e*PN	P	00 40 47.4	-4.6		
MRW	**Makara Radio**	**4.54 212**	*e*P	P	00 40 47.4	-4.6		
TCW	**Tory Channel**	**4.72 216**	*e*PN	P	00 40 49.2	-5.2		
TCW	**Tory Channel**	**4.72 216**	*e*P	P	00 40 49.2	-5.2		
TUWZ	**Tuamarina**	**5.05 216**	*e*PN	P	00 40 53.8	-5.1		
QRZ	**Quartz Range**	**5.39 229**	*e*PN	P	00 40 59.3	-4.4		
QRZ	**Quartz Range**	**5.39 229**	*e*P	P	00 40 59.3	-4.3		
THZ	**Tophouse**	**5.81 220**	*e*PN	P	00 41 03.8	-5.6		
THZ	**Tophouse**	**5.81 220**	*e*P	P	00 41 03.8	-5.5		
KHZ	**Kahutara**	**6.01 213**	*e*PN	P	00 41 06.5	-5.7		
KHZ	**Kahutara**	**6.01 213**	*e*P	P	00 41 06.5	-5.7		
LTZ	**Lake Taylor**	**6.88 217**	*e*PN	P	00 41 19.2	-5.0		
MQZ	**McQueen's Vall**	**7.44 211**	*e*PN	P	00 41 24.6	-7.4		
ODZ	**Otahua Downs**	**9.37 213**	*e*PN	P	00 41 51.4	-6.9		
ODZ	**Otahua Downs**	**9.37 213**	*e*P	P	00 41 51.4	-6.9		

DHMR 17 00:40:29.2±0.3, 12.63N×40.50E, h10km, ML3.7, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.58**	**80**	⇓*i* P	Pn	00 41 27.6	+1.7
TRBA				*i* S	Sn	00 42 12.9	+4.2
TRBA				AML	AML	00 42 33.1	
	comp=N,289nm,0.7s						
DHBB	**Dhamar BB**	**4.25**	**62**	*i* P	Pn	00 41 36.7	+1.2
DHBB				*i* S	Sn	00 42 29.2	+3.5
LBOS		**4.79**	**74**	⇓*i* P	Pn	00 41 41.5	-1.6
LBOS				*i* S	Sn	00 42 38.5	-0.8

IDC **17** *01:09:30.1±24.0, 23.00S×179.61E, h605km±326km, mb3.2/3, mb1 3.5/3, mb1mx3.1/12, mbtmp4.2/3, Error ellipse: s-maj=164.6km s-min=84.5km az=10.0*

ISC 17 01:09:27.9±1.5, 23.7S±0.6×179.9E±0.3, h600km, n8, σ0848/7, mb4.2/5, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARMA	**Armidale**	**25.96**	**249**	*eP*	**P**	**01 14 16.7**	**+0.5**
CTA	**Charters Tower**	**31.34**	**270**	⇓*i* P	**P**	**01 15 03.0**	**+0.6**
	7.2nm,0.3s,mb4.8						
STKA	**Stephens Creek**	**34.66**	**248**	P	**P**	**01 15 30.5**	**+0.4**
	1.9nm,0.6s,mb3.9,baz=92,slow=11,SNR=4.1						
WB2	**Warramunga Arr**	**42.27**	**266**	⇓*i* P	**P**	**01 16 31.4**	**-0.4**
WRA	**Warramunga Arr**	**42.28**	**266**	P	**P**	**01 16 31.6**	**-0.3**
	4.2nm,0.3s,mb4.4,baz=96,slow=8.4,SNR=239						
FORT	**Forrest**	**46.25**	**249**	*eP*	**P**	**01 17 01.6**	**-0.8**
	15nm,0.5s,mb4.8						
TXAR	**Lajitas Array**	**90.45**	**58**	P	**P**	**01 21 28.0**	**+0.1**
	0.3nm,0.7s,mb3.2,baz=211,slow=7.3,SNR=4.5						
HFS	**Hagfors**	**142.33**	**349**	PKP	PKPdf	01 27 50.4	-1.9
	4.9nm,1.1s,slow=5.9,SNR=5.0						

CSEM **17** *01:14:51.9±0.1, 84.16N×1.15W, h2km, mb4.7/27, Ms4.0, Error ellipse: s-maj=3.5km s-min=2.1km az=53.0*

BJI **17** *01:14:53.4, 84.10N×1.20W, h10km, mB5.1, mb4.8, Ms4.6, Msz4.4*

MOS **17** *01:14:53.6±0.9, 84.08N×1.53W, h10km, mb4.8/38, MS3.9/18, Error ellipse: s-maj=68.5km s-min=4.9km az=92.0*

IDC **17** *01:14:54.1±0.5, 84.12N×0.96W, mb4.2/23, mb1 4.4/25, mb1mx4.3/28, mbtmp4.3/25, ML4.0/2, MS4.1/18, Ms1 4.1/18, ms1mx4.0/23, Error ellipse: s-maj=15.6km s-min=10.0km az=36.0*

HRVD **17** *01:14:55.4±0.3, 84.06N×0.42E, h12km, MW4.8/66, Centroid moment Tensor Solution. LP body waves: s27,c32; Mantle waves: s66,c105; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.93±.07; Mθθ 0.49±.07; Mφφ 1.44±.06; Mrθ-1.08±.32; Mθφ 0.73±.06; Mφr 0.39±.22; Best double couple: M=2.146×10^16 NP1: φs187°, δ47°, λ-124°. NP2: φs52°, δ53°, λ-59°. Principal axes: T 1.847, Plg3°, Azm121°; N .602, Plg24°, Azm212°; P -2.445, Plg66°, Azm23°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **17** *01:14:55.4±0.2, 84.14N×1.23W, h10km, mb4.9/35, MS4.0/1 Error ellipse: s-maj=5.4km s-min=3.2km az=46.0*

NAO **17** *01:14:58.7±8.5, 83.88N×7.99E, h3km±59km*

ISC 17 01:14:53.7±0.2, 84.13N±0.03×1.3W±0.3, h10km, (h19km±2.8km:pP-P), n207, σ0≥91/219, mb4.7/65, MS4.1/27, 8C-9D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**5.56**	**153**	Pn	**Pn**	**01 16 14.6**	**-3.9**
KBS				Sn	**Sn**	**01 17 12.0**	**-11**
KBS	**Kingsbay**	**5.56**	**153**	*eP*	**Pn**	**01 16 15.5**	**-3.0**
KBS				*eS*	**Sn**	**01 17 12.3**	**-11**
KBS				AML	AML	01 17 15.3	
	comp=Z,147nm,0.6s						
KBS	**Kingsbay**	**5.56**	**153**	*eP*	**Pn**	**01 16 14.8**	**-3.7**
KBS				*eS*	**Sn**	**01 17 12.3**	**-11**
SPA0	**Spitsbergen Ar**	**6.51**	**147**	Pn	**Pn**	**01 16 25.8**	**-6.2**
SPA0				Sn	**Sn**	**01 17 33.7**	**-13**
	baz=12,slow=18						
DAG	**Danmarks Havn**	**7.87**	**210**	⇓*i* P	**Pn**	**01 16 49.1**	**-1.9**
	comp=Z,22nm,0.6s						
DAG	**Danmarks Havn**	**7.87**	**210**	⇓*i* P	**Pn**	**01 16 49.1**	**-1.9**
DAG				pmax	pmax		
	comp=Z,22nm,0.6s						
HOPEN	**Hopen**	**8.68**	**136**	*eP*	**P**	**01 16 57.5**	**-4.7**
HOPEN				*eS*	**Sn**	**01 18 23.6**	**-18**
JMIC	**Jan Mayen**	**13.29**	**190**	LR	LR	01 23 07.0	
	comp=Z,214nm,18.5s,baz=254,slow=37						
SUMG	**Summit**	**13.30**	**232**	*eP*	**P**	**01 18 01.6**	**-3.3**
	comp=Z,56nm,1.1s						
SCO	**Scoresbysund**	**14.26**	**209**	*i* P	**P**	**01 18 16.6**	**-0.6**
ARA0	**ARCESS Array S**	**15.54**	**144**	P	**P**	**01 18 29.1**	**-4.9**
	baz=1.8,slow=9.3						
ARCES	**ARCESS Array B**	**15.54**	**144**	Pn	**P**	**01 18 32.2**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=9.5,slow=7.4,SNR=17						
ARCES				Sn	**S**	**01 21 08.8**	**-18**
	comp=Z,0.3nm,0.3s,baz=2.5,slow=21,SNR=5.7						
ARCES				LR	LR	01 24 22.9	
	comp=Z,690nm,19.7s,baz=345,slow=37						
RES	**Resolute Bay**	**16.83**	**294**	*eP*	**P**	**01 18 46.7**	**-3.7**
RES				pmax	pmax		
	comp=Z,48nm,1.3s						
RES	**Resolute Bay**	**16.83**	**294**	*eP*	**P**	**01 18 46.7**	**-3.7**
	comp=Z,48nm,1.3s						
LVZ	**Lovozero**	**17.77**	**133**	⇓*eP*	**P**	**01 19 03.0**	**+0.7**
LVZ				pmax	pmax		
	comp=Z,97nm,1.0s						
LVZ				pmax	pmax		
	comp=N,72nm,1.2s						
LVZ				pmax	pmax		
	comp=E,8.0nm,0.9s						
LVZ				MLR	MLR		
	comp=Z,2μm,14.0s						
LVZ				MLR	MLR		
	comp=N,1μm,15.0s						
LVZ				MLR	MLR		
	comp=E,371nm,9.0s						
LVZ	**Lovozero**	**17.77**	**133**	*eP*	**P**	**01 19 03.0**	**+0.7**
	comp=E,1μm,15.0s						
APA0	**Apatity Array**	**17.94**	**136**	P	**P**	**01 18 58.0**	**-6.3**
APA	**Apatity**	**18.01**	**135**	⇓*i* P	**P**	**01 18 57.3**	**-7.9**
APA				MLR	MLR		
	comp=Z,2μm,10.0s						
SFJD	**Kangerlussuaq**	**19.78**	**242**	P	**P**	**01 19 24.5**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=354,slow=16,SNR=3.4						
SFJD				LR	LR	01 27 11.5	
	comp=Z,668nm,18.1s,baz=261,slow=37						
SFJD	**Kangerlussuaq**	**19.78**	**242**	P	**P**	**01 19 24.5**	**-1.9**
SFJD				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SFJD				MLR	MLR		
	comp=Z,668nm,18.1s						
SFJD	**Kangerlussuaq**	**19.78**	**242**	P	**P**	**01 19 24.5**	**-1.8**
SFJD				LR	LR	01 27 11.5	
TIXI	**Tiksi**	**22.71**	**39**	*eP*	**P**	**01 19 58.8**	**+2.8**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,124nm,12.0s,MS3.6						
KAF	**Kangasniemi**	**22.96**	**146**	*ep*	**P**	**01 19 59.2**	**+0.7**
	comp=Z,12nm,0.9s,mb4.3						
KAF	**Kangasniemi**	**22.96**	**146**	*eP*	**P**	**01 19 59.2**	**+0.7**
KAF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3						
NB2	**NORSAR Subarra**	**23.39**	**165**	P	**P**	**01 20 02.9**	**+0.2**
	comp=Z,120nm,2.0s,mb5.0,baz=357,slow=10						
NB2	**NORSAR Subarra**	**23.39**	**165**	P	**P**	**01 20 03.8**	**+1.1**
NB2	**NORSAR Subarra**	**23.39**	**165**	P	**P**	**01 20 02.9**	**+0.2**
NB2				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.0						
NOA	**NORSAR Array B**	**23.39**	**165**	P	**P**	**01 20 03.8**	**+1.1**
	comp=Z,9.6nm,1.0s,mb4.2,baz=354,slow=8.6,SNR=6.5						
NOA	**NORSAR Array B**	**23.39**	**165**	P	**P**	**01 20 03.8**	**+1.1**
NOA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FIA0	**FINESS Array S**	**23.61**	**147**	P	**P**	**01 20 05.2**	**+0.3**
	baz=5.6,slow=9.3						
FINES	**FINESS Array B**	**23.61**	**147**	P	**P**	**01 20 06.8**	**+1.9**
	comp=Z,4.1nm,0.7s,mb3.9,baz=11,slow=9.7,SNR=6.9						
FINES				LR	LR	01 28 51.7	
	comp=Z,333nm,18.5s,MS3.8,baz=158,slow=36						
FINES	**FINESS Array B**	**23.61**	**147**	P	**P**	**01 20 06.8**	**+1.9**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,333nm,18.5s						
HFS	**Hagfors**	**24.37**	**162**	P	**P**	**01 20 12.1**	**-0.1**
	comp=Z,7.2nm,1.1s,mb4.0,baz=326,slow=5.2,SNR=3.7						
HFS				LR	LR	01 28 13.9	
	comp=Z,431nm,20.5s,MS3.9,baz=63,slow=33						
HFS	**Hagfors**	**24.37**	**162**	P	**P**	**01 20 12.1**	**-0.1**
HFS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HFS				MLR	MLR		
	comp=Z,431nm,20.5s						
FRB	**Frobisher Bay**	**24.69**	**259**	P	**P**	**01 20 16.5**	**+1.2**
	comp=Z,5.9nm,0.6s,mb4.3,baz=22,slow=8.3,SNR=9.8						
FRB				LR	LR	01 29 07.9	
	comp=Z,297nm,19.2s,MS3.8,baz=229,slow=34						
FRB	**Frobisher Bay**	**24.69**	**259**	P	**P**	**01 20 16.5**	**+1.2**
FRB				pmax	pmax		
	comp=Z,6.0nm,0.6s						
FRB				MLR	MLR		
	comp=Z,297nm,19.2s						
FRB	**Frobisher Bay**	**24.69**	**259**	P	**P**	**01 20 16.5**	**+1.2**
FRB				LR	LR	01 29 07.9	
KLMR	**Klimovskoe**	**25.11**	**131**	*d* *iP*	**P**	**01 20 19.0**	**-0.3**
KLMR				*eS*	**S**	**01 24 32.1**	**-9.0**
KLMR				pmax	pmax		
	comp=Z,50nm,1.6s,mb4.8						
KLMR				smax			
	comp=E,1μm,4.9s						
KLMR				MLR	MLR		
	comp=Z,770nm,20.0s,MS4.2						
INK	**Inuvik**	**26.15**	**321**	P	**P**	**01 20 29.1**	**+0.1**
	comp=Z,32nm,1.1s,mb4.8,baz=11,slow=13,SNR=32						
INK				LR	LR	01 30 39.7	
	comp=Z,358nm,21.7s,MS3.9,baz=26,slow=36						
INK	**Inuvik**	**26.15**	**321**	P	**P**	**01 20 29.1**	**+0.1**
INK				pmax	pmax		
	comp=Z,32nm,1.1s						
INK				MLR	MLR		
	comp=Z,358nm,21.7s						
INK	**Inuvik**	**26.15**	**321**	*eP*	**P**	**01 20 29.1**	**+0.1**
	comp=Z,58nm,1.3s,mb5.0						
INK	**Inuvik**	**26.15**	**321**	*eP*	**P**	**01 20 29.1**	**+0.1**
	comp=Z,58nm,1.3s,mb5.0						
BILL	**Bilibino**	**27.89**	**10**	*eP*	**P**	**01 20 45.7**	**+0.7**
BILL				*e*		01 21 29.1	
BILL				*eS*	SS	01 26 43.6	-3.9
BILL				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.0						
BILL	**Bilibino**	**27.89**	**10**	*eP*	**P**	**01 20 45.7**	**+0.7**
	comp=Z,15nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**30.43**	**331**	P	**P**	**01 21 08.5**	**+0.8**
	comp=Z,5.7nm,0.9s,mb4.3,baz=2.8,slow=7.7,SNR=42						
ILAR				PcP	PcP	01 24 07.5	+0.1
	comp=Z,0.5nm,0.7s,baz=329,slow=2.7,SNR=4.4						
ILAR				LR	LR	01 32 35.1	
	comp=Z,297nm,18.4s,MS4.0,baz=102,slow=35						
ILAR	**Eielson Array**	**30.43**	**331**	P	**P**	**01 21 08.5**	**+0.8**
ILAR						01 24 07.5	
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,297nm,18.4s						
YKA	**Yellowknife Ar**	**30.45**	**303**	P	**P**	**01 21 07.8**	**-0.1**
	comp=Z,1.6nm,0.8s,mb3.8,baz=4.9,slow=8.3,SNR=25						
YKA				PcP	PcP	01 24 07.3	-0.1
	comp=Z,0.7nm,0.8s,baz=0.5,slow=2.6,SNR=7.4						
YKA				LR	LR	01 34 13.3	
	comp=Z,550nm,18.9s,MS4.2,baz=350,slow=38						
YKA	**Yellowknife Ar**	**30.45**	**303**	P	**P**	**01 21 07.8**	**-0.2**
YKA						01 24 07.3	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,550nm,18.9s						
YKA	**Yellowknife Ar**	**30.45**	**303**	P	**P**	**01 21 07.8**	**-0.1**
YKA				PcP	PcP	01 24 07.3	-0.1
YKA				LR	LR	01 34 13.3	
BSEG	**Bad Segeberg**	**30.48**	**166**	*eP*	**P**	**01 21 07.6**	**-0.7**
BSEG				pmax	pmax		
	comp=Z,31nm,1.5s,mb4.8						
OBN	**Obninsk**	**30.59**	**136**	*eP*	**P**	**01 21 10.4**	**+1.2**
OBN				*e*		01 22 05.2	
OBN				*eS*	**S**	**01 26 07.9**	**-2.0**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
OBN				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.2						
OBN	**Obninsk**	**30.59**	**136**	*eP*	**P**	**01 21 10.4**	**+1.2**
	comp=Z,5.0nm,1.0s,mb4.3						
DAWY	**Dawson**	**30.72**	**325**	*eP*	**P**	**01 21 08.8**	**-1.5**
DAWY	**Dawson**	**30.72**	**325**	*eP*	**P**	**01 21 08.8**	**-1.5**
ARU	**Arti**	**31.15**	**112**	⇓*i* P	**P**	**01 21 15.2**	**+1.1**
ARU				*e*		01 22 17.0	
ARU				*e*		01 24 06.6	
ARU				*eS*	**S**	**01 26 21.4**	**+2.7**
ARU				*eSS*	SS	01 28 06.8	+3.0
ARU				*e*		01 31 41.2	
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
ARU				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.2						
ARU				MLR	MLR		
	comp=N,400nm,18.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,200nm,15.0s,MS4.2						
ARU	**Arti**	**31.15**	**112**	*i* P	**P**	**01 21 15.2**	**+1.1**
	comp=E,9.0nm,1.0s,mb4.5						
THY	**Trims Highway**	**31.72**	**330**	*eP*	**P**	**01 21 19.1**	**0.0**
THY	**Trims Highway**	**31.72**	**330**	*eP*	**P**	**01 21 19.1**	**0.0**
CLZ	**Clausthal**	**32.58**	**167**	*eP*	**P**	**01 21 27.0**	**+0.3**
CLZ				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
CLZ	**Clausthal**	**32.58**	**167**	*eP*	**P**	**01 21 27.0**	**+0.3**
	comp=Z,25nm,1.4s,mb5.0						
CLL	**Collm**	**33.18**	**164**	P	**P**	**01 21 31.0**	**-0.9**
	comp=Z,logA/T=1.3,mb5.0						
CLL	**Collm**	**33.18**	**164**	*eP*	**P**	**01 21 31.0**	**-0.9**
CLL				pmax	pmax		
	comp=Z,36nm,1.8s,mb5.0						
CLL	**Collm**	**33.18**	**164**	*eP*	**P**	**01 21 31.0**	**-0.9**
	comp=Z,36nm,1.8s,mb5.0						
SCHQ	**Schefferville**	**33.29**	**254**	P	**P**	**01 21 33.4**	**+0.6**
	comp=Z,5.6nm,0.9s,mb4.5,baz=339,slow=7.9,SNR=4.3						
SCHQ				LR	LR	01 36 22.0	
	comp=Z,167nm,18.9s,MS3.8,baz=279,slow=39						
BRG	**Berggiesshubel**	**33.64**	**163**	*eP*	**P**	**01 21 34.2**	**-1.8**
BRG				pmax	pmax		
	comp=Z,38nm,1.8s,mb5.0						
BRG	**Berggiesshubel**	**33.64**	**163**	*eP*	**P**	**01 21 34.2**	**-1.8**
	comp=Z,38nm,1.8s,mb5.0						
BRG	**Berggiesshubel**	**33.64**	**163**	*eP*	**P**	**01 21 34.2**	**-1.8**
	comp=Z,38nm,1.8s,mb5.0						
KSP	**Ksiaz**	**33.75**	**160**	*eP*	**P**	**01 21 36.4**	**-0.5**
MOX	**Moxa**	**33.81**	**165**	*i* P	**P**	**01 21 37.8**	**+0.4**
	comp=Z,logA/T=1.5,mb5.2						
MOX	**Moxa**	**33.81**	**165**	*eP*	**P**	**01 21 37.8**	**+0.4**
MOX				pmax	pmax		
	comp=Z,60nm,1.9s,mb5.2						
MOX	**Moxa**	**33.81**	**165**	P	**P**	**01 21 37.8**	**+0.4**
	comp=Z,60nm,1.9s,mb5.2						
PVCC	**Panska Ves**	**34.01**	**162**	*eP*	**P**	**01 21 39.1**	**0.0**
UPC	**Upice**	**34.08**	**160**	*eP*	**P**	**01 21 40.1**	**+0.4**
TNS	**Taunus Mts**	**34.16**	**169**	*eP*	**P**	**01 21 41.0**	**+0.6**
TNS				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.0						
TNS	**Taunus Mts**	**34.16**	**169**	*eP*	**P**	**01 21 41.0**	**+0.6**
	comp=Z,36nm,1.6s,mb5.0						
NKC	**Novy Kostel**	**34.24**	**164**	*eP*	**P**	**01 21 41.6**	**+0.5**
DPC	**Dobruska-Polom**	**34.24**	**160**	*eP*	**P**	**01 21 40.9**	**-0.3**
AKASG	**Malin Array Be**	**34.51**	**145**	P	**P**	**01 21 41.2**	**-2.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=346,slow=8.7,SNR=6.5						
AKASG	**Malin Array Be**	**34.51**	**145**	P	**P**	**01 21 41.3**	**-2.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OJC	**Ojcow**	**34.51**	**156**	*eP*	**P**	**01 21 43.3**	**-0.2**
PRU	**Pruhonice**	**34.55**	**162**	*eP*	**P**	**01 21 43.9**	**+0.1**
GRA1	**Grafenberg Arr**	**34.75**	**166**	*eP*	**P**	**01 21 46.0**	**+0.5**
	comp=Z,13nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**34.75**	**166**	*eP*	**P**	**01 21 46.0**	**+0.5**
GRF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
GRF				MLR	MLR		
	comp=Z,300nm,20.3s,MS4.0						
GRF	**Grafenberg Arr**	**34.75**	**166**	*eP*	**P**	**01 21 46.0**	**+0.5**
	comp=Z,13nm,1.1s,mb4.8						
GRF				LR	LR		
	comp=Z,300nm,20.3s,MS4.0						
OKC	**Ostrava-Krasne**	**34.83**	**158**	*eP*	**P**	**01 21 46.2**	**0.0**
CHKZ	**Chkalovo**	**35.06**	**100**	*eP*	**P**	**01 21 47.4**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
CHKZ	**Chkalovo**	**35.06**	**100**	*eP*	**P**	**01 21 47.4**	**-0.8**
	comp=Z,13nm,1.1s,mb4.8						
CHKZ	**Chkalovo**	**35.06**	**100**	*eP*	**P**	**01 21 47.4**	**-0.7**
	comp=Z,13nm,1.1s,mb4.8						
NVS	**Novosibirsk**	**35.20**	**87**	*i* P	**P**	**01 21 48.6**	**-0.8**
NVS				pmax	pmax		
	comp=N,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
VRAC	**Vranov**	**35.30**	**160**	*eP*	**P**	**01 21 50.6**	**+0.4**
WET	**Wettzell**	**35.34**	**164**	*eP*	**P**	**01 21 51.2**	**+0.6**
WET				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9						
WET	**Wettzell**	**35.34**	**164**	*eP*	**P**	**01 21 51.2**	**+0.6**
	comp=Z,25nm,1.5s,mb4.9						
KHC	**Kasperske Hory**	**35.38**	**163**	*eP*	**P**	**01 21 51.8**	**+0.9**
KHC	**Kasperske Hory**	**35.38**	**163**	⇑*eP*	**P**	**01 21 51.8**	**+0.9**
STHS	**

KURK	**Kurchatov**	**38.80**	**93**	⇑	*e*P		**P**	**01 22 19.0**	**-0.7**
KURK	**Kurchatov**	**38.80**	**93**		*e*P		**P**	**01 22 19.0**	**-0.7**
LPL	**La Plagne**	**38.83**	**171**		*e*P		**P**	**01 22 20.8**	**+0.8**
LPG	**La Plagne**	**38.85**	**171**		*e*P		**P**	**01 22 21.2**	**+1.0**
	comp=Z,46nm,1.4s,mb4.7								
LPG	**La Plagne**	**38.85**	**171**		*e*P		**P**	**01 22 21.2**	**+1.0**
LPG					pmax		pmax		
	comp=Z,23nm,1.4s,mb4.7								
BZS	**Buzias**	**39.19**	**154**	⇓	P		**P**	**01 22 24.2**	**+1.2**
EDM	**Edmonton**	**39.51**	**299**		*e*P		**P**	**01 22 26.2**	**+0.6**
EDM	**Edmonton**	**39.51**	**299**		*e*P		**P**	**01 22 26.2**	**+0.6**
MLR	**Muntele Rosu**	**39.52**	**150**	⇑	P		**P**	**01 22 30.3**	**+4.6**
ULM	**Lac du Bonnet**	**40.77**	**282**		P		**P**	**01 22 35.8**	**-0.2**
	comp=Z,2.6nm,0.8s,mb3.9,baz=358,slow=5.4,SNR=4.7								
ULM					LR		LR	01 39 41.7	
	comp=Z,615nm,18.6s,MS4.5,baz=232,slow=36								
ZAK	**Zakamensk**	**41.62**	**69**		*e*P		**P**	**01 22 30.7**	**-12**
ZAK					*e*			01 24 21.6	
ZAK					pmax		pmax		
	comp=Z,2.0nm,1.2s								
ZAK					pmax		pmax		
	comp=Z,2.0nm,1.1s								
KIV	**Kislovodsk**	**42.14**	**132**		*e*P		**P**	**01 22 47.2**	**+0.1**
KIV					*e*			01 24 24.0	
KIV					*e*			01 24 39.2	
KIV					*e*S		**S**	**01 29 05.0**	**-1.6**
KIV					*e*SS		SS	01 32 16.9	+8.3
KIV					pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.1								
KIV					MLR		MLR		
	comp=Z,100nm,14.0s,MS3.9								
KIV	**Kislovodsk**	**42.14**	**132**		*e*P		**P**	**01 22 47.2**	**+0.1**
	comp=Z,6.0nm,1.1s,mb4.1								
MKAR	**Makanchi Array**	**43.06**	**90**		P		**P**	**01 22 54.6**	**0.0**
	comp=Z,2.8nm,0.8s,mb4.1,baz=350,slow=7.9,SNR=25								
MKAR					LR		LR	01 44 48.8	
	comp=Z,135nm,20.0s,MS3.8,baz=270,slow=42								
MKAR	**Makanchi Array**	**43.06**	**90**		P		**P**	**01 22 54.6**	**0.0**
MKAR					pmax		pmax		
	comp=Z,3.0nm,0.8s								
MKAR					MLR		MLR		
	comp=Z,135nm,20.0s								
HIA	**Hailar**	**44.21**	**54**		*e*P		**P**	**01 23 04.4**	**+0.5**
SONM	**Songino Array**	**44.44**	**66**		P		**P**	**01 23 06.5**	**+0.7**
	comp=Z,8.2nm,0.9s,mb4.5,baz=338,slow=7.7,SNR=44								
SONM					LR		LR	01 42 02.3	
	comp=Z,140nm,18.7s,MS3.9,baz=309,slow=37								
SONM	**Songino Array**	**44.44**	**66**		P		**P**	**01 23 06.5**	**+0.7**
SONM					pmax		pmax		
	comp=Z,8.0nm,0.9s								
SONM					MLR		MLR		
	comp=Z,140nm,18.7s								
ULN	**Ulaanbaatar**	**44.47**	**66**	⇑	*e*P		**P**	**01 23 07.1**	**+1.1**
ULN	**Ulaanbaatar**	**44.47**	**66**		*e*P		**P**	**01 23 06.7**	**+0.6**
	comp=Z,15nm,0.9s,mb4.7								
ULN	**Ulaanbaatar**	**44.47**	**66**		*e*P		**P**	**01 23 06.7**	**+0.7**
	comp=Z,15nm,0.9s,mb4.7								
ESDC	**Sonseca Array**	**44.61**	**183**		P		**P**	**01 23 08.0**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=5.1,slow=8.1,SNR=3.2								
BR131	**Keskin Array S**	**45.71**	**142**		*e*P		**P**	**01 23 16.1**	**+0.1**
	comp=Z,6.8nm,1.1s,mb4.5								
BR131	**Keskin Array S**	**45.71**	**142**		*e*P		**P**	**01 23 16.1**	**+0.1**
	comp=Z,6.8nm,1.1s,mb4.5								
BRTR	**Keskin Array B**	**45.71**	**142**		P		**P**	**01 23 17.0**	**+1.0**
	comp=Z,7.0nm,1.0s,mb4.5,baz=333,slow=5.5,SNR=16								
BRTR	**Keskin Array B**	**45.71**	**142**		P		**P**	**01 23 17.0**	**+1.0**
BRTR					pmax		pmax		
	comp=Z,7.0nm,1.0s								
CHMT	**Chamberlain Mo**	**45.76**	**297**		*e*P		**P**	**01 23 16.7**	**+0.4**
CHMT	**Chamberlain Mo**	**45.76**	**297**		*e*P		**P**	**01 23 16.7**	**+0.4**
HRY	**Holter Researc**	**45.83**	**296**		*e*P		**P**	**01 23 17.1**	**+0.3**
HRY	**Holter Researc**	**45.83**	**296**		*e*P		**P**	**01 23 17.1**	**+0.3**
FRU	**Bishkek**	**46.19**	**99**		*e*P		**P**	**01 23 20.0**	**+0.2**
FRU					*e*			01 23 27.0	
FRU					pmax		pmax		
	comp=Z,40nm,2.0s,mb5.0								
FRU	**Bishkek**	**46.19**	**99**		*e*P		**P**	**01 23 20.0**	**+0.2**
	comp=Z,40nm,2.0s,mb5.0								
WMQ	**Urumqi**	**46.55**	**85**		*e*P		**P**	**01 23 23.0**	**+0.4**
WMQ					AP		pP	01 23 27.5	+1.9
WMQ					XP		sP	01 23 30.0	+3.1
WMQ					PCP		PcP	01 24 57.4	+0.1
WMQ					PP		PP	01 25 12.4	+0.4
WMQ					PPP		PPP	01 25 57.8	+0.8
WMQ					SCP			01 28 49.0	
WMQ					*e*S		**S**	**01 30 10.8**	**+0.4**
WMQ					SS		SS	01 33 29.3	+0.3
WMQ					AMB		AMB		
	comp=Z,70nm,4.8s								
WMQ					LR		LR		
	comp=N,660nm,22.0s,MS4.7								
WMQ					LR		LR		
	comp=E,640nm,21.0s,MS4.7								
WMQ					LR		LR		
	comp=Z,620nm,20.0s,MS4.6								
HAWA	**Hanford**	**46.83**	**303**		*e*P		**P**	**01 23 25.2**	**+0.4**
	comp=Z,1.4nm,1.6s								
HAWA	**Hanford**	**46.83**	**303**		*e*P		**P**	**01 23 25.2**	**+0.4**
	comp=Z,1.4nm,1.6s								
MALT	**Malatya**	**47.44**	**137**		*e*P		**P**	**01 23 30.0**	**+0.3**
MALT					pmax		pmax		
	comp=Z,21nm,1.1s,mb5.0								
MALT	**Malatya**	**47.44**	**137**		*e*P		**P**	**01 23 30.0**	**+0.3**
	comp=Z,21nm,1.1s,mb5.0								
QLMT	**Earthquake Lak**	**47.65**	**295**		*e*P		**P**	**01 23 32.2**	**+0.9**
MCMT	**McKenzie Canyo**	**47.79**	**297**		*e*P		**P**	**01 23 33.4**	**+1.1**
HLID	**Hailey**	**49.18**	**298**		*e*P		**P**	**01 23 43.8**	**+0.6**
	comp=Z,7.7nm,1.4s,mb4.5								
PDAR	**Pinedale Array**	**49.52**	**293**		P		**P**	**01 23 46.7**	**+0.9**
	comp=Z,2.5nm,0.9s,mb4.2,baz=19,slow=4.5,SNR=17								
PDAR					LR		LR	01 45 26.0	
	comp=Z,785nm,18.2s,MS4.8,baz=355,slow=37								
MDJ	**Mudanjiang**	**49.60**	**45**		P		**P**	**01 23 45.3**	**-1.0**
MDJ					PCP		PcP	01 25 07.0	-1.2
MDJ					PP		PP	01 25 39.4	-2.1
MDJ					SCP			01 29 01.8	
MDJ					PCS			01 29 03.8	
MDJ					S		**S**	**01 30 53.3**	**0.0**
MDJ					AMB		AMB		
	comp=Z,10.0nm,1.7s,mb4.6								
MDJ					AMB		AMB		
	comp=Z,90nm,2.9s,mb5.3								
MDJ					LR		LR		
	comp=N,30nm,20.3s,MS3.5								
MDJ					LR		LR		
	comp=E,40nm,24.5s,MS3.5								
MDJ					LR		LR		
	comp=Z,40nm,19.5s,MS3.4								
CN2	**Changchun**	**50.10**	**49**		*e*P		**P**	**01 23 50.8**	**+0.6**
TCUT	**Toone Canyon**	**51.33**	**295**		P		**P**	**01 23 58.6**	**-0.9**
ELK	**Elko**	**52.05**	**298**		*e*P		**P**	**01 24 04.5**	**-0.6**
ELK					pmax		pmax		
	comp=Z,66nm,2.5s								
ELK	**Elko**	**52.05**	**298**		*e*P		**P**	**01 24 04.5**	**-0.5**
	comp=Z,66nm,2.5s,mb5.1								
GTA	**Gaotai**	**52.15**	**74**		P		**P**	**01 24 05.8**	**0.0**
GTA					AP		pP	01 24 12.0	+3.1
GTA					PCP		PcP	01 25 15.9	-1.8
GTA					PP		PP	01 26 06.3	+1.3
GTA					PPP		PPP	01 27 11.3	+2.7
GTA					SCP			01 29 11.5	
GTA					S		**S**	**01 31 30.9**	**+2.3**
GTA					XS			01 31 39.3	
GTA					SCS		ScS	01 33 51.8	-1.0
GTA					SS		SS	01 35 08.4	+4.2
GTA					AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8								
GTA					AMB		AMB		
	comp=Z,140nm,6.1s								
GTA					LR		LR		
	comp=N,200nm,17.9s,MS4.3								
GTA					LR		LR		
	comp=E,160nm,15.6s,MS4.3								
GTA					LR		LR		
	comp=Z,220nm,16.3s,MS4.3								
TMUT	**Trail Mountain**	**53.12**	**294**		*e*P		**P**	**01 24 11.8**	**-1.2**
SRU	**San Rafael**	**53.24**	**294**		*e*P		**P**	**01 24 13.8**	**-0.1**
SRU					pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4								
SRU	**San Rafael**	**53.24**	**294**		*e*P		**P**	**01 24 13.8**	**-0.1**
	comp=Z,5.3nm,1.0s,mb4.4								
PV10	**Paradox Valley**	**53.83**	**292**		*e*P		**P**	**01 24 16.0**	**-2.2**
PV01	**Paradox Valley**	**54.02**	**292**		*e*P		**P**	**01 24 20.5**	**+0.8**
NVAR	**Mina Array Bea**	**54.62**	**301**		P		**P**	**01 24 24.6**	**+0.5**
	comp=Z,0.9nm,0.9s,mb3.8,baz=360,slow=6.1,SNR=5.0								

LZH	**Lanzhou**	**55.84**	**71**		*e*P		**P**	**01 24 32.5**	**-0.5**
LZH					AP		pP	01 24 41.0	+5.0
LZH					XP		sP	01 24 45.0	+7.8
LZH					PP		PP	01 26 38.5	-0.6
LZH					*e*S		**S**	**01 32 16.5**	**-1.9**
LZH					*e*SS		SS	01 36 01.8	-2.3
LZH					AMB		AMB		
	comp=Z,20nm,1.2s,mb5.0								
LZH					AMB		AMB		
	comp=Z,60nm,4.5s								
LZH					LR		LR		
	comp=E,1μm,16.6s								
LZH					LR		LR		
	comp=Z,2μm,17.5s,MS5.2								
TPNV	**Topopah Spring**	**55.91**	**299**		*e*P		**P**	**01 24 31.0**	**-2.5**
TPNV					pmax		pmax		
	comp=Z,19nm,1.8s,mb4.8								
TPNV	**Topopah Spring**	**55.91**	**299**		*e*P		**P**	**01 24 31.0**	**-2.4**
	comp=Z,19nm,1.8s,mb4.8								
ANMO	**Albuquerque**	**56.97**	**289**	⇑	*e*P		**P**	**01 24 41.0**	**-0.1**
NEN	**Nelson**	**57.07**	**297**		*e*P		**P**	**01 24 41.9**	**0.0**
MJAR	**Matsushiro Arr**	**58.22**	**38**		P		**P**	**01 24 49.5**	**-0.4**
	comp=Z,3.4nm,0.9s,mb4.4,baz=0.5,slow=7.4,SNR=5.5								
MJAR	**Matsushiro Arr**	**58.22**	**38**		P		**P**	**01 24 49.5**	**-0.4**
MJAR					pmax		pmax		
	comp=Z,3.0nm,0.9s								
LSA	**Lhasa**	**60.89**	**84**		P		**P**	**01 25 08.0**	**-0.3**
CD2	**Chengdu**	**60.95**	**72**	⇓	*i*P		**P**	**01 25 08.4**	**-0.4**
CD2					AP		pP	01 25 13.0	+1.1
CD2					PP		PP	01 27 24.5	-0.8
CD2					S		**S**	**01 33 23.6**	**-1.6**
CD2					SS		SS	01 37 23.8	-2.2
CD2					AMB		AMB		
	comp=Z,10.0nm,1.4s,mb4.8								
CD2					AMB		AMB		
	comp=Z,150nm,6.0s								
CD2					LR		LR		
	comp=N,100nm,18.0s								
CD2					LR		LR		
	comp=Z,190nm,15.6s,MS4.3								
GKN	**Gorkha**	**61.90**	**91**		*e*P		**P**	**01 25 14.3**	**-0.9**
	comp=Z,120nm,1.0s								
KOLN	**Koldanda**	**62.02**	**92**		*e*P		**P**	**01 25 14.7**	**-1.4**
	comp=Z,52nm,1.1s,mb5.6								
GUN	**Gumba**	**62.12**	**90**		*e*P		**P**	**01 25 16.0**	**-0.7**
	comp=Z,72nm,1.0s,mb5.8								
KKN	**Kakani**	**62.17**	**90**		*e*P		**P**	**01 25 16.3**	**-0.8**
	comp=Z,101nm,1.0s								
KKN	**Kakani**	**62.17**	**90**		*e*P		**P**	**01 25 16.3**	**-0.8**
KKN					pmax		pmax		
	comp=Z,51nm,1.0s,mb5.6								
TXAR	**Lajitas Array**	**62.26**	**286**		P		**P**	**01 25 17.6**	**-0.1**
	comp=Z,1.5nm,0.9s,mb4.1,baz=34,slow=4.5,SNR=9.1								
TXAR					LR		LR	01 53 09.5	
	comp=Z,571nm,18.4s,MS4.8,baz=30,slow=37								
TXAR	**Lajitas Array**	**62.26**	**286**		P		**P**	**01 25 17.6**	**0.0**
TXAR					pmax		pmax		
	comp=Z,2.0nm,0.9s								
TXAR					MLR		MLR		
	comp=Z,571nm,18.4s								
DMN	**Daman**	**62.33**	**91**		*e*P		**P**	**01 25 17.6**	**-0.5**
	comp=Z,107nm,1.3s,mb5.8								
JIRN	**Jiri**	**62.40**	**89**		*e*P		**P**	**01 25 18.2**	**-0.4**
	comp=Z,87nm,1.1s,mb5.8								
PKI	**Pulchoki**	**62.40**	**90**		*e*P		**P**	**01 25 17.8**	**-0.8**
	comp=Z,49nm,1.0s,mb5.6								
PKI	**Pulchoki**	**62.40**	**90**		*e*P		**P**	**01 25 17.8**	**-0.8**
PKI					pmax		pmax		
	comp=Z,25nm,1.0s,mb5.3								
GYA	**Guiyang**	**65.65**	**69**	⇓	*i*P		**P**	**01 25 39.8**	**+0.1**
GYA					AMB		AMB		
	comp=Z,20nm,1.0s,mb5.1								
GYA					AMB		AMB		
	comp=Z,180nm,5.0s								
GYA					LR		LR		
	comp=N,170nm,6.6s								
GYA					LR		LR		
	comp=E,140nm,6.6s								
GYA					LR		LR		
	comp=Z,140nm,5.7s								
KMI	**Kunming**	**66.58**	**73**		P		**P**	**01 25 48.1**	**+2.4**
TORD	**Torodi Ar. Bea**	**71.04**	**177**		P		**P**	**01 26 12.7**	**-0.7**
	comp=Z,3.5nm,1.1s,mb4.2,baz=356,slow=5.8,SNR=12								
SDV	**Santo Domingo**	**79.14**	**250**		*e*P		**P**	**01 27 08.6**	**+9.0**
	comp=Z,8.4nm,1.1s,mb4.6								
ROSC	**El Rosal**	**83.48**	**254**		LR		LR	02 02 35.3	
	comp=Z,75nm,18.8s,MS4.1,baz=179,slow=34								
KMBO	**Kilima Mbogo**	**86.50**	**141**		LR		LR	02 09 43.1	
	comp=Z,51nm,18.5s,MS4.0,baz=299,slow=38								
PSI	**Prapat**	**88.28**	**80**		P		**P**	**01 27 45.6**	**-0.4**
	comp=Z,11nm,0.7s,mb5.2,baz=326,slow=3.1,SNR=6.9								
PSI	**Prapat**	**88.28**	**80**		P		**P**	**01 27 45.6**	**-0.5**
PSI					pmax		pmax		
	comp=Z,11nm,0.7s,mb5.2								
OTAV	**Otavalo**	**88.46**	**257**		P		**P**	**01 27 47.3**	**+0.4**
	comp=Z,7.1nm,1.1s,mb4.8								

ATH ***17*** *01:29:26.6, 39.65N×24.02E, h36km±1km, MD3.1/3*
NEIC ***17*** *01:29:26.6, 39.65N×24.02E, h36km, MD3.1(ATH), After ATH.*
THE ***17*** *01:29:27.8, 39.65N×24.06E, h5km, ML2.7*
CSEM ***17*** *01:29:27.4±0.2, 39.65N×24.04E, h25km, ML2.7, Error ellipse: s-maj=3.9km s-min=3.0km az=117.0*

ISC 17 01:29:27.6±0.5, 39.64N±0.03×24.02E±0.05, h30km±5km, n12, σ0s66/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.39**	**318**	*e*Pg	**Pb**	**01 29 35.5**	**-0.7**
PAIG				*e*Sg	**Sb**	**01 29 41.7**	**-0.4**
AOS	**Alonnisos**	**0.48**	**193**	*e*Pg	**Pb**	**01 29 36.4**	**-1.3**
AOS				*e*Sg	**Sb**	**01 29 44.9**	**+0.3**
OUR	**Ouranopolis**	**0.69**	**358**	*e*Pg	**Pb**	**01 29 40.7**	**-0.4**
	comp=Z,14nm,0.2s						
OUR				*e*Sg	**Sb**	**01 29 50.7**	**+0.3**
XOR	**Xorichti**	**0.69**	**247**	*e*Pg	**Pb**	**01 29 41.3**	**+0.2**
	comp=Z,8.0nm,0.2s						
XOR				*e*Sg	**Sb**	**01 29 51.5**	**+1.1**
PLG	**Polygyros**	**0.85**	**329**	*e*PN	**Pn**	**01 29 42.9**	**-0.7**
PLG				*e*SN	**Sn**	**01 29 54.3**	**-0.9**
LOS	**Limnos**	**0.87**	**70**	*e*Pg	**Pn**	**01 29 43.8**	**-0.1**
	comp=Z,9.0nm,0.2s						
LOS				*e*Sg	**Sb**	**01 29 55.9**	**+0.5**
LIA	**Limnos Island**	**0.94**	**74**	*e*PN	**Pn**	**01 29 44.5**	**-0.3**
LIA				*e*SN	**Sn**	**01 29 57.6**	**+0.3**
LKR	**Lokris**	**1.27**	**219**	*e*PN	**Pn**	**01 29 49.8**	**+0.2**
SRS	**Serrai**	**1.51**	**348**	*e*Pg	**Pn**	**01 29 53.7**	**+0.7**
SRS				*e*Sg	**Sn**	**01 30 12.6**	**+0.7**
NVR	**Nevrokopi**	**1.71**	**356**	*e*PN	**Pn**	**01 29 55.6**	**-0.3**
NVR				*e*SN	**Sn**	**01 30 17.0**	**0.0**
KNT	**Kendrikon**	**1.74**	**331**	*e*Pb	**Pb**	**01 30 00.1**	**+1.3**
KNT				*e*Sb	**Sb**	**01 30 25.4**	**+5.1**
GRG	**Griva**	**1.80**	**317**	*e*Pb	**Pb**	**01 29 58.9**	**-0.9**
GRG				*e*Sb	**Sb**	**01 30 22.6**	**+0.5**

ATH ***17*** *01:31:45.5, 39.47N×19.86E, h40km±2km, MD3.6/7*
NEIC ***17*** *01:31:45.5, 39.47N×19.86E, h40km, MD3.6(ATH), After ATH.*
CSEM ***17*** *01:31:45.4±0.1, 39.55N×19.76E, h40km, MD3.6, Error ellipse: s-maj=3.2km s-min=2.8km az=29.0*
THE ***17*** *01:31:46.5, 39.59N×19.84E, h25km, ML3.2*
HLW ***17*** *01:32:17.4, 37.33N×21.97E, h33km, Mb3.3*

ISC 17 01:31:45.4±0.6, 39.54N±0.04×19.77E±0.05, h48km±6km, n29, σ0s84/36, 1C-3D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.17**	**7**	⇓ *i*P	**P**	**01 31 53.7**	**+0.4**
KEK				*e*S	**S**	**01 31 59.1**	**+0.1**
IGT	**Igoumenitsa**	**0.43**	**91**	*e*Pg	**P**	**01 31 54.7**	**-1.1**
IGT				*e*Sg	**S**	**01 32 00.9**	**-2.3**
TPE	**Tepelena**	**0.77**	**14**	*i* Pg	**P**	**01 32 02.0**	**+1.9**
TPE				*i* Sg	**S**	**01 32 12.2**	**+1.2**
JAN	**Janina**	**0.84**	**82**	⇑ *i*P	**P**	**01 32 01.1**	**0.0**
JAN				*e*S	**S**	**01 32 12.1**	**-0.5**
LSK	**Leskovik**	**0.88**	**46**	*i* Pg	**P**	**01 32 02.2**	**+0.6**
LKD	**Levkas**	**1.08**	**140**	*e*Pg	**P**	**01 32 04.7**	**+0.3**
LKD				*e*Sg	**S**	**01 32 20.2**	**+1.7**
VLS	**Valsamata**	**1.51**	**155**	*e*P	**P**	**01 32 10.1**	**-0.4**
EVR	**Evrytania**	**1.70**	**111**	*e*P	**P**	**01 32 13.8**	**+0.6**
KZN	**Kozani**	**1.71**	**63**	*e*P	**P**	**01 32 14.1**	**+0.7**
KZN				*e*S	**S**	**01 32 35.5**	**+1.2**
RLS	**Riolos of Patr**	**1.99**	**138**	*e*P	**P**	**01 32 17.3**	**0.0**
AGG	**Agios Georgios**	**2.05**	**104**	*e*Pn	**P**	**01 32 19.2**	**+1.0**
	comp=Z,5.0nm,0.2s						
LIT	**Litokhoron**	**2.17**	**74**	*e*Pn	**P**	**01 32 20.0**	**+0.2**
	comp=Z,2.4nm,0.2s						
LIT				*e*Sn	**S**	**01 32 45.4**	**-0.1**
TIP	**Timpagrande**	**2.37**	**262**	*e*P	**S**	**01 32 23.0**	**+0.3**
TIP	**Timpagrande**	**2.37**	**262**	*e*P	**S**	**01 32 23.0**	**+0.3**
GRG	**Griva**	**2.46**	**54**	*e*Pn	**P**	**01 32 24.0**	**0.0**
	comp=Z,2.1nm,0.2s						
XOR	**Xorichti**	**2.65**	**93**	*e*Pn	**P**	**01 32 27.3**	**+0.5**
LKR	**Lokris**	**2.66**	**109**	*e*P	**P**	**01 32 26.4**	**-0.5**
KNT	**Kendrikon**	**2.88**	**55**	*e*Pn	**P**	**01 32 30.1**	**0.0**
PLG	**Polygyros**	**2.94**	**72**	*e*P	**P**	**01 32 30.0**	**-0.9**
SOH	**Sokhos**	**3.03**	**64**	*e*Pn	**P**	**01 32 31.6**	**-0.5**
PAIG	**Paliouri**	**3.04**	**82**	*e*Pn	**P**	**01 32 31.2**	**-1.1**
SRS	**Serrai**	**3.32**	**60**	*e*Pn	**P**	**01 32 35.4**	**-0.7**
OUR	**Ouranopolis**	**3.33**	**75**	*e*Pn	**P**	**01 32 35.5**	**-0.8**
BOJS	**Bojanci**	**6.83**	**332**	*i* Pn	**P**	**01 33 25.0**	**-0.5**
CRES	**Cresnjev**	**7.04**	**335**	*i* Pn	**P**	**01 33 27.3**	**-1.1**
VOJS	**Vojsko**	**7.80**	**328**	*i* Pn	**P**	**01 33 38.3**	**-0.6**
SWA2		**11.29**	**154**	⇓ *e*P	**P**	**01 34 20.0**	**-6.8**
SWA1		**11.36**	**153**	*e*P	**P**	**01 34 20.6**	**-7.1**
HFRF	**Wahat Farafira**	**14.26**	**148**	⇓ *e*P	**P**	**01 35 00.3**	**-5.9**

IDC 17 01:44:51.8±3.9, 10.12N×91.93E, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=140.5km s-min=28.3km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.46**	**349**	P	P	01 52 06.9	-1.8
	0.6nm,0.7s,baz=158,slow=8.7,SNR=5.2						
SONM	**Songino Array**	**39.52**	**15**	P	P	01 52 24.4	-1.6
	0.3nm,0.5s,baz=199,slow=9.0,SNR=2.7						
WRA	**Warramunga Arr**	**51.34**	**126**	P	P	01 53 58.4	-2.1
	1.3nm,0.5s,baz=305,slow=8.6,SNR=27						

IDC 17 02:02:59.2±2.1, 5.47S×122.49E, mb3.7/2, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=157.8km s-min=32.5km az=58.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.43**	**142**	P	P	02 07 16.3	-1.8
	0.5nm,0.3s,baz=318,slow=12,SNR=27						
WB2	**Warramunga Arr**	**18.44**	**142**	*e*P	P	02 07 17.0	-1.1
SONM	**Songino Array**	**54.94**	**347**	P	P	02 12 32.5	-1.7
	0.4nm,0.6s,baz=155,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**63.02**	**330**	P	P	02 13 27.6	-2.7
	1.0nm,0.7s,baz=141,slow=7.1,SNR=13						

IGQ 17 02:03:03.1, 1.97S×79.19W, h12km±4km, mb4.3, 11C-4D, Error ellipse: s-maj=4.8km s-min=3.5km az=110.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGUA	**Igualata**	**0.73**	**49**	⇓ P	Pb	02 03 17.6	+0.3
ARRY	**Arrayan**	**0.87**	**58**	P	Pb	02 03 19.1	-0.5
ARRY				S	Sb	02 03 30.9	-0.1
CUSU	**Cusua**	**0.88**	**54**	⇓ P	Pb	02 03 20.0	+0.1
JUIV	**Juive**	**0.91**	**53**	⇓ P	Pb	02 03 20.2	-0.1
JUIV				S	Sb	02 03 33.3	+1.2
ULBA	**Ulba**	**0.94**	**57**	⇑ P	Pb	02 03 20.8	-0.1
QIL1	**Quilotoa**	**1.15**	**13**	⇑ P	Pb	02 03 25.1	+0.7
QIL1				S	Sb	02 03 41.8	+2.8
CAMI	**Rancho Maria**	**1.46**	**28**	⇓ P	Pn	02 03 31.6	+2.2
VC1	**Cotopaxi 1**	**1.54**	**31**	⇑ P	Pn	02 03 32.8	+2.3
ANTI	**Antisana**	**1.83**	**34**	⇑ P	Pn	02 03 37.2	+2.5
JUA2	**San Juan 2**	**1.84**	**19**	⇑ P	Pn	02 03 38.3	+3.5
TERV	**Terraza Guagua**	**1.88**	**18**	⇑ P	Pn	02 03 38.9	+3.5
GGP	**Refugio Guagua**	**1.88**	**19**	⇑ P	Pn	02 03 38.9	+3.5
PINO	**Pino**	**1.89**	**18**	⇑ P	Pn	02 03 39.0	+3.4
YANA	**Yana**	**1.94**	**19**	⇑ P	Pn	02 03 39.8	+3.5
MAG1	**Magdalena**	**1.97**	**343**	P	Pn	02 03 38.1	+1.4
MAG1				S	Sn	02 04 02.2	+0.6
JAMA	**Jama**	**1.98**	**329**	P	Pn	02 03 36.2	-0.6
JAMA				S	Sn	02 04 01.3	-0.4
CAYR	**Refugio Cayamb**	**2.30**

ARUT	**Antelope Range**	**4.79**	**41**	*e*Pn		**Pn**	**02 16 40.0**	**0.0**
MVU	**Marysvale**	**5.99**	**43**	*e*Pn		**Pn**	**02 16 56.2**	**-0.5**
MSU	**Marysvale**	**6.01**	**43**	*e*Pn		**Pn**	**02 16 56.3**	**-0.8**
ELK	**Elko**	**6.72**	**14**	Pn		**Pn**	**02 17 07.8**	**+0.8**
	0.1nm,0.3s,baz=187,slow=17,SNR=2.9							
ELK				Pg		**Pg**	**02 17 32.4**	**-7.6**
	0.6nm,0.3s,baz=200,slow=15,SNR=15							
ELK				Lg			02 18 55.8	
	0.8nm,0.3s,baz=297,slow=7.6,SNR=12							
DUG	**Dugway**	**6.99**	**31**	Pn		**Pn**	**02 17 11.2**	**+0.3**
PV10	**Paradox Valley**	**7.93**	**56**	Pn		**Pn**	**02 17 24.3**	**+0.2**
MOD	**Modoc**	**7.97**	**344**	Pn		**Pn**	**02 17 23.4**	**-1.2**
PDAR	**Pinedale Array**	**10.51**	**34**	Pn		**P**	**02 18 04.9**	**+5.3**
	0.0nm,0.3s,baz=225,slow=8.4,SNR=5.0							
TXAR	**Lajitas Array**	**12.70**	**109**	Pn		**P**	**02 18 30.0**	**+0.7**
	0.1nm,0.3s,baz=288,slow=12,SNR=5.3							
TXAR	**Lajitas Array**	**12.70**	**109**	Pn		**P**	**02 18 30.0**	**+0.6**
ILAR	**Eielson Array**	**35.38**	**339**	P		**P**	**02 22 25.1**	**+1.6**
	0.3nm,0.7s,mb3.3,baz=150,slow=8.5,SNR=4.4							

IGQ 17 02:25:49.7, 2.10S×79.12W, h12km±3km, mb4.2, 6C-5D, Error ellipse: s-maj=4.5km s-min=1.9km az=62.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGUA	**Igualata**	**0.78**	**39**	⇓P	Pb	02 26 05.2	+0.6
IGUA				S	Sb	02 26 16.3	+1.5
ARRY	**Arrayan**	**0.89**	**48**	P	Pb	02 26 07.4	+0.8
ARRY				S	Sb	02 26 18.6	+0.4
CUSU	**Cusua**	**0.92**	**44**	P	Pb	02 26 08.2	+1.1
CUSU				S	Sb	02 26 20.1	+1.2
JUIV	**Juive**	**0.94**	**44**	⇓P	Pb	02 26 08.2	+0.7
JUIV				S	Sb	02 26 20.0	+0.4
ULBA	**Ulba**	**0.96**	**48**	⇑P	Pb	02 26 08.5	+0.6
ULBA				S	Sb	02 26 20.7	+0.4
QIL1	**Quilotoa**	**1.26**	**9**	P	Pb	02 26 12.5	-0.4
QIL1				S	Sb	02 26 30.1	+1.2
CAMI	**Rancho Maria**	**1.54**	**24**	⇑P	Pn	02 26 19.0	+1.8
VC1	**Cotopaxi 1**	**1.62**	**26**	⇑P	Pn	02 26 20.2	+2.0
VC1				S	Sn	02 26 44.0	+4.9
ANTI	**Antisana**	**1.90**	**30**	⇓P	Pn	02 26 25.0	+2.6
JUA2	**San Juan 2**	**1.94**	**15**	⇑P	Pn	02 26 25.9	+2.9
JUA2				S	Sn	02 26 54.8	+7.4
TERV	**Terraza Guagua**	**1.98**	**15**	⇓P	Pn	02 26 26.6	+3.1
TERV				S	Sn	02 26 57.6	+9.2
GGP	**Refugio Guagua**	**1.98**	**15**	⇑P	Pn	02 26 26.4	+2.8
PINO	**Pino**	**2.00**	**15**	⇓P	Pn	02 26 26.7	+3.0
YANA	**Yana**	**2.04**	**16**	P	Pn	02 26 27.2	+2.9
MAG1	**Magdalena**	**2.12**	**342**	P	Pn	02 26 25.4	0.0
CAYR	**Refugio Cayamb**	**2.38**	**28**	P	Pn	02 26 35.1	+6.0
CAYA	**Cayambe**	**2.44**	**28**	P	Pn	02 26 35.7	+5.7
LAV3	**Lava3-Reventad**	**2.48**	**37**	P	Pn	02 26 35.1	+4.4
COTA	**Cotacachi**	**2.54**	**18**	⇑P	Pn	02 26 37.2	+5.7

NNC 17 02:54:58.3±1.8, 42.57N×87.21E, h27km±10km, mb3.7, mpv3.3, Error ellipse: s-maj=16.5km s-min=11.2km az=46.0

BJI 17 02:54:53.8, 42.14N×87.41E, h24km, ML3.4, 6C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.69**	**7**	⇓*i*PG	Pn	02 55 23.3	+0.9
WMQ				SG	Sn	02 55 43.0	-0.5
WMQ				Smax			
	comp=N,340nm,0.4s						
WMQ				Smax			
	comp=E,370nm,0.4s						
MK31	**Makanchi Array**	**5.92**	**324**	⇑Pn	Pn	02 56 20.9	-1.5
	comp=E,1.1nm,0.3s,baz=137,slow=14,SNR=92						
MK31				⇑Sn	Sn	02 57 26.3	-3.9
	comp=E,2.3nm,0.5s,baz=138,slow=19,SNR=4.0						
MK31				⇑Lg		02 57 52.5	
	comp=E,4.0nm,0.6s,baz=134,slow=28,SNR=3.5						
TKM2	**Tokmak 2**	**8.76**	**279**	⇑Sn	Sn	02 58 34.9	-6.2
	comp=E,4.7nm,0.9s						
TKM2				⇑Lg		02 59 31.8	
	comp=E,3.5nm,0.7s						
KURK	**Kurchatov**	**10.50**	**328**	⇑Lg		03 00 17.1	
	comp=E,3.6nm,1.2s						

CSEM 17 03:15:11.3±0.1, 76.21N×26.25E, h10km, ML3.3, Error ellipse: s-maj=5.4km s-min=1.5km az=63.0
BER 17 03:15:16.6±4.6, 76.08N×25.68E, h15km, MD2.6, ML2.8
HEL 17 03:15:22.4±0.6, 75.78N×23.90E, h10km, ML3.3, MD2.6(BER), ML2.7(BER)

ISC 17 03:15:13.9±0.6, 75.98N±0.04×25.1E±0.4, h10km, n20, σ1°49/38, 1C, Barents Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPEN	**Hopen**	**0.53**	**358**	⇑*i*P	**Pg**	**03 15 25.3**	**+0.7**
HOPEN				*e*S	**Sg**	**03 15 30.9**	**-0.9**
BJO	**Bjornoya**	**2.12**	**228**	*e*P	**Pn**	**03 16 01.2**	**+11**
BJO				*e*S	**Sn**	**03 16 27.8**	**+11**
BJO				AML	AML	03 16 31.9	
	comp=Z,114nm,0.3s						
BJO	**Bjornoya**	**2.12**	**228**	*e*P	**Pn**	**03 16 01.2**	**+11**
	SNR=55						
BJO				*e*S	**Sn**	**03 16 27.8**	**+11**
	comp=Z,114nm,0.3s						
BJO1	**Bjornoya**	**2.16**	**229**	AML	AML	03 16 31.9	
	comp=Z,114nm,0.3s						
HSP	**Hornsund**	**2.47**	**299**	*e*P	**Pn**	**03 15 54.4**	**-0.5**
HSP				*e*S	**Sn**	**03 16 27.0**	**+1.6**
HSP	**Hornsund**	**2.47**	**299**	P	**Pn**	**03 15 54.4**	**-0.5**
	SNR=55						
HSP				S	**Sn**	**03 16 26.9**	**+1.6**
	SNR=55						
KBS	**Kingsbay**	**4.11**	**322**	*e*P	**Pn**	**03 16 15.8**	**-2.4**
KBS				*e*S	**Sn**	**03 17 02.0**	**-5.0**
KBS				AML	AML	03 17 26.8	
	comp=Z,76nm,0.7s						
KBS	**Kingsbay**	**4.11**	**322**	*e*P	**Pn**	**03 16 15.8**	**-2.4**
	SNR=53						
KBS				*e*S	**Sn**	**03 17 02.0**	**-5.0**
	comp=Z,76nm,0.7s,SNR=53						
KEV	**Kevo**	**6.29**	**174**	*e*P	**Pn**	**03 16 51.6**	**+2.6**
KEV				MPN		03 16 55.6	
	comp=Z,1.6nm,0.2s						
KEV				*e*S	**Sn**	**03 18 00.4**	**-1.2**
KEV	**Kevo**	**6.29**	**174**	P	**Pn**	**03 16 51.5**	**+2.5**
	comp=Z,1.6nm,0.2s						
KEV				S	**Sn**	**03 18 00.4**	**-1.3**
TRO	**Tromso**	**6.64**	**199**	*e*P	**Pn**	**03 16 52.4**	**-1.5**
TRO				*e*S	**Sn**	**03 18 03.0**	**-7.3**
KTK1	**Kautokeino**	**7.03**	**186**	*e*P	**Pn**	**03 17 02.1**	**+2.6**
KTK1				*e*S	**Sn**	**03 18 17.0**	**-3.3**
KTK1				AML	AML	03 18 28.9	
	comp=Z,6.2nm,0.6s						
KIF	**Kilpisjarvi**	**7.13**	**193**	*e*P	**Pn**	**03 17 01.6**	**+0.8**
KIF				MPN		03 17 05.6	
	comp=Z,0.9nm,0.2s						
KIF				*e*S	**Sn**	**03 18 16.6**	**-6.2**
KIF	**Kilpisjarvi**	**7.13**	**193**	P	**Pn**	**03 17 01.6**	**+0.7**
	comp=Z,0.9nm,0.2s						
KIF				S	**Sn**	**03 18 16.5**	**-6.3**
SGF	**Sodankyl**	**8.60**	**176**	*e*P	**P**	**03 17 22.1**	**+0.8**
SGF				MPN		03 17 25.7	
	comp=Z,0.5nm,0.2s						
SGF				*e*S	**Sn**	**03 18 54.7**	**-4.7**
SGF	**Sodankyl**	**8.60**	**176**	P	**P**	**03 17 22.0**	**+0.7**
	comp=Z,0.5nm,0.2s						
SGF				S	**Sn**	**03 18 54.7**	**-4.7**
KU4	**Liikasenvaara**	**9.77**	**169**	*e*P	**P**	**03 17 38.7**	**+1.4**
KU4				MPN		03 17 40.2	
	comp=Z,6.4nm,0.8s						
KU4				*e*S	**Sn**	**03 19 21.9**	**-6.3**
OUL	**Oulu**	**10.96**	**178**	*e*P	**P**	**03 17 54.2**	**+0.6**
OUL				MPN		03 17 55.2	
	comp=Z,1.2nm,0.3s						
OUL				*e*S	**S**	**03 19 50.1**	**-7.1**
KJN	**Kajaani**	**11.99**	**174**	*e*P	**P**	**03 18 08.5**	**+0.9**
KJN				MPN		03 18 09.6	
	comp=Z,0.5nm,0.2s						
KJN				*e*S	**S**	**03 20 14.1**	**-8.3**
VAF	**Ylistaro**	**13.03**	**185**	*e*P	**P**	**03 18 20.3**	**-1.3**
VAF				MPN		03 18 25.4	
	comp=Z,8.8nm,1.0s						
VAF				*e*S	**S**	**03 20 36.6**	**-11**

IDC 17 03:26:17.7±1.9, 2.08N×128.00E, mb3.5/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.6/3, Error ellipse: s-maj=151.1km s-min=25.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.75**	**164**	P	P	03 31 20.9	-2.1
	0.6nm,0.7s,baz=344,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**36.15**	**160**	P	P	03 33 22.2	-1.6
	1.2nm,0.7s,baz=326,slow=15,SNR=2.8						
MKAR	**Makanchi Array**	**59.63**	**325**	P	P	03 36 23.8	-2.2
	0.3nm,0.7s,baz=114,slow=8.4,SNR=3.9						

MAN 17 04:00:26.4, 18.26N×120.77E, mb4.7, ML3.6, MS3.6
MAN PASQUIAN ILOCOS NORTE - INTENSITY III.
BJI 17 04:00:27.4, 18.03N×120.59E, h29km, mB4.7, mb4.5
NEIC 17 04:00:30.7±1.3, 18.20N×120.97E, h53km±12km, mb3.9/1, Error ellipse: s-maj=27.8km s-min=10.4km az=80.0
NEIC Felt [III PIVS] at Laoag and Pasuquin.
IDC 17 04:00:31.6±4.1, 18.12N×120.88E, h61km±37km, mb3.7/11, mb1 3.9/11, mb1mx3.8/17, mbtmp4.0/11, ML4.9/1, Error ellipse: s-maj=45.7km s-min=15.4km az=64.0

ISC 17 04:00:26.2±0.6, 18.36N±0.04×120.73E±0.05, h19km±4km, n36, σ0°99/40, mb4.2/16, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.11**	**252**	⇑*i*P	**Pb**	**04 00 30.0**	**0.0**
PIP				*e*S	**Sb**	**04 00 33.3**	**+0.7**
APYP	**Conner**	**0.70**	**135**	*e*P	**Pb**	**04 00 38.6**	**-0.9**
APYP				*e*S	**Sb**	**04 00 48.5**	**-0.1**
ABRA	**Dolores**	**0.70**	**181**	*e*P	**Pb**	**04 00 37.4**	**-2.2**
ABRA				*e*S	**Sb**	**04 00 47.1**	**-1.8**
SGCP	**Mt. Cagua**	**1.26**	**95**	*e*P	**Pn**	**04 00 49.1**	**+0.1**
CAUP	**Cauayan**	**1.75**	**143**	*e*P	**Pn**	**04 00 57.1**	**+1.0**
BCPH	**Baguio City Da**	**1.97**	**184**	⇓*i*P	**Pn**	**04 01 00.2**	**+1.1**
BCPH				*i*S	**Sn**	**04 01 23.9**	**+0.3**
BOLP	**Bolinao**	**2.11**	**202**	*e*P	**Pn**	**04 01 01.8**	**+0.6**
SCZP	**Santa Cruz**	**2.68**	**197**	*e*P	**Pn**	**04 01 09.8**	**+0.4**
BALP	**Baler**	**2.73**	**163**	*e*P	**Pn**	**04 01 11.2**	**+1.3**
PCPH	**Palayan**	**2.80**	**173**	⇓*e*P	**Pn**	**04 01 12.6**	**+1.6**
PCPH				*e*S	**Sn**	**04 01 49.4**	**+4.7**
NZB	**Bigte**	**3.49**	**174**	*e*P	**Pn**	**04 01 20.7**	**-0.2**
NBP	**Mount Natib**	**3.61**	**185**	*e*P	**Pn**	**04 01 23.1**	**+0.7**
TGY	**Tagaytay City**	**4.24**	**177**	P	**Pn**	**04 01 31.5**	**+0.1**
	88nm,0.3s,baz=46,slow=4.1,SNR=3.1						
YHNB	**Yeheng**	**6.31**	**5**	*e*P	**Pn**	**04 02 02.5**	**+1.8**
GZH	**Guangzhou**	**8.36**	**306**	P	**P**	**04 02 27.8**	**-1.6**
GTA	**Gaotai**	**27.72**	**324**	*e*P	**P**	**04 06 15.8**	**+0.3**
GTA				AP	pP	04 06 27.4	+6.5
GTA				XP	sP	04 06 32.5	+9.1
SONM	**Songino Array**	**31.65**	**341**	P	**P**	**04 06 50.9**	**+0.5**
	0.5nm,0.6s,mb3.5,baz=164,slow=9.5,SNR=6.2						
JIRN	**Jiri**	**33.02**	**293**	*e*P	**P**	**04 07 02.3**	**-0.3**
	24nm,1.2s,mb5.0						
GUN	**Gumba**	**33.33**	**293**	*e*P	**P**	**04 07 05.5**	**+0.2**
	15nm,0.7s,mb5.0						
PKI	**Pulchoki**	**33.69**	**292**	*e*P	**P**	**04 07 07.8**	**-0.7**
GKN	**Gorkha**	**34.43**	**293**	*e*P	**P**	**04 07 14.8**	**0.0**
	16nm,0.8s,mb5.0						
KOLN	**Koldanda**	**35.30**	**292**	*e*P	**P**	**04 07 22.6**	**+0.3**
	8.5nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**40.34**	**160**	P	**P**	**04 07 59.3**	**-5.3**
	1.4nm,0.7s,mb3.8,baz=342,slow=8.9,SNR=13						
WRA				PcP	PcP	04 10 05.8	-2.7
	0.6nm,0.6s,baz=343,slow=3.2,SNR=5.2						
MKAR	**Makanchi Array**	**42.39**	**321**	P	**P**	**04 08 22.9**	**+1.7**
	6.4nm,0.8s,mb4.3,baz=116,slow=9.2,SNR=47						
MKAR				PcP	PcP	04 10 13.8	-1.1
	1.9nm,0.8s,baz=90,slow=4.9,SNR=6.9						
BVAR	**Borovoye Array**	**52.00**	**324**	P	**P**	**04 09 37.1**	**+0.7**
	1.5nm,0.7s,mb4.0,baz=105,slow=10,SNR=7.6						
BVAR				PcP	PcP	04 10 47.9	-1.0
	1.7nm,0.6s,baz=131,slow=3.4,SNR=7.6						
STKA	**Stephens Creek**	**53.81**	**158**	P	**P**	**04 09 47.0**	**-3.2**
	1.9nm,0.8s,mb4.1,baz=348,slow=9.3,SNR=2.3						
ILAR	**Eielson Array**	**74.58**	**26**	P	**P**	**04 12 04.2**	**-1.3**
	0.5nm,0.6s,mb3.6,baz=267,slow=5.2,SNR=5.2						
ARCES	**ARCESS Array B**	**74.77**	**339**	P	**P**	**04 12 06.7**	**+0.2**
	2.7nm,0.9s,mb4.2,baz=72,slow=5.7,SNR=5.1						
FINES	**FINESS Array B**	**76.26**	**330**	P	**P**	**04 12 14.0**	**-1.1**
	1.7nm,0.9s,mb4.0,baz=45,slow=5.4,SNR=6.0						
AKASG	**Malin Array Be**	**76.95**	**319**	P	**P**	**04 12 17.6**	**-1.6**
	0.1nm,0.3s,mb3.2,baz=63,slow=6.1,SNR=4.8						
INK	**Inuvik**	**78.77**	**21**	P	**P**	**04 12 27.9**	**-0.9**
	1.1nm,0.8s,mb3.8						
NB2	**NORSAR Subarra**	**83.16**	**332**	P	**P**	**04 12 51.8**	**-0.4**
	2.7nm,0.8s,mb4.3,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**83.16**	**332**	P	**P**	**04 12 51.6**	**-0.5**
	0.6nm,0.6s,mb3.8,baz=64,slow=5.2,SNR=3.3						
YKA	**Yellowknife Ar**	**88.49**	**22**	P	**P**	**04 13 18.6**	**+0.2**
	1.4nm,0.7s,mb4.3,baz=310,slow=4.5,SNR=28						
YKA	**Yellowknife Ar**	**88.49**	**22**	P	**P**	**04 13 18.6**	**+0.2**
TXAR	**Lajitas Array**	**116.11**	**43**	PKP	PKPdf	04 19 09.5	-3.3
	0.2nm,0.6s,baz=22,slow=0.9,SNR=3.8						

IDC 17 04:48:59.5±2.3, 5.31S×129.65E, mb3.5/2, mb1 3.9/3, mb1mx3.8/11, mbtmp3.7/3, ML4.3/1, Error ellipse: s-maj=135.0km s-min=43.5km az=71.0

ISC 17 04:49:02.2±1.2, 5.2S±0.1×129.9E±0.3, h33km, n5, σ0°73/5, mb3.6/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.44**	**198**	*e*P	**P**	**04 52 13.2**	**+0.2**
	12nm,0.3s						
FITZ				*e*		04 52 20.2	
FITZ				*e*S	Sx	04 54 29.6	
WRA	**Warramunga Arr**	**15.24**	**164**	Pn	**P**	**04 52 36.5**	**-0.3**
	1.2nm,0.3s,baz=347,slow=12,SNR=22						
WRA				Sn	Sx	04 55 13.7	
	1.3nm,0.3s,baz=334,slow=21,SNR=7.4						
WB2	**Warramunga Arr**	**15.25**	**164**	*e*P	**P**	**04 52 37.0**	**+0.2**
WB2				*e*S	Sx	04 55 14.9	
SONM	**Songino Array**	**56.75**	**341**	P	**P**	**04 58 46.0**	**+0.7**
	0.4nm,0.8s,mb3.5,baz=158,slow=7.8,SNR=4.4						
MKAR	**Makanchi Array**	**66.70**	**326**	P	**P**	**04 59 51.2**	**-0.8**
	0.4nm,0.4s,mb3.8,baz=114,slow=7.9,SNR=5.9						

NNC 17 04:54:26.1±4.8, 38.92N×73.10E, h220km±46km, mb2.4, mpv3.5, Error ellipse: s-maj=95.9km s-min=33.8km az=43.0

ISC 17 04:54:22.4±3.2, 38.6N±0.3×73.0E±0.2, h174km±31km, n12, σ0°54/15, 6C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.59**	**8**	P	**P**	**04 55 19.4**	**+0.5**
	SNR=13						
UCH	**Uchtor**	**3.82**	**17**	P	**P**	**04 55 22.0**	**+0.2**
	SNR=22						
KZA	**Kyzart**	**3.89**	**25**	P	**P**	**04 55 22.3**	**-0.4**
	SNR=11						
EKS2	**Erkin-Say**	**4.12**	**8**	P	**P**	**04 55 26.2**	**+0.6**
	SNR=17						
ULHL	**Ulahol**	**4.41**	**33**	P	**P**	**04 55 28.7**	**-0.7**
	SNR=12						
CHMS	**Chumysh**	**4.61**	**16**	P	**P**	**04 55 32.3**	**+0.3**
	SNR=7.7						
TKM2	**Tokmak 2**	**4.76**	**23**	P	**P**	**04 55 33.9**	**0.0**
	SNR=9.2						
TKM2	**Tokmak 2**	**4.76**	**23**	⇑P	**P**	**04 55 33.6**	**-0.4**
	5.2nm,0.5s						
USP	**Osenovka**	**4.82**	**13**	P	**P**	**04 55 34.9**	**+0.2**
	SNR=6.6						
KK31	**Karatay Array**	**4.91**	**338**	P	**P**	**04 55 35.3**	**-0.5**
	2.7nm,0.3s,baz=155,slow=11,SNR=87						
KK31				⇑S	**S**	**04 56 32.5**	**-0.1**
	28nm,0.4s,baz=156,slow=22,SNR=37						
AB31	**Akbulak array**	**14.22**	**323**	⇑P	**P**	**04 57 35.8**	**-0.9**
	0.4nm,0.3s,baz=130,slow=12,SNR=17						
AB31				⇑S	**S**	**05 00 05.0**	**-5.3**
	2.3nm,0.7s,baz=136,slow=24,SNR=6.4						
AKTO	**Aktyubinsk**	**15.93**	**323**	⇑P	**P**	**04 57 59.2**	**+1.1**
	2.9nm,3.0s						
AKTO				⇑S	**S**	**05 00 49.0**	**-0.1**
	1.5nm,2.1s						

MEX 17 06:18:25.9±0.7, 17.25N×99.64W, h50km±11km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.46**	**215**	*i*P	P	06 18 35.0	-1.7
ACX				*i*S	S	06 18 43.0	-1.5
CAIG	**El Cayaco**	**0.63**	**252**	*i*P	P	06 18 37.1	-1.7
CAIG				*i*S	S	06 18 46.3	-1.9
PLIG	**Platanillo**	**1.15**	**7**	*i*P	P	06 18 44.7	-1.1
PLIG				*i*S	S	06 18 58.3	-2.4

NSSP 17 06:26:47.0, 41.18N×43.70E, h9km, ML3.2
TIF 17 06:26:50.0, 41.19N×43.83E, h7km±2km
CSEM 17 06:26:52.8±0.1, 41.15N×43.90E, h33km, ML3.2, Error ellipse: s-maj=3.1km s-min=1.7km az=126.0

ISC 17 06:26:52.5±0.6, 41.20N±0.02×43.82E±0.03, h10km±5km, n22, σ1°31/40, 1C-4D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.32**	**311**	P	**Pg**	**06 26 58.3**	**-0.9**
AKH				S	**Sg**	**06 27 02.5**	**-1.2**
KAMZ	**Kamo**	**0.39**	**165**	P	**Pg**	**06 27 02.7**	**+2.3**
KAMZ				S	**Sg**	**06 27 09.5**	**+3.8**
HARI	**Harich**	**0.60**	**167**	P	**Pb**	**06 27 06.3**	**+1.6**
HARI				S	**Sg**	**06 27 12.9**	**0.0**
HNAZ	**Hnaberd**	**0.62**	**156**	P	**Pb**	**06 27 06.9**	**+2.0**
HNAZ				S	**Sg**	**06 27 16.4**	**+3.2**
NARZ	**Nor Artik**	**0.74**	**186**	P	**Pb**	**06 27 09.0**	**+2.0**
NARZ				S	**Sb**	**06 27 17.0**	**+0.2**
KARS	**Kars**	**0.80**	**223**	PG	**Pg**	**06 27 08.5**	**-0.1**
KARS				SG	**Sg**	**06 27 19.9**	**+0.6**
GOR	**Gori**	**0.82**	**16**	P	**Pb**	**06 27 08.2**	**-0.2**
GOR				S	**Sb**	**06 27 19.5**	**+0.3**
DIGO	**Kars**	**0.85**	**203**	*i*P	**Pb**	**06 27 08.3**	**-0.6**
DIGO				*i*S	**Sb**	**06 27 20.5**	**+0.4**
TBLG	**Delisi**	**0.88**	**52**	P	**Pb**	**06 27 08.8**	**-0.5**
TBLG				S	**Sb**	**06 27 21.1**	**+0.2**
AMBZ	**Amberd**	**0.88**	**157**	⇓P	**Pb**	**06 27 07.6**	**-1.8**
AMBZ				S	**Sb**	**06 27 19.4**	**-1.5**
TI2	**Plekhanov**	**0.88**	**52**	⇑*i*P	**Pb**	**06 27 08.9**	**-0.6**
	210nm,0.2s						
TI2				*i*S	**Sb**	**06 27 21.1**	**0.0**
MTA	**Mtatsminda**	**0.89**	**56**	P	**Pb**	**06 27 08.8**	**-0.7**
MTA				S	**Sb**	**06 27 20.7**	**-0.5**
ARUZ	**Aruch**	**0.94**	**167**	⇓P	**Pb**	**06 27 08.3**	**-2.1**
ARUZ				S	**Sb**	**06 27 19.0**	**-3.7**
VNNZ	**Vanand**	**1.09**	**180**	⇓P	**Pb**	**06 27 11.3**	**-1.8**
PAAR	**P'arak'ar**	**1.13**	**156**	⇓P	**Pb**	**06 27 11.7**	**-2.1**
DGRG	**David-gareji**	**1.20**	**77**	P	**Pb**	**06 27 14.4**	**-0.5**
DGRG				S	**Sb**	**06 27 32.3**	**+2.0**
ONI	**Oni**	**1.41**	**349**	P	**Pn**	**06 27 18.1**	**-0.2**
ONI				S	**Sb**	**06 27 37.1**	**+0.7**
ARTV	**Artvin**	**1.42**	**270**	*i*P	**Pn**	**06 27 17.5**	**-1.1**
ARTV				*i*S	**Sb**	**06 27 36.6**	**-0.3**
CHVG	**Ch'k'valeri**	**1.99**	**320**	P	**Pn**	**06 27 28.3**	**+1.6**
CHVG				S	**Sn**	**06 27 54.9**	**+3.0**
ERZM	**Erzurum**	**2.27**	**236**	*i*P	**Pn**	**06 27 34.5**	**+3.8**
ERZM				*i*S	**Sn**	**06 28 05.4**	**+6.4**
EZM	**Erzurum**	**2.27**	**236**	*e*PN	**Pn**	**06 27 35.1**	**+4.4**
GUMT	**Gumushane**	**3.37**	**259**	*e*PN	**Pn**	**06 27 54.0**	**+7.6**

IDC 17 06:31:42.1±1.6, 20.31S×178.16W, h514km±18km, mb3.5/11, mb1 3.7/14, mb1mx3.7/17, mbtmp4.4/14, Error ellipse: s-maj=18.2km s-min=12.1km az=135.0
NEIC 17 06:31:43.3±0.9, 20.37S×178.15W, h532km±9km, mb4.4/5, Error ellipse: s-maj=12.5km s-min=7.8km az=140.0

ISC 17 06:31:41.0±1.0, 20.36S±0.10×178.17W±0.10, h513km±14km, n60, σ0°94/28, mb4.1/16, 1C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.85**	**45**	P	**P**	**06 33 48.7**	**+1.1**
	3.8nm,0.3s,baz=72,slow=21,SNR=5.3						
AFI				S	**S**	**06 35 26.9**	**-1.5**
	8.4nm,0.3s,baz=36,slow=22,SNR=11						
DZM	**Mont Dzumac**	**14.45**	**260**	P	**P**	**06 34 48.3**	**+2.6**
	2.3nm,0.3s,baz=80,slow=18,SNR=28						
URZ	**Urewera**	**18.30**	**192**	P	**P**	**06 35 23.3**	**-0.3**
	1.7nm,0.3s,baz=147,slow=16,SNR=9.2						
RPZ	**Rata Peaks**	**24.98**	**199**	P	**P**	**06 36 23.9**	**-1.0**
	4.2nm,0.6s,mb4.3,baz=73,slow=19,SNR=2.7						
CTA	**Charters Tower**	**33.35**	**264**	⇓*i*P	**P**	**06 37 38.6**	**+1.1**
	16nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**33.35**	**264**	*e*P	**P**	**06 37 38.1**	**+0.7**
	20nm,0.5s,mb4.9						
PMG	**Port Moresby**	**35.16**	**283**	P	**P**	**06 37 53.2**	**+0.6**
	24nm,0.8s,mb4.8,baz=80,slow=5.5,SNR=8.4						
STKA	**Stephens Creek**	**37.71**	**244**	⇓*i*P	**P**	**06 38 14.6**	**+1.1**
	4.8nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**37.71**	**244**	P	**P**	**06 38 14.1**	**+0.6**
	6.9nm,0.6s,

CLL	**Collm**	**147.89**	**347**	⇓*i*PKP1	PKPdf	06 50 28.7	+5.0
CLL				*e*PKP2	PKPab	06 50 33.0	-1.3
UPC	**Upice**	**147.89**	**343**	*e*PKPbc	PKPdf	06 50 28.9	+5.2
UPC				*e*PKPab	PKPab	06 50 33.9	-0.4
DPC	**Dobruska-Polom**	**147.94**	**342**	*e*PKPbc	PKPdf	06 50 29.2	+5.4
DPC				*e*PKPab	PKPab	06 50 34.0	-0.5
MLR	**Muntele Rosu**	**148.02**	**327**	PKPbc	PKPdf	06 50 30.0	+5.9
	3.0nm,0.5s,baz=14,slow=4.2,SNR=3.9						
BRG	**Berggiesshubel**	**148.08**	**345**	*i* P	PKPdf	06 50 29.4	+5.4
BRG				*i*		06 50 34.3	
KECS	**Kecovo**	**148.17**	**336**	*e*PKP	PKPdf	06 50 34.9	+11
PVCC	**Panska Ves**	**148.25**	**344**	*e*PKPbc	PKPdf	06 50 29.8	+5.5
PVCC				*e*PKPab	PKPab	06 50 34.8	-1.0
DRGR		**148.61**	**332**	⇓P	PKPdf	06 50 29.8	+4.8
PRU	**Pruhonice**	**148.75**	**344**	*e*PKPbc	PKPdf	06 50 30.7	+5.6
NKC	**Novy Kostel**	**149.02**	**347**	*e*PKPbc	PKPdf	06 50 32.3	+6.7
NKC				*e*PKPab	PKPab	06 50 38.4	-0.5
GRA1	**Grafenberg Arr**	**149.79**	**348**	*e*PKPbc	PKPdf	06 50 34.0	+7.2
KHC	**Kasperske Hory**	**149.79**	**345**	*e*PKPbc	PKPdf	06 50 33.0	+6.2
KHC				*e*PKPab	PKPab	06 50 40.2	-1.9
BZS	**Buzias**	**150.00**	**332**	⇓P	PKPdf	06 50 34.1	+6.8
GEC2	**GERESS Array S**	**150.02**	**344**	*e*PKPbc	PKPdf	06 50 34.1	+6.9
GERES	**GERESS Array B**	**150.02**	**344**	PKPbc	PKPdf	06 50 33.8	+6.6
	1.8nm,0.7s,baz=45,slow=2.8,SNR=7.2						

*CSEM **17** 06:51:31.5±1.3, 38.67N×28.58W, h10km, ML2.4, Error ellipse: s-maj=4.1km s-min=2.6km az=152.0, After PDA*
*PDA **17** 06:51:31.5±1.3, 38.67N×28.58W, h10km, MD3.3, ML2.4, Error ellipse: s-maj=4.1km s-min=2.6km az=152.0*

SVSA 17 06:51:31.5±1.3, 38.67N×28.58W, h10km, MD3.3, ML2.4, Error ellipse: s-maj=4.1km s-min=2.6km az=152.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.10**	**247**	*i* P	Pg	06 51 33.7	-0.5
PCED				*e*S	Sg	06 51 35.9	-0.1
	2µm,0.2s						
PCED	**Cedros**	**0.10**	**247**	*e*S	Sg	06 51 35.9	-0.1
	2µm,0.2s						
CALA	**Caldeira**	**0.13**	**227**	*i* P	Pg	06 51 34.4	-0.2
CALA				*e*S	Sg	06 51 36.7	0.0
CALA	**Caldeira**	**0.13**	**227**	*e*S	Sg	06 51 36.7	0.0
HOR	**Horta**	**0.15**	**195**	*i* P	Pg	06 51 34.1	-0.8
HOR				*e*S	Sg	06 51 36.7	-0.5
HOR	**Horta**	**0.15**	**195**	*e*S	Sg	06 51 36.7	-0.5
PTCA	**Ponta do Capel**	**0.19**	**244**	*e*P	Pg	06 51 35.9	+0.2
PTCA				*e*S	Sg	06 51 38.6	+0.1
	305nm,0.1s						
PTCA	**Ponta do Capel**	**0.19**	**244**	*e*P	Pg	06 51 35.9	+0.2
PTCA				*e*S	Sg	06 51 38.6	+0.1
	305nm,0.1s						
PICO	**Pico**	**0.21**	**144**	*i* P	Pg	06 51 35.5	-0.5
PICO				*e*S	Sg	06 51 38.7	-0.3
PICO	**Pico**	**0.21**	**144**	*e*S	Sg	06 51 38.7	-0.3
PCND	**Candelaria**	**0.22**	**155**	*e*P	Pg	06 51 36.4	+0.2
PCND				*e*S	Sg	06 51 39.3	-0.1
	690nm,0.1s						
ROSA	**Rosais**	**0.27**	**79**	*e*P	Pg	06 51 36.7	-0.5
ROSA				*e*S	Sg	06 51 40.3	-0.7
PBOI	**Pico dos Bois**	**0.28**	**145**	*e*P	Pg	06 51 36.4	-1.0
PBOI				*e*S	Sg	06 51 40.7	-0.7
	215nm,0.2s						
PAMA	**Santo Amaro**	**0.31**	**88**	*e*P	Pg	06 51 38.2	+0.2
PAMA				*e*S	Sg	06 51 42.0	-0.4
PPNO	**Prainha do Nor**	**0.32**	**128**	*i* P	Pg	06 51 37.2	-0.9
PPNO				*e*S	Sg	06 51 41.6	-0.9
	645nm,0.1s						
PPNO	**Prainha do Nor**	**0.32**	**128**	*e*S	Sg	06 51 41.6	-0.9
	645nm,0.1s						
PMAN	**Manadas**	**0.39**	**95**	*e*P	Pg	06 51 38.1	-1.3
PMAN				*e*S	Sg	06 51 42.8	-1.9
	240nm,0.1s						
PMAN	**Manadas**	**0.39**	**95**	*e*P	Pg	06 51 38.1	-1.3
PMAN				*e*S	Sg	06 51 42.8	-1.9
	240nm,0.1s						
PIED	**Piedade**	**0.48**	**121**	*e*P	Pg	06 51 40.3	-1.0
PGRA	**Graciosa**	**0.59**	**52**	*e*P	Pg	06 51 41.2	-2.2
ASBA	**Santa Barbara**	**0.98**	**87**	*e*S	Sb	06 51 59.7	-3.3
	33nm,0.2s						
ASBA	**Santa Barbara**	**0.98**	**87**	*e*S	Sb	06 51 59.7	-3.3
	33nm,0.2s						
PSBA	**Serra de Santa**	**0.99**	**84**	*e*S	Sb	06 51 58.4	-4.7
	49nm,0.3s						
PPAD	**Pico dos Padre**	**1.01**	**88**	*e*P	Pb	06 51 47.1	-3.6
PPAD				*e*S	Sb	06 52 00.1	-3.7
	17nm,0.1s						
PBIS	**Biscoitos**	**1.04**	**85**	*e*S	Sb	06 52 00.6	-4.1
	19nm,0.3s						
RIB2	**Ribeirinha**	**1.10**	**89**	*e*S	Sb	06 52 02.0	-4.4
	34nm,0.2s						
PVNV	**Vila Nova**	**1.12**	**85**	*e*S	Sb	06 52 02.7	-4.2
	8.6nm,0.2s						

*IDC **17** 07:22:25.9±5.3, 4.85S×125.36E, h426km±69km, mb3.2/3, mb1 3.4/4, mb1mx3.2/13, mbtmp4.1/4, Error ellipse: s-maj=124.8km s-min=21.1km az=63.0*

ISC 17 07:22:22.7±1.0, 4.5S±0.2×125.7E±0.4, h400km, n6, σ0§57/7, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.51**	**180**	*e*P	**P**	**07 25 21.9**	**+0.1**
	3.8nm,0.3s						
WRA	**Warramunga Arr**	**17.50**	**152**	P	**P**	**07 26 02.8**	**-0.2**
	1.5nm,0.3s,baz=332,slow=9.9,SNR=87						
WRA				S	**S**	**07 29 01.5**	**+0.5**
	0.1nm,0.3s,baz=322,slow=21,SNR=3.3						
WB2	**Warramunga Arr**	**17.51**	**152**	*e*P	**P**	**07 26 03.6**	**+0.5**
STKA	**Stephens Creek**	**31.05**	**153**	P	**P**	**07 28 05.8**	**-1.3**
	3.7nm,0.8s,mb3.8,slow=6.1,SNR=4.3						
SONM	**Songino Array**	**54.81**	**344**	P	**P**	**07 31 15.4**	**+0.2**
	0.8nm,0.9s,mb2.9,baz=150,slow=7.0,SNR=4.6						
MKAR	**Makanchi Array**	**63.83**	**328**	P	**P**	**07 32 15.9**	**+0.1**
	1.0nm,0.6s,mb3.5,baz=118,slow=8.2,SNR=13						

*IDC **17** 07:28:04.7±3.6, 26.94N×55.57E, mb3.7/9, mb1 3.8/9, mb1mx3.7/20, mbtmp3.8/9, MS3.2/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=74.6km s-min=28.5km az=5.0*
*CSEM **17** 07:28:05.5±0.1, 26.87N×55.88E, h5km, ML3.9, Error ellipse: s-maj=5.1km s-min=2.0km az=71.0*
*TEH **17** 07:28:07.8, 26.73N×55.81E, h10km, Mn3.9*
*THR **17** 07:28:10.7±0.6, 27.08N×56.23E, h14km±11km, ML3.4*

ISC 17 07:28:07.5±0.9, 26.91N±0.03×55.93E±0.08, h24km±8km, n28, σ1§11/32, mb3.6/9, MS3.1/1, 2C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.53**	**23**	*e*Pg	**Pb**	**07 28 17.3**	**-0.9**
BNDS				AML	AML	07 28 41.1	
	comp=N,4µm,0.4s						
BANOM	**Banah**	**1.03**	**161**	⇓P	**Pb**	**07 28 26.0**	**-0.6**
	SNR=555						
BANOM				⇓S	**Sb**	**07 28 39.5**	**-0.3**
ASHO	**Ashiyiah**	**2.22**	**177**	⇑P	**Pn**	**07 28 44.2**	**+0.6**
	SNR=38						
ASHO				⇓S	**Sn**	**07 29 12.0**	**+1.5**
GHIR	**Ghir-Karzin**	**2.95**	**298**	*e*Pn	**Pn**	**07 29 01.4**	**+7.3**
GHIR				*e*Sg	**Sn**	**07 29 48.1**	**+19**
KRBR	**Kerman**	**3.15**	**13**	*e*Pn	**Pn**	**07 28 59.4**	**+2.5**
KRBR				AML	AML	07 29 58.4	
	comp=N,150nm,0.7s						
KRBR	**Kerman**	**3.15**	**13**	*e*Pn	**Pn**	**07 28 59.3**	**+2.5**
	SNR=52						
ISRV	**Sarvestan**	**3.50**	**315**	Pn	**Pn**	**07 29 02.6**	**+0.7**
IMOK	**Mook**	**3.56**	**308**	Pn	**Pn**	**07 29 02.9**	**+0.3**
ARQ	**Araqi**	**3.60**	**171**	⇑P	**Pn**	**07 29 03.0**	**-0.2**
	SNR=8.6						
IPAR	**Pars**	**3.87**	**320**	Pn	**Pn**	**07 29 07.8**	**+0.7**
SMDO	**Samad**	**4.29**	**153**	P	**Pn**	**07 29 13.2**	**+0.2**
	SNR=14						
IMEH	**Mehriz**	**4.61**	**346**	Pn	**Pn**	**07 29 19.0**	**+1.4**
IBAF	**Bafgh**	**4.68**	**356**	Pn	**Pn**	**07 29 19.9**	**+1.4**
JMDO	**Jabal Madar**	**4.93**	**156**	P	**Pn**	**07 29 21.5**	**-0.6**
	SNR=9.1						
ZHSF	**Zahedan**	**5.05**	**57**	*e*Pn	**Pn**	**07 29 23.9**	**+0.1**
ICHK	**Chekchek**	**5.48**	**346**	Pn	**Pn**	**07 29 30.6**	**+0.7**
ISFB	**Sefidab**	**8.07**	**338**	Pn	**P**	**07 30 05.7**	**-0.6**
ISFB				Sn	**Sn**	**07 31 33.1**	**-4.7**

IAFJ	**Afjeh**	**9.62**	**339**	Pn	**P**	**07 30 27.0**	**-0.7**
IRAZ	**Razeghan**	**9.91**	**330**	Pn	**P**	**07 30 36.1**	**+4.5**
BRTR	**Keskin Array B**	**22.52**	**310**	P	**P**	**07 33 03.4**	**-3.5**
	comp=N,0.4nm,0.4s,mb3.2,baz=117,slow=11,SNR=2.3						
AKTO	**Aktyubinsk**	**23.55**	**3**	P	**P**	**07 33 15.6**	**-1.2**
	comp=N,1.6nm,0.7s,mb3.6,baz=180,slow=8.9,SNR=11						
AKTO				LR	LR	07 44 20.7	
	comp=N,64nm,20.1s,MS3.1,slow=42						
BVAR	**Borovoye Array**	**28.23**	**19**	P	**P**	**07 33 59.4**	**-1.2**
	comp=N,3.3nm,0.8s,mb4.0,baz=201,slow=8.7,SNR=17						
MKAR	**Makanchi Array**	**28.74**	**39**	P	**P**	**07 34 05.7**	**+0.5**
	comp=N,1.1nm,0.9s,mb3.6,baz=231,slow=7.8,SNR=4.9						
AKASG	**Malin Array Be**	**31.28**	**327**	P	**P**	**07 34 25.1**	**-2.6**
	comp=N,0.5nm,0.5s,mb3.6,baz=133,slow=8.3,SNR=5.4						
FINES	**FINESS Array B**	**39.92**	**338**	P	**P**	**07 35 39.6**	**-1.7**
	comp=N,0.8nm,0.5s,mb3.7,baz=135,slow=11,SNR=7.3						
SONM	**Songino Array**	**44.30**	**48**	P	**P**	**07 36 19.2**	**+2.1**
	comp=N,1.4nm,0.9s,mb3.7,baz=254,slow=6.4,SNR=9.5						
INK	**Inuvik**	**84.81**	**4**	P	**P**	**07 40 39.6**	**-1.1**
	comp=N,0.5nm,0.9s,mb3.6,baz=282,slow=9.3,SNR=2.1						
ILAR	**Eielson Array**	**86.91**	**10**	P	**P**	**07 40 50.5**	**-0.6**
	comp=N,0.4nm,0.6s,mb3.8,baz=335,slow=4.0,SNR=5.1						

*NEIC **17** 07:28:12.4, 18.54N×69.32W, h5km±54km, MD3.7(RSPR), After RSPR.*

RSPR 17 07:28:12.4, 18.54N×69.32W, h5km±54km, MD3.7/5, MD3.7/5, 5C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**2.17**	**104**	⇑*e*P	Pn	07 28 45.8	-3.9
CRPR				*e*S	Sn	07 29 12.9	-4.3
MGP	**Maguayo**	**2.19**	**104**	⇑*e*P	Pn	07 28 46.1	-3.8
LRS	**Lares**	**2.36**	**96**	⇑*e*P	Pn	07 28 50.5	-1.9
LRS				*e*S	Sn	07 29 18.9	-3.3
AOPR	**Arecibo Observ**	**2.45**	**94**	⇑*e*P	Pn	07 28 50.4	-3.2
AOPR				*e*S	Sn	07 29 18.3	-6.0
MTP	**Monte Pirata**	**3.60**	**97**	⇑*e*P	Pn	07 29 05.7	-4.4

IDC 17 07:37:23.6±6.5, 14.03S×71.58W, h102km±72km, mb3.0/2, mb1 3.2/5, mb1mx3.1/17, mbtmp3.3/5, ML3.4/1, Error ellipse: s-maj=66.1km s-min=41.3km az=77.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.01**	**124**	P	P	07 38 23.0	-1.2
	1.8nm,0.3s,baz=277,slow=11,SNR=21						
LPAZ				S	S	07 39 10.9	+0.4
	baz=317,slow=18,SNR=1.8						
SIV	**San Ignacio**	**10.34**	**102**	P	P	07 39 48.9	-1.4
	0.4nm,0.3s,baz=271,slow=12,SNR=9.2						
CFAA	**Coronel Fontan**	**17.76**	**171**	P	P	07 41 23.9	-1.9
	0.0nm,0.3s,baz=6.3,slow=9.2,SNR=10.0						
TXAR	**Lajitas Array**	**53.09**	**325**	P	P	07 46 31.2	-1.8
	0.1nm,0.4s,baz=163,slow=9.4,SNR=4.1						
YKA	**Yellowknife Ar**	**83.34**	**341**	P	P	07 49 38.7	-1.6
	0.4nm,0.7s,baz=136,slow=5.0,SNR=9.4						

*NEIC **17** 08:33:58.0, 16.28N×94.02W, h105km, MD3.9(MEX), After MEX.*

MEX 17 08:33:58.1±0.8, 16.28N×94.03W, h105km±22km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.15**	**315**	*i* P	P	08 34 19.2	-1.7
CMIG				*i* S	S	08 34 36.0	-2.0
SCX	**San Cristobal**	**1.41**	**71**	*e*P	P	08 34 22.5	-1.5
SCX				*i* S	S	08 34 42.0	-1.3
CCIG	**Comitan**	**1.82**	**90**	*i* P	P	08 34 28.0	-1.0
CCIG				*i* S	S	08 34 50.2	-1.8
HUIG	**Huatulco**	**2.06**	**256**	*i* P	P	08 34 29.8	-2.4
HUIG				*i* S	S	08 34 56.6	-1.0
OXX	**Oaxaca**	**2.70**	**288**	*i* P	P	08 34 40.5	-0.4
OXX				*i* S	S	08 35 11.0	-2.1
VHO	**Vista Hermosa**	**2.71**	**287**	*i* P	P	08 34 40.1	-0.9
VHO				*i* S	S	08 35 11.5	-1.7

*THE **17** 08:38:53.5, 39.79N×20.24E, h10km, ML2.9*
*ATH **17** 08:38:54.1, 39.76N×20.44E, h13km±2km, MD3.2/5*
*NEIC **17** 08:38:54.1, 39.76N×20.44E, h14km, MD3.2(ATH), After ATH.*
*CSEM **17** 08:38:54.9±0.1, 39.72N×20.40E, h2km, ML2.9*

ISC 17 08:38:54.6±0.6, 39.75N±0.04×20.34E±0.05, h10km, n15, σ1§27/23, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.22**	**181**	*e*Pg	**Pg**	**08 38 58.4**	**-1.0**
IGT				*e*Sg	**Sg**	**08 39 03.0**	**+0.5**
SRN	**Sarande**	**0.29**	**296**	*i* Pg	**Pg**	**08 39 02.0**	**+1.4**
SRN				*i* Sg	**Sg**	**08 39 09.5**	**+4.9**
JAN	**Janina**	**0.41**	**104**	*e*PG	**Pg**	**08 39 00.5**	**-2.4**
JAN				*e*SB	**Sb**	**08 39 05.6**	**-3.7**
KEK	**Kerkira**	**0.42**	**265**	*e*PB	**Pb**	**08 39 03.8**	**+0.2**
LKD	**Levkas**	**1.07**	**167**	*e*Pg	**Pg**	**08 39 14.2**	**-1.8**
LKD				*e*Sg	**Sg**	**08 39 32.0**	**+1.6**
KZN	**Kozani**	**1.23**	**63**	*e*PB	**Pb**	**08 39 16.2**	**-1.3**
EVR	**Evrytania**	**1.41**	**126**	*e*PB	**Pb**	**08 39 19.6**	**-1.0**
VLS	**Valsamata**	**1.59**	**173**	*e*PB	**Pb**	**08 39 24.2**	**+0.6**
LIT	**Litokhoron**	**1.69**	**77**	*e*Pb	**Pb**	**08 39 25.1**	**-0.2**
	comp=Z,2.6nm,0.2s						
LIT				*e*Sb	**Sb**	**08 39 48.9**	**+2.3**
AGG	**Agios Georgios**	**1.71**	**115**	*e*Pb	**Pb**	**08 39 24.5**	**-1.2**
AGG				*e*Sb	**Sb**	**08 39 49.7**	**+2.6**
GRG	**Griva**	**1.98**	**52**	*e*Pn	**Pn**	**08 39 28.5**	**-0.1**
XOR	**Xorichti**	**2.24**	**99**	*e*Pn	**Pn**	**08 39 32.9**	**+0.6**
XOR				*e*Sn	**Sn**	**08 40 01.9**	**+1.6**
KNT	**Kendrikon**	**2.41**	**53**	*e*Pn	**Pn**	**08 39 34.4**	**-0.3**
KNT				*e*Sn	**Sn**	**08 40 05.6**	**+1.1**
PAIG	**Paliouri**	**2.58**	**85**	*e*Pn	**Pn**	**08 39 36.4**	**-0.7**
OUR	**Ouranopolis**	**2.86**	**77**	*e*Pn	**Pn**	**08 39 40.5**	**-0.6**

IDC 17 08:52:14.9±3.7, 7.55S×116.60E, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=194.0km s-min=29.2km az=51.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.69**	**141**	*e*P	P	08 55 44.0	+11
	2.9nm,0.4s						
WRA	**Warramunga Arr**	**21.15**	**127**	P	P	08 57 01.8	-2.3
	0.7nm,0.3s,baz=304,slow=11,SNR=29						
WB2	**Warramunga Arr**	**21.16**	**127**	*e*P	P	08 57 01.8	-2.3
SONM	**Songino Array**	**55.88**	**352**	P	P	09 01 54.4	-2.3
	1.1nm,0.7s,baz=166,slow=8.3,SNR=7.1						
MKAR	**Makanchi Array**	**62.11**	**334**	P	P	09 02 37.6	-2.4
	0.4nm,0.4s,baz=146,slow=7.0,SNR=8.6						

*ROM **17** 08:56:04.7±0.2, 43.38N×12.41E, h59km±2km, Md2.4/20, Ml2.4/9, Error ellipse: s-maj=1.6km s-min=1.5km az=137.0*
*CSEM **17** 08:56:04.2±0.1, 43.50N×12.48E, h60km, ML3.3/13, Error ellipse: s-maj=2.2km s-min=1.6km az=13.0*
*LDG **17** 08:56:05.7±0.3, 43.68N×12.39E, h10km, Ml2.8/8, Error ellipse: s-maj=6.2km s-min=3.4km az=97.0*
*VIE **17** 08:56:07.8±0.6, 43.83N×12.69E, h10km, mb2.6/1, ML2.7/5, Error ellipse: s-maj=5.9km s-min=3.8km az=51.0*

ISC 17 08:56:03.3±0.4, 43.49N±0.02×12.46E±0.03, h81km±3km, n67, σ1§09/110, 13C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIEI	**Pieia**	**0.08**	**50**	Pg	**P**	**08 56 15.0**	**0.0**
PIEI				Sg	**S**	**08 56 22.6**	**-0.9**
	138nm,0.4s						
BADI	**Badiali**	**0.15**	**278**	⇑*i*Pg	**P**	**08 56 15.0**	**-0.1**
BADI				Sg	**S**	**08 56 22.1**	**-1.8**
	275nm,0.2s						
MURB	**Monte Urbino**	**0.23**	**167**	Pg	**P**	**08 56 14.7**	**-0.7**
MURB				Sg	**S**	**08 56 21.7**	**-2.8**
	644nm,0.2s						
FSSB	**Fossombrone**	**0.31**	**49**	⇑*i*Pg	**P**	**08 56 16.4**	**+0.5**
FSSB				Sg	**S**	**08 56 25.4**	**+0.1**
	131nm,0.2s						
ARV	**Arcevia**	**0.35**	**88**	⇑*i*Pg	**P**	**08 56 16.3**	**+0.2**
ARV				Sg	**S**	**08 56 25.8**	**0.0**

ARVD	**Arcevia**	**0.35**	**88**	Pg	**P**	**08 56 16.3**	**+0.2**
ARVD				Sg	**S**	**08 56 25.6**	**-0.2**
	131nm,0.5s						
CRE	**Caprese Michel**	**0.39**	**290**	⇑*i*Pg	**P**	**08 56 16.5**	**+0.1**
CRE				Sg	**S**	**08 56 24.9**	**-1.3**
	329nm,0.4s						
SNTG	**Esanatoglia**	**0.42**	**123**	Pg	**P**	**08 56 16.7**	**+0.1**
SNTG				Sg	**S**	**08 56 26.1**	**-0.5**
	65nm,0.2s						
RSM	**Repubblica di**	**0.44**	**359**	Pg	**P**	**08 56 18.2**	**+1.4**
	24nm,0.3s						
PESA	**Pesaro**	**0.53**	**31**	Pg	**P**	**08 56 18.8**	**+1.2**
PESA				Sg	**S**	**08 56 29.3**	**+1.1**
CING	**Cingoli**	**0.55**	**101**	Pg	**P**	**08 56 18.2**	**+0.4**
CING				Sg	**S**	**08 56 28.3**	**-0.2**
	69nm,0.3s						
SFI	**Santa Sofia**	**0.61**	**314**	Pg	**P**	**08 56 19.5**	**+1.2**
SFI				Sg	**S**	**08 56 30.1**	**+0.7**
	31nm,0.3s						
SACS	**San Casciano d**	**0.75**	**212**	Pg	**P**	**08 56 19.2**	**-0.7**
SACS				Sg	**S**	**08 56 29.8**	**-2.3**
VMG	**Vicchio**	**0.81**	**306**	Pg	**P**	**08 56 22.2**	**+1.7**
VMG				Sg	**S**	**08 56 34.7**	**+1.4**
	56nm,0.4s						
AOI	**Ancona**	**0.84**	**85**	Pg	**P**	**08 56 21.4**	**+0.6**
AOI				Sg	**S**	**08 56 35.0**	**+1.2**
CSNT	**Castellina Chi**	**0.85**	**269**	Pg	**P**	**08 56 21.8**	**+0.9**
	39nm,0.5s						
SEI	**Scarperia**	**0.98**	**306**	Pg	**P**	**08 56 24.0**	**+1.6**
SEI				Sg	**S**	**08 56 38.6**	**+1.9**
	41nm,0.2s						
LNSS	**Leonessa**	**0.98**	**154**	Pg	**P**	**08 56 22.2**	**-0.2**
	87nm,0.2s						
MNS	**Montasola**	**1.11**	**171**	Pg	**P**	**08 56 23.7**	**-0.4**
MNS				Sg	**S**	**08 56 38.3**	**-1.3**
	16nm,0.3s						
FAGN	**Fagnano**	**1.48**	**145**	Pg	**P**	**08 56 30.4**	**+1.5**
	42nm,0.4s						
CEY	**Cerknica**	**2.66**	**31**	*i* Pn	**P**	**08 56 45.1**	**+0.2**
CEY				*e*Sn	**S**	**08 57 15.8**	**-0.3**
	comp=Z,12nm,0.1s						
CEY	**Cerknica**	**2.66**	**31**	*i* Pn	**P**	**08 56 45.1**	**+0.1**
CEY				*e*Sn	**S**	**08 57 15.8**	**-0.3**
	comp=Z,12nm,0.1s						
JAVS	**Javornik**	**2.67**	**25**	*i* Pn	**P**	**08 56 45.0**	**-0.1**
JAVS				*i* Sn	**S**	**08 57 15.3**	**-1.1**
	comp=Z,8.0nm,0.1s						
JAVS	**Javornik**	**2.67**	**25**	Pn	**P**	**08 56 45.0**	**-0.1**
JAVS				*i* Sn	**S**	**08 57 15.3**	**-1.1**
	comp=Z,8.0nm,0.1s						
PGF	**Pioggiola**	**2.70**	**251**	*e*Pn	**P**	**08 56 47.8**	**+2.2**
PGF				*e*Sn	**S**	**08 57 19.0**	**+1.7**
	comp=Z,2.9nm,0.3s						
COLI	**Coloredo**	**2.73**	**14**	⇑*e*Pg	**P**	**08 56 45.8**	**-0.2**
COLI				*e*Sg	**S**	**08 57 16.7**	**-1.2**
VOJS	**Vojsko**	**2.74**	**21**	*i* Pn	**P**	**08 56 46.0**	**-0.2**
DRE	**Drenchia**	**2.82**	**17**	⇓*e*Pg	**P**	**08 56 47.1**	**-0.1**
DRE				*e*Sg	**S**	**08 57 18.8**	**-1.4**
BOJS	**Bojanci**	**2.84**	**44**	*e*Pn	**P**	**08 56 49.5**	**+1.9**
BOJS				*i* Sn	**S**	**08 57 20.4**	**-0.3**
ROBS	**Robic**	**2.86**	**15**	*i* Pn	**P**	**08 56 47.8**	**0.0**
ROBS				*i* Sn	**S**	**08 57 20.1**	**-1.1**
	comp=Z,6.0nm,0.1s						
ROBS	**Robic**	**2.86**	**15**	*i* Pn	**P**	**08 56 47.8**	**0.0**
ROBS				*i* Sn	**S**	**08 57 20.1**	**-1.1**
	comp=Z,6.0nm,0.1s						
VISS	**Visnje**	**2.87**	**35**	*e*Pn	**P**	**08 56 48.7**	**+0.7**
VISS				*i* Sn	**S**	**08 57 21.6**	**0.0**
CADS	**Cadrg**	**2.89**	**18**	*i* Pg	**P**	**08 56 48.2**	**-0.1**
CADS				*i* Sn	**S**	**08 57 20.8**	**-1.1**
	comp=Z,12nm,0.1s						
CADS	**Cadrg**	**2.89**	**18**	*i* Pg	**P**	**08 56 48.2**	**0.0**
CADS				*i* Sn	**S**	**08 57 20.8**	**-1.1**
	comp=Z,12nm,0.1s						
GORS	**Gorjuse**	**3.03**	**21**	*i* Pn	**P**	**08 56 50.6**	**+0.3**
GORS				*i* Sn	**S**	**08 57 25.1**	**-0.5**
	comp=Z,7.0nm,0.1s						
GORS	**Gorjuse**	**3.03**	**21**	*i* Pn	**P**	**08 56 50.6**	**+0.3**
GORS				*i* Sn	**S**	**08 57 25.1**	**-0.5**
	comp=Z,7.0nm,0.1s						
CRES	**Cresnjev**	**3.17**	**41**	*i* Sn	**S**	**08 57 28.8**	**-0.2**
LEGS	**Legarje**	**3.20**	**39**	*i* Sn	**S**	**08 57 29.1**	**-0.5**
SCE	**Schlegeis**	**3.59**	**352**	⇑*i*Pn	**P**	**08 56 59.5**	**+1.5**
SBF	**Sospel**	**3.66**	**278**	*e*Pn	**P**	**08 56 59.9**	**+0.9**
WTTA	**Wattenberg**	**3.82**	**352**	⇑*i*Pn	**P**	**08 57 02.7**	**+1.5**
WTTA	**Wattenberg**	**3.82**	**352**	⇑*i*Sn	**S**	**08 57 45.2**	**0.0**
WTTA	**Wattenberg**	**3.82**	**352**	Pn	**P**	**08 57 02.7**	**+1.5**

MRZ	**Mangatainoka R**	**2.31**	**76**	⇑PN	P	08 56 54.9	-1.0
MRZ				SN	S	08 57 27.9	-1.4
WAZ	**Wanganui**	**2.33**	**51**	PN	P	08 56 55.3	-0.8
BFZ	**Birch Farm**	**2.80**	**80**	PN	P	08 57 00.7	-0.6
FOZ	**Fox Glacier**	**3.18**	**222**	PN	P	08 57 02.3	-3.4
JCZ	**Jackson Bay**	**4.02**	**224**	*e*PN	P	08 57 13.0	-2.8

IDC ***17*** *08:58:49.6±0.5, 1.85N×126.54E, mb4.7/18, mb1 4.7/18, mb1mx4.7/19, mbtmp4.7/18, Error ellipse: s-maj=23.4km s-min=12.3km az=76.0*

MOS ***17*** *08:58:52.9±1.0, 1.82N×126.53E, h34km, mb5.0/18, Error ellipse: s-maj=16.7km s-min=7.5km az=107.7*

BJI ***17*** *08:58:56.2, 1.58N×126.57E, h87km, mB5.1, mb4.8, Ms4.6, Msz4.1*

HRVD ***17*** *08:58:58.6±0.7, 2.00N×126.39E, h53km±6km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s37,c45; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.39±.34; Mθθ -0.08±.21; Mϕϕ -1.31±.22; Mrθ 0.19±.14; Mθϕ 1.60±.12; Mϕr -0.76±.19; Best double couple: M◎2.096×10^16 NP1:ϕs300°, δ40°, λ53°. NP2: ϕs165°, δ59°, λ117°. Principal axes: T 1.644, Plg65°, Azm123°; N .9, Plg23°, Azm331°; P -2.547, Plg11°, Azm236°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *08:58:58.6±1.2, 1.82N×126.64E, h74km±11km, mb4.9/18 Error ellipse: s-maj=11.0km s-min=6.1km az=74.0*

ISC 17 08:58:56.0±0.9, 1.82N±0.03×126.58E±0.07, h63km±7km, n101, σ1§04/110, mb4.8/50, 8C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**5.10**	**356**	*e*P	**P**	**09 00 12.1**	**+0.4**
MATI				*e*S	**S**	**09 01 14.2**	**+4.1**
DAV	**Davao City (W)**	**5.31**	**349**	*e*Pn	**P**	**09 00 15.5**	**+0.9**
DAV				*e*Sn	**S**	**09 01 07.9**	**-7.3**
KCP	**Kidapawan**	**5.37**	**344⇑**	*e*P	**P**	**09 00 16.1**	**+0.7**
BUKP	**Musuan**	**6.21**	**346**	*e*P	**P**	**09 00 27.6**	**+0.5**
BUKP				*e*S	**S**	**09 01 32.0**	**-5.4**
PAGZ	**Pagadian**	**6.78**	**332**	*e*P	**P**	**09 00 34.6**	**-0.6**
KKM	**Kota Kinabalu**	**11.16**	**292**	*e*Pn	**P**	**09 01 38.5**	**+3.3**
KSM	**Kuching**	**16.27**	**269**	*e*Pn	**P**	**09 02 44.0**	**+2.0**
FITZ	**Fitzroy Crossi** 27nm,0.4s	**19.82**	**183**	*e*P	**P**	**09 03 22.2**	**-2.0**
FITZ				*e*S	**S**	**09 06 59.9**	**+1.0**
WRAB	**Tennant Creek**	**22.92**	**161**	*c i*P	**P**	**09 03 55.3**	**-0.3**
WRA	**Warramunga Arr** 90nm,0.6s,mb5.4,baz=339,slow=11,SNR=186	**22.93**	**161**	P	**P**	**09 03 55.3**	**-0.3**
WRA				S	**S**	**09 07 58.2**	**+1.3**
WB2	**Warramunga Arr** 5.8nm,0.7s,baz=335,slow=21,SNR=9.2	**22.93**	**161**	*e*P	**P**	**09 03 55.4**	**-0.3**
WB2				*e*S	**S**	**09 07 59.2**	**+2.3**
QIZ	**Qiongzhong**	**23.69**	**317**	*e*P	**P**	**09 04 03.3**	**+0.3**
MBWA	**Marble Bar** 13nm,0.5s,mb4.6	**23.80**	**196**	*e*P	**P**	**09 04 04.8**	**+0.8**
JOW	**Kunigami** 91nm,0.8s,mb5.3,baz=157,slow=1.5,SNR=8.2	**24.92**	**4**	P	**P**	**09 04 14.2**	**-0.8**
ASPA	**Alice Springs**	**26.32**	**165**	*e*P	**P**	**09 04 27.3**	**-0.6**
ASPA				*e*S	**S**	**09 08 56.0**	**+1.9**
PSI	**Prapat** 8.4nm,0.5s,mb4.6,baz=40,slow=11,SNR=7.3	**27.65**	**273**	P	**P**	**09 04 39.4**	**-0.9**
CTA	**Charters Tower** 7.4nm,0.5s,mb4.7	**29.09**	**139**	*e*P	**P**	**09 04 53.0**	**-0.1**
CTA	**Charters Tower** 9.5nm,0.5s,mb4.8,baz=318,slow=10.0,SNR=21	**29.09**	**139**	P	**P**	**09 04 53.3**	**+0.2**
CTA	**Charters Tower**	**29.09**	**139**	*e*P	**P**	**09 04 53.0**	**-0.1**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CTAO	**Charters Tower**	**29.09**	**139**	*e*P	**P**	**09 04 52.2**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
CTAO	**Charters Tower** comp=Z,10nm,0.6s,mb4.7	**29.09**	**139**	*e*P	**P**	**09 04 52.2**	**-0.9**
SSE	**Sheshan**	**29.56**	**351**	P	**P**	**09 04 58.8**	**+1.6**
SSE				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,190nm,5.2s						
NJ2	**Nanjing**	**30.94**	**347**	*e*P	**P**	**09 05 11.4**	**+2.0**
NJ2				AP	pP	09 05 25.0	+0.1
NJ2				PP	PP	09 06 13.8	+0.9
NJ2				S	**S**	**09 10 11.0**	**+3.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,230nm,5.4s						
NJ2				LR	LR		
	comp=N,750nm,27.0s						
NJ2				LR	LR		
	comp=E,1μm,33.9s						
NJ2				LR	LR		
	comp=Z,580nm,23.4s						
GYA	**Guiyang**	**31.09**	**324**	P	**P**	**09 05 10.9**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
FORT	**Forrest** comp=Z,86nm,0.7s,mb5.7	**32.45**	**178**	*e*P	**P**	**09 05 21.9**	**-0.7**
FORT				*e*S	**S**	**09 10 29.7**	**-1.8**
ENH	**Enshi** comp=Z,14nm,0.8s,mb4.9	**32.61**	**332**	*e*P	**P**	**09 05 22.5**	**-1.5**
KMI	**Kunming**	**32.64**	**317**	P	**P**	**09 05 25.3**	**+1.0**
KMI				S	**S**	**09 10 35.1**	**+0.5**
KMI				LR	LR		
	comp=Z,70nm,24.1s						
KLBR	**Kellerberrin** comp=Z,9.6nm,0.4s,mb5.1	**34.27**	**193**	*e*P	**P**	**09 05 38.2**	**-0.1**
MUN	**Mundaring**	**35.02**	**195**	*e*P	**P**	**09 05 44.4**	**-0.3**
NWAO	**Narrogin (SRO)** comp=Z,6.5nm,0.5s,mb4.9,baz=29,slow=7.5,SNR=8.4	**35.67**	**194**	P	**P**	**09 05 49.6**	**-0.6**
XAN	**Xi'an**	**36.05**	**335**	P	**P**	**09 05 51.6**	**-1.9**
CD2	**Chengdu**	**36.10**	**326**	*e*P	**P**	**09 05 53.0**	**-0.9**
MAT	**Matsushiro**	**36.19**	**16**	P	**P**	**09 05 52.5**	**-2.1**
MAT	**Matsushiro**	**36.19**	**16**	*e*P	**P**	**09 05 53.0**	**-1.6**
MAT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MAT	**Matsushiro** comp=Z,8.0nm,1.0s,mb4.6	**36.19**	**16**	*e*P	**P**	**09 05 53.0**	**-1.6**
MJAR	**Matsushiro Arr** comp=Z,12nm,0.8s,mb4.8,baz=183,slow=9.2,SNR=21	**36.19**	**16**	P	**P**	**09 05 53.9**	**-0.7**
STKA	**Stephens Creek** comp=Z,11nm,0.7s,mb4.9	**36.41**	**158**	⇑*i*P	**P**	**09 05 55.9**	**-0.6**
STKA	**Stephens Creek** comp=Z,10nm,0.5s,mb5.0,baz=326,slow=7.7,SNR=22	**36.41**	**158**	P	**P**	**09 05 56.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**41.16**	**343**	*e*P	**P**	**09 06 36.4**	**+0.6**
HHC				PP	PP	09 08 14.6	0.0
HHC				PCP	PcP	09 08 33.6	-1.2
HHC				S	**S**	**09 12 43.4**	**-0.8**
HHC				SS	SS	09 15 45.3	+0.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,200nm,4.3s						
HHC				LR	LR		
	comp=N,220nm,13.1s						
HHC				LR	LR		
	comp=E,170nm,16.7s						
HHC				LR	LR		
	comp=Z,120nm,13.1s						
LSA	**Lhasa**	**43.60**	**313**	*e*P	**P**	**09 06 56.9**	**+0.9**
LSA				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
LSA	**Lhasa** comp=Z,14nm,0.6s,mb4.9	**43.60**	**313**	*e*P	**P**	**09 06 56.9**	**+0.9**
GTA	**Gaotai**	**44.66**	**330**	P	**P**	**09 07 03.8**	**-0.6**
JIRN	**Jiri** comp=Z,16nm,0.5s,mb5.2	**46.38**	**307**	*e*P	**P**	**09 07 18.0**	**-0.2**
GUN	**Gumba** comp=Z,20nm,0.5s,mb5.3	**46.74**	**308**	*e*P	**P**	**09 07 19.7**	**-1.3**
PKI	**Pulchoki** comp=Z,6.8nm,0.4s,mb4.9	**46.97**	**307**	*e*P	**P**	**09 07 21.9**	**-0.9**
HABR	**Khabarovsk**	**47.05**	**8⇑**	*e*P	**P**	**09 07 31.4**	**+8.3**
HABR				pmax	pmax		
	comp=Z,68nm,1.5s,mb5.4						
DMN	**Daman** comp=Z,11nm,0.4s,mb5.2	**47.23**	**307**	*e*P	**P**	**09 07 23.5**	**-1.4**
HIA	**Hailar**	**47.63**	**354**	*e*P	**P**	**09 07 28.2**	**+0.5**
HIA				pmax	pmax		
	comp=Z,16nm,1.1s						
HIA	**Hailar** comp=Z,16nm,1.1s,mb5.0	**47.63**	**354**	*e*P	**P**	**09 07 28.2**	**+0.4**
GKN	**Gorkha**	**47.77**	**307**	*e*P	**P**	**09 07 28.4**	**-0.7**
KOLN	**Koldanda**	**48.50**	**306**	*e*P	**P**	**09 07 33.7**	**-1.1**
	comp=Z,29nm,0.6s,mb5.5						
ULN	**Ulaanbaatar**	**48.88**	**343**	*e*P	**P**	**09 07 36.9**	**-0.5**
ULN				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
ULN	**Ulaanbaatar** comp=Z,13nm,0.8s,mb5.0	**48.88**	**343**	*e*P	**P**	**09 07 36.9**	**-0.5**
SONM	**Songino Array** comp=Z,5.0nm,0.7s,mb4.7,baz=154,slow=7.2,SNR=30	**49.05**	**342**	P	**P**	**09 07 38.6**	**-0.1**
ZAK	**Zakamensk**	**52.27**	**341**	*e*P	**P**	**09 08 02.4**	**-0.7**
ZAK				*e*		09 09 11.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MOY	**Mondy**	**54.12**	**341**	*e*P	**P**	**09 08 17.3**	**+0.5**
WMQ	**Urumqi**	**54.20**	**326**	*e*P	**P**	**09 08 18.4**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,90nm,4.8s						
WMQ				LR	LR		
	comp=N,100nm,22.0s						
WMQ				LR	LR		
	comp=E,120nm,22.0s						
WMQ				LR	LR		
	comp=Z,100nm,22.0s						
BOD	**Bodaibo**	**56.72**	**352**	*e*P	**P**	**09 08 34.6**	**-0.9**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
MKAR	**Makanchi Array** comp=Z,8.5nm,0.5s,mb5.0,baz=124,slow=8.3,SNR=21	**59.04**	**326**	P	**P**	**09 08 50.6**	**-1.2**
MKAR	**Makanchi Array**	**59.04**	**326**	*e*P	**P**	**09 08 50.6**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YAK	**Yakutsk**	**60.11**	**2**	*e*P	**P**	**09 08 58.7**	**-0.3**
YAK				*e*		09 09 06.0	
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,15nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK	**Yakutsk** comp=N,36nm,0.8s,mb5.5	**60.11**	**2**	*e*P	**P**	**09 08 58.0**	**-1.0**
KZA	**Kyzart** SNR=6.0	**60.92**	**318**	P	**P**	**09 09 06.0**	**+1.1**
TKM2	**Tokmak 2** SNR=6.7	**61.08**	**319**	P	**P**	**09 09 05.1**	**-0.7**
UCH	**Uchtor** SNR=8.3	**61.48**	**318**	P	**P**	**09 09 09.6**	**+1.0**
AAK	**Ala-Archa**	**61.67**	**319**	*i* P	**P**	**09 09 09.8**	**-0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,19.0s						
USP	**Ospenovka** SNR=7.0	**61.95**	**319**	P	**P**	**09 09 11.2**	**-0.5**
EKS2	**Erkin-Say** SNR=6.6	**62.16**	**318**	P	**P**	**09 09 13.0**	**-0.1**
KURK	**Kurchatov**	**63.27**	**328**	*c i*P	**P**	**09 09 19.1**	**-1.3**
NVS	**Novosibirsk**	**63.50**	**334**	*e*P	**P**	**09 09 19.5**	**-2.4**
SEY	**Seymchan**	**63.92**	**13**	*i* P	**P**	**09 09 26.7**	**+2.3**
BVAR	**Borovoye Array** comp=Z,5.0nm,0.7s,mb4.6,baz=138,slow=8.5,SNR=22	**68.83**	**327**	P	**P**	**09 09 55.6**	**-0.2**
CHKZ	**Chkalovo**	**69.01**	**328**	*e*P	**P**	**09 09 55.7**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CHKZ	**Chkalovo** comp=Z,4.7nm,0.7s,mb4.5	**69.01**	**328**	*e*P	**P**	**09 09 55.7**	**-1.1**
TIXI	**Tiksi**	**69.74**	**1⇑**	*e*P	**P**	**09 10 01.1**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BILL	**Bilibino**	**71.43**	**15**	P	**P**	**09 10 12.7**	**+1.5**
BILL				*e*		09 10 19.6	
BILL				*e*S	S	09 19 29.8	+6.5
BILL				*e*SS	SS	09 24 09.0	+8.1
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s						
AB31	**Akbulak array**	**73.53**	**321**	*i* P	**P**	**09 10 23.3**	**-0.7**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
AKTK	**Aktyubinsk**	**75.06**	**322**	P	**P**	**09 10 32.7**	**-0.1**
AKTO	**Aktyubinsk** comp=Z,6.3nm,0.7s,mb4.7,baz=99,slow=8.1,SNR=18	**75.06**	**322**	P	**P**	**09 10 32.7**	**-0.1**
ARU	**Arti**	**76.46**	**328**	⇓*i*P	**P**	**09 10 40.5**	**-0.1**
ARU				*e*		09 10 51.1	
ARU				*e*		09 13 30.0	
ARU				*e*S	S	09 20 23.7	+3.9
ARU				*e*SS	SS	09 25 19.8	+1.4
ARU				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
OPO	**Ambohidratompo** comp=Z,4.3nm,0.7s,mb4.5,baz=348,slow=1.0,SNR=7.9	**80.53**	**251**	P	**P**	**09 11 04.1**	**+0.5**
VNDA	**Vanda** comp=Z,5.3nm,0.8s,mb4.5,baz=320,slow=5.7,SNR=24	**81.56**	**173**	P	**P**	**09 11 08.6**	**+0.6**
VNDA	**Vanda**	**81.56**	**173**	*e*P	**P**	**09 11 08.7**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,21nm,1.4s						
VNDA	**Vanda** comp=Z,21nm,1.4s,mb4.9	**81.56**	**173**	*e*P	**P**	**09 11 08.7**	**+0.8**
MAW	**Mawson** comp=Z,7.2nm,1.0s,mb4.6,baz=94,slow=9.7,SNR=8.7	**81.92**	**200**	P	**P**	**09 11 11.3**	**+1.3**
KIV	**Kislovodsk**	**84.34**	**314**	P	**P**	**09 11 23.1**	**+0.4**
KIV				*e*S	S	09 21 42.6	+0.6
KIV				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
ILAR	**Eielson Array** comp=Z,0.5nm,0.6s,mb4.0,baz=245,slow=5.0,SNR=12	**86.88**	**25**	P	**P**	**09 11 34.8**	**0.0**
MALT	**Malatya**	**87.43**	**308**	*e*P	**P**	**09 11 38.5**	**+0.4**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.9						
MALT	**Malatya** comp=Z,9.4nm,1.1s,mb4.9	**87.43**	**308**	*e*P	**P**	**09 11 38.5**	**+0.4**
ANN	**Anapa**	**88.12**	**315**	*e*P	**P**	**09 11 37.2**	**-4.0**
ANN				pmax	pmax		
	comp=Z,206nm,1.2s						
OBN	**Obninsk**	**88.53**	**325**	*e*P	**P**	**09 11 43.2**	**+0.3**
OBN				*e*		09 15 08.7	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
SYO	**Syowa Base**	**90.60**	**201**	⇑P	**P**	**09 11 51.1**	**-1.2**
SYO	**Syowa Base**	**90.60**	**201**	⇑*e*P	**P**	**09 11 51.1**	**-1.2**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.4s,mb4.1,baz=104,slow=6.9,SNR=4.9	**91.11**	**310**	P	**P**	**09 11 56.8**	**+1.4**
ARCES	**ARCESS Array B** comp=Z,3.8nm,0.9s,mb4.7,baz=68,slow=4.9,SNR=3.9	**92.18**	**340**	P	**P**	**09 12 01.4**	**+1.8**
KAF	**Kangasniemi** comp=Z,2.0nm,0.5s,mb4.8	**93.21**	**332**	*e*p	**P**	**09 12 05.9**	**+1.4**
KAF	**Kangasniemi**	**93.21**	**332**	*e*P	**P**	**09 12 05.9**	**+1.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.8						
AKASG	**Malin Array Be** comp=Z,0.8nm,0.5s,mb4.4,baz=67,slow=5.0,SNR=4.0	**93.27**	**321**	P	**P**	**09 12 05.7**	**+0.6**
FINES	**FINESS Array B** comp=Z,1.6nm,0.8s,mb4.5,baz=63,slow=4.3,SNR=7.5	**93.43**	**332**	P	**P**	**09 12 07.8**	**+2.2**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.7s,baz=298,slow=4.4,SNR=7.7	**101.29**	**25**	P	P	09 12 42.4	+1.3
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,SNR=3.5	**122.87**	**53**	PKP	PKPdf	09 17 49.7	+4.0

NEIC ***17*** *09:05:21.1, 17.09N×99.54W, h52km, MD4.0(MEX), After MEX.*

MEX 17 09:05:21.3±1.1, 17.07N×99.50W, h41km±23km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.45**	**243**	*i* P	P	09 05 29.0	-2.4
ACX				*i* S	S	09 05 37.0	-1.6
CAIG	**El Cayaco**	**0.74**	**268**	*i* P	P	09 05 33.8	-1.6
CAIG				*i* S	S	09 05 43.8	-1.8
CAIG	**El Cayaco**	**0.74**	**268**	*i* P	P	09 05 33.8	-1.6
CAIG				*i* S	S	09 05 44.0	-1.5
PLIG	**Platanillo**	**1.31**	**360**	*i* P	P	09 05 41.7	-1.9
PLIG				*i* S	S	09 05 57.5	-2.7
PNIG	**Pinotepa**	**1.48**	**117**	*i* P	P	09 05 44.5	-1.4
PNIG				*i* S	S	09 06 02.4	-1.8
PNIG	**Pinotepa**	**1.48**	**117**	*i* P	P	09 05 43.0	-2.8
PNIG				*i* S	S	09 06 03.7	-0.4
PPM	**Popocatepetl**	**2.15**	**22**	*i* P	P	09 05 55.0	-0.4
PPM				*i* S	S	09 06 19.2	-1.9
PPM	**Popocatepetl**	**2.15**	**22**	*i* P	P	09 05 55.6	+0.2
PPM				*i* S	S	09 06 20.5	-0.5
VHO	**Vista Hermosa**	**2.64**	**90**	*i* P	P	09 06 01.6	-0.9
VHO				*i* S	S	09 06 30.2	-3.4
VHO	**Vista Hermosa**	**2.64**	**90**	*i* P	P	09 05 57.6	-4.9
VHO				*i* S	S	09 06 35.0	-3.1
OXX	**Oaxaca**	**2.65**	**89**	*e*P	P	09 06 02.0	-0.6
OXX				*i* S	S	09 06 30.0	-3.8
OXX	**Oaxaca**	**2.65**	**89**	*e*P	P	09 06 03.0	+0.4
CMIG	**Matias Romero**	**4.41**	**89**	*i* S	S	09 07 15.4	-2.9
CMIG	**Matias Romero**	**4.41**	**89**	*e*P	P	09 06 24.3	-3.3
CMIG				*i* S	S	09 07 10.6	-7.8

CASC ***17*** *09:27:26.8±2.7, 12.98N×89.17W, h44km±41km, MD4.3, ML4.5, mb3.9(NEIC)*

NEIC ***17*** *09:27:33.2±2.8, 13.89N×88.52W, h81km±29km, mb3.9/9, Error ellipse: s-maj=25.8km s-min=8.0km az=224.0*

NEIC Felt at San Salvador.

IDC ***17*** *09:27:34.7±6.4, 13.57N×88.64W, h116km±60km, mb3.4/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.8/8, MS3.3/2, Ms1 3.3/2, ms1mx2.9/17, Error ellipse: s-maj=56.6km s-min=17.0km az=49.0*

ISC 17 09:27:26.8±0.5, 13.2N±0.1×89.07W±0.07, h71km±6km, n59, σ1§05/56, mb3.8/15, 10C-11D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCBS	**La Ceiba**	**0.50**	**11⇑**	*i*P	Px	09 27 47.3	
LCBS				*e*S	Sx	09 27 55.6	
SNVI	**San Vicente**	**0.50**	**27**	*e*P	Px	09 27 47.8	
SNVI				*e*S	Sx	09 27 58.9	
SNET	**Serv Nac Est T**	**0.55**	**344⇑**	*e*P	Px	09 27 40.2	
SNET				*e*S	Sx	09 27 50.3	
LFU	**La Fuente**	**0.59**	**356⇓**	*i*P	Px	09 27 48.7	
LFU				*e*S	Sx	09 27 58.5	
BOQS	**Boqueron**	**0.61**	**341⇑**	*i*P	Px	09 27 48.3	
BOQS				*e*S	Sx	09 28 01.4	
VSM	**San Miguel**	**0.82**	**71⇓**	*e*P	Px	09 27 52.4	
VSM				*e*S	Sx	09 28 06.6	
BLLM	**Bellamira**	**0.86**	**71⇓**	*e*P	Px	09 27 52.6	
BLLM				*e*S	Sx	09 28 07.3	
SNJE	**San Jose**	**0.87**	**324⇓**	*e*P	Px	09 27 51.0	
SNJE				*e*S	Sx	09 28 05.1	
RTR	**El Retiro**	**0.92**	**323**	*e*P	Px	09 27 51.4	
RTR				*e*S	Sx	09 28 05.9	
CAHU	**Cacacuatique**	**1.04**	**54**	*e*P	Px	09 27 55.8	
CAHU				*e*S	Sx	09 28 12.7	
RBDL	**Robledal**	**1.12**	**328**	*e*P	Px	09 27 48.5	
CNCH	**Conchagua**	**1.21**	**84⇓**	*e*P	Px	09 27 56.9	
CNCH				*e*S	Sx	09 28 14.7	
MTO2	**Montecristo 2**	**1.26**	**347⇓**	*e*P	Px	09 27 48.5	
MTO2				*e*S	Sx	09 28 08.2	
IXG	**Ixpaco**	**1.68**	**307**	*e*P	**P**	**09 27 53.4**	**-1.3**
IXG				*e*S	**S**	**09 28 14.2**	**-1.0**
IXG				AML	AML	09 28 22.4	
	comp=E,31μm,0.4s						
NBG	**Las Nubes**	**1.88**	**319**	*e*P	**P**	**09 27 59.2**	**+1.8**
NBG				*e*S	**S**	**09 28 24.8**	**+4.7**
PCG	**Pacaya**	**1.93**	**310**	*e*P	**P**	**09 27 58.7**	**+0.6**
CRIN	**San Cristobal**	**2.03**	**103⇑**	*e*P	**P**	**09 28 00.3**	**+0.9**
FUG	**Fuego 3**	**2.14**	**307**	*e*P	**P**	**09 28 01.0**	**0.0**
TEL3	**Telica 3**	**2.25**	**105⇓**	*e*P	**P**	**09 28 02.5**	**-0.1**
TEL3				*e*S	**S**	**09 28 29.9**	**+0.7**
LEON	**Leon**	**2.25**	**109⇓**	*e*P	**P**	**09 28 01.7**	**-0.9**
LEON				*e*S	**S**	**09 28 28.8**	**-0.5**
TELN	**Telica**	**2.26**	**104⇑**	*e*P	**P**	**09 28 02.7**	**0.0**
TELN				*e*S	**S**	**09 28 31.0**	**+1.7**
CNGN	**Cerro Negro**	**2.41**	**106⇑**	*e*P	**P**	**09 28 04.4**	**-0.4**
MIRN	**Miramar**	**2.41**	**107⇓**	*e*P	**P**	**09 28 04.5**	**-0.4**
MIRN				*e*S	**S**	**09 28 34.5**	**+1.3**
MOMJ	**Momotombo**	**2.58**	**107⇑**	*e*P	**P**	**09 28 06.8**	**-0.5**
MOMJ				*e*S	**S**	**09 28 38.1**	**+0.6**
COPN	**Copaltepe**	**2.61**	**112⇑**	*e*P	**P**	**09 28 06.6**	**-1.1**
COPN				*e*S	**S**	**09 28 37.9**	**-0.3**
XAVN	**Gruta Xavier**	**2.86**	**110⇓**	*e*P	**P**	**09 28 10.7**	**-0.5**
XAVN				*e*S	**S**	**09 28 43.5**	**-1.1**
MGAN	**Managua**	**2.94**	**110⇑**	*e*P	**P**	**09 28 11.5**	**-0.8**
MGAN				*e*S	**S**	**09 28 45.8**	**-0.7**
MGAN				*e*		09 28 57.6	
	comp=N,1μm,0.4s						
WILN	**Americas 2**	**2.99**	**109**	*e*P	**P**	**09 28 13.7**	**+0.7**
WILN				*e*S	**S**	**09 28 47.5**	**-0.3**
TICN	**Ticuantepe**	**2.99**	**112⇓**	*e*P	**P**	**09 28 12.3**	**-0.7**
APON	**Apoyo**	**3.19**	**112**	*e*P	**P**	**09 28 16.3**	**+0.6**
APON				*e*S	**S**	**09 28 54.8**	**+2.1**
SSNN	**San Juan del S**	**3.66**	**120**	*e*P	**P**	**09 28 20.7**	**-1.6**
CONN	**Concepcion**	**3.72**	**115⇑**	*e*P	**P**	**09 28 22.9**	**-0.3**
VCR	**Viste de Mar**	**4.52**	**131**	*e*P	**P**	**09 28 34.2**	**-0.2**
PRS1	**Puriscal**	**5.63**	**124**	*e*P	**P**	**09 28 50.7**	**+1.0**
LAJ	**Bijagual**	**5.86**	**124**	*e*P	**P**	**09 28 47.8**	**-4.9**
LCR2	**La Lucha 2**	**6.02**	**124**	*e*P	**P**	**09 28 55.9**	**+0.8**
LCR2				*e*S	**S**	**09 30 01.4**	**-2.0**
BUS	**Buena Vista**	**6.32**	**124**	*e*P	**P**	**09 29 01.0**	**+1.7**
SDV	**Santo Domingo** comp=N,0.4nm,0.3s,baz=339,slow=9.5,SNR=3.8	**18.59**	**101**	P	**P**	**09 31 40.1**	**-0.8**
SDV	**Santo Domingo** comp=N,3.1nm,0.6s	**18.59**	**101**	*e*P	**P**	**09 31 40.2**	**-0.7**
LTX	**Lajitas** comp=N,2.1nm,0.6s,mb3.6	**21.03**	**322**	*e*P	**P**	**09 32 08.0**	**+1.1**
TXAR	**Lajitas Array** comp=N,1.4nm,0.5s,mb3.6,baz=142,slow=10.0,SNR=49	**21.03**	**322**	P	**P**	**09 32 08.0**	**+1.2**
SJG	**San Juan** comp=N,57nm,21.8s,baz=235,slow=34	**22.61**	**74**	LR	LR	09 40 12.8	
WMOK	**Wichita Mounta** comp=N,1.7nm,0.5s,mb3.6

comp=Z,38nm,21.3s,MS2.8,baz=86,slow=32
CTAO Charters Tower 32.57 171 *e*P **P** 09 35 12.6 **+0.5**
3.0nm,0.7s,mb4.3
WB2 Warramunga Arr 32.67 192 *e*P **P** 09 35 12.8 **-0.1**
WRA Warramunga Arr 32.67 192 P **P** 09 35 12.7 **-0.3**
4.8nm,0.8s,mb4.5,baz=10.0,slow=9.7,SNR=30
STKA Stephens Creek 43.90 179 P **P** 09 36 46.4 **-0.5**
3.6nm,0.6s,mb4.3,baz=331,slow=15,SNR=8.5
STKA Stephens Creek 43.90 179 *e*P **P** 09 36 46.5 **-0.4**
ULN Ulaanbaatar 45.39 328 *e*P **P** 09 36 58.7 **+0.2**
15nm,1.0s,mb4.8
MKAR Makanchi Array 59.83 317 P **P** 09 38 47.5 **+1.6**
1.0nm,0.7s,mb4.0,baz=90,slow=9.8,SNR=9.0
CHKZ Chkalovo 68.58 323 *e*P **P** 09 39 42.3 **-0.4**
0.9nm,0.5s,mb4.0
ZRNK Zerenda 69.44 322 *e*P **P** 09 39 47.6 **-0.4**
3.9nm,1.0s,mb4.3
ILAR Eielson Array 71.38 25 P **P** 09 39 58.8 **-0.8**
0.6nm,0.6s,mb3.7,baz=251,slow=6.4,SNR=10
YKA Yellowknife Ar 85.76 27 P **P** 09 41 18.9 **+1.0**
0.2nm,0.6s,mb3.5,baz=292,slow=5.0,SNR=7.0
ARCES ARCESS Array B 87.14 341 P **P** 09 41 25.9 **+1.3**
2.2nm,0.6s,mb4.5,baz=72,slow=7.7,SNR=9.9
EDM Edmonton 89.43 35 *e*P **P** 09 41 36.2 **+0.4**
KAF Kangasniemi 90.31 335 *ep* **P** 09 41 37.9 **-1.9**
3.0nm,0.7s,mb4.7,baz=59,slow=4.4
FINES FINESS Array B 90.72 334 P **P** 09 41 41.9 **+0.1**
2.5nm,0.6s,mb4.8,baz=72,slow=6.0,SNR=16
LPAZ La Paz 151.53 102 PKPbc PKPdf 09 48 36.1 +10
1.8nm,0.7s,baz=263,slow=3.7,SNR=9.6

MOS ***17*** *09:30:14.5±1.2,57.30N×120.80E,h12km,mb4.0/1, Error ellipse: s-maj=33.0km s-min=26.7km az=146.5*

BYKL 17 09:30:12.0±0.3,57.43N×120.81E,h5km±24km,1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHNR	**Khani**	**0.68**	**222**	*e*Pg		Pg	09 30 24.5	-1.1
KHNR				*e*Sg		Sg	09 30 32.9	-1.9
KHNR				*e*Sb		Sb	09 30 41.7	+6.2
YKLR	**Yuktali**	**0.96**	**151**	*e*Pg		Pg	09 30 29.7	-1.5
YKLR				*e*Sg		Sg	09 30 42.3	-1.7
YKLR				*e*Sb		Sb	09 30 48.0	+4.5
YKLR				max				
	518nm,0.1s							
CRS	**Chara**	**1.48**	**250**	*e*Pg		Pg	09 30 39.6	-2.0
CRS				*e*			09 30 42.3	
CRS				*e*Sg		Sg	09 30 58.1	-3.3
CRS				max				
	130nm,1.0s							
CRS				Smax				
	258nm,0.9s							
CRS	**Chara**	**1.48**	**250**	*e*P		Pn	09 30 39.5	+0.1
CRS				*e*			09 30 58.0	
CRS				pmax	pmax			
	comp=Z,131nm,0.7s							
CRS				smax				
	comp=E,190nm,0.6s							
NRGR	**Nerungri**	**2.27**	**108**	*e*P		Pn	09 30 53.8	+3.0
NRGR				S		Sn	09 31 20.1	+0.6
CLNS	**Chul'man**	**2.30**	**103**	*e*Pg		Pg	09 30 54.1	-3.9
CLNS				*e*Sn		Sn	09 31 19.9	-0.4
CLNS				*e*Sg		Sg	09 31 24.1	-4.6
CLNS				Pmax				
	comp=E,123nm,0.2s							
CLNS				Smax				
	comp=E,2μm,0.3s							
CLNS	**Chul'man**	**2.30**	**103**	*e*P		Pn	09 30 54.0	+2.8
CLNS				*e*			09 31 21.5	
CLNS				pmax	pmax			
	comp=Z,37nm,0.4s							
CLNS				pmax	pmax			
	comp=N,6.0nm,0.3s							
CLNS				pmax	pmax			
	comp=E,8.0nm,0.3s							
CLNS				smax				
	comp=N,171nm,0.3s							
CLNS				smax				
	comp=E,137nm,0.4s							
CLNS				smax				
	comp=E,176nm,0.3s							
ALDR	**Aldan**	**2.72**	**62**	*e*Pn		Pn	09 30 54.8	-2.3
ALDR				*e*Pg		Pg	09 31 00.6	-5.7
ALDR				*e*Sn		Sn	09 31 29.0	-1.8
ALDR				*e*Sg		Sg	09 31 35.7	-6.8
ALDR				Pmax				
	comp=E,138nm,0.3s							
ALDR				Smax				
	comp=E,744nm,0.1s							
NLYR	**Nelyaty**	**2.95**	**254**	*e*Pn		Pn	09 31 00.8	+0.4
NLYR				*e*Pg		Pg	09 31 05.7	-5.2
NLYR				*e*			09 31 12.7	
NLYR				*e*Sg		Sg	09 31 42.4	-7.9
NLYR				Pmax				
	comp=E,82nm,0.5s							
NLYR				Smax				
	comp=E,226nm,1.2s							
NLYR	**Nelyaty**	**2.95**	**254**	*e*P		Pn	09 31 00.6	+0.2
NLYR				*e*			09 31 41.8	
NLYR				pmax	pmax			
	comp=Z,82nm,0.4s							
NLYR				smax				
	comp=E,225nm,1.1s							
TUP	**Tupik**	**3.05**	**189**	*e*Pn		Pn	09 31 00.7	-1.2
TUP				*e*Pg		Pg	09 31 05.7	-7.2
TUP				*e*Sn		Sn	09 31 35.6	-3.6
TUP				*e*Sg		Sg	09 31 45.0	-8.6
TUP				Pmax				
	comp=E,96nm,0.6s							
TUP				Smax				
	comp=E,550nm,1.0s							
TUP	**Tupik**	**3.05**	**189**	*e*P		Pn	09 31 00.7	-1.2
TUP				*e*S		Sn	09 31 36.3	-2.9
TUP				pmax	pmax			
	comp=Z,97nm,0.5s							
TUP				smax				
	comp=E,364nm,0.8s							
TNDR	**Tynda**	**3.16**	**135**	*e*Pn		Pn	09 31 02.6	-0.8
TNDR				*e*Sn		Sn	09 31 40.3	-1.7
TNDR				*e*Sg		Sg	09 31 49.8	-7.4
TNDR				max				
	comp=E,517nm,0.2s							
TNDR				Smax				
	comp=E,1μm,0.2s							
BOD	**Bodaibo**	**3.68**	**279**	*e*Pn		Pn	09 31 10.5	-0.3
BOD				*e*Pg		Pg	09 31 18.8	-6.7
BOD				*e*Sg		Sg	09 32 05.8	-8.8
BOD				Pmax				
	comp=E,11nm,0.6s							
BOD				Smax				
	comp=E,98nm,1.5s							
SVKR	**Severomuysk**	**4.20**	**255**	*e*Sg		Sg	09 32 21.0	-11
SVKR				Smax				
	comp=E,203nm,1.2s							
UKT	**Uakit**	**4.43**	**247**	*e*Pn		Pn	09 31 21.4	-0.1
UKT				⇑*i*Pg		Pg	09 31 31.9	-8.6
UKT				*e*Sn		Sn	09 32 09.7	-4.5
UKT				*e*Sg		Sg	09 32 28.8	-11
UKT				Pmax				
	comp=E,10.0nm,0.6s							
UKT				Smax				
	comp=E,92nm,1.7s							
KROS	**Kirovskiy**	**4.58**	**128**	*e*Pn		Pn	09 31 19.4	-4.2
KROS				*e*Pg		Pg	09 31 32.4	-11
KROS				*e*Sn		Sn	09 32 11.7	-6.3
KROS				*i* Sg		Sg	09 32 31.5	-13
YOA	**Uoyan**	**5.16**	**259**	*e*Sg		Sg	09 32 50.1	-14
YOA				Smax				
	comp=E,321nm,0.8s							
ZEA	**Zeya**	**5.20**	**133**	*e*Pg		Pg	09 31 44.1	-12
ZEA				*e*Sn		Sn	09 32 26.5	-7.0
ZEA				*e*Sg		Sg	09 32 51.3	-14
KMO	**Kumora**	**5.52**	**258**	*e*Pn		Pn	09 31 36.5	-0.4
KMO				*e*Sg		Sg	09 33 03.0	-13
KMO				max				
	comp=E,6.0nm,0.5s							
KMO				Smax				
	comp=E,78nm,1.8s							
KMO	**Kumora**	**5.52**	**258**	*e*P		Pn	09 31 37.0	+0.1
KMO				pmax	pmax			
	comp=Z,7.0nm,0.5s							
YLYR	**Ulyunkhan**	**5.97**	**249**	*e*		Pn	09 31 44.1	+0.9
YLYR				*e*Pg		Pg	09 32 00.4	-11
YLYR				*e*Sn		Sn	09 32 47.7	-5.1
YLYR				*e*Sg		Sg	09 33 16.1	-15
YLYR				Pmax				
	comp=Z,3.0nm,0.7s							
YLYR				Smax				
	comp=Z,59nm,1.5s							
YAK	**Yakutsk**	**6.43**	**40**	*e*Pg		Pg	09 32 08.2	-12
YAK				*e*Sn		Sn	09 32 57.0	-7.4
YAK				*e*Sg		Sg	09 33 28.8	-17
YAK				Pmax				
	comp=E,58nm,0.5s							
YAK				Smax				
	comp=Z,379nm,0.5s							
NIZ	**Nizh Angarsk**	**6.44**	**260**	*e*Pg		Pg	09 32 08.0	-13
NIZ				*e*Sg		Sg	09 33 29.6	-17
NIZ				Pmax				
	comp=E,1.0nm,0.3s							
NIZ				Smax				
	comp=E,72nm,2.7s							
CIT	**Chita**	**6.86**	**221**	*e*Pg		Pg	09 32 15.8	-13
CIT				*e*Sg		Sg	09 33 43.8	-16
CIT				Pmax				
	comp=Z,9.0nm,0.2s							
CIT				Smax				
	comp=Z,181nm,2.1s							
SYVR	**Suvo**	**7.20**	**243**	*e*Pg		Pg	09 32 22.7	-13
SYVR				*e*Sg		Sg	09 33 55.8	-16
SYVR				Smax				
	comp=E,81nm,1.5s							
KPC	**Khapcheranga**	**9.22**	**216**	*e*Pn		P	09 32 25.1	-3.5
KPC				*e*Sg		Sg	09 34 56.4	-22
KPC				Smax				
	comp=E,48nm,1.7s							
ORL	**Orlik**	**12.99**	**257**	*e*Sg		S	09 36 54.7	+69

IDC 17 09:43:25.1±5.8,24.15N×108.94W,mb3.4/1,mb1 3.7/4, mb1mx3.5/17,mbtmp3.2/4,ML2.8/2,MS3.1/1,Ms1 3.1/1, ms1mx2.7/16,Error ellipse: s-maj=87.8km s-min=28.9km az=154.0,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TXAR	**Lajitas Array**	**6.99**	**41**	Pn		Pn	09 45 10.2	-0.9
	0.1nm,0.3s,baz=222,slow=12,SNR=4.2							
TXAR				Lg			09 47 04.8	
	0.1nm,0.3s,baz=227,slow=45,SNR=3.2							
NVAR	**Mina Array Bea**	**16.32**	**333**	Pn		P	09 47 19.4	+2.2
	0.0nm,0.3s,baz=153,slow=13,SNR=5.6							
PDAR	**Pinedale Array**	**18.58**	**359**	P		P	09 47 43.8	-1.7
	baz=164,slow=11,SNR=8.9							
SJG	**San Juan**	**40.24**	**90**	LR		LR	10 09 43.0	
	comp=Z,26nm,21.5s,baz=103,slow=39							
ILAR	**Eielson Array**	**47.45**	**339**	P		P	09 52 00.6	-2.4
	0.5nm,0.8s,baz=160,slow=5.4,SNR=4.4							

IDC ***17*** *09:45:38.4±0.9, 13.35N×92.61E,mb4.0/11,mb1 4.1/11, mb1mx4.0/19,mbtmp4.0/11,MS3.5/2,Ms1 3.5/2, ms1mx2.9/20,Error ellipse: s-maj=41.9km s-min=19.9km az=52.0*

MOS ***17*** *09:45:40.5±0.6,13.19N×92.50E,h33km,mb4.5/4,Error ellipse: s-maj=40.4km s-min=12.3km az=109.5*

NEIC ***17*** *09:45:43.5±0.5, 13.45N×92.60E,mb4.4/5,Error ellipse: s-maj=24.4km s-min=9.6km az=58.0*

ISC 17 09:45:42.2±0.5,13.5N±0.1×92.7E±0.2,h33km,n29, σ0ϑ90/26,mb4.1/15,MS3.9/1,2D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**11.31**	**135**	*e*Pn		P	**09 48 25.4**	**+0.8**
PSI	**Prapat**	**12.28**	**149**	LR		LR	09 53 12.4	
	comp=Z,110nm,18.7s,baz=262,slow=37							
LSA	**Lhasa**	**16.18**	**355**	*e*P		P	**09 49 32.1**	**+3.3**
MKAR	**Makanchi Array**	**34.32**	**347**	P		P	**09 52 28.0**	**+0.2**
	4.2nm,0.8s,mb4.4,baz=163,slow=9.1,SNR=40							
SONM	**Songino Array**	**36.08**	**16**	P		P	**09 52 43.4**	**+0.7**
	1.3nm,0.8s,mb3.9,baz=201,slow=6.8,SNR=6.7							
SONM				PcP		PcP	09 55 09.1	+0.5
	0.1nm,0.4s,baz=225,slow=2.0,SNR=3.8							
BVAR	**Borovoye Array**	**43.24**	**340**	P		P	**09 53 42.0**	**0.0**
	0.9nm,0.5s,mb3.7,baz=180,slow=8.9,SNR=7.2							
ZRNK	**Zerenda**	**43.65**	**339**	*e*P		P	**09 53 45.4**	**+0.1**
ZRNK				*e**PP		pP	09 53 54.5	-0.7
ZRNK				*e**SP		sP	09 53 57.7	-1.6
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.0							
ZRNK	**Zerenda**	**43.65**	**339**	*e*P		P	**09 53 45.4**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.0							
ZRNK				*e*pP		pP	09 53 54.5	-0.7
ZRNK				*e*sP		sP	09 53 57.7	-1.6
CHKZ	**Chkalovo**	**43.72**	**341**	⇓*i*P		P	**09 53 46.1**	**+0.2**
CHKZ				*e**PP		pP	09 53 54.3	-1.5
CHKZ				*e**SP		sP	09 53 58.5	-1.4
CHKZ				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.5							
CHKZ	**Chkalovo**	**43.72**	**341**	⇓*i*P		P	**09 53 46.1**	**+0.1**
	comp=Z,9.9nm,0.9s,mb4.5							
CHKZ				*e*pP		pP	09 53 54.3	-1.6
CHKZ				*e*sP		sP	09 53 58.5	-1.5
FITZ	**Fitzroy Crossi**	**45.18**	**133**	*e*P		P	**09 54 04.3**	**+6.2**
	comp=Z,7.3nm,0.8s,mb4.6							
AKTK	**Aktyubinsk**	**46.38**	**330**	P		P	**09 54 07.1**	**-0.1**
AKTO	**Aktyubinsk**	**46.38**	**330**	P		P	**09 54 07.1**	**-0.1**
	comp=Z,1.2nm,0.5s,mb4.0,baz=126,slow=7.5,SNR=6.4							
WRA	**Warramunga Arr**	**52.75**	**128**	P		P	**09 54 55.0**	**-1.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=303,slow=10,SNR=28							
WRA				PcP		PcP	09 56 04.5	-1.3
	comp=Z,0.4nm,0.5s,baz=316,slow=3.2,SNR=5.2							
WB2	**Warramunga Arr**	**52.76**	**128**	*e*P		P	**09 54 55.0**	**-1.5**
BRTR	**Keskin Array B**	**57.77**	**309**	P		P	**09 55 32.0**	**-0.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=127,slow=6.2,SNR=3.6							
AKASG	**Malin Array Be**	**62.92**	**320**	P		P	**09 56 06.2**	**-1.4**
	comp=Z,0.3nm,0.4s,mb3.8,baz=77,slow=6.1,SNR=4.6							
AKASG	**Malin Array Be**	**62.92**	**320**	P		P	**09 56 06.2**	**-1.4**
STKA	**Stephens Creek**	**65.02**	**135**	LR		LR	10 26 28.2	
	comp=Z,67nm,19.4s,MS3.9,baz=206,slow=38							
STKA	**Stephens Creek**	**65.02**	**135**	P		P	**09 56 22.9**	**+1.3**
FINES	**FINESS Array B**	**67.12**	**331**	P		P	**09 56 33.9**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.2,baz=90,slow=5.7,SNR=9.0							
ARCES	**ARCESS Array B**	**69.53**	**340**	P		P	**09 56 49.2**	**0.0**
	comp=Z,5.2nm,1.0s,mb4.4,baz=80,slow=7.4,SNR=10							
NB2	**NORSAR Subarra**	**74.18**	**330**	P		P	**09 57 16.4**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=91,slow=5.8							
NB2	**NORSAR Subarra**	**74.18**	**330**	P		P	**09 57 16.4**	**-0.6**
NB2				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0							
NOA	**NORSAR Array B**	**74.18**	**330**	P		P	**09 57 16.6**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=4.3							
LBTB	**Lobatse**	**75.78**	**240**	*e*P		P	**09 57 28.4**	**+1.4**
LBTB				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
LBTB	**Lobatse**	**75.78**	**240**	*e*P		P	**09 57 28.4**	**+1.4**
	comp=Z,1.9nm,0.5s,mb4.3							
TORD	**Torodi Ar. Bea**	**87.96**	**283**	P		P	**09 58 31.3**	**+0.6**
	comp=Z,0.9nm,0.7s,mb4.1,baz=95,slow=5.1,SNR=4.9							
NVAR	**Mina Array Bea**	**120.74**	**28**	PKP		PKPdf	10 04 34.8	+3.4
	comp=Z,0.2nm,0.5s,baz=264,slow=2.9,SNR=3.5							

IDC 17 10:33:40.5±5.9,12.09N×141.19E,h132km±69km,mb3.6/5, mb1 3.7/6,mb1mx3.4/19,mbtmp4.0/6,Error ellipse: s-maj=82.7km s-min=25.3km az=91.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**3.89**	**67**	P		P	10 34 38.8	-1.1
	17nm,0.3s,baz=216,slow=21,SNR=5.3							
WRA	**Warramunga Arr**	**32.54**	**192**	P		P	10 39 59.2	-2.1
	1.6nm,0.7s,baz=10,slow=9.6,SNR=6.5							
MKAR	**Makanchi Array**	**60.11**	**317**	P		P	10 43 34.4	-1.9
	0.2nm,0.7s,baz=90,slow=7.2,SNR=3.0							
BVAR	**Borovoye Array**	**68.89**	**322**	P		P	10 44 31.1	-1.9
	0.6nm,0.4s,baz=107,slow=7.4,SNR=7.2							
ARCES	**ARCESS Array B**	**87.38**	**342**	P		P	10 46 12.6	-0.8
	3.0nm,0.9s,baz=63,slow=6.0,SNR=3.6							
FINES	**FINESS Array B**	**90.97**	**334**	P		P	10 46 28.6	-1.9
	0.6nm,0.7s,baz=90,slow=5.6,SNR=4.5							

LDG ***17*** *10:41:12.5±0.3, 14.45S×167.41E,h10km,Mb5.4/4, Ms4.7/1,Error ellipse: s-maj=38.9km s-min=9.1km az=89.0*

BJI ***17*** *10:41:13.5, 14.55S×168.13E,h40km,mB5.4,mb4.9, Ms4.8,Msz4.5*

MOS ***17*** *10:41:13.7±1.6, 14.66S×167.83E,h33km,mb5.1/16,Error ellipse: s-maj=10.7km s-min=9.7km az=134.7*

HRVD ***17*** *10:41:15.4±0.2, 14.61S×167.99E,h12km,MW5.2/77, Centroid moment Tensor Solution. LP body waves: s49,c78;Mantle waves: s77,c140; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_rr6.73±.13; $M_{\theta\theta}$-0.98±.15; $M_{\phi\phi}$-5.75±.13; $M_r\theta$0.39±.38; $M_{\theta\phi}$1.92±.11; $M_{\phi r}$1.13±.33; Best double couple: M_o6.683×10^{16} NP1: ϕ_s155°,δ41°,λ81°. NP2:ϕ_s347°,δ49°,λ98°. Principal axes: T 6.872, Plg83°, Azm306°; N -.378, Plg6°, Azm161°; P -6.494, Plg4°, Azm71°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***17*** *10:41:15.4±2.6, 14.73S×167.91E,h47km±23km,mb4.5/19, mb1 4.7/21,mb1mx4.7/21,mbtmp4.8/21,ML5.2/2,MS4.6/14, Ms1 4.6/14,ms1mx4.5/20 Error ellipse: s-maj=19.0km s-min=12.6km az=76.0*

NEIC ***17*** *10:41:15.3±1.4, 14.73S×167.87E,h39km±11km,mb5.2/30, Error ellipse: s-maj=8.2km s-min=7.6km az=93.0*

ISC 17 10:41:09.5±2.3,14.72S±0.03×167.86E±0.05,h10km±13km, h37km±4.6km:pP-P,n162,σ0ϑ99/118,mb5.0/56,MS4.6/17, 4C-2D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.96**	**173**	⇑*i*P		Pn	**10 41 57.0**	**-0.5**
BKM				S		Sn	**10 42 33.8**	**+0.4**
DZM	**Mont Dzumac**	**7.44**	**190**	P		Pn	**10 43 00.4**	**-0.4**
	22nm,0.3s,baz=164,slow=16,SNR=132							
DZM				S		Sn	**10 44 25.7**	**-0.4**
	7.0nm,0.3s,baz=122,slow=22,SNR=2.2							
DZM				LR		LR	10 45 39.7	
	comp=Z,5μm,20.9s,baz=23,slow=36							
HNR	**Honiara**	**9.35**	**303**	P		P	**10 43 28.8**	**+1.4**
	36nm,0.3s,baz=21,slow=4.9,SNR=21							
HNR				S		Sn	**10 45 13.5**	**-0.2**
	11nm,0.3s,baz=252,slow=22,SNR=3.6							
HNR	**Honiara**	**9.35**	**303**	*e*P		P	**10 43 29.3**	**+1.9**
HNR				*e*			10 45 12.4	
HNR				pmax	pmax			
	comp=Z,320nm,0.7s							
HNR	**Honiara**	**9.35**	**303**	*e*Pn		P	**10 43 29.3**	**+2.0**
	comp=Z,320nm,0.7s							
HNR				*e*Sn		Sn	**10 45 12.4**	**-1.3**
AFI	**Afiamalu**	**19.75**	**90**	LR		LR	10 51 20.0	
	comp=Z,3μm,21.6s,baz=268,slow=31							
PMG	**Port Moresby**	**20.91**	**282**	P		P	**10 45 55.6**	**+0.8**
	comp=Z,55nm,0.9s,baz=70,slow=5.7,SNR=12							
PMG				LR		LR	10 53 21.6	
	comp=Z,3μm,19.2s,MS4.7,baz=55,slow=35							
PMG	**Port Moresby**	**20.91**	**282**	⇑*e*P		P	**10 45 57.0**	**+2.2**
PMG	**Port Moresby**	**20.91**	**282**	*e*P		P	**10 45 54.7**	**-0.2**
	comp=Z,137nm,1.0s							
CTA	**Charters Tower**	**21.29**	**252**	*e*P		P	**10 46 00.4**	**+1.8**
	comp=Z,28nm,0.8s,mb4.6							
CTA	**Charters Tower**	**21.29**	**252**	P		P	**10 46 00.0**	**+1.4**
	comp=Z,34nm,0.9s,mb4.7,baz=82,slow=12,SNR=26							
CTA				LR		LR	10 53 29.2	
	comp=Z,4μm,19.2s,MS4.8,baz=71,slow=34							
CTA	**Charters Tower**	**21.29**	**252**	*e*P		P	**10 46 00.4**	**+1.8**
CTA				pmax	pmax			
	comp=Z,28nm,0.8s							
CTAO	**Charters Tower**	**21.29**	**252**	*e*P		P	**10 45 59.7**	**+1.1**
CTAO				pmax	pmax			
	comp=Z,66nm,0.9s,mb5.0							
CTAO	**Charters Tower**	**21.29**	**252**	*e*P		P	**10 45 59.7**	**+1.1**
	comp=Z,66nm,0.9s,mb5.0							
URZ	**Urewera**	**24.84**	**162**	P		P	**10 46 33.3**	**-0.1**
	comp=Z,14nm,0.9s,mb4.5,baz=96,slow=10,SNR=3.0							
URZ				LR		LR	10 55 19.8	
	comp=Z,872nm,18.6s,MS4.3,baz=352,slow=34							
CNB	**Canberra Magne**	**26.40**	**216**	*e*P		P	**10 46 48.7**	**+0.7**
	comp=Z,64nm,1.5s,mb4.9							
SNZO	**South Karori**	**27.16**	**169**	*e*P		P	**10 46 56.1**	**+1.1**
RPZ	**Rata Peaks**	**29.03**	**175**	LR		LR	10 57 11.9	
	comp=Z,780nm,19.3s,MS4.3,baz=1.2,slow=33							
STKA	**Stephens Creek**	**29.44**	**230**	*e*P		P	**10 47 15.9**	**+0.2**
	comp=Z,48nm,0.8s,mb5.3							
STKA	**Stephens Creek**	**29.44**	**230**	P		P	**10 47 16.0**	**+0.4**
	comp=Z,24nm,0.5s,mb5.2,baz=52,slow=8.0,SNR=51							
STKA				LR		LR	10 58 17.5	
	comp=Z,1μm,20.7s,MS4.5,baz=52,slow=35							
WB2	**Warramunga Arr**	**32.37**	**256**	*e*P		P	**10 47 40.1**	**-1.5**
WRAB	**Tennant Creek**	**32.37**	**256**	⇓*e*P		P	**10 47 42.4**	**+0.8**
WRA	**Warramunga Arr**	**32.38**	**256**	P		P	**10 47 40.2**	**-1.6**
	comp=Z,12nm,1.2s,mb4.6,baz=86,slow=9.4,SNR=23							
GUMO	**Guam**	**36.18**	**320**	LR		LR	11 01 34.1	
	comp=Z,753nm,20.9s,MS4.4,baz=136,slow=34							
FORT	**Forrest**	**39.79**	**239**	*e*P		P	**10 48 44.8**	**+0.2**
	comp=Z,36nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**40.58**	**259**	*e*P		P	**10 48 51.3**	**+0.2**
	comp=Z,30nm,0.9s,mb4.9							
PPT	**Papeete**	**40.92**	**100**	*e*S		S	**10 54 57.4**	**-8.1**
PPT				*e*LR		LR	11 00 05.8	
	comp=Z,3μm,28.2s,baz=266							
TBI	**Tubuai**	**41.13**	**109**	*e*S		S	**10 55 02.8**	**-5.6**
TBI				*e*LQ			10 58 31.7	
TBI				*e*LR		LR	11 00 20.6	
	comp=Z,2μm,27.2s,baz=276							
MBWA	**Marble Bar**	**46.10**	**255**	*e*P		P	**10 49 35.1**	**-0.8**
	comp=Z,52nm,1.1s,mb5.4							
KLBR	**Kellerberrin**	**48.61**	**241**	*e*P		P	**10 49 54.9**	**-0.6**
	comp=Z,11nm,0.7s,mb5.0							
NWAO	**Narrogin (SRO)**	**49.24**	**239**	P		P	**10 49 59.1**	**-1.3**
	comp=Z,25nm,1.1s,mb5.2,baz=88,slow=4.1,SNR=7.6							
NWAO	**Narrogin (SRO)**	**49.24**	**239**	*e*P		P	**10 50 00.3**	**-0.1**
NWAO				pmax	pmax			
	comp=Z,23nm,1.0s							
NWAO	**Narrogin (SRO)**	**49.24**	**239**	*e*P		P	**10 50 00.3**	**-0.1**
	comp=Z,23nm,1.0s,mb5.2							
MUN	**Mundaring**	**49.97**	**241**	*e*P		P	**10 50 06.7**	**+0.8**
TAOE	**Nuku Hiva Isla**	**51.14**	**90**	*e*LR		LR	11 04 45.2	
	comp=Z,4μm,28.1s,baz=264							
RKT	**Rikitea**	**54.44**	**108**	*e*S		S	**10 58 10.7**	**-5.8**
RKT				*e*SS		SS	11 01 54.2	-4.3
RKT				*e*LQ			11 04 11.3	
RKT				*e*LR		LR	11 06 30.3	
	comp=Z,1μm,29.0s,baz=270				

comp=Z,34nm,1.5s,mb5.2
YSS Yuzh-Sakhalins 65.40 341 *e*P **P 10 51 54.2 -0.3**
comp=Z,12nm,0.8s,mb5.0
NJ2 Nanjing 66.07 315 *e*P **P 10 51 59.8 +0.7**
NJ2 AP pP 10 52 10.1 +8.0
NJ2 XP sP 10 52 14.0 +11
NJ2 PP PP 10 54 27.8 +0.9
NJ2 S S 11 00 45.0 -0.7
NJ2 XS 11 01 02.0
NJ2 AMB AMB
comp=Z,50nm,1.2s,mb5.4
NJ2 AMB AMB
comp=Z,300nm,5.6s
NJ2 LR LR
comp=Z,2μm,24.6s,MS5.1
MDJ Mudanjiang 68.54 332 *e*P **P 10 52 14.1 -0.3**
comp=Z,61nm,1.4s,mb5.3
HABR Khabarovsk 69.34 337 *e*P **P 10 52 23.2 +3.9**
CN2 Changchun 69.93 329 *e*P **P 10 52 23.0 0.0**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
KLR Kul'dur 71.23 336 *e*P **P 10 52 27.7 -3.1**
KLR pmax pmax
comp=Z,150nm,2.6s,mb5.5
ENH Enshi 71.80 309 *e*P **P 10 52 34.2 -0.3**
comp=Z,36nm,1.0s,mb5.3
GYA Guiyang 72.18 304 P **P 10 52 37.8 +0.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
XAN Xi'an 74.10 312 P **P 10 52 48.4 +0.4**
KMI Kunming 74.78 302 P **P 10 52 52.5 +0.3**
KMI AP pP 10 53 07.8 +13
KMI PP PP 10 55 41.9 +0.3
KMI S S 11 02 26.4 -1.0
KMI SKS SKS 11 02 51.8 -9.0
KMI AMB AMB
comp=Z,20nm,1.4s,mb4.8
KMI AMB AMB
comp=Z,390nm,4.0s
KMI LR LR
comp=Z,320nm,30.1s,MS4.4
MA2 Magadan 75.32 351 P **P 10 52 55.2 +0.7**
HHC Hu-ho-hao-te 75.94 319 *e*P **P 10 52 59.6 +1.1**
HHC PCP PcP 10 53 12.0 +0.7
HHC PP PP 10 55 52.0 +1.2
HHC S S 11 02 36.9 -3.0
HHC SKS SKS 11 02 59.8 -9.1
HHC SCS ScS 11 03 05.4 -4.3
HHC PS PS 11 03 22.9 +4.1
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,200nm,3.3s
HHC LR LR
comp=N,340nm,19.0s,MS4.8
HHC LR LR
comp=E,200nm,16.7s,MS4.8
HHC LR LR
comp=Z,360nm,16.6s,MS4.8
CD2 Chengdu 76.45 307 *e*P **P 10 53 02.8 +1.2**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
HIA Hailar 76.56 330 P **P 10 53 01.7 -0.1**
HIA pmax pmax
comp=Z,21nm,1.3s
HIA Hailar 76.56 330 P **P 10 53 01.7 0.0**
comp=Z,21nm,1.3s,mb4.9
LZH Lanzhou 78.73 312 *e*P **P 10 53 15.0 +1.0**
LZH XP sP 10 53 26.0 +7.8
LZH AMB AMB
comp=Z,40nm,1.1s,mb5.3
LZH AMB AMB
comp=Z,130nm,4.5s
MAW Mawson 82.11 202 P **P 10 53 30.1 -1.2**
comp=Z,2.5nm,1.0s,mb4.1,baz=75,slow=16,SNR=2.3
MAW LR LR 11 24 07.5
comp=Z,312nm,21.9s,MS4.6,baz=79,slow=31
YAK Yakutsk 82.18 343 *e*P **P 10 53 31.0 -0.8**
YAK *e* 10 53 40.6
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.2s
ULN Ulaanbaatar 82.46 324‖ *e*P **P 10 53 33.3 -0.2**
ULN Ulaanbaatar 82.46 324 *e*P **P 10 53 33.4 -0.1**
comp=E,27nm,1.2s,mb5.1
BILL Bilibino 82.53 359 *i*P **P 10 53 34.3 +0.8**
BILL pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
BILL Bilibino 82.53 359 *e*P **P 10 53 32.3 -1.2**
comp=Z,18nm,1.4s,mb4.9
SONM Songino Array 82.83 323 P **P 10 53 35.1 -0.3**
comp=Z,7.4nm,1.0s,mb4.7,baz=139,slow=2.7,SNR=32
GTA Gaotai 83.07 314 P **P 10 53 36.5 -0.4**
GTA PP PP 10 56 48.0 -1.8
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
KIPM Iron Peak 83.67 46 *e*P **P 10 53 40.4 +0.5**
BOD Bodaibo 84.71 334 *e*P **P 10 53 42.4 -2.3**
BOD pmax pmax
comp=Z,12nm,1.7s,mb4.8
MCK McKinley 84.97 18 *e*P **P 10 53 46.3 +0.4**
MCK pmax pmax
comp=Z,27nm,1.6s,mb5.1
MCK McKinley 84.97 18 *e*P **P 10 53 46.2 +0.4**
comp=Z,27nm,1.6s,mb5.1
CMB Columbia Colle 85.16 49 *e*P **P 10 53 47.8 +0.3**
CMB pmax pmax
comp=Z,11nm,1.1s,mb4.9
CMB Columbia Colle 85.16 49 *e*P **P 10 53 47.8 +0.3**
comp=Z,11nm,1.1s,mb4.9
IMA2 Indian Mountai 85.49 15 *e*P **P 10 53 48.7 +0.2**
MWC Mount Wilson 85.49 53 *e*P **P 10 53 49.7 +0.5**
ZAK Zakamensk 85.87 325 *e*P **P 10 53 49.4 -1.3**
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
LSA Lhasa 86.04 302 P **P 10 53 54.0 +1.9**
LSA Lhasa 86.04 302 *e*P **P 10 53 54.3 +2.2**
COLA College 86.13 17 *i*P **P 10 53 51.2 -0.5**
ILAR Eielson Array 86.34 18 P **P 10 53 50.4 -2.3**
comp=Z,3.2nm,0.7s,mb4.7,baz=234,slow=4.0,SNR=47
ILAR LR LR 11 31 47.5
comp=Z,481nm,18.1s,MS4.9,baz=69,slow=35
MOD Modoc 86.72 45 P **P 10 53 54.8 -0.3**
comp=Z,6.9nm,0.9s,mb4.9
NVAR Mina Array Bea 86.83 49 P **P 10 53 57.0 +1.3**
comp=Z,6.0nm,1.1s,mb4.7,baz=224,slow=5.5,SNR=20
NVAR LR LR 11 23 50.3
comp=Z,250nm,20.2s,MS4.6,baz=245,slow=29
LDFC Landfair 88.07 53 *e*P **P 10 54 02.6 +0.8**
NEN Nelson 88.46 53 *e*P **P 10 54 04.2 +0.6**
SYO Syowa Base 88.88 196⇑P **P 10 54 04.7 -0.2**
SYO Syowa Base 88.88 196⇑*e*P **P 10 54 04.7 -0.2**
JIRN Jiri 89.55 299 *e*P **P 10 54 09.9 +0.9**
comp=Z,41nm,1.0s,mb5.7
BMO Blue Mountains 89.85 43 *e*P **P 10 54 10.3 +0.3**
BMO pmax pmax
comp=Z,28nm,1.7s,mb5.3
BMO Blue Mountains 89.85 43 *e*P **P 10 54 10.3 +0.3**
comp=Z,28nm,1.7s,mb5.3
GUN Gumba 89.89 299 *e*P **P 10 54 11.5 +0.9**
comp=Z,54nm,1.1s,mb5.8
TIXI Tiksi 90.07 349 *e*P **P 10 54 10.0 -0.4**
TIXI pmax pmax
comp=Z,3.0nm,1.2s,mb4.5
PKI Pulchoki 90.19 298 *e*P **P 10 54 12.7 +0.7**
comp=Z,56nm,1.2s,mb5.8
PKI Pulchoki 90.19 298 *e*P **P 10 54 12.7 +0.7**
PKI pmax pmax
comp=Z,28nm,1.2s,mb5.5
ARUT Antelope Range 90.22 51 *e*P **P 10 54 12.4 +0.5**
KKN Kakani 90.36 299 *e*P **P 10 54 13.5 +0.7**
comp=Z,57nm,1.2s,mb5.8
KKN Kakani 90.36 299 *e*P **P 10 54 13.5 +0.7**
KKN pmax pmax
comp=Z,29nm,1.2s,mb5.5
DMN Daman 90.46 298 *e*P **P 10 54 13.9 +0.6**
comp=Z,69nm,1.0s,mb5.9
GKN Gorkha 90.97 299 *e*P **P 10 54 16.0 +0.4**
comp=Z,61nm,1.2s,mb5.8
WUAZ Wupatki 91.11 54 *e*P **P 10 54 16.1 +0.1**
comp=Z,19nm,1.1s,mb5.3
MSU Marysvale 91.39 51 *e*P **P 10 54 18.8 +1.5**
KOLN Koldanda 91.79 298 *e*P **P 10 54 19.4 0.0**
comp=Z,32nm,1.4s,mb5.5
WMQ Urumqi 93.13 314 *e*P **P 10 54 24.4 -0.7**
WMQ AP pP 10 54 34.4 +6.2
WMQ XP sP 10 54 38.4 +9.2
WMQ AMB AMB
comp=Z,10.0nm,1.4s,mb5.0
WMQ AMB AMB
comp=Z,100nm,4.8s
WMQ LR LR
comp=N,110nm,22.0s,MS4.4
WMQ LR LR
comp=E,120nm,22.0s,MS4.4
WMQ LR LR
comp=Z,100nm,22.0s,MS4.2
SNAA Sanae 93.59 183 *i*P **P 10 54 25.8 -0.8**
PV10 Paradox Valley 93.71 51 P **P 10 54 27.8 -0.2**
PDAR Pinedale Array 94.52 47 P **P 10 54 32.3 +0.7**
comp=Z,0.3nm,0.7s,baz=225,slow=3.8,SNR=2.9
PDAR LR LR 11 29 07.4
comp=Z,298nm,19.0s,MS4.8,baz=275,slow=30
ANMO Albuquerque 94.82 55 *i*P **P 10 54 34.0 +0.9**
TXAR Lajitas Array 95.77 61 P **P 10 54 36.9 -0.7**
comp=Z,0.7nm,0.8s,mb4.2,baz=224,slow=5.8,SNR=8.8
TXAR LR LR 11 27 57.2
comp=Z,307nm,20.8s,MS4.8,baz=330,slow=29
YKA Yellowknife Ar 97.27 27 P **P 10 54 41.0 -2.6**
comp=Z,2.9nm,1.0s,mb4.7,baz=253,slow=4.7,SNR=20
MKAR Makanchi Array 97.59 316 P **P 10 54 44.8 -0.6**
comp=Z,8.7nm,0.9s,mb5.3,baz=110,slow=3.4,SNR=41
MKAR Makanchi Array 97.59 316 *i*P **P 10 54 45.1 -0.3**
MKAR pmax pmax
comp=Z,22nm,1.1s
ZAL Zalesovo 97.73 324 P **P 10 54 45.2 -0.6**
comp=Z,1.6nm,0.3s,mb5.0,baz=15,slow=6.4,SNR=10
KURK Kurchatov 100.76 320 *i*P P 10 54 59.9 +0.2
BVAR Borovoye Array 106.09 321 Pdiff Pdif 10 55 22.5 -0.7
comp=Z,0.3nm,0.5s,baz=63,slow=3.2,SNR=4.4
ARCES ARCESS Array B 120.38 346 PKP PKPdf 11 00 00.2 -3.6
comp=Z,2.5nm,0.7s,baz=83,slow=2.2,SNR=9.9
OBN Obninsk 124.99 328 *e*PKIKP PKPdf 11 00 09.7 -3.4
OBN *e* 11 01 57.5
OBN pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 125.25 314 *e*PKIKP PKPdf 11 00 11.7 -2.2
KIV *e* 11 00 22.1
KIV pmax pmax
comp=Z,6.0nm,1.2s
FINES FINESS Array B 125.92 338 PKP PKPdf 11 00 11.5 -3.2
comp=Z,3.0nm,0.9s,slow=1.9,SNR=5.3
AKASG Malin Array Be 131.04 326 PKP PKPdf 11 00 22.4 -2.4
comp=Z,0.4nm,0.4s,baz=53,slow=1.6,SNR=8.1
BRTR Keskin Array B 132.93 311 PKP PKPdf 11 00 26.4 -2.3
comp=Z,2.0nm,0.8s,baz=18,slow=3.9,SNR=6.3
DPC Dobruska-Polom 137.63 333 *e*pPKP 11 00 45.2
KHC Kasperske Hory 139.73 334 *e*PKP PKPdf 11 00 38.1 -2.7
GIVF Givet 142.10 342 *e*PKP1 PKPdf 11 00 41.9 -3.1
CDF Champ du Feu 142.78 339 *e*PKP1 PKPdf 11 00 42.1 -4.1
DAVOX Davos 143.12 335 PKP PKPdf 11 00 43.3 -3.5
comp=Z,2.2nm,0.5s,baz=214,slow=3.6,SNR=4.1
CABF La Chapelle 144.73 338 *e*PKP1 PKPbc 11 00 46.6 0.0
TIP Timpagrande 144.81 319 *e*PKPdf PKPdf 11 00 47.0 -3.0
LOR Lormes 144.91 341 *e*PKP1 PKPbc 11 00 47.8 +0.7
GRR Gorron 145.16 347 *e*PKP1 PKPbc 11 00 48.2 +0.5
comp=Z,48nm,1.1s
SSF Saint Saulge 145.21 341 *e*PKP1 PKPbc 11 00 48.9 +1.1
comp=Z,80nm,1.1s
LPL La Plagne 145.41 336 *e*PKP1 PKPbc 11 00 50.2 +1.8
comp=Z,25nm,0.8s
LPG La Plagne 145.42 336 *e*PKP1 PKPbc 11 00 50.3 +1.9
comp=Z,69nm,1.2s
SMF Signal de Mont 145.47 340 *e*PKP1 PKPbc 11 00 49.5 +1.0
comp=Z,65nm,1.3s
AVF Avril sur Loir 145.50 341 *e*PKP1 PKPbc 11 00 49.6 +1.0
comp=Z,49nm,1.3s
SGMF Saint Gilles 145.63 349 *e*PKP1 PKPbc 11 00 49.7 +0.8
comp=Z,115nm,1.2s
BGF Bois d'Agland 145.86 341 *e*PKP1 PKPbc 11 00 50.9 +1.4
MBDF Montbardon 146.05 336 *e*PKP1 PKPbc 11 00 51.7 +1.7
ORIF Oris-en-Rattie 146.24 337 *e*PKP1 PKPbc 11 00 52.4 +1.9
comp=Z,38nm,0.8s
TCF Toulx Ste Croi 146.30 342 *e*PKP1 PKPbc 11 00 52.1 +1.6
comp=Z,56nm,1.3s
SBF Sospel 146.49 334 *e*PKP1 PKPbc 11 00 52.5 +1.4
comp=Z,92nm,0.9s
MFF Saint Martin d 146.66 345 *e*PKP1 PKPbc 11 00 53.3 +1.9
comp=Z,33nm,0.9s
VIVF Saint-Julien-l 146.75 338 *e*PKP1 PKPbc 11 00 53.9 +2.3
PGF Pioggiola 146.82 331 *e*PKP1 PKPbc 11 00 53.8 +1.9
FRF La Foret Royal 147.06 334 *e*PKP1 PKPdf 11 00 54.4 +0.7
comp=Z,86nm,1.2s
LMR La Mourre 147.31 334 *e*PKP1 PKPdf 11 00 54.9 +0.8
comp=Z,57nm,1.0s
RJF Les Rejaudoux 147.40 342 *e*PKP1 PKPdf 11 00 55.6 +1.4
CAF Calviac 147.57 341 *e*PKP1 PKPdf 11 00 56.1 +1.6
LASF Ste Croix 147.71 338 *e*PKP1 PKPdf 11 00 56.7 +1.9
LFF La Frestale 147.96 343 *e*PKP1 PKPdf 11 00 56.9 +1.8
comp=Z,27nm,0.8s
MTLF Montolieu 148.93 339 *e*PKP1 PKPdf 11 00 59.8 +3.1
comp=Z,38nm,0.9s
EPF Esparros 149.81 342 *e*PKP1 PKPdf 11 01 01.8 +3.6
comp=Z,16nm,1.0s
ETSF Etsaut 150.20 343 *e*PKP1 PKPdf 11 01 02.1 +3.3
comp=Z,71nm,1.4s
ESDC Sonseca Array 154.12 345 PKPbc PKPdf 11 01 12.1 +7.6
comp=Z,1.5nm,0.9s,baz=335,slow=4.9,SNR=4.6
ESDC PKPab PKPab 11 01 26.0 +0.3
comp=Z,0.7nm,0.5s,baz=13,slow=3.4,SNR=4.7
EVO Evora 156.00 352 *e*PKIKP PKPdf 11 01 07.5 +0.5
TORD Torodi Ar. Bea 166.48 265 PKP PKPdf 11 01 16.6 -2.2
comp=Z,3.5nm,1.0s,baz=17,slow=0.6,SNR=12
TORD PKPab PKPab 11 02 18.8 -1.0
comp=Z,4.4nm,0.9s,baz=95,slow=3.7,SNR=9.5
LIC Lamto 169.04 220 *e*PKIKP PKPdf 11 01 19.4 -1.1
comp=Z,58nm,1.5s
DBIC Dimbokro 169.27 223 PKP PKPdf 11 01 19.1 -1.6
comp=Z,5.7nm,1.1s,baz=219,slow=5.0,SNR=3.9

LDG ***17*** *10:54:03.9±0.2, 14.46S×167.76E, h10km, Mb5.5/4, Ms4.8/1, Error ellipse: s-maj=28.5km s-min=6.9km az=91.0*
BJI ***17*** *10:54:05.9, 14.42S×168.07E, h32km, mB5.4, mb5.1, Ms5.2, Msz4.6*
MOS ***17*** *10:54:06.6±1.4, 14.60S×167.80E, h33km, mb5.4/24, MS4.7/10, Error ellipse: s-maj=9.7km s-min=8.9km az=61.0*
HRVD ***17*** *10:54:07.3±0.2, 14.65S×168.02E, h12km, MW5.2/79, Centroid moment Tensor Solution. LP body waves: s35,c49;Mantle waves: s79,c149; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73±.01; $M_{\theta\theta}$-0.04±.01; $M_{\phi\phi}$-0.69±.01; $M_{r\theta}$0.10±.06; $M_{\theta\phi}$0.04±.01; $M_{\phi r}$0.45±.05; Best double couple: M_o.849×10^{17} NP1: ϕ_s169°,δ29°,λ76°. NP2:ϕ_s5°,δ62°,λ98°. Principal axes: T.874, Plg72°, Azm293°; N -.049, Plg7°, Azm181°; P -.824, Plg16°, Azm89°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *10:54:07.3±0.2, 14.70S×167.93E, mb5.3/29, MS4.8/9 Error ellipse: s-maj=7.0km s-min=5.5km az=136.0*
IDC ***17*** *10:54:08.1±2.0, 14.65S×167.98E, h41km±16km, mb4.7/18, mb1 4.9/20, mb1mx4.9/20, mbtmp5.0/20, ML5.0/2, MS4.6/17, Ms1 4.6/17, ms1mx4.5/22, Error ellipse: s-maj=17.7km s-min=12.5km az=76.0*
ISC 17 10:54:05.7±0.2, 14.73S±0.03×167.86E±0.04, h32km, h32km±.6km: pP-P, n202, σ1%02/130, mb5.1/58, MS4.7/28, 8C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.95**	**173**	*i*P		**Pn**	**10 54 49.4**	**-2.0**
DZM	**Mont Dzumac**	**7.43**	**190**	P		**Pn**	**10 55 53.4**	**-1.3**
DZM	24nm,0.3s,baz=45,slow=20,SNR=148			S		**Sn**	**10 57 19.4**	**+0.7**
DZM	9.5nm,0.3s,baz=328,slow=23,SNR=5.2			LR	LR		10 58 41.5	
HNR	comp=Z,3μm,18.1s,baz=16,slow=36 **Honiara**	**9.36**	**303**	P		**P**	**10 56 21.6**	**+0.1**
HNR	15nm,0.3s,baz=187,slow=6.0,SNR=20			S		**Sn**	**10 58 07.4**	**+0.7**
	baz=77,slow=21,SNR=2.7							
HNR	**Honiara**	**9.36**	**303**	*e*Pn		**P**	**10 56 21.3**	**-0.2**
HNR				*e*Sn		**Sn**	**10 58 08.6**	**+1.9**
FUNA	**Funafuti**	**12.69**	**62**	P		**P**	**10 57 04.4**	**-2.5**
RAO	**Raoul Island**	**19.53**	**140**	LR	LR		11 04 33.4	
	comp=Z,664nm,19.2s,baz=308,slow=32							
AFI	**Afiamalu**	**19.75**	**90**	LR	LR		11 04 01.8	
	comp=Z,3μm,21.7s,baz=275,slow=30							
PMG	**Port Moresby**	**20.92**	**282**	P		**P**	**10 58 48.6**	**+0.4**
	128nm,1.0s,baz=97,slow=5.2,SNR=14							
PMG				LR	LR		11 06 25.2	
	comp=Z,3μm,18.2s,MS4.7,baz=52,slow=35							
PMG	**Port Moresby**	**20.92**	**282**	*e*P		**P**	**10 58 49.8**	**+1.6**
PMG				pmax	pmax			
	comp=Z,244nm,1.1s							
PMG	**Port Moresby**	**20.92**	**282**	*e*P		**P**	**10 58 49.8**	**+1.6**
	comp=Z,244nm,1.1s							
OUZ	**Omahuta**	**21.05**	**167**	PN		**P**	**10 58 49.6**	**+0.3**
OUZ	**Omahuta**	**21.05**	**167**	*e*P		**P**	**10 58 47.9**	**-1.5**
CTA	**Charters Tower**	**21.29**	**252**‖	*i*P		**P**	**10 58 53.7**	**+1.8**
	comp=Z,33nm,0.9s,mb4.7							
CTA				*e*S		**S**	**11 02 54.8**	**+13**
CTA	**Charters Tower**	**21.29**	**252**	P		**P**	**10 58 53.8**	**+1.9**
	comp=Z,51nm,1.1s,mb4.8,baz=74,slow=10,SNR=23							
CTA				LR	LR		11 06 02.2	
	comp=Z,4μm,20.0s,MS4.8,baz=87,slow=33							
CTA	**Charters Tower**	**21.29**	**252**‖	*i*P		**P**	**10 58 53.7**	**+1.8**
CTA				*e*S		**S**	**11 02 54.8**	**+13**
CTA				pmax	pmax			
	comp=Z,33nm,0.9s							
CTAO	**Charters Tower**	**21.29**	**252**	*e*P		**P**	**10 58 53.0**	**+1.1**
CTAO				pmax	pmax			
	comp=Z,90nm,1.1s,mb5.0							
CTAO				MLR	MLR			
	comp=Z,4μm,20.0s,MS4.8							
CTAO	**Charters Tower**	**21.29**	**252**	*e*P		**P**	**10 58 53.0**	**+1.1**
	comp=Z,90nm,1.1s,mb5.0							
CTAO				LR	LR			
	comp=Z,4μm,20.0s,MS4.8							
WCZ	**Waipu Caves**	**21.91**	**166**	*e*PN		**P**	**10 58 58.9**	**+0.8**
WCZ	**Waipu Caves**	**21.91**	**166**	*e*P		**P**	**10 58 59.2**	**+1.2**
RIV	**Riverview**	**24.30**	**216**	*e*P		**P**	**10 59 25.5**	**+4.0**
URZ	**Urewera**	**24.83**	**162**	P		**P**	**10 59 27.5**	**+1.0**
	comp=Z,77nm,1.0s,mb5.2,baz=35,slow=4.9,SNR=12							
URZ				LR	LR		11 07 19.1	
	comp=Z,1μm,19.0s,MS4.4,baz=9.6,slow=32							
CNB	**Canberra Magne**	**26.39**	**216**	*e*P		**P**	**10 59 42.2**	**+1.0**
	comp=Z,88nm,1.1s,mb5.2							
RPZ	**Rata Peaks**	**29.02**	**175**	P		**P**	**11 00 04.8**	**-0.1**
	comp=Z,6.6nm,0.6s,mb4.6,baz=12,slow=2.1,SNR=5.9							
RPZ				LR	LR		11 10 37.2	
	comp=Z,753nm,19.1s,MS4.3,baz=8.2,slow=34							
STKA	**Stephens Creek**	**29.43**	**230**‖	*i*P		**P**	**11 00 09.5**	**+0.7**
	comp=Z,62nm,1.1s,mb5.2							
STKA	**Stephens Creek**	**29.43**	**230**	P		**P**	**11 00 09.6**	**+0.9**
	comp=Z,69nm,0.9s,mb5.4,baz=47,slow=6.5,SNR=42							
STKA				LR	LR		11 10 58.4	
	comp=Z,1μm,19.8s,MS4.5,baz=51,slow=34							
TOO	**Toolangi**	**30.20**	**217**	*e*P		**P**	**11 00 16.6**	**+1.1**
	comp=Z,22nm,0.9s,mb4.9							
TOO	**Toolangi**	**30.20**	**217**	*e*P		**P**	**11 00 16.6**	**+1.1**
TOO				pmax	pmax			
	comp=Z,22nm,0.9s,mb4.9							
RAR	**Rarotonga**	**31.41**	**107**	LR	LR		11 10 28.3	
	comp=Z,1μm,19.1s,MS4.6,baz=220,slow=31							
WB2	**Warramunga Arr**	**32.37**	**256**	*e*P		**P**	**11 00 33.5**	**-1.2**
WB2				*e*PCS			11 07 02.0	
WRAB	**Tennant Creek**	**32.37**	**256**	*i*P		**P**	**11 00 33.7**	**-1.0**
WRA	**Warramunga Arr**	**32.38**	**256**	P		**P**	**11 00 33.8**	**-1.0**
	comp=Z,6.8nm,0.8s,mb4.5,baz=81,slow=6.8,SNR=60							
FORT	**Forrest**	**39.79**	**239**	*e*P		**P**	**11 01 38.0**	**+0.4**
	comp=Z,85nm,0.6s,mb5.7							
FITZ	**Fitzroy Crossi**	**40.58**	**259**‖	*i*P		**P**	**11 01 44.2**	**0.0**
	comp=Z,30nm,0.6s,mb5.1							
PAE	**Paea**	**40.91**	**100**	*e*P		**P**	**11 01 46.7**	**-0.2**
	comp=Z,43nm,1.0s,mb5.0							
PPT	**Papeete**	**40.92**	**100**	*e*S		**S**	**11 07 50.0**	**-6.3**
PPT				*e*LR	LR		11 12 45.5	
	comp=Z,3μm,28.0s,baz=262							
TBI	**Tubuai**	**41.12**	**109**	*e*S		**S**	**11 07 52.8**	**-6.4**
TBI				*e*LR	LR		11 12 52.7	
	comp=Z,3μm,27.5s,baz=276							
TVO	**Taravao**	**41.22**	**100**	*e*P		**P**	**11 01 49.3**	**-0.1**
	comp=Z,46nm,0.8s,mb5.1							
MEH	**Mehetia**	**42.34**	**100**	*e*P		**P**	**11 01 58.5**	**-0.3**
	comp=Z,91nm,1.5s,mb5.2							
MBWA	**Marble Bar**	**46.10**	**255**	*e*P		**P**	**11 02 28.4**	**-0.6**
	comp=Z,53nm,0.8s,mb5.5							
KLBR	**Kellerberrin**	**48.61**	**241**	*e*P		**P**	**11 02 47.9**	**-0.6**
	comp=Z,117nm,1.8s,mb5.6							
KLBR				*e*PP	PP		11 04 43.2	+2.1
NWAO	**Narrogin (SRO)**	**49.24**	**239**	*e*P		**P**	**11 02 52.9**	**-0.5**
NWAO				pmax	pmax			
	comp=Z,57nm,1.1s							
NWAO	**Narrogin (SRO)**	**49.24**	**239**	*e*P		**P**	**11 02 52.9**	**-0.5**
	comp=Z,57nm,1.1s,mb5.5							
MUN	**Mundaring**	**49.96**	**241**⇑	*i*P		**P**	**11 02 58.8**	**-0.1**
TAOE	**Nuku Hiva Isla**	**51.14**	**90**	*e*LR	LR		11 17 34.7	
	comp=Z,4μm,29.4s							
RKT	**Rikitea**	**54.43**	**108**	*e*S		**S**	**11 11 02.5**	**-4.6**
RKT				*e*SS	SS		11 14 44.1	-5.1
RKT				*e*LR	LR		11 19 00.3	
	comp=Z,2μm,29.2s,baz=269							
KKM	**Kota Kinabalu**	**55.20**	**288**	*e*P		**P**	**11 03 38.1**	**-0.2**
KKM				*e*pP	pP		11 03 49.1	+1.0
MJAR	**Matsushiro Arr**	**58.17**	**332**	P		**P**	**11 03 57.7**	**-1.4**
	comp=Z,14nm,1.1s,mb4.9,baz=161,slow=5.7,SNR=11							
MAT	**Matsushiro**	**58.17**	**332**	P		**P**	**11 03 57.7**	**-1.4**
MAT	**Matsushiro**	**58.17**	**332**	*e*P		**P**	**11 03 58.0**	**-1.1**
KSM	**Kuching**	**59.17**	**281**	*e*P		**P**	**11 04 06.4**	**+0.1**
KSM				*e*pP	pP		11 04 16.2	-0.2
JNU	**Nakatsue**	**59.26**	**324**	P		**P**	**11 04 06.2**	**-0.5**
	comp=Z,96nm,1.3s,mb5.7,baz=293,slow=12,SNR=4.2							
YHNB	**Yeheng**	**59.92**	**310**	*e*P		**P**	**11 04 09.9**	**-1.5**
YHNB				*e*pP	pP		11 04 18.9	-2.5
YHNB				*e*sP	sP		11 04 23.9	-1.2
VNDA	**Vanda**	**62.88**	**181**	P		**P**	**11 04 29.8**	**-0.8**
	comp=Z,7.5nm,1.1s,mb4.7,baz=18,slow=5.8,SNR=6.2							
VNDA				LR	LR		11 28 33.8	
	comp=Z,279nm,19.1s,MS4.5,baz=23,slow=33							
VNDA	**Vanda**	**62.88**	**181**	*e*P		**P**	**11 04 29.5**	**-1.1**
VNDA				pmax	pmax			
	comp=Z,23nm,1.4s							
VNDA				MLR	MLR			
	comp=Z,347nm,19.0s							
VNDA	**Vanda**	**62.88**	**181**	*e*P		**P**	**11 04 29.5**	**-1.1**
	comp=Z,23nm,1.4s,mb5.1							
VNDA				LR	LR			
	comp=Z,347nm,19.0s,MS4.5							
SSE	**Sheshan**	**63.92**	**316**	P		**P**	**11 04 37.3**	**-0.8**
SSE				AMB	AMB			
	comp=Z,50nm,0.7s,mb5.7							
SSE				AMB	AMB			
	comp=Z,240nm,5.1s							
YSS	**Yuzh-Sakhalins**	**65.41**	**341**	*e*P		**P**	**11 04 47.4**	**-0.1**
YSS				*e*			11 04 53.0	
YSS				*e*			11 13 42.0	
YSS	**Yuzh-Sakhalins**	**65.41**	**341**	*e*P		**P**	**11 04 47.4**	**-0.1**
	comp=Z,52nm,1.1s,mb5.5							
YSS				LR	LR			
	comp=Z,540nm,20.0s,MS4.8							
NJ2	**Nanjing**	**66.08**	**315**	*e*P		**P**	**11 04 52.3**	**+0.3**
NJ2				AP	pP		11 05 02.4	+0.3
NJ2				XP	sP		11 05 06.4	+0.7
NJ2				PP	PP		11 07 18.9	-0.8
NJ2				S	S		11 13 35.0	-1.4
NJ2				AMB	AMB			
	comp=Z,40nm,1.0s,mb5.4							
NJ2				AMB	AMB			
	comp=Z,200nm,4.6s							
NJ2				LR	LR			
	comp=N,940nm,27.2s,MS5.1							
NJ2				LR	LR			
	comp=E,1μm,28.2s,MS5.1							
NJ2				LR	LR			
	comp=Z,500nm,26.6s,MS4.6							
PET	**Petropavlovsk**	**67.94**	**354**	*e*P		**P**	**11 05 04.8**	**+1.4**
PET				*e*			11 14 02.3	
WHN	**Wuhan**	**68.37**	**312**⇑	P		**P**	**11 05 05.8**	**-0.7**
MDJ	**Mudanjiang**	**68.55**	**332**	*e*P		**P**	**11 05 07.3**	**-0.1**
	comp=Z,38nm,1.1s,mb5.2							
HABR	**Khabarovsk**	**69.35**	**337**⇑	*i*P		**P**	**11 05 11.3**	**-1.0**
HABR				pmax	pmax			
	comp=Z,114nm,1.7s,mb5.5							
CN2	**Changchun**	**69.94**	**329**	*e*P		**P**	**11 05 15.8**	**-0.1**
CN2				AMB	AMB			
	comp=Z,40nm,1.3s,mb5.2							

CN2					AMB	AMB			
	comp=Z,680nm,4.0s								
PSI	**Prapat**	**70.42**	**278**		LR	LR	11 34 46.7		
	comp=Z,328nm,19.6s,MS4.6,baz=278,slow=35								
KLR	**Kul'dur**	**71.24**	**336**	*eP*		**P**	**11 05 21.2**	**-2.5**	
ENH	**Enshi**	**71.81**	**309**	*eP*		**P**	**11 05 26.8**	**-0.7**	
	comp=Z,85nm,1.4s,mb5.5								
GYA	**Guiyang**	**72.19**	**304**	⇓*iP*		**P**	**11 05 30.3**	**+0.5**	
GYA					AMB	AMB			
	comp=Z,20nm,1.4s,mb4.8								
XAN	**Xi'an**	**74.11**	**312**		P	**P**	**11 05 40.8**	**-0.1**	
XAN					AP	pP	11 05 50.8	-0.3	
XAN					AMB	AMB			
	comp=Z,20nm,2.3s,mb4.6								
KMI	**Kunming**	**74.79**	**302**		P	**P**	**11 05 46.5**	**+1.4**	
KMI					AP	pP	11 05 57.1	+1.9	
KMI					XP	sP	11 06 01.8	+3.1	
KMI					PP	PP	11 08 39.8	+5.3	
KMI					S	S	11 15 22.5	+4.4	
KMI					AMB	AMB			
	comp=Z,20nm,1.4s,mb4.8								
KMI					AMB	AMB			
	comp=Z,250nm,3.1s								
KMI					LR	LR			
	comp=Z,320nm,30.1s,MS4.4								
HHC	**Hu-ho-hao-te**	**75.95**	**319**	*eP*		**P**	**11 05 51.8**	**+0.4**	
HHC					AP	pP	11 06 02.0	+0.4	
HHC					PCP	PcP	11 06 03.9	0.0	
HHC					XP	sP	11 06 06.3	+1.2	
HHC					PP	PP	11 08 43.8	+0.1	
HHC					S	S	11 15 29.5	-1.1	
HHC					SKS	SKS	11 15 55.4	-7.7	
HHC					SCS	ScS	11 15 59.9	+0.1	
HHC					PS	PS	11 16 12.0	-0.4	
HHC					SS	SS	11 20 25.3	-1.1	
HHC					AMB	AMB			
	comp=Z,20nm,1.1s,mb5.0								
HHC					AMB	AMB			
	comp=Z,270nm,4.4s								
HHC					LR	LR			
	comp=N,340nm,14.3s,MS4.9								
HHC					LR	LR			
	comp=E,210nm,14.3s,MS4.9								
HHC					LR	LR			
	comp=Z,380nm,19.0s,MS4.7								
CD2	**Chengdu**	**76.46**	**307**	*eP*		**P**	**11 05 55.0**	**+0.6**	
LZH	**Lanzhou**	**78.74**	**312**	*eP*		**P**	**11 06 08.0**	**+1.1**	
LZH					AP	pP	11 06 18.5	+1.4	
LZH					XP	sP	11 06 23.0	+2.4	
LZH					AMB	AMB			
	comp=Z,70nm,1.2s,mb5.5								
LZH					AMB	AMB			
	comp=Z,250nm,4.5s								
MAW	**Mawson**	**82.10**	**202**		P	**P**	**11 06 24.9**	**+0.9**	
	comp=Z,6.7nm,1.1s,mb4.5,baz=103,slow=14,SNR=2.6								
MAW					LR	LR	11 36 48.6		
	comp=Z,217nm,19.2s,MS4.5,baz=330,slow=31								
SLKM	**Skilak Lake**	**82.14**	**19**	*eP*		**P**	**11 06 24.7**	**+0.3**	
YAK	**Yakutsk**	**82.20**	**343**	*eP*		**P**	**11 06 23.9**	**-0.7**	
YAK					pmax	pmax			
	comp=N,7.0nm,1.1s								
YAK					pmax	pmax			
	comp=Z,16nm,1.1s,mb4.9								
YAK					pmax	pmax			
	comp=N,22nm,1.2s								
YAK					pmax	pmax			
	comp=N,11nm,1.3s								
YAK					pmax	pmax			
	comp=E,5.0nm,1.1s								
ULN	**Ulaanbaatar**	**82.47**	**324**	*c iP*		**P**	**11 06 27.2**	**+0.8**	
ULN	**Ulaanbaatar**	**82.47**	**324**	*eP*		**P**	**11 06 27.0**	**+0.6**	
	comp=E,32nm,1.1s,mb5.2								
BILL	**Bilibino**	**82.55**	**359**	*eP*		**P**	**11 06 24.1**	**-2.3**	
BILL				*e*			11 09 38.0		
BILL				*eS*		S	11 16 41.6	+2.0	
BILL					pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.6								
BILL					MLR	MLR			
	comp=Z,100nm,17.0s,MS4.2								
BILL	**Bilibino**	**82.55**	**359**	*eP*		**P**	**11 06 25.1**	**-1.2**	
	comp=Z,13nm,1.1s,mb4.9								
BILL					LR	LR			
	comp=Z,213nm,21.0s,MS4.5								
SONM	**Songino Array**	**82.84**	**323**		P	**P**	**11 06 28.3**	**+0.1**	
	comp=Z,15nm,1.1s,mb4.9,baz=132,slow=4.0,SNR=43								
SONM					LR	LR	11 41 07.0		
	comp=Z,231nm,19.7s,MS4.5,baz=108,slow=34								
GTA	**Gaotai**	**83.08**	**314**		P	**P**	**11 06 30.1**	**+0.4**	
GTA					PP	PP	11 09 40.4	-2.3	
GTA					AMB	AMB			
	comp=Z,30nm,1.4s,mb5.1								
PMR	**Palmer**	**83.31**	**19**	*eP*		**P**	**11 06 29.9**	**-0.5**	
PMR					pmax	pmax			
	comp=Z,121nm,1.8s,mb5.6								
PMR					MLR	MLR			
	comp=Z,300nm,17.0s,MS4.7								
PMR	**Palmer**	**83.31**	**19**	*eP*		**P**	**11 06 29.9**	**-0.5**	
	comp=Z,121nm,1.8s,mb5.6								
PMR					LR	LR			
	comp=Z,300nm,17.0s,MS4.7								
BOD	**Bodaibo**	**84.72**	**334**	*eP*		**P**	**11 06 34.6**	**-3.0**	
BOD					pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.8								
CMB	**Columbia Colle**	**85.17**	**49**	*eP*		**P**	**11 06 41.0**	**+0.7**	
CMB					pmax	pmax			
	comp=Z,20nm,1.3s,mb5.1								
CMB					MLR	MLR			
	comp=Z,987nm,20.0s,MS5.2								
CMB	**Columbia Colle**	**85.17**	**49**	*eP*		**P**	**11 06 41.0**	**+0.7**	
	comp=Z,20nm,1.3s,mb5.1								
CMB					LR	LR			
	comp=Z,987nm,20.0s,MS5.2								
HUMO	**Hull Mountain**	**85.21**	**44**	*eP*		**P**	**11 06 41.7**	**+1.3**	
	comp=Z,17nm,1.2s,mb5.1								
HUMO					LR	LR			
	comp=Z,494nm,21.0s,MS4.9								
MWC	**Mount Wilson**	**85.50**	**53**	*eP*		**P**	**11 06 42.5**	**+0.4**	
IMA2	**Indian Mountai**	**85.50**	**15**	*eP*		**P**	**11 06 41.3**	**0.0**	
ZAK	**Zakamensk**	**85.88**	**325**	*eP*		**P**	**11 06 43.6**	**0.0**	
ZAK					pmax	pmax			
	comp=Z,14nm,1.0s,mb5.2								
BAR	**Barrett**	**86.04**	**55**	*eP*		**P**	**11 06 44.8**	**0.0**	
LSA	**Lhasa**	**86.05**	**302**	*eP*		**P**	**11 06 46.4**	**+1.5**	
LSA					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.0								
LSA					MLR	MLR			
	comp=Z,270nm,19.0s,MS4.7								
LSA	**Lhasa**	**86.05**	**302**	*eP*		**P**	**11 06 46.4**	**+1.5**	
	comp=Z,9.3nm,0.8s,mb5.1								
LSA					LR	LR			
	comp=Z,270nm,19.0s,MS4.7								
COLA	**College**	**86.14**	**17**	*i* P		**P**	**11 06 47.5**	**+3.0**	
ILAR	**Eielson Array**	**86.35**	**18**	P		**P**	**11 06 43.5**	**-2.0**	
	comp=Z,3.3nm,0.6s,mb4.8,baz=240,slow=4.9,SNR=46								
NVAR	**Mina Array Bea**	**86.83**	**49**	P		**P**	**11 06 48.6**	**0.0**	
	comp=Z,8.5nm,1.2s,mb4.8,baz=234,slow=4.2,SNR=17								
MNV	**Mina**	**86.94**	**49**	*eP*		**P**	**11 06 48.0**	**-1.1**	
MNV					pmax	pmax			
	comp=Z,42nm,1.4s,mb5.5								
MNV	**Mina**	**86.94**	**49**	*eP*		**P**	**11 06 48.0**	**-1.1**	
	comp=Z,42nm,1.4s,mb5.5								
TPH	**Tonopah**	**87.50**	**50**	*eP*		**P**	**11 06 52.5**	**+0.7**	
TPH					pmax	pmax			
	comp=Z,38nm,1.5s,mb5.4								
TPH	**Tonopah**	**87.50**	**50**	*eP*		**P**	**11 06 52.5**	**+0.7**	
	comp=Z,38nm,1.5s,mb5.4								
TPNV	**Topopah Spring**	**87.83**	**51**	*eP*		**P**	**11 06 54.1**	**+0.7**	
TPNV					pmax	pmax			
	comp=Z,21nm,1.3s,mb5.2								
TPNV					MLR	MLR			
	comp=Z,641nm,19.0s,MS5.0								
TPNV	**Topopah Spring**	**87.83**	**51**	*eP*		**P**	**11 06 54.1**	**+0.7**	
	comp=Z,21nm,1.3s,mb5.2								
TPNV					LR	LR			
	comp=Z,641nm,19.0s,MS5.0								
LDFC	**Landfair**	**88.07**	**53**	*eP*		**P**	**11 06 55.9**	**+1.3**	
WVOR	**Wild Horse Val**	**88.07**	**45**	*eP*		**P**	**11 06 54.5**	**+0.1**	
WVOR					pmax	pmax			
	comp=Z,65nm,1.8s,mb5.6								
WVOR					MLR	MLR			
	comp=Z,917nm,19.0s,MS5.2								
WVOR	**Wild Horse Val**	**88.07**	**45**	*eP*		**P**	**11 06 54.5**	**+0.1**	
	comp=Z,65nm,1.8s,mb5.5								
WVOR					LR	LR			
	comp=Z,917nm,19.0s,MS5.2								
NEN	**Nelson**	**88.47**	**53**	*eP*		**P**	**11 06 56.4**	**-0.1**	
SYO	**Syowa Base**	**88.87**	**196**	⇑P		**P**	**11 06 56.4**	**-1.2**	
SYO	**Syowa Base**	**88.87**	**196**	⇑pP		pP	11 07 06.6	-1.4	
SYO	**Syowa Base**	**88.87**	**196**	⇑*i*P		**P**	**11 06 56.4**	**-1.2**	
SYO				⇑*e*pP		pP	11 07 06.6	-1.4	
ELK	**Elko**	**89.86**	**48**	*eP*		**P**	**11 07 03.7**	**+0.8**	
ELK					pmax	pmax			
	comp=Z,25nm,1.6s								
ELK	**Elko**	**89.86**	**48**	*eP*		**P**	**11 07 03.7**	**+0.8**	
	comp=Z,25nm,1.6s,mb5.3								
TIXI	**Tiksi**	**90.08**	**349**	*eP*		**P**	**11 07 02.6**	**-0.6**	
TIXI					pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.6								
ARUT	**Antelope Range**	**90.22**	**51**	*eP*		**P**	**11 07 05.6**	**+0.9**	
WUAZ	**Wupatki**	**91.11**	**54**	*eP*		**P**	**11 07 09.9**	**+1.1**	
	comp=Z,67nm,1.6s,mb5.7								
MSU	**Marysvale**	**91.39**	**51**	*eP*		**P**	**11 07 11.4**	**+1.4**	
DUG	**Dugway**	**91.44**	**49**	*eP*		**P**	**11 07 10.9**	**+0.7**	
DUG					pmax	pmax			
	comp=Z,24nm,1.7s,mb5.2								
DUG	**Dugway**	**91.44**	**49**	*eP*		**P**	**11 07 10.8**	**+0.7**	
	comp=Z,24nm,1.7s,mb5.3								
WMQ	**Urumqi**	**93.14**	**314**	*eP*		**P**	**11 07 18.6**	**+0.7**	
WMQ					AP	pP	11 07 28.6	+0.3	
WMQ					XP	sP	11 07 32.6	+1.0	
WMQ					AMB	AMB			
	comp=Z,20nm,1.2s,mb5.4								
WMQ					AMB	AMB			
	comp=Z,200nm,5.0s								
WMQ					LR	LR			
	comp=N,140nm,22.0s,MS4.5								
WMQ					LR	LR			
	comp=E,150nm,21.0s,MS4.5								
WMQ					LR	LR			
	comp=Z,140nm,21.4s,MS4.4								
SNAA	**Sanae**	**93.58**	**183**	*eP*		**P**	**11 07 18.5**	**-0.8**	
SNAA					pmax	pmax			
	comp=Z,8.0nm,1.1s								
SNAA	**Sanae**	**93.58**	**183**	*eP*		**P**	**11 07 18.5**	**-0.8**	
	comp=Z,7.9nm,1.1s,mb5.1								
PV10	**Paradox Valley**	**93.72**	**51**	*eP*		**P**	**11 07 21.3**	**+0.5**	
PV01	**Paradox Valley**	**94.01**	**52**	*eP*		**P**	**11 07 22.9**	**+0.8**	
PDAR	**Pinedale Array**	**94.52**	**47**	P		**P**	**11 07 25.4**	**+1.1**	
	comp=Z,0.5nm,0.9s,baz=256,slow=3.7,SNR=3.3								
PDAR					PKKPbc		11 24 27.6		
	comp=Z,0.5nm,0.8s,baz=90,slow=7.4,SNR=4.2								
PDAR					LR	LR	11 47 23.6		
	comp=Z,250nm,19.1s,MS4.7,baz=278,slow=34								
ANMO	**Albuquerque**	**94.83**	**55**	⇓*eP*		**P**	**11 07 29.1**	**+3.2**	
TXAR	**Lajitas Array**	**95.77**	**61**	P		**P**	**11 07 30.9**	**+0.5**	
	comp=Z,1.4nm,0.8s,mb4.4,baz=228,slow=4.9,SNR=13								
TXAR					PP	PP	11 11 25.3	+0.8	
	comp=Z,0.7nm,1.1s,baz=214,slow=9.0,SNR=4.1								
TXAR					LR	LR	11 48 34.9		
	comp=Z,309nm,18.1s,MS4.8,baz=205,slow=34								
TXAR	**Lajitas Array**	**95.77**	**61**	P		**P**	**11 07 30.9**	**+0.5**	
TXAR					PP	PP	11 11 25.3	+0.8	
TXAR					LR	LR	11 48 34.9		
YKA	**Yellowknife Ar**	**97.28**	**27**	P		**P**	**11 07 34.5**	**-1.8**	
	comp=Z,3.0nm,0.9s,mb4.7,baz=253,slow=4.7,SNR=20								
YKA					PP	PP	11 11 35.4	-0.3	
	comp=Z,1.3nm,1.1s,baz=255,slow=7.2,SNR=4.3								
MKAR	**Makanchi Array**	**97.60**	**316**	P		**P**	**11 07 38.4**	**+0.2**	
	comp=Z,15nm,1.0s,mb5.5,baz=90,slow=4.9,SNR=50								
MKAR					PP	PP	11 11 34.5	-4.2	
	comp=Z,1.5nm,1.0s,baz=121,slow=7.1,SNR=4.1								
MKAR					LR	LR	11 51 47.1		
	comp=Z,168nm,18.1s,MS4.6,baz=1.1,slow=35								
ZAL	**Zalesovo**	**97.74**	**324**	P		**P**	**11 07 38.0**	**-0.6**	
	comp=Z,3.1nm,1.1s,mb4.8,baz=4.8,slow=5.0,SNR=14								
ZAL					LR	LR	11 51 00.0		
	comp=Z,249nm,20.4s,MS4.7,baz=6.4,slow=35								
NVS	**Novosibirsk**	**98.84**	**324**	*eP*		**P**	**11 07 41.1**	**-2.5**	
BVAR	**Borovoye Array**	**106.10**	**321**	Pdiff		Pdif	11 08 16.2	+0.3	
	comp=Z,1.1nm,1.0s,baz=120,slow=3.3,SNR=3.0								
BVAR					PKiKP		11 12 27.1		
	comp=Z,0.4nm,0.6s,baz=90,slow=1.4,SNR=3.3								
ARU	**Arti**	**112.81**	**325**	*i* PKIKP		PKPdf	11 12 40.3	-4.0	
ARU				*e*			11 19 20.0		
AKTK	**Aktyubinsk**	**113.85**	**319**	PKPdf		PKPdf	11 12 42.3	-4.3	
AKTK				PKKPab			11 23 31.4		
AKTO	**Aktyubinsk**	**113.85**	**319**	PKiKP			11 12 42.3		
	comp=Z,0.8nm,0.6s,baz=84,slow=10,SNR=3.7								
AKTO				PKKPab			11 23 31.4		
	comp=Z,3.0nm,0.9s,baz=87,slow=6.2,SNR=8.3								
LPAZ	**La Paz**	**116.70**	**117**	PKP		PKPdf	11 12 48.0	-4.9	
	comp=Z,0.8nm,0.8s,baz=7.1,slow=8.1,SNR=3.4								
ARCES	**ARCESS Array B**	**120.39**	**346**	PKP		PKPdf	11 12 52.4	-6.4	
	comp=Z,4.2nm,0.7s,baz=67,slow=1.0,SNR=11								
KLMR	**Klimovskoe**	**120.94**	**333**	*e*PKIKP		PKPdf	11 12 53.5	-6.6	
KLMR					pmax	pmax			
	comp=Z,60nm,3.3s								
OBN	**Obninsk**	**125.00**	**328**	*e*PKIKP		PKPdf	11 13 04.3	-3.7	
OBN				*e*			11 14 52.9		
OBN					pmax	pmax			
	comp=Z,14nm,1.0s								
OBN					MLR	MLR			
	comp=Z,100nm,17.0s,MS4.5								
KIV	**Kislovodsk**	**125.26**	**314**	*e*PKIKP		PKPdf	11 13 06.1	-2.7	
KIV				*e*			11 14 56.3		
KIV				*e*SS		SS	11 32 04.8	+15	
KIV					pmax	pmax			
	comp=Z,9.0nm,1.1s								
KIV					MLR	MLR			
	comp=Z,100nm,20.0s,MS4.5								
FINES	**FINESS Array B**	**125.93**	**338**	PKP		PKPdf	11 13 05.2	-4.4	
	comp=Z,6.3nm,1.1s,baz=37,slow=9.5,SNR=5.8								
KMBO	**Kilima Mbogo**	**128.66**	**256**	PKP		PKPdf	11 13 13.2	-3.0	
	comp=Z,0.5nm,0.3s,baz=151,slow=2.8,SNR=5.6								
NOA	**NORSAR Array B**	**130.77**	**345**	PKP		PKPdf	11 13 14.1	-4.8	
	comp=Z,1.3nm,0.8s,baz=54,slow=2.8,SNR=2.5								
HFS	**Hagfors**	**130.89**	**343**	PKP		PKPdf	11 13 15.9	-3.2	
	comp=Z,2.0nm,0.5s,baz=117,slow=6.6,SNR=9.6								
AKASG	**Malin Array Be**	**131.05**	**326**	PKP		PKPdf	11 13 15.3	-4.5	
	comp=Z,0.4nm,0.3s,baz=58,slow=1.3,SNR=12								
AKASG				SKP			11 16 46.7		
	comp=Z,0.3nm,0.4s,baz=28,slow=1.9,SNR=5.5								
AKASG	**Malin Array Be**	**131.05**	**326**	PKP		PKPdf	11 13 15.3	-4.5	
AKASG				SKP			11 16 46.7		
BRTR	**Keskin Array B**	**132.94**	**311**	PKP		PKPdf	11 13 19.8	-3.9	
	comp=Z,1.6nm,0.8s,baz=90,slow=2.5,SNR=4.4								
BRTR					PP	PP	11 15 47.2	-0.5	
	comp=Z,1.1nm,0.9s,baz=124,slow=4.5,SNR=4.3								
DPC	**Dobruska-Polom**	**137.64**	**333**	*e*PKPdf		PKPdf	11 13 30.6	-1.4	
UPC	**Upice**	**137.66**	**333**	*e*PKPdf		PKPdf	11 13 27.0	-5.0	
BRG	**Berggiesshubel**	**138.25**	**335**	*e*PKIKP		PKPdf	11 13 30.1	-3.0	
BRG					pmax	pmax			
	comp=Z,32nm,1.9s								
BRG	**Berggiesshubel**	**138.25**	**335**	*eP*		PKPdf	11 13 30.1	-2.9	
CLL	**Collm**	**138.28**	**336**	*i* PKIKP		PKPdf	11 13 31.9	-1.2	
CLL				*i*			11 13 35.7		
PRU	**Pruhonice**	**138.68**	**334**	*e*PKPdf		PKPdf	11 13 32.9	-1.0	
KHC	**Kasperske Hory**	**139.74**	**334**	*e*PKPdf		PKPdf	11 13 32.5	-3.3	
CDF	**Champ du Feu**	**142.79**	**339**	*e*PKP1		PKPdf	11 13 33.0	-8.1	
DAVOX	**Davos**	**143.13**	**335**	PKP		PKPdf	11 13 37.9	-3.9	
	comp=Z,7.8nm,1.0s,baz=304,slow=9.7,SNR=3.8								
HINF	**Hinteralfeld**	**143.44**	**338**	*e*PKP1		PKPbc	11 13 37.0	+1.6	
HAU	**Haudompre**	**143.46**	**339**	*e*PKP1		PKPbc	11 13 37.2	+1.7	
FLN	**La Foliniere**	**144.73**	**347**	*e*PKP1		PKPbc	11 13 37.8	-1.3	
CABF	**La Chapelle**	**144.74**	**338**	*e*PKP1		PKPbc	11 13 39.2	0.0	
	comp=Z,108nm,1.4s								
LDF	**La Druitiere**	**144.81**	**346**	*e*PKP1		PKPbc	11 13 38.2	-1.1	
	comp=Z,55nm,1.2s								
LOR	**Lormes**	**144.93**	**341**	*e*PKP1		PKPbc	11 13 39.3	-0.4	
	comp=Z,56nm,1.3s								
GRR	**Gorron**	**145.17**	**347**	*e*PKP1		PKPbc	11 13 39.8	-0.5	
	comp=Z,70nm,1.1s								
SSF	**Saint Saulge**	**145.22**	**341**	*e*PKP1		PKPbc	11 13 40.4	-0.1	
	comp=Z,74nm,1.0s								
LPL	**La Plagne**	**145.42**	**336**	*e*PKP1		PKPbc	11 13 41.7	+0.7	
	comp=Z,37nm,0.8s								
LPG	**La Plagne**	**145.43**	**336**	*e*PKP1		PKPbc	11 13 41.8	+0.7	
	comp=Z,48nm,0.8s								
SMF	**Signal de Mont**	**145.48**	**340**	*e*PKP1		PKPbc	11 13 41.1	0.0	
	comp=Z,84nm,1.2s								
AVF	**Avril sur Loir**	**145.51**	**341**	*e*PKP1		PKPbc	11 13 41.1	-0.1	
	comp=Z,156nm,1.7s								
SGMF	**Saint Gilles**	**145.64**	**349**	*e*PKP1		PKPbc	11 13 41.3	-0.2	
	comp=Z,297nm,1.5s								
ROSF	**Rostrenen**	**145.70**	**349**	*e*PKP1		PKPbc	11 13 41.4	-0.2	
	comp=Z,179nm,1.3s								
BNI	**Bardonecchia**	**145.83**	**336**	*e*PKP2		PKPab	11 13 43.7	-0.6	
BGF	**Bois d'Agland**	**145.88**	**341**	*e*PKP1		PKPbc	11 13 42.4	+0.3	
	comp=Z,71nm,1.2s								
GDM	**Grand'Maison**	**145.92**	**337**	PKP		PKPdf	11 13 44.2	-2.5	
GRN	**Grenoble**	**146.03**	**337**	PKP		PKPdf	11 13 44.4	-2.5	
MBDF	**Montbardon**	**146.06**	**336**	*e*PKP1		PKPbc	11 13 43.2	+0.6	
	comp=Z,112nm,1.3s								
QUIF	**Quistinic**	**146.08**	**349**	*e*PKP1		PKPbc	11 13 42.5	-0.1	
	comp=Z,114nm,1.3s								
PLDF	**La Plantade**	**146.15**	**340**	PKP		PKPdf	11 13 44.7	-2.3	
SURF	**Saint Ours**	**146.25**	**335**	PKP		PKPdf	11 13 45.3	-2.0	
ORIF	**Oris-en-Rattie**	**146.25**	**337**	*e*PKP1		PKPbc	11 13 44.0	+0.9	
	comp=Z,83nm,0.9s								
TCF	**Toulx Ste Croi**	**146.31**	**342**	*e*PKP1		PKPbc	11 13 43.7	+0.5	
	comp=Z,110nm,1.6s								
SAOF	**Saorge**	**146.35**	**334**	PKP		PKPdf	11 13 42.6	-4.9	
AUTN	**L'Aution**	**146.39**	**334**	PKP		PKPdf	11 13 45.0	-2.5	
TOUF	**Mont Tournerai**	**146.45**	**334**	PKP		PKPdf	11 13 44.8	-2.8	
SBF	**Sospel**	**146.50**	**334**	*e*PKP1		PKPbc	11 13 44.1	+0.4	
	comp=Z,54nm,0.8s								
MFF	**Saint Martin d**	**146.67**	**345**	*e*PKP1		PKPbc	11 13 44.8	+0.8	
	comp=Z,40nm,0.8s								
VIVF	**Saint-Julien-l**	**146.76**	**338**	*e*PKP1		PKPbc	11 13 45.3	+1.1	
	comp=Z,79nm,1.4s								
PGF	**Pioggiola**	**146.84**	**331**	*e*PKP1		PKPbc	11 13 45.4	+0.9	
	comp=Z,414nm,1.5s								
LBL	**Lubilhac**	**146.93**	**340**	PKP		PKPdf	11 13 46.7	-1.7	
FRF	**La Foret Royal**	**147.08**	**334**	*e*PKP1		PKPdf	11 13 45.8	-2.9	
	comp=Z,124nm,1.2s								
LMR	**La Mourre**	**147.32**	**334**	*e*PKP1		PKPdf	11 13 46.7	-2.4	
	comp=Z,231nm,1.5s								
RJF	**Les Rejaudoux**	**147.41**	**342**	*e*PKP1		PKPdf	11 13 47.0	-2.2	
	comp=Z,208nm,1.6s								
CAF	**Calviac**	**147.58**	**341**	*e*PKP1		PKPdf	11 13 47.7	-1.8	
	comp=Z,72nm,1.4s								
LASF	**Ste Croix**	**147.72**	**338**	*e*PKP1		PKPdf	11 13 47.8	-1.9	
LFF	**La Frestale**	**147.97**	**343**	*e*PKP1		PKPdf	11 13 48.4	-1.7	
MTLF	**Montolieu**	**148.94**	**339**	*e*PKP1		PKPdf	11 13 51.3	-0.4	
	comp=Z,109nm,1.2s								
EPF	**Esparros**	**149.83**	**342**	*e*PKP1		PKPdf	11 13 53.7	+0.6	
ETSF	**Etsaut**	**150.21**	**343**	*e*PKP1		PKPdf	11 13 54.9	+1.2	
	comp=Z,104nm,1.3s								
ESDC	**Sonseca Array**	**154.13**	**345**	PKPbc		PKPdf	11 14 03.2	+3.8	
	comp=Z,0.2nm,0.3s,baz=18,slow=2.3,SNR=3.3								
ESDC					PKPab		11 14 16.4	-2.0	
	comp=Z,0.6nm,0.6s,slow=3.8,SNR=3.4								
EVO	**Evora**	**156.01**	**352**	*e*PKIKP		PKPdf	11 14 00.0	-1.9	
	comp=Z,19nm,1.2s								
TORD	**Torodi Ar. Bea**	**166.48**	**265**	PKP		PKPdf	11 14 09.4	-4.4	
	comp=Z,3.7nm,1.1s,baz=47,slow=1.3,SNR=13								
TORD					PKPab		11 15 12.2	-0.2	
	comp=Z,5.5nm,0.9s,baz=97,slow=3.1,SNR=9.6								
TORD					PP	PP	11 18 59.4	-1.8	
	comp=Z,1.1nm,0.9s,baz=154,slow=4.7,SNR=3.9								
LIC	**Lamto**	**169.04**	**220**	*e*PKIKP		PKPdf	11 14 10.8	-4.7	
	comp=Z,67nm,1.6s								
DBIC	**Dimbokro**	**169.27**	**223**	PKP		PKPdf	11 14 11.3	-4.3	
	comp=Z,9.5nm,1.2s,baz=98,slow=4.6,SNR=3.7								
DBIC					PP	PP	11 19 13.9	-1.4	
	comp=Z,1.4nm,0.3s,baz=162,slow=0.3,SNR=8.8								

*IDC **17** 11:02:50.6±10.0, 21.95N×93.64E, h181km±99km, mb3.4/9, mb1 3.5/9, mb1mx3.4/20, mbtmp3.9/9, Error ellipse: s-maj=45.5km s-min=19.8km az=50.0*

ISC 17 11:02:39.1±2.8, 21.8N±0.2×93.5E±0.3, h94km±24km, n10, σ0§73/10, mb3.8/9, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AGT	**Agartala**	**2.96**	**315**	*eP*		**P**	**11 03 25.0**	**

URZ	**Urewera**	**2.33 250**	PN	Pn	11 48 00.6	-0.8
URZ			SN	Sn	11 48 27.0	-2.3
URZ	**Urewera**	**2.33 250**	P	P	11 48 00.6	-0.7
BKZ	**Black Stump Fm**	**3.15 237**	*e*PN	Pn	11 48 11.1	-2.0
BKZ			*e*SN	Sn	11 48 45.4	-4.6
BKZ	**Black Stump Fm**	**3.15 237**	*e*P	P	11 48 11.1	-1.9
KUZ	**Kuaotunu**	**3.41 281**	*e*PN	Pn	11 48 14.5	-2.3
KUZ	**Kuaotunu**	**3.41 281**	*e*P	P	11 48 14.5	-2.2
PXZ	**Pawanui**	**3.47 222**	*e*PN	Pn	11 48 13.3	-4.4
PXZ			SN	Sn	11 48 51.7	-6.4
MOVZ	**Moawhango**	**3.77 238**	*e*PN	Pn	11 48 19.3	-2.7
MOVZ	**Moawhango**	**3.77 238**	*e*P	P	11 48 19.3	-2.5
WNVZ	**Wahianoa**	**3.84 240**	*e*PN	Pn	11 48 20.3	-2.6
WNVZ	**Wahianoa**	**3.84 240**	*e*P	P	11 48 20.3	-2.5
TSZ	**Takapari Road**	**4.00 229**	PN	Pn	11 48 21.1	-4.1
TSZ			SN	Sn	11 49 05.4	-6.1
TSZ	**Takapari Road**	**4.00 229**	P	P	11 48 21.1	-4.0
TSZ			S	S	11 49 05.4	-6.1
HIZ	**Hauiti**	**4.10 254**	*e*PN	Pn	11 48 24.9	-1.8
BFZ	**Birch Farm**	**4.26 221**	SN	Sn	11 49 10.7	-7.6
WAZ	**Wanganui**	**4.46 238**	*e*PN	Pn	11 48 29.3	-2.4
WAZ	**Wanganui**	**4.46 238**	*e*P	P	11 48 29.3	-2.3
MRZ	**Mangatainoka R**	**4.61 225**	PN	Pn	11 48 28.4	-5.5
MRZ			SN	Sn	11 49 19.4	-7.7
MRZ	**Mangatainoka R**	**4.61 225**	P	P	11 48 28.4	-5.4
WCZ	**Waipu Caves**	**4.71 287**	*e*PN	Pn	11 48 33.9	-1.5
WCZ	**Waipu Caves**	**4.71 287**	*e*P	P	11 48 33.9	-1.3
MTW	**Mount Morrison**	**5.00 222**	*e*PN	Pn	11 48 32.6	-6.8
MTW	**Mount Morrison**	**5.00 222**	*e*P	P	11 48 32.6	-6.7
KIW	**Kapiti Island**	**5.13 227**	*e*PN	Pn	11 48 35.9	-5.3
KIW	**Kapiti Island**	**5.13 227**	*e*P	P	11 48 35.9	-5.2
CAW	**Cannon Point**	**5.20 224**	*e*PN	Pn	11 48 35.3	-6.9
PAWZ	**Paruwai Farm**	**5.20 220**	*e*PN	Pn	11 48 35.1	-7.1
PAWZ			SN	Sn	11 49 32.2	-10
PAWZ	**Paruwai Farm**	**5.20 220**	*e*P	P	11 48 35.1	-7.0
PAWZ			S	S	11 49 32.2	-9.5
OUZ	**Omahuta**	**5.56 292**	*e*PN	Pn	11 48 45.7	-1.5
OUZ	**Omahuta**	**5.56 292**	*e*P	P	11 48 45.7	-1.4
TCW	**Tory Channel**	**5.72 228**	*e*PN	Pn	11 48 43.3	-6.3
TUWZ	**Tuamarina**	**6.05 228**	*e*PN	Pn	11 48 47.3	-7.0
NNZ	**Nelson**	**6.27 232**	*e*PN	Pn	11 48 49.8	-7.5
NNZ	**Nelson**	**6.27 232**	*e*P	P	11 48 49.8	-7.3
THZ	**Tophouse**	**6.87 229**	*e*PN	Pn	11 48 58.2	-7.6
THZ	**Tophouse**	**6.87 229**	*e*P	P	11 48 58.2	-7.4
LTZ	**Lake Taylor**	**7.87 225**	*e*PN	Pn	11 49 12.5	-7.2
LTZ	**Lake Taylor**	**7.87 225**	*e*P	P	11 49 12.5	-7.0

NEIC ***17*** *11:57:14.1±6.9, 14.67S×168.25E, h4km±42km, mb4.4/3, Error ellipse: s-maj=23.4km s-min=13.3km az=72.0*

IDC ***17*** *11:57:18.6±8.2, 14.70S×168.14E, h32km±58km, mb4.0/7, mb1 4.2/9, mb1mx4.0/16, mbtmp4.3/9, ML4.6/2, MS3.7/7, Ms1 3.7/7, ms1mx3.4/24, Error ellipse: s-maj=34.8km s-min=25.4km az=90.0*

ISC 17 11:57:15.4±4.6, 14.70S±0.07×168.0E±0.1, h18km±32km, n18, σ1$07/15, mb4.1/8, MS3.8/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.48**	**191**	Pn		**Pn**	**11 59 05.2**	**-1.2**
	8.4nm,0.3s,baz=137,slow=19,SNR=83							
DZM				Sn		**Sn**	**12 00 31.9**	**+0.3**
	1.9nm,0.3s,baz=310,slow=18,SNR=4.9							
DZM				LR		LR	12 01 42.8	
	comp=Z,456nm,21.2s,baz=26,slow=35							
HNR	**Honiara**	**9.43**	**303**	Pn		**P**	**11 59 34.2**	**+0.7**
	6.6nm,0.3s,baz=102,slow=7.1,SNR=4.0							
HNR				Sn		**Sn**	**12 01 19.0**	**-1.1**
	4.1nm,0.3s,baz=126,slow=22,SNR=2.6							
HNR				LR		LR	12 01 58.7	
	comp=Z,97nm,20.1s,baz=144,slow=29							
AFI	**Afiamalu**	**19.65**	**90**	LR		LR	12 07 11.8	
	comp=Z,134nm,21.6s,baz=153,slow=30							
PMG	**Port Moresby**	**21.01**	**282**	P		**P**	**12 02 02.3**	**+1.6**
	16nm,1.0s,mb4.3,baz=110,slow=6.3,SNR=4.1							
PMG				LR		LR	12 09 34.9	
	comp=Z,197nm,18.1s,MS3.5,baz=18,slow=35							
PMG	**Port Moresby**	**21.01**	**282**	*e*P		**P**	**12 02 00.8**	**+0.2**
	15nm,0.9s,mb4.3							
PMG				LR		LR	12 09 34.9	
CTA	**Charters Tower**	**21.39**	**252**	P		**P**	**12 02 06.7**	**+2.1**
	3.9nm,0.7s,mb3.8,baz=70,slow=10.0,SNR=5.5							
CTA				LR		LR	12 08 51.5	
	comp=Z,251nm,20.7s,MS3.6,baz=49,slow=32							
CTAO	**Charters Tower**	**21.39**	**252**	*e*P		**P**	**12 02 05.8**	**+1.3**
	12nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**29.53**	**230**	P		**P**	**12 03 22.0**	**+0.7**
	4.8nm,0.7s,mb4.4,baz=56,slow=6.9,SNR=13							
STKA				LR		LR	12 13 19.4	
	comp=Z,177nm,18.8s,MS3.7,baz=23,slow=32							
STKA	**Stephens Creek**	**29.53**	**230**	P		**P**	**12 03 22.0**	**+0.7**
STKA				LR		LR	12 13 19.4	
WRA	**Warramunga Arr**	**32.48**	**256**	P		**P**	**12 03 46.1**	**-1.4**
	0.6nm,0.5s,mb3.7,baz=85,slow=8.8,SNR=14							
PPT	**Papeete**	**40.83**	**100**	*e*LR		LR	12 16 23.8	
	140nm,25.5s							
MBWA	**Marble Bar**	**46.20**	**255**	*e*P		**P**	**12 05 40.4**	**-1.2**
	7.7nm,1.0s,mb4.6							
RKT	**Rikitea**	**54.35**	**108**	*e*LR		LR	12 22 39.6	
	98nm,30.8s							
KDAK	**Kodiak Island**	**79.20**	**20**	LR		LR	12 40 10.0	
	comp=Z,187nm,20.2s,MS4.4,baz=293,slow=32							
SONM	**Songino Array**	**82.87**	**323**	P		**P**	**12 09 41.5**	**+1.1**
	0.5nm,0.8s,mb3.6,baz=162,slow=4.7,SNR=5.2							
ILAR	**Eielson Array**	**86.29**	**18**	P		**P**	**12 09 56.0**	**-1.1**
	0.5nm,0.6s,mb3.9,baz=242,slow=4.7,SNR=14							
MKAR	**Makanchi Array**	**97.64**	**316**	P		**P**	**12 10 51.0**	**+0.6**
	0.7nm,0.8s,mb4.2,baz=104,slow=5.0,SNR=6.5							
TORD	**Torodi Ar. Bea**	**166.58**	**265**	PKPab		PKPab	12 18 24.3	-0.7
	0.6nm,0.9s,baz=45,slow=4.1,SNR=2.7							

IDC ***17*** *12:19:54.0±0.6, 52.62N×158.66E, mb4.4/17, mb1 4.7/18, mb1mx4.6/20, mbtmp4.5/18, ML4.4/1, MS3.8/3, Ms1 3.8/3, ms1mx3.5/18, Error ellipse: s-maj=20.3km s-min=12.0km az=172.0*

BJI ***17*** *12:19:59.3, 52.93N×158.96E, h59km, mB4.9, mb4.6, Ms4.5, Msz4.0*

MOS ***17*** *12:20:00.2±0.9, 52.39N×158.92E, h61km, mb5.2/49, Error ellipse: s-maj=11.8km s-min=5.1km az=87.9*

MOS Felt (II-III) at Petropavlovsk-Kamchatskii.

HRVD ***17*** *12:20:01.8±0.9, 52.40N×159.55E, h68km±4km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s11,c13;Mantle waves: s37,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.33±.20; $M_{\theta\theta}$-0.36±.15; $M_{\phi\phi}$-0.96±.14; $M_{r\theta}$0.18±.11; $M_{r\phi}$-1.64±.13; $M_{\theta\phi}$0.07±.09; Best double couple: $M_0$1.851×10^{16} NP1:ϕ_s205°,δ44°,λ68°. NP2:ϕ_s54°,δ49°,λ110°. Principal axes: T 1.363, Plg75°, Azm30°; N .979, Plg15°, Azm221°; P -2.338, Plg3°, Azm130°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *12:20:01.8±0.7, 52.50N×158.88E, h57km±5km, mb5.0/49 Error ellipse: s-maj=6.6km s-min=4.7km az=165.0*

NEIC Felt [III] at Petropavlovsk-Kamchatskiy.

KRSC ***17*** *12:20:01.6±0.7, 52.38N×159.16E, h41km±7km, ML5.1*

ISC 17 12:20:01.5±0.4, 52.41N±0.03×159.06E±0.05, h72km±2km, n228, σ1$01/249, mb4.7/68, 53C-10D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUS	**Russkaya**	**0.34**	**275**	*i* P		**P**	**12 20 12.3**	**-1.0**
GRL	**Gorelyy**	**0.62**	**284**	*i* P		**P**	**12 20 16.3**	**+0.4**
PET	**Petropavlovsk**	**0.67**	**338**	P		**P**	**12 20 15.4**	**-1.0**
PET				S		**S**	**12 20 24.8**	**-2.7**
PET	**Petropavlovsk**	**0.67**	**338**	*i* P		**P**	**12 20 15.4**	**-1.0**
PET				*i* S		**S**	**12 20 25.0**	**-2.5**
PET	**Petropavlovsk**	**0.67**	**338**	κ *i*PN		**P**	**12 20 14.9**	**-1.5**
PET				*i* S		**S**	**12 20 25.1**	**-2.4**
PET				pmax	pmax			
	comp=N,2μm,0.6s							
PET				pmax	pmax			
	comp=Z,4μm,0.6s							
PET				pmax	pmax			
	comp=E,950nm,0.4s							
PET				pmax	pmax			
	comp=Z,6μm,2.3s							
PET				smax				
	comp=E,31μm,0.7s							
PET				smax				
	comp=E,43μm,1.5s							
PET				smax				
	comp=E,10μm,2.1s							
PET				smax				
	comp=N,6μm,1.9s							
PET	**Petropavlovsk**	**0.67**	**338**	*e*Pn		**P**	**12 20 15.0**	**-1.4**
PET				*e*Sn		**S**	**12 20 25.3**	**-2.2**
KRMR	**Karymshinskiy**	**0.71**	**307**	*i* P		**P**	**12 20 16.4**	**-0.5**
KRMR				*i* S		**S**	**12 20 27.2**	**-1.1**
NLC	**Nalytchevo**	**0.79**	**13**	P		**P**	**12 20 16.3**	**-1.5**
NLC				S		**S**	**12 20 26.4**	**-3.4**
NLC	**Nalytchevo**	**0.79**	**13**	*i* P		**P**	**12 20 16.3**	**-1.5**
NLC				*i* S		**S**	**12 20 26.7**	**-3.1**
UGLR	**Uglovaya**	**0.82**	**350**	*i* P		**P**	**12 20 17.7**	**-0.4**
SMAR	**Somma**	**0.87**	**350**	*i* P		**P**	**12 20 18.2**	**-0.6**
SDLR	**Sedlovina**	**0.88**	**353**	*i* P		**P**	**12 20 18.1**	**-0.8**
AVH	**Avacha**	**0.88**	**347**	*i* P		**P**	**12 20 18.8**	**-0.1**
SPN	**Mys Shipunski**	**0.91**	**40**	P		**P**	**12 20 18.4**	**-0.8**
SPN				S		**S**	**12 20 30.9**	**-1.5**
SPN	**Mys Shipunski**	**0.91**	**40**	*i* P		**P**	**12 20 18.3**	**-0.9**
SPN				*e*S		**S**	**12 20 30.9**	**-1.5**
KOK	**Koryaka**	**0.92**	**344**	*i* P		**P**	**12 20 19.4**	**0.0**
APC	**Apacha**	**1.27**	**295**	*i* P		**P**	**12 20 24.5**	**+0.6**
APC				*i* S		**S**	**12 20 41.4**	**+0.8**
APC				Smax				
	comp=N,4μm,1.0s							
MIPR	**Malaya Ipel'ka**	**1.42**	**266**	*i* P		**P**	**12 20 26.7**	**+0.7**
MIPR				*e*S		**S**	**12 20 45.2**	**+1.1**
GNL	**Ganaly**	**1.46**	**333**	*i* P		**P**	**12 20 26.7**	**+0.1**
GNL				*i* S		**S**	**12 20 45.7**	**+0.7**
KII	**Karymskiy**	**1.65**	**8**	P		**P**	**12 20 29.8**	**+0.7**
KII				S		**S**	**12 20 50.6**	**+1.2**
KII	**Karymskiy**	**1.65**	**8**	*i* P		**P**	**12 20 29.8**	**+0.7**
PAU	**Pauzhetka**	**1.68**	**237**	*i* P		**P**	**12 20 30.1**	**+0.6**
PAU				*i* S		**S**	**12 20 51.1**	**+1.0**
PAU				Smax				
	comp=N,4μm,0.4s							
ALID	**Alaid**	**2.67**	**236**	*i* P		**P**	**12 20 43.9**	**+0.6**
MKZ	**Mys Kozlova**	**2.68**	**35**	P		**P**	**12 20 42.8**	**-0.7**
MKZ				S		**S**	**12 21 12.4**	**-2.4**
MKZ	**Mys Kozlova**	**2.68**	**35**	*e*P		**P**	**12 20 42.9**	**-0.6**
MKZ				*e*S		**S**	**12 21 14.7**	**-0.1**
TUMR	**Tumrok**	**2.96**	**12**	*e*P		**P**	**12 20 48.7**	**+1.4**
TUMR				*e*S		**S**	**12 21 22.4**	**+0.7**
KMNR	**Kamenistaya**	**3.43**	**11**	*i* P		**P**	**12 20 55.3**	**+1.4**
KMNR				*e*S		**S**	**12 21 33.8**	**+0.3**
ESO	**Esso**	**3.53**	**357**	*i* P		**P**	**12 20 56.0**	**+0.6**
ESO				Smax				
	comp=N,550nm,1.1s							
KPT	**Kopyto**	**3.63**	**10**	*i* P		**P**	**12 20 57.9**	**+1.1**
KOZ	**Kozyrevsk**	**3.69**	**7**	P		**P**	**12 20 58.9**	**+1.3**
KOZ				S		**S**	**12 21 38.9**	**-1.2**
KOZ	**Kozyrevsk**	**3.69**	**7**	*i* P		**P**	**12 20 58.8**	**+1.2**
KOZ				*e*S		**S**	**12 21 40.5**	**+0.4**
KOZR	**Kozyr**	**3.70**	**7**	PN		**P**	**12 20 58.9**	**+1.2**
KOZR				S		**S**	**12 21 38.9**	**-1.5**
ZLN	**Zelenaya**	**3.76**	**15**	*e*P		**P**	**12 21 00.2**	**+1.7**
LGNR	**Loginova**	**3.81**	**14**	*e*P		**P**	**12 21 00.9**	**+1.7**
CIRR	**Tsirk**	**3.85**	**14**	*e*P		**P**	**12 21 01.6**	**+1.9**
SRDR	**Sredinnyy**	**3.94**	**5**	*i* P		**P**	**12 21 01.9**	**+0.9**
KLY	**Klyuchi**	**4.03**	**13**	P		**P**	**12 21 03.7**	**+1.5**
KLY				S		**S**	**12 21 47.5**	**-1.0**
KLY	**Klyuchi**	**4.03**	**13**	*e*P		**P**	**12 21 03.8**	**+1.6**
KLY				*e*S		**S**	**12 21 49.7**	**+1.2**
BDR	**Baidarnaya**	**4.36**	**16**	*e*P		**P**	**12 21 08.7**	**+1.9**
KBTR	**Krutoberegovo**	**4.40**	**29**	P		**P**	**12 21 07.5**	**0.0**
KBTR				S		**S**	**12 21 55.3**	**-2.6**
KBTR	**Krutoberegovo**	**4.40**	**29**	*e*P		**P**	**12 21 07.6**	**+0.1**
SRKR	**Sorokina**	**4.43**	**15**	*e*P		**P**	**12 21 08.9**	**+1.0**
BKI	**Bering**	**4.96**	**53**	*e*P		**P**	**12 21 13.4**	**-1.9**
BKI				*e*S		**S**	**12 22 04.0**	**-7.9**
BKI				Smax				
	comp=N,180nm,0.3s							
OSSR	**Ossora**	**7.22**	**17**	P		**P**	**12 21 46.7**	**+0.1**
FX1	**Attu Island--F**	**8.60**	**81**	Pn		**P**	**12 22 02.7**	**-2.7**
	comp=N,14nm,0.3s,baz=162,slow=3.2,SNR=5.2							
FX1				Sn		**S**	**12 23 32.0**	**-10**
	comp=N,20nm,0.3s,baz=98,slow=19,SNR=6.7							
FX1	**Attu Island--F**	**8.60**	**81**	*e*Pn		**P**	**12 22 02.8**	**-2.5**
FX1				*e*Sn		**S**	**12 23 31.4**	**-10**
KAMR	**Kamenskoye**	**10.78**	**18**	*i* P		**P**	**12 22 36.9**	**+2.0**
ASAJ	**Asahikawa**	**13.72**	**239**	Pn		**P**	**12 23 15.2**	**+1.3**
	comp=N,3.0nm,0.3s,baz=49,slow=11,SNR=15							
ASAJ				LR		LR	12 28 22.3	
	comp=N,212nm,20.0s,baz=42,slow=37							
ASAJ	**Asahikawa**	**13.72**	**239**	P		**P**	**12 23 15.3**	**+1.4**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,212nm,20.0s							
HABR	**Khabarovsk**	**15.77**	**265**	*e*P		**P**	**12 23 46.0**	**+5.8**
BILL	**Bilibino**	**16.07**	**10**	*e*P		**P**	**12 23 45.7**	**+1.8**
BILL				*e*S		**S**	**12 26 41.1**	**+1.7**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.5s							
BILL				MLR	MLR			
	comp=Z,300nm,23.0s							
BILL	**Bilibino**	**16.07**	**10**	*e*Pn		**P**	**12 23 43.5**	**-0.4**
	comp=Z,6.5nm,0.8s							
YAK	**Yakutsk**	**18.43**	**313**	*i* P		**P**	**12 24 10.7**	**-2.4**
YAK				pmax	pmax			
	comp=Z,19nm,0.6s							
YAK	**Yakutsk**	**18.43**	**313**	*e*P		**P**	**12 24 09.3**	**-3.8**
	comp=Z,26nm,0.9s							
TNA	**Tin City**	**21.18**	**39**	*e*P		**P**	**12 24 42.9**	**+0.5**
	comp=Z,14nm,0.9s,mb4.3							
MAJO	**Matsushiro**	**21.62**	**231**	*e*P		**P**	**12 24 47.3**	**+0.3**
MAJO				pmax	pmax			
	comp=Z,25nm,0.8s,mb4.6							
MAJO	**Matsushiro**	**21.62**	**231**	*e*P		**P**	**12 24 47.3**	**+0.3**
	comp=Z,25nm,0.8s,mb4.6							
MAT	**Matsushiro**	**21.62**	**231**	P		**P**	**12 24 47.1**	**+0.1**
MAT	**Matsushiro**	**21.62**	**231**	*e*P		**P**	**12 24 47.0**	**0.0**
MAT				pmax	pmax			
	comp=Z,27nm,1.0s,mb4.5							
MAT	**Matsushiro**	**21.62**	**231**	*e*P		**P**	**12 24 47.0**	**0.0**
	comp=Z,27nm,1.0s,mb4.5							
MJAR	**Matsushiro Arr**	**21.62**	**231**	P		**P**	**12 24 46.9**	**-0.1**
	comp=Z,16nm,0.9s,mb4.4,baz=23,slow=11,SNR=27							
MJAR	**Matsushiro Arr**	**21.62**	**231**	P		**P**	**12 24 46.9**	**-0.1**
MJAR				pmax	pmax			
	comp=Z,16nm,0.9s							
TIXI	**Tiksi**	**23.45**	**336**	⇓*e*P		**P**	**12 25 04.1**	**-0.3**
TIXI				pmax	pmax			
	comp=Z,23nm,1.1s,mb4.4							
TIXI				MLR	MLR			
	comp=Z,200nm,17.0s							
HIA	**Hailar**	**24.82**	**279**	P		**P**	**12 25 17.6**	**-0.3**
HIA				pmax	pmax			
	comp=Z,22nm,0.9s							
HIA	**Hailar**	**24.82**	**279**	P		**P**	**12 25 17.6**	**-0.3**
	comp=Z,22nm,0.9s,mb4.6							
SML	**Sawmill**	**29.28**	**50**	*e*P		**P**	**12 25 57.8**	**-0.8**
COLA	**College**	**29.33**	**44**	⇓*e*P		**P**	**12 25 58.4**	**-0.6**
ILAR	**Eielson Array**	**29.75**	**44**	P		**P**	**12 26 01.6**	**-1.2**
	comp=Z,6.8nm,0.8s,mb4.3,baz=263,slow=8.0,SNR=55							
ILAR	**Eielson Array**	**29.75**	**44**	P		**P**	**12 26 01.6**	**-1.1**
ILAR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
SONM	**Songino Array**	**33.45**	**284**	P		**P**	**12 26 33.3**	**-1.9**
	comp=Z,1.0nm,0.8s,mb3.7,baz=62,slow=7.4,SNR=6.2							
SONM				PcP	PcP		12 29 14.7	-0.4
	comp=Z,2.0nm,0.7s,baz=85,slow=1.8,SNR=11							
ZAK	**Zakamensk**	**34.13**	**289**	*e*P		**P**	**12 26 40.0**	**-1.1**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb3.9							
INK	**Inuvik**	**34.80**	**37**	P		**P**	**12 26 46.2**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.4,baz=283,slow=7.5,SNR=21							
INK	**Inuvik**	**34.80**	**37**	P		**P**	**12 26 46.2**	**-0.4**
INK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
DLBC	**Dease Lake**	**38.96**	**52**	*e*P		**P**	**12 27 22.4**	**+0.7**
GTA	**Gaotai**	**42.06**	**276**	P		**P**	**12 27 46.1**	**-1.2**
NVS	**Novosibirsk**	**42.99**	**305**	*e*P		**P**	**12 27 51.0**	**-3.7**
YKA	**Yellowknife Ar**	**44.10**	**42**	P		**P**	**12 28 03.5**	**0.0**
	comp=Z,3.0nm,0.9s,mb4.0,baz=298,slow=8.0,SNR=29							
YKA				PcP	PcP		12 29 47.3	-0.8
	comp=Z,0.5nm,0.8s,baz=293,slow=2.9,SNR=3.8							
YKA	**Yellowknife Ar**	**44.10**	**42**	P		**P**	**12 28 03.5**	**-0.1**
YKA							12 29 47.3	
YKA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GYA	**Guiyang**	**46.73**	**257**	P		**P**	**12 28 24.4**	**-0.6**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**47.56**	**302**	⇓*e*P		**P**	**12 28 28.4**	**-2.8**
MKAR	**Makanchi Array**	**47.89**	**296**	P		**P**	**12 28 30.9**	**-2.9**
	comp=Z,1.2nm,0.6s,mb3.9,baz=57,slow=7.2,SNR=18							
MKAR				LR		LR	12 48 57.7	
	comp=Z,144nm,21.3s,baz=270,slow=37							
MKAR	**Makanchi Array**	**47.89**	**296**	P		**P**	**12 28 30.9**	**-2.9**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR				MLR	MLR			
	comp=Z,144nm,21.3s							
EDM	**Edmonton**	**49.69**	**52**	*e*P		**P**	**12 28 47.5**	**-0.1**
KMI	**Kunming**	**50.08**	**260**	P		**P**	**12 28 51.0**	**0.0**
KMI				S		**S**	**12 35 54.8**	**-0.6**
KMI				LR	LR			
	comp=Z,110nm,23.7s							
ARU	**Arti**	**53.48**	**317**	*e*P		**P**	**12 29 06.6**	**-9.4**
ARCES	**ARCESS Array B**	**53.74**	**342**	P		**P**	**12 29 14.7**	**-3.1**
	comp=Z,5.3nm,0.9s,mb4.6,baz=29,slow=6.5,SNR=5.5							
ARCES				LR		LR	12 55 54.2	
	comp=Z,115nm,18.1s,baz=253,slow=40							
ARCES	**ARCESS Array B**	**53.74**	**342**	P		**P**	**12 29 14.7**	**-3.1**
ARCES				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ARCES				MLR	MLR			
	comp=Z,115nm,18.1s							
SUMG	**Summit**	**54.72**	**6**	*e*P		**P**	**12 29 23.8**	**-1.1**
	comp=Z,27nm,1.0s,mb5.2							
AAK	**Ala-Archa**	**54.82**	**296**	⇓*e*P		**P**	**12 29 22.4**	**-3.6**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.3							
AAK				MLR	MLR			
	comp=Z,100nm,21.0s							
MCMT	**McKenzie Canyo**	**55.26**	**60**	*e*P		**P**	**12 29 29.2**	**0.0**
QLMT	**Earthquake Lak**	**56.01**	**59**	*e*P		**P**	**12 29 34.0**	**-0.6**
GCMT	**Greycliff**	**56.28**	**57**	*e*P		**P**	**12 29 36.9**	**+0.3**
NVAR	**Mina Array Bea**	**56.57**	**69**	P		**P**	**12 29 39.9**	**+1.2**
	comp=Z,2.4nm,0.7s,mb4.3,baz=289,slow=7.7,SNR=23							
PDAR	**Pinedale Array**	**58.41**	**60**	P		**P**	**12 29 52.3**	**+0.7**
	comp=Z,9.4nm,0.8s,mb4.9,baz=319,slow=2.7,SNR=82							
ULM	**Lac du Bonnet**	**59.75**	**46**	P		**P**	**12 29 59.5**	**-1.2**
	comp=Z,2.4nm,0.8s,mb4.3,baz=294,slow=2.6,SNR=5.7							
KAF	**Kangasniemi**	**59.87**	**336**	*e*p		**P**	**12 29 57.1**	**-4.2**
	comp=Z,2.2nm,0.6s,mb4.4							
KAF	**Kangasniemi**	**59.87**	**336**	*e*P		**P**	**12 29 57.1**	**-4.2**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
RSSD	**Black Hills**	**60.31**	**55**	*e*P		**P**	**12 30 05.0**	**+0.4**
RSSD				pmax	pmax			
	comp=Z,23nm,0.8s,mb5.3							
RSSD	**Black Hills**	**60.31**	**55**	*e*P		**P**	**12 30 05.0**	**+0.4**
	comp=Z,23nm,0.8s,mb5.3							
SRU	**San Rafael**	**60.46**	**63**	*e*P		**P**	**12 30 06.4**	**+0.7**
SRU				pmax	pmax			
	comp=Z,13nm,0.9s,mb5.0							
SRU	**San Rafael**	**60.46**	**63**	*e*P		**P**	**12 30 06.4**	**+0.7**
	comp=Z,13nm,0.9s,mb5.0							
FINES	**FINESS Array B**	**60.50**	**336**	P		**P**	**12 30 03.1**	**-2.6**
	comp=Z,3.3nm,0.8s,mb4.4,baz=14,slow=7.9,SNR=6.8							
FINES	**FINESS Array B**	**60.50**	**336**	P		**P**	**12 30 03.1**	**-2.6**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
LDFC	**Landfair**	**60.75**	**70**	*e*P		**P**	**12 30 07.4**	**-0.3**
PV10	**Paradox Valley**	**61.79**	**63**	*e*P		**P**	**12 30 16.1**	**+1.4**
PV10				*e*PcP		PcP	12 30 56.6	+1.7
OBN	**Obninsk**	**62.75**	**327**	*e*P		**P**	**12 30 16.7**	**-4.2**
OBN				*e*			12 30 57.2	
OBN				*e*S		**S**	**12 38 41.9**	**-0.5**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
OBN				MLR	MLR			
	comp=Z,100nm,20.0s							
NB2	**NORSAR Subarra**	**64.03**	**343**	P		**P**	**12 30 27.1**	**-1.9**
	comp=Z,14nm,0.8s,mb4.8,baz=20,slow=6.5

comp=Z,22nm,1.0s,mb4.8
BFO Black Forest 76.59 340 *e*P **P 12 31 44.6 -0.6**
BFO pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
BFO Black Forest 76.59 340 *e*P **P 12 31 44.6 -0.6**
comp=Z,7.0nm,0.8s,mb4.4
CDF Champ du Feu 76.72 341⇑*i*P **P 12 31 45.7 -0.2**
comp=Z,47nm,0.9s,mb4.8
CDF Champ du Feu 76.72 341⇑*i*P **P 12 31 45.7 -0.2**
CDF pmax pmax
comp=Z,24nm,0.9s,mb4.9
BRTR Keskin Array B 76.75 320 P **P 12 31 45.5 -0.7**
comp=Z,0.8nm,0.6s,baz=117,slow=3.2,SNR=3.3
MEZF Maizieres J'vi 77.06 343⇑*i*P **P 12 31 47.9 +0.1**
comp=Z,39nm,0.7s,mb5.0
HAU Haudompre 77.29 342⇑*i*P **P 12 31 48.8 -0.3**
comp=Z,47nm,0.9s,mb4.9
HAU Haudompre 77.29 342⇑*i*P **P 12 31 48.8 -0.3**
HAU pmax pmax
comp=Z,23nm,0.9s,mb4.9
HINF Hinteralfeld 77.37 341⇑*i*P **P 12 31 49.0 -0.6**
comp=Z,13nm,0.8s,mb4.4
HINF Hinteralfeld 77.37 341⇑*i*P **P 12 31 49.0 -0.6**
HINF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
FLN La Foliniere 77.72 346 *e*P **P 12 31 50.9 -0.5**
comp=Z,30nm,1.0s,mb4.7
FLN La Foliniere 77.72 346 *e*P **P 12 31 50.9 -0.5**
FLN pmax pmax
comp=Z,15nm,1.0s,mb4.7
LDF La Druitiere 77.83 346 *e*P **P 12 31 51.6 -0.4**
GRR Gorron 78.14 346 *e*P **P 12 31 53.5 -0.2**
comp=Z,36nm,1.0s,mb4.8
GRR Gorron 78.14 346 *e*P **P 12 31 53.5 -0.2**
GRR pmax pmax
comp=Z,18nm,1.0s,mb4.8
LOR Lormes 78.46 343⇑*i*P **P 12 31 55.3 -0.3**
comp=Z,51nm,0.9s,mb5.0
LOR Lormes 78.46 343⇑*i*P **P 12 31 55.3 -0.3**
LOR pmax pmax
comp=Z,25nm,0.9s,mb4.9
SGMF Saint Gilles 78.50 348 *e*P **P 12 31 55.6 -0.1**
comp=Z,60nm,1.0s,mb5.1
SGMF Saint Gilles 78.50 348 *e*P **P 12 31 55.6 -0.1**
SGMF pmax pmax
comp=Z,30nm,1.0s,mb5.1
HYF Humbligny 78.68 344 *e*P **P 12 31 57.1 +0.4**
CABF La Chapelle 78.68 341⇑*i*P **P 12 31 57.0 +0.2**
comp=Z,33nm,0.8s,mb4.9
CABF La Chapelle 78.68 341⇑*i*P **P 12 31 57.0 +0.2**
CABF pmax pmax
comp=Z,17nm,0.8s,mb4.9
SSF Saint Saulge 78.73 343⇑*i*P **P 12 31 56.9 -0.1**
SSF pmax pmax
comp=Z,14nm,0.8s,mb4.8
SSF Saint Saulge 78.73 343⇑*i*P **P 12 31 56.9 -0.1**
comp=Z,14nm,0.8s,mb4.8
QUIF Quistinic 78.91 348 *e*P **P 12 31 57.9 -0.1**
AVF Avril sur Loir 79.02 343⇑*i*P **P 12 31 58.6 0.0**
comp=Z,56nm,0.9s,mb5.1
AVF Avril sur Loir 79.02 343⇑*i*P **P 12 31 58.6 0.0**
AVF pmax pmax
comp=Z,28nm,0.9s,mb5.1
SMF Signal de Mont 79.07 343⇑*i*P **P 12 31 58.8 -0.1**
comp=Z,28nm,0.9s,mb4.8
SMF Signal de Mont 79.07 343⇑*i*P **P 12 31 58.8 -0.1**
SMF pmax pmax
comp=Z,14nm,0.9s,mb4.8
BGF Bois d'Agland 79.33 344⇑*i*P **P 12 31 59.7 -0.6**
comp=Z,14nm,0.8s,mb4.6
BGF Bois d'Agland 79.33 344⇑*i*P **P 12 31 59.7 -0.6**
BGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
LPL La Plagne 79.60 341⇑*i*P **P 12 32 02.7 +0.9**
comp=Z,39nm,0.9s,mb4.9
LPL La Plagne 79.60 341⇑*i*P **P 12 32 02.7 +0.9**
LPL pmax pmax
comp=Z,20nm,0.9s,mb5.0
LPG La Plagne 79.61 341⇑*i*P **P 12 32 03.0 +1.1**
comp=Z,28nm,0.7s,mb4.9
LPG La Plagne 79.61 341⇑*i*P **P 12 32 03.0 +1.1**
LPG pmax pmax
comp=Z,14nm,0.7s,mb4.9
TCF Toulx Ste Croi 79.70 344⇑*i*P **P 12 32 02.5 +0.2**
comp=Z,36nm,0.9s,mb4.9
TCF Toulx Ste Croi 79.70 344⇑*i*P **P 12 32 02.5 +0.2**
TCF pmax pmax
comp=Z,18nm,0.9s,mb4.9
MFF Saint Martin d 79.77 346⇑*i*P **P 12 32 02.9 +0.2**
comp=Z,40nm,1.2s,mb4.8
MFF Saint Martin d 79.77 346⇑*i*P **P 12 32 02.9 +0.2**
MFF pmax pmax
comp=Z,20nm,1.2s,mb4.8
ORIF Oris-en-Rattie 80.34 341⇑*i*P **P 12 32 06.6 +0.8**
comp=Z,62nm,1.1s,mb5.0
ORIF Oris-en-Rattie 80.34 341⇑*i*P **P 12 32 06.6 +0.8**
ORIF pmax pmax
comp=Z,31nm,1.1s,mb5.0
MBDF Montbardon 80.35 340⇑*i*P **P 12 32 08.2 +2.4**
comp=Z,47nm,1.1s,mb4.9
MBDF Montbardon 80.35 340⇑*i*P **P 12 32 08.2 +2.4**
MBDF pmax pmax
comp=Z,24nm,1.1s,mb4.9
VIVF Saint-Julien-l 80.64 342⇑*i*P **P 12 32 07.9 +0.5**
comp=Z,60nm,1.0s,mb5.1
VIVF Saint-Julien-l 80.64 342⇑*i*P **P 12 32 07.9 +0.5**
VIVF pmax pmax
comp=Z,30nm,1.0s,mb5.1
RJF Les Rejaudoux 80.77 344 *e*P **P 12 32 08.6 +0.6**
comp=Z,38nm,1.1s,mb4.8
RJF Les Rejaudoux 80.77 344 *e*P **P 12 32 08.6 +0.6**
RJF pmax pmax
comp=Z,19nm,1.1s,mb4.8
SBF Sospel 81.03 340⇑*i*P **P 12 32 10.1 +0.6**
comp=Z,22nm,0.5s,mb4.9
SBF Sospel 81.03 340⇑*i*P **P 12 32 10.1 +0.6**
SBF pmax pmax
comp=Z,11nm,0.5s,mb4.9
CAF Calviac 81.05 344⇑*i*P **P 12 32 10.4 +0.9**
comp=Z,39nm,0.8s,mb5.0
CAF Calviac 81.05 344⇑*i*P **P 12 32 10.4 +0.9**
CAF pmax pmax
comp=Z,20nm,0.8s,mb5.0
LFF La Frestale 81.25 345⇑*i*P **P 12 32 11.3 +0.7**
comp=Z,62nm,1.0s,mb5.1
LFF La Frestale 81.25 345⇑*i*P **P 12 32 11.3 +0.7**
LFF pmax pmax
comp=Z,31nm,1.0s,mb5.1
FRF La Foret Royal 81.49 340 *e*P **P 12 32 13.4 +1.6**
comp=Z,101nm,1.5s,mb5.1
FRF La Foret Royal 81.49 340 *e*P **P 12 32 13.4 +1.6**
FRF pmax pmax
comp=Z,50nm,1.5s,mb5.1
LASF Ste Croix 81.55 342 *e*P **P 12 32 13.1 +1.0**
MTLF Montolieu 82.56 343 *e*P **P 12 32 18.2 +0.9**
comp=Z,38nm,1.2s,mb4.8
MTLF Montolieu 82.56 343 *e*P **P 12 32 18.2 +0.9**
MTLF pmax pmax
comp=Z,19nm,1.2s,mb4.8
EPF Esparros 83.18 344⇑*i*P **P 12 32 20.9 +0.4**
comp=Z,21nm,1.0s,mb4.6
EPF Esparros 83.18 344⇑*i*P **P 12 32 20.9 +0.4**
EPF pmax pmax
comp=Z,11nm,1.0s,mb4.6
SJPF Ste Jean 83.35 346⇑*i*P **P 12 32 22.6 +1.3**
comp=Z,39nm,1.0s,mb4.9
SJPF Ste Jean 83.35 346⇑*i*P **P 12 32 22.6 +1.3**
SJPF pmax pmax
comp=Z,19nm,1.0s,mb4.9
ETSF Etsaut 83.45 345⇑*i*P **P 12 32 23.0 +1.1**
comp=Z,17nm,0.6s,mb4.7
ETSF Etsaut 83.45 345⇑*i*P **P 12 32 23.0 +1.1**
ETSF pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
ARSS Ar Rass 84.11 305 P **P 12 32 25.0 -0.5**
HAQS Haql 85.36 313 P **P 12 32 31.6 0.0**
AYUS 'Aynunah 85.95 313 P **P 12 32 34.4 -0.1**
ESDC Sonseca Array 87.11 347 P **P 12 32 40.1 +0.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=2.9,slow=4.5,SNR=11
DBIC Dimbokro 119.57 342 PKP PKPdf 12 38 44.4 +1.3
comp=Z,4.7nm,0.7s,baz=316,slow=1.5,SNR=9.1
DBIC Dimbokro 119.57 342 PKIKP PKPdf 12 38 44.4 +1.3
DBIC pmax pmax
comp=Z,5.0nm,0.7s
PLCA Paso Flores 144.63 91 PKP PKPdf 12 39 29.9 +0.9
comp=Z,7.6nm,0.9s,baz=300,slow=3.6,SNR=16
PLCA Paso Flores 144.63 91 PKIKP PKPdf 12 39 29.9 +0.9
PLCA pmax pmax
comp=Z,8.0nm,0.9s
SYO Syowa Base 147.76 216⇑P PKPdf 12 39 25.8 -7.6
SYO Syowa Base 147.76 216⇑PKPdf PKPdf 12 39 37.6 +4.2
SYO Syowa Base 147.76 216⇑pPKPdf 12 39 51.2
SYO Syowa Base 147.76 216⇑*ep*PKPdf PKPdf 12 39 37.6 +4.2
SYO ⇑*ep*PKPdf 12 39 51.2

*CSEM **17** 12:37:43.2, 34.21N×35.76E, h135km, ML3.5, After GRAL*
GRAL 17 12:37:43.2±0.7, 34.21N×35.76E, h136km, MD3.5, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWQ	**Hawqa**	**0.17**	**67**	*e*Pg	P	12 38 00.5	-1.6
HWQ				*e*Sg	S	12 38 14.2	-2.3
BHL	**Bhannes**	**0.32**	**196**	*e*Pg	P	12 38 01.8	-0.9
MATL	**Matirih**	**0.81**	**207**	*e*Sg	S	12 38 19.2	-3.1
MATL	**Matirih**	**0.81**	**207**	*e*Sg	S	12 38 19.2	-3.2

*NERS **17** 13:35:30.0, 61.04N×162.86E*
*MOS **17** 13:35:30.5±1.6, 60.99N×162.81E, h10km, mb4.2/6, Error ellipse: s-maj=24.7km s-min=12.7km az=97.4*
*IDC **17** 13:35:31.2±1.2, 61.02N×162.68E, mb3.7/9, mb1 3.9/9, mb1mx3.7/20, mbtmp3.7/9, Error ellipse: s-maj=31.7km s-min=21.7km az=170.0*
*NEIC **17** 13:35:32.8±0.8, 60.95N×162.82E, h10km, mb3.7/2, Error ellipse: s-maj=17.7km s-min=9.4km az=169.0*
ISC 17 13:35:32.2±0.6, 61.28N±0.09×162.42E±0.07, h10km, n33, σ1§37/45, mb3.9/11, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OMS	**Omsukchan**	**3.38**	**294**	*e*P	**Pn**	**13 36 27.6**	**+1.5**
OMS				*e*Pg	**Pg**	**13 36 36.8**	**-2.9**
OMS				Pgmax		13 36 43.0	
	40nm,1.0s						
OMS				*e*S	**Sn**	**13 37 11.3**	**+4.6**
OMS				*e*Sg	**Sg**	**13 37 24.0**	**-0.7**
OMS				Sgmax		13 37 27.2	
	250nm,1.0s						
OMS				Sgmax		13 37 27.2	
	350nm,1.0s						
OMS				Sgmax		13 37 27.2	
	240nm,1.0s						
SEY	**Seymchan**	**5.00**	**294**	*e*P	**Pn**	**13 36 52.9**	**+3.8**
SEY				*e*Pg	**Pg**	**13 37 08.1**	**-3.8**
SEY				*e*		13 37 13.6	
SEY				*e*S	**Sn**	**13 37 55.4**	**+7.8**
SEY				*e*Sg	**Sg**	**13 38 18.3**	**-0.2**
SEY				Sgmax		13 38 29.6	
	100nm,0.7s						
SEY				Sgmax		13 38 29.6	
	40nm,0.3s						
SEY	**Seymchan**	**5.00**	**294**	*e*PN	**Pn**	**13 36 52.8**	**+3.7**
SEY				pmax	pmax		
	comp=Z,29nm,0.4s						
SEY				pmax	pmax		
	comp=N,30nm,0.2s						
SEY				pmax	pmax		
	comp=E,11nm,0.2s						
SEY				pmax	pmax		
	comp=Z,61nm,0.4s						
SEY				pmax	pmax		
	comp=N,50nm,0.3s						
SEY				pmax	pmax		
	comp=E,57nm,0.3s						
MGD	**Magadan 1**	**5.88**	**263**	*e*	**Pn**	**13 37 08.5**	**+7.0**
MGD				*e*S	**Sn**	**13 38 10.4**	**+0.6**
MGD				*e*Sg	**Sg**	**13 38 40.3**	**-7.6**
MGD				Sgmax		13 38 45.1	
	comp=E,70nm,0.7s						
MGD				Sgmax		13 38 45.1	
	comp=E,150nm,0.7s						
MA2	**Magadan**	**6.02**	**259**	*e*P	**Pn**	**13 37 04.8**	**+1.3**
MA2				*e*S	**Sn**	**13 38 23.4**	**+10**
MA2				*e*Sg	**Sg**	**13 38 46.2**	**-6.4**
MA2				Sgmax		13 39 00.7	
	comp=E,20nm,0.7s						
MA2				Sgmax		13 39 00.7	
	comp=E,40nm,0.7s						
MA2	**Magadan**	**6.02**	**259**	*i* Pn	**Pn**	**13 37 04.8**	**+1.3**
SUUS	**Susuman**	**6.87**	**289**	*e*Sg	**Sg**	**13 39 18.9**	**-2.0**
BILL	**Bilibino**	**6.98**	**12**	*e*PN	**Pn**	**13 37 18.5**	**+1.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BILL	**Bilibino**	**6.98**	**12**	*e*Pn	**Pn**	**13 37 18.5**	**+1.4**
	comp=Z,2.0nm,0.6s						
OCHR	**Omchak**	**6.98**	**280**	*e*P	**Pn**	**13 37 20.9**	**+3.8**
OCHR				Pmax		13 37 21.1	
	comp=Z,10.0nm,0.4s						
OCHR				*e*S	**Sn**	**13 38 43.4**	**+6.1**
OCHR				*e*Sg	**Sg**	**13 39 21.5**	**-3.1**
OCHR				Sgmax		13 39 28.9	
	comp=Z,90nm,0.7s						
OCHR				Sgmax		13 39 28.9	
	comp=Z,40nm,0.5s						
TIXI	**Tiksi**	**16.66**	**322**	*e*P	**P**	**13 39 32.8**	**+5.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TIXI	**Tiksi**	**16.66**	**322**	*e*P	**P**	**13 39 32.8**	**+5.9**
	comp=Z,3.0nm,1.2s						
IMA2	**Indian Mountai**	**19.71**	**57**	*e*P	**P**	**13 40 03.3**	**-0.8**
ILAR	**Eielson Array**	**22.74**	**59**	P	**P**	**13 40 34.6**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.1,baz=270,slow=9.9,SNR=12						
INK	**Inuvik**	**26.95**	**48**	P	**P**	**13 41 15.5**	**+0.5**
	comp=Z,1.4nm,1.0s,mb3.4,baz=307,slow=6.5,SNR=4.6						
INK	**Inuvik**	**26.95**	**48**	P	**P**	**13 41 15.5**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**36.59**	**51**	P	**P**	**13 42 38.3**	**-1.3**
	comp=Z,0.3nm,0.5s,mb3.4,baz=305,slow=8.3,SNR=8.0						
KURK	**Kurchatov**	**44.84**	**296**	*i* P	**P**	**13 43 46.7**	**-1.0**
ARCES	**ARCESS Array B**	**45.92**	**340**	P	**P**	**13 43 57.4**	**+1.4**
	comp=Z,3.0nm,0.9s,mb4.2,baz=23,slow=6.9,SNR=3.1						
ARCES	**ARCESS Array B**	**45.92**	**340**	P	**P**	**13 43 57.4**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**46.12**	**290**	P	**P**	**13 43 58.9**	**+1.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=57,slow=7.5,SNR=3.0						
MKAR	**Makanchi Array**	**46.12**	**290**	P	**P**	**13 43 58.9**	**+1.0**
ARU	**Arti**	**48.41**	**314**	*i* P	**P**	**13 44 17.8**	**+2.1**
PDAR	**Pinedale Array**	**52.80**	**68**	P	**P**	**13 44 48.0**	**-1.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=337,slow=3.0,SNR=8.7						
AAK	**Ala-Archa**	**52.86**	**292**	*i* P	**P**	**13 44 49.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
AAK				MLR	MLR		
	comp=Z,100nm,7.0s						
AAK	**Ala-Archa**	**52.86**	**292**	*i* P	**P**	**13 44 49.9**	**+0.1**
	comp=Z,1.0nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**53.13**	**336**	P	**P**	**13 44 51.1**	**-0.4**
	comp=Z,1.0nm,0.9s,mb3.8,baz=35,slow=7.1,SNR=3.9						
FINES	**FINESS Array B**	**53.13**	**336**	P	**P**	**13 44 51.1**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**56.02**	**344**	P	**P**	**13 45 13.3**	**+0.7**
	comp=Z,1.9nm,0.9s,mb4.1,baz=27,slow=4.0,SNR=2.6						
NOA	**NORSAR Array B**	**56.02**	**344**	P	**P**	**13 45 13.3**	**+0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VRHR	**Novokhopersk**	**58.42**	**321**	*e*P	**P**	**13 45 27.1**	**-2.6**
VRHR				pmax	pmax		
	comp=N,9.0nm,0.4s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.2						
VRHR				pmax	pmax		
	comp=E,5.0nm,0.6s						
WRA	**Warramunga Arr**	**84.03**	**206**	P	**P**	**13 48 02.2**	**-1.7**
	comp=E,0.7nm,0.6s,mb4.0,baz=13,slow=5.6,SNR=6.8						
WRA	**Warramunga Arr**	**84.03**	**206**	P	**P**	**13 48 02.2**	**-1.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*FUNV **17** 13:37:01.7, 10.63N×62.66W, h76km, MW2.5*
*TRN **17** 13:37:02.7, 10.56N×62.60W, h49km, MD3.1*
ISC 17 13:36:59.6±0.8, 10.59N±0.05×62.70W±0.04, h87km±8km, n11, σ1§16/21, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.47**	**83**	*e*P	**P**	**13 37 14.6**	**+0.7**
GUIV				*e*S	**S**	**13 37 23.4**	**-1.2**
GUNV	**Guanoco**	**0.49**	**210**	*e*P	**P**	**13 37 15.8**	**+1.7**
GUNV				*e*S	**S**	**13 37 25.9**	**+1.1**
CRUV	**Carupano**	**0.54**	**279**	*e*P	**P**	**13 37 14.9**	**+0.4**
CRUV				*e*S	**S**	**13 37 24.3**	**-1.3**
ITEV	**Isla Los Testi**	**0.88**	**331**	*e*P	**P**	**13 37 18.6**	**+0.8**
ITEV				*e*S	**S**	**13 37 31.1**	**-0.5**
TRN	**Trinidad (W)**	**1.27**	**87**	⇓*i*P	**P**	**13 37 23.0**	**+0.2**
TRN				*e*S	**S**	**13 37 37.9**	**-2.1**
TBH	**Brigand Hill**	**1.60**	**93**	*e*P	**P**	**13 37 27.4**	**+0.4**
TBH				*e*S	**S**	**13 37 45.8**	**-1.4**
ORIV	**Oritupano**	**1.66**	**205**	*e*P	**P**	**13 37 28.6**	**+0.8**
ORIV				*e*S	**S**	**13 37 49.5**	**+1.0**
GRW	**Mount Saint Ca**	**1.86**	**33**	*e*P	**P**	**13 37 32.3**	**+1.9**
GRW				*e*S	**S**	**13 37 53.7**	**+0.5**
MERV	**Las Mercedes**	**3.79**	**250**	*e*S	**S**	**13 38 38.9**	**-1.8**
CAOV	**Caicara del Or**	**4.83**	**228**	*e*P	**P**	**13 38 11.0**	**-0.4**
CAOV				*e*S	**S**	**13 39 02.8**	**-3.7**
BAUV	**El Baul**	**5.52**	**253**	*e*P	**P**	**13 38 20.1**	**-0.6**
BAUV				*e*S	**S**	**13 39 18.7**	**-4.8**

*CSEM **17** 13:39:32.7±0.9, 38.69N×28.60W, h10km, ML1.4, Error ellipse: s-maj=3.9km s-min=2.7km az=162.0, After PDA*
*PDA **17** 13:39:32.7±0.9, 38.69N×28.60W, h10km, MD2.9, ML1.4, Error ellipse: s-maj=3.9km s-min=2.7km az=162.0*
SVSA 17 13:39:32.7±0.9, 38.69N×28.60W, h10km, MD2.9, ML1.4, Error ellipse: s-maj=3.9km s-min=2.7km az=162.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.10**	**234**	*e*P	Pg	13 39 34.9	-0.5
PCED				*e*S	Sg	13 39 37.1	-0.1
	58nm,0.2s						
PCED	**Cedros**	**0.10**	**234**	*e*P	Pg	13 39 34.9	-0.5
PCED				*e*S	Sg	13 39 37.1	-0.1
	58nm,0.2s						
CALA	**Caldeira**	**0.14**	**218**	*e*P	Pg	13 39 35.4	-0.6
CALA				*e*S	Sg	13 39 38.1	0.0
PTCA	**Ponta do Capel**	**0.19**	**236**	*e*r		13 39 40.2	
PTCA	**Ponta do Capel**	**0.19**	**236**	*e*-		13 39 40.2	
PICO	**Pico**	**0.23**	**145**	*e*P	Pg	13 39 36.6	-1.0
PICO				*e*S	Sg	13 39 40.2	-0.7
PCND	**Candelaria**	**0.24**	**154**	*e*S	Sg	13 39 40.8	-0.5
	9.1nm,0.2s						
ROSA	**Rosais**	**0.28**	**84**	*e*P	Pg	13 39 37.8	-0.8
ROSA				*e*S	Sg	13 39 41.5	-1.0
PBOI	**Pico dos Bois**	**0.31**	**146**	*e*r		13 39 42.3	
PPNO	**Prainha do Nor**	**0.34**	**130**	*e*S	Sg	13 39 43.2	-1.2
	35nm,0.1s						

WEL 17 13:41:32.3±0.1, 40.21S×174.99E, h12km, ML3.5/30, 3C-2D, Error ellipse: s-maj=1.7km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.45**	**360**	P*	Pb	13 41 42.0	+0.2
WAZ				*e*S*	Sb	13 41 48.5	+0.4
WAZ				S*	Sb	13 41 48.5	+0.4
MRZ	**Mangatainoka R**	**0.64**	**135**	P*	Pb	13 41 44.8	0.0
MRZ				S*	Sb	13 41 53.2	-0.2
KIW	**Kapiti Island**	**0.65**	**185**	⇓P*	Pb	13 41 44.6	-0.6
KIW				S*	Sb	13 41 52.9	-1.0
TSZ	**Takapari Road**	**0.76**	**79**	⇓P*	Pb	13 41 46.6	-0.4
TSZ				S*	Sb	13 41 56.7	-0.3
CAW	**Cannon Point**	**0.90**	**176**	⇑P*	Pb	13 41 49.1	-0.2
MTVZ	**Mangateitei**	**0.90**	**24**	P*	Pb	13 41 48.6	-0.8
PKVZ	**Pokaka**	**0.96**	**17**	P*	Pb	13 41 49.5	-0.9
MOVZ	**Moawhango**	**0.99**	**37**	P*	Pb	13 41 49.6	-1.4
WNVZ	**Wahianoa**	**1.00**	**28**	⇑P*	Pb	13 41 50.0	-1.1
DUWZ	**D'Urville Isla**	**1.01**	**234**	*e*P*	Pb	13 41 50.1	-1.1
TRVZ	**Turoa**	**1.01**	**26**	P*	Pb	13 41 50.7	-0.5
MTW	**Mount Morrison**	**1.02**	**158**	P*	Pb	13 41 51.5	0.0
MTW				S*	Sb	13 42 05.4	+0.7
RAEZ	**Rainy Point**	**1.03**	**333**	P*	Pb	13 41 52.4	+0.8
RAEZ				S*	Sb	13 42 07.2	+2.4
DRZ	**Dome Shelter**	**1.03**	**26**	P*	Pb	13 41 51.2	-0.4
MRW	**Makara Radio**	**1.04**	**192**	P*	Pb	13 41 51.2	-0.6
MRW				*e*S*	Sb	13 42 04.5	-0.7
FWVZ	**Far West T-bar**	**1.05**	**25**	P*	Pb	13 41 50.9	-1.0
FWVZ				S*	Sb	13 42 03.5	-1.8
BFZ	**Birch Farm**	**1.07**	**116**	P*	Pb	13 41 52.7	+0.5
TUVZ	**Tukino**	**1.07**	**29**	P*	Pb	13 41 51.3	-1.0
WEL	**Wellington**	**1.09**	**189**	P*	Pb	13 41 51.8	-0.7
WPVZ	**Whakapapa**	**1.09**	**23**	⇑P*	Pb	13 41 51.7	-1.0
CNZ	**Chateau**	**1.10**	**23**	P*	Pb	13 41 51.8	-1.0
VRZ	**Vera Road**	**1.10**	**351**	P*	Pb	13 41 52.4	-0.3
SNZO	**South Karori**	**1.12**	**191**	P*	Pb	13 41 52.3	-0.8
SNZO				S*	Sb	13 42 06.7	-0.7
NGZ	**Ngauruhoe**	**1.14**	**25**	P*	Pb	13 41 52.5	-0.9
TCW	**Tory Channel**	**1.14**	**208**	P*	Pb	13 41 52.2	-1.2
TCW				S*	Sb	13 42 06.9	-1.1
NEZ	**North Egmont**	**1.16**	**323**	P*	Pb	13 41 53.9	0.0
OTVZ	**Oturere**	**1.17**	**27**	P*	Pb	13 41 53.0	-0.9
WTVZ	**West Tongariro**	**1.19**	**23**	P*	Pb	13 41 53.2	-1.1
TWVZ	**Taurewa**	**1.19**	**17**	P*	Pb	13 41 52.6	-1.7
BHW	**Baring Head**	**1.20**	**184**	P*	Pb	13 41 53.9	-0.6
PAWZ	**Paruwai Farm**	**1.22**	**164**	P*	Pb	13 41 54.6	-0.2
MSWZ	**Moikau Station**	**1.22**	**171**	P*	Pb	13 41 54.1	-0.8
KRVZ	**Karewarewa**	**1.22**	**25**	P*	Pb	13 41 53.7	-1.2
NWEZ	**Newall Road**	**1.27**	**317**	PN	Pn	13 41 56.3	+0.3
NWEZ				S*	Sb	13 42 13.7	+1.8
PKE	**Pukeiti**	**1.27**	**322**	PN	Pn	13 41 56.7	+0.7
PKE				S*	Sb	13 42 14.5	+2.5
TRWZ	**Traveller**	**1.30**	**156**	PN	Pn	13 41 55.9	-0.4
KATZ	**Kakaramea**	**1.35**	**24**	PN	Pn	13 41 55.6	-1.4
RITZ	**Rihia Road**	**1.40**	**29**	PN	Pn	13 41 57.1	-0.7
PXZ	**Pawanui**	**1.45**	**84**	PN	Pn	13 41 56.7	-1.7
TUWZ	**Tuamarina**	**1.45**	**213**	PN	Pn	13 41 57.3	-1.2
RATZ	**Rangitukua**	**1.47**	**25**	PN	Pn	13 41 57.7	-1.1
BKZ	**Black Stump Fm**	**1.56**	**49**	*e*PN	Pn	13 41 59.0	-1.1
BKZ				SN	Sn	13 42 18.2	-2.1
NNZ	**Nelson**	**1.58**	**230**	PN	Pn	13 41 59.5	-0.9
HIZ	**Hauiti**	**1.70**	**356**	PN	Pn	13 42 00.9	-1.1
BSWZ	**Blackbirch Sta**	**1.72**	**209**	*e*PN	Pn	13 42 01.3	-1.1
QRZ	**Quartz Range**	**1.97**	**251**	PN	Pn	13 42 04.8	-1.2
TPZ	**Tophouse**	**2.21**	**225**	*e*PN	Pn	13 42 08.3	-1.1
KNZ	**Kokohu**	**2.39**	**61**	*e*PN	Pn	13 42 09.4	-2.6
KHZ	**Kahutara**	**2.46**	**206**	PN	Pn	13 42 11.3	-1.6
URZ	**Urewera**	**2.55**	**41**	PN	Pn	13 42 12.4	-1.8
MWZ	**Matawai**	**2.72**	**47**	PN	Pn	13 42 14.7	-1.9
DSZ	**Denniston Nort**	**2.86**	**237**	PN	Pn	13 42 17.3	-1.3
LTZ	**Lake Taylor**	**3.28**	**218**	PN	Pn	13 42 22.3	-2.4
PUZ	**Puketiti**	**3.32**	**51**	PN	Pn	13 42 21.7	-3.4
ODZ	**Otahua Downs**	**5.80**	**212**	*e*PN	Pn	13 42 55.1	-5.2
JCZ	**Jackson Bay**	**6.03**	**228**	*e*PN	Pn	13 42 59.4	-4.1

*NEIC **17** 13:48:19.6, 18.89N×67.67W, h13km, MD3.6(RSPR), After RSPR.*
RSPR 17 13:48:19.6, 18.89N×67.67W, h13km±7km, MD3.6/5, MD3.6/5, 4C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSP	**Las Mesas**	**0.89**	**142**	*e*S	Sb	13 48 46.6	-1.4
CRPR	**Cabo Rojo, PR**	**1

Broadband fault plane solution: P waves. NP1:φ=61°, δ=50°, λ=151°. NP2:φ=171°, δ=68°, λ=44°. Principal axes: T Plg46°, Azm34°; N Plg42°, Azm192°; P Plg11°, Azm292°; JMA Felt II J1.

*NEIC **17** 14:08:58.4±0.6, 39.02N×141.56E, mb4.2/3 Error ellipse: s-maj=17.4km s-min=9.6km az=129.0*

NEIC Recorded [1 JMA] in Iwate Prefecture.

*MOS **17** 14:08:58.5±0.8, 39.11N×141.35E, h78km, mb4.3/8, Error ellipse: s-maj=19.2km s-min=11.6km az=73.7*

ISC 17 14:08:57.6±0.5, 38.88N±0.04×141.61E±0.07, h82km±3km, n43, σ0=86/55, mb3.8/13, 8C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
OFUJ	**Ofunato**	**0.20**	**14**	⇑P		**P**		**14 09 10.1**	**+0.5**
OFUJ				S		**S**		**14 09 18.3**	**-0.3**
JMK	**Ichinoseki**	**0.31**	**283**	⇑P		**P**		**14 09 10.3**	**+0.1**
JMK				S		**S**		**14 09 18.7**	**-1.0**
JIO	**Ouri**	**0.47**	**205**	⇑P		**P**		**14 09 11.6**	**+0.2**
JIO				S		**S**		**14 09 20.9**	**-0.9**
JOM	**Ohasama**	**0.64**	**338**	⇓P		**P**		**14 09 13.4**	**+0.4**
JOM				S		**S**		**14 09 24.0**	**-0.4**
JOU	**Okura**	**0.90**	**235**	⇑P		**P**		**14 09 16.3**	**+0.5**
JOU				S		**S**		**14 09 29.6**	**+0.1**
JYK	**Kaneyama**	**0.97**	**272**	⇓P		**P**		**14 09 17.2**	**+0.6**
JYK				S		**S**		**14 09 31.2**	**+0.2**
JMM	**Marumori**	**1.20**	**212**	⇑P		**P**		**14 09 19.4**	**-0.1**
JMM				S		**S**		**14 09 35.2**	**-0.7**
JYS	**Shirataka**	**1.38**	**242**	⇑P		**P**		**14 09 22.4**	**+0.5**
JYS				S		**S**		**14 09 39.3**	**-0.6**
JANG	**Nango**	**1.49**	**357**	⇑P		**P**		**14 09 23.3**	**0.0**
JANG				S		**S**		**14 09 42.8**	**+0.5**
JAH	**Hinai**	**1.50**	**330**	⇓P		**P**		**14 09 24.4**	**+0.9**
JYA	**Atsumi**	**1.51**	**259**	⇓P		**P**		**14 09 24.1**	**+0.5**
JYA				S		**S**		**14 09 43.3**	**+0.5**
JFK	**Kawauchi**	**1.62**	**201**	⇑P		**P**		**14 09 25.1**	**+0.1**
JFK				S		**S**		**14 09 44.8**	**-0.5**
MJAR	**Matsushiro Arr**	**3.57**	**230**	P		**P**		**14 09 52.5**	**+0.6**
	2.8nm,0.3s,baz=38,slow=12,SNR=45								
MJAR	**Matsushiro Arr**	**3.57**	**230**	P		**P**		**14 09 52.5**	**+0.6**
MJAR				pmax		pmax			
	comp=Z,3.0nm,0.3s								
MAJO	**Matsushiro**	**3.57**	**230**	*e*P		**P**		**14 09 53.3**	**+1.4**
MAT	**Matsushiro**	**3.57**	**230**	P		**P**		**14 09 53.2**	**+1.3**
MAT				S		**S**		**14 10 32.9**	**-0.2**
MAT	**Matsushiro**	**3.57**	**230**	*e*P		**P**		**14 09 53.0**	**+1.1**
MAT				*e*S		**S**		**14 10 42.0**	**+8.9**
ASAJ	**Asahikawa**	**5.28**	**8**	P		**P**		**14 10 14.0**	**-1.5**
	comp=Z,3.0nm,0.3s,baz=185,slow=16,SNR=23								
ASAJ				S		**S**		**14 11 11.4**	**-4.3**
	comp=Z,1.6nm,0.3s,baz=135,slow=28,SNR=4.2								
ASAJ	**Asahikawa**	**5.28**	**8**	P		**P**		**14 10 14.0**	**-1.5**
ASAJ				S		**S**		**14 11 11.4**	**-4.3**
ASAJ				pmax		pmax			
	comp=Z,3.0nm,0.3s								
ASAJ				smax					
	comp=N,2.0nm,0.3s								
MA2	**Magadan**	**21.52**	**13**	*e*P		**P**		**14 13 40.8**	**-0.2**
MA2				pmax		pmax			
	comp=Z,22nm,1.1s,mb4.4								
MA2	**Magadan**	**21.52**	**13**	*e*P		**P**		**14 13 40.8**	**-0.2**
	comp=Z,22nm,1.1s,mb4.4								
SONM	**Songino Array**	**26.92**	**301**	P		**P**		**14 14 31.4**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.0,baz=99,slow=7.2,SNR=4.5								
ZAL	**Zalesovo**	**40.81**	**311**	P		**P**		**14 16 32.9**	**+0.7**
	comp=Z,2.4nm,0.6s,mb4.2,baz=13,slow=8.6,SNR=10								
ZAL	**Zalesovo**	**40.81**	**311**	P		**P**		**14 16 32.9**	**+0.8**
ZAL				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**43.29**	**300**	P		**P**		**14 16 52.6**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.0,baz=86,slow=10,SNR=26								
MKAR	**Makanchi Array**	**43.29**	**300**	P		**P**		**14 16 52.6**	**+0.2**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ILAR	**Eielson Array**	**47.86**	**33**	P		**P**		**14 17 28.8**	**+0.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=266,slow=6.0,SNR=27								
ILAR				sP		sP		14 17 55.6	-2.3
	comp=Z,0.7nm,0.6s,baz=267,slow=6.0,SNR=7.2								
ILAR	**Eielson Array**	**47.86**	**33**	P		**P**		**14 17 28.8**	**+0.3**
ILAR				*SP		sP		14 17 55.7	-2.2
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
CHKZ	**Chkalovo**	**49.18**	**312**	*e*P		**P**		**14 17 37.3**	**-1.5**
CHKZ				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.0								
CHKZ	**Chkalovo**	**49.18**	**312**	*e*P		**P**		**14 17 37.3**	**-1.4**
	comp=Z,1.3nm,0.5s,mb4.1								
BVAR	**Borovoye Array**	**49.46**	**311**	P		**P**		**14 17 40.5**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=68,slow=8.4,SNR=12								
BVAR	**Borovoye Array**	**49.46**	**311**	P		**P**		**14 17 40.5**	**-0.5**
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ZRNK	**Zerenda**	**50.29**	**311**	*e*P		**P**		**14 17 46.6**	**-0.7**
ZRNK				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.0								
ZRNK	**Zerenda**	**50.29**	**311**	*e*P		**P**		**14 17 46.6**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.8								
WRA	**Warramunga Arr**	**58.91**	**188**	P		**P**		**14 18 48.7**	**-1.7**
	comp=Z,0.3nm,0.4s,mb3.6,baz=5.7,slow=6.5,SNR=14								
WRA				pP		pP		14 19 07.6	-3.7
	comp=Z,0.4nm,0.5s,baz=4.4,slow=5.9,SNR=8.4								
YKA	**Yellowknife Ar**	**62.14**	**31**	P		**P**		**14 19 12.7**	**+0.9**
	comp=Z,0.1nm,0.6s,mb3.0,baz=304,slow=6.2,SNR=4.0								
FINES	**FINESS Array B**	**67.25**	**332**	P		**P**		**14 19 42.5**	**-2.2**
	comp=Z,3.4nm,1.0s,mb4.1,baz=315,slow=3.9,SNR=3.4								
FINES	**FINESS Array B**	**67.25**	**332**	P		**P**		**14 19 42.5**	**-2.3**
FINES				pmax		pmax			
	comp=Z,3.0nm,1.0s								
NVAR	**Mina Array Bea**	**73.77**	**54**	P		**P**		**14 20 26.2**	**+1.8**
	comp=Z,0.7nm,0.7s,mb3.5,baz=286,slow=6.0,SNR=6.7								
NVAR				pP		pP		14 20 43.4	-2.8
	comp=Z,0.1nm,0.4s,baz=284,slow=15,SNR=1.4								
PDAR	**Pinedale Array**	**76.27**	**46**	P		**P**		**14 20 39.8**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.5,baz=273,slow=2.4,SNR=7.5								
LPAZ	**La Paz**	**145.60**	**57**	PKPbc		PKPbc		14 28 29.3	+2.0
	comp=Z,0.6nm,0.3s,baz=342,slow=6.4,SNR=4.6								
LPAZ	**La Paz**	**145.60**	**57**	PKP2		PKPab		14 28 29.3	-0.1
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
LPAZ	**La Paz**	**145.60**	**57**	PKPbc		PKPbc		14 28 29.3	+2.0

NNC 17 14:22:12.9±0.8, 37.74N×71.92E, h207km±9km, mb2.5, mpv3.5, 4C-1D, Error ellipse: s-maj=11.9km s-min=4.3km az=35.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KK31	**Karatay Array**	**5.46**	**349**	⇑P		P		14 23 33.3	-0.7
	2.3nm,0.6s,baz=163,slow=11,SNR=38								
KK31				⇑S		S		14 24 37.5	+0.3
	3.2nm,0.3s,baz=164,slow=19,SNR=22								
TKM2	**Tokmak 2**	**5.88**	**27**	⇑P		P		14 23 38.9	-0.6
	6.8nm,1.1s								
AB31	**Akbulak array**	**14.40**	**327**	⇓P		P		14 25 27.0	-1.3
	2.6nm,1.1s,baz=139,slow=12,SNR=15								
AKTO	**Aktyubinsk**	**16.11**	**326**	⇑P		P		14 25 47.6	-1.7
	0.5nm,0.5s								

JMA 17 14:27:33.3, 33.90N×131.24E, h16km, M3.7, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JKI	**Kunimi**	**0.38**	**134**	⇑P		Pb		14 27 41.3	+0.1
JKI				S		Sb		14 27 46.7	+0.1
JTY	**Toyota**	**0.39**	**338**	⇑P		Pb		14 27 41.2	-0.2
JTY				S		Sb		14 27 46.7	-0.1
JFA	**Akaike**	**0.41**	**243**	⇓P		Pb		14 27 41.5	-0.3
JFA				S		Sb		14 27 47.5	-0.1

GUC 17 14:30:12.1±0.6, 34.22S×70.72W, h92km±2km, MD3.5, ML3.5, 8C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CACH	**El Canelo**	**0.14**	**43**	*i*P		P		14 30 25.1	0.0
CACH				*i*S		S		14 30 35.2	+0.3
CICH	**Cipreses**	**0.26**	**112**	⇑*i*P		P		14 30 25.4	-0.2
CICH				*i*S		S		14 30 36.3	+0.6
CHCH	**Chadas Angostu**	**0.29**	**11**	⇓*e*P		P		14 30 25.3	-0.4
CHCH				*i*S		S		14 30 36.0	0.0
SFDO	**San Fernando**	**0.46**	**212**	⇑*i*P		P		14 30 26.7	-0.1
SFDO				*i*S		S		14 30 38.1	+0.2
LMEL	**Las Melosas**	**0.57**	**49**	⇑*i*P		P		14 30 27.8	0.0
LMEL				*i*S		S		14 30 40.0	+0.6
LMEL				AMP				14 30 41.1	
	comp=N,3μm,0.2s								
TACH	**Talagante**	**0.60**	**342**	⇓*i*P		P		14 30 27.9	-0.1
TACH				*i*S		S		14 30 39.6	-0.1
PCH	**Pirque**	**0.62**	**16**	*i*P		P		14 30 28.2	-0.1
PCH				*i*S		S		14 30 40.3	0.0
LNV	**Longovilo**	**0.63**	**295**	⇑*i*P		P		14 30 28.1	-0.3
LNV				*i*S		S		14 30 39.9	-0.5
ANTU	**Antumapu**	**0.66**	**6**	⇓*i*P		P		14 30 28.6	0.0
ANTU				*i*S		S		14 30 40.9	+0.1
ANTU				AMP				14 30 41.4	
	comp=E,2μm,0.3s								
RCDM	**Rinconada Maip**	**0.74**	**354**	⇓*i*P		P		14 30 29.2	-0.2
RCDM				*i*S		S		14 30 42.3	+0.2
RCDM				AMP				14 30 42.8	
	comp=E,3μm,0.2s								
SAN	**Santiago**	**0.77**	**3**	⇓*i*P		P		14 30 29.6	-0.1
SAN				*i*S		S		14 30 42.6	0.0
SAN				AMP				14 30 43.5	
	comp=N,2μm,0.3s								
STL	**Santa Lucia**	**0.79**	**5**	⇑*i*P		P		14 30 29.1	-0.8
STL				*i*S		S		14 30 42.4	-0.6
STL				AMP				14 30 43.8	
	comp=N,956nm,0.2s								
NICH	**Los Niches**	**0.89**	**208**	⇓*i*P		P		14 30 30.8	0.0
NICH				*i*S		S		14 30 44.7	-0.1
FCH	**Farellones**	**0.96**	**22**	AMP				14 30 49.1	
	comp=N,1μm,0.2s								
LCCH	**Las Cruces**	**1.03**	**316**	⇓*i*P		P		14 30 32.2	-0.2
LCCH				*i*S		S		14 30 47.6	-0.2
PEL	**Peldehue**	**1.08**	**1**	⇓*i*P		P		14 30 33.1	+0.1
PEL				*i*S		S		14 30 49.1	+0.3
PEL				AMP				14 30 50.8	
	comp=E,2μm,0.4s								
ROCH	**El Roble**	**1.27**	**349**	⇑*i*P		P		14 30 35.8	+0.2
ROCH				*i*S		S		14 30 53.8	+0.8
TALC	**Talca**	**1.39**	**213**	⇑*i*P		P		14 30 36.8	-0.2
TALC				*i*S		S		14 30 55.4	-0.1
TALC				AMP				14 30 57.2	
	comp=E,2μm,0.4s								
JACH	**Jahuel**	**1.54**	**4**	⇑*i*P		P		14 30 38.9	0.0
JACH				*e*S		S		14 30 59.3	+0.6
CHNG	**Los Chungos**	**2.42**	**344**	⇓*i*P		P		14 30 50.6	-0.2
CHNG				*i*S		S		14 31 19.0	-0.5
CHNG				AMP				14 31 27.7	
	comp=E,344nm,0.5s								

IDC 17 14:41:20.9±1.7, 7.03S×154.80E, mb3.8/5, mb1 4.0/5, mb1mx3.9/12, mbtmp3.8/5, Error ellipse: s-maj=58.1km s-min=27.3km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
WRA	**Warramunga Arr**	**23.63**	**235**	P		P		14 46 33.1	-1.7
	0.9nm,0.7s,baz=61,slow=9.6,SNR=10								
STKA	**Stephens Creek**	**27.62**	**205**	P		P		14 47 10.8	-1.5
	0.8nm,0.5s,baz=22,slow=11,SNR=3.8								
SONM	**Songino Array**	**69.26**	**327**	P		P		14 52 30.6	-1.4
	0.3nm,0.6s,baz=132,slow=6.7,SNR=4.1								
MKAR	**Makanchi Array**	**83.30**	**319**	P		P		14 53 49.5	-1.6
	0.5nm,0.8s,baz=90,slow=3.6,SNR=4.8								
YKA	**Yellowknife Ar**	**96.46**	**28**	P		P		14 54 52.0	-1.1
	0.5nm,0.8s,baz=269,slow=4.6,SNR=6.7								

*IDC **17** 14:46:45.6±4.5, 41.00S×91.76W, mb3.9/5, mb1 4.2/6, mb1mx4.1/14, mbtmp3.9/6, ML3.7/1, MS3.6/6, Ms1 3.7/6, ms1mx3.5/17, Error ellipse: s-maj=124.1km s-min=29.7km az=9.0*

*NEIC **17** 14:46:46.9±0.6, 41.05S×91.71W, h10km, mb4.7/6, Error ellipse: s-maj=17.1km s-min=9.1km az=204.0*

ISC 17 14:46:45.4±0.9, 41.0S±0.2×91.7W±0.1, h10km, n22, σ0=94/19, mb4.2/12, MS3.5/5, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PLCA	**Paso Flores**	**15.99**	**96**	Pn		**P**		**14 50 32.9**	**+1.0**
	0.1nm,0.3s,baz=284,slow=4.2,SNR=2.8								
PLCA				LR		LR		14 55 16.3	
	comp=Z,379nm,20.0s,baz=192,slow=32								
USHA	**Ushuaia**	**20.68**	**140**	LR		LR		14 57 53.8	
	comp=Z,206nm,19.6s,MS3.5,baz=117,slow=32								
CFAA	**Coronel Fontan**	**21.05**	**71**	P		**P**		**14 51 31.5**	**-0.4**
	0.8nm,0.9s,mb3.0,baz=237,slow=12,SNR=5.8								
CFAA				LR		LR		14 57 41.0	
	comp=Z,44nm,21.8s,MS2.8,baz=242,slow=31								
CFAA	**Coronel Fontan**	**21.05**	**71**	P		**P**		**14 51 31.5**	**-0.4**
CFAA				LR		LR		14 57 41.0	
TRQA	**Tornquist**	**23.05**	**92**	*e*P		**P**		**14 51 52.5**	**+0.8**
	39nm,1.5s,mb4.6								
CPUP	**Villa Florida**	**31.90**	**73**	*e*P		**P**		**14 53 12.0**	**-1.1**
	20nm,1.3s,mb4.8								
LPAZ	**La Paz**	**31.98**	**46**	P		**P**		**14 53 14.7**	**+0.8**
	1.1nm,0.8s,mb3.8,baz=178,slow=4.7,SNR=4.0								
LPAZ				LR		LR		15 03 08.5	
	comp=Z,114nm,19.5s,MS3.6,baz=209,slow=31								
SIV	**San Ignacio**	**36.37**	**56**	P		**P**		**14 53 51.3**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=260,slow=13,SNR=3.0								
BDFB	**Brasilia**	**45.38**	**69**	LR		LR		15 13 38.1	
	comp=Z,222nm,18.1s,MS4.1,baz=37,slow=36								
SNAA	**Sanae**	**51.30**	**156**	*e*P		**P**		**14 55 50.4**	**-0.7**
	7.7nm,1.1s,mb4.5								
SDV	**Santo Domingo**	**53.33**	**26**	*e*P		**P**		**14 56 05.3**	**-1.8**
	7.8nm,1.1s,mb4.5								
VNDA	**Vanda**	**53.72**	**195**	LR		LR		15 17 04.6	
	comp=Z,46nm,18.4s,MS3.6,baz=145,slow=34								
TXAR	**Lajitas Array**	**70.89**	**349**	P		**P**		**14 58 03.9**	**-0.7**
	0.2nm,0.3s,mb3.6,baz=162,slow=7.9,SNR=5.2								
PV01	**Paradox Valley**	**80.29**	**347**	*e*P		**P**		**14 58 58.6**	**+0.8**
PV10	**Paradox Valley**	**80.61**	**346**	*e*P		**P**		**14 58 60.0**	**+0.4**
NVAR	**Mina Array Bea**	**82.75**	**339**	P		**P**		**14 59 11.3**	**+0.7**
	0.9nm,0.9s,mb3.8,baz=166,slow=7.6,SNR=6.6								
NVAR	**Mina Array Bea**	**82.75**	**339**	P		**P**		**14 59 11.3**	**+0.7**
PDAR	**Pinedale Array**	**84.97**	**347**	P		**P**		**14 59 22.2**	**+0.4**
	2.8nm,0.9s,mb4.4,baz=162,slow=6.4,SNR=23								
RSSD	**Black Hills**	**85.50**	**351**	*e*P		**P**		**14 59 24.3**	**0.0**
REDW	**Red Top Meadow**	**85.78**	**346**	*e*P		**P**		**14 59 26.8**	**+1.0**
	13nm,1.5s,mb4.9								
HLID	**Hailey**	**86.67**	**344**	*e*P		**P**		**14 59 31.0**	**+0.8**
	2.8nm,1.4s,mb4.3								
EDM	**Edmonton**	**95.73**	**347**	*e*P		**P**		**15 00 10.1**	**-2.1**

*NNC **17** 15:41:56.1±1.0, 45.33N×76.84E, h7km±6km, mb3.9, mpv3.6, Error ellipse: s-maj=9.0km s-min=6.9km az=107.0*

ISC 17 15:41:59.8±0.6, 45.44N±0.03×76.5E±0.1, h33km, n17, σ1=40/24, 17C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KNDC	**Almaty**	**2.24**	**172**	⇑P		**P**		**15 42 31.8**	**-3.5**
	386nm,0.3s								
KNDC				⇑S		**S**		**15 42 57.2**	**-4.9**
	3μm,0.5s								
TKM2	**Tokmak 2**	**2.61**	**195**	P		**P**		**15 42 41.9**	**+1.4**
	SNR=37								
TKM2	**Tokmak 2**	**2.61**	**195**	⇑P		**P**		**15 42 39.5**	**-1.0**
	11nm,0.3s								
TKM2				⇑S		**S**		**15 43 11.2**	**-0.2**
	51nm,0.4s								
USP	**Ospenovka**	**2.62**	**215**	P		**P**		**15 42 41.7**	**+1.0**
	SNR=9.8								
CHMS	**Chumysh**	**2.76**	**208**	P		**P**		**15 42 43.3**	**+0.7**
	SNR=5.0								
KBK	**Karagaybulak**	**3.01**	**203**	P		**P**		**15 42 47.4**	**+1.1**
	SNR=18								
ULHL	**Ulahol**	**3.20**	**184**	P		**P**		**15 42 46.6**	**-2.4**
	SNR=27								
EKS2	**Erkin-Say**	**3.42**	**217**	P		**P**		**15 42 59.3**	**+7.3**
	SNR=7.6								
KZA	**Kyzart**	**3.49**	**196**	P		**P**		**15 42 51.9**	**-1.1**
	SNR=11								
UCH	**Uchtor**	**3.53**	**205**	P		**P**		**15 42 55.4**	**+1.8**
	SNR=9.0								
MK31	**Makanchi Array**	**4.22**	**69**	Pn		**Pn**		**15 43 01.3**	**-2.3**
	9.4nm,0.4s,baz=239,slow=13,SNR=461								
MK31				⇓Lg				15 44 03.5	
	11nm,0.5s,baz=242,slow=30,SNR=7.0								
KK31	**Karatay Array**	**4.92**	**244**	⇑Pn		**Pn**		**15 43 13.2**	**-0.3**
	3.3nm,0.4s,baz=56,slow=10,SNR=57								
KK31				⇑Pg		**P**		**15 43 29.5**	**+16**
	2.2nm,0.3s,baz=64,slow=15,SNR=12								
KK31				⇑Lg				15 44 30.8	
	24nm,0.6s,baz=56,slow=30,SNR=22								
KURK	**Kurchatov**	**5.46**	**14**	⇑Pn		**Pn**		**15 43 22.9**	**+1.8**
	4.6nm,2.5s								
KURK				⇑Sn		**Sn**		**15 44 25.8**	**+2.3**
	2.5nm,0.7s								
KURK				⇓Lg				15 44 53.9	
	11nm,0.7s								
VOSK	**Vostochnaya**	**8.15**	**335**	⇑Pn		**P**		**15 43 59.1**	**+0.5**
	3.1nm,1.4s								
VOSK				⇑Sn		**Sn**		**15 45 30.1**	**-0.7**
	2.3nm,1.4s								
VOSK				⇑Lg				15 46 21.6	
	9.2nm,1.1s								
BVA0	**Borovoye Array**	**8.59**	**334**	⇑Pn		**P**		**15 44 06.8**	**+2.0**
	0.7nm,1.6s,baz=158,slow=12,SNR=3.4								
BVA0				⇑Sn		**Sn**		**15 45 40.3**	**-1.4**
	0.5nm,1.1s,baz=237,slow=40,SNR=5.0								
BVA0				⇑Lg				15 46 34.3	
	1.5nm,1.2s,baz=145,slow=28,SNR=6.0								
CHKZ	**Chkalovo**	**9.10**	**337**	⇑Pn		**P**		**15 44 12.1**	**+0.3**
	4.9nm,2.0s								
CHKZ				⇑Sn		**Sn**		**15 45 52.8**	**-1.5**
	5.6nm,1.9s								
CHKZ				⇓Lg				15 46 49.5	
	5.5nm,0.8s								
AB31	**Akbulak array**	**11.89**	**295**	⇓Pn		**P**		**15 44 49.0**	**-0.8**
	0.4nm,0.6s,baz=11,slow=14,SNR=4.4								

*CSEM **17** 15:56:10.5±0.4, 38.73N×28.55W, h5km, ML1.2, Error ellipse: s-maj=3.6km s-min=1.9km az=12.0, After PDA*

*PDA **17** 15:56:10.5±0.4, 38.73N×28.55W, h5km, MD2.6, ML1.2, Error ellipse: s-maj=3.6km s-min=1.9km az=12.0*

SVSA 17 15:56:10.5±0.4, 38.73N×28.55W, h5km, MD2.6, ML1.2, Error ellipse: s-maj=3.6km s-min=1.9km az=12.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PCED	**Cedros**	**0.15**	**228**	*e*P		Pg		15 56 13.5	-0.2
PCED				*e*S		Sg		15 56 15.8	-0.1
	34nm,0.2s								
PCED	**Cedros**	**0.15**	**228**	*e*P		Pg		15 56 13.5	-0.2
PCED				*e*S		Sg		15 56 15.8	-0.1
	34nm,0.2s								
CALA	**Caldeira**	**0.19**	**218**	*i* P		Pg		15 56 14.1	-0.3
CALA				*e*S		Sg		15 56 16.7	-0.3
CALA	**Caldeira**	**0.19**	**218**	*e*S		Sg		15 56 16.7	-0.3
ROSA	**Rosais**	**0.24**	**93**	*e*rx				15 56 19.7	
ROSA	**Rosais**	**0.24**	**93**	*e*-				15 56 19.7	
PICO	**Pico**	**0.25**	**156**	*e*P		Pg		15 56 15.1	-0.5
PICO				*e*S		Sg		15 56 18.8	-0.2
PCND	**Candelaria**	**0.27**	**165**	*e*S		Sg		15 56 19.8	+0.1
	9.9nm,0.2s								
PBOI	**Pico dos Bois**	**0.33**	**155**	*e*S		Sg		15 56 17.4	-4.1
	11nm,0.1s								

*IDC **17** 16:08:11.7±1.3, 62.75N×150.46W, h92km±14km, mb3.5/6, mb1 3.7/10, mb1mx3.5/21, mbtmp3.9/10, Error ellipse: s-maj=23.0km s-min=10.0km az=114.0*

*NEIC **17** 16:08:13.8, 62.81N×150.65W, h91km, MG3.5(AEIC), After AEIC.*

ISC 17 16:08:12.1±0.3, 62.84N±0.03×150.67W±0.09, h108km±4km, n38, σ0=76/42, mb3.8/6, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
TRF	**Thorofare Moun**	**0.64**	**16**	P		**P**		**16 08 30.4**	**+0.6**
TRF				S		**S**		**16 08 43.0**	**-0.2**
KTH	**Kantishna Hill**	**0.72**	**351**	P		**P**		**16 08 31.1**	**+0.5**
KTH				S		**S**		**16 08 43.8**	**-0.8**
MCK	**McKinley**	**1.19**	**40**	P		**P**		**16 08 36.1**	**+0.5**
GHO	**Glory Hole Cre**	**1.35**	**142**	P		**P**		**16 08 38.1**	**+0.7**
PMR	**Palmer**	**1.45**	**149**	P		**P**		**16 08 38.6**	**+0.1**
SML	**Sawmill**	**1.50**	**133**	P		**P**		**16 08 39.7**	**+0.4**
FIB	**Fire Island**	**1.70**	**172**	P		**P**		**16 08 42.3**	**+0.7**
RC01	**Rabbit Creek A**	**1.81**	**166**	P		**P**		**16 08 42.8**	**-0.3**
SLKM	**Skilak Lake**	**2.35**	**175**	*e*P		**P**		**16 08 50.0**	**-0.2**
PAX	**Paxson**	**2.38**	**85**	P		**P**		**16 08 51.5**	**+0.9**
COLA	**College**	**2.39**	**30**	P		**P**		**16 08 51.2**	**+0.5**
TT01	**Tatalina**	**2.45**	**274**	P		**P**		**16 08 51.6**	**0.0**
IL1	**Eielson Array**	**2.56**	**39**	P		**P**		**16 08 53.3**	**+0.2**
ILAR	**Eielson Array**	**2.56**	**39**	P		**P**		**16 08 53.4**	**+0.3**

PATZ	**Paeroa**	**9.43 205**	P		**P**	**16 28 49.5 +4.8**
KNZ	**Kokohu**	**9.57 197**	*e*PN		**P**	**16 28 49.8 +3.3**
KNZ			*e*SN		**S**	**16 30 30.7 -1.4**
KNZ	**Kokohu**	**9.57 197**	P		**P**	**16 28 50.6 +4.1**
BKZ	**Black Stump Fm**	**10.05 202**	PN		**P**	**16 28 49.7 -2.5**
BKZ			*e*SN		**S**	**16 30 42.2 -0.3**
BKZ	**Black Stump Fm**	**10.05 202**	*e*P		**P**	**16 28 49.7 -2.5**
HIZ	**Hauiti**	**10.11 210**	PN		**P**	**16 28 58.4 +5.6**
HIZ	**Hauiti**	**10.11 210**	*e*P		**P**	**16 28 59.0 +6.1**
CNZ	**Chateau**	**10.41 206**	PN		**P**	**16 29 00.2 +3.7**
CNZ	**Chateau**	**10.41 206**	P		**P**	**16 29 00.4 +3.9**
WNVZ	**Wahianoa**	**10.50 205**	*e*PN		**P**	**16 28 59.6 +1.9**
WNVZ	**Wahianoa**	**10.50 205**	P		**P**	**16 28 59.7 +2.0**
MOVZ	**Moawhango**	**10.52 204**	*e*PN		**P**	**16 28 59.3 +1.4**
MOVZ	**Moawhango**	**10.52 204**	P		**P**	**16 28 59.9 +2.0**
PXZ	**Pawanui**	**10.73 199**	*e*PN		**P**	**16 29 02.0 +1.5**
WAZ	**Wanganui**	**11.11 206**	PN		**P**	**16 29 06.4 +1.5**
WAZ			SN		**S**	**16 31 08.2 +2.8**
WAZ	**Wanganui**	**11.11 206**	*e*P		**P**	**16 29 06.5 +1.6**
BFZ	**Birch Farm**	**11.51 200**	*e*PN		**P**	**16 29 11.6 +1.7**
BFZ	**Birch Farm**	**11.51 200**	*e*P		**P**	**16 29 11.3 +1.5**
MRZ	**Mangatainoka R**	**11.70 202**	PN		**P**	**16 29 09.6 -2.4**
MRZ			*e*SN		**S**	**16 31 15.0 -3.2**
MRZ	**Mangatainoka R**	**11.70 202**	*e*P		**P**	**16 29 09.7 -2.4**
KIW	**Kapiti Island**	**12.11 204**	*e*PN		**P**	**16 29 15.9 -1.1**
KIW	**Kapiti Island**	**12.11 204**	P		**P**	**16 29 16.8 -0.1**
MTW	**Mount Morrison**	**12.18 201**	PN		**P**	**16 29 17.4 -0.4**
MTW	**Mount Morrison**	**12.18 201**	P		**P**	**16 29 17.7 -0.1**
CAW	**Cannon Point**	**12.27 203**	*e*PN		**P**	**16 29 18.1 -0.8**
CAW	**Cannon Point**	**12.27 203**	P		**P**	**16 29 18.2 -0.7**
MRW	**Makara Radio**	**12.50 204**	PN		**P**	**16 29 22.1 +0.4**
MRW	**Makara Radio**	**12.50 204**	P		**P**	**16 29 22.1 +0.4**
SNZO	**South Karori**	**12.57 203**	*e*Pn		**P**	**16 29 22.5 0.0**
TCW	**Tory Channel**	**12.64 205**	P		**P**	**16 29 23.0 -0.3**
NNZ	**Nelson**	**12.99 208**	PN		**P**	**16 29 25.1 -2.4**
NNZ			SN		**S**	**16 31 45.4 -0.7**
NNZ	**Nelson**	**12.99 208**	*e*P		**P**	**16 29 25.0 -2.5**
QRZ	**Quartz Range**	**13.03 211**	PN		**P**	**16 29 26.1 -1.8**
QRZ	**Quartz Range**	**13.03 211**	*e*P		**P**	**16 29 26.4 -1.5**
THZ	**Tophouse**	**13.64 208**	PN		**P**	**16 29 32.5 -2.6**
THZ			*e*SN		**S**	**16 31 59.9 -0.5**
THZ	**Tophouse**	**13.64 208**	*e*P		**P**	**16 29 32.7 -2.5**
KHZ	**Kahutara**	**13.96 205**	*e*PN		**P**	**16 29 37.1 -1.7**
KHZ			*e*SN		**S**	**16 32 07.0 -0.1**
KHZ	**Kahutara**	**13.96 205**	*e*P		**P**	**16 29 37.4 -1.4**
DSZ	**Denniston Nort**	**14.09 210**	PN		**P**	**16 29 38.7 -1.5**
DSZ	**Denniston Nort**	**14.09 210**	*e*P		**P**	**16 29 38.9 -1.3**
LTZ	**Lake Taylor**	**14.75 207**	*e*PN		**P**	**16 29 47.3 0.0**
LTZ	**Lake Taylor**	**14.75 207**	*e*P		**P**	**16 29 47.6 +0.3**
MQZ	**McQueen's Vall**	**15.40 204**	*e*SN		**S**	**16 32 35.6 -0.5**
DZM	**Mont Dzumac**	**15.47 297**	P		**P**	**16 29 55.1 0.0**
	2.2nm,0.3s,baz=88,slow=13,SNR=34					
NOUC	**Port Laguerre**	**15.56 296**	*e*P		**P**	**16 29 55.4 -0.6**
RPZ	**Rata Peaks**	**16.02 208**	P		**P**	**16 30 01.7 +0.9**
	0.8nm,0.3s,baz=0.5,slow=5.2,SNR=3.5					
RPZ			S		**S**	**16 32 49.6 +1.6**
	1.5nm,0.3s,baz=51,slow=17,SNR=12					
AFI	**Afiamalu**	**17.16 23**	P		**P**	**16 30 11.5 -1.3**
	0.9nm,0.3s,baz=214,slow=17,SNR=2.7					
AFI	**Afiamalu**	**17.16 23**	P		**P**	**16 30 13.4 +0.6**
STKA	**Stephens Creek**	**34.01 256**	P		**P**	**16 32 48.4 +1.7**
	1.4nm,0.4s,mb3.5,baz=97,slow=10,SNR=6.1					
WRA	**Warramunga Arr**	**43.48 272**	P		**P**	**16 34 05.2 +0.6**
	4.2nm,0.4s,mb4.0,baz=110,slow=6.1,SNR=159					
NVAR	**Mina Array Bea**	**88.29 43**	P		**P**	**16 38 51.6 +4.9**
	0.2nm,0.6s,mb3.1,baz=231,slow=10,SNR=3.7					
KAF	**Kangasniemi**	**143.89 340**	*e*p	PKPbc		16 45 28.3 +2.7
	3.9nm,0.8s					
FINES	**FINESS Array B**	**144.48 340**	PKP	PKPdf		16 45 31.1 +3.8
	2.3nm,0.3s,baz=50,slow=3.7,SNR=69					
NB2	**NORSAR Subarra**	**148.18 351**	PKPabc	PKPdf		16 45 41.5 +8.1
	1.4nm,0.6s,baz=15,slow=4.1					
NOA	**NORSAR Array B**	**148.18 351**	PKPbc	PKPdf		16 45 42.4 +8.9
	1.7nm,0.7s,baz=16,slow=4.3,SNR=4.5					
AKASG	**Malin Array Be**	**150.55 323**	PKPbc	PKPdf		16 45 48.2 +11
	1.2nm,0.4s,baz=46,slow=3.0,SNR=10					

*IDC **17** 16:45:43.0±1.5, 4.28N×123.90E, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=220.4km s-min=20.4km az=62.0*

ISC 17 16:45:46.0±1.1, 4.3N±0.1×123.8E±0.2, h33km, n5, σ0§67/5, mb3.7/4, 1C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.12**	**32**	⇑*e*P	**P**	**16 46 19.8**	**0.0**
WRA	**Warramunga Arr**	**26.18**	**157**	P	**P**	**16 51 20.2**	**+0.6**
	0.6nm,0.4s,mb3.5,baz=336,slow=10,SNR=26						
STKA	**Stephens Creek**	**39.72**	**156**	P	**P**	**16 53 16.5**	**-0.6**
	1.5nm,0.5s,mb4.0,baz=328,slow=8.6,SNR=7.6						
MKAR	**Makanchi Array**	**55.40**	**326**	P	**P**	**16 55 20.5**	**+0.5**
	0.3nm,0.4s,mb3.7,baz=112,slow=7.5,SNR=14						
BVAR	**Borovoye Array**	**65.31**	**328**	P	**P**	**16 56 26.5**	**-0.5**
	0.3nm,0.3s,mb3.8,baz=108,slow=4.6,SNR=7.7						

*IDC **17** 16:51:08.4±0.9, 16.85N×94.84W, h101km±7km, mb3.7/8, mb1 3.9/8, mb1mx3.7/18, mbtmp4.0/8, Error ellipse: s-maj=41.0km s-min=16.1km az=57.0*
*MEX **17** 16:51:09.2±1.1, 16.73N×95.05W, h93km±16km, MD4.5*
*NEIC **17** 16:51:09.5, 16.73N×95.05W, h93km, mb4.1/3, MD4.5(MEX), After MEX.*

ISC 17 16:51:06.9±0.4, 16.70N±0.05×95.06W±0.03, h104km±4km, h98km±.4km:pP-P, n38, σ1§38/56, mb3.9/8, 3C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.36**	**228**	*i*P	**P**	**16 51 32.1**	**-0.1**
HUIG				*i* S	**S**	**16 51 51.0**	**-0.1**
HUIG	**Huatulco**	**1.36**	**228**	*i* P	**P**	**16 51 32.0**	**-0.2**
HUIG				*i* S	**S**	**16 51 51.6**	**+0.5**
TUIG	**Tuzandepetl**	**1.46**	**25**	*i* P	**P**	**16 51 32.6**	**-0.8**
TUIG				*i* S	**S**	**16 51 51.5**	**-1.7**
OXX	**Oaxaca**	**1.64**	**284**	*i* P	**P**	**16 51 37.0**	**+1.5**
OXX				*i* S	**S**	**16 51 56.0**	**-0.8**
OXX	**Oaxaca**	**1.64**	**284**	*i* P	**P**	**16 51 37.0**	**+1.5**
OXX				*i* S	**S**	**16 51 55.5**	**-1.3**
VHO	**Vista Hermosa**	**1.64**	**283**	*i* P	**P**	**16 51 37.0**	**+1.4**
VHO				*i* S	**S**	**16 51 57.1**	**+0.2**
VHO	**Vista Hermosa**	**1.64**	**283**	*i* P	**P**	**16 51 37.0**	**+1.5**
VHO				*i* S	**S**	**16 51 57.9**	**+0.9**
SCX	**San Cristobal**	**2.33**	**89**	*i* P	**P**	**16 51 45.6**	**+1.0**
SCX				*i* S	**S**	**16 52 12.5**	**-0.3**
SCX	**San Cristobal**	**2.33**	**89**	*i* P	**P**	**16 51 46.0**	**+1.4**
SCX				*i* S	**S**	**16 52 15.0**	**+2.2**
CCIG	**Comitan**	**2.84**	**98**	*i* P	**P**	**16 51 52.1**	**+0.6**
CCIG				*i* S	**S**	**16 52 23.8**	**-1.3**
CCIG	**Comitan**	**2.84**	**98**	*i* P	**P**	**16 51 51.7**	**+0.1**
CCIG				*i* S	**S**	**16 52 19.1**	**-6.0**
PNIG	**Pinotepa**	**2.96**	**265**	⇑*i*P	**P**	**16 51 52.4**	**-0.8**
PNIG				*i* S	**S**	**16 52 27.2**	**-0.8**
PNIG	**Pinotepa**	**2.96**	**265**	*i* P	**P**	**16 51 51.8**	**-1.4**
PNIG				*i* S	**S**	**16 52 22.4**	**-5.6**
PPM	**Popocatepetl**	**4.13**	**305**	*i* P	**P**	**16 52 10.8**	**+1.7**
PPM				*i* P		16 52 11.0	
PPM				*i* S	**S**	**16 52 56.9**	**+0.2**
PPM	**Popocatepetl**	**4.13**	**305**	*i* P	**P**	**16 52 11.0**	**+1.8**
PPM				*i* S	**S**	**16 53 01.7**	**+4.9**
PLIG	**Platanillo**	**4.56**	**292**	⇑*i*P	**P**	**16 52 16.4**	**+1.4**
PLIG				*i* S	**S**	**16 53 04.8**	**-2.4**
PLIG	**Platanillo**	**4.56**	**292**	*i* P	**P**	**16 52 16.2**	**+1.3**
PLIG				*i* S	**S**	**16 53 03.9**	**-3.3**
ACX	**Acapulco**	**4.65**	**273**	*i* P	**P**	**16 52 14.0**	**-2.3**
CAIG	**El Cayaco**	**5.00**	**275**	*e*P	**P**	**16 52 18.5**	**-2.5**
CAIG				*i* S	**S**	**16 53 13.6**	**-4.4**
MOIG	**Morelia**	**6.53**	**298**	*i* P	**P**	**16 52 42.4**	**+0.4**
MOIG				*i* S	**S**	**16 53 57.8**	**+2.1**
JCT	**Junction City**	**14.39**	**343**	*e*P	**P**	**16 54 32.0**	**+5.3**
	13nm,0.8s						
TXAR	**Lajitas Array**	**14.85**	**329**	P	**P**	**16 54 35.6**	**+2.9**
	0.2nm,0.3s,baz=143,slow=12,SNR=2.2						
LRAL	**Lakeview Retre**	**17.82**	**23**	*e*P	**P**	**16 55 12.3**	**+2.6**
	7.3nm,0.6s						
MIAR	**Mount Ida**	**17.82**	**4**	*e*P	**P**	**16 55 07.9**	**-1.8**
WMOK	**Wichita Mounta**	**18.27**	**350**	*e*P	**P**	**16 55 13.9**	**-1.0**
	3.5nm,0.4s						
OXF	**Oxford**	**18.45**	**15**	*e*P	**P**	**16 55 20.4**	**+3.5**
	18nm,0.5s						
SDV	**Santo Domingo**	**25.04**	**105**	P	**P**	**16 56 22.3**	**-0.8**
	1.9nm,0.3s,mb4.0,baz=315,slow=14,SNR=4.1						
SDV	**Santo Domingo**	**25.04**	**105**	P	**P**	**16 56 22.3**	**-0.8**
NVAR	**Mina Array Bea**	**29.73**	**321**	P	**P**	**16 57 06.7**	**+1.1**
	0.6nm,0.6s,mb3.4,baz=141,slow=9.8,SNR=4.4						
NVAR				pP	pP	16 57 28.7	-0.1
	0.2nm,0.3s,baz=152,slow=9.4,SNR=2.9						
NVAR				sP	sP	16 57 41.6	+0.8
	0.7nm,0.8s,baz=144,slow=9.3,SNR=2.7						
NVAR	**Mina Array Bea**	**29.73**	**321**	P	**P**	**16 57 06.7**	**+1.1**
NVAR				pP	pP	16 57 28.7	-0.1
NVAR				sP	sP	16 57 41.6	+0.8
LPAZ	**La Paz**	**42.19**	**140**	P	**P**	**16 58 52.1**	**+0.9**
	1.5nm,0.6s,mb3.9,baz=296,slow=14,SNR=4.5						
YKA	**Yellowknife Ar**	**47.76**	**348**	P	**P**	**16 59 33.6**	**-1.5**
	0.6nm,0.7s,mb3.5,baz=151,slow=7.5,SNR=13						
YKA				pP	pP	16 59 57.2	-2.6
	1.3nm,0.6s,baz=152,slow=7.4,SNR=15						
YKA	**Yellowknife Ar**	**47.76**	**348**	P	**P**	**16 59 33.6**	**-1.5**
YKA				pP	pP	16 59 57.2	-2.6
ILAR	**Eielson Array**	**59.21**	**337**	P	**P**	**17 00 58.0**	**-1.2**
	0.3nm,0.5s,mb3.6,baz=127,slow=5.4,SNR=9.9						
ILAR				pP	pP	17 01 22.4	-2.4
	0.8nm,0.7s,baz=160,slow=4.4,SNR=6.2						
PLCA	**Paso Flores**	**61.51**	**159**	P	**P**	**17 01 14.8**	**-0.4**
	2.3nm,0.9s,mb4.2,baz=342,slow=9.2,SNR=8.3						
ARCES	**ARCESS Array B**	**84.50**	**18**	P	**P**	**17 03 28.8**	**-0.1**
	4.3nm,0.9s,mb4.3,baz=329,slow=5.3,SNR=4.0						
DBIC	**Dimbokro**	**88.31**	**84**	P	**P**	**17 03 48.9**	**+0.1**
	1.1nm,0.5s,mb4.2,baz=313,slow=2.6,SNR=3.4						
WRA	**Warramunga Arr**	**133.12**	**258**	PKP	PKPdf	17 10 12.0	+0.6
	0.5nm,0.7s,baz=85,slow=2.6,SNR=11						

MAN 17 17:13:57.8, 9.82N×125.58E, h112km, mb4.2, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.10**	**247**	⇑*e*P	P	17 14 14.7	+1.3
MSLP	**Maasin**	**0.78**	**294**	*e*P	P	17 14 18.6	+1.4
MSLP				*e*S	S	17 14 35.5	+3.6
BUTP	**Butuan**	**0.85**	**177**	*e*P	P	17 14 18.5	+0.5
PLP	**Palo**	**1.46**	**336**	*e*P	P	17 14 24.6	-0.1
PLP				*i* S	S	17 14 45.2	+0.2
OCLP	**Ormoc**	**1.55**	**322**	*e*P	P	17 14 26.6	+0.7
LLP	**Lapu-Lapu**	**1.67**	**287**	*e*P	P	17 14 27.7	+0.5
LLP				*e*S	S	17 14 50.4	+1.1
TBP	**Tagbilaran**	**1.70**	**266**	*e*P	P	17 14 27.5	-0.1
TBP				*e*S	S	17 14 50.2	+0.2
BESP	**Borongan**	**1.77**	**355**	*e*P	P	17 14 27.9	-0.7
BESP				*e*S	S	17 14 53.1	+1.5
BUKP	**Musuan**	**2.00**	**195**	*e*P	P	17 14 31.2	-0.1
PVCP	**Virac**	**4.00**	**340**	*e*P	P	17 14 58.8	+0.4

*NEIC **17** 18:10:11.9±3.1, 16.11S×73.59W, h67km±28km, Error ellipse: s-maj=34.9km s-min=17.0km az=98.0*
NEIC Felt [III] at Caraveli.
*IDC **17** 18:10:13.8±4.8, 16.18S×73.93W, h91km±38km, mb3.8/4, mb1 3.7/6, mb1mx3.5/18, mbtmp4.0/6, MS3.1/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=37.5km s-min=31.3km az=48.0*

ISC 17 18:10:11.1±2.2, 16.1S±0.1×73.6W±0.1, h73km±19km, n12, σ0§53/16, mb3.9/4, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**2.06**	**100**	⇓*i*P	**P**	**18 10 44.5**	**+0.2**
ARE				*e*S	**S**	**18 11 09.0**	**+0.3**
LPAZ	**La Paz**	**5.26**	**93**	P	**P**	**18 11 33.9**	**+4.9**
	4.1nm,0.3s,baz=276,slow=10,SNR=102						
LPAZ				S	**S**	**18 12 39.7**	**+11**
	baz=230,slow=23,SNR=1.6						
LPAZ				LR	LR	18 13 53.1	
	comp=Z,193nm,19.9s,baz=269,slow=39						
LPAZ	**La Paz**	**5.26**	**93**	*e*Pn	**P**	**18 11 33.4**	**+4.5**
	29nm,0.6s						
LPAZ				S	**S**	**18 12 39.7**	**+11**
LPAZ				*e*Sn	**S**	**18 12 45.0**	**+16**
LPAZ				LR	LR	18 13 53.1	
SIV	**San Ignacio**	**12.05**	**91**	P	**P**	**18 13 00.6**	**-1.1**
	0.7nm,0.3s,baz=281,slow=13,SNR=10						
SIV				S	**S**	**18 15 15.0**	**+0.1**
	0.0nm,0.3s,baz=187,slow=21,SNR=2.2						
CFAA	**Coronel Fontan**	**16.18**	**163**	P	**P**	**18 13 55.2**	**0.0**
	0.0nm,0.3s,baz=334,slow=12,SNR=4.9						
CFAA	**Coronel Fontan**	**16.18**	**163**	P	**P**	**18 13 55.2**	**0.0**
SDV	**Santo Domingo**	**25.01**	**7**	P	**P**	**18 15 30.1**	**+0.1**
	2.9nm,0.4s,mb4.0,baz=219,slow=14,SNR=3.8						
DBIC	**Dimbokro**	**71.68**	**77**	P	**P**	**18 21 27.3**	**-0.3**
	1.3nm,0.5s,mb4.0,baz=253,slow=12,SNR=4.2						
DBIC	**Dimbokro**	**71.68**	**77**	P	**P**	**18 21 27.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**79.91**	**73**	P	**P**	**18 22 15.1**	**+0.8**
	2.2nm,0.5s,mb4.2,baz=265,slow=5.8,SNR=28						
YKA	**Yellowknife Ar**	**84.69**	**342**	P	**P**	**18 22 37.8**	**0.0**
	0.2nm,0.5s,mb3.3,baz=139,slow=6.3,SNR=4.5						
WRA	**Warramunga Arr**	**134.85**	**218**	PKP	PKPdf	18 29 23.5	+0.8
	0.3nm,0.8s,baz=139,slow=1.9,SNR=5.5						

*NEIC **17** 18:41:39.7±1.5, 1.44S×100.72E, h30km, mb4.3/1, Error ellipse: s-maj=68.3km s-min=15.3km az=48.0*
*IDC **17** 18:41:46.0±4.5, 1.30S×100.90E, h83km±31km, mb3.4/5, mb1 3.5/6, mb1mx3.3/16, mbtmp3.7/6, Error ellipse: s-maj=93.3km s-min=23.6km az=52.0*

ISC 17 18:41:42.1±3.8, 1.4S±0.3×100.7E±0.4, h70km±26km, n12, σ0§69/13, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.56**	**337**	P	**P**	**18 42 50.3**	**+0.1**
	3.5nm,0.3s,baz=150,slow=9.9,SNR=11						
PSI				S	**S**	**18 43 42.4**	**0.0**
	0.8nm,0.3s,baz=176,slow=16,SNR=2.4						
JIRN	**Jiri**	**32.11**	**335**	*e*P	**P**	**18 48 05.7**	**+0.6**
GUN	**Gumba**	**32.46**	**335**	*e*P	**P**	**18 48 07.8**	**-0.3**
DMN	**Daman**	**32.53**	**334**	*e*P	**P**	**18 48 10.2**	**+1.5**
GKN	**Gorkha**	**33.08**	**333**	*e*P	**P**	**18 48 12.4**	**-1.1**
KOLN	**Koldanda**	**33.36**	**332**	*e*P	**P**	**18 48 15.6**	**-0.3**
	5.3nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**37.70**	**121**	P	**P**	**18 48 52.7**	**-0.1**
	0.1nm,0.4s,mb3.0,baz=304,slow=8.9,SNR=3.4						
SONM	**Songino Array**	**49.32**	**5**	P	**P**	**18 50 26.1**	**-0.1**
	0.9nm,0.8s,mb3.7,baz=183,slow=8.6,SNR=4.8						
MKAR	**Makanchi Array**	**50.68**	**344**	P	**P**	**18 50 36.0**	**-0.5**
	0.5nm,0.3s,mb4.0,baz=159,slow=8.8,SNR=7.6						
AKTK	**Aktyubinsk**	**63.19**	**331**	P	**P**	**18 52 04.8**	**-0.5**
AKTO	**Aktyubinsk**	**63.19**	**331**	P	**P**	**18 52 04.8**	**-0.5**
	0.5nm,0.4s,mb3.8,baz=111,slow=8.6,SNR=3.5						
ARCES	**ARCESS Array B**	**86.18**	**340**	P	**P**	**18 54 17.8**	**+1.3**
	1.3nm,0.7s,mb4.0,baz=112,slow=4.9,SNR=5.8						

IGQ 17 18:44:26.3, 1.95S×79.16W, h12km±3km, mb4.1, 2C-3D, Error ellipse: s-maj=5.6km s-min=2.7km az=91.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGUA	**Igualata**	**0.69**	**49**	P	Pb	18 44 40.1	+0.4
IGUA				S	Sb	18 44 50.7	+1.8
CUSU	**Cusua**	**0.84**	**54**	P	Pb	18 44 42.5	+0.2
JUIV	**Juive**	**0.86**	**53**	P	Pb	18 44 43.0	+0.2
ULBA	**Ulba**	**0.89**	**57**	P	Pb	18 44 43.3	0.0
ULBA				S	Sb	18 44 55.8	+0.9
QIL1	**Quilotoa**	**1.11**	**11**	P	Pb	18 44 47.5	+0.4
CAMI	**Rancho Maria**	**1.42**	**27**	P	Pn	18 44 53.8	+1.7
VC1	**Cotopaxi 1**	**1.50**	**30**	⇑P	Pn	18 44 55.1	+1.9
ANTI	**Antisana**	**1.79**	**34**	P	Pn	18 44 59.7	+2.4
JUA2	**San Juan 2**	**1.81**	**18**	P	Pn	18 45 00.8	+3.2
TERV	**Terraza Guagua**	**1.84**	**17**	⇓P	Pn	18 45 01.4	+3.2
TERV				S	Sn	18 45 28.9	+7.4
GGP	**Refugio Guagua**	**1.84**	**18**	⇓P	Pn	18 45 01.3	+3.2
PINO	**Pino**	**1.86**	**17**	P	Pn	18 45 00.8	+2.4
YANA	**Yana**	**1.91**	**18**	⇓P	Pn	18 45 02.1	+3.1
MAG1	**Magdalena**	**1.96**	**342**	P	Pn	18 45 00.4	+0.6
CAYR	**Refugio Cayamb**	**2.26**	**31**	⇑P	Pn	18 45 07.7	+3.6
ANGU	**Angureal**	**2.29**	**30**	P	Pn	18 45 10.1	+5.6
COTA	**Cotacachi**	**2.41**	**20**	P	Pn	18 45 12.8	+6.6

*LDG **17** 19:10:31.3±0.1, 49.38N×6.92E, h1km, Md2.4/1, Ml2.5/8, Error ellipse: s-maj=1.0km s-min=0.8km az=116.0, Suspected Mining induced.*
*BGR **17** 19:10:31.8±0.6, 49.36N×6.88E, h1km, ML1.9/2, Error ellipse: s-maj=7.8km s-min=6.7km az=64.0*
*NEIC **17** 19:10:31.3, 49.36N×6.91E, h1km, ML2.5(LDG), ML1.9(STR), After STR.*
*CSEM **17** 19:10:31.5±0.1, 49.38N×6.90E, h2km, ML2.5/7, Error ellipse: s-maj=1.4km s-min=1.2km az=104.0*

ISC 17 19:10:29.9±0.4, 49.35N±0.02×6.86E±0.03, n19, σ0§79/37, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.38**	**20**	Pg	**Pg**	**19 10 37.9**	**+0.5**
RUP				Sg	**Sg**	**19 10 43.7**	**+1.3**
WLF	**Walferdange**	**0.56**	**305**	*e*Pg	**Pg**	**19 10 42.4**	**+1.3**
	SNR=1.9						
ABH	**Alteburg**	**0.69**	**40**	Pg	**Pg**	**19 10 43.5**	**-0.2**
CDF	**Champ du Feu**	**0.97**	**164**	*e*Pn	**Pn**	**19 10 50.8**	**+0.2**
CDF				*e*Sg	**Sg**	**19 11 02.6**	**+0.3**
	7.1nm,0.2s						
CDF	**Champ du Feu**	**0.97**	**164**	*e*Pg	**Pg**	**19 10 49.8**	**+0.5**
CDF				*e*Pn	**Pn**	**19 10 50.8**	**+0.2**
CDF				*e*Sg	**Sg**	**19 11 02.6**	**+0.3**
CDF	**Champ du Feu**	**0.97**	**164**	*e*Pn	**Pn**	**19 10 50.8**	**+0.2**
CDF				*e*Sg	**Sg**	**19 11 02.6**	**+0.3**
	3.5nm,0.2s						
ECH	**Echery**	**1.15**	**170**	Pg	**Pg**	**19 10 53.9**	**+1.1**
ECH				Sg	**Sg**	**19 11 09.2**	**+1.0**
THEF	**They Montfort**	**1.26**	**208**	Pg	**Pg**	**19 10 55.6**	**+0.5**
THEF				Sg	**Sg**	**19 11 12.5**	**+0.6**
TOD	**Tromm**	**1.29**	**78**	Pg	**Pg**	**19 10 54.5**	**-1.1**
TOD				Sg	**Sg**	**19 11 12.5**	**-0.4**
TNS	**Taunus Mts**	**1.35**	**49**	*e*Pg	**Pg**	**19 10 56.3**	**-0.5**
	SNR=1.7						
TNS				*e*Sg	**Sg**	**19 11 14.2**	**-0.5**
	SNR=3.7						
HAU	**Haudompre**	**1.39**	**194**	*e*Pg	**Pg**	**19 10 57.8**	**+0.2**
HAU				*e*Sg	**Sg**	**19 11 16.2**	**+0.2**
	8.3nm,0.2s						
BFO	**Black Forest**	**1.41**	**136**	*e*Pg	**Pg**	**19 10 58.3**	**+0.4**
	SNR=2.7						
BFO				*e*Sg	**Sg**	**19 11 15.9**	**-0.8**
	SNR=7.7						
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**19 10 59.7**	**+0.6**
MEZF				*e*Sg	**Sg**	**19 11 19.0**	**+0.4**
	3.6nm,0.2s						
MOF	**Molkenrain**	**1.51**	**173**	Pg	**Pg**	**19 11 00.3**	**+0.3**
MOF				Sg	**Sg**	**19 11 20.1**	**0.0**
GIVF	**Givet**	**1.52**	**300**	*e*Pn	**Pn**	**19 10 58.4**	**-0.1**
GIVF				*e*Sg	**Sg**	**19 11 20.0**	**-0.6**
	8.5nm,0.4s						
HINF	**Hinteralfeld**	**1.53**	**180**	*e*Pg	**Pg**	**19 11 00.6**	**+0.1**
HINF				*e*Sg	**Sg**	**19 11 20.4**	**-0.5**
	18nm,0.2s						
SFTF	**Sexfontaines**	**1.66**	**227**	*e*Pg	**Pg**	**19 11 03.0**	**-0.1**
SFTF				*e*Sg	**Sg**	**19 11 25.3**	**0.0**
	2.6nm,0.2s						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**19 11 17.0**	**-1.0**
LOR				*e*Sn	**Sn**	**19 11 51.2**	**-2.8**
LOR				*e*Sg	**Sg**	**19 12 03.5**	**-2.6**
	2.8nm,0.3s						
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn	**Pn**	**19 11 40.7**	**-0.5**
	SNR=3.7						

JMA 17 19:23:41.4±0.3, 31.68N×140.96E, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.72**	**326**	P	Pn	19 24 13.0	+0.1
JHJ2				*e*S	Sb	19 24 36.0	+0.1
BSO1	**Boso 1**	**2.96**	**0**	P	Pn	19 24 31.3	+0.7
BSO3	**Boso 3**	**3.14**	**353**	P	Pn	19 24 33.1	+0.1

	SNR=4.0						
ETOS	**Mallorca**	**2.75**	**352**	P	**Pn**	**19 56 30.7**	**+1.2**
ETOS				S	**Sn**	**19 57 02.7**	**-0.4**
EBEN	**Beniarda**	**3.25**	**302**	P	**Pn**	**19 56 38.0**	**+1.3**
	0.4nm,0.1s,SNR=7.8						
EBEN				S	**Sn**	**19 57 15.6**	**-0.2**
	2.2nm,0.2s						
EBEN	**Beniarda**	**3.25**	**302**	P	**Pn**	**19 56 38.0**	**+1.3**
EBEN				S	**Sn**	**19 57 15.6**	**-0.2**
EMOS	**Mosqueruela**	**4.44**	**319**	P	**Pn**	**19 56 54.6**	**+1.0**
	0.6nm,0.1s,SNR=4.0						
EMOS				S	**Sn**	**19 57 45.4**	**-0.6**
	0.4nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**4.44**	**319**	P	**Pn**	**19 56 54.6**	**+1.0**
EMOS				S	**Sn**	**19 57 44.0**	**-2.0**
EMOS	**Mosqueruela**	**4.44**	**319**	P	**Pn**	**19 56 54.6**	**+1.0**
EMOS				S	**Sn**	**19 57 44.0**	**-2.0**
EPOB	**Poblet**	**4.64**	**339**	P	**Pn**	**19 56 58.4**	**+2.0**
	0.5nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**19 57 50.2**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.64**	**339**	P	**Pn**	**19 56 58.4**	**+2.0**
EPOB				S	**Sn**	**19 57 48.0**	**-2.9**
EPOB	**Poblet**	**4.64**	**339**	P	**Pn**	**19 56 58.4**	**+2.0**
EPOB				S	**Sn**	**19 57 48.0**	**-2.9**
EMIR	**Miracle**	**5.05**	**345**	P	**Pn**	**19 57 00.8**	**-1.4**
	1.3nm,0.1s,SNR=4.0						
EMIR				S	**Sn**	**19 57 59.4**	**-2.1**
	3.0nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.05**	**345**	P	**Pn**	**19 57 00.9**	**-1.4**
EMIR				S	**Sn**	**19 57 59.4**	**-2.1**
EQES	**Quesada**	**5.14**	**280**	P	**Pn**	**19 57 04.2**	**+0.8**
	0.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**19 58 05.2**	**+1.7**
	SNR=7.9						
EQES	**Quesada**	**5.14**	**280**	P	**Pn**	**19 57 04.2**	**+0.8**
EQES				S	**Sn**	**19 58 05.2**	**+1.7**
EJON	**La Jonquera**	**5.41**	**357**	P	**Pn**	**19 57 07.7**	**+0.4**
	1.4nm,0.2s,SNR=7.9						
EJON				S	**Sn**	**19 58 07.5**	**-2.8**
	0.9nm,0.2s,SNR=4.0						
EJON	**La Jonquera**	**5.41**	**357**	P	**Pn**	**19 57 07.7**	**+0.5**
ESDC	**Sonseca Array**	**6.29**	**297**	P	**Pn**	**19 57 20.2**	**+0.5**
	1.1nm,0.2s,baz=108,slow=14,SNR=4.0						
ESDC	**Sonseca Array**	**6.29**	**297**	P	**Pn**	**19 57 20.2**	**+0.5**

IDC ***17*** *19:59:29.0±0.8, 6.74N×72.99W, h153km±13km, mb3.1/4, mb1 3.5/6, mb1mx3.2/20, mbtmp3.7/6, Error ellipse: s-maj=38.1km s-min=7.5km az=132.0*

NEIC ***17*** *19:59:30.1±0.8, 6.74N×72.96W, h166km±12km, mb4.4/3, Error ellipse: s-maj=33.4km s-min=13.0km az=129.0*

ISC 17 19:59:27.1±1.7,6.4N±0.3×72.7W±0.4,h184km±18km,n11, σ1§25/14,mb3.7/6,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.27**	**226**	P	**P**	**20 00 10.3**	**+2.4**
	19nm,0.3s,baz=98,slow=23,SNR=20						
ROSC				S	**S**	**20 00 38.8**	**-0.5**
	36nm,0.3s,baz=272,slow=24,SNR=18						
SDV	**Santo Domingo**	**3.17**	**40**	P	**P**	**20 00 20.2**	**+1.5**
	16nm,0.3s,baz=216,slow=2.2,SNR=115						
SDV				S	**S**	**20 00 57.2**	**-1.1**
	12nm,0.3s,baz=268,slow=22,SNR=17						
SDV	**Santo Domingo**	**3.17**	**40**	*e*Pn	**P**	**20 00 20.1**	**+1.4**
SDV				*e*Sn	**S**	**20 00 56.5**	**-1.8**
SDV				S	**S**	**20 00 57.2**	**-1.1**
OTAV	**Otavalo**	**8.43**	**223**	P	**P**	**20 01 24.4**	**-2.5**
	2.5nm,0.6s						
WCI	**Wyandotte Cave**	**33.97**	**341**	*e*P	**P**	**20 05 48.2**	**-6.9**
	8.9nm,0.6s,mb4.7						
TXAR	**Lajitas Array**	**37.04**	**312**	P	**P**	**20 06 20.8**	**-0.2**
	0.2nm,0.4s,mb3.1,baz=131,slow=9.1,SNR=4.3						
ULM	**Lac du Bonnet**	**47.79**	**340**	P	**P**	**20 07 47.4**	**-0.2**
	0.7nm,0.4s,mb3.7,baz=157,slow=7.7,SNR=3.3						
PDAR	**Pinedale Array**	**48.64**	**324**	P	**P**	**20 07 54.4**	**+0.1**
	0.2nm,0.4s,mb3.1,baz=148,slow=8.5,SNR=3.4						
EGMT	**Eagleton**	**52.06**	**329**	*e*P	**P**	**20 08 15.3**	**-4.7**
	3.6nm,0.4s,mb4.3						
YKA	**Yellowknife Ar**	**63.77**	**340**	P	**P**	**20 09 41.8**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=132,slow=6.6,SNR=18						
WRA	**Warramunga Arr**	**150.53**	**240**	PKPbc	PKPdf	20 19 02.9	+11
	0.2nm,0.4s,baz=108,slow=2.7,SNR=12						

IDC ***17*** *20:33:18.9±0.7, 10.82N×126.19E, mb4.1/9, mb1 4.3/9, mb1mx4.2/15, mbtmp4.1/9, MS3.4/2, Ms1 3.4/2, ms1mx3.0/25, Error ellipse: s-maj=56.6km s-min=18.0km az=70.0*

MAN ***17*** *20:33:20.1, 10.91N×126.48E, h4km, mb4.9, ML3.8, MS3.8*

NEIC ***17*** *20:33:23.6±0.5, 10.88N×126.17E, h30km, mb4.7/8, Error ellipse: s-maj=19.0km s-min=8.8km az=66.0*

ISC 17 20:33:23.1±1.2,10.91N±0.04×126.47E±0.08,h46km±9km, n42,σ1§08/42,mb4.4/17,MS3.4/1,2C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.48**	**221**⇑	*e*P	**P**	**20 33 46.5**	**-1.4**
PLP	**Palo**	**1.49**	**280**	*e*P	**P**	**20 33 46.5**	**-1.4**
PLP				*i* S	**S**	**20 34 08.3**	**+2.0**
MSLP	**Maasin**	**1.77**	**244**	*e*P	**P**	**20 33 50.9**	**-0.9**
OCLP	**Ormoc**	**1.84**	**274**	*e*P	**P**	**20 33 53.1**	**+0.3**
BUTP	**Butuan**	**2.11**	**204**	*e*P	**P**	**20 33 56.6**	**0.0**
BUTP				*e*S	**S**	**20 34 21.5**	**-0.2**
CNP	**Catarman**	**2.38**	**312**	*e*P	**P**	**20 34 00.2**	**-0.3**
LLP	**Lapu-Lapu**	**2.54**	**257**⇓	*e*P	**P**	**20 34 02.5**	**-0.3**
LLP				*e*S	**S**	**20 34 33.9**	**+1.3**
CGP	**Cagayan de Oro**	**3.01**	**216**⇓	*e*P	**P**	**20 34 09.0**	**-0.5**
CGP				*e*S	**S**	**20 34 45.0**	**+0.4**
BUKP	**Musuan**	**3.32**	**205**	*e*P	**P**	**20 34 14.7**	**+0.8**
PVCP	**Virac**	**3.50**	**320**	*e*P	**P**	**20 34 15.8**	**-0.6**
RCP	**Roxas**	**3.71**	**280**⇑	*e*P	**P**	**20 34 20.7**	**+1.2**
GUIM	**Jordan**	**3.83**	**266**	*e*P	**P**	**20 34 21.3**	**+0.3**
PAGZ	**Pagadian**	**4.31**	**225**	*e*P	**P**	**20 34 27.2**	**-0.7**
OTRP	**Odiongan**	**4.59**	**289**	*e*P	**P**	**20 34 33.3**	**+1.4**
GUMO	**Guam**	**18.17**	**80**	LR	LR	20 44 00.6	
	comp=Z,108nm,18.6s,baz=242,slow=35						
WRA	**Warramunga Arr**	**31.62**	**166**	P	**P**	**20 39 42.3**	**-1.9**
	1.1nm,0.6s,mb3.8,baz=347,slow=9.0,SNR=6.5						
WRA				PcP	PcP	20 42 35.4	-0.2
	1.1nm,0.8s,baz=343,slow=3.0,SNR=7.3						
LSA	**Lhasa**	**37.82**	**305**	*e*P	**P**	**20 40 35.9**	**-1.2**
HNR	**Honiara**	**38.95**	**120**	LR	LR	20 54 29.9	
	comp=Z,55nm,18.9s,MS3.4,baz=176,slow=32						
SONM	**Songino Array**	**40.49**	**339**	P	**P**	**20 40 59.6**	**+0.6**
	1.2nm,0.9s,mb3.6,baz=156,slow=10,SNR=5.9						
SONM				PcP	PcP	20 43 02.0	+0.4
	0.6nm,0.7s,baz=199,slow=3.1,SNR=3.7						
JIRN	**Jiri**	**41.28**	**300**	*e*P	**P**	**20 41 05.1**	**-0.7**
FORT	**Forrest**	**41.48**	**178**	*e*P	**P**	**20 41 09.4**	**+2.0**
	10.0nm,0.5s,mb4.7						
GUN	**Gumba**	**41.62**	**300**	*e*P	**P**	**20 41 07.3**	**-1.3**
	15nm,0.7s,mb4.7						
KKN	**Kakani**	**42.10**	**299**	*e*P	**P**	**20 41 11.0**	**-1.5**
	13nm,1.1s,mb4.5						
DMN	**Daman**	**42.20**	**299**	*e*P	**P**	**20 41 12.2**	**-1.2**
GKN	**Gorkha**	**42.70**	**300**	*e*P	**P**	**20 41 16.2**	**-1.3**
KLBR	**Kellerberrin**	**43.08**	**191**	*e*P	**P**	**20 41 20.5**	**-0.1**
	8.2nm,0.5s,mb4.7						
KOLN	**Koldanda**	**43.53**	**299**	*e*P	**P**	**20 41 23.2**	**-1.1**
	13nm,1.0s,mb4.6						
NWAO	**Narrogin (SRO)**	**44.48**	**191**	*e*P	**P**	**20 41 32.3**	**+0.5**
	9.7nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**44.94**	**162**	*e*P	**P**	**20 41 36.3**	**+0.7**
	8.1nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**44.94**	**162**	P	**P**	**20 41 37.4**	**+1.8**
	12nm,0.9s,mb4.7,baz=337,slow=6.8,SNR=13						
STKA	**Stephens Creek**	**44.94**	**162**	*e*P	**P**	**20 41 36.3**	**+0.8**
MKAR	**Makanchi Array**	**51.64**	**322**	P	**P**	**20 42 27.6**	**+0.3**
	4.7nm,0.8s,mb4.5,baz=121,slow=8.2,SNR=44						
ZRNK	**Zerenda**	**62.01**	**325**	*e*P	**P**	**20 43 40.9**	**0.0**
	6.4nm,1.0s,mb4.7						
ZRNK				*e*pP	pP	20 43 43.9	-10
ZRNK				PcP	PcP	20 44 15.9	-4.9
ILAR	**Eielson Array**	**78.78**	**26**	P	**P**	**20 45 23.8**	**+1.5**
	0.4nm,0.7s,mb3.5,baz=232,slow=4.7,SNR=4.1						
ARCES	**ARCESS Array B**	**83.66**	**340**	P	**P**	**20 45 49.6**	**+1.9**
	5.7nm,1.0s,mb4.7,baz=80,slow=7.4,SNR=11						
KAF	**Kangasniemi**	**85.15**	**332**	*e*p	**P**	**20 45 54.6**	**-0.7**
	4.9nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**85.42**	**332**	P	**P**	**20 45 57.3**	**+0.6**
	2.0nm,0.6s,mb4.4,baz=89,slow=4.9,SNR=17						

AKASG	**Malin Array Be**	**86.19**	**321**	P	**P**	**20 46 00.7**	**-0.1**
	0.2nm,0.4s,mb3.7,baz=60,slow=5.3,SNR=4.3						
YKA	**Yellowknife Ar**	**93.09**	**24**	P	**P**	**20 46 35.8**	**+2.8**
	0.5nm,0.8s,mb4.0,baz=300,slow=4.4,SNR=7.1						
YKA	**Yellowknife Ar**	**93.09**	**24**	P	**P**	**20 46 35.8**	**+2.8**
TORD	**Torodi Ar. Bea**	**120.21**	**292**	PKP	PKPdf	20 52 11.1	+1.0
	0.4nm,0.7s,baz=60,slow=0.9,SNR=5.7						
PLCA	**Paso Flores**	**146.71**	**156**	PKPbc	PKPbc	20 53 02.6	+2.6
	5.3nm,1.0s,baz=202,slow=1.9,SNR=7.2						

NEIC ***17*** *20:44:31.0±1.3, 19.14S×69.14W, h121km±15km, mb4.1/1, Error ellipse: s-maj=17.7km s-min=15.2km az=65.0*

IDC ***17*** *20:44:32.5±2.4, 19.14S×69.05W, h132km±18km, mb3.5/6, mb1 3.6/8, mb1mx3.4/17, mbtmp4.0/8, Error ellipse: s-maj=25.0km s-min=19.7km az=67.0*

ISC 17 20:44:30.5±1.3,19.2S±0.1×69.15W±0.09,h134km±14km, n12,σ1§28/15,mb3.7/5,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.02**	**19**	P	**P**	**20 45 20.0**	**+1.7**
	11nm,0.3s,baz=203,slow=7.2,SNR=307						
LPAZ				S	**S**	**20 45 56.1**	**+1.3**
	baz=142,slow=19,SNR=1.2						
LPAZ	**La Paz**	**3.02**	**19**	P	**P**	**20 45 20.0**	**+1.7**
LPAZ				S	**S**	**20 45 56.1**	**+1.3**
LPAZ				*e*Sn	**S**	**20 46 00.8**	**+5.9**
ARE	**Arequipa**	**3.49**	**320**	*e*P	**P**	**20 45 23.0**	**-1.6**
SIV	**San Ignacio**	**8.32**	**69**	P	**P**	**20 46 27.3**	**-2.2**
	1.5nm,0.3s,baz=265,slow=9.8,SNR=29						
SIV				S	**S**	**20 48 02.2**	**0.0**
	0.1nm,0.3s,baz=235,slow=19,SNR=3.5						
TRQA	**Tornquist**	**19.83**	**163**	*e*P	**P**	**20 48 52.2**	**-0.6**
	5.9nm,0.6s						
BDFB	**Brasilia**	**20.47**	**83**	P	**P**	**20 48 59.7**	**+0.2**
	1.5nm,0.5s,baz=270,slow=6.1,SNR=3.2						
PLCA	**Paso Flores**	**21.53**	**183**	P	**P**	**20 49 11.4**	**+1.6**
	2.1nm,0.9s,mb3.6,baz=14,slow=10,SNR=3.8						
SDV	**Santo Domingo**	**27.91**	**357**	P	**P**	**20 50 08.6**	**-1.7**
	3.6nm,0.5s,mb4.4,baz=270,slow=12,SNR=2.9						
DBIC	**Dimbokro**	**68.31**	**74**	P	**P**	**20 55 19.5**	**-0.2**
	2.5nm,0.8s,mb4.0,baz=220,slow=3.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**76.80**	**71**	P	**P**	**20 56 09.3**	**-0.2**
	0.2nm,0.4s,mb3.1,baz=249,slow=5.2,SNR=10.0						
YKA	**Yellowknife Ar**	**88.92**	**341**	P	**P**	**20 57 12.1**	**+1.7**
	0.6nm,0.7s,mb3.6,baz=130,slow=4.8,SNR=9.0						
SONM	**Songino Array**	**151.17**	**6**	PKPbc	PKPdf	21 04 10.7	+9.1
	0.6nm,0.8s,baz=326,slow=2.3,SNR=4.0						

WEL 17 20:48:31.1±0.5,39.17S×175.05E,h206km±3km,ML3.7/6, 1D,Error ellipse: s-maj=6.3km s-min=3.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WNVZ	**Wahianoa**	**0.46**	**111**	PN	P	20 48 58.8	-0.3
WAZ	**Wanganui**	**0.59**	**184**	*e*PN	P	20 48 59.2	-0.4
WAZ				SN	S	20 49 21.0	-0.6
MOVZ	**Moawhango**	**0.60**	**114**	PN	P	20 48 59.0	-0.6
MOVZ				SN	S	20 49 19.8	-1.9
BKZ	**Black Stump Fm**	**1.12**	**91**	PN	P	20 49 02.1	-0.5
TSZ	**Takapari Road**	**1.14**	**142**	PN	P	20 49 03.0	+0.3
MRZ	**Mangatainoka R**	**1.55**	**165**	PN	P	20 49 05.7	-0.5
MRZ				SN	S	20 49 31.7	-1.5
KIW	**Kapiti Island**	**1.70**	**183**	PN	P	20 49 06.5	-1.0
BFZ	**Birch Farm**	**1.77**	**149**	PN	P	20 49 08.0	-0.2
BFZ				SN	S	20 49 36.6	-0.2
DUWZ	**D'Urville Isla**	**1.85**	**207**	PN	P	20 49 07.0	-2.0
URZ	**Urewera**	**1.85**	**61**	PN	P	20 49 06.7	-2.3
URZ				SN	S	20 49 34.3	-3.9
CAW	**Cannon Point**	**1.94**	**179**	PN	P	20 49 08.9	-0.9
CAW				SN	S	20 49 37.7	-1.9
MTW	**Mount Morrison**	**2.02**	**170**	PN	P	20 49 09.7	-1.0
KNZ	**Kokohu**	**2.05**	**87**	PN	P	20 49 10.4	-0.6
MRW	**Makara Radio**	**2.08**	**187**	PN	P	20 49 10.0	-1.3
TCW	**Tory Channel**	**2.13**	**196**	PN	P	20 49 10.4	-1.4
SNZO	**South Karori**	**2.16**	**187**	PN	P	20 49 10.7	-1.4
MSWZ	**Moikau Station**	**2.25**	**176**	PN	P	20 49 11.8	-1.3
NNZ	**Nelson**	**2.42**	**211**	PN	P	20 49 12.1	-2.8
NNZ				SN	S	20 49 44.6	-4.1
TUWZ	**Tuamarina**	**2.42**	**200**	PN	P	20 49 13.3	-1.6
QRZ	**Quartz Range**	**2.55**	**229**	⇓PN	P	20 49 12.3	-4.1
BSWZ	**Blackbirch Sta**	**2.70**	**199**	PN	P	20 49 16.6	-1.5
THZ	**Tophouse**	**3.07**	**212**	*e*PN	P	20 49 19.0	-3.3
KHZ	**Kahutara**	**3.44**	**199**	PN	P	20 49 24.7	-2.1
DSZ	**Denniston Nort**	**3.57**	**223**	*e*PN	P	20 49 24.0	-4.5
DSZ				SN	S	20 50 05.3	-7.5
LTZ	**Lake Taylor**	**4.18**	**209**	PN	P	20 49 32.3	-3.7
MQZ	**McQueen's Vall**	**4.88**	**201**	SN	S	20 50 34.4	-7.6

LDG ***17*** *21:10:55.8±0.0, 44.46N×2.92E, h3km, Md2.4/2, Ml2.3/16, Error ellipse: s-maj=0.8km s-min=0.7km az=128.0*

NEIC ***17*** *21:10:56.7, 44.47N×3.07E, h5km, ML2.6(STR), ML2.3(LDG), After STR.*

STR 17 21:10:56.7±0.3,44.47N×3.07E,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0,France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LASF	**Ste Croix**	**0.69**	**125**	*e*Pn	Pn	21 11 12.1	-0.7
LASF				*e*Sg	Sg	21 11 20.4	+0.7
LASF				*e*Sn	Sn	21 11 23.6	-0.3
	37nm,0.2s						
LASF	**Ste Croix**	**0.69**	**125**	*e*Pg	Pg	21 11 10.3	-0.2
LASF				*e*Pn	Pn	21 11 12.1	-0.7
LASF				*e*Sg	Sg	21 11 20.4	+0.7
LASF				*e*Sn	Sn	21 11 23.6	-0.3
LBL	**Lubilhac**	**0.77**	**9**	Pg	Pg	21 11 11.3	-0.8
LBL				Sg	Sg	21 11 22.2	-0.3
CAF	**Calviac**	**0.85**	**303**	*e*Pn	Pn	21 11 12.2	-2.9
CAF				*e*Sg	Sg	21 11 20.5	-4.5
	12nm,0.2s						
CAF	**Calviac**	**0.85**	**303**	*e*Pg	Pg	21 11 10.3	-3.4
CAF				*e*Pn	Pn	21 11 12.2	-2.9
CAF				*e*Sg	Sg	21 11 20.5	-4.5
COLF	**Collangettes**	**1.14**	**23**	Pg	Pg	21 11 18.1	-1.3
COLF				Sg	Sg	21 11 33.8	-0.8
VIVF	**Saint-Julien-l**	**1.21**	**71**	*e*Pg	Pg	21 11 20.5	-0.3
VIVF				*e*Sg	Sg	21 11 37.5	+0.6
	7.6nm,0.3s						
VIVF	**Saint-Julien-l**	**1.21**	**71**	*e*Pn	Pn	21 11 19.4	-0.8
VIVF				*e*Pg	Pg	21 11 20.5	-0.3
VIVF				*e*Sg	Sg	21 11 37.5	+0.6
MTLF	**Montolieu**	**1.29**	**209**	*e*Pg	Pg	21 11 18.8	-3.6
MTLF				*e*Sg	Sg	21 11 34.3	-5.2
	19nm,0.2s						
RJF	**Les Rejaudoux**	**1.38**	**308**	*e*Pg	Pg	21 11 20.2	-4.1
RJF				*e*Sn	Sn	21 11 36.2	-5.4
	16nm,0.2s						
RJF				*e*Sg	Sg	21 11 37.2	-5.6
RJF	**Les Rejaudoux**	**1.38**	**308**	*e*Pn	Pn	21 11 19.5	-3.2
RJF				*e*Pg	Pg	21 11 20.2	-4.1
RJF				*e*Sn	Sn	21 11 36.2	-5.4
RJF				*e*Sg	Sg	21 11 37.2	-5.6
PLDF	**La Plantade**	**1.55**	**14**	Pg	Pg	21 11 25.5	-2.1
PLDF				Sg	Sg	21 11 45.5	-2.8
AGO	**Saint Agoulin**	**1.58**	**2**	Pg	Pg	21 11 26.6	-1.7
AGO				Sg	Sg	21 11 48.1	-1.3
LFF	**La Frestale**	**1.73**	**287**	*e*Pg	Pg	21 11 26.0	-5.2
LFF				*e*Sn	Sn	21 11 43.9	-6.4
LFF				*e*Sg	Sg	21 11 46.0	-8.2
	15nm,0.3s						
LFF	**La Frestale**	**1.73**	**287**	*e*Pn	Pn	21 11 24.2	-3.4
LFF				*e*Pg	Pg	21 11 26.0	-5.2
LFF				*e*Sn	Sn	21 11 43.9	-6.4
LFF				*e*Sg	Sg	21 11 46.0	-8.2
TCF	**Toulx Ste Croi**	**1.92**	**342**	*e*Pg	Pg	21 11 31.2	-3.8
TCF				*e*Sg	Sg	21 11 55.6	-4.9
	3.8nm,0.2s						
BGF	**Bois d'Agland**	**2.09**	**356**	*e*Pg	Pg	21 11 34.9	-3.6
BGF				*e*Sg	Sg	21 12 02.0	-4.4
	6.5nm,0.3s						
BGF	**Bois d'Agland**	**2.09**	**356**	*e*Pn	Pn	21 11 30.1	-2.8
BGF				*e*Pg	Pg	21 11 34.9	-3.6
BGF				*e*Sg	Sg	21 12 02.0	-4.4
SMF	**Signal de Mont**	**2.24**	**14**	*e*Pg	Pg	21 11 38.0	-3.5
SMF				*e*Sn	Sn	21 11 59.1	-4.3
SMF				*e*Sg	Sg	21 12 06.6	-4.8
	3.0nm,0.2s						
SMF	**Signal de Mont**	**2.24**	**14**	*e*Pn	Pn	21 11 32.5	-2.5
SMF				*e*Pg	Pg	21 11 38.0	-3.5
SMF				*e*Sn	Sn	21 11 59.1	-4.3
SMF				*e*Sg	Sg	21 12 06.6	-4.8
AVF	**Avril sur Loir**	**2.33**	**5**	*e*Pg	Pg	21 11 39.1	-4.1
AVF				*e*Sn	Sn	21 12 01.0	-4.6
AVF				*e*Sg	Sg	21 12 09.3	-5.0
	1.1nm,0.2s						
AVF	**Avril sur Loir**	**2.33**	**5**	*e*Pn	Pn	21 11 32.8	-3.5
AVF				*e*Pg	Pg	21 11 39.1	-4.1
AVF				*e*Sn	Sn	21 12 01.0	-4.6
AVF				*e*Sg	Sg	21 12 09.3	-5.0
EPF	**Esparros**	**2.45**	**235**	*e*Pg	Pg	21 11 39.5	-6.0
EPF				*e*Sg	Sg	21 12 09.8	-8.3
	1.9nm,0.2s						
EPF	**Esparros**	**2.45**	**235**	*e*Pn	Pn	21 11 33.9	-4.0
EPF				*e*Pg	Pg	21 11 39.5	-6.0
EPF				*e*Sg	Sg	21 12 09.8	-8.3
SSF	**Saint Saulge**	**2.61**	**7**	*e*Sg	Sg	21 12 17.8	-5.8
	1.5nm,0.3s						
LOR	**Lormes**	**2.85**	**11**	*e*Pn	Pn	21 11 40.9	-2.8
LOR				*e*Sg	Sg	21 12 24.6	-7.1
	1.4nm,0.2s						
CABF	**La Chapelle**	**3.01**	**44**	*e*Pg	Pg	21 11 53.1	-3.8
CABF				*e*Sg	Sg	21 12 32.6	-4.4
	0.9nm,0.3s						
ETSF	**Etsaut**	**3.06**	**240**	*e*Pg	Pg	21 11 50.8	-7.1
ETSF				*e*Sg	Sg	21 12 29.1	-10
	0.5nm,0.2s						
MFF	**Saint Martin d**	**3.11**	**314**	*e*Pn	Pn	21 11 42.6	-4.8
MFF				*e*Sg	Sg	21 12 31.8	-8.3
	1.9nm,0.3s						
HAU	**Haudompre**	**4.20**	**32**	*e*Sg	Sg	21 13 09.8	-6.9
	1.3nm,0.3s						

NDI ***17*** *21:12:38.1±3.9, 34.40N×73.50E, h10km, ML4.1, mb3.9(NEIC)*

IDC ***17*** *21:12:38.9±1.0, 34.08N×73.72E, mb4.1/10, mb1 4.3/13, mb1mx4.1/20, mbtmp4.1/13, ML4.3/3, MS3.2/2, Ms1 3.3/2, ms1mx2.7/25, Error ellipse: s-maj=23.6km s-min=20.2km az=23.0*

NEIC ***17*** *21:12:40.0±0.5, 34.01N×73.77E, h10km, mb3.9/6, Error ellipse: s-maj=12.0km s-min=4.7km az=48.0*

BJI ***17*** *21:12:41.5, 34.21N×74.08E, h5km, mb4.3, ML4.3, Ms4.5*

MOS ***17*** *21:12:42.4±1.6, 34.17N×74.01E, h33km, mb4.4/11, Error ellipse: s-maj=13.7km s-min=6.1km az=100.2*

NNC ***17*** *21:12:46.3±3.4, 34.50N×73.02E, mb4.1, mpv4.4, Error ellipse: s-maj=38.7km s-min=22.7km az=141.0*

ISC 17 21:12:40.0±0.2,34.15N±0.02×73.81E±0.04,h10km,n113, σ1§60/142,mb4.1/13,MS3.2/2,15C-7D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**0.67**	**223**	⇓P	**Pb**	**21 12 56.7**	**+3.4**
SRNI	**Srinagar**	**0.86**	**93**	*e*P	**Pb**	**21 12 57.6**	**+1.0**
SRNI				*ex*	x	21 13 07.9	
CEP	**Cherat**	**1.61**	**259**	P	**Pn**	**21 13 11.0**	**+2.2**
JMU	**Jammu**	**1.69**	**147**	*e*P	**Pn**	**21 13 13.5**	**+3.6**
JMU				*e*S	**Sn**	**21 13 37.5**	**+5.7**
THW	**Thamme Wali**	**2.19**	**233**	⇑P	**Pn**	**21 13 19.2**	**+2.1**
THN	**Thein Dam**	**2.34**	**136**	*e*P	**Pn**	**21 13 22.8**	**+3.6**
THN				*e*S	**Sn**	**21 13 54.7**	**+6.5**
DLH	**Dalhousie**	**2.42**	**131**	*e*P	**Pn**	**21 13 24.0**	**+3.8**
DLH				*e*S	**Sn**	**21 13 57.0**	**+6.9**
SARP	**Sargodha**	**2.42**	**204**	P	**Pn**	**21 13 21.5**	**+1.2**
SARP				S	**Sn**	**21 13 52.0**	**+1.7**
SBDP	**Sheikh Budin**	**3.12**	**235**	P	**Pn**	**21 13 33.8**	**+3.5**
SDNR	**Sundarnagar**	**3.75**	**134**	*e*P	**Pn**	**21 13 40.2**	**+1.0**
SDNR				*ex*	x	21 13 50.2	
DRP	**Derazinda**	**3.87**	**233**	P	**Pn**	**21 13 42.0**	**+1.1**
SMLA	**Simla**	**4.13**	**136**	*e*P	**Pn**	**21 13 46.8**	**+2.1**
SMLA				*e*S	**Sn**	**21 14 36.3**	**+2.6**
KLP	**Kalpa**	**4.56**	**124**	*e*P	**Pn**	**21 13 53.0**	**+2.3**

GKN				*e*Sn	**S**	**21 17 18.3**	**-9.3**
	comp=Z,106nm,0.5s							
GKN	**Gorkha**	**11.12**	**121**	*e*Pn	**P**	**21 15 18.6**	**-3.6**
	comp=Z,53nm,0.5s							
GKN				*e*Sn	**S**	**21 17 18.3**	**-9.3**
BHPL	**Bhopal**	**11.32**	**163**	*e*P	**P**	**21 15 23.0**	**-2.0**
BHPL				AMb	AMB	21 15 24.9	
	comp=Z,4.5nm,0.2s							
BHPL				*e*S	**S**	**21 17 23.7**	**-8.9**
BHPL				AML	AML	21 17 26.1	
	comp=N,21nm,0.5s							
BHPL				AML	AML	21 17 26.1	
	comp=E,27nm,0.3s							
DMN	**Daman**	**11.69**	**121**	*e*Pn	**P**	**21 15 26.1**	**-3.8**
DMN				*e*Sn	**S**	**21 17 32.1**	**-9.3**
	comp=E,66nm,0.7s							
DMN	**Daman**	**11.69**	**121**	*e*Pn	**P**	**21 15 26.1**	**-3.8**
	comp=E,33nm,0.7s							
DMN				*e*Sn	**S**	**21 17 32.1**	**-9.3**
KKN	**Kakani**	**11.70**	**120**	*e*Pn	**P**	**21 15 26.3**	**-3.8**
KKN				*e*Sn	**S**	**21 17 31.0**	**-11**
	comp=E,56nm,0.6s							
KKN	**Kakani**	**11.70**	**120**	*e*P	**P**	**21 15 26.3**	**-3.8**
KKN				*e*		21 17 31.0		
KKN				pmax	pmax			
	comp=Z,28nm,0.6s							
KKN	**Kakani**	**11.70**	**120**	*e*Pn	**P**	**21 15 26.3**	**-3.8**
	comp=Z,28nm,0.6s							
KKN				*e*Sn	**S**	**21 17 31.0**	**-11**
PKI	**Pulchoki**	**11.92**	**120**	*e*Pn	**P**	**21 15 28.8**	**-4.3**
PKI				*e*Sn	**S**	**21 17 37.5**	**-10**
	comp=Z,41nm,0.5s							
PKI	**Pulchoki**	**11.92**	**120**	*e*P	**P**	**21 15 28.8**	**-4.3**
PKI				*e*		21 17 37.5		
PKI				pmax	pmax			
	comp=Z,21nm,0.5s							
PKI	**Pulchoki**	**11.92**	**120**	*e*Pn	**P**	**21 15 28.8**	**-4.3**
	comp=Z,21nm,0.5s							
PKI				*e*Sn	**S**	**21 17 37.5**	**-10**
GUN	**Gumba**	**12.07**	**118**	*e*Pn	**P**	**21 15 32.3**	**-2.8**
GUN				*e*Sn	**S**	**21 17 40.6**	**-10**
JIRN	**Jiri**	**12.44**	**118**	*e*Pn	**P**	**21 15 36.3**	**-3.7**
JIRN				*e*Sn	**S**	**21 17 49.7**	**-10**
	comp=Z,59nm,0.4s							
JIRN	**Jiri**	**12.44**	**118**	*e*Pn	**P**	**21 15 36.3**	**-3.7**
	comp=Z,30nm,0.4s							
JIRN				*e*Sn	**S**	**21 17 49.7**	**-10**
MK31	**Makanchi Array**	**14.17**	**24**	⇑P	**P**	**21 16 03.1**	**+0.3**
	comp=Z,6.3nm,0.9s,baz=207,slow=14,SNR=49							
MK31	**Makanchi Array**	**14.17**	**24**	⇑P	**P**	**21 16 03.1**	**+0.3**
MK31				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MK31	**Makanchi Array**	**14.17**	**24**	⇑P	**P**	**21 16 03.1**	**+0.3**
	comp=Z,6.3nm,0.9s							
MKAR	**Makanchi Array**	**14.17**	**24**	Pn	**P**	**21 16 01.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=226,slow=17,SNR=16							
MKAR				Sn	**S**	**21 18 41.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=213,slow=24,SNR=4.0							
LSA	**Lhasa**	**15.37**	**102**	P	**P**	**21 16 16.4**	**-2.3**
LATR	**Latur**	**15.86**	**170**	*ex*	x	21 19 09.8		
KURK	**Kurchatov**	**16.92**	**11**	⇑P	**P**	**21 16 36.7**	**-1.6**
	comp=Z,5.4nm,1.0s							
KURK	**Kurchatov**	**16.92**	**11**	⇑P	**P**	**21 16 36.7**	**-1.6**
HYB	**Hyderabad**	**17.20**	**165**	*i* P	**P**	**21 16 44.5**	**+2.5**
HYB				*e*S	**S**	**21 20 01.0**	**+9.0**
HYB	**Hyderabad**	**17.20**	**165**	*e*P	**P**	**21 16 44.5**	**+2.5**
HYB				*e*S	**S**	**21 19 36.5**	**-15**
AB31	**Akbulak array**	**18.26**	**330**	⇑P	**P**	**21 16 54.8**	**-0.2**
	comp=Z,1.6nm,0.5s							
AB31	**Akbulak array**	**18.26**	**330**	P	**P**	**21 16 54.8**	**-0.3**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.4s							
VOSK	**Vostochnaya**	**18.68**	**355**	⇑P	**P**	**21 16 59.7**	**-0.5**
	comp=Z,4.8nm,0.7s							
VOSK	**Vostochnaya**	**18.68**	**355**	P	**P**	**21 16 59.7**	**-0.5**
VOSK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
VOSK	**Vostochnaya**	**18.68**	**355**	⇑P	**P**	**21 16 59.7**	**-0.5**
	comp=Z,4.8nm,0.7s							
BVA0	**Borovoye Array**	**19.02**	**354**	⇑P	**P**	**21 17 04.2**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=154,slow=9.9,SNR=36							
BVA0	**Borovoye Array**	**19.02**	**354**	⇑P	**P**	**21 17 04.2**	**-0.2**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BVA0	**Borovoye Array**	**19.02**	**354**	⇑P	**P**	**21 17 04.2**	**-0.2**
	comp=Z,1.1nm,0.6s							
BVAR	**Borovoye Array**	**19.02**	**354**	P	**P**	**21 17 04.0**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=155,slow=8.9,SNR=22							
BVAR	**Borovoye Array**	**19.02**	**354**	P	**P**	**21 17 04.0**	**-0.4**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ZRNK	**Zerenda**	**19.11**	**351**	⇓P	**P**	**21 17 05.1**	**-0.2**
	comp=Z,3.5nm,0.6s							
ZRNK	**Zerenda**	**19.11**	**351**	*e*P	**P**	**21 17 04.7**	**-0.6**
ZRNK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ZRNK	**Zerenda**	**19.11**	**351**	*e*P	**P**	**21 17 04.7**	**-0.6**
	comp=Z,4.8nm,0.6s							
AKTK	**Aktyubinsk**	**19.96**	**329**	⇑P	**P**	**21 17 14.3**	**-0.8**
AKTO	**Aktyubinsk**	**19.96**	**329**	⇑P	**P**	**21 17 14.3**	**-0.8**
	comp=Z,1.5nm,0.3s							
AKTO	**Aktyubinsk**	**19.96**	**329**	P	**P**	**21 17 14.2**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=132,slow=10,SNR=33							
AKTO	**Aktyubinsk**	**19.96**	**329**	P	**P**	**21 17 14.2**	**-0.9**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.3s							
GTA	**Gaotai**	**21.45**	**68**	P	**P**	**21 17 30.8**	**+0.3**
GTA				AP		21 17 34.8		
GTA				XP		21 17 37.8		
NVS	**Novosibirsk**	**21.71**	**15**	*e*P	**P**	**21 17 34.0**	**+1.0**
NVS				*e*		21 21 22.6		
GNI	**Garni**	**23.87**	**293**	P	**P**	**21 17 58.1**	**+3.7**
	comp=Z,10nm,1.0s,mb4.2,baz=9.2,slow=1.1,SNR=5.1							
GNI	**Garni**	**23.87**	**293**	P	**P**	**21 17 58.1**	**+3.8**
GNI				pmax	pmax			
	comp=Z,11nm,1.0s							
ARU	**Arti**	**24.62**	**339**	*e*P	**P**	**21 18 01.5**	**+0.1**
KIV	**Kislovodsk**	**25.95**	**301**	*e*P	**P**	**21 18 14.7**	**+0.6**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.1							
KMI	**Kunming**	**26.63**	**102**	P	**P**	**21 18 21.8**	**+1.1**
ZAK	**Zakamensk**	**26.94**	**44**	*e*P	**P**	**21 18 18.4**	**-4.8**
SONM	**Songino Array**	**27.91**	**51**	P	**P**	**21 18 32.6**	**+0.6**
	comp=Z,1.4nm,1.0s,mb3.5,baz=260,slow=9.9,SNR=5.9							
SONM	**Songino Array**	**27.91**	**51**	P	**P**	**21 18 32.6**	**+0.6**
SONM				pmax	pmax			
	comp=Z,1.0nm,1.0s							
AKASG	**Malin Array Be**	**36.21**	**311**	P	**P**	**21 19 43.3**	**-1.4**
	comp=Z,0.7nm,0.3s,mb4.0,baz=82,slow=7.5,SNR=8.0							
AKASG	**Malin Array Be**	**36.21**	**311**	P	**P**	**21 19 43.3**	**-1.4**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**40.71**	**327**	P	**P**	**21 20 20.9**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=127,slow=10,SNR=8.1							
FINES	**FINESS Array B**	**40.71**	**327**	P	**P**	**21 20 21.0**	**-1.1**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ARCES	**ARCESS Array B**	**44.19**	**338**	P	**P**	**21 20 49.9**	**-0.5**
	comp=Z,5.4nm,1.0s,mb4.2,baz=115,slow=8.5,SNR=18							
ARCES				LR	LR	21 39 25.8		
	comp=Z,62nm,19.1s,MS3.5,baz=45,slow=36							
ARCES	**ARCESS Array B**	**44.19**	**338**	P	**P**	**21 20 49.9**	**-0.4**
ARCES				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ARCES				MLR	MLR			
	comp=Z,62nm,19.1s							
NB2	**NORSAR Subarra**	**47.63**	**324**	P	**P**	**21 21 16.3**	**-1.5**
	comp=Z,1.9nm,0.6s,mb4.3,baz=93,slow=7.4							
NB2	**NORSAR Subarra**	**47.63**	**324**	P	**P**	**21 21 16.3**	**-1.5**
NB2				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
NOA	**NORSAR Array B**	**47.63**	**324**	P	**P**	**21 21 15.6**	**-2.2**
	comp=Z,3.1nm,0.7s,mb4.4,baz=94,slow=7.6,SNR=8.0							
NOA				LR	LR	21 41 47.8		
	comp=Z,12nm,20.2s,MS2.9,baz=350,slow=37							
NOA	**NORSAR Array B**	**47.63**	**324**	P	**P**	**21 21 15.6**	**-2.2**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
NOA				MLR	MLR			
	comp=Z,13nm,20.2s							
VLC	**Villacollemand**	**49.08**	**302**	*e*P	**P**	**21 21 26.1**	**-3.2**
	comp=Z,163nm,1.8s							
ESDC	**Sonseca Array**	**60.60**	**300**	P	**P**	**21 22 51.4**	**-1.8**
	comp=Z,1.5nm,0.8s,mb4.2,baz=54,slow=7.2,SNR=4.8							
TORD	**Torodi Ar. Bea**	**68.02**	**271**	P	**P**	**21 23 39.9**	**-2.0**
	comp=Z,3.0nm,0.4s,mb4.7,baz=47,slow=5.8,SNR=121							
TNA	**Tin City**	**69.83**	**23**	*e*P	**P**	**21 23 48.0**	**-4.3**
INK	**Inuvik**	**75.83**	**10**	*e*P	**P**	**21 24 26.2**	**-1.3**
INK				pmax	pmax			
	comp=Z,11nm,2.0s							
INK	**Inuvik**	**75.83**	**10**	*e*P	**P**	**21 24 26.2**	**-1.3**
	comp=Z,11nm,2.0s,mb4.4							
ILAR	**Eielson Array**	**76.39**	**17**	P	**P**	**21 24 28.7**	**-2.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=299,slow=5.0,SNR=7.3							
WRA	**Warramunga Arr**	**78.79**	**123**	P	**P**	**21 24 44.4**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.4,baz=322,slow=5.3,SNR=65							
WRA	**Warramunga Arr**	**78.79**	**123**	P	**P**	**21 24 44.4**	**-0.4**
WRA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
WB2	**Warramunga Arr**	**78.80**	**123**	*e*P	**P**	**21 24 44.1**	**-0.8**
YKA	**Yellowknife Ar**	**83.45**	**4**	P	**P**	**21 25 08.3**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.5,baz=346,slow=5.3,SNR=10							

IDC ***17*** *21:47:17.9±0.9, 78.36N×20.05W, mb3.7/11, mb1 3.9/14, mb1mx3.7/27, mbtmp3.8/14, ML2.9/1, Error ellipse: s-maj=28.7km s-min=14.3km az=12.0*
CSEM ***17*** *21:47:19.3±0.1, 78.50N×20.50W, h30km, mb3.8/2, Error ellipse: s-maj=4.5km s-min=2.9km az=2.0*
NEIC ***17*** *21:47:21.3±3.5, 78.48N×19.76W, h25km±27km, mb3.9/3, Error ellipse: s-maj=13.9km s-min=7.5km az=174.0*
NAO ***17*** *21:47:23.5±7.0, 78.37N×17.88W, ML3.3*

ISC 17 21:47:16.8±0.5, 78.58N±0.06×20.2W±0.2, h10km, n34, σ1°23/43, mb3.7/12, 1C, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAG	**Danmarks Havn**	**1.85**	**169**	⇑*i*	P	**Pn**		**21 47 51.6**	**+2.6**
	28nm,0.3s								
DAG				*i*				21 48 16.0	
KBS	**Kingsbay**	**6.24**	**71**	Pn		**Pn**		**21 48 50.5**	**-0.7**
KBS				Sn		**Sn**		**21 49 55.6**	**-7.8**
KBS	**Kingsbay**	**6.24**	**71**	*e*P		**Pn**		**21 48 51.1**	**-0.1**
	23nm,1.0s								
KBS				*e*Sn		**Sn**		**21 49 53.6**	**-10**
KBS	**Kingsbay**	**6.24**	**71**	*e*P		**Pn**		**21 48 51.1**	**-0.1**
	23nm,1.0s								
KBS				Sn		**Sn**		**21 49 55.6**	**-7.8**
SPA0	**Spitsbergen Ar**	**7.31**	**75**	Pn		**Pn**		**21 49 05.2**	**-1.0**
	baz=300,slow=12								
SPA0				Sn		**Sn**		**21 50 23.4**	**-6.7**
	baz=332,slow=18								
SUMG	**Summit**	**7.51**	**226**	*e*Pn		**Pn**		**21 49 09.7**	**+0.7**
	16nm,0.4s								
SUMG				*e*Sn		**Sn**		**21 50 33.9**	**-1.2**
SCO	**Scoresbysund**	**8.16**	**184**	*i* P		**P**		**21 49 17.6**	**-0.5**
SCO				*e*S		**Sn**		**21 50 52.3**	**+0.9**
SCO	**Scoresbysund**	**8.16**	**184**	*e*P		**P**		**21 49 17.6**	**-0.5**
SCO				*e*S		**Sn**		**21 50 52.3**	**+0.9**
SFJD	**Kangerlussuaq**	**14.39**	**233**	Pn		**P**		**21 50 39.1**	**-3.0**
	2.4nm,0.3s,baz=18,slow=5.3,SNR=12								
SFJD				Sn		**S**		**21 53 09.4**	**-13**
	1.4nm,0.3s,baz=130,slow=5.9,SNR=3.1								
SFJD	**Kangerlussuaq**	**14.39**	**233**	*i* P		**P**		**21 50 37.9**	**-4.2**
SFJD				*i* S		**S**		**21 53 11.8**	**-11**
ARA0	**ARCESS Array S**	**14.93**	**102**	P		**P**		**21 50 50.2**	**+1.1**
	baz=342,slow=7.4								
ARCES	**ARCESS Array B**	**14.93**	**102**	Pn		**P**		**21 50 47.0**	**-2.1**
	0.1nm,0.3s,baz=329,slow=13,SNR=2.5								
KEV	**Kevo**	**15.04**	**100**	*ep*		**P**		**21 50 55.8**	**+5.3**
	6.6nm,0.9s								
KEV	**Kevo**	**15.04**	**100**	*e*P		**P**		**21 50 57.1**	**+6.6**
	352nm,2.3s								
RES	**Resolute Bay**	**16.52**	**296**	*e*Pn		**P**		**21 51 07.3**	**-2.3**
	4.9nm,0.5s								
RES	**Resolute Bay**	**16.52**	**296**	*e*Pn		**P**		**21 51 07.3**	**-2.4**
	4.9nm,0.5s								
NOA	**NORSAR Array B**	**20.15**	**133**	P		**P**		**21 51 50.8**	**-2.7**
	0.1nm,0.3s,baz=302,slow=6.9,SNR=3.3								
FRB	**Frobisher Bay**	**20.51**	**251**	P		**P**		**21 51 56.6**	**-0.7**
	5.3nm,0.8s,baz=36,slow=9.6,SNR=3.9								
HFS	**Hagfors**	**21.39**	**130**	P		**P**		**21 52 07.1**	**+0.9**
	baz=12,slow=6.9								
HFS	**Hagfors**	**21.39**	**130**	P		**P**		**21 52 04.6**	**-1.7**
	3.5nm,0.8s,mb3.8,baz=326,slow=5.3,SNR=6.2								
KAF	**Kangasniemi**	**21.67**	**112**	*ep*		**P**		**21 52 09.1**	**0.0**
	5.2nm,0.8s,mb4.0								
FIA0	**FINESS Array S**	**22.25**	**113**	P		**P**		**21 52 15.4**	**+0.5**
	baz=346,slow=10								
FINES	**FINESS Array B**	**22.25**	**113**	P		**P**		**21 52 14.4**	**-0.5**
	3.5nm,0.6s,mb4.0,baz=344,slow=9.9,SNR=41								
EKA	**Eskdalemuir Ar**	**24.07**	**156**	P		**P**		**21 52 32.1**	**-0.4**
	2.4nm,1.0s,mb3.6,baz=350,slow=8.6,SNR=3.5								
SCHQ	**Schefferville**	**28.55**	**242**	P		**P**		**21 53 14.5**	**+0.5**
	4.0nm,1.1s,mb4.1,baz=357,slow=7.5,SNR=5.2								
YKA	**Yellowknife Ar**	**30.59**	**295**	P		**P**		**21 53 34.3**	**+2.0**
	0.1nm,0.4s,mb3.0,baz=19,slow=8.6,SNR=7.0								
YKA	**Yellowknife Ar**	**30.59**	**295**	P		**P**		**21 53 34.3**	**+2.0**
ZRNK	**Zerenda**	**38.57**	**76**	*e*P		**P**		**21 54 42.0**	**+1.1**
	1.2nm,0.6s,mb3.8								
ZRNK	**Zerenda**	**38.57**	**76**	*e*P		**P**		**21 54 42.0**	**+1.2**
	1.2nm,0.6s,mb3.8								
BRTR	**Keskin Array B**	**44.40**	**117**	P		**P**		**21 55 29.0**	**+0.3**
	0.6nm,0.8s,mb3.4,baz=333,slow=8.3,SNR=2.6								
MKAR	**Makanchi Array**	**46.97**	**67**	P		**P**		**21 55 50.1**	**+1.1**
	0.4nm,0.4s,mb3.8,baz=358,slow=5.0,SNR=25								
PDAR	**Pinedale Array**	**48.34**	**280**	P		**P**		**21 56 00.8**	**+0.9**
	0.2nm,0.5s,mb3.4,baz=8.1,slow=13,SNR=3.0								
TXAR	**Lajitas Array**	**60.17**	**270**	P		**P**		**21 57 27.3**	**+0.7**
	0.2nm,0.5s,mb3.4,baz=39,slow=4.6,SNR=3.5								
TORD	**Torodi Ar. Bea**	**66.33**	**157**	P		**P**		**21 58 07.1**	**-0.2**
	0.9nm,0.8s,mb3.9,baz=4.0,slow=5.7,SNR=11								

MOS 17 21:49:35.0±1.4, 42.94N×47.07E, h8km, mb3.7/1, 1C-1D, Error ellipse: s-maj=27.4km s-min=18.6km az=79.6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUJR	**Buynaksk**	**0.12**	**166**	*e*P	G	Pg		21 49 38.6	+0.8
BUJR				pmax	pmax				
	comp=Z,69nm,0.1s								
KRNR	**Karanay**	**0.17**	**227**	⇑*i*P	G	Pg		21 49 39.3	+0.7
KRNR				*i* S		Sg		21 49 42.5	+1.5
KRNR				pmax	pmax				
	comp=Z,30nm,0.2s								
DBC	**Dubki**	**0.19**	**294**	*i* P	G	Pg		21 49 39.6	+0.5
DBC				*i* S		Sg		21 49 43.2	+1.3
UNCR	**Uncukul**	**0.30**	**222**	⇓*i*P	G	Pg		21 49 42.0	+0.8
UNCR				*i* S		Sg		21 49 47.2	+1.8
UNCR				pmax	pmax				
	comp=Z,36nm,0.2s								
MAK	**Makhachkala**	**0.32**	**86**	*e*PG		Pg		21 49 50.0	+8.5
KMKR	**Kumukh**	**0.81**	**178**	PG		Pg		21 49 53.8	+2.6
KMKR				*e*S		Sb		21 50 08.3	+6.6
KMKR				pmax	pmax				
	comp=Z,13nm,0.2s								

NEIC ***17*** *22:08:58.2, 16.45N×99.43W, h14km, MD3.9(MEX), After MEX.*

MEX 17 22:08:58.5±1.0, 16.52N×99.40W, h14km±13km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.60**	**305**	*i* P		Pb		22 09 08.0	-2.3
ACX				*i* S		Sb		22 09 16.0	-2.3
CAIG	**El Cayaco**	**0.98**	**302**	*i* P		Pb		22 09 14.8	-1.9
CAIG				*i* S		Sb		22 09 26.9	-2.4
CAIG	**El Cayaco**	**0.98**	**302**	*i* P		Pb		22 09 14.8	-1.9
CAIG				*i* S		Sb		22 09 29.2	-0.2
PNIG	**Pinotepa**	**1.23**	**96**	*i* P		Pb		22 09 18.2	-2.9
PNIG				*i* S		Sb		22 09 32.4	-4.2
PLIG	**Platanillo**	**1.86**	**357**	*i* P		Pn		22 09 27.2	-3.2
PLIG				*i* S		Sn		22 09 49.3	-4.5
PLIG	**Platanillo**	**1.86**	**357**	*i* P		Pn		22 09 28.2	-2.1
PLIG				*i* S		Sn		22 09 51.8	-2.0
VHO	**Vista Hermosa**	**2.61**	**78**	*e*P		Pn		22 09 37.9	-3.2
VHO				*i* S		Sn		22 10 08.2	-4.7
VHO	**Vista Hermosa**	**2.61**	**78**	*e*P		Pn		22 09 39.5	-1.6
OXX	**Oaxaca**	**2.62**	**77**	*e*P		Pn		22 09 40.0	-1.3
OXX				*e*S		Sn		22 10 12.0	-1.2
OXX	**Oaxaca**	**2.62**	**77**	*e*P		Pn		22 09 43.0	+1.7
OXX				*e*S		Sn		22 10 05.0	-8.2
PPM	**Popocatepetl**	**2.64**	**16**	*i* P		Pn		22 09 38.9	-2.5
PPM				*e*P				22 09 40.0	
PPM				*i* S		Sn		22 10 10.3	-3.2
PPM	**Popocatepetl**	**2.64**	**16**	*i* P		Pn		22 09 41.4	-0.1
TUIG	**Tuzandepetl**	**4.99**	**72**	*i* S		Sn		22 11 09.7	-3.3

NNC 17 22:58:29.8±7.8, 39.04N×69.47E, h27km±23km, mb3.8, mpv3.5,5C-2D, Error ellipse: s-maj=52.5km s-min=38.1km az=156.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.13**	**11**	⇑Pn		Pn		22 59 31.0	-1.9
	9.2nm,0.8s,baz=170,slow=9.0,SNR=76								
KK31				Pg		Pn		22 59 46.1	+13
	8.3nm,0.8s,baz=189,slow=18,SNR=22								
KK31				⇑Sn		Sn		23 00 25.8	+4.8
	2.7nm,0.4s,baz=209,slow=36,SNR=3.8								
KK31				⇑Lg				23 00 41.5	
	14nm,0.7s,baz=195,slow=26,SNR=5.5								
TKM2	**Tokmak 2**	**6.04**	**48**	⇑Sn		Sn		23 01 05.2	-3.8
	3.5nm,0.8s								
TKM2				⇓Lg				23 01 36.6	
	6.7nm,0.9s								
AB31	**Akbulak array**	**12.28**	**329**	⇓Pn		P		23 01 23.1	-2.7
	0.4nm,0.4s								
AB31				⇑Sn		S		23 03 35.6	-7.2
	0.7nm,0.4s								

IGQ ***17*** *23:12:28.1,2.41S×79.95W, h16km±5km, mb4.5, Error ellipse: s-maj=6.6km s-min=2.5km az=91.8*
IDC ***17*** *23:12:34.7±8.2,2.02S×79.57W, h95km±77km, mb3.4/6, mb1 3.8/8, mb1mx3.6/19, mbtmp3.8/8, ML4.1/2, MS3.2/2, Ms1 3.1/2, ms1mx2.8/16, Error ellipse: s-maj=67.9km s-min=20.5km az=57.0*
NEIC ***17*** *23:12:37.4±2.0,2.00S×79.47W, h124km±18km, mb4.4/3, Error ellipse: s-maj=28.2km s-min=10.0km az=58.0*

ISC 17 23:12:29.9±0.9, 2.45S±0.07×80.11W±0.06, h73km±8km, n34, σ0°94/36, mb3.9/8, 11C-2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.92**	**286**	P		**P**		**23 12 47.5**	**-0.4**
IGUA	**Igualata**	**1.75**	**57**	⇑P		**P**		**23 12 57.8**	**-1.0**
CUSU	**Cusua**	**1.91**	**59**	⇑P		**P**		**23 13 00.4**	**-0.5**
JUIV	**Juive**	**1.93**	**58**	P		**P**		**23 13 00.5**	**-0.8**
ULBA	**Ulba**	**1.96**	**60**	P		**P**		**23 13 01.2**	**-0.6**
JAMA	**Jama**	**2.17**	**357**	P		**P**		**23 13 05.7**	**+1.0**
JAMA				S		**S**		**23 13 33.0**	**+2.5**
CAMI	**Rancho Maria**	**2.38**	**42**	⇓P		**P**		**23 13 08.3**	**+0.7**
MAG1	**Magdalena**	**2.38**	**8**	P		**P**		**23 13 05.8**	**-1.9**
VC1	**Cotopaxi 1**	**2.47**	**44**	⇑P		**P**		**23 13 09.6**	**+0.7**
JUA2	**San Juan 2**	**2.68**	**34**	⇑P		**P**		**23 13 11.8**	**0.0**
TERV	**Terraza Guagua**	**2.71**	**34**	⇑P		**P**		**23 13 12.1**	**-0.1**
TERV				S		**S**		**23 13 43.8**	**-0.1**
GGP	**Refugio Guagua**	**2.72**	**34**	⇑P		**P**		**23 13 12.0**	**-0.3**
PINO	**Pino**	**2.72**	**33**	⇑P		**P**		**23 13 12.2**	**-0.3**
YANA	**Yana**	**2.77**	**34**	⇑P		**P**		**23 13 12.8**	**-0.3**
ANTI	**Antisana**	**2.78**	**44**	⇑P		**P**		**23 13 13.9**	**+0.6**
OTAV	**Otavalo**	**3.14**	**32**	*e*Pn		**P**		**23 13 17.4**	**-0.9**
OTAV				*e*S		**S**		**23 13 50.6**	**-4.1**
CAYR	**Refugio Cayamb**	**3.22**	**41**	⇑P		**P**		**23 13 20.4**	**+1.0**
ANGU	**Angureal**	**3.25**	**40**	⇓P		**P**		**23 13 20.4**	**+0.6**
CAYA	**Cayambe**	**3.27**	**40**	P		**P**		**23 13 20.5**	**+0.3**
COTA	**Cotacachi**	**3.28**	**33**	⇑P		**P**		**23 13 20.3**	**+0.1**
COTA				S		**S**		**23 14 06.4**	**+8.2**
SDV	**Santo Domingo**	**14.69**	**40**	P		**P**		**23 15 49.7**	**-5.6**
	0.4nm,0.3s,baz=215,slow=18,SNR=3.4								
LPAZ	**La Paz**	**18.11**	**140**	P		**P**		**23 16 38.9**	**+0.7**
	0.4nm,0.3s,baz=316,slow=10,SNR=18								
LPAZ	**La Paz**	**18.11**	**140**	*e*P		**P**		**23 16 39.3**	**+1.1**
	3.3nm,0.7s								
SIV	**San Ignacio**	**23.07**	**127**	P		**P**		**23 17 31.3**	**+1.3**
	0.8nm,0.4s,mb3.4,baz=302,slow=12,SNR=7.1								
BDFB	**Brasilia**	**34.22**	**114**	LR

RCP	**Roxas**	**1.59**	**25**⇑	*e*P		Pn	00 24 24.8	+0.4
RCP				*e*S		Sb	00 24 45.8	+0.5
LLP	**Lapu-Lapu**	**1.90**	**84**	*e*P		Pn	00 24 28.1	-0.7
LLP				*e*S		Sn	00 24 50.0	-3.4
DCPH	**Dipolog City**	**1.99**	**140**⇓	*e*P		Pn	00 24 29.3	-0.8
DCPH				*e*S		Sn	00 24 55.4	-0.4
OTRP	**Odiongan**	**2.23**	**359**	*e*P		Pn	00 24 32.1	-1.5
IPIL	**Ipil**	**2.37**	**167**	*e*P		Pn	00 24 35.2	-0.3
IPIL				*e*S		Sn	00 25 00.9	-4.4
BUSP	**Coron**	**2.61**	**316**	*e*P		Pn	00 24 37.8	-1.2
PAGZ	**Pagadian**	**2.61**	**150**	*e*P		Pn	00 24 39.7	+0.7
MSLP	**Maasin**	**2.77**	**89**	*e*P		Pn	00 24 41.3	0.0
ENPP	**El Nido**	**2.80**	**293**	*e*P		Pn	00 24 40.8	-0.8

*CRAAG **18** 00:30:44.8,36.45N×3.20E,MI3.4*
*MDD **18** 00:30:46.8±0.6,36.51N×3.18E,mb4.0/10,Error ellipse: s-maj=7.5km s-min=4.8km az=116.0,PRXIMO*
*CSEM **18** 00:30:46.0±0.1,36.52N×3.21E,h5km,ML3.4,Error ellipse: s-maj=2.7km s-min=1.7km az=133.0*
*NEIC **18** 00:30:48.7,36.67N×3.11E,MG3.7(MDD),After MDD.*
ISC 18 00:30:47.5±0.8,36.70N±0.04×3.05E±0.06,h10km,n38,
σ1§04/65,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.10**	**353**	P	**Pg**	**00 30 53.0**	**+2.8**
ABMS	**Boumerdes**	**0.35**	**82**	P	**Pg**	**00 30 53.2**	**-1.5**
EMHD	**Djebel Mahouad**	**0.51**	**189**	P	**Pg**	**00 30 53.0**	**-4.8**
EBNR	**Beni Rached**	**1.29**	**252**	P	**Pb**	**00 31 12.0**	**+0.6**
ECHA	**Ech Chlef**	**1.47**	**248**	P	**Pn**	**00 31 14.0**	**-0.1**
ECHF	**Ech Chlef**	**1.48**	**249**	P	**Pn**	**00 31 14.0**	**-0.4**
EANR	**'Ain N'Sour**	**1.74**	**245**	P	**Pn**	**00 31 22.0**	**+3.9**
ETRT	**Tiaret**	**1.93**	**228**	P	**Pn**	**00 31 20.0**	**-0.8**
EIBI	**Ibiza**	**2.68**	**330**	Pn	**Pn**	**00 31 32.8**	**+1.2**
	3.0nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**00 32 05.0**	**+0.5**
	3.0nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.68**	**330**	Pn	**Pn**	**00 31 32.3**	**+0.8**
EIBI				Sn	**Sn**	**00 32 05.0**	**+0.5**
EIBI	**Ibiza**	**2.68**	**330**	Pn	**Pn**	**00 31 32.3**	**+0.8**
EIBI				Sn	**Sn**	**00 32 05.0**	**+0.6**
ETOS	**Mallorca**	**3.06**	**357**	Pn	**Pn**	**00 31 37.2**	**+0.3**
	2.2nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**00 32 13.3**	**-0.7**
	2.7nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.06**	**357**	Pn	**Pn**	**00 31 36.5**	**-0.5**
ETOS				Sn	**Sn**	**00 32 14.4**	**+0.4**
ETOS	**Mallorca**	**3.06**	**357**	Pn	**Pn**	**00 31 36.5**	**-0.5**
ETOS				Sn	**Sn**	**00 32 14.4**	**+0.3**
EBEN	**Beniarda**	**3.28**	**309**	Pn	**Pn**	**00 31 40.1**	**+0.2**
	3.4nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**00 32 20.2**	**+0.8**
	0.7nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.28**	**309**	Pn	**Pn**	**00 31 40.1**	**+0.2**
EBEN				Sn	**Sn**	**00 32 18.7**	**-0.8**
EBEN	**Beniarda**	**3.28**	**309**	Pn	**Pn**	**00 31 40.1**	**+0.1**
EBEN				Sn	**Sn**	**00 32 18.7**	**-0.7**
EMUR	**La Murta**	**3.60**	**290**	Pn	**Pn**	**00 31 44.4**	**-0.2**
	1.0nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**00 32 27.5**	**-0.2**
	4.7nm,0.4s,SNR=4.0						
EMUR	**La Murta**	**3.60**	**290**	Pn	**Pn**	**00 31 44.3**	**-0.3**
EMUR				Sn	**Sn**	**00 32 27.5**	**-0.2**
EMUR	**La Murta**	**3.60**	**290**	Pn	**Pn**	**00 31 44.3**	**-0.3**
EMUR				Sn	**Sn**	**00 32 27.5**	**-0.3**
EMOS	**Mosqueruela**	**4.58**	**324**	Pn	**Pn**	**00 31 59.2**	**+0.7**
	2.2nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**00 32 51.8**	**-0.7**
	0.8nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.58**	**324**	Pn	**Pn**	**00 31 59.2**	**+0.7**
EMOS				Sn	**Sn**	**00 32 52.4**	**-0.1**
EMOS	**Mosqueruela**	**4.58**	**324**	Pn	**Pn**	**00 31 59.2**	**+0.7**
EMOS				Sn	**Sn**	**00 32 52.4**	**0.0**
EBER	**Berja**	**4.77**	**274**	Pn	**Pn**	**00 32 02.1**	**+0.9**
	0.4nm,0.2s,SNR=4.0						
EBER				Sn	**Sn**	**00 32 55.7**	**-1.6**
	1.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.77**	**274**	Pn	**Pn**	**00 32 02.9**	**+1.7**
EBER				Sn	**Sn**	**00 32 53.4**	**-3.8**
EBER	**Berja**	**4.77**	**274**	Pn	**Pn**	**00 32 02.9**	**+1.7**
EBER				Sn	**Sn**	**00 32 53.4**	**-3.8**
EPOB	**Poblet**	**4.89**	**342**	Pn	**Pn**	**00 32 03.6**	**+0.7**
	1.0nm,0.3s,SNR=7.9						
EPOB				Sn	**Sn**	**00 32 58.0**	**-2.2**
	0.5nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**4.89**	**342**	Pn	**Pn**	**00 32 03.9**	**+1.0**
EPOB				Sn	**Sn**	**00 32 57.6**	**-2.6**
EPOB	**Poblet**	**4.89**	**342**	Pn	**Pn**	**00 32 03.9**	**+1.0**
EPOB				Sn	**Sn**	**00 32 57.6**	**-2.6**
EQES	**Quesada**	**5.00**	**285**	Pn	**Pn**	**00 32 05.5**	**+1.0**
	1.0nm,0.3s,SNR=7.9						
EQES				Sn	**Sn**	**00 33 03.1**	**0.0**
	1.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.00**	**285**	Pn	**Pn**	**00 32 05.4**	**+0.9**
EQES				Sn	**Sn**	**00 33 01.9**	**-1.3**
EQES	**Quesada**	**5.00**	**285**	Pn	**Pn**	**00 32 05.4**	**+0.9**
EQES				Sn	**Sn**	**00 33 01.9**	**-1.2**
EMIR	**Miracle**	**5.34**	**348**	Pn	**Pn**	**00 32 10.2**	**+1.0**
	4.7nm,0.2s,SNR=7.9						
EMIR				Sn	**Sn**	**00 33 08.6**	**-2.8**
	1.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.34**	**348**	Pn	**Pn**	**00 32 10.4**	**+1.3**
EMIR				Sn	**Sn**	**00 33 07.9**	**-3.6**
EMIR	**Miracle**	**5.34**	**348**	Pn	**Pn**	**00 32 10.4**	**+1.2**
EMIR				Sn	**Sn**	**00 33 07.9**	**-3.6**
ESDC	**Sonseca Array**	**6.27**	**300**	Pn	**Pn**	**00 32 21.8**	**-0.6**
	1.0nm,0.2s,baz=112,slow=14,SNR=4.4						
EARI	**Arriondas**	**9.14**	**319**	Pn	**P**	**00 33 03.0**	**+0.6**
	11nm,1.0s,SNR=6.4						
ECAL	**Calabor**	**9.21**	**308**	Pn	**P**	**00 33 02.4**	**-1.1**
	2.5nm,0.3s,SNR=11						

*BJI **18** 01:08:01.9,15.93S×173.33W,h105km,mB5.2,mb5.1*
*MOS **18** 01:08:02.1±1.5,16.21S×174.03W,h88km,mb5.0/9,Error ellipse: s-maj=13.0km s-min=11.2km az=160.0*
*IDC **18** 01:08:03.2±2.3,16.23S×173.92W,h96km±20km,mb4.3/15,mb1 4.5/18,mb1mx4.4/20,mbtmp4.6/18,MS3.6/8,Ms1 3.6/8,ms1mx3.4/24,Error ellipse: s-maj=17.2km s-min=11.6km az=137.0*
*NEIC **18** 01:08:03.1±0.9,16.20S×173.94W,h96km±8km,mb4.8/19,Error ellipse: s-maj=8.6km s-min=5.1km az=142.0*
ISC 18 01:08:01.2±1.4,16.25S±0.06×173.96W±0.05,
h90km±12km,h98km±.9km:pP-P,n192,σ0§85/78,mb4.6/39,
27C-15D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.14**	**42**	P	**P**	**01 08 50.0**	**+0.2**
	560nm,0.3s,baz=216,slow=19,SNR=154						
AFI				S	**S**	**01 09 21.6**	**-4.7**
	929nm,0.3s,baz=45,slow=23,SNR=15						
AFI				LR	LR	01 09 41.8	
	comp=Z,395nm,19.2s,baz=216,slow=32						
AFI	**Afiamalu**	**3.14**	**42**	⇑*i*P	**P**	**01 08 49.9**	**+0.1**
AFI				*e*S	**S**	**01 09 21.4**	**-4.9**
RAR	**Rarotonga**	**14.31**	**112**	P	**P**	**01 11 20.7**	**0.0**
	5.1nm,0.3s,baz=298,slow=11,SNR=7.6						
RAR				S	**S**	**01 13 51.2**	**-6.3**
	1.4nm,0.3s,baz=22,slow=22,SNR=3.4						
RAR				LR	LR	01 15 37.8	
	comp=Z,265nm,18.4s,baz=226,slow=32						
DZM	**Mont Dzumac**	**19.39**	**250**	P	**P**	**01 12 23.4**	**+0.8**
	1.3nm,0.3s,baz=75,slow=18,SNR=28						
NOUC	**Port Laguerre**	**19.52**	**250**	*e*P	**P**	**01 12 25.3**	**+1.3**
NOUC	**Port Laguerre**	**19.52**	**250**	*e*P	**P**	**01 12 25.3**	**+1.3**
URZ	**Urewera**	**23.29**	**198**	P	**P**	**01 13 01.7**	**+0.1**
	30nm,0.5s,mb4.9,baz=340,slow=3.3,SNR=30						
PAE	**Paea**	**23.36**	**97**	*e*P	**P**	**01 13 02.2**	**-0.2**
	108nm,1.1s,mb5.1						
PPT	**Papeete**	**23.36**	**97**	*e*P	**P**	**01 13 02.5**	**+0.1**
	53nm,1.1s,mb4.8						
PPT	**Papeete**	**23.36**	**97**	*e*LR	LR	01 18 08.7	
	483nm,33.8s						
TVO	**Taravao**	**23.67**	**97**	*e*P	**P**	**01 13 05.4**	**0.0**
	60nm,0.7s,mb5.0						
TBI	**Tubuai**	**24.08**	**111**	*e*LR	LR	01 18 47.6	
HNR	**Honiara**	**26.31**	**282**	P	**P**	**01 13 31.5**	**+1.0**
	33nm,0.3s,mb5.3,baz=268,slow=16,SNR=2.0						
HNR				LR	LR	01 21 29.5	
	comp=Z,133nm,21.0s,baz=279,slow=31						
HNR	**Honiara**	**26.31**	**282**	P	**P**	**01 13 31.5**	**+1.0**
HNR				LR	LR	01 21 29.5	
SNZO	**South Karori**	**26.82**	**199**	*e*P	**P**	**01 13 33.9**	**-1.0**
RPZ	**Rata Peaks**	**30.19**	**202**	P	**P**	**01 14 03.8**	**-1.4**
	5.0nm,0.5s,mb4.4,baz=27,slow=1.2,SNR=4.1						
ARMA	**Armidale**	**34.45**	**240**	*e*P	**P**	**01 14 42.3**	**0.0**
RKT	**Rikitea**	**37.25**	**107**	*e*LR	LR	01 24 44.3	
	240nm,36.0s						
CTA	**Charters Tower**	**37.94**	**258**	⇓*i*P	**P**	**01 15 11.2**	**-0.5**
	7.2nm,0.9s,mb4.5						
CTA	**Charters Tower**	**37.94**	**258**	LR	LR	01 28 17.6	
	comp=Z,101nm,19.4s,baz=50,slow=32						
CTA	**Charters Tower**	**37.94**	**258**	⇓*i*P	**P**	**01 15 11.2**	**-0.5**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTAO	**Charters Tower**	**37.94**	**258**	*e*P	**P**	**01 15 10.9**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**37.94**	**258**	*e*P	**P**	**01 15 10.9**	**-0.8**
	comp=Z,8.9nm,0.8s,mb4.7						
PMG	**Port Moresby**	**38.47**	**275**	P	**P**	**01 15 17.7**	**+1.5**
	comp=Z,36nm,1.0s,mb5.2,baz=171,slow=3.1,SNR=9.0						
PMG	**Port Moresby**	**38.47**	**275**	*e*P	**P**	**01 15 17.8**	**+1.6**
PMG				pmax	pmax		
	comp=Z,49nm,1.0s						
PMG	**Port Moresby**	**38.47**	**275**	*e*P	**P**	**01 15 17.8**	**+1.6**
	comp=Z,48nm,1.0s,mb5.3						
STKA	**Stephens Creek**	**43.15**	**241**	⇑*i*P	**P**	**01 15 55.0**	**+0.4**
	comp=Z,18nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**43.15**	**241**	P	**P**	**01 15 54.0**	**-0.7**
	comp=Z,26nm,0.6s,mb5.2,baz=91,slow=9.1,SNR=55						
STKA				PcP	PcP	01 17 42.7	-0.6
	comp=Z,5.2nm,0.8s,baz=339,slow=17,SNR=3.3						
STKA				LR	LR	01 31 33.9	
	comp=Z,70nm,18.2s,baz=26,slow=33						
WB2	**Warramunga Arr**	**49.12**	**258**	⇑*i*P	**P**	**01 16 40.5**	**-1.4**
WRAB	**Tennant Creek**	**49.12**	**258**	*e*P	**P**	**01 16 40.9**	**-1.0**
WRAB				*e*		01 18 03.9	
WRAB				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**49.12**	**258**	*e*P	**P**	**01 16 40.9**	**-1.0**
	comp=Z,19nm,0.7s,mb5.1						
WRAB				*e*PcP	PcP	01 18 03.9	-0.5
WRA	**Warramunga Arr**	**49.13**	**258**	P	**P**	**01 16 40.8**	**-1.2**
	comp=Z,6.8nm,0.3s,mb5.0,baz=91,slow=6.9,SNR=46						
WRA				PcP	PcP	01 18 03.8	-0.7
	comp=Z,7.6nm,0.6s,baz=90,slow=3.6,SNR=10						
FORT	**Forrest**	**54.56**	**244**	*e*P	**P**	**01 17 20.9**	**-1.6**
	comp=Z,34nm,0.7s,mb5.5						
FITZ	**Fitzroy Crossi**	**57.52**	**259**	*e*P	**P**	**01 17 43.4**	**-0.4**
	comp=Z,9.5nm,0.7s,mb4.9						
SBA	**Scott Base**	**62.36**	**185**	*e*P	**P**	**01 18 17.4**	**+1.2**
VNDA	**Vanda**	**62.48**	**186**	P	**P**	**01 18 17.9**	**+0.9**
	comp=Z,3.8nm,0.7s,mb4.5,baz=350,slow=6.2,SNR=15						
VNDA	**Vanda**	**62.48**	**186**	*e*P	**P**	**01 18 18.0**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
VNDA	**Vanda**	**62.48**	**186**	*e*P	**P**	**01 18 18.0**	**+1.0**
	comp=Z,9.4nm,1.2s,mb4.7						
KLBR	**Kellerberrin**	**63.37**	**242**	*e*P	**P**	**01 18 22.3**	**-1.2**
	comp=Z,22nm,0.7s,mb5.2						
MUN	**Mundaring**	**64.66**	**242**	*e*P	**P**	**01 18 31.2**	**-0.7**
MJAR	**Matsushiro Arr**	**69.25**	**320**	P	**P**	**01 18 59.8**	**-0.9**
	comp=Z,0.7nm,0.4s,mb3.9,baz=151,slow=5.5,SNR=4.9						
QSPA	**South Pole Qui**	**73.79**	**180**	*e*P	**P**	**01 19 27.9**	**+1.0**
	comp=Z,11nm,0.9s,mb4.6						
NVAR	**Mina Array Bea**	**75.32**	**42**	P	**P**	**01 19 36.3**	**-0.2**
	comp=Z,1.9nm,0.7s,mb3.9,baz=231,slow=11,SNR=16						
NVAR				LR	LR	01 46 42.9	
	comp=Z,39nm,20.3s,baz=325,slow=31						
NVAR	**Mina Array Bea**	**75.32**	**42**	P	**P**	**01 19 36.3**	**-0.2**
NVAR				LR	LR	01 46 42.9	
SSE	**Sheshan**	**78.05**	**307**	*e*P	**P**	**01 19 52.3**	**+0.4**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,270nm,4.6s						
MDJ	**Mudanjiang**	**79.37**	**323**	P	**P**	**01 19 59.4**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,210nm,5.2s						
NJ2	**Nanjing**	**80.25**	**307**	*e*P	**P**	**01 20 04.8**	**+0.9**
NJ2				AP	pP	01 20 31.0	+3.2
NJ2				XP	sP	01 20 41.3	+3.4
NJ2				PP	PP	01 23 09.8	+1.2
NJ2				S	S	01 29 56.0	-4.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,470nm,5.4s						
NJ2				LR	LR		
	comp=N,560nm,24.2s						
NJ2				LR	LR		
	comp=E,470nm,22.8s						
NJ2				LR	LR		
	comp=Z,680nm,31.2s						
HLID	**Hailey**	**80.62**	**39**	*e*P	**P**	**01 20 05.1**	**-0.5**
	comp=Z,6.3nm,1.3s,mb4.3						
LAZ	**Ladron**	**81.01**	**50**	*e*P	**P**	**01 20 08.3**	**+0.4**
MNTX	**Cornudas Mount**	**81.16**	**53**	*e*P	**P**	**01 20 08.4**	**-0.3**
	comp=Z,7.9nm,1.3s,mb4.4						
CN2	**Chengchun**	**81.40**	**320**	*e*P	**P**	**01 20 10.6**	**+0.9**
TXAR	**Lajitas Array**	**81.53**	**56**	P	**P**	**01 20 10.4**	**-0.2**
	comp=Z,2.9nm,1.0s,mb4.1,baz=217,slow=8.1,SNR=18						
TXAR				LR	LR	01 46 20.5	
	comp=Z,69nm,21.7s,baz=345,slow=28						
TNA	**Tin City**	**81.69**	**3**	*e*P	**P**	**01 20 10.8**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.3						
PV01	**Paradox Valley**	**81.69**	**46**	*e*P	**P**	**01 20 11.2**	**-0.1**
MCK	**McKinley**	**82.06**	**11**	*e*P	**P**	**01 20 12.0**	**-0.7**
MCK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
MCK	**McKinley**	**82.06**	**11**	*e*P	**P**	**01 20 12.0**	**-0.7**
	comp=Z,8.2nm,0.8s,mb4.6						
GDL2	**Guadalupe Moun**	**82.16**	**53**	*e*P	**P**	**01 20 14.4**	**+0.6**
CPRX	**Cap Rock**	**82.88**	**53**	*e*P	**P**	**01 20 17.7**	**+0.1**
QLMT	**Earthquake Lak**	**83.11**	**39**	*e*P	**P**	**01 20 19.3**	**+0.9**
BW06	**Boulder Array**	**83.25**	**42**	*e*P	**P**	**01 20 18.6**	**-0.6**
	comp=Z,4.9nm,1.1s,mb4.2						
PDAR	**Pinedale Array**	**83.25**	**42**	P	**P**	**01 20 19.1**	**-0.1**
	comp=Z,2.2nm,0.7s,mb4.1,baz=210,slow=2.8,SNR=18						
COLA	**College**	**83.30**	**11**	*e*P	**P**	**01 20 18.1**	**-0.8**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
COLA	**College**	**83.30**	**11**	*e*P	**P**	**01 20 18.1**	**-0.9**
	comp=Z,10nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**83.38**	**11**	P	**P**	**01 20 18.4**	**-1.0**
	comp=Z,3.5nm,1.0s,mb4.2,baz=212,slow=5.0,SNR=16						
IMA2	**Indian Mountai**	**83.48**	**8**	*e*P	**P**	**01 20 19.3**	**-0.5**
HRY	**Holter Researc**	**83.85**	**38**	*e*P	**P**	**01 20 21.9**	**-0.1**
BILL	**Bilibino**	**85.28**	**353**	*e*P	**P**	**01 20 28.6**	**-0.1**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BILL	**Bilibino**	**85.28**	**353**	P	**P**	**01 20 27.1**	**-1.7**
	comp=Z,13nm,1.2s,mb4.8						
MAW	**Mawson**	**86.82**	**199**	*e*P	**P**	**01 20 37.4**	**+1.1**
	comp=Z,12nm,0.8s,mb4.9						
MAW	**Mawson**	**86.82**	**199**	P	**P**	**01 20 36.1**	**-0.2**
	comp=Z,16nm,0.8s,mb5.0,baz=132,slow=6.5,SNR=24						
MAW	**Mawson**	**86.82**	**199**	*e*P	**P**	**01 20 37.4**	**+1.1**
MAW				pmax	pmax		
	comp=Z,12nm,0.8s						
ENH	**Enshi**	**86.92**	**303**	P	**P**	**01 20 37.6**	**0.0**
	comp=Z,6.0nm,0.6s,mb4.7						
GYA	**Guiyang**	**87.97**	**298**	⇑*i*P	**P**	**01 20 44.4**	**+1.6**
GYA				AP	pP	01 21 10.3	+3.1
GYA				XP	sP	01 21 20.8	+4.1
GYA				PP	PP	01 24 14.8	+2.5
GYA				SKS	SKS	01 31 01.4	+0.9
GYA				S	S	01 31 19.6	+3.0
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
GYA				AMB	AMB		
	comp=Z,90nm,4.0s						
GYA				LR	LR		
	comp=N,570nm,18.4s						
GYA				LR	LR		
	comp=E,460nm,19.0s						
GYA				LR	LR		
	comp=Z,410nm,19.6s						
PLCA	**Paso Flores**	**89.34**	**132**	P	**P**	**01 20 50.0**	**+1.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=206,slow=7.3,SNR=3.4						
KMI	**Kunming**	**90.91**	**296**	P	**P**	**01 20 59.0**	**+2.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
YKA	**Yellowknife Ar**	**91.09**	**24**	P	**P**	**01 20 56.2**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.6,baz=240,slow=4.5,SNR=8.1						
YKA	**Yellowknife Ar**	**91.09**	**24**	P	**P**	**01 20 56.2**	**-0.4**
LZH	**Lanzhou**	**93.30**	**307**	*e*P	**P**	**01 21 08.1**	**+0.7**
LZH				AP	pP	01 21 34.3	+2.4
LZH				XP	sP	01 21 44.5	+3.2
LZH				PP	PP	01 24 55.4	+0.7
LZH				*e*SKS	SKS	01 31 32.0	+0.3
LZH				*e*S	S	01 32 04.3	+0.2
LZH				XS		01 32 49.4	
LZH				*e*SS	SS	01 38 26.5	+0.6
LZH				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.9						
LZH				AMB	AMB		
	comp=Z,30nm,4.5s						
LZH				LR	LR		
	comp=N,350nm,18.6s						
LZH				LR	LR		
	comp=Z,420nm,19.5s						
SONM	**Songino Array**	**95.12**	**318**	P	**P**	**01 21 14.9**	**-0.5**
	comp=Z,0.3nm,0.5s,mb4.0,baz=124,slow=3.3,SNR=3.9						
LPAZ	**La Paz**	**100.02**	**110**	LR	LR	01 56 23.6	
	comp=Z,34nm,20.0s,baz=355,slow=29						
MKAR	**Makanchi Array**	**111.04**	**314**	PKiKP		01 26 23.7	
	comp=Z,0.7nm,0.5s,baz=186,slow=0.6,SNR=9.9						
MKAR	**Makanchi Array**	**111.04**	**314**	PKPdf	PKPdf	01 26 23.7	-0.3
ARCES	**ARCESS Array B**	**125.38**	**352**	PKP	PKPdf	01 26 51.7	+0.5
	comp=Z,3.9nm,0.7s,SNR=13						
ARCES	**ARCESS Array B**	**125.38**	**352**	PKP	PKPdf	01 26 51.7	+0.5
KAF	**Kangasniemi**	**132.00**	**347**	*e*p	PKPdf	01 27 03.5	-0.6
FINES	**FINESS Array B**	**132.65**	**347**	PKP	PKPdf	01 27 06.1	+0.7
	comp=Z,4.0nm,1.0s,baz=180,slow=1.9,SNR=7.0						
FINES	**FINESS Array B**	**132.65**	**347**	PKP	PKPdf	01 27 06.1	+0.7
AKASG	**Malin Array Be**	**140.91**	**337**	PKhKP		01 27 14.2	
	comp=Z,1.6nm,0.7s,baz=35,slow=4.2,SNR=8.1						
MZLS	**Mizel**	**142.52**	**288**	P	PKPdf	01 27 22.5	-1.8
KAMS	**Al Khamasin**	**143.24**	**282**	P	PKPbc	01 27 25.3	+1.3
MALT	**Malatya**	**144.08**	**314**	⇓PKiKP	PKPdf	01 27 27.4	+0.9
ARSS	**Ar Rass**	**144.10**	**292**	P	PKPbc	01 27 27.2	+0.8
DJNS	**Zahran al Janu**	**144.14**	**278**	P	PKPbc	01 27 28.1	+1.4
TATS	**Tathlith**	**144.27**	**281**	P	PKPbc	01 27 28.8	+1.8
OJC	**Ojcow**	**144.34**	**345**	*e*PKP	PKPdf	01 27 26.2	-0.4
KSP	**Ksiaz**	**144.53**	**349**	*e*PKiKP	PKPdf	01 27 26.9	0.0
AFFS	**'Afif**	**144.54**	**288**	P	PKPbc	01 27 28.4	+0.8
CLL	**Collm**	**144.59**	**352**	*i* PKiKP	PKPdf	01 27 26.3	-0.7
	comp=Z,logA/T=0.9						
CLL				*i*		01 27 31.0	
CLL	**Collm**	**144.59**	**352**	*i* PKiKP	PKPdf	01 27 26.3	-0.7
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KMBO	**Kilima Mbogo**	**144.68**	**244**	PKP	PKPdf	01 27 29.8	+1.4
	comp=Z,27nm,0.9s,baz=55,slow=5.2,SNR=77						
STHS	**Stebnicka Huta**	**144.69**	**343**	*i* PKP	PKPdf	01 27 28.1	+0.8
KOLS	**Kolonicke sedl**	**144.81**	**341**	*i* PKP	PKPdf	01 27 28.3	+0.8
BRG	**Berggiesshubel**	**144.89**	**351**	*e*PKiKP	PKPdf	01 27 28.0	+0.4
BRG				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRG	**Berggiesshubel**	**144.89**	**351**	*e*P	PKPdf	01 27 28.0	+0.4
BRG				*e*		01 27 32.2	
UPC	**Upice**	**144.90**	**349**	*e*PKP	PKPdf	01 27 28.3	+0.7
UPC				*ex*	x	01 27 32.5	
NIE	**Niedzica**	**144.94**	**344**	*e*PKP	PKPdf	01 27 28.8	+1.1
BURAR	**Bucovina Array**	**144.95**	**337**	⇓P	PKPdf	01 27 28.5	+0.7
BURAR	**Bucovina Array**	**144.95**	**337**	⇓P	PKPdf	01 27 28.5	+0.7
DPC	**Dobruska-Polom**	**144.99**	**349**	*e*PKP	PKPdf	01 27 28.9	+1.1
CRVS	**Cervenica-Dubn**	**145.09**	**342**	*i* PKP	PKPdf	01 27 29.1	+1.1
OKC	**Ostrava-Krasne**	**145.09**	**346**	*e*PKP	PKPdf	01 27 29.2	+1.2
PVCC	**Panska Ves**	**145.13**	**350**	*e*PKP	PKPdf	01 27 29.2	+1.2
PVCC				*ex*	x	01 27 34.7	
HILS	**Ha'il**	**145.13**	**295**	P	PKPdf	01 27 31.0	+2.2
**M

comp=Z,51nm,1.1s
TCF Toulx Ste Croi 149.88 5⇑*i*PKP1 PKPdf 01 27 42.0 +6.1
comp=Z,20nm,1.1s
VTS Vitosha 149.92 334 ⇓PKP2 PKPab 01 27 43.0 -6.2
ALWS Ilw as Safayha 150.35 301 P PKPdf 01 27 44.7 +7.5
JMOS Jabal al Moall 150.36 301 P PKPdf 01 27 44.8 +7.6
LPL La Plagne 150.82 359 *e*PKP1 PKPdf 01 27 45.5 +8.1
comp=Z,20nm,1.0s
LPG La Plagne 150.84 359 *e*PKP1 PKPdf 01 27 45.7 +8.3
comp=Z,17nm,1.0s
LFF La Frestale 151.06 8 *e*PKP1 PKPdf 01 27 44.8 +7.0
comp=Z,19nm,0.9s
CAF Calviac 151.22 6 *e*PKP1 PKPdf 01 27 45.4 +7.4
comp=Z,30nm,1.2s
ORIF Oris-en-Rattie 151.43 0 *e*PKP1 PKPdf 01 27 46.2 +7.9
VIVF Saint-Julien-l 151.46 2 *e*PKP1 PKPdf 01 27 46.3 +7.9
MBDF Montbardon 151.61 359 *e*PKP1 PKPdf 01 27 46.5 +7.9
comp=Z,25nm,0.9s
APE Apeiranthos 153.03 324 ⇑P PKPab 01 28 08.1 +5.7
ESDC Sonseca Array 155.09 19 PKPab PKPab 01 28 11.3 +0.3
comp=Z,0.7nm,0.6s,baz=342,slow=5.9,SNR=4.6
TORD Torodi Ar. Bea 174.78 126 PKP PKPdf 01 28 01.6 +0.7
comp=Z,0.9nm,0.9s,baz=328,slow=1.1,SNR=5.6
TORD PKPab PKPab 01 29 37.1 -0.5
comp=Z,1.4nm,1.0s,baz=264,slow=4.2,SNR=4.5

IDC 18 01:26:59.8±1.3, 1.85N×100.09E, h157km±19km, mb3.4/4, mb1 3.6/4, mb1mx3.3/16, mbtmp3.9/4, Error ellipse: s-maj=90.7km s-min=18.2km az=50.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.50**	**309**	P		P	01 27 29.6	-0.6
	26nm,0.3s,baz=132,slow=9.6,SNR=63							
PSI				S		S	01 27 52.1	-1.6
	3.8nm,0.3s,baz=270,slow=23,SNR=12							
WRA	**Warramunga Arr**	**39.97**	**124**	P		P	01 34 19.1	-1.6
	4.1nm,0.4s,baz=302,slow=9.2,SNR=19							
WB2	**Warramunga Arr**	**39.98**	**124**	*e*P		P	01 34 19.1	-1.7
MKAR	**Makanchi Array**	**47.38**	**343**	P		P	01 35 17.5	-2.4
	0.3nm,0.4s,baz=153,slow=8.3,SNR=7.9							
ZAL	**Zalesovo**	**53.42**	**349**	P		P	01 36 03.5	-2.0
	0.7nm,0.5s,baz=23,slow=3.5,SNR=2.9							
AKASG	**Malin Array Be**	**76.52**	**322**	P		P	01 38 32.7	-1.4
	0.3nm,0.4s,baz=67,slow=5.4,SNR=5.6							

*MOS **18** 01:31:23.0±1.3, 57.41N×120.77E, h5km, mb4.2/1, Error ellipse: s-maj=21.4km s-min=13.6km az=55.8*
BYKL 18 01:31:21.6±0.3, 57.46N×120.91E, h5km±12km, 5C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.74**	**224**	*e*Pg		Pg	01 31 35.3	-1.1
KHNR				*e*Sg		Sg	01 31 44.3	-2.0
YKLR	**Yuktali**	**0.96**	**155**	*e*Pg		Pg	01 31 39.9	-0.9
YKLR				*e*Sg		Sg	01 31 52.7	-0.9
YKLR				Smax			01 31 58.8	
	1μm,0.1s							
CRS	**Chara**	**1.54**	**250**	⇓*i*Pg		Pg	01 31 49.8	-2.6
CRS				Pmax			01 31 50.8	
	801nm,0.9s							
CRS				*e*Sg		Sg	01 32 09.0	-4.0
CRS				Smax			01 32 11.0	
	731nm,1.3s							
CRS	**Chara**	**1.54**	**250**	*e*P		Pn	01 31 49.9	0.0
CRS				*e*			01 32 09.1	
CRS				pmax	pmax			
	comp=Z,705nm,0.3s							
CRS				smax				
	comp=E,572nm,0.5s							
NRGR	**Nerungri**	**2.23**	**110**	*e*P		Pn	01 32 02.4	+2.6
NRGR				S		Sn	01 32 30.0	+1.9
CLNS	**Chul'man**	**2.26**	**104**	*e*Pn		Pn	01 31 59.5	-0.6
CLNS				*e*Pg		Pg	01 32 02.7	-4.0
CLNS				Pmax			01 32 05.6	
	comp=E,737nm,0.3s							
CLNS				*e*Sg		Sg	01 32 30.9	-5.9
CLNS				Smax			01 32 33.8	
	comp=E,16μm,0.6s							
CLNS	**Chul'man**	**2.26**	**104**	*e*P		Pn	01 32 03.5	+3.4
CLNS				*e*			01 32 33.2	
CLNS				pmax	pmax			
	comp=N,43nm,0.3s							
CLNS				pmax	pmax			
	comp=E,45nm,0.3s							
CLNS				pmax	pmax			
	comp=Z,96nm,0.3s							
CLNS				smax				
	comp=E,1μm,0.4s							
CLNS				smax				
	comp=Z,203nm,0.3s							
CLNS				smax				
	comp=N,2μm,0.6s							
CLNS				MLR	MLR			
	comp=Z,100nm,12.0s							
ALDR	**Aldan**	**2.66**	**62**	*e*Pg		Pg	01 32 09.0	-5.6
ALDR				Pmax			01 32 12.1	
	comp=Z,154nm,0.2s							
ALDR				*e*Sn		Sn	01 32 38.0	-0.8
ALDR				*e*Sg		Sg	01 32 44.0	-6.0
ALDR				Smax			01 32 47.0	
	comp=Z,2μm,0.3s							
NLYR	**Nelyaty**	**3.01**	**253**	*e*Pn		Pn	01 32 10.7	-0.2
NLYR				*e*Pg		Pg	01 32 15.6	-6.1
NLYR				Pmax			01 32 17.3	
	comp=Z,140nm,0.8s							
NLYR				*e*Sg		Sg	01 32 54.1	-7.8
NLYR				Smax			01 32 59.4	
	comp=Z,1μm,1.0s							
NLYR	**Nelyaty**	**3.01**	**253**	*e*P		Pn	01 32 10.9	0.0
NLYR				*e*			01 32 54.0	
NLYR				pmax	pmax			
	comp=Z,247nm,0.6s							
NLYR				smax				
	comp=N,1μm,1.0s							
TUP	**Tupik**	**3.09**	**190**	⇑*i*Pn		Pn	01 32 10.8	-1.2
TUP				⇑*i*Pg		Pg	01 32 17.4	-5.9
TUP				Pmax			01 32 19.0	
	comp=N,187nm,0.9s							
TUP				*e*Sg		Sg	01 32 55.9	-8.6
TUP				Smax			01 33 00.0	
	comp=N,821nm,1.0s							
TUP	**Tupik**	**3.09**	**190**	*e*P		Pn	01 32 11.5	-0.5
TUP				*e*S		Sn	01 32 47.3	-2.5
TUP				pmax	pmax			
	comp=Z,160nm,0.5s							
TUP				smax				
	comp=E,817nm,0.7s							
BOD	**Bodaibo**	**3.73**	**278**	*e*Pn		Pn	01 32 20.1	-1.0
BOD				⇑*i*Pg		Pg	01 32 28.2	-7.9
BOD				Pmax			01 32 31.1	
	comp=E,54nm,0.5s							
BOD				*e*Sn		Sn	01 33 03.3	-2.7
BOD				*e*Sg		Sg	01 33 14.7	-11
BOD				Smax			01 33 20.3	
	comp=E,497nm,1.6s							
BOD	**Bodaibo**	**3.73**	**278**	*e*P		Pn	01 32 19.3	-1.8
BOD				*e*			01 33 13.8	
BOD				pmax	pmax			
	comp=Z,69nm,0.3s							
BOD				smax				
	comp=N,420nm,0.6s							
SVKR	**Severomuysk**	**4.26**	**255**	*e*Pn		Pn	01 32 27.9	-0.8
SVKR				*e*Pg		Pg	01 32 37.9	-8.8
SVKR				Pmax			01 32 43.2	
	comp=N,153nm,0.8s							
SVKR				*e*Sg		Sg	01 33 32.0	-11
SVKR				Smax			01 33 51.8	
	comp=N,537nm,1.0s							
UKT	**Uakit**	**4.50**	**247**	*e*Pn		Pn	01 32 31.6	-0.4
UKT				*e*Pg		Pg	01 32 41.8	-10
UKT				Pmax			01 32 44.3	
	comp=N,41nm,0.8s							
UKT				*e*Sg		Sg	01 33 39.2	-12
UKT				Smax			01 33 47.1	
	comp=N,220nm,1.0s							
UKT	**Uakit**	**4.50**	**247**	*e*P		Pn	01 32 40.7	+8.7
UKT				pmax	pmax			
	comp=Z,58nm,0.6s							
KROS	**Kirovskiy**	**4.56**	**129**	*i*Pn		Pn	01 32 29.6	-3.3
KROS				*i*Pg		Pg	01 32 42.5	-10
KROS				*e*Sn		Sn	01 33 19.9	-7.2
KROS				*i*Sg		Sg	01 33 40.7	-13
ZEA	**Zeya**	**5.18**	**133**	*e*Pg		Pg	01 32 53.0	-12
ZEA				*e*Sg		Sg	01 34 00.5	-14
YOA	**Uoyan**	**5.22**	**259**	*e*Pg		Pg	01 32 55.9	-10
YOA				Pmax			01 33 06.3	
	comp=Z,170nm,1.3s							
YOA				*e*Sg		Sg	01 34 02.6	-13
YOA				Smax			01 34 20.0	
	comp=Z,1μm,1.5s							
YOA	**Uoyan**	**5.22**	**259**	*e*P		Pn	01 32 57.5	+15
YOA				pmax	pmax			
	comp=Z,188nm,0.8s							
KMO	**Kumora**	**5.58**	**258**	*e*Pn		Pn	01 32 45.0	-2.3
KMO				*e*Pg		Pg	01 33 01.1	-12
KMO				Pmax			01 33 09.2	
	comp=Z,29nm,0.6s							
KMO				*e*Sg		Sg	01 34 13.9	-14
KMO				Smax			01 34 27.4	
	comp=Z,226nm,1.1s							
KMO	**Kumora**	**5.58**	**258**	*e*P		Pn	01 33 02.1	+15
KMO				pmax	pmax			
	comp=Z,27nm,0.5s							
YLYR	**Ulyunkhan**	**6.03**	**249**	⇑*i*Pn		Pn	01 32 52.4	-1.2
YLYR				*e*Pg		Pg	01 33 11.7	-10
YLYR				Pmax			01 33 14.1	
	comp=Z,16nm,0.8s							
YLYR				*e*Sg		Sg	01 34 27.2	-15
YLYR				Smax			01 34 36.6	
	comp=Z,152nm,1.4s							
YLYR	**Ulyunkhan**	**6.03**	**249**	*e*P		Pn	01 32 52.7	-0.9
YLYR				pmax	pmax			
	comp=Z,35nm,1.3s							
TBGR	**Tabaga**	**6.22**	**42**	*e*Pn		Pn	01 32 54.4	-1.9
TBGR				*e*Pg		Pg	01 33 12.7	-13
TBGR				*e*Sg		Sg	01 34 32.8	-16
YAK	**Yakutsk**	**6.37**	**40**	*e*Pg		Pg	01 33 17.2	-12
YAK				Pmax			01 33 19.9	
	comp=Z,63nm,0.4s							
YAK				*e*Sn		Sn	01 34 06.8	-5.8
YAK				*e*Sg		Sg	01 34 39.1	-15
YAK				Smax			01 34 41.5	
	comp=Z,1μm,0.6s							
YAK	**Yakutsk**	**6.37**	**40**	*e*P		Pn	01 32 53.7	-4.8
YAK				*e*S		Sn	01 34 06.7	-5.9
YAK				pmax	pmax			
	comp=Z,8.0nm,1.8s							
YAK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
YAK				smax				
	comp=N,12nm,0.8s							
YAK				smax				
	comp=E,12nm,0.7s							
YAK				smax				
	comp=Z,12nm,0.7s							
YAK				smax				
	comp=E,66nm,0.6s							
YAK				smax				
	comp=Z,54nm,0.8s							
YAK				smax				
	comp=N,166nm,0.7s							
YAK				MLR	MLR			
	comp=Z,46nm,9.0s							
NIZ	**Nizh Angarsk**	**6.50**	**260**	*e*Pn		Pn	01 32 58.0	-2.3
NIZ				*e*Pg		Pg	01 33 20.3	-11
NIZ				Pmax			01 33 22.1	
	comp=Z,18nm,0.8s							
NIZ				*e*Sg		Sg	01 34 42.4	-16
NIZ				Smax			01 34 47.4	
	comp=Z,96nm,1.1s							
CIT	**Chita**	**6.91**	**221**	*e*Pg		Pg	01 33 25.5	-14
CIT				Pmax			01 33 38.6	
	comp=Z,6.0nm,0.4s							
CIT				*e*Sg		Sg	01 34 54.7	-17
CIT				Smax			01 34 57.6	
	comp=Z,337nm,1.8s							
SYVR	**Suvo**	**7.26**	**243**	⇑*i*Pn		Pn	01 33 09.0	-2.0
SYVR				*e*Pg		Pg	01 33 32.1	-15
SYVR				Pmax			01 33 43.6	
	comp=Z,4.0nm,0.6s							
SYVR				*e*Sg		Sg	01 35 06.4	-17
SYVR				Smax			01 35 13.6	
	comp=Z,250nm,2.2s							
OGRR	**Ongureny**	**8.46**	**249**	*e*Sg		Sg	01 35 44.0	-19
OGRR				Smax			01 36 09.0	
	comp=Z,66nm,2.6s							
KPC	**Khapcheranga**	**9.27**	**217**	*e*Pn		P	01 33 38.0	-1.0
KPC				*e*Pg		P	01 34 09.1	+30
KPC				*e*Sn		Sn	01 35 15.7	-9.2
KPC				*e*Sg		Sg	01 36 06.8	-24
KPC				Smax			01 36 19.5	
	comp=Z,134nm,1.5s							
KPC	**Khapcheranga**	**9.27**	**217**	*e*P		P	01 33 38.2	-0.8
KPC				pmax	pmax			
	comp=Z,7.0nm,1.2s							
TRG	**Tyrgan**	**9.57**	**247**	*e*Sg		Sg	01 36 18.7	-22
TRG				Smax			01 36 31.6	
	comp=Z,57nm,2.0s							
ARS	**Arshan**	**12.03**	**250**	*e*Sg		S	01 37 34.6	+62
ARS				Smax			01 37 50.7	
	comp=Z,72nm,1.0s							
ZAK	**Zakamensk**	**12.55**	**243**	*e*Sg		S	01 37 49.6	+65
ZAK				Smax			01 38 01.9	
	comp=Z,22nm,1.5s							
MOY	**Mondy**	**12.91**	**252**	*e*Sg		S	01 38 00.3	+67
MOY				Smax			01 38 17.2	
	comp=Z,48nm,2.0s							
ORL	**Orlik**	**13.05**	**257**	*e*Sg		S	01 38 06.8	+70
ORL				Smax			01 38 25.1	
	comp=Z,30nm,1.8s							
MOMR	**Moma**	**13.75**	**40**	*e*Sg			01 38 27.4	
TIXI	**Tiksi**	**14.63**	**10**	*e*P		P	01 34 44.1	-6.6
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TDJR	**Todzha**	**15.09**	**261**	*e*Sg			01 39 07.1	

*ATH **18** 01:42:58.2, 38.95N×20.63E, h43km±1km, MD3.3/4*
*NEIC **18** 01:42:58.1, 38.96N×20.63E, h58km, MD3.3(ATH), After ATH.*
*THE **18** 01:42:59.4, 38.93N×20.52E, h10km, ML2.9*
*CSEM **18** 01:42:59.1±0.4, 38.86N×20.48E, h25km, ML2.9, Error ellipse: s-maj=13.9km s-min=7.7km az=78.0*
ISC 18 01:42:59.1±0.5, 38.96N±0.03×20.65E±0.05, h10km, n15, σ1§03/22, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.25**	**180**	*e*Pg		**Pg**	**01 43 03.8**	**-0.7**
LKD				*e*Sg		**Sg**	**01 43 08.6**	**+0.6**
IGT	**Igoumenitsa**	**0.62**	**337**	*e*Pg		**Pg**	**01 43 10.1**	**-1.6**
IGT				*e*Sg		**Sg**	**01 43 20.6**	**+0.5**
JAN	**Janina**	**0.71**	**12**	⇑*i*P		**Pb**	**01 43 12.9**	**-0.3**
VLS	**Valsamata**	**0.78**	**184**	*e*P		**Pb**	**01 43 14.0**	**-0.3**
VLS				*e*S		**Sb**	**01 43 26.2**	**+1.5**
EVR	**Evrytania**	**0.90**	**92**	*e*P		**Pb**	**01 43 16.0**	**-0.4**
EVR				*e*S		**Sb**	**01 43 28.5**	**+0.2**
KEK	**Kerkira**	**1.00**	**319**	*e*P		**Pb**	**01 43 16.9**	**-1.2**
SRN	**Sarande**	**1.05**	**331**	*i*Pn		**Pn**	**01 43 19.4**	**-0.4**
SRN				*i*Sn		**Sn**	**01 43 37.4**	**+2.8**
RLS	**Riolos of Patr**	**1.10**	**144**	*e*P		**Pb**	**01 43 18.5**	**-1.4**
LSK	**Leskovik**	**1.19**	**358**	*i*Pn		**Pn**	**01 43 27.7**	**+5.9**
LSK				*i*Sn		**Sn**	**01 43 43.0**	**+4.9**
AGG	**Agios Georgios**	**1.31**	**87**	*e*Pg		**Pg**	**01 43 23.5**	**-1.8**
	comp=Z,4.6nm,0.3s							
AGG				*e*Sg		**Sg**	**01 43 42.9**	**+0.1**
LIT	**Litokhoron**	**1.82**	**51**	*e*Pb		**Pb**	**01 43 32.5**	**+0.3**
XOR	**Xorichti**	**2.02**	**78**	*e*Pn		**Pn**	**01 43 35.0**	**+1.4**
GRG	**Griva**	**2.41**	**33**	*e*Pn		**Pn**	**01 43 39.6**	**+0.3**
KNT	**Kendrikon**	**2.79**	**37**	*e*Pn		**Pn**	**01 43 45.1**	**+0.3**
OUR	**Ouranopolis**	**2.92**	**61**	*e*Pn		**Pn**	**01 43 47.7**	**+1.2**

IDC 18 01:50:18.2±12.0, 5.65S×111.98E, h612km±189km, mb2.7/5, mb1 2.8/5, mb1mx2.7/14, mbtmp3.7/5, Error ellipse: s-maj=73.8km s-min=35.7km az=86.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.97**	**125**	P		P	01 55 04.6	-1.8
	0.3nm,0.6s,baz=305,slow=9.1,SNR=2.9							
MJAR	**Matsushiro Arr**	**48.62**	**28**	P		P	01 58 07.8	-2.2
	1.3nm,0.7s,baz=207,slow=8.1,SNR=4.3							
SONM	**Songino Array**	**53.48**	**355**	P		P	01 58 43.4	-1.4
	0.9nm,0.8s,baz=176,slow=9.1,SNR=6.6							
MKAR	**Makanchi Array**	**58.47**	**336**	P		P	01 59 16.8	-2.2
	0.3nm,0.5s,baz=149,slow=7.1,SNR=9.8							
BRTR	**Keskin Array B**	**84.67**	**311**	P		P	02 01 49.1	-1.0
	0.5nm,0.6s,baz=135,slow=1.7,SNR=3.7							

*IDC **18** 01:57:41.9±9.1, 13.32N×91.46W, mb3.4/3, mb1 3.8/4, mb1mx3.6/16, mbtmp3.4/4, ML3.5/1, MS3.0/1, Ms1 3.2/1, ms1mx2.6/18, Error ellipse: s-maj=203.8km s-min=100.6km az=15.0*
*CASC **18** 01:57:50.7±2.8, 13.78N×92.03W, h19km±41km, MD4.0, ML3.5*
ISC 18 01:57:49.2±1.9, 13.5N±0.2×92.1W±0.1, h38km±20km, n16, σ0§97/14, mb3.5/3, MS3.0/1, 2C-2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.54**	**54**	⇓*i*P		**P**	**01 58 14.3**	**-0.4**
TP2	**Tecpan 2**	**1.64**	**41**	⇓*e*P		**P**	**01 58 14.8**	**-1.3**
TP2				*e*S		**S**	**01 58 36.1**	**0.0**
PCG	**Pacaya**	**1.71**	**60**	*e*P		**P**	**01 58 17.7**	**+0.7**
PCG				*e*S		**S**	**01 58 36.8**	**-1.0**
IXG	**Ixpaco**	**1.75**	**69**	*e*P		**P**	**01 58 17.1**	**-0.6**
IXG				*e*S		**S**	**01 58 39.3**	**+0.5**
NBG	**Las Nubes**	**2.02**	**59**	⇑*e*P		**P**	**01 58 22.8**	**+1.3**
NBG				*e*S		**S**	**01 58 46.8**	**+1.1**
RTR	**El Retiro**	**2.44**	**81**	*e*P		Px	01 58 43.2	
RTR				*e*S		Sx	01 58 43.4	
SNJE	**San Jose**	**2.48**	**82**	*e*P		Px	01 58 43.4	
SNJE				*e*S		Sx	01 59 12.6	
MRL	**Marmol**	**2.81**	**57**	⇑*e*P		**P**	**01 58 32.5**	**-0.3**
MRL				AML		AML	01 59 12.2	
	comp=E,144nm,0.5s							
LFRS	**El Faro**	**2.99**	**88**	*e*P		Px	01 58 51.2	
LFRS				*e*S		Sx	01 59 25.9	
LCBS	**La Ceiba**	**3.07**	**88**	*e*P		Px	01 58 51.6	
LCBS				*e*S		Sx	01 59 26.5	
SNVI	**San Vicente**	**3.20**	**88**	*e*P		Px	01 58 53.7	
SNVI				*e*S		Sx	01 59 31.4	
TXAR	**Lajitas Array**	**19.01**	**328**	P		**P**	**02 02 11.4**	**+0.9**
	comp=E,0.0nm,0.3s,baz=158,slow=14,SNR=7.4							
NVAR	**Mina Array Bea**	**33.95**	**322**	P		**P**	**02 04 32.7**	**+1.6**
	comp=E,0.2nm,0.6s,mb3.3,baz=143,slow=9.0,SNR=3.9							
LPAZ	**La Paz**	**37.96**	**141**	LR		LR	02 19 52.7	
	comp=E,24nm,19.8s,MS3.0,baz=277,slow=36							
YKA	**Yellowknife Ar**	**51.44**	**347**	P		**P**	**02 06 50.9**	**-1.6**
	comp=E,0.4nm,0.6s,mb3.5,baz=150,slow=7.4,SNR=13							
ILAR	**Eielson Array**	**63.21**	**337**	P		**P**	**02 08 14.9**	**-0.8**
	comp=E,0.5nm,0.9s,mb3.7,baz=115,slow=6.0,SNR=5.4							

IDC 18 02:40:16.1±3.6, 8.23S×116.63E, mb3.6/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, 1D, Error ellipse: s-maj=160.3km s-min=15.5km az=46.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.16**	**139**	*e*P		P	02 43 35.4	+8.4
	2.6nm,0.3s							
FITZ				*e*S		S	02 45 52.4	-2.9
KAKA	**Kakadu**	**16.17**	**107**	*e*P		P	02 44 32.9	+26
	7.1nm,0.5s							
WRA	**Warramunga Arr**	**20.72**	**126**	P		P	02 44 59.4	-1.6
	2.0nm,0.4s,baz=298,slow=14,SNR=12							
WRA				S		S	02 48 51.8	+3.5
	0.5nm,0.6s,baz=302,slow=19,SNR=2.7							
WB2	**Warramunga Arr**	**20.73**	**126**	⇓*i*P		P	02 44 59.4	-1.6
SONM	**Songino Array**	**56.55**	**352**	P		P	02 50 00.5	-2.3
	1.0nm,0.8s,baz=166,slow=8.7,SNR=7.2							
MKAR	**Makanchi Array**	**62.72**	**334**	P		P	02 50 42.9	-2.5
	0.2nm,0.5s,baz=151,slow=6.3,SNR=5.4							

*NEIC **18** 03:54:00.1, 41.66S×174.21E, h5km, ML3.9(WEL), After WEL.*
WEL 18 03:54:00.1±0.1, 41.66S×174.21E, h7km±1km, ML4.0/36, 17C-6D, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**177**	⇑PG		Pg	03 54 02.3	0.0
CMWZ					SG	Sg	03 54 04.4	+0.7
CMWZ					SG	Sg	03 54 04.5	+0.7
CMWZ	**Cape Campbell**	**0.09**	**177**	⇑P		Pg	03 54 02.3	0.0
CMWZ				S		Sg	03 54 04.2	+0.5
BSWZ	**Blackbirch Sta**	**0.25**	**258**	⇓PG		Pg	03 54 05.4	0.0
BSWZ					SG	Sg	03 54 09.6	+0.8
BSWZ					SG	Sg	03 54 09.6	+0.8
BSWZ	**Blackbirch Sta**	**0.25**	**258**	⇓P		Pg	03 54 05.4	0.0
BSWZ				S		Sg	03 54 09.6	+0.7
TUWZ	**Tuamarina**	**0.30**	**319**	⇓PG		Pg	03 54 06.6	+0.2
TUWZ					SG	Sg	03 54 11.5	+1.0
TCW	**Tory Channel**	**0.45**	**7**	⇑PG		Pg	03 54 09.2	-0.1
TCW					SG	Sg	03 54 15.6	+0.3
TCW	**Tory Channel**	**0.45**	**7**	⇑P		Pg	03 54 09.2	0.0
SNZO	**South Karori**	**0.51**	**47**	⇑PG		Pg	03 54 10.6	+0.2
SNZO	**South Karori**	**0.51**	**47**	⇑P		Pg	03 54 10.6	+0.1
BHW	**Baring Head**	**0.56**	**63**	⇑PG		Pg	03 54 11.6	+0.2
BHW	**Baring Head**	**0.56**	**63**	⇑P		Pg	03 54 11.6	+0.2
WEL	**Wellington**	**0.56**	**48**	PG		Pg	03 54 11.6	+0.1
WEL	**Wellington**	**0.56**	**48**	P		Pg	03 54 11.6	+0.1
MRW	**Makara Radio**	**0.57**	**41**	⇑PG		Pg	03 54 11.4	-0.1
MRW	**Makara Radio**	**0.57**	**41**	⇑P		Pg	03 54 11.4	-0.2
NNZ	**Nelson**	**0.76**	**305**	⇓P*		Pb	03 54 14.6	-0.7
NNZ	**Nelson**	**0.76**	**305**	⇓P		Pb	03 54 14.6	-0.7
MSWZ	**Moikau Station**	**0.82**	**73**	⇑PG		Pg	03 54 16.5	-0.1
MSWZ					SG	Sg	03 54 29.2	+1.7
MSWZ	**Moikau Station**	**0.82**	**73**	⇑P		Pb	03 54 16.5	+0.2
CAW	**Cannon Point**	**0.85**	**50**	⇑P*		Pb	03 54 16.5	-0.3
DUWZ	**D'Urville Isla**	**0.88**	**346**	P*		Pb	03 54 16.8	-0.6
KHZ	**Kahutara**	**0.91**	**213**	P*		Pb	03 54 17.9	+0.2
PAWZ	**Paruwai Farm**	**0.96**	**73**	P*		Pb	03 54 18.9	+0.3
KIW	**Kapiti Island**	**0.96**	**34**	⇑P*		Pb	03 54 18.3	-0.4
KIW	**Kapiti Island**	**0.96**	**34**	⇑P		Pb	03 54 18.3	-0.3
THZ	**Tophouse**	**0.98**	**264**	P*		Pb	03 54 18.6	-0.5
THZ	**Tophouse**	**0.98**	**264**	P		Pb	03 54 18.6	-0.4
MTW	**Mount Morrison**	**1.10**	**63**	⇑P*		Pb	03 54 21.5	+0.2
TRWZ	**Traveller**	**1.14**	**77**	P*		Pb	03 54 21.5	-0.3
MRZ	**Mangatainoka R**	**1.44**	**47**	P*		Pb	03 54 26.3	-0.5
MRZ	**Mangatainoka R**	**1.44**	**47**	P		Pn	03 54 26.3	-0.4
QRZ	**Quartz Range**	**1.52**	**303**	⇓PN		Pn	03 54 27.7	-0.1
QRZ	**Quartz Range**	**1.52**	**303**	⇑P		Pn	03 54 27.7	-0.1
DSZ	**Denniston Nort**	**1.80**	**266**	*e*PN		Pn	03 54 32.2	+0.3

NAO ***18*** *04:17:08.2±2.1,67.68N×33.78E,ML2.7*
CSEM ***18*** *04:17:11.9±0.1,67.67N×32.77E,h2km,ML2.7, Error ellipse: s-maj=4.5km s-min=2.3km az=47.0, Mining explosion.*
IDC ***18*** *04:17:13.2±2.3,67.59N×32.84E,mb1 3.5/4, mb1mx3.1/21,mbtmp3.4/4,ML2.9/4, Error ellipse: s-maj=25.5km s-min=8.3km az=79.0*

HEL 18 04:17:08.6±0.3,67.71N×33.79E,ML2.4,ML2.7(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.32**	**251**	*i* P	Pg	04 17 14.2	-0.8
APA0				*i* S	Sg	04 17 18.4	-0.8
APA0				*e*RG		04 17 21.1	
APA0	**Apatity Array**	**0.32**	**251**	Pg	Pg	04 17 14.2	-0.8
	baz=92,slow=16						
APA0				Lg		04 17 18.4	
	baz=81,slow=37						
APA0				Rg		04 17 21.1	
	baz=82,slow=37						
APA0	**Apatity Array**	**0.32**	**251**	Pg	Pg	04 17 14.1	-0.9
KU4	**Liikasenvaara**	**2.13**	**233**	*e*P	Pn	04 17 45.9	0.0
KU4				*e*S	Sn	04 18 12.7	-0.8
SGF	**Sodankyl**	**2.80**	**268**	*e*P	Pn	04 17 54.4	-1.0
SGF				*e*SB	Sb	04 18 33.1	-1.1
SGF				MSG		04 18 36.7	
	comp=Z,11nm,0.3s						
SGF	**Sodankyl**	**2.80**	**268**	P	Pn	04 17 54.3	-1.1
KEV	**Kevo**	**3.21**	**313**	*e*P	Pn	04 18 00.9	-0.4
KEV				*e*S	Sn	04 18 38.2	-2.6
KEV				MSG		04 18 54.3	
	comp=Z,16nm,0.3s						
KEV	**Kevo**	**3.21**	**313**	P	Pn	04 18 00.9	-0.4
KEV				S	Sn	04 18 38.2	-2.7
	comp=Z,16nm,0.3s						
ARA0	**ARCESS Array S**	**3.54**	**305**	*e*P	Pn	04 18 04.9	-1.1
ARA0				*e*PG	Pg	04 18 13.6	-5.8
ARA0				*e*S	Sn	04 18 45.1	-4.1
ARA0				*e*SG	Sg	04 18 57.5	-9.1
ARA0	**ARCESS Array S**	**3.54**	**305**	Pn	Pn	04 18 04.9	-1.1
	baz=122,slow=16						
ARA0				Pg	Pg	04 18 13.6	-5.8
	baz=117,slow=16						
ARA0				Sn	Sn	04 18 45.1	-4.1
	baz=124,slow=28						
ARA0				Lg		04 18 57.5	
	baz=126,slow=28						
ARA0	**ARCESS Array S**	**3.54**	**305**	P	Pn	04 18 04.9	-1.1
ARA0				S	Sn	04 18 45.1	-4.1
ARCES	**ARCESS Array B**	**3.54**	**305**	Pn	Pn	04 18 05.0	-1.1
	comp=Z,2.4nm,0.3s,baz=122,slow=15,SNR=230						
ARCES				Pg	Pg	04 18 12.8	-6.5
	comp=Z,2.4nm,0.3s,baz=123,slow=15,SNR=23						
ARCES				Sn	Sn	04 18 45.5	-3.8
	comp=Z,2.5nm,0.3s,baz=123,slow=25,SNR=13						
ARCES				Lg		04 18 57.7	
	comp=Z,4.2nm,0.3s,baz=108,slow=31,SNR=11						
KTK1	**Kautokeino**	**4.12**	**293**	*e*P	Pn	04 18 12.5	-1.7
OUL	**Oulu**	**4.12**	**234**	*e*P	Pn	04 18 13.3	-0.9
OUL				*e*S	Sn	04 19 01.1	-2.8
KJN	**Kajaani**	**4.41**	**217**	*e*P	Pn	04 18 16.9	-1.4
KJN				*e*S	Sn	04 19 07.0	-4.2
KJN				MSG		04 19 22.9	
	comp=Z,8.3nm,0.3s						
KJN	**Kajaani**	**4.41**	**217**	P	Pn	04 18 16.8	-1.5
KJN				S	Sn	04 19 06.9	-4.3
	comp=Z,8.3nm,0.3s						
KIF	**Kilpisjarvi**	**4.98**	**291**	*e*P	Pn	04 18 23.9	-2.5
KIF				*e*S	Sn	04 19 19.6	-5.9
SUF	**Sumiainen**	**5.95**	**216**	*e*P	Pn	04 18 38.0	-2.0
SUF				*e*S	Sn	04 19 42.4	-7.5
SUF	**Sumiainen**	**5.95**	**216**	P	Pn	04 18 38.0	-2.1
FIA0	**FINESS Array S**	**7.11**	**211**	Pn	Pn	04 18 52.0	-4.4
	baz=27,slow=14						
FIA0				Sn	Sn	04 20 10.5	-8.3
	baz=43,slow=22						
FIA0				Lg		04 20 42.8	
	baz=27,slow=28						
FIA0	**FINESS Array S**	**7.11**	**211**	*e*P	Pn	04 18 52.0	-4.4
FIA0				*e*S	Sn	04 20 10.5	-8.3
FIA0				*e*		04 20 42.8	
FINES	**FINESS Array B**	**7.11**	**211**	Pn	Pn	04 18 52.9	-3.5
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=3.5						
FINES				Sn	Sn	04 20 08.3	-11
	comp=Z,0.1nm,0.3s,baz=28,slow=20,SNR=3.5						
FINES				Lg		04 20 45.4	
	comp=Z,1.1nm,0.3s,baz=30,slow=26,SNR=11						
HFS	**Hagfors**	**11.60**	**239**	Pn	P	04 19 50.5	-7.8
	comp=Z,0.0nm,0.3s,baz=178,slow=40,SNR=2.7						
HFS				Sn	S	04 21 57.8	-12
	comp=Z,0.0nm,0.3s,baz=68,slow=23,SNR=2.9						
HFS				Lg		04 23 05.6	
	comp=Z,0.1nm,0.3s,baz=56,slow=28,SNR=3.8						
NOA	**NORSAR Array B**	**11.78**	**246**	Pn	P	04 19 53.3	-7.4
	comp=Z,0.1nm,0.3s,baz=117,slow=6.0,SNR=3.3						

BJI ***18*** *04:23:07.3,2.45N×95.75E,h37km,mB5.7,mb5.4,Ms5.9, Msz5.7*
MOS ***18*** *04:23:07.1±1.4,2.91N×95.97E,h10km,mb5.6/37, MS5.4/26, Error ellipse: s-maj=9.4km s-min=4.7km az=116.0*
HRVD ***18*** *04:23:10.0±0.2,2.39N×95.66E,h24km,MW5.7/78, Centroid moment Tensor Solution. LP body waves: s78,c152;Mantle waves: s75,c187; Half duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr1.98±.04; Mθθ-1.31±.03; Mϕϕ-0.67±.04; Mrθ2.12±.06; Mθϕ1.33±.03; Mϕr-2.24±.07; Best double couple: M0 3.773×10^17^ NP1: ϕs299°,δ18°,λ74°. NP2:ϕs135°,δ73°,λ95°. Principal axes: T 3.604, Plg62°, Azm53°; N .338, Plg5°, Azm314°; P -3.943, Plg27°, Azm221°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***18*** *04:23:10.0±0.2,2.84N×95.92E,mb5.4/43,ME5.4, MS5.6/130,MW5.7 Error ellipse: s-maj=7.9km s-min=4.9km az=219.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^17^Nm; Mrr2.02; Mθθ-0.91; Mϕϕ-1.11; Mθϕ2.75; Mθr1.38; Mϕr-2.15; Best double couple: M0 4.1×10^17^ NP1:ϕs328°,δ17°,λ108°. NP2:ϕs129°, δ74°,λ85°. Principal axes: T 3.97, Plg61°, Azm31°; N .32, Plg5°, Azm131°; P -4.29, Plg29°, Azm223°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
IDC ***18*** *04:23:16.4±1.9,2.94N×96.12E,h68km±16km,mb4.6/29, mb1 4.6/30,mb1mx4.6/32,mbtmp4.8/30,MS5.4/19, Ms1 5.4/19,ms1mx5.1/35 Error ellipse: s-maj=17.6km s-min=8.1km az=39.0*

ISC 18 04:23:09.3±0.2,2.80N±0.03×95.91E±0.03,h25km, **h25**km±1.5km:**pP-P,n429,**σ1º**31**/312,**mb5.3**/121,**MS5.6**/182, **17C-20D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.01**	**90**	P	**Pn**	**04 23 58.3**	**+1.8**
	102nm,0.3s,baz=274,slow=8.8,SNR=224						
PSI				S	**Sn**	**04 24 33.1**	**+0.9**
	69nm,0.3s,baz=354,slow=7.3,SNR=5.6						
PSI				LR	LR	04 25 03.4	
	comp=Z,24μm,19.6s,baz=269,slow=38						
KULM	**Kulim**	**5.34**	**62**	*e*P	**Pn**	**04 24 30.2**	**+0.7**
IPM	**Ipoh**	**5.37**	**72**	P	**Pn**	**04 24 31.2**	**+1.2**
PKT	**Phuket**	**5.72**	**23**	P	**Pn**	**04 24 37.0**	**+2.2**
SNG	**Songkhla**	**6.40**	**47**	P	**Pn**	**04 24 54.0**	**+10**
	294nm,1.0s						
KGM	**Kluang**	**7.45**	**96**	P	**Pn**	**04 24 59.4**	**+0.3**
NST	**Nakhon Sawan**	**13.45**	**18**	P	**P**	**04 26 18.0**	**-3.2**
	82nm,1.2s						
KSM	**Kuching**	**14.45**	**95**	P	**P**	**04 26 35.0**	**+0.5**
KKTK	**Khon Kaen**	**15.07**	**26**	P	**P**	**04 26 44.0**	**+1.4**
	5μm,0.8s						
PALK	**Pallekele**	**15.78**	**287**	*e*P	**P**	**04 26 51.1**	**-0.7**
	98nm,1.0s						
MDRS	**Chennai**	**18.55**	**304**	*ex*	x	04 28 17.3	
VIS	**Vishakhapatnam**	**19.29**	**321**	*e*P	**P**	**04 27 35.2**	**-0.1**
VIS				AMb	AMB	04 28 02.7	
	comp=Z,143nm,1.6s						
TRD	**Trivandrum**	**19.68**	**288**	*e*P	**P**	**04 27 45.7**	**+5.9**
KKM	**Kota Kinabalu**	**20.50**	**80**	P	**P**	**04 27 48.9**	**+0.6**
KKM	**Kota Kinabalu**	**20.50**	**80**	*e*P	**P**	**04 27 48.0**	**-0.4**
CAL	**Calcutta**	**20.95**	**340**	*e*P	**P**	**04 27 47.9**	**-5.1**
CAL				*ex*	x	04 31 22.5	
QIZ	**Qiongzhong**	**21.12**	**39**	P	**P**	**04 27 57.4**	**+2.7**
QIZ				S	**S**	**04 31 54.4**	**+11**
QIZ				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
QIZ				LR	LR		
	comp=N,28μm,16.7s,MS5.9						
QIZ				LR	LR		
	comp=E,32μm,16.1s,MS5.9						
QIZ				LR	LR		
	comp=Z,16μm,18.5s,MS5.4						
QIZ	**Qiongzhong**	**21.12**	**39**	*e*P	**P**	**04 27 53.6**	**-1.1**
	comp=Z,149nm,1.1s,mb5.2						
QIZ				LR	LR		
	comp=Z,17μm,19.0s,MS5.4						
AGT	**Agartala**	**21.44**	**348**	*ex*	x	04 28 01.0	
AGT				*ex*	x	04 28 36.0	
TSM	**Tawau**	**21.97**	**85**	P	**P**	**04 28 03.9**	**+0.6**
HYB	**Hyderabad**	**22.39**	**312**	*i* P	**P**	**04 28 11.0**	**+3.6**
	comp=Z,60nm,1.0s,mb5.0						
HYB				*e*S	**S**	**04 32 12.0**	**+5.0**
HYB				LR	LR	04 36 20.0	
	comp=Z,18nm,20.0s						
HYB	**Hyderabad**	**22.39**	**312**	*e*P	**P**	**04 28 11.0**	**+3.6**
HYB				*e*S	**S**	**04 32 12.0**	**+5.0**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0						
HYB	**Hyderabad**	**22.39**	**312**	*e*P	**P**	**04 28 11.0**	**+3.6**
	comp=Z,60nm,1.0s,mb5.0						
HYB				*e*S	**S**	**04 32 12.0**	**+5.0**
SHL	**Shillong**	**22.96**	**351**	*e*P	**P**	**04 28 10.4**	**-2.7**
SHL				*e*S	**S**	**04 32 20.0**	**+2.6**
BOK	**Bokaro**	**23.01**	**336**	*e*P	**P**	**04 28 12.9**	**-0.7**
BOK				*i* x	x	04 28 14.3	
BOK				AMb	AMB	04 28 28.8	
	comp=Z,266nm,0.6s,mb5.8						
KMI	**Kunming**	**23.15**	**16**	⇑P	**P**	**04 28 16.3**	**+1.4**
KMI				AP		04 28 23.8	
KMI				XP		04 28 27.1	
KMI				PP	PP	04 28 50.6	+5.0
KMI				S	**S**	**04 32 28.8**	**+8.1**
KMI				XS		04 32 41.8	
KMI				AMB	AMB		
	comp=Z,130nm,1.1s,mb5.3						
KMI				AMB	AMB		
	comp=Z,2μm,7.8s						
KMI				LR	LR		
	comp=N,26μm,15.1s,MS5.8						
KMI				LR	LR		
	comp=E,7μm,17.8s,MS5.8						
KMI				LR	LR		
	comp=Z,26μm,15.1s,MS5.8						
BLSP	**Bilaspur**	**23.41**	**326**	*e*P	**P**	**04 28 17.0**	**-0.5**
BLSP				*i* x	x	04 28 18.6	
BLSP				AMb	AMB	04 28 28.8	
	comp=Z,161nm,0.9s,mb5.4						
LATR	**Latur**	**24.50**	**311**	*ex*	x	04 28 35.0	
DGAR	**Diego Garcia**	**25.51**	**246**	PFAKE		04 28 50.0	+12
DGAR				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
AKL	**Akola**	**25.61**	**315**	*ex*	x	04 32 21.9	
GYA	**Guiyang**	**25.69**	**23**	⇑*i* P	**P**	**04 28 39.8**	**+0.5**
GYA				AP	pP	04 28 47.5	+0.8
GYA				XP	sP	04 28 50.3	+0.2
GYA				PP	PP	04 29 22.0	+2.5
GYA				S	**S**	**04 33 14.3**	**+10**
GYA				SCP		04 35 45.6	
GYA				SCS	ScS	04 39 31.4	-2.9
GYA				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.2						
GYA				AMB	AMB		
	comp=Z,1μm,7.5s						
GYA				LR	LR		
	comp=N,18μm,16.2s,MS5.8						
GYA				LR	LR		
	comp=E,12μm,16.2s,MS5.8						
GYA				LR	LR		
	comp=Z,22μm,17.1s,MS5.8						
KAD	**Karad**	**25.75**	**306**	*e*P	**P**	**04 28 42.5**	**+2.6**
HKC	**Hong Kong**	**26.27**	**41**	‖*e*P	**P**	**04 28 46.0**	**+1.3**
JIRN	**Jiri**	**26.41**	**340**	*e*P	**P**	**04 28 46.0**	**+0.1**
	comp=Z,322nm,0.7s,mb6.0						
PKI	**Pulchoki**	**26.60**	**339**	*e*P	**P**	**04 28 47.9**	**+0.2**
	comp=Z,205nm,1.0s,mb5.6						
PKI	**Pulchoki**	**26.60**	**339**	*e*P	**P**	**04 28 47.9**	**+0.2**
PKI				pmax	pmax		
	comp=Z,103nm,1.0s,mb5.3						
DMN	**Daman**	**26.74**	**338**	*e*P	**P**	**04 28 50.0**	**+1.0**
	comp=Z,137nm,0.7s,mb5.6						
GUN	**Gumba**	**26.75**	**340**	*e*P	**P**	**04 28 48.9**	**-0.1**
	comp=Z,281nm,0.6s,mb5.9						
KKN	**Kakani**	**26.84**	**339**	*e*P	**P**	**04 28 50.1**	**+0.2**
	comp=Z,440nm,1.0s,mb5.9						
KKN	**Kakani**	**26.84**	**339**	*e*P	**P**	**04 28 50.1**	**+0.2**
KKN				pmax	pmax		
	comp=Z,220nm,1.0s,mb5.6						
BHPL	**Bhopal**	**27.08**	**320**	*i* P	**P**	**04 28 52.1**	**0.0**
BHPL				AMb	AMB	04 29 10.9	
	comp=Z,37nm,1.2s,mb4.8						
LSA	**Lhasa**	**27.13**	**351**	P	**P**	**04 28 54.0**	**+1.5**
LSA				AP	pP	04 29 02.6	+2.6
LSA				XP	sP	04 29 06.3	+2.9
LSA				PCP	PcP	04 32 11.8	-1.5
LSA				S	**S**	**04 33 28.3**	**+0.7**
LSA				XS		04 33 48.1	
LSA				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.3						
LSA				LR	LR		
	comp=N,6μm,24.7s,MS5.3						
LSA				LR	LR		
	comp=E,8μm,24.7s,MS5.3						
LSA				LR	LR		
	comp=Z,28μm,27.1s,MS5.7						
LSA	**Lhasa**	**27.13**	**351**	*e*P	**P**	**04 28 52.6**	**+0.1**
	comp=Z,72nm,0.7s,mb5.3						
LSA				LR	LR		
	comp=Z,10μm,19.0s,MS5.4						
TGY	**Tagaytay City**	**27.14**	**64**	P	**P**	**04 28 50.5**	**-2.3**
	comp=Z,87nm,0.4s,mb5.6,baz=180,slow=17,SNR=2.1						
GKN	**Gorkha**	**27.27**	**338**	*e*P	**P**	**04 28 53.3**	**-0.6**
	comp=Z,641nm,1.0s,mb6.1						
KOLN	**Koldanda**	**27.48**	**336**	*e*P	**P**	**04 28 55.8**	**+0.1**
	comp=Z,232nm,0.7s,mb5.8						
CD2	**Chengdu**	**28.93**	**14**	P	**P**	**04 29 07.8**	**-0.9**
CD2				AP	pP	04 29 17.3	+1.1
CD2				PP	PP	04 30 02.3	-0.2
CD2				PCP	PcP	04 32 14.5	-3.2
CD2				S	**S**	**04 33 55.8**	**-0.6**
CD2				SS	SS	04 35 28.8	+3.6
CD2				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.5						
CD2				AMB	AMB		
	comp=Z,800nm,10.6s						
CD2				LR	LR		
	comp=E,10μm,14.4s						
CD2				LR	LR		
	comp=Z,10μm,14.4s,MS5.6						
AGRA	**Agra**	**29.76**	**326**	*e*P	**P**	**04 29 16.1**	**-0.2**
DAV	**Davao City (W)**	**29.86**	**81**	PFAKE		04 29 30.0	+13
DAV				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
ENH	**Enshi**	**30.20**	**24**	*e*P	**P**	**04 29 18.6**	**-1.6**
	comp=Z,103nm,1.0s,mb5.5						
ENH				LR	LR		
	comp=Z,10μm,21.0s,MS5.5						
QZH	**Quanzhou**	**31.02**	**43**	P	**P**	**04 29 25.0**	**-2.5**
QZH				S	**S**	**04 34 32.0**	**+2.3**
QZH				LR	LR		
	comp=N,16μm,12.5s,MS6.1						
QZH				LR	LR		
	comp=E,16μm,10.6s,MS6.1						
QZH				LR	LR		
	comp=Z,30μm,13.7s,MS6.1						
AJM	**Ajmer**	**31.15**	**321**	*e*P	**P**	**04 29 29.0**	**+0.4**
AYAN	**Aya Nagar**	**31.19**	**327**	*e*P	**P**	**04 29 28.3**	**-0.6**
AYAN				AMb	AMB	04 29 31.4	
	comp=Z,39nm,0.7s,mb5.4						
KUDL	**Kundal**	**31.28**	**326**	*e*P	**P**	**04 29 29.7**	**0.0**
KUDL				AMb	AMB	04 29 42.3	
	comp=Z,23nm,0.9s,mb5.0						
NDI	**New Delhi**	**31.30**	**327**	*e*P	**P**	**04 29 28.5**	**-1.3**
NDI				*e*S	**S**	**04 34 31.5**	**-2.4**
KHET	**Khetri**	**31.62**	**325**	*e*P	**P**	**04 29 32.6**	**0.0**
KHET				AMb	AMB	04 29 35.3	
	comp=Z,35nm,1.0s,mb5.1						
WHN	**Wuhan**	**32.65**	**30**	P	**P**	**04 29 41.8**	**+0.2**
WHN				LR	LR		
	comp=N,8μm,13.4s,MS6.0						
WHN				LR	LR		
	comp=E,17μm,12.3s,MS6.0						
WHN				LR	LR		
	comp=Z,25μm,13.6s,MS6.1						
KLP	**Kalpa**	**33.08**	**332**	*e*P	**P**	**04 29 44.4**	**-1.0**
KLP				AMb	AMB	04 29 53.6	
	comp=Z,65nm,0.9s,mb5.5						
MBWA	**Marble Bar**	**33.34**	**137**	*e*P	**P**	**04 29 46.2**	**-1.5**
	comp=Z,43nm,1.1s,mb5.3						
MBWA				LR	LR		
	comp=Z,6μm,20.0s,MS5.3						
XAN	**Xi'an**	**33.37**	**20**	P	**P**	**04 29 46.1**	**-1.8**
XAN				AP	pP	04 29 55.5	+0.1
XAN				S	**S**	**04 35 06.8**	**+0.7**
XAN				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.5						
XAN				LR	LR		
	comp=N,6μm,17.6s,MS5.7						
XAN				LR	LR		
	comp=E,11μm,15.3s,MS5.7						
XAN				LR	LR		
	comp=Z,9μm,18.2s,MS5.5						
LZH	**Lanzhou**	**33.93**	**12**	*e*P	**P**	**04 29 52.4**	**-0.3**
LZH				AP	pP	04 30 02.8	+2.6
LZH				XP	sP	04 30 05.1	+1.6
LZH				PP	PP	04 31 12.0	+5.5
LZH				S	**S**	**04 35 20.3**	**+5.6**
LZH				XS		04 35 35.3	
LZH				AMB	AMB		
	comp=Z,450nm,1.2s,mb6.3						
LZH				AMB	AMB		
	comp=Z,1μm,4.9s						
LZH				LR	LR		
	comp=E,25μm,17.3s						
LZH				LR	LR		
	comp=Z,27μm,18.0s,MS6.0						
FITZ	**Fitzroy Crossi**	**35.91**	**126**	*e*P	**P**	**04 30 07.3**	**-2.5**
	comp=Z,30nm,0.8s,mb5.3						
NJ2	**Nanjing**	**36.23**	**34**	*e*P	**P**	**04 30 12.4**	**+0.1**
NJ2				AP	pP	04 30 19.9	0.0
NJ2				XP	sP	04 30 22.0	-1.1
NJ2				PP	PP	04 31 33.4	-2.0
NJ2				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,530nm,12.0s						
NJ2				LR	LR		
	comp=N,15μm,16.3s,MS6.2						
NJ2				LR	LR		
	comp=E,23μm,14.4s,MS6.2						
NJ2				LR	LR		
	comp=Z,7μm,13.8s,MS5.6						
GTA	**Gaotai**	**36.61**	**5**	P	**P**	**04 30 14.3**	**-1.2**
GTA				AP	pP	04 30 21.1	-2.0
GTA				PP	PP	04 31 40.5	+0.2
GTA				PCP	PcP	04 32 39.5	+0.8
GTA				S	**S**	**04 35 55.1**	**-1.1**
GTA				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.5						
GTA				AMB	AMB		
	comp=Z,850nm,11.8s						
GTA				LR	LR		
	comp=N,6μm,17.1s,MS5.6						
GTA				LR	LR		
	comp=E,6μm,15.6s,MS5.6						
GTA				LR	LR		
	comp=Z,8μm,17.1s,MS5.6						
SSE	**Sheshan**	**36.90**	**38**	*e*P	**P**	**04 30 16.3**	**-1.7**
SSE				XP	sP	04 30 28.5	-0.3
SSE				PP	PP	04 31 41.3	-2.8
SSE				PCP	PcP	04 32 36.4	-3.2
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,570nm,4.5s						
SSE				LR	LR		
	comp=N,7μm,18.6s,MS5.8						
SSE				LR	LR		
	comp=E,13μm,18.7s,MS5.8						
SSE				LR	LR		
	comp=Z,10μm,15.7s,MS5.7						
TIA	**Tai'an**	**38.59**	**28**	*e*P	**P**	**04 30 28.3**	**-3.9**
TIA				S	**S**	**04 36 27.8**	**+1.4**
TIA				AMB	AMB		
	comp=Z,90nm,1.3s,mb5.3						
TIA				LR	LR		
	comp=N,12μm,15.0s,MS6.0						
TIA				LR	LR		
	comp=E,9μm,13.0s,MS6.0						
JOW	**Kunigami**	**39.14**	**49**	LR	LR	04 47 58.9	
	comp=E,3μm,19.2s,MS5.2,baz=304,slow=38						
MUN	**Mundaring**	**39.60**	**152**	*e*P	**P**	**04 30 41.6**	**+1.0**
BTO	**Baotou**	**39.74**	**17**	*e*P	**P**	**04 30 42.4**	**+0.8**
BTO				S	**S**	**04 36 45.6**	**+2.0**
BTO				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.4						
BTO				LR	LR		
	comp=N,620nm,13.7s,MS5.3						
BTO				LR	LR		
	comp=E,3μm,15.7s,MS5.3						
KLBR	**Kellerberrin**	**40.02**	**150**	*e*P	**P**	**04 30 45.3**	**+1.3**
	comp=E,24nm,0.9s,mb4.9						
HHC	**Hu-ho-hao-te**	**40.43**	**18**	*e*P	**P**	**04 30 49.3**	**+2.0**
HHC				AP	pP	04 30 54.9	-0.1
HHC				XP	sP	04 30 58.1	0.0
HHC				PP	PP	04 32 27.3	+3.4
HHC				PCP	PcP	04 32 49.9	-0.7
HHC				SCP		04 36 38.3	
HHC				PCS		04 36 41.3	
HHC				S	**S**	**04 36 57.3**	**+3.3**
HHC				SS	SS	04 39 52.1	+4.0
HHC				SCS	ScS	04 40 51.6	+2.1
HHC				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.4						
HHC				AMB	AMB		
	comp=Z,840nm,3.6s						
HHC				LR	LR		
	comp=N,17μm,14.3s,MS6.0						
HHC				LR	LR		
	comp=E,6μm,15.5s,MS6.0						
HHC				LR	LR		
	comp=Z,15μm,15.5s,MS6.0						
KSH	**Kashi**	**40.79**	**336**	P	**P**	**04 30 48.8**	**-1.5**
KSH				AP	pP	04 30 59.0	+1.0
KSH				XP	sP	04 31 02.8	+1.7
KSH				PP	PP	04 32 25.1	-2.4
KSH				PCP	PcP	04 32 50.4	-1.4
KSH				PPP	PPP	04 32 53.0	-3.5
KSH				SCP		04 36 36.1	
KSH				PCS		04 36 40.3	
KSH				S	**S**	**04 36 55.8**	**-3.6**
KSH				SCS	ScS	04 40 49.6	-2.1
KSH				AMB	AMB		
	comp=Z,380nm,5.2s						
KSH				LR	LR		
	comp=N,2μm,16.3s						
KSH				LR	LR		
	comp=E,8μm,22.8s						
NWAO	**Narrogin (SRO)**	**40.86**	**152**	P	**P**	**04 30 52.1**	**+1.2**
	comp=E,15nm,0.9s,mb4.6,baz=322,slow=11,SNR=8.5						
NWAO	**Narrogin (SRO)**	**40.86**	**152**	*e*P	**P**	**04 30 51.9**	**+0.9**
	comp=E,48nm,1.1s,mb5.0						
NWAO				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
MSEY	**Mahe Island**	**41.07**	**260**	PFAKE		04 31 00.0	+7.1
MSEY				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
WMQ	**Urumqi**	**41.49**	**351**	P	**P**	**04 30 56.4**	**+0.4**
WMQ				AP	pP	04 31 06.1	+2.4
WMQ				XP	sP	04 31 10.1	+3.3
WMQ				PP	PP	04 32 36.0	+1.0
WMQ				PCP	PcP	04 32 55.4	+1.4
WMQ				PPP	PPP	04 33 05.4	-0.3
WMQ				PCS		04 36 44.4	
WMQ				S	**S**	**04 37 09.4**	**-0.3**
WMQ				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.2						
WMQ

comp=N,6µm,22.4s,MS5.6
WMQ LR LR
comp=E,7µm,21.5s,MS5.6
WMQ LR LR
comp=Z,5µm,21.6s,MS5.3
DL2 Dalian 42.91 30⇑ *i* P **P 04 31 08.3 +0.6**
DL2 PP PP 04 32 53.3 +3.6
DL2 S **S 04 37 35.8 +5.2**
DL2 AMB AMB
comp=Z,110nm,1.0s,mb5.5
DL2 AMB AMB
comp=Z,620nm,6.3s
DL2 LR LR
comp=N,4µm,16.5s,MS5.5
DL2 LR LR
comp=E,4µm,15.6s,MS5.5
DL2 LR LR
comp=Z,3µm,14.0s,MS5.4
KZA Kyzart 43.27 337 P **P 04 31 12.3 +1.8**
SNR=11
UCH Uchtor 43.68 337 P **P 04 31 13.9 0.0**
SNR=31
AAA Alma-Ata 43.69 340 *i* P **P 04 31 14.2 +0.2**
AAA *i* S **S 04 37 44.4 +2.5**
AAA pmax pmax
comp=Z,2µm,4.5s
AAA smax
comp=E,4µm,7.3s
AAA MLR MLR
comp=Z,3µm,16.9s,MS5.2
TKM2 Tokmak 2 43.86 338 P **P 04 31 15.6 +0.2**
SNR=20
TKM2 Tokmak 2 43.86 338 P **P 04 31 14.8 -0.6**
TKM2 pmax pmax
comp=Z,168nm,1.6s,mb5.5
KBK Karagaybulak 43.88 338 P **P 04 31 16.0 +0.5**
SNR=26
WRA Warramunga Arr 43.98 123 P **P 04 31 15.3 -1.3**
comp=Z,19nm,0.7s,mb5.0,baz=302,slow=9.1,SNR=60
WRA S **S 04 37 42.1 -4.3**
comp=Z,3.2nm,1.1s,baz=297,slow=17,SNR=4.9
WRAB Tennant Creek 43.98 123 *i* P **P 04 31 16.3 -0.3**
WRAB Tennant Creek 43.98 123 *e*P **P 04 31 14.4 -2.2**
comp=Z,46nm,0.7s,mb5.3
WRAB LR LR
comp=Z,2µm,20.0s,MS5.0
WB2 Warramunga Arr 43.98 123 *e*P **P 04 31 15.1 -1.6**
AAK Ala-Archa 44.03 337 *e*P **P 04 31 16.8 0.0**
comp=Z,58nm,1.0s,mb5.3
AAK LR LR
comp=Z,1µm,20.0s,MS4.9
FRU Bishkek 44.15 337 *e*P **P 04 31 20.0 +2.2**
FRU *e*S **S 04 37 51.0 +2.3**
FRU *e* 04 38 06.0
FRU pmax pmax
comp=Z,180nm,2.5s,mb5.4
FRU MLR MLR
comp=N,5µm,19.0s
FRU MLR MLR
comp=Z,6µm,19.0s,MS5.5
CHMS Chumysh 44.24 338 P **P 04 31 20.4 +1.8**
SNR=8.6
EKS2 Erkin-Say 44.34 337 P **P 04 31 20.0 +0.8**
SNR=17
JNU Nakatsue 44.50 43 LR LR 04 51 56.3
comp=Z,5µm,20.1s,MS5.4,baz=257,slow=39
INCN Inchon 44.57 35 PFAKE 04 31 30.0 +8.8
INCN LR LR
comp=Z,9µm,19.0s,MS5.7
USP Ospenovka 44.57 338 P **P 04 31 20.7 -0.5**
SNR=36
KS15 Wonju Array Si 45.27 36 *e*P **P 04 31 25.6 -1.2**
FORT Forrest 45.32 140 *e*P **P 04 31 28.5 +1.2**
comp=Z,53nm,0.6s,mb5.5
MKAR Makanchi Array 45.39 347 P **P 04 31 26.5 -1.1**
comp=Z,24nm,0.4s,mb5.4,baz=162,slow=7.8,SNR=181
MKAR LR LR 04 53 31.6
comp=Z,2µm,20.9s,MS5.1,baz=168,slow=40
MKAR Makanchi Array 45.39 347 *e*P **P 04 31 26.9 -0.7**
MKAR pmax pmax
comp=Z,55nm,0.7s
SONM Songino Array 45.77 10 P **P 04 31 30.1 -0.5**
comp=Z,52nm,0.8s,mb5.5,baz=191,slow=8.9,SNR=74
SONM PcP PcP 04 33 09.2 +0.8
comp=Z,3.6nm,0.5s,baz=203,slow=2.8,SNR=4.8
ULN Ulaanbaatar 45.91 10⇑ *i* P **P 04 31 32.2 +0.5**
ULN LR LR
comp=Z,9µm,20.0s,MS5.7
KKAR Karatay Array 46.06 334 *e*P **P 04 31 32.9 -0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
SNY Shenyang 46.10 29⇓ P **P 04 31 32.6 -0.7**
SNY PP PP 04 33 20.4 -1.2
SNY S **S 04 38 20.1 +3.4**
SNY AMB AMB
comp=Z,60nm,0.9s,mb5.5
SNY LR LR
comp=N,11µm,17.5s,MS5.9
SNY LR LR
comp=E,6µm,15.9s,MS5.9
SNY LR LR
comp=Z,10µm,17.1s,MS5.8
ZAK Zakamensk 47.82 6 *e*P **P 04 31 46.5 -0.3**
ZAK pmax pmax
comp=Z,15nm,1.0s,mb5.0
CN2 Changchun 48.50 28 *e*P **P 04 31 52.3 +0.2**
CN2 *e*AP pP 04 32 00.6 +0.8
CN2 PP PP 04 33 44.4 -0.1
CN2 AMB AMB
comp=Z,60nm,0.7s,mb5.7
CN2 AMB AMB
comp=Z,1µm,6.0s
CN2 LR LR
comp=N,5µm,18.0s,MS5.7
CN2 LR LR
comp=E,6µm,18.0s,MS5.7
CN2 LR LR
comp=Z,7µm,16.0s,MS5.7
MOY Mondy 48.88 4 *e*P **P 04 31 55.8 +0.9**
MOY pmax pmax
comp=Z,58nm,3.9s
GUMO Guam 49.53 75 PFAKE 04 32 10.0 +10
GUMO LR LR
comp=Z,3µm,20.0s,MS5.2
HASS Wahat al Ahsa' 49.70 301 P **P 04 32 03.9 +2.2**
IRK Irkutsk 49.77 7 *e*P **P 04 31 56.5 -5.2**
IRK pmax pmax
comp=Z,110nm,2.2s,mb5.5
KURK Kurchatov 49.93 346⇓ *e*P **P 04 32 02.6 -0.4**
KURK Kurchatov 49.93 346 *e*P **P 04 32 01.4 -1.6**
comp=Z,203nm,1.5s,mb5.9
KURK LR LR
comp=Z,2µm,22.0s,MS5.0
HIA Hailar 50.57 20 *e*P **P 04 32 07.4 -0.5**
HIA pmax pmax
comp=Z,91nm,1.1s
HIA MLR MLR
comp=Z,9µm,21.0s
HIA Hailar 50.57 20 *e*P **P 04 32 07.4 -0.5**
comp=Z,91nm,1.1s,mb5.6
HIA LR LR
comp=Z,9µm,21.0s,MS5.8
MDJ Mudanjiang 51.13 31 P **P 04 32 12.8 +0.6**
MDJ AP pP 04 32 19.0 -1.0
MDJ PCP PcP 04 33 27.3 -0.5
MDJ PP PP 04 34 10.1 +0.3
MDJ AMB AMB
comp=Z,40nm,1.3s,mb5.2
MDJ LR LR
comp=N,3µm,21.3s,MS5.5
MDJ LR LR
comp=E,3µm,22.9s,MS5.5
MDJ LR LR
comp=Z,4µm,21.3s,MS5.4
MDJ Mudanjiang 51.13 31 *e*P **P 04 32 11.2 -1.1**
comp=Z,59nm,1.1s,mb5.4
MDJ LR LR
comp=Z,6µm,20.0s,MS5.6
CIT Chita 51.22 14 *e*P **P 04 32 13.4 +0.6**
CIT pmax pmax
comp=Z,134nm,1.0s,mb5.8
MAJO Matsushiro 51.41 44 PFAKE 04 32 30.0 +16
MAJO LR LR
comp=Z,4µm,20.0s,MS5.4
MJAR Matsushiro Arr 51.41 44 P **P 04 32 14.4 -0.1**
comp=Z,4.8nm,0.8s,mb4.5,baz=225,slow=7.9,SNR=7.4
MJAR PcP PcP 04 33 29.4 +0.4
comp=Z,11nm,1.1s,baz=238,slow=5.4,SNR=5.8
MJAR LR LR 04 56 18.4
comp=Z,3µm,18.9s,MS5.4,baz=250,slow=39
MJAR Matsushiro Arr 51.41 44 P **P 04 32 14.4 -0.1**
MJAR PcP PcP 04 33 29.4 +0.4
MJAR LR LR 04 56 18.4
ZAL Zalesovo 51.78 352 P **P 04 32 16.1 -0.9**
comp=Z,28nm,0.5s,mb5.4,baz=301,slow=6.6,SNR=40
QRN Al-Qurain 52.40 305 *e*P **P 04 32 25.0 +3.0**
OPO Ambohidratompo 52.43 244 P **P 04 32 21.0 -1.4**
comp=Z,3.6nm,0.6s,mb4.5,baz=72,slow=10,SNR=2.9
PMG Port Moresby 52.48 104 P **P 04 32 22.0 -0.9**
comp=Z,28nm,0.6s,mb5.4,baz=0.1,slow=2.4,SNR=20
PMG Port Moresby 52.48 104 *e*P **P 04 32 21.5 -1.4**
PMG pmax pmax
comp=Z,28nm,0.6s
PMG MLR MLR
comp=Z,3µm,20.0s
PMG Port Moresby 52.48 104 *e*P **P 04 32 21.4 -1.4**
comp=Z,28nm,0.6s,mb5.4
PMG LR LR
comp=Z,3µm,20.0s,MS5.3
RDF Al-Radifah 52.76 305 *e*P **P 04 32 25.2 +0.4**
RDF AMb AMB 04 32 34.0
comp=Z,272nm,1.3s,mb6.0
NVS Novosibirsk 52.90 351 *e*P **P 04 32 23.3 -2.1**
NVS *e*S **S 04 39 52.0 +0.9**
NVS pmax pmax
comp=Z,70nm,1.3s,mb5.4
NVS pmax pmax
comp=N,76nm,1.7s
NVS pmax pmax
comp=E,41nm,1.3s
NVS smax
comp=N,46nm,1.7s
NVS smax
comp=E,60nm,1.6s
NAY Al-Naaiem 53.12 305 *e*P **P 04 32 27.4 -0.1**
NAY AMb AMB 04 32 36.4
comp=Z,71nm,1.1s,mb5.5
MIB Mutribah 53.24 306 *e*P **P 04 32 27.1 -1.2**
MIB AMb AMB 04 32 37.6
comp=Z,240nm,0.7s,mb6.2
ATD Arta Tunnel 53.28 282 P **P 04 32 31.8 +3.1**
comp=Z,3.2nm,0.4s,mb4.6,baz=307,slow=20,SNR=2.7
DJNS Zahran al Janu 53.41 290 P **P 04 32 32.7 +3.0**
TATS Tathlith 53.81 292 P **P 04 32 32.8 +0.2**
BVA0 Borovoye Array 54.33 341 *i* P **P 04 32 34.4 -1.5**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BVAR Borovoye Array 54.33 341 P **P 04 32 34.5 -1.4**
comp=Z,7.6nm,0.6s,mb4.8,baz=143,slow=7.4,SNR=33
CTA Charters Tower 54.37 117 *e*P **P 04 32 35.5 -1.2**
comp=Z,20nm,0.7s,mb5.2
CTA Charters Tower 54.37 117 P **P 04 32 35.7 -0.9**
comp=Z,24nm,0.7s,mb5.2,baz=289,slow=8.3,SNR=40
CTA Charters Tower 54.37 117 *e*P **P 04 32 35.5 -1.2**
CTA pmax pmax
comp=Z,20nm,0.7s
CTAO Charters Tower 54.37 117 *e*P **P 04 32 35.4 -1.3**
comp=Z,24nm,0.8s,mb5.2
CTAO LR LR
comp=Z,4µm,20.0s,MS5.5
BRVK Borovoye 54.39 341 *e*P **P 04 32 34.5 -1.9**
comp=Z,21nm,0.8s,mb5.1
BRVK LR LR
comp=Z,656nm,22.0s,MS4.7
ZRNK Zerenda 54.72 340 *i* P **P 04 32 36.9 -1.9**
ZRNK Zerenda 54.72 340 *e*P **P 04 32 36.4 -2.4**
comp=Z,44nm,0.9s,mb5.5
STKA Stephens Creek 55.38 132 *e*P **P 04 32 42.4 -1.5**
comp=Z,13nm,0.6s,mb5.1
STKA Stephens Creek 55.38 132 P **P 04 32 42.9 -1.1**
comp=Z,19nm,0.7s,mb5.2,baz=294,slow=6.9,SNR=31
STKA LR LR 04 58 43.1
comp=Z,2µm,21.5s,MS5.2,baz=303,slow=38
KLR Kul'dur 55.43 28 *e*P **P 04 32 41.0 -3.0**
KLR *e*S **S 04 40 25.5 +0.1**
KLR pmax pmax
comp=N,1µm,10.5s
KLR pmax pmax
comp=Z,2µm,10.5s
AB31 Akbulak array 55.51 332 P **P 04 32 42.9 -1.7**
AB31 pmax pmax
comp=Z,162nm,1.2s,mb5.9
AB31 Akbulak array 55.51 332 *i* P **P 04 32 42.9 -1.7**
HABR Khabarovsk 56.51 30⇑ *i* P **P 04 32 51.2 -0.6**
HABR pmax pmax
comp=Z,100nm,1.4s,mb5.7
HABR MLR MLR
comp=Z,4µm,18.0s,MS5.6
BOD Bodaibo 56.70 11 *e*P **P 04 32 51.9 -1.1**
BOD pmax pmax
comp=Z,49nm,1.0s,mb5.5
AKTO Aktyubinsk 57.22 332 P **P 04 32 56.1 -0.8**
comp=Z,17nm,0.8s,mb5.1,baz=126,slow=7.6,SNR=29
AKTO LR LR 05 00 07.3
comp=Z,2µm,20.5s,MS5.1,baz=26,slow=39
CLNS Chul'man 58.62 18 *e*P **P 04 33 06.6 +0.1**
CLNS pmax pmax
comp=N,22nm,1.0s
CLNS pmax pmax
comp=E,25nm,1.0s
CLNS pmax pmax
comp=Z,37nm,1.0s,mb5.4
MAK Makhachkala 58.69 320 *e*P **P 04 33 07.0 -0.2**
MAK *e* 04 33 55.0
MAK *e* 04 35 15.0
MAK *e*PPP PPP 04 36 45.0 +2.3
MAK *i* S **S 04 41 09.0 +0.5**
MAK *i* 04 42 52.0
MAK *e*SS SS 04 45 10.0 +6.7
MAK pmax pmax
comp=Z,600nm,6.0s
MAK smax
comp=N,1µm,7.0s
MAK smax
comp=E,600nm,7.0s
KMBO Kilima Mbogo 58.77 267 LR LR 04 55 44.9
comp=E,8µm,19.0s,MS5.9,baz=84,slow=33
KMBO Kilima Mbogo 58.77 267 PFAKE 04 33 20.0 +12
KMBO LR LR
comp=Z,6µm,20.0s,MS5.7
GNI Garni 59.25 316 P **P 04 33 13.3 +2.1**
comp=Z,5.8nm,0.7s,mb4.7,slow=18,SNR=3.4
GNI LR LR 05 00 34.0
comp=Z,2µm,21.9s,MS5.1,baz=138,slow=38
YSS Yuzh-Sakhalins 59.78 35 *e*P **P 04 33 16.0 +1.3**
YSS MLR MLR
comp=Z,4µm,16.0s,MS5.6
YSS Yuzh-Sakhalins 59.78 35 *i* P **P 04 33 13.6 -1.1**
YSS LR LR
comp=Z,5µm,20.0s,MS5.7
ARU Arti 61.22 337⇑ *i* P **P 04 33 22.9 -1.5**
ARU *e* 04 34 00.9
ARU *e* 04 35 35.3
ARU *e*PPP PPP 04 37 03.8 -5.8
ARU *e*S **S 04 41 43.0 +2.2**
ARU *e* 04 43 08.6
ARU *e*SS SS 04 45 41.6 -1.0
ARU *e*SSS SSS 04 48 28.2 +7.0
ARU pmax pmax
comp=Z,35nm,1.0s,mb5.4
ARU MLR MLR
comp=Z,5µm,20.0s,MS5.6
ARU MLR MLR
comp=N,2µm,18.0s,MS5.6
ARU MLR MLR
comp=E,3µm,21.0s,MS5.6
ARU Arti 61.22 337 *e*P **P 04 33 21.2 -3.2**
ARU LR LR
comp=Z,1µm,19.0s,MS5.1
KIV Kislovodsk 62.26 319 *e*P **P 04 33 30.9 -0.7**
KIV pmax pmax
comp=Z,33nm,0.8s,mb5.5
KIV MLR MLR
comp=Z,1µm,20.0s,MS5.1
KIV Kislovodsk 62.26 319 *e*P **P 04 33 30.9 -0.7**
comp=Z,33nm,0.8s,mb5.5
KIV LR LR
comp=Z,1µm,20.0s,MS5.1
ARMA Armidale 62.51 126 *e*P **P 04 33 35.1 +1.6**
GOF Gofitskoye 62.52 320 *e*P **P 04 33 38.7 +5.4**
MALT Malatya 63.11 312 P **P 04 33 37.3 +0.1**
MALT pmax pmax
comp=Z,29nm,1.2s,mb5.3
MALT Malatya 63.11 312 *e*P **P 04 33 37.3 0.0**
comp=Z,29nm,1.2s,mb5.3
ALWS Ilw as Safayha 63.34 301 P **P 04 33 39.8 +0.9**
HAQS Haql 63.40 301 P **P 04 33 40.0 +0.7**
SOC Sochi 64.08 318 *e*P **P 04 33 40.7 -2.9**
SOC *e*S **S 04 42 14.9 -2.1**
SOC *e**SS 04 42 54.3
SOC pmax pmax
comp=Z,60nm,1.1s,mb5.5
SOC MLR MLR
comp=Z,1µm,20.0s,MS5.1
SOKR Solikamsk 64.14 339 *d* i P **P 04 33 43.5 -0.2**
SOKR S **S 04 42 20.4 +3.0**
SOKR pmax pmax
comp=Z,70nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,3µm,18.0s,MS5.5
YAK Yakutsk 64.26 17 *e*P **P 04 33 42.3 -2.2**
YAK pmax pmax
comp=Z,193nm,1.1s,mb6.0
YAK MLR MLR
comp=Z,9µm,22.0s,MS5.9
YAK Yakutsk 64.26 17 *e*P **P 04 33 42.3 -2.2**
comp=Z,193nm,1.1s,mb6.0
YAK LR LR
comp=Z,9µm,22.0s,MS5.9
TAU Tasmania Unive 64.86 141 PFAKE 04 34 00.0 +11
TAU LR LR
comp=Z,541nm,20.0s,MS4.7
HNR Honiara 64.94 102 PFAKE 04 34 00.0 +10
HNR LR LR
comp=Z,1µm,19.0s,MS5.0
ANN Anapa 66.05 318 *e*P sP 04 34 09.5 +2.4
ANN pmax pmax
comp=Z,192nm,1.3s,mb6.0
BR131 Keskin Array S 67.09 312 PFAKE 04 34 10.0 +7.0
BR131 LR LR
comp=Z,1µm,21.0s,MS5.1
BRTR Keskin Array B 67.09 312 P **P 04 34 03.1 +0.2**
comp=Z,1.8nm,0.6s,mb4.3,baz=117,slow=3.2,SNR=6.0
VRSR Storozhevoye 67.51 325 *e*P **P 04 34 03.1 -2.4**
VRSR *e**PP pP 04 34 12.2 -1.2
VRSR *e*S S 04 42 54.6 -4.1
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
VRSR pmax pmax
comp=E,2.0nm,0.8s
VRSR smax
comp=N,70nm,3.8s
VRSR smax
comp=Z,110nm,5.2s
VRSR smax
comp=E,70nm,4.9s
VRSR MLR MLR
comp=Z,200nm,19.0s
VRSR MLR MLR
comp=N,320nm,21.0s,MS4.5
VRSR MLR MLR
comp=E,70nm,20.0s,MS4.5
VOR Voronezh 67.73 326 P **P 04 34 05.0 -1.8**
VOR pmax pmax
comp=Z,60nm,1.4s,mb5.4
ANTO Ankara 67.75 312 P **P 04 34 06.4 -0.8**
comp=Z,20nm,1.0s,mb5.1
ANTO LR LR
comp=Z,1µm,22.0s,MS5.2
SIM Simferopol' 68.32 318 *e*P **P 04 34 12.2 +1.6**
SIM *e*S S 04 43 10.0 +1.5
SIM *e*PS PS 04 43 29.0 -7.7
SIM pmax pmax
comp=Z,170nm,10.9s
LSZ Lusaka 69.34 253 PFAKE 04 34 30.0 +13
LSZ LR LR
comp=Z,4µm,22.0s,MS5.6
CASY Casey 69.72 174 PFAKE 04 34 30.0 +11
CASY LR LR
comp=Z,3µm,20.0s,MS5.6
MOS Moscow 70.31 329 *e*P **P 04 34 26.9 +4.3**
MOS *e* 04 34 40.4
MOS *i* 04 37 02.7
MOS pmax pmax
comp=Z,212nm,1.4s,mb5.9
MOS MLR MLR
comp=E,2µm,21.0s
MOS MLR MLR
comp=Z,5µm,21.0s,MS5.7
MA2 Magadan 70.47 26 *e*P **P 04 34 23.6 +0.1**
MA2 *e* 04 34 40.7
MA2 *e* 04 37 08.1
MA2 *e*S S 04 43 57.0 +23
MA2 *e* 04 44 12.6
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 MLR MLR
comp=Z,11µm,24.4s,MS6.0
MA2 Magadan 70.47 26 *i* P **P 04 34 23.8 +0.3**
MA2 LR LR
comp=Z,3µm,20.0s,MS5.6
OBN Obninsk 70.59 328 *i* P **P 04 34 23.4 -0.9**
OBN *i* pP 04 34 30.5 -1.8
OBN *i* 04 34 42.2
OBN *e* 04 37 02.0
OBN *e*SS SS 04 48 01.9 -6.6
OBN pmax pmax
comp=Z,23nm,0.9s,mb5.1
OBN MLR MLR
comp=Z,3µm,26.0s,MS5.4
OBN Obninsk 70.59 328 *e*P **P 04 34 22.8 -1.6**
comp=Z,31nm,1.0s,mb5.2
OBN LR LR
comp=Z,587nm,20.0s,MS4.8
PET Petropavlovsk 71.64 34 *e*P **P 04 34 28.8 -1.9**
PET *e* 04 34 49.0
PET *e*PPP PPP 04 38 55.1 +1.9
PET *e*S S 04 43 49.4 +2.1
PET pmax pmax
comp=Z,39nm,1.0s,mb5.3
PET pmax pmax
comp=Z,800nm,16.3s
PET pmax pmax
comp=Z,54nm,1.2s,mb5.3
PET pmax pmax
comp=Z,300nm,19.3s
PET pmax pmax
comp=Z,300nm,17.6s
PET smax
comp=N,600nm,25.9s
PET MLR MLR
comp=Z,2µm,17.0s,MS5.5
PET MLR MLR
comp=Z,2µm,18.0s
PET Petropavlovsk 71.64 34 PFAKE 04 34 40.0 +9.3
PET LR LR
comp=Z,3µm,20.0s,MS5.6
KLMR Klimovskoe 71.76 335 *c* i P **P 04 34 30.1 -1.2**
KLMR *e* 04 37 06.4
KLMR *e*S S 04 43 48.7 +0.2
KLMR *e*SS SS 04 48 26.3 -0.1
KLMR pmax pmax
comp=Z,100nm,1.4s,mb5.5
KLMR pmax pmax
comp=Z,300nm,6.2s
KLMR smax
comp=E,1µm,4.9s
TIXI Tiksi 71.85 10 *e*P **P 04 34 25.7 -6.0**
TIXI *e*PPP PPP 04 38 51.3 -3.5
TIXI *e*S S 04 43 40.1 -9.3
TIXI *e*SS SS 04 48 22.0 -5.6
TIXI pmax pmax
comp=Z,69nm,1.5s,mb5.4
TIXI MLR MLR
comp=Z,6µm,15.0s,MS6.0
TIXI MLR MLR
comp=N,4µm,16.0s,MS5.9
TIXI MLR MLR
comp=E,2µm,14.0s,MS5.9
TIXI Tiksi 71.85 10⇑ *i* P **P 04 34 30.3 -1.4**
TIXI LR LR
comp=Z,4µm,21.0s,MS5.7
TIRR Tirgusor 72.08 316 ⇓P **P 04 34 32.3 -1.2**
TIRR Tirgusor 72.08 316 P **P 04 34 33.3 -0.2**

TIRR	Tirgusor	72.08	316	⇓	P		P	04 34 32.3	-1.2		
CFR	Carcaliu	72.45	317	⇑	P		P	04 34 33.7	-2.0		
CFR	Carcaliu	72.45	317	⇓	P		P	04 34 33.7	-2.0		
CFR	Carcaliu	72.45	317	⇑	P		P	04 34 33.7	-2.0		
KIS	Kishinev	72.45	319	*e*	P		P	04 34 36.0	+0.4		
KIS				*e*				04 37 20.0			
KIS				*e*	S		S	04 43 56.0	-0.6		
KIS					MLR		MLR				
	comp=Z,1µm,17.0s,MS5.2										
KIS					MLR		MLR				
	comp=Z,1µm,18.0s										
HARR	Harsova	72.47	316	⇑	P		P	04 34 32.0	-3.8		
HARR	Harsova	72.47	316	⇑	P		P	04 34 32.0	-3.8		
SEY	Seymchan	72.81	24	*e*	P		P	04 34 35.3	-2.2		
SEY								04 34 55.2			
SEY				*e*				04 37 25.1			
SEY				*e*	PPP		PPP	04 39 04.7	+0.3		
SEY				*e*	S		S	04 44 00.6	+0.2		
SEY				*e*				04 44 41.6			
SEY					pmax		pmax				
	comp=N,20nm,1.3s										
SEY					pmax		pmax				
	comp=Z,80nm,1.3s,mb5.5										
SEY					pmax		pmax				
	comp=E,20nm,0.9s										
SEY					smax						
	comp=N,1µm,8.9s										
SEY					smax						
	comp=E,640nm,7.4s										
SEY					MLR		MLR				
	comp=Z,11µm,20.0s,MS6.1										
SEY					MLR		MLR				
	comp=N,4µm,19.0s,MS6.0										
SEY					MLR		MLR				
	comp=E,7µm,21.0s,MS6.0										
SEY	Seymchan	72.81	24	⇓	*e*P		P	04 34 37.5	0.0		
IDI	Anoyia	72.92	306		P		P	04 34 38.0	-0.7		
	comp=E,7.2nm,0.5s,mb4.8,baz=103,slow=14,SNR=7.6										
IDI					LR		LR	05 10 15.6			
	comp=E,2µm,20.9s,MS5.3,baz=83,slow=39										
DZM	Mont Dzumac	73.11	114		P		P	04 34 39.3	-0.7		
	comp=E,7.6nm,0.7s,mb4.7,baz=293,slow=8.1,SNR=9.2										
AKASG	Malin Array Be	73.21	322		P		P	04 34 38.4	-1.7		
	comp=E,6.3nm,0.7s,mb4.7,baz=93,slow=4.9,SNR=21										
LBTB	Lobatse	73.45	243		PFAKE			04 34 50.0	+8.1		
LBTB					LR		LR				
	comp=Z,5µm,19.0s,MS5.8										
VRI	Vrincioaia	73.58	317	⇓	P		P	04 34 42.9	+0.6		
VRI	Vrincioaia	73.58	317	⇓	P		P	04 34 42.9	+0.7		
MAW	Mawson	73.97	193		P		P	04 34 45.3	+1.2		
	comp=E,1.9nm,0.8s,baz=72,slow=9.6,SNR=3.9										
MAW					LR		LR	05 03 48.5			
	comp=Z,2µm,18.0s,MS5.5,baz=36,slow=33										
MLR	Muntele Rosu	74.03	317		P		P	04 34 45.1	+0.2		
	comp=Z,7.3nm,0.8s,mb4.7,baz=85,slow=10,SNR=8.7										
MLR	Muntele Rosu	74.03	317	⇑	P		P	04 34 45.9	+1.0		
MLR	Muntele Rosu	74.03	317	⇑	P		P	04 34 45.9	+1.0		
BURAR	Bucovina Array	74.98	319	⇓	P		P	04 34 50.0	-0.4		
BURAR	Bucovina Array	74.98	319	⇓	P		P	04 34 50.0	-0.3		
MNK	Minsk	75.11	326	⇑	*e*P		P	04 34 48.0	-3.0		
VTS	Vitosha	75.40	313	⇑	P		P	04 34 47.6	-5.3		
PUL	Pulkovo	75.48	332	⇓	*e*P		P	04 34 55.1	+2.1		
PUL					*e*S		S	04 44 29.2	-1.1		
PUL					*e*			04 45 03.8			
PUL					pmax		pmax				
	comp=Z,86nm,1.0s,mb5.6										
PUL					pmax		pmax				
	comp=N,59nm,0.9s										
PUL					pmax		pmax				
	comp=E,156nm,0.9s										
PUL					smax						
	comp=N,890nm,3.8s										
PUL					MLR		MLR				
	comp=Z,2µm,14.0s,MS5.5										
PUL					MLR		MLR				
	comp=N,1µm,19.0s										
DRV	Dumont d'Urvil	76.04	163		P		P	04 35 02.0	+6.0		
DRV					S		S	04 44 39.0	+2.7		
DRV					SS		SS	04 49 35.0	+2.5		
VSU	Vasula	76.83	330	*i*	P		P	04 35 00.8	+0.3		
LVZ	Lovozero	76.90	340	⇓	*e*P		P	04 35 02.6	+1.8		
LVZ				*e*	S		S	04 44 43.6	-2.0		
LVZ				*e*				04 45 16.3			
LVZ				*e*	SSS		SSS	04 52 57.6	-3.6		
LVZ					pmax		pmax				
	comp=Z,17nm,0.6s,mb5.2										
LVZ					pmax		pmax				
	comp=N,15nm,1.4s										
LVZ					pmax		pmax				
	comp=E,19nm,1.3s										
LVZ					MLR		MLR				
	comp=Z,31nm,0.8s										
LVZ					MLR		MLR				
	comp=N,21nm,0.9s										
LVZ					MLR		MLR				
	comp=E,20nm,1.0s										
KWP	Kalwaria	77.02	320	*e*	P		P	04 35 04.2	+2.4		
KWP				*e*	pP		pP	04 35 09.7	-0.2		
KWP					MLR		MLR	05 13 18.2			
	comp=E,1µm,21.0s,MS5.2										
KOLS	Kolonicke sedl	77.17	320	*e*	P		P	04 35 02.5	-0.2		
KOLS				*e*	sP		sP	04 35 12.3	-1.2		
APA	Apatity	77.19	340	*e*	P		P	04 35 00.0	-2.4		
APA				*i*	pP			04 35 08.0	-2.5		
APA				*i*				04 35 10.5			
APA				*i*	S		S	04 44 51.0	+2.2		
APA				*i*	PS		PS	04 45 40.0	+8.6		
APA					pmax		pmax				
	comp=Z,221nm,1.0s,mb6.0										
SUW	Suwalki	77.63	325	*e*	P		P	04 35 04.6	-0.5		
SUW				*e*	PcP		PcP	04 35 12.7	-2.9		
SUW				*e*	S		S	04 44 50.2	-3.6		
SUW				*e*	SKS		SKS	04 45 12.2	-7.2		
SUW					MLR		MLR	05 14 40.2			
	comp=Z,1µm,23.7s,MS5.2										
SUW	Suwalki	77.63	325	*e*	P		P	04 35 04.6	-0.5		
SUW				*e*	PcP		PcP	04 35 12.7	-2.9		
SUW				*e*	S		S	04 44 50.2	-3.6		
SUW				*e*	SKS		SKS	04 45 12.3	-7.1		
CRVS	Cervenica-Dubn	77.69	319	*e*	P		P	04 35 02.8	-2.7		
CRVS				*e*				04 35 16.2			
STHS	Stebnicka Huta	77.92	320	*e*	P		P	04 35 07.0	+0.2		
STHS				*e*	sP		sP	04 35 17.5	-0.1		
FINES	FINESS Array B	77.99	333		P		P	04 35 06.3	-0.6		
	comp=Z,8.8nm,0.8s,mb4.8,baz=103,slow=5.7,SNR=42										
FINES					LR		LR	05 14 23.0			
	comp=Z,3µm,20.7s,MS5.5,baz=296,slow=39										
KAF	Kangasniemi	78.08	333	*e*	p		P	04 35 06.2	-1.2		
KECS	Kecovo	78.26	319	*e*	P		P	04 35 08.5	-0.2		
KECS				*e*				04 35 19.8			
NIE	Niedzica	78.52	320	*e*	P		P	04 35 12.4	+2.3		
WAR	Warsaw	78.56	323	*e*	P		P	04 35 08.4	-1.8		
WAR				*e*	pP		pP	04 35 12.7	-5.6		
WAR					MLR		MLR	05 12 30.8			
	comp=Z,4µm,23.2s,MS5.7										
WAR	Warsaw	78.56	323	*e*	P		P	04 35 08.4	-1.8		
WAR				*e*	pP		pP	04 35 12.7	-5.6		
WAR					LR		LR				
	comp=Z,4µm,23.2s,MS5.7										
PSZ	Piszkesteto	78.56	318	⇓	*i*sP		sP	04 35 12.4	-8.8		
OJC	Ojcow	78.98	321	*e*	P		P	04 35 12.3	-0.3		
OJC				*e*	PcP		PcP	04 35 31.0	+10		
OJC				*e*	S		S	04 45 05.6	-2.7		
OJC					MLR		MLR	05 16 12.5			
	comp=Z,1µm,20.3s,MS5.3										
OJC	Ojcow	78.98	321	*e*	P		P	04 35 12.3	-0.3		
OJC				*e*	S		S	04 45 05.6	-2.7		
PKSM	Moragy	79.18	316	⇓	*e*P		P	04 35 13.4	-0.3		
LIKS	Likavka	79.25	319	*e*	S		S	04 45 16.3	+5.1		
VYHS	Vyhne	79.35	319	*e*			P	04 35 12.9	-1.7		
VYHS				*e*	pP		pP	04 35 20.6	-2.1		
VYHS				*e*	S		S	04 45 12.0	-0.3		
VYHS				*e*	ScS		ScS	04 45 35.3	+2.6		
SRO2	Moca	79.54	318	*e*	P		P	04 35 17.6	+1.9		
SRO	Srobarova	79.60	318	*e*	P		P	04 35 17.8	+1.8		
TSUM	Tsumeb	79.91	250		PFAKE			04 35 30.0	+12		
TSUM					LR		LR				
	comp=Z,4µm,19.0s,MS5.8										
OKC	Ostrava-Krasne	79.97	320	*e*	P		P	04 35 11.5	-6.5		
OKC				*ex*			x	04 35 24.7			
OKC					AMS		AMS	05 17 20.0			
	comp=Z,1µm,15.6s										
FX1	Attu Island--F	80.09	37	*i*	P		P	04 35 20.6	+2.2		
BILL	Bilibino	80.14	21	*i*	P		P	04 35 19.1	+0.6		
BILL				*e*				04 38 27.4			
BILL				*e*	S		S	04 45 11.8	-8.4		
BILL				*e*	SS		SS	04 50 35.4	+1.4		
BILL					pmax		pmax				
	comp=Z,7.0nm,1.0s,mb4.5										
BILL	Bilibino	80.14	21	*e*	P		P	04 35 18.3	-0.2		
	comp=Z,5.8nm,0.6s,mb4.7										
BILL					LR		LR				
	comp=Z,5µm,21.0s,MS5.8										
KEV	Kevo	80.17	341	*e*	P		P	04 35 14.0	-4.6		
KEV					LR		LR				
	comp=Z,3µm,20.0s,MS5.7										
MORC	Moravsky Berou	80.36	320		P		P	04 35 12.2	-7.8		
MORC					pmax		pmax				
	comp=Z,47nm,1.5s,mb5.2										
MORC	Moravsky Berou	80.36	320	⇓	P		P	04 35 11.8	-8.1		
ZST	Bratislava	80.46	318	*e*	P		P	04 35 20.9	+0.3		
ZST				*e*	sS			04 45 37.2			
ARCES	ARCESS Array B	80.61	340		P		P	04 35 20.4	-0.5		
	comp=Z,13nm,0.8s,mb4.9,baz=97,slow=5.1,SNR=68										
ARCES					LR		LR	05 17 12.8			
	comp=Z,4µm,19.0s,MS5.7,baz=223,slow=40										
ARE0	ARCESS Array S	80.61	340	*e*	P		P	04 35 21.0	+0.1		
VRAC	Vranov	80.92	319		P		P	04 35 25.3	+2.4		
	comp=Z,1.6nm,0.5s,mb4.2,baz=111,slow=8.6,SNR=3.2										
SYO	Syowa Base	81.12	198	⇑	P		P	04 35 26.2	+2.6		
SYO	Syowa Base	81.12	198	⇑	*e*P		P	04 35 26.2	+2.6		
DPC	Dobruska-Polom	81.20	320	*e*	P		P	04 35 22.5	-1.9		
DPC					AMS		AMS	05 18 50.0			
	comp=Z,1µm,17.7s										
KTK1	Kautokeino	81.23	340	*e*	P		P	04 35 23.8	-0.5		
KTK1					AMb		AMB	04 35 27.6			
	comp=Z,59nm,1.4s,mb5.3										
KTK1	Kautokeino	81.23	340	*e*	P		P	04 35 23.8	-0.5		
	comp=Z,59nm,1.4s,mb5.3										
KSP	Ksiaz	81.28	321	*e*	P		P	04 35 26.2	+1.4		
KSP				*e*	pP		pP	04 35 33.9	+0.9		
KSP				*e*	S		S	04 45 31.1	-1.2		
KSP				*e*	SKS		SKS	04 45 40.1	-5.3		
KSP					MLR		MLR	05 11 49.3			
	comp=Z,2µm,24.8s,MS5.4										
KSP	Ksiaz	81.28	321	*e*	P		P	04 35 26.3	+1.5		
KSP				*e*	pP		pP	04 35 33.7	+0.8		
KSP				*e*	S		S	04 45 33.0	+0.7		
KSP					LR		LR				
	comp=Z,3µm,20.8s,MS5.6										
UPC	Upice	81.42	321	*e*	P		P	04 35 23.4	-2.2		
ARSA	Arzberg	81.42	317	⇓	*i*P		P	04 35 27.5	+1.9		
	comp=Z,18nm,1.1s,mb4.9										
BOJS	Bojanci	81.46	315	*e*	P		P	04 35 25.4	-0.5		
BOJS				*i*				04 35 38.3			
TREC	Trest	81.63	319	*e*	P		P	04 35 28.7	+2.0		
TREC					AMS		AMS	05 17 20.0			
	comp=Z,900nm,23.9s										
PERS	Pernice	81.64	317	*e*	P		P	04 35 28.1	+1.3		
PRU	Pruhonice	82.31	320	*ex*	P		P	04 35 32.7	+2.5		
PRU					AMS		AMS	05 15 50.0			
	comp=Z,900nm,17.9s										
PVCC	Panska Ves	82.34	320	*e*	P		P	04 35 32.5	+2.2		
VOY	Vojsko	82.44	316	*e*	P		P	04 35 32.7	+1.7		
VOY				*e*	pP			04 35 39.0	-0.1		
VOY				*e*				04 35 52.6			
BRG	Berggiesshubel	82.76	321	*e*	P		P	04 35 33.5	+1.0		
BRG				*e*				04 35 39.4			
BRG					pmax		pmax				
	comp=Z,9.0nm,1.5s,mb4.6										
BRG					MLR		MLR				
	comp=N,2µm,21.6s,MS5.6										
BRG					MLR		MLR				
	comp=E,494nm,18.3s,MS5.6										
BRG					MLR		MLR				
	comp=Z,1µm,17.2s,MS5.3										
BRG	Berggiesshubel	82.76	321	*e*	P		P	04 35 33.5	+0.9		
	comp=Z,8.9nm,1.5s,mb4.6										
BRG				*e*				04 35 39.4			
BRG				*e*				04 36 04.7			
BRG					S		S	04 45 50.0	+2.5		
BRG					SS		SS	04 51 12.0	-1.6		
BRG					LR		LR				
	comp=Z,1µm,17.2s,MS5.3										
GERES	GERESS Array B	82.77	319		P		P	04 35 33.9	+1.3		
	comp=Z,7.6nm,0.9s,mb4.7,baz=101,slow=5.0										
TRO	Tromso	82.86	340	*e*	P		P	04 35 31.6	-1.1		
TRO				*e*	SKSa			04 45 47.2			
TRO					AMS		AMS	05 18 37.1			
	comp=Z,3µm,22.0s,MS5.6										
TRO	Tromso	82.86	340	*e*	P		P	04 35 31.6	-1.1		
TRO					LR		LR				
	comp=Z,2853µm,22.0s										
KHC	Kasperske Hory	82.87	319		P		P	04 35 35.0	+1.9		
KHC					x		x	04 35 52.0			
KHC					AMS		AMS	05 18 20.0			
	comp=Z,1µm,23.3s										
KHC	Kasperske Hory	82.87	319		PFAKE			04 35 40.0	+6.9		
KHC					LR		LR				
	comp=Z,1µm,23.3s,MS5.3										
RUE	Ruedersdorf	82.99	322		P		P	04 35 33.0	-0.7		
	comp=Z,21nm,0.8s,mb5.2										
CLL	Collm	83.39	321		P		P	04 35 38.0	+2.3		
CLL				*e*				04 35 52.0			
CLL				*e*				04 36 04.6			
CLL				*e*	S		S	04 45 55.0	+1.2		
CLL				*e*	PS		PS	04 47 00.0	+10		
CLL				*e*	SS		SS	04 51 36.0	+13		
CLL				*e*	SSS		SSS	04 54 54.0	+5.7		
CLL				*e*				04 57 36.0			
CLL	Collm	83.39	321	*e*	P		P	04 35 38.0	+2.3		
CLL				*e*	S		S	04 45 55.0	+1.2		
CLL					MLR		MLR				
	comp=Z,2µm,18.0s,MS5.5										
CLL	Collm	83.39	321	*e*	P		P	04 35 38.0	+2.3		
CLL				*e*				04 35 52.0			
CLL				*e*	S		S	04 45 55.0	+1.2		
CLL					LR		LR				
	comp=Z,2µm,18.0s,MS5.5										
SNZO	South Karori	83.44	132		PFAKE			04 35 50.0	+14		
SNZO					LR		LR				
	comp=Z,3µm,20.0s,MS5.6										
NKC	Novy Kostel	83.67	320		AMS		AMS	05 16 20.0			
	comp=Z,1µm,18.0s										
HFS	Hagfors	83.70	330		P		P	04 35 37.8	+0.6		
	comp=Z,22nm,1.0s,mb5.2,baz=104,slow=6.1,SNR=17										
HFS					LR		LR	05 18 04.7			
	comp=Z,2µm,20.3s,MS5.5,baz=98,slow=39										
FUNA	Funafuti	83.78	99		PFAKE			04 35 50.0	+11		
FUNA					LR		LR				
	comp=Z,6µm,21.0s,MS5.9										
MOR8	Moi Rana	84.00	336	*e*	P		P	04 35 38.4	-0.2		
MOX	Moxa	84.22	320	*i*	P		P	04 35 38.4	-1.6		
	comp=Z,logA/T=1.3,mb5.2										
MOX					S		S	04 46 05.0	+2.9		
MOX					L			05 21 37.0			
MOX	Moxa	84.22	320	*e*	P		P	04 35 38.4	-1.6		
MOX					pmax		pmax				
	comp=Z,36nm,2.0s,mb5.2										
MOX					MLR		MLR				
	comp=Z,800nm,21.0s,MS5.1										
MOX	Moxa	84.22	320	*e*	P		P	04 35 38.4	-1.6		
	comp=Z,36nm,2.0s,mb5.2										
MOX					LR		LR				
	comp=Z,800nm,21.0s,MS5.1										
SQTA	Sankt Quirin	84.35	317	⇓	*i*P		P	04 35 40.6	-0.1		
	comp=Z,20nm,1.3s,mb5.1										
MOTA	Moosalm	84.43	317	⇓	*i*P		P	04 35 40.1	-1.0		
	comp=Z,29nm,1.4s,mb5.2										
GRA1	Grafenberg Arr	84.44	319	*e*	P		P	04 35 41.6	+0.5		
	comp=Z,8.0nm,1.1s,mb4.8										
GRF	Grafenberg Arr	84.44	319	*e*	P		P	04 35 41.6	+0.5		
GRF					pmax		pmax				
	comp=Z,8.0nm,1.1s,mb4.8										
GRF	Grafenberg Arr	84.44	319	*e*	P		P	04 35 41.6	+0.5		
GRF					pmax		pmax				
	comp=Z,8.0nm,1.1s,mb4.8										
GRF	Grafenberg Arr	84.44	319	*e*	P		P	04 35 41.6	+0.5		
	comp=Z,8.0nm,1.1s,mb4.8										
LOF	Lofoten	84.57	338	*e*	P		P	04 35 44.3	+3.0		
URZ	Urewera	84.82	129		LR		LR	05 14 24.1			
	comp=Z,3µm,19.4s,MS5.6,baz=105,slow=36										
NSS	Namsos	84.88	334		AMS		AMS	05 19 42.4			
	comp=Z,2µm,18.6s,MS5.6										
NB2	NORSAR Subarra	84.99	331		P		P	04 35 43.8	+0.2		
	comp=Z,23nm,1.2s,mb5.2,baz=93,slow=5.8										
NB2	NORSAR Subarra	84.99	331		P		P	04 35 43.8	+0.2		
	baz=93,slow=5.9										
NB2	NORSAR Subarra	84.99	331		P		P	04 35 43.8	+0.2		
					pmax		pmax				
	comp=Z,23nm,1.2s,mb5.2										
NOA	NORSAR Array B	84.99	331		P		P	04 35 43.1	-0.4		
	comp=Z,8.1nm,0.9s,mb4.8,baz=92,slow=5.9,SNR=9.5										
NOA					LR		LR	05 18 13.7			
	comp=Z,2µm,21.1s,MS5.4,baz=100,slow=39										
DAVOX	Davos	85.25	317		P		P	04 35 46.8	+1.6		
	comp=Z,8.6nm,0.6s,mb5.0,baz=140,slow=22,SNR=10										
DAVA	Damuels	85.26	317	⇑	*i*P		P	04 35 44.2	-1.1		
	comp=Z,32nm,1.1s,mb5.4										
KBS	Kingsbay	86.11	349	*e*			P	04 35 47.1	-1.7		
KBS				*e*	P			04 35 48.6			
KBS				*e*	SKSa			04 46 04.7			
KBS				*e*	SS		SS	04 52 20.8	+19		
KBS					AMS		AMS	05 20 05.0			
	comp=Z,1µm,20.7s,MS5.2										
KBS	Kingsbay	86.11	349	*e*	P		P	04 35 48.6	-0.2		
MOL	Molde	86.78	332	*e*	P		P	04 36 00.3	+7.9		
MOL					AMb		AMB	04 36 06.6			
	comp=Z,123nm,1.7s,mb5.8										
LPG	La Plagne	87.43	315	*e*	P		P	04 35 57.9	+1.9		
	comp=Z,23nm,0.8s,mb5.2										
LPG	La Plagne	87.43	315	*e*	P		P	04 35 57.9	+1.9		
LPG					pmax		pmax				
	comp=Z,12nm,0.8s,mb5.2										
VNDA	Vanda	87.64	169		LR		LR	05 11 37.8			
	comp=Z,2µm,18.8s,MS5.6,baz=302,slow=33										
VNDA	Vanda	87.64	169		PFAKE			04 36 10.0	+14		
VNDA					LR		LR				
	comp=Z,2µm,19.0s,MS5.6										
BER	Bergen	87.87	330	*e*	SKSa			04 46 31.4			
BER					AMS		AMS	05 21 15.9			
	comp=Z,2µm,20.7s,MS5.5										
RAO	Raoul Island	88.01	119		PFAKE			04 36 10.0	+11		
RAO					LR		LR				
	comp=Z,3µm,19.0s,MS5.7										
SBA	Scott Base	88.74	168		PFAKE			04 36 10.0	+8.4		
SBA					LR		LR				
	comp=Z,2µm,20.0s,MS5.5										
TNA	Tin City	90.03	24		PFAKE			04 36 20.0	+12		
TNA					LR		LR				
	comp=Z,1µm,22.0s,MS5.3										
JMIC	Jan Mayen	92.05	341		LR		LR	05 22 45.9			
	comp=Z,3µm,21.2s,MS5.7,baz=267,slow=39										
JMIC	Jan Mayen	92.05	341		AMS		AMS	05 23 01.9			
	comp=Z,2µm,19.0s,MS5.5										
QSPA	South Pole Qui	92.73	180		PFAKE			04 36 30.0	+10		
QSPA					LR		LR				
	comp=Z,4µm,20.0s,MS5.9										
DAG	Danmarks Havn	92.78	348	*i*	P		P	04 36 20.0	-0.3		
DAG	Danmarks Havn	92.78	348	*e*	P		P	04 36 20.0	-0.3		
EKA	Eskdalemuir Ar	92.87	326		P		P	04 36 22.1	+0.9		
	comp=Z,2.9nm,0.7s,mb4.8,baz=96,slow=4.1,SNR=6.2										
ESK	Eskdalemuir	92.90	326		PFAKE			04 36 30.0	+8.7		
ESK					LR		LR				
	comp=Z,394nm,19.0s,MS4.9										
IMA2	Indian Mountai	95.61	23	*e*	P		P	04 36 34.4	+1.0		
ESDC	Sonseca Array	95.81	310		P		P	04 36 36.1	+1.0		
	comp=Z,0.4nm,0.5s,baz=58,slow=4.2,SNR=4.1										
ESLA	Sonseca Array	95.81	310		PFAKE			04 36 50.0	+15		
ESLA					LR		LR				
	comp=Z,6µm,20.0s,MS6.1										
MCK	McKinley	98.36	24		PFAKE			04 37 00.0	+14		
MCK					LR		LR				
	comp=Z,1µm,19.0s,MS5.4										
ILAR	Eielson Array	98.74	23		P		P	04 36 47.7	+0.1		
	comp=Z,0.4nm,0.5s,mb4.2,baz=295,slow=4.4,SNR=8.1										
ILAR					PKKPbc			04 53 15.8			
	comp=Z,0.3nm,0.6s,baz=156,slow=2.7,SNR=4.7										
ILAR					PKKP		PKKP	04 53 22.0	+10		
	comp=Z,1.0nm,0.8s,baz=137,slow=1.6,SNR=8.7										
ILAR					LR		LR	05 30 09.4			
	comp=Z,2µm,18.1s,MS5.6,baz=326,slow=41										
FIB	Fire Island	98.85	27		PFAKE			04 37 00.0	+12		
FIB					LR		LR				
	comp=Z,2µm,19.0s,MS5.6										
PMR	Palmer	99.15	26		PFAKE			04 37 00.0	+10		
PMR					LR		LR				
	comp=Z,3µm,22.0s,MS5.7										
DBIC	Dimbokro	100.35	277		PFAKE			04 37 10.0	+14		
DBIC					LR		LR				
	comp=Z,2µm,20.0s,MS5.5										
DIV	Divide	100.81	26		PFAKE			04 37 10.0	+13		
DIV					LR		LR				
	comp=Z,7µm,20.0s,MS6.2										
TRIS	Tristan da Cun	106.20

comp=Z,1μm,24.2s
LAO LASA Array 127.00 19 *e*PKPdf PKPdf 04 42 13.9 -2.3
LAO LR LR
comp=Z,2μm,19.0s,MS5.9
YMR Madison River 127.00 24 PFAKE 04 42 30.0 +14
YMR LR LR
comp=Z,3μm,19.0s,MS5.9
CMB Columbia Colle 127.30 36 PFAKE 04 42 30.0 +13
CMB LR LR
comp=Z,1μm,19.0s,MS5.6
LKWY Lake 127.31 23 PFAKE 04 42 30.0 +13
LKWY LR LR
comp=Z,5μm,19.0s,MS6.2
SAO San Andreas Ge 127.49 38 PFAKE 04 42 30.0 +13
SAO LR LR
comp=Z,621nm,21.0s,MS5.3
ELK Elko 128.17 30 PFAKE 04 42 30.0 +11
ELK LR LR
comp=Z,2μm,21.0s,MS5.7
NVAR Mina Array Bea 128.22 34 PKP PKPdf 04 42 17.3 -1.6
comp=Z,3.1nm,0.8s,baz=260,slow=4.4,SNR=16
NVAR Mina Array Bea 128.22 34 PKP PKPdf 04 42 17.3 -1.6
MNV Mina 128.30 34 PFAKE 04 42 30.0 +11
MNV LR LR
comp=Z,2μm,19.0s,MS5.7
AHID Auburn Hatcher 128.50 25 PFAKE 04 42 30.0 +11
AHID LR LR
comp=Z,2μm,19.0s,MS5.7
EYMN Ely 129.05 6 PFAKE 04 42 30.0 +10
EYMN LR LR
comp=Z,2μm,20.0s,MS5.9
TPH Tonopah 129.07 34 PFAKE 04 42 30.0 +10
TPH LR LR
comp=Z,985nm,19.0s,MS5.5
BW06 Boulder Array 129.14 24 PFAKE 04 42 30.0 +10
BW06 LR LR
comp=Z,2μm,21.0s,MS5.8
PDAR Pinedale Array 129.14 24 PKP PKPdf 04 42 18.4 -2.1
comp=Z,1.1nm,0.5s,baz=126,slow=2.2,SNR=11
HWUT Hardware Ranch 129.23 27 PFAKE 04 42 30.0 +9.3
HWUT LR LR
comp=Z,2μm,21.0s,MS5.7
DUG Dugway 129.78 29 *e*PKIKP PKPdf 04 42 19.8 -2.0
DUG MLR MLR
comp=Z,1μm,19.0s,MS5.7
RSSD Black Hills 129.98 19 PFAKE 04 42 30.0 +8.0
RSSD LR LR
comp=Z,1μm,19.0s,MS5.7
ISA Isabella 130.02 37 PFAKE 04 42 30.0 +7.6
ISA LR LR
comp=Z,308nm,19.0s,MS5.0
DAC Darwin (Calif) 130.12 36 PFAKE 04 42 30.0 +7.5
DAC LR LR
comp=Z,1μm,19.0s,MS5.7
TPNV Topopah Spring 130.42 34 PFAKE 04 42 30.0 +6.9
TPNV LR LR
comp=Z,1μm,19.0s,MS5.7
MPU Maple Canyon 130.47 28 PFAKE 04 42 30.0 +6.9
MPU LR LR
comp=Z,1μm,21.0s,MS5.6
MVU Marysvale 131.38 30 PFAKE 04 42 30.0 +5.1
MVU LR LR
comp=Z,1μm,20.0s,MS5.5
MSU Marysvale 131.39 29 *e*PKIKP PKPdf 04 42 22.6 -2.3
LBNH Lisbon 131.92 348 PFAKE 04 42 30.0 +4.3
LBNH LR LR
comp=Z,2μm,21.0s,MS5.8
NEN Nelson 132.14 34 PKPdf PKPdf 04 42 24.1 -2.3
NCB Newcomb 132.60 350 PFAKE 04 42 40.0 +13
NCB LR LR
comp=Z,2μm,21.0s,MS5.7
PFO Pinyon Flat Ob 132.64 37 PFAKE 04 42 40.0 +13
PFO LR LR
comp=Z,250nm,21.0s,MS4.9
PV10 Paradox Valley 132.99 27 PKPdf PKPdf 04 42 25.8 -2.1
ISCO Idaho Springs 133.23 23 PFAKE 04 42 40.0 +12
ISCO LR LR
comp=Z,2μm,22.0s,MS5.8
HRV Harvard--Oak R 133.50 347 PFAKE 04 42 40.0 +11
HRV LR LR
comp=Z,2μm,21.0s,MS5.7
WES Weston 133.56 347 PFAKE 04 42 40.0 +11
WES LR LR
comp=Z,2μm,19.0s,MS5.8
WUAZ Wupatki 134.12 31 PFAKE 04 42 40.0 +10
WUAZ LR LR
comp=Z,971nm,20.0s,MS5.5
SDCO Great Sand Dun 135.04 24 PFAKE 04 42 40.0 +8.3
SDCO LR LR
comp=Z,2μm,20.0s,MS5.9
ERPA Erie 135.14 356 PFAKE 04 42 40.0 +8.2
ERPA LR LR
comp=Z,2μm,20.0s,MS5.8
CBKS Cedar Bluff 136.15 18 PFAKE 04 42 40.0 +6.3
CBKS LR LR
comp=Z,2μm,19.0s,MS5.8
TUC Tucson 136.87 34 PFAKE 04 42 40.0 +4.8
TUC LR LR
comp=Z,942nm,21.0s,MS5.5
ANMO Albuquerque 136.98 27 PFAKE 04 42 40.0 +4.7
ANMO LR LR
comp=Z,1μm,19.0s,MS5.7
ACSO Alum Creek Sta 137.17 359 PFAKE 04 42 40.0 +4.5
ACSO LR LR
comp=Z,1μm,20.0s,MS5.6
MCWV Mont Chateau 137.57 355 PFAKE 04 42 50.0 +14
MCWV LR LR
comp=Z,3μm,21.0s,MS6.0
CBN Corbin 138.73 352 PFAKE 04 42 50.0 +12
CBN LR LR
comp=Z,2μm,20.0s,MS5.9
CCM Cathedral Cave 138.81 9 PFAKE 04 42 50.0 +11
CCM LR LR
comp=Z,2μm,22.0s,MS5.8
WCI Wyandotte Cave 139.13 3 PFAKE 04 42 50.0 +11
WCI LR LR
comp=Z,2μm,20.0s,MS5.9
TRQA Tornquist 139.49 207 PFAKE 04 42 50.0 +10
TRQA LR LR
comp=Z,1μm,20.0s,MS5.7
BLA Blacksburg 140.05 355 PFAKE 04 42 50.0 +9.1
BLA LR LR
comp=Z,2μm,20.0s,MS5.9
MNTX Cornudas Mount 140.17 29 *e*PKPpre 04 42 32.6
MNTX LR LR
comp=Z,1μm,21.0s,MS5.7
WMOK Wichita Mounta 140.19 19 *e*PKPpre 04 42 30.0
WMOK LR LR
comp=Z,2μm,20.0s,MS5.8
PLCA Paso Flores 140.31 196 PKP PKPdf 04 42 39.1 -2.1
comp=Z,2.4nm,0.9s,baz=197,slow=6.4,SNR=4.6
PLCA Paso Flores 140.31 196 PKP PKPdf 04 42 39.1 -2.1
PLCA LR LR
comp=Z,1μm,20.0s,MS5.7
BBSR BB Station 140.48 334 PFAKE 04 42 50.0 +8.2
BBSR LR LR
comp=Z,1μm,20.0s,MS5.6
WVT Waverly 141.12 5 PFAKE 04 42 50.0 +7.1
WVT LR LR
comp=Z,2μm,20.0s,MS5.9
MIAR Mount Ida 141.80 13 PFAKE 04 42 50.0 +5.9
MIAR LR LR
comp=Z,2μm,20.0s,MS5.8
BDFB Brasilia 142.26 248 PKP PKPdf 04 42 43.6 -1.7
comp=Z,10nm,1.3s,baz=120,slow=14,SNR=2.8
OXF Oxford 142.55 7 PFAKE 04 42 50.0 +4.6
OXF LR LR
comp=Z,2μm,22.0s,MS5.8
LTX Lajitas 142.95 29 PFAKE 04 43 00.0 +14
LTX LR LR
comp=Z,2μm,21.0s,MS5.8
TXAR Lajitas Array 142.95 29 PKP PKPdf 04 42 40.0 -6.2
comp=Z,0.5nm,0.4s,baz=252,slow=4.1,SNR=15
JCT Junction City 143.67 23 *e*PKPpre 04 42 42.2
JCT LR LR
comp=Z,2μm,21.0s,MS5.8
GOGA Godfrey 143.98 359 PFAKE 04 43 00.0 +18
GOGA LR LR
comp=Z,2μm,20.0s,MS5.9
NHSC New Hope 144.10 354 PFAKE 04 43 00.0 +17
NHSC LR LR
comp=Z,2μm,20.0s,MS6.0
NATX Nacogdoches 144.19 15 PFAKE 04 43 00.0 +17
NATX LR LR
comp=Z,2μm,21.0s,MS5.9
LRAL Lakeview Retre 144.25 4 PFAKE 04 43 00.0 +17
LRAL LR LR
comp=Z,1μm,20.0s,MS5.7
CPUP Villa Florida 145.26 225 *e*PKP PKPdf 04 42 46.8 -3.5
CPUP LR LR
comp=Z,304nm,19.0s,MS5.1
DWPF Disney 149.16 355 PFAKE 04 43 10.0 +13
DWPF LR LR
comp=Z,2μm,22.0s,MS6.0
LPAZ La Paz 159.35 229 PKP PKPdf 04 43 07.7 -3.3
comp=Z,0.8nm,0.6s,baz=22,slow=8.2,SNR=3.8
LPAZ La Paz 159.35 229 PKP PKPdf 04 43 07.7 -3.3
LPAZ LR LR
comp=Z,2μm,20.0s,MS5.9
SDV Santo Domingo 162.26 311 PFAKE 04 43 20.0 +5.9
SDV LR LR
comp=Z,1μm,19.0s
JTS JuntasAbangare 166.97 4 PFAKE 04 43 30.0 +12
JTS LR LR
comp=Z,418nm,21.0s
ROSC El Rosal 167.63 308 PKP PKPdf 04 43 18.3 -0.6
comp=Z,1.9nm,0.4s,baz=90,slow=20,SNR=3.2
NNA Nana 168.38 218 PFAKE 04 43 30.0 +11
NNA LR LR
comp=Z,377nm,20.0s
OTAV Otavalo 173.60 298 *e*PKPdf PKPdf 04 43 19.8 -2.3

MOS ***18*** *04:29:14.6±0.7, 12.19N×141.06E, h33km, mb5.3/15, Error ellipse: s-maj=21.1km s-min=9.5km az=109.0*
BJI ***18*** *04:29:16.0, 12.20N×141.00E, h28km, mB5.2, mb4.8, Ms4.7, Msz4.6*
HRVD ***18*** *04:29:16.0±0.7, 12.22N×140.72E, h31km±1km, MW5.2/28, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s28,c31; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-6.90±.74; Mθθ5.32±.50; Mφφ1.58±.52; Mrθ0.55±.53; Mrφ-0.69±.40; Mθφ3.73±.74; Best double couple: M=6.896×1016 NP1:ϕ=261°, δ48°, λ-119°. NP2:ϕs 120°, δ49°, λ-62°. Principal axes: T 5.443, Plg1°, Azm191°; N 2.906, Plg21°, Azm281°; P -8.349, Plg69°, Azm99°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***18*** *04:29:16.0±0.2, 12.22N×141.00E, mb5.2/18 Error ellipse: s-maj=8.8km s-min=6.0km az=79.0*
IDC ***18*** *04:29:19.9±3.5, 12.22N×141.08E, h62km±32km, mb4.5/17, mb1 4.6/18, mb1mx4.4/24, mbtmp4.8/18, ML4.8/1, MS4.3/1, Ms1 4.3/1, ms1mx3.3/32, Error ellipse: s-maj=21.5km s-min=12.2km az=84.0*
ISC 18 04:29:17.7±1.7, 12.17N±0.05×141.09E±0.09, h60km±17km, n87,σ0°75/84, mb5.0/44, 6C-5D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.94**	**69**	P	**P**	**04 30 17.6**	**+0.3**
	59nm,0.3s,baz=189,slow=11,SNR=17						
GUMO	**Guam**	**3.94**	**69**	*e*P	**P**	**04 30 17.3**	**0.0**
SSE	**Sheshan**	**26.32**	**319**	*e*P	**P**	**04 34 49.1**	**-0.7**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,160nm,3.9s						
NJ2	**Nanjing**	**28.45**	**318**	*e*P	**P**	**04 35 13.0**	**+3.8**
NJ2				S	**S**	**04 39 51.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,240nm,8.2s						
NJ2				LR	LR		
	comp=Z,7μm,13.0s						
CTA	**Charters Tower**	**32.45**	**171**	*e*P	**P**	**04 35 45.7**	**+1.1**
	comp=Z,8.4nm,0.6s,mb4.8						
CTA	**Charters Tower**	**32.45**	**171**	P	**P**	**04 35 45.2**	**+0.6**
	comp=Z,12nm,0.7s,mb4.8,baz=335,slow=9.0,SNR=7.5						
CTA				LR	LR	04 46 06.8	
	comp=Z,499nm,21.2s,baz=233,slow=31						
CTA	**Charters Tower**	**32.45**	**171**	*e*P	**P**	**04 35 45.7**	**+1.1**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CTAO	**Charters Tower**	**32.45**	**171**	*e*P	**P**	**04 35 43.7**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9						
CTAO	**Charters Tower**	**32.45**	**171**	*e*P	**P**	**04 35 43.7**	**-1.0**
	comp=Z,13nm,0.7s,mb4.9						
WRAB	**Tennant Creek**	**32.58**	**192**	*e*P	**P**	**04 35 45.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**32.58**	**192**	*e*P	**P**	**04 35 45.3**	**-0.5**
	comp=Z,25nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**32.59**	**192**	*e*P	**P**	**04 35 45.3**	**-0.5**
WRA	**Warramunga Arr**	**32.59**	**192**	P	**P**	**04 35 45.4**	**-0.5**
	comp=Z,17nm,0.8s,mb5.0,baz=11,slow=9.5,SNR=20						
MDJ	**Mudanjiang**	**33.80**	**345**	P	**P**	**04 35 56.3**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,160nm,5.8s						
CN2	**Changchun**	**34.28**	**340**	*e*P	**P**	**04 36 02.0**	**+1.8**
ENH	**Enshi**	**34.36**	**307**	*e*P	**P**	**04 36 00.9**	**-0.1**
	comp=Z,11nm,1.0s,mb4.7						
KMI	**Kunming**	**38.41**	**295**	P	**P**	**04 36 40.6**	**+5.4**
LZH	**Lanzhou**	**41.12**	**312**	*e*P	**P**	**04 37 03.0**	**+5.5**
LZH				*e*S	**S**	**04 43 07.1**	**+1.2**
LZH				*e*SS	SS	04 46 12.5	+6.6
LZH				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.7						
LZH				AMB	AMB		
	comp=Z,100nm,4.5s						
LZH				LR	LR		
	comp=N,230nm,14.6s						
LZH				LR	LR		
	comp=Z,560nm,15.6s						
DZM	**Mont Dzumac**	**42.15**	**144**	P	**P**	**04 37 08.1**	**+2.0**
	comp=Z,12nm,0.6s,mb4.7,baz=331,slow=6.2,SNR=15						
STKA	**Stephens Creek**	**43.80**	**179**	*e*P	**P**	**04 37 19.6**	**+0.1**
	comp=Z,9.4nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**43.80**	**179**	P	**P**	**04 37 19.4**	**-0.1**
	comp=Z,13nm,0.6s,mb4.9,baz=1.5,slow=8.4,SNR=22						
FORT	**Forrest**	**44.50**	**196**	*e*P	**P**	**04 37 25.6**	**+0.4**
	comp=Z,20nm,0.7s,mb5.0						
GTA	**Gaotai**	**45.43**	**314**	P	**P**	**04 37 32.5**	**0.0**
GTA				PP	PP	04 39 20.1	+0.1
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**45.54**	**328**	*e*P	**P**	**04 37 33.8**	**+0.6**
ULN	**Ulaanbaatar**	**45.54**	**328**	*e*P	**P**	**04 37 33.5**	**+0.3**
SONM	**Songino Array**	**45.86**	**328**	P	**P**	**04 37 36.8**	**+1.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=140,slow=6.5,SNR=6.3						
SONM				PcP	PcP	04 39 12.1	-0.5
	comp=Z,2.1nm,0.7s,baz=153,slow=5.5,SNR=5.9						
MA2	**Magadan**	**47.87**	**7**	P	**P**	**04 37 47.2**	**-4.2**
MA2				*e*S	**S**	**04 44 38.3**	**-4.6**
MA2				*e*PS	PS	04 44 53.5	-7.3
MA2				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.2						
ZAK	**Zakamensk**	**49.04**	**329**	*e*P	**P**	**04 38 00.9**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
NWAO	**Narrogin (SRO)**	**50.30**	**206**	P	**P**	**04 38 10.2**	**-0.3**
	comp=Z,6.0nm,0.9s,mb4.6,baz=108,slow=4.8,SNR=3.8						
YAK	**Yakutsk**	**50.46**	**353**	*e*P	**P**	**04 38 10.4**	**-0.9**
YAK	**Yakutsk**	**50.46**	**353**	*e*Pr		04 38 10.4	
SEY	**Seymchan**	**51.33**	**7**	*e*P	**P**	**04 38 18.1**	**+0.3**
JIRN	**Jiri**	**53.46**	**295**	*e*P	**P**	**04 38 34.3**	**0.0**
	comp=Z,74nm,1.2s,mb5.5						
GUN	**Gumba**	**53.75**	**296**	*e*P	**P**	**04 38 36.6**	**+0.2**
	comp=Z,144nm,1.1s,mb5.8						
PKI	**Pulchoki**	**54.14**	**295**	*e*P	**P**	**04 38 38.8**	**-0.5**
	comp=Z,79nm,1.3s,mb5.5						
PKI	**Pulchoki**	**54.14**	**295**	*e*P	**P**	**04 38 38.8**	**-0.5**
PKI				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
KKN	**Kakani**	**54.27**	**295**	*e*P	**P**	**04 38 39.6**	**-0.6**
	comp=Z,64nm,1.2s,mb5.4						
KKN	**Kakani**	**54.27**	**295**	*e*P	**P**	**04 38 39.6**	**-0.6**
KKN				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
DMN	**Daman**	**54.41**	**295**	*e*P	**P**	**04 38 40.9**	**-0.3**
	comp=Z,66nm,1.1s,mb5.5						
GKN	**Gorkha**	**54.86**	**296**	*e*P	**P**	**04 38 43.0**	**-1.5**
	comp=Z,114nm,1.2s,mb5.8						
WMQ	**Urumqi**	**55.49**	**315**	P	**P**	**04 38 49.5**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,200nm,5.0s						
KOLN	**Koldanda**	**55.75**	**295**	*e*P	**P**	**04 38 50.6**	**-0.4**
	comp=Z,72nm,0.9s,mb5.7						
BILL	**Bilibino**	**58.20**	**11**	*e*P	**P**	**04 39 07.0**	**-0.7**
BILL				*i*		04 39 16.3	
BILL				*e*		04 39 58.8	
BILL				pmax	pmax		
	comp=Z,48nm,1.4s,mb5.3						
BILL	**Bilibino**	**58.20**	**11**	⇓*e*P	**P**	**04 39 07.1**	**-0.6**
	comp=Z,1.9nm,1.1s,mb4.0						
TIXI	**Tiksi**	**59.91**	**356**	*e*P	**P**	**04 39 13.9**	**-5.6**
TIXI				*e*	pP	04 39 27.7	-8.0
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
TIXI	**Tiksi**	**59.91**	**356**	⇑*e*P	**P**	**04 39 18.4**	**-1.1**
MKAR	**Makanchi Array**	**59.99**	**317**	P	**P**	**04 39 20.4**	**0.0**
	comp=Z,10nm,0.9s,mb4.9,baz=96,slow=9.2,SNR=20						
ZAL	**Zalesovo**	**60.67**	**326**	P	**P**	**04 39 24.9**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.5,baz=353,slow=7.0,SNR=7.2						
ZAL	**Zalesovo**	**60.67**	**326**	P	**P**	**04 39 24.9**	**0.0**
KURK	**Kurchatov**	**63.32**	**321**	⇑*e*P	**P**	**04 39 42.8**	**+0.1**
TKM2	**Tokmak 2**	**63.89**	**312**	P	**P**	**04 39 47.2**	**+0.6**
	SNR=5.6						
KZA	**Kyzart**	**64.04**	**311**	P	**P**	**04 39 49.0**	**+1.4**
	SNR=8.7						
KBK	**Karagaybulak**	**64.33**	**312**	P	**P**	**04 39 50.1**	**+0.6**
	SNR=5.5						
CHMS	**Chumysh**	**64.52**	**312**	P	**P**	**04 39 50.9**	**+0.2**
	SNR=6.3						
UCH	**Uchtor**	**64.60**	**311**	P	**P**	**04 39 52.3**	**+1.1**
	SNR=13						
AAK	**Ala-Archa**	**64.66**	**311**	*i* P	**P**	**04 39 50.5**	**-1.1**
AAK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**64.66**	**311**	*e*P	**P**	**04 39 50.5**	**-1.0**
	comp=Z,9.7nm,1.2s,mb4.7						
KDAK	**Kodiak Island**	**67.22**	**32**	P	**P**	**04 40 07.5**	**-0.1**
	comp=Z,22nm,1.2s,mb5.1,baz=249,slow=14,SNR=2.4						
BVAR	**Borovoye Array**	**68.77**	**322**	P	**P**	**04 40 17.4**	**+0.1**
	comp=Z,22nm,0.8s,mb5.2,baz=104,slow=7.2,SNR=63						
BRVK	**Borovoye**	**68.84**	**322**	*e*P	**P**	**04 40 17.7**	**0.0**
BRVK				*e*		04 40 26.5	
BRVK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
BRVK	**Borovoye**	**68.84**	**322**	*e*P	**P**	**04 40 17.7**	**0.0**
	comp=Z,17nm,0.9s,mb5.0						
BRVK				*e*		04 40 26.5	
ZRNK	**Zerenda**	**69.59**	**322**	*e*P	**P**	**04 40 22.1**	**-0.3**
ZRNK				*e*		04 40 30.8	
ZRNK				pmax	pmax		
	comp=Z,78nm,1.4s,mb5.5						
ZRNK	**Zerenda**	**69.59**	**322**	*e*P	**P**	**04 40 22.1**	**-0.3**
	comp=Z,78nm,1.4s,mb5.4						
ZRNK				*e*		04 40 30.8	
COLA	**College**	**71.04**	**25**	⇑*e*P	**P**	**04 40 30.4**	**-0.5**
ILAR	**Eielson Array**	**71.42**	**25**	P	**P**	**04 40 32.1**	**-1.1**
	comp=Z,2.4nm,0.6s,mb4.3,baz=252,slow=6.1,SNR=31						
ARU	**Arti**	**75.83**	**325**	⇑P	**P**	**04 40 58.8**	**-0.2**
ARU				*e*		04 43 48.8	
ARU				*e*PPP	PPP	04 45 31.1	-7.3
ARU				*e*S	S	04 50 39.1	+4.0
ARU				*e*SS	SS	04 55 27.5	-3.5
ARU				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
ARU	**Arti**	**75.83**	**325**	⇓*e*P	**P**	**04 40 58.8**	**-0.2**
AKTO	**Aktyubinsk**	**76.33**	**319**	P	**P**	**04 41 01.9**	**0.0**
	comp=Z,8.5nm,0.7s,mb4.8,baz=102,slow=8.3,SNR=20						
YKA	**Yellowknife Ar**	**85.80**	**27**	P	**P**	**04 41 51.9**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.2,baz=290,slow=5.0,SNR=27						
YKA	**Yellowknife Ar**	**85.80**	**27**	P	**P**	**04 41 51.9**	**+0.5**
KEV	**Kevo**	**86.71**	**341**	*e*p	**P**	**04 41 55.4**	**-0.4**
	comp=Z,18nm,0.9s,mb5.3						
KEV	**Kevo**	**86.71**	**341**	*e*P	**P**	**04 41 55.4**	**-0.4**
KEV				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.3						
ARCES	**ARCESS Array B**	**87.28**	**341**	P	**P**	**04 41 58.9**	**+0.4**
	comp=Z,5.9nm,0.5s,mb5.1,baz=66,slow=7.3,SNR=46						
OBN	**Obninsk**	**88.25**	**326**	*e*P	**P**	**04 42 03.0**	**-0.5**
OBN				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.3						
OBN	**Obninsk**	**88.25**	**326**	⇑*e*P	**P**	**04 42 03.1**	**-0.4**
KAF	**Kangasniemi**	**90.45**	**335**	*e*p	**P**	**04 42 11.9**	**-1.8**
	comp=Z,11nm,0.7s,mb5.3,baz=60,slow=4.4						
KAF	**Kangasniemi**	**90.45**	**335**	*e*P	**P**	**04 42 11.9**	**-1.8**
KAF				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.3						
FINES	**FINESS Array B**	**90.86**	**334**	P	**P**	**04 42 15.1**	**-0.6**
	comp=Z,13nm,0.6s,mb5.4,baz=72,slow=4.9,SNR=66						
MAW	**Mawson**	**96.72**	**202**	P	**P**	**04 42 43.2**	**+0.9**
	comp=Z,0.8nm,0.3s,mb4.6,baz=106,slow=19,SNR=1.3						
NB2	**NORSAR Subarra**	**97.02**	**338**	P	**P**	**04 42 43.7**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.5,baz=48,slow=4.8						
NOA	**NORSAR Array B**	**97.02**	**338**	P	**P**	**04 42 44.2**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.5,baz=50,slow=4.8,SNR=3.7						
NOA	**NORSAR Array B**	**97.02**	**338**	P	**P**	**04 42 44.2**	**+0.4**
SYO	**Syowa Base**	**105.40**	**201**	⇓P	Pdif	04 43 14.6	-6.5
PLCA	**Paso Flores**	**140.24**	**141**	PKP	PKPdf	04 48 43.0	+2.8
	comp=Z,1.1nm,0.5s,baz=205,slow=2.5,SNR=3.0						
DBIC	**Dimbokro**	**141.31**	**297**	PKP	PKPdf	04 48 46.3	+3.4
	comp=Z,2.0nm,0.9s,baz=259,slow=7.9,SNR=3.7						
LPAZ	**La Paz**	**151.40**	**102**	PKPbc	PKPdf	04 49 09.2	+10
	comp=Z,10nm,0.7s,baz=292,slow=2.3,SNR=29						
LPAZ	**La Paz**	**151.40**	**102**	*e*PKPbc	PKPdf	04 49 09.2	+10

MOS 18 04:54:43.6±3.0, 42.67N×46.55E, h3km, mb3.7/1, 1C-2D, Error ellipse: s-maj=39.3km s-min=24.7km az=62.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNCR	**Uncukul**	**0.18**	**76**	⇓*i* PG	Pg	04 54 56.5	+9.2
UNCR				pmax	pmax		
	comp=Z,107nm,0.2s						
KRNR	**Karanay**	**0.31**	**59**	⇓*i* PG	Pg	04 54 52.2	+2.5
KRNR				*i* S	Sg	04 54 56.0	+2.2
KRNR				pmax	pmax		
	comp=Z,30nm,0.2s						
DLMR	**Dylym**	**0.40**	**8**	*e*PG	Pg	04 54 58.0	+6.3
DLMR				*i* S	Sg	04 55 04.5	+7.4
DLMR				pmax	pmax		
	comp=Z,166nm,0.3s						
DBC	**Dubki**	**0.41**	**30**	⇑*i* PG	Pg	04 54 54.2	+2.5
DBC				*i* S	Sg	04 54 58.0	+0.9
DBC				pmax	pmax		
	comp=Z,247nm,0.1s						
KMKR	**Kumukh**	**0.68**	**143**	*e*PG	Pg	04 55 13.0	+16
KMKR				pmax	pmax		
	comp=Z,16nm,0.2s						
MAK	**Makhachkala**	**0.76**	**67**	*e*PG	Pg	04 55 01.0	+2.2

IDC ***18*** *05:03:21.7±1.1, 35.57N×73.40E, mb3.8/11, mb1 4.0/14, mb1mx3.8/24, mbtmp3.8/14, ML3.6/3, Error ellipse: s-maj=26.6km s-min=21.5km az=19.0*
NEIC ***18*** *05:03:23.4±0.7, 35.59N×73.33E, h10km, mb4.2/3, Error ellipse: s-maj=12.3km s-min=11.9km az=155.0*
MOS ***18*** *05:03:25.3±0.9, 35.67N×73.36E, h33km, mb4.3/9, Error ellipse: s-maj=18.7km s-min=8.5km az=96.7*
NNC ***18*** *05:03:31.9±3.8, 36.36N×72.67E, mb4.0, mpv3.6, Error ellipse: s-maj=27.1km s-min=14.1km az=175.0*
ISC 18 05:03:26.6±0.9, 35.79N±0.04×73.38E±0.10, h42km±10km, n44,σ1°90/49, mb3.9/12, 1C-3D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.87**	**149**	*e*P	**P**	**05 04 24.4**	**-0.8**
THN				*e*S	**S**	**05 05 10.3**	**+0.4**
DLH	**Dalhousie**	**3.88**	**146**	*e*P	**P**	**05 04 27.0**	**+1.6**
DLH				*e*S	**S**	**05 05 10.0**	**-0.4**
KLP	**Kalpa**	**5.87**	**135**	*e*P	**P**	**05 04 52.1**	**-1.2**
KLP				AMb	AMB	05 04 57.0	
	comp=Z,11nm,1.2s						
KLP				*ex*	x	05 05 48.4	
AAK	**Ala-Archa**	**6.89**	**7**	PN	**P**	**05 05 08.7**	**+1.0**
TKM2	**Tokmak 2**	**7.33**	**13**	⇑Pn	**P**	**05 05 14.9**	**+1.2**
	comp=Z,1.6nm,0.6s						
TKM2				⇓Sn	**S**	**05 06 35.4**	**-1.1**
	comp=Z,8.0nm,0.6s						
KK31	**Karatay Array**	**7.63**	**344**	Pn	**P**	**05 05 18.3**	**+0.3**

	comp=Z,3.9nm,0.6s,baz=157,slow=12,SNR=49							
KK31				⇓Sn		**S**	**05 06 43.0**	**-1.2**
	comp=Z,4.2nm,0.4s,baz=168,slow=23							
KUDL	**Kundal**	**8.06**	**160**	*ex*		x	05 05 19.7	
KUDL				*eS*		**S**	**05 06 47.5**	**-7.4**
MKAR	**Makanchi Array**	**12.87**	**29**	Pn		**P**	**05 06 29.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=207,slow=15,SNR=4.1							
KURK	**Kurchatov**	**15.40**	**13**	*eP*		**P**		
KURK				pmax	pmax		**05 07 02.2**	**-0.2**
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**15.40**	**13**	*eP*		**P**	**05 07 02.2**	**-0.2**
	comp=Z,1.1nm,0.6s							
AB31	**Akbulak array**	**16.67**	**328**	P		**P**	**05 07 17.2**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=150,slow=12,SNR=40							
AB31				⇓S		**S**	**05 10 14.2**	**-7.3**
	comp=Z,0.5nm,0.5s							
BVAR	**Borovoye Array**	**17.36**	**354**	P		**P**	**05 07 29.0**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=160,slow=11,SNR=9.8							
BVAR	**Borovoye Array**	**17.36**	**354**	P		**P**	**05 07 29.0**	**+1.8**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**17.41**	**354**	*eP*		**P**	**05 07 28.5**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BRVK	**Borovoye**	**17.41**	**354**	*eP*		**P**	**05 07 28.4**	**+0.7**
	comp=Z,1.5nm,0.6s							
AKTO	**Aktyubinsk**	**18.39**	**328**	P		**P**	**05 07 38.1**	**-1.9**
AKTO	**Aktyubinsk**	**18.39**	**328**	P		**P**	**05 07 40.7**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=122,slow=14,SNR=8.1							
AKTO	**Aktyubinsk**	**18.39**	**328**	P		**P**	**05 07 40.7**	**+0.7**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**19.82**	**20**	P		**P**	**05 07 55.1**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=269,slow=7.7,SNR=5.7							
ZAL	**Zalesovo**	**19.82**	**20**	P		**P**	**05 07 55.1**	**-1.3**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KIV	**Kislovodsk**	**24.82**	**299**	*eP*		**P**	**05 08 43.9**	**-2.3**
KIV				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.3							
KIV	**Kislovodsk**	**24.82**	**299**	*eP*		**P**	**05 08 43.9**	**-2.2**
	comp=Z,4.7nm,0.5s,mb4.3							
SONM	**Songino Array**	**27.18**	**53**	P		**P**	**05 09 08.3**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.1,baz=248,slow=7.8,SNR=3.0							
AKASG	**Malin Array Be**	**34.89**	**309**	P		**P**	**05 10 16.4**	**+0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=81,slow=6.9,SNR=6.1							
AKASG	**Malin Array Be**	**34.89**	**309**	P		**P**	**05 10 16.4**	**+0.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MLR	**Muntele Rosu**	**36.80**	**300**	P		**P**	**05 10 33.6**	**+1.4**
	comp=Z,8.3nm,1.3s,mb4.4,baz=196,slow=9.2,SNR=3.3							
MLR	**Muntele Rosu**	**36.80**	**300**	P		**P**	**05 10 33.6**	**+1.4**
MLR				pmax	pmax			
	comp=Z,8.0nm,1.3s							
FINES	**FINESS Array B**	**39.15**	**326**	P		**P**	**05 10 52.2**	**+0.7**
	comp=Z,3.2nm,1.0s,mb4.0,baz=127,slow=9.5,SNR=4.9							
FINES	**FINESS Array B**	**39.15**	**326**	P		**P**	**05 10 52.3**	**+0.7**
FINES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ARCES	**ARCESS Array B**	**42.54**	**337**	P		**P**	**05 11 20.2**	**+0.9**
	comp=Z,3.4nm,0.9s,mb4.1,baz=114,slow=8.4,SNR=9.8							
ARCES	**ARCESS Array B**	**42.54**	**337**	P		**P**	**05 11 20.2**	**+0.8**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
HFS	**Hagfors**	**44.81**	**322**	P		**P**	**05 11 38.4**	**+0.6**
	comp=Z,2.1nm,0.6s,mb4.2,baz=90,slow=12,SNR=7.8							
HFS	**Hagfors**	**44.81**	**322**	P		**P**	**05 11 38.4**	**+0.6**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NB2	**NORSAR Subarra**	**46.10**	**323**	P		**P**	**05 11 48.3**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=92,slow=7.9							
NB2	**NORSAR Subarra**	**46.10**	**323**	P		**P**	**05 11 48.3**	**+0.2**
NB2				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0							
NOA	**NORSAR Array B**	**46.10**	**323**	P		**P**	**05 11 48.3**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=91,slow=7.7,SNR=4.0							
NOA	**NORSAR Array B**	**46.10**	**323**	P		**P**	**05 11 48.3**	**+0.2**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**67.64**	**270**	P		**P**	**05 14 19.7**	**-1.8**
	comp=Z,0.8nm,0.7s,mb3.9,baz=51,slow=5.5,SNR=5.7							
INK	**Inuvik**	**74.28**	**10**	*eP*		**P**	**05 15 00.9**	**+0.3**
WRA	**Warramunga Arr**	**79.99**	**123**	P		**P**	**05 15 33.0**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=304,slow=6.9,SNR=7.3							
WRAB	**Tennant Creek**	**79.99**	**123**	*eP*		**P**	**05 15 33.3**	**-0.1**
WRAB				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
WRAB	**Tennant Creek**	**79.99**	**123**	*eP*		**P**	**05 15 33.3**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.1							
YKA	**Yellowknife Ar**	**81.85**	**4**	P		**P**	**05 15 42.7**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.3,baz=347,slow=5.3,SNR=6.9							
YKA	**Yellowknife Ar**	**81.85**	**4**	P		**P**	**05 15 42.7**	**+0.4**

*IDC **18** 05:10:12.3s0.7,20.82S×174.04W,mb4.5/13,mb1 4.7/14, mb1mx4.5/21,mbtmp4.5/14,ML4.3/1,MS4.1/1,Ms1 4.1/1, ms1mx3.7/19,Error ellipse: s-maj=33.9km s-min=15.4km az=144.0*

*BJI **18** 05:10:13.9,20.80S×174.10W,h10km,mB5.5,mb5.2, Ms5.3,Msz4.9*

*NEIC **18** 05:10:13.9s0.3,20.78S×174.06W,h10km,mb4.9/14, Error ellipse: s-maj=13.7km s-min=6.0km az=143.0*

*MOS **18** 05:10:28.8s1.2,17.79S×176.29W,h33km,mb4.9/4,Error ellipse: s-maj=21.8km s-min=14.1km az=141.2*

ISC 18 05:10:15.8±0.3,20.89S±0.09×174.09W±0.08,h33km, (h10km±5.1km:pP-P),n141,σ0=91/63,mb4.7/29,MS4.7/4, 13C-14D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.28**	**18**	Pn		**Pn**	**05 11 55.0**	**-7.7**
	7.6nm,0.3s,baz=230,slow=20,SNR=9.8							
AFI				Sn		**Sn**	**05 13 09.4**	**-16**
	3.8nm,0.3s,baz=177,slow=23,SNR=2.7							
AFI	**Afiamalu**	**7.28**	**18**	*eP*		**P**	**05 11 55.3**	**-7.2**
AFI				S		**S**	**05 13 08.7**	**-16**
AFI				pmax	pmax			
	comp=Z,45nm,0.5s							
AFI	**Afiamalu**	**7.28**	**18**	*eP*		**P**	**05 11 55.3**	**-7.2**
	comp=Z,45nm,0.5s							
AFI				S		**S**	**05 13 08.7**	**-16**
RAR	**Rarotonga**	**13.37**	**94**	Pn		**P**	**05 13 14.5**	**-11**
	comp=Z,3.0nm,0.3s,baz=249,slow=8.7,SNR=18							
DZM	**Mont Dzumac**	**18.16**	**263**	P		**P**	**05 14 29.5**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=75,slow=19,SNR=9.9							
URZ	**Urewera**	**18.91**	**202**	P		**P**	**05 14 36.8**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=15,slow=5.9,SNR=6.4							
SNZO	**South Karori**	**22.47**	**203**	*eP*		**P**	**05 15 14.5**	**+1.1**
	comp=Z,32nm,0.9s,mb4.8							
RPZ	**Rata Peaks**	**25.92**	**205**	P		**P**	**05 15 46.6**	**0.0**
	comp=Z,5.8nm,0.5s,mb4.3,baz=35,slow=1.7,SNR=3.2							
HNR	**Honiara**	**27.48**	**291**	LR		LR	05 24 26.2	
	comp=Z,358nm,19.6s,MS4.0,baz=250,slow=31							
CTA	**Charters Tower**	**37.09**	**264**	P		**P**	**05 17 26.0**	**+0.9**
	comp=Z,6.4nm,0.9s,mb4.5,baz=90,slow=9.8,SNR=6.6							
CTAO	**Charters Tower**	**37.09**	**264**	*eP*		**P**	**05 17 26.6**	**+1.6**
CTAO				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.5							
CTAO	**Charters Tower**	**37.09**	**264**	*eP*		**P**	**05 17 26.6**	**+1.6**
	comp=Z,9.0nm,1.0s,mb4.5							
PMG	**Port Moresby**	**39.00**	**281**	P		**P**	**05 17 41.2**	**+0.1**
	comp=Z,18nm,0.8s,mb4.8,baz=207,slow=4.5,SNR=5.7							
PMG	**Port Moresby**	**39.00**	**281**	*eP*		**P**	**05 17 40.6**	**-0.5**
PMG				pmax	pmax			
	comp=Z,20nm,0.8s							
PMG	**Port Moresby**	**39.00**	**281**	*eP*		**P**	**05 17 40.6**	**-0.5**
	comp=Z,20nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**40.93**	**245**	P		**P**	**05 17 56.2**	**-0.7**
	comp=Z,9.8nm,1.1s,mb4.3,baz=98,slow=11,SNR=5.3							
STKA	**Stephens Creek**	**40.93**	**245**	P		**P**	**05 17 56.2**	**-0.7**
WB2	**Warramunga Arr**	**48.16**	**262**	*eP*		**P**	**05 18 53.4**	**-1.7**
WRAB	**Tennant Creek**	**48.16**	**262**	*eP*		**P**	**05 18 53.7**	**-1.4**
WRAB	**Tennant Creek**	**48.16**	**262**	*eP*		**P**	**05 18 53.3**	**-1.8**
	comp=Z,7.3nm,0.9s,mb4.7							
WRA	**Warramunga Arr**	**48.17**	**262**	P		**P**	**05 18 53.8**	**-1.4**
	comp=Z,4.2nm,0.9s,mb4.5,baz=95,slow=5.5,SNR=30							
FORT	**Forrest**	**52.50**	**247**	*eP*		**P**	**05 19 26.9**	**-1.1**
	comp=Z,15nm,0.7s,mb5.0							
KLBR	**Kellerberrin**	**61.21**	**245**	*eP*		**P**	**05 20 30.1**	**+0.2**
	comp=Z,24nm,0.8s,mb5.4							
MUN	**Mundaring**	**62.45**	**244**	*eP*		**P**	**05 20 39.2**	**+0.9**
NVAR	**Mina Array Bea**	**78.84**	**41**	P		**P**	**05 22 17.7**	**+0.4**
	comp=Z,6.5nm,1.0s,mb4.5,baz=208,slow=5.9,SNR=23							
NEN	**Nelson**	**79.41**	**45**	*eP*		**P**	**05 22 19.6**	**-0.8**
SSE	**Sheshan**	**80.77**	**308**	*eP*		**P**	**05 22 26.5**	**-1.3**
SSE				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1							
SSE				AMB	AMB			
	comp=Z,220nm,4.8s							
ELK	**Elko**	**82.12**	**41**	P		**P**	**05 22 35.1**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=271,slow=5.1,SNR=4.8							
MSU	**Marysvale**	**82.78**	**44**	*eP*		**P**	**05 22 39.4**	**+1.3**
NJ2	**Nanjing**	**82.97**	**308**	*eP*		**P**	**05 22 40.0**	**+0.8**
NJ2				AP	pP		05 22 43.4	-6.2
NJ2				XP	sP		05 22 46.1	-7.1
NJ2				PP	PP		05 25 53.4	+1.5
NJ2				S	S		05 32 57.0	+2.5
NJ2				XS			05 33 06.0	
NJ2				AMB	AMB			
	comp=Z,20nm,1.2s,mb5.0							
NJ2				AMB	AMB			
	comp=Z,340nm,4.5s							
NJ2				LR	LR			
	comp=N,970nm,27.2s,MS5.2							
NJ2				LR	LR			
	comp=E,1μm,28.5s,MS5.2							
NJ2				LR	LR			
	comp=Z,570nm,26.7s,MS4.8							
MDJ	**Mudanjiang**	**82.98**	**323**	P		**P**	**05 22 40.1**	**+1.2**
MDJ				AMB	AMB			
	comp=Z,260nm,5.5s							
TMUT	**Trail Mountain**	**83.85**	**44**	*eP*		**P**	**05 22 44.5**	**+1.0**
MNTX	**Cornudas Mount**	**84.02**	**53**	*eP*		**P**	**05 22 44.7**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.1							
TXAR	**Lajitas Array**	**84.21**	**56**	P		**P**	**05 22 45.1**	**-0.5**
	comp=Z,1.4nm,0.9s,mb4.1,baz=217,slow=6.3,SNR=10							
HLID	**Hailey**	**84.27**	**39**	*eP*		**P**	**05 22 45.6**	**0.0**
	comp=Z,11nm,1.1s,mb4.9							
ANMO	**Albuquerque**	**84.82**	**50**	P		**P**	**05 22 48.8**	**+0.2**
	comp=Z,6.6nm,1.1s,mb4.7,baz=230,slow=7.9,SNR=8.8							
ANMO	**Albuquerque**	**84.82**	**50**	*eP*		**P**	**05 22 47.8**	**-0.7**
	comp=Z,7.1nm,1.2s,mb4.7							
CN2	**Changchun**	**84.88**	**321**	*eP*		**P**	**05 22 50.1**	**+1.5**
GDL2	**Guadalupe Moun**	**85.02**	**53**	*eP*		**P**	**05 22 49.9**	**+0.3**
MCMT	**McKenzie Canyo**	**85.92**	**39**	*eP*		**P**	**05 22 54.7**	**+1.1**
MCK	**McKinley**	**86.61**	**11**	*eP*		**P**	**05 22 55.9**	**-0.7**
MCK				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.7							
MCK	**McKinley**	**86.61**	**11**	*eP*		**P**	**05 22 55.9**	**-0.6**
	comp=Z,6.0nm,1.1s,mb4.7							
PDAR	**Pinedale Array**	**86.77**	**42**	P		**P**	**05 22 57.4**	**-0.5**
	comp=Z,2.8nm,1.0s,mb4.4,baz=225,slow=4.2,SNR=12							
THY	**Trims Highway**	**86.92**	**12**	P		**P**	**05 22 57.1**	**-1.0**
SYO	**Syowa Base**	**87.12**	**192**	⇓P		**P**	**05 22 56.2**	**-2.8**
SYO	**Syowa Base**	**87.12**	**192**	⇓*eP*		**P**	**05 22 56.2**	**-2.8**
COLA	**College**	**87.84**	**11**	⇓*eP*		**P**	**05 23 03.1**	**+0.6**
COLA	**College**	**87.84**	**11**	*eP*		**P**	**05 23 02.3**	**-0.2**
	comp=Z,8.8nm,1.0s,mb4.9							
ILAR	**Eielson Array**	**87.92**	**11**	P		**P**	**05 23 02.7**	**-0.2**
	comp=Z,5.4nm,1.2s,mb4.7,baz=220,slow=5.1,SNR=11							
DAWY	**Dawson**	**88.87**	**14**	*eP*		**P**	**05 23 07.3**	**-0.2**
ENH	**Enshi**	**89.31**	**303**	*eP*		**P**	**05 23 09.7**	**-0.7**
	comp=Z,11nm,0.8s,mb5.2							
BILL	**Bilibino**	**89.84**	**353**	*i* P		**P**	**05 23 11.8**	**-0.1**
BILL				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.8							
EDM	**Edmonton**	**90.48**	**32**	*eP*		**P**	**05 23 15.6**	**+0.3**
NATX	**Nacogdoches**	**92.26**	**57**	*eP*		**P**	**05 23 23.4**	**-0.7**
	comp=Z,12nm,0.6s,mb5.4							
HHC	**Hu-ho-hao-te**	**92.27**	**313**	*eP*		**P**	**05 23 23.9**	**0.0**
HHC				AP	pP		05 23 30.3	-4.2
HHC				XP	sP		05 23 33.0	-4.9
HHC				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.2							
HHC				AMB	AMB			
	comp=Z,260nm,3.9s							
HHC				LR	LR			
	comp=N,270nm,16.7s,MS5.0							
HHC				LR	LR			
	comp=E,340nm,15.5s,MS5.0							
HHC				LR	LR			
	comp=Z,250nm,15.5s,MS4.8							
KMI	**Kunming**	**92.80**	**296**	P		**P**	**05 23 27.3**	**+0.6**
DGMT	**Dagmar**	**92.90**	**39**	*eP*		**P**	**05 23 26.6**	**0.0**
	comp=Z,22nm,1.1s,mb5.5							
INK	**Inuvik**	**93.72**	**14**	P		**P**	**05 23 29.1**	**-0.7**
	comp=Z,4.5nm,1.2s,mb4.8,baz=196,slow=6.2,SNR=6.7							
YKA	**Yellowknife Ar**	**95.36**	**24**	P		**P**	**05 23 37.7**	**+0.2**
	comp=Z,0.7nm,0.7s,mb4.2,baz=237,slow=4.6,SNR=20							
YKA	**Yellowknife Ar**	**95.36**	**24**	P		**P**	**05 23 37.7**	**+0.2**
LZH	**Lanzhou**	**95.93**	**306**	*eP*		**P**	**05 23 41.0**	**+0.3**
LZH				AP	pP		05 23 45.8	-5.5
LZH				XP	sP		05 23 48.0	-6.7
LZH				AMB	AMB			
	comp=Z,10.0nm,1.6s,mb5.0							
LZH				AMB	AMB			
	comp=Z,30nm,4.5s							
LZH				LR	LR			
	comp=N,350nm,18.6s							
LZH				LR	LR			
	comp=Z,560nm,19.5s,MS5.0							
BVAR	**Borovoye Array**	**121.72**	**320**	PKP		PKPdf	05 29 07.9	+1.6
	comp=Z,2.1nm,0.7s,baz=71,slow=1.9,SNR=9.0							
ZRNK	**Zerenda**	**122.56**	**320**	PKIKP		PKPdf	05 29 09.1	+1.1
ARU	**Arti**	**127.58**	**326**	*i* PKIKP		PKPdf	05 29 19.5	+2.0
ARU				*e*			05 31 18.2	
ARU				*e*			05 36 21.4	
ARU				*eSS*		SS	05 48 16.5	-12
ARCES	**ARCESS Array B**	**129.91**	**351**	PKP		PKPdf	05 29 21.6	0.0
	comp=Z,3.4nm,0.8s,baz=338,slow=6.5,SNR=6.9							
NOA	**NORSAR Array B**	**139.71**	**356**	PKP		PKPdf	05 29 42.7	+2.7
	comp=Z,1.0nm,0.8s,baz=212,slow=5.2,SNR=3.6							
NOA	**NORSAR Array B**	**139.71**	**356**	PKP		PKPdf	05 29 42.7	+2.7
SUW	**Suwalki**	**144.40**	**342**	*e*PKP		PKPdf	05 29 49.5	+1.2
SUW	**Suwalki**	**144.40**	**342**	*e*PKP		PKPdf	05 29 49.5	+1.2
AKASG	**Malin Array Be**	**145.05**	**334**	PKPbc		PKPbc	05 29 50.8	+1.0
	comp=Z,8.3nm,0.6s,baz=40,slow=4.2,SNR=73							
BSEG	**Bad Segeberg**	**146.84**	**355**	*e*PKHKP			05 29 55.9	
MALT	**Malatya**	**147.05**	**309**	*e*PKHKP			05 29 53.7	
MALT				*e*			05 29 58.9	
MALT	**Malatya**	**147.05**	**309**	⇑PKIKP		PKPdf	05 29 58.8	+5.4
KIS	**Kishinev**	**147.99**	**330**	*e*PKIKP		PKPdf	05 29 59.0	+4.4
KWP	**Kalwaria**	**148.36**	**339**	*e*PKP		PKPdf	05 30 01.9	+6.8
KWP	**Kalwaria**	**148.36**	**339**	*e*PKP		PKPdf	05 30 01.9	+6.8
CLZ	**Clausthal**	**148.91**	**355**	*e*PKIKP		PKPdf	05 30 01.9	+6.0
KSP	**Ksiaz**	**149.01**	**347**	*e*PKP		PKPdf	05 30 02.7	+6.6
STHS	**Stebnicka Huta**	**149.02**	**340**	*e*PKP		PKPdf	05 30 03.6	+7.4
STHS				*e*			05 30 18.3	
BURAR	**Bucovina Array**	**149.10**	**334**	⇓P		PKPdf	05 30 03.9	+7.6
BURAR	**Bucovina Array**	**149.10**	**334**	⇓P		PKPdf	05 30 03.9	+7.5
KOLS	**Kolonicke sedl**	**149.11**	**339**	*e*PKP		PKPdf	05 30 03.7	+7.4
KOLS				*e*			05 30 11.6	
CLL	**Collm**	**149.13**	**351**	*i* PKIKP		PKPdf	05 30 02.7	+6.4
CLL				*i*			05 30 15.1	
CLL				pmax	pmax			
	comp=Z,17nm,1.1s							
UPC	**Upice**	**149.38**	**347**	*e*PKPbc		PKPdf	05 30 03.0	+6.3
CRVS	**Cervenica-Dubn**	**149.40**	**340**	*e*PKP		PKPdf	05 30 03.9	+7.1
CRVS				*e*			05 30 31.5	
BRG	**Berggiesshubel**	**149.41**	**350**	*e*PKIKP		PKPdf	05 30 03.5	+6.8
BRG				*e*			05 30 16.1	
BRG				pmax	pmax			
	comp=Z,13nm,1.3s							
BRG	**Berggiesshubel**	**149.41**	**350**	*e*P		PKPdf	05 30 03.5	+6.8
BRG				*e*			05 30 16.1	
DPC	**Dobruska-Polom**	**149.47**	**347**	*e*PKPbc		PKPdf	05 30 04.5	+7.7
OKC	**Ostrava-Krasne**	**149.52**	**344**	*e*PKPbc		PKPdf	05 30 04.4	+7.4
CFR	**Carcaliu**	**149.63**	**328**	⇑P		PKPdf	05 30 03.2	+5.9
CFR	**Carcaliu**	**149.63**	**328**	⇓PKIKP		PKPdf	05 30 04.4	+7.1
CFR	**Carcaliu**	**149.63**	**328**	⇑P		PKPdf	05 30 03.1	+5.9
MORC	**Moravsky Berou**	**149.73**	**345**	⇓PKIKP		PKPdf	05 30 04.7	+7.4
MORC	**Moravsky Berou**	**149.73**	**345**	PKPbc		PKPdf	05 30 03.3	+6.0
MORC				*e*			05 30 16.7	
BR131	**Keskin Array S**	**149.77**	**315**	*e*PKPbc		PKPdf	05 30 04.6	+6.9
BRTR	**Keskin Array B**	**149.77**	**315**	PKPbc		PKPdf	05 30 05.2	+7.5
	comp=Z,0.5nm,0.8s,baz=126,slow=4.7,SNR=20							
VRI	**Vrincioaia**	**149.80**	**330**	⇑P		PKPdf	05 30 04.9	+7.4
VRI	**Vrincioaia**	**149.80**	**330**	⇑P		PKPdf	05 30 04.9	+7.4
MOX	**Moxa**	**149.97**	**353**	*e*PKIKP		PKPdf	05 30 05.1	+7.5
MOX				pmax	pmax			
	comp=Z,26nm,1.6s							
KECS	**Kecovo**	**150.08**	**340**	*e*PKP		PKPdf	05 30 05.0	+7.1
KECS	**Kecovo**	**150.08**	**340**	*e*PKHKP			05 30 01.3	
KECS				*e*			05 30 05.0	
PRU	**Pruhonice**	**150.16**	**349**	*e*PKPbc		PKPdf	05 30 05.3	+7.3
ANTO	**Ankara**	**150.25**	**315**	*e*PKPbc		PKPdf	05 30 06.3	+7.9
NKC	**Novy Kostel**	**150.26**	**352**	*e*PKPbc		PKPdf	05 30 06.3	+8.2
VRAC	**Vranov**	**150.39**	**346**	⇓PKIKP		PKPdf	05 30 06.4	+8.1
MLR	**Muntele Rosu**	**150.44**	**331**	⇓P		PKPdf	05 30 03.8	+5.3
MLR	**Muntele Rosu**	**150.44**	**331**	⇑PKIKP		PKPdf	05 30 06.8	+8.3
MLR	**Muntele Rosu**	**150.44**	**331**	⇓P		PKPdf	05 30 03.8	+5.3
MLR				⇑P			05 30 06.8	
VYHS	**Vyhne**	**150.56**	**342**	*e*PKP		PKPdf	05 30 06.7	+8.1
TREC	**Trest**	**150.64**	**347**	*e*PKPbc		PKPdf	05 30 06.4	+7.7
TNS	**Taunus Mts**	**150.66**	**357**	*e*PKIKP		PKPdf	05 30 06.5	+7.8
DRGR		**150.76**	**336**	⇓P		PKPdf	05 30 06.4	+7.4
DRGR		**150.76**	**336**	⇑PKIKP		PKPdf	05 30 06.6	+7.6
DRGR		**150.76**	**336**	⇓P		PKPdf	05 30 06.4	+7.4
GIVF	**Givet**	**150.84**	**1**	*e*PKIKP		PKPdf	05 30 07.0	+8.0
VOIR		**150.89**	**332**	⇑P		PKPdf	05 30 08.6	+9.4
VOIR		**150.89**	**332**	⇑P		PKPdf	05 30 08.6	+9.4
SMOL	**Smolenice**	**150.93**	**344**	*e*PKP		PKPdf	05 30 08.6	+9.5
GRA1	**Grafenberg Arr**	**150.95**	**353**	*e*PKPbc		PKPdf	05 30 07.0	+7.9
GRF	**Grafenberg Arr**	**150.95**	**353**	*e*PKIKP		PKPdf	05 30 07.0	+7.9
KHC	**Kasperske Hory**	**151.16**	**350**	*e*PKPbc		PKPdf	05 30 07.9	+8.4
KHC				PKPab		PKPab	05 30 15.5	0.0
KHC	**Kasperske Hory**	**151.16**	**350**	⇑*i*PKIKP		PKPdf	05 30 07.9	+8.4
KHC	**Kasperske Hory**	**151.16**	**350**	*e*PKP		PKPdf	05 30 07.9	+8.4
KHC				*e*			05 30 15.5	
WET	**Wettzell**	**151.26**	**350**	*e*PKIKP		PKPdf	05 30 08.1	+8.5
GEC2	**GERESS Array S**	**151.41**	**349**	*e*PKIKP		PKPdf	05 30 08.4	+8.5
GERES	**GERESS Array B**	**151.41**	**349**	PKPbc		PKPdf	05 30 08.6	+8.7
	comp=Z,4.7nm,1.0s,baz=38,slow=2.2,SNR=24							
FLN	**La Foliniere**	**151.72**	**9**	*e*PKIKP		PKPdf	05 30 08.4	+8.1
	comp=Z,78nm,1.3s							
LDF	**La Druitiere**	**151.94**	**9**	*e*PKIKP		PKPdf	05 30 08.8	+8.2
GRR	**Gorron**	**152.03**	**10**	*e*PKIKP		PKPdf	05 30 09.2	+8.4
	comp=Z,15nm,0.7s							
BZS	**Buzias**	**152.16**	**336**	⇓P		PKPdf	05 30 10.2	+9.1
BZS	**Buzias**	**152.16**	**336**	⇑PKIKP		PKPdf	05 30 09.9	+8.8
BZS	**Buzias**	**152.16**	**336**	⇓P		PKPdf	05 30 10.2	+9.1
MEZF	**Maizieres J'vi**	**152.44**	**1**	*e*PKIKP		PKPdf	05 30 10.8	+9.4
	comp=Z,24nm,1.1s							
FUR	**Furstenfeldbru**	**152.44**	**352**	*e*PKIKP		PKPdf	05 30 10.5	+9.1
CDF	**Champ du Feu**	**152.52**	**358**	*e*PKIKP		PKPdf	05 30 10.8	+9.3
	comp=Z,21nm,1.2s							
BFO	**Black Forest**	**152.55**	**356**	*e*PKHKP			05 30 10.8	
HAU	**Haudompre**	**152.94**	**359**	*e*PKIKP		PKPdf	05 30 11.7	+10
	comp=Z,14nm,0.9s							
HINF	**Hinteralfeld**	**153.12**	**359**	*e*PKIKP		PKPdf	05 30 11.9	+10
MFF	**Saint Martin d**

DZM	**Mont Dzumac**	**11.48**	**178**	P	**P**	**05 39 43.5**	**+1.9**
	1.1nm,0.3s,baz=236,slow=24,SNR=18							
DZM				S	**S**	**05 41 46.5**	**-0.7**
	0.5nm,0.3s,baz=146,slow=23,SNR=5.7							
STKA	**Stephens Creek**	**30.93**	**223**	P	**P**	**05 43 06.4**	**+0.6**
	1.6nm,0.6s,mb3.9,baz=75,slow=12,SNR=3.2							
STKA	**Stephens Creek**	**30.93**	**223**	*e*P	**P**	**05 43 06.8**	**+0.9**
WRAB	**Tennant Creek**	**31.82**	**249**	*e*P	**P**	**05 43 13.9**	**+0.2**
WRA	**Warramunga Arr**	**31.83**	**249**	P	**P**	**05 43 13.9**	**+0.1**
	0.9nm,0.5s,mb3.8,baz=78,slow=8.9,SNR=7.2							
SBA	**Scott Base**	**67.30**	**180**	*e*P	**P**	**05 47 38.7**	**-2.3**
ILAR	**Eielson Array**	**82.98**	**18**	P	**P**	**05 49 09.4**	**-0.5**
	0.3nm,0.7s,mb3.1,baz=227,slow=6.4,SNR=4.6							
MKAR	**Makanchi Array**	**93.28**	**317**	P	**P**	**05 50 00.7**	**+1.1**
	0.4nm,0.6s,mb3.7,baz=86,slow=6.6,SNR=4.1							

NEIC ***18*** *05:51:56.1±1.7,51.48N×16.13E,h5km,ML2.5(BRG), Error ellipse: s-maj=17.6km s-min=6.3km az=204.0*
WAR ***18*** *05:51:57.3,51.48N×16.11E,h1km,Location given by Rudna mine, origin time based upon KSP*
PRU ***18*** *05:51:58.3,51.37N×16.11E*
ISC 18 05:51:54.4±0.9,51.46N±0.05×16.12E±0.04,n15,σ1§16/32, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**170**	*e*PG	**Pg**	**05 52 09.0**	**+2.1**
KSP				*e*SG	**Sg**	**05 52 17.0**	**+1.7**
KSP	**Ksiaz**	**0.63**	**170**	*e*Pg	**Pg**	**05 52 08.9**	**+2.0**
KSP				*e*Sg	**Sg**	**05 52 17.4**	**+2.1**
UPC	**Upice**	**0.96**	**184**	*e*PG	**Pg**	**05 52 15.1**	**+1.6**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	**Pg**	**05 52 17.8**	**+1.1**
DPC				*e*SG	**Sg**	**05 52 31.9**	**+0.2**
	16nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG	**Pg**	**05 52 22.6**	**+1.2**
PVCC				*e*SG	**Sg**	**05 52 39.9**	**+0.5**
	99nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**248**	Pg	**Pg**	**05 52 24.7**	**+0.6**
BRG				Sg	**Sg**	**05 52 44.6**	**+0.6**
PRU	**Pruhonice**	**1.78**	**215**	*e*PG	**Pg**	**05 52 29.6**	**-0.4**
PRU				*e*SG	**Sg**	**05 52 52.6**	**-1.1**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*P	**Pn**	**05 52 29.7**	**+1.1**
MORC				*e*S	**Sn**	**05 52 53.4**	**-0.3**
CLL	**Collm**	**1.96**	**267**	*e*PG	**Pg**	**05 52 33.0**	**-0.5**
CLL				*e*		05 52 36.0	
CLL				*i* SG	**Sg**	**05 52 59.1**	**-0.5**
CLL	**Collm**	**1.96**	**267**	*e*Pg	**Pg**	**05 52 33.0**	**-0.5**
CLL				*i* Sg	**Sg**	**05 52 59.1**	**-0.5**
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PG	**Pg**	**05 52 35.5**	**-0.3**
OKC				*e*SG	**Sg**	**05 53 01.9**	**-1.6**
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN	**Pn**	**05 52 40.4**	**+1.6**
NKC				*e*PG	**Pg**	**05 52 46.8**	**-0.1**
NKC				*e*SG	**Sg**	**05 53 20.7**	**-1.3**
	34nm,0.7s						
OJC	**Ojcow**	**2.64**	**117**	*e*PG	**Pg**	**05 52 46.0**	**-1.2**
OJC				*e*SG	**Sg**	**05 53 21.0**	**-1.4**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**05 52 43.3**	**+1.4**
KHC				*e*PG	**Pg**	**05 52 49.0**	**-2.2**
KHC				*e*SN	**Sn**	**05 53 17.0**	**-0.3**
KHC				*e*SG	**Sg**	**05 53 26.3**	**-2.8**
MOX	**Moxa**	**2.96**	**256**	*e*Pg	**Pg**	**05 52 53.0**	**-0.4**
MOX				*e*Sg	**Sg**	**05 53 32.3**	**-0.5**

NEIC ***18*** *06:00:39.4,31.70S×70.48W,h109km,MD4.0(GUC),After GUC.*
GUC 18 06:00:39.4±0.9,31.70S×70.48W,h109km±5km,MD4.0, ML3.9,10C-6D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILCH	**Illapel**	**0.59**	**276**	⇑*i*P	P	06 00 57.2	+0.3
ILCH				*i* S	S	06 01 10.3	+0.2
ILCH				AMP		06 01 11.0	
	comp=N,3μm,0.2s						
CMCH	**Combarbala**	**0.69**	**319**	⇓*i*P	P	06 00 57.8	+0.1
CMCH				*i* S	S	06 01 11.7	+0.3
CMCH				AMP		06 01 12.7	
	comp=E,18μm,0.5s						
CHNG	**Los Chungos**	**0.89**	**258**	⇑*i*P	P	06 00 59.9	+0.2
CHNG				*i* S	S	06 01 14.9	0.0
CHNG				AMP		06 01 20.1	
	comp=E,2μm,0.4s						
JACH	**Jahuel**	**0.98**	**186**	⇑*i*P	P	06 01 00.6	0.0
JACH				*i* S	S	06 01 16.7	+0.2
PACH	**Papudo**	**1.17**	**224**	⇓*i*P	P	06 01 02.8	+0.1
PACH				*i* S	S	06 01 19.9	-0.2
PEL	**Peldehue**	**1.45**	**187**	⇑*i*P	P	06 01 05.8	-0.2
PEL				*i* S	S	06 01 26.0	0.0
PEL				AMP		06 01 28.2	
	comp=E,5μm,0.2s						
TLL	**Tololo Astrono**	**1.55**	**349**	⇓*i*P	P	06 01 07.8	+0.6
TLL				*i* S	S	06 01 28.8	+0.7
TLL				AMP		06 01 34.8	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**1.63**	**175**	⇓*i*P	P	06 01 09.0	+0.8
FCH				*i* S	S	06 01 31.3	+1.6
FCH				AMP		06 01 34.5	
	comp=E,2μm,0.2s						
CLCH	**Cerro Calan**	**1.69**	**182**	AMP		06 01 38.2	
	comp=E,2μm,0.6s						
SAN	**Santiago**	**1.75**	**185**	*e*P	P	06 01 08.0	-1.7
SAN				*i* S	S	06 01 32.2	-0.1
SAN				AMP		06 01 34.3	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.81**	**189**	*e*P	P	06 01 10.1	-0.2
RCDM				*i* S	S	06 01 33.9	+0.4
RCDM				AMP		06 01 34.6	
	comp=E,2μm,0.2s						
MDZ	**Mendoza**	**1.81**	**131**	*e*P	P	06 01 10.3	-0.1
MDZ				*i*		06 01 34.1	
MDZ				*i* S	S	06 01 35.0	+1.4
ANTU	**Antumapu**	**1.87**	**184**	⇑*i*P	P	06 01 11.3	+0.2
ANTU				*i* S	S	06 01 35.7	+0.9
ANTU				AMP		06 01 36.7	
	comp=E,1μm,0.5s						
LSCH	**La Serena**	**1.91**	**339**	*e*P	P	06 01 11.6	0.0
LSCH				*e*S	S	06 01 35.3	-0.3
LSCH				AMP		06 01 36.2	
	comp=N,795nm,0.5s						
PCH	**Pirque**	**1.92**	**181**	⇓*i*P	P	06 01 12.1	+0.4
PCH				*i* S	S	06 01 34.6	-1.3
SJCH	**San Jose de Ma**	**1.94**	**177**	⇑*i*P	P	06 01 11.9	-0.1
SJCH				*i* S	S	06 01 37.1	+0.7
SJCH				AMP		06 01 40.7	
	comp=E,718nm,0.3s						
TACH	**Talagante**	**1.99**	**191**	⇑*i*P	P	06 01 12.2	-0.4
LCCH	**Las Cruces**	**2.00**	**207**	⇑*i*P	P	06 01 12.7	-0.1
LMEL	**Las Melosas**	**2.15**	**174**	⇑*i*P	P	06 01 15.7	+0.9
LMEL				*i* S	S	06 01 43.7	+2.3
LMEL				AMP		06 01 51.3	
	comp=N,1μm,0.1s						
CHCH	**Chadas Angostu**	**2.23**	**184**	⇓*i*P	P	06 01 15.6	-0.4
CACH	**El Canelo**	**2.41**	**182**	*e*P	P	06 01 18.5	+0.1
CACH				*i* S	S	06 01 48.7	+1.0
CICH	**Cipreses**	**2.61**	**179**	*e*P	P	06 01 21.0	0.0
CICH				*e*S	S	06 01 51.8	-0.6
SFDO	**San Fernando**	**2.94**	**189**	⇑*i*P	P	06 01 24.6	-1.0

IDC ***18*** *06:01:49.2±1.6,38.59N×70.86E,mb3.8/7,mb1 3.9/10, mb1mx3.7/22,mbtmp3.8/10,Error ellipse: s-maj=25.5km s-min=17.6km az=6.0*
NEIC ***18*** *06:01:52.6±1.1,38.89N×70.75E,h10km,mb3.7/1,Error ellipse: s-maj=15.8km s-min=8.3km az=175.0*
MOS ***18*** *06:01:54.4±1.0,38.97N×70.72E,h33km,mb4.0/6,Error ellipse: s-maj=15.7km s-min=7.1km az=85.4*
NNC ***18*** *06:01:58.1±4.1,39.27N×70.80E,h24km±18km,mb4.0, mpv4.0,Error ellipse: s-maj=23.7km s-min=15.9km az=38.0*
ISC 18 06:01:54.0±0.9,39.23N±0.07×70.60E±0.06,h10km,n51, σ1§31/68,mb3.6/9,12C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.73**	**38**	P	**Pn**	**06 02 51.2**	**-1.7**
	SNR=6.4						
KK31	**Karatay Array**	**3.87**	**359**	⇑Pn	**Pn**	**06 02 58.2**	**+3.3**
	8.8nm,0.3s,baz=173,slow=12,SNR=330						
KK31				⇓Sn	**Sn**	**06 03 50.8**	**+10**
	35nm,0.4s,baz=170,slow=22,SNR=6.5						
KK31				⇓Lg		06 04 00.3	
	133nm,0.8s,baz=164,slow=29,SNR=3.7						
KK31	**Karatay Array**	**3.87**	**359**	⇑Pn	**Pn**	**06 02 58.2**	**+3.3**
KK31				Sn	**Sn**	**06 03 50.8**	**+10**
KK31				Lg		06 04 00.3	
KKAR	**Karatay Array**	**3.87**	**359**	*e*PN	**Pn**	**06 02 58.3**	**+3.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
EKS2	**Erkin-Say**	**4.19**	**34**	P	**Pn**	**06 03 01.2**	**+1.8**
	SNR=30						
UCH	**Uchtor**	**4.22**	**44**	P	**Pn**	**06 03 00.0**	**+0.2**
	SNR=65						
AAK	**Ala-Archa**	**4.50**	**40**	P	**Pn**	**06 03 04.2**	**+0.4**
	SNR=31						
AAK	**Ala-Archa**	**4.50**	**40**	*e*P	**Pn**	**06 03 03.3**	**-0.5**
KZA	**Kyzart**	**4.54**	**50**	P	**Pn**	**06 03 05.0**	**+0.7**
	SNR=45						
FRU	**Bishkek**	**4.71**	**39**	*e*PN	**Pn**	**06 03 08.0**	**+1.2**
FRU				*i*		06 03 21.0	
FRU				*i*		06 04 12.5	
FRU				*i* S	**Sg**	**06 04 22.0**	**-8.7**
FRU				pmax	pmax		
	comp=Z,140nm,1.7s						
FRU				smax			
	comp=E,440μm,1.9s						
KBK	**Karagaybulak**	**4.75**	**42**	P	**Pn**	**06 03 09.0**	**+1.6**
	SNR=35						
CHMS	**Chumysh**	**4.90**	**38**	P	**Pn**	**06 03 10.1**	**+0.6**
	SNR=32						
USP	**Ospenovka**	**4.99**	**35**	P	**Pn**	**06 03 11.1**	**+0.4**
	SNR=40						
ULHL	**Ulahol**	**5.24**	**53**	P	**Pn**	**06 03 14.9**	**+0.7**
	SNR=7.3						
TKM2	**Tokmak 2**	**5.27**	**44**	P	**Pn**	**06 03 14.8**	**0.0**
	SNR=32						
TKM2	**Tokmak 2**	**5.27**	**44**	⇑Pn	**Pn**	**06 03 14.5**	**-0.3**
	comp=E,30nm,0.7s						
TKM2				⇑Sn	**Sn**	**06 04 09.7**	**-6.7**
	comp=E,50nm,1.4s						
MK31	**Makanchi Array**	**11.41**	**45**	P	**P**	**06 04 38.0**	**-2.0**
	comp=E,3.6nm,1.1s,baz=224,slow=13,SNR=16						
MK31				⇑S	**S**	**06 07 00.8**	**+12**
	comp=E,1.4nm,0.8s						
MK31	**Makanchi Array**	**11.41**	**45**	P	**P**	**06 04 38.0**	**-2.0**
	comp=E,3.6nm,1.0s						
MK31				S	**S**	**06 07 00.8**	**+12**
MKAR	**Makanchi Array**	**11.41**	**45**	Pn	**P**	**06 04 38.3**	**-1.7**
	comp=E,0.2nm,0.3s,baz=232,slow=14,SNR=16						
AB31	**Akbulak array**	**12.59**	**326**	⇑P	**P**	**06 04 55.5**	**-0.4**
	comp=E,4.4nm,0.4s,baz=145,slow=12,SNR=200						
AB31				⇓S	**S**	**06 07 15.6**	**-1.6**
	comp=E,7.1nm,0.6s,baz=141,slow=22,SNR=12						
AB31	**Akbulak array**	**12.59**	**326**	⇑P	**P**	**06 04 55.5**	**-0.4**
AB31				S	**S**	**06 07 15.6**	**-1.7**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AB31	**Akbulak array**	**12.59**	**326**	⇑P	**P**	**06 04 55.5**	**-0.4**
	comp=Z,4.4nm,0.4s						
AB31				S	**S**	**06 07 15.6**	**-1.6**
ZRNK	**Zerenda**	**13.77**	**356**	⇑P	**P**	**06 05 11.1**	**-0.3**
	comp=Z,1.4nm,0.7s						
ZRNK				⇓S	**S**	**06 07 43.3**	**-2.1**
	comp=Z,4.1nm,1.1s						
BVA0	**Borovoye Array**	**13.80**	**359**	P	**P**	**06 05 12.7**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=182,slow=11,SNR=5.0						
BVA0				⇑S	**S**	**06 07 44.8**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=167,slow=22,SNR=3.8						
BVA0	**Borovoye Array**	**13.80**	**359**	P	**P**	**06 05 12.7**	**+0.9**
	comp=Z,0.3nm,0.7s						
BVA0				S	**S**	**06 07 44.8**	**-1.3**
BVAR	**Borovoye Array**	**13.80**	**359**	Pn	**P**	**06 05 11.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=161,slow=14,SNR=6.0						
BVAR				Sn	**S**	**06 07 45.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=170,slow=18,SNR=5.3						
BVAR	**Borovoye Array**	**13.80**	**359**	P	**P**	**06 05 11.5**	**-0.3**
BVAR						06 07 45.3	
BVAR				smax			
	comp=N,1.0nm,0.3s						
BRVK	**Borovoye**	**13.83**	**359**	*e*P	**P**	**06 05 13.9**	**+1.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**13.83**	**359**	*e*P	**P**	**06 05 13.9**	**+1.6**
	comp=Z,1.0nm,0.5s						
AKTK	**Aktyubinsk**	**14.30**	**326**	⇑P	**P**	**06 05 20.0**	**+1.5**
AKTK				S	**S**	**06 07 57.9**	**-0.3**
AKTO	**Aktyubinsk**	**14.30**	**326**	⇑P	**P**	**06 05 20.0**	**+1.5**
	comp=Z,3.7nm,1.8s						
AKTO				⇓S	**S**	**06 07 57.9**	**-0.2**
	comp=Z,3.5nm,1.4s						
AKTO	**Aktyubinsk**	**14.30**	**326**	Pn	**P**	**06 05 19.1**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=127,slow=14,SNR=11						
AKTO				Sn	**S**	**06 07 59.0**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=4.7,slow=23,SNR=5.6						
AKTO	**Aktyubinsk**	**14.30**	**326**	P	**P**	**06 05 19.1**	**+0.6**
AKTO						06 07 59.0	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	**Arti**	**18.96**	**339**	*e*P	**P**	**06 06 21.4**	**+3.9**
ARU				*e*S	**S**	**06 09 50.7**	**+5.1**
ZAK	**Zakamensk**	**25.52**	**53**	*e*P	**P**	**06 07 18.1**	**-5.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.4						
SONM	**Songino Array**	**27.14**	**60**	P	**P**	**06 07 36.3**	**-2.7**
	comp=Z,0.4nm,0.9s,mb3.0,baz=333,slow=6.4,SNR=3.3						
AKASG	**Malin Array Be**	**31.05**	**305**	P	**P**	**06 08 13.4**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.5,baz=83,slow=7.5,SNR=4.8						
FINES	**FINESS Array B**	**35.07**	**324**	P	**P**	**06 08 49.8**	**+1.0**
	comp=Z,0.6nm,0.4s,mb3.9,baz=104,slow=7.9,SNR=5.5						
FINES	**FINESS Array B**	**35.07**	**324**	P	**P**	**06 08 49.8**	**+1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**38.51**	**336**	P	**P**	**06 09 18.0**	**+0.3**
	comp=Z,2.5nm,0.9s,mb3.9,baz=127,slow=6.1,SNR=3.8						
ARCES	**ARCESS Array B**	**38.51**	**336**	P	**P**	**06 09 18.0**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**38.51**	**336**	P	**P**	**06 09 18.0**	**+0.3**
HFS	**Hagfors**	**40.75**	**320**	P	**P**	**06 09 36.0**	**-0.3**
	comp=Z,2.7nm,0.7s,mb4.0,baz=97,slow=12,SNR=8.7						
HFS	**Hagfors**	**40.75**	**320**	P	**P**	**06 09 36.0**	**-0.4**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	**Hagfors**	**40.75**	**320**	P	**P**	**06 09 36.0**	**-0.3**
NOA	**NORSAR Array B**	**42.03**	**321**	P	**P**	**06 09 46.3**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.5,baz=66,slow=7.9,SNR=2.6						
NOA	**NORSAR Array B**	**42.03**	**321**	P	**P**	**06 09 46.3**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**42.03**	**321**	P	**P**	**06 09 46.3**	**-0.5**
INK	**Inuvik**	**71.27**	**9**	*e*P	**P**	**06 13 13.0**	**-1.8**
	comp=Z,0.4nm,0.6s,mb3.5						
YKA	**Yellowknife Ar**	**78.54**	**2**	P	**P**	**06 13 55.5**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=352,slow=5.9,SNR=8.6						
YKA	**Yellowknife Ar**	**78.54**	**2**	P	**P**	**06 13 55.5**	**-0.9**

IDC 18 06:28:14.6±4.5,13.85S×112.82W,mb3.4/4,mb1 3.9/4, mb1mx3.7/14,mbtmp3.4/4,Error ellipse: s-maj=226.0km s-min=86.5km az=105.0,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**13.61**	**167**	T		06 45 51.3	
	3.1nm,0.3s,baz=68,slow=22,SNR=4.9						
TXAR	**Lajitas Array**	**43.83**	**12**	P	P	06 36 23.4	-0.9
	0.5nm,1.0s,baz=195,slow=10,SNR=3.9						
NVAR	**Mina Array Bea**	**52.25**	**355**	P	P	06 37 28.9	-1.1
	0.3nm,0.4s,baz=192,slow=11,SNR=4.0						
PDAR	**Pinedale Array**	**56.41**	**3**	P	P	06 37 56.4	-3.9
	0.4nm,0.6s,baz=162,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**76.11**	**359**	P	P	06 40 03.5	-2.2
	0.2nm,0.8s,baz=170,slow=5.0,SNR=5.4						
MKAR	**Makanchi Array**	**144.80**	**342**	PKP	PKPdf	06 47 53.8	-1.6
	0.6nm,0.8s,baz=10,slow=2.5,SNR=4.5						

CASC 18 06:31:09.4±2.7,12.09N×88.44W,h1km,MD3.7,ML2.7,1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.31**	**26**	*e*P	Pb	06 31 49.6	+15
CNCH				*e*S	Sb	06 32 08.7	+17
BLLM	**Bellamira**	**1.35**	**8**	*e*P	Pb	06 31 47.4	+12
BLLM				*e*S	Sb	06 32 08.7	+16
CRIN	**San Cristobal**	**1.48**	**66**	*e*P	Pn	06 31 36.6	-0.6
CRIN				*e*S	Sb	06 32 00.1	+3.5
LEON	**Leon**	**1.54**	**78**	*e*P	Pn	06 31 37.3	-0.7
LEON				*e*S	Sb	06 31 59.3	+1.0
SNVI	**San Vicente**	**1.56**	**345**	*e*P	Pn	06 31 52.0	+14
SNVI				*e*S	Sb	06 32 12.3	+13
TEL3	**Telica 3**	**1.62**	**73**	⇑*e*P	Pn	06 31 40.1	+0.8
TEL3				*e*S	Sb	06 32 00.6	-0.2
LCBS	**La Ceiba**	**1.64**	**341**	*e*P	Pn	06 31 52.6	+13
LCBS				*e*S	Sb	06 32 16.4	+15
MIRN	**Miramar**	**1.72**	**78**	*e*P	Pn	06 31 40.0	-0.6
MIRN				*e*S	Sn	06 32 03.3	-0.2
CNGN	**Cerro Negro**	**1.74**	**76**	*e*P	Pn	06 31 41.0	0.0
CNGN				*e*S	Sn	06 32 04.9	+0.7
COPN	**Copaltepe**	**1.81**	**87**	*e*P	Pn	06 31 41.2	-0.6
COPN				*e*S	Sn	06 32 05.4	-0.3
MOMJ	**Momotombo**	**1.88**	**80**	*e*P	Pn	06 31 42.3	-0.6
MOMJ				*e*S	Sn	06 32 08.1	+0.6
SNJE	**San Jose**	**2.10**	**327**	*e*P	Pn	06 31 59.1	+13
SNJE				*e*S	Sn	06 32 25.0	+12
MGAN	**Managua**	**2.14**	**88**	*e*P	Pn	06 31 45.2	-1.5
MGAN				*e*S	Sn	06 32 14.1	-0.1
MGAN				*i*		06 32 14.4	
	comp=E,66nm,0.2s						
RTR	**El Retiro**	**2.15**	**327**	*e*P	Pn	06 31 59.9	+13
RTR				*e*S	Sn	06 32 27.6	+13
TICN	**Ticuantepe**	**2.16**	**91**	*e*P	Pn	06 31 46.6	-0.3
TICN				*e*S	Sn	06 32 14.7	+0.1
WILN	**Americas 2**	**2.20**	**88**	*e*P	Pn	06 31 47.3	-0.2
WILN				*e*S	Sn	06 32 14.8	-0.9

BJI ***18*** *07:41:51.4,3.45S×148.98E,h78km,mB5.1,mb4.7,Ms4.8, Msz4.6*
IDC ***18*** *07:41:51.9±5.0,3.27S×148.65E,h43km±48km,mb4.0/8, mb1 4.2/10,mb1mx4.1/13,mbtmp4.2/10,ML2.9/2,MS3.9/10, Ms1 3.9/10,ms1mx3.8/21,Error ellipse: s-maj=34.5km s-min=23.0km az=70.0*
NEIC ***18*** *07:41:53.4±2.8,3.22S×148.61E,h55km±26km,mb4.7/5, Error ellipse: s-maj=20.1km s-min=15.6km az=84.0*
ISC 18 07:41:52.0±2.2,3.31S±0.08×148.6E±0.1,h59km±20km, n34,σ1§02/31,mb4.5/20,MS4.1/14,1C,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.21**	**193**	P	**P**	**07 43 23.2**	**-0.1**
	0.7nm,0.3s,baz=22,slow=19,SNR=2.5						
PMG				S	**S**	**07 44 31.3**	**-2.4**
	0.6nm,0.3s,baz=303,slow=21,SNR=2.5						
PMG	**Port Moresby**	**6.21**	**193**	*e*P	**P**	**07 43 23.5**	**+0.2**
	34nm,0.8s						
CTA	**Charters Tower**	**16.83**	**188**	P	**P**	**07 45 46.1**	**+0.8**
	0.1nm,0.3s,baz=14,slow=14,SNR=2.9						
CTA				LR	LR	07 52 02.3	
	comp=Z,352nm,20.0s,baz=22,slow=36						
CTAO	**Charters Tower**	**16.83**	**188**	*e*P	**P**	**07 45 49.1**	**+3.9**
	40nm,1.7s						
GUMO	**Guam**	**17.19**	**348**	LR	LR	07 50 44.0	
	comp=Z,530nm,18.1s,baz=63,slow=31						
KAKA	**Kakadu**	**18.48**	**239**	⇑*i*P	Px	07 46 26.3	
	32nm,0.9s						
WRAB	**Tennant Creek**	**21.57**	**219**	*e*P	**P**	**07 46 39.1**	**+0.5**
	54nm,1.0s,mb4.9						
WB2	**Warramunga Arr**	**21.58**	**219**	*e*P	**P**	**07 46 39.1**	**+0.4**
WRA	**Warramunga Arr**	**21.59**	**219**	P	**P**	**07 46 38.5**	**-0.3**
	21nm,0.9s,mb4.6,baz=46,slow=10,SNR=34						
DZM	**Mont Dzumac**	**25.48**	**139**	P	**P**	**07 47 16.3**	**-0.3**
	9.9nm,1.0s,mb4.3,baz=29,slow=6.3,SNR=5.4						
DZM				LR	LR	07 55 47.9	
	comp=Z,452nm,19.3s,MS4.0,baz=25,slow=33						
FITZ	**Fitzroy Crossi**	**26.84**	**235**	*e*P	**P**	**07 47 30.2**	**+0.9**
	27nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**29.16**	**192**	P	**P**	**07 47 51.6**	**+1.6**
	2.2nm,0.8s,mb3.9,baz=346,slow=14,SNR=4.4						
STKA				LR	LR	08 00 14.1	
	comp=Z,316nm,19.4s,MS3.9,baz=18,slow=38						
STKA	**Stephens Creek**	**29.16**	**192**	P	**P**	**07 47 52.8**	**+2.8**
MJAR	**Matsushiro Arr**	**40.81**	**347**	LR	LR	08 05 43.2	
	comp=Z,114nm,18.4s,MS3.8,baz=175,slow=35						
SSE	**Sheshan**	**43.03**	**325**	*e*P	**P**	**07 49 46.4**	**-1.4**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,120nm,4.8s						
SSE				LR	LR		
	comp=N,70nm,23.6s,MS3.7						
SSE				LR	LR		
	comp=E,80nm,23.6s,MS3.7						
SSE				LR	LR		
	comp=Z,120nm,27.2s,MS3.7						
NJ2	**Nanjing**	**45.09**	**324**	*e*P	**P**	**07 50 03.0**	**-1.4**
NJ2				PP	PP	07 51 48.5	-2.7
NJ2				S	**S**	**07 56 37.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,390nm,7.2s						
NJ2				LR	LR		
	comp=N,600nm,21.4s,MS4.7						
NJ2				LR	LR		
	comp=E,750nm,18.5s,MS4.7						
NJ2				LR	LR		
	comp=Z,330nm,25.0s						
ASAJ	**Asahikawa**	**47.52**	**354**	LR	LR	08 06 16.7	
	comp=Z,135nm,21.9s,MS3.9,baz=231,slow=31						

MKAR	**Makanchi Array**	**76.45**	**320**	P	**P**	**07 53 37.5**	**+0.1**
	comp=Z,3.2nm,1.0s,mb4.2,baz=100,slow=7.4,SNR=11						
ZAL	**Zalesovo**	**77.60**	**327**	LR	LR	08 24 56.9	
	comp=Z,83nm,21.8s,MS4.0,baz=349,slow=33						
KURK	**Kurchatov**	**80.02**	**323**	*e*P	**P**	**07 53 56.8**	**-0.1**
	comp=Z,11nm,1.2s,mb4.7						
ILAR	**Eielson Array**	**82.41**	**23**	P	**P**	**07 54 08.1**	**-1.0**
	comp=Z,1.1nm,0.9s,mb3.8,baz=241,slow=5.2,SNR=8.3						
ZRNK	**Zerenda**	**86.34**	**323**	*e*P	**P**	**07 54 28.8**	**-0.2**
	comp=Z,7.7nm,1.1s,mb4.8						
AKTO	**Aktyubinsk**	**92.88**	**320**	LR	LR	08 35 54.2	
	comp=Z,70nm,19.6s,MS4.1,baz=194,slow=35						
YKA	**Yellowknife Ar**	**96.08**	**28**	P	**P**	**07 55 14.4**	**+0.4**
	comp=Z,0.6nm,0.7s,mb4.1,baz=273,slow=4.7,SNR=13						
YKA	**Yellowknife Ar**	**96.08**	**28**	P	**P**	**07 55 14.4**	**+0.4**

IDC ***18*** *08:06:45.2±3.0, 42.21N×12.41E, mb3.5/6, mb1 3.8/8, mb1mx3.7/21, mbtmp3.6/8, ML3.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/24, Error ellipse: s-maj=67.0km s-min=23.0km az=10.0*

ROM ***18*** *08:06:48.3±0.1, 42.74N×12.75E, h10km±1km, Md3.2/40, Ml3.5/25, Error ellipse: s-maj=1.1km s-min=0.7km az=117.0*

LDG ***18*** *08:06:48.8±0.1, 42.73N×12.94E, h10km, Ml3.6/13, Error ellipse: s-maj=3.3km s-min=2.4km az=58.0*

NEIC ***18*** *08:06:48.3, 42.74N×12.75E, h10km, ML3.6(LDG), ML3.5(ROM), After ROM.*

CSEM ***18*** *08:06:48.8±0.1, 42.72N×12.76E, h15km, ML4.0/15, Error ellipse: s-maj=1.4km s-min=0.9km az=62.0*

PRU ***18*** *08:06:49.6, 42.84N×12.68E*

STR ***18*** *08:07:03.8±1.6, 43.69N×12.58E, h10km±1km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 08:06:47.8±0.2, 42.74N±0.01×12.63E±0.02, h10km, n144, σ1$32/201, mb3.5/5, 20C-10D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.34**	**114**	Pg	**Pg**	**08 06 54.5**	**-0.2**
LNSS				Sg	**Sg**	**08 06 59.2**	**-0.2**
	12μm,0.4s						
MNS	**Montasola**	**0.36**	**173**	Pg	**Pg**	**08 06 56.5**	**+1.3**
MNS				Sg	**Sg**	**08 07 02.5**	**+2.5**
	2μm,0.5s						
MURB	**Monte Urbino**	**0.53**	**352**	Pg	**Pg**	**08 06 59.9**	**+1.4**
MURB				Sg	**Sg**	**08 07 08.9**	**+3.2**
	27μm,0.3s						
SACS	**San Casciano d**	**0.54**	**282**	Pg	**Pg**	**08 07 01.3**	**+2.6**
SACS				Sg	**Sg**	**08 07 11.5**	**+5.5**
	2μm,0.5s						
SNTG	**Esanatoglia**	**0.56**	**24**	Pg	**Pg**	**08 06 59.3**	**+0.1**
SNTG				Sg	**Sg**	**08 07 07.2**	**+0.3**
FIAM	**Fiamignano**	**0.59**	**142**	Pg	**Pg**	**08 06 59.3**	**-0.5**
FIAM				Sg	**Sg**	**08 07 07.6**	**-0.2**
	2μm,0.5s						
CAMP	**Campotosto**	**0.61**	**109**	Pg	**Pg**	**08 06 59.0**	**-1.2**
CAMP				Sg	**Sg**	**08 07 07.8**	**-0.6**
	3μm,0.9s						
AQU	**L'Aquila**	**0.69**	**124**	Pg	**Pg**	**08 07 00.6**	**-1.1**
MTCE	**Montecelio**	**0.72**	**173**	Pg	**Pg**	**08 07 02.5**	**+0.2**
MTCE				Sg	**Sg**	**08 07 14.0**	**+2.0**
	1μm,0.5s						
TERO	**Teramo**	**0.73**	**99**	Pg	**Pg**	**08 07 00.8**	**-1.7**
TERO				Sg	**Sg**	**08 07 11.8**	**-0.5**
	3μm,0.6s						
ARV	**Arcevia**	**0.79**	**17**	Pg	**Pg**	**08 07 03.6**	**-0.1**
ARV				Sg	**Sg**	**08 07 15.6**	**+1.2**
ARVD	**Arcevia**	**0.79**	**17**	Pg	**Pg**	**08 07 03.8**	**0.0**
ARVD				Sg	**Sg**	**08 07 15.5**	**+1.1**
	2μm,0.6s						
PIEI	**Pieia**	**0.80**	**355**	Pg	**Pg**	**08 07 04.5**	**+0.6**
PIEI				Sg	**Sg**	**08 07 17.9**	**+3.3**
	924nm,0.3s						
TOLF	**Tolfa**	**0.82**	**215**	Pg	**Pg**	**08 07 05.7**	**+1.5**
	2μm,0.8s						
BADI	**Badiali**	**0.82**	**340**	Pg	**Pg**	**08 07 05.6**	**+1.3**
BADI				Sg	**Sg**	**08 07 18.5**	**+3.2**
	2μm,0.5s						
CERT	**Cerreto**	**0.83**	**161**	Pg	**Pg**	**08 07 03.9**	**-0.6**
CERT				Sg	**Sg**	**08 07 16.6**	**+0.9**
	1μm,0.6s						
FAGN	**Fagnano**	**0.85**	**123**	Pg	**Pg**	**08 07 03.6**	**-1.3**
FAGN				Sg	**Sg**	**08 07 15.9**	**-0.4**
PTQR	**Pietraquaria**	**0.92**	**141**	Pg	**Pg**	**08 07 04.6**	**-1.6**
	704nm,1.0s						
FSSB	**Fossombrone**	**0.96**	**7**	Pg	**Pg**	**08 07 06.9**	**-0.2**
FSSB				Sg	**Sg**	**08 07 22.1**	**+2.2**
VCEL	**Villa Celiera**	**0.96**	**111**	Pg	**Pg**	**08 07 05.8**	**-1.3**
	2μm,0.5s						
RDP	**Rocca di Papa**	**0.98**	**176**	Pg	**Pg**	**08 07 07.6**	**+0.1**
RDP				Sg	**Sg**	**08 07 22.9**	**+2.2**
	2μm,0.6s						
CRE	**Caprese Michel**	**1.01**	**331**	Pg	**Pg**	**08 07 09.3**	**+1.3**
CRE				Sg	**Sg**	**08 07 26.0**	**+4.4**
	1μm,0.5s						
GUAR	**Guarcino**	**1.07**	**151**	Pg	**Pg**	**08 07 09.1**	**-0.2**
	1μm,0.8s						
AOI	**Ancona**	**1.08**	**41**	Pg	**Pg**	**08 07 08.7**	**-0.8**
	2μm,0.4s						
VVLD	**Villa Vallelon**	**1.14**	**139**	Pg	**Pg**	**08 07 10.1**	**-0.5**
VVLD				Sg	**Sg**	**08 07 25.8**	**-0.1**
	6μm,1.6s						
MAON	**Monte Argentar**	**1.15**	**255**	Pg	**Pg**	**08 07 11.5**	**+0.7**
MAON				Sg	**Sg**	**08 07 31.4**	**+5.3**
	978nm,1.5s						
INTR	**Introdacqua**	**1.19**	**127**	Pg	**Pg**	**08 07 09.5**	**-2.2**
	2μm,0.7s						
RSM	**Repubblica di**	**1.20**	**354**	Pg	**Pg**	**08 07 12.0**	**+0.2**
	681nm,0.6s						
CSNT	**Castellina Chi**	**1.22**	**307**	Pg	**Pg**	**08 07 13.5**	**+1.2**
CSNT				Sg	**Sg**	**08 07 33.0**	**+4.4**
GIUL	**Giuliano Di Ro**	**1.27**	**158**	Pg	**Pg**	**08 07 12.6**	**-0.6**
	492nm,0.7s						
GRFL	**Gerfalco**	**1.28**	**289**	Pg	**Pg**	**08 07 14.1**	**+0.7**
	80nm,0.5s						
SFI	**Santa Sofia**	**1.30**	**334**	Pg	**Pg**	**08 07 14.2**	**+0.4**
VMG	**Vicchio**	**1.46**	**328**	Pg	**Pg**	**08 07 16.9**	**0.0**
	3μm,0.9s						
SEI	**Scarperia**	**1.61**	**325**	Pg	**Pg**	**08 07 19.9**	**-0.1**
	1μm,0.5s						
MIDA	**Miranda**	**1.63**	**132**	Pg	**Pg**	**08 07 18.9**	**-1.6**
FNVD	**Fontana Vidola**	**1.80**	**323**	Pg	**Pg**	**08 07 22.3**	**-1.5**
	691nm,0.9s						
PII	**Pisa**	**1.82**	**303**	Pg	**Pg**	**08 07 22.2**	**-2.0**
	80nm,0.4s						
BDI	**Bagni Di Lucca**	**1.98**	**313**	Pg	**Pg**	**08 07 24.1**	**-3.4**
	322nm,0.8s						
VLC	**Villacollemand**	**2.16**	**312**	Pg	**Pg**	**08 07 26.9**	**-4.1**
	186nm,0.7s						
GSCL	**Gusciola**	**2.19**	**318**	Pg	**Pg**	**08 07 28.2**	**-3.3**
	145nm,0.8s						
CSM	**Casamicciola**	**2.20**	**154**	*e*Pn	**Sn**	**08 07 48.2**	**-4.4**
RGNG	**Rignano Grg**	**2.44**	**115**	Pg	**Pg**	**08 07 30.0**	**-6.6**
PGF	**Pioggiola**	**2.68**	**267**	*e*Pn	**Pn**	**08 07 33.8**	**+1.9**
PGF				*e*Sn	**Sn**	**08 08 05.6**	**+0.9**
	38nm,0.6s						
BOJS	**Bojanci**	**3.35**	**33**	*e*Pn	**Pn**	**08 07 42.8**	**+1.4**
BOJS				*e*Sn	**Sn**	**08 08 24.9**	**+3.3**
VOY	**Vojsko**	**3.42**	**15**	*e*Pn	**Pn**	**08 07 42.3**	**0.0**
VOY				*e*Sn	**Sn**	**08 08 22.3**	**-1.0**
COLI	**Coloredo**	**3.44**	**9**	*e*Pn	**Pn**	**08 07 43.0**	**+0.4**
BUA	**Buia**	**3.50**	**6**	*e*Pn	**Pn**	**08 07 44.1**	**+0.7**
DRE	**Drenchia**	**3.51**	**12**	*e*Pn	**Pn**	**08 07 43.8**	**+0.1**
MPRI	**Monte Prat**	**3.51**	**4**	*e*Pn	**Pn**	**08 07 44.9**	**+1.3**
BAD	**Bernadia**	**3.52**	**7**	*e*Pn	**Pn**	**08 07 44.0**	**+0.2**
ROBS	**Robic**	**3.56**	**10**	*e*Pn	**Pn**	**08 07 44.5**	**+0.1**
ROBS				*i* Sn	**Sn**	**08 08 26.1**	**-0.9**
LJU	**Ljubljana**	**3.57**	**22**	*e*Pn	**Pn**	**08 07 45.9**	**+1.3**
LJU				*e*Sn	**Sn**	**08 08 27.8**	**+0.5**
LJU	**Ljubljana**	**3.57**	**22**	*e*Pn	**Pn**	**08 07 45.8**	**+1.3**
LJU				*e*Sn	**Sn**	**08 08 27.8**	**+0.5**
CSMI	**Casera Mimoias**	**3.77**	**0**	*e*Pn	**Pn**	**08 07 48.2**	**+0.8**
SBF	**Sospel**	**3.95**	**288**	*e*Pn	**Pn**	**08 07 50.7**	**+0.8**
SBF				*e*Sn	**Sn**	**08 08 37.1**	**+0.3**
	42nm,0.5s						
DOBS	**Dobrina**	**3.97**	**30**	*e*Pn	**Pn**	**08 07 50.8**	**+0.7**
DOBS				*i* Sn	**Sn**	**08 08 38.5**	**+1.2**
DOBS	**Dobrina**	**3.97**	**30**	*e*Pn	**Pn**	**08 07 50.8**	**+0.6**
DOBS				*i* Sn	**Sn**	**08 08 38.5**	**+1.2**
OBKA	**Obir**	**4.01**	**19**	*i*Pn	**Pn**	**08 07 51.2**	**+0.4**
OBKA	**Obir**	**4.01**	**19**	*i*Sn	**Sn**	**08 08 35.8**	**-2.6**
OBKA	**Obir**	**4.01**	**19**	Pn	**Pn**	**08 07 51.2**	**+0.4**
OBKA				Sn	**Sn**	**08 08 35.8**	**-2.6**
PERS	**Pernice**	**4.28**	**24**	*e*Pn	**Pn**	**08 07 55.3**	**+0.7**
PERS				*e*Sn	**Sn**	**08 08 45.3**	**0.0**
SCE	**Schlegeis**	**4.35**	**352**	*i*Pn	**Pn**	**08 07 57.0**	**+1.5**
KBA	**Koelnbreinsper**	**4.37**	**6**	*i*Pn	**Pn**	**08 07 56.8**	**+1.0**
KBA	**Koelnbreinsper**	**4.37**	**6**	*i*Sn	**Sn**	**08 08 45.9**	**-1.5**
KBA	**Koelnbreinsper**	**4.37**	**6**	Pn	**Pn**	**08 07 56.8**	**+1.0**
KBA				Sn	**Sn**	**08 08 45.9**	**-1.5**
FRF	**La Foret Royal**	**4.45**	**283**	*e*Pn	**Pn**	**08 07 57.6**	**+0.6**
DAVOX	**Davos**	**4.49**	**335**	Pn	**Pn**	**08 08 00.6**	**+3.1**
	2.9nm,0.3s,baz=156,slow=16,SNR=19						
DAVOX				Sn	**Sn**	**08 08 52.4**	**+1.9**
	2.9nm,0.3s,baz=160,slow=24,SNR=4.4						
DAVOX				LR	LR	08 10 22.9	
	comp=Z,93nm,18.8s,baz=235,slow=44						
LMR	**La Mourre**	**4.52**	**280**	*e*Pn	**Pn**	**08 07 58.0**	**0.0**
WTTA	**Wattenberg**	**4.58**	**352**	*i*Pn	**Pn**	**08 08 00.8**	**+2.0**
	SNR=15						
WTTA	**Wattenberg**	**4.58**	**352**	*i*Sn	**Sn**	**08 08 52.3**	**-0.4**
WTTA	**Wattenberg**	**4.58**	**352**	Pn	**Pn**	**08 08 00.8**	**+2.0**
	14nm,6.0s						
SQTA	**Sankt Quirin**	**4.59**	**348**	*i*Pn	**Pn**	**08 08 01.1**	**+2.1**
	SNR=12						
SQTA	**Sankt Quirin**	**4.59**	**348**	*i*Sn	**Sn**	**08 08 52.9**	**-0.1**
SQTA	**Sankt Quirin**	**4.59**	**348**	Pn	**Pn**	**08 08 01.1**	**+2.1**
	11nm,9.0s						
WATA	**Walderalm**	**4.66**	**351**	*i*Pn	**Pn**	**08 08 01.8**	**+1.9**
	SNR=14						
WATA	**Walderalm**	**4.66**	**351**	*i*Sn	**Sn**	**08 08 54.3**	**-0.4**
WATA	**Walderalm**	**4.66**	**351**	Pn	**Pn**	**08 08 01.8**	**+1.9**
	13nm,6.0s						
MBDF	**Montbardon**	**4.68**	**297**	*e*Pn	**Pn**	**08 08 01.8**	**+1.5**
MBDF				*e*Sn	**Sn**	**08 08 53.3**	**-2.1**
	24nm,0.7s						
MOTA	**Moosalm**	**4.73**	**347**	*e*Pn	**Pn**	**08 08 03.2**	**+2.3**
	SNR=9.4						
MOTA	**Moosalm**	**4.73**	**347**	*i*Sn	**Sn**	**08 08 56.4**	**-0.2**
MOTA	**Moosalm**	**4.73**	**347**	Pn	**Pn**	**08 08 03.2**	**+2.2**
	9.0nm,4.0s						
DAVA	**Damuels**	**4.95**	**338**	*e*Pn	**Pn**	**08 08 06.4**	**+2.4**
DAVA	**Damuels**	**4.95**	**338**	*e*Sn	**Sn**	**08 09 02.9**	**+0.9**
ARSA	**Arzberg**	**4.96**	**23**	*i*Pn	**Pn**	**08 08 03.9**	**-0.3**
	SNR=21						
ARSA	**Arzberg**	**4.96**	**23**	*i*Sn	**Sn**	**08 08 59.4**	**-2.9**
ARSA	**Arzberg**	**4.96**	**23**	Pn	**Pn**	**08 08 03.9**	**-0.3**
	20nm,7.0s						
LPG	**La Plagne**	**5.05**	**305**	*e*Pn	**Pn**	**08 08 05.8**	**+0.3**
LPG				*e*Sn	**Sn**	**08 09 02.7**	**-1.9**
	19nm,0.6s						
LPL	**La Plagne**	**5.07**	**305**	*e*Pn	**Pn**	**08 08 06.3**	**+0.6**
LPL				*e*Sn	**Sn**	**08 09 02.7**	**-2.4**
	21nm,0.6s						
MOA	**Molln**	**5.24**	**12**	*i*Pn	**Pn**	**08 08 08.6**	**+0.5**
	SNR=28						
MOA	**Molln**	**5.24**	**12**	*i*Sn	**Sn**	**08 09 06.8**	**-2.6**
SMRF	**Simiane la Rot**	**5.29**	**286**	*e*Pn	**Pn**	**08 08 09.0**	**+0.2**
SMRF				*e*Sn	**Sn**	**08 09 08.8**	**-1.8**
	8.9nm,0.7s						
ORIF	**Oris-en-Rattie**	**5.34**	**296**	*e*P	**Pn**	**08 08 13.1**	**+3.5**
ORIF				*e*Sn	**Sn**	**08 09 10.3**	**-1.7**
	17nm,0.6s						
ORIF	**Oris-en-Rattie**	**5.34**	**296**	*e*Pn	**Pn**	**08 08 09.6**	**0.0**
ORIF				*e*P		08 08 13.1	
ORIF				*e*Sn	**Sn**	**08 09 10.3**	**-1.7**
ORIF	**Oris-en-Rattie**	**5.34**	**296**	*e*P	**Pn**	**08 08 13.1**	**+3.5**
ORIF				*e*Sn	**Sn**	**08 09 10.3**	**-1.7**
	8.3nm,0.6s						
PKSM	**Moragy**	**5.53**	**49**	*e*P	**Pn**	**08 08 14.2**	**+2.0**
CABF	**La Chapelle**	**6.06**	**312**	*e*Pn	**Pn**	**08 08 19.0**	**-0.7**
VIVF	**Saint-Julien-l**	**6.13**	**293**	*e*Pn	**Pn**	**08 08 20.8**	**+0.1**
GEC2	**GERESS Array S**	**6.15**	**7**	*e*Pn	**Pn**	**08 08 20.4**	**-0.6**
GEC2				*e*Sn	**Sn**	**08 09 28.1**	**-4.2**
LOMF	**Lomont**	**6.17**	**320**	P	**Pn**	**08 08 27.5**	**+6.2**
MOF	**Molkenrain**	**6.41**	**325**	P	**Pn**	**08 08 26.8**	**+2.1**
MOF				S	**Sn**	**08 09 36.8**	**-2.0**
KHC	**Kasperske Hory**	**6.43**	**6**	*e*PN	**Pn**	**08 08 23.5**	**-1.4**
KHC				*e*SN	**Sn**	**08 09 34.8**	**-4.3**
LIBD	**Limburg**	**6.46**	**329**	P	**Pn**	**08 08 28.7**	**+3.3**
HINF	**Hinteralfeld**	**6.51**	**323**	*e*Pn	**Pn**	**08 08 24.2**	**-1.8**
HINF				*e*Sn	**Sn**	**08 09 36.4**	**-4.7**
	16nm,0.4s						
LASF	**Ste Croix**	**6.53**	**285**	*e*Pn	**Pn**	**08 08 25.4**	**-0.9**
ECH	**Echery**	**6.69**	**327**	P	**Pn**	**08 08 30.1**	**+1.5**
ECH				S	**Sn**	**08 09 44.1**	**-1.6**
WLS	**Welschbruch**	**6.77**	**329**	P	**Pn**	**08 08 32.3**	**+2.5**
WLS				S	**Sn**	**08 09 45.3**	**-2.5**
CDF	**Champ du Feu**	**6.80**	**328**	*e*Pn	**Pn**	**08 08 28.8**	**-1.4**
CDF				*e*Sn	**Sn**	**08 09 41.2**	**-7.3**
	18nm,0.5s						
TREC	**Trest**	**6.85**	**16**	*e*PN	**Pn**	**08 08 29.4**	**-1.5**
HAU	**Haudompre**	**6.87**	**322**	*e*Pn	**Pn**	**08 08 29.8**	**-1.4**
HAU				*e*Sn	**Sn**	**08 09 45.0**	**-5.3**
	37nm,0.5s						
VRAC	**Vranov**	**7.13**	**21**	Pn	**Pn**	**08 08 33.3**	**-1.4**
	0.4nm,0.3s,baz=200,slow=13,SNR=2.7						
THEF	**They Montfort**	**7.20**	**322**	P	**Pn**	**08 08 36.3**	**+0.5**
THEF				S	**Sn**	**08 09 57.1**	**-1.4**
PRU	**Pruhonice**	**7.37**	**10**	*e*Pn	**Pn**	**08 08 35.5**	**-2.7**
PRU				*e*Sn	**Sn**	**08 09 55.6**	**-7.1**
SMF	**Signal de Mont**	**7.38**	**305**	*e*Pn	**Pn**	**08 08 37.1**	**-1.1**
SMF				*e*Sn	**Sn**	**08 09 57.9**	**-5.0**
	11nm,0.6s						
NKC	**Novy Kostel**	**7.50**	**359**	*e*SN	**Sn**	**08 10 00.6**	**-5.3**
SFTF	**Sexfontaines**	**7.63**	**318**	*e*Pn	**Pn**	**08 08 39.9**	**-1.9**
	baz=137						
MTLF	**Montolieu**	**7.65**	**278**	*e*Pn	**Pn**	**08 08 40.7**	**-1.4**
LOR	**Lormes**	**7.69**	**309**	*e*Pn	**Pn**	**08 08 41.2**	**-1.4**
	baz=130						
LOR				*e*Sn	**Sn**	**08 10 05.8**	**-4.8**
	6.4nm,0.5s						
AVF	**Avril sur Loir**	**7.74**	**305**	*e*Pn	**Pn**	**08 08 42.2**	**-1.1**
SSF	**Saint Saulge**	**7.78**	**307**	*e*Pn	**Pn**	**08 08 42.3**	**-1.6**
MEZF	**Maizieres J'vi**	**7.83**	**320**	*e*Pn	**Pn**	**08 08 42.4**	**-2.2**
	baz=141						
MOX	**Moxa**	**7.94**	**355**	*i* P	**Pn**	**08 08 45.5**	**-0.6**
MOX				S	**Sn**	**08 10 11.0**	**-5.9**
MOX	**Moxa**	**7.94**	**355**	*e*Pn	**Pn**	**08 08 45.5**	**-0.6**
MOX				*e*Sn	**Sn**	**08 10 11.5**	**-5.4**
CAF	**Calviac**	**7.94**	**290**	*e*Pn	**Pn**	**08 08 46.5**	**+0.4**
BGF	**Bois d'Agland**	**7.95**	**302**	*e*Pn	**Pn**	**08 08 44.9**	**-1.3**
BGF				*e*Sn	**Sn**	**08 10 11.9**	**-5.2**
	8.8nm,0.6s						
KECS	**Kecovo**	**7.96**	**41**	*e*PN	**Pn**	**08 08 46.3**	**-0.1**
DPC	**Dobruska-Polom**	**8.03**	**17**	*e*PN	**P**	**08 08 46.0**	**-1.3**
OKC	**Ostrava-Krasne**	**8.06**	**26**	*e*SN	**Sn**	**08 10 14.7**	**-5.3**
CLL	**Collm**	**8.58**	**2**	*i* SN	**Sn**	**08 10 26.4**	**-6.4**
CLL				*e*SG	**Sg**	**08 11 40.0**	**+6.6**
VOIR		**9.34**	**69**	⇑P	**P**	**08 09 08.0**	**+2.5**
VOIR		**9.34**	**69**	⇑P	**P**	**08 09 08.0**	**+2.5**
MLR	**Muntele Rosu**	**9.97**	**69**	Pn	**P**	**08 09 15.0**	**+0.9**
	0.2nm,0.3s,baz=130,slow=15,SNR=4.1						
MLR	**Muntele Rosu**	**9.97**	**69**	⇑P	**P**	**08 09 15.4**	**+1.3**
MLR	**Muntele Rosu**	**9.97**	**69**	⇑P	**P**	**08 09 15.4**	**+1.3**
BURAR	**Bucovina Array**	**10.14**	**57**	⇑P	**P**	**08 09 23.3**	**+6.9**
BURAR	**Bucovina Array**	**10.14**	**57**	⇑P	**P**	**08 09 23.3**	**+6.9**
FINES	**FINESS Array B**	**20.40**	**19**	P	**P**	**08 11 29.4**	**+2.1**
	2.0nm,0.8s,baz=194,slow=7.9,SNR=5.3						
FINES	**FINESS Array B**	**20.40**	**19**	P	**P**	**08 11 29.5**	**+2.2**
MKAR	**Makanchi Array**	**48.15**	**60**	P	**P**	**08 15 30.1**	**+0.4**
	0.6nm,0.7s,mb3.7,baz=292,slow=6.5,SNR=7.7						
SONM	**Songino Array**	**62.16**	**49**	P	**P**	**08 17 11.3**	**0.0**
	0.5nm,0.8s,mb3.7,baz=315,slow=10,SNR=2.3						
INK	**Inuvik**	**66.41**	**347**	P	**P**	**08 17 38.0**	**-0.5**
	0.7nm,1.0s,mb3.6,baz=14,slow=7.5,SNR=3.5						
INK	**Inuvik**	**66.41**	**347**	P	**P**	**08 17 38.0**	**-0.5**
YKA	**Yellowknife Ar**	**66.93**	**336**	P	**P**	**08 17 41.8**	**-0.1**
	0.2nm,0.6s,mb3.4,baz=40,slow=5.7,SNR=8.1						
YKA	**Yellowknife Ar**	**66.93**	**336**	P	**P**	**08 17 41.8**	**-0.1**
ILAR	**Eielson Array**	**71.63**	**351**	P	**P**	**08 18 10.8**	**0.0**
	0.3nm,0.7s,mb3.3,baz=6.3,slow=6.0,SNR=5.6						

IDC ***18*** *08:24:11.3±2.3, 35.00N×23.88E, mb3.7/8, mb1 3.7/11, mb1mx3.6/24, mbtmp3.5/11, ML3.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/25, Error ellipse: s-maj=43.2km s-min=11.2km az=179.0*

MOS ***18*** *08:24:11.1±1.3, 35.00N×23.89E, h10km, mb4.1/6, Error ellipse: s-maj=18.9km s-min=10.3km az=74.0*

NEIC ***18*** *08:24:12.5, 34.67N×24.09E, h5km, mb3.9/1, MD3.8(ATH), After ATH.*

CSEM ***18*** *08:24:14.2±1.3, 34.71N×24.08E, h2km, mb3.9/1, Error ellipse: s-maj=29.3km s-min=10.8km az=50.0*

ATH ***18*** *08:24:15.2, 34.79N×24.18E, h24km±1km, MD3.8/9*

ISC 18 08:24:10.2±1.3, 34.59N±0.08×24.29E±0.09, h12km±6km, n46, σ1$37/48, mb3.7/9, MS3.7/1, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.30**	**326**	*e*Pg	**Pg**	**08 24 16.0**	**-0.6**
GVD				*e*Sg	**Sg**	**08 24 20.3**	**-0.6**
GVD	**Gavdhos**	**0.30**	**326**	*e*Pg	**Pg**	**08 24 16.0**	**-0.6**
GVD				*e*Sg	**Sg**	**08 24 20.3**	**-0.7**
VAM	**Vamos**	**0.82**	**355**	*e*PN	**Pn**	**08 24 27.5**	**+0.1**
VAM				*e*SN	**Sn**	**08 24 36.9**	**-2.5**
VAM	**Vamos**	**0.82**	**355**	*e*Pg	**Pg**	**08 24 26.5**	**-0.2**
VAM				*e*Sb	**Sb**	**08 24 37.9**	**+1.3**
IDI	**Anoyia**	**0.85**	**35**	Pg	**Pg**	**08 24 28.1**	**+0.8**
	13nm,0.3s,baz=224,slow=17,SNR=38						
IDI				Lg		08 24 41.0	
	73nm,0.3s,baz=182,slow=21,SNR=17						
NPS	**Neapolis**	**1.28**	**58**	*e*PN	**Pn**	**08 24 38.8**	**+5.0**
KYTH	**Kithira**	**1.98**	**329**	*e*PN	**Pn**	**08 24 46.0**	**+2.1**
SANT	**Santorini**	**2.02**	**28**	*e*Pn	**Pn**	**08 24 43.8**	**-0.7**
SANT	**Santorini**	**2.02**	**28**	*e*Pn	**Pn**	**08 24 43.8**	**-0.7**
VLI	**Veliai**	**2.40**	**333**	*e*PB	**Pb**	**08 24 52.2**	**-0.6**
VLI	**Veliai**	**2.40**	**333**	*e*Pg	**Pg**	**08 24 54.0**	**-4.1**
KARP	**Karpathos**	**2.54**	**67**	*e*PN	**Pn**	**08 24 57.5**	**+5.6**
KARP	**Karpathos**	**2.54**	**67**	*e*Pn	**Pn**	**08 24 58.5**	**+6.6**
APE	**Apeiranthos**	**2.67**	**22**	*e*PN	**Pn**	**08 24 57.0**	**+3.2**
APE	**Apeiranthos**	**2.67**	**22**	*e*Pn	**Pn**	**08 24 59.5**	**+5.7**
ITM	**Ithomi**	**3.22**	**324**	*e*PN	**Pn**	**08 25 04.0**	**+2.3**
ITM	**Ithomi**	**3.22**	**324**	*e*Pn	**Pn**	**08 25 05.7**	**+4.0**
PTL	**Penteli**	**3.47**	**354**	*e*PN	**Pn**	**08 25 07.0**	**+1.8**
PTL	**Penteli**	**3.47**	**354**	*e*Pn	**Pn**	**08 25 08.0**	**+2.8**
EVR	**Evrytania**	**4.76**	**336**	*e*PN	**Pn**	**08 25 25.7**	**+2.2**
EVR	**Evrytania**	**4.76**	**336**	*e*Pn	**Pn**	**08 25 27.5**	**+4.0**
CSS	**Prodhromos**	**7.45**	**85**	*e*P	**Pn**	**08 26 01.1**	**-0.2**
CSS	**Prodhromos**	**7.45**	**85**	*e*P	**Pn**	**08 26 01.1**	**-0.2**
BRTR	**Keskin Array B**	**9.05**	**53**	Pn	**P**	**08 26 23.0**	**-0.6**
	0.1nm,0.3s,baz=247,slow=11,SNR=2.1						
GERES	**GERESS Array B**	**16.27**	**334**	Pn	**P**	**08 27 55.0**	**-4.9**
	0.1nm,0.3s,baz=163,slow=10,SNR=2.5						
AKASG	**Malin Array Be**	**16.50**	**11**	Pn	**P**	**08 27 58.5**	**-4.4**
	0.2nm,0.3s,baz=206,slow=10,SNR=2.8						
KHC	**Kasperske Hory**	**16.55**	**335**	*e*P	**P**	**08 28 05.0**	**+1.4**
GNI	**Garni**	**17.16**	**65**	LR	LR	08 35 36.9	
	comp=Z,32nm,21.3s,baz=316,slow=40						
HFS	**Hagfors**	**26.48**	**348**	P	**P**	**08 29 46.3**	**-2.4**
	4.4nm,1.0s,mb4.0,baz=173,slow=12,SNR=3.7						
HFS	**Hagfors**	**26.48**	**348**	P	**P**	**08 29 46.3**	**-2.4**
HFS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	**FINESS Array B**	**26.90**	**2**	P	**P**	**08 29 50.0**	**-2.6**
	comp=Z,2.1nm,0.9s,mb3.7,ba

$M_{\theta\theta}$-0.53±.16; $M_{\phi\phi}$-4.36±.17; $M_{r\theta}$1.14±.37; $M_{\theta\phi}$-2.46±.12; $M_{\theta\theta}$3.18±.39; Best double couple: M_o6.229×10^{16} NP1: ϕ_s211°,δ29°,λ97°. NP2:ϕ_s22°,δ61°,λ86°. Principal axes: T 5.909, Plg73°, Azm282°; N .647, Plg4°, Azm24°; P -6.549, Plg16°, Azm115°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 18 09:09:52.0±0.2, 22.02S±0.05×174.57W±0.05, h31km, h31km±.5km:pP-P,n244,σ1s09/158,mb5.0/80,MS4.8/41, 23C-8D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
RAO	**Raoul Island**	**7.81**	**202**	Pn		**Pn**	**09 11 45.1**	**-1.3**
	84nm,0.3s,baz=68,slow=23,SNR=3.7							
RAO				Sn		**Sn**	**09 13 11.1**	**-3.6**
	120nm,0.3s,baz=263,slow=23,SNR=8.3							
AFI	**Afiamalu**	**8.49**	**19**	Pn		**P**	**09 11 45.9**	**-10**
	6.4nm,0.3s,baz=5.2,slow=4.3,SNR=9.4							
AFI				Sn		Sn	09 13 10.9	-21
	10nm,0.3s,baz=64,slow=18,SNR=3.4							
AFI	**Afiamalu**	**8.49**	**19**	*e*Pn		**P**	**09 11 46.1**	**-10**
RAR	**Rarotonga**	**13.78**	**89**	Pn		**P**	**09 12 55.6**	**-12**
	7.9nm,0.3s,baz=270,slow=7.4,SNR=27							
RAR				Sn		S	09 15 10.0	-31
	2.9nm,0.3s,baz=282,slow=22,SNR=3.7							
RAR				LR		LR	09 17 29.6	
	comp=Z,3μm,20.1s,baz=228,slow=33							
DZM	**Mont Dzumac**	**17.61**	**266**	P		**P**	**09 14 00.7**	**+3.9**
	0.7nm,0.3s,baz=83,slow=17,SNR=22							
URZ	**Urewera**	**17.70**	**202**	P		**P**	**09 13 59.1**	**+1.2**
	1.5nm,0.3s,baz=354,slow=5.9,SNR=11							
URZ				S		**S**	**09 16 60.0**	**-12**
	0.7nm,0.3s,baz=356,slow=23,SNR=4.9							
URZ				LR		LR	09 19 40.2	
	comp=Z,2μm,18.6s,baz=31,slow=33							
SNZO	**South Karori**	**21.25**	**203**	*e*P		**P**	**09 14 37.0**	**-0.9**
	48nm,0.9s,mb4.8							
THZ	**Tophouse**	**22.33**	**205**	P*		**P**	**09 14 47.7**	**-0.9**
TBI	**Tubuai**	**23.20**	**98**	*e*LQ			09 19 03.3	
TBI				*e*LR		LR	09 20 04.3	
	3μm,27.8s,baz=278							
LTZ	**Lake Taylor**	**23.44**	**205**	PN		**P**	**09 14 55.1**	**-4.3**
PAE	**Paea**	**23.89**	**84**	*e*P		**P**	**09 14 59.8**	**-4.3**
	39nm,0.9s,mb4.8							
PPT	**Papeete**	**23.92**	**84**	*e*P		**P**	**09 15 00.6**	**-3.7**
	53nm,1.3s,mb4.8							
PPT	**Papeete**	**23.92**	**84**	*e*LQ			09 19 27.7	
PPT				*e*LR		LR	09 20 19.3	
	3μm,25.8s,baz=254							
RPZ	**Rata Peaks**	**24.70**	**206**	P		**P**	**09 15 11.6**	**-0.2**
	17nm,0.5s,mb4.8,baz=175,slow=3.7,SNR=5.6							
HNR	**Honiara**	**27.48**	**293**	LR		LR	09 22 52.2	
	comp=Z,348nm,20.4s,MS3.9,baz=127,slow=29							
TAOE	**Nuku Hiva Isla**	**35.56**	**74**	*e*LR		LR	09 25 36.2	
	4μm,27.3s							
RKT	**Rikitea**	**36.50**	**99**	*e*S		**S**	**09 22 33.5**	**-2.6**
RKT				*e*LR		LR	09 25 54.1	
	2μm,30.2s,baz=266							
CTA	**Charters Tower**	**36.55**	**266**	⇑*i*P		**P**	**09 16 56.4**	**-0.6**
	10nm,0.6s,mb4.8							
CTA	**Charters Tower**	**36.55**	**266**	P		**P**	**09 16 56.4**	**-0.6**
	12nm,0.6s,mb4.9,baz=101,slow=11,SNR=28							
CTA	**Charters Tower**	**36.55**	**266**	⇑*i*P		**P**	**09 16 56.4**	**-0.6**
CTA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CTAO	**Charters Tower**	**36.55**	**266**	*e*P		**P**	**09 16 56.6**	**-0.4**
CTAO				pmax		pmax		
	comp=Z,13nm,0.7s,mb4.9							
CTAO				MLR		MLR		
	comp=Z,513nm,19.0s,MS4.3							
CTAO	**Charters Tower**	**36.55**	**266**	*e*P		**P**	**09 16 56.5**	**-0.5**
	comp=Z,13nm,0.7s,mb4.9							
CTAO				LR		LR		
	comp=Z,513nm,19.0s,MS4.3							
TAU	**Tasmania Unive**	**37.88**	**228**	*e*P		**P**	**09 17 10.0**	**+2.0**
TAU				pmax		pmax		
	comp=Z,16nm,0.6s,mb4.9							
TAU	**Tasmania Unive**	**37.88**	**228**	*e*P		**P**	**09 17 10.0**	**+2.0**
	comp=Z,16nm,0.6s,mb4.9							
PMG	**Port Moresby**	**38.80**	**283**	P		**P**	**09 17 15.6**	**-0.4**
	comp=Z,35nm,0.9s,mb5.1,baz=70,slow=5.9,SNR=12							
PMG	**Port Moresby**	**38.80**	**283**	*e*P		**P**	**09 17 15.8**	**-0.2**
PMG				pmax		pmax		
	comp=Z,32nm,0.9s							
PMG				MLR		MLR		
	comp=Z,1μm,19.0s							
PMG	**Port Moresby**	**38.80**	**283**	*e*P		**P**	**09 17 15.8**	**-0.2**
	comp=Z,32nm,0.9s,mb5.0							
PMG				LR		LR		
	comp=Z,1μm,19.0s,MS4.8							
STKA	**Stephens Creek**	**40.06**	**246**	*e*P		**P**	**09 17 26.3**	**0.0**
	comp=Z,5.0nm,0.7s,mb4.4							
STKA	**Stephens Creek**	**40.06**	**246**	P		**P**	**09 17 26.2**	**-0.1**
	comp=Z,6.8nm,0.7s,mb4.5,baz=90,slow=9.0,SNR=19							
STKA				LR		LR	09 33 10.7	
	comp=Z,1μm,18.9s,MS4.8,baz=68,slow=35							
WB2	**Warramunga Arr**	**47.56**	**263**	⇑*i*P		**P**	**09 18 25.3**	**-1.7**
WRAB	**Tennant Creek**	**47.56**	**263**	*c i*P		**P**	**09 18 25.3**	**-1.7**
WRAB	**Tennant Creek**	**47.56**	**263**	*e*P		**P**	**09 18 25.2**	**-1.8**
WRAB				LR		LR		
	comp=Z,40nm,1.0s,mb5.4							
	comp=Z,170nm,19.0s,MS4.0							
WRA	**Warramunga Arr**	**47.57**	**263**	P		**P**	**09 18 25.6**	**-1.5**
	comp=Z,17nm,0.9s,mb5.1,baz=98,slow=8.2,SNR=103							
WRA				PcP		PcP	09 19 57.5	+0.5
	comp=Z,5.2nm,0.8s,baz=99,slow=4.2,SNR=4.6							
WRA				S		**S**	**09 25 23.0**	**+3.8**
	comp=Z,0.9nm,1.1s,baz=98,slow=16,SNR=3.6							
KAKA	**Kakadu**	**51.21**	**271**	⇑*i*P		Px	09 19 16.0	
	comp=Z,17nm,0.8s							
FORT	**Forrest**	**51.66**	**248**	*e*P		**P**	**09 18 57.4**	**-0.8**
	comp=Z,82nm,0.6s,mb5.8							
GUMO	**Guam**	**53.24**	**308**	LR		LR	09 40 00.3	
	comp=Z,312nm,19.2s,MS4.4,baz=234,slow=34							
FITZ	**Fitzroy Crossi**	**56.00**	**263**	*e*P		**P**	**09 19 29.5**	**-0.9**
	comp=Z,26nm,0.9s,mb5.3							
SBA	**Scott Base**	**56.60**	**185**	*e*P		**P**	**09 19 37.1**	**+3.2**
SBA				MLR		MLR		
	comp=Z,500nm,19.0s,MS4.6							
VNDA	**Vanda**	**56.71**	**186**	P		**P**	**09 19 36.7**	**+2.0**
	comp=Z,4.8nm,0.8s,mb4.6,baz=4.2,slow=5.6,SNR=11							
VNDA				LR		LR	09 40 30.6	
	comp=Z,354nm,18.8s,MS4.5,baz=21,slow=32							
VNDA	**Vanda**	**56.71**	**186**	*e*P		**P**	**09 19 36.7**	**+2.0**
VNDA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
VNDA	**Vanda**	**56.71**	**186**	*e*P		**P**	**09 19 36.7**	**+2.0**
	comp=Z,10nm,1.0s,mb4.8							
KLBR	**Kellerberrin**	**60.32**	**245**	*e*P		**P**	**09 20 00.3**	**-0.2**
	comp=Z,29nm,0.9s,mb5.3							
MBWA	**Marble Bar**	**60.65**	**257**	*e*P		**P**	**09 20 01.6**	**-1.2**
	comp=Z,12nm,0.6s,mb5.2							
MBWA				LR		LR		
	comp=Z,587nm,19.0s,MS4.8							
MUN	**Mundaring**	**61.56**	**245**	*e*P		**P**	**09 20 09.7**	**+0.8**
QSPA	**South Pole Qui**	**68.06**	**180**	*e*P		**P**	**09 20 51.7**	**+1.5**
	comp=Z,29nm,1.0s,mb5.3							
QSPA				LR		LR		
	comp=Z,635nm,20.0s,MS4.8							
MJAR	**Matsushiro Arr**	**73.35**	**322**	P		**P**	**09 21 22.6**	**-0.4**
	comp=Z,15nm,0.8s,mb5.0,baz=158,slow=5.9,SNR=32							
MAJO	**Matsushiro**	**73.35**	**322**	*e*P		**P**	**09 21 22.6**	**-0.3**
MAJO				pmax		pmax		
	comp=Z,21nm,0.8s,mb5.1							
MAJO	**Matsushiro**	**73.35**	**322**	*e*P		**P**	**09 21 22.6**	**-0.3**
	comp=Z,21nm,0.8s,mb5.1							
MAT	**Matsushiro**	**73.35**	**322**	P		**P**	**09 21 21.7**	**-1.2**
JOW	**Kunigami**	**73.60**	**309**	LR		LR	09 49 04.8	
	comp=Z,395nm,18.4s,MS4.7,baz=324,slow=32							
ASAJ	**Asahikawa**	**76.61**	**330**	LR		LR	09 51 47.9	
	comp=Z,723nm,18.2s,MS5.0,baz=153,slow=33							
KSM	**Kuching**	**76.78**	**277**	*e*P		**P**	**09 21 43.1**	**+0.1**
MWC	**Mount Wilson**	**77.55**	**45**	*e*P		**P**	**09 21 47.1**	**+0.3**
ISA	**Isabella**	**78.16**	**44**	*e*P		**P**	**09 21 49.6**	**-0.5**
ISA				pmax		pmax		
	comp=Z,7.0nm,1.4s,mb4.4							
ISA	**Isabella**	**78.16**	**44**	*e*P		**P**	**09 21 49.6**	**-0.5**
	comp=Z,6.8nm,1.4s,mb4.4							
PFO	**Pinyon Flat Ob**	**78.25**	**46**	*e*P		**P**	**09 21 49.2**	**-1.5**
PFO				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
PFO	**Pinyon Flat Ob**	**78.25**	**46**	*e*P		**P**	**09 21 49.2**	**-1.5**
	comp=Z,9.4nm,1.0s,mb4.7							
PET	**Petropavlovsk**	**78.27**	**344**	*e*P		**P**	**09 21 59.4**	**+9.1**
PET				*e*S		S	09 31 41.4	-0.5
PET				*e*PS		PS	09 32 21.4	-6.2
PET					pmax	pmax		
	comp=Z,100nm,12.2s							
PET					smax			
	comp=N,200nm,15.4s							
PET					MLR	MLR		
	comp=Z,300nm,19.0s,MS4.6							
CMB	**Columbia Colle**	**78.46**	**41**	*e*P		**P**	**09 21 50.8**	**-0.9**
CMB					pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0							
CMB					MLR	MLR		
	comp=Z,868nm,19.0s,MS5.1							
CMB	**Columbia Colle**	**78.46**	**41**	*e*P		**P**	**09 21 50.8**	**-1.0**
	comp=Z,16nm,0.9s,mb4.9							
CMB					LR	LR		
	comp=Z,868nm,19.0s,MS5.1							
OHCM	**Honcut**	**78.64**	**39**	*e*P		**P**	**09 21 52.4**	**-0.3**
YSS	**Yuzh-Sakhalins**	**78.71**	**332**	*i* P		**P**	**09 21 51.0**	**-1.9**
WDC	**Whiskeytown Da**	**78.85**	**38**	*e*P		**P**	**09 21 54.7**	**+0.9**
WDC					pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1							
WDC	**Whiskeytown Da**	**78.85**	**38**	*e*P		**P**	**09 21 54.7**	**+0.8**
	comp=Z,28nm,1.1s,mb5.1							
YBH	**Yreka Blue Hor**	**79.53**	**37**	*e*P		**P**	**09 21 57.7**	**+0.2**
YBH					pmax	pmax		
	comp=Z,16nm,0.9s							
YBH					MLR	MLR		
	comp=Z,456nm,21.0s							
YBH	**Yreka Blue Hor**	**79.53**	**37**	*e*P		**P**	**09 21 57.7**	**+0.2**
	comp=Z,16nm,0.9s,mb5.0							
YBH					LR	LR		
	comp=Z,456nm,21.0s,MS4.8							
NVAR	**Mina Array Bea**	**79.98**	**42**	P		**P**	**09 21 59.6**	**-0.3**
	comp=Z,17nm,1.0s,mb4.9,baz=230,slow=11,SNR=43							
HUMO	**Hull Mountain**	**79.98**	**36**	*e*P		**P**	**09 22 00.2**	**+0.4**
	comp=Z,24nm,1.1s,mb5.0							
LDFC	**Landfair**	**80.01**	**46**	*e*P		**P**	**09 21 59.6**	**-0.6**
MNV	**Mina**	**80.07**	**42**	*e*P		**P**	**09 21 59.9**	**-0.6**
MNV					pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0							
MNV					MLR	MLR		
	comp=Z,708nm,20.0s,MS5.0							
MNV	**Mina**	**80.07**	**42**	*e*P		**P**	**09 21 59.9**	**-0.5**
	comp=Z,20nm,1.0s,mb5.0							
MNV					LR	LR		
	comp=Z,708nm,20.0s,MS5.0							
TPNV	**Topopah Spring**	**80.37**	**44**	*e*P		**P**	**09 22 00.8**	**-1.3**
TPNV					pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8							
TPNV	**Topopah Spring**	**80.37**	**44**	*e*P		**P**	**09 22 00.8**	**-1.3**
	comp=Z,12nm,0.9s,mb4.8							
TPH	**Tonopah**	**80.43**	**42**	*e*P		**P**	**09 22 02.0**	**-0.4**
TPH					pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9							
TPH	**Tonopah**	**80.43**	**42**	*e*P		**P**	**09 22 02.0**	**-0.3**
	comp=Z,13nm,0.9s,mb4.8							
NEN	**Nelson**	**80.52**	**45**	*e*P		**P**	**09 22 03.8**	**+0.9**
MOD	**Modoc**	**81.00**	**38**	*e*P		**P**	**09 22 04.9**	**-0.3**
	comp=Z,19nm,0.9s,mb5.0							
SSE	**Sheshan**	**81.12**	**309**	*e*P		**P**	**09 22 03.8**	**-2.4**
SSE					AP	pP	09 22 12.9	-3.1
SSE					XP	sP	09 22 17.5	-1.7
SSE					S	S	09 32 10.3	-2.1
SSE					XS		09 32 27.4	
SSE					AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1							
SSE					AMB	AMB		
	comp=Z,150nm,5.7s							
SSE					LR	LR		
	comp=N,110nm,38.4s,MS4.1							
SSE					LR	LR		
	comp=E,130nm,38.6s,MS4.1							
SSE					LR	LR		
	comp=Z,180nm,39.7s,MS4.1							
MAW	**Mawson**	**81.20**	**199**	P		**P**	**09 22 07.5**	**+1.7**
	comp=Z,3.0nm,0.6s,mb4.4,baz=118,slow=6.2,SNR=3.9							
MAW					LR	LR	09 56 45.7	
	comp=Z,594nm,19.3s,MS5.0,baz=79,slow=35							
TUC	**Tucson**	**81.44**	**50**	*e*P		**P**	**09 22 07.0**	**-0.8**
TUC					pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8							
TUC	**Tucson**	**81.44**	**50**	*e*P		**P**	**09 22 07.0**	**-0.8**
	comp=Z,13nm,1.0s,mb4.8							
WVOR	**Wild Horse Val**	**82.29**	**38**	*e*P		**P**	**09 22 12.7**	**+0.7**
WVOR					pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9							
WVOR	**Wild Horse Val**	**82.29**	**38**	*e*P		**P**	**09 22 12.7**	**+0.8**
	comp=Z,17nm,1.1s,mb4.9							
ARUT	**Antelope Range**	**82.67**	**44**	*e*P		**P**	**09 22 15.7**	**+1.6**
WUAZ	**Wupatki**	**82.77**	**47**	*e*P		**P**	**09 22 14.8**	**+0.2**
	comp=Z,15nm,1.0s,mb5.0							
ELK	**Elko**	**83.27**	**41**	*e*P		**P**	**09 22 15.8**	**-1.3**
ELK					pmax	pmax		
	comp=Z,11nm,1.0s							
ELK					MLR	MLR		
	comp=Z,850nm,19.0s							
ELK	**Elko**	**83.27**	**41**	*e*P		**P**	**09 22 15.8**	**-1.3**
	comp=Z,11nm,1.0s,mb4.8							
ELK					LR	LR		
	comp=Z,850nm,19.0s,MS5.1							
NJ2	**Nanjing**	**83.32**	**308**	*e*P		**P**	**09 22 17.3**	**-0.2**
NJ2					AP	pP	09 22 26.9	-0.5
NJ2					XP	sP	09 22 29.5	-1.1
NJ2					PP	PP	09 25 29.8	-1.4
NJ2					S	S	09 32 35.0	+0.3
NJ2					XS		09 32 54.0	
NJ2					AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3							
NJ2					AMB	AMB		
	comp=Z,290nm,5.3s							
NJ2					LR	LR		
	comp=N,950nm,24.2s,MS5.2							
NJ2					LR	LR		
	comp=E,710nm,20.2s,MS5.2							
NJ2					LR	LR		
	comp=Z,470nm,24.0s,MS4.8							
HABR	**Khabarovsk**	**83.37**	**329**	⇑*i*P		**P**	**09 22 19.8**	**+2.4**
HABR					pmax	pmax		
	comp=Z,109nm,3.0s							
HABR					MLR	MLR		
	comp=Z,100nm,5.0s							
MDJ	**Mudanjiang**	**83.62**	**324**	P		**P**	**09 22 19.8**	**+1.0**
MDJ					XP	sP	09 22 32.4	+0.6
MDJ					AMB	AMB		
	comp=Z,10.0nm,1.9s,mb4.6							
MDJ					AMB	AMB		
	comp=Z,230nm,7.1s							
MDJ					LR	LR		
	comp=N,80nm,20.4s,MS4.5							
MDJ					LR	LR		
	comp=E,170nm,19.1s,MS4.5							
MDJ					LR	LR		
	comp=Z,280nm,19.8s,MS4.6							
MVU	**Marysvale**	**83.88**	**44**	*e*P		**P**	**09 22 22.5**	**+2.2**
	comp=Z,19nm,0.9s,mb5.2							
MSU	**Marysvale**	**83.90**	**44**	*e*P		**P**	**09 22 20.7**	**+0.3**
HAWA	**Hanford**	**84.32**	**35**	*e*P		**P**	**09 22 23.0**	**+0.8**
	comp=Z,1.6nm,1.0s,mb4.1							
DUG	**Dugway**	**84.45**	**43**	*e*P		**P**	**09 22 23.5**	**+0.4**
DUG					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7							
DUG					MLR	MLR		
	comp=Z,354nm,20.0s,MS4.8							
DUG	**Dugway**	**84.45**	**43**	*e*P		**P**	**09 22 23.5**	**+0.4**
	comp=Z,6.1nm,1.0s,mb4.7							
DUG					LR	LR		
	comp=Z,354nm,20.0s,MS4.8							
BMO	**Blue Mountains**	**84.55**	**37**	*e*P		**P**	**09 22 22.3**	**-1.2**
	comp=Z,11nm,0.9s,mb5.0							
TMUT	**Trail Mountain**	**84.97**	**44**	*e*P		**P**	**09 22 26.0**	**+0.3**
MNTX	**Cornudas Mount**	**85.06**	**53**	*e*P		**P**	**09 22 25.6**	**-0.7**
	comp=Z,11nm,1.0s,mb5.0							
MNTX					LR	LR		
	comp=Z,478nm,19.0s,MS4.9							
LENM	**Lemitar**	**85.13**	**50**	*e*P		**P**	**09 22 27.7**	**+1.1**
LAZ	**Ladron**	**85.13**	**50**	*e*P		**P**	**09 22 27.1**	**+0.4**
LTX	**Lajitas**	**85.21**	**56**	*e*P		**P**	**09 22 28.5**	**+1.3**
LTX					pmax	pmax		
	comp=Z,21nm,1.0s,mb5.2							
LTX	**Lajitas**	**85.21**	**56**	*e*P		**P**	**09 22 28.5**	**+1.4**
	comp=Z,21nm,1.0s,mb5.2							
TXAR	**Lajitas Array**	**85.21**	**56**	P		**P**	**09 22 26.1**	**-1.1**
	comp=Z,16nm,1.0s,mb5.1,baz=210,slow=5.4,SNR=70							
TXAR					LR	LR	09 54 07.4	
	comp=Z,348nm,19.3s,MS4.8,baz=255,slow=31							
SPUT	**South Promonto**	**85.31**	**42**	*e*P		**P**	**09 22 27.5**	**+0.1**
SRU	**San Rafael**	**85.31**	**45**	*e*P		**P**	**09 22 27.0**	**-0.4**
SRU					pmax	pmax		
	comp=Z,21nm,1.0s,mb5.2							
SRU	**San Rafael**	**85.31**	**45**	*e*P		**P**	**09 22 27.0**	**-0.4**
	comp=Z,21nm,1.0s,mb5.2							
BNM	**Barren Site**	**85.37**	**50**	*e*P		**P**	**09 22 27.9**	**0.0**
HLID	**Hailey**	**85.43**	**39**	*e*P		**P**	**09 22 27.4**	**-0.5**
	comp=Z,12nm,0.9s,mb5.0							
HLID					LR	LR		
	comp=Z,494nm,19.0s,MS4.9							
LPM	**Los Pinos Moun**	**85.45**	**50**	*e*P		**P**	**09 22 29.3**	**+1.1**
CN2	**Changchun**	**85.47**	**321**	*e*P		**P**	**09 22 29.8**	**+1.7**
TCUT	**Toone Canyon**	**85.85**	**43**	*e*P		**P**	**09 22 31.1**	**+1.0**
ANMO	**Albuquerque**	**85.89**	**50**	*e*P		**P**	**09 22 31.5**	**+1.1**
ANMO	**Albuquerque**	**85.89**	**50**	*e*P		**P**	**09 22 29.6**	**-0.8**
	comp=Z,30nm,1.0s,mb5.5							
ANMO					LR	LR		
	comp=Z,748nm,19.0s,MS5.1							
PLCA	**Paso Flores**	**85.90**	**132**	P		**P**	**09 22 31.1**	**+0.8**
	comp=Z,4.2nm,0.9s,mb4.7,baz=211,slow=8.2,SNR=5.9							
PLCA					LR	LR	09 56 48.1	
	comp=Z,441nm,18.2s,MS4.9,baz=210,slow=33							
SYO	**Syowa Base**	**85.92**	**192**	⇑P		**P**	**09 22 29.6**	**-0.2**
SYO	**Syowa Base**	**85.92**	**192**	⇑pP		pP	09 22 39.8	+0.1
SYO	**Syowa Base**	**85.92**	**192**	⇑*e*P		**P**	**09 22 29.6**	**-0.2**
SYO				⇑*e*pP		pP	09 22 39.8	+0.1
HWUT	**Hardware Ranch**	**86.03**	**42**	*e*P		**P**	**09 22 29.1**	**-1.8**
	comp=Z,7.4nm,0.9s,mb4.9							
GDL2	**Guadalupe Moun**	**86.06**	**53**	*e*P		**P**	**09 22 31.1**	**-0.3**
MA2	**Magadan**	**86.13**	**343**	P		**P**	**09 22 35.8**	**+4.8**
MA2				*e*S		S	09 33 05.3	+3.6
MA2				*e*SS		SS	09 38 44.5	+0.5
MA2				*e*SSS		SSS	09 42 14.5	+1.3
MA2				MLR		MLR		
	comp=Z,300nm,18.0s,MS4.7							
SNAA	**Sanae**	**86.38**	**177**	*d*P		**P**	**09 22 32.3**	**+0.3**
SNAA	**Sanae**	**86.38**	**177**	*e*P		**P**	**09 22 32.2**	**+0.2**
	comp=Z,10nm,1.0s,mb5.0							
CPRX	**Cap Rock**	**86.83**	**53**	*e*P		**P**	**09 22 34.9**	**-0.2**
MCMT	**McKenzie Canyo**	**87.08**	**39**	*e*P		**P**	**09 22 35.7**	**-0.2**
RRI2	**Red Ridge**	**87.15**	**41**	*e*P		**P**	**09 22 36.7**	**+0.3**
	comp=Z,7.2nm,1.0s,mb4.9							
RRI2				*e*		pP	09 22 46.6	+0.4
REDW	**Red Top Meadow**	**87.44**	**41**	*e*P		**P**	**09 22 37.3**	**-0.4**
	comp=Z,8.5nm,1.0s,mb4.9							
TNA	**Tin City**	**87.45**	**3**	*e*P		**P**	**09 22 37.2**	**0.0**
	comp=Z,7.1nm,0.9s,mb4.9							
TPAW	**Teton Pass**	**87.45**	**41**	*e*P		**P**	**09 22 37.6**	**-0.2**
	comp=Z,5.4nm,0.9s,mb4.8							
SNOW	**Snow King Moun**	**87.56**	**41**	*e*P		**P**	**09 22 38.1**	**-0.3**
	comp=Z,12nm,0.9s,mb5.1							
IMW	**Indian Meadow**	**87.69**	**40**	*e*P		**P**	**09 22 39.0**	**+0.1**
	comp=Z,5.8nm,1.0s,mb4.8							
IMW				*e*pP		pP	09 22 49.1	+0.3
SMCO	**Snowmass**	**87.69**	**46**	*e*P		**P**	**09 22 38.8**	**-0.2**
	comp=Z,10nm,0.9s,mb5.1							
MCK	**McKinley**	**87.80**	**11**	*e*P		**P**	**09 22 37.6**	**-1.4**
MCK				pmax		pmax		
	comp=Z,13nm,1.0s,mb5.1							
MCK				MLR		MLR		
	comp=Z,385nm,20.0s,MS4.8							
MCK	**McKinley**	**87.80**	**11**	*e*P		**P**	**09 22 37.5**	**-1.4**
	comp=Z,13nm,1.0s,mb5.1							
MCK				LR		LR		
	comp=Z,385nm,20.0s,MS4.8							
PSI	**Prapat**	**87.80**	**274**	P		**P**	**09 22 40.9**	**+0.7**
	comp=Z,28nm,0.8s,mb5.5,baz=217,slow=5.1,SNR=13							
PDAR	**Pinedale Array**	**87.91**	**42**	P		**P**	**09 22 39.0**	**-1.1**
	comp=Z,5.6nm,0.9s,mb4.8,baz=208,slow=2.4,SNR=34							
PDAR				LR		LR	09 55 32.7	
	comp=Z,241nm,18.4s,MS4.7,baz=250,slow=31							
QLMT	**Earthquake Lak**	**87.91**	**39**	*e*P		**P**	**09 22 40.0**	**+0.1**
SEY	**Seymchan**	**88.61**	**346**	*e*P		**P**	**09 22 43.3**	**+0.4**
SEY				*e*S		S	09 33 25.1	+0.1
SEY				pmax		pmax		
	comp=Z,14nm,0.9s,mb5.3							
SEY				smax				
	comp=N,350nm,20.2s							
SEY				smax				
	comp=E,120nm,21.8s							
SEY				MLR		MLR		
	comp=N,580nm,19.0s,MS5.1							
SEY				MLR		MLR		
	comp=Z,680nm,19.0s,MS5.1							
SEY				MLR		MLR		
	comp=E,110nm,16.0s,MS5.1							
JCT	**Junction City**	**88.72**	**56**	*e*P		**P**	**09 22 45.0**	**+0.8**
JCT				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb5.0							
JCT	**Junction City**	**88.72**	**56**	*e*P		**P**	**09 22 45.0**	**+0.8**
	comp=Z,6.6nm,1.0s,mb4.9				

CD2				PP	PP	09 27 01.0	+1.1		
CD2				SKS	SKS	09 33 42.0	-7.9		
CD2				S	S	09 34 17.3	+0.9		
CD2				SS	SS	09 40 43.0	+0.8		
CD2				AMB	AMB				
	comp=Z,10.0nm,1.6s,mb5.0								
CD2				LR	LR				
	comp=E,130nm,12.0s								
CD2				LR	LR				
	comp=Z,190nm,15.6s,MS4.7								
YAK	**Yakutsk**	**94.74**	**337**	*e*P	**P**	**09 23 09.4**	**-1.8**		
YAK				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb5.2								
LZH	**Lanzhou**	**96.24**	**306**	*e*P	**P**	**09 23 20.1**	**+1.3**		
LZH				AP	pP	09 23 30.9	+2.2		
LZH				XP	sP	09 23 35.0	+3.2		
LZH				PP	PP	09 27 16.5	+2.0		
LZH				*e*SKS	SKS	09 33 52.8	-7.5		
LZH				*e*S	S	09 34 34.3	+1.6		
LZH				XS		09 34 52.3			
LZH				*e*SS	SS	09 41 11.3	+2.2		
LZH				AMB	AMB				
	comp=Z,10.0nm,1.6s,mb5.0								
LZH				AMB	AMB				
	comp=Z,60nm,4.5s								
LZH				LR	LR				
	comp=N,830nm,18.6s								
LZH				LR	LR				
	comp=Z,1μm,19.8s,MS5.4								
YKA	**Yellowknife Ar**	**96.58**	**24**	P	**P**	**09 23 18.9**	**-0.7**		
	comp=Z,2.3nm,0.8s,mb4.6,baz=236,slow=4.2,SNR=25								
YKA				LR	LR	09 59 46.1			
	comp=Z,190nm,21.1s,MS4.5,baz=265,slow=31								
YKA	**Yellowknife Ar**	**96.58**	**24**	P	**P**	**09 23 18.9**	**-0.7**		
YKA				LR	LR	09 59 46.1			
LPAZ	**La Paz**	**98.53**	**111**	LR	LR	10 02 14.9			
	comp=Z,483nm,18.1s,MS5.0,baz=70,slow=32								
SONM	**Songino Array**	**99.01**	**318**	P	**P**	**09 23 31.4**	**+0.5**		
	comp=Z,0.5nm,0.9s,mb4.0,baz=143,slow=7.2,SNR=2.6								
ULM	**Lac du Bonnet**	**99.73**	**40**	LR	LR	10 03 41.7			
	comp=Z,471nm,18.2s,MS5.0,baz=270,slow=32								
GTA	**Gaotai**	**100.42**	**308**	*e*P	P	09 23 40.3	+2.7		
TIXI	**Tiksi**	**101.05**	**344**	*e*P	P	09 23 38.6	-1.1		
WMQ	**Urumqi**	**110.34**	**310**	*e*PDIF	Pdif	09 24 22.3	+1.1		
WMQ				PP	PP	09 29 01.4	+0.6		
WMQ				PPP	PPP	09 31 21.6	+0.5		
WMQ				SKS	SKS	09 35 29.6	+24		
WMQ				PS	PS	09 38 25.0	+0.2		
WMQ				SS	SS	09 44 22.6	-0.5		
WMQ				PP	PP				
	comp=Z,30nm,4.8s								
WMQ				LR	LR				
	comp=N,240nm,20.0s,MS4.9								
WMQ				LR	LR				
	comp=E,240nm,22.0s,MS4.9								
WMQ				LR	LR				
	comp=Z,290nm,22.4s,MS4.8								
MKAR	**Makanchi Array**	**114.57**	**313**	PKP	PKPdf	09 28 29.7	-4.6		
	comp=Z,0.6nm,0.8s,baz=72,slow=3.8,SNR=5.6								
BVAR	**Borovoye Array**	**122.30**	**320**	PKP	PKPdf	09 28 44.7	-4.4		
	comp=Z,1.2nm,0.7s,baz=90,slow=4.4,SNR=8.0								
ZRNK	**Zerenda**	**123.14**	**320**	*e*PKIKP	PKPdf	09 28 46.5	-4.2		
ARU	**Arti**	**128.26**	**326**	*i* PKIKP	PKPdf	09 28 58.2	-2.3		
ARU				*e*		09 31 02.9			
ARU				*e*		09 36 01.8			
ARU				*e*SS	SS	09 48 14.4	+0.7		
ARU				MLR	MLR				
	comp=Z,300nm,20.0s,MS5.0								
ARU				MLR	MLR				
	comp=N,100nm,19.0s,MS4.9								
ARU				MLR	MLR				
	comp=E,200nm,20.0s,MS4.9								
FINES	**FINESS Array B**	**138.09**	**345**	PKP	PKPdf	09 29 13.8	-4.9		
	comp=E,1.6nm,0.8s,baz=185,slow=21,SNR=3.3								
FINES	**FINESS Array B**	**138.09**	**345**	PKP	PKPdf	09 29 13.8	-4.9		
OBN	**Obninsk**	**139.59**	**333**	*i* PKIKP	PKPdf	09 29 15.5	-6.1		
OBN				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KMBO	**Kilima Mbogo**	**141.35**	**238**	PKP	PKPdf	09 29 22.1	-3.9		
	comp=Z,0.8nm,0.5s,baz=54,slow=13,SNR=3.3								
KIV	**Kislovodsk**	**142.30**	**314**	*i* PKIKP	PKPdf	09 29 33.0	+6.3		
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
SUW	**Suwalki**	**145.34**	**342**	*e*PKP	PKPdf	09 29 27.8	-3.8		
SUW	**Suwalki**	**145.34**	**342**	*e*PKP	PKPdf	09 29 27.8	-3.9		
MUD	**Monsted U'grnd**	**145.50**	**356**	*i* P	PKPbc	09 29 28.8	+1.5		
	comp=Z,43nm,1.0s								
MUD	**Monsted U'grnd**	**145.50**	**356**	*e*PKIKP	PKPdf	09 29 28.8	-3.1		
MUD				pmax	pmax				
	comp=Z,43nm,1.0s								
AKASG	**Malin Array Be**	**145.86**	**333**	PKPbc	PKPbc	09 29 29.0	+0.6		
	comp=Z,11nm,0.8s,baz=38,slow=3.9,SNR=44								
SIM	**Simferopol'**	**147.20**	**321**	PKP2	PKPab	09 29 38.4	+2.4		
LTHS	**Al Lith**	**147.37**	**273**	P	PKPdf	09 29 37.2	+1.1		
MALT	**Malatya**	**147.39**	**307**	*e*PKP2	PKPab	09 29 35.9	-1.1		
KIS	**Kishinev**	**148.73**	**328**	*e*PKP2	PKPab	09 29 36.0	-6.0		
OJC	**Ojcow**	**149.67**	**342**	*e*PKP	PKPdf	09 29 37.5	-1.4		
BURAR	**Bucovina Array**	**149.91**	**333**	⇓P	PKPdf	09 29 35.5	-3.9		
BURAR	**Bucovina Array**	**149.91**	**333**	⇓P	PKPdf	09 29 35.5	-3.9		
STHS	**Stebnicka Huta**	**149.93**	**339**	*e*PKP	PKPdf	09 29 40.9	+1.6		
STHS				*e*		09 29 47.8			
STHS				*e*		09 29 59.8			
KOLS	**Kolonicke sedl**	**149.99**	**338**	*e*PKP	PKPdf	09 29 40.3	+0.9		
KOLS				*e*		09 29 44.3			
KSP	**Ksiaz**	**150.00**	**346**	*e*PKP	PKPdf	09 29 41.6	+2.2		
KSP	**Ksiaz**	**150.00**	**346**	*e*PKP	PKPdf	09 29 41.3	+1.9		
YNBS	**Yanbu' al Bahr**	**150.02**	**281**	P	PKPdf	09 29 43.6	+3.3		
CLL	**Collm**	**150.18**	**350**	⇓*i* PKP1	PKPdf	09 29 41.6	+2.0		
CLL				*e*PKP2	PKPab	09 29 48.0	+0.2		
CLL				*i*		09 29 52.5			
CLL				*e*		09 30 00.0			
CLL				*e*		09 30 09.0			
CLL	**Collm**	**150.18**	**350**	⇓*i* PKP2	PKPab	09 29 41.6	-6.2		
CLL				pmax	pmax				
	comp=Z,18nm,1.0s								
CLL				pmax	pmax				
	comp=Z,13nm,1.0s								
BR131	**Keskin Array S**	**150.22**	**313**	*e*PKPbc	PKPdf	09 29 42.2	+2.1		
BRTR	**Keskin Array B**	**150.22**	**313**	PKPbc	PKPdf	09 29 42.0	+2.0		
	comp=Z,4.9nm,0.9s,baz=108,slow=3.9,SNR=10								
CRVS	**Cervenica-Dubn**	**150.30**	**338**	*e*	PKPdf	09 29 38.8	-1.1		
CRVS				*e*L		09 38 05.5			
CFR	**Carcaliu**	**150.34**	**327**	⇑P	PKPdf	09 29 42.2	+2.1		
CFR	**Carcaliu**	**150.34**	**327**	⇑P	PKPdf	09 29 42.2	+2.1		
UPC	**Upice**	**150.38**	**346**	⇑*e*PKPB	PKPab	09 29 44.8	-3.9		
BRG	**Berggiesshubel**	**150.44**	**349**	*e*PKP	PKPdf	09 29 42.0	+1.9		
DPC	**Dobruska-Polom**	**150.46**	**346**	⇑*e*PKPB	PKPab	09 29 42.6	-6.4		
OKC	**Ostrava-Krasne**	**150.48**	**343**	⇑*e*PKPB	PKPab	09 29 41.4	-7.7		
PVCC	**Panska Ves**	**150.66**	**348**	⇑*e*PKPB	PKPab	09 29 43.2	-6.7		
MORC	**Moravsky Berou**	**150.69**	**344**	*e*PKPdf	PKPdf	09 29 38.9	-1.6		
MORC				*e*PKPbc	PKPdf	09 29 43.1	+2.6		
KECS	**Kecovo**	**150.99**	**339**	*e*PKP	PKPdf	09 29 42.6	+1.7		
KECS				*e*		09 29 50.8			
MOX	**Moxa**	**151.02**	**352**	*e*PKP	PKPdf	09 29 43.3	+2.4		
PRU	**Pruhonice**	**151.18**	**348**	⇑*e*PKPB	PKPab	09 29 43.8	-8.3		
MLR	**Muntele Rosu**	**151.20**	**329**	⇓P	PKPdf	09 29 38.0	-3.4		
TBKS	**Tabuk**	**151.21**	**289**	P	PKPdf	09 29 45.9	+4.0		
NKC	**Novy Kostel**	**151.31**	**351**	⇑*e*PKPB	PKPdf	09 29 40.4	-1.0		
NKC				*e*PKPAB	PKPab	09 29 52.8	+0.2		
VYHS	**Vyhne**	**151.50**	**341**	*e*PKP	PKPdf	09 29 37.3	-4.4		
VYHS				*e*		09 29 44.2			
VYHS				*e*		09 29 53.8			
VYHS				*e*L		09 39 06.1			
DRGR		**151.60**	**335**	⇑P	PKPdf	09 29 43.6	+1.7		
DRGR		**151.60**	**335**	⇑P	PKPdf	09 29 43.6	+1.7		
VOIR		**151.66**	**330**	⇓P	PKPdf	09 29 48.2	+6.1		
VOIR		**151.66**	**330**	⇓P	PKPdf	09 29 48.2	+6.2		
PSZ	**Piszkesteto**	**151.67**	**339**	*e*PKIKP	PKPdf	09 29 38.7	-3.3		
JMQS	**Jabal Moqyreh**	**151.73**	**290**	P	PKPdf	09 29 47.2	+4.5		
DBAS	**Duba**	**151.79**	**287**	P	PKPdf	09 29 46.8	+3.9		
GRA1	**Grafenberg Arr**	**152.01**	**352**	*e*PKP	PKPab	09 29 54.5	-1.1		
GRF	**Grafenberg Arr**	**152.01**	**352**	*e*PKP	PKPab	09 29 54.5	-1.1		
KHC	**Kasperske Hory**	**152.18**	**348**	⇑*e*PKPB	PKPdf	09 29 46.4	+3.7		
KHC				*e*PKPAB	PKPab	09 29 58.3	+2.0		
AYUS	**'Aynunah**	**152.34**	**289**	P	PKPdf	09 29 48.3	+4.7		
JMOS	**Jabal al Moall**	**152.36**	**291**	P	PKPdf	09 29 48.3	+4.7		
GERES	**GERESS Array B**	**152.44**	**348**	PKPbc	PKPdf	09 29 46.8	+3.8		
	comp=Z,2.4nm,0.9s,baz=45,slow=1.9,SNR=6.7								
BDAS	**Al Bad'**	**152.46**	**289**	P	PKPdf	09 29 48.3	+4.5		
FLN	**La Foliniere**	**152.90**	**9**	*e*PKIKP	PKPdf	09 29 49.0	+5.3		
	comp=Z,36nm,1.0s								
BZS	**Buzias**	**153.00**	**334**	⇑P	PKPdf	09 29 47.8	+3.8		
BZS	**Buzias**	**153.00**	**334**	⇑P	PKPdf	09 29 47.8	+3.9		
LDF	**La Druitiere**	**153.12**	**8**	*e*PKIKP	PKPdf	09 29 49.2	+5.2		
	comp=Z,36nm,1.1s								
GRR	**Gorron**	**153.21**	**9**	*e*PKIKP	PKPdf	09 29 50.0	+5.8		
	comp=Z,25nm,0.9s								
MEZF	**Maizieres J'vi**	**153.58**	**1**	*e*PKIKP	PKPdf	09 29 51.6	+6.9		
CDF	**Champ du Feu**	**153.63**	**357**	*e*PKIKP	PKPdf	09 29 49.2	+4.5		
	comp=Z,18nm,1.1s								
HAU	**Haudompre**	**154.06**	**359**	*e*PKIKP	PKPdf	09 29 52.4	+7.0		
HINF	**Hinteralfeld**	**154.24**	**358**	*e*PKIKP	PKPdf	09 29 52.6	+7.0		
SSF	**Saint Sauige**	**154.97**	**3**	*e*PKIKP	PKPdf	09 29 54.8	+8.2		
	comp=Z,22nm,1.1s								
AVF	**Avril sur Loir**	**155.23**	**3**	*e*PKIKP	PKPdf	09 29 54.7	+7.8		
	comp=Z,16nm,1.1s								
SMF	**Signal de Mont**	**155.40**	**3**	*e*PKIKP	PKPdf	09 29 55.0	+7.9		
	comp=Z,27nm,1.1s								
ESDC	**Sonseca Array**	**160.66**	**22**	PKPab	PKPab	09 30 31.7	-1.1		
	comp=Z,1.2nm,0.7s,baz=325,slow=3.5,SNR=7.9								
LIC	**Lamto**	**161.32**	**146**	*e*PKIKP	PKPdf	09 29 53.5	-1.7		
	comp=Z,25nm,1.2s								
DBIC	**Dimbokro**	**161.79**	**145**	PKPab	PKPab	09 30 38.7	+0.2		
	comp=Z,3.4nm,0.8s,baz=208,slow=10,SNR=3.8								

*JMA **18** 09:45:37.3±0.3,24.05N×122.43E,h33km,M3.8*
*NEIC **18** 09:45:37.6±0.9,24.06N×122.48E,h36km±8km,mb4.1/4, Error ellipse: s-maj=11.7km s-min=8.5km az=206.0*
*IDC **18** 09:45:38.8±4.4,24.11N×122.58E,h45km±43km,mb3.8/9, mb1 3.9/10,mb1mx3.7/20,mbtmp4.0/10,ML3.6/1,Error ellipse: s-maj=40.3km s-min=20.7km az=58.0*
ISC 18 09:45:37.4±0.8,24.05N±0.09×122.40E±0.04,h49km±6km, n29,σ0§90/35,mb3.9/13,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.69**	**53**	P	**P**		**09 45 50.3**	**-0.7**
YOJ				*e*S	**S**		**09 45 59.2**	**-1.9**
NACB	**Ninganchiao**	**0.75**	**280**	⇑*e*P	**P**		**09 45 51.5**	**-0.4**
YHNB	**Yeheng**	**1.12**	**304**	*e*P	**P**		**09 45 58.1**	**+1.0**
IRIF	**Iriomote-Funau**	**1.24**	**76**	P	**P**		**09 45 58.7**	**-0.1**
IRIF				*e*S	**S**		**09 46 15.9**	**+1.2**
TATO	**Taipei**	**1.25**	**318**	*e*P	**P**		**09 46 00.3**	**+1.5**
HATJ	**Hateruma jima**	**1.28**	**89**	P	**P**		**09 45 59.0**	**-0.3**
HATJ				S	**S**		**09 46 15.5**	**-0.1**
JKRS	**Kuro-shima**	**1.48**	**82**	P	**P**		**09 46 02.2**	**0.0**
JKRS				S	**S**		**09 46 22.1**	**+1.6**
JIJ	**Ishigaki jima**	**1.62**	**78**	P	**P**		**09 46 03.6**	**-0.5**
JIJ				S	**S**		**09 46 22.9**	**-1.0**
JTJ	**Tarama**	**2.18**	**74**	P	**P**		**09 46 12.1**	**+0.1**
JTJ				*e*S	**S**		**09 46 39.2**	**+1.4**
JMJ	**Miyako jima 2**	**2.74**	**73**	*e*S	**S**		**09 46 52.9**	**+0.7**
JOW	**Kunigami**	**5.99**	**61**	P	**P**		**09 47 02.8**	**-2.9**
	3.5nm,0.3s,baz=128,slow=22,SNR=3.0							
ULN	**Ulaanbaatar**	**26.72**	**337**	*e*P	**P**		**09 51 12.7**	**-1.4**
	1.3nm,0.6s,mb3.6							
SONM	**Songino Array**	**26.94**	**336**	P	**P**		**09 51 15.9**	**-0.2**
	1.7nm,0.6s,mb3.8,baz=150,slow=8.8,SNR=13							
MKAR	**Makanchi Array**	**39.21**	**316**	P	**P**		**09 53 03.2**	**+0.7**
	1.7nm,0.4s,mb4.2,baz=102,slow=9.3,SNR=31							
MKAR	**Makanchi Array**	**39.21**	**316**	P	**P**		**09 53 03.2**	**+0.7**
ZAL	**Zalesovo**	**40.97**	**327**	P	**P**		**09 53 17.0**	**+0.1**
	2.0nm,0.6s,mb3.9,baz=39,slow=7.4,SNR=10							
ZAL	**Zalesovo**	**40.97**	**327**	P		**P**	**09 53 17.0**	**+0.1**
KURK	**Kurchatov**	**42.91**	**320**	*e*P	**P**		**09 53 32.8**	**-0.1**
	1.3nm,0.3s,mb4.1							
WRAB	**Tennant Creek**	**45.24**	**164**	*e*P	**P**		**09 53 51.6**	**-0.4**
	3.7nm,1.0s,mb4.2							
WRA	**Warramunga Arr**	**45.24**	**164**	P	**P**		**09 53 51.8**	**-0.3**
	1.3nm,0.8s,mb3.8,baz=346,slow=8.6,SNR=10							
BVAR	**Borovoye Array**	**48.49**	**321**	P	**P**		**09 54 17.1**	**0.0**
	1.1nm,0.6s,mb4.1,baz=108,slow=8.8,SNR=12							
BRVK	**Borovoye**	**48.56**	**321**	*e*P	**P**		**09 54 17.0**	**-0.6**
	0.6nm,0.3s,mb4.1							
FINES	**FINESS Array B**	**72.12**	**330**	P	**P**		**09 56 57.5**	**-0.8**
	1.7nm,0.8s,mb4.0,baz=72,slow=6.0,SNR=4.0							
INK	**Inuvik**	**72.93**	**22**	*e*P	**P**		**09 57 02.9**	**0.0**
BRTR	**Keskin Array B**	**74.15**	**307**	P	**P**		**09 57 12.1**	**+1.5**
	1.6nm,0.8s,mb4.0,baz=106,slow=9.0,SNR=5.5							
NOA	**NORSAR Array B**	**78.86**	**332**	P	**P**		**09 57 37.2**	**+0.5**
	0.8nm,0.7s,mb3.8,baz=55,slow=7.7,SNR=3.0							
NOA	**NORSAR Array B**	**78.86**	**332**	P		**P**	**09 57 37.2**	**+0.5**
YKA	**Yellowknife Ar**	**82.66**	**23**	P	**P**		**09 57 56.0**	**0.0**
	0.4nm,0.7s,mb3.6,baz=309,slow=4.9,SNR=13							
YKA	**Yellowknife Ar**	**82.66**	**23**	P		**P**	**09 57 56.7**	**0.0**

*IDC **18** 10:27:09.8±0.4,13.87N×144.90E,h154km±5km,mb3.4/8, mb1 3.7/8,mb1mx3.6/18,mbtmp3.8/8,Error ellipse: s-maj=27.6km s-min=22.2km az=105.0*
*NEIC **18** 10:27:10.4±1.0,13.88N×144.77E,h159km±9km,mb4.0/2, Error ellipse: s-maj=25.7km s-min=17.1km az=104.0*
ISC 18 10:27:09.2±0.7,13.9N±0.1×144.7E±0.2,h158km±7km,n16, σ0§98/17,mb3.6/10,1C,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.36**	**145**	P	**P**		**10 27 32.0**	**+0.8**
	437nm,0.3s,baz=112,slow=0.8,SNR=149							
GUMO				S		**S**	**10 27 47.8**	**-0.4**
	471nm,0.3s,baz=359,slow=22,SNR=16							
GUMO	**Guam**	**0.36**	**145**	⇑*i* Pn	**P**		**10 27 32.0**	**+0.7**
GUMO				*e*Sn	**S**		**10 27 47.5**	**-0.7**
WRAB	**Tennant Creek**	**35.10**	**197**	*e*P	**P**		**10 33 49.9**	**+0.6**
WRA	**Warramunga Arr**	**35.11**	**197**	P	**P**		**10 33 48.4**	**-1.0**
	0.4nm,0.5s,mb3.3,baz=21,slow=9.7,SNR=7.9							
SONM	**Songino Array**	**46.37**	**325**	P	**P**		**10 35 22.0**	**+0.8**
	0.6nm,0.5s,mb3.5,baz=141,slow=9.2,SNR=3.4							
MKAR	**Makanchi Array**	**61.14**	**316**	P	**P**		**10 37 09.2**	**+0.2**
	0.5nm,0.6s,mb3.5,baz=93,slow=8.7,SNR=8.6							
KURK	**Kurchatov**	**64.23**	**320**	*e*P	**P**		**10 37 28.6**	**-0.7**
	0.7nm,0.4s,mb3.8							
ILAR	**Eielson Array**	**68.39**	**25**	P	**P**		**10 37 52.5**	**-2.9**
	0.5nm,0.4s,mb3.6,baz=250,slow=5.2,SNR=24							
INK	**Inuvik**	**74.18**	**22**	*e*P	**P**		**10 38 28.7**	**-1.1**
YKA	**Yellowknife Ar**	**82.69**	**27**	P	**P**		**10 39 15.2**	**-0.9**
	0.4nm,0.5s,mb3.4,baz=285,slow=5.1,SNR=14							
YKA	**Yellowknife Ar**	**82.69**	**27**	P		**P**	**10 39 15.2**	**-0.9**
NVAR	**Mina Array Bea**	**86.90**	**21**	P	**P**		**10 39 38.9**	**+1.4**
	1.0nm,0.6s,mb3.8,baz=266,slow=4.7,SNR=9.5							
HLID	**Hailey**	**88.29**	**46**	*e*P		**P**	**10 39 44.9**	**+1.0**
	1.6nm,0.8s,mb3.9							
FINES	**FINESS Array B**	**90.81**	**335**	P	**P**		**10 39 55.8**	**+0.5**
	2.0nm,1.0s,mb4.1,baz=90,slow=5.7,SNR=3.8							
PDAR	**Pinedale Array**	**91.91**	**45**	P		**P**	**10 40 01.2**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=225,slow=2.6,SNR=3.9							
DBIC	**Dimbokro**	**143.49**	**302**	*e*PKPpre			10 46 25.0	

IDC 18 10:38:59.7±1.4,22.26N×143.15E,mb3.6/3,mb1 3.8/3, mb1mx3.5/18,mbtmp3.6/3,Error ellipse: s-maj=96.4km s-min=31.8km az=102.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.82**	**192**	P	P		10 46 59.5	-1.7
	0.2nm,0.3s,baz=17,slow=9.4,SNR=8.1							
YKA	**Yellowknife Ar**	**75.96**	**28**	P	P		10 50 48.9	-0.9
	0.1nm,0.4s,baz=291,slow=6.0,SNR=5.0							
FINES	**FINESS Array B**	**82.66**	**334**	P	P		10 51 23.9	-2.1
	3.2nm,1.0s,baz=53,slow=6.9,SNR=3.4							

*NEIC **18** 10:46:00.9,38.26N×26.36E,h28km,MD3.2(ATH), MD2.9(ISK),After ATH.*
*ATH **18** 10:46:01.0,38.24N×26.52E,h36km±4km,MD3.2/3*
*CSEM **18** 10:46:01.4±0.3,38.26N×26.62E,h23km±2km,MD2.9, Error ellipse: s-maj=7.8km s-min=2.5km az=56.0*
*ISK **18** 10:46:01.8,38.15N×26.66E,h13km,MD2.9*
ISC 18 10:46:00.9±0.8,38.27N±0.03×26.52E±0.05,h13km±4km, n19,σ1§04/30,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.11**	**31**	*i* P	**Pg**		**10 46 03.8**	**-0.3**
URLA				*i* S	**Sg**		**10 46 06.2**	**0.0**
BLCB	**Balcova**	**0.42**	**74**	*i* PG	**Pg**		**10 46 09.8**	**+0.1**
BLCB				*i* SG	**Sg**		**10 46 15.3**	**-0.3**
IZM	**Izmir**	**0.60**	**77**	*i* PG	**Pg**		**10 46 12.8**	**-0.2**
IZM				*i* SG	**Sg**		**10 46 21.2**	**+0.1**
KDAG	**Bornova**	**0.60**	**77**	*i* P	**Pb**		**10 46 11.9**	**-0.8**
KDAG				*i* S	**Sb**		**10 46 19.9**	**-1.0**
SMG	**Samos**	**0.61**	**156**	*e*PN	**Pb**		**10 46 13.4**	**+0.5**
SMG				*e*SN	**Sn**		**10 46 22.2**	**-2.4**
SMG	**Samos**	**0.61**	**156**	*e*Pb	**Pb**		**10 46 13.4**	**+0.5**
SMG				*e*Sn	**Sn**		**10 46 24.6**	**0.0**
PRK	**Paraskevi**	**1.00**	**349**	*e*PN	**Pn**		**10 46 20.2**	**-0.3**
PRK				*e*SN	**Sn**		**10 46 34.8**	**+0.3**
PRK	**Paraskevi**	**1.00**	**349**	*e*Pn	**Pn**		**10 46 20.2**	**-0.3**
PRK				*e*Sn	**Sn**		**10 46 34.1**	**-0.4**
AKS	**Akhisar**	**1.18**	**58**	PN	**Pn**		**10 46 24.4**	**+1.2**
AYDN	**Tasoluk**	**1.23**	**119**	*i* P	**Pb**		**10 46 25.4**	**+1.9**
AYDN				*i* S	**Sb**		**10 46 38.4**	**-0.7**
BODT	**Bodrum**	**1.35**	**152**	PN	**Pn**		**10 46 25.0**	**-0.6**
MLSB	**Milas**	**1.39**	**134**	PN	**Pn**		**10 46 25.1**	**-1.0**
BDRM	**Kayabasi**	**1.40**	**148**	*i* P	**Pn**		**10 46 27.4**	**+1.0**
BDRM				*i* S	**Sb**		**10 46 46.8**	**+2.6**
APE	**Apeiranthos**	**1.43**	**214**	*e*PN	**Pn**		**10 46 26.0**	**-0.7**
MANT	**Manisa**	**1.61**	**81**	*i* P	**Pn**		**10 46 31.6**	**+2.2**
MANT				*i* S	**Sn**		**10 46 49.9**	**-0.3**
BALB	**Balikesir**	**1.73**	**37**	*e*PN	**Pn**		**10 46 33.4**	**+2.4**
YER	**Yerkesik**	**1.80**	**128**	*e*PN	**Pn**		**10 46 30.9**	**-1.0**
DENT	**Denizli**	**2.05**	**104**	*e*PN	**Pn**		**10 46 34.7**	**-0.9**
RDO	**Rodhopi**	**2.98**	**346**	*e*PN	**Pn**		**10 46 48.3**	**-0.5**

*NEIC **18** 11:16:43.8,38.40S×176.16E,h161km,MG3.8(WEL), After WEL.*
WEL 18 11:16:43.0±0.4,38.20S×176.15E,h152km±3km,ML3.6/18, Error ellipse: s-maj=3.3km s-min=3.2km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.76**	**95**	PN	P		11 17 06.0	-0.5
URZ				SN	S		11 17 24.1	-0.4
URZ	**Urewera**	**0.76**	**95**	P	P		11 17 06.2	-0.2
BKZ	**Black Stump Fm**	**1.00**	**164**	PN	P		11 17 08.2	+0.1
BKZ				SN	S		11 17 27.0	-0.4
BKZ	**Black Stump Fm**	**1.00**	**164**	P	P		11 17 08.2	+0.1
BKZ				S	S		11 17 27.0	-0.4
MWZ	**Matawai**	**1.09**	**97**	PN	P		11 17 08.8	-0.1
MWZ				SN	S		11 17 28.5	-0.5
MWZ	**Matawai**	**1.09**	**97**	P	P		11 17 09.0	0.0
CNZ	**Chateau**	**1.10**	**205**	PN	P		11 17 09.2	+0.1
CNZ	**Chateau**	**1.10**	**205**	P	P		11 17 09.2	+0.2
WPVZ	**Whakapapa**	**1.11**	**205**	PN	P		11 17 09.1	0.0
WPVZ	**Whakapapa**	**1.11**	**205**	P	P		11 17 09.1	0.0
TUVZ	**Tukino**	**1.13**	**200**	PN	P		11 17 09.5	+0.2
TUVZ	**Tukino**	**1.13**	**200**	P	P		11 17 09.5	+0.2
WNVZ	**Wahianoa**	**1.20**	**201**	PN	P		11 17 10.0	0.0
WNVZ	**Wahianoa**	**1.20**	**201**	P	P		11 17 10.0	0.0
MOVZ	**Moawhango**	**1.24**	**194**	PN	P		11 17 09.9	-0.5
MOVZ	**Moawhango**	**1.24**	**194**	P	P		11 17 09.9	-0.5
MTVZ	**Mangateitei**	**1.29**	**204**	PN	P		11 17 10.7	-0.2
KNZ	**Kokohu**	**1.45**	**125**	PN	P	

GUN	**Gumba**	**12.63**	**119**	*e*P		**P**	**11 32 08.8**	**-1.5**
	comp=Z,12nm,0.3s								
JIRN	**Jiri**	**13.00**	**119**	*e*P		**P**	**11 32 13.6**	**-1.6**
	comp=Z,73nm,0.3s								
MK31	**Makanchi Array**	**13.80**	**26**	P		**P**	**11 32 36.0**	**+10**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=6.2								
MKAR	**Makanchi Array**	**13.80**	**26**	Pn		**P**	**11 32 24.9**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=214,slow=13,SNR=4.3								
AB31	**Akbulak array**	**17.60**	**330**	P		**P**	**11 33 13.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=5.0,slow=16,SNR=14								
BVA0	**Borovoye Array**	**18.43**	**354**	⇑P		**P**	**11 33 26.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=150,slow=10.0,SNR=8.6								
BVAR	**Borovoye Array**	**18.43**	**354**	P		**P**	**11 33 23.8**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=154,slow=8.4,SNR=7.9								
BVAR	**Borovoye Array**	**18.43**	**354**	P		**P**	**11 33 23.8**	**-0.9**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ZRNK	**Zerenda**	**18.49**	**352**	*e*P		**P**	**11 33 26.3**	**+0.7**
ZRNK				pmax	pmax				
	comp=Z,2.0nm,0.5s								
ZRNK	**Zerenda**	**18.49**	**352**	*e*P		**P**	**11 33 26.3**	**+0.7**
	comp=Z,1.8nm,0.5s								
AKTO	**Aktyubinsk**	**19.31**	**329**	⇑P		**P**	**11 33 34.4**	**-0.9**
	comp=Z,0.8nm,1.1s								
AKTO	**Aktyubinsk**	**19.31**	**329**	P		**P**	**11 33 34.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=140,slow=11,SNR=13								
FINES	**FINESS Array B**	**40.05**	**327**	P		**P**	**11 36 44.2**	**+0.3**
	comp=Z,2.8nm,1.0s,mb4.0,baz=124,slow=10.0,SNR=2.9								
FINES	**FINESS Array B**	**40.05**	**327**	P		**P**	**11 36 44.2**	**+0.3**
FINES				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ARCES	**ARCESS Array B**	**43.54**	**338**	P		**P**	**11 37 13.2**	**+0.9**
	comp=Z,2.4nm,0.8s,mb4.0,baz=121,slow=7.1,SNR=6.6								
ARCES	**ARCESS Array B**	**43.54**	**338**	P		**P**	**11 37 13.2**	**+0.9**
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**43.54**	**338**	P		**P**	**11 37 13.2**	**+0.9**
NOA	**NORSAR Array B**	**46.98**	**324**	P		**P**	**11 37 39.1**	**-0.7**
	comp=Z,1.1nm,0.9s,mb3.8,baz=100,slow=7.7,SNR=2.9								
NOA	**NORSAR Array B**	**46.98**	**324**	P		**P**	**11 37 39.1**	**-0.7**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
INK	**Inuvik**	**75.33**	**10**	*e*P		**P**	**11 40 52.3**	**+0.6**
ILAR	**Eielson Array**	**75.94**	**17**	P		**P**	**11 40 56.4**	**+1.2**
	comp=Z,0.5nm,0.9s,mb3.5,baz=299,slow=6.0,SNR=4.0								
ILAR	**Eielson Array**	**75.94**	**17**	P		**P**	**11 40 56.4**	**+1.2**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
WRA	**Warramunga Arr**	**79.38**	**123**	P		**P**	**11 41 16.1**	**+1.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=322,slow=5.0,SNR=19								
WRA	**Warramunga Arr**	**79.38**	**123**	P		**P**	**11 41 16.1**	**+1.0**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.4s								
WRAB	**Tennant Creek**	**79.38**	**123**	*e*P		**P**	**11 41 15.9**	**+0.8**
WRAB				pmax	pmax				
	comp=Z,2.0nm,0.3s,mb4.5								
WRAB	**Tennant Creek**	**79.38**	**123**	*e*P		**P**	**11 41 15.9**	**+0.9**
	comp=Z,2.2nm,0.3s,mb4.6								
YKA	**Yellowknife Ar**	**82.91**	**4**	P		**P**	**11 41 34.0**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=348,slow=5.4,SNR=14								

*IDC **18** 12:06:51.4±0.7,57.40N×120.93E,mb4.0/14,mb1 4.3/15, mb1mx4.1/22,mbtmp4.0/15,ML2.6/1,MS3.6/5,Ms1 3.6/5, ms1mx3.2/26,Error ellipse: s-maj=18.4km s-min=15.5km az=180.0*

*BYKL **18** 12:06:52.4±0.3,57.42N×120.92E,h5km±16km*

*MOS **18** 12:06:52.7±1.0,57.43N×120.81E,h15km,mb4.3/21,Error ellipse: s-maj=9.9km s-min=7.6km az=74.1*

*BJI **18** 12:06:53.2,57.25N×120.77E,h10km,mB4.5,mb4.2, ML4.9,Ms4.4,Msz4.0*

*NEIC **18** 12:06:54.1±3.7,57.37N×120.90E,h15km±24km,mb4.3/11, Error ellipse: s-maj=8.6km s-min=5.6km az=144.0*

ISC 18 12:06:51.9±0.2,57.26N±0.02×120.97E±0.03,h15km,n124, σ1§43/172,mb4.2/28,MS3.6/6,6C-6D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.64**	**239**	*e*Pg		**Pg**	**12 07 05.5**	**+0.5**
KHNR				*e*Sg		**Sg**	**12 07 14.4**	**+0.7**
YKLR	**Yuktali**	**0.76**	**150**	*e*Pg		**Pg**	**12 07 10.1**	**+2.7**
YKLR				*e*Sg		**Sg**	**12 07 22.7**	**+5.0**
YKLR				Smax			12 07 22.9	
	28μm,0.5s							
CRS	**Chara**	**1.52**	**258**	⇓*i*Pg		**Pg**	**12 07 20.3**	**-2.1**
CRS				Pmax			12 07 21.9	
	1μm,1.0s							
CRS				*e*Sg		**Sg**	**12 07 39.6**	**-3.1**
CRS				Smax			12 07 40.0	
	3μm,1.0s							
CRS	**Chara**	**1.52**	**258**	*e*P		**Pn**	**12 07 21.0**	**+2.2**
CRS				*e*			12 07 39.6	
CRS				pmax	pmax			
	comp=Z,1μm,0.8s							
CRS				smax				
	comp=E,3μm,0.9s							
NRGR	**Nerungri**	**2.14**	**105**	*e*P		**Pn**	**12 07 31.9**	**+4.2**
NRGR				S		**Sn**	**12 08 00.7**	**+6.6**
CLNS	**Chul'man**	**2.18**	**99**	*e*Pn		**Pn**	**12 07 29.7**	**+1.4**
CLNS				*e*Pg		**Pg**	**12 07 33.1**	**-2.5**
CLNS				Pmax			12 07 40.5	
	comp=E,4μm,0.5s							
CLNS				*e*			12 08 00.1	
CLNS				*e*Sg		**Sg**	**12 08 02.8**	**-1.9**
CLNS				Smax			12 08 05.3	
	comp=E,34μm,0.4s							
CLNS	**Chul'man**	**2.18**	**99**	*e*P		**Pn**	**12 07 32.4**	**+4.1**
CLNS				*e*			12 08 02.5	
CLNS				pmax	pmax			
	comp=N,86nm,0.3s							
CLNS				pmax	pmax			
	comp=E,95nm,0.3s							
CLNS				pmax	pmax			
	comp=Z,113nm,0.3s							
CLNS				smax				
	comp=N,803nm,0.2s							
CLNS				smax				
	comp=Z,4μm,0.6s							
CLNS				smax				
	comp=E,4μm,0.4s							
ALDR	**Aldan**	**2.73**	**58**	*e*Pn		**Pn**	**12 07 37.5**	**+1.4**
ALDR				*e*Pg		**Pg**	**12 07 40.4**	**-6.1**
ALDR				Pmax			12 07 55.6	
	comp=E,996nm,0.3s							
ALDR				*e*Sn		**Sn**	**12 08 09.4**	**+0.4**
ALDR				*e*Sg		**Sg**	**12 08 15.0**	**-7.9**
ALDR				Smax			12 08 15.3	
	comp=E,36μm,0.2s							
TUP	**Tupik**	**2.90**	**192**	⇓*i*Pn		**Pn**	**12 07 41.3**	**+2.8**
TUP				*e*Pg		**Pg**	**12 07 46.8**	**-3.0**
TUP				Pmax			12 07 52.6	
	comp=E,525nm,0.9s							
TUP				*e*			12 08 18.8	
TUP				*e*Sg		**Sg**	**12 08 26.0**	**-2.4**
TUP				Smax			12 08 27.4	
	comp=E,5μm,1.0s							
TUP				*e*SgSg			12 08 33.8	
TUP	**Tupik**	**2.90**	**192**	*e*P		**Pn**	**12 07 41.3**	**+2.8**
TUP				*e*S		**Sn**	**12 08 17.3**	**+4.0**
TUP				pmax	pmax			
	comp=Z,361nm,0.7s							
TUP				smax				
	comp=N,5μm,0.7s							
TNDR	**Tynda**	**2.98**	**134**	⇓*i*Pn		**Pn**	**12 07 43.4**	**+3.8**
TNDR				*e*Pg		**Pg**	**12 07 48.7**	**-2.7**
TNDR				Pmax			12 07 54.2	
	comp=N,1μm,0.2s							
TNDR				*e*Sn		**Sn**	**12 08 20.4**	**+5.1**
TNDR				*e*Sg		**Sg**	**12 08 29.7**	**-1.4**
TNDR				Smax			12 08 37.1	
	comp=N,28μm,0.6s							
NLYR	**Nelyaty**	**2.99**	**257**	⇓*i*Pn		**Pn**	**12 07 41.2**	**+1.4**
NLYR				⇓*i*Pg		**Pg**	**12 07 46.0**	**-5.8**
NLYR				Pmax			12 07 50.1	
	comp=N,290nm,1.4s							
NLYR				*e*Sn		**Sn**	**12 08 16.9**	**+1.1**
NLYR				*e*Sg		**Sg**	**12 08 24.8**	**-6.9**
NLYR				Smax			12 08 32.0	
	comp=N,3μm,1.1s							
NLYR	**Nelyaty**	**2.99**	**257**	*e*P		**Pn**	**12 07 41.1**	**+1.3**
NLYR				*e*			12 08 24.5	
NLYR				pmax	pmax			
	comp=Z,382nm,0.4s							
NLYR				smax				
	comp=N,3μm,1.0s							
BOD	**Bodaibo**	**3.80**	**281**	⇑*i*Pn		**Pn**	**12 07 51.4**	**+0.1**
BOD				*e*Pg		**Pg**	**12 08 00.5**	**-7.3**
BOD				Pmax			12 08 05.0	
	comp=N,103nm,0.8s							
BOD				*e*Sn		**Sn**	**12 08 34.5**	**-1.6**
BOD				*e*Sg		**Sg**	**12 08 47.2**	**-11**
BOD				Smax			12 08 52.8	
	comp=N,1μm,1.1s							
BOD	**Bodaibo**	**3.80**	**281**	*e*P		**Pn**	**12 07 50.8**	**-0.5**
SVKR	**Severomuysk**	**4.25**	**258**	*e*Pg		**Pg**	**12 08 09.7**	**-7.0**
SVKR				Pmax			12 08 13.3	
	comp=N,156nm,1.1s							
SVKR				*e*			12 08 50.0	
SVKR				*e*Sg		**Sg**	**12 09 04.7**	**-8.7**
SVKR				Smax			12 09 19.9	
	comp=N,2μm,1.4s							
KROS	**Kirovskiy**	**4.41**	**127**	*e*Pn		**Pn**	**12 07 59.9**	**0.0**
KROS				*i* Pg		**Pg**	**12 08 13.1**	**-6.9**
KROS				*i* Sn		**Sn**	**12 08 48.6**	**-2.9**
KROS				*i* Sg		**Sg**	**12 09 10.7**	**-8.0**
UKT	**Uakit**	**4.45**	**250**	⇑*i*Pn		**Pn**	**12 08 02.0**	**+1.4**
UKT				⇑*i*Pg		**Pg**	**12 08 11.4**	**-9.5**
UKT				Pmax			12 08 17.3	
	comp=N,110nm,1.2s							
UKT				*e*Sg		**Sg**	**12 09 09.6**	**-11**
UKT				Smax			12 09 24.1	
	comp=N,498nm,1.6s							
UKT	**Uakit**	**4.45**	**250**	*e*P		**Pn**	**12 08 12.4**	**+12**
ZEA	**Zeya**	**5.01**	**132**	*i* Pn		**Pn**	**12 08 08.4**	**-0.1**
ZEA				*i* Pg		**Pg**	**12 08 24.3**	**-7.8**
ZEA				*e*Sn		**Sn**	**12 09 05.5**	**-1.4**
ZEA				*i* Sg		**Sg**	**12 09 30.3**	**-8.7**
YOA	**Uoyan**	**5.22**	**261**	*e*Pg		**Pg**	**12 08 26.6**	**-10**
YOA				Pmax			12 08 34.5	
	comp=N,319nm,1.7s							
YOA				*e*Sg		**Sg**	**12 09 34.3**	**-12**
YOA				Smax			12 09 48.7	
	comp=N,5μm,1.5s							
YOA	**Uoyan**	**5.22**	**261**	*e*P		**Pn**	**12 08 28.6**	**+17**
YOA				pmax	pmax			
	comp=Z,317nm,1.4s							
KMO	**Kumora**	**5.58**	**260**	*e*Pn		**Pn**	**12 08 16.5**	**+0.1**
KMO				*e*Pg		**Pg**	**12 08 33.6**	**-10**
KMO				Pmax			12 08 41.4	
	comp=Z,67nm,1.5s							
KMO				*e*Sn		**Sn**	**12 09 19.0**	**-1.9**
KMO				*e*Sg		**Sg**	**12 09 44.1**	**-14**
KMO				Smax			12 09 55.6	
	comp=Z,921nm,1.8s							
KMO	**Kumora**	**5.58**	**260**	*e*P		**Pn**	**12 08 16.6**	**+0.2**
KMO				*e*S		**Sn**	**12 09 18.2**	**-2.7**
KMO				pmax	pmax			
	comp=Z,67nm,1.0s							
KMO				smax				
	comp=E,921nm,1.8s							
YLYR	**Ulyunkhan**	**5.99**	**251**	⇑*i*Pn		**Pn**	**12 08 23.1**	**+0.8**
YLYR				*e*Pg		**Pg**	**12 08 41.0**	**-11**
YLYR				Pmax			12 08 46.1	
	comp=E,43nm,1.8s							
YLYR				*e*Sg		**Sg**	**12 09 56.9**	**-15**
YLYR				Smax			12 10 03.1	
	comp=E,684nm,1.8s							
YLYR	**Ulyunkhan**	**5.99**	**251**	*e*P		**Pn**	**12 08 23.0**	**+0.7**
YLYR				pmax	pmax			
	comp=Z,44nm,1.5s							
TBGR	**Tabaga**	**6.35**	**40**	*e*Pn		**Pn**	**12 08 25.3**	**-2.1**
TBGR				*e*Pg		**Pg**	**12 08 44.6**	**-14**
TBGR				*e*Sn		**Sn**	**12 09 32.5**	**-7.8**
TBGR				*e*Sg		**Sg**	**12 10 05.6**	**-18**
NIZ	**Nizh Angarsk**	**6.50**	**262**	*e*Pn		**Pn**	**12 08 29.9**	**+0.4**
NIZ				*e*Pg		**Pg**	**12 08 50.3**	**-11**
NIZ				Pmax			12 08 58.3	
	comp=Z,29nm,1.2s							
NIZ				*e*Sg		**Sg**	**12 10 13.4**	**-15**
NIZ				Smax			12 10 24.3	
	comp=Z,373nm,1.8s							
NIZ	**Nizh Angarsk**	**6.50**	**262**	*e*P		**Pn**	**12 08 40.4**	**+11**
YAK	**Yakutsk**	**6.51**	**39**	*e*Pn		**Pn**	**12 08 28.5**	**-1.1**
YAK				*e*Pg		**Pg**	**12 08 46.9**	**-15**
YAK				Pmax			12 08 47.4	
	comp=Z,600nm,0.5s							
YAK				*e*Sn		**Sn**	**12 09 35.2**	**-9.1**
YAK				*e*Sg		**Sg**	**12 10 08.6**	**-20**
YAK				Smax			12 10 12.7	
	comp=Z,5μm,0.6s							
YAK	**Yakutsk**	**6.51**	**39**	*e*P		**Pn**	**12 08 29.9**	**+0.3**
YAK				pmax	pmax			
	comp=Z,15nm,1.0s							
YAK	**Yakutsk**	**6.51**	**39**	*e*Pn		**Pn**	**12 08 28.8**	**-0.8**
	comp=Z,102nm,0.5s							
YAK				*e*S		Sn	12 10 08.6	+24
CIT	**Chita**	**6.79**	**223**	*e*		**Pn**	**12 08 37.5**	**+4.0**
CIT				*e*Pg		**Pg**	**12 08 57.1**	**-10**
CIT				Pmax			12 08 57.7	
	comp=Z,63nm,1.0s							
CIT				*e*Sn		**Sn**	**12 09 50.3**	**-0.9**
CIT				*e*Sg		**Sg**	**12 10 24.1**	**-14**
CIT				Smax			12 10 27.6	
	comp=Z,1μm,1.7s							
SYVR	**Suvo**	**7.21**	**245**	⇑*i*Pn		**Pn**	**12 08 39.5**	**+0.1**
SYVR				*e*Pg		**Pg**	**12 09 03.4**	**-12**
SYVR				Pmax			12 09 07.8	
	comp=Z,52nm,1.5s							
SYVR				*e*Sg		**Sg**	**12 10 35.2**	**-17**
SYVR				Smax			12 10 46.9	
	comp=Z,872nm,1.6s							
HIA	**Hailar**	**8.04**	**186**	*e*P		**P**	**12 08 49.3**	**-1.7**
HIA				pmax	pmax			
	comp=Z,18nm,0.8s							
HIA	**Hailar**	**8.04**	**186**	*e*P		**P**	**12 08 49.3**	**-1.8**
	comp=Z,18nm,0.8s							
HIA				*e*S		Sn	12 11 06.8	+44
OGRR	**Ongureny**	**8.42**	**250**	*e*Pg		P	12 09 24.8	+28
OGRR				Pmax			12 09 27.6	
	comp=Z,6.0nm,0.2s							
OGRR				*e*Sg		**Sg**	**12 11 11.9**	**-20**
OGRR				Smax			12 11 30.0	
	comp=Z,181nm,1.7s							
KPC	**Khapcheranga**	**9.13**	**218**	*e*Pn		**P**	**12 09 06.3**	**+0.1**
KPC				max			12 09 23.4	
	comp=Z,2.0nm,0.3s							
KPC				*e*Sn		**Sn**	**12 10 45.7**	**-4.0**
KPC				*e*Sg		**Sg**	**12 11 38.0**	**-18**
KPC				Smax			12 11 49.2	
	comp=Z,498nm,1.3s							
TRG	**Tyrgan**	**9.53**	**248**	*e*Sg		**Sg**	**12 11 48.7**	**-20**
TRG				Smax			12 12 06.6	
	comp=Z,155nm,1.4s							
KAB	**Kabansk**	**9.79**	**244**	*e*Sg		Sx	12 11 56.4	
KAB				Smax			12 12 26.4	
	comp=Z,3μm,1.6s							
KLR	**Kul'dur**	**10.30**	**137**	*e*P		**P**	**12 09 21.2**	**-1.0**
KLR				MLR	MLR			
	comp=N,1μm,7.0s							
KLR				MLR	MLR			
	comp=E,1μm,7.0s							
KLR				MLR	MLR			
	comp=Z,1μm,5.5s							
LSTR	**Listvyanka**	**10.80**	**247**	*e*Sg		Sx	12 12 28.5	
LSTR				Smax			12 13 11.9	
	comp=Z,156nm,2.1s							
TLY	**Talaya**	**11.51**	**248**	*e*Sg		Sx	12 12 48.3	
TLY				Smax			12 13 08.2	
	comp=Z,83nm,1.8s							
ARS	**Arshan**	**12.00**	**251**	*e*Sg		Sx	12 13 04.9	
ARS				Smax			12 13 27.8	
	comp=Z,314nm,1.4s							
BTGS	**Batagay**	**12.16**	**25**	*e*Sg		Sx	12 13 02.2	
BTGS				Smax			12 13 02.3	
	comp=Z,107nm,0.2s							
HABR	**Khabarovsk**	**12.21**	**130**	⇓*e*P		**P**	**12 09 40.9**	**-7.3**
HABR				*e*S		**S**	**12 12 05.5**	**+0.5**
HABR				MLR	MLR			
	comp=Z,100nm,4.9s							
ZAK	**Zakamensk**	**12.49**	**244**	*e*Sg		Sx	12 13 19.7	
ZAK				Smax			12 13 32.4	
	comp=Z,109nm,1.7s							
ZAK	**Zakamensk**	**12.49**	**244**	*e*P		**P**	**12 09 54.3**	**+2.4**
ZAK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ULN	**Ulaanbaatar**	**12.63**	**228**	*e*P		**P**	**12 09 57.4**	**+3.6**
MOY	**Mondy**	**12.88**	**253**	*e*Pn		**P**	**12 09 58.4**	**+1.4**
MOY				max			12 11 11.0	
	comp=Z,3.0nm,0.8s							
MOY				*e*Sg			12 13 31.7	
MOY				Smax			12 14 06.3	
	comp=Z,197nm,2.0s							
MOY	**Mondy**	**12.88**	**253**	*e*P		**P**	**12 09 58.3**	**+1.3**
MOY				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**12.92**	**229**	Pn		**P**	**12 09 59.4**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=29,slow=12,SNR=6.2							
SONM				Sn		**S**	**12 12 23.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=43,slow=18,SNR=3.3							
SONM				Lg			12 13 38.9	
	comp=Z,1.0nm,0.3s,baz=54,slow=20,SNR=6.6							
ORL	**Orlik**	**13.04**	**258**	*e*Pn		**P**	**12 09 59.6**	**+0.4**
ORL				max			12 10 56.9	
	comp=Z,4.0nm,0.7s							
ORL				*e*			12 12 21.4	
ORL				*e*Sg			12 13 35.9	
ORL				Smax			12 13 51.2	
	comp=Z,108nm,1.9s							
MOMR	**Moma**	**13.89**	**39**	*e*Sg		Sx	12 13 58.7	
TIXI	**Tiksi**	**14.82**	**10**	*e*P		**P**	**12 10 13.5**	**-8.9**
TIXI				pmax	pmax			
	comp=Z,28nm,0.7s							
TIXI				MLR	MLR			
	comp=Z,304nm,14.0s							
TDJR	**Todzha**	**15.09**	**262**	*e*Sg		Sx	12 14 39.7	
HHC	**Hu-ho-hao-te**	**17.51**	**204**	*e*P		**P**	**12 10 54.4**	**-2.5**
HHC				AP			12 11 02.0	
HHC				AMB	AMB			
	comp=Z,100nm,4.9s							
ASAJ	**Asahikawa**	**18.88**	**125**	P		**P**	**12 11 16.8**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=350,slow=11,SNR=2.7							
ZAL	**Zalesovo**	**20.55**	**276**	P		**P**	**12 11 31.4**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=28,slow=3.5,SNR=13							
ZAL				Lg			12 17 29.8	
	comp=Z,0.5nm,0.3s,baz=358,slow=15,SNR=2.0							
GTA	**Gaotai**	**22.57**	**227**	P		**P**	**12 11 55.1**	**+2.5**
GTA				AP			12 12 00.5	
GTA				XP			12 12 04.5	
GTA				S		**S**	**12 15 55.1**	**+0.6**
GTA				AMB	AMB			
	comp=Z,160nm,9.1s							
GTA				LR	LR			
	comp=N,260nm,9.9s							
GTA				LR	LR			
	comp=E,300nm,11.4s							
GTA				LR	LR			
	comp=Z,230nm,8.0s							
BILL	**Bilibino**	**22.84**	**44**	*e*P		**P**	**12 11 57.0**	**+2.0**
BILL				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.2							
BILL	**Bilibino**	**22.84**	**44**	P		**P**	**12 11 56.5**	**+1.5**
	comp=Z,5.2nm,0.6s,mb4.1							
MJAR	**Matsushiro Arr**	**23.70**	**144**	P		**P**	**12 12 06.0**	**+2.3**
	comp=Z,3.1nm,0.8s,mb3.8,baz=327,slow=9.8,SNR=9.0							
MJAR				LR	LR		12 21 14.7	
	comp=Z,95nm,19.7s,MS3.3,baz=265,slow=36							
MJAR	**Matsushiro Arr**	**23.70**	**144**	P		**P**	**12 12 06.0**	**+2.3**
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MJAR				MLR	MLR			
	comp=Z,95nm,19.7s							
NJ2	**Nanjing**	**25.24**	**184**	*e*P		**P**	**12 12 19.6**	**+1.0**
NJ2				XP		sP	12 12 27.0	+2.0
NJ2				S		**S**	**12 16 43.0**	**+2.2**
NJ2				XS			12 16 53.0	
NJ2				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.7							
NJ2				AMB	AMB			
	comp=Z,370nm,4.8s							
NJ2				LR	LR			
	comp=N,590nm,22.7s,MS4.2							
NJ2				LR	LR			
	comp=E,750nm,25.0s,MS4.2							
NJ2				LR	LR			
	comp=Z,570nm,27.3s,MS4.0							
KURK	**Kurchatov**	**25.41**	**273**	P		**P**	**12 12 19.7**	**-0.2**
KURK				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.0							
KURK	**Kurchatov**	**25.41**	**273**	P		**P**	**12 12 19.7**	**-0.3**
	comp=Z,4.6nm,1.1s,mb3.9							
MKAR	**Makanchi Array**	**25.66**	**263**	P		**P**	**12 12 22.8**	**+0.4**
	comp=Z,1.8nm,0.6s,mb3.8,baz=49,slow=7.1,SNR=22							
MKAR	**Makanchi Array**	**25.66**	**263**	P		**P**	**12 12 22.8**	**+0.5**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SSE	**Sheshan**	**26.16**	**180**	*e*P		**P**	**12 12 30.8**	**+3.7**
SSE				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.5							
SSE				AMB	AMB			
	comp=Z,100nm,3.5s							
JHJ	**Hachijo jima 2**	**27.35**	**144**	LR		LR	12 23 10.4	
	comp=Z,864nm,20.2s,MS4.3,baz=7.7,slow=36							
BVAR	**Borovoye Array**	**28.67**	**283**	P		**P**	**12 12 48.2**	**-1.6**
	comp=Z,0.6nm,0.4s,mb3.6,baz=65,slow=8.2,SNR=6.8							
BVAR	**Borovoye Array**	**28.67**	**283**	P		**P**	**12 12 48.2**	**-1.6**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AAK	**Ala-Archa**	**32.58**	**264**	*e*P		**P**	**12 13 24.7**	**+0.2**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.1							
AAK	**Ala-Archa**	**32.58**	**264**	*e*P		**P**	**12 13 24.1**	**-0.4**
	comp=Z,2.9nm,1.0s,mb4.2							
ARU	**Arti**	**33.09**	**296**	⇑*i*P		**P**	**12 13 30.0**	**+1.2**
ARU				*e*			12 14 37.4	
ARU				*e*S		**S**	**12 18 45.8**	**-0.3**
ARU				*e*SS		SS	12 20 42.3	-4.6
ARU				*e*			12 23 52.9	
ARU				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
AKTO	**Aktyubinsk**	**36.55**	**287**	P		**P**	**12 13 58.8**	**+0.3**
	comp=Z,1.2nm,0.6s,mb3.9,baz=89,slow=10.0,SNR=4.7							
AKTO	**Aktyubinsk**	**36.55**	**287**	P		**P**	**12 13 58.8**	**+0.4**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.8							
IMA2	**Indian Mountai**	**38.33**	**41**	*e*P		**P**	**12 14 14.0**	**+0.7**
GUN	**Gumba**	**38.34**	**235**	*e*P		**P**	**12 14 16.2**	**+2.5**
KKN	**Kakani**	**38.71**	**236**	*e*P		**P**	**12 14 18.0**	**+1.2**
GKN	**Gorkha**	**38.82**	**237**	*e*P		**P**	**12 14 20.1**

NB2	**NORSAR Subarra**	**49.92**	**323**	P		**P**	**12 15 44.8**	**-1.5**
	comp=Z,3.7nm,0.7s,mb4.5,baz=44,slow=7.9							
NB2	**NORSAR Subarra**	**49.92**	**323**	P		**P**	**12 15 44.8**	**-1.5**
NB2				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6							
NOA	**NORSAR Array B**	**49.92**	**323**	P		**P**	**12 15 44.6**	**-1.7**
	comp=Z,3.8nm,0.9s,mb4.5,baz=42,slow=7.7,SNR=8.3							
NOA				LR		LR	12 39 31.5	
	comp=Z,28nm,19.7s,MS3.3,baz=65,slow=39							
NOA	**NORSAR Array B**	**49.92**	**323**	P		**P**	**12 15 44.6**	**-1.7**
NOA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
NOA				MLR		MLR		
	comp=Z,28nm,19.7s							
AKASG	**Malin Array Be**	**50.41**	**304**	P		**P**	**12 15 48.7**	**-1.5**
	comp=Z,2.9nm,0.4s,mb4.7,baz=41,slow=8.4,SNR=32							
AKASG	**Malin Array Be**	**50.41**	**304**	P		**P**	**12 15 48.7**	**-1.5**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.4s							
YKA	**Yellowknife Ar**	**53.07**	**29**	P		**P**	**12 16 08.7**	**-1.4**
	comp=Z,1.2nm,0.9s,mb3.8,baz=328,slow=6.5,SNR=11							
YKA	**Yellowknife Ar**	**53.07**	**29**	P		**P**	**12 16 08.7**	**-1.4**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**53.07**	**29**	P		**P**	**12 16 08.7**	**-1.4**
KOLS	**Kolonicke sedl**	**54.77**	**307**	*eP*		**P**	**12 16 21.8**	**-1.0**
STHS	**Stebnicka Huta**	**54.85**	**308**	*eP*		**P**	**12 16 23.5**	**+0.2**
CRVS	**Cervenica-Dubn**	**55.15**	**308**	*eP*		**P**	**12 16 24.3**	**-1.2**
KECS	**Kecovo**	**55.89**	**308**	*eP*		**P**	**12 16 31.6**	**+0.8**
KHC	**Kasperske Hory**	**58.25**	**313**	*eP*		**P**	**12 16 46.7**	**-0.9**
KHC				*ep*		*pP*	12 16 48.9	-3.3
GERES	**GERESS Array B**	**58.43**	**312**	P		**P**	**12 16 47.3**	**-1.5**
	baz=45,slow=5.6							
CHMT	**Chamberlain Mo**	**66.84**	**37**	*eP*		**P**	**12 17 45.1**	**+0.4**
MCMT	**McKenzie Canyo**	**68.81**	**38**	*eP*		**P**	**12 17 58.0**	**+1.0**
BW06	**Boulder Array**	**71.73**	**37**	*eP*		**P**	**12 18 14.4**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.8							
PDAR	**Pinedale Array**	**71.73**	**37**	P		**P**	**12 18 14.4**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=10,slow=3.8,SNR=8.5							
HWUT	**Hardware Ranch**	**72.10**	**39**	*eP*		**P**	**12 18 17.8**	**+0.8**
	comp=Z,7.0nm,0.8s,mb4.6							
WRAB	**Tennant Creek**	**77.70**	**167**	*eP*		**P**	**12 18 50.1**	**+0.6**
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
WRAB	**Tennant Creek**	**77.70**	**167**	*eP*		**P**	**12 18 50.1**	**+0.7**
	comp=Z,3.2nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**77.71**	**167**	P		**P**	**12 18 50.1**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=351,slow=6.5,SNR=23							
WRA	**Warramunga Arr**	**77.71**	**167**	P		**P**	**12 18 50.1**	**+0.6**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TXAR	**Lajitas Array**	**85.90**	**38**	P		**P**	**12 19 33.9**	**+1.8**
	comp=Z,0.5nm,0.9s,mb3.7,SNR=4.2							
TXAR	**Lajitas Array**	**85.90**	**38**	P		**P**	**12 19 33.9**	**+1.8**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							

*IDC **18** 12:41:46.6±14.0, 20.85N×145.03E, h125km±129km, mb3.4/8, mb1 3.7/8, mb1mx3.5/20, mbtmp3.8/8, Error ellipse: s-maj=33.5km s-min=22.1km az=83.0*
*NEIC **18** 12:41:49.1±0.7, 20.82N×144.99E, h150km, mb3.7/1, Error ellipse: s-maj=24.5km s-min=19.6km az=88.0*
ISC 18 12:41:47.9±5.2, 20.8N±0.2×145.0E±0.2, h154km±46km, n13, σ0ᵗ44/11, mb3.5/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**16.75**	**341**	P	**P**	**12 45 34.7**	**-0.1**
SONM	**Songino Array**	**41.10**	**320**	P	**P**	**12 49 18.3**	**+0.4**
	0.8nm,0.5s,mb3.6,baz=134,slow=7.2,SNR=8.4						
WRA	**Warramunga Arr**	**41.84**	**195**	P	**P**	**12 49 24.4**	**0.0**
	0.2nm,0.4s,mb3.1,baz=12,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**56.54**	**313**	P	**P**	**12 51 16.4**	**0.0**
	0.8nm,0.5s,mb3.8,baz=88,slow=8.2,SNR=22						
ILAR	**Eielson Array**	**62.04**	**27**	P	**P**	**12 51 53.1**	**-0.8**
	0.5nm,0.6s,mb3.5,baz=264,slow=4.0,SNR=4.9						
INK	**Inuvik**	**67.68**	**23**	P	**P**	**12 52 30.0**	**-0.1**
	0.7nm,0.6s,mb3.6,baz=192,slow=7.7,SNR=7.9						
INK	**Inuvik**	**67.68**	**23**	*eP*	**P**	**12 52 30.3**	**+0.2**
	0.8nm,0.7s,mb3.6						
YKA	**Yellowknife Ar**	**76.42**	**28**	P	**P**	**12 53 22.3**	**+0.8**
	0.6nm,0.5s,mb3.5,baz=291,slow=5.8,SNR=20						
YKA	**Yellowknife Ar**	**76.42**	**28**	P	**P**	**12 53 22.3**	**+0.8**
NVAR	**Mina Array Bea**	**82.34**	**52**	P	**P**	**12 53 54.0**	**+0.1**
	0.7nm,0.7s,mb3.4,baz=241,slow=2.3,SNR=3.9						
FINES	**FINESS Array B**	**84.70**	**335**	P	**P**	**12 54 04.6**	**-0.5**
	1.1nm,0.7s,mb3.7,baz=90,slow=3.8,SNR=5.5						
LPAZ	**La Paz**	**148.28**	**87**	PKPbc	PKPdf	13 01 20.4	+7.5
	1.1nm,0.5s,baz=310,slow=2.1,SNR=5.2						
LPAZ	**La Paz**	**148.28**	**87**	*e*PKPbc	PKPdf	13 01 19.9	+7.0

*IDC **18** 12:57:53.6±0.8, 60.45N×44.45W, mb3.8/14, mb1 4.0/16, mb1mx3.9/26, mbtmp3.9/16, ML3.1/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/28, Error ellipse: s-maj=24.0km s-min=12.8km az=177.0*
*NEIC **18** 12:57:55.6±0.3, 60.61N×44.49W, h10km, mb4.2/10, ML3.9(OTT), Error ellipse: s-maj=10.3km s-min=5.2km az=11.0*
*OTT **18** 12:57:57.9±0.9, 60.85N×44.83W, h18km, ML3.9/6, South Coast of Greenland 1043km northeast from Nutak, NI*
ISC 18 12:57:53.5±0.3, 60.45N±0.07×44.53W±0.07, h10km, n59, σ1ᵗ22/74, mb3.9/22, MS3.7/1, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**7.10**	**340**	Pn	**Pn**	**12 59 36.0**	**-4.1**
	2.8nm,0.3s,baz=126,slow=12,SNR=16						
SFJD				Sn	**Sn**	**13 00 56.4**	**-5.3**
	7.0nm,0.3s,baz=55,slow=21,SNR=4.4						
SFJD				LR	LR	13 02 24.2	
	comp=Z,238nm,18.9s,baz=110,slow=38						
FRB	**Frobisher Bay**	**11.69**	**297**	Pn	**P**	**13 00 41.5**	**-1.8**
	0.3nm,0.3s,baz=175,slow=12,SNR=4.6						
FRB				Sn	**S**	**13 02 46.1**	**-8.8**
	0.3nm,0.3s,baz=9.9,slow=19,SNR=2.9						
FRB	**Frobisher Bay**	**11.69**	**297**	PN	**P**	**13 00 42.0**	**-1.2**
FRB				SN	**S**	**13 02 41.5**	**-13**
FRB				Trac		13 03 04.5	
	comp=Z,0.5nm,0.1s						
FRB	**Frobisher Bay**	**11.69**	**297**	Pn	**P**	**13 00 41.5**	**-1.8**
FRB				Sn	**S**	**13 02 46.1**	**-8.8**
SUMG	**Summit**	**12.40**	**9**	*eP*	**P**	**13 00 47.9**	**-4.9**
	14nm,0.8s						
SCHQ	**Schefferville**	**13.17**	**255**	Pn	**P**	**13 01 01.7**	**-1.4**
	0.8nm,0.3s,baz=65,slow=12,SNR=14						
SCHQ				Sn	**S**	**13 03 20.3**	**-10**
	2.0nm,0.3s,baz=329,slow=19,SNR=8.1						
SCHQ	**Schefferville**	**13.17**	**255**	PN	**P**	**13 01 01.7**	**-1.4**
SCHQ				SN	**S**	**13 03 18.9**	**-12**
SCHQ				Trac		13 03 24.8	
	comp=Z,4.1nm,0.3s						
SCHQ	**Schefferville**	**13.17**	**255**	*eP*	**P**	**13 01 01.8**	**-1.2**
SCHQ				*eS*	**S**	**13 03 17.9**	**-13**
DRLN	**Deer Lake**	**13.45**	**219**	PN	**P**	**13 01 08.1**	**+1.4**
DRLN				SN	**S**	**13 03 31.8**	**-5.5**
DRLN				Trac		13 03 46.5	
	comp=Z,1.4nm,0.3s						
SMQ	**Clarke City**	**16.16**	**241**	PN	**P**	**13 01 42.4**	**+0.4**
SMQ				SN	**S**	**13 04 30.7**	**-11**
SMQ				Trac		13 04 40.1	
	comp=Z,2.3nm,0.3s						
MNQ	**Manicouagan**	**16.85**	**245**	SN	**S**	**13 04 47.5**	**-10**
YOSQ	**Ashton Mining**	**16.90**	**256**	PN	**P**	**13 01 50.7**	**-0.6**
YOSQ				SN	**S**	**13 04 46.7**	**-11**
YOSQ				Trac		13 04 52.2	
	comp=Z,1.3nm,0.2s						
GSQ	**Grosses Roches**	**17.33**	**238**	PN	**P**	**13 01 57.0**	**+0.2**
GSQ				SN	**S**	**13 04 57.4**	**-11**
LG4Q	**La Grande 4**	**17.37**	**260**	PN	**P**	**13 01 56.8**	**-0.4**
LG4Q				SN	**S**	**13 04 56.1**	**-13**
LG4Q				Trac		13 05 14.7	
	comp=Z,3.1nm,0.4s						
CNQ	**Baie Comeau**	**17.44**	**241**	PN	**P**	**13 01 55.6**	**-2.6**
CNQ				SN	**S**	**13 04 59.5**	**-11**
GBN	**Guysborough**	**18.13**	**221**	PN	**P**	**13 02 09.1**	**+2.3**
BATG	**Bathurst New B**	**18.19**	**233**	PN	**P**	**13 02 10.7**	**+3.1**
LMN	**Caledonia Moun**	**18.89**	**228**	PN	**P**	**13 02 17.4**	**+1.2**
LMN				SN	**S**	**13 05 29.4**	**-14**
A64	**Saint Simeon**	**19.35**	**241**	PN	**P**	**13 02 22.0**	**+0.4**
A21	**Saint Andre**	**19.36**	**240**	PN	**P**	**13 02 24.4**	**+2.7**
WEMQ	**Wemindji, Queb**	**19.60**	**263**	PN	**P**	**13 02 23.5**	**-0.8**
WEMQ				SN	**S**	**13 05 51.3**	**-8.0**
LMQ	**La Malbaie**	**19.75**	**241**	PN	**P**	**13 02 27.2**	**+1.2**
DAQ	**Lac Daran**	**19.83**	**243**	PN	**P**	**13 02 31.0**	**+4.0**
DAQ				SN	**S**	**13 05 58.2**	**-6.3**
RES	**Resolute Bay**	**22.88**	**328**	*eP*	**P**	**13 02 59.7**	**+2.1**
	6.8nm,1.1s,mb4.0						
FCC	**Fort Churchill**	**24.66**	**288**	*eP*	**P**	**13 03 15.7**	**+0.7**
	2.2nm,0.6s,mb3.9						
ROSF	**Rostrenen**	**26.42**	**99**	*eP*	**P**	**13 03 32.2**	**+0.5**
QUIF	**Quistinic**	**26.76**	**99**	*eP*	**P**	**13 03 35.2**	**+0.4**
SGMF	**Saint Gilles**	**26.83**	**98**	*eP*	**P**	**13 03 35.0**	**-0.4**
GRR	**Gorron**	**27.57**	**96**	*eP*	**P**	**13 03 43.0**	**+0.8**
	55nm,1.4s,mb4.7						
ARCES	**ARCESS Array B**	**29.24**	**43**	P	**P**	**13 03 55.4**	**-1.7**
	1.9nm,0.7s,mb3.9,baz=292,slow=6.5,SNR=6.4						
ULM	**Lac du Bonnet**	**30.16**	**274**	P	**P**	**13 04 04.5**	**-1.0**
	1.9nm,1.0s,mb3.8,baz=156,slow=7.2,SNR=2.9						
MEZF	**Maizieres J'vi**	**30.42**	**90**	*eP*	**P**	**13 04 07.4**	**-0.4**
TCF	**Toulx Ste Croi**	**30.53**	**96**	*eP*	**P**	**13 04 08.9**	**+0.1**
SSF	**Saint Saulge**	**30.63**	**94**	*eP*	**P**	**13 04 09.5**	**-0.2**
	3.0nm,0.7s,mb3.9						
BGF	**Bois d'Agland**	**30.66**	**95**	*eP*	**P**	**13 04 09.9**	**0.0**
	21nm,1.1s,mb4.6						
LOR	**Lormes**	**30.67**	**93**	*eP*	**P**	**13 04 11.0**	**+1.1**
AVF	**Avril sur Loir**	**30.75**	**95**	*eP*	**P**	**13 04 10.0**	**-0.7**
SMF	**Signal de Mont**	**31.09**	**94**	*eP*	**P**	**13 04 13.4**	**-0.3**
	12nm,1.0s,mb4.4						
YKA	**Yellowknife Ar**	**32.05**	**305**	P	**P**	**13 04 20.4**	**-1.5**
	0.2nm,0.6s,mb3.1,baz=59,slow=9.6,SNR=6.8						
YKA	**Yellowknife Ar**	**32.05**	**305**	P	**P**	**13 04 20.4**	**-1.5**
ESDC	**Sonseca Array**	**32.55**	**111**	P	**P**	**13 04 26.6**	**0.0**
	0.5nm,0.5s,mb3.7,baz=313,slow=9.1,SNR=4.8						
INK	**Inuvik**	**35.95**	**321**	P	**P**	**13 04 54.9**	**-0.7**
	1.0nm,0.4s,mb4.1,baz=54,slow=8.0,SNR=28						
INK	**Inuvik**	**35.95**	**321**	*eP*	**P**	**13 04 55.8**	**+0.2**
	1.0nm,0.4s,mb4.1						
AKASG	**Malin Array Be**	**40.67**	**70**	P	**P**	**13 05 35.2**	**+0.1**
	1.0nm,0.7s,mb3.5,baz=314,slow=8.3,SNR=4.1						
PDAR	**Pinedale Array**	**42.13**	**276**	P	**P**	**13 05 47.5**	**+0.5**
	0.4nm,0.4s,mb3.4,baz=41,slow=6.1,SNR=5.4						
BW06	**Boulder Array**	**42.13**	**276**	*eP*	**P**	**13 05 47.4**	**+0.4**
	0.6nm,0.5s,mb3.5						
MCMT	**McKenzie Canyo**	**42.23**	**280**	*eP*	**P**	**13 05 49.9**	**+2.0**
ILAR	**Eielson Array**	**42.33**	**322**	P	**P**	**13 05 49.8**	**+1.4**
	1.4nm,0.7s,mb3.7,baz=44,slow=7.1,SNR=18						
ILAR				PcP	PcP	13 07 41.1	-1.5
	0.5nm,0.5s,baz=20,slow=2.1,SNR=13						
ELK	**Elko**	**46.44**	**278**	P	**P**	**13 06 22.9**	**+1.1**
	0.5nm,0.5s,mb3.7,baz=28,slow=6.0,SNR=4.1						
ELK	**Elko**	**46.44**	**278**	P	**P**	**13 06 22.9**	**+1.1**
MNTX	**Cornudas Mount**	**48.71**	**262**	*eP*	**P**	**13 06 40.4**	**+0.7**
	1.5nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	**49.81**	**259**	P	**P**	**13 06 48.9**	**+0.7**
	0.9nm,0.7s,mb3.9,baz=59,slow=6.1,SNR=13						
TXAR	**Lajitas Array**	**49.81**	**259**	P	**P**	**13 06 48.9**	**+0.7**
AKTO	**Aktyubinsk**	**53.21**	**51**	P	**P**	**13 07 14.0**	**+0.4**
	0.7nm,0.4s,mb3.9,baz=347,slow=9.9,SNR=3.7						
BVAR	**Borovoye Array**	**55.53**	**42**	P	**P**	**13 07 30.7**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=315,slow=8.4,SNR=4.4						
ZAL	**Zalesovo**	**59.02**	**32**	LR	LR	13 35 39.9	
	comp=Z,55nm,20.1s,MS3.7,baz=350,slow=38						
DBIC	**Dimbokro**	**61.37**	**134**	P	**P**	**13 08 09.3**	**-2.5**
	1.5nm,0.7s,mb4.3,baz=109,slow=8.3,SNR=3.4						
DBIC	**Dimbokro**	**61.37**	**134**	*eP*	**P**	**13 08 08.7**	**-3.1**
	3.0nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**64.72**	**37**	P	**P**	**13 08 32.6**	**-0.9**
	0.9nm,0.5s,mb4.0,baz=351,slow=5.2,SNR=20						

*MOS **18** 13:05:59.3±0.9, 44.02N×146.93E, h100km, mb4.1/13, Error ellipse: s-maj=17.6km s-min=12.3km az=100.5*
*JMA **18** 13:06:01.2±0.2, 43.72N×147.03E, h95km±2km, M4.0*
*BJI **18** 13:06:04.1, 43.80N×146.90E, h134km, mB4.9, mb4.1*
*NEIC **18** 13:06:04.2±1.3, 43.84N×146.89E, h134km±11km, mb3.9/4, Error ellipse: s-maj=12.7km s-min=10.9km az=123.0*
*IDC **18** 13:06:04.2±2.3, 43.98N×146.88E, h129km±19km, mb3.5/13, mb1 3.6/14, mb1mx3.5/23, mbtmp3.9/14, Error ellipse: s-maj=21.1km s-min=17.7km az=164.0*
ISC 18 13:05:58.8±0.7, 43.88N±0.06×147.12E±0.07, h101km±4km, n52, σ1ᵗ07/66, mb3.8/17, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.92**	**280**	*e*PN	**P**	**13 06 19.3**	**+0.6**
YUK				*i* S	**S**	**13 06 33.0**	**-0.7**
YUK				pmax	pmax		
	comp=Z,980nm,0.2s						
YUK				pmax	pmax		
	comp=N,250nm,0.2s						
YUK				pmax	pmax		
	comp=E,510nm,0.2s						
YUK				smax			
	comp=E,16μm,0.4s						
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=E,7μm,0.5s						
NEM2	**Nemuro 2**	**1.12**	**243**	P	**P**	**13 06 21.3**	**+0.2**
NEM2				*e*S	**S**	**13 06 36.5**	**-1.2**
JRA	**Rausu**	**1.45**	**273**	P	**P**	**13 06 26.1**	**+1.2**
JRA				*e*S	**S**	**13 06 45.0**	**+0.7**
KUR	**Kuril'sk**	**1.46**	**21**	*i*PN	**P**	**13 06 23.5**	**-1.5**
KUR				*i* S	**S**	**13 06 42.5**	**-2.0**
KUR				pmax	pmax		
	comp=N,100nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,330nm,0.5s						
KUR				smax			
	comp=N,430nm,0.5s						
KUR				smax			
	comp=E,680nm,0.5s						
JNK	**Nakash**	**1.77**	**261**	P	**P**	**13 06 29.5**	**+0.6**
JNK				*e*S	**S**	**13 06 50.7**	**-0.5**
JAK	**Akkeshi**	**1.97**	**244**	P	**P**	**13 06 31.9**	**+0.3**
JAK				*e*S	**S**	**13 06 55.1**	**-0.7**
JTKR	**Abashiri--Toko**	**2.32**	**273**	P	**P**	**13 06 37.0**	**+0.7**
JTKR				*e*S	**S**	**13 07 04.7**	**+0.4**
JAR	**Ashorobuto**	**2.50**	**258**	P	**P**	**13 06 39.8**	**+1.0**
JAR				*e*S	**S**	**13 07 08.9**	**+0.2**
JOB	**Onbets**	**2.59**	**249**	P	**P**	**13 06 40.6**	**+0.6**
JOB				*e*S	**S**	**13 07 09.6**	**-1.1**
JMP	**Maruseppu**	**2.72**	**274**	P	**P**	**13 06 42.9**	**+1.1**
JMP				*e*S	**S**	**13 07 14.6**	**+0.6**
JCH	**Churui**	**3.02**	**247**	P	**P**	**13 06 45.8**	**-0.1**
JCH				*e*S	**S**	**13 07 19.3**	**-2.1**
JKK2	**Kamakawa 2**	**3.16**	**271**	P	**P**	**13 06 48.9**	**+1.1**
ASAJ	**Asahikawa**	**3.27**	**276**	P	**P**	**13 06 51.1**	**+1.7**
	comp=E,24nm,0.3s,baz=94,slow=13,SNR=148						
ASAJ				S	**S**	**13 07 29.4**	**+1.9**
	comp=E,4.5nm,0.3s,baz=35,slow=29,SNR=2.3						
ASAJ	**Asahikawa**	**3.27**	**276**	P	**P**	**13 06 50.9**	**+1.5**
JFR	**Furan**	**3.37**	**259**	P	**P**	**13 06 51.5**	**+0.8**
JFR				*e*S	**S**	**13 07 29.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**3.58**	**245**	P	**P**	**13 06 52.8**	**-0.7**
JNBK				*e*S	**S**	**13 07 31.8**	**-3.2**
YSS	**Yuzh-Sakhalins**	**4.35**	**317**	*e*PN	**P**	**13 07 08.4**	**+4.4**
YSS	**Yuzh-Sakhalins**	**4.35**	**317**	P	**P**	**13 07 08.1**	**+4.1**
MAJO	**Matsushiro**	**10.00**	**226**	*e*PN	**P**	**13 08 21.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**26.32**	**276**	*e*P	**P**	**13 11 28.6**	**+1.8**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
HHC				AMB	AMB		
	comp=Z,240nm,5.5s						
ULN	**Ulaanbaatar**	**27.96**	**292**	*e*P	**P**	**13 11 41.1**	**-0.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
ULN	**Ulaanbaatar**	**27.96**	**292**	*e*P	**P**	**13 11 41.1**	**-0.6**
	comp=Z,3.6nm,1.0s,mb3.9						
SONM	**Songino Array**	**28.40**	**292**	P	**P**	**13 11 45.4**	**-0.2**
	comp=Z,1.4nm,0.6s,mb3.7,baz=85,slow=8.4,SNR=4.7						
SONM	**Songino Array**	**28.40**	**292**	P	**P**	**13 11 45.4**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**41.40**	**36**	P	**P**	**13 13 37.9**	**+1.7**
	comp=Z,0.3nm,0.6s,mb3.3,baz=265,slow=6.0,SNR=6.3						
MKAR	**Makanchi Array**	**44.51**	**297**	P	**P**	**13 14 01.9**	**+0.3**
	comp=Z,3.5nm,0.6s,mb4.3,baz=78,slow=8.3,SNR=49						
MKAR	**Makanchi Array**	**44.51**	**297**	P	**P**	**13 14 01.9**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**45.44**	**304**	*e*P	**P**	**13 14 08.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**45.44**	**304**	*e*P	**P**	**13 14 08.6**	**-0.3**
	comp=Z,5.5nm,0.9s,mb4.3						
INK	**Inuvik**	**46.30**	**30**	P	**P**	**13 14 16.4**	**+0.8**
	comp=Z,0.2nm,0.3s,mb3.3,baz=169,slow=29,SNR=10						
BVAR	**Borovoye Array**	**49.41**	**309**	P	**P**	**13 14 39.0**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=81,slow=9.4,SNR=6.8						
BVAR	**Borovoye Array**	**49.41**	**309**	P	**P**	**13 14 39.0**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**49.45**	**309**	*e*P	**P**	**13 14 39.6**	**-0.6**
ZRNK	**Zerenda**	**50.21**	**310**	*e*P	**P**	**13 14 45.0**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**50.21**	**310**	*e*P	**P**	**13 14 45.0**	**-1.0**
	comp=Z,1.4nm,0.7s,mb4.0						
AB31	**Akbulak array**	**56.97**	**309**	*i* P	**P**	**13 15 35.0**	**-0.7**
AKTO	**Aktyubinsk**	**57.44**	**311**	P	**P**	**13 15 37.8**	**-1.2**
	comp=Z,1.3nm,0.6s,mb4.1,baz=77,slow=7.3,SNR=6.0						
AKTO	**Aktyubinsk**	**57.44**	**311**	P	**P**	**13 15 37.8**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**64.58**	**193**	P	**P**	**13 16 27.8**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.8,baz=13,slow=6.8,SNR=10.0						
WRA	**Warramunga Arr**	**64.58**	**193**	P	**P**	**13 16 27.8**	**+0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**64.75**	**333**	P	**P**	**13 16 26.1**	**-1.9**
	comp=Z,1.4nm,0.6s,mb3.9,baz=56,slow=6.9,SNR=6.5						
FINES	**FINESS Array B**	**64.75**	**333**	P	**P**	**13 16 26.1**	**-1.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**69.48**	**339**	P	**P**	**13 16 57.0**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.8,baz=32,slow=6.5						
NB2	**NORSAR Subarra**	**69.48**	**339**	P	**P**	**13 16 57.0**	**-0.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	**NORSAR Array B**	**69.48**	**339**	P	**P**	**13 16 56.9**	**-0.8**
	comp=Z,1.9nm,1.0s,mb3.9,baz=323,slow=21,SNR=3.4						
NOA	**NORSAR Array B**	**69.48**	**339**	P	**P**	**13 16 56.9**	**-0.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HFS	**Hagfors**	**69.56**	**337**	P	**P**	**13 16 57.1**	**-1.1**
	comp=Z,1.0nm,0.5s,mb3.9,baz=18,slow=4.7,SNR=11						
HFS	**Hagfors**	**69.56**	**337**	P	**P**	**13 16 57.1**	**-1.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**69.84**	**50**	P	**P**	**13 17 01.4**	**+1.1**
	comp=Z,0.2nm,0.4s,mb3.3,baz=315,slow=2.6,SNR=3.9						
AKASG	**Malin Array Be**	**71.47**	**324**	P	**P**	**13 17 08.9**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.2,baz=38,slow=5.9,SNR=12						
AKASG	**Malin Array Be**	**71.47**	**324**	P	**P**	**13 17 08.9**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**82.60**	**56**	P	**P**	**13 18 14.0**	**+2.0**
	comp=Z,0.1nm,0.3s,mb3.1,baz=297,slow=4.0,SNR=4.0						

*ATH **18** 13:11:40.2, 38.24N×26.48E, h32km±3km, MD3.4/5, ML3.6*
*ISK **18** 13:11:40.8, 38.29N×26.58E, h16km, MD3.3*
*NEIC **18** 13:11:40.2, 38.24N×26.48E, h32km, MD3.3(ISK), ML3.6(ATH), After ATH.*
*CSEM **18** 13:11:40.0±1.3, 38.27N×26.54E, h15km, MD3.3, Error ellipse: s-maj=2.4km s-min=2.0km az=19.0*
ISC 18 13:11:39.9±0.7, 38.27N±0.03×26.50E±0.04, h12km±4km, n30, σ0ᵗ94/41, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.12**	**42**	*i* P	**Pg**	**13 11 43.1**	**+0.1**
URLA				*i* S	**Sg**	**13 11 45.3**	**+0.2**
BLCB	**Balcova**	**0.45**	**75**	*i* PG	**Pg**	**13 11 49.1**	**+0.1**
BLCB				*i* SG	**Sg**	**13 11 54.8**	**-0.3**

PCBR	**Castelo Branco**	**2.81**	**78**	*e*Pn		Pn	13 55 36.0	-1.4
PCBR				*e*Sn		Sn	13 56 08.5	-3.9
	comp=E,11nm,0.1s							
PCBR	**Castelo Branco**	**2.81**	**78**	P		Pn	13 55 36.0	-1.4
PCBR				S		Sn	13 56 08.1	-4.3
MTE	**Manteigas**	**2.91**	**67**	*e*Sn		Sn	13 56 11.5	-3.4
	comp=E,11nm,0.2s							
MTE	**Manteigas**	**2.91**	**67**	S		Sn	13 56 10.8	-4.1
EBAD	**Badajoz**	**3.19**	**99**	P		Pn	13 55 41.1	-1.8
	comp=E,1.4nm,0.1s,SNR=7.2							
EBAD				S		Sn	13 56 17.4	-4.8
	comp=E,7.1nm,0.1s,SNR=14							
PVRL	**Vila Real**	**3.21**	**52**	*e*Pn		Pn	13 55 41.3	-1.8
PVRL				*e*Sn		Sn	13 56 17.5	-5.1
	comp=E,7.9nm,0.1s							
PVRL	**Vila Real**	**3.21**	**52**	Pn		Pn	13 55 41.3	-1.8
PVRL				Sn		Sn	13 56 17.5	-5.1
	comp=E,4.0nm,0.1s							
PCAB	**Cabril**	**3.32**	**43**	*e*Pn		Pn	13 55 42.4	-2.2
PCAB				*e*Sn		Sn	13 56 20.4	-4.9
	comp=E,8.7nm,0.1s							
PCAB	**Cabril**	**3.32**	**43**	P		Pn	13 55 42.3	-2.3
PCAB				Sn		Sn	13 56 20.4	-4.9
	comp=E,4.3nm,0.1s							
EGRO	**El Granado**	**3.32**	**121**	P		Pn	13 55 41.7	-2.9
	comp=E,3.6nm,0.1s,SNR=28							
EGRO				S		Sn	13 56 18.9	-6.6
	comp=E,7.6nm,0.1s,SNR=10							
EZAM	**Zamans**	**3.34**	**32**	P		Pn	13 55 41.9	-3.1
	comp=E,2.9nm,0.2s,SNR=7.9							
EZAM				S		Sn	13 56 19.3	-6.7
	comp=E,3.1nm,0.1s,SNR=8.4							
ELOB	**Lobios**	**3.41**	**41**	P		Pn	13 55 43.6	-2.3
	comp=E,5.9nm,0.1s,SNR=24							
ELOB				S		Sn	13 56 22.4	-5.3
	comp=E,12nm,0.1s,SNR=10							
EMIN	**Mina Concepcio**	**3.77**	**113**	P		Pn	13 55 48.6	-2.4
	comp=E,2.4nm,0.2s,SNR=25							
EMIN				S		Sn	13 56 30.1	-6.6
	comp=E,2.0nm,0.1s,SNR=8.2							
EMAZ	**Mazaricos**	**3.95**	**23**	P		Pn	13 55 50.5	-3.1
	comp=E,2.6nm,0.1s,SNR=7.9							
EMAZ				S		Sn	13 56 32.4	-8.9
	comp=E,13nm,0.1s,SNR=14							
STS	**Santiago**	**4.03**	**27**	P		Pn	13 55 52.5	-2.2
	comp=E,3.5nm,0.1s,SNR=7.9							
STS				S		Sn	13 56 35.1	-8.3
	comp=E,7.5nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**4.11**	**52**	*e*Pn		Pn	13 55 53.8	-2.1
PBRG				*e*Sn		Sn	13 56 39.8	-5.7
PBRG	**Braganca**	**4.11**	**52**	P		Pn	13 55 53.7	-2.2
PBRG				S		Sn	13 56 39.0	-6.5
ECAL	**Calabor**	**4.20**	**50**	P		Pn	13 55 54.7	-2.4
	comp=E,5.5nm,0.1s,SNR=40							
ECAL				S		Sn	13 56 42.2	-5.4
	comp=E,3.3nm,0.2s							
ERUA	**La Rua**	**4.26**	**43**	P		Pn	13 55 55.5	-2.5
	comp=E,2.6nm,0.1s,SNR=7.9							
ERUA				S		Sn	13 56 43.0	-6.3
	comp=E,1.5nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**4.58**	**104**	P		Pn	13 56 00.1	-2.4
	comp=E,0.1nm,0.1s,SNR=6.6							
ECAB				S		Sn	13 56 50.7	-6.5
	comp=E,2.1nm,0.2s,SNR=7.6							
ESPR	**Espera**	**4.77**	**119**	P		Pn	13 56 03.3	-2.0
	comp=E,1.3nm,0.1s,SNR=7.9							
ESPR				S		Sn	13 56 56.9	-5.3
	comp=E,6.2nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**4.96**	**35**	P		Pn	13 56 04.3	-3.7
	comp=E,1.6nm,0.2s,SNR=9.9							
EPON				S		Sn	13 56 58.0	-9.0
	comp=E,0.8nm,0.1s							
EADA	**Adamuz**	**5.19**	**101**	P		Pn	13 56 08.3	-2.8
	comp=E,0.6nm,0.1s,SNR=6.7							
EADA				S		Sn	13 57 05.1	-7.5
	comp=E,2.2nm,0.1s,SNR=6.7							
ESDC	**Sonseca Array**	**5.49**	**84**	P		Pn	13 56 13.0	-2.5
	comp=E,1.4nm,0.2s,baz=265,slow=13,SNR=5.9							
ESDC				S		Sn	13 57 12.9	-7.3
	comp=E,1.4nm,0.1s,baz=267,slow=23,SNR=9.0							
EMIJ	**Mijas**	**5.67**	**117**	P		Pn	13 56 14.9	-3.1
	comp=E,0.2nm,0.1s,SNR=7.9							
EMIJ				S		Sn	13 57 16.9	-7.9
	comp=E,0.6nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	**5.80**	**99**	S		Sn	13 57 18.9	-9.0
	comp=E,0.9nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**5.93**	**46**	P		Pn	13 56 18.9	-2.7
	comp=E,0.3nm,0.1s,SNR=14							
EARI				S		Sn	13 57 23.2	-8.0
	comp=E,0.5nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**8.17**	**58**	S		Sn	13 58 16.7	-11
	comp=E,0.3nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**8.21**	**79**	S		Sn	13 58 17.6	-11
	comp=E,1.6nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**8.41**	**70**	S		Sn	13 58 22.6	-11
	comp=E,6.9nm,0.3s,SNR=7.9							

CSEM ***18*** *13:55:07.1±0.8,38.74N×29.10W,h5km,ML1.6,Error ellipse: s-maj=10.9km s-min=5.8km az=47.0,After PDA*
PDA ***18*** *13:55:07.1±0.8,38.74N×29.10W,h5km,MD3.1,ML1.6, Error ellipse: s-maj=10.9km s-min=5.8km az=47.0*

SVSA 18 13:55:07.1±0.8,38.74N×29.10W,h5km,MD3.1,ML1.6, Error ellipse: s-maj=10.9km s-min=5.8km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PCED	**Cedros**	**0.33**	**109**	*i* P		Pg	13 55 13.1	-0.6
PCED				*i* S		Sg	13 55 17.6	-0.5
	23nm,0.3s							
PCED	**Cedros**	**0.33**	**109**	*i* S		Sg	13 55 17.6	-0.5
	23nm,0.3s							
CALA	**Caldeira**	**0.34**	**116**	*e*P		Pg	13 55 13.2	-0.8
CALA				*e*S		Sg	13 55 17.7	-1.0
PCND	**Candelaria**	**0.56**	**118**	*e*S		Sg	13 55 24.5	-1.4
	9.1nm,0.3s							
PICO	**Pico**	**0.57**	**114**	*e*P		Pg	13 55 17.1	-1.5
PICO				*e*S		Sg	13 55 24.6	-1.7
ROSA	**Rosais**	**0.67**	**91**	*e*P		Pg	13 55 18.2	-2.3
ROSA				*e*S		Sg	13 55 26.6	-2.8

IDC ***18*** *14:30:59.9±1.0, 10.24S×161.25E,mb4.3/5,mb1 4.3/6, mb1mx4.1/15,mbtmp4.2/6,ML3.5/1,MS3.1/3,Ms1 3.1/3, ms1mx2.9/23,Error ellipse: s-maj=25.0km s-min=18.3km az=24.0*
NEIC ***18*** *14:31:06.3±1.6, 10.16S×161.13E,h47km±16km,mb4.5/4, Error ellipse: s-maj=14.8km s-min=12.8km az=212.0*

ISC 18 14:31:02.8±0.6,10.37S±0.07×161.24E±0.07,h33km,n17, σ0§81/18,mb4.2/8,1D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**1.58**	**306**	Pn		**Pn**	**14 31 28.4**	**-0.6**
	556nm,0.3s,baz=152,slow=5.0,SNR=280							
HNR				Sn		**Sn**	**14 31 48.5**	**0.0**
	398nm,0.3s,baz=14,slow=23,SNR=20							
HNR	**Honiara**	**1.58**	**306**	⇓*i* P		**P**	**14 31 28.2**	**-0.6**
HNR				*e*S		**S**	**14 31 48.3**	**0.0**
DZM	**Mont Dzumac**	**12.66**	**157**	Pn		**P**	**14 34 08.6**	**+5.3**
	0.2nm,0.3s,baz=341,slow=23,SNR=16							
DZM				Sn		**S**	**14 36 22.9**	**-1.2**
	0.1nm,0.3s,baz=100,slow=17,SNR=1.9							
PMG	**Port Moresby**	**13.91**	**273**	LR		LR	14 39 22.1	
	comp=Z,103nm,19.0s,baz=90,slow=36							
CTA	**Charters Tower**	**17.38**	**234**	P		**P**	**14 35 06.5**	**+2.1**
	0.1nm,0.3s,baz=46,slow=16,SNR=2.9							
CTA				LR		LR	14 41 14.2	
	comp=Z,52nm,18.3s,baz=50,slow=35							
CTAO	**Charters Tower**	**17.38**	**234**	*e*P		**P**	**14 35 05.1**	**+0.6**
	4.0nm,0.8s							
AFI	**Afiamalu**	**26.60**	**100**	P		**P**	**14 36 41.7**	**+1.4**
	23nm,0.9s,mb4.7,baz=164,slow=20,SNR=2.7							
RAO	**Raoul Island**	**27.07**	**137**	P		**P**	**14 36 44.5**	**0.0**
	119nm,0.3s,baz=67,slow=23,SNR=2.0							
RAO	**Raoul Island**	**27.07**	**137**	*e*P		**P**	**14 36 44.5**	**+0.1**
WRAB	**Tennant Creek**	**27.61**	**247**	*e*P		**P**	**14 36 49.2**	**-0.3**
	20nm,1.4s,mb4.5							
WRA	**Warramunga Arr**	**27.62**	**247**	P		**P**	**14 36 49.2**	**-0.4**
	1.0nm,0.5s,mb3.8,baz=76,slow=9.0,SNR=14							
STKA	**Stephens Creek**	**28.08**	**217**	P		**P**	**14 36 54.4**	**+0.7**
	0.8nm,0.4s,mb3.7,baz=36,slow=8.7,SNR=3.5							
GUMO	**Guam**	**28.82**	**325**	LR		LR	14 45 08.8	
	comp=Z,36nm,21.9s,baz=166,slow=30							
SONM	**Songino Array**	**75.55**	**325**	P		**P**	**14 42 47.3**	**+1.5**
	0.9nm,0.5s,mb3.9,baz=135,slow=6.1,SNR=2.9							
MCK	**McKinley**	**82.98**	**20**	*e*P		**P**	**14 43 25.0**	**-0.7**
	4.5nm,1.0s,mb4.5							
COLA	**College**	**84.08**	**19**	*e*P		**P**	**14 43 31.2**	**0.0**
	7.3nm,1.1s,mb4.7							
ILAR	**Eielson Array**	**84.33**	**20**	P		**P**	**14 43 31.7**	**-0.8**
	0.4nm,0.4s,mb3.9,baz=242,slow=5.1,SNR=23							

NEIC ***18*** *15:07:05.8,37.51S×178.00E,h61km,ML3.8(WEL),After WEL.*

WEL 18 15:07:05.4±0.5,37.52S×178.03E,h64km±3km,ML3.9/4, 4C-5D,Error ellipse: s-maj=3.1km s-min=2.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.23**	**100**	⇑P		N	15 07 15.6	0.0
MXZ					SN	S	15 07 22.7	-0.4
MXZ	**Matakaoa Point**	**0.23**	**100**	⇑P		S	15 07 15.6	0.0
MXZ					S	S	15 07 22.7	-0.3
PUZ	**Puketiti**	**0.58**	**162**	⇓PN		P	15 07 18.6	-0.1
PUZ					SN	S	15 07 28.2	-0.3
PUZ	**Puketiti**	**0.58**	**162**	⇓P		P	15 07 18.6	-0.1
PUZ					S	S	15 07 28.2	-0.2
WIZ	**White Island**	**0.67**	**269**	PN		P	15 07 19.1	-0.5
WIZ	**White Island**	**0.67**	**269**	P		P	15 07 19.1	-0.5
MWZ	**Matawai**	**0.90**	**206**	⇓PN		P	15 07 22.7	+0.2
MWZ					SN	S	15 07 35.1	-0.3
MWZ	**Matawai**	**0.90**	**206**	⇓P		P	15 07 22.7	+0.1
MWZ					S	S	15 07 35.1	-0.2
URZ	**Urewera**	**1.03**	**224**	⇓PN		P	15 07 23.9	-0.4
URZ					SN	S	15 07 37.2	-1.2
MARZ	**Manawahe**	**1.17**	**246**	PN		P	15 07 25.5	-0.6
MARZ					SN	S	15 07 40.0	-1.6
MARZ	**Manawahe**	**1.17**	**246**	P		P	15 07 25.5	-0.6
EDRZ	**Edgecumbe**	**1.17**	**240**	PN		P	15 07 25.8	-0.4
EDRZ	**Edgecumbe**	**1.17**	**240**	P		P	15 07 25.8	-0.4
MKRZ	**Makatiti**	**1.38**	**243**	PN		P	15 07 29.2	0.0
LIRZ	**Lichensteins R**	**1.39**	**249**	PN		P	15 07 28.0	-1.2
LIRZ	**Lichensteins R**	**1.39**	**249**	P		P	15 07 28.0	-1.3
TAZ	**Tarawera**	**1.39**	**239**	PN		P	15 07 29.1	-0.3
TAZ	**Tarawera**	**1.39**	**239**	*e*P		P	15 07 29.1	-0.3
TGRZ	**Tauranga**	**1.42**	**261**	PN		P	15 07 29.0	-0.7
TGRZ	**Tauranga**	**1.42**	**261**	*e*P		P	15 07 29.0	-0.7
KNZ	**Kokohu**	**1.52**	**190**	PN		P	15 07 29.5	-1.5
KNZ	**Kokohu**	**1.52**	**190**	P		P	15 07 29.5	-1.6
PATZ	**Paeroa**	**1.64**	**238**	PN		P	15 07 32.7	+0.1
PATZ	**Paeroa**	**1.64**	**238**	P		P	15 07 32.7	0.0
KUZ	**Kuaotunu**	**2.00**	**292**	⇑PN		P	15 07 37.2	-0.4
KUZ					SN	S	15 07 59.9	-1.5
KUZ	**Kuaotunu**	**2.00**	**292**	⇑P		P	15 07 37.2	-0.4
BKZ	**Black Stump Fm**	**2.04**	**216**	PN		P	15 07 37.4	-0.7
BKZ	**Black Stump Fm**	**2.04**	**216**	P		P	15 07 37.4	-0.7
RITZ	**Rihia Road**	**2.24**	**229**	PN		P	15 07 40.8	-0.2
RITZ	**Rihia Road**	**2.24**	**229**	P		P	15 07 41.1	+0.1
KATZ	**Kakaramea**	**2.34**	**231**	PN		P	15 07 42.4	-0.1
KATZ	**Kakaramea**	**2.34**	**231**	*e*P		P	15 07 42.4	0.0
KRVZ	**Karewarewa**	**2.45**	**229**	PN		P	15 07 43.5	-0.4
OTVZ	**Oturere**	**2.48**	**228**	PN		P	15 07 43.9	-0.5
WTVZ	**West Tongariro**	**2.49**	**230**	PN		P	15 07 44.4	-0.2
NGZ	**Ngauruhoe**	**2.52**	**228**	PN		P	15 07 44.5	-0.5
NGZ	**Ngauruhoe**	**2.52**	**228**	P		P	15 07 44.5	-0.5
OTAZ	**Otara**	**2.54**	**282**	PN		P	15 07 45.5	+0.3
OTAZ	**Otara**	**2.54**	**282**	P		P	15 07 45.5	+0.2
TUVZ	**Tukino**	**2.55**	**226**	PN		P	15 07 45.2	-0.3
TUVZ	**Tukino**	**2.55**	**226**	P		P	15 07 45.2	-0.2
TWVZ	**Taurewa**	**2.56**	**232**	PN		P	15 07 45.3	-0.2
TWVZ	**Taurewa**	**2.56**	**232**	*e*P		P	15 07 45.3	-0.2
CNZ	**Chateau**	**2.57**	**229**	PN		P	15 07 45.1	-0.6
CNZ	**Chateau**	**2.57**	**229**	*e*P		P	15 07 45.1	-0.6
WPVZ	**Whakapapa**	**2.57**	**228**	PN		P	15 07 44.4	-1.3
MOVZ	**Moawhango**	**2.59**	**223**	PN		P	15 07 44.6	-1.4
MOVZ	**Moawhango**	**2.59**	**223**	P		P	15 07 44.6	-1.4
FWVZ	**Far West T-bar**	**2.60**	**228**	PN		P	15 07 45.9	-0.3
WNVZ	**Wahianoa**	**2.62**	**226**	PN		P	15 07 45.2	-1.3
TRVZ	**Turoa**	**2.63**	**227**	*e*PN		P	15 07 45.9	-0.7
PXZ	**Pawanui**	**2.67**	**200**	PN		P	15 07 43.5	-3.5
PXZ					SN	S	15 08 15.4	-2.8
HIZ	**Hauiti**	**2.69**	**247**	PN		P	15 07 47.4	0.0
HIZ	**Hauiti**	**2.69**	**247**	*e*P		P	15 07 47.4	0.0
MTVZ	**Mangateitei**	**2.73**	**226**	PN		P	15 07 46.8	-1.2
KAAZ	**Kauri Point**	**2.74**	**284**	PN		P	15 07 48.7	+0.5
KAAZ	**Kauri Point**	**2.74**	**284**	P		P	15 07 48.7	+0.5
PKVZ	**Pokaka**	**2.75**	**229**	PN		P	15 07 47.9	-0.3
TSZ	**Takapari Road**	**3.00**	**212**	PN		P	15 07 48.8	-3.0
TSZ	**Takapari Road**	**3.00**	**212**	*e*P		P	15 07 48.8	-3.0
VRZ	**Vera Road**	**3.03**	**237**	PN		P	15 07 52.5	+0.3
VRZ	**Vera Road**	**3.03**	**237**	P		P	15 07 52.5	+0.4
WAZ	**Wanganui**	**3.26**	**226**	PN		P	15 07 54.3	-1.1
WAZ	**Wanganui**	**3.26**	**226**	P		P	15 07 54.3	-1.1
WCZ	**Waipu Caves**	**3.35**	**297**	PN		P	15 07 56.7	0.0
WCZ	**Waipu Caves**	**3.35**	**297**	*e*P		P	15 07 56.7	0.0
BFZ	**Birch Farm**	**3.44**	**203**	PN		P	15 07 53.8	-4.2
BFZ	**Birch Farm**	**3.44**	**203**	P		P	15 07 53.8	-4.2
NEZ	**North Egmont**	**3.55**	**239**	*e*PN		P	15 08 00.1	+0.7
NEZ	**North Egmont**	**3.55**	**239**	*e*P		P	15 08 00.1	+0.7
MRZ	**Mangatainoka R**	**3.67**	**211**	PN		P	15 07 56.4	-4.7
MRZ	**Mangatainoka R**	**3.67**	**211**	*e*P		P	15 07 56.4	-4.7
KIW	**Kapiti Island**	**4.12**	**215**	PN		P	15 08 03.0	-4.4
KIW	**Kapiti Island**	**4.12**	**215**	*e*P		P	15 08 03.0	-4.4
MTW	**Mount Morrison**	**4.12**	**208**	PN		P	15 08 02.1	-5.4
MTW	**Mount Morrison**	**4.12**	**208**	*e*P		P	15 08 02.1	-5.4
OUZ	**Omahuta**	**4.25**	**301**	PN		P	15 08 09.6	+0.3
OUZ	**Omahuta**	**4.25**	**301**	P		P	15 08 09.6	+0.3
CAW	**Cannon Point**	**4.25**	**212**	PN		P	15 08 03.7	-5.6
CAW	**Cannon Point**	**4.25**	**212**	*e*P		P	15 08 03.7	-5.6
PAWZ	**Paruwai Farm**	**4.35**	**207**	*e*P		P	15 08 05.0	-5.6
MSWZ	**Moikau Station**	**4.44**	**208**	*e*P		P	15 08 06.0	-5.9
TCW	**Tory Channel**	**4.69**	**217**	*e*P		P	15 08 09.7	-5.7

SOF ***18*** *15:09:42.4,45.49N×25.96E,h2km,MD3.8*
MOS ***18*** *15:09:47.4±0.8,45.41N×26.03E,h72km,mb3.9/7,Error ellipse: s-maj=6.7km s-min=4.0km az=103.7*
PRU ***18*** *15:09:48.4,45.43N×25.66E,M3.7*
IDC ***18*** *15:09:48.9±0.5,45.54N×25.98E,h58km±6km,mb3.4/7, mb1 3.7/12,mb1mx3.5/24,mbtmp3.8/12,MS3.0/5, Ms1 3.1/5,ms1mx2.8/16,Error ellipse: s-maj=15.8km s-min=13.2km az=111.0*
NEIC ***18*** *15:09:48.8,45.37N×26.10E,h60km,mb3.7/2, MD3.8(SOF),After BUC.*
CSEM ***18*** *15:09:48.0±0.1,45.34N×26.15E,h69km±1km,mb3.8/2, Error ellipse: s-maj=1.3km s-min=1.1km az=71.0*
BUC ***18*** *15:09:49.2±1.1,45.36N×26.11E,h57km,MD4.3/6,Error ellipse: s-maj=14.8km s-min=12.1km az=103.0*
THE ***18*** *15:09:52.6,45.03N×25.95E,h30km,ML4.3*

ISC 18 15:09:47.1±0.2,45.43N±0.02×26.02E±0.02,h82km±3km, n156,σ1§26/219,mb3.7/8,19C-19D,Romania

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MLR	**Muntele Rosu**	**0.09**	**321**	P		**P**	**15 09 58.3**	**-0.7**
	892nm,0.3s,baz=169,slow=2.0,SNR=2006							
MLR				S		**S**	**15 10 04.7**	**-3.0**
	2µm,0.3s,baz=168,slow=18,SNR=93							
MLR	**Muntele Rosu**	**0.09**	**321**	S		**S**	**15 10 05.7**	**-2.0**
MLR	**Muntele Rosu**	**0.09**	**321**	*i* S		**S**	**15 10 05.7**	**-2.0**
MLR	**Muntele Rosu**	**0.09**	**321**	⇓*i* P		**P**	**15 09 58.7**	**-0.2**
MLR				*i* S		**S**	**15 10 05.7**	**-2.0**
MLR				*i* S		**S**	**15 10 05.9**	**-1.7**
SNX	**Sinaia**	**0.36**	**259**	⇑*i* P		**P**	**15 10 00.7**	**+0.6**
SNX				*i* S		**S**	**15 10 10.4**	**+0.5**
SNX	**Sinaia**	**0.36**	**259**	⇑*i* P		**P**	**15 10 00.7**	**+0.6**
SNX				*i* S		**S**	**15 10 10.4**	**+0.5**
ISR	**Istrita**	**0.48**	**130**	⇑*i* P		**P**	**15 10 01.0**	**0.0**
ISR				*i* S		**S**	**15 10 07.7**	**-3.8**
ISR	**Istrita**	**0.48**	**130**	⇑*i* P		**P**	**15 10 01.0**	**0.0**
ISR				*i* S		**S**	**15 10 07.7**	**-3.7**
VRI	**Vrincioaia**	**0.66**	**48**	⇑*i* P		**P**	**15 10 04.2**	**+1.4**
VRI				*i* S		**S**	**15 10 15.1**	**+0.7**
VRI	**Vrincioaia**	**0.66**	**48**	⇑*i* P		**P**	**15 10 04.2**	**+1.4**
VRI				*i* S		**S**	**15 10 15.2**	**+0.8**
VRI	**Vrincioaia**	**0.66**	**48**	⇑*i* P		**P**	**15 10 04.2**	**+1.4**
VRI				*i* S		**S**	**15 10 15.2**	**+0.8**
VOIR		**0.69**	**271**	⇓*i* P		**P**	**15 10 03.9**	**+0.9**
VOIR				*i* S		**S**	**15 10 14.8**	**0.0**
MTUR	**Matau**	**0.70**	**254**	⇑*i* P		**P**	**15 10 05.2**	**+1.9**
MTUR				*i* S		**S**	**15 10 16.2**	**+1.0**
MTUR	**Matau**	**0.70**	**254**	⇑*i* P		**P**	**15 10 05.2**	**+2.0**
MTUR				*i* S		**S**	**15 10 16.2**	**+1.0**
BRD	**Bordesti**	**0.72**	**79**	P		**P**	**15 10 03.3**	**-0.2**
BRD	**Bordesti**	**0.72**	**79**	P		**P**	**15 10 03.5**	**+0.1**
BUC1	**Bucharest**	**1.08**	**180**	⇓*i* P		**P**	**15 10 07.6**	**+0.1**
BUC1				*i* S		**S**	**15 10 22.4**	**-0.4**
BUC1	**Bucharest**	**1.08**	**180**	P		**P**	**15 10 08.3**	**+0.8**
BUC1				S		**S**	**15 10 21.9**	**-0.9**
BUC1	**Bucharest**	**1.08**	**180**	P		**P**	**15 10 08.3**	**+0.8**
BUC1				S		**S**	**15 10 21.7**	**-1.1**
BUC1				S		**S**	**15 10 21.9**	**-0.9**
BUC1	**Bucharest**	**1.08**	**180**	⇓*i* P		**P**	**15 10 07.6**	**+0.1**
BUC1				S		**S**	**15 10 21.9**	**-0.9**
CFR	**Carcaliu**	**1.51**	**99**	⇓*i* P		**P**	**15 10 13.3**	**+0.1**
CFR				*i* S		**S**	**15 10 31.5**	**-0.9**
CFR	**Carcaliu**	**1.51**	**99**	⇓*i* P		**P**	**15 10 13.3**	**+0.1**
CFR				*i* S		**S**	**15 10 31.5**	**-1.0**
HARR	**Harsova**	**1.54**	**118**	⇓*i* P		**P**	**15 10 14.1**	**+0.6**
HARR				*i* S		**S**	**15 10 31.3**	**-1.7**
HARR	**Harsova**	**1.54**	**118**	⇓*i* P		**P**	**15 10 14.1**	**+0.5**
HARR				*i* S		**S**	**15 10 31.3**	**-1.8**
ZIMR		**1.83**	**195**	⇑P		**P**	**15 10 17.7**	**+0.4**
ZIMR				S		**S**	**15 10 40.2**	**+0.6**
TIRR	**Tirgusor**	**1.95**	**119**	⇑P		**P**	**15 10 19.2**	**+0.2**
TIRR				S		**S**	**15 10 41.8**	**-0.7**
TIRR	**Tirgusor**	**1.95**	**119**	⇓*i* P		**P**	**15 10 19.2**	**+0.2**
TIRR	**Tirgusor**	**1.95**	**119**	⇓*i* P		**P**	**15 10 19.2**	**+0.2**
TIRR				S		**S**	**15 10 41.8**	**-0.7**
IAS	**Iasi**	**2.07**	**31**	⇓*i* P		**P**	**15 10 22.3**	**+1.7**
IAS	**Iasi**	**2.07**	**31**	⇑P		**P**	**15 10 22.2**	**+1.6**
IAS				S		**S**	**15 10 47.0**	**+1.7**
IAS	**Iasi**	**2.07**	**31**	P		**P**	**15 10 22.2**	**+1.6**
IAS				S		**S**	**15 10 47.0**	**+1.7**
BURAR	**Bucovina Array**	**2.26**	**346**	⇓*i* P		**P**	**15 10 25.9**	**+2.6**
BURAR				*i* S		**S**	**15 10 54.1**	**+4.0**
BURAR	**Bucovina Array**	**2.26**	**346**	⇓*i* P		**P**	**15 10 25.9**	**+2.6**
BURAR				*i* S		**S**	**15 10 54.1**	**+4.0**
PVL	**Pavlikeni**	**2.26**	**193**	*i* P		**P**	**15 10 25.0**	**+1.7**
PSN	**Preselentsi**	**2.33**	**138**	*i* P		**P**	**15 10 25.0**	**+0.7**
PRD	**Provadia**	**2.43**	**156**	*i* P		**P**	**15 10 27.0**	**+1.3**
KIS	**Kishinev**	**2.50**	**50**	*e*P		**P**	**15 10 29.0**	**+2.4**
KIS				*e*S		**S**	**15 10 50.5**	**-5.6**
KIS				smax				
	comp=N,2µm,1.0s							
KIS				smax				
	comp=E,2µm,1.0s							
KIS				smax				
	comp=N,2µm,1.0s							
KIS				smax				
	comp=E,2µm,1.0s							
BZS	**Buzias**	**3.10**	**275**	⇑*i* P		**P**	**15 10 35.6**	**+0.6**
BZS	**Buzias**	**3.10**	**275**	⇑*i* P		**P**	**15 10 35.6**	**+0.6**
BZS	**Buzias**	**3.10**	**275**	P		**P**	**15 10 35.7**	**+0.7**
PGB	**Panagyurishte**	**3.17**	**206**	*i* P		**P**	**15 10 37.0**	**+1.0**
BOLS	**Boljevac**	**3.31**	**243**	⇑*i* Pn		**P**	**15 10 36.9**	**-1.0**
BOLS					Sn	**S**	**15 11 15.5**	**-0.7**
DIM	**Dimitrovgrad**	**3.39**	**186**	*e*P		**P**	**15 10 39.3**	**+0.2**
PLD	**Plovdiv**	**3.45**	**197**	*i* P		**P**	**15 10 39.7**	**-0.2**
VTS	**Vitosha**	**3.48**	**217**	*i* P		**P**	**15 10 40.0**	**-0.3**
VTS	**Vitosha**	**3.48**	**217**	P		**P**	**

VRAC	**Vranov**	**7.49**	**305**	P	**P**	**15 11 34.9**	**-0.7**
VRAC				S	**S**	**15 12 58.2**	**-1.4**
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VRAC				smax			
	comp=N,1.0nm,0.3s						
VRAC	**Vranov**	**7.49**	**305**	*e*Pn	**P**	**15 11 36.2**	**+0.6**
ARSA	**Arzberg**	**7.49**	**288**	⇓*i*Pn	**P**	**15 11 35.9**	**+0.2**
ARSA				⇑*i*Sn	**S**	**15 12 56.2**	**-3.6**
KHL	**Karahalli**	**7.56**	**159**	*e*P	**P**	**15 11 36.3**	**-0.3**
KIZT	**Kizilcal**	**7.85**	**144**	*e*P	**P**	**15 11 39.9**	**-0.7**
BR131	**Keskin Array S**	**8.00**	**133**	*e*Pn	**P**	**15 11 42.0**	**-0.6**
	comp=N,4.5nm,0.3s						
BR131				*e*Sn	**S**	**15 13 05.6**	**-6.7**
BRTR	**Keskin Array B**	**8.00**	**133**	P	**P**	**15 11 40.8**	**-1.9**
	comp=N,1.9nm,0.3s,baz=324,slow=12,SNR=61						
BRTR				S	**S**	**15 13 06.1**	**-6.1**
	comp=N,1.5nm,0.3s,baz=312,slow=17,SNR=6.4						
BRTR	**Keskin Array B**	**8.00**	**133**	P	**P**	**15 11 40.8**	**-1.8**
BRTR				S	**S**	**15 13 06.1**	**-6.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRTR				smax			
	comp=N,2.0nm,0.3s						
ANN	**Anapa**	**8.10**	**90**	*e*P	**P**	**15 11 40.6**	**-3.3**
ANN				*e*S	**S**	**15 13 06.7**	**-7.9**
ANN				pmax	pmax		
	comp=Z,104nm,1.6s						
DPC	**Dobruska-Polom**	**8.17**	**311**	*e*PN	**P**	**15 11 45.5**	**+0.6**
DPC				*e*SN	**S**	**15 13 11.5**	**-4.9**
KSP	**Ksiaz**	**8.46**	**313**	*e*P	**P**	**15 11 49.6**	**+0.7**
KSP				*e*S	**S**	**15 13 20.8**	**-2.9**
KSP	**Ksiaz**	**8.46**	**313**	*e*P	**P**	**15 11 49.6**	**+0.7**
KSP				*e*		15 11 59.0	
KSP				*e*S	**S**	**15 13 20.8**	**-2.9**
SUW	**Suwalki**	**8.79**	**349**	*e*P	**P**	**15 11 54.4**	**+1.1**
GERES	**GERESS Array B**	**9.07**	**297**	LR	LR	15 15 27.4	
	comp=Z,190nm,21.1s,baz=358,slow=38						
KHC	**Kasperske Hory**	**9.23**	**298**	*e*PN	**P**	**15 11 59.8**	**+0.4**
KHC				x	x	15 12 08.0	
KHC				x	x	15 12 20.0	
KHC				*e*SN	**S**	**15 13 38.3**	**-4.2**
KHC	**Kasperske Hory**	**9.23**	**298**	*e*Pn	**P**	**15 11 59.8**	**+0.4**
KHC				*e*		15 12 08.0	
KHC				*e*		15 12 20.0	
KHC				*e*Sn	**S**	**15 13 38.3**	**-4.2**
KHC	**Kasperske Hory**	**9.23**	**298**	*e*Pn	**P**	**15 11 59.8**	**+0.4**
KHC				*e*Sn	**S**	**15 13 38.3**	**-4.2**
IDI	**Anoyia**	**10.16**	**185**	P	**P**	**15 12 11.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=330,slow=5.7,SNR=2.2						
DAVOX	**Davos**	**11.29**	**283**	LR	LR	15 17 26.7	
	comp=Z,63nm,20.4s,baz=59,slow=41						
OBN	**Obninsk**	**11.80**	**31***d*	*i*P	**P**	**15 12 31.1**	**-2.7**
OBN				pmax	pmax		
	comp=Z,11nm,1.2s						
KIV	**Kislovodsk**	**11.96**	**91**	*i*P	**P**	**15 12 36.1**	**+0.2**
FINES	**FINESS Array B**	**16.05**	**0**	P	**P**	**15 13 25.1**	**-3.7**
	comp=Z,0.5nm,0.3s,baz=168,slow=12,SNR=16						
FINES	**FINESS Array B**	**16.05**	**0**	*e*P	**P**	**15 13 26.0**	**-2.7**
HFS	**Hagfors**	**16.47**	**338**	P	**P**	**15 13 33.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=146,slow=16,SNR=9.0						
HFS				S	**S**	**15 16 31.0**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=162,slow=23,SNR=13						
HFS				LR	LR	15 20 48.1	
	comp=Z,75nm,19.0s,baz=248,slow=40						
KAF	**Kangasniemi**	**16.72**	**0**	*e*p	**P**	**15 13 33.7**	**-3.4**
KLMR	**Klimovskoe**	**17.39**	**22***d*	*i*P	**P**	**15 13 42.2**	**-3.3**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
NB2	**NORSAR Subarra**	**17.90**	**336**	P	**P**	**15 13 50.5**	**-1.3**
	comp=Z,3.9nm,1.2s,baz=141,slow=12						
NB2	**NORSAR Subarra**	**17.90**	**336**	P	**P**	**15 13 50.5**	**-1.3**
NB2				pmax	pmax		
	comp=Z,4.0nm,1.2s						
NOA	**NORSAR Array B**	**17.90**	**336**	P	**P**	**15 13 50.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=142,slow=11,SNR=4.9						
NOA				LR	LR	15 21 29.2	
	comp=Z,55nm,18.2s,baz=330,slow=39						
EKA	**Eskdalemuir Ar**	**20.94**	**309**	P	**P**	**15 14 26.0**	**+1.2**
	comp=Z,3.1nm,1.1s,baz=284,slow=27,SNR=3.8						
EKA	**Eskdalemuir Ar**	**20.94**	**309**	P	**P**	**15 14 26.0**	**+1.2**
EKA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AKTK	**Aktyubinsk**	**21.91**	**65**	P	**P**	**15 14 37.3**	**+2.8**
	comp=Z,2.0nm,0.5s,mb3.7						
AKTO	**Aktyubinsk**	**21.91**	**65**	P	**P**	**15 14 37.3**	**+2.8**
	comp=Z,1.5nm,0.5s,mb3.6,baz=269,slow=10,SNR=9.0						
AKTO	**Aktyubinsk**	**21.91**	**65**	P	**P**	**15 14 37.3**	**+2.8**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
ARU	**Arti**	**23.05**	**50**	*e*P	**P**	**15 14 48.0**	**+2.5**
ARU				*e**PP		15 15 02.3	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
ARU	**Arti**	**23.05**	**50**	*e*P	**P**	**15 14 48.0**	**+2.5**
	comp=Z,3.0nm,0.6s,mb3.8						
ARU				*ep*P		15 15 02.3	
ARU	**Arti**	**23.05**	**50**	*e*P	**P**	**15 14 48.0**	**+2.5**
	comp=Z,3.0nm,0.6s,mb3.8						
ARCES	**ARCESS Array B**	**24.18**	**360**	P	**P**	**15 14 59.7**	**+3.5**
	comp=Z,1.3nm,0.7s,mb3.4,baz=188,slow=8.6,SNR=5.4						
ARCES				LR	LR	15 25 58.3	
	comp=Z,18nm,18.2s,baz=216,slow=40						
ARCES	**ARCESS Array B**	**24.18**	**360**	P	**P**	**15 14 59.7**	**+3.5**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,18nm,18.2s						
ARCES	**ARCESS Array B**	**24.18**	**360**	P	**P**	**15 14 59.7**	**+3.5**
ARCES				LR	LR	15 25 58.3	
ZAL	**Zalesovo**	**37.96**	**55**	P	**P**	**15 17 00.1**	**+2.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=185,slow=4.5,SNR=3.3						
ZAL	**Zalesovo**	**37.96**	**55**	P	**P**	**15 17 00.2**	**+2.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**38.32**	**67**	P	**P**	**15 17 04.1**	**+3.0**
	comp=Z,0.3nm,0.3s,mb3.5,baz=270,slow=8.0,SNR=15						
MKAR	**Makanchi Array**	**38.32**	**67**	P	**P**	**15 17 04.1**	**+3.0**
DBIC	**Dimbokro**	**46.98**	**224**	P	**P**	**15 18 12.8**	**+1.1**
	comp=Z,0.7nm,0.3s,mb3.8,baz=14,slow=5.3,SNR=4.9						
DBIC	**Dimbokro**	**46.98**	**224**	P	**P**	**15 18 12.9**	**+1.2**
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**65.56**	**352**	P	**P**	**15 20 24.9**	**+1.5**
	baz=17,slow=3.4						
YKA	**Yellowknife Ar**	**67.91**	**341**	P	**P**	**15 20 40.6**	**+2.3**
	comp=Z,0.8nm,1.1s,mb3.5,baz=318,slow=7.1,SNR=5.4						
YKA	**Yellowknife Ar**	**67.91**	**341**	P	**P**	**15 20 40.6**	**+2.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						

CSEM ***18*** *15:11:47.8±0.6,28.09N×57.74E,h10km,ML4.2/2,Error ellipse: s-maj=17.2km s-min=9.2km az=78.0*
THR ***18*** *15:11:51.3±0.4,28.11N×57.59E,h17km±4km,ML3.2*
ISC 18 15:11:47.7±0.9,28.12N±0.04×57.69E±0.08,h10km,n14,
σ1§23/18,2C-1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDS	**Bandar-Abbas**	**1.52**	**242**	*e*PG		**Pg**	**15 12 17.9**	**-0.2**
BNDS				*e*SG		**Sg**	**15 12 37.4**	**-1.2**
BNDS				AML		AML	15 12 44.7	
	comp=N,665nm,0.4s							
BNDS	**Bandar-Abbas**	**1.52**	**242**	*e*Pg		**Pg**	**15 12 17.9**	**-0.3**
	SNR=91							
BNDS				*e*Sg		**Sg**	**15 12 37.4**	**-1.1**
	comp=N,665nm,0.4s,SNR=91							
KRBR	**Kerman**	**2.02**	**337**	*e*PG		**Pg**	**15 12 27.7**	**-0.4**
KRBR				*e*SG		**Sg**	**15 12 54.7**	**-0.4**
KRBR				AML		AML	15 13 10.5	
	comp=N,162nm,0.5s							
KRBR	**Kerman**	**2.02**	**337**	*e*Pg		**Pg**	**15 12 27.7**	**-0.4**
	SNR=91							
KRBR				*e*Sg		**Sg**	**15 12 54.7**	**-0.4**
	comp=N,162nm,0.5s,SNR=91							
BANOM	**Banah**	**2.52**	**210**	P		**Pn**	**15 12 31.0**	**+1.7**
	SNR=23							
ZHSF	**Zahedan**	**3.09**	**61**	*e*PN		**Pn**	**15 12 42.7**	**+5.2**
ASHO	**Ashiyiah**	**3.72**	**203**	P		**Pn**	**15 12 48.2**	**+1.7**
	SNR=13							
GHIR	**Ghir-Karzin**	**4.15**	**273**	*e*PN		**Pn**	**15 12 54.9**	**+2.2**
GHIR				AML		AML	15 14 04.9	
	comp=E,22nm,0.5s							
GHIR	**Ghir-Karzin**	**4.15**	**273**	*e*Pn		**Pn**	**15 12 54.8**	**+2.2**
	SNR=52							
HOQ	**Hoqain**	**4.53**	**184**	P		**Pn**	**15 12 57.6**	**-0.4**
	SNR=7.8							
ARQ	**Araqi**	**4.88**	**193**	⇑P		**Pn**	**15 13 03.6**	**+0.6**
SMDO	**Samad**	**5.05**	**176**	⇓P		**Pn**	**15 13 02.4**	**-2.9**
BSY	**Bisya**	**5.37**	**185**	⇑P		**Pn**	**15 13 09.0**	**-0.9**
BSYO	**Bisya**	**5.38**	**184**	P		**Pn**	**15 13 09.0**	**-1.0**

MAN 18 15:29:58.5,19.15N×121.15E,h31km,mb3.8,ML2.5,
MS2.1,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PIP	**Pasuquin**	**0.96**	**212**	*e*P		Pn	15 30 15.5	-0.5
PIP				*e*S		Sn	15 30 27.9	-0.7
SGCP	**Mt. Cagua**	**1.24**	**137**	*e*P		Pn	15 30 19.6	-0.3
APYP	**Conner**	**1.28**	**176**	*e*P		Pn	15 30 20.6	0.0
APYP				*e*S		Sn	15 30 36.5	-0.3
CVP	**Callao Caves**	**1.57**	**156**	*e*P		Pn	15 30 24.9	+0.2
CVP				*e*S		Sn	15 30 43.0	-1.2

IDC ***18*** *15:44:09.1±1.5,36.49N×69.98E,mb3.9/6,mb1 4.0/9, mb1mx3.7/21,mbtmp3.8/9,ML3.5/3,Error ellipse: s-maj=30.7km s-min=24.3km az=36.0*
MOS ***18*** *15:44:12.7±1.3,36.68N×69.87E,h33km,mb4.1/4,Error ellipse: s-maj=19.2km s-min=10.3km az=96.2*
NNC ***18*** *15:44:16.5±4.8,37.12N×69.06E,h18km±48km,mb3.7, mpv3.7,Error ellipse: s-maj=56.5km s-min=38.3km az=3.0*
NEIC ***18*** *15:44:16.6±2.4,36.74N×70.09E,h51km±25km,mb3.9/6, Error ellipse: s-maj=26.4km s-min=6.2km az=61.0*
ISC 18 15:44:13.6±2.2,36.71N±0.08×69.9E±0.1,h44km±23km,
n40,σ1§18/47,mb3.7/5,4C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**6.41**	**4**	Pn		**P**	**15 45 47.8**	**0.0**
	1.4nm,0.3s,baz=200,slow=16,SNR=22							
KK31				⇑Sn		**S**	**15 46 60.0**	**-0.5**
	1.9nm,0.5s							
KK31				⇑Lg			15 47 31.2	
	4.5nm,0.6s,baz=192,slow=28,SNR=4.7							
UCH	**Uchtor**	**6.57**	**32**	P		**P**	**15 45 51.8**	**+1.7**
	SNR=11							
AAK	**Ala-Archa**	**6.90**	**30**	P		**P**	**15 45 56.1**	**+1.4**
	SNR=11							
AAK	**Ala-Archa**	**6.90**	**30**	*e*PN		**P**	**15 45 54.5**	**-0.3**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.4s							
AAK	**Ala-Archa**	**6.90**	**30**	*e*P		**P**	**15 45 54.5**	**-0.3**
	comp=Z,5.2nm,0.4s							
KBK	**Karagaybulak**	**7.11**	**32**	P		**P**	**15 45 59.1**	**+1.5**
	SNR=6.9							
CHMS	**Chumysh**	**7.31**	**29**	P		**P**	**15 46 01.0**	**+0.6**
	SNR=13							
USP	**Ospenovka**	**7.45**	**27**	P		**P**	**15 46 02.2**	**-0.1**
	SNR=8.0							
TKM2	**Tokmak 2**	**7.60**	**34**	⇓Pn		**P**	**15 46 05.3**	**+0.9**
	comp=Z,4.0nm,0.6s							
TKM2				⇓Sn		**S**	**15 47 38.7**	**+8.5**
	comp=Z,1.7nm,0.5s							
MK31	**Makanchi Array**	**13.67**	**39**	⇑P		**P**	**15 47 25.4**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=226,slow=16,SNR=4.4							
MKAR	**Makanchi Array**	**13.67**	**39**	Pn		**P**	**15 47 25.8**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=230,slow=16,SNR=4.4							
MKAR				Sn		**S**	**15 49 50.7**	**-7.3**
	comp=Z,0.0nm,0.3s,baz=238,slow=14,SNR=3.4							
MKAR	**Makanchi Array**	**13.67**	**39**	Pn		**P**	**15 47 25.8**	**-0.9**
MKAR				Sn		**S**	**15 49 50.7**	**-7.3**
AB31	**Akbulak array**	**14.48**	**333**	P		**P**	**15 47 34.0**	**-3.3**
	comp=Z,0.4nm,0.2s,baz=147,slow=12,SNR=63							
AB31				⇓S		**S**	**15 50 06.1**	**-11**
	comp=Z,0.9nm,0.6s,baz=152,slow=24,SNR=6.1							
KOLN	**Koldanda**	**14.62**	**124**	*e*P		**P**	**15 47 38.3**	**-1.0**
GKN	**Gorkha**	**15.18**	**121**	*e*P		**P**	**15 47 45.6**	**-0.9**
	comp=Z,12nm,0.5s							
DMN	**Daman**	**15.75**	**121**	*e*P		**P**	**15 47 53.7**	**-0.2**
	comp=Z,25nm,1.2s							
KKN	**Kakani**	**15.76**	**120**	*e*P		**P**	**15 47 53.3**	**-0.7**
	comp=Z,8.8nm,0.5s							
KKN	**Kakani**	**15.76**	**120**	*e*P		**P**	**15 47 53.3**	**-0.7**
KKN				pmax	pmax			
	comp=Z,4.0nm,0.5s							
PKI	**Pulchoki**	**15.98**	**120**	*e*P		**P**	**15 47 57.1**	**+0.3**
GUN	**Gumba**	**16.10**	**118**	*e*P		**P**	**15 47 59.4**	**+1.0**
	comp=Z,8.0nm,0.6s							
AKTO	**Aktyubinsk**	**16.16**	**332**	⇓P		**P**	**15 47 57.3**	**-1.7**
	comp=Z,1.0nm,0.9s							
AKTO				⇑S		**S**	**15 50 45.8**	**-11**
	comp=Z,0.5nm,0.8s							
AKTO	**Aktyubinsk**	**16.16**	**332**	Pn		**P**	**15 47 57.4**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=148,slow=12,SNR=8.4							
AKTO				Sn		**S**	**15 50 53.8**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=30,slow=22,SNR=4.8							
ZRNK	**Zerenda**	**16.25**	**358**	*e*P		**P**	**15 48 02.9**	**+2.8**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZRNK	**Zerenda**	**16.25**	**358**	*e*P		**P**	**15 48 02.9**	**+2.8**
	comp=Z,1.0nm,0.4s							
BVA0	**Borovoye Array**	**16.32**	**1**	P		**P**	**15 48 01.8**	**+0.8**
	comp=Z,1.0nm,1.8s,baz=167,slow=12,SNR=14							
BVAR	**Borovoye Array**	**16.32**	**1**	Pn		**P**	**15 47 59.6**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=164,slow=12,SNR=13							
BVAR	**Borovoye Array**	**16.32**	**1**	P		**P**	**15 47 59.6**	**-1.3**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**16.35**	**1**	*e*Pn		**P**	**15 48 01.5**	**+0.1**
BRVK				*e*P			15 48 04.2	
JIRN	**Jiri**	**16.47**	**119**	*e*P		**P**	**15 48 03.0**	**0.0**
	comp=Z,9.5nm,0.4s							
ZAL	**Zalesovo**	**20.09**	**26**	P		**P**	**15 48 44.7**	**-1.3**
	comp=Z,1.6nm,0.4s,baz=266,slow=8.0,SNR=7.3							
ZAL	**Zalesovo**	**20.09**	**26**	P		**P**	**15 48 44.7**	**-1.3**
ZAL				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ZAL	**Zalesovo**	**20.09**	**26**	P		**P**	**15 48 44.7**	**-1.3**
AKASG	**Malin Array Be**	**32.12**	**309**	P		**P**	**15 50 39.5**	**+0.8**
FINES	**FINESS Array B**	**36.81**	**326**	P		**P**	**15 51 20.4**	**+1.5**
	comp=Z,3.1nm,0.9s,mb4.2,baz=117,slow=8.5,SNR=4.8							
FINES	**FINESS Array B**	**36.81**	**326**	P		**P**	**15 51 20.4**	**+1.6**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
HFS	**Hagfors**	**42.35**	**322**	P		**P**	**15 52 06.5**	**+1.8**
	comp=Z,1.7nm,0.5s,mb3.9,baz=82,slow=10,SNR=4.9							
HFS	**Hagfors**	**42.35**	**322**	P		**P**	**15 52 06.5**	**+1.8**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.5s							
NOA	**NORSAR Array B**	**43.67**	**323**	P		**P**	**15 52 16.4**	**+1.0**
	comp=Z,1.5nm,1.0s,mb3.7,baz=98,slow=8.0,SNR=2.7							
NOA	**NORSAR Array B**	**43.67**	**323**	P		**P**	**15 52 16.4**	**+0.9**
NOA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
WRA	**Warramunga Arr**	**82.86**	**121**	P		**P**	**15 56 35.0**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.6,baz=324,slow=5.0,SNR=7.0							

CSEM ***18*** *15:55:24.7±0.2,38.14N×26.63E,h2km,MD2.9,Error ellipse: s-maj=6.6km s-min=1.9km az=111.0*
ATH ***18*** *15:55:25.0,38.08N×26.62E,h33km±10km,MD3.1/3*
ISK ***18*** *15:55:25.8,38.15N×26.64E,h10km,MD2.9*
ISC 18 15:55:24.6±0.9,38.14N±0.03×26.51E±0.05,h4km±6km,
n15,σ0§85/25,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URLA	**Izmir**	**0.23**	**18**	*i*P		**Pg**	**15 55 29.2**	**-0.1**
URLA				*i*S		**Sg**	**15 55 33.1**	**+0.6**
BLCB	**Balcova**	**0.49**	**60**	PG		**Pg**	**15 55 33.9**	**-0.5**
BLCB				SG		**Sg**	**15 55 39.9**	**-1.1**
SMG	**Samos**	**0.50**	**148**	*e*PB		**Pg**	**15 55 34.5**	**-0.2**
SMG				*e*SB		**Sb**	**15 55 41.4**	**-1.6**
SMG	**Samos**	**0.50**	**148**	*e*P		**Pg**	**15 55 34.5**	**-0.2**
SMG				*e*S		**Sg**	**15 55 43.0**	**+1.5**
IZM	**Izmir**	**0.65**	**66**	PG		**Pg**	**15 55 37.2**	**-0.4**
IZM				SG		**Sg**	**15 55 45.5**	**-0.8**
PRK	**Paraskevi**	**1.12**	**351**	*e*PN		**Pn**	**15 55 47.0**	**0.0**
PRK				*e*SN		**Sn**	**15 56 03.5**	**+0.5**
AYDN	**Tasoluk**	**1.19**	**113**	*i*P		**Pb**	**15 55 47.7**	**+0.4**
AYDN				*i*S		**Sb**	**15 56 02.3**	**-0.6**
BODT	**Bodrum**	**1.25**	**149**	*e*PN		**Pn**	**15 55 49.0**	**+0.2**
AKS	**Akhisar**	**1.27**	**54**	PN		**Pn**	**15 55 48.9**	**-0.1**
BDRM	**Kayabasi**	**1.31**	**145**	*i*P		**Pb**	**15 55 50.9**	**+1.5**
BDRM				*i*S		**Sb**	**15 56 06.8**	**+0.4**
MLSB	**Milas**	**1.31**	**129**	*e*PN		**Pn**	**15 55 49.9**	**+0.2**
APE	**Apeiranthos**	**1.32**	**216**	*e*PN		**Pn**	**15 55 49.0**	**-0.8**
APE				*e*SN		**Sn**	**15 56 07.0**	**-1.0**
MANT	**Manisa**	**1.65**	**77**	*i*P		**Pn**	**15 55 57.1**	**+2.5**
MANT				*i*S		**Sb**	**15 56 16.7**	**+0.3**
YER	**Yerkesik**	**1.73**	**125**	*e*PN		**Pn**	**15 55 55.8**	**+0.1**
DST	**Dursunbey**	**2.21**	**48**	*e*PN		**Pn**	**15 56 02.6**	**0.0**

MEX 18 16:27:50.7±0.4,16.89N×99.59W,h26km±10km,MD3.5,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ACX	**Acapulco**	**0.31**	**267**	*i*P		Pb	16 27 56.5	-1.5
ACX				*i*S		Sb	16 28 01.5	-1.4
CAIG	**El Cayaco**	**0.67**	**284**	*i*P		Pb	16 28 01.6	-2.0
CAIG				*i*S		Sb	16 28 10.1	-2.5

IDC ***18*** *17:22:29.6±0.5,22.92S×175.89W,mb4.8/15,mb1 5.0/18, mb1mx4.9/20,mbtmp4.9/18,ML5.1/2,MS4.1/14,Ms1 4.1/14, ms1mx4.0/20,Error ellipse: s-maj=18.3km s-min=13.9km az=133.0*
BJI ***18*** *17:22:33.8,23.00S×175.90W,h30km,mB5.3,mb4.9, Ms5.0,Msz4.7*
HRVD ***18*** *17:22:33.9±0.4,22.99S×175.46W,h49km±2km,MW5.0/38, Centroid moment Tensor Solution. LP body waves: s38,c53;Mantle waves: s38,c47; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.94±.28; Mθθ0.81±.21; Mϕϕ-4.75±.17; Mrθ-0.29±.21; Mrϕ-1.17±.15; Mθr-0.32±.25; Best double couple: M0:4.487×10^16 NP1:ϕs7°,δ43°,λ84°. NP2:ϕs196°,δ48°,λ96°. Principal axes: T 3.972, Plg85°, Azm162°; N 1.031, Plg4°, Azm12°; P -5.002, Plg2°, Azm281°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***18*** *17:22:33.6±0.9,23.00S×175.99W,h33km,mb5.3/16 Error ellipse: s-maj=13.8km s-min=10.2km az=58.3*
NEIC ***18*** *17:22:33.9±0.2,22.97S×175.94W,h30km,mb5.3/26, MS4.2/7,Error ellipse: s-maj=8.3km s-min=4.8km az=132.0*
CSEM ***18*** *17:22:39.7,24.24S×176.94W,h33km,mb5.5*
ISC 18 17:22:34.6±1.7,23.12S±0.06×175.96W±0.06,
h46km±14km,h31km±1.6km:pP-P,n216,σ1§01/114,
mb5.0/43,MS4.3/22,21C-8D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**6.36**	**196**	Pn		**P**	**17 24 09.0**	**+0.9**
	96nm,0.3s,baz=88,slow=20,SNR=4.5							
RAO				Sn		**S**	**17 25 19.8**	**-0.4**
	270nm,0.3s,baz=87,slow=22,SNR=6.5							
AFI	**Afiamalu**	**9.98**	**24**	Pn		**P**	**17 24 49.8**	**-8.5**
	4.3nm,0.3s,baz=237,slow=11,SNR=10							
AFI				Sn		S	17 26 28.1	-22
	4.0nm,0.3s,baz=63,slow=23,SNR=3.0							
AFI				LR		LR	17 27 52.3	
	comp=Z,707nm,21.8s,baz=200,slow=33							
AFI	**Afiamalu**	**9.98**	**24**	*e*P		**P**	**17 24 53.1**	**-5.2**
AFI				Sn		S	17 26 28.1	-22
AFI				*e*S		S	17 26 29.9	-20
AFI				LR		LR	17 27 52.3	
RAR	**Rarotonga**	**15.12**	**86**	Pn		**P**	**17 25 59.1**	**-7.7**
	20nm,0.3s,baz=245,slow=9.7,SNR=72							
RAR				Sn		S	17 28 29.6	-24
	5.3nm,0.3s,baz=44,slow=17,SNR=6.5							
RAR				LR		LR	17 29 59.7	
	comp=Z,2μm,19.3s,baz=256,slow=30							
URZ	**Urewera**	**16.22**	**200**	Pn		**P**	**17 26 20.8**	**0.0**
	3.2nm,0.3s,baz=353,slow=5.0,SNR=19							
URZ				Sn		**S**	**17 29 08.0**	**-11**
	3.0nm,0.3s,baz=8.5,slow=22,SNR=10							
URZ	**Urewera**	**16.22**	**200**	PN		**P**	**17 26 18.1**	**-2.7**
URZ				SN		**S**	**17 29 08.0**	**-11**
DZM	**Mont Dzumac**	**16.29**	**270**	Pn		**P**	**17 26 26.3**	**+4.6**
	0.2nm,0.3s,baz=83,slow=17,SNR=3.5							
DZM				LR		LR	17 30 20.6	
	comp=Z,672nm,20.9s,baz=34,slow=29							
BFZ	**Birch Farm**	**18.71**	**199**	SN		**S**	**17 29 57.6**	**-18**
NNZ	**Nelson**	**20.15**	**204**	SN		**S**	**17 30 33.9**	**-12**
THZ	**Tophouse**	**20.80**	**204**	PN		**P**	**17 27 07.6**	**-6.7**
THZ				SN		**S**	**17 30 48.2**	**-11**
LTZ	**Lake Taylor**	**21.92**	**204**	PN		**P**	**17 27 24.9**	**-0.6**
MQZ	**McQueen's Vall**	**22.59**	**202**	SN		**S**	**17 31 24.1**	**-7.7**
RPZ	**Rata Peaks**	**23.18**	**204**	P		**P**	**17 27 37.9**	**+0.1**
	14nm,0.5s,mb4.7,baz=274,slow=1.9,SNR=8.9							
RPZ				S		**S**	**17 31 40.1**	**-2.2**
	16nm,0.7s,

comp=Z,126nm,20.0s,MS3.9
WRA Warramunga Arr 46.17 264 P **P** **17 30 55.5 -1.4**
comp=Z,24nm,0.8s,mb5.2,baz=96,slow=8.4,SNR=181
WRA S **S** **17 37 34.0 -4.8**
comp=Z,1.6nm,0.6s,baz=99,slow=14,SNR=10.0
FORT Forrest 50.05 249 *eP* **P** **17 31 26.2 -0.7**
comp=Z,51nm,0.7s,mb5.7
FITZ Fitzroy Crossi 54.59 264 ⇓*iP* **P** **17 32 00.0 -1.0**
comp=Z,36nm,0.8s,mb5.5
FITZ *eS* **S** **17 39 34.7 -0.8**
SBA Scott Base 55.41 184 *eP* **P** **17 32 07.9 +1.7**
SBA pmax pmax
comp=Z,58nm,1.5s,mb5.4
SBA Scott Base 55.41 184 *eP* **P** **17 32 07.8 +1.7**
comp=Z,58nm,1.5s,mb5.4
VNDA Vanda 55.50 186 P **P** **17 32 08.2 +1.4**
comp=Z,7.5nm,1.0s,mb4.7,baz=355,slow=7.1,SNR=15
VNDA LR LR 17 50 17.9
comp=Z,102nm,19.9s,MS3.9,baz=1.4,slow=30
VNDA Vanda 55.50 186 *eP* **P** **17 32 08.0 +1.2**
VNDA pmax pmax
comp=Z,10.0nm,1.1s
VNDA MLR MLR
comp=Z,165nm,21.0s
VNDA Vanda 55.50 186 *eP* **P** **17 32 08.0 +1.2**
comp=Z,10nm,1.1s,mb4.8
VNDA LR LR
comp=Z,165nm,21.0s,MS4.1
KLBR Kellerberrin 58.70 246 *eP* **P** **17 32 28.3 -1.8**
comp=Z,174nm,2.0s,mb5.7
MBWA Marble Bar 59.16 258 *eP* **P** **17 32 32.0 -1.4**
comp=Z,18nm,0.9s,mb5.1
MUN Mundaring 59.94 245 *eP* **P** **17 32 39.7 +1.1**
QSPA South Pole Qui 66.97 180 *eP* **P** **17 33 24.8 +0.8**
comp=Z,51nm,1.2s,mb5.4
MIR Mirnyy 69.44 205 *diP* **P** **17 33 39.4 -0.2**
MIR pmax pmax
comp=Z,57nm,1.6s,mb5.2
MJAR Matsushiro Arr 73.43 323 LR LR 18 00 35.4
comp=Z,181nm,20.1s,MS4.3,baz=130,slow=31
MAW Mawson 79.75 199 P **P** **17 34 40.5 +1.6**
comp=Z,20nm,1.0s,mb5.0,baz=126,slow=7.2,SNR=21
MAW LR LR 18 09 55.6
comp=Z,118nm,18.8s,MS4.2,baz=67,slow=36
MAW Mawson 79.75 199 *eP* **P** **17 34 39.3 +0.4**
MAW pmax pmax
comp=Z,41nm,1.2s
MAW Mawson 79.75 199 *eP* **P** **17 34 39.3 +0.4**
comp=Z,41nm,1.2s,mb5.2
SSE Sheshan 80.81 309 *eP* **P** **17 34 51.1 +5.8**
SSE AP pP 17 35 00.8 +1.9
SSE XP sP 17 35 05.3 +1.3
SSE PP PP 17 37 56.6 +4.9
SSE S S 17 44 58.1 +10
SSE AMB AMB
comp=Z,20nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,190nm,5.2s
SSE LR LR
comp=N,40nm,31.5s,MS3.9
SSE LR LR
comp=E,80nm,31.5s,MS3.9
SSE LR LR
comp=Z,100nm,35.6s,MS3.9
NVAR Mina Array Bea 81.65 42 P **P** **17 34 50.0 +0.5**
comp=Z,5.4nm,1.0s,mb4.4,baz=232,slow=11,SNR=16
NVAR Mina Array Bea 81.65 42 P **P** **17 34 50.0 +0.5**
TPNV Topopah Spring 82.05 44 *eP* **P** **17 34 50.5 -1.1**
TPNV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TPNV Topopah Spring 82.05 44 *eP* **P** **17 34 50.5 -1.1**
comp=Z,6.3nm,1.0s,mb4.5
NEN Nelson 82.20 46 *eP* **P** **17 34 52.7 +0.3**
NJ2 Nanjing 83.00 309 *eP* **P** **17 34 56.8 +0.3**
NJ2 AP pP 17 35 06.5 -3.7
NJ2 XP sP 17 35 09.3 -5.9
NJ2 PP PP 17 38 09.9 +0.5
NJ2 S S 17 45 12.0 +1.3
NJ2 XS 17 45 31.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,130nm,10.0s
NJ2 LR LR
comp=Z,420nm,28.7s,MS4.7
MDJ Mudanjiang 83.74 324 P **P** **17 35 02.1 +2.1**
MDJ AP pP 17 35 11.0 -2.7
MDJ XP sP 17 35 14.8 -3.9
MDJ S S 17 45 24.4 +6.6
MDJ XS 17 45 40.6
MDJ SS SS 17 50 53.0 +4.6
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,330nm,4.4s
MDJ LR LR
comp=Z,100nm,30.1s,MS4.0
WVOR Wild Horse Val 83.94 39 *eP* **P** **17 35 01.0 -0.1**
WVOR pmax pmax
comp=Z,24nm,1.3s,mb5.2
WVOR Wild Horse Val 83.94 39 *eP* **P** **17 35 01.0 -0.1**
comp=Z,24nm,1.3s,mb5.2
ARUT Antelope Range 84.35 45 *eP* **P** **17 35 03.5 +0.2**
SYO Syowa Base 84.59 192 ⇑P **P** **17 35 03.3 -0.5**
SYO Syowa Base 84.59 192 ⇓PcP PcP 17 35 05.5 -2.2
SYO Syowa Base 84.59 192 *eP* **P** **17 35 03.3 -0.5**
SYO ⇓*e*PcP PcP 17 35 05.5 -2.2
SNAA Sanae 85.35 178 *eP* **P** **17 35 08.0 +0.5**
SNAA Sanae 85.35 178 *eP* **P** **17 35 07.5 +0.1**
comp=Z,37nm,1.0s,mb5.5
CN2 Changchun 85.52 322 *eP* **P** **17 35 11.3 +2.4**
MSU Marysvale 85.58 45 *eP* **P** **17 35 10.0 +0.6**
PLCA Paso Flores 86.11 133 P **P** **17 35 12.7 +0.8**
comp=Z,7.2nm,1.1s,mb4.8,baz=253,slow=7.5,SNR=4.3
PLCA LR LR 18 05 23.2
comp=Z,36nm,21.6s,MS3.7,baz=86,slow=30
LAZ Ladron 86.82 51 *eP* **P** **17 35 15.9 +0.3**
TXAR Lajitas Array 86.89 56 P **P** **17 35 16.0 0.0**
comp=Z,6.2nm,0.9s,mb4.8,baz=211,slow=7.3,SNR=38
TXAR LR LR 18 08 20.4
comp=Z,88nm,18.2s,MS4.2,baz=145,slow=32
TXAR Lajitas Array 86.89 56 P **P** **17 35 16.0 0.0**
TXAR LR LR 18 08 20.4
SRU San Rafael 86.99 45 *eP* **P** **17 35 16.2 -0.1**
SRU pmax pmax
comp=Z,16nm,1.4s,mb5.1
SRU San Rafael 86.99 45 *eP* **P** **17 35 16.2 0.0**
comp=Z,16nm,1.4s,mb5.1
BNM Barren Site 87.06 51 *eP* **P** **17 35 15.6 -1.1**
LPM Los Pinos Moun 87.13 51 *eP* **P** **17 35 17.6 +0.6**
ANMO Albuquerque 87.58 50 ⇑*eP* **P** **17 35 19.9 +0.7**
GDL2 Guadalupe Moun 87.74 54 *eP* **P** **17 35 20.2 +0.2**
TNA Tin City 88.61 3 *eP* **P** **17 35 23.3 0.0**
comp=Z,13nm,1.4s,mb5.0
MCMT McKenzie Canyo 88.74 39 *eP* **P** **17 35 24.5 0.0**
ENH Enshi 89.06 303 *eP* **P** **17 35 27.2 +0.8**
comp=Z,11nm,0.9s,mb5.2
MCK McKinley 89.12 12 *eP* **P** **17 35 25.3 -0.5**
MCK pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
MCK MLR MLR
comp=Z,130nm,20.0s,MS4.3
MCK McKinley 89.12 12 *eP* **P** **17 35 25.2 -0.6**
comp=Z,9.2nm,1.0s,mb5.1
MCK LR LR
comp=Z,130nm,20.0s,MS4.3
PDAR Pinedale Array 89.58 42 P **P** **17 35 27.9 -0.6**
comp=Z,1.3nm,0.9s,mb4.3,baz=225,slow=2.1,SNR=9.6
PDAR LR LR 18 10 43.8
comp=Z,81nm,20.6s,MS4.1,baz=242,slow=32
CHMT Chamberlain Mo 89.70 38 *eP* **P** **17 35 27.3 -1.7**
COLA College 90.36 12 *eP* **P** **17 35 30.7 -0.9**
COLA pmax pmax
comp=Z,18nm,1.1s,mb5.3
COLA College 90.36 12 *eP* **P** **17 35 30.7 -0.9**
comp=Z,18nm,1.1s,mb5.3
HRY Holter Researc 90.39 38 *eP* **P** **17 35 31.7 -0.5**
ILAR Eielson Array 90.45 12 P **P** **17 35 31.4 -0.7**
comp=Z,4.4nm,1.0s,mb4.8,baz=226,slow=5.6,SNR=24
ILAR LR LR 18 07 57.1
comp=Z,96nm,21.6s,MS4.2,baz=185,slow=30
IMA2 Indian Mountai 90.51 9 *eP* **P** **17 35 32.0 -0.3**
GCMT Greycliff 91.14 40 *eP* **P** **17 35 36.4 +0.7**
DAWY Dawson 91.46 15 *eP* **P** **17 35 36.9 +0.2**
BILL Bilibino 91.83 353 *eP* **P** **17 35 38.6 +0.2**
BILL pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
BILL Bilibino 91.83 353 *eP* **P** **17 35 37.9 -0.5**
comp=Z,7.5nm,1.1s,mb4.9
KMI Kunming 92.21 296 P **P** **17 35 43.3 +2.1**
KMI S S 17 46 40.6 +3.1
KMI SS SS 17 52 54.0 +2.2
KMI SSS SSS 17 56 32.6 +2.4
KMI LR LR
comp=Z,110nm,35.1s,MS4.1
HHC Hu-ho-hao-te 92.52 314 *eP* **P** **17 35 43.3 +1.1**
HHC AP pP 17 35 54.3 -1.8
HHC XP sP 17 35 58.1 -2.8
HHC PP PP 17 39 30.9 +4.4
HHC SKS SKS 17 46 11.8 +1.7
HHC S S 17 46 43.8 +3.9
HHC XS 17 47 01.3
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,210nm,4.1s
HHC LR LR
comp=N,150nm,14.3s,MS4.7
HHC LR LR
comp=E,150nm,14.3s,MS4.7
HHC LR LR
comp=Z,220nm,15.5s,MS4.7
EDM Edmonton 93.28 32 *eP* **P** **17 35 44.0 -1.4**
RSSD Black Hills 93.73 43 *eP* **P** **17 35 47.0 -0.6**
RSSD pmax pmax
comp=Z,12nm,1.1s,mb5.2
RSSD Black Hills 93.73 43 *eP* **P** **17 35 47.0 -0.7**
comp=Z,12nm,1.1s,mb5.2
YAK Yakutsk 95.24 337⇑*eP* **P** **17 35 54.2 +0.1**
LZH Lanzhou 95.85 307 *eP* **P** **17 35 59.5 +2.0**
LZH AP pP 17 36 10.5 -0.9
LZH XP sP 17 36 14.3 -1.8
LZH PP PP 17 39 54.5 +2.3
LZH *e*SKS SKS 17 46 32.0 +3.5
LZH *e*S S 17 47 12.3 +3.8
LZH XS 17 47 30.3
LZH *e*SS SS 17 53 46.5 +3.3
LZH AMB AMB
comp=Z,20nm,1.6s,mb5.3
LZH AMB AMB
comp=Z,60nm,4.5s
LZH LR LR
comp=N,350nm,18.9s
LZH LR LR
comp=Z,530nm,19.6s,MS5.0
YKA Yellowknife Ar 98.09 24 P **P** **17 36 06.3 -0.7**
comp=Z,1.0nm,0.9s,mb4.4,baz=236,slow=4.2,SNR=12
YKA Yellowknife Ar 98.09 24 P **P** **17 36 06.3 -0.7**
SONM Songino Array 98.96 318 LR LR 18 20 47.5
comp=Z,95nm,18.1s,MS4.3,baz=162,slow=35
LPAZ La Paz 99.32 112 P **P** **17 36 15.1 +1.4**
comp=Z,1.2nm,0.7s,mb4.5,baz=168,slow=9.0,SNR=7.6
LPAZ LR LR 18 11 28.4
comp=Z,53nm,19.1s,MS4.1,baz=226,slow=30
LPAZ La Paz 99.32 112 P **P** **17 36 15.1 +1.4**
LPAZ LR LR 18 11 28.4
WMQ Urumqi 110.06 310 *e*PDIF Pdif 17 37 01.9 +1.3
WMQ PP PP 17 41 40.1 +0.5
WMQ SKS SKS 17 48 10.3 +35
WMQ SS SS 17 56 59.3 +0.4
WMQ PP PP
comp=Z,50nm,4.8s
WMQ LR LR
comp=N,440nm,20.0s,MS5.2
WMQ LR LR
comp=E,440nm,22.0s,MS5.2
WMQ LR LR
comp=Z,490nm,22.4s,MS5.0
MKAR Makanchi Array 114.36 312 PKP PKPdf 17 41 09.4 +0.1
comp=Z,0.6nm,0.5s,baz=177,slow=0.7,SNR=17
KURK Kurchatov 117.19 316⇑*i*PKIKP PKPdf 17 41 15.9 +1.3
KURK Kurchatov 117.19 316 *eP* PKPdf 17 41 14.5 -0.2
CHKZ Chkalovo 122.11 320 *e*PKIKP PKPdf 17 41 23.8 -0.3
BRVK Borovoye 122.35 319 *e*PKIKP PKPdf 17 41 24.3 -0.3
ZRNK Zerenda 123.13 319 *e*PKIKP PKPdf 17 41 26.0 -0.2
ARU Arti 128.42 325 *e*PKIKP PKPdf 17 41 36.6 +0.4
ARU Arti 128.42 325 *e*PKPdf PKPdf 17 41 37.3 +1.1
ARCES ARCESS Array B 131.82 350 PKP PKPdf 17 41 42.9 +0.6
comp=Z,3.1nm,0.7s,baz=18,slow=1.8,SNR=10
ARCES ARCESS Array B 131.82 350 PKP PKPdf 17 41 42.9 +0.6
FINES FINESS Array B 138.80 344 PKhKP 17 41 46.5
comp=Z,1.5nm,0.8s,baz=104,slow=7.9,SNR=4.4
FINES FINESS Array B 138.80 344 PKP 17 41 46.5
KMBO Kilima Mbogo 139.69 238 PKP PKPdf 17 41 59.9 +1.5
comp=Z,3.1nm,0.9s,baz=242,slow=4.9,SNR=5.2
OBN Obninsk 139.95 331 *i* PKIKP PKPdf 17 41 58.3 +0.6
OBN pmax pmax
comp=Z,17μm,1.3s
NB2 NORSAR Subarra141.77 354 PKPbc 17 41 55.0
comp=Z,4.2nm,1.0s,baz=20,slow=4.8
NOA NORSAR Array B141.77 354 PKhKP 17 41 55.9
comp=Z,3.0nm,1.0s,baz=17,slow=4.8,SNR=4.0
NOA NORSAR Array B141.77 354 PKP 17 41 55.9
HFS Hagfors 142.39 352 PKhKP 17 41 57.6
comp=Z,4.2nm,0.8s,baz=72,slow=4.7,SNR=8.8
BLJS Baljurashi 144.97 272 P PKPdf 17 42 10.6 +3.2
SUW Suwalki 145.94 340 *e*PKP PKPdf 17 42 10.2 +2.2
SUW Suwalki 145.94 340 *e*PKP PKPdf 17 42 10.2 +2.2
LTHS Al Lith 146.14 272 P PKPdf 17 42 13.2 +3.8
AKASG Malin Array Be 146.21 331 PKPbc PKPbc 17 42 10.3 +0.6
comp=Z,9.0nm,0.5s,baz=39,slow=4.0,SNR=75
MUD Monsted U'grnd 146.49 355 *i* P PKPdf 17 42 12.0 +3.1
comp=Z,32nm,1.0s
MUD *i* 17 42 25.1
MUD Monsted U'grnd 146.49 355 *i* PKP2 PKPab 17 42 12.0 -1.5
MUD pmax pmax
comp=Z,32nm,1.0s
MALT Malatya 147.00 305 *e*PKP2 PKPab 17 42 14.4 -1.7
DCN Croghan 148.62 13 *e*P PKPdf 17 42 17.1 +4.6
BSEG Bad Segeberg 148.86 353 *e*PKP2 PKPab 17 42 18.4 -4.6
KIS Kishinev 148.95 326 *e*PKP2 PKPab 17 42 19.0 -4.6
UMJS Umm Lajj 149.61 281 P PKPdf 17 42 22.5 +7.6
KWP Kalwaria 149.74 336 *e*PKP PKPdf 17 42 20.8 +6.5
KWP Kalwaria 149.74 336 *e*PKP PKPdf 17 42 20.8 +6.4
BR131 Keskin Array S 149.98 310 *e*PKPbc PKPdf 17 42 21.0 +5.9
BRTR Keskin Array B 149.98 310 PKPbc PKPdf 17 42 21.2 +6.1
comp=Z,6.8nm,0.9s,baz=127,slow=4.3,SNR=17
BURAR Bucovina Array 150.26 330⇑P PKPdf 17 42 22.5 +7.2
BURAR Bucovina Array 150.26 330⇑*iP* PKPdf 17 42 22.5 +7.2
OJC Ojcow 150.27 339 *e*PKP PKPdf 17 42 22.1 +6.9
TBKS Tabuk 150.31 287 P PKPdf 17 42 24.2 +8.3
STHS Stebnicka Huta 150.46 337 *i* PKP PKPdf 17 42 22.7 +7.2
STHS *e* 17 42 36.0
KOLS Kolonicke sedl 150.47 335 *i* PKP PKPdf 17 42 22.7 +7.2
CFR Carcaliu 150.50 324⇑P PKPdf 17 42 21.6 +5.9
CFR Carcaliu 150.50 324⇑P PKPdf 17 42 21.6 +5.9
KSP Ksiaz 150.72 344 *e*PKP PKPdf 17 42 23.5 +7.6
KSP Ksiaz 150.72 344 *e*PKP PKPdf 17 42 17.7 +1.8
KSP *e*PKPdf PKPdf 17 42 23.4 +7.5
KSP *e*pPKP 17 42 30.5
NIE Niedzica 150.78 338 *e*PKP PKPdf 17 42 24.0 +8.0
VRI Vrincioaia 150.78 326⇓P PKPdf 17 42 22.6 +6.5
VRI Vrincioaia 150.78 326⇓P PKPdf 17 42 22.6 +6.5
CRVS Cervenica-Dubn 150.80 336 *i* PKP PKPdf 17 42 23.7 +7.7
CLZ Clausthal 150.91 352 *e*PKPdf PKPdf 17 42 18.1 +2.0
CLZ *e*PKPbc PKPdf 17 42 23.9 +7.8
CLL Collm 151.01 348 *i* PKP1 PKPdf 17 42 23.7 +7.4
CLL *i* 17 42 36.2
CLL *e* 17 42 47.0
UPC Upice 151.10 344⇑*e*PKPB PKPdf 17 42 24.4 +8.0
OKC Ostrava-Krasne 151.12 341⇑*e*PKPB PKPdf 17 42 23.8 +7.3
OKC *e*PKPAB PKPab 17 42 35.1 +2.6
WTSB Winterswijk 151.12 356 P 17 42 44.6
DPC Dobruska-Polom 151.17 344⇑*e*PKPB PKPdf 17 42 24.5 +8.0
BRG Berggiesshubel 151.24 347 *e*PKIKP PKPdf 17 42 18.7 +2.1
BRG pmax pmax
comp=Z,14nm,1.6s
BRG Berggiesshubel 151.24 347 *e*PKP PKPdf 17 42 18.7 +2.1
BRG *i* 17 42 24.1
MORC Moravsky Berou 151.35 342 *e*PKIKP PKPdf 17 42 17.5 +0.7
MORC *e* 17 42 24.5
PVCC Panska Ves 151.43 346⇑*e*PKPB PKPdf 17 42 25.2 +8.3
MLR Muntele Rosu 151.44 327 PKPbc PKPdf 17 42 25.0 +7.9
comp=Z,7.9nm,0.6s,baz=113,slow=5.3,SNR=8.4
MLR Muntele Rosu 151.44 327⇓P PKPdf 17 42 25.1 +8.0
MLR Muntele Rosu 151.44 327⇓P PKPdf 17 42 25.1 +8.0
AYUS 'Aynunah 151.44 287 P PKPdf 17 42 26.6 +8.9
KECS Kecovo 151.51 337 *i* PKP PKPdf 17 42 24.4 +7.3
KECS *e* 17 42 34.0
JMOS Jabal al Moall 151.52 289 P PKPdf 17 42 26.4 +8.6
ALWS Ilw as Safayha 151.54 289 P PKPdf 17 42 26.4 +8.6
HAQS Haql 151.68 289 P PKPdf 17 42 26.5 +8.6
MOX Moxa 151.89 350 *i* P PKPdf 17 42 19.4 +1.8
MOX PP2 17 42 26.0
MOX PKP2 PKPab 17 42 36.0 +0.3
MOX Moxa 151.89 350 *eP* PKPdf 17 42 25.6 +8.0
VOIR 151.92 328⇑P PKPdf 17 42 27.0 +9.2
VOIR 151.92 328⇑P PKPdf 17 42 27.0 +9.2
PRU Pruhonice 151.94 346⇑*e*PKPB PKPdf 17 42 25.8 +8.1
PRU *e*PKPAB PKPab 17 42 38.0 +2.1
VRAC Vranov 152.04 342 PKPbc PKPdf 17 42 26.6 +8.7
comp=Z,6.4nm,1.0s,baz=177,slow=1.3,SNR=6.1
VYHS Vyhne 152.08 339 *e*PKP PKPdf 17 42 26.5 +8.6
VYHS *e* 17 42 36.1
NKC Novy Kostel 152.14 348⇑*e*PKPB PKPdf 17 42 27.1 +9.1
NKC *e*PKPAB PKPab 17 42 36.5 -0.3
PSZ Piszkesteto 152.20 337 *e*pPKP/F 17 42 25.9
TNS Taunus Mts 152.72 354 *e*PKPbc PKPdf 17 42 27.9 +9.1
TNS *e*PKPab PKPab 17 42 38.4 -0.8
GRA1 Grafenberg Arr 152.88 350 *e*PKPbc PKPdf 17 42 28.3 +9.3
GRA1 *e*PKPab PKPab 17 42 39.3 -0.6
GRF Grafenberg Arr 152.88 350 *e*PKP PKPdf 17 42 28.3 +9.3
GRF *e*PKP PKPab 17 42 39.3 -0.6
KHC Kasperske Hory 152.96 346⇑*e*PKPDF PKPdf 17 42 20.0 +0.8
KHC ⇑*e*PKPB PKPdf 17 42 28.3 +9.1
KHC *e*PKPAB PKPab 17 42 39.9 -0.4
WET Wettzell 153.10 347 *e*PKPab PKPab 17 42 40.1 -0.7
GE2 GERESS Array S 153.20 346 *e*PKPbc PKPdf 17 42 28.8 +9.3
GERES GERESS Array B 153.20 346 PKPbc PKPdf 17 42 28.5 +9.0
comp=Z,4.4nm,0.9s,baz=45,slow=1.4,SNR=12
FLN La Foliniere 154.16 7 *e*PKIKP PKPdf 17 42 21.9 +1.1
FLN *e*R
comp=Z,132nm,19.8s
LDF La Druitiere 154.36 6 *e*PKIKP PKPdf 17 42 22.0 +0.9
GRR Gorron 154.48 8 *e*PKIKP PKPdf 17 42 22.2 +1.0
BFO Black Forest 154.61 353 *e*PKPbc PKPdf 17 42 31.5 +10
BFO *e*PKPab PKPab 17 42 45.9 -1.3
CDF Champ du Feu 154.62 355 *e*PKIKP PKPdf 17 42 22.3 +0.9
MEZF Maizieres J'vi 154.65 358 *e*PKIKP PKPdf 17 42 22.4 +0.9
HAU Haudompre 155.09 356 *e*PKIKP PKPdf 17 42 23.2 +1.1
HAU *e*R
comp=Z,126nm,22.8s
HINF Hinteralfeld 155.25 355 *e*PKIKP PKPdf 17 42 23.3 +1.0
LOR Lormes 155.90 0 *e*PKIKP PKPdf 17 42 24.6 +1.4
comp=Z,55nm,1.7s
SSF Saint Saulge 156.10 1 *e*PKIKP PKPdf 17 42 24.9 +1.5
AVF Avril sur Loir 156.37 1 *e*PKIKP PKPdf 17 42 24.8 +1.0
CABF La Chapelle 156.50 356 *e*PKIKP PKPdf 17 42 26.0 +2.0
comp=Z,43nm,1.4s
BGF Bois d'Agland 156.59 2 *e*PKIKP PKPdf 17 42 24.4 +0.3
TCF Toulx Ste Croi 156.83 3 *e*PKIKP PKPdf 17 42 25.8 +1.4
comp=Z,12nm,1.1s
LPL La Plagne 157.54 355 *e*PKIKP PKPdf 17 42 26.2 +0.8
ORIF Oris-en-Rattie 158.20 356 *e*PKIKP PKPdf 17 42 26.6 +0.3
ORIF *e*R
comp=Z,101nm,22.8s
LIC Lamto 161.07 151⇑*i*PKIKP PKPdf 17 42 31.6 +1.3
comp=Z,33nm,1.3s
LIC *e*R
comp=Z,230nm,22.5s
DBIC Dimbokro 161.54 151 PKP PKPdf 17 42 32.0 +1.2
comp=Z,4.0nm,1.0s,baz=233,slow=4.1,SNR=4.5
DBIC PKPab PKPab 17 43 17.5 -0.6
comp=Z,5.8nm,0.9s,baz=187,slow=3.9,SNR=6.4
ESDC Sonseca Array 162.15 21 PKP PKPdf 17 42 32.4 +1.8
comp=Z,1.7nm,0.8s,baz=352,slow=6.0,SNR=5.2
ESDC PKPab PKPab 17 43 19.2 -0.8
comp=Z,1.9nm,1.0s,baz=358,slow=1.7,SNR=6.2
MDT Midelt 167.68 36 PKP PKPdf 17 42 38.5 +2.7
comp=Z,2.4nm,1.0s,baz=17,slow=7.1,SNR=3.6
MDT PKPab PKPab 17 43 44.2 -0.1
comp=Z,0.3nm,0.3s,baz=309,slow=6.7,SNR=4.2

CSEM ***18*** *17:49:21.2± 1.1, 39.13N× 28.55W, ML2.2, Error ellipse: s-maj=8.9km s-min=4.3km az=157.0, After PDA*
PDA ***18*** *17:49:21.2± 1.1, 39.13N× 28.55W, MD3.5, ML2.2, Error ellipse: s-maj=8.9km s-min=4.3km az=157.0*
SVSA 18 17:49:21.2± 1.1, 39.13N× 28.55W, MD3.5, ML2.2, Error ellipse: s-maj=8.9km s-min=4.3km az=157.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.46**	**102**	*eP*	Pg	17 49 29.3	-1.0
PGRA				*e*S	Sg	17 49 36.2	-0.1
	95nm,0.3s						
PGRA	**Graciosa**	**0.46**	**102**	*eP*	Pg	17 49 29.3	-1.0
PGRA				*e*S	Sg	17 49 36.2	-0.1
	95nm,0.3s						
ROSA	**Rosais**	**0.47**	**149**	*i* P	Pg	17 49 30.1	-0.5
ROSA				*e*S	Sg	17 49 36.2	-0.7
ROSA	**Rosais**	**0.47**	**149**	*e*S	Sg	17 49 36.2	-0.7
PCED	**Cedros**	**0.51**	**193**	*eP*	Pg	17 49 30.4	-1.0
PCED				*e*S	Sg	17 49 37.1	-1.1
	94nm,0.1s						
PCED	**Cedros**	**0.51**	**193**	*eP*	Pg	17 49 30.4	-1.0
PCED				*e*S	Sg	17 49 37.1	-1.1
	94nm,0.1s						
CALA	**Caldeira**	**0.56**	**192**	*i* P	Pg	17 49 31.5	-0.8
CALA				*e*S	Sg	17 49 39.3	-0.4
CALA	**Caldeira**	**0.56**	**192**	*e*S	Sg	17 49 39.3	-0.4
PMAN	**Manadas**	**0.61**	**144**	*e*S	Sg	17 49 40.2	-1.3
	38nm,0.2s						
PMAN	**Manadas**	**0.61**	**144**	*e*S	Sg	17 49 40.2	-1.3
	38nm,0.2s						
PICO	**Pico**	**0.63**	**171**	*eP*	Pg	17 49 32.5	-1.3
PICO				*e*S	Sg	17 49 41.0	-1.2
PPNO	**Prainha do Nor**	**0.69**	**161**	*eP*	Pg	17 49 33.3	-1.7
PPNO				*e*S	Sg	17 49 42.3	-1.9
	32nm,0.2s						
PSBA	**Serra de Santa**	**1.02**	**110**	*e*S	Sg	17 49 50.6	-4.6
	26nm,0.4s						

NEIC ***18*** *18:10:28.4± 1.0, 26.49N× 127.03E, h35km, mb3.9/1, Error ellipse: s-maj=24.9km s-min=16.9km az=202.0*
IDC ***18*** *18:10:31.0± 4.5, 26.64N× 127.39E, h65km± 61km, mb3.3/3, mb1 3.4/3, mb1mx3.2/19, mbtmp3.6/3, MS4.0/1, Ms1 4.0/1, ms1mx2.9/13, Error ellipse: s-maj=91.6km s-min=25.3km az=63.0*
JMA ***18*** *18:10:31.3± 0.1, 26.75N× 127.33E, h70km± 1km, M3.3*
ISC 18 18:10:30.5± 0.6, 26.72N± 0.06× 127.37E± 0.06, h78km± 5km, n16, σ0°71/24, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.17**	**220**	P	**P**	**18 10 41.8**	**-0.1**
JAGN				S	**S**	**18 10 49.8**	**-0.6**
NAH1	**Naha**	**0.59**	**151**	P	**P**	**18 10 45.2**	**+0.2**
NAH1				S	**S**	**18 10 56.1**	**+0.3**
JIH	**Iheya**	**0.62**	**60**	P	**P**	**18 10 45.8**	**+0.5**
JIH				S	**S**	**18 10 56.0**	**-0.3**
JKE	**Kume jima 2**	**0.65**	**233**	P	**P**	**18 10 45.8**	**+0.1**
JKE				S	**S**	**18 10 56.3**	**-0.6**
JJT2	**Tamagusuku 2**	**0.68**	**149**	P	**P**	**18 10 46.6**	**+0.7**
JJT2				*e*S	**S**	**18 10 57.8**	**+0.5**
JOW	**Kunigami**	**0.82**	**82**	P	**P**	**18 10 48.1**	**+0.6**
	40nm,0.3s,baz=37,slow=14,SNR=129						
JOW				S	**S**	**18 10 59.9**	**-0.3**
	359nm,0.3s,baz=111,slow=24,SNR=78						
JOW	**Kunigami**	**0.82**	**82**	P	**P**	**18 10 48.0**	**+0.5**
JOW				S	**S**	**18 11 00.0**	**-0.2**
JTK	**Tokunoshima**	**1.76**	**53**	P	**P**	**18 11 20.0**	**+0.3**
JTK				*e*S	**S**	**18 11 21.3**	**+0.1**
JAM	**Amami Oshima**	**2.60**	**49**	P	**P**	**18 11 11.4**	**0.0**
JAM				*e*S	**S**	**18 11 41.4**	**-0.5**
JMZ	**Minamidaito 2**	**3.58**	**104**	P	**P**	**18 11 21.7**	**-3.2**
JHJ	**Hachijo jima 2**	**12.51**	**56**	LR	LR	18 18 31.9	
	comp=Z,671nm,19.2s,baz=85,slow=38						
SONM	**Songino Array**	**26.72**	**328**	P	**P**	**18 16 06.4**	**+2.0**
	0.6nm,0.3s,mb3.5,baz=144,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**40.63**	**312**	P	**P**	**18 18 04.0**	**-0.3**
	0.3nm,0.4s,mb3.5,baz=86,slow=10,SNR=9.3						
MKAR	**Makanchi Array**	**40.63**	**312**	P	**P**	**18 18 04.0**	**-0.3**
KURK	**Kurchatov**	**43.93**	**316**	*eP*	**P**	**18 18 30.5**	**-0.6**
	0.6nm,0.3s,mb3.8						
WRA	**Warramunga Arr**	**46.88**	**171**	P	**P**	**18 18 54.2**	**-0.8**
	0.5nm,1.1s,mb3.2,baz=352,slow=8.5,SNR=4.8						

*BJI **18** 18:42:01.7, 43.40S×39.70E, h10km, mB5.3, mb5.2, Ms5.1, Ms2.4.8*
*IDC **18** 18:42:01.6±0.6, 43.36S×39.75E, mb4.2/11, mb1 4.3/11, mb1mx4.1/19, mbtmp4.2/11, MS3.8/10, Ms1 3.8/10, ms1mx3.7/15, Error ellipse: s-maj=28.0km s-min=15.5km az=68.0*
*NEIC **18** 18:42:02.7±0.5, 43.37S×39.71E, h10km, mb4.7/5, Error ellipse: s-maj=22.9km s-min=10.5km az=77.0*

ISC 18 18:42:01.1±0.5, 43.34S±0.08×39.8E±0.2, h10km, n37, σ1§02/22, mb4.3/13, MS4.0/13, 2C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
LBTB	**Lobatse**	**21.66**	**323**	P		**P**		**18 46 53.3**	**-0.4**
	22nm,1.1s,mb4.5,baz=170,slow=7.4,SNR=9.1								
LBTB				LR		LR		18 54 17.0	
	comp=Z,280nm,18.2s,MS3.7,baz=166,slow=34								
LBTB	**Lobatse**	**21.66**	**323**	*e*P		**P**		**18 46 53.2**	**-0.5**
	57nm,1.4s,mb4.8								
MATP	**Matopo**	**24.72**	**334**	P		**P**		**18 47 23.6**	**-0.2**
	19nm,1.2s,mb4.5,baz=170,slow=10,SNR=12								
MATP				LR		LR		18 55 47.9	
	comp=Z,268nm,18.8s,MS3.8,baz=134,slow=33								
OPO	**Ambohidratompo**	**25.48**	**17**	P		**P**		**18 47 31.7**	**+0.7**
	5.7nm,1.1s,mb4.0,baz=171,slow=13,SNR=2.4								
SYO	**Syowa Base**	**25.73**	**180**	⇑P		**P**		**18 47 34.7**	**+1.8**
SYO	**Syowa Base**	**25.73**	**180**	⇑*e*P		**P**		**18 47 34.7**	**+1.8**
MAW	**Mawson**	**27.28**	**161**	P		**P**		**18 47 47.0**	**-0.1**
	2.7nm,0.9s,mb3.8,baz=308,slow=17,SNR=4.1								
MAW				LR		LR		18 55 46.5	
	comp=Z,185nm,20.4s,MS3.6,baz=257,slow=30								
LSZ	**Lusaka**	**29.67**	**337**	P		**P**		**18 48 09.4**	**+0.2**
	14nm,1.1s,mb4.6,baz=171,slow=10,SNR=13								
LSZ				LR		LR		18 57 53.0	
	comp=Z,148nm,21.3s,MS3.6,baz=190,slow=32								
LSZ	**Lusaka**	**29.67**	**337**	*e*P		**P**		**18 48 08.4**	**-0.8**
	25nm,1.3s,mb4.8								
SNAA	**Sanae**	**35.05**	**202**	P		**P**		**18 48 55.9**	**+0.3**
	1.3nm,0.9s,mb3.9,baz=85,slow=5.7,SNR=8.4								
SNAA	**Sanae**	**35.05**	**202**	*e*P		**P**		**18 48 55.7**	**0.0**
	7.7nm,1.0s,mb4.6								
KMBO	**Kilima Mbogo**	**42.09**	**356**	P		**P**		**18 49 57.0**	**+2.1**
	0.6nm,0.4s,mb3.6,baz=45,slow=21,SNR=3.2								
KMBO				LR		LR		19 05 33.5	
	comp=Z,282nm,18.7s,MS4.2,baz=91,slow=34								
QSPA	**South Pole Qui**	**46.87**	**180**	*e*P		**P**		**18 50 31.8**	**-0.7**
	14nm,1.2s,mb4.8								
VNDA	**Vanda**	**54.33**	**167**	LR		LR		19 14 48.9	
	comp=Z,76nm,18.5s,MS3.8,baz=219,slow=36								
DBIC	**Dimbokro**	**64.09**	**309**	P		**P**		**18 52 36.6**	**-1.1**
	0.9nm,0.8s,mb3.9,baz=122,slow=16,SNR=1.8								
DBIC				LR		LR		19 16 59.9	
	comp=Z,56nm,20.6s,MS3.7,baz=51,slow=33								
DBIC	**Dimbokro**	**64.09**	**309**	*e*P		**P**		**18 52 36.6**	**-1.2**
	1.9nm,0.7s,mb4.2								
PLCA	**Paso Flores**	**75.40**	**227**	LR		LR		19 21 29.3	
	comp=Z,54nm,19.6s,MS3.9,baz=179,slow=31								
STKA	**Stephens Creek**	**76.58**	**121**	P		**P**		**18 53 53.5**	**+0.3**
	5.0nm,0.8s,mb4.5,baz=226,slow=5.0,SNR=9.5								
STKA	**Stephens Creek**	**76.58**	**121**	*e*P		**P**		**18 53 51.3**	**-2.0**
BDFB	**Brasilia**	**77.85**	**260**	LR		LR		19 23 24.3	
	comp=Z,73nm,18.7s,MS4.0,baz=288,slow=32								
WRA	**Warramunga Arr**	**79.80**	**108**	P		**P**		**18 54 11.5**	**+0.3**
	2.0nm,0.9s,mb4.0,baz=224,slow=4.6,SNR=14								
BRTR	**Keskin Array B**	**82.87**	**355**	P		**P**		**18 54 28.4**	**+1.5**
	1.6nm,1.0s,mb4.0,baz=162,slow=3.9,SNR=3.8								
KMI	**Kunming**	**89.33**	**54**	P		**P**		**18 54 58.0**	**-1.0**
KMI				S		S		19 05 45.3	-1.2
KMI				LR		LR			
	comp=Z,100nm,36.4s,MS4.0								
LPAZ	**La Paz**	**91.41**	**246**	LR		LR		19 30 53.2	
	comp=Z,44nm,18.4s,MS3.9,baz=285,slow=32								
WMQ	**Urumqi**	**96.78**	**33**	*e*P		**P**		**18 55 31.6**	**-1.2**
WMQ				AP		pP		18 55 38.6	+2.6
WMQ				AMB		AMB			
	comp=Z,30nm,4.8s								
WMQ				LR		LR			
	comp=N,250nm,20.0s,MS4.8								
WMQ				LR		LR			
	comp=E,260nm,22.0s,MS4.8								
WMQ				LR		LR			
	comp=Z,300nm,21.0s,MS4.8								
LZH	**Lanzhou**	**98.20**	**47**	*e*P		**P**		**18 55 39.1**	**-0.3**
LZH				AP		pP		18 55 44.0	+1.4
LZH				PP		PP		18 59 42.0	+0.2
LZH				*e*SKS		SKS		19 06 15.3	-5.7
LZH				*e*S		S		19 07 03.1	-0.2
LZH				*e*SS		SS		19 13 50.3	0.0
LZH				AMB		AMB			
	comp=Z,10.0nm,1.6s,mb5.1								
LZH				AMB		AMB			
	comp=Z,20nm,4.5s								
LZH				LR		LR			
	comp=N,350nm,18.6s								
LZH				LR		LR			
	comp=Z,540nm,19.8s,MS5.0								
RKT	**Rikitea**	**113.70**	**185**	*e*LR		LR		19 34 08.9	
	comp=Z,88nm,33.0s								
CN2	**Changchun**	**115.59**	**53**	*e*PKP		PKPdf		19 00 45.3	-0.8
MDJ	**Mudanjiang**	**118.50**	**54**	PKP		PKPdf		19 00 48.8	-3.0
PPT	**Papeete**	**118.79**	**170**	*e*LR		LR		19 36 30.9	
	comp=Z,75nm,30.2s								
TXAR	**Lajitas Array**	**147.67**	**257**	PKPbc		PKPdf		19 01 47.3	+1.3
	comp=Z,2.1nm,0.9s,baz=135,slow=2.3,SNR=12								
ULM	**Lac du Bonnet**	**149.23**	**299**	PKPbc		PKPdf		19 01 51.3	+3.5
	comp=Z,1.9nm,0.9s,baz=243,slow=2.3,SNR=2.9								
CPRX	**Cap Rock**	**149.83**	**262**	*e*PKPbc		PKPdf		19 01 52.1	+2.8
MNTX	**Cornudas Mount**	**150.22**	**259**	*e*PKPbc		PKPdf		19 01 51.3	+1.3
INK	**Inuvik**	**154.72**	**354**	PKPab		PKPab		19 02 19.0	+0.8
	comp=Z,3.3nm,1.1s,baz=4.9,slow=5.5,SNR=4.8								
YKA	**Yellowknife Ar**	**155.66**	**331**	PKPab		PKPab		19 02 22.6	+0.3
	comp=Z,0.5nm,0.8s,baz=48,slow=4.3,SNR=6.5								
ILAR	**Eielson Array**	**158.20**	**8**	PKPab		PKPab		19 02 32.9	-0.3
	comp=Z,0.5nm,1.0s,baz=326,slow=3.3,SNR=4.1								

*NEIC **18** 19:11:50.9±0.8, 2.23N×92.99E, mb4.2/3, Error ellipse: s-maj=18.2km s-min=10.1km az=202.0*
*IDC **18** 19:11:51.8±1.7, 2.26N×93.09E, h32km±7km, mb3.7/5, mb1 3.9/6, mb1mx3.6/18, mbtmp4.0/6, ML3.9/1, MS3.7/10, Ms1 3.7/10, ms1mx3.6/20, Error ellipse: s-maj=46.9km s-min=20.1km az=51.0*

ISC 18 19:11:49.4±1.0, 2.3N±0.1×93.11E±0.07, h33km, (h32km±1.0km:pP-P), n20, σ1§08/14, mb4.1/8, MS3.8/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PSI	**Prapat**	**5.83**	**85**	Pn		**Pn**		**19 13 16.9**	**+0.9**
	3.5nm,0.3s,baz=286,slow=6.9,SNR=11								
PSI				Sn		**Sn**		**19 14 21.4**	**-1.1**
	5.0nm,0.3s,baz=112,slow=12,SNR=4.9								
KULM	**Kulim**	**8.09**	**68**	*e*P		**P**		**19 13 46.9**	**-0.5**
PALK	**Pallekele**	**13.32**	**292**	*e*P		**P**		**19 14 55.5**	**-3.2**
PALK				*e*S		**S**		**19 17 10.2**	**-16**
LSA	**Lhasa**	**27.33**	**356**	*e*P		**P**		**19 17 35.1**	**+1.6**
	2.6nm,0.4s,mb4.1								
ENH	**Enshi**	**31.87**	**28**	P		**P**		**19 18 12.8**	**-1.2**
	2.2nm,0.5s,mb4.2								
MKAR	**Makanchi Array**	**45.33**	**350**	P		**P**		**19 20 06.4**	**+0.2**
	1.4nm,0.7s,mb3.9,baz=171,slow=8.8,SNR=30								
MKAR				pP		pP		19 20 16.5	+0.4
	0.8nm,0.4s,baz=172,slow=8.5,SNR=8.3								
MKAR				LR		LR		19 41 12.7	
	comp=Z,52nm,20.9s,MS3.5,baz=136,slow=39								
WRA	**Warramunga Arr**	**46.09**	**121**	P		**P**		**19 20 13.1**	**+0.5**
	0.7nm,0.5s,mb3.8,baz=299,slow=8.8,SNR=8.4								
SONM	**Songino Array**	**46.81**	**12**	P		**P**		**19 20 18.8**	**+0.9**
	0.7nm,0.6s,mb3.8,baz=195,slow=8.7,SNR=6.1								
SONM				pP		pP		19 20 28.1	+0.4
	0.9nm,0.7s,baz=198,slow=7.1,SNR=4.6								
SONM				LR		LR		19 42 22.4	
	comp=Z,103nm,18.3s,MS3.8,baz=274,slow=39								
KURK	**Kurchatov**	**49.79**	**348**	*e*P		**P**		**19 20 40.7**	**-0.3**
	0.8nm,0.5s,mb4.0								
ZAL	**Zalesovo**	**51.94**	**354**	P		**P**		**19 20 57.7**	**+0.5**
	2.6nm,0.3s,mb4.6,baz=320,slow=4.8,SNR=11								
ZAL				pP		pP		19 21 07.4	+0.3
	1.7nm,0.4s,baz=292,slow=4.2,SNR=5.4								
ZAL				LR		LR		19 44 15.9	
	comp=Z,84nm,18.4s,MS3.8,baz=280,slow=37								
ZAL	**Zalesovo**	**51.94**	**354**	P		**P**		**19 20 57.7**	**+0.5**
ZAL				pP		pP		19 21 07.4	+0.3
ZAL				LR		LR		19 44 15.9	
MJAR	**Matsushiro Arr**	**53.74**	**45**	LR		LR		19 47 30.3	
	comp=Z,148nm,18.0s,MS4.1,baz=185,slow=40								
KMBO	**Kilima Mbogo**	**55.95**	**267**	LR		LR		19 40 36.2	
	comp=Z,60nm,21.0s,MS3.7,baz=91,slow=31								
STKA	**Stephens Creek**	**57.13**	**131**	P		**P**		**19 21 35.6**	**+0.1**
	1.5nm,1.0s,mb4.0,baz=220,slow=18,SNR=3.9								
MAW	**Mawson**	**72.89**	**192**	LR		LR		19 48 39.5	
	comp=Z,62nm,19.8s,MS3.9,baz=67,slow=30								
FINES	**FINESS Array B**	**77.17**	**333**	LR		LR		20 00 50.9	
	comp=Z,35nm,18.4s,MS3.7,baz=150,slow=38								
ARCES	**ARCESS Array B**	**80.16**	**341**	LR		LR		20 03 07.6	
	comp=Z,59nm,19.5s,MS3.9,baz=7.0,slow=38								
NOA	**NORSAR Array B**	**84.08**	**331**	LR		LR		20 04 54.9	
	comp=Z,38nm,18.8s,MS3.8,baz=135,slow=38								
DBIC	**Dimbokro**	**97.64**	**277**	LR		LR		20 04 12.8	
	comp=Z,34nm,19.8s,MS3.8,baz=82,slow=32								
TXAR	**Lajitas Array**	**144.69**	**26**	PKP		PKPdf		19 31 24.8	+1.2
	0.6nm,1.1s,baz=162,slow=2.9,SNR=3.0								

*IDC **18** 19:22:58.6±2.3, 6.04N×126.25E, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/17, Error ellipse: s-maj=210.6km s-min=27.1km az=64.0*

ISC 18 19:23:00.7±1.7, 6.1N±0.3×126.5E±0.7, h33km, n7, σ1§02/5, mb3.7/4, MS3.7/2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**24.11**	**182**	*e*P		**P**		**19 28 14.6**	**0.0**
	7.2nm,1.6s,mb3.9								
WRA	**Warramunga Arr**	**27.04**	**164**	P		**P**		**19 28 43.5**	**+1.3**
	0.7nm,0.4s,mb3.6,baz=342,slow=10,SNR=9.6								
WB2	**Warramunga Arr**	**27.04**	**164**	*e*P		**P**		**19 28 41.3**	**-1.0**
ASAJ	**Asahikawa**	**40.37**	**18**	LR		LR		19 48 54.8	
	comp=Z,73nm,18.1s,MS3.6,baz=179,slow=38								
STKA	**Stephens Creek**	**40.45**	**160**	P		**P**		**19 30 37.7**	**-0.2**
	0.8nm,0.5s,mb3.8,baz=336,slow=10.0,SNR=4.7								
MKAR	**Makanchi Array**	**55.47**	**324**	P		**P**		**19 32 34.7**	**0.0**
	0.3nm,0.7s,mb3.5,baz=119,slow=8.0,SNR=5.5								
YKA	**Yellowknife Ar**	**97.40**	**24**	LR		LR		20 22 44.3	
	comp=Z,36nm,18.1s,MS3.9,baz=90,slow=37								

JMA 18 19:41:44.4±0.2, 25.47N×122.71E, h200km±5km, M3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
YOJ	**Yonaguni jima**	**1.04**	**165**	P		P		19 42 14.6	0.0
IRIF	**Iriomote-Funau**	**1.46**	**140**	P		P		19 42 17.6	-0.5
IRIF				S		S		19 42 44.0	-0.2
JKRS	**Kuro-shima**	**1.70**	**136**	P		P		19 42 20.3	0.0
JKRS				S		S		19 42 48.0	0.0
JIJ	**Ishigaki jima**	**1.71**	**130**	P		P		19 42 19.8	-0.6
JIJ				S		S		19 42 47.1	-1.0
HATJ	**Hateruma jima**	**1.72**	**144**	P		P		19 42 20.5	0.0
HATJ				*e*S		S		19 42 48.1	-0.3
JTJ	**Tarama**	**1.99**	**114**	P		P		19 42 23.2	+0.1
JTJ				*e*S		S		19 42 52.8	-0.1
JMJ	**Miyako jima 2**	**2.43**	**105**	P		P		19 42 27.8	-0.2
JMJ				S		S		19 43 01.0	-0.6
JOGS	**Gusukube**	**2.54**	**106**	P		P		19 42 29.2	-0.1
JOGS				*e*S		S		19 43 02.8	-1.1
JKE	**Kume jima 2**	**3.77**	**76**	P		P		19 42 42.0	-1.9
JAGN	**Aguni-jima**	**4.23**	**74**	P		P		19 42 47.0	-2.7
JJT2	**Tamagusuku 2**	**4.59**	**81**	P		P		19 42 51.6	-2.7
JIH	**Iheya**	**4.97**	**71**	P		P		19 42 55.6	-3.5
JOW	**Kunigami**	**5.18**	**74**	P		P		19 42 57.3	-4.5
JOW				*e*S		S		19 43 54.0	-7.9
JMZ	**Minamidaito 2**	**7.69**	**86**	P		P		19 43 30.2	-4.2

MOS 18 20:05:05.6±1.4, 42.90N×46.86E, h11km, mb3.7/1, 2C-1D, Error ellipse: s-maj=22.1km s-min=15.1km az=103.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KRNR	**Karanay**	**0.08**	**155**	⇑*i*PG		Pg		20 05 07.2	-0.9
KRNR					pmax	pmax			
	comp=Z,174nm,0.2s								
DBC	**Dubki**	**0.12**	**350**	⇑*i*PG		Pg		20 05 09.1	+0.4
DBC					pmax	pmax			
	comp=Z,247nm,0.1s								
UNCR	**Uncukul**	**0.19**	**195**	⇓*i*PG		Pg		20 05 10.0	+0.1
UNCR					pmax	pmax			
	comp=Z,143nm,0.2s								
BUJR	**Buynaksk**	**0.20**	**112**	*i* PG		Pg		20 05 10.6	+0.6
BUJR				*i* S		Sg		20 05 14.6	+1.6
BUJR					pmax	pmax			
	comp=Z,117nm,0.2s								
DLMR	**Dylym**	**0.24**	**315**	*i* PG		Pg		20 05 11.3	+0.5
DLMR				*i* S		Sg		20 05 16.0	+1.8
DLMR					pmax	pmax			
	comp=Z,166nm,0.3s								
MAK	**Makhachkala**	**0.48**	**82**	*i* PG		Pg		20 05 31.0	+16
MAK					pmax	pmax			
	comp=N,510nm,0.8s								
MAK					pmax	pmax			
	comp=E,510nm,0.8s								
BTLR	**Botlikh**	**0.53**	**244**	*e*PG		Pg		20 05 16.6	+0.3
BTLR				*i* S		Sg		20 05 25.1	+1.7
BTLR					pmax	pmax			
	comp=Z,35nm,0.4s								

*CSEM **18** 20:18:21.0±0.2, 42.87N×46.83E, h4km, mb3.7, Error ellipse: s-maj=4.7km s-min=4.2km az=29.0, After OBN*
*TIF **18** 20:18:22.2, 42.87N×46.84E, h6km*

MOS 18 20:18:21.5±0.8, 42.87N×46.83E, h4km, mb3.7/1, 1C-1D, Error ellipse: s-maj=19.1km s-min=14.8km az=104.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KRNR	**Karanay**	**0.07**	**127**	*i* PG		Pg		20 18 24.8	+1.7
KRNR					pmax	pmax			
	comp=Z,498nm,0.2s								
KRNR	**Karanay**	**0.07**	**127**	*i* Pg		Pg		20 18 24.8	+1.7
	comp=Z,498nm,0.2s								
DBC	**Dubki**	**0.15**	**0**	⇑*i*PG		Pg		20 18 25.5	+0.9
DBC				*i* S		Sg		20 18 29.0	+2.4
DBC					pmax	pmax			
	comp=Z,289nm,0.2s								
DBC	**Dubki**	**0.15**	**0**	*i* Pg		Pg		20 18 25.5	+0.9
	comp=Z,289nm,0.2s								
DBC				*i* Sg		Sg		20 18 29.0	+2.4
UNCR	**Uncukul**	**0.16**	**190**	⇓*i*PG		Pg		20 18 26.3	+1.6
UNCR				*e*S		Sg		20 18 30.0	+3.1
UNCR					pmax	pmax			
	comp=Z,143nm,0.2s								
UNCR	**Uncukul**	**0.16**	**190**	*i* Pg		Pg		20 18 26.3	+1.6
	comp=Z,143nm,0.2s								
UNCR				*e*Sg		Sg		20 18 30.0	+3.1
BUJR	**Buynaksk**	**0.21**	**102**	*i* PG		Pg		20 18 27.5	+1.8
BUJR				*i* S		Sg		20 18 31.4	+2.8
BUJR					pmax	pmax			
	comp=Z,130nm,0.2s								
BUJR	**Buynaksk**	**0.21**	**102**	*i* Pg		Pg		20 18 27.5	+1.8
	comp=Z,130nm,0.2s								
BUJR				*i* Sg		Sg		20 18 31.4	+2.8
DLMR	**Dylym**	**0.25**	**324**	*i* PG		Pg		20 18 29.0	+2.5
DLMR				*i* S		Sg		20 18 33.4	+3.6
DLMR					pmax	pmax			
	comp=Z,221nm,0.4s								
DLMR	**Dylym**	**0.25**	**324**	*i* Pg		Pg		20 18 29.0	+2.5
	comp=Z,221nm,0.4s								
DLMR				*i* Sg		Sg		20 18 33.4	+3.6
BTLR	**Botlikh**	**0.49**	**245**	*e*PG		Pg		20 18 33.6	+2.2
BTLR				*e*S		Sg		20 18 41.6	+3.7
MAK	**Makhachkala**	**0.50**	**79**	*i* PG		Pg		20 18 48.0	+16
MAK					pmax	pmax			
	comp=N,680nm,0.8s								
MAK					pmax	pmax			
	comp=E,714nm,0.8s								

*CSEM **18** 20:18:56.8±2.8, 40.71N×54.91E, h10km, mb3.4, Error ellipse: s-maj=72.3km s-min=9.3km az=44.0*
*NNC **18** 20:19:19.2±8.4, 40.47N×54.34E, mb3.4, Error ellipse: s-maj=225.8km s-min=44.5km az=92.0*

*THR **18** 20:19:26.6±0.3, 39.08N×52.47E, h15km, ML2.8*
*TEH **18** 20:19:31.6, 38.47N×53.92E, h10km, Mn3.0*

ISC 18 20:19:07.5±0.7, 40.13N±0.05×53.9E±0.1, h10km, n19, σ1§17/19, 2C-1D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
IGLO	**Galoogah**	**3.83**	**185**	Pn		**Pn**		**20 20 03.8**	**-4.0**
IKIA	**Kiasar**	**3.92**	**183**	Pn		**Pn**		**20 20 08.6**	**-0.5**
IPRN	**Paran-Amol**	**4.09**	**199**	Pn		**Pn**		**20 20 10.2**	**-1.4**
IFIR	**Firoozkooh**	**4.57**	**192**	Lg				20 21 04.4	
IFIR	**Firoozkooh**	**4.57**	**192**	Pn		**Pn**		**20 20 19.3**	**+0.9**
DAMV	**Damavand**	**4.74**	**199**	*e*PN		**Pn**		**20 20 22.2**	**+1.4**
DAMV				AML		AML		20 21 13.6	
	comp=N,33nm,0.4s								
CHTH	**Charan**	**4.75**	**208**	*e*PN		**Pn**		**20 20 20.5**	**-0.4**
CHTH				*e*SG		**Sn**		**20 21 10.8**	**-6.0**
CHTH				AML		AML		20 21 12.8	
	comp=N,13nm,0.6s								
CHTH	**Charan**	**4.75**	**208**	*e*Sg		**Sn**		**20 21 10.8**	**-5.9**
	comp=N,13nm,0.6s,SNR=90								
IDMV	**Damavand**	**4.78**	**199**	Lg				20 21 13.2	
IDMV	**Damavand**	**4.78**	**199**	Pn		**Pn**		**20 20 22.2**	**+0.9**
GRMI	**Germi**	**4.83**	**256**	*e*PN		**Pn**		**20 20 23.8**	**+1.7**
GRMI				*e*SG		**Sn**		**20 21 17.9**	**-1.0**
GRMI				AML		AML		20 21 21.0	
	comp=N,11nm,0.2s								
GRMI	**Germi**	**4.83**	**256**	*e*Pn		**Pn**		**20 20 23.8**	**+1.7**
	SNR=52								
GRMI				*e*Sg		**Sn**		**20 21 17.9**	**-0.9**
	comp=N,11nm,0.2s,SNR=90								
THKV	**Tehran--Karaj**	**4.84**	**211**	*e*PN		**Pn**		**20 20 21.4**	**-0.8**
THKV				AML		AML		20 21 17.1	
	comp=E,42nm,0.4s								
IVRN	**Varamin**	**5.41**	**199**	Lg				20 21 32.6	
IVRN	**Varamin**	**5.41**	**199**	Pn		**Pn**		**20 20 30.2**	**0.0**
ISFB	**Sefidab**	**5.92**	**193**	Lg				20 21 45.9	
ISFB	**Sefidab**	**5.92**	**193**	Pn		**Pn**		**20 20 37.0**	**-0.4**
AB31	**Akbulak array**	**10.08**	**23**	⇑P		**P**		**20 21 39.1**	**+3.6**
	comp=E,0.4nm,0.5s,baz=203,slow=13,SNR=7.2								
AB31				⇓S		**S**		**20 23 27.6**	**-2.1**
	comp=E,0.8nm,0.5s,baz=209,slow=24,SNR=4.7								
AKTO	**Aktyubinsk**	**10.70**	**14**	⇑S		**S**		**20 23 45.5**	**+0.6**
	comp=E,0.3nm,0.7s								

MAN 18 20:19:31.1, 13.63N×125.62E, h7km, mb4.1, ML2.9, MS2.7, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PVCP	**Virac**	**1.42**	**269**	*e*P		Pn		20 19 57.1	-0.3
PVCP				*e*S		Sb		20 20 13.2	-2.6
PLP	**Palo**	**2.52**	**194**	*e*P		Pn		20 20 12.5	-0.7
PLP				*i* S		Sn		20 20 39.9	-4.6
OCLP	**Ormoc**	**2.74**	**201**	*e*P		Pn		20 20 16.0	-0.3
GQP	**Guinayangan**	**3.10**	**276**	⇓*e*P		Pn		20 20 20.8	-0.5
GQP				*e*S		Sn		20 20 54.0	-5.0
RCP	**Roxas**	**3.48**	**234**	⇓*e*P		Pn		20 20 27.0	+0.3
MSLP	**Maasin**	**3.55**	**192**	*e*P		Pn		20 20 28.2	+0.4
POLP	**Polilio Island**	**3.73**	**288**	*e*P		Pn		20 20 30.4	+0.1
POLP				*e*S		Sn		20 21 11.7	-3.4
SCPH	**Surigao**	**3.82**	**182**	*e*P		Pn		20 20 33.5	+1.9
SCPH				*e*S		Sn		20 21 10.0	-7.4
GUIM	**Jordan**	**4.20**	**225**	*e*P		Pn		20 20 36.6	-0.4
CAUP	**Cauayan**	**4.93**	**313**	*e*P		Pn		20 20 46.6	-0.7
APYP	**Conner**	**5.96**	**316**	*e*P		Pn		20 21 01.4	-0.4

*NEIC **18** 20:35:55.5, 17.68N×100.84W, h58km, MD3.9(MEX), After MEX.*

MEX 18 20:35:56.7±0.7, 17.62N×100.75W, h66km±20km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CAIG	**El Cayaco**	**0.73**	**141**	*i* P		P		20 36 10.1	-1.6
CAIG				*i* S		S		20 36 21.0	-2.0
ACX	**Acapulco**	**1.09**	**133**	*e*P		P		20 36 15.0	-1.5
ACX				*i* S		S		20 36 28.0	-3.1
PLIG	**Platanillo**	**1.41**	**57**	*i* P		P		20 36 18.3	-2.6
PLIG				*i* S		S		20 36 37.0	-1.7
MOIG	**Morelia**	**2.09**	**348**	*e*P		P		20 36 27.4	-2.8
MOIG				*i* S		S		20 36 52.9	-2.0
MOIG	**Morelia**	**2.09**	**348**	*e*P		P		20 36 22.9	-7.2
MOIG				*e*S		S		20 36 44.5	-10
PPM	**Popocatepetl**	**2.47**	**54**	*e*P		P		20 36 34.5	-1.1
PPM				*e*S		S		20 37 03.3	-1.3

*NEIC **18** 20:58:11.3, 17.01N×100.11W, h10km, MD3.9(MEX), After MEX.*

MEX 18 20:58:11.0±0.6, 17.03N×100.12W, h7km±5km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CAIG	**El Cayaco**	**0.14**	**279**	*i* P		Pg		20 58 13.5	-0.6
CAIG				*i* S		Sg

AKTO	**Aktyubinsk**	**49.13**	**331**	P		**P**	**21 31 51.0**	**-1.7**
	1.4nm,0.7s,mb4.1,baz=113,slow=7.7,SNR=5.1							
WRA	**Warramunga Arr**	**50.41**	**127**	P		**P**	**21 32 04.6**	**+1.6**
	2.2nm,0.4s,mb4.5,baz=302,slow=10,SNR=43							
WRAB	**Tennant Creek**	**50.42**	**127**	*eP*		**P**	**21 32 04.4**	**+1.3**
STKA	**Stephens Creek**	**62.52**	**135**	P		**P**	**21 33 29.6**	**+0.2**
	0.6nm,0.5s,mb4.0,baz=319,slow=9.3,SNR=3.0							
FINES	**FINESS Array B**	**69.88**	**332**	P		**P**	**21 34 13.5**	**-2.2**
	1.2nm,0.8s,mb3.9,baz=90,slow=7.6,SNR=3.6							
ARCES	**ARCESS Array B**	**72.33**	**340**	P		**P**	**21 34 28.1**	**-2.4**
	2.9nm,0.9s,mb4.2,baz=104,slow=7.4,SNR=3.6							

IDC ***18*** *21:48:37.5±7.0,5.17S×145.33E,h61km±65km,mb3.5/2, mb1 3.9/4,mb1mx3.6/11,mbtmp4.0/4,ML3.7/1,MS2.8/1, Ms1 2.8/1,ms1mx2.5/16,Error ellipse: s-maj=51.7km s-min=32.8km az=120.0*

NEIC ***18*** *21:48:38.2±3.2,5.13S×145.41E,h65km±28km,mb4.3/3, Error ellipse: s-maj=32.5km s-min=17.7km az=147.0*

ISC 18 21:48:37.6±3.8,5.2S±0.2×145.4E±0.1,h71km±32km,n12, σ0§79/14,mb4.0/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.52**	**158**	P	**P**	**21 49 45.8**	**+0.7**
	23nm,0.3s,baz=33,slow=5.7,SNR=76						
PMG				S	**S**	**21 50 36.3**	**-0.6**
	38nm,0.3s,baz=117,slow=23,SNR=19						
PMG	**Port Moresby**	**4.52**	**158**	*eP*	**P**	**21 49 45.4**	**+0.2**
PMG				*eS*	**S**	**21 50 37.3**	**+0.5**
CTA	**Charters Tower**	**14.81**	**177**	P	**P**	**21 52 09.2**	**+4.6**
	0.3nm,0.3s,baz=346,slow=12,SNR=3.0						
CTA				LR	LR	21 57 16.6	
	comp=Z,33nm,19.0s,baz=228,slow=35						
CTA	**Charters Tower**	**14.81**	**177**	P	**P**	**21 52 09.2**	**+4.6**
CTA				LR	LR	21 57 16.6	
WRAB	**Tennant Creek**	**18.17**	**215**	*eP*	**P**	**21 52 45.9**	**-0.8**
	3.4nm,0.6s						
WB2	**Warramunga Arr**	**18.18**	**215**	*eP*	**P**	**21 52 46.8**	**0.0**
WRA	**Warramunga Arr**	**18.18**	**215**	P	**P**	**21 52 46.1**	**-0.8**
	0.4nm,0.3s,baz=34,slow=11,SNR=7.2						
FITZ	**Fitzroy Crossi**	**23.18**	**235**	*eP*	**P**	**21 53 40.7**	**+1.8**
	13nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**26.77**	**187**	P	**P**	**21 54 12.5**	**-0.4**
	2.4nm,1.1s,mb3.6,baz=357,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**26.77**	**187**	*eP*	**P**	**21 54 12.2**	**-0.7**
SBA	**Scott Base**	**73.46**	**175**	*eP*	**P**	**22 00 04.3**	**+0.6**
	3.6nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**85.38**	**23**	P	**P**	**22 01 07.5**	**-0.5**
	0.5nm,0.8s,mb3.5,baz=251,slow=4.5,SNR=4.3						

MAN 18 22:12:09.4,8.13N×122.66E,h3km,mb4.6,ML3.4,MS3.3, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.35**	**195**	*eP*	Pg	22 12 16.3	0.0
IPIL				*eS*	Sg	22 12 21.1	+0.1
PAGZ	**Pagadian**	**0.77**	**111**	*eP*	Pg	22 12 24.9	+0.2
PAGZ				*eS*	Sg	22 12 36.2	+1.3
DCPH	**Dipolog City**	**0.82**	**56**	*eP*	Pg	22 12 25.2	-0.6
DCPH				*i S*	Sg	22 12 38.6	+1.9
SNPH	**Sibulan**	**1.34**	**25**	*eP*	Pb	22 12 34.5	-0.2
BUKP	**Musuan**	**2.39**	**96**	*eP*	Pn	22 12 53.0	+2.9
OTRP	**Odiongan**	**4.25**	**352**	*eP*	Pn	22 13 21.7	+5.1

CRAAG ***18*** *22:15:57.3,36.24N×6.12E,Ml3.5*

CSEM ***18*** *22:15:57.5±0.1,36.12N×6.21E,h30km,ML2.8/2,Error ellipse: s-maj=4.3km s-min=2.6km az=18.0*

MDD ***18*** *22:15:59.6±0.4,36.27N×6.16E,mb4.1/14,Error ellipse: s-maj=5.9km s-min=3.7km az=22.0,PRXIMO SOLUCIN POBRE*

NEIC ***18*** *22:15:59.4±2.6,36.31N×6.29E,h10km,MG4.1(MDD), Error ellipse: s-maj=29.6km s-min=7.5km az=151.0*

LDG ***18*** *22:16:04.0±0.5,36.45N×6.15E,h10km,Ml3.0/7,Error ellipse: s-maj=10.3km s-min=5.2km az=141.0*

ISC 18 22:15:59.0±0.6,36.50N±0.05×6.23E±0.06,h10km,n50, σ1§04/62,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.29**	**280**	P	**Pg**	**22 16 06.5**	**+1.4**
CASM	**Ain Smara**	**0.32**	**139**	P	**Pg**	**22 16 04.0**	**-1.6**
CKFL	**Kef-Lekhel**	**0.41**	**104**	P	**Pg**	**22 16 09.0**	**+1.7**
CTEI	**Djebel Teioual**	**0.46**	**162**	P	**Pg**	**22 16 05.0**	**-3.3**
SET	**Setif**	**0.73**	**246**	P	**Pb**	**22 16 11.0**	**-2.4**
CKHR	**Kef el Ahmar**	**0.75**	**231**	P	**Pb**	**22 16 10.0**	**-3.8**
CMER	**Merouana**	**0.92**	**197**	P	**Pb**	**22 16 08.0**	**-8.5**
EMHD	**Djebel Mahouad**	**2.66**	**265**	P	**Pn**	**22 16 48.0**	**+5.2**
EBNR	**Beni Rached**	**3.80**	**268**	P	**Pn**	**22 17 06.0**	**+7.1**
ECHA	**Ech Chlef**	**3.94**	**266**	P	**Pn**	**22 17 09.0**	**+8.0**
ETRT	**Tiaret**	**4.15**	**256**	P	**Pn**	**22 17 15.0**	**+11**
EAIN	**'Ain N'Sour**	**4.18**	**264**	P	**Pn**	**22 17 11.0**	**+6.6**
ETOS	**Mallorca**	**4.23**	**322**	P	**Pn**	**22 17 04.9**	**-0.3**
	3.7nm,0.2s,SNR=8.8						
ETOS				S	**Sn**	**22 17 50.7**	**-4.5**
	3.7nm,0.5s,SNR=5.8						
ETOS	**Mallorca**	**4.23**	**322**	P	**Pn**	**22 17 05.5**	**+0.4**
ETOS				S	**Sn**	**22 17 51.4**	**-3.8**
ETOS	**Mallorca**	**4.23**	**322**	P	**Pn**	**22 17 05.5**	**+0.4**
EIBI	**Ibiza**	**4.62**	**305**	P	**Pn**	**22 17 10.5**	**-0.2**
	19nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.62**	**305**	P	**Pn**	**22 17 10.5**	**-0.2**
EBEN	**Beniarda**	**5.58**	**295**	P	**Pn**	**22 17 24.2**	**+0.1**
	5.9nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**5.58**	**295**	P	**Pn**	**22 17 24.2**	**0.0**
EMUR	**La Murta**	**6.12**	**285**	P	**Pn**	**22 17 31.7**	**0.0**
	2.9nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**6.12**	**285**	P	**Pn**	**22 17 31.7**	**0.0**
EPOB	**Poblet**	**6.30**	**322**	P	**Pn**	**22 17 33.8**	**-0.5**
	2.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**6.30**	**322**	P	**Pn**	**22 17 33.8**	**-0.5**
ERTA	**Horta de San J**	**6.41**	**316**	P	**Pn**	**22 17 36.1**	**+0.2**
	2.1nm,0.4s,SNR=7.9						
ERTA				S	**Sn**	**22 18 44.0**	**-5.9**
	1.5nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**6.41**	**316**	P	**Pn**	**22 17 36.1**	**+0.2**
PGF	**Pioggiola**	**6.41**	**19**	*ePn*	**Pn**	**22 17 36.2**	**+0.3**
PGF				*eSn*	**Sn**	**22 18 47.7**	**-2.2**
	3.6nm,0.3s						
EMOS	**Mosqueruela**	**6.53**	**308**	P	**Pn**	**22 17 37.6**	**+0.1**
	3.5nm,0.4s,SNR=8.3						
EMOS	**Mosqueruela**	**6.53**	**308**	P	**Pn**	**22 17 37.6**	**+0.1**
EMIR	**Miracle**	**6.53**	**327**	P	**Pn**	**22 17 38.7**	**+1.2**
	2.2nm,0.3s,SNR=7.9						
EMIR				S	**Sn**	**22 18 45.7**	**-7.2**
	2.8nm,0.3s,SNR=4.0						
EMIR	**Miracle**	**6.53**	**327**	P	**Pn**	**22 17 38.7**	**+1.2**
EMIR				S	**Sn**	**22 18 45.7**	**-7.2**
LMR	**La Mourre**	**6.83**	**2**	*ePn*	**Pn**	**22 17 42.9**	**+1.1**
LMR				*eSn*	**Sn**	**22 18 56.1**	**-4.3**
	1.4nm,0.2s						
FRF	**La Foret Royal**	**7.06**	**2**	*ePn*	**Pn**	**22 17 44.0**	**-1.1**
FRF				*eSn*	**Sn**	**22 19 00.6**	**-5.6**
	2.1nm,0.3s						
EGRA	**Graus**	**7.30**	**323**	P	**Pn**	**22 17 48.6**	**+0.2**
	1.4nm,0.3s,SNR=4.0						
ESAC	**San Caprasio**	**7.37**	**317**	P	**Pn**	**22 17 49.9**	**+0.6**
	8.6nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**7.37**	**317**	P	**Pn**	**22 17 49.9**	**+0.5**
SMRF	**Simiane la Rot**	**7.49**	**356**	*ePn*	**Pn**	**22 17 51.6**	**+0.6**
MTLF	**Montolieu**	**7.50**	**337**	*ePn*	**Pn**	**22 17 50.9**	**-0.3**
MTLF				*eSn*	**Sn**	**22 19 11.5**	**-5.6**
	0.4nm,0.2s						
EQES	**Quesada**	**7.54**	**283**	P	**Pn**	**22 17 50.5**	**-1.3**
	3.1nm,0.5s,SNR=7.9						
EQES	**Quesada**	**7.54**	**283**	P	**Pn**	**22 17 50.5**	**-1.3**
EBIE	**Bielsa**	**7.76**	**325**	P	**Pn**	**22 17 56.5**	**+1.7**
	2.5nm,0.6s,SNR=7.9						
EBIE	**Bielsa**	**7.76**	**325**	P	**Pn**	**22 17 56.5**	**+1.6**
LASF	**Ste Croix**	**7.79**	**347**	*ePn*	**Pn**	**22 17 54.6**	**-0.6**
LASF				*eSn*	**Sn**	**22 19 19.5**	**-4.8**
	1.7nm,0.4s						
EPF	**Esparros**	**7.95**	**327**	*ePn*	**Pn**	**22 17 57.9**	**+0.5**
EPF				*eSn*	**Sn**	**22 19 21.7**	**-6.6**
	1.2nm,0.4s						
MBDF	**Montbardon**	**8.23**	**3**	*ePn*	**P**	**22 18 02.2**	**+0.8**
ETSF	**Etsaut**	**8.26**	**323**	*ePn*	**P**	**22 18 02.3**	**+0.5**
VIVF	**Saint-Julien-l**	**8.43**	**352**	*ePn*	**P**	**22 18 04.2**	**0.0**
VIVF				*eSn*	**Sn**	**22 19 34.9**	**-5.6**
	0.8nm,0.4s						
SJPF	**Ste Jean**	**8.75**	**321**	*ePn*	**P**	**22 18 07.9**	**-0.7**
EALK	**Alkurruntz**	**8.97**	**321**	P	**P**	**22 18 11.8**	**+0.2**
	1.3nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**11.10**	**311**	P	**P**	**22 18 41.4**	**+0.5**
	1.0nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**11.43**	**302**	P	**P**	**22 18 43.8**	**-1.6**
	1.8nm,0.4s,SNR=7.9						

MOS ***18*** *22:29:18.5±1.0,53.68N×160.66E,h46km,mb4.4/11, Error ellipse: s-maj=18.1km s-min=8.2km az=70.9*

KRSC ***18*** *22:29:19.6±0.3,53.71N×160.64E,h40km±10km,ML4.8*

IDC ***18*** *22:29:20.0±1.1,53.96N×160.16E,h44km±6km,mb3.8/13, mb1 4.1/13,mb1mx3.9/21,mbtmp4.1/13,MS3.3/2, Ms1 3.3/2,ms1mx2.7/26,Error ellipse: s-maj=28.2km s-min=14.8km az=174.0*

NEIC ***18*** *22:29:20.2±0.4,53.93N×160.27E,mb4.3/3,Error ellipse: s-maj=12.6km s-min=7.3km az=162.0*

ISC 18 22:29:19.2±0.4,53.70N±0.03×160.69E±0.06,h52km±5km, h46km±2.0km:pP-P,n82,σ1§02/107,mb4.1/19,MS3.2/2,1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.72**	**214**	P	**P**	**22 29 33.0**	**-0.3**
SPN	**Mys Shipunski**	**0.72**	**214**	*i P*	**P**	**22 29 33.1**	**-0.2**
KII	**Karymskiy**	**0.81**	**295**	*i P*	**P**	**22 29 34.1**	**-0.4**
NLC	**Nalytchevo**	**0.96**	**237**	P	**P**	**22 29 36.3**	**-0.3**
NLC	**Nalytchevo**	**0.96**	**237**	*i P*	**P**	**22 29 36.4**	**-0.2**
NLC				*eS*	**S**	**22 29 48.3**	**-1.2**
MKZ	**Mys Kozlova**	**1.06**	**35**	P	**P**	**22 29 37.5**	**-0.5**
MKZ				S	**S**	**22 29 50.4**	**-1.5**
MKZ	**Mys Kozlova**	**1.06**	**35**	*i P*	**P**	**22 29 37.6**	**-0.4**
MKZ				*i S*	**S**	**22 29 50.7**	**-1.2**
SDLR	**Sedlovina**	**1.16**	**250**	*eP*	**P**	**22 29 39.8**	**+0.5**
SMAR	**Somma**	**1.21**	**250**	*i P*	**P**	**22 29 40.4**	**+0.4**
SMAR				*eS*	**S**	**22 29 55.4**	**-0.2**
UGLR	**Uglovaya**	**1.22**	**247**	*i P*	**P**	**22 29 40.7**	**+0.5**
UGLR				*i S*	**S**	**22 29 55.9**	**+0.1**
AVH	**Avacha**	**1.24**	**250**	*i P*	**P**	**22 29 41.2**	**+0.6**
AVH				*eS*	**S**	**22 29 56.8**	**+0.3**
KOK	**Koryaka**	**1.29**	**253**	*i P*	**P**	**22 29 41.7**	**+0.4**
KOK				*eS*	**S**	**22 29 57.3**	**-0.4**
PET	**Petropavlovsk**	**1.39**	**242**	P	**P**	**22 29 42.6**	**-0.2**
PET				S	**S**	**22 29 59.7**	**-0.6**
PET	**Petropavlovsk**	**1.39**	**242**	*i P*	**P**	**22 29 42.8**	**0.0**
PET				*eS*	**S**	**22 29 59.7**	**-0.6**
PET	**Petropavlovsk**	**1.39**	**242**	*c iPN*	**P**	**22 29 42.8**	**0.0**
PET				*eS*	**S**	**22 29 59.6**	**-0.7**
PET	**Petropavlovsk**	**1.39**	**242**	*ePn*	**P**	**22 29 42.6**	**-0.2**
PET				*eS*	**S**	**22 29 59.9**	**-0.4**
TUMR	**Tumrok**	**1.62**	**349**	*i P*	**P**	**22 29 46.5**	**+0.6**
TUMR				*eS*	**S**	**22 30 06.1**	**+0.3**
GNL	**Ganaly**	**1.63**	**271**	*i P*	**P**	**22 29 46.3**	**+0.2**
KRMR	**Karymshinskiy**	**1.77**	**242**	*i P*	**P**	**22 29 48.4**	**+0.5**
KRMR				*eS*	**S**	**22 30 09.8**	**+0.6**
RUS	**Russkaya**	**1.82**	**227**	P	**P**	**22 29 48.1**	**-0.6**
RUS				S	**S**	**22 30 09.7**	**-1.0**
RUS	**Russkaya**	**1.82**	**227**	*i P*	**P**	**22 29 48.2**	**-0.5**
RUS				*eS*	**S**	**22 30 09.6**	**-1.1**
GRL	**Gorelyy**	**1.95**	**235**	*i P*	**P**	**22 29 51.3**	**+0.8**
GRL				*eS*	**S**	**22 30 14.6**	**+0.8**
KMNR	**Kamenistaya**	**2.08**	**353**	*i P*	**P**	**22 29 53.2**	**+0.8**
APC	**Apacha**	**2.25**	**251**	*eP*	**P**	**22 29 55.9**	**+1.0**
APC				*eS*	**S**	**22 30 22.2**	**+0.7**
APC				Smax			
	640nm,1.2s						
KPT	**Kopyto**	**2.29**	**353**	*i P*	**P**	**22 29 56.1**	**+0.7**
ZLN	**Zelenaya**	**2.33**	**2**	*i P*	**P**	**22 29 57.1**	**+1.2**
LGNR	**Loginova**	**2.39**	**0**	*i P*	**P**	**22 29 58.3**	**+1.4**
KOZ	**Kozyrevsk**	**2.41**	**349**	*i P*	**P**	**22 29 57.5**	**+0.4**
KOZR	**Kozyr**	**2.42**	**349**	PN	**P**	**22 29 57.5**	**+0.3**
CIRR	**Tsirk**	**2.42**	**1**	*i P*	**P**	**22 29 58.5**	**+1.2**
ESO	**Esso**	**2.51**	**334**	*i P*	**P**	**22 29 58.3**	**-0.2**
ESO				*eS*	**S**	**22 30 26.1**	**-2.0**
ESO				Smax			
	460nm,0.8s						
KLY	**Klyuchi**	**2.62**	**360**	P	**P**	**22 30 00.5**	**+0.4**
KLY				S	**S**	**22 30 31.2**	**+0.3**
KLY	**Klyuchi**	**2.62**	**360**	*i P*	**P**	**22 30 00.7**	**+0.6**
KLY				*eS*	**S**	**22 30 30.6**	**-0.3**
SRDR	**Sredinnyy**	**2.69**	**348**	*i P*	**P**	**22 30 00.6**	**-0.4**
KBTR	**Krutoberegovo**	**2.80**	**25**	P	**P**	**22 30 02.3**	**-0.4**
KBTR				S	**S**	**22 30 34.8**	**-0.6**
KBTR	**Krutoberegovo**	**2.80**	**25**	*i P*	**P**	**22 30 02.2**	**-0.5**
KBTR				*eS*	**S**	**22 30 33.3**	**-2.1**
BDR	**Baidarnaya**	**2.89**	**6**	*i P*	**P**	**22 30 04.7**	**+0.7**
SMKR	**Semkarok**	**2.93**	**8**	*i P*	**P**	**22 30 05.1**	**+0.7**
SRKR	**Sorokina**	**2.98**	**5**	*i P*	**P**	**22 30 05.8**	**+0.6**
SRKR				*eS*	**S**	**22 30 39.3**	**-0.6**
PAU	**Pauzhetka**	**3.25**	**228**	*eP*	**P**	**22 30 09.8**	**+0.8**
PAU				Smax			
	520nm,0.7s						
BKI	**Bering**	**3.44**	**62**	*i P*	**P**	**22 30 11.5**	**-0.1**
BKI				*i S*	**S**	**22 30 48.3**	**-3.1**
BKI				Smax			
	460nm,0.8s						
SKR	**Severo-Kuril's**	**4.12**	**225**	*eP*	**P**	**22 30 19.4**	**-1.9**
SKR				*eS*	**S**	**22 31 05.9**	**-2.9**
ALID	**Alaid**	**4.24**	**230**	*eP*	**P**	**22 30 23.4**	**+0.5**
OSSR	**Ossora**	**5.72**	**12**	P	**P**	**22 30 42.3**	**-1.3**
FX1	**Attu Island--F**	**7.53**	**91**	P	**P**	**22 31 07.4**	**-1.4**
	5.2nm,0.3s,baz=32,slow=2.4,SNR=21						
FX1				S	**S**	**22 32 28.1**	**-5.5**
	18nm,0.3s,baz=133,slow=22,SNR=15						
FX1	**Attu Island--F**	**7.53**	**91**	*eP*	**P**	**22 31 08.8**	**-0.1**
MA2	**Magadan**	**8.03**	**321**	*i PN*	**P**	**22 31 10.5**	**-5.3**
MA2				pmax	pmax		
	comp=Z,44nm,2.5s						
KAMR	**Kamenskoye**	**9.26**	**16**	*eP*	**P**	**22 31 34.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**13.28**	**247**	*i PN*	**P**	**22 32 24.3**	**-2.5**
BILL	**Bilibino**	**14.64**	**8**	*eP*	**P**	**22 32 43.6**	**-0.7**
BILL				MLR	MLR		
	comp=Z,100nm,20.0s						
TIXI	**Tiksi**	**22.69**	**334**	*eP*		22 34 28.0	
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.5						
MJAR	**Matsushiro Arr**	**23.20**	**231**	P	**P**	**22 34 22.3**	**+0.4**
	comp=Z,4.3nm,0.7s,mb4.0,baz=22,slow=11,SNR=10						
MJAR				LR	LR	22 42 35.2	
	comp=Z,169nm,20.4s,MS3.5,baz=20,slow=34						
MJAR	**Matsushiro Arr**	**23.20**	**231**	P	**P**	**22 34 22.3**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,169nm,20.4s						
IMA2	**Indian Mountai**	**25.35**	**43**	*eP*	**P**	**22 34 42.3**	**0.0**
ILAR	**Eielson Array**	**28.14**	**46**	P	**P**	**22 35 07.0**	**-0.9**
	comp=Z,1.4nm,0.8s,mb3.6,baz=263,slow=7.8,SNR=12						
ILAR				pP	pP	22 35 20.0	-1.1
	comp=Z,0.8nm,0.7s,baz=260,slow=7.9,SNR=4.4						
ILAR				LR	LR	22 46 13.6	
	comp=Z,28nm,20.1s,MS2.8,baz=178,slow=36						
ILAR	**Eielson Array**	**28.14**	**46**	P	**P**	**22 35 07.1**	**-0.9**
ILAR				*PP	pP	22 35 20.0	-1.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,28nm,20.1s						
YKA	**Yellowknife Ar**	**42.48**	**43**	P	**P**	**22 37 10.0**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=298,slow=7.8,SNR=26						
YKA				pP	pP	22 37 23.0	-0.9
	comp=Z,0.5nm,0.5s,baz=298,slow=7.6,SNR=5.7						
EDM	**Edmonton**	**48.12**	**54**	*eP*	**P**	**22 37 55.3**	**+0.1**
MKAR	**Makanchi Array**	**48.22**	**295**	P	**P**	**22 37 51.8**	**-4.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=56,slow=6.8,SNR=6.5						
BVAR	**Borovoye Array**	**50.30**	**308**	P	**P**	**22 38 08.7**	**-3.3**
	comp=Z,0.3nm,0.4s,mb3.6,baz=49,slow=8.2,SNR=3.9						
BVAR				PcP	PcP	22 39 28.0	-2.4
	comp=Z,0.4nm,0.5s,baz=79,slow=3.4,SNR=3.6						
ARCES	**ARCESS Array B**	**52.83**	**342**	P	**P**	**22 38 26.7**	**-4.1**
	comp=Z,6.1nm,1.0s,mb4.5,baz=16,slow=8.8,SNR=3.8						
ARCES	**ARCESS Array B**	**52.83**	**342**	P	**P**	**22 38 26.7**	**-4.1**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NVAR	**Mina Array Bea**	**55.20**	**71**	P	**P**	**22 38 50.0**	**+1.3**
	comp=Z,2.9nm,0.7s,mb4.4,baz=297,slow=8.4,SNR=14						
ELK	**Elko**	**55.29**	**67**	P	**P**	**22 38 50.7**	**+1.4**
	comp=Z,2.9nm,0.7s,mb4.4,baz=302,slow=7.5,SNR=14						
ELK	**Elko**	**55.29**	**67**	P	**P**	**22 38 50.7**	**+1.4**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ELK	**Elko**	**55.29**	**67**	P	**P**	**22 38 50.7**	**+1.4**
BW06	**Boulder Array**	**56.92**	**62**	*eP*	**P**	**22 39 01.5**	**+0.5**
	comp=Z,2.2nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**56.92**	**62**	P	**P**	**22 39 01.6**	**+0.6**
	comp=Z,2.5nm,0.8s,mb4.3,baz=333,slow=3.3,SNR=11						
ULM	**Lac du Bonnet**	**58.15**	**47**	P	**P**	**22 39 08.8**	**-0.7**
	comp=Z,1.0nm,0.4s,mb4.2,baz=327,slow=5.1,SNR=5.1						
ULM				pP	pP	22 39 21.2	-2.5
	comp=Z,0.9nm,0.5s,baz=314,slow=5.2,SNR=2.1						
SRU	**San Rafael**	**59.01**	**65**	*eP*	**P**	**22 39 16.4**	**+0.8**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
SRU	**San Rafael**	**59.01**	**65**	*eP*	**P**	**22 39 16.4**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.4						
KAF	**Kangasniemi**	**59.07**	**337**	*ep*	**P**	**22 39 13.4**	**-2.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=30,slow=6.4						
FINES	**FINESS Array B**	**59.71**	**337**	P	**P**	**22 39 17.9**	**-2.2**
	comp=Z,0.6nm,0.3s,mb4.1,baz=25,slow=8.2,SNR=9.3						
FINES	**FINESS Array B**	**59.71**	**337**	P	**P**	**22 39 17.9**	**-2.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PV01	**Paradox Valley**	**60.77**	**65**	*eP*	**P**	**22 39 20.3**	**-7.4**
OBN	**Obninsk**	**62.20**	**327**	*eP*	**P**	**22 39 38.8**	**+1.8**
OBN				*e*		22 40 13.5	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.5						
NOA	**NORSAR Array B**	**63.06**	**344**	P	**P**	**22 39 40.3**	**-2.4**
	comp=Z,0.9nm,0.7s,mb4.0,baz=207,slow=8.0,SNR=3.3						
NOA	**NORSAR Array B**	**63.06**	**344**	P	**P**	**22 39 40.3**	**-2.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ANMO	**Albuquerque**	**64.27**	**66**	P	**P**	**22 39 52.1**	**+1.3**
	comp=Z,1.6nm,0.9s,mb4.0,baz=345,slow=8.0,SNR=4.7						
ANMO	**Albuquerque**	**64.27**	**66**	P	**P**	**22 39 52.2**	**+1.3**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**70.08**	**68**	P	**P**	**22 40 28.4**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.3,baz=299,slow=4.6,SNR=46						
TXAR				pP	pP	22 40 41.2	-1.0
	comp=Z,0.9nm,0.5s,baz=294,slow=4.9,SNR=7.8						
TXAR	**Lajitas Array**	**70.08**	**68**	P	**P**	**22 40 28.4**	**+0.9**
TXAR				*PP	pP	22 40 41.2	-1.0
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC ***18*** *23:03:06.4±2.6,33.49N×46.41E,mb4.0/10,mb1 4.1/12, mb1mx3.9/21,mbtmp4.0/12,ML4.3/1,MS2.8/2,Ms1 2.9/2, ms1mx2.5/23,Error ellipse: s-maj=53.4km s-min=24.2km az=11.0*

NEIC ***18*** *23:03:06.5±0.4,33.20N×46.48E,h10km,mb4.4/16, MN3.7(TEH),Error ellipse: s-maj=8.3km s-min=4.5km az=191.0*

CSEM ***18*** *23:03:07.4±0.1,33.26N×46.44E,h30km,mb4.4/17,Error ellipse: s-maj=1.7km s-min=1.5km az=76.0*

TEH ***18*** *23:03:08.4,33.22N×46.50E,h9km,Mn3.7*

THR ***18*** *23:03:08.5±0.9,33.31N×46.63E,h14km±8km,ML3.5*

MOS ***18*** *23:03:09.2±0.7,33.41N×46.42E,h33km,mb4.3/20,Error ellipse: s-maj=12.9km s-min=8.3km az=108.0*

ISC 18 23:03:09.0±0.5,33.24N±0.03×46.55E±0.04,h43km±6km, n103,σ1§03/103,mb4.2/27,7D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**1.09**	**1**	Pg	**P**	**23 03 28.2**	**+0.2**
IKOM	**Komasi**	**1.24**	**40**	Pg	**P**	**23 03 30.8**	**+0.8**
IDHR	**Dehrash**	**1.47**	**355**	Pn	**P**	**23 03 35.4**	**+2.0**
ILIN	**Laeen**	**1.71**	**11**	Pn	**P**	**23 03 39.1**	**+2.2**
BHD	**Baghdad**	**1.82**	**272**	*ex*	x	23 03 41.0	
BHD				*i* x	x	23 04 05.0	
BHD	**Baghdad**	**1.82**	**272**	P	x	23 03 42.0	
BH

ZRNK pmax pmax
comp=Z,4.0nm,1.1s,mb3.9
ZRNK Zerenda 25.45 33 *eP* **P 23 08 34.7 +0.4**
comp=Z,4.0nm,1.1s,mb3.9
ZRNK Zerenda 25.45 33 *eP* **P 23 08 34.7 +0.4**
comp=Z,4.0nm,1.1s,mb3.9
BVAR Borovoye Array 26.13 34 P **P 23 08 41.3 +0.7**
comp=Z,2.3nm,0.7s,mb3.8,baz=219,slow=9.5,SNR=11
BVAR Borovoye Array 26.13 34 P **P 23 08 41.3 +0.7**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
CHKZ Chkalovo 26.65 33 *eP* **P 23 08 45.1 -0.4**
CHKZ pmax pmax
comp=Z,4.0nm,1.2s,mb3.8
CHKZ Chkalovo 26.65 33 *eP* **P 23 08 45.1 -0.4**
comp=Z,4.0nm,1.2s,mb3.8
CHKZ Chkalovo 26.65 33 *eP* **P 23 08 45.1 -0.4**
comp=Z,4.0nm,1.2s,mb3.8
VRAC Vranov 27.42 315 P **P 23 08 52.7 +0.2**
comp=Z,0.9nm,0.4s,mb3.6,baz=94,slow=6.1,SNR=3.6
VRAC Vranov 27.42 315 P **P 23 08 52.7 +0.2**
VRAC pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 29.24 44 P **P 23 09 10.3 +1.5**
KURK pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
KURK Kurchatov 29.24 44 P **P 23 09 10.3 +1.5**
comp=Z,0.9nm,0.6s,mb3.7
MKAR Makanchi Array 30.26 53 P **P 23 09 18.4 +0.5**
comp=Z,2.7nm,0.6s,mb4.2,baz=248,slow=7.5,SNR=44
MKAR Makanchi Array 30.26 53 P **P 23 09 18.5 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 31.17 341 P **P 23 09 24.9 -0.9**
comp=Z,2.5nm,0.8s,mb4.1,baz=154,slow=10.0,SNR=8.1
FINES FINESS Array B 31.17 341 P **P 23 09 24.9 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 31.66 342 *ep* **P 23 09 25.1 -5.0**
KOLN Koldanda 32.27 90 *eP* **P 23 09 37.6 +1.8**
MBDF Montbardon 32.68 302 *eP* **P 23 09 38.6 -0.6**
comp=Z,7.9nm,0.8s,mb4.4
MBDF Montbardon 32.68 302 *eP* **P 23 09 38.6 -0.6**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LPG La Plagne 32.79 304 *eP* **P 23 09 39.5 -0.7**
comp=Z,5.1nm,0.6s,mb4.3
LPG La Plagne 32.79 304 *eP* **P 23 09 39.5 -0.7**
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LPL La Plagne 32.81 304 *eP* **P 23 09 39.8 -0.5**
comp=Z,22nm,1.2s,mb4.7
LPL La Plagne 32.81 304 *eP* **P 23 09 39.8 -0.5**
LPL pmax pmax
comp=Z,11nm,1.2s,mb4.7
GKN Gorkha 33.06 89 *eP* **P 23 09 42.4 -0.3**
comp=Z,13nm,0.7s,mb5.0
CABF La Chapelle 33.41 306 *eP* **P 23 09 45.0 -0.5**
HAU Haudompre 33.48 308 *eP* **P 23 09 45.6 -0.5**
DMN Daman 33.58 89 *eP* **P 23 09 48.1 +0.9**
comp=Z,18nm,0.7s,mb5.1
KKN Kakani 33.67 89 *eP* **P 23 09 48.1 +0.2**
comp=Z,2.8nm,0.2s,mb4.8
PKI Pulchoki 33.85 89 *eP* **P 23 09 50.9 +1.4**
comp=Z,11nm,0.6s,mb4.9
PKI Pulchoki 33.85 89 *eP* **P 23 09 50.9 +1.4**
PKI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
GUN Gumba 34.13 88 *eP* **P 23 09 52.3 +0.4**
MEZF Maizieres J'vi 34.43 309 *eP* **P 23 09 53.3 -0.9**
comp=Z,13nm,0.9s,mb4.6
JIRN Jiri 34.48 89 *eP* **P 23 09 55.5 +0.6**
comp=Z,11nm,0.6s,mb5.0
SMF Signal de Mont 34.95 305 *eP* **P 23 09 57.3 -1.4**
comp=Z,10nm,0.8s,mb4.5
SMF Signal de Mont 34.95 305 *eP* **P 23 09 57.3 -1.4**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SSF Saint Saulge 35.23 306 *eP* **P 23 10 00.1 -1.0**
SSF pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
SSF Saint Saulge 35.23 306 *eP* **P 23 10 00.1 -1.0**
comp=Z,6.7nm,1.2s,mb4.5
BGF Bois d'Agland 35.62 305 *eP* **P 23 10 04.5 0.0**
comp=Z,13nm,1.0s,mb4.5
BGF Bois d'Agland 35.62 305 *eP* **P 23 10 04.5 0.0**
BGF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
NOA NORSAR Array B 35.97 331 LR LR 23 25 39.3
comp=Z,20nm,18.7s,baz=65,slow=38
ARCES ARCESS Array B 38.21 348 P **P 23 10 25.3 -0.7**
comp=Z,2.5nm,0.9s,mb4.0,baz=135,slow=6.9,SNR=4.5
ARCES ARCESS Array B 38.21 348 P **P 23 10 25.3 -0.7**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 46.62 53 P **P 23 11 35.6 +1.0**
comp=Z,0.6nm,0.6s,mb3.7,baz=309,slow=9.2,SNR=2.6
SONM Songino Array 46.62 53 P **P 23 11 35.6 +0.9**
SONM pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 47.06 53 *eP* **P 23 11 38.9 +0.8**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ULN Ulaanbaatar 47.06 53 *eP* **P 23 11 38.9 +0.8**
comp=Z,2.0nm,0.8s,mb4.1
ULN Ulaanbaatar 47.06 53 *eP* **P 23 11 38.9 +0.8**
comp=Z,2.0nm,0.8s,mb4.1
LIC Lamto 54.79 252 *eP* **P 23 12 38.3 +1.2**
FRB Frobisher Bay 70.70 335 P **P 23 14 21.8 -0.1**
comp=Z,6.0nm,1.0s,mb4.5,baz=63,slow=6.8,SNR=3.6
FRB Frobisher Bay 70.70 335 P **P 23 14 21.8 -0.1**
FRB pmax pmax
comp=Z,6.0nm,1.0s
ILAR Eielson Array 81.75 6 P **P 23 15 24.6 +0.5**
comp=Z,0.3nm,0.6s,mb3.4,baz=354,slow=2.7,SNR=5.3
YKA Yellowknife Ar 83.41 351 P **P 23 15 33.4 +0.8**
comp=Z,0.3nm,0.6s,mb3.5,baz=18,slow=5.6,SNR=5.1

*BJI **19** 00:08:21.9, 34.25N×72.73E, h10km, mB4.9, mb4.7, ML4.5, Ms4.6, Msz4.2*
*IDC **19** 00:08:29.5±1.3, 34.23N×73.72E, mb4.0/8, mb1 4.2/11, mb1mx4.0/20, mbtmp4.1/11, ML4.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=36.1km s-min=21.2km az=38.0*
*NEIC **19** 00:08:30.0±0.4, 34.09N×73.70E, h10km, mb4.3/11, Error ellipse: s-maj=10.3km s-min=4.9km az=224.0*
*NDI **19** 00:08:31.6±1.9, 34.32N×73.57E, h10km, MD3.7, ML3.8*
*MOS **19** 00:08:31.5±1.5, 34.18N×73.78E, h33km, mb4.4/5, Error ellipse: s-maj=13.0km s-min=7.1km az=103.1*
*NNC **19** 00:08:40.2±5.4, 34.58N×73.82E, h65km±45km, mb3.8, mpv4.4, Error ellipse: s-maj=40.7km s-min=39.1km az=69.0*
ISC 19 00:08:28.6±0.3, 34.16N±0.03×73.75E±0.06, h10km, n93, σ1§53/114, mb4.1/14, MS3.5/2, 7C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
THN	**Thein Dam**	**2.39**	**136**	*eP*	**Pg**	**Pg**	**00 09 14.2**	**-2.1**
THN				*eSB*	**Sg**	**Sg**	**00 09 50.1**	**+1.9**
DLH	**Dalhousie**	**2.46**	**130**	*eP*	**Pg**	**Pg**	**00 09 15.0**	**-2.8**
DLH				*eS*	**Sg**	**Sg**	**00 09 47.0**	**-3.7**
PONG	**Pong**	**2.88**	**139**	*ePB*	**Pg**	**Pg**	**00 09 27.0**	**+0.9**
PONG				*eSB*	**Sg**	**Sg**	**00 10 07.0**	**+2.5**
SDNR	**Sundarnagar**	**3.80**	**134**	*eP*	**Pn**	**Pn**	**00 09 33.0**	**+4.5**
SDNR				*ex*	x	x	00 09 43.8	
SMLA	**Simla**	**4.18**	**135**	*eP*	**Pn**	**Pn**	**00 09 38.2**	**+4.2**
SMLA				*eS*	**Sn**	**Sn**	**00 10 26.5**	**+3.0**
KLP	**Kalpa**	**4.61**	**123**	*eP*	**Pn**	**Pn**	**00 09 44.2**	**+4.2**
KLP				*eS*	**Sn**	**Sn**	**00 10 37.7**	**+3.4**
KLP				AML	AML	AML	00 11 06.8	
	comp=E,632nm,0.4s							
KLP				AML	AML	AML	00 11 15.7	
	comp=N,484nm,0.6s							
NDI	**New Delhi**	**6.22**	**151**	*ex*	x	x	00 10 00.0	
NDI				*eS*	**Sn**	**Sn**	**00 11 16.0**	**+1.4**
KHET	**Khetri**	**6.32**	**163**	*eP*	**Pn**	**Pn**	**00 10 06.1**	**+1.9**
KHET				*eS*	**Sn**	**Sn**	**00 11 16.5**	**-0.8**
KHET				AML	AML	AML	00 11 20.2	
	comp=E,42nm,0.4s							
KHET				AML	AML	AML	00 12 01.8	
	comp=N,37nm,0.3s							
AYAN	**Aya Nagar**	**6.36**	**152**	*eP*	**Pn**	**Pn**	**00 10 08.1**	**+3.3**
AYAN				*i S*	**Sn**	**Sn**	**00 11 18.1**	**-0.1**
KUDL	**Kundal**	**6.44**	**158**	*eP*	**Pn**	**Pn**	**00 10 08.6**	**+2.6**
KUDL				*eS*	**Sn**	**Sn**	**00 11 20.1**	**-0.3**
AML	**Almayashu**	**7.95**	**360**	P	**Pn**	**Pn**	**00 10 30.3**	**+3.1**
	SNR=5.2							
KZA	**Kyzart**	**7.99**	**8**	P	**Pn**	**Pn**	**00 10 30.7**	**+3.1**
	SNR=10							
UCH	**Uchtor**	**8.07**	**4**	P	**P**	**P**	**00 10 32.1**	**+3.3**
	SNR=6.8							
AAK	**Ala-Archa**	**8.48**	**4**	P	**P**	**P**	**00 10 36.9**	**+2.5**
	SNR=8.5							
AAK	**Ala-Archa**	**8.48**	**4**	*eP*	**P**	**P**	**00 10 35.2**	**+0.8**
AAK				*e*			00 12 12.3	
AAK				pmax	pmax			
	comp=Z,7.0nm,0.7s							
AAK	**Ala-Archa**	**8.48**	**4**	*ePn*	**P**	**P**	**00 10 35.2**	**+0.8**
	comp=Z,6.5nm,0.7s							
AAK				*eSn*	**Sn**	**Sn**	**00 12 12.3**	**+1.2**
EKS2	**Erkin-Say**	**8.48**	**0**	P	**P**	**P**	**00 10 36.9**	**+2.4**
	SNR=24							
KBK	**Karagaybulak**	**8.53**	**6**	P	**P**	**P**	**00 10 37.8**	**+2.6**
	SNR=13							
CHMS	**Chumysh**	**8.86**	**5**	P	**P**	**P**	**00 10 41.9**	**+2.2**
	SNR=16							
TKM2	**Tokmak 2**	**8.86**	**9**	P	**P**	**P**	**00 10 41.8**	**+2.0**
	SNR=16							
TKM2	**Tokmak 2**	**8.86**	**9**	⇓P	**P**	**P**	**00 10 41.5**	**+1.8**
TKM2	comp=Z,9.2nm,0.5s			⇑S		**Sn**	**00 12 15.5**	**-5.2**
	comp=Z,7.3nm,0.7s							
USP	**Ospenovka**	**9.11**	**3**	P	**P**	**P**	**00 10 44.6**	**+1.4**
	SNR=6.0							
KK31	**Karatay Array**	**9.28**	**345**	P	**P**	**P**	**00 10 46.0**	**+0.5**
	comp=Z,7.0nm,0.4s,baz=161,slow=12,SNR=79							
KK31				⇑S		**Sn**	**00 12 24.2**	**-6.7**
	comp=Z,5.4nm,0.6s,baz=175,slow=22,SNR=5.1							
KOLN	**Koldanda**	**10.59**	**124**	*ePn*	**P**	**P**	**00 11 02.5**	**-1.0**
KOLN				*eSn*	**S**	**S**	**00 12 57.8**	**-5.4**
	comp=Z,29nm,0.6s							
KOLN	**Koldanda**	**10.59**	**124**	*ePn*	**P**	**P**	**00 11 02.5**	**-1.0**
	comp=Z,14nm,0.6s							
KOLN				*eSn*	**S**	**S**	**00 12 57.8**	**-5.4**
GKN	**Gorkha**	**11.17**	**120**	*ePn*	**P**	**P**	**00 11 09.8**	**-1.7**
GKN				*eSn*	**S**	**S**	**00 13 09.7**	**-7.8**
	comp=Z,29nm,0.4s							
GKN	**Gorkha**	**11.17**	**120**	*ePn*	**P**	**P**	**00 11 09.8**	**-1.7**
	comp=Z,15nm,0.4s							
GKN				*eSn*	**S**	**S**	**00 13 09.7**	**-7.8**
DMN	**Daman**	**11.74**	**121**	*ePn*	**P**	**P**	**00 11 17.3**	**-1.9**
DMN				*eSn*	**S**	**S**	**00 13 23.8**	**-7.5**
	comp=Z,18nm,0.4s							
DMN	**Daman**	**11.74**	**121**	*ePn*	**P**	**P**	**00 11 17.3**	**-1.9**
	comp=Z,9.3nm,0.4s							
DMN				*eSn*	**S**	**S**	**00 13 23.8**	**-7.5**
KKN	**Kakani**	**11.76**	**120**	*ePn*	**P**	**P**	**00 11 17.5**	**-2.0**
KKN				*eSn*	**S**	**S**	**00 13 23.6**	**-8.2**
	comp=Z,38nm,0.8s							
KKN	**Kakani**	**11.76**	**120**	*eP*	**P**	**P**	**00 11 17.5**	**-2.0**
KKN				*e*			00 13 23.6	
KKN				pmax	pmax			
	comp=Z,19nm,0.8s							
KKN	**Kakani**	**11.76**	**120**	*ePn*	**P**	**P**	**00 11 17.5**	**-2.0**
	comp=Z,19nm,0.8s							
KKN				*eSn*	**S**	**S**	**00 13 23.6**	**-8.2**
PKI	**Pulchoki**	**11.98**	**120**	*ePn*	**P**	**P**	**00 11 20.4**	**-2.0**
PKI				*eSn*	**S**	**S**	**00 13 29.2**	**-7.9**
	comp=Z,55nm,0.8s							
PKI	**Pulchoki**	**11.98**	**120**	*eP*	**P**	**P**	**00 11 20.4**	**-2.0**
PKI				*e*			00 13 29.2	
PKI				pmax	pmax			
	comp=Z,27nm,0.8s							
PKI	**Pulchoki**	**11.98**	**120**	*ePn*	**P**	**P**	**00 11 20.4**	**-2.0**
	comp=Z,28nm,0.8s							
PKI				*eSn*	**S**	**S**	**00 13 29.2**	**-7.9**
GUN	**Gumba**	**12.12**	**118**	*ePn*	**P**	**P**	**00 11 23.1**	**-1.3**
JIRN	**Jiri**	**12.49**	**118**	*ePn*	**P**	**P**	**00 11 27.5**	**-1.9**
MK31	**Makanchi Array**	**14.18**	**25**	⇑P	**P**	**P**	**00 11 49.2**	**-2.3**
	comp=Z,1.8nm,0.6s,baz=207,slow=12,SNR=13							
MKAR	**Makanchi Array**	**14.18**	**25**	Pn	**P**	**P**	**00 11 49.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=214,slow=15,SNR=10.0							
MKAR	**Makanchi Array**	**14.18**	**25**	Pn	**P**	**P**	**00 11 49.9**	**-1.6**
LSA	**Lhasa**	**15.43**	**102**	P	**P**	**P**	**00 12 14.6**	**+6.6**
LSA	**Lhasa**	**15.43**	**102**	P	**P**	**P**	**00 12 09.0**	**+1.0**
LSA				pmax	pmax			
	comp=Z,18nm,0.6s							
LSA	**Lhasa**	**15.43**	**102**	Pn	**P**	**P**	**00 12 09.0**	**+1.0**
	comp=Z,18nm,0.6s							
KURK	**Kurchatov**	**16.92**	**11**	⇑P	**P**	**P**	**00 12 24.8**	**-2.1**
	comp=Z,3.2nm,0.8s							
KURK	**Kurchatov**	**16.92**	**11**	*eP*	**P**	**P**	**00 12 24.9**	**-2.0**
KURK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KURK	**Kurchatov**	**16.92**	**11**	*ePn*	**P**	**P**	**00 12 24.9**	**-2.0**
	comp=Z,7.4nm,0.8s							
AB31	**Akulalk Array**	**18.22**	**330**	P	**P**	**P**	**00 12 43.1**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=146,slow=12,SNR=70							
BVA0	**Borovoye Array**	**19.01**	**354**	P	**P**	**P**	**00 12 52.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=157,slow=13,SNR=133							
BVAR	**Borovoye Array**	**19.01**	**354**	P	**P**	**P**	**00 12 51.6**	**-1.2**
	comp=Z,4.1nm,0.3s,baz=158,slow=7.8,SNR=134							
BRVK	**Borovoye**	**19.05**	**354**	*eP*	**P**	**P**	**00 12 53.9**	**+0.6**
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
BRVK	**Borovoye**	**19.05**	**354**	*eP*	**P**	**P**	**00 12 53.9**	**+0.6**
	comp=Z,9.3nm,0.7s							
ZRNK	**Zerenda**	**19.08**	**351**	⇑P	**P**	**P**	**00 12 53.9**	**+0.2**
	comp=Z,3.2nm,0.6s							
ZRNK	**Zerenda**	**19.08**	**351**	*eP*	**P**	**P**	**00 12 53.7**	**0.0**
ZRNK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ZRNK	**Zerenda**	**19.08**	**351**	*eP*	**P**	**P**	**00 12 53.7**	**+0.1**
	comp=Z,5.1nm,0.6s							
CHKZ	**Chkalovo**	**19.63**	**354**	⇑P	**P**	**P**	**00 12 59.1**	**-0.9**
	comp=Z,4.6nm,1.5s							
CHKZ	**Chkalovo**	**19.63**	**354**	*eP*	**P**	**P**	**00 12 59.4**	**-0.6**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.5s							
CHKZ	**Chkalovo**	**19.63**	**354**	*eP*	**P**	**P**	**00 12 59.4**	**-0.6**
	comp=Z,2.2nm,0.5s							
AKTO	**Aktyubinsk**	**19.93**	**329**	⇑P	**P**	**P**	**00 13 03.3**	**0.0**
	comp=Z,1.8nm,0.8s							
AKTO	**Aktyubinsk**	**19.93**	**329**	P	**P**	**P**	**00 13 03.5**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=131,slow=11,SNR=36							
AKTO	**Aktyubinsk**	**19.93**	**329**	P	**P**	**P**	**00 13 03.6**	**+0.3**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.3s							
GTA	**Gaotai**	**21.49**	**68**	P	**P**	**P**	**00 13 20.3**	**+0.8**
GTA				AP			00 13 25.8	
GTA				XP			00 13 29.3	
NVS	**Novosibirsk**	**21.71**	**15**	*eP*	**P**	**P**	**00 13 19.8**	**-1.9**
ARU	**Arti**	**24.59**	**340**	*eP*	**P**	**P**	**00 13 51.4**	**+1.6**
ARU				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.2							
ARU	**Arti**	**24.59**	**340**	*eP*	**P**	**P**	**00 13 51.4**	**+1.6**
	comp=Z,5.0nm,0.6s,mb4.2							
SONM	**Songino Array**	**27.94**	**51**	P	**P**	**P**	**00 14 22.3**	**+1.3**
	comp=Z,2.1nm,0.8s,mb3.8,baz=252,slow=9.4,SNR=7.9							
SONM				LR	LR	LR	00 25 12.7	
	comp=Z,68nm,19.7s,MS3.2,baz=161,slow=36							
ULN	**Ulaanbaatar**	**28.37**	**51**	P	**P**	**P**	**00 14 23.9**	**-0.9**
MALT	**Malatya**	**28.68**	**289**	*eP*	**P**	**P**	**00 14 26.4**	**-1.3**
MALT				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.9							
MALT	**Malatya**	**28.68**	**289**	*eP*	**P**	**P**	**00 14 26.4**	**-1.3**
	comp=Z,2.0nm,0.8s,mb3.9							
BR131	**Keskin Array S**	**32.34**	**292**	P	**P**	**P**	**00 15 00.7**	**+0.6**
OBN	**Obninsk**	**33.17**	**321**	P	**P**	**P**	**00 15 06.8**	**-0.4**
AKASG	**Malin Array Be**	**36.16**	**311**	P	**P**	**P**	**00 15 31.5**	**-1.4**
	comp=Z,0.6nm,0.4s,mb3.8,baz=81,slow=7.2,SNR=5.5							
FINES	**FINESS Array B**	**40.67**	**327**	P	**P**	**P**	**00 16 11.1**	**+0.7**
	comp=Z,4.2nm,1.0s,mb4.0,baz=127,slow=11,SNR=7.0							
FINES	**FINESS Array B**	**40.67**	**327**	P	**P**	**P**	**00 16 11.1**	**+0.7**
PSZ	**Piszkesteto**	**42.05**	**306**	*eP*	**P**	**P**	**00 16 18.9**	**-2.9**
YHNB	**Yeheng**	**42.23**	**90**	*eP*	**P**	**P**	**00 16 23.9**	**+0.3**
MSEY	**Mahe Island**	**42.31**	**208**	P	**P**	**P**	**00 16 23.7**	**-0.7**
ARCES	**ARCESS Array B**	**44.15**	**338**	P	**P**	**P**	**00 16 39.6**	**+0.9**
	comp=Z,2.4nm,0.5s,mb4.2,baz=113,slow=7.9,SNR=17							
TIXI	**Tiksi**	**47.12**	**21**	*eP*	**P**	**P**	**00 17 00.0**	**-2.3**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
TIXI				MLR	MLR			
	comp=Z,85nm,15.0s,MS3.8							
NB2	**NORSAR Subarra**	**47.59**	**324**	P	**P**	**P**	**00 17 06.1**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.5,baz=94,slow=7.4							
NB2	**NORSAR Subarra**	**47.59**	**324**	P	**P**	**P**	**00 17 06.1**	**0.0**
NB2				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
NOA	**NORSAR Array B**	**47.59**	**324**	P	**P**	**P**	**00 17 06.2**	**+0.1**
	comp=Z,2.7nm,0.6s,mb4.4,baz=96,slow=7.5,SNR=10							
STU	**Stuttgart**	**49.09**	**308**	P	**P**	**P**	**00 17 17.7**	**-0.2**
MBWA	**Marble Bar**	**70.29**	**135**	*eP*	**P**	**P**	**00 19 42.1**	**-2.3**
	comp=Z,13nm,1.2s,mb4.7							
ILAR	**Eielson Array**	**76.39**	**17**	P	**P**	**P**	**00 20 19.4**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=294,slow=5.8,SNR=11							
NWAO	**Narrogin (SRO)**	**78.25**	**144**	*eP*	**P**	**P**	**00 20 28.8**	**-1.5**
NWAO				pmax	pmax			
	comp=Z,25nm,1.5s							
NWAO	**Narrogin (SRO)**	**78.25**	**144**	*eP*	**P**	**P**	**00 20 28.8**	**-1.5**
	comp=Z,25nm,1.5s,mb4.9							
WRA	**Warramunga Arr**	**78.84**	**123**	P	**P**	**P**	**00 20 35.1**	**+1.4**
	comp=Z,1.4nm,0.6s,mb4.0,baz=324,slow=5.1,SNR=12							
WRAB	**Tennant Creek**	**78.84**	**123**	*eP*	**P**	**P**	**00 20 35.5**	**+1.8**
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
WRAB	**Tennant Creek**	**78.84**	**123**	*eP*	**P**	**P**	**00 20 35.5**	**+1.8**
	comp=Z,2.9nm,0.7s,mb4.3							
WB2	**Warramunga Arr**	**78.85**	**123**	*eP*	**P**	**P**	**00 20 35.5**	**+1.7**
YKA	**Yellowknife Ar**	**83.44**	**4**	P	**P**	**P**	**00 20 58.0**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.8,baz=347,slow=5.3,SNR=9.9							
YKA	**Yellowknife Ar**	**83.44**	**4**	P	**P**	**P**	**00 20 58.0**	**+0.9**
CTAO	**Charters Tower**	**87.51**	**116**	*eP*	**P**	**P**	**00 21 18.2**	**0.0**

*IDC **19** 00:38:16.7±2.4, 10.34S×162.67E, mb4.0/3, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML4.3/2, MS3.7/1, Ms1 3.7/1, ms1mx2.6/22, Error ellipse: s-maj=47.4km s-min=37.9km az=139.0*
*NEIC **19** 00:38:21.2±1.0, 10.44S×162.72E, h35km, mb4.4/5, Error ellipse: s-maj=22.2km s-min=10.9km az=103.0*
ISC 19 00:38:18.1±6.1, 10.46S±0.10×162.7E±0.1, h28km±41km, n20, σ0§86/19, mb4.2/7, MS3.5/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**2.94**	**290**		Pn	**Pn**	**00 39 04.1**	**0.0**
	89nm,0.3s,baz=169,slow=5.5,SNR=18							
HNR					Sn	**Sn**	**00 39 38.7**	**-0.1**
	142nm,0.3s,baz=131,slow=17,SNR=7.3							
CTA	**Charters Tower**	**18.55**	**237**	P	**P**	**P**	**00 42 37.1**	**+2.1**
	0.3nm,0.3s,baz=63,slow=11,SNR=3.6							
CTAO	**Charters Tower**	**18.55**	**237**	*ePn*	**P**	**P**	**00 42 35.6**	**+0.7**
	1.4nm,0.4s							
AFI	**Afiamalu**	**25.14**	**100**	LR	LR		00 50 59.3	
	comp=Z,152nm,19.4s,MS3.5,baz=60,slow=30							
STKA	**Stephens Creek**	**28.93**	**219**	*eP*	**P**	**P**	**00 44 17.7**	**+0.6**
WRAB	**Tennant Creek**	**28.93**	**248**	*eP*	**P**	**P**	**00 44 16.6**	**-0.7**
	4.0nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**28.94**	**248**	P	**P**	**P**	**00 44 16.8**	**-0.7**
	2.4nm,0.8s,mb4.0,baz=75,slow=9.3,SNR=11							
TAU	**Tasmania Unive**	**35.02**	**200**	*eP*	**P**	**P**	**00 45 08.3**	**-2.0**
MBWA	**Marble Bar**	**42.60**	**250**	*eP*	**P**	**P**	**00 46 14.1**	**+0.2**
	11nm,1.2s,mb4.5							
NWAO	**Narrogin (SRO)**	**47.37**	**235**	*eP*	**P**	**P**	**00 46 52.6**	**+0.7**
	6.3nm,0.9s,mb4.5							
MAJO	**Matsushiro**	**52.15**	**335**	*eP*	**P**	**P**	**00 47 28.3**	**-0.1**
	12nm,0.8s,mb4.9							
NACB	**Ninganchiao**	**52.91**	**311**	P	**P**	**P**	**00 47 33.4**	**-1.0**
YHNB	**Yeheng**	**53.36**	**311**	*eP*	**P**	**P**	**00 47 37.3**	**-0.3**
TATO	**Taipei**	**53.46**	**312**	P	**P**	**P**	**00 47 37.8**	**-0.5**
KS15	**Wonju Array Si**	**57.78**	**327**	P	**P**	**P**	**00 48 08.6**	**-0.7**
QIZ	**Qiongzhong**	**59.81**	**299**	P	**P**	**P**	**00 48 23.3**	**-0.4**
SONM	**Songino Array**	**76.47**	**325**	P	**P**	**P**	**00 50 08.2**	**+1.0**
	0.8nm,0.6s,mb3.8,baz=135,slow=8.2,SNR=3.9							
MKAR	**Makanchi Array**	**91.09**	**317**	P	**P**	**P**	**00 51 22.6**	**+1.1**
	0.1nm,0.4s,mb3.5,baz=90,slow=5.8,SNR=4.9							
BRVK	**Borovoye**	**99.75**	**322**	*ePdif*	**P**	**P**	**00 52 02.1**	**+1.3**
ZRNK	**Zerenda**	**100.51**	**322**	*ePdif*	P	**P**	00 52 05.8	+1.4

*CSEM **19** 01:03:15.6±0.4, 24.17N×36.43E, h20km, ML3.5, Error ellipse: s-maj=11.4km s-min=5.3km az=76.0*
*HLW **19** 01:03:16.4, 24.16N×36.52E, h18km, Mb3.5*
*SNSN **19** 01:03:18.4, 24.96N×37.85E, h121km, Ml2.0*
ISC 19 01:03:13.1±0.7, 24.22N±0.08×36.57E±0.04, h10km, n10, σ0§84/13, 5C, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
UMJS	**Umm Lajj**	**1.22**	**33**	P	**P**	**Pb**	**01 03 36.8**	**+1.0**
YNBS	**Yanbu' al Bahr**	**1.30**	**84**	P	**P**	**Pb**	**01 03 37.3**	**+0.1**
YNBS				S		**Sb**	**01 03 51.9**	**-1.8**
HAGS	**Hagol**	**1.46**	**277**	⇑*eP*	**P**	**Pn**	**01 03 40.5**	**+0.9**
HAGS				S		**Sb**	**01 03 57.3**	**-1.0**
HSHL	**Bi'r Shalatayn**	**1.54**	**225**	⇑*eP*	**P**	**Pn**	**01 03 40.7**	**-0.1**
EMRS	**Mersa Alam**	**1.77**	**297**	⇑*eP*	**P**	**Pn**	**01 03 44.5**	**+0.5**
EMRS				S		**Sn**	**01 04 05.4**	**-1.3**
HADB		**2.10**	**303**	⇑*iP*	**P**	**Pn**	**01 03 49.5**	**+0.7**
HQSR		**2.51**	**308**	⇑*eP*	**P**	**Pn**	**01 03 55.1**	**+0.5**
HEDF	**Idfu

TXAR LR LR 01 40 07.5
comp=Z,4μm,18.1s,baz=190,slow=37
PPM Popocatepetl 9.79 100 *i* P **P 01 36 41.3 +1.1**
PPM eP 01 36 43.0
PPM Popocatepetl 9.79 100 *i* P **P 01 36 44.3 +4.1**
MNTX Cornudas Mount 11.09 15 *e*P **P 01 36 55.2 -2.7**
TUC Tucson 11.39 352 *e*Pn **P 01 37 00.1 -2.0**
GDL2 Guadalupe Moun 11.84 19 *e*Pn **P 01 37 08.9 +0.8**
CLNB Carlsbad 12.06 21 *e*Pn **P 01 37 11.8 +0.8**
VHO Vista Hermosa 12.10 107 *i* P **P 01 37 13.9 +2.4**
VHO Vista Hermosa 12.10 107 *i* P **P 01 37 11.9 +0.4**
OXX Oaxaca 12.10 107 *e*P **P 01 37 11.0 -0.6**
JCT Junction City 12.46 39 *e*Pn **P 01 37 16.4 0.0**
46nm,1.3s
CPRX Cap Rock 12.77 19 *e*Pn **P 01 37 20.7 +0.2**
LENM Lemitar 13.21 7 *e*Pn **P 01 37 26.9 +0.5**
BNM Barren Site 13.24 8 *e*Pn **P 01 37 27.6 +0.8**
LPM Los Pinos Moun 13.40 8 *e*Pn **P 01 37 28.6 -0.2**
LAZ Ladron 13.43 6 *e*Pn **P 01 37 30.2 +1.0**
BAR Barrett 13.56 331 *e*Pn **P 01 37 31.3 +0.2**
ANMO Albuquerque 14.05 8 Pn **P 01 37 36.5 -0.9**
baz=205,slow=11,SNR=22
ANMO LR LR 01 42 50.3
comp=Z,3μm,19.9s,baz=183,slow=37
ANMO Albuquerque 14.05 8 *e*P **P 01 37 37.8 +0.4**
118nm,1.6s
PFO Pinyon Flat Ob 14.26 333 *e*Pn **P 01 37 38.9 -1.2**
12nm,0.9s
WUAZ Wupatki 14.63 352 *e*Pn **P 01 37 45.9 +0.8**
188nm,1.5s
MWC Mount Wilson 15.48 330 *e*Pn **P 01 37 55.2 -1.0**
NEN Nelson 15.51 341 *e*Pn **P 01 37 56.8 +0.3**
WMOK Wichita Mounta 16.30 31 *e*Pn **P 01 38 05.1 -1.4**
150nm,1.4s
CCIG Comitan 16.51 104 *e*P **P 01 38 08.8 -0.4**
NATX Nacogdoches 16.60 47 *e*Pn **P 01 38 10.2 -0.1**
374nm,1.6s
SDCO Great Sand Dun 16.93 9 *e*Pn **P 01 38 15.8 +1.4**
102nm,1.4s
DAC Darwin (Calif) 17.03 335 *e*Pn **P 01 38 16.5 +0.8**
70nm,1.4s
PV01 Paradox Valley 17.07 1 *e*Pn **P 01 38 16.8 +0.5**
TPNV Topopah Spring 17.15 339 *e*Pn **P 01 38 18.3 +1.1**
338nm,1.9s
ARUT Antelope Range 17.19 348 *e*Pn **P 01 38 19.7 +2.0**
PV10 Paradox Valley 17.31 359 *e*Pn **P 01 38 18.6 -0.7**
MVU Marysvale 17.68 351 *e*Pn **P 01 38 26.0 +2.2**
50nm,1.5s
MSU Marysvale 17.68 351 *e*Pn **P 01 38 25.3 +1.4**
SRU San Rafael 18.10 356 *e*Pn **P 01 38 28.0 -1.1**
61nm,1.6s
SMCO Snowmass 18.18 5 *e*Pn **P 01 38 30.3 +0.1**
89nm,1.4s
TMUT Trail Mountain 18.34 354 *e*P **P 01 38 32.4 +0.2**
TPH Tonopah 18.49 339 *e*Pn **P 01 38 33.3 -0.7**
42nm,1.3s
ISCO Idaho Springs 18.94 8 *e*Pn **P 01 38 39.3 -0.1**
57nm,1.4s
NLU North Lily Min 19.09 352 *e*P **P 01 38 40.7 -0.4**
MPU Maple Canyon 19.10 353 *e*P **P 01 38 40.6 -0.6**
42nm,1.3s
MNV Mina 19.14 337 *e*P **P 01 38 41.4 -0.3**
113nm,1.7s
NVAR Mina Array Bea 19.19 337 P **P 01 38 41.9 -0.3**
0.1nm,0.3s,baz=179,slow=11,SNR=25
NVAR Mina Array Bea 19.19 337 P **P 01 38 41.9 -0.3**
CBKS Cedar Bluff 19.40 22 *e*P **P 01 38 43.0 -1.6**
106nm,1.4s
CBKS *e* 01 38 55.2
DUG Dugway 19.43 351 *e*P **P 01 38 43.7 -1.1**
85nm,1.4s
DUG *e* 01 38 55.1
DAU Daniels Canyon 19.45 354 *e*P **P 01 38 43.8 -1.3**
CMB Columbia Colle 19.69 332 *e*P **P 01 38 47.7 -0.1**
75nm,2.0s
NOQ North Oquirrh 19.78 353 *e*P **P 01 38 48.4 -0.4**
101nm,1.5s
UALR University of 19.98 43 *e*P **P 01 38 50.2 -0.6**
27nm,1.2s
TCUT Toone Canyon 20.17 354 *e*P **P 01 38 52.7 -0.1**
BGU Big Grassy Mou 20.18 351 *e*P **P 01 38 52.5 -0.4**
ELK Elko 20.42 346 P **P 01 38 55.5 +0.1**
17nm,1.2s,baz=168,slow=7.8,SNR=20
ELK LR LR 01 46 16.3
comp=Z,1μm,19.4s,MS4.2,baz=166,slow=35
ELK Elko 20.42 346 *e*P **P 01 38 55.1 -0.3**
49nm,1.5s
PHWY Pilot Hill 20.44 7 *e*P **P 01 38 55.1 -0.5**
PHWY *e* 01 39 05.3
SPUT South Promonto 20.47 352 *e*P **P 01 38 55.8 -0.2**
RWWY Rawlins 20.67 3 *e*P **P 01 38 56.7 -1.3**
74nm,1.4s
RWWY *e* 01 39 07.8
HWUT Hardware Ranch 20.67 354 *e*P **P 01 38 57.4 -0.7**
55nm,1.4s
KSU1 Kansas State U 20.87 28 *e*P **P 01 38 58.6 -1.6**
KSU1 *e* 01 39 09.9
HVU Hansel Valley 20.98 352 *e*P **P 01 39 01.2 0.0**
35nm,1.2s
HVU *e* 01 39 11.7
HBAR Harrisburg 21.55 44 *e*P **P 01 39 08.5 +1.5**
BW06 Boulder Array 21.71 359 *e*P **P 01 39 07.2 -1.4**
75nm,1.6s,mb4.9
PDAR Pinedale Array 21.71 359 P **P 01 39 07.4 -1.1**
2.9nm,0.8s,mb3.8,baz=170,slow=9.0,SNR=25
PDAR LR LR 01 47 19.0
comp=Z,634nm,21.8s,MS4.0,baz=98,slow=36
AHID Auburn Hatcher 21.78 356 *e*P **P 01 39 09.0 -0.3**
54nm,1.4s,mb4.8
AHID *e* 01 39 18.4
REDW Red Top Meadow 22.36 356 *e*P **P 01 39 15.2 +0.2**
89nm,1.4s,mb5.0
RRI2 Red Ridge 22.38 355 *e*P **P 01 39 15.8 +0.6**
176nm,1.4s,mb5.3
SNOW Snow King Moun 22.45 356 *e*P **P 01 39 16.3 +0.3**
199nm,1.6s,mb5.3
TPAW Teton Pass 22.49 356 *e*P **P 01 39 16.8 +0.5**
74nm,1.3s,mb5.0
LOHW Long Hollow 22.59 357 *e*P **P 01 39 17.3 0.0**
96nm,1.4s,mb5.0
LOHW *e* 01 39 23.4
LRAL Lakeview Retre 22.80 54 *e*P **P 01 39 21.7 +2.3**
37nm,1.3s,mb4.7
PARMO Parma 22.80 43 *e*P **P 01 39 20.4 +1.0**
CCM Cathedral Cave 22.80 38 *e*P **P 01 39 19.4 0.0**
33nm,1.3s,mb4.6
IMW Indian Meadow 22.89 356 *e*P **P 01 39 20.7 +0.4**
104nm,1.6s,mb5.0
WVOR Wild Horse Val 22.90 341 *e*P **P 01 39 21.9 +1.6**
58nm,1.3s,mb4.8
HLID Hailey 22.97 350 *e*P **P 01 39 22.2 +1.1**
30nm,1.3s,mb4.6
MOD Modoc 22.97 338 *e*P **P 01 39 22.7 +1.6**
68nm,1.7s,mb4.8
MOD *e* 01 39 31.0
FVM French Village 23.23 39 *e*P **P 01 39 24.3 +0.6**
50nm,1.3s,mb4.8
FVM *e* 01 39 33.7
RSSD Black Hills 23.39 9 *e*P **P 01 39 26.6 +1.4**
8.6nm,1.0s,mb4.1
LKWY Lake 23.53 357 *e*P **P 01 39 27.8 +1.3**
51nm,1.4s,mb4.8
LKWY *e* 01 39 37.9
YMR Madison River 23.66 356 *e*P **P 01 39 29.6 +1.8**
60nm,1.3s,mb4.9
YMR *e* 01 39 39.5
WVT Waverly 23.75 46 *e*P **P 01 39 28.9 +0.2**
11nm,1.0s,mb4.2
YBH Yreka Blue Hor 23.76 334 LR LR 01 49 04.7
comp=Z,1μm,18.3s,MS4.4,baz=152,slow=37
QLMT Earthquake Lak 23.86 355 *e*P **P 01 39 31.5 +1.9**
MCMT McKenzie Canyo 23.99 353 *e*P **P 01 39 33.2 +2.3**
DLMT Dillon 24.49 354 *e*P **P 01 39 36.7 +0.9**
46nm,1.4s,mb4.7
DLMT *e* 01 39 43.5
BOZ Bozeman (W) 24.68 355 *e*P **P 01 39 37.9 +0.2**
25nm,1.3s,mb4.6
BOZ *e* 01 39 44.5
GCMT Greycliff 24.73 359 *e*P **P 01 39 38.6 +0.5**
BMO Blue Mountains 24.79 346 *e*P **P 01 39 38.9 +0.1**
42nm,1.5s,mb4.8
LAO LASA Array 25.71 4 *e*P **P 01 39 46.8 -0.6**
128nm,1.6s,mb5.2
HRY Holter Researc 25.76 355 *e*P **P 01 39 47.9 +0.1**
WCI Wyandotte Cave 25.94 44 *e*P **P 01 39 50.1 +0.5**
26nm,1.1s,mb4.7
CHMT Chamberlain Mo 26.09 353 *e*P **P 01 39 50.8 -0.1**
MSO Missoula 26.09 352 *e*P **P 01 39 50.3 -0.7**
7.9nm,1.1s,mb4.2
ACSO Alum Creek Sta 29.19 43 *e*P **P 01 40 18.9 -0.2**
17nm,1.3s,mb4.6
ULM Lac du Bonnet 30.93 16 P **P 01 40 32.1 -2.3**
5.6nm,0.9s,mb4.4,baz=204,slow=10,SNR=6.9
ULM LR LR 01 53 11.8
comp=Z,1μm,19.8s,MS4.6,baz=343,slow=37
EDM Edmonton 32.35 355 *e*P **P 01 40 44.8 -2.1**
ROSC El Rosal 37.14 111 LR LR 01 58 44.4
comp=Z,406nm,18.1s,MS4.3,baz=30,slow=40
SDV Santo Domingo 38.72 102 *e*P **P 01 41 42.1 +0.7**
12nm,0.8s,mb4.7,baz=318,slow=7.2,SNR=12
SDV Santo Domingo 38.72 102 *e*P **P 01 41 42.5 +1.1**
52nm,1.1s,mb5.2
SJG San Juan 40.24 86 P **P 01 41 53.7 -0.3**
13nm,0.8s,mb4.7,baz=303,slow=6.1,SNR=3.6
SJG LR LR 02 00 43.6
comp=Z,217nm,18.8s,MS4.0,baz=335,slow=40
DLBC Dease Lake 40.42 343 P **P 01 41 55.7 +0.6**
6.3nm,1.1s,mb4.2,baz=189,slow=6.0,SNR=5.6
DLBC LR LR 01 59 56.2
comp=Z,2μm,18.2s,MS4.9,baz=159,slow=38
DLBC Dease Lake 40.42 343 P **P 01 41 55.7 +0.6**
DLBC LR LR 01 59 56.2
YKA Yellowknife Ar 41.65 356 P **P 01 42 02.9 -2.2**
2.1nm,1.0s,mb3.7,baz=172,slow=7.5,SNR=9.9
YKA LR LR 02 00 16.5
comp=Z,880nm,18.9s,MS4.7,baz=195,slow=38
YKA Yellowknife Ar 41.65 356 P **P 01 42 02.9 -2.2**
YKA LR LR 02 00 16.5
SCHQ Schefferville 46.18 32 LR LR 02 02 38.4
comp=Z,898nm,18.5s,MS4.8,baz=287,slow=37
DAWY Dawson 47.63 342 *e*P **P 01 42 53.1 0.0**
KDAK Kodiak Island 48.51 330 LR LR 01 59 16.1
comp=Z,385nm,21.0s,MS4.4,baz=117,slow=31
INK Inuvik 49.73 348 P **P 01 43 08.9 -0.3**
6.7nm,0.9s,mb4.7,baz=143,slow=8.4,SNR=6.1
INK Inuvik 49.73 348 *e*P **P 01 43 08.9 -0.3**
13nm,1.0s,mb4.9
ILAR Eielson Array 50.41 340 P **P 01 43 14.2 -0.2**
2.7nm,0.9s,mb4.2,baz=151,slow=6.9,SNR=15
ILAR LR LR 02 05 12.9
comp=Z,265nm,18.7s,MS4.3,baz=155,slow=37
ILAR Eielson Array 50.41 340 P **P 01 43 14.2 -0.2**
ILAR LR LR 02 05 12.8
RKT Rikitea 50.72 212 *e*S **S 01 50 28.4 -0.5**
RKT *e*LR LR 01 57 48.7
646nm,28.5s
LPAZ La Paz 54.49 130 P **P 01 43 44.7 -0.8**
1.6nm,1.1s,mb3.9,baz=335,slow=7.2,SNR=4.2
LPAZ La Paz 54.49 130 *e*P **P 01 43 44.8 -0.7**
12nm,1.7s,mb4.6
PPT Papeete 55.36 229 *e*S **S 01 51 30.9 -1.1**
PPT *e*LR LR 01 59 44.9
317nm,25.2s,baz=18
SIV San Ignacio 59.57 124 P **P 01 44 20.8 -0.8**
1.9nm,0.8s,mb4.2,baz=312,slow=8.3,SNR=8.1
CFAA Coronel Fontan 65.20 142 P **P 01 44 57.7 -1.2**
0.1nm,0.5s,baz=239,slow=18,SNR=2.5
CPUP Villa Florida 68.61 131 *e*P **P 01 45 20.9 +0.4**
23nm,1.3s,mb5.0
BDFB Brasilia 69.92 116 LR LR 02 18 21.1
comp=Z,340nm,19.2s,MS4.6,baz=144,slow=38
PLCA Paso Flores 70.99 150 LR LR 02 10 31.2
comp=Z,294nm,18.6s,MS4.6,baz=103,slow=31
ARCES ARCESS Array B 84.04 15 LR LR 02 24 29.3
comp=Z,317nm,20.4s,MS4.7,baz=328,slow=36
NOA NORSAR Array B 85.21 25 LR LR 02 25 10.6
comp=Z,285nm,18.0s,MS4.7,baz=310,slow=36
FINES FINESS Array B 90.26 20 LR LR 02 25 40.4
comp=Z,235nm,21.1s,MS4.6,baz=340,slow=34
MJAR Matsushiro Arr 94.72 312 LR LR 02 28 20.1
comp=Z,193nm,19.1s,MS4.6,baz=60,slow=34
CN2 Changchun 98.58 324 *e*P **P 01 47 55.0 -0.1**
LZH Lanzhou 115.34 331 *e*PKP PKPdf 01 52 58.8 +1.7
LZH PP PP 01 54 04.0 +0.8
LZH PP PP
comp=Z,20nm,6.3s
LZH LR LR
comp=E,230nm,17.0s
LZH LR LR
comp=Z,380nm,18.4s,MS5.0

IDC ***19*** *01:38:26.6±0.6, 4.32N×83.94W, mb4.4/18, mb1 4.6/18, mb1mx4.5/24, mbtmp4.4/18, MS4.1/4, Ms1 4.1/4, ms1mx3.7/21, Error ellipse: s-maj=36.1km s-min=11.7km az=58.0*
BJI ***19*** *01:38:28.1, 4.20N×84.10W, h10km, mB5.1, Ms5.2, Msz4.8*
HRVD ***19*** *01:38:28.1±0.5, 4.22N×83.99W, h20km±2km, MW4.9/50, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s50,c74; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.96±.20; Mθθ0.01±.12; Mϕϕ-0.97±.17; Mrθ-0.15±.30; Mθϕ2.48±.14; Mϕr0.63±.32; Best double couple: M0 2.605×10^16 NP1:ϕs96°, δ74°, λ4°. NP2:ϕs4°, δ86°, λ164°. Principal axes: T 2.117, Plg14°, Azm319°; N .976, Plg73°, Azm170°; P -3.093, Plg8°, Azm51°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***19*** *01:38:28.1±0.2, 4.21N×84.08W, h10km, mb4.9/25 Error ellipse: s-maj=11.3km s-min=4.7km az=54.0*
CASC ***19*** *01:38:29.0±1.8, 4.26N×83.92W, h34km±999km, MD4.8, mb4.9(NEIC)*
ISC 19 01:38:30.4±0.3,**4.37N**±0.044×**83.91W**±0.07,**h33km**,**n103,** σ1§**05**/73,**mb4.6**/37,**MS4.4**/6,**3C-3D**,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**5.16**	**2**	**i**P	**P**		**01 39 46.4**	**-0.8**
BUS				*e*S	**S**		**01 40 46.9**	**+0.5**
LCR2	**La Lucha 2**	**5.34**	**359**	**i**P	**P**		**01 39 48.2**	**-1.6**
LAJ	**Bijagual**	**5.46**	**358**	**i**P	**P**		**01 39 48.1**	**-3.5**
LAJ				*e*S	**S**		**01 40 50.5**	**-3.6**
ICR	**Volcan Irazu**	**5.58**	**1**	**i**P	**P**		**01 39 53.3**	**+0.1**
PRS1	**Puriscal**	**5.59**	**356**	*e*P	**P**		**01 39 49.5**	**-3.9**
VPS2	**Volcan Poas 2**	**5.79**	**357**	**i**P	**P**		**01 39 56.0**	**-0.2**
VCR	**Vista de Mar**	**5.97**	**344**	*e*P	**P**		**01 39 56.5**	**-2.1**
JTS	**JuntasAbangare** 582nm,0.6s	**5.97**	**350**	*e*Pn	**Pn**		**01 39 57.5**	**-1.4**
FORC	**Fortuna**	**6.11**	**353**	**i**P	**P**		**01 40 00.9**	**+0.3**
OTAV	**Otavalo** 24nm,0.9s	**6.83**	**127**	*e*P	**P**		**01 40 08.6**	**-2.2**
ROSC	**El Rosal** 0.5nm,0.3s,baz=271,slow=22,SNR=6.2	**9.56**	**87**	Pn	**P**		**01 40 51.6**	**+2.6**
SDV	**Santo Domingo** comp=Z,1μm,21.8s,baz=252,slow=36	**13.93**	**71**	LR	LR		01 46 51.9	
NNA	**Nana** 114nm,1.5s	**17.70**	**157**	*e*P	**P**		**01 42 33.9**	**-2.3**
OXX	**Oaxaca**	**17.82**	**316**	*i*P	Px		01 42 48.0	
VHO	**Vista Hermosa**	**17.82**	**316**	*i*P	Px		01 42 47.9	
ACX	**Acapulco**	**20.02**	**310**	*i*P	Px		01 43 17.0	
CAIG	**El Cayaco**	**20.39**	**309**	*i*P	Px		01 43 23.2	
PLIG	**Platanillo**	**20.65**	**314**	*i*P	Px		01 43 29.1	
CPD	**Cerro la Pandu**	**22.24**	**51**	*e*P	Px		01 43 09.2	
MOIG	**Morelia**	**22.70**	**314**	*i*P	Px		01 43 58.1	
ARE	**Arequipa**	**24.07**	**150**	*e*P	**P**		**01 43 45.0**	**+1.1**
LPAZ	**La Paz** 10nm,1.0s,mb4.3,baz=334,slow=10,SNR=20	**25.79**	**143**	*e*P	**P**		**01 44 01.0**	**+0.6**
LPAZ	**La Paz** 12nm,1.7s,mb4.2	**25.79**	**143**	*e*P	**P**		**01 44 00.7**	**+0.4**
JCT	**Junction City** 21nm,1.1s,mb4.8	**29.99**	**332**	*e*P	**P**		**01 44 37.5**	**-0.8**
SIV	**San Ignacio** 3.3nm,0.9s,mb4.0,baz=296,slow=10,SNR=6.4	**30.33**	**132**	P	**P**		**01 44 40.9**	**-0.5**
TXAR	**Lajitas Array** 2.9nm,1.0s,mb4.1,baz=146,slow=9.0,SNR=11	**31.09**	**325**	P	**P**		**01 44 47.8**	**-0.3**
TXAR				PcP	PcP		01 47 42.5	-0.6
TXAR	1.2nm,1.0s,baz=127,slow=6.3,SNR=4.9			LR	LR		01 57 33.9	
TXAR	comp=Z,141nm,21.9s,MS3.6,baz=185,slow=37 **Lajitas Array**	**31.09**	**325**	P	**P**		**01 44 47.8**	**-0.3**
TXAR				PcP	PcP		01 47 42.5	-0.6
TXAR				LR	LR		01 57 33.9	
CPRX	**Cap Rock**	**34.06**	**329**	*e*P	**P**		**01 45 14.3**	**+0.4**
BNM	**Barren Site**	**36.38**	**327**	*e*P	**P**		**01 45 34.9**	**+1.2**
LAZ	**Ladron**	**36.85**	**327**	*e*P	**P**		**01 45 38.4**	**+0.9**
ANMO	**Albuquerque** 4.7nm,0.9s,mb4.3,baz=160,slow=9.6,SNR=8.7	**36.90**	**328**	P	**P**		**01 45 39.0**	**+1.0**
ANMO	**Albuquerque**	**36.90**	**328**	*e*P	**P**		**01 45 38.7**	**+0.7**
TUC	**Tucson** 8.3nm,1.0s,mb4.5	**37.49**	**321**	P	**P**		**01 45 42.9**	**0.0**
CFAA	**Coronel Fontan** 6.7nm,1.6s,mb4.2	**38.77**	**158**	P	**P**		**01 45 53.0**	**-0.6**
WUAZ	**Wupatki** 0.9nm,0.8s,baz=335,slow=7.2,SNR=7.8	**40.04**	**324**	*e*P	**P**		**01 46 05.2**	**+1.1**
ISCO	**Idaho Springs** 16nm,0.9s,mb4.8	**40.36**	**334**	*e*P	**P**		**01 46 08.0**	**+1.3**
SMCO	**Snowmass** 8.2nm,1.3s,mb4.3	**40.47**	**332**	*e*P	**P**		**01 46 09.2**	**+1.5**
BDFB	**Brasilia** 16nm,1.1s,mb4.7	**40.72**	**120**	P	**P**		**01 46 09.6**	**-0.4**
PHWY	**Pilot Hill** 2.5nm,0.8s,mb3.9,baz=229,slow=6.7,SNR=3.0	**41.54**	**335**	*e*P	**P**		**01 46 17.8**	**+1.3**
SRU	**San Rafael** 47nm,1.8s,mb4.8	**42.17**	**329**	*e*P	**P**		**01 46 21.7**	**-0.1**
NEN	**Nelson**	**42.22**	**321**	*e*P	**P**		**01 46 22.4**	**+0.2**
ARUT	**Antelope Range**	**42.81**	**325**	*e*P	**P**		**01 46 28.1**	**+1.1**
RSSD	**Black Hills** 64nm,1.8s,mb5.0	**43.38**	**339**	*e*P	**P**		**01 46 32.9**	**+1.3**
DAU	**Daniels Canyon**	**43.52**	**329**	P	**P**		**01 46 33.4**	**+0.7**
PDAR	**Pinedale Array** 2.3nm,0.9s,mb4.0,baz=128,slow=9.8,SNR=21	**44.51**	**333**	P	**P**		**01 46 40.3**	**-0.3**
PDAR	0.8nm,0.8s,baz=138,slow=4.7,SNR=4.6			PcP	PcP		01 48 23.2	-0.9
PDAR	comp=Z,180nm,19.3s,MS4.0,baz=141,slow=38			LR	LR		02 06 48.4	
REDW	**Red Top Meadow** 35nm,1.4s,mb5.1	**45.57**	**332**	*e*P	**P**		**01 46 48.9**	**-0.3**
TPAW	**Teton Pass** 9.7nm,0.9s,mb4.7	**45.71**	**332**	*e*P	**P**		**01 46 50.1**	**-0.1**
RRI2	**Red Ridge** 14nm,1.2s,mb4.8	**45.77**	**332**	*e*P	**P**		**01 46 50.8**	**0.0**
ELK	**Elko** 1.5nm,0.6s,mb4.1,baz=174,slow=7.6,SNR=8.7	**45.86**	**327**	P	**P**		**01 46 52.0**	**+0.4**
ELK	0.9nm,0.9s,baz=154,slow=1.8,SNR=4.3			PcP	PcP		01 48 28.4	-0.5
ELK	**Elko** 4.4nm,1.0s,mb4.3	**45.86**	**327**	*e*P	**P**		**01 46 51.2**	**-0.3**
MNV	**Mina**	**46.03**	**322**	*e*P	**P**		**01 46 53.3**	**+0.4**
NVAR	**Mina Array Bea** 7.1nm,0.9s,mb4.6,baz=157,slow=6.8,SNR=39	**46.12**	**322**	P	**P**		**01 46 54.3**	**+0.7**
PLCA	**Paso Flores** 4.4nm,1.0s,mb4.4,baz=3.4,slow=9.7,SNR=5.2	**46.52**	**166**	P	**P**		**01 46 55.0**	**-1.6**
ULM	**Lac du Bonnet** 6.4nm,0.9s,mb4.5,baz=170,slow=5.8,SNR=9.9	**46.82**	**349**	P	**P**		**01 46 58.2**	**-0.7**
ULM	1.3nm,0.5s,baz=36,slow=10,SNR=4.2			PcP	PcP		01 48 29.7	-2.3
ULM	**Lac du Bonnet**	**46.82**	**349**	P	**P**		**01 46 58.2**	**-0.7**
ULM				PcP	PcP		01 48 29.7	-2.3
GCMT	**Greycliff**	**46.97**	**335**	*e*P	**P**		**01 47 00.3**	**+0.2**
DGMT	**Dagmar** 34nm,1.3s,mb5.1	**47.24**	**342**	*e*P	**P**		**01 47 02.1**	**-0.1**
EGMT	**Eagleton** 30nm,1.8s,mb5.0	**48.81**	**337**	*e*P	**P**		**01 47 14.6**	**+0.2**
WVOR	**Wild Horse Val** 38nm,1.6s,mb5.2	**48.88**	**326**	*e*P	**P**		**01 47 14.0**	**-1.1**
YBH	**Yreka Blue Hor** 3.3nm,0.9s,mb4.3,baz=96,slow=7.2,SNR=5.5	**50.81**	**323**	P	**P**		**01 47 27.9**	**-1.9**
EDM	**Edmonton**	**54.36**	**339**	*e*P	**P**		**01 47 54.5**	**-1.7**
RKT	**Rikitea** 477nm,27.2s	**56.81**	**239**	*e*LR	LR		02 05 02.0	
FRB	**Frobisher Bay** 7.4nm,0.9s,mb4.7,baz=46,slow=2.7,SNR=3.6	**60.30**	**8**	P	**P**		**01 48 35.2**	**-2.8**
YKA	**Yellowknife Ar** 5.1nm,0.9s,mb4.7,baz=140,slow=6.6,SNR=57	**62.28**	**344**	P	**P**		**01 48 50.1**	**-1.3**
YKA	1.5nm,0.8s,baz=142,slow=5.1,SNR=7.0			PcP	PcP		01 49 29.9	-0.9
DLBC	**Dease Lake** 5.9nm,0.9s,mb4.6,baz=142,slow=3.6,SNR=11	**64.66**	**335**	P	**P**		**01 49 06.7**	**-0.3**
PPT	**Papeete** 311nm,28.0s	**68.33**	**249**	*e*LR	LR		02 10 20.0	
TBI	**Tubuai**	**69.54**	**243**	*e*LR	LR		02 10 55.0	
DAWY	**Dawson**	**71.55**	**338**	*e*P	**P**		**01 49 49.5**	**-0.3**
INK	**Inuvik** 8.8nm,0.9s,mb4.7,baz=125,slow=6.1,SNR=23	**71.91**	**343**	P	**P**		**01 49 52.1**	**+0.2**
INK	**Inuvik** 14nm,1.1s,mb4.8	**71.91**	**343**	*e*P	**P**		**01 49 52.0**	**+0.1**
SUMG	**Summit** 16nm,1.0s,mb4.9	**73.57**	**13**	*e*P	**P**		**01 50 01.7**	**+0.1**
ILAR	**Eielson Array** 3.9nm,0.9s,mb4.3,baz=124,slow=3.9,SNR=32	**74.78**	**337**	P	**P**		**01 50 08.2**	**-0.5**
ILAR	2.3nm,1.1s,baz=95,slow=7.3,SNR=9.6			PP	PP		01 52 57.2	-1.0
MCK	**McKinley** 6.5nm,1.0s,mb4.5	**75.22**	**335**	*e*P	**P**		**01 50 11.3**	**0.0**
MCK				*e*PcP	PcP		01 50 22.6	-2.4
ESDC	**Sonseca Array** 3.0nm,0.9s,mb4.2,baz=276,slow=5.2,SNR=9.2	**79.49**	**51**	P	**P**		**01 50 36.8**	**+1.2**
SJPF	**Ste Jean** 15nm,1.1s,mb4.6	**81.69**	**47**	*e*P	**P**		**01 50 48.3**	**+1.1**
GRR	**Gorron**	**82.14**	**42**	*e*P	**P**		**01 50 49.8**	**+0.4**
EPF	**Esparros**	**82.84**	**47**	*e*P	**P**		**01 50 54.2**	**+1.2**
TNA	**Tin City** 16nm,1.6s,mb4.9	**83.56**	**335**	*e*P	**P**		**01 50 57.4**	**+1.1**
RJF	**Les Rejaudoux**	**83.70**	**45**	*e*P	**P**		**01 50 57.9**	**+0.5**
VIVF	**Saint-Julien-l** 30nm,1.2s,mb5.1	**85.95**	**45**	*e*P	**P**		**01 51 10.0**	**+1.4**
CABF	**La Chapelle** 24nm,1.1s,mb5.0	**86.86**	**44**	*e*P	**P**		**01 51 13.8**	**+0.8**
QSPA	**South Pole Qui** 3.8nm,0.5s,mb5.1	**94.39**	**180**	P	**P**		**01 51 47.5**	**+0.1**
VNDA	**Vanda** comp=Z,126nm,18.1s,MS4.5,baz=130,slow=31	**99.37**	**192**	LR	LR		02 29 31.4	
CN2	**Changchun**	**125.25**	**334**	*e*PKP	PKPdf		01 57 30.8	+2.6
SONM	**Songino Array** 1.0nm,0.7s,baz=270,slow=1.5,SNR=5.5	**127.23**	**351**	PKP	PKPdf		01 57 32.4	+0.5
MKAR	**Makanchi Array** 1.4nm,0.9s,baz=3.4,slow=2.3,SNR=8.3	**127.62**	**12**	PKP	PKPdf		01 57 32.3	-0.4
STKA	**Stephens Creek** 3.8nm,1.0s,baz=60,slow=4.3,SNR=5.1	**129.37**	**232**	PKP	PKPdf		01 57 36.3	-0.2
WMQ	**Urumqi**	**131.44**	**8**	*e*PKP	PKPdf		01 57 41.4	+1.3
WMQ	comp=N,190nm,22.6s,MS4.9			LR	LR			
WMQ	comp=E,190nm,24.0s,MS4.9			LR	LR			
WMQ	comp=Z,200nm,22.0s,MS4.8			LR	LR			
HHC	**Hu-ho-hao-te**	**132.82**	**344**	*e*PKP	PKPdf		01 57 40.9	-1.9
SSE	**Sheshan**	**137.37**	**328**	*e*PKP	PKPdf		01 57 48.0	-3.4
SSE	comp=N,40nm,20.5s,MS4.5			LR	LR			
SSE	comp=E,80nm,20.5s,MS4.5			LR	LR			
SSE	comp=Z,60nm,17.3s,MS4.4			LR	LR			
NJ2	**Nanjing**	**137.80**	**331**	*e*PKP	PKPdf		01 57 49.5	-2.7
LZH	**Lanzhou**	**139.11**	**350**	*e*PKP	PKPdf		01 57 52.5	-1.9
LZH				XPKP			01 57 58.0	
LZH				PP	PP		02 00 49.0	-2.6
LZH	comp=Z,40nm,4.9s			PP	PP			
LZH	comp=E,230nm,18.0s			LR	LR			
LZH	comp=Z,330nm,19.4s,MS5.1			LR	LR			
WB2	**Warramunga Arr**	**139.66**	**244**	*e*P	PKPdf		01 57 55.7	-0.1
WRA	**Warramunga Arr** comp=Z,2.8nm,0.9s,baz=115,slow=1.7,SNR=4.7	**139.67**	**244**	PKhKP			01 57 48.1	
WRA	comp=Z,2.7nm,0.9s,baz=104,slow=1.6,SNR=16			PKP	PKPdf		01 57 55.6	-0.3
KOLN	**Koldanda** comp=Z,21nm,1.0s	**145.85**	**20**	*e*P	PKPdf		01 58 07.5	+1.0
GKN	**Gorkha**	**145.98**	**18**	*e*P	PKPdf		01 58 08.8	+2.1
KKN	**Kakani**	**146.37**	**17**	*e*P	PKPdf		01 58 10.0	+2.6
GUN	**Gumba** comp=Z,65nm,1.1s	**146.43**	**16**	*e*P	PKPdf		01 58 10.6	+3.1
DMN	**Daman**	**146.49**	**18**	*e*P	PKPdf		01 58 09.6	+2.0
PKI	**Pulchoki**	**146.62**	**17**	*e*P	PKPdf		01 58 10.6	+2.8
JIRN	**Jiri** comp=Z,34nm,1.0s	**146.76**	**16**	*e*P	PKPdf		01 58 11.1	+3.0
FITZ	**Fitzroy Crossi** comp=Z,8.6nm,0.9s	**148.04**	**242**	*e*P	PKPdf		01 58 10.5	+0.1
MBWA	**Marble Bar**	**151.61**	**232**	*e*PKPbc	PKPdf		01 58 21.5	+5.6

IDC ***19

DZM	**Mont Dzumac**	**10.20**	**181**	*e*P	**P**	**01 41 06.7**	**+0.8**
DZM				*e*S	**S**	**01 42 55.7**	**-1.8**
DZM	**Mont Dzumac**	**10.20**	**181**	P	P	**01 41 05.8**	**-0.1**
	5.5nm,0.3s,baz=46,slow=14,SNR=30						
DZM				S	**S**	**01 42 58.9**	**+1.4**
	2.0nm,0.3s,baz=319,slow=23,SNR=7.0						
NOUC	**Port Laguerre**	**10.23**	**182**	*e*P	**P**	**01 41 07.8**	**+1.4**
NOUC				*e*S	**S**	**01 42 57.2**	**-1.0**
NOUC	**Port Laguerre**	**10.23**	**182**	*e*P	**P**	**01 41 07.8**	**+1.4**
NOUC				*e*S	**S**	**01 42 57.2**	**-1.0**
CTA	**Charters Tower**	**21.26**	**245**	P	**P**	**01 43 10.2**	**+0.5**
	1.8nm,0.6s,mb3.5,baz=101,slow=11,SNR=4.1						
CTAO	**Charters Tower**	**21.26**	**245**	P	**P**	**01 43 10.7**	**+0.9**
	2.0nm,0.7s,mb3.6						
URZ	**Urewera**	**27.94**	**162**	P	**P**	**01 44 10.6**	**-0.9**
	3.9nm,0.3s,mb4.3,baz=69,slow=1.3,SNR=7.7						
STKA	**Stephens Creek**	**30.52**	**225**	P	**P**	**01 44 33.5**	**-0.9**
RPZ	**Rata Peaks**	**32.01**	**174**	P	**P**	**01 44 46.0**	**-1.0**
	11nm,0.5s,mb4.6,baz=352,slow=4.5,SNR=5.9						
WRAB	**Tennant Creek**	**32.07**	**251**	*e*P	**P**	**01 44 47.3**	**-0.5**
	23nm,1.5s,mb4.5						
WRA	**Warramunga Arr**	**32.08**	**251**	P	**P**	**01 44 46.0**	**-1.8**
	0.3nm,0.8s,baz=85,slow=9.1,SNR=2.9						
GUMO	**Guam**	**33.23**	**319**	*e*P	**P**	**01 44 57.3**	**-0.4**
	157nm,1.1s						
TAU	**Tasmania Unive**	**35.24**	**205**	P	**P**	**01 45 16.6**	**+2.1**
VNDA	**Vanda**	**65.74**	**181**	P	**P**	**01 49 01.6**	**+0.7**
	1.0nm,0.7s,mb3.7,baz=346,slow=9.2,SNR=6.6						
VNDA	**Vanda**	**65.74**	**181**	*e*P	**P**	**01 49 01.2**	**+0.3**
	1.1nm,0.7s,mb3.7						
CASY	**Casey**	**66.00**	**202**	*e*P	**P**	**01 49 04.0**	**+1.4**
	17nm,0.5s,mb5.0						
SONM	**Songino Array**	**79.82**	**324**	P	**P**	**01 50 23.9**	**+0.5**
	1.0nm,0.8s,mb3.6,baz=141,slow=6.0,SNR=5.0						
ILAR	**Eielson Array**	**83.95**	**18**	P	**P**	**01 50 43.9**	**-0.4**
	1.9nm,0.7s,mb4.0,baz=238,slow=4.7,SNR=15						
MKAR	**Makanchi Array**	**94.70**	**317**	P	**P**	**01 51 36.0**	**+0.7**
	1.6nm,0.7s,mb4.2,baz=85,slow=6.4,SNR=18						
YKA	**Yellowknife Ar**	**95.24**	**27**	P	**P**	**01 51 36.5**	**-0.9**
	0.2nm,0.5s,mb3.5,baz=258,slow=4.9,SNR=11						
YKA	**Yellowknife Ar**	**95.24**	**27**	P	**P**	**01 51 36.5**	**-0.9**
SNAA	**Sanae**	**96.41**	**183**	*e*P	**P**	**01 51 43.0**	**+0.5**
	3.2nm,1.4s,mb4.3						
ARCES	**ARCESS Array B**	**117.30**	**346**	PKP	PKPdf	01 56 58.4	+2.1
	3.2nm,0.9s,baz=27,slow=2.7,SNR=5.3						
ESDC	**Sonseca Array**	**151.04**	**345**	PKPab	PKPab	01 58 15.6	0.0
	0.4nm,0.5s,baz=10,slow=3.9,SNR=5.1						

*IDC **19** 01:59:04.2±1.1,0.39S×124.71E,mb4.1/4,mb1 4.3/4, mb1mx3.9/13,mbtmp4.2/4, Error ellipse: s-maj=137.0km s-min=20.0km az=65.0*
*NEIC **19** 01:59:09.1±0.5,0.21S×125.19E,h35km,mb4.2/8, Error ellipse: s-maj=31.1km s-min=7.0km az=70.0*
ISC 19 01:59:06.9±0.6,0.3S±0.1×125.0E±0.2,h33km,n17, σ0≥96/17,mb4.2/11,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**17.75**	**178**	*e*P		**P**	**02 03 14.6**	**+1.4**
	9.4nm,0.6s							
MBWA	**Marble Bar**	**21.41**	**194**	*e*P		**P**	**02 03 54.8**	**+0.7**
WRAB	**Tennant Creek**	**21.59**	**155**	*e*P		**P**	**02 03 55.4**	**-0.6**
	6.0nm,0.7s,mb4.1							
WRA	**Warramunga Arr**	**21.60**	**156**	P		**P**	**02 03 55.0**	**-1.0**
	1.9nm,0.5s,mb3.8,baz=334,slow=11,SNR=11							
WB2	**Warramunga Arr**	**21.60**	**155**	*e*P		**P**	**02 03 55.3**	**-0.8**
ENH	**Enshi**	**33.76**	**335**	P		**P**	**02 05 48.3**	**+0.5**
STKA	**Stephens Creek**	**35.15**	**155**	P		**P**	**02 06 00.5**	**+0.8**
	6.2nm,0.7s,mb4.6,baz=332,slow=8.2,SNR=15							
PALK	**Pallekele**	**44.81**	**281**	P		**P**	**02 07 17.2**	**-2.8**
	261nm,2.1s							
ULN	**Ulaanbaatar**	**50.41**	**344**	*e*P		**P**	**02 07 58.7**	**-4.6**
	1.6nm,0.6s,mb4.2							
SONM	**Songino Array**	**50.56**	**344**	P		**P**	**02 08 05.5**	**+1.1**
	2.0nm,0.8s,mb4.1,baz=157,slow=7.6,SNR=10							
MKAR	**Makanchi Array**	**59.89**	**327**	P		**P**	**02 09 11.7**	**-0.3**
	1.6nm,0.5s,mb4.3,baz=123,slow=8.3,SNR=29							
MKAR				PcP		PcP	02 09 56.7	-1.2
	0.6nm,0.6s,baz=129,slow=4.3,SNR=3.7							
MKAR	**Makanchi Array**	**59.89**	**327**	P		**P**	**02 09 11.7**	**-0.3**
MKAR				PcP		PcP	02 09 56.7	-1.2
AAK	**Ala-Archa**	**62.20**	**320**	*e*P		**P**	**02 09 28.9**	**+1.2**
	1.1nm,0.6s,mb4.2							
KURK	**Kurchatov**	**64.20**	**329**	*e*P		**P**	**02 09 39.7**	**-1.0**
	4.9nm,0.7s,mb4.7							
BRVK	**Borovoye**	**69.81**	**328**	*e*P		**P**	**02 10 15.9**	**-0.1**
	1.7nm,1.0s,mb3.9							
CHKZ	**Chkalovo**	**69.95**	**329**	*e*P		**P**	**02 10 16.7**	**-0.1**
	1.9nm,0.8s,mb4.1							
ZRNK	**Zerenda**	**70.44**	**328**	*e*P		**P**	**02 10 19.8**	**0.0**
	2.2nm,0.6s,mb4.3							

KRSC 19 01:59:25.1±0.4,55.75N×162.31E,h46km±7km,ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBTR	**Krutoberegovo**	**0.54**	**32**	*i* P		P	01 59 37.1	+0.5
KBTR				*e*S		S	01 59 46.3	+1.4
ZLN	**Zelenaya**	**0.89**	**288**	*e*P		P	01 59 41.8	+0.4
ZLN				*e*S		S	01 59 54.0	+0.6
CIRR	**Tsirk**	**0.95**	**293**	*i* P		P	01 59 42.5	+0.3
CIRR				*e*S		S	01 59 54.8	-0.1
LGNR	**Loginova**	**0.97**	**291**	*e*P		P	01 59 43.1	+0.6
LGNR				*e*S		S	01 59 55.6	+0.2
BDR	**Baidarnaya**	**1.03**	**324**	*i* P		P	01 59 44.0	+0.7
BDR				*e*S		S	01 59 57.1	+0.3
KRSR	**Krestovskiy**	**1.09**	**296**	*i* P		P	01 59 44.0	-0.1
KRSR				*e*S		S	01 59 57.4	-0.9
KLY	**Klyuchi**	**1.09**	**302**	*e*P		P	01 59 43.0	-1.1
KLY				*e*S		S	01 59 56.0	-2.3
SRKR	**Sorokina**	**1.11**	**325**	*i* P		P	01 59 45.0	+0.6
SRKR				*e*S		S	01 59 59.5	+0.7
KMNR	**Kamenistaya**	**1.17**	**271**	*i* P		P	01 59 46.2	+0.9
KMNR				*e*S		S	02 00 01.7	+1.3
KPT	**Kopyto**	**1.20**	**281**	*i* P		P	01 59 46.5	+0.8
KPT				*e*S		S	02 00 02.0	+1.0
MKZ	**Mys Kozlova**	**1.24**	**196**	*e*P		P	01 59 46.8	+0.5
MKZ				*e*S		S	02 00 02.7	+0.5
TUMR	**Tumrok**	**1.32**	**250**	*i* P		P	01 59 48.7	+1.2
TUMR				*e*S		S	02 00 05.7	+1.5
KOZ	**Kozyrevsk**	**1.41**	**284**	*i* P		P	01 59 50.2	+1.4
KOZ				*e*S		S	02 00 08.7	+2.3
SRDR	**Sredinnyy**	**1.56**	**292**	*i* P		P	01 59 52.1	+1.1
SRDR				*i* S		S	02 00 12.0	+1.8
ESO	**Esso**	**2.04**	**276**	P		P	01 59 59.1	+1.4
ESO				Smax				
	90nm,0.9s							
BKI	**Bering**	**2.15**	**103**	P		P	01 59 58.5	-0.8
BKI				*e*S		S	02 00 23.1	-1.8
BKI				Smax				
	120nm,0.2s							
SPN	**Mys Shipunski**	**2.97**	**208**	*e*P		P	02 00 10.4	-0.6
SPN				*e*S		S	02 00 43.8	-1.9
NLC	**Nalytchevo**	**3.11**	**215**	*e*P		P	02 00 12.9	0.0
NLC				*e*S		S	02 00 48.0	-1.2
SMAR	**Somma**	**3.22**	**221**	*e*P		P	02 00 15.2	+0.7
AVH	**Avacha**	**3.25**	**221**	*e*P		P	02 00 15.9	+1.0
KOK	**Koryaka**	**3.26**	**223**	*e*P		P	02 00 16.3	+1.2
GNL	**Ganaly**	**3.26**	**233**	*e*P		P	02 00 15.9	+0.8
KRMR	**Karymshinskiy**	**3.81**	**222**	P		P	02 00 25.3	+2.4

*ATH **19** 02:03:08.5,38.13N×27.07E,h58km±3km,MD3.0/3*
*ISK **19** 02:03:09.5,38.27N×26.59E,h14km,MD2.8*
*CSEM **19** 02:03:10.9±0.2,38.18N×26.75E,h20km,MD2.8, Error ellipse: s-maj=6.9km s-min=3.7km az=129.0*
ISC 19 02:03:09.9±0.8,38.22N±0.03×26.60E±0.05,h6km±5km, n12,σ0≥94/22,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URLA	**Izmir**	**0.14**	**360**	*i* P		**Pg**	**02 03 12.6**	**-0.3**
URLA				*i* S		**Sg**	**02 03 15.5**	**+0.6**
BLCB	**Balcova**	**0.39**	**65**	PG		**Pg**	**02 03 17.5**	**-0.2**
BLCB				SG		**Sg**	**02 03 23.2**	**+0.3**
SMG	**Samos**	**0.55**	**160**	*e*P		**Pg**	**02 03 20.6**	**-0.3**
SMG				*e*S		**Sg**	**02 03 29.0**	**+0.8**
IZM	**Izmir**	**0.55**	**71**	PG		**Pg**	**02 03 20.7**	**-0.3**
IZM				SG		**Sg**	**02 03 29.0**	**+0.6**
KDAG	**Bornova**	**0.56**	**71**	*i* P		**Pg**	**02 03 20.0**	**-1.1**
KDAG				*i* S		**Sg**	**02 03 28.2**	**-0.4**
PRK	**Paraskevi**	**1.05**	**346**	*e*P		**Pb**	**02 03 31.0**	**+0.9**
PRK				*e*S		**Sb**	**02 03 47.8**	**+3.9**
AYVA	**Ayvalik**	**1.09**	**4**	*i* P		**Pb**	**02 03 28.3**	**-2.4**
AYVA				*i* S		**Sb**	**02 03 46.8**	**+1.9**
AKS	**Akhisar**	**1.16**	**55**	*e*PN		**Pn**	**02 03 31.4**	**-1.1**
AKS				*e*SN		**Sn**	**02 03 47.6**	**-1.2**
AYDN	**Tasoluk**	**1.16**	**119**	*i* P		**Pb**	**02 03 32.8**	**+0.9**
AYDN				*i* S		**Sb**	**02 03 47.2**	**+0.2**
APE	**Apeiranthos**	**1.43**	**217**	*e*P		**Pn**	**02 03 36.0**	**-0.4**
MANT	**Manisa**	**1.57**	**80**	*i* P		**Pn**	**02 03 39.2**	**+0.9**
MANT				*i* S		**Sb**	**02 03 59.7**	**+0.9**
DST	**Dursunbey**	**2.10**	**48**	*e*PN		**Pn**	**02 03 45.1**	**-1.0**

*CSEM **19** 02:03:14.2±1.0,38.66N×29.20W,h5km,ML1.7, Error ellipse: s-maj=11.7km s-min=6.6km az=24.0,After PDA*
*PDA **19** 02:03:14.2±1.0,38.66N×29.20W,h5km,MD3.1,ML1.7, Error ellipse: s-maj=11.7km s-min=6.6km az=24.0*
SVSA 19 02:03:14.2±1.0,38.66N×29.20W,h5km,MD3.1,ML1.7, Error ellipse: s-maj=11.7km s-min=6.6km az=24.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PTCA	**Ponta do Capel**	**0.33**	**103**	*e*P		Pg	02 03 20.4	-0.4
PTCA				*e*S		Sg	02 03 24.9	-0.3
	34nm,0.1s							
PTCA	**Ponta do Capel**	**0.33**	**103**	*e*P		Pg	02 03 20.4	-0.4
PTCA				*e*S		Sg	02 03 24.9	-0.3
	34nm,0.1s							
PCED	**Cedros**	**0.39**	**94**	*i* P		Pg	02 03 20.9	-1.2
PCED				*i* S		Sg	02 03 26.3	-1.1
	37nm,0.2s							
PCED	**Cedros**	**0.39**	**94**	*i* S		Sg	02 03 26.3	-1.1
	37nm,0.2s							
CALA	**Caldeira**	**0.40**	**101**	*e*P		Pg	02 03 21.2	-1.0
CALA				*e*S		Sg	02 03 26.4	-1.2
PCND	**Candelaria**	**0.61**	**108**	*e*P		Pg	02 03 24.8	-1.6
PCND				*e*S		Sg	02 03 32.5	-2.1
	9.7nm,0.1s							
PICO	**Pico**	**0.63**	**104**	*e*P		Pg	02 03 24.6	-2.2
PICO				*e*S		Sg	02 03 32.7	-2.5
PBOI	**Pico dos Bois**	**0.69**	**109**	*e*S		Sg	02 03 33.9	-3.2
	13nm,0.2s							
ROSA	**Rosais**	**0.75**	**85**	*e*P		Pg	02 03 26.8	-2.5
ROSA				*e*S		Sg	02 03 35.7	-3.6
PPNO	**Prainha do Nor**	**0.76**	**104**	*erx*			02 03 36.9	

*IDC **19** 02:09:49.5±2.2,3.71S×81.17W,mb3.5/4,mb1 3.8/5, mb1mx3.6/16,mbtmp3.7/5,ML3.9/1, Error ellipse: s-maj=78.0km s-min=28.1km az=47.0*
*NEIC **19** 02:09:55.2±0.8,3.55S×80.91W,h35km,mb4.1/4, Error ellipse: s-maj=20.6km s-min=10.5km az=74.0*
ISC 19 02:09:50.0±3.9,3.50S±0.05×81.0W±0.1,h10km±25km,n13, σ0≥91/15,mb3.9/6,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OTAV	**Otavalo**	**4.49**	**34**	*e*Pn		**Pn**	**02 10 59.8**	**+0.1**
OTAV				*e*Sn		**Sn**	**02 11 52.3**	**-0.4**
NNA	**Nana**	**9.38**	**154**	*e*Pn		**P**	**02 12 03.6**	**-4.7**
NNA				*e*Sn		**Sn**	**02 13 55.7**	**+0.8**
JTS	**JuntasAbangare**	**14.26**	**344**	*e*P		**P**	**02 13 14.9**	**+0.5**
SDV	**Santo Domingo**	**16.05**	**40**	Pn		**P**	**02 13 41.1**	**+3.4**
	0.5nm,0.3s,baz=215,slow=12,SNR=5.0							
SDV	**Santo Domingo**	**16.05**	**40**	*e*P		**P**	**02 13 40.6**	**+2.9**
	2.0nm,0.4s							
LPAZ	**La Paz**	**17.92**	**136**	*e*Pn		**P**	**02 13 59.9**	**-1.3**
	1.6nm,0.6s							
SIV	**San Ignacio**	**23.18**	**124**	P		**P**	**02 14 58.8**	**+0.7**
	0.5nm,0.5s,mb3.2,baz=306,slow=11,SNR=6.1							
SJG	**San Juan**	**25.97**	**34**	*e*P		**P**	**02 15 24.4**	**-0.5**
PLCA	**Paso Flores**	**38.24**	**167**	*e*P		**P**	**02 17 10.9**	**-1.2**
	20nm,1.8s,mb4.5							
TRQA	**Tornquist**	**38.53**	**156**	*e*P		**P**	**02 17 15.2**	**+0.6**
	24nm,1.5s,mb4.7							
PDAR	**Pinedale Array**	**52.81**	**334**	P		**P**	**02 19 08.9**	**+1.0**
	0.4nm,0.7s,mb3.5,baz=143,slow=7.4,SNR=4.5							
ULM	**Lac du Bonnet**	**55.05**	**348**	P		**P**	**02 19 24.1**	**-0.3**
	1.8nm,0.6s,mb4.3,baz=159,slow=8.5,SNR=7.8							
YKA	**Yellowknife Ar**	**70.59**	**344**	P		**P**	**02 21 06.4**	**-0.9**
	0.2nm,0.6s,mb3.2,baz=140,slow=5.5,SNR=18							

*IDC **19** 02:17:45.6±1.9,24.19S×67.06W,h152km±20km,mb3.5/2, mb1 3.5/5,mb1mx3.2/15,mbtmp3.8/5, Error ellipse: s-maj=34.5km s-min=16.7km az=101.0*
*NEIC **19** 02:17:46.9±0.6,24.11S×66.95W,h166km±8km,mb4.3/4, Error ellipse: s-maj=9.7km s-min=7.3km az=63.0*
*GUC **19** 02:17:50.3±0.7,24.32S×67.42W,h180km±12km,ML3.8*
ISC 19 02:17:45.6±0.7,24.23S±0.05×67.03W±0.07, h173km±11km,n18,σ1≥27/21,mb3.9/4,1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPCH	**San Pedro de A**	**1.69**	**321**	*i* S		**S**	**02 18 50.4**	**+5.1**
SPCH				AMP			02 18 50.8	
	comp=N,225nm,0.4s							
CEN1	**Los Morros**	**3.02**	**285**	⇓*i*P		**P**	**02 18 37.6**	**+2.8**
CEN1				*i* S		**S**	**02 19 13.4**	**+0.8**
CEN1				AMP			02 19 18.7	
	comp=E,237nm,0.5s							
ANCH	**Antofagasta**	**3.14**	**279**	*e*P		**P**	**02 18 38.1**	**+1.9**
ANCH				*i* S		**S**	**02 19 14.3**	**-1.0**
CRCH	**Chaqaral**	**3.87**	**236**	*i* S		**S**	**02 19 31.1**	**-0.8**
CRCH				AMP			02 19 32.9	
	comp=N,258nm,0.3s							
CDCH	**Caldera**	**4.45**	**230**	*i* S		**S**	**02 19 43.9**	**-1.1**
CFAA	**Coronel Fontan**	**7.43**	**188**	P		**P**	**02 19 33.7**	**+1.5**
	comp=N,0.1nm,0.3s,baz=14,slow=13,SNR=6.1							
CFAA				S		**S**	**02 20 53.6**	**-1.8**
	comp=N,0.1nm,0.3s,baz=234,slow=12,SNR=5.1							
CFAA	**Coronel Fontan**	**7.43**	**188**	P		**P**	**02 19 33.7**	**+1.5**
CFAA				S		**S**	**02 20 53.6**	**-1.8**
LPAZ	**La Paz**	**7.96**	**352**	P		**P**	**02 19 39.3**	**-0.1**
	comp=N,0.4nm,0.3s,baz=184,slow=19,SNR=11							
CPUP	**Villa Florida**	**9.03**	**105**	*e*P		**P**	**02 19 52.7**	**-0.6**
SIV	**San Ignacio**	**9.92**	**35**	P		**P**	**02 20 03.3**	**-1.7**
	comp=N,0.3nm,0.3s,baz=221,slow=15,SNR=10							
TRQA	**Tornquist**	**14.45**	**164**	*e*P		**P**	**02 21 05.0**	**+2.0**
	comp=N,47nm,1.9s							
NNA	**Nana**	**15.32**	**321**	*e*P		**P**	**02 21 13.7**	**-0.5**
	comp=N,11nm,1.1s							
BDFB	**Brasilia**	**19.80**	**68**	P		**P**	**02 22 04.6**	**0.0**
	comp=N,0.6nm,0.3s,baz=251,slow=10,SNR=14							
SDV	**Santo Domingo**	**33.10**	**353**	*e*P		**P**	**02 24 06.1**	**-1.3**
	comp=N,1.2nm,0.6s,mb3.8							
JTS	**JuntasAbangare**	**38.51**	**331**	*e*P		**P**	**02 24 52.4**	**-0.5**
	comp=N,30nm,1.6s,mb4.7							
MATP	**Matopo**	**86.61**	**111**	P		**P**	**02 30 12.7**	**+1.6**
	comp=N,1.4nm,1.0s,mb3.8,baz=225,slow=2.9,SNR=5.2							
YKA	**Yellowknife Ar**	**94.33**	**340**	P		**P**	**02 30 46.1**	**+0.1**
	comp=N,0.2nm,0.8s,mb3.3,baz=130,slow=4.6,SNR=4.4							
MKAR	**Makanchi Array**	**146.72**	**40**	PKPbc		PKPbc	02 37 09.2	+2.7
	comp=N,0.6nm,0.6s,baz=296,slow=3.4,SNR=7.7							

*MOS **19** 02:32:27.2±2.2,50.47N×19.29E,h10km,mb3.7/1, Error ellipse: s-maj=8.3km s-min=6.7km az=89.7*
*IPEC **19** 02:32:28.6±0.2,50.31N×19.19E,ML2.5/4, Error ellipse: s-maj=2.4km s-min=0.7km az=173.0*
*PRU **19** 02:32:29.8,50.27N×19.13E*
*IDC **19** 02:32:30.2±2.1,50.33N×18.93E,mb1 3.6/5, mb1mx3.4/19,mbtmp3.6/5,ML3.4/4, Error ellipse: s-maj=38.2km s-min=8.0km az=124.0*
*CSEM **19** 02:32:30.4±0.1,50.28N×19.11E,h2km,ML3.3/7, Error ellipse: s-maj=3.2km s-min=1.7km az=12.0*
*BGR **19** 02:32:31.9±0.7,50.19N×18.99E,h1km,ML3.2/12, Error ellipse: s-maj=12.2km s-min=6.7km az=4.0*
*NEIC **19** 02:32:31.9,50.19N×18.99E,h1km,ML3.2(SZGRF), After SZGRF.*
WAR 19 02:32:29.0,50.27N×19.26E,h1km,MW2.9,Mw2.9,3C-7D, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OJC	**Ojcow**	**0.35**	**98**	⇓*i*PG		Pg	02 32 36.0	0.0
OJC				⇓*e*SG		Sg	02 32 41.0	+0.4
OJC	**Ojcow**	**0.35**	**98**	*i* P		Pg	02 32 36.0	0.0
OJC				*e*Sg		Sg	02 32 41.4	+0.8
RAC	**Raciborz**	**0.71**	**255**	*e*PG		Pg	02 32 43.0	-0.2
RAC				*e*SG		Sg	02 32 53.0	+0.3
RAC	**Raciborz**	**0.71**	**255**	*e*Pg		Pg	02 32 42.8	-0.4
RAC				*e*Sg		Sg	02 32 53.3	+0.6
OKC	**Ostrava-Krasne**	**0.84**	**239**	*e*PG		Pg	02 32 44.7	-1.1
OKC				*e*SG		Sg	02 32 55.8	-1.2
	52nm,0.4s							
OKC	**Ostrava-Krasne**	**0.84**	**239**	*e*P		Pg	02 32 44.7	-1.1
OKC				*e*			02 32 55.8	
OKC				smax				
	comp=N,52nm,0.4s							
OKC	**Ostrava-Krasne**	**0.84**	**239**	*e*Pg		Pg	02 32 44.7	-1.1
OKC				*e*Sg		Sg	02 32 54.9	-2.1
NIE	**Niedzica**	**1.09**	**141**	*e*PG		Pg	02 32 50.0	-0.8
NIE				*e*SG		Sg	02 33 06.0	+0.7
MORC	**Moravsky Berou**	**1.22**	**247**	⇓P		Pn	02 32 50.8	-2.3
MORC	**Moravsky Berou**	**1.22**	**247**	*e*Pg		Pn	02 32 50.8	-2.3
MORC				*e*Sg		Sg	02 33 06.9	-2.6
	comp=N,104nm,0.4s							
LIKS	**Likavka**	**1.23**	**185**	*e*SN		Sn	02 33 08.3	-2.4
LIKS				*e*LG			02 33 10.0	
STHS	**Stebnicka Huta**	**1.54**	**123**	*e*PN		Pn	02 32 58.5	+0.8
STHS				*e*SN		Sn	02 33 22.5	+3.8
STHS				*e*LG			02 33 30.0	
JAVC	**Velka Javorina**	**1.75**	**217**	*e*Sg		Sg	02 33 25.0	-2.4
	comp=N,18nm,0.3s							
VYHS	**Vyhne**	**1.80**	**189**	*i* PN		Pn	02 33 00.1	-1.4
VYHS				*e*SN		Sn	02 33 23.1	-2.2
VYHS				*e*LG			02 33 30.0	
DPC	**Dobruska-Polom**	**1.89**	**274**	*e*PG		Pn	02 33 01.2	-1.5
DPC				*e*SG		Sg	02 33 26.4	-5.4
	comp=N,54nm,0.5s							
DPC	**Dobruska-Polom**	**1.89**	**274**	*e*P		Pn	02 33 01.2	-1.5
DPC				*e*			02 33 26.4	
DPC				smax				
	comp=N,54nm,0.5s							
DPC	**Dobruska-Polom**	**1.89**	**274**	*e*Pn		Pn	02 33 01.1	-1.6
DPC	**Dobruska-Polom**	**1.89**	**274**	*e*Pg		Pn	02 33 01.2	-1.5
DPC				*e*Sg		Sg	02 33 26.5	-5.3
KECS	**Kecovo**	**1.96**	**155**	*e*PN		Pn	02 33 02.7	-1.0
KECS				*e*SN		Sn	02 33 29.6	+0.3
KECS				*e*LG			02 33 50.0	
KSP	**Ksiaz**	**1.98**	**288**	*e*Pn		Pn	02 33 03.0	-1.0
KSP				*e*Pg		Pg	02 33 06.2	-2.4
KSP				*e*Sn		Sn	02 33 31.4	+1.6
KSP				*e*Sg		Sg	02 33 34.4	-0.5
KSP	**Ksiaz**	**1.98**	**288**	*e*P		Pn	02 33 03.0	-1.0
KSP				*e*			02 33 31.4	
KSP	**Ksiaz**	**1.98**	**288**	*e*Pn		Pn	02 33 03.0	-1.0
KSP				*e*Pg		Pg	02 33 05.8	-2.7
KSP				*e*Sg		Sg	02 33 31.4	-3.5
KSP	**Ksiaz**	**1.98**	**288**	*e*Pg		Pg	02 33 05.8	-2.7
KSP				*e*Sg		Sg	02 33 31.4	-3.5
VRAC	**Vranov**	**1.98**	**242**	Pn		Pn	02 33 03.0	-1.0
	comp=N,3.4nm,0.3s,baz=62,slow=14,SNR=24							
VRAC				Pg		Pg	02 33 04.0	-4.5
	comp=N,6.3nm,0.3s,baz=61,slow=14,SNR=24							
VRAC				Lg			02 33 29.6	
	comp=N,2.3nm,0.3s,baz=107,slow=15,SNR=4.4							
VRAC	**Vranov**	**1.98**	**242**	P		Pn	02 33 04.0	0.0
VRAC				pmax		pmax		
	comp=Z,6.0nm,0.3s							
VRAC	**Vranov**	**1.98**	**242**	⇓P		Pn	02 33 04.0	0.0
VRAC	**Vranov**	**1.98**	**242**	*e*Pn		Pn	02 33 03.9	-0.1
VRAC				*e*Sg		Sg	02 33 29.2	-5.8
	comp=Z,30nm,0.3s							
CRVS	**Cervenica-Dubn**	**1.98**	**133**	*e*PN		Pn	02 33 04.1	+0.1
CRVS				*e*SN		Sn	02 33 32.6	+2.8
UPC	**Upice**	**2.09**	**278**	*e*PG		Pg	02 33 04.7	-6.1
SMOL	**Smolenice**	**2.13**	**215**	*e*SN		Sn	02 33 31.5	-2.1
KRUC	**Moravsky**	**2.22**	**238**	*e*Pn		Pn	02 33 06.1	-1.4
KRUC				*e*Sg		Sg	02 33 36.7	-6.3
	comp=Z,42nm,0.8s							
KWP	**Kalwaria**	**2.31**	**105**	*e*PN		Pn	02 33 11.0	+2.2
KWP				*e*PG		Pg	02 33 17.0	+1.8
KWP				*e*SN		Sn	02 33 43.0	+4

FINES Sn S 02 37 19.8 -16
comp=N,0.2nm,0.3s,baz=208,slow=24,SNR=5.0
KAF Kangasniemi 12.49 15 *ep* P 02 35 22.3 -8.3
comp=N,3.2nm,0.9s
KAF Kangasniemi 12.49 15 *eP* P 02 35 22.3 -8.3
KAF pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 19.56 7 Pn P 02 36 55.2 -5.3
comp=Z,0.2nm,0.3s,baz=188,slow=14,SNR=12

IDC ***19*** *02:49:54.2ₛ 1.1, 18.40Nₖ 145.32E, h455km≈12km, mb3.7/15, mb1 3.9/18, mb1mx3.7/23, mbtmp4.5/18, Error ellipse: s-maj=15.8km s-min=10.4km az=69.0*
MOS ***19*** *02:49:54.3ₛ 0.9, 18.44Nₖ 145.25E, h466km, mb4.3/13, Error ellipse: s-maj=17.9km s-min=9.1km az=111.7*
BJI ***19*** *02:49:55.0, 18.40Nₖ 145.30E, h459km, mB4.7, mb4.6*
NEIC ***19*** *02:49:55.0ₛ 0.7, 18.43Nₖ 145.34E, h459km≥9km, mb4.3/16, Error ellipse: s-maj=7.7km s-min=6.1km az=71.0*
ISC 19 02:49:53.9ₛ 0.8, 18.40N±0.06ₖ 145.29E±0.07, h461km≥9km, n80, σ0ˢ92/78, mb4.2/37, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.80**	**185**	P	**P**	**02 51 18.2**	**+0.5**
	40nm,0.3s,baz=188,slow=6.5,SNR=19						
GUMO				S	**S**	**02 52 22.4**	**-1.5**
	111nm,0.3s,baz=177,slow=21,SNR=12						
GUMO	**Guam**	**4.80**	**185**	P	**P**	**02 51 18.2**	**+0.5**
GUMO				S	**S**	**02 52 22.4**	**-1.5**
JOW	**Kunigami**	**17.80**	**301**	P	**P**	**02 53 36.0**	**+2.1**
	4.4nm,0.3s,baz=128,slow=6.5,SNR=5.7						
MJAR	**Matsushiro Arr**	**19.12**	**342**	P	**P**	**02 53 47.0**	**+0.3**
	2.3nm,0.3s,baz=168,slow=10,SNR=13						
MAJO	**Matsushiro**	**19.12**	**342**	P	**P**	**02 53 47.5**	**+0.8**
MAT	**Matsushiro**	**19.12**	**342**	P	**P**	**02 53 47.4**	**+0.7**
MAT	**Matsushiro**	**19.12**	**342**	*eP*	**P**	**02 53 47.0**	**+0.3**
MAT				pmax	pmax		
	comp=Z,14nm,0.7s						
MAT	**Matsushiro**	**19.12**	**342**	*eP*	**P**	**02 53 47.0**	**+0.3**
	comp=Z,14nm,0.7s						
NACB	**Ninganchiao**	**22.80**	**289**	*eP*	**P**	**02 54 23.9**	**+2.6**
YHNB	**Yeheng**	**23.09**	**290**	*eP*	**P**	**02 54 24.9**	**+0.9**
CN2	**Changchun**	**30.34**	**331**	*eP*	**P**	**02 55 28.8**	**+1.0**
KLR	**Kul'dur**	**32.64**	**343**	*eP*	**P**	**02 55 43.3**	**-4.1**
WRAB	**Tennant Creek**	**39.58**	**196**	P	**P**	**02 56 36.4**	**-8.9**
	comp=Z,33nm,1.8s,mb4.5						
WB2	**Warramunga Arr**	**39.58**	**196**	*eP*	**P**	**02 56 45.1**	**-0.2**
WRA	**Warramunga Arr**	**39.59**	**196**	P	**P**	**02 56 45.3**	**0.0**
	comp=Z,1.3nm,0.4s,mb3.7,baz=19,slow=8.9,SNR=19						
WRA				PcP	PcP	02 58 41.3	-1.0
	comp=Z,0.7nm,0.4s,baz=10,slow=3.2,SNR=6.0						
WRA				ScP		03 01 44.1	
	comp=Z,1.9nm,0.8s,baz=19,slow=4.3,SNR=9.6						
FITZ	**Fitzroy Crossi**	**41.09**	**209**	*eP*	**P**	**02 56 57.7**	**+0.1**
	comp=Z,9.8nm,0.3s,mb4.7						
ULN	**Ulaanbaatar**	**42.77**	**322**	*eP*	**P**	**02 57 11.2**	**+0.6**
SONM	**Songino Array**	**43.14**	**322**	P	**P**	**02 57 14.4**	**+0.8**
	comp=Z,3.3nm,0.7s,mb3.9,baz=134,slow=7.6,SNR=23						
SONM				PcP	PcP	02 58 53.1	-0.7
	comp=Z,2.5nm,0.8s,baz=151,slow=4.1,SNR=8.1						
YAK	**Yakutsk**	**44.94**	**350**	*eP*	**P**	**02 57 26.1**	**-1.4**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.5						
DZM	**Mont Dzumac**	**45.23**	**152**	P	**P**	**02 57 30.4**	**+0.1**
	comp=Z,5.1nm,0.5s,mb4.2,baz=103,slow=23,SNR=14						
BOD	**Bodaibo**	**45.63**	**337**	*eP*	**P**	**02 57 31.2**	**-1.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
MBWA	**Marble Bar**	**46.61**	**214**	*eP*	**P**	**02 57 40.2**	**-0.8**
	comp=Z,20nm,1.6s,mb4.5						
LSA	**Lhasa**	**50.31**	**294**	*eP*	**P**	**02 58 10.1**	**+1.3**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
LSA	**Lhasa**	**50.31**	**294**	*eP*	**P**	**02 58 10.1**	**+1.3**
	comp=Z,6.0nm,0.6s,mb4.1						
BILL	**Bilibino**	**51.38**	**10**	P	**P**	**02 58 11.7**	**-4.4**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
BILL	**Bilibino**	**51.38**	**10**	P	**P**	**02 58 11.7**	**-4.5**
	comp=Z,7.4nm,0.6s,mb4.2						
TIXI	**Tiksi**	**54.12**	**354**	P	**P**	**02 58 34.6**	**-1.2**
WMQ	**Urumqi**	**54.21**	**311**	*eP*	**P**	**02 58 36.4**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,80nm,5.0s						
JIRN	**Jiri**	**54.73**	**291**	*eP*	**P**	**02 58 41.4**	**+0.6**
	comp=Z,14nm,0.5s,mb4.5						
GUN	**Gumba**	**54.99**	**292**	*eP*	**P**	**02 58 43.1**	**+0.5**
	comp=Z,7.8nm,0.3s,mb4.5						
PKI	**Pulchoki**	**55.43**	**291**	*eP*	**P**	**02 58 45.6**	**-0.1**
KKN	**Kakani**	**55.53**	**291**	*eP*	**P**	**02 58 46.1**	**-0.3**
	comp=Z,12nm,0.5s,mb4.5						
KKN	**Kakani**	**55.53**	**291**	*eP*	**P**	**02 58 46.1**	**-0.3**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.2						
DMN	**Daman**	**55.70**	**291**	*eP*	**P**	**02 58 48.1**	**+0.5**
	comp=Z,12nm,0.4s,mb4.6						
GKN	**Gorkha**	**56.08**	**292**	*eP*	**P**	**02 58 50.1**	**-0.1**
	comp=Z,26nm,0.8s,mb4.6						
KOLN	**Koldanda**	**57.02**	**292**	*eP*	**P**	**02 58 56.6**	**0.0**
	comp=Z,16nm,0.8s,mb4.4						
NWAO	**Narrogin (SRO)**	**57.65**	**208**	*eP*	**P**	**02 59 00.9**	**0.0**
NWAO				pmax	pmax		
	comp=Z,28nm,1.6s						
NWAO	**Narrogin (SRO)**	**57.65**	**208**	*eP*	**P**	**02 59 00.9**	**+0.1**
	comp=Z,28nm,1.6s,mb4.3						
MKAR	**Makanchi Array**	**58.39**	**314**	P	**P**	**02 59 05.7**	**+0.1**
	comp=Z,2.5nm,0.4s,mb3.9,baz=89,slow=8.4,SNR=88						
MKAR				PcP	PcP	02 59 49.4	-1.2
	comp=Z,1.8nm,0.7s,baz=90,slow=6.1,SNR=7.3						
KDAK	**Kodiak Island**	**59.82**	**33**	P	**P**	**02 59 14.7**	**-0.3**
	comp=Z,5.2nm,0.7s,mb4.1,baz=225,slow=2.9,SNR=10						
TAU	**Tasmania Unive**	**61.03**	**178**	*eP*	**P**	**02 59 24.2**	**+0.9**
KURK	**Kurchatov**	**61.24**	**318**	*eP*	**P**	**02 59 24.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.6						
KURK	**Kurchatov**	**61.24**	**318**	*eP*	**P**	**02 59 24.1**	**-0.5**
	comp=Z,21nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**64.08**	**26**	P	**P**	**02 59 40.9**	**-1.9**
	comp=Z,2.5nm,0.5s,mb4.0,baz=246,slow=6.1,SNR=79						
THY	**Trims Highway**	**64.31**	**28**	P	**P**	**02 59 44.8**	**+0.5**
CHKZ	**Chkalovo**	**66.33**	**321**	P	**P**	**02 59 56.0**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**66.33**	**321**	P	**P**	**02 59 56.0**	**-1.0**
	comp=Z,4.1nm,0.8s,mb4.1						
BVA0	**Borovoye Array**	**66.46**	**320**	*i* P	**P**	**02 59 57.4**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
BVAR	**Borovoye Array**	**66.46**	**320**	P	**P**	**02 59 57.6**	**-0.2**
	comp=Z,9.7nm,0.6s,mb4.6,baz=97,slow=7.8,SNR=47						
BRVK	**Borovoye**	**66.52**	**321**	P	**P**	**02 59 57.9**	**-0.3**
KKAR	**Karatay Array**	**66.66**	**310**	*i* P	**P**	**02 59 59.3**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**67.30**	**320**	P	**P**	**03 00 02.5**	**-0.5**
INK	**Inuvik**	**69.80**	**23**	P	**P**	**03 00 17.4**	**-0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**69.80**	**23**	P	**P**	**03 00 17.4**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.0						
ARU	**Arti**	**73.08**	**325**	*eP*	**P**	**03 00 36.7**	**-0.5**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.6						
ARU	**Arti**	**73.08**	**325**	*eP*	**P**	**03 00 36.7**	**-0.5**
	comp=Z,9.3nm,0.5s,mb4.6						
AB31	**Akbulak array**	**73.29**	**317**	*i* P	**P**	**03 00 37.9**	**-0.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
AKTO	**Aktyubinsk**	**74.33**	**318**	P	**P**	**03 00 43.5**	**-0.9**
	comp=Z,2.4nm,0.6s,mb3.9,baz=94,slow=7.6,SNR=8.8						
YKA	**Yellowknife Ar**	**78.43**	**28**	P	**P**	**03 01 06.4**	**-0.3**
	comp=Z,2.4nm,0.6s,mb3.8,baz=287,slow=5.1,SNR=49						
YKA	**Yellowknife Ar**	**78.43**	**28**	P	**P**	**03 01 06.4**	**-0.3**
KEV	**Kevo**	**82.10**	**342**	*ep*	**P**	**03 01 24.2**	**-1.3**
ARCES	**ARCESS Array B**	**82.66**	**342**	P	**P**	**03 01 28.2**	**-0.1**
	comp=Z,6.9nm,0.7s,mb4.3,baz=89,slow=8.7,SNR=35						
NVAR	**Mina Array Bea**	**83.63**	**52**	P	**P**	**03 01 35.0**	**+1.1**
	comp=Z,3.7nm,0.7s,mb4.0,baz=262,slow=6.5,SNR=26						
ELK	**Elko**	**85.11**	**49**	P	**P**	**03 01 42.2**	**+1.1**
TPNV	**Topopah Spring**	**85.65**	**53**	P	**P**	**03 01 45.0**	**+1.2**
KAF	**Kangasniemi**	**86.53**	**336**	*ep*	**P**	**03 01 43.9**	**-3.5**
	comp=Z,3.0nm,0.7s,mb4.1,baz=54,slow=4.6						
KAF	**Kangasniemi**	**86.53**	**336**	*eP*	**P**	**03 01 43.9**	**-3.5**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**86.99**	**335**	P	**P**	**03 01 48.3**	**-1.4**
	comp=Z,2.2nm,0.5s,mb4.2,baz=75,slow=4.5,SNR=20						
NEN	**Nelson**	**87.16**	**53**	*eP*	**P**	**03 01 52.2**	**+1.2**
GLA	**Glamis**	**88.08**	**56**	P	**P**	**03 01 56.6**	**+1.2**
PDAR	**Pinedale Array**	**88.31**	**45**	P	**P**	**03 01 56.1**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.3,baz=125,slow=0.3,SNR=4.7						
SRU	**San Rafael**	**89.08**	**49**	P	**P**	**03 02 00.8**	**+0.8**
PV10	**Paradox Valley**	**90.44**	**49**	*eP*	**P**	**03 02 07.4**	**+1.1**
PV01	**Paradox Valley**	**90.87**	**49**	*eP*	**P**	**03 02 08.6**	**+0.3**
NOA	**NORSAR Array B**	**92.72**	**340**	P	**P**	**03 02 14.8**	**-1.4**
	comp=Z,0.7nm,0.6s,mb3.9,baz=40,slow=4.6,SNR=3.0						
BRTR	**Keskin Array B**	**94.04**	**314**	P	**P**	**03 02 21.6**	**-1.2**
	comp=Z,2.3nm,0.9s,mb4.2,baz=90,slow=3.7,SNR=6.2						
DBIC	**Dimbokro**	**141.43**	**308**	PKhKP		03 08 28.2	
	comp=Z,2.0nm,0.6s,baz=305,slow=2.4,SNR=6.7						
PLCA	**Paso Flores**	**142.08**	**134**	PKhKP		03 08 30.0	
	comp=Z,0.9nm,0.4s,baz=236,slow=4.9,SNR=4.4						
LPAZ	**La Paz**	**148.05**	**91**	PKP	PKPdf	03 08 46.2	+3.0
	comp=Z,6.8nm,0.6s,baz=290,slow=1.8,SNR=24						
LPAZ				PKPbc	PKPdf	03 08 49.5	+6.2
	comp=Z,6.8nm,0.6s,baz=1.2,slow=2.3,SNR=26						
LPAZ	**La Paz**	**148.05**	**91**	*e*PKPdf	PKPdf	03 08 45.7	+2.4

MOS ***19*** *03:03:46.5ₛ 1.0, 2.37Nₖ 121.30E, h33km, mb4.9/11, Error ellipse: s-maj=17.9km s-min=9.4km az=123.4*
BJI ***19*** *03:03:47.2, 2.49Nₖ 121.34E, h22km, mB4.9, mb4.7, Ms4.4, Msz4.2*
IDC ***19*** *03:03:48.5ₛ 0.4, 2.33Nₖ 121.26E, h35km≥3km, mb4.3/18, mb1 4.4/18, mb1mx4.3/21, mbtmp4.5/18, MS4.0/19, Ms1 4.0/19, ms1mx3.9/26, Error ellipse: s-maj=17.4km s-min=9.3km az=62.0*
NEIC ***19*** *03:03:48.5ₛ 0.2, 2.27Nₖ 121.21E, mb4.8/22, Error ellipse: s-maj=6.9km s-min=4.3km az=54.0*
ISC 19 03:03:46.5ₛ 0.3, 2.29N±0.05ₖ 121.28E±0.06, h36km, h36km±1.0km; pP-P, n97, σ0ˢ94/83, mb4.7/39, MS4.1/22, 1C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**6.28**	**307**	*e*Pn	**P**	**03 05 17.3**	**-1.8**
KKM				*e*Sn	**S**	**03 06 22.9**	**-7.7**
DAV	**Davao City (W)**	**6.39**	**42**	*eP*	**P**	**03 05 21.0**	**+0.2**
DAV	**Davao City (W)**	**6.39**	**42**	*e*Pn	**P**	**03 05 20.6**	**-0.1**
DAV				*e*Sn	**S**	**03 06 41.8**	**+8.4**
PPR	**Puerto Princes**	**7.86**	**341**	*e*P	**P**	**03 05 39.8**	**-1.4**
KSM	**Kuching**	**11.00**	**266**	*e*Pn	**P**	**03 06 21.1**	**-3.5**
QIZ	**Qiongzhong**	**20.05**	**327**	*eP*	**P**	**03 08 20.0**	**+0.4**
QIZ				S	**S**	**03 12 01.0**	**+3.0**
QIZ				LR	LR		
	comp=Z,600nm,31.0s,MS3.8						
FITZ	**Fitzroy Crossi**	**20.71**	**168**	*i*P	**P**	**03 08 24.9**	**-1.6**
	comp=Z,44nm,0.6s						
FITZ				*i* sP		03 08 35.7	
KULM	**Kulim**	**20.80**	**279**	*eP*	**P**	**03 08 26.7**	**-0.7**
PSI	**Prapat**	**22.34**	**272**	P	**P**	**03 08 42.8**	**-0.1**
	comp=Z,10.0nm,0.8s,mb4.3,baz=108,slow=3.4,SNR=6.7						
PSI				LR	LR	03 19 34.2	
	comp=Z,505nm,18.3s,MS4.0,baz=153,slow=42						
MBWA	**Marble Bar**	**23.35**	**184**	*eP*	**P**	**03 08 52.7**	**-0.1**
	comp=Z,71nm,0.8s,mb5.2						
MBWA				*ep*P		03 09 03.2	
JOW	**Kunigami**	**25.31**	**15**	LR	LR	03 19 24.1	
	comp=Z,544nm,18.2s,MS4.1,baz=128,slow=37						
WRAB	**Tennant Creek**	**25.54**	**150**	*eP*	**P**	**03 09 13.6**	**-0.3**
WRAB				*e**PP	pP	03 09 24.4	+0.6
WRAB				pmax	pmax		
	comp=Z,128nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**25.54**	**150**	*eP*	**P**	**03 09 13.6**	**-0.4**
	comp=Z,128nm,0.9s,mb5.5						
WRAB				*ep*P	pP	03 09 24.4	+0.6
WRA	**Warramunga Arr**	**25.54**	**150**	P	**P**	**03 09 13.6**	**-0.4**
	comp=Z,34nm,0.7s,mb5.0,baz=326,slow=11,SNR=182						
WRA				pP	pP	03 09 24.2	+0.4
	comp=Z,79nm,0.8s,baz=325,slow=11,SNR=30						
WB2	**Warramunga Arr**	**25.55**	**150**	*eP*	**P**	**03 09 13.6**	**-0.4**
WB2				*es*P	sP	03 09 25.0	-3.1
GUMO	**Guam**	**25.88**	**63**	LR	LR	03 17 59.0	
	comp=Z,107nm,19.1s,MS3.4,baz=245,slow=33						
PMG	**Port Moresby**	**28.28**	**115**	P	**P**	**03 09 39.3**	**+0.2**
	comp=Z,20nm,0.7s,mb4.9,baz=302,slow=6.3,SNR=10.0						
PMG				pP	pP	03 09 49.6	+0.5
	comp=Z,24nm,0.7s,baz=302,slow=7.7,SNR=6.2						
PMG	**Port Moresby**	**28.28**	**115**	*eP*	**P**	**03 09 40.1**	**+1.0**
PMG				*e**PP	pP	03 09 50.5	+1.4
PMG				pmax	pmax		
	comp=Z,26nm,0.8s						
PMG	**Port Moresby**	**28.28**	**115**	*eP*	**P**	**03 09 40.1**	**+1.0**
	comp=Z,26nm,0.8s,mb4.9						
PMG				*ep*P	pP	03 09 50.5	+1.4
KMI	**Kunming**	**28.89**	**323**	P	**P**	**03 09 46.8**	**+2.4**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
ENH	**Enshi**	**29.99**	**339**	*eP*	**P**	**03 09 54.1**	**-0.1**
	comp=Z,16nm,1.0s,mb4.7						
ENH				*ep*P	pP	03 10 04.8	+0.5
CBIJ	**Chichi jima**	**31.77**	**37**	LR	LR	03 21 49.3	
	comp=Z,235nm,20.9s,MS3.8,baz=92,slow=34						
JNU	**Nakatsue**	**31.96**	**15**	LR	LR	03 24 55.6	
	comp=Z,288nm,18.6s,MS4.0,baz=252,slow=40						
CD2	**Chengdu**	**32.94**	**332**	P	**P**	**03 10 19.6**	**-0.5**
CTA	**Charters Tower**	**33.09**	**133**	*eP*	**P**	**03 10 22.6**	**+1.1**
	comp=Z,4.2nm,0.8s,mb4.4						
CTA	**Charters Tower**	**33.09**	**133**	P	**P**	**03 10 22.2**	**+0.7**
	comp=Z,9.2nm,1.0s,mb4.7,baz=324,slow=10,SNR=9.9						
CTA				pP	pP	03 10 31.5	-0.2
	comp=Z,1.9nm,0.4s,baz=312,slow=11,SNR=2.5						
CTA	**Charters Tower**	**33.09**	**133**	*eP*	**P**	**03 10 22.6**	**+1.1**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTAO	**Charters Tower**	**33.09**	**133**	*eP*	**P**	**03 10 22.6**	**+1.1**
CTAO				*e**PP	pP	03 10 31.5	-0.2
CTAO				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
CTAO	**Charters Tower**	**33.09**	**133**	*eP*	**P**	**03 10 22.6**	**+1.1**
	comp=Z,7.7nm,1.1s,mb4.5						
CTAO				*ep*P	pP	03 10 31.5	-0.2
KLBR	**Kellerberrin**	**33.86**	**185**	*eP*	**P**	**03 10 27.5**	**-0.5**
	comp=Z,43nm,1.3s,mb5.2						
KLBR				*es*P	sP	03 10 37.9	-5.0
MUN	**Mundaring**	**34.42**	**188**	*eP*	**P**	**03 10 42.8**	**-0.3**
NWAO	**Narrogin (SRO)**	**35.23**	**186**	P	**P**	**03 10 39.8**	**0.0**
	comp=Z,10nm,0.8s,mb4.8,baz=7.8,slow=10,SNR=6.6						
NWAO				pP	pP	03 10 50.3	+0.3
	comp=Z,87nm,0.8s,baz=356,slow=11,SNR=29						
NWAO				LR	LR	03 25 26.6	
	comp=Z,199nm,20.3s,MS3.9,baz=245,slow=37						
NWAO	**Narrogin (SRO)**	**35.23**	**186**	*eP*	**P**	**03 10 39.6**	**-0.2**
NWAO				*e**PP	pP	03 10 50.2	+0.1
NWAO				pmax	pmax		
	comp=Z,89nm,0.9s						
NWAO	**Narrogin (SRO)**	**35.23**	**186**	*eP*	**P**	**03 10 39.6**	**-0.2**
	comp=Z,89nm,0.9s,mb5.7						
NWAO				*ep*P	pP	03 10 50.2	+0.1
MJAR	**Matsushiro Arr**	**37.50**	**23**	P	**P**	**03 10 57.1**	**-1.7**
	comp=Z,3.7nm,0.8s,mb4.3,baz=200,slow=9.2,SNR=5.2						
MJAR				pP	pP	03 11 08.4	-0.8
	comp=Z,4.3nm,0.8s,baz=209,slow=7.8,SNR=5.6						
MJAR				LR	LR	03 24 36.3	
	comp=Z,155nm,19.2s,MS3.8,baz=190,slow=33						
STKA	**Stephens Creek**	**39.07**	**152**	*eP*	**P**	**03 11 12.6**	**+0.6**
	comp=Z,10.0nm,0.8s,mb4.6						
STKA				*es*P	sP	03 11 23.8	-3.0
STKA	**Stephens Creek**	**39.07**	**152**	P	**P**	**03 11 13.0**	**+1.0**
	comp=Z,17nm,0.9s,mb4.8,baz=312,slow=7.1,SNR=28						
STKA				pP	pP	03 11 23.6	+1.3
	comp=Z,62nm,0.8s,baz=321,slow=9.0,SNR=35						
STKA				LR	LR	03 29 51.3	
	comp=Z,182nm,18.9s,MS3.9,baz=215,slow=40						
LSA	**Lhasa**	**39.51**	**317**	*eP*	**P**	**03 11 21.0**	**+5.3**
LSA	**Lhasa**	**39.51**	**317**	*eP*	**P**	**03 11 17.3**	**+1.6**
LSA				*e**PP	pP	03 11 28.2	+2.2
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**39.51**	**317**	*eP*	**P**	**03 11 17.3**	**+1.6**
	comp=Z,4.7nm,0.6s,mb4.4						
LSA				*ep*P	pP	03 11 28.2	+2.2
GTA	**Gaotai**	**41.80**	**335**	P	**P**	**03 11 35.8**	**+1.3**
GTA				AP	pP	03 11 45.9	+1.0
GTA				XP	sP	03 11 49.8	+0.4
GTA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.2						
JIRN	**Jiri**	**41.97**	**310**	*eP*	**P**	**03 11 36.6**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.1						
GUN	**Gumba**	**42.33**	**310**	*eP*	**P**	**03 11 38.9**	**-0.2**
	comp=Z,18nm,0.8s,mb4.7						
KKN	**Kakani**	**42.73**	**310**	*eP*	**P**	**03 11 42.2**	**-0.1**
MDJ	**Mudanjiang**	**42.78**	**9**	P	**P**	**03 11 39.2**	**-3.3**
	comp=Z,49nm,1.4s,mb5.0						
GKN	**Gorkha**	**43.33**	**310**	*eP*	**P**	**03 11 46.8**	**-0.4**
	comp=Z,26nm,1.0s,mb4.9						
KOLN	**Koldanda**	**44.02**	**309**	*eP*	**P**	**03 11 53.2**	**+0.4**
	comp=Z,12nm,0.6s,mb4.8						
HYB	**Hyderabad**	**44.55**	**293**	*i* P	**P**	**03 11 57.5**	**+0.3**
	comp=Z,50nm,1.0s,mb5.3						
HYB	**Hyderabad**	**44.55**	**293**	*eP*	**P**	**03 11 57.5**	**+0.3**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.3						
HYB	**Hyderabad**	**44.55**	**293**	*eP*	**P**	**03 11 57.5**	**+0.3**
	comp=Z,50nm,1.0s,mb5.3						
SONM	**Songino Array**	**47.16**	**346**	P	**P**	**03 12 18.1**	**+0.6**
	comp=Z,1.3nm,0.7s,mb3.9,baz=159,slow=7.4,SNR=5.2						
SONM				pP	pP	03 12 28.4	+0.6
	comp=Z,2.0nm,0.7s,baz=159,slow=13,SNR=6.0						
SONM				LR	LR	03 34 05.2	
	comp=Z,216nm,18.9s,MS4.1,baz=208,slow=39						
KLR	**Kul'dur**	**47.62**	**9**	*eP*	**P**	**03 12 27.7**	**+6.7**
TAU	**Tasmania Unive**	**50.75**	**155**	*eP*	**P**	**03 12 44.2**	**-1.0**
WMQ	**Urumqi**	**50.96**	**329**	*eP*	**P**	**03 12 48.0**	**+1.2**
WMQ				AP	pP	03 12 53.0	-4.3
WMQ				XP	sP	03 12 57.0	-4.6
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,70nm,4.6s						
WMQ				LR	LR		
	comp=N,210nm,22.0s,MS4.2						
WMQ				LR	LR		
	comp=E,130nm,22.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,190nm,24.0s,MS4.0						
BOD	**Bodaibo**	**55.67**	**355**	*eP*	**P**	**03 13 19.7**	**-1.7**
BOD				*e*	pP	03 13 31.1	-1.0
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
BOD				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.8						
MKAR	**Makanchi Array**	**55.77**	**328**	P	**P**	**03 13 22.2**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=132,slow=7.9,SNR=15						
MKAR				pP	pP	03 13 33.0	0.0
	comp=Z,5.2nm,0.8s,baz=127,slow=7.2,SNR=14						
MKAR				LR	LR	03 37 06.1	
	comp=Z,120nm,21.7s,MS3.9,baz=96,slow=36						
KURK	**Kurchatov**	**60.15**	**330**	*eP*	**P**	**03 13 52.7**	**-0.3**
KURK				*e**PP	pP	03 14 03.4	-0.3
KURK				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
KURK	**Kurchatov**	**60.15**	**330**	*eP*	**P**	**03 13 52.7**	**-0.3**
	comp=Z,20nm,0.9s,mb5.1						
KURK				*ep*P	pP	03 14 03.4	-0.4
NVS	**Novosibirsk**	**60.82**	**336**	*eP*	**P**	**03 13 56.4**	**-1.1**
NVS				pmax	pmax		
	comp=Z,24nm,1.8s,mb5.0						
NVS				pmax	pmax		
	comp=N,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.7s						
BVAR	**Borovoye Array**	**65.65**	**329**	P	**P**	**03 14 29.2**	**-0.2**
	comp=E,1.2nm,0.7s,mb4.1,baz=127,slow=7.4,SNR=8.8						
BRVK	**Borovoye**	**65.72**	**329**	*eP*	**P**	**03 14 30.1**	**+0.3**
BRVK				*e**PP	pP	03 14 39.7	-1.0
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**65.72**	**329**	*eP*	**P**	**03 14 30.1**	**+0.3**
	comp=Z,6.6nm,1.0s,mb4.6						
BRVK				*ep*P	pP	03 14 39.7	-1.0

DBIC	**Dimbokro**	**125.50**	**280**	*e*PKPdf	PKPdf	03 22 47.3	+2.0
TXAR	**Lajitas Array**	**126.74**	**50**	PKP	PKPdf	03 22 49.8	+2.5
	comp=Z,0.3nm,0.7s,baz=225,slow=1.8,SNR=4.7						
LPAZ	**La Paz**	**163.29**	**147**	PKPab	PKPab	03 24 40.6	+1.6
	comp=Z,1.8nm,0.7s,baz=281,slow=2.4,SNR=7.4						
LPAZ				pPKPab		03 24 51.9	
	comp=Z,2.0nm,0.6s,baz=213,slow=1.9,SNR=7.5						

IDC ***19*** *03:05:06.3±1.2,32.30N×141.89E,mb3.7/4,mb1 3.9/5, mb1mx3.7/17,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=27.7km s-min=21.8km az=43.0*
JMA ***19*** *03:05:09.1±0.3,32.39N×141.82E,h100km,M3.5*
NEIC ***19*** *03:05:09.2,32.39N×141.82E,h100km,MG3.5(JMA), After JMA.*
ISC 19 03:05:08.4±0.9,32.38N±0.07×142.05E±0.09,h33km,n18, σ1§42/24,mb3.7/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.05**	**292**	Pn		**Pn**	**03 05 38.8**	**-2.5**
	14nm,0.3s,baz=90,slow=20,SNR=5.8							
JHJ				Sn		**Sn**	**03 06 07.4**	**+1.5**
	50nm,0.3s,baz=62,slow=21,SNR=4.4							
BSO1	**Boso 1**	**2.44**	**339**	P		**P**	**03 05 46.9**	**+0.2**
BSO2	**Boso 2**	**2.60**	**336**	eS		**S**	**03 06 21.2**	**+1.4**
BSO3	**Boso 3**	**2.74**	**332**	P		**P**	**03 05 50.8**	**-0.1**
BSO3				eS		**S**	**03 06 23.2**	**0.0**
JHU	**Hanno**	**4.16**	**327**	eS		**S**	**03 06 56.5**	**-2.7**
JHO	**Hitachi**	**4.39**	**344**	P		**P**	**03 06 13.4**	**-1.1**
JRY	**Ryogami san**	**4.47**	**325**	eS		**S**	**03 07 03.6**	**-3.5**
JAG	**Ashikaga**	**4.57**	**333**	P		**P**	**03 06 16.4**	**-0.6**
JFK	**Kawauchi**	**5.07**	**349**	P		**P**	**03 06 22.3**	**-1.8**
MJAR	**Matsushiro Arr**	**5.23**	**324**	Pn		**Pn**	**03 06 24.2**	**-2.2**
	1.4nm,0.3s,baz=137,slow=11,SNR=8.6							
MJAR				Sn		**Sn**	**03 07 27.6**	**+1.4**
	0.9nm,0.3s,baz=166,slow=14,SNR=3.4							
MAT	**Matsushiro**	**5.23**	**324**	P		**P**	**03 06 25.0**	**-1.3**
MAT				S		**S**	**03 07 27.7**	**+1.5**
MAT	**Matsushiro**	**5.23**	**324**	*e*P		**P**	**03 06 26.0**	**-0.3**
MAT				eS		**S**	**03 07 28.0**	**+1.8**
JMK	**Ichinoseki**	**6.59**	**354**	P		**P**	**03 06 45.5**	**0.0**
JMK				eS		**S**	**03 07 54.1**	**-6.3**
SONM	**Songino Array**	**31.01**	**310**	P		**P**	**03 11 26.3**	**+1.3**
	1.2nm,0.8s,mb3.8,baz=109,slow=7.9,SNR=9.4							
WRA	**Warramunga Arr**	**52.55**	**189**	P		**P**	**03 14 20.6**	**-0.3**
	1.6nm,0.5s,mb4.2,baz=6.0,slow=7.6,SNR=8.3							
ILAR	**Eielson Array**	**53.19**	**30**	P		**P**	**03 14 26.8**	**+1.6**
	0.3nm,0.6s,mb3.4,baz=265,slow=5.8,SNR=7.6							
YKA	**Yellowknife Ar**	**67.58**	**29**	P		**P**	**03 16 05.1**	**+1.9**
	0.2nm,0.6s,mb3.3,baz=306,slow=6.6,SNR=4.5							
YKA	**Yellowknife Ar**	**67.58**	**29**	P		**P**	**03 16 05.1**	**+1.8**

MOS ***19*** *03:17:14.4±0.6,4.81N×94.90E,h33km,mb4.7/5,Error ellipse: s-maj=38.0km s-min=12.4km az=116.3*
NEIC ***19*** *03:17:15.8±0.4,4.78N×94.76E,h30km,mb4.4/10,Error ellipse: s-maj=11.8km s-min=5.8km az=46.0*
IDC ***19*** *03:17:18.2±5.0,4.80N×94.86E,h52km±46km,mb3.7/10, mb1 3.9/11,mb1mx3.7/20,mbtmp4.0/11,ML3.6/1,MS3.9/2, Ms1 3.9/2,ms1mx3.2/26,Error ellipse: s-maj=50.9km s-min=21.8km az=51.0*
ISC 19 03:17:14.0±0.5,4.77N±0.08×94.81E±0.06,h30km,n36, σ0§99/35,mb4.2/20,MS4.0/2,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.54**	**115**	P		**Pn**	**03 18 24.9**	**+2.3**
	3.1nm,0.3s,baz=318,slow=16,SNR=13							
KULM	**Kulim**	**5.83**	**85**	*e*Pn		**Pn**	**03 18 42.6**	**+1.7**
KULM				eSn		**Sn**	**03 19 46.9**	**-0.6**
QIZ	**Qiongzhong**	**20.39**	**45**	*e*P		**P**	**03 21 49.5**	**-1.9**
QIZ				pP			03 22 05.0	
KKM	**Kota Kinabalu**	**21.34**	**86**	*e*P		**P**	**03 22 05.4**	**+4.3**
JIRN	**Jiri**	**24.20**	**341**	*e*P		**P**	**03 22 30.1**	**+0.8**
	11nm,0.6s,mb4.5							
PKI	**Pulchoki**	**24.38**	**339**	*e*P		**P**	**03 22 31.6**	**+0.6**
GUN	**Gumba**	**24.53**	**341**	*e*P		**P**	**03 22 33.6**	**+1.1**
	6.3nm,0.4s,mb4.5							
KKN	**Kakani**	**24.63**	**339**	*e*P		**P**	**03 22 34.3**	**+0.9**
GKN	**Gorkha**	**25.05**	**338**	*e*P		**P**	**03 22 38.1**	**+0.7**
	13nm,0.6s,mb4.6							
KOLN	**Koldanda**	**25.24**	**336**	*e*P		**P**	**03 22 40.8**	**+1.6**
	21nm,0.8s,mb4.7							
MBWA	**Marble Bar**	**35.51**	**137**	P		**P**	**03 24 07.3**	**-3.2**
	5.6nm,1.1s,mb4.4							
NWAO	**Narrogin (SRO)**	**43.10**	**152**	P		**P**	**03 25 14.1**	**+0.6**
MKAR	**Makanchi Array**	**43.24**	**347**	P		**P**	**03 25 14.4**	**0.0**
	1.7nm,0.4s,mb4.1,baz=159,slow=7.6,SNR=38							
SONM	**Songino Array**	**44.04**	**11**	P		**P**	**03 25 20.0**	**-0.9**
	1.3nm,0.8s,mb3.7,baz=194,slow=7.9,SNR=10							
SONM				PcP		PcP	03 27 05.7	-0.8
	0.5nm,0.5s,baz=190,slow=3.8,SNR=4.7							
WRA	**Warramunga Arr**	**45.96**	**124**	P		**P**	**03 25 36.2**	**-0.4**
	2.2nm,0.7s,mb4.2,baz=302,slow=9.1,SNR=18							
WRAB	**Tennant Creek**	**45.96**	**124**	*e*P		**P**	**03 25 36.6**	**0.0**
WRAB				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
WRAB	**Tennant Creek**	**45.96**	**124**	*e*P		**P**	**03 25 36.6**	**0.0**
	comp=Z,3.2nm,0.6s,mb4.4							
WB2	**Warramunga Arr**	**45.97**	**124**	*e*P		**P**	**03 25 36.8**	**+0.2**
KURK	**Kurchatov**	**47.76**	**346**	*e*P		**P**	**03 25 50.3**	**-0.1**
KURK				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
KURK	**Kurchatov**	**47.76**	**346**	*e*P		**P**	**03 25 50.3**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**52.12**	**342**	P		**P**	**03 26 23.1**	**-0.7**
	comp=Z,1.9nm,0.6s,mb4.2,baz=143,slow=9.5,SNR=18							
ZRNK	**Zerenda**	**52.51**	**341**	*e*P		**P**	**03 26 25.9**	**-0.7**
ZRNK				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
ZRNK	**Zerenda**	**52.51**	**341**	*e*P		**P**	**03 26 25.9**	**-0.7**
	comp=Z,2.2nm,0.5s,mb4.3							
CHKZ	**Chkalovo**	**52.61**	**342**	*e*P		**P**	**03 26 26.7**	**-0.7**
CHKZ				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
CHKZ	**Chkalovo**	**52.61**	**342**	*e*P		**P**	**03 26 26.7**	**-0.7**
	comp=Z,6.1nm,0.6s,mb4.7							
AKTO	**Aktyubinsk**	**54.98**	**332**	P		**P**	**03 26 45.0**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=119,slow=15,SNR=4.3							
BRTR	**Keskin Array B**	**64.97**	**312**	P		**P**	**03 27 52.9**	**-0.7**
	comp=Z,1.2nm,0.6s,mb4.1,baz=132,slow=8.2,SNR=6.0							
TAU	**Tasmania Unive**	**67.07**	**141**	*e*P		**P**	**03 28 05.8**	**-1.1**
AKASG	**Malin Array Be**	**70.99**	**322**	P		**P**	**03 28 29.4**	**-1.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=93,slow=5.8,SNR=4.7							
MLR	**Muntele Rosu**	**71.85**	**316**	LR		LR	04 05 23.5	
	comp=Z,60nm,21.0s,MS3.8,baz=315,slow=40							
LBTB	**Lobatse**	**73.38**	**242**	*e*P		**P**	**03 28 46.0**	**+0.4**
LBTB				pmax		pmax		
	comp=Z,13nm,1.4s,mb4.7							
LBTB	**Lobatse**	**73.38**	**242**	*e*P		**P**	**03 28 46.0**	**+0.4**
	comp=Z,13nm,1.4s,mb4.7							
FINES	**FINESS Array B**	**75.75**	**332**	P		**P**	**03 28 57.8**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=90,slow=5.7,SNR=4.3							
ARCES	**ARCESS Array B**	**78.39**	**340**	P		**P**	**03 29 13.0**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.1,baz=99,slow=6.6,SNR=9.6							
GERES	**GERESS Array B**	**80.58**	**319**	P		**P**	**03 29 25.7**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=79,slow=5.0,SNR=7.5							
DAVOX	**Davos**	**83.08**	**316**	LR		LR	04 07 58.6	
	comp=Z,104nm,19.6s,MS4.2,baz=74,slow=37							

NEIC ***19*** *03:19:23.3,41.64S×174.20E,h5km,ML3.7(WEL),After WEL.*
NEIC Felt at Blenheim.
WEL 19 03:19:29.0±0.1,41.66S×174.20E,h11km±1km,ML3.8/25, Error ellipse: s-maj=1.3km s-min=1.0km az=90.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**171**	PG		Pg	03 19 32.6	+0.9
CMWZ				SG		Sg	03 19 35.4	+1.9
CMWZ				SG		Sg	03 19 35.7	+2.1
BSWZ	**Blackbirch Sta**	**0.25**	**256**	PG		Pg	03 19 33.6	-0.7
BSWZ				SG		Sg	03 19 37.8	-0.1
BSWZ				SG		Sg	03 19 37.8	-0.1
TUWZ	**Tuamarina**	**0.29**	**320**	PG		Pg	03 19 34.9	-0.3
TUWZ				SG		Sg	03 19 39.5	+0.1
TCW	**Tory Channel**	**0.45**	**8**	PG		Pg	03 19 38.6	+0.4
TCW				SG		Sg	03 19 44.2	-0.1
SNZO	**South Karori**	**0.52**	**48**	PG		Pg	03 19 38.9	-0.6
SNZO	**South Karori**	**0.52**	**48**	*e*Pg		Pg	03 19 33.7	-5.8
SNZO				*e*Sg		Sg	03 19 42.5	-4.0
BHW	**Baring Head**	**0.56**	**64**	PG		Pg	03 19 39.8	-0.7
WEL	**Wellington**	**0.57**	**49**	PG		Pg	03 19 40.3	-0.2
MRW	**Makara Radio**	**0.57**	**42**	PG		Pg	03 19 39.6	-1.0
NNZ	**Nelson**	**0.75**	**305**	P*		Pb	03 19 43.0	-0.7
MSWZ	**Moikau Station**	**0.83**	**73**	P*		Pb	03 19 45.1	+0.2
MSWZ				*e*SG		Sg	03 19 56.6	-0.1
DUWZ	**D'Urville Isla**	**0.88**	**346**	P*		Pb	03 19 46.4	+0.7
KHZ	**Kahutara**	**0.90**	**212**	P*		Pb	03 19 47.0	+0.8
KHZ				*e*SG		Sg	03 20 00.2	+1.0
KHZ				SG		Sg	03 20 00.9	+1.7
KIW	**Kapiti Island**	**0.96**	**34**	P*		Pb	03 19 46.7	-0.5
PAWZ	**Paruwai Farm**	**0.96**	**74**	P*		Pb	03 19 47.9	+0.7
THZ	**Tophouse**	**0.97**	**263**	P*		Pb	03 19 47.2	-0.2
MTW	**Mount Morrison**	**1.10**	**64**	P*		Pb	03 19 49.9	+0.3
TRWZ	**Traveller**	**1.15**	**78**	P*		Pb	03 19 50.0	-0.4
MRZ	**Mangatainoka R**	**1.44**	**47**	P*		Pb	03 19 54.4	-1.0
QRZ	**Quartz Range**	**1.51**	**303**	PN		Pn	03 19 55.8	-0.3
LTZ	**Lake Taylor**	**1.82**	**231**	*e*PN		Pn	03 20 00.4	-0.2
LTZ				SN		Sn	03 20 23.8	0.0
MQZ	**McQueen's Vall**	**2.34**	**209**	PN		Pn	03 20 05.4	-2.7
TAU	**Tasmania Unive**	**19.90**	**257**	*e*Pn		P	03 23 57.6	-5.6
STKA	**Stephens Creek**	**27.74**	**280**	*e*P		P	03 25 13.0	-6.4
AFI	**Afiamalu**	**30.22**	**28**	*e*P		P	03 25 38.1	-3.7
HNR	**Honiara**	**34.47**	**335**	*e*P		P	03 26 10.2	-8.8
VNDA	**Vanda**	**36.34**	**185**	*e*P		P	03 26 29.3	-5.0
MBWA	**Marble Bar**	**49.90**	**277**	*e*P		P	03 28 20.1	-4.5
GUMO	**Guam**	**61.27**	**327**	*e*P		P	03 29 40.1	-6.6
SNAA	**Sanae**	**66.96**	**181**	*e*P		P	03 30 16.7	-6.3

STR ***19*** *03:37:11.7±0.2,49.36N×6.89E,h1km±1km,Ml3.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***19*** *03:37:11.6±0.1,49.37N×6.94E,h1km,Md3.6/3,Ml3.7/20, Error ellipse: s-maj=1.5km s-min=1.3km az=174.0, Suspected Mining induced.*
LEDBW ***19*** *03:37:11.7±0.2,49.37N×6.92E,h1km,ML3.0,Error ellipse: s-maj=6.0km s-min=2.0km az=95.0*
BGR ***19*** *03:37:11.5±0.2,49.38N×6.88E,h1km,ML3.1/14,Error ellipse: s-maj=3.3km s-min=2.2km az=119.0*
CSEM ***19*** *03:37:11.8±0.1,49.37N×6.94E,h2km,ML3.7/21,Error ellipse: s-maj=0.9km s-min=0.9km az=76.0*
NEIC ***19*** *03:37:11.6,49.37N×6.94E,h1km,ML3.6(LDG), ML3.2(SZGRF),ML3.2(STR),After LDG.*
PRU ***19*** *03:37:12.7,49.32N×6.99E*
BNS ***19*** *03:37:13.0±2.2,49.40N×6.95E,h1km,ML2.8*
ISC 19 03:37:09.4±0.2,49.364N±0.009×6.90E±0.02,n181, σ1§40/317,10C-22D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.35**	**18**	⇓P		**Pg**	**03 37 18.5**	**+2.0**
RUP	**Ruppelstein**	**0.35**	**18**	*e*Pg		**Pg**	**03 37 18.3**	**+1.8**
	SNR=81							
RUP	**Ruppelstein**	**0.35**	**18**	Pg		**Pg**	**03 37 18.2**	**+1.8**
RUP				Sg		**Sg**	**03 37 23.7**	**+2.5**
WLF	**Walferdange**	**0.57**	**302**	*e*Pg		**Pg**	**03 37 22.5**	**+1.8**
	SNR=40							
WLF				*e*Sg		**Sg**	**03 37 29.5**	**+1.1**
	SNR=86							
ABH	**Alteburg**	**0.67**	**39**	⇓P		**Pg**	**03 37 24.0**	**+1.3**
ABH	**Alteburg**	**0.67**	**39**	*e*Pg		**Pg**	**03 37 23.9**	**+1.2**
	SNR=14							
ABH	**Alteburg**	**0.67**	**39**	Pg		**Pg**	**03 37 23.9**	**+1.2**
	SNR=14							
ABH				Sg		**Sg**	**03 37 33.1**	**+1.4**
LANF	**Langenberg**	**0.71**	**122**	Pg		**Pg**	**03 37 24.9**	**+1.4**
LANF				Sg		**Sg**	**03 37 34.8**	**+1.8**
LANF	**Langenberg**	**0.71**	**122**	⇓P		**Pg**	**03 37 25.1**	**+1.5**
LANF	**Langenberg**	**0.71**	**122**	*e*Pg		**Pg**	**03 37 25.0**	**+1.4**
	SNR=48							
KTD	**Kalmit**	**0.78**	**93**	*e*Pg		**Pg**	**03 37 26.0**	**+1.1**
	SNR=13							
KTD	**Kalmit**	**0.78**	**93**	Pg		**Pg**	**03 37 26.8**	**+1.9**
KTD				Sg		**Sg**	**03 37 38.5**	**+3.2**
KTD	**Kalmit**	**0.78**	**93**	Pg		**Pg**	**03 37 26.0**	**+1.1**
	SNR=13							
KTD				Sg		**Sg**	**03 37 38.5**	**+3.2**
BGG	**Burgeitz**	**0.89**	**19**	*e*Pg		**Pg**	**03 37 29.0**	**+1.9**
BGG				*e*Sg		**Sg**	**03 37 40.4**	**+1.4**
	267nm,0.9s							
HILG	**Hillesheim**	**0.94**	**351**	*e*Pg		**Pg**	**03 37 30.0**	**+1.9**
HILG				*e*Sg		**Sg**	**03 37 42.6**	**+2.0**
STR	**Strasbourg**	**0.97**	**143**	*e*Pg		**Pg**	**03 37 31.0**	**+2.3**
	SNR=7.6							
STR	**Strasbourg**	**0.97**	**143**	Pg		**Pg**	**03 37 30.7**	**+2.0**
CDF	**Champ du Feu**	**0.98**	**165**	*e*Pn		**Pn**	**03 37 31.0**	**+0.8**
CDF				*e*Sg		**Sg**	**03 37 43.5**	**+1.3**
	146nm,0.2s							
CDF	**Champ du Feu**	**0.98**	**165**	*e*Pg		**Pg**	**03 37 29.8**	**+0.8**
CDF				*e*Pn		**Pn**	**03 37 31.0**	**+0.8**
CDF				*e*Sg		**Sg**	**03 37 43.5**	**+1.3**
CDF	**Champ du Feu**	**0.98**	**165**	*e*Pn		**Pn**	**03 37 31.0**	**+0.8**
CDF				*e*Sg		**Sg**	**03 37 43.5**	**+1.3**
	73nm,0.2s							
WLS	**Welschbruch**	**1.00**	**162**	Pg		**Pg**	**03 37 30.4**	**+1.1**
WLS				Sg		**Sg**	**03 37 43.3**	**+0.7**
WLS	**Welschbruch**	**1.00**	**162**	⇓P		**Pb**	**03 37 30.5**	**+1.2**
WLS	**Welschbruch**	**1.00**	**162**	*e*Pg		**Pg**	**03 37 30.3**	**+1.0**
	SNR=87							
ECH	**Echery**	**1.16**	**171**	Pg		**Pg**	**03 37 33.2**	**+0.6**
ECH				Sg		**Sg**	**03 37 49.0**	**+0.9**
ECH	**Echery**	**1.16**	**171**	⇓P		**Pb**	**03 37 33.4**	**+1.4**
ECH	**Echery**	**1.16**	**171**	*e*Pg		**Pg**	**03 37 33.3**	**+0.7**
	SNR=53							
ECH	**Echery**	**1.16**	**171**	Pg		**Pg**	**03 37 33.3**	**+0.7**
	SNR=53							
ECH				Sg		**Sg**	**03 37 49.0**	**+0.9**
SWS	**Schriesheim**	**1.19**	**83**	⇓P		**Pb**	**03 37 33.1**	**+0.7**
SWS				S		**Sg**	**03 37 50.5**	**+1.7**
SWS	**Schriesheim**	**1.19**	**83**	SG		**Sg**	**03 37 50.5**	**+1.7**
SWS	**Schriesheim**	**1.19**	**83**	P		**Pb**	**03 37 33.2**	**+0.8**
SWS				Sg		**Sg**	**03 37 50.5**	**+1.7**
RFYF	**Reffroy**	**1.19**	**232**	*e*Pn		**Pn**	**03 37 34.4**	**+1.2**
	baz=50							
RFYF	**Reffroy**	**1.19**	**232**	*e*Pg		**Pg**	**03 37 34.8**	**+1.7**
	baz=51							
RFYF				*e*Sg		**Sg**	**03 37 51.8**	**+2.8**
	351nm,0.3s							
RFYF	**Reffroy**	**1.19**	**232**	*e*Pn		**Pn**	**03 37 34.4**	**+1.2**
RFYF				*e*Pg		**Pg**	**03 37 34.8**	**+1.7**
RFYF				*e*Sg		**Sg**	**03 37 51.8**	**+2.8**
RFYF	**Reffroy**	**1.19**	**232**	*e*Pg		**Pg**	**03 37 34.8**	**+1.7**
RFYF				*e*Sg		**Sg**	**03 37 51.8**	**+2.8**
	176nm,0.3s							
STB	**Steinbach**	**1.23**	**358**	*e*Pg		**Pg**	**03 37 34.8**	**+0.8**
STB				*e*Sg		**Sg**	**03 37 51.5**	**+1.1**
	306nm,1.0s							
TOD	**Tromm**	**1.27**	**78**	⇓P		**Pb**	**03 37 34.4**	**+0.6**
TOD	**Tromm**	**1.27**	**78**	*e*Pg		**Pg**	**03 37 34.6**	**-0.1**
	SNR=61							
THEF	**They Montfort**	**1.29**	**208**	Pg		**Pg**	**03 37 35.6**	**+0.5**
THEF				Sg		**Sg**	**03 37 52.5**	**+0.3**
THEF	**They Montfort**	**1.29**	**208**	⇓P		**Pb**	**03 37 35.4**	**+1.3**
THEF	**They Montfort**	**1.29**	**208**	*e*Pg		**Pg**	**03 37 35.4**	**+0.3**
	SNR=75							
LIBD	**Limburg**	**1.30**	**159**	P		**Pb**	**03 37 36.2**	**+1.8**
LIBD	**Limburg**	**1.30**	**159**	*e*Pg		**Pg**	**03 37 36.9**	**+1.5**
	SNR=24							
LIBD	**Limburg**	**1.30**	**159**	Pg		**Pg**	**03 37 36.8**	**+1.5**
TNS	**Taunus Mts**	**1.32**	**49**	P		**Pb**	**03 37 34.9**	**+0.1**
TNS				S		**Sb**	**03 37 54.5**	**+2.4**
TNS	**Taunus Mts**	**1.32**	**49**	*e*Pg		**Pg**	**03 37 35.3**	**-0.4**
	SNR=39							
TNS				*e*Sg		**Sg**	**03 37 54.4**	**+1.0**
	SNR=150							
TNS	**Taunus Mts**	**1.32**	**49**	*e*Pg		**Pg**	**03 37 35.3**	**-0.5**
TNS				*e*Sg		**Sg**	**03 37 55.2**	**+1.8**
KLL	**Kalltalsperre**	**1.34**	**344**	*e*Pg		**Pg**	**03 37 35.8**	**-0.2**
KLL				*e*Sg		**Sg**	**03 37 53.1**	**-0.8**
	154nm,0.9s							
BFO	**Black Forest**	**1.40**	**137**	⇓P		**Pb**	**03 37 36.6**	**+0.5**
BFO				S		**Sb**	**03 37 56.9**	**+2.4**
BFO	**Black Forest**	**1.40**	**137**	*e*Pn		**Pn**	**03 37 36.6**	**+0.4**
	SNR=65							
BFO				*e*Sg		**Sg**	**03 37 56.6**	**+0.5**
	SNR=110							
BFO	**Black Forest**	**1.40**	**137**	*e*Pg		**Pg**	**03 37 36.8**	**-0.6**
BFO				*e*Sg		**Sg**	**03 37 57.1**	**+1.0**
BFO	**Black Forest**	**1.40**	**137**	*e*Pg		**Pg**	**03 37 36.8**	**-0.6**
BFO				Sg		**Sg**	**03 37 56.6**	**+0.5**
	SNR=110							
HAU	**Haudompre**	**1.41**	**195**	*e*Pg		**Pg**	**03 37 38.2**	**+0.7**
HAU				*e*Sg		**Sg**	**03 37 56.4**	**+0.2**
	370nm,0.3s							
HAU	**Haudompre**	**1.41**	**195**	*e*Pn		**Pn**	**03 37 36.8**	**+0.5**
HAU				*e*Pg		**Pg**	**03 37 38.2**	**+0.7**
HAU				*e*Sg		**Sg**	**03 37 56.4**	**+0.2**
HAU	**Haudompre**	**1.41**	**195**	*e*Pg		**Pg**	**03 37 38.2**	**+0.7**
HAU				*e*Sg		**Sg**	**03 37 56.4**	**+0.2**
	185nm,0.3s							
LBG	**Lerchenberg**	**1.43**	**118**	⇓P		**Pb**	**03 37 36.9**	**+0.3**
MEZF	**Maizieres J'vi**	**1.49**	**235**	*e*Pn		**Pn**	**03 37 38.3**	**+0.8**
	baz=53							
MEZF	**Maizieres J'vi**	**1.49**	**235**	*e*Pg		**Pg**	**03 37 39.9**	**+0.8**
	baz=58							
MEZF				*e*Sg		**Sg**	**03 38 00.7**	**+1.7**
	201nm,0.4s							
MEZF	**Maizieres J'vi**	**1.49**	**235**	*e*Pn		**Pn**	**03 37 38.3**	**+0.8**
MEZF				*e*Pg		**Pg**	**03 37 39.9**	**+0.8**
MEZF				*e*Sg		**Sg**	**03 38 00.7**	**+1.7**
MEZF	**Maizieres J'vi**	**1.49**	**235**	*e*Pg		**Pg**	**03 37 39.9**	**+0.8**
MEZF				*e*Sg		**Sg**	**03 38 00.7**	**+1.7**
	101nm,0.4s							
MOF	**Molkenrain**	**1.52**	**174**	⇓P		**Pn**	**03 37 40.1**	**+2.2**
MOF				S		**Sg**	**03 38 00.7**	**+0.6**
MOF	**Molkenrain**	**1.52**	**174**	*e*Pn		**Pn**	**03 37 38.5**	**+0.5**
	SNR=61							
MOF				*e*Pg		**Pg**	**03 37 40.3**	**+0.5**
	SNR=61							
MOF				Sg		**Sg**	**03 38 00.7**	**+0.6**
MOF	**Molkenrain**	**1.52**	**174**	Pg		**Pg**	**03 37 40.3**	**+0.6**
	SNR=61							
MOF				Sg		**Sg**	**03 38 00.7**	**+0.7**
HGN	**Heimansgroeve**	**1.53**	**336**	*e*Pn		**Pn**	**03 37 38.5**	**+0.4**
	8.8nm,0.3s							
HGN				*e*Pg		**Pg**	**03 37 40.0**	**0.0**
	49nm,0.5s							
HGN				*e*Sg		**Sg**	**03 37 58.4**	**-2.0**
GIVF	**Givet**	**1.53**	**300**	*e*Pg		**Pg**	**03 37 40.4**	**+0.4**
GIVF				*e*Sg		**Sg**	**03 38 01.0**	**+0.6**
	505nm,0.6s							
GIVF	**Givet**	**1.53**	**300**	*e*Pn		**Pn**	**03 37 38.9**	**+0.8**
GIVF				*e*Pg		**Pg**	**03 37 40.4**	**+0.4**
GIVF				*e*Sg		**Sg**	**03 38 01.0**	**+0.6**
GIVF	**Givet**	**1.53**	**300**	*e*Pg		**Pg**	**03 37 40.4**	**+0.4**
GIVF				*e*Sg		**Sg**	**03 38 01.0**	**+0.6**
	252nm,0.6s							
HINF	**Hinteralfeld**	**1.55**	**181**	*e*Pg		**Pg**	**03 37 40.4**	**+0.1**
HINF				*e*Sg		**Sg**	**03 38 00.9**	**0.0**
	647nm,0.2s							
HINF	**Hinteralfeld**	**1.55**	**181**	*e*Pn		**Pn**	**03 37 38.7**	**+0.4**
HINF				*e*Pg		**Pg**	**03 37 40.4**	**+0.1**
HINF				*e*Sg		**Sg**	**03 38 00.9**	**0.0**
HINF	**Hinteralfeld**	**1.55**	**181**	*e*Pg		**Pg**	**03 37 40.4**	**+0.1**
HINF				*e*Sg		**Sg**	**03 38 00.9**	**0.0**
	324nm,0.2s							
KIZ	**Kirchzarten**	**1.56**	**154**	P		**Pn**	**03 37 39.0**	**+0.5**
KIZ				S		**Sb**	**03 38 01.5**	**+2.4**
KIZ	**Kirchzarten**	**1.56**	**154**	SG		**Sg**	**03 38 01.5**	**+0.1**
JUE	**Julich**	**1.58**	**349**	*e*Sg		**Sg**	**03 38 04.3**	**+2.4**
BNS	**Bensberg**	**1.61**	**6**	*e*Pg		**Pg**	**03 37 41.4**	**-0.1**
BNS				*e*Sg		**Sg**	**03 38 01.5**	**-1.5**
STU	**Stuttgart**	**1.62**	**111**	*e*Pn		**Pn**	**03 37 40.0**	**+0.6**
	SNR=2.3					

	SNR=5.9								
MOTA	**Moosalm**	**3.46**	**124**	⇑*i*	Pn	**Pn**	**03 38 06.7**	**+1.2**
MOTA					Sn	**Sn**	**03 38 45.9**	**-1.9**
MOTA					Sg	**Sg**	**03 39 01.6**	**-2.9**
MOTA	**Moosalm**	**3.46**	**124**		Pn	**Pn**	**03 38 06.7**	**+1.1**
	5.0nm,9.0s								
MOTA					Sn	**Sn**	**03 38 45.9**	**-1.9**
MOTA					Sg	**Sg**	**03 39 01.6**	**-2.9**
	16nm,0.4s								
ROTZ	**Rotzenmuhle**	**3.48**	**81**	*e*	Pg	**Pg**	**03 38 17.8**	**-1.1**
AVF	**Avril sur Loir**	**3.50**	**224**	*e*	Pn	**Pn**	**03 38 04.8**	**-1.4**
AVF				*e*	Sn	**Sn**	**03 38 45.1**	**-3.9**
HYF	**Humbligny**	**3.53**	**235**	*e*	Pn	**Pn**	**03 38 06.5**	**-0.1**
HYF				*e*	Pg	**Pg**	**03 38 17.6**	**-2.2**
HYF				*e*	Sg	**Sg**	**03 39 03.9**	**-3.0**
SQTA	**Sankt Quirin**	**3.59**	**125**	⇓*i*	Pn	**Pn**	**03 38 08.5**	**+1.1**
	SNR=9.7								
SQTA	**Sankt Quirin**	**3.59**	**125**	⇑*i*	Sg	**Sg**	**03 39 07.0**	**-1.9**
	comp=Z,7.6nm,0.3s								
SQTA	**Sankt Quirin**	**3.59**	**125**	⇓*i*	Pn	**Pn**	**03 38 08.5**	**+1.1**
SQTA					Sg	**Sg**	**03 39 07.0**	**-1.9**
SQTA	**Sankt Quirin**	**3.59**	**125**		Pn	**Pn**	**03 38 08.5**	**+1.1**
	9.0nm,7.0s								
SQTA					Sg	**Sg**	**03 39 07.0**	**-1.9**
	7.6nm,0.3s								
WERD	**Werda**	**3.66**	**71**	*e*	Pn	**Pn**	**03 38 09.5**	**+1.1**
	SNR=1.7								
WERD				*e*	Pg	**Pg**	**03 38 19.3**	**-3.1**
	SNR=6.4								
WERD				*e*	Sg	**Sg**	**03 39 06.1**	**-5.1**
	SNR=10								
NKC	**Novy Kostel**	**3.70**	**74**	*e*	Sg	**Sg**	**03 39 08.1**	**-4.5**
WATA	**Walderalm**	**3.72**	**121**	⇑*i*	Pn	**Pn**	**03 38 10.2**	**+0.9**
WATA	**Walderalm**	**3.72**	**121**	⇓*i*	Sn	**Sn**	**03 38 52.5**	**-2.0**
WATA	**Walderalm**	**3.72**	**121**	⇑	Pn	**Pn**	**03 38 10.2**	**+0.9**
WATA					Sn	**Sn**	**03 38 52.5**	**-2.0**
WATA	**Walderalm**	**3.72**	**121**		Pn	**Pn**	**03 38 10.2**	**+0.9**
WATA					Sn	**Sn**	**03 38 52.5**	**-2.1**
TANN	**Tannenbergstha**	**3.75**	**72**	*e*	Pn	**Pn**	**03 38 10.9**	**+1.2**
	SNR=2.7								
TANN				*e*	Pg	**Pg**	**03 38 20.5**	**-3.7**
	SNR=6.1								
WTTA	**Wattenberg**	**3.80**	**122**	⇑*i*	Pn	**Pn**	**03 38 11.5**	**+1.1**
WTTA	**Wattenberg**	**3.80**	**122**	⇓*i*	Sn	**Sn**	**03 38 54.6**	**-1.9**
WTTA	**Wattenberg**	**3.80**	**122**	⇑	Pn	**Pn**	**03 38 11.5**	**+1.1**
WTTA					Sn	**Sn**	**03 38 54.6**	**-1.9**
WTTA	**Wattenberg**	**3.80**	**122**		Pn	**Pn**	**03 38 11.5**	**+1.1**
WTTA					Sn	**Sn**	**03 38 54.6**	**-1.9**
LPL	**La Plagne**	**3.85**	**182**	*e*	Pg	**Pg**	**03 38 23.5**	**-2.7**
LPL				*e*	Sg	**Sg**	**03 39 13.3**	**-4.3**
	46nm,0.8s								
LPL	**La Plagne**	**3.85**	**182**	*e*	Pn	**Pn**	**03 38 11.6**	**+0.5**
LPL				*e*	Pg	**Pg**	**03 38 23.5**	**-2.7**
LPL				*e*	Sg	**Sg**	**03 39 13.3**	**-4.3**
LPG	**La Plagne**	**3.87**	**182**	*e*	Pg	**Pg**	**03 38 24.2**	**-2.4**
LPG				*e*	Sg	**Sg**	**03 39 13.7**	**-4.5**
	19nm,0.3s								
LPG	**La Plagne**	**3.87**	**182**	*e*	Pn	**Pn**	**03 38 11.6**	**+0.2**
LPG				*e*	Pg	**Pg**	**03 38 24.2**	**-2.4**
LPG				*e*	Sg	**Sg**	**03 39 13.7**	**-4.5**
BGF	**Bois d'Agland**	**3.91**	**226**	*e*	Pn	**Pn**	**03 38 10.6**	**-1.4**
BGF				*e*	Sn	**Sn**	**03 38 54.7**	**-4.6**
WET	**Wettzell**	**3.92**	**91**	*e*	Pn	**Pn**	**03 38 13.0**	**+0.8**
	SNR=9.7								
WET				*e*	Sn	**Sn**	**03 38 57.4**	**-2.3**
	SNR=9.8								
WET	**Wettzell**	**3.92**	**91**	*e*	Pn	**Pn**	**03 38 12.9**	**+0.7**
PLDF	**La Plantade**	**4.05**	**214**		Pn	**Pn**	**03 38 15.4**	**+1.4**
AGO	**Saint Agoulin**	**4.18**	**219**		Pn	**Pn**	**03 38 14.7**	**-1.1**
CLL	**Collm**	**4.37**	**61**	*e*	Pg	**Pg**	**03 38 37.0**	**+0.4**
CLL				*e*	Sg	**Sg**	**03 39 31.1**	**-3.7**
	SNR=5.2								
CLL	**Collm**	**4.37**	**61**	*e*	PG	**Pg**	**03 38 37.0**	**+0.4**
CLL				*i*	SG	**Sg**	**03 39 30.9**	**-3.9**
KHC	**Kasperske Hory**	**4.38**	**91**	*e*	PN	**Pn**	**03 38 18.6**	**-0.1**
KHC				*e*	SN	**Sn**	**03 39 08.0**	**-3.3**
KHC				*e*	SG	**Sg**	**03 39 31.5**	**-3.8**
TCF	**Toulx Ste Croi**	**4.41**	**227**	*e*	Pn	**Pn**	**03 38 17.3**	**-1.8**
ORIF	**Oris-en-Rattie**	**4.50**	**189**	*e*	Pn	**Pn**	**03 38 19.5**	**-0.9**
ORIF				*e*	Sn	**Sn**	**03 39 11.1**	**-3.2**
ORIF				*e*	Sg	**Sg**	**03 39 33.5**	**-5.7**
	49nm,0.8s								
GEC2	**GERESS Array S**	**4.50**	**94**	*e*	Pn	**Pn**	**03 38 20.1**	**-0.3**
	SNR=34								
GEC2				*e*	Sn	**Sn**	**03 39 09.3**	**-5.0**
	SNR=6.4								
GEC2				*e*	Sg	**Sg**	**03 39 36.6**	**-2.7**
	SNR=9.9								
GEC2	**GERESS Array S**	**4.50**	**94**	*e*	Pn	**Pn**	**03 38 20.6**	**+0.2**
MBDF	**Montbardon**	**4.64**	**181**	*e*	Pn	**Pn**	**03 38 23.0**	**+0.6**
LDF	**La Druitiere**	**4.69**	**263**	*e*	Pg	**Pg**	**03 38 38.4**	**-4.5**
LDF				*e*	Sg	**Sg**	**03 39 41.3**	**-4.1**
	109nm,0.9s								
LDF	**La Druitiere**	**4.69**	**263**	*e*	Pn	**Pn**	**03 38 22.2**	**-0.8**
LDF				*e*	Pg	**Pg**	**03 38 38.4**	**-4.5**
LDF				*e*	Sg	**Sg**	**03 39 41.3**	**-4.1**
VIVF	**Saint-Julien-l**	**4.76**	**199**	*e*	Sn	**Sn**	**03 39 14.5**	**-6.3**
VIVF				*e*	Sg	**Sg**	**03 39 42.1**	**-5.7**
	36nm,0.6s								
BRG	**Berggiesshubel**	**4.78**	**69**	*e*	Sg	**Sg**	**03 39 41.2**	**-7.3**
BRG	**Berggiesshubel**	**4.78**	**69**		Pn	**Pn**	**03 38 24.4**	**0.0**
BRG					Pg	**Pg**	**03 38 39.5**	**-5.2**
BRG					Sg	**Sg**	**03 39 41.2**	**-7.3**
BRG	**Berggiesshubel**	**4.78**	**69**		Pn	**Pn**	**03 38 24.4**	**+0.1**
BRG	**Berggiesshubel**	**4.78**	**69**		Pg	**Pg**	**03 38 39.5**	**-5.3**
LBL	**Lubilhac**	**4.82**	**212**		Pn	**Pn**	**03 38 23.9**	**-1.0**
KBA	**Koelnbreinsper**	**4.88**	**116**	⇓*i*	Pn	**Pn**	**03 38 25.9**	**+0.2**
KBA	**Koelnbreinsper**	**4.88**	**116**	⇑*i*	Sn	**Sn**	**03 39 20.7**	**-3.1**
KBA	**Koelnbreinsper**	**4.88**	**116**	⇓	Pn	**Pn**	**03 38 25.9**	**+0.2**
KBA					Sn	**Sn**	**03 39 20.7**	**-3.1**
KBA	**Koelnbreinsper**	**4.88**	**116**		Pn	**Pn**	**03 38 25.9**	**+0.1**
KBA					Sn	**Sn**	**03 39 20.7**	**-3.1**
FLN	**La Foliniere**	**4.89**	**266**	*e*	Pn	**Pn**	**03 38 25.3**	**-0.6**
	baz=84								
PRU	**Pruhonice**	**5.00**	**80**	*e*	SG	**Sg**	**03 39 51.6**	**-4.4**
MOA	**Molln**	**5.12**	**104**	⇓*i*	Pn	**Pn**	**03 38 29.4**	**+0.3**
	SNR=17								
MOA	**Molln**	**5.12**	**104**	⇓*i*	Sn	**Sn**	**03 39 26.4**	**-3.4**
MOA	**Molln**	**5.12**	**104**	⇓*i*	Pn	**Pn**	**03 38 29.4**	**+0.3**
MOA					Sn	**Sn**	**03 39 26.4**	**-3.4**
MOA	**Molln**	**5.12**	**104**		Pn	**Pn**	**03 38 29.4**	**+0.3**
	16nm,6.0s								
MOA					Sn	**Sn**	**03 39 26.4**	**-3.5**
GRR	**Gorron**	**5.21**	**262**	*e*	Pg	**Pg**	**03 38 48.7**	**-4.6**
GRR				*e*	Sn	**Sn**	**03 39 25.0**	**-7.1**
GRR				*e*	Sg	**Sg**	**03 39 56.0**	**-6.8**
	18nm,0.4s								
GRR	**Gorron**	**5.21**	**262**	*e*	Pn	**Pn**	**03 38 29.5**	**-0.9**
GRR				*e*	Pg	**Pg**	**03 38 48.7**	**-4.6**
GRR				*e*	Sn	**Sn**	**03 39 25.0**	**-7.1**
GRR				*e*	Sg	**Sg**	**03 39 56.0**	**-6.8**
RJF	**Les Rejaudoux**	**5.46**	**224**	*e*	Sn	**Sn**	**03 39 32.6**	**-5.9**
RJF				*e*	Sg	**Sg**	**03 40 01.8**	**-9.5**
	25nm,0.6s								
MFF	**Saint Martin d**	**5.47**	**242**	*e*	Pn	**Pn**	**03 38 32.8**	**-1.4**
CAF	**Calviac**	**5.53**	**218**	*e*	Pn	**Pn**	**03 38 32.3**	**-2.6**
DPC	**Dobruska-Polom**	**6.18**	**77**	*e*	SG	**Sg**	**03 40 28.2**	**-6.8**
SGMF	**Saint Gilles**	**6.34**	**263**	*e*	Pn	**Pn**	**03 38 44.3**	**-2.1**
MTLF	**Montolieu**	**6.84**	**210**	*e*	Sg	**Sg**	**03 40 47.2**	**-10**
	10nm,0.6s								
EBIE	**Bielsa**	**8.16**	**218**		Pn	**P**	**03 39 11.9**	**-0.1**
EBIE					Sn	**Sn**	**03 40 42.8**	**-3.2**
EBIE					Lg		03 41 26.4	
EBIE	**Bielsa**	**8.16**	**218**		Pn	**P**	**03 39 11.9**	**0.0**
	0.9nm,0.4s,SNR=6.0								

*CSEM **19** 03:38:10.1±1.1,39.15N×28.57W,ML2.0, Error ellipse: s-maj=6.9km s-min=3.8km az=137.0*
*PDA **19** 03:38:10.1±1.1,39.15N×28.57W,MD3.2,ML2.0, Error ellipse: s-maj=6.9km s-min=3.8km az=137.0*

SVSA 19 03:38:10.1±1.1,39.15N×28.57W,MD3.2,ML2.0, Error ellipse: s-maj=6.9km s-min=3.8km az=137.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.45**	**99**	*e*S	Sg	03 38 26.1	+1.1
	19nm,0.1s						
STGR	**Santa Cruz**	**0.45**	**99**	*e*S	Sg	03 38 26.1	+1.1
	19nm,0.1s						
PGRA	**Graciosa**	**0.48**	**104**	*e*P	Pg	03 38 18.8	-0.8
PGRA				*e*S	Sg	03 38 25.4	-0.5
	32nm,0.3s						
PGRA	**Graciosa**	**0.48**	**104**	*e*P	Pg	03 38 18.8	-0.8
PGRA				*e*S	Sg	03 38 25.4	-0.5
	32nm,0.3s						
ROSA	**Rosais**	**0.50**	**149**	*erx*	Sg	03 38 22.5	-4.3
ROSA	**Rosais**	**0.50**	**149**	*e-*	Sg	03 38 22.5	-4.3
PCED	**Cedros**	**0.53**	**191**	*i* P	Pg	03 38 19.5	-1.2
PCED				*e*S	Sg	03 38 26.8	-0.9
	24nm,0.3s						
PCED	**Cedros**	**0.53**	**191**	*e*S	Sg	03 38 26.8	-0.9
PAMA	**Santo Amaro**	**0.56**	**147**	*e*S	Sg	03 38 28.9	+0.2
CALA	**Caldeira**	**0.58**	**190**	*i* P	Pg	03 38 20.6	-1.0
PTCA	**Ponta do Capel**	**0.59**	**197**	*e*P	Pg	03 38 20.2	-1.7
PTCA				*e*S	Sg	03 38 28.3	-1.4
PMAN	**Manadas**	**0.64**	**144**	*e*S	Sg	03 38 29.3	-2.1
	58nm,0.1s						
PMAN	**Manadas**	**0.64**	**144**	*e*S	Sg	03 38 29.3	-2.1
	58nm,0.1s						
PICO	**Pico**	**0.66**	**170**	*e*P	Pg	03 38 21.7	-1.5
PICO				*e*S	Sg	03 38 30.5	-1.5
PCND	**Candelaria**	**0.68**	**173**	*e*P	Pg	03 38 22.4	-1.4
PCND				*e*S	Sg	03 38 31.4	-1.5
	17nm,0.3s						
PPNO	**Prainha do Nor**	**0.72**	**160**	*erx*	Sg	03 38 34.7	+0.7
PSBA	**Serra de Santa**	**1.04**	**111**	*erx*	Pb	03 38 33.2	+2.4

*NEIC **19** 03:43:10.9, 19.45N×69.07W, h25km, MD3.5(RSPR), After RSPR.*

RSPR 19 03:43:10.9, 19.45N×69.07W, h25km±22km, MD3.5/3, MD3.5/3, 3C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**2.35**	**127**	⇑*e*P	Pn	03 43 45.9	-3.0
CRPR				*e*S	Sn	03 44 13.9	-3.3
AOPR	**Arecibo Observ**	**2.46**	**116**	⇑*e*P	Pn	03 43 47.9	-2.5
AOPR				*e*S	Sn	03 44 15.9	-4.0
SJG	**San Juan**	**3.07**	**115**	P	Pn	03 43 56.5	-2.6
MTP	**Monte Pirata**	**3.59**	**111**	⇑*e*P	Pn	03 44 03.8	-2.7
MTP				*e*S	Sn	03 44 45.0	-3.6

IGQ 19 03:46:55.5, 0.10N×78.92W, h97km±2km, mb4.1, 12D, Error ellipse: s-maj=2.1km s-min=1.3km az=70.1, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINO	**Pino**	**0.41**	**130**	⇓P	P	03 47 11.2	+0.8
YANA	**Yana**	**0.41**	**122**	⇓P	P	03 47 11.1	+0.6
TERV	**Terraza Guagua**	**0.42**	**131**	⇓P	P	03 47 11.3	+0.7
GGP	**Refugio Guagua**	**0.43**	**130**	⇓P	P	03 47 11.3	+0.7
COTA	**Cotacachi**	**0.62**	**69**	⇓P	P	03 47 12.6	+0.4
COTA				S	S	03 47 26.4	+1.8
MAG1	**Magdalena**	**0.87**	**258**	⇓P	P	03 47 14.5	0.0
CAMI	**Rancho Maria**	**0.88**	**152**	⇓P	P	03 47 15.7	+1.1
VC1	**Cotopaxi 1**	**0.90**	**145**	⇓P	P	03 47 15.7	+0.8
CAYR	**Refugio Cayamb**	**0.92**	**96**	⇓P	P	03 47 15.8	+0.8
CAYA	**Cayambe**	**0.93**	**92**	⇓P	P	03 47 15.6	+0.4
ANTI	**Antisana**	**0.94**	**126**	⇓P	P	03 47 16.2	+1.0
CONE	**Cono NE Rev Vo**	**1.29**	**98**	P	P	03 47 20.1	+0.7
LAV3	**Lava3-Reventad**	**1.30**	**99**	⇓P	P	03 47 20.2	+0.6
LAV3				S	S	03 47 44.4	+6.9
JUIV	**Juive**	**1.58**	**163**	P	P	03 47 26.1	+3.1
CUSU	**Cusua**	**1.60**	**164**	P	P	03 47 28.8	+5.6
IGUA	**Igualata**	**1.61**	**170**	P	P	03 47 24.6	+1.2
ULBA	**Ulba**	**1.63**	**162**	P	P	03 47 29.2	+5.6
ULBA				S	S	03 47 55.5	+11

*BJI **19** 03:52:38.6, 46.24N×151.23E, h35km, mB4.9, mb4.3, Ms4.3, Msz4.0*
*IDC **19** 03:52:43.1±1.0, 46.23N×150.32E, mb4.0/15, mb1 4.2/16, mb1mx4.1/23, mbtmp4.0/16, ML4.0/1, Error ellipse: s-maj=26.8km s-min=19.1km az=143.0*
*MOS **19** 03:52:46.5±1.0, 46.24N×150.28E, h35km, mb4.4/16, Error ellipse: s-maj=15.7km s-min=9.1km az=100.5*
*NEIC **19** 03:52:48.4±0.4, 46.28N×150.29E, h35km, mb4.3/11, Error ellipse: s-maj=10.3km s-min=6.3km az=129.0*

ISC 19 03:52:46.5±0.5, 46.21N±0.07×150.2E±0.1, h33km, n67, σ0s99/68, mb4.1/24, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.90**	**240**	*e*PN	**Pn**	**03 53 12.0**	**-5.3**
KUR				*e*S	**S**	**03 53 38.8**	**-1.4**
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
KUR				smax			
	comp=N,380nm,0.5s						
KUR				smax			
	comp=E,150nm,0.5s						
ASAJ	**Asahikawa**	**5.77**	**251**	Pn	**Pn**	**03 54 09.4**	**-2.7**
ASAJ				PN	**Pn**	**03 54 09.4**	**-2.7**
	comp=E,4.1nm,0.3s,baz=105,slow=15,SNR=9.3						
ASAJ	**Asahikawa**	**5.77**	**251**	pmax	pmax		
	comp=Z,4.0nm,0.3s						
MAJO	**Matsushiro**	**13.19**	**227**	*e*PN	**P**	**03 55 53.7**	**-0.2**
MA2	**Magadan**	**13.39**	**1**	*e*PN	**P**	**03 55 55.3**	**-1.2**
INCN	**Inchon**	**19.55**	**252**	*e*P	**P**	**03 57 13.7**	**-0.3**
	comp=Z,12nm,0.4s						
HIA	**Hailar**	**20.64**	**290**	*e*P	**P**	**03 57 24.3**	**-1.2**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HIA	**Hailar**	**20.64**	**290**	*e*P	**P**	**03 57 24.3**	**-1.3**
	comp=Z,3.2nm,0.4s						
SONM	**Songino Array**	**29.61**	**289**	P	**P**	**03 58 50.1**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=80,slow=7.2,SNR=4.1						
TATO	**Taipei**	**31.25**	**237**	*e*P	**P**	**03 59 07.0**	**+1.7**
	comp=Z,20nm,0.4s						
YHNB	**Yeheng**	**31.55**	**237**	*e*P	**P**	**03 59 07.2**	**-0.7**
NACB	**Ninganchiao**	**31.80**	**236**	*e*P	**P**	**03 59 11.4**	**+1.2**
ENH	**Enshi**	**35.29**	**258**	*e*P	**P**	**03 59 34.7**	**-5.5**
GTA	**Gaotai**	**37.06**	**278**	P	**P**	**03 59 54.1**	**-0.9**
MCK	**McKinley**	**37.36**	**40**	*e*P	**P**	**03 59 56.6**	**-0.7**
MCK				pmax	pmax		
	comp=Z,21nm,2.1s,mb4.6						
MCK	**McKinley**	**37.36**	**40**	*e*P	**P**	**03 59 56.6**	**-0.7**
	comp=Z,21nm,2.1s,mb4.6						
ILAR	**Eielson Array**	**38.22**	**38**	P	**P**	**04 00 03.4**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.4,baz=267,slow=7.1,SNR=5.4						
INK	**Inuvik**	**43.18**	**32**	P	**P**	**04 00 44.5**	**-0.7**
	comp=Z,0.6nm,0.4s,mb3.7,baz=287,slow=3.6,SNR=19						
INK	**Inuvik**	**43.18**	**32**	P	**P**	**04 00 44.5**	**-0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**43.18**	**32**	*e*P	**P**	**04 00 44.9**	**-0.3**
	comp=Z,2.3nm,0.9s,mb3.9						
MKAR	**Makanchi Array**	**45.39**	**297**	P	**P**	**04 01 03.6**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.1,baz=70,slow=7.8,SNR=26						
KURK	**Kurchatov**	**45.98**	**303**	*e*P	**P**	**04 01 08.1**	**+0.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KURK	**Kurchatov**	**45.98**	**303**	*e*P	**P**	**04 01 08.1**	**+0.2**
	comp=Z,1.4nm,0.4s,mb4.2						
LSA	**Lhasa**	**48.28**	**272**	P	**P**	**04 01 26.9**	**+0.6**
CHKZ	**Chkalovo**	**49.23**	**309**	*e*P	**P**	**04 01 33.0**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**49.23**	**309**	*e*P	**P**	**04 01 33.0**	**-0.2**
	comp=Z,1.1nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**49.64**	**309**	P	**P**	**04 01 36.6**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=39,slow=9.2,SNR=3.5						
BRVK	**Borovoye**	**49.68**	**309**	P	**P**	**04 01 37.1**	**+0.4**
ZRNK	**Zerenda**	**50.42**	**309**	*e*P	**P**	**04 01 42.1**	**-0.3**
	comp=Z,0.5nm,0.3s,mb4.0						
AAK	**Ala-Archa**	**52.26**	**295**	*e*P	**P**	**04 01 55.0**	**-1.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**52.26**	**295**	*e*P	**P**	**04 01 55.0**	**-1.3**
	comp=Z,2.0nm,0.6s,mb4.2						
YKA	**Yellowknife Ar**	**52.55**	**36**	P	**P**	**04 01 56.6**	**-1.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=297,slow=7.2,SNR=9.6						
FCC	**Fort Churchill**	**62.80**	**32**	*e*P	**P**	**04 03 07.9**	**-2.6**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
FCC	**Fort Churchill**	**62.80**	**32**	*e*P	**P**	**04 03 07.9**	**-2.6**
	comp=Z,2.0nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**63.65**	**334**	P	**P**	**04 03 15.7**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=45,slow=8.1,SNR=14						
CTAO	**Charters Tower**	**66.08**	**184**	P	**P**	**04 03 31.9**	**-0.4**
WRAB	**Tennant Creek**	**67.38**	**196**	*e*P	**P**	**04 03 41.3**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**67.38**	**196**	*e*P	**P**	**04 03 41.3**	**+0.8**
	comp=Z,5.8nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**67.39**	**196**	P	**P**	**04 03 40.7**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=15,slow=6.6,SNR=12						
WRA	**Warramunga Arr**	**67.39**	**196**	P	**P**	**04 03 40.7**	**+0.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**68.07**	**340**	P	**P**	**04 03 44.3**	**+0.2**
	comp=Z,2.1nm,0.5s,mb4.4,baz=29,slow=6.2						
NOA	**NORSAR Array B**	**68.07**	**340**	P	**P**	**04 03 44.5**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.5,baz=29,slow=6.3,SNR=7.9						
NOA	**NORSAR Array B**	**68.07**	**340**	P	**P**	**04 03 44.6**	**+0.5**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HFS	**Hagfors**	**68.24**	**338**	P	**P**	**04 03 44.7**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.3,baz=18,slow=4.7,SNR=6.0						
HFS	**Hagfors**	**68.24**	**338**	P	**P**	**04 03 44.7**	**-0.5**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KIV	**Kislovodsk**	**69.71**	**313**	P	**P**	**04 03 55.5**	**+0.9**
KIV	**Kislovodsk**	**69.71**	**313**	P	**P**	**04 03 55.5**	**+0.9**
AKASG	**Malin Array Be**	**70.85**	**325**	P	**P**	**04 04 01.3**	**-0.1**
	comp=Z,1.7nm,0.3s,mb4.4,baz=37,slow=6.2,SNR=18						
AKASG	**Malin Array Be**	**70.85**	**325**	P	**P**	**04 04 01.3**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BURAR	**Bucovina Array**	**74.90**	**325**	⇓P	**P**	**04 04 25.5**	**+0.3**
STHS	**Stebnicka Huta**	**74.94**	**328**	*e*P	**P**	**04 04 27.0**	**+1.6**
KOLS	**Kolonicke sedl**	**74.96**	**327**	*e*P	**P**	**04 04 26.7**	**+1.2**
DPC	**Dobruska-Polom**	**75.87**	**332**	*e*P	**P**	**04 04 31.8**	**+1.1**
MORC	**Moravsky Berou**	**75.95**	**331**	⇓P	**P**	**04 04 31.9**	**+0.8**
CLL	**Collm**	**76.10**	**334**	P	**P**	**04 04 32.3**	**+0.4**
	comp=Z,logA/T=0.8,mb4.5						
EKA	**Eskdalemuir Ar**	**76.36**	**345**	P	**P**	**04 04 33.8**	**+0.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=14,slow=5.9,SNR=3.9						
EKA	**Eskdalemuir Ar**	**76.36**	**345**	P	**P**	**04 04 33.8**	**+0.5**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VRAC	**Vranov**	**76.67**	**331**	P	**P**	**04 04 36.6**	**+1.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=45,slow=7.2,SNR=5.8						
VRAC	**Vranov**	**76.67**	**331**	⇓P	**P**	**04 04 36.8**	**+1.5**
GDL2	**Guadalupe Moun**	**77.00**	**57**	*e*P	**P**	**04 04 31.3**	**-6.2**
BRTR	**Keskin Array B**	**77.38**	**315**	P	**P**	**04 04 40.8**	**+1.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=124,slow=4.5,SNR=3.9						
BRTR	**Keskin Array B**	**77.38**	**315**	P	**P**	**04 04 40.8**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KHC	**Kasperske Hory**	**77.82**	**333**	*e*P	**P**	**04 04 42.7**	**+1.0**
GERES	**GERESS Array B**	**78.03**	**332**	P	**P**	**04 04 43.3**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=31,slow=5.7,SNR=10						
GERES	**GERESS Array B**	**78.03**	**332**	P	**P**	**04 04 43.3**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**79.50**	**59**	P	**P**	**04 04 47.9**	**-3.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=297,slow=2.8,SNR=3.5						
NWAO	**Narrogin (SRO)**	**84.22**	**207**	P	**P**	**04 05 16.3**	**+0.6**

WEL 19 04:02:48.4±0.4, 35.89S×177.57E, h276km±6km, ML4.3/14, Error ellipse: s-maj=9.8km s-min=7.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.78**	**161**	PN	P	04 03 31.2	-0.3
MXZ				SN	S	04

comp=Z,137nm,18.2s,MS4.0,baz=85,slow=40
BVAR Borovoye Array 51.61 342 P **P** 04 56 28.5 -1.4
comp=Z,0.9nm,0.5s,mb4.0,baz=135,slow=8.4,SNR=5.8
ZRNK Zerenda 51.98 341 *e*P **P** 04 56 32.3 -0.4
ZRNK *e**PP pP 04 56 46.7 +1.5
ZRNK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ZRNK Zerenda 51.98 341 *e*P **P** 04 56 32.3 -0.5
comp=Z,3.7nm,0.9s,mb4.3
ZRNK *e*PP pP 04 56 46.7 +1.5
CHKZ Chkalovo 52.10 342 *e*P **P** 04 56 32.8 -0.8
CHKZ *e*PP pP 04 56 46.9 +0.8
CHKZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CHKZ Chkalovo 52.10 342 *e*P **P** 04 56 32.8 -0.7
comp=Z,4.7nm,0.8s,mb4.5
CHKZ *e*PP pP 04 56 46.9 +0.9
BOD Bodaibo 54.74 13 *e*P **P** 04 56 50.9 -2.2
KMBO Kilima Mbogo 57.34 265 LR LR 05 16 13.4
comp=Z,41nm,20.1s,MS3.5,baz=88,slow=30
BRTR Keskin Array B 64.34 312 P **P** 04 57 57.4 -2.1
comp=Z,1.3nm,0.7s,mb4.0,baz=129,slow=7.9,SNR=6.2
FINES FINESS Array B 75.19 333 P **P** 04 59 04.4 -0.8
comp=Z,1.8nm,0.8s,mb4.1,baz=106,slow=6.2,SNR=6.1
GERES GERESS Array B 79.96 319 P **P** 04 59 32.7 +0.7
comp=Z,1.0nm,0.7s,mb3.9,baz=90,slow=5.9,SNR=8.7
DAVOX Davos 82.46 316 P **P** 04 59 45.4 +0.3
comp=Z,2.3nm,0.6s,mb4.3,baz=112,slow=11,SNR=4.6

CASC 19 04:52:13.0±2.5, 12.99N×90.55W, h3km±21km, MD3.9, ML3.2, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.18**	**4**	*e*P	Pb	04 52 35.3	-0.4
IXG				*e*S	Sb	04 52 51.7	+0.4
IXG				AML	AML	04 52 56.5	
	comp=E,2μm,0.4s						
SBLS	**San Blas**	**1.23**	**47**	*e*P	Pb	04 52 59.4	+23
SBLS				*e*S	Sb	04 53 17.2	+24
RTR	**El Retiro**	**1.26**	**44**	*e*P	Pb	04 52 60.0	+23
RTR				*e*S	Sb	04 53 18.1	+25
SNJE	**San Jose**	**1.27**	**46**	*e*P	Pb	04 52 59.9	+23
SNJE				*e*S	Sb	04 53 18.1	+24
LFRS	**El Faro**	**1.58**	**66**	*e*P	Pn	04 53 02.4	+20
LFRS				*e*S	Sb	04 53 23.0	+20
LCBS	**La Ceiba**	**1.67**	**66**	*e*P	Pn	04 53 03.6	+20
LCBS				*e*S	Sb	04 53 27.6	+22
MTO2	**Montecristo 2**	**1.82**	**39**	*e*P	Pn	04 53 08.4	+23
MTO2				*e*S	Sn	04 53 33.2	+24
TP2	**Tecpan 2**	**1.84**	**346**	⇓*e*P	Pn	04 52 46.1	+0.3
TP2				*e*S	Sn	04 53 11.4	+1.5
TP2				AML	AML	04 53 14.6	
	comp=E,123nm,0.4s						

NNC 19 05:26:47.5±3.3, 44.08N×86.32E, mb3.0, mpv2.6, Error ellipse: s-maj=84.1km s-min=25.1km az=45.0
BJI 19 05:26:47.0, 43.78N×86.75E, h23km, ML2.9, 1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.69**	**86**	PG	Pb	05 27 00.1	-0.1
WMQ				SG	Sb	05 27 11.9	+2.7
WMQ				Smax			
	comp=N,170nm,0.3s						
WMQ				Smax			
	comp=E,220nm,0.3s						
MK31	**Makanchi Array**	**4.36**	**315**	Pn	Pn	05 27 51.9	-1.7
	comp=E,0.4nm,0.2s,baz=137,slow=14,SNR=83						
MK31				Sn	Sn	05 28 42.3	-2.0
	comp=E,2.0nm,0.3s,baz=131,slow=26,SNR=6.3						
MK31				⇓Lg		05 28 52.2	
	comp=E,11nm,0.6s,baz=128,slow=33,SNR=14						

IDC 19 05:46:17.1±3.3, 9.62S×117.81E, mb3.7/2, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=183.8km s-min=32.6km az=49.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.98**	**125**	P	P	05 50 40.3	-2.2
	0.1nm,0.3s,baz=302,slow=12,SNR=6.2						
SONM	**Songino Array**	**58.09**	**351**	P	P	05 56 12.4	-2.2
	0.5nm,0.5s,baz=165,slow=8.0,SNR=5.4						
MKAR	**Makanchi Array**	**64.48**	**334**	P	P	05 56 55.4	-2.4
	0.5nm,0.5s,baz=142,slow=5.8,SNR=9.7						
YKA	**Yellowknife Ar**	**115.24**	**24**	PKP	PKPdf	06 05 00.1	-2.0
	0.2nm,0.5s,baz=307,slow=1.9,SNR=7.9						

HLW 19 05:53:47.3, 36.62N×22.97E, h33km, Mb3.1
CSEM 19 05:53:50.7±0.1, 36.15N×22.68E, h60km, MD3.5, Error ellipse: s-maj=8.7km s-min=3.4km az=76.0
ATH 19 05:53:51.7, 36.19N×22.48E, h23km±3km, MD3.5/4
ISC 19 05:53:51.0±0.8, 36.1N±0.2×22.7E±0.3, h55km±43km, n7, σ0$43/10, 4D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.34**	**59**	*e*PB	**P**	**05 54 01.2**	**+0.2**
VLI	**Veliai**	**0.65**	**19**	⇓*e*PN	**P**	**05 54 04.9**	**+0.5**
VLI				*e*SN	**S**	**05 54 13.8**	**-0.5**
ITM	**Ithomi**	**1.23**	**331**	*e*PN	**P**	**05 54 12.2**	**-0.1**
ITM				*e*SN	**S**	**05 54 27.9**	**-0.2**
VAM	**Vamos**	**1.42**	**119**	*e*PN	**P**	**05 54 20.8**	**+5.7**
SWA2		**7.23**	**160**	⇓*e*P	**P**	**05 55 36.8**	**+0.3**
SWA2				S	**S**	**05 56 57.2**	**-0.8**
SWA1		**7.28**	**159**	⇓*e*P	**P**	**05 55 37.8**	**+0.6**
HFRF	**Wahat Farafira**	**10.13**	**150**	⇓*e*P	**P**	**05 56 16.3**	**-0.1**

IDC 19 06:00:43.2±1.1, 32.93S×177.95W, mb4.2/4, mb1 4.3/7, mb1mx4.2/14, mbtmp4.3/7, ML3.8/2, MS3.7/4, Ms1 3.7/4, ms1mx3.3/17, Error ellipse: s-maj=32.2km s-min=23.5km az=113.0
NEIC 19 06:00:48.6±1.7, 32.91S×178.03W, h35km±13km, mb4.8/3, Error ellipse: s-maj=19.7km s-min=13.3km az=108.0
ISC 19 06:00:45.6±1.6, 32.94S±0.07×177.8W±0.2, h41km±14km, n26, σ1$09/19, mb4.5/6, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.68**	**359**	Pn	**P**	**06 01 41.7**	**+0.3**
	54nm,0.3s,baz=134,slow=22,SNR=2.9						
RAO				Sn	**S**	**06 02 17.8**	**-6.3**
	159nm,0.3s,baz=129,slow=22,SNR=5.5						
PUZ	**Puketiti**	**6.04**	**211**	PN	**P**	**06 02 14.0**	**-0.6**
PUZ				SN	**S**	**06 03 25.4**	**+1.9**
MWZ	**Matawai**	**6.58**	**214**	PN	**P**	**06 02 21.9**	**-0.4**
URZ	**Urewera**	**6.73**	**216**	Pn	**P**	**06 02 24.3**	**0.0**
	4.4nm,0.3s,baz=52,slow=3.8,SNR=14						
URZ				Sn	**S**	**06 03 40.6**	**+0.1**
	7.4nm,0.3s,baz=142,slow=16,SNR=5.5						
URZ	**Urewera**	**6.73**	**216**	PN	**P**	**06 02 22.4**	**-2.0**
URZ				SN	**S**	**06 03 39.2**	**-1.3**
RPZ	**Rata Peaks**	**13.84**	**216**	Sn	**S**	**06 06 22.9**	**-12**
	0.5nm,0.3s,baz=154,slow=18,SNR=2.7						
DZM	**Mont Dzumac**	**17.64**	**304**	P	**P**	**06 04 51.1**	**+1.2**
	0.2nm,0.3s,baz=314,slow=22,SNR=3.5						
DZM				LR	LR	06 10 20.2	
	comp=Z,554nm,18.3s,baz=204,slow=33						
RAR	**Rarotonga**	**19.83**	**58**	LR	LR	06 10 45.9	
	comp=Z,114nm,21.5s,baz=278,slow=30						
HNR	**Honiara**	**31.12**	**314**	LR	LR	06 17 45.5	
	comp=Z,68nm,18.9s,baz=131,slow=33						
STKA	**Stephens Creek**	**34.13**	**261**	P	**P**	**06 07 30.6**	**+2.0**
	1.1nm,0.7s,mb3.9,baz=32,slow=8.5,SNR=3.9						
STKA				LR	LR	06 20 42.1	
	comp=Z,239nm,18.1s,baz=172,slow=35						
CTA	**Charters Tower**	**34.43**	**283**	P	**P**	**06 07 31.4**	**+0.1**
	4.4nm,0.6s,mb4.6,baz=118,slow=9.6,SNR=8.7						
CTAO	**Charters Tower**	**34.43**	**283**	*e*P	**P**	**06 07 31.5**	**+0.1**
	4.0nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**44.39**	**275**	⇑*i*P	**P**	**06 08 52.9**	**-1.2**
WRAB	**Tennant Creek**	**44.40**	**275**	*e*P	**P**	**06 08 53.2**	**-0.9**
	11nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**44.40**	**275**	P	**P**	**06 08 53.1**	**-1.1**
	4.4nm,0.3s,mb4.6,baz=113,slow=8.0,SNR=128						
VNDA	**Vanda**	**45.59**	**186**	P	**P**	**06 09 03.8**	**+0.8**
	0.4nm,0.5s,mb3.6,baz=14,slow=9.8,SNR=3.1						
QSPA	**South Pole Qui**	**57.18**	**180**	P	**P**	**06 10 37.1**	**+6.9**
	44nm,0.7s,mb5.6						
SNAA	**Sanae**	**75.62**	**178**	*e*P	pP	06 12 42.0	+2.5
KAF	**Kangasniemi**	**146.98**	**339**	*e*p	PKPdf	06 20 24.5	+3.6
	2.7nm,0.8s						
FINES	**FINESS Array B**	**147.57**	**339**	PKPbc	PKPdf	06 20 27.3	+5.5
	2.9nm,0.6s,baz=53,slow=3.2,SNR=25						
NB2	**NORSAR Subarra**	**151.28**	**351**	PKPbc	PKPdf	06 20 38.4	+11
	0.8nm,0.7s,baz=14,slow=4.3						
NOA	**NORSAR Array B**	**151.28**	**351**	PKPbc	PKPdf	06 20 38.7	+11
	1.2nm,0.8s,baz=145,slow=23,SNR=2.4						
NOA	**NORSAR Array B**	**151.28**	**351**	PKPbc	PKPdf	06 20 38.7	+11
HFS	**Hagfors**	**151.75**	**348**	PKPbc	PKPdf	06 20 39.8	+11
	3.0nm,0.8s,baz=315,slow=2.0,SNR=3.6						
AKASG	**Malin Array Be**	**153.37**	**320**	PKPbc	PKPdf	06 20 42.0	+11
	0.3nm,0.4s,baz=44,slow=2.0,SNR=7.6						
BRTR	**Keskin Array B**	**153.86**	**294**	PKPbc	PKPdf	06 20 43.8	+12
	0.9nm,0.5s,baz=138,slow=4.0,SNR=4.3						
BRTR				PKPab	PKPab	06 20 56.9	+1.3
	2.1nm,0.8s,baz=127,slow=5.5,SNR=6.1						

NEIC 19 06:25:56.9, 45.12S×167.41E, h118km, mb4.5/5, After WEL.
WEL 19 06:25:56.9±0.3, 45.11S×167.45E, h119km±2km, ML3.9/11, 4C-2D, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.43**	**210**	PN	P	06 26 13.7	-0.7
DCZ				SN	S	06 26 26.4	-1.2
DCZ	**Deep Cove**	**0.43**	**210**	P	P	06 26 13.7	-0.7
DCZ				S	S	06 26 26.4	-1.2
MSZ	**Milford Sound**	**0.55**	**38**	PN	P	06 26 15.1	-0.1
MSZ				SN	S	06 26 28.5	-0.5
MSZ	**Milford Sound**	**0.55**	**38**	P	P	06 26 15.1	0.0
MSZ				S	S	06 26 28.5	-0.5
MLZ	**Mavora Lakes**	**0.56**	**116**	⇑PN	P	06 26 15.0	-0.3
MLZ				SN	S	06 26 28.4	-0.7
MLZ	**Mavora Lakes**	**0.56**	**116**	P	P	06 26 15.0	-0.2
WHZ	**Wether Hill Ro**	**0.86**	**156**	PN	P	06 26 17.5	-0.3
WHZ				SN	S	06 26 32.7	-0.6
WHZ	**Wether Hill Ro**	**0.86**	**156**	P	P	06 26 17.5	-0.2
WHZ				S	S	06 26 32.4	-0.9
WKZ	**Wanaka**	**1.15**	**76**	PN	P	06 26 20.2	-0.4
WKZ				SN	S	06 26 37.3	-1.1
WKZ	**Wanaka**	**1.15**	**76**	P	P	06 26 20.5	-0.2
EAZ	**Earnscleugh**	**1.32**	**96**	⇑PN	P	06 26 22.1	-0.5
EAZ				SN	S	06 26 39.6	-2.4
EAZ	**Earnscleugh**	**1.32**	**96**	P	P	06 26 22.1	-0.5
JCZ	**Jackson Bay**	**1.39**	**43**	⇓PN	P	06 26 22.8	-0.6
JCZ				SN	S	06 26 41.6	-1.9
JCZ	**Jackson Bay**	**1.39**	**43**	P	P	06 26 22.8	-0.6
JCZ				S	S	06 26 42.2	-1.3
TUZ	**Tuapeka**	**1.75**	**120**	⇑PN	P	06 26 27.2	-0.4
TUZ				SN	S	06 26 47.7	-3.2
LBZ	**Lake Benmore**	**2.08**	**71**	⇓PN	P	06 26 29.8	-1.9
LBZ				SN	S	06 26 54.1	-3.9
LBZ	**Lake Benmore**	**2.08**	**71**	P	P	06 26 29.8	-1.9
FOZ	**Fox Glacier**	**2.23**	**47**	PN	P	06 26 32.4	-1.3
FOZ	**Fox Glacier**	**2.23**	**47**	P	P	06 26 32.4	-1.3
ODZ	**Otahua Downs**	**2.26**	**90**	⇑PN	P	06 26 32.6	-1.6
ODZ				SN	S	06 26 58.2	-4.1
ODZ	**Otahua Downs**	**2.26**	**90**	P	P	06 26 32.6	-1.6
RPZ	**Rata Peaks**	**2.93**	**63**	P	P	06 26 40.2	-2.9
WVZ	**Waitaha Valley**	**3.12**	**51**	P	P	06 26 42.2	-3.4
MQZ	**McQueen's Vall**	**3.98**	**71**	P	P	06 26 54.4	-2.8
LTZ	**Lake Taylor**	**4.18**	**58**	*e*P	P	06 26 56.0	-4.0
DSZ	**Denniston Nort**	**4.62**	**45**	P	P	06 27 02.1	-3.7
KHZ	**Kahutara**	**5.16**	**61**	*e*P	P	06 27 09.3	-3.9
THZ	**Tophouse**	**5.19**	**52**	*e*P	P	06 27 09.5	-4.0
QRZ	**Quartz Range**	**5.67**	**43**	*e*P	P	06 27 16.8	-3.2
NNZ	**Nelson**	**5.82**	**50**	*e*P	P	06 27 19.7	-2.3
RAO	**Raoul Island**	**19.61**	**41**	*e*P	P	06 30 15.6	-2.4
CTAO	**Charters Tower**	**30.50**	**318**	*e*P	P	06 31 58.0	-2.8
	7.2nm,1.3s						
VNDA	**Vanda**	**32.60**	**182**	*e*P	P	06 32 14.9	-3.7
	9.3nm,1.6s						
WRAB	**Tennant Creek**	**37.12**	**302**	*e*P	P	06 32 53.2	-4.3
	18nm,1.6s						
PMSA	**Palmer Station**	**63.32**	**158**	*e*P	P	06 36 11.0	-3.9
	9.9nm,1.1s						
SNAA	**Sanae**	**63.33**	**183**	*e*P	P	06 36 09.1	-5.8
	11nm,1.9s						
TRQA	**Tornquist**	**85.99**	**143**	*e*P	P	06 38 23.6	-1.1

OTT 19 06:52:53.3±0.2, 64.81N×83.11W, h18km, MN3.0/5, 75km northeast from Coral Harbour, Nu, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRTN	**Rankin Inlet**	**4.46**	**247**	PN	Pn	06 53 59.8	-2.1
YRTN				SN	Sn	06 54 48.8	-5.3
YRTN				LG		06 55 10.4	
YRTN				Trac		06 55 14.0	
	comp=Z,37nm,0.1s						
ILON	**Igloolik, Nuna**	**4.61**	**6**	PN	Pn	06 54 01.8	-2.2
ILON				SN	Sn	06 54 51.8	-6.0
ILON				LG		06 55 17.1	
ILON				Trac		06 55 18.9	
	comp=Z,14nm,0.2s						
FRB	**Frobisher Bay**	**6.43**	**93**	PN	Pn	06 54 26.4	-3.2
FRB				SN	Sn	06 55 34.4	-8.8
FRB				LG		06 56 09.2	
FRB				Trac		06 56 13.2	
	comp=Z,16nm,0.6s						
FCC	**Fort Churchill**	**7.98**	**226**	PN	Pn	06 54 47.1	-4.3
FCC				SN	Sn	06 56 13.0	-9.1
FCC				LG		06 57 01.0	
FCC				Trac		06 57 06.5	
	comp=Z,9.4nm,0.2s						
KUQ	**Kuujjuuaa**	**9.70**	**127**	PN	P	06 55 11.2	-3.8
KUQ				SN	Sn	06 56 51.9	-13
SILO	**Sutton Inlier**	**10.40**	**186**	PN	P	06 55 19.7	-4.9
SILO				SN	S	06 57 08.7	-13
SILO				Trac		06 58 29.9	
	comp=Z,2.2nm,0.3s						
RES	**Resolute Bay**	**10.70**	**343**	PN	P	06 55 24.6	-4.0
KNDN	**Kennady Lake**	**11.46**	**275**	SN	S	06 57 30.9	-17
KNDN				LG		06 58 45.6	
WEMQ	**Wemindji, Queb**	**12.08**	**165**	PN	P	06 55 42.1	-5.3
WEMQ				SN	S	06 57 49.8	-13
WEMQ				LG		06 59 04.5	
WEMQ				Trac		06 59 19.7	
	comp=Z,1.6nm,0.4s						
LG4Q	**La Grande 4**	**12.11**	**154**	PN	P	06 55 43.4	-4.4
LG4Q				SN	S	06 57 49.1	-14
LG4Q				LG		06 59 04.0	
YKW3	**Yellowknife Ar**	**14.07**	**275**	PN	P	06 56 08.1	-5.5
YKW3				PN	P	06 56 11.3	-2.3
YKW3				SN	S	06 58 32.1	-18
YKW3				SN	S	06 58 32.2	-18
YKW3				Trac		07 00 10.7	
	comp=Z,1.4nm,0.3s						
YKW3				Trac		07 00 21.3	
	comp=Z,1.8nm,0.4s						
ULM	**Lac du Bonnet**	**16.07**	**211**	PN	P	06 56 33.0	-6.8
ULM				SN	S	06 59 23.3	-14
ULM				Trac		07 01 24.2	
	comp=Z,0.6nm,0.3s						
EPLO	**Experimental L**	**16.19**	**205**	PN	P	06 56 35.5	-5.7

IDC 19 07:11:37.3±1.1, 45.10N×149.09E, mb3.5/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.5/5, Error ellipse: s-maj=39.7km s-min=25.8km az=131.0
ISC 19 07:11:46.5±1.6, 44.6N±0.3×149.0E±0.2, h110km±21km, n16, σ0$86/23, mb3.4/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.65**	**244**	P	**P**	**07 12 28.3**	**-0.4**
NEM2				*e*S	**S**	**07 12 59.4**	**-1.1**
JNK	**Nakash**	**3.24**	**254**	P	**P**	**07 12 37.2**	**+0.5**
JNK				*e*S	**S**	**07 13 14.9**	**+0.1**
JAK	**Akkeshi**	**3.50**	**245**	P	**P**	**07 12 40.1**	**-0.1**
JAK				*e*S	**S**	**07 13 20.6**	**-0.4**
JAR	**Ashorobuto**	**3.99**	**253**	P	**P**	**07 12 47.9**	**+1.0**
JAR				*e*S	**S**	**07 13 33.6**	**+0.6**
JOB	**Onbets**	**4.10**	**248**	P	**P**	**07 12 49.3**	**+0.9**
JOB				*e*S	**S**	**07 13 35.0**	**-0.7**
JCH	**Churui**	**4.54**	**246**	P	**P**	**07 12 54.5**	**+0.1**
JCH				*e*S	**S**	**07 13 45.7**	**-0.8**
JEM	**Erimo**	**4.98**	**241**	P	**P**	**07 13 01.4**	**+1.1**
JNBK	**Urakawa-nobuka**	**5.10**	**245**	P	**P**	**07 13 00.8**	**-1.1**
JNBK				*e*S	**S**	**07 13 59.7**	**-0.3**
JBT2	**Biratori 2**	**5.14**	**252**	P	**P**	**07 13 03.1**	**+0.6**
JNB	**Noboribetsu**	**6.16**	**253**	P	**P**	**07 13 17.0**	**+0.6**
JANG	**Nango**	**6.95**	**235**	*e*S	**S**	**07 14 40.2**	**-5.0**
ILAR	**Eielson Array**	**40.03**	**37**	P	**P**	**07 19 10.1**	**-1.5**
	0.4nm,0.6s,mb3.4,baz=270,slow=9.4,SNR=6.9						
MKAR	**Makanchi Array**	**45.39**	**298**	P	**P**	**07 19 55.8**	**+0.5**
	0.3nm,0.6s,mb3.2,baz=70,slow=8.6,SNR=2.4						
YKA	**Yellowknife Ar**	**54.37**	**35**	P	**P**	**07 21 01.9**	**-1.6**
	0.5nm,0.7s,mb3.6,baz=303,slow=7.6,SNR=5.2						
WRA	**Warramunga Arr**	**65.59**	**195**	P	**P**	**07 22 26.2**	**+5.4**
	0.3nm,0.6s,mb3.3,baz=12,slow=6.7,SNR=4.4						
TXAR	**Lajitas Array**	**81.08**	**58**	P	**P**	**07 23 52.2**	**+1.4**
	0.4nm,0.7s,mb3.4,baz=298,slow=4.0,SNR=5.4						

NEIC 19 07:25:32.9±1.1, 19.37S×177.51W, h516km±12km, mb4.2/9, Error ellipse: s-maj=16.1km s-min=9.9km az=152.0
IDC 19 07:25:34.5±1.6, 19.25S×177.50W, h550km±19km, mb3.5/9, mb1 3.8/13, mb1mx3.7/18, mbtmp4.5/13, Error ellipse: s-maj=17.0km s-min=12.3km az=144.0
ISC 19 07:25:33.5±0.9, 19.34S±0.09×177.59W±0.07, h545km±12km, n69, σ0$91/40, mb4.1/19, 6C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.76**	**47**	P	**P**	**07 27 28.6**	**-1.0**
	9.4nm,0.3s,baz=34,slow=2.9,SNR=15						
AFI				S	**S**	**07 28 58.4**	**-3.6**
	5.6nm,0.3s,baz=30,slow=23,SNR=6.0						
AFI	**Afiamalu**	**7.76**	**47**	*e*P	**P**	**07 27 28.3**	**-1.3**
AFI				*e*S	**S**	**07 29 02.2**	**+0.3**
DZM	**Mont Dzumac**	**15.19**	**257**	P	**P**	**07 28 45.7**	**+1.1**
	0.8nm,0.3s,baz=85,slow=18,SNR=19						
RAR	**Rarotonga**	**16.82**	**99**	P	**P**	**07 29 01.3**	**+0.8**
	1.5nm,0.3s,baz=224,slow=6.6,SNR=5.4						
URZ	**Urewera**	**19.41**	**193**	P	**P**	**07 29 24.0**	**-1.1**
	5.2nm,0.3s,baz=324,slow=3.5,SNR=25						
URZ				S	**S**	**07 32 26.4**	**-5.1**
	0.4nm,0.3s,baz=348,slow=23,SNR=3.5						
CTAO	**Charters Tower**	**34.01**	**263**	P	**P**	**07 31 34.3**	**+0.7**
PMG	**Port Moresby**	**35.48**	**281**	P	**P**	**07 31 46.7**	**+0.8**
	28nm,0.8s,mb4.8,baz=110,slow=6.0,SNR=8.8						
PMG	**Port Moresby**	**35.48**	**281**	P	**P**	**07 31 46.9**	**+1.0**
STKA	**Stephens Creek**	**38.65**	**243**	P	**P**	**07 32 13.1**	**+1.5**
	2.5nm,0.4s,mb4.0,baz=88,slow=8.6,SNR=16						
STKA	**Stephens Creek**	**38.65**	**243**	*e*P	**P**	**07 32 12.8**	**+1.2**
WB2	**Warramunga Arr**	**45.14**	**261**	*e*P	**P**	**07 33 03.0**	**-0.3**
WRAB	**Tennant Creek**	**45.15**	**261**	P	**P**	**07 33 02.9**	**-0.5**
	5.7nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**45.15**	**261**	P	**P**	**07 33 03.1**	**-0.3**
	4.2nm,0.6s,mb4.2,baz=97,slow=8.6,SNR=46						
WRA				PcP	PcP	07 34 30.8	-1.7
	2.0nm,0.7s,baz=91,slow=3.2,SNR=7.2						
WRA				S	**S**	**07 39 00.8**	**-2.8**
	0.9nm,1.0s,baz=97,slow=14,SNR=5.6						
GUMO	**Guam**	**49.37**	**309**	*e*P	**P**	**07 33 36.5**	**+1.1**
	209nm,1.4s,mb5.5						
FITZ	**Fitzroy Crossi**	**53.57**	**261**	*e*P	**P**	**07 34 05.0**	**-0.7**
	4.4nm,1.4s,mb3.6						
MBWA	**Marble Bar**	**58.49**	**257**	P	**P**	**07 34 37.4**	**-2.2**
SBA	**Scott Base**	**59.04**	**184**	*e*P	**P**	**07 34 43.1**	**+0.5**
	8.8nm,0.9s,mb4.0						
VNDA	**Vanda**	**59.09**	**185**	P	**P**	**07 34 43.4**	**+0.5**
	2.7nm,0.8s,mb3.6,baz=358,slow=6.6,SNR=17						
VNDA	**Vanda**	**59.09**	**185**	P	**P**	**07 34 43.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**59.24**	**243**	*e*P	**P**	**07 34 38.7**	**-5.8**
CASY	**Casey**	**65.17**	**205**	P	**P**	**07 35 21.7**	**-0.5**
QSPA	**South Pole Qui**	**70.72**	**180**	*e*P	**P**	**07 35 56.7**	**+1.1**
	26nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**79.92**	**43**	P	**P**	**07 36 47.2**	**+0.1**
	1.6nm,0.7s,mb3.4,baz=226,slow=9.8,SNR=11						
NVAR	**Mina Array Bea**	**79.92**	**43**	P	**P**	**07 36 47.2**	**+0.1**
TUC	**Tucson**	**81.96**	**52**	P	**P**	**07 36 58.3**	**+0.7**
ELK	**Elko**	**83.17**	**43**	P	**P**	**07 37 03.6**	**0.0**
	6.2nm,1.3s,mb4.0						
MNTX	**Cornudas Mount**	**85.77**	**54**	P	**P**	**07 37 16.9**	**+0.5**
	3.7nm,0.9s,mb4.0						
TXAR	**Lajitas Array**	**86.11**	**57**	P	**P**	**07 37 18.2**	**+0.1**
	2.6nm,0.7s,mb4.0,baz=216,slow=6.5,SNR=34						
ANMO	**Albuquerque**	**86.38**	**51**	P	**P**	**07 37 19.4**	**+0.2**
	6.6nm,1.4s,mb4.1						
RRI2	**Red Ridge**	**87.02**	**42**	P	**P**	**07 37 22.8**	**+0.8**
ILAR	**Eielson Array**	**87.11**	**13**	P	**P**	**07 37 19.9**	**-2.0**
	1.0nm,0.6s,mb3.6,baz=234,slow=5.0,SNR=28						
IMW	**Indian Meadow**	**87.53**	**42**	P	**P**	**07 37 24.9**	**+0.5**
PDAR	**Pinedale Array**	**87.86**	**43**	P	**P**	**07 37 25.3**	**-0.7**
	1.1nm,0.8s,mb3.6,baz=212,slow=2.7,SNR=10						
BOZ	**Bozeman (W)**	**87.98**	**40**	P	**P**	**07 37 26.7**	**+0.2**
	7.3nm,1.3s,mb4.2						
SNAA	**Sanae**	**89.15**	**178**	*e*P	**P**	**07 37 30.4**	**-1.0**
	3.3nm,0.7s,mb4.3						
PLCA	**Paso Flores**	**89.78**	**133**	P	**P**	**07 37 34.4**	**-0.7**
	6.6nm,0.5s,mb3.7,baz=270,slow=7.1,SNR=3.4						
MKAR	**Makanchi Array**	**110.69**	**314**	PKiKP		07 43 03.1	
	0.8nm,0.5s,baz=120,slow=0.5,SNR=7.2				

*NDI **19** 07:44:59.3±2.3,34.10N×73.39E,h10km,MD3.5,ML3.6*
*NNC **19** 07:45:09.4±36.0,35.58N×76.25E,mb3.6,mpv3.3,Error ellipse: s-maj=374.9km s-min=330.8km az=61.0*

ISC 19 07:44:56.5±1.3,33.73N±0.08×73.0E±0.1,h10km,n9, σ0ᵗ66/15,1C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.65**	**118**	*eP*	**Pn**	**07 45 41.3**	**+1.2**
THN				*eS*	**Sn**	**07 46 12.2**	**-0.4**
DLH	**Dalhousie**	**2.79**	**114**	*eP*	**Pn**	**07 45 42.0**	**0.0**
DLH				*eS*	**Sn**	**07 46 15.0**	**-1.0**
SDNR	**Sundarnagar**	**4.05**	**122**	*ex*	**Pn**	**07 46 07.4**	**+7.4**
SDNR				*eS*	**Sn**	**07 46 43.4**	**-4.6**
SMLA	**Simla**	**4.40**	**125**	*eP*	**Pn**	**07 46 05.3**	**+0.4**
SMLA				*ex*	**Sb**	**07 47 08.2**	**+1.0**
KLP	**Kalpa**	**4.97**	**115**	*eP*	**Pn**	**07 46 12.9**	**-0.1**
KLP				*ex*	**Sn**	**07 47 17.0**	**+5.7**
KLP	comp=N,110nm,0.4s			AML	AML	07 47 27.7	
KLP	comp=E,126nm,0.5s			AML	AML	07 47 32.1	
KHET	**Khetri**	**6.14**	**156**	*eS*	**Sn**	**07 47 40.7**	**0.0**
NDI	**New Delhi**	**6.21**	**143**	*ex*	**Pg**	**07 47 08.0**	**+7.5**
KUDL	**Kundal**	**6.34**	**151**	*eS*	**Sn**	**07 47 45.0**	**-0.6**
KK31	**Karatay Array**	**9.55**	**349**	⇓P	**P**	**07 47 16.9**	**-0.3**
KK31	comp=E,0.4nm,0.3s,baz=150,slow=12,SNR=28 comp=E,1.0nm,0.5s,baz=147,slow=24,SNR=4.0			⇑S	**Sn**	**07 48 57.2**	**-8.4**

JMA 19 07:51:32.1±0.2,44.47N×148.54E,h94km,M3.5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.30**	**242**	P	P	07 52 09.0	-0.1
NEM2				*eS*	S	07 52 36.9	+0.3
JAK	**Akkeshi**	**3.15**	**243**	P	P	07 52 20.6	-0.2
JAK				*eS*	S	07 52 57.3	-0.2
JAR	**Ashorobuto**	**3.64**	**253**	P	P	07 52 27.4	-0.2
JOB	**Onbets**	**3.75**	**247**	P	P	07 52 28.9	-0.2
JOB				*eS*	S	07 53 13.6	+1.2
JCH	**Churui**	**4.20**	**246**	P	P	07 52 35.1	-0.1
JCH				*eS*	S	07 53 22.2	-1.1
JNBK	**Urakawa-nobuka**	**4.75**	**245**	P	P	07 52 43.5	+0.7
JNBK				*eS*	S	07 53 37.2	+0.1

*IDC **19** 07:54:30.2±1.2,53.32S×159.51E,mb4.2/4,mb1 4.3/5, mb1mx4.2/9,mbtmp4.2/5,ML3.9/1,MS3.8/10,Ms1 3.8/10, ms1mx3.7/15,Error ellipse: s-maj=47.9km s-min=23.5km az=74.0*
*NEIC **19** 07:54:31.6±0.6,53.27S×159.57E,h10km,mb4.6/6,Error ellipse: s-maj=12.9km s-min=11.2km az=101.0*

ISC 19 07:54:29.4±0.6,53.21S±0.07×159.8E±0.1,h10km,n38, σ1ᵗ37/27,mb4.5/10,MS3.8/8,Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**9.12**	**35**	PN	**P**	**07 56 46.3**	**+2.3**
MLZ	**Mavora Lakes**	**9.59**	**38**	PN	**P**	**07 56 49.7**	**-0.8**
MLZ				SN	**Sn**	**07 56 53.9**	**-5.6**
TUZ	**Tuapeka**	**9.68**	**45**	PN	**P**	**07 56 50.9**	**-0.8**
MSZ	**Milford Sound**	**10.09**	**35**	PN	**P**	**07 56 58.5**	**+1.2**
EAZ	**Earnscleugh**	**10.13**	**42**	PN	**P**	**07 56 56.6**	**-1.3**
WKZ	**Wanaka**	**10.35**	**40**	PN	**P**	**07 57 00.7**	**-0.3**
ODZ	**Otahua Downs**	**10.84**	**45**	PN	**P**	**07 57 05.3**	**-2.2**
JCZ	**Jackson Bay**	**10.90**	**37**	PN	**P**	**07 57 08.1**	**-0.4**
RPZ	**Rata Peaks** 0.7nm,0.3s,baz=94,slow=18,SNR=3.1	**12.09**	**43**	Pn	**P**	**07 57 24.5**	**-0.1**
RPZ	comp=Z,397nm,21.5s,baz=203,slow=32			LR	LR	08 01 03.3	
TAU	**Tasmania Unive**	**13.22**	**316**	*ePn*	**P**	**07 57 37.4**	**-2.4**
TAU				*eSn*	**S**	**08 00 00.3**	**-7.6**
SNZO	**South Karori** 27nm,1.0s	**15.60**	**46**	*eP*	**P**	**07 58 13.7**	**+2.9**
URZ	**Urewera** comp=Z,385nm,19.7s,baz=13,slow=38	**19.16**	**46**	LR	LR	08 06 44.4	
VNDA	**Vanda** 2.4nm,0.7s,mb3.7,baz=338,slow=9.7,SNR=12	**24.42**	**179**	P	**P**	**07 59 48.5**	**-0.1**
VNDA	comp=Z,211nm,19.0s,MS3.6,baz=0.6,slow=32			LR	LR	08 07 41.2	
STKA	**Stephens Creek** 6.2nm,0.7s,mb4.2,baz=145,slow=11,SNR=17	**25.03**	**321**	P	**P**	**07 59 56.2**	**+1.3**
STKA	**Stephens Creek**	**25.03**	**321**	*eP*	**P**	**07 59 57.2**	**+2.3**
RAO	**Raoul Island** comp=Z,173nm,18.2s,MS3.7,baz=256,slow=38	**29.00**	**43**	LR	LR	08 13 06.0	
DZM	**Mont Dzumac** comp=Z,171nm,20.8s,MS3.7,baz=204,slow=30	**31.51**	**12**	LR	LR	08 10 32.9	
CTA	**Charters Tower** 2.1nm,0.5s,mb4.4,baz=184,slow=12,SNR=3.6	**34.67**	**337**	P	**P**	**08 01 22.0**	**+0.9**
CTA	comp=Z,130nm,18.0s,MS3.7,baz=224,slow=34			LR	LR	08 13 54.5	
CTAO	**Charters Tower**	**34.67**	**337**	*eP*	**P**	**08 01 11.3**	**-10**
NWAO	**Narrogin (SRO)** 42nm,1.7s,mb5.1	**36.39**	**287**	*eP*	**P**	**08 01 36.3**	**+0.7**
QSPA	**South Pole Qui** 6.8nm,0.8s,mb4.5	**36.90**	**180**	*eP*	**P**	**08 01 40.5**	**+1.0**
WRA	**Warramunga Arr** 1.4nm,0.6s,mb3.9,baz=156,slow=7.4,SNR=13	**38.56**	**320**	P	**P**	**08 01 53.0**	**-1.0**
WRA	0.8nm,0.9s,baz=174,slow=2.5,SNR=5.7			PcP	PcP	08 04 08.8	+1.7
HNR	**Honiara** comp=Z,126nm,19.8s,MS3.8,baz=168,slow=30	**43.66**	**0**	LR	LR	08 16 46.9	
HNR	**Honiara**	**43.66**	**0**	P	**P**	**08 02 37.6**	**+1.7**
MBWA	**Marble Bar** 10nm,1.3s,mb4.4	**44.23**	**301**	*eP*	**P**	**08 02 42.2**	**+1.7**
MAW	**Mawson** comp=Z,79nm,19.3s,MS3.6,baz=88,slow=34	**44.74**	**213**	LR	LR	08 19 58.3	
PMG	**Port Moresby** 8.5nm,0.9s,mb4.6	**44.85**	**342**	*eP*	**P**	**08 02 45.2**	**-0.4**
AFI	**Afiamalu** 51nm,1.0s,mb5.3	**45.23**	**41**	*eP*	**P**	**08 02 49.6**	**+1.0**
PPT	**Papeete** 133nm,23.8s	**52.89**	**68**	*eLR*	LR	08 18 50.9	
SNAA	**Sanae** 14nm,1.1s,mb4.9	**54.81**	**187**	*eP*	**P**	**08 03 60.0**	**-1.1**
RKT	**Rikitea** 111nm,30.0s	**57.07**	**85**	*eLR*	LR	08 20 53.5	
COCO	**West Island**	**64.20**	**285**	*eP*	**P**	**08 05 04.3**	**-2.3**
PLCA	**Paso Flores** comp=Z,38nm,18.9s,MS3.7,baz=337,slow=32	**76.86**	**143**	LR	LR	08 34 57.5	
MJAR	**Matsushiro Arr** comp=Z,75nm,18.0s,MS4.2,baz=240,slow=34	**91.32**	**343**	LR	LR	08 46 26.2	
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=254,slow=1.7,SNR=4.6	**133.34**	**40**	PKP	PKPdf	08 13 47.8	+0.1
YKA	**Yellowknife Ar**	**133.34**	**40**	PKP	PKPdf	08 13 47.8	+0.1
AKASG	**Malin Array Be** 0.9nm,0.6s,baz=83,slow=2.8,SNR=8.1	**149.90**	**285**	PKPbc	PKPdf	08 14 20.3	+3.4
AKASG	**Malin Array Be**	**149.90**	**285**	PKPbc	PKPdf	08 14 20.3	+3.4

*ATH **19** 08:58:53.0,35.96N×27.03E,h30km±1km,MD3.3/6*
*NEIC **19** 08:58:53.1,35.96N×27.00E,h29km,MD3.3(ATH),After ATH.*
*CSEM **19** 08:58:53.3±0.1,35.97N×27.08E,h30km,MD3.3,Error ellipse: s-maj=3.9km s-min=2.7km az=66.0*
*HLW **19** 08:58:54.5,36.06N×27.06E,h33km,Mb3.2*

ISC 19 08:58:53.3±0.8,35.97N±0.04×26.98E±0.05,h29km±7km, n17,σ0ᵗ98/22,6C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.44**	**161**	*ePB*	**Pb**	**08 59 02.7**	**0.0**
KARP				*eSB*	**Sb**	**08 59 09.3**	**+0.1**
NISR	**Nisiros**	**0.66**	**10**	*ePN*	**Pn**	**08 59 06.5**	**0.0**
ARG	**Arkhangelos**	**0.96**	**75**	*ePN*	**Pn**	**08 59 11.6**	**+0.7**
ARG				*eSN*	**Sn**	**08 59 24.1**	**+0.5**
SANT	**Santorini**	**1.30**	**289**	*ePn*	**Pn**	**08 59 16.5**	**+0.8**
SANT				*eSn*	**Sn**	**08 59 30.4**	**-1.8**
SANT	**Santorini**	**1.30**	**289**	*ePn*	**Pn**	**08 59 16.5**	**+0.8**
SANT				*eSn*	**Sn**	**08 59 30.4**	**-1.8**
NPS	**Neapolis**	**1.32**	**238**	*ePN*	**Pn**	**08 59 17.2**	**+1.2**
XRY	**Khrisi**	**1.51**	**224**	*ePN*	**Pn**	**08 59 20.5**	**+1.7**
SMG	**Samos**	**1.74**	**356**	*ePB*	**Pb**	**08 59 23.0**	**-1.5**
VLI	**Veliai**	**3.35**	**284**	*ePN*	**Pn**	**08 59 46.0**	**+1.0**
SLUM		**4.70**	**199**	⇑*eP*	**Pn**	**09 00 04.6**	**+0.5**
SLUM				S	**Sn**	**09 00 56.1**	**-2.3**
HMAT	**Matruh**	**4.86**	**179**	⇑*eP*	**Pn**	**09 00 06.8**	**+0.4**
SWA1		**6.77**	**189**	⇑*eP*	**Pn**	**09 00 33.5**	**+0.2**
SWA2		**6.83**	**191**	⇓*eP*	**Pn**	**09 00 34.2**	**+0.1**
AMAG	**Maghara**	**7.44**	**134**	⇑*eP*	**Pn**	**09 00 41.7**	**-1.0**
SUZ		**7.84**	**140**	⇑*eP*	**Pn**	**09 00 47.3**	**-1.0**
HFRF	**Wahat Farafira**	**8.86**	**172**	⇑*eP*	**P**	**09 01 02.2**	**-0.3**
HFRF	**Wahat Farafira**	**8.86**	**172**	P	**P**	**09 01 02.2**	**-0.3**

*BJI **19** 09:04:26.9,34.99N×73.86E,h5km,mB4.8,mb4.7,ML4.8, Ms4.8,Msz4.2*
*IDC **19** 09:04:28.3±0.7,35.00N×73.92E,mb4.5/15,mb1 4.7/18, mb1mx4.6/20,mbtmp4.6/18,ML4.4/3,MS3.5/7,Ms1 3.5/7, ms1mx3.3/18,Error ellipse: s-maj=18.2km s-min=15.4km az=1.0*
*NEIC **19** 09:04:29.6±0.2,34.92N×73.93E,h10km,mb4.7/20,Error ellipse: s-maj=7.6km s-min=4.3km az=42.0*
*MOS **19** 09:04:31.5±0.8,35.00N×73.83E,h3km,mb4.8/19,Error ellipse: s-maj=10.4km s-min=5.3km az=100.8*
*NNC **19** 09:04:40.0±7.3,35.37N×73.50E,h75km±66km,mb4.2, mpv4.8,Error ellipse: s-maj=56.0km s-min=41.7km az=29.0*

ISC 19 09:04:27.9±0.2,34.92N±0.02×73.95E±0.04,h10km,n167, σ1ᵗ32/207,mb4.7/46,MS3.6/8,7C-6D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**1.11**	**137**	*eSG*	**Sg**	**09 05 14.5**	**+10**
SRNI				*ex*	x	09 05 48.0	
CHCP	**Chirah Chowk**	**1.38**	**204**	P	**Pn**	**09 04 57.6**	**+4.3**
CEP	**Cherat**	**2.01**	**238**	P	**Pn**	**09 05 06.1**	**+3.8**
THW	**Thamme Wali**	**2.80**	**221**	P	**Pn**	**09 05 18.9**	**+5.3**
THN	**Thein Dam**	**2.88**	**149**	*eP*	**Pb**	**09 05 20.0**	**+0.9**
THN				*eSB*	**Sg**	**09 06 03.7**	**-0.3**
DLH	**Dalhousie**	**2.91**	**144**	*eP*	**Pb**	**09 05 20.0**	**+0.5**
DLH				*ex*	**Sb**	**09 05 58.0**	**+2.8**
SARP	**Sargodha**	**3.17**	**200**	P	**Pn**	**09 05 23.5**	**+4.6**
PONG	**Pong**	**3.40**	**150**	*eP*	**Pb**	**09 05 28.0**	**+0.1**
PONG				*ex*	**Sb**	**09 06 12.0**	**+2.5**
SBDP	**Sheikh Budin**	**3.70**	**226**	P	**Pn**	**09 05 30.5**	**+4.1**
SDNR	**Sundarnagar**	**4.25**	**143**	*ex*	**Sb**	**09 06 38.2**	**+4.0**
SDNR				*ex*	x	09 07 45.2	
DRP	**Derazinda**	**4.45**	**226**	P	**Pn**	**09 05 41.8**	**+4.7**
SMLA	**Simla**	**4.65**	**144**	*eP*	**Pn**	**09 05 43.5**	**+3.6**
SMLA				*eS*	**Sn**	**09 06 33.6**	**-0.9**
KSH	**Kashi**	**4.87**	**19**	*ePG*	**Pn**	**09 05 48.8**	**+5.8**
KSH	comp=N,410nm,1.2s			Smax			
KSH	comp=E,260nm,0.8s			Smax			
KLP	**Kalpa**	**4.94**	**132**	*eP*	**Pn**	**09 05 48.1**	**+4.1**
KLP				*eS*	**Sn**	**09 06 45.3**	**+3.4**
KKR	**Kurukshetra**	**5.51**	**153**	*ex*	**Pn**	**09 05 47.8**	**-4.2**
DDI	**Dehra Dun**	**5.75**	**142**	*eP*	**Pn**	**09 05 57.2**	**+1.8**
DDI				*ex*	**Sn**	**09 07 05.2**	**+3.0**
KALG	**Kalgarh**	**6.76**	**142**	*eP*	**Pn**	**09 06 09.1**	**-0.5**
KALG				*eS*	**Sn**	**09 07 25.4**	**-2.1**
NDI	**New Delhi**	**6.81**	**155**	*eP*	**Pn**	**09 06 11.5**	**+1.1**
NDI				*eS*	**Sn**	**09 07 28.0**	**-0.8**
AYAN	**Aya Nagar**	**6.96**	**156**	*i* P	**Pn**	**09 06 14.9**	**+2.3**
BISR	**Bishrakh**	**6.99**	**154**	*ex*	**Pn**	**09 06 18.4**	**+5.5**
KHET	**Khetri**	**7.00**	**166**	*eP*	**Pn**	**09 06 13.6**	**+0.4**
KHET	comp=Z,20nm,0.3s			AMb	AMB	09 06 14.5	
KHET				*eS*	**Sn**	**09 07 29.5**	**-4.2**
KUDL	**Kundal**	**7.09**	**161**	*eP*	**Pn**	**09 06 15.7**	**+1.4**
KUDL	comp=Z,23nm,0.3s			AMb	AMB	09 06 17.2	
KUDL				*eS*	**Sn**	**09 07 34.5**	**-1.4**
KZA	**Kyzart** SNR=56	**7.22**	**8**	P	**Pn**	**09 06 18.0**	**+1.8**
UCH	**Uchtor** SNR=59	**7.31**	**3**	P	**Pn**	**09 06 19.4**	**+2.0**
ULHL	**Ulahol** SNR=7.5	**7.53**	**13**	P	**Pn**	**09 06 23.9**	**+3.4**
PTH	**Pithoragarh**	**7.54**	**133**	*eP*	**Pn**	**09 06 22.8**	**+2.2**
PTH				*ex*	**Sn**	**09 07 46.9**	**-0.1**
LGTI	**Lohaghat**	**7.63**	**134**	*ex*	**Pb**	**09 06 37.3**	**-3.0**
LGTI				*ex*	**Sb**	**09 08 03.7**	**-8.7**
AAK	**Ala-Archa** SNR=21	**7.72**	**3**	P	**Pn**	**09 06 24.8**	**+1.7**
AAK	**Ala-Archa**	**7.72**	**3**	Pn	**Pn**	**09 06 24.4**	**+1.4**
EKS2	**Erkin-Say** SNR=25	**7.73**	**359**	P	**Pn**	**09 06 25.9**	**+2.6**
KBK	**Karagaybulak** SNR=20	**7.77**	**5**	P	**Pn**	**09 06 25.7**	**+2.0**
FRU	**Bishkek**	**7.92**	**4**	*eP*	**Pn**	**09 06 29.0**	**+3.1**
FRU				*eS*	**Sn**	**09 07 57.0**	**+0.5**
FRU	comp=Z,70nm,1.7s			pmax	pmax		
FRU	comp=E,110nm,1.7s			pmax	pmax		
CHMS	**Chumysh** SNR=27	**8.09**	**4**	P	**P**	**09 06 29.6**	**+1.2**
TKM2	**Tokmak 2**	**8.09**	**9**	⇓P	**P**	**09 06 29.6**	**+1.3**
TKM2	comp=E,25nm,0.8s			⇓S	**Sn**	**09 07 57.2**	**-3.6**
USP	**Ospenovka** SNR=8.2	**8.35**	**3**	P	**P**	**09 06 33.6**	**+1.7**
JASL	**Jaisalmer**	**8.38**	**199**	*eP*	**P**	**09 06 33.9**	**+1.5**
AJM	**Ajmer**	**8.43**	**176**	*ex*	**P**	**09 06 29.3**	**-3.8**
AJM	comp=Z,18nm,0.5s			AMb	AMB	09 06 34.2	
AJM				*eS*	**Sn**	**09 08 06.6**	**-2.7**
KK31	**Karatay Array** comp=Z,56nm,0.8s,baz=156,slow=12,SNR=562	**8.60**	**343**	P	**P**	**09 06 35.3**	**-0.1**
KK31	comp=Z,46nm,0.4s,baz=139,slow=23			⇑S	**Sn**	**09 08 06.8**	**-6.6**
KKAR	**Karatay Array**	**8.60**	**343**	*i* P	**P**	**09 06 35.2**	**-0.2**
KKAR				S	**Sn**	**09 08 06.8**	**-6.6**
KKAR	comp=Z,10.0nm,0.5s			pmax	pmax		
KKAR	comp=Z,36nm,0.4s			smax			
KOLN	**Koldanda**	**10.90**	**128**	*ePn*	**P**	**09 07 05.5**	**-1.6**
KOLN				*eSn*	**S**	**09 09 05.6**	**-4.5**
KOLN	**Koldanda** comp=Z,159nm,0.7s	**10.90**	**128**	*ePn*	**P**	**09 07 05.5**	**-1.6**
KOLN	comp=Z,79nm,0.7s			*eSn*	**S**	**09 09 05.6**	**-4.5**
GKN	**Gorkha**	**11.43**	**124**	*ePn*	**P**	**09 07 12.7**	**-1.7**
GKN				*eSn*	**S**	**09 09 17.1**	**-6.1**
GKN	**Gorkha** comp=Z,322nm,0.6s	**11.43**	**124**	*ePn*	**P**	**09 07 12.7**	**-1.7**
GKN	comp=Z,161nm,0.6s			*eSn*	**S**	**09 09 17.1**	**-6.1**
DMN	**Daman**	**12.00**	**124**	*ePn*	**P**	**09 07 20.2**	**-1.9**
DMN				*eSn*	**S**	**09 09 31.6**	**-5.5**
DMN	**Daman** comp=Z,232nm,0.8s	**12.00**	**124**	*ePn*	**P**	**09 07 20.2**	**-1.9**
DMN	**Daman** comp=Z,116nm,0.8s	**12.00**	**124**	*ePn*	**P**	**09 07 20.2**	**-1.9**
DMN				*eSn*	**S**	**09 09 31.6**	**-5.5**
KKN	**Kakani**	**12.01**	**123**	*ePn*	**P**	**09 07 19.8**	**-2.3**
KKN				*eSn*	**S**	**09 09 30.6**	**-6.6**
KKN	**Kakani** comp=Z,194nm,0.8s	**12.01**	**123**	*eP*	**P**	**09 07 19.8**	**-2.3**
KKN				*e*		09 09 30.6	
KKN	comp=Z,97nm,0.8s			pmax	pmax		
KKN	**Kakani** comp=Z,97nm,0.8s	**12.01**	**123**	*ePn*	**P**	**09 07 19.8**	**-2.3**
KKN				*eSn*	**S**	**09 09 30.6**	**-6.6**
BHPL	**Bhopal**	**12.03**	**164**	*eP*	**P**	**09 07 22.2**	**-0.2**
BHPL				AMb	AMB	09 07 24.1	
BHPL	comp=Z,21nm,0.7s			*eS*	**S**	**09 09 32.6**	**-5.0**
PKI	**Pulchoki**	**12.23**	**124**	*ePn*	**P**	**09 07 23.3**	**-1.9**
PKI				*eSn*	**S**	**09 09 36.5**	**-6.2**
PKI	**Pulchoki** comp=Z,94nm,0.5s	**12.23**	**124**	*eP*	**P**	**09 07 23.3**	**-1.9**
PKI				*e*		09 09 36.5	
PKI	comp=Z,47nm,0.5s			pmax	pmax		
PKI	**Pulchoki** comp=Z,47nm,0.5s	**12.23**	**124**	*ePn*	**P**	**09 07 23.3**	**-1.9**
PKI				*eSn*	**S**	**09 09 36.5**	**-6.2**
GUN	**Gumba**	**12.35**	**121**	*ePn*	**P**	**09 07 24.5**	**-2.2**
GUN				*eSn*	**S**	**09 09 38.6**	**-6.9**
GUN	**Gumba** comp=Z,83nm,0.5s	**12.35**	**121**	*ePn*	**P**	**09 07 24.5**	**-2.2**
GUN	**Gumba** comp=Z,41nm,0.5s	**12.35**	**121**	*ePn*	**P**	**09 07 24.5**	**-2.2**
GUN				*eSn*	**S**	**09 09 38.6**	**-6.9**
JIRN	**Jiri**	**12.72**	**121**	*ePn*	**P**	**09 07 29.8**	**-1.9**
JIRN	comp=Z,129nm,0.4s			*eSn*	**S**	**09 09 47.7**	**-6.7**
JIRN	**Jiri** comp=Z,64nm,0.4s	**12.72**	**121**	*ePn*	**P**	**09 07 29.8**	**-1.9**
JIRN				*eSn*	**S**	**09 09 47.7**	**-6.7**
MK31	**Makanchi Array** comp=Z,9.7nm,0.7s,baz=208,slow=17,SNR=78	**13.43**	**25**	⇑P	**P**	**09 07 40.8**	**-0.2**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.3s,baz=210,slow=14,SNR=31	**13.43**	**25**	Pn	**P**	**09 07 40.9**	**-0.1**
MKAR	**Makanchi Array**	**13.43**	**25**	*i* P	**P**	**09 07 41.4**	**+0.4**
MKAR	comp=Z,3.0nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**13.43**	**25**	Pn	**P**	**09 07 40.9**	**-0.1**
WMQ	**Urumqi**	**13.85**	**46**	P	**P**	**09 07 46.0**	**-0.5**
WMQ				AP		09 07 54.4	
WMQ				PP	PP	09 07 57.8	+0.3
WMQ				S	**S**	**09 10 16.5**	**-4.8**
WMQ				SS	SS	09 10 33.0	-4.4
WMQ				PCP	PcP	09 13 09.8	+0.3
WMQ	comp=Z,40nm,0.6s			AMB	AMB		
WMQ	comp=Z,290nm,3.6s			AMB	AMB		
WMQ	comp=N,4μm,18.0s			LR	LR		
WMQ	comp=E,4μm,16.0s			LR	LR		
WMQ	comp=Z,4μm,16.0s			LR	LR		
BOK	**Bokaro**	**15.19**	**134**	*ex*	**P**	**09 08 02.3**	**-2.0**
LSA	**Lhasa**	**15.45**	**105**	P	**P**	**09 08 04.3**	**-3.2**
LSA	**Lhasa**	**15.45**	**105**	P	**P**	**09 08 09.8**	**+2.3**
LSA	comp=Z,31nm,0.6s			pmax	pmax		
LSA	**Lhasa** comp=Z,31nm,0.6s	**15.45**	**105**	Pn	**P**	**09 08 09.8**	**+2.3**
KURK	**Kurchatov** comp=Z,24nm,0.9s	**16.15**	**11**	⇑P	**P**	**09 08 14.6**	**-1.8**
KURK	**Kurchatov**	**16.15**	**11**	*i* P	**P**	**09 08 15.2**	**-1.2**
KURK	**Kurchatov**	**16.15**	**11**	Pn	**P**	**09 08 14.0**	**-2.4**
AB31	**Akbulak array** comp=Z,5.8nm,0.6s,baz=126,slow=10,SNR=108	**17.66**	**328**	P	**P**	**09 08 34.0**	**-1.4**
AB31	comp=Z,3.6nm,0.5s,baz=153,slow=23,SNR=7.2			⇓S	**S**	**09 11 39.1**	**-11**
AB31	**Akbulak array**	**17.66**	**328**	*eP*	**P**	**09 08 34.0**	**-1.4**
AB31	comp=Z,6.0nm,0.6s			pmax	pmax		
HYB	**Hyderabad**	**17.91**	**166**	*i* P	**P**	**09 08 40.5**	**+1.7**
HYB				*eS*	**S**	**09 11 57.0**	**+1.0**
HYB	**Hyderabad**	**17.91**	**166**	*eP*	**P**	**09 08 40.5**	**+1.7**
HYB				*eS*	**S**	**09 11 48.0**	**-8.0**
BVA0	**Borovoye Array** comp=Z,3.0nm,0.6s,baz=163,slow=10,SNR=88	**18.28**	**353**	P	**P**	**09 08 43.2**	**0.0**
BVA0	**Borovoye Array**	**18.28**	**353**	*i* P	**P**	**09 08 43.1**	**-0.1**
BVA0	comp=Z,2.0nm,0.6s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,5.1nm,0.3s,baz=160,slow=10.0,SNR=105	**18.28**	**353**	P	**P**	**09 08 41.7**	**-1.5**
BRVK	**Borovoye**	**18.32**	**353**	P	**P**	**09 08 44.3**	**+0.6**
ZRNK	**Zerenda** comp=Z,9.5nm,0.6s	**18.37**	**350**	⇑P	**P**	**09 08 42.4**	**-1.9**
ZRNK	**Zerenda**	**18.37**	**350**	P	**P**	**09 08 42.8**	**-1.4**
CHKZ	**Chkalovo** comp=Z,17nm,0.8s	**18.90**	**354**	⇓P	**P**	**09 08 49.0**	**-1.7**
CHKZ	**Chkalovo**	**18.90**	**354**	P	**P**	**09 08 49.0**	**-1.8**
CHKZ	comp=Z,13nm,0.8s			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,21nm,0.8s	**18.90**	**354**	*eP*	**P**	**09 08 48.9**	**-1.8**
AKTO	**Aktyubinsk** comp=Z,5.9nm,0.8s	**19.37**	**328**	⇑P	**P**	**09 08 55.0**	**-1.3**
AKTO	**Aktyubinsk** comp=Z,1.6nm,0.3s,baz=132,slow=10,SNR=29	**19.37**	**328**	P	**P**	**09 08 55.9**	**-0.4**
AKTO	comp=Z,0.3nm,0.3s,baz=161,slow=21,SNR=4.8			S	**S**	**09 12 23.8**	**-5.0**
AKTO	comp=Z,92nm,19.6s,slow=39			LR	LR	09 16 58.4	
AKTO	**Aktyubinsk**	**19.37**	**328**	P	**P**	**09 08 55.9**	**-0.4**
AKTO				S	**S**	**09 12 23.8**	**-5.0**
AKTO	comp=Z,2.0nm,0.3s			pmax	pmax		
AKTO	comp=Z,92nm,19.6s			MLR	MLR		
NVS	**Novosibirsk**	**20.95**	**15**	⇑*i*P	**P**	**09 09 10.4**	**-2.7**
NVS				*i* *PP		09 09 30.2	
NVS				*i* S	**S**	**09 12 59.2**	**-2.4**
NVS	comp=N,18nm,1.0s			pmax	pmax		
NVS	comp=Z,26nm,1.0s			pmax	pmax		
NVS	comp=E,7.0nm,0.7s			pmax	pmax		
NVS	comp=N,23nm,1.5s			smax			
GTA	**Gaotai**	**21.07**	**70**	P	**P**	**09 09 14.8**	**+0.3**
GTA				AP		09 09 17.3	
GTA				XP		09 09 19.3	
GTA	comp=Z,30nm,0.7s,mb4.7			AMB	AMB		
GNI	**Garni** comp=Z,3.7nm,0.4s,mb4.1,baz=292,slow=5.0,SNR=4.0	**23.68**	**291**	P	**P**	**09 09 44.3**	**+3.9**
GNI	comp=Z,72nm,18.1s,MS3.2,baz=144,slow=43			LR	LR	09 21 14.6	
GNI	**Garni**	**23.68**	**291**	*i* P	**P**	**09 09 43.0**	**+2.6**
GNI	comp=Z,34nm,1.1s			pmax	pmax		
GNI	comp=Z,100nm,18.0s			MLR	MLR		
ARU	**Arti**	**23.94**	**339**	⇓*i*P	**P**	**09 09 43.6**	**+0.9**
ARU				*eS*	**S**	**09 13 56.1**	**+0.1**
ARU	comp=Z,12nm,0.7s,mb4.4			pmax	pmax		
ARU	**Arti** comp=Z,14nm,0.6s,mb4.6	**23.94**	**339**	P	**P**	**09 09 44.2**	**+1.4**
MOY	**Mondy**	**25.63**	**41**	*eP*	**P**	**09 10 00.5**	**+1.6**
KIV	**Kislovodsk**	**25.65**	**300**	*eP*	**P**	**09 10 03.7**	**+4.5**
KIV				*eS*	**S**	**09 14 26.3**	**+1.3**
KIV	comp=Z,15nm,1.0s,mb4.5			pmax	pmax		
KIV	comp=Z,176nm,18.0s,MS3.6			MLR	MLR		
KMI	**Kunming** comp=Z,20nm,0.6s,mb4.8	**26.70**	**104**	P	**P**	**09 10 09.1**	**0.0**
KMI				AMB	AMB		
SONM	**Songino Array** comp=Z,5.4nm,0.7s,mb4.2,baz=256,slow=9.4,SNR=29	**27.34**	**52**	P	**P**	**09 10 15.6**	**+0.9**
SONM	comp=Z,156nm,19.5s,MS3.6,baz=226,slow=40			LR	LR	09 22 34.5	
ULN	**Ulaanbaatar**	**27.78**	**52**	*i* P	**P**	**09 10 19.4**	**+0.7**

SSE					AMB	AMB			
	comp=Z,20nm,0.8s,mb4.9								
SSE					AMB	AMB			
	comp=Z,50nm,4.6s								
LVZ	**Lovozero**	**39.81**	**338**	*eP*	**P**		**09 12 01.6**	**-1.0**	
LVZ					pmax	pmax			
	comp=Z,76nm,1.4s,mb5.2								
FINES	**FINESS Array B**	**40.13**	**326**	P	**P**		**09 12 05.2**	**0.0**	
	comp=Z,7.0nm,0.6s,mb4.5,baz=116,slow=9.9,SNR=36								
FINES					LR	LR	09 29 13.0		
	comp=Z,71nm,19.7s,MS3.5,baz=138,slow=37								
FINES	**FINESS Array B**	**40.13**	**326**	P	**P**		**09 12 05.2**	**0.0**	
FINES					LR	LR	09 29 13.0		
CN2	**Changchun**	**40.24**	**61**	*eP*	**P**		**09 12 07.3**	**+1.0**	
KAF	**Kangasniemi**	**40.25**	**327**	*ep*	**P**		**09 12 05.1**	**-1.1**	
	comp=Z,3.8nm,0.6s,mb4.3,baz=110,slow=8.4								
KAF	**Kangasniemi**	**40.25**	**327**	*eP*	**P**		**09 12 05.1**	**-1.1**	
KAF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.3								
CLNS	**Chul'man**	**40.48**	**41**	*eP*	**P**		**09 12 08.5**	**+0.3**	
CLNS					pmax	pmax			
	comp=Z,18nm,0.7s,mb4.9								
CLNS					pmax	pmax			
	comp=N,10.0nm,1.2s								
CLNS					pmax	pmax			
	comp=E,10.0nm,0.8s								
ARCES	**ARCESS Array B**	**43.52**	**338**	P	**P**		**09 12 33.1**	**+0.3**	
	comp=E,9.3nm,0.8s,mb4.6,baz=111,slow=8.3,SNR=20								
ARCES					LR	LR	09 31 46.5		
	comp=E,71nm,21.1s,MS3.5,baz=21,slow=38								
YAK	**Yakutsk**	**43.89**	**34**	*i* P	**P**		**09 12 35.7**	**-0.2**	
YAK					pmax	pmax			
	comp=Z,22nm,1.4s,mb4.7								
CLL	**Collm**	**46.04**	**310**	P	**P**		**09 12 53.0**	**-0.3**	
TIXI	**Tiksi**	**46.37**	**21**	P	**P**		**09 12 55.5**	**0.0**	
NB2	**NORSAR Subarra**	**47.08**	**324**	P	**P**		**09 13 00.4**	**-0.9**	
	comp=Z,4.3nm,0.6s,mb4.6,baz=93,slow=7.4								
NB2	**NORSAR Subarra**	**47.08**	**324**	P	**P**		**09 13 00.4**	**-0.9**	
NB2					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
NOA	**NORSAR Array B**	**47.08**	**324**	P	**P**		**09 13 00.7**	**-0.6**	
	comp=Z,5.4nm,0.7s,mb4.6,baz=95,slow=7.6,SNR=19								
NOA					LR	LR	09 33 18.8		
	comp=Z,55nm,18.4s,MS3.6,baz=170,slow=37								
KMBO	**Kilima Mbogo**	**49.63**	**232**	P	**P**		**09 13 24.1**	**+2.2**	
	comp=Z,6.6nm,1.1s,mb4.6,baz=39,slow=14,SNR=9.5								
KMBO					LR	LR	09 38 03.0		
	comp=Z,35nm,18.9s,MS3.4,baz=86,slow=41								
KMBO	**Kilima Mbogo**	**49.63**	**232**‖	*eP*	**P**		**09 13 24.7**	**+2.9**	
LPG	**La Plagne**	**51.02**	**303**	*eP*	**P**		**09 13 31.7**	**-0.2**	
LPL	**La Plagne**	**51.03**	**304**	*eP*	**P**		**09 13 31.7**	**-0.3**	
MBDF	**Montbardon**	**51.18**	**303**	*eP*	**P**		**09 13 31.3**	**-1.9**	
	comp=Z,9.2nm,0.8s,mb4.5								
MJAR	**Matsushiro Arr**	**51.31**	**68**	P	**P**		**09 13 34.3**	**+0.1**	
	comp=Z,4.0nm,0.7s,mb4.4,baz=286,slow=10,SNR=8.1								
SMF	**Signal de Mont**	**52.72**	**305**	*eP*	**P**		**09 13 43.6**	**-1.2**	
	comp=Z,9.3nm,0.7s,mb4.5								
SMF	**Signal de Mont**	**52.72**	**305**	*eP*	**P**		**09 13 43.6**	**-1.2**	
SMF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
SSF	**Saint Saulge**	**52.85**	**306**	*eP*	**P**		**09 13 43.1**	**-2.6**	
AVF	**Avril sur Loir**	**53.01**	**306**	*eP*	**P**		**09 13 45.7**	**-1.3**	
	comp=Z,9.6nm,0.7s,mb4.5								
AVF	**Avril sur Loir**	**53.01**	**306**	*eP*	**P**		**09 13 45.7**	**-1.3**	
AVF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
TCF	**Toulx Ste Croi**	**53.90**	**305**	*eP*	**P**		**09 13 52.6**	**-0.9**	
	comp=Z,5.6nm,0.7s,mb4.3								
TCF	**Toulx Ste Croi**	**53.90**	**305**	*eP*	**P**		**09 13 52.6**	**-0.9**	
TCF					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
EPF	**Esparros**	**56.12**	**302**	*eP*	**P**		**09 14 08.2**	**-1.4**	
	comp=Z,6.1nm,0.6s,mb4.5								
EPF	**Esparros**	**56.12**	**302**	*eP*	**P**		**09 14 08.2**	**-1.4**	
EPF					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5								
ETSF	**Etsaut**	**56.78**	**302**	*eP*	**P**		**09 14 13.5**	**-0.9**	
	comp=Z,10nm,0.8s,mb4.6								
ETSF	**Etsaut**	**56.78**	**302**	*eP*	**P**		**09 14 13.5**	**-0.9**	
ETSF					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6								
BILL	**Bilibino**	**58.98**	**26**	*eP*	**P**		**09 14 29.6**	**+0.1**	
BILL					pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.7								
BILL	**Bilibino**	**58.98**	**26**	*eP*	**P**		**09 14 29.6**	**+0.1**	
	comp=Z,3.5nm,0.4s,mb4.7								
ESDC	**Sonseca Array**	**60.32**	**300**	P	**P**		**09 14 37.8**	**-1.3**	
	comp=Z,2.2nm,0.5s,mb4.4,baz=55,slow=7.4,SNR=11								
SUMG	**Summit**	**63.32**	**342**	*eP*	**P**		**09 14 59.5**	**+0.7**	
	comp=Z,28nm,1.0s,mb5.3								
TORD	**Torodi Ar. Bea**	**69.11**	**271**	P	**P**		**09 15 28.8**	**-1.6**	
	comp=Z,4.0nm,0.5s,mb4.7,baz=47,slow=5.7,SNR=74								
TNA	**Tin City**	**69.09**	**23**	P	**P**		**09 15 36.4**	**+0.8**	
	comp=Z,5.8nm,1.1s,mb4.4								
IMA2	**Indian Mountai**	**72.88**	**18**	*eP*	**P**		**09 15 58.5**	**+0.1**	
INK	**Inuvik**	**75.06**	**10**	*eP*	**P**		**09 16 11.0**	**+0.1**	
INK					pmax	pmax			
	comp=Z,14nm,1.1s								
INK	**Inuvik**	**75.06**	**10**	*eP*	**P**		**09 16 11.0**	**+0.1**	
	comp=Z,14nm,1.1s,mb4.8								
COLA	**College**	**75.31**	**17**	*eP*	**P**		**09 16 12.7**	**+0.3**	
COLA					pmax	pmax			
	comp=Z,19nm,0.3s,mb5.5								
COLA	**College**	**75.31**	**17**	*eP*	**P**		**09 16 12.7**	**+0.3**	
	comp=Z,19nm,0.3s,mb5.5								
ILAR	**Eielson Array**	**75.62**	**17**	P	**P**		**09 16 13.4**	**-0.8**	
	comp=Z,4.1nm,0.9s,mb4.4,baz=315,slow=4.5,SNR=38								
ILAR					PP	PP	09 19 04.1	-1.6	
	comp=Z,1.1nm,1.0s,baz=321,slow=9.7,SNR=4.2								
THY	**Trims Highway**	**77.03**	**17**	*eP*	**P**		**09 16 23.1**	**+1.0**	
DBIC	**Dimbokro**	**77.04**	**269**	P	**P**		**09 16 23.2**	**0.0**	
	comp=Z,2.4nm,0.5s,mb4.4,baz=40,slow=5.2,SNR=11								
LIC	**Lamto**	**77.43**	**269**	*eP*	**P**		**09 16 25.0**	**-0.4**	
	comp=Z,4.6nm,0.5s,mb4.3								
DAWY	**Dawson**	**77.89**	**14**	*eP*	**P**		**09 16 26.9**	**+0.1**	
WRA	**Warramunga Arr**	**79.12**	**124**	P	**P**		**09 16 35.3**	**+0.8**	
	comp=Z,6.5nm,0.8s,mb4.6,baz=324,slow=5.4,SNR=88								
WRAB	**Tennant Creek**	**79.12**	**124**	P	**P**		**09 16 35.6**	**+1.1**	
WRAB					pmax	pmax			
	comp=Z,15nm,0.8s,mb5.0								
WRAB	**Tennant Creek**	**79.12**	**124**	P	**P**		**09 16 35.6**	**+1.1**	
	comp=Z,15nm,0.8s,mb5.0								
WB2	**Warramunga Arr**	**79.13**	**124**	*eP*	**P**		**09 16 35.3**	**+0.8**	
YKW3	**Yellowknife Ar**	**82.62**	**4**	*eP*	**P**		**09 16 52.4**	**+0.4**	
YKA	**Yellowknife Ar**	**82.68**	**4**	P	**P**		**09 16 52.9**	**+0.5**	
	comp=Z,8.0nm,0.5s,mb5.0,baz=345,slow=5.5,SNR=261								
CTA	**Charters Tower**	**87.70**	**116**	*eP*	**P**		**09 17 19.0**	**+0.7**	
	comp=Z,5.5nm,0.8s,mb4.8								
CTA	**Charters Tower**	**87.70**	**116**	*eP*	**P**		**09 17 19.0**	**+0.7**	
CTA					pmax	pmax			
	comp=Z,6.0nm,0.8s								
CTAO	**Charters Tower**	**87.70**	**116**	P	**P**		**09 17 19.1**	**+0.8**	
STKA	**Stephens Creek**	**91.92**	**128**	P	**P**		**09 17 39.5**	**+1.6**	
	comp=Z,0.9nm,0.6s,mb4.3,baz=323,slow=10,SNR=2.9								
EDM	**Edmonton**	**92.00**	**4**	*eP*	**P**		**09 17 38.5**	**+0.9**	
NSHM	**Saint Helena R**	**105.34**	**13**	*e*PKiKP			09 22 53.6		
PLCA	**Paso Flores**	**151.49**	**248**	PKPbc	PKPdf		09 24 23.3	+4.6	
	comp=Z,2.1nm,0.6s,baz=118,slow=3.8,SNR=4.9								

*MOS **19** 09:54:26.6±0.7,30.15S×177.52W,h33km,mb5.4/4, Error ellipse: s-maj=19.8km s-min=19.2km az=126.5*
*NEIC **19** 09:54:28.6±0.4,30.18S×177.60W,h35km,mb5.1/11, Error ellipse: s-maj=12.8km s-min=9.1km az=103.0*
*IDC **19** 09:54:31.2±4.0,29.98S×177.68W,h47km±29km,mb5.1/3, mb1 5.3/3,mb1mx4.2/12,mbtmp5.4/3,MS3.7/5,Ms1 3.7/5, ms1mx3.3/21,Error ellipse: s-maj=48.6km s-min=23.5km az=147.0*

ISC 19 09:54:27.1±0.5,30.45S±0.04×177.9W±0.1,h33km,n66, σ1§38/55,mb4.8/12,MS3.8/4,1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**358**	P		**P**	**P**	**09 54 45.8**	**-1.6**
	1μm,0.3s,baz=103,slow=22,SNR=30								
RAO				S			**S**	**09 54 57.3**	**-5.4**
	5μm,0.3s,baz=91,slow=21,SNR=62								
RAO	**Raoul Island**	**1.19**	**358**	*e*Pn			**Pn**	**09 54 45.8**	**-1.8**
RAO				*e*Sn			**Sn**	**09 54 56.7**	**-6.1**
MXZ	**Matakaoa Point**	**7.77**	**203**	PN			**Pn**	**09 56 19.7**	**-1.2**
PUZ	**Puketiti**	**8.25**	**202**	PN			**P**	**09 56 26.4**	**-0.8**
PUZ				SN			**Sn**	**09 57 58.7**	**-1.9**
MWZ	**Matawai**	**8.74**	**204**	PN			**P**	**09 56 33.5**	**-0.5**
URZ	**Urewera**	**8.83**	**207**	P			**P**	**09 56 35.4**	**+0.2**
	0.9nm,0.3s,baz=320,slow=21,SNR=16								
URZ				S			**S**	**09 58 15.4**	**+0.7**
	5.8nm,0.3s,baz=213,slow=22,SNR=16								
URZ	**Urewera**	**8.83**	**207**	PN			**P**	**09 56 34.4**	**-0.9**
URZ				SN			**Sn**	**09 58 14.5**	**-0.3**
BKZ	**Black Stump Fm**	**9.85**	**206**	PN			**P**	**09 56 48.4**	**-1.1**
BKZ				SN			**Sn**	**09 58 36.7**	**-3.4**
PXZ	**Pawanui**	**10.48**	**203**	SN			**S**	**09 58 48.6**	**-6.9**
MRZ	**Mangatainoka R**	**11.50**	**206**	SN			**S**	**09 59 13.9**	**-6.3**
CAW	**Cannon Point**	**12.08**	**206**	SN			**S**	**09 59 29.0**	**-5.3**
MRW	**Makara Radio**	**12.32**	**207**	SN			**S**	**09 59 33.8**	**-6.4**
SNZO	**South Karori**	**12.39**	**207**	*e*Pn			**P**	**09 57 28.0**	**+4.1**
TCW	**Tory Channel**	**12.48**	**208**	SN			**S**	**09 59 35.7**	**-8.3**
TUWZ	**Tuamarina**	**12.80**	**209**	SN			**S**	**09 59 44.4**	**-7.3**
KHZ	**Kahutara**	**13.79**	**208**	SN			**S**	**10 00 06.8**	**-8.6**
MQZ	**McQueen's Vall**	**15.23**	**207**	SN			**S**	**10 00 37.9**	**-11**
RPZ	**Rata Peaks**	**15.90**	**211**	P			**P**	**09 58 10.7**	**+0.9**
	0.6nm,0.3s,baz=81,slow=21,SNR=4.0								
DZM	**Mont Dzumac**	**16.34**	**297**	LR		LR		10 03 12.1	
	comp=Z,176nm,19.8s,baz=28,slow=32								
AFI	**Afiamalu**	**17.39**	**20**	*e*P			**P**	**09 58 23.5**	**-5.3**
PPT	**Papeete**	**28.77**	**70**	*e*LR		LR		10 07 23.9	
	137nm,26.0s								
PPT	**Papeete**	**28.77**	**70**	LR		LR		10 08 22.5	
	comp=Z,198nm,19.8s,MS3.7,baz=258,slow=29								
CTA	**Charters Tower**	**33.91**	**279**	*e*P			**P**	**10 01 11.9**	**+2.7**
	20nm,0.4s,mb5.4								
CTA	**Charters Tower**	**33.91**	**279**	P			**P**	**10 01 11.8**	**+2.6**
	34nm,0.6s,mb5.5,baz=103,slow=10,SNR=70								
CTA	**Charters Tower**	**33.91**	**279**	*e*P			**P**	**10 01 11.9**	**+2.7**
CTA					pmax	pmax			
	comp=Z,20nm,0.4s								
CTAO	**Charters Tower**	**33.91**	**279**	*e*P			**P**	**10 01 11.5**	**+2.3**
CTAO					pmax	pmax			
	comp=Z,33nm,0.8s,mb5.3								
CTAO	**Charters Tower**	**33.91**	**279**	*e*P			**P**	**10 01 11.5**	**+2.4**
	comp=Z,33nm,0.8s,mb5.3								
STKA	**Stephens Creek**	**34.57**	**257**	*e*P			**P**	**10 01 18.1**	**+3.3**
	comp=Z,12nm,0.4s,mb5.2								
STKA	**Stephens Creek**	**34.57**	**257**	P			**P**	**10 01 18.1**	**+3.3**
	comp=Z,16nm,0.4s,mb5.3,baz=97,slow=9.9,SNR=39								
STKA						LR	LR	10 14 44.2	
	comp=Z,94nm,20.4s,MS3.5,baz=187,slow=35								
RKT	**Rikitea**	**38.81**	**90**	*e*LR		LR		10 12 07.7	
	comp=Z,80nm,26.0s								
WB2	**Warramunga Arr**	**44.19**	**272**	*e*P			**P**	**10 02 35.0**	**+0.1**
WRAB	**Tennant Creek**	**44.20**	**272**	*e*P			**P**	**10 02 35.6**	**+0.7**
WRAB					pmax	pmax			
	comp=Z,38nm,0.6s,mb5.3								
WRAB	**Tennant Creek**	**44.20**	**272**	*e*P			**P**	**10 02 35.6**	**+0.7**
	comp=Z,38nm,0.6s,mb5.3								
WRA	**Warramunga Arr**	**44.20**	**272**	P			**P**	**10 02 36.4**	**+1.4**
	comp=Z,20nm,0.3s,mb5.4,baz=110,slow=8.1,SNR=742								
SBA	**Scott Base**	**48.00**	**184**	P			**P**	**10 03 06.2**	**+1.9**
VNDA	**Vanda**	**48.06**	**186**	*e*P			**P**	**10 03 13.4**	**+8.6**
VNDA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
VNDA	**Vanda**	**48.06**	**186**	*e*P			**P**	**10 03 13.4**	**+8.6**
	comp=Z,1.0nm,0.6s,mb4.0								
FITZ	**Fitzroy Crossi**	**52.46**	**270**	*e*P			**P**	**10 03 40.1**	**+1.1**
	comp=Z,11nm,0.6s,mb5.0								
NWAO	**Narrogin (SRO)**	**54.48**	**249**	*e*P			**P**	**10 03 56.2**	**+2.4**
NWAO					pmax	pmax			
	comp=Z,20nm,1.3s								
NWAO	**Narrogin (SRO)**	**54.48**	**249**	*e*P			**P**	**10 03 56.2**	**+2.4**
	comp=Z,20nm,1.3s,mb4.9								
CASY	**Casey**	**55.15**	**208**	*e*P			**P**	**10 03 59.3**	**+1.1**
	comp=Z,8.7nm,0.6s,mb5.0								
MBWA	**Marble Bar**	**56.32**	**264**	*e*P			**P**	**10 04 06.8**	**-0.4**
GUMO	**Guam**	**56.59**	**315**	P			**P**	**10 04 08.1**	**-1.1**
QSPA	**South Pole Qui**	**59.67**	**180**	*e*P			**P**	**10 04 38.6**	**+8.7**
	comp=Z,14nm,0.8s,mb5.1								
PMSA	**Palmer Station**	**72.18**	**156**	*e*P			**P**	**10 05 50.4**	**+0.5**
	comp=Z,14nm,1.2s,mb4.8								
SYO	**Syowa Base**	**77.10**	**193**	⇓pP			pP	10 06 33.6	+5.1
SNAA	**Sanae**	**78.11**	**178**	*e*P			**P**	**10 06 26.4**	**+2.6**
	comp=Z,2.8nm,0.6s,mb4.4								
PLCA	**Paso Flores**	**82.40**	**133**	*e*P			**P**	**10 06 46.2**	**-1.0**
PSI	**Prapat**	**85.54**	**276**	LR		LR		10 43 50.4	
	comp=Z,58nm,20.3s,MS4.0,baz=203,slow=35								
NVAR	**Mina Array Bea**	**88.20**	**43**	P			**P**	**10 07 16.8**	**+0.8**
	comp=Z,0.7nm,0.7s,mb4.0,baz=210,slow=7.3,SNR=5.8								
NVAR	**Mina Array Bea**	**88.20**	**43**	P			**P**	**10 07 16.8**	**+0.8**
TRQA	**Tornquist**	**89.33**	**135**	P			**P**	**10 07 23.0**	**+1.6**
MA2	**Magadan**	**93.36**	**345**	P			**P**	**10 07 37.9**	**-1.6**
PDAR	**Pinedale Array**	**96.09**	**43**	LR		LR		10 41 58.5	
	comp=Z,48nm,20.8s,MS4.0,baz=70,slow=30								
BILL	**Bilibino**	**98.90**	**354**	*e*P			**P**	**10 08 02.7**	**-1.7**
BILL	**Bilibino**	**98.90**	**354**	*e*P			**P**	**10 08 02.7**	**-1.7**
MKAR	**Makanchi Array**	**117.88**	**310**	PKP		PKPdf		10 13 10.5	+0.5
	comp=Z,0.4nm,0.5s,baz=209,slow=2.7,SNR=4.7								
MKAR	**Makanchi Array**	**117.88**	**310**	PKP		PKPdf		10 13 10.5	+0.5
NVS	**Novosibirsk**	**119.24**	**319**	*e*PKIKP		PKPdf		10 13 11.0	-1.6
KURK	**Kurchatov**	**121.16**	**314**	*e*PKIKP		PKPdf		10 13 16.8	+0.4
ZRNK	**Zerenda**	**127.34**	**316**	*e*PKIKP		PKPdf		10 13 28.9	+0.7
ARCES	**ARCESS Array B**	**138.66**	**348**	PKhKP				10 13 44.3	
	comp=Z,4.8nm,1.0s,baz=26,slow=2.5,SNR=8.7								
FINES	**FINESS Array B**	**145.22**	**340**	PKP		PKPdf		10 14 00.6	0.0
	comp=Z,9.4nm,0.6s,baz=63,slow=3.1,SNR=42								
NB2	**NORSAR Subarra**	**148.81**	**351**	PKPabc		PKPdf		10 14 10.7	+4.2
	comp=Z,2.1nm,0.6s,baz=14,slow=2.7								
NOA	**NORSAR Array B**	**148.81**	**351**	PKPbc		PKPdf		10 14 11.1	+4.7
	comp=Z,2.6nm,0.6s,baz=15,slow=4.3,SNR=8.1								
AKASG	**Malin Array Be**	**151.40**	**323**	PKPbc		PKPdf		10 14 17.9	+7.1
	comp=Z,4.4nm,0.5s,baz=48,slow=2.8,SNR=20								

*NEIC **19** 10:54:26.8±2.3,22.32S×179.57W,h590km±28km,mb4.5/4, Error ellipse: s-maj=20.9km s-min=18.7km az=202.0*
*IDC **19** 10:54:30.1±2.5,22.16S×179.72W,h624km±31km,mb3.4/9, mb1 3.6/10,mb1mx3.5/16,mbtmp4.4/10,Error ellipse: s-maj=23.6km s-min=15.0km az=167.0*

ISC 19 10:54:28.0±1.8,22.4S±0.1×179.7W±0.1,h617km±24km, n19,σ0§81/20,mb4.0/11,3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.85**	**269**	P			**P**	**10 57 15.4**	**+0.4**
	1.2nm,0.3s,baz=102,slow=19,SNR=26								
URZ	**Urewera**	**16.05**	**189**	P			**P**	**10 57 43.7**	**-2.1**
	0.9nm,0.3s,baz=141,slow=17,SNR=7.0								
URZ				S			**S**	**11 00 24.8**	**+0.2**
	0.7nm,0.3s,baz=272,slow=23,SNR=7.8								
CTA	**Charters Tower**	**31.79**	**268**	⇓*i*P			**P**	**11 00 06.2**	**+0.7**
	6.7nm,0.4s,mb4.6								
CTA	**Charters Tower**	**31.79**	**268**	P			**P**	**11 00 06.2**	**+0.7**
	9.5nm,0.4s,mb4.7,baz=94,slow=11,SNR=24								
PMG	**Port Moresby**	**34.31**	**287**	P			**P**	**11 00 26.7**	**+0.1**
	22nm,0.9s,mb4.8,baz=126,slow=4.8,SNR=7.3								
STKA	**Stephens Creek**	**35.57**	**246**	⇓*i*P			**P**	**11 00 38.1**	**+1.3**
	5.8nm,0.4s,mb4.6								
STKA	**Stephens Creek**	**35.57**	**246**	P			**P**	**11 00 38.1**	**+1.3**
	5.8nm,0.4s,mb4.5,baz=93,slow=9.8,SNR=28								
WB2	**Warramunga Arr**	**42.81**	**264**	⇓*i*P			**P**	**11 01 34.8**	**-0.3**
WB2				*e*S			**S**	**11 07 15.5**	**-1.4**
WRAB	**Tennant Creek**	**42.81**	**264**	*e*P			**P**	**11 01 34.8**	**-0.4**
	17nm,0.9s,mb4.6								
WRA	**Warramunga Arr**	**42.82**	**264**	P			**P**	**11 01 34.9**	**-0.4**
	13nm,0.9s,mb4.4,baz=96,slow=7.7,SNR=244								
WRA				S			**S**	**11 07 17.0**	**0.0**
	0.4nm,0.8s,baz=101,slow=12,SNR=3.3								
FITZ	**Fitzroy Crossi**	**51.25**	**264**	*e*P			**P**	**11 02 38.7**	**+0.1**
	8.9nm,0.9s,mb4.2								
VNDA	**Vanda**	**55.90**	**185**	P			**P**	**11 03 11.6**	**+1.1**
	0.7nm,0.9s,mb2.9,baz=8.6,slow=9.2,SNR=3.8								
VNDA	**Vanda**	**55.90**	**185**	P			**P**	**11 03 11.6**	**+1.1**
NVAR	**Mina Array Bea**	**83.47**	**44**	P			**P**	**11 05 53.5**	**+0.1**
	1.5nm,0.9s,mb3.5,baz=217,slow=6.8,SNR=6.0								
TXAR	**Lajitas Array**	**89.39**	**58**	P			**P**	**11 06 22.4**	**+0.6**
	1.2nm,0.8s,mb3.8,baz=209,slow=5.5,SNR=13								
ILAR	**Eielson Array**	**90.50**	**13**	P			**P**	**11 06 24.8**	**-1.2**
	0.4nm,0.9s,mb3.3,baz=233,slow=2.8,SNR=4.2								
PDAR	**Pinedale Array**	**91.41**	**44**	P			**P**	**11 06 30.7**	**0.0**
	0.7nm,0.9s,mb3.6,baz=225,slow=4.2,SNR=5.3								
AKASG	**Malin Array Be**	**143.85**	**329**	PKP		PKPdf		11 12 54.0	+0.2
	1.0nm,0.4s,baz=36,slow=3.8,SNR=10								
BRTR	**Keskin Array B**	**146.88**	**309**	PKPbc		PKPbc		11 13 03.0	+1.5
	1.2nm,0.7s,baz=149,slow=7.2,SNR=3.8								

*CASC **19** 11:12:12.9±2.3, 12.09N×89.63W,h34km, MD4.6, ML3.7, mb4.8(NEIC)*
*BJI **19** 11:12:13.8, 12.30N×89.50W,h33km, mB5.2, Ms5.2, Msz4.8*
*IDC **19** 11:12:13.7±0.7, 12.39N×89.43W,h31km±4km, mb4.1/15, mb1 4.3/16,mb1mx4.2/22,mbtmp4.3/16,ML4.2/1,MS3.6/8, Ms1 3.6/8,ms1mx3.3/22,Error ellipse: s-maj=26.4km s-min=10.2km az=57.0*
*NEIC **19** 11:12:13.8±0.4, 12.31N×89.53W,mb4.8/26,Error ellipse: s-maj=11.4km s-min=5.9km az=60.0*

ISC 19 11:12:12.1±0.4,12.27N±0.05×89.62W±0.03,h34km, h34km±1.8km:pP-P,n101,σ1§14/93,mb4.6/36,MS4.1/10, 7C-4D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**1.54**	**29**‖	*e*P			Px	11 13 05.7	
SNVI						*e*S	Sx	11 13 09.4	
LBRS	**Las Brisas**	**1.57**	**21**‖	*e*P			Px	11 13 06.7	
LBRS						*e*S	Sx	11 13 29.1	
BLLM	**Bellamira**	**1.78**	**49**	*e*P			Px	11 13 09.2	
BLLM						*e*S	Sx	11 13 34.0	
CAHU	**Cacacuatique**	**2.03**	**42**‖	*e*P			Px	11 13 13.7	
CAHU						*e*S	Sx	11 13 41.5	
MTO2	**Montecristo 2**	**2.14**	**7**‖	*e*P			Px	11 13 14.5	
MTO2						*e*S	Sx	11 13 42.0	
CRIN	**San Cristobal**	**2.54**	**80**⇓	*e*P			**P**	**11 12 53.1**	**+1.2**
CRIN						*e*S	**S**	**11 13 24.8**	**+2.8**
LEON	**Leon**	**2.67**	**86**‖	*e*P			**P**	**11 12 53.5**	**-0.1**
TEL3	**Telica 3**	**2.73**	**83**	*e*P			**P**	**11 12 54.7**	**+0.3**
TELN	**Telica**	**2.74**	**83**	*e*P			**P**	**11 12 53.7**	**-1.0**
TELN						*e*S	**S**	**11 13 30.0**	**+2.9**
MIRN	**Miramar**	**2.85**	**86**‖	*e*P			**P**	**11 12 56.2**	**+0.1**
COPN	**Copaltepe**	**2.96**	**91**⇓	*e*P			**P**	**11 12 57.9**	**+0.1**
COPN						*e*S	**S**	**11 13 32.7**	**+0.2**
MOMJ	**Momotombo**	**3.01**	**87**	*e*P			**P**	**11 12 58.5**	**-0.1**
MOMJ						*e*S	**S**	**11 13 35.6**	**+1.7**
XAVN	**Gruta Xavier**	**3.22**	**92**	*e*P			**P**	**11 12 58.7**	**-2.8**
XAVN						*e*S	**S**	**11 13 38.8**	**-0.3**
MGAN	**Managua**	**3.30**	**92**	*e*P			**P**	**11 13 01.5**	**-1.1**
MGAN						*e*S	**S**	**11 13 40.5**	**-0.6**
MGAN						*i*		11 13 41.3	
	comp=E,388nm,0.5s								
TICN	**Ticuantepe**	**3.32**	**94**	*e*P			**P**	**11 13 03.8**	**+0.8**
TICN						*e*S	**S**	**11 13 40.4**	**-1.3**
WILN	**Americas 2**	**3.36**	**91**	*e*P			**P**	**11 13 03.3**	**-0.1**
WILN					

DGMT ep P pP 11 19 38.0 -1.3
ULM Lac du Bonnet 38.22 354 P **P** **11 19 27.7 -2.7**
comp=E,3.1nm,0.7s,mb4.1,baz=174,slow=10.0,SNR=7.3
ULM pP pP 11 19 37.9 -2.5
comp=E,4.0nm,0.6s,baz=174,slow=8.7,SNR=6.3
ULM LR LR 11 37 30.3
comp=E,57nm,19.2s,MS3.4,baz=290,slow=40
ULM Lac du Bonnet 38.22 354 P **P** **11 19 27.7 -2.7**
ULM pP pP 11 19 37.9 -2.5
ULM LR LR 11 37 30.4
EGMT Eagleton 39.42 339 *e*P **P** **11 19 39.6 -0.7**
EGMT ep P pP 11 19 53.0 +2.6
SIV San Ignacio 39.82 134 P **P** **11 19 44.2 +0.2**
comp=E,7.8nm,0.9s,mb4.4,baz=313,slow=9.7,SNR=27
SIV pP pP 11 19 52.8 -1.3
comp=E,6.6nm,0.7s,baz=310,slow=9.3,SNR=13
SIV PcP PcP 11 21 51.3 +1.0
comp=E,6.2nm,0.9s,baz=305,slow=1.1,SNR=8.4
EDM Edmonton 45.03 340 *e*P **P** **11 20 26.5 +0.3**
EDM epP pP 11 20 35.8 -0.6
SCHQ Schefferville 46.09 18 P **P** **11 20 32.9 -1.7**
comp=E,9.1nm,0.7s,mb4.8,baz=215,slow=7.0,SNR=12
SCHQ LR LR 11 42 39.9
comp=E,76nm,18.5s,MS3.7,baz=228,slow=40
FCC Fort Churchill 46.53 357 *e*P **P** **11 20 35.9 -2.1**
comp=E,56nm,2.4s,mb5.1
FCC epP pP 11 20 45.0 -3.1
CFAA Coronel Fontan 48.20 155 P **P** **11 20 51.6 +0.2**
comp=E,0.4nm,0.9s,mb3.5,baz=324,slow=7.2,SNR=4.1
BDFB Brasilia 49.64 123 P **P** **11 21 01.2 -1.5**
comp=E,1.5nm,0.4s,mb4.3,baz=183,slow=13,SNR=2.5
YKA Yellowknife Ar 53.25 346 P **P** **11 21 27.4 -1.9**
comp=E,2.5nm,0.7s,mb4.2,baz=145,slow=7.7,SNR=27
YKA PcP PcP 11 22 37.3 +0.5
comp=E,1.1nm,0.7s,baz=146,slow=3.9,SNR=7.0
YKA LR LR 11 45 40.9
comp=E,49nm,20.6s,MS3.5,baz=110,slow=38
YKA Yellowknife Ar 53.25 346 P **P** **11 21 27.4 -1.9**
YKA PcP PcP 11 22 37.3 +0.5
YKA LR LR 11 45 40.9
PLCA Paso Flores 55.61 162 P **P** **11 21 46.0 -0.9**
comp=E,2.5nm,0.9s,mb4.2,baz=302,slow=7.6,SNR=4.5
PLCA LR LR 11 40 32.7
comp=E,90nm,21.0s,MS3.8,baz=257,slow=30
RES Resolute Bay 62.48 358 *e*P **P** **11 22 31.6 -2.4**
comp=E,4.2nm,0.9s,mb4.6
INK Inuvik 62.76 343 P **P** **11 22 34.5 -1.5**
comp=E,3.2nm,0.8s,mb4.5,baz=128,slow=7.1,SNR=24
INK LR LR 11 56 02.8
comp=E,63nm,19.3s,MS3.8,baz=115,slow=42
INK Inuvik 62.76 343 *e*P **P** **11 22 34.8 -1.2**
comp=E,28nm,1.7s,mb5.1
ILAR Eielson Array 65.34 337 P **P** **11 22 51.9 -1.0**
comp=E,2.5nm,1.0s,mb4.2,baz=130,slow=4.2,SNR=19
JMIC Jan Mayen 75.58 20 LR LR 11 59 06.9
comp=E,87nm,19.1s,MS4.1,baz=253,slow=37
DBIC Dimbokro 83.51 85 P **P** **11 24 39.9 +1.2**
comp=E,5.5nm,0.8s,mb4.7,baz=240,slow=3.8,SNR=7.9
DBIC pP pP 11 24 48.7 -0.7
comp=E,8.1nm,0.8s,baz=268,slow=5.7,SNR=7.5
DBIC LR LR 11 58 39.6
comp=E,35nm,19.8s,MS3.7,baz=235,slow=33
DBIC Dimbokro 83.51 85 P **P** **11 24 39.9 +1.2**
DBIC pP pP 11 24 48.7 -0.7
DBIC LR LR 11 58 39.6
BILL Bilibino 83.92 338 *e*P **P** **11 24 40.9 +1.5**
comp=E,26nm,1.3s,mb5.2
CN2 Changchun 115.70 333 *e*PKP PKPdf 11 30 52.6 +1.4
MKAR Makanchi Array 120.77 6 PKP PKPdf 11 31 01.9 +1.1
comp=E,0.7nm,0.8s,baz=358,slow=1.4,SNR=5.4
HHC Hu-ho-hao-te 123.64 341 *e*PKP PKPdf 11 31 06.4 -0.2
HHC XPKP 11 31 20.9
HHC PKS PKS 11 34 41.5 -0.9
HHC SKS SKS 11 38 13.5 +8.9
HHC PP PP
comp=Z,160nm,4.9s
HHC LR LR
comp=N,140nm,14.3s,MS5.0
HHC LR LR
comp=E,140nm,11.9s,MS5.0
HHC LR LR
comp=Z,120nm,15.5s,MS4.7
WMQ Urumqi 124.13 2 *e*PKP PKPdf 11 31 09.3 +1.8
WMQ LR LR
comp=N,190nm,21.2s,MS4.9
WMQ LR LR
comp=E,200nm,22.0s,MS4.9
WMQ LR LR
comp=Z,210nm,22.0s,MS4.8
SSE Sheshan 127.72 326 *e*PKP PKPdf 11 31 16.1 +1.3
GTA Gaotai 127.85 351 *e*PKP PKPdf 11 31 16.3 +1.5
GTA XPKP 11 31 28.4
NJ2 Nanjing 128.18 329 *e*PKP PKPdf 11 31 17.5 +1.9
STKA Stephens Creek 129.19 239 PKP PKPdf 11 31 18.8 +1.3
comp=Z,1.0nm,0.6s,baz=94,slow=4.2,SNR=3.7
LZH Lanzhou 130.26 346 *e*PKP PKPdf 11 31 20.1 +0.6
LZH XPKP 11 31 35.8
LZH PP PP 11 33 36.0 -1.2
LZH SKKS 11 40 25.0
LZH SS SS 11 50 56.3 -2.0
LZH PP PP
comp=Z,100nm,6.7s
LZH LR LR
comp=E,230nm,18.5s
LZH LR LR
comp=Z,300nm,19.3s,MS5.0
WB2 Warramunga Arr 137.17 254 *e*P PKPdf 11 31 34.4 +1.6
WRA Warramunga Arr 137.18 254 PKP PKPdf 11 31 34.0 +1.2
comp=Z,1.7nm,0.8s,baz=92,slow=2.7,SNR=18
WRA pPKP 11 31 43.7
comp=Z,0.7nm,0.7s,baz=88,slow=2.5,SNR=3.3
FITZ Fitzroy Crossi 145.52 256 *e*P PKPdf 11 31 49.6 +2.0
comp=Z,16nm,1.1s
MBWA Marble Bar 150.57 249 *e*PKPbc PKPdf 11 32 02.2 +6.5

*MOS **19** 11:33:53.9±1.2,27.89S×66.80W,h149km,mb4.7/7, Error ellipse: s-maj=14.6km s-min=9.4km az=91.0*
*BJI **19** 11:33:56.6,28.00S×66.80W,h166km,mB5.4*
*GUC **19** 11:33:56.6±1.1,27.90S×67.14W,h181km±32km,ML5.9*
*IDC **19** 11:33:56.8±0.5,27.84S×66.66W,h161km±4km,mb4.3/14, mb1 4.5/16,mb1mx4.4/19,mbtmp4.8/16, Error ellipse: s-maj=15.3km s-min=10.8km az=82.0*
*NEIC **19** 11:33:56.7±0.2,27.96S×66.83W,mb4.7/20, Error ellipse: s-maj=7.3km s-min=6.3km az=83.0*
*LDG **19** 11:34:12.0±2.0,26.74S×65.19W,h230km,Mb4.8/11, Ms2.9/1, Error ellipse: s-maj=138.8km s-min=19.3km az=66.0*

ISC 19 11:33:55.3±0.2,27.96S±0.03×66.98W±0.04,h164km, h164km±2.0km:pP-P,n136,σ1§15/112,mb4.5/33,11C-5D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPCH	**Copiapo**	**3.06**	**281**	⇑*i*P		**P**	**11 34 45.0**	**+0.5**
CPCH				*i* S		**S**	**11 35 21.7**	**-0.7**
CPCH				AMP			11 35 26.7	
comp=E,37μm,0.1s								
CDCH	**Caldera**	**3.53**	**284**	*e*P		**P**	**11 34 50.9**	**+0.3**
CDCH				*i* S		**S**	**11 35 31.2**	**-2.0**
CDCH				AMP			11 35 33.8	
comp=E,7μm,0.4s								
CRCH	**Chaqaral**	**3.62**	**296**	⇑*i*P		**P**	**11 34 52.9**	**+1.1**
CRCH				*i* S		**S**	**11 35 34.3**	**-1.0**
CRCH				AMP			11 35 39.4	
comp=N,10μm,0.3s								
CFAA	**Coronel Fontan**	**3.79**	**196**	P		**P**	**11 34 54.1**	**+0.1**
comp=N,56nm,0.3s,baz=17,slow=12,SNR=2359								
CFAA				S		**S**	**11 35 31.9**	**-7.4**
baz=9.5,slow=16,SNR=4.9								
TLL	**Tololo Astrono**	**4.01**	**236**	⇑*i*P		**P**	**11 34 57.9**	**+1.2**
TLL				*i* S		**S**	**11 35 45.9**	**+1.7**
LSCH	**La Serena**	**4.21**	**242**	⇓*i*P		**P**	**11 34 59.3**	**-0.2**
LSCH				*i* S		**S**	**11 35 48.0**	**-1.0**
SPCH	**San Pedro de A**	**5.15**	**347**	⇑*i*P		**P**	**11 35 12.9**	**+1.1**
SPCH				*i* S		**S**	**11 36 11.7**	**+0.8**
MDZ	**Mendoza**	**5.17**	**198**	*e*P		**P**	**11 35 12.1**	**+0.2**
MDZ				*i*			11 36 02.5	
MDZ				*i* S		S	11 36 39.4	+28
ANCH	**Antofagasta**	**5.26**	**323**	⇓*i*P		**P**	**11 35 13.7**	**+0.5**
ANCH				*i* S		**S**	**11 36 12.3**	**-1.3**
CEN1	**Los Morros**	**5.40**	**327**	*e*P		**P**	**11 35 14.5**	**-0.5**
CEN1				*i* S		**S**	**11 36 13.0**	**-3.8**
CHNG	**Los Chungos**	**5.54**	**224**	*e*P		**P**	**11 35 15.4**	**-1.5**
CHNG				*i* S		**S**	**11 36 17.2**	**-2.9**
FCH	**Farellones**	**6.06**	**207**	⇑*i*P		**P**	**11 35 24.2**	**+0.5**
FCH				*i* S		**S**	**11 36 32.8**	**+0.3**
CPUP	**Villa Florida**	**8.74**	**82**	P		**P**	**11 35 55.6**	**-3.8**
TRQA	**Tornquist**	**10.90**	**159**	Pn		**P**	**11 36 25.9**	**-1.7**
LPAZ	**La Paz**	**11.66**	**355**	P		**P**	**11 36 36.5**	**-1.2**
comp=N,9.1nm,0.3s,baz=149,slow=6.4,SNR=62								
LPAZ				S		**S**	**11 38 39.1**	**-5.9**
comp=N,0.2nm,0.3s,baz=73,slow=22,SNR=2.9								
LPAZ	**La Paz**	**11.66**	**355**	Pn		**P**	**11 36 36.3**	**-1.3**
ARE	**Arequipa**	**12.18**	**339**	*e*P		**P**	**11 36 42.0**	**-2.3**
ARE				*e*			11 38 52.0	
ARE	**Arequipa**	**12.18**	**339**	*e*P		**P**	**11 36 42.0**	**-2.3**
ARE				*e*			11 36 53.0	
ARE				*e*			11 38 52.0	
PLCA	**Paso Flores**	**13.08**	**192**	P		**P**	**11 36 55.0**	**-0.8**
comp=N,0.3nm,0.3s,baz=1.6,slow=14,SNR=16								
PLCA				ScP			11 45 31.8	
comp=N,0.1nm,0.3s,baz=138,slow=4.9,SNR=3.2								
PLCA	**Paso Flores**	**13.08**	**192**	Pn		**P**	**11 36 54.9**	**-0.9**
SIV	**San Ignacio**	**13.11**	**26**	P		**P**	**11 36 53.5**	**-2.7**
comp=N,2.6nm,0.3s,baz=219,slow=14,SNR=279								
NNA	**Nana**	**18.38**	**328**	Pn		**P**	**11 37 57.0**	**-3.3**
comp=N,23nm,1.4s								
BDFB	**Brasilia**	**21.42**	**59**	P		**P**	**11 38 28.2**	**-2.9**
comp=N,51nm,0.9s,mb4.8,baz=238,slow=9.4,SNR=37								
BAO	**Brasilia Array**	**21.44**	**59**	P		**P**	**11 38 28.0**	**-3.3**
EFI	**East Falkland**	**24.62**	**167**	P		**P**	**11 39 01.5**	**-0.2**
USHA	**Ushuaia**	**26.87**	**182**	P		**P**	**11 39 22.3**	**-0.1**
comp=N,10nm,0.9s,mb4.5,baz=356,slow=4.0,SNR=3.9								
USHA				pP		pP	11 39 57.7	+1.7
comp=N,20nm,0.8s,baz=356,slow=5.6,SNR=5.2								
OTAV	**Otavalo**	**30.12**	**337**	P		**P**	**11 39 53.6**	**+1.7**
PMSA	**Palmer Station**	**36.87**	**178**	P		**P**	**11 40 49.7**	**+0.5**
comp=N,24nm,0.9s,mb4.8								
SNAA	**Sanae**	**55.63**	**160**	P		**P**	**11 43 15.0**	**-1.0**
comp=N,12nm,1.0s,mb4.7,baz=285,slow=6.9,SNR=75								
SNAA				pP		pP	11 43 53.2	-0.5
comp=N,2.2nm,0.9s,baz=311,slow=9.2,SNR=2.4								
SNAA	**Sanae**	**55.63**	**160**	P		**P**	**11 43 15.3**	**-0.6**
SNAA				pP		pP	11 43 53.4	-0.3
NVL	**N'lazarevskaya**	**60.20**	**158**	⇑*i*P		**P**	**11 43 46.5**	**-1.2**
NVL				*i*			11 53 19.1	
NVL				pmax		pmax		
comp=Z,3.0nm,0.9s,mb4.1								
QSPA	**South Pole Qui**	**62.26**	**180**	P		**P**	**11 44 01.4**	**-0.1**
QSPA				pP		pP	11 44 40.0	-0.2
SWET	**Sewanee**	**65.34**	**343**	P		**P**	**11 44 20.1**	**-2.0**
JCT	**Junction City**	**66.03**	**329**	P		**P**	**11 44 26.6**	**0.0**
JCT				pmax		pmax		
comp=Z,11nm,0.6s,mb4.9								
JCT	**Junction City**	**66.03**	**329**	P		**P**	**11 44 26.6**	**0.0**
comp=Z,11nm,0.6s,mb4.9								
WVT	**Waverly**	**66.71**	**342**	*e*P		**P**	**11 44 29.0**	**-1.8**
WVT				pmax		pmax		
comp=Z,24nm,0.6s,mb5.2								
WVT	**Waverly**	**66.71**	**342**	*e*P		**P**	**11 44 29.0**	**-1.8**
comp=Z,24nm,0.6s,mb5.2								
TXAR	**Lajitas Array**	**66.92**	**325**	P		**P**	**11 44 32.3**	**0.0**
comp=Z,1.0nm,0.5s,mb3.9,baz=150,slow=8.3,SNR=28								
MVL	**Millersville**	**68.17**	**352**	P		**P**	**11 44 39.8**	**0.0**
LIC	**Lamto**	**68.69**	**70**	*e*P		**P**	**11 44 39.3**	**-4.2**
comp=Z,24nm,1.0s,mb4.6								
DBIC	**Dimbokro**	**69.08**	**70**	P		**P**	**11 44 43.1**	**-2.7**
comp=Z,13nm,0.8s,mb4.7,baz=209,slow=6.5,SNR=15								
DBIC				pP		pP	11 45 23.0	-2.2
comp=Z,4.4nm,0.7s,baz=206,slow=9.2,SNR=2.8								
DBIC	**Dimbokro**	**69.08**	**70**	P		**P**	**11 44 43.2**	**-2.6**
DBIC				*PP		pP	11 45 22.4	-2.8
DBIC				pmax		pmax		
comp=Z,17nm,0.9s								
DBIC	**Dimbokro**	**69.08**	**70**	P		**P**	**11 44 43.2**	**-2.6**
comp=Z,17nm,0.9s,mb4.8								
DBIC				pP		pP	11 45 22.4	-2.8
FVM	**French Village**	**69.18**	**340**	P		**P**	**11 44 44.9**	**-1.1**
FVM				pmax		pmax		
comp=Z,12nm,0.6s,mb4.8								
FVM	**French Village**	**69.18**	**340**	P		**P**	**11 44 44.9**	**-1.1**
comp=Z,12nm,0.6s,mb4.8								
WMOK	**Wichita Mounta**	**69.23**	**332**	P		**P**	**11 44 45.7**	**-0.7**
WMOK				pmax		pmax		
comp=Z,2.0nm,0.4s,mb4.2								
WMOK	**Wichita Mounta**	**69.23**	**332**	P		**P**	**11 44 45.7**	**-0.7**
comp=Z,2.1nm,0.4s,mb4.2								
CCM	**Cathedral Cave**	**69.49**	**340**	P		**P**	**11 44 47.0**	**-1.0**
MNTX	**Cornudas Mount**	**69.70**	**326**	P		**P**	**11 44 48.5**	**-0.8**
SYO	**Syowa Base**	**69.87**	**158**	⇑P		**P**	**11 44 47.6**	**-2.1**
SYO	**Syowa Base**	**69.87**	**158**	⇓PcP		PcP	11 45 08.1	-2.0
SYO	**Syowa Base**	**69.87**	**158**	⇑pP		pP	11 45 28.9	-0.3
SYO	**Syowa Base**	**69.87**	**158**	⇑*e*P		**P**	**11 44 47.6**	**-2.1**
SYO				⇓*e*PcP		PcP	11 45 09.1	-2.0
SYO				⇑*e*pP		pP	11 45 28.9	-0.3
VNDA	**Vanda**	**70.82**	**190**	P		**P**	**11 44 56.5**	**+1.2**
comp=Z,8.5nm,0.9s,mb4.5,baz=140,slow=5.0,SNR=26								
VNDA	**Vanda**	**70.82**	**190**	P		**P**	**11 44 56.6**	**+1.3**
VNDA				pmax		pmax		
comp=Z,11nm,0.9s								
VNDA	**Vanda**	**70.82**	**190**	P		**P**	**11 44 56.6**	**+1.2**
comp=Z,10nm,0.9s,mb4.6								
FRNY	**Flat Rock**	**72.69**	**355**	P		**P**	**11 45 06.9**	**0.0**
ANMO	**Albuquerque**	**72.85**	**327**	P		**P**	**11 45 09.2**	**+1.2**
PPT	**Papeete**	**75.61**	**258**	P		**P**	**11 45 26.5**	**+2.4**
comp=Z,22nm,0.9s,mb4.8,baz=102,slow=7.4,SNR=4.2								
MAW	**Mawson**	**77.67**	**162**	P		**P**	**11 45 34.8**	**+0.2**
comp=Z,18nm,0.9s,mb4.7,baz=209,slow=5.2,SNR=12								
SRU	**San Rafael**	**78.12**	**327**	P		**P**	**11 45 39.0**	**+1.3**
MSU	**Marysvale**	**78.48**	**325**	P		**P**	**11 45 41.4**	**+1.8**
MSU				pP		pP	11 46 21.3	+1.3
MVU	**Marysvale**	**78.49**	**325**	P		**P**	**11 45 43.3**	**+3.6**
RSSD	**Black Hills**	**79.35**	**334**	P		**P**	**11 45 44.9**	**+0.7**
RSSD				pmax		pmax		
comp=Z,4.0nm,0.8s,mb4.1								
RSSD	**Black Hills**	**79.35**	**334**	P		**P**	**11 45 44.9**	**+0.7**
comp=Z,4.3nm,0.8s,mb4.1								
PDAR	**Pinedale Array**	**80.56**	**330**	P		**P**	**11 45 51.4**	**+0.7**
comp=Z,2.3nm,0.7s,mb3.9,baz=121,slow=7.5,SNR=18								
PDAR				pP		pP	11 46 32.6	+1.4
comp=Z,1.2nm,0.8s,baz=124,slow=5.3,SNR=3.9								
HWUT	**Hardware Ranch**	**80.57**	**328**	P		**P**	**11 45 51.9**	**+1.1**
comp=Z,7.1nm,0.9s,mb4.3								
HWUT				pP		pP	11 46 29.6	-1.7
LBTB	**Lobatse**	**80.79**	**113**	P		**P**	**11 45 51.8**	**-0.5**
LOHW	**Long Hollow**	**81.69**	**330**	P		**P**	**11 45 57.8**	**+1.2**
ELK	**Elko**	**81.71**	**325**	P		**P**	**11 45 57.9**	**+1.1**
ULM	**Lac du Bonnet**	**81.98**	**342**	P		**P**	**11 45 57.6**	**-0.3**
comp=Z,3.6nm,0.6s,mb4.2,baz=142,slow=6.0,SNR=12								
IMW	**Indian Meadow**	**82.07**	**330**	P		**P**	**11 46 00.0**	**+1.5**
LAO	**LASA Array**	**82.34**	**334**	P		**P**	**11 46 00.2**	**+0.3**
comp=Z,4.5nm,0.6s,mb4.3								
YMR	**Madison River**	**82.68**	**330**	*e*P		**P**	**11 46 03.0**	**+1.3**
comp=Z,12nm,1.1s,mb4.5								
HLID	**Hailey**	**83.42**	**327**	P		**P**	**11 46 06.0**	**+0.6**
comp=Z,3.4nm,0.7s,mb4.2								
HLID				pP		pP	11 46 48.0	+1.8
MCMT	**McKenzie Canyo**	**83.65**	**329**	*e*P		**P**	**11 46 08.4**	**+1.9**
LRM	**Limekiln Ridge**	**84.24**	**330**	P		**P**	**11 46 10.9**	**+1.5**
MATP	**Matopo**	**85.26**	**110**	P		**P**	**11 46 15.4**	**+0.3**
comp=Z,20nm,0.8s,mb4.9,baz=238,slow=3.8,SNR=47								
MATP				pP		pP	11 46 55.2	-0.9
comp=Z,5.0nm,0.9s,baz=233,slow=8.5,SNR=2.8								
BMO	**Blue Mountains**	**85.77**	**327**	*e*P		**P**	**11 46 17.7**	**+0.7**
EVO	**Evora**	**86.08**	**42**	⇑*i*P		**P**	**11 46 18.5**	**-0.2**
comp=Z,21nm,0.8s,mb4.6								
LSZ	**Lusaka**	**87.41**	**106**	P		**P**	**11 46 26.7**	**+1.2**
comp=Z,7.2nm,0.7s,mb4.6,baz=232,slow=2.9,SNR=20								
LSZ				pP		pP	11 47 05.6	-1.2
comp=Z,4.0nm,0.8s,baz=282,slow=0.8,SNR=3.7								
MTE	**Manteigas**	**87.57**	**41**	P		**P**	**11 46 25.5**	**-0.3**
HAWA	**Hanford**	**87.96**	**327**	pP		pP	11 47 08.3	-0.4
ESDC	**Sonseca Array**	**89.24**	**43**	P		**P**	**11 46 33.6**	**-0.1**
comp=Z,0.3nm,0.3s,mb3.7,baz=257,slow=4.7,SNR=6.4								
FCC	**Fort Churchill**	**89.30**	**346**	P		**P**	**11 46 33.8**	**+0.3**
EDM	**Edmonton**	**90.33**	**334**	P		**P**	**11 46 37.7**	**-0.8**
GNW	**Green Mountain**	**90.39**	**326**	pP		pP	11 47 26.0	+5.7
SJPF	**Sao Jean**	**92.96**	**42**	*e*P		**P**	**11 46 51.9**	**+1.0**
comp=Z,16nm,1.0s,mb4.8								
ETSF	**Etsaut**	**93.22**	**42**	*e*P		**P**	**11 46 52.4**	**+0.3**
comp=Z,14nm,1.1s,mb4.7								
EPF	**Esparros**	**93.84**	**43**	*e*P		**P**	**11 46 54.8**	**-0.1**
comp=Z,8.1nm,0.9s,mb4.6								
EPF	**Esparros**	**93.84**	**43**	*e*P		**P**	**11 46 54.8**	**-0.1**
EPF				pmax		pmax		
comp=Z,4.0nm,0.9s,mb4.5								
RJF	**Les Rejaudoux**	**95.83**	**41**	*e*P		**P**	**11 47 03.4**	**-0.5**
CAF	**Calviac**	**95.94**	**42**	*e*P		**P**	**11 47 04.0**	**-0.4**
LASF	**Ste Croix**	**96.54**	**43**	*e*P		**P**	**11 47 06.9**	**-0.3**
TCF	**Toulx Ste Croi**	**96.78**	**41**	*e*P		**P**	**11 47 08.6**	**+0.4**
VIVF	**Saint-Julien-l**	**97.46**	**43**	*e*P		**P**	**11 47 11.0**	**-0.3**
YKA	**Yellowknife Ar**	**97.83**	**340**	P		**P**	**11 47 11.5**	**-1.0**
comp=Z,0.6nm,0.5s,mb4.2,baz=132,slow=4.8,SNR=25								
YKA				pP		pP	11 47 54.1	+0.1
comp=Z,0.4nm,0.7s,baz=137,slow=4.5,SNR=2.6								
SMF	**Signal de Mont**	**97.92**	**41**	*e*P		**P**	**11 47 14.0**	**+0.6**
comp=Z,1.3nm,0.8s,mb5.1								
SSF	**Saint Saulge**	**97.95**	**41**	*e*P		**P**	**11 47 13.5**	**0.0**
ORIF	**Oris-en-Rattie**	**98.22**	**43**	*e*P		**P**	**11 47 16.5**	**+1.7**
comp=Z,14nm,0.9s,mb5.1								
MBDF	**Montbardon**	**98.66**	**44**	*e*P		**P**	**11 47 18.0**	**+1.2**
LPL	**La Plagne**	**99.04**	**43**	*e*P		**P**	**11 47 18.6**	**+0.1**
LPG	**La Plagne**	**99.05**	**43**	*e*P		**P**	**11 47 20.0**	**+1.5**
comp=Z,12nm,1.0s,mb5.0								
LPG	**La Plagne**	**99.05**	**43**	*e*P		**P**	**11 47 20.0**	**+1.5**
LPG				pmax		pmax		
comp=Z,6.0nm,1.0s,mb5.0								
THY	**Trims Highway**	**109.82**	**332**	*e*PKiKP			11 52 08.2	
WB2	**Warramunga Arr**	**128.10**	**206**	⇓*i*P		PKPdf	11 52 43.7	+1.1
WRA	**Warramunga Arr**	**128.11**	**206**	PKP		PKPdf	11 52 43.7	+1.1
comp=Z,6.2nm,0.7s,baz=166,slow=1.6,SNR=89								
WRA				pPKP			11 53 26.6	
comp=Z,2.5nm,0.8s,baz=163,slow=1.6,SNR=4.4								
WRAB	**Tennant Creek**	**128.11**	**206**	PKIKP		PKPdf	11 52 43.9	+1.3
FITZ	**Fitzroy Crossi**	**132.61**	**196**	*e*P		PKPdf	11 52 51.7	+0.5
comp=Z,7.0nm,0.8s								
AB31	**Akbulak array**	**134.47**	**47**	*i* PKIKP		PKPdf	11 52 54.9	+1.1
ZRNK	**Zerenda**	**139.13**	**40**	PKIKP		PKPdf	11 53 04.1	+1.9
ZRNK				pmax		pmax		
comp=Z,2.0nm,0.8s								
ZRNK	**Zerenda**	**139.13**	**40**	PKPdf		PKPdf	11 53 04.5	+2.2
BVAR	**Borovoye Array**	**139.89**	**39**	PKP		PKPdf	11 53 05.8	+2.2
comp=Z,1.3nm,0.5s,baz=263,slow=2.1,SNR=7.7								
YAK	**Yakutsk**	**144.18**	**347**	*e*PKIKP		PKPdf	11 53 10.1	-0.6
YAK				pmax		pmax		
comp=Z,10.0nm,0.8s								
YAK	**Yakutsk**	**144.18**	**347**	PKPdf		PKPdf	11 53 10.8	+0.1
EKS2	**Erkin-Say**	**145.11**	**55**	P		PKPdf	11 53 14.9	+1.9
SNR=20								
KURK	**Kurchatov**	**145.49**	**39**	*e*PKPdf		PKPdf	11 53 15.4	+2.0
KURK				*e*pPKPdf			11 53 57.6	
USP	**Ospenovka**	**145.49**	**53**	P		PKPdf	11 53 16.0	+2.4
SNR=14								
NVS	**Novosibirsk**	**145.54**	**31**	*e*PKP2		PKPab	11 53 14.8	-1.7
NVS				pmax		pmax		
comp=Z,28nm,0.8s								
NVS				pmax		pmax		
comp=E,6.0nm,0.5s								
AAK	**Ala-Archa**	**145.63**	**55**	P		PKPdf	11 53 17.2	+3.3
SNR=65								
AAK	**Ala-Archa**	**145.63**	**55**	*e*PKPdf		PKPdf	11 53 15.8	+2.0
AAK				*e*pPKPdf			11 53 58.7	
FRU	**Bishkek**	**145.67**	**54**	*e*PKP2		PKPab	11 53 16.0	-1.4
FRU				pmax		pmax		
comp=Z,80nm,1.3s								
UCH	**Uchtor**	**145.73**	**55**	P		PKPdf	11 53 17.6	+3.5
SNR=81								
CHMS	**Chumysh**	**145.73**	**54**	P		PKPdf	11 53 17.0	+3.0
SNR=19								
KBK	**Karagaybulak**	**145.95**	**54**	P		PKPdf	11 53 17.9	+3.5
SNR=24								
KZA	**Kyzart**	**146.30**	**55**	P		PKPdf	11 53 19.3	+4.3
SNR=32								
TKM2	**Tokmak 2**	**146.35**	**54**	PKP2		PKPab	11 53 17.9	-2.1
TKM2				pmax		pmax		
comp=Z,15nm,0.8s								
ULHL	**Ulahol**	**146.98**	**55**	P		PKPdf	11 53 19.0	+3.0
SNR=29								
MKAR	**Makanchi Array**	**149.46**	**44**	PKPbc		PKPdf	11 53 26.2	+6.3
comp=Z,12nm,0.6s,baz=287,slow=3.0,SNR=147								
MKAR				PKPab		PKPab	11 53 31.5	-0.8
comp=Z,10nm,0.6s,baz=290,slow=3.9,SNR=27								
MKAR				pPKPbc			11 54 06.2	
comp=Z,15nm,0.9s,baz=297,slow=2.7,SNR=4.1								
MKAR	**Makanchi Array**	**149.46**	**44**	*i* PKP2		PKPab	11 53 26.2	-6.1
MKAR				pmax		pmax		
comp=Z,3.0nm,0.4s								
BOD	**Bodaibo**	**150.15**	**359**	*e*PKIKP		PKPdf	11 53 23.1	+2.5
BOD				pmax		pmax		
comp=Z,5.0nm,1.0s								
PSI	**Prapat**	**151.59**	**149**	PKPbc		PKPdf	11 53 31.6	+7.4
comp=Z,9.4nm,0.5s,baz=229,slow=2.6,SNR=11								
PSI				PKPab		PKPab	11 53 40.7	-1.5
comp=Z,9.6nm,0.8s,baz=163,slow=1.9,SNR=6.5								
WMQ	**Urumqi**	**154.23**	**45**	*e*PKP		PKPdf	11 53 27.9	+1.0
MJAR	**Matsushiro Arr**	**157.09**	**298**	PKPab		PKPab	11 54 05.4	+0.6
comp=Z,3.0nm,0.7s,baz=99,slow=3.2,SNR=6.4								
**

CGP	**Cagayan de Oro**	**1.77**	**223**	*eP*	**Pn**	**11 38 41.1**	**-0.9**
CGP				*eS*	**Sn**	**11 39 06.7**	**+2.3**
LLP	**Lapu-Lapu**	**1.99**	**286**	*eP*	**Pn**	**11 38 45.4**	**0.0**
LLP				*eS*	**Sn**	**11 39 09.2**	**-1.0**
TBP	**Tagbilaran**	**2.02**	**268**	*eP*	**Pn**	**11 38 45.6**	**-0.1**
TBP				*eS*	**Sn**	**11 39 08.5**	**-2.4**
BUKP	**Musuan**	**2.05**	**204**	*eP*	**Pn**	**11 38 46.5**	**+0.4**
DCPH	**Dipolog City**	**2.78**	**245**	*eP*	**Pn**	**11 38 56.2**	**-0.5**
DCPH				*i* S	**Sn**	**11 39 28.1**	**-2.2**
MATI	**Mati**	**2.81**	**173**	*eP*	**Pn**	**11 39 01.4**	**+4.3**
PAGZ	**Pagadian**	**3.14**	**233**	*eP*	**Pn**	**11 39 02.1**	**+0.4**
GUIM	**Jordan**	**3.38**	**285**	*eP*	**Pn**	**11 39 08.3**	**+3.2**
PVCP	**Virac**	**4.18**	**336**	*eP*	**Pn**	**11 39 20.0**	**+3.4**
SJMP	**San Jose**	**5.42**	**300**	*eP*	**Pb**	**11 39 48.3**	**+2.5**
WRAB	**Tennant Creek**	**30.65**	**164**	*eP*	**P**	**11 44 25.3**	**-2.8**
	3.4nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**30.66**	**164**	P	**P**	**11 44 24.6**	**-3.5**
	0.5nm,0.9s,mb3.4,baz=345,slow=9.4,SNR=3.1						
MBWA	**Marble Bar**	**31.32**	**191**	P	**P**	**11 44 35.0**	**+1.0**
	13nm,1.2s,mb4.7						
CTAO	**Charters Tower**	**35.78**	**146**	*eP*	**P**	**11 45 08.4**	**-4.2**
	3.1nm,0.7s,mb4.3						
NWAO	**Narrogin (SRO)**	**43.24**	**191**	P	**P**	**11 46 11.6**	**-2.8**
STKA	**Stephens Creek**	**44.03**	**161**	P	**P**	**11 46 18.9**	**-1.9**
	1.7nm,0.6s,mb3.9,baz=355,slow=6.7,SNR=5.0						
MKAR	**Makanchi Array**	**52.22**	**323**	P	**P**	**11 47 23.0**	**-1.4**
	0.2nm,0.6s,mb3.2,baz=116,slow=6.5,SNR=1.9						
TAU	**Tasmania Unive**	**55.94**	**161**	P	**P**	**11 47 46.6**	**-5.2**
	31nm,1.0s						
KURK	**Kurchatov**	**56.29**	**326**	P	**P**	**11 47 52.2**	**-1.9**
BRVK	**Borovoye**	**61.96**	**326**	*eP*	**P**	**11 48 34.5**	**+1.1**
ZRNK	**Zerenda**	**62.63**	**325**	*eP*	**P**	**11 48 39.7**	**+1.9**

JMA 19 11:44:10.5±0.2,43.69N×147.20E,h22km,M3.5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.11**	**253**	P		Pb	11 44 30.7	-0.2
NEM2				*eS*		Sb	11 44 45.3	+0.5
JRA	**Rausu**	**1.52**	**280**	P		Pn	11 44 36.8	0.0
JRA				*eS*		Sn	11 44 56.5	+0.4
JNK	**Nakash**	**1.80**	**268**	P		Pn	11 44 41.1	+0.3
JNK				*eS*		Sn	11 45 03.3	+0.1
JAK	**Akkeshi**	**1.95**	**250**	P		Pn	11 44 42.6	-0.4
JAK				*eS*		Sn	11 45 06.3	-0.7
JTKR	**Abashiri--Toko**	**2.40**	**278**	P		Pn	11 44 49.6	+0.3
JAR	**Ashorobuto**	**2.53**	**262**	P		Pn	11 44 51.8	+0.6
JAR				*eS*		Sn	11 45 22.0	+0.4
JOB	**Onbets**	**2.58**	**253**	P		Pn	11 44 52.4	+0.5
JOB				*eS*		Sn	11 45 22.9	0.0
JMP	**Maruseppu**	**2.80**	**278**	P		Pn	11 44 55.3	+0.3
JCH	**Churui**	**3.01**	**250**	P		Pn	11 44 57.4	-0.6
JCH				*eS*		Sn	11 45 32.9	-0.8
JEM	**Erimo**	**3.41**	**242**	P		Pn	11 45 05.6	+1.9

*NIED **19** 11:59:00,35.10N×132.70E,h17km,Mw3.3 Best double couple: $M_0$1.13×10¹⁴ NP1:ϕ_s329°,δ75°,λ19°. NP2:ϕ_s233°,δ72°,λ164°.*

JMA 19 11:59:00.1,35.13N×132.72E,h10km±1km,M3.5,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JGT	**Gotsu**	**0.33**	**252**	S		Sg	11 59 11.2	-0.4
JHS	**Saijyo**	**0.35**	**112**	S		Sg	11 59 11.8	-0.3
JNM	**Ikuma**	**0.44**	**35**	P		Pg	11 59 09.1	0.0
JNM				S		Sg	11 59 15.6	+0.4
JHT	**Toyohira**	**0.53**	**208**	P		Pg	11 59 10.2	-0.6
JHT				S		Sg	11 59 17.1	-0.8
JJG	**Jouge**	**0.60**	**144**	S		Sg	11 59 20.1	-0.3

*IDC **19** 12:00:11.4±5.1,7.47S×154.78E,h60km±45km,mb3.6/6, mb1 3.8/8,mb1mx3.7/16,mbtmp3.9/8,ML3.4/2,MS3.2/4, Ms1 3.1/4,ms1mx2.9/18,Error ellipse: s-maj=30.3km s-min=25.8km az=64.0*

*NEIC **19** 12:00:13.2±2.8,7.64S×154.76E,h77km±26km,mb3.9/1, Error ellipse: s-maj=22.2km s-min=18.5km az=52.0*

ISC 19 12:00:08.9±3.4,7.5S±0.1×154.8E±0.1,h52km±31km,n14, σ0§88/14,mb3.8/7,MS3.3/1,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.41**	**111**	LR		LR	12 03 26.6	
	comp=Z,180nm,19.8s,baz=168,slow=36							
PMG	**Port Moresby**	**7.80**	**256**	P		**P**	**12 02 03.1**	**+0.8**
	2.3nm,0.3s,baz=60,slow=7.9,SNR=10							
PMG				S		**S**	**12 03 29.9**	**-0.3**
	0.7nm,0.3s,baz=70,slow=21,SNR=2.8							
PMG	**Port Moresby**	**7.80**	**256**	*e*Pn		**P**	**12 02 02.9**	**+0.6**
PMG				*e*Sn		**S**	**12 03 28.7**	**-1.5**
CTA	**Charters Tower**	**14.98**	**213**	LR		LR	12 08 39.7	
	comp=Z,63nm,19.3s,baz=224,slow=34							
DZM	**Mont Dzumac**	**18.29**	**143**	P		**P**	**12 04 20.2**	**-0.5**
	0.2nm,0.3s,baz=262,slow=22,SNR=3.9							
DZM				LR		LR	12 09 12.9	
	comp=Z,51nm,19.0s,baz=198,slow=30							
WRAB	**Tennant Creek**	**23.35**	**236**	*e*P		**P**	**12 05 14.9**	**+1.2**
	3.3nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**23.37**	**236**	P		**P**	**12 05 14.1**	**+0.3**
	2.5nm,0.9s,mb3.6,baz=61,slow=9.8,SNR=15							
WRA				PcP		PcP	12 09 01.0	-0.1
	0.3nm,0.6s,baz=57,slow=2.2,SNR=6.5							
STKA	**Stephens Creek**	**27.17**	**205**	P		**P**	**12 05 50.5**	**+0.7**
	2.9nm,0.8s,mb3.9,baz=22,slow=12,SNR=5.3							
STKA				LR		LR	12 15 53.3	
	comp=Z,82nm,19.9s,MS3.3,baz=25,slow=35							
STKA	**Stephens Creek**	**27.17**	**205**	*e*P		**P**	**12 05 48.5**	**-1.2**
STKA				LR		LR	12 15 53.4	
SONM	**Songino Array**	**69.69**	**327**	P		**P**	**12 11 15.1**	**-0.2**
	0.6nm,0.8s,mb3.6,baz=146,slow=6.9,SNR=6.2							
IMA2	**Indian Mountai**	**82.37**	**19**	*e*P		**P**	**12 12 29.7**	**+3.2**
MKAR	**Makanchi Array**	**83.69**	**319**	P		**P**	**12 12 32.9**	**-0.7**
	1.0nm,0.7s,mb4.0,baz=105,slow=6.2,SNR=11							
ILAR	**Eielson Array**	**83.94**	**22**	P		**P**	**12 12 34.0**	**-0.4**
	0.6nm,0.7s,mb3.9,baz=239,slow=6.3,SNR=4.2							
BVAR	**Borovoye Array**	**92.62**	**323**	P		**P**	**12 13 16.0**	**-0.2**
	0.3nm,0.6s,mb3.9,baz=90,slow=4.3,SNR=2.8							

*IDC **19** 12:15:44.8±8.6,36.25N×70.81E,h160km±71km,mb3.3/5, mb1 3.4/8,mb1mx3.2/20,mbtmp3.8/8,Error ellipse: s-maj=59.9km s-min=25.7km az=40.0*

*MOS **19** 12:15:49.6±1.5,36.63N×70.75E,h201km,mb4.1/2,Error ellipse: s-maj=22.2km s-min=12.1km az=97.3*

*NEIC **19** 12:15:51.0±3.1,36.68N×70.89E,h197km±28km,mb4.3/5, Error ellipse: s-maj=41.2km s-min=9.6km az=64.0*

*NNC **19** 12:15:56.1±17.0,37.14N×70.29E,h193km±166km,mb2.6, mpv3.5,Error ellipse: s-maj=161.3km s-min=85.0km az=17.0*

ISC 19 12:15:50.4±1.4,36.70N±0.07×70.9E±0.1,h201km±15km, n35,σ0§70/38,mb3.5/5,3C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.19**	**26**	P		**P**	**12 17 21.0**	**+0.2**
	SNR=45							
KZA	**Kyzart**	**6.34**	**31**	P		**P**	**12 17 22.3**	**-0.6**
	SNR=13							
EKS2	**Erkin-Say**	**6.36**	**20**	P		**P**	**12 17 23.3**	**+0.3**
	SNR=23							
KK31	**Karatay Array**	**6.40**	**358**	P		**P**	**12 17 23.1**	**-0.4**
	1.0nm,0.2s,baz=178,slow=13,SNR=59							
KK31				⇓S		**S**	**12 18 31.8**	**-4.4**
	11nm,0.6s,baz=187,slow=25,SNR=11							
AAK	**Ala-Archa**	**6.54**	**24**	P		**P**	**12 17 25.7**	**+0.3**
	SNR=14							
AAK	**Ala-Archa**	**6.54**	**24**	*e*PN		**P**	**12 17 24.5**	**-1.0**
AAK				*e*			12 18 40.1	
AAK				pmax	pmax			
	comp=Z,6.0nm,0.4s							
AAK	**Ala-Archa**	**6.54**	**24**	*e*Pn		**P**	**12 17 24.5**	**-1.0**
	comp=Z,6.5nm,0.4s							
AAK				*e*Sn		**S**	**12 18 40.1**	**+0.5**
KBK	**Karagaybulak**	**6.72**	**27**	P		**P**	**12 17 28.4**	**+0.7**
	SNR=7.7							
ULHL	**Ulahol**	**6.92**	**35**	P		**P**	**12 17 30.1**	**-0.2**
	SNR=5.4							
CHMS	**Chumysh**	**6.96**	**24**	P		**P**	**12 17 30.7**	**-0.1**
	SNR=6.6							
USP	**Ospenovka**	**7.12**	**22**	P		**P**	**12 17 33.2**	**+0.2**
	SNR=5.8							
TKM2	**Tokmak 2**	**7.19**	**29**	P		**P**	**12 17 33.8**	**-0.1**
	SNR=6.5							
MK31	**Makanchi Array**	**13.18**	**37**	⇑P		**P**	**12 18 49.9**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=187,slow=25,SNR=9.0							
MKAR	**Makanchi Array**	**13.18**	**37**	P		**P**	**12 18 50.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=225,slow=13,SNR=10							
KOLN	**Koldanda**	**13.96**	**126**	*e*P		**P**	**12 19 00.1**	**-0.6**
GKN	**Gorkha**	**14.49**	**123**	*e*P		**P**	**12 19 07.2**	**-0.2**
	comp=Z,7.6nm,0.3s							
AB31	**Akbulak array**	**14.86**	**331**	⇓P		**P**	**12 19 12.4**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=158,slow=14,SNR=16							
AB31				⇑S		**S**	**12 21 46.2**	**-4.9**
	comp=Z,0.3nm,0.5s,baz=169,slow=11,SNR=4.6							
KKN	**Kakani**	**15.07**	**122**	*e*P		**P**	**12 19 14.8**	**+0.4**
	comp=Z,9.5nm,0.5s							
KKN	**Kakani**	**15.07**	**122**	*e*P		**P**	**12 19 14.8**	**+0.4**
KKN				pmax	pmax			
	comp=Z,5.0nm,0.5s							
PKI	**Pulchoki**	**15.29**	**122**	*e*P		**P**	**12 19 18.3**	**+1.0**
GUN	**Gumba**	**15.40**	**120**	*e*P		**P**	**12 19 19.1**	**+0.5**
JIRN	**Jiri**	**15.77**	**121**	*e*P		**P**	**12 19 23.1**	**0.0**
	comp=Z,11nm,0.4s							
BVA0	**Borovoye Array**	**16.32**	**359**	⇓P		**P**	**12 19 30.0**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=167,slow=12,SNR=5.0							
BVAR	**Borovoye Array**	**16.32**	**359**	P		**P**	**12 19 29.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=165,slow=11,SNR=6.0							
AKTO	**Aktyubinsk**	**16.55**	**330**	⇑P		**P**	**12 19 32.2**	**-0.2**
	comp=Z,0.7nm,0.9s							
AKTO	**Aktyubinsk**	**16.55**	**330**	P		**P**	**12 19 32.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=140,slow=9.9,SNR=9.7							
ZAL	**Zalesovo**	**19.75**	**25**	P		**P**	**12 20 07.0**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=244,slow=10,SNR=5.6							
ARCES	**ARCESS Array B**	**40.92**	**338**	P		**P**	**12 23 14.4**	**+0.3**
	comp=Z,9nm,0.8s,mb3.6,baz=85,slow=10.0,SNR=3.6							
ARCES	**ARCESS Array B**	**40.92**	**338**	P		**P**	**12 23 14.4**	**+0.2**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**44.16**	**323**	P		**P**	**12 23 38.9**	**-1.4**
	comp=Z,0.8nm,0.7s,mb3.2,baz=96,slow=8.0,SNR=2.9							
KBS	**Kingsbay**	**48.39**	**347**	*e*P		**P**	**12 24 14.6**	**+1.4**
KBS				pmax	pmax			
	comp=Z,12nm,0.8s,mb4.3							
KBS	**Kingsbay**	**48.39**	**347**	*e*P		**P**	**12 24 14.6**	**+1.3**
	comp=Z,12nm,0.8s,mb4.3							
YKA	**Yellowknife Ar**	**81.05**	**3**	P		**P**	**12 27 43.8**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.4,baz=350,slow=5.2,SNR=14							
YKA	**Yellowknife Ar**	**81.05**	**3**	P		**P**	**12 27 43.8**	**+0.2**
WRA	**Warramunga Arr**	**82.18**	**122**	P		**P**	**12 27 47.1**	**-3.1**
	comp=Z,0.2nm,0.4s,mb3.1,baz=323,slow=4.9,SNR=11							

*IDC **19** 12:34:02.9±9.3,34.41N×73.50E,mb4.1/3,mb1 4.1/5, mb1mx3.7/19,mbtmp4.0/5,ML3.5/3,MS2.9/1,Ms1 2.9/1, ms1mx2.3/23,Error ellipse: s-maj=151.8km s-min=45.9km az=157.0*

*NEIC **19** 12:34:05.0±3.3,34.48N×73.38E,h10km,mb3.3/3,Error ellipse: s-maj=51.0km s-min=19.0km az=151.0*

*NDI **19** 12:34:08.1±3.6,34.56N×73.08E,h10km,MD3.5,ML3.3, mb3.3(NEIC)*

*MOS **19** 12:34:08.6±0.6,34.72N×73.28E,h33km,mb3.9/1,Error ellipse: s-maj=33.5km s-min=8.6km az=93.8*

*NNC **19** 12:34:16.1±5.7,35.14N×72.12E,mb3.7,mpv4.5,Error ellipse: s-maj=87.3km s-min=45.5km az=86.0*

ISC 19 12:34:05.3±0.6,34.68N±0.06×73.3E±0.1,h10km,n28, σ1§14/38,mb4.0/2,MS2.7/1,4C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.03**	**137**	*e*P		**Pn**	**12 34 57.0**	**+2.7**
THN				*ex*		**Sn**	**12 35 39.1**	**+8.1**
DLH	**Dalhousie**	**3.10**	**133**	*e*P		**Pn**	**12 35 00.0**	**+4.7**
DLH				*ex*		**Sn**	**12 35 44.0**	**+11**
SDNR	**Sundarnagar**	**4.44**	**135**	*e*P		**Pn**	**12 35 16.2**	**+1.9**
SDNR				*ex*		**Sn**	**12 36 22.6**	**+16**
KLP	**Kalpa**	**5.23**	**126**	*e*P		**Pn**	**12 35 26.0**	**+0.6**
KLP				*e*S		**Sn**	**12 36 24.4**	**-2.1**
KLP				AML	AML		12 36 58.9	
	comp=E,261nm,0.7s							
KLP				AML	AML		12 36 59.7	
	comp=N,182nm,0.9s							
NDI	**New Delhi**	**6.86**	**150**	*ex*		**Sn**	**12 36 53.0**	**-14**
KHET	**Khetri**	**6.93**	**161**	*e*P		**Pn**	**12 35 47.3**	**-2.1**
KHET				*e*S		**Sn**	**12 37 02.3**	**-6.9**
KHET				AML	AML		12 37 47.4	
	comp=N,16nm,0.7s							
KHET				AML	AML		12 37 58.7	
	comp=E,11nm,0.3s							
KUDL	**Kundal**	**7.07**	**156**	*e*P		**Pn**	**12 35 50.2**	**-1.2**
KUDL				*ex*		**Sn**	**12 37 07.7**	**-5.0**
KUDL				AML	AML		12 37 58.6	
	comp=Z,10nm,0.5s							
AAK	**Ala-Archa**	**8.00**	**7**	*e*P		**P**	**12 36 04.5**	**+0.1**
AAK				*e*			12 37 33.2	
AAK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AAK	**Ala-Archa**	**8.00**	**7**	*e*Pn		**P**	**12 36 04.5**	**+0.2**
	comp=Z,1.9nm,0.6s							
AAK				*e*Sn		**Sn**	**12 37 33.2**	**-2.6**
KK31	**Karatay Array**	**8.68**	**346**	⇓P		**P**	**12 36 14.7**	**+0.8**
	comp=Z,7.3nm,0.3s,baz=155,slow=11,SNR=114							
KK31				⇑S		**Sn**	**12 37 47.5**	**-5.3**
	comp=Z,2.0nm,0.4s,baz=170,slow=22,SNR=9.7							
KKAR	**Karatay Array**	**8.68**	**346**	P		**P**	**12 36 14.6**	**+0.7**
KKAR				S		**Sn**	**12 37 47.5**	**-5.3**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.2s							
KKAR				smax				
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**13.89**	**27**	Pn		**P**	**12 37 23.8**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=206,slow=15,SNR=2.9							
KURK	**Kurchatov**	**16.49**	**12**	*e*P		**P**	**12 37 58.9**	**+0.7**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**16.49**	**12**	*e*Pn		**P**	**12 37 58.9**	**+0.7**
	comp=Z,1.5nm,0.8s							
AB31	**Akbulak array**	**17.57**	**330**	⇑P		**P**	**12 38 11.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=138,slow=14,SNR=13							
AB31				⇑S		**S**	**12 41 18.5**	**-7.1**
	comp=Z,1.1nm,0.8s							
AB31	**Akbulak array**	**17.57**	**330**	P		**P**	**12 38 11.7**	**-0.1**
BVAR	**Borovoye Array**	**18.45**	**354**	P		**P**	**12 38 23.3**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=160,slow=9.0,SNR=6.8							
BRVK	**Borovoye**	**18.50**	**354**	P		**P**	**12 38 22.6**	**-0.6**
ZRNK	**Zerenda**	**18.52**	**352**	*e*P		**P**	**12 38 23.6**	**+0.1**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZRNK	**Zerenda**	**18.52**	**352**	*e*P		**P**	**12 38 23.6**	**+0.1**
	comp=Z,1.2nm,0.4s							
CHKZ	**Chkalovo**	**19.08**	**355**	*e*P		**P**	**12 38 29.8**	**-0.5**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CHKZ	**Chkalovo**	**19.08**	**355**	*e*P		**P**	**12 38 29.8**	**-0.5**
	comp=Z,1.6nm,0.9s							
AKTO	**Aktyubinsk**	**19.28**	**329**	⇑P		**P**	**12 38 32.3**	**-0.4**
	comp=Z,0.7nm,1.3s							
AKTO	**Aktyubinsk**	**19.28**	**329**	P		**P**	**12 38 32.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=138,slow=12,SNR=8.3							
AKTO	**Aktyubinsk**	**19.28**	**329**	P		**P**	**12 38 32.4**	**-0.2**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**20.89**	**19**	P		**P**	**12 38 48.8**	**-1.2**
	comp=Z,2.7nm,0.4s,baz=258,slow=8.9,SNR=11							
ZAL				LR		LR	12 47 19.1	
	comp=Z,29nm,18.4s,MS2.7,baz=4.2,slow=38							
FINES	**FINESS Array B**	**40.02**	**327**	P		**P**	**12 41 41.6**	**-0.1**
	comp=Z,2.9nm,1.1s,mb3.9,baz=117,slow=8.5,SNR=5.4							
ARCES	**ARCESS Array B**	**43.53**	**338**	P		**P**	**12 42 10.7**	**+0.5**
	comp=Z,2.4nm,0.7s,mb4.0,baz=114,slow=8.2,SNR=24							

*IDC **19** 13:12:32.5±2.1,34.66N×73.30E,mb3.8/3,mb1 4.1/3, mb1mx3.5/17,mbtmp3.8/3,ML3.8/1,MS2.0/1,Ms1 2.0/1, ms1mx1.8/22,Error ellipse: s-maj=77.8km s-min=30.5km az=57.0*

*NNC **19** 13:12:38.8±25.0,34.92N×72.54E,mb3.5,mpv3.6,Error ellipse: s-maj=630.7km s-min=186.0km az=89.0*

ISC 19 13:12:37.9±1.7,34.8N±0.1×73.1E±0.3,h51km±19km,n10, σ1§01/12,mb3.6/2,1C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.23**	**137**	*e*P		**P**	**13 13 26.6**	**-0.8**
THN				*e*S		**S**	**13 14 06.9**	**+1.9**
DLH	**Dalhousie**	**3.30**	**133**	*e*S		**S**	**13 14 07.0**	**+0.4**
KLP	**Kalpa**	**5.42**	**126**	*e*P		**P**	**13 13 56.4**	**-1.7**
KLP				*e*S		**S**	**13 14 54.5**	**-5.4**
KLP				AML	AML		13 15 28.3	
	comp=N,56nm,0.4s							
KLP				AML	AML		13 15 28.6	
	comp=E,57nm,0.5s							
KK31	**Karatay Array**	**8.50**	**347**	P		**P**	**13 14 41.7**	**+0.8**
	comp=E,0.8nm,0.2s,baz=155,slow=11,SNR=19							
KK31				⇓S		**S**	**13 16 16.6**	**+0.1**
	comp=E,0.7nm,0.4s,baz=147,slow=23,SNR=4.6							
AB31	**Akbulak array**	**17.38**	**330**	⇑P		**P**	**13 16 37.2**	**-0.9**
	comp=E,0.2nm,0.3s,baz=153,slow=11,SNR=7.2							
AKTO	**Aktyubinsk**	**19.08**	**329**	P		**P**	**13 16 59.2**	**+0.5**
	comp=E,0.3nm,0.3s,baz=132,slow=9.3,SNR=6.8							
ZAL	**Zalesovo**	**20.78**	**20**	P		**P**	**13 17 16.4**	**-0.4**
	comp=E,1.2nm,0.3s,baz=206,slow=6.9,SNR=3.1							
ARCES	**ARCESS Array B**	**43.33**	**338**	P		**P**	**13 20 37.5**	**+1.3**
	comp=E,4.5nm,0.9s,mb4.2,baz=117,slow=8.1,SNR=6.3							
TGY	**Tagaytay City**	**47.65**	**103**	LR		LR	13 40 47.1	
	comp=E,1.9nm,21.7s,baz=292,slow=36							
WRA	**Warramunga Arr**	**79.64**	**123**	P		**P**	**13 24 40.9**	**-0.8**
	comp=E,0.1nm,0.4s,mb3.1,baz=323,slow=5.1,SNR=4.8							

*BJI **19** 13:24:21.3,5.04N×60.73E,h10km,mB5.2,mb4.7,Ms4.8, Msz4.6*

*IDC **19** 13:24:27.4±0.5,5.80N×61.09E,mb4.5/24,mb1 4.6/25, mb1mx4.6/27,mbtmp4.5/25,ML4.2/1,MS4.2/12,Ms1 4.2/12, ms1mx4.1/16,Error ellipse: s-maj=13.7km s-min=11.5km az=144.0*

*MOS **19** 13:24:27.2±0.8,5.84N×61.01E,h10km,mb5.2/38, MS4.3/8,Error ellipse: s-maj=8.7km s-min=4.9km az=113.4*

*HRVD **19** 13:24:29.1±0.3,5.67N×61.04E,h12km,MW5.0/65, Centroid moment Tensor Solution. LP body waves: s21,c26;Mantle waves: s65,c110; Half duration: 0 Moment tensor: Mo 10¹⁶Nm; Mw 3.13±.11; Mrr -2.52±.09; Mθθ -0.60±.12; Mrθ -0.98±.34; Mφφ 1.15±.08; Mrφ 1.17±.45; Best double couple: Mo 3.448×10¹⁶ NP1: φs105°,δ34°,λ73°. NP2:φs305°,δ58°,λ101°. Principal axes: T 3.536, Plg75°, Azm246°; N -.169, Plg9°, Azm120°; P -3.36, Plg12°, Azm28°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 13:24:29.1±0.2,5.77N×61.01E,h10km,mb5.1/41, MS4.1/1 Error ellipse: s-maj=4.5km s-min=4.0km az=190.0*

ISC 19 13:24:27.0±0.3,5.74N±0.04×61.04E±0.03,h10km, (h23km±2.2km:pP-P),n226,σ0§98/212,mb4.9/81,MS4.3/23, 23C-6D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**11.74**	**208**	Pn		**P**	**13 27 17.2**	**-0.5**
KAD	**Karad**	**17.25**	**47**	*e*P		**P**	**13 28 28.4**	**-1.3**
POO	**Poona**	**17.82**	**43**	*e*P		**P**	**13 28 40.0**	**+3.1**
ATD	**Arta Tunnel**	**18.87**	**289**	P		**P**	**13 28 50.2**	**+0.3**
	0.7nm,0.3s,baz=104,slow=23,SNR=1.8							
BHJ	**Bhuj**	**19.29**	**25**	*e*P		**P**	**13 28 55.3**	**+0.5**
BHJ				AMb		AMB	13 29 09.9	
	comp=Z,103nm,1.4s							
HYB	**Hyderabad**	**20.69**	**54**	*i* P		**P**	**13 29 10.5**	**+0.5**
	comp=Z,50nm,1.0s							
HYB				*e*S		**S**	**13 33 08.0**	**+12**
HYB	**Hyderabad**	**20.69**	**54**	*e*P		**P**	**13 29 10.5**	**+0.5**
HYB				pmax	pmax			
	comp=Z,50nm,1.0s							
HYB	**Hyderabad**	**20.69**	**54**	*e*P		**P**	**13 29 10.5**	**+0.5**
	comp=Z,50nm,1.0s							
HYB				*e*S		**S**	**13 33 08.0**	**+12**
DJNS	**Zahran al Janu**	**20.82**	**306**	P		**P**	**13 29 12.8**	**+1.5**
FRSS	**Farasan al Kab**	**21.51**	**302**	P		**P**	**13 29 20.8**	**+2.4**
KAMS	**Al Khamasin**	**21.57**	**314**	P		**P**	**13 29 18.8**	**-0.1**
TATS	**Tathlith**	**21.91**	**310**	P		**P**	**13 29 22.9**	**+0.5**
HASS	**Wahat al Ahsa'**	**22.18**	**332**	P		**P**	**13 29 26.3**	**+1.2**
RYDS	**Riyadh**	**22.98**	**324**	P		**P**	**13 29 34.3**	**+1.3**
BHPL	**Bhopal**	**23.50**	**41**	*e*P		**P**	**13 29 41.9**	**+3.9**
BHPL				AMb		AMB	13 29 48.2	
	comp=Z,67nm,1.4s,mb4.9							
BLJS	**Baljurashi**	**23.55**	**308**	P		**P**	**13 29 41.5**	**+2.9**
AJM	**Ajmer**	**24.37**	**31**	*e*P		**P**	**13 29 48.4**	**+1.9**
AJM				AMb		AMB	13 30 04.0	
	comp=Z,39nm,1.8s,mb4.5							
KMBO	**Kilima Mbogo**	**24.71**	**255**	P		**P**	**13 29 52.0**	**+2.1**
	comp=Z,20nm,1.1s,mb4.6,baz=56,slow=12

comp=Z,3.0nm,1.0s,mb3.9,baz=140,slow=9.6,SNR=6.6
BRTR PcP PcP 13 34 15.9 +0.3
comp=Z,2.4nm,0.9s,baz=143,slow=6.2,SNR=4.3
SOC Sochi 42.11 337 *e*P **P** **13 32 21.8 +0.8**
SOC *e*S **S** **13 38 41.4 +1.2**
SOC MLR MLR
comp=Z,440nm,20.0s,MS4.3
AB31 Akbulak array 43.37 359 *i* P **P** **13 32 32.1 +0.9**
AB31 pmax pmax
comp=Z,28nm,1.2s,mb4.9
KMI Kunming 44.32 60 P **P** **13 32 35.1 -4.2**
KMI AP pP 13 32 44.8 +2.5
KMI XP sP 13 32 48.8 +5.3
KMI PP PP 13 34 21.8 -2.3
KMI PPP PPP 13 35 03.4 +1.0
KMI S **S** **13 39 12.1 -0.7**
KMI SS SS 13 42 26.4 +3.2
KMI AMB AMB
comp=Z,10.0nm,1.3s,mb4.4
KMI LR LR
comp=Z,310nm,22.3s,MS4.2
WMQ Urumqi 44.58 28 P **P** **13 32 42.0 +0.9**
WMQ AP pP 13 32 49.0 +4.9
WMQ PP PP 13 34 27.3 +0.9
WMQ S **S** **13 39 16.9 +0.6**
WMQ AMB AMB
comp=Z,40nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,300nm,4.6s
WMQ LR LR
comp=Z,2μm,22.6s,MS4.9
AKTO Aktyubinsk 44.61 357 P **P** **13 32 41.9 +0.6**
comp=Z,4.4nm,0.9s,mb4.3,baz=183,slow=7.7,SNR=12
AKTO Aktyubinsk 44.61 357 P **P** **13 32 41.9 +0.6**
AKTO pmax pmax
comp=Z,9.0nm,1.8s,mb4.3
MKAR Makanchi Array 44.81 21 P **P** **13 32 42.6 -0.3**
comp=Z,2.6nm,0.9s,mb4.1,baz=198,slow=7.7,SNR=16
MKAR PP PP 13 34 24.4 -4.4
comp=Z,1.7nm,1.1s,baz=248,slow=7.8,SNR=3.6
MKAR LR LR 13 52 55.5
comp=Z,123nm,20.3s,MS3.8,baz=90,slow=38
MKAR Makanchi Array 44.81 21 *i* P **P** **13 32 42.6 -0.3**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
LBTB Lobatse 46.08 227 P **P** **13 32 54.5 +1.3**
comp=Z,28nm,1.3s,mb5.0,baz=60,slow=7.7,SNR=10
LBTB Lobatse 46.08 227 P **P** **13 32 54.8 +1.6**
LBTB pmax pmax
comp=Z,60nm,1.4s,mb5.3
LBTB Lobatse 46.08 227 P **P** **13 32 54.8 +1.6**
comp=Z,60nm,1.4s,mb5.3
KURK Kurchatov 47.17 15 *i* P **P** **13 32 59.4 -2.2**
KURK Kurchatov 47.17 15 P **P** **13 33 01.8 +0.2**
ZRNK Zerenda 47.51 7 P **P** **13 33 05.3 +1.1**
VRHR Novokhopersk 48.01 344 *e*P **P** **13 33 08.6 +0.4**
VRHR pmax pmax
comp=Z,20nm,0.8s,mb5.2
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,0.4s
GYA Guiyang 48.10 59⇑ *i* P **P** **13 33 08.3 -0.9**
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GTA Gaotai 48.41 40 *e*P **P** **13 33 11.0 -0.4**
CHKZ Chkalovo 48.42 8 P **P** **13 33 11.3 0.0**
CHKZ pmax pmax
comp=Z,40nm,1.7s,mb5.2
CHKZ Chkalovo 48.42 8 P **P** **13 33 11.5 +0.2**
comp=Z,35nm,1.6s,mb5.1
VRSR Storozhevoye 48.84 342 *e*P **P** **13 33 14.1 -0.4**
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
VRSR pmax pmax
comp=E,10.0nm,2.6s
ARU Arti 50.59 358 *i* P **P** **13 33 26.9 -0.9**
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ARU MLR MLR
comp=Z,400nm,20.0s,MS4.4
ARU Arti 50.59 358 P **P** **13 33 27.6 -0.3**
comp=Z,19nm,1.1s,mb4.9
ZAL Zalesovo 51.78 18 P **P** **13 33 36.5 -0.4**
comp=Z,2.1nm,0.9s,mb4.0,baz=251,slow=7.2,SNR=13
AKASG Malin Array Be 52.09 335 P **P** **13 33 38.5 -0.8**
comp=Z,2.5nm,0.7s,mb4.2,baz=135,slow=6.5,SNR=24
AKASG Malin Array Be 52.09 335 *i* P **P** **13 33 38.7 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
NVS Novosibirsk 52.12 16 *e*P **P** **13 33 38.0 -1.5**
NVS pmax pmax
comp=Z,46nm,2.3s,mb5.0
NVS pmax pmax
comp=N,27nm,1.8s
XAN Xi'an 52.45 51 P **P** **13 33 40.8 -1.5**
XAN AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
OBN Obninsk 53.01 343 *i* P **P** **13 33 45.6 -0.5**
OBN pmax pmax
comp=Z,23nm,1.6s,mb4.9
MOS Moscow 53.24 344 *e*P **P** **13 33 46.8 -1.1**
MOS pmax pmax
comp=Z,82nm,1.4s,mb5.5
KOLS Kolonicke sedl 54.10 329 *i* P **P** **13 33 55.0 +0.8**
KOLS *e* 13 34 01.7
CRVS Cervenica-Dubn 54.49 329 *e*P **P** **13 33 57.1 0.0**
CRVS *e*L 13 58 04.8
KECS Kecovo 54.74 328 *e*P **P** **13 33 57.5 -1.5**
STHS Stebnicka Huta 54.93 329 *e*P **P** **13 34 00.2 -0.2**
STHS *e* 13 34 15.4
SRO Srobarova 55.52 326 *e*P **P** **13 34 04.9 +0.2**
VYHS Vyhne 55.63 327 *i* P **P** **13 34 04.9 -0.5**
VYHS *e* 13 34 15.7
VYHS *e*L 13 56 47.7
WHN Wuhan 55.73 57 P **P** **13 34 05.5 -0.9**
BOJS Bojanci 56.04 323 *e*P **P** **13 34 08.3 -0.1**
DOBS Dobrina 56.24 323 *e*P **P** **13 34 09.6 -0.2**
MOY Mondy 56.44 29 *e*P **P** **13 34 10.8 -0.4**
LJU Ljubljana 56.75 323 *e*P **P** **13 34 13.3 -0.2**
OKC Ostrava-Krasne 56.78 328 *e*P **P** **13 34 12.9 -0.8**
ARSA Arzberg 56.78 324⇑ *i*P **P** **13 34 13.6 -0.1**
comp=Z,11nm,1.2s,mb4.7
ARSA Arzberg 56.78 324 ⇑P **P** **13 34 13.6 -0.2**
comp=Z,11nm,1.2s,mb4.8
OBKA Obir 56.97 323⇑ *i*P **P** **13 34 14.9 -0.2**
comp=Z,13nm,1.3s,mb4.8
OBKA Obir 56.97 323 ⇑P **P** **13 34 14.9 -0.2**
comp=Z,13nm,1.3s,mb4.8
SONM Songino Array 57.01 35 P **P** **13 34 15.2 -0.1**
comp=Z,3.4nm,1.0s,mb4.3,baz=241,slow=6.1,SNR=19
SONM LR LR 13 59 32.5
comp=Z,397nm,19.2s,MS4.5,baz=251,slow=37
SUW Suwalki 57.05 334 *e*P **P** **13 34 15.5 0.0**
SUW Suwalki 57.05 334 *e*P **P** **13 34 15.5 0.0**
MORC Moravsky Berou 57.07 328 P **P** **13 34 15.6 -0.1**
MORC pmax pmax
comp=Z,18nm,1.2s,mb5.0
MORC Moravsky Berou 57.07 328 P **P** **13 34 15.6 -0.2**
comp=Z,18nm,1.2s,mb5.0
KLMR Klimovskoe 57.33 348*c* *i*P **P** **13 34 15.9 -1.5**
KLMR pmax pmax
comp=Z,30nm,1.5s,mb5.1
KLMR MLR MLR
comp=Z,440nm,16.0s,MS4.7
ULN Ulaanbaatar 57.40 35 *i* P **P** **13 34 15.6 -2.5**
TREC Trest 57.90 327 *e*P **P** **13 34 21.2 -0.4**
TREC *e*pP pP 13 34 27.2 +2.5
DPC Dobruska-Polom 58.04 328 *e*P **P** **13 34 22.4 -0.1**
UPC Upice 58.29 328 *e*P **P** **13 34 23.9 -0.4**
KSP Ksiaz 58.33 328 *e*P **P** **13 34 24.2 -0.3**
KSP Ksiaz 58.33 328 *e*P **P** **13 34 24.2 -0.4**
PGF Pioggiola 58.72 317 *e*P **P** **13 34 26.3 -1.1**
comp=Z,117nm,1.6s,mb5.4
PGF Pioggiola 58.72 317 *e*P **P** **13 34 26.3 -1.1**
PGF pmax pmax
comp=Z,59nm,1.6s,mb5.4
PRU Pruhonice 58.80 327 *e*P **P** **13 34 26.9 -0.9**
PRU *e*pP pP 13 34 33.7 +2.8
KHC Kasperske Hory 58.88 326 *e*P **P** **13 34 27.0 -1.4**
KHC *e*pP pP 13 34 34.9 +3.4
PVCC Panska Ves 59.07 327 *e*P **P** **13 34 29.0 -0.8**
WTTA Wattenberg 59.08 323⇑ *i*P **P** **13 34 28.9 -1.0**
comp=Z,16nm,1.1s,mb5.0
WTTA Wattenberg 59.08 323 ⇑P **P** **13 34 28.9 -1.0**
WTTA pmax pmax
comp=Z,16nm,1.1s,mb5.0
WTTA Wattenberg 59.08 323 ⇑P **P** **13 34 28.9 -1.0**
comp=Z,16nm,1.1s,mb5.0
MOTA Moosalm 59.44 323⇓ *i*P **P** **13 34 31.2 -1.2**
comp=Z,9.5nm,1.0s,mb4.8
MOTA Moosalm 59.44 323 ⇓P **P** **13 34 31.2 -1.1**
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BRG Berggiesshubel 59.59 327 *e*P **P** **13 34 32.7 -0.7**
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BRG Berggiesshubel 59.59 327 *e*P **P** **13 34 32.7 -0.6**
comp=Z,7.4nm,1.0s,mb4.7
BRG *e* 13 34 52.5
NJ2 Nanjing 59.83 56 *e*P **P** **13 34 35.1 -0.2**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
DAVOX Davos 59.93 322 P **P** **13 34 35.1 -0.6**
comp=Z,7.0nm,0.8s,mb4.7,baz=157,slow=7.7,SNR=7.3
NKC Novy Kostel 60.07 326 *e*P **P** **13 34 37.2 +0.5**
DAVA Damuels 60.15 322⇑ *i*P **P** **13 34 34.7 -2.6**
comp=Z,8.0nm,0.9s,mb4.8
DAVA Damuels 60.15 322 ⇑P **P** **13 34 34.7 -2.6**
comp=Z,8.0nm,0.9s,mb4.8
SBF Sospel 60.28 318 *e*P **P** **13 34 37.5 -0.7**
comp=Z,68nm,1.3s,mb5.2
SBF Sospel 60.28 318 *e*P **P** **13 34 37.5 -0.7**
SBF pmax pmax
comp=Z,34nm,1.3s,mb5.2
CLL Collm 60.33 328⇓ *i*P **P** **13 34 38.1 -0.3**
comp=Z,logA/T=1.5,mb5.3
CLL *e**PP pP 13 34 44.0 +2.5
CLL *e* 13 34 53.0
CLL *e* 13 35 04.0
CLL Collm 60.33 328⇓ *i*P **P** **13 34 38.1 -0.3**
CLL *e**PP pP 13 34 44.0 +2.5
CLL pmax pmax
comp=Z,51nm,1.8s,mb5.2
CLL Collm 60.33 328⇓ *i*P **P** **13 34 38.1 -0.3**
comp=Z,51nm,1.8s,mb5.2
CLL *e*pP pP 13 34 44.0 +2.5
GRA1 Grafenberg Arr 60.49 325 *e*P **P** **13 34 38.4 -1.1**
comp=Z,57nm,1.7s,mb5.3
GRF Grafenberg Arr 60.49 325 *e*P **P** **13 34 38.4 -1.1**
GRF pmax pmax
comp=Z,57nm,1.7s,mb5.3
GRF Grafenberg Arr 60.49 325 *e*P **P** **13 34 38.4 -1.1**
GRF pmax pmax
comp=Z,57nm,1.7s,mb5.3
GRF Grafenberg Arr 60.49 325 *e*P **P** **13 34 38.4 -1.1**
comp=Z,57nm,1.7s,mb5.3
FRF La Foret Royal 60.70 317 *e*P **P** **13 34 40.1 -0.9**
comp=Z,77nm,1.4s,mb5.3
FRF La Foret Royal 60.70 317 *e*P **P** **13 34 40.1 -0.9**
FRF pmax pmax
comp=Z,39nm,1.4s,mb5.3
MOX Moxa 60.74 326 *i* P **P** **13 34 40.9 -0.3**
MBDF Montbardon 61.05 319 *e*P **P** **13 34 42.3 -1.1**
LPG La Plagne 61.37 319 *e*P **P** **13 34 44.5 -1.0**
FINES FINESS Array B 61.38 342 P **P** **13 34 44.1 -1.2**
comp=Z,3.5nm,0.9s,mb4.5,baz=129,slow=12,SNR=5.9
FINES LR LR 14 03 50.8
comp=Z,183nm,20.4s,MS4.2,baz=153,slow=38
LPL La Plagne 61.39 319 *e*P **P** **13 34 44.5 -1.1**
comp=Z,34nm,1.1s,mb5.1
LPL La Plagne 61.39 319 *e*P **P** **13 34 44.5 -1.1**
LPL pmax pmax
comp=Z,17nm,1.1s,mb5.1
BFO Black Forest 61.55 323 *e*P **P** **13 34 46.3 -0.4**
BFO pmax pmax
comp=Z,36nm,1.5s,mb5.3
BFO Black Forest 61.55 323 *e*P **P** **13 34 46.3 -0.4**
comp=Z,36nm,1.5s,mb5.3
SSE Sheshan 61.58 58 *e*P **P** **13 34 44.8 -2.4**
SSE PCP PcP 13 35 27.8 -0.8
SSE PP PP 13 36 59.4 -5.6
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,110nm,5.3s
SSE LR LR
comp=N,30nm,35.3s,MS3.9
SSE LR LR
comp=E,140nm,35.3s,MS3.9
SSE LR LR
comp=Z,150nm,20.9s
CLZ Clausthal 62.01 327 *e*P **P** **13 34 50.0 +0.2**
CLZ pmax pmax
comp=Z,19nm,1.3s,mb5.1
CLZ Clausthal 62.01 327 *e*P **P** **13 34 50.0 +0.2**
comp=Z,19nm,1.3s,mb5.1
CDF Champ du Feu 62.22 323⇑ *i*P **P** **13 34 50.8 -0.5**
comp=Z,111nm,1.5s,mb5.5
CDF Champ du Feu 62.22 323⇑ *i*P **P** **13 34 50.8 -0.5**
CDF pmax pmax
comp=Z,56nm,1.5s,mb5.5
CABF La Chapelle 62.23 320⇑ *i*P **P** **13 34 51.1 -0.2**
comp=Z,126nm,1.2s,mb5.6
CABF La Chapelle 62.23 320⇑ *i*P **P** **13 34 51.1 -0.2**
CABF pmax pmax
comp=Z,63nm,1.2s,mb5.6
HINF Hinteralfeld 62.23 322 *e*P **P** **13 34 50.4 -0.9**
HAU Haudompre 62.62 322 *e*P **P** **13 34 52.9 -1.0**
HAU *e*R
comp=Z,121nm,19.8s
LASF Ste Croix 62.77 317 *e*P **P** **13 34 54.6 -0.3**
comp=Z,58nm,1.5s,mb5.2
MBWA Marble Bar 63.45 117 P **P** **13 34 59.6 -0.1**
MEZF Maizieres J'vi 63.61 322 *e*P **P** **13 35 00.1 -0.3**
MTLF Montolieu 63.65 316 *e*P **P** **13 35 00.7 -0.1**
SMF Signal de Mont 63.67 320 *e*P **P** **13 34 59.9 -1.0**
comp=Z,54nm,1.6s,mb5.0
SMF Signal de Mont 63.67 320 *e*P **P** **13 34 59.9 -1.0**
SMF pmax pmax
comp=Z,27nm,1.6s,mb5.0
SSF Saint Saulge 64.04 320 *e*P **P** **13 35 02.5 -0.8**
AVF Avril sur Loir 64.04 320 *e*P **P** **13 35 02.1 -1.2**
BGF Bois d'Agland 64.29 319 *e*P **P** **13 35 04.4 -0.5**
comp=Z,88nm,1.5s,mb5.3
BGF Bois d'Agland 64.29 319 *e*P **P** **13 35 04.4 -0.5**
BGF pmax pmax
comp=Z,44nm,1.5s,mb5.3
GIVF Givet 64.38 324 *e*P **P** **13 35 05.2 -0.2**
TCF Toulx Ste Croi 64.61 319 *e*P **P** **13 35 06.5 -0.5**
BAIF Baives 64.73 323 *e*P **P** **13 35 07.7 0.0**
RJF Les Rejaudoux 64.75 318 *e*P **P** **13 35 07.7 -0.2**
comp=Z,81nm,1.9s,mb5.1
RJF Les Rejaudoux 64.75 318 *e*P **P** **13 35 07.7 -0.2**
RJF pmax pmax
comp=Z,41nm,1.9s,mb5.1
LFF La Frestale 65.16 317 *e*P **P** **13 35 10.5 0.0**
ETSF Etsaut 65.47 315⇑ *i*P **P** **13 35 12.9 +0.3**
comp=Z,72nm,1.9s,mb5.1
ETSF Etsaut 65.47 315⇑ *i*P **P** **13 35 12.9 +0.3**
ETSF pmax pmax
comp=Z,36nm,1.9s,mb5.1
DBIC Dimbokro 65.47 275 P **P** **13 35 12.9 -0.1**
comp=Z,9.6nm,1.1s,mb4.7,baz=75,slow=8.0,SNR=7.8
DBIC LR LR 14 03 02.3
comp=Z,180nm,21.3s,MS4.2,baz=72,slow=35
LIC Lamto 65.67 274⇑ *i*P **P** **13 35 14.9 +0.6**
comp=Z,48nm,1.3s,mb5.0
LIC *e*R
comp=Z,339nm,22.5s
SJPF Ste Jean 65.99 315 *e*P **P** **13 35 16.3 +0.4**
MFF Saint Martin d 66.25 319 *e*P **P** **13 35 17.1 -0.4**
comp=Z,131nm,1.8s,mb5.4
MFF Saint Martin d 66.25 319 *e*P **P** **13 35 17.1 -0.4**
MFF pmax pmax
comp=Z,66nm,1.8s,mb5.4
NB2 NORSAR Subarra 66.47 336 P **P** **13 35 17.9 -0.7**
comp=Z,2.4nm,0.8s,mb4.3,baz=119,slow=7.0
NB2 NORSAR Subarra 66.47 336 P **P** **13 35 17.9 -0.7**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
NOA NORSAR Array B 66.47 336 P **P** **13 35 17.7 -0.9**
comp=Z,7.5nm,1.0s,mb4.7,baz=121,slow=7.0,SNR=6.9
NOA LR LR 14 06 16.5
comp=Z,108nm,20.2s,MS4.0,baz=120,slow=38
LDF La Druitiere 66.86 321 *e*P **P** **13 35 20.7 -0.7**
comp=Z,34nm,1.2s,mb5.0
LDF La Druitiere 66.86 321 *e*P **P** **13 35 20.7 -0.7**
LDF pmax pmax
comp=Z,17nm,1.2s,mb5.0
JOW Kunigami 67.13 63 LR LR 14 06 20.0
comp=Z,166nm,21.8s,MS4.2,baz=304,slow=38
ESDC Sonseca Array 67.18 311 P **P** **13 35 23.4 -0.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=83,slow=5.4,SNR=9.8
ESLA Sonseca Array 67.18 311 P **P** **13 35 24.0 +0.4**
CN2 Changchun 67.68 45 *e*P **P** **13 35 27.3 +0.6**
ARCES ARCESS Array B 67.80 347 P **P** **13 35 26.4 -0.5**
comp=Z,7.8nm,0.8s,mb4.8,baz=121,slow=7.1,SNR=11
ARCES LR LR 14 07 41.0
comp=Z,122nm,19.8s,MS4.1,baz=112,slow=38
ARCES ARCESS Array B 67.80 347 P **P** **13 35 26.4 -0.6**
ARCES LR LR 14 07 41.0
FITZ Fitzroy Crossi 67.96 112⇑ *i*P **P** **13 35 28.5 -0.3**
comp=Z,16nm,0.9s,mb5.0
JNU Nakatsue 70.01 57 P **P** **13 35 41.2 0.0**
comp=Z,18nm,1.0s,mb4.9,baz=39,slow=13,SNR=3.7
EVO Evora 70.08 309⇑ *i*P **P** **13 35 41.9 +0.4**
comp=Z,75nm,1.8s,mb5.0
MDJ Mudanjiang 70.77 45 P **P** **13 35 45.1 -0.5**
MDJ AP pP 13 35 49.6 +0.8
MDJ AMB AMB
comp=Z,190nm,4.7s
MDJ LR LR
comp=N,70nm,18.9s,MS4.3
MDJ LR LR
comp=E,150nm,20.7s,MS4.3
MDJ LR LR
comp=Z,200nm,22.4s,MS4.3
MAW Mawson 73.19 179 P **P** **13 36 00.2 +0.6**
comp=Z,4.3nm,0.8s,mb4.5,baz=354,slow=8.1,SNR=5.4
MAW LR LR 13 59 54.5
comp=Z,302nm,21.9s,MS4.5,baz=163,slow=29
MAW Mawson 73.19 179 *e*P **P** **13 36 00.3 +0.7**
MAW pmax pmax
comp=Z,5.0nm,0.8s
MAW Mawson 73.19 179 *e*P **P** **13 36 00.3 +0.7**
comp=Z,5.0nm,0.8s,mb4.5
YAK Yakutsk 75.02 27 *i* P **P** **13 36 08.8 -1.5**
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YAK MLR MLR
comp=Z,200nm,21.0s,MS4.4
SYO Syowa Base 76.06 188⇓ pP pP 13 36 22.3 +3.1
MJAR Matsushiro Arr 76.30 54 LR LR 14 09 45.2
comp=Z,220nm,18.9s,MS4.5,baz=210,slow=36
WRA Warramunga Arr 76.39 112 P **P** **13 36 18.7 -0.2**
comp=Z,16nm,0.9s,mb4.9,baz=293,slow=4.5,SNR=109
WRAB Tennant Creek 76.40 112 P **P** **13 36 18.8 -0.2**
WB2 Warramunga Arr 76.40 112⇑ *i*P **P** **13 36 18.7 -0.3**
TIXI Tiksi 77.69 17 *i* P **P** **13 36 24.6 -0.5**
TIXI pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TIXI MLR MLR
comp=Z,100nm,16.0s,MS4.2
TIXI Tiksi 77.69 17 P **P** **13 36 24.7 -0.4**
STKA Stephens Creek 85.03 123⇑ *i*P **P** **13 37 04.6 0.0**
comp=Z,3.8nm,0.9s,mb4.5
STKA Stephens Creek 85.03 123 P **P** **13 37 04.8 +0.2**
comp=Z,4.9nm,1.0s,mb4.6,baz=299,slow=6.0,SNR=6.0
STKA Stephens Creek 85.03 123 *e*P **P** **13 37 05.0 +0.4**
PMG Port Moresby 87.12 100 P **P** **13 37 16.3 +1.0**
comp=Z,13nm,0.9s,mb5.2,baz=322,slow=6.8,SNR=5.9
PMG Port Moresby 87.12 100 P **P** **13 37 14.7 -0.6**
CTA Charters Tower 87.48 110 P **P** **13 37 17.0 +0.2**
comp=Z,3.3nm,0.7s,mb4.7,baz=238,slow=8.1
CTA Charters Tower 87.48 110 P **P** **13 37 17.0 +0.2**
BILL Bilibino 90.36 21 *e*P **P** **13 37 29.6 +0.2**
BILL pmax pmax
comp=Z,10.0nm,1.7s,mb4.9
VNDA Vanda 97.91 168 LR LR 14 17 07.9
comp=Z,246nm,19.9s,MS4.7,baz=228,slow=32
LAO LASA Array 126.59 349 PKPdf PKPdf 13 43 33.9 +0.1
MSO Missoula 127.47 356 PKPdf PKPdf 13 43 34.4 -1.2
BOZ Bozeman (W) 128.42 353 PKPdf PKPdf 13 43 36.9 -0.7
RSSD Black Hills 128.57 346 PKPdf PKPdf 13 43 37.3 -0.6
LPAZ La Paz 129.14 254 PKP PKPdf 13 43 38.6 -1.1
comp=Z,0.4nm,0.5s,baz=70,slow=2.8,SNR=4.5
TPAW Teton Pass 130.46 352 PKPdf PKPdf 13 43 48.5 +7.0
REDW Red Top Meadow 130.57 352 PKPdf PKPdf 13 43 42.0 +0.3
RRI2 Red Ridge 130.65 353 PKPdf PKPdf 13 43 42.6 +0.7
BW06 Boulder Array 130.97 351 PKPdf PKPdf 13 43 41.2 -1.3
PDAR Pinedale Array 130.97 351 PKP PKPdf 13 43 41.1 -1.3
comp=Z,1.1nm,0.8s,baz=24,slow=2.0,SNR=11
HWUT Hardware Ranch 132.40 352 PKPdf PKPdf 13 43 44.5 -0.8
WMOK Wichita Mounta 135.46 336 PKIKP PKPdf 13 43 49.2 -1.9
NVAR Mina Array Bea 136.05 359 PKP PKPdf 13 43 51.9 -0.2
comp=Z,1.8nm,0.9s,baz=84,slow=1.4,SNR=8.6
MNTX Cornudas Mount 140.58 342 PKPdf PKPdf 13 44 00.1 -0.5
TXAR Lajitas Array 142.15 338 PKhKP 13 43 57.1
comp=Z,0.6nm,0.4s,baz=45,slow=1.8,SNR=7.4
TXAR PKP PKPdf 13 44 01.9 -1.5
comp=Z,0.6nm,0.4s,baz=45,slow=2.6,SNR=6.9

NIED ***19*** *13:33:00,26.70N×141.90E,h165km,Mw5.0 Best double couple: M₀3.42×10¹⁶ NP1:φ≈314°,δ70°,λ50°. NP2:φ≈202°,δ44°,λ151°.*
JMA ***19*** *13:33:08.6±0.1,26.75N×141.95E,h146km,M3.9*
IDC ***19*** *13:33:09.5±7.1,26.84N×140.90E,h25km±47km,mb4.2/14,mb1 4.3/15,mb1mx4.2/23,mbtmp4.3/15,ML3.3/1,MS3.8/4,Ms1 3.8/4,ms1mx3.4/22,Error ellipse: s-maj=19.6km s-min=14.7km az=179.0*
BJI ***19*** *13:33:21.8,27.07N×140.84E,h138km,mB5.0,mb4.5*
MOS ***19*** *13:33:22.3±1.4,26.90N×140.58E,h149km,mb4.5/22,Error ellipse: s-maj=13.3km s-min=7.2km az=99.6*
NEIC ***19*** *13:33:23.4±1.4,26.85N×140.68E,h140km±13km,mb4.5/30,MW5.0(NIED),Error ellipse: s-maj=8.6km s-min=7.0km az=105.0*
ISC 19 13:33:08.1±1.2,**26.81N**±0.04×**140.89E**±0.04,**h21**km±8km,**h107**km±14.5km**:pP-P,n121,σ1s32**/121,**mb4.6**/55,**MS4.0**/8,**2C-2D,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JHHJ	**Haha-jima-NKT**	**1.16**	**98**	P	**Pn**	**13 33 28.5**	**-0.8**
JHHJ				S	**Sb**	**13 33 44.1**	**+0.1**
CBIJ	**Chichi jima**	**1.19**	**76**	**Pn**	**Pn**	**13 33 29.3**	**-0.4**
CBIJ	460nm,0.3s,baz=219,slow=5.1,SNR=46			Sn	**Sn**	**13 33 44.5**	**-0.7**
CBIJ	960nm,0.3s,baz=278,slow=22,SNR=33 **Chichi jima**	**1.19**	**76**	P	**Pn**	**13 33 29.1**	**-0.6**
CBIJ				S	**Sb**	**13 33 44.5**	**-0.2**
JHJ	**Hachijo jima 2**	**6.36**	**352**	LR	LR	13 36 42.5	
	comp=Z,285nm,18.9s,baz=358,slow=34						
JWZ	**Kozaga**		**8.06 327**	P	**P**	**13 35 13.2**	**+6.3**
JOD2	**Odawara 2**		**8.57 350**	P	**P**	**13 35 15.8**	**+1.8**
JHU	**Hanno**		**9.12 352**	P	**P**	**13 35 20.4**	**-1.2**
JRY	**Ryogami san**		**9.34 350**	P	**P**	**13 35 24.4**	**-0.2**
JHO	**Hitachi**		**9.78 358**	P	**P**	**13 35 26.3**	**-4.4**
MJAR	**Matsushiro Arr**		**9.97 347**	Pn	**P**	**13 35 32.3**	**-1.0**
	0.3nm,0.3s,baz=321,slow=16,SNR=3.3						
MJAR				LR	LR	13 39 08.9	
	comp=Z,628nm,19.6s,baz=155,slow=36						
MAJO	**Matsushiro**		**9.97 347**	*e*P	**P**	**13 35 42.4**	**+9.0**
JOW	**Kunigami**		**11.27 273**	LR	LR	13 39 17.2	
	comp=Z,1μm,21.3s,baz=319,slow=33						
GUMO	**Guam**		**13.67 163**	LR	LR	13 41 03.1	
	comp=Z,530nm,18.3s,baz=336,slow=35						
GUMO	**Guam**		**13.67 163**	*e*P	**P**	**13 36 34.0**	**+11**
KS15	**Wonju Array Si**		**15.28 317**	*e*Pn	**P**	**13 36 51.0**	**+6.7**
INCN	**Inchon**		**16.08 315**	*e*Pn	**P**	**13 36 59.1**	**+4.5**
ASAJ	**Asahikawa**	**17.33**	**4**	P	**P**	**13 37 12.6**	**+2.3**
	0.8nm,0.3s,baz=190,slow=32,SNR=5.5						
NACB	**Ninganchiao**		**17.62 266**	*e*Pn	**P**	**13 37 17.8**	**+3.7**
SSE	**Sheshan**		**17.77 289**	*e*P	**P**	**13 37 17.5**	**+1.6**
SSE				XP		13 37 59.5	
SSE				S	**S**	**13 40 31.8**	**+1.0**
SSE	comp=Z,20nm,0.8s			AMB	AMB		
SSE	comp=Z,90nm,3.8s			AMB	AMB		
SSE	comp=N,120nm,30.1s			LR	LR		
SSE	comp=E,330nm,30.1s			LR	LR		
SSE	comp=Z,340nm,30.1s			LR	LR		
NJ2	**Nanjing**		**19.88 290**	*e*P	**P**	**13 37 41.4**	**+0.3**
NJ2				XP		13 38 22.4	
NJ2				S	**S**	**13 41 12.0**	**-6.3**
NJ2				PCP	PcP	13 41 54.0	-3.5
NJ2				AMB	AMB		

comp=Z,10.0nm,0.6s
NJ2 AMB AMB
comp=Z,380nm,5.3s
NJ2 LR LR
comp=N,920nm,17.6s
NJ2 LR LR
comp=E,840nm,17.8s
NJ2 LR LR
comp=Z,320nm,17.1s
MDJ Mudanjiang 19.96 336 P **P** **13 37 43.5 +1.6**
MDJ AP 13 38 08.3
MDJ XP 13 38 26.3
MDJ S **S** **13 41 19.3 -0.6**
MDJ SCS ScS 13 48 59.6 -13
MDJ AMB AMB
comp=Z,110nm,4.1s
MDJ LR LR
comp=N,120nm,19.8s
MDJ LR LR
comp=E,150nm,17.9s
MDJ LR LR
comp=Z,200nm,19.8s
YSS Yuzh-Sakhalins 20.16 4 *i*P **P** **13 37 43.9 0.0**
YSS pmax pmax
comp=Z,124nm,1.7s
YSS MLR MLR
comp=Z,300nm,14.0s,MS3.8
YSS Yuzh-Sakhalins 20.16 4 *e*P **P** **13 37 45.9 +2.0**
SNY Shenyang 20.65 321 ⇑P **P** **13 37 50.3 +1.3**
SNY AMB AMB
comp=Z,30nm,1.2s
SNY AMB AMB
comp=Z,210nm,4.8s
SNY LR LR
comp=N,510nm,11.9s
SNY LR LR
comp=Z,390nm,6.0s
CN2 Changchun 21.07 328 *e*P **P** **13 37 56.6 +3.4**
CN2 *e*XP 13 38 41.3
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.1
CN2 AMB AMB
comp=Z,430nm,6.0s
KLR Kul'dur 23.48 345 *e*P **P** **13 38 20.0 +2.9**
WHN Wuhan 23.56 285 *e*P **P** **13 38 21.8 +3.7**
ENH Enshi 27.76 285 *e*P **P** **13 38 52.5 -5.0**
comp=Z,3.3nm,0.4s,mb4.3
QIZ Qiongzhong 29.57 261 P **P** **13 39 12.8 -1.1**
LZH Lanzhou 32.77 296 *e*P **P** **13 39 43.3 +1.4**
LZH AP pP 13 40 14.9 +27
LZH XP sP 13 40 29.5 +39
LZH AMB AMB
comp=Z,50nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,210nm,4.7s
MA2 Magadan 33.46 9 *i*P **P** **13 39 45.3 -2.3**
MA2 pmax pmax
comp=Z,68nm,1.7s,mb5.3
MA2 MLR MLR
comp=Z,100nm,19.0s,MS3.5
MA2 Magadan 33.46 9 *e*P **P** **13 39 46.9 -0.7**
ULN Ulaanbaatar 33.75 318 *i*P **P** **13 39 48.8 -1.4**
ULN Ulaanbaatar 33.75 318 *e*P **P** **13 39 50.0 -0.3**
comp=Z,9.9nm,1.3s,mb4.6
SONM Songino Array 34.13 317 P **P** **13 39 52.3 -1.3**
comp=Z,2.0nm,0.7s,mb4.2,baz=130,slow=7.5,SNR=12
YAK Yakutsk 36.01 351 *i*P **P** **13 40 07.5 -1.9**
YAK pmax pmax
comp=Z,25nm,2.3s,mb4.7
YAK MLR MLR
comp=Z,100nm,14.0s,MS3.7
GTA Gaotai 36.33 301 P **P** **13 40 12.8 +0.4**
GTA AP pP 13 40 44.8 +26
GTA XP sP 13 40 58.0 +37
GTA AMB AMB
comp=Z,350nm,8.0s
GTA LR LR
comp=N,540nm,22.8s,MS4.4
GTA LR LR
comp=E,460nm,20.9s,MS4.4
GTA LR LR
comp=Z,670nm,20.5s,MS4.4
PMG Port Moresby 36.51 170 P **P** **13 40 20.6 +6.5**
ZAK Zakamensk 37.07 320 *e*P **P** **13 40 17.7 -0.8**
ZAK *e* 13 41 49.2
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.0
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.1
BILL Bilibino 44.00 13 *e*P **P** **13 41 15.2 -0.2**
BILL pmax pmax
comp=Z,17nm,1.3s,mb4.6
BILL Bilibino 44.00 13 *e*P **P** **13 41 15.2 -0.1**
comp=Z,17nm,1.3s,mb4.6
TIXI Tiksi 45.38 355 *i*P **P** **13 41 23.6 -2.9**
TIXI pmax pmax
comp=Z,13nm,2.5s,mb4.3
WMQ Urumqi 45.81 306 P **P** **13 41 31.0 +0.8**
WMQ AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,90nm,4.6s
WMQ LR LR
comp=N,70nm,19.4s,MS3.9
WMQ LR LR
comp=E,140nm,24.0s,MS3.9
WMQ LR LR
comp=Z,130nm,22.6s,MS3.8
PSI Prapat 46.73 247 P **P** **13 41 37.5 -0.3**
comp=Z,2.3nm,0.5s,mb4.4,baz=98,slow=21,SNR=3.7
WRAB Tennant Creek 46.89 188 *e*P **P** **13 41 38.5 -0.6**
WRAB pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
WRAB Tennant Creek 46.89 188 *e*P **P** **13 41 38.5 -0.6**
comp=Z,5.2nm,0.6s,mb4.6
WB2 Warramunga Arr 46.90 188 ||*i*P **P** **13 41 37.8 -1.3**
WRA Warramunga Arr 46.90 188 P **P** **13 41 38.0 -1.2**
comp=Z,2.6nm,0.5s,mb4.4,baz=10,slow=8.6,SNR=41
CTAO Charters Tower 46.91 173 *e*P **P** **13 41 39.7 +0.5**
FITZ Fitzroy Crossi 47.03 200 *e*P **P** **13 41 39.9 -0.3**
comp=Z,5.6nm,0.9s,mb4.5
JIRN Jiri 48.30 284 *e*P **P** **13 41 50.6 +0.6**
comp=Z,27nm,0.7s,mb5.4
GUN Gumba 48.52 285 *e*P **P** **13 41 52.9 +1.2**
comp=Z,86nm,1.5s,mb5.5
PKI Pulchoki 49.00 284 *e*P **P** **13 41 55.3 -0.1**
KKN Kakani 49.06 285 *e*P **P** **13 41 55.9 0.0**
DMN Daman 49.25 284 *e*P **P** **13 41 58.2 +0.8**
GKN Gorkha 49.57 285 *e*P **P** **13 42 01.5 +1.7**
comp=Z,33nm,1.2s,mb5.2
MKAR Makanchi Array 49.77 310 P **P** **13 42 00.5 -0.6**
comp=Z,2.5nm,0.7s,mb4.3,baz=92,slow=8.8,SNR=23
MKAR Makanchi Array 49.77 310 *i*P **P** **13 41 59.7 -1.4**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
TNA Tin City 50.13 25 *e*P **P** **13 42 03.8 +0.1**
comp=Z,22nm,1.7s,mb4.9
KOLN Koldanda 50.52 285 *e*P **P** **13 42 08.0 +0.9**
comp=Z,35nm,1.3s,mb5.1
MBWA Marble Bar 51.90 205 P **P** **13 42 17.1 -0.5**
KURK Kurchatov 52.37 315 *e*P **P** **13 42 19.3 -1.4**
KURK pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KURK Kurchatov 52.37 315 *e*P **P** **13 42 19.3 -1.5**
comp=Z,9.9nm,1.1s,mb4.7
KSH Kashi 54.74 301 *e*P **P** **13 42 39.4 +1.0**
KSH *e*AP pP 13 43 12.0 +27
KSH *e*XP sP 13 43 27.6 +40
KSH *e*PCP PcP 13 43 44.0 +3.2
KSH *e*PP PP 13 44 43.0 +0.4
KSH *e*SCP 13 47 26.0
KSH *e*PCS 13 47 42.0
KSH AMB AMB
comp=Z,230nm,3.7s
KDAK Kodiak Island 55.28 37 P **P** **13 42 41.2 -0.9**
comp=Z,14nm,1.0s,mb4.9,baz=243,slow=4.5,SNR=3.2
AAK Ala-Archa 55.47 305 *i*P **P** **13 42 41.7 -2.0**
AAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.5
AAK MLR MLR
comp=Z,100nm,16.0s,MS4.0
AAK Ala-Archa 55.47 305 *e*P **P** **13 42 42.0 -1.7**
comp=Z,4.5nm,0.8s,mb4.5
IMA2 Indian Mountai 55.86 27 *e*P **P** **13 42 46.6 +0.5**
PMR Palmer 57.30 32 *e*P **P** **13 42 55.7 -0.8**
PMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
PMR Palmer 57.30 32 *e*P **P** **13 42 55.7 -0.7**
comp=Z,8.5nm,1.0s,mb4.7
CHKZ Chkalovo 57.32 318 P **P** **13 42 54.4 -2.3**
CHKZ pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
CHKZ Chkalovo 57.32 318 *e*P **P** **13 42 54.8 -1.9**
comp=Z,2.3nm,0.6s,mb4.4
BVAR Borovoye Array 57.48 318 P **P** **13 42 56.3 -1.6**
comp=Z,1.4nm,0.7s,mb4.1,baz=63,slow=6.4,SNR=7.3
BRVK Borovoye 57.54 318 *e*P **P** **13 42 52.8 -5.5**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 57.54 318 *e*P **P** **13 42 52.8 -5.5**
comp=Z,1.7nm,0.6s,mb4.2
MCK McKinley 57.55 30 *e*P **P** **13 42 57.9 -0.3**
MCK pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
MCK McKinley 57.55 30 *e*P **P** **13 42 57.9 -0.3**
comp=Z,8.4nm,1.3s,mb4.6
COLA College 58.11 28 *i*P **P** **13 43 02.5 +0.4**
ZRNK Zerenda 58.31 317 *e*P **P** **13 43 02.2 -1.5**
ZRNK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
ZRNK Zerenda 58.31 317 *e*P **P** **13 43 02.2 -1.5**
comp=Z,5.6nm,1.3s,mb4.4
KKAR Karatay Array 58.32 306 *i*P **P** **13 43 02.6 -1.3**
KKAR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
STKA Stephens Creek 58.36 179 *e*P **P** **13 43 06.2 +1.9**
ILAR Eielson Array 58.52 29 P **P** **13 43 03.5 -1.4**
comp=Z,2.7nm,0.9s,mb4.2,baz=260,slow=5.9,SNR=17
NWAO Narrogin (SRO) 63.52 202 P **P** **13 43 38.2 -1.2**
INK Inuvik 63.77 24 *e*P **P** **13 43 39.4 -1.0**
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 63.77 24 *e*P **P** **13 43 39.4 -1.0**
comp=Z,1.1nm,0.4s,mb4.2
ARU Arti 63.94 322 ||*i*P **P** **13 43 38.6 -3.1**
ARU *e*S **S** **13 51 54.7 -20**
ARU pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
AKTO Aktyubinsk 65.44 316 P **P** **13 43 50.0 -1.4**
comp=Z,1.8nm,0.8s,mb4.2,baz=20,slow=6.4,SNR=3.4
RES Resolute Bay 72.61 13 *e*P **P** **13 44 34.5 -0.8**
comp=Z,2.7nm,0.4s,mb4.5
YKA Yellowknife Ar 72.94 28 P **P** **13 44 36.4 -1.0**
comp=Z,2.8nm,0.8s,mb4.3,baz=297,slow=6.1,SNR=28
ARCES ARCESS Array B 73.43 341 P **P** **13 44 38.3 -1.8**
comp=Z,1.9nm,0.7s,mb4.2,baz=72,slow=8.6,SNR=7.6
OBN Obninsk 76.11 325 *e*P **P** **13 44 54.3 -1.5**
OBN pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
KIV Kislovodsk 77.40 313 *e*P **P** **13 44 56.3 -6.9**
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,84nm,19.0s,MS4.1
FINES FINESS Array B 77.69 333 P **P** **13 45 01.7 -2.8**
comp=Z,1.3nm,0.7s,mb4.0,baz=72,slow=4.4,SNR=6.6
FINES FINESS Array B 77.69 333 ||*e*P **P** **13 45 03.7 -0.8**
DLMT Dillon 82.01 43 *e*P **P** **13 45 28.8 +0.8**
comp=Z,11nm,1.3s,mb4.6
QLMT Earthquake Lak 82.99 43 *e*P **P** **13 45 35.2 +2.2**
FCC Fort Churchill 83.36 25 *e*P **P** **13 45 34.0 -0.6**
FCC pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
FCC Fort Churchill 83.36 25 *e*P **P** **13 45 34.0 -0.6**
comp=Z,9.0nm,1.2s,mb4.7
NOA NORSAR Array B 83.45 338 P **P** **13 45 33.0 -2.0**
comp=Z,0.8nm,0.6s,mb3.9,baz=54,slow=6.4,SNR=2.5
TPNV Topopah Spring 83.73 52 P **P** **13 45 38.3 +1.3**
TPNV pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
TPNV Topopah Spring 83.73 52 P **P** **13 45 38.3 +1.2**
comp=Z,6.0nm,1.0s,mb4.7
LKWY Lake 83.75 43 *e*P **P** **13 45 40.1 +3.2**
comp=Z,10nm,1.1s,mb4.9
IMW Indian Meadow 83.77 44 *e*P **P** **13 45 39.4 +2.3**
comp=Z,10nm,1.0s,mb4.9
TPAW Teton Pass 83.98 44 *e*P **P** **13 45 40.3 +2.2**
comp=Z,11nm,1.1s,mb4.9
DUG Dugway 84.47 48 *e*P **P** **13 45 42.0 +1.3**
DUG pmax pmax
comp=Z,14nm,1.1s,mb5.0
DUG Dugway 84.47 48 *e*P **P** **13 45 42.0 +1.3**
comp=Z,14nm,1.1s,mb5.0
HWUT Hawaiʻ Ranch 84.56 46 *e*P **P** **13 45 42.5 +1.4**
comp=Z,15nm,1.1s,mb5.0
LAO LASA Array 85.06 40 *e*P **P** **13 45 44.0 +0.6**
comp=Z,18nm,1.1s,mb5.1
PDAR Pinedale Array 85.22 44 P **P** **13 45 43.6 -0.7**
comp=Z,6.0nm,1.1s,mb4.7,baz=289,slow=2.6,SNR=23
DAU Daniels Canyon 85.38 47 *e*P **P** **13 45 47.0 +1.8**
MVU Marysvale 85.74 49 *e*P **P** **13 45 50.2 +3.1**
comp=Z,9.3nm,1.2s,mb4.9
MSU Marysvale 85.76 49 *e*P **P** **13 45 49.0 +1.9**
PV10 Paradox Valley 87.92 48 *e*P **P** **13 45 59.4 +1.7**
ANMO Albuquerque 91.54 49 *e*P **P** **13 46 16.2 +1.5**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 91.54 49 *e*P **P** **13 46 16.2 +1.5**
comp=Z,3.6nm,0.9s,mb4.7
TXAR Lajitas Array 96.70 53 P **P** **13 46 39.5 +1.1**
comp=Z,1.4nm,0.8s,mb4.4,baz=315,slow=3.5,SNR=6.6
PLCA Paso Flores 150.58 126 PKPbc PKPdf 13 52 58.7 +1.6
comp=Z,1.6nm,0.8s,baz=119,slow=16,SNR=3.9
PLCA Paso Flores 150.58 126 PKPbc PKPdf 13 52 58.7 +1.6
LPAZ La Paz 151.11 75 PKPbc PKPdf 13 53 02.8 +4.2
comp=Z,3.3nm,0.8s,baz=329,slow=3.9,SNR=13
LPAZ La Paz 151.11 75 *e*PKPbc PKPdf 13 53 02.8 +4.2

*IDC **19** 13:34:36.6±0.7,26.81N×140.80E,mb4.3/15,mb1 4.5/15, mb1mx4.3/21,mbtmp4.3/15,Error ellipse: s-maj=21.0km s-min=18.9km az=36.0*
*BJI **19** 13:34:40.2,26.68N×141.61E,h78km,mB4.6,mb4.6, Ms4.5,Msz4.1*
*MOS **19** 13:34:44.3±0.8,26.75N×140.68E,h72km,mb4.7/8,Error ellipse: s-maj=23.9km s-min=8.9km az=104.5*
*NEIC **19** 13:34:46.9±1.2,26.76N×140.79E,h78km±11km,mb4.5/13, Error ellipse: s-maj=10.2km s-min=6.3km az=80.0*
ISC 19 13:34:40.9±1.2,26.79N±0.05×140.89E±0.06,h39km±11km, n55,σ1ᵠ15/52,mb4.4/27,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.19**	**75**	Pn		**P**		**13 35 00.4**	**-0.9**
	baz=253,slow=19,SNR=1.7								
CBIJ				Sn		**S**		**13 35 15.4**	**-1.1**
	208nm,0.3s,baz=288,slow=23,SNR=6.5								
MAJO	**Matsushiro**	**9.99**	**347**	*e*P		**P**		**13 37 06.8**	**+1.9**
GUMO	**Guam**	**13.65**	**163**	P		**P**		**13 37 56.1**	**+1.9**
KS15	**Wonju Array Si**	**15.29**	**317**	*e*Pn		**P**		**13 38 22.2**	**+6.7**
INCN	**Inchon**	**16.09**	**315**	*e*Pn		**P**		**13 38 29.9**	**+4.2**
	49nm,1.5s								
TATO	**Taipei**	**17.56**	**268**	*e*Pn		**P**		**13 38 42.0**	**-2.2**
YHNB	**Yeheng**	**17.71**	**267**	*e*Pn		**P**		**13 38 48.1**	**+1.9**
MDJ	**Mudanjiang**	**19.98**	**336**	P		**P**		**13 39 11.8**	**-0.8**
	64nm,2.1s								
YSS	**Yuzh-Sakhalins**	**20.18**	**4**	*e*P		**P**		**13 39 16.1**	**+1.4**
YSS				pmax		pmax			
	comp=Z,57nm,1.2s								
YSS	**Yuzh-Sakhalins**	**20.18**	**4**	*e*P		**P**		**13 39 16.1**	**+1.4**
	comp=Z,57nm,1.2s								
ENH	**Enshi**	**27.76**	**285**	*e*P		**P**		**13 40 29.1**	**+0.9**
	comp=Z,2.4nm,0.4s,mb4.2								
QIZ	**Qiongzhong**	**29.57**	**261**	*e*P		**P**		**13 40 41.3**	**-3.1**
	comp=Z,88nm,1.6s,mb5.2								
LZH	**Lanzhou**	**32.78**	**296**	*e*P		**P**		**13 41 14.5**	**+2.0**
LZH				AMB		AMB			
	comp=Z,20nm,1.6s,mb4.8								
ULN	**Ulaanbaatar**	**33.76**	**318**	*e*P		**P**		**13 41 21.1**	**+0.3**
ULN				pmax		pmax			
	comp=Z,10.0nm,1.3s,mb4.6								
ULN	**Ulaanbaatar**	**33.76**	**318**	*e*P		**P**		**13 41 21.1**	**+0.3**
	comp=Z,9.5nm,1.3s,mb4.6								
SONM	**Songino Array**	**34.14**	**317**	P		**P**		**13 41 24.1**	**0.0**
	comp=Z,1.8nm,1.0s,mb4.0,baz=132,slow=6.4,SNR=5.0								
YAK	**Yakutsk**	**36.03**	**351**	P		**P**		**13 41 40.8**	**+0.8**
GTA	**Gaotai**	**36.34**	**301**	P		**P**		**13 41 42.9**	**0.0**
GTA				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.7								
BILL	**Bilibino**	**44.02**	**13**	*e*P		**P**		**13 42 46.2**	**+0.2**
BILL				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.3								
BILL	**Bilibino**	**44.02**	**13**	*e*P		**P**		**13 42 46.2**	**+0.2**
	comp=Z,3.6nm,0.7s,mb4.2								
WRAB	**Tennant Creek**	**46.88**	**188**	*e*P		**P**		**13 43 08.7**	**-0.6**
WRAB				pmax		pmax			
	comp=Z,9.0nm,0.6s,mb4.9								
WRAB	**Tennant Creek**	**46.88**	**188**	*e*P		**P**		**13 43 08.7**	**-0.7**
	comp=Z,8.5nm,0.6s,mb4.8								
WB2	**Warramunga Arr**	**46.88**	**188**	*e*P		**P**		**13 43 08.8**	**-0.6**
WRA	**Warramunga Arr**	**46.89**	**188**	P		**P**		**13 43 08.8**	**-0.6**
	comp=Z,6.1nm,0.7s,mb4.6,baz=9.5,slow=8.6,SNR=7.1								
CTA	**Charters Tower**	**46.89**	**173**	P		**P**		**13 43 09.2**	**-0.3**
	comp=Z,3.9nm,0.8s,mb4.4,baz=288,slow=0.6,SNR=3.3								
CTAO	**Charters Tower**	**46.89**	**173**	*e*P		**P**		**13 43 09.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**47.02**	**200**	*e*P		**P**		**13 43 11.3**	**+0.8**
	comp=Z,7.3nm,0.8s,mb4.7								
MKAR	**Makanchi Array**	**49.78**	**310**	P		**P**		**13 43 31.1**	**-0.5**
	comp=Z,4.3nm,0.7s,mb4.6,baz=93,slow=9.2,SNR=12								
MKAR				PcP		PcP		13 44 50.7	-1.6
	comp=Z,1.2nm,0.8s,baz=72,slow=3.8,SNR=3.7								
MKAR	**Makanchi Array**	**49.78**	**310**	P		**P**		**13 43 31.1**	**-0.5**
MKAR				PcP		PcP		13 44 50.7	-1.6
KURK	**Kurchatov**	**52.38**	**315**	*e*P		**P**		**13 43 50.4**	**-0.7**
KURK				pmax		pmax			
	comp=Z,11nm,1.0s,mb4.7								
KURK	**Kurchatov**	**52.38**	**315**	*e*P		**P**		**13 43 50.4**	**-0.8**
	comp=Z,11nm,1.0s,mb4.8								
KDAK	**Kodiak Island**	**55.30**	**37**	P		**P**		**13 44 12.2**	**-0.3**
	comp=Z,13nm,0.9s,mb5.0,baz=283,slow=17,SNR=3.4								
CHKZ	**Chkalovo**	**57.33**	**318**	*e*P		**P**		**13 44 26.5**	**-0.7**
CHKZ				pmax		pmax			
	comp=Z,2.0nm,0.5s,mb4.4								
CHKZ	**Chkalovo**	**57.33**	**318**	*e*P		**P**		**13 44 26.5**	**-0.7**
	comp=Z,2.1nm,0.5s,mb4.4								
BVAR	**Borovoye Array**	**57.49**	**318**	P		**P**		**13 44 27.8**	**-0.5**
	comp=Z,2.7nm,0.6s,mb4.5,baz=90,slow=8.9,SNR=5.9								
BRVK	**Borovoye**	**57.55**	**318**	*e*P		**P**		**13 44 27.6**	**-1.1**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
BRVK	**Borovoye**	**57.55**	**318**	*e*P		**P**		**13 44 27.6**	**-1.2**
	comp=Z,2.4nm,0.8s,mb4.3								
ZRNK	**Zerenda**	**58.33**	**317**	*e*P		**P**		**13 44 33.6**	**-0.5**
ZRNK				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
ZRNK	**Zerenda**	**58.33**	**317**	*e*P		**P**		**13 44 33.6**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.3								
STKA	**Stephens Creek**	**58.34**	**179**	*e*P		**P**		**13 44 34.6**	**+0.1**
ILAR	**Eielson Array**	**58.53**	**29**	P		**P**		**13 44 35.9**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.9,baz=275,slow=7.1,SNR=3.8								
YKA	**Yellowknife Ar**	**72.96**	**28**	P		**P**		**13 46 07.4**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=296,slow=6.3,SNR=14								
YKA	**Yellowknife Ar**	**72.96**	**28**	P		**P**		**13 46 07.4**	**-0.3**
ARCES	**ARCESS Array B**	**73.45**	**341**	P		**P**		**13 46 09.2**	**-1.2**
	comp=Z,5.7nm,0.9s,mb4.5,baz=74,slow=8.8,SNR=4.0								
FINES	**FINESS Array B**	**77.71**	**333**	P		**P**		**13 46 33.0**	**-1.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=63,slow=4.3,SNR=3.6								
NVAR	**Mina Array Bea**	**81.61**	**51**	P		**P**		**13 46 58.3**	**+1.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=282,slow=6.0,SNR=3.8								
NOA	**NORSAR Array B**	**83.46**	**338**	P		**P**		**13 47 03.9**	**-1.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=46,slow=5.3,SNR=2.7								
PDAR	**Pinedale Array**	**85.24**	**44**	P		**P**		**13 47 16.2**	**+1.6**
	comp=Z,0.8nm,0.5s,mb4.1,baz=244,slow=1.1,SNR=8.6								
PDAR	**Pinedale Array**	**85.24**	**44**	P		**P**		**13 47 16.2**	**+1.6**
BRTR	**Keskin Array B**	**85.36**	**312**	P		**P**		**13 47 14.9**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.2,baz=89,slow=2.3,SNR=4.2								
TXAR	**Lajitas Array**	**96.71**	**53**	P		**P**		**13 48 10.7**	**+2.1**
	comp=Z,0.5nm,0.5s,mb4.2,baz=270,slow=1.3,SNR=3.6								
LBTB	**Lobatse**	**122.35**	**256**	*e*Pdif		Pdif		13 50 03.2	+1.0
PLCA	**Paso Flores**	**150.57**	**126**	PKPbc		PKPdf		13 54 30.3	+7.3
	comp=Z,1.8nm,0.6s,baz=234,slow=4.1,SNR=7.4								
LPAZ	**La Paz**	**151.12**	**75**	PKPbc		PKPdf		13 54 33.2	+8.7
	comp=Z,4.2nm,0.7s,baz=294,slow=2.6,SNR=8.9								
LPAZ	**La Paz**	**151.12**	**75**	PKPbc		PKPdf		13 54 33.2	+8.7

*NEIC **19** 13:52:00.4±0.8,26.52N×141.41E,h35km,mb4.4/4,Error ellipse: s-maj=38.0km s-min=15.2km az=82.0*
*IDC **19** 13:52:01.6±3.2,26.77N×141.09E,h47km±35km,mb3.4/3, mb1 3.7/3,mb1mx3.3/17,mbtmp3.6/3,Error ellipse: s-maj=37.2km s-min=26.2km az=115.0*
ISC 19 13:52:01.9±2.4,26.5N±0.1×141.3E±0.3,h68km±26km,n12, σ0ᵠ91/13,mb4.0/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.97**	**53**	P		**P**		**13 52 20.9**	**+0.7**
	49nm,0.3s,baz=283,slow=21,SNR=8.4								
CBIJ				S		**S**		**13 52 33.2**	**-0.5**
	85nm,0.3s,baz=282,slow=23,SNR=24								
CTAO	**Charters Tower**	**46.58**	**174**	*e*P		**P**		**14 00 19.0**	**-6.0**
	8.5nm,1.1s,mb4.4								
WRAB	**Tennant Creek**	**46.66**	**189**	*e*P		**P**		**14 00 25.2**	**-0.5**
	3.4nm,1.0s,mb4.0								
WRA	**Warramunga Arr**	**46.67**	**189**	P		**P**		**14 00 27.1**	**+1.3**
	0.7nm,0.7s,mb3.5,baz=9.8,slow=8.6,SNR=12								
MKAR	**Makanchi Array**	**50.24**	**310**	P		**P**		**14 00 49.8**	**-3.3**
	0.5nm,0.7s,mb3.6,baz=92,slow=8.6,SNR=5.7								
KURK	**Kurchatov**	**52.83**	**315**	*e*P		**P**		**14 01 13.6**	**+1.1**
	1.2nm,0.4s,mb4.3								
BRVK	**Borovoye**	**58.00**	**318**	P		**P**		**14 01 49.5**	**-0.2**
STKA	**Stephens Creek**	**58.07**	**180**	*e*P		**P**		**14 01 50.7**	**+0.2**
NWAO	**Narrogin (SRO)**	**63.40**	**203**	*e*P		**P**		**14 02 25.4**	**-1.2**
	0.1nm,0.8s,mb4.6								
TAU	**Tasmania Unive**	**69.30**	**175**	P		**P**		**14 03 03.7**	**-0.2**
YKA	**Yellowknife Ar**	**73.02**	**28**	P		**P**		**14 03 25.9**	**+0.3**
	0.5nm,0.6s,mb3.5,baz=294,slow=6.2,SNR=7.5								
YKA	**Yellowknife Ar**	**73.02**	**28**	P		**P**		**14 03 25.9**	**+0.3**

*IDC **19** 13:57:07.3±1.3,17.08S×173.35W,mb3.9/6,mb1 4.3/7, mb1mx4.1/14,mbtmp3.9/7,MS3.6/2,Ms1 3.6/2, ms1mx3.1/24,Error ellipse: s-maj=77.4km s-min=21.5km az=144.0*
*NEIC **19** 13:57:09.0±0.7,17.01S×173.37W,h10km,mb4.6/5,Error ellipse: s-maj=33.7km s-min=10.6km az=139.0*
ISC 19 13:57:06.7±5.4,16.9S±0.2×173.5W±0.2,h5km±33km,n31, σ1ᵠ02/18,mb4.1/11,MS3.7/1,1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.40**	**29**	Pn		**Pn**		**13 58 01.1**	**-0.4**
	6.4nm,0.3s,baz=198,slow=22,SNR=19								
AFI				Sn		**Sn**		**13 58 41.5**	**-1.2**
	17nm,0.3s,baz=209,slow=21,SNR=7.2								
AFI				T				14 01 55.4	
	15nm,0.3s,baz=168,slow=23,SNR=5.6								
DZM	**Mont Dzumac**	**19.62**	**252**	LR		LR		14 07 49.8	
	comp=Z,107nm,20.2s,baz=26,slow=33								
PPT	**Papeete**	**22.82**	**95**	*e*LR		LR		14 06 58.4	
	296nm,39.2s								
HNR	**Honiara**	**26.92**	**283**	LR		LR		14 12 13.9	
	comp=Z,192nm,18.0s,MS3.7,baz=167,slow=34								
RKT	**Rikitea**	**36.61**	**106**	*e*LR		LR		14 13 21.7	
	115nm,31.0s								
CTAO	**Charters Tower**	**38.27**	**259**	*e*P		**P**		**14 04 30.3**	**+0.4**
	3.8nm,0.9s,mb4.1								
STKA	**Stephens Creek**	**43.25**	**241**	P		**P**		**14 05 09.8**	**-1.1**
	2.0nm,0.8s,mb3.9,baz=101,slow=7.0,SNR=3.9								
STKA	**Stephens Creek**	**43.25**	**241**	P		**P**		**14 05 10.3**	**-0.6**
WB2	**Warramunga Arr**	**49.45**	**258**	*e*P		**P**		**14 05 59.8**	**-0.3**
WRAB	**Tennant Creek**	**49.45**	**258**	*e*P		**P**		**14 05 59.5**	**-0.6**
	18nm,1.5s,mb4.9								
WRA	**Warramunga Arr**	**49.46**	**258**	P		**P**		**14 05 59.6**	**-0.5**
	3.0nm,0.8s,mb4.4,baz=96,slow=8.3,SNR=53								
VNDA	**Vanda**	**61.87**	**186**	*e*P		**P**		**14 07 22.8**	**-6.2**
	1.7nm,1.1s,mb4.1								
MBWA	**Marble Bar**	**62.90**	**255**	*e*P		**P**		**14 07 36.5**	**0.0**
	4.9nm,0.9s,mb4.6								
NWAO	**Narrogin (SRO)**	**63.84**	**241**	*e*P		**P**		**14 07 43.9**	**+1.3**
CASY	**Casey**	**69.02**	**205**	P		**P**		**14 08 13.0**	**-2.0**
NVAR	**

CLL	**Collm**	**145.30**	**353**	⇓P		PKPbc	14 16 49.4	+3.5
	logA/T=1.4							
UPC	**Upice**	**145.63**	**349**	*e*PKP		PKPdf	14 16 50.9	+2.4
DPC	**Dobruska-Polom**	**145.73**	**349**	*e*PKP		PKPdf	14 16 49.5	+0.9
PVCC	**Panska Ves**	**145.85**	**351**	*e*PKP		PKPdf	14 16 51.3	+2.5
PRU	**Pruhonice**	**146.38**	**351**	*e*PKP		PKPdf	14 16 53.3	+3.5
NKC	**Novy Kostel**	**146.42**	**353**	*e*PKP		PKPdf	14 16 55.3	+5.5
TREC	**Trest**	**146.89**	**349**	*e*PKP		PKPdf	14 16 54.2	+3.5
BRTR	**Keskin Array B**	**147.28**	**319**	PKPbc		PKPdf	14 16 54.7	+3.1
	2.2nm,1.0s,baz=270,slow=1.2,SNR=5.2							
KHC	**Kasperske Hory**	**147.36**	**351**	*e*PKP		PKPdf	14 16 55.6	+4.2

CASC 19 14:30:46.2±2.0, 13.45N×90.98W, h5km±19km, MD3.8, ML3.3,1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.89**	**35**	*e*P	P*b*	14 31 03.6	-0.1
IXG				*e*S	S*b*	14 31 17.4	+1.8
TP2	**Tecpan 2**	**1.33**	**358⇑**	*e*P	P*b*	14 31 10.4	-0.8
TP2				*e*S	S*b*	14 31 29.6	+1.2
TP2				AML	AML	14 31 31.3	
	comp=N,526nm,0.4s						
RTR	**El Retiro**	**1.38**	**71**	*e*P	P*b*	14 31 41.5	+29
RTR				*e*S	S*b*	14 31 59.9	+30
SNJE	**San Jose**	**1.40**	**72**	*e*P	P*n*	14 31 41.5	+29
SNJE				*e*S	S*b*	14 32 01.1	+30
LFRS	**El Faro**	**1.88**	**84**	*e*P	P*n*	14 31 46.9	+28
LFRS				*e*S	S*n*	14 32 12.0	+28
LCBS	**La Ceiba**	**1.96**	**84**	*e*P	P*n*	14 31 48.0	+28
LCBS				*e*S	S*n*	14 32 14.6	+29
MRL	**Marmol**	**2.04**	**38**	*e*P	P*n*	14 31 22.0	+0.4
SNVI	**San Vicente**	**2.09**	**85**	*e*P	P*n*	14 31 49.0	+27
SNVI				*e*S	S*n*	14 32 16.7	+28

BJI 19 14:31:25.6,30.81N×117.72E,h10km,ML3.5,1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NJ2	**Nanjing**	**1.57**	**38**	*e*PG	Pg	14 31 52.9	-4.1
NJ2				SG	Sg	14 32 12.1	-5.9
NJ2				Smax			
	comp=N,2μm,0.3s						
NJ2				Smax			
	comp=E,2μm,0.2s						
WHN	**Wuhan**	**2.92**	**266**	⇓PG	Pg	14 32 18.6	-5.2
WHN				SG	Sg	14 32 57.1	-5.6
WHN				Smax			
	comp=N,490nm,0.4s						
WHN				Smax			
	comp=E,360nm,0.4s						
TIA	**Tai'an**	**5.41**	**355**	PG	Pg	14 33 04.9	-8.7
TIA				SG	Sg	14 34 06.8	-19
TIA				Smax			
	comp=N,10.0nm,0.6s						
TIA				Smax			
	comp=E,20nm,0.8s						

*IDC **19** 14:39:13.5±1.1,57.26S×24.72W,mb4.2/5,mb1 4.3/6, mb1mx4.1/13,mbtmp4.2/6,ML4.1/1,Error ellipse: s-maj=47.0km s-min=22.9km az=54.0*

*NEIC **19** 14:39:15.0±0.6,57.50S×25.03W,h10km,mb4.4/1,Error ellipse: s-maj=25.3km s-min=15.0km az=218.0*

ISC 19 14:39:14.0±0.7, 57.4S±0.1×25.1W±0.3, h10km, n14, σ1§36/11, mb4.5/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**17.01**	**156**	P	P	**14 43 12.2**	**-1.0**
	0.6nm,0.3s,baz=327,slow=15,SNR=146						
SNAA				S	S	**14 46 05.4**	**-16**
	0.0nm,0.3s,baz=340,slow=15,SNR=3.6						
PLCA	**Paso Flores**	**33.40**	**280**	P	P	**14 45 53.4**	**-1.1**
	4.5nm,0.8s,mb4.5,baz=144,slow=9.4,SNR=12						
CPUP	**Villa Florida**	**38.60**	**310**	*e*P	P	**14 46 38.9**	**+0.1**
	53nm,0.6s,mb5.5						
BDFB	**Brasilia**	**45.14**	**328**	P	P	**14 47 31.2**	**-1.2**
	1.1nm,0.4s,mb4.0,baz=149,slow=11,SNR=2.1						
VNDA	**Vanda**	**45.26**	**182**	P	P	**14 47 34.1**	**+1.5**
	0.9nm,0.9s,mb3.6,baz=169,slow=6.9,SNR=4.9						
LBTB	**Lobatse**	**48.32**	**70**	P	P	**14 47 54.8**	**-2.6**
	3.5nm,0.9s,mb4.4						
SIV	**San Ignacio**	**49.37**	**312**	P	P	**14 48 05.3**	**-0.2**
	2.4nm,0.5s,mb4.5,baz=166,slow=7.2,SNR=17						
LPAZ	**La Paz**	**52.12**	**304**	P	P	**14 48 27.3**	**+0.9**
	5.2nm,0.5s,mb4.7,baz=134,slow=5.9,SNR=39						
MBAR	**Mbarara**	**71.76**	**61**	P	P	**14 50 40.2**	**+1.8**
ESLA	**Sonseca Array**	**98.34**	**16**	P	P	**14 52 54.2**	**+1.7**
YKA	**Yellowknife Ar**	**137.97**	**316**	PKP	PKPdf	14 58 37.9	-2.9
	0.5nm,0.7s,baz=124,slow=2.5,SNR=7.0						
INK	**Inuvik**	**147.61**	**319**	PKPbc	PKPdf	14 58 57.5	+0.4
	2.5nm,0.5s,baz=76,slow=5.4,SNR=16						
SONM	**Songino Array**	**149.62**	**87**	PKPbc	PKPdf	14 59 02.4	+1.4
	0.3nm,0.5s,baz=215,slow=4.1,SNR=6.1						
ILAR	**Eielson Array**	**151.90**	**309**	PKPbc	PKPdf	14 59 08.6	+4.6
	4.4nm,0.8s,baz=139,slow=4.1,SNR=38						

*IDC **19** 14:44:47.4±0.5,3.35N×31.37W,mb4.4/24,mb1 4.5/24, mb1mx4.4/28,mbtmp4.4/24,MS4.4/15,Ms1 4.4/15, ms1mx4.4/17,Error ellipse: s-maj=15.7km s-min=11.9km az=147.0*

*MOS **19** 14:44:47.9±1.2,3.25N×31.41W,h10km,mb5.1/15,Error ellipse: s-maj=9.8km s-min=9.5km az=82.2*

*BJI **19** 14:44:49.3,3.20N×31.40W,h10km,mB5.5,Ms5.0,Msz4.9*

*NEIC **19** 14:44:49.4±0.3,3.22N×31.43W,h10km,mb5.0/35, MS4.5/2,Error ellipse: s-maj=8.4km s-min=6.5km az=159.0*

*HRVD **19** 14:44:49.3±0.3,3.34N×31.42W,h12km,MW5.1/67, Centroid moment Tensor Solution. LP body waves: s33,c55;Mantle waves: s67,c124; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-5.47±.15; Mθθ0.05±.14; Mφφ5.43±.14; Mrθ0.03±.48; Mrφ-0.84±.13; Mθφ-1.12±.42; Best double couple: M0:5.627×10^16^ NP1: φs170°,δ39°,λ-92°. NP2:φs353°,δ51°,λ-88°. Principal axes: T 5.67, Plg6°, Azm81°; N -.08, Plg1°, Azm172°; P -5.584, Plg84°, Azm275°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 14:44:47.8±0.3, 3.20N±0.06×31.40W±0.05, h10km, (h19km±.4km:pP-P),n147,σ1§18/129, mb4.7/55, MS4.5/18, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAO	**Brasilia Array**	**24.89**	**221**	P	P	**14 50 10.5**	**-2.0**
BDFB	**Brasilia**	**24.91**	**221**	P	P	**14 50 13.5**	**+0.8**
	18nm,0.9s,mb4.6,baz=52,slow=11,SNR=13						
BDFB				LR	LR	14 59 07.8	
	comp=Z,2μm,19.4s,MS4.5,baz=47,slow=34						
LIC	**Lamto**	**26.45**	**82**	*e*P	P	**14 50 25.1**	**-2.1**
	117nm,1.3s,mb5.0						
LIC				*e*R			
	3μm,21.5s						
DBIC	**Dimbokro**	**26.67**	**82**	P	P	**14 50 26.7**	**-2.4**
	15nm,1.1s,mb4.4,baz=250,slow=11,SNR=7.6						
DBIC				LR	LR	14 58 48.8	
	comp=Z,2μm,20.2s,MS4.6,baz=251,slow=32						
DBIC	**Dimbokro**	**26.67**	**82**	P	P	**14 50 27.4**	**-1.7**
DBIC				pmax	pmax		
	comp=Z,41nm,1.4s						
DBIC	**Dimbokro**	**26.67**	**82**	P	P	**14 50 27.4**	**-1.7**
	comp=Z,41nm,1.4s,mb4.8						
SIV	**San Ignacio**	**34.99**	**236**	P	P	**14 51 43.5**	**+0.8**
	comp=Z,4.6nm,0.9s,mb4.4,baz=86,slow=9.8,SNR=16						
CPD	**Cerro la Pandu**	**36.88**	**296**	*e*P	P	**14 51 58.8**	**+0.1**
CPD				*e*PP	pP	14 52 04.2	+2.5
CPUP	**Villa Florida**	**38.61**	**219**	P	P	**14 52 14.5**	**+1.3**
MDT	**Midelt**	**38.70**	**37**	P	P	**14 52 13.8**	**-0.1**
	comp=Z,5.4nm,0.9s,mb4.3,baz=221,slow=9.0,SNR=14						
SDV	**Santo Domingo**	**39.40**	**280**	P	P	**14 52 20.3**	**+0.5**
	comp=Z,7.7nm,0.8s,mb4.5,baz=34,slow=3.8,SNR=6.3						
SDV	**Santo Domingo**	**39.40**	**280**	P	P	**14 52 20.8**	**+1.0**
	comp=Z,39nm,1.1s,mb5.0						
LPAZ	**La Paz**	**41.14**	**241**	P	P	**14 52 36.0**	**+1.9**
	comp=Z,4.3nm,0.8s,mb4.1,baz=52,slow=9.5,SNR=15						
LPAZ				LR	LR	15 09 10.9	
	comp=Z,1μm,19.9s,MS4.8,baz=100,slow=36						
LPAZ	**La Paz**	**41.14**	**241**	P	P	**14 52 35.9**	**+1.8**
LPAZ				pP	pP	14 52 41.6	+4.4
ROSC	**El Rosal**	**42.85**	**274**	P	P	**14 52 49.0**	**+0.7**
	comp=Z,6.6nm,0.5s,mb4.6,baz=102,slow=23,SNR=7.6						
ROSC				LR	LR	15 10 13.7	
	comp=Z,921nm,19.2s,MS4.7,baz=144,slow=36						
ESDC	**Sonseca Array**	**44.01**	**31**	P	P	**14 52 56.1**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=224,slow=8.8,SNR=11						
SJPF	**Ste Jean**	**47.95**	**30**	*e*P	P	**14 53 31.7**	**+3.1**
ETSF	**Etsaut**	**48.12**	**30**	*e*P	P	**14 53 32.1**	**+2.1**
	comp=Z,54nm,1.5s,mb5.0						
ETSF	**Etsaut**	**48.12**	**30**	*e*P	P	**14 53 32.1**	**+2.1**
ETSF				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.1						
EPF	**Esparros**	**48.67**	**31**	*e*P	P	**14 53 35.8**	**+1.6**
CFAA	**Coronel Fontan**	**49.24**	**222**	P	P	**14 53 38.5**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=64,slow=11,SNR=7.1						
TRQA	**Tornquist**	**49.87**	**212**	P	P	**14 53 43.5**	**0.0**
	comp=Z,26nm,1.3s,mb5.1						
MTLF	**Montolieu**	**49.87**	**32**	*e*P	P	**14 53 46.5**	**+3.1**
	comp=Z,30nm,1.3s,mb4.9						
CAF	**Calviac**	**50.90**	**30**	*e*P	P	**14 53 54.0**	**+2.8**
	comp=Z,33nm,1.3s,mb4.8						
TCF	**Toulx Ste Croi**	**51.93**	**29**	*e*P	P	**14 54 02.3**	**+3.2**
	comp=Z,20nm,1.2s,mb4.6						
AVF	**Avril sur Loir**	**52.85**	**29**	*e*P	P	**14 54 09.0**	**+3.1**
	comp=Z,42nm,1.6s,mb4.8						
ORIF	**Oris-en-Rattie**	**52.88**	**33**	*e*P	P	**14 54 08.8**	**+2.6**
	comp=Z,13nm,0.9s,mb4.5						
ORIF				*e*R			
	comp=Z,362nm,22.2s						
SMF	**Signal de Mont**	**52.99**	**30**	*e*P	P	**14 54 09.2**	**+2.2**
MBDF	**Montbardon**	**53.24**	**33**	*e*P	P	**14 54 09.8**	**+0.9**
	comp=Z,19nm,1.1s,mb4.7						
MBDF	**Montbardon**	**53.24**	**33**	*e*P	P	**14 54 09.8**	**+0.9**
MBDF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
BNI	**Bardonecchia**	**53.40**	**33**	pP	pP	14 54 17.5	+4.4
CABF	**La Chapelle**	**54.10**	**31**	*e*P	P	**14 54 18.7**	**+3.6**
	comp=Z,18nm,1.2s,mb4.6						
MVL	**Millersville**	**54.66**	**318**	*e*P	P	**14 54 18.7**	**-0.7**
MVL				*e*pP	pP	14 54 24.8	+2.3
BAIF	**Baives**	**55.56**	**27**	*e*P	P	**14 54 29.4**	**+3.6**
	comp=Z,63nm,1.3s,mb5.2						
PLCA	**Paso Flores**	**56.47**	**215**	LR	LR	15 18 08.3	
	comp=Z,708nm,21.9s,MS4.7,baz=51,slow=35						
GOGA	**Godfrey**	**57.05**	**308**	pP	pP	14 54 44.7	+4.9
GRA1	**Grafenberg Arr**	**58.72**	**31**	*e*P	P	**14 54 48.1**	**0.0**
	comp=Z,7.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**58.72**	**31**	*e*P	P	**14 54 48.1**	**0.0**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
GRF				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.4						
GRF	**Grafenberg Arr**	**58.72**	**31**	*e*P	P	**14 54 48.1**	**0.0**
	comp=Z,7.0nm,1.1s,mb4.6						
GRF				LR	LR		
	comp=Z,300nm,20.0s,MS4.4						
SCHQ	**Schefferville**	**58.94**	**337**	P	P	**14 54 47.2**	**-2.4**
	comp=Z,12nm,0.9s,mb4.9,baz=146,slow=14,SNR=6.5						
SCHQ				LR	LR	15 15 00.8	
	comp=Z,136nm,20.4s,MS4.1,baz=346,slow=31						
MOX	**Moxa**	**59.50**	**30**	*e*P	P	**14 54 52.0**	**-1.6**
MOX				pP	pP	14 55 04.0	+7.3
MOX				L		15 17 31.0	
SWET	**Sewanee**	**59.59**	**309**	P	P	**14 54 53.2**	**-1.2**
SWET				pP	pP	14 54 59.0	+1.5
KHC	**Kasperske Hory**	**59.62**	**33**	*e*P	P	**14 54 54.0**	**-0.4**
LRAL	**Lakeview Retre**	**59.73**	**307**	P	P	**14 54 55.1**	**-0.4**
PRU	**Pruhonice**	**60.63**	**32**	*e*P	P	**14 55 02.6**	**+1.3**
LSZ	**Lusaka**	**61.76**	**109**	P	P	**14 55 09.1**	**-0.3**
LBTB	**Lobatse**	**61.96**	**120**	P	P	**14 55 09.7**	**-1.0**
	comp=Z,3.2nm,0.8s,mb4.5,baz=300,slow=9.3,SNR=5.1						
OXF	**Oxford**	**62.09**	**308**	P	P	**14 55 08.7**	**-2.7**
OXF				*e*PP	pP	14 55 14.9	+0.4
PSZ	**Piszkesteto**	**62.55**	**36**	P	P	**14 55 14.9**	**+0.6**
PSZ				*e*PP	pP	14 55 21.5	+4.1
PSZ				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
PSZ	**Piszkesteto**	**62.55**	**36**	P	P	**14 55 14.9**	**+0.7**
	comp=Z,13nm,0.8s,mb5.1						
PSZ				pP	pP	14 55 21.5	+4.1
MATP	**Matopo**	**63.23**	**115**	P	P	**14 55 18.2**	**-1.0**
	comp=Z,5.5nm,0.8s,mb4.7,baz=285,slow=4.0,SNR=13						
MATP	**Matopo**	**63.23**	**115**	P	P	**14 55 18.2**	**-1.0**
CCM	**Cathedral Cave**	**64.53**	**311**	P	P	**14 55 25.0**	**-2.5**
NATX	**Nacogdoches**	**65.68**	**303**	*e*P	P	**14 55 34.1**	**-1.0**
NATX				*e*pP	pP	14 55 38.9	+0.7
NB2	**NORSAR Subarra**	**66.04**	**21**	P	P	**14 55 35.7**	**-1.1**
	comp=Z,2.8nm,0.8s,mb4.3,baz=228,slow=6.5						
NB2	**NORSAR Subarra**	**66.04**	**21**	P	P	**14 55 35.7**	**-1.1**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**66.04**	**21**	P	P	**14 55 34.8**	**-2.0**
	comp=Z,2.8nm,0.8s,mb4.3,baz=230,slow=6.4,SNR=7.1						
NOA				LR	LR	15 23 17.5	
	comp=Z,156nm,18.2s,MS4.2,baz=235,slow=35						
KMBO	**Kilima Mbogo**	**68.76**	**92**	LR	LR	15 23 09.1	
	comp=Z,592nm,19.0s,MS4.8,baz=96,slow=34						
BR131	**Keskin Array S**	**68.89**	**49**	P	P	**14 55 55.0**	**-0.1**
BRTR	**Keskin Array B**	**68.89**	**49**	P	P	**14 55 54.5**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.3,baz=219,slow=5.1,SNR=12						
AKASG	**Malin Array Be**	**69.25**	**36**	P	P	**14 55 56.0**	**-1.2**
	comp=Z,3.2nm,0.7s,mb4.3,baz=249,slow=6.6,SNR=16						
JCT	**Junction City**	**69.80**	**301**	P	P	**14 55 59.8**	**-1.0**
JCT				*e*PP	pP	14 56 05.2	+1.2
ULM	**Lac du Bonnet**	**71.41**	**322**	P	P	**14 56 08.2**	**-2.1**
	comp=Z,4.2nm,0.9s,mb4.4,baz=127,slow=7.3,SNR=6.6						
FINES	**FINESS Array B**	**72.15**	**25**	P	P	**14 56 12.7**	**-1.8**
	comp=Z,2.4nm,0.8s,mb4.2,baz=243,slow=4.3,SNR=7.2						
FINES				LR	LR	15 22 41.2	
	comp=Z,178nm,19.1s,MS4.3,baz=159,slow=32						
FINES	**FINESS Array B**	**72.15**	**25**	P	P	**14 56 12.7**	**-1.8**
FINES				LR	LR	15 22 41.2	
LTX	**Lajitas**	**72.98**	**300**	P	P	**14 56 19.7**	**-0.4**
LTX				*e*PP	pP	14 56 25.5	+2.3
LTX				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
LTX	**Lajitas**	**72.98**	**300**	P	P	**14 56 19.7**	**-0.4**
	comp=Z,15nm,1.2s,mb4.8						
LTX				pP	pP	14 56 25.5	+2.3
TXAR	**Lajitas Array**	**72.98**	**300**	P	P	**14 56 19.0**	**-1.1**
	comp=Z,4.3nm,0.9s,mb4.4,baz=121,slow=7.3,SNR=19						
TXAR				LR	LR	15 27 45.9	
	comp=Z,94nm,19.6s,MS4.1,baz=95,slow=35						
TXAR	**Lajitas Array**	**72.98**	**300**	P	P	**14 56 19.0**	**-1.1**
TXAR				LR	LR	15 27 45.9	
FCC	**Fort Churchill**	**73.37**	**331**	P	P	**14 56 19.9**	**-1.8**
FCC				*e*PP	pP	14 56 26.1	+1.2
FCC				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
FCC	**Fort Churchill**	**73.37**	**331**	P	P	**14 56 19.9**	**-1.9**
	comp=Z,18nm,0.9s,mb5.0						
FCC				pP	pP	14 56 26.1	+1.3
MNTX	**Cornudas Mount**	**74.70**	**302**	P	P	**14 56 28.5**	**-1.5**
MNTX				pP	pP	14 56 34.1	+1.0
SDCO	**Great Sand Dun**	**75.48**	**308**	P	P	**14 56 34.7**	**+0.3**
	comp=Z,20nm,1.5s,mb4.8						
SDCO				pP	pP	14 56 40.8	+3.3
ISCO	**Idaho Springs**	**75.84**	**310**	*e*P	P	**14 56 36.8**	**+0.5**
ISCO				*e*PP	pP	14 56 42.9	+3.4
ISCO				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
ISCO	**Idaho Springs**	**75.84**	**310**	*e*P	P	**14 56 36.8**	**+0.4**
	comp=Z,25nm,1.4s,mb4.9						
ISCO				pP	pP	14 56 42.9	+3.5
ARCES	**ARCESS Array B**	**75.90**	**18**	LR	LR	15 23 57.3	
	comp=Z,171nm,19.2s,MS4.4,baz=218,slow=31						
PHWY	**Pilot Hill**	**75.93**	**312**	pP	pP	14 56 43.2	+3.2
ANMO	**Albuquerque**	**75.93**	**305**	P	P	**14 56 37.4**	**+0.5**
ANMO				*e*PP	pP	14 56 43.4	+3.3
ANMO				pmax	pmax		
	comp=Z,23nm,1.6s						
ANMO	**Albuquerque**	**75.93**	**305**	P	P	**14 56 37.4**	**+0.5**
	comp=Z,23nm,1.6s,mb4.8						
ANMO				pP	pP	14 56 43.4	+3.3
DGMT	**Dagmar**	**76.23**	**319**	P	P	**14 56 38.3**	**0.0**
SNAA	**Sanae**	**77.01**	**171**	P	P	**14 56 42.9**	**+0.7**
	comp=Z,2.5nm,0.9s,mb4.1,baz=341,slow=5.6,SNR=19						
SNAA	**Sanae**	**77.01**	**171**	P	P	**14 56 42.8**	**+0.5**
LAO	**LASA Array**	**77.28**	**317**	P	P	**14 56 44.1**	**-0.1**
LAO				pP	pP	14 56 50.2	+2.8
PV01	**Paradox Valley**	**77.94**	**308**	*e*P	P	**14 56 48.2**	**+0.2**
PV01				*e*pP	pP	14 56 54.8	+3.6
PV10	**Paradox Valley**	**78.33**	**308**	*e*P	P	**14 56 51.3**	**+1.1**
PV10				*e*pP	pP	14 56 56.5	+3.2
BW06	**Boulder Array**	**79.14**	**313**	P	P	**14 56 55.5**	**+0.9**
	comp=Z,22nm,1.6s,mb4.8						
PDAR	**Pinedale Array**	**79.14**	**313**	P	P	**14 56 53.2**	**-1.3**
	comp=Z,1.2nm,0.9s,mb3.8,baz=90,slow=12,SNR=8.5						
PDAR				LR	LR	15 26 45.6	
	comp=Z,262nm,21.5s,MS4.5,baz=28,slow=32						
TUC	**Tucson**	**79.32**	**302**	P	P	**14 56 56.4**	**+0.7**
TUC				*PP	pP	14 57 02.1	+3.2
SRU	**San Rafael**	**79.55**	**309**	P	P	**14 56 57.8**	**+1.0**
LKWY	**Lake**	**79.92**	**315**	P	P	**14 57 00.3**	**+1.6**
LOHW	**Long Hollow**	**79.98**	**314**	*e*P	P	**14 56 58.4**	**-0.7**
	comp=Z,16nm,1.3s,mb4.8						
LOHW				*e*pP	pP	14 57 04.9	+2.7
WUAZ	**Wupatki**	**79.98**	**305**	P	P	**14 57 00.4**	**+1.1**
	comp=Z,20nm,1.4s,mb4.8						
WUAZ				pP	pP	14 57 06.1	+3.7
RES	**Resolute Bay**	**80.10**	**346**	P	P	**14 56 57.6**	**-1.5**
RES				pmax	pmax		
	comp=Z,33nm,1.8s,mb5.0						
RES	**Resolute Bay**	**80.10**	**346**	P	P	**14 56 57.6**	**-1.5**
	comp=Z,33nm,1.8s,mb5.0						
REDW	**Red Top Meadow**	**80.14**	**313**	P	P	**14 56 59.7**	**-0.2**
REDW				*e*pP	pP	14 57 04.9	+1.8
DAU	**Daniels Canyon**	**80.20**	**310**	P	P	**14 57 00.0**	**-0.3**
DAU				*e*PP	pP	14 57 05.5	+2.0
TPAW	**Teton Pass**	**80.22**	**313**	P	P	**14 56 59.7**	**-0.7**
TPAW				pP	pP	14 57 06.2	+2.7
YFT	**Old Faithful**	**80.22**	**314**	P	P	**14 57 02.3**	**+2.0**
IMW	**Indian Meadow**	**80.25**	**314**	P	P	**14 57 00.3**	**-0.1**
IMW				pP	pP	14 57 06.9	+3.2
YMR	**Madison River**	**80.33**	**315**	*e*P	P	**14 57 01.6**	**+0.7**
	comp=Z,23nm,1.3s,mb5.0						
YMR				*e*pP	pP	14 57 07.9	+3.8
TCUT	**Toone Canyon**	**80.37**	**311**	P	P	**14 57 01.3**	**+0.1**
TCUT				pP	pP	14 57 07.3	+3.0
HWUT	**Hardware Ranch**	**80.53**	**311**	P	P	**14 57 01.7**	**-0.3**
	comp=Z,15nm,1.1s,mb4.8						
HWUT				pP	pP	14 57 07.6	+2.4
QLMT	**Earthquake Lak**	**80.68**	**315**	P	P	**14 57 01.7**	**-1.0**
MSU	**Marysvale**	**80.80**	**308**	*e*P	P	**14 57 03.9**	**+0.4**
MSU				*e*PP	pP	14 57 10.1	+3.4
MVU	**Marysvale**	**80.82**	**308**	P	P	**14 57 06.2**	**+2.6**
	comp=Z,25nm,1.4s,mb5.0						
MVU				*e*pP	pP	14 57 11.9	+5.1
SPUT	**South Promonto**	**81.17**	**311**	P	P	**14 57 05.7**	**+0.3**
SPUT				pP	pP	14 57 10.9	+2.4
DUG	**Dugway**	**81.38**	**310**	P	P	**14 57 06.7**	**+0.2**
DUG				*PP	pP	14 57 12.4	+2.7
LRM	**Limekiln Ridge**	**81.47**	**316**	P	P	**14 57 07.2**	**+0.3**
BGU	**Big Grassy Mou**	**81.58**	**311**	*e*P	P	**14 57 07.6**	**0.0**
BGU				*e*pP	pP	14 57 14.0	+3.2
ARUT	**Antelope Range**	**81.75**	**308**	*e*P	P	**14 57 09.2**	**+0.7**
ARUT				*e*PP	pP	14 57 15.4	+3.7
CHMT	**Chamberlain Mo**	**82.10**	**317**	P	P	**14 57 10.2**	**+0.1**
CHMT				pP	pP	14 57 15.4	+2.1
MSO	**Missoula**	**82.57**	**317**	P	P	**14 57 12.5**	**-0.1**
MSO				pP	pP	14 57 18.7	+3.0
EDM	**Edmonton**	**82.62**	**323**	P	P	**14 57 12.3**	**-0.4**
EDM				*PP	pP	14 57 18.2	+2.3
HLID	**Hailey**	**82.74**	**313**	P	P	**14 57 13.9**	**+0.4**
HLID				pP	pP	14 57 19.5	+2.8
ELK	**Elko**	**83.25**	**310**	P	P	**14 57 16.6**	**+0.4**
ELK				*PP	pP	14 57 21.9	+2.5
ELK				pmax	pmax		
	comp=Z,16nm,1.6s						
ELK	**Elko**	**83.25**	**310**	P	P	**14 57 16.6**	**+0.4**
	comp=Z,16nm,1.6s,mb4.8						
ELK				pP	pP	14 57 21.9	+2.5
YKA	**Yellowknife Ar**	**84.03**	**332**	P	P	**14 57 17.7**	**-1.9**
	comp=Z,3.9nm,1.0s,mb4.5,baz=96,slow=5.3,SNR=23						
YKA				LR	LR	15 31 43.6	
	comp=Z,139nm,19.9s,MS4.3,baz=95,slow=34						
YKW3	**Yellowknife Ar**	**84.04**	**332**	P	P	**14 57 18.4**	**-1.3**
BMO	**Blue Mountains**	**84.85**	**315**	P	P	**14 57 24.4**	**+0.2**
BMO				*PP	pP	14 57 30.4	+3.0
DAC	**Darwin (Calif)**	**85.05**	**306**	P	P	**14 57 25.6**	**+0.2**
DAC				*PP	pP	14 57 31.7	+3.1
DAC				pmax	pmax		
	comp=Z,28nm,1.9s,mb5.1						
DAC	**Darwin (Calif)**	**85.05**	**306**	P	P	**14 57 25.6**	**+0.2**
	comp=Z,28nm,1.9s,mb5.1						
DAC				pP	pP	14 57 31.7	+3.0
MNV	**Mina**	**85.48**	**308**	P	P	**14 57 26.9**	**-0.6**
MNV				pmax	pmax		
	comp=Z,18nm,1.6s,mb5.0						
MNV	**Mina**	**85.48**	**308**	P	P	**14 57 26.9**	**-0.7**
	comp=Z,18nm,1.6s,mb5.0

σ1§09/17, **mb4.0**/14, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.20**	**78**	Pn	**Pn**	**14 56 21.7**	**-0.5**
	91nm,0.3s,baz=282,slow=22,SNR=16						
CBIJ				Sn	**Sn**	**14 56 36.5**	**-0.8**
	297nm,0.3s,baz=269,slow=22,SNR=11						
KS15	**Wonju Array Si**	**15.23**	**317**	*e*P	**P**	**14 59 41.7**	**+5.9**
SONM	**Songino Array**	**34.09**	**317**	P	**P**	**15 02 44.6**	**-0.3**
	1.3nm,1.0s,mb3.8,baz=116,slow=8.4,SNR=5.6						
WRA	**Warramunga Arr**	**46.95**	**188**	P	**P**	**15 04 30.5**	**-0.7**
	2.6nm,0.7s,mb4.3,baz=9.5,slow=8.5,SNR=21						
MKAR	**Makanchi Array**	**49.73**	**310**	P	**P**	**15 04 53.2**	**+0.7**
	1.9nm,0.7s,mb4.2,baz=94,slow=9.0,SNR=20						
KURK	**Kurchatov**	**52.32**	**315**	*e*P	**P**	**15 05 11.6**	**-0.4**
	3.8nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**55.43**	**305**	*e*P	**P**	**15 05 35.0**	**-0.1**
	1.9nm,1.0s,mb4.1						
AAK				*e*pP	pP	15 05 40.2	-4.9
CHKZ	**Chkalovo**	**57.27**	**318**	*e*P	**P**	**15 05 47.2**	**-0.8**
	1.1nm,0.6s,mb4.1						
CHKZ				*e*pP	pP	15 05 53.2	-5.0
BVAR	**Borovoye Array**	**57.43**	**317**	P	**P**	**15 05 49.1**	**-0.1**
	1.1nm,0.5s,mb4.1,baz=100,slow=9.0,SNR=6.1						
ILAR	**Eielson Array**	**58.49**	**29**	P	**P**	**15 05 55.6**	**-0.7**
	0.7nm,0.8s,mb3.7,baz=264,slow=5.3,SNR=7.8						
INK	**Inuvik**	**63.74**	**24**	P	**P**	**15 06 31.7**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=307,slow=3.4,SNR=11						
YKA	**Yellowknife Ar**	**72.91**	**28**	P	**P**	**15 07 29.0**	**+0.3**
	1.6nm,0.6s,mb4.2,baz=295,slow=6.2,SNR=36						
FINES	**FINESS Array B**	**77.64**	**333**	P	**P**	**15 07 53.9**	**-2.0**
	0.7nm,0.7s,mb3.7,baz=76,slow=7.9,SNR=4.1						
NVAR	**Mina Array Bea**	**81.59**	**51**	P	**P**	**15 08 19.4**	**+1.9**
	0.6nm,0.6s,mb3.7,baz=287,slow=6.5,SNR=4.4						
HWUT	**Hardware Ranch**	**84.55**	**46**	*e*P	**P**	**15 08 35.0**	**+2.4**
	4.0nm,1.1s,mb4.5						
PDAR	**Pinedale Array**	**85.20**	**44**	P	**P**	**15 08 38.0**	**+2.2**
	1.2nm,0.9s,mb4.0,baz=240,slow=2.3,SNR=7.7						
PLCA	**Paso Flores**	**150.62**	**126**	PKPbc	PKPdf	15 15 52.0	+7.5
	1.0nm,0.6s,baz=23,slow=8.4,SNR=4.3						
LPAZ	**La Paz**	**151.12**	**75**	PKPbc	PKPdf	15 15 54.8	+8.8
	2.4nm,0.7s,baz=277,slow=3.1,SNR=13						
LPAZ	**La Paz**	**151.12**	**75**	*e*PKPbc	PKPdf	15 15 54.7	+8.8

BJI ***19*** *14:56:47.8,26.71N×141.28E,h38km,mB4.9,mb4.6, Ms4.5,Msz4.3*

IDC ***19*** *14:56:50.5±6.2,26.79N×140.91E,h28km±42km,mb4.3/18, mb1 4.4/19,mb1mx4.4/23,mbtmp4.4/19,ML3.4/1,MS4.0/5, Ms1 4.0/5,ms1mx3.7/24,Error ellipse: s-maj=16.0km s-min=14.1km az=180.0*

JMA ***19*** *14:56:50.3±0.1,26.82N×141.86E,h138km,M4.1*

MOS ***19*** *14:56:50.2±1.1,26.81N×140.68E,h34km,mb5.2/28,Error ellipse: s-maj=11.8km s-min=7.1km az=108.7*

HRVD ***19*** *14:56:52.7±0.4,26.78N×140.68E,h12km,MW4.9/60, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s60,c99; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.39±.09; Mθθ0.67±.08; Mφφ1.72±.09; Mrθ-0.07±.31; Mθφ-1.16±.07; Mφr1.49±.31; Best double couple: M0 2.85×10^16 NP1:φs313°,δ33°, λ-115°. NP2:φs162°,δ61°,λ-75°. Principal axes: T 2.802, Plg14°, Azm241°; N .096, Plg13°, Azm334°; P -2.898, Plg70°, Azm105°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***19*** *14:56:52.7±1.8,26.76N×140.74E,h39km±15km,mb5.1/33, MW5.1(NIED) Error ellipse: s-maj=8.5km s-min=6.9km az=143.0*

ISC 19 14:56:50.6±0.2, **26.75N**±0.05×**140.86E**±0.03, **h33**km, **n180**, σ1§**36**/179, **mb4.9**/72, **MS4.3**/14, **4C-3D**, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.19**	**96**	P	**P**	**14 57 09.7**	**-1.2**
JHHJ				*e*S	**S**	**14 57 24.1**	**-2.0**
CBIJ	**Chichi jima**	**1.23**	**74**	Pn	**Pn**	**14 57 10.0**	**-1.8**
	526nm,0.3s,baz=272,slow=21,SNR=8.5						
CBIJ				Sn	**Sn**	**14 57 24.9**	**-2.5**
	551nm,0.3s,baz=269,slow=23,SNR=6.2						
CBIJ				LR	LR	14 57 36.3	
	comp=Z,8μm,21.2s,baz=279,slow=39						
CBIJ	**Chichi jima**	**1.23**	**74**	P	**P**	**14 57 09.8**	**-1.7**
CBIJ				*e*S	**S**	**14 57 25.0**	**-2.2**
JHJ	**Hachijo jima 2**	**6.41**	**352**	LR	LR	15 00 44.4	
	comp=Z,1μm,19.0s,baz=283,slow=37						
BSO1	**Boso 1**	**7.87**	**1**	P	**P**	**14 58 43.5**	**-2.0**
JWZ	**Kozaga**	**8.09**	**328**	P	**P**	**14 58 54.4**	**+5.9**
JIE	**Ise**	**8.41**	**336**	P	**P**	**14 58 57.5**	**+4.5**
JNY	**Yasuok**	**8.95**	**344**	P	**P**	**14 59 02.5**	**+2.0**
JTO	**Tosashimizu**	**9.27**	**313**	P	**P**	**14 59 07.1**	**+2.2**
MJAR	**Matsushiro Arr**	**10.02**	**348**	Pn	**P**	**14 59 12.4**	**-2.8**
	0.3nm,0.3s,baz=55,slow=17,SNR=2.9						
MJAR				LR	LR	15 02 48.5	
	comp=Z,1μm,19.8s,baz=155,slow=36						
GUMO	**Guam**	**13.63**	**163**	LR	LR	15 04 00.8	
	comp=Z,428nm,21.9s,baz=68,slow=32						
KS15	**Wonju Array Si**	**15.29**	**317**	*e*P	**P**	**15 00 29.6**	**+3.9**
INCN	**Inchon**	**16.09**	**315**	P	**P**	**15 00 36.9**	**+1.0**
	102nm,1.3s						
ASAJ	**Asahikawa**	**17.38**	**4**	LR	LR	15 07 14.5	
	comp=Z,866nm,21.6s,baz=58,slow=36						
SSE	**Sheshan**	**17.75**	**289**	*e*P	**P**	**15 00 56.9**	**+0.1**
SSE				S	**S**	**15 04 08.6**	**-2.4**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s						
SSE				LR	LR		
	comp=N,90nm,31.1s						
SSE				LR	LR		
	comp=E,420nm,31.2s						
SSE				LR	LR		
	comp=Z,410nm,29.9s						
NJ2	**Nanjing**	**19.87**	**291**	*e*P	**P**	**15 01 23.1**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,370nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,15.2s						
NJ2				LR	LR		
	comp=E,760nm,16.6s						
NJ2				LR	LR		
	comp=Z,550nm,16.2s						
MDJ	**Mudanjiang**	**20.00**	**336**	P	**P**	**15 01 25.6**	**+2.6**
MDJ				S	**S**	**15 05 02.1**	**+1.0**
MDJ				PCP	PcP	15 05 34.8	-3.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.0s						
MDJ				AMB	AMB		
	comp=Z,150nm,4.7s						
MDJ				LR	LR		
	comp=N,460nm,13.6s						
MDJ				LR	LR		
	comp=E,490nm,13.3s						
MDJ				LR	LR		
	comp=Z,560nm,13.6s						
DL2	**Dalian**	**20.15**	**312**	P	**P**	**15 01 25.0**	**+0.3**
DL2				*e*S	**S**	**15 04 57.1**	**-7.1**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s						
DL2				LR	LR		
	comp=N,180nm,12.0s,MS4.0						
DL2				LR	LR		
	comp=E,370nm,13.5s,MS4.0						
DL2				LR	LR		
	comp=Z,430nm,15.2s,MS3.9						
SNY	**Shenyang**	**20.68**	**321**	⇑P	**P**	**15 01 30.3**	**+0.2**
SNY				AMB	AMB		
	comp=Z,60nm,1.0s						
SNY				AMB	AMB		
	comp=Z,200nm,8.1s						
SNY				LR	LR		
	comp=N,560nm,15.9s						
SNY				LR	LR		
	comp=Z,680nm,10.5s						
CN2	**Changchun**	**21.10**	**328**	*e*P	**P**	**15 01 36.1**	**+1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,620nm,13.0s,MS4.3						
CN2				LR	LR		
	comp=E,650nm,13.0s,MS4.3						
CN2				LR	LR		
	comp=Z,420nm,15.0s,MS4.0						
HABR	**Khabarovsk**	**22.15**	**350**	⇓*i*P	**P**	**15 01 44.3**	**-0.6**
HABR				pmax	pmax		
	comp=Z,203nm,1.6s,mb5.3						
HABR				MLR	MLR		
	comp=Z,700nm,16.5s,MS4.2						
KLR	**Kul'dur**	**23.52**	**345**	*e*P	**P**	**15 01 54.3**	**-4.1**
KLR				MLR	MLR		
	comp=N,1μm,13.0s,MS4.6						
KLR				MLR	MLR		
	comp=E,500nm,13.0s,MS4.6						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS4.7						
WHN	**Wuhan**	**23.55**	**285**	⇓P	**P**	**15 02 01.5**	**+2.7**
GZH	**Guangzhou**	**25.20**	**268**	P	**P**	**15 02 19.0**	**+4.2**
GZH				S	**S**	**15 06 34.5**	**-0.8**
GZH				LR	LR		
	comp=N,510nm,19.0s,MS4.2						
GZH				LR	LR		
	comp=E,540nm,21.5s,MS4.2						
GZH				LR	LR		
	comp=Z,950nm,16.5s,MS4.4						
HHC	**Hu-ho-hao-te**	**27.96**	**308**	*e*P	**P**	**15 02 40.0**	**-0.1**
HHC				PP	PP	15 03 34.6	+4.6
HHC				PCS		15 09 34.8	
HHC				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,130nm,4.9s						
HHC				LR	LR		
	comp=N,480nm,14.3s						
HHC				LR	LR		
	comp=E,440nm,9.5s						
HHC				LR	LR		
	comp=Z,480nm,14.3s,MS4.2						
XAN	**Xi'an**	**28.41**	**293**	P	**P**	**15 02 43.8**	**-0.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.2						
CD2	**Chengdu**	**32.67**	**286**	P	**P**	**15 03 20.9**	**-1.0**
CD2				LR	LR		
	comp=N,360nm,13.2s						
CD2				LR	LR		
	comp=Z,400nm,9.0s						
LZH	**Lanzhou**	**32.77**	**296**	*e*P	**P**	**15 03 24.0**	**+1.3**
LZH				AP	pP	15 03 38.0	+5.6
LZH				AMB	AMB		
	comp=Z,90nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,400nm,5.0s						
LZH				LR	LR		
	comp=E,530nm,11.0s						
LZH				LR	LR		
	comp=Z,860nm,15.8s,MS4.5						
MA2	**Magadan**	**33.52**	**9**	P	**P**	**15 03 28.4**	**-0.5**
MA2				*e*		15 11 15.7	
ULN	**Ulaanbaatar**	**33.77**	**318**	*d*iP	**P**	**15 03 30.5**	**-0.7**
SONM	**Songino Array**	**34.15**	**317**	P	**P**	**15 03 34.1**	**-0.4**
	comp=Z,8.4nm,1.0s,mb4.6,baz=123,slow=7.9,SNR=32						
SONM				LR	LR	15 17 38.3	
	comp=Z,177nm,18.3s,MS3.8,baz=102,slow=36						
KMI	**Kunming**	**34.23**	**276**	P	**P**	**15 03 36.9**	**+1.4**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
YAK	**Yakutsk**	**36.06**	**351**	*i* P	**P**	**15 03 47.8**	**-2.8**
YAK				pmax	pmax		
	comp=Z,28nm,2.4s,mb4.8						
YAK				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.0						
GTA	**Gaotai**	**36.34**	**301**	P	**P**	**15 03 52.6**	**-0.6**
GTA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GTA				AMB	AMB		
	comp=Z,220nm,9.9s						
GTA				LR	LR		
	comp=N,390nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=E,440nm,15.6s,MS4.5						
GTA				LR	LR		
	comp=Z,410nm,19.0s,MS4.2						
BOD	**Bodaibo**	**36.38**	**336**	*e*P	**P**	**15 03 47.3**	**-6.0**
SEY	**Seymchan**	**36.97**	**9**	*i* P	**P**	**15 03 58.2**	**-0.1**
ZAK	**Zakamensk**	**37.09**	**320**	*e*P	**P**	**15 03 58.8**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.1						
MOY	**Mondy**	**38.95**	**321**	*e*P	**P**	**15 04 14.1**	**-0.8**
LSA	**Lhasa**	**43.63**	**286**	P	**P**	**15 04 55.0**	**+1.2**
BILL	**Bilibino**	**44.06**	**13**	⇑*i*P	**P**	**15 04 56.3**	**-0.4**
BILL				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.0						
BILL	**Bilibino**	**44.06**	**13**	*e*P	**P**	**15 04 56.1**	**-0.6**
	comp=Z,50nm,1.4s,mb5.1						
TIXI	**Tiksi**	**45.43**	**355**	*i* P	**P**	**15 05 05.4**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.2s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.1						
WMQ	**Urumqi**	**45.82**	**306**	P	**P**	**15 05 11.0**	**-0.1**
WMQ				PCP	PcP	15 06 47.1	-1.5
WMQ				AMB	AMB		
	comp=Z,70nm,4.2s						
WMQ				LR	LR		
	comp=N,950nm,20.0s,MS4.9						
WMQ				LR	LR		
	comp=E,910nm,18.6s,MS4.9						
WMQ				LR	LR		
	comp=Z,900nm,18.0s,MS4.8						
PSI	**Prapat**	**46.68**	**247**	P	**P**	**15 05 18.6**	**+0.4**
	comp=Z,2.2nm,0.5s,mb4.3,baz=96,slow=5.1,SNR=3.6						
WRAB	**Tennant Creek**	**46.84**	**188**	P	**P**	**15 05 18.5**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**46.84**	**188**	P	**P**	**15 05 18.5**	**-0.9**
	comp=Z,22nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**46.85**	**188**	*e*P	**P**	**15 05 18.1**	**-1.4**
WRA	**Warramunga Arr**	**46.85**	**188**	P	**P**	**15 05 18.2**	**-1.3**
	comp=Z,12nm,0.6s,mb5.0,baz=9.8,slow=8.5,SNR=27						
CTAO	**Charters Tower**	**46.86**	**173**	P	**P**	**15 05 18.0**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
CTAO	**Charters Tower**	**46.86**	**173**	P	**P**	**15 05 17.9**	**-1.6**
	comp=Z,28nm,1.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**46.97**	**200**	*e*P	**P**	**15 05 20.0**	**-0.5**
	comp=Z,12nm,0.8s,mb4.9						
JIRN	**Jiri**	**48.28**	**284**	*e*P	**P**	**15 05 31.4**	**+0.7**
	comp=Z,80nm,1.0s,mb5.7						
GUN	**Gumba**	**48.50**	**285**	*e*P	**P**	**15 05 32.9**	**+0.6**
	comp=Z,102nm,1.2s,mb5.7						
PKI	**Pulchoki**	**48.98**	**284**	*e*P	**P**	**15 05 36.5**	**+0.5**
	comp=Z,47nm,1.2s,mb5.4						
PKI	**Pulchoki**	**48.98**	**284**	*e*P	**P**	**15 05 36.5**	**+0.5**
PKI				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
ZAL	**Zalesovo**	**48.98**	**319**	P	**P**	**15 05 34.5**	**-1.2**
	comp=Z,2.2nm,1.0s,mb4.2,baz=22,slow=6.5,SNR=7.8						
ZAL	**Zalesovo**	**48.98**	**319**	P	**P**	**15 05 34.5**	**-1.2**
KKN	**Kakani**	**49.05**	**285**	*e*P	**P**	**15 05 36.9**	**+0.4**
	comp=Z,42nm,1.1s,mb5.4						
KKN	**Kakani**	**49.05**	**285**	*e*P	**P**	**15 05 36.9**	**+0.4**
KKN				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
DMN	**Daman**	**49.23**	**284**	*e*P	**P**	**15 05 38.1**	**+0.1**
	comp=Z,54nm,1.2s,mb5.4						
GKN	**Gorkha**	**49.56**	**285**	*e*P	**P**	**15 05 40.8**	**+0.3**
	comp=Z,74nm,1.2s,mb5.6						
MKAR	**Makanchi Array**	**49.78**	**310**	P	**P**	**15 05 41.5**	**-0.5**
	comp=Z,13nm,0.9s,mb5.0,baz=94,slow=9.6,SNR=43						
MKAR	**Makanchi Array**	**49.78**	**310**	*i* P	**P**	**15 05 41.3**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,31nm,1.0s						
NVS	**Novosibirsk**	**50.04**	**320**	*e*P	**P**	**15 05 41.0**	**-2.8**
NVS				pmax	pmax		
	comp=E,20nm,1.5s						
NVS				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
KOLN	**Koldanda**	**50.50**	**285**	*e*P	**P**	**15 05 47.2**	**-0.5**
	comp=Z,44nm,1.0s,mb5.3						
KURK	**Kurchatov**	**52.38**	**315**	*e*P	**P**	**15 06 00.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.3						
KURK	**Kurchatov**	**52.38**	**315**	*e*P	**P**	**15 06 00.6**	**-1.0**
	comp=Z,38nm,1.0s,mb5.3						
KSH	**Kashi**	**54.74**	**301**	P	**P**	**15 06 20.4**	**+1.3**
KSH				PCP	PcP	15 07 23.6	+2.3
KSH				PP	PP	15 08 24.6	+1.3
KSH				*e*PCS		15 11 21.3	
KZA	**Kyzart**	**54.98**	**304**	P	**P**	**15 06 22.4**	**+1.5**
	SNR=16						
KBK	**Karagaybulak**	**55.14**	**305**	P	**P**	**15 06 22.5**	**+0.5**
	SNR=19						
CHMS	**Chumysh**	**55.25**	**305**	P	**P**	**15 06 22.8**	**0.0**
	SNR=14						
KDAK	**Kodiak Island**	**55.34**	**37**	P	**P**	**15 06 21.6**	**-1.6**
	comp=Z,6.4nm,0.7s,mb4.8,baz=140,slow=5.8,SNR=2.3						
FRU	**Bishkek**	**55.37**	**305**	*e*P	**P**	**15 06 23.0**	**-0.6**
FRU				pmax	pmax		
	comp=Z,80nm,1.8s,mb5.5						
USP	**Ospenovka**	**55.41**	**306**	P	**P**	**15 06 23.7**	**-0.2**
	SNR=13						
AAK	**Ala-Archa**	**55.48**	**305**	P	**P**	**15 06 24.6**	**+0.2**
	SNR=11						
AAK	**Ala-Archa**	**55.48**	**305**	*e*P	**P**	**15 06 23.4**	**-1.0**
AAK				pmax	pmax		
	comp=Z,44nm,1.5s,mb5.3						
AAK	**Ala-Archa**	**55.48**	**305**	*e*P	**P**	**15 06 23.4**	**-1.0**
	comp=Z,44nm,1.5s,mb5.3						
UCH	**Uchtor**	**55.51**	**304**	P	**P**	**15 06 26.0**	**+1.3**
	SNR=32						
IMA2	**Indian Mountai**	**55.92**	**27**	*e*P	**P**	**15 06 27.2**	**-0.1**
EKS2	**Erkin-Say**	**56.00**	**305**	P	**P**	**15 06 28.3**	**+0.1**
	SNR=15						
CHKZ	**Chkalovo**	**57.34**	**318**	*e*P	**P**	**15 06 34.6**	**-3.0**
CHKZ				*e**PP	pP	15 06 42.2	-5.5
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**57.34**	**318**	*e*P	**P**	**15 06 34.6**	**-3.0**
	comp=Z,7.6nm,1.0s,mb4.7						
CHKZ				*e*pP	pP	15 06 42.2	-5.5
BVA0	**Borovoye Array**	**57.49**	**318**	P	**P**	**15 06 36.2**	**-2.5**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
BVAR	**Borovoye Array**	**57.49**	**318**	P	**P**	**15 06 37.1**	**-1.6**
	comp=Z,8.7nm,0.9s,mb4.8,baz=90,slow=7.4,SNR=20						
BRVK	**Borovoye**	**57.56**	**318**	*e*P	**P**	**15 06 36.8**	**-2.3**
BRVK				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.9						
BRVK	**Borovoye**	**57.56**	**318**	*e*P	**P**	**15 06 36.8**	**-2.4**
	comp=Z,22nm,1.6s,mb4.9						
MCK	**McKinley**	**57.61**	**30**	*e*P	**P**	**15 06 38.2**	**-1.2**
MCK				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.8						
MCK	**McKinley**	**57.61**	**30**	*e*P	**P**	**15 06 38.2**	**-1.1**
	comp=Z,15nm,1.5s,mb4.8						
STKA	**Stephens Creek**	**59.31**	**179**	P	**P**	**15 06 42.6**	**-2.1**
	comp=Z,1.6nm,0.6s,mb4.2,baz=324,slow=11,SNR=6.2						
KKAR	**Karatay Array**	**58.32**	**306**	*i* P	**P**	**15 06 43.8**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.5						
ZRNK	**Zerenda**	**58.33**	**318**	*e*P	**P**	**15 06 42.6**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
ZRNK	**Zerenda**	**58.33**	**318**	*e*P	**P**	**15 06 42.6**	**-1.9**
	comp=Z,13nm,1.2s,mb4.8						
ILAR	**Eielson Array**	**59.58**	**29**	P	**P**	**15 06 43.7**	**-2.4**
	comp=Z,3.3nm,1.0s,mb4.3,baz=266,slow=5.4,SNR=14						
INK	**Inuvik**	**63.83**	**24**	P	**P**	**15 07 20.4**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.3,baz=304,slow=3.7,SNR=11						
INK	**Inuvik**	**63.83**	**24**	*e*P	**P**	**15 07 21.1**	**-0.4**
ARU	**Arti**	**63.97**	**322**	⇑*i*P	**P**	**15 07 19.9**	**-2.6**
ARU				*e*		15 09 36.8	
ARU				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
ARU	**Arti**	**63.97**	**322**	*e*P	**P**	**15 07 19.8**	**-2.7**
AB31	**Akbulak array**	**64.48**	**314**	*i* P	**P**	**15 07 23.3**	**-2.7**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AKTO	**Aktyubinsk**	**65.45**	**316**	P	**P**	**15 07 30.2**	**-2.0**
AKTO				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.2						
RES	**Resolute Bay**	**72.67**	**13**	P	**P**	**15 08 15.7**	**-0.5**
RES				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
RES	**Resolute Bay**	**72.67**	**13**	P	**P**	**15 08 15.7**	**-0.5**
	comp=Z,27nm,1.4s,mb5.0						
YKW3	**Yellowknife Ar**	**72.97**	**28**	P	**P**	**15 08 17.5**	**-0.7**
YKA	**Yellowknife Ar**	**73.00**	**28**	P	**P**	**15 08 17.0**	**-1.4**
	comp=Z,3.0nm,0.7s,mb4.3,baz=296,slow=6.1,SNR=20						
ARCES	**ARCESS Array B**	**73.47**	**341**	P	**P**	**15 08 19.6**	**-1.4**
	comp=Z,6.5nm,1.0s,mb4.5,baz=54,slow=10,SNR=5.4						
OBN	**Obninsk**	**76.13**	**325**	⇑*i*P	**P**	**15 08 34.4**	**-2.2**
OBN				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
KIV	**Kislovodsk**	**77.41**	**313**	*i* P	**P**	**15 08 43.1**	**-0.9**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.1						
FINES	**FINESS Array B**	**77.73**	**333**	P	**P**	**15 08 43.4**	**-2.0**
	comp=Z,5.8nm,1.1s,mb4.4,baz=90,slow=2.8,SNR=9.9						
EDM	**Edmonton**	**77.79**	**36**	*e*P	**P**	**15 08 45.8**	**-0.1**
BMO	**Blue Mountains**	**79.38**	**45**	P	**P**	**15 08 55.5**	**+0.7**
	comp=Z,37nm,1.6s,mb5.1						
SOC	**Sochi**	**79.51**	**314**	*e*P	**P**	**15 08 58.5**	**+3.0**
SOC				*e*S	S	15 18 46.1	-7.1
BSMT	**Bassoo Peak**	**79.53**	**42**	P	**P**	**15 08 57.7**	**+2.1**
QRN	**Al-Qurain**	**79.98**	**297**	*e*P	**P**	**15 08 57.8**	**-0.6**
QRN				AMb	AMB	15 08 59.6	
	comp=Z,62nm,1.3s,mb5.4						
MIB	**Mutribah**	**80.00**	**298**	*e*P	**P**	**15 08 58.8**	**+0.4**
MIB				AMb	AMB	15 09 07.2	
	comp=Z,20nm,1.0s,mb5.0						
RDF	**Al-Radifah**	**80.20**	**297**	*e*P	**P**	**15 08 59.3**	**-0.2**
RDF				AMb	AMB	15 09 02.8	
	comp=Z,46nm,1.0s,mb5.4						
NAY	**Al-Naaiem**	**80.31**	**298**	*e*P	**P**	**15 08 59.8**	**-0.3**
NAY				AMb	AMB	15 09 01.4	
	comp=Z,29nm,1.0s,mb5.2						
CHMT	**Chamberlain Mo**	**80.90**	**42**	P	**P**	**15 09 03.8**	**+0.9**
NVAR	**Mina Array Bea**	**81.66**	**51**	P	**P**	**15 09 07.6**	**+0.6**
	comp=Z,1.8nm,0.8s,mb4.1,baz=289,slow=3.3,SNR=11						
NVAR	**Mina Array Bea**	**81.66**	**51**	P	**P**	**15 09 07.6**	**+0.6**
HLID	**Hailey**	**81.82**	**45**	P	**P**	**15 09 09.1**	**+1.3**

	comp=Z,33nm,1.4s,mb5.3						
HWUT	**Hardware Ranch**	**84.62**	**46**	P	**P**	**15 09 23.4**	**+1.4**
ARSS	**Ar Rass**	**84.98**	**296**	P	**P**	**15 09 25.6**	**+1.4**
LAO	**LASA Array**	**85.12**	**40**	*e*P	**P**	**15 09 25.0**	**+0.6**
	comp=Z,31nm,1.3s,mb5.3						
DGMT	**Dagmar**	**85.23**	**37**	P	**P**	**15 09 25.4**	**+0.6**
PFO	**Pinyon Flat Ob**	**85.25**	**55**	P	**P**	**15 09 26.0**	**+0.7**
PFO				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
PFO	**Pinyon Flat Ob**	**85.25**	**55**	P	**P**	**15 09 26.0**	**+0.7**
	comp=Z,14nm,1.2s,mb5.0						
BW06	**Boulder Array**	**85.28**	**44**	P	**P**	**15 09 26.2**	**+0.9**
PDAR	**Pinedale Array**	**85.28**	**44**	P	**P**	**15 09 25.1**	**-0.2**
	comp=Z,6.0nm,1.1s,mb4.7,baz=270,slow=3.0,SNR=17						
ARUT	**Antelope Range**	**85.33**	**50**	*e*P	**P**	**15 09 26.4**	**+0.8**
MPU	**Maple Canyon**	**85.40**	**47**	P	**P**	**15 09 27.5**	**+1.6**
NEN	**Nelson**	**85.42**	**52**	*e*P	**P**	**15 09 27.1**	**+1.0**
HILS	**Ha'il**	**85.44**	**298**	P	**P**	**15 09 27.0**	**+0.6**
DAU	**Daniels Canyon**	**85.44**	**47**	P	**P**	**15 09 27.7**	**+1.6**
MVU	**Marysvale**	**85.80**	**49**	P	**P**	**15 09 31.2**	**+3.3**
	comp=Z,18nm,1.4s,mb5.1						
MSU	**Marysvale**	**85.81**	**49**	P	**P**	**15 09 29.7**	**+1.7**
KAMS	**Al Khamasin**	**86.41**	**291**	P	**P**	**15 09 32.1**	**+0.8**
SRU	**San Rafael**	**86.61**	**48**	P	**P**	**15 09 32.7**	**+0.9**
RSSD	**Black Hills**	**87.86**	**41**	P	**P**	**15 09 38.6**	**+0.8**
RSSD				pmax	pmax		
	comp=Z,22nm,1.5s,mb5.2						
RSSD	**Black Hills**	**87.86**	**41**	P	**P**	**15 09 38.6**	**+0.9**
	comp=Z,22nm,1.5s,mb5.2						
WUAZ	**Wupatki**	**87.92**	**51**	P	**P**	**15 09 39.7**	**+1.5**
	comp=Z,19nm,1.4s,mb5.1						
PV10	**Paradox Valley**	**87.98**	**48**	*e*P	**P**	**15 09 39.8**	**+1.3**
DJNS	**Zahran al Janu**	**88.46**	**289**	P	**P**	**15 09 40.6**	**-0.7**
SDCO	**Great Sand Dun**	**90.65**	**47**	P	**P**	**15 09 53.1**	**+2.0**
	comp=Z,13nm,1.5s,mb5.0						
KHC	**Kasperske Hory**	**91.04**	**328**	*i* P	**P**	**15 09 51.1**	**-1.6**
ANMO	**Albuquerque**	**91.60**	**49**	P	**P**	**15 09 57.2**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,12nm,1.4s						
ANMO	**Albuquerque**	**91.60**	**49**	P	**P**	**15 09 57.2**	**+1.5**
	comp=Z,12nm,1.4s,mb5.0						
MNTX	**Cornudas Mount**	**94.18**	**51**	P	**P**	**15 10 08.6**	**+1.1**
TXAR	**Lajitas Array**	**96.75**	**53**	P	**P**	**15 10 19.2**	**-0.1**
	comp=Z,14nm,0.8s,mb4.4,baz=270,slow=2.5,SNR=7.8						
PLCA	**Paso Flores**	**150.57**	**126**	PKPbc	PKPdf	15 16 39.7	+6.2
	comp=Z,3.7nm,0.8s,baz=233,slow=1.5,SNR=13						
PLCA	**Paso Flores**	**150.57**	**126**	PKPbc	PKPdf	15 16 39.7	+6.2
LPAZ	**La Paz**	**151.16**	**75**	PKPbc	PKPdf	15 16 42.5	+7.5
	comp=Z,6.7nm,0.7s,baz=330,slow=3.1,SNR=22						
LPAZ	**La Paz**	**151.16**	**75**	*e*PKPbc	PKPdf	15 16 43.5	+8.4
TRQA	**Tornquist**	**157.73**	**126**	*e*PKPdf	PKPdf	15 16 45.5	+2.0

*NEIC **19** 15:36:44.4,39.84S×177.02E,h51km,ML3.8(WEL),After WEL.*

WEL 19 15:36:44.5±0.2,39.83S×177.00E,h48km±4km,ML3.7/14, 3C-1D,Error ellipse: s-maj=2.1km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.23**	**208**	⇓PN	P	15 36 53.1	+0.2
PXZ				SN	S	15 36 59.4	+0.6
PXZ				SN	S	15 36 59.6	+0.9
BKZ	**Black Stump Fm**	**0.77**	**329**	⇑PN	P	15 36 58.3	-0.9
BKZ				SN	S	15 37 08.2	-1.8
BKZ	**Black Stump Fm**	**0.77**	**329**	P	P	15 36 58.3	-0.9
BKZ				S	S	15 37 08.2	-1.8
TSZ	**Takapari Road**	**0.83**	**254**	⇑PN	P	15 36 59.4	-0.7
TSZ				SN	S	15 37 10.3	-1.2
TSZ	**Takapari Road**	**0.83**	**254**	P	P	15 36 59.4	-0.7
KNZ	**Kokohu**	**0.96**	**33**	⇑PN	P	15 37 01.6	-0.2
KNZ				SN	S	15 37 14.7	+0.1
KNZ	**Kokohu**	**0.96**	**33**	P	P	15 37 01.6	-0.2
BFZ	**Birch Farm**	**1.03**	**214**	PN	P	15 37 02.5	-0.3
BFZ				SN	S	15 37 16.2	-0.2
BFZ	**Birch Farm**	**1.03**	**214**	P	P	15 37 02.5	-0.3
MOVZ	**Moawhango**	**1.05**	**293**	PN	P	15 37 02.6	-0.6
MOVZ				SN	S	15 37 14.8	-2.2
MOVZ	**Moawhango**	**1.05**	**293**	P	P	15 37 00.4	-2.8
TUVZ	**Tukino**	**1.18**	**298**	PN	P	15 37 05.1	+0.2
TUVZ	**Tukino**	**1.18**	**298**	P	P	15 37 05.1	+0.2
WNVZ	**Wahianoa**	**1.20**	**294**	PN	P	15 37 05.1	-0.1
RITZ	**Rihia Road**	**1.23**	**313**	PN	P	15 37 05.2	-0.4
RITZ	**Rihia Road**	**1.23**	**313**	P	P	15 37 05.4	-0.2
OTVZ	**Oturere**	**1.23**	**302**	PN	P	15 37 05.2	-0.4
FWVZ	**Far West T-bar**	**1.26**	**297**	PN	P	15 37 05.9	-0.2
FWVZ	**Far West T-bar**	**1.26**	**297**	P	P	15 37 05.9	-0.2
NGZ	**Ngauruhoe**	**1.27**	**301**	PN	P	15 37 05.8	-0.3
NGZ	**Ngauruhoe**	**1.27**	**301**	P	P	15 37 05.8	-0.4
KRVZ	**Karewarewa**	**1.28**	**304**	PN	P	15 37 05.9	-0.5
WPVZ	**Whakapapa**	**1.29**	**298**	PN	P	15 37 06.1	-0.4
WPVZ	**Whakapapa**	**1.29**	**298**	P	P	15 37 06.1	-0.4
CNZ	**Chateau**	**1.29**	**299**	PN	P	15 37 06.3	-0.2
CNZ	**Chateau**	**1.29**	**299**	P	P	15 37 06.3	-0.2
WTVZ	**West Tongariro**	**1.30**	**303**	PN	P	15 37 06.4	-0.5
WTVZ	**West Tongariro**	**1.30**	**303**	P	P	15 37 06.4	-0.4
KATZ	**Kakaramea**	**1.32**	**310**	PN	P	15 37 06.7	-0.4
KATZ	**Kakaramea**	**1.32**	**310**	P	P	15 37 06.7	-0.4
KATZ				S	S	15 37 20.6	-3.2
RATZ	**Rangitukua**	**1.35**	**315**	PN	P	15 37 06.8	-0.7
RATZ	**Rangitukua**	**1.35**	**315**	P	P	15 37 06.8	-0.7
MRZ	**Mangatainoka R**	**1.37**	**232**	PN	P	15 37 06.8	-1.0
MRZ				SN	S	15 37 23.9	-1.1
MRZ	**Mangatainoka R**	**1.37**	**232**	P	P	15 37 06.8	-1.0
WATZ	**Wairara**	**1.49**	**318**	PN	P	15 37 08.3	-1.2
WATZ	**Wairara**	**1.49**	**318**	P	P	15 37 08.3	-1.1
MWZ	**Matawai**	**1.55**	**15**	PN	P	15 37 09.0	-1.2
MWZ	**Matawai**	**1.55**	**15**	P	P	15 37 09.0	-1.2
WAZ	**Wanganui**	**1.56**	**272**	PN	P	15 37 10.6	+0.3
WAZ	**Wanganui**	**1.56**	**272**	*e*P	P	15 37 10.6	+0.3
URZ	**Urewera**	**1.57**	**3**	PN	P	15 37 09.2	-1.3
MTW	**Mount Morrison**	**1.75**	**220**	PN	P	15 37 11.1	-1.9
MTW	**Mount Morrison**	**1.75**	**220**	P	P	15 37 11.1	-2.0
TRWZ	**Traveller**	**1.86**	**212**	PN	P	15 37 12.5	-2.1
KIW	**Kapiti Island**	**1.90**	**237**	PN	P	15 37 13.9	-1.3
KIW	**Kapiti Island**	**1.90**	**237**	P	P	15 37 13.9	-1.3
CAW	**Cannon Point**	**1.95**	**229**	PN	P	15 37 14.0	-1.9
CAW	**Cannon Point**	**1.95**	**229**	P	P	15 37 14.0	-1.9
PAWZ	**Paruwai Farm**	**1.96**	**217**	PN	P	15 37 14.1	-1.9
PAWZ	**Paruwai Farm**	**1.96**	**217**	P	P	15 37 14.1	-1.9
PUZ	**Puketiti**	**2.01**	**30**	PN	P	15 37 15.0	-1.6
PUZ	**Puketiti**	**2.01**	**30**	*e*P	P	15 37 15.0	-1.7
MSWZ	**Moikau Station**	**2.07**	**220**	P	P	15 37 15.0	-2.6
HIZ	**Hauiti**	**2.12**	**308**	*e*P	P	15 37 16.9	-1.4
WEL	**Wellington**	**2.24**	**229**	P	P	15 37 17.8	-2.2
MRW	**Makara Radio**	**2.25**	**231**	P	P	15 37 17.8	-2.2
BHW	**Baring Head**	**2.26**	**225**	P	P	15 37 17.6	-2.7
SNZO	**South Karori**	**2.29**	**229**	P	P	15 37 15.0	-5.7
TCW	**Tory Channel**	**2.50**	**236**	P	P	15 37 21.1	-2.5
BSWZ	**Blackbirch Sta**	**3.03**	**231**	P	P	15 37 28.0	-3.2
NNZ	**Nelson**	**3.09**	**242**	*e*P	P	15 37 29.3	-2.8
QRZ	**Quartz Range**	**3.56**	**252**	P	P	15 37 35.5	-3.2
THZ	**Tophouse**	**3.66**	**237**	*e*P	P	15 37 36.4	-3.8
KHZ	**Kahutara**	**3.68**	**224**	*e*P	P	15 37 36.3	-4.1
LTZ	**Lake Taylor**	**4.63**	**229**	*e*P	P	15 37 48.8	-5.0
MQZ	**McQueen's Vall**	**5.06**	**219**	P	P	15 37 54.9	-4.9
RPZ	**Rata Peaks**	**5.90**	**227**	*e*P	P	15 38 06.1	-5.5
FOZ	**Fox Glacier**	**6.62**	**233**	*e*P	P	15 38 14.5	-7.2
LBZ	**Lake Benmore**	**6.81**	**226**	*e*P	P	15 38 18.7	-5.7
ODZ	**Otahua Downs**	**7.02**	**220**	*e*P	P	15 38 21.9	-5.4
EAZ	**Earnscleugh**	**7.84**	**224**	*e*P	P	15 38 32.9	-5.7
TUZ	**Tuapeka**	**8.17**	**219**	*e*P	P	15 38 37.7	-5.4

*BJI **19** 15:52:53.6,5.06N×60.56E,h10km,mB5.2,mb4.7,Ms5.0,Msz4.6*

*IDC **19** 15:52:60.0±0.6,5.79N×61.16E,mb4.5/24,mb1 4.6/25, mb1mx4.6/28,mbtmp4.5/25,ML4.1/1,MS4.4/18,Ms1 4.4/18, ms1mx4.3/24,Error ellipse: s-maj=16.5km s-min=12.4km az=115.0*

*MOS **19** 15:53:00.1±0.8,5.83N×60.93E,h10km,mb5.3/51, MS4.3/10,Error ellipse: s-maj=9.3km s-min=4.2km az=115.2*

*HRVD **19** 15:53:01.9±0.3,5.72N×61.01E,h12km,MW5.1/76, Centroid moment Tensor Solution. LP body waves: s37,c53;Mantle waves: s76,c133; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.57±.14; $M_{\theta\theta}$-4.08±.12; $M_{\phi\phi}$-0.48±.15; $M_{r\theta}$-3.86±.39; $M_{\theta\phi}$1.60±.12;*

M_w2.09±.45; Best double couple: M_o6.38×10^{16} NP1: ϕ_s105°,δ24°,λ80°. NP2:ϕ_p296°,δ67°,λ94°. Principal axes: T 6.341, Plg68°, Azm214°; N .084, Plg4°, Azm114°; P -6.42, Plg22°, Azm23°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **19** 15:53:01.9±0.2,5.77N×60.98E,h10km,mb5.2/64, MS4.3/3 Error ellipse: s-maj=5.6km s-min=4.9km az=175.0*

ISC 19 15:52:59.8±0.3,5.73N±0.04×60.98E±0.03,h10km, (h22km±3.0km:pP-P),n296,σ1§14/269,mb5.0/106, MS4.5/35,37C-8D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**11.70**	**208**	Pn	**P**	**15 55 47.4**	**-2.6**
KAD	**Karad**	**17.30**	**47**	*e*P	**P**	**15 57 03.5**	**+0.3**
KAD				AMb	AMB	15 57 12.0	
	comp=Z,93nm,1.7s						
DGAR	**Diego Garcia**	**17.36**	**139**	*i* P	**P**	**15 57 06.0**	**+2.0**
BOM	**Bombay**	**17.45**	**40**	*ex*	x	15 56 38.1	
POO	**Poona**	**17.88**	**44**	*e*P	**P**	**15 57 09.4**	**-1.0**
POO				AMb	AMB	15 57 21.1	
	comp=Z,120nm,1.2s						
ATD	**Arta Tunnel**	**18.82**	**289**	P	**P**	**15 57 23.4**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=274,slow=2.1,SNR=6.2						
ATD				LR	LR	16 03 43.4	
	comp=Z,430nm,18.1s,baz=28,slow=34						
BHJ	**Bhuj**	**19.33**	**25**	*e*P	**P**	**15 57 28.9**	**+0.8**
BHJ				AMb	AMB	15 57 55.6	
	comp=Z,129nm,1.8s						
MDRS	**Chennai**	**20.35**	**68**	*ex*	x	15 57 51.4	
HYB	**Hyderabad**	**20.74**	**54**	*i* P	**P**	**15 57 43.5**	**+0.1**
	comp=Z,70nm,1.0s						
HYB				*e*S	**S**	**16 01 40.0**	**+10**
HYB	**Hyderabad**	**20.74**	**54**	*e*P	**P**	**15 57 43.5**	**+0.1**
HYB				*e*S	**S**	**16 01 40.0**	**+10**
HYB				pmax	pmax		
	comp=Z,70nm,1.0s						
HYB	**Hyderabad**	**20.74**	**54**	*e*P	**P**	**15 57 43.5**	**+0.1**
	comp=Z,70nm,1.0s						
HYB				*e*S	**S**	**16 01 40.0**	**+10**
DJNS	**Zahran al Janu**	**20.79**	**306**	P	**P**	**15 57 45.8**	**+2.0**
FRSS	**Farasan al Kab**	**21.47**	**302**	P	**P**	**15 57 53.3**	**+2.5**
KAMS	**Al Khamasin**	**21.54**	**314**	P	**P**	**15 57 52.2**	**+0.8**
TATS	**Tathlith**	**21.88**	**310**	P	**P**	**15 57 56.7**	**+1.8**
HASS	**Wahat al Ahsa'**	**22.17**	**332**	P	**P**	**15 57 58.8**	**+1.1**
RYDS	**Riyadh**	**22.96**	**325**	P	**P**	**15 58 07.2**	**+1.5**
BLJS	**Baljurashi**	**23.52**	**308**	P	**P**	**15 58 15.1**	**+4.0**
BHPL	**Bhopal**	**23.55**	**41**	*e*P	**P**	**15 58 13.8**	**+2.4**
BHPL				AMb	AMB	15 58 17.1	
	comp=Z,104nm,2.1s,mb4.9						
AJM	**Ajmer**	**24.41**	**31**	*e*P	**P**	**15 58 21.5**	**+1.7**
AJM				AMb	AMB	15 58 28.0	
	comp=Z,60nm,2.2s,mb4.6						
KMBO	**Kilima Mbogo**	**24.65**	**255**	P	**P**	**15 58 24.8**	**+2.5**
	comp=Z,50nm,1.0s,mb5.0,baz=57,slow=12,SNR=38						
KMBO				LR	LR	16 07 02.6	
	comp=Z,896nm,20.8s,MS4.2,baz=96,slow=34						
LTHS	**Al Lith**	**24.66**	**308**	P	**P**	**15 58 26.1**	**+3.8**
AFFS	**'Afif**	**25.03**	**318**	P	**P**	**15 58 28.2**	**+2.4**
ARSS	**Ar Rass**	**26.26**	**322**	P	**P**	**15 58 38.8**	**+1.6**
OPO	**Ambohidratompo**	**27.71**	**209**	P	**P**	**15 58 52.0**	**+1.4**
	comp=Z,3.2nm,0.8s,mb4.0,baz=83,slow=15,SNR=5.8						
HILS	**Ha'il**	**28.23**	**322**	P	**P**	**15 58 57.4**	**+2.2**
KBRS	**Khaybar**	**28.80**	**316**	P	**P**	**15 59 03.0**	**+2.7**
YNBS	**Yanbu' al Bahr**	**28.81**	**312**	P	**P**	**15 59 02.6**	**+2.2**
KOLN	**Koldanda**	**30.70**	**42**	*e*P	**P**	**15 59 18.3**	**+1.1**
	comp=Z,70nm,1.3s,mb5.3						
BHD	**Baghdad**	**31.46**	**333**	*ex*	x	15 59 24.0	
BHD				*ex*	x	16 04 40.0	
BHD				*ex*	x	16 06 55.0	
GKN	**Gorkha**	**31.55**	**43**	*e*P	**P**	**15 59 25.5**	**+0.8**
	comp=Z,98nm,1.7s,mb5.4						
DMN	**Daman**	**31.61**	**44**	*e*P	**P**	**15 59 26.1**	**+0.8**
	comp=Z,57nm,1.2s,mb5.3						
PKI	**Pulchoki**	**31.80**	**44**	*e*P	**P**	**15 59 27.3**	**+0.4**
KKN	**Kakani**	**31.85**	**44**	*e*P	**P**	**15 59 28.2**	**+0.9**
	comp=Z,69nm,1.4s,mb5.3						
TBKS	**Tabuk**	**32.21**	**317**	P	**P**	**15 59 32.4**	**+1.9**
GUN	**Gumba**	**32.34**	**44**	*e*P	**P**	**15 59 32.8**	**+1.2**
	comp=Z,94nm,1.3s,mb5.5						
JIRN	**Jiri**	**32.40**	**45**	*e*P	**P**	**15 59 32.7**	**+0.6**
	comp=Z,31nm,1.4s,mb5.0						
TAYS	**Tayyib Ism**	**33.57**	**316**	P	**P**	**15 59 45.0**	**+2.7**
JMOS	**Jabal al Moall**	**33.79**	**317**	P	**P**	**15 59 47.3**	**+3.1**
ALWS	**Ilw as Safayha**	**33.90**	**317**	P	**P**	**15 59 48.5**	**+3.3**
KSH	**Kashi**	**36.26**	**20**	*e*P	**P**	**16 00 06.4**	**+1.2**
KSH				*e*AP	pP	16 00 11.0	+2.8
KSH				*e*PP	PP	16 01 29.5	+1.4
KSH				PPP	PPP	16 01 50.0	+1.9
KSH				*e*PCP	PcP	16 02 30.3	-0.3
KSH				*e*S	**S**	**16 05 46.0**	**+1.0**
KSH				*e*SCP		16 06 14.4	
KSH				*e*PCS		16 06 16.0	
KSH				*e*SCS	ScS	16 10 20.0	-0.5
KSH				AMB	AMB		
	comp=Z,170nm,3.5s						
KSH				LR	LR		
	comp=N,360nm,7.0s						
KSH				LR	LR		
	comp=E,570nm,15.4s						
LSA	**Lhasa**	**37.12**	**46**	P	**P**	**16 00 14.3**	**+1.7**
LSA	**Lhasa**	**37.12**	**46**	*e*P	**P**	**16 00 14.1**	**+1.5**
LSA				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
LSA	**Lhasa**	**37.12**	**46**	*e*P	**P**	**16 00 14.1**	**+1.5**
	comp=Z,15nm,1.0s,mb4.8						
GNI	**Garni**	**37.25**	**339**	P	**P**	**16 00 15.6**	**+2.1**
	comp=Z,6.6nm,0.6s,mb4.6						
GNI				LR	LR	16 16 27.3	
	comp=Z,401nm,18.2s,MS4.2,baz=280,slow=38						
PSI	**Prapat**	**37.94**	**93**	LR	LR	16 12 31.3	
	comp=Z,383nm,21.8s,MS4.2,baz=259,slow=31						
KKAR	**Karatay Array**	**38.16**	**11**	P	**P**	**16 00 22.8**	**+1.6**
KKAR				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.6						
UCH	**Uchtor**	**38.29**	**16**	P	**P**	**16 00 24.3**	**+2.0**
	SNR=8.0						
KZA	**Kyzart**	**38.36**	**17**	P	**P**	**16 00 25.2**	**+2.4**
	SNR=14						
MALT	**Malatya**	**38.36**	**331**	P	**P**	**16 00 26.0**	**+3.1**
EKS2	**Erkin-Say**	**38.49**	**15**	P	**P**	**16 00 26.5**	**+2.5**
	SNR=20						
LSZ	**Lusaka**	**38.61**	**237**	P	**P**	**16 00 27.3**	**+2.1**
	comp=Z,23nm,1.2s,mb4.8,baz=57,slow=10						
LSZ				LR	LR	16 15 02.2	
	comp=Z,946nm,18.2s,MS4.7,baz=63,slow=34						
LSZ	**Lusaka**	**38.61**	**237**	P	**P**	**16 00 27.1**	**+1.9**
AAK	**Ala-Archa**	**38.66**	**16**	P	**P**	**16 00 27.2**	**+1.9**
	SNR=9.7						
AAK	**Ala-Archa**	**38.66**	**16**	P	**P**	**16 00 26.5**	**+1.2**
AAK				pmax	pmax		
	comp=Z,76nm,1.9s,mb5.1						
AAK	**Ala-Archa**	**38.66**	**16**	P	**P**	**16 00 26.5**	**+1.2**
	comp=Z,76nm,1.9s,mb5.1						
KBK	**Karagaybulak**	**38.80**	**17**	P	**P**	**16 00 28.8**	**+2.3**
	SNR=9.0						
FRU	**Bishkek**	**38.88**	**16**	*i* P	**P**	**16 00 29.5**	**+2.3**
FRU				pmax	pmax		
	comp=Z,120nm,2.2s,mb5.2						
FRU				MLR	MLR		
	comp=Z,900nm,18.0s,MS4.6						
USP	**Ospenovka**	**39.25**	**16**	P	**P**	**16 00 31.7**	**+1.5**
	SNR=6.1						
KULM	**Kulim**	**39.48**	**89**	*e*P	**P**	**16 00 31.9**	**-0.6**
MATP	**Matopo**	**41.16**	**230**	P	**P**	**16 00 47.8**	**+1.6**
	comp=Z,21nm,1.1s,mb4.7,baz=34,slow=8.7,SNR=13						
KIV	**Kislovodsk**	**41.33**	**340**	*e*P	**P**	**16 00 47.4**	**0.0**
KIV				*e*		16 02 24.5	
KIV				*e*S	**S**	**16 06 59.9**	**-1.6**
KIV				pmax	pmax		
	comp=Z,34nm,1.1s,mb4.9						
KIV				MLR	MLR		
	comp=Z,440nm,16.0s,MS4.4						
KIV	**Kislovodsk**	**41.33**	**340**	P	**P**	**16 00 50.0**	**+2.6**
	comp=Z,54nm,1.4s,mb5.0						
BR131	**Keskin Array S**	**41.86**	**328**	*e*P	**P**	**16 00 53.5**	**+1.7**
	comp=Z,1.2nm,0.6s						
BRTR	**Keskin Array B**	**41.86**	**328**	P	**P**	**16 00 52.2**	**+0.4**
	comp=Z,2.1nm,0.8s,mb3.8,baz=151,slow=11,SNR=7.2						
BRTR				PcP	PcP	16 02 46.0	-2.3
	comp=Z,2.1nm,0.8s,baz=166,slow=5.1,SNR=5.5						
SOC	**Sochi**	**42.10**	**337**	*e*P	**P**	**16 01 00.1**	**+6.4**
SOC				*e*S	**S**	**16 07 09.4**	**-3.5**
SOC				MLR	MLR		
	comp=Z,525nm,16.0s,MS4.5						
GOF	**Gofitskoye**	**42.19**	**341**	*e*P	**P**	**16 00 54.5**	**0.0**
GOF				pmax	pmax		
	comp=Z,47nm,1.7s,mb4.8						
AB31	**Akbulak array**	**43.38**	**359**	*i* P	**P**	**16 01 04.4**	**+0.3**
AB31				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.0						
KMI	**Kunming**	**44.38**	**60**	P	**P**	**16 01 13.0**	**+0.4**
KMI				AP	pP	16 01 22.8	+7.2
KMI				XP	sP	16 01 26.8	+10
KMI				PP	PP	16 03 00.9	+3.4
KMI				S	**S**	**16 07 53.8**	**+7.3**
KMI				AMB	AMB		
	comp=Z,20nm,1.7s,mb4.6						
KMI				LR	LR		
	comp=Z,370nm,30.8s,MS4.1						
WMQ	**Urumqi**	**44.62**	**28**	P	**P**	**16 01 15.0**	**+0.7**
WMQ				AP	pP	16 01 19.5	+2.2
WMQ				XP	sP	16 01 22.0	+3.5
WMQ				PP	PP	16 03 00.3	+0.7
WMQ				PPP	PPP	16 03 39.5	+0.7
WMQ				SCP		16 06 48.6	
WMQ				S	**S**	**16 07 50.1**	**+0.4**
WMQ				SCS	ScS	16 11 10.0	+0.1
WMQ				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,310nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,23.4s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,20.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,22.3s,MS4.9						
AKTO	**Aktyubinsk**	**44.62**	**357**	P	**P**	**16 01 13.9**	**-0.3**
	comp=Z,7.3nm,1.1s,mb4.4,baz=176,slow=7.9,SNR=14						
AKTO				LR	LR	16 20 33.6	
	comp=Z,544nm,20.5s,MS4.5,slow=37						
AKTO	**Aktyubinsk**	**44.62**	**357**	P	**P**	**16 01 14.5**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,17nm,1.9s,mb4.5						
MKAR	**Makanchi Array**	**44.85**	**21**	P	**P**	**16 01 15.9**	**-0.1**
	comp=Z,4.3nm,1.1s,mb4.2,baz=205,slow=7.8,SNR=15						
MKAR				PcP	PcP	16 02 57.2	-1.1
	comp=Z,1.3nm,0.8s,baz=225,slow=5.1,SNR=4.8						
MKAR				LR	LR	16 21 17.0	
	comp=Z,164nm,21.1s,MS3.9,baz=99,slow=38						
MKAR	**Makanchi Array**	**44.85**	**21**	P	**P**	**16 01 15.9**	**-0.1**
MKAR				PcP	PcP	16 02 57.2	-1.1
MKAR				LR	LR	16 21 17.0	
LBTB	**Lobatse**	**46.02**	**227**	P	**P**	**16 01 27.7**	**+2.1**
	comp=Z,35nm,1.2s,mb5.2,baz=54,slow=8.4,SNR=12						
LBTB	**Lobatse**	**46.02**	**227**	P	**P**	**16 01 28.2**	**+2.5**
KURK	**Kurchatov**	**47.20**	**15**	⇓*i* P	**P**	**16 01 34.9**	**+0.3**
KURK	**Kurchatov**	**47.20**	**15**	P	**P**	**16 01 34.2**	**-0.4**
ZRNK	**Zerenda**	**47.53**	**7**	P	**P**	**16 01 37.8**	**+0.6**
BVA0	**Borovoye Array**	**47.78**	**8**	P	**P**	**16 01 38.4**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,15nm,2.2s,mb4.6						
BVAR	**Borovoye Array**	**47.78**	**8**	P	**P**	**16 01 38.7**	**-0.5**
	comp=Z,2.9nm,1.0s,mb4.2,baz=191,slow=7.6,SNR=12						
BVAR				PcP	PcP	16 03 07.2	-1.3
	comp=Z,1.5nm,0.8s,baz=180,slow=5.8,SNR=2.8						
BRVK	**Borovoye**	**47.80**	**8**	P	**P**	**16 01 39.2**	**-0.1**
VRHR	**Novokhopersk**	**48.01**	**344**	*e*P	**P**	**16 01 41.2**	**+0.2**
VRHR				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
VRHR				pmax	pmax		
	comp=N,70nm,1.0s						
VRHR				pmax	pmax		
	comp=E,20nm,1.0s						
CHKZ	**Chkalovo**	**48.45**	**8**	*e*P	**P**	**16 01 44.4**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.3						
CHKZ	**Chkalovo**	**48.45**	**8**	*e*P	**P**	**16 01 44.4**	**+0.2**
	comp=Z,50nm,1.5s,mb5.3						
GTA	**Gaotai**	**48.46**	**40**	P	**P**	**16 01 43.4**	**-1.2**
GTA				AP	pP	16 01 49.3	+1.7
GTA				XP	sP	16 01 54.4	+5.6
GTA

SRO	**Srobarova**	**55.50**	**326**	*e*P		**P**	**16 02 37.2**	**-0.1**
SRO1	**Iza**	**55.52**	**326**	*e*P		**P**	**16 02 37.5**	**+0.1**
VYHS	**Vyhne**	**55.61**	**327**	*i* P		**P**	**16 02 38.1**	**0.0**
VYHS				*e*			16 02 49.3	
VYHS				*e*L			16 25 15.3	
WHN	**Wuhan**	**55.78**	**57**	⇓P		**P**	**16 02 38.5**	**-1.1**
BOJS	**Bojanci**	**56.02**	**323**	*i* P		**P**	**16 02 41.1**	**+0.1**
OJC	**Ojcow**	**56.15**	**329**	*e*P		**P**	**16 02 41.0**	**-0.9**
DOBS	**Dobrina**	**56.22**	**323**	*e*P		**P**	**16 02 42.7**	**+0.2**
ZST	**Bratislava**	**56.39**	**326**	*e*P		**P**	**16 02 43.2**	**-0.5**
MOY	**Mondy**	**56.48**	**29**	*e*P		**P**	**16 02 44.0**	**-0.3**
PERS	**Pernice**	**56.68**	**324**	*e*P		**P**	**16 02 45.8**	**-0.1**
LJU	**Ljubljana**	**56.73**	**323**	*e*P		**P**	**16 02 46.4**	**+0.2**
ARSA	**Arzberg**	**56.76**	**325**	⇑*i*P		**P**	**16 02 46.6**	**+0.2**
	comp=Z,20nm,1.6s,mb4.9							
ARSA	**Arzberg**	**56.76**	**325**	⇑P		**P**	**16 02 46.6**	**+0.2**
	comp=Z,20nm,1.6s,mb4.9							
OKC	**Ostrava-Krasne**	**56.77**	**328**	*e*P		**P**	**16 02 45.5**	**-0.9**
OKC				*ex*		x	16 02 57.4	
OKC				AMS		AMS	16 26 50.0	
	comp=Z,300nm,19.9s							
OBKA	**Obir**	**56.95**	**323**	⇑*i*P		**P**	**16 02 48.0**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9							
OBKA	**Obir**	**56.95**	**323**	⇑P		**P**	**16 02 48.0**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9							
SUW	**Suwalki**	**57.04**	**334**	*e*P		**P**	**16 02 48.1**	**-0.2**
SUW				MLR		MLR	16 26 57.2	
	comp=Z,400nm,31.5s,MS4.3							
SUW	**Suwalki**	**57.04**	**334**	*e*P		**P**	**16 02 48.1**	**-0.2**
MORC	**Moravsky Berou**	**57.05**	**328**	P		**P**	**16 02 48.2**	**-0.2**
MORC				pmax		pmax		
	comp=Z,48nm,1.5s,mb5.3							
MORC	**Moravsky Berou**	**57.05**	**328**	P		**P**	**16 02 48.2**	**-0.3**
	comp=Z,48nm,1.5s,mb5.3							
HHC	**Hu-ho-hao-te**	**57.05**	**44**	*e*P		**P**	**16 02 48.4**	**-0.2**
HHC				AP		pP	16 02 52.9	+1.2
HHC				XP		sP	16 02 55.8	+3.0
HHC				PCP		PcP	16 03 44.3	+0.9
HHC				PP		PP	16 04 55.5	-1.4
HHC				SCP			16 07 40.8	
HHC				PCS			16 07 43.0	
HHC				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
HHC				AMB		AMB		
	comp=Z,180nm,3.6s							
HHC				LR		LR		
	comp=N,480nm,14.3s,MS4.8							
HHC				LR		LR		
	comp=E,460nm,19.0s,MS4.8							
HHC				LR		LR		
	comp=Z,450nm,15.5s,MS4.7							
SONM	**Songino Array**	**57.05**	**35**	P		**P**	**16 02 46.9**	**-1.5**
	comp=Z,7.6nm,1.2s,mb4.6,baz=231,slow=6.2,SNR=24							
SONM				LR		LR	16 28 05.3	
	comp=Z,643nm,18.6s,MS4.8,baz=0.4,slow=37							
VRAC	**Vranov**	**57.29**	**327**	P		**P**	**16 02 49.3**	**-0.8**
	comp=Z,5.1nm,0.7s,mb4.6,baz=106,slow=4.6,SNR=15							
KLMR	**Klimovskoe**	**57.33**	**348**	*d i*P		**P**	**16 02 49.3**	**-1.0**
KLMR				pmax		pmax		
	comp=Z,90nm,2.0s,mb5.5							
KLMR				pmax		pmax		
	comp=Z,70nm,5.8s							
KLMR				MLR		MLR		
	comp=Z,780nm,17.0s,MS4.9							
ULN	**Ulaanbaatar**	**57.44**	**35**	P		**P**	**16 02 50.6**	**-0.6**
ULN				pmax		pmax		
	comp=Z,42nm,2.0s,mb5.1							
ULN	**Ulaanbaatar**	**57.44**	**35**	P		**P**	**16 02 50.6**	**-0.6**
	comp=Z,42nm,2.0s,mb5.1							
MOA	**Molln**	**57.80**	**325**	*i* P		**P**	**16 02 53.7**	**-0.1**
	comp=Z,39nm,1.7s,mb5.2,SNR=10							
TREC	**Trest**	**57.89**	**327**	*e*P		**P**	**16 02 54.0**	**-0.3**
DPC	**Dobruska-Polom**	**58.02**	**328**	*e*P		**P**	**16 02 54.4**	**-0.8**
DPC				*ex*		x	16 03 07.8	
UPC	**Upice**	**58.28**	**328**	*e*P		**P**	**16 02 56.5**	**-0.5**
KSP	**Ksiaz**	**58.32**	**328**	*e*P		**P**	**16 02 57.3**	**0.0**
KSP				MLR		MLR	16 28 09.4	
	comp=Z,600nm,24.5s,MS4.6							
KSP	**Ksiaz**	**58.32**	**328**	*e*P		**P**	**16 02 56.6**	**-0.7**
GEC2	**GERESS Array S**	**58.64**	**325**	*e*P		**P**	**16 02 57.2**	**-2.4**
GEC2				pmax		pmax		
	comp=Z,27nm,2.0s,mb4.9							
GEC2	**GERESS Array S**	**58.64**	**325**	*e*P		**P**	**16 02 57.2**	**-2.4**
	comp=Z,27nm,2.0s,mb4.9							
PGF	**Pioggiola**	**58.69**	**317**	*e*P		**P**	**16 02 58.9**	**-1.1**
PRU	**Pruhonice**	**58.78**	**327**	*e*P		**P**	**16 02 59.9**	**-0.6**
PRU				AMS		AMS	16 26 50.0	
	comp=Z,200nm,24.7s							
KHC	**Kasperske Hory**	**58.86**	**326**	*e*P		**P**	**16 03 00.0**	**-1.1**
VSU	**Vasula**	**58.89**	**340**	*i* P		**P**	**16 03 01.0**	**-0.2**
PVCC	**Panska Ves**	**59.05**	**327**	*e*P		**P**	**16 03 02.0**	**-0.5**
WTTA	**Wattenberg**	**59.06**	**323**	⇑*i*P		**P**	**16 03 01.5**	**-1.0**
	comp=Z,18nm,1.2s,mb5.0							
WTTA	**Wattenberg**	**59.06**	**323**	⇑P		**P**	**16 03 01.5**	**-1.0**
WTTA				pmax		pmax		
	comp=Z,18nm,1.2s,mb5.0							
WET	**Wettzell**	**59.26**	**325**	*e*P		**P**	**16 03 02.1**	**-1.8**
WET				pmax		pmax		
	comp=Z,18nm,1.7s,mb4.8							
WET	**Wettzell**	**59.26**	**325**	*e*P		**P**	**16 03 02.1**	**-1.8**
	comp=Z,18nm,1.7s,mb4.8							
MOTA	**Moosalm**	**59.42**	**323**	⇑*i*P		**P**	**16 03 03.5**	**-1.5**
	comp=Z,20nm,1.3s,mb5.0							
MOTA	**Moosalm**	**59.42**	**323**	⇑P		**P**	**16 03 03.5**	**-1.5**
MOTA				pmax		pmax		
	comp=Z,20nm,1.3s,mb5.0							
BRG	**Berggiesshubel**	**59.58**	**327**	*e*P		**P**	**16 03 05.4**	**-0.7**
BRG				pmax		pmax		
	comp=Z,32nm,1.9s,mb5.0							
BRG	**Berggiesshubel**	**59.58**	**327**	*e*P		**P**	**16 03 05.3**	**-0.7**
	comp=Z,32nm,1.9s,mb5.0							
FUR	**Furstenfeldbru**	**59.70**	**324**	*e*P		**P**	**16 03 06.0**	**-1.0**
FUR				pmax		pmax		
	comp=Z,28nm,0.9s,mb5.3							
FUR	**Furstenfeldbru**	**59.70**	**324**	*e*P		**P**	**16 03 06.0**	**-1.0**
	comp=Z,28nm,0.9s,mb5.3							
NJ2	**Nanjing**	**59.89**	**56**	*e*P		**P**	**16 03 07.3**	**-1.2**
NJ2				AP		pP	16 03 17.5	+5.9
NJ2				PCP		PcP	16 03 52.4	-2.3
NJ2				AMB		AMB		
	comp=Z,40nm,1.3s,mb5.3							
NJ2				AMB		AMB		
	comp=Z,100nm,10.0s							
NJ2				LR		LR		
	comp=N,740nm,28.0s							
NJ2				LR		LR		
	comp=E,640nm,22.0s							
NJ2				LR		LR		
	comp=Z,920nm,26.0s,MS4.8							
DAVOX	**Davos**	**59.90**	**322**	P		**P**	**16 03 08.1**	**-0.3**
	comp=Z,7.8nm,0.9s,mb4.7,baz=138,slow=6.2,SNR=9.6							
NKC	**Novy Kostel**	**60.05**	**326**	*e*P		**P**	**16 03 09.7**	**+0.4**
DAVA	**Damuels**	**60.13**	**322**	⇑*i*P		**P**	**16 03 09.2**	**-0.7**
	comp=Z,23nm,1.4s,mb5.0							
DAVA	**Damuels**	**60.13**	**322**	⇑P		**P**	**16 03 09.2**	**-0.7**
	comp=Z,23nm,1.4s,mb5.0							
SBF	**Sospel**	**60.26**	**318**	*e*P		**P**	**16 03 10.0**	**-0.8**
	comp=Z,285nm,1.8s,mb5.7							
SBF	**Sospel**	**60.26**	**318**	*e*P		**P**	**16 03 10.0**	**-0.8**
SBF				pmax		pmax		
	comp=Z,142nm,1.8s,mb5.7							
CLL	**Collm**	**60.31**	**328**	⇑P		**P**	**16 03 10.3**	**-0.8**
	comp=Z,logA/T=1.5,mb5.3							
CLL				*e*			16 03 25.0	
CLL	**Collm**	**60.31**	**328**	⇑*i*P		**P**	**16 03 10.3**	**-0.8**
CLL				pmax		pmax		
	comp=Z,46nm,1.6s,mb5.3							
CLL	**Collm**	**60.31**	**328**	⇑*i*P		**P**	**16 03 10.3**	**-0.8**
	comp=Z,46nm,1.6s,mb5.3							
GRA1	**Grafenberg Arr**	**60.47**	**325**	*e*P		**P**	**16 03 11.1**	**-1.1**
	comp=Z,35nm,1.4s,mb5.2							
GRF	**Grafenberg Arr**	**60.47**	**325**	*e*P		**P**	**16 03 11.1**	**-1.1**
GRF				pmax		pmax		
	comp=Z,35nm,1.4s,mb5.2							
GRF				MLR		MLR		
	comp=Z,200nm,19.5s,MS4.3							
GRF	**Grafenberg Arr**	**60.47**	**325**	*e*P		**P**	**16 03 11.1**	**-1.1**
	comp=Z,35nm,1.4s,mb5.2							
GRF				LR		LR		
	comp=Z,200nm,19.5s,MS4.3							
FRF	**La Foret Royal**	**60.67**	**317**	*e*P		**P**	**16 03 12.7**	**-0.9**
LMR	**La Mourre**	**60.68**	**317**	*e*P		**P**	**16 03 12.7**	**-1.0**
	comp=Z,58nm,1.4s,mb5.2							
LMR	**La Mourre**	**60.68**	**317**	*e*P		**P**	**16 03 12.7**	**-1.0**
LMR				pmax		pmax		
	comp=Z,29nm,1.4s,mb5.2							
MOX	**Moxa**	**60.72**	**326**	*e*P		**P**	**16 03 14.0**	**+0.1**
MBDF	**Montbardon**	**61.03**	**319**	*e*P		**P**	**16 03 14.8**	**-1.2**
	comp=Z,32nm,1.3s,mb5.0							
MBDF	**Montbardon**	**61.03**	**319**	*e*P		**P**	**16 03 14.8**	**-1.2**
MBDF				pmax		pmax		
	comp=Z,16nm,1.3s,mb5.0							
LPG	**La Plagne**	**61.34**	**319**	*e*P		**P**	**16 03 17.1**	**-1.1**
	comp=Z,19nm,1.0s,mb4.9							
LPG	**La Plagne**	**61.34**	**319**	*e*P		**P**	**16 03 17.1**	**-1.1**
LPG				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.9							
LPL	**La Plagne**	**61.36**	**319**	*e*P		**P**	**16 03 17.1**	**-1.2**
	comp=Z,75nm,1.4s,mb5.3							
LPL	**La Plagne**	**61.36**	**319**	*e*P		**P**	**16 03 17.1**	**-1.2**
LPL				pmax		pmax		
	comp=Z,38nm,1.4s,mb5.3							
FINES	**FINESS Array B**	**61.38**	**342**	P		**P**	**16 03 16.8**	**-1.4**
	comp=Z,3.0nm,0.8s,mb4.5,baz=166,slow=7.9,SNR=6.6							
FINES				LR		LR	16 32 00.9	
	comp=Z,405nm,21.4s,MS4.5,baz=154,slow=38							
FINES	**FINESS Array B**	**61.38**	**342**	P		**P**	**16 03 16.8**	**-1.4**
FINES				LR		LR	16 32 00.9	
BFO	**Black Forest**	**61.53**	**323**	*e*P		**P**	**16 03 19.0**	**-0.4**
BFO				pmax		pmax		
	comp=Z,63nm,1.7s,mb5.5							
BFO	**Black Forest**	**61.53**	**323**	*e*P		**P**	**16 03 19.0**	**-0.4**
	comp=Z,63nm,1.7s,mb5.5							
SMRF	**Simiane la Rot**	**61.54**	**317**	*e*P		**P**	**16 03 19.2**	**-0.4**
	comp=Z,19nm,1.0s,mb4.7							
SSE	**Sheshan**	**61.63**	**58**	*e*P		**P**	**16 03 17.8**	**-2.6**
SSE				AP		pP	16 03 26.8	+3.3
SSE				XP		sP	16 03 30.8	+6.2
SSE				PCP		PcP	16 03 59.3	-2.4
SSE				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.5							
SSE				AMB		AMB		
	comp=Z,150nm,4.9s							
SSE				LR		LR		
	comp=N,180nm,32.8s,MS4.1							
SSE				LR		LR		
	comp=E,120nm,32.7s,MS4.1							
SSE				LR		LR		
	comp=Z,240nm,25.8s							
ORIF	**Oris-en-Rattie**	**61.69**	**319**	*e*P		**P**	**16 03 19.6**	**-0.9**
ORIF				*e*R				
	comp=Z,155nm,21.2s							
CLZ	**Clausthal**	**62.00**	**327**	*e*P		**P**	**16 03 22.5**	**0.0**
CLZ				pmax		pmax		
	comp=Z,74nm,1.8s,mb5.5							
CLZ	**Clausthal**	**62.00**	**327**	*e*P		**P**	**16 03 22.5**	**0.0**
	comp=Z,74nm,1.8s,mb5.5							
CDF	**Champ du Feu**	**62.20**	**323**	⇑*i*P		**P**	**16 03 23.3**	**-0.6**
	comp=Z,207nm,1.7s,mb5.7							
CDF	**Champ du Feu**	**62.20**	**323**	⇑*i*P		**P**	**16 03 23.3**	**-0.6**
CDF				pmax		pmax		
	comp=Z,104nm,1.7s,mb5.7							
CABF	**La Chapelle**	**62.20**	**320**	⇑*i*P		**P**	**16 03 23.6**	**-0.4**
	comp=Z,210nm,1.5s,mb5.8							
CABF	**La Chapelle**	**62.20**	**320**	⇑*i*P		**P**	**16 03 23.6**	**-0.4**
CABF				pmax		pmax		
	comp=Z,105nm,1.5s,mb5.8							
HINF	**Hinteralfeld**	**62.21**	**322**	*e*P		**P**	**16 03 22.8**	**-1.2**
TNS	**Taunus Mts**	**62.30**	**325**	*e*P		**P**	**16 03 24.1**	**-0.5**
TNS				pmax		pmax		
	comp=Z,28nm,1.4s,mb5.2							
TNS	**Taunus Mts**	**62.30**	**325**	*e*P		**P**	**16 03 24.1**	**-0.5**
	comp=Z,28nm,1.4s,mb5.2							
HAU	**Haudompre**	**62.60**	**322**	*e*P		**P**	**16 03 25.4**	**-1.2**
HAU				*e*R				
	comp=Z,151nm,21.8s							
LASF	**Ste Croix**	**62.74**	**317**	*e*P		**P**	**16 03 27.0**	**-0.5**
	comp=Z,114nm,1.6s,mb5.4							
MTLF	**Montolieu**	**63.62**	**316**	*e*P		**P**	**16 03 33.1**	**-0.3**
	comp=Z,63nm,1.7s,mb5.1							
MTLF	**Montolieu**	**63.62**	**316**	*e*P		**P**	**16 03 33.1**	**-0.3**
MTLF				pmax		pmax		
	comp=Z,32nm,1.7s,mb5.1							
SMF	**Signal de Mont**	**63.65**	**320**	⇑*i*P		**P**	**16 03 32.4**	**-1.1**
	comp=Z,56nm,1.6s,mb5.0							
SMF	**Signal de Mont**	**63.65**	**320**	⇑*i*P		**P**	**16 03 32.4**	**-1.1**
SMF				pmax		pmax		
	comp=Z,28nm,1.6s,mb5.0							
LOR	**Lormes**	**63.87**	**320**	⇑*i*P		**P**	**16 03 33.9**	**-1.0**
	comp=Z,79nm,1.6s,mb5.2							
LOR	**Lormes**	**63.87**	**320**	⇑*i*P		**P**	**16 03 33.9**	**-1.0**
LOR				pmax		pmax		
	comp=Z,40nm,1.6s,mb5.2							
SSF	**Saint Saulge**	**64.02**	**320**	⇑*i*P		**P**	**16 03 34.9**	**-1.0**
SSF				pmax		pmax		
	comp=Z,40nm,1.6s,mb5.2							
SSF	**Saint Saulge**	**64.02**	**320**	⇑*i*P		**P**	**16 03 34.9**	**-1.0**
	comp=Z,40nm,1.6s,mb5.2							
AVF	**Avril sur Loir**	**64.02**	**320**	⇑*i*P		**P**	**16 03 34.6**	**-1.3**
	comp=Z,74nm,1.9s,mb5.1							
AVF	**Avril sur Loir**	**64.02**	**320**	⇑*i*P		**P**	**16 03 34.6**	**-1.3**
AVF				pmax		pmax		
	comp=Z,37nm,1.9s,mb5.1							
CAF	**Calviac**	**64.23**	**318**	*e*P		**P**	**16 03 36.9**	**-0.5**
BGF	**Bois d'Agland**	**64.26**	**319**	*e*P		**P**	**16 03 37.0**	**-0.5**
	comp=Z,156nm,1.6s,mb5.5							
BGF	**Bois d'Agland**	**64.26**	**319**	*e*P		**P**	**16 03 37.0**	**-0.5**
BGF				pmax		pmax		
	comp=Z,78nm,1.6s,mb5.5							
GIVF	**Givet**	**64.36**	**324**	*e*P		**P**	**16 03 37.7**	**-0.4**
TCF	**Toulx Ste Croi**	**64.58**	**319**	⇑*i*P		**P**	**16 03 39.0**	**-0.6**
	comp=Z,85nm,1.9s,mb5.2							
TCF	**Toulx Ste Croi**	**64.58**	**319**	⇑*i*P		**P**	**16 03 39.0**	**-0.6**
TCF				pmax		pmax		
	comp=Z,43nm,1.9s,mb5.2							
HYF	**Humbligny**	**64.64**	**320**	*e*P		**P**	**16 03 39.4**	**-0.6**
BAIF	**Baives**	**64.71**	**323**	*e*P		**P**	**16 03 40.0**	**-0.4**
	comp=Z,92nm,1.7s,mb5.2							
BAIF	**Baives**	**64.71**	**323**	*e*P		**P**	**16 03 40.0**	**-0.4**
BAIF				pmax		pmax		
	comp=Z,46nm,1.7s,mb5.2							
RJF	**Les Rejaudoux**	**64.72**	**318**	*e*P		**P**	**16 03 40.3**	**-0.3**
	comp=Z,44nm,1.5s,mb5.0							
RJF	**Les Rejaudoux**	**64.72**	**318**	*e*P		**P**	**16 03 40.3**	**-0.3**
RJF				pmax		pmax		
	comp=Z,22nm,1.5s,mb5.0							
LFF	**La Frestale**	**65.13**	**317**	*e*P		**P**	**16 03 42.9**	**-0.3**
DBIC	**Dimbokro**	**65.42**	**275**	P		**P**	**16 03 46.1**	**+0.6**
	comp=Z,5.7nm,0.8s,mb4.6,baz=66,slow=8.4,SNR=6.9							
DBIC				LR		LR	16 31 54.8	
	comp=Z,189nm,19.0s,MS4.3,baz=64,slow=36							
ETSF	**Etsaut**	**65.44**	**315**	⇑*i*P		**P**	**16 03 45.3**	**+0.1**
	comp=Z,88nm,1.7s,mb5.2							
ETSF	**Etsaut**	**65.44**	**315**	⇑*i*P		**P**	**16 03 45.3**	**+0.1**
ETSF				pmax		pmax		
	comp=Z,44nm,1.7s,mb5.2							
LIC	**Lamto**	**65.61**	**274**	⇑*i*P		**P**	**16 03 47.5**	**+0.7**
	comp=Z,82nm,1.4s,mb5.3							
LIC				*e*R				
	comp=Z,425nm,20.2s							
SJPF	**Ste Jean**	**65.96**	**315**	⇑*i*P		**P**	**16 03 48.9**	**+0.3**
	comp=Z,79nm,1.7s,mb5.2							
SJPF	**Ste Jean**	**65.96**	**315**	⇑*i*P		**P**	**16 03 48.9**	**+0.3**
SJPF				pmax		pmax		
	comp=Z,40nm,1.7s,mb5.2							
BOD	**Bodaibo**	**66.17**	**28**	*e*P		**P**	**16 03 44.7**	**-4.9**
MFF	**Saint Martin d**	**66.23**	**319**	⇑*i*P		**P**	**16 03 49.6**	**-0.6**
	comp=Z,102nm,1.7s,mb5.3							
MFF	**Saint Martin d**	**66.23**	**319**	⇑*i*P		**P**	**16 03 49.6**	**-0.6**
MFF				pmax		pmax		
	comp=Z,51nm,1.7s,mb5.3							
KONO	**Kongsberg**	**66.37**	**334**	*i* P		**P**	**16 03 50.2**	**-0.7**
MDT	**Midelt**	**66.44**	**303**	P		**P**	**16 03 52.6**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.3,baz=101,slow=9.4,SNR=6.7							
NB2	**NORSAR Subarra**	**66.46**	**336**	P		**P**	**16 03 50.5**	**-0.9**
	comp=Z,82nm,1.7s,mb5.5,baz=113,slow=7.4							
NB2	**NORSAR Subarra**	**66.46**	**336**	P		**P**	**16 03 50.5**	**-0.9**
	baz=113,slow=7.4							
NB2	**NORSAR Subarra**	**66.46**	**336**	P		**P**	**16 03 50.5**	**-0.9**
NB2				pmax		pmax		
	comp=Z,82nm,1.7s,mb5.5							
NOA	**NORSAR Array B**	**66.46**	**336**	P		**P**	**16 03 50.0**	**-1.5**
	comp=Z,6.9nm,1.0s,mb4.6,baz=117,slow=7.3,SNR=5.7							
NOA				LR		LR	16 34 48.5	
	comp=Z,173nm,20.1s,MS4.3,baz=125,slow=38							
LDF	**La Druitiere**	**66.83**	**321**	⇑*i*P		**P**	**16 03 53.1**	**-0.9**
	comp=Z,146nm,1.7s,mb5.4							
LDF	**La Druitiere**	**66.83**	**321**	⇑*i*P		**P**	**16 03 53.1**	**-0.9**
LDF				pmax		pmax		
	comp=Z,73nm,1.7s,mb5.4							
FLN	**La Foliniere**	**67.11**	**321**	*e*P		**P**	**16 03 55.1**	**-0.7**
	comp=Z,53nm,1.4s,mb5.1							
FLN				*e*R				
	comp=Z,110nm,17.5s							
FLN	**La Foliniere**	**67.11**	**321**	*e*P		**P**	**16 03 55.1**	**-0.7**
FLN				pmax		pmax		
	comp=Z,26nm,1.4s,mb5.1							
FLN				MLR		MLR		
	comp=Z,110nm,17.5s,MS4.1							
ESDC	**Sonseca Array**	**67.15**	**311**	P		**P**	**16 03 56.2**	**-0.1**
	comp=Z,4.9nm,1.1s,mb4.5,baz=78,slow=5.5,SNR=8.9							
ESLA	**Sonseca Array**	**67.15**	**311**	P		**P**	**16 03 56.6**	**+0.3**
JOW	**Kunigami**	**67.19**	**63**	LR		LR	16 34 52.9	
	comp=Z,297nm,20.6s,MS4.5,baz=126,slow=38							
ARCES	**ARCESS Array B**	**67.80**	**347**	P		**P**	**16 03 59.2**	**-0.6**
	comp=Z,5.4nm,0.7s,mb4.7,baz=127,slow=6.1,SNR=14							
ARCES				LR		LR	16 37 04.4	
	comp=Z,169nm,19.3s,MS4.3,baz=126,slow=39							
FITZ	**Fitzroy Crossi**	**68.01**	**112**	⇓*i*P		**P**	**16 04 01.8**	**-0.1**
	comp=Z,26nm,1.2s,mb5.1							
SGMF	**Saint Gilles**	**68.28**	**320**	*e*P		**P**	**16 04 02.6**	**-0.5**
	comp=Z,97nm,1.5s,mb5.3							
QUIF	**Quistinic**	**68.58**	**319**	*e*P		**P**	**16 04 04.0**	**-1.0**
	comp=Z,91nm,1.6s,mb5.2							
ROSF	**Rostrenen**	**68.76**	**320**	*e*P		**P**	**16 04 04.8**	**-1.3**
	comp=Z,116nm,1.6s,mb5.3							
MDJ	**Mudanjiang**	**70.82**	**45**	P		**P**	**16 04 18.4**	**-0.4**
MDJ				AP		pP	16 04 21.8	-0.1
MDJ				XP		sP	16 04 23.0	0.0
MDJ				PCP		PcP	16 04 38.9	-0.7
MDJ				PP		PP	16 06 54.5	-3.3
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.4s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,180nm,4.5s							
MDJ				LR		LR		
	comp=N,440nm,18.6s,MS4.8							
MDJ				LR		LR		
	comp=E,330nm,17.7s,MS4.8							
MDJ				LR		LR		
	comp=Z,610nm,16.9s,MS4.9							
MAW	**Mawson**	**73.17**	**179**	LR		LR	16 28 27.4	
	comp=Z,481nm,21.7s,MS4.7,baz=55,slow=29							
YAK	**Yakutsk**	**75.06**	**27**	P		**P**	**16 04 42.8**	**-0.6**
YAK				pmax		pmax		
	comp=Z,21nm,1.1s,mb5.0							
YAK	**Yakutsk**	**75.06**	**27**	P		**P**	**16 04 42.8**	**-0.6**
	comp=Z,21nm,1.1s,mb5.0							
SYO	**Syowa Base**	**76.03**	**188**	⇓P		**P**	**16 04 49.9**	**+1.1**
SYO	**Syowa Base**	**76.03**	**188**	⇓*e*P		**P**	**16 04 49.9**	**+1.1**
WRA	**Warramunga Arr**	**76.44**	**112**	P		**P**	**16 04 51.3**	**-0.7**
	comp=Z,24nm,1.1s,mb5.0,baz=289,slow=5.0,SNR=93							
WRAB	**Tennant Creek**	**76.45**	**112**	*e*P		**P**	**16 04 51.7**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,121nm,1.4s,mb5.6							
WRAB	**Tennant Creek**	**76.45**	**112**	*e*P		**P**	**16 04 51.7**	**-0.4**
	comp=Z,121nm,1.4s,mb5.6							
WB2	**Warramunga Arr**	**76.45**	**112**	*e*P		**P**	**16 04 51.4**	**-0.7**
TIXI	**Tiksi**	**77.72**	**17**	P		**P**	**16 04 57.9**	**-0.2**
NVL	**N'lazarevskaya**	**82.98**	**195**	*e*P		**P**	**16 05 24.0**	**-2.2**
NVL				*e*PP		pP	16 05 31.8	+2.4
NVL				*e*SS		SS	16 21 10.1	-0.7
NVL				pmax		pmax		
	comp=Z,2.0nm,1.2s							
STKA	**Stephens Creek**	**85.07**	**123**	*e*P		**P**	**16 05 37.9**	**+0.3**
	comp=Z,8.2nm,1.2s,mb4.7							
STKA	**Stephens Creek**	**85.07**	**123**	P		**P**	**16 05 37.2**	**-0.4**
	comp=Z,7.5nm,1.0s,mb4.8,baz=274,slow=2.2,SNR=10.0							
STKA				LR		LR	16 40 27.2	
	comp=Z,370nm,19.5s,MS4.8,baz=110,slow=34							
STKA	**Stephens Creek**	**85.07**	**123**	*e*P		**P**	**16 05 37.6**	**0.0**
PMG	**Port Moresby**	**87.17**	**100**	*i* P		**P**	**16 05 48.1**	**-0.2**
PMG	**Port Moresby**	**87.17**	**100**	*e*P		**P**	**16 05 49.4**	**+1.0**
	comp=Z,14nm,1.0s,mb5.1							
SNAA	**Sanae**	**87.43**	**197**	LR		LR	16 37 16.5	
	comp=Z,151nm,20.3s,MS4.4,baz=46,slow=30							
BILL	**Bilibino**	**90.39**	**21**	*e

8.9nm,0.3s,mb4.7,baz=351,slow=6.3,SNR=12
HNR Honiara 26.31 279 Pn **P 16 10 23.1 +0.5**
19nm,0.8s,mb4.7
SNZO South Karori 27.94 199 *e*P **P 16 10 38.6 +1.4**
RKT Rikitea 37.40 108 *e*LR LR 16 21 31.0
156nm,28.2s
PMG Port Moresby 38.58 274 *e*P **P 16 12 09.9 +0.3**
TAU Tasmania Unive 43.29 222 *e*P **P 16 12 50.0 +1.9**
TAU pmax pmax
comp=Z,27nm,1.0s,mb4.9
TAU Tasmania Unive 43.29 222 *e*P **P 16 12 50.0 +1.9**
comp=Z,27nm,1.0s,mb4.9
WB2 Warramunga Arr 49.57 257 *e*P **P 16 13 37.8 -0.2**
WRAB Tennant Creek 49.57 257 *e*P **P 16 13 37.7 -0.3**
WRAB pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
WRAB Tennant Creek 49.57 257 *e*P **P 16 13 37.7 -0.3**
comp=Z,9.7nm,0.4s,mb5.2
WRA Warramunga Arr 49.58 257 P **P 16 13 37.2 -0.9**
comp=Z,5.3nm,0.5s,mb4.9,baz=91,slow=6.9,SNR=40
WRA PcP PcP 16 14 59.2 -0.5
comp=Z,2.8nm,0.7s,baz=89,slow=3.9,SNR=6.9
FORT Forrest 55.24 243 *e*P **P 16 14 19.2 -1.0**
comp=Z,28nm,0.6s,mb5.5
MBWA Marble Bar 63.12 254 *e*P **P 16 15 14.1 -0.7**
comp=Z,2.7nm,0.5s,mb4.6
SBA Scott Base 63.49 185 *e*P **P 16 15 15.4 -1.2**
SBA pmax pmax
comp=Z,15nm,1.0s,mb5.1
SBA Scott Base 63.49 185 *e*P **P 16 15 15.4 -1.2**
comp=Z,15nm,1.0s,mb5.1
VNDA Vanda 63.61 186 P **P 16 15 17.2 -0.1**
comp=Z,3.7nm,0.9s,mb4.4,baz=20,slow=7.7,SNR=8.9
VNDA Vanda 63.61 186 *e*P **P 16 15 17.3 +0.1**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 63.61 186 *e*P **P 16 15 17.3 +0.1**
comp=Z,3.7nm,0.9s,mb4.4
NWAO Narrogin (SRO) 64.46 240 *e*P **P 16 15 23.5 0.0**
MAJO Matsushiro 68.52 320 *e*P **P 16 15 48.9 -0.2**
MAJO pmax pmax
comp=Z,17nm,1.1s,mb4.9
MAJO Matsushiro 68.52 320 *e*P **P 16 15 48.9 -0.2**
comp=Z,17nm,1.1s,mb4.9
CASY Casey 70.51 205 *e*P **P 16 15 57.3 -3.5**
NVAR Mina Array Bea 74.35 42 P **P 16 16 24.3 +0.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=231,slow=12,SNR=9.3
QSPA South Pole Qui 74.91 180 *e*P **P 16 16 26.7 +0.2**
comp=Z,9.0nm,0.8s,mb4.8
KS15 Wonju Array Si 75.75 316 *e*P **P 16 16 31.7 -0.5**
MA2 Magadan 79.81 343 *e*P **P 16 17 00.7 +6.6**
MCK McKinley 80.92 11 *e*P **P 16 16 59.6 -0.4**
MCK pmax pmax
comp=Z,9μm,1.2s
MCK McKinley 80.92 11 *e*P **P 16 16 59.6 -0.4**
comp=Z,9μm,1.2s
COLA College 82.16 11 *e*P **P 16 17 07.0 +0.6**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
COLA College 82.16 11 *e*P **P 16 17 07.0 +0.6**
comp=Z,6.0nm,0.8s,mb4.6
ILAR Eielson Array 82.25 11 P **P 16 17 07.2 +0.4**
comp=Z,1.8nm,0.6s,mb4.2,baz=232,slow=6.4,SNR=26
PDAR Pinedale Array 82.29 42 P **P 16 17 07.1 -0.4**
comp=Z,1.4nm,0.8s,mb4.0,baz=214,slow=2.8,SNR=10
BILL Bilibino 84.20 353 *e*P **P 16 17 17.9 +1.2**
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
BILL Bilibino 84.20 353 *e*P **P 16 17 17.9 +1.2**
comp=Z,4.2nm,1.0s,mb4.5
PMSA Palmer Station 84.56 156 P **P 16 17 19.5 +1.0**
MAW Mawson 87.94 199 P **P 16 17 34.8 -0.2**
comp=Z,5.2nm,0.8s,mb4.8,baz=103,slow=7.2,SNR=5.6
MAW Mawson 87.94 199 *e*P **P 16 17 35.2 +0.2**
MAW pmax pmax
comp=Z,9.0nm,1.0s
MAW Mawson 87.94 199 *e*P **P 16 17 35.2 +0.2**
comp=Z,8.7nm,1.0s,mb4.9
PLCA Paso Flores 89.94 132 *e*P **P 16 17 45.6 +0.5**
YKA Yellowknife Ar 89.98 23 P **P 16 17 44.8 +0.1**
comp=Z,0.5nm,0.7s,mb4.8,baz=239,slow=4.9,SNR=8.6
SNAA Sanae 93.19 177 *e*P **P 16 18 00.4 +0.9**
TIXI Tiksi 94.66 344 *e*P **P 16 18 05.1 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,1.4s,mb4.5
TRQA Tornquist 97.09 132 P **P 16 18 17.0 -1.0**
MKAR Makanchi Array 110.40 315 PKiKP 16 23 17.4
comp=Z,0.4nm,0.7s,baz=45,slow=1.7,SNR=5.0
BVAR Borovoye Array 117.47 322 PKP PKPdf 16 23 30.9 +0.9
comp=Z,1.0nm,0.7s,baz=297,slow=3.3,SNR=6.0
ARCES ARCESS Array B 124.30 352 PKP PKPdf 16 23 43.5 +0.5
comp=Z,2.6nm,0.8s,baz=63,slow=2.7,SNR=8.3
ARCES ARCESS Array B 124.30 352 PKP PKPdf 16 23 43.5 +0.5
AKASG Malin Array Be 139.96 337 PKhKP 16 24 06.3
comp=Z,0.2nm,0.4s,baz=36,slow=3.5,SNR=3.1
AKASG Malin Array Be 139.96 337 PKP PKPdf 16 24 06.3 -6.5
CLZ Clausthal 143.23 356 *e*PKPbc PKPbc 16 24 17.7 +1.1
CLL Collm 143.51 353 *i* PKIKP PKPdf 16 24 19.9 +1.0
STHS Stebnicka Huta 143.68 343 *e*PKP PKPdf 16 24 19.9 +0.7
STHS *e* 16 24 23.3
KOLS Kolonicke sedl 143.82 342 *e*PKP PKPdf 16 24 20.0 +0.5
KOLS *e* 16 24 33.7
DPC Dobruska-Polom 143.94 349 *e*PKP PKPdf 16 24 20.0 +0.4
OKC Ostrava-Krasne 144.06 347 *e*PKP PKPdf 16 24 20.0 +0.1
CRVS Cervenica-Dubn 144.08 343 *e*PKP PKPdf 16 24 20.3 +0.3
MOX Moxa 144.31 354 *i* P PKPbc 16 24 19.8 0.0
PRU Pruhonice 144.59 351 *e*PKP PKPdf 16 24 20.9 +0.1
KECS Kecovo 144.74 344 *e*PKP PKPdf 16 24 22.8 +1.6
VRAC Vranov 144.88 348 PKP PKPdf 16 24 22.7 +1.3
comp=Z,7.2nm,1.0s,baz=346,slow=2.1,SNR=7.9
TNS Taunus Mts 144.96 358 *e*PKPbc PKPbc 16 24 23.2 +1.6
TREC Trest 145.10 349 *e*PKP PKPdf 16 24 23.4 +1.6
GIVF Givet 145.10 2 *e*PKP1 PKPbc 16 24 23.1 +1.1
comp=Z,22nm,0.9s
BAIF Baives 145.12 2 *e*PKP1 PKPbc 16 24 23.4 +1.3
comp=Z,29nm,1.0s
VYHS Vyhne 145.15 345 *i* PKP PKPdf 16 24 24.2 +2.3
VYHS *e* 16 24 36.1
GRA1 Grafenberg Arr 145.29 354 *e*PKPbc PKPbc 16 24 24.3 +1.8
GRF Grafenberg Arr 145.29 354 *e*PKP PKPdf 16 24 24.3 +2.2
KMBO Kilima Mbogo 145.35 245 PKPbc PKPbc 16 24 25.9 +2.2
comp=Z,5.8nm,0.8s,baz=73,slow=2.1,SNR=11
SMOL Smolenice 145.46 347 *e*PKP PKPdf 16 24 26.0 +3.6
KHC Kasperske Hory 145.57 351 *e*PKP PKPdf 16 24 24.7 +2.1
WET Wettzell 145.65 352 *e*PKPbc PKPbc 16 24 25.9 +2.5
BR131 Keskin Array S 145.74 321 *e*PKPdf PKPdf 16 24 26.4 +3.3
BRTR Keskin Array B 145.74 321 PKPbc PKPbc 16 24 25.6 +1.7
comp=Z,5.2nm,0.8s,baz=111,slow=2.7,SNR=18
GEC2 GERESS Array S 145.83 351 *e*PKPbc PKPbc 16 24 26.0 +2.1
ZST Bratislava 145.83 347 *e*PKP PKPdf 16 24 26.8 +3.8
GRR Gorron 146.32 9 *e*PKP1 PKPbc 16 24 26.6 +1.5
comp=Z,7.9nm,0.7s
MOA Molln 146.71 350 ⇑*i*P PKPdf 16 24 28.6 +4.0
comp=Z,11nm,1.1s
MOA Molln 146.71 350 ⇑P PKPdf 16 24 28.6 +4.0
MEZF Maizieres J'vi 146.71 1 *e*PKP1 PKPbc 16 24 28.4 +2.4
FUR Furstenfeldbru 146.80 354 *e*PKPbc PKPbc 16 24 28.8 +2.6
CDF Champ du Feu 146.80 359 *e*PKP1 PKPbc 16 24 28.6 +2.4
comp=Z,40nm,1.3s
BFO Black Forest 146.85 357 *e*PKPbc PKPbc 16 24 28.9 +2.6
ARSA Arzberg 147.06 348 ⇑*i*P PKPdf 16 24 29.4 +4.2
comp=Z,9.1nm,1.1s
HAU Haudompre 147.22 360 *e*PKP1 PKPdf 16 24 29.7 +4.3
HINF Hinteralfeld 147.41 359 *e*PKP1 PKPdf 16 24 30.5 +4.8
MOTA Moosalm 147.63 354 ⇑*i*P PKPdf 16 24 30.9 +4.8
comp=Z,11nm,1.2s
WTTA Wattenberg 147.65 353 ⇑*i*P PKPdf 16 24 31.2 +5.1
comp=Z,7.7nm,0.6s
WTTA Wattenberg 147.65 353 ⇑P PKPdf 16 24 31.2 +5.1
SQTA Sankt Quirin 147.74 354 ⇑*i*P PKPdf 16 24 31.3 +5.1
comp=Z,7.7nm,1.2s
DAVA Damuels 147.80 355 ⇑*i*P PKPdf 16 24 31.6 +5.3
comp=Z,19nm,1.4s
DAVA Damuels 147.80 355 ⇑P PKPdf 16 24 31.6 +5.3
LOR Lormes 147.90 3 *e*PKP1 PKPdf 16 24 31.5 +5.0
comp=Z,5.8nm,0.6s
SSF Saint Saulge 148.08 4 *e*PKP1 PKPdf 16 24 32.2 +5.4
comp=Z,10nm,0.7s
AVF Avril sur Loir 148.34 4 *e*PKP1 PKPdf 16 24 32.4 +5.2
comp=Z,2.8nm,0.6s
SMF Signal de Mont 148.52 3 *e*PKP1 PKPdf 16 24 32.9 +5.4
BGF Bois d'Agland 148.54 5 *e*PKP1 PKPdf 16 24 33.2 +5.7
comp=Z,11nm,0.7s
CABF La Chapelle 148.62 0 *e*PKP1 PKPdf 16 24 34.1 +6.4
comp=Z,33nm,1.1s
TCF Toulx Ste Croi 148.75 5 *e*PKP1 PKPdf 16 24 33.6 +5.7
LPL La Plagne 149.71 359 *e*PKP1 PKPdf 16 24 37.2 +7.7
comp=Z,14nm,0.9s
LPG La Plagne 149.73 359 *e*PKP1 PKPdf 16 24 37.5 +8.0
comp=Z,9.5nm,0.8s
ORIF Oris-en-Rattie 150.31 1 *e*PKP1 PKPdf 16 24 38.2 +7.8
comp=Z,18nm,1.0s
VIVF Saint-Julien-l 150.34 2 *e*PKP1 PKPdf 16 24 38.2 +7.7
comp=Z,16nm,1.0s
LASF Ste Croix 151.08 4 *e*PKP1 PKPdf 16 24 39.9 +8.3
comp=Z,12nm,0.9s
SMRF Simiane la Rot 151.25 1 *e*PKP1 PKPdf 16 24 40.6 +8.8
comp=Z,22nm,0.9s

*BJI **19** 16:05:08.2, 5.97N×124.93E, h24km, mB5.0, mb4.6, Ms4.8, Msz4.5*
*MOS **19** 16:05:08.0±0.8, 6.12N×125.05E, h33km, mb4.8/17, Error ellipse: s-maj=25.7km s-min=8.4km az=120.7*
*MAN **19** 16:05:09.2, 5.95N×124.82E, h26km, mb4.6, ML3.5, MS4.7*
MAN INTENSITY II - COTABATO CITY GENERAL SANTOS CCITY.
*NEIC **19** 16:05:09.1±0.4, 6.03N×124.95E, mb4.7/11, Error ellipse: s-maj=16.6km s-min=7.9km az=59.0*
*IDC **19** 16:05:20.9±10.0, 6.09N×125.20E, h138km±101km, mb4.0/13, mb1 4.1/13, mb1mx3.9/22, mbtmp4.4/13, MS3.8/3, Ms1 3.8/3, ms1mx3.2/28, Error ellipse: s-maj=42.0km s-min=15.4km az=55.0*

ISC 19 16:05:07.1±0.3, 5.85N±0.03×124.86E±0.04, h25km, h25km±2.3km: pP-P, n80, σ1°31/89, mb4.5/37, MS4.2/9, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.18**	**11**	⇓*e*P	**Pn**	**16 05 28.0**	**-0.2**
KCP				*i* S	**Sb**	**16 05 43.6**	**+0.1**
DAV	**Davao City (W)**	**1.41**	**31**	*i* P	**Pn**	**16 05 33.5**	**+1.9**
DAV	**Davao City (W)**	**1.41**	**31**	*e*P	**Pn**	**16 05 33.0**	**+1.4**
DAV				*e*Sn	**Sn**	**16 05 51.4**	**+1.9**
MATI	**Mati**	**1.77**	**52**	*e*P	**Pn**	**16 05 37.5**	**+0.8**
MATI				*e*S	**Sn**	**16 05 57.9**	**-0.6**
BUKP	**Musuan**	**2.03**	**6**	*e*P	**Pn**	**16 05 41.2**	**+0.8**
PAGZ	**Pagadian**	**2.47**	**324**	*e*P	**Pn**	**16 05 47.1**	**+0.4**
CGP	**Cagayan de Oro**	**2.59**	**356**	⇓*e*P	**Pn**	**16 05 48.8**	**+0.2**
CGP				*e*S	**Sn**	**16 06 18.1**	**-1.4**
BIPH	**Bislig**	**2.76**	**33**	⇑*e*P	**Pn**	**16 05 52.4**	**+1.5**
IPIL	**Ipil**	**2.98**	**310**	*e*P	**Pn**	**16 05 54.5**	**+0.5**
IPIL				*e*S	**Sn**	**16 06 29.3**	**0.0**
DCPH	**Dipolog City**	**3.10**	**331**	⇓*i*P	**Pn**	**16 05 56.7**	**+0.9**
DCPH				*i* S	**Sn**	**16 06 37.2**	**+4.8**
BUTP	**Butuan**	**3.19**	**14**	*e*P	**Pn**	**16 05 57.5**	**+0.5**
TBP	**Tagbilaran**	**3.94**	**346**	*e*P	**Pn**	**16 06 08.8**	**+1.1**
MSLP	**Maasin**	**4.26**	**0**	*e*P	**Pn**	**16 06 11.6**	**-0.6**
LLP	**Lapu-Lapu**	**4.53**	**349**	*e*P	**Pn**	**16 06 15.9**	**-0.1**
LLP				*e*S	**Sn**	**16 06 58.6**	**-10**
GUIM	**Jordan**	**5.25**	**335**	*e*P	**Pn**	**16 06 26.8**	**+0.6**
JOW	**Kunigami**	**21.12**	**8**	LR	LR	16 18 17.4	
	comp=Z,177nm,18.8s,MS3.5,baz=117,slow=37						
FITZ	**Fitzroy Crossi**	**23.81**	**178**	*e*P	**P**	**16 10 23.2**	**+3.9**
	12nm,0.5s,mb4.6						
KKTK	**Khon Kaen**	**23.98**	**298**	P	**P**	**16 10 26.0**	**+5.1**
	494nm,0.7s						
SSE	**Sheshan**	**25.35**	**353**	*e*P	**P**	**16 10 30.5**	**-3.5**
SSE				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
SSE				AMB	AMB		
	comp=Z,60nm,4.1s						
PSI	**Prapat**	**26.03**	**264**	LR	LR	16 22 09.2	
	comp=Z,130nm,20.0s,MS3.5,baz=237,slow=38						
NST	**Nakhon Sawan**	**26.15**	**294**	P	**P**	**16 10 44.0**	**+2.4**
WHN	**Wuhan**	**26.48**	**339**	*e*P	**P**	**16 10 47.3**	**+2.8**
NJ2	**Nanjing**	**26.67**	**349**	*e*P	**P**	**16 10 46.1**	**-0.1**
NJ2				AP	pP	16 10 55.3	+1.9
NJ2				XP	sP	16 10 58.5	+1.8
NJ2				PP	PP	16 11 30.1	-0.6
NJ2				PPP	PPP	16 11 43.6	+0.9
NJ2				S	**S**	**16 15 17.0**	**-1.0**
NJ2				XS		16 15 33.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,230nm,6.8s						
NJ2				LR	LR		
	comp=N,600nm,20.0s,MS4.3						
NJ2				LR	LR		
	comp=E,720nm,19.0s,MS4.3						
NJ2				LR	LR		
	comp=Z,920nm,25.7s						
PMG	**Port Moresby**	**26.90**	**124**	P	**P**	**16 10 47.9**	**-0.6**
	comp=Z,10nm,0.7s,mb4.5,baz=32,slow=5.4,SNR=4.0						
WRAB	**Tennant Creek**	**27.27**	**160**	*e*P	**P**	**16 10 52.4**	**+0.6**
WRAB				*e**PP	pP	16 10 58.7	-0.4
WRAB				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**27.27**	**160**	*e*P	**P**	**16 10 52.4**	**+0.6**
	comp=Z,19nm,0.9s,mb4.6						
WRAB				*e*pP	pP	16 10 58.7	-0.4
WRA	**Warramunga Arr**	**27.27**	**160**	P	**P**	**16 10 52.8**	**+0.9**
	comp=Z,2.2nm,0.6s,mb3.8,baz=330,slow=11,SNR=33						
WB2	**Warramunga Arr**	**27.28**	**160**	*e*P	**P**	**16 10 52.8**	**+0.9**
KMI	**Kunming**	**28.57**	**314**	P	**P**	**16 11 03.8**	**+0.2**
CD2	**Chengdu**	**31.84**	**324**	P	**P**	**16 11 34.8**	**+2.3**
CD2				LR	LR		
	comp=N,350nm,5.1s						
CD2				LR	LR		
	comp=Z,310nm,13.2s,MS4.2						
CTA	**Charters Tower**	**33.27**	**141**	*e*P	**P**	**16 11 47.4**	**+2.3**
	comp=Z,6.4nm,1.5s,mb4.3						
CTA	**Charters Tower**	**33.27**	**141**	P	**P**	**16 11 45.8**	**+0.7**
	comp=Z,3.6nm,0.8s,mb4.4,baz=319,slow=11,SNR=11						
CTA	**Charters Tower**	**33.27**	**141**	*e*P	**P**	**16 11 47.4**	**+2.3**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
CTAO	**Charters Tower**	**33.27**	**141**	*e*P	**P**	**16 11 45.7**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
CTAO	**Charters Tower**	**33.27**	**141**	*e*P	**P**	**16 11 45.7**	**+0.7**
	comp=Z,2.9nm,0.4s,mb4.6						
LZH	**Lanzhou**	**35.75**	**330**	⇑P	**P**	**16 12 09.1**	**+2.9**
LZH				AP	pP	16 12 14.8	+1.2
LZH				XP	sP	16 12 17.8	+1.1
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,230nm,4.5s						
LZH				LR	LR		
	comp=E,990nm,14.5s						
LZH				LR	LR		
	comp=Z,1μm,15.6s,MS4.7						
CN2	**Changchun**	**37.80**	**1**	*e*P	**P**	**16 12 24.9**	**+1.5**
CN2				*e*S	**S**	**16 18 13.1**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,360nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=E,480nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=Z,500nm,18.0s,MS4.4						
MDJ	**Mudanjiang**	**38.84**	**5**	P	**P**	**16 12 32.6**	**+0.6**
MDJ				AP	pP	16 12 41.1	+1.6
MDJ				XP	sP	16 12 45.5	+2.9
MDJ				PP	PP	16 14 01.8	-3.2
MDJ				PCP	PcP	16 14 42.9	-0.6
MDJ				S	**S**	**16 18 29.4**	**+1.4**
MDJ				XS		16 18 44.6	
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,220nm,4.4s						
MDJ				LR	LR		
	comp=N,440nm,13.6s						
MDJ				LR	LR		
	comp=E,210nm,9.5s						
MDJ				LR	LR		
	comp=Z,420nm,7.5s						
GTA	**Gaotai**	**40.34**	**330**	P	**P**	**16 12 45.9**	**+1.4**
GTA				AP	pP	16 12 49.6	-2.4
GTA				XP	sP	16 12 53.5	-1.5
GTA				AMB	AMB		
	comp=Z,150nm,9.1s						
GTA				LR	LR		
GTA				LR	LR		
	comp=N,750nm,25.1s,MS4.6						
GTA				LR	LR		
	comp=E,630nm,21.7s,MS4.6						
GTA				LR	LR		
	comp=Z,900nm,23.2s,MS4.5						
STKA	**Stephens Creek**	**40.77**	**158**	*e*P	**P**	**16 12 50.0**	**+1.9**
	comp=Z,8.8nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**40.77**	**158**	P	**P**	**16 12 49.9**	**+1.8**
	comp=Z,18nm,0.9s,mb4.7,baz=328,slow=7.2,SNR=25						
JIRN	**Jiri**	**42.63**	**305**	*e*P	**P**	**16 13 05.0**	**+1.4**
	comp=Z,12nm,0.8s,mb4.7						
GUN	**Gumba**	**42.98**	**305**	*e*P	**P**	**16 13 08.0**	**+1.6**
	comp=Z,50nm,1.2s,mb5.1						
PKI	**Pulchoki**	**43.23**	**305**	*e*P	**P**	**16 13 09.6**	**+1.1**
KKN	**Kakani**	**43.42**	**305**	*e*P	**P**	**16 13 10.8**	**+0.8**
DMN	**Daman**	**43.50**	**304**	*e*P	**P**	**16 13 11.6**	**+1.0**
GKN	**Gorkha**	**44.03**	**305**	*e*P	**P**	**16 13 15.8**	**+0.9**
	comp=Z,29nm,1.3s,mb4.8						
ULN	**Ulaanbaatar**	**44.55**	**343**	*i* P	**P**	**16 13 16.8**	**-2.0**
SONM	**Songino Array**	**44.72**	**342**	P	**P**	**16 13 18.7**	**-1.5**
	comp=Z,0.7nm,0.7s,mb3.6,baz=156,slow=7.8,SNR=6.0						
KOLN	**Koldanda**	**44.80**	**304**	*e*P	**P**	**16 13 21.8**	**+0.7**
DZM	**Mont Dzumac**	**49.27**	**126**	P	**P**	**16 13 54.6**	**-1.7**
	comp=Z,4.6nm,0.7s,mb4.6,baz=286,slow=7.4,SNR=4.5						
WMQ	**Urumqi**	**49.93**	**325**	*e*P	**P**	**16 14 01.6**	**+0.5**
WMQ				AP	pP	16 14 11.5	+2.8
WMQ				XP	sP	16 14 15.4	+3.8
WMQ				PCP	PcP	16 15 22.3	+0.9
WMQ				PP	PP	16 15 57.0	+0.2
WMQ				PPP	PPP	16 16 52.6	+0.1
WMQ				*e*S	**S**	**16 21 07.6**	**-1.0**
WMQ				SCS	ScS	16 23 47.4	-0.4
WMQ				SS	SS	16 24 36.6	-1.5
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,110nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,22.4s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,21.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,1μm,22.2s,MS4.8						
MKAR	**Makanchi Array**	**54.76**	**325**	P	**P**	**16 14 37.0**	**-0.2**
	comp=Z,3.6nm,0.6s,mb4.5,baz=122,slow=8.3,SNR=43						
MKAR				LR	LR	16 39 11.2	
	comp=Z,186nm,19.0s,MS4.2,baz=89,slow=37						
MKAR	**Makanchi Array**	**54.76**	**325**	*i* P	**P**	**16 14 37.4**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YAK	**Yakutsk**	**56.18**	**3**	*i* P	**P**	**16 14 45.0**	**-2.2**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
AAK	**Ala-Archa**	**57.54**	**318**	*i* P	**P**	**16 14 55.4**	**-1.8**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.4s,mb4.3						
ZAL	**Zalesovo**	**57.87**	**333**	P	**P**	**16 14 57.8**	**-1.5**
	comp=Z,1.8nm,0.3s,mb4.5,baz=310,slow=14,SNR=10						
ZAL	**Zalesovo**	**57.87**	**333**	*i* P	**P**	**16 14 58.9**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KURK	**Kurchatov**	**58.96**	**328**	*e*P	**P**	**16 15 05.7**	**-1.3**
KURK				*e**PP	pP	16 15 14.9	+0.2
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**58.96**	**328**	*e*P	**P**	**16 15 05.7**	**-1.2**
	comp=Z,10nm,0.8s,mb4.9						
KURK				*e*pP	pP	16 15 14.9	+0.2
NVS	**Novosibirsk**	**59.15**	**333**	*e*P	**P**	**16 15 05.4**	**-2.8**
NVS				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
NVS				pmax	pmax		
	comp=E,8.0nm,1.4s						
KKAR	**Karatay Array**	**60.42**	**317**	*i* P	**P**	**16 15 16.3**	**-0.8**
BVA0	**Borovoye Array**	**64.54**	**327**	*i* P	**P**	**16 15 43.5**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**64.54**	**327**	P	**P**	**16 15 42.7**	**-1.6**
	comp=Z,5.3nm,1.0s,mb4.5,baz=135,slow=8.4,SNR=18						
CHKZ	**Chkalovo**	**64.71**	**328**	*e*P	**P**	**16 15 43.2**	**-2.2**
CHKZ				*e**PP	pP	16 15 51.0	-2.2
CHKZ				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
CHKZ	**Chkalovo**	**64.71**	**328**	*e*P	**P**	**16 15 43.2**	**-2.3**
	comp=Z,9.6nm,1.4s,mb4.6						
CHKZ				*e*pP	pP	16 15 51.0	-2.2
ZRNK	**Zerenda**	**65.26**	**327**	*e*P	**P**	**16 15 47.7**	**-1.3**
ZRNK				*e**PP	pP	16 15 54.2	-2.6
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**65.26**	**327**	*e*P	**P**	**16 15 47.7**	**-1.3**
	comp=Z,5.8nm,0.8s,mb4.7						
ZRNK				*e*pP	pP	16 15 54.2	-2.6
TIXI	**Tiksi**	**65.77**	**1**	*i* P	**P**	**16 15 48.9**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BILL	**Bilibino**	**68.01**	**16**	*e*P	**P**	**16 16 04.2**	**-2.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
AB31	**Akbulak array**	**69.34**	**321**	*i* P	**P**	**16 16 13.9**	**-0.9**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AKTO	**Aktyubinsk**	**70.85**	**322**	P	**P**	**16 16 23.3**	**-0.7**
	comp=Z,4.3nm,0.6s,mb4.5,baz=101,slow=6.9,SNR=22						
AKTO	**Aktyubinsk**	**70.85**	**322**	P	**P**	**16 16 22.9**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ARU	**Arti**	**72.16**	**328**	⇑*i*P	**P**	**16 16 30.0**	**-1.7**
ARU				*e*		16 16 46.3	
ARU				*e*		16 19 08.2	
ARU				*e*S	S	16 25 51.0	-0.1
ARU				*e*SS	SS	16 30 26.8	-3.9
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KIV	**Kislovodsk**	**80.34**	**313**	*e*P	**P**	**16 17 18.2**	**+0.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
COLA	**College**	**83.59**	**25**	*i* P	**P**	**16 17 33.6**	**-0.8**
ILAR	**Eielson Array**	**84.00**	**26**	P	**P**	**16 17 34.2**	**-2.3**
	comp=Z,1.5nm,0.7s,mb4.3,baz=238,slow=6.0,SNR=7.8						
OBN	**Obninsk**	**84.27**	**325**	*e*P	**P**	**16 17 37.6**	**-0.4**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
AKASG	**Malin Array Be**	**89.08**	**321**	P	**P**	**16 18 00.4**	**-1.3**
	comp=Z,0.1nm,0.2s,mb3.7,baz=75,slow=3.9,SNR=4.6						
FINES	**FINESS Array B**	**89.09**	**332**	P	**P**	**16 17 59.1**	**-2.3**
	comp=Z,1.0nm,0.7s,mb4.2,baz=117,slow=4.3,SNR=3.8						

IDC 19 16:17:33.9±1.1, 26.77N×140.97E, mb3.6/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=28.7km s-min=19.4km az=168.0, Bonin Islands region

| Code | Station Name | Δ° | A

LPAZ				*e*S	**S**	**16 23 27.2**	**+1.2**
ARE	**Arequipa**	**6.80**	**315**	*e*P	**P**	**16 22 41.0**	**-1.8**
SIV	**San Ignacio**	**7.44**	**45**	P	**P**	**16 22 51.3**	**+0.4**
	2.2nm,0.3s,baz=238,slow=12,SNR=67						
SIV				S	**S**	**16 24 13.3**	**-1.2**
	0.4nm,0.3s,baz=216,slow=16,SNR=3.2						
CPUP	**Villa Florida**	**9.73**	**122**	*e*Pn	**P**	**16 23 21.8**	**+1.5**
CFAA	**Coronel Fontan**	**10.29**	**188**	P	**P**	**16 23 26.9**	**-0.4**
	0.1nm,0.3s,baz=9.7,slow=13,SNR=12						
CFAA	**Coronel Fontan**	**10.29**	**188**	P	**P**	**16 23 26.9**	**-0.4**
TRQA	**Tornquist**	**17.06**	**168**	*e*Pn	**P**	**16 24 48.2**	**-1.8**
	2.5nm,0.7s						
PLCA	**Paso Flores**	**19.59**	**189**	*e*P	**P**	**16 25 17.0**	**+1.1**
	3.8nm,1.0s						
YKA	**Yellowknife Ar**	**91.84**	**340**	P	**P**	**16 33 46.4**	**+0.4**
	0.3nm,0.7s,mb3.3,baz=128,slow=4.8,SNR=6.1						
YKA	**Yellowknife Ar**	**91.84**	**340**	P	**P**	**16 33 46.4**	**+0.4**
MKAR	**Makanchi Array**	**144.21**	**37**	PKP	PKPdf	16 40 12.4	+0.9
	0.3nm,0.5s,baz=328,slow=3.4,SNR=4.1						

NIED ***19*** *16:23:00,26.80N×141.00E,h32km,Mw4.6 Best double couple: M0 7.86×10^15 NP1:φs214°,δ72°,λ51°. NP2:φs103°,δ42°,λ153°.*

IDC ***19*** *16:23:54.4±0.8,26.76N×140.91E,mb4.2/13,mb1 4.4/13, mb1mx4.3/19,mbtmp4.2/13,MS3.8/2,Ms1 3.8/2, ms1mx3.1/30,Error ellipse: s-maj=23.1km s-min=17.4km az=15.0*

JMA ***19*** *16:23:58.0±0.2,26.78N×141.18E,h95km,M4.0*

BJI ***19*** *16:24:11.3,26.77N×141.03E,h168km,mB4.9,mb4.6*

NEIC ***19*** *16:24:13.6±2.3,26.62N×140.79E,h162km±22km, mb4.5/13,MW4.5(NIED),Error ellipse: s-maj=13.7km s-min=8.8km az=72.0*

MOS ***19*** *16:24:14.5±1.4,26.65N×140.88E,h192km,mb4.4/8,Error ellipse: s-maj=17.7km s-min=8.3km az=108.3*

ISC 19 16:23:59.3±1.1,26.66N±0.06×141.05E±0.07,h48km±11km, n78,σ1ş20/79,mb4.6/33,MS4.0/5,3C-2D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.01**	**92**	P		**P**	**P**	**16 24 17.1**	**-0.2**
JHHJ				S		**S**	**S**	**16 24 31.8**	**+1.1**
CBIJ	**Chichi jima**	**1.10**	**67**	Pn		**P**	**P**	**16 24 17.8**	**-0.8**
	199nm,0.3s,baz=235,slow=2.7,SNR=47								
CBIJ				Sn		**S**	**S**	**16 24 32.4**	**-0.6**
	617nm,0.3s,baz=282,slow=22,SNR=28								
CBIJ	**Chichi jima**	**1.10**	**67**	P		**P**	**P**	**16 24 17.6**	**-1.0**
CBIJ				S		**S**	**S**	**16 24 32.5**	**-0.4**
JKO	**Kozu shima**	**7.68**	**348**	S		**S**	**S**	**16 27 12.4**	**-5.2**
JHJ	**Hanno**	**9.28**	**351**	S		**S**	**S**	**16 27 44.6**	**-13**
GUMO	**Guam**	**13.49**	**164**	*e*P		**P**	**P**	**16 27 20.9**	**+11**
KS15	**Wonju Array Si**	**15.48**	**317**	*e*P		**P**	**P**	**16 27 40.4**	**+4.6**
ASAJ	**Asahikawa**	**17.46**	**4**	LR		LR	LR	16 34 43.9	
	comp=Z,267nm,18.2s,baz=165,slow=37								
NJ2	**Nanjing**	**20.07**	**291**	*e*P		**P**	**P**	**16 28 31.9**	**+0.7**
NJ2				S		**S**	**S**	**16 32 07.0**	**-2.0**
NJ2				AMB		AMB	AMB		
	comp=Z,20nm,0.6s								
NJ2				AMB		AMB	AMB		
	comp=Z,240nm,6.7s								
NJ2				LR		LR	LR		
	comp=N,460nm,15.0s,MS4.1								
NJ2				LR		LR	LR		
	comp=E,480nm,18.0s,MS4.1								
NJ2				LR		LR	LR		
	comp=Z,190nm,17.3s,MS3.5								
YSS	**Yuzh-Sakhalins**	**20.30**	**3**	P		**P**	**P**	**16 28 38.9**	**+5.4**
HABR	**Khabarovsk**	**22.27**	**349**	*i*P		**P**	**P**	**16 28 53.0**	**-0.4**
HABR				MLR		MLR	MLR		
	comp=Z,600nm,17.0s,MS4.1								
WHN	**Wuhan**	**23.74**	**286**	P		**P**	**P**	**16 29 10.8**	**+3.0**
HHC	**Hu-ho-hao-te**	**28.15**	**308**	*e*P		**P**	**P**	**16 29 47.1**	**-1.9**
HHC				AP		pP		16 30 22.6	+21
HHC				XP		sP		16 30 43.3	+36
HHC				PCP		PcP		16 33 01.3	-1.0
HHC				S		**S**	**S**	**16 34 13.9**	**-15**
HHC				SCP				16 36 24.1	
HHC				PCS				16 36 42.5	
HHC				AMB		AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7								
HHC				AMB		AMB	AMB		
	comp=Z,170nm,7.8s								
HHC				LR		LR	LR		
	comp=N,200nm,10.9s,MS4.1								
HHC				LR		LR	LR		
	comp=E,240nm,12.0s,MS4.1								
HHC				LR		LR	LR		
	comp=Z,230nm,15.3s,MS3.9								
LZH	**Lanzhou**	**32.96**	**296**	*e*P		**P**	**P**	**16 30 33.3**	**+1.8**
LZH				AMB		AMB	AMB		
	comp=Z,30nm,1.3s,mb5.1								
LZH				AMB		AMB	AMB		
	comp=Z,170nm,5.0s								
MA2	**Magadan**	**33.58**	**9**	*e*P		**P**	**P**	**16 30 39.7**	**+3.1**
MA2				pmax		pmax	pmax		
	comp=Z,52nm,1.5s,mb5.2								
MA2	**Magadan**	**33.58**	**9**	*e*P		**P**	**P**	**16 30 39.7**	**+3.1**
	comp=Z,52nm,1.5s,mb5.2								
ULN	**Ulaanbaatar**	**33.95**	**318**	*e*P		**P**	**P**	**16 30 39.8**	**-0.1**
ULN				pmax		pmax	pmax		
	comp=Z,16nm,1.5s,mb4.7								
ULN	**Ulaanbaatar**	**33.95**	**318**	*e*P		**P**	**P**	**16 30 39.8**	**-0.2**
	comp=Z,16nm,1.5s,mb4.7								
SONM	**Songino Array**	**34.33**	**317**	P		**P**	**P**	**16 30 42.7**	**-0.5**
	comp=Z,3.3nm,0.9s,mb4.3,baz=121,slow=8.0,SNR=18								
YAK	**Yakutsk**	**36.17**	**351**	*i*P		**P**	**P**	**16 30 57.7**	**-1.1**
YAK				pmax		pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4								
PMG	**Port Moresby**	**36.34**	**170**	*e*P		**P**	**P**	**16 31 02.5**	**+1.8**
GTA	**Gaotai**	**36.53**	**301**	P		**P**	**P**	**16 31 01.3**	**-0.7**
GTA				AMB		AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6								
ZAK	**Zakamensk**	**37.27**	**320**	*e*P		**P**	**P**	**16 31 01.2**	**-6.9**
ZAK				pmax		pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3								
LSA	**Lhasa**	**43.82**	**286**	*e*P		**P**	**P**	**16 32 03.0**	**+0.6**
BILL	**Bilibino**	**44.10**	**13**	*e*P		**P**	**P**	**16 32 04.6**	**+0.5**
BILL				pmax		pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4								
BILL				MLR		MLR	MLR		
	comp=Z,400nm,25.0s,MS4.2								
BILL	**Bilibino**	**44.10**	**13**	*e*P		**P**	**P**	**16 32 03.9**	**-0.2**
	comp=Z,12nm,1.3s,mb4.5								
WMQ	**Urumqi**	**46.01**	**306**	*e*P		**P**	**P**	**16 32 20.5**	**+0.8**
WMQ				AMB		AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6								
WMQ				AMB		AMB	AMB		
	comp=Z,80nm,4.8s								
CTAO	**Charters Tower**	**46.75**	**173**	*e*P		**P**	**P**	**16 32 25.9**	**+0.1**
WRAB	**Tennant Creek**	**46.77**	**189**	*e*P		**P**	**P**	**16 32 24.7**	**-1.3**
WRAB				pmax		pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9								
WRAB	**Tennant Creek**	**46.77**	**189**	*e*P		**P**	**P**	**16 32 24.7**	**-1.3**
	comp=Z,13nm,0.8s,mb4.9								
WB2	**Warramunga Arr**	**46.78**	**189**	*e*P		**P**	**P**	**16 32 24.5**	**-1.5**
WRA	**Warramunga Arr**	**46.78**	**189**	P		**P**	**P**	**16 32 25.5**	**-0.6**
	comp=Z,4.8nm,0.6s,mb4.6,baz=9.6,slow=8.4,SNR=16								
PSI	**Prapat**	**46.80**	**247**	LR		LR	LR	16 48 38.5	
	comp=Z,108nm,19.3s,MS3.8,baz=228,slow=32								
JIRN	**Jiri**	**48.47**	**284**	*e*P		**P**	**P**	**16 32 40.1**	**+0.9**
	comp=Z,24nm,0.7s,mb5.4								
GUN	**Gumba**	**48.69**	**285**	*e*P		**P**	**P**	**16 32 41.6**	**+0.8**
	comp=Z,20nm,0.8s,mb5.2								
ZAL	**Zalesovo**	**49.16**	**319**	P		**P**	**P**	**16 32 42.9**	**-1.3**
	comp=Z,1.0nm,0.4s,mb4.2,baz=347,slow=6.0,SNR=4.2								
ZAL	**Zalesovo**	**49.16**	**319**	*e*P		**P**	**P**	**16 32 45.0**	**+0.9**
KKN	**Kakani**	**49.23**	**285**	*e*P		**P**	**P**	**16 32 46.3**	**+1.2**
DMN	**Daman**	**49.42**	**285**	*e*P		**P**	**P**	**16 32 47.4**	**+0.9**
	comp=Z,83nm,1.9s,mb5.4								
GKN	**Gorkha**	**49.74**	**285**	*e*P		**P**	**P**	**16 32 49.3**	**+0.3**
	comp=Z,39nm,1.2s,mb5.3								
MKAR	**Makanchi Array**	**49.97**	**310**	P		**P**	**P**	**16 32 49.8**	**-0.7**
	comp=Z,5.1nm,0.7s,mb4.6,baz=94,slow=9.0,SNR=43								
MKAR	**Makanchi Array**	**49.97**	**310**	*e*P		**P**	**P**	**16 32 50.5**	**0.0**
KOLN	**Koldanda**	**50.69**	**285**	*e*P		**P**	**P**	**16 32 56.5**	**+0.3**
	comp=Z,25nm,1.2s,mb5.0								
KURK	**Kurchatov**	**52.57**	**315**	*d*P		**P**	**P**	**16 33 09.2**	**-0.8**
KURK	**Kurchatov**	**52.57**	**315**	*e*P		**P**	**P**	**16 33 08.7**	**-1.3**
	comp=Z,14nm,1.0s,mb4.8								
KZA	**Kyzart**	**55.17**	**304**	P		**P**	**P**	**16 33 31.3**	**+2.0**
	SNR=8.7								
KBK	**Karagaybulak**	**55.34**	**305**	P		**P**	**P**	**16 33 31.4**	**+1.0**
	SNR=11								
USP	**Ospenovka**	**55.60**	**306**	P		**P**	**P**	**16 33 32.7**	**+0.4**
	SNR=5.3								
AAK	**Ala-Archa**	**55.67**	**305**	P		**P**	**P**	**16 33 33.5**	**+0.7**
	SNR=5.5								
AAK	**Ala-Archa**	**55.67**	**305**	*e*P		**P**	**P**	**16 33 32.0**	**-0.9**
AAK				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.6								
AAK	**Ala-Archa**	**55.67**	**305**	*e*P		**P**	**P**	**16 33 31.9**	**-0.9**
	comp=Z,5.9nm,0.9s,mb4.6								
UCH	**Uchtor**	**55.70**	**304**	P		**P**	**P**	**16 33 34.9**	**+1.8**
	SNR=17								
IMA2	**Indian Mountai**	**55.93**	**27**	*e*P		**P**	**P**	**16 33 36.3**	**+1.9**
CHKZ	**Chkalovo**	**57.52**	**318**	*e*P		**P**	**P**	**16 33 44.6**	**-1.3**
CHKZ				pmax		pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3								
CHKZ	**Chkalovo**	**57.52**	**318**	*e*P		**P**	**P**	**16 33 44.6**	**-1.3**
	comp=Z,2.2nm,0.6s,mb4.4								
BVAR	**Borovoye Array**	**57.67**	**318**	P		**P**	**P**	**16 33 45.0**	**-2.0**
	comp=Z,2.6nm,0.5s,mb4.5,baz=92,slow=8.1,SNR=19								
BRVK	**Borovoye**	**57.74**	**318**	*e*P		**P**	**P**	**16 33 46.3**	**-1.1**
STKA	**Stephens Creek**	**58.22**	**179**	*e*P		**P**	**P**	**16 33 49.2**	**-1.8**
ZRNK	**Zerenda**	**58.52**	**318**	*e*P		**P**	**P**	**16 33 52.3**	**-0.5**
ZRNK				pmax		pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4								
ZRNK	**Zerenda**	**58.52**	**318**	*e*P		**P**	**P**	**16 33 52.3**	**-0.6**
	comp=Z,5.5nm,1.2s,mb4.5								
KKAR	**Karatay Array**	**58.52**	**306**	*i*P		**P**	**P**	**16 33 52.4**	**-0.6**
KKAR				pmax		pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9								
ILAR	**Eielson Array**	**58.58**	**29**	P		**P**	**P**	**16 33 51.2**	**-1.9**
	comp=Z,0.9nm,0.8s,mb3.9,baz=251,slow=6.3,SNR=7.1								
NWAO	**Narrogin (SRO)**	**63.45**	**202**	*e*P		**P**	**P**	**16 34 23.6**	**-2.9**
ARU	**Arti**	**64.14**	**322**	*e*P		**P**	**P**	**16 34 25.4**	**-5.2**
YKA	**Yellowknife Ar**	**73.00**	**28**	*i*P		**P**	**P**	**16 35 25.0**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.3,baz=296,slow=6.2,SNR=47								
YKA	**Yellowknife Ar**	**73.00**	**28**	*e*P		**P**	**P**	**16 35 26.2**	**+0.9**
ARCES	**ARCESS Array B**	**73.61**	**341**	P		**P**	**P**	**16 35 28.1**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.4,baz=79,slow=9.2,SNR=5.9								
FINES	**FINESS Array B**	**77.88**	**334**	P		**P**	**P**	**16 35 53.0**	**-0.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=72,slow=6.0,SNR=6.5								
FINES	**FINESS Array B**	**77.88**	**334**	*i*P		**P**	**P**	**16 35 53.7**	**+0.6**
FINES				pmax		pmax	pmax		
	comp=Z,1.0nm,0.9s								
NVAR	**Mina Array Bea**	**81.58**	**51**	P		**P**	**P**	**16 36 16.6**	**+3.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=281,slow=7.5,SNR=5.5								
AKASG	**Malin Array Be**	**82.36**	**323**	P		**P**	**P**	**16 36 16.0**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=48,slow=5.5,SNR=7.0								
AKASG	**Malin Array Be**	**82.36**	**323**	*i*P		**P**	**P**	**16 36 16.6**	**-0.7**
AKASG				pmax		pmax	pmax		
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**82.36**	**323**	P		**P**	**P**	**16 36 16.0**	**-1.2**
PDAR	**Pinedale Array**	**85.23**	**44**	P		**P**	**P**	**16 36 34.0**	**+2.1**
	comp=Z,1.8nm,0.9s,mb4.2,baz=222,slow=1.1,SNR=9.3								
BRTR	**Keskin Array B**	**85.55**	**312**	P		**P**	**P**	**16 36 33.5**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.9,baz=71,slow=5.6,SNR=4.5								
ANMO	**Albuquerque**	**91.53**	**49**	*i*P		**P**	**P**	**16 37 02.3**	**+0.1**
PLCA	**Paso Flores**	**150.38**	**126**	PKPbc		PKPdf	PKPdf	16 43 48.6	+8.6
	comp=Z,1.8nm,0.7s,baz=212,slow=2.9,SNR=7.2								
LPAZ	**La Paz**	**151.01**	**75**	PKPbc		PKPdf	PKPdf	16 43 51.9	+10
	comp=Z,3.0nm,0.7s,baz=248,slow=4.3,SNR=8.4								

IDC ***19*** *16:31:00.8±0.9,26.74N×140.97E,mb3.7/7,mb1 4.0/7, mb1mx3.8/19,mbtmp3.7/7,Error ellipse: s-maj=25.2km s-min=18.0km az=171.0*

NEIC ***19*** *16:31:05.2±0.6,26.57N×140.85E,h35km,mb4.2/3,Error ellipse: s-maj=22.6km s-min=14.6km az=80.0*

ISC 19 16:31:03.6±0.6,26.7N±0.1×140.90E±0.08,h33km,n14, σ1ş21/14,mb3.8/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.22**	**71**	Pn		**Pn**	**Pn**	**16 31 24.9**	**+0.3**
	82nm,0.3s,baz=266,slow=15,SNR=9.8								
CBIJ				Sn		**Sn**	**Sn**	**16 31 39.6**	**-0.4**
	166nm,0.3s,baz=271,slow=22,SNR=16								
SONM	**Songino Array**	**34.21**	**317**	P		**P**	**P**	**16 37 48.5**	**+0.4**
	0.3nm,0.7s,mb3.3,baz=124,slow=10,SNR=2.7								
WB2	**Warramunga Arr**	**46.80**	**188**	*e*P		**P**	**P**	**16 39 34.2**	**+2.1**
WRA	**Warramunga Arr**	**46.80**	**188**	P		**P**	**P**	**16 39 32.7**	**+0.5**
	1.9nm,0.7s,mb4.1,baz=9.2,slow=8.5,SNR=23								
CTAO	**Charters Tower**	**46.80**	**173**	*e*P		**P**	**P**	**16 39 29.6**	**-2.5**
MKAR	**Makanchi Array**	**49.84**	**310**	P		**P**	**P**	**16 39 55.5**	**0.0**
	0.8nm,0.8s,mb3.8,baz=95,slow=9.8,SNR=7.4								
KURK	**Kurchatov**	**52.45**	**315**	*e*P		**P**	**P**	**16 40 13.8**	**-1.2**
	2.0nm,0.9s,mb4.0								
CHKZ	**Chkalovo**	**57.40**	**318**	*e*P		**P**	**P**	**16 40 45.1**	**-6.0**
	0.9nm,0.7s,mb3.9								
BVAR	**Borovoye Array**	**57.56**	**318**	P		**P**	**P**	**16 40 52.2**	**0.0**
	0.5nm,0.5s,mb3.8,baz=90,slow=12,SNR=3.7								
ILAR	**Eielson Array**	**58.61**	**29**	P		**P**	**P**	**16 40 59.1**	**-0.3**
	0.3nm,0.6s,mb3.5,baz=267,slow=5.9,SNR=4.8								
NWAO	**Narrogin (SRO)**	**63.42**	**202**	P		**P**	**P**	**16 41 29.2**	**-3.2**
	21nm,1.4s								
YKA	**Yellowknife Ar**	**73.03**	**28**	P		**P**	**P**	**16 42 31.5**	**-0.1**
	0.8nm,0.6s,mb3.8,baz=296,slow=6.4,SNR=13								
PDAR	**Pinedale Array**	**85.30**	**44**	P		**P**	**P**	**16 43 40.5**	**+2.0**
	0.6nm,0.6s,mb3.9,baz=18,slow=4.7,SNR=5.4								
LPAZ	**La Paz**	**151.14**	**75**	PKPbc		PKPdf	PKPdf	16 50 56.4	+8.3
	1.4nm,0.8s,baz=131,slow=0.4,SNR=8.1								

NEIC ***19*** *16:42:46.5±0.9,30.14S×177.39W,h35km,mb4.9/3,Error ellipse: s-maj=24.0km s-min=12.9km az=103.0*

IDC ***19*** *16:42:48.6±3.6,30.08S×177.55W,h42km±26km,mb4.9/3, mb1 5.0/4,mb1mx4.2/14,mbtmp5.0/4,ML4.0/1,Error ellipse: s-maj=38.3km s-min=23.3km az=115.0*

ISC 19 16:42:47.5±2.3,30.20S±0.07×177.8W±0.4,h42km,n27, σ0ş87/19,mb5.0/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.96**	**351**	P		**P**	**P**	**16 43 05.5**	**+0.8**
	205nm,0.3s,baz=66,slow=22,SNR=18								
RAO				S		**S**	**S**	**16 43 16.9**	**-0.4**
	3μm,0.3s,baz=51,slow=21,SNR=46								
RAO	**Raoul Island**	**0.96**	**351**	*e*Pn		**P**	**P**	**16 43 05.4**	**+0.7**
RAO				*e*Sn		**S**	**S**	**16 43 16.4**	**-0.9**
PUZ	**Puketiti**	**8.52**	**202**	PN		**P**	**P**	**16 44 45.1**	**-6.0**
URZ	**Urewera**	**9.09**	**206**	P		**P**	**P**	**16 44 53.1**	**-6.0**
	1.0nm,0.3s,baz=156,slow=22,SNR=8.5								
URZ				S		**S**	**S**	**16 46 35.3**	**-5.9**
	4.7nm,0.3s,baz=195,slow=22,SNR=14								
URZ	**Urewera**	**9.09**	**206**	PN		**P**	**P**	**16 44 53.7**	**-5.3**
BFZ	**Birch Farm**	**11.54**	**203**	SN		Sx	Sx	16 47 27.6	
MRZ	**Mangatainoka R**	**11.76**	**206**	SN		Sx	Sx	16 47 32.1	
SNZO	**South Karori**	**12.65**	**207**	*e*Pn		**P**	**P**	**16 45 48.2**	**+0.7**
NNZ	**Nelson**	**13.13**	**211**	SN		Sx	Sx	16 48 06.2	
THZ	**Tophouse**	**13.78**	**211**	PN		**P**	**P**	**16 46 01.0**	**-1.2**
THZ				SN		Sx	Sx	16 48 21.5	
MQZ	**McQueen's Vall**	**15.49**	**207**	SN		Sx	Sx	16 48 56.4	
RPZ	**Rata Peaks**	**16.16**	**210**	P		**P**	**P**	**16 46 33.0**	**0.0**
	0.6nm,0.3s,baz=0.6,slow=22,SNR=3.4								
RPZ				S		Sx	Sx	16 49 14.2	
	0.4nm,0.3s,baz=228,slow=15,SNR=4.5								
CTA	**Charters Tower**	**33.98**	**279**	*e*P		**P**	**P**	**16 49 30.7**	**+1.5**
	14nm,0.4s,mb5.2								
CTA	**Charters Tower**	**33.98**	**279**	P		**P**	**P**	**16 49 30.6**	**+1.4**
	22nm,0.6s,mb5.3,baz=102,slow=11,SNR=68								
STKA	**Stephens Creek**	**34.73**	**257**	*e*P		**P**	**P**	**16 49 37.0**	**+1.4**
	6.8nm,0.5s,mb4.8								
STKA	**Stephens Creek**	**34.73**	**257**	P		**P**	**P**	**16 49 36.5**	**+0.9**
	25nm,1.1s,mb5.1,baz=99,slow=9.4,SNR=30								
WB2	**Warramunga Arr**	**44.29**	**272**	*e*P		**P**	**P**	**16 50 54.6**	**-0.5**
WRAB	**Tennant Creek**	**44.30**	**272**	*e*P		**P**	**P**	**16 50 54.6**	**-0.5**
	14nm,0.3s,mb5.2								
WRA	**Warramunga Arr**	**44.30**	**272**	P		**P**	**P**	**16 50 54.9**	**-0.3**
	10nm,0.3s,mb5.0,baz=110,slow=8.1,SNR=352								
FITZ	**Fitzroy Crossi**	**52.57**	**270**	*e*P		**P**	**P**	**16 51 58.5**	**-0.8**
	4.2nm,0.6s,mb4.5								
MKAR	**Makanchi Array**	**117.81**	**310**	PKP		PKPdf		17 01 29.6	+0.4
	0.3nm,0.6s,baz=180,slow=1.4,SNR=3.6								
FINES	**FINESS Array B**	**145.03**	**340**	PKP		PKPdf		17 02 19.9	+0.5
	5.0nm,0.5s,baz=74,slow=3.5,SNR=45								
FINES	**FINESS Array B**	**145.03**	**340**	PKP		PKPdf		17 02 19.9	+0.5
NB2	**NORSAR Subarra**	**148.59**	**352**	PKPabc		PKPdf		17 02 30.4	+5.0
	1.4nm,0.7s,baz=13,slow=2.8								
NOA	**NORSAR Array B**	**148.59**	**352**	PKPbc		PKPdf		17 02 29.4	+4.0
	3.4nm,0.9s,baz=15,slow=4.3,SNR=5.0								
AKASG	**Malin Array Be**	**151.27**	**323**	PKPbc		PKPdf		17 02 36.9	+7.0
	2.2nm,0.5s,baz=47,slow=2.7,SNR=16								
BRTR	**Keskin Array B**	**152.69**	**299**	PKPbc		PKPdf		17 02 40.5	+8.2
	0.2nm,0.4s,baz=281,slow=2.6,SNR=3.1								

IDC ***19*** *16:56:52.9±0.9,17.14S×167.32E,mb4.1/8,mb1 4.5/10, mb1mx4.3/17,mbtmp4.4/10,ML4.9/2,MS3.8/11,Ms1 3.8/11, ms1mx3.5/34,Error ellipse: s-maj=28.9km s-min=21.3km az=117.0*

LDG ***19*** *16:56:55.5±0.2,17.25S×167.83E,h10km,Error ellipse: s-maj=39.2km s-min=2.0km az=100.0*

NEIC ***19*** *16:56:57.7±0.3,17.52S×166.98E,h10km,mb4.6/4,Error ellipse: s-maj=19.0km s-min=12.2km az=108.0*

ISC 19 16:56:53.0±3.6,17.18S±0.09×167.20E±0.09,h9km±23km, n81,σ0ş87/21,mb4.3/10,MS3.7/10,1C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.11**	**116**	*i*P		**Pb**	**Pb**	**16 57 14.4**	**+0.5**
DZM	**Mont Dzumac**	**4.92**	**188**	Pn		**Pn**	**Pn**	**16 58 08.2**	**-0.7**
	25nm,0.3s,baz=30,slow=18,SNR=521								
DZM				Sn		**Sn**	**Sn**	**16 59 02.4**	**-4.3**
	28nm,0.3s,baz=317,slow=22,SNR=7.5								
DZM				LR		LR	LR	16 59 57.4	
	comp=Z,900nm,19.2s,baz=19,slow=37								
HNR	**Honiara**	**10.45**	**317**	Pn		**P**	**P**	**16 59 25.3**	**-0.9**
	20nm,0.3s,baz=253,slow=0.4,SNR=58								
HNR				Sn		**S**	**S**	**17 01 19.1**	**-5.3**
	1.6nm,0.3s,baz=253,slow=22,SNR=1.9								
CTA	**Charters Tower**	**20.06**	**258**	*e*P		**P**	**P**	**17 01 31.4**	**+1.9**
	11nm,1.0s								
CTA	**Charters Tower**	**20.06**	**258**	P		**P**	**P**	**17 01 31.1**	**+1.6**
	4.5nm,0.8s,baz=80,slow=12,SNR=4.5								
CTA				LR		LR	LR	17 06 43.4	
	comp=Z,112nm,18.8s,MS3.2,baz=70,slow=29								
AFI	**Afiamalu**	**20.51**	**84**	LR		LR	LR	17 08 18.9	
	comp=Z,129nm,18.6s,MS3.3,baz=204,slow=34								
RPZ	**Rata Peaks**	**26.65**	**174**	LR		LR	LR	17 10 32.3	
	comp=Z,98nm,21.5s,MS3.3,baz=350,slow=31								
STKA	**Stephens Creek**	**27.41**	**233**	*e*P		**P**	**P**	**17 02 41.7**	**+0.6**
	6.8nm,0.7s,mb4.3								
STKA	**Stephens Creek**	**27.41**	**233**	P		**P**	**P**	**17 02 41.8**	**+0.7**
	9.9nm,0.8s,mb4.4,baz=59,slow=5.6,SNR=19								
STKA	**Stephens Creek**	**27.41**	**233**	*e*P		**P**	**P**	**17 02 41.5**	**+0.5**
WB2	**Warramunga Arr**	**31.23**	**260**	*e*P		**P**	**P**	**17 03 15.2**	**-0.1**
WRA	**Warramunga Arr**	**31.25**	**260**	P		**P**	**P**	**17 03 14.5**	**-1.0**
	1.6nm,0.7s,mb4.0,baz=90,slow=9.0,SNR=24								
WRA				PcP		PcP	PcP	17 06 08.8	-1.2
	1.3nm,1.0s,baz=89,slow=3.5,SNR=6.6								
GUMO	**Guam**	**37.70**	**323**	LR		LR	LR	17 17 33.3	
	comp=Z,102nm,20.0s,MS3.6,baz=135,slow=33								
**F

SJPF	**Ste Jean** 5.4nm,0.8s	**152.34**	**342**	*e*PKP1	PKPdf	17 16 52.2	+6.7

JMA 19 17:32:57.0±0.1, 27.99N×141.04E, h227km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.35**	**131**	P	P	17 33 32.1	-0.2
JHHJ	**Haha-jima-NKT**	**1.69**	**143**	P	P	17 33 34.8	-0.3
JHHJ				S	S	17 34 04.4	-0.1
JOD2	**Odawara 2**	**7.44**	**348**	P	P	17 34 43.8	0.0
JRY	**Ryogami san**	**8.21**	**348**	P	P	17 34 52.9	-0.8
JAG	**Ashikaga**	**8.52**	**351**	S	S	17 36 23.9	-8.2
JHO	**Hitachi**	**8.61**	**357**	S	S	17 36 27.2	-6.9

NEIC ***19*** *17:41:50.1, 15.23N×95.40W, h32km, MD4.0(MEX), After MEX.*

MEX 19 17:41:50.5±0.7, 15.29N×95.37W, h27km±19km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.86**	**304**	*e*P	Pb	17 42 04.0	-2.7
HUIG				*e*S	Sb	17 42 14.4	-3.4
VHO	**Vista Hermosa**	**2.21**	**324**	*e*P	Pn	17 42 23.7	-2.4
VHO				*e*S	Sn	17 42 49.3	-3.5
VHO	**Vista Hermosa**	**2.21**	**324**	*e*P	Pn	17 42 23.7	-2.4
VHO				*e*S	Sn	17 42 49.6	-3.2
OXX	**Oaxaca**	**2.21**	**324**	*e*P	Pn	17 42 24.5	-1.7
OXX				*i* S	Sn	17 42 50.0	-2.8
PNIG	**Pinotepa**	**2.87**	**293**	*e*P	Pn	17 42 33.3	-2.3
PNIG				*e*S	Sn	17 43 03.3	-6.4
TUIG	**Tuzandepetl**	**2.88**	**18**	*e*P	Pn	17 42 32.5	-3.2
TUIG	**Tuzandepetl**	**2.88**	**18**	*i* P	Pn	17 42 33.0	-2.7
SCX	**San Cristobal**	**3.00**	**61**	*e*P	Pn	17 42 35.0	-2.4
SCX				*i* S	Sn	17 43 12.0	-0.9
CCIG	**Comitan**	**3.27**	**72**	*e*P	Pn	17 42 37.6	-3.6
CCIG				*i* S	Sn	17 43 15.5	-4.1

LDG ***19*** *17:44:43.8±0.3, 39.50N×20.76E, h10km, Mb4.7/13, Ms3.2/2, Error ellipse: s-maj=17.3km s-min=8.4km az=23.0*
MOS ***19*** *17:44:43.2±1.6, 39.00N×20.57E, h10km, mb4.2/9, Error ellipse: s-maj=5.5km s-min=3.3km az=91.5*
PDG ***19*** *17:44:46.8±0.6, 39.21N×20.81E, h14km±2km*
IDC ***19*** *17:44:46.9±1.4, 39.31N×21.21E, h10km±5km, mb3.9/10, mb1 3.9/14, mb1mx3.8/26, mbtmp3.9/14, ML4.1/3, MS3.4/3, Ms1 3.5/3, ms1mx3.1/23, Error ellipse: s-maj=27.5km s-min=15.3km az=40.0*
ATH ***19*** *17:44:46.2, 39.12N×20.94E, h8km±1km, MD4.0/13, ML4.1*
THE ***19*** *17:44:47.4, 39.22N×20.88E, h10km, ML4.1*
CSEM ***19*** *17:44:47.3, 39.26N×20.87E, h5km, ML4.7*
NEIC ***19*** *17:44:47.1, 39.20N×20.80E, h1km, mb4.2/12, ML4.1(THE), ML4.1(ATH), After THE.*
HLW ***19*** *17:46:01.4, 34.34N×24.57E, h33km, Mb3.4*

ISC 19 17:44:45.0±0.2, 39.16N±0.02×20.70E±0.02, h10km, n239, σ1§50/289, mb4.2/22, MS3.5/4, 35C-33D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.45**	**185**	*e*Pg	**Pg**	**17 44 56.6**	**+2.5**
LKD				*e*Sg	**Sg**	**17 45 06.2**	**+5.8**
JAN	**Janina**	**0.51**	**13**	⇑*i*PB	**Pb**	**17 44 56.4**	**+0.8**
JAN				*e*SB	**Sb**	**17 45 03.6**	**+0.8**
JAN	**Janina**	**0.51**	**13**	⇑*i*Pb	**Pb**	**17 44 56.4**	**+0.8**
JAN				*e*Sb	**Sb**	**17 45 05.1**	**+2.3**
MES	**Metsovon**	**0.75**	**33**	*e*Pg	**Pg**	**17 44 59.7**	**-0.9**
KEK	**Kerkira**	**0.89**	**309**	*e*PB	**Pb**	**17 45 06.4**	**+4.3**
EVR	**Evrytania**	**0.90**	**105**	*e*PB	**Pb**	**17 45 00.2**	**-1.9**
SRN	**Sarande**	**0.90**	**323**	*i* Pn	**Pn**	**17 45 07.7**	**+4.1**
SRN				*i* Sn	**Sg**	**17 45 26.3**	**+11**
VLS	**Valsamata**	**0.98**	**185**	*e*PB	**Pb**	**17 45 05.0**	**+1.4**
LSK	**Leskovik**	**0.99**	**356**	*i* Pn	**Pn**	**17 45 06.6**	**+1.7**
RLS	**Riolos of Patr**	**1.25**	**151**	*e*PB	**Pb**	**17 45 08.4**	**+0.2**
TPE	**Tepelena**	**1.25**	**335**	*i* Pn	**Pn**	**17 45 13.0**	**+4.4**
AGG	**Agios Georgios**	**1.27**	**96**	*e*Pg	**Pg**	**17 45 07.9**	**-2.6**
AGG				*e*Sg	**Sg**	**17 45 27.2**	**-0.3**
KZN	**Kozani**	**1.41**	**35**	*e*PG	**Pg**	**17 45 11.3**	**-1.9**
KBN	**Korca**	**1.47**	**3**	*i* Pn	**Pn**	**17 45 15.0**	**+3.4**
KBN				*i* Sn	**Sg**	**17 45 41.1**	**+7.2**
LIT	**Litokhoron**	**1.67**	**55**	*e*Pg	**Pg**	**17 45 15.6**	**-2.8**
LIT				*e*Sg	**Sg**	**17 45 36.8**	**-3.9**
LKR	**Lokris**	**1.86**	**105**	*e*PB	**Pb**	**17 45 18.1**	**-0.6**
XOR	**Xorichti**	**1.94**	**83**	*e*Pb	**Pb**	**17 45 18.6**	**-1.5**
NEO	**Neokhori**	**1.96**	**85**	*e*PG	**Pg**	**17 45 19.2**	**-5.0**
ITM	**Ithomi**	**2.20**	**154**	*e*PN	**Pn**	**17 45 24.1**	**+2.0**
GRG	**Griva**	**2.22**	**35**	*e*Pn	**Pn**	**17 45 22.7**	**+0.3**
THE	**Thessaloniki**	**2.28**	**49**	*e*Pn	**Pn**	**17 45 24.6**	**+1.3**
THE				*e*Sn	**Sn**	**17 45 52.2**	**+0.6**
MGER	**Gerania Oros**	**2.32**	**119**	*e*PN	**Pn**	**17 45 25.0**	**+1.1**
PLG	**Polygyros**	**2.44**	**59**	*e*PN	**Pn**	**17 45 26.2**	**+0.7**
AOS	**Alonnisos**	**2.47**	**89**	*e*Pn	**Pn**	**17 45 26.1**	**+0.1**
MPAR	**Parnis Oros**	**2.58**	**112**	*e*PN	**Pn**	**17 45 28.0**	**+0.5**
LACI	**Lac**	**2.59**	**343**	*i* Pn	**Pn**	**17 45 33.3**	**+5.6**
LACI				*i* Sn	**Sn**	**17 46 04.8**	**+5.3**
VAY	**Valandovo**	**2.59**	**33**	P	**Pn**	**17 45 29.7**	**+2.0**
VAY				S	**Sn**	**17 46 00.0**	**+0.4**
NAIG	**Nisos Aigina**	**2.60**	**122**	*e*PN	**Pn**	**17 45 28.0**	**+0.2**
KNT	**Kendrikon**	**2.62**	**39**	*e*Pn	**Pn**	**17 45 28.4**	**+0.3**
KNT				*e*Sn	**Sn**	**17 45 59.5**	**-0.6**
SOH	**Sokhos**	**2.63**	**50**	*e*Pn	**Pn**	**17 45 29.2**	**+1.0**
SOH				*e*Sn	**Sn**	**17 45 59.8**	**+0.4**
ATH	**Athens Observa**	**2.64**	**116**	*e*PN	**Pn**	**17 45 29.0**	**+0.5**
KVR	**Kavouri**	**2.75**	**118**	*e*PB	**Pb**	**17 45 30.0**	**-3.9**
OUR	**Ouranopolis**	**2.79**	**64**	*e*Pn	**Pn**	**17 45 30.9**	**+0.4**
PUK	**Puka**	**2.95**	**348**	*i* Pn	**Pn**	**17 45 31.5**	**-1.3**
PUK				*i* Sn	**Sn**	**17 46 08.7**	**+0.1**
SRS	**Serrai**	**2.96**	**48**	*e*Pn	**Pn**	**17 45 32.8**	**-0.2**
SRS				*e*Sn	**Sn**	**17 46 10.2**	**+1.4**
VLI	**Veliai**	**3.01**	**143**	*e*PN	**Pn**	**17 45 35.1**	**+1.4**
ULC	**Ulcinj**	**3.01**	**339**	⇓*i*Pn	**Pn**	**17 45 35.2**	**+1.5**
ULC				*e*Sn	**Sn**	**17 46 11.7**	**+1.5**
ULC	**Ulcinj**	**3.01**	**339**	⇓*i*Pn	**Pn**	**17 45 35.2**	**+1.5**
ULC				*e*Sn	**Sn**	**17 46 11.7**	**+1.5**
SDA	**Shkodra**	**3.03**	**343**	*i* Pn	**Sn**	**17 46 09.6**	**-1.1**
TIP	**Timpagrande**	**3.06**	**272**	*e*Pn	**Pn**	**17 45 37.9**	**+3.5**
TIP				*e*Sn	**Sn**	**17 46 18.2**	**+6.6**
TIP	**Timpagrande**	**3.06**	**272**	*e*Pn	**Pn**	**17 45 37.9**	**+3.4**
TIP				*e*Sn	**Sn**	**17 46 18.2**	**+6.6**
NVR	**Nevrokopi**	**3.26**	**47**	*e*PN	**Pn**	**17 45 38.1**	**+1.0**
KYTH	**Kithira**	**3.42**	**146**	*e*PN	**Pn**	**17 45 41.0**	**+1.5**
BUM	**Brajici-Budva**	**3.42**	**337**	⇓*i*Pn	**Pn**	**17 45 40.9**	**+1.3**
BUM				*e*Sn	**Sn**	**17 46 21.4**	**+0.7**
BUM	**Brajici-Budva**	**3.42**	**337**	⇓*i*Pn	**Pn**	**17 45 40.8**	**+1.2**
BUM				*e*Sn	**Sn**	**17 46 21.4**	**+0.7**
TTG	**Podgorica**	**3.45**	**342**	⇓*i*Pn	**Pn**	**17 45 41.2**	**+1.3**
TTG				*e*Sn	**Sn**	**17 46 22.4**	**+1.2**
LOS	**Limnos**	**3.47**	**76**	*e*Pn	**Pn**	**17 45 39.8**	**-0.5**
PVY	**Plav**	**3.48**	**351**	*e*Pn	**Pn**	**17 45 42.0**	**+1.7**
PVY				*e*Sn	**Sn**	**17 46 22.6**	**+0.5**
SG1	**Sgolgore (BA)**	**3.52**	**300**	*e*Pn	**Pn**	**17 45 43.4**	**+2.5**
HCY	**Herceg Novi**	**3.69**	**334**	⇓*i*Pn	**Pn**	**17 45 44.0**	**+0.7**
HCY				*e*Sn	**Sn**	**17 46 28.1**	**+0.8**
BARS	**Barje**	**3.76**	**13**	⇓*i*Pn	**Pn**	**17 45 45.0**	**+0.7**
IVA	**Berane**	**3.76**	**351**	⇓*i*Pn	**Pn**	**17 45 45.6**	**+1.3**
IVA				*e*Sn	**Sn**	**17 46 29.6**	**+0.4**
NKY	**Niksic**	**3.87**	**341**	⇓*i*Pn	**Pn**	**17 45 46.4**	**+0.5**
NKY				*e*Sn	**Sn**	**17 46 31.6**	**-0.4**
CDT	**Castel del Mon**	**3.90**	**301**	*e*Pn	**Pn**	**17 45 48.7**	**+2.4**
VTS	**Vitosha**	**3.92**	**28**	⇑P	**Pn**	**17 45 49.2**	**+2.6**
VTS	**Vitosha**	**3.92**	**28**	⇑P	**Pn**	**17 45 49.2**	**+2.6**
BRY	**Bratogost**	**4.08**	**337**	⇓*i*Pn	**Pn**	**17 45 49.4**	**+0.5**
BRY				*e*Sn	**Sn**	**17 46 37.6**	**+0.4**
RDO	**Rodhopi**	**4.20**	**60**	*e*PN	**Pn**	**17 45 51.6**	**+0.9**
RDO	**Rodhopi**	**4.20**	**60**	*e*Pn	**Pn**	**17 45 50.5**	**-0.2**
UPM	**Unac-Piva**	**4.26**	**342**	⇓*i*Pn	**Pn**	**17 45 52.6**	**+1.1**
UPM				*e*Sn	**Sn**	**17 46 41.1**	**-0.7**
PLE	**Pljevlja**	**4.28**	**347**	*e*Pn	**Pn**	**17 45 53.1**	**+1.4**
PLE				*e*Sn	**Sn**	**17 46 42.4**	**-0.1**
APE	**Apeiranthos**	**4.34**	**117**	⇑P	**Pn**	**17 45 55.5**	**+2.9**
STON	**Ston**	**4.35**	**329**	*i* Pn	**Pn**	**17 45 52.3**	**-0.4**
STON				*i* Sn	**Sn**	**17 46 44.9**	**+0.8**
ALN	**Alexandroupoli**	**4.46**	**65**	*e*Pn	**Pn**	**17 45 53.9**	**-0.3**
SANT	**Santorini**	**4.69**	**125**	*e*Pn	**Pn**	**17 46 02.7**	**+5.2**
SANT	**Santorini**	**4.69**	**125**	*e*Pn	**Pn**	**17 46 02.7**	**+5.2**
GRUS	**Gruza**	**4.73**	**0**	*e*Pn	**Pn**	**17 46 00.8**	**+2.7**
GRUS				Sn	**Sg**	**17 47 28.7**	**+6.3**
BOLS	**Boljevac**	**4.76**	**11**	⇑*i*Pn	**Pn**	**17 46 00.8**	**+2.3**
BBLS	**Bajina Basta -**	**4.80**	**349**	*e*Pn	**Pg**	**17 46 16.4**	**-4.5**
BBLS				Sn	**Sg**	**17 47 19.6**	**-5.3**
DIVS	**Divcibare**	**4.96**	**354**	*e*Pn	**Pn**	**17 46 01.3**	**-0.1**
DIVS				Sn	**Sn**	**17 47 00.1**	**+0.5**
GVD	**Gavdhos**	**5.09**	**147**	*e*Pn	**Pn**	**17 46 03.0**	**-0.2**
GVD	**Gavdhos**	**5.09**	**147**	*e*Pn	**Pn**	**17 46 03.0**	**-0.2**
IDI	**Anoyia** 2.9nm,0.3s,baz=110,slow=23,SNR=34	**5.11**	**138**	Pn	**Pn**	**17 46 01.2**	**-2.3**
IDI				Sn	**Sn**	**17 46 58.6**	**-4.6**
SVIS	**Svilajnac** 10nm,0.3s,baz=306,slow=18,SNR=3.5	**5.15**	**4**	⇓*i*Pn	**Pn**	**17 46 07.7**	**+3.7**
BEO	**Belgrade**	**5.66**	**358**	⇓*i*Pn	**Pn**	**17 46 12.2**	**+1.0**
AQU	**L'Aquila**	**6.39**	**302**	*e*P	**Pn**	**17 46 26.2**	**+4.6**
AQU	comp=Z,67nm,0.8s			pmax	pmax		
AQU	**L'Aquila** comp=Z,67nm,0.8s	**6.39**	**302**	*e*Pn	**Pn**	**17 46 26.2**	**+4.6**
AQU	**L'Aquila** comp=Z,67nm,0.8s	**6.39**	**302**	*e*Pn	**Pn**	**17 46 26.2**	**+4.6**
BZS	**Buzias**	**6.49**	**6**	⇓P	**Pn**	**17 46 23.8**	**+0.8**
BZS	**Buzias**	**6.49**	**6**	⇓P	**Pn**	**17 46 23.8**	**+0.9**
VOIR		**7.05**	**26**	⇑P	**Pn**	**17 46 31.4**	**+0.5**
VOIR		**7.05**	**26**	⇑P	**Pn**	**17 46 31.4**	**+0.6**
RHK1	**Bakonya** comp=Z,1.7nm,0.4s	**7.20**	**345**	⇑*e*P	**Pn**	**17 46 35.3**	**+2.4**
RHK1				*e*S	**Sn**	**17 47 52.2**	**-3.4**
PKSM	**Moragy**	**7.21**	**349**	⇑*i*P	**Pn**	**17 46 32.0**	**-1.1**
PKSM				*e*S	**Sn**	**17 47 51.8**	**-4.1**
MLR	**Muntele Rosu** comp=Z,2.9nm,0.3s,baz=248,slow=19,SNR=27	**7.42**	**30**	Pn	**Pn**	**17 46 40.5**	**+4.4**
MLR	**Muntele Rosu** comp=Z,3.0nm,0.3s	**7.42**	**30**	P	**Pn**	**17 46 40.5**	**+4.4**
MLR				pmax	pmax		
MLR	**Muntele Rosu**	**7.42**	**30**	⇓P	**Pn**	**17 46 41.3**	**+5.2**
MLR	**Muntele Rosu**	**7.42**	**30**	⇓P	**Pn**	**17 46 41.3**	**+5.2**
BOJS	**Bojanci**	**7.52**	**329**	*i* Pn	**Pn**	**17 46 36.7**	**-0.7**
BOJS				*i*		17 46 40.4	
BOJS				*i* Sn	**Sn**	**17 48 02.5**	**-1.0**
TIRR	**Tirgusor**	**7.82**	**45**	*e*Pn	**Pn**	**17 46 42.5**	**+0.9**
TIRR	**Tirgusor**	**7.82**	**45**	*e*Pn	**Pn**	**17 46 42.5**	**+0.9**
CFR	**Carcaliu**	**8.16**	**40**	⇑P	**P**	**17 46 54.8**	**+8.4**
CFR	**Carcaliu**	**8.16**	**40**	⇑P	**P**	**17 46 54.8**	**+8.4**
LJU	**Ljubljana**	**8.25**	**329**	*e*Pn	**P**	**17 46 49.5**	**+1.9**
LJU				*e*		17 48 39.0	
VOJS	**Vojsko**	**8.51**	**326**	*i* Pn	**P**	**17 46 50.0**	**-1.2**
VOJS				*i*		17 46 53.6	
VOJS				*i* Sn	**Sn**	**17 48 20.4**	**-7.9**
OBKA	**Obir** SNR=7.2	**8.62**	**330**	⇑*i*Pn	**P**	**17 46 51.9**	**-0.9**
OBKA	**Obir**	**8.62**	**330**	⇑*i*Pn	**P**	**17 46 51.9**	**-0.9**
OBKA				Sn	**Sn**	**17 48 28.9**	**-2.2**
OBKA	**Obir**	**8.62**	**330**	⇑*i*Pn	**P**	**17 46 51.9**	**-0.9**
OBKA				Sn	**Sn**	**17 48 28.9**	**-2.2**
PSZ	**Piszkesteto**	**8.78**	**356**	⇑*e*	**P**	**17 46 53.6**	**-1.3**
PSZ				*i*		17 46 57.3	
PSZ				*e*Sn	**Sn**	**17 48 33.3**	**-1.6**
PSZ	**Piszkesteto**	**8.78**	**356**	⇑*e*P	**P**	**17 46 53.6**	**-1.3**
PSZ				*e*S	**Sn**	**17 48 30.3**	**-4.6**
PSZ	**Piszkesteto**	**8.78**	**356**	⇑*e*P	**P**	**17 46 53.6**	**-1.3**
PSZ				*i*		17 46 57.3	
PSZ				*e*S	**Sn**	**17 48 30.3**	**-4.6**
SRO	**Srobarova**	**8.82**	**349**	*e*SN	**Sn**	**17 48 34.2**	**-1.9**
ARSA	**Arzberg**	**8.93**	**337**	⇑*i*Pn	**P**	**17 46 54.9**	**-2.1**
ARSA				Sn	**Sn**	**17 48 36.6**	**-2.1**
ARSA	**Arzberg**	**8.93**	**337**	⇑*i*Pn	**P**	**17 46 54.9**	**-2.1**
ARSA				Sn	**Sn**	**17 48 36.6**	**-2.0**
BURAR	**Bucovina Array**	**9.07**	**20**	⇑P	**P**	**17 46 59.0**	**+0.1**
BURAR	**Bucovina Array**	**9.07**	**20**	⇑P	**P**	**17 46 59.0**	**+0.1**
KECS	**Kecovo**	**9.32**	**359**	*e*P	**P**	**17 47 05.2**	**+2.7**
KECS				*e*		17 48 43.6	
KECS	**Kecovo**	**9.32**	**359**	*e*Pn	**P**	**17 47 05.2**	**+2.7**
KECS				*e*		17 47 11.2	
KECS				*e*		17 47 20.5	
KECS				*e*Sn	**Sn**	**17 48 43.6**	**-4.9**
VYHS	**Vyhne**	**9.43**	**352**	*e*SN	**Sn**	**17 48 45.3**	**-5.8**
PGF	**Pioggiola** comp=Z,22nm,0.8s	**9.49**	**295**	*e*P	**P**	**17 47 01.5**	**-3.3**
KBA	**Koelnbreinsper**	**9.57**	**328**	⇓*i*Pn	**P**	**17 47 04.6**	**-1.1**
KBA	**Koelnbreinsper**	**9.57**	**328**	⇑*i*Sn	**Sn**	**17 48 52.1**	**-2.3**
KBA	**Koelnbreinsper**	**9.57**	**328**	⇓Pn	**P**	**17 47 04.6**	**-1.2**
KBA				Sn	**Sn**	**17 48 52.1**	**-2.3**
KBA	**Koelnbreinsper**	**9.57**	**328**	P	**P**	**17 47 04.6**	**-1.2**
KBA				S	**Sn**	**17 48 52.1**	**-2.3**
CRVS	**Cervenica-Dubn**	**9.76**	**3**	*e*PN	**P**	**17 47 12.9**	**+4.5**
MOA	**Molln**	**9.86**	**334**	⇑*i*Pn	**P**	**17 47 08.8**	**-1.0**
MOA	**Molln**	**9.86**	**334**	⇑Pn	**P**	**17 47 08.8**	**-1.1**
MOA				Sn	**Sn**	**17 48 59.0**	**-2.7**
MOA	**Molln**	**9.86**	**334**	⇑Pn	**P**	**17 47 08.8**	**-1.0**
MOA				Sn	**Sn**	**17 48 59.0**	**-2.7**
BR131	**Keskin Array S** comp=Z,2.5nm,0.6s	**10.03**	**83**	*e*Pn	**P**	**17 47 16.1**	**+4.0**
BR131	**Keskin Array S** comp=Z,2.5nm,0.6s	**10.03**	**83**	*e*Pn	**P**	**17 47 16.1**	**+4.0**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=245,slow=36,SNR=4.2	**10.03**	**83**	Pn	**P**	**17 47 12.3**	**+0.2**
NIE	**Niedzica**	**10.26**	**359**	*e*P	**P**	**17 47 26.7**	**+11**
STHS	**Stebnicka Huta**	**10.26**	**2**	*e*	**P**	**17 47 20.8**	**+5.4**
STHS				*e*		17 47 29.1	
WTTA	**Wattenberg**	**10.45**	**324**	⇓*i*Pn	**P**	**17 47 17.1**	**-0.9**
WTTA	**Wattenberg**	**10.45**	**324**	⇓*i*Sn	**S**	**17 49 14.3**	**-1.9**
WTTA	**Wattenberg**	**10.45**	**324**	⇓Pn	**P**	**17 47 17.1**	**-0.9**
WTTA				Sn	**S**	**17 49 14.3**	**-1.9**
WATA	**Walderalm**	**10.53**	**324**	⇓*i*Pn	**P**	**17 47 17.7**	**-1.4**
WATA	**Walderalm**	**10.53**	**324**	⇑*i*Sn	**S**	**17 49 16.6**	**-1.5**
WATA	**Walderalm**	**10.53**	**324**	⇓Pn	**P**	**17 47 17.7**	**-1.4**
WATA				Sn	**S**	**17 49 16.6**	**-1.5**
WATA	**Walderalm**	**10.53**	**324**	P	**P**	**17 47 17.7**	**-1.4**
WATA				S	**S**	**17 49 16.6**	**-1.6**
VRAC	**Vranov** comp=Z,0.3nm,0.3s,baz=177,slow=16,SNR=3.1	**10.56**	**345**	Pn	**P**	**17 47 20.0**	**+0.6**
SQTA	**Sankt Quirin**	**10.62**	**322**	⇑*i*Pn	**P**	**17 47 19.7**	**-0.5**
SQTA				Sn	**S**	**17 49 18.0**	**-2.3**
SQTA	**Sankt Quirin**	**10.62**	**322**	⇑*i*Pn	**P**	**17 47 19.7**	**-0.6**
SQTA				Sn	**S**	**17 49 18.0**	**-2.3**
SWA2		**10.64**	**157**	⇓*e*P	**P**	**17 47 16.1**	**-4.6**
SWA2		**10.64**	**157**	P	**P**	**17 47 16.0**	**-4.6**
SWA1		**10.70**	**156**	⇓*e*P	**P**	**17 47 16.6**	**-4.8**
MOTA	**Moosalm**	**10.76**	**323**	⇑*i*Pn	**P**	**17 47 21.0**	**-1.1**
MOTA				Sn	**S**	**17 49 22.6**	**-1.1**
MOTA	**Moosalm**	**10.76**	**323**	⇑*i*Pn	**P**	**17 47 21.0**	**-1.2**
MOTA				Sn	**S**	**17 49 22.6**	**-1.1**
OKC	**Ostrava-Krasne**	**10.83**	**351**	*e*P	**P**	**17 47 25.2**	**+2.1**
OKC				*ex*	x	17 47 32.7	
MORC	**Moravsky Berou**	**10.85**	**349**	*e*P	**P**	**17 47 24.6**	**+1.2**
MORC				*e*		17 49 20.9	
MORC	comp=Z,12nm,1.2s			pmax	pmax		
MORC	**Moravsky Berou** comp=Z,12nm,1.2s	**10.85**	**349**	*e*Pn	**P**	**17 47 24.6**	**+1.2**
MORC				*e*Sn	**S**	**17 49 20.9**	**-5.0**
MORC	**Moravsky Berou** comp=Z,12nm,1.2s	**10.85**	**349**	*e*P	**P**	**17 47 24.6**	**+1.2**
MORC				*e*Sn	**S**	**17 49 20.9**	**-5.1**
GEC2	**GERESS Array S**	**10.91**	**335**	*e*Pn	**P**	**17 47 26.0**	**+1.8**
DAVOX	**Davos**	**10.99**	**317**	Pn	**P**	**17 47 27.5**	**+2.2**
DAVOX				Sn	**S**	**17 49 26.9**	**-2.3**
SBF	**Sospel** comp=Z,31nm,0.8s	**11.00**	**300**	*e*P	**P**	**17 47 22.1**	**-3.3**
SBF	**Sospel** comp=Z,16nm,0.8s	**11.00**	**300**	*e*P	**P**	**17 47 22.1**	**-3.3**
SBF				pmax	pmax		
OJC	**Ojcow**	**11.08**	**357**	*e*P	**P**	**17 47 35.0**	**+8.5**
KHC	**Kasperske Hory**	**11.20**	**335**	*e*P	**P**	**17 47 30.3**	**+2.1**
KHC				*ex*	x	17 47 36.2	
KHC	comp=Z,700nm,16.6s			AMS	AMS	17 52 30.0	
DAVA	**Damuels**	**11.32**	**319**	⇑X		17 49 38.5	
DAVA	**Damuels**	**11.32**	**319**	⇓*i*Pn	**P**	**17 47 29.6**	**-0.2**
DAVA	**Damuels**	**11.32**	**319**	⇑*i*X		17 49 38.5	
DAVA	**Damuels**	**11.32**	**319**	⇓Pn	**P**	**17 47 29.6**	**-0.2**
DAVA				*e*		17 49 38.5	
WET	**Wettzell**	**11.45**	**333**	*e*Pn	**P**	**17 47 34.2**	**+2.7**
LMR	**La Mourre**	**11.47**	**296**	*e*P	**P**	**17 47 28.2**	**-3.6**
DPC	**Dobruska-Polom**	**11.61**	**346**	*e*P	Px	17 47 50.5	
DPC	comp=Z,700nm,13.3s			AMS	AMS	17 52 40.0	
PRU	**Prunonice**	**11.68**	**340**	*e*P	Px	17 47 48.5	
PRU	comp=Z,700nm,12.5s			AMS	AMS	17 52 40.0	
MBDF	**Montbardon**	**11.77**	**303**	*e*P	**P**	**17 47 35.0**	**-0.9**
KSP	**Ksiaz**	**12.09**	**347**	*e*P	**P**	**17 47 49.7**	**+9.5**
LPG	**La Plagne** comp=Z,9.1nm,0.5s	**12.11**	**306**	*e*P	**P**	**17 47 38.6**	**-1.8**
LPG	**La Plagne** comp=Z,5.0nm,0.5s	**12.11**	**306**	*e*P	**P**	**17 47 38.6**	**-1.8**
LPG				pmax	pmax		
LPL	**La Plagne** comp=Z,4.9nm,0.4s	**12.12**	**306**	*e*P	**P**	**17 47 37.7**	**-3.0**
LPL	**La Plagne**	**12.12**	**306**	*e*P	**P**	**17 47 37.7**	**-3.0**
LPL	comp=Z,2.0nm,0.4s			pmax	pmax		
PVCC	**Panska Ves**	**12.17**	**341**	*e*P	**P**	**17 47 44.3**	**+3.0**
ORIF	**Oris-en-Rattie**	**12.43**	**302**	*e*P	**P**	**17 47 40.7**	**-4.0**
NKC	**Novy Kostel** comp=Z,700nm,15.9s	**12.52**	**335**	AMS	AMS	17 53 20.0	
AWBH		**12.78**	**145**	⇓*e*P	**P**	**17 47 42.8**	**-6.7**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=220,slow=31,SNR=2.6	**13.01**	**25**	Pn	**P**	**17 47 50.7**	**-1.9**
AKASG	**Malin Array Be**	**13.01**	**25**	Pn	**P**	**17 47 50.7**	**-1.9**
CABF	**La Chapelle**	**13.04**	**310**	*e*P	**P**	**17 47 50.0**	**-2.9**
MOX	**Moxa** comp=Z,logA/T=1.1	**13.15**	**334**	*i* P	**P**	**17 47 55.7**	**+1.3**
MOX				L		17 54 00.0	
MOX	**Moxa**	**13.15**	**334**	*e*P	**P**	**17 47 55.7**	**+1.3**
MOX	comp=Z,15nm,1.1s			pmax	pmax		
MOX	**Moxa** comp=Z,15nm,1.1s	**13.15**	**334**	*e*P	**P**	**17 47 55.7**	**+1.3**
GLL	**Jalalah**	**13.18**	**133**	⇓*e*P	**P**	**17 47 51.8**	**-3.1**
HINF	**Hinteralfeld** comp=Z,7.5nm,0.5s	**13.25**	**315**	*e*P	**P**	**17 47 51.5**	**-4.2**
CLL	**Collm**	**13.29**	**339**	*e*PPP	PPP	17 48 12.0	-1.8
CLL				*i*		17 48 17.2	
CDF	**Champ du Feu** comp=Z,24nm,1.0s	**13.38**	**318**	*e*P	**P**	**17 47 53.0**	**-4.5**
HFRF	**Wahat Farafira**	**13.56**	**150**	⇓*e*P	**P**	**17 47 53.8**	**-6.1**
HAU	**Haudompre**	**13.64**	**315**	*e*P	**P**	**17 47 56.5**	**-4.2**
SUZ		**13.64**	**129**	⇑*e*P	**P**	**17 47 59.1**	**-1.9**
ANN	**Anapa** comp=Z,71nm,1.0s	**13.66**	**60**	*e*P	Px	17 48 13.1	
ANN				pmax	pmax		
SMF	**Signal de Mont** comp=Z,7.5nm,0.7s	**14.43**	**307**	*e*P	**P**	**17 48 08.5**	**-2.7**
SMF	**Signal de Mont** comp=Z,4.0nm,0.7s	**14.43**	**307**	*e*P	**P**	**17 48 08.5**	**-2.7**
SMF				pmax	pmax		
GRB	**Gharib**	**14.78**	**134**	⇓*e*P	**P**	**17 48 13.8**	**-2.1**
SUW	**Suwalki**	**14.96**	**6**	*e*P	Px	17 48 29.9	
HKAT	**Jabal Katrina**	**15.29**	**130**	⇓*e*P	**P**	**17 48 22.9**	**+0.3**
GTR	**Jabal at Tayr**	**15.94**	**146**	⇑*e*P	**P

comp=E,16nm,1.0s,mb4.9
DMN Daman 53.99 82 *e*P **P 17 54 08.6 -2.7**
KKN Kakani 54.03 81 *e*P **P 17 54 10.2 -1.5**
comp=E,86nm,2.1s
KKN Kakani 54.03 81 *e*P **P 17 54 10.2 -1.5**
KKN pmax pmax
comp=Z,43nm,2.1s,mb5.0
GUN Gumba 54.43 81 *e*P **P 17 54 13.6 -1.0**
comp=Z,36nm,1.3s,mb5.1
JIRN Jiri 54.79 81 *e*P **P 17 54 15.3 -2.0**
TIXI Tiksi 58.69 21 *e*P **P 17 54 43.3 -1.1**
TIXI pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
TIXI MLR MLR
comp=Z,187nm,17.0s,MS4.3
SONM Songino Array 59.73 51 P **P 17 54 48.4 -3.6**
comp=Z,1.9nm,1.0s,mb4.1,baz=270,slow=7.2,SNR=3.0
SONM pP pP 17 54 52.2 -2.9
comp=Z,1.6nm,0.9s,baz=289,slow=8.7,SNR=9.2
ULN Ulaanbaatar 60.12 51 *i* P **P 17 54 53.2 -1.4**
YKA Yellowknife Ar 72.52 340 P **P 17 56 12.6 -0.6**
comp=Z,0.2nm,0.6s,mb3.3,baz=41,slow=5.4,SNR=4.7
WRA Warramunga Arr 120.43 92 PKP PKPdf 18 03 39.0 -1.1
comp=Z,0.5nm,0.9s,baz=316,slow=1.8,SNR=7.1

MOS ***19*** *17:48:10.5±0.8,39.16N×20.74E,h10km,mb4.0/2,Error ellipse: s-maj=10.3km s-min=5.3km az=87.9*
ATH ***19*** *17:48:11.9,39.12N×20.88E,h18km±1km,MD3.8/13, ML4.0*
IDC ***19*** *17:48:11.4±1.8,39.41N×21.34E,mb3.9/8,mb1 4.0/10, mb1mx3.9/22,mbtmp4.0/10,ML3.6/1,Error ellipse: s-maj=41.7km s-min=23.2km az=43.0*
NEIC ***19*** *17:48:11.9,39.12N×20.88E,h18km,mb4.2/2, MD3.8(PDG),ML4.0(ATH),ML3.8(THE),After ATH.*
CSEM ***19*** *17:48:12.3±0.1,39.12N×20.88E,h0km,ML3.8,Error ellipse: s-maj=2.2km s-min=1.8km az=17.0*
THE ***19*** *17:48:13.3,39.17N×20.98E,h10km,ML3.8*
SOF ***19*** *17:48:14.1,39.25N×21.32E,h2km,MD3.4*
PDG ***19*** *17:48:15.9±0.1,39.30N×20.08E,h11km±11km*
ISC 19 17:48:12.6±0.5,39.17N±0.02×20.78E±0.03,h24km±5km, n84,σ1⇕23/108,mb3.9/9,4C-13D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.47**	**192**	*e*Pg	**Pb**	**17 48 22.2**	**-0.1**
LKD				*e*Sg	**Sb**	**17 48 31.8**	**+2.9**
JAN	**Janina**	**0.49**	**7**	⇑*i*PN	**Pn**	**17 48 21.9**	**-0.7**
JAN				*e*SN	**Sb**	**17 48 30.5**	**+1.1**
MEV	**Metsovon**	**0.71**	**29**	*e*Pg	**Pb**	**17 48 24.7**	**-1.5**
EVR	**Evrytania**	**0.84**	**107**	*e*PN	**Pn**	**17 48 26.0**	**-3.0**
KEK	**Kerkira**	**0.93**	**306**	*e*PN	**Pn**	**17 48 31.4**	**+1.2**
VLS	**Valsamata**	**1.00**	**188**	*e*PN	**Pn**	**17 48 30.7**	**-0.6**
AGG	**Agios Georgios**	**1.22**	**96**	*e*Pg	**Pn**	**17 48 33.2**	**-1.1**
AGG				*e*Sg	**Sb**	**17 48 49.1**	**-1.0**
RLS	**Riolos of Patr**	**1.23**	**154**	*e*PN	**Pn**	**17 48 34.2**	**-0.4**
LIT	**Litokhoron**	**1.62**	**54**	*e*Pg	**Pn**	**17 48 40.9**	**+0.8**
LIT				*e*Sg	**Sn**	**17 49 02.0**	**+1.8**
LKR	**Lokris**	**1.81**	**106**	*e*PN	**Pn**	**17 48 43.5**	**+0.7**
XOR	**Xorichti**	**1.88**	**83**	*e*Pb	**Pb**	**17 48 44.3**	**-1.8**
NEO	**Neokhori**	**1.90**	**85**	*e*PN	**Pn**	**17 48 44.2**	**0.0**
GRG	**Griva**	**2.18**	**34**	*e*Pn	**Pn**	**17 48 49.1**	**+1.0**
GRG				*e*Sn	**Sn**	**17 49 17.3**	**+2.8**
ITM	**Ithomi**	**2.18**	**155**	*e*PN	**Pn**	**17 48 49.0**	**+0.8**
THE	**Thessaloniki**	**2.23**	**48**	*e*Pn	**Pn**	**17 48 49.5**	**+0.7**
MGER	**Gerania Oros**	**2.28**	**121**	*e*PN	**Pn**	**17 48 50.0**	**+0.5**
PLG	**Polygyros**	**2.38**	**59**	*e*PN	**Pn**	**17 48 51.0**	**0.0**
AOS	**Alonnisos**	**2.41**	**89**	*e*Pn	**Pn**	**17 48 51.4**	**0.0**
MPAR	**Parnis Oros**	**2.53**	**113**	*e*PB	**Pb**	**17 48 54.0**	**-3.2**
KNT	**Kendrikon**	**2.57**	**39**	*e*Pn	**Pn**	**17 48 54.5**	**+0.8**
KNT				*e*Sn	**Sn**	**17 49 26.1**	**+1.6**
SOH	**Sokhos**	**2.58**	**49**	*e*Pn	**Pn**	**17 48 54.9**	**+1.1**
SOH				*e*Sn	**Sn**	**17 49 25.2**	**+0.6**
ATH	**Athens Observa**	**2.60**	**117**	*e*PB	**Pb**	**17 48 54.5**	**-3.8**
PTL	**Penteli**	**2.67**	**114**	*e*PN	**Pn**	**17 48 55.0**	**0.0**
KVR	**Kavouri**	**2.70**	**119**	*e*PN	**Pn**	**17 48 55.8**	**+0.2**
OUR	**Ouranopolis**	**2.73**	**64**	*e*Pn	**Pn**	**17 48 56.1**	**+0.1**
SRS	**Serrai**	**2.90**	**47**	*e*Pn	**Pn**	**17 48 59.0**	**+0.5**
SRS				*e*Sn	**Sn**	**17 49 33.4**	**+0.4**
VLI	**Veliai**	**2.98**	**144**	*e*PN	**Pn**	**17 49 00.3**	**+0.7**
ULC	**Ulcinj**	**3.02**	**338**	⇓*i*Pn	**Pn**	**17 49 01.1**	**+0.9**
ULC				*e*Sn	**Sn**	**17 49 35.8**	**-0.2**
PE1	**Pezze di Greco**	**3.05**	**303**	*e*Pn	**Pn**	**17 49 01.1**	**+0.6**
TIP	**Timpagrande**	**3.12**	**271**	*e*Pn	**Pn**	**17 49 03.9**	**+2.3**
KKB	**Krupnik**	**3.22**	**32**	*i*P	**Pn**	**17 49 03.5**	**+0.6**
MMB	**Musomiste**	**3.30**	**42**	*i*P	**Pn**	**17 49 03.0**	**-1.1**
KYTH	**Kithira**	**3.40**	**147**	*e*PN	**Pn**	**17 49 06.5**	**+1.1**
LOS	**Limnos**	**3.41**	**76**	*e*Pn	**Pn**	**17 49 04.7**	**-0.9**
BUM	**Brajici-Budva**	**3.44**	**336**	⇓*i*Pn	**Pn**	**17 49 06.7**	**+0.7**
BUM				*e*Sn	**Sn**	**17 49 45.4**	**-1.1**
TTG	**Podgorica**	**3.45**	**341**	⇓*i*Pn	**Pn**	**17 49 07.0**	**+0.8**
TTG				*e*Sn	**Sn**	**17 49 46.6**	**-0.2**
PVY	**Plav**	**3.48**	**350**	⇓*i*Pn	**Pn**	**17 49 08.8**	**+2.3**
PVY				*e*Sn	**Sn**	**17 49 49.2**	**+1.8**
SG1	**Sgolgore (BA)**	**3.56**	**299**	*e*Pn	**Pn**	**17 49 08.6**	**+0.8**
HCY	**Herceg Novi**	**3.70**	**333**	⇓*i*Pn	**Pn**	**17 49 09.7**	**-0.1**
HCY				*e*Sn	**Sn**	**17 49 51.0**	**-2.2**
BARS	**Barje**	**3.73**	**12**	⇑*i*P	**Pn**	**17 49 10.6**	**+0.4**
IVA	**Berane**	**3.76**	**350**	⇓*i*Pn	**Pn**	**17 49 12.5**	**+2.0**
IVA				*e*Sn	**Sn**	**17 49 55.8**	**+1.2**
NKY	**Niksic**	**3.88**	**340**	⇓*i*Pn	**Pn**	**17 49 12.8**	**+0.5**
NKY				*e*Sn	**Sn**	**17 49 56.8**	**+0.8**
VTS	**Vitosha**	**3.88**	**28**	*i*P	**Pn**	**17 49 14.0**	**+1.7**
RZN	**Rozhen**	**3.92**	**49**	*i*P	**Pn**	**17 49 13.0**	**+0.2**
CDT	**Castel del Mon**	**3.94**	**300**	*e*Pn	**Pn**	**17 49 13.7**	**+0.5**
BRY	**Bratogost**	**4.09**	**336**	⇓*i*Pn	**Pn**	**17 49 15.3**	**0.0**
BRY				*e*Sn	**Sn**	**17 50 01.2**	**-1.9**
RDO	**Rodhopi**	**4.15**	**60**	*e*PN	**Pn**	**17 49 16.0**	**-0.1**
UPM	**Unac-Piva**	**4.27**	**341**	⇓*i*Pn	**Pn**	**17 49 18.7**	**+0.8**
UPM				*e*Sn	**Sn**	**17 50 06.1**	**-1.4**
PLE	**Pljevlja**	**4.29**	**346**	⇓*i*Pn	**Pn**	**17 49 19.6**	**+1.5**
PLE				*e*Sn	**Sn**	**17 50 07.6**	**-0.3**
KDZ	**Kurdzhali**	**4.32**	**54**	*i*P	**Pn**	**17 49 17.0**	**-1.6**
ALN	**Alexandroupoli**	**4.40**	**65**	*e*Pn	**Pn**	**17 49 18.8**	**-0.9**
MS1	**Monte Sant'Ang**	**4.47**	**306**	*e*Pn	**Pn**	**17 49 20.7**	**0.0**
DIVS	**Divcibare**	**4.96**	**353**	*e*Pn	**Pn**	**17 49 27.0**	**-0.6**
DIVS				Sn	**Sn**	**17 50 22.9**	**-2.0**
IDI	**Anoyia**	**5.08**	**138**	Pn	**Pn**	**17 49 26.8**	**-2.4**
	2.1nm,0.3s,baz=285,slow=10,SNR=6.8						
IDI				Sn	**Sn**	**17 50 23.2**	**-4.7**
	4.4nm,0.3s,baz=293,slow=16,SNR=4.0						
PKSM	**Moragy**	**7.21**	**348**	*i*P	**Pn**	**17 49 57.5**	**-1.8**
MLR	**Muntele Rosu**	**7.38**	**30**	Pn	**Pn**	**17 50 02.5**	**+0.8**
	1.7nm,0.3s,baz=265,slow=8.6,SNR=7.2						
KECS	**Kecovo**	**9.31**	**359**	*e*PN	**P**	**17 50 27.6**	**-0.9**
CRVS	**Cervenica-Dubn**	**9.74**	**3**	*e*PN	**P**	**17 50 34.2**	**-0.2**
MOA	**Molln**	**9.88**	**334**	⇓*i*Pn	**P**	**17 50 34.3**	**-1.9**
MOA	**Molln**	**9.88**	**334**	⇓Pn	**P**	**17 50 34.3**	**-1.9**
MOA				Sn	**Sn**	**17 52 21.5**	**-5.9**
BRTR	**Keskin Array B**	**9.97**	**83**	Pn	**P**	**17 50 37.7**	**+0.2**
	0.3nm,0.3s,baz=258,slow=10,SNR=8.2						
WTTA	**Wattenberg**	**10.48**	**323**	⇑*i*Pn	**P**	**17 50 43.3**	**-1.2**
WTTA	**Wattenberg**	**10.48**	**323**	⇓*i*Sn	**S**	**17 52 37.7**	**-4.4**
WTTA	**Wattenberg**	**10.48**	**323**	⇑Pn	**P**	**17 50 43.3**	**-1.2**
WTTA				Sn	**S**	**17 52 37.7**	**-4.4**
DAVOX	**Davos**	**11.02**	**317**	Pn	**P**	**17 50 52.2**	**+0.3**
	0.7nm,0.3s,baz=156,slow=14,SNR=3.8						
DAVOX				Sn	**S**	**17 52 54.6**	**-0.8**
	0.5nm,0.3s,baz=284,slow=21,SNR=2.6						
DAVOX	**Davos**	**11.02**	**317**	Pn	**P**	**17 50 52.2**	**+0.3**
DAVOX				Sn	**S**	**17 52 54.6**	**-0.8**
LPG	**La Plagne**	**12.15**	**306**	*e*P	**P**	**17 51 00.4**	**-6.7**
	14nm,0.8s						
LPG	**La Plagne**	**12.15**	**306**	*e*P	**P**	**17 51 00.4**	**-6.7**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPL	**La Plagne**	**12.17**	**306**	*e*P	**P**	**17 51 00.1**	**-7.3**
HFS	**Hagfors**	**21.45**	**350**	P	**P**	**17 52 58.3**	**-2.8**
	comp=Z,2.4nm,0.6s,mb3.7,baz=159,slow=13,SNR=6.6						
FINES	**FINESS Array B**	**22.54**	**7**	P	**P**	**17 53 09.7**	**-2.1**
	comp=Z,1.0nm,0.6s,mb3.4,baz=191,slow=9.7,SNR=4.7						
NB2	**NORSAR Subarra**	**22.69**	**348**	P	**P**	**17 53 11.9**	**-1.3**
	comp=Z,1.8nm,0.6s,mb3.7,baz=154,slow=10						
NB2	**NORSAR Subarra**	**22.69**	**348**	P	**P**	**17 53 11.9**	**-1.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
NOA	**NORSAR Array B**	**22.69**	**348**	P	**P**	**17 53 12.6**	**-0.7**
	comp=Z,1.8nm,0.6s,mb3.7,baz=163,slow=10,SNR=6.3						
NOA	**NORSAR Array B**	**22.69**	**348**	P	**P**	**17 53 12.6**	**-0.7**
EKA	**Eskdalemuir Ar**	**22.75**	**323**	P	**P**	**17 53 16.8**	**+2.9**
	comp=Z,8.2nm,0.7s,mb4.3,baz=122,slow=10,SNR=18						
ARCES	**ARCESS Array B**	**30.53**	**3**	P	**P**	**17 54 23.2**	**-2.7**
	comp=Z,1.5nm,0.8s,mb3.9,baz=186,slow=9.1,SNR=6.4						
ARCES	**ARCESS Array B**	**30.53**	**3**	P	**P**	**17 54 23.2**	**-2.7**
LIC	**Lamto**	**40.23**	**222**	*e*P	**P**	**17 55 54.5**	**+5.4**
	comp=Z,42nm,1.6s,mb4.6						
MKAR	**Makanchi Array**	**44.62**	**59**	P	**P**	**17 56 22.0**	**-2.6**
	comp=Z,3.0nm,0.4s,mb4.5,baz=280,slow=7.3,SNR=40						
MKAR	**Makanchi Array**	**44.62**	**59**	*e*P	**P**	**17 56 21.8**	**-2.8**
YKA	**Yellowknife Ar**	**72.53**	**340**	P	**P**	**17 59 38.2**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.2,baz=39,slow=5.7,SNR=3.1						
YKA	**Yellowknife Ar**	**72.53**	**340**	P	**P**	**17 59 38.2**	**-0.5**
ULM	**Lac du Bonnet**	**75.02**	**324**	P	**P**	**17 59 55.4**	**+1.9**
	comp=Z,1.8nm,0.6s,mb4.2,baz=61,slow=6.6,SNR=3.6						

IDC ***19*** *18:03:04.9±2.3,39.27N×21.11E,mb3.5/5,mb1 3.6/6, mb1mx3.5/21,mbtmp3.6/6,ML3.1/1, Error ellipse: s-maj=55.8km s-min=21.6km az=52.0*
ATH ***19*** *18:03:07.2,39.14N×20.90E,h19km±2km,MD3.6/8*
SOF ***19*** *18:03:07.6,39.21N×21.14E,h2km,MD3.2*
THE ***19*** *18:03:08.5,39.17N×20.98E,h4km,ML3.4*
NEIC ***19*** *18:03:08.5,39.20N×21.00E,h4km,ML3.6(ATH), ML3.1(THE),After THE.*
CSEM ***19*** *18:03:08.1±0.1,39.14N×20.90E,h12km,Ms3.5,Error ellipse: s-maj=1.6km s-min=1.3km az=174.0*
VIE ***19*** *18:03:14.6±0.8,39.71N×20.55E,h10km,mb3.1/2,Ms3.5/2, Error ellipse: s-maj=21.3km s-min=5.8km az=54.0*
ISC 19 18:03:07.6±0.6,39.16N±0.03×20.83E±0.03,h24km±6km, n59,σ1⇕36/82,mb3.6/5,5C-5D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.48**	**198**	*e*Pg	**Pb**	**18 03 17.4**	**+0.1**
LKD				*e*Sg	**Sb**	**18 03 26.4**	**+2.4**
JAN	**Janina**	**0.49**	**1**	⇑*i*PN	**Pn**	**18 03 17.0**	**-2.1**
JAN				*e*SN	**Sn**	**18 03 25.3**	**-1.6**
MEV	**Metsovon**	**0.69**	**26**	*e*Pg	**Pb**	**18 03 20.4**	**-0.6**
EVR	**Evrytania**	**0.80**	**108**	*e*PN	**Pn**	**18 03 21.5**	**-1.9**
EVR				*e*SN	**Sn**	**18 03 32.4**	**-2.2**
SRN	**Sarande**	**0.96**	**318**	*i* Pn	**Pn**	**18 03 26.5**	**+0.7**
SRN				*i* Sn	**Sn**	**18 03 44.0**	**+5.2**
KEK	**Kerkira**	**0.97**	**305**	*e*PN	**Pn**	**18 03 26.9**	**+1.0**
VLS	**Valsamata**	**1.00**	**191**	*e*PB	**Pb**	**18 03 25.6**	**-0.6**
VLS				*e*SN	**Sn**	**18 03 40.8**	**+1.0**
LSK	**Leskovik**	**1.00**	**350**	*i* Pn	**Pn**	**18 03 26.7**	**+0.3**
LSK				*i* Sn	**Sn**	**18 03 44.6**	**+4.8**
AGG	**Agios Georgios**	**1.17**	**96**	*e*Pg	**Pn**	**18 03 28.0**	**-0.8**
AGG				*e*Sg	**Sb**	**18 03 44.0**	**+0.1**
RLS	**Riolos of Patr**	**1.21**	**156**	*e*PN	**Pn**	**18 03 29.2**	**-0.1**
KZN	**Kozani**	**1.35**	**32**	*e*PN	**Pn**	**18 03 31.8**	**+0.4**
KBN	**Korca**	**1.46**	**359**	*i* Pn	**Pn**	**18 03 35.5**	**+2.6**
KBN				*i* Sn	**Sn**	**18 03 56.2**	**+4.8**
LIT	**Litokhoron**	**1.59**	**53**	*e*Pg	**Pn**	**18 03 35.2**	**+0.5**
LIT				*e*Sg	**Sn**	**18 03 55.9**	**+1.3**
LKR	**Lokris**	**1.77**	**106**	*e*PN	**Pn**	**18 03 37.9**	**+0.6**
XOR	**Xorichti**	**1.84**	**83**	*e*Pb	**Pb**	**18 03 39.1**	**-1.4**
NEO	**Neokhori**	**1.86**	**85**	*e*PN	**Pn**	**18 03 39.1**	**+0.5**
ITM	**Ithomi**	**2.16**	**156**	*e*PN	**Pn**	**18 03 44.5**	**+1.6**
GRG	**Griva**	**2.16**	**33**	*e*Pn	**Pn**	**18 03 44.2**	**+1.3**
GRG				*e*Sn	**Sn**	**18 04 10.8**	**+1.6**
THE	**Thessaloniki**	**2.20**	**47**	*e*Pn	**Pn**	**18 03 44.6**	**+1.1**
THE				*e*Sn	**Sn**	**18 04 10.7**	**+0.4**
THE	**Thessaloniki**	**2.20**	**47**	*e*Pn	**Pn**	**18 03 44.6**	**+1.1**
THE				*e*Sn	**Sn**	**18 04 10.6**	**+0.4**
PLG	**Polygyros**	**2.35**	**58**	*e*PB	**Pb**	**18 03 46.7**	**-2.4**
AOS	**Alonnisos**	**2.37**	**89**	*e*Pn	**Pn**	**18 03 46.5**	**+0.7**
KNT	**Kendrikon**	**2.55**	**38**	*e*Pn	**Pn**	**18 03 49.4**	**+1.0**
SOH	**Sokhos**	**2.55**	**49**	*e*Pn	**Pn**	**18 03 49.2**	**+0.7**
SOH				*e*Sn	**Sn**	**18 04 19.9**	**+0.8**
OUR	**Ouranopolis**	**2.69**	**63**	*e*Pn	**Pn**	**18 03 50.9**	**+0.4**
SRS	**Serrai**	**2.88**	**46**	*e*Pn	**Pn**	**18 03 53.1**	**0.0**
SRS				*e*Sn	**Sn**	**18 04 29.3**	**+1.8**
TIP	**Timpagrande**	**3.17**	**272**	*e*Pn	**Pn**	**18 03 58.0**	**+0.8**
TIP				*e*Sn	**Sn**	**18 04 36.2**	**+1.5**
TIP	**Timpagrande**	**3.17**	**272**	*e*Pn	**Pn**	**18 03 58.0**	**+0.7**
TIP				*e*Sn	**Sn**	**18 04 36.2**	**+1.4**
NVR	**Nevrokopi**	**3.19**	**46**	*e*PN	**Pn**	**18 03 58.6**	**+1.1**
KKB	**Krupnik**	**3.20**	**32**	*i* P	**Pn**	**18 03 58.0**	**+0.3**
MMB	**Musomiste**	**3.28**	**41**	*i* P	**Pn**	**18 03 59.0**	**+0.1**
LOS	**Limnos**	**3.37**	**75**	*e*Pn	**Pn**	**18 03 59.5**	**-0.7**
SG1	**Sgolgore (BA)**	**3.60**	**299**	*e*Pn	**Pn**	**18 04 04.1**	**+0.6**
BARS	**Barje**	**3.73**	**11**	⇓*i*Pn	**Pn**	**18 04 05.7**	**+0.5**
VTS	**Vitosha**	**3.87**	**27**	*i* P	**Pn**	**18 04 09.0**	**+1.8**
RZN	**Rozhen**	**3.89**	**48**	*i* P	**Pn**	**18 04 08.0**	**+0.5**
CDT	**Castel del Mon**	**3.99**	**300**	*e*Pn	**Pn**	**18 04 09.6**	**+0.7**
ALN	**Alexandroupoli**	**4.36**	**65**	*e*Pn	**Pn**	**18 04 14.0**	**-0.2**
IDI	**Anoyia**	**5.04**	**139**	Pn	**Pn**	**18 04 21.5**	**-2.3**
	0.7nm,0.3s,baz=126,slow=10,SNR=8.8						
IDI				Sn	**Sn**	**18 05 18.2**	**-3.9**
	3.9nm,0.3s,baz=292,slow=22,SNR=6.9						
BZS	**Buzias**	**6.48**	**5**	⇓P	**Pn**	**18 04 45.9**	**+1.8**
MLR	**Muntele Rosu**	**7.37**	**29**	Pn	**Pn**	**18 04 58.2**	**+1.6**
	0.9nm,0.3s,baz=239,slow=12,SNR=7.5						
MLR	**Muntele Rosu**	**7.37**	**29**	⇑P	**Pn**	**18 04 53.7**	**-2.9**
VISS	**Visnje**	**7.98**	**328**	*i* Pn	**Pn**	**18 05 03.3**	**-1.8**
VISS				*i* Sn	**Sn**	**18 06 30.0**	**-5.5**
VOY	**Vojsko**	**8.56**	**326**	*e*Pn	**P**	**18 05 11.3**	**-1.9**
VOY				*e*Sn	**Sn**	**18 06 44.7**	**-5.4**
PERS	**Pernice**	**8.56**	**333**	*i* Pn	**P**	**18 05 10.4**	**-2.9**
OBKA	**Obir**	**8.67**	**330**	⇓*i*Pn	**P**	**18 05 13.0**	**-1.7**
OBKA	**Obir**	**8.67**	**330**	⇓*i*Sn	**Sn**	**18 06 44.7**	**-8.1**
OBKA	**Obir**	**8.67**	**330**	⇓Pn	**P**	**18 05 13.0**	**-1.7**
OBKA				Sn	**Sn**	**18 06 44.7**	**-8.1**
OBKA	**Obir**	**8.67**	**330**	Pn	**P**	**18 05 13.0**	**-1.7**
OBKA				Sn	**Sn**	**18 06 44.7**	**-8.1**
MOA	**Molln**	**9.90**	**333**	⇑*i*Pn	**P**	**18 05 29.4**	**-2.3**
MOA	**Molln**	**9.90**	**333**	⇑*i*Sn	**Sn**	**18 07 15.3**	**-7.9**
MOA	**Molln**	**9.90**	**333**	⇑Pn	**P**	**18 05 29.4**	**-2.3**
MOA				Sn	**Sn**	**18 07 15.3**	**-7.9**
MOA	**Molln**	**9.90**	**333**	Pn	**P**	**18 05 29.4**	**-2.3**
MOA				Sn	**Sn**	**18 07 15.3**	**-7.9**
HFS	**Hagfors**	**21.47**	**350**	P	**P**	**18 07 53.5**	**-2.8**
	2.2nm,0.7s,mb3.6,baz=153,slow=13,SNR=6.9						
FINES	**FINESS Array B**	**22.54**	**7**	P	**P**	**18 08 04.6**	**-2.4**
	1.4nm,0.9s,mb3.4,baz=173,slow=11,SNR=3.3						
NB2	**NORSAR Subarra**	**22.71**	**348**	P	**P**	**18 08 05.1**	**-3.4**
	1.2nm,0.8s,mb3.4,baz=157,slow=9.3						
NOA	**NORSAR Array B**	**22.71**	**348**	P	**P**	**18 08 07.0**	**-1.6**
	1.2nm,0.6s,mb3.5,baz=162,slow=10,SNR=4.3						
EKA	**Eskdalemuir Ar**	**22.78**	**323**	P	**P**	**18 08 09.4**	**+0.1**
	2.6nm,0.8s,mb3.7,baz=119,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**44.58**	**59**	P	**P**	**18 11 17.0**	**-2.5**
	0.8nm,0.6s,mb3.6,baz=284,slow=7.4,SNR=16						

IDC ***19*** *18:46:33.4±1.8,2.10N×125.72E,mb3.7/3,mb1 3.8/3, mb1mx3.6/15,mbtmp3.7/3,Error ellipse: s-maj=186.5km s-min=25.6km az=63.0*
NEIC ***19*** *18:46:38.4±1.1,2.01N×125.60E,h35km,mb4.1/1,Error ellipse: s-maj=32.3km s-min=12.3km az=46.0*
ISC 19 18:46:36.9±1.2,2.1N±0.2×125.5E±0.2,h33km,n9,σ1⇕04/9, mb3.8/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**10.10**	**293**	P	**P**	**18 49 01.4**	**-1.5**
KSM	**Kuching**	**15.24**	**268**	*e*Pn	**P**	**18 50 11.7**	**+0.2**
WRAB	**Tennant Creek**	**23.53**	**159**	*e*P	**P**	**18 51 45.4**	**+0.2**
	3.1nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**23.54**	**159**	P	**P**	**18 51 45.1**	**-0.2**
	1.2nm,0.4s,mb3.7,baz=338,slow=11,SNR=5.4						
MBWA	**Marble Bar**	**23.80**	**194**	*e*P	**P**	**18 51 48.9**	**+1.1**
STKA	**Stephens Creek**	**37.06**	**157**	P	**P**	**18 53 44.6**	**-1.2**
	0.7nm,0.6s,mb3.6,baz=337,slow=10.0,SNR=3.7						
LSA	**Lhasa**	**42.66**	**314**	*e*P	**P**	**18 54 34.4**	**+2.0**
TAU	**Tasmania Unive**	**48.91**	**159**	*e*P	**P**	**18 55 17.5**	**-4.2**
MKAR	**Makanchi Array**	**58.24**	**326**	P	**P**	**18 56 30.2**	**-0.3**
	0.3nm,0.5s,mb3.6,baz=121,slow=8.3,SNR=6.9						

IDC ***19*** *19:05:01.2±0.8,10.64S×66.44E,mb4.2/11,mb1 4.3/11, mb1mx4.1/18,mbtmp4.2/11,MS3.7/2,Ms1 3.7/2, ms1mx3.4/11,Error ellipse: s-maj=30.6km s-min=20.3km az=2.0*
MOS ***19*** *19:05:01.4±1.2,10.45S×66.43E,h10km,mb4.7/5,Error ellipse: s-maj=21.0km s-min=15.3km az=103.3*
NEIC ***19*** *19:05:03.0±0.5,10.55S×66.44E,h10km,mb4.7/5,Error ellipse: s-maj=17.8km s-min=13.6km az=186.0*
ISC 19 19:05:00.9±0.8,10.5S±0.1×66.5E±0.1,h10km,n43, σ0⇕90/26,mb4.3/16,MS3.7/2,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**30.51**	**286**	P	**P**	**19 11 16.0**	**-0.8**
	0.4nm,0.3s,mb3.7,baz=55,slow=9.8,SNR=3.4						
KMBO				LR	LR	19 20 42.6	
	comp=Z,164nm,21.5s,MS3.6,baz=95,slow=31						
KMBO	**Kilima Mbogo**	**30.51**	**286**	P	**P**	**19 11 16.0**	**-0.8**
KMBO				LR	LR	19 20 42.6	
PSI	**Prapat**	**34.90**	**69**	LR	LR	19 22 05.0	
	comp=Z,144nm,21.1s,MS3.7,baz=258,slow=29						
LSZ	**Lusaka**	**37.59**	**259**	P	**P**	**19 12 17.0**	**-0.7**
	4.8nm,0.9s,mb4.2,baz=76,slow=6.7,SNR=9.8						
BRTR	**Keskin Array B**	**58.56**	**331**	P	**P**	**19 15 00.2**	**0.0**
	2.7nm,1.1s,mb4.2,baz=141,slow=7.9,SNR=4.4						
MKAR	**Makanchi Array**	**58.79**	**13**	P	**P**	**19 15 01.0**	**-0.7**
	0.8nm,0.7s,mb3.9,baz=207,slow=8.1,SNR=8.0						
MKAR	**Makanchi Array**	**58.79**	**13**	P	**P**	**19 15 01.0**	**-0.7**
KURK	**Kurchatov**	**61.90**	**9**	*e*P	**P**	**19 15 20.5**	**-2.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**61.90**	**9**	*e*P	**P**	**19 15 20.5**	**-2.4**
	comp=Z,5.1nm,1.0s,mb4.6						
ZRNK	**Zerenda**	**63.26**	**2**	*e*P	**P**	**19 15 31.3**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**63.26**	**2**	*e*P	**P**	**19 15 31.3**	**-0.7**
	comp=Z,7.4nm,0.9s,mb4.8						
BRVK	**Borovoye**	**63.42**	**3**	*e*P	**P**	**19 15 33.8**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.2						
BRVK	**Borovoye**	**63.42**	**3**	*e*P	**P**	**19 15 33.8**	**+0.9**
	comp=Z,1.9nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**64.05**	**3**	*e*P	**P**	**19 15 36.8**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
CHKZ	**Chkalovo**	**64.05**	**3**	*e*P	**P**	**19 15 36.8**	**-0.3**
	comp=Z,8.3nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**65.78**	**107**	P	**P**	**19 15 48.4**	**-0.4**
	comp=Z,3.9nm,0.7s,mb4.5,baz=276,slow=5.5,SNR=45						
WB2	**Warramunga Arr**	**65.79**	**107**

comp=Z,14nm,0.8s
SGMF Saint Gilles 20.91 89 *e*P **P** **19 21 41.7 0.0**
comp=Z,62nm,1.0s
SGMF Saint Gilles 20.91 89 *e*P **P** **19 21 41.7 0.0**
SGMF pmax pmax
comp=Z,31nm,1.0s
ELOB Lobios 21.04 110 P **P** **19 21 42.2 -0.8**
comp=Z,3.4nm,0.6s,mb3.9
ELOB Lobios 21.04 110 P **P** **19 21 42.2 -0.9**
comp=Z,3.4nm,0.6s,mb3.8,SNR=9.3
ERUA La Rua 21.23 108 P **P** **19 21 44.2 -0.8**
ERUA pmax pmax
comp=Z,11nm,0.6s,mb4.4
ERUA La Rua 21.23 108 P **P** **19 21 44.2 -0.8**
comp=Z,11nm,0.6s,mb4.4
ERUA La Rua 21.23 108 P **P** **19 21 44.2 -0.8**
comp=Z,11nm,0.6s,mb4.3,SNR=6.5
PVRL Vila Real 21.62 111 *e*P **P** **19 21 48.4 -0.6**
comp=Z,26nm,1.7s,mb4.4
JMIC Jan Mayen 21.75 23 LR LR 19 28 00.7
comp=Z,1µm,21.0s,MS4.3,baz=232,slow=30
ECAL Calabor 21.75 109 P **P** **19 21 52.9 +2.6**
comp=Z,1.8nm,0.4s,mb3.9
ECAL Calabor 21.75 109 P **P** **19 21 52.8 +2.5**
comp=Z,1.8nm,0.4s,mb3.9,SNR=8.1
EARI Arriondas 21.81 104 P **P** **19 21 49.7 -1.1**
comp=Z,6.2nm,0.7s,mb4.2
EARI Arriondas 21.81 104 P **P** **19 21 49.7 -1.1**
comp=Z,6.2nm,0.7s,mb4.2,SNR=13
PBRG Braganca 21.84 109 *e*P **P** **19 21 51.1 0.0**
PBRG *e*pP 19 21 54.3
GRR Gorron 21.88 88 *e*P **P** **19 21 51.1 -0.4**
comp=Z,72nm,1.1s,mb4.7
GRR Gorron 21.88 88 *e*P **P** **19 21 51.1 -0.4**
GRR pmax pmax
comp=Z,36nm,1.1s,mb4.7
PVIS Viseu 21.90 113 *e*P **P** **19 21 52.4 +0.7**
comp=Z,20nm,1.2s,mb4.4
FLN La Foliniere 21.96 87 *e*P **P** **19 21 52.2 -0.1**
comp=Z,54nm,0.8s,mb4.7
FLN *e*R
comp=Z,417nm,17.0s
FLN La Foliniere 21.96 87 *e*P **P** **19 21 52.2 -0.1**
FLN pmax pmax
comp=Z,27nm,0.8s,mb4.7
FLN MLR MLR
comp=Z,420nm,17.0s,MS3.9
LDF La Druitiere 22.25 87 *e*P **P** **19 21 54.2 -0.9**
comp=Z,22nm,0.6s,mb4.5
LDF La Druitiere 22.25 87 *e*P **P** **19 21 54.2 -0.9**
LDF pmax pmax
comp=Z,11nm,0.6s,mb4.5
MTE Manteigas 22.31 113 *e*P **P** **19 21 57.8 +2.0**
comp=Z,15nm,0.9s,mb4.4
MTE *e*S **S** **19 26 03.6 +7.6**
MTE Manteigas 22.31 113 *e*P **P** **19 21 57.8 +2.0**
comp=Z,21nm,1.1s,mb4.5
MTE *e*pP 19 22 05.8
MTE LR LR
comp=Z,602nm,18.4s,MS4.0
PLOU Loures 22.48 118 *e*P **P** **19 21 58.5 +0.9**
PCBR Castelo Branco 22.73 114 *e*P **P** **19 21 59.8 -0.1**
comp=Z,21nm,0.9s,mb4.6
PCBR *e*pP 19 22 03.1
ELAN Lanestosa 22.90 102 P **P** **19 22 01.6 0.0**
comp=Z,4.2nm,0.6s,mb4.0
ELAN Lanestosa 22.90 102 P **P** **19 22 01.6 0.0**
comp=Z,4.2nm,0.6s,mb4.0,SNR=11
MFF Saint Martin d 23.11 91 *e*P **P** **19 22 03.1 -0.4**
comp=Z,45nm,1.1s,mb4.5
MFF Saint Martin d 23.11 91 *e*P **P** **19 22 03.1 -0.4**
MFF pmax pmax
comp=Z,23nm,1.1s,mb4.5
EVO Evora 23.36 117 *e*P **P** **19 22 04.5 -1.5**
comp=Z,44nm,1.3s,mb4.4
EVO *e*R
comp=Z,572nm,22.8s
EBAD Badajoz 23.74 115 P **P** **19 22 10.8 +1.0**
comp=Z,11nm,0.7s,mb4.4
EBAD Badajoz 23.74 115 P **P** **19 22 10.8 +1.0**
comp=Z,11nm,0.7s,mb4.4,SNR=11
PBEJ Beja 23.80 117 *e*P **P** **19 22 11.8 +1.4**
EALK Alkurruntz 24.06 100 P **P** **19 22 15.1 +2.3**
comp=Z,1.6nm,0.5s,mb3.7
EALK Alkurruntz 24.06 100 P **P** **19 22 15.1 +2.3**
comp=Z,1.6nm,0.5s,mb3.7,SNR=7.9
SJPF Ste Jean 24.29 100 *e*P **P** **19 22 14.0 -1.1**
comp=Z,16nm,0.9s,mb4.2
SJPF Ste Jean 24.29 100 *e*P **P** **19 22 14.0 -1.1**
SJPF pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
BAIF Baives 24.30 81 *e*P **P** **19 22 14.6 -0.4**
comp=Z,34nm,1.0s,mb4.4
BAIF Baives 24.30 81 *e*P **P** **19 22 14.6 -0.4**
BAIF pmax pmax
comp=Z,17nm,1.0s,mb4.4
EGRO El Granado 24.37 118 P **P** **19 22 24.0 +8.1**
comp=Z,8.6nm,0.9s,mb4.2,SNR=7.9
IPRE Itoiz 24.39 101 P **P** **19 22 19.8 +3.7**
comp=Z,2.5nm,0.6s,mb3.9,SNR=7.5
LFF La Frestale 24.47 94 *e*P **P** **19 22 16.1 -0.7**
comp=Z,28nm,0.9s,mb4.4
LFF La Frestale 24.47 94 *e*P **P** **19 22 16.1 -0.7**
LFF pmax pmax
comp=Z,14nm,0.9s,mb4.4
HYF Humbligny 24.49 88 *e*P **P** **19 22 16.4 -0.6**
EMIN Mina Concepcio 24.64 116 P **P** **19 22 27.6 +9.1**
comp=Z,0.9nm,0.5s,mb3.5,SNR=7.9
GIVF Givet 24.65 80 *e*P **P** **19 22 17.9 -0.6**
TCF Toulx Ste Croi 24.69 90 *e*P **P** **19 22 18.4 -0.5**
comp=Z,40nm,0.9s,mb4.6
TCF Toulx Ste Croi 24.69 90 *e*P **P** **19 22 18.4 -0.5**
TCF pmax pmax
comp=Z,20nm,0.9s,mb4.7
RJF Les Rejaudoux 24.76 93 *e*P **P** **19 22 19.8 +0.2**
comp=Z,33nm,1.1s,mb4.5
RJF Les Rejaudoux 24.76 93 *e*P **P** **19 22 19.8 +0.2**
RJF pmax pmax
comp=Z,17nm,1.1s,mb4.5
ETSF Etsaut 24.81 100 *e*P **P** **19 22 20.0 -0.1**
comp=Z,39nm,0.9s,mb4.6
ETSF Etsaut 24.81 100 *e*P **P** **19 22 20.0 -0.1**
ETSF pmax pmax
comp=Z,19nm,0.9s,mb4.6
ESDC Sonseca Array 24.82 109 P **P** **19 22 20.8 +0.5**
comp=Z,2.7nm,0.7s,mb3.9,baz=319,slow=8.6,SNR=12
ESDC Sonseca Array 24.82 109 P **P** **19 22 27.1 +6.8**
comp=Z,3.3nm,0.8s,mb3.9,SNR=9.9
ESLA Sonseca Array 24.82 109 *e*P **P** **19 22 22.9 +2.6**
BGF Bois d'Agland 24.95 89 *e*P **P** **19 22 21.0 -0.4**
comp=Z,74nm,0.9s,mb4.9
BGF Bois d'Agland 24.95 89 *e*P **P** **19 22 21.0 -0.4**
BGF pmax pmax
comp=Z,37nm,0.9s,mb4.9
SSF Saint Saulge 25.11 88 *e*P **P** **19 22 22.7 -0.2**
SSF pmax pmax
comp=Z,13nm,0.8s,mb4.5
SSF Saint Saulge 25.11 88 *e*P **P** **19 22 22.7 -0.2**
comp=Z,13nm,0.8s,mb4.5
AVF Avril sur Loir 25.15 88 *e*P **P** **19 22 22.8 -0.5**
comp=Z,21nm,0.8s,mb4.4
AVF Avril sur Loir 25.15 88 *e*P **P** **19 22 22.8 -0.5**
AVF pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
LOR Lormes 25.23 87 *e*P **P** **19 22 23.8 -0.3**
comp=Z,53nm,0.9s,mb4.8
LOR Lormes 25.23 87 *e*P **P** **19 22 23.8 -0.3**
LOR pmax pmax
comp=Z,27nm,0.9s,mb4.8
KONO Kongsberg 25.24 56 P **P** **19 22 26.4 +2.4**
KONO pmax pmax
comp=Z,34nm,1.3s,mb4.7
KONO Kongsberg 25.24 56 P **P** **19 22 26.4 +2.3**
comp=Z,34nm,1.3s,mb4.7
EPF Esparros 25.28 98 *e*P **P** **19 22 23.8 -0.7**
comp=Z,22nm,1.0s,mb4.3
EPF Esparros 25.28 98 *e*P **P** **19 22 23.8 -0.7**
EPF pmax pmax
comp=Z,11nm,1.0s,mb4.3
CAF Calviac 25.28 93 *e*P **P** **19 22 23.9 -0.7**
comp=Z,19nm,0.9s,mb4.3
CAF Calviac 25.28 93 *e*P **P** **19 22 23.9 -0.7**
CAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
EBIE Bielsa 25.36 99 P **P** **19 22 27.7 +2.4**
comp=Z,1.3nm,0.5s,mb3.8,SNR=6.0
AGO Saint Agoulin 25.36 90 *e*P **P** **19 22 28.8 +3.5**
RESF Ens 25.40 99 *e*P **P** **19 22 23.7 -2.0**
MEZF Maizieres J'vi 25.42 84 *e*P **P** **19 22 25.7 -0.1**
comp=Z,79nm,0.8s,mb5.0
MUD Monsted U'grnd 25.42 64 *i* P **P** **19 22 28.0 +2.3**
comp=Z,12nm,0.6s,mb4.6
MUD *i* S **S** **19 27 01.9 +12**
MUD *i* 19 27 10.9
comp=Z,410nm,15.0s
MUD Monsted U'grnd 25.42 64 *i* P **P** **19 22 28.0 +2.3**
MUD pmax pmax
comp=Z,12nm,0.6s,mb4.6
EADA Adamuz 25.51 113 P **P** **19 22 36.4 +10**
comp=Z,2.3nm,0.7s,mb3.8,SNR=8.8
SMF Signal de Mont 25.51 88 *e*P **P** **19 22 26.4 -0.3**
comp=Z,67nm,1.1s,mb4.8
SMF Signal de Mont 25.51 88 *e*P **P** **19 22 26.4 -0.3**
SMF pmax pmax
comp=Z,34nm,1.1s,mb4.8
ESPR Espera 25.74 117 P **P** **19 22 39.1 +10**
comp=Z,19nm,1.2s,mb4.5,SNR=6.2
EGRA Graus 25.75 100 P **P** **19 22 33.0 +4.0**
comp=Z,8.5nm,0.9s,mb4.3
EGRA Graus 25.75 100 P **P** **19 22 33.0 +4.0**
comp=Z,8.5nm,0.9s,mb4.3,SNR=5.1
LBL Lubilhac 25.84 92 *e*P **P** **19 22 32.2 +2.4**
SFS San Fernando 25.84 118 PFAKE **19 22 40.0 +10**
SFS LR LR
comp=Z,480nm,19.8s,MS4.0
SALF Salau 25.94 98 *e*P **P** **19 22 29.3 -1.5**
NB2 NORSAR Subarra 25.97 53 P **P** **19 22 30.6 -0.2**
comp=Z,23nm,1.2s,mb4.6,baz=275,slow=9.3
NB2 NORSAR Subarra 25.97 53 P **P** **19 22 30.6 -0.2**
NB2 pmax pmax
comp=Z,23nm,1.2s,mb4.6
NOA NORSAR Array B 25.97 53 P **P** **19 22 30.4 -0.4**
comp=Z,5.7nm,0.8s,mb4.2,baz=275,slow=9.6,SNR=12
NOA LR LR 19 31 40.1
comp=Z,519nm,18.6s,MS4.1,baz=275,slow=34
NOA NORSAR Array B 25.97 53 P **P** **19 22 30.4 -0.4**
NOA LR LR 19 31 40.1
THEF They Montfort 26.10 83 *e*P **P** **19 22 40.7 +8.6**
RUP Ruppelstein 26.14 80 *e*P **P** **19 22 38.1 +5.6**
MTLF Montolieu 26.23 96 *e*P **P** **19 22 33.3 -0.2**
comp=Z,36nm,1.0s,mb4.6
MTLF Montolieu 26.23 96 *e*P **P** **19 22 33.3 -0.2**
MTLF pmax pmax
comp=Z,18nm,1.0s,mb4.6
HNH Hanover 26.28 265 *e*P **P** **19 22 36.2 +2.3**
comp=Z,4.4nm,1.2s,mb3.9
ABH Alteburg 26.36 79 *e*P **P** **19 22 39.8 +5.2**
EVIA Vianos 26.36 109 P **P** **19 22 40.3 +5.6**
comp=Z,21nm,1.3s,mb4.5,SNR=7.9
EMOS Mosqueruela 26.41 104 P **P** **19 22 41.1 +6.0**
comp=Z,11nm,0.8s,mb4.4
EMOS Mosqueruela 26.41 104 P **P** **19 22 41.1 +6.0**
comp=Z,11nm,0.8s,mb4.4,SNR=7.9
HAU Haudompre 26.41 84 *e*P **P** **19 22 35.6 +0.5**
comp=Z,40nm,0.9s,mb4.6
HAU *e*R
comp=Z,306nm,22.8s
HAU Haudompre 26.41 84 *e*P **P** **19 22 35.6 +0.5**
HAU pmax pmax
comp=Z,20nm,0.9s,mb4.7
HAU MLR MLR
comp=Z,310nm,22.8s,MS3.8
ERTA Horta de San J 26.51 102 P **P** **19 22 41.4 +5.4**
comp=Z,30nm,1.0s,mb4.8
ERTA Horta de San J 26.51 102 P **P** **19 22 41.4 +5.4**
comp=Z,30nm,1.0s,mb4.8,SNR=5.1
ECHE Chera 26.61 106 P **P** **19 22 44.6 +7.6**
comp=Z,12nm,1.0s,mb4.4
EMIR Miracle 26.64 99 P **P** **19 22 41.4 +4.2**
comp=Z,10nm,0.7s,mb4.5
EMIR Miracle 26.64 99 P **P** **19 22 41.4 +4.2**
comp=Z,10nm,0.7s,mb4.5,SNR=7.9
EBR Ebro Roquetas 26.69 102 *e*P **P** **19 22 44.5 +6.8**
EPOB Poblet 26.71 101 P **P** **19 22 39.0 +1.1**
comp=Z,18nm,1.0s,mb4.5,SNR=7.0
CDF Champ du Feu 26.80 82 *e*P **P** **19 22 39.1 +0.5**
HINF Hinteralfeld 26.80 84 *e*P **P** **19 22 37.7 -0.9**
comp=Z,12nm,0.8s,mb4.2
HINF Hinteralfeld 26.80 84 *e*P **P** **19 22 37.7 -0.9**
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
ECH Echery 26.81 83 *e*P **P** **19 22 48.0 +9.3**
LASF Ste Croix 26.82 93 *e*P **P** **19 22 39.0 +0.1**
comp=Z,18nm,0.9s,mb4.3
LANF Langenberg 26.88 81 *e*P **P** **19 22 47.7 +8.4**
CABF La Chapelle 26.89 87 *e*P **P** **19 22 39.9 +0.4**
comp=Z,49nm,1.2s,mb4.6
CABF La Chapelle 26.89 87 *e*P **P** **19 22 39.9 +0.4**
CABF pmax pmax
comp=Z,24nm,1.2s,mb4.6
VIVF Saint-Julien-l 26.90 91 *e*P **P** **19 22 39.4 -0.2**
comp=Z,38nm,1.4s,mb4.5
VIVF Saint-Julien-l 26.90 91 *e*P **P** **19 22 39.4 -0.2**
VIVF pmax pmax
comp=Z,19nm,1.4s,mb4.4
MOF Molkenrain 26.95 83 *e*P **P** **19 22 48.5 +8.5**
LOMF Lomont 27.00 85 *e*P **P** **19 22 49.0 +8.6**
EJON La Jonquera 27.15 97 P **P** **19 22 50.4 +8.5**
comp=Z,14nm,1.0s,mb4.4
HFS Hagfors 27.26 55 P **P** **19 22 42.7 0.0**
comp=Z,3.5nm,0.9s,mb3.9,baz=247,slow=11,SNR=5.3
HFS LR LR 19 31 31.3
comp=Z,816nm,20.8s,MS4.3,baz=254,slow=32
ACCN Adirondack Com 27.30 266 P **P** **19 22 43.8 +0.7**
ACCN Adirondack Com 27.30 266 P **P** **19 22 43.8 +0.6**
NCB Newcomb 27.31 267 P **P** **19 22 43.5 +0.2**
comp=Z,12nm,0.8s,mb4.5
NCB LR LR
comp=Z,610nm,21.5s,MS4.1
NCB Newcomb 27.31 267 P **P** **19 22 43.5 +0.2**
comp=Z,12nm,0.8s,mb4.5
COP Copenhagen 27.37 65 *i* P **P** **19 22 36.6 -7.1**
comp=Z,75nm,1.4s,mb5.0
COP *i* S **S** **19 27 13.9 -7.9**
comp=Z,540nm,19.0s
COP Copenhagen 27.37 65 *i* P **P** **19 22 36.6 -7.1**
COP *i* S **S** **19 27 13.9 -7.9**
COP pmax pmax
comp=Z,75nm,1.4s,mb5.0
COP MLR MLR
comp=Z,550nm,19.0s,MS4.2
ORIF Oris-en-Rattie 27.61 90 *e*P **P** **19 22 45.7 -0.3**
comp=Z,11nm,0.8s,mb4.2
ORIF *e*R
comp=Z,306nm,18.0s
STU Stuttgart 27.80 80 PFAKE **19 23 00.0 +12**
STU LR LR
comp=Z,520nm,18.8s,MS4.1
LPL La Plagne 27.82 88 *e*P **P** **19 22 48.0 +0.1**
LPG La Plagne 27.84 88 *e*P **P** **19 22 48.1 0.0**
BNI Bardonecchia 28.02 89 PFAKE **19 23 00.0 +10**
BNI LR LR
comp=Z,510nm,18.4s,MS4.2
MBDF Montbardon 28.25 90 *e*P **P** **19 22 51.6 -0.2**
MOX Moxa 28.48 75 *i* P **P** **19 22 58.8 +5.0**
comp=Z,logA/T=1.0,mb4.4
MOX L **19 33 27.0**
MOX Moxa 28.48 75 *e*P **P** **19 22 58.8 +5.0**
MOX pmax pmax
comp=Z,14nm,1.5s,mb4.4
MOX MLR MLR
comp=Z,500nm,19.0s,MS4.1
MOX Moxa 28.48 75 *e*P **P** **19 22 58.8 +5.0**
comp=Z,14nm,1.5s,mb4.4
MOX LR LR
comp=Z,500nm,19.0s,MS4.1
GRA1 Grafenberg Arr 28.62 77 *e*P **P** **19 22 55.3 +0.2**
comp=Z,8.0nm,0.9s,mb4.5
GRF Grafenberg Arr 28.62 77 *e*P **P** **19 22 55.3 +0.2**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
GRF MLR MLR
comp=Z,400nm,18.4s,MS4.1
GRF Grafenberg Arr 28.62 77 *e*P **P** **19 22 55.3 +0.2**
comp=Z,8.0nm,0.9s,mb4.5
GRF LR LR
comp=Z,400nm,18.4s,MS4.1
CLL Collm 29.04 73 P **P** **19 22 59.8 +0.9**
comp=Z,logA/T=0.9,mb4.4
CLL *i* *PP pP 19 23 01.7 -0.1
CLL *e*SP sP 19 23 03.0 -0.1
CLL *i* 19 23 08.2
CLL Collm 29.04 73 *i* P **P** **19 22 59.8 +0.9**
CLL *i* *PP pP 19 23 01.7 -0.1
CLL *i* 19 23 08.2
CLL pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
CLL Collm 29.04 73 *i* P **P** **19 22 59.8 +0.9**
comp=Z,4.0nm,0.5s,mb4.4
CLL *i* pP pP 19 23 01.7 -0.1
CLL *i* 19 23 08.2
DAVOX Davos 29.11 84 P **P** **19 23 00.8 +1.3**
comp=Z,2.6nm,0.7s,mb4.1,baz=347,slow=13,SNR=3.8
DAVOX LR LR 19 32 51.9
comp=Z,408nm,18.5s,MS4.1,baz=299,slow=33
DAVOX Davos 29.11 84 P **P** **19 23 00.8 +1.3**
DAVOX LR LR 19 32 52.0
MDT Midelt 29.47 121 P **P** **19 23 02.9 -0.1**
comp=Z,1.4nm,0.8s,mb3.8,baz=305,slow=9.2,SNR=5.0
MDT LR LR 19 33 17.9
comp=Z,162nm,18.6s,MS3.7,baz=358,slow=33
BRG Berggiesshubel 29.75 74 *e*P **P** **19 23 08.0 +2.7**
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BRG MLR MLR
comp=Z,740nm,13.9s,MS4.5
BRG Berggiesshubel 29.75 74 *e*P **P** **19 23 08.0 +2.7**
comp=Z,5.1nm,0.9s,mb4.2
BRG LR LR
comp=Z,740nm,13.9s,MS4.5
SADO Sadowa 29.87 273 P **P** **19 23 05.7 -0.8**
comp=Z,12nm,0.9s,mb4.6,baz=49,slow=9.0,SNR=3.7
SADO LR LR 19 34 27.4
comp=Z,437nm,21.6s,MS4.1,baz=339,slow=35
KHC Kasperske Hory 30.25 77 *e*P **P** **19 23 11.0 +1.2**
KHC pP pP 19 23 15.5 +2.8
KHC AMS AMS 19 34 10.0
comp=Z,400nm,15.9s
KHC Kasperske Hory 30.25 77 *e*P **P** **19 23 11.0 +1.2**
KHC *e* pP 19 23 15.5 +2.8
KHC LR LR
comp=Z,400nm,15.9s,MS4.2
PRU Pruhonice 30.46 75 *e*P **P** **19 23 14.4 +2.9**
PRU AMS AMS 19 35 10.0
comp=Z,600nm,14.2s
UPC Upice 31.11 73 *e*P **P** **19 23 19.6 +2.4**
TREC Trest 31.31 76 AMS AMS 19 35 20.0
comp=Z,500nm,13.1s
DPC Dobruska-Polom 31.35 74 *e*P **P** **19 23 22.7 +3.3**
ERPA Erie 31.85 269 PFAKE **19 23 40.0 +16**
ERPA LR LR
comp=Z,460nm,18.5s,MS4.2
ARCES ARCESS Array B 31.88 35 P **P** **19 23 22.6 -1.2**
comp=Z,7.5nm,0.8s,mb4.6,baz=255,slow=8.7,SNR=15
ARCES LR LR 19 34 22.6
comp=Z,214nm,18.1s,MS3.9,baz=258,slow=33
ARCES ARCESS Array B 31.88 35 P **P** **19 23 22.6 -1.2**
RES Resolute Bay 32.20 334 P **P** **19 23 26.2 -0.5**
RES pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
RES Resolute Bay 32.20 334 P **P** **19 23 26.2 -0.4**
comp=Z,6.5nm,1.0s,mb4.4
RES Resolute Bay 32.20 334 P **P** **19 23 26.2 -0.5**
comp=Z,6.5nm,1.0s,mb4.4
MORC Moravsky Berou 32.31 74 P **P** **19 23 31.4 +3.6**
comp=Z,9.9nm,1.0s,mb4.6
MORC LR LR
comp=Z,390nm,18.3s,MS4.1
OKC Ostrava-Krasne 32.63 73 *e*P **P** **19 23 33.9 +3.3**
OKC AMS AMS 19 36 50.0
comp=Z,500nm,13.4s
FCC Fort Churchill 32.90 304 P **P** **19 23 32.5 -0.3**
FCC pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FCC Fort Churchill 32.90 304 P **P** **19 23 32.5 -0.3**
comp=Z,6.1nm,0.7s,mb4.6
FCC Fort Churchill 32.90 304 P **P** **19 23 32.5 -0.3**
comp=Z,6.1nm,0.7s,mb4.6
KAF Kangasniemi 32.98 49 *e*p **P** **19 23 28.2 -5.3**
comp=Z,4.2nm,0.8s,mb4.4
KAF Kangasniemi 32.98 49 *e*P **P** **19 23 28.2 -5.3**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
FINES FINESS Array B 33.02 50 P **P** **19 23 33.4 -0.5**
comp=Z,4.0nm,0.8s,mb4.4,baz=315,slow=5.4,SNR=12
FINES LR LR 19 35 24.5
comp=Z,629nm,21.1s,MS4.3,baz=332,slow=34
FINES FINESS Array B 33.02 50 P **P** **19 23 33.3 -0.6**
OJC Ojcow 33.42 72 *e*P **P** **19 23 39.8 +2.3**
SUW Suwalki 33.79 64 *e*P **P** **19 23 48.9 +8.3**
comp=Z,52nm,1.0s,mb5.4
ACSO Alum Creek Sta 34.78 269 P **P** **19 23 49.4 0.0**
ACSO LR LR
comp=Z,300nm,19.2s,MS4.0
ACSO Alum Creek Sta 34.78 269 P **P** **19 23 49.4 0.0**
JOF Joensuu 35.06 47 *e*p **P** **19 23 49.4 -2.0**
comp=Z,4.9nm,0.8s,mb4.5
LVZ Lovozero 35.34 38 *e*P **P** **19 23 53.1 -0.8**
LVZ *e*S **S** **19 29 27.1 -0.2**
LVZ pmax pmax
comp=Z,27nm,0.8s,mb5.2
LVZ pmax pmax
comp=N,28nm,1.0s
LVZ smax
comp=E,402nm,3.0s
LVZ Lovozero 35.34 38 *e*P **P** **19 23 53.1 -0.8**
comp=E,28nm,1.0s,mb5.2
LVZ *e*S **S** **19 29 27.1 -0.2**
BZS Buzias 36.73 78 ⇑P **P** **19 24 05.5 -0.3**
ULM Lac du Bonnet 37.09 291 P **P** **19 24 07.8 -0.8**
comp=E,3.1nm,0.9s,mb4.1,baz=53,slow=9.2,SNR=4.7
ULM LR LR 19 38 18.4
comp=E,304nm,18.1s,MS4.1,baz=50,slow=35
ULM Lac du Bonnet 37.09 291 P **P** **19 24 07.8 -0.9**
TZTN Tazewell 37.47 264 P **P** **19 24 12.4 +0.4**
TZTN Tazewell 37.47 264 P **P** **19 24 12.4 +0.3**
BURAR Bucovina Array 37.81 73 ⇓P **P** **19 24 15.6 +0.8**
AKASG Malin Array Be 38.56 67 P **P** **19 24 19.7 -1.4**
comp=E,0.5nm,0.4s,mb3.6,baz=300,slow=8.6,SNR=6.9
AKASG Malin Array Be 38.56 67 P **P** **19 24 19.7 -1.4**
KLMR Klimovskoe 39.40 48*c* *i*P **P** **19 24 27.6 -0.4**
KLMR *e*S **S** **19 30 24.9 -4.3**
KLMR pmax pmax
comp=Z,40nm,1.3s,mb5.0
KLMR smax
comp=E,1µm,5.3s
SWET Sewanee 39.79 265 *e*P **P** **19 24 30.2 -1.3**
SIUC Southern Illin 40.15 270 P **P** **19 24 34.9 +0.4**
SIUC pP pP 19 24 43.7 +6.3
SIUC Southern Illin 40.15 270 P **P** **19 24 34.8 +0.4**
WVT Waverly 40.34 267 *e*P **P** **19 24 35.4 -0.6**
WVT pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
WVT Waverly 40.34 267 *e*P **P** **19 24 35.4 -0.5**
comp=Z,8.8nm,1.0s,mb4.4
WVT Waverly 40.34 267 *e*P **P** **19 24 35.4 -0.6**
comp=Z,8.8nm,1.0s,mb4.4
OBN Obninsk 40.41 57 ⇓*i*P **P** **19 24 36.1 -0.3**
OBN pmax pmax
comp=Z,30nm,1.1s,mb4.9
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.4
OBN Obninsk 40.41 57 *i* P **P** **19 24 36.1 -0.3**
comp=Z,500nm,18.0s
FVM French Village 40.71 272 P **P** **19 24 39.6 +0.6**
FVM pmax pmax
comp=Z,14nm,0.9s,mb4.6
FVM French Village 40.71 272 P **P** **19 24 39.6 +0.6**
comp=Z,14nm,0.9s,mb4.6
FVM French Village 40.71 272 P **P** **19 24 39.6 +0.6**
comp=Z,14nm,0.9s,mb4.6
YKA Yellowknife Ar 41.11 316 P **P** **19 24 41.6 -0.5**
comp=Z,2.3nm,0.8s,mb3.9,baz=64,slow=9.3,SNR=16
YKA PcP PcP 19 26 39.8 -2.4
comp=Z,0.6nm,0.6s,baz=65,slow=3.5,SNR=5.4
YKA LR LR 19 41 25.8
comp=Z,106nm,20.2s,MS3.7,baz=90,slow=36
YKA Yellowknife Ar 41.11 316 PcP PcP 19 26 39.8 -2.5
CCM Cathedral Cave 41.16 272 P **P** **19 24 42.6 -0.1**
CCM Cathedral Cave 41.16 272 P **P** **19 24 42.6 -0.1**
LRAL Lakeview Retre 41.93 263 P **P** **19 24 46.7 -2.3**
comp=Z,24nm,1.2s,mb4.7
LRAL Lakeview Retre 41.93 263 P **P** **19 24 46.7 -2.3**
comp=Z,24nm,1.2s,mb4.7
MTP Monte Pirata 42.09 226 *e*P **P** **19 24 51.3 +0.7**
OXF Oxford 42.38 267 P **P** **19 24 51.7 -0.9**
OXF Oxford 42.38 267 P **P** **19 24 51.7 -1.0**
KSU1 Kansas State U 43.75 277 P **P** **19 25 03.8 0.0**
KSU1 Kansas State U 43.75 277 P **P** **19 25 03.8 0.0**

LAO	LASA Array	44.81	292	pP	pP	19 25 18.0	+2.7		
MIAR	Mount Ida	44.88	270	P	P	**19 25 13.2**	**+0.1**		
MIAR	Mount Ida	44.88	270	P	P	**19 25 13.2**	**+0.2**		
EDM	Edmonton	44.99	304	P	P	**19 25 14.0**	**+0.4**		
EDM	Edmonton	44.99	304	P	P	**19 25 14.0**	**+0.4**		
INK	Inuvik	45.33	329	P	P	**19 25 15.6**	**-0.5**		
	comp=Z,5.9nm,0.8s,mb4.5,baz=50,slow=8.8,SNR=11								
INK				PcP	PcP	19 26 54.6	-1.6		
	comp=Z,4.1nm,0.9s,baz=58,slow=4.1,SNR=3.8								
INK	Inuvik	45.33	329	P	P	**19 25 16.0**	**-0.1**		
BR131	Keskin Array S	47.35	77	P	P	**19 25 34.0**	**+1.5**		
BR131	Keskin Array S	47.35	77	P	P	**19 25 34.0**	**+1.5**		
BRTR	Keskin Array B	47.35	77	P	P	**19 25 32.8**	**+0.3**		
	comp=Z,2.1nm,0.7s,mb4.2,baz=302,slow=5.1,SNR=6.8								
PHWY	Pilot Hill	47.62	286	P	P	**19 25 35.1**	**+0.5**		
PHWY	Pilot Hill	47.62	286	P	P	**19 25 35.1**	**+0.5**		
HRY	Holter Researc	47.91	295	P	P	**19 25 36.5**	**-0.3**		
HRY				pP	pP	19 25 41.2	+1.3		
WMOK	Wichita Mounta	47.91	274	P	P	**19 25 37.6**	**+0.6**		
WMOK				*PP	pP	19 25 45.4	+5.4		
WMOK				pmax	pmax				
	comp=Z,9.0nm,1.1s,mb4.7								
WMOK	Wichita Mounta	47.91	274	P	P	**19 25 37.6**	**+0.6**		
	comp=Z,9.0nm,1.1s,mb4.7								
WMOK				pP	pP	19 25 45.4	+5.3		
WMOK	Wichita Mounta	47.91	274	P	P	**19 25 37.6**	**+0.6**		
	comp=Z,9.0nm,1.1s,mb4.7								
ISCO	Idaho Springs	48.67	284	P	P	**19 25 43.8**	**+1.0**		
	comp=Z,3.8nm,0.7s,mb4.5								
ISCO	Idaho Springs	48.67	284	P	P	**19 25 43.8**	**+1.0**		
	comp=Z,3.8nm,0.7s,mb4.5								
PDAR	Pinedale Array	49.07	290	P	P	**19 25 45.4**	**-0.4**		
	comp=Z,2.6nm,0.6s,mb4.4,baz=59,slow=7.6,SNR=17								
PDAR				LR	LR	19 45 33.1			
	comp=Z,300nm,18.6s,MS4.3,baz=58,slow=35								
BW06	Boulder Array	49.07	290	P	P	**19 25 45.4**	**-0.4**		
BW06	Boulder Array	49.07	290	P	P	**19 25 45.4**	**-0.4**		
DLBC	Dease Lake	49.73	317	P	P	**19 25 50.7**	**+0.1**		
	comp=Z,2.9nm,0.8s,mb4.3,baz=71,slow=12,SNR=6.6								
DLBC	Dease Lake	49.73	317	P	P	**19 25 50.7**	**+0.1**		
DAWY	Dawson	49.76	326	P	P	**19 25 51.6**	**+0.8**		
DAWY	Dawson	49.76	326	P	P	**19 25 51.6**	**+0.8**		
KIV	Kislovodsk	49.90	67	*e*P	P	**19 25 52.4**	**+0.3**		
	comp=Z,12nm,1.1s,mb4.8								
KIV				*e*S	S	19 32 58.0	-2.9		
ARU	Arti	50.18	46	*i*P	P	**19 25 53.5**	**-0.6**		
ARU				*e*		19 27 47.6			
ARU				*e*S	S	**19 33 02.9**	**-1.8**		
ARU				*e*SS	SS	19 36 36.8	+1.8		
ARU				*e*SSS	SSS	19 38 00.8	-3.9		
ARU				pmax	pmax				
	comp=Z,16nm,1.0s,mb5.0								
ARU	Arti	50.18	46	P	P	**19 25 54.1**	**-0.1**		
	comp=Z,6.7nm,0.8s,mb4.7								
ARU				*e*pP	pP	19 26 01.9	+4.7		
ARU	Arti	50.18	46	P	P	**19 25 54.1**	**0.0**		
	comp=Z,6.7nm,0.8s,mb4.7								
ARU				*e*S	S	**19 33 02.9**	**-1.8**		
HWUT	Hardware Ranch	50.96	290	P	P	**19 26 00.2**	**0.0**		
HWUT				*e*pP	pP	19 26 07.6	+4.3		
HWUT	Hardware Ranch	50.96	290	P	P	**19 26 00.2**	**0.0**		
MALT	Malatya	51.09	75	P	P	**19 26 02.0**	**+0.7**		
	comp=Z,27nm,2.0s,mb4.8								
MALT	Malatya	51.09	75	P	P	**19 26 02.0**	**+0.7**		
	comp=Z,27nm,2.0s,mb4.8								
HLID	Hailey	51.30	294	P	P	**19 26 03.7**	**+0.9**		
JCT	Junction City	51.48	271	*e*P	P	**19 26 04.2**	**-0.2**		
	comp=Z,16nm,1.0s,mb4.9								
JCT				*e*pP	pP	19 26 13.3	+5.8		
PV10	Paradox Valley	51.62	285	*e*P	P	**19 26 06.3**	**+1.0**		
ILAR	Eielson Array	51.71	330	P	P	**19 26 05.7**	**+0.1**		
	comp=Z,5.2nm,0.9s,mb4.5,baz=45,slow=5.5,SNR=37								
ILAR				PcP	PcP	19 27 17.8	-1.5		
	comp=Z,3.0nm,0.9s,baz=9.7,slow=2.9,SNR=6.2								
ILAR				LR	LR	19 46 25.8			
	comp=Z,67nm,19.7s,MS3.7,baz=24,slow=34								
ILAR	Eielson Array	51.71	330	PcP	PcP	19 27 17.8	-1.4		
COLA	College	51.93	330	*i*P	P	**19 26 07.1**	**-0.2**		
SRU	San Rafael	51.99	287	P	P	**19 26 08.5**	**+0.3**		
DBIC	Dimbokro	52.08	141	P	P	**19 26 07.0**	**-2.1**		
	comp=Z,2.5nm,0.7s,mb4.2,baz=329,slow=5.6,SNR=5.1								
DBIC				LR	LR	19 46 24.4			
	comp=Z,317nm,18.2s,MS4.4,baz=325,slow=34								
DBIC	Dimbokro	52.08	141	P	P	**19 26 08.5**	**-0.6**		
TMUT	Trail Mountain	52.27	288	P	P	**19 26 09.7**	**-0.5**		
TMUT	Trail Mountain	52.27	288	P	P	**19 26 09.7**	**-0.5**		
THY	Trims Highway	52.30	328	P	P	**19 26 11.5**	**+1.4**		
THY	Trims Highway	52.30	328	P	P	**19 26 11.5**	**+1.4**		
ANMO	Albuquerque	52.40	280	P	P	**19 26 11.6**	**+0.4**		
	comp=Z,2.9nm,0.7s,mb4.3,baz=45,slow=8.4,SNR=6.8								
ANMO				LR	LR	19 47 34.5			
	comp=Z,496nm,19.5s,MS4.6,slow=35								
LIC	Lamto	52.42	141	*e*P	P	**19 26 09.7**	**-2.0**		
LIC				*e*R					
	comp=Z,683nm,21.8s								
DUG	Dugway	52.60	289	P	P	**19 26 13.4**	**+0.7**		
DUG				pmax	pmax				
	comp=Z,8.0nm,1.0s,mb4.6								
DUG	Dugway	52.60	289	P	P	**19 26 13.4**	**+0.8**		
	comp=Z,8.3nm,1.0s,mb4.6								
DUG	Dugway	52.60	289	P	P	**19 26 13.4**	**+0.7**		
	comp=Z,8.2nm,1.0s,mb4.6								
IMA2	Indian Mountai	52.74	333	*e*P	P	**19 26 13.7**	**+0.3**		
IMA2				*e*pP	pP	19 26 22.2	+5.8		
IMA2	Indian Mountai	52.74	333	*e*P	P	**19 26 13.7**	**+0.3**		
MCK	McKinley	53.08	329	P	P	**19 26 16.2**	**+0.3**		
MCK				pmax	pmax				
	comp=Z,10.0nm,1.1s,mb4.7								
MCK	McKinley	53.08	329	P	P	**19 26 16.2**	**+0.3**		
	comp=Z,10nm,1.1s,mb4.7								
MCK	McKinley	53.08	329	P	P	**19 26 16.2**	**+0.3**		
	comp=Z,10nm,1.1s,mb4.7								
MSU	Marysvale	53.35	287	*e*P	P	**19 26 19.0**	**+0.7**		
MSU				*e**PP	pP	19 26 27.6	+6.2		
MVU	Marysvale	53.38	287	P	P	**19 26 21.1**	**+2.6**		
MVU	Marysvale	53.38	287	P	P	**19 26 21.1**	**+2.6**		
ELK	Elko	53.61	291	P	P	**19 26 20.2**	**+0.1**		
	comp=Z,1.6nm,0.6s,mb4.1,baz=62,slow=8.0,SNR=6.9								
AKTK	Aktyubinsk	53.76	52	P	P	**19 26 20.2**	**-0.8**		
	comp=Z,2.0nm,1.1s,mb4.0								
AKTO	Aktyubinsk	53.76	52	P	P	**19 26 20.2**	**-0.8**		
AKTO				pmax	pmax				
	comp=Z,2.0nm,1.1s,mb4.0								
MNTX	Cornudas Mount	54.01	277	P	P	**19 26 22.0**	**-1.2**		
MNTX	Cornudas Mount	54.01	277	P	P	**19 26 22.0**	**-1.1**		
TXAR	Lajitas Array	54.65	273	P	P	**19 26 26.9**	**-0.9**		
	comp=Z,1.2nm,0.6s,mb4.1,baz=60,slow=8.7,SNR=8.3								
TXAR				LR	LR	19 48 32.0			
	comp=Z,288nm,18.4s,MS4.4,baz=325,slow=35								
WUAZ	Wupatki	54.93	284	P	P	**19 26 30.2**	**+0.3**		
	comp=Z,6.0nm,0.9s,mb4.6								
WUAZ	Wupatki	54.93	284	P	P	**19 26 30.2**	**+0.3**		
	comp=Z,6.0nm,0.9s,mb4.6								
TIXI	Tiksi	55.36	6	*d*P	P	**19 26 32.6**	**+0.1**		
TIXI				pmax	pmax				
	comp=Z,21nm,1.0s,mb5.1								
TIXI	Tiksi	55.36	6	P	P	**19 26 32.4**	**-0.1**		
TIXI	Tiksi	55.36	6	P	P	**19 26 32.4**	**-0.1**		
AB31	Akbulak array	55.47	52	P	P	**19 26 32.6**	**-1.1**		
AB31				pmax	pmax				
	comp=Z,24nm,1.7s,mb5.0								
AB31	Akbulak array	55.47	52	P	P	**19 26 32.6**	**-1.1**		
	comp=Z,24nm,1.7s,mb5.0								
SLKM	Skilak Lake	55.87	327	*e*P	P	**19 26 36.5**	**+0.1**		
SLKM	Skilak Lake	55.87	327	*e*P	P	**19 26 36.5**	**+0.2**		
TPH	Tonopah	56.55	290	P	P	**19 26 42.9**	**+1.3**		
TPH				*PP	pP	19 26 51.6	+6.9		
TNA	Tin City	56.67	339	P	P	**19 26 41.5**	**-0.6**		
TNA	Tin City	56.67	339	P	P	**19 26 41.5**	**-0.6**		
TPNV	Topopah Spring	56.77	289	P	P	**19 26 43.5**	**+0.3**		
TPNV	Topopah Spring	56.77	289	P	P	**19 26 43.5**	**+0.3**		
TUC	Tucson	56.82	281	P	P	**19 26 43.8**	**+0.2**		
TUC	Tucson	56.82	281	P	P	**19 26 43.8**	**+0.2**		
MNV	Mina	56.84	291	P	P	**19 26 43.3**	**-0.3**		
MNV				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.6								
MNV	Mina	56.84	291	P	P	**19 26 43.3**	**-0.3**		
	comp=Z,5.9nm,0.9s,mb4.6								
MNV	Mina	56.84	291	P	P	**19 26 43.3**	**-0.3**		
	comp=Z,5.9nm,0.9s,mb4.6								
NVAR	Mina Array Bea	56.92	291	P	P	**19 26 43.3**	**-0.9**		
	comp=Z,0.6nm,0.5s,mb3.9,baz=338,slow=1.4,SNR=4.9								
ZRNK	Zerenda	57.02	44	P	P	**19 26 44.1**	**-0.6**		
ZRNK	Zerenda	57.02	44	P	P	**19 26 44.1**	**-0.6**		
BEKR	Beckwourth	57.08	294	P	P	**19 26 44.4**	**-0.9**		
	comp=Z,6.8nm,0.9s,mb4.7								
BEKR	Beckwourth	57.08	294	P	P	**19 26 44.4**	**-0.9**		
	comp=Z,6.8nm,0.9s,mb4.7								
CHKZ	Chkalovo	57.18	43	*e*P	P	**19 26 44.8**	**-1.0**		
CHKZ				*PP	pP	19 26 54.0	+5.1		
CHKZ				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8								
CHKZ	Chkalovo	57.18	43	*e*P	P	**19 26 44.8**	**-1.0**		
	comp=Z,9.1nm,0.8s,mb4.9								
CHKZ				pP	pP	19 26 54.0	+5.1		
CHKZ	Chkalovo	57.18	43	*e*P	P	**19 26 44.8**	**-1.0**		
	comp=Z,9.1nm,0.8s,mb4.9								
BRVK	Borovoye	57.48	44	P	P	**19 26 47.4**	**-0.6**		
BRVK	Borovoye	57.48	44	P	P	**19 26 47.4**	**-0.6**		
BVA0	Borovoye Array	57.55	44	*i* P	P	**19 26 48.0**	**-0.5**		
BVA0				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.9								
BVA0	Borovoye Array	57.55	44	*i* P	P	**19 26 48.0**	**-0.5**		
	comp=Z,1.0nm,0.8s,mb3.9								
ROSC	El Rosal	57.72	229	P	P	**19 26 50.3**	**+0.1**		
	comp=Z,51nm,0.8s,mb5.6,baz=92,slow=8.8,SNR=25								
ROSC				LR	LR	19 48 02.2			
	comp=Z,150nm,19.3s,MS4.1,baz=32,slow=32								
ROSC	El Rosal	57.72	229	P	P	**19 26 50.3**	**+0.1**		
ROSC				LR	LR	19 48 02.2			
DAC	Darwin (Calif)	58.02	289	P	P	**19 26 51.6**	**-0.3**		
DAC	Darwin (Calif)	58.02	289	P	P	**19 26 51.6**	**-0.3**		
BILL	Bilibino	58.50	351	*e*P	P	**19 26 52.9**	**-2.0**		
BILL				pmax	pmax				
	comp=Z,11nm,1.7s,mb4.6								
BILL				MLR	MLR				
	comp=Z,400nm,14.0s,MS4.7								
BILL	Bilibino	58.50	351	*e*P	P	**19 26 52.9**	**-2.0**		
	comp=Z,400nm,14.0s								
ISA	Isabella	58.96	289	P	P	**19 26 59.2**	**+0.7**		
ISA				pmax	pmax				
	comp=Z,8.0nm,1.0s,mb4.7								
ISA	Isabella	58.96	289	P	P	**19 26 59.2**	**+0.7**		
	comp=Z,8.4nm,1.0s,mb4.7								
PFO	Pinyon Flat Ob	59.24	286	*e*P	P	**19 27 01.2**	**+0.7**		
PFO				pmax	pmax				
	comp=Z,11nm,0.8s,mb4.9								
PFO	Pinyon Flat Ob	59.24	286	*e*P	P	**19 27 01.2**	**+0.7**		
	comp=Z,11nm,0.8s,mb4.9								
PFO	Pinyon Flat Ob	59.24	286	*e*P	P	**19 27 01.2**	**+0.7**		
	comp=Z,11nm,0.8s,mb4.9								
BAR	Barrett	60.04	286	*e*P	P	**19 27 06.1**	**+0.1**		
BAR				*e*pP	pP	19 27 16.1	+7.0		
NVS	Novosibirsk	61.16	36	*e*P	P	**19 27 11.9**	**-1.4**		
NVS				pmax	pmax				
	comp=Z,20nm,1.4s,mb5.0								
NVS	Novosibirsk	61.16	36	*e*P	P	**19 27 11.9**	**-1.4**		
	comp=Z,20nm,1.4s,mb5.0								
KURK	Kurchatov	62.66	41	*i*P	P	**19 27 22.9**	**-0.6**		
KURK	Kurchatov	62.66	41	P	P	**19 27 22.8**	**-0.7**		
KURK	Kurchatov	62.66	41	*i* P	P	**19 27 22.9**	**-0.6**		
OTAV	Otavalo	63.69	230	P	P	**19 27 30.6**	**-0.1**		
	comp=Z,12nm,1.1s,mb4.8								
YAK	Yakutsk	64.90	8	*e*P	P	**19 27 39.7**	**+1.9**		
YAK				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.8								
YAK	Yakutsk	64.90	8	*e*P	P	**19 27 39.7**	**+1.9**		
	comp=Z,9.0nm,0.9s,mb4.8								
KKAR	Karatay Array	64.98	51	*i* P	P	**19 27 37.6**	**-1.1**		
KKAR				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.3								
BOD	Bodaibo	66.89	18	*e*P	P	**19 27 48.6**	**-2.0**		
BOD				pmax	pmax				
	comp=Z,5.0nm,1.5s,mb4.3								
BOD	Bodaibo	66.89	18	*e*P	P	**19 27 48.6**	**-2.0**		
	comp=Z,5.0nm,1.5s,mb4.3								
AAK	Ala-Archa	67.20	49	*i* P	P	**19 27 52.3**	**-0.6**		
AAK				pmax	pmax				
	comp=Z,9.0nm,1.4s,mb4.6								
AAK	Ala-Archa	67.20	49	P	P	**19 27 52.2**	**-0.7**		
	comp=Z,8.6nm,1.4s,mb4.6								
AAK	Ala-Archa	67.20	49	*i* P	P	**19 27 52.3**	**-0.6**		
	comp=Z,9.0nm,1.4s,mb4.6								
MKAR	Makanchi Array	67.25	42	P	P	**19 27 52.7**	**-0.5**		
	comp=Z,2.0nm,0.5s,mb4.4,baz=333,slow=5.5,SNR=16								
MKAR				LR	LR	19 59 10.4			
	comp=Z,256nm,19.8s,MS4.5,baz=359,slow=38								
MKAR	Makanchi Array	67.25	42	P	P	**19 27 52.7**	**-0.5**		
MKAR				LR	LR	19 59 10.4			
BDFB	Brasilia	69.06	194	LR	LR	19 52 58.4			
	comp=Z,244nm,20.9s,MS4.4,baz=180,slow=31								
WMQ	Urumqi	71.86	40	*e*P	P	**19 28 21.4**	**0.0**		
WMQ				AP	pP	19 28 26.1	+1.6		
WMQ				XP	sP	19 28 28.4	+2.7		
WMQ				PCP	PcP	19 28 40.4	-0.1		
WMQ				PP	PP	19 31 02.8	+0.1		
WMQ				PPP	PPP	19 32 44.4	-0.2		
WMQ				*e*S	S	19 37 40.6	-0.1		
WMQ				SCS	ScS	19 38 22.4	-1.1		
WMQ				SS	SS	19 42 18.4	-0.4		
WMQ				AMB	AMB				
	comp=Z,80nm,5.2s								
WMQ				LR	LR				
	comp=N,300nm,18.0s,MS4.8								
WMQ				LR	LR				
	comp=E,340nm,17.6s,MS4.8								
WMQ				LR	LR				
	comp=Z,320nm,17.0s,MS4.7								
SONM	Songino Array	74.48	26	P	P	**19 28 37.0**	**+0.5**		
	comp=Z,4.5nm,1.0s,mb4.3,baz=329,slow=6.3,SNR=19								
SONM				LR	LR	20 02 38.0			
	comp=Z,172nm,18.5s,MS4.4,baz=309,slow=37								
LPAZ	La Paz	74.55	213	P	P	**19 28 37.4**	**-0.2**		
	comp=Z,5.1nm,0.8s,mb4.5,baz=6.0,slow=9.6,SNR=19								
LPAZ				LR	LR	20 00 14.1			
	comp=Z,69nm,19.4s,MS4.0,baz=208,slow=35								
LPAZ	La Paz	74.55	213	P	P	**19 28 37.3**	**-0.3**		
LPAZ				pmax	pmax				
	comp=Z,5.0nm,0.8s								
LPAZ	La Paz	74.55	213	P	P	**19 28 37.3**	**-0.3**		
	comp=Z,5.0nm,0.8s,mb4.5								
LPAZ	La Paz	74.55	213	P	P	**19 28 37.3**	**-0.3**		
	comp=Z,5.0nm,0.8s,mb4.5								
ULN	Ulaanbaatar	74.62	26	*e*P	P	**19 28 38.3**	**+0.9**		
ULN	Ulaanbaatar	74.62	26	P	P	**19 28 37.3**	**-0.1**		
	comp=Z,9.7nm,1.2s,mb4.6								
ULN	Ulaanbaatar	74.62	26	*e*P	P	**19 28 38.3**	**+0.9**		
HIA	Hailar	76.08	17	*e*P	P	**19 28 49.0**	**+3.3**		
HIA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
HIA	Hailar	76.08	17	*e*P	P	**19 28 49.0**	**+3.3**		
	comp=Z,10nm,0.9s,mb4.8								
KMBO	Kilima Mbogo	80.13	105	LR	LR	20 05 06.9			
	comp=Z,90nm,18.8s,MS4.1,baz=90,slow=36								
CPUP	Villa Florida	81.17	200	P	P	**19 29 12.4**	**-1.5**		
CPUP	Villa Florida	81.17	200	P	P	**19 29 12.4**	**-1.5**		
MDJ	Mudanjiang	82.08	11	P	P	**19 29 17.9**	**-0.4**		
MDJ				AP	pP	19 29 21.3	-0.2		
MDJ				PP	PP	19 32 25.3	-3.1		
MDJ				S	S	19 39 25.8	-5.7		
MDJ				AMB	AMB				
	comp=Z,200nm,5.2s								
MDJ				LR	LR				
	comp=N,60nm,29.6s								
MDJ				LR	LR				
	comp=E,70nm,24.5s								
MDJ				LR	LR				
	comp=Z,70nm,31.3s,MS3.8								
CN2	Changchun	82.33	14	*e*P	P	**19 29 19.9**	**+0.3**		
KOLN	Koldanda	83.59	52	*e*P	P	**19 29 26.8**	**+0.4**		
GKN	Gorkha	83.88	51	*e*P	P	**19 29 28.3**	**+0.4**		
	comp=Z,17nm,0.9s,mb5.2								
KKN	Kakani	84.36	50	*e*P	P	**19 29 30.9**	**+0.6**		
	comp=Z,22nm,0.9s,mb5.3								
KKN	Kakani	84.36	50	*e*P	P	**19 29 30.9**	**+0.6**		
KKN				pmax	pmax				
	comp=Z,11nm,0.9s,mb5.0								
DMN	Daman	84.44	51	*e*P	P	**19 29 31.3**	**+0.7**		
	comp=Z,38nm,1.1s,mb5.4								
GUN	Gumba	84.54	50	*e*P	P	**19 29 32.9**	**+1.7**		
	comp=Z,43nm,1.1s,mb5.5								
PKI	Pulchoki	84.61	50	*e*P	P	**19 29 32.5**	**+1.0**		
JIRN	Jiri	84.90	50	*e*P	P	**19 29 34.2**	**+1.2**		
	comp=Z,19nm,0.7s,mb5.4								
MJAR	Matsushiro Arr	90.86	6	LR	LR	20 12 19.8			
	comp=Z,146nm,19.0s,MS4.4,baz=310,slow=37								
SSE	Sheshan	93.91	20	*e*P	P	**19 30 13.3**	**-2.3**		
SSE				AP	pP	19 30 22.3	+3.5		
SSE				XP	sP	19 30 26.6	+6.8		
SSE				S	S	19 41 16.6	-6.0		
SSE				XS		19 41 34.3			
SSE				AMB	AMB				
	comp=Z,110nm,4.3s								
SSE				LR	LR				
	comp=N,60nm,26.1s,MS4.3								
SSE				LR	LR				
	comp=E,140nm,26.2s,MS4.3								
SSE				LR	LR				
	comp=Z,180nm,20.0s								
PLCA	Paso Flores	98.12	207	LR	LR	20 12 19.9			
	comp=Z,95nm,19.2s,MS4.3,baz=9.4,slow=34								
RKT	Rikitea	114.12	263	*e*LR	LR	20 09 52.4			
	comp=Z,134nm,29.0s								
PPT	Papeete	118.75	279	*e*LR	LR	20 12 01.6			
	comp=Z,181nm,27.0s								
SNAA	Sanae	126.17	168	*e*PKIKP	PKPdf	19 35 58.6	-2.7		
WRAB	Tennant Creek	146.18	19	*e*PKP2	PKPab	19 36 38.0	-2.0		
WRA	Warramunga Arr	146.18	19	PKPbc	PKPbc	19 36 37.8	+0.4		
	comp=Z,6.3nm,0.9s,baz=340,slow=3.1,SNR=56								
WB2	Warramunga Arr	146.19	19	*e*PKP	PKPdf	19 36 37.8	-1.5		
WB2				*i*		19 36 46.5			
CTA	Charters Tower	147.38	358	PKPbc	PKPdf	19 36 39.8	-1.4		
	comp=Z,2.1nm,0.7s,baz=286,slow=7.4,SNR=2.9								
VNDA	Vanda	154.39	188	PKPbc	PKPdf	19 36 56.4	+6.3		
	comp=Z,2.4nm,0.8s,baz=275,slow=3.3,SNR=8.9								

*ATH **19** 19:35:26.0,39.11N×21.47E,h41km±5km,MD3.1/3*
*THE **19** 19:35:32.1,39.19N×20.93E,h10km,ML2.0*
*CSEM **19** 19:35:32.0±0.3,39.20N×20.89E,h2km,ML2.0,Error ellipse: s-maj=7.4km s-min=5.9km az=123.0*

ISC 19 19:35:31.7±0.7,39.18N±0.04×20.96E±0.05,h4km±9km, n11,σt1s23/18,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.48	350	*e*P		**Pg 19 35 40.5**	**-0.8**
JAN				*e*S		**Sg 19 35 51.2**	**+3.4**
LKD	Levkas	0.53	207	*e*Pg		**Pg 19 35 41.4**	**-0.9**
LKD				*e*Sg		**Sg 19 35 50.8**	**+1.3**
LKD	Levkas	0.53	207	*e*Pg		**Pg 19 35 41.3**	**-1.0**
LKD				*e*Sg		**Sg 19 35 50.8**	**+1.4**
MEV	Metsovon	0.64	19	*e*Pg		**Pg 19 35 43.3**	**-1.1**
MEV				*e*Sg		**Sg 19 35 54.2**	**+1.2**
EVR	Evrytania	0.71	112	*e*P		**Pg 19 35 35.0**	**-11**
KEK	Kerkira	1.05	301	*e*P		**Pb 19 35 51.0**	**-1.0**
KEK				*e*S		**Sb 19 36 09.0**	**+3.1**
AGG	Agios Georgios	1.07	98	*e*Pg		**Pg 19 35 52.2**	**-0.9**
AGG				*e*Sg		**Sg 19 36 09.1**	**+1.6**
LIT	Litokhoron	1.50	52	*e*Pg		**Pg 19 36 00.0**	**-1.5**
LIT				*e*Sg		**Sg 19 36 21.4**	**0.0**
XOR	Xorichti	1.74	83	*e*Pb		**Pb 19 36 04.0**	**+0.2**
GRG	Griva	2.09	31	*e*Pn		**Pn 19 36 07.1**	**-0.8**
KNT	Kendrikon	2.47	36	*e*Pn		**Pn 19 36 14.0**	**+0.7**

WEL 19 19:37:29.3±0.2,39.68S×174.81E,h106km±1km,ML3.5/7, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.15	118	PN	P	19 37 44.3	+0.2
WAZ				SN	S	19 37 55.6	+0.3
RAEZ	Rainy Point	0.51	321	PN	P	19 37 45.7	-0.2
VRZ	Vera Road	0.56	356	PN	P	19 37 45.7	-0.6
VRZ				SN	S	19 37 58.2	-0.8
MTVZ	Mangateitei	0.59	60	PN	P	19 37 46.1	-0.4
MTVZ				SN	S	19 37 58.6	-0.8
TRVZ	Turoa	0.69	56	PN	P	19 37 47.1	-0.2
NEZ	North Egmont	0.69	306	PN	P	19 37 47.2	-0.1
WNVZ	Wahianoa	0.70	60	PN	P	19 37 47.3	-0.1
WNVZ				SN	S	19 38 00.3	-0.8
DRZ	Dome Shelter	0.71	55	PN	P	19 37 47.5	0.0
FWVZ	Far West T-bar	0.71	54	PN	P	19 37 47.3	-0.3
FWVZ				SN	S	19 38 00.3	-0.9
WPVZ	Whakapapa	0.74	50

MTVZ	**Mangateitei**	**1.50**	**359**	PN	Pn	19 42 56.7	-0.5
WNVZ	**Wahianoa**	**1.56**	**3**	PN	Pn	19 42 58.1	0.0
TRVZ	**Turoa**	**1.58**	**2**	PN	Pn	19 42 58.7	+0.3
DRZ	**Dome Shelter**	**1.61**	**2**	PN	Pn	19 42 59.1	+0.4
FWVZ	**Far West T-bar**	**1.63**	**2**	⇑PN	Pn	19 42 59.2	+0.2
NNZ	**Nelson**	**1.63**	**258**	PN	Pn	19 42 59.0	-0.2
WPVZ	**Whakapapa**	**1.68**	**1**	⇓PN	Pn	19 43 00.2	+0.4
CNZ	**Chateau**	**1.68**	**1**	⇑PN	Pn	19 43 00.3	+0.4
NGZ	**Ngauruhoe**	**1.71**	**3**	PN	Pn	19 43 00.4	+0.2
OTVZ	**Oturere**	**1.72**	**4**	PN	Pn	19 43 00.6	+0.2
WTVZ	**West Tongariro**	**1.77**	**2**	PN	Pn	19 43 01.3	+0.3
KRVZ	**Karewarewa**	**1.79**	**4**	*e*PN	Pn	19 43 01.3	0.0
TWVZ	**Taurewa**	**1.81**	**359**	*e*PN	Pn	19 43 01.6	-0.1
VRZ	**Vera Road**	**1.84**	**342**	*e*PN	Pn	19 43 01.7	-0.5
BKZ	**Black Stump Fm**	**1.88**	**24**	PN	Pn	19 43 00.8	-1.8
KATZ	**Kakaramea**	**1.91**	**5**	*e*PN	Pn	19 43 02.8	-0.3
NEZ	**North Egmont**	**1.94**	**326**	PN	Pn	19 43 04.8	+1.4
NRZ	**Ngariki Road**	**1.95**	**322**	PN	Pn	19 43 05.4	+1.6
PKE	**Pukeiti**	**2.04**	**325**	*e*PN	Pn	19 43 06.3	+1.2
KHZ	**Kahutara**	**2.12**	**223**	PN	Pn	19 43 03.3	-2.8
THZ	**Tophouse**	**2.14**	**245**	PN	Pn	19 43 04.4	-2.0
QRZ	**Quartz Range**	**2.25**	**270**	PN	Pn	19 43 07.0	-1.0
HIZ	**Hauiti**	**2.42**	**348**	*e*PN	Pn	19 43 10.1	-0.3
LTZ	**Lake Taylor**	**3.07**	**231**	PN	Pn	19 43 16.4	-3.1
MQZ	**McQueen's Vall**	**3.52**	**216**	*e*PN	Pn	19 43 21.9	-4.2
MQZ				*e*SN	Sn	19 43 58.5	-8.9

*CSEM **19** 19:52:31.8±0.9, 38.71N×28.57W, h5km, MD2.6, Error ellipse: s-maj=5.3km s-min=2.6km az=144.0, After PDA*
*PDA **19** 19:52:31.8±0.9, 38.71N×28.57W, h5km, MD2.6, Error ellipse: s-maj=5.3km s-min=2.6km az=144.0*
SVSA 19 19:52:31.8±0.9, 38.71N×28.57W, h5km, MD2.6, Error ellipse: s-maj=5.3km s-min=2.6km az=144.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.17**	**219**	*e*P	Pg	19 52 34.9	-0.3
CALA				*e*S	Sg	19 52 37.7	+0.2
PICO	**Pico**	**0.24**	**152**	*e*P	Pg	19 52 35.6	-1.0
PICO				*e*S	Sg	19 52 39.8	0.0
ROSA	**Rosais**	**0.26**	**88**	*e*P	Pg	19 52 36.7	-0.3
ROSA				*e*S	Sg	19 52 40.0	-0.5

*IDC **19** 20:27:39.2±0.6, 32.70N×104.19W, mb4.1/7, mb1 4.3/14, mb1mx4.2/25, mbtmp4.1/14, ML4.0/4, MS3.4/7, Ms1 3.4/7, ms1mx3.1/36, Error ellipse: s-maj=22.1km s-min=6.4km az=76.0*
*NEIC **19** 20:27:40.4±0.3, 32.53N×104.55W, h5km, mb4.3/7, MW4.1(SLM), Error ellipse: s-maj=4.9km s-min=3.2km az=215.0*
NEIC Felt [III] at Artesia, Carlsbad and Roswell. Also felt at Dexter and Hope.
ISC 19 20:27:40.0±0.3, 32.64N±0.03×104.40W±0.04, h10km, n94, σ1§39/93, mb4.0/9, MS3.2/3, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBET	**Carlsbad E Tow**	**0.41**	**122**	P	**Pg**	**20 27 50.1**	**+1.8**
GDL2	**Guadalupe Moun**	**0.44**	**176**	P	**Pg**	**20 27 48.4**	**-0.5**
CLN7	**Carlsbad 7**	**0.55**	**114**	P	**Pg**	**20 27 52.9**	**+1.8**
CLNB	**Carlsbad**	**0.58**	**130**	P	**Pg**	**20 27 53.0**	**+1.3**
CPRX	**Cap Rock**	**0.60**	**49**	P	**Pb**	**20 27 53.2**	**+1.2**
MNTX	**Cornudas Mount**	**1.25**	**222**	*e*P	**Pb**	**20 28 00.2**	**-3.1**
CRNM	**Carthage**	**2.35**	**305**	P	**Pn**	**20 28 18.9**	**-0.5**
BNM	**Barren Site**	**2.40**	**310**	P	**Pn**	**20 28 20.4**	**+0.4**
SMNM	**San Marcial**	**2.47**	**298**	P	**Pn**	**20 28 20.7**	**-0.3**
LPM	**Los Pinos Moun**	**2.50**	**312**	P	**Pn**	**20 28 23.4**	**+2.0**
WTX	**Workman Tunnel**	**2.57**	**305**	P	**Pn**	**20 28 23.7**	**+1.3**
WTX				S	**Sn**	**20 28 56.3**	**+2.3**
SBM	**South Baldy**	**2.68**	**301**	P	**Pn**	**20 28 24.0**	**-0.1**
ANMO	**Albuquerque** baz=144,slow=14,SNR=264	**2.88**	**324**	Pn	**Pn**	**20 28 27.4**	**+0.7**
ANMO	baz=342,slow=7.7,SNR=40			Lg		20 29 04.6	
ANMO	532nm,0.7s,baz=0.7,slow=9.2,SNR=5.0			Rg		20 29 20.4	
ANMO	comp=Z,527nm,21.6s,baz=312,slow=42			LR	LR	20 29 41.8	
ANMO	**Albuquerque**	**2.88**	**324**	*e*P	**Pn**	**20 28 27.2**	**+0.5**
LAZ	**Ladron**	**2.89**	**308**	P	**Pn**	**20 28 29.5**	**+2.6**
BMNM	**Bear Mountains**	**2.90**	**305**	P	**Pn**	**20 28 29.5**	**+2.4**
BMNM				S	**Sn**	**20 28 56.6**	**+4.3**
MLM	**Mesa Lucera**	**3.15**	**314**	P	**Pn**	**20 28 34.4**	**+3.7**
LTX	**Lajitas**	**3.35**	**169**	P	**Pn**	**20 28 33.2**	**-0.3**
TXAR	**Lajitas Array** 13nm,0.3s,baz=348,slow=11,SNR=80	**3.35**	**169**	Pn	**Pn**	**20 28 34.8**	**+1.2**
TXAR	81nm,0.3s,baz=345,slow=16,SNR=108			Pg	**Pg**	**20 28 40.3**	**-6.6**
TXAR	197nm,0.3s,baz=337,slow=29,SNR=15			Lg		20 29 24.8	
JCT	**Junction City**	**4.47**	**118**	*e*P	**Pn**	**20 28 50.1**	**+0.6**
WMOK	**Wichita Mounta**	**5.13**	**64**	*e*P	**Pn**	**20 28 58.9**	**+0.1**
SDCO	**Great Sand Dun**	**5.18**	**350**	*e*P	**Pn**	**20 29 01.2**	**+1.8**
TUC	**Tucson**	**5.41**	**268**	*e*P	**Pn**	**20 28 58.7**	**-3.9**
RW3	**Ridgway**	**6.21**	**335**	Pn	**Pn**	**20 29 06.6**	**+4.3**
PV01	**Paradox Valley**	**6.46**	**329**	Pn	**Pn**	**20 29 16.4**	**-1.1**
WUAZ	**Wupatki**	**6.46**	**298**	*e*P	**Pn**	**20 29 15.8**	**-1.8**
SMCO	**Snowmass**	**6.85**	**343**	*e*Pn	**Pn**	**20 29 22.3**	**-0.7**
PV10	**Paradox Valley**	**6.86**	**328**	Pn	**Pn**	**20 29 22.3**	**-0.9**
ISCO	**Idaho Springs**	**7.21**	**353**	*e*Pn	**Pn**	**20 29 28.6**	**+0.5**
CBKS	**Cedar Bluff**	**7.24**	**30**	*e*Pn	**Pn**	**20 29 26.9**	**-1.5**
SRU	**San Rafael**	**8.15**	**324**	*e*Pn	**P**	**20 29 39.5**	**-1.7**
NATX	**Nacogdoches**	**8.30**	**93**	Pn	**P**	**20 29 42.9**	**-0.4**
MSU	**Marysvale**	**8.63**	**315**	P	**P**	**20 29 46.5**	**-1.3**
TMUT	**Trail Mountain**	**8.63**	**322**	*e*Pn	**P**	**20 29 46.9**	**-1.1**
MVU	**Marysvale**	**8.64**	**315**	Pn	**P**	**20 29 47.4**	**-0.7**
PHWY	**Pilot Hill**	**8.69**	**355**	*e*Pn	**P**	**20 29 48.9**	**+0.2**
ARUT	**Antelope Range**	**9.00**	**307**	Pn	**P**	**20 29 51.1**	**-1.9**
KSU1	**Kansas State U**	**9.03**	**42**	*e*Pn	**P**	**20 29 51.0**	**-2.5**
NEN	**Nelson**	**9.16**	**292**	Pn	**P**	**20 29 54.8**	**-0.4**
MIAR	**Mount Ida**	**9.23**	**75**	*e*Pn	**P**	**20 29 55.0**	**-1.2**
RWWY	**Rawlins**	**9.31**	**347**	Pn	**P**	**20 30 00.1**	**+2.9**
MPU	**Maple Canyon**	**9.39**	**324**	Pn	**P**	**20 29 54.8**	**-3.6**
DAU	**Daniels Canyon**	**9.52**	**327**	P	**P**	**20 30 01.8**	**+1.6**
NLU	**North Lily Min**	**9.57**	**322**	Pn	**P**	**20 30 01.1**	**+0.2**
NOQ	**North Oquirrh**	**10.12**	**324**	Pn	**P**	**20 30 10.0**	**+1.6**
TCUT	**Toone Canyon**	**10.15**	**328**	Pn	**P**	**20 30 13.6**	**+4.7**
PFO	**Pinyon Flat Ob**	**10.16**	**279**	*e*P	**P**	**20 30 05.2**	**-3.8**
HWUT	**Hardware Ranch**	**10.62**	**329**	Pn	**P**	**20 30 12.9**	**-2.4**
TPNV	**Topopah Spring**	**10.65**	**297**	Pn	**P**	**20 30 12.4**	**-3.2**
BGU	**Big Grassy Mou**	**10.78**	**323**	Pn	**P**	**20 30 16.3**	**-1.2**
SPUT	**South Promonto**	**10.78**	**326**	P	**P**	**20 30 17.5**	**0.0**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=141,slow=9.5,SNR=38	**10.90**	**340**	Pn	**P**	**20 30 19.9**	**+0.8**
PDAR	0.2nm,0.3s,baz=207,slow=13,SNR=3.0			Lg		20 33 17.9	
HVU	**Hansel Valley**	**11.30**	**326**	P	**P**	**20 30 23.1**	**-1.4**
AHID	**Auburn Hatcher**	**11.41**	**334**	*e*P	**P**	**20 30 25.5**	**-0.6**
RSSD	**Black Hills**	**11.47**	**1**	*e*Pn	**P**	**20 30 26.2**	**-0.7**
REDW	**Red Top Meadow**	**11.85**	**336**	*e*Pn	**P**	**20 30 30.2**	**-1.8**
ELK	**Elko** 0.1nm,0.3s,baz=141,slow=8.4,SNR=10	**11.87**	**316**	Pn	**P**	**20 30 34.2**	**+1.9**
ELK	comp=Z,185nm,21.3s,baz=165,slow=39			LR	LR	20 35 23.3	
LOHW	**Long Hollow**	**11.99**	**338**	*e*Pn	**P**	**20 30 33.2**	**-0.7**
IMW	**Indian Meadow**	**12.35**	**337**	*e*P	**P**	**20 30 39.1**	**+0.2**
MNV	**Mina**	**12.60**	**301**	*e*P	**P**	**20 30 44.6**	**+2.5**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=114,slow=14,SNR=60	**12.71**	**301**	Pn	**P**	**20 30 46.3**	**+2.7**
NVAR	0.1nm,0.3s,baz=132,slow=7.9,SNR=3.0			Lg		20 34 15.5	
LKWY	**Lake**	**12.79**	**340**	P	**P**	**20 30 47.5**	**+2.7**
HLID	**Hailey**	**13.45**	**327**	*e*P	**P**	**20 30 55.2**	**+1.9**
GCMT	**Greycliff**	**13.75**	**344**	P	**P**	**20 30 59.4**	**+2.1**
MCMT	**McKenzie Canyo**	**13.83**	**334**	P	**P**	**20 30 57.9**	**-0.5**
LAO	**LASA Array**	**14.10**	**355**	P	**P**	**20 31 02.2**	**+0.3**
DLMT	**Dillon**	**14.20**	**336**	*e*P	**P**	**20 31 05.5**	**+2.3**
HRY	**Holter Researc**	**15.16**	**340**	P	**P**	**20 31 16.9**	**+1.1**
MOD	**Modoc** 27nm,1.1s	**15.66**	**311**	P	**P**	**20 31 22.4**	**+0.1**
WCI	**Wyandotte Cave** 34nm,0.9s	**15.77**	**64**	P	**P**	**20 31 26.4**	**+2.6**
CHMT	**Chamberlain Mo**	**15.78**	**337**	*e*P	**P**	**20 31 24.6**	**+0.7**
BMO	**Blue Mountains** 25nm,1.2s	**15.79**	**324**	*e*P	**P**	**20 31 25.0**	**+1.0**
EGMT	**Eagleton** 37nm,1.6s	**15.90**	**347**	*e*P	**P**	**20 31 25.5**	**+0.2**
MSO	**Missoula**	**15.94**	**336**	*e*P	**P**	**20 31 25.3**	**-0.6**
	4.8nm,0.9s						
YBH	**Yreka Blue Hor** comp=Z,249nm,18.8s,baz=148,slow=39	**17.16**	**307**	LR	LR	20 38 49.2	
NEW	**Newport** 0.3nm,0.3s,baz=161,slow=14,SNR=8.2	**18.33**	**332**	P	**P**	**20 31 56.5**	**+0.5**
NEW	comp=Z,197nm,18.6s,baz=166,slow=38			LR	LR	20 39 15.4	
NEW	**Newport**	**18.33**	**332**	P	**P**	**20 31 56.5**	**+0.5**
NEW				LR	LR	20 39 15.4	
ULM	**Lac du Bonnet** 0.2nm,0.3s,baz=207,slow=10,SNR=5.5	**18.70**	**17**	P	**P**	**20 31 59.5**	**-1.0**
ULM	**Lac du Bonnet**	**18.70**	**17**	P	**P**	**20 31 59.5**	**-1.0**
EDM	**Edmonton**	**21.56**	**345**	*e*P	**P**	**20 32 30.2**	**-1.3**
FCC	**Fort Churchill** 1.7nm,0.7s,mb3.7	**27.04**	**12**	*e*P	**P**	**20 33 22.9**	**-1.1**
YKA	**Yellowknife Ar** 0.5nm,0.7s,mb3.5,baz=164,slow=8.8,SNR=7.1	**30.58**	**351**	P	**P**	**20 33 53.6**	**-2.2**
YKA	0.4nm,0.7s,baz=172,slow=1.5,SNR=6.7			PcP	PcP	20 36 51.5	-3.0
YKA	comp=Z,33nm,20.2s,MS3.0,baz=205,slow=36			LR	LR	20 45 60.0	
YKA	**Yellowknife Ar**	**30.58**	**351**	P	**P**	**20 33 53.6**	**-2.2**
YKA				PcP	PcP	20 36 51.5	-3.0
YKA				LR	LR	20 45 60.0	
SJG	**San Juan** comp=Z,52nm,20.6s,MS3.3,baz=90,slow=38	**37.25**	**103**	LR	LR	20 51 18.6	
ROSC	**El Rosal** comp=Z,39nm,18.5s,MS3.3,baz=183,slow=40	**39.40**	**128**	LR	LR	20 53 33.4	
ILAR	**Eielson Array** 0.5nm,0.8s,mb3.2,baz=102,slow=8.3,SNR=6.6	**41.27**	**334**	P	**P**	**20 35 26.1**	**-0.6**
ILAR	1.4nm,0.9s,baz=164,slow=1.6,SNR=7.4			PcP	PcP	20 37 23.8	-2.3
ARCES	**ARCESS Array B** 3.2nm,0.8s,mb4.3,baz=340,slow=11,SNR=4.4	**71.82**	**16**	P	**P**	**20 39 02.0**	**-2.2**
KAF	**Kangasniemi** 3.0nm,0.7s,mb4.3	**77.59**	**21**	*e*p	**P**	**20 39 36.2**	**-1.2**
FINES	**FINESS Array B** 5.1nm,1.0s,mb4.4,baz=333,slow=4.3,SNR=8.4	**78.02**	**22**	P	**P**	**20 39 38.7**	**-1.0**
FINES	**FINESS Array B**	**78.02**	**22**	P	**P**	**20 39 38.7**	**-1.0**
AKASG	**Malin Array Be** 0.2nm,0.3s,mb3.8,baz=326,slow=4.2,SNR=4.4	**87.48**	**27**	P	**P**	**20 40 27.0**	**-1.7**
BVAR	**Borovoye Array** 1.0nm,0.8s,mb4.3,baz=333,slow=3.3,SNR=5.2	**94.58**	**3**	P	**P**	**20 41 01.1**	**-0.6**
SONM	**Songino Array** 0.6nm,0.8s,mb4.1,baz=22,slow=4.9,SNR=3.9	**95.26**	**340**	P	**P**	**20 41 04.8**	**-0.2**
WRA	**Warramunga Arr** 0.8nm,1.1s,baz=60,slow=2.6,SNR=6.3	**126.43**	**268**	PKP	PKPdf	20 46 43.3	-3.5

*NIED **19** 20:30:00, 30.40N×131.00E, h8km, Mw3.6 Best double couple: M0:2.78×10^14 NP1:φs=32°, δ=68°, λ=-90°. NP2:φs=212°, δ=22°, λ=-90°.*
JMA 19 20:30:49.5±0.1, 30.39N×130.98E, h11km±1km, M3.6, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.26**	**360**	⇑P	Pg	20 30 55.0	-0.1
JTN				S	Sg	20 30 58.9	0.0
JKC	**Kuchinoerabu**	**0.68**	**276**	⇑P	Pb	20 31 03.0	+0.1
JKC				S	Sb	20 31 12.1	0.0
JTSR	**Tashiro 2**	**0.78**	**356**	⇑P	Pb	20 31 04.4	-0.1
JTSR				S	Sb	20 31 15.2	+0.4
JNN	**Nakanoshima**	**1.10**	**241**	⇓P	Pb	20 31 10.1	0.0
JNN				S	Sb	20 31 24.8	+0.5
JNAR	**Kushima--Naru**	**1.16**	**12**	P	Pb	20 31 11.4	+0.3
JSU	**Suzuyama**	**1.20**	**338**	⇓P	Pb	20 31 11.1	-0.7
JSU				S	Sb	20 31 27.4	+0.3
JTZ	**Takazaki**	**1.51**	**3**	P	Pn	20 31 16.5	-0.1

*IDC **19** 20:35:23.7±2.5, 15.20N×105.17W, mb3.7/4, mb1 4.0/5, mb1mx3.8/18, mbtmp3.7/5, ML4.1/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/33, Error ellipse: s-maj=118.1km s-min=28.7km az=61.0*
*NEIC **19** 20:35:32.3±8.3, 15.30N×105.03W, h63km±62km, mb4.2/1, Error ellipse: s-maj=92.7km s-min=18.0km az=51.0*
ISC 19 20:35:26.2±1.6, 15.1N±0.2×105.3W±0.3, h33km, n19, σ0§77/8, mb3.9/5, MS3.6/10, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=198,slow=11,SNR=4.7	**14.22**	**6**	Pn	**P**	**20 38 48.0**	**+0.7**
TXAR	comp=Z,109nm,18.1s,baz=135,slow=38			LR	LR	20 44 16.0	
TXAR	**Lajitas Array**	**14.22**	**6**	Pn	**P**	**20 38 48.0**	**+0.7**
TXAR				LR	LR	20 44 16.0	
YBH	**Yreka Blue Hor** comp=Z,75nm,19.5s,MS3.4,baz=149,slow=36	**30.48**	**334**	LR	LR	20 53 55.1	
SDV	**Santo Domingo** 1.4nm,0.4s,mb4.2	**34.45**	**96**	P	**P**	**20 42 12.5**	**-0.6**
ULM	**Lac du Bonnet** comp=Z,112nm,18.6s,MS3.7,baz=1.2,slow=37	**35.86**	**10**	LR	LR	20 57 30.5	
SADO	**Sadowa** comp=Z,39nm,18.8s,MS3.2,baz=269,slow=41	**36.92**	**32**	LR	LR	21 00 47.0	
DLBC	**Dease Lake** comp=Z,99nm,18.7s,MS3.8,baz=82,slow=36	**47.00**	**342**	LR	LR	21 03 57.4	
YKA	**Yellowknife Ar** 0.4nm,0.7s,mb3.6,baz=169,slow=6.9,SNR=6.5	**47.76**	**354**	P	**P**	**20 44 00.5**	**-1.3**
RKT	**Rikitea** 147nm,29.5s	**47.83**	**218**	*e*LR	LR	20 57 03.9	
LPAZ	**La Paz** 1.7nm,1.2s,mb4.0,baz=288,slow=20,SNR=4.3	**48.18**	**129**	P	**P**	**20 44 06.5**	**+0.7**
LPAZ	comp=Z,23nm,19.8s,MS3.2,baz=92,slow=31			LR	LR	21 00 21.6	
PPT	**Papeete** 108nm,24.5s	**54.41**	**235**	*e*LR	LR	21 00 09.4	
PPT	**Papeete** comp=Z,77nm,18.4s,MS3.8,baz=33,slow=29	**54.41**	**235**	LR	LR	21 02 10.1	
INK	**Inuvik** 0.9nm,0.7s,mb3.9,baz=146,slow=8.4,SNR=3.7	**56.14**	**348**	P	**P**	**20 45 05.3**	**+0.7**
INK	**Inuvik**	**56.14**	**348**	P	**P**	**20 45 05.3**	**+0.7**
ILAR	**Eielson Array** 1.1nm,0.9s,mb3.9,baz=162,slow=5.7,SNR=4.2	**57.05**	**340**	P	**P**	**20 45 11.0**	**-0.2**
PLCA	**Paso Flores** comp=Z,56nm,20.7s,MS3.7,baz=181,slow=30	**64.25**	**151**	LR	LR	21 07 59.5	
ARCES	**ARCESS Array B** comp=Z,51nm,18.2s,MS4.0,baz=46,slow=37	**88.81**	**15**	LR	LR	21 30 06.0	
NOA	**NORSAR Array B** comp=Z,32nm,18.0s,MS3.8,baz=80,slow=40	**89.05**	**26**	LR	LR	21 34 00.5	
FINES	**FINESS Array B** comp=Z,46nm,20.0s,MS3.9,baz=299,slow=34	**94.55**	**21**	LR	LR	21 29 01.8	

*IDC **19** 20:53:35.5±2.2, 62.95N×151.02W, h94km±15km, mb3.4/3, mb1 3.8/8, mb1mx3.5/21, mbtmp3.8/8, Error ellipse: s-maj=39.4km s-min=10.6km az=116.0*
*NEIC **19** 20:53:36.6, 63.06N×150.95W, h125km, MG3.7(AEIC), After AEIC.*
ISC 19 20:53:35.6±0.5, 63.05N±0.03×150.98W±0.10, h129km±4km, n37, σ0§71/43, mb3.5/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.50**	**3**	P	**P**	**20 53 55.5**	**+0.7**
KTH				S	**S**	**20 54 09.2**	**0.0**
TRF	**Thorofare Moun**	**0.51**	**38**	P	**P**	**20 53 55.7**	**+0.9**
TRF				S	**S**	**20 54 09.8**	**+0.5**
MCK	**McKinley**	**1.15**	**53**	P	**P**	**20 54 00.8**	**+0.7**
GHO	**Glory Hole Cre**	**1.60**	**142**	P	**P**	**20 54 06.0**	**+0.8**
PMR	**Palmer**	**1.70**	**149**	P	**P**	**20 54 06.6**	**+0.3**
PMR				P		20 54 06.7	
PMR				S	**S**	**20 54 29.3**	**-0.5**
SML	**Sawmill**	**1.75**	**134**	P	**P**	**20 54 07.4**	**+0.5**
SML				S	**S**	**20 54 31.7**	**+0.8**
RC01	**Rabbit Creek A**	**2.06**	**163**	P	**P**	**20 54 10.6**	**0.0**
COLA	**College**	**2.29**	**36**	P	**P**	**20 54 13.8**	**+0.1**
TT01	**Tatalina**	**2.31**	**269**	P	**P**	**20 54 13.9**	**+0.1**
IL1	**Eielson Array**	**2.50**	**45**	P	**P**	**20 54 16.3**	**-0.2**
ILAR	**Eielson Array** 30nm,0.3s,baz=227,slow=13,SNR=903	**2.50**	**45**	P	**P**	**20 54 16.2**	**-0.2**
ILAR	17nm,0.3s,baz=230,slow=22,SNR=16			S	**S**	**20 54 46.9**	**-0.6**
PAX	**Paxson**	**2.52**	**89**	P	**P**	**20 54 17.1**	**+0.5**
SLKM	**Skilak Lake**	**2.58**	**172**	*e*P	**P**	**20 54 17.2**	**-0.2**
SVW2	**Sparrevohn**	**2.92**	**230**	P	**P**	**20 54 21.7**	**-0.3**
SEW	**Seward**	**3.05**	**165**	P	**P**	**20 54 23.4**	**-0.3**
GCSA	**Galena City Sc**	**3.11**	**306**	P	**P**	**20 54 24.4**	**-0.1**
DIV	**Divide**	**3.12**	**126**	P	**P**	**20 54 23.4**	**-1.1**
IM3	**Indian Mountai**	**3.18**	**339**	P	**P**	**20 54 25.1**	**-0.3**
IMA2	**Indian Mountai**	**3.25**	**340**	*e*P	**P**	**20 54 26.1**	**-0.2**
MENT	**Mentasta**	**3.31**	**89**	P	**P**	**20 54 27.1**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.53**	**133**	P	**P**	**20 54 29.8**	**-0.3**

BMRM	**Bremner River**	**3.66**	**122**	P	**P**	**20 54 30.7**	**-1.1**
BM3	**Burnt Mountain**	**5.14**	**29**	P	**P**	**20 54 51.2**	**-0.3**
DAWY	**Dawson**	**5.28**	**74**	P	**P**	**20 54 53.0**	**-0.4**
KDAK	**Kodiak Island** 9.8nm,0.3s,baz=28,slow=8.6,SNR=78	**5.35**	**189**	P	**P**	**20 54 52.8**	**-1.5**
KDAK	11nm,0.3s,baz=316,slow=21,SNR=8.0			S	**S**	**20 55 50.2**	**-5.1**
KDAK	**Kodiak Island**	**5.35**	**189**	P	**P**	**20 54 52.9**	**-1.5**
PNL	**Peninsula**	**6.52**	**116**	P	**P**	**20 55 09.4**	**-0.9**
INK	**Inuvik** 0.5nm,0.3s,baz=246,slow=18,SNR=8.4	**8.90**	**46**	P	**P**	**20 55 41.3**	**-1.0**
INK	**Inuvik** 4.6nm,0.9s	**8.90**	**46**	*e*P	**P**	**20 55 40.7**	**-1.5**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=268,slow=14,SNR=6.4	**11.22**	**105**	P	**P**	**20 56 13.1**	**+0.3**
YKA	**Yellowknife Ar** 0.3nm,0.3s,baz=286,slow=11,SNR=24	**16.52**	**76**	P	**P**	**20 57 19.8**	**-0.6**
YKA	**Yellowknife Ar**	**16.52**	**76**	P	**P**	**20 57 19.8**	**-0.6**
PDAR	**Pinedale Array** 1.2nm,0.8s,mb3.7,baz=326,slow=5.3,SNR=9.8	**31.37**	**111**	P	**P**	**20 59 46.8**	**+1.1**
NVAR	**Mina Array Bea** 0.5nm,0.6s,mb3.4,baz=319,slow=8.3,SNR=3.1	**31.55**	**126**	P	**P**	**20 59 48.8**	**+1.5**
NVAR	**Mina Array Bea**	**31.55**	**126**	P	**P**	**20 59 48.8**	**+1.5**
TXAR	**Lajitas Array** 0.8nm,0.6s,mb3.6,baz=333,slow=6.8,SNR=7.6	**45.28**	**115**	P	**P**	**21 01 43.2**	**+1.7**
TXAR	**Lajitas Array**	**45.28**	**115**	P	**P**	**21 01 43.2**	**+1.7**

*WAR **19** 21:16:44.0, 51.48N×16.10E, h1km, Location given by Rudna mine, origin time based upon KSP*
*CSEM **19** 21:16:43.9±0.3, 51.46N×16.13E, h1km, ML3.4/7, Error ellipse: s-maj=2.8km s-min=1.4km az=20.0*
*IPEC **19** 21:16:43.9±0.3, 51.46N×16.46E, ML2.6/4, Error ellipse: s-maj=3.5km s-min=2.0km az=86.0*
*BGR **19** 21:16:44.4±0.6, 51.53N×16.06E, h1km, ML3.3/9, Error ellipse: s-maj=6.7km s-min=5.6km az=162.0*
*NEIC **19** 21:16:44.4, 51.53N×16.06E, h1km, ML3.3(SZGRF), After SZGRF.*
*PRU **19** 21:16:45.1, 51.40N×16.07E, Felt In Harrachov*
ISC 19 21:16:41.6±0.4, 51.45N±0.02×16.12E±0.02, n52, σ1§26/102, 4C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**169**	⇓*i*PG	**Pg**	**21 16 56.0**	**+2.1**
KSP				⇓*e*SG	**Sg**	**21 17 05.0**	**+2.9**
KSP	**Ksiaz**	**0.61**	**169**	*e*Pg	**Pg**	**21 16 56.0**	**+2.0**
KSP				*e*Sg	**Sg**	**21 17 04.8**	**+2.7**
KSP	**Ksiaz**	**0.61**	**169**	⇓*i*Pg	**Pg**	**21 16 56.0**	**+2.1**
KSP				*e*Sg	**Sg**	**21 17 04.8**	**+2.7**
KSP				*e*		21 17 10.0	
UPC	**Upice**	**0.94**	**184**	*e*PG	**Pg**	**21 17 01.9**	**+1.4**
DPC	**Dobruska-Polom**	**1.11**	**173**	*e*PG	**Pg**	**21 17 04.7**	**+1.0**
DPC	57nm,0.3s			*e*SG	**Sg**	**21 17 19.5**	**+1.0**
PVCC	**Panska Ves**	**1.34**	**227**	*e*PG	**Pg**	**21 17 08.8**	**+0.4**
PVCC				*e*SG	**Sg**	**21 17 26.7**	**+0.4**
BRG	**Berggiesshubel**	**1.48**	**248**	*e*Pn	**Pn**	**21 17 11.5**	**+1.8**
BRG				*e*Sg	**Sg**	**21 17 31.6**	**+0.6**
BRG	**Berggiesshubel**	**1.48**	**248**	Pn	**Pn**	**21 17 10.8**	**+1.1**
BRG				Pg	**Pg**	**21 17 11.7**	**+0.4**
BRG				Sg	**Sg**	**21 17 31.6**	**+0.5**
PRA	**Prague**	**1.74**	**218**	SG	**Sg**	**21 17 40.0**	**+0.3**
PRU	**Pruhonice**	**1.77**	**215**	*e*PN	**Pn**	**21 17 15.4**	**+1.6**
PRU				*e*PG	**Pg**	**21 17 16.6**	**-0.4**
PRU	36nm,0.3s			*e*SG	**Sg**	**21 17 39.4**	**-1.2**
RUE	**Ruedersdorf**	**1.78**	**307**	*e*Pn	**Pn**	**21 17 13.3**	**-0.6**
RUE				*e*Sg	**Sg**	**21 17 40.1**	**-0.7**
RUE	**Ruedersdorf**	**1.78**	**307**	*e*Pn	**Pn**	**21 17 13.3**	**-0.6**
RUE				*e*Sg	**Sg**	**21 17 40.1**	**-0.7**
RAC	**Raciborz**	**1.90**	**135**	*e*P	**Pn**	**21 17 20.0**	**+4.4**
RAC				*e*S

*IDC **19** 21:16:42.9±1.1, 14.90N×147.68E, mb4.0/6, mb1 4.2/7, mb1mx4.0/19, mbtmp4.0/7, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/33, Error ellipse: s-maj=38.3km s-min=22.9km az=117.0*

*NEIC **19** 21:16:48.7±0.6, 14.88N×147.54E, h35km, mb4.4/4, Error ellipse: s-maj=16.6km s-min=11.4km az=102.0*

ISC 19 21:16:46.4±0.7, **14.88N**±0.09×**147.59E**±0.09, **h33**km, **n23,** σ0$87/22, **mb4.2**/10, **MS3.0**/1, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.93**	**244**	Pn	**Pn**	**21 17 31.2**	**-0.7**
	12nm,0.3s,baz=31,slow=19,SNR=5.9						
GUMO				Sn	**Sn**	**21 18 06.4**	**+0.1**
	18nm,0.3s,baz=7.2,slow=22,SNR=10						
GUMO	**Guam**	**2.93**	**244**	Pn	**Pn**	**21 17 31.2**	**-0.7**
GUMO				Sn	**Sn**	**21 18 06.4**	**+0.1**
JOW	**Kunigami**	**21.58**	**307**	LR	LR	21 28 02.5	
	comp=Z,58nm,19.6s,MS3.0,baz=285,slow=31						
NACB	**Ninganchiao**	**26.14**	**295**	*eP*	**P**	**21 22 18.7**	**-0.9**
YHNB	**Yeheng**	**26.48**	**296**	*eP*	**P**	**21 22 23.6**	**+0.9**
WRAB	**Tennant Creek**	**36.96**	**201**	*eP*	**P**	**21 23 54.8**	**+0.2**
	4.4nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**36.97**	**201**	P	**P**	**21 23 54.8**	**+0.1**
	2.1nm,0.8s,mb4.0,baz=23,slow=9.1,SNR=14						
ENH	**Enshi**	**38.16**	**300**	P	**P**	**21 24 05.8**	**+1.2**
MA2	**Magadan**	**44.69**	**2**	*eP*	**P**	**21 24 59.8**	**+2.0**
STKA	**Stephens Creek**	**46.84**	**187**	*eP*	**P**	**21 25 09.7**	**-5.5**
ULN	**Ulaanbaatar**	**46.89**	**323**	*eP*	**P**	**21 25 16.0**	**+0.7**
SONM	**Songino Array**	**47.25**	**323**	P	**P**	**21 25 18.7**	**+0.4**
	1.0nm,0.7s,mb3.8,baz=122,slow=5.6,SNR=7.2						
TAU	**Tasmania Unive**	**57.50**	**180**	P	**P**	**21 26 35.4**	**+0.6**
	17nm,0.9s,mb5.1						
MKAR	**Makanchi Array**	**62.42**	**315**	P	**P**	**21 27 08.4**	**-0.1**
	0.6nm,0.5s,mb4.0,baz=90,slow=8.5,SNR=5.9						
MKAR				pP	pP	21 27 20.2	+1.6
	1.3nm,0.5s,baz=91,slow=8.0,SNR=8.9						
SLKM	**Skilak Lake**	**63.59**	**29**	P	**P**	**21 27 11.6**	**-4.4**
KURK	**Kurchatov**	**65.32**	**319**	*eP*	**P**	**21 27 25.7**	**-1.7**
	3.0nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**66.29**	**25**	P	**P**	**21 27 32.1**	**-1.2**
	0.8nm,0.9s,mb3.8,baz=245,slow=5.3,SNR=5.1						
CHKZ	**Chkalovo**	**70.44**	**322**	*eP*	**P**	**21 27 58.9**	**-0.3**
ZRNK	**Zerenda**	**71.40**	**321**	*eP*	**P**	**21 28 04.8**	**-0.3**
	0.9nm,0.7s,mb3.8						
YKA	**Yellowknife Ar**	**80.51**	**28**	P	**P**	**21 28 56.6**	**+0.2**
	1.5nm,0.6s,mb4.1,baz=283,slow=5.3,SNR=26						
FINES	**FINESS Array B**	**91.09**	**336**	P	**P**	**21 29 47.8**	**-0.9**
	1.0nm,0.8s,mb4.2,baz=90,slow=3.8,SNR=3.6						
DBIC	**Dimbokro**	**145.29**	**306**	PKPbc	PKPbc	21 36 23.3	+1.0
	1.9nm,0.8s,baz=61,slow=10,SNR=3.8						
DBIC	**Dimbokro**	**145.29**	**306**	PKPbc	PKPbc	21 36 23.3	+1.0

*FUNV **19** 21:33:11.9, 10.74N×62.22W, h84km, MW2.8*

*NEIC **19** 21:33:13.9, 10.75N×62.20W, h80km, MD3.7(TRN), After TRN.*

*TRN **19** 21:33:14.2, 10.75N×62.19W, h79km, MD3.7, Md3.4(FDF)*

ISC 19 21:33:11.3±0.6, **10.71N**±0.05×**62.37W**±0.03, **h91**km±6km, **n19,** σ1$**07**/33, **2C-3D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.15**	**112**	⇓*eP*	**P**	**21 33 24.3**	**0.0**
GUIV				*eS*	**S**	**21 33 32.4**	**-1.8**
GUNV	**Guanoco**	**0.78**	**226**	*eP*	**P**	**21 33 30.5**	**+1.5**
GUNV				*eS*	**S**	**21 33 44.1**	**+2.0**
CRUV	**Carupano**	**0.86**	**268**	⇓*eP*	**P**	**21 33 30.5**	**+0.8**
CRUV				*eS*	**S**	**21 33 43.6**	**+0.1**
TRN	**Trinidad (W)**	**0.95**	**93**	⇑*iP*	**P**	**21 33 30.7**	**0.0**
TRN				*eS*	**S**	**21 33 42.9**	**-2.4**
TPP	**Pointe-a-Pierr**	**0.98**	**113**	*eP*	**P**	**21 33 31.7**	**+0.6**
TPP				*eS*	**S**	**21 33 47.0**	**+1.1**
ITEV	**Isla Los Testi**	**0.99**	**311**	⇓*eP*	**P**	**21 33 31.1**	**-0.2**
ITEV				*eS*	**S**	**21 33 45.0**	**-1.2**
TBH	**Brigand Hill**	**1.29**	**100**	*eP*	**P**	**21 33 35.1**	**0.0**
TBH				*eS*	**S**	**21 33 54.2**	**+1.4**
GRW	**Mount Saint Ca**	**1.60**	**25**	*eP*	**P**	**21 33 39.0**	**+0.1**
GRW				*eS*	**S**	**21 33 58.5**	**-0.8**
TPR	**Prospect**	**1.63**	**73**	*eP*	**P**	**21 33 39.0**	**-0.2**
BOT	**Bacolet**	**1.68**	**74**	*eP*	**P**	**21 33 39.6**	**-0.3**
IBAV	**Isla La Blanqu**	**2.44**	**297**	⇑*eP*	**P**	**21 33 51.2**	**+1.0**
IBAV				*eS*	**S**	**21 34 19.3**	**+0.2**
CUPV	**Cœpira**	**3.43**	**259**	*eP*	**P**	**21 34 04.3**	**+0.5**
CUPV				*eS*	**S**	**21 34 43.6**	**+0.1**
BIRV	**Birongo**	**3.84**	**267**	*eP*	**P**	**21 34 11.0**	**+1.4**
MVM	**Montagne Vaucl**	**4.09**	**20**	*eP*	**P**	**21 34 13.2**	**+0.3**
MERV	**Las Mercedes**	**4.13**	**250**	*eP*	**P**	**21 34 13.5**	**-0.1**
MERV				*eS*	**S**	**21 34 59.1**	**-1.9**
FDF	**Fort de France**	**4.17**	**16**	*eP*	**P**	**21 34 15.2**	**+1.0**
LUEV	**Luepa**	**4.91**	**169**	*eP*	**P**	**21 34 22.0**	**-2.3**
LUEV				*eS*	**S**	**21 35 13.3**	**-7.0**
CAOV	**Caicara del Or**	**5.15**	**230**	*eP*	**P**	**21 34 27.1**	**-0.4**
CAOV				*eS*	**S**	**21 35 21.8**	**-4.5**
BAUV	**El Baul**	**5.86**	**253**	*eP*	**P**	**21 34 35.8**	**-1.4**
BAUV				*eS*	**S**	**21 35 38.2**	**-5.5**

*MOS **19** 21:45:17.7±0.5, 6.71N×92.18E, h33km, mb4.2/6, Error ellipse: s-maj=59.1km s-min=13.3km az=103.1*

*IDC **19** 21:45:20.6±3.0, 7.51N×92.19E, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=116.2km s-min=26.4km az=58.0*

*NEIC **19** 21:45:25.6±0.6, 7.56N×92.26E, h30km, mb4.1/9, Error ellipse: s-maj=14.6km s-min=10.2km az=39.0*

ISC 19 21:45:23.5±0.7, **7.6N**±0.1×**92.29E**±0.09, **h30**km, **n27,** σ1$**05**/27, **mb4.0**/15, **2D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.61**	**105**	*e*Pn	**P**	**21 47 27.3**	**-1.8**
QIZ	**Qiongzhong**	**20.50**	**55**	*eP*	**P**	**21 50 02.3**	**+0.3**
LSA	**Lhasa**	**22.04**	**357**	*eP*	**P**	**21 50 20.4**	**+2.9**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
LSA	**Lhasa**	**22.04**	**357**	*eP*	**P**	**21 50 20.4**	**+3.0**
	comp=Z,5.6nm,0.9s,mb4.0						
ENH	**Enshi**	**27.75**	**33**	*eP*	**P**	**21 51 12.8**	**+1.1**
	comp=Z,1.8nm,0.3s,mb4.2						
MKAR	**Makanchi Array**	**40.01**	**349**	P	**P**	**21 52 57.1**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=167,slow=8.5,SNR=10						
MKAR				pP	pP	21 53 07.3	+0.9
	comp=Z,0.8nm,0.7s,baz=162,slow=7.7,SNR=6.9						
KK31	**Karatay Array**	**40.24**	**335**	⇓Pn	**P**	**21 52 50.7**	**-8.6**
	comp=Z,3.5nm,0.6s,mb4.3,baz=150,slow=14,SNR=26						
KK31				⇓Lg		21 53 47.7	
	comp=Z,1.8nm,0.4s,baz=159,slow=23,SNR=5.3						
SONM	**Songino Array**	**41.88**	**14**	P	**P**	**21 53 13.5**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.2,baz=200,slow=7.6,SNR=5.7						
KURK	**Kurchatov**	**44.49**	**348**	*eP*	**P**	**21 53 33.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
KURK	**Kurchatov**	**44.49**	**348**	*eP*	**P**	**21 53 33.7**	**-0.2**
	comp=Z,1.0nm,0.5s,mb3.8						
ZAL	**Zalesovo**	**46.63**	**354**	P	**P**	**21 53 51.3**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=312,slow=7.3,SNR=3.3						
BVAR	**Borovoye Array**	**48.71**	**343**	P	**P**	**21 54 06.8**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=153,slow=6.6,SNR=6.9						
BRVK	**Borovoye**	**48.77**	**342**	P	**P**	**21 54 07.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**48.77**	**342**	P	**P**	**21 54 07.4**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**49.06**	**342**	*eP*	**P**	**21 54 09.5**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**49.06**	**342**	*eP*	**P**	**21 54 09.5**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**49.21**	**343**	*eP*	**P**	**21 54 11.1**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**49.21**	**343**	*eP*	**P**	**21 54 11.1**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**49.59**	**124**	P	**P**	**21 54 14.3**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=304,slow=8.8,SNR=9.3						
WRA				pP	pP	21 54 24.7	+1.2
	comp=Z,1.5nm,0.9s,baz=305,slow=8.3,SNR=7.4						
WRAB	**Tennant Creek**	**49.59**	**124**	*eP*	**P**	**21 54 15.3**	**+0.9**
	comp=Z,5.4nm,1.1s,mb4.5						
ARU	**Arti**	**55.47**	**338**	*eP*	**P**	**21 54 57.2**	**-0.5**
ARU	**Arti**	**55.47**	**338**	*eP*	**P**	**21 54 57.1**	**-0.6**
	comp=Z,0.4nm,0.2s,mb4.1						
KMBO	**Kilima Mbogo**	**55.57**	**263**	*eP*	**P**	**21 54 59.3**	**+0.2**
KIV	**Kislovodsk**	**56.32**	**319**	*eP*	**P**	**21 55 01.8**	**-2.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KIV	**Kislovodsk**	**56.32**	**319**	*eP*	**P**	**21 55 01.8**	**-2.3**
	comp=Z,6.5nm,0.8s,mb4.7						
OBN	**Obninsk**	**64.67**	**328**	P	**P**	**21 55 59.1**	**-1.6**
LBTB	**Lobatse**	**72.49**	**241**	P	**P**	**21 56 51.6**	**+1.8**

*GUC **19** 21:58:36.2±0.7, 31.40S×69.02W, h145km, MD3.9, ML3.8*

*IDC **19** 21:58:36.8±4.4, 31.57S×68.65W, h111km±44km, mb3.3/1, mb1 3.7/3, mb1mx3.4/14, mbtmp3.8/3, Error ellipse: s-maj=68.9km s-min=35.9km az=82.0*

*NEIC **19** 21:58:37.0±0.7, 31.48S×68.82W, h116km±20km, mb4.0/3, MD3.9(GUC), Error ellipse: s-maj=14.3km s-min=7.6km az=71.0*

ISC 19 21:58:36.2±0.8, **31.43S**±0.04×**68.83W**±0.09, **h119**km±10km, **n22,** σ1$**01**/33, **mb3.3**/1, **5C-2D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDZ	**Mendoza**	**1.45**	**181**	*eP*	**P**	**21 59 03.5**	**+0.1**
MDZ				*eS*	**S**	**21 59 23.5**	**-0.5**
CMCH	**Combarbala**	**1.88**	**277**	*iP*	**P**	**21 59 08.8**	**+0.2**
CMCH				*iS*	**S**	**21 59 32.7**	**-0.3**
CMCH				AMP		21 59 34.0	
	comp=E,3μm,0.6s						
JACH	**Jahuel**	**1.95**	**230**	⇑*iP*	**P**	**21 59 10.0**	**+0.6**
JACH				*iS*	**S**	**21 59 36.0**	**+1.4**
TLL	**Tololo Astrono**	**2.12**	**306**	*eP*	**P**	**21 59 11.6**	**-0.1**
TLL				*iS*	**S**	**21 59 38.3**	**-0.1**
TLL				AMP		21 59 42.3	
	comp=N,674nm,0.4s						
FCH	**Farellones**	**2.26**	**213**	⇑*iP*	**P**	**21 59 14.5**	**+1.0**
FCH				*iS*	**S**	**21 59 44.1**	**+2.4**
FCH				AMP		21 59 50.4	
	comp=E,262nm,0.3s						
PEL	**Peldehue**	**2.32**	**222**	*eP*	**P**	**21 59 14.1**	**-0.2**
PEL				*iS*	**S**	**21 59 43.3**	**+0.2**
CHNG	**Los Chungos**	**2.33**	**258**	*eP*	**P**	**21 59 13.1**	**-1.2**
CHNG				*iS*	**S**	**21 59 40.8**	**-2.4**
CHNG				AMP		21 59 53.4	
	comp=E,164nm,0.4s						
ROCH	**El Roble**	**2.41**	**230**	*eP*	**P**	**21 59 14.7**	**-0.7**
PCH	**Pirque**	**2.61**	**213**	⇓*iP*	**P**	**21 59 18.2**	**+0.1**
PCH				*iS*	**S**	**21 59 51.6**	**+1.8**
RCDM	**Rinconada Maip**	**2.65**	**219**	*eP*	**P**	**21 59 18.5**	**-0.1**
RCDM				*iS*	**S**	**21 59 50.7**	**-0.1**
RCDM				AMP		21 59 51.9	
	comp=E,486nm,0.5s						
TACH	**Talagante**	**2.84**	**218**	⇑*iP*	**P**	**21 59 20.6**	**-0.6**
TACH				*eS*	**S**	**21 59 54.5**	**-0.9**
CHCH	**Chadas Angostu**	**2.93**	**211**	⇓*iP*	**P**	**21 59 22.3**	**-0.1**
CHCH				*eS*	**S**	**21 59 58.0**	**+0.5**
CACH	**El Canelo**	**3.07**	**209**	⇑*iP*	**P**	**21 59 24.6**	**+0.3**
LCCH	**Las Cruces**	**3.09**	**228**	*eP*	**P**	**21 59 23.3**	**-1.2**
CICH	**Cipreses**	**3.18**	**205**	⇑*iP*	**P**	**21 59 26.3**	**+0.5**
TRQA	**Tornquist**	**8.68**	**141**	*e*Pn	**P**	**22 00 38.7**	**-1.4**
	comp=E,6.8nm,0.6s						
TRQA				*e*Sn	**S**	**22 02 11.0**	**-5.9**
PLCA	**Paso Flores**	**9.38**	**188**	P	**P**	**22 00 47.6**	**-1.9**
	comp=E,0.2nm,0.3s,baz=351,slow=13,SNR=6.3						
PLCA	**Paso Flores**	**9.38**	**188**	*e*Pn	**P**	**22 00 47.7**	**-1.9**
	comp=E,2.1nm,0.8s						
LPAZ	**La Paz**	**15.09**	**3**	P	**P**	**22 02 06.2**	**+1.9**
	comp=E,0.2nm,0.3s,baz=181,slow=8.4,SNR=18						
LPAZ	**La Paz**	**15.09**	**3**	*eP*	**P**	**22 02 06.0**	**+1.7**
	comp=E,3.4nm,0.7s						
TXAR	**Lajitas Array**	**68.92**	**328**	P	**P**	**22 09 31.4**	**+1.0**
	comp=E,0.2nm,0.4s,mb3.3,baz=149,slow=7.3,SNR=4.0						
MKAR	**Makanchi Array**	**153.04**	**47**	PKPbc	PKPdf	22 18 20.8	+9.2
	comp=E,0.6nm,0.8s,baz=294,slow=2.5,SNR=3.9						
MKAR				PKPab	PKPab	22 18 32.3	-1.0
	comp=E,0.7nm,0.7s,baz=295,slow=3.5,SNR=5.3						

*IDC **19** 22:06:49.6±2.7, 17.73N×66.27W, mb3.3/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.4/4, ML3.9/1, MS3.1/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=60.0km s-min=9.4km az=119.0*

*RSPR **19** 22:06:50.6, 17.83N×65.99W, h5km, MD3.4/15, MD3.4/15*

*NEIC **19** 22:06:50.6, 17.83N×65.99W, h5km, MD3.4(RSPR), After RSPR.*

ISC 19 22:06:48.9±1.0, **17.74N**±0.05×**65.99W**±0.02, **h12**km±5km, **n32,** σ0$**72**/43, **mb3.3**/3, **MS3.0**/1, **10C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPD	**Cerro la Pandu**	**0.31**	**13**	*eS*	**Sg**	**22 06 59.7**	**-0.1**
CPD	**Cerro la Pandu**	**0.31**	**13**	⇑*eP*	**Pg**	**22 06 55.6**	**+0.1**
CPD				*eS*	**Sg**	**22 06 59.7**	**-0.1**
SJG	**San Juan**	**0.41**	**337**	⇓*iP*	**Pg**	**22 06 57.3**	**0.0**
SJG	**San Juan**	**0.41**	**337**	⇑*eP*	**Pg**	**22 06 57.1**	**-0.1**
SJG	**San Juan**	**0.41**	**337**	*eS*	**Sg**	**22 07 02.8**	**0.0**
SJG	**San Juan**	**0.41**	**337**	Pg	**Pg**	**22 06 57.0**	**-0.2**
	658nm,0.3s,baz=165,slow=20,SNR=465						
SJG				Lg		22 07 02.8	
	1μm,0.3s,baz=338,slow=15,SNR=59						
SJG	**San Juan**	**0.41**	**337**	⇑*eP*	**Pg**	**22 06 57.1**	**-0.1**
SJG				*eS*	**Sg**	**22 07 02.8**	**0.0**
HUMP	**Col San Antoni**	**0.42**	**18**	*eS*	**Sg**	**22 07 03.3**	**-0.2**
HUMP	**Col San Antoni**	**0.42**	**18**	⇑*eP*	**Pg**	**22 06 57.5**	**-0.1**
HUMP				*eS*	**Sg**	**22 07 03.3**	**-0.2**
ICM	**Isla Caja Muer**	**0.53**	**287**	*eS*	**Sg**	**22 07 08.8**	**+1.9**
ICM	**Isla Caja Muer**	**0.53**	**287**	⇑*eP*	**Pb**	**22 07 00.1**	**+0.5**
ICM				*eS*	**Sg**	**22 07 08.8**	**+1.9**
MTP	**Monte Pirata**	**0.54**	**49**	*eS*	**Sg**	**22 07 07.2**	**-0.1**
MTP	**Monte Pirata**	**0.54**	**49**	⇓*eP*	**Pb**	**22 06 59.8**	**0.0**
MTP				*eS*	**Sg**	**22 07 07.2**	**-0.1**
CBYP	**Canovanas**	**0.55**	**13**	*eS*	**Sg**	**22 07 06.3**	**-1.2**
CBYP	**Canovanas**	**0.55**	**13**	⇑*eP*	**Pb**	**22 06 59.6**	**-0.3**
CBYP				*eS*	**Sg**	**22 07 06.3**	**-1.2**
CELP	**Cerrillos**	**0.66**	**301**	⇑*iP*	**Pb**	**22 07 01.9**	**+0.1**
CULB	**Culebra**	**0.85**	**47**	*eS*	**Sb**	**22 07 16.8**	**+0.7**
CULB	**Culebra**	**0.85**	**47**	⇑*eP*	**Pb**	**22 07 05.6**	**+0.6**
AOPR	**Arecibo Observ**	**0.95**	**310**	⇑*eP*	**Pb**	**22 07 06.4**	**-0.3**
AOPR				*eS*	**Sb**	**22 07 18.9**	**-0.1**
LRS	**Lares**	**0.99**	**304**	⇑*iP*	**Pb**	**22 07 07.2**	**-0.2**
MGP	**Maguayo**	**1.08**	**285**	⇑*iP*	**Pb**	**22 07 09.3**	**+0.2**
MGP				*eS*	**Sb**	**22 07 23.1**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.10**	**284**	⇓*eP*	**Pb**	**22 07 09.4**	**0.0**
CRPR				*eS*	**Sb**	**22 07 23.7**	**+0.2**
LSP	**Las Mesas**	**1.14**	**293**	⇓*eP*	**Pb**	**22 07 09.6**	**-0.3**
LSP				*eS*	**Sb**	**22 07 25.1**	**+0.6**
STVI	**Saint Thomas**	**1.15**	**58**	⇑*eP*	**Pb**	**22 07 10.4**	**+0.1**
STVI				*eS*	**Sb**	**22 07 24.9**	**-0.1**
CDVI	**St. Croix**	**1.16**	**89**	⇑*eP*	**Pb**	**22 07 10.9**	**+0.5**
CDVI				*eS*	**Sb**	**22 07 26.6**	**+1.3**
SDV	**Santo Domingo**	**9.89**	**208**	Pn	**P**	**22 09 11.9**	**-2.1**
	1.1nm,0.3s,baz=24,slow=11,SNR=5.1						
TXAR	**Lajitas Array**	**36.27**	**296**	P	**P**	**22 13 51.9**	**-2.2**
	0.3nm,0.5s,mb3.5,baz=98,slow=8.8,SNR=4.1						
BDFB	**Brasilia**	**37.60**	**151**	LR	LR	22 30 34.8	
	comp=Z,26nm,19.6s,MS3.0,baz=289,slow=38						
PDAR	**Pinedale Array**	**44.49**	**314**	P	**P**	**22 15 02.2**	**+0.3**
	0.2nm,0.5s,mb3.1,baz=117,slow=12,SNR=2.5						
PDAR	**Pinedale Array**	**44.49**	**314**	P	**P**	**22 15 02.2**	**+0.3**
YKA	**Yellowknife Ar**	**55.90**	**335**	P	**P**	**22 16 28.2**	**-0.4**
	0.1nm,0.4s,mb3.2,baz=115,slow=7.5,SNR=5.5						
YKA	**Yellowknife Ar**	**55.90**	**335**	P	**P**	**22 16 28.2**	**-0.4**

CASC 19 22:14:30.1±2.2, **12.80N**×**88.55W, h56**km±253km, **MD3.5, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLLM	**Bellamira**	**0.71**	**25**	*eP*	P	22 15 15.1	+31
BLLM				*eS*	S	22 15 27.3	+32
CNCH	**Conchagua**	**0.85**	**56**	*eP*	P	22 15 18.4	+32
CNCH				*eS*	S	22 15 31.4	+33
SNVI	**San Vicente**	**0.86**	**341**	*eP*	P	22 15 18.6	+32
SNVI				*eS*	S	22 15 30.7	+32
LCBS	**La Ceiba**	**0.95**	**334**	*eP*	P	22 15 19.1	+32
LCBS				*eS*	S	22 15 31.4	+31
LBRS	**Las Brisas**	**1.05**	**333**	*eP*	P	22 15 21.0	+32
LBRS				*eS*	S	22 15 35.3	+32
CRIN	**San Cristobal**	**1.47**	**94**	*eP*	P	22 14 55.3	+0.5
CRIN				*eS*	S	22 15 14.2	+1.1
TEL3	**Telica 3**	**1.68**	**97**	*eP*	P	22 14 57.6	-0.1
TELN	**Telica**	**1.69**	**96**	*eP*	P	22 14 57.4	-0.4
TELN				*eS*	S	22 15 17.9	-0.5
MIRN	**Miramar**	**1.83**	**101**	*eP*	P	22 14 59.5	-0.3
MIRN				*eS*	S	22 15 22.0	+0.2
MOMJ	**Momotombo**	**2.00**	**101**	*eP*	P	22 15 01.9	-0.3
MOMJ				*eS*	S	22 15 25.1	-0.9
COPN	**Copaltepe**	**2.01**	**108**	*eP*	P	22 15 02.0	-0.3

*WAR **19** 22:20:03.8, 51.48N×16.10E, h1km, Location given by Rudna mine, origin time based upon KSP*

*NEIC **19** 22:20:04.3±1.8, 51.42N×15.96E, h5km, ML2.5(SZGRF), Error ellipse: s-maj=19.4km s-min=9.4km az=203.0*

*PRU **19** 22:20:05.2, 51.38N×16.05E*

ISC 19 22:20:00.9±0.7, **51.48N**±0.04×**16.10E**±0.03, **n18,** σ1$**26**/41, **1C-5D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**169**	⇓*i*Pg	**Pg**	**22 20 15.7**	**+1.9**
KSP				⇓*e*Sg	**Sg**	**22 20 24.7**	**+2.2**
KSP	**Ksiaz**	**0.65**	**169**	⇓*e*Pg	**Pg**	**22 20 15.8**	**+1.9**
KSP				*e*Sg	**Sg**	**22 20 24.4**	**+2.0**
KSP	**Ksiaz**	**0.65**	**169**	⇓*i*Pg	**Pg**	**22 20 15.7**	**+1.9**
KSP				*e*Sg	**Sg**	**22 20 24.1**	**+1.6**
UPC	**Upice**	**0.97**	**183**	*e*PG	**Pg**	**22 20 22.0**	**+1.7**
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	**Pg**	**22 20 24.5**	**+0.9**
DPC				*e*SG	**Sg**	**22 20 38.6**	**-0.2**
	21nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	**Pg**	**22 20 28.7**	**+0.7**
PVCC				*e*SG	**Sg**	**22 20 47.3**	**+1.2**
BRG	**Berggiesshubel**	**1.49**	**247**	Pn	**Pn**	**22 20 30.9**	**+1.9**
BRG				Pg	**Pg**	**22 20 31.2**	**+0.6**
BRG				Sg	**Sg**	**22 20 51.2**	**+0.7**
PRU	**Pruhonice**	**1.79**	**214**	*e*PN	**Pn**	**22 20 35.0**	**+1.7**
PRU				*e*PG	**Pg**	**22 20 36.3**	**-0.4**
PRU				*e*SG	**Sg**	**22 20 59.8**	**-0.8**
	19nm,0.6s						
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**22 20 36.6**	**+1.2**
MORC				*e*Sn	**Sn**	**22 21 00.4**	**-0.4**
CLL	**Collm**	**1.95**	**266**	*e*PN	**Pn**	**22 20 36.0**	**+0.4**
CLL				*e*PG	**Pg**	**22 20 39.0**	**-0.8**
CLL				*i* SG	**Sg**	**22 21 04.6**	**-1.2**
CLL				*i*		22 21 14.5	
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PN	**Pn**	**22 20 42.0**	**+4.3**
OKC				*e*PG	**Pg**	**22 20 43.4**	**+0.7**
OKC				*e*SG	**Sg**	**22 21 08.3**	**-2.4**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PG	**Pg**	**22 20 53.1**	**-0.3**
NKC				*e*SG	**Sg**	**22 21 28.2**	**-0.3**
	28nm,0.3s						
OJC	**Ojcow**	**2.66**	**117**	*e*PG	**Pg**	**22 20 54.0**	**0.0**
OJC				*e*SG	**Sg**	**22 21 28.0**	**-1.5**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**22 20 49.5**	**+1.0**
KHC				*e*PG	**Pg**	**22 20 55.2**	**-2.7**
KHC				*e*SN	**Sn**	**22 21 23.0**	**-1.1**
KHC				*e*SG	**Sg**	**22 21 32.1**	**-3.8**
	6.4nm,0.3s						
MOX	**Moxa**	**2.95**	**255**	*e*Pg	**Pg**	**22 20 58.8**	**-1.0**
MOX				*e*Sg	**Sg**	**22 21 37.9**	**-1.3**
NIE	**Niedzica**	**3.39**	**126**	*e*P	**Pg**	**22 21 07.0**	**-1.6**
NIE				*e*S	**Sg**	**22 21 53.0**	**-0.8**
MOA	**Molln**	**3.82**	**199**	⇑*i*Pn	**Pn**	**22 21 03.4**	**+1.1**
MOA				⇓*i*Sg	**Sg**	**22 22 05.1**	**-3.1**
	comp=E,6.2nm,0.4s						
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PG	**P

ALMR Almeirim 1.44 253 *e*P **Pn** **23 01 16.6 +0.1**
ALMR *e*S **Sb** **23 01 34.4 -0.8**
ALMR *e*S **Sb** **23 01 34.4 -0.8**
ALMR AML AML 23 01 36.0
comp=E,3µm,0.2s
MOE Montemor 1.61 229 *e*Pn **Pn** **23 01 18.2 -0.8**
MOE Montemor 1.61 229 *e*Pg **Pg** **23 01 19.6 -2.3**
MOE *e*Sn **Sn** **23 01 39.0 -1.3**
MOE Montemor 1.61 229 Pg **Pg** **23 01 20.3 -1.6**
MOE Lg 23 01 39.7
MOE Montemor 1.61 229 Pg **Pg** **23 01 20.3 -1.6**
MOE *e*Sn **Sn** **23 01 39.0 -1.3**
PBEJ Beja 1.77 208 *e*Pn **Pn** **23 01 21.7 +0.4**
PBEJ Beja 1.77 208 *e*Pg **Pg** **23 01 24.0 -1.1**
PBEJ *e*Sn **Sn** **23 01 44.3 -0.1**
comp=E,366nm,0.4s
PBEJ Beja 1.77 208 Pn **Pn** **23 01 21.7 +0.4**
PBEJ Sn **Sn** **23 01 43.7 -0.7**
PBEJ Beja 1.77 208 *e*Pg **Pg** **23 01 24.0 -1.1**
PBEJ Sn **Sn** **23 01 43.7 -0.7**
PVRL Vila Real 1.82 338 *e*Pn **Pn** **23 01 23.5 +1.6**
PVRL *e*Sn **Sn** **23 01 46.9 +1.3**
PVRL *e*Sg **Sg** **23 01 50.6 +0.3**
comp=E,646nm,0.1s
PVRL Vila Real 1.82 338 Pn **Pn** **23 01 23.5 +1.6**
PVRL Sn **Sn** **23 01 46.9 +1.3**
PVRL Lg 23 01 50.0
PVRL Vila Real 1.82 338 Pn **Pn** **23 01 23.5 +1.6**
PVRL *e*Sn **Sn** **23 01 46.9 +1.3**
PVRL *e*Sg **Sg** **23 01 50.6 +0.3**
comp=E,646nm,0.1s
EMIN Mina Concepcio 1.83 177 ⇓Pn **Pn** **23 01 23.3 +1.2**
comp=E,1.5nm,0.1s,SNR=18
EMIN Pg **Pg** **23 01 25.0 -1.2**
comp=E,41nm,0.3s,SNR=270
EMIN Sn **Sn** **23 01 45.2 -0.6**
comp=E,40nm,0.3s,SNR=4.0
EMIN Lg 23 01 48.0
comp=E,290nm,0.2s,SNR=7.9
EMIN Mina Concepcio 1.83 177 Pn **Pn** **23 01 23.3 +1.3**
comp=E,1.5nm,0.1s,SNR=18
EMIN Mina Concepcio 1.83 177 Pg **Pg** **23 01 25.0 -1.2**
comp=E,41nm,0.3s,SNR=270
EMIN Sn **Sn** **23 01 45.2 -0.6**
comp=E,40nm,0.3s,SNR=4.0
PLOU Loures 1.96 250 *e*Pg **Pg** **23 01 26.3 -2.5**
PLOU *e*Sg **Sg** **23 01 50.8 -4.1**
comp=E,581nm,0.4s
PLOU Loures 1.96 250 Pg **Pg** **23 01 26.6 -2.2**
PLOU Lg 23 01 51.1
PLOU Loures 1.96 250 Pg **Pg** **23 01 26.6 -2.2**
PLOU *e*Sg **Sg** **23 01 50.8 -4.1**
comp=E,581nm,0.4s
LIS Lisbon 2.02 245 *e*P **Pn** **23 01 24.9 +0.1**
LIS *e*S **Sn** **23 01 48.3 -2.5**
LIS *e*S **Sn** **23 01 48.4 -2.4**
LIS AML AML 23 01 48.7
comp=E,183nm,0.2s
LIS Lisbon 2.02 245 *e*P **Pn** **23 01 24.9 0.0**
LIS *e*S **Sn** **23 01 48.4 -2.4**
EGRO El Granado 2.12 195 ⇑Pn **Pn** **23 01 26.9 +0.6**
comp=E,11nm,0.2s,SNR=18
EGRO Pg **Pg** **23 01 30.5 -1.6**
comp=E,2.5nm,0.1s,SNR=7.9
EGRO Sn **Sn** **23 01 51.7 -1.7**
comp=E,59nm,0.4s,SNR=7.9
EGRO Lg 23 01 56.4
comp=E,360nm,0.3s,SNR=7.9
EGRO El Granado 2.12 195 Pn **Pn** **23 01 26.9 +0.6**
comp=E,11nm,0.2s,SNR=18
EGRO El Granado 2.12 195 Pg **Pg** **23 01 30.5 -1.6**
comp=E,2.5nm,0.1s,SNR=7.9
EGRO Sn **Sn** **23 01 51.7 -1.7**
comp=E,59nm,0.4s,SNR=7.9
ESDC Sonseca Array 2.19 87 Pn **Pn** **23 01 30.3 +3.0**
comp=E,2.9nm,0.3s,baz=265,slow=13,SNR=52
ESDC Pg **Pg** **23 01 35.5 +2.0**
comp=E,8.2nm,0.3s,baz=274,slow=17,SNR=7.9
ESDC Lg 23 02 05.6
comp=E,30nm,0.5s,baz=266,slow=28,SNR=7.9
ESDC Sonseca Array 2.19 87 Pn **Pn** **23 01 30.3 +3.0**
comp=E,2.9nm,0.3s,SNR=52
ESDC Sonseca Array 2.19 87 Pg **Pg** **23 01 35.5 +2.0**
comp=E,8.2nm,0.3s,SNR=7.9
ESLA Sonseca Array 2.19 87 *e*Pn **Pn** **23 01 32.4 +5.1**
ESLA *e*Sn **Sn** **23 02 02.7 +7.5**
ESLA Sonseca Array 2.19 87 *e*Pn **Pn** **23 01 32.4 +5.1**
PBRG Braganca 2.21 1 *e*Pn **Pn** **23 01 29.7 +2.2**
PBRG *e*Sn **Sn** **23 01 57.3 +1.8**
PBRG *e*Sg **Sg** **23 02 04.5 +1.2**
comp=E,318nm,0.3s
PBRG Braganca 2.21 1 Pn **Pn** **23 01 29.6 +2.1**
PBRG Sn **Sn** **23 01 56.5 +1.0**
PBRG Lg 23 02 04.4
EADA Adamuz 2.25 129 ⇓Pn **Pn** **23 01 30.4 +2.3**
comp=E,8.0nm,0.2s,SNR=18
EADA Pg **Pg** **23 01 34.7 +0.1**
comp=E,9.8nm,0.1s,SNR=7.9
EADA Sn **Sn** **23 01 58.9 +2.5**
comp=E,28nm,0.2s,SNR=7.9
EADA Lg 23 02 05.8
comp=E,147nm,0.1s,SNR=7.9
EADA Adamuz 2.25 129 Pn **Pn** **23 01 30.4 +2.4**
comp=E,8.0nm,0.2s,SNR=18
EADA Adamuz 2.25 129 Pg **Pg** **23 01 34.7 +0.2**
comp=E,9.8nm,0.1s,SNR=7.9
EADA Sn **Sn** **23 01 58.9 +2.4**
comp=E,28nm,0.2s,SNR=7.9
ECAL Calabor 2.35 1 ⇓Pn **Pn** **23 01 31.7 +2.2**
comp=E,6.4nm,0.3s,SNR=18
ECAL Pg **Pg** **23 01 37.4 +0.9**
comp=E,4.4nm,0.1s,SNR=27
ECAL Lg 23 02 07.3
comp=E,215nm,0.2s,SNR=7.9
ECAL Calabor 2.35 1 Pn **Pn** **23 01 31.7 +2.2**
comp=E,6.4nm,0.3s,SNR=18
ECAL Calabor 2.35 1 Pg **Pg** **23 01 37.4 +0.9**
comp=E,4.4nm,0.1s,SNR=27
ELOB Lobios 2.46 338 ⇓Pn **Pn** **23 01 32.6 +1.4**
comp=E,12nm,0.3s,SNR=18
ELOB Pg **Pg** **23 01 38.5 -0.4**
comp=E,18nm,0.3s,SNR=25
ELOB Sn **Sn** **23 02 01.9 -0.1**
comp=E,16nm,0.3s,SNR=5.4
ELOB Lg 23 02 10.2
comp=E,119nm,0.2s,SNR=7.9
ELOB Lobios 2.46 338 Pn **Pn** **23 01 32.6 +1.4**
comp=E,12nm,0.3s,SNR=18
ELOB Lobios 2.46 338 Pg **Pg** **23 01 38.5 -0.4**
comp=E,18nm,0.3s,SNR=25
ELOB Sn **Sn** **23 02 01.9 -0.1**
comp=E,16nm,0.3s,SNR=5.4
PTEO Sao Teotonio 2.54 217 *e*Pn **Pn** **23 01 31.8 -0.4**
PTEO *e*Sn **Sn** **23 02 02.0 -1.9**
PTEO *e*Sg **Sg** **23 02 07.8 -6.5**
comp=E,252nm,0.4s
PTEO Sao Teotonio 2.54 217 Pn **Pn** **23 01 31.7 -0.5**
PTEO Sn **Sn** **23 02 01.9 -2.0**
PTEO Lg 23 02 07.8
comp=E,126nm,0.4s
MORF Marmelete 2.71 213 *e*P **Pn** **23 01 34.1 -0.5**
MORF *e*S **Sn** **23 02 04.8 -3.3**
MORF *e*S **Sn** **23 02 05.2 -3.0**
MORF Marmelete 2.71 213 *e*P **Pn** **23 01 34.1 -0.5**
MORF *e*S **Sn** **23 02 05.2 -2.9**
EBAN Banos Encina 2.75 120 ⇓Pn **Pn** **23 01 37.4 +2.1**
comp=E,7.3nm,0.3s,SNR=18
EBAN Pg **Pg** **23 01 45.3 +0.6**
comp=E,33nm,0.1s,SNR=7.9
EBAN Sn **Sn** **23 02 11.4 +2.1**
comp=E,14nm,0.3s,SNR=7.0
EBAN Lg 23 02 21.2
comp=E,105nm,0.2s,SNR=15
EBAN Banos Encina 2.75 120 Pg **Pg** **23 01 45.3 +0.7**
comp=E,33nm,0.1s,SNR=7.9
EBAN Sn **Sn** **23 02 11.4 +2.1**
comp=E,14nm,0.3s,SNR=7.0
ERUA La Rua 2.81 355 Pn **Pn** **23 01 38.1 +2.0**
comp=E,6.7nm,0.2s,SNR=11
ERUA Pg **Pg** **23 01 45.3 -0.5**
comp=E,15nm,0.3s,SNR=6.6
ERUA Sn **Sn** **23 02 10.9 +0.2**
comp=E,18nm,0.2s,SNR=6.7
ERUA Lg 23 02 22.9
comp=E,58nm,0.2s,SNR=7.9
ERUA La Rua 2.81 355 Pg **Pg** **23 01 45.3 -0.5**
comp=E,15nm,0.3s,SNR=6.6
ERUA Sn **Sn** **23 02 10.9 +0.2**
comp=E,18nm,0.2s,SNR=6.7
ESPR Espera 2.82 164 Pn **Pn** **23 01 38.4 +2.1**
comp=E,19nm,0.3s,SNR=7.5
ESPR Pg **Pg** **23 01 45.3 -0.7**
comp=E,17nm,0.2s,SNR=7.9
ESPR Sn **Sn** **23 02 11.0 0.0**
comp=E,20nm,0.3s,SNR=7.9
ESPR Lg 23 02 22.8
comp=E,40nm,0.3s,SNR=7.9
ESPR Espera 2.82 164 Pn **Pn** **23 01 38.4 +2.1**
comp=E,19nm,0.3s,SNR=7.5
ESPR Espera 2.82 164 Pg **Pg** **23 01 45.3 -0.7**
comp=E,17nm,0.2s,SNR=7.9
ESPR Sn **Sn** **23 02 11.0 -0.1**
comp=E,20nm,0.3s,SNR=7.9
GIBL Gibalbin 2.84 166 P **Pg** **23 01 46.0 -0.3**
GIBL S **Sg** **23 02 25.2 +1.1**
LIJA Lijar 2.90 157 P **Pn** **23 01 40.0 +2.6**
LIJA S **Sn** **23 02 11.0 -2.1**
LIJA Lijar 2.90 157 *i* P **Pn** **23 01 40.0 +2.6**
EZAM Zamans 2.93 331 Pn **Pn** **23 01 38.7 +0.9**
comp=E,17nm,0.7s,SNR=7.0
EZAM Pg **Pg** **23 01 46.2 -2.0**
comp=E,14nm,0.3s,SNR=16
EZAM Sn **Sn** **23 02 13.5 -0.3**
comp=E,32nm,0.3s,SNR=5.5
EZAM Lg 23 02 25.9
comp=E,31nm,0.2s,SNR=7.9
EZAM Zamans 2.93 331 Pg **Pg** **23 01 46.2 -2.0**
comp=E,14nm,0.3s,SNR=16
EZAM Sn **Sn** **23 02 13.5 -0.3**
comp=E,32nm,0.3s,SNR=5.5
SCRT Cerro San Cris 3.00 170 S **Sg** **23 02 26.0 -3.4**
ELOJ Sierra Loja 3.21 139 Pn **Pn** **23 01 43.5 +1.8**
comp=E,2.7nm,0.2s,SNR=7.9
ELOJ Pg **Pg** **23 01 52.4 -1.4**
comp=E,7.0nm,0.2s,SNR=9.6
ELOJ Lg 23 02 37.3
comp=E,17nm,0.2s,SNR=7.9
CNIL Conil 3.27 169 *e*S **Sn** **23 02 29.0 +6.5**
EJIF Jimena Fronter 3.31 161 Pn **Pn** **23 01 44.1 +0.9**
comp=E,1.7nm,0.2s,SNR=7.9
EJIF Lg 23 02 39.1
comp=E,38nm,0.6s,SNR=7.9
EMIJ Mijas 3.42 151 ⇑Pn **Pn** **23 01 47.7 +2.9**
comp=E,3.4nm,0.1s,SNR=18
EMIJ Pg **Pg** **23 01 55.4 -2.6**
comp=E,15nm,0.4s,SNR=6.7
EMIJ Lg 23 02 42.8
comp=E,50nm,0.5s,SNR=7.9
EQES Quesada 3.42 120 ⇓Pn **Pn** **23 01 46.6 +1.8**
comp=E,1.8nm,0.3s,SNR=18
EQES Pg **Pg** **23 01 56.9 -1.1**
comp=E,5.1nm,0.1s,SNR=7.9
EQES Lg 23 02 43.8
comp=E,110nm,0.3s,SNR=7.9
EQES Quesada 3.42 120 Pn **Pn** **23 01 46.6 +1.8**
comp=E,1.8nm,0.3s,SNR=18
EQES Quesada 3.42 120 Pg **Pg** **23 01 56.9 -1.1**
comp=E,5.1nm,0.1s,SNR=7.9
ECOG Cogollos-Vega 3.44 131 Pn **Pn** **23 01 47.0 +2.0**
comp=E,1.6nm,0.2s,SNR=7.9
ECOG Pg **Pg** **23 01 57.6 -0.7**
comp=E,6.6nm,0.3s,SNR=7.5
ECOG Lg 23 02 45.9
comp=E,25nm,0.2s,SNR=7.9
EVIA Vianos 3.48 105 Pn **Pn** **23 01 49.0 +3.4**
comp=E,0.8nm,0.1s,SNR=4.0
EVIA Pg **Pg** **23 01 59.2 +0.1**
comp=E,17nm,0.4s,SNR=7.8
EVIA Sn **Sn** **23 02 28.1 +0.5**
comp=E,25nm,0.3s,SNR=6.3
EVIA Lg 23 02 44.7
comp=E,56nm,0.2s,SNR=7.2
ERON Agron 3.49 137 Pn **Pn** **23 01 48.6 +2.8**
comp=E,2.1nm,0.2s,SNR=7.9
ERON Pg **Pg** **23 01 57.1 -2.2**
comp=E,4.3nm,0.3s,SNR=4.0
ERON Lg 23 02 46.2
comp=E,36nm,0.9s,SNR=7.9
STS Santiago 3.54 339 Pn **Pn** **23 01 47.6 +1.0**
comp=E,5.2nm,0.2s,SNR=7.9
STS Pg **Pg** **23 01 57.9 -2.6**
comp=E,28nm,0.4s,SNR=6.3
STS Sn **Sn** **23 02 27.9 -1.5**
comp=E,13nm,0.4s,SNR=7.9
STS Lg 23 02 43.7
comp=E,49nm,0.3s,SNR=7.9
STS Santiago 3.54 339 Pn **Pn** **23 01 47.6 +1.0**
STS Pg **Pg** **23 01 57.9 -2.6**
STS Sn **Sn** **23 02 27.9 -1.5**
STS Lg 23 02 43.7
EQUE Quentar 3.56 131 ⇓Pn **Pn** **23 01 50.0 +3.3**
comp=E,4.4nm,0.3s,SNR=18
EQUE Pg **Pg** **23 01 59.8 -0.9**
comp=E,5.8nm,0.3s,SNR=8.9
EQUE Lg 23 02 48.3
comp=E,15nm,0.2s,SNR=7.9
EMAZ Mazaricos 3.73 335 Pn **Pn** **23 01 49.8 +0.6**
comp=E,6.9nm,0.2s,SNR=24
EMAZ Pg **Pg** **23 02 00.4 -3.8**
comp=E,1.0nm,0.1s,SNR=7.9
EMAZ Sn **Sn** **23 02 32.0 -2.1**
comp=E,43nm,0.5s,SNR=7.9
EMAZ Lg 23 02 50.7
comp=E,38nm,0.3s,SNR=6.1
EMAZ Mazaricos 3.73 335 Pn **Pn** **23 01 49.8 +0.6**
comp=E,6.9nm,0.2s,SNR=24
EMAZ Mazaricos 3.73 335 Pg **Pg** **23 02 00.4 -3.8**
comp=E,1.0nm,0.1s,SNR=7.9
EMAZ Sn **Sn** **23 02 32.0 -2.1**
comp=E,43nm,0.5s,SNR=7.9
EPON Pontenova 3.74 356 ⇑Pn **Pn** **23 01 50.9 +1.6**
comp=E,3.2nm,0.3s,SNR=18
EPON Pg **Pg** **23 02 01.2 -3.1**
comp=E,4.2nm,0.4s,SNR=6.5
EPON Sn **Sn** **23 02 34.1 -0.2**
comp=E,10nm,0.3s,SNR=4.8
EPON Lg 23 02 51.3
comp=E,38nm,0.2s,SNR=7.9
EPON Pontenova 3.74 356 Pn **Pn** **23 01 50.9 +1.6**
comp=E,3.2nm,0.3s,SNR=18
EPON Pontenova 3.74 356 Pg **Pg** **23 02 01.2 -3.1**
comp=E,4.2nm,0.4s,SNR=6.5
EPON Sn **Sn** **23 02 34.1 -0.2**
comp=E,10nm,0.3s,SNR=4.8
EHUE Huescar 3.74 117 Pn **Pn** **23 01 52.2 +2.8**
comp=E,2.0nm,0.2s,SNR=6.2
EHUE Pg **Pg** **23 02 03.5 -0.9**
comp=E,2.6nm,0.3s,SNR=7.9
EHUE Sn **Sn** **23 02 35.2 +0.8**
comp=E,21nm,0.3s,SNR=6.2
EHUE Lg 23 02 54.1
comp=E,15nm,0.2s,SNR=7.9
EHUE Huescar 3.74 117 Pn **Pn** **23 01 52.2 +2.8**
EHUE Pg **Pg** **23 02 03.5 -0.9**
EHUE Sn **Sn** **23 02 35.2 +0.8**
EHUE Lg 23 02 54.1
EARI Arriondas 3.89 17 Pn **Pn** **23 01 53.7 +2.2**
comp=E,3.8nm,0.7s,SNR=14
EARI Pg **Pg** **23 02 06.7 -0.7**
comp=E,1.2nm,0.2s,SNR=10
EARI Sn **Sn** **23 02 39.0 +0.8**
comp=E,20nm,0.3s,SNR=4.6
EARI Lg 23 02 56.1
comp=E,26nm,0.3s,SNR=7.9
EARI Arriondas 3.89 17 Pn **Pn** **23 01 53.7 +2.2**
comp=E,3.8nm,0.7s,SNR=14
EARI Arriondas 3.89 17 Pg **Pg** **23 02 06.7 -0.7**
comp=E,1.2nm,0.2s,SNR=10
EARI Sn **Sn** **23 02 39.0 +0.8**
comp=E,20nm,0.3s,SNR=4.6
EBER Berja 4.09 130 Pn **Pn** **23 01 58.0 +3.7**
comp=E,8.5nm,0.6s,SNR=13
EBER Pg **Pg** **23 02 09.3 -2.0**
comp=E,12nm,0.4s,SNR=11
EBER Sn **Sn** **23 02 43.3 +0.1**
comp=E,17nm,0.8s,SNR=7.0
EBER Lg 23 03 05.9
comp=E,26nm,0.3s,SNR=7.9
EBER Berja 4.09 130 Pn **Pn** **23 01 58.0 +3.7**
comp=E,8.5nm,0.6s,SNR=13
EBER Berja 4.09 130 Pg **Pg** **23 02 09.3 -2.0**
comp=E,12nm,0.4s,SNR=11
EBER Sn **Sn** **23 02 43.3 +0.1**
comp=E,17nm,0.8s,SNR=7.0
ELAN Lanestosa 4.43 34 Pn **Pn** **23 02 01.3 +2.1**
comp=E,2.5nm,0.2s,SNR=21
ELAN Pg **Pg** **23 02 16.4 -1.7**
comp=E,3.8nm,0.3s,SNR=9.8
ELAN Sn **Sn** **23 02 51.4 -0.4**
comp=E,50nm,0.8s,SNR=5.6
ELAN Lg 23 03 17.4
comp=E,43nm,0.3s,SNR=7.9
ELAN Lanestosa 4.43 34 Pn **Pn** **23 02 01.3 +2.2**
comp=E,2.5nm,0.2s,SNR=21
ELAN Lanestosa 4.43 34 Pg **Pg** **23 02 16.4 -1.7**
comp=E,3.8nm,0.3s,SNR=9.8
ELAN Sn **Sn** **23 02 51.4 -0.4**
comp=E,50nm,0.8s,SNR=5.6
EMUR La Murta 4.69 110 Pn **Pn** **23 02 05.0 +2.2**
comp=E,0.6nm,0.2s,SNR=7.9
EMUR Pg **Pg** **23 02 21.0 -2.3**
comp=E,0.4nm,0.4s,SNR=7.0
EMUR Lg 23 03 26.8
comp=E,43nm,0.3s,SNR=7.9
EMUR La Murta 4.69 110 Pn **Pn** **23 02 05.0 +2.2**
comp=E,0.6nm,0.2s,SNR=7.9
EMUR La Murta 4.69 110 Pg **Pg** **23 02 21.0 -2.3**
comp=E,0.4nm,0.4s,SNR=7.0
EMOS Mosqueruela 4.92 79 Pn **Pn** **23 02 09.1 +2.9**
comp=E,3.0nm,0.4s,SNR=17
EMOS Sn **Sn** **23 03 03.6 -0.7**
comp=E,9.8nm,0.6s,SNR=7.9
EMOS Lg 23 03 35.1
comp=E,118nm,1.3s,SNR=7.9
EMOS Mosqueruela 4.92 79 Pn **Pn** **23 02 09.1 +3.0**
comp=E,3.0nm,0.4s,SNR=17
EMOS Sn **Sn** **23 03 03.6 -0.7**
comp=E,9.8nm,0.6s,SNR=7.9
EARA Aranguren 5.06 49 Pn **Pn** **23 02 10.6 +2.6**
comp=E,0.7nm,0.1s,SNR=7.9
EARA Sn **Sn** **23 03 07.0 -0.7**
comp=E,6.0nm,0.4s,SNR=7.9
EARA Lg 23 03 38.8
comp=E,106nm,0.2s,SNR=7.9
IUNC Unciti 5.10 50 Pn **Pn** **23 02 11.4 +2.8**
comp=E,0.4nm,0.2s,SNR=7.9
IUNC Sn **Sn** **23 03 08.0 -0.7**
comp=E,3.7nm,0.3s,SNR=7.9
IUNC Lg 23 03 39.0
comp=E,17nm,0.3s,SNR=7.9
IUNC Unciti 5.10 50 Pn **Pn** **23 02 11.4 +2.8**
comp=E,0.4nm,0.2s,SNR=7.9
IUNC Sn **Sn** **23 03 08.0 -0.7**
comp=E,3.7nm,0.3s,SNR=7.9
IUSE Utxeti 5.19 48 Pn **Pn** **23 02 12.9 +3.1**
comp=E,0.1nm,0.3s,SNR=4.0
IUSE Sn **Sn** **23 03 10.6 -0.3**
comp=E,2.8nm,0.5s,SNR=7.9
IUSE Lg 23 03 43.2
comp=E,11nm,0.4s,SNR=7.9
IUSE Utxeti 5.19 48 Pn **Pn** **23 02 12.9 +3.1**
comp=E,0.1nm,0.3s,SNR=4.0
IUSE Sn **Sn** **23 03 10.6 -0.3**
comp=E,2.8nm,0.5s,SNR=7.9
EBEN Beniarda 5.19 98 Pn **Pn** **23 02 11.3 +1.4**
comp=E,0.3nm,0.4s,SNR=7.9
EBEN Lg 23 03 42.8
comp=E,57nm,0.8s,SNR=7.9
EBEN Beniarda 5.19 98 Pn **Pn** **23 02 11.3 +1.4**
comp=E,0.3nm,0.4s,SNR=7.9
IPRE Itoiz 5.21 50 Lg 23 03 43.5
comp=E,9.6nm,0.5s,SNR=5.6
ESAC San Caprasio 5.26 64 Pn **Pn** **23 02 13.7 +2.8**
comp=E,7.3nm,0.3s,SNR=10.0
ESAC Sn **Sn** **23 03 11.3 -1.5**
comp=E,19nm,0.7s,SNR=7.9
ESAC Lg 23 03 45.1
comp=E,85nm,0.4s,SNR=5.2
ESAC San Caprasio 5.26 64 Pn **Pn** **23 02 13.7 +2.8**
comp=E,7.3nm,0.3s,SNR=10.0
ESAC Sn **Sn** **23 03 11.3 -1.5**
comp=E,19nm,0.7s,SNR=7.9
EALK Alkurruntz 5.38 46 Pn **Pn** **23 02 14.8 +2.2**
comp=E,3.2nm,0.3s,SNR=4.0
EALK Pg **Pg** **23 02 33.8 -3.4**
comp=E,2.4nm,0.3s,SNR=7.3
EALK Sn **Sn** **23 03 14.0 -1.8**
comp=E,1.2nm,0.2s,SNR=7.9
EALK Lg 23 03 49.1
comp=E,68nm,0.6s,SNR=7.9
EALK Alkurruntz 5.38 46 Pg **Pg** **23 02 33.8 -3.3**
comp=E,2.4nm,0.3s,SNR=7.3
EALK Sn **Sn** **23 03 14.0 -1.8**
comp=E,1.2nm,0.2s,SNR=7.9
SJPF Ste Jean 5.47 48 *e*Pn **Pn** **23 02 15.2 +1.3**
SJPF *e*Sn **Sn** **23 03 16.3 -1.8**
SJPF *e*Sg **Sg** **23 03 48.5 -3.5**
comp=E,36nm,0.7s
OSSF Osses 5.54 47 P **Pn** **23 02 16.9 +2.0**
OSSF S **Sn** **23 03 19.4 -0.4**
LARF Larrau 5.57 50 P **Pn** **23 02 17.6 +2.4**
LARF S **Sn** **23 03 19.0 -1.5**
ERTA Horta de San J 5.62 74 Pn **Pn** **23 02 17.9 +1.9**
comp=E,1.3nm,0.3s,SNR=9.1
ERTA Sn **Sn** **23 03 20.4 -1.5**
comp=E,7.1nm,0.7s,SNR=7.9
ERTA Lg 23 03 56.7
comp=E,26nm,0.4s,SNR=7.9
ERTA Horta de San J 5.62 74 Pn **Pn** **23 02 17.9 +1.9**
comp=E,1.3nm,0.3s,SNR=9.1
ERTA Sn **Sn** **23 03 20.4 -1.5**
comp=E,7.1nm,0.7s,SNR=7.9
ETSF Etsaut 5.75 53 *e*Pn **Pn** **23 02 18.7 +1.0**
ETSF *e*Sn **Sn** **23 03 22.4 -2.6**
ETSF *e*Sg **Sg** **23 03 56.5 -4.5**
comp=E,17nm,0.4s
EGRA Graus 5.99 62 Pn **Pn** **23 02 23.1 +2.0**
comp=E,3.3nm,0.6s,SNR=12
EGRA Sn **Sn** **23 03 28.7 -2.3**
comp=E,3.6nm,0.3s,SNR=9.3
EGRA Lg 23 04 08.2
comp=E,28nm,1.1s,SNR=7.9
EBIE Bielsa 6.08 57 Pn **Pn** **23 02 24.6 +2.1**
comp=E,2.7nm,0.4s,SNR=32
EBIE Sn **Sn** **23 03 31.8 -1.6**
comp=E,12nm,1.9s,SNR=7.9
EBIE Bielsa 6.08 57 Pn **Pn** **23 02 24.6 +2.1**
EBIE Sn **Sn** **23 03 31.8 -1.6**
VIEF Viey 6.11 55 P **Pn** **23 02 24.9 +2.1**
VIEF S **Sn** **23 03 32.7 -1.2**
LABF Labassere 6.22 54 P **Pn** **23 02 26.5 +2.1**
EPOB Poblet 6.26 71 Pn **Pn** **23 02 26.4 +1.4**
comp=E,2.3nm,0.2s,SNR=10
EPOB Sn **Sn** **23 03 35.9 -1.9**
comp=E,4.6nm,0.7s,SNR=7.9
EPOB Poblet 6.26 71 Pn **Pn** **23 02 26.4 +1.4**
EPOB Sn **Sn** **23 03 35.9 -1.9**
EPOB Lg 23 04 14.5
EPOB Poblet 6.26 71 Pn **Pn** **23 02 26.4 +1.4**
EPOB Sn **Sn** **23 03 35.9 -1.9**
RESF Ens 6.27 57 P **Pn** **23 02 27.7 +2.6**
RESF S **Sn** **23 03 36.9 -1.1**
EIBI Ibiza 6.34 93 Pn **Pn** **23 02 27.6 +1.5**
comp=E,0.6nm,0.2s,SNR=4.0
EIBI Sn **Sn** **23 03 38.0 -1.8**
comp=E,7.9nm,1.4s,SNR=7.9
EIBI Ibiza 6.34 93 Pn **Pn** **23 02 27.6 +1.5**
EIBI Sn **Sn** **23 03 38.0 -1.8**
EPF Esparros 6.38 55 *e*Pn **Pn** **23 02 28.4 +1.7**
EPF *e*Sn **Sn** **23 03 38.2 -2.6**
EPF *e*Sg **Sg** **23 04 17.0 -5.1**
comp=E,22nm,0.6s
EMIR Miracle 6.73 67 Pn **Pn** **23 02 33.7 +2.0**
comp=E,2.3nm,0.3s,SNR=4.0
EMIR Sn **Sn** **23 03 46.1 -3.6**
comp=E,3.8nm,1.0s,SNR=7.9
EMIR Miracle 6.73 67 Pn **Pn** **23 02 33.7 +2.0**
EMIR Sn **Sn** **23 03 46.1 -3.6**
EMIR Lg 23 04 28.8
EMIR Miracle 6.73 67 Pn **Pn** **23 02 33.7 +2.0**
LFF La Frestale 7.73 44 *e*Pn **Pn** **23 02 45.3 -0.4**
LFF *e*Sn **Sn** **23 04 09.1 -5.5**
comp=E,4.2nm,0.4s
MTLF Montolieu 7.74 58 *e*Pn **Pn** **23 02 46.1 +0.4**
MTLF *e*Sn **Sn** **23 04 10.9 -3.8**
MTLF *e*Sg **Sg** **23 04 59.9 -7.4**
comp=E,2.2nm,0.3s
RJF Les Rejaudoux 8.39 44 *e*Pn **P** **23 02 54.3 -0.5**
RJF *e*Sn **Sn** **23 04 24.9 -6.0**
comp=E,4.0nm,0.3s
CAF Calviac 8.46 48 *e*Pn **P** **23 02 55.3 -0.5**

CAF				*e*Sn		**Sn**	23 04 27.1	-5.7
	comp=E,1.9nm,0.3s							
MFF	**Saint Martin d**	**8.53**	**33**	*e*Pn		**P**	23 02 55.9	-0.8
MFF				*e*Sn		**Sn**	23 04 27.6	-6.8
	comp=E,2.1nm,0.3s							
QUIF	**Quistinic**	**8.72**	**16**	*e*Pn		**P**	23 02 57.9	-1.6
QUIF				*e*Sn		**Sn**	23 04 31.0	-8.4
	comp=E,6.3nm,0.6s							
ROSF	**Rostrenen**	**9.10**	**15**	*e*Pn		**P**	23 03 03.4	-1.3
ROSF				*e*Sn		**Sn**	23 04 39.2	-9.5
	comp=E,2.2nm,0.3s							
LASF	**Ste Croix**	**9.13**	**57**	*e*Pn		**P**	23 03 04.4	-0.7
SGMF	**Saint Gilles**	**9.18**	**18**	*e*Pg		P	23 03 43.0	+37
SGMF				*e*Sn		**Sn**	23 04 42.4	-8.3
	comp=E,5.6nm,0.6s							
SGMF	**Saint Gilles**	**9.18**	**18**	Pn		**P**	23 03 03.6	-2.2
SGMF				Pg		P	23 03 43.0	+37
SGMF				Sn		**Sn**	23 04 42.4	-8.3
	comp=E,2.8nm,0.6s							
SGMF	**Saint Gilles**	**9.18**	**18**	*e*Pn		**P**	23 03 03.6	-2.2
SGMF				*e*Pg		P	23 03 43.0	+37
SGMF				*e*Sn		**Sn**	23 04 42.4	-8.3
TCF	**Toulx Ste Croi**	**9.40**	**42**	*e*Pn		**P**	23 03 07.7	-1.1
TCF				*e*Sn		**Sn**	23 04 48.2	-7.9
	comp=E,3.2nm,0.4s							
GRR	**Gorron**	**9.78**	**24**	*e*Pn		**P**	23 03 12.6	-1.3
GRR				*e*Sn		**Sn**	23 04 56.9	-8.4
	comp=E,2.5nm,0.4s							
BGF	**Bois d'Agland**	**9.91**	**42**	*e*Pn		**P**	23 03 14.7	-1.1
BGF				*e*Sn		**Sn**	23 05 00.0	-8.5
	comp=E,6.6nm,0.3s							
LDF	**La Druitiere**	**10.20**	**26**	*e*Pn		**P**	23 03 18.4	-1.3
LDF				*e*Sn		**S**	23 05 07.9	-7.7
	comp=E,0.9nm,0.3s							
FLN	**La Foliniere**	**10.22**	**24**	*e*Pn		**P**	23 03 18.6	-1.5
FLN				*e*Sn		**S**	23 05 07.9	-8.4
	comp=E,1.9nm,0.4s							
SMRF	**Simiane la Rot**	**10.23**	**61**	*e*Pn		**P**	23 03 20.1	0.0
HYF	**Humbligny**	**10.29**	**39**	*e*Pn		**P**	23 03 19.8	-1.2
HYF				*e*Sn		**S**	23 05 09.9	-8.0
	comp=E,25nm,0.4s							
AVF	**Avril sur Loir**	**10.32**	**43**	*e*Pn		**P**	23 03 20.5	-1.0
AVF				*e*Sn		**S**	23 05 10.6	-8.1
	comp=E,1.9nm,0.6s							
SMF	**Signal de Mont**	**10.49**	**44**	*e*Pn		**P**	23 03 22.9	-0.9
SSF	**Saint Saulge**	**10.58**	**42**	*e*Pn		**P**	23 03 23.7	-1.3
SSF				*e*Sn		**S**	23 05 17.5	-7.5
	comp=E,1.0nm,0.5s							
LMR	**La Mourre**	**10.66**	**65**	*e*Pn		**P**	23 03 31.7	+5.5
FRF	**La Foret Royal**	**10.82**	**64**	*e*Pn		**P**	23 03 28.0	-0.4
LOR	**Lormes**	**10.90**	**42**	*e*Pn		**P**	23 03 28.4	-0.9
LOR				*e*Sn		**S**	23 05 25.3	-7.5
	comp=E,2.5nm,0.5s							
SBF	**Sospel**	**11.46**	**64**	*e*Pn		**P**	23 03 36.8	-0.2
MEZF	**Maizieres J'vi**	**12.32**	**40**	*e*Pn		**P**	23 03 48.1	-0.5
HINF	**Hinteralfeld**	**12.84**	**46**	*e*Pn		**P**	23 03 55.2	-0.3
BAIF	**Baives**	**13.04**	**33**	*e*Pn		**P**	23 03 57.7	-0.6

*IDC **19** 23:10:31.1±3.6, 1.95S×99.80E, mb3.7/4, mb1 3.7/4, mb1mx3.5/14, mbtmp3.7/4, Error ellipse: s-maj=143.8km s-min=29.1km az=52.0*

*NEIC **19** 23:10:32.6±1.0, 2.44S×99.24E, h30km, mb4.7/2, Error ellipse: s-maj=23.9km s-min=15.5km az=47.0*

ISC 19 23:10:30.5±1.0, 2.4S±0.1×99.3E±0.1, h30km, n10, σ0§99/10, mb3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSM	**Kuching**	**11.71**	**71**	*e*Pn		**P**	23 13 19.7	**+0.8**
KKM	**Kota Kinabalu**	**18.91**	**64**	*e*Pn		**P**	23 14 50.4	**-1.2**
WRA	**Warramunga Arr**	**38.45**	**120**	P		**P**	23 17 52.7	**+1.0**
	0.3nm,0.4s,mb3.4,baz=302,slow=8.8,SNR=4.8							
WRAB	**Tennant Creek**	**38.45**	**120**	*e*P		**P**	23 17 52.7	**+1.0**
	2.4nm,0.8s,mb4.0							
STKA	**Stephens Creek**	**49.45**	**131**	*e*P		**P**	23 19 18.1	**-2.2**
SONM	**Songino Array**	**50.42**	**6**	P		**P**	23 19 26.8	**-0.6**
	0.6nm,0.6s,mb3.8,baz=187,slow=6.4,SNR=6.5							
MKAR	**Makanchi Array**	**51.22**	**345**	P		**P**	23 19 34.4	**+0.9**
	0.8nm,0.4s,mb4.0,baz=148,slow=8.1,SNR=13							
TAU	**Tasmania Unive**	**58.75**	**140**	*e*P		**P**	23 20 28.2	**0.0**
	29nm,1.1s							
BVAR	**Borovoye Array**	**60.30**	**340**	P		**P**	23 20 39.3	**+0.5**
	0.3nm,0.4s,mb3.7,baz=148,slow=9.6,SNR=4.2							
BRVK	**Borovoye**	**60.37**	**340**	P		**P**	23 20 38.6	**-0.6**

*IDC **19** 23:23:45.6±1.6, 15.37S×176.38W, mb3.7/5, mb1 4.1/5, mb1mx3.9/14, mbtmp3.7/5, Error ellipse: s-maj=104.3km s-min=24.9km az=145.0*

*NEIC **19** 23:23:51.0±0.9, 15.43S×176.41W, h35km, mb4.5/3, Error ellipse: s-maj=43.0km s-min=14.0km az=153.0*

ISC 19 23:23:49.1±1.2, 15.5S±0.3×176.4W±0.2, h33km, n10, σ0§62/10, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**23.87**	**282**	*e*P		**P**	23 29 00.4	**-0.3**
	19nm,0.4s,mb4.9							
CTAO	**Charters Tower**	**35.81**	**257**	*e*P		**P**	23 30 46.7	**-0.9**
	6.0nm,1.1s,mb4.4							
STKA	**Stephens Creek**	**41.50**	**239**	P		**P**	23 31 34.9	**0.0**
	0.7nm,0.5s,mb3.6,baz=78,slow=9.3,SNR=2.8							
WRAB	**Tennant Creek**	**47.00**	**257**	*e*P		**P**	23 32 19.5	**+0.2**
	3.8nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**47.01**	**257**	P		**P**	23 32 19.7	**+0.3**
	0.5nm,0.8s,mb3.5,baz=92,slow=7.2,SNR=4.6							
NVAR	**Mina Array Bea**	**76.36**	**43**	P		**P**	23 35 36.9	**0.0**
	0.2nm,0.4s,mb3.4,baz=229,slow=8.8,SNR=4.6							
NVAR	**Mina Array Bea**	**76.36**	**43**	P		**P**	23 35 36.9	**0.0**
TXAR	**Lajitas Array**	**83.08**	**57**	P		**P**	23 36 13.3	**+0.1**
	0.3nm,0.7s,mb3.4,baz=229,slow=8.3,SNR=3.7							
ILAR	**Eielson Array**	**83.13**	**12**	P		**P**	23 36 11.8	**-0.8**
	0.8nm,0.7s,mb3.9,baz=215,slow=4.9,SNR=9.7							
ENH	**Enshi**	**84.56**	**303**	*e*P		**P**	23 36 22.1	**+1.4**

BJI 19 23:38:41.5, 44.10N×117.45E, h5km, ML4.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HHC	**Hu-ho-hao-te**	**5.43**	**235**	*e*PG		Pg	23 40 14.5	-15
HHC				SG		Sg	23 41 34.3	-8.0
HHC				Smax				
	comp=N,200nm,0.4s							
HHC				Smax				
	comp=E,180nm,0.4s							
CN2	**Changchun**	**5.78**	**90**	PG		Pg	23 40 21.6	-15
CN2				SG		Sg	23 41 47.8	-6.2
CN2				Smax				
	comp=N,100nm,0.7s							
CN2				Smax				
	comp=E,100nm,0.7s							

*IDC **19** 23:40:42.0±0.8, 6.04S×154.97E, h129km±7km, mb3.9/9, mb1 4.1/11, mb1mx4.1/13, mbtmp4.3/11, Error ellipse: s-maj=20.9km s-min=13.0km az=107.0*

*MOS **19** 23:40:42.3±1.4, 6.00S×155.15E, h151km, mb4.5/3, Error ellipse: s-maj=15.1km s-min=11.9km az=54.0*

*NEIC **19** 23:40:43.6±1.4, 6.08S×155.05E, h150km±13km, mb4.6/13, Error ellipse: s-maj=11.5km s-min=9.7km az=185.0*

ISC 19 23:40:39.6±2.1, 6.05S±0.08×154.94E±0.08, h123km±21km, h129km±9km; pP-P, n43, σ0§90/44, mb4.5/24, 2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.99**	**124**	*e*P		**P**	23 42 06.6	**-0.4**
PMG	**Port Moresby**	**8.40**	**246**	P		**P**	23 42 46.2	**+6.5**
	13nm,0.3s,baz=54,slow=7.0,SNR=34							
PMG				S		**S**	23 44 21.4	**+8.1**
	5.4nm,0.3s,baz=131,slow=16,SNR=6.2							
PMG	**Port Moresby**	**8.40**	**246**	*e*P		**P**	23 42 46.2	**+6.6**
PMG				*e*S		**S**	23 44 21.7	**+8.4**
PMG				pmax		pmax		
	comp=Z,64nm,0.6s							
PMG	**Port Moresby**	**8.40**	**246**	*e*Pn		**P**	23 42 46.2	**+6.5**
	comp=Z,64nm,0.6s							
PMG				*e*S		**S**	23 44 21.7	**+8.5**
CTA	**Charters Tower**	**16.30**	**210**	P		**P**	23 44 26.0	**+3.3**
	comp=Z,0.4nm,0.3s,baz=47,slow=13,SNR=3.4							
CTAO	**Charters Tower**	**16.30**	**210**	P		**P**	23 44 27.2	**+4.5**
CTAO				pmax		pmax		
	comp=Z,7.0nm,0.9s							
CTAO	**Charters Tower**	**16.30**	**210**	P		**P**	23 44 27.2	**+4.5**
	comp=Z,7.1nm,0.9s							
NOUC	**Port Laguerre**	**19.37**	**147**	*e*P		**P**	23 44 57.9	**-0.2**
DZM	**Mont Dzumac**	**19.43**	**146**	*e*P		**P**	23 44 57.3	**-1.4**
DZM	**Mont Dzumac**	**19.43**	**146**	P		**P**	23 44 59.1	**+0.5**
	comp=Z,3.8nm,0.3s,baz=303,slow=10,SNR=30							
WRAB	**Tennant Creek**	**24.30**	**234**	*e*P		**P**	23 45 48.0	**+1.1**
	comp=Z,46nm,0.5s,mb5.1							
WB2	**Warramunga Arr**	**24.31**	**233**	*i*P		**P**	23 45 47.9	**+0.9**
WRA	**Warramunga Arr**	**24.32**	**233**	P		**P**	23 45 48.0	**+0.9**
	comp=Z,30nm,0.4s,mb5.0,baz=56,slow=9.8,SNR=115							
WRA				PcP		PcP	23 49 24.0	-0.8
	comp=Z,0.9nm,0.3s,baz=63,slow=2.1,SNR=5.5							
WRA				S		**S**	23 49 59.8	**+5.5**
	comp=Z,0.4nm,0.3s,baz=54,slow=17,SNR=3.8							
STKA	**Stephens Creek**	**28.56**	**204**	P		**P**	23 46 25.4	**-0.7**
	comp=Z,1.3nm,0.4s,mb3.9,baz=26,slow=8.3,SNR=5.2							
STKA	**Stephens Creek**	**28.56**	**204**	*e*P		**P**	23 46 25.4	**-0.7**
FITZ	**Fitzroy Crossi**	**30.99**	**245**	*i*P		**P**	23 46 46.5	**-1.2**
	comp=Z,19nm,0.6s,mb5.0							
FORT	**Forrest**	**35.24**	**222**	*e*P		**P**	23 47 23.4	**-0.7**
	comp=Z,14nm,0.7s,mb4.9							
MBWA	**Marble Bar**	**37.25**	**243**	*e*P		**P**	23 47 40.2	**-0.9**
	comp=Z,5.3nm,0.6s,mb4.7							
KLBR	**Kellerberrin**	**43.05**	**229**	*e*P		**P**	23 48 28.0	**-0.9**
	comp=Z,20nm,0.8s,mb4.9							
MJAR	**Matsushiro Arr**	**45.18**	**341**	P		**P**	23 48 45.8	**-0.1**
	comp=Z,1.4nm,0.6s,mb3.9,baz=172,slow=8.3,SNR=4.5							
KSM	**Kuching**	**45.18**	**278**	*e*P		**P**	23 48 45.5	**-0.8**
KULM	**Kulim**	**55.36**	**281**	*e*P		**P**	23 50 02.4	**-1.1**
SONM	**Songino Array**	**68.52**	**327**	P		**P**	23 51 31.3	**+0.5**
	comp=Z,2.2nm,0.6s,mb4.2,baz=145,slow=5.1,SNR=30							
VNDA	**Vanda**	**71.52**	**178**	P		**P**	23 51 48.5	**0.0**
	comp=Z,0.9nm,0.6s,mb3.8,baz=330,slow=10,SNR=8.1							
ZAK	**Zakamensk**	**71.67**	**328**	*e*P		**P**	23 51 49.4	**-0.3**
ZAK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.2							
JIRN	**Jiri**	**74.25**	**301**	*e*P		**P**	23 52 04.8	**-0.5**
	comp=Z,8.4nm,0.4s,mb4.8							
BILL	**Bilibino**	**74.35**	**4**	P		**P**	23 52 05.2	**+0.1**
BILL				pmax		pmax		
	comp=Z,17nm,1.5s,mb4.5							
GUN	**Gumba**	**74.59**	**301**	*e*P		**P**	23 52 07.0	**-0.2**
	comp=Z,14nm,0.6s,mb4.8							
PKI	**Pulchoki**	**74.90**	**301**	*e*P		**P**	23 52 08.8	**-0.2**
KKN	**Kakani**	**75.07**	**301**	*e*P		**P**	23 52 09.5	**-0.5**
	comp=Z,12nm,0.6s,mb4.8							
KKN	**Kakani**	**75.07**	**301**	*e*P		**P**	23 52 09.5	**-0.5**
KKN				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.5							
DMN	**Daman**	**75.17**	**300**	*e*P		**P**	23 52 10.8	**+0.3**
	comp=Z,11nm,0.6s,mb4.8							
GKN	**Gorkha**	**75.67**	**301**	*e*P		**P**	23 52 13.3	**-0.1**
	comp=Z,6.3nm,0.6s,mb4.5							
KOLN	**Koldanda**	**76.50**	**300**	*e*P		**P**	23 52 19.8	**+1.8**
	comp=Z,11nm,0.8s,mb4.7							
ILAR	**Eielson Array**	**82.52**	**22**	P		**P**	23 52 49.0	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.7,baz=239,slow=5.0,SNR=7.8							
ILAR				pP		pP	23 53 22.1	+0.8
	comp=Z,0.5nm,0.8s,baz=238,slow=6.2,SNR=2.6							
MKAR	**Makanchi Array**	**82.66**	**319**	P		**P**	23 52 51.0	**+0.3**
	comp=Z,5.9nm,0.7s,mb4.5,baz=100,slow=5.2,SNR=52							
QSPA	**South Pole Qui**	**83.92**	**180**	*e*P		**P**	23 52 56.6	**+0.3**
	comp=Z,2.9nm,0.3s,mb4.6							
MAW	**Mawson**	**85.24**	**203**	P		**P**	23 53 03.4	**+0.3**
	comp=Z,4.6nm,0.6s,mb4.6,baz=82,slow=7.1,SNR=12							
MAW				pP		pP	23 53 36.0	+1.1
	comp=Z,2.0nm,0.6s,baz=85,slow=7.2,SNR=2.3							
NVAR	**Mina Array Bea**	**91.18**	**52**	P		**P**	23 53 33.2	**+1.1**
	comp=Z,1.1nm,0.8s,mb4.0,baz=256,slow=9.1,SNR=4.7							
NVAR				pP		pP	23 54 07.0	+2.6
	comp=Z,0.5nm,0.7s,baz=263,slow=7.3,SNR=3.3							
YKA	**Yellowknife Ar**	**95.53**	**28**	P		**P**	23 53 52.0	**+0.6**
	comp=Z,0.7nm,0.8s,mb4.2,baz=265,slow=4.6,SNR=8.8							
LBTB	**Lobatse**	**121.87**	**236**	*e*PKiKP		PKPdf	23 59 17.2	-2.7
LPAZ	**La Paz**	**131.95**	**118**	PKP		PKPdf	23 59 41.9	+2.4
	comp=Z,0.5nm,0.5s,baz=77,slow=24,SNR=4.0							
SDV	**Santo Domingo**	**134.75**	**84**	*e*PKPdf		PKPdf	23 59 45.9	+1.1

*CSEM **20** 00:11:05.9±0.1, 37.91N×57.47E, h20km, ML4.1, Error ellipse: s-maj=5.0km s-min=2.2km az=179.0*

*TEH **20** 00:11:09.0, 37.85N×57.30E, h10km, Mn4.1*

*THR **20** 00:11:12.0±0.3, 37.40N×57.05E, h15km, ML3.4*

*NNC **20** 00:11:15.8±4.0, 38.65N×57.75E, mb3.7, Error ellipse: s-maj=37.5km s-min=21.8km az=36.0*

ISC 20 00:11:05.2±0.4, 37.93N±0.04×57.39E±0.05, h10km, n31, σ1§15/34, 5C-3D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ISHV	**Shirvan**	**0.46**	**148**	Pg		**Pg**	00 11 13.4	**-1.2**
ISFR	**Esferayen**	**1.01**	**151**	Pg		**Pg**	00 11 25.7	**+0.3**
IEMG	**Emamqoli**	**1.13**	**117**	Pn		**Pn**	00 11 25.7	**-1.3**
IKRD	**Kardeh**	**1.47**	**142**	Pn		Px	00 11 41.8	
IPAY	**Payeh**	**1.96**	**138**	Pn		**Pn**	00 11 39.3	**+0.5**
MHI	**Mashhad**	**2.32**	**133**	Pn		**Pn**	00 11 45.7	**+1.6**
IMOG	**Moghan**	**2.40**	**139**	Pn		**Pn**	00 11 45.6	**+0.5**
IMYA	**Miamay**	**2.69**	**125**	Pn		**Pn**	00 11 49.8	**+0.5**
IKIA	**Kiasar**	**3.42**	**241**	Pn		**Pn**	00 12 01.0	**+1.3**
IGLO	**Galoogah**	**3.50**	**244**	Pn		**Pn**	00 11 56.4	**-4.5**
IFIR	**Firoozkooh**	**4.36**	**240**	Pn		**Pn**	00 12 13.9	**+0.8**
IPRN	**Paran-Amol**	**4.44**	**249**	Pn		**Pn**	00 12 13.0	**-1.2**
IDMV	**Damavand**	**4.90**	**243**	Pn		**Pn**	00 12 21.4	**+0.7**
DAMV	**Damavand**	**4.91**	**244**	*e*PN		**Pn**	00 12 21.5	**+0.6**
DAMV				AML		AML	00 13 43.9	
	comp=N,31nm,0.4s							
IAFJ	**Afjeh**	**5.00**	**247**	Pn		**Pn**	00 12 23.0	**+0.9**
CHTH	**Charan**	**5.41**	**250**	*e*Pn		**Pn**	00 12 28.7	**+0.9**
IVRN	**Varamin**	**5.42**	**239**	Pn		**Pn**	00 12 27.9	**-0.1**
IVRN				Sn		**Sn**	00 13 26.1	**-5.1**
ISFB	**Sefidab**	**5.48**	**231**	Pn		**Pn**	00 12 27.9	**-1.0**
THKV	**Tehran--Karaj**	**5.59**	**251**	*e*PN		**Pn**	00 12 31.5	**+1.1**
THKV				AML		AML	00 13 40.9	
	comp=N,22nm,0.6s							
NASN	**Na'in**	**6.34**	**218**	*e*Pn		**Pn**	00 12 39.5	**-1.5**
IRAZ	**Razeghan**	**6.50**	**249**	Pn		**Pn**	00 12 43.6	**+0.3**
ASAO	**Ashtian**	**6.84**	**243**	*e*Pn		**Pn**	00 12 47.5	**-0.5**
KRBR	**Kerman**	**7.94**	**184**	*e*Pn		**Pn**	00 13 02.0	**-1.5**
KRBR	**Kerman**	**7.94**	**184**	*e*Pn		**Pn**	00 13 02.0	**-1.5**
	SNR=52							
TBLG	**Delisi**	**10.44**	**295**	P		**P**	00 13 35.9	**-2.1**
KK31	**Karatay Array**	**11.25**	**59**	P		**P**	00 13 48.0	**-1.0**
	comp=N,0.7nm,0.3s,baz=243,slow=16,SNR=22							
KK31				⇓S		**S**	00 15 50.4	**-5.4**
	comp=N,1.1nm,0.4s							
AB31	**Akbulak array**	**11.47**	**8**	⇑P		**P**	00 13 51.3	**-0.7**
	comp=N,1.0nm,0.4s,baz=194,slow=12,SNR=9.2							
AB31				⇓S		**S**	00 15 51.9	**-9.4**
	comp=N,11nm,1.1s,baz=193,slow=24							
AKTO	**Aktyubinsk**	**12.51**	**2**	⇑P		**P**	00 14 04.0	**-2.0**
	comp=N,0.8nm,0.7s							
AKTO				⇓S		**S**	00 16 18.8	**-7.8**
	comp=N,1.7nm,1.2s							
ZRNK	**Zerenda**	**17.06**	**25**	⇑P		**P**	00 15 06.6	**+1.5**
	comp=N,1.7nm,0.9s							
BVA0	**Borovoye Array**	**17.59**	**27**	⇑P		**P**	00 15 12.9	**+1.1**
	comp=N,0.4nm,0.6s,baz=223,slow=12,SNR=15							
CHKZ	**Chkalovo**	**18.20**	**26**	⇑P		**P**	00 15 21.8	**+2.4**
	comp=N,2.3nm,0.7s							

*NEIC **20** 00:20:03.9±2.7, 6.85S×147.40E, h69km±22km, mb4.0/4, Error ellipse: s-maj=28.5km s-min=19.2km az=149.0*

*IDC **20** 00:20:04.1±4.1, 6.82S×147.52E, h71km±33km, mb3.7/3, mb1 3.9/6, mb1mx3.7/13, mbtmp4.0/6, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.5/14, Error ellipse: s-maj=64.6km s-min=29.0km az=106.0*

ISC 20 00:20:02.2±3.4, 6.8S±0.2×147.3E±0.2, h69km±28km, n14, σ0§84/15, mb4.0/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**2.64**	**183**	P		**P**	00 20 42.5	**-1.0**
	24nm,0.3s,baz=26,slow=11,SNR=49							
PMG				S		**S**	00 21 15.6	**+1.3**
	42nm,0.3s,baz=23,slow=21,SNR=17							
CTA	**Charters Tower**	**13.29**	**184**	P		**P**	00 23 09.6	**+0.1**
	0.3nm,0.3s,baz=356,slow=14,SNR=5.7							
CTA				LR		LR	00 27 39.7	
	comp=Z,32nm,18.0s,baz=228,slow=34							
CTA	**Charters Tower**	**13.29**	**184**	P		**P**	00 23 09.6	**+0.1**
CTA				LR		LR	00 27 39.7	
WRAB	**Tennant Creek**	**18.17**	**223**	*e*P		**P**	00 24 10.9	**-0.5**
	3.8nm,0.6s							
WRAB				*e*pP			00 24 25.0	
WB2	**Warramunga Arr**	**18.17**	**223**	*e*P		**P**	00 24 11.2	**-0.3**
WRA	**Warramunga Arr**	**18.18**	**223**	P		**P**	00 24 11.3	**-0.3**
	0.5nm,0.3s,baz=51,slow=11,SNR=6.0							
ASPA	**Alice Springs**	**21.19**	**216**	*e*P		**P**	00 24 44.4	**+0.4**
FITZ	**Fitzroy Crossi**	**23.95**	**240**	*e*P		**P**	00 25 12.7	**+1.6**
	4.5nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**25.56**	**191**	*e*P		**P**	00 25 24.7	**-1.7**
	2.1nm,0.6s,mb3.7							
STKA	**Stephens Creek**	**25.56**	**191**	P		**P**	00 25 25.4	**-1.0**
	2.1nm,0.4s,mb3.9,baz=15,slow=10.0,SNR=8.7							
NWAO	**Narrogin (SRO)**	**38.19**	**223**	*e*P		**P**	00 27 16.2	**-0.6**
	9.8nm,1.0s,mb4.6							
VNDA	**Vanda**	**71.14**	**177**	P		**P**	00 31 14.8	**-0.1**
	0.5nm,0.6s,mb3.5,baz=346,slow=7.4,SNR=6.7							
VNDA	**Vanda**	**71.14**	**177**	P		**P**	00 31 14.8	**-0.1**
ILAR	**Eielson Array**	**86.05**	**23**	P		**P**	00 32 36.9	**+0.8**
	0.6nm,0.6s,mb3.7,baz=247,slow=5.3,SNR=6.8							

*IDC **20** 00:57:49.0±0.6, 3.72S×151.30E, mb4.6/11, mb1 4.9/14, mb1mx4.8/17, mbtmp4.7/14, ML4.3/3, MS4.5/12, Ms1 4.5/12, ms1mx4.4/15, Error ellipse: s-maj=20.0km s-min=12.5km az=111.0*

*MOS **20** 00:57:53.7±1.0, 3.75S×151.22E, h38km, mb5.0/18, Error ellipse: s-maj=15.2km s-min=8.7km az=89.7*

*BJI **20** 00:57:56.9, 3.90S×151.30E, h66km, mB5.3, mb4.9, Ms5.0, Msz4.7*

*NEIC **20** 00:57:58.0±1.7, 3.92S×151.27E, h66km±15km, mb4.9/22, Error ellipse: s-maj=8.9km s-min=7.3km az=50.0*

*HRVD **20** 00:57:58.0±0.2, 3.64S×151.41E, h12km, MW5.3/79, Centroid moment Tensor Solution. LP body waves: s63,c96;Mantle waves: s79,c157; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.02; $M_{\theta\theta}$1.04±.02; $M_{\phi\phi}$-0.90±.02; $M_{r\theta}$-0.14±.05; $M_{\theta\phi}$0.41±.02; $M_{\phi r}$-0.05±.06; Best double couple: $M_0$1.062×10^{17} NP1: ϕ_s304°,δ84°,λ3°. NP2:ϕ_s213°,δ87°,λ174°. Principal axes: T 1.139, Plg7°, Azm169°; N -.156, Plg83°, Azm3°; P -.984, Plg2°, Azm259°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 00:57:50.0±1.7, 3.81S±0.04×151.31E±0.06, h13km±10km, h61km±4.4km; pP-P, n99, σ1§08/104, mb4.8/43, MS4.7/18, 5C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.92**	**216**	Pn		**Pn**	00 59 34.7	**+0.9**
	14nm,0.3s,baz=33,slow=6.1,SNR=32							
PMG				Sn		**Sn**	01 00 53.9	**+0.7**
	baz=118,slow=16,SNR=1.3							
PMG				LR		LR	01 02 36.3	
	comp=Z,3μm,18.3s,baz=31,slow=41							
PMG	**Port Moresby**	**6.92**	**216**	⇑*i*P		**Pn**	00 59 35.2	**+1.4**
PMG				pmax		pmax		
	comp=Z,179nm,0.8s							
PMG	**Port Moresby**	**6.92**	**216**	⇑*i*P		**Pn**	00 59 35.1	**+1.4**
	comp=Z,179nm,0.8s							
CTA	**Charters Tower**	**16.92**	**197**	*e*P		**P**	01 01 50.4	**+2.1**
	comp=Z,82nm,1.5s							
CTA				*i* S		**S**	01 05 03.6	**+8.5**
CTA	**Charters Tower**	**16.92**	**197**	Pn		**P**	01 01 49.6	**+1.3**
	comp=Z,0.7nm,0.3s,baz=20,slow=12,SNR=32							
CTA				Sn		**S**	01 05 01.1	**+6.0**
	comp=Z,0.1nm,0.3s,baz=346,slow=20,SNR=2.2							
CTA				LR		LR	01 06 09.3	
	comp=Z,478nm,21.4s,baz=17,slow=29							
CTA	**Charters Tower**	**16.92**	**197**	*e*P		**P**

MDJ				LR	LR			
	comp=E,450nm,18.3s							
MDJ				LR	LR			
	comp=Z,710nm,17.1s							
ENH	**Enshi**	**52.39**	**313**	*eP*	**P**	**01 07 04.0**	**-0.6**	
	comp=Z,44nm,1.4s,mb5.2							
GYA	**Guiyang**	**52.61**	**308**	P	**P**	**01 07 11.0**	**+4.8**	
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
CN2	**Changchun**	**52.79**	**337**	*eP*	**P**	**01 07 08.3**	**+0.9**	
CN2				*eS*	**S**	**01 14 31.4**	**-2.3**	
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.9							
CN2				AMB	AMB			
	comp=Z,200nm,6.0s							
CN2				LR	LR			
	comp=N,480nm,14.0s,MS4.8							
CN2				LR	LR			
	comp=E,430nm,14.0s,MS4.8							
CN2				LR	LR			
	comp=Z,560nm,15.0s,MS4.7							
KMI	**Kunming**	**55.20**	**304**	P	**P**	**01 07 25.8**	**+0.5**	
KLR	**Kul'dur**	**55.49**	**345**	*eP*	**P**	**01 07 26.8**	**-0.2**	
HHC	**Hu-ho-hao-te**	**57.38**	**325**	*eP*	**P**	**01 07 42.0**	**+1.3**	
HHC				AP	pP	01 08 02.6	+18	
HHC				XP	sP	01 08 10.8	+25	
HHC				PCP	PcP	01 08 34.3	-0.2	
HHC				PP	PP	01 09 52.8	+3.1	
HHC				SCP		01 12 24.9		
HHC				PCS		01 12 34.0		
HHC				S	**S**	**01 15 31.6**	**-3.5**	
HHC				XS		01 16 05.0		
HHC				SCS	ScS	01 17 20.6	-5.7	
HHC				SS	SS	01 19 24.8	-1.4	
HHC				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb5.0							
HHC				AMB	AMB			
	comp=Z,210nm,5.0s							
HHC				LR	LR			
	comp=N,340nm,15.5s,MS4.7							
HHC				LR	LR			
	comp=E,380nm,15.5s,MS4.7							
HHC				LR	LR			
	comp=Z,620nm,20.2s,MS4.7							
PPT	**Papeete**	**59.45**	**108**	*eS*	**S**	**01 16 01.5**	**-1.0**	
PPT				*e*LR	LR	01 25 08.5		
	comp=Z,768nm,32.8s							
LZH	**Lanzhou**	**59.48**	**316**	*eP*	**P**	**01 07 57.4**	**+2.0**	
LZH				AP	pP	01 08 16.1	+17	
LZH				*eS*	**S**	**01 16 07.3**	**+4.6**	
LZH				AMB	AMB			
	comp=Z,50nm,1.5s,mb5.3							
LZH				AMB	AMB			
	comp=Z,270nm,5.0s							
LZH				LR	LR			
	comp=N,850nm,15.2s							
LZH				LR	LR			
	comp=Z,1μm,16.1s,MS5.1							
HIA	**Hailar**	**59.53**	**337**	*eP*	**P**	**01 07 55.3**	**-0.2**	
HIA				*e*		01 08 12.7		
HIA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
HIA	**Hailar**	**59.53**	**337**	*eP*	**P**	**01 07 55.3**	**-0.2**	
	comp=Z,9.0nm,0.8s,mb4.8							
HIA				*e*		01 08 12.7		
TBI	**Tubuai**	**60.32**	**115**	*e*LR	LR	01 25 34.1		
GTA	**Gaotai**	**63.92**	**318**	P	**P**	**01 08 24.8**	**-0.4**	
GTA				AMB	AMB			
	comp=Z,140nm,11.8s							
GTA				LR	LR			
	comp=N,290nm,16.0s,MS4.8							
GTA				LR	LR			
	comp=E,430nm,20.5s,MS4.8							
GTA				LR	LR			
	comp=Z,500nm,22.4s,MS4.7							
ULN	**Ulaanbaatar**	**64.37**	**329**	*eP*	**P**	**01 08 28.4**	**+0.4**	
ULN				pmax	pmax			
	comp=Z,26nm,1.4s,mb5.1							
ULN	**Ulaanbaatar**	**64.37**	**329**	*eP*	**P**	**01 08 28.4**	**+0.3**	
	comp=Z,26nm,1.4s,mb5.1							
SONM	**Songino Array**	**64.70**	**328**	P	**P**	**01 08 29.6**	**-0.6**	
	comp=Z,2.4nm,0.7s,mb4.3,baz=146,slow=4.8,SNR=10							
SONM				LR	LR	01 34 53.7		
	comp=Z,667nm,21.7s,MS4.8,baz=267,slow=34							
LSA	**Lhasa**	**66.45**	**305**	*eP*	**P**	**01 08 42.2**	**+0.5**	
LSA				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7							
LSA	**Lhasa**	**66.45**	**305**	*eP*	**P**	**01 08 42.2**	**+0.5**	
	comp=Z,7.5nm,0.8s,mb4.8							
YAK	**Yakutsk**	**67.72**	**349**	*eP*	**P**	**01 08 48.6**	**-0.6**	
YAK				pmax	pmax			
	comp=Z,20nm,0.5s,mb5.4							
YAK	**Yakutsk**	**67.72**	**349**	*eP*	**P**	**01 08 48.6**	**-0.5**	
	comp=Z,20nm,0.5s,mb5.4							
ZAK	**Zakamensk**	**67.88**	**329**	*eP*	**P**	**01 08 49.5**	**-0.9**	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.6s,mb4.4							
BOD	**Bodaibo**	**68.34**	**340**	*eP*	**P**	**01 08 50.4**	**-2.7**	
BOD				pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.6							
MOY	**Mondy**	**69.80**	**329**	*eP*	**P**	**01 09 01.5**	**-0.7**	
MOY				pmax	pmax			
	comp=Z,34nm,3.9s							
JIRN	**Jiri**	**70.00**	**301**	*eP*	**P**	**01 09 04.7**	**+0.8**	
GUN	**Gumba**	**70.33**	**301**	*eP*	**P**	**01 09 05.5**	**-0.4**	
KKN	**Kakani**	**70.82**	**301**	*eP*	**P**	**01 09 09.2**	**+0.4**	
DMN	**Daman**	**70.92**	**301**	*eP*	**P**	**01 09 09.5**	**+0.1**	
GKN	**Gorkha**	**71.42**	**301**	*eP*	**P**	**01 09 11.7**	**-0.8**	
	comp=Z,79nm,1.3s,mb5.5							
KOLN	**Koldanda**	**72.25**	**301**	*eP*	**P**	**01 09 16.5**	**-0.9**	
	comp=Z,27nm,0.8s,mb5.2							
BILL	**Bilibino**	**72.45**	**6**	P	**P**	**01 09 20.0**	**+2.1**	
BILL						01 09 33.0		
BILL				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
BILL	**Bilibino**	**72.45**	**6**	*eP*	**P**	**01 09 18.6**	**+0.7**	
	comp=Z,8.1nm,0.8s,mb4.7							
RKT	**Rikitea**	**73.55**	**113**	*e*S	S	01 18 52.1	-1.3	
RKT				*e*LR	LR	01 31 44.7		
	comp=Z,733nm,25.8s							
VNDA	**Vanda**	**73.87**	**178**	P	**P**	**01 09 25.9**	**-0.2**	
	comp=Z,2.0nm,0.9s,mb4.1,baz=356,slow=6.9,SNR=5.6							
VNDA				LR	LR	01 37 39.3		
	comp=Z,269nm,18.8s,MS4.6,baz=343,slow=32							
VNDA	**Vanda**	**73.87**	**178**	*eP*	**P**	**01 09 25.7**	**-0.4**	
VNDA				pmax	pmax			
	comp=Z,10.0nm,1.3s							
VNDA	**Vanda**	**73.87**	**178**	*eP*	**P**	**01 09 25.7**	**-0.4**	
	comp=Z,9.6nm,1.3s,mb4.6							
WMQ	**Urumqi**	**74.01**	**318**	*eP*	**P**	**01 09 27.3**	**-0.1**	
WMQ				PCP	PcP	01 09 42.4	-0.7	
WMQ				AP	pP	01 09 47.3	+16	
WMQ				XP	sP	01 09 55.8	+23	
WMQ				PP	PP	01 12 15.0	+0.6	
WMQ				PPP	PPP	01 14 00.4	+1.0	
WMQ				*eS*	S	01 18 52.3	-5.8	
WMQ				SCS	ScS	01 19 27.0	-6.8	
WMQ				SS	SS	01 23 40.4	-4.9	
WMQ				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.0							
WMQ				AMB	AMB			
	comp=Z,190nm,5.2s							
WMQ				LR	LR			
	comp=N,400nm,22.0s,MS4.8							
WMQ				LR	LR			
	comp=E,410nm,22.4s,MS4.8							
WMQ				LR	LR			
	comp=Z,340nm,24.0s,MS4.5							
TIXI	**Tiksi**	**76.73**	**353**	*eP*	**P**	**01 09 44.3**	**+1.9**	
TIXI				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
TIXI				MLR	MLR			
	comp=Z,217nm,17.0s,MS4.5							
MKAR	**Makanchi Array**	**78.60**	**319**	P	**P**	**01 09 52.8**	**-0.5**	
	comp=Z,3.8nm,0.9s,mb4.3,baz=108,slow=3.8,SNR=9.6							
MKAR				LR	LR	01 43 47.2		
	comp=Z,237nm,20.4s,MS4.5,baz=164,slow=35							
MKAR	**Makanchi Array**	**78.60**	**319**	P	**P**	**01 09 53.6**	**+0.4**	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
IMA2	**Indian Mountai**	**80.02**	**20**	*eP*	**P**	**01 10 00.9**	**+0.3**	
NVS	**Novosibirsk**	**80.69**	**327**	*eP*	**P**	**01 10 03.6**	**-0.7**	
NVS				pmax	pmax			
	comp=Z,23nm,1.6s,mb4.9							
NVS				pmax	pmax			
	comp=E,14nm,1.4s							
KSH	**Kashi**	**81.16**	**311**	*e*P	**P**	**01 10 09.3**	**+2.2**	
KSH				AMB	AMB			
	comp=Z,180nm,4.4s							
COLA	**College**	**81.49**	**22**	*eP*	**P**	**01 10 08.4**	**+0.1**	
COLA				*e*		01 10 14.8		
COLA				pmax	pmax			
	comp=Z,31nm,1.2s,mb5.1							
COLA	**College**	**81.49**	**22**	*eP*	**P**	**01 10 08.4**	**+0.1**	
	comp=Z,31nm,1.2s,mb5.1							
COLA				*e*PcP	PcP	01 10 14.8	-0.1	
ILAR	**Eielson Array**	**81.81**	**22**	P	**P**	**01 10 08.1**	**-1.9**	
	comp=Z,3.5nm,0.9s,mb4.3,baz=252,slow=5.3,SNR=25							
ILAR				LR	LR	01 46 04.1		
	comp=Z,184nm,18.9s,MS4.5,baz=19,slow=35							
KURK	**Kurchatov**	**82.07**	**322**	*eP*	**P**	**01 10 11.0**	**-0.6**	
KURK				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.8							
KURK	**Kurchatov**	**82.07**	**322**	*eP*	**P**	**01 10 11.0**	**-0.6**	
	comp=Z,12nm,1.0s,mb4.8							
AAK	**Ala-Archa**	**82.91**	**314**	*eP*	**P**	**01 10 16.6**	**+0.5**	
AAK				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.7							
AAK	**Ala-Archa**	**82.91**	**314**	*eP*	**P**	**01 10 16.6**	**+0.5**	
	comp=Z,5.6nm,0.8s,mb4.7							
DAWY	**Dawson**	**84.50**	**24**	*eP*	**P**	**01 10 25.7**	**+2.0**	
KKAR	**Karatay Array**	**85.87**	**314**	*i P*	**P**	**01 10 30.6**	**-0.5**	
KKAR				pmax	pmax			
	comp=Z,49nm,1.4s,mb5.5							
MAW	**Mawson**	**85.91**	**203**	LR	LR	01 46 39.1		
	comp=Z,508nm,20.2s,MS4.9,baz=85,slow=34							
DLBC	**Dease Lake**	**87.30**	**31**	*eP*	**P**	**01 10 38.4**	**+0.7**	
CHKZ	**Chkalovo**	**87.53**	**324**	*eP*	**P**	**01 10 39.9**	**+1.0**	
CHKZ				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.8							
CHKZ	**Chkalovo**	**87.53**	**324**	*eP*	**P**	**01 10 39.9**	**+1.0**	
	comp=Z,7.0nm,1.0s,mb4.8							
INK	**Inuvik**	**88.07**	**21**	*eP*	**P**	**01 10 40.0**	**-1.1**	
INK				*e*		01 10 53.8		
INK				pmax	pmax			
	comp=Z,16nm,1.1s							
INK	**Inuvik**	**88.07**	**21**	*eP*	**P**	**01 10 40.0**	**-1.2**	
	comp=Z,16nm,1.1s,mb5.2							
INK				*e*		01 10 53.8		
ZRNK	**Zerenda**	**88.37**	**323**	*eP*	**P**	**01 10 42.5**	**-0.5**	
ZRNK				*e*		01 10 53.3		
ZRNK				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.9							
ZRNK	**Zerenda**	**88.37**	**323**	*eP*	**P**	**01 10 42.5**	**-0.4**	
	comp=Z,7.9nm,1.1s,mb4.9							
ZRNK				*e*		01 10 53.3		
NVAR	**Mina Array Bea**	**92.64**	**52**	P	**P**	**01 11 02.8**	**-0.4**	
	comp=Z,1.6nm,1.0s,mb4.4,baz=262,slow=6.4,SNR=2.7							
AB31	**Akbulak array**	**93.75**	**319**	*i P*	**P**	**01 11 06.3**	**-1.7**	
AB31				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.8							
YKA	**Yellowknife Ar**	**95.25**	**28**	P	**P**	**01 11 14.1**	**-0.4**	
	comp=Z,1.1nm,0.8s,mb4.3,baz=268,slow=4.8,SNR=17							
YKA				LR	LR	01 51 09.1		
	comp=Z,268nm,19.8s,MS4.7,baz=290,slow=34							
EDM	**Edmonton**	**96.23**	**37**	*eP*	**P**	**01 11 19.5**	**+0.2**	
PDAR	**Pinedale Array**	**99.28**	**47**	P	**P**	**01 11 33.3**	**0.0**	
	comp=Z,0.9nm,0.9s,mb4.3,baz=270,slow=1.8,SNR=6.2							
PDAR				LR	LR	01 47 03.1		
	comp=Z,228nm,21.7s,MS4.6,baz=269,slow=30							
LPAZ	**La Paz**	**136.20**	**118**	*e*PKIKP	PKPdf	01 17 13.8	-1.9	
BDFB	**Brasilia**	**152.81**	**136**	PKPbc	PKPdf	01 17 48.3	+4.4	
	comp=Z,3.4nm,0.8s,baz=194,slow=3.3,SNR=4.6							
BDFB				PKPab	PKPab	01 18 01.9	+0.7	
	comp=Z,8.3nm,0.9s,baz=63,slow=0.7,SNR=8.0							
DBIC	**Dimbokro**	**156.09**	**278**	PKPab	PKPab	01 18 12.5	-2.7	
	comp=Z,6.7nm,1.1s,baz=105,slow=5.9,SNR=4.6							
DBIC	**Dimbokro**	**156.09**	**278**	*e*PKPab	PKPab	01 18 13.4	-1.8	

IDC 20 01:06:52.0±1.1, 3.88S×151.35E, mb3.8/6, mb1 3.9/6, mb1mx3.9/13, mbtmp3.8/6, Error ellipse: s-maj=36.6km s-min=23.9km az=86.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**20.65**	**244**	*e*P	P	01 11 54.9	+19
	18nm,1.0s						
WB2	**Warramunga Arr**	**23.01**	**225**	*e*P	P	01 11 58.1	-1.8
WRA	**Warramunga Arr**	**23.02**	**225**	P	P	01 11 58.6	-1.4
	1.0nm,0.7s,baz=50,slow=10,SNR=5.8						
DZM	**Mont Dzumac**	**23.26**	**142**	P	P	01 12 01.6	-0.7
	11nm,1.0s,baz=349,slow=13,SNR=4.5						
STKA	**Stephens Creek**	**29.32**	**197**	P	P	01 12 56.5	-2.1
	1.6nm,0.7s,baz=53,slow=5.1,SNR=3.1						
SONM	**Songino Array**	**64.79**	**328**	P	P	01 17 32.0	-2.8
	0.5nm,1.0s,baz=108,slow=4.6,SNR=2.3						
MKAR	**Makanchi Array**	**78.69**	**319**	P	P	01 18 57.5	-0.3
	0.3nm,0.6s,baz=116,slow=6.2,SNR=2.9						
ILAR	**Eielson Array**	**81.86**	**22**	P	P	01 19 11.9	-2.4
	0.8nm,0.9s,baz=252,slow=5.7,SNR=3.7						

IDC 20 01:14:31.4±3.1, 14.69N×90.88W, mb3.9/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.1/2, Error ellipse: s-maj=92.2km s-min=32.0km az=41.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**18.76**	**323**	P	P	01 18 52.9	-1.3
	0.0nm,0.3s,baz=150,slow=12,SNR=5.6						
ROSC	**El Rosal**	**18.99**	**119**	P	P	01 18 55.6	-1.4
	0.4nm,0.3s,baz=86,slow=19,SNR=2.3						
SCHQ	**Schefferville**	**44.20**	**20**	P	P	01 22 41.8	-2.0
	3.4nm,0.9s,baz=221,slow=12,SNR=3.5						
YKA	**Yellowknife Ar**	**50.61**	**346**	P	P	01 23 32.3	-1.6
	1.1nm,0.7s,baz=151,slow=7.6,SNR=16						
ILAR	**Eielson Array**	**62.64**	**336**	P	P	01 24 56.5	-3.3
	0.3nm,0.6s,baz=122,slow=4.3,SNR=4.8						

*TIF **20** 01:15:06.2, 41.76N×48.34E, h13km±2km*
*CSEM **20** 01:15:06.7±1.0, 41.50N×48.05E, h10km±7km, mb4.2, Error ellipse: s-maj=15.9km s-min=12.0km az=154.0, After OBN*
*MOS **20** 01:15:06.7±2.1, 41.50N×48.05E, h10km, mb4.2/1, Error ellipse: s-maj=19.6km s-min=8.1km az=112.8*

ISC 20 01:15:05.7±1.5, 41.69N±0.04×48.49E±0.10, h12km±5km, n21, σ1§13/36, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSMR	**Kasumkent**	**0.29**	**252**	*i* PG	**Pg**	**01 15 12.0**	**+0.1**
KSMR				*e*S	**Sg**	**01 15 16.5**	**+0.5**
KSMR				pmax	pmax		
	comp=Z,647nm,0.1s						
KSMR	**Kasumkent**	**0.29**	**252**	*i* Pg	**Pg**	**01 15 12.0**	**+0.1**
	comp=Z,647nm,0.1s						
KSMR				*e*Sg	**Sg**	**01 15 16.5**	**+0.5**
AKT	**Akhty**	**0.61**	**250**	PG	**Pg**	**01 15 12.0**	**-6.1**
URKR	**Urkarakh**	**0.80**	**307**	*i* PG	**Pg**	**01 15 18.5**	**-3.3**
URKR				*e*S	**Sb**	**01 15 30.0**	**-1.4**
URKR				pmax	pmax		
	comp=Z,238nm,0.1s						
URKR	**Urkarakh**	**0.80**	**307**	*i* Pg	**Pg**	**01 15 18.5**	**-3.3**
	comp=Z,238nm,0.1s						
URKR				*e*Sg	**Sb**	**01 15 30.0**	**-1.4**
SGKR	**Sergokala**	**0.99**	**321**	*i* Pg	**Pg**	**01 15 23.5**	**-2.1**
SGKR				*e*Sg	**Sg**	**01 15 40.5**	**+1.7**
KMKR	**Kumukh**	**1.13**	**293**	*i* PG	**Pg**	**01 15 24.3**	**-4.1**
KMKR				*i* S	**Sb**	**01 15 40.5**	**-0.6**
KMKR				pmax	pmax		
	comp=Z,145nm,0.2s						
KMKR	**Kumukh**	**1.13**	**293**	*i* Pg	**Pg**	**01 15 24.3**	**-4.1**
	comp=Z,145nm,0.2s						
KMKR				*i* Sg	**Sb**	**01 15 40.5**	**-0.6**
MAK	**Makhachkala**	**1.47**	**330**	*e*PG	**Pg**	**01 15 34.9**	**-0.1**
MAK				*i*		01 15 56.4	
MAK				pmax	pmax		
	comp=Z,70nm,0.2s						
MAK				smax			
	comp=E,604nm,0.5s						
MAK				smax			
	comp=Z,553nm,0.6s						
MAK	**Makhachkala**	**1.47**	**330**	*e*Pg	**Pg**	**01 15 34.9**	**-0.1**
	comp=Z,70nm,0.2s						
MAK				*i* Sg	**Sg**	**01 15 56.4**	**+1.8**
	comp=Z,553nm,0.6s						
XNZR	**Khunzakh**	**1.58**	**303**	Pg	**Pg**	**01 15 37.0**	**-0.3**
UNCR	**Uncukul**	**1.62**	**310**	*i* PG	**Pg**	**01 15 34.7**	**-3.5**
UNCR				*e*S	**Sg**	**01 15 59.7**	**-0.2**
UNCR				pmax	pmax		
	comp=Z,72nm,0.2s						
UNCR	**Uncukul**	**1.62**	**310**	*i* Pg	**Pg**	**01 15 34.7**	**-3.5**
	comp=Z,72nm,0.2s						
UNCR				*e*Sg	**Sg**	**01 15 59.7**	**-0.2**
DBC	**Dubki**	**1.81**	**318**	*e*PN	**Pn**	**01 15 38.0**	**+1.0**
DBC				*e*S	**Sg**	**01 16 06.0**	**-0.1**
DBC				pmax	pmax		
	comp=Z,67nm,0.3s						
DBC	**Dubki**	**1.81**	**318**	PN	**Pn**	**01 15 40.0**	**+3.0**
DBC	**Dubki**	**1.81**	**318**	*e*Pn	**Pn**	**01 15 38.0**	**+1.0**
	comp=Z,67nm,0.3s						
DBC	**Dubki**	**1.81**	**318**	Pn	**Pn**	**01 15 40.0**	**+3.0**
DBC				*e*Sg	**Sg**	**01 16 06.0**	**-0.1**
DGRG	**David-gareji**	**2.35**	**265**	P	**Pn**	**01 15 45.1**	**+0.3**
DGRG				S	**Sn**	**01 16 00.0**	**-14**
MTA	**Mtatsminda**	**2.77**	**271**	P	**Pn**	**01 15 51.9**	**+1.2**
MTA				S	**Sn**	**01 16 24.8**	**+0.4**
TBLG	**Delisi**	**2.81**	**272**	P	**Pn**	**01 15 51.6**	**+0.3**
TBLG				S	**Sn**	**01 16 25.1**	**-0.3**
KIV	**Kislovodsk**	**4.83**	**300**	*i* PN	**Pn**	**01 16 20.1**	**+0.1**

IDC 20 01:56:55.9±1.2, 26.18N×141.18E, mb3.6/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.6/5, Error ellipse: s-maj=37.8km s-min=26.6km az=90.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**34.76**	**318**	P	P	02 03 48.9	-1.0
	0.2nm,0.5s,baz=102,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**46.33**	**189**	P	P	02 05 23.7	-1.9
	0.9nm,0.3s,baz=7.6,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	**50.37**	**310**	P	P	02 05 53.8	-2.8
	0.4nm,0.7s,baz=108,slow=9.1,SNR=3.3						
ILAR	**Eielson Array**	**58.94**	**28**	P	P	02 06 57.5	-1.5
	0.6nm,0.9s,baz=246,slow=6.0,SNR=6.1						
YKA	**Yellowknife Ar**	**73.37**	**28**	P	P	02 08 28.2	-2.8
	0.2nm,0.5s,baz=290,slow=6.1,SNR=4.1						

IDC 20 02:16:49.6±1.1, 3.96S×29.11E, mb3.5/4, mb1 3.8/8, mb1mx3.7/20, mbtmp3.8/8, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/14, Error ellipse: s-maj=34.5km s-min=15.7km az=96.0, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**8.61**	**71**	Pn	P	02 18 55.1	-3.2
	1.6nm,0.3s,baz=235,slow=17,SNR=32						
KMBO				Sn	Sn	02 20 28.0	-9.2
	2.7nm,0.3s,baz=215,slow=24,SNR=3.8						
KMBO				Lg		02 21 12.8	
	2.4nm,0.3s,baz=360,slow=22,SNR=4.4						
KMBO				LR	LR	02 22 36.5	
	comp=Z,102nm,18.8s,baz=261,slow=40						
LSZ	**Lusaka**	**11.28**	**185**	Pn	P	02 19 32.5	-2.8
	1.3nm,0.3s,baz=1.0,slow=11,SNR=40						
LSZ				Sn	S	02 21 41.8	-1.5
	0.5nm,0.3s,baz=5.3,slow=6.3,SNR=3.7						
LSZ				Lg		02 22 44.3	
	1.1nm,0.3s,baz=117,slow=18,SNR=5.7						
MATP	**Matopo**	**16.38**	**182**	Pn	P	02 20 40.5	-2.2
	2.0nm,0.3s,baz=13,slow=15,SNR=5.4						
MATP				Sn	S	02 23 44.6	-0.4
	0.1nm,0.3s,baz=34,slow=15,SNR=3.1						
MATP				Lg		02 25 29.4	
	0.2nm,0.3s,baz=66,slow=18,SNR=2.2						
TSUM	**Tsumeb**	**18.88**	**216**	P	P	02 21 12.7	-1.1
	0.1nm,0.3s,baz=36,slow=19,SNR=2.0						
TSUM				S	S	02 24 35.6	-6.3
	0.2nm,0.3s,baz=182,slow=14,SNR=3.1						
OPO	**Ambohidratompo**	**22.88**	**131**	P	P	02 21 55.5	-0.6
	1.0nm,0.6s,baz=278,slow=15,SNR=2.2						
BRTR	**Keskin Array B**	**43.67**	**5**	P	P	02 24 56.1	-1.8
	0.7nm,0.7s,baz=180,slow=14,SNR=2.8						
AKASG	**Malin Array Be**	**54.44**	**0**	P	P	02 26 17.8	-3.1
	0.5nm,0.6s,baz=184,slow=7.1,SNR=5.5						
MKAR	**Makanchi Array**	**68.84**	**36**	P	P	02 27 56.6	-1.4
	0.5nm,0.6s,baz=235,slow=5.2,SNR=4.7						

*ATH **20** 03:18:33.4, 38.82N×20.65E, h14km±11km, MD3.6/4*
*NEIC **20** 03:18:33.5, 38.82N×20.64E, h5km, MD3.6(ATH), After ATH.*
*CSEM **20** 03:18:33.5±0.1, 38.84N×20.58E, h10km, MD3.6, Error ellipse: s-maj=3.6km s-min=2.3km az=73.0*

ISC 20 03:18:33.4±1.1, 38.83N±0.03×20.64E±0.05, h4km±9km, n22, σ0§90/31, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.12**	**177**	*e*P	**Pg**	**03 18 38.0**	**+2.1**
LKD	**Levkas**	**0.12**	**177**	P	**Pg**	**03 18 38.0**	**+2.1**
LKD				S	**Sg**	**03 18 44.0**	**+6.5**
VLS	**Valsamata**	**0.65**	**184**	*e*PB	**Pb**	**03 18 46.0**	**-0.9**
VLS				*e*SB	**Sb**	**03 18 55.5**	**-0.5**
JAN	**Janina**	**0.85**	**11**	*e*PG	**Pg**	**03 18 49.0**	**-1.3**
JAN				*e*SB	**Sb**	**03 19 01.1**	**-0.6**
EVR	**Evrytania**	**0.92**	**84**	*e*PB	**Pb**	**03 18 51.0**	**-0.5**
EVR				*e*SB	**Sb**	**03 19 03.3**	**-0.5**
KEK	**Kerkira**	**1.10**	**324**	*e*PB	**Pb**	**03 18 54.5**	**-0.1**
KEK				*e*SB	**Sb**	**03 19 09.8**	**+0.6**
SRN	**Sarande**	**1.17**	**335**	*i* Pn	**Pn**	**03 18 54.4**	**-2.0**
SRN				*i* Sn	**Sn**	**03 19 13.8**	**+0.9**
LSK	**Leskovik**	**1.32**	**359**	*i* Pn	**Pn**	**03 18 57.8**	**-0.9**
LSK				*i* Sn	**Sn**	**03 19 20.4**	**+3.5**
AGG	**Agios Georgios**	**1.33**	**81**	*e*P	**Pb**	**03 18 58.5**	**-0.1**
AGG	**Agios Georgios**	**1.33**	**81**	P	**Pb**	**03 18 58.5**	**-0.1**
AGG				S	Sb	03 19 39.1	+23
LIT	**Litokhoron**	**1.92**	**48**	*e*P	**Pn**	**03 19 08.3**	**+1.2**
LIT	**Litokhoron**	**1.

MAKU	**Maku**	**3.71**	**290**	*e*Pn		**Pn**	**04 48 29.2**	**+2.1**
IVRN	**Varamin**	**3.76**	**146**	Sn		**Sn**	**04 49 11.4**	**-1.2**
IVRN	**Varamin**	**3.76**	**146**	Pn		**Pn**	**04 48 28.2**	**+0.4**
IVRN				Sn		**Sn**	**04 49 11.4**	**-1.2**
IFIR	**Firoozkooh**	**3.81**	**130**	Sn		**Sn**	**04 49 13.3**	**-0.6**
IFIR	**Firoozkooh**	**3.81**	**130**	Pn		**Pn**	**04 48 30.4**	**+1.9**
IFIR				Sn		**Sn**	**04 49 13.3**	**-0.6**
IGLO	**Galoogah**	**3.91**	**117**	Pn		**Pn**	**04 48 32.6**	**+2.7**
IKIA	**Kiasar**	**4.09**	**117**	Pn		**Pn**	**04 48 33.7**	**+1.2**
IDHR	**Dehrash**	**4.12**	**214**	Pn		**Pn**	**04 48 32.4**	**-0.5**
IKOM	**Komasi**	**4.19**	**199**	Pn		**Pn**	**04 48 33.5**	**-0.4**
IGHG	**Ghaleghazi**	**4.36**	**210**	Pn		**Pn**	**04 48 35.3**	**-1.0**
ISFB	**Sefidab**	**4.53**	**146**	Sn		**Sn**	**04 49 30.0**	**-2.0**
ISFB	**Sefidab**	**4.53**	**146**	Pn		**Pn**	**04 48 37.4**	**-1.3**
ISFB				Sn		**Sn**	**04 49 30.0**	**-2.0**
NASN	**Na'in**	**6.11**	**150**	*e*Pn		**Pn**	**04 49 00.5**	**-0.6**
AB31	**Akbulak array**	**13.54**	**32**	⇑P		**P**	**04 50 40.2**	**-2.8**
	comp=N,0.8nm,0.6s,baz=214,slow=14,SNR=11							
AB31				⇑S		**S**	**04 53 05.3**	**-9.3**
	comp=N,1.4nm,0.5s,baz=218,slow=23							
AKTO	**Aktyubinsk**	**13.80**	**24**	⇓P		**P**	**04 50 44.5**	**-1.9**
	comp=N,1.5nm,1.8s							
AKTO				⇓S		**S**	**04 53 11.0**	**-10**
	comp=N,4.0nm,2.5s							

IDC 20 04:58:47.9±1.2, 26.88N×140.99E, mb3.8/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=31.2km s-min=20.0km az=166.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.09**	**78**	Pn	Pn	04 59 10.6	+0.4
	63nm,0.3s,baz=102,slow=23,SNR=16						
CBIJ				Sn	Sn	04 59 26.2	0.0
	189nm,0.3s,baz=253,slow=22,SNR=35						
WRA	**Warramunga Arr**	**46.99**	**189**	P	P	05 07 20.7	-2.1
	1.5nm,0.7s,baz=8.4,slow=8.5,SNR=9.6						
MKAR	**Makanchi Array**	**49.79**	**310**	P	P	05 07 42.2	-2.0
	0.7nm,0.7s,baz=90,slow=8.5,SNR=6.1						
YKA	**Yellowknife Ar**	**72.83**	**28**	P	P	05 10 18.2	-1.7
	0.5nm,0.6s,baz=296,slow=6.2,SNR=12						

*MOS **20** 05:21:08.6±3.2, 42.18N×46.19E, h6km, mb3.8/1, Error ellipse: s-maj=36.8km s-min=19.1km az=61.0*
*TIF **20** 05:21:10.8, 42.12N×46.12E, h16km±4km*
*CSEM **20** 05:21:10.4±0.3, 42.07N×46.01E, h2km, mb3.8, Error ellipse: s-maj=8.8km s-min=5.1km az=145.0*

ISC 20 05:21:11.7±0.5, 42.12N±0.04×46.10E±0.04, h10km, n14, σ1ᵍ07/28, 2C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.55**	**10**	*e*PG	**Pg**	**05 21 21.8**	**-1.0**
BTLR				*i* S	**Sg**	**05 21 30.2**	**0.0**
BTLR				pmax	pmax		
	comp=Z,40nm,0.2s						
BTLR	**Botlikh**	**0.55**	**10**	*e*Pg	**Pg**	**05 21 21.8**	**-1.0**
	comp=Z,40nm,0.2s						
BTLR				*i* Sg	**Sg**	**05 21 30.2**	**0.0**
KMKR	**Kumukh**	**0.75**	**89**	⇓PG	**Pg**	**05 21 25.5**	**-1.2**
KMKR				*e*S	**Sg**	**05 21 38.0**	**+1.3**
KMKR				pmax	pmax		
	comp=Z,51nm,0.2s						
KMKR	**Kumukh**	**0.75**	**89**	*i* Pg	**Pg**	**05 21 25.5**	**-1.2**
	comp=Z,51nm,0.2s						
KMKR				*e*Sg	**Sg**	**05 21 38.0**	**+1.3**
DGRG	**David-gareji**	**0.86**	**219**	P	**Pb**	**05 21 28.8**	**+0.5**
DGRG				S	**Sb**	**05 21 43.0**	**+3.4**
KRNR	**Karanay**	**0.93**	**40**	*e*PG	**Pg**	**05 21 29.0**	**-1.2**
KRNR				*i* S	**Sb**	**05 21 41.6**	**+0.1**
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
KRNR	**Karanay**	**0.93**	**40**	*e*Pg	**Pg**	**05 21 29.0**	**-1.2**
	comp=Z,25nm,0.2s						
KRNR				*i* Sg	**Sb**	**05 21 41.6**	**+0.1**
DBC	**Dubki**	**1.05**	**31**	*e*PG	**Pg**	**05 21 32.0**	**-0.7**
DBC				*i* S	**Sb**	**05 21 48.0**	**+2.9**
MTA	**Mtatsminda**	**1.06**	**247**	P	**Pb**	**05 21 31.3**	**-0.4**
MTA				S	**Sb**	**05 21 45.3**	**-0.2**
TI2	**Plekhanov**	**1.08**	**249**	⇑*i*PG	**Pb**	**05 21 31.6**	**-0.4**
TI2				*i* S	**Sb**	**05 21 45.6**	**-0.3**
TI2				smax			
	comp=E,60nm,0.4s						
TI2	**Plekhanov**	**1.08**	**249**	⇑*i*P	**Pb**	**05 21 31.6**	**-0.4**
TI2				*e*S	**Sb**	**05 21 46.0**	**+0.1**
TBLG	**Delisi**	**1.09**	**249**	P	**Pb**	**05 21 31.7**	**-0.4**
TBLG				S	**Sb**	**05 21 45.3**	**-0.8**
GOR	**Gori**	**1.49**	**265**	P	**Pn**	**05 21 37.9**	**-0.7**
GOR				S	**Sb**	**05 21 57.5**	**-0.3**
ONI	**Oni**	**2.01**	**284**	P	**Pn**	**05 21 48.0**	**+1.8**
ONI				S	**Sn**	**05 22 13.6**	**+1.9**

*BJI **20** 05:34:39.9, 34.61N×136.72E, h362km, mB4.7, mb5.0*
*MOS **20** 05:34:40.6±0.8, 34.52N×136.58E, h356km, mb4.8/53, Error ellipse: s-maj=9.7km s-min=4.4km az=109.9*
*JMA **20** 05:34:41.7±0.2, 34.63N×136.66E, h366km±2km, M5.1 Broadband fault plane solution: P waves. NP1:φs340°, δ60°, λ3°. NP2:φs248°, δ87°, λ150°. Principal axes: T Plg23°, Azm200°; N Plg60°, Azm64°; P Plg19°, Azm298°; JMA Felt I J1.*
*NEIC **20** 05:34:41.7±0.1, 34.53N×136.63E, mb4.7/78, MW5.0(NIED) Error ellipse: s-maj=4.6km s-min=3.8km az=91.0*
NEIC Recorded [1 JMA] in Fukushima, Ibaraki, Tochigi and Tokyo Prefectures.
*IDC **20** 05:34:42.4±0.4, 34.56N×136.65E, h358km±3km, mb4.1/22, mb1 4.2/27, mb1mx4.2/31, mbtmp4.9/27, Error ellipse: s-maj=8.5km s-min=6.8km az=88.0*
*NIED **20** 05:35:00, 34.60N×136.60E, h380km, Mw5.0 Best double couple: M0 3.43×10¹⁶ NP1:φs71°, δ89°, λ-149°. NP2: φs341°, δ59°, λ-1°.*

ISC 20 05:34:41.5±0.1, 34.59N±0.02×136.68E±0.02, h363km±1km, h357km±2.2km: pP-P, n377, σ0ᵍ84/419, mb4.6/114, 64C-50D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**0.20**	**173**	⇓P	**P**	**05 35 27.8**	**+0.8**
JIE				S	**S**	**05 36 03.1**	**+0.4**
TSUJ	**Tsu 2**	**0.24**	**300**	⇑P	**P**	**05 35 27.7**	**+0.6**
JAA	**Atsumi**	**0.39**	**83**	P	**P**	**05 35 28.1**	**+0.9**
JAA				S	**S**	**05 36 04.1**	**+1.0**
JKN2	**Miekihoku**	**0.48**	**224**	⇓P	**P**	**05 35 27.9**	**+0.5**
JKN2				S	**S**	**05 36 03.1**	**-0.3**
JHE	**Heguri**	**0.82**	**275**	⇑P	**P**	**05 35 28.7**	**+0.5**
JHE				S	**S**	**05 36 04.6**	**-0.3**
JAO	**Obara**	**0.83**	**35**	⇑P	**P**	**05 35 28.9**	**+0.6**
JAO				S	**S**	**05 36 05.8**	**+0.8**
HMMJ	**Hamamatsu 2**	**0.90**	**72**	⇑P	**P**	**05 35 29.1**	**+0.6**
HMMJ				S	**S**	**05 36 05.9**	**+0.5**
JWY	**Kouya**	**0.97**	**248**	P	**P**	**05 35 29.5**	**+0.8**
JWY				S	**S**	**05 36 06.4**	**+0.6**
JFM	**Mihama**	**1.10**	**329**	⇑P	**P**	**05 35 29.8**	**+0.5**
TK02	**Tokai 2**	**1.10**	**125**	⇓P	**P**	**05 35 30.2**	**+0.9**
JGM	**Miyama**	**1.11**	**2**	⇑P	**P**	**05 35 29.9**	**+0.6**
JGM				S	**S**	**05 36 07.2**	**+0.3**
TK01	**Tokai 1**	**1.12**	**137**	P	**P**	**05 35 29.9**	**+0.5**
TK01				S	**S**	**05 36 08.4**	**+1.5**
JGF	**Kuroka**	**1.16**	**29**	⇑P	**P**	**05 35 29.8**	**+0.2**
JGF				S	**S**	**05 36 07.0**	**-0.2**
JNY	**Yasuok**	**1.24**	**51**	⇑P	**P**	**05 35 30.3**	**+0.3**
JSG	**Sagara**	**1.25**	**86**	⇓P	**P**	**05 35 31.2**	**+1.2**
JWT	**Wachi**	**1.26**	**304**	⇑P	**P**	**05 35 30.2**	**+0.2**
JWT				S	**S**	**05 36 06.9**	**-1.2**
JWM	**Minabe**	**1.32**	**236**	S	**S**	**05 36 07.4**	**-1.3**
JWZ	**Kozaga**	**1.32**	**217**	⇓P	**P**	**05 35 30.4**	**0.0**
JWZ				S	**S**	**05 36 08.0**	**-0.7**
SHZ3	**Shizuoka 3**	**1.35**	**69**	⇑P	**P**	**05 35 31.0**	**+0.5**
JAJ2	**Tsuna**	**1.49**	**264**	S	**S**	**05 36 09.4**	**-0.8**
JKS	**Kasai**	**1.56**	**285**	⇑P	**P**	**05 35 31.6**	**0.0**
JKS				S	**S**	**05 36 10.0**	**-0.9**
JKG	**Kaga**	**1.71**	**351**	⇑P	**P**	**05 35 32.6**	**+0.1**
JKG				S	**S**	**05 36 11.7**	**-0.8**
JGN	**Niukaw**	**1.71**	**18**	⇑P	**P**	**05 35 32.9**	**+0.3**
JGN				S	**S**	**05 36 13.0**	**+0.5**
JNT	**Takato**	**1.76**	**43**	⇑P	**P**	**05 35 33.1**	**+0.3**
JYN	**Shimob**	**1.78**	**59**	⇑P	**P**	**05 35 33.2**	**+0.2**
JAI	**Aioi**	**2.01**	**247**	P	**P**	**05 35 34.6**	**+0.2**
JAI				S	**S**	**05 36 15.5**	**-0.4**
JTT	**Ttatey**	**2.08**	**15**	⇑P	**P**	**05 35 35.5**	**+0.5**
JOD2	**Odawara 2**	**2.09**	**71**	⇓P	**P**	**05 35 35.3**	**+0.3**
JOD2				S	**S**	**05 36 17.7**	**+0.7**
JNG	**Nsakai**	**2.16**	**32**	⇑P	**P**	**05 35 35.9**	**+0.4**
JNG				S	**S**	**05 36 17.9**	**+0.1**
JIM2	**Oshima 3**	**2.27**	**86**	P	**P**	**05 35 36.5**	**+0.1**
JJS	**Sakaide**	**2.28**	**265**	P	**P**	**05 35 36.6**	**+0.2**
JJS				S	**S**	**05 36 19.0**	**-0.4**
JRY	**Ryogami san**	**2.31**	**51**	⇑*i*P	**P**	**05 35 37.1**	**+0.5**
JRY				S	**S**	**05 36 20.8**	**+0.9**
MAJO	**Matsushiro**	**2.32**	**32**	⇑*i*P	**P**	**05 35 36.7**	**0.0**
MAT	**Matsushiro**	**2.32**	**32**	P	**P**	**05 35 36.8**	**+0.1**
MAT				S	**S**	**05 36 19.5**	**-0.4**
MAT	**Matsushiro**	**2.32**	**32**	P	**P**	**05 35 36.8**	**+0.1**
MAT				S	**S**	**05 36 19.8**	**-0.1**
MAT	**Matsushiro**	**2.32**	**32**	*e*P	**P**	**05 35 37.0**	**+0.3**
MAT				*e*S	**S**	**05 36 20.0**	**+0.1**
MJAR	**Matsushiro Arr**	**2.32**	**32**	P	**P**	**05 35 36.9**	**+0.2**
	168nm,0.3s,baz=209,slow=7.7,SNR=2160						
MJAR				S	**S**	**05 36 19.5**	**-0.5**
	29nm,0.3s,baz=220,slow=15,SNR=12						
JJH	**Hakui**	**2.33**	**2**	⇑P	**P**	**05 35 37.3**	**+0.5**
MRT2	**Murotomisaki 2**	**2.42**	**241**	⇑P	**P**	**05 35 37.6**	**+0.1**
MRT2				S	**S**	**05 36 21.0**	**-0.4**
JJN	**Nakama**	**2.79**	**25**	⇑P	**P**	**05 35 41.0**	**+0.6**
JAG	**Ashikaga**	**2.92**	**50**	⇑P	**P**	**05 35 40.4**	**-1.1**
JAG				S	**S**	**05 36 25.4**	**-3.2**
JHS	**Saijyo**	**2.96**	**279**	⇓P	**P**	**05 35 42.1**	**+0.3**
JHJ	**Hachijo jima 2**	**2.97**	**119**	P	**P**	**05 35 42.3**	**+0.4**
	158nm,0.3s,baz=76,slow=22,SNR=31						
JHJ				S	**S**	**05 36 30.6**	**+1.1**
	69nm,0.3s,baz=96,slow=20,SNR=4.0						
JHJ2	**Mitsune**	**3.00**	**118**	P	**P**	**05 35 42.2**	**0.0**
JKT	**Katashina**	**3.02**	**43**	⇑P	**P**	**05 35 41.7**	**-0.7**
BSO4	**Boso 4**	**3.04**	**81**	⇓P	**P**	**05 35 42.1**	**-0.5**
BSO3	**Boso 3**	**3.17**	**85**	P	**P**	**05 35 42.4**	**-1.3**
JHK	**Hiroka**	**3.27**	**35**	⇑P	**P**	**05 35 43.8**	**-0.8**
JIZZ	**Izumozaki**	**3.37**	**29**	P	**P**	**05 35 46.1**	**+0.5**
JHM	**Kurahashi**	**3.46**	**264**	⇓P	**P**	**05 35 46.5**	**+0.1**
BSO1	**Boso 1**	**3.55**	**88**	P	**P**	**05 35 45.3**	**-2.0**
JTO	**Tosashimizu**	**3.66**	**243**	P	**P**	**05 35 48.8**	**+0.4**
JTO				S	**S**	**05 36 41.0**	**+0.1**
JSD	**Sado**	**3.67**	**20**	⇑P	**P**	**05 35 48.5**	**0.0**
JHO	**Hitachi**	**3.76**	**56**	⇑P	**P**	**05 35 47.9**	**-1.4**
JNS	**Sasagawa**	**3.87**	**33**	⇑P	**P**	**05 35 49.9**	**-0.5**
JHIK	**Hikimi**	**3.92**	**271**	⇓P	**P**	**05 35 51.3**	**+0.4**
JHIK				S	**S**	**05 36 46.0**	**+0.6**
JKD	**Kudamatsu**	**4.01**	**264**	⇓P	**P**	**05 35 52.4**	**+0.6**
JKD				S	**S**	**05 36 47.5**	**+0.5**
JFT	**Otama**	**4.17**	**44**	⇑P	**P**	**05 35 53.1**	**-0.3**
JKI	**Kunimi**	**4.34**	**259**	P	**P**	**05 35 55.8**	**+0.5**
JKI				S	**S**	**05 36 53.3**	**+0.1**
JAW	**Awa shima**	**4.38**	**27**	⇑P	**P**	**05 35 55.4**	**-0.3**
JFK	**Kawauchi**	**4.39**	**50**	⇑P	**P**	**05 35 54.5**	**-1.3**
JYS	**Shirataka**	**4.54**	**36**	P	**P**	**05 35 57.2**	**-0.2**
JTY	**Toyota**	**4.65**	**268**	⇓P	**P**	**05 35 58.8**	**+0.3**
JMM	**Marumori**	**4.67**	**44**	⇑P	**P**	**05 35 57.6**	**-1.1**
JYA	**Atsumi**	**4.69**	**31**	⇑P	**P**	**05 35 58.6**	**-0.1**
JFA	**Akaike**	**4.95**	**262**	⇓P	**P**	**05 36 01.8**	**0.0**
JFA				S	**S**	**05 37 04.8**	**+0.1**
JOU	**Okura**	**4.95**	**39**	⇑P	**P**	**05 36 01.2**	**-0.6**
JNU	**Nakatsue**	**5.04**	**255**	P	**P**	**05 36 03.2**	**+0.6**
	2.9nm,0.3s,baz=73,slow=14,SNR=19						
JNU				S	**S**	**05 37 07.5**	**+1.1**
	1.9nm,0.3s,baz=145,slow=38,SNR=6.1						
JYK	**Kaneyama**	**5.24**	**33**	⇑P	**P**	**05 36 04.3**	**-0.5**
JFI	**Itaya**	**5.35**	**259**	⇓P	**P**	**05 36 06.4**	**+0.3**
JTZ	**Takazaki**	**5.39**	**242**	P	**P**	**05 36 07.2**	**+0.6**
JZO	**Okuchi**	**5.64**	**246**	⇑P	**P**	**05 36 09.8**	**+0.5**
JZO				S	**S**	**05 37 18.5**	**+0.3**
JYW	**Yuwa**	**5.69**	**29**	P	**P**	**05 36 09.8**	**-0.1**
JUR	**Ureshino**	**5.79**	**257**	P	**P**	**05 36 11.6**	**+0.6**
JTSR	**Tashiro 2**	**5.92**	**236**	⇑P	**P**	**05 36 13.2**	**+0.7**
JTU	**Tsushima**	**6.01**	**271**	P	**P**	**05 36 13.1**	**-0.3**
OFUJ	**Ofunato**	**6.01**	**40**	⇑P	**P**	**05 36 12.1**	**-1.4**
JSU	**Suzuyama**	**6.06**	**241**	P	**P**	**05 36 14.0**	**0.0**
JTN	**Tanegashima 3**	**6.20**	**232**	P	**P**	**05 36 16.3**	**+0.6**
JAH	**Hinai**	**6.42**	**28**	⇑P	**P**	**05 36 17.6**	**-0.6**
JKZ	**Kuzumaki**	**6.54**	**33**	⇑P	**P**	**05 36 18.8**	**-0.8**
JFU	**Fukue jima 2**	**6.89**	**256**	P	**P**	**05 36 24.2**	**+0.6**
JANG	**Nango**	**6.94**	**32**	P	**P**	**05 36 22.8**	**-1.4**
JSR	**Shiriuchi**	**7.53**	**22**	P	**P**	**05 36 30.2**	**-1.0**
KS15	**Wonju Array Si**	**7.67**	**294**	*e*Pn	**P**	**05 36 33.1**	**+0.3**
JOSM	**Okushiri--Mats**	**7.80**	**16**	P	**P**	**05 36 33.3**	**-1.0**
JKB	**Kayabe**	**8.05**	**24**	P	**P**	**05 36 35.8**	**-1.5**
JAM	**Amami Oshima**	**8.62**	**226**	P	**P**	**05 36 43.7**	**-0.2**
INCN	**Inchon**	**8.63**	**292**	⇓*i*P	**P**	**05 36 44.6**	**+0.5**
CBIJ	**Chichi jima**	**8.84**	**146**	P	**P**	**05 36 41.4**	**-5.1**
	36nm,0.3s,baz=179,slow=20,SNR=7.7						
CBIJ				S	**S**	**05 38 16.3**	**-8.9**
	191nm,0.3s,baz=271,slow=21,SNR=18						
JTK	**Tokunoshima**	**9.47**	**226**	P	**P**	**05 36 53.6**	**-0.4**
ASAJ	**Asahikawa**	**10.56**	**24**	P	**P**	**05 37 05.2**	**-1.8**
	32nm,0.3s,baz=231,slow=10.0,SNR=66						
ASAJ	**Asahikawa**	**10.56**	**24**	P	**P**	**05 37 05.3**	**-1.7**
ASAJ				pmax	pmax		
	comp=Z,32nm,0.3s						
JOW	**Kunigami**	**10.58**	**225**	P	**P**	**05 37 07.0**	**-0.4**
	comp=Z,10nm,0.3s,baz=46,slow=9.2,SNR=36						
MDJ	**Mudanjiang**	**11.40**	**334**	P	**P**	**05 37 17.3**	**+0.2**
MDJ				S	**S**	**05 39 22.4**	**+2.0**
MDJ				PCP	PcP	05 42 35.4	-1.2
MDJ				SCP		05 45 34.9	
MDJ				PCS		05 46 09.5	
MDJ				SCS	ScS	05 49 10.0	+2.0
MDJ				AMB	AMB		
	comp=Z,200nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,120nm,5.1s						
MDJ	**Mudanjiang**	**11.40**	**334**	⇓*i*P	**P**	**05 37 16.8**	**-0.3**
	comp=Z,126nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**11.81**	**34**	*e*P	**P**	**05 37 22.0**	**+0.2**
YUK				*e*S	**S**	**05 39 27.0**	**-2.1**
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=E,180nm,0.5s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
YUK				pmax	pmax		
	comp=Z,3μm,2.0s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,790nm,0.8s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,2μm,0.8s						
SNY	**Shenyang**	**12.58**	**309**	⇓*i*P	**P**	**05 37 30.4**	**-0.5**
SNY				AMB	AMB		
	comp=Z,420nm,0.9s						
CN2	**Changchun**	**12.66**	**320**	⇓P	**P**	**05 37 30.6**	**-1.3**
CN2				*e*XP		05 38 48.6	
CN2				*e*S	**S**	**05 39 46.3**	**-0.9**
CN2				AMB	AMB		
	comp=Z,70nm,1.0s						
DL2	**Dalian**	**12.81**	**294**	⇓*i*P	**P**	**05 37 32.0**	**-1.7**
DL2				*e*XP		05 38 50.6	
DL2				*e*S	**S**	**05 39 55.4**	**+4.9**
DL2				AMB	AMB		
	comp=Z,120nm,0.7s						
DL2				AMB	AMB		
	comp=Z,330nm,3.6s						
YSS	**Yuzh-Sakhalins**	**13.18**	**19**	⇓*i*P	**P**	**05 37 37.0**	**-0.9**
YSS				*i* S	**S**	**05 39 57.4**	**-0.9**
YSS				pmax	pmax		
	comp=N,510nm,0.7s						
YSS				pmax	pmax		
	comp=Z,670nm,0.7s						
YSS				smax			
	comp=N,150nm,0.8s						
YSS				smax			
	comp=E,120nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.18**	**19**	⇑*i*P	**P**	**05 37 36.7**	**-1.2**
	comp=E,631nm,0.6s						
SSE	**Sheshan**	**13.48**	**259**	P	**P**	**05 37 39.6**	**-1.8**
SSE				XP		05 38 59.5	
SSE				S	**S**	**05 40 02.6**	**-2.2**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s						
SSE				AMB	AMB		
	comp=Z,160nm,5.4s						
SSE				LR	LR		
	comp=N,250nm,7.8s						
SSE				LR	LR		
	comp=E,100nm,7.8s						
SSE				LR	LR		
	comp=Z,250nm,6.4s						
HABR	**Khabarovsk**	**13.93**	**356**	⇓*i*P	**P**	**05 37 46.9**	**+0.6**
HABR				*e*S	**S**	**05 40 17.6**	**+3.6**
HABR				pmax	pmax		
	comp=Z,105nm,0.8s						
KLR	**Kul'dur**	**15.08**	**348**	*e*P	**P**	**05 37 51.7**	**-6.9**
KLR				*e*S	**S**	**05 40 32.6**	**-4.4**
KLR				pmax	pmax		
	comp=Z,28nm,0.9s						
NJ2	**Nanjing**	**15.12**	**265**	*e*P	**P**	**05 37 57.3**	**-1.8**
NJ2				XS		05 40 37.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,180nm,7.6s						
NJ2				LR	LR		
	comp=N,480nm,12.1s						
NJ2				LR	LR		
	comp=E,350nm,10.7s						
NJ2				LR	LR		
	comp=Z,200nm,13.7s						
WHN	**Wuhan**	**19.24**	**264**	⇑P	**P**	**05 38 41.3**	**+0.3**
WHN				AMB	AMB		
	comp=Z,60nm,0.9s						
HIA	**Hailar**	**19.27**	**325**	⇓*e*P	**P**	**05 38 40.0**	**-1.2**
HIA				pmax	pmax		
	comp=Z,104nm,0.8s						
HIA	**Hailar**	**19.27**	**325**	⇓*e*P	**P**	**05 38 40.0**	**-1.2**
	comp=Z,104nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.79**	**295**	⇓P	**P**	**05 38 57.0**	**+0.9**
HHC				S	**S**	**05 42 22.0**	**+0.3**
HHC				PCP	PcP	05 42 52.5	+1.5
HHC				SCP		05 45 54.8	
HHC				PCS		05 46 28.8	
HHC				AMB	AMB		
	comp=Z,230nm,1.0s						
HHC				AMB	AMB		
	comp=Z,220nm,1.6s						
BTO	**Baotou**	**21.91**	**294**	*e*P	**P**	**05 39 06.1**	**-0.8**
GUMO	**Guam**	**22.18**	**158**	P	**P**	**05 39 09.6**	**+0.1**
	comp=Z,367nm,1.0s,mb5.6,baz=4.8,slow=23,SNR=4.7						
GUMO	**Guam**	**22.18**	**158**	*e*P	**P**	**05 39 09.2**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,270nm,1.0s,mb5.4						
GUMO	**Guam**	**22.18**	**158**	*e*P	**P**	**05 39 09.2**	**-0.4**
	comp=Z,270nm,1.0s,mb5.4						
XAN	**Xi'an**	**22.91**	**277**	P	**P**	**05 39 14.9**	**-1.2**
XAN				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.0						
XAN				AMB	AMB		
	comp=Z,170nm,7.8s						
ENH	**Enshi**	**23.32**	**267**	⇓*e*P	**P**	**05 39 18.8**	**-1.2**
	comp=Z,42nm,1.0s,mb4.6						
CLNS	**Chul'man**	**23.66**	**344**	*e*P	**P**	**05 39 23.1**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,62nm,0.7s,mb5.0						
CLNS				pmax	pmax		
	comp=N,32nm,0.6s						
CLNS				pmax	pmax		
	comp=E,23nm,0.7s						
CIT	**Chita**	**24.06**	**323**	*e*P	**P**	**05 39 26.7**	**+0.2**
CIT				pmax	pmax		
	comp=Z,141nm,2.0s,mb4.8						
TGY	**Tagaytay City**	**24.87**	**219**	P	**P**	**05 39 33.5**	**-0.6**
	comp=Z,103nm,0.3s,mb5.5,baz=311,slow=9.3,SNR=3.6						
ULN	**Ulaanbaatar**	**25.75**	**310**	*d*P	**P**	**05 39 42.4**	**+0.6**
ULN	**Ulaanbaatar**	**25.75**	**310**	⇓*e*P	**P**	**05 39 42.5**	**+0.7**
	comp=Z,81nm,1.1s,mb4.9						
SONM	**Songino Array**	**26.16**	**310**	P	**P**	**05 39 46.2**	**+0.7**
	comp=Z,24nm,0.7s,mb4.6,baz=111,slow=8.5,SNR=89						
SONM				ScP		05 46 06.4	
	comp=Z,2.5nm,1.1s,baz=153,slow=2.4,SNR=5.7						
LZH	**Lanzhou**	**26.76**	**283**	*e*P	**P**	**05 39 50.4**	**-0.7**
LZH				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.6						
GYA	**Guiyang**	**27.02**	**261**	⇓*i*P	**P**	**05 39 51.6**	**-1.9**
GYA				S	**S**	**05 44 00.1**	**-3.6**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.6						
GYA				LR	LR		
	comp=N,490nm,15.4s						
GYA				LR	LR		
	comp=E,580nm,15.0s						
GYA				LR	LR		
	comp=Z,610nm,14.8s						
BOD	**Bodaibo**	**27.78**	**334**	*e*P	**P**	**05 39 58.8**	**-1.1**
BOD				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.3						
YAK	**Yakutsk**	**27.82**	**353**	*e*P	**P**	**05 39 58.3**	**-1.9**
YAK				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.1						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.4s						
YAK				pmax	pmax		
	comp=N,15nm,1.0s						
YAK				pmax	pmax		

comp=E,86nm,1.1s,mb4.8
PKI Pulchoki 44.08 275 *e*P **P** **05 42 15.9 -0.5**
PKI pmax pmax
comp=Z,43nm,1.1s,mb4.5
KKN Kakani 44.10 276 *e*P **P** **05 42 15.9 -0.7**
comp=Z,86nm,0.8s,mb5.0
KKN Kakani 44.10 276 *e*P **P** **05 42 15.9 -0.7**
KKN pmax pmax
comp=Z,43nm,0.8s,mb4.6
DMN Daman 44.31 276 *e*P **P** **05 42 17.6 -0.7**
comp=Z,54nm,1.0s,mb4.6
KURK Kurchatov 44.47 310⇓ *e*P **P** **05 42 18.5 -0.7**
KURK *e**PP pP 05 43 30.0 -2.0
KURK pmax pmax
comp=Z,81nm,0.8s,mb4.9
KURK Kurchatov 44.47 310⇓ *e*P **P** **05 42 18.5 -0.7**
comp=Z,81nm,0.8s,mb4.9
KURK *e*pP pP 05 43 30.0 -2.0
GKN Gorkha 44.55 276 *e*P **P** **05 42 19.6 -0.6**
comp=Z,176nm,1.1s,mb5.1
PMG Port Moresby 44.87 165 *e*P **P** **05 42 19.8 -3.0**
PMG pmax pmax
comp=Z,14nm,0.5s
PMG Port Moresby 44.87 165 *e*P **P** **05 42 19.8 -3.0**
comp=Z,14nm,0.5s,mb4.3
KOLN Koldanda 45.49 277 *e*P **P** **05 42 27.2 -0.3**
comp=Z,122nm,1.0s,mb5.0
PSI Prapat 47.23 236 P **P** **05 42 42.4 +1.1**
comp=Z,4.1nm,0.6s,mb3.9,baz=64,slow=1.8,SNR=4.2
KZA Kyzart 47.85 298 P **P** **05 42 46.8 +1.2**
SNR=5.8
KBK Karagaybulak 47.95 299 P **P** **05 42 46.7 +0.3**
SNR=9.8
USP Ospenovka 48.15 300 P **P** **05 42 47.7 -0.2**
SNR=6.3
AAK Ala-Archa 48.28 299⇓ *e*P **P** **05 42 47.8 -1.1**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.0
AAK Ala-Archa 48.28 299⇓ *e*P **P** **05 42 47.8 -1.1**
comp=Z,7.7nm,0.8s,mb4.0
UCH Uchtor 48.36 298 P **P** **05 42 49.9 +0.5**
SNR=8.9
AML Almayashu 48.97 299 P **P** **05 42 55.0 +0.9**
SNR=22
CHKZ Chkalovo 49.21 314⇓ *e*P **P** **05 42 54.5 -1.2**
CHKZ *e* pP 05 44 11.5 +1.3
CHKZ pmax pmax
comp=Z,53nm,0.9s,mb4.8
CHKZ Chkalovo 49.21 314⇓ *e*P **P** **05 42 54.5 -1.2**
comp=Z,53nm,0.9s,mb4.8
CHKZ *e*PcP PcP 05 44 11.5 -1.5
BVAR Borovoye Array 49.40 313 P **P** **05 42 56.4 -0.8**
comp=Z,23nm,0.7s,mb4.5,baz=100,slow=9.0,SNR=133
BVAR PcP PcP 05 44 13.0 -0.7
comp=Z,9.0nm,0.7s,baz=87,slow=3.4,SNR=12
BVAR ScP 05 47 32.9
comp=Z,2.9nm,0.9s,baz=135,slow=4.2,SNR=6.9
BRVK Borovoye 49.46 313⇓ *e*P **P** **05 42 56.9 -0.7**
BRVK *e* pP 05 44 12.7 +0.5
BRVK pmax pmax
comp=Z,25nm,0.9s,mb4.4
BRVK Borovoye 49.46 313⇓ *e*P **P** **05 42 56.9 -0.8**
comp=Z,25nm,0.9s,mb4.5
BRVK *e*PcP PcP 05 44 12.7 -1.2
ZRNK Zerenda 50.24 313⇓ *e*P **P** **05 43 02.7 -0.8**
ZRNK *e* pP 05 44 15.4 -2.9
ZRNK pmax pmax
comp=Z,48nm,1.1s,mb4.6
ZRNK Zerenda 50.24 313⇓ *e*P **P** **05 43 02.7 -0.8**
comp=Z,48nm,1.1s,mb4.6
ZRNK *e*PcP PcP 05 44 15.4 -1.4
COLA College 53.18 31 *e*P **P** **05 43 25.8 +0.9**
COLA pmax pmax
comp=Z,4.0nm,1.0s,mb3.7
COLA College 53.18 31 *e*P **P** **05 43 25.8 +0.9**
comp=Z,4.3nm,1.0s,mb3.7
FITZ Fitzroy Crossi 53.44 193⇑ *i*P **P** **05 43 26.2 -1.2**
comp=Z,65nm,0.8s,mb5.0
FITZ Fitzroy Crossi 53.44 193 P **P** **05 43 26.3 -1.1**
comp=Z,39nm,0.8s,mb4.8,baz=17,slow=8.3,SNR=71
ILAR Eielson Array 53.60 31 P **P** **05 43 27.9 0.0**
comp=Z,2.4nm,0.6s,mb3.7,baz=261,slow=5.7,SNR=39
ILAR pP pP 05 44 43.5 -0.5
comp=Z,2.5nm,0.8s,baz=280,slow=6.9,SNR=3.7
WRAB Tennant Creek 54.26 183⇑ *e*P **P** **05 43 31.6 -1.7**
WRAB pmax pmax
comp=Z,74nm,0.9s,mb5.0
WRAB Tennant Creek 54.26 183⇑ *e*P **P** **05 43 31.6 -1.7**
comp=Z,74nm,0.9s,mb5.0
HYB Hyderabad 54.26 267 *i* P **P** **05 43 32.0 -1.3**
HYB Hyderabad 54.26 267 *e*P **P** **05 43 32.0 -1.3**
WB2 Warramunga Arr 54.27 183⇑ *i*P **P** **05 43 31.6 -1.8**
WRA Warramunga Arr 54.27 183 P **P** **05 43 31.7 -1.7**
comp=Z,19nm,0.4s,mb4.8,baz=0.2,slow=7.6,SNR=257
CTA Charters Tower 55.13 169 *e*P **P** **05 43 38.1 -1.3**
comp=Z,12nm,0.9s,mb4.2
CTA Charters Tower 55.13 169 P **P** **05 43 38.2 -1.3**
comp=Z,14nm,0.8s,mb4.3,baz=344,slow=7.8,SNR=13
CTA Charters Tower 55.13 169 *e*P **P** **05 43 38.1 -1.3**
CTA pmax pmax
comp=Z,12nm,0.9s
CTAO Charters Tower 55.13 169⇑ *e*P **P** **05 43 38.1 -1.3**
CTAO pmax pmax
comp=Z,23nm,1.1s,mb4.4
CTAO Charters Tower 55.13 169⇑ *e*P **P** **05 43 38.0 -1.4**
comp=Z,23nm,1.1s,mb4.4
ARU Arti 55.65 319⇓ *i*P **P** **05 43 41.2 -1.4**
ARU *e* 05 45 47.5
ARU *e*S **S** **05 51 00.2 +1.2**
ARU *e*SS SS 05 54 51.7 -0.3
ARU pmax pmax
comp=Z,49nm,1.3s,mb4.7
ARU Arti 55.65 319⇓ *e*P **P** **05 43 41.7 -1.0**
comp=Z,56nm,1.3s,mb4.7
ARU *e*PcP PcP 05 44 36.1 -1.2
ARU *e*pP pP 05 44 56.5 -2.9
AKTO Aktyubinsk 57.44 312 P **P** **05 43 53.9 -1.3**
comp=Z,30nm,0.7s,mb4.8,baz=82,slow=8.1,SNR=70
AKTO Aktyubinsk 57.44 312 P **P** **05 43 53.9 -1.2**
AKTO pmax pmax
comp=Z,31nm,0.7s,mb4.8
MBWA Marble Bar 57.73 199 *e*P **P** **05 43 55.9 -1.6**
comp=Z,24nm,0.7s,mb4.6
ASPA Alice Springs 57.99 183 *e*P **P** **05 43 57.9 -1.4**
INK Inuvik 58.29 26 P **P** **05 44 01.1 +0.4**
comp=Z,4.9nm,0.5s,mb4.1,baz=297,slow=6.4,SNR=72
INK pP pP 05 45 18.1 -0.4
comp=Z,3.8nm,0.9s,baz=272,slow=8.8,SNR=4.5
INK Inuvik 58.29 26 P **P** **05 44 01.2 +0.5**
INK *PP pP 05 45 18.1 -0.4
INK pmax pmax
comp=Z,5.0nm,0.5s
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 58.29 26 *e*P **P** **05 44 00.9 +0.2**
comp=Z,2.3nm,0.6s,mb3.7
INK *e*pP pP 05 45 15.7 -2.8
KLMR Klimovskoe 63.74 327*d i*P **P** **05 44 35.9 -0.8**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb4.8
KEV Kevo 64.34 339 *e*p **P** **05 44 38.4 -2.0**
comp=Z,0.7nm,0.5s
KEV Kevo 64.34 339 *e*P **P** **05 44 38.4 -2.0**
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
ARCES ARCESS Array B 64.90 339 P **P** **05 44 44.0 0.0**
comp=Z,12nm,0.7s,mb4.6,baz=63,slow=8.8,SNR=40
FORT Forrest 65.52 188⇑ *i*P **P** **05 44 47.5 -1.1**
comp=Z,43nm,0.6s,mb5.3
RES Resolute Bay 65.89 13 *e*P **P** **05 44 50.4 +0.2**
RES pmax pmax
comp=Z,14nm,0.8s,mb4.7
RES Resolute Bay 65.89 13 *e*P **P** **05 44 50.4 +0.1**
comp=Z,14nm,0.8s,mb4.7
ARMA Armidale 66.18 166 *e*P **P** **05 44 52.4 -0.4**
STKA Stephens Creek 66.27 175 *e*P **P** **05 44 52.7 -0.6**
comp=Z,6.6nm,0.6s,mb4.5
STKA Stephens Creek 66.27 175 P **P** **05 44 53.2 -0.1**
comp=Z,8.7nm,0.7s,mb4.6,baz=333,slow=7.9,SNR=18
JOF Joensuu 66.28 331 *e*p **P** **05 44 51.5 -1.3**
comp=Z,1.0nm,0.4s,mb3.9
VRHR Novokhopersk 66.88 317 *e*P **P** **05 44 55.9 -0.8**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.6s
OBN Obninsk 67.71 322*k e*P **P** **05 45 01.3 -0.5**
OBN pmax pmax
comp=Z,47nm,1.4s,mb5.0
OBN Obninsk 67.71 322 *e*P **P** **05 45 01.2 -0.6**
comp=Z,34nm,0.8s,mb5.1
OBN *e*pP pP 05 46 20.2 -2.3
YKA Yellowknife Ar 67.82 28 P **P** **05 45 02.8 +0.4**
comp=Z,2.1nm,0.9s,mb3.9,baz=297,slow=6.0,SNR=21
YKA pP pP 05 46 22.0 -1.1
comp=Z,1.4nm,1.0s,baz=294,slow=6.6,SNR=4.4
VRSR Storozhevoye 68.18 318*d i*P **P** **05 45 04.0 -0.7**
VRSR pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
VRSR pmax pmax
comp=N,6.0nm,1.0s
VRSR pmax pmax
comp=E,5.0nm,1.0s
KAF Kangasniemi 68.67 332 *e*p **P** **05 45 06.7 -0.9**
comp=E,1.3nm,0.4s,mb4.0,baz=54,slow=5.7
KAF Kangasniemi 68.67 332 *e*P **P** **05 45 06.7 -0.9**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
GOF Gofitskoye 68.81 311 *e*P **P** **05 45 08.3 -0.4**
FINES FINESS Array B 69.14 331 P **P** **05 45 10.0 -0.4**
comp=Z,14nm,0.7s,mb4.8,baz=72,slow=6.0,SNR=48
KIV Kislovodsk 69.55 310 *e*P **P** **05 45 14.1 +0.9**
KIV pmax pmax
comp=Z,95nm,1.2s,mb5.4
KIV Kislovodsk 69.55 310 *e*P **P** **05 45 14.1 +0.9**
comp=Z,95nm,1.2s,mb5.4
NWAO Narrogin (SRO) 69.60 197 *e*P **P** **05 45 11.4 -2.3**
NWAO pmax pmax
comp=Z,9.0nm,0.7s
NWAO Narrogin (SRO) 69.60 197 *e*P **P** **05 45 11.4 -2.3**
comp=Z,9.4nm,0.7s,mb4.6
GNI Garni 70.03 305 P **P** **05 45 17.2 +1.0**
comp=Z,4.5nm,0.5s,mb4.4,baz=348,slow=9.3,SNR=4.4
VSU Vasula 70.56 328 *i* P **P** **05 45 18.5 -0.5**
TOO Toolangi 72.26 173 *e*P **P** **05 45 29.7 +0.2**
comp=Z,6.2nm,0.8s,mb4.4
TOO Toolangi 72.26 173 *e*P **P** **05 45 29.7 +0.2**
TOO pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
ANN Anapa 72.39 313 *e*P **P** **05 45 23.6 -6.5**
ANN pmax pmax
comp=Z,94nm,1.2s,mb5.4
SUMG Summit 73.08 358 *e*P **P** **05 45 35.2 +1.7**
comp=Z,24nm,0.8s,mb5.0
MIB Mutribah 73.28 295 *e*P **P** **05 45 35.0 -0.6**
MIB AMb AMB 05 45 36.4
comp=Z,92nm,0.8s,mb5.5
KBD Kabd 73.33 294 *e*P **P** **05 45 35.4 -0.5**
KBD AMb AMB 05 45 36.1
comp=Z,203nm,0.8s
QRN Al-Qurain 73.38 294 *e*P **P** **05 45 35.6 -0.6**
QRN AMb AMB 05 45 36.2
comp=Z,69nm,0.7s,mb5.5
RDF Al-Radifah 73.57 294 *e*P **P** **05 45 36.8 -0.5**
RDF AMb AMB 05 45 37.5
comp=Z,102nm,0.6s,mb5.7
NAY Al-Naaiem 73.63 294 *e*P **P** **05 45 36.9 -0.8**
NAY AMb AMB 05 45 38.5
comp=Z,55nm,0.9s,mb5.3
AKASG Malin Array Be 73.82 321 P **P** **05 45 37.6 -0.7**
comp=Z,12nm,0.7s,mb4.8,baz=50,slow=6.1,SNR=80
SUW Suwalki 74.81 326 *e*P **P** **05 45 43.6 -0.2**
SUW Suwalki 74.81 326 *e*P **P** **05 45 43.6 -0.2**
NB2 NORSAR Subarra 74.89 336 P **P** **05 45 43.5 -0.6**
comp=Z,22nm,0.9s,mb4.9,baz=44,slow=5.6
NB2 NORSAR Subarra 74.89 336 P **P** **05 45 43.5 -0.6**
baz=44,slow=5.9
NB2 NORSAR Subarra 74.89 336 P **P** **05 45 43.5 -0.6**
NB2 pmax pmax
comp=Z,22nm,0.9s,mb4.9
NOA NORSAR Array B 74.89 336 P **P** **05 45 43.8 -0.3**
comp=Z,13nm,0.8s,mb4.7,baz=44,slow=5.7,SNR=34
MALT Malatya 75.18 306 *e*P **P** **05 45 46.8 +0.5**
comp=Z,5.3nm,0.7s,mb4.4
MALT *e*pP pP 05 47 06.3 -2.2
BR131 Keskin Array S 77.52 310 *e*P **P** **05 45 59.5 +0.4**
comp=Z,6.8nm,0.8s,mb4.4
BRTR Keskin Array B 77.52 310 P **P** **05 45 59.4 +0.2**
comp=Z,8.2nm,0.8s,mb4.5,baz=108,slow=5.0,SNR=31
BURAR Bucovina Array 77.77 320⇑ P **P** **05 46 00.8 +0.5**
BURAR Bucovina Array 77.77 320⇑ P **P** **05 46 00.8 +0.5**
KWP Kalwaria 77.80 323 *e*P **P** **05 46 01.0 +0.6**
FCC Fort Churchill 77.86 24 *e*P **P** **05 46 00.9 +0.4**
FCC pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
FCC Fort Churchill 77.86 24 *e*P **P** **05 46 00.9 +0.3**
comp=Z,6.3nm,0.9s,mb4.6
VRI Vrincioaia 78.02 318⇑ P **P** **05 46 02.7 +1.0**
VRI Vrincioaia 78.02 318⇑ P **P** **05 46 02.7 +1.1**
ARSS Ar Rass 78.42 293 P **P** **05 46 04.0 -0.2**
STHS Stebnicka Huta 78.67 323 *e*P **P** **05 46 06.0 +1.0**
MLR Muntele Rosu 78.69 318⇓ P **P** **05 46 04.9 -0.3**
MLR Muntele Rosu 78.69 318⇓ P **P** **05 46 04.9 -0.3**
HILS Ha'il 78.69 295 P **P** **05 46 06.1 +0.5**
OJC Ojcow 78.85 324 *e*P **P** **05 46 06.5 +0.5**
CRVS Cervenica-Dubn 78.89 323 *e*P **P** **05 46 06.6 +0.4**
NIE Niedzica 79.12 323 *e*P **P** **05 46 08.7 +1.2**
VOIR 79.21 318⇑ P **P** **05 46 08.6 +0.6**
VOIR 79.21 318⇑ P **P** **05 46 08.7 +0.6**
NVAR Mina Array Bea 79.52 50 P **P** **05 46 11.6 +1.8**
comp=Z,0.6nm,0.8s,baz=288,slow=5.8,SNR=4.2
NVAR pP pP 05 47 31.6 -1.5
comp=Z,0.2nm,0.5s,baz=270,slow=4.5,SNR=1.6
KECS Kecovo 79.66 323 *e*P **P** **05 46 10.1 -0.2**
AFFS 'Afif 79.66 292 P **P** **05 46 11.1 +0.3**
OKC Ostrava-Krasne 79.89 325 *e*P **P** **05 46 12.2 +0.7**
KSP Ksiaz 80.07 326 *e*P **P** **05 46 13.4 +1.0**
KSP Ksiaz 80.07 326 *e*P **P** **05 46 13.0 +0.6**
MORC Moravsky Berou 80.22 325 *e*P **P** **05 46 13.7 +0.4**
comp=Z,8.1nm,1.0s,mb4.4
PSZ Piszkesteto 80.33 322 *e*P **P** **05 46 14.7 +0.8**
comp=Z,6.0nm,0.9s,mb4.3
DPC Dobruska-Polom 80.40 326 *e*P **P** **05 46 15.1 +0.9**
KAMS Al Khamasin 80.41 288 P **P** **05 46 14.6 -0.2**
BSEG Bad Segeberg 80.42 331 *e*P **P** **05 46 14.8 +0.6**
UPC Upice 80.43 326 *e*P **P** **05 46 15.0 +0.7**
VYHS Vyhne 80.47 323 *e*P **P** **05 46 15.1 +0.5**
BZS Buzias 80.95 320⇑ P **P** **05 46 16.7 -0.4**
BZS Buzias 80.95 320⇑ P **P** **05 46 16.7 -0.4**
PVCC Panska Ves 81.08 327 *e*P **P** **05 46 18.6 +0.9**
BRG Berggiesshubel 81.11 327 *i* P **P** **05 46 18.2 +0.3**
comp=Z,6.2nm,0.8s,mb4.4
CLL Collm 81.22 328⇓ P **P** **05 46 18.5 +0.1**
comp=Z,logA/T=1.3,mb4.8
CLL *e*PP PP 05 49 20.0 -11
CLL Collm 81.22 328⇓ *i*P **P** **05 46 18.5 +0.1**
comp=Z,17nm,0.9s,mb4.8
KBRS Khaybar 81.46 295 P **P** **05 46 21.0 +0.9**
PRU Pruhonice 81.47 326 *e*P **P** **05 46 20.1 +0.4**
TREC Trest 81.52 326 *e*P **P** **05 46 20.9 +0.9**
TATS Tathlith 81.69 288 P **P** **05 46 22.2 +0.7**
HWUT Hardware Ranch 81.70 45 *e*P **P** **05 46 23.2 +2.2**
comp=Z,1.9nm,0.9s,mb3.9
CLZ Clausthal 81.95 330 *e*P **P** **05 46 22.7 +0.6**
CLZ pmax pmax
comp=Z,19nm,1.1s,mb4.8
CLZ Clausthal 81.95 330 *e*P **P** **05 46 22.7 +0.6**
comp=Z,19nm,1.1s,mb4.8
SVIS Svilajnac 82.03 319 *i* P **P** **05 46 22.9 +0.1**
BW06 Boulder Array 82.10 43 P **P** **05 46 24.5 +1.4**
comp=Z,1.5nm,0.8s,mb3.9
PDAR Pinedale Array 82.10 43 P **P** **05 46 24.4 +1.2**
comp=Z,1.1nm,0.7s,mb3.8,baz=310,slow=1.5,SNR=12
PDAR pP pP 05 47 47.8 +0.8
comp=Z,1.1nm,0.8s,baz=315,slow=2.4,SNR=3.9
NKC Novy Kostel 82.24 328 *e*P **P** **05 46 24.7 +1.0**
MOX Moxa 82.30 328 *i* P **P** **05 46 24.7 +0.7**
comp=Z,logA/T=1.3,mb4.9
MOX Moxa 82.30 328 *e*P **P** **05 46 24.7 +0.7**
MOX pmax pmax
comp=Z,32nm,1.7s,mb4.9
MOX Moxa 82.30 328 *e*P **P** **05 46 24.7 +0.7**
comp=Z,32nm,1.7s,mb4.9
KHC Kasperske Hory 82.52 326 *e*P **P** **05 46 25.8 +0.7**
KHC PP PP 05 49 32.5 -8.8
KHC Kasperske Hory 82.52 326 *e*P **P** **05 46 25.8 +0.7**
KHC *e* 05 49 32.5
JMOS Jabal al Moall 82.57 300 P **P** **05 46 26.4 +0.6**
GRUS Gruza 82.58 319 *i* P **P** **05 46 25.6 +0.1**
DJNS Zahran al Janu 82.66 286 P **P** **05 46 27.8 +1.4**
GEC2 GERESS Array S 82.67 326 *e*P **P** **05 46 26.1 +0.2**
GEC2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
GEC2 GERESS Array S 82.67 326 *e*P **P** **05 46 26.1 +0.2**
comp=Z,10.0nm,0.8s,mb4.7
DIVS Divcibare 82.83 320 *e*P **P** **05 46 27.6 +0.9**
WET Wettzell 82.83 327 *e*P **P** **05 46 27.3 +0.6**
WET pmax pmax
comp=Z,14nm,1.2s,mb4.7
WET Wettzell 82.83 327 *e*P **P** **05 46 27.3 +0.6**
comp=Z,14nm,1.2s,mb4.7
ARSA Arzberg 82.94 324⇑ *i*P **P** **05 46 28.2 +0.9**
comp=Z,14nm,1.1s,mb4.7
ARSA Arzberg 82.94 324 ⇑P **P** **05 46 28.2 +0.9**
comp=Z,14nm,1.1s,mb4.7
BLJS Baljurashi 82.97 289 P **P** **05 46 29.2 +1.2**
MOA Molln 83.12 325⇑ *i*P **P** **05 46 28.5 +0.4**
comp=Z,11nm,1.0s,mb4.6
GRA1 Grafenberg Arr 83.17 328 *e*P **P** **05 46 29.2 +0.8**
comp=Z,51nm,1.0s,mb5.3
GRA1 LR LR
comp=Z,2µm,20.4s
GRF Grafenberg Arr 83.17 328 *e*P **P** **05 46 29.2 +0.8**
GRF pmax pmax
comp=Z,51nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,2µm,20.4s
GRF Grafenberg Arr 83.17 328 *e*P **P** **05 46 29.2 +0.8**
GRF pmax pmax
comp=Z,51nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,2µm,20.4s
GRF Grafenberg Arr 83.17 328 *e*P **P** **05 46 29.2 +0.8**
comp=Z,51nm,1.0s,mb5.3
GRF LR LR
comp=Z,2µm,20.4s
UMJS Umm Lajj 83.22 296 P **P** **05 46 30.2 +1.1**
YNBS Yanbu' al Bahr 83.23 295 P **P** **05 46 29.9 +0.7**
BBLS Bajina Basta - 83.29 320 *i* P **P** **05 46 30.7 +1.6**
PERS Pernik 83.57 324 *e*P **P** **05 46 30.8 +0.3**
ULM Lac du Bonnet 83.62 31 P **P** **05 46 29.7 -0.9**
comp=Z,2.0nm,0.8s,mb4.0,baz=276,slow=12,SNR=3.8
ULM Lac du Bonnet 83.62 31 P **P** **05 46 29.7 -0.9**
LTHS Al Lith 83.68 290 P **P** **05 46 32.3 +0.8**
SRU San Rafael 83.90 46 *e*P **P** **05 46 34.4 +2.1**
SRU pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
SRU San Rafael 83.90 46 *e*P **P** **05 46 34.4 +2.1**
comp=Z,2.8nm,0.7s,mb4.2
TNS Taunus Mts 83.97 330 *e*P **P** **05 46 32.9 +0.6**
TNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
TNS Taunus Mts 83.97 330 *e*P **P** **05 46 32.9 +0.6**
comp=Z,10.0nm,0.9s,mb4.7
FUR Furstenfeldbru 84.27 327 *e*P **P** **05 46 34.8 +0.9**
FUR pmax pmax
comp=Z,39nm,0.8s,mb5.3
FUR Furstenfeldbru 84.27 327 *e*P **P** **05 46 34.8 +0.9**
comp=Z,39nm,0.8s,mb5.3
BOJS Bojanci 84.31 323 *i* P **P** **05 46 34.3 +0.2**
STU Stuttgart 84.75 328 *e*P **P** **05 46 36.1 -0.1**
WTTA Wattenberg 84.77 326⇑ *e*P **P** **05 46 36.3 -0.1**
comp=Z,12nm,1.2s,mb4.6
WTTA Wattenberg 84.77 326⇑ *e*P **P** **05 46 36.3 -0.1**
WTTA pmax pmax
comp=Z,12nm,1.2s,mb4.6
BFO Black Forest 85.46 328 *e*P **P** **05 46 39.7 0.0**
BFO pmax pmax
comp=Z,14nm,1.0s,mb4.8
BFO Black Forest 85.46 328 *e*P **P** **05 46 39.7 0.0**
comp=Z,14nm,1.0s,mb4.8
GIVF Givet 85.54 331 *e*P **P** **05 46 39.9 -0.1**
DAVA Damuels 85.56 327⇑ *i*P **P** **05 46 40.9 +0.7**
comp=Z,16nm,1.0s,mb4.8
BAIF Baives 85.81 332 *e*P **P** **05 46 41.3 0.0**
CDF Champ du Feu 85.84 329 *e*P **P** **05 46 41.9 +0.4**
HINF Hinteralfeld 86.48 329 *e*P **P** **05 46 44.0 -0.6**
HAU Haudompre 86.55 329 *e*P **P** **05 46 44.5 -0.4**
CABF La Chapelle 87.75 328 *e*P **P** **05 46 50.5 -0.2**
comp=Z,9.4nm,0.8s,mb4.4
CABF La Chapelle 87.75 328 *e*P **P** **05 46 50.5 -0.2**
CABF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
LOR Lormes 88.17 330 *e*P **P** **05 46 52.3 -0.4**
LPL La Plagne 88.32 327 *e*P **P** **05 46 53.6 +0.2**
comp=Z,19nm,0.8s,mb4.7
LPL La Plagne 88.32 327 *e*P **P** **05 46 53.6 +0.2**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
LPG La Plagne 88.32 327 *e*P **P** **05 46 53.8 +0.4**
comp=Z,17nm,0.7s,mb4.7
LPG La Plagne 88.32 327 *e*P **P** **05 46 53.8 +0.4**
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
SSF Saint Saulge 88.48 330 *e*P **P** **05 46 53.9 -0.2**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
SSF Saint Saulge 88.48 330 *e*P **P** **05 46 53.9 -0.2**
comp=Z,6.4nm,1.0s,mb4.4
FLN La Foliniere 88.66 333 *e*P **P** **05 46 54.9 0.0**
LDF La Druitiere 88.67 333 *e*P **P** **05 46 55.0 +0.1**
SMF Signal de Mont 88.68 330 *e*P **P** **05 46 55.9 +0.9**
comp=Z,27nm,1.3s,mb4.6
SMF Signal de Mont 88.68 330 *e*P **P** **05 46 55.9 +0.9**
SMF pmax pmax
comp=Z,13nm,1.3s,mb4.6
AVF Avril sur Loir 88.76 330 *e*P **P** **05 46 55.3 -0.1**
comp=Z,18nm,1.0s,mb4.5
AVF Avril sur Loir 88.76 330 *e*P **P** **05 46 55.3 -0.1**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MBDF Montbardon 88.91 327 *e*P **P** **05 46 55.4 -0.7**
comp=Z,15nm,0.9s,mb4.5
MBDF Montbardon 88.91 327 *e*P **P** **05 46 55.4 -0.7**
MBDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
GRR Gorron 89.11 333 *e*P **P** **05 46 57.2 +0.2**
comp=Z,38nm,1.2s,mb4.8
GRR Gorron 89.11 333 *e*P **P** **05 46 57.2 +0.2**
GRR pmax pmax
comp=Z,19nm,1.2s,mb4.8
BGF Bois d'Agland 89.16 330 *e*P **P** **05 46 57.2 0.0**
ORIF Oris-en-Rattie 89.16 327 *e*P **P** **05 46 57.2 -0.1**
comp=Z,17nm,1.1s,mb4.5
ORIF Oris-en-Rattie 89.16 327 *e*P **P** **05 46 57.2 -0.1**
ORIF pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
TCF Toulx Ste Croi 89.64 330 *e*P **P** **05 46 59.6 +0.1**
comp=Z,17nm,1.0s,mb4.6
TCF Toulx Ste Croi 89.64 330 *e*P **P** **05 46 59.6 +0.1**
TCF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VIVF Saint-Julien-l 89.74 328 *e*P **P** **05 46 59.9 -0.1**
comp=Z,11nm,0.8s,mb4.5
VIVF Saint-Julien-l 89.74 328 *e*P **P** **05 46 59.9 -0.1**
VIVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SGMF Saint Gilles 89.84 334 *e*P **P** **05 47 00.7 +0.3**
comp=Z,21nm,1.0s,mb4.7
SGMF Saint Gilles 89.84 334 *e*P **P** **05 47 00.7 +0.3**
SGMF pmax pmax
comp=Z,11nm,1.0s,mb4.7
FRF La Foret Royal 89.87 326 *e*P **P** **05 47 01.0 +0.4**
ROSF Rostrenen 90.03 335 *e*P **P** **05 47 01.7 +0.4**
comp=Z,32nm,1.0s,mb4.9
ROSF Rostrenen 90.03 335 *e*P **P** **05 47 01.7 +0.4**
ROSF pmax pmax
comp=Z,16nm,1.0s,mb4.9
MFF Saint Martin d 90.32 332 *e*P **P** **05 47 03.0 +0.3**
comp=Z,30nm,1.0s,mb4.9
MFF Saint Martin d 90.32 332 *e*P **P** **05 47 03.0 +0.3**
MFF pmax pmax
comp=Z,15nm,1.0s,mb4.9
RJF Les Rejaudoux 90.72 330 *e*P **P** **05 47 04.9 +0.4**
comp=Z,24nm,1.1s,mb4.8
RJF Les Rejaudoux 90.72 330 *e*P **P** **05 47 04.9 +0.4**
RJF pmax pmax
comp=Z,12nm,1.1s,mb4.7
CAF Calviac 90.80 330 *e*P **P** **05 47 05.7 +0.8**
comp=Z,21nm,1.1s,mb4.7
CAF Calviac 90.80 330 *e*P **P** **05 47 05.7 +0.8**
CAF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
LFF La Frestale 91.33 330 *e*P **P** **05 47 08.0 +0.6**
comp=Z,25nm,0.8s,mb4.9

LFF	**La Frestale**		**91.33**	**330**	*e*P		**P**	**05 47 08.0**	**+0.6**
LFF					pmax		pmax		
	comp=Z,12nm,0.8s,mb4.9								
ETSF	**Etsaut**		**93.55**	**330**	*e*P		**P**	**05 47 19.8**	**+2.2**
	comp=Z,37nm,1.3s,mb5.0								
ETSF	**Etsaut**		**93.55**	**330**	*e*P		**P**	**05 47 19.8**	**+2.2**
ETSF					pmax		pmax		
	comp=Z,19nm,1.3s,mb5.0								
TXAR	**Lajitas Array**		**94.65**	**50**	P		**P**	**05 47 24.9**	**+1.9**
	comp=Z,0.7nm,0.8s,mb3.8,baz=295,slow=2.0,SNR=7.5								
TXAR					pP		pP	05 48 49.6	+1.2
	comp=Z,0.5nm,0.8s,baz=301,slow=5.3,SNR=2.9								
DBIC	**Dimbokro**		**125.20**	**311**	PKP		PKPdf	05 53 00.0	+0.1
	comp=Z,1.8nm,0.7s,baz=108,slow=6.4,SNR=4.1								
DBIC	**Dimbokro**		**125.20**	**311**	PKIKP		PKPdf	05 53 00.0	+0.1
DBIC					pmax		pmax		
	comp=Z,2.0nm,0.7s								
LPAZ	**La Paz**		**151.25**	**57**	PKPbc		PKPdf	05 53 55.0	+8.9
	comp=Z,1.0nm,0.9s,baz=41,slow=16,SNR=4.5								
LPAZ					pPKPbc			05 55 24.3	
	comp=Z,1.2nm,0.8s,baz=321,slow=6.5,SNR=3.1								
LPAZ	**La Paz**		**151.25**	**57**	PKIKP		PKPdf	05 53 55.1	+9.0
LPAZ								05 55 24.3	
LPAZ					pmax		pmax		
	comp=Z,1.0nm,0.9s								
LPAZ					pmax		pmax		
	comp=Z,1.0nm,0.9s								

BJI ***20*** *05:51:11.8, 12.00N×141.51E, h49km, mB6.5, mb5.4, Ms6.0, Msz5.8*

HRVD ***20*** *05:51:12.6±0.1, 12.18N×140.84E, h12km, MW6.1/84, Centroid moment Tensor Solution. LP body waves: s84,c192;Mantle waves: s84,c351; Half duration: 2s8 Moment tensor: Scale 10¹⁸Nm; Mrr-1.71±.01; Mθθ 1.44±.01; Mφφ 0.27±.01; Mrθ 0.53±.03; Mrφ 0.68±.01; Mθφ 0.48±.03; Best double couple: M₀1.874×10¹⁸ NP1: φs72°, δ35°, λ-79°. NP2:φs239°, δ56°, λ-98°. Principal axes: T 1.884, Plg11°, Azm334°; N -.016, Plg6°, Azm243°; P -1.864, Plg77°, Azm123°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***20*** *05:51:12.6±0.1, 12.23N×141.00E, mb5.8/85, ME6.0, MS5.7/137, MW6.1 Error ellipse: s-maj=4.4km s-min=3.8km az=90.0, Moment Tensor Solution. s39 Moment tensor: Scale 10¹⁸Nm; Mrr-1.27; Mθθ 1.23; Mφφ 0.04; Mrθ -0.74; Mrφ 0.55; Mθφ -0.36; Best double couple: M₀1.6×10¹⁸ NP1:φs252°, δ30°, λ-85°. NP2:φs66°, δ61°, λ-93°. Principal axes: T 1.68, Plg16°, Azm158°; N -.17, Plg2°, Azm67°; P -1.5, Plg74°, Azm329°; Energy computed from CMT mechanism.*

MOS ***20*** *05:51:13.0±1.0, 12.26N×140.91E, h33km, mb6.1/59, MS6.0/43 Error ellipse: s-maj=8.4km s-min=4.9km az=111.4*

IDC ***20*** *05:51:15.6±1.9, 12.27N×141.08E, h46km±18km, mb5.0/28, mb1 5.0/30, mb1mx5.0/30, mbtmp5.2/30, ML5.6/2, MS5.7/38, Ms1 5.7/38, ms1mx5.6/41, Error ellipse: s-maj=12.7km s-min=10.2km az=77.0*

ISC 20 05:51:11.2±0.1, 12.21N±0.03×141.07E±0.02, h23km, h23km±.8km:pP-P,n625,σ1s13/459,mb5.8/153,MS5.7/205, 24C-36D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.95**	**69**	P	**Pn**	**05 52 14.2**	**+2.1**
	214nm,0.3s,baz=202,slow=5.8,SNR=21						
GUMO				S	**Sn**	**05 52 57.6**	**-0.6**
	105nm,0.3s,baz=203,slow=21,SNR=2.1						
GUMO				LR	LR	05 53 49.5	
	comp=Z,103μm,18.3s,baz=242,slow=39						
GUMO	**Guam**	**3.95**	**69**	P	**Pn**	**05 52 14.2**	**+2.2**
GUMO				S	**Sn**	**05 52 57.6**	**-0.6**
GUMO				pmax	pmax		
	comp=Z,214nm,0.3s						
GUMO				smax			
	comp=N,105nm,0.3s						
GUMO				MLR	MLR		
	comp=Z,103μm,18.3s						
GUMO	**Guam**	**3.95**	**69**	*e*Pn	**Pn**	**05 52 13.3**	**+1.3**
CBIJ	**Chichi jima**	**14.85**	**4**	P	**P**	**05 54 46.2**	**+4.5**
	comp=Z,12nm,0.3s,baz=159,slow=8.1,SNR=6.0						
CBIJ				S	**S**	**05 57 40.7**	**+14**
	comp=Z,1.7nm,0.3s,baz=292,slow=19,SNR=2.2						
CBIJ				LR	LR	05 59 53.9	
	comp=Z,15μm,19.3s,baz=170,slow=35						
BIPH	**Bislig**	**15.02**	**256**	*e*P	**P**	**05 54 45.9**	**+1.9**
BIPH				*e*S	PP	05 54 48.7	-7.3
SCPH	**Surigao**	**15.48**	**263**	*e*P	**P**	**05 54 55.0**	**+4.8**
CNP	**Catarman**	**16.03**	**273**	*e*P	**P**	**05 55 04.6**	**+7.5**
MSLP	**Maasin**	**16.04**	**264**	*e*P	**P**	**05 55 00.7**	**+3.5**
DAV	**Davao City (W)**	**16.10**	**253**	*e*P	**P**	**05 55 00.0**	**+2.0**
DAV	**Davao City (W)**	**16.10**	**253**	*e*P	**P**	**05 55 02.8**	**+4.8**
	comp=Z,337nm,0.5s						
OCLP	**Ormoc**	**16.16**	**268**	*e*P	**P**	**05 55 08.1**	**+9.2**
BUKP	**Musuan**	**16.34**	**256**	*e*P	**P**	**05 55 03.9**	**+2.8**
CGP	**Cagayan de Oro**	**16.54**	**259**	*i*P	**P**	**05 55 09.3**	**+5.8**
PVCP	**Virac**	**16.55**	**277**	*e*P	**P**	**05 55 07.5**	**+3.8**
DCPH	**Dipolog City**	**17.79**	**260**	*e*P	**P**	**05 55 21.5**	**+2.1**
	comp=Z,229μm,1.0s						
DCPH				*e*S	Px	05 56 06.9	
PAGZ	**Pagadian**	**17.95**	**258**	*e*P	**P**	**05 55 23.3**	**+2.1**
RCP	**Roxas**	**17.95**	**270**	*e*P	**P**	**05 55 23.9**	**+2.7**
AUQP	**San Andres**	**17.98**	**276**	*i*P	**P**	**05 55 25.3**	**+3.7**
GUIM	**Jordan**	**18.18**	**267**	*e*P	**P**	**05 55 23.4**	**-0.9**
OTRP	**Odiongan**	**18.61**	**272**	*e*P	**P**	**05 55 29.6**	**+0.1**
POLP	**Polilio Island**	**18.77**	**280**	*e*P	**P**	**05 55 31.8**	**+0.4**
BOAC	**Boac**	**18.79**	**276**	*e*P	**P**	**05 55 32.3**	**+0.7**
JOW	**Kunigami**	**18.87**	**322**	P	**P**	**05 55 34.5**	**+2.0**
	comp=Z,2.9nm,0.3s,baz=156,slow=9.5,SNR=10						
JOW				S	**S**	**05 59 13.5**	**+15**
	comp=Z,0.6nm,0.3s,baz=92,slow=18,SNR=2.3						
JOW				LR	LR	06 01 09.2	
	comp=Z,38μm,21.4s,baz=95,slow=32						
CAUP	**Cauayan**	**19.21**	**286**	*e*P	**P**	**05 55 39.7**	**+3.2**
BALP	**Baler**	**19.24**	**283**	*e*P	**P**	**05 55 37.7**	**+0.8**
SGCP	**Mt. Cagua**	**19.30**	**290**	*e*P	**P**	**05 55 39.9**	**+2.3**
CVP	**Callao Caves**	**19.37**	**289**	*e*P	**P**	**05 55 37.0**	**-1.5**
SJMP	**San Jose**	**19.49**	**273**	*e*P	**P**	**05 55 43.3**	**+3.5**
PGP	**Puerto Galera**	**19.66**	**276**	*e*P	**P**	**05 55 52.1**	**+10**
CUYO	**Cuyo Island**	**19.69**	**268**	*e*P	**P**	**05 55 40.5**	**-1.6**
TGY	**Tagaytay City**	**19.70**	**278**	P	**P**	**05 55 43.0**	**+0.9**
	comp=Z,31nm,0.3s,baz=347,slow=23,SNR=8.2						
TGY	**Tagaytay City**	**19.70**	**278**	*e*P	**P**	**05 55 37.5**	**-4.6**
APYP	**Conner**	**19.95**	**289**	*e*P	**P**	**05 55 46.5**	**+1.7**
BCPH	**Baguio City Da**	**20.28**	**284**	*e*P	**P**	**05 55 48.3**	**0.0**
LUBP	**Lubang**	**20.35**	**277**	*e*P	**P**	**05 55 51.2**	**+2.2**
ABRA	**Dolores**	**20.39**	**288**	*e*P	**P**	**05 55 48.5**	**-0.9**
BUSP	**Coron**	**20.41**	**272**	*e*P	**P**	**05 55 48.5**	**-1.1**
SCZP	**Santa Cruz**	**20.83**	**282**	*e*P	**P**	**05 55 50.2**	**-3.8**
JHJ	**Hachijo jima 2**	**20.84**	**357**	LR	LR	06 02 15.6	
	comp=Z,34μm,19.7s,MS5.7,baz=193,slow=32						
BOLP	**Bolinao**	**20.91**	**284**	*e*P	**P**	**05 55 51.2**	**-3.6**
NACB	**Ninganchiao**	**21.96**	**305**	*e*P	**P**	**05 56 04.4**	**-0.9**
NACB				epP		05 56 13.0	
PPR	**Puerto Princes**	**22.06**	**266**	*i*P	**P**	**05 56 05.3**	**-1.1**
PMG	**Port Moresby**	**22.31**	**164**	P	**P**	**05 56 09.2**	**+0.3**
	comp=Z,46nm,0.8s,mb5.0,baz=2.5,slow=7.8,SNR=9.6						
PMG				LR	LR	06 05 12.6	
	comp=Z,27μm,18.5s,MS5.7,baz=314,slow=37						
PMG	**Port Moresby**	**22.31**	**164**	*e*P	**P**	**05 56 08.5**	**-0.4**
PMG				*e*PP		05 56 17.1	
PMG				pmax	pmax		
	comp=Z,438nm,1.1s						
PMG				MLR	MLR		
	comp=Z,24μm,21.0s						
PMG	**Port Moresby**	**22.31**	**164**	*e*P	**P**	**05 56 08.5**	**-0.4**
	comp=Z,438nm,1.1s,mb5.8						
PMG				epP		05 56 17.1	
PMG				LR	LR		
	comp=Z,24μm,21.0s,MS5.6						
YHNB	**Yeheng**	**22.38**	**306**	*e*P	**P**	**05 56 10.3**	**+0.8**
YHNB				epP		05 56 16.8	
TATO	**Taipei**	**22.45**	**307**	PFAKE		05 56 20.0	+10
TATO				LR	LR		
	comp=Z,43μm,22.0s,MS5.8						
JNU	**Nakatsue**	**22.81**	**337**	P	**P**	**05 56 14.3**	**+0.5**
	comp=Z,184nm,1.1s,mb5.4,baz=131,slow=7.5,SNR=22						
JNU				LR	LR	06 03 37.9	
	comp=Z,19μm,20.1s,MS5.5,baz=182,slow=33						
BATP	**Bataraza**	**23.12**	**264**	*e*P	**P**	**05 56 18.6**	**+1.6**
TSM	**Tawau**	**24.25**	**253**	P	**P**	**05 56 29.0**	**+1.1**
MJAR	**Matsushiro Arr**	**24.36**	**354**	P	**P**	**05 56 27.6**	**-1.3**
MJAR				PcP	PcP	06 00 11.3	+2.0
	comp=Z,4.6nm,0.8s,baz=87,slow=2.1,SNR=3.6						
MJAR				LR	LR	06 05 22.3	
	comp=Z,7μm,19.1s,MS5.2,baz=160,slow=35						
MAJO	**Matsushiro**	**24.36**	**354**	*e*P	**P**	**05 56 27.9**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,47nm,0.9s,mb4.9						
MAJO	**Matsushiro**	**24.36**	**354**	*e*P	**P**	**05 56 27.2**	**-1.6**
	comp=Z,47nm,0.8s,mb5.0						
MAJO				LR	LR		
	comp=Z,12μm,21.0s,MS5.4						
MAT	**Matsushiro**	**24.36**	**354**	P	**P**	**05 56 26.4**	**-2.4**
MAT				S	**S**	**06 00 47.0**	**+3.0**
MAT	**Matsushiro**	**24.36**	**354**	P	**P**	**05 56 26.0**	**-2.8**
MAT				*e*S	**S**	**06 00 45.0**	**+1.0**
MAT				pmax	pmax		
	comp=Z,14nm,0.7s						
MAT				MLR	MLR		
	comp=Z,9μm,20.0s,MS5.3						
MAT	**Matsushiro**	**24.36**	**354**	P	**P**	**05 56 26.0**	**-2.8**
	comp=Z,14nm,0.7s						
MAT				*e*S	**S**	**06 00 45.0**	**+1.0**
MAT				LR	LR		
	comp=Z,9μm,20.0s,MS5.3						
QZH	**Quanzhou**	**24.74**	**304**	*i* PR		05 56 37.5	
QZH				S	**S**	**06 00 58.6**	**+8.2**
QZH				AMB	AMB		
	comp=Z,13μm,5.8s						
KKM	**Kota Kinabalu**	**25.28**	**258**	P	**P**	**05 56 38.5**	**+0.7**
KKM	**Kota Kinabalu**	**25.28**	**258**	*e*P	**P**	**05 56 37.9**	**+0.1**
KKM				epP	pP	05 56 45.3	+0.8
WAKE	**Wake Island**	**25.59**	**71**	PFAKE		05 56 50.0	+9.4
WAKE				LR	LR		
	comp=Z,6μm,20.0s,MS5.1						
KAKA	**Kakadu**	**26.20**	**199**	*e*P	Px	05 57 07.6	
	comp=Z,252nm,1.2s						
SSE	**Sheshan**	**26.27**	**319**	P	**P**	**05 56 47.1**	**+0.2**
SSE				PCP	PcP	06 00 15.1	+1.5
SSE				S	**S**	**06 01 19.1**	**+3.1**
SSE				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.1						
SSE				LR	LR		
	comp=N,15μm,23.1s,MS5.6						
SSE				LR	LR		
	comp=E,13μm,23.2s,MS5.6						
SSE				LR	LR		
	comp=Z,25μm,22.2s,MS5.7						
KWAJ	**Kwajalein Atol**	**26.31**	**95**	PFAKE		05 57 00.0	+13
KWAJ				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
HKC	**Hong Kong**	**27.53**	**295**	*i*P	**P**	**05 57 06.0**	**+7.5**
HKC				*i* S	**S**	**06 01 40.0**	**+3.5**
HKC	**Hong Kong**	**27.53**	**295**	*e*P	**P**	**05 57 02.0**	**+3.5**
KS15	**Wonju Array Si**	**27.76**	**337**	*e*P	**P**	**05 56 59.3**	**-1.1**
INCN	**Inchon**	**28.29**	**335**	*e*P	**P**	**05 57 04.7**	**-0.5**
INCN				LR	LR		
	comp=Z,31μm,20.0s,MS5.9						
NJ2	**Nanjing**	**28.41**	**318**	*e*P	**P**	**05 57 06.4**	**+0.1**
NJ2				AP	pP	05 57 15.9	+2.8
NJ2				PP	PP	05 57 58.0	0.0
NJ2				S	**S**	**06 01 52.0**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,2μm,7.0s						
NJ2				LR	LR		
	comp=N,47μm,16.6s,MS6.3						
NJ2				LR	LR		
	comp=E,55μm,19.2s,MS6.3						
NJ2				LR	LR		
	comp=Z,25μm,23.8s,MS5.7						
GZH	**Guangzhou**	**28.49**	**296**	P	**P**	**05 57 07.3**	**+0.1**
GZH				S	**S**	**06 01 54.6**	**+2.6**
GZH				LR	LR		
	comp=N,6μm,12.4s,MS5.4						
GZH				LR	LR		
	comp=E,5μm,15.9s,MS5.4						
GZH				LR	LR		
	comp=Z,10μm,14.0s,MS5.6						
HNR	**Honiara**	**28.54**	**138**	LR	LR	06 08 04.3	
	comp=Z,11μm,18.2s,MS5.5,baz=139,slow=35						
HNR	**Honiara**	**28.54**	**138**	PFAKE		05 57 20.0	+12
HNR				LR	LR		
	comp=Z,14μm,21.0s,MS5.5						
WHN	**Wuhan**	**30.72**	**311**	P	**P**	**05 57 27.1**	**+0.1**
WHN				S	**S**	**06 02 36.0**	**+8.7**
WHN				LR	LR		
	comp=Z,34μm,17.1s,MS6.1						
QIZ	**Qiongzhong**	**30.79**	**287**	*i*P	**P**	**05 57 33.8**	**+6.1**
QIZ				AMB	AMB		
	comp=Z,3μm,5.8s						
QIZ				LR	LR		
	comp=E,11μm,23.2s						
QIZ				LR	LR		
	comp=Z,21μm,25.3s,MS5.7						
DL2	**Dalian**	**31.70**	**330**	P	**P**	**05 57 38.8**	**+3.2**
DL2				PP	PP	05 58 43.5	+2.7
DL2				PCP	PcP	06 00 25.8	-1.3
DL2				AMB	AMB		
	comp=Z,50nm,1.4s,mb5.2						
DL2				AMB	AMB		
	comp=Z,2μm,5.5s						
DL2				LR	LR		
	comp=N,8μm,17.7s,MS5.7						
DL2				LR	LR		
	comp=E,9μm,15.6s,MS5.7						
DL2				LR	LR		
	comp=Z,12μm,19.5s,MS5.6						
ASAJ	**Asahikawa**	**31.82**	**2**	P	**P**	**05 57 36.9**	**+0.4**
	comp=Z,20nm,1.0s,mb4.9,baz=180,slow=5.1,SNR=2.6						
ASAJ				LR	LR	06 09 26.6	
	comp=Z,9μm,19.8s,MS5.4,baz=186,slow=34						
ASAJ	**Asahikawa**	**31.82**	**2**	P	**P**	**05 57 36.9**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,20nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,9μm,19.8s						
YUK	**Yuzh-Kuril'sk**	**31.98**	**7**	P	**P**	**05 57 41.9**	**+4.0**
YUK				*e*		06 00 31.9	
YUK				*e*SS	SS	06 04 41.2	+1.6
YUK				pmax	pmax		
	comp=Z,6μm,4.0s						
YUK				MLR	MLR		
	comp=N,12μm,16.0s,MS5.8						
YUK				MLR	MLR		
	comp=E,8μm,16.0s,MS5.8						
TIA	**Tai'an**	**32.20**	**322**	*e*P	**P**	**05 57 39.0**	**-0.9**
TIA				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.2						
TIA				AMB	AMB		
	comp=Z,3μm,7.0s						
TIA				LR	LR		
	comp=N,9μm,15.0s,MS5.8						
TIA				LR	LR		
	comp=E,7μm,12.0s,MS5.8						
KSM	**Kuching**	**32.30**	**253**	*e*P	**P**	**05 57 38.1**	**-3.0**
CTA	**Charters Tower**	**32.50**	**171**	*e*P	**P**	**05 57 42.6**	**0.0**
	comp=E,117nm,1.0s,mb5.7						
CTA				*e*S	**S**	**06 03 01.4**	**+6.2**
CTA	**Charters Tower**	**32.50**	**171**	P	**P**	**05 57 43.2**	**+0.6**
	comp=E,37nm,0.8s,mb5.3,baz=349,slow=10,SNR=7.5						
CTA				LR	LR	06 10 10.8	
	comp=E,24μm,19.5s,MS5.9,baz=346,slow=35						
CTA	**Charters Tower**	**32.50**	**171**	*e*P	**P**	**05 57 42.6**	**0.0**
CTA				*e*S	**S**	**06 03 01.4**	**+6.2**
CTA				pmax	pmax		
	comp=Z,117nm,1.0s						
CTAO	**Charters Tower**	**32.50**	**171**	*e*P	**P**	**05 57 43.0**	**+0.4**
CTAO				*e*PP	pP	05 57 49.7	+0.2
CTAO				pmax	pmax		
	comp=Z,254nm,1.1s,mb6.0						
CTAO				MLR	MLR		
	comp=Z,23μm,19.0s,MS5.9						
CTAO	**Charters Tower**	**32.50**	**171**	*e*P	**P**	**05 57 43.0**	**+0.4**
	comp=Z,254nm,1.1s,mb6.0						
CTAO				epP	pP	05 57 49.6	+0.2
CTAO				LR	LR		
	comp=Z,23μm,19.0s,MS5.9						
WRAB	**Tennant Creek**	**32.62**	**192**	*e*P	**P**	**05 57 42.8**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,379nm,0.9s,mb6.3						
WRAB				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.4						
WRAB	**Tennant Creek**	**32.62**	**192**	*e*P	**P**	**05 57 42.8**	**-0.9**
	comp=Z,379nm,0.9s,mb6.3						
WRAB				LR	LR		
	comp=Z,8μm,20.0s,MS5.4						
WB2	**Warramunga Arr**	**32.63**	**192**	*i*P	**P**	**05 57 42.8**	**-1.0**
WB2				*e*S	**S**	**06 02 58.6**	**+1.4**
WRA	**Warramunga Arr**	**32.63**	**192**	P	**P**	**05 57 43.0**	**-0.8**
	comp=Z,62nm,0.9s,mb5.6,baz=10.0,slow=9.8,SNR=146						
SNY	**Shenyang**	**33.22**	**336**	P	**P**	**05 57 52.3**	**+3.5**
SNY				XP	sP	05 58 11.1	+13
SNY				S	**S**	**06 03 09.8**	**+3.5**
SNY				AMB	AMB		
	comp=Z,4μm,5.9s						
SNY				LR	LR		
	comp=N,13μm,17.2s,MS6.0						
SNY				LR	LR		
	comp=E,20μm,16.2s,MS6.0						
SNY				LR	LR		
	comp=Z,30μm,17.1s,MS6.1						
FITZ	**Fitzroy Crossi**	**33.75**	**207**	*e*P	**P**	**05 57 51.6**	**-2.0**
	comp=Z,83nm,1.0s,mb5.6						
FITZ				*e*S	**S**	**06 03 16.5**	**+1.9**
MDJ	**Mudanjiang**	**33.76**	**345**	P	**P**	**05 57 54.9**	**+1.5**
MDJ				PP	PP	05 59 11.5	+4.9
MDJ				S	**S**	**06 03 19.3**	**+4.8**
MDJ				AMB	AMB		
	comp=Z,2μm,7.6s						
MDJ				LR	LR		
	comp=N,18μm,29.9s						
MDJ				LR	LR		
	comp=E,8μm,22.4s						
MDJ				LR	LR		
	comp=Z,27μm,29.3s,MS5.8						
CN2	**Changchun**	**34.24**	**340**	*e*P	**P**	**05 57 57.8**	**+0.3**
CN2				*e*AP	pP	05 58 08.8	+4.4
CN2				PP	PP	05 59 16.5	+3.9
CN2				*e*S	**S**	**06 03 21.5**	**-0.5**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
CN2				AMB	AMB		
	comp=Z,4μm,7.0s						
CN2				LR	LR		
	comp=N,15μm,18.0s,MS6.0						
CN2				LR	LR		
	comp=E,18μm,18.0s,MS6.0						
CN2				LR	LR		
	comp=Z,19μm,18.0s,MS5.9						
ENH	**Enshi**	**34.32**	**307**	*e*P	**P**	**05 57 58.4**	**+0.1**
	comp=Z,356nm,1.4s,mb6.1						
YSS	**Yuzh-Sakhalins**	**34.66**	**2**	P	**P**	**05 58 04.0**	**+2.9**
YSS				*e*PP	pP	05 58 14.0	+6.1
YSS				*e*SP	sP	05 58 18.0	+7.1
YSS				*e*		05 59 24.0	
YSS				*e*S	**S**	**06 03 30.0**	**+1.6**
YSS				*e*SSS	SSS	06 06 08.0	+0.1
YSS				pmax	pmax		
	comp=Z,4μm,6.0s						
YSS				pmax	pmax		
	comp=N,2μm,5.0s						
YSS				smax			
	comp=N,5μm,14.0s						
YSS				MLR	MLR		
	comp=Z,9μm,18.0s,MS5.5						
YSS				MLR	MLR		
	comp=N,8μm,16.0s,MS5.7						
YSS				MLR	MLR		
	comp=E,6μm,16.0s,MS5.7						
YSS	**Yuzh-Sakhalins**	**34.66**	**2**	*i* P	**P**	**05 58 00.6**	**-0.5**
YSS				LR	LR		
	comp=Z,10μm,19.0s,MS5.6						
GYA	**Guiyang**	**35.29**	**299**	*i*P	**P**	**05 58 07.9**	**+1.2**
GYA				AP	pP	05 58 17.3	+3.7
GYA				XP	sP	05 58 21.8	+5.3
GYA				PP	PP	05 59 32.9	+6.7
GYA				PCP	PcP	06 00 32.4	-4.9
GYA				S	**S**	**06 03 46.6**	**+8.1**
GYA				XS		06 04 02.1	
GYA				SCP		06 04 14.8	
GYA				SCS	ScS	06 08 19.5	-3.6
GYA				AMB	AMB		
	comp=Z,160nm,1.2s,mb5.8						
GYA				AMB	AMB		
	comp=Z,4μm,5.7s						
GYA				LR	LR		
	comp=N,10μm,15.3s,MS5.9						
GYA				LR	LR		
	comp=E,14μm,16.8s,MS5.9						
GYA				LR	LR		
	comp=Z,14μm,16.0s,MS5.8						
ASPA	**Alice Springs**	**36.34**	**191**	*i*P	**P**	**05 58 16.4**	**+0.8**
ASPA				*e*S	**S**	**06 03 53.1**	**-1.5**
XAN	**Xi'an**	**36.44**	**312**	P	**P**	**05 58 15.4**	**-1.0**
XAN				S	**S**	**06 03 54.8**	**-1.3**
XAN				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
XAN				AMB	AMB		
	comp=Z,3μm,7.3s						
XAN				LR	LR		
	comp=N,3μm,13.9s						
XAN				LR	LR		
	comp=E,15μm,28.6s						
XAN				LR	LR		
	comp=Z,20μm,25.0s						
HABR	**Khabarovsk**	**36.50**	**353**	*i* P	**P**	**05 58 22.8**	**+6.1**
HABR				*i* S	**S**	**06 04 03.0**	**+6.2**
HABR				pmax	pmax		
	comp=Z,369nm,1.5s,mb6.1						
HABR				MLR	MLR		
	comp=Z,6μm,18.0s,MS5.4						
KLR	**Kul'dur**	**37.71**	**350**	*e*P	**P**	**05 58 23.0**	**-3.8**
KLR				*e*S	**S**	**06 04 21.5**	**+6.2**
KLR				*e*		06 06 46.5	
KLR				pmax	pmax		
	comp=E,300nm,3.2s						
KLR				pmax	pmax		
	comp=Z,2μm,3.2s						
KLR				pmax	pmax		
	comp=N,4μm,7.0s						
KLR				pmax	pmax		
	comp=E,1μm,7.0s						
KLR				pmax	pmax		
	comp=Z,8μm,7.0s						
KMI	**Kunming**	**38.38**	**295**	PR	**P**	**05 58 34.3**	**+1.6**
KMI				PP	PP	06 00 02.6	-1.5
KMI				S	**S**	**06 04 24.3**	**-1.4**
KMI				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,5μm,5.8s						
KMI				LR	LR		
	comp=N,11μm,14.8s						
KMI				LR	LR		
	comp=E,11μm,23.6s						
KMI				LR	LR		
	comp=Z,18μm,23.6s						
HHC	**Hu-ho-hao-te**	**38.52**	**323**	*e*P	**P**	**05 58 34.3**	**+0.6**
HHC				AP	pP	05 58 43.1	+2.5
HHC				PP	PP	06 00 05.3	-0.3
HHC				PCP	PcP	06 00 48.0	+1.1
HHC				S	**S**	**06 04 25.6**	**-2.1**
HHC				PCS		06 04 37.5	
HHC				SCS	ScS	06 08 42.5	+1.5
HHC				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
HHC				AMB	AMB		
	comp=Z,5μm,5.1s						
HHC				LR	LR		
	comp=N,10μm,19.0s						
HHC				LR	LR		
	comp=E,8μm,11.9s						
HHC				LR	LR		
	comp=Z,14μm,20.2s,MS5.8						
KGM	**Kluang**	**38.75**	**258**	P	**P**	**05 58 35.6**	**-0.3**
**CD2

BTO	**Baotou**	**39.29**	**322**	*e*P		**P**	**05 58 40.0**	**-0.2**
NST	**Nakhon Sawan**	**39.84**	**280**	P		**P**	**05 58 46.5**	**+1.6**
SNG	**Songkhla**	**40.16**	**267**	P		**P**	**05 58 49.0**	**+1.4**
	comp=Z,262nm,0.8s,mb6.0							
IPM	**Ipoh**	**40.31**	**262**	P		**P**	**05 58 48.1**	**-0.8**
NNT	**Nongplab**	**40.34**	**275**	P		**P**	**05 58 50.0**	**+0.9**
KULM	**Kulim**	**40.50**	**264**	*e*P		**P**	**05 58 50.0**	**-0.5**
KULM				*e*pP		pP	05 58 56.4	-0.9
HIA	**Hailar**	**40.94**	**339**	*e*P		**P**	**05 58 53.5**	**-0.2**
HIA				pmax		pmax		
	comp=Z,179nm,1.5s							
HIA	**Hailar**	**40.94**	**339**	*e*P		**P**	**05 58 53.5**	**-0.2**
	comp=Z,179nm,1.5s,mb5.5							
CHG	**Chiang Mai**	**41.04**	**285**	⇓P		**P**	**05 58 55.7**	**+0.9**
	comp=Z,135nm,1.2s,mb5.5							
LZH	**Lanzhou**	**41.08**	**312**	*e*P		**P**	**05 58 55.8**	**+0.9**
LZH				PP		PP	06 00 33.5	+0.7
LZH				S		**S**	**06 05 07.0**	**+0.9**
LZH				SS		SS	06 08 05.5	+1.1
LZH				AMB		AMB		
	comp=Z,130nm,1.2s,mb5.4							
LZH				AMB		AMB		
	comp=Z,800nm,6.1s							
LZH				LR		LR		
	comp=N,12μm,17.0s							
LZH				LR		LR		
	comp=Z,18μm,18.6s,MS6.0							
MIDW	**Midway**	**41.89**	**61**	PFAKE			05 59 10.0	+8.2
MIDW				LR		LR		
	comp=Z,7μm,20.0s,MS5.5							
NOUC	**Port Laguerre**	**42.13**	**144**	*e*P		**P**	**05 59 05.1**	**+1.3**
DZM	**Mont Dzumac**	**42.19**	**144**	P		**P**	**05 59 05.3**	**+1.0**
	comp=Z,26nm,0.6s,mb5.0,baz=344,slow=11,SNR=7.7							
DZM				LR		LR	06 14 28.9	
	comp=Z,15μm,20.7s,MS5.9,baz=311,slow=33							
PSI	**Prapat**	**42.76**	**261**	P		**P**	**05 59 08.9**	**-0.2**
	comp=Z,45nm,0.9s,mb5.2,baz=64,slow=1.8,SNR=24							
PET	**Petropavlovsk**	**43.08**	**15**	*e*P		**P**	**05 59 12.4**	**+1.3**
PET				*e*			06 01 00.7	
PET				*e*S		**S**	**06 05 38.8**	**+3.5**
PET				*e*PS			06 05 51.7	
PET				*e*			06 09 08.0	
PET				pmax		pmax		
	comp=Z,192nm,1.3s,mb5.7							
PET				pmax		pmax		
	comp=Z,7μm,6.4s							
PET				pmax		pmax		
	comp=Z,5μm,19.5s							
PET				pmax		pmax		
	comp=Z,4μm,5.5s							
PET				pmax		pmax		
	comp=Z,88nm,1.6s,mb5.2							
PET				MLR		MLR		
	comp=Z,5μm,20.0s,MS5.4							
PET				MLR		MLR		
	comp=Z,6μm,19.0s							
PET	**Petropavlovsk**	**43.08**	**15**	*e*P		**P**	**05 59 11.3**	**+0.2**
	comp=Z,258nm,1.3s,mb5.8							
PET				*e*pP		pP	05 59 18.3	+0.3
PET				LR		LR		
	comp=Z,7μm,19.0s,MS5.6							
FUNA	**Funafuti**	**43.14**	**117**	PFAKE			05 59 20.0	+7.9
FUNA				LR		LR		
	comp=Z,12μm,19.0s,MS5.8							
ARMA	**Armidale**	**43.58**	**167**	*e*P		**P**	**05 59 14.6**	**-1.0**
ARMA				*e*S		**S**	**06 05 42.5**	**-0.5**
STKA	**Stephens Creek**	**43.84**	**179**	*e*P		**P**	**05 59 16.3**	**-1.3**
	comp=Z,108nm,0.9s,mb5.6							
STKA				*e*S		**S**	**06 05 27.1**	**-20**
STKA	**Stephens Creek**	**43.84**	**179**	P		**P**	**05 59 17.1**	**-0.6**
	comp=Z,34nm,0.7s,mb5.2,baz=357,slow=7.6,SNR=77							
STKA				LR		LR	06 18 31.7	
	comp=Z,22μm,19.2s,MS6.1,baz=353,slow=37							
FORT	**Forrest**	**44.53**	**196**	*e*P		**P**	**05 59 23.5**	**+0.2**
	comp=Z,310nm,0.8s,mb6.2							
GTA	**Gaotai**	**45.39**	**314**	P		**P**	**05 59 30.0**	**0.0**
GTA				PCP		PcP	06 01 09.6	0.0
GTA				PP		PP	06 01 14.8	-2.0
GTA				PCS			06 05 02.8	
GTA				S		**S**	**06 06 07.8**	**-1.2**
GTA				SS		SS	06 09 22.3	-1.5
GTA				AMB		AMB		
	comp=Z,70nm,1.2s,mb5.4							
GTA				AMB		AMB		
	comp=Z,5μm,6.5s							
GTA				LR		LR		
	comp=N,9μm,19.8s,MS5.8							
GTA				LR		LR		
	comp=E,9μm,20.9s,MS5.8							
GTA				LR		LR		
	comp=Z,16μm,29.3s							
ULN	**Ulaanbaatar**	**45.49**	**328**	*i* P		**P**	**05 59 30.4**	**-0.2**
ULN				MLR		MLR		
	comp=Z,14μm,22.0s,MS5.9							
ULN	**Ulaanbaatar**	**45.49**	**328**	*i* Pr			05 59 30.4	
ULN				LR		LR		
	comp=Z,14μm,22.0s,MS5.9							
CIT	**Chita**	**45.49**	**336**	*e*P		**P**	**05 59 29.8**	**-0.8**
CIT				*e*		pP	05 59 37.7	+0.2
CIT				*e*			06 01 03.8	
CIT				*e*			06 06 20.7	
CIT				*e*			06 09 26.6	
CIT				pmax		pmax		
	comp=Z,220nm,1.4s,mb5.8							
SONM	**Songino Array**	**45.81**	**328**	P		**P**	**05 59 33.5**	**+0.3**
	comp=Z,38nm,1.2s,mb5.2,baz=132,slow=7.9,SNR=56							
SONM				LR		LR	06 19 19.6	
	comp=Z,17μm,18.4s,MS6.0,baz=125,slow=37							
NRGR	**Nerungri**	**46.11**	**348**	*e*P		**P**	**05 59 29.0**	**-6.4**
CLNS	**Chul'man**	**46.24**	**348**	*e*P		**P**	**05 59 35.7**	**-0.7**
CLNS				*e**PP		pP	05 59 42.0	-1.4
CLNS				*e*			06 01 12.9	
CLNS				*e*S		**S**	**06 06 15.3**	**-5.6**
CLNS				pmax		pmax		
	comp=Z,154nm,1.4s,mb5.7							
CLNS				pmax		pmax		
	comp=N,150nm,1.5s							
CLNS				pmax		pmax		
	comp=E,24nm,1.2s							
CLNS				pmax		pmax		
	comp=Z,76nm,1.5s,mb5.4							
CLNS				pmax		pmax		
	comp=N,95nm,1.4s							
CLNS				pmax		pmax		
	comp=E,27nm,1.0s							
CLNS				smax				
	comp=E,2μm,13.1s							
CLNS				smax				
	comp=Z,2μm,12.6s							
CLNS				smax				
	comp=N,4μm,13.2s							
CLNS	**Chul'man**	**46.24**	**348**	*e*P		**P**	**05 59 36.2**	**-0.2**
MA2	**Magadan**	**47.83**	**7**	*e*P		**P**	**05 59 48.6**	**-0.3**
MA2				*i*			06 01 38.6	
MA2				*e*PPP		PPP	06 02 23.5	-6.6
MA2				*e*S		**S**	**06 06 42.2**	**-1.2**
MA2				*e*PS		PS	06 06 56.5	+2.0
MA2				*e*SSS		SSS	06 11 22.6	+0.6
MA2				pmax		pmax		
	comp=Z,200nm,1.9s,mb5.8							
MA2				pmax		pmax		
	comp=N,100nm,2.1s							
MA2				MLR		MLR		
	comp=Z,6μm,26.0s,MS5.5							
MA2	**Magadan**	**47.83**	**7**	*e*P		**P**	**05 59 48.5**	**-0.4**
	comp=Z,85nm,0.7s,mb5.9							
MA2				*e*pP		pP	05 59 57.5	+1.5
MA2				LR		LR		
	comp=Z,5μm,20.0s,MS5.5							
CNB	**Canberra Magne**	**47.91**	**171**	*e*P		**P**	**05 59 49.0**	**-1.0**
	comp=Z,62nm,1.0s,mb5.6							
FX1	**Attu Island--F**	**48.00**	**26**	P		**P**	**05 59 51.0**	**+0.7**
	comp=Z,234nm,1.0s,mb6.2,baz=251,slow=9.2,SNR=8.9							
FX1				LR		LR	06 19 28.8	
	comp=Z,525nm,18.9s,baz=238,slow=35							
FX1	**Attu Island--F**	**48.00**	**26**	P		**P**	**05 59 51.0**	**+0.6**
FX1				pmax		pmax		
	comp=Z,234nm,1.0s							
FX1				MLR		MLR		
	comp=Z,525nm,18.9s							
FX1	**Attu Island--F**	**48.00**	**26**	*e*P		**P**	**05 59 50.5**	**+0.1**
FX1				*e*pP		pP	05 59 58.5	+1.1
SHL	**Shillong**	**48.14**	**293**	*e*P		**P**	**05 59 52.0**	**+0.2**
SHL				*ex*		x	06 06 45.0	
SMY	**Shemya**	**48.29**	**26**	PFAKE			06 00 00.0	+7.4
SMY				LR		LR		
	comp=Z,19μm,20.0s,MS6.1							
AGT	**Agartala**	**48.55**	**291**	*ex*		x	05 59 58.0	
AGT				*ex*		x	06 00 04.0	
KLBR	**Kellerberrin**	**48.96**	**207**	*e*P		**P**	**05 59 57.1**	**-0.9**
	comp=Z,136nm,1.1s,mb5.9							
ZAK	**Zakamensk**	**49.00**	**329**	⇓*i*P		**P**	**05 59 58.5**	**+0.4**
ZAK				pmax		pmax		
	comp=Z,381nm,1.8s,mb6.1							
LSA	**Lhasa**	**49.36**	**299**	P		**P**	**06 00 02.3**	**+1.1**
LSA				AP		pP	06 00 11.3	+3.1
LSA				AMB		AMB		
	comp=Z,4μm,5.7s							
LSA				LR		LR		
	comp=N,3μm,24.7s,MS5.6							
LSA				LR		LR		
	comp=E,7μm,22.2s,MS5.6							
LSA				LR		LR		
	comp=Z,42μm,28.1s							
LSA	**Lhasa**	**49.36**	**299**	*e*P		**P**	**06 00 02.3**	**+1.1**
LSA				pmax		pmax		
	comp=Z,124nm,1.1s,mb5.8							
LSA	**Lhasa**	**49.36**	**299**	*e*P		**P**	**06 00 02.3**	**+1.1**
	comp=Z,124nm,1.1s,mb5.8							
IRK	**Irkutsk**	**49.68**	**331**	*e*P		**P**	**06 00 03.5**	**+0.2**
IRK				*e*			06 01 52.9	
IRK				*e*			06 07 24.0	
IRK				pmax		pmax		
	comp=Z,1μm,3.2s							
TOO	**Toolangi**	**49.69**	**175**	*e*P		**P**	**06 00 04.2**	**+0.6**
	comp=Z,83nm,0.9s,mb5.8							
TOO				*e*S		**S**	**06 07 13.8**	**+4.0**
TOO	**Toolangi**	**49.69**	**175**	*e*P		**P**	**06 00 04.2**	**+0.6**
TOO				*e*S		**S**	**06 07 13.8**	**+4.0**
TOO				pmax		pmax		
	comp=Z,83nm,0.9s,mb5.8							
MUN	**Mundaring**	**49.98**	**208**	*e*P		**P**	**06 00 05.8**	**-0.1**
MUN				*e*S		**S**	**06 07 20.6**	**+6.8**
NWAO	**Narrogin (SRO)**	**50.33**	**206**	LR		LR	06 23 27.7	
	comp=Z,9μm,18.2s,MS5.8,baz=34,slow=38							
NWAO	**Narrogin (SRO)**	**50.33**	**206**	*e*P		**P**	**06 00 07.9**	**-0.6**
NWAO				*e**PP		pP	06 00 13.6	-2.0
NWAO				pmax		pmax		
	comp=Z,952nm,2.3s							
NWAO				MLR		MLR		
	comp=Z,8μm,19.0s							
NWAO	**Narrogin (SRO)**	**50.33**	**206**	*e*P		**P**	**06 00 07.9**	**-0.6**
	comp=Z,952nm,2.3s,mb6.4							
NWAO				*e*pP		pP	06 00 13.6	-2.0
NWAO				LR		LR		
	comp=Z,8μm,19.0s,MS5.8							
YAK	**Yakutsk**	**50.42**	**353**	*c i*P		**P**	**06 00 08.5**	**-0.3**
YAK				*e**PP		pP	06 00 14.1	-1.8
YAK				*e*			06 02 07.4	
YAK				*i* S		**S**	**06 07 25.9**	**+6.4**
YAK				*e**SS			06 07 34.5	
YAK				*e*			06 09 48.8	
YAK				pmax		pmax		
	comp=Z,160nm,1.2s,mb5.9							
YAK				pmax		pmax		
	comp=N,100nm,1.1s							
YAK				pmax		pmax		
	comp=E,22nm,1.2s							
YAK				pmax		pmax		
	comp=Z,23nm,1.2s,mb5.1							
YAK				pmax		pmax		
	comp=N,15nm,1.1s							
YAK				pmax		pmax		
	comp=E,20nm,1.3s							
YAK				smax				
	comp=N,12nm,1.1s							
YAK				smax				
	comp=E,7.0nm,0.9s							
YAK				smax				
	comp=Z,3.0nm,0.9s							
YAK				MLR		MLR		
	comp=Z,1μm,16.0s,MS5.1							
YAK				MLR		MLR		
	comp=N,1μm,14.0s,MS5.4							
YAK				MLR		MLR		
	comp=E,3μm,19.0s,MS5.4							
YAK	**Yakutsk**	**50.42**	**353**	*e*P		**P**	**06 00 08.3**	**-0.6**
	comp=E,410nm,0.9s,mb6.5							
YAK				LR		LR		
	comp=Z,10μm,22.0s,MS5.8							
MOY	**Mondy**	**50.92**	**329**	*e*P		**P**	**06 00 12.2**	**-0.6**
MOY				pmax		pmax		
	comp=Z,902nm,4.3s							
CAL	**Calcutta**	**51.15**	**289**	*e*P		**P**	**06 00 16.6**	**+1.7**
CAL				*ex*		x	06 02 38.0	
CAL				*ex*		x	06 07 37.6	
SEY	**Seymchan**	**51.29**	**7**	*e*P		**P**	**06 00 15.6**	**+0.2**
SEY							06 01 25.8	
SEY							06 02 13.4	
SEY				*e*S		**S**	**06 07 35.4**	**+3.9**
SEY							06 10 06.0	
SEY				pmax		pmax		
	comp=E,20nm,0.9s							
SEY				pmax		pmax		
	comp=Z,190nm,0.9s,mb6.0							
SEY				pmax		pmax		
	comp=N,80nm,0.7s							
SEY				smax				
	comp=N,24μm,16.8s							
SEY				smax				
	comp=E,11μm,17.8s							
SEY				MLR		MLR		
	comp=E,3μm,15.0s,MS5.6							
SEY				MLR		MLR		
	comp=Z,8μm,15.0s,MS5.9							
SEY				MLR		MLR		
	comp=N,2μm,13.0s,MS5.6							
SEY	**Seymchan**	**51.29**	**7**	⇑*i*P		**P**	**06 00 14.8**	**-0.6**
JIRN	**Jiri**	**53.42**	**295**	*e*P		**P**	**06 00 31.8**	**-0.1**
	comp=N,2μm,1.5s,mb6.8							
BOK	**Bokaro**	**53.44**	**291**	*e*P		**P**	**06 00 29.5**	**-2.6**
BOK				AMb		AMB	06 00 40.9	
	comp=Z,550nm,0.8s,mb6.6							
BOK				*e*S		**S**	**06 08 04.3**	**+2.9**
AFI	**Afiamalu**	**53.46**	**118**	LR		LR	06 21 04.5	
	comp=Z,7μm,19.2s,MS5.7,baz=208,slow=34							
AFI	**Afiamalu**	**53.46**	**118**	PFAKE			06 00 40.0	+7.7
AFI				LR		LR		
	comp=Z,8μm,20.0s,MS5.8							
GUN	**Gumba**	**53.72**	**296**	*e*P		**P**	**06 00 33.9**	**-0.1**
	comp=Z,2μm,1.4s							
PKI	**Pulchoki**	**54.10**	**295**	*e*P		**P**	**06 00 36.2**	**-0.7**
	comp=Z,1μm,1.4s,mb6.7							
PKI	**Pulchoki**	**54.10**	**295**	*e*P		**P**	**06 00 36.2**	**-0.7**
PKI				pmax		pmax		
	comp=Z,668nm,1.4s,mb6.4							
KKN	**Kakani**	**54.23**	**295**	*e*P		**P**	**06 00 37.4**	**-0.4**
	comp=Z,1μm,1.5s,mb6.5							
KKN	**Kakani**	**54.23**	**295**	*e*P		**P**	**06 00 37.4**	**-0.4**
KKN				pmax		pmax		
	comp=Z,502nm,1.5s,mb6.2							
DMN	**Daman**	**54.37**	**295**	*e*P		**P**	**06 00 38.3**	**-0.6**
	comp=Z,1μm,1.3s,mb6.7							
GKN	**Gorkha**	**54.82**	**296**	*e*P		**P**	**06 00 41.5**	**-0.7**
	comp=Z,1μm,1.2s,mb6.8							
TAU	**Tasmania Unive**	**55.15**	**174**	PFAKE			06 01 00.0	+16
TAU				LR		LR		
	comp=Z,4μm,19.0s,MS5.5							
WMQ	**Urumqi**	**55.45**	**315**	P		**P**	**06 00 46.3**	**-0.2**
WMQ				PCP		PcP	06 01 46.3	-0.1
WMQ				PP		PP	06 02 51.5	-0.4
WMQ				PPP		PPP	06 04 05.3	-0.6
WMQ				SCP			06 05 43.3	
WMQ				S		**S**	**06 08 28.3**	**+0.2**
WMQ				SCS		ScS	06 10 31.4	+0.7
WMQ				SS		SS	06 12 13.0	+0.1
WMQ				AMB		AMB		
	comp=Z,310nm,1.2s,mb6.2							
WMQ				AMB		AMB		
	comp=Z,2μm,4.6s							
WMQ				LR		LR		
	comp=N,10μm,20.0s,MS6.1							
WMQ				LR		LR		
	comp=E,12μm,22.0s,MS6.1							
WMQ				LR		LR		
	comp=Z,14μm,24.0s,MS6.0							
KOLN	**Koldanda**	**55.72**	**295**	*e*P		**P**	**06 00 47.9**	**-0.8**
	comp=Z,612nm,1.1s,mb6.6							
VIS	**Vishakhapatnam**	**55.88**	**283**	*e*P		**P**	**06 00 47.4**	**-2.5**
VIS				AMb		AMB	06 00 59.8	
	comp=Z,253nm,1.1s,mb6.2							
VIS				*ex*		x	06 08 43.1	
BLSP	**Bilaspur**	**56.88**	**288**	*e*P		**P**	**06 00 53.9**	**-3.1**
BLSP				AMb		AMB	06 01 06.1	
	comp=Z,494nm,0.7s,mb6.6							
RAO	**Raoul Island**	**57.15**	**137**	LR		LR	06 22 18.0	
	comp=Z,6μm,20.9s,MS5.7,baz=113,slow=33							
RAO	**Raoul Island**	**57.15**	**137**	PFAKE			06 01 10.0	+11
RAO				LR		LR		
	comp=Z,7μm,21.0s,MS5.7							
BILL	**Bilibino**	**58.17**	**11**	*e*P		**P**	**06 01 04.6**	**-0.9**
BILL				*i*		pP	06 01 10.8	-1.8
BILL				*e*S		**S**	**06 09 14.7**	**+11**
BILL				*e*SS		SS	06 13 02.2	+5.1
BILL				pmax		pmax		
	comp=Z,763nm,2.0s,mb6.4							
BILL	**Bilibino**	**58.17**	**11**	⇓*e*P		**P**	**06 01 04.5**	**-1.0**
	comp=Z,718nm,1.4s,mb6.5							
BILL				*e*pP		pP	06 01 12.1	-0.6
BILL				*e*ScP			06 06 02.9	
BILL				LR		LR		
	comp=Z,3μm,21.0s,MS5.4							
AKUT	**Akutan**	**59.01**	**33**	*e*P		**P**	**06 01 11.2**	**-0.4**
	comp=Z,1μm,2.0s,mb6.6							
AKUT				LR		LR		
	comp=Z,5μm,21.0s,MS5.6							
PALK	**Pallekele**	**59.60**	**271**	PFAKE			06 01 30.0	+14
PALK				LR		LR		
	comp=Z,519nm,21.0s							
TIXI	**Tiksi**	**59.87**	**356**	*e*P		**P**	**06 01 12.5**	**-4.8**
TIXI				*e*S		**S**	**06 09 26.5**	**+0.7**
TIXI				*e*SS		SS	06 13 28.4	+5.0
TIXI				pmax		pmax		
	comp=Z,3μm,4.0s							
TIXI				pmax		pmax		
	comp=Z,79nm,0.8s,mb5.8							
TIXI				pmax		pmax		
	comp=N,34nm,1.1s							
TIXI				pmax		pmax		
	comp=E,17nm,0.9s							
TIXI				MLR		MLR		
	comp=N,2μm,15.0s,MS5.4							
TIXI				MLR		MLR		
	comp=Z,2μm,15.0s,MS5.4							
TIXI				MLR		MLR		
	comp=E,1μm,16.0s,MS5.4							
TIXI	**Tiksi**	**59.87**	**356**	*i* P		**P**	**06 01 15.7**	**-1.6**
TIXI				LR		LR		
	comp=Z,4μm,22.0s,MS5.5							
MKAR	**Makanchi Array**	**59.94**	**317**	P		**P**	**06 01 17.8**	**-0.3**
	comp=Z,96nm,1.1s,mb5.7,baz=94,slow=9.4,SNR=82							
MKAR				LR		LR	06 27 05.9	
	comp=Z,12μm,20.3s,MS6.0,baz=138,slow=36							
HYB	**Hyderabad**	**60.44**	**283**	*i* P		**P**	**06 01 21.0**	**-0.9**
	comp=Z,250nm,1.0s,mb6.2							
HYB				*e*pP		pP	06 01 26.5	-2.6
HYB				*e*			06 02 16.0	
HYB				*e*			06 06 20.5	
HYB				*e*S		**S**	**06 09 44.0**	**+10**
HYB	**Hyderabad**	**60.44**	**283**	*e*P		**P**	**06 01 21.0**	**-0.9**
HYB				*e*S		**S**	**06 09 44.0**	**+10**
HYB				pmax		pmax		
	comp=Z,250nm,1.0s,mb6.2							
HYB	**Hyderabad**	**60.44**	**283**	*e*P		**P**	**06 01 21.0**	**-0.9**
	comp=Z,250nm,1.0s,mb6.2							
HYB				*e*S		**S**	**06 09 44.0**	**+10**
URZ	**Urewera**	**60.48**	**148**	LR		LR	06 24 37.3	
	comp=Z,3μm,20.7s,MS5.5,baz=132,slow=33							
ZAL	**Zalesovo**	**60.63**	**326**	LR		LR	06 28 16.3	
	comp=Z,15μm,19.0s,MS6.2,baz=5.9,slow=37							
BHPL	**Bhopal**	**61.20**	**290**	*e*P		**P**	**06 01 25.8**	**-1.2**
BHPL				AMb		AMB	06 01 35.2	
	comp=Z,239nm,0.6s,mb6.5							
SNZO	**South Karori**	**61.64**	**152**	*e*P		**P**	**06 01 28.3**	**-1.4**
	comp=Z,148nm,1.1s,mb6.0							
SNZO				LR		LR		
	comp=Z,11μm,21.0s,MS6.0							
NVS	**Novosibirsk**	**61.80**	**326**	*e*P		**P**	**06 01 29.1**	**-1.5**
NVS				*e*S		**S**	**06 10 01.0**	**+10**
NVS				pmax		pmax		
	comp=Z,3μm,3.0s							
NVS				pmax		pmax		
	comp=N,178nm,1.5s							
NVS				pmax		pmax		
	comp=E,344nm,1.5s							
NVS				smax				
	comp=E,2μm,5.0s							
LATR	**Latur**	**62.26**	**284**	*e*P		**P**	**06 01 32.0**	**-2.2**
SDPT	**Sand Point**	**62.31**	**33**	*e*P		**P**	**06 01 32.6**	**-1.4**
	comp=E,285nm,1.0s,mb6.3							
SDPT				LR		LR		
	comp=Z,3μm,20.0s,MS5.5							
AAA	**Alma-Ata**	**62.92**	**312**	*i* P		**P**	**06 01 44.1**	**+5.9**
AAA				*i* S		**S**	**06 10 18.0**	**+13**
AAA				pmax		pmax		
	comp=Z,6μm,7.8s							
AAA				smax				
	comp=E,8μm,15.4s							
AAA				MLR		MLR		
	comp=Z,9μm,26.0s,MS5.8							
TRD	**Trivandrum**	**63.05**	**273**	*e*P		**P**	**06 01 39.7**	**+0.3**
TRD				AMb		AMB	06 01 47.4	
	comp=Z,157nm,0.9s,mb6.2							
KSH	**Kashi**	**63.15**	**308**	*i* PR		**P**	**06 01 41.0**	**+1.2**
KSH				AP		pP	06 01 51.6	+4.6
KSH				XP		sP	06 01 55.6	+6.1
KSH				PCP		PcP	06 02 18.8	+1.8
KSH				PP		PP	06 04 01.0	+0.7
KSH				PPP		PPP	06 05 32.3	+0.9
KSH				SCP			06 06 16.3	
KSH				PCS			06 06 20.4	
KSH				S		**S**	**06 10 08.1**	**+0.2**
KSH				SCS		ScS	06 11 28.8	+1.3
KSH				SS		SS	06 14 17.8	+1.7
KSH				AMB		AMB		
	comp=Z,4μm,4.0s							
KSH				LR		LR		
	comp=N,6μm,18.1s							
KSH				LR		LR		
	comp=E,3μm,11.1s							
KURK	**Kurchatov**	**63.28**	**321**	⇓*e*P		**P**	**06 01 39.7**	**-0.7**
KURK				*e**PP		pP	06 01 47.3	-0.3
KURK				pmax		pmax		
	comp=Z,579nm,1.1s,mb6.6							
KURK	**Kurchatov**	**63.28**	**321**	⇓*e*P		**P**	**06 01 39.7**	**-0.7**
	comp=Z,579nm,1.1s,mb6.6							
KURK				*e*pP		pP	06 01 47.3	-0.3
KURK				*e*ScP			06 06 38.2	
KURK				LR		LR		
	comp=Z,2μm,20.0s,MS5.3							
ULHL	**Ulahol**	**63.29**	**311**	P		**P**	**06 01 41.3**	**+0.7**
	SNR=26							
AJM	**Ajmer**	**63.66**	**294**	*e*P		**P**	**06 01 41.9**	**-1.5**
AJM				AMb		AMB	06 01 52.0	
	comp=Z,446nm,1.3s,mb6.3							
TKM2	**Tokmak 2**	**63.85**	**312**	P		**P**	**06 01 43.4**	**-1.0**
TKM2				pmax		pmax		
	comp=Z,507nm,1.9s,mb6.2							
KZA	**Kyzart**	**63.99**	**311**	P		**P**	**06 01 46.4**	**+1.0**
	SNR=93							
KBK	**Karagaybulak**	**64.29**	**312**	P		**P**	**06 01 47.7**	**+0.5**
	SNR=19							
CHMS	**Chumysh**	**64.47**	**312**	P		**P**	**06 01 47.9**	**-0.6**
	SNR=45							
UCH	**Uchtor**	**64.56**	**311**	P		**P**	**06 01 49.8**	**+0.8**
	SNR=136							
KAD	**Karad**	**64.61**	**283**	*e*P		**P**	**06 01 46.5**	**-3.2**
KAD				AMb		AMB	06 01 58.0	
	comp=Z,232nm,1.4s,mb6.0							
KAD				*ex*		x	06 10 32.5	
AAK	**Ala-Archa**	**64.62**	**311**	P		**P**	**06 01 49.7**	**+0.3**
	SNR=31							
AAK	**Ala-Archa**	**64.62**	**311**	P		**P**	**06 01 48.6**	**-0.8**
AAK	

BOM ex x 06 10 30.4
SVW2 Sparrevohn 66.63 28 eP P 06 02 01.1 -0.8
KDAK Kodiak Island 67.20 32 LR LR 06 31 44.5
comp=Z,5µm,19.2s,MS5.8,baz=247,slow=36
KKAR Karatay Array 67.58 312 *i* P **P 06 02 07.3 -1.0**
KKAR pmax pmax
comp=Z,1µm,1.8s,mb6.6
VOSK Vostochnaya 68.33 322 P **P 06 02 11.2 -1.6**
VOSK pmax pmax
comp=Z,431nm,1.8s,mb6.2
BHJ Bhuj 68.34 290 *e*P **P 06 02 11.0 -2.4**
BHJ AMb AMB 06 02 23.1
comp=Z,236nm,1.4s,mb6.0
CHKZ Chkalovo 68.68 323 *e*P **P 06 02 14.1 -0.9**
CHKZ pmax pmax
comp=Z,321nm,1.3s,mb6.1
CHKZ Chkalovo 68.68 323 *e*P **P 06 02 14.1 -0.9**
comp=Z,321nm,1.3s,mb6.1
CHKZ *e* 06 07 12.8
BVA0 Borovoye Array 68.72 322 *i* P **P 06 02 14.7 -0.5**
BVA0 pmax pmax
comp=Z,1µm,2.7s,mb6.3
BVAR Borovoye Array 68.72 322 P **P 06 02 14.7 -0.5**
comp=Z,70nm,0.8s,mb5.7,baz=106,slow=7.4,SNR=137
BRVK Borovoye 68.79 322⇓ *e*P **P 06 02 15.3 -0.4**
BRVK *e**PP pP 06 02 22.7 -0.1
BRVK pmax pmax
comp=Z,204nm,1.0s,mb6.0
BRVK Borovoye 68.79 322⇓ *e*P **P 06 02 15.3 -0.4**
comp=Z,204nm,1.0s,mb6.0
BRVK *e*pP pP 06 02 22.6 -0.2
BRVK *e* 06 07 14.2
BRVK LR LR
comp=Z,2µm,22.0s,MS5.4
IMA2 Indian Mountai 68.97 23 *e*P **P 06 02 15.8 -0.7**
SLKM Skilak Lake 69.01 30 P **P 06 02 16.2 -0.6**
SLKM Skilak Lake 69.01 30 *e*P **P 06 02 15.9 -0.9**
SLKM *e*pP pP 06 02 22.4 -1.7
ZRNK Zerenda 69.54 322⇓ *e*P **P 06 02 19.8 -0.5**
ZRNK *e**PP pP 06 02 26.3 -1.2
ZRNK pmax pmax
comp=Z,326nm,1.0s,mb6.2
ZRNK Zerenda 69.54 322⇓ *e*P **P 06 02 19.8 -0.5**
comp=Z,326nm,1.0s,mb6.2
ZRNK *e*pP pP 06 02 26.3 -1.1
ZRNK *e* 06 07 18.6
PMR Palmer 69.76 29 PFAKE 06 02 30.0 +8.6
PMR LR LR
comp=Z,7µm,20.0s,MS5.9
DGAR Diego Garcia 70.94 258 PFAKE 06 02 40.0 +11
DGAR LR LR
comp=Z,527nm,22.0s,MS4.8
COLA College 71.01 25 *e*P **P 06 02 27.9 -1.1**
COLA *e**PP pP 06 02 35.8 -0.4
COLA pmax pmax
comp=Z,44nm,1.1s,mb5.3
COLA MLR MLR
comp=Z,7µm,20.0s,MS5.9
COLA College 71.01 25 *e*P **P 06 02 27.9 -1.1**
comp=Z,44nm,1.1s,mb5.3
COLA *e*pP pP 06 02 35.8 -0.4
COLA LR LR
comp=Z,7µm,20.0s,MS5.9
ILAR Eielson Array 71.39 25 P **P 06 02 28.9 -2.5**
comp=Z,8.1nm,0.7s,mb4.7,baz=250,slow=4.9,SNR=53
ILAR LR LR 06 32 43.6
comp=Z,6µm,20.1s,MS5.8,baz=276,slow=35
MENT Mentasta 72.48 28 *e*P **P 06 02 37.7 -0.1**
DAWY Dawson 74.53 27 *e*P **P 06 02 49.6 0.0**
DAWY *e*pP pP 06 02 58.0 +1.1
DAWY *e*PP PP 06 05 37.4 -0.9
PPT Papeete 74.59 112 *e*P **P 06 02 50.3 -0.6**
comp=Z,126nm,1.3s,mb5.7
PPT Papeete 74.59 112 *e*S S 06 12 19.3 -4.4
PPT *e*LQ 06 22 03.6
PPT *e*LR LR 06 25 29.6
comp=Z,25µm,31.0s,baz=292
PPT Papeete 74.59 112 P **P 06 02 52.1 +1.2**
comp=Z,33nm,0.8s,mb5.3,baz=253,slow=6.4,SNR=4.0
PPT LR LR 06 27 05.2
comp=Z,3µm,21.4s,MS5.6,baz=9.9,slow=29
PAE Paea 74.61 112 *e*P **P 06 02 49.9 -1.2**
comp=Z,190nm,1.2s,mb5.9
TVO Taravao 74.95 112 *e*P **P 06 02 52.5 -0.5**
comp=Z,481nm,1.4s,mb6.2
AB31 Akbulak array 75.07 318 *i* P **P 06 02 52.6 -0.5**
AB31 pmax pmax
comp=Z,70nm,0.7s,mb5.7
ARU Arti 75.78 325⇓ *i* P **P 06 02 56.2 -0.8**
ARU *e* 06 05 46.0
ARU *e*PPP PPP 06 07 30.0 -5.5
ARU *e*S S 06 12 40.3 +4.1
ARU *e* 06 13 12.1
ARU *e*SS SS 06 17 23.1 -8.0
ARU *e*SSS SSS 06 20 46.9 +1.0
ARU pmax pmax
comp=Z,227nm,1.2s,mb6.0
ARU MLR MLR
comp=Z,12µm,20.0s,MS6.2
ARU MLR MLR
comp=N,5µm,19.0s,MS6.1
ARU MLR MLR
comp=E,8µm,20.0s,MS6.1
ARU Arti 75.78 325 *e*P **P 06 02 56.5 -0.5**
comp=E,309nm,1.2s,mb6.1
ARU LR LR
comp=Z,3µm,20.0s,MS5.6
MEH Mehetia 76.05 112 *e*P **P 06 02 58.3 -1.0**
comp=Z,118nm,1.4s,mb5.6
AKTO Aktyubinsk 76.28 319 P **P 06 02 59.2 -0.7**
comp=Z,22nm,0.7s,mb5.2,baz=89,slow=7.3,SNR=52
AKTO LR LR 06 38 50.2
comp=Z,5µm,20.0s,MS5.8,baz=208,slow=37
AKTO Aktyubinsk 76.28 319 P **P 06 02 59.2 -0.7**
AKTO pmax pmax
comp=Z,22nm,0.7s,mb5.2
AKTO MLR MLR
comp=Z,5µm,20.0s,MS5.8
SIT Sitka 76.38 34 PFAKE 06 03 10.0 +10
SIT LR LR
comp=Z,3µm,22.0s,MS5.6
TBI Tubuai 76.57 118 *e*S S 06 12 42.0 -3.4
TBI *e*LQ 06 23 03.5
TBI *e*LR LR 06 26 06.1
comp=Z,16µm,33.2s,baz=298
SOKR Solikamsk 76.67 329*c* *i* P **P 06 03 02.4 +0.5**
SOKR S S 06 12 53.1 +7.3
SOKR pmax pmax
comp=Z,250nm,1.2s,mb6.0
SOKR MLR MLR
comp=Z,9µm,20.0s,MS6.1
INK Inuvik 77.05 22 LR LR 06 37 29.0
comp=Z,4µm,21.2s,MS5.7,baz=264,slow=36
INK Inuvik 77.05 22 *e*P **P 06 03 03.0 -0.8**
INK *e**PP pP 06 03 09.9 -1.2
INK *e* 06 05 52.9
INK pmax pmax
comp=Z,86nm,1.1s
INK Inuvik 77.05 22 *e*P **P 06 03 03.0 -0.8**
comp=Z,86nm,1.1s,mb5.6
INK *e*pP pP 06 03 09.9 -1.3
INK *e*PP PP 06 05 52.9 -5.9
VAN Vannovskaya 77.09 306⇓ *i* P **P 06 03 04.9 +0.2**
VAN S S 06 12 58.6 +7.8
DRV Dumont d'Urvil 78.66 180 P **P 06 03 22.0 +9.3**
DRV Dumont d'Urvil 78.66 180 S S 06 13 24.0 +17
DRV SS SS 06 18 17.0 +2.7
DRV L 06 24 00.0
DRV R 06 29 00.0
BIDO Bidbid 78.83 292 P **P 06 03 14.9 +0.3**
SNR=14
DLBC Dease Lake 79.13 32 LR LR 06 37 08.8
comp=Z,2µm,20.5s,MS5.5,baz=291,slow=35
DLBC Dease Lake 79.13 32 *e*P **P 06 03 15.8 +0.4**
DLBC *e*PcP PcP 06 03 22.7 -1.6
HOQ Hoqain 79.56 292 P **P 06 03 18.6 0.0**
SNR=17
ARQ Araqi 80.32 292 P **P 06 03 22.7 +0.1**
SNR=15
BBB Bella Bella 80.97 39 LR LR 06 34 01.6
comp=Z,4µm,22.0s,MS5.7,baz=288,slow=32
TAOE Nuku Hiva Isla 81.04 101 *e*LR LR 06 27 35.3
comp=Z,24µm,35.6s
CASY Casey 81.46 192 *e*P **P 06 03 28.3 +0.6**
CASY *e*S S 06 13 36.0 -0.4

RBK Rabkut 83.46 286⇓ P **P 06 03 37.4 -1.6**
SNR=13
PECR Pechory 83.79 326 *i* P **P 06 03 39.0 -0.9**
PECR *e* 06 06 56.4
PECR *i* S S 06 14 07.6 +7.5
PECR *e*PS PS 06 15 00.0 +3.2
PECR pmax pmax
comp=Z,410nm,1.0s,mb6.5
PECR pmax pmax
comp=N,700nm,6.0s
PECR pmax pmax
comp=E,2µm,6.0s
PECR pmax pmax
comp=Z,2µm,6.0s
PECR smax
comp=N,2µm,5.4s
PECR smax
comp=E,2µm,7.0s
PECR MLR MLR
comp=E,4µm,20.0s,MS5.9
PECR MLR MLR
comp=Z,8µm,20.0s,MS6.1
PECR MLR MLR
comp=N,2µm,18.0s,MS5.9
WHFO Wadi Hawf 83.79 287⇑ P **P 06 03 40.0 -0.9**
SNR=5.8
OCWA Octopus Mounta 84.24 43 PFAKE 06 03 50.0 +7.6
OCWA LR LR
comp=Z,4µm,20.0s,MS5.8
ABTO Aybut 84.34 286 P **P 06 03 43.4 -0.2**
SNR=24
MAK Makhachkala 84.37 313*c* *i* P **P 06 03 47.9 +4.7**
MAK *i* 06 08 50.3
MAK *i* S S 06 14 12.2 +5.9
MAK pmax pmax
comp=Z,226nm,0.9s,mb6.3
MAK smax
comp=N,301nm,1.7s
MAK smax
comp=E,104nm,0.9s
MAK MLR MLR
comp=Z,4µm,18.0s,MS5.9
MAK MLR MLR
comp=Z,378nm,12.0s
LVZ Lovozero 84.84 339 *e*P **P 06 03 43.9 -1.0**
LVZ *e* 06 07 03.2
LVZ *e* 06 14 12.2
LVZ pmax pmax
comp=Z,214nm,1.2s,mb6.2
LVZ pmax pmax
comp=N,32nm,0.9s
LVZ pmax pmax
comp=E,68nm,1.0s
LVZ pmax pmax
comp=Z,1µm,4.1s
LVZ pmax pmax
comp=N,1µm,6.3s
LVZ pmax pmax
comp=E,3µm,8.0s
LVZ MLR MLR
comp=Z,5µm,23.0s,MS5.8
LVZ MLR MLR
comp=N,830nm,11.0s
LVZ MLR MLR
comp=E,3µm,25.0s
KLMR Klimovskoe 84.98 331*d* *i* P **P 06 03 44.9 -0.9**
KLMR *i* S S 06 14 08.5 -3.4
KLMR pmax pmax
comp=Z,190nm,2.0s,mb5.9
KLMR pmax pmax
comp=Z,840nm,5.3s
KLMR smax
comp=E,3µm,6.8s
KLMR MLR MLR
comp=Z,17µm,23.0s,MS6.4
KBS Kingsbay 85.01 351 *e*P **P 06 03 47.0 +1.4**
KBS AMb AMB 06 03 55.7
comp=Z,183nm,1.4s,mb6.0
KBS *e*S S 06 14 16.4 +4.5
KBS AMS AMS 06 38 46.3
comp=Z,2µm,23.4s,MS5.4
KBS Kingsbay 85.01 351⇑ *e*P **P 06 03 47.1 +1.5**
KBS Kingsbay 85.01 351 *e*P **P 06 03 47.0 +1.4**
comp=Z,183nm,1.4s,mb6.0
KBS *e* 06 14 29.2
KBS LR LR
comp=Z,1666µm,23.4s
APA Apatity 85.40 338⇓ *i* P **P 06 03 47.0 -0.7**
APA *i* pP 06 03 53.4 -1.7
APA *i* 06 07 14.0
APA *e*S S 06 14 11.0 -4.8
APA *i* SS SS 06 19 50.0 -4.3
APA pmax pmax
comp=Z,140nm,1.4s,mb5.9
APA pmax pmax
comp=Z,4µm,6.0s
APA MLR MLR
comp=Z,4µm,14.0s,MS6.0
YKW3 Yellowknife Ar 85.74 27 *e*P **P 06 03 50.1 +0.5**
YKA Yellowknife Ar 85.77 27 P **P 06 03 49.4 -0.3**
comp=Z,3.7nm,0.6s,mb4.8,baz=290,slow=4.9,SNR=63
YKA LR LR 06 42 18.3
comp=Z,5µm,20.8s,MS5.9,baz=255,slow=36
YKA Yellowknife Ar 85.77 27 P **P 06 03 49.4 -0.3**
YKA LR LR 06 42 18.3
TDL Tradedollar La 85.85 44 P **P 06 03 51.3 +0.8**
MIR Mirnyy 86.05 197 *e*P **P 06 03 54.0 +3.0**
MIR *e* 06 07 18.0
MIR *e*S S 06 14 22.0 -0.1
MIR *e*S S 06 14 22.0 -0.1
MIR *e*PS PS 06 15 24.0 -0.7
MIR pmax pmax
comp=E,404nm,4.0s
MIR smax
comp=N,990nm,9.0s
MIR smax
comp=E,1µm,7.0s
HUMO Hull Mountain 86.18 47 *e*P **P 06 03 54.6 +2.4**
comp=E,169nm,1.7s,mb6.0
HUMO LR LR
comp=Z,3µm,19.0s,MS5.7
DGRG David-gareji 86.24 311 P **P 06 03 56.4 +3.9**
BJO Bjornoya 86.35 347 *e*P pP 06 04 05.8 +6.1
BJO *e* 06 14 36.4
BJO AMS AMS 06 43 22.0
comp=Z,4µm,18.7s,MS5.9
VRHR Novokhopersk 86.45 321 *e*P **P 06 03 58.1 +4.8**
VRHR *e*S S 06 14 31.8 +5.5
VRHR pmax pmax
comp=Z,120nm,0.9s,mb6.1
VRHR pmax pmax
comp=N,70nm,1.0s
VRHR pmax pmax
comp=E,140nm,1.0s
VRHR smax
comp=N,1µm,3.8s
VRHR smax
comp=Z,650nm,4.4s
VRHR smax
comp=E,2µm,6.9s
VRHR MLR MLR
comp=N,3µm,18.0s,MS5.9
VRHR MLR MLR
comp=Z,7µm,18.0s,MS6.1
VRHR MLR MLR
comp=E,4µm,19.0s,MS5.9
YBH Yreka Blue Hor 86.56 48 LR LR 06 36 40.4
comp=E,3µm,20.4s,MS5.7,baz=282,slow=32
YBH Yreka Blue Hor 86.56 48 P **P 06 03 55.5 +1.4**
YBH pmax pmax
comp=Z,230nm,1.9s
YBH Yreka Blue Hor 86.56 48 *e*P **P 06 03 54.2 +0.1**
comp=Z,225nm,1.9s,mb6.1
YBH LR LR
comp=Z,3µm,20.0s,MS5.7
MTA Mtatsminda 86.61 312 P **P 06 04 01.5 +7.2**
MTA S S 06 14 26.2 -1.9
TI2 Plekhanov 86.63 312⇑ *i* P **P 06 03 53.6 -0.8**
TI2 *i* pP 06 04 01.6 -0.2
TI2 pmax pmax
comp=Z,100nm,0.8s,mb6.1
TI2 pmax pmax
comp=E,4µm,5.0s
TI2 MLR MLR
comp=E,2µm,13.0s
TI2 MLR MLR

comp=Z,3µm,13.0s,MS5.9
TBLG Delisi 86.64 312 P **P 06 03 56.4 +1.9**
KEV Kevo 86.66 341 *ep* **P 06 03 52.9 -1.0**
comp=Z,5.4nm,0.4s,mb5.1
KEV Kevo 86.66 341 P **P 06 03 53.2 -0.7**
KEV pmax pmax
comp=Z,170nm,1.2s,mb6.2
MSEY Mahe Island 86.68 265 PFAKE 06 04 10.0 +15
MSEY LR LR
comp=Z,281nm,19.0s,MS4.7
RES Resolute Bay 86.72 13 *e*P **P 06 03 54.9 +0.8**
RES *e**PP pP 06 04 02.1 +0.6
RES pmax pmax
comp=Z,105nm,1.1s,mb6.0
RES Resolute Bay 86.72 13 *e*P **P 06 03 54.9 +0.8**
comp=Z,105nm,1.1s,mb6.0
RES *e*pP pP 06 04 02.1 +0.5
TBM Table Mountain 86.73 43 P **P 06 03 55.0 +0.2**
EBG Ellensburg 86.82 43 P **P 06 03 55.8 +0.6**
HOPS Hopland 86.91 51 PFAKE 06 04 10.0 +14
HOPS LR LR
comp=Z,3µm,20.0s,MS5.7
WDC Whiskeytown Da 86.94 49 PFAKE 06 04 10.0 +14
WDC LR LR
comp=Z,3µm,20.0s,MS5.8
GNI Garni 87.00 310 P **P 06 03 57.4 +1.1**
comp=Z,12nm,0.8s,mb5.2,baz=188,slow=10,SNR=12
GNI LR LR 06 47 01.0
comp=Z,3µm,18.4s,MS5.7,baz=86,slow=38
WTV Waterville 87.03 42 P **P 06 03 56.1 -0.1**
GOF Gofitskoye 87.06 315 *e*P **P 06 03 53.0 -3.4**
ARCES ARCESS Array B 87.23 341 P **P 06 03 56.0 -0.7**
comp=Z,26nm,0.8s,mb5.5,baz=68,slow=6.7,SNR=93
ARCES LR LR 06 46 23.6
comp=Z,5µm,21.5s,MS5.9,baz=64,slow=38
ARCES ARCESS Array B 87.23 341 P **P 06 03 56.0 -0.7**
ARCES LR LR 06 46 23.6
ARE0 ARCESS Array S 87.23 341 *e*P **P 06 03 56.7 0.0**
ARE0 *e*pP pP 06 04 02.7 -1.4
ONI Oni 87.37 313 P **P 06 03 57.2 -0.8**
ONI S PP 06 07 31.8 +6.8
MDW Midway 87.43 43 P **P 06 03 58.5 +0.3**
MOS Moscow 87.44 327α *i* P **P 06 03 57.4 -0.6**
MOS *i* 06 04 02.7
MOS *e* 06 04 13.4
MOS *i* 06 07 30.2
MOS *e*S S 06 14 20.0 -16
MOS *e*PS PS 06 15 45.0 +3.4
MOS pmax pmax
comp=Z,144nm,1.3s,mb6.0
MOS MLR MLR
comp=Z,14µm,20.0s,MS6.3
KIV Kislovodsk 87.57 314 *e*P **P 06 03 59.9 +1.0**
KIV *e* 06 07 27.0
KIV *e* 06 14 27.3
KIV *e*SS SS 06 20 21.5 -4.9
KIV *e*SSS SSS 06 24 01.4 +3.4
KIV pmax pmax
comp=Z,51nm,1.2s,mb5.6
KIV MLR MLR
comp=Z,5µm,18.0s,MS6.0
KIV Kislovodsk 87.57 314 *i* P **P 06 03 59.5 +0.6**
KIV LR LR
comp=Z,5µm,20.0s,MS6.0
AKH Akhalkalaki 87.62 312 P **P 06 03 59.6 +0.4**
HAWA Hanford 87.64 43 PFAKE 06 04 10.0 +11
HAWA LR LR
comp=Z,212nm,20.0s,MS4.5
VOR Voronezh 87.74 322 P **P 06 03 58.0 -1.5**
VOR *e* 06 04 03.0
VOR pmax pmax
comp=N,90nm,1.5s
VOR pmax pmax
comp=Z,170nm,1.5s,mb6.0
VRSR Storozhevoye 87.89 322 *e*P **P 06 03 58.1 -2.2**
VRSR *e*S S 06 14 35.8 -4.1
VRSR *e*SS SS 06 20 23.2 -7.8
VRSR pmax pmax
comp=N,4.0nm,1.2s
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
VRSR pmax pmax
comp=E,4.0nm,0.8s
VRSR smax
comp=N,70nm,4.5s
VRSR smax
comp=Z,70nm,8.5s
VRSR smax
comp=E,40nm,3.4s
VRSR MLR MLR
comp=Z,1µm,19.0s,MS5.3
VRSR MLR MLR
comp=N,450nm,20.0s,MS5.1
VRSR MLR MLR
comp=E,620nm,19.0s,MS5.1
OD2 Odessa Site #2 87.92 42 P **P 06 04 03.4 +2.9**
JOF Joensuu 87.96 334 *ep* **P 06 03 59.4 -0.9**
comp=E,4.2nm,0.4s,mb5.0
JOF Joensuu 87.96 334 *e*P **P 06 03 59.4 -0.9**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb5.0
OHCM Honcut 88.03 50 *e*P **P 06 04 01.7 +0.5**
OBN Obninsk 88.20 326 *i* P **P 06 04 00.4 -1.3**
OBN *i* 06 04 11.2
OBN *e*PS PS 06 15 54.6 +3.8
OBN *e*SSS SSS 06 24 11.2 +3.4
OBN pmax pmax
comp=Z,276nm,1.3s,mb6.3
OBN MLR MLR
comp=Z,12µm,19.0s,MS6.3
OBN Obninsk 88.20 326 *e*P **P 06 04 01.2 -0.5**
comp=Z,308nm,1.4s,mb6.3
OBN LR LR
comp=Z,4µm,19.0s,MS5.8
MOD Modoc 88.26 48 *e*P **P 06 04 02.9 +0.7**
comp=Z,64nm,1.3s,mb5.7
MOD *e*pP pP 06 04 09.3 -0.3
MOD LR LR
comp=Z,2µm,20.0s,MS5.6
SAO San Andreas Ge 88.68 53 PFAKE 06 04 20.0 +16
SAO LR LR
comp=Z,3µm,21.0s,MS5.6
NEW Newport 88.70 41 LR LR 06 39 27.6
comp=Z,4µm,20.6s,MS5.8,baz=286,slow=33
BHD Baghdad 88.89 304 *ex* x 06 04 05.5
BHD *ex* x 06 07 27.0
BHD *ex* x 06 14 30.0
BHD *ex* x 06 14 53.0
BHD *ex* x 06 15 49.0
TRO Tromso 89.16 343 *e*P **P 06 04 04.0 -1.9**
TRO *e*SKSa 06 14 36.7
TRO *e*SS SS 06 20 47.4 -1.2
TRO AMS AMS 06 47 40.3
comp=Z,6µm,24.7s,MS6.0
TRO Tromso 89.16 343 *e*P **P 06 04 04.0 -1.9**
TRO *e* 06 14 42.5
TRO LR LR
comp=Z,6416µm,24.7s
CMB Columbia Colle 89.18 51 P **P 06 04 07.0 +0.2**
CMB pmax pmax
comp=Z,34nm,1.2s,mb5.5
CMB Columbia Colle 89.18 51 *e*P **P 06 04 07.3 +0.6**
comp=Z,34nm,1.2s,mb5.5
CMB *e*pP pP 06 04 13.5 -0.7
CMB LR LR
comp=Z,2µm,20.0s,MS5.5
MSL Mosul 89.19 307 *ex* x 06 04 07.5
RKT Rikitea 89.27 114 *e*P **P 06 04 07.0 -0.5**
comp=Z,181nm,1.4s,mb6.2
RKT Rikitea 89.27 114 *e*PP PP 06 07 36.8 -3.8
RKT Rikitea 89.27 114 *e*S S 06 14 51.2 -2.2
RKT *e*SS SS 06 20 46.4 -5.0
RKT *e*LR LR 06 31 52.7
comp=Z,10µm,31.5s,baz=291
WVOR Wild Horse Val 89.32 47 P **P 06 04 07.6 +0.3**
WVOR pmax pmax
comp=Z,44nm,1.0s,mb5.7
WVOR Wild Horse Val 89.32 47 *e*P **P 06 04 07.8 +0.5**
comp=Z,44nm,1.1s,mb5.7
WVOR LR LR
comp=Z,3µm,20.0s,MS5.7
EDM Edmonton 89.43 35 P **P 06 04 07.7 +0.2**
EDM Edmonton 89.43 35 *e*P **P 06 04 07.8 +0.2**
PAHR Pah Rah Range 89.50 50 *e*P **P 06 04 08.7 +0.4**
comp=Z,67nm,1.3s,mb5.8

PAHR ePP PP 06 04 15.2 -0.4
BMO Blue Mountains 89.56 44 PFAKE 06 04 20.0 +12
BMO LR LR
comp=Z,3µm,21.0s,MS5.7
PUL Pulkovo 89.66 332 eP **P** **06 04 09.9 +1.4**
PUL e 06 07 49.1
PUL e 06 14 47.0
PUL ePS PS 06 16 11.1 +3.6
PUL eSS SS 06 20 51.7 -4.7
PUL pmax pmax
comp=Z,352nm,1.3s,mb6.5
PUL pmax pmax
comp=N,361nm,1.4s
PUL pmax pmax
comp=E,293nm,0.9s
PUL pmax pmax
comp=N,130nm,0.8s
PUL pmax pmax
comp=E,200nm,0.9s
PUL MLR MLR
comp=Z,13µm,25.0s,MS6.3
PUL MLR MLR
comp=N,6µm,26.0s,MS6.2
PUL MLR MLR
comp=E,12µm,29.0s,MS6.2
PUL Pulkovo 89.66 332 *i* P **P** **06 04 09.5 +1.0**
SOC Sochi 89.74 315 eP **P** **06 04 08.4 -0.9**
SOC e 06 07 40.1
SOC eS S 06 14 49.7 -7.6
SOC ePS PS 06 16 02.9 -5.9
SOC eSSS SSS 06 24 35.7 +3.0
SOC pmax pmax
comp=Z,82nm,1.6s,mb5.8
SOC pmax pmax
comp=Z,1µm,5.8s
SOC MLR MLR
comp=Z,6µm,20.0s,MS6.0
VNDA Vanda 90.36 176 P **P** **06 04 11.8 +0.4**
comp=Z,3.2nm,1.0s,baz=328,slow=5.7,SNR=9.5
VNDA LR LR 06 44 30.1
comp=Z,3µm,18.1s,baz=349,slow=35
VNDA Vanda 90.36 176 P **P** **06 04 12.4 +1.0**
VNDA pmax pmax
comp=Z,65nm,1.5s
VNDA Vanda 90.36 176 eP **P** **06 04 11.5 +0.1**
comp=Z,65nm,1.5s,mb5.7
VNDA ePP PP 06 07 52.5 +4.4
VNDA LR LR
comp=Z,3µm,22.0s,MS5.7
DAG Danmarks Havn 90.38 355⇑ *i* P **P** **06 04 10.1 -1.4**
comp=Z,20nm,1.0s,mb5.4
DAG Danmarks Havn 90.38 355⇑ eP **P** **06 04 10.1 -1.4**
DAG pmax pmax
comp=Z,20nm,1.0s,mb5.4
DAG Danmarks Havn 90.38 355⇑ eP **P** **06 04 10.1 -1.4**
comp=Z,20nm,1.0s,mb5.4
KAF Kangasniemi 90.41 335 ep **P** **06 04 10.0 -1.9**
comp=Z,3.5nm,0.4s,mb5.0
KAF Kangasniemi 90.41 335 eP **P** **06 04 10.0 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb5.1
NVAR Mina Array Bea 90.66 51 P **P** **06 04 14.3 +0.6**
comp=Z,4.8nm,0.8s,mb4.9,baz=263,slow=5.5,SNR=21
NVAR Mina Array Bea 90.66 51 P **P** **06 04 14.3 +0.6**
MNV Mina 90.77 50 eP **P** **06 04 14.5 +0.4**
comp=Z,84nm,1.6s,mb5.8
MNV LR LR
comp=Z,2µm,19.0s,MS5.7
FINES FINESS Array B 90.81 334 P **P** **06 04 12.6 -1.2**
comp=Z,20nm,0.6s,mb5.6,baz=75,slow=5.0,SNR=118
FINES PKKPbc 06 21 40.3
comp=Z,2.7nm,0.9s,baz=27,slow=4.3,SNR=4.6
FINES LR LR 06 48 53.1
comp=Z,4µm,18.6s,MS5.9,baz=74,slow=38
FINES FINESS Array B 90.81 334 P **P** **06 04 12.6 -1.2**
FINES PKKPbc 06 21 40.3
FINES LR LR 06 48 53.1
ANN Anapa 90.95 316 eP **P** **06 04 18.3 +3.5**
ANN e 06 07 56.9
ANN e 06 15 07.3
ANN ePS PS 06 16 26.3 +3.3
ANN pmax pmax
comp=Z,125nm,1.3s,mb6.1
ANN MLR MLR
comp=Z,8µm,25.0s,MS6.0
ANN Anapa 90.95 316 eP **P** **06 04 18.0 +3.2**
SBA Scott Base 91.07 175 eP **P** **06 04 16.5 +1.8**
SBA pmax pmax
comp=Z,259nm,2.0s,mb6.2
SBA MLR MLR
comp=Z,3µm,20.0s,MS5.7
SBA Scott Base 91.07 175 eP **P** **06 04 16.5 +1.8**
comp=Z,259nm,2.0s,mb6.2
SBA LR LR
comp=Z,3µm,20.0s,MS5.7
MSO Missoula 91.19 42 PFAKE 06 04 30.0 +14
MSO LR LR
comp=Z,2µm,21.0s,MS5.5
ISA Isabella 91.29 53 PFAKE 06 04 30.0 +13
ISA LR LR
comp=Z,553nm,20.0s,MS5.0
TPH Tonopah 91.58 51 P **P** **06 04 19.3 +1.4**
TPH pmax pmax
comp=Z,31nm,1.2s,mb5.5
TPH Tonopah 91.58 51 eP **P** **06 04 18.7 +0.9**
comp=Z,32nm,1.3s,mb5.5
TPH LR LR
comp=Z,2µm,20.0s,MS5.6
CHMT Chamberlain Mo 91.61 41 eP **P** **06 04 19.7 +1.9**
DAC Darwin (Calif) 91.81 52 eP **P** **06 04 20.1 +1.1**
DAC pmax pmax
comp=Z,32nm,1.4s,mb5.5
DAC Darwin (Calif) 91.81 52 eP **P** **06 04 20.2 +1.3**
comp=Z,32nm,1.4s,mb5.5
DAC LR LR
comp=Z,3µm,20.0s,MS5.7
VSU Vasula 91.89 331 *i* P **P** **06 04 19.9 +1.1**
HLID Hailey 91.94 45 eP **P** **06 04 19.8 +0.4**
comp=Z,44nm,1.6s,mb5.5
HLID ePP PP 06 04 26.5 -0.3
HLID ePP PP 06 08 05.3 +3.8
HLID LR LR
comp=Z,4µm,22.0s,MS5.8
MWC Mount Wilson 92.02 55 P **P** **06 04 21.0 +1.0**
MWC Mount Wilson 92.02 55 eP **P** **06 04 20.9 +0.9**
MWC ePP PP 06 04 26.8 -0.6
MALT Malatya 92.21 310 P **P** **06 04 20.3 -0.5**
MALT pmax pmax
comp=Z,55nm,1.4s,mb5.7
MALT Malatya 92.21 310 eP **P** **06 04 20.3 -0.4**
comp=Z,55nm,1.4s,mb5.7
MALT ePP PP 06 04 26.6 -1.6
MALT ePP PP 06 08 13.2 +9.4
ELK Elko 92.25 48 eP **P** **06 04 21.6 +0.7**
comp=Z,17nm,1.1s,mb5.3
ELK ePP PP 06 04 28.2 -0.1
ELK LR LR
comp=Z,2µm,20.0s,MS5.6
DLMT Dillon 92.57 43 eP **P** **06 04 22.9 +0.6**
comp=Z,24nm,1.3s,mb5.5
MOR8 Moi Rana 92.58 341 eP **P** **06 04 20.2 -1.5**
MOR8 AMb AMB 06 04 32.3
comp=Z,107nm,1.7s,mb6.0
MOR8 Moi Rana 92.58 341 eP **P** **06 04 20.2 -1.5**
comp=Z,107nm,1.7s,mb6.0
MCMT McKenzie Canyo 92.58 43 eP **P** **06 04 22.6 +0.3**
HRY Holter Researc 92.60 41 eP **P** **06 04 22.4 +0.1**
TPNV Topopah Spring 92.65 51 P **P** **06 04 25.0 +2.2**
TPNV pmax pmax
comp=Z,54nm,1.6s,mb5.7
TPNV Topopah Spring 92.65 51 eP **P** **06 04 23.3 +0.5**
comp=Z,54nm,1.6s,mb5.7
TPNV LR LR
comp=Z,2µm,19.0s,MS5.6
BOZ Bozeman (W) 93.11 42 P **P** **06 04 25.8 +1.1**
BOZ pmax pmax
comp=Z,28nm,1.4s,mb5.5
BOZ Bozeman (W) 93.11 42 eP **P** **06 04 25.2 +0.5**
comp=Z,28nm,1.4s,mb5.5
BOZ ePP PP 06 04 31.7 -0.4
BOZ LR LR
comp=Z,3µm,22.0s,MS5.7
MNK Minsk 93.11 328 eP **P** **06 04 22.0 -2.5**
SIM Simferopol' 93.12 317 *c i* P **P** **06 04 31.2 +6.4**
SIM *e* 06 08 05.0
SIM eS S 06 15 22.0 -5.1
SIM pmax pmax
comp=Z,340nm,12.0s
EGMT Eagleton 93.43 39 eP **P** **06 04 26.2 +0.1**
comp=Z,30nm,1.4s,mb5.5
EGMT ePP PP 06 04 32.6 -1.0
EGMT LR LR
comp=Z,2µm,22.0s,MS5.6
PFO Pinyon Flat Ob 93.47 55 PFAKE 06 04 40.0 +13
PFO LR LR
comp=Z,661nm,21.0s,MS5.1
QLMT Earthquake Lak 93.53 43 eP **P** **06 04 27.4 +0.8**
HVU Hansel Valley 93.67 46 P **P** **06 04 29.4 +2.0**
HVU pmax pmax
comp=Z,63nm,1.6s,mb5.8
HVU Hansel Valley 93.67 46 eP **P** **06 04 28.4 +1.0**
comp=Z,63nm,1.7s,mb5.8
YMR Madison River 93.90 43 eP **P** **06 04 29.7 +1.4**
comp=Z,34nm,0.9s,mb5.8
YMR LR LR
comp=Z,3µm,19.0s,MS5.7
AKASG Malin Array Be 93.97 324 P **P** **06 04 26.6 -1.9**
comp=Z,6.4nm,0.9s,mb5.0,baz=54,slow=4.4,SNR=21
AKASG PP PP 06 08 11.7 -5.8
comp=Z,4.0nm,1.1s,baz=67,slow=10,SNR=4.9
AKASG PKKPbc 06 21 33.6
comp=Z,0.4nm,0.4s,baz=262,slow=3.2,SNR=6.2
YFT Old Faithful 94.06 43 eP **P** **06 04 31.2 +2.0**
YFT ePP PP 06 04 38.3 +1.8
NEN Nelson 94.12 52 eP **P** **06 04 30.1 +0.4**
DUG Dugway 94.17 48 eP **P** **06 04 29.7 0.0**
comp=Z,44nm,1.5s,mb5.7
DUG LR LR
comp=Z,2µm,19.0s,MS5.6
IMW Indian Meadow 94.19 44 eP **P** **06 04 31.0 +1.3**
comp=Z,31nm,1.3s,mb5.6
LKWY Lake 94.31 43 P **P** **06 04 33.3 +3.0**
LKWY pmax pmax
comp=Z,14nm,0.9s,mb5.4
LKWY Lake 94.31 43 eP **P** **06 04 31.4 +1.1**
comp=Z,14nm,0.9s,mb5.4
LKWY LR LR
comp=Z,3µm,20.0s,MS5.8
GCMT Greycliff 94.33 41 eP **P** **06 04 31.0 +0.7**
NSS Namsos 94.42 340 *e* **P** **06 04 29.7 -0.7**
NSS AMS AMS 06 49 23.4
comp=Z,6µm,19.7s,MS6.1
REDW Red Top Meadow 94.44 44 eP **P** **06 04 31.4 +0.5**
comp=Z,48nm,1.6s,mb5.7
JMIC Jan Mayen 94.46 350 LR LR 06 46 44.4
comp=Z,880nm,20.7s,MS5.2,baz=56,slow=35
JMIC Jan Mayen 94.46 350 eP **P** **06 04 31.4 +1.1**
JMIC *e* 06 17 13.5
JMIC eSS SS 06 22 13.4 +8.7
AHID Auburn Hatcher 94.49 45 eP **P** **06 04 31.3 +0.2**
comp=Z,44nm,1.4s,mb5.7
AHID LR LR
comp=Z,2µm,22.0s,MS5.6
ARUT Antelope Range 94.51 50 P **P** **06 04 38.6 +7.2**
ARUT Antelope Range 94.51 50 eP **P** **06 04 35.5 +4.2**
LOHW Long Hollow 94.52 44 eP **P** **06 04 31.7 +0.4**
comp=Z,29nm,1.5s,mb5.5
HWUT Hardware Ranch 94.58 46 eP **P** **06 04 32.1 +0.5**
comp=Z,8.7nm,0.4s,mb5.5
HWUT LR LR
comp=Z,3µm,22.0s,MS5.7
TCUT Toone Canyon 94.86 46 eP **P** **06 04 34.2 +1.3**
MPU Maple Canyon 95.09 47 eP **P** **06 04 35.0 +1.0**
comp=Z,36nm,1.7s,mb5.5
MPU LR LR
comp=Z,3µm,21.0s,MS5.7
MVU Marysvale 95.19 49 eP **P** **06 04 34.3 -0.1**
comp=Z,4.4nm,1.0s,mb4.8
MVU LR LR
comp=Z,2µm,19.0s,MS5.6
MSU Marysvale 95.21 49 P **P** **06 04 41.0 +6.4**
MSU Marysvale 95.21 49 eP **P** **06 04 35.3 +0.8**
DAU Daniels Canyon 95.22 47 P **P** **06 04 37.5 +2.9**
DAU Daniels Canyon 95.22 47 eP **P** **06 04 36.5 +1.9**
BR131 Keskin Array S 95.28 312 eP **P** **06 04 34.0 -0.9**
comp=Z,13nm,1.1s,mb5.3
BR131 LR LR
comp=Z,3µm,22.0s,MS5.7
BRTR Keskin Array B 95.28 312 P **P** **06 04 33.2 -1.6**
comp=Z,7.3nm,1.2s,mb5.0,baz=180,slow=1.2,SNR=9.5
BRTR PP PP 06 08 25.4 -1.9
comp=Z,11nm,1.3s,baz=90,slow=7.4,SNR=4.3
BRTR Keskin Array B 95.28 312 P **P** **06 04 33.3 -1.6**
BRTR 06 08 25.4
BRTR pmax pmax
comp=Z,7.0nm,1.2s
BRTR pmax pmax
comp=Z,11nm,1.3s
SUMG Summit 95.40 360 eP **P** **06 04 35.1 +0.5**
comp=Z,64nm,1.3s,mb5.9
BW06 Boulder Array 95.55 44 PFAKE 06 04 50.0 +14
BW06 LR LR
comp=Z,3µm,22.0s,MS5.7
PDAR Pinedale Array 95.55 44 P **P** **06 04 36.7 +0.7**
comp=Z,0.5nm,0.9s,baz=198,slow=2.9,SNR=3.0
PDAR PP PP 06 08 26.1 -3.3
comp=Z,5.0nm,1.2s,baz=315,slow=4.2,SNR=9.6
PDAR LR LR 06 41 42.0
comp=Z,2µm,21.1s,baz=309,slow=32
KIS Kishinev 95.75 320 eP **P** **06 04 42.0 +5.2**
KIS *e* 06 08 37.0
KIS eS S 06 15 53.0 +3.4
KIS *e* 06 17 06.0
KIS MLR MLR
comp=N,2µm,20.0s,MS6.0
KIS MLR MLR
comp=E,5µm,20.0s,MS6.0
KIS MLR MLR
comp=Z,6µm,20.0s,MS6.1
KIS MLR MLR
comp=Z,6µm,20.0s
SUW Suwalki 95.75 328 eP **P** **06 04 35.6 -1.1**
SUW ePP PP 06 08 37.0 +6.3
SUW eSKS SKS 06 15 15.9 -1.4
SUW ePS PS 06 17 17.1 +0.6
SUW eSP SP 06 17 27.4 +14
SUW eSS SS 06 22 46.3 +23
SUW MLR MLR 06 49 00.2
comp=Z,8µm,20.2s,MS6.2
SUW Suwalki 95.75 328 eP **P** **06 04 35.6 -1.1**
SUW *e* 06 08 37.0
SUW *e* 06 15 15.9
SUW ePS PS 06 17 17.1 +0.5
SUW MLR MLR
comp=Z,8µm,20.2s,MS6.2
SUW Suwalki 95.75 328 eP **P** **06 04 35.6 -1.1**
SUW ePP PP 06 08 37.0 +6.3
SUW eSKS SKS 06 15 15.9 -1.5
SUW ePS PS 06 17 17.1 +0.5
SUW eSP SP 06 17 27.4 +14
SUW eSS SS 06 22 46.3 +23
LAO LASA Array 96.17 40 eP **P** **06 04 38.9 +0.2**
comp=Z,44nm,1.0s,mb5.8
LAO LR LR
comp=Z,2µm,19.0s,MS5.7
SRU San Rafael 96.21 48 P **P** **06 04 43.0 +3.9**
SRU pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
SRU San Rafael 96.21 48 eP **P** **06 04 40.0 +0.8**
comp=Z,8.5nm,1.0s,mb5.1
HFS Hagfors 96.61 336 P **P** **06 04 38.6 -1.8**
comp=Z,6.6nm,0.9s,mb5.1,baz=117,slow=3.3,SNR=7.4
HFS LR LR 06 52 18.2
comp=Z,8µm,19.3s,MS6.2,baz=48,slow=38
DGMT Dagmar 96.63 37 PFAKE 06 04 50.0 +9.2
DGMT LR LR
comp=Z,5µm,22.0s,MS5.9
SCO Scoresbysund 96.68 354 *i* P **P** **06 04 46.0 +5.5**
MAW Mawson 96.75 202 eP **P** **06 04 39.7 -1.2**
comp=Z,9.8nm,0.9s,mb5.2
MAW Mawson 96.75 202 P **P** **06 04 40.1 -0.8**
comp=Z,3.0nm,0.5s,mb5.0,baz=211,slow=3.5,SNR=7.3
MAW LR LR 06 46 24.6
comp=Z,3µm,21.2s,MS5.7,baz=73,slow=34
MAW Mawson 96.75 202 P **P** **06 04 40.1 -0.8**
MAW pmax pmax
comp=Z,3.0nm,0.5s
MAW MLR MLR
comp=Z,3µm,21.2s
WUAZ Wupatki 96.84 52 PFAKE 06 04 50.0 +8.0
WUAZ LR LR
comp=Z,2µm,20.0s,MS5.7
NB2 NORSAR Subarra 96.97 338 P **P** **06 04 40.7 -1.3**
comp=Z,28nm,1.1s,mb5.6,baz=47,slow=4.8
NB2 NORSAR Subarra 96.97 338 P **P** **06 04 40.7 -1.3**
baz=47,slow=5.1
NB2 NORSAR Subarra 96.97 338 P **P** **06 04 40.7 -1.3**
NB2 pmax pmax
comp=Z,28nm,1.1s,mb5.6
NOA NORSAR Array B 96.97 338 P **P** **06 04 40.3 -1.7**
comp=Z,3.3nm,0.7s,mb4.9,baz=50,slow=4.8,SNR=8.1
NOA PP PP 06 08 38.1 -2.2
comp=Z,5.7nm,1.1s,baz=48,slow=8.6,SNR=3.7
NOA LR LR 06 53 21.6
comp=Z,6µm,19.9s,MS6.1,baz=55,slow=38
NAO01 NORSAR Array S 97.22 338 PFAKE 06 04 50.0 +6.9
NAO01 LR LR
comp=Z,11µm,20.0s,MS6.3
VRI Vrincioaia 97.54 320 ⇓P **P** **06 04 50.3 +5.4**
PV10 Paradox Valley 97.56 48 eP **P** **06 04 44.9 -0.3**
WAR Warsaw 97.78 328 eP **P** **06 04 42.0 -3.8**
WAR eSS SS 06 23 18.0 +26
WAR MLR MLR 06 50 25.8
comp=Z,7µm,23.6s,MS6.1
WAR Warsaw 97.78 328 eP **P** **06 04 42.0 -3.8**
WAR MLR MLR
comp=Z,7µm,23.6s,MS6.1
WAR Warsaw 97.78 328 eP **P** **06 04 42.0 -3.8**
WAR eSS SS 06 23 18.0 +26
WAR LR LR
comp=Z,7µm,23.6s,MS6.1
PV01 Paradox Valley 97.99 48 eP **P** **06 04 52.4 +5.2**
KWP Kalwaria 98.18 325 eP **P** **06 04 47.4 -0.4**
KWP ePP PP 06 08 54.4 +4.3
KWP eSP SP 06 17 43.6 +4.6
KWP ePS PS 06 17 44.6 +2.6
KWP eSS SS 06 23 13.6 +16
KWP MLR MLR 06 49 36.3
comp=Z,15µm,23.0s,MS6.4
KWP Kalwaria 98.18 325 eP **P** **06 04 47.4 -0.3**
KWP *e* 06 08 54.4
KWP eSP SP 06 17 43.6 +4.6
KWP MLR MLR
comp=Z,15µm,23.0s,MS6.4
MLR Muntele Rosu 98.20 320 P **P** **06 04 47.4 -0.5**
comp=Z,1.4nm,0.4s,mb4.9,baz=218,slow=8.7,SNR=3.7
ISP Isparta 98.25 311 *i* P **P** **06 04 47.9 -0.4**
TUC Tucson 98.40 54 PFAKE 06 05 00.0 +11
TUC LR LR
comp=Z,1µm,19.0s,MS5.5
KONO Kongsberg 98.50 337 *e* **P** **06 04 54.5 +5.6**
KONO *e* 06 17 41.8
KONO *i* 06 22 59.8
KONO eSS SS 06 23 00.9 -0.5
KONO Kongsberg 98.50 337 PFAKE 06 05 00.0 +11
KONO LR LR
comp=Z,7µm,20.0s,MS6.2
RSSD Black Hills 98.66 41 PFAKE 06 05 00.0 +10
RSSD LR LR
comp=Z,664nm,19.0s,MS5.2
KOLS Kolonicke sedl 98.78 324 *e* **P** **06 04 55.9 +5.5**
STHS Stebnicka Huta 99.11 325 eP **P** **06 04 51.8 -0.1**
STHS *e* pP 06 04 57.7 -1.7
STHS *e* 06 05 22.5
STHS *e* 06 07 45.4
BSD Bornholm Skovb 99.17 332 *i* P **P** **06 04 59.7 +7.6**
BSD *i* 06 08 38.2
BSD *i* 06 17 20.0
BSD *i* 06 23 25.2
comp=Z,5µm,20.0s
BSD Bornholm Skovb 99.17 332 eP **P** **06 04 59.7 +7.6**
BSD MLR MLR
comp=Z,4µm,20.0s,MS6.0
CRVS Cervenica-Dubn 99.25 324 eP **P** **06 04 52.2 -0.4**
CRVS *e* pP 06 04 58.5 -1.6
CRVS *e* 06 08 03.2
CRVS ePP PP 06 09 00.6 +2.7
CRVS Cervenica-Dubn 99.25 324 eP **P** **06 04 52.2 -0.4**
CRVS *e* pP 06 04 58.5 -1.6
CRVS *e* 06 09 00.6
ISCO Idaho Springs 99.45 46 PFAKE 06 05 10.0 +16
ISCO LR LR
comp=Z,3µm,22.0s,MS5.8
OJC Ojcow 99.50 326 eP **P** **06 04 53.6 -0.1**
OJC ePP PP 06 08 54.9 -4.9
OJC ⇑eSKSa 06 15 29.4
OJC eSP SP 06 17 50.0 -3.0
OJC eSS SS 06 23 11.7 -3.9
OJC MLR MLR 06 52 10.3
comp=Z,12µm,18.5s,MS6.4
OJC Ojcow 99.50 326 eP **P** **06 04 53.6 -0.1**
OJC *e* 06 08 54.9
OJC eSP SP 06 17 50.0 -3.0
OJC eSS SS 06 23 11.7 -3.9
OJC MLR MLR
comp=Z,12µm,18.5s,MS6.4
BER Bergen 99.52 339 *e* PS 06 18 12.8 +17
BER eSS SS 06 23 22.2 +6.5
BER AMS AMS 06 51 30.6
comp=Z,5µm,22.8s,MS6.0
NIE Niedzica 99.63 325 eP **P** **06 04 54.1 -0.2**
COP Copenhagen 99.93 333 *i* P **P** **06 05 01.3 +5.7**
COP *i* 06 09 13.5
COP *i* S SP 06 18 06.7 +9.5
COP *i* 06 23 40.6
comp=Z,3µm,22.0s
KECS Kecovo 100.03 324 eP P 06 04 55.5 -0.7
KECS *e* 06 05 01.8
KECS *e* 06 08 17.8
SDCO Great Sand Dun 100.37 48 PFAKE 06 05 10.0 +12
SDCO LR LR
comp=Z,2µm,20.0s,MS5.7
ULM Lac du Bonnet 100.44 33 P P 06 04 56.1 -1.8
comp=Z,2.2nm,1.1s,baz=265,slow=19,SNR=2.6
OKC Ostrava-Krasne 100.60 326 ePDIF P 06 04 59.3 +0.6
OKC epP 06 05 04.0
OKC ePP PP 06 09 12.5 +3.9
OKC eSP SP 06 18 00.0 -4.6
OKC AMS AMS 06 52 40.0
comp=Z,10µm,17.8s
OKC Ostrava-Krasne 100.60 326 eP P 06 04 59.3 +0.6
OKC *e* 06 09 12.5
OKC eSP SP 06 18 00.0 -4.6
ANMO Albuquerque 100.78 51 *i* P P 06 04 58.5 -1.4
ANMO Albuquerque 100.78 51 PFAKE 06 05 10.0 +10
ANMO LR LR
comp=Z,2µm,19.0s,MS5.6
MUD Monsted U'grnd 100.82 335 *i* P P 06 05 08.3 +8.8
MUD *i* 06 09 19.9
MUD Monsted U'grnd 100.82 335 eP P 06 05 08.3 +8.8
MUD *i* PP 06 09 19.9 +10
MUD *i* S SS 06 23 52.6 +19
MUD MLR MLR
comp=Z,5µm,20.0s,MS6.0
VYHS Vyhne 100.95 325 eP P 06 04 59.1 -1.2
VYHS *e* 06 05 05.8
VYHS *e* 06 05 19.1
VYHS *e* 06 08 03.3
VYHS *e* 06 09 15.1
VYHS Vyhne 100.95 325 eP P 06 04 59.1 -1.2
VYHS *e* 06 09 15.1
MORC Moravsky Berou 100.96 327 eP P 06 04 59.7 -0.6
MORC pmax pmax
comp=Z,17nm,1.3s
MORC Moravsky Berou 100.96 327 eP P 06 04 59.7 -0.6
comp=Z,17nm,1.3s
KSP Ksiaz 101.01 328 eP P 06 05 00.3 -0.2
KSP ePP PP 06 09 18.4 +6.5
KSP eSKS SKS 06 15 53.4 +9.2
KSP ePS PS 06 18 14.6 +2.7
KSP eSP SP 06 18 15.5 +6.4
KSP eSS SS 06 23 56.1 +19
KSP MLR MLR 06 54 35.3
comp=Z,14µm,19.0s,MS6.5
KSP Ksiaz 101.01 328 eP P 06 04 59.5 -1.0
KSP *e* 06 09 08.0
KSP *e* 06 15 42.0
KSP eSP SP 06 18 08.0 -1.1
KSP eSS SS 06 23 34.0 -2.9
KSP MLR MLR
comp=Z,16µm,19.0s,MS6.6
KSP Ksiaz 101.01 328 eP P 06 04 59.5 -1.0
KSP epP 06 05 05.5
KSP ePP PP 06 09 08.0 -3.9

KSP eSKS SKS 06 15 42.0 -2.2
KSP eSP SP 06 18 08.0 -1.1
KSP eSS SS 06 23 34.0 -2.9
KSP LR LR
comp=Z,16μm,19.0s,MS6.6
DPC Dobruska-Polom 101.28 328 ePDIF P 06 05 01.1 -0.7
DPC epP 06 05 07.7
DPC ex x 06 09 20.0
DPC ex x 06 15 50.0
DPC ePS PS 06 18 16.9 +2.3
DPC AMS AMS 06 53 40.0
comp=Z,7μm,19.9s
DPC Dobruska-Polom 101.28 328 eP P 06 05 01.1 -0.7
DPC e 06 09 20.0
DPC eSP SP 06 18 16.9 +5.1
DPC MLR MLR
comp=Z,7μm,19.9s,MS6.2
UPC Upice 101.35 328 ePDIF P 06 05 01.8 -0.3
UPC epP 06 05 07.6
VRAC Vranov 101.73 327 P P 06 05 02.1 -1.7
comp=Z,7.4nm,1.1s,baz=98,slow=8.4,SNR=6.0
BSEG Bad Segeberg 102.00 333 ePP PP 06 09 23.7 +5.0
ZST Bratislava 102.08 325 e 06 09 24.0
PVCC Panska Ves 102.09 328 ePDIF Pdif 06 05 05.0 -0.4
PVCC epP 06 05 10.9
PVCC AMS AMS 06 53 30.0
comp=Z,8μm,19.3s
PVCC Panska Ves 102.09 328 eP Pdif 06 05 05.0 -0.4
PVCC MLR MLR
comp=Z,8μm,19.3s,MS6.3
BORG Borgarnes 102.12 352 PFAKE 06 05 20.0 +15
BORG LR LR
comp=Z,1μm,21.0s,MS5.4
BRG Berggiesshubel 102.20 329 eP Pdif 06 05 05.0 -0.8
BRG i PS PS 06 18 25.0 +1.0
BRG SS SS 06 23 59.0 +5.5
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=N,7μm,25.4s,MS6.2
BRG MLR MLR
comp=E,4μm,24.7s,MS6.2
BRG MLR MLR
comp=Z,8μm,26.8s,MS6.1
GRUS Gruza 102.24 320 eP Pdif 06 05 10.8 +4.6
TREC Trest 102.33 327 AMS AMS 06 54 10.0
comp=Z,10μm,18.1s
CLL Collm 102.40 330 i PDIF Pdif 06 05 06.0 -0.7
CLL i 06 05 11.8
CLL i 06 05 26.5
CLL e 06 08 18.0
CLL i 06 08 36.5
CLL ePP PP 06 09 26.0 +4.0
CLL ePPP PPP 06 11 36.0 +2.0
CLL e 06 15 54.0
CLL ePS PS 06 18 26.0 -0.2
CLL ePPS PPS 06 19 12.0 -5.7
CLL eSS SS 06 24 06.0 +10
CLL eSSS SSS 06 28 00.0 +10
CLL Collm 102.40 330 i P Pdif 06 05 06.0 -0.7
CLL ePS PS 06 18 26.0 -0.2
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL MLR MLR
comp=Z,9μm,17.5s,MS6.3
CLL Collm 102.40 330 i Pdif Pdif 06 05 06.0 -0.7
comp=Z,10.0nm,1.1s
CLL i pP 06 05 11.8
CLL ePS PS 06 18 26.0 -0.2
CLL LR LR
comp=Z,9μm,17.5s,MS6.3
PRU Pruhonice 102.42 328 ePDIF Pdif 06 05 05.1 -1.8
PRU epP 06 05 12.6
PRU ex x 06 08 30.1
PRU ePP PP 06 09 26.7 +4.5
PRU eSP SP 06 18 25.0 +1.3
PRU AMS AMS 06 55 20.0
comp=Z,8μm,19.0s
PRU Pruhonice 102.42 328 eP Pdif 06 05 05.1 -1.8
PRU e 06 09 26.7
PRU eSP SP 06 18 25.0 +1.3
PRU MLR MLR
comp=Z,8μm,19.0s,MS6.3
DIVS Divcibare 102.58 321 eP Pdif 06 05 11.3 +3.6
MNTX Cornudas Mount 102.89 53 PFAKE 06 05 20.0 +11
MNTX LR LR
comp=Z,1μm,22.0s,MS5.5
CLZ Clausthal 103.34 331 ePdif Pdif 06 05 10.1 -0.7
CLZ ePP PP 06 09 34.9 +5.8
CLZ eSP SP 06 18 36.2 +2.9
CLZ eSS SS 06 24 28.5 +19
NKC Novy Kostel 103.34 329 ePDIF Pdif 06 05 10.9 0.0
NKC epP 06 05 16.9
NKC eSP SP 06 18 34.1 +0.6
NKC AMS AMS 06 52 00.0
comp=Z,10μm,22.3s
NKC Novy Kostel 103.34 329 eP Pdif 06 05 10.9 0.0
NKC eSP SP 06 18 34.1 +0.6
KHC Kasperske Hory 103.44 328 ePDIF Pdif 06 05 10.6 -0.7
KHC epP 06 05 16.7
KHC ex x 06 08 26.8
KHC ePP PP 06 09 35.1 +5.2
KHC eSP SP 06 18 34.4 0.0
KHC AMS AMS 06 55 40.0
comp=Z,10μm,18.4s
KHC Kasperske Hory 103.44 328 eP Pdif 06 05 10.6 -0.7
KHC e 06 09 35.1
KHC eSP SP 06 18 34.4 0.0
KHC MLR MLR
comp=Z,10μm,18.4s,MS6.4
MOX Moxa 103.50 330 i P Pdif 06 05 12.9 +1.3
comp=Z,logA/T=1.1
MOX i 06 05 17.0
MOX PP PP 06 09 33.0 +2.7
MOX PS PS 06 18 35.0 -2.8
MOX PKKP PKKP 06 21 10.0 +3.3
MOX SS SS 06 24 30.0 +19
MOX L 06 56 15.0
MOX Moxa 103.50 330 eP Pdif 06 05 12.9 +1.3
MOX pmax pmax
comp=Z,20nm,1.4s
MOX MLR MLR
comp=Z,4μm,18.0s,MS6.0
MOX Moxa 103.50 330 eP Pdif 06 05 12.9 +1.3
comp=Z,20nm,1.4s
MOX e 06 05 17.2
MOX LR LR
comp=Z,4μm,18.0s,MS6.0
GEC2 GERESS Array S 103.55 327 eP Pdif 06 05 11.0 -0.8
GEC2 e 06 09 36.8
GEC2 eSP SP 06 18 39.6 +4.1
GEC2 eSS SS 06 24 27.9 +16
KMBO Kilima Mbogo 103.74 272 PFAKE 06 05 20.0 +6.5
KMBO LR LR
comp=Z,882nm,22.0s,MS5.2
WET Wettzell 103.80 328 eP Pdif 06 05 18.0 +5.1
WET e 06 09 38.7
WET eSP SP 06 18 42.3 +4.3
WET eSS SS 06 24 33.1 +18
MOA Molln 103.84 326 ⇑ iP Pdif 06 05 10.2 -3.0
comp=Z,10nm,1.1s
CBKS Cedar Bluff 103.97 45 PFAKE 06 05 30.0 +16
CBKS LR LR
comp=Z,3μm,21.0s,MS5.8
EYMN Ely 104.12 33 PFAKE 06 05 30.0 +16
EYMN LR LR
comp=Z,4μm,22.0s,MS5.9
GRA1 Grafenberg Arr 104.30 329 ePdif Pdif 06 05 15.5 +0.4
GRA1 ePP PP 06 09 42.6 +6.4
GRA1 eSP SP 06 18 47.8 +4.8
GRA1 e 06 19 39.5
GRA1 ePKKPbc 06 21 08.0
GRA1 eSS SS 06 24 41.0 +19
GRA1 LR LR
comp=Z,9μm,21.6s,MS6.3
GRF Grafenberg Arr 104.30 329 eP Pdif 06 05 15.5 +0.4
GRF e 06 09 42.6
GRF eSP SP 06 18 47.8 +4.8
GRF e 06 19 39.5
GRF eSS SS 06 24 41.0 +19
GRF MLR MLR
comp=Z,9μm,21.6s,MS6.3
GRF Grafenberg Arr 104.30 329 eP Pdif 06 05 15.5 +0.4
GRF e 06 09 42.6
GRF eSP SP 06 18 47.8 +4.8
GRF e 06 19 39.5
GRF eSS SS 06 24 41.0 +19
GRF MLR MLR
comp=Z,9μm,21.6s,MS6.3
GRF Grafenberg Arr 104.30 329 ePdif Pdif 06 05 15.5 +0.4
GRF ePP PP 06 09 42.6 +6.4
GRF eSP SP 06 18 47.8 +4.8
GRF e 06 19 39.5
GRF ePKKPbc 06 21 08.0
GRF eSS SS 06 24 41.0 +19
GRF MLR MLR
comp=Z,9μm,21.6s,MS6.3
WTSB Winterswijk 104.90 333 ePKP 06 09 39.9
comp=Z,72nm,1.9s
LTX Lajitas 105.18 55 PFAKE
LTX LR LR
comp=Z,2μm,20.0s,MS5.7
TXAR Lajitas Array 105.18 55 Pdiff Pdif 06 05 20.4 +0.8
comp=Z,0.4nm,1.0s,baz=292,slow=4.9,SNR=3.5
TXAR PKKP PKKP 06 21 06.1 +1.9
comp=Z,0.5nm,0.9s,baz=135,slow=3.5,SNR=3.7
FUR Furstenfeldbru 105.24 328 ePP PP 06 09 49.6 +6.1
FUR eSP SP 06 19 00.0 +7.6
TNS Taunus Mts 105.32 331 ePP PP 06 09 49.5 +5.5
TNS eSP SP 06 19 00.0 +6.8
SYO Syowa Base 105.43 201 ⇑ PKiKP 06 09 30.3
SYO Syowa Base 105.43 201 ⇑ pPKiKP 06 09 41.8
HGN Heimansgroeve 106.13 332 ePKP 06 09 51.6
comp=Z,62nm,3.9s
HGN Heimansgroeve 106.13 332 eSS SS 06 24 35.5 -12
EKA Eskdalemuir Ar 106.31 340 Pdiff Pdif 06 05 24.4 +0.6
comp=Z,2.5nm,0.9s,baz=34,slow=6.0,SNR=4.5
EKA PP PP 06 09 47.3 -3.8
comp=Z,6.8nm,1.0s,baz=29,slow=8.6,SNR=5.0
ESK Eskdalemuir 106.34 340 PFAKE 06 09 50.0
ESK LR LR
comp=Z,1μm,21.0s,MS5.5
WMOK Wichita Mounta 106.57 48 PFAKE 06 09 50.0
WMOK LR LR
comp=Z,2μm,21.0s,MS5.7
BFO Black Forest 106.64 329 ePdif Pdif 06 05 26.6 +1.2
BFO ePP PP 06 09 58.5 +4.6
BFO eSP SP 06 19 16.8 +10
BFO eSS SS 06 25 15.5 +21
DAVOX Davos 106.85 327 Pdiff Pdif 06 05 27.1 +0.6
comp=Z,2.5nm,0.9s,baz=338,slow=18,SNR=2.4
GIVF Givet 107.10 332 ePKIKP 06 09 35.5
CDF Champ du Feu 107.10 330 ePKIKP 06 09 36.2
BAIF Baives 107.41 332 ePKIKP 06 09 35.7
HINF Hinteralfeld 107.72 330 ePKIKP 06 09 37.3
JCT Junction City 107.75 52 PFAKE 06 09 50.0
JCT LR LR
comp=Z,2μm,19.0s,MS5.7
HAU Haudompre 107.83 330 ePKIKP 06 09 37.7
HAU eR
comp=Z,8μm,18.8s
SCHQ Schefferville 109.18 17 PFAKE 06 09 50.0
SCHQ LR LR
comp=Z,2μm,22.0s,MS5.7
LOR Lormes 109.56 331 ePKIKP 06 09 40.6
LOR eR
comp=Z,7μm,21.5s
SSF Saint Saulge 109.87 331 ePKIKP 06 09 41.0
comp=Z,54nm,1.7s
SMF Signal de Mont 110.01 330 ePKIKP PKPdf 06 09 42.1 -3.1
CCM Cathedral Cave 110.05 42 ePKIKP PKPdf 06 09 42.4 -3.1
CCM MLR MLR
comp=Z,644nm,21.0s,MS5.2
AVF Avril sur Loir 110.14 331 ePKIKP PKPdf 06 09 42.2 -3.3
MIAR Mount Ida 110.39 46 ePKIKP PKPdf 06 09 43.4 -2.9
MIAR MLR MLR
comp=Z,2μm,22.0s,MS5.6
FLN La Foliniere 110.43 334 ePKIKP PKPdf 06 09 42.8 -3.2
FLN eR
comp=Z,8μm,23.0s
VIVF Saint-Julien-l 110.84 328 ePKIKP PKPdf 06 09 42.9 -4.0
GRR Gorron 110.88 334 ePKIKP PKPdf 06 09 43.9 -3.0
NATX Nacogdoches 111.03 49 PFAKE 06 10 00.0 +12
NATX LR LR
comp=Z,2μm,20.0s,MS5.7
TCF Toulx Ste Croi 111.05 331 ePKIKP PKPdf 06 09 43.8 -3.5
SGMF Saint Gilles 111.70 335 ePKIKP PKPdf 06 09 45.3 -3.1
ROSF Rostrenen 111.93 335 ePKIKP PKPdf 06 09 45.3 -3.6
RPN Rapa Nui 112.80 114 PFAKE 06 10 00.0 +8.8
RPN LR LR
comp=Z,633nm,20.0s,MS5.2
WCI Wyandotte Cave 113.08 39 PFAKE 06 10 00.0 +8.5
WCI LR LR
comp=Z,805nm,20.0s,MS5.3
OXF Oxford 113.28 44 PFAKE 06 10 00.0 +8.0
OXF LR LR
comp=Z,2μm,22.0s,MS5.8
WVT Waverly 113.39 42 PFAKE 06 10 00.0 +7.8
WVT LR LR
comp=Z,3μm,20.0s,MS5.8
ACSO Alum Creek Sta 113.75 36 PFAKE 06 10 00.0 +7.2
ACSO LR LR
comp=Z,3μm,22.0s,MS5.8
ERPA Erie 114.08 32 PFAKE 06 10 00.0 +6.6
ERPA LR LR
comp=Z,4μm,21.0s,MS6.0
LSZ Lusaka 114.95 259 PFAKE 06 10 00.0 +4.4
LSZ LR LR
comp=Z,1μm,20.0s,MS5.6
NCB Newcomb 115.52 28 PFAKE 06 10 00.0 +3.9
NCB LR LR
comp=Z,2μm,22.0s,MS5.7
LRAL Lakeview Retre 115.77 44 PFAKE 06 10 10.0 +13
LRAL LR LR
comp=Z,2μm,21.0s,MS5.7
MCWV Mont Chateau 115.90 34 PFAKE 06 10 10.0 +13
MCWV LR LR
comp=Z,6μm,22.0s,MS6.2
LBNH Lisbon 116.31 26 PFAKE 06 10 10.0 +12
LBNH LR LR
comp=Z,2μm,20.0s,MS5.8
SNAA Sanae 116.70 192 ePKIKP PKPdf 06 09 53.7 -4.1
BLA Blacksburg 117.27 37 PFAKE 06 10 10.0 +10
BLA LR LR
comp=Z,4μm,21.0s,MS6.0
GOGA Godfrey 117.89 42 PFAKE 06 10 10.0 +9.1
GOGA LR LR
comp=Z,3μm,22.0s,MS5.9
LBTB Lobatse 118.03 248 PFAKE 06 10 10.0 +8.6
LBTB LR LR
comp=Z,1μm,20.0s,MS5.5
WES Weston 118.07 27 PFAKE 06 10 10.0 +9.0
WES LR LR
comp=Z,2μm,21.0s,MS5.8
CBN Corbin 118.28 34 PFAKE 06 10 10.0 +8.4
CBN LR LR
comp=Z,7μm,20.0s,MS6.3
PBRG Braganca 118.62 333 ePP PP 06 11 24.4 +4.0
ESDC Sonseca Array 118.99 330 PP PP 06 11 19.7 -3.4
comp=Z,0.4nm,0.4s,baz=33,slow=8.2,SNR=5.1
ESLA Sonseca Array 118.99 330 PFAKE 06 10 10.0 +7.0
ESLA LR LR
comp=Z,35μm,21.0s
PVRL Vila Real 119.48 333 ePP PP 06 11 27.7 +1.8
PVIS Viseu 120.01 333 ePP PP 06 11 32.0 +2.9
MTE Manteigas 120.11 333 ePP PP 06 11 30.5 +0.6
MTE Manteigas 120.11 333 eSS SS 06 28 08.7 +16
MTE Manteigas 120.11 333 eLR LR 06 50 36.5
comp=Z,6μm,24.0s
NHSC New Hope 120.18 40 PFAKE 06 10 10.0 +4.6
NHSC LR LR
comp=Z,2μm,20.0s,MS5.7
PCBR Castelo Branco 120.53 332 ePP PP 06 11 37.3 +4.5
PTOM Tomar 121.14 333 ePP PP 06 11 41.2 +4.2
EVO Evora 121.83 332 ePKIKP PKPdf 06 10 05.0 -3.5
EVO eR
comp=Z,11μm,21.2s
PLOU Loures 122.07 333 ePP PP 06 11 47.6 +4.0
PBEJ Beja 122.17 331 ePP PP 06 11 48.0 +3.7
DWPF Disney 122.56 45 PFAKE 06 10 20.0 +10
DWPF LR LR
comp=Z,694nm,22.0s,MS5.3
PTEO Sao Teotonio 122.96 332 ePP PP 06 11 55.1 +5.2
PMSA Palmer Station 124.70 167 PFAKE 06 10 20.0 +6.7
PMSA LR LR
comp=Z,2μm,22.0s,MS5.7
TSUM Tsumeb 125.34 255 PFAKE 06 10 20.0 +4.2
TSUM LR LR
comp=Z,1μm,20.0s,MS5.6
ADH Angra Heroismo 128.23 348 *i* LR LR 06 53 22.5
JTS JuntasAbangare 129.11 66 PFAKE 06 10 30.0 +6.8
JTS LR LR
comp=Z,273nm,20.0s,MS4.9
BBSR BB Station 129.28 28 PFAKE 06 10 30.0 +6.9
BBSR LR LR
comp=Z,2μm,21.0s,MS5.7
EFI East Falkland 137.70 162 PFAKE 06 10 50.0 +12
EFI LR LR
comp=Z,734nm,22.0s,MS5.4
OTAV Otavalo 138.88 75 ePKPdf PKPdf 06 10 37.7 -3.7
OTAV LR LR
comp=Z,1μm,20.0s,MS5.7
SJG San Juan 139.63 42 PKP PKPdf 06 10 37.3 -5.2
comp=Z,6.0nm,0.3s,baz=349,slow=16,SNR=2.7
SJG San Juan 139.63 42 PKP PKPdf 06 10 37.4 -5.2
SJG LR LR
comp=Z,2μm,22.0s,MS5.9
CPD Cerro la Pandu 139.84 42 ePKIKP PKPdf 06 10 38.9 -4.1
MTP Monte Pirata 140.03 42 ePKPdf PKPdf 06 10 37.4 -5.9
PLCA Paso Flores 140.29 141 PKP PKPdf 06 10 39.6 -3.6
comp=Z,6.9nm,0.9s,baz=228,slow=4.2,SNR=9.4
PLCA Paso Flores 140.29 141 ePKPdf PKPdf 06 10 40.0 -3.2
PLCA LR LR
comp=Z,2μm,22.0s,MS5.8
ROSC El Rosal 140.94 66 PKP PKPdf 06 10 43.0 -2.2
comp=Z,7.4nm,0.9s,baz=93,slow=21,SNR=6.9
DBIC Dimbokro 141.28 297 PKP PKPdf 06 10 42.1 -3.6
comp=Z,6.5nm,0.9s,baz=335,slow=5.3,SNR=7.4
DBIC Dimbokro 141.28 297 ePKIKP PKPdf 06 10 43.0 -2.8
DBIC MLR MLR
comp=Z,2μm,22.0s
LIC Lamto 141.64 297 ePKIKP PKPdf 06 10 42.4 -4.0
comp=Z,22nm,0.8s
LIC eR
comp=Z,4μm,22.2s
SDV Santo Domingo 142.16 58 PKhKP 06 10 40.0
baz=326,slow=10.0
SDV PKP PKPdf 06 10 45.0 -2.3
comp=Z,41nm,1.1s,baz=291,slow=5.6
SDV Santo Domingo 142.16 58 ePKPdf PKPdf 06 10 40.0 -7.3
SDV PKP PKPdf 06 10 45.0 -2.3
SDV LR LR
comp=Z,1μm,21.0s,MS5.6
NNA Nana 142.95 94 ePKPdf PKPdf 06 10 48.3 -0.3
NNA LR LR
comp=Z,269nm,20.0s,MS5.0
PEL Peldehue 144.27 131 ⇑ *i*P PKPbc 06 10 45.1 -0.3
FCH Farellones 144.48 131 ⇑ iP PKPbc 06 10 47.5 +1.5
CMCH Combarbala 144.92 128 ⇑ iP PKPbc 06 10 47.6 +0.3
TRIS Tristan da Cun 145.62 219 PFAKE 06 11 00.0 +11
TRIS LR LR
comp=Z,891nm,19.0s,MS5.6
SVB Belmont 146.37 42 eP PKPbc 06 10 58.7 +7.4
TRQA Tornquist 147.05 145 ePKPdf PKPdf 06 10 53.8 -1.2
TRQA LR LR
comp=Z,2μm,22.0s,MS5.9
TRN Trinidad (W) 148.16 45 eP PKPdf 06 11 03.3 +5.9
ARE Arequipa 148.19 102 ePKIKP PKPdf 06 10 55.0 -2.4
ARE e 06 11 06.0
CEN1 Los Morros 148.29 115 ⇓ *i*P PKPdf 06 10 58.2 +0.8
LPAZ La Paz 151.42 102 PKP PKPdf 06 11 01.2 -1.2
comp=Z,16nm,1.3s,baz=359,slow=3.1,SNR=22
LPAZ PKPbc PKPdf 06 11 06.4 +3.9
comp=Z,30nm,0.7s,baz=306,slow=2.7,SNR=53
LPAZ La Paz 151.42 102 ePKPdf PKPdf 06 11 00.9 -1.5
LPAZ ePKPbc PKPdf 06 11 06.9 +4.5
LPAZ LR LR
comp=Z,1μm,22.0s,MS5.6
LPA La Plata 151.58 146 *de*PKP PKPdf 06 10 56.0 -6.2
LPA *es*PKP 06 11 08.0
LPA *ep*PKP 06 11 11.0
LPA La Plata 151.58 146 ePKP PKPdf 06 11 14.0 +12
LPA *es*PKP 06 11 26.0
LPA ePKS PKS 06 14 35.0 +3.7
comp=Z,2μm,22.0s
CPUP Villa Florida 157.71 132 ePKIKP PKPdf 06 11 09.2 -1.6
CPUP MLR MLR
comp=Z,300nm,20.0s
SIV San Ignacio 158.20 103 PKP PKPdf 06 11 08.7 -3.0
comp=Z,2.0nm,0.9s,baz=349,slow=2.8,SNR=7.5
SIV PKPab PKPab 06 11 41.9 -1.7
comp=Z,7.8nm,1.0s,baz=280,slow=3.7,SNR=5.2
BDFB Brasilia 170.55 112 PKP PKPdf 06 11 20.1 -2.3
comp=Z,11nm,1.1s,baz=266,slow=3.4,SNR=6.7

*IDC **20** 05:56:07.7±0.6, 12.33N×141.17E, mb4.7/17, mb1 4.8/17, mb1mx4.7/24, mbtmp4.7/17, Error ellipse: s-maj=24.4km s-min=14.9km az=81.0*

ISC 20 05:56:10.9±0.5, 12.27N±0.08×141.1E±0.1, h33km, n21, σ0s85/19, mb4.6/19, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**24.31**	**354**	P	**P**		**06 01 25.5**	**-1.2**
	5.1nm,0.8s,mb3.9,baz=167,slow=9.9,SNR=3.2							
CTA	**Charters Tower**	**32.54**	**171**	P	**P**		**06 02 41.3**	**-0.1**
	10nm,1.0s,mb4.7,baz=326,slow=13,SNR=4.1							
WRA	**Warramunga Arr**	**32.70**	**192**	P	**P**		**06 02 41.9**	**-0.8**
	4.9nm,0.7s,mb4.6,baz=10,slow=9.8,SNR=6.3							
DZM	**Mont Dzumac**	**42.20**	**144**	P	**P**		**06 04 03.6**	**+0.9**
	6.9nm,0.7s,mb4.4,baz=18,slow=9.6,SNR=5.4							
PSI	**Prapat**	**42.83**	**261**	P	**P**		**06 04 07.4**	**-0.5**
	9.5nm,0.9s,mb4.5,baz=114,slow=2.0,SNR=4.1							
STKA	**Stephens Creek**	**43.89**	**179**	P	**P**		**06 04 16.2**	**-0.2**
	5.6nm,0.4s,mb4.6,baz=346,slow=7.1,SNR=11							
SONM	**Songino Array**	**45.80**	**328**	P	**P**		**06 04 31.9**	**+0.5**
	3.9nm,0.9s,mb4.3,baz=153,slow=9.7,SNR=4.3							
FX1	**Attu Island--F**	**47.93**	**26**	P	**P**		**06 04 45.2**	**-2.9**
	44nm,0.9s,mb5.5,baz=246,slow=15,SNR=3.1							
MKAR	**Makanchi Array**	**59.94**	**317**	P	**P**		**06 06 16.8**	**+0.5**
	7.6nm,0.9s,mb4.8,baz=108,slow=7.7,SNR=6.2							
BVAR	**Borovoye Array**	**68.72**	**322**	P	**P**		**06 07 13.6**	**+0.3**
	11nm,0.7s,mb4.9,baz=107,slow=7.5,SNR=13							
ILAR	**Eielson Array**	**71.32**	**25**	P	**P**		**06 07 27.9**	**-1.1**
	4.1nm,0.8s,mb4.4,baz=249,slow=5.6,SNR=8.7							
AKTO	**Aktyubinsk**	**76.28**	**319**	P	**P**		**06 07 57.8**	**-0.3**
	5.4nm,0.8s,mb4.5,baz=108,slow=9.1,SNR=4.2							
INK	**Inuvik**	**76.97**	**22**	P	**P**		**06 08 02.7**	**+1.0**
	12nm,1.0s,mb4.8,baz=272,slow=5.2,SNR=5.3							
YKA	**Yellowknife Ar**	**85.69**	**27**	P	**P**		**06 08 48.4**	**+1.0**
	1.1nm,0.7s,mb4.2,baz=289,slow=4.8,SNR=8.3							
KEV	**Kevo**	**86.63**	**341**	*ep*	**P**		**06 08 52.2**	**+0.4**
	0.7nm,0.4s,mb4.2							
ARCES	**ARCESS Array B**	**87.20**	**341**	P	**P**		**06 08 55.9**	**+1.3**
	16nm,1.1s,mb5.2,baz=76,slow=6.7,SNR=9.9							
JOF	**Joensuu**	**87.94**	**334**	*ep*	**P**		**06 08 58.7**	**+0.4**
	0.3nm,0.3s,mb4.0							
NVAR	**Mina Array Bea**	**90.58**	**51**	P	**P**		**06 09 11.1**	**-0.3**
	1.7nm,0.9s,mb4.4,baz=270,slow=7.2,SNR=4.3							
FINES	**FINESS Array B**	**90.79**	**334**	P	**P**		**06 09 11.6**	**-0.3**
	5.1nm,0.5s,mb5.1,baz=72,slow=5.0,SNR=14							
CLL	**Collm**	**102.39**	**330**	P	Pdif		06 10 14.3	+10
	logA/T=0.8							
LPAZ	**La Paz**	**151.38**	**102**	PKPbc	PKPdf		06 16 05.8	+10
	10.0nm,1.0s,baz=333,slow=2.8,SNR=6.9							

IDC 20 05:57:23.7±2.6, 12.12N×140.62E, mb4.7/4, mb1 4.9/4, mb1mx4.1/19, mbtmp4.7/4, Error ellipse: s-maj=144.1km s-min=30.2km az=85.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.46**	**191**	P	P		06 03 56.0	-2.1
	7.8nm,0.6s,baz=10.0,slow=9.8,SNR=8.2							
BVAR	**Borovoye Array**	**68.52**	**322**	P	P		06 08 29.2	-0.9
	7.6nm,0.5s,baz=105,slow=6.8,SNR=11							
ARCES	**ARCESS Array B**	**87.17**	**341**	P	P		06 10 11.0	-1.5
	7.3nm,1.1s,baz=72,slow=8.6,SNR=2.5							
FINES	**FINESS Array B**	**90.70**	**334**	P	P		06 10 26.6	-2.7
	1.4nm,0.5s,baz=74,slow=5.6,SNR=4.3							

*IDC **20** 06:04:43.1±1.1, 12.34N×142.29E, mb4.2/6, mb1 4.3/6, mb1mx3.9/20, mbtmp4.2/6, Error ellipse: s-maj=64.3km s-min=22.7km az=78.0*

ISC 20 06:04:49.0±1.9, 12.1N±0.2×141.2E±0.8, h33km, n7, σ0s65/6, mb4.2/6, South of Mariana Islands

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

WRA	**Warramunga Arr**	**32.56**	**192**	P	**P**	**06 11 20.1**	**+0.5**
	1.8nm,0.9s,mb4.0,baz=11,slow=9.8,SNR=7.0						
STKA	**Stephens Creek**	**43.73**	**180**	P	**P**	**06 12 52.6**	**-0.5**
	4.5nm,1.1s,mb4.1,baz=0.8,slow=12,SNR=7.0						
MKAR	**Makanchi Array**	**60.11**	**317**	P	**P**	**06 14 55.3**	**-0.2**
	0.9nm,0.8s,mb3.8,baz=97,slow=9.8,SNR=5.4						
BVAR	**Borovoye Array**	**68.89**	**322**	P	**P**	**06 15 52.4**	**0.0**
	1.8nm,0.7s,mb4.1,baz=101,slow=7.6,SNR=7.7						
ARCES	**ARCESS Array B**	**87.37**	**342**	P	**P**	**06 17 34.2**	**+0.7**
	2.2nm,0.8s,mb4.5,baz=63,slow=8.1,SNR=5.6						
FINES	**FINESS Array B**	**90.97**	**334**	P	**P**	**06 17 50.2**	**-0.4**
	1.6nm,0.6s,mb4.5,baz=63,slow=4.3,SNR=3.2						
LPAZ	**La Paz**	**151.26**	**102**	PKPbc	PKPdf	06 24 36.7	+2.8
	0.9nm,0.9s,baz=282,slow=20,SNR=3.5						

MOS ***20*** *06:05:09.1±0.8,12.13N×140.90E,h33km,mb5.4/9, Error ellipse: s-maj=14.5km s-min=9.0km az=103.4*
BJI ***20*** *06:05:12.8,12.48N×140.85E,h39km,mb4.8*
IDC ***20*** *06:05:13.9±3.6,12.19N×141.01E,h62km±33km,mb4.3/15, mb1 4.5/16,mb1mx4.3/25,mbtmp4.6/16,ML4.6/1, Error ellipse: s-maj=20.8km s-min=13.4km az=84.0*
NEIC ***20*** *06:05:13.9±1.6,12.16N×141.02E,h63km±15km,mb4.9/13, Error ellipse: s-maj=12.1km s-min=6.4km az=92.0*
ISC 20 06:05:12.2±2.0,12.12N±0.05×141.0E±0.1,h63km±19km, h52km±8.4km:pP-P,n58,σ0s70/56,mb4.8/32,1C-3D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.05**	**68**	P	**P**	**06 06 12.9**	**-0.4**
	37nm,0.3s,baz=180,slow=19,SNR=4.1						
PMG	**Port Moresby**	**22.25**	**164**	*i* P	**P**	**06 10 05.2**	**+0.1**
KAKA	**Kakadu**	**26.09**	**199**	*e*P	Px	06 11 02.5	
	15nm,0.7s						
SSE	**Sheshan**	**26.29**	**319**	P	**P**	**06 10 44.3**	**+0.5**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
NJ2	**Nanjing**	**28.43**	**318**	*e*P	**P**	**06 11 02.4**	**-0.8**
NJ2				XP	sP	06 11 20.0	-6.1
NJ2				PP	PP	06 11 56.4	-0.1
NJ2				S	**S**	**06 15 43.0**	**-1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CTA	**Charters Tower**	**32.42**	**171**	*e*P	**P**	**06 11 39.5**	**+0.9**
	comp=Z,6.3nm,1.0s,mb4.4						
CTA	**Charters Tower**	**32.42**	**171**	P	**P**	**06 11 39.0**	**+0.4**
	comp=Z,11nm,0.9s,mb4.7,baz=352,slow=9.7,SNR=10.0						
CTA	**Charters Tower**	**32.42**	**171**	*e*P	**P**	**06 11 39.5**	**+0.9**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CTAO	**Charters Tower**	**32.42**	**171**	*e*P	**P**	**06 11 39.2**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**32.42**	**171**	*e*P	**P**	**06 11 39.2**	**+0.6**
	comp=Z,16nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**32.52**	**192**	*e*P	**P**	**06 11 39.1**	**-0.3**
WB2	**Warramunga Arr**	**32.53**	**192**	*e*P	**P**	**06 11 39.2**	**-0.3**
WRA	**Warramunga Arr**	**32.53**	**192**	P	**P**	**06 11 38.6**	**-0.9**
	comp=Z,23nm,0.6s,mb5.3,baz=10,slow=9.8,SNR=103						
FITZ	**Fitzroy Crossi**	**33.64**	**207**	⇑*i*P	**P**	**06 11 47.4**	**-1.7**
	comp=Z,6.9nm,0.7s,mb4.7						
DZM	**Mont Dzumac**	**42.17**	**144**	P	**P**	**06 13 01.8**	**+1.3**
	comp=Z,9.3nm,0.9s,mb4.4,baz=5.5,slow=12,SNR=3.8						
PSI	**Prapat**	**42.67**	**261**	P	**P**	**06 13 05.2**	**+0.4**
	comp=Z,3.7nm,0.7s,mb4.3,baz=36,slow=1.7,SNR=3.6						
STKA	**Stephens Creek**	**43.75**	**179**	*e*P	**P**	**06 13 13.8**	**+0.5**
	comp=Z,5.3nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**43.75**	**179**	P	**P**	**06 13 13.8**	**+0.4**
	comp=Z,8.4nm,0.6s,mb4.7,baz=344,slow=6.4,SNR=19						
FORT	**Forrest**	**44.43**	**196**	*e*P	**P**	**06 13 19.8**	**+1.0**
	comp=Z,29nm,0.7s,mb5.1						
GTA	**Gaotai**	**45.40**	**314**	P	**P**	**06 13 27.3**	**+0.9**
GTA				AP	pP	06 13 35.0	-7.5
ULN	**Ulaanbaatar**	**45.52**	**328**	*e*P	**P**	**06 13 27.6**	**+0.3**
ULN	**Ulaanbaatar**	**45.52**	**328**	*e*P	**P**	**06 13 28.4**	**+1.1**
	comp=Z,7.7nm,1.1s,mb4.5						
SONM	**Songino Array**	**45.85**	**328**	P	**P**	**06 13 30.4**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=117,slow=6.7,SNR=6.5						
ZAK	**Zakamensk**	**49.03**	**329**	*e*P	**P**	**06 13 55.6**	**+0.9**
ZAK				*e*		06 16 47.3	
ZAK				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
MUN	**Mundaring**	**49.87**	**208**	*e*P	**P**	**06 14 00.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**50.22**	**206**	P	**P**	**06 14 03.8**	**-0.2**
	comp=Z,2.3nm,0.4s,mb4.6,baz=98,slow=17,SNR=6.2						
YAK	**Yakutsk**	**50.49**	**353**	*e*P	**P**	**06 14 05.8**	**0.0**
YAK				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
BILL	**Bilibino**	**58.27**	**11**	κ*e*P	**P**	**06 15 02.2**	**-0.2**
BILL				*e*	pP	06 15 16.1	-3.0
BILL				pmax	pmax		
	comp=Z,42nm,1.6s,mb5.2						
BILL	**Bilibino**	**58.27**	**11**	*e*P	**P**	**06 15 01.0**	**-1.4**
	comp=Z,17nm,0.9s,mb5.1						
TIXI	**Tiksi**	**59.95**	**356**	*i* P	**P**	**06 15 13.3**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
MKAR	**Makanchi Array**	**59.96**	**317**	P	**P**	**06 15 14.2**	**-0.1**
	comp=Z,8.3nm,0.9s,mb4.8,baz=98,slow=8.7,SNR=28						
NVS	**Novosibirsk**	**61.84**	**326**	*e*P	**P**	**06 15 26.7**	**-0.2**
NVS				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.2						
NVS				pmax	pmax		
	comp=E,16nm,1.2s						
KURK	**Kurchatov**	**63.30**	**321**	*e*P	**P**	**06 15 36.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.7						
KURK	**Kurchatov**	**63.30**	**321**	*e*P	**P**	**06 15 36.7**	**-0.1**
	comp=Z,64nm,1.0s,mb5.7						
AAK	**Ala-Archa**	**64.62**	**311**	*i* P	**P**	**06 15 44.9**	**-0.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
AAK	**Ala-Archa**	**64.62**	**311**	*e*P	**P**	**06 15 44.7**	**-0.8**
	comp=Z,12nm,1.5s,mb4.7						
CHKZ	**Chkalovo**	**68.71**	**323**	*e*P	**P**	**06 16 11.2**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**68.71**	**323**	*e*P	**P**	**06 16 11.2**	**+0.1**
	comp=Z,22nm,0.8s,mb5.2						
BVAR	**Borovoye Array**	**68.75**	**322**	P	**P**	**06 16 12.0**	**+0.7**
	comp=Z,26nm,0.5s,mb5.4,baz=107,slow=7.7,SNR=95						
BRVK	**Borovoye**	**68.82**	**322**	*e*P	**P**	**06 16 12.5**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.2						
BRVK	**Borovoye**	**68.82**	**322**	*e*P	**P**	**06 16 12.5**	**+0.7**
	comp=Z,16nm,0.5s,mb5.2						
ZRNK	**Zerenda**	**69.57**	**322**	*e*P	**P**	**06 16 16.9**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.2						
ZRNK	**Zerenda**	**69.57**	**322**	*e*P	**P**	**06 16 16.9**	**+0.5**
	comp=Z,21nm,0.7s,mb5.2						
ILAR	**Eielson Array**	**71.50**	**25**	P	**P**	**06 16 26.3**	**-1.6**
	comp=Z,1.6nm,0.7s,mb4.1,baz=248,slow=6.2,SNR=9.0						
ARU	**Arti**	**75.81**	**325**	*e*P	**P**	**06 16 53.6**	**+0.5**
ARU				*e*		06 19 40.8	
ARU				*e*S	S	06 26 30.9	+2.1
ARU	**Arti**	**75.81**	**325**	*e*P	**P**	**06 16 53.1**	**0.0**
	comp=Z,7.7nm,0.8s,mb4.7						
AKTO	**Aktyubinsk**	**76.30**	**319**	P	**P**	**06 16 55.6**	**-0.4**
	comp=Z,5.0nm,0.6s,mb4.6,baz=97,slow=7.5,SNR=18						
AKTO	**Aktyubinsk**	**76.30**	**319**	P	**P**	**06 16 56.0**	**0.0**
YKA	**Yellowknife Ar**	**85.88**	**27**	P	**P**	**06 17 46.9**	**+0.9**
	comp=Z,0.8nm,0.6s,mb4.1,baz=288,slow=4.8,SNR=7.0						
RES	**Resolute Bay**	**86.82**	**13**	*e*P	**P**	**06 17 50.0**	**-0.4**
ARCES	**ARCESS Array B**	**87.29**	**341**	P	**P**	**06 17 52.4**	**-0.4**
	comp=Z,11nm,1.1s,mb5.0,baz=60,slow=6.1,SNR=10						
OBN	**Obninsk**	**88.23**	**326**	⇓*e*P	**P**	**06 17 58.0**	**+0.4**
OBN				*e*	pP	06 18 15.5	0.0
OBN				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.3						
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**06 18 10.3**	**+0.3**
	comp=Z,0.8nm,0.7s,mb4.2,baz=262,slow=6.1,SNR=4.8						
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**06 18 10.3**	**+0.3**
FINES	**FINESS Array B**	**90.86**	**334**	P	**P**	**06 18 09.0**	**-0.8**
	comp=Z,4.0nm,0.5s,mb5.0,baz=75,slow=5.0,SNR=25						
FINES	**FINESS Array B**	**90.86**	**334**	*i* P	**P**	**06 18 09.3**	**-0.5**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LPAZ	**La Paz**	**151.48**	**102**	PKPbc	PKPdf	06 25 03.7	+10
	comp=Z,5.6nm,0.8s,baz=295,slow=1.7,SNR=18						
LPAZ	**La Paz**	**151.48**	**102**	*e*PKPbc	PKPdf	06 25 03.5	+10

MOS ***20*** *06:06:55.3±0.8,51.53N×176.41W,h57km,mb5.0/21, Error ellipse: s-maj=10.0km s-min=8.3km az=62.0*
BJI ***20*** *06:06:56.8,51.60N×176.40W,h56km,mB6.0,mb5.1, Ms5.2,Ms2.5.0*
NEIC ***20*** *06:06:56.8±0.6,51.56N×176.42W,h56km±5km,mb4.9/47, ML4.7(AEIC),Error ellipse: s-maj=7.0km s-min=3.0km az=172.0*
NEIC Felt on Adak.
IDC ***20*** *06:06:57.2±0.8,51.61N×176.40W,h58km±6km,mb4.2/25, mb1 4.3/27,mb1mx4.3/30,mbtmp4.5/27, Error ellipse: s-maj=16.1km s-min=9.1km az=175.0*
ISC 20 06:06:55.4±0.9,51.59N±0.06×176.39W±0.04,h56km±7km, h50km±3.8km:pP-P,n181,σ0s90/175,mb4.7/78,MS5.1/4, 1C-2D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.49**	**65**	P	**P**	**06 07 19.2**	**-1.2**
ATKA				S	**S**	**06 07 37.7**	**-1.3**
SMY	**Shemya**	**5.96**	**285**	P	**P**	**06 08 22.8**	**-0.3**
UNV	**Unalaska Valle**	**6.42**	**65**	P	**P**	**06 08 29.5**	**-0.1**
FX1	**Attu Island--F**	**6.55**	**286**	P	**P**	**06 08 31.3**	**0.0**
	17nm,0.3s,baz=145,slow=11,SNR=12						
FX1				S	**S**	**06 09 46.2**	**+0.8**
	3.9nm,0.3s,baz=272,slow=19,SNR=3.4						
FX1	**Attu Island--F**	**6.55**	**286**	P	**P**	**06 08 31.3**	**0.0**
FX1				S	**S**	**06 09 46.2**	**+0.8**
FX1				pmax	pmax		
	comp=Z,17nm,0.3s						
FX1				smax			
	comp=N,4.0nm,0.3s						
FX1	**Attu Island--F**	**6.55**	**286**	P	**P**	**06 08 31.5**	**+0.2**
SPIA	**Saint Paul Isl**	**6.65**	**30**	P	**P**	**06 08 34.7**	**+1.9**
SDPT	**Sand Point**	**10.21**	**62**	*e*P	**P**	**06 09 21.3**	**-0.3**
	comp=N,21nm,0.3s						
KDAK	**Kodiak Island**	**15.05**	**56**	P	**P**	**06 10 24.9**	**-0.8**
	comp=N,2.6nm,0.3s,baz=281,slow=6.5,SNR=16						
KDAK				S	**S**	**06 13 09.4**	**-1.9**
	comp=N,0.1nm,0.3s,baz=304,slow=18,SNR=1.5						
SLKM	**Skilak Lake**	**17.02**	**48**	*e*P	**P**	**06 10 50.6**	**0.0**
PMR	**Palmer**	**17.90**	**45**	*e*P	**P**	**06 11 03.5**	**+1.8**
PMR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PMR	**Palmer**	**17.90**	**45**	*e*P	**P**	**06 11 03.5**	**+1.8**
	comp=Z,2.4nm,0.3s						
IMA2	**Indian Mountai**	**18.50**	**30**	*e*P	**P**	**06 11 09.1**	**+0.2**
BILL	**Bilibino**	**18.54**	**339**	*e*P	**P**	**06 11 10.8**	**+1.5**
BILL				pmax	pmax		
	comp=Z,69nm,1.0s						
BILL	**Bilibino**	**18.54**	**339**	*e*P	**P**	**06 11 10.8**	**+1.5**
	comp=Z,69nm,1.0s						
COLA	**College**	**19.83**	**37**	*d i*P	**P**	**06 11 24.7**	**+0.9**
COLA	**College**	**19.83**	**37**	*e*P	**P**	**06 11 22.5**	**-1.2**
	comp=Z,40nm,0.7s						
SEY	**Seymchan**	**20.12**	**316**	*i* P	**P**	**06 11 27.3**	**+0.5**
ILAR	**Eielson Array**	**20.15**	**38**	P	**P**	**06 11 24.8**	**-2.3**
	comp=Z,11nm,0.7s,baz=230,slow=7.8,SNR=74						
ILAR				PcP	PcP	06 15 38.0	-2.1
	comp=Z,2.0nm,0.8s,baz=284,slow=3.4,SNR=8.5						
MENT	**Mentasta**	**20.74**	**44**	*e*P	**P**	**06 11 34.2**	**+0.9**
DAWY	**Dawson**	**22.93**	**43**	*e*P	**P**	**06 11 55.5**	**+0.7**
INK	**Inuvik**	**26.43**	**35**	P	**P**	**06 12 26.7**	**-1.5**
	comp=Z,1.9nm,0.3s,mb4.1,baz=222,slow=8.3,SNR=66						
INK				PcP	PcP	06 15 52.1	-0.7
	comp=Z,6.5nm,0.7s,baz=288,slow=1.8,SNR=14						
INK	**Inuvik**	**26.43**	**35**	P	**P**	**06 12 26.7**	**-1.5**
INK						06 15 52.1	
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
INK	**Inuvik**	**26.43**	**35**	*e*P	**P**	**06 12 27.3**	**-0.9**
	comp=Z,5.3nm,0.7s,mb4.2						
DLBC	**Dease Lake**	**26.99**	**57**	P	**P**	**06 12 34.0**	**+0.6**
	comp=Z,1.4nm,0.8s,mb3.6,baz=297,slow=2.3,SNR=3.0						
DLBC				PcP	PcP	06 15 53.8	-0.4
	comp=Z,3.9nm,0.7s,baz=105,slow=26,SNR=7.9						
KLR	**Kul'dur**	**32.57**	**287**	*e*P	**P**	**06 13 19.4**	**-3.7**
YKW3	**Yellowknife Ar**	**33.98**	**47**	*e*P	**P**	**06 13 34.9**	**-0.2**
YKA	**Yellowknife Ar**	**33.99**	**47**	P	**P**	**06 13 35.2**	**-0.1**
	comp=Z,8.8nm,1.0s,mb4.6,baz=280,slow=9.5,SNR=35						
YKA				PcP	PcP	06 16 11.7	-0.7
	comp=Z,4.0nm,0.8s,baz=288,slow=2.9,SNR=25						
YKA				ScP		06 19 50.1	
	comp=Z,0.6nm,0.8s,baz=283,slow=3.4,SNR=4.3						
YKA	**Yellowknife Ar**	**33.99**	**47**	P	**P**	**06 13 35.2**	**-0.1**
YKA				PcP	PcP	06 16 11.7	-0.7
YKA				ScP		06 19 50.1	
MAT	**Matsushiro**	**35.30**	**263**	P	**P**	**06 13 46.6**	**-0.2**
MAT	**Matsushiro**	**35.30**	**263**	*e*P	**P**	**06 13 47.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
MAT	**Matsushiro**	**35.30**	**263**	*e*P	**P**	**06 13 47.0**	**+0.2**
	comp=Z,22nm,1.0s,mb5.0						
MJAR	**Matsushiro Arr**	**35.30**	**263**	P	**P**	**06 13 46.6**	**-0.1**
	comp=Z,5.7nm,0.8s,mb4.6,baz=53,slow=7.6,SNR=13						
MJAR				pP		06 14 01.4	+0.3
	comp=Z,2.4nm,0.5s,baz=53,slow=7.6,SNR=2.7						
KEBM	**Edson Butte**	**35.73**	**83**	P	**P**	**06 13 50.6**	**+0.3**
MDJ	**Mudanjiang**	**36.02**	**281**	P	**P**	**06 13 52.0**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,3μm,10.2s						
HAWA	**Hanford**	**36.86**	**75**	*e*P	**P**	**06 14 00.1**	**+0.3**
	comp=Z,1.1nm,0.8s,mb3.7						
EDM	**Edmonton**	**37.39**	**62**	*e*P	**P**	**06 14 04.1**	**0.0**
RES	**Resolute Bay**	**38.93**	**25**	*e*P	**P**	**06 14 16.5**	**-0.2**
RES				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.4						
RES	**Resolute Bay**	**38.93**	**25**	*e*P	**P**	**06 14 16.5**	**-0.2**
	comp=Z,13nm,1.6s,mb4.4						
CN2	**Changchun**	**38.98**	**282**	*e*P	**P**	**06 14 16.6**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
WVOR	**Wild Horse Val**	**39.48**	**80**	*e*P	**P**	**06 14 22.6**	**+0.9**
WVOR				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
WVOR	**Wild Horse Val**	**39.48**	**80**	*e*P	**P**	**06 14 22.6**	**+0.9**
	comp=Z,11nm,0.8s,mb4.6						
MSO	**Missoula**	**39.98**	**71**	*e*P	**P**	**06 14 25.9**	**+0.2**
	comp=Z,23nm,1.1s,mb4.8						
CHMT	**Chamberlain Mo**	**40.34**	**71**	*e*P	**P**	**06 14 28.8**	**0.0**
SNY	**Shenyang**	**41.22**	**281**	⇑P	**P**	**06 14 36.8**	**+0.8**
SNY				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
HRY	**Holter Researc**	**41.28**	**70**	*e*P	**P**	**06 14 37.1**	**+0.7**
HLID	**Hailey**	**41.43**	**76**	*e*P	**P**	**06 14 38.6**	**+0.8**
	comp=Z,8.4nm,0.9s,mb4.4						
MCMT	**McKenzie Canyo**	**41.68**	**73**	*e*P	**P**	**06 14 40.3**	**+0.6**
EGMT	**Eagleton**	**41.81**	**68**	*e*P	**P**	**06 14 41.1**	**+0.4**
	comp=Z,9.7nm,0.9s,mb4.4						
BOZ	**Bozeman (W)**	**41.96**	**72**	*e*P	**P**	**06 14 42.4**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
BOZ	**Bozeman (W)**	**41.96**	**72**	*e*P	**P**	**06 14 42.4**	**+0.4**
	comp=Z,20nm,0.8s,mb4.8						
NVAR	**Mina Array Bea**	**42.03**	**85**	P	**P**	**06 14 43.3**	**+0.7**
	comp=Z,2.4nm,0.7s,mb3.9,baz=286,slow=9.0,SNR=16						
NVAR				PcP	PcP	06 16 37.8	+0.3
	comp=Z,2.6nm,0.8s,baz=269,slow=3.6,SNR=9.1						
JNU	**Nakatsue**	**42.09**	**265**	P	**P**	**06 14 42.9**	**-0.4**
	comp=Z,23nm,0.8s,mb4.9,baz=62,slow=13,SNR=9.2						
QLMT	**Earthquake Lak**	**42.52**	**73**	*e*P	**P**	**06 14 47.0**	**+0.4**
ELK	**Elko**	**42.54**	**80**	*e*P	**P**	**06 14 47.4**	**+0.6**
ELK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ELK	**Elko**	**42.54**	**80**	*e*P	**P**	**06 14 47.4**	**+0.7**
	comp=Z,6.1nm,0.8s,mb4.4						
YMR	**Madison River**	**42.89**	**72**	*e*P	**P**	**06 14 50.1**	**+0.5**
	comp=Z,36nm,1.0s,mb5.1						
YFT	**Old Faithful**	**43.09**	**73**	*e*P	**P**	**06 14 52.6**	**+1.4**
LKWY	**Lake**	**43.28**	**72**	*e*P	**P**	**06 14 54.0**	**+1.2**
LKWY				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
LKWY	**Lake**	**43.28**	**72**	*e*P	**P**	**06 14 54.0**	**+1.2**
	comp=Z,22nm,0.9s,mb4.9						
IMW	**Indian Meadow**	**43.34**	**73**	*e*P	**P**	**06 14 54.1**	**+0.9**
	comp=Z,16nm,0.9s,mb4.7						
LOHW	**Long Hollow**	**43.70**	**74**	*e*P	**P**	**06 14 56.5**	**+0.3**
	comp=Z,8.0nm,0.9s,mb4.5						
TPNV	**Topopah Spring**	**44.23**	**85**	*e*P	**P**	**06 15 00.8**	**+0.3**
TPNV				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
TPNV	**Topopah Spring**	**44.23**	**85**	*e*P	**P**	**06 15 00.8**	**+0.3**
	comp=Z,12nm,0.8s,mb4.7						
HWUT	**Hardware Ranch**	**44.27**	**76**	*e*P	**P**	**06 15 01.8**	**+0.9**
	comp=Z,8.6nm,0.9s,mb4.5						
DUG	**Dugway**	**44.35**	**79**	*e*P	**P**	**06 15 01.8**	**+0.3**
DUG				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
DUG	**Dugway**	**44.35**	**79**	*e*P	**P**	**06 15 01.8**	**+0.3**
	comp=Z,15nm,1.0s,mb4.7						
LAO	**LASA Array**	**44.56**	**67**	*e*P	**P**	**06 15 03.5**	**+0.4**
	comp=Z,16nm,0.8s,mb4.9						
TCUT	**Toone Canyon**	**44.66**	**77**	*e*P	**P**	**06 15 04.9**	**+0.9**
FCC	**Fort Churchill**	**44.72**	**47**	*e*P	**P**	**06 15 03.5**	**-0.7**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
FCC	**Fort Churchill**	**44.72**	**47**	*e*P	**P**	**06 15 03.5**	**-0.7**
	comp=Z,4.7nm,0.8s,mb4.4						
DGMT	**Dagmar**	**44.74**	**64**	*e*P	**P**	**06 15 04.5**	**0.0**
	comp=Z,41nm,1.1s,mb5.2						
BW06	**Boulder Array**	**44.81**	**74**	*e*P	**P**	**06 15 05.2**	**+0.2**
	comp=Z,27nm,0.8s,mb5.1						
PDAR	**Pinedale Array**	**44.81**	**74**	P	**P**	**06 15 05.9**	**+0.8**
	comp=Z,12nm,0.7s,mb4.8,baz=305,slow=4.1,SNR=73						
DAU	**Daniels Canyon**	**45.17**	**78**	*e*P	**P**	**06 15 09.1**	**+1.0**
ARUT	**Antelope Range**	**45.44**	**82**	*e*P	**P**	**06 15 10.6**	**+0.4**
MVU	**Marysvale**	**45.75**	**80**	*e*P	**P**	**06 15 15.2**	**+2.5**
	comp=Z,6.3nm,1.0s,mb4.5						
MSU	**Marysvale**	**45.77**	**80**	*e*P	**P**	**06 15 13.6**	**+0.8**
TMUT	**Trail Mountain**	**45.88**	**79**	*e*P	**P**	**06 15 14.6**	**+0.9**
SRU	**San Rafael**	**46.41**	**79**	*e*P	**P**	**06 15 18.6**	**+0.7**
SRU				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
SRU	**San Rafael**	**46.41**	**79**	*e*P	**P**	**06 15 18.6**	**+0.7**
	comp=Z,17nm,1.0s,mb4.9						
RWWY	**Rawlins**	**46.85**	**74**	*e*P	**P**	**06 15 20.8**	**-0.5**
	comp=Z,21nm,1.0s,mb5.0						
RSSD	**Black Hills**	**47.28**	**69**	*e*P	**P**	**06 15 24.6**	**-0.1**
RSSD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
RSSD	**Black Hills**	**47.28**	**69**	*e*P	**P**	**06 15 24.6**	**0.0**
	comp=Z,9.7nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**47.51**	**297**	*i* P	**P**	**06 15 26.6**	**+0.2**
PV10	**Paradox Valley**	**47.78**	**78**	*e*P	**P**	**06 15 29.2**	**+0.6**
SONM	**Songino Array**	**47.89**	**298**	P	**P**	**06 15 28.9**	**-0.5**
	comp=Z,0.5nm,0.3s,mb4.0,baz=56,slow=10.0,SNR=6.1						
SONM				pP	pP	06 15 44.7	+0.7
	comp=Z,1.4nm,0.7s,baz=54,slow=7.3,SNR=4.5						
SONM				PcP	PcP	06 16 56.7	-0.9
	comp=Z,3.1nm,0.8s,baz=73,slow=2.1,SNR=8.5						
PHWY	**Pilot Hill**	**48.13**	**73**	*e*P	**P**	**06 15 30.7**	**-0.7**
WUAZ	**Wupatki**	**48.17**	**83**	*e*P	**P**	**06 15 31.8**	**+0.1**
	comp=Z,19nm,0.9s,mb5.1						
PV01	**Paradox Valley**	**48.22**	**78**	*e*P	**P**	**06 15 31.9**	**-0.1**
ULM	**Lac du Bonnet**	**48.30**	**58**	P	**P**	**06 15 32.0**	**-0.5**
	comp=Z,1.3nm,0.3s,mb4.4,baz=258,slow=6.8,SNR=7.0						
ISCO	**Idaho Springs**	**48.97**	**75**	*e*P	**P**	**06 15 38.9**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ISCO	**Idaho Springs**	**48.97**	**75**	*e*P	**P**	**06 15 38.9**	**+1.1**
	comp=Z,9.3nm,0.9s,mb4.8						
HHC	**Hu-ho-hao-te**	**49.07**	**287**	*e*P	**P**	**06 15 39.3**	**+0.7**
HHC				AP	pP	06 15 54.8	+1.5
HHC				XP	sP	06 16 02.0	+2.3
HHC				PCP	PcP	06 17 02.5	+0.6
HHC				PP	PP	06 17 33.3	+0.6
HHC				S	**S**	**06 22 37.3**	**-0.8**
HHC				XS		06 23 05.0	
HHC				SCS

WMQ AMB AMB
comp=Z,20nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,160nm,4.4s
WMQ LR LR
comp=N,650nm,21.2s,MS4.8
WMQ LR LR
comp=E,490nm,22.0s,MS4.8
WMQ LR LR
comp=Z,670nm,20.0s,MS4.8
MKAR Makanchi Array 61.07 310 P **P** **06 17 03.3 -2.1**
comp=Z,0.8nm,0.4s,mb4.2,baz=48,slow=6.2,SNR=7.7
CHKZ Chkalovo 61.11 321 P **P** **06 17 04.8 -0.8**
CHKZ pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
BVA0 Borovoye Array 61.69 321 *eP* **P** **06 17 09.4 -0.1**
BVAR Borovoye Array 61.69 321 P **P** **06 17 09.7 +0.2**
comp=Z,6.6nm,0.3s,mb5.3,baz=54,slow=7.8,SNR=30
BVAR PcP PcP 06 17 50.1 -0.1
comp=Z,6.0nm,0.7s,baz=45,slow=4.2,SNR=4.1
OXF Oxford 62.10 69 *eP* **P** **06 17 11.2 -1.3**
OXF pmax pmax
comp=Z,60nm,1.2s,mb5.6
OXF Oxford 62.10 69 *eP* **P** **06 17 11.2 -1.3**
comp=Z,60nm,1.2s,mb5.6
ALLY Alegheny Colle 62.19 57 *eP* **P** **06 17 12.8 -0.1**
ZRNK Zerenda 62.29 322 P **P** **06 17 13.0 -0.5**
ZRNK pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
MCWV Mont Chateau 63.78 59 *eP* **P** **06 17 22.9 -0.6**
comp=Z,42nm,1.0s,mb5.4
NSS Namsos 64.04 356 *eP* **P** **06 17 28.9 +4.2**
NSS Namsos 64.04 356 *e* **P** **06 17 28.9 +4.2**
LRAL Lakeview Retre 64.56 68 *eP* **P** **06 17 27.8 -0.8**
MYNC Murphy 64.73 65 *eP* **P** **06 17 29.3 -0.4**
comp=Z,12nm,0.8s,mb5.0
KMI Kunming 65.18 280 P **P** **06 17 32.9 +0.1**
KMI AMB AMB
comp=Z,20nm,0.7s,mb5.3
BLA Blacksburg 65.24 61 *eP* **P** **06 17 32.9 -0.1**
BLA pmax pmax
comp=Z,61nm,1.2s,mb5.5
BLA Blacksburg 65.24 61 *eP* **P** **06 17 32.9 -0.1**
comp=Z,61nm,1.2s,mb5.5
FINES FINESS Array B 65.90 348 P **P** **06 17 36.4 -0.4**
comp=Z,3.6nm,1.1s,mb4.3,baz=10,slow=7.6,SNR=9.3
GOGA Godfrey 66.32 66 *eP* **P** **06 17 38.7 -1.2**
GOGA pmax pmax
comp=Z,13nm,0.9s,mb5.0
GOGA Godfrey 66.32 66 *eP* **P** **06 17 38.7 -1.2**
comp=Z,13nm,0.9s,mb5.0
JSC Jenkinsville 66.92 64 *eP* **P** **06 17 43.4 -0.3**
NB2 NORSAR Subarra 67.56 356 P **P** **06 17 47.6 +0.4**
comp=Z,1.2nm,0.9s,mb3.9,baz=6.0,slow=6.5
NB2 NORSAR Subarra 67.56 356 P **P** **06 17 47.6 +0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
NOA NORSAR Array B 67.56 356 P **P** **06 17 45.0 -2.1**
comp=Z,0.8nm,0.7s,mb3.9,baz=336,slow=4.9,SNR=3.4
AAK Ala-Archa 67.88 311 *eP* **P** **06 17 49.5 0.0**
AAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
HFS Hagfors 68.34 355 P **P** **06 17 50.6 -1.5**
comp=Z,1.7nm,0.5s,mb4.4,slow=1.5,SNR=9.1
AKTO Aktyubinsk 68.37 326 P **P** **06 17 52.4 0.0**
comp=Z,6.6nm,0.8s,mb4.7,baz=22,slow=5.0,SNR=8.5
AKTO Aktyubinsk 68.37 326 P **P** **06 17 52.4 0.0**
AKTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
NHSC New Hope 68.40 64 *eP* **P** **06 17 53.4 +0.5**
comp=Z,79nm,1.1s,mb5.7
LSA Lhasa 68.78 291 *eP* **P** **06 17 56.6 +1.3**
LSA pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
LSA Lhasa 68.78 291 *eP* **P** **06 17 56.6 +1.2**
comp=Z,4.5nm,0.5s,mb4.7
OBN Obninsk 70.19 341 P **P** **06 18 04.0 +0.5**
AKASG Malin Array Be 75.80 344 P **P** **06 18 35.7 -0.7**
comp=Z,0.6nm,0.3s,mb4.0,baz=20,slow=5.9,SNR=4.2
AKASG Malin Array Be 75.80 344 P **P** **06 18 35.7 -0.7**
CLL Collm 77.17 354 P **P** **06 18 47.0 +2.9**
CLL *e* pP 06 18 58.0 -1.9
CLL *e**SP sP 06 19 05.0 -1.0
CLL Collm 77.17 354 *eP* **P** **06 18 47.0 +2.9**
CLL *ep*P pP 06 18 58.0 -1.9
CLL *es*P sP 06 19 05.0 -1.0
CTAO Charters Tower 78.50 216 P **P** **06 18 51.2 -0.9**
WRAB Tennant Creek 83.21 226 *eP* **P** **06 19 15.2 -1.7**
WB2 Warramunga Arr 83.22 226 *eP* **P** **06 19 15.9 -1.0**
WRA Warramunga Arr 83.22 226 P **P** **06 19 15.5 -1.5**
comp=Z,2.9nm,0.8s,mb4.4,baz=34,slow=6.0,SNR=20
PSI Prapat 84.51 268 P **P** **06 19 24.2 +0.6**
comp=Z,18nm,0.8s,mb5.2,baz=4.6,slow=3.0,SNR=13
BR131 Keskin Array S 85.36 337 *eP* **P** **06 19 28.4 +1.2**
comp=Z,1.4nm,0.6s,mb4.3
BRTR Keskin Array B 85.36 337 P **P** **06 19 27.9 +0.6**
comp=Z,3.6nm,0.8s,mb4.5,baz=53,slow=2.9,SNR=9.1
HYB Hyderabad 85.54 292 *i* P **P** **06 19 28.0 -0.6**
HYB Hyderabad 85.54 292 *eP* **P** **06 19 28.0 -0.6**
FITZ Fitzroy Crossi 85.79 234 *eP* **P** **06 19 30.1 +0.3**
comp=Z,12nm,0.9s,mb5.1
STKA Stephens Creek 90.94 215 P **P** **06 19 53.7 -0.4**
comp=Z,3.1nm,0.7s,mb4.8,baz=4.5,slow=2.8,SNR=5.5
STKA Stephens Creek 90.94 215 *eP* **P** **06 19 53.9 -0.2**
SDV Santo Domingo 92.72 72 P **P** **06 20 04.2 +1.5**
comp=Z,3.1nm,0.8s,mb4.8,baz=206,slow=3.0,SNR=5.3
SIV San Ignacio 118.07 80 PKP PKPdf 06 25 36.8 +0.8
comp=Z,1.2nm,0.9s,baz=232,slow=7.6,SNR=4.2
DBIC Dimbokro 121.52 10 PKP PKPdf 06 25 44.1 +1.3
comp=Z,2.0nm,0.4s,baz=324,slow=1.8,SNR=12
DBIC Dimbokro 121.52 10 PKIKP PKPdf 06 25 44.1 +1.3
DBIC pmax pmax
comp=Z,2.0nm,0.4s
KMBO Kilima Mbogo 122.31 319 PKP PKPdf 06 25 46.0 +1.7
comp=Z,1.1nm,1.0s,baz=65,slow=3.5,SNR=5.8
KMBO Kilima Mbogo 122.31 319 PKIKP PKPdf 06 25 46.1 +1.7
KMBO pmax pmax
comp=Z,2.0nm,1.0s
BDFB Brasilia 125.63 68 PKP PKPdf 06 25 51.4 +0.7
comp=Z,0.9nm,0.4s,baz=270,slow=1.0,SNR=2.7
BDFB Brasilia 125.63 68 PKIKP PKPdf 06 25 51.4 +0.8
BDFB pmax pmax
comp=Z,1.0nm,0.4s
PLCA Paso Flores 129.60 108 PKP PKPdf 06 25 58.2 +0.6
comp=Z,2.3nm,1.1s,baz=234,slow=9.1,SNR=3.9
MAW Mawson 147.57 218 PKPbc PKPdf 06 26 33.3 +4.3
comp=Z,14nm,0.9s,baz=77,slow=3.1,SNR=14
LBTB Lobatse 148.60 319 PKPbc PKPdf 06 26 37.1 +5.2
comp=Z,20nm,0.8s,baz=47,slow=1.9,SNR=23
LBTB Lobatse 148.60 319 *e*PKPbc PKPdf 06 26 37.8 +5.8

*IDC **20** 06:15:25.8±0.9, 12.25N×141.07E, mb4.1/9, mb1 4.2/10, mb1mx4.0/21, mbtmp4.1/10, ML5.0/1, Error ellipse: s-maj=30.6km s-min=21.4km az=89.0*
*MOS **20** 06:15:29.9±0.7, 12.14N×141.18E, h43km, mb4.7/4, Error ellipse: s-maj=20.9km s-min=17.0km az=98.2*
*NEIC **20** 06:15:31.7±2.0, 12.20N×141.19E, h41km±20km, mb4.6/5, Error ellipse: s-maj=18.5km s-min=8.9km az=93.0*
ISC 20 06:15:29.0±0.5, 12.16N±0.08×141.1E±0.1, h33km, n24, σ0§61/24, mb4.2/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.92**	**68**	Pn	**Pn**	**06 16 28.4**	**-0.1**
	93nm,0.3s,baz=240,slow=12,SNR=17						
GUMO	**Guam**	**3.92**	**68**	*e*Pn	**Pn**	**06 16 28.3**	**-0.2**
WRAB	**Tennant Creek**	**32.58**	**192**	*eP*	**P**	**06 21 59.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**32.58**	**192**	*eP*	**P**	**06 21 59.6**	**-0.3**
	comp=Z,3.9nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**32.59**	**192**	*eP*	**P**	**06 21 59.8**	**-0.1**
WRA	**Warramunga Arr**	**32.59**	**192**	P	**P**	**06 21 59.9**	**0.0**
	comp=Z,1.9nm,0.5s,mb4.3,baz=10,slow=9.9,SNR=20						
ENH	**Enshi**	**34.39**	**307**	*eP*	**P**	**06 22 15.2**	**-0.1**
	comp=Z,8.5nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**43.79**	**179**	P	**P**	**06 23 34.1**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.8,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**60.01**	**317**	P	**P**	**06 25 35.3**	**+0.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=106,slow=8.8,SNR=8.1						
NVS	**Novosibirsk**	**61.87**	**326**	*eP*	**P**	**06 25 49.2**	**+1.9**
KURK	**Kurchatov**	**63.35**	**321**	*eP*	**P**	**06 25 57.0**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
KURK	**Kurchatov**	**63.35**	**321**	*eP*	**P**	**06 25 57.0**	**-0.2**
	comp=Z,5.6nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**68.75**	**323**	*eP*	**P**	**06 26 31.5**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**68.75**	**323**	*eP*	**P**	**06 26 31.5**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**68.80**	**322**	P	**P**	**06 26 31.5**	**-0.4**
	comp=Z,4.8nm,0.6s,mb4.6,baz=108,slow=8.8,SNR=18						
ZRNK	**Zerenda**	**69.61**	**322**	*eP*	**P**	**06 26 37.1**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**69.61**	**322**	*eP*	**P**	**06 26 37.1**	**+0.2**
	comp=Z,4.3nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**71.42**	**25**	P	**P**	**06 26 47.5**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=246,slow=6.4,SNR=5.7						
AKTO	**Aktyubinsk**	**76.35**	**319**	P	**P**	**06 27 15.6**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=100,slow=8.0,SNR=4.6						
YKA	**Yellowknife Ar**	**85.79**	**27**	P	**P**	**06 28 06.6**	**+0.7**
	comp=Z,0.2nm,0.7s,mb3.5,baz=285,slow=4.6,SNR=4.9						
YKA	**Yellowknife Ar**	**85.79**	**27**	P	**P**	**06 28 06.6**	**+0.7**
ARCES	**ARCESS Array B**	**87.29**	**341**	P	**P**	**06 28 13.0**	**-0.1**
	comp=Z,3.8nm,1.0s,mb4.6,baz=7.1,slow=9.8,SNR=3.9						
ARCES	**ARCESS Array B**	**87.29**	**341**	P	**P**	**06 28 13.0**	**-0.1**
FINES	**FINESS Array B**	**90.88**	**334**	P	**P**	**06 28 29.3**	**-1.0**
	comp=Z,0.7nm,0.4s,mb4.3,baz=90,slow=5.7,SNR=6.4						

*IDC **20** 06:37:29.7±0.9, 12.32N×141.15E, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=51.6km s-min=22.9km az=91.0, South of Mariana Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.75**	**192**	P	P	06 44 04.4	-2.2
	0.6nm,0.6s,baz=11,slow=9.6,SNR=6.1						
STKA	**Stephens Creek**	**43.94**	**179**	P	P	06 45 38.1	-2.2
	1.7nm,1.0s,baz=180,slow=6.2,SNR=4.5						
BVAR	**Borovoye Array**	**68.69**	**322**	P	P	06 48 35.7	-1.3
	0.8nm,0.5s,baz=96,slow=7.0,SNR=5.7						
ILAR	**Eielson Array**	**71.27**	**25**	P	P	06 48 50.1	-2.4
	0.4nm,0.8s,baz=246,slow=6.4,SNR=6.2						
YKA	**Yellowknife Ar**	**85.64**	**27**	P	P	06 50 10.4	-0.7
	0.1nm,0.5s,baz=290,slow=4.9,SNR=4.1						
ARCES	**ARCESS Array B**	**87.15**	**341**	P	P	06 50 17.2	-1.2
	4.0nm,0.9s,baz=69,slow=10,SNR=4.2						
FINES	**FINESS Array B**	**90.75**	**334**	P	P	06 50 33.5	-2.1
	1.0nm,0.8s,baz=72,slow=6.0,SNR=5.7						
LPAZ	**La Paz**	**151.37**	**101**	PKPbc	PKPdf	06 57 27.8	+5.8
	0.7nm,0.7s,baz=207,slow=2.3,SNR=5.2						

*IDC **20** 06:38:15.0±0.8, 12.34N×141.12E, mb4.1/10, mb1 4.2/10, mb1mx4.1/20, mbtmp4.1/10, Error ellipse: s-maj=37.7km s-min=19.0km az=81.0*
*NEIC **20** 06:38:18.8±0.5, 12.27N×141.22E, h20km, mb4.6/3, Error ellipse: s-maj=23.6km s-min=9.6km az=84.0*
*MOS **20** 06:38:18.0±1.0, 12.24N×141.11E, h33km, mb4.7/4, Error ellipse: s-maj=36.7km s-min=17.2km az=105.9*
ISC 20 06:38:18.1±0.7, 12.25N±0.09×141.2E±0.2, h33km, n23, σ0§62/21, mb4.2/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**32.67**	**192**	*eP*	**P**	**06 44 49.3**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
WRAB	**Tennant Creek**	**32.67**	**192**	*eP*	**P**	**06 44 49.3**	**-0.4**
	comp=Z,13nm,1.3s,mb4.7						
WB2	**Warramunga Arr**	**32.68**	**192**	*eP*	**P**	**06 44 49.8**	**+0.1**
WRA	**Warramunga Arr**	**32.68**	**192**	P	**P**	**06 44 49.9**	**+0.2**
	comp=Z,6.0nm,0.8s,mb4.6,baz=10,slow=9.6,SNR=21						
STKA	**Stephens Creek**	**43.87**	**179**	*eP*	**P**	**06 46 23.6**	**+0.2**
	comp=Z,3.3nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**43.87**	**179**	P	**P**	**06 46 23.5**	**+0.2**
	comp=Z,4.1nm,0.6s,mb4.3,baz=354,slow=6.2,SNR=12						
STKA	**Stephens Creek**	**43.87**	**179**	*eP*	**P**	**06 46 23.6**	**+0.3**
SONM	**Songino Array**	**45.83**	**328**	P	**P**	**06 46 39.2**	**+0.4**
	comp=Z,0.8nm,0.9s,mb3.6,baz=135,slow=6.3,SNR=3.7						
ZAK	**Zakamensk**	**49.01**	**329**	*eP*	**P**	**06 46 54.1**	**-9.5**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.5						
MKAR	**Makanchi Array**	**59.97**	**317**	P	**P**	**06 48 22.9**	**-0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=72,slow=4.6,SNR=3.4						
KURK	**Kurchatov**	**63.30**	**321**	*eP*	**P**	**06 48 46.5**	**+0.5**
KURK				*e*SP	sP	06 48 55.2	-4.8
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**68.75**	**322**	P	**P**	**06 49 21.2**	**+0.6**
	comp=Z,1.4nm,0.5s,mb4.2,baz=115,slow=7.2,SNR=7.5						
BRVK	**Borovoye**	**68.81**	**322**	*eP*	**P**	**06 49 20.9**	**-0.1**
ZRNK	**Zerenda**	**69.57**	**322**	*eP*	**P**	**06 49 26.7**	**+1.1**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
ZRNK	**Zerenda**	**69.57**	**322**	*eP*	**P**	**06 49 26.6**	**+1.0**
	comp=Z,6.0nm,1.2s,mb4.4						
ILAR	**Eielson Array**	**71.33**	**25**	P	**P**	**06 49 36.3**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=231,slow=5.8,SNR=6.9						
AKTO	**Aktyubinsk**	**76.31**	**319**	P	**P**	**06 50 05.3**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=116,slow=8.7,SNR=4.5						
YKA	**Yellowknife Ar**	**85.70**	**27**	P	**P**	**06 50 55.0**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.5,baz=290,slow=4.9,SNR=4.7						
ARCES	**ARCESS Array B**	**87.22**	**341**	P	**P**	**06 51 00.6**	**-1.3**
	comp=Z,2.0nm,0.7s,mb4.5,baz=63,slow=8.1,SNR=7.6						
ARCES	**ARCESS Array B**	**87.22**	**341**	P	**P**	**06 51 00.6**	**-1.3**
FINES	**FINESS Array B**	**90.82**	**334**	P	**P**	**06 51 17.9**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.7,baz=72,slow=6.0,SNR=9.6						
LPAZ	**La Paz**	**151.35**	**102**	PKPbc	PKPdf	06 58 13.3	+10
	comp=Z,2.1nm,0.7s,baz=255,slow=4.6,SNR=11						
LPAZ	**La Paz**	**151.35**	**102**	*e*PKPbc	PKPdf	06 58 12.5	+9.4
LPAZ				*e*PKPab	PKPab	06 58 19.2	-0.5

*IDC **20** 06:46:15.9±1.2, 12.24N×141.06E, mb4.0/6, mb1 4.1/6, mb1mx3.9/19, mbtmp4.0/6, Error ellipse: s-maj=65.3km s-min=26.3km az=73.0, South of Mariana Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.65**	**192**	P	P	06 52 49.7	-2.3
	0.5nm,0.6s,baz=10,slow=9.9,SNR=7.5						
SONM	**Songino Array**	**45.79**	**328**	P	P	06 54 40.8	-0.3
	0.5nm,0.9s,baz=124,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**59.92**	**317**	P	P	06 56 24.6	-1.5
	0.8nm,0.8s,baz=83,slow=8.8,SNR=4.7						
BVAR	**Borovoye Array**	**68.70**	**322**	P	P	06 57 20.7	-2.7
	1.1nm,0.6s,baz=100,slow=9.0,SNR=5.6						
ARCES	**ARCESS Array B**	**87.20**	**341**	P	P	06 59 02.7	-2.2
	3.0nm,0.9s,baz=68,slow=6.5,SNR=3.7						
FINES	**FINESS Array B**	**90.79**	**334**	P	P	06 59 19.1	-2.9
	1.4nm,0.7s,baz=72,slow=6.0,SNR=3.6						
LPAZ	**La Paz**	**151.44**	**102**	PKPbc	PKPdf	07 06 14.2	+5.9
	1.3nm,0.7s,baz=281,slow=5.2,SNR=8.8						

PGC 20 06:48:52.7, 66.73N×135.75W, h10km, ML2.6/2, Mackenzie Mountains, Yukon Territory, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**1.81**	**27**	Pn	Pn	06 49 23.7	-0.5
INK				Sg	Sg	06 49 49.1	-3.8
INK				Trac		06 49 53.0	
	comp=Z,60nm,0.2s						
DAWY	**Dawson**	**3.08**	**211**	Pn	Pn	06 49 41.0	-1.3
DAWY				Pg	Pg	06 49 49.4	-4.7
DAWY				Sn	Sn	06 50 17.8	-1.8
DAWY				Sg	Sg	06 50 28.5	-6.6
DAWY				Trac		06 50 34.0	
	comp=Z,7.0nm,0.1s						
HYT	**Haines Junctio**	**5.97**	**188**	Pn	Pn	06 50 22.6	-0.8
HYT				Trac		06 52 08.7	
	comp=Z,1.0nm,0.4s						
YKW3	**Yellowknife Ar**	**9.95**	**105**	Pn	P	06 51 12.5	-6.2
YKW3				Sn	Sn	06 52 58.8	-13
YKW3				Trac		06 53 02.8	

IGQ 20 06:51:51.9, 2.69S×80.04W, h12km±17km, mb4.0, 2C-2D, Error ellipse: s-maj=16.0km s-min=5.2km az=119.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUIV	**Juive**	**2.01**	**51**	P	Pn	06 52 27.9	+1.9
ULBA	**Ulba**	**2.04**	**53**	P	Pn	06 52 28.7	+2.2
ULBA				S	Sn	06 52 50.3	-1.7
CAMI	**Rancho Maria**	**2.51**	**38**	⇓P	Pn	06 52 36.0	+2.8
CAMI				S	Sn	06 53 06.4	+2.3
VC1	**Cotopaxi 1**	**2.60**	**39**	⇑P	Pn	06 52 37.3	+2.8
MAG1	**Magdalena**	**2.61**	**6**	P	Pn	06 52 36.2	+1.6
TERV	**Terraza Guagua**	**2.88**	**30**	P	Pn	06 52 40.1	+1.7
GGP	**Refugio Guagua**	**2.88**	**30**	⇓P	Pn	06 52 40.4	+1.9
PINO	**Pino**	**2.89**	**30**	P	Pn	06 52 40.4	+1.8
ANTI	**Antisana**	**2.91**	**40**	⇑P	Pn	06 52 42.4	+3.5
YANA	**Yana**	**2.94**	**30**	P	Pn	06 52 41.0	+1.7

IDC 20 07:22:58.0±1.4, 11.79N×141.67E, mb4.1/3, mb1 4.2/3, mb1mx3.6/18, mbtmp4.1/3, Error ellipse: s-maj=96.3km s-min=33.9km az=94.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.35**	**193**	P	P	07 29 29.1	-2.4
	1.2nm,0.8s,baz=11,slow=9.8,SNR=9.1						
STKA	**Stephens Creek**	**43.41**	**180**	P	P	07 31 03.4	-1.0
	1.7nm,1.0s,slow=10,SNR=3.5						
ARCES	**ARCESS Array B**	**87.81**	**342**	P	P	07 35 49.8	-0.2
	3.8nm,1.0s,baz=50,slow=9.5,SNR=3.8						
LPAZ	**La Paz**	**150.76**	**102**	PKPbc	PKPdf	07 42 52.6	+3.2
	0.5nm,0.8s,baz=55,slow=1.9,SNR=5.8						

*NEIC **20** 07:33:51.9, 37.78S×179.49E, h33km, ML4.4(WEL), After WEL.*
WEL 20 07:33:56.5±0.5, 37.38S×178.79E, h26km±2km, ML4.1/11, Error ellipse: s-maj=3.9km s-min=2.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.43**	**245**	P*	Pb	07 34 05.5	0.0
MXZ				S*	Sb	07 34 11.7	0.0
MXZ				S*	Sb	07 34 11.9	+0.3
PUZ	**Puketiti**	**0.81**	**212**	P*	Pb	07 34 11.7	-0.1
PUZ				S*	Sb	07 34 22.7	+0.3
PUZ				S*	Sb	07 34 22.8	+0.5
WIZ	**White Island**	**1.28**	**263**	PN	Pn	07 34 17.7	-1.3
MWZ	**Matawai**	**1.38**	**226**	PN	Pn	07 34 19.6	-0.8
MWZ				*e*SN	Sn	07 34 37.4	-0.6
URZ	**Urewera**	**1.59**	**236**	PN	Pn	07 34 23.2	-0.3
URZ				SN	Sn	07 34 41.6	-1.8
EDRZ	**Edgecumbe**	**1.78**	**245**	PN	Pn	07 34 25.7	-0.4
KNZ	**Kokohu**	**1.86**	**208**	PN	Pn	07 34 24.8	-2.4
TAZ	**Tarawera**	**2.00**	**244**	PN	Pn	07 34 29.1	-0.2
MYRZ	**Mayor Island**	**2.04**	**272**	PN	Pn	07 34 28.0	-1.8
KUZ	**Kuaotunu**	**2.54**	**284**	PN	Pn	07 34 35.2	-1.8
KUZ				SN	Sn	07 35 03.4	-4.0
BKZ	**Black Stump Fm**	**2.54**	**225**	PN	Pn	07 34 35.5	-1.5
BKZ				*e*SN	Sn	07 35 04.4	-3.0
MKAZ	**Moumakai**	**2.91**	**274**	PN	Pn	07 34 41.2	-1.0
KRVZ	**Karewarewa**	**3.01**	**234**	PN	Pn	07 34 42.4	-1.3
OTVZ	**Oturere**	**3.04**	**233**	PN	Pn	07 34 42.7	-1.4
WTVZ	**West Tongariro**	**3.06**	**235**	PN	Pn	07 34 43.1	-1.3
MOVZ	**Moawhango**	**3.13**	**229**	PN	Pn	07 34 43.1	-2.3
MTVZ	**Mangateitei**	**3.29**	**232**	PN	Pn	07 34 45.8	-1.9
TSZ	**Takapari Road**	**3.47**	**219**	PN	Pn	07 34 46.2	-4.0
WAZ	**Wanganui**	**3.81**	**230**	PN	Pn	07 34 52.9	-2.1
BFZ	**Birch Farm**	**3.84**	**210**	PN	Pn	07 34 50.3	-5.2
MRZ	**Mangatainoka R**	**4.12**	**216**	PN	Pn	07 34 54.8	-4.7
TCW	**Tory Channel**	**5.19**	**221**	PN	Pn	07 35 08.2	-6.3
TCW	**Tory Channel**	**5.19**	**221**	P	Pn	07 35 08.2	-6.3
TUWZ	**Tuamarina**	**5.52**	**221**	PN	Pn	07 35 12.8	-6.4
NNZ	**Nelson**	**5.68**	**226**	PN	Pn	07 35 15.4	-6.2
NNZ				SN	Sn	07 36 18.4	-8.3
NNZ	**Nelson**	**5.68**	**226**	*eP*	Pn	07 35 15.0	-6.5
NNZ				S	Sn	07 36 18.4	-8.3
BSWZ	**Blackbirch Sta**	**5.76**	**220**	PN	Pn	07 35 16.1	-6.4
BSWZ	**Blackbirch Sta**	**5.76**	**220**	P	Pn	07 35 16.0	-6.6
QRZ	**Quartz Range**	**5.96**	**233**	PN	Pn	07 35 19.1	-6.4
QRZ	**Quartz Range**	**5.96**	**233**	*eP*	Pn	07 35 20.5	-5.0
THZ	**Tophouse**	**6.31**	**224**	PN	Pn	07 35 23.4	-7.0
THZ				SN	Sn	07 36 32.9	-10
THZ	**Tophouse**	**6.31**	**224**	*eP*	Pn	07 35 23.4	-7.0
THZ				S	Sn	07 36 32.9	-10
LTZ	**Lake Taylor**	**7.35**	**221**	*eP*	Pn	07 35 35.9	-9.1
MQZ	**McQueen's Vall**	**7.86**	**215**	*e*PN	Pn	07 35 43.3	-8.8
MQZ	**McQueen's Vall**	**7.86**	**215**	*eP*	Pn	07 35 43.3	-8.8

*IDC **20** 08:25:45.7±1.5, 3.41N×129.03E, mb4.1/6, mb1 4.3/6, mb1mx4.0/16, mbtmp4.1/6, MS3.3/1, Ms1 3.3/1, ms1mx2.5/27, Error ellipse: s-maj=190.6km s-min=19.5km az=70.0*
*NEIC **20** 08:25:48.1±0.5, 3.44N×128.97E, h15km, mb4.8/11, Error ellipse: s-maj=23.1km s-min=8.8km az=60.0*
*MOS **20** 08:25:49.1±1.0, 3.53N×129.00E, h33km, mb4.7/7, Error ellipse: s-maj=52.7km s-min=14.1km az=118.9*
ISC 20 08:25:48.8±0.6, 3.4N±0.1×128.9E±0.2, h30km, h30km±1.4km:pP-P,n30, σ0§82/29, mb4.5/17, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**12.87**	**282**	Pn	**P**	**08 28 51.9**	**-0.7**
GUMO	**Guam**	**18.75**	**57**	LR	LR	08 35 39.1	
	comp=Z,78nm,18.4s,baz=116,slow=32						
WRAB	**Tennant Creek**	**23.84**	**167**	*eP*	**P**	**08 31 03.1**	**+2.5**
WRAB				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**23.84**	**167**	*eP*	**P**	**08 31

comp=Z,4.6nm,0.5s,mb4.7

ZRNK				*e*P	P	08 37 05.8	-0.1
CASY	**Casey**	**70.80**	**188**	P	**P**	**08 37 05.1**	**+0.8**
	comp=Z,16nm,0.8s,mb5.0						
VNDA	**Vanda**	**82.87**	**173**	P	**P**	**08 38 11.4**	**-0.1**
	comp=Z,1.8nm,1.0s,mb4.1,baz=299,slow=2.2,SNR=5.8						
ARCES	**ARCESS Array B**	**91.46**	**340**	P	**P**	**08 38 53.1**	**0.0**
	comp=Z,5.8nm,1.1s,mb4.8,baz=76,slow=5.0,SNR=3.7						

*NDI **20** 08:26:27.4±2.6,31.60N×77.94E,h10km,ML3.5*
*NNC **20** 08:28:20.3±59.0,37.85N×70.24E, mb3.5, mpv3.1, Error ellipse: s-maj=575.5km s-min=510.7km az=92.0*
ISC 20 08:26:28.0±0.7,31.55N±0.06×77.96E±0.04,h10km,n9, σ1§27/16,3C,Northern India

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KLP	**Kalpa**	**0.25**	**93**	⇑	*i*P		**Pg**	**08 26 33.2**	**-0.2**
KLP					*e*S		**Sg**	**08 26 37.6**	**+0.7**
KLP					AML		AML	08 26 39.2	
	comp=N,4μm,0.2s								
KLP					AML		AML	08 26 39.4	
	comp=E,6μm,0.3s								
SMLA	**Simla**	**0.79**	**239**	*e*P			**Pb**	**08 26 42.6**	**-0.8**
SMLA				*e*S			**Sb**	**08 26 54.9**	**+0.9**
SDNR	**Sundarnagar**	**0.84**	**267**	*e*P			**Pb**	**08 26 43.2**	**-1.1**
SDNR				*e*S			**Sb**	**08 26 54.6**	**-0.9**
DDI	**Dehra Dun**	**1.22**	**176**	*e*P			**Pb**	**08 26 52.0**	**+1.2**
DDI				*ex*			**Sg**	**08 27 14.3**	**+5.4**
PONG	**Pong**	**1.76**	**284**	*e*P			**Pn**	**08 26 58.0**	**-0.8**
PONG				*e*S			**Sn**	**08 27 23.0**	**+1.6**
DLH	**Dalhousie**	**1.96**	**301**	*e*P			**Pn**	**08 27 00.0**	**-1.7**
DLH				*ex*			**Sg**	**08 27 36.0**	**+2.6**
THN	**Thein Dam**	**2.10**	**296**	*e*P			**Pn**	**08 27 01.9**	**-1.8**
THN				*ex*			**Sn**	**08 27 31.4**	**+1.3**
LGTI	**Lohaghat**	**2.88**	**136**	*ex*			**Sn**	**08 27 39.5**	**-10**
KK31	**Karatay Array**	**12.96**	**335**	⇑	P		**P**	**08 29 40.1**	**+5.1**
	comp=E,1.2nm,0.5s,baz=178,slow=14,SNR=7.3								
KK31				⇑	S		Px	08 30 42.5	
	comp=E,14nm,0.5s,baz=184,slow=24								

*IDC **20** 08:28:27.6±1.3,6.78N×72.93W,h162km±16km,mb3.0/2, mb1 3.4/4,mb1mx3.1/20,mbtmp3.6/4, Error ellipse: s-maj=43.6km s-min=14.3km az=130.0*
*FUNV **20** 08:28:27.1,6.83N×73.22W,h166km,MW2.4*
ISC 20 08:28:26.7±0.8,6.83N±0.08×73.04W±0.08,h164km±9km, n10,σ0§83/14,mb3.2/2,4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CAPV	**Capacho**	**1.26**	**35**	⇓	*e*P		**P**	**08 28 56.2**	**+0.9**
CAPV					*e*S		**S**	**08 29 17.5**	**0.0**
ROSC	**El Rosal**	**2.34**	**213**	P			**P**	**08 29 08.1**	**+1.0**
	9.5nm,0.3s,baz=267,slow=19,SNR=61								
ROSC					S		**S**	**08 29 35.5**	**-2.7**
	7.6nm,0.3s,baz=101,slow=20,SNR=13								
VIGV	**El Vigia**	**2.60**	**40**	⇓	*e*P		**P**	**08 29 10.8**	**+0.5**
SOCV	**Socops**	**2.60**	**56**	⇓	*e*P		**P**	**08 29 11.1**	**+0.7**
SOCV					*e*S		**S**	**08 29 43.6**	**-0.3**
SDV	**Santo Domingo**	**3.14**	**49**	P			**P**	**08 29 17.5**	**+0.4**
	22nm,0.3s,baz=251,slow=9.7,SNR=495								
SDV					S		**S**	**08 29 55.2**	**-0.6**
	9.8nm,0.3s,baz=293,slow=17,SNR=14								
ELOV	**Elorza**	**3.53**	**87**	*e*P			**P**	**08 29 22.6**	**+0.5**
ELOV				*e*S			**S**	**08 30 04.2**	**-0.5**
VIRV	**Villa del Rosa**	**3.71**	**10**	⇓	*e*P		**P**	**08 29 23.1**	**-1.3**
TXAR	**Lajitas Array**	**36.52**	**312**	P			**P**	**08 35 18.8**	**+0.6**
	0.3nm,0.8s,mb3.0,baz=117,slow=6.0,SNR=3.8								
YKA	**Yellowknife Ar**	**63.29**	**340**	P			**P**	**08 38 39.3**	**-0.7**
	0.4nm,0.5s,mb3.5,baz=133,slow=6.5,SNR=15								
WRA	**Warramunga Array**	**150.41**	**241**	PKPbc		PKPdf		08 48 00.8	+6.8
	0.4nm,0.5s,baz=109,slow=2.6,SNR=13								

*IDC **20** 08:40:21.5±0.9,12.29N×140.96E, mb4.2/6, mb1 4.4/6, mb1mx3.9/18, mbtmp4.2/6, Error ellipse: s-maj=55.7km s-min=22.4km az=89.0*
*NEIC **20** 08:40:26.9±0.6,12.26N×140.95E, h35km, mb4.1/1, Error ellipse: s-maj=42.4km s-min=14.3km az=90.0*
ISC 20 08:40:24.7±0.9,12.2N±0.1×141.0E±0.4,h33km,n9, σ1§02/8,mb4.2/7,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRAB	**Tennant Creek**	**32.62**	**192**	*e*P			**P**	**08 46 56.1**	**+0.3**
	1.5nm,0.5s,mb4.2								
WRAB				*e*P		P		08 47 05.2	-0.3
WRA	**Warramunga Arr**	**32.63**	**192**	P			**P**	**08 46 55.5**	**-0.5**
	1.5nm,0.7s,mb4.0,baz=10.0,slow=9.9,SNR=16								
STKA	**Stephens Creek**	**43.87**	**179**	P			**P**	**08 48 30.0**	**+0.1**
	1.0nm,0.7s,mb3.7,baz=219,slow=16,SNR=4.4								
ZAL	**Zalesovo**	**60.55**	**326**	P			**P**	**08 50 32.8**	**-1.4**
	3.2nm,0.4s,mb4.8,baz=29,slow=5.2,SNR=5.0								
ILAR	**Eielson Array**	**71.42**	**25**	P			**P**	**08 51 42.5**	**-0.7**
	0.3nm,0.6s,mb3.4,baz=245,slow=6.0,SNR=6.5								
ARCES	**ARCESS Array B**	**87.17**	**341**	P			**P**	**08 53 10.6**	**+2.3**
	6.0nm,1.1s,mb4.7,baz=39,slow=7.8,SNR=3.6								
FINES	**FINESS Array B**	**90.75**	**334**	P			**P**	**08 53 25.9**	**+0.5**
	1.3nm,0.6s,mb4.4,baz=45,slow=3.9,SNR=5.1								
FINES	**FINESS Array B**	**90.75**	**334**	P			**P**	**08 53 25.9**	**+0.5**
LPAZ	**La Paz**	**151.53**	**102**	PKPbc		PKPdf		09 00 19.6	+10
	0.6nm,0.7s,baz=254,slow=6.2,SNR=6.1								

*IDC **20** 08:45:07.4±2.7,2.88N×98.04E, mb3.5/3, mb1 3.6/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=72.7km s-min=22.0km az=44.0*
*NEIC **20** 08:45:12.7±0.9,3.03N×98.27E, h30km, mb4.2/3, Error ellipse: s-maj=21.9km s-min=14.4km az=22.0*
ISC 20 08:45:12.8±1.5,3.1N±0.1×98.3E±0.1,h45km±15km,n9, σ1§21/11,mb3.8/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PSI	**Prapat**	**0.70**	**114**	Pn			**P**	**08 45 27.0**	**+0.6**
	177nm,0.3s,baz=314,slow=15,SNR=305								
PSI				Sn			**S**	**08 45 36.0**	**-0.5**
	473nm,0.3s,baz=160,slow=11,SNR=50								
KULM	**Kulim**	**3.22**	**47**	*e*P			**P**	**08 46 01.7**	**-0.5**
KULM				*e*Sn			**S**	**08 46 47.1**	**+7.4**
PALK	**Pallekele**	**17.99**	**284**	P			**P**	**08 49 22.5**	**+1.1**
	10nm,0.8s								
WRA	**Warramunga Arr**	**42.16**	**124**	P			**P**	**08 53 03.0**	**+0.1**
	0.6nm,0.7s,mb3.3,baz=303,slow=9.0,SNR=3.7								
WRAB	**Tennant Creek**	**42.16**	**124**	*e*P			**P**	**08 53 03.6**	**+0.6**
	3.5nm,0.8s,mb4.0								
SONM	**Songino Array**	**45.12**	**8**	P			**P**	**08 53 28.7**	**+2.1**
	0.4nm,0.7s,mb3.3,baz=200,slow=9.2,SNR=2.4								
MKAR	**Makanchi Array**	**45.70**	**345**	P			**P**	**08 53 29.7**	**-1.5**
	0.7nm,0.8s,mb3.6,baz=157,slow=9.2,SNR=4.2								
MKAR	**Makanchi Array**	**45.70**	**345**	P			**P**	**08 53 29.7**	**-1.5**
KMBO	**Kilima Mbogo**	**61.15**	**267**	P			**P**	**08 55 23.2**	**-2.3**
	5.8nm,1.7s,mb4.4								

*IDC **20** 08:50:29.3±1.8,4.03S×145.95E, mb4.0/2, mb1 4.4/5, mb1mx4.0/14, mbtmp4.3/5, ML4.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.6/18, Error ellipse: s-maj=75.5km s-min=28.2km az=103.0*
*NEIC **20** 08:50:33.8±1.2,4.05S×146.01E, h35km, mb4.2/3, Error ellipse: s-maj=20.9km s-min=18.8km az=80.0*
ISC 20 08:50:33.1±1.3,4.3S±0.1×146.0E±0.1,h33km,n12, σ1§29/15,mb3.9/3,1D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PMG	**Port Moresby**	**5.24**	**168**	Pn			**Pn**	**08 51 50.7**	**-0.5**
	24nm,0.3s,baz=26,slow=5.2,SNR=121								
PMG				Sn			**Sn**	**08 52 36.1**	**-15**
	15nm,0.3s,baz=205,slow=19,SNR=9.0								
PMG				LR		LR		08 53 25.5	
	comp=Z,67nm,20.0s,baz=36,slow=32								
PMG	**Port Moresby**	**5.24**	**168**	⇓	*i*Pn		**Pn**	**08 51 50.7**	**-0.5**
	66nm,0.3s								
PMG					*e*Sn		**Sn**	**08 52 35.4**	**-16**
HNR	**Honiara**	**14.74**	**111**	Pn			**P**	**08 54 01.5**	**+0.3**
	34nm,0.5s								
CTA	**Charters Tower**	**15.74**	**179**	Pn			**P**	**08 54 17.0**	**+2.9**
	0.7nm,0.3s,baz=338,slow=13,SNR=7.4								
CTAO	**Charters Tower**	**15.74**	**179**	*e*Pn			**P**	**08 54 14.3**	**+0.2**
	3.0nm,0.4s								
WRAB	**Tennant Creek**	**19.30**	**215**	*e*P			**P**	**08 54 57.4**	**-0.7**
	14nm,0.5s								
WRA	**Warramunga Arr**	**19.31**	**215**	P			**P**	**08 54 57.2**	**-1.1**
	2.8nm,0.3s,baz=38,slow=11,SNR=104								
WRA					S		**S**	**08 58 19.5**	**-9.5**
	0.1nm,0.3s,baz=39,slow=20,SNR=7.2								
ASPA	**Alice Springs**	**22.57**	**210**	*e*P			**P**	**08 55 30.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.24**	**344**	*e*P			**P**	**08 55 51.1**	**+2.8**
	3.1nm,0.4s,mb4.1								
STKA	**Stephens Creek**	**27.79**	**188**	P			**P**	**08 56 22.5**	**+1.1**
	4.6nm,0.7s,mb4.2,baz=0.3,slow=9.8,SNR=15								
STKA	**Stephens Creek**	**27.79**	**188**	*e*P			**P**	**08 56 22.4**	**+1.1**
ILAR	**Eielson Array**	**84.27**	**23**	P			**P**	**09 03 01.8**	**-0.7**
	0.2nm,0.7s,mb3.4,baz=253,slow=4.8,SNR=4.4								

*CSEM **20** 08:59:42.7±0.3,37.40N×24.59W,h5km,ML2.7, Error ellipse: s-maj=9.4km s-min=3.3km az=62.0, After PDA*
*PDA **20** 08:59:42.7±0.8,37.40N×24.59W,h5km,MD2.6,ML2.7, Error ellipse: s-maj=8.2km s-min=4.2km az=37.0*
SVSA 20 08:59:42.7±0.8,37.40N×24.59W,h5km,MD2.6,ML2.7, Error ellipse: s-maj=8.2km s-min=4.2km az=37.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PSMN	**Pico do Norte,**	**0.55**	**224**	*e*P			Pg	08 59 53.5	-0.3
PSMN				*e*S			Sg	09 00 00.4	-0.7
MIRA	**Miradouro**	**0.67**	**305**	*e*P			Pg	08 59 53.5	-2.6
MIRA				*e*S			Sg	09 00 01.7	-3.3
FRA1	**Furnas**	**0.70**	**299**	*e*P			Pg	08 59 52.6	-4.1
FRA1				*e*S			Sg	09 00 01.4	-4.7
PFAD	**Fenais da Ajud**	**0.73**	**307**	*e*P			Pg	08 59 54.4	-2.9
PCNG	**Congro**	**0.74**	**300**	*e*P			Pg	08 59 54.7	-2.8
PCNG				*e*S			Sg	09 00 04.2	-3.1
	147nm,0.3s								
VIF	**Vila Franca**	**0.76**	**297**	*e*P			Pg	08 59 55.5	-2.4
VIF				*e*S			Sg	09 00 04.5	-3.5
	71nm,0.2s								
PRCH	**Ribeira Ch**	**0.78**	**295**	*e*S			Sg	09 00 05.3	-3.4
	201nm,0.2s								
MESC	**Monte Escuro**	**0.79**	**300**	*e*P			Pg	08 59 55.8	-2.6
MESC				*e*S			Sg	09 00 05.5	-3.4
LFA	**Lagoa do Fogo**	**0.80**	**298**	*e*P			Pb	08 59 56.3	-2.4
PMAT	**Coroa da Mata**	**0.81**	**301**	*e*S			Sg	09 00 05.7	-4.2
	43nm,0.2s								
CML	**Cha da Macela**	**0.85**	**296**	*e*P			Pb	08 59 56.1	-3.4
CML				*e*S			Sg	09 00 06.4	-4.5
FAC	**Faja de Cima**	**0.92**	**294**	*e*P			Pb	08 59 58.6	-2.2
PSET	**Sete Cidades**	**0.99**	**295**	*e*S			Sb	09 00 10.1	-5.1
	110nm,0.3s								
PSAN	**Santo Antonio**	**1.01**	**297**	*e*S			Sb	09 00 10.9	-4.8
SET2	**Ginetes**	**1.06**	**295**	*e*P			Pb	08 59 59.4	-3.8
SET4	**Mosteiros**	**1.07**	**296**	*e*P			Pb	08 59 59.6	-3.7
PFAV	**Pico das Favas**	**2.37**	**304**	*e*S			Sn	09 00 43.8	-8.7
	16nm,0.4s								
PSCM	**Serra do Cume**	**2.38**	**304**	*e*S			Sn	09 00 44.0	-8.9
	22nm,0.4s								
RIB2	**Ribeirinha**	**2.40**	**303**	*e*S			Sn	09 00 44.5	-9.0
	6.7nm,0.2s								
PVNV	**Vila Nova**	**2.44**	**305**	*erx*				09 00 44.1	
PPAD	**Pico dos Padre**	**2.50**	**302**	*erx*				09 00 44.8	
ASBA	**Santa Barbara**	**2.53**	**302**	*e*S			Sn	09 00 47.5	-9.2
	8.6nm,0.1s								

*MOS **20** 09:15:11.9±0.8, 12.20N×141.05E, h33km, mb4.9/7, Error ellipse: s-maj=26.1km s-min=11.8km az=107.0*
*BJI **20** 09:15:12.8, 12.20N×141.10E, h33km, mB4.7, mb4.7, Ms5.0, Msz4.7*
*NEIC **20** 09:15:13.9±0.4, 12.22N×141.10E, mb4.8/7, Error ellipse: s-maj=15.4km s-min=7.3km az=71.0*
*IDC **20** 09:15:19.4±9.3, 12.22N×140.99E, h82km±85km, mb3.9/13, mb1 4.0/13, mb1mx3.9/22, mbtmp4.2/13, MS3.7/1, Ms1 3.7/1, ms1mx2.8/31, Error ellipse: s-maj=34.5km s-min=16.8km az=65.0*
ISC 20 09:15:11.8±0.5,12.17N±0.07×141.1E±0.1,h32km, h32km±2.7km:pP-P,n40,σ0§78/38,mb4.5/21,MS4.2/2,1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JHJ	**Hachijo jima 2**	**20.89**	**357**	LR			LR	09 26 00.0	
	comp=Z,212nm,19.2s,MS3.5,baz=69,slow=31								
PMG	**Port Moresby**	**22.26**	**164**	P			**P**	**09 20 12.0**	**+4.1**
	6.7nm,0.8s,mb4.1,baz=192,slow=23,SNR=3.7								
PMG	**Port Moresby**	**22.26**	**164**	P			**P**	**09 20 07.2**	**-0.7**
PMG				**PP				09 20 17.8	
PMG				pmax		pmax			
	comp=Z,47nm,1.5s								
PMG	**Port Moresby**	**22.26**	**164**	P			**P**	**09 20 07.2**	**-0.6**
	comp=Z,47nm,1.5s,mb4.7								
PMG				pP				09 20 17.8	
CTA	**Charters Tower**	**32.45**	**171**	P			**P**	**09 21 43.6**	**+2.0**
	comp=Z,5.7nm,0.9s,mb4.4,baz=350,slow=12,SNR=4.4								
CTAO	**Charters Tower**	**32.45**	**171**	P			**P**	**09 21 42.8**	**+1.2**
CTAO				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.6								
CTAO	**Charters Tower**	**32.45**	**171**	P			**P**	**09 21 42.8**	**+1.2**
	comp=Z,12nm,1.1s,mb4.6								
WRAB	**Tennant Creek**	**32.58**	**192**	*e*P			**P**	**09 21 42.3**	**-0.5**
WRAB				*e**PP			pP	09 21 51.5	-0.6
WRAB				pmax		pmax			
	comp=Z,19nm,0.8s,mb5.1								
WRAB	**Tennant Creek**	**32.58**	**192**	*e*P			**P**	**09 21 42.3**	**-0.5**
	comp=Z,19nm,0.8s,mb5.1								
WRAB				*e*pP			pP	09 21 51.5	-0.6
WB2	**Warramunga Arr**	**32.59**	**192**	*e*P			**P**	**09 21 42.5**	**-0.4**
WB2				*e*			pP	09 21 51.3	-0.9
WRA	**Warramunga Arr**	**32.59**	**192**	P			**P**	**09 21 42.3**	**-0.6**
	comp=Z,10nm,0.8s,mb4.8,baz=10,slow=9.9,SNR=68								
ASPA	**Alice Springs**	**36.30**	**191**	*e*P			**P**	**09 22 15.3**	**+0.6**
ASPA				*e*			pP	09 22 24.3	+0.2
KMI	**Kunming**	**38.42**	**295**	P			**P**	**09 22 33.5**	**+1.0**
STKA	**Stephens Creek**	**43.79**	**179**	P			**P**	**09 23 16.7**	**+0.1**
	comp=Z,4.7nm,0.8s,mb4.3,baz=337,slow=6.9,SNR=9.5								
STKA	**Stephens Creek**	**43.79**	**179**	P			**P**	**09 23 16.7**	**+0.1**
STKA				pP			pP	09 23 25.4	-0.7
GTA	**Gaotai**	**45.44**	**314**	P			**P**	**09 23 31.3**	**+1.5**
SONM	**Songino Array**	**45.87**	**328**	P			**P**	**09 23 32.6**	**-0.4**
	comp=Z,0.9nm,1.1s,mb3.6,slow=7.2,SNR=3.3								
ZAK	**Zakamensk**	**49.05**	**329**	*e*P			**P**	**09 23 58.6**	**+0.7**
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.1s,mb4.5								
JIRN	**Jiri**	**53.47**	**295**	*e*P			**P**	**09 24 31.2**	**-0.4**
GUN	**Gumba**	**53.77**	**296**	*e*P			**P**	**09 24 34.2**	**+0.4**
	comp=Z,28nm,1.1s,mb5.1								
PKI	**Pulchoki**	**54.15**	**295**	*e*P			**P**	**09 24 36.0**	**-0.6**
KKN	**Kakani**	**54.28**	**295**	*e*P			**P**	**09 24 37.1**	**-0.5**
DMN	**Daman**	**54.42**	**295**	*e*P			**P**	**09 24 38.6**	**0.0**
GKN	**Gorkha**	**54.87**	**296**	*e*P			**P**	**09 24 41.6**	**-0.3**
WMQ	**Urumqi**	**55.50**	**315**	*e*P			**P**	**09 24 48.0**	**+1.7**
WMQ					AP		pP	09 24 58.0	+2.1
WMQ					AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.8								
WMQ					AMB		AMB		
	comp=Z,90nm,5.0s								
WMQ					LR		LR		
	comp=N,910nm,20.0s,MS5.0								
WMQ					LR		LR		
	comp=E,920nm,22.0s,MS5.0								
WMQ					LR		LR		
	comp=Z,900nm,21.2s,MS4.8								
KOLN	**Koldanda**	**55.77**	**295**	*e*P			**P**	**09 24 48.0**	**-0.4**
	comp=Z,23nm,1.1s,mb5.1								
BILL	**Bilibino**	**58.20**	**11**	⇑	*e*P		**P**	**09 25 05.5**	**+0.4**
BILL					pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.7								
MKAR	**Makanchi Array**	**60.00**	**317**	P			**P**	**09 25 17.4**	**-0.5**
	comp=Z,1.7nm,0.9s,mb4.1,baz=108,slow=7.7,SNR=9.0								
KURK	**Kurchatov**	**63.33**	**321**	*e*P			**P**	**09 25 40.2**	**+0.1**
KURK					**PP		pP	09 25 55.2	+5.2
KURK					pmax		pmax		
	comp=Z,12nm,0.8s,mb5.1								
KURK	**Kurchatov**	**63.33**	**321**	*e*P			**P**	**09 25 40.2**	**+0.1**
	comp=Z,12nm,0.8s,mb5.1								
KURK					pP		pP	09 25 55.2	+5.2
BVAR	**Borovoye Array**	**68.78**	**322**	P			**P**	**09 26 14.7**	**-0.2**
	comp=Z,5.4nm,0.7s,mb4.6,baz=106,slow=7.7,SNR=30								
ZRNK	**Zerenda**	**69.60**	**322**	*e*P			**P**	**09 26 19.8**	**-0.1**
ZRNK					pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.7								
ZRNK	**Zerenda**	**69.60**	**322**	*e*P			**P**	**09 26 19.8**	**-0.2**
	comp=Z,8.0nm,0.9s,mb4.7								
ILAR	**Eielson Array**	**71.42**	**25**	P			**P**	**09 26 29.9**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=248,slow=5.8,SNR=11								
AKTO	**Aktyubinsk**	**76.33**	**319**	P			**P**	**09 26 59.1**	**-0.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=63,slow=8.3,SNR=4.3								
INK	**Inuvik**	**77.08**	**22**	P			**P**	**09 27 02.5**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.7,baz=230,slow=6.2,SNR=3.2								
ARCES	**ARCESS Array B**	**87.28**	**341**	P			**P**	**09 27 55.5**	**-0.7**
	comp=Z,3.7nm,1.0s,mb4.5,baz=56,slow=8.7,SNR=6.0								
NVAR	**Mina Array Bea**	**90.67**	**51**	P			**P**	**09 28 14.9**	**+1.9**
	comp=Z,0.9nm,0.9s,mb4.1,baz=258,slow=6.6,SNR=5.2								
FINES	**FINESS Array B**	**90.87**	**334**	P			**P**	**09 28 12.3**	**-1.0**
	comp=Z,2.2nm,0.6s,mb4.7,baz=77,slow=5.1,SNR=9.7								
LPAZ	**La Paz**	**151.38**	**102**	PKPbc		PKPdf		09 35 06.2	+3.8
	comp=Z,3.1nm,0.8s,baz=226,slow=1.7,SNR=17								

CASC 20 09:17:39.3±2.2,12.98N×88.81W,h35km±154km,MD3.5, ML2.7,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SNVI	**San Vicente**	**0.63**	**357**	*e*P			P	09 18 30.6	+39
SNVI				*e*S			S	09 18 40.9	+40
VSM	**San Miguel**	**0.68**	**49**	*e*P			P	09 18 31.4	+39
VSM				*e*S			S	09 18 43.1	+41
BLLM	**Bellamira**	**0.72**	**50**	*e*P			P	09 18 31.5	+39
BLLM				*e*S			S	09 18 42.2	+39
LBRS	**Las Brisas**	**0.79**	**343**	*e*P			P	09 18 32.5	+39
LBRS				*e*S			S	09 18 43.4	+39
SNET	**Serv Nac Est T**	**0.81**	**329**	*e*P			P	09 17 55.7	+1.4
SNET				*e*S			S	09 18 07.1	+1.8
LFU	**La Fuente**	**0.82**	**338**	*e*P			P	09 18 33.0	+39
LFU				*e*S			S	09 18 45.0	+40
BOQS	**Boqueron**	**0.88**	**328**	*e*P			P	09 18 33.8	+39
BOQS				*e*S			S	09 18 46.5	+40
CAHU	**Cacacuatique**	**0.97**	**36**	*e*P			P	09 18 35.3	+39
CAHU				*e*S			S	09 18 48.5	+39
CNCH	**Conchagua**	**0.99**	**73**	*e*P			P	09 18 34.7	+38
CNCH				*e*S			S	09 18 49.2	+39
SNJE	**San Jose**	**1.18**	**319**	*e*P			P	09 18 38.6	+39
SNJE				*e*S			S	09 18 53.5	+39
RTR	**El Retiro**	**1.22**	**318**	*e*P			P	09 18 38.9	+39
RTR				*e*S			S	09 18 55.5	+40
LEON	**Leon**	**1.95**	**107**	*e*P			P	09 18 10.1	-0.5
TEL3	**Telica 3**	**1.96**	**102**	*e*P			P	09 18 10.8	+0.1
TEL3				*e*S			S	09 18 34.0	-0.2
MIRN	**Miramar**	**2.11**	**105**	*e*P			P	09 18 12.6	-0.3
COPN	**Copaltepe**	**2.30**	**110**	*e*P			P	09 18 15.0	-0.6
MGAN	**Managua**	**2.63**	**108**	*e*S			S	09 18 49.3	-2.1
MGAN				*i*				09 18 53.2	
	comp=E,47nm,0.4s								

*NIED **20** 09:59:00, 37.20N×138.60E, h8km, Mw3.5 Best double couple: M0 1.72×10^14 NP1:φs33°, δ59°, λ104°. NP2:φs186°, δ34°, λ68°.*
*JMA **20** 09:59:11.7±0.1, 37.21N×138.60E, h13km±2km, M3.0*
JMA Felt III J1.
ISC 20 09:59:11.5±0.8,37.17N±0.08×138.62E±0.06,h13km±14km, n4,σ0§57/8,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JHK	**Hiroka**	**0.33**	**76**	P			**Pg**	**09 59 18.2**	**-0.2**
JHK				S			**Sg**	**09 59 23.3**	**+0.3**
JIZZ	**Izumozaki**	**0.37**	**11**	P			**Pg**	**09 59 18.8**	**-0.4**
JIZZ				S			**Sg**	**09 59 24.8**	**+0.4**
JJN	**Nakama**	**0.37**	**260**	P			**Pg**	**09 59 18.9**	**-0.4**
JJN				S			**Sg**	**09 59 24.8**	**+0.3**
MAT	**Matsushiro**	**0.71**	**208**	P			**Pb**	**09 59 24.8**	**-0.5**
MAT				S			**Sb**	**09 59 35.2**	**+0.5**

*ATH **20** 10:06:36.2, 39.20N×20.95E, h31km±9km, MD3.0/3*
*THE **20** 10:06:37.4, 39.18N×20.93E, h10km*
*CSEM **20** 10:06:37.3±0.4, 39.20N×20.90E, h15km, MD3.0, Error ellipse: s-maj=10.9km s-min=7.2km az=112.0*
ISC 20 10:06:37.2±0.6,39.18N±0.04×20.98E±0.07,h22km±10km, n10,σ0§86/16,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JAN	**Janina**	**0.48**	**348**	*e*P		B	**Pb**	**10 06 46.1**	**-0.9**
JAN				*e*SB			**Sb**	**10 06 53.5**	**-0.2**
JAN	**Janina**

comp=Z,4.7nm,0.8s,mb4.5
FINES FINESS Array B 78.61 332 P **P** **10 24 24.9 -0.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=108,slow=6.0,SNR=6.9
ARCES ARCESS Array B 80.86 340 LR LR 11 02 41.5
comp=Z,68nm,21.8s,MS4.0,baz=297,slow=37
VNDA Vanda 87.79 169 P **P** **10 25 13.3 +1.6**
comp=Z,1.9nm,1.1s,mb4.3,baz=306,slow=6.0,SNR=5.4
RKT Rikitea 124.75 116 eLR LR 10 32 10.7
comp=Z,153nm,30.0s

*NEIC **20** 10:27:49.1, 31.13S×68.55W, h150km, mb4.0/1, After GUC.*
GUC 20 10:27:49.1±0.7, 31.13S×68.55W, h150km, ML3.4, 1C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.10**	**268**	*i* P	P	10 28 25.6	-0.2
CMCH				*i* S	S	10 28 53.9	-0.1
CMCH				AMP		10 28 55.5	
	comp=E,716nm,0.7s						
TLL	**Tololo Astrono**	**2.17**	**296**	*e*P	P	10 28 27.8	+1.1
TLL				*i* S	S	10 28 56.0	+0.6
TLL				AMP		10 28 57.5	
	comp=E,176nm,0.4s						
FCH	**Farellones**	**2.64**	**214**	*e*P	P	10 28 33.4	+0.8
FCH				*i* S	S	10 29 07.4	+1.5
FCH				AMP		10 29 10.9	
	comp=E,45nm,0.2s						
PCH	**Pirque**	**2.99**	**213**	*e*P	P	10 28 37.3	+0.3
RCDM	**Rinconada Maip**	**3.03**	**219**↑	*i*P	P	10 28 37.4	-0.1
RCDM				*i* S	S	10 29 14.6	-0.1
RCDM				AMP		10 29 15.8	
	comp=E,79nm,0.7s						
CHCH	**Chadas Angostu**	**3.31**	**212**	*e*P	P	10 28 40.8	-0.4
CHCH				*e*S	S	10 29 20.9	-0.3
CACH	**El Canelo**	**3.44**	**210**↓	*i*P	P	10 28 43.1	+0.2
TRQA	**Tornquist**	**8.78**	**144**	*e*Pn	P	10 29 50.7	-3.1
	comp=E,2.0nm,0.5s						
TRQA				Sn	S	10 31 24.4	-6.8

*NEIC **20** 10:50:47.0, 27.62S×70.98W, h57km, MD3.6(GUC), After GUC.*
GUC 20 10:50:47.0±0.7, 27.62S×70.98W, h57km±9km, MD3.6, ML3.4, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.56**	**14**↓	*i*P	P	10 50 59.8	+0.3
CDCH				*i* S	S	10 51 09.1	+0.4
CDCH				AMP		10 51 09.8	
	comp=N,2μm,0.3s						
CPCH	**Copiapo**	**0.62**	**65**↑	*i*P	P	10 51 00.6	+0.5
CPCH				*i* S	S	10 51 10.5	+0.6
CRCH	**Chaqaral**	**1.31**	**14**↑	*i*P	P	10 51 09.7	+0.1
CRCH				*i* S	S	10 51 25.9	-0.4
CRCH				AMP		10 51 26.7	
	comp=N,714nm,0.3s						
TLL	**Tololo Astrono**	**2.54**	**177**	*e*P	P	10 51 27.0	+0.2
TLL				*i* S	S	10 51 57.1	+0.6
TLL				AMP		10 52 17.8	
	comp=N,423nm,0.6s						

*ATH **20** 11:22:00.3, 36.62N×27.03E, h9km±3km, MD3.4/6*
*ISK **20** 11:22:00.1, 36.67N×27.10E, h5km, MD3.3*
*NEIC **20** 11:22:00.3, 36.62N×27.03E, h9km, MD3.4(ATH), After ATH.*
*CSEM **20** 11:22:00.5±0.1, 36.60N×27.09E, h7km±1km, MD3.4, Error ellipse: s-maj=3.1km s-min=2.1km az=161.0*
*THE **20** 11:22:01.5, 36.49N×27.16E, h15km*
ISC 20 11:22:00.1±0.3, 36.59N±0.03×27.02E±0.02, h9km, n28, σ1s01/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.09**	**75**	*e*PG	**Pg**	**11 22 02.0**	**-0.5**
BODT	**Bodrum**	**0.53**	**26**	*i* PG	**Pg**	**11 22 09.0**	**-1.8**
BODT				*i* SG	**Sg**	**11 22 16.6**	**-1.2**
BDRM	**Kayabasi**	**0.58**	**35**	*i* P	**Pg**	**11 22 10.9**	**-0.9**
BDRM				*i* S	**Sg**	**11 22 19.0**	**-0.7**
ARG	**Arkhangelos**	**0.96**	**112**	*e*PN	**Pn**	**11 22 19.1**	**-0.6**
ARG				*e*SB	**Sb**	**11 22 32.7**	**+1.5**
KARP	**Karpathos**	**1.05**	**174**	*e*PG	**Pg**	**11 22 20.3**	**-0.8**
KARP				*e*SN	**Sn**	**11 22 35.9**	**+0.2**
SMG	**Samos**	**1.13**	**352**	*e*PG	**Pg**	**11 22 20.8**	**-1.9**
SMG				*e*SB	**Sb**	**11 22 36.2**	**+0.3**
YER	**Yerkesik**	**1.15**	**61**	PG	**Pg**	**11 22 22.1**	**-1.0**
AYDN	**Tasoluk**	**1.27**	**32**	*i* P	**Pb**	**11 22 22.8**	**-1.0**
AYDN				*i* S	**Sb**	**11 22 39.7**	**-0.4**
SANT	**Santorini**	**1.28**	**261**	*e*Pn	**Pn**	**11 22 24.0**	**-0.2**
SANT				*e*Sn	**Sn**	**11 22 42.5**	**+1.0**
SANT	**Santorini**	**1.28**	**261**	*e*Pn	**Pn**	**11 22 24.0**	**-0.2**
SANT				*e*Sn	**Sn**	**11 22 42.5**	**+0.9**
THR1	**Thera Island**	**1.28**	**261**	*e*Pg	**Pg**	**11 22 24.9**	**-0.8**
THR1				*e*Sg	**Sg**	**11 22 42.3**	**-0.5**
APE	**Apeiranthos**	**1.29**	**292**	*e*PB	**Pb**	**11 22 24.5**	**+0.4**
APE				*e*SB	**Sb**	**11 22 42.7**	**+2.0**
DALT	**Dalyan (Mudla)**	**1.31**	**82**	PN	**Pn**	**11 22 24.4**	**-0.3**
THR4	**Thira Island,**	**1.32**	**265**	*e*Pg	**Pg**	**11 22 25.8**	**-0.7**
THR4				*e*Sg	**Sg**	**11 22 44.3**	**+0.3**
THR3	**Thira Island,**	**1.32**	**263**	*e*Pg	**Pg**	**11 22 24.9**	**-1.7**
THR3				*e*Sg	**Sg**	**11 22 44.1**	**-0.1**
THR6	**Thira Island,**	**1.33**	**260**	*e*Pg	**Pg**	**11 22 25.3**	**-1.5**
THR6				*e*Sg	**Sg**	**11 22 44.0**	**-0.5**
NPS	**Neapolis**	**1.75**	**221**	*e*PN	**Pn**	**11 22 32.4**	**+1.4**
URLA	**Izmir**	**1.80**	**349**	*i* P	**Pn**	**11 22 32.3**	**+0.7**
URLA				*i* S	**Sn**	**11 22 56.7**	**+1.8**
IZM	**Izmir**	**1.81**	**6**	PN	**Pn**	**11 22 32.8**	**+0.9**
KDAG	**Bornova**	**1.82**	**6**	*i* P	**Pn**	**11 22 33.7**	**+1.7**
KDAG				*i* S	**Sn**	**11 22 55.9**	**+0.6**
DENT	**Denizli**	**1.98**	**53**	*e*PN	**Pn**	**11 22 34.4**	**+0.1**
GOLH	**Golhisar**	**2.13**	**72**	*i* P	**Pn**	**11 22 38.2**	**+1.7**
GOLH				*i* S	**Sn**	**11 23 08.9**	**+5.6**
ELL	**Elmali**	**2.33**	**85**	*e*PN	**Pn**	**11 22 40.2**	**+1.0**
AKS	**Akhisar**	**2.37**	**15**	*e*PN	**Pn**	**11 22 41.0**	**+1.2**
KHL	**Karahalli**	**2.64**	**48**	*e*PN	**Pn**	**11 22 43.7**	**+0.1**
DST	**Dursunbey**	**3.27**	**22**	*e*PN	**Pn**	**11 22 53.5**	**+0.9**
ALT	**Altintas**	**3.47**	**44**	*e*PN	**Pn**	**11 22 55.2**	**-0.3**
AGG	**Agios Georgios**	**4.44**	**305**	*e*Pn	**Pn**	**11 23 09.3**	**0.0**

*BJI **20** 11:48:38.7, 17.70S×174.00W, h20km, mB5.1, mb5.3, Ms4.2, Msz4.1*
*HRVD **20** 11:48:38.7±0.6, 17.49S×173.58W, h18km±2km, MW5.0/48, Centroid moment Tensor Solution. LP body waves: s17,c21;Mantle waves: s48,c72; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 0.41±.17; Mθθ -0.55±.14; Mϕϕ 0.13±.12; Mrθ -1.69±.42; Mθϕ 1.02±.10; Mϕr -4.07±.97; Best double couple: M0 4.44×10^16 NP1:ϕs283°, δ7°, λ-7°. NP2:ϕs20°, δ89°, λ-97°. Principal axes: T 5.015, Plg44°, Azm117°; N -1.148, Plg7°, Azm20°; P -3.866, Plg45°, Azm282°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 11:48:38.7±0.3, 17.70S×174.03W, h20km, mb4.9/13, MS4.4/2 Error ellipse: s-maj=12.8km s-min=7.3km az=132.0*
*MOS **20** 11:48:41.8±2.2, 17.68S×174.33W, h33km, mb5.2/8, Error ellipse: s-maj=16.5km s-min=13.1km az=84.1*
*IDC **20** 11:48:42.6±0.5, 17.73S×174.04W, h50km±4km, mb4.1/13, mb1 4.4/13, mb1mx4.2/18, mbtmp4.4/13, MS4.1/20, Ms1 4.1/20, ms1mx4.0/23, Error ellipse: s-maj=24.5km s-min=13.6km az=127.0*
*CSEM **20** 11:48:46.2, 16.30S×175.54W, h33km, mb5.5*
ISC 20 11:48:41.1±0.3, 17.85S±0.07×173.88W±0.06, h52km, h52km±1.1km; pP-P, n162, σ1s13/64, mb4.8/31, MS4.2/21, 21C-9D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.41**	**28**	P	**P**	**11 49 40.8**	**-6.4**
	5.7nm,0.3s,baz=73,slow=24,SNR=17						
AFI				S	**S**	**11 50 27.4**	**-10**
	47nm,0.3s,baz=7.7,slow=24,SNR=9.2						
AFI	**Afiamalu**	**4.41**	**28**	*e*Pn	**P**	**11 49 41.3**	**-5.9**
AFI				*e*Sn	**S**	**11 50 28.9**	**-9.0**
RAR	**Rarotonga**	**13.71**	**106**	P	**P**	**11 51 48.0**	**-6.7**
	8.8nm,0.3s,baz=253,slow=7.5,SNR=23						
RAR				LR	LR	11 56 22.8	
	comp=Z,230nm,20.2s,baz=275,slow=33						
DZM	**Mont Dzumac**	**18.96**	**254**	P	**P**	**11 53 02.9**	**+2.1**
	1.9nm,0.3s,baz=77,slow=16,SNR=37						
NOUC	**Port Laguerre**	**19.10**	**254**	*e*P	**P**	**11 53 03.4**	**+1.1**
NOUC	**Port Laguerre**	**19.10**	**254**	*e*P	**P**	**11 53 03.4**	**+1.1**
URZ	**Urewera**	**21.81**	**199**	P	**P**	**11 53 29.5**	**-0.9**
	37nm,0.6s,mb5.0,baz=335,slow=14,SNR=16						
PAE	**Paea**	**23.14**	**93**	*e*P	**P**	**11 53 41.6**	**-2.1**
	92nm,1.3s,mb5.0						
PPT	**Papeete**	**23.15**	**93**	*e*P	**P**	**11 53 43.5**	**-0.3**
	68nm,1.5s,mb4.9						
PPT	**Papeete**	**23.15**	**93**	*e*LQ		11 58 00.1	
PPT				*e*LR	LR	11 58 51.2	
	1μm,28.0s,baz=260						
TVO	**Taravao**	**23.45**	**94**	*e*P	**P**	**11 53 45.1**	**-1.5**
	82nm,1.1s,mb5.1						
TBI	**Tubuai**	**23.49**	**108**	*e*LR	LR	11 59 06.1	
	2μm,29.8s,baz=285						
HNR	**Honiara**	**26.75**	**285**	LR	LR	12 03 26.5	
	comp=Z,442nm,20.5s,MS4.0,baz=17,slow=33						
RPZ	**Rata Peaks**	**28.75**	**203**	P	**P**	**11 54 36.2**	**+0.4**
	24nm,0.7s,mb5.1,baz=59,slow=9.7,SNR=6.2						
TAOE	**Nuku Hiva Isla**	**33.97**	**79**	*e*LR	LR	12 03 59.9	
	1μm,25.8s						
RKT	**Rikitea**	**36.75**	**105**	*e*S	**S**	**12 01 22.9**	**-2.0**
RKT				*e*LR	LR	12 05 10.3	
	748nm,28.8s						
CTA	**Charters Tower**	**37.71**	**260**	P	**P**	**11 55 53.4**	**-0.1**
	5.7nm,0.5s,mb4.5,baz=79,slow=5.8,SNR=7.4						
CTA				LR	LR	12 09 20.8	
	comp=Z,444nm,21.9s,MS4.2,baz=47,slow=33						
CTA	**Charters Tower**	**37.71**	**260**	P	**P**	**11 55 53.4**	**-0.1**
CTA				LR	LR	12 09 20.8	
CTAO	**Charters Tower**	**37.71**	**260**	P	**P**	**11 55 52.5**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
CTAO	**Charters Tower**	**37.71**	**260**	P	**P**	**11 55 52.5**	**-1.0**
	comp=Z,4.9nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**42.45**	**242**	P	**P**	**11 56 31.4**	**-1.4**
	comp=Z,4.1nm,0.9s,mb4.1,baz=67,slow=6.0,SNR=6.3						
STKA				LR	LR	12 12 13.7	
	comp=Z,175nm,18.4s,MS4.0,baz=29,slow=33						
STKA	**Stephens Creek**	**42.45**	**242**	*e*P	**P**	**11 56 31.5**	**-1.2**
WB2	**Warramunga Arr**	**48.87**	**259**↑	*i*P	**P**	**11 57 21.3**	**-2.5**
WRAB	**Tennant Creek**	**48.87**	**259**	*e*P	**P**	**11 57 20.9**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**48.87**	**259**	*e*P	**P**	**11 57 20.9**	**-2.9**
	comp=Z,16nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**48.88**	**259**	P	**P**	**11 57 21.9**	**-2.0**
	comp=Z,4.8nm,0.5s,mb4.8,baz=97,slow=8.3,SNR=55						
ASPA	**Alice Springs**	**48.96**	**254**	*e*P	**P**	**11 57 22.9**	**-1.5**
GUMO	**Guam**	**51.30**	**305**	LR	LR	12 14 34.9	
	comp=Z,155nm,21.7s,MS4.0,baz=102,slow=30						
FITZ	**Fitzroy Crossi**	**57.29**	**260**	*e*P	**P**	**11 58 25.6**	**-0.6**
	comp=Z,9.3nm,1.2s,mb4.7						
SBA	**Scott Base**	**60.79**	**185**	*e*P	**P**	**11 58 51.5**	**+1.9**
SBA				*e*	pP	11 59 07.3	+3.2
SBA				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
SBA	**Scott Base**	**60.79**	**185**	*e*P	**P**	**11 58 51.5**	**+1.9**
	comp=Z,15nm,1.2s,mb5.0						
SBA				*e*	pP	11 59 07.3	+3.1
VNDA	**Vanda**	**60.91**	**186**	P	**P**	**11 58 51.5**	**+1.0**
	comp=Z,4.0nm,0.9s,mb4.6,baz=4.4,slow=6.1,SNR=13						
VNDA				LR	LR	12 18 38.9	
	comp=Z,91nm,20.7s,MS3.9,baz=342,slow=29						
VNDA	**Vanda**	**60.91**	**186**	*e*P	**P**	**11 58 51.3**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**60.91**	**186**	*e*P	**P**	**11 58 51.3**	**+0.9**
	comp=Z,6.5nm,1.1s,mb4.7						
CASY	**Casey**	**68.00**	**205**	*e*P	**P**	**11 59 27.6**	**-8.9**
	comp=Z,38nm,0.7s,mb5.5						
CASY				*e*	pP	11 59 41.2	-10
MJAR	**Matsushiro Arr**	**70.52**	**321**	P	**P**	**11 59 51.3**	**-1.2**
	comp=Z,5.3nm,1.1s,mb4.4,baz=153,slow=5.9,SNR=6.0						
MJAR				LR	LR	12 23 17.9	
	comp=Z,235nm,21.2s,MS4.4,baz=140,slow=30						
QSPA	**South Pole Qui**	**72.21**	**180**	*e*P	**P**	**12 00 03.2**	**+1.3**
	comp=Z,25nm,0.9s,mb5.2						
QSPA				*e*	pP	12 00 18.9	+2.1
ASAJ	**Asahikawa**	**73.37**	**329**	LR	LR	12 27 19.3	
	comp=Z,86nm,19.8s,MS4.0,baz=182,slow=32						
YSS	**Yuzh-Sakhalins**	**75.38**	**331**↓	*i*P	**P**	**12 00 21.2**	**+0.3**
YSS				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.2						
YSS				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
YBH	**Yreka Blue Hor**	**75.82**	**37**	LR	LR	12 25 30.4	
	comp=Z,267nm,19.9s,MS4.5,baz=182,slow=29						
NVAR	**Mina Array Bea**	**76.45**	**42**	P	**P**	**12 00 27.6**	**+0.5**
	comp=Z,2.4nm,0.9s,mb4.2,baz=226,slow=9.4,SNR=17						
NVAR				pP	pP	12 00 42.5	+0.4
	comp=Z,4.3nm,0.8s,baz=226,slow=10.0,SNR=11						
TPNV	**Topopah Spring**	**76.93**	**44**	*e*P	**P**	**12 00 30.1**	**+0.2**
TPNV				*e*	pP	12 00 45.8	+1.0
TUC	**Tucson**	**78.29**	**50**	P	pP	12 00 53.6	+1.1
SSE	**Sheshan**	**79.07**	**308**	P	**P**	**12 00 43.1**	**+1.3**
SSE				PP	PP	12 03 43.4	+0.5
SSE				S	S	12 10 33.5	-2.0
SSE				SS	SS	12 15 40.6	-4.3
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,110nm,5.4s						
SSE				LR	LR		
	comp=N,50nm,22.7s,MS4.0						
SSE				LR	LR		
	comp=E,70nm,22.7s,MS4.0						
SSE				LR	LR		
	comp=Z,110nm,23.1s,MS4.1						
ELK	**Elko**	**79.72**	**41**	P	pP	12 00 59.6	-0.5
HABR	**Khabarovsk**	**80.16**	**328**↑	*i*P	**P**	**12 00 48.0**	**+0.7**
MVU	**Marysvale**	**80.46**	**44**	*e*P	**P**	**12 00 52.3**	**+3.2**
	comp=Z,5.4nm,0.8s,mb4.5						
MVU				*e*	pP	12 01 07.8	+3.7
MSU	**Marysvale**	**80.49**	**44**	*e*P	**P**	**12 00 50.4**	**+1.2**
MSU				*e*	pP	12 01 06.2	+1.9
DUG	**Dugway**	**80.96**	**43**	P	pP	12 01 09.1	+2.4
TMUT	**Trail Mountain**	**81.54**	**44**	*e*P	**P**	**12 00 55.6**	**+0.9**
TMUT				*e*	pP	12 01 09.8	0.0
MNTX	**Cornudas Mount**	**82.05**	**53**	P	pP	12 01 13.4	+0.8
TXAR	**Lajitas Array**	**82.35**	**56**	P	**P**	**12 00 59.8**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=214,slow=9.0,SNR=4.8						
TXAR				pP	pP	12 01 14.8	+0.5
	comp=Z,1.3nm,0.9s,baz=217,slow=6.3,SNR=6.2						
TXAR				LR	LR	12 28 41.8	
	comp=Z,85nm,20.9s,MS4.1,baz=160,slow=29						
ANMO	**Albuquerque**	**82.72**	**50**↑	*i*P	**P**	**12 01 01.7**	**+0.8**
ANMO	**Albuquerque**	**82.72**	**50**	P	**P**	**12 01 00.6**	**-0.4**
	comp=Z,12nm,1.9s,mb4.6						
ANMO				*e*	pP	12 01 17.9	+1.8
PV01	**Paradox Valley**	**82.74**	**46**	*e*P	**P**	**12 01 01.8**	**+0.8**
PV01				*e*	pP	12 01 17.3	+1.2
MCMT	**McKenzie Canyo**	**83.44**	**39**	P	**P**	**12 01 04.7**	**+0.4**
MCMT				*e*	pP	12 01 19.0	-0.5
IMW	**Indian Meadow**	**84.10**	**40**	P	pP	12 01 21.8	-1.1
DLBC	**Dease Lake**	**84.14**	**21**	LR	LR	12 32 28.6	
	comp=Z,100nm,18.7s,MS4.2,baz=1.9,slow=31						
PDAR	**Pinedale Array**	**84.39**	**42**	P	**P**	**12 01 08.9**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.7,baz=248,slow=2.0,SNR=12						
PDAR				LR	LR	12 30 41.7	
	comp=Z,112nm,19.6s,MS4.3,baz=258,slow=30						
SDCO	**Great Sand Dun**	**84.69**	**48**	P	**P**	**12 01 12.1**	**+1.3**
	comp=Z,3.5nm,1.1s,mb4.4						
SDCO				*e*	pP	12 01 27.1	+1.1
SEY	**Seymchan**	**84.75**	**345**↑	*e*P	**P**	**12 01 09.7**	**-0.8**
COLA	**College**	**84.84**	**11**	*e*P	**P**	**12 01 10.5**	**-0.4**
COLA				*e*	pP	12 01 24.6	-1.5
ILAR	**Eielson Array**	**84.92**	**11**	P	**P**	**12 01 10.7**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.3,baz=235,slow=6.2,SNR=17						
ILAR				LR	LR	12 37 43.1	
	comp=Z,44nm,19.1s,MS3.9,slow=35						
IMA2	**Indian Mountai**	**85.04**	**8**	*e*P	**P**	**12 01 12.2**	**+0.4**
IMA2				*e*	pP	12 01 26.1	-1.0
MAW	**Mawson**	**85.34**	**199**	P	**P**	**12 01 14.4**	**+1.0**
	comp=Z,3.1nm,0.7s,mb4.6,baz=120,slow=5.6,SNR=3.8						
MAW				LR	LR	12 35 59.7	
	comp=Z,114nm,20.2s,MS4.3,baz=244,slow=33						
BILL	**Bilibino**	**86.86**	**353**	*e*P	**P**	**12 01 21.1**	**+0.3**
BILL				*e*	pP	12 01 34.7	-1.3
BILL				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.2						
BILL	**Bilibino**	**86.86**	**353**	*e*P	**P**	**12 01 21.1**	**+0.3**
	comp=Z,16nm,1.0s,mb5.2						
BILL				*e*	pP	12 01 34.7	-1.3
EDM	**Edmonton**	**87.80**	**32**	P	**P**	**12 01 24.7**	**-1.0**
EDM				*e*	pP	12 01 40.8	-0.2
ENH	**Enshi**	**87.84**	**303**	*e*P	**P**	**12 01 27.9**	**+1.5**
	comp=Z,9.1nm,1.1s,mb4.9						
PLCA	**Paso Flores**	**88.22**	**132**	LR	LR	12 30 22.2	
	comp=Z,91nm,20.0s,MS4.2,baz=173,slow=28						
CLNS	**Chul'man**	**90.14**	**331**	*e*P	**P**	**12 01 36.4**	**-0.2**
CLNS				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.7						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
SNAA	**Sanae**	**90.50**	**177**	*e*P	**P**	**12 01 38.7**	**+0.7**
SNAA				*e*	pP	12 01 54.8	+1.4
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
SNAA	**Sanae**	**90.50**	**177**	*e*P	**P**	**12 01 38.7**	**+0.7**
	comp=Z,8.1nm,1.4s,mb4.9						
SNAA				*e*	pP	12 01 54.8	+1.4
INK	**Inuvik**	**90.74**	**14**	LR	LR	12 34 06.0	
	comp=Z,82nm,20.2s,MS4.2,baz=258,slow=30						
YAK	**Yakutsk**	**91.17**	**337**↑	*e*P	**P**	**12 01 40.5**	**-0.8**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.2						
YKA	**Yellowknife Ar**	**92.52**	**24**	P	**P**	**12 01 47.1**	**-0.4**
	comp=Z,0.6nm,0.9s,mb4.0,baz=234,slow=4.3,SNR=7.7						
YKA				pP	pP	12 02 01.7	-1.1
	comp=Z,0.4nm,0.8s,baz=232,slow=4.7,SNR=4.2						
YKA				LR	LR	12 36 28.3	
	comp=Z,68nm,19.7s,MS4.1,baz=220,slow=31						
ULM	**Lac du Bonnet**	**96.11**	**39**	LR	LR	12 38 07.9	
	comp=Z,134nm,21.0s,MS4.4,baz=283,slow=31						
SONM	**Songino Array**	**96.35**	**318**	LR	LR	12 40 40.5	
	comp=Z,76nm,19.7s,MS4.2,baz=99,slow=32						
TIXI	**Tiksi**	**97.22**	**344**↑	*e*P	**P**	**12 02 08.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.8						
LPAZ	**La Paz**	**99.40**	**110**	LR	LR	12 37 06.1	
	comp=Z,95nm,21.5s,MS4.3,baz=158,slow=29						
MKAR	**Makanchi Array**	**112.19**	**314**	PKiKP		12 07 11.2	
	comp=Z,0.4nm,0.5s,SNR=4.2						
MKAR				pPKiKP		12 07 26.6	
	comp=Z,0.8nm,0.6s,baz=78,slow=0.5,SNR=5.3						
MKAR	**Makanchi Array**	**112.19**	**314**↑	*i*PKIKP	PKPdf	12 07 12.1	+1.3
BVAR	**Borovoye Array**	**119.51**	**321**	PKP	PKPdf	12 07 26.0	+1.1
	comp=Z,1.8nm,0.7s,baz=45,slow=2.1,SNR=5.7						
BVAR				pPKP		12 07 40.7	
	comp=Z,2.4nm,0.6s,baz=135,slow=2.1,SNR=5.2						
ARU	**Arti**	**125.16**	**327**	*i* PKIKP	PKPdf	12 07 36.6	+0.9
ARU				*e*		12 09 27.2	
ARU				*e*		12 14 30.5	
ARU				*e*SS	SS	12 26 17.5	-2.3
ARCES	**ARCESS Array B**	**126.95**	**352**	PKP	PKPdf	12 07 38.0	-0.9
	comp=Z,1.9nm,0.7s,baz=34,slow=4.4,SNR=6.2						
FINES	**FINESS Array B**	**134.22**	**347**	pPKP		12 08 08.0	
	comp=Z,1.8nm,0.8s,baz=135,slow=8.1,SNR=3.6						
AKASG	**Malin Array Be**	**142.39**	**336**	PKiKP		12 08 04.0	
	comp=Z,0.4nm,0.4s,baz=40,slow=4.2,SNR=5.3						
KMBO	**Kilima Mbogo**	**144.01**	**242**	PKP	PKPdf	12 08 13.1	+1.3
	comp=Z,7.7nm,0.9s,baz=52,slow=4.8,SNR=17						
KMBO	**Kilima Mbogo**	**144.01**	**242**	PKP	PKPdf	12 08 13.1	+1.3
OJC	**Ojcow**	**145.89**	**344**	*e*PKP	PKPdf	12 08 17.2	+3.3
CLZ	**Clausthal**	**145.92**	**355**	*e*PKIKP	PKPdf	12 08 16.4	+2.5
KSP	**Ksiaz**	**146.09**	**348**	*e*PKP	PKPdf	12 08 17.9	+3.7
KSP	**Ksiaz**	**146.09**	**348**	*e*PKP	PKPdf	12 08 17.3	+3.1
KSP				*ep*PKP		12 08 31.9	
CLL	**Collm**	**146.17**	**352**↓	*j*P	PKPdf	12 08 17.3	+2.9
	comp=Z,logA/T=1.7						
CLL				*j* *PPKP		12 08 33.1	
CLL	**Collm**	**146.17**	**352**↓	*i*PKP	PKPdf	12 08 17.3	+2.9
CLL				*i*		12 08 33.1	
STHS	**Stebnicka Huta**	**146.22**	**342**	*i* PKP	PKPdf	12 08 18.0	+3.5
KOLS	**Kolonicke sedl**	**146.34**	**341**	*e*PKP	PKPdf	12 08 17.7	+3.0
KOLS	**Kolonicke sedl**	**146.34**	**341**	*e*PKIKP	PKPdf	12 08 17.6	+2.9
BURAR	**Bucovina Array**	**146.44**	**336**↑	P	PKPdf	12 08 19.4	+4.5
BURAR	**Bucovina Array**	**146.44**	**336**↑	P	PKPdf	12 08 19.4	+4.5
BRG	**Berggiesshubel**	**146.47**	**351**	*e*PKIKP	PKPdf	12 08 18.2	+3.3
BRG				*e*		12 08 32.3	
UPC	**Upice**	**146.47**	**349**↑	*e*PKPB	PKPbc	12 08 18.8	+2.6
DPC	**Dobruska-Polom**	**146.56**	**348**↑	*e*PKPB	PKPbc	12 08 19.2	+2.8
DPC				*e*PKPAB	PKPab	12 08 23.6	+3.8
CRVS	**Cervenica-Dubn**	**146.62**	**342**	*e*PKP	PKPdf	12 08 18.0	+2.8
OKC	**Ostrava-Krasne**	**

	comp=Z,38nm,1.1s							
TCF	**Toulx Ste Croi**	**151.46**	**6**	*e*PKP1	PKPdf	12 08 30.7	+7.8
	comp=Z,19nm,1.1s							
RJF	**Les Rejaudoux**	**152.36**	**7**	*e*PKP1	PKPdf	12 08 32.7	+8.4
CAF	**Calviac**	**152.79**	**6**	*e*PKP1	PKPdf	12 08 33.8	+8.9

*IDC **20** 12:27:46.1±2.5,4.78N×95.94E,mb3.7/4,mb1 3.9/5, mb1mx3.7/17,mbtmp3.8/5,ML4.1/1,MS3.4/2,Ms1 3.4/2, ms1mx2.8/15,Error ellipse: s-maj=96.0km s-min=20.2km az=58.0*
*NEIC **20** 12:27:50.8±1.0,4.84N×96.03E,h30km,mb4.7/1,Error ellipse: s-maj=26.4km s-min=12.3km az=55.0*

ISC 20 12:27:48.5±0.9,**4.9N**±0.1×**95.95E**±0.08,**h30**km,**n13, σ0s99/15,mb3.9/5,MS3.6**/1,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.62**	**125**	Pn		**Pn**	**12 28 45.7**	**+1.7**
	16nm,0.3s,baz=308,slow=12,SNR=87							
PSI				Sn		**Sn**	**12 29 27.6**	**+1.3**
	19nm,0.3s,baz=234,slow=18,SNR=5.0							
PSI				LR		LR	12 30 30.1	
	comp=Z,399nm,18.1s,baz=181,slow=45							
PSI	**Prapat**	**3.62**	**125**	Pn		**Pn**	**12 28 45.7**	**+1.7**
PSI				Sn		**Sn**	**12 29 27.6**	**+1.3**
PSI				LR		LR	12 30 30.1	
KULM	**Kulim**	**4.70**	**85**	*e*Pn		**Pn**	**12 28 58.5**	**-0.9**
KULM				*e*Sn		**Sn**	**12 29 53.4**	**-0.3**
MKAR	**Makanchi Array**	**43.39**	**346**	P		**P**	**12 35 51.6**	**+1.5**
	0.3nm,0.6s,mb3.2,baz=157,slow=8.8,SNR=2.6							
SONM	**Songino Array**	**43.72**	**10**	P		**P**	**12 35 53.4**	**+0.6**
	0.6nm,0.6s,mb3.5,baz=194,slow=7.5,SNR=6.2							
WRA	**Warramunga Arr**	**45.09**	**124**	P		**P**	**12 36 03.4**	**-0.8**
	1.6nm,0.6s,mb4.1,baz=302,slow=9.1,SNR=20							
WRAB	**Tennant Creek**	**45.09**	**124**	*e*P		**P**	**12 36 03.5**	**-0.7**
	4.8nm,0.5s,mb4.6							
WB2	**Warramunga Ar**	**45.10**	**124**	*e*P		**P**	**12 36 03.4**	**-0.9**
ASPA	**Alice Springs**	**46.64**	**129**	*e*P		**P**	**12 36 16.0**	**-0.4**
STKA	**Stephens Creek**	**56.76**	**133**	*e*P		**P**	**12 37 31.6**	**-0.8**
	1.8nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**56.76**	**133**	P		**P**	**12 37 31.5**	**-0.9**
	2.0nm,0.7s,mb4.3,baz=325,slow=7.3,SNR=5.9							
STKA	**Stephens Creek**	**56.76**	**133**	*e*P		**P**	**12 37 31.6**	**-0.9**
KMBO	**Kilima Mbogo**	**58.94**	**266**	LR		LR	12 57 52.6	
	comp=Z,43nm,20.7s,MS3.6,baz=92,slow=31							

*ATH **20** 12:55:44.0,39.46N×27.06E,h29km±6km,MD3.2/3*
*ISK **20** 12:55:44.0,39.59N×27.12E,h16km,MD3.2*
*CSEM **20** 12:55:44.0±0.1,39.58N×27.13E,h15km,MD3.2,Error ellipse: s-maj=2.0km s-min=1.8km az=14.0*

ISC 20 12:55:43.7±0.5,**39.57N**±0.02×**27.10E**±0.03,**h8**km±4km, **n30,σ0s82/41,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.41**	**231**	*i* P		**Pg**	**12 55 52.1**	**+0.1**
AYVA				*i* S		**Sg**	**12 55 57.4**	**-0.1**
BALB	**Balikesir**	**0.61**	**83**	PG		**Pg**	**12 55 56.5**	**+0.6**
BALB				SG		**Sg**	**12 56 04.6**	**+0.5**
EZN	**Ezine**	**0.65**	**294**	PG		**Pg**	**12 55 56.8**	**0.0**
EZN				SG		**Sg**	**12 56 07.3**	**+1.8**
PRK	**Paraskevi**	**0.72**	**244**	*e*PN		**Pn**	**12 55 57.4**	**-2.4**
PRK				*e*SN		**Sn**	**12 56 06.6**	**-4.4**
BTOK	**Tokmak**	**0.74**	**75**	*i* P		**Pb**	**12 55 59.2**	**+0.8**
BTOK				*i* S		**Sb**	**12 56 09.6**	**+1.0**
LPK	**Lapseki**	**0.84**	**342**	PG		**Pg**	**12 56 00.7**	**+0.1**
AKS	**Akhisar**	**0.88**	**141**	PG		**Pg**	**12 56 01.2**	**-0.2**
EDC	**Edincik**	**0.97**	**37**	PG		**Pg**	**12 56 02.7**	**-0.5**
BNT	**Bandirma**	**1.01**	**38**	PG		**Pg**	**12 56 03.1**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.12**	**3**	PN		**Pn**	**12 56 05.2**	**-0.4**
SART	**Tekirdag**	**1.12**	**3**	*i* P		**Pb**	**12 56 04.5**	**-0.4**
SART				*i* S		**Sb**	**12 56 19.7**	**+0.3**
KDAG	**Bornova**	**1.17**	**174**	*i* P		**Pb**	**12 56 05.2**	**-0.6**
KDAG				*i* S		**Sb**	**12 56 20.1**	**-0.8**
IZM	**Izmir**	**1.18**	**174**	PN		**Pn**	**12 56 07.0**	**+0.6**
DST	**Dursunbey**	**1.18**	**88**	PN		**Pn**	**12 56 06.6**	**+0.1**
KCT	**Karacabey**	**1.19**	**54**	PN		**Pn**	**12 56 06.5**	**-0.1**
URLA	**Izmir**	**1.27**	**198**	*i* P		**Pb**	**12 56 12.7**	**-0.7**
URLA				*i* S		**Sb**	**12 56 25.4**	**+1.7**
ORLT	**Orhaneli**	**1.47**	**70**	*e*PN		**Pn**	**12 56 09.9**	**-0.6**
LIA	**Limnos Island**	**1.51**	**283**	*e*PN		**Pn**	**12 56 10.7**	**-0.5**
MANT	**Manisa**	**1.56**	**133**	*i* P		**Pn**	**12 56 13.5**	**+1.5**
MANT				*i* S		**Sb**	**12 56 32.4**	**+0.1**
ULDT	**Uludag**	**1.67**	**69**	*i* P		**Pn**	**12 56 14.4**	**+0.9**
ULDT				*i* S		**Sn**	**12 56 35.8**	**+0.5**
SLVT	**Silivri**	**1.86**	**27**	*e*PN		**Pn**	**12 56 16.4**	**+0.2**
CTT	**Catalca**	**1.88**	**32**	*e*PN		**Pn**	**12 56 15.1**	**-1.3**
RDO	**Rodhopi**	**1.98**	**323**	*e*PN		**Pn**	**12 56 18.5**	**+0.7**
RDO				*e*SN		**Sn**	**12 56 44.0**	**+1.0**
BADT	**Buyukada**	**2.01**	**50**	*e*PN		**Pn**	**12 56 18.3**	**0.0**
YLV	**Yalova**	**2.01**	**60**	*e*PN		**Pn**	**12 56 17.0**	**-1.3**
BGKT	**Bogazkoy**	**2.06**	**38**	*e*PN		**Pn**	**12 56 17.7**	**-1.3**
KHL	**Karahalli**	**2.26**	**123**	*e*PN		**Pn**	**12 56 21.6**	**-0.3**
EDRB	**Edirne**	**2.29**	**353**	*e*PN		**Pn**	**12 56 21.6**	**-0.8**
ALT	**Altintas**	**2.39**	**101**	*e*PN		**Pn**	**12 56 23.8**	**0.0**
ESKT	**Eskisehir**	**2.90**	**90**	*e*PN		**Pn**	**12 56 31.3**	**+0.3**

IDC 20 13:34:36.8±2.2,**0.92N×97.12E,mb3.5/4,mb1 3.6/5, mb1mx3.5/17,mbtmp3.5/5,ML1.7/1,Error ellipse: s-maj=55.0km s-min=21.0km az=56.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.60**	**44**	Pn		Pn	13 35 19.5	-1.2
	0.2nm,0.3s,baz=246,slow=14,SNR=9.9							
WRA	**Warramunga Arr**	**41.95**	**122**	P		P	13 42 29.6	-1.8
	0.4nm,0.7s,baz=301,slow=9.1,SNR=6.2							
SONM	**Songino Array**	**47.42**	**8**	P		P	13 43 12.8	-2.1
	0.3nm,0.6s,baz=196,slow=8.0,SNR=4.0							
MKAR	**Makanchi Array**	**47.50**	**346**	P		P	13 43 13.2	-2.4
	1.0nm,1.0s,baz=170,slow=7.4,SNR=4.5							
ZAL	**Zalesovo**	**53.82**	**351**	P		P	13 44 01.6	-1.8
	0.6nm,0.5s,baz=324,slow=11,SNR=4.5							

*ATH **20** 13:36:28.0,37.79N×25.57E,h45km,MD3.1/3*
*CSEM **20** 13:36:34.8±0.1,38.34N×26.83E,h5km,MD3.2,Error ellipse: s-maj=4.0km s-min=2.6km az=79.0*
*ISK **20** 13:36:36.5,38.35N×26.91E,h17km,MD3.2*

ISC 20 13:36:36.2±0.5,**38.40N**±0.03×**26.86E**±0.03,**h6**km±5km, **n23,σ0s79/32,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.21**	**260**	*i* P		**Pg**	**13 36 40.6**	**0.0**
URLA				*i* S		**Sg**	**13 36 44.1**	**+0.7**
IZM	**Izmir**	**0.32**	**90**	*i* PG		**Pg**	**13 36 42.9**	**+0.3**
IZM				*i* SG		**Sg**	**13 36 47.8**	**+0.9**
KDAG	**Bornova**	**0.32**	**89**	*i* P		**Pg**	**13 36 42.0**	**-0.7**
KDAG				*i* S		**Sg**	**13 36 46.4**	**-0.7**
SMG	**Samos**	**0.69**	**181**	*e*P		**Pg**	**13 36 46.9**	**-3.1**
SMG				*e*S		**Sg**	**13 37 00.3**	**+1.1**
SMG	**Samos**	**0.69**	**181**	*e*Pn		**Pn**	**13 36 45.8**	**-6.4**
AKS	**Akhisar**	**0.89**	**57**	PG		**Pg**	**13 36 53.8**	**-0.2**
AKS				SG		**Sg**	**13 37 06.1**	**+0.3**
AYVA	**Ayvalik**	**0.92**	**352**	*i* P		**Pb**	**13 36 49.7**	**-4.4**
AYVA				*i* S		**Sb**	**13 37 07.1**	**+0.7**
PRK	**Paraskevi**	**0.96**	**332**	*e*P		**Pb**	**13 36 54.5**	**-0.4**
PRK	**Paraskevi**	**0.96**	**332**	*e*Pn		**Pn**	**13 36 56.0**	**-0.1**
AYDN	**Tasoluk**	**1.09**	**132**	*i* P		**Pb**	**13 36 57.5**	**+0.4**
AYDN				*i* S		**Sb**	**13 37 11.9**	**+0.5**
MLSB	**Milas**	**1.32**	**146**	PN		**Pn**	**13 37 00.4**	**-0.8**
MANT	**Manisa**	**1.34**	**85**	*i* P		**Pb**	**13 37 00.7**	**-0.6**
MANT				*i* S		**Sb**	**13 37 19.3**	**+0.7**
BODT	**Bodrum**	**1.38**	**165**	PN		**Pn**	**13 37 00.4**	**-1.7**
BDRM	**Kayabasi**	**1.41**	**161**	*i* P		**Pn**	**13 37 04.2**	**+1.7**
BDRM				*i* S		**Sb**	**13 37 21.0**	**+0.4**
BALB	**Balikesir**	**1.47**	**32**	*e*PN		**Pn**	**13 37 03.3**	**-0.1**
YER	**Yerkesik**	**1.69**	**138**	*e*PN		**Pn**	**13 37 05.5**	**-1.1**
DST	**Dursunbey**	**1.83**	**48**	*e*PN		**Pn**	**13 37 08.9**	**+0.4**
EDC	**Edincik**	**2.10**	**21**	*e*PN		**Pn**	**13 37 12.3**	**0.0**
BNT	**Bandirma**	**2.12**	**22**	*e*PN		**Pn**	**13 37 12.4**	**-0.3**
KCT	**Karacabey**	**2.20**	**31**	*e*PN		**Pn**	**13 37 14.1**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.30**	**6**	*e*PN		**Pn**	**13 37 15.4**	**+0.1**
ARG	**Arkhangelos**	**2.40**	**155**	*e*P		**Pn**	**13 37 08.8**	**-7.9**
YLV	**Yalova**	**2.91**	**41**	*e*PN		**Pn**	**13 37 23.9**	**-0.1**

*IDC **20** 13:42:39.5±0.6,3.33N×98.38E,mb4.1/14,mb1 4.2/14, mb1mx4.2/17,mbtmp4.1/14,MS4.1/16,Ms1 4.1/16, ms1mx3.9/28,Error ellipse: s-maj=32.2km s-min=8.2km az=53.0*
*MOS **20** 13:42:42.8±1.5,3.37N×98.38E,h33km,mb4.6/4,Error ellipse: s-maj=28.6km s-min=10.8km az=117.4*
*BJI **20** 13:42:44.0,3.20N×98.30E,h30km,mB4.6,mb4.1,Ms4.5, Msz4.2*
*NEIC **20** 13:42:44.1±0.6,3.24N×98.25E,h30km,mb4.6/7,Error ellipse: s-maj=20.4km s-min=11.1km az=51.0*
NEIC Felt [III] at Sinabung and [II] Kabanjahe.

ISC 20 13:42:38.7±2.0,**3.21N**±0.06×**98.12E**±0.06,**h5**km±12km, **n45,σ1s31/39,mb4.3**/21,**MS4.1**/17,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.90**	**117**	Pg		**Pg**	**13 42 56.0**	**-0.6**
	1μm,0.3s,baz=309,slow=14,SNR=1515							
PSI				Lg			13 43 06.2	
	4μm,0.3s,baz=185,slow=14,SNR=99							
IPM	**Ipoh**	**3.20**	**65**	P		**Pn**	**13 43 31.2**	**+0.4**
KULM	**Kulim**	**3.26**	**51**	*e*Pn		**Pn**	**13 43 32.1**	**+0.5**
KULM				*e*Sn		**Sn**	**13 44 10.9**	**-0.4**
KKM	**Kota Kinabalu**	**18.25**	**80**	*e*Pn		**P**	**13 46 56.9**	**+2.1**
KMI	**Kunming**	**22.24**	**11**	P		**P**	**13 47 44.1**	**+6.0**
KMI				AP			13 47 48.8	
KMI				XP			13 47 51.6	
KMI				AMB	AMB			
	comp=Z,10.0nm,2.0s,mb3.9							
KMI				AMB	AMB			
	comp=Z,280nm,4.1s							
KMI				LR	LR			
	comp=N,730nm,15.2s,MS4.4							
KMI				LR	LR			
	comp=E,690nm,12.0s,MS4.4							
KMI				LR	LR			
	comp=Z,660nm,16.3s,MS4.1							
HYB	**Hyderabad**	**23.83**	**308**	*i* P		**P**	**13 48 01.0**	**+7.1**
HYB	**Hyderabad**	**23.83**	**308**	*e*P		**P**	**13 48 01.0**	**+7.1**
LSA	**Lhasa**	**27.17**	**347**	P		**P**	**13 48 25.4**	**+0.2**
LSA	**Lhasa**	**27.17**	**347**	P		**P**	**13 48 25.3**	**+0.1**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.1							
LSA	**Lhasa**	**27.17**	**347**	P		**P**	**13 48 25.3**	**+0.1**
	comp=Z,4.8nm,0.8s,mb4.1							
XAN	**Xi'an**	**32.29**	**17**	P		**P**	**13 49 12.5**	**+1.7**
FITZ	**Fitzroy Crossi**	**34.41**	**129**	*e*P		**P**	**13 49 26.5**	**-2.9**
	comp=Z,16nm,0.9s,mb4.9							
GTA	**Gaotai**	**36.07**	**2**	*e*P		**P**	**13 49 45.1**	**+1.8**
GTA				AP	pP		13 49 52.1	+7.4
GTA				PCP	PcP		13 52 13.1	+3.3
JOW	**Kunigami**	**37.21**	**48**	LR	LR		14 04 31.3	
	comp=Z,103nm,20.2s,MS3.6,baz=322,slow=36							
MUN	**Mundaring**	**38.98**	**155**	*e*P		**P**	**13 50 08.8**	**+0.9**
WRA	**Warramunga Arr**	**42.35**	**124**	P		**P**	**13 50 34.4**	**-1.4**
	comp=Z,15nm,0.8s,mb4.7,baz=303,slow=9.1,SNR=55							
WRAB	**Tennant Creek**	**42.36**	**124**	*e*P		**P**	**13 50 36.0**	**+0.1**
WRAB				pmax	pmax			
	comp=Z,22nm,0.8s,mb4.8							
WRAB	**Tennant Creek**	**42.36**	**124**	*e*P		**P**	**13 50 36.0**	**+0.1**
	comp=Z,22nm,0.8s,mb4.8							
WB2	**Warramunga Arr**	**42.37**	**124**	*e*P		**P**	**13 50 35.5**	**-0.5**
FORT	**Forrest**	**44.24**	**142**	*e*P		**P**	**13 50 52.1**	**+1.0**
	comp=Z,14nm,0.6s,mb4.9							
SONM	**Songino Array**	**45.03**	**8**	P		**P**	**13 50 57.3**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=192,slow=8.5,SNR=7.3							
SONM				PcP	PcP		13 52 38.7	0.0
	comp=Z,0.9nm,0.9s,baz=194,slow=4.9,SNR=3.1							
SONM				LR	LR		14 11 58.2	
	comp=Z,241nm,18.2s,MS4.2,baz=216,slow=39							
MKAR	**Makanchi Array**	**45.54**	**345**	P		**P**	**13 51 00.1**	**-1.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=153,slow=9.2,SNR=7.8							
MKAR				LR	LR		14 15 46.4	
	comp=Z,110nm,18.6s,MS3.8,baz=183,slow=44							
MJAR	**Matsushiro Arr**	**49.60**	**43**	LR	LR		14 16 01.7	
	comp=Z,158nm,19.2s,MS4.0,baz=215,slow=41							
ZAL	**Zalesovo**	**51.74**	**350**	P		**P**	**13 51 47.5**	**-1.7**
	comp=Z,3.1nm,0.5s,mb4.5,baz=324,slow=8.5,SNR=4.7							
ZAL				LR	LR		14 17 12.4	
	comp=Z,158nm,19.1s,MS4.1,baz=291,slow=40							
CTA	**Charters Tower**	**52.60**	**118**	LR	LR		14 14 45.4	
	comp=Z,248nm,21.4s,MS4.2,baz=250,slow=37							
STKA	**Stephens Creek**	**54.04**	**134**	P		**P**	**13 52 04.8**	**-1.8**
	comp=Z,4.5nm,1.0s,mb4.4,baz=306,slow=8.1,SNR=4.8							
STKA				LR	LR		14 17 19.4	
	comp=Z,208nm,18.4s,MS4.2,baz=305,slow=39							
BVAR	**Borovoye Array**	**54.68**	**340**	P		**P**	**13 52 08.0**	**-3.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=150,slow=8.2,SNR=5.1							
ZRNK	**Zerenda**	**55.11**	**339**	*e*P		**P**	**13 52 14.1**	**-0.1**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.3							
ZRNK	**Zerenda**	**55.11**	**339**	*e*P		**P**	**13 52 14.1**	**-0.1**
	comp=Z,3.5nm,1.0s,mb4.3							
CHKZ	**Chkalovo**	**55.14**	**340**	*e*P		**P**	**13 52 12.9**	**-1.5**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6							
CHKZ	**Chkalovo**	**55.14**	**340**	*e*P		**P**	**13 52 12.9**	**-1.5**
	comp=Z,4.0nm,0.7s,mb4.6							
KMBO	**Kilima Mbogo**	**60.99**	**267**	P		**P**	**13 52 58.1**	**+2.1**
	comp=Z,1.9nm,0.8s,mb4.2,baz=62,slow=13,SNR=5.9							
KMBO				LR	LR		14 16 19.0	
	comp=Z,89nm,18.6s,MS3.9,baz=113,slow=33							
BRTR	**Keskin Array B**	**68.46**	**312**	P		**P**	**13 53 43.8**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.4,baz=131,slow=9.7,SNR=5.6							
AKASG	**Malin Array Be**	**74.25**	**322**	P		**P**	**13 54 17.7**	**-0.9**
	comp=Z,0.6nm,0.4s,mb3.8,baz=90,slow=3.8,SNR=8.3							
MAW	**Mawson**	**74.86**	**193**	LR	LR		14 20 33.9	
	comp=Z,117nm,20.9s,MS4.2,baz=247,slow=30							
FINES	**FINESS Array B**	**78.66**	**332**	P		**P**	**13 54 44.0**	**+0.7**
	comp=Z,0.8nm,0.4s,mb4.0,baz=99,slow=5.7,SNR=5.7							
ARCES	**ARCESS Array B**	**80.97**	**340**	P		**P**	**13 54 53.9**	**-1.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=96,slow=8.2,SNR=2.5							
ARCES				LR	LR		14 33 32.9	
	comp=Z,187nm,20.6s,MS4.4,baz=275,slow=38							
HFS	**Hagfors**	**84.45**	**330**	LR	LR		14 37 23.6	
	comp=Z,113nm,18.5s,MS4.3,baz=249,slow=39							
NOA	**NORSAR Array B**	**85.71**	**331**	P		**P**	**13 55 21.7**	**+1.9**
	comp=Z,1.2nm,0.9s,mb4.1,baz=90,slow=5.1,SNR=2.5							
NOA				LR	LR		14 36 49.8	
	comp=Z,65nm,18.6s,MS4.0,baz=100,slow=38							
DAVOX	**Davos**	**86.48**	**317**	LR	LR		14 37 46.6	
	comp=Z,63nm,18.1s,MS4.0,baz=247,slow=38							
VNDA	**Vanda**	**87.60**	**169**	P		**P**	**13 55 30.6**	**+1.8**
	comp=Z,1.7nm,0.9s,mb4.3,baz=315,slow=6.8,SNR=8.8							
VNDA				LR	LR		14 28 05.9	
	comp=Z,96nm,20.5s,MS4.2,slow=31							
VNDA	**Vanda**	**87.60**	**169**	*e*P		**P**	**13 55 31.7**	**+2.9**
VNDA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
VNDA	**Vanda**	**87.60**	**169**	*e*P		**P**	**13 55 31.7**	**+2.9**
	comp=Z,2.2nm,1.0s,mb4.3							
VNDA				LR	LR		14 28 05.9	
ILAR	**Eielson Array**	**97.50**	**23**	P		**P**	**13 56 14.9**	**+0.1**
	comp=Z,0.4nm,1.0s,mb3.9,baz=280,slow=5.5,SNR=5.1							
ILAR				LR	LR		14 46 21.6	
	comp=Z,87nm,18.7s,MS4.3,baz=180,slow=39							
MDT	**Midelt**	**98.94**	**304**	LR	LR		14 44 18.8	
	comp=Z,105nm,18.1s,MS4.4,baz=300,slow=37							

*PRU **20** 13:45:03.6,50.31N×18.76E*
WAR 20 13:45:02.9,50.27N×18.87E,h1km,MW2.6,Mw2.5, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.60**	**94**	*e*PG		Pg	13 45 14.0	-0.9
OJC				*e*SG		Sg	13 45 23.0	+0.1
OKC	**Ostrava-Krasne**	**0.63**	**227**	*e*PG		Pg	13 45 15.1	-0.4
OKC				*e*SG		Sg	13 45 23.8	-0.2
	23nm,0.5s							
NIE	**Niedzica**	**1.26**	**132**	*e*PG		Pg	13 45 27.0	-1.2
NIE				*e*SG		Sg	13 45 45.0	0.0
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG		Pg	13 45 31.8	-3.7
DPC				*e*SG		Sg	13 45 54.1	-3.2
	34nm,0.6s							
KSP	**Ksiaz**	**1.74**	**290**	*e*PN		Pn	13 45 33.0	-1.5
KSP				*e*PG		Pg	13 45 35.0	-2.7
KSP				*e*SG		Sg	13 45 58.0	-2.9
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*PN		Pn	13 45 35.9	+1.1
STHS				*e*SN		Sn	13 46 01.3	+3.2
STHS				*e*LG			13 46 10.0	
VYHS	**Vyhne**	**1.77**	**181**	*e*PN		Pn	13 45 33.8	-1.2
VYHS				*e*SN		Sn	13 45 56.9	-1.6
KECS	**Kecovo**	**2.08**	**149**	*e*PN		Pn	13 45 38.1	-1.2
KECS				*e*			13 46 03.3	
KECS				*e*LG			13 46 20.0	
CRVS	**Cervenica-Dubn**	**2.17**	**128**	*e*PN		Pn	13 45 42.8	+2.1
CRVS				*e*SN		Sn	13 46 12.2	+3.6
KOLS	**Kolonicke sedl**	**2.59**	**120**	*e*		Pn	13 45 48.8	+2.2
KOLS				*e*			13 45 55.1	
KOLS				*e*			13 46 20.2	
PRU	**Pruhonice**	**2.80**	**266**	*e*PG		Pg	13 45 53.4	-5.4
PRU				*e*SG		Sg	13 46 30.7	-5.3
	5.6nm,0.3s							
KHC	**Kasperske Hory**	**3.62**	**254**	*e*PG		Pg	13 46 07.8	-7.3
KHC				*e*SG		Sg	13 46 56.7	-6.6
	9.5nm,0.7s							
NKC	**Novy Kostel**	**4.12**	**272**	*e*SG		Sg	13 47 13.0	-7.1
	24nm,1.5s							

*ATH **20** 13:47:46.9,36.63N×28.71E,h10km,MD3.2/3*
*NEIC **20** 13:47:46.6,36.65N×28.79E,h10km,MD3.2(ATH),After ATH.*
*ISK **20** 13:47:47.2,36.52N×28.73E,h18km,MD3.3*
*CSEM **20** 13:47:47.8±0.1,36.59N×28.77E,h20km,MD3.3,Error ellipse: s-maj=3.3km s-min=2.0km az=3.0*

ISC 20 13:47:47.0±0.9,**36.49N**±0.04×**28.73E**±0.03,**h8**km±6km, **n24,σ0s94/32,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.29**	**345**	*i* PG		**Pg**	**13 47 53.2**	**+0.2**
DALT				*i* SG		**Sg**	**13 47 57.9**	**+0.9**
ARG	**Arkhangelos**	**0.56**	**241**	*e*PB		**Pb**	**13 47 59.0**	**+0.4**
ARG	**Arkhangelos**	**0.56**	**241**	*e*Pb		**Pb**	**13 47 59.8**	**+1.2**
YER	**Yerkesik**	**0.74**	**331**	PG		**Pg**	**13 48 01.8**	**-0.1**
AKAS	**Kas**	**0.75**	**109**	*i* P		**Pb**	**13 48 02.2**	**+0.3**
AKAS				*i* S		**Sb**	**13 48 13.4**	**+1.3**
KSL	**Kastellorizon**	**0.77**	**116**	*e*PB		**Pb**	**13 48 03.0**	**+0.8**
KSL	**Kastellorizon**	**0.77**	**116**	*e*Pb		**Pb**	**13 48 02.0**	**-0.2**
ELL	**Elmali**	**0.98**	**74**	PG		**Pg**	**13 48 06.3**	**-0.4**
GOLH	**Golhisar**	**1.00**	**41**	*i* P		**Pb**	**13 48 05.3**	**-0.9**
GOLH				*i* S		**Sb**	**13 48 20.1**	**+0.8**
MLSB	**Milas**	**1.11**	**317**	PN		**Pn**	**13 48 08.1**	**-0.7**
MLSB				SN		**Sn**	**13 48 23.3**	**-1.1**
BDRM	**Kayabasi**	**1.18**	**300**	*i* P		**Pb**	**13 48 10.8**	**+1.5**
BDRM				*i* S		**Sb**	**13 48 25.6**	**+1.0**
BODT	**Bodrum**	**1.28**	**297**	PN		**Pn**	**13 48 10.5**	**-0.7**
DENT	**Denizli**	**1.29**	**11**	PN		**Pn**	**13 48 11.0**	**-0.4**
AYDN	**Tasoluk**	**1.35**	**330**	*i* P		**Pb**	**13 48 12.7**	**+0.4**
AYDN				*i* S		**Sb**	**13 48 30.3**	**+0.7**
ANTB	**Antalya**	**1.60**	**75**	*e*PN		**Pn**	**13 48 16.1**	**+0.3**
BCK	**Bucak**	**1.78**	**56**	*e*PN		**Pn**	**13 48 17.4**	**-1.0**
KHL	**Karahalli**	**1.94**	**19**	*e*PN		**Pn**	**13 48 20.0**	**-0.7**
SMG	**Samos**	**1.94**	**309**	*e*PN		**Pn**	**13 48 20.8**	**+0.1**
SMG	**Samos**	**1.94**	**309**	*e*Pn		**Pn**	**13 48 21.0**	**+0.3**
ISP	**Isparta**	**1.96**	**46**	*e*Pb		**Pb**	**13 48 20.4**	**-2.2**
ISP				*e*Sb		**Sb**	**13 48 49.3**	**+2.0**
TKTP	**Tekketepe**	**2.00**	**39**	*i* P		**Pn**	**13 48 22.0**	**+0.4**
TKTP				*i* S		**Sn**	**13 48 47.6**	**+0.6**
IZM	**Izmir**	**2.24**	**329**	*e*PN		**Pn**	**13 48 23.9**	**-1.0**
ALT	**Altintas**	**2.79**	**23**	*e*PN		**Pn**	**13 48 31.4**	**-1.4**
KONT	**Konya--Tatoy**	**3.24**	**62**	*e*PN		**Pn**	**13 48 38

PMAN				*e*S	Sg	15 12 39.8	-0.6
	667nm,0.1s						
SRBC	**Serra Branca**	**0.31**	**322**	*e*P	Pg	15 12 36.3	-0.9
SRBC				*e*S	Sg	15 12 40.5	-0.8
PAMA	**Santo Amaro**	**0.32**	**249**	*e*P	Pg	15 12 37.2	-0.2
PAMA				*e*S	Sg	15 12 41.7	-0.1
STGR	**Santa Cruz**	**0.33**	**330**	*e*P	Pg	15 12 37.0	-0.5
STGR				*e*S	Sg	15 12 41.6	-0.3
	220nm,0.2s						
STGR	**Santa Cruz**	**0.33**	**330**	*e*P	Pg	15 12 37.0	-0.5
STGR				*e*S	Sg	15 12 41.6	-0.3
	220nm,0.2s						
PVIA	**Vitoria**	**0.34**	**324**	*e*P	Pg	15 12 37.2	-0.5
PVIA				*e*S	Sg	15 12 41.8	-0.4
	166nm,0.1s						
ROSA	**Rosais**	**0.36**	**258**	*e*P	Pg	15 12 37.2	-0.9
ROSA				*e*S	Sg	15 12 42.5	-0.4
ASBA	**Santa Barbara**	**0.38**	**101**	*e*S	Sg	15 12 42.9	-0.6
	44nm,0.2s						
ASBA	**Santa Barbara**	**0.38**	**101**	*e*S	Sg	15 12 42.9	-0.6
	44nm,0.2s						
PPAD	**Pico dos Padre**	**0.41**	**103**	*e*S	Sg	15 12 44.0	-0.7
	26nm,0.1s						
PPAD	**Pico dos Padre**	**0.41**	**103**	*e*S	Sg	15 12 44.0	-0.7
	26nm,0.1s						
PBIS	**Biscoitos**	**0.43**	**94**	*e*S	Sg	15 12 44.5	-0.7
	20nm,0.1s						
PBIS	**Biscoitos**	**0.43**	**94**	*e*S	Sg	15 12 44.5	-0.7
	20nm,0.1s						
PIED	**Piedade**	**0.43**	**208**	*e*P	Pg	15 12 38.9	-0.6
PVNV	**Vila Nova**	**0.50**	**94**	*e*S	Sg	15 12 46.2	-1.5
	21nm,0.2s						
PVNV	**Vila Nova**	**0.50**	**94**	*e*S	Sg	15 12 46.2	-1.5
	21nm,0.2s						
RIB2	**Ribeirinha**	**0.50**	**104**	*e*S	Sg	15 12 46.5	-1.3
	32nm,0.1s						
RIB2	**Ribeirinha**	**0.50**	**104**	*e*S	Sg	15 12 46.5	-1.3
	32nm,0.1s						
PSCM	**Serra do Cume**	**0.54**	**100**	*e*P	Pg	15 12 39.5	-2.3
PSCM				*e*S	Sg	15 12 46.8	-2.2
	40nm,0.2s						
PFAV	**Pico das Favas**	**0.56**	**98**	*e*S	Sg	15 12 48.2	-1.6
	18nm,0.1s						
PICO	**Pico**	**0.57**	**239**	*e*P	Pg	15 12 40.7	-1.8
PICO				*e*S	Sg	15 12 48.3	-1.8
PBOI	**Pico dos Bois**	**0.58**	**232**	*e*P	Pg	15 12 41.4	-1.2
PBOI				*e*S	Sg	15 12 48.8	-1.5
	38nm,0.1s						
PCND	**Candelaria**	**0.62**	**238**	*e*P	Pg	15 12 41.7	-1.6
PCND				*e*S	Sg	15 12 49.5	-2.0
	55nm,0.1s						
CALA	**Caldeira**	**0.74**	**253**	*e*P	Pg	15 12 43.9	-1.9
CALA				*e*S	Sg	15 12 52.6	-3.1
PLUZ	**Luz**	**0.95**	**284**	*e*P	Pb	15 12 36.2	-14
PLUZ				*e*S	Sb	15 12 40.1	-22
	335nm,0.1s						

MEX 20 15:14:03.4±0.7, 16.30N×98.88W, h20km±204km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.73**	**83**	*i* P	Pb	15 14 14.9	-2.4
PNIG				*i* S	Sb	15 14 24.7	-2.2
ACX	**Acapulco**	**1.14**	**300**	*e*P	Pb	15 14 21.0	-3.2
ACX				*i* S	Sb	15 14 35.0	-3.6
OXX	**Oaxaca**	**2.21**	**69**	*e*P	Pn	15 14 37.0	-2.7
OXX				*i* S	Sn	15 15 04.0	-2.7

*IGIL **20** 15:44:36.8, 36.72N×11.01W, h2km, ML2.4*
*NEIC **20** 15:44:38.0, 36.91N×10.92W, MN2.6(MDD), After MDD.*
*INMG **20** 15:44:39.6±0.8, 36.76N×10.91W, h10km, ML2.1, Error ellipse: s-maj=6.4km s-min=3.9km az=89.0*
MDD 20 15:44:38.0±2.0, 36.85N×10.91W, mb4.1/4, Error ellipse: s-maj=17.3km s-min=13.9km az=50.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.86**	**75**	*e*P	Pn	15 45 09.9	-1.5
MORF				*e*S	Sn	15 45 32.9	-3.1
MORF				*e*S	Sn	15 45 32.9	-3.1
MORF				AML	AML	15 45 35.0	
	comp=N,27nm,0.2s						
MORF	**Marmelete**	**1.86**	**75**	*e*P	Pn	15 45 09.9	-1.5
MORF				*e*S	Sn	15 45 32.9	-3.1
MORF	**Marmelete**	**1.86**	**75**	P	Pn	15 45 09.9	-1.5
MORF				S	Sn	15 45 32.9	-3.1
PTEO	**Sao Teotonio**	**1.88**	**68**	*e*Pn	Pn	15 45 10.3	-1.3
PTEO				*e*Sn	Sn	15 45 33.8	-2.6
	comp=N,5.7nm,0.2s						
PTEO	**Sao Teotonio**	**1.88**	**68**	Pn	Pn	15 45 10.3	-1.3
PTEO				Sn	Sn	15 45 33.8	-2.6
	comp=N,2.8nm,0.2s						
PLOU	**Loures**	**2.46**	**34**	*e*Pn	Pn	15 45 18.2	-1.8
PLOU				*e*Sn	Sn	15 45 48.5	-2.8
MOE	**Montemor**	**2.63**	**50**	*e*Sn	Sn	15 45 51.9	-3.6
PBEJ	**Beja**	**2.69**	**63**	*e*Sn	Sn	15 45 53.4	-3.6
EGRO	**El Granado**	**2.82**	**75**	P	Pn	15 45 23.1	-2.0
	comp=N,0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	15 45 56.0	-4.3
	comp=N,6.8nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.39**	**35**	*e*Sn	Sn	15 46 10.7	-4.1
	comp=N,5.5nm,0.1s						
PTOM	**Tomar**	**3.39**	**35**	Sn	Sn	15 46 10.7	-4.1
	comp=N,2.8nm,0.1s						
EMIN	**Mina Concepcio**	**3.50**	**74**	P	Pn	15 45 32.4	-2.4
	comp=N,0.9nm,0.1s,SNR=11						
EMIN				S	Sn	15 46 11.7	-5.8
	comp=N,3.3nm,0.3s,SNR=7.6						
EMIN	**Mina Concepcio**	**3.50**	**74**	P	Pn	15 45 32.4	-2.4
EMIN				S	Sn	15 46 11.7	-5.8
EBAD	**Badajoz**	**3.62**	**57**	P	Pn	15 45 34.7	-1.9
	comp=N,1.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	15 46 15.2	-5.4
	comp=N,5.2nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**4.02**	**41**	*e*Sn	Sn	15 46 25.8	-5.0
ESPR	**Espera**	**4.05**	**88**	P	Pn	15 45 40.0	-2.6
	comp=N,3.3nm,0.1s,SNR=7.9						
ESPR				S	Sn	15 46 25.7	-5.8
	comp=N,14nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**4.52**	**30**	*e*Pn	Pn	15 45 46.4	-2.9
PVIS				*e*Sn	Sn	15 46 37.9	-5.5
	comp=N,3.6nm,0.1s						
PVIS	**Viseu**	**4.52**	**30**	Pn	Pn	15 45 46.4	-2.9
PVIS				Sn	Sn	15 46 37.9	-5.5
	comp=N,1.8nm,0.1s						
ECAB	**El Cabril**	**4.53**	**73**	P	Pn	15 45 46.5	-3.0
	comp=N,1.8nm,0.2s,SNR=11						
ECAB				S	Sn	15 46 37.9	-5.8
	comp=N,2.0nm,0.2s,SNR=6.9						
EADA	**Adamuz**	**5.20**	**73**	P	Pn	15 45 55.8	-3.1
	comp=N,0.7nm,0.1s,SNR=7.9						
EADA				S	Sn	15 46 53.5	-7.1
	comp=N,1.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.48**	**23**	P	Pn	15 45 59.0	-3.8
	comp=N,0.8nm,0.1s,SNR=7.9						
ELOB				S	Sn	15 46 58.6	-8.8
	comp=N,0.7nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.08**	**23**	P	Pn	15 46 20.3	-5.2
	comp=N,2.2nm,0.3s,SNR=4.0						

*MOS **20** 16:05:38.6±1.0, 12.24N×140.93E, h26km, mb5.6/41, MS4.5/9, Error ellipse: s-maj=10.2km s-min=5.5km az=107.3*
*BJI **20** 16:05:40.0, 12.07N×141.22E, h45km, mB5.3, mb5.0, Ms5.0, Msz4.6*
*HRVD **20** 16:05:40.7±0.2, 12.21N×140.77E, h12km, MW5.3/76, Centroid moment Tensor Solution. LP body waves: s59,c99;Mantle waves: s76,c162; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.83±.02; $M_{\theta\theta}$0.98±.01; $M_{\phi\phi}$-0.14±.02; $M_{r\theta}$0.24±.04; $M_{\theta\phi}$0.14±.01; $M_{\phi r}$0.50±.06; Best double couple: M_o1.078×10^{17} NP1: ϕ_s107°,δ41°,λ-50°. NP2:ϕ_s239°,δ60°,λ-119°. Principal axes: T 1.046, Plg10°, Azm349°; N .064, Plg25°, Azm254°; P -1.11, Plg63°, Azm99°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 16:05:40.6±0.2, 12.24N×140.94E, mb5.4/39 Error ellipse: s-maj=6.7km s-min=4.9km az=93.0*

*CSEM **20** 16:05:42.0, 12.27N×141.08E, h60km, mb5.5*
*IDC **20** 16:05:43.1±2.5, 12.21N×141.01E, h50km±24km, mb4.7/26, mb1 4.8/28, mb1mx4.8/28, mbtmp4.9/28, ML3.5/1, MS4.5/23, Ms1 4.5/23, ms1mx4.4/28, Error ellipse: s-maj=16.1km s-min=12.4km az=78.0*
ISC 20 16:05:39.9±0.2, 12.18N±0.03×141.03E±0.04, h35km, h35km±2.5km: pP-P, n249, σ1s08/228, mb5.2/96, MS4.6/39, 8C-13D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.00**	**69**	P	**P**	**16 06 41.4**	**+1.0**
	491nm,0.3s,baz=212,slow=3.8,SNR=92						
GUMO	**Guam**	**4.00**	**69**	*e*Pn	**P**	**16 06 41.5**	**+1.1**
GUMO				*e*Sn	**S**	**16 07 35.1**	**+8.4**
CBIJ	**Chichi jima**	**14.88**	**4**	LR	LR	16 14 13.4	
	comp=Z,937nm,19.7s,baz=350,slow=34						
JOW	**Kunigami**	**18.87**	**322**	P	**P**	**16 09 59.9**	**-0.1**
	0.2nm,0.3s,baz=124,slow=14,SNR=2.5						
JOW				LR	LR	16 15 30.4	
	comp=Z,1μm,21.7s,baz=303,slow=31						
TGY	**Tagaytay City**	**19.66**	**278**	P	**P**	**16 10 09.2**	**+0.3**
	9.3nm,0.3s,baz=215,slow=14,SNR=5.7						
JHJ	**Hachijo jima 2**	**20.87**	**357**	LR	LR	16 16 36.5	
	comp=Z,2μm,20.6s,MS4.4,baz=111,slow=31						
PMG	**Port Moresby**	**22.29**	**164**	P	**P**	**16 10 35.3**	**-0.5**
	15nm,0.8s,mb4.5,baz=349,slow=8.6,SNR=4.6						
PMG				LR	LR	16 19 24.5	
	comp=Z,1μm,18.6s,MS4.4,baz=332,slow=37						
PMG	**Port Moresby**	**22.29**	**164**	*c i* P	**P**	**16 10 36.4**	**+0.5**
PMG	**Port Moresby**	**22.29**	**164**	*e* P	**P**	**16 10 35.7**	**-0.1**
	34nm,0.8s,mb4.8						
JNU	**Nakatsue**	**22.82**	**338**	P	**P**	**16 10 40.9**	**-0.2**
	103nm,1.1s,mb5.2,baz=108,slow=8.7,SNR=7.9						
JNU				LR	LR	16 18 35.2	
	comp=Z,557nm,20.3s,MS4.0,baz=320,slow=34						
MJAR	**Matsushiro Arr**	**24.39**	**354**	P	**P**	**16 10 53.4**	**-2.9**
	5.6nm,0.8s,baz=175,slow=10.0,SNR=11						
MJAR				LR	LR	16 20 11.6	
	comp=Z,498nm,18.5s,MS4.0,baz=180,slow=36						
MAJO	**Matsushiro**	**24.39**	**354**	*e*P	**P**	**16 10 54.1**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
MAJO	**Matsushiro**	**24.39**	**354**	*e*P	**P**	**16 10 54.1**	**-2.2**
	comp=Z,7.1nm,0.7s,mb4.2						
MAT	**Matsushiro**	**24.39**	**354**	P	**P**	**16 10 54.2**	**-2.1**
MAT				S	**S**	**16 15 15.0**	**+4.2**
MAT	**Matsushiro**	**24.39**	**354**	P	**P**	**16 10 54.0**	**-2.3**
MAT				*e*S	**S**	**16 15 18.0**	**+7.2**
MAT				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.3						
MAT	**Matsushiro**	**24.39**	**354**	P	**P**	**16 10 54.0**	**-2.3**
	comp=Z,8.9nm,0.7s,mb4.3						
MAT				*e*S	**S**	**16 15 18.0**	**+7.2**
QZH	**Quanzhou**	**24.72**	**304**	P	**P**	**16 11 00.0**	**+0.4**
QZH				S	**S**	**16 15 19.6**	**+3.1**
QZH				LR	LR		
	comp=N,1μm,7.7s						
QZH				LR	LR		
	comp=E,1μm,7.8s						
KKM	**Kota Kinabalu**	**25.23**	**258**	*e*P	**P**	**16 11 01.0**	**-3.6**
SSE	**Sheshan**	**26.27**	**319**	P	**P**	**16 11 13.6**	**-0.5**
SSE				AP	pP	16 11 26.3	+2.5
SSE				S	**S**	**16 15 42.0**	**-0.1**
SSE				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,160nm,7.9s						
SSE				LR	LR		
	comp=N,660nm,24.4s,MS4.2						
SSE				LR	LR		
	comp=E,630nm,24.4s,MS4.2						
SSE				LR	LR		
	comp=Z,920nm,19.7s,MS4.3						
KS15	**Wonju Array Si**	**27.78**	**337**	*e*P	**P**	**16 11 26.7**	**-1.1**
NJ2	**Nanjing**	**28.41**	**318**	*e*P	**P**	**16 11 34.8**	**+1.3**
NJ2				AP	pP	16 11 48.1	+4.8
NJ2				PP	PP	16 12 26.4	+1.1
NJ2				S	**S**	**16 16 19.0**	**+2.3**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,250nm,4.9s						
NJ2				LR	LR		
	comp=N,3μm,14.7s,MS5.2						
NJ2				LR	LR		
	comp=E,4μm,19.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,24.3s						
HNR	**Honiara**	**28.54**	**138**	LR	LR	16 22 07.1	
	comp=Z,684nm,19.5s,MS4.3,baz=323,slow=34						
WHN	**Wuhan**	**30.71**	**311**	*e*P	**P**	**16 11 54.5**	**+0.5**
TIA	**Tai'an**	**32.20**	**322**	*e*P	**P**	**16 12 11.3**	**+4.2**
KSM	**Kuching**	**32.26**	**253**	*e*P	**P**	**16 12 05.3**	**-2.5**
CTA	**Charters Tower**	**32.47**	**171**	*e*P	**P**	**16 12 10.8**	**+1.2**
	comp=Z,23nm,0.8s,mb5.0						
CTA	**Charters Tower**	**32.47**	**171**	LR	LR	16 24 32.6	
	comp=Z,2μm,18.9s,MS4.7,baz=353,slow=35						
CTA	**Charters Tower**	**32.47**	**171**	*e*P	**P**	**16 12 10.8**	**+1.2**
CTA				pmax	pmax		
	comp=Z,23nm,0.8s						
CTAO	**Charters Tower**	**32.47**	**171**	*e*P	**P**	**16 12 09.0**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,72nm,1.3s,mb5.3						
CTAO	**Charters Tower**	**32.47**	**171**	*e*P	**P**	**16 12 09.0**	**-0.7**
	comp=Z,72nm,1.3s,mb5.3						
WRAB	**Tennant Creek**	**32.58**	**192**	⇑*i* P	**P**	**16 12 10.3**	**-0.3**
WRAB	**Tennant Creek**	**32.58**	**192**	*e* P	**P**	**16 12 09.7**	**-0.9**
	comp=Z,42nm,0.8s,mb5.4						
WB2	**Warramunga Arr**	**32.59**	**192**	*e*P	**P**	**16 12 10.7**	**+0.1**
WRA	**Warramunga Arr**	**32.59**	**192**	P	**P**	**16 12 10.1**	**-0.5**
	comp=Z,16nm,0.7s,mb5.1,baz=10,slow=9.5,SNR=89						
SNY	**Shenyang**	**33.24**	**336**	⇓P	**P**	**16 12 17.4**	**+1.4**
SNY				AP	pP	16 12 28.0	+2.0
SNY				S	**S**	**16 17 37.3**	**+4.7**
SNY				AMB	AMB		
	comp=Z,320nm,11.8s						
SNY				LR	LR		
	comp=N,910nm,17.8s						
FITZ	**Fitzroy Crossi**	**33.70**	**207**	*e*P	**P**	**16 12 18.9**	**-1.4**
	comp=N,21nm,1.0s,mb5.0						
MDJ	**Mudanjiang**	**33.78**	**345**	P	**P**	**16 12 21.1**	**+0.4**
MDJ				AP	pP	16 12 30.0	-0.7
MDJ				PP	PP	16 13 38.0	+3.7
MDJ				PCP	PcP	16 14 59.3	-0.3
MDJ				S	**S**	**16 17 43.8**	**+2.8**
MDJ				PCS		16 18 41.8	
MDJ				AMB	AMB		
	comp=Z,210nm,6.5s						
MDJ				LR	LR		
	comp=N,700nm,19.6s						
MDJ				LR	LR		
	comp=E,430nm,13.1s						
MDJ				LR	LR		
	comp=Z,1μm,23.5s,MS4.5						
CN2	**Changchun**	**34.25**	**340**	*e*P	**P**	**16 12 23.9**	**-0.9**
CN2				*e*S	**S**	**16 17 48.9**	**+0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
CN2				AMB	AMB		
	comp=Z,360nm,6.0s						
CN2				LR	LR		
	comp=N,950nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=E,1μm,15.0s,MS4.8						
CN2				LR	LR		
	comp=Z,960nm,16.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**34.69**	**2**	*e*P	**P**	**16 12 28.1**	**-0.4**
XAN	**Xi'an**	**36.43**	**312**	P	**P**	**16 12 43.5**	**+0.1**
HABR	**Khabarovsk**	**36.52**	**353**	⇓*i* P	**P**	**16 12 44.5**	**+0.5**
HABR				*e*S	**S**	**16 18 25.6**	**+2.2**
HABR				pmax	pmax		
	comp=Z,53nm,1.6s,mb5.1						
HABR				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.3						
KLR	**Kul'dur**	**37.73**	**350**	*e*P	**P**	**16 12 50.8**	**-3.3**
KLR				*e*S	**S**	**16 18 43.0**	**+1.2**
KMI	**Kunming**	**38.35**	**295**	P	**P**	**16 13 00.9**	**+1.3**
KMI				AP	pP	16 13 14.3	+4.6
KMI				PP	PP	16 14 28.4	-2.7
KMI				S	**S**	**16 18 45.8**	**-5.7**
KMI				AMB	AMB		
	comp=Z,370nm,5.1s						
KMI				LR	LR		
	comp=N,760nm,14.8s,MS4.7						
KMI				LR	LR		
	comp=E,530nm,15.3s,MS4.7						
KMI				LR	LR		
	comp=Z,610nm,17.1s,MS4.5						
HHC	**Hu-ho-hao-te**	**38.52**	**323**	*e*P	**P**	**16 13 01.0**	**+0.2**
HHC				AP	pP	16 13 14.8	+3.9
HHC				PP	PP	16 14 31.1	-1.8
HHC				PCP	PcP	16 15 14.8	+1.0
HHC				PCS		16 19 01.9	
HHC				SCS	ScS	16 23 04.6	-2.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
HHC				AMB	AMB		
	comp=Z,250nm,3.9s						
HHC				LR	LR		
	comp=N,510nm,12.0s,MS4.8						
HHC				LR	LR		
	comp=E,810nm,15.3s,MS4.8						
HHC				LR	LR		
	comp=Z,810nm,19.6s,MS4.5						
CD2	**Chengdu**	**39.11**	**304**	P	**P**	**16 13 06.8**	**+1.0**
CD2				PP	PP	16 14 42.8	+3.1
CD2				PCP	PcP	16 15 17.8	+2.1
CD2				S	**S**	**16 19 04.3**	**+1.4**
CD2				SS	SS	16 21 54.9	+6.5
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
CD2				AMB	AMB		
	comp=Z,180nm,5.7s						
CD2				LR	LR		
	comp=N,580nm,17.4s						
CD2				LR	LR		
	comp=Z,380nm,10.8s						
MBWA	**Marble Bar**	**39.18**	**212**	*e*P	**P**	**16 13 06.3**	**-0.2**
	comp=Z,9.2nm,0.9s,mb4.5						
MBWA				*e*pP	pP	16 13 14.6	-2.1
BTO	**Baotou**	**39.29**	**322**	*e*P	**P**	**16 13 06.6**	**-0.6**
CHRT	**Chiangrai**	**40.29**	**286**	⇓P	**P**	**16 13 17.0**	**+1.3**
NNT	**Nongplab**	**40.30**	**275**	P	**P**	**16 13 12.8**	**-3.1**
KULM	**Kulim**	**40.45**	**264**	*e*P	**P**	**16 13 17.2**	**+0.1**
LZH	**Lanzhou**	**41.07**	**312**	*e*P	**P**	**16 13 23.0**	**+1.0**
LZH				AP	pP	16 13 35.0	+2.8
LZH				*e*S	**S**	**16 19 33.5**	**+1.4**
LZH				AMB	AMB		
	comp=Z,40nm,1.7s,mb4.8						
LZH				AMB	AMB		
	comp=Z,180nm,5.5s						
LZH				LR	LR		
	comp=E,830nm,12.0s						
LZH				LR	LR		
	comp=Z,1μm,14.2s,MS5.0						
DZM	**Mont Dzumac**	**42.19**	**144**	LR	LR	16 28 50.3	
	comp=Z,642nm,20.0s,MS4.5,baz=334,slow=33						
PET	**Petropavlovsk**	**43.12**	**16**	*e*P	**P**	**16 13 39.2**	**+0.6**
PET				*e*		16 15 23.2	
PET				*e*S	**S**	**16 20 03.0**	**+1.0**
PET				*e*		16 23 35.1	
PET				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.2						
PET				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.2						
PET	**Petropavlovsk**	**43.12**	**16**	*i* P	**P**	**16 13 36.7**	**-1.9**
STKA	**Stephens Creek**	**43.81**	**179**	*e*P	**P**	**16 13 44.6**	**+0.1**
	comp=Z,20nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**43.81**	**179**	P	**P**	**16 13 44.0**	**-0.6**
	comp=Z,24nm,0.8s,mb5.0,baz=348,slow=7.6,SNR=40						
STKA				LR	LR	16 32 53.7	
	comp=Z,1μm,18.6s,MS4.9,baz=2.0,slow=37						
FORT	**Forrest**	**44.49**	**196**	*e*P	**P**	**16 13 51.0**	**+1.0**
	comp=Z,78nm,1.1s,mb5.3						
GTA	**Gaotai**	**45.38**	**314**	⇓P	**P**	**16 13 57.4**	**+0.4**
GTA				AP	pP	16 14 09.5	+2.2
GTA				PCP	PcP	16 15 36.8	+0.3
GTA				PP	PP	16 15 44.3	+0.5
GTA				SCP		16 19 23.3	
GTA				PCS		16 19 28.1	
GTA				S	**S**	**16 20 37.3**	**+2.3**
GTA				SS	SS	16 23 55.0	+5.3
GTA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GTA				AMB	AMB		
	comp=Z,290nm,8.4s						
GTA				LR	LR		
	comp=N,510nm,15.2s,MS4.7						
GTA				LR	LR		
	comp=E,470nm,19.0s,MS4.7						
GTA				LR	LR		
	comp=Z,700nm,18.6s,MS4.6						
ULN	**Ulaanbaatar**	**45.49**	**328**	*e*P	**P**	**16 13 57.8**	**0.0**
ULN				*e*		16 15 36.4	
ULN				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.0						
ULN	**Ulaanbaatar**	**45.49**	**328**	*e*P	**P**	**16 13 57.8**	**0.0**
	comp=Z,28nm,1.1s,mb5.0						
ULN				*e*PcP	PcP	16 15 36.4	-0.4
SONM	**Songino Array**	**45.82**	**328**	P	**P**	**16 14 00.5**	**+0.1**
	comp=Z,7.2nm,1.0s,mb4.5,baz=141,slow=7.8,SNR=33						
SONM				PcP	PcP	16 15 36.1	-1.7
	comp=Z,7.6nm,0.9s,baz=152,slow=4.7,SNR=9.3						
SONM				LR	LR	16 33 48.4	
	comp=Z,672nm,18.7s,MS4.6,baz=310,slow=37						
CLNS	**Chul'man**	**46.26**	**348**	*e*P	**P**	**16 14 04.1**	**+0.4**
CLNS				pmax	pmax		
	comp=N,31nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.3						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
MA2	**Magadan**	**47.86**	**7**	*e*P	**P**	**16 14 15.3**	**-1.0**
MA2				*e*		16 16 09.3	
MA2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
MA2	**Magadan**	**47.86**	**7**	*e*P	**P**	**16 14 15.3**	**-1.0**
	comp=Z,20nm,0.6s,mb5.3						
MA2				*e*PP	PP	16 16 09.2	+1.8
CNB	**Canberra Magne**	**47.89**	**171**	*e*P	**P**	**16 14 17.9**	**+1.1**
	comp=Z,20nm,1.0s,mb5.1						
FX1	**Attu Island--F**	**48.05**	**26**	P	**P**	**16 14 18.4**	**+0.6**
	comp=Z,182nm,1.0s,mb6.1,baz=159,slow=2.2,SNR=10						
FX1				LR	LR	16 33 48.1	
	comp=Z,49nm,19.5s,baz=242,slow=35						
FX1	**Attu Island--F**	**48.05**	**26**	*e*P	**P**	**16 14 19.1**	**+1.3**
AGT	**Agartala**	**48.52**	**291**	*ex*	x	16 14 26.0	
ZAK	**Zakamensk**	**49.00**	**329**	⇓*i* P	**P**	**16 14 25.8**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.4						
LSA	**Lhasa**	**49.34**	**299**	P	**P**	**16 14 29.6**	**+1.5**
TOO	**Toolangi**	**49.66**	**175**	*e*P	**P**	**16 14 32.3**	**+1.8**
	comp=Z,16nm,0.8s,mb5.1						
TOO	**Toolangi**	**49.66**	**175**	*e*P	**P**	**16 14 32.3**	**+1.8**
TOO				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
IRK	**Irkutsk**	**49.68**	**331**	*e*P	**P**	**16 14 30.0**	**-0.4**
IRK				pmax	pmax		
	comp=Z,500nm,3

SEY smax
comp=N,2μm,20.1s
SEY smax
comp=E,780nm,24.1s
SEY MLR MLR
comp=Z,410nm,26.0s,MS4.3
SEY MLR MLR
comp=N,130nm,18.0s
SEY MLR MLR
comp=E,100nm,14.0s
SEY Seymchan 51.32 7 || iP P 16 14 42.6 -0.1
JIRN Jiri 53.40 295 eP P 16 14 58.6 -0.2
comp=E,287nm,1.8s,mb5.9
BOK Bokaro 53.42 291 eP P 16 14 59.6 +0.7
BOK AMb AMB 16 15 00.7
comp=Z,75nm,1.2s,mb5.5
AFI Afiamalu 53.48 118 LR LR 16 35 05.7
comp=Z,314nm,19.0s,MS4.4,baz=302,slow=33
GUN Gumba 53.69 296 eP P 16 15 01.1 +0.1
comp=Z,242nm,1.2s,mb6.0
PKI Pulchoki 54.08 295 eP P 16 15 03.1 -0.7
comp=Z,138nm,1.4s,mb5.7
PKI Pulchoki 54.08 295 eP P 16 15 03.1 -0.7
PKI pmax pmax
comp=Z,69nm,1.4s,mb5.4
KKN Kakani 54.21 295 eP P 16 15 04.2 -0.6
comp=Z,136nm,1.4s,mb5.7
KKN Kakani 54.21 295 eP P 16 15 04.2 -0.6
KKN pmax pmax
comp=Z,68nm,1.4s,mb5.4
DMN Daman 54.35 295 eP P 16 15 05.6 -0.2
comp=Z,184nm,1.4s,mb5.8
GKN Gorkha 54.80 296 eP P 16 15 08.3 -0.7
comp=Z,229nm,1.4s,mb6.0
WMQ Urumqi 55.44 315 P P 16 15 14.4 +0.9
WMQ AP pP 16 15 28.5 +4.6
WMQ PCP PcP 16 16 14.4 +1.1
WMQ PP PP 16 17 19.8 +0.9
WMQ PPP PPP 16 18 33.9 +0.7
WMQ S S **16 22 55.0 +0.9**
WMQ SCS ScS 16 24 57.4 +1.1
WMQ SS SS 16 26 39.5 +0.7
WMQ AMB AMB
comp=Z,50nm,1.1s,mb5.5
WMQ AMB AMB
comp=Z,360nm,4.6s
WMQ LR LR
comp=N,4μm,21.0s,MS5.6
WMQ LR LR
comp=E,4μm,20.0s,MS5.6
WMQ LR LR
comp=Z,4μm,22.0s,MS5.5
BLSP Bilaspur 56.85 289 eP P 16 15 24.5 +0.6
BLSP AMb AMB 16 15 25.2
comp=Z,68nm,0.5s,mb5.9
BILL Bilibino 58.20 11 eP P 16 15 32.0 -0.8
BILL pmax pmax
comp=Z,113nm,1.0s,mb5.8
BILL Bilibino 58.20 11 eP P 16 15 31.9 -0.8
comp=Z,113nm,1.0s,mb5.8
TIXI Tiksi 59.89 356 || iP P 16 15 42.3 -2.2
MKAR Makanchi Array 59.94 317 P P 16 15 44.9 -0.2
comp=Z,14nm,0.8s,mb5.0,baz=95,slow=9.2,SNR=109
MKAR LR LR 16 41 27.0
comp=Z,530nm,18.7s,MS4.7,baz=180,slow=36
MKAR Makanchi Array 59.94 317 i P P 16 15 45.7 +0.6
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 59.94 317 P P 16 15 44.9 -0.2
MKAR LR LR 16 41 27.0
HYB Hyderabad 60.41 283 i P P 16 15 48.0 -0.7
comp=Z,70nm,1.0s,mb5.7
HYB epP pP 16 15 57.0 -2.2
HYB ePcP PcP 16 16 33.0 -0.1
HYB Hyderabad 60.41 283 eP P 16 15 48.0 -0.7
HYB e pP 16 15 57.0 -2.2
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.7
HYB Hyderabad 60.41 283 eP P 16 15 48.0 -0.7
comp=Z,70nm,1.0s,mb5.7
HYB e pP 16 15 57.0 -2.2
URZ Urewera 60.47 148 LR LR 16 40 11.9
comp=Z,402nm,18.1s,MS4.6,baz=325,slow=34
ZAL Zalesovo 60.63 326 P P 16 15 49.1 -0.6
comp=Z,5.4nm,0.7s,mb4.8,baz=10,slow=6.6,SNR=28
ZAL LR LR 16 42 36.4
comp=Z,622nm,18.4s,MS4.8,baz=355,slow=36
BHPL Bhopal 61.18 290 eP P 16 15 52.3 -1.6
BHPL AMb AMB 16 15 54.1
comp=Z,55nm,1.8s,mb5.4
NVS Novosibirsk 61.81 326 eP P 16 15 55.6 -2.0
NVS pmax pmax
comp=N,27nm,1.6s
NVS pmax pmax
comp=E,55nm,1.6s
NVS pmax pmax
comp=Z,79nm,1.6s,mb5.6
RPZ Rata Peaks 62.00 156 LR LR 16 40 05.7
comp=Z,725nm,20.0s,MS4.8,baz=330,slow=33
KSH Kashi 63.14 308 eP P 16 16 09.1 +2.3
KSH AP pP 16 16 19.0 +1.7
KSH PCP PcP 16 16 46.0 +2.1
KSH ePP PP 16 18 29.3 +2.1
KSH ePCS 16 20 49.8
KSH eS S **16 24 36.4 +2.7**
KSH SCS ScS 16 25 55.4 +2.4
KSH eSS SS 16 28 44.3 +2.4
KSH AMB AMB
comp=Z,170nm,2.4s,mb5.8
KSH LR LR
comp=N,330nm,5.6s
KSH LR LR
comp=E,240nm,5.2s
KURK Kurchatov 63.27 321 eP P 16 16 06.9 -0.6
KURK e*PP pP 16 16 15.2 -2.9
KURK pmax pmax
comp=Z,73nm,0.8s,mb5.9
KURK Kurchatov 63.27 321 eP P 16 16 06.9 -0.6
comp=Z,73nm,0.8s,mb5.9
KURK epP pP 16 16 15.2 -2.8
AJM Ajmer 63.64 294 eP P 16 16 09.7 -0.6
AJM AMb AMB 16 16 10.7
comp=Z,90nm,1.2s,mb5.7
TKM2 Tokmak 2 63.84 312 P P 16 16 12.1 +0.8
SNR=13
TKM2 Tokmak 2 63.84 312 P P 16 16 10.3 -1.0
TKM2 pmax pmax
comp=Z,62nm,1.7s,mb5.4
KZA Kyzart 63.98 311 P P 16 16 13.1 +0.8
SNR=49
KBK Karagaybulak 64.28 312 P P 16 16 15.1 +0.9
SNR=15
CHMS Chumysh 64.47 312 P P 16 16 15.7 +0.3
SNR=17
UCH Uchtor 64.55 311 P P 16 16 17.6 +1.7
SNR=53
KAD Karad 64.58 283 eP P 16 16 16.2 -0.2
KAD AMb AMB 16 16 17.4
comp=Z,34nm,0.8s,mb5.5
AAK Ala-Archa 64.61 311 P P 16 16 16.1 -0.2
SNR=13
AAK Ala-Archa 64.61 311 eP P 16 16 14.9 -1.4
AAK pmax pmax
comp=Z,26nm,1.4s,mb5.1
AAK Ala-Archa 64.61 311 eP P 16 16 14.9 -1.4
comp=Z,26nm,1.4s,mb5.1
USP Ospenovka 64.68 312 P P 16 16 17.1 +0.4
SNR=14
EKS2 Erkin-Say 65.14 311 P P 16 16 20.4 +0.7
SNR=23
AML Almayashu 65.14 311 P P 16 16 21.2 +1.5
SNR=36
SVW2 Sparrevohn 66.67 28 eP P 16 16 28.6 -0.6
RAR Rarotonga 66.94 119 LR LR 16 42 42.4
comp=Z,240nm,18.6s,MS4.4,baz=227,slow=33
KDAK Kodiak Island 67.25 32 P P 16 16 32.6 -0.2
comp=Z,27nm,1.0s,mb5.2,baz=224,slow=6.1,SNR=5.7
KKAR Karatay Array 67.57 312 i P P 16 16 33.6 -1.5
KKAR pmax pmax
comp=Z,74nm,1.3s,mb5.6
BHJ Bhuj 68.31 290 eP P 16 16 41.6 +1.5
CHKZ Chkalovo 68.68 323 eP P 16 16 41.1 -0.8
CHKZ e*PP pP 16 16 49.7 -2.9
CHKZ pmax pmax
comp=Z,36nm,1.0s,mb5.3
CHKZ Chkalovo 68.68 323 eP P 16 16 41.1 -0.8
comp=Z,36nm,1.0s,mb5.2
CHKZ epP pP 16 16 49.6 -2.9
BVA0 Borovoye Array 68.72 322 i P P 16 16 41.5 -0.6
BVA0 pmax pmax
comp=Z,47nm,1.4s,mb5.2
BRVK Borovoye 68.79 322 eP P 16 16 42.5 -0.1
BRVK pmax pmax
comp=Z,50nm,0.9s,mb5.4
BRVK Borovoye 68.79 322 eP P 16 16 42.5 0.0
comp=Z,50nm,0.9s,mb5.4
IMA2 Indian Mountai 69.01 23 eP P 16 16 43.9 +0.2
ZRNK Zerenda 69.54 322 eP P 16 16 47.0 -0.2
ZRNK pmax pmax
comp=Z,97nm,1.2s,mb5.6
ZRNK Zerenda 69.54 322 eP P 16 16 47.0 -0.2
comp=Z,97nm,1.2s,mb5.6
PMR Palmer 69.80 29 eP P 16 16 47.6 -1.0
PMR pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
PMR Palmer 69.80 29 eP P 16 16 47.6 -1.0
comp=Z,8.1nm,0.6s,mb4.8
COLA College 71.06 25 || iP P 16 16 54.8 -1.4
ILAR Eielson Array 71.44 25 P P 16 16 56.9 -1.6
comp=Z,7.3nm,0.6s,mb4.8,baz=249,slow=6.0,SNR=105
DAWY Dawson 74.57 27 eP P 16 17 17.1 +0.2
PPT Papeete 74.61 112 eP P 16 17 20.9 +2.9
comp=Z,45nm,1.3s,mb5.2
PPT Papeete 74.61 112 eS S 16 26 52.9 +3.0
PPT eLQ 16 36 27.1
PPT eLR LR 16 39 53.9
comp=Z,483nm,28.5s
PPT Papeete 74.61 112 P P 16 17 19.4 +1.4
comp=Z,23nm,0.6s,mb5.3,baz=251,slow=2.3,SNR=4.8
PAE Paea 74.64 112 eP P 16 17 20.7 +2.6
comp=Z,102nm,1.3s,mb5.6
TVO Taravao 74.97 112 eP P 16 17 23.0 +2.9
AB31 Akbulak array 75.07 318 i P P 16 17 19.4 -0.6
ARU Arti 75.79 325 ⇑ iP P 16 17 22.7 -1.3
ARU e pP 16 17 33.4 -1.2
ARU e 16 20 13.0
ARU ePPP PPP 16 21 57.4 -5.2
ARU eS S 16 27 03.7 +1.5
ARU eSS SS 16 31 56.6 -0.5
ARU pmax pmax
comp=Z,47nm,0.9s,mb5.4
ARU MLR MLR
comp=Z,400nm,19.0s,MS4.7
ARU MLR MLR
comp=N,200nm,18.0s,MS4.6
ARU MLR MLR
comp=E,200nm,19.0s,MS4.6
ARU Arti 75.79 325 eP P 16 17 23.5 -0.5
comp=E,126nm,1.4s,mb5.7
SOKR Solikamsk 76.68 329 d iP P 16 17 28.9 -0.1
SOKR pmax pmax
comp=Z,70nm,1.2s,mb5.5
SOKR MLR MLR
comp=Z,320nm,19.0s,MS4.7
INK Inuvik 77.09 22 P P 16 17 30.4 -0.7
comp=Z,27nm,1.1s,mb5.1,baz=273,slow=6.3,SNR=33
INK Inuvik 77.09 22 eP P 16 17 30.3 -0.8
INK pmax pmax
comp=Z,51nm,1.2s
INK Inuvik 77.09 22 eP P 16 17 30.3 -0.8
comp=Z,51nm,1.2s,mb5.3
WBK Wadi Bani Khal 78.17 291 P P 16 17 39.0 +1.0
SNR=11
BIDO Bidbid 78.81 292 P P 16 17 41.8 +0.4
SNR=23
SMDO Samad 78.95 291 P P 16 17 42.4 +0.2
SNR=6.2
DLBC Dease Lake 79.18 32 P P 16 17 43.2 +0.4
comp=Z,8.9nm,1.1s,mb4.6,baz=264,slow=6.9,SNR=4.9
DLBC Dease Lake 79.18 32 P P 16 17 43.2 +0.4
HOQ Hoqain 79.54 292 P P 16 17 46.4 +0.9
SNR=17
BSY Bisya 79.77 291 P P 16 17 47.4 +0.7
SNR=11
BANOM Banah 80.09 294 P P 16 17 49.9 +1.5
SNR=11
ARQ Araqi 80.29 292 P P 16 17 50.3 +0.8
SNR=8.3
ASHO Ashiyiah 80.50 293 P P 16 17 51.0 +0.4
SNR=12
WHFO Wadi Hawf 83.76 287 P P 16 18 06.8 -0.8
SNR=10
ABTO Aybut 84.31 286 P P 16 18 10.7 +0.2
SNR=9.4
LVZ Lovozero 84.85 339 eP P 16 18 10.6 -1.4
LVZ pmax pmax
comp=Z,56nm,0.9s,mb5.7
LVZ pmax pmax
comp=N,17nm,1.4s
LVZ pmax pmax
comp=E,20nm,1.1s
KLMR Klimovskoe 84.99 331 eP P 16 18 11.8 -1.0
KLMR e 16 21 26.5
KLMR eS S 16 28 33.8 -4.0
KLMR eSS SS 16 34 09.3 -5.0
KLMR pmax pmax
comp=Z,40nm,1.0s,mb5.5
KLMR pmax pmax
comp=Z,120nm,5.6s
KLMR smax
comp=E,700nm,4.7s
KLMR MLR MLR
comp=Z,830nm,19.0s,MS5.1
APA Apatity 85.41 338 ⇑ iP P 16 18 14.5 -0.2
APA pmax pmax
comp=Z,45nm,1.1s,mb5.5
YKW3 Yellowknife Ar 85.79 27 eP P 16 18 17.3 +0.6
YKA Yellowknife Ar 85.81 27 P P 16 18 16.9 +0.2
comp=Z,2.4nm,0.5s,mb4.7,baz=289,slow=5.3,SNR=36
YKA LR LR 16 54 46.0
comp=Z,253nm,19.9s,MS4.6,baz=265,slow=34
YKA Yellowknife Ar 85.81 27 P P 16 18 16.9 +0.1
YKA LR LR 16 54 46.0
VRHR Novokhopersk 86.45 321 eP P 16 18 19.4 -0.8
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,4.0nm,0.9s
VRHR pmax pmax
comp=E,5.0nm,0.4s
YBH Yreka Blue Hor 86.61 48 P P 16 18 20.2 -1.0
comp=E,9.9nm,0.9s,mb5.0,baz=261,slow=3.8,SNR=8.9
KEV Kevo 86.68 341 ep P 16 18 19.6 -1.3
comp=E,1.7nm,0.4s,mb4.6
KEV Kevo 86.68 341 eP P 16 18 19.6 -1.3
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.7
RES Resolute Bay 86.76 13 eP P 16 18 21.8 +0.6
RES e*PP pP 16 18 32.3 +0.2
RES pmax pmax
comp=Z,57nm,1.2s,mb5.7
RES Resolute Bay 86.76 13 eP P 16 18 21.8 +0.6
comp=Z,57nm,1.2s,mb5.7
RES epP pP 16 18 32.3 +0.2
GNI Garni 86.98 310 ⇑ eP P 16 18 22.8 -0.3
GNI MLR MLR
comp=Z,100nm,15.0s
GNI Garni 86.98 310 ⇑ eP P 16 18 22.9 -0.2
ARCES ARCESS Array B 87.25 341 P P 16 18 23.3 -0.4
comp=Z,15nm,0.6s,mb5.4,baz=67,slow=7.2,SNR=101
ARCES LR LR 16 58 03.6
comp=Z,539nm,20.7s,MS4.9,baz=64,slow=36
ARCES ARCESS Array B 87.25 341 P P 16 18 23.3 -0.4
ARCES LR LR 16 58 03.6
KIV Kislovodsk 87.56 314 eP P 16 18 28.2 +2.4
KIV e 16 28 52.8
KIV pmax pmax
comp=Z,13nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,226nm,20.0s,MS4.6
VRSR Storozhevoye 87.89 322 eP P 16 18 26.1 -1.0
VRSR pmax pmax
comp=N,1.0nm,1.1s
VRSR pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
VRSR pmax pmax
comp=E,3.0nm,0.9s
JOF Joensuu 87.97 334 ep P 16 18 26.0 -1.3
comp=E,0.9nm,0.4s,mb4.3
OBN Obninsk 88.21 326 de P 16 18 27.7 -0.9
OBN e pP 16 18 37.1 -2.4
OBN 16 28 57.0
OBN pmax pmax
comp=Z,72nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.9
OBN Obninsk 88.21 326 eP P 16 18 28.1 -0.4
comp=Z,24nm,0.8s,mb5.5
NEW Newport 88.75 41 P P 16 18 31.1 -0.3
comp=Z,6.4nm,0.8s,mb5.0,baz=289,slow=4.1,SNR=5.4
RKT Rikitea 89.30 114 eS S 16 29 22.3 +2.8
RKT eSS SS 16 35 21.9 +4.1
RKT eLR LR 16 46 45.6
comp=Z,253nm,29.8s
EDM Edmonton 89.48 35 eP P 16 18 35.2 +0.5
SOC Sochi 89.73 315 eP P 16 18 33.3 -2.8
SOC eS S 16 28 59.9 -23
SOC eSSS SSS 16 39 01.4 +2.8
SOC pmax pmax
comp=Z,33nm,1.3s,mb5.5
SOC MLR MLR
comp=Z,364nm,23.0s,MS4.7
VNDA Vanda 90.33 176 P P 16 18 38.2 0.0
comp=Z,1.3nm,0.8s,mb4.3,baz=356,slow=3.3,SNR=4.7
VNDA LR LR 16 58 51.9
comp=Z,260nm,18.8s,MS4.7,baz=1.3,slow=35
DAG Danmarks Havn 90.41 355 || iP P 16 18 38.6 0.0
comp=Z,5.2nm,0.8s,mb4.9
DAG Danmarks Havn 90.41 355 || iP P 16 18 38.6 0.0
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
KAF Kangasniemi 90.42 335 ep P 16 18 37.2 -1.7
comp=Z,24nm,0.8s,mb5.6,baz=60,slow=4.3
KAF Kangasniemi 90.42 335 eP P 16 18 37.2 -1.7
KAF pmax pmax
comp=Z,25nm,0.8s,mb5.6
NVAR Mina Array Bea 90.71 51 P P 16 18 41.8 +0.9
comp=Z,5.3nm,0.7s,mb5.0,baz=259,slow=8.0,SNR=44
FINES FINESS Array B 90.82 334 P P 16 18 39.5 -1.2
comp=Z,30nm,0.7s,mb5.7,baz=78,slow=5.0,SNR=111
FINES LR LR 17 00 24.6
comp=Z,179nm,18.1s,MS4.5,baz=357,slow=36
MALT Malatya 92.20 310 P P 16 18 47.1 -0.6
comp=Z,33nm,1.6s,mb5.4
MALT epP pP 16 18 57.4 -1.4
ELK Elko 92.30 48 P P 16 18 48.8 +0.6
comp=Z,3.8nm,0.8s,mb4.8,baz=271,slow=3.4,SNR=15
QLMT Earthquake Lak 93.58 43 eP P 16 18 55.5 +1.7
QLMT epP pP 16 19 04.4 -0.5
AKASG Malin Array Be 93.97 324 P P 16 18 53.5 -2.0
comp=Z,3.9nm,0.8s,mb4.9,baz=54,slow=4.4,SNR=18
AKASG Malin Array Be 93.97 324 P P 16 18 53.5 -2.0
NEN Nelson 94.17 52 eP P 16 18 57.9 +1.1
IMW Indian Meadow 94.24 44 eP P 16 18 58.6 +1.7
comp=Z,9.1nm,1.2s,mb5.1
IMW epP pP 16 19 07.5 -0.3
IMW ePP PP 16 22 44.5 -2.2
LKWY Lake 94.36 43 eP P 16 19 00.4 +3.0
LKWY e 16 22 45.6
BR131 Keskin Array S 95.27 312 eP P 16 19 01.2 -0.5
BRTR Keskin Array B 95.27 312 P P 16 19 01.4 -0.4
comp=Z,1.8nm,0.8s,mb4.5,baz=72,slow=3.9,SNR=5.5
PDAR Pinedale Array 95.60 44 P P 16 19 02.5 -0.6
comp=Z,0.6nm,0.8s,baz=207,slow=3.3,SNR=4.2
PDAR PP PP 16 22 52.9 -3.9
comp=Z,2.8nm,0.9s,baz=270,slow=4.4,SNR=12
LAO LASA Array 96.22 40 eP P 16 19 06.7 +0.9
comp=Z,17nm,1.0s,mb5.4
MAW Mawson 96.70 202 P P 16 19 07.5 0.0
comp=Z,1.7nm,0.8s,mb4.5,baz=45,slow=7.1,SNR=2.3
MAW LR LR 17 00 56.4
comp=Z,220nm,19.9s,MS4.6,baz=61,slow=34
NB2 NORSAR Subarra 96.98 338 P P 16 19 08.0 -1.0
comp=Z,2.3nm,0.6s,mb4.8,baz=53,slow=4.6
NB2 NORSAR Subarra 96.98 338 P P 16 19 08.0 -1.0
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
NOA NORSAR Array B 96.98 338 P P 16 19 08.0 -1.0
comp=Z,5.0nm,0.8s,mb5.0,baz=51,slow=4.8,SNR=8.5
NOA LR LR 17 07 52.7
comp=Z,202nm,19.5s,MS4.6,baz=50,slow=38
KWP Kalwaria 98.18 325 eP P 16 19 15.2 +0.6
KWP Kalwaria 98.18 325 eP P 16 19 15.2 +0.6
KOLS Kolonicke sedl 98.78 324 eP P 16 19 17.2 -0.1
STHS Stebnicka Huta 99.12 325 eP P 16 19 19.2 +0.4
CRVS Cervenica-Dubn 99.26 324 i P P 16 19 19.7 +0.2
KECS Kecovo 100.03 324 i P P 16 19 23.0 -0.1
OKC Ostrava-Krasne 100.60 326 AMS AMS 17 07 10.0
comp=Z,600nm,17.2s
PSZ Piszkesteto 100.66 324 eP P 16 19 25.6 -0.3
VYHS Vyhne 100.95 325 eP P 16 19 28.8 +1.6
KSP Ksiaz 101.02 328 eP P 16 19 27.6 +0.2
KSP Ksiaz 101.02 328 eP P 16 19 27.4 -0.1
DPC Dobruska-Polom 101.28 328 AMS AMS 17 06 10.0
PVCC Panska Ves 102.09 328 ePDIF Pdif 16 19 32.0 -0.3
PVCC AMS AMS 17 07 10.0
comp=Z,800nm,26.9s
BRG Berggiesshubel 102.20 329 eP Pdif 16 19 32.6 -0.2
BRG pmax pmax
comp=Z,1.0nm,6.7s
BRG Berggiesshubel 102.20 329 eP Pdif 16 19 32.6 -0.2
comp=Z,1.4nm,6.7s
TREC Trest 102.34 327 AMS AMS 17 08 10.0
comp=Z,500nm,21.5s
CLL Collm 102.41 330 i PDIF Pdif 16 19 31.9 -1.8
CLL ePPS PPS 16 33 36.0 -9.2
CLL eSS SS 16 38 30.0 +7.6
CLL e 16 45 42.0
CLL Collm 102.41 330 i P Pdif 16 19 31.9 -1.8
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 102.41 330 i Pdif Pdif 16 19 31.9 -1.8
comp=Z,9.0nm,1.1s
PRU Pruhonice 102.43 328 AMS AMS 17 04 50.0
comp=Z,400nm,24.9s
NKC Novy Kostel 103.35 329 ePDIF Pdif 16 19 38.7 +0.9
NKC AMS AMS 17 06 00.0
comp=Z,500nm,17.2s
KHC Kasperske Hory 103.44 328 AMS AMS 17 09 40.0
comp=Z,500nm,18.9s
SYO Syowa Base 105.39 201 ⇑ Pdiff Pdif 16 19 46.7 +0.3
SYO Syowa Base 105.39 201 ⇑ ePdif Pdif 16 19 46.7 +0.3
ACSO Alum Creek Sta 113.80 36 ePKPdf PKPdf 16 24 15.3 -0.1
FFD Franklin Falls 117.10 26 ePKPdf PKPdf 16 24 21.8 +0.2
PLCA Paso Flores 140.29 141 PKP PKPdf 16 25 07.8 +2.0
comp=Z,4.3nm,1.0s,baz=278,slow=2.1,SNR=6.6
DBIC Dimbokro 141.25 297 PKhKP 16 25 05.4
comp=Z,1.6nm,0.7s,baz=9.3,slow=2.6,SNR=3.1
SDV Santo Domingo 142.21 58 ePKPdf PKPdf 16 25 06.8 -3.1
FCH Farellones 144.49 131 i P PKPbc 16 25 12.5 -0.4
TLL Tololo Astrono 145.51 126 eP PKPdf 16 25 16.5 +1.4
TRQA Tornquist 147.05 145 ePKPdf PKPdf 16 25 18.4 +0.9
TRQA ePKPbc PKPdf 16 25 21.5 +4.0
ARE Arequipa 148.23 102 ePKP2 PKPab 16 25 24.0 -4.4
LPAZ La Paz 151.46 102 PKP PKPdf 16 25 27.9 +2.9
comp=Z,6.1nm,1.1s,baz=356,slow=4.6,SNR=12
LPAZ PKPbc PKPdf 16 25 34.6 +10
comp=Z,38nm,0.9s,baz=310,slow=2.3,SNR=68

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*IDC **20** 16:18:48.0± 1.0, 12.31N× 141.31E, mb4.0/7, mb1 4.2/7, mb1mx4.0/18, mbtmp3.9/7, MS3.8/1, Ms1 3.8/1, ms1mx2.8/25, Error ellipse: s-maj=41.2km s-min=26.8km az=87.0*
*MOS **20** 16:18:50.9± 1.0, 12.23N× 141.23E, h33km, mb4.5/6, Error ellipse: s-maj=34.0km s-min=16.3km az=104.1*
*NEIC **20** 16:18:51.1± 0.5, 12.29N× 141.28E, h20km, mb4.4/6, Error ellipse: s-maj=22.1km s-min=11.6km az=85.0*
ISC 20 16:18:51.2± 0.8, 12.2N± 0.1× 141.2E± 0.2, h33km, n23, σ 0&6 6/21, mb4.1/13, MS3.6/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**20.83**	**357**	LR	LR	16 30 15.4	
	comp=Z,230nm,18.0s,MS3.6,baz=323,slow=33						
WRAB	**Tennant Creek**	**32.66**	**192**	P	**P**	**16 25 22.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**32.66**	**192**	P	**P**	**16 25 22.7**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**32.68**	**192**	P	**P**	**16 25 22.8**	**+0.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=10,slow=9.7,SNR=7.7						
SONM	**Songino Array**	**45.87**	**328**	P	**P**	**16 27 13.2**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=112,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	**60.02**	**317**	P	**P**	**16 28 56.7**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=90,slow=8.5,SNR=10						

MKAR	**Makanchi Array**	**60.02**	**317**	P		**P**	**16 28 56.7**	**-0.4**
KURK	**Kurchatov**	**63.34**	**321**	*e*P		**P**	**16 29 19.0**	**-0.3**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.6							
KURK	**Kurchatov**	**63.34**	**321**	*e*P		**P**	**16 29 19.0**	**-0.3**
	comp=Z,3.1nm,0.6s,mb4.6							
CHKZ	**Chkalovo**	**68.75**	**323**	*e*P		**P**	**16 29 52.9**	**-0.8**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
CHKZ	**Chkalovo**	**68.75**	**323**	*e*P		**P**	**16 29 52.9**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.0							
BRVK	**Borovoye**	**68.86**	**322**	*e*P		**P**	**16 29 54.2**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**68.86**	**322**	*e*P		**P**	**16 29 54.2**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.1							
ZRNK	**Zerenda**	**69.61**	**322**	*e*P		**P**	**16 29 59.1**	**+0.1**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
ZRNK	**Zerenda**	**69.61**	**322**	*e*P		**P**	**16 29 59.0**	**+0.1**
	comp=Z,2.4nm,0.9s,mb4.1							
ILAR	**Eielson Array**	**71.32**	**25**	P		**P**	**16 30 08.2**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=249,slow=6.3,SNR=13							
YKA	**Yellowknife Ar**	**85.69**	**27**	P		**P**	**16 31 28.4**	**+0.8**
	comp=Z,0.2nm,0.5s,mb3.6,baz=288,slow=5.0,SNR=5.0							
YKA	**Yellowknife Ar**	**85.69**	**27**	P		**P**	**16 31 28.4**	**+0.8**
RES	**Resolute Bay**	**86.67**	**13**	*e*P		**P**	**16 31 32.0**	**-0.2**
RES				pmax	pmax			
	comp=Z,11nm,1.7s,mb4.8							
RES	**Resolute Bay**	**86.67**	**13**	*e*P		**P**	**16 31 32.0**	**-0.2**
	comp=Z,11nm,1.7s,mb4.8							
ARCES	**ARCESS Array B**	**87.25**	**342**	P		**P**	**16 31 36.5**	**+1.4**
	comp=Z,3.7nm,0.9s,mb4.6,baz=45,slow=6.9,SNR=5.4							
FINES	**FINESS Array B**	**90.85**	**334**	P		**P**	**16 31 51.8**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.6,baz=90,slow=5.7,SNR=8.0							
LPAZ	**La Paz**	**151.30**	**102**	PKPbc	PKPdf		16 38 45.8	+10
	comp=Z,1.2nm,0.7s,baz=333,slow=4.5,SNR=5.2							

*NNC **20** 16:20:16.1±4.5,39.36N×71.48E,mb3.8,mpv3.4,Error ellipse: s-maj=42.3km s-min=26.5km az=39.0*
ISC 20 16:20:13.3±5.2,39.2N±0.3×71.3E±0.3,h10km,n11, σ0§41/13,4C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.49**	**31**	P			**Pn**	**16 21 09.3**	**+0.4**
	SNR=50								
UCH	**Uchtor**	**3.93**	**37**	P			**Pn**	**16 21 15.5**	**+0.4**
	SNR=17								
EKS2	**Erkin-Say**	**3.98**	**27**	P			**Pn**	**16 21 15.6**	**-0.2**
	SNR=9.9								
KK31	**Karatay Array**	**3.99**	**352**			⇑Pn	**Pn**	**16 21 16.1**	**+0.1**
	3.4nm,0.4s,baz=169,slow=13,SNR=42								
KK31						⇓Pg	**Pg**	**16 21 23.8**	**-9.3**
	4.2nm,0.5s,baz=166,slow=15,SNR=7.2								
KK31						⇓Sn	**Sn**	**16 22 03.5**	**+0.1**
	4.3nm,0.4s,baz=161,slow=22,SNR=5.1								
KK31						⇑Lg		16 22 16.5	
	3.5nm,0.3s,baz=165,slow=30,SNR=6.0								
KZA	**Kyzart**	**4.20**	**45**	P			**Pn**	**16 21 19.4**	**+0.4**
	SNR=21								
AAK	**Ala-Archa**	**4.24**	**34**	P			**Pn**	**16 21 19.5**	**-0.1**
	SNR=24								
KBK	**Karagaybulak**	**4.46**	**37**	P			**Pn**	**16 21 23.1**	**+0.4**
	SNR=15								
CHMS	**Chumysh**	**4.65**	**33**	P			**Pn**	**16 21 24.8**	**-0.5**
	SNR=15								
USP	**Ospenovka**	**4.77**	**29**	P			**Pn**	**16 21 26.3**	**-0.8**
	SNR=14								
TKM2	**Tokmak 2**	**4.98**	**39**	P			**Pn**	**16 21 30.0**	**0.0**
	SNR=6.1								
TKM2	**Tokmak 2**	**4.98**	**39**			⇑Pn	**Pn**	**16 21 29.3**	**-0.6**
	6.1nm,0.9s								
TKM2						⇑Lg		16 22 44.3	
	3.3nm,0.5s								

MEX 20 16:24:47.1±0.7,16.19N×98.44W,h9km±9km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**57**	*i* P			Pg	16 24 54.0	-0.5
PNIG				*i* S			Sg	16 24 59.0	-0.4
ACX	**Acapulco**	**1.56**	**296**	*i* P			Pn	16 25 11.0	-4.2
ACX				*i* S			Sb	16 25 31.0	-4.6
VHO	**Vista Hermosa**	**1.86**	**62**	*i* P			Pn	16 25 16.5	-2.9
VHO				*i* S			Sn	16 25 36.9	-6.2
OXX	**Oaxaca**	**1.87**	**62**	*e*P			Pn	16 25 17.0	-2.6
OXX				*i* S			Sn	16 25 43.0	-0.5

*IDC **20** 16:29:16.6±1.5,30.01S×177.35W,mb4.1/3,mb1 4.4/3, mb1mx4.0/12,mbtmp4.1/3,Error ellipse: s-maj=32.4km s-min=30.2km az=160.0*
*NEIC **20** 16:29:20.7±2.6,29.92S×177.19W,h36km±19km,mb4.6/3, Error ellipse: s-maj=26.4km s-min=18.3km az=89.0*
ISC 20 16:29:20.9±2.8,30.1S±0.2×177.5W±0.2,h39km±23km,n13, σ1§00/13,mb4.3/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.90**	**337**	Pn			**P**	**16 29 37.1**	**0.0**
	459nm,0.3s,baz=309,slow=24,SNR=15								
RAO						Sn	**S**	**16 29 57.4**	**+8.3**
	1μm,0.3s,baz=113,slow=22,SNR=12								
RAO	**Raoul Island**	**0.90**	**337**	*e*Pn			**P**	**16 29 37.0**	**-0.1**
RAO						Sn	**S**	**16 29 57.5**	**+8.3**
STKA	**Stephens Creek**	**34.96**	**256**	P			**P**	**16 36 13.4**	**+2.1**
	2.0nm,0.5s,mb4.3,baz=123,slow=11,SNR=9.6								
WB2	**Warramunga Arr**	**44.50**	**272**	*e*P			**P**	**16 37 30.9**	**+0.4**
WRAB	**Tennant Creek**	**44.50**	**272**	*e*P			**P**	**16 37 30.8**	**+0.3**
	3.4nm,0.6s,mb4.3								
WRA	**Warramunga Arr**	**44.51**	**272**	P			**P**	**16 37 29.9**	**-0.7**
	2.5nm,0.6s,mb4.2,baz=110,slow=7.9,SNR=35								
CASY	**Casey**	**55.62**	**208**	*e*P			**P**	**16 38 54.0**	**-0.8**
	7.0nm,0.8s,mb4.7								
GUMO	**Guam**	**56.55**	**315**	*e*P			**P**	**16 39 01.1**	**-1.0**
	512nm,1.4s								
QSPA	**South Pole Qui**	**60.03**	**180**	*e*P			**P**	**16 39 25.1**	**-0.5**
	2.7nm,0.6s,mb4.5								
KS15	**Wonju Array Si**	**84.39**	**319**	*e*P			**P**	**16 41 49.5**	**-1.0**
NVAR	**Mina Array Bea**	**87.72**	**42**	P			**P**	**16 42 08.3**	**+1.6**
	0.9nm,1.0s,mb4.0,baz=225,slow=8.9,SNR=3.5								
FINES	**FINESS Array B**	**144.99**	**340**	PKP		PKPdf		16 48 53.0	-0.2
	2.3nm,0.6s,baz=72,slow=2.9,SNR=16								
NOA	**NORSAR Array B**	**148.50**	**352**	PKPbc		PKPdf		16 49 01.9	+3.0
	0.7nm,0.6s,baz=15,slow=4.5,SNR=4.1								

*IGQ **20** 16:34:43.9,1.82S×81.39W,h5km±16km,mb5.1,Error ellipse: s-maj=25.8km s-min=6.5km az=154.1*
*IDC **20** 16:34:46.8±0.5,1.83S×80.85W,mb4.7/14,mb1 4.8/16, mb1mx4.7/21,mbtmp4.7/16,ML3.3/2,MS4.4/7,Ms1 4.5/7, ms1mx4.2/17,Error ellipse: s-maj=21.0km s-min=12.5km az=62.0*
*BJI **20** 16:34:50.5,1.90S×80.90W,h21km,mB5.4,Ms5.8,Msz5.0*
*MOS **20** 16:34:50.3±1.2,1.99S×81.06W,h33km,mb5.4/19,Error ellipse: s-maj=13.4km s-min=7.6km az=99.5*
*NEIC **20** 16:34:50.6±1.4,1.91S×80.90W,h21km±9km,mb5.2/106, MD5.1(IGQ),Error ellipse: s-maj=5.3km s-min=3.5km az=52.0*
NEIC Felt [III] at Guayas and [II] at Manabi and Tungurahua.
*HRVD **20** 16:34:50.6±0.3,2.05S×81.08W,h15km±1km,MW5.3/61, Centroid moment Tensor Solution. LP body waves: s40,c62;Mantle waves: s61,c99; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; Mrr0.46±.02; Mθθ-0.03±.01; Mφφ-0.43±.02; Mrθ-0.08±.04; Mθφ0.01±.01; Mφr-1.23±.12; Best double couple: M0 1.312×10^{17} NP1: φs355°,δ10°,λ81°. NP2:φs183°,δ80°,λ92°. Principal axes: T 1.328, Plg55°, Azm95°; N -.031, Plg2°, Azm3°; P -1.297, Plg35°, Azm272°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 20 16:34:50.0±0.8,2.01S±0.03×81.09W±0.03,h32km±5km, h50km±4.5km:pP-P,n294,σ1§02/249,mb5.1/121,MS4.5/16, 42C-7D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.20**	**150**	⇓P			**Pb**	**16 34 55.0**	**-1.6**
JAMA	**Jama**	**1.95**	**27**	P			**Pn**	**16 35 19.8**	**-1.8**
JAMA							S	**Sn**	16 35 46.7	+1.5
MAG1	**Magdalena**	**2.33**	**34**	P			**Pn**	**16 35 26.1**	**-1.0**
QIL1	**Quilotoa**	**2.45**	**62**			⇑P	**Pn**	**16 35 27.3**	**-1.4**
IGUA	**Igualata**	**2.51**	**78**			⇑P	**Pn**	**16 35 30.4**	**+0.9**
CUSU	**Cusua**	**2.67**	**78**			⇑P	**Pn**	**16 35 33.1**	**+1.2**
JUIV	**Juive**	**2.69**	**77**			⇑P	**Pn**	**16 35 33.1**	**+1.0**
ULBA	**Ulba**	**2.74**	**78**			⇑P	**Pn**	**16 35 34.2**	**+1.3**
CAMI	**Rancho Maria**	**2.91**	**63**	P			**Pn**	**16 35 36.0**	**+0.8**
VC1	**Cotopaxi 1**	**3.01**	**63**			⇓P	**Pn**	**16 35 39.0**	**+2.3**
JUA2	**San Juan 2**	**3.06**	**54**			⇑P	**Pn**	**16 35 37.4**	**-0.1**
TERV	**Terraza Guagua**	**3.09**	**54**	P			**Pn**	**16 35 37.3**	**-0.5**
GGP	**Refugio Guagua**	**3.09**	**54**			⇑P	**Pn**	**16 35 37.5**	**-0.3**
PINO	**Pino**	**3.09**	**53**	P			**Pn**	**16 35 37.2**	**-0.6**
YANA	**Yana**	**3.15**	**53**	P			**Pn**	**16 35 37.9**	**-0.7**
ANTI	**Antisana**	**3.32**	**62**			⇑P	**Pn**	**16 35 43.1**	**+2.1**
OTAV	**Otavalo**	**3.46**	**50**	*e*Pn			**Pn**	**16 35 42.5**	**-0.5**
COTA	**Cotacachi**	**3.61**	**50**	P			**Pn**	**16 35 45.7**	**+0.5**
CAYR	**Refugio Cayamb**	**3.68**	**57**			⇓P	**Pn**	**16 35 48.7**	**+2.4**
ANGU	**Angureal**	**3.70**	**56**	P			**Pn**	**16 35 48.1**	**+1.7**
CAYA	**Cayambe**	**3.73**	**56**	P			**Pn**	**16 35 48.4**	**+1.5**
LAV3	**Lava3-Reventad**	**3.95**	**61**	P			**Pn**	**16 35 52.2**	**+2.2**
CONE	**Cono NE Rev Vo**	**3.95**	**61**	P			**Pn**	**16 35 53.1**	**+3.1**
ROSC	**El Rosal**	**9.60**	**45**	Pn			**P**	**16 37 02.8**	**-6.5**
	0.7nm,0.3s,baz=97,slow=20,SNR=3.4								
NNA	**Nana**	**10.77**	**157**	*e*Pn			**P**	**16 37 23.4**	**-1.9**
	56nm,0.8s								
NNA						*e*Sn	**S**	**16 39 20.4**	**-5.4**
JTS	**JuntasAbangare**	**12.81**	**343**	*i*P			**P**	**16 37 55.2**	**+2.3**
JTS	**JuntasAbangare**	**12.81**	**343**	*e*Pn			**P**	**16 37 55.8**	**+3.0**
	57nm,1.3s								
SDV	**Santo Domingo**	**15.03**	**44**	Pn			**P**	**16 38 20.5**	**-1.6**
	0.7nm,0.3s,baz=246,slow=12,SNR=13								
SDV	**Santo Domingo**	**15.03**	**44**	*e*Pn			**P**	**16 38 19.9**	**-2.2**
	70nm,0.9s								
ARE	**Arequipa**	**17.19**	**147**	*e*P			**P**	**16 38 51.0**	**+1.4**
LPAZ	**La Paz**	**19.08**	**139**	P			**P**	**16 39 11.2**	**-1.6**
	0.3nm,0.3s,baz=324,slow=13,SNR=17								
LPAZ	**La Paz**	**19.08**	**139**	*e*P			**P**	**16 39 11.9**	**-1.0**
LPAZ					pmax	pmax			
	comp=Z,51nm,1.2s								
LPAZ	**La Paz**	**19.08**	**139**	*e*P			**P**	**16 39 11.9**	**-1.0**
	comp=Z,51nm,1.2s								
SIV	**San Ignacio**	**24.12**	**126**	P			**P**	**16 40 04.2**	**-0.2**
	comp=Z,9.0nm,0.8s,mb4.3,baz=305,slow=10,SNR=14								
SJG	**San Juan**	**24.83**	**36**	P			**P**	**16 40 09.2**	**-1.9**
	comp=Z,82nm,0.8s,mb5.3,baz=230,slow=4.0,SNR=26								
SJG	**San Juan**	**24.83**	**36**	*e*P			**P**	**16 40 09.3**	**-1.8**
SJG					pmax	pmax			
	comp=Z,73nm,0.8s								
SJG	**San Juan**	**24.83**	**36**	*e*P			**P**	**16 40 09.2**	**-1.9**
	comp=Z,73nm,0.8s,mb5.3								
CPD	**Cerro la Pandu**	**24.91**	**36**	*e*P			**P**	**16 40 11.0**	**-0.9**
MTP	**Monte Pirata**	**25.16**	**37**	*e*P			**P**	**16 40 13.3**	**-1.0**
CFAA	**Coronel Fontan**	**31.84**	**159**	P			**P**	**16 41 14.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=350,slow=8.5,SNR=5.6								
BDFB	**Brasilia**	**35.30**	**114**	P			**P**	**16 41 42.8**	**-1.7**
	comp=Z,5.0nm,0.8s,mb4.5,baz=265,slow=13,SNR=4.4								
BDFB					LR		LR	16 57 58.7	
	comp=Z,2μm,19.5s,MS4.9,baz=65,slow=40								
LRAL	**Lakeview Retre**	**35.30**	**351**	*e*Pn			**P**	**16 41 43.7**	**-0.6**
	comp=Z,12nm,0.8s,mb4.9								
LRAL					LR		LR		
	comp=Z,422nm,19.0s,MS4.2								
GOGA	**Godfrey**	**35.30**	**357**	*e*P			**P**	**16 41 43.3**	**-1.1**
GOGA					pmax	pmax			
	comp=Z,42nm,0.3s,mb5.8								
GOGA	**Godfrey**	**35.30**	**357**	*e*P			**P**	**16 41 43.2**	**-1.1**
	comp=Z,42nm,0.3s,mb5.8								
JSC	**Jenkinsville**	**36.10**	**360**	*e*P			**P**	**16 41 50.1**	**-1.0**
JCT	**Junction City**	**36.91**	**333**	*e*P			**P**	**16 41 59.2**	**+1.3**
JCT					pmax	pmax			
	comp=Z,44nm,1.3s,mb5.1								
JCT					MLR	MLR			
	comp=Z,379nm,20.0s,MS4.2								
JCT	**Junction City**	**36.91**	**333**	*e*P			**P**	**16 41 59.2**	**+1.3**
	comp=Z,44nm,1.3s,mb5.1								
JCT					LR	LR			
	comp=Z,379nm,20.0s,MS4.2								
MYNC	**Murphy**	**37.00**	**356**	*e*P			**P**	**16 41 57.8**	**-0.8**
	comp=Z,23nm,1.1s,mb4.9								
OXF	**Oxford**	**37.16**	**349**	*e*P			**P**	**16 41 58.4**	**-1.6**
OXF					pmax	pmax			
	comp=Z,19nm,0.9s,mb4.9								
OXF	**Oxford**	**37.16**	**349**	*e*P			**P**	**16 41 58.4**	**-1.5**
	comp=Z,19nm,0.9s,mb4.9								
SWET	**Sewanee**	**37.31**	**353**	*e*P			**P**	**16 41 58.6**	**-2.6**
CPCT	**Cooper Cave**	**37.40**	**355**	*e*P			**P**	**16 41 59.6**	**-2.4**
TXAR	**Lajitas Array**	**37.93**	**327**	P			**P**	**16 42 05.5**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=149,slow=8.6,SNR=7.9								
TXAR					PcP		PcP	16 44 22.2	-0.3
	comp=Z,1.8nm,0.7s,baz=166,slow=5.8,SNR=7.8								
MIAR	**Mount Ida**	**38.21**	**343**	*e*P			**P**	**16 42 07.8**	**-1.0**
TZTN	**Tazewell**	**38.43**	**357**	*e*P			**P**	**16 42 09.4**	**-1.1**
WVT	**Waverly**	**38.46**	**351**	*e*P			**P**	**16 42 09.2**	**-1.7**
WVT				*e**PP			pP	16 42 25.9	+5.3
WVT					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.3								
WVT	**Waverly**	**38.46**	**351**	*e*P			**P**	**16 42 09.2**	**-1.7**
	comp=Z,4.8nm,0.7s,mb4.3								
WVT					epP		pP	16 42 25.9	+5.4
BLA	**Blacksburg**	**39.03**	**1**	*e*P			**P**	**16 42 13.6**	**-2.0**
BLA				*e*				16 44 22.4	
BLA					pmax	pmax			
	comp=Z,52nm,0.8s,mb5.3								
BLA	**Blacksburg**	**39.03**	**1**	*e*P			**P**	**16 42 13.6**	**-2.0**
	comp=Z,52nm,0.8s,mb5.3								
BLA					*e*PcP		PcP	16 44 22.4	-3.5
PLCA	**Paso Flores**	**39.71**	**167**	P			**P**	**16 42 21.1**	**-0.1**
	comp=Z,13nm,1.1s,mb4.6,baz=353,slow=9.3,SNR=13								
PLCA					PcP		PcP	16 44 27.2	-0.8
	comp=Z,4.5nm,1.1s,baz=292,slow=1.5,SNR=3.0								
PLCA	**Paso Flores**	**39.71**	**167**	*e*P			**P**	**16 42 21.3**	**+0.1**
PLCA					pmax	pmax			
	comp=Z,24nm,1.2s								
PLCA	**Paso Flores**	**39.71**	**167**	*e*P			**P**	**16 42 21.3**	**0.0**
	comp=Z,24nm,1.2s,mb4.8								
TRQA	**Tornquist**	**39.93**	**156**	*e*P			**P**	**16 42 22.6**	**-0.5**
	comp=Z,30nm,1.3s,mb4.9								
WMOK	**Wichita Mounta**	**40.15**	**337**	*e*P			**P**	**16 42 25.2**	**+0.3**
WMOK					pmax	pmax			
	comp=Z,19nm,1.3s,mb4.7								
WMOK					MLR	MLR			
	comp=Z,442nm,19.0s,MS4.3								
WMOK	**Wichita Mounta**	**40.15**	**337**	*e*P			**P**	**16 42 25.2**	**+0.3**
	comp=Z,19nm,1.3s,mb4.7								
WMOK					LR	LR			
	comp=Z,442nm,19.0s,MS4.3								
MNTX	**Cornudas Mount**	**40.69**	**327**	*e*P			**P**	**16 42 30.2**	**+0.8**
	comp=Z,35nm,1.6s,mb4.7								
FVM	**French Village**	**40.72**	**349**	P			**P**	**16 42 28.5**	**-1.1**
	comp=Z,25nm,1.2s,mb4.7								
CCM	**Cathedral Cave**	**40.96**	**348**	*e*P			**P**	**16 42 30.5**	**-1.0**
	comp=Z,35nm,1.4s,mb4.8								
ACSO	**Alum Creek Sta**	**42.08**	**358**	*e*P			**P**	**16 42 39.4**	**-1.4**
	comp=Z,11nm,0.8s,mb4.5								
KSU1	**Kansas State U**	**43.33**	**342**	*e*P			**P**	**16 42 51.0**	**0.0**
ANMO	**Albuquerque**	**43.79**	**329**	*e*P			**P**	**16 42 56.3**	**+1.6**
ANMO					pmax	pmax			
	comp=Z,23nm,1.3s								
ANMO					MLR	MLR			
	comp=Z,407nm,19.0s								
ANMO	**Albuquerque**	**43.79**	**329**	*e*P			**P**	**16 42 56.3**	**+1.6**
	comp=Z,23nm,1.3s,mb4.8								
ANMO					LR	LR			
	comp=Z,407nm,19.0s,MS4.4								
SDCO	**Great Sand Dun**	**45.56**	**333**	*e*P			**P**	**16 43 10.2**	**+1.3**
	comp=Z,10nm,0.8s,mb4.8								
MIV	**Mineville/With**	**46.38**	**8**	*e*P			**P**	**16 43 13.7**	**-1.6**
WUAZ	**Wupatki**	**46.85**	**326**	*e*P			**P**	**16 43 21.2**	**+2.0**
	comp=Z,34nm,1.2s,mb5.2								
WUAZ					epP		pP	16 43 35.7	+6.8
WUAZ					esP		sP	16 43 41.2	+8.4
WUAZ					LR	LR			
	comp=Z,762nm,22.0s,MS4.6								
ISCO	**Idaho Springs**	**47.29**	**334**	*e*P			**P**	**16 43 23.6**	**+1.0**
ISCO					pmax	pmax			
	comp=Z,17nm,1.4s,mb4.8								
ISCO	**Idaho Springs**	**47.29**	**334**	*e*P			**P**	**16 43 23.6**	**+1.0**
	comp=Z,17nm,1.4s,mb4.8								
PV01	**Paradox Valley**	**47.33**	**330**	*e*P			**P**	**16 43 23.6**	**+0.7**
PV10	**Paradox Valley**	**47.75**	**330**	*e*P			**P**	**16 43 26.9**	**+0.6**
NEN	**Nelson**	**48.96**	**323**	*e*P			**P**	**16 43 37.3**	**+1.7**
SRU	**San Rafael**	**49.06**	**330**	*e*P			**P**	**16 43 37.1**	**+0.8**
	comp=Z,16nm,1.2s,mb4.9								
MSU	**Marysvale**	**49.47**	**328**	*e*P			**P**	**16 43 41.3**	**+1.8**
MVU	**Marysvale**	**49.48**	**328**	*e*P			**P**	**16 43 41.4**	**+1.8**
	comp=Z,14nm,1.3s,mb4.8								
ARUT	**Antelope Range**	**49.64**	**326**	*e*P			**P**	**16 43 42.3**	**+1.6**
RSSD	**Black Hills**	**50.31**	**339**	*e*P			**P**	**16 43 46.4**	**+0.6**
	comp=Z,19nm,1.1s,mb5.0								
DAU	**Daniels Canyon**	**50.41**	**330**	*e*P			**P**	**16 43 47.9**	**+1.2**
TCUT	**Toone Canyon**	**51.02**	**331**	*e*P			**P**	**16 43 52.7**	**+1.5**
PDAR	**Pinedale Array**	**51.44**	**333**	P			**P**	**16 43 53.1**	**-1.2**
	comp=Z,4.3nm,0.9s,mb4.4,baz=128,slow=8.0,SNR=18								
HWUT	**Hardware Ranch**	**51.47**	**331**	*e*P			**P**	**16 43 55.1**	**+0.4**
	comp=Z,22nm,1.1s,mb5.0								
SPUT	**South Promonto**	**51.68**	**330**	*e*P			**P**	**16 43 57.0**	**+0.7**
REDW	**Red Top Meadow**	**52.49**	**333**	*e*P			**P**	**16 44 02.6**	**+0.2**
	comp=Z,46nm,1.4s,mb5.2								
NVAR	**Mina Array Bea**	**52.88**	**323**	P			**P**	**16 44 06.3**	**+1.0**
	comp=Z,5.6nm,0.8s,mb4.5,baz=139,slow=7.3,SNR=23								
ULM	**Lac du Bonnet**	**53.59**	**348**	P			**P**	**16 44 08.3**	**-2.0**
	comp=Z,50nm,0.9s,mb5.5,baz=157,slow=7.7,SNR=87								
ULM	**Lac du Bonnet**	**53.59**	**348**	P			**P**	**16 44 08.3**	**-2.0**
USHA	**Ushuaia**	**53.66**	**171**	P			**P**	**16 44 11.7**	**+0.9**
	comp=Z,10nm,0.9s,mb4.8,baz=355,slow=6.0,SNR=5.1								
QLMT	**Earthquake Lak**	**53.90**	**334**	*e*P			**P**	**16 44 14.1**	**+1.5**
QLMT					epP		pP	16 44 30.6	+8.0
QLMT					esP		sP	16 44 37.7	+11
HLID	**Hailey**	**54.33**	**331**	*e*P			**P**	**16 44 16.5**	**+0.7**
	comp=Z,12nm,1.1s,mb4.8								
MCMT	**McKenzie Canyo**	**54.54**	**333**	*e*P			**P**	**16 44 17.9**	**+0.6**
BOZ	**Bozeman (W)**	**54.62**	**334**	*e*P			**P**	**16 44 18.0**	**0.0**
	comp=Z,26nm,1.4s,mb5.1								
OHCM	**Honcut**	**55.37**	**322**	*e*P			**P**	**16 44 25.0**	**+1.4**
HRY	**Holter Researc**	**55.54**	**335**	*e*P			**P**	**16 44 24.6**	**-0.1**
EGMT	**Eagleton**	**55.75**	**337**	*e*P			**P**	**16 44 26.1**	**-0.1**
	comp=Z,25nm,1.3s,mb5.1								
EGMT					epP		pP	16 44 38.4	+2.3
RKT	**Rikitea**	**56.22**	**243**	*e*LR			LR	17 00 43.1	
	comp=Z,648nm,26.2s								
BMO	**Blue Mountains**	**56.70**	**330**	*e*P			**P**	**16 44 32.7**	**-0.4**
	comp=Z,8.7nm,1.3s,mb4.6								
SCHQ	**Schefferville**	**57.86**	**10**	*e*P			**P**	**16 44 38.1**	**-2.9**
TAOE	**Nuku Hiva Isla**	**59.12**	**261**	*e*S			**S**	**16 52 53.3**	**-0.4**
TAOE					eLR		LR	17 02 02.8	
	comp=Z,1μm,27.7s								
EDM	**Edmonton**	**61.29**	**339**	*e*P			**P**	**16 45 03.2**	**-1.5**
FCC	**Fort Churchill**	**61.46**	**352**	*e*P			**P**	**16 45 03.6**	**-2.2**
	comp=Z,37nm,1.4s,mb5.3								
CHIE	**El Hierro**	**67.40**	**59**	P			**P**	**16 45 43.3**	**-1.7**
	comp=Z,46nm,0.8s,mb5.6								
PPT	**Papeete**	**68.89**	**252**	*e*S			S	16 54 55.0	+0.2
PPT					eLR		LR	17 06 28.7	
	comp=Z,756nm,26.0s								
PPT	**Papeete**	**68.89**	**252**	P			**P**	**16 45 57.4**	**+3.0**
	comp=Z,16nm,0.6s,mb5.2,baz=300,slow=10,SNR=3.6								
PAE	**Paea**	**68.90**	**252**	*e*P			**P**	**16 45 57.2**	**+2.8**
	comp=Z,48nm,1.1s,mb5.3								
YKA	**Yellowknife Ar**	**69.15**	**344**	P			**P**	**16 45 53.7**	**-1.5**
	comp=Z,3.6nm,0.8s,mb4.4,baz=138,slow=5.6,SNR=44								
YKA	**Yellowknife Ar**	**69.15**	**344**	P			**P**	**16 45 53.7**	**-1.5**
YKW3	**Yellowknife Ar**	**69.20**	**344**	*e*P			**P**	**16

EGRA	Graus	84.97	48	P		P	16 47 24.6	+0.9	
	comp=Z,50nm,0.9s,mb5.6								
RESF	Ens	85.07	47	eP		P	16 47 24.9	+0.7	
EPF	Esparros	85.10	47	⇑iP		P	16 47 24.7	+0.4	
	comp=Z,145nm,1.4s,mb5.6								
MFF	Saint Martin d	85.23	43	⇑iP		P	16 47 25.0	+0.1	
	comp=Z,82nm,0.9s,mb5.5								
FLN	La Foliniere	85.31	41	⇑iP		P	16 47 25.3	+0.1	
	comp=Z,52nm,0.9s,mb5.3								
MELF	Melles	85.38	47	eP		P	16 47 26.5	+0.8	
EPOB	Poblet	85.44	48	P		P	16 47 24.0	-2.1	
	comp=Z,24nm,0.8s,mb5.4								
LDF	La Druitiere	85.52	41	⇑iP		P	16 47 26.3	0.0	
	comp=Z,54nm,0.9s,mb5.5								
LFF	La Frestale	85.62	45	⇑iP		P	16 47 26.9	0.0	
	comp=Z,103nm,1.1s,mb5.7								
MLS	Moulis	85.64	47	eP		P	16 47 27.1	+0.1	
SALF	Salau	85.68	47	eP		P	16 47 27.8	+0.6	
EMIR	Miracle	85.83	48	P		P	16 47 27.9	-0.1	
	comp=Z,39nm,0.7s,mb5.7								
DAG	Danmarks Havn	85.84	12	iP		P	16 47 27.0	-0.3	
DAG	Danmarks Havn	85.84	12	eP		P	16 47 27.0	-0.3	
RJF	Les Rejaudoux	86.22	45	⇑iP		P	16 47 29.6	-0.2	
	comp=Z,68nm,1.1s,mb5.5								
MTLF	Montolieu	86.50	47	eP		P	16 47 31.1	-0.1	
	comp=Z,45nm,1.1s,mb5.3								
TCF	Toulx Ste Croi	86.81	44	⇑iP		P	16 47 32.4	-0.3	
	comp=Z,35nm,1.0s,mb5.2								
BGF	Bois d'Agland	87.27	43	⇑iP		P	16 47 34.8	-0.1	
	comp=Z,159nm,1.3s,mb5.8								
AGO	Saint Agoulin	87.42	44	eP		P	16 47 36.0	+0.4	
LBL	Lubilhac	87.42	45	eP		P	16 47 36.1	+0.4	
AVF	Avril sur Loir	87.64	43	⇑iP		P	16 47 36.2	-0.5	
	comp=Z,56nm,1.3s,mb5.3								
LASF	Ste Croix	87.75	46	⇑iP		P	16 47 37.4	+0.1	
	comp=Z,7.5nm,0.7s,mb4.7								
PLDF	La Plantade	87.75	44	eP		P	16 47 37.0	-0.2	
SSF	Saint Saulge	87.77	43	⇑iP		P	16 47 36.8	-0.5	
	comp=Z,60nm,1.3s,mb5.3								
SMF	Signal de Mont	87.96	43	⇑iP		P	16 47 37.9	-0.3	
	comp=Z,102nm,1.5s,mb5.5								
LOR	Lormes	88.03	43	⇑iP		P	16 47 38.1	-0.4	
	comp=Z,65nm,1.4s,mb5.4								
QSPA	South Pole Qui	88.05	180	eP		P	16 47 39.5	+1.6	
	comp=Z,28nm,1.3s,mb5.3								
VIVF	Saint-Julien-l	88.40	45	⇑iP		P	16 47 40.5	+0.2	
	comp=Z,28nm,1.1s,mb5.1								
BAIF	Baives	88.50	40	eP		P	16 47 40.8	+0.1	
GIVF	Givet	88.90	40	⇑iP		P	16 47 42.9	+0.3	
	comp=Z,143nm,1.5s,mb5.8								
MEZF	Maizieres J'vi	88.93	42	⇑iP		P	16 47 42.9	+0.1	
	comp=Z,50nm,1.0s,mb5.5								
SMRF	Simiane la Rot	88.98	46	⇑iP		P	16 47 43.4	+0.2	
	comp=Z,24nm,1.1s,mb5.2								
NVL	N'lazarevskaya	89.08	161	eP		P	16 47 42.0	-1.0	
NVL					pmax	pmax			
	comp=Z,1.0nm,1.1s,mb4.1								
ORIF	Oris-en-Rattie	89.26	45	⇑iP		P	16 47 45.0	+0.5	
	comp=Z,24nm,0.8s,mb5.2								
OG25	Le Caire	89.36	46	eP		P	16 47 45.1	+0.1	
CABF	La Chapelle	89.51	44	⇑iP		P	16 47 45.7	+0.1	
	comp=Z,41nm,1.1s,mb5.4								
THEF	They Montfort	89.53	42	eP		P	16 47 45.6	-0.1	
LMR	La Mourre	89.62	47	⇑iP		P	16 47 45.8	-0.4	
	comp=Z,45nm,1.2s,mb5.4								
FRF	La Foret Royal	89.73	47	⇑iP		P	16 47 46.2	-0.5	
	comp=Z,73nm,1.0s,mb5.7								
HAU	Haudompre	89.76	42	eP		P	16 47 46.5	-0.2	
	comp=Z,31nm,1.1s,mb5.3								
BNI	Bardonecchia	89.83	45	eP		P	16 47 46.0	-1.1	
	comp=Z,11nm,1.0s,mb5.1								
MBDF	Montbardon	89.88	45	⇑iP		P	16 47 47.6	+0.2	
	comp=Z,17nm,1.0s,mb5.0								
LPL	La Plagne	89.89	45	⇑iP		P	16 47 48.1	+0.7	
	comp=Z,21nm,1.2s,mb5.0								
LPG	La Plagne	89.91	45	⇑iP		P	16 47 48.4	+0.9	
	comp=Z,27nm,1.2s,mb5.2								
HINF	Hinteralfeld	90.09	42	eP		P	16 47 47.8	-0.5	
	comp=Z,51nm,1.5s,mb5.3								
TOUF	Mont Tournerai	90.19	46	eP		P	16 47 49.9	+1.1	
MOF	Molkenrain	90.28	42	eP		P	16 47 48.6	-0.6	
SBF	Sospel	90.32	46	⇑iP		P	16 47 48.9	-0.5	
	comp=Z,38nm,0.9s,mb5.4								
ECH	Echery	90.32	42	eP		P	16 47 49.3	0.0	
RUP	Ruppelstein	90.32	40	eP		P	16 47 49.7	+0.4	
CDF	Champ du Feu	90.40	42	⇑iP		P	16 47 49.6	-0.1	
	comp=Z,26nm,1.1s,mb5.2								
SAOF	Saorge	90.41	46	eP		P	16 47 50.5	+0.7	
WLS	Welschbruch	90.46	42	eP		P	16 47 49.3	-0.6	
BBS	Basel-Blauen	90.52	43	eP		P	16 47 50.1	-0.2	
LANF	Langenberg	90.78	41	eP		P	16 47 51.2	-0.2	
BFO	Black Forest	91.10	42	eP		P	16 47 52.9	0.0	
BFO					pmax	pmax			
	comp=Z,13nm,1.5s,mb5.0								
BFO	Black Forest	91.10	42	eP		P	16 47 52.9	0.0	
	comp=Z,13nm,1.5s,mb5.0								
TNS	Taunus Mts	91.24	40	eP		P	16 47 53.4	-0.1	
PGF	Pioggiola	91.41	48	eP		P	16 47 54.2	-0.3	
	comp=Z,51nm,1.3s,mb5.4								
BSEG	Bad Segeberg	92.44	36	eP		P	16 48 00.4	+1.5	
BSEG					pmax	pmax			
	comp=Z,15nm,1.2s,mb5.2								
CLZ	Clausthal	92.48	38	eP		P	16 48 00.7	+1.6	
CLZ					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb5.0								
CLZ	Clausthal	92.48	38	eP		P	16 48 00.7	+1.6	
	comp=Z,8.0nm,0.9s,mb5.0								
NOA	NORSAR Array B	92.87	29	LR		LR	17 29 59.1		
	comp=Z,84nm,18.4s,MS4.2,baz=270,slow=36								
GRA1	Grafenberg Arr	93.02	41	eP		P	16 48 02.5	+0.8	
	comp=Z,10.0nm,1.0s,mb5.2								
GRF	Grafenberg Arr	93.02	41	eP		P	16 48 02.5	+0.8	
GRF					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb5.2								
GRF	Grafenberg Arr	93.02	41	eP		P	16 48 02.5	+0.8	
	comp=Z,10.0nm,1.0s,mb5.2								
FUR	Furstenfeldbru	93.07	42	eP		P	16 48 02.8	+0.8	
FUR					pmax	pmax			
	comp=Z,15nm,0.8s,mb5.5								
FUR	Furstenfeldbru	93.07	42	eP		P	16 48 02.8	+0.8	
	comp=Z,15nm,0.8s,mb5.5								
MOX	Moxa	93.27	40	iP		P	16 48 03.7	+0.9	
MOX	Moxa	93.27	40	eP		P	16 48 03.7	+0.9	
VNDA	Vanda	93.72	191	LR		LR	17 26 15.9		
	comp=Z,230nm,18.1s,MS4.7,baz=109,slow=33								
WET	Wettzell	94.11	41	eP		P	16 48 07.5	+0.8	
WET					pmax	pmax			
	comp=Z,26nm,1.3s,mb5.5								
WET	Wettzell	94.11	41	eP		P	16 48 07.5	+0.8	
	comp=Z,26nm,1.3s,mb5.5								
CLL	Collm	94.13	39	⇓iP		P	16 48 02.5	-4.2	
	comp=Z,logA/T=0.8,mb5.0								
CLL				i			16 48 07.4		
CLL	Collm	94.13	39	⇓iP		P	16 48 02.5	-4.2	
CLL					pmax	pmax			
	comp=Z,9.0nm,1.3s,mb5.0								
CLL	Collm	94.13	39	⇓iP		P	16 48 02.5	-4.2	
	comp=Z,9.0nm,1.3s,mb5.0								
KHC	Kasperske Hory	94.57	41	eP		P	16 48 09.0	+0.1	
GEC2	GERESS Array S	94.67	41	eP		P	16 48 10.0	+0.7	
GEC2					pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.9								
GEC2	GERESS Array S	94.67	41	eP		P	16 48 10.0	+0.7	
	comp=Z,6.0nm,1.1s,mb4.9								
BRG	Berggiesshubel	94.74	39	P		P	16 48 08.4	-1.2	
ARCES	ARCESS Array B	97.65	20	LR		LR	17 25 27.4		
	comp=Z,88nm,21.7s,MS4.2,baz=271,slow=31								
VYHS	Vyhne	98.09	41	eP		P	16 48 25.7	+0.9	
SYO	Syowa Base	98.70	162	⇑pP		pP	16 48 39.6	+2.1	
KECS	Kecovo	99.18	41	eP		P	16 48 31.2	+1.5	
STHS	Stebnicka Huta	99.55	40	eP		P	16 48 31.9	+0.5	
CRVS	Cervenica-Dubn	99.76	41	eP		P	16 48 33.5	+1.1	
FINES	FINESS Array B	99.92	28	LR		LR	17 29 30.4		
	comp=Z,100nm,18.1s,MS4.4,baz=332,slow=33								
BILL	Bilibino	100.19	339	P		P	16 48 34.0	0.0	
KOLS	Kolonicke sedl	100.29	41	eP		P	16 48 36.5	+1.7	
OBN	Obninsk	107.16	32	⇑eP		Pdif	16 48 55.2	-10	
OBN					pmax	pmax			
	comp=Z,18nm,1.2s								
OBN					MLR	MLR			
	comp=Z,100nm,13.0s,MS4.6								
ZAL	Zalesovo	126.96	10	PKP		PKPdf	16 53 51.8	-4.4	
	comp=Z,1.3nm,0.6s,baz=82,slow=0.5,SNR=12								
STKA	Stephens Creek	127.35	227	PKP		PKPdf	16 53 53.8	-3.9	
	comp=Z,5.2nm,1.1s,baz=0.9,slow=4.2,SNR=3.8								
STKA	Stephens Creek	127.35	227	ePKPdf		PKPdf	16 53 54.7	-2.9	
KURK	Kurchatov	128.53	16	iPKIKP		PKPdf	16 53 53.7	-5.7	
MKAR	Makanchi Array	133.10	16	PKP		PKPdf	16 54 01.8	-6.5	
	comp=Z,0.7nm,0.8s,baz=297,slow=2.7,SNR=4.7								
SONM	Songino Array	133.90	353	PKP		PKPdf	16 54 04.7	-4.9	
	comp=Z,0.7nm,0.8s,baz=345,slow=2.9,SNR=5.1								
WMQ	Urumqi	137.19	12	ePKP		PKPdf	16 54 10.8	-5.0	
WMQ				LR		LR			
	comp=N,350nm,22.0s,MS5.2								
WMQ				LR		LR			
	comp=E,280nm,20.0s,MS5.2								
WMQ				LR		LR			
	comp=Z,310nm,21.0s,MS5.0								
KSH	Kashi	137.23	26	ePKP		PKPdf	16 54 13.4	-2.6	
KSH				PKS		PKS	16 57 48.9	+3.1	
KSH				PP		PP			
	comp=Z,160nm,5.0s								
KSH				LR		LR			
	comp=N,210nm,5.1s								
KSH				LR		LR			
	comp=E,210nm,4.8s								
WB2	Warramunga Arr	138.95	236	eP		PKPdf	16 54 16.4	-3.2	
WRA	Warramunga Arr	138.96	236	PKhKP			16 53 53.5		
	comp=E,0.4nm,0.7s,baz=116,slow=2.9,SNR=6.0								
WRA				PKP		PKPdf	16 54 16.2	-3.5	
	comp=E,4.2nm,0.8s,baz=114,slow=1.8,SNR=21								
WRA	Warramunga Arr	138.96	236	PKP		PKPdf	16 54 16.2	-3.4	
GTA	Gaotai	142.77	359	PKP		PKPdf	16 54 19.9	-6.0	
GTA				APKP			16 54 29.6		
GTA				XPKP			16 54 35.6		
SSE	Sheshan	144.22	326	PKP		PKPdf	16 54 19.0	-10	
SSE				PP		PP			
	comp=Z,130nm,5.6s								
SSE				LR		LR			
	comp=Z,90nm,21.3s,MS4.5								
NJ2	Nanjing	144.70	330	ePKP		PKPdf	16 54 28.8	-0.7	
NJ2				PP		PP	16 57 51.0	+5.9	
NJ2				SKS		SKS	17 01 33.0	-4.3	
NJ2				SKKS			17 04 35.0		
NJ2				SS		SS	17 16 35.0	+7.3	
NJ2				PP		PP			
	comp=Z,230nm,11.5s								
NJ2				LR		LR			
	comp=N,790nm,35.1s								
NJ2				LR		LR			
	comp=E,1μm,29.2s								
NJ2				LR		LR			
	comp=Z,410nm,31.7s,MS5.0								
LZH	Lanzhou	145.79	353	ePKP		PKPdf	16 54 27.8	-3.4	
LZH				APKP			16 54 37.4		
LZH				XPKP			16 54 41.0		
AJM	Ajmer	146.31	42	eP		PKPbc	16 54 28.2	-0.1	
XAN	Xi'an	146.79	345	PKP		PKPdf	16 54 30.5	-2.5	
FITZ	Fitzroy Crossi	146.95	232	eP		PKPbc	16 54 29.9	0.0	
	comp=Z,18nm,0.9s								
WHN	Wuhan	148.07	334	ePKP		PKPdf	16 54 34.8	-0.4	
ENH	Enshi	150.16	341	ePKPbc		PKPdf	16 54 39.3	+0.8	
BHPL	Bhopal	150.35	43	iP		PKPdf	16 54 35.9	-3.1	
KOLN	Koldanda	150.50	28	eP		PKPdf	16 54 35.6	-3.5	
	comp=Z,123nm,1.3s								
GKN	Gorkha	150.78	27	eP		PKPdf	16 54 36.0	-3.5	
	comp=Z,221nm,1.3s								
KKN	Kakani	151.24	26	eP		PKPdf	16 54 36.8	-3.4	
	comp=Z,59nm,1.1s								
DMN	Daman	151.32	26	eP		PKPdf	16 54 37.1	-3.2	
	comp=Z,83nm,1.3s								
KAD	Karad	151.34	56	eP		PKPdf	16 54 35.8	-4.8	
GUN	Gumba	151.39	25	eP		PKPdf	16 54 37.3	-3.1	
	comp=Z,116nm,1.4s								
PKI	Pulchoki	151.49	26	eP		PKPdf	16 54 36.8	-3.8	
	comp=Z,74nm,1.3s								
LSA	Lhasa	151.49	14	PKP		PKPdf	16 54 37.4	-3.1	
LSA	Lhasa	151.49	14	ePKPdf		PKPdf	16 54 37.4	-3.1	
LSA				ePKPbc		PKPdf	16 54 43.9	+3.4	
LSA				ePKPab		PKPab	16 54 51.9	-0.2	
JIRN	Jiri	151.74	24	eP		PKPdf	16 54 37.7	-3.3	
	comp=Z,147nm,1.6s								
BLSP	Bilaspur	154.19	38	iP		PKPdf	16 54 44.2	-0.3	
BLSP				ex		x	16 54 49.4		
BOK	Bokaro	154.94	29	eP		PKPdf	16 54 43.5	-2.0	
KMI	Kunming	156.73	351	PKP		PKPdf	16 54 42.8	-5.0	
TRD	Trivandrum	157.22	73	ex		PKPab	16 55 15.7	-1.1	
TRD				AMb		AMB	16 55 36.2		
	comp=Z,47nm,1.7s								

JMA 20 17:15:00.4±0.2, 38.08N×144.61E, h56km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	2.51	294	P	P	17 15 39.8	0.0
JIO	Ouri	2.59	279	P	P	17 15 41.0	+0.1
JIO				eS	S	17 16 11.5	+0.2
MIYJ	Miyakonagasawa	2.64	305	P	P	17 15 41.4	-0.2
MIYJ				eS	S	17 16 12.0	-0.6
JMK	Ichinoseki	2.80	289	P	P	17 15 44.2	+0.4
JMK				eS	S	17 16 17.5	+1.0
JOM	Ohasama	2.94	299	P	P	17 15 46.5	+0.6
JOM				eS	S	17 16 20.4	+0.2
JMM	Marumori	3.02	267	P	P	17 15 46.9	-0.1
JMM				S	S	17 16 21.7	-0.5
JANG	Nango	3.32	315	P	P	17 15 51.0	-0.2
JANG				eS	S	17 16 28.1	-1.6
JOT	Ohata	4.29	321	eS	S	17 16 51.3	-2.8
JCH	Churui	4.63	349	P	P	17 16 06.8	-2.8
JCH				eS	S	17 16 56.8	-5.8
JKB	Kayabe	4.69	325	P	P	17 16 10.1	-0.4
JKB				eS	S	17 17 01.7	-2.5
JRY	Ryogami san	5.01	247	P	P	17 16 14.2	-0.7
JRY				S	S	17 17 09.3	-2.8
JOD2	Odawara 2	5.25	239	P	P	17 16 17.4	-0.9
JOD2				eS	S	17 17 14.5	-3.8
NEM2	Nemuro 2	5.35	9	P	P	17 16 14.0	-5.6
NEM2				eS	S	17 17 11.1	-10
JTKR	Abashiri--Toko	5.91	355	eS	S	17 17 26.9	-7.7
JHR	Hokuryu	6.06	340	P	P	17 16 29.1	-0.4

IDC 20 17:20:15.2±5.3, 1.95N×80.02W, mb3.2/1, mb1 3.9/3, mb1mx3.5/19, mbtmp3.9/3, ML3.4/2, Error ellipse: s-maj=129.1km s-min=41.7km az=172.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	El Rosal	6.37	63	Pn	Pn	17 21 51.7	-1.0
	4.9nm,0.3s,baz=269,slon=21,SNR=6.6						
ROSC				Sn	Sn	17 23 01.1	-6.0
	2.3nm,0.3s,baz=102,slow=20,SNR=4.9						
SDV	Santo Domingo	11.61	53	Pn	P	17 23 01.5	-3.9
	1.3nm,0.3s,baz=270,slow=10,SNR=4.9						
YKA	Yellowknife Ar	65.67	343	P	P	17 31 01.2	-2.2
	0.2nm,0.6s,baz=138,slow=6.4,SNR=4.8						
WRA	Warramunga Arr	141.97	240	PKP	PKPdf	17 39 49.3	-2.7
	0.3nm,0.7s,baz=112,slow=3.0,SNR=5.2						

IDC 20 17:24:12.3±5.5, 37.43N×72.45E, h158km±47km, mb3.4/6, mb1 3.6/9, mb1mx3.4/19, mbtmp4.0/9, Error ellipse: s-maj=36.0km s-min=21.9km az=19.0
BJI 20 17:24:15.6, 37.69N×72.39E, h187km
NEIC 20 17:24:15.8±2.0, 37.66N×72.42E, h185km±18km, mb3.8/8, Error ellipse: s-maj=19.4km s-min=10.5km az=215.0
MOS 20 17:24:15.0±0.8, 37.65N×72.38E, h194km, mb4.2/4, Error ellipse: s-maj=20.8km s-min=9.6km az=97.3
NNC 20 17:24:23.8±1.8, 38.40N×72.28E, h241km±21km, mb2.7, mpv3.8, Error ellipse: s-maj=19.4km s-min=9.6km az=8.0

ISC 20 17:24:13.9±0.9, 37.53N±0.06×72.3E±0.1, h189km±10km, n50, σ0°84/57, mb3.7/8, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	3.48	54	⇓iP	P	17 25 11.0	+1.5
KSH				S	S	17 25 52.5	+0.1
KSH				Smax			
	comp=N,220nm,0.3s						
KSH				Smax			
	comp=E,160nm,0.4s						
AML	Almayashu	4.72	13	P	P	17 25 25.4	+0.2
	SNR=602						
UCH	Uchtor	4.99	19	P	P	17 25 29.0	+0.4
	SNR=106						
KZA	Kyzart	5.07	25	P	P	17 25 29.6	-0.1
	SNR=6.8						
EKS2	Erkin-Say	5.25	12	P	P	17 25 32.2	+0.2
	SNR=138						
AAK	Ala-Archa	5.37	17	P	P	17 25 34.1	+0.6
	SNR=44						
AAK	Ala-Archa	5.37	17	ePN	P	17 25 33.1	-0.4
AAK				pmax	pmax		
	comp=Z,29nm,0.4s						
AAK	Ala-Archa	5.37	17	ePn	P	17 25 33.1	-0.4
	comp=Z,29nm,0.4s						
KBK	Karagaybulak	5.50	21	P	P	17 25 36.9	+1.5
	SNR=11						
ULHL	Ulahol	5.59	31	P	P	17 25 36.4	0.0
	SNR=21						
KK31	Karatay Array	5.74	347	⇓P	P	17 25 38.0	-0.4
	comp=Z,7.7nm,0.3s,baz=150,slow=13,SNR=182						
KK31				S	S	17 26 37.4	-6.6
	comp=Z,28nm,0.3s,baz=164,slow=23,SNR=37						
CHMS	Chumysh	5.77	18	P	P	17 25 39.0	+0.2
	SNR=17						
TKM2	Tokmak 2	5.94	24	P	P	17 25 41.6	+0.6
	SNR=7.6						
TKM2	Tokmak 2	5.94	24	⇑P	P	17 25 41.3	+0.3
	comp=Z,2.6nm,0.4s						
TKM2				⇑S	S	17 26 43.9	-4.8
	comp=Z,4.2nm,0.6s						
USP	Ospenovka	5.97	15	P	P	17 25 41.0	-0.4
	SNR=11						
KLP	Kalpa	7.72	139	eP	P	17 26 04.7	+0.3
KLP				eS	S	17 27 26.8	-3.8
KLP				AML	AML	17 27 34.7	
	comp=N,190nm,0.4s						
KLP				AML	AML	17 27 37.1	
	comp=E,204nm,0.4s						
MKAR	Makanchi Array	11.84	35	P	P	17 26 55.7	-2.0
	comp=E,0.0nm,0.3s,baz=220,slow=12,SNR=2.6						
KOLN	Koldanda	13.59	132	eP	P	17 27 19.0	-0.9
	comp=E,13nm,0.3s						
KOLN				eS	S	17 29 42.3	-4.5
GKN	Gorkha	14.04	129	eP	P	17 27 25.3	-0.3
	comp=E,83nm,0.4s						
GKN				eS	S	17 29 51.7	-5.4
KKN	Kakani	14.59	128	eP	P	17 27 32.5	0.0
	comp=E,32nm,0.5s						
DMN	Daman	14.61	129	eP	P	17 27 31.7	-1.1
	comp=E,30nm,0.5s						
AB31	Akbulak array	14.76	327	P	P	17 27 33.3	-1.1
	comp=E,1.4nm,0.3s,baz=141,slow=13,SNR=58						
AB31				⇑S	S	17 30 06.9	-6.1
	comp=E,4.2nm,0.3s,baz=137,slow=23,SNR=15						
PKI	Pulchoki	14.83	128	eP	P	17 27 35.9	+0.5
	comp=E,17nm,0.4s						
GUN	Gumba	14.89	126	eP	P	17 27 36.2	0.0
	comp=E,56nm,0.4s						
JIRN	Jiri	15.26	126	eP	P	17 27 40.6	-0.2
BVAR	Borovoye Array	15.56	356	P	P	17 27 43.7	-0.6
	comp=E,0.3nm,0.3s,baz=170,slow=17,SNR=5.4						
BRVK	Borovoye	15.60	355	eP	P	17 27 43.6	-1.2
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	Borovoye	15.60	355	ePn	P	17 27 43.5	-1.3
	comp=Z,1.2nm,0.5s						
ZRNK	Zerenda	15.60	353	eP	P	17 27 43.9	-0.9
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	Zerenda	15.60	353	ePn	P	17 27 43.9	-0.9
	comp=Z,1.2nm,0.4s						
AKTO	Aktyubinsk	16.47	326	P	P	17 27 55.8	+0.3
	comp=Z,1.0nm,0.3s,baz=127,slow=10,SNR=19						
AKTO	Aktyubinsk	16.47	326	P	P	17 27 55.8	+0.3
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LSA	Lhasa	17.50	111	P	P	17 28 10.6	+3.2
LSA	Lhasa	17.50	111	eP	P	17 28 08.6	+1.2
LSA				pmax	pmax		
	comp=Z,11nm,1.3s						
LSA	Lhasa	17.50	111	eP	P	17 28 08.6	+1.2
	comp=Z,11nm,1.3s						
ZAL	Zalesovo	18.53	24	P	P	17 28 18.1	-0.1
	comp=Z,1.8nm,0.3s,baz=260,slow=4.0,SNR=14						
BR131	Keskin Array S	30.15	286	P	P	17 30 08.7	+0.6
	comp=Z,0.4nm,0.4s,mb3.5						
BRTR	Keskin Array B	30.15	286	P	P	17 30 09.1	+1.0
	comp=Z,0.6nm,0.5s,mb3.6,baz=93,slow=6.4,SNR=4.9						
FINES	FINESS Array B	37.24	325	P	P	17 31 08.7	+0.2
	comp=Z,0.4nm,0.4s,mb3.4,baz=126,slow=11,SNR=7.2						
ARCES	ARCESS Array B	40.61	337	P	P	17 31 37.4	+1.1
	comp=Z,1.9nm,0.5s,mb4.0,baz=116,slow=8.7,SNR=32						
NB2	NORSAR Subarra	44.21	322	P	P	17 32 05.8	+0.5
	comp=Z,0.7nm,0.4s,mb3.6,baz=93,slow=7.4						
NB2	NORSAR Subarra	44.21	322	P	P	17 32 05.8	+0.5
NB2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
NOA	NORSAR Array B	44.21	322	P	P	17 32 05.8	+0.5
	comp=Z,0.8nm,0.4s,mb3.7,baz=93,slow=7.6,SNR=4.2						
RES	Resolute Bay	67.75	356	eP	P	17 34 50.7	-1.6
RES				pmax	pmax		
	comp=Z,27nm,2.1s,mb4.6						
RES	Resolute Bay	67.75	356	eP	P	17 34 50.

OJC				⇓*e*SG	Sg	18 15 01.8	+0.8	
OJC	**Ojcow**	**0.47**	**89**	*e*Pg	Pg	18 14 54.8	+0.1	
OJC				*e*Sg	Sg	18 15 01.4	+0.4	
OKC	**Ostrava-Krasne**	**0.70**	**238**	*e*PG	Pg	18 14 58.6	-0.8	
OKC				*e*SG	Sg	18 15 07.3	-1.4	
21nm,0.6s								
NIE	**Niedzica**	**1.14**	**134**	*e*PG	Pg	18 15 08.0	0.0	
NIE				*e*SG	Sg	18 15 24.0	+0.9	
STHS	**Stebnicka Huta**	**1.62**	**119**	*e*PN	Pn	18 15 16.7	+1.5	
STHS				*e*SN	Sn	18 15 42.0	+5.0	
STHS				*e*LG		18 15 50.0		
VYHS	**Vyhne**	**1.73**	**185**	*e*PN	Pn	18 15 15.8	-0.9	
VYHS				*e*SN	Sn	18 15 38.8	-1.0	
VYHS				*e*LG		18 15 50.0		
DPC	**Dobruska-Polom**	**1.77**	**275**	*e*PG	Pg	18 15 16.2	-4.4	
DPC				*e*SG	Sg	18 15 39.9	-4.2	
20nm,0.7s								
KSP	**Ksiaz**	**1.88**	**291**	*e*PG	Pg	18 15 20.0	-2.8	
KSP				*e*SG	Sg	18 15 45.0	-2.9	
KSP	**Ksiaz**	**1.88**	**291**	*e*Pn	Pn	18 15 19.3	+0.4	
KSP				*e*Pg	Pg	18 15 21.8	-1.1	
KSP				*e*Sg	Sg	18 15 46.0	-1.8	
KECS	**Kecovo**	**1.97**	**151**	*e*PN	Pn	18 15 21.5	+1.4	
KECS				*e*SN	Sn	18 15 47.8	+2.0	
KECS				*e*LG		18 16 00.0		
CRVS	**Cervenica-Dubn**	**2.04**	**129**	*e*PN	Pn	18 15 22.4	+1.2	
CRVS				*e*SN	Sn	18 15 50.8	+3.2	
KOLS	**Kolonicke sedl**	**2.45**	**120**	*e*PN	Pn	18 15 28.0	+1.4	
KOLS				*e*LG		18 16 20.0		
PRU	**Pruhonice**	**2.92**	**267**	*e*PG	Pg	18 15 36.6	-7.1	
PRU				*e*SG	Sg	18 16 17.0	-5.6	
5.2nm,0.6s								
KHC	**Kasperske Hory**	**3.73**	**255**	*e*PG	Pg	18 15 52.5	-7.2	
KHC				*e*SG	Sg	18 16 41.1	-8.3	
7.5nm,0.6s								
MOA	**Molln**	**3.95**	**235**	⇓*i*Pn	Pn	18 15 47.9	-0.5	
MOA				⇑*e*Sg	Sg	18 16 51.7	-5.0	
comp=N,5.0nm,0.7s								
CLL	**Collm**	**4.00**	**288**	*e*SG	Sg	18 16 59.0	+0.4	
NKC	**Novy Kostel**	**4.25**	**273**	*e*SG	Sg	18 16 58.8	-8.0	
BURAR	**Bucovina Array**	**4.82**	**120**	⇓P	Pn	18 16 00.3	-0.4	

ORF **20** *18:33:53.0,23.79S×175.55E,h30km,mb6.4*
MOS **20** *18:34:35.6±1.1,25.32S×179.45E,h509km,mb5.1/15, Error ellipse: s-maj=11.1km s-min=10.3km az=122.7*
BJI **20** *18:34:36.5,24.99S×179.89E,h521km,mB4.9,mb4.7*
IDC **20** *18:34:36.1±0.6,25.31S×179.50E,h508km±6km,mb4.6/29, mb1 4.6/31,mb1mx4.6/31,mbtmp5.4/31,Error ellipse: s-maj=8.0km s-min=7.1km az=4.0*
HRVD **20** *18:34:37.4±0.3,25.52S×179.48E,h529km±2km, MW5.5/62,Centroid moment Tensor Solution. LP body waves: s62,c104; Half duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr1.53±.07; Mθθ-1.16±.10; Mϕϕ-0.37±.11; Mrθ-0.07±.11; Mθϕ-1.32±.11; Mϕr-1.36±.10; Best double couple: M◎2.347×10^17 NP1:ϕs81°,δ40°,λ139°. NP2: ϕs205°,δ65°,λ58°. Principal axes: T 2.338, Plg57°, Azm71°; N .017, Plg29°, Azm221°; P -2.355, Plg14°, Azm318°; nsta1 refers to body waves, cutoff=40s.*
NEIC **20** *18:34:37.4±0.1,25.48S×179.48E,mb5.1/71 Error ellipse: s-maj=5.3km s-min=3.6km az=132.0*
BGS **20** *18:34:43.6±2.3,25.48S×179.48E,h528km*
ISC 20 18:34:36.0±0.1,**25.43S**±0.03×**179.46E**±0.04,**h517**km, **h517**km±3.8km:**pP-P,n497,σ0**97/231,**mb5.0**/104,**84C-20D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.46**	**149**	P		**P**	**18 36 00.6**	**+0.7**
1μm,0.3s,baz=280,slow=4.5,SNR=103								
RAO				S		**S**	**18 37 07.8**	**+1.2**
380nm,0.3s,baz=95,slow=22,SNR=2.9								
RAO	**Raoul Island**	**4.46**	**149**	*e*Pn		**P**	**18 35 59.8**	**-0.2**
RAO				*e*Sn		**S**	**18 37 02.7**	**-3.8**
WCZ	**Waipu Caves**	**11.36**	**202**	PN		**P**	**18 37 12.2**	**+3.5**
WCZ	**Waipu Caves**	**11.36**	**202**	*e*P		**P**	**18 37 12.2**	**+3.6**
DZM	**Mont Dzumac**	**12.38**	**283**	P		**P**	**18 37 21.6**	**+2.4**
9.7nm,0.3s,baz=95,slow=16,SNR=117								
DZM				S		**S**	**18 39 37.4**	**+6.9**
baz=194,slow=19,SNR=3.1								
PUZ	**Puketiti**	**12.64**	**184**	PN		**P**	**18 37 19.2**	**-2.6**
PUZ				SN		**S**	**18 39 35.3**	**0.0**
PUZ	**Puketiti**	**12.64**	**184**	*e*P		**P**	**18 37 21.2**	**-0.7**
PUZ				S		**S**	**18 39 35.3**	**0.0**
URZ	**Urewera**	**12.95**	**188**	P		**P**	**18 37 22.8**	**-2.2**
27nm,0.3s,baz=6.2,slow=3.5,SNR=64								
URZ				S		**S**	**18 39 39.4**	**-1.6**
5.0nm,0.3s,baz=160,slow=13,SNR=4.6								
URZ	**Urewera**	**12.95**	**188**	PN		**P**	**18 37 22.8**	**-2.2**
URZ				SN		**S**	**18 39 42.2**	**+1.3**
URZ	**Urewera**	**12.95**	**188**	P		**P**	**18 37 22.8**	**-2.2**
AFI	**Afiamalu**	**14.11**	**37**	P		**P**	**18 37 30.8**	**-6.3**
20nm,0.3s,baz=310,slow=2.6,SNR=20								
AFI				S		**S**	**18 39 51.3**	**-12**
6.8nm,0.3s,baz=45,slow=21,SNR=7.7								
AFI	**Afiamalu**	**14.11**	**37**	*e*P		**P**	**18 37 31.4**	**-5.7**
AFI				pmax	pmax			
comp=Z,148nm,0.5s								
AFI	**Afiamalu**	**14.11**	**37**	*e*Pn		**P**	**18 37 31.4**	**-5.7**
comp=Z,148nm,0.5s								
TSZ	**Takapari Road**	**14.88**	**191**	PN		**P**	**18 37 42.7**	**-1.9**
TSZ	**Takapari Road**	**14.88**	**191**	*e*P		**P**	**18 37 42.7**	**-1.9**
BFZ	**Birch Farm**	**15.44**	**189**	PN		**P**	**18 37 47.2**	**-3.0**
BFZ	**Birch Farm**	**15.44**	**189**	*e*P		**P**	**18 37 47.2**	**-3.0**
KIW	**Kapiti Island**	**15.85**	**193**	PN		**P**	**18 37 52.2**	**-2.0**
KIW	**Kapiti Island**	**15.85**	**193**	P		**P**	**18 37 52.2**	**-2.0**
TCW	**Tory Channel**	**16.32**	**194**	PN		**P**	**18 37 56.3**	**-2.6**
TCW	**Tory Channel**	**16.32**	**194**	P		**P**	**18 37 57.5**	**-1.4**
SNZO	**South Karori**	**16.32**	**193**	P		**P**	**18 37 58.3**	**-0.5**
comp=Z,120nm,0.7s								
QRZ	**Quartz Range**	**16.41**	**199**	PN		**P**	**18 38 01.0**	**+1.3**
QRZ	**Quartz Range**	**16.41**	**199**	*e*P		**P**	**18 38 01.3**	**+1.6**
NNZ	**Nelson**	**16.54**	**196**	*e*P		**P**	**18 37 59.7**	**-1.3**
TUWZ	**Tuamarina**	**16.60**	**195**	PN		**P**	**18 38 01.1**	**-0.5**
FUNA	**Funafuti**	**16.82**	**359**	*e*P		**P**	**18 38 01.8**	**-2.1**
THZ	**Tophouse**	**17.17**	**197**	PN		**P**	**18 38 07.7**	**+0.5**
THZ	**Tophouse**	**17.17**	**197**	*e*P		**P**	**18 38 07.7**	**+0.5**
DSZ	**Denniston Nort**	**17.46**	**199**	*e*P		**P**	**18 38 11.5**	**+1.4**
KHZ	**Kahutara**	**17.63**	**195**	PN		**P**	**18 38 10.7**	**-1.1**
KHZ	**Kahutara**	**17.63**	**195**	*e*P		**P**	**18 38 12.1**	**+0.4**
RPZ	**Rata Peaks**	**19.49**	**199**	P		**P**	**18 38 30.0**	**+0.5**
comp=Z,5.2nm,0.3s,baz=7.7,slow=2.2,SNR=19								
RPZ				S		**S**	**18 41 38.0**	**+0.4**
comp=Z,0.7nm,0.3s,baz=24,slow=22,SNR=3.5								
RAR	**Rarotonga**	**19.52**	**82**	P		**P**	**18 38 28.7**	**-1.3**
comp=Z,3.3nm,0.3s,baz=244,slow=9.5,SNR=11								
HNR	**Honiara**	**24.44**	**307**	P		**P**	**18 39 13.7**	**-1.4**
comp=Z,530nm,0.6s,baz=174,slow=1.6,SNR=23								
HNR	**Honiara**	**24.44**	**307**	*e*P		**P**	**18 39 13.1**	**-2.0**
ARMA	**Armidale**	**25.06**	**252**	*e*P		**P**	**18 39 22.7**	**+2.2**
CNB	**Canberra Magne**	**27.68**	**242**	*e*P		**P**	**18 39 45.5**	**+1.9**
comp=Z,9.9nm,0.5s,mb4.7								
TBI	**Tubuai**	**28.35**	**92**	*e*P		**P**	**18 39 48.4**	**-1.1**
comp=Z,122nm,0.8s,mb5.6								
PAE	**Paea**	**29.76**	**81**	*e*P		**P**	**18 40 00.0**	**-1.7**
comp=Z,137nm,1.1s,mb5.4								
PPT	**Papeete**	**29.80**	**81**	*e*P		**P**	**18 40 00.6**	**-1.4**
comp=Z,64nm,1.1s,mb5.1								
PPT	**Papeete**	**29.80**	**81**	P		**P**	**18 40 00.5**	**-1.5**
comp=Z,13nm,0.3s,mb4.9,baz=243,slow=12,SNR=5.8								
TVO	**Taravao**	**30.01**	**82**	*e*P		**P**	**18 40 02.3**	**-1.6**
comp=Z,122nm,0.7s,mb5.5								
TVO				*e*pP			18 41 25.1	
comp=Z,177nm,1.4s								
CTA	**Charters Tower**	**31.03**	**273**	*e*P		**P**	**18 40 13.6**	**+1.1**
comp=Z,196nm,0.6s,mb5.8								
CTA				*e*S		**S**	**18 44 41.6**	**0.0**
CTA				*e*SCP			18 45 50.2	
CTA				*e*			18 47 25.5	
CTA	**Charters Tower**	**31.03**	**273**	P		**P**	**18 40 13.7**	**+1.2**
comp=Z,225nm,0.7s,mb5.8,baz=97,slow=11,SNR=256								
CTA				S		**S**	**18 44 43.3**	**+1.7**
comp=Z,18nm,1.1s,baz=241,slow=18,SNR=8.2								
CTA				ScP			18 45 47.0	
comp=Z,27nm,1.1s,baz=59,slow=2.4,SNR=4.8								
CTA	**Charters Tower**	**31.03**	**273**	*e*P		**P**	**18 40 13.6**	**+1.1**
CTA				*e*S		**S**	**18 44 41.6**	**0.0**
CTA				*e*			18 47 25.5	
CTA				pmax	pmax			
comp=Z,196nm,0.6s								
CTAO	**Charters Tower**	**31.03**	**273**	*e*P		**P**	**18 40 11.5**	**-1.0**
CTAO				pmax	pmax			
comp=Z,245nm,0.8s,mb5.8								
CTAO	**Charters Tower**	**31.03**	**273**	*e*P		**P**	**18 40 11.5**	**-1.0**
comp=Z,246nm,0.8s,mb5.8								
MEH	**Mehetia**	**31.04**	**83**	*e*P		**P**	**18 40 11.0**	**-1.7**
comp=Z,83nm,1.2s,mb5.1								
TOO	**Toolangi**	**31.23**	**239**	*e*P		**P**	**18 40 15.9**	**+1.9**
comp=Z,15nm,0.7s,mb4.6								
TOO	**Toolangi**	**31.23**	**239**	*e*P		**P**	**18 40 15.9**	**+1.9**
TOO				pmax	pmax			
comp=Z,15nm,0.7s,mb4.6								
TAU	**Tasmania Unive**	**31.55**	**228**	*e*P		**P**	**18 40 16.5**	**-0.2**
TAU				pmax	pmax			
comp=Z,19nm,0.9s,mb4.6								
TAU	**Tasmania Unive**	**31.55**	**228**	*e*P		**P**	**18 40 16.5**	**-0.2**
comp=Z,19nm,0.9s,mb4.6								
STKA	**Stephens Creek**	**33.72**	**250**	*e*P		**P**	**18 40 36.6**	**+1.4**
comp=Z,14nm,0.4s,mb4.9								
STKA				*i* PCP		PcP	18 43 01.2	+0.7
STKA				*i* S		**S**	**18 45 21.5**	**-1.3**
STKA				*e*SCP			18 45 58.0	
STKA				*e*SCS		ScS	18 49 59.8	+2.1
STKA	**Stephens Creek**	**33.72**	**250**	P		**P**	**18 40 36.6**	**+1.5**
comp=Z,18nm,0.5s,mb4.9,baz=93,slow=9.1,SNR=65								
STKA				PcP		PcP	18 43 01.3	+0.8
comp=Z,16nm,0.7s,baz=131,slow=4.3,SNR=6.2								
STKA				ScP			18 45 56.8	
comp=Z,12nm,0.9s,baz=100,slow=3.2,SNR=6.0								
PMG	**Port Moresby**	**34.57**	**292**	P		**P**	**18 40 42.5**	**+0.2**
comp=Z,148nm,0.7s,mb5.6,baz=112,slow=5.6,SNR=63								
PMG				ScP			18 46 00.1	
comp=Z,36nm,0.9s,baz=69,slow=1.0,SNR=5.9								
PMG	**Port Moresby**	**34.57**	**292**	⇓*i*P		**P**	**18 40 42.5**	**+0.1**
PMG				*e*			18 42 23.1	
PMG				*e*			18 43 03.1	
PMG				pmax	pmax			
comp=Z,145nm,0.7s								
PMG	**Port Moresby**	**34.57**	**292**	⇓*i*P		**P**	**18 40 42.5**	**+0.1**
comp=Z,145nm,0.7s,mb5.6								
PMG				*e*PP		PP	18 42 23.1	+8.8
PMG				*e*PcP		PcP	18 43 03.1	-0.1
ASPA	**Alice Springs**	**41.33**	**262**	*e*P		**P**	**18 41 38.1**	**+0.7**
ASPA				*e*S		**S**	**18 47 14.7**	**-0.5**
TAOE	**Nuku Hiva Isla**	**41.76**	**74**	*e*P		**P**	**18 41 40.6**	**-0.5**
comp=Z,1μm,0.9s								
WB2	**Warramunga Arr**	**41.83**	**268**	⇓*i*P		**P**	**18 41 41.3**	**-0.3**
WB2				*e*SCP			18 46 30.2	
WB2				*e*S		**S**	**18 47 20.6**	**-1.8**
WRAB	**Tennant Creek**	**41.83**	**268**	⇓*i*P		**P**	**18 41 41.5**	**-0.1**
WRAB				pmax	pmax			
comp=Z,98nm,0.8s,mb5.4								
WRAB	**Tennant Creek**	**41.83**	**268**	⇓*i*P		**P**	**18 41 41.5**	**-0.1**
comp=Z,98nm,0.8s,mb5.4								
WRA	**Warramunga Arr**	**41.84**	**268**	P		**P**	**18 41 41.6**	**0.0**
comp=Z,58nm,0.7s,mb5.2,baz=103,slow=8.1,SNR=197								
WRA				pP		pP	18 43 12.7	-3.8
comp=Z,4.2nm,0.6s,baz=102,slow=7.7,SNR=1.4								
WRA				PcP		PcP	18 43 26.5	+0.4
comp=Z,10nm,0.9s,baz=99,slow=4.5,SNR=6.2								
WRA				ScP			18 46 28.6	
comp=Z,23nm,1.0s,baz=106,slow=4.2,SNR=15								
WRA				S		**S**	**18 47 20.8**	**-1.8**
comp=Z,28nm,1.1s,baz=102,slow=14,SNR=20								
WRA	**Warramunga Arr**	**41.84**	**268**	P		**P**	**18 41 41.6**	**0.0**
WRA				*PP		pP	18 43 12.7	-3.8
WRA							18 43 26.5	
WRA				S		**S**	**18 47 20.8**	**-1.8**
FORT	**Forrest**	**45.34**	**251**	*e*P		**P**	**18 42 08.5**	**-0.4**
comp=Z,55nm,0.5s,mb5.3								
KAKA	**Kakadu**	**45.98**	**277**	*e*P		Px	18 42 35.8	
comp=Z,47nm,0.4s								
KAKA				*e*SCP			18 47 09.5	
FITZ	**Fitzroy Crossi**	**50.24**	**267**	*e*P		**P**	**18 42 46.0**	**-0.1**
comp=Z,53nm,0.7s,mb5.1								
FITZ				*e*S		**S**	**18 49 20.4**	**+1.1**
GUMO	**Guam**	**51.39**	**315**	P		**P**	**18 42 53.2**	**-1.4**
comp=Z,132nm,0.7s,mb5.4,baz=166,slow=7.2,SNR=4.4								
GUMO	**Guam**	**51.39**	**315**	*e*P		**P**	**18 42 51.8**	**-2.7**
GUMO				*e*pP		pP	18 44 32.4	-1.9
HKL	**Haleakala**	**51.58**	**29**	*e*P		**P**	**18 42 54.7**	**-1.2**
VNDA	**Vanda**	**52.82**	**185**	P		**P**	**18 43 05.0**	**+0.8**
comp=Z,4.8nm,0.7s,baz=1.0,slow=7.9,SNR=27								
VNDA				PcP		PcP	18 44 05.2	+0.3
comp=Z,9.8nm,0.9s,baz=349,slow=3.5,SNR=8.4								
VNDA	**Vanda**	**52.82**	**185**	*e*P		**P**	**18 43 03.9**	**-0.2**
VNDA				*e*			18 44 04.7	
VNDA				pmax	pmax			
comp=Z,20nm,1.4s								
VNDA	**Vanda**	**52.82**	**185**	*e*P		**P**	**18 43 03.9**	**-0.2**
comp=Z,20nm,1.4s,mb4.2								
VNDA				*e*PcP		PcP	18 44 04.7	-0.3
KLBR	**Kellerberrin**	**53.96**	**248**	*e*P		**P**	**18 43 12.1**	**-0.7**
comp=Z,15nm,0.5s,mb4.6								
NWAO	**Narrogin (SRO)**	**54.17**	**247**	P		**P**	**18 43 13.2**	**-1.0**
comp=Z,7.0nm,0.9s,mb4.0,baz=141,slow=5.1,SNR=5.9								
NWAO	**Narrogin (SRO)**	**54.17**	**247**	*e*P		**P**	**18 43 12.9**	**-1.4**
MBWA	**Marble Bar**	**54.64**	**261**	*e*P		**P**	**18 43 16.5**	**-1.3**
comp=Z,26nm,1.0s,mb4.4								
CASY	**Casey**	**58.53**	**206**	*e*P		**P**	**18 43 43.4**	**-0.4**
RPN	**Rapa Nui**	**63.04**	**109**	P		**P**	**18 44 14.2**	**+0.3**
comp=Z,75nm,0.8s,mb5.2,baz=272,slow=3.5,SNR=10								
RPN	**Rapa Nui**	**63.04**	**109**	P		**P**	**18 44 13.3**	**-0.6**
comp=Z,98nm,0.9s,mb5.2								
QSPA	**South Pole Qui**	**64.66**	**180**	⇑*i*P		**P**	**18 44 24.7**	**+1.3**
comp=Z,90nm,0.8s,mb5.2								
QSPA				*e*PcP		PcP	18 44 52.0	-0.2
QSPA				*e*pP		pP	18 46 14.3	+4.0
MIR	**Mirnyy**	**65.56**	**206**	*c*P		**P**	**18 44 28.8**	**-0.4**
MIR				pmax	pmax			
comp=Z,65nm,1.2s,mb5.0								
JHJ	**Hachijo jima 2**	**69.40**	**325**	P		**P**	**18 44 53.0**	**-0.3**
comp=Z,122nm,0.6s,mb5.6,baz=60,slow=22,SNR=5.8								
JOW	**Kunigami**	**71.66**	**313**	P		**P**	**18 45 05.9**	**-0.7**
comp=Z,17nm,0.4s,mb4.8,baz=178,slow=6.4,SNR=18								
KSM	**Kuching**	**71.90**	**281**	*e*P		**P**	**18 45 07.9**	**-0.4**
MJAR	**Matsushiro Arr**	**72.89**	**326**	P		**P**	**18 45 12.8**	**-0.7**
comp=Z,36nm,0.8s,mb4.9,baz=159,slow=5.5,SNR=53								
MJAR	**Matsushiro Arr**	**72.89**	**326**	P		**P**	**18 45 12.8**	**-0.7**
MAJO	**Matsushiro**	**72.89**	**326**	*e*P		**P**	**18 45 12.7**	**-0.9**
MAT	**Matsushiro**	**72.89**	**326**	P		**P**	**18 45 12.5**	**-1.1**
MAT				S		S	18 53 55.2	-2.7
MAT	**Matsushiro**	**72.89**	**326**	*e*P		**P**	**18 45 13.0**	**-0.6**
MAT				*e*S		S	18 53 53.0	-4.9
MAT				pmax	pmax			
comp=Z,34nm,0.8s,mb4.8								
MAT	**Matsushiro**	**72.89**	**326**	*e*P		**P**	**18 45 13.0**	**-0.6**
comp=Z,34nm,0.8s,mb4.8								
MAT				*e*S		S	18 53 53.0	-4.9
JNU	**Nakatsue**	**74.35**	**319**	P		**P**	**18 45 20.2**	**-1.7**
comp=Z,15nm,0.6s,mb4.6,baz=27,slow=3.4,SNR=8.4								
MAW	**Mawson**	**76.15**	**201**	⇑*i*P		**P**	**18 45 32.2**	**+1.1**
comp=Z,27nm,0.6s,mb4.8								
MAW	**Mawson**	**76.15**	**201**	P		**P**	**18 45 32.3**	**+1.2**
comp=Z,32nm,0.6s,mb5.0,baz=127,slow=7.1,SNR=83								
MAW	**Mawson**	**76.15**	**201**	⇑*i*P		**P**	**18 45 32.2**	**+1.1**
MAW				pmax	pmax			
comp=Z,27nm,0.6s								
PMSA	**Palmer Station**	**77.70**	**157**	*e*P		**P**	**18 45 39.5**	**0.0**
comp=Z,42nm,0.8s,mb4.8								
FX1	**Attu Island--F**	**78.17**	**356**	P		**P**	**18 45 40.3**	**-2.0**
comp=Z,65nm,0.7s,mb5.1,baz=89,slow=22,SNR=8.0								
KS15	**Wonju Array Si**	**79.12**	**321**	*e*P		**P**	**18 45 46.2**	**-1.5**
SSE	**Sheshan**	**79.14**	**312**	P		**P**	**18 45 47.8**	**-0.1**
SSE				PCP		PcP	18 45 53.8	-1.0
SSE				S		S	18 55 06.9	+2.3
SSE				SCS		ScS	18 55 24.0	+3.1
SSE				XS			18 58 20.0	
SSE				SS		SS	19 00 27.4	-1.1
SSE				AMB		AMB		
comp=Z,20nm,0.8s,mb4.5								
YSS	**Yuzh-Sakhalins**	**79.31**	**335**	⇑*i*P		**P**	**18 45 49.0**	**+0.5**
YSS				*e*S		S	18 55 10.0	+4.0
YSS				smax				
comp=N,1μm,7.0s								
YSS	**Yuzh-Sakhalins**	**79.31**	**335**	*e*P		**P**	**18 45 48.4**	**-0.1**
comp=N,30nm,0.6s,mb4.8								
USHA	**Ushuaia**	**81.29**	**147**	P		**P**	**18 45 59.8**	**+1.3**
comp=N,18nm,0.9s,mb4.5,baz=248,slow=5.4,SNR=6.2								
NJ2	**Nanjing**	**81.30**	**312**	*e*P		**P**	**18 45 59.1**	**0.0**
NJ2				AP		pP	18 47 50.8	-1.4
NJ2				XP		sP	18 48 41.6	-2.8
NJ2				SKS		SKS	18 55 26.0	+0.3
NJ2				S		S	18 55 28.0	+1.5
NJ2				XS			18 58 42.0	
NJ2				AMB		AMB		
comp=Z,10.0nm,0.6s,mb4.4								
NJ2				AMB		AMB		
comp=Z,120nm,6.0s								
SYO	**Syowa Base**	**81.42**	**194**	⇑P		**P**	**18 45 59.2**	**+0.3**
SYO	**Syowa Base**	**81.42**	**194**	⇑PcP		PcP	18 46 02.9	-0.9
SYO	**Syowa Base**	**81.42**	**194**	⇑pP		pP	18 47 49.6	-2.5
SYO	**Syowa Base**	**81.42**	**194**	⇑*i*P		**P**	**18 45 59.2**	**+0.3**
SYO				⇑*e*PcP		PcP	18 46 02.9	-0.9
SYO				⇑*e*pP		pP	18 47 49.6	-2.5
PSI	**Prapat**	**82.66**	**277**	P		**P**	**18 46 05.5**	**-0.8**
comp=Z,13nm,0.8s,mb4.5,baz=123,slow=2.4,SNR=11								
SNAA	**Sanae**	**83.15**	**179**	⇑*i*P		**P**	**18 46 07.8**	**+0.2**
SNAA				*e**PP		pP	18 48 02.8	+1.5
SNAA				pmax	pmax			
comp=Z,30nm,1.0s								
SNAA	**Sanae**	**83.15**	**179**	⇑*i*P		**P**	**18 46 07.8**	**+0.2**
comp=Z,30nm,1.0s,mb4.8								
SNAA				*e*pP		pP	18 48 02.8	+1.5
SAO	**San Andreas Ge**	**83.19**	**44**	*e*P		**P**	**18 46 08.4**	**-0.1**
comp=Z,36nm,0.9s,mb4.9								
LRV	**Little Rabbit**	**83.25**	**44**	⇓*i*P		**P**	**18 46 09.9**	**+1.1**
MDJ	**Mudanjiang**	**83.27**	**327**	P		**P**	**18 46 09.8**	**+1.1**
MDJ				AP		pP	18 48 02.6	+0.1
MDJ				XP		sP	18 48 56.1	+1.7
MDJ				XS			18 59 07.9	
MDJ				AMB		AMB		
comp=Z,20nm,1.0s,mb4.6								
MDJ				AMB		AMB		
comp=Z,80nm,4.8s								
HOPS	**Hopland**	**83.61**	**41**	*e*P		**P**	**18 46 10.8**	**+0.3**
comp=Z,347nm,1.8s,mb5.6								
HABR	**Khabarovsk**	**83.62**	**332**	⇓*i*P		**P**	**18 46 11.2**	**+0.8**
HABR				pmax	pmax			
comp=Z,34nm,1.5s,mb4.7								
MAIT	**Maitri**	**83.67**	**184**	⇑*i*P		**P**	**18 46 10.8**	**+0.7**
NVL	**N'lazarevskaya**	**83.67**	**184**	⇓*i*P		**P**	**18 46 10.1**	**0.0**
NVL				pmax	pmax			
comp=Z,4.0nm,0.9s,mb4.0								
BAR	**Barrett**	**83.89**	**50**	*e*P		**P**	**18 46 12.3**	**+0.2**
KHMM	**Horse Mountain**	**84.43**	**40**	*e*P		**P**	**18 46 14.8**	**+0.3**
PFO	**Pinyon Flat Ob**	**84.58**	**49**	*e*P		**P**	**18 46 14.9**	**-0.5**
comp=Z,66nm,1.1s,mb5.1								
CMB	**Columbia Colle**	**84.64**	**43**	⇑*i*P		**P**	**18 46 15.7**	**+0.1**
comp=Z,55nm,0.9s,mb5.1								
CN2	**Changchun**	**84.83**	**324**	*e*P		**P**	**18 46 17.1**	**+0.7**
CN2				*e*AP		pP	18 48 06.4	-4.2
CN2				*e*S		S	18 56 01.9	+1.3
CN2				AMB		AMB		
comp=Z,70nm,1.0s,mb5.2								
CN2				AMB		AMB		
comp=Z,200nm,4.0s								
WDC	**Whiskeytown Da**	**84.94**	**40**	*e*P		**P**	**18 46 17.2**	**+0.2**
comp=Z,26nm,0.8s,mb4.8								
DAC	**Darwin (Calif)**	**85.37**	**46**	*e*P		**P**	**18 46 19.6**	**+0.4**
comp=Z,14nm,0.8s,mb4.5								
DAC				*e*PP		PP	18 49 45.1	-1.9
YBH	**Yreka Blue Hor**	**85.57**	**39**	P		**P**	**18 46 20.9**	**+0.8**
comp=Z,26nm,0.7s,mb4.9,baz=172,slow=2.7,SNR=34								
YBH	**Yreka Blue Hor**	**85.57**	**39**	*e*P		**P**	**18 46 20.8**	**+0.8**
comp=Z,30nm,0.8s,mb5.0								
HUMO	**Hull Mountain**	**86.00**	**39**	*e*P		**P**	**18 46 21.9**	**-0.1**
comp=Z,195nm,1.8s,mb5.4								
KDAK	**Kodiak Island**	**86.14**	**

CD2 AP pP 18 48 46.5 +2.7
CD2 XP sP 18 49 34.1 -1.0
CD2 SKS SKS 18 56 31.8 +1.5
CD2 S S 18 57 06.8 +5.4
CD2 XS 19 00 29.1
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
SPUT South Promonto 91.53 44⇑ *iP* **P 18 46 48.3 +0.5**
HLID Hailey 91.56 42 *eP* **P 18 46 48.5 +0.5**
comp=Z,8.4nm,0.6s,mb5.0
HVU Hansel Valley 91.58 44 *eP* **P 18 46 48.6 +0.6**
comp=Z,44nm,0.7s,mb5.6
HVU *e*PP PP 18 50 35.2 -1.6
SRU San Rafael 91.60 47⇑ *iP* **P 18 46 48.7 +0.5**
comp=Z,62nm,0.8s,mb5.7
LTX Lajitas 91.65 58⇑ *iP* **P 18 46 49.5 +0.8**
comp=Z,33nm,0.8s,mb5.4
TXAR Lajitas Array 91.65 58 P **P 18 46 49.5 +0.8**
comp=Z,29nm,0.8s,mb5.4,baz=213,slow=6.4,SNR=227
TXAR PKKPbc 19 04 04.0
comp=Z,1.2nm,0.7s,baz=96,slow=3.6,SNR=8.9
DAU Daniels Canyon 91.81 46 *eP* **P 18 46 49.8 +0.6**
TCUT Toone Canyon 92.08 45 *eP* **P 18 46 50.8 +0.4**
PV10 Paradox Valley 92.21 48 *eP* **P 18 46 51.0 -0.1**
HWUT Hardware Ranch 92.25 44⇑ *iP* **P 18 46 51.0 -0.1**
comp=Z,19nm,0.6s,mb5.3
ANMO Albuquerque 92.28 52⇑ *iP* **P 18 46 50.8 -0.7**
ANMO Albuquerque 92.28 52⇑ *iP* **P 18 46 51.4 -0.1**
comp=Z,14nm,0.8s,mb5.1
PV01 Paradox Valley 92.40 49⇑ *iP* **P 18 46 52.0 0.0**
NEW Newport 92.71 37 P **P 18 46 52.7 -0.5**
comp=Z,6.8nm,0.7s,mb4.8,baz=218,slow=3.3,SNR=11
NEW Newport 92.71 37 P **P 18 46 52.7 -0.5**
MCMT McKenzie Canyo 93.20 41⇑ *iP* **P 18 46 55.9 +0.4**
DLBC Dease Lake 93.48 24 P **P 18 46 56.8 +0.4**
comp=Z,5.3nm,0.8s,mb4.6,baz=212,slow=8.4,SNR=6.9
COLA College 93.51 13⇑ *iP* **P 18 46 54.3 -2.1**
COLA College 93.51 13 *eP* **P 18 46 52.8 -3.6**
comp=Z,14nm,0.9s,mb5.1
COLA *e*pP pP 18 48 53.4 +1.0
REDW Red Top Meadow 93.62 43 *eP* **P 18 46 57.8 +0.3**
comp=Z,8.1nm,0.8s,mb4.9
ILAR Eielson Array 93.63 14 P **P 18 46 55.5 -1.4**
comp=Z,6.9nm,0.7s,mb4.9,baz=226,slow=5.2,SNR=64
ILAR pP pP 18 48 48.5 -4.3
comp=Z,2.3nm,1.1s,baz=203,slow=5.1,SNR=2.7
ILAR PKiKP 18 51 37.4
comp=Z,0.9nm,0.7s,baz=225,slow=2.7,SNR=4.3
ILAR PKKPbc 19 04 01.7
comp=Z,0.4nm,0.8s,baz=343,slow=4.5,SNR=4.3
TPAW Teton Pass 93.63 43 *eP* **P 18 46 57.8 +0.3**
comp=Z,7.5nm,0.7s,mb4.9
DLMT Dillon 93.64 41 *eP* **P 18 46 57.6 +0.2**
comp=Z,13nm,0.9s,mb5.1
BILL Bilibino 93.70 355⇑ *iP* **P 18 46 56.8 -0.4**
BILL pmax pmax
comp=Z,11nm,0.8s,mb5.0
BILL Bilibino 93.70 355⇑ *iP* **P 18 46 56.8 -0.4**
comp=Z,11nm,0.8s,mb5.0
SNOW Snow King Moun 93.74 43 *eP* **P 18 46 58.2 +0.3**
comp=Z,20nm,0.8s,mb5.3
IMW Indian Meadow 93.85 43 *eP* **P 18 46 58.3 -0.2**
comp=Z,19nm,0.9s,mb5.2
LOHW Long Hollow 93.91 43 *eP* **P 18 46 58.9 +0.1**
comp=Z,7.4nm,0.6s,mb5.0
SMCO Snowmass 94.00 48⇑ *iP* **P 18 46 59.8 +0.5**
comp=Z,20nm,0.7s,mb5.4
QLMT Earthquake Lak 94.05 42 *eP* **P 18 46 59.6 +0.2**
PDAR Pinedale Array 94.12 44 P **P 18 46 59.4 -0.4**
comp=Z,6.8nm,0.7s,mb4.9,baz=210,slow=3.4,SNR=35
PDAR PP PP 18 50 48.5 -8.2
comp=Z,2.4nm,1.1s,baz=256,slow=6.1,SNR=6.6
PDAR PKKPbc 19 03 59.4
comp=Z,0.4nm,0.7s,baz=96,slow=3.0,SNR=3.7
YFT Old Faithful 94.21 42 *eP* **P 18 47 00.4 +0.3**
YMR Madison River 94.25 42 *eP* **P 18 46 59.3 -1.0**
comp=Z,5.8nm,0.7s,mb4.8
SDCO Great Sand Dun 94.31 50 *eP* **P 18 47 00.4 -0.4**
comp=Z,11nm,0.7s,mb5.1
LKWY Lake 94.53 42 *eP* **P 18 47 03.5 +2.0**
comp=Z,9.8nm,0.6s,mb5.1
TRQA Tornquist 94.53 136 *eP* **P 18 47 01.6 -0.1**
TRQA *e*pP pP 18 49 00.6 +2.9
DAWY Dawson 94.83 17 *eP* **P 18 47 02.0 -0.4**
ISCO Idaho Springs 95.23 48 *eP* **P 18 47 05.2 +0.3**
comp=Z,9.5nm,0.7s,mb5.0
YAK Yakutsk 95.82 339 *i* P **P 18 47 05.5 -1.4**
YAK pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
PHWY Pilot Hill 96.05 47 *eP* **P 18 47 08.7 +0.2**
ULN Ulaanbaatar 97.57 320 *eP* **P 18 47 14.9 -0.4**
SONM Songino Array 97.94 319 P **P 18 47 16.3 -0.6**
comp=Z,1.6nm,0.7s,mb4.5,baz=137,slow=4.2,SNR=9.0
SONM pP pP 18 49 11.6 -1.4
comp=Z,0.3nm,0.8s,baz=112,slow=4.4,SNR=1.2
SONM PKKPbc 19 03 48.3
comp=Z,1.7nm,0.8s,baz=282,slow=2.9,SNR=9.7
SONM PKKPab 19 04 19.6
comp=Z,1.5nm,0.9s,baz=296,slow=5.2,SNR=6.7
LAO LASA Array 98.13 42 *eP* **P 18 47 18.6 +0.8**
comp=Z,15nm,1.0s,mb5.3
GTA Gaotai 98.29 310 P **P 18 47 19.9 +1.2**
RSSD Black Hills 98.30 45 *eP* **P 18 47 18.1 -0.5**
comp=Z,5.2nm,0.7s,mb5.0
INK Inuvik 99.63 16 *e*Pdif **P 18 47 22.3 -1.7**
comp=Z,5.6nm,0.9s,mb5.0
YKA Yellowknife Ar 101.95 26 P P 18 47 33.5 -0.8
ULM Lac du Bonnet 105.87 42 PKiKP 18 51 58.8
comp=Z,1.8nm,0.6s,baz=249,slow=5.9,SNR=4.4
MKAR Makanchi Array 112.82 312 Pdiff Pdif 18 48 25.7 +3.0
comp=Z,1.0nm,0.6s,baz=90,slow=6.1,SNR=11
MKAR PKiKP 18 52 13.5
comp=Z,6.0nm,0.8s,baz=80,slow=2.0,SNR=26
MKAR PKKPbc 19 03 04.0
comp=Z,5.5nm,0.8s,baz=281,slow=4.0,SNR=33
MKAR PKKPab 19 03 13.2
comp=Z,2.0nm,0.8s,baz=276,slow=5.5,SNR=6.6
MKAR Makanchi Array 112.82 312 P Pdif 18 48 25.7 +3.0
MKAR 18 52 13.5
MKAR 19 03 13.3
MKAR Makanchi Array 112.82 312 Pdif Pdif 18 48 25.7 +3.0
MKAR PKPdf PKPdf 18 52 13.5 +0.3
MKAR PKKPbc 19 03 04.0
MKAR PKKPab 19 03 13.2
RES Resolute Bay 113.17 17 *e*PKPdf PKPdf 18 52 12.7 -0.7
NVS Novosibirsk 113.90 321 *e*PKIKP PKPdf 18 52 14.1 -1.1
NVS *e*S SKS 18 58 11.1 -2.8
NVS pmax pmax
comp=Z,9.0nm,1.0s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,2.0nm,0.8s
NVS smax
comp=N,11nm,1.4s
NVS smax
comp=E,21nm,2.0s
KSH Kashi 115.71 303 *e*PKP PKPdf 18 52 21.5 +2.5
KURK Kurchatov 115.96 316 *e*PKIKP PKPdf 18 52 19.1 -0.1
KURK *e* 18 55 07.7
TKM2 Tokmak 2 116.68 307 P PKPdf 18 52 21.4 +0.6
SNR=7.8
TKM2 Tokmak 2 116.68 307 PKIKP PKPdf 18 52 20.6 -0.3
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
KZA Kyzart 116.77 306 P PKPdf 18 52 23.1 +2.1
SNR=9.2
KBK Karagaybulak 117.10 307 P PKPdf 18 52 22.8 +1.1
SNR=10
CHMS Chumysh 117.30 307 P PKPdf 18 52 22.7 +0.6
SNR=10.0
UCH Uchtor 117.34 306 P PKPdf 18 52 24.0 +1.9
SNR=15
AAK Ala-Archa 117.42 307 P PKPdf 18 52 23.3 +1.0
SNR=6.6
AAK Ala-Archa 117.42 307 *e*PKPdf PKPdf 18 52 22.1 -0.1
AAK *e*SKPdf 18 55 10.7
USP Ospenovka 117.53 307 P PKPdf 18 52 23.5 +1.0
SNR=7.9
AML Almayashu 117.92 306 P PKPdf 18 52 24.9 +1.6
SNR=24
EKS2 Erkin-Say 117.95 306 P PKPdf 18 52 24.4 +1.1
SNR=10
BDFB Brasilia 118.32 126 PKP PKPdf 18 52 25.6 +0.9
comp=Z,6.2nm,0.8s,baz=251,slow=0.4,SNR=6.8
SJG San Juan 119.15 83 *e*PKPdf PKPdf 18 52 25.9 -0.3
KKAR Karatay Array 120.39 307 *i* PKIKP PKPdf 18 52 28.2 +0.2
KKAR pmax pmax
comp=Z,18nm,0.8s
CHKZ Chkalovo 121.14 319 *e*PKIKP PKPdf 18 52 28.6 -0.6
CHKZ *e* 18 55 15.6
BVA0 Borovoye Array 121.25 318 *i* PKIKP PKPdf 18 52 29.7 +0.2
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 121.25 318 PKP PKPdf 18 52 29.9 +0.4
comp=Z,17nm,0.6s,baz=132,slow=1.5,SNR=129
BVAR PKKPbc 19 02 35.0
comp=Z,1.8nm,0.7s,baz=285,slow=3.5,SNR=11
BRVK Borovoye 121.32 318 *e*PKIKP PKPdf 18 52 29.9 +0.3
BRVK *e* 18 55 17.5
ZRNK Zerenda 122.09 318 *e*PKPdf PKPdf 18 52 31.2 +0.1
ZRNK *ep*PKPdf 18 54 36.6
SCHQ Schefferville 123.96 40 PKP PKPdf 18 52 34.0 -0.6
comp=Z,12nm,0.9s,baz=340,slow=2.4,SNR=9.6
SCHQ Schefferville 123.96 40 *e*PKPdf PKPdf 18 52 34.0 -0.6
ARU Arti 127.81 323 *i* PKIKP PKPdf 18 52 42.2 +0.3
ARU *e* 18 54 50.7
ARU Arti 127.81 323 *e*PKPdf PKPdf 18 52 42.5 +0.6
DAG Danmarks Havn 127.84 5⇑ *iP* PKPdf 18 52 41.1 -0.5
comp=Z,8.2nm,0.8s
AB31 Akbulak array 127.92 314 *i* PKIKP PKPdf 18 52 42.7 +0.3
AB31 pmax pmax
comp=Z,6.0nm,0.8s
SFJD Kangerlussuaq 128.37 23 PKP PKPdf 18 52 42.1 -0.7
comp=Z,16nm,0.6s,baz=293,slow=3.7,SNR=11
SFJD Kangerlussuaq 128.37 23 PKP PKPdf 18 52 42.1 -0.7
SUMG Summit 128.47 14 *e*PKPdf PKPdf 18 52 43.5 +0.6
AKTO Aktyubinsk 129.05 315 PKP PKPdf 18 52 44.7 +0.2
comp=Z,12nm,0.6s,baz=82,slow=3.6,SNR=48
AKTO Aktyubinsk 129.05 315 PKIKP PKPdf 18 52 44.8 +0.2
AKTO pmax pmax
comp=Z,2.0nm,0.7s
LSZ Lusaka 130.80 218 *e*PKIKP PKPdf 18 52 49.8 +1.0
TSUM Tsumeb 132.26 203 *e*PKPdf PKPdf 18 52 51.9 +0.4
LVZ Lovozero 132.45 343 *i* PKIKP PKPdf 18 52 51.7 +1.2
LVZ pmax pmax
comp=Z,67nm,1.5s
KEV Kevo 132.80 347 *ep* PKPdf 18 52 42.8 -8.3
KEV Kevo 132.80 347 *ep* 18 55 31.9
comp=Z,0.8nm,0.4s
APA Apatity 133.02 343⇑ *i* PKIKP PKPdf 18 52 52.0 +0.4
APA *i* 18 55 32.5
APA pmax pmax
comp=Z,16nm,0.7s
ARCES ARCESS Array B 133.28 348 PKhKP 18 52 39.0
comp=Z,2.4nm,0.5s,baz=36,slow=1.7,SNR=6.8
ARCES PKP PKPdf 18 52 52.4 +0.4
comp=Z,24nm,0.7s,baz=42,slow=0.8,SNR=34
ARCES SKPbc 18 55 32.5
comp=Z,18nm,0.7s,baz=28,slow=3.3,SNR=19
ARCES ARCESS Array B 133.28 348 PKIKP PKPdf 18 52 52.4 +0.4
ARCES 18 55 32.6
TRO Tromso 134.31 351 *eP* PKPdf 18 52 52.9 -1.0
KMBO Kilima Mbogo 134.92 240 PKP PKPdf 18 52 59.0 +2.4
comp=Z,8.6nm,1.0s,baz=12,slow=1.3,SNR=9.5
KMBO SKPbc 18 55 41.5
comp=Z,6.3nm,0.8s,baz=101,slow=2.5,SNR=10
KMBO Kilima Mbogo 134.92 240 PKP PKPdf 18 52 59.0 +2.4
KMBO SKPbc 18 55 41.5
KLMR Klimovskoe 135.33 333 *i* PKIKP PKPdf 18 52 51.9 -4.1
KLMR *e* 18 55 40.6
KLMR pmax pmax
comp=Z,20nm,1.0s
JOF Joensuu 136.99 339 *ep* PKPdf 18 52 50.5 -8.4
JOF Joensuu 136.99 339 *ep* 18 55 42.5
comp=Z,0.8nm,0.4s
MOR8 Moi Rana 138.17 351 *eP* PKPdf 18 52 53.8 -7.3
KAF Kangasniemi 139.14 341 *ep* PKPdf 18 52 55.1 -7.8
KAF Kangasniemi 139.14 341 *ep* 18 55 49.3
comp=Z,1.0nm,0.4s
FINES FINESS Array B 139.73 341 PKhKP 18 52 56.7
comp=Z,6.2nm,0.5s,baz=54,slow=2.6,SNR=47
FINES SKPbc 18 55 53.0
comp=Z,27nm,0.9s,baz=63,slow=4.3,SNR=28
OBN Obninsk 139.81 328 *i* PKIKP PKPdf 18 53 04.0 -0.3
OBN *e* 18 55 54.4
OBN *e* 18 56 04.8
OBN pmax pmax
comp=Z,11nm,0.7s
OBN MLR MLR
comp=Z,100nm,15.0s
NSS Namsos 140.07 352 *eP* PKPdf 18 52 56.8 -7.7
KIV Kislovodsk 140.47 309⇑ *i* PKIKP PKPdf 18 53 06.6 +0.8
BLJS Baljurashi 140.84 271 P PKPdf 18 53 05.5 -1.6
LTHS Al Lith 142.03 271 P PKPdf 18 53 08.7 -0.4
MOL Molde 142.48 354 *eP* PKPdf 18 53 09.3 +0.7
BEST Besiri 142.60 300 *i* P PKPdf 18 53 05.9 -3.7
DOMB Dombas 142.83 353 *eP* PKPdf 18 53 07.1 -2.2
MARD Mardin 143.06 299 *i* P PKPbc 18 53 07.9 -1.1
NB2 NORSAR Subarra143.51 350 PKPabc PKPdf 18 53 09.6 -0.8
comp=Z,145nm,0.8s,baz=16,slow=3.1
NB2 NORSAR Subarra143.51 350 PKPa 18 53 09.6
baz=16,slow=3.2
NOA NORSAR Array B143.51 350 PKP PKPdf 18 53 09.4 -1.0
comp=Z,120nm,0.8s,baz=22,slow=3.8,SNR=406
NAO01 NORSAR Array S 143.74 351 *e*PKPbc PKPbc 18 53 10.5 +0.2
ANN Anapa 143.84 312 *i* PKIKP PKPdf 18 53 11.0 -0.5
ANN pmax pmax
comp=Z,261μm,1.0s
IZAR Zarasai 143.97 334 *i* P PKPbc 18 53 11.8 +0.7
IZAR AMb AMB 18 53 12.6
comp=Z,4μm,0.6s
IDID Didziasalis 144.08 333 *i* P PKPbc 18 53 12.1 +0.7
IDID AMb AMB 18 53 13.0
comp=Z,3μm,0.7s
ISAL Salakas 144.14 334 *eP* PKPbc 18 53 12.0 +0.4
KBRS Khaybar 144.20 279 P PKPdf 18 53 15.6 +2.9
SUE Sulen 144.21 356 *eP* PKPdf 18 53 11.9 +0.3
SUE AMb AMB 18 53 12.8
comp=Z,183nm,0.6s
IIGN Ignalina 144.26 334 *eP* PKPdf 18 53 12.8 +1.0
IIGN AMb AMB 18 53 13.6
comp=Z,7μm,0.5s
ELZG Elazig 144.30 301 *i* P PKPdf 18 53 13.6 +1.1
GRSN GIRESUNGRSN 144.35 305 *i* P PKPdf 18 53 10.7 -1.8
ASK Askoy 144.74 355 *eP* PKPdf 18 53 13.6 +1.0
MALT Malatya 144.76 301 ⇓PKIKP PKPdf 18 53 16.1 +2.7
MALT Malatya 144.76 301 *e*PKPab PKPab 18 53 16.2 -0.9
EGD Espegrend 144.95 355 *eP* PKPdf 18 53 14.1 +1.2
KONO Kongsberg 145.08 351 *eP* PKPdf 18 53 14.1 +0.9
KONO Kongsberg 145.08 351⇑ *i* PKIKP PKPdf 18 53 13.4 +0.2
YNBS Yanbu' al Bahr 145.11 277 P PKPdf 18 53 17.1 +2.7
ODD1 Odda 145.18 354 *eP* PKPdf 18 53 14.0 +0.7
ODD1 AMb AMB 18 53 15.8
comp=Z,142nm,1.0s
BLS5 Blasjo 145.68 354 *eP* PKPdf 18 53 17.3 +3.0
BLS5 AMb AMB 18 53 18.1
comp=Z,44nm,0.9s
AKASG Malin Array Be 145.97 326 PKPbc PKPbc 18 53 15.5 -1.1
comp=Z,45nm,0.7s,baz=41,slow=3.9,SNR=156
AKASG SKPbc 18 56 08.5
comp=Z,4.3nm,0.6s,baz=47,slow=3.1,SNR=4.8
SIM Simferopol' 145.99 314 *i* PKP2 PKPab 18 53 18.5 -3.0
SIM pmax pmax
comp=Z,68nm,0.9s
SUW Suwalki 146.44 335 *e*PKP PKPdf 18 53 18.9 +3.3
SUW Suwalki 146.44 335 *e*PKP PKPdf 18 53 18.9 +3.2
SNART Snartemo 146.66 353 *eP* PKPdf 18 53 19.2 +3.3
SNART AMb AMB 18 53 21.3
comp=Z,72nm,1.3s
TBKS Tabuk 146.87 283 P PKPdf 18 53 22.5 +5.4
CDAG Cicekdag 147.56 305 *i* P PKPdf 18 53 21.3 +3.4
MKRJ Makawir 147.72 289 P PKPdf 18 53 24.3 +5.9
MMLI Mount Malkishu 147.87 291 P PKPdf 18 53 25.2 +6.5
MMLI Mount Malkishu 147.87 291 P PKPdf 18 53 25.5 +6.8
MZDA Masada 147.97 289 P PKPdf 18 53 25.2 +6.4
AYUS 'Aynunah 148.00 283 P PKPdf 18 53 25.2 +6.3
HNTI Hanita 148.04 292 P PKPdf 18 53 22.3 +3.4
BR131 Keskin Array S 148.08 305 *e*PKPdf PKPdf 18 53 19.6 +0.8
BR131 *e*PKPbc PKPdf 18 53 24.3 +5.6
BR131 *e*PKPab PKPab 18 53 29.3 -0.5
BRTR Keskin Array B 148.08 305 PKP PKPdf 18 53 19.4 +0.7
comp=Z,12nm,0.8s,baz=125,slow=3.1,SNR=9.7
BRTR PKPbc PKPdf 18 53 24.3 +5.5
comp=Z,18nm,0.8s,baz=139,slow=5.7,SNR=49
ZFRI Zfri 148.14 287 P PKPdf 18 53 25.5 +6.4
JMOS Jabal al Moall 148.18 285 P PKPdf 18 53 25.6 +6.4
MUD Monsted U'grnd 148.21 350⇑ *iP* PKPdf 18 53 23.6 +5.2
comp=Z,55nm,0.7s
MUD Monsted U'grnd 148.21 350⇑ *i*PKHKP 18 53 23.6
MUD pmax pmax
comp=Z,55nm,0.7s
ALWS Ilw as Safayha 148.22 285 P PKPdf 18 53 25.9 +6.6
OFRI 'Ofer 148.23 291 P PKPdf 18 53 25.4 +6.2
BSD Bornholm Skovb 148.24 343⇑ *iP* PKPdf 18 53 23.6 +5.1
comp=Z,63nm,0.8s
BSD Bornholm Skovb 148.24 343⇑ *i*PKP2 PKPdf 18 53 23.6 +5.1
BSD pmax pmax
comp=Z,63nm,0.8s
AQBJ Aqaba 148.25 286 P PKPdf 18 53 25.8 +6.5
HRFI Mount Harif 148.26 286 P PKPdf 18 53 25.6 +6.3
KIS Kishinev 148.30 320 *e*PKP2 PKPab 18 53 25.0 -5.5
COP Copenhagen 148.32 346⇑ *iP* PKPdf 18 53 24.0 +5.4
comp=Z,69nm,0.6s
COP Copenhagen 148.32 346⇑ *i*PKP2 PKPdf 18 53 24.0 +5.4
COP pmax pmax
comp=Z,69nm,0.6s
EIL Elat 148.33 286 P PKPdf 18 53 25.9 +6.4
HAQS Haql 148.33 285 P PKPdf 18 53 26.0 +6.5
MBH Mount Berech 148.36 286 P PKPdf 18 53 26.2 +6.7
TAYS Tayyib Ism 148.36 284 P PKPdf 18 53 25.9 +6.3
CSS Prodhromos 149.35 296 *e*PKPbc PKPdf 18 53 27.4 +6.5
ERMK Ermenek 149.38 299 *i* P PKPdf 18 53 19.4 -1.6
CFR Carcaliu 149.66 318⇑ P PKPdf 18 53 27.0 +5.9
HENT Hendek 149.72 308 *i* P PKPdf 18 53 25.1 +3.7
KWP Kalwaria 149.85 329 *e*PKP PKPdf 18 53 28.5 +7.2
KWP Kalwaria 149.85 329 *e*PKP PKPdf 18 53 28.5 +7.2
TIRR Tirgusor 149.85 316⇑ P PKPdf 18 53 28.3 +6.9
GMK Mull of Kintyr 149.89 6 *eP* PKPdf 18 53 27.2 +6.1
BURAR Bucovina Array 149.94 324⇑ P PKPdf 18 53 28.9 +7.4
HARR Harsova 150.03 317⇑ P PKPdf 18 53 28.1 +6.4
ESK Eskdalemuir 150.08 3 *e*PKPbc PKPdf 18 53 27.4 +6.0
GCL Cushendall 150.10 6 *eP* PKPdf 18 53 28.0 +6.6
VRI Vrincioaia 150.13 320⇑ P PKPdf 18 53 28.7 +6.9
ESKT Eskisehir 150.20 306 *i* P PKPdf 18 53 28.0 +5.8
BSEG Bad Segeberg 150.40 347 *e*PKPdf PKPdf 18 53 23.7 +1.7
BSEG *e*PKPbc PKPdf 18 53 29.4 +7.4
GAL1 Galloway 150.44 5 *eP* PKPdf 18 53 28.6 +6.6
KOLS Kolonicke sedl 150.54 329 *e*PKP PKPdf 18 53 24.4 +2.1
KOLS *i* 18 53 30.5
KOLS *e* 18 55 28.3
ISR Istrita 150.65 319⇑ P PKPdf 18 53 28.8 +6.2
STHS Stebnicka Huta 150.67 330 *e*PKP PKPdf 18 53 24.6 +2.1
STHS *i* 18 53 30.4
STHS *e* 18 55 34.1
STHS *e* 18 55 38.6
OJC Ojcow 150.69 333 *e*PKP PKPdf 18 53 30.1 +7.6
MLR Muntele Rosu 150.79 320⇑ P PKPdf 18 53 30.3 +7.5
CKE Keswick 150.81 3 *eP* PKPdf 18 53 29.5 +7.0
XDE Dent Fell 150.88 4⇑ *eP* PKPdf 18 53 29.8 +7.2
RUE Ruedersdorf 150.90 342 *e*PKPbc PKPdf 18 53 30.4 +7.6
RUE *e*PKPab PKPab 18 53 40.1 -0.9
CRVS Cervenica-Dubn 150.94 329 *e*PKP PKPdf 18 53 24.2 +1.3
CRVS *i* 18 53 30.9
CRVS *e* 18 55 35.5
GMM Mts of Mourne 150.95 7⇑ *eP* PKPdf 18 53 29.7 +6.9
GIM North Isle of 151.03 5⇑ *eP* PKPdf 18 53 30.0 +7.1
TKTP Tekketepe 151.04 303 *i* P PKPdf 18 53 27.0 +3.6
CDU1 Dunnerdale 151.06 3 *eP* PKPdf 18 53 30.2 +7.2
NIE Niedzica 151.08 331⇑ *e*PKP PKPdf 18 53 31.6 +8.5
SNX Sinaia 151.12 320 ⇓P PKPdf 18 53 31.1 +7.8
SNX Sinaia 151.12 320 ⇓PKIKP PKPdf 18 53 31.2 +7.9
ULDT Uludag 151.22 308 *i* P PKPdf 18 53 29.9 +6.3
VOIR 151.34 321⇑ P PKPdf 18 53 31.7 +8.1
KSP Ksiaz 151.52 337 *e*PKP PKPdf 18 53 32.4 +8.7
KSP Ksiaz 151.52 337⇑ *i*PKIKP PKPdf 18 53 32.3 +8.6
KSP *e* 18 55 32.4
OKC Ostrava-Krasne 151.65 334 *e*PKPDF PKPdf 18 53 25.4 +1.5
OKC ⇑*e*PKPB PKPdf 18 53 32.3 +8.4
OKC *ep*PKP 18 55 35.5
DCN Croghan 151.67 9⇑ *iP* PKPdf 18 53 30.5 +6.7
DCN Croghan 151.67 9 *eP* PKPab 18 53 42.4 -1.8
KECS Kecovo 151.69 330 *e*PKP PKPdf 18 53 32.1 +8.1
KECS *e* 18 53 43.6
KECS *e* 18 55 37.8
KECS *e* 18 55 43.2
DLF Lyons Farm 151.81 8⇑ *iP* PKPdf 18 53 31.2 +7.2
DLF Lyons Farm 151.81 8 *eP* PKPab 18 53 43.0 -1.8
UPC Upice 151.90 337 *e*PKPDF PKPdf 18 53 25.7 +1.5
UPC ⇑*e*PKPB PKPdf 18 53 33.2 +9.0
UPC *ep*PKP 18 55 31.0
DPC Dobruska-Polom 151.92 337 *e*PKPDF PKPdf 18 53 26.0 +1.7
DPC ⇑*e*PKPB PKPdf 18 53 33.2 +8.9
DPC *e*PKPAB PKPab 18 53 45.1 -0.3
DPC *ep*PKP 18 55 30.8
DPC Dobruska-Polom 151.92 337 *e*PKIKP PKPdf 18 53 26.0 +1.7
DPC *e* 18 53 45.1
MORC Moravsky Berou 151.94 335 *e*PKPdf PKPdf 18 53 25.8 +1.5
MORC *e*PKPbc PKPdf 18 53 32.8 +8.5
MORC *e*PKPab PKPab 18 53 44.2 -1.3
WIT Witteveen 152.12 351 *e*PKP PKPdf 18 53 33.8 +9.3
BTOK Tokmak 152.15 308 *i* P PKPdf 18 53 24.1 -0.8
CLL Collm 152.16 342 *i* PKIKP PKPdf 18 53 26.1 +1.5
comp=Z,logA/T=0.8
CLL *i* PKP1 PKPdf 18 53 33.2 +8.6
CLL *i* PKP2 PKPab 18 53 45.3 -1.1
CLL *e**PPKP 18 55 32.0
CLL *i *PPKP2 18 55 44.9
CLL Collm 152.16 342⇑ *i* PKIKP PKPdf 18 53 26.1 +1.5
CLL *i* 18 53 45.3
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL pmax pmax
comp=Z,117nm,0.8s
CLL pmax pmax
comp=Z,44nm,0.7s
BRG Berggiesshubel 152.27 340 *e*PKIKP PKPdf 18 53 26.0 +1.3
BRG *i* 18 53 46.1
BRG pmax pmax
comp=Z,12nm,1.0s
BRG Berggiesshubel 152.27 340 *e*PKP PKPdf 18 53 26.0 +1.3
BRG *i* 18 53 33.6
BRG *i* 18 53 46.1
BRG *ep*PKP 18 55 34.5
CLZ Clausthal 152.35 345 *e*PKPdf PKPdf 18 53 26.4 +1.6
CLZ *e*PKPbc PKPdf 18 53 33.9 +9.1
PVCC Panska Ves 152.37 339 *e*PKPDF PKPdf 18 53 26.4 +1.5
PVCC ⇑*e*PKPB PKPdf 18 53 34.1 +9.2
PVCC *e*PKPAB PKPab 18 53 46.9 -0.4
PVCC *ep*PKP 18 55 33.9
PVCC Panska Ves 152.37 339 *e*PKIKP PKPdf 18 53 26.4 +1.5
PVCC *e* 18 53 46.9
PSZ Piszkesteto 152.37 330⇑ *e* PKPdf 18 53 33.4 +8.4
PSZ Piszkesteto 152.37 330 PKIKP PKPdf 18 53 34.2 +9.2
VYHS Vyhne 152.41 332 *e*PKP PKPdf 18 53 26.3 +1.3
VYHS *i* 18 53 34.0
VYHS *e* 18 55 46.6
PRU Pruhonice 152.84 338⇑ *e*PKPB PKPdf 18 53 35.1 +10
PRU *e*PKPAB PKPab 18 53 48.7 -0.6
PRU *ep*PKP 18 55 33.9
WTSB Winterswijk 152.92 350 *e*PKP PKPdf 18 53 34.7 +9.1
comp=Z,95nm,0.4s
TREC Trest 153.10 336 *e*PKPDF PKPdf 18 53 27.6 +1.7
TREC ⇑*e*PKPB PKPdf 18 53 35.5 +10
BZS Buzias 153.12 324 ⇓P PKPdf 18 53 35.2 +9.1
MOX Moxa 153.14 343 *i* P PKPdf 18 53 27.4 +1.4
MOX PP2 18 53 35.0
MOX PKP2 PKPab 18 53 49.0 -1.5
MOX *ep*PKP 18 55 50.2
MOX Moxa 153.14 343 *e*PKIKP PKPdf 18 53 27.4 +1.4
MOX *e* 18 53 49.4
MOX pmax pmax
comp=Z,21nm,1.1s
MOX Moxa 153.14 343 *e*PKP PKPdf 18 53 27.4 +1.4
MOX *e* 18 53 35.1
MOX *e* 18 53 49.4
NKC Novy Kostel 153.28 341 *e*PKPDF PKPdf 18 53 28.2 +2.0
NKC ⇑*e*PKPB PKPdf 18 53 36.5 +10
NKC *e*PKPAB PKPab 18 53 50.9 -0.2
NKC Novy Kostel 153.28 341 *e*PKIKP PKPdf 18 53 28.2 +2.0
NKC *e* 18 53 50.9
KHC Kasperske Hory 153.90 339 *e*PKPDF PKPdf 18 53 28.2 +1.2
KHC ⇑*e*PKPB PKPdf 18 53 37.4 +10

KHC				*e*PKPAB	PKPab	18 53 53.3	-0.5	
KHC				*ep*PKP		18 55 34.4		
KHC	**Kasperske Hory**	**153.90**	**339**	*e*PKIKP	PKPdf	18 53 28.2	+1.2	
KHC				*e*		18 53 53.3		
GEC2	**GERESS Array S**	**154.11**	**338**	*e*PKPdf	PKPdf	18 53 28.4	+1.1	
GEC2				*e*PKPbc	PKPdf	18 53 37.4	+10	
WET	**Wettzell**	**154.11**	**340**	*e*PKP2	PKPab	18 53 54.2	-0.5	
WET	**Wettzell**	**154.11**	**340**	*e*PKPdf	PKPdf	18 53 28.5	+1.2	
WET				*e*PKPbc	PKPdf	18 53 37.4	+10	
WET				*e*PKPab	PKPab	18 53 54.2	-0.5	
PKSM	**Moragy**	**154.21**	**328**⇑	*eP*	PKPdf	18 53 28.2	+0.7	
PKSM				*i*		18 53 37.7		
HGN	**Heimansgroeve**	**154.22**	**351**	*e*PKP	PKPab	18 53 52.7	-2.3	
	comp=Z,36nm,1.2s							
TNS	**Taunus Mts**	**154.29**	**347**	*e*PKP2	PKPab	18 53 54.0	-1.4	
TNS	**Taunus Mts**	**154.29**	**347**	*e*PKPdf	PKPdf	18 53 28.7	+1.2	
TNS				*e*PKPbc	PKPdf	18 53 37.5	+10	
TNS				*e*PKPab	PKPab	18 53 54.0	-1.4	
TOD	**Tromm**	**154.80**	**346**	PKP	PKPdf	18 53 28.7	+0.5	
GIVF	**Givet**	**155.02**	**352**	*e*PKIKP	PKPdf	18 53 29.7	+1.2	
RUP	**Ruppelstein**	**155.06**	**348**	PKP	PKPdf	18 53 29.8	+1.2	
BAIF	**Baives**	**155.14**	**353**	*e*PKIKP	PKPdf	18 53 29.7	+1.0	
WLF	**Walferdange**	**155.25**	**350**	*e*PKPab	PKPab	18 53 58.4	-1.0	
PERS	**Pernice**	**155.43**	**333**	*e*PKPbc	PKPdf	18 53 29.7	+0.6	
FUR	**Furstenfeldbru**	**155.47**	**341**	*e*PKP2	PKPab	18 54 00.4	0.0	
FUR	**Furstenfeldbru**	**155.47**	**341**	*e*PKPdf	PKPdf	18 53 30.5	+1.3	
FUR				*e*PKPbc	PKPdf	18 53 40.4	+11	
FUR				*e*PKPab	PKPab	18 54 00.4	0.0	
STU	**Stuttgart**	**155.49**	**344**	*e*PKPab	PKPab	18 53 59.6	-0.9	
LANF	**Langenberg**	**155.60**	**347**	PKP	PKPdf	18 53 30.7	+1.4	
BFO	**Black Forest**	**156.10**	**345**	*e*PKP2	PKPab	18 54 02.2	-0.9	
BFO	**Black Forest**	**156.10**	**345**	*e*PKPdf	PKPdf	18 53 30.8	+0.8	
BFO				*e*PKPab	PKPab	18 54 02.2	-0.9	
WTTA	**Wattenberg**	**156.16**	**339**⇑	*i*P	PKPdf	18 53 31.2	+1.1	
	comp=Z,9.9nm,1.0s							
WTTA	**Wattenberg**	**156.16**	**339**⇑	*i*P	PKPdf	18 53 41.8	+12	
	comp=Z,12nm,0.7s							
WTTA	**Wattenberg**	**156.16**	**339**⇑	*i*P	PKPab	18 54 03.6	+0.2	
	comp=Z,13nm,0.7s							
WTTA	**Wattenberg**	**156.16**	**339**	⇑P	PKPdf	18 53 31.2	+1.1	
WTTA				*e*		18 53 41.8		
WTTA				*e*		18 54 03.6		
CDF	**Champ du Feu**	**156.25**	**347**	*e*PKIKP	PKPdf	18 53 30.8	+0.6	
	comp=Z,14nm,1.1s							
MOTA	**Moosalm**	**156.26**	**340**⇓	*i*P	PKPdf	18 53 31.2	+1.0	
	comp=Z,9.1nm,1.0s							
MOTA	**Moosalm**	**156.26**	**340**⇑	*i*P	PKPab	18 54 02.8	-1.1	
	comp=Z,17nm,1.2s							
MOTA	**Moosalm**	**156.26**	**340**	⇓P	PKPdf	18 53 31.2	+1.0	
MOTA				*e*		18 54 02.8		
BOJS	**Bojanci**	**156.28**	**332**	*e*PKPbc	PKPdf	18 53 31.5	+1.2	
BOJS				*e*		18 53 42.0		
BOJS				*e*		18 54 02.7		
SQTA	**Sankt Quirin**	**156.34**	**340**⇓	*i*P	PKPdf	18 53 31.5	+1.2	
	comp=Z,13nm,1.3s							
SQTA	**Sankt Quirin**	**156.34**	**340**⇑	*i*P	PKPab	18 54 03.8	-0.4	
	comp=Z,9.8nm,1.0s							
SQTA	**Sankt Quirin**	**156.34**	**340**	⇓P	PKPdf	18 53 31.5	+1.2	
SQTA				*e*		18 54 03.8		
ROBS	**Robic**	**156.38**	**335**	*e*PKPbc	PKPdf	18 53 31.3	+0.9	
MEZF	**Maizieres J'vi**	**156.56**	**351**	*e*PKIKP	PKPdf	18 53 31.8	+1.2	
DAVA	**Damuels**	**156.67**	**342**⇑	*i*P	PKPdf	18 53 32.4	+1.6	
	comp=Z,6.8nm,1.0s							
DAVA	**Damuels**	**156.67**	**342**⇓	*i*P	PKPab	18 54 05.3	-0.3	
	comp=Z,24nm,0.6s							
DAVA	**Damuels**	**156.67**	**342**	⇑P	PKPdf	18 53 32.4	+1.6	
DAVA				*e*		18 54 05.3		
FLN	**La Foliniere**	**156.71**	**360**	*e*PKIKP	PKPdf	18 53 31.6	+0.8	
	comp=Z,12nm,0.7s							
HAU	**Haudompre**	**156.82**	**348**	*e*PKIKP	PKPdf	18 53 32.0	+1.1	
LDF	**La Druitiere**	**156.88**	**359**	*e*PKIKP	PKPdf	18 53 31.8	+0.8	
HINF	**Hinteralfeld**	**156.91**	**347**	*e*PKIKP	PKPdf	18 53 31.7	+0.7	
	comp=Z,14nm,1.2s							
ROSF	**Rostrenen**	**157.04**	**5**	*e*PKIKP	PKPdf	18 53 31.5	+0.3	
GRR	**Gorron**	**157.08**	**1**	*e*PKIKP	PKPdf	18 53 32.2	+0.9	
SGMF	**Saint Gilles**	**157.16**	**3**	*e*PKIKP	PKPdf	18 53 32.0	+0.6	
QUIF	**Quistinic**	**157.46**	**5**	*e*PKIKP	PKPdf	18 53 32.3	+0.5	
LOR	**Lormes**	**157.93**	**352**	*e*PKIKP	PKPdf	18 53 33.3	+0.9	
	comp=Z,25nm,1.2s							
HYF	**Humbligny**	**158.06**	**354**	*e*PKIKP	PKPdf	18 53 34.0	+1.4	
SSF	**Saint Saulge**	**158.18**	**353**	*e*PKIKP	PKPdf	18 53 33.7	+1.0	
	comp=Z,19nm,1.0s							
CABF	**La Chapelle**	**158.21**	**348**	*e*PKIKP	PKPdf	18 53 34.1	+1.3	
	comp=Z,35nm,1.1s							
AVF	**Avril sur Loir**	**158.46**	**353**	*e*PKIKP	PKPdf	18 53 33.7	+0.7	
	comp=Z,20nm,1.4s							
SMF	**Signal de Mont**	**158.54**	**352**	*e*PKIKP	PKPdf	18 53 33.8	+0.7	
	comp=Z,15nm,1.2s							
BGF	**Bois d'Agland**	**158.75**	**354**	*e*PKIKP	PKPdf	18 53 34.4	+1.0	
	comp=Z,25nm,1.0s							
MFF	**Saint Martin d**	**158.87**	**359**	*e*PKIKP	PKPdf	18 53 34.4	+0.9	
	comp=Z,45nm,1.2s							
TCF	**Toulx Ste Croi**	**159.07**	**355**	*e*PKIKP	PKPdf	18 53 34.7	+1.0	
	comp=Z,15nm,1.0s							
LPL	**La Plagne**	**159.12**	**346**	*e*PKIKP	PKPdf	18 53 36.9	+3.1	
	comp=Z,16nm,0.9s							
LPG	**La Plagne**	**159.13**	**345**	*e*PKIKP	PKPdf	18 53 37.0	+3.2	
	comp=Z,13nm,0.9s							
AGO	**Saint Agoulin**	**159.21**	**353**	PKP	PKPab	18 54 15.7	-0.9	
PLDF	**La Plantade**	**159.24**	**352**	PKP	PKPab	18 54 16.2	-0.5	
MBDF	**Montbardon**	**159.86**	**345**	*e*PKIKP	PKPdf	18 53 37.0	+2.3	
	comp=Z,14nm,1.1s							
ORIF	**Oris-en-Rattie**	**159.88**	**347**	*e*PKIKP	PKPdf	18 53 37.0	+2.3	
	comp=Z,12nm,0.9s							
LBL	**Lubilhac**	**160.01**	**352**	PKP	PKPab	18 54 19.5	-0.5	
TIP	**Timpagrande**	**160.01**	**317**	*e*PKPdf	PKPdf	18 53 36.1	+1.1	
RJF	**Les Rejaudoux**	**160.10**	**356**	*e*PKIKP	PKPdf	18 53 36.0	+1.1	
	comp=Z,15nm,0.9s							
VIVF	**Saint-Julien-l**	**160.17**	**349**	*e*PKIKP	PKPdf	18 53 36.2	+1.2	
LIC	**Lamto**	**160.42**	**167**⇑	*i*PKIKP	PKPdf	18 53 37.4	+1.2	
	comp=Z,47nm,1.0s							
CAF	**Calviac**	**160.44**	**354**	*e*PKIKP	PKPdf	18 53 36.7	+1.4	
	comp=Z,13nm,0.9s							
SBF	**Sospel**	**160.50**	**343**	*e*PKIKP	PKPdf	18 53 36.8	+1.4	
LFF	**La Frestale**	**160.51**	**357**	*e*PKIKP	PKPdf	18 53 36.5	+1.2	
	comp=Z,8.2nm,0.6s							
DBIC	**Dimbokro**	**160.89**	**167**	PKP	PKPdf	18 53 37.9	+1.3	
	comp=Z,12nm,0.9s,baz=28,slow=0.8,SNR=13							
DBIC				PKPab	PKPab	18 54 24.6	-0.2	
	comp=Z,18nm,0.8s,baz=184,slow=4.5,SNR=14							
DBIC	**Dimbokro**	**160.89**	**167**	*e*PKPdf	PKPdf	18 53 37.9	+1.3	
DBIC				*e*PKPab	PKPab	18 54 24.4	-0.4	
FRF	**La Foret Royal**	**160.99**	**344**	*e*PKIKP	PKPdf	18 53 37.4	+1.6	
	comp=Z,30nm,1.3s							
LASF	**Ste Croix**	**161.06**	**350**	*e*PKIKP	PKPdf	18 53 37.6	+1.8	
LMR	**La Mourre**	**161.23**	**344**	*e*PKIKP	PKPdf	18 53 37.8	+1.8	
MTLF	**Montolieu**	**161.99**	**353**	*e*PKIKP	PKPdf	18 53 38.1	+1.3	
	comp=Z,22nm,1.2s							
SJPF	**Ste Jean**	**162.35**	**2**	*e*PKIKP	PKPdf	18 53 38.6	+1.4	
	comp=Z,15nm,1.0s							
EPF	**Esparros**	**162.43**	**358**	*e*PKIKP	PKPdf	18 53 38.8	+1.6	
	comp=Z,17nm,0.8s							
ETSF	**Etsaut**	**162.58**	**0**	*e*PKIKP	PKPdf	18 53 39.3	+1.9	
	comp=Z,9.4nm,0.8s							
PBRG	**Braganca**	**162.88**	**16**	*e*PKPab	PKPab	18 54 32.4	-0.2	
PVRL	**Vila Real**	**163.11**	**19**	*e*PKPab	PKPab	18 54 33.1	-0.5	
PVIS	**Viseu**	**163.57**	**20**	*e*PKPab	PKPab	18 54 34.6	-1.1	
MTE	**Manteigas**	**163.97**	**20**	*e*PKPdf	PKPdf	18 53 40.8	+1.9	
MTE	**Manteigas**	**163.97**	**20**	*e*PKPab	PKPab	18 54 36.1	-1.3	
PTOM	**Tomar**	**164.38**	**23**	*e*PKPdf	PKPdf	18 53 41.4	+2.1	
PTOM	**Tomar**	**164.38**	**23**	*e*PKPab	PKPab	18 54 38.2	-1.0	
PCBR	**Castelo Branco**	**164.50**	**20**	*e*PKPdf	PKPdf	18 53 41.5	+2.1	
PCBR	**Castelo Branco**	**164.50**	**20**	*e*PKPab	PKPab	18 54 38.5	-1.2	
MOE	**Montemor**	**165.37**	**25**	*e*PKPdf	PKPdf	18 53 42.3	+2.1	
MOE	**Montemor**	**165.37**	**25**	*e*PKPab	PKPab	18 54 42.3	-1.3	
EVO	**Evora**	**165.49**	**24**⇑	*i*PKIKP	PKPdf	18 53 42.2	+1.9	
	comp=Z,43nm,0.8s							
ESDC	**Sonseca Array**	**165.51**	**11**	PKPab	PKPab	18 54 43.4	-0.7	
	comp=Z,12nm,0.7s,baz=342,slow=4.0,SNR=34							
PBEJ	**Beja**	**165.99**	**25**	*e*PKPdf	PKPdf	18 53 43.2	+2.4	
PTEO	**Sao Teotonio**	**166.06**	**28**	*e*PKPdf	PKPdf	18 53 43.6	+2.7	

NIED **20** *18:40:00,37.50N×142.50E,h23km,Mw3.7 Best double couple: M₀3.64×10¹⁴ NP1:φ=15°,δ=69°,λ=90° NP2:φ=194°, δ=21°,λ=89°.*

JMA **20** *18:40:14.9±0.2,37.49N×142.54E,h29km±4km,M3.8*

ISC 20 18:40:14.8±1.5,37.51N±0.05×142.5E±0.1,h15km±11km, n13,σ0°42/21,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.30**	**264**	P	**Pb**	**18 40 38.0**	**-0.4**
JIO	**Ouri**	**1.31**	**317**	P	**Pb**	**18 40 38.4**	**-0.1**
JIO				*e*S	**Sb**	**18 40 55.0**	**+0.1**
JMM	**Marumori**	**1.40**	**285**	P	**Pn**	**18 40 39.5**	**-0.4**
ONAJ	**Iwakimizuishiy**	**1.41**	**254**	P	**Pn**	**18 40 39.8**	**-0.3**
JOU	**Okura**	**1.68**	**301**	P	**Pn**	**18 40 44.3**	**+0.3**
JOU				*e*S	**Sn**	**18 41 05.6**	**+0.3**
JFT	**Otama**	**1.72**	**271**	P	**Pn**	**18 40 45.0**	**+0.5**
JFT				*e*S	**Sn**	**18 41 06.6**	**+0.4**
JMK	**Ichinoseki**	**1.76**	**326**	P	**Pn**	**18 40 45.1**	**+0.1**
JYS	**Shirataka**	**2.05**	**291**	P	**Pn**	**18 40 49.7**	**+0.5**
JYS				*e*S	**Sn**	**18 41 14.8**	**+0.1**
JOM	**Ohasama**	**2.18**	**335**	P	**Pn**	**18 40 50.8**	**-0.2**
JOM				*e*S	**Sn**	**18 41 17.5**	**-0.4**
JYK	**Kaneyama**	**2.19**	**311**	P	**Pn**	**18 40 51.7**	**+0.4**
JYK				*e*S	**Sn**	**18 41 17.6**	**-0.7**
JNS	**Sasagawa**	**2.54**	**278**	P	**Pn**	**18 40 57.1**	**+0.8**
JNS				*e*S	**Sn**	**18 41 27.3**	**+0.2**
JAG	**Ashikaga**	**2.67**	**247**	P	**Pn**	**18 40 58.1**	**+0.1**
MAT	**Matsushiro**	**3.56**	**256**	P	**Pn**	**18 41 10.2**	**-0.6**
MAT				*e*S	**Sn**	**18 41 52.4**	**-0.7**

MOS **20** *18:43:29.0±0.9,12.21N×140.92E,h37km,mb4.8/6,Error ellipse: s-maj=20.7km s-min=15.2km az=99.6*

IDC **20** *18:43:33.0±4.1,12.27N×141.03E,h55km±37km,mb4.0/11, mb1 4.2/12,mb1mx4.0/21,mbtmp4.3/12,ML4.5/1,MS3.6/2, Ms1 3.6/2,ms1mx3.1/26,Error ellipse: s-maj=27.9km s-min=17.0km az=84.0*

NEIC **20** *18:43:33.0±2.2,12.21N×141.04E,h57km±21km,mb4.6/7, Error ellipse: s-maj=20.7km s-min=10.7km az=83.0*

ISC 20 18:43:29.9±2.9,12.21N±0.08×140.9E±0.2,h44km±26km, n30,σ0°82/27,mb4.5/18,MS3.4/2,1D,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.09**	**70**	P	**P**	**18 44 31.8**	**+0.2**
	35nm,0.3s,baz=186,slow=8.9,SNR=7.8						
JHJ	**Hachijo jima 2**	**20.84**	**357**	LR	LR	18 54 06.3	
	comp=Z,213nm,19.8s,MS3.5,baz=291,slow=30						
PMG	**Port Moresby**	**22.35**	**164**	*e*P	**P**	**18 48 25.3**	**-0.3**
PMG				pmax	pmax		
	comp=Z,11nm,0.7s						
PMG	**Port Moresby**	**22.35**	**164**	*e*P	**P**	**18 48 25.3**	**-0.3**
	comp=Z,11nm,0.7s,mb4.4						
HNR	**Honiara**	**28.63**	**138**	LR	LR	18 58 54.4	
	comp=Z,69nm,18.1s,MS3.3,baz=5.5,slow=32						
WRA	**Warramunga Arr**	**32.60**	**192**	P	**P**	**18 49 59.3**	**-0.5**
	comp=Z,5.6nm,0.9s,mb4.5,baz=10,slow=9.9,SNR=10						
DZM	**Mont Dzumac**	**42.28**	**144**	P	**P**	**18 51 21.8**	**+0.6**
	comp=Z,3.7nm,0.6s,mb4.2,baz=294,slow=23,SNR=6.8						
STKA	**Stephens Creek**	**43.84**	**179**	*e*P	**P**	**18 51 33.3**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**43.84**	**179**	P	**P**	**18 51 33.9**	**+0.1**
	comp=Z,3.3nm,0.5s,mb4.3,baz=351,slow=8.2,SNR=16						
YAK	**Yakutsk**	**50.40**	**353**	*e*P	**P**	**18 52 23.6**	**-1.2**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
YAK	**Yakutsk**	**50.40**	**353**	*e*P	**P**	**18 52 23.6**	**-1.2**
	comp=Z,13nm,0.8s,mb5.0						
BILL	**Bilibino**	**58.20**	**11**⇓	*e*P	**P**	**18 53 21.5**	**-0.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**59.84**	**317**	P	**P**	**18 53 35.0**	**+1.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=101,slow=7.3,SNR=3.4						
KURK	**Kurchatov**	**63.19**	**321**	*e*P	**P**	**18 53 56.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**63.19**	**321**	*e*P	**P**	**18 53 56.5**	**+0.6**
	comp=Z,7.9nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**68.60**	**323**	*e*P	**P**	**18 54 29.4**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**68.60**	**323**	*e*P	**P**	**18 54 29.4**	**-1.0**
	comp=Z,3.5nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**68.64**	**322**	P	**P**	**18 54 30.6**	**+0.1**
	comp=Z,5.8nm,0.7s,mb4.6,baz=112,slow=8.0,SNR=9.7						
BRVK	**Borovoye**	**68.71**	**322**	*e*P	**P**	**18 54 31.7**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**68.71**	**322**	*e*P	**P**	**18 54 31.7**	**+0.7**
	comp=Z,3.4nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**71.46**	**25**	P	**P**	**18 54 45.2**	**-2.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=251,slow=5.7,SNR=6.0						
AKTO	**Aktyubinsk**	**76.19**	**319**	P	**P**	**18 55 14.8**	**-0.5**
	comp=Z,4.2nm,0.7s,mb4.5,baz=96,slow=8.7,SNR=6.8						
YKA	**Yellowknife Ar**	**85.83**	**27**	P	**P**	**18 56 05.9**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.9,baz=290,slow=5.0,SNR=7.0						
YKA	**Yellowknife Ar**	**85.83**	**27**	P	**P**	**18 56 05.9**	**+0.1**
ARCES	**ARCESS Array B**	**87.19**	**341**	P	**P**	**18 56 13.0**	**+0.7**
	comp=Z,1.6nm,0.5s,mb4.5,baz=66,slow=6.6,SNR=4.7						
ARCES	**ARCESS Array B**	**87.19**	**341**	P	**P**	**18 56 13.0**	**+0.7**
FINES	**FINESS Array B**	**90.75**	**334**	P	**P**	**18 56 29.1**	**-0.3**
	comp=Z,3.9nm,0.6s,mb4.9,baz=72,slow=6.0,SNR=3.9						
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**18 56 30.2**	**+0.2**
	comp=Z,0.5nm,0.6s,mb4.0,baz=261,slow=5.3,SNR=4.4						
TPAW	**Teton Pass**	**94.43**	**44**	*e*P	**P**	**18 56 47.9**	**+1.3**
	comp=Z,10nm,0.8s,mb5.3						
LPAZ	**La Paz**	**151.56**	**102**	PKPbc	PKPdf	19 03 23.5	+9.5
	comp=Z,3.9nm,0.7s,baz=301,slow=2.0,SNR=12						

IDC 20 19:07:50.3±1.5,50.28S×112.71E,mb3.9/3,mb1 4.1/3, mb1mx3.9/10,mbtmp3.9/3,MS3.5/2,Ms1 3.4/2, ms1mx3.2/13,Error ellipse: s-maj=76.6km s-min=26.4km az=109.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.23**	**60**	LR	LR	19 23 09.4	
	comp=Z,90nm,18.2s,baz=24,slow=33						
MAW	**Mawson**	**29.88**	**216**	LR	LR	19 22 50.0	
	comp=Z,91nm,20.4s,baz=67,slow=30						
VNDA	**Vanda**	**32.86**	**162**	P	P	19 14 24.5	-2.8
	1.5nm,0.8s,baz=301,slow=9.7,SNR=8.8						
WRA	**Warramunga Arr**	**34.80**	**37**	P	P	19 14 42.0	-2.7
	2.2nm,0.8s,baz=206,slow=8.6,SNR=6.6						
SNAA	**Sanae**	**50.20**	**202**	P	P	19 16 47.2	-2.0
	0.6nm,0.7s,baz=146,slow=13,SNR=5.8						
TXAR	**Lajitas Array**	**145.58**	**114**	PKPbc	PKPbc	19 27 30.5	-0.3
	0.9nm,0.9s,baz=180,slow=2.7,SNR=7.1						
PDAR	**Pinedale Array**	**150.29**	**88**	PKPbc	PKPdf	19 27 43.2	+4.0
	1.2nm,0.9s,baz=243,slow=3.3,SNR=7.0						
YKA	**Yellowknife Ar**	**151.80**	**46**	PKPbc	PKPdf	19 27 45.3	+4.4
	0.9nm,0.7s,baz=285,slow=2.1,SNR=15						

MOS **20** *19:07:55.7±1.5,4.43N×96.54E,h33km,mb4.8/7,Error ellipse: s-maj=23.0km s-min=12.5km az=122.6*

NEIC **20** *19:07:57.4±0.4,4.49N×96.55E,h30km,mb4.7/13,Error ellipse: s-maj=14.5km s-min=8.0km az=224.0*

BJI **20** *19:07:58.9,4.23N×96.18E,h48km,mB4.9,mb4.4,Ms4.5, Ms2.4*

IDC **20** *19:07:58.8±2.6,4.53N×96.47E,h41km±22km,mb4.0/10, mb1 4.1/11,mb1mx4.0/16,mbtmp4.3/11,ML4.6/1,MS4.1/10, Ms1 4.1/10,ms1mx3.8/21,Error ellipse: s-maj=25.9km s-min=12.1km az=46.0*

ISC 20 19:07:57.0±1.5,4.47N±0.07×96.54E±0.07,h41km±13km, h42km±4.2km:pP-P,n61,σ1s26/59,mb4.5/24,MS4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.90**	**125**	P	**P**	**19 08 44.0**	**+2.0**
	70nm,0.3s,baz=318,slow=12,SNR=184						
PSI				S	**S**	**19 09 27.6**	**+12**
	187nm,0.3s,baz=168,slow=21,SNR=15						
PSI				LR	LR	19 10 11.1	
	comp=Z,3μm,20.1s,baz=144,slow=43						
KULM	**Kulim**	**4.18**	**79**	*e*Pn	**P**	**19 08 58.0**	**-1.9**
KULM				*e*Sn	**S**	**19 09 48.1**	**0.0**
IPM	**Ipoh**	**4.47**	**88**	P	**P**	**19 09 04.5**	**+0.3**
KGM	**Kluang**	**7.20**	**110**	P	**P**	**19 09 41.7**	**-0.6**
QIZ	**Qiongzhong**	**19.44**	**41**	*e*P	**P**	**19 12 26.1**	**+3.1**
QIZ				S	**S**	**19 16 02.3**	**+7.5**
QIZ				LR	LR		
	comp=N,1μm,18.5s						
QIZ				LR	LR		
	comp=E,1μm,17.2s						
KKM	**Kota Kinabalu**	**19.66**	**85**	P	**P**	**19 12 25.5**	**+0.2**
KKM	**Kota Kinabalu**	**19.66**	**85**	*e*P	**P**	**19 12 24.6**	**-0.8**
KMI	**Kunming**	**21.38**	**16**	P	**P**	**19 12 46.9**	**+3.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.0						
HYB	**Hyderabad**	**21.81**	**308**	*i*P	**P**	**19 12 49.5**	**+2.0**
HYB				*e*S	**S**	**19 16 48.0**	**+6.8**
HYB	**Hyderabad**	**21.81**	**308**	*e*P	**P**	**19 12 49.5**	**+2.0**
LSA	**Lhasa**	**25.60**	**349**	P	**P**	**19 13 26.6**	**+2.2**
LSA	**Lhasa**	**25.60**	**349**	*e*P	**P**	**19 13 26.6**	**+2.2**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.6						
LSA	**Lhasa**	**25.60**	**349**	*e*P	**P**	**19 13 26.6**	**+2.2**
	comp=Z,12nm,0.6s,mb4.6						
ENH	**Enshi**	**28.43**	**24**	*e*P	**P**	**19 13 50.3**	**+0.2**
	comp=Z,4.9nm,0.6s,mb4.3						
LZH	**Lanzhou**	**32.17**	**11**	*e*P	**P**	**19 14 28.8**	**+5.5**
LZH				AP	pP	19 14 42.0	+7.4
LZH				XP	sP	19 14 48.5	+8.6
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=E,970nm,13.7s						
LZH				LR	LR		
	comp=Z,1μm,15.0s,MS4.8						
GTA	**Gaotai**	**34.90**	**4**	*e*P	**P**	**19 14 47.0**	**+0.2**
GTA				AP	pP	19 14 58.5	+0.3
GTA				S	**S**	**19 20 08.8**	**-5.6**
GTA				LR	LR		
	comp=N,180nm,12.6s,MS4.2						
GTA				LR	LR		
	comp=E,180nm,13.7s,MS4.2						
GTA				LR	LR		
	comp=Z,280nm,16.7s,MS4.1						
FITZ	**Fitzroy Crossi**	**36.42**	**129**	*e*P	**P**	**19 14 58.9**	**-1.0**
	comp=Z,21nm,0.6s,mb5.2						
JOW	**Kunigami**	**37.59**	**50**	LR	LR	19 33 14.3	
	comp=Z,182nm,18.8s,MS3.9,baz=270,slow=40						
KAKA	**Kakadu**	**39.55**	**116**	*e*P	Px	19 15 47.4	
	comp=Z,14nm,0.8s						
WMQ	**Urumqi**	**39.96**	**350**	*e*P	**P**	**19 15 30.3**	**+1.2**
WMQ				AP	pP	19 15 40.3	-0.3
WMQ				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,160nm,4.8s						
WMQ				LR	LR		
	comp=N,450nm,23.2s,MS4.4						
WMQ				LR	LR		
	comp=E,480nm,24.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,520nm,22.0s,MS4.3						
MKAR	**Makanchi Array**	**43.93**	**346**	P	**P**	**19 16 00.9**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.0,baz=151,slow=7.3,SNR=13						
SONM	**Songino Array**	**44.02**	**10**	P	**P**	**19 16 02.7**	**+0.3**
	comp=Z,1.4nm,0.6s,mb3.8,baz=190,slow=8.6,SNR=12						
SONM				LR	LR	19 36 31.7	
	comp=Z,233nm,18.8s,MS4.1,baz=197,slow=39						
WRA	**Warramunga Arr**	**44.37**	**124**	P	**P**	**19 16 05.4**	**-0.2**
	comp=Z,44nm,0.9s,mb5.2,baz=302,slow=9.2,SNR=18						
WRA				S	**S**	**19 22 38.4**	**+1.9**
	comp=Z,1.9nm,1.1s,baz=291,slow=16,SNR=3.4						
WRAB	**Tennant Creek**	**44.37**	**124**	*e*P	**P**	**19 16 05.3**	**-0.3**
WRA

*NEIC **20** 19:46:08.9, 38.79N×23.68E, h28km, ML3.0(ATH), After ATH.*
*ATH **20** 19:46:09.0, 38.79N×23.67E, h28km±1km, MD2.9/7, ML3.0*
*CSEM **20** 19:46:09.5±0.1, 38.81N×23.79E, h20km, ML2.6, Error ellipse: s-maj=2.1km s-min=1.3km az=82.0*
*THE **20** 19:46:10.2, 38.84N×23.71E, h11km, ML2.6*

ISC 20 19:46:07.7±0.5, 38.78N±0.03×23.73E±0.05, h11km, n19, σ1§10/26, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.40**	**17**	*e*	P	**g**	**Pg**	**19 46 16.8**	**+0.8**
AOS				*e*	S	g	Sg	19 46 22.4	+0.9
LKR	**Lokris**	**0.58**	**257**	*e*	PN	**n**	**Pn**	**19 46 20.4**	**-1.2**
MPAR	**Parnis Oros**	**0.63**	**179**	*e*	PN	**n**	**Pn**	**19 46 21.7**	**-0.6**
NEO	**Neokhori**	**0.65**	**323**	*e*	PN	**n**	**Pn**	**19 46 21.9**	**-0.7**
NEO				*e*	SN	n	Sn	19 46 30.7	-2.2
XOR	**Xorichti**	**0.71**	**325**	*e*	Pg	**g**	**Pg**	**19 46 23.2**	**+1.1**
XOR				*e*	Sg	g	Sg	19 46 32.5	+0.8
XOR	**Xorichti**	**0.71**	**325**	*e*	Pg	**g**	**Pg**	**19 46 23.2**	**+1.1**
XOR				*e*	Sg	g	Sg	19 46 32.5	+0.8
PTL	**Penteli**	**0.74**	**172**	*e*	PN	**n**	**Pn**	**19 46 23.5**	**-0.4**
ATH	**Athens Observa**	**0.81**	**181**	*e*	PN	**n**	**Pn**	**19 46 25.5**	**+0.6**
MGER	**Gerania Oros**	**0.88**	**205**	*e*	PN	**n**	**Pn**	**19 46 26.0**	**+0.2**
KVR	**Kavouri**	**0.95**	**178**	*e*	PB	**b**	**Pb**	**19 46 27.0**	**+1.2**
AGG	**Agios Georgios**	**1.11**	**283**	*e*	Pg	**g**	**Pg**	**19 46 30.5**	**+0.4**
AGG				*e*	Sg	g	Sg	19 46 45.4	+0.4
PAIG	**Paliouri**	**1.14**	**358**	*e*	Pg	**g**	**Pg**	**19 46 30.0**	**-0.6**
PAIG				*e*	Sg	g	Sg	19 46 46.4	+0.5
LOS	**Limnos**	**1.56**	**42**	*e*	Pg	**g**	**Pg**	**19 46 36.2**	**-2.6**
OUR	**Ouranopolis**	**1.56**	**7**	*e*	Pg	**g**	**Pg**	**19 46 36.0**	**-3.0**
PLG	**Polygyros**	**1.60**	**352**	*e*	PN	**n**	**Pn**	**19 46 36.8**	**+0.6**
LIT	**Litokhoron**	**1.63**	**324**	*e*	Pg	**g**	**Pg**	**19 46 37.5**	**-2.7**
SOH	**Sokhos**	**2.06**	**352**	*e*	Pn	**n**	**Pn**	**19 46 43.4**	**+0.8**
GRG	**Griva**	**2.40**	**335**	*e*	Pn	**n**	**Pn**	**19 46 48.3**	**+0.7**
GRG				*e*	Sn	n	Sn	19 47 16.9	-0.3
KNT	**Kendrikon**	**2.46**	**345**	*e*	Pn	**n**	**Pn**	**19 46 49.5**	**+1.1**

*NEIC **20** 19:49:26.0, 29.40S×114.10E, h10km, mb4.1/1, ML3.8(AUST), After AUST.*

AUST 20 19:49:26.4, 29.40S×114.10E, h10km, ML3.8, 1C-1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MORW	**Morawa**	**1.73**	**79**	⇓*i*	P		Pn	19 49 55.9	-0.9
MORW				*e*	S		Sn	19 50 17.7	-1.3
MUN	**Mundaring**	**3.15**	**145**	*e*	P		Pn	19 50 14.5	-2.5
MUN				*e*	S		Sn	19 50 49.8	-5.3
KLBR	**Kellerberrin**	**3.83**	**126**	⇑*i*	P		Pn	19 50 23.6	-3.2
KLBR				*e*	S		Sn	19 51 05.3	-7.2
NWAO	**Narrogin (SRO)**	**4.42**	**143**	*e*	P		Pn	19 50 31.2	-4.0
NWAO				*e*	S		Sn	19 51 20.3	-7.1
	211nm,0.2s								
MEEK	**Meekatharra**	**4.85**	**56**	*e*	P		Pn	19 50 36.1	-5.1
MEEK				*e*	S		Sn	19 51 28.9	-9.2
RKGY	**Rocky Gully**	**5.74**	**156**	*e*	P		Pn	19 50 58.5	+4.7
RKGY				*e*	S		Sn	19 52 00.3	-0.2
	54nm,0.2s								
KMBL	**Kambalda**	**7.00**	**108**	*e*	P		Pn	19 51 05.8	-5.8
KMBL				*e*	S		Sn	19 52 20.0	-12
	140nm,0.4s								
KMBL	**Kambalda**	**7.00**	**108**	*e*	P		Pn	19 51 05.8	-5.8
	140nm,0.4s								
KMBL				*e*	S		Sn	19 52 20.0	-12
FORT	**Forrest**	**12.17**	**100**	*e*	P		P	19 52 15.7	-7.1
FITZ	**Fitzroy Crossi**	**15.41**	**46**	*e*	P		P	19 52 58.2	-7.5
	5.0nm,0.5s								
FITZ				*e*	S		S	19 55 34.0	-23
ASPA	**Alice Springs**	**18.61**	**77**	*e*	P		P	19 53 38.1	-7.9
ASPA				*e*	S		S	19 56 50.9	-19

*GUC **20** 20:37:13.7±0.8, 22.10S×68.64W, h194km±8km, ML4.5*
*BJI **20** 20:37:14.0, 21.40S×68.50W, h112km, mB5.0*
*IDC **20** 20:37:14.3±0.5, 21.32S×68.69W, h115km±4km, mb4.1/13, mb1 4.3/15, mb1mx4.2/18, mbtmp4.5/15, MS2.9/1, Ms1 2.8/1, ms1mx2.7/16, Error ellipse: s-maj=19.4km s-min=12.1km az=75.0*
*NEIC **20** 20:37:14.0±0.2, 21.37S×68.51W, mb4.6/16, Error ellipse: s-maj=8.6km s-min=5.4km az=76.0*

ISC 20 20:37:12.0±0.7, 21.38S±0.05×68.54W±0.07, h109km±7km, h112km±1.3km; pP-P, n67, σ1§09/62, mb4.4/22, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.55**	**168**	⇑*i*	P		**P**	**20 37 43.0**	**+3.2**
SPCH				*i*	S		**S**	**20 38 06.2**	**+5.5**
SPCH					AMP			20 38 33.5	
	comp=N,4μm,0.6s								
CEN1	**Los Morros**	**2.52**	**217**	*e*	P		**P**	**20 37 52.9**	**+0.5**
CEN1				*i*	S		**S**	**20 38 23.8**	**+1.0**
CEN1					AMP			20 38 29.4	
	comp=N,4μm,0.8s								
ANCH	**Antofagasta**	**2.87**	**217**	*i*	P		**P**	**20 37 57.8**	**+0.7**
ANCH				*i*	S		**S**	**20 38 29.5**	**-1.7**
LPAZ	**La Paz**	**5.08**	**4**	*i*	P		**P**	**20 38 29.4**	**+2.2**
	comp=N,4.4nm,0.3s,baz=186,slow=7.6,SNR=56								
LPAZ	**La Paz**	**5.08**	**4**	*e*	Pn		**P**	**20 38 29.1**	**+2.0**
	comp=N,23nm,0.6s								
CRCH	**Chaqaral**	**5.29**	**201**	*e*	P		**P**	**20 38 25.7**	**-4.3**
CRCH				*i*	S		**S**	**20 39 20.2**	**-10**
ARE	**Arequipa**	**5.63**	**330**	*e*	P		**P**	**20 38 31.0**	**-3.6**
ARE				*i*	S		**S**	**20 39 31.0**	**-7.6**
CDCH	**Caldera**	**6.04**	**200**	*e*	P		**P**	**20 38 35.4**	**-4.7**
CDCH				*i*	S		**S**	**20 39 37.0**	**-11**
SIV	**San Ignacio**	**8.88**	**54**	*e*	P		**P**	**20 39 17.9**	**-0.9**
	comp=N,13nm,0.3s,baz=243,slow=12,SNR=296								
SIV					S		**S**	**20 40 51.9**	**-5.8**
	comp=N,0.9nm,0.3s,baz=295,slow=23,SNR=2.8								
CFAA	**Coronel Fontan**	**10.18**	**179**	*e*	P		**P**	**20 39 32.2**	**-4.1**
	comp=N,0.4nm,0.3s,baz=355,slow=12,SNR=16								
CFAA					S		**S**	**20 41 18.1**	**-11**
	comp=N,0.7nm,0.3s,baz=123,slow=8.0,SNR=8.6								
CFAA	**Coronel Fontan**	**10.18**	**179**		P		**P**	**20 39 32.2**	**-4.1**
CFAA					S		**S**	**20 41 18.1**	**-11**
CPUP	**Villa Florida**	**11.38**	**118**		Pn		**P**	**20 39 52.3**	**+0.1**
	comp=N,51nm,0.7s								
TRQA	**Tornquist**	**17.56**	**163**		P		**P**	**20 41 10.8**	**-0.4**
	comp=N,25nm,1.1s								
PLCA	**Paso Flores**	**19.36**	**185**		P		**P**	**20 41 30.4**	**-1.1**
	comp=N,1.2nm,0.3s,baz=0.6,slow=13,SNR=36								
PLCA	**Paso Flores**	**19.36**	**185**		P		**P**	**20 41 30.4**	**-1.0**
	comp=N,30nm,0.9s								
BDFB	**Brasilia**	**20.28**	**77**		P		**P**	**20 41 40.8**	**-0.3**
	comp=N,70nm,0.5s,baz=261,slow=11,SNR=120								
BDFB					LR		LR	20 50 14.5	
	comp=N,29nm,18.5s,baz=298,slow=38								
BAO	**Brasilia Array**	**20.30**	**77**		P		**P**	**20 41 32.5**	**-8.8**
OTAV	**Otavalo**	**23.57**	**335**	*e*	P		**P**	**20 42 20.3**	**+6.8**
	comp=N,21nm,1.5s,mb4.2								
SDV	**Santo Domingo**	**30.15**	**356**		pP		pP	20 43 38.1	-0.1
	comp=N,3.4nm,0.3s,baz=279,slow=2.2,SNR=2.7								
SDV	**Santo Domingo**	**30.15**	**356**		pP		pP	20 43 39.6	+1.4
USHA	**Ushuaia**	**33.40**	**180**		P		**P**	**20 43 41.4**	**-0.5**
	comp=N,5.8nm,0.6s,mb4.6,baz=347,slow=11,SNR=5.0								
SJG	**San Juan**	**39.32**	**4**		pP		pP	20 44 56.6	-0.7
SWET	**Sewanee**	**58.66**	**343**		pP		pP	20 47 25.6	-1.4
WVT	**Waverly**	**60.04**	**342**	*e*	P		**P**	**20 47 08.8**	**-0.9**
	comp=N,9.8nm,1.2s,mb4.7								
WVT				*e*	pP		pP	20 47 34.7	-1.9
TXAR	**Lajitas Array**	**60.73**	**325**		P		**P**	**20 47 12.8**	**-1.7**
	comp=N,0.4nm,0.5s,mb3.7,baz=146,slow=4.5,SNR=3.5								
TXAR					pP		pP	20 47 40.1	-1.4
	comp=N,0.5nm,0.3s,baz=153,slow=10,SNR=2.2								
SNAA	**Sanae**	**62.28**	**161**		P		**P**	**20 47 24.1**	**-0.2**
	comp=N,3.5nm,0.6s,mb4.5,baz=282,slow=6.3,SNR=44								
SNAA	**Sanae**	**62.28**	**161**	*e*	P		**P**	**20 47 23.8**	**-0.6**
	comp=N,8.9nm,0.7s,mb4.9								
FVM	**French Village**	**62.53**	**341**		pP		pP	20 47 53.1	-0.4
CCM	**Cathedral Cave**	**62.85**	**340**		pP		pP	20 47 56.0	+0.3
MNTX	**Cornudas Mount**	**63.49**	**325**		P		**P**	**20 47 30.8**	**-2.2**
MNTX					pP		pP	20 47 58.5	-1.5
SDCO	**Great Sand Dun**	**68.32**	**329**		P		**P**	**20 48 03.6**	**0.0**
	comp=N,9.5nm,1.2s,mb4.5								
SDCO					pP		pP	20 48 32.4	+1.4
DBIC	**Dimbokro**	**68.37**	**73**		P		**P**	**20 48 04.0**	**-0.3**
	comp=N,10nm,0.7s,mb4.8,baz=224,slow=5.5,SNR=13								
DBIC	**Dimbokro**	**68.37**	**73**	*e*	P		**P**	**20 48 03.9**	**-0.4**
	comp=N,12nm,0.8s,mb4.8								
QSPA	**South Pole Qui**	**68.81**	**180**	*e*	P		**P**	**20 48 06.0**	**+0.1**
	comp=N,8.8nm,0.6s,mb4.8								
WUAZ	**Wupatki**	**69.64**	**324**		P		**P**	**20 48 12.1**	**+0.4**
	comp=N,12nm,1.0s,mb4.7								
WUAZ					pP		pP	20 48 42.2	+3.0
SRU	**San Rafael**	**71.86**	**327**	*e*	P		**P**	**20 48 24.2**	**-0.7**
	comp=N,8.0nm,0.6s,mb4.7								
SRU				*e*	pP		pP	20 48 51.7	-1.0
MSU	**Marysvale**	**72.28**	**325**	*e*	P		**P**	**20 48 27.6**	**+0.2**
MSU				*e*	pP		pP	20 48 55.4	+0.2
MVU	**Marysvale**	**72.29**	**325**		P		**P**	**20 48 30.1**	**+2.6**
	comp=N,11nm,1.1s,mb4.6								
MVU					pP		pP	20 49 00.1	+4.9
TMUT	**Trail Mountain**	**72.35**	**327**	*e*	P		**P**	**20 48 25.1**	**-2.8**
ARUT	**Antelope Range**	**72.43**	**324**	*e*	P		**P**	**20 48 29.1**	**+0.8**
ARUT				*e*	pP		pP	20 48 56.5	+0.5
ARUT				*e*	sP		sP	20 49 09.0	+1.1
TPNV	**Topopah Spring**	**73.41**	**322**		P		**P**	**20 48 35.1**	**+1.0**
DAC	**Darwin (Calif)**	**73.74**	**321**		P		**P**	**20 48 36.6**	**+0.6**
DUG	**Dugway**	**73.85**	**326**		P		**P**	**20 48 37.2**	**+0.6**
PDAR	**Pinedale Array**	**74.18**	**330**		P		**P**	**20 48 37.8**	**-0.7**
	comp=N,1.0nm,0.5s,mb3.8,baz=129,slow=7.3,SNR=9.9								
PDAR					pP		pP	20 49 07.9	+1.5
	comp=N,1.2nm,0.8s,baz=143,slow=7.4,SNR=3.6								
REDW	**Red Top Meadow**	**75.25**	**329**		P		**P**	**20 48 44.9**	**+0.4**
ULM	**Lac du Bonnet**	**75.31**	**342**		P		**P**	**20 48 42.9**	**-1.8**
	comp=N,1.8nm,0.6s,mb4.0,baz=167,slow=6.6,SNR=6.9								
ULM					pP		pP	20 49 12.4	-0.3
	comp=N,4.6nm,0.8s,baz=133,slow=6.0,SNR=7.4								
LOHW	**Long Hollow**	**75.32**	**330**		P		**P**	**20 48 45.0**	**+0.1**
TPAW	**Teton Pass**	**75.39**	**330**		P		**P**	**20 48 45.5**	**+0.2**
NVAR	**Mina Array Bea**	**75.61**	**322**		P		**P**	**20 48 46.8**	**+0.1**
	comp=N,1.7nm,0.8s,mb3.8,baz=180,slow=8.4,SNR=12								
NVAR					pP		pP	20 49 14.8	0.0
	comp=N,0.9nm,0.7s,baz=149,slow=8.6,SNR=4.1								
NVAR					sP		sP	20 49 27.1	+0.6
	comp=N,1.6nm,0.9s,baz=133,slow=7.3,SNR=3.4								
IMW	**Indian Meadow**	**75.69**	**330**		P		**P**	**20 48 47.7**	**+0.7**
IMW					pP		pP	20 49 17.2	+2.2
SCHQ	**Schefferville**	**75.92**	**1**		P		**P**	**20 48 47.9**	**-0.2**
	comp=N,2.1nm,0.5s,mb4.2,baz=217,slow=14,SNR=7.4								
SCHQ					pP		pP	20 49 16.2	+0.1
	comp=N,4.5nm,0.8s,baz=284,slow=11,SNR=2.7								
LKWY	**Lake**	**75.95**	**331**		pP		pP	20 49 20.2	+3.7
VNDA	**Vanda**	**77.02**	**190**		P		**P**	**20 48 55.2**	**+1.3**
	comp=N,2.3nm,0.8s,mb4.0,baz=93,slow=5.9,SNR=11								
VNDA	**Vanda**	**77.02**	**190**		P		**P**	**20 48 55.2**	**+1.3**
PAHR	**Pah Rah Range**	**77.09**	**322**	*e*	P		**P**	**20 48 55.5**	**+0.5**
	comp=N,9.6nm,0.8s,mb4.6								
HLID	**Hailey**	**77.12**	**328**	*e*	P		**P**	**20 48 55.6**	**+0.5**
	comp=N,8.1nm,0.9s,mb4.5								
HLID				*e*	pP		pP	20 49 23.5	+0.3
HLID				*e*	sP		sP	20 49 36.4	+1.3
BMO	**Blue Mountains**	**79.50**	**327**		P		**P**	**20 49 08.4**	**+0.3**
	comp=N,7.2nm,0.9s,mb4.5								
FCC	**Fort Churchill**	**82.59**	**347**		pP		pP	20 49 53.4	+1.0
MAW	**Mawson**	**84.34**	**163**		P		**P**	**20 49 33.8**	**+1.2**
	comp=N,6.4nm,0.6s,mb4.6,baz=210,slow=6.2,SNR=15								
LBTB	**Lobatse**	**84.76**	**115**		P		**P**	**20 49 38.5**	**+2.8**
	comp=N,4.9nm,1.0s,mb4.4,baz=30,slow=12,SNR=5.4								
YKA	**Yellowknife Ar**	**91.19**	**340**		P		**P**	**20 50 04.9**	**-0.5**
	comp=N,2.9nm,0.7s,mb4.5,baz=134,slow=4.5,SNR=80								
WRA	**Warramunga Arr**	**133.23**	**210**		PKP		PKPdf	20 56 17.0	+1.2
	comp=N,1.8nm,0.6s,baz=158,slow=1.8,SNR=33								
MKAR	**Makanchi Array**	**145.34**	**36**		PKPbc		PKPbc	20 56 39.2	+1.9
	comp=N,3.1nm,0.7s,baz=315,slow=3.4,SNR=23								
MKAR					pPKPbc			20 57 10.2	
	comp=N,12nm,0.9s,baz=315,slow=3.4,SNR=16								
WMQ	**Urumqi**	**150.17**	**36**	*e*	PKP		PKPdf	20 56 48.1	+3.4
MJAR	**Matsushiro Arr**	**152.26**	**309**		PKPbc		PKPdf	20 56 55.9	+7.8
	comp=N,2.3nm,0.7s,baz=95,slow=1.8,SNR=7.1								
MJAR					pPKPbc			20 57 26.7	
	comp=N,2.0nm,0.8s,baz=83,slow=1.6,SNR=3.3								
SONM	**Songino Array**	**153.29**	**8**		PKP		PKPdf	20 56 51.6	+2.5
	comp=N,0.9nm,0.8s,baz=302,slow=1.6,SNR=5.9								
SONM					PKPbc		PKPdf	20 56 58.3	+9.2
	comp=N,0.9nm,0.5s,baz=301,slow=1.1,SNR=9.9								
NJ2	**Nanjing**	**167.49**	**330**	*e*	PKP		PKPdf	20 57 08.4	+3.3

IDC 20 20:43:31.6±2.2, 45.11S×97.11E, mb4.1/2, mb1 4.3/2, mb1mx3.9/10, mbtmp4.1/2, Error ellipse: s-maj=116.4km s-min=51.7km az=171.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.78**	**85**		P		P	20 50 40.7	-2.1
	2.9nm,1.0s,baz=276,slow=9.2,SNR=4.2								
WRA	**Warramunga Arr**	**39.66**	**63**		P		P	20 51 05.3	-1.6
	2.5nm,0.7s,baz=223,slow=8.4,SNR=23								
INK	**Inuvik**	**145.33**	**30**		PKPbc		PKPbc	21 03 09.5	-0.9
	1.5nm,0.6s,baz=281,slow=3.2,SNR=6.0								
NVAR	**Mina Array Bea**	**152.91**	**92**		PKPbc		PKPdf	21 03 31.1	+6.4
	0.7nm,0.7s,baz=231,slow=5.8,SNR=4.8								
YKA	**Yellowknife Ar**	**154.83**	**35**		PKPbc		PKPdf	21 03 32.7	+6.2
	0.3nm,0.8s,baz=307,slow=2.2,SNR=4.1								

*NEIC **20** 21:04:51.3±0.2, 43.79N×105.26W, ML3.3, Error ellipse: s-maj=3.5km s-min=2.9km az=129.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **20** 21:04:52.5±0.9, 44.07N×105.86W, mb3.8/1, mb1 3.5/7, mb1mx3.4/23, mbtmp3.3/7, ML3.3/5, Error ellipse: s-maj=21.2km s-min=7.8km az=146.0*

ISC 20 21:04:49.5±0.5, 43.78N±0.04×105.26W±0.06, n40, σ0§85/41, mb3.8/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**69**	*e*	P		**Pg**	**21 05 09.7**	**+1.3**
PHWY	**Pilot Hill**	**2.48**	**184**	*e*	P		**Pn**	**21 05 32.6**	**+0.8**
RWWY	**Rawlins**	**2.54**	**215**	*e*	P		**Pn**	**21 05 34.5**	**+1.9**
LAO	**LASA Array**	**2.98**	**347**	*e*	P		**Pn**	**21 05 39.9**	**+0.9**
PDAR	**Pinedale Array**	**3.30**	**254**		Pn		**Pn**	**21 05 44.4**	**+0.8**
	3.8nm,0.3s,baz=70,slow=16,SNR=74								
PDAR					Lg			21 06 25.6	
	4.3nm,0.3s,baz=74,slow=26,SNR=6.9								
BW06	**Boulder Array**	**3.30**	**254**	*e*	P		**Pn**	**21 05 44.1**	**+0.6**
LKWY	**Lake**	**3.78**	**284**	*e*	P		**Pn**	**21 05 50.8**	**+0.4**
LOHW	**Long Hollow**	**3.88**	**269**	*e*	P		**Pn**	**21 05 52.0**	**+0.3**
ISCO	**Idaho Springs**	**3.99**	**184**	*e*	P		**Pn**	**21 05 54.0**	**+0.7**
SNOW	**Snow King Moun**	**4.00**	**267**		P		**Pn**	**21 05 53.8**	**+0.3**
YFT	**Old Faithful**	**4.07**	**281**		P		**Pn**	**21 05 55.4**	**+0.9**
REDW	**Red Top Meadow**	**4.09**	**266**	*e*	P		**Pn**	**21 05 55.4**	**+0.7**
IMW	**Indian Meadow**	**4.11**	**274**	*e*	P		**Pn**	**21 05 56.2**	**+1.1**
TPAW	**Teton Pass**	**4.14**	**268**	*e*	P		**Pn**	**21 05 56.0**	**+0.5**
YMR	**Madison River**	**4.20**	**284**	*e*	P		**Pn**	**21 05 56.5**	**+0.3**
DGMT	**Dagmar**	**4.75**	**9**	*e*	P		**Pn**	**21 06 04.1**	**+0.1**
SMCO	**Snowmass**	**4.78**	**196**	*e*	P		**Pn**	**21 06 05.1**	**+0.6**
BOZ	**Bozeman (W)**	**4.91**	**295**		P		**Pn**	**21 06 06.2**	**-0.1**
HWUT	**Hardware Ranch**	**5.13**	**247**	*e*	P		**Pn**	**21 06 09.1**	**-0.5**
TCUT	**Toone Canyon**	**5.27**	**242**	*e*	P		**Pn**	**21 06 11.5**	**0.0**
EGMT	**Eagleton**	**5.28**	**325**	*e*	P		**Pn**	**21 06 11.4**	**-0.1**
DLMT	**Dillon**	**5.48**	**289**		P		**Pn**	**21 06 13.5**	**-0.8**
DAU	**Daniels Canyon**	**5.59**	**235**	*e*	P		**Pn**	**21 06 16.2**	**+0.2**
SPUT	**South Promonto**	**5.86**	**248**		P		**Pn**	**21 06 18.8**	**-1.0**
HVU	**Hansel Valley**	**5.88**	**253**	*e*	P		**Pn**	**21 06 19.6**	**-0.5**
SRU	**San Rafael**	**6.12**	**222**	*e*	P		**Pn**	**21 06 22.5**	**-0.9**
TMUT	**Trail Mountain**	**6.33**	**227**	*e*	P		**Pn**	**21 06 26.2**	**-0.1**
CBKS	**Cedar Bluff**	**6.47**	**138**		P		**Pn**	**21 06 28.0**	**-0.4**
DUG	**Dugway**	**6.67**	**240**	*e*	P		**Pn**	**21 06 30.1**	**-1.1**
MSU	**Marysvale**	**7.41**	**227**	*e*	P		**Pn**	**21 06 40.6**	**-1.0**
ELK	**Elko**	**8.00**	**251**		Pn		**Pn**	**21 06 49.3**	**-0.6**
	0.2nm,0.3s,baz=51,slow=13,SNR=4.0								
ELK					Sn		**Sn**	**21 08 12.5**	**-10**
	0.6nm,0.3s,baz=86,slow=11,SNR=7.5								
ARUT	**Antelope Range**	**8.62**	**229**	*e*	P		**P**	**21 06 57.8**	**-0.7**
ULM	**Lac du Bonnet**	**9.10**	**41**		Pn		**P**	**21 07 03.6**	**-1.5**
	0.6nm,0.3s,baz=226,slow=11,SNR=9.1								
ULM					Pg		P	21 07 37.7	+33
	0.6nm,0.3s,baz=226,slow=15,SNR=5.5								
ULM					Lg			21 09 34.8	
	0.2nm,0.3s,baz=130,slow=22,SNR=2.9								
ULM	**Lac du Bonnet**	**9.10**	**41**		Pn		**P**	**21 07 03.6**	**-1.5**
ULM					Pg		P	21 07 37.7	+33
ULM					Lg			21 09 34.8	
WUAZ	**Wupatki**	**9.50**	**212**		P		**P**	**21 07 09.0**	**-1.7**
NVAR	**Mina Array Bea**	**11.20**	**246**		Pn		**P**	**21 07 34.0**	**+0.1**
	0.1nm,0.3s,baz=56,slow=14,SNR=3.5								
TXAR	**Lajitas Array**	**14.48**	**174**		Pn		**P**	**21 08 24.6**	**+6.9**
	baz=5.7,slow=9.1,SNR=2.1								
TXAR					Lg			21 12 31.8	
	0.1nm,0.3s,slow=20,SNR=3.7								
YKA	**Yellowknife Ar**	**19.53**	**347**		P		**P**	**21 09 18.6**	**-2.3**
	0.1nm,0.3s,baz=160,slow=13,SNR=4.6								
MKAR	**Makanchi Array**	**89.56**	**355**		P		**P**	**21 17 50.0**	**+0.3**
	0.4nm,0.7s,mb3.8,baz=349,slow=6.2,SNR=3.6								
MKAR	**Makanchi Array**	**89.56**	**355**		P		**P**	**21 17 50.0**	**+0.3**

*MOS **20** 21:12:55.0±1.7, 57.36N×120.77E, h28km, mb4.0/1, Error ellipse: s-maj=49.7km s-min=39.2km az=152.6*

BYKL 20 21:12:52.7±0.3, 57.43N×120.95E, 3C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**1.55**	**251**	⇓*i*	P	**g**	Pg	21 13 21.3	-2.4
CRS					Pmax			21 13 21.9	
	627nm,0.8s								
CRS				*e*	Sg		Sg	21 13 40.7	-3.7
CRS					Smax			21 13 42.2	
	643nm,1.1s								
CRS	**Chara**	**1.55**	**251**	*e*	P	**n**	Pn	21 13 21.5	-0.2
CRS				*e*				21 13 40.7	
CRS					pmax		pmax		
	comp=Z,443nm,0.7s								
CRS					smax				
	comp=E,485nm,0.6s								
NRGR	**Nerungri**	**2.20**	**109**	*e*	P		Pn	21 13 32.5	+1.5
NRGR					S		Sn	21 14 01.6	+2.2
CLNS	**Chul'man**	**2.23**	**104**	*e*	P		Pn	21 13 34.6	+3.2
CLNS					eS		Sn	21 14 02.1	+2.0
CLNS					pmax		pmax		
	comp=N,10.0nm,0.3s								
CLNS					pmax		pmax		
	comp=E,7.0nm,0.3s								
CLNS					pmax		pmax		
	comp=Z,18nm,0.3s								
CLNS					pmax		pmax		
	comp=Z,37nm,0.3s								
CLNS					pmax		pmax		
	comp=N,31nm,0.4s								
CLNS					pmax		pmax		
	comp=E,20nm,0.3s								
CLNS					smax				
	comp=N,70nm,0.3s								
CLNS					smax				
	comp=Z,61nm,0.4s								
CLNS					smax				
	comp=E,82nm,0.3s								
CLNS					smax				
	comp=N,958nm,0.5s								
CLNS					smax				
	comp=E,1μm,0.4s								
CLNS					smax				
	comp=Z,410nm,0.4s								
CLNS					MLR		MLR		
	comp=Z,40nm,9.0s								
ALDR	**Aldan**	**2.65**	**62**	*e*	Pg		Pg	21 13 40.4	-5.2
ALDR					Pmax			21 13 49.3	
	comp=Z,183nm,0.2s								
ALDR				*e*	Sg		Sg	21 14 15.1	-5.9
ALDR					Smax			21 14 15.4	
	comp=Z,3μm,0.2s								
NLYR	**Nelyaty**	**3.02**

SYVR				*e*Sg	Sg	21 16 37.7	-17	
SYVR				Smax		21 16 44.2		
	comp=Z,199nm,2.3s							
OGRR	**Ongureny**	**8.47**	**249**	*e*Sg	Sg	21 17 14.7	-20	
OGRR				Smax		21 17 57.4		
	comp=Z,107nm,1.9s							
KPC	**Khapcheranga**	**9.26**	**217**	*e*Pn	P	21 15 08.6	-1.9	
KPC				*e*Pg	P	21 15 39.7	+29	
KPC				Pmax		21 15 58.2		
	comp=Z,8.0nm,0.7s							
KPC				*e*Sg	Sg	21 17 38.6	-22	
KPC				Smax		21 18 03.4		
	comp=Z,88nm,1.3s							
TRG	**Tyrgan**	**9.58**	**247**	*e*Sg	Sg	21 17 49.7	-22	
TRG				Smax		21 17 56.9		
	comp=Z,51nm,2.4s							
BTGS	**Batagay**	**12.00**	**26**	*e*Sg	S	21 19 04.7	+61	
BTGS				Smax		21 19 22.2		
	comp=Z,84nm,0.9s							
ARS	**Arshan**	**12.04**	**251**	*e*Sg	S	21 19 05.3	+61	
ARS				Smax		21 19 26.9		
	comp=Z,69nm,1.1s							
ZAK	**Zakamensk**	**12.56**	**243**	*e*Sg	S	21 19 21.9	+65	
ZAK				Smax		21 19 32.8		
	comp=Z,31nm,1.9s							
MOY	**Mondy**	**12.92**	**252**	*e*Sg	S	21 19 30.2	+64	
MOY				Smax		21 20 07.7		
	comp=Z,51nm,2.1s							
ORL	**Orlik**	**13.07**	**257**	*e*Sg	S	21 19 36.0	+67	
ORL				Smax		21 19 50.7		
	comp=Z,34nm,1.8s							
TDJR	**Todzha**	**15.11**	**261**	*e*Sg		21 20 37.5		

CASC 20 21:12:53.9±2.8, 11.18N×86.83W, h27km±8km, MD4.2, ML3.9, 10C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.97**	**84**	⇑*e*P	Pn	21 13 11.6	-0.2
SSNN				*e*S	Sb	21 13 25.0	+0.7
COPN	**Copaltepe**	**1.02**	**13**	⇓*i*P	Pn	21 13 12.8	+0.3
COPN				*e*S	Sb	21 13 26.2	+0.4
TICN	**Ticuantepe**	**1.03**	**35**	‖*e*P	Pn	21 13 13.0	+0.3
MASN	**Masaya**	**1.04**	**40**	‖*e*P	Pn	21 13 12.7	-0.2
APON	**Apoyo**	**1.05**	**46**	*e*P	Pn	21 13 12.7	-0.2
XAVN	**Gruta Xavier**	**1.08**	**27**	*e*P	Pn	21 13 13.6	+0.1
XAVN				*e*S	Sb	21 13 29.1	+1.6
MGAN	**Managua**	**1.12**	**31**	⇑*i*P	Pn	21 13 12.9	-1.1
MGAN				*e*S	Sn	21 13 28.2	-0.3
MGAN				*e*S	Sn	21 13 28.5	0.0
	comp=N,3μm,0.4s						
WILN	**Americas 2**	**1.16**	**33**	*e*P	Pn	21 13 14.4	-0.2
WILN				*e*S	Sn	21 13 29.4	-0.2
LEON	**Leon**	**1.23**	**357**	⇑*i*P	Pn	21 13 16.0	+0.4
LEON				*e*S	Sn	21 13 29.9	-1.6
CONN	**Concepcion**	**1.24**	**72**	⇑*e*P	Pn	21 13 15.1	-0.6
CONN				*e*S	Sn	21 13 33.3	+1.7
MOMJ	**Momotombo**	**1.25**	**13**	⇑*e*P	Pn	21 13 15.8	-0.1
MOMJ				*e*S	Sn	21 13 32.8	+0.8
MIRN	**Miramar**	**1.26**	**5**	⇓*i*P	Pn	21 13 16.2	+0.3
MIRN				*e*S	Sn	21 13 32.5	+0.4
MADN	**Villa Maderas**	**1.29**	**80**	*e*P	Pn	21 13 16.1	-0.4
MADN				*e*S	Sn	21 13 32.3	-0.7
CNGN	**Cerro Negro**	**1.32**	**6**	⇑*e*P	Pn	21 13 17.1	+0.2
CNGN				*e*S	Sn	21 13 33.4	-0.3
TEL3	**Telica 3**	**1.38**	**359**	⇑*e*P	Pn	21 13 18.1	+0.4
TEL3				*e*S	Sn	21 13 37.1	+1.8
TELN	**Telica**	**1.42**	**360**	⇑*e*P	Pn	21 13 18.6	+0.4
TELN				*e*S	Sn	21 13 36.0	-0.1
CRIN	**San Cristobal**	**1.53**	**352**	⇑*e*P	Pn	21 13 20.5	+0.7
VCR	**Vista de Mar**	**1.58**	**132**	*e*P	Pn	21 13 23.1	+2.6
LIM1	**Limonal**	**1.62**	**107**	⇑*e*P	Pn	21 13 20.1	-1.1
LIM1				*e*S	Sn	21 13 42.4	+1.1
LCR2	**La Lucha 2**	**3.12**	**117**	*e*P	Pn	21 13 39.4	-3.3
LCR2				*e*S	Sn	21 14 20.6	+1.1
URSC	**Urasca**	**3.28**	**114**	*e*P	Pn	21 13 46.3	+1.4
BUS	**Buena Vista**	**3.42**	**118**	*e*P	Pn	21 13 47.5	+0.6

*STR **20** 21:27:30.5±0.1, 43.07N×0.57W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 21:27:30.6±0.1, 43.05N×0.57W, h6km, Md2.4/2, Ml2.5/7, Error ellipse: s-maj=1.2km s-min=0.8km az=6.0*
*NEIC **20** 21:27:30.5, 43.07N×0.57W, h5km, ML2.5(LDG), ML2.4(STR), MN1.9(MDD), After STR.*
*CSEM **20** 21:27:30.7±0.1, 43.06N×0.57W, h2km, ML2.6/7, Error ellipse: s-maj=1.1km s-min=0.7km az=3.0*
*MDD **20** 21:27:31.1±0.2, 43.08N×0.55W, mbLg1.9/21, Error ellipse: s-maj=2.3km s-min=1.3km az=10.0, PRXIMO*

ISC 20 21:27:29.4±0.3, 43.15N±0.02×0.53W±0.02, h8km±3km, n65, σ1§12/110, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.13**	**129**	Pg	**Pg**	**21 27 33.2**	**+0.8**
REYF				Sg	**Sg**	**21 27 35.2**	**+0.8**
REYF	**Montagne du Re**	**0.13**	**129**	P	**Pg**	**21 27 33.3**	**+0.8**
REYF				S	**Sg**	**21 27 35.1**	**+0.7**
ATE	**Arette**	**0.14**	**242**	Pg	**Pg**	**21 27 32.6**	**0.0**
ATE				Sg	**Sg**	**21 27 35.0**	**+0.3**
ATE	**Arette**	**0.14**	**242**	P	**Pg**	**21 27 32.6**	**0.0**
ATE				S	**Sg**	**21 27 34.3**	**-0.4**
ETSF	**Etsaut**	**0.25**	**185**	*e*Pg	**Pg**	**21 27 34.0**	**-0.7**
ETSF				*e*Sg	**Sg**	**21 27 35.7**	**-2.5**
	372nm,0.3s						
ORDF	**Ordiarp**	**0.30**	**282**	Pg	**Pg**	**21 27 36.6**	**+0.9**
ORDF				Sg	**Sg**	**21 27 41.7**	**+1.9**
ORDF	**Ordiarp**	**0.30**	**282**	P	**Pg**	**21 27 36.7**	**+1.0**
ORDF				S	**Sg**	**21 27 41.9**	**+2.1**
FDAF	**Les Forges d'A**	**0.33**	**185**	P	**Pg**	**21 27 35.6**	**-0.7**
FDAF				S	**Sg**	**21 27 39.2**	**-1.6**
LARF	**Larrau**	**0.35**	**251**	Pg	**Pg**	**21 27 36.7**	**+0.1**
LARF				Sg	**Sg**	**21 27 41.6**	**+0.1**
LARF	**Larrau**	**0.35**	**251**	P	**Pg**	**21 27 36.8**	**+0.1**
LARF				S	**Sg**	**21 27 41.7**	**+0.2**
LABF	**Labassere**	**0.46**	**103**	Pg	**Pg**	**21 27 39.7**	**+1.0**
LABF				Sg	**Sg**	**21 27 46.9**	**+2.1**
LABF	**Labassere**	**0.46**	**103**	P	**Pg**	**21 27 39.8**	**+1.1**
LABF				S	**Sg**	**21 27 47.0**	**+2.2**
VIEF	**Viey**	**0.49**	**123**	Pg	**Pg**	**21 27 39.5**	**+0.2**
VIEF				Sg	**Sg**	**21 27 46.3**	**+0.5**
VIEF	**Viey**	**0.49**	**123**	P	**Pg**	**21 27 39.6**	**+0.4**
VIEF				S	**Sg**	**21 27 46.2**	**+0.4**
SJPF	**Ste Jean**	**0.51**	**266**	*e*Pg	**Pg**	**21 27 40.0**	**+0.3**
SJPF				*e*Sg	**Sg**	**21 27 46.7**	**+0.1**
	30nm,0.2s						
OSSF	**Osses**	**0.54**	**281**	Pg	**Pg**	**21 27 40.6**	**+0.2**
OSSF	**Osses**	**0.54**	**281**	P	**Pg**	**21 27 40.6**	**+0.2**
OSSF				S	**Sg**	**21 27 48.8**	**+1.0**
EPF	**Esparros**	**0.65**	**100**	*e*Pg	**Pg**	**21 27 43.4**	**+0.9**
EPF				*e*Sg	**Sg**	**21 27 52.9**	**+1.7**
	7.7nm,0.2s						
EBIE	**Bielsa**	**0.68**	**133**	Pg	**Pg**	**21 27 42.8**	**-0.3**
	1.7nm,0.1s,SNR=14						
EBIE				Lg		21 27 51.1	
	25nm,0.1s,SNR=5.8						
EBIE	**Bielsa**	**0.68**	**133**	Pg	**Pg**	**21 27 42.8**	**-0.3**
	1.7nm,0.1s,SNR=14						
IPRE	**Itoiz**	**0.70**	**241**	Pg	**Pg**	**21 27 44.4**	**+1.0**
	1.2nm,0.1s,SNR=7.9						
IPRE				Lg		21 27 53.0	
	3.9nm,0.2s,SNR=7.5						
IPRE	**Itoiz**	**0.70**	**241**	Pg	**Pg**	**21 27 44.4**	**+1.0**
	1.2nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.72**	**276**	Pg	**Pg**	**21 27 44.0**	**+0.1**
	1.3nm,0.1s,SNR=25						
EALK				Lg		21 27 53.6	
	21nm,0.2s,SNR=12						
RESF	**Ens**	**0.72**	**118**	Pg	**Pg**	**21 27 44.0**	**0.0**
RESF				Sg	**Sg**	**21 27 53.8**	**+0.1**
RESF	**Ens**	**0.72**	**118**	P	**Pb**	**21 27 44.2**	**+0.3**
RESF				S	**Sb**	**21 27 53.8**	**+0.1**
IUSE	**Utxeti**	**0.77**	**255**	Pg	**Pg**	**21 27 45.2**	**+0.3**
	1.8nm,0.1s,SNR=7.9						
IUSE				Lg		21 27 55.1	
	10nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.77**	**255**	Pg	**Pg**	**21 27 45.2**	**+0.3**
	1.8nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.81**	**241**	Pg	**Pg**	**21 27 46.6**	**+0.9**
	1.8nm,0.1s,SNR=7.9						
IUNC				Lg		21 27 57.0	
	8.7nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.81**	**241**	Pg	**Pg**	**21 27 46.6**	**+0.9**
	1.8nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.86**	**244**	Lg		21 27 58.3	
	7.6nm,0.2s,SNR=4.0						
MELF	**Melles**	**0.99**	**106**	Pg	**Pg**	**21 27 49.7**	**+0.5**
MELF	**Melles**	**0.99**	**106**	P	**Pb**	**21 27 49.5**	**+1.1**
MELF				S	**Sb**	**21 28 03.3**	**+2.0**
EGRA	**Graus**	**1.14**	**147**	Pg	**Pg**	**21 27 51.4**	**-0.8**
	1.1nm,0.1s,SNR=7.1						
EGRA				Lg		21 28 07.4	
	4.2nm,0.2s,SNR=8.9						
SALF	**Salau**	**1.32**	**107**	Pg	**Pg**	**21 27 57.0**	**+1.1**
SALF	**Salau**	**1.32**	**107**	P	**Pb**	**21 27 55.8**	**+1.7**
SALF				S	**Sb**	**21 28 13.0**	**+2.0**
ESAC	**San Caprasio**	**1.43**	**178**	Pg	**Pg**	**21 27 57.1**	**-0.9**
	10nm,0.2s,SNR=16						
ESAC				Lg		21 28 15.0	
	53nm,0.3s,SNR=4.7						
ESAC	**San Caprasio**	**1.43**	**178**	Pg	**Pg**	**21 27 57.1**	**-0.9**
	10nm,0.2s,SNR=16						
EMIR	**Miracle**	**1.96**	**128**	Lg		21 28 32.9	
	7.2nm,0.1s,SNR=5.0						
LFF	**La Frestale**	**2.01**	**27**	*e*Pg	**Pg**	**21 28 10.0**	**+0.4**
LFF				*e*Sg	**Sg**	**21 28 37.2**	**+0.8**
	11nm,0.3s						
LFF	**La Frestale**	**2.01**	**27**	Pn	**Pn**	**21 28 04.5**	**+0.5**
LFF				Lg		21 28 37.2	
	5.4nm,0.3s						
LFF	**La Frestale**	**2.01**	**27**	*e*Pn	**Pn**	**21 28 04.5**	**+0.5**
LFF				*e*Pg	**Pg**	**21 28 10.0**	**+0.4**
LFF				*e*Sg	**Sg**	**21 28 37.2**	**+0.8**
LFF	**La Frestale**	**2.01**	**27**	*e*Pg	**Pg**	**21 28 10.0**	**+0.4**
LFF				*e*Sg	**Sg**	**21 28 37.2**	**+0.8**
	5.4nm,0.3s						
MTLF	**Montolieu**	**2.02**	**84**	*e*Pg	**Pg**	**21 28 08.9**	**-0.8**
MTLF				*e*Sg	**Sg**	**21 28 35.4**	**-1.3**
	3.7nm,0.2s						
ELAN	**Lanestosa**	**2.12**	**273**	Pn	**Pn**	**21 28 10.1**	**+4.4**
	0.4nm,0.3s,SNR=4.0						
ELAN				Sn	**Sn**	**21 28 33.3**	**+0.8**
	1.9nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.16**	**146**	Pg	**Pg**	**21 28 10.9**	**-1.6**
	0.9nm,0.2s,SNR=7.9						
EPOB				Lg		21 28 37.0	
	2.8nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.16**	**146**	Pg	**Pg**	**21 28 10.9**	**-1.7**
	0.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.29**	**163**	Pg	**Pg**	**21 28 12.0**	**-3.1**
	0.8nm,0.1s,SNR=7.9						
ERTA				Lg		21 28 41.0	
	3.7nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.29**	**163**	Pg	**Pg**	**21 28 12.0**	**-3.1**
	0.8nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.58**	**46**	*e*Sg	**Sg**	**21 28 54.7**	**-0.6**
	3.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.61**	**34**	*e*Pg	**Pg**	**21 28 21.0**	**-0.5**
RJF				*e*Sn	**Sn**	**21 28 44.2**	**-0.6**
RJF				*e*Sg	**Sg**	**21 28 55.7**	**-0.6**
	4.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.61**	**34**	Pn	**Pn**	**21 28 12.8**	**+0.2**
RJF				Pg	**Pg**	**21 28 21.0**	**-0.5**
RJF				Sn	**Sn**	**21 28 44.2**	**-0.6**
RJF				Lg		21 28 55.7	
	2.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.61**	**34**	*e*Pn	**Pn**	**21 28 12.8**	**+0.2**
RJF				*e*Pg	**Pg**	**21 28 21.0**	**-0.5**
RJF				*e*Sn	**Sn**	**21 28 44.2**	**-0.6**
RJF				*e*Sg	**Sg**	**21 28 55.7**	**-0.6**
RJF	**Les Rejaudoux**	**2.61**	**34**	*e*Pg	**Pg**	**21 28 21.0**	**-0.5**
RJF				*e*Sn	**Sn**	**21 28 44.2**	**-0.6**
RJF				*e*Sg	**Sg**	**21 28 55.7**	**-0.6**
	2.1nm,0.2s						
EMOS	**Mosqueruela**	**2.79**	**179**	Pn	**Pn**	**21 28 15.4**	**+0.2**
	0.6nm,0.3s,SNR=4.0						
EMOS				Pg	**Pg**	**21 28 21.3**	**-3.8**
	0.6nm,0.2s,SNR=4.0						
EMOS				Sn	**Sn**	**21 28 47.7**	**-1.6**
	0.4nm,0.1s,SNR=7.9						
EMOS				Lg		21 28 55.3	
	1.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.79**	**179**	Pn	**Pn**	**21 28 15.4**	**+0.3**
	0.6nm,0.3s,SNR=4.0						
EMOS	**Mosqueruela**	**2.79**	**179**	Pg	**Pg**	**21 28 21.3**	**-3.8**
LASF	**Ste Croix**	**3.32**	**72**	*e*Pg	**Pg**	**21 28 33.2**	**-2.5**
LASF				*e*Sg	**Sg**	**21 29 16.6**	**-3.3**
	1.8nm,0.3s						
LASF	**Ste Croix**	**3.32**	**72**	Pn	**Pn**	**21 28 21.8**	**-0.9**
LASF				Pg	**Pg**	**21 28 33.2**	**-2.5**
LASF				Lg		21 29 16.6	
	0.9nm,0.3s						
LASF	**Ste Croix**	**3.32**	**72**	*e*Pn	**Pn**	**21 28 21.8**	**-0.9**
LASF				*e*Pg	**Pg**	**21 28 33.2**	**-2.5**
LASF				*e*Sg	**Sg**	**21 29 16.6**	**-3.3**
MFF	**Saint Martin d**	**3.46**	**4**	*e*Pg	**Pg**	**21 28 36.6**	**-2.0**
MFF				*e*Sg	**Sg**	**21 29 22.7**	**-2.0**
	2.2nm,0.3s						
MFF	**Saint Martin d**	**3.46**	**4**	Pn	**Pn**	**21 28 24.7**	**-0.1**
MFF				Pg	**Pg**	**21 28 36.6**	**-2.0**
MFF				Lg		21 29 22.7	
	1.1nm,0.3s						
MFF	**Saint Martin d**	**3.46**	**4**	*e*Pn	**Pn**	**21 28 24.7**	**-0.1**
MFF				*e*Pg	**Pg**	**21 28 36.6**	**-2.0**
MFF				*e*Sg	**Sg**	**21 29 22.7**	**-2.0**
BGF	**Bois d'Agland**	**4.17**	**34**	*e*Pn	**Pn**	**21 28 34.2**	**-0.6**
BGF				*e*Sg	**Sg**	**21 29 44.7**	**-3.5**
	8.9nm,0.4s						
ESDC	**Sonseca Array**	**4.33**	**218**	Pn	**Pn**	**21 28 35.3**	**-1.8**
	0.2nm,0.1s,baz=40,slow=13,SNR=4.0						
ESDC	**Sonseca Array**	**4.33**	**218**	Pn	**Pn**	**21 28 35.3**	**-1.8**

*IDC **20** 22:00:13.9±0.9, 12.25N×141.33E, mb4.2/9, mb1 4.3/9, mb1mx4.1/20, mbtmp4.2/9, MS3.2/4, Ms1 3.2/4, ms1mx2.8/34, Error ellipse: s-maj=34.1km s-min=17.9km az=78.0*
*MOS **20** 22:00:16.6±0.7, 12.23N×141.34E, h33km, mb5.0/3, Error ellipse: s-maj=27.3km s-min=16.6km az=110.2*
*NEIC **20** 22:00:25.7±0.6, 12.16N×141.35E, h100km, mb4.7/5, Error ellipse: s-maj=19.5km s-min=8.4km az=74.0*

ISC 20 22:00:16.6±0.8, 12.23N±0.08×141.4E±0.2, h33km, n28, σ0§69/24, mb4.4/14, MS3.2/2, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.65**	**68**	LR	LR	22 01 54.3	
	comp=Z,244nm,18.9s,baz=296,slow=27						
JOW	**Lunigami**	**19.05**	**322**	LR	LR	22 11 44.0	
	comp=Z,44nm,18.2s,baz=149,slow=36						
MJAR	**Matsushiro Arr**	**24.38**	**354**	LR	LR	22 13 36.6	
	comp=Z,67nm,18.8s,MS3.1,baz=195,slow=33						
CTA	**Charters Tower**	**32.47**	**171**	P	**P**	**22 06 47.6**	**+1.2**
	7.2nm,0.9s,mb4.5,baz=331,slow=13,SNR=4.0						
CTA				LR	LR	22 17 31.1	
	comp=Z,68nm,19.6s,MS3.4,baz=49,slow=32						
WRAB	**Tennant Creek**	**32.70**	**192**	*e*P	**P**	**22 06 48.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**32.70**	**192**	*e*P	**P**	**22 06 48.0**	**-0.5**
	comp=Z,12nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**32.71**	**192**	*e*P	**P**	**22 06 47.8**	**-0.7**
WB2				*e*	pP	22 06 56.4	-1.8
WRA	**Warramunga Arr**	**32.71**	**192**	P	**P**	**22 06 47.8**	**-0.8**
	comp=Z,9.0nm,0.7s,mb4.8,baz=11,slow=9.9,SNR=94						
ASPA	**Alice Springs**	**36.42**	**192**	*e*P	**P**	**22 07 21.3**	**+1.1**
ASPA				*e*	pP	22 07 29.7	-0.2
PSI	**Prapat**	**43.08**	**261**	P	**P**	**22 08 15.3**	**-0.3**
	comp=Z,4.3nm,0.7s,mb4.3,baz=96,slow=10,SNR=8.7						
STKA	**Stephens Creek**	**43.85**	**180**	P	**P**	**22 08 21.6**	**-0.1**
	comp=Z,4.7nm,0.9s,mb4.2,baz=9.9,slow=9.0,SNR=6.5						
SONM	**Songino Array**	**45.97**	**327**	P	**P**	**22 08 38.8**	**+0.4**
	comp=Z,0.8nm,0.9s,mb3.6,baz=141,slow=18,SNR=3.3						
JIRN	**Jiri**	**53.70**	**295**	*e*P	**P**	**22 09 39.0**	**+1.1**
GUN	**Gumba**	**54.00**	**296**	*e*P	**P**	**22 09 39.7**	**-0.4**
	comp=Z,15nm,0.9s,mb4.9						
KKN	**Kakani**	**54.52**	**295**	*e*P	**P**	**22 09 43.0**	**-0.9**
DMN	**Daman**	**54.66**	**295**	*e*P	**P**	**22 09 46.0**	**+1.1**
GKN	**Gorkha**	**55.10**	**296**	*e*P	**P**	**22 09 47.4**	**-0.7**
KOLN	**Koldanda**	**56.00**	**295**	*e*P	**P**	**22 09 54.0**	**-0.6**
	comp=Z,9.3nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**60.15**	**317**	P	**P**	**22 10 24.0**	**+0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=97,slow=9.8,SNR=8.8						
MKAR	**Makanchi Array**	**60.15**	**317**	P	**P**	**22 10 24.0**	**+0.6**
KURK	**Kurchatov**	**63.47**	**321**	*e*P	**P**	**22 10 45.8**	**+0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
KURK	**Kurchatov**	**63.47**	**321**	*e*P	**P**	**22 10 45.8**	**+0.2**
	comp=Z,9.5nm,0.9s,mb4.9						
BVAR	**Borovoye Array**	**68.91**	**322**	P	**P**	**22 11 20.5**	**+0.3**
	comp=Z,3.3nm,0.7s,mb4.4,baz=108,slow=9.4,SNR=10						
ZRNK	**Zerenda**	**69.73**	**322**	*e*P	**P**	**22 11 25.1**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**69.73**	**322**	*e*P	**P**	**22 11 25.1**	**-0.1**
	comp=Z,4.6nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**71.24**	**25**	P	**P**	**22 11 33.4**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=243,slow=7.1,SNR=4.2						
FINES	**FINESS Array B**	**90.94**	**334**	P	**P**	**22 13 17.8**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.4,baz=72,slow=6.0,SNR=6.9						
LPAZ	**La Paz**	**151.11**	**102**	PKPbc	PKPdf	22 20 12.1	+11
	comp=Z,2.2nm,0.8s,baz=266,slow=3.2,SNR=6.9						

WEL 20 22:00:55.9±0.4, 40.42S×176.90E, h40km±4km, ML3.5/4, 1C, Error ellipse: s-maj=3.7km s-min=2.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.39**	**355**	⇑P*	P	22 01 05.1	-0.1
PXZ				S*	S	22 01 12.6	+0.9
BFZ	**Birch Farm**	**0.56**	**242**	P*	P	22 01 07.0	-0.5
BFZ				S*	S	22 01 15.5	-0.4
BFZ				S*	S	22 01 15.7	-0.1
TSZ	**Takapari Road**	**0.81**	**296**	P*	P	22 01 10.5	-0.4
TSZ				S*	S	22 01 21.1	-0.8
MRZ	**Mangatainoka R**	**1.04**	**256**	PN	P	22 01 14.0	-0.2
MRZ				S*	S	22 01 27.4	-0.3
MOVZ	**Moawhango**	**1.34**	**318**	PN	P	22 01 19.5	+0.8
KIW	**Kapiti Island**	**1.58**	**253**	PN	P	22 01 21.7	-0.2

*IDC **20** 22:08:13.3±1.1, 12.18N×141.22E, mb4.1/8, mb1 4.3/8, mb1mx4.0/18, mbtmp4.1/8, Error ellipse: s-maj=50.9km s-min=20.6km az=83.0*
*NEIC **20** 22:08:25.6±0.7, 12.09N×141.13E, h100km, mb4.7/1, Error ellipse: s-maj=33.1km s-min=12.3km az=82.0*

ISC 20 22:08:16.6±0.9, 12.1N±0.1×141.1E±0.3, h33km, n11, σ0§37/11, mb4.2/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.56**	**192**	P	**P**	**22 14 47.5**	**+0.3**
	3.3nm,0.7s,mb4.4,baz=10,slow=9.8,SNR=32						
WRA				pP	pP	22 14 57.0	+0.2
	1.6nm,0.6s,baz=10,slow=9.7,SNR=9.0						
STKA	**Stephens Creek**	**43.75**	**179**	P	**P**	**22 16 20.7**	**-0.2**
	2.1nm,0.6s,mb4.1,baz=342,slow=12,SNR=4.3						
SONM	**Songino Array**	**45.91**	**328**	P	**P**	**22 16 38.5**	**+0.6**
	0.3nm,0.7s,mb3.3,baz=126,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**60.04**	**317**	P	**P**	**22 18 22.2**	**-0.5**
	2.2nm,1.1s,mb4.1,baz=94,slow=8.0,SNR=5.1						
MKAR	**Makanchi Array**	**60.04**	**317**	P	**P**	**22 18 22.2**	**-0.5**
KURK	**Kurchatov**	**63.37**	**321**	*e*P	**P**	**22 18 44.8**	**-0.2**
	9.7nm,1.0s,mb4.9						
BVAR	**Borovoye Array**	**68.82**	**322**	P	**P**	**22 19 20.0**	**+0.3**
	3.5nm,0.7s,mb4.4,baz=101,slow=9.1,SNR=18						
ILAR	**Eielson Array**	**71.45**	**25**	P	**P**	**22 19 35.5**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=253,slow=6.6,SNR=6.4						
ARCES	**ARCESS Array B**	**87.32**	**341**	P	**P**	**22 21 01.1**	**+0.2**
	1.8nm,0.8s,mb4.4,baz=45,slow=6.9,SNR=6.4						
FINES	**FINESS Array B**	**90.91**	**334**	P	**P**	**22 21 17.5**	**-0.6**
	1.7nm,0.6s,mb4.5,baz=72,slow=6.0,SNR=12						
FINES	**FINESS Array B**	**90.91**	**334**	P	**P**	**22 21 17.5**	**-0.6**

*IDC **20** 22:20:35.8±0.9, 12.20N×141.16E, mb4.0/8, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, Error ellipse: s-maj=45.9km s-min=20.9km az=88.0*
*NEIC **20** 22:20:48.1±0.6, 12.11N×141.05E, h100km, mb4.7/1, Error ellipse: s-maj=28.5km s-min=12.6km az=85.0*

ISC 20 22:20:39.2±0.8, 12.1N±0.1×141.0E±0.3, h33km, n11, σ0§41/11, mb4.1/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.56**	**192**	P	**P**	**22 27 09.7**	**-0.1**
	2.6nm,0.7s,mb4.3,baz=11,slow=9.9,SNR=34						
WRA				pP	pP	22 27 19.0	-0.4
	3.0nm,0.6s,baz=10,slow=9.8,SNR=16						
STKA	**Stephens Creek**	**43.77**	**179**	P	**P**	**22 28 43.8**	**+0.2**
	1.5nm,0.7s,mb3.9,baz=27,slow=12,SNR=4.3						
**

DENT	**Denizli**	**1.43**	**349**	PN	**Pn**	**22 42 31.3**	**-0.9**
BCK	**Bucak**	**1.47**	**41**	*e*PN	**Pn**	**22 42 32.5**	**-0.2**
MLSB	**Milas**	**1.60**	**307**	*e*PN	**Pn**	**22 42 34.1**	**-0.5**
BDRM	**Kayabasi**	**1.72**	**295**	*i* P	**Pn**	**22 42 36.3**	**+0.1**
BDRM				*i* S	**Sn**	**22 42 58.8**	**+1.5**
AYDN	**Tasoluk**	**1.78**	**318**	*i* P	**Pn**	**22 42 39.2**	**+2.0**
AYDN				*i* S	**Sn**	**22 42 59.0**	**+0.1**
BODT	**Bodrum**	**1.81**	**294**	*e*PN	**Pn**	**22 42 37.0**	**-0.6**
KHL	**Karahalli**	**1.97**	**3**	*e*PN	**Pn**	**22 42 39.0**	**-0.9**
KARP	**Karpathos**	**1.98**	**247**	*e*P	**Pn**	**22 42 40.0**	**0.0**
AKS	**Akhisar**	**2.82**	**334**	*e*PN	**Pn**	**22 42 50.4**	**-1.6**
ESKT	**Eskisehir**	**3.37**	**20**	*e*PN	**Pn**	**22 43 00.2**	**+0.4**

IDC ***20*** *22:44:30.2±0.8, 45.30S×97.19E, mb4.3/8, mb1 4.4/8, mb1mx4.3/13, mbtmp4.3/8, MS4.0/7, Ms1 4.0/7, ms1mx3.7/22, Error ellipse: s-maj=33.7km s-min=17.7km az=126.0*

NEIC ***20*** *22:44:31.6±0.4, 45.30S×97.22E, h10km, mb4.8/3, Error ellipse: s-maj=18.5km s-min=9.4km az=130.0*

ISC 20 22:44:29.3±0.7, 45.2S±0.1×97.0E±0.2, h10km, n23, σ0s89/13, mb4.4/10, MS4.0/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NWAO	**Narrogin (SRO)**	**19.86**	**59**	LR		LR	LR	22 54 33.7	
	comp=Z,368nm,22.0s,baz=95,slow=30								
MAW	**Mawson**	**28.65**	**207**	P		**P**		**22 50 28.0**	**+0.2**
	3.1nm,1.1s,mb4.0,baz=48,slow=13,SNR=5.1								
MAW				LR		LR		22 59 21.4	
	comp=Z,397nm,19.3s,MS4.0,baz=52,slow=31								
FITZ	**Fitzroy Crossi**	**36.04**	**51**	*e*P		**P**		**22 51 33.2**	**+0.5**
	6.5nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**36.04**	**51**	P		**P**		**22 51 33.2**	**+0.4**
	3.6nm,0.7s,mb4.4,baz=231,slow=12,SNR=12								
FITZ				LR		LR		23 03 34.9	
	comp=Z,132nm,21.1s,MS3.7,baz=71,slow=32								
STKA	**Stephens Creek**	**36.86**	**85**	P		**P**		**22 51 38.6**	**-0.9**
	4.8nm,1.0s,mb4.3,baz=231,slow=4.6,SNR=6.8								
STKA				LR		LR		23 04 07.8	
	comp=Z,153nm,18.1s,MS3.8,baz=206,slow=32								
WRA	**Warramunga Arr**	**39.77**	**63**	P		**P**		**22 52 03.7**	**-0.2**
	7.5nm,1.0s,mb4.4,baz=224,slow=8.6,SNR=64								
WB2	**Warramunga Arr**	**39.77**	**63**	*e*P		**P**		**22 52 03.6**	**-0.4**
WRAB	**Tennant Creek**	**39.78**	**63**	*e*P		**P**		**22 52 03.6**	**-0.5**
	24nm,1.2s,mb4.8								
VNDA	**Vanda**	**40.90**	**162**	P		**P**		**22 52 12.5**	**-0.2**
	3.3nm,0.8s,mb4.0,baz=277,slow=9.6,SNR=14								
VNDA				LR		LR		23 07 26.6	
	comp=Z,373nm,18.9s,MS4.3,baz=289,slow=34								
CTA	**Charters Tower**	**47.52**	**75**	LR		LR		23 12 21.2	
	comp=Z,82nm,18.2s,MS3.7,baz=49,slow=35								
SNAA	**Sanae**	**50.75**	**204**	P		**P**		**22 53 31.1**	**+0.3**
	5.5nm,0.8s,mb4.5,baz=128,slow=7.8,SNR=47								
LSZ	**Lusaka**	**64.44**	**274**	*e*P		**P**		**22 55 06.0**	**-2.1**
	13nm,1.3s,mb4.8								
AFI	**Afiamalu**	**81.11**	**101**	P		**P**		**22 56 47.2**	**+0.8**
	89nm,0.3s,baz=111,slow=4.4,SNR=7.8								
SONM	**Songino Array**	**93.03**	**6**	P		**P**		**22 57 45.6**	**+1.9**
	0.2nm,0.4s,mb3.9,baz=180,slow=4.3,SNR=4.0								
PLCA	**Paso Flores**	**93.71**	**189**	P		**P**		**22 57 47.4**	**+0.3**
	1.4nm,0.8s,mb4.4,baz=174,slow=1.9,SNR=3.0								
PLCA				LR		LR		23 35 35.8	
	comp=Z,164nm,20.9s,MS4.5,baz=188,slow=33								
FINES	**FINESS Array B**	**120.63**	**328**	PKP		PKPdf		23 03 21.9	-1.7
	0.8nm,0.8s,baz=166,slow=7.9,SNR=3.4								
FINES	**FINESS Array B**	**120.63**	**328**	PKP		PKPdf		23 03 21.9	-1.7
ARCES	**ARCESS Array B**	**125.69**	**336**	PKP		PKPdf		23 03 32.5	-0.6
	2.5nm,0.9s,baz=326,slow=4.4,SNR=3.9								
ARCES	**ARCESS Array B**	**125.69**	**336**	PKP		PKPdf		23 03 32.5	-0.6
INK	**Inuvik**	**145.46**	**30**	PKPbc		PKPbc		23 04 08.2	+1.4
	4.9nm,0.7s,baz=296,slow=2.8,SNR=17								
NVAR	**Mina Array Bea**	**152.97**	**92**	PKPbc		PKPdf		23 04 29.6	+7.7
	3.4nm,0.7s,baz=233,slow=5.7,SNR=29								
YKA	**Yellowknife Ar**	**154.95**	**35**	PKPbc		PKPdf		23 04 31.5	+7.7
	1.0nm,0.8s,baz=304,slow=2.1,SNR=18								
TXAR	**Lajitas Array**	**157.24**	**127**	PKP		PKPdf		23 04 28.7	+0.7
	0.7nm,0.5s,baz=170,slow=7.6,SNR=6.5								

NIED ***20*** *22:44:00, 37.50N×142.50E, h23km, Mw4.0 Best double couple: M0 1.1×10^15 NP1:φs23°, δ71°, λ90°. NP2:φs202°, δ19°, λ89°.*

IDC ***20*** *22:44:46.8±1.2, 37.48N×142.64E, mb4.0/9, mb1 4.1/12, mb1mx3.9/23, mbtmp4.0/12, ML3.8/3, MS3.5/3, Ms1 3.5/3, ms1mx2.8/31, Error ellipse: s-maj=28.7km s-min=20.3km az=100.0*

JMA ***20*** *22:44:49.8±0.2, 37.51N×142.53E, h31km, M4.2*

MOS ***20*** *22:44:49.6±0.9, 37.58N×142.62E, h33km, mb4.3/6, Error ellipse: s-maj=13.5km s-min=10.6km az=114.5*

NEIC ***20*** *22:44:52.6±1.3, 37.54N×142.54E, h40km±9km, mb4.4/4, Error ellipse: s-maj=17.1km s-min=9.4km az=124.0*

ISC 20 22:44:49.5±0.8, 37.49N±0.04×142.61E±0.06, h35km±7km, n48, σ0s86/61, mb4.1/13, MS4.0/1, 4C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JFK	**Kawauchi**	**1.39**	**266**	⇓P		**P**		**22 45 12.5**	**-0.3**
JFK					*e*S	**S**		**22 45 29.3**	**-0.9**
JIO	**Ouri**	**1.39**	**314**	⇓P		**P**		**22 45 12.9**	**+0.1**
JIO					*e*S	**S**		**22 45 29.5**	**-0.7**
JMM	**Marumori**	**1.49**	**285**	⇓P		**P**		**22 45 14.0**	**-0.3**
JMM					*e*S	**S**		**22 45 31.5**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.50**	**256**	⇓P		**P**		**22 45 14.3**	**0.0**
ONAJ					S	**S**		**22 45 32.8**	**-0.1**
JOU	**Okura**	**1.77**	**300**	⇓P		**P**		**22 45 18.8**	**+0.5**
JFT	**Otama**	**1.81**	**272**	P		**P**		**22 45 19.6**	**+0.8**
JFT					*e*S	**S**		**22 45 41.3**	**+0.5**
JMK	**Ichinoseki**	**1.83**	**324**	⇑P		**P**		**22 45 19.6**	**+0.5**
JMK					S	**S**		**22 45 41.3**	**+0.1**
JYS	**Shirataka**	**2.15**	**291**	⇑P		**P**		**22 45 24.2**	**+0.6**
JYS					S	**S**		**22 45 51.3**	**+2.0**
JOM	**Ohasama**	**2.24**	**333**	⇑P		**P**		**22 45 25.3**	**+0.4**
JOM					S	**S**		**22 45 52.1**	**+0.5**
JYK	**Kaneyama**	**2.28**	**310**	P		**P**		**22 45 25.7**	**+0.2**
JYK					S	**S**		**22 45 52.3**	**-0.4**
JNS	**Sasagawa**	**2.64**	**278**	P		**P**		**22 45 31.5**	**+0.9**
JAG	**Ashikaga**	**2.74**	**248**	⇑P		**P**		**22 45 32.6**	**+0.4**
JANG	**Nango**	**3.01**	**344**	P		**P**		**22 45 35.1**	**-0.8**
BSO1	**Boso 1**	**3.12**	**206**	P		**P**		**22 45 37.8**	**+0.2**
MJAR	**Matsushiro Arr**	**3.65**	**256**	Pn		**P**		**22 45 46.1**	**+1.1**
	6.6nm,0.3s,baz=83,slow=15,SNR=32								
MJAR					Sn	**S**		**22 46 34.9**	**+7.4**
	5.5nm,0.3s,baz=77,slow=28,SNR=5.2								
MJAR				LR		LR	LR	22 47 22.1	
	comp=Z,462nm,19.8s,baz=75,slow=43								
MAJO	**Matsushiro**	**3.65**	**256**	*e*P		**P**		**22 45 46.1**	**+1.1**
MAJO					*e*Sn	**S**		**22 46 25.6**	**-2.0**
MAT	**Matsushiro**	**3.65**	**256**	P		**P**		**22 45 45.4**	**+0.4**
MAT					*e*S	**S**		**22 46 27.7**	**+0.2**
MAT	**Matsushiro**	**3.65**	**256**	*e*P		**P**		**22 45 46.0**	**+1.0**
MAT					*e*S	**S**		**22 46 34.0**	**+6.5**
JHJ	**Hachijo jima 2**	**4.93**	**209**	Pn		**P**		**22 46 01.9**	**-1.4**
	18nm,0.3s,baz=68,slow=19,SNR=3.5								
JHJ					Sn	**S**		**22 46 55.8**	**-4.2**
	65nm,0.3s,baz=58,slow=21,SNR=6.2								
ASAJ	**Asahikawa**	**6.62**	**360**	Pn		**P**		**22 46 25.7**	**-1.3**
	1.8nm,0.3s,baz=286,slow=5.9,SNR=6.2								
ASAJ				LR		LR		22 49 48.2	
	comp=Z,144nm,19.0s,baz=159,slow=46								
ASAJ	**Asahikawa**	**6.62**	**360**	P		**P**		**22 46 25.7**	**-1.3**
ASAJ					pmax	pmax			
	comp=Z,2.0nm,0.3s								
ASAJ				MLR		MLR			
	comp=Z,144nm,19.0s								
YSS	**Yuzh-Sakhalins**	**9.46**	**1**	*e*P		**P**		**22 47 05.1**	**-1.3**
ULN	**Ulaanbaatar**	**27.90**	**303**	*e*P		**P**		**22 50 36.9**	**-1.3**
ENH	**Enshi**	**28.32**	**265**	*e*P		**P**		**22 50 41.8**	**-0.4**
	comp=Z,13nm,0.9s,mb4.6								
SONM	**Songino Array**	**28.33**	**303**	P		**P**		**22 50 42.7**	**+0.6**
	comp=Z,3.3nm,0.8s,mb4.0,baz=96,slow=8.3,SNR=22								
QIZ	**Qiongzhong**	**33.99**	**246**	P		**P**		**22 51 27.0**	**-5.1**
ZAL	**Zalesovo**	**42.33**	**312**	P		**P**		**22 52 42.8**	**+1.3**
	comp=Z,2.5nm,0.3s,mb4.4,baz=15,slow=6.4,SNR=9.1								
NVS	**Novosibirsk**	**43.22**	**313**	*e*P		**P**		**22 52 46.8**	**-2.0**
MKAR	**Makanchi Array**	**44.69**	**302**	P		**P**		**22 53 01.3**	**+0.6**
	comp=Z,1.3nm,0.7s,mb3.8,baz=88,slow=9.8,SNR=12								
MKAR	**Makanchi Array**	**44.69**	**302**	P		**P**		**22 53 01.3**	**+0.6**
KURK	**Kurchatov**	**46.41**	**308**	*e*P		**P**		**22 53 14.1**	**-0.2**
KURK					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
KURK	**Kurchatov**	**46.41**	**308**	*e*P		**P**		**22 53 14.1**	**-0.2**
	comp=Z,7.3nm,0.9s,mb4.6								
ILAR	**Eielson Array**	**48.60**	**33**	P		**P**		**22 53 32.4**	**+1.2**
	comp=Z,0.3nm,0.6s,mb3.5,baz=265,slow=6.0,SNR=3.9								
CHKZ	**Chkalovo**	**50.70**	**313**	*e*P		**P**		**22 53 47.1**	**-0.4**
CHKZ					pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0								
CHKZ	**Chkalovo**	**50.70**	**313**	*e*P		**P**		**22 53 47.1**	**-0.4**
	comp=Z,2.1nm,0.9s,mb4.1								
BVAR	**Borovoye Array**	**50.98**	**312**	P		**P**		**22 53 49.6**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=74,slow=7.7,SNR=8.4								
ZRNK	**Zerenda**	**51.81**	**312**	*e*P		**P**		**22 53 54.8**	**-1.0**
ZRNK					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1								
ZRNK	**Zerenda**	**51.81**	**312**	*e*P		**P**		**22 53 54.8**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.1								
ARU	**Arti**	**56.66**	**319**	*e*P		**P**		**22 54 31.1**	**-0.2**
ARU	**Arti**	**56.66**	**319**	*e*P		**P**		**22 54 31.1**	**-0.3**
WRA	**Warramunga Arr**	**57.65**	**189**	P		**P**		**22 54 38.7**	**-0.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=6.0,slow=7.2,SNR=9.3								
DZM	**Mont Dzumac**	**63.35**	**155**	LR		LR		23 19 57.2	
	comp=Z,105nm,18.2s,MS4.0,baz=215,slow=33								
FINES	**FINESS Array B**	**68.86**	**333**	P		**P**		**22 55 52.4**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.1,baz=63,slow=8.5,SNR=6.9								
FINES	**FINESS Array B**	**68.86**	**333**	P		**P**		**22 55 52.4**	**+0.3**
FINES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
NOA	**NORSAR Array B**	**74.14**	**338**	P		**P**		**22 56 24.5**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.8,baz=38,slow=5.9,SNR=3.9								
NOA	**NORSAR Array B**	**74.14**	**338**	P		**P**		**22 56 24.5**	**+1.0**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**74.52**	**323**	P		**P**		**22 56 26.8**	**+0.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=45,slow=6.0,SNR=5.5								
AKASG	**Malin Array Be**	**74.52**	**323**	P		**P**		**22 56 26.8**	**+0.8**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								

NIED ***20*** *22:58:00, 38.00N×143.40E, h17km, Mw4.8 Best double couple: M0 2.02×10^16 NP1:φs5°, δ61°, λ74°. NP2:φs215°, δ32°, λ116°.*

JMA ***20*** *22:58:01.1±0.2, 38.01N×143.38E, h44km, M5.1*

JMA Felt I J1.

HRVD ***20*** *22:58:03.7±0.8, 38.06N×143.45E, h15km, MW5.0/41, Centroid moment Tensor Solution. LP body waves: s17,c22;Mantle waves: s41,c63; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 0.95±.09; Mθθ -0.03±.08; Mφφ -0.92±.06; Mrθ 0.99±.28; Mθφ -0.47±.05; Mφr 3.14±.22; Best double couple: M0 3.453×10^16 NP1:φs211°, δ9°, λ103°. NP2:φs18°, δ81°, λ88°. Principal axes: T 3.37, Plg54°, Azm285°; N .166, Plg2°, Azm18°; P -3.536, Plg36°, Azm110°: nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***20*** *22:58:03.7±0.3, 37.92N×143.31E, mb5.0/40, MS4.7/4, MW4.8(NIED) Error ellipse: s-maj=7.6km s-min=4.3km az=147.0*

IDC ***20*** *22:58:03.5±0.6, 37.91N×143.29E, h27km±2km, mb4.1/21, mb1 4.3/27, mb1mx4.3/31, mbtmp4.4/27, ML4.1/6, MS4.3/10, Ms1 4.3/10, ms1mx3.9/26, Error ellipse: s-maj=14.4km s-min=11.9km az=150.0*

BJI ***20*** *22:58:05.0, 38.09N×142.72E, h28km, mB5.1, mb4.8, Ms4.9, Mszs4.7*

MOS ***20*** *22:58:05.1±0.9, 38.27N×143.03E, h33km, mb5.1/38, MS4.7/15, Error ellipse: s-maj=9.3km s-min=5.2km az=113.3*

ISC 20 22:58:02.5±0.2, 37.95N±0.02×143.19E±0.03, h29km, h29km±.9km: pP-P, n232, σ1s06/246, mb4.8/84, MS4.6/29, 22C-9D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JIO	**Ouri**	**1.54**	**290**	⇑P		**P**	**Pn**	**22 58 28.7**	**+0.3**
JIO						S	**Sn**	**22 58 48.0**	**+0.4**
OFUJ	**Ofunato**	**1.65**	**314**	⇑P		**P**	**Pn**	**22 58 29.3**	**-0.6**
OFUJ						S	**Sn**	**22 58 49.9**	**-0.4**
JMK	**Ichinoseki**	**1.85**	**304**	⇑P		**P**	**Pn**	**22 58 32.8**	**0.0**
JMK					*e*S	**Sn**		**22 58 55.9**	**+0.5**
JMM	**Marumori**	**1.90**	**268**	⇑P		**P**	**Pn**	**22 58 34.0**	**+0.4**
JMM						S	**Sn**	**22 58 57.2**	**+0.4**
JOM	**Ohasama**	**2.13**	**316**	⇑P		**P**	**Pn**	**22 58 36.5**	**-0.4**
JOM					*e*S	**Sn**		**22 59 02.2**	**-0.4**
JFT	**Otama**	**2.31**	**260**	⇑P		**P**	**Pn**	**22 58 40.5**	**+1.1**
JYK	**Kaneyama**	**2.43**	**294**	⇑P		**P**	**Pn**	**22 58 41.6**	**+0.5**
JYK					*e*S	**Sn**		**22 59 11.6**	**+1.4**
JHO	**Hitachi**	**2.48**	**238**	⇑P		**P**	**Pn**	**22 58 41.3**	**-0.6**
JANG	**Nango**	**2.75**	**332**	P		**P**	**Pn**	**22 58 45.5**	**-0.3**
JANG					*e*S	**Sn**		**22 59 17.2**	**-1.2**
JNS	**Sasagawa**	**3.07**	**269**	⇑P		**P**	**Pn**	**22 58 51.1**	**+0.9**
JAW	**Awa shima**	**3.15**	**281**	P		**P**	**Pn**	**22 58 52.4**	**+1.0**
JAG	**Ashikaga**	**3.35**	**244**	⇑P		**P**	**Pn**	**22 58 54.2**	**0.0**
JAG					*e*S	**Sn**		**22 59 34.1**	**+0.6**
BSO1	**Boso 1**	**3.74**	**209**	P		**P**	**Pn**	**22 58 58.5**	**-1.3**
BSO1						S	**Sn**	**22 59 42.4**	**-1.0**
BSO3	**Boso 3**	**3.81**	**215**	P		**P**	**Pn**	**22 59 00.1**	**-0.7**
JSD	**Sado**	**3.90**	**273**	P		**P**	**Pn**	**22 59 01.9**	**-0.1**
JRY	**Ryogami san**	**3.94**	**242**	P		**P**	**Pn**	**22 59 02.4**	**-0.2**
JRY					*e*S	**Sn**		**22 59 47.1**	**-1.3**
MJAR	**Matsushiro Arr**	**4.22**	**252**	Pn		**P**	**Pn**	**22 59 07.3**	**+0.7**
	13nm,0.3s,baz=74,slow=14,SNR=198								
MAJO	**Matsushiro**	**4.22**	**252**	*e*P		**P**	**Pn**	**22 59 07.4**	**+0.8**
MAT	**Matsushiro**	**4.22**	**252**	P		**P**	**Pn**	**22 59 06.8**	**+0.2**
MAT					*e*S	**Sn**		**22 59 56.7**	**+1.2**
MAT	**Matsushiro**	**4.22**	**252**	*e*P		**P**	**Pn**	**22 59 08.0**	**+1.4**
MAT					*e*S	**Sn**		**23 00 00.0**	**+4.5**
JYN	**Shimob**	**4.46**	**238**	P		**P**	**Pn**	**22 59 10.3**	**+0.3**
JNT	**Takato**	**4.55**	**245**	P		**P**	**Pn**	**22 59 12.3**	**+1.1**
JGN	**Niukaw**	**5.00**	**252**	P		**P**	**Pn**	**22 59 19.1**	**+1.4**
JNY	**Yasuok**	**5.00**	**241**	⇑P		**P**	**Pn**	**22 59 18.8**	**+1.1**
JHJ	**Hachijo jima 2**	**5.56**	**211**	Pn		**P**	**Pn**	**22 59 24.2**	**-1.3**
	48nm,0.3s,baz=68,slow=22,SNR=4.9								
JHJ					Sn	**Sn**		**23 00 23.9**	**-5.4**
	161nm,0.3s,baz=252,slow=22,SNR=11								
ASAJ	**Asahikawa**	**6.18**	**356**	Pn		**P**	**Pn**	**22 59 32.1**	**-2.1**
	4.1nm,0.3s,baz=187,slow=7.1,SNR=14								
ASAJ					Sn	**Sn**		**23 00 41.0**	**-3.8**
	6.6nm,0.3s,baz=227,slow=28,SNR=5.7								
ASAJ				LR		LR		23 02 38.4	
	comp=Z,3μm,20.9s,baz=178,slow=44								
ASAJ	**Asahikawa**	**6.18**	**356**	P		**P**	**Pn**	**22 59 32.2**	**-2.1**
ASAJ								23 00 41.0	
ASAJ					pmax	pmax			
	comp=Z,4.0nm,0.3s								
ASAJ					smax				
	comp=N,7.0nm,0.3s								
ASAJ				MLR		MLR			
	comp=Z,3μm,21.0s								
YUK	**Yuzh-Kuril'sk**	**6.41**	**18**	*e*P		**P**	**Pn**	**22 59 33.5**	**-4.0**
YUK					*e*S	**Sn**	**Sn**	**23 00 39.0**	**-11**
YUK					smax				
	comp=N,1μm,0.5s								
YUK					smax				
	comp=E,1μm,0.5s								
YUK					smax				
	comp=N,2μm,1.0s								
YUK					smax				
	comp=E,3μm,1.0s								
JWT	**Wachi**	**6.81**	**249**	P		**P**	**Pn**	**22 59 43.7**	**+0.6**
KUR	**Kuril'sk**	**8.08**	**24**	P		**P**	**Pn**	**22 59 55.0**	**-5.9**
KUR						S	**Sn**	**23 01 19.5**	**-13**
KUR					pmax	pmax			
	comp=Z,90nm,0.7s								
KUR					smax				
	comp=N,160nm,0.8s								
KUR					smax				
	comp=E,270nm,0.8s								
KUR					MLR	MLR			
	comp=E,8μm,14.0s								
KUR					MLR	MLR			
	comp=Z,4μm,14.0s								
YSS	**Yuzh-Sakhalins**	**9.01**	**358**	⇑*e*P		**P**	**Pn**	**23 00 18.0**	**+4.2**
YSS					*e*S	**Sn**	**Sn**	**23 01 57.0**	**+1.7**
YSS					MLR	MLR			
	comp=N,2μm,17.0s								
YSS					MLR	MLR			
	comp=Z,2μm,17.0s								
YSS					MLR	MLR			
	comp=E,3μm,16.0s								
YSS	**Yuzh-Sakhalins**	**9.01**	**358**	*e*Pn		**P**	**Pn**	**23 00 16.4**	**+2.6**
CBIJ	**Chichi jima**	**10.85**	**185**	Pn		**P**	**Pn**	**23 00 35.5**	**-3.6**
	comp=E,11nm,0.3s,baz=283,slow=22,SNR=5.1								
CBIJ					Sn	**S**		**23 02 27.5**	**-13**
	comp=E,15nm,0.3s,baz=269,slow=21,SNR=4.4								
CBIJ					LR		LR	23 04 37.8	
	comp=E,536nm,18.4s,baz=173,slow=36								
JNU	**Nakatsue**	**11.13**	**248**	Pn		**P**	**Pn**	**23 00 40.8**	**-2.0**
	comp=E,0.5nm,0.3s,baz=104,slow=9.0,SNR=4.9								
HABR	**Khabarovsk**	**12.07**	**333**	⇓*i*P		**P**		**23 00 51.7**	**-3.9**
HABR					*e*			23 02 59.7	
HABR					pmax	pmax			
	comp=Z,92nm,2.3s								
HABR					MLR	MLR			
	comp=Z,2μm,19.0s								
KS15	**Wonju Array Si**	**12.14**	**272**	*e*Pn		**P**		**23 00 56.0**	**-0.5**
KS15					*e*pPn			23 01 04.3	
MDJ	**Mudanjiang**	**12.20**	**307**	P		**P**		**23 00 58.3**	**+1.0**
MDJ					S	**S**		**23 03 11.4**	**-2.0**
MDJ					PCS			23 10 11.3	
MDJ					AMB	AMB			
	comp=Z,20nm,1.5s								
MDJ					AMB	AMB			
	comp=Z,360nm,9.5s								
MDJ					LR	LR			
	comp=N,2μm,12.8s								
MDJ					LR	LR			
	comp=E,1μm,13.9s								
MDJ					LR	LR			
	comp=Z,3μm,13.3s								
MDJ	**Mudanjiang**	**12.20**	**307**	*e*Pn		**P**		**23 00 57.6**	**+0.3**
	comp=Z,44nm,1.0s								
MDJ					*e*pPn			23 01 07.6	
KLR	**Kul'dur**	**13.98**	**327**	*e*P		**P**		**23 01 14.3**	**-6.5**
KLR					MLR	MLR			
	comp=E,2μm,13.0s								
KLR					MLR	MLR			
	comp=Z,11μm,13.0s								
CN2	**Changchun**	**14.63**	**299**	*e*P		**P**		**23 01 26.8**	**-2.6**
CN2					AMB	AMB			
	comp=Z,10.0nm,1.0s								
CN2					AMB	AMB			
	comp=Z,520nm,9.0s								
CN2					LR	LR			
	comp=N,3μm,12.0s								
CN2					LR	LR			
	comp=E,2μm,12.0s								
CN2					LR	LR			
	comp=Z,2μm,12.0s								
SNY	**Shenyang**	**15.54**	**291**	⇑P		**P**		**23 01 39.1**	**-2.1**
SNY					XP			23 01 51.3	
SNY					S	**S**		**23 04 31.3**	**-1.5**
SNY					AMB	AMB			
	comp=Z,30nm,2.0s								
SNY					AMB	AMB			
	comp=Z,410nm,13.1s								
SNY					LR	LR			
	comp=E,2μm,11.7s								
SNY					LR	LR			
	comp=Z,2μm,11.4s								
JOW	**Kunigami**	**16.76**	**233**	Pn		**P**		**23 01 56.8**	**0.0**
	comp=Z,0.9nm,0.3s,baz=51,slow=9.7,SNR=4.0								
DL2	**Dalian**	**16.93**	**280**	P		**P**		**23 02 00.0**	**+1.2**
DL2					AMB	AMB			
	comp=Z,70nm,1.1s								
DL2					AMB	AMB			
	comp=Z,350nm,7.1s								
DL2					LR	LR			
	comp=N,850nm,11.9s								
DL2					LR	LR			
	comp=E,720nm,13.7s								
DL2					LR	LR			
	comp=Z,820nm,13.6s								
SSE	**Sheshan**	**19.36**	**256**	P		**P**		**23 02 26.0**	**-2.6**
SSE					XP			23 02 38.1	
SSE					S	**S**		**23 05 55.9**	**-3.9**
SSE					AMB	AMB			
	comp=Z,20nm,0.8s								
SSE					AMB	AMB			
	comp=Z,250nm,7.1s								
SSE					LR	LR			
	comp=N,360nm,15.6s								
SSE					LR	LR			
	comp=E,690nm,15.5s								
SSE					LR	LR			
	comp=Z,970nm,15.7s								
HIA	**Hailar**	**20.32**	**311**	*e*P		**P**		**23 02 35.4**	**-3.4**
HIA					*e**PP			23 02 49.7	
HIA					pmax	pmax			
	comp=Z,29nm,0.7s								
HIA	**

comp=N,22nm,1.1s
YAK pmax pmax
comp=E,13nm,1.1s
YAK MLR MLR
comp=N,400nm,14.0s,MS4.2
YAK MLR MLR
comp=Z,600nm,14.0s,MS4.3
YAK MLR MLR
comp=E,300nm,13.0s,MS4.2
YAK Yakutsk 25.52 345 *eP* **P 23 03 28.8 -1.0**
comp=E,61nm,0.8s,mb5.2
SEY Seymchan 25.64 10⇑ *eP* **P 23 03 31.9 +1.0**
BTO Baotou 25.73 286 *eP* **P 23 03 30.3 -1.8**
BOD Bodaibo 27.55 326 *eP* **P 23 03 46.7 -1.8**
BOD pmax pmax
comp=Z,32nm,1.5s,mb4.7
ULN Ulaanbaatar 28.04 302 *eP* **P 23 03 53.4 +0.3**
ULN pmax pmax
comp=Z,42nm,1.2s,mb4.9
ULN Ulaanbaatar 28.04 302 *eP* **P 23 03 53.4 +0.3**
comp=Z,42nm,1.2s,mb5.0
SONM Songino Array 28.48 302 P **P 23 03 57.5 +0.5**
comp=Z,9.5nm,0.7s,mb4.6,baz=99,slow=8.2,SNR=45
SONM PcP PcP 23 07 08.7 0.0
comp=Z,0.6nm,0.6s,baz=149,slow=1.7,SNR=2.3
SONM pPcP 23 07 17.3
comp=Z,1.3nm,0.7s,baz=122,slow=2.0,SNR=3.7
SONM LR LR 23 15 55.9
comp=Z,879nm,18.0s,MS4.4,baz=112,slow=38
ENH Enshi 28.82 265 *eP* **P 23 03 59.0 -1.3**
comp=Z,81nm,0.9s,mb5.5
ENH *ep*P pP 23 04 10.2 +1.4
ZAK Zakamensk 30.84 307 *eP* **P 23 04 16.8 -1.2**
ZAK pmax pmax
comp=Z,34nm,2.0s,mb4.8
LZH Lanzhou 31.32 279 *eP* **P 23 04 22.6 +0.2**
LZH AP pP 23 04 27.0 -3.9
LZH XP sP 23 04 29.8 -4.9
LZH PP PP 23 05 27.0 +0.9
LZH *eS* **S 23 09 28.9 +2.6**
LZH XS 23 09 38.5
LZH AMB AMB
comp=Z,80nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,240nm,4.2s
LZH LR LR
comp=N,3μm,12.8s
LZH LR LR
comp=Z,3μm,13.9s,MS5.1
MOY Mondy 32.45 309 *eP* **P 23 04 32.9 +0.8**
BILL Bilibino 32.76 16 P **P 23 04 32.9 -1.8**
BILL *e**PP pP 23 04 44.7 +1.5
BILL Bilibino 32.76 16 P **P 23 04 32.9 -1.8**
BILL *ep*P pP 23 04 44.7 +1.5
CD2 Chengdu 33.09 270⇓ *i*P **P 23 04 37.8 -0.1**
CD2 AP pP 23 04 46.8 +0.3
CD2 PP PP 23 05 49.6 +0.5
CD2 S **S 23 10 00.0 +6.0**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,150nm,5.5s
CD2 LR LR
comp=N,840nm,14.4s
CD2 LR LR
comp=Z,580nm,11.4s,MS4.5
GTA Gaotai 33.66 286 P **P 23 04 43.4 +0.6**
GTA AP pP 23 04 52.3 +0.9
GTA AMB AMB
comp=Z,40nm,1.4s,mb5.2
GTA AMB AMB
comp=Z,240nm,7.6s
GTA LR LR
comp=N,730nm,16.3s,MS4.8
GTA LR LR
comp=E,1μm,15.6s,MS4.8
GTA LR LR
comp=Z,2μm,16.7s,MS4.9
TIXI Tiksi 34.57 352⇑ *eP* **P 23 04 49.4 -0.9**
TIXI pmax pmax
comp=Z,8.0nm,1.9s,mb4.3
TIXI MLR MLR
comp=Z,500nm,13.0s,MS4.4
KMI Kunming 36.50 261 P **P 23 05 07.0 -0.1**
KMI AP pP 23 05 16.3 +0.5
KMI AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
KMI LR LR
comp=Z,440nm,20.9s,MS4.2
WMQ Urumqi 41.70 296 *eP* **P 23 05 51.3 +1.2**
WMQ AMB AMB
comp=Z,40nm,1.0s,mb5.0
WMQ LR LR
comp=N,230nm,18.0s,MS4.2
WMQ LR LR
comp=E,190nm,18.6s,MS4.2
WMQ LR LR
comp=Z,190nm,20.0s,MS4.0
ZAL Zalesovo 42.37 312 P **P 23 05 56.1 +0.6**
comp=Z,5.6nm,0.6s,mb4.4,baz=26,slow=8.3,SNR=32
NVS Novosibirsk 43.24 313 *eP* **P 23 06 01.5 -1.1**
NVS pmax pmax
comp=Z,32nm,1.4s,mb4.9
NVS pmax pmax
comp=N,2.0nm,0.9s
NVS pmax pmax
comp=E,30nm,1.4s
LSA Lhasa 43.54 275 P **P 23 06 06.1 +0.8**
LSA AP pP 23 06 15.9 +1.9
LSA PP PP 23 07 45.6 -2.9
LSA S **S 23 12 24.6 -7.4**
LSA XS 23 12 42.1
LSA SS SS 23 15 39.6 -0.1
LSA SCS ScS 23 16 05.0 +4.5
LSA LR LR
comp=N,340nm,15.4s,MS4.7
LSA LR LR
comp=E,630nm,15.6s,MS4.7
LSA LR LR
comp=Z,1μm,15.9s,MS4.9
LSA Lhasa 43.54 275 *eP* **P 23 06 07.3 +2.0**
LSA *e**PP pP 23 06 17.6 +3.6
LSA pmax pmax
comp=Z,15nm,0.7s,mb4.8
LSA Lhasa 43.54 275 *eP* **P 23 06 07.3 +2.0**
comp=Z,15nm,0.7s,mb4.8
LSA *ep*P pP 23 06 17.6 +3.6
MKAR Makanchi Array 44.84 302 P **P 23 06 15.7 0.0**
comp=Z,7.3nm,0.6s,mb4.7,baz=86,slow=8.3,SNR=41
MKAR LR LR 23 25 34.9
comp=Z,373nm,18.3s,MS4.3,baz=63,slow=37
MKAR Makanchi Array 44.84 302 P **P 23 06 15.8 +0.1**
MKAR pmax pmax
comp=Z,10.0nm,0.7s
KDAK Kodiak Island 45.47 43 P **P 23 06 19.9 -0.6**
comp=Z,14nm,0.7s,mb4.9,baz=296,slow=3.0,SNR=6.6
KDAK pP pP 23 06 28.5 -0.7
comp=Z,11nm,0.7s,baz=252,slow=6.3,SNR=3.3
KURK Kurchatov 46.49 308⇑ *eP* **P 23 06 28.2 -0.4**
KURK pmax pmax
comp=Z,66nm,0.8s,mb5.6
KURK Kurchatov 46.49 308⇑ *eP* **P 23 06 28.2 -0.4**
comp=Z,66nm,0.8s,mb5.6
ILAR Eielson Array 47.97 33 P **P 23 06 39.3 -0.8**
comp=Z,2.6nm,0.8s,mb4.3,baz=267,slow=6.3,SNR=15
JIRN Jiri 48.34 275 *eP* **P 23 06 44.3 +0.8**
comp=Z,41nm,0.7s,mb5.6
GUN Gumba 48.47 276 *eP* **P 23 06 45.3 +0.8**
comp=Z,112nm,1.0s,mb5.9
KKN Kakani 49.00 276 *eP* **P 23 06 49.1 +0.5**
comp=Z,48nm,0.6s,mb5.7
KKN Kakani 49.00 276 *eP* **P 23 06 49.1 +0.5**
KKN pmax pmax
comp=Z,24nm,0.6s,mb5.4
PKI Pulchoki 49.00 276 *eP* **P 23 06 48.8 +0.2**
comp=Z,29nm,0.6s,mb5.5
PKI Pulchoki 49.00 276 *eP* **P 23 06 48.8 +0.2**
PKI pmax pmax
comp=Z,15nm,0.6s,mb5.2
DMN Daman 49.22 276 *eP* **P 23 06 50.8 +0.5**
GKN Gorkha 49.41 277 *eP* **P 23 06 52.1 +0.4**
comp=Z,222nm,1.2s
KOLN Koldanda 50.33 277 *eP* **P 23 06 59.3 +0.5**
comp=Z,109nm,1.2s,mb5.8
TKM2 Tokmak 2 50.45 298 P **P 23 06 59.6 +0.2**
TKM2 pmax pmax
comp=Z,56nm,1.3s,mb5.4
CHKZ Chkalovo 50.73 313 *eP* **P 23 07 00.6 -0.8**
CHKZ pmax pmax
comp=Z,19nm,0.9s,mb5.0
CHKZ Chkalovo 50.73 313 *eP* **P 23 07 00.6 -0.9**
comp=Z,19nm,0.9s,mb5.0
BVA0 Borovoye Array 51.01 312 *i* P **P 23 07 03.2 -0.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BVAR Borovoye Array 51.01 312 P **P 23 07 03.2 -0.3**
comp=Z,4.4nm,0.6s,mb4.5,baz=66,slow=7.6,SNR=35
BVAR pP pP 23 07 12.0 -0.4
comp=Z,9.8nm,0.8s,baz=83,slow=9.5,SNR=16
BVAR pPcP 23 08 27.7
comp=Z,4.4nm,0.6s,baz=79,slow=2.3,SNR=4.7
BRVK Borovoye 51.06 312 *eP* **P 23 07 03.4 -0.6**
BRVK *e**PP pP 23 07 12.7 -0.1
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BRVK Borovoye 51.06 312 *eP* **P 23 07 03.4 -0.5**
comp=Z,9.1nm,0.8s,mb4.8
BRVK *ep*P pP 23 07 12.7 -0.2
AAK Ala-Archa 51.31 298 *eP* **P 23 07 05.2 -0.8**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AAK Ala-Archa 51.31 298 *eP* **P 23 07 05.2 -0.8**
comp=Z,4.8nm,0.7s,mb4.5
ZRNK Zerenda 51.84 312 *eP* **P 23 07 09.3 -0.6**
ZRNK pmax pmax
comp=Z,34nm,1.1s,mb5.2
ZRNK Zerenda 51.84 312 *eP* **P 23 07 09.3 -0.5**
comp=Z,34nm,1.1s,mb5.2
INK Inuvik 52.93 28 P **P 23 07 17.1 -0.7**
comp=Z,1.0nm,0.6s,mb3.9,baz=284,slow=3.9,SNR=3.9
KKAR Karatay Array 53.89 300 *i* P **P 23 07 24.4 -0.8**
KKAR pmax pmax
comp=Z,18nm,0.9s,mb5.0
ARU Arti 56.62 319⇑ *i*P **P 23 07 43.2 -1.6**
ARU *e* 23 08 36.2
ARU *e*PPP PPP 23 11 01.3 -9.3
ARU *e*S **S 23 15 33.6 +0.5**
ARU *e*SS SS 23 19 16.4 -5.2
ARU pmax pmax
comp=Z,25nm,1.1s,mb5.2
ARU MLR MLR
comp=Z,1μm,16.0s,MS5.0
ARU MLR MLR
comp=N,300nm,15.0s,MS5.0
ARU MLR MLR
comp=E,800nm,16.0s,MS5.0
ARU Arti 56.62 319 *eP* **P 23 07 44.0 -0.9**
comp=E,22nm,0.9s,mb5.2
DLBC Dease Lake 57.03 39 P **P 23 07 45.1 -2.7**
comp=E,7.3nm,1.2s,mb4.6,baz=108,slow=8.6,SNR=3.2
FITZ Fitzroy Crossi 58.14 200 P **P 23 07 55.7 -0.4**
comp=E,1.0nm,0.7s,mb4.0,baz=342,slow=16,SNR=3.4
WRAB Tennant Creek 58.17 190 *eP* **P 23 07 54.0 -2.2**
WRAB Tennant Creek 58.17 190 *eP* **P 23 07 51.4 -4.8**
comp=E,20nm,1.0s,mb5.1
WB2 Warramunga Arr 58.18 190 *eP* **P 23 07 55.2 -1.1**
WRA Warramunga Arr 58.18 190 P **P 23 07 53.6 -2.7**
comp=E,2.6nm,0.6s,mb4.5,baz=8.1,slow=7.1,SNR=19
AB31 Akbulak array 58.44 310 *i* P **P 23 07 56.6 -1.1**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
AKTO Aktyubinsk 59.12 312 P **P 23 08 00.9 -1.5**
comp=Z,4.8nm,0.8s,mb4.6,baz=80,slow=13,SNR=9.8
AKTO Aktyubinsk 59.12 312 P **P 23 08 01.8 -0.7**
AKTO pmax pmax
comp=Z,19nm,2.2s,mb4.7
HYB Hyderabad 59.64 269 *i* P **P 23 08 06.0 -0.5**
HYB *e* pP 23 08 14.5 -1.0
HYB Hyderabad 59.64 269 *eP* **P 23 08 06.0 -0.5**
HYB *e* pP 23 08 14.5 -1.0
RES Resolute Bay 61.36 15 *eP* **P 23 08 16.3 -1.2**
RES *e**PP pP 23 08 27.8 +1.3
RES pmax pmax
comp=Z,11nm,1.2s,mb4.9
RES Resolute Bay 61.36 15 *eP* **P 23 08 16.3 -1.2**
comp=Z,11nm,1.2s,mb4.9
RES *ep*P pP 23 08 27.8 +1.3
YKA Yellowknife Ar 62.31 31 P **P 23 08 22.5 -1.4**
comp=Z,0.6nm,0.6s,mb3.9,baz=302,slow=6.4,SNR=11
YKA pP pP 23 08 31.3 -1.7
comp=Z,1.2nm,0.8s,baz=301,slow=6.7,SNR=9.0
ARCES ARCESS Array B 63.64 340 P **P 23 08 32.0 -0.5**
comp=Z,4.2nm,0.8s,mb4.5,baz=23,slow=9.2,SNR=5.4
ARCES pP pP 23 08 39.2 -2.3
comp=Z,5.8nm,0.9s,baz=45,slow=5.1,SNR=2.7
ARCES LR LR 23 43 15.7
comp=Z,382nm,18.2s,MS4.6,baz=46,slow=43
KLMR Klimovskoe 63.74 328 *d* P **P 23 08 32.8 -0.5**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb5.2
KLMR MLR MLR
comp=Z,700nm,16.0s,MS4.9
JOF Joensuu 65.82 332 *ep* **P 23 08 44.4 -2.4**
comp=Z,0.5nm,0.3s,mb4.0
KAF Kangasniemi 68.14 333 *ep* **P 23 09 00.2 -1.3**
comp=Z,3.6nm,0.5s,mb4.7,baz=46,slow=5.9
KAF Kangasniemi 68.14 333 *eP* **P 23 09 00.2 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
OBN Obninsk 68.21 324⇑ *eP* **P 23 09 01.3 -0.7**
OBN *e* pP 23 09 10.7 -0.4
OBN *e*SS SS 23 22 26.0 +2.6
OBN pmax pmax
comp=Z,37nm,2.1s,mb5.0
OBN MLR MLR
comp=Z,700nm,15.0s,MS5.0
FINES FINESS Array B 68.66 333 P **P 23 09 04.0 -0.8**
comp=Z,3.6nm,0.7s,mb4.4,baz=37,slow=9.5,SNR=16
FINES pP pP 23 09 13.1 -0.7
comp=Z,8.1nm,0.8s,baz=63,slow=8.5,SNR=10
FINES LR LR 23 42 42.3
comp=Z,298nm,18.6s,MS4.5,baz=352,slow=39
FINES FINESS Array B 68.66 333 P **P 23 09 04.0 -0.8**
FINES pP pP 23 09 13.1 -0.7
FINES LR LR 23 42 42.3
SUMG Summit 69.77 1 *eP* **P 23 09 10.3 -1.0**
comp=Z,9.8nm,0.8s,mb4.8
GOF Gofitskoye 70.54 312⇑ *iP* **P 23 09 24.9 +8.4**
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.5
KIV Kislovodsk 71.37 311 *eP* **P 23 09 21.5 -0.1**
KIV *e* 23 09 39.5
KIV *e* 23 11 56.6
KIV *e*S S 23 18 37.5 +1.2
KIV pmax pmax
comp=Z,62nm,1.2s,mb5.4
KIV MLR MLR
comp=Z,400nm,19.0s,MS4.7
KIV Kislovodsk 71.37 311 *eP* **P 23 09 22.1 +0.6**
comp=Z,51nm,1.0s,mb5.4
KIV *ep*P pP 23 09 31.5 +0.9
GNI Garni 72.29 307 P **P 23 09 27.8 +0.7**
comp=Z,1.0nm,0.4s,mb4.1,baz=226,slow=24,SNR=3.7
GNI Garni 72.29 307 P **P 23 09 27.8 +0.7**
GNI pmax pmax
comp=Z,1.0nm,0.4s
GNI Garni 72.29 307 *eP* **P 23 09 27.4 +0.4**
comp=Z,52nm,1.5s,mb5.2
NVAR Mina Array Bea 73.31 54 P **P 23 09 33.4 +0.3**
comp=Z,1.5nm,0.7s,mb4.0,baz=278,slow=8.1,SNR=12
SOC Sochi 73.34 312 *eP* **P 23 09 33.4 +0.3**
SOC *e*PPP PPP 23 14 06.1 +3.9
SOC *e*S S 23 18 59.7 +1.1
SOC *e* 23 19 35.9
SOC pmax pmax
comp=Z,21nm,0.9s,mb5.1
SOC MLR MLR
comp=Z,350nm,13.0s,MS4.8
NB2 NORSAR Subarra 73.89 338 P **P 23 09 35.3 -0.6**
comp=Z,11nm,0.9s,mb4.8,baz=39,slow=5.8
NB2 NORSAR Subarra 73.89 338 P **P 23 09 35.3 -0.6**
NB2 pmax pmax
comp=Z,11nm,0.9s,mb4.8
NOA NORSAR Array B 73.89 338 P **P 23 09 35.9 0.0**
comp=Z,0.8nm,0.6s,mb3.8,baz=32,slow=4.2,SNR=10
NOA pP pP 23 09 44.3 -0.7
comp=Z,6.7nm,0.7s,baz=38,slow=5.9,SNR=14
NOA LR LR 23 46 37.7
comp=Z,316nm,19.1s,MS4.6,baz=20,slow=39
ANN Anapa 73.91 315 *eP* **P 23 09 28.1 -8.3**
ANN pmax pmax
comp=Z,40nm,0.9s,mb5.3
AKASG Malin Array Be 74.44 323 P **P 23 09 39.0 -0.3**
comp=Z,2.9nm,0.7s,mb4.3,baz=44,slow=5.8,SNR=19
AKASG pP pP 23 09 47.3 -1.1
comp=Z,13nm,0.9s,baz=43,slow=5.9,SNR=14
AKASG Malin Array Be 74.44 323 P **P 23 09 39.0 -0.3**
AKASG pP pP 23 09 47.3 -1.1
SIM Simferopol' 75.66 316 P pP 23 09 56.0 +0.4
SIM S S 23 19 26.0 +1.5
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.0
PDAR Pinedale Array 76.02 46 P **P 23 09 48.2 -0.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=294,slow=2.1,SNR=7.1
PDAR pP pP 23 09 57.0 -0.7
comp=Z,1.1nm,0.6s,baz=284,slow=1.8,SNR=7.3
UMR Umm Al-Rimmam 76.42 297 *eP* **P 23 09 50.7 -0.4**
UMR AMb AMB 23 09 51.1
comp=Z,15nm,0.5s,mb5.2
KBD Kabd 76.66 297 *eP* **P 23 09 52.4 -0.1**
QRN Al-Qurain 76.75 296 *eP* **P 23 09 52.8 -0.2**
QRN AMb AMB 23 09 53.8
comp=Z,40nm,0.7s,mb5.5
RDF Al-Radifah 76.91 296 *eP* **P 23 09 53.7 -0.1**
RDF AMb AMB 23 10 03.8
comp=Z,77nm,0.9s,mb5.6
NAY Al-Naaiem 76.94 297 *eP* **P 23 09 53.5 -0.5**
NAY AMb AMB 23 10 03.5
comp=Z,23nm,0.7s,mb5.2
KIS Kishinev 77.11 320 *eP* **P 23 09 55.0 +0.4**
KIS *e* 23 10 10.0
KIS *e* 23 20 36.0
KIS MLR MLR
comp=Z,500nm,15.0s,MS5.0
KIS MLR MLR
comp=Z,500nm,15.0s
MALT Malatya 77.32 309 ⇓P **P 23 09 58.1 +2.2**
ULM Lac du Bonnet 77.96 34 pP pP 23 10 08.7 +0.4
comp=Z,2.3nm,0.8s,baz=317,slow=5.7,SNR=4.3
KWP Kalwaria 78.21 325 *eP* pP 23 10 10.5 +0.8
KWP Kalwaria 78.21 325 *eP* pP 23 10 10.5 +0.8
BURAR Bucovina Array 78.47 322 ⇓P **P 23 10 03.0 +1.0**
BURAR Bucovina Array 78.47 322 ⇓P **P 23 10 03.0 +1.0**
CFR Carcaliu 78.69 319 ⇓P **P 23 10 06.4 +3.1**
CFR Carcaliu 78.69 319 ⇓P **P 23 10 06.4 +3.1**
KOLS Kolonicke sedl 78.91 325 *e* **P 23 10 10.0 +5.6**
KOLS *e* 23 10 13.9
VRI Vrincioaia 78.94 320 ⇑P pP 23 10 15.8 +2.0
STHS Stebnicka Huta 79.02 326 *eP* **P 23 10 05.7 +0.7**
STHS *ep*P pP 23 10 14.9 +0.7
OJC Ojcow 79.06 327 *eP* **P 23 10 05.3 +0.1**
PV10 Paradox Valley 79.11 50 *eP* **P 23 10 06.4 +0.7**
CRVS Cervenica-Dubn 79.30 325 *e* **P 23 10 12.3 +5.8**
CRVS *eL* 23 48 45.0
BRTR Keskin Array B 79.30 312 P **P 23 10 07.6 +0.9**
comp=Z,0.6nm,0.6s,baz=63,slow=5.5,SNR=3.9
BRTR pP pP 23 10 16.2 +0.3
comp=Z,2.9nm,0.9s,baz=63,slow=2.8,SNR=9.0
KECS Kecovo 80.04 325 *e* **P 23 10 17.2 +6.7**
OKC Ostrava-Krasne 80.06 327 *epP* pP 23 10 23.5 +3.7
OKC AMS AMS 23 49 00.0
comp=Z,500nm,15.2s
KSP Ksiaz 80.06 329 *eP* **P 23 10 11.8 +1.2**
KSP *e* pP 23 10 20.5 +0.7
KSP Ksiaz 80.06 329 *eP* **P 23 10 11.4 +0.8**
KSP *epP* pP 23 10 20.2 +0.4
MORC Moravsky Berou 80.36 328 ⇓P **P 23 10 13.3 +1.1**
DPC Dobruska-Polom 80.43 329 *eP* **P 23 10 13.9 +1.4**
DPC *epP* pP 23 10 22.8 +1.0
DPC AMS AMS 23 49 30.0
comp=Z,500nm,14.2s
UPC Upice 80.44 329 *eP* **P 23 10 13.8 +1.2**
UPC *epP* pP 23 10 22.6 +0.8
VYHS Vyhne 80.77 326 *epP* pP 23 10 24.2 +0.6
CLL Collm 81.00 331 P **P 23 10 15.5 0.0**
comp=Z,logA/T=0.7,mb4.4
CLL *i* pP 23 10 24.9 +0.1
CLL *e* 23 10 40.0
CLL Collm 81.00 331 *i* P **P 23 10 15.5 0.0**
CLL *i* pP 23 10 24.9 +0.1
CLL pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
CLL Collm 81.00 331 *i* P **P 23 10 15.5 0.0**
comp=Z,6.0nm,1.1s,mb4.4
CLL *i* pP 23 10 24.9 +0.1
CLL *e* 23 10 40.0
PVCC Panska Ves 81.00 330 *eP* **P 23 10 16.8 +1.2**
PVCC *epP* pP 23 10 25.6 +0.8
PVCC AMS AMS 23 50 40.0
comp=Z,700nm,14.7s
PRU Pruhonice 81.43 329 *eP* **P 23 10 19.5 +1.7**
PRU *epP* pP 23 10 27.0 -0.1
PRU AMS AMS 23 53 30.0
comp=Z,500nm,10.6s
TREC Trest 81.59 328 *epP* pP 23 10 28.7 +0.8
TREC AMS AMS 23 50 50.0
comp=Z,600nm,12.4s
BZS Buzias 81.63 323 ⇑P pP 23 10 28.9 +0.7
MOX Moxa 82.06 331 *i* P **P 23 10 24.6 +3.5**
comp=Z,logA/T=0.9,mb4.6
MOX L 23 50 24.0
MOX Moxa 82.06 331 *eP* **P 23 10 24.6 +3.5**
MOX pmax pmax
comp=Z,11nm,1.4s,mb4.6
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.7
MOX Moxa 82.06 331 *eP* **P 23 10 24.6 +3.5**
comp=Z,11nm,1.4s,mb4.6
MOX LR LR
comp=Z,300nm,18.0s,MS4.7
NKC Novy Kostel 82.07 331 *eP* **P 23 10 22.8 +1.7**
NKC *epP* pP 23 10 31.4 +1.0
NKC AMS AMS 23 53 40.0
comp=Z,600nm,17.8s
KHC Kasperske Hory 82.50 329 *eP* **P 23 10 24.5 +1.1**
KHC *epP* pP 23 10 32.6 0.0
KHC AMS AMS 23 52 00.0
comp=Z,500nm,16.3s
ANMO Albuquerque 82.91 51 *i* P **P 23 10 26.6 +0.8**
SCHQ Schefferville 84.06 17 LR LR 23 51 37.0
comp=Z,146nm,18.1s,MS4.4,baz=355,slow=38
CDF Champ du Feu 85.51 332 *eP* **P 23 10 39.3 +0.7**
comp=Z,36nm,1.2s,mb5.2
CDF Champ du Feu 85.51 332 *eP* **P 23 10 39.3 +0.7**
CDF pmax pmax
comp=Z,18nm,1.2s,mb5.2
HINF Hinteralfeld 86.17 332 *eP* **P 23 10 42.0 +0.1**
comp=Z,11nm,1.0s,mb4.7
HINF Hinteralfeld 86.17 332 *eP* **P 23 10 42.0 +0.1**
HINF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
HAU Haudompre 86.19 333 *eP* **P 23 10 42.3 +0.3**
comp=Z,14nm,0.9s,mb4.9
HAU *eR*
comp=Z,360nm,21.2s
HAU Haudompre 86.19 333 *eP* **P 23 10 42.3 +0.3**
HAU pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,360nm,21.3s,MS4.7
MEZF Maizieres J'vi 86.24 334 *eP* **P 23 10 43.1 +0.9**
comp=Z,16nm,0.9s,mb5.0
CABF La Chapelle 87.46 332 *eP* **P 23 10 48.7 +0.5**
LOR Lormes 87.71 334 *eP* **P 23 10 49.9 +0.6**
comp=Z,25nm,1.0s,mb5.1
LOR *eR*
comp=Z,299nm,18.2s
LOR Lormes 87.71 334 *eP* **P 23 10 49.9 +0.6**
LOR pmax pmax
comp=Z,12nm,1.0s,mb5.1
LOR MLR MLR
comp=Z,300nm,18.3s,MS4.7
FLN La Foliniere 87.84 337 *eP* **P 23 10 50.4 +0.5**
FLN *eR*
comp=Z,363nm,19.2s
LDF La Druitiere 87.88 337 *eP* **P 23 10 50.5 +0.4**
SSF Saint Saulge 88.01 334 *eP* **P 23 10 51.4 +0.6**
SSF pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
SSF Saint Saulge 88.01 334 *eP* **P 23 10 51.4 +0.6**
comp=Z,8.7nm,1.1s,mb4.9
LPL La Plagne 88.14 331 *eP* **P 23 10 52.5 +1.0**
comp=Z,11nm,1.0s,mb4.8
LPL La Plagne 88.14 331 *eP* **P 23 10 52.5 +1.0**
LPL pmax pmax
comp=Z,6.0nm,1.0s,mb4.8

LPG	La Plagne	88.15	331	*e*P		P		23 10 52.7	+1.2
	comp=Z,6.6nm,0.7s,mb4.7								
LPG	La Plagne	88.15	331	*e*P		P		23 10 52.7	+1.2
LPG				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.6								
SMF	Signal de Mont	88.25	333	*e*P		P		23 10 52.5	+0.6
	comp=Z,28nm,1.3s,mb5.0								
SMF	Signal de Mont	88.25	333	*e*P		P		23 10 52.5	+0.6
SMF				pmax		pmax			
	comp=Z,14nm,1.3s,mb5.0								
GRR	Gorron	88.29	337	*e*P		P		23 10 52.7	+0.6
AVF	Avril sur Loir	88.30	334	*e*P		P		23 10 52.8	+0.6
	comp=Z,27nm,1.1s,mb5.1								
AVF	Avril sur Loir	88.30	334	*e*P		P		23 10 52.8	+0.6
AVF				pmax		pmax			
	comp=Z,14nm,1.1s,mb5.1								
TXAR	Lajitas Array	88.44	53	P		P		23 10 53.2	-0.1
	comp=Z,0.2nm,0.3s,mb3.8,baz=304,slow=4.5,SNR=3.4								
TXAR				pP		pP		23 11 02.0	-0.6
	comp=Z,0.6nm,0.7s,baz=299,slow=3.7,SNR=3.7								
TXAR				LR		LR		23 47 10.0	
	comp=Z,79nm,21.4s,MS4.1,baz=50,slow=33								
MBDF	Montbardon	88.79	331	*e*P		P		23 10 55.1	+0.5
	comp=Z,6.0nm,0.8s,mb4.7								
MBDF	Montbardon	88.79	331	*e*P		P		23 10 55.1	+0.5
MBDF				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.7								
ORIF	Oris-en-Rattie	88.97	331	*e*P		P		23 10 57.0	+1.6
ORIF				*e*R					
	comp=Z,346nm,17.2s								
ROSF	Rostrenen	89.06	338	*e*P		P		23 10 56.9	+1.1
TCF	Toulx Ste Croi	89.13	334	*e*P		P		23 10 56.9	+0.7
	comp=Z,13nm,1.1s,mb4.9								
TCF	Toulx Ste Croi	89.13	334	*e*P		P		23 10 56.9	+0.7
TCF				pmax		pmax			
	comp=Z,6.0nm,1.1s,mb4.8								
VIVF	Saint-Julien-l	89.48	332	*e*P		P		23 10 58.6	+0.8
MFF	Saint Martin d	89.64	336	*e*P		P		23 10 59.4	+0.8
RJF	Les Rejaudoux	90.22	334	*e*P		P		23 11 02.3	+1.0
CAF	Calviac	90.36	334	*e*P		P		23 11 03.1	+1.1
	comp=Z,17nm,1.0s,mb5.0								
CAF	Calviac	90.36	334	*e*P		P		23 11 03.1	+1.1
CAF				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb5.0								
LFF	La Frestale	90.81	334	*e*P		P		23 11 05.2	+1.2
	comp=Z,12nm,0.8s,mb5.0								
LFF	La Frestale	90.81	334	*e*P		P		23 11 05.2	+1.2
LFF				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb5.0								
MTLF	Montolieu	91.68	333	*e*P		P		23 11 09.1	+1.0
SWET	Sewanee	94.14	38	*e*P		P		23 11 15.0	-4.5
DBIC	Dimbokro	126.56	319	pPKP				23 17 13.8	
	comp=Z,1.5nm,0.6s,baz=68,slow=3.8,SNR=2.3								
LPAZ	La Paz	145.01	61	PKP		PKPdf		23 17 38.7	-3.7
	comp=Z,0.7nm,0.5s,baz=6.9,slow=4.2,SNR=2.7								
LPAZ				pPKP				23 17 48.1	
	comp=Z,1.5nm,0.6s,baz=23,slow=6.7,SNR=4.2								
LPAZ	La Paz	145.01	61	PKP		PKPdf		23 17 38.7	-3.7
LPAZ				pPKP				23 17 48.1	

MEX 20 23:12:17.5±0.8, 16.46N×99.18W, h10km±18km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACX	Acapulco	0.81	300	*i* P		Pb	23 12 30.5	-2.8
ACX				*i* S		Sb	23 12 42.0	-2.1
CAIG	El Cayaco	1.20	299	*i* P		Pb	23 12 37.5	-2.4
CAIG				*i* S		Sb	23 12 51.1	-4.1
PLIG	Platanillo	1.94	351	*i* P		Pn	23 12 47.3	-3.7
PLIG				*i* S		Sn	23 13 10.2	-5.5
OXX	Oaxaca	2.43	75	*e*P		Pn	23 12 54.0	-3.9
OXX				*i* S		Sn	23 13 23.0	-5.0

*CSEM **20** 23:36:22.0±0.9, 38.80N×28.88W, ML1.7, Error ellipse: s-maj=6.1km s-min=3.9km az=99.0, After PDA*
*PDA **20** 23:36:22.0±0.9, 38.80N×28.88W, MD3.1, ML1.7, Error ellipse: s-maj=6.1km s-min=3.9km az=99.0*
SVSA 20 23:36:22.0±0.9, 38.80N×28.88W, MD3.1, ML1.7, Error ellipse: s-maj=6.1km s-min=3.9km az=99.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCED	Cedros	0.22	140	*i* P		Pg	23 36 26.2	-0.3
PCED				*e*S		Sg	23 36 29.5	+0.1
	47nm,0.2s							
PCED	Cedros	0.22	140	*e*S		Sg	23 36 29.5	+0.1
	47nm,0.2s							
PTCA	Ponta do Capel	0.23	162	*e*P		Pg	23 36 26.8	+0.3
PTCA				*e*S		Sg	23 36 29.9	+0.4
	45nm,0.2s							
PTCA	Ponta do Capel	0.23	162	*e*P		Pg	23 36 26.8	+0.3
PTCA				*e*S		Sg	23 36 29.9	+0.4
	45nm,0.2s							
CALA	Caldeira	0.26	147	*e*P		Pg	23 36 26.7	-0.5
CALA				*e*S		Sg	23 36 30.6	-0.1
PCND	Candelaria	0.47	135	*e*S		Sg	23 36 37.4	-0.2
PICO	Pico	0.47	130	*e*P		Pg	23 36 30.5	-0.8
PICO				*e*S		Sg	23 36 37.2	-0.3
ROSA	Rosais	0.51	99	*e*P		Pg	23 36 31.4	-0.8
ROSA				*e*S		Sg	23 36 38.1	-0.8
PBOI	Pico dos Bois	0.54	132	*e*S		Sg	23 36 39.0	-0.9
	25nm,0.3s							
PPNO	Prainha do Nor	0.59	124	*e*S		Sg	23 36 40.6	-0.9
	22nm,0.3s							

*CSEM **20** 23:41:31.4±0.7, 24.46N×36.71E, h33km±7km, ML2.8, Error ellipse: s-maj=2.3km s-min=1.8km az=15.0*
*SNSN **20** 23:41:32.9, 24.54N×36.86E, h25km, Ml2.8*
*HLW **20** 23:41:33.0, 24.43N×36.52E, h15km, Mb3.0*
ISC 20 23:41:29.2±0.6, 24.44N±0.06×36.67E±0.04, h10km, n16, σ0§60/18, 4C-4D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UMJS	Umm Lajj	0.99	36	P		Pb	23 41 48.3	+0.3
YNBS	Yanbu' al Bahr	1.21	94	P		Pb	23 41 51.9	+0.1
YNBS				S		Sb	23 42 06.6	-0.8
HAGS	Hagol	1.53	268	*e*P		Pn	23 41 57.6	+0.8
HAGS				S		Sb	23 42 14.6	-2.0
EMRS	Mersa Alam	1.76	289	*e*P		Pn	23 42 00.3	+0.3
HSHL	Bi'r Shalatayn	1.76	222	*e*P		Pn	23 42 00.8	+0.7
HADB		2.07	297	*e*P		Pn	23 42 04.8	+0.4
HQSR		2.45	303	*e*P		Pn	23 42 09.9	0.0
HEDF	Idfu	3.23	282	P		Pn	23 42 21.6	+0.5
HEDF	Idfu	3.23	282	P		Pn	23 42 21.5	+0.4
HSFG		3.26	311	*e*P		Pn	23 42 21.1	-0.3
TBKS	Tabuk	3.78	358	P		Pn	23 42 28.4	-0.4
HHRG	Al Ghardaqah	3.93	315	*e*P		Pn	23 42 31.0	0.0
AYUS	'Aynunah	3.94	342	P		Pn	23 42 31.1	-0.1
HAQS	Haql	4.86	342	P		Pn	23 42 44.3	+0.2
JMOS	Jabal al Moall	4.92	344	P		Pn	23 42 45.0	0.0
LTHS	Al Lith	5.40	139	P		Pn	23 42 51.6	-0.1

*PRU **20** 23:57:30.7, 43.71N×7.30E*
*CSEM **20** 23:57:34.9±0.0, 44.09N×6.98E, h5km, ML3.8/29, Error ellipse: s-maj=0.9km s-min=0.7km az=38.0*
*STR **20** 23:57:35.6±0.2, 44.05N×6.99E, h10km±1km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*IDC **20** 23:57:35.1±1.6, 44.14N×6.84E, mb3.5/5, mb1 3.8/9, mb1mx3.6/23, mbtmp3.6/9, ML3.9/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/30, Error ellipse: s-maj=34.4km s-min=16.8km az=157.0*
*NEIC **20** 23:57:35.6, 44.05N×6.99E, h10km, ML3.8(LDG), ML3.5(STR), After STR.*
*LDG **20** 23:57:35.2±0.0, 44.09N×6.99E, h2km, Md3.6/2, Ml3.8/32, Error ellipse: s-maj=1.5km s-min=1.2km az=57.0*
ISC 20 23:57:33.9±0.2, 44.13N±0.01×6.91E±0.02, h8km±2km, n152, σ1§32/265, mb3.6/3, 11C-4D, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TOUF	Mont Tournerai	0.27	116	Pg		Pg	23 57 39.1	-0.4
TOUF				Sg		Sg	23 57 42.5	-0.7
MVIF	Mont Vial	0.29	144	Pg		Pg	23 57 39.7	-0.2
MVIF				Sg		Sg	23 57 43.9	-0.1
AUTN	L'Aution	0.40	110	Pg		Pg	23 57 41.6	-0.3
AUTN				Sg		Sg	23 57 47.2	-0.1
SBF	Sospel	0.46	125	*e*Pg		Pg	23 57 42.9	-0.4
SBF				*e*Sg		Sg	23 57 48.5	-1.1
	9µm,0.8s							
REVF	Revere	0.51	140	Pg		Pg	23 57 44.2	0.0
MBDF	Montbardon	0.60	350	*e*Pg		Pg	23 57 46.6	+0.6
MBDF				*e*Sg		Sg	23 57 54.9	+0.8
	2µm,0.7s							
FRF	La Foret Royal	0.60	199	*e*Pg		Pg	23 57 45.7	-0.3
FRF				*e*Sg		Sg	23 57 54.0	-0.2
	634nm,0.2s							
OG25	Le Caire	0.65	292	Pg		Pg	23 57 48.1	+1.2
OG25				Sg		Sg	23 58 00.0	+4.4
OG22	Abries	0.69	2	Pg		Pg	23 57 48.3	+0.5
OG22				Sg		Sg	23 57 57.9	+0.9
STOF	St-Etienne Org	0.74	260	Pg		Pg	23 57 51.3	+2.6
STOF				Sg		Sg	23 58 04.1	+5.6
TAVF	Tavernes	0.81	230	Pg		Pg	23 57 49.9	-0.1
TAVF				Sg		Sg	23 58 01.5	+0.7
LMR	La Mourre	0.85	200	*e*Pg		Pg	23 57 50.1	-0.9
LMR				*e*Sg		Sg	23 58 01.5	-0.8
	1µm,0.4s							
VILF	Villemus	0.91	252	Pg		Pg	23 57 53.0	+0.9
VILF				Sg		Sg	23 58 06.9	+2.7
BNI	Bardonecchia	0.93	350	*e*P		Pb	23 57 53.4	+1.5
BNI				*e*S		Sb	23 58 05.8	+1.6
BNI	Bardonecchia	0.93	350	*e*P		Pb	23 57 53.3	+1.4
BNI				*e*S		Sb	23 58 05.8	+1.6
PUYF	Puyloubier	1.06	236	Pg		Pg	23 57 55.1	-0.1
PUYF				Sg		Sg	23 58 11.1	+1.7
ORIF	Oris-en-Rattie	1.08	317	*e*Pg		Pg	23 57 55.6	+0.1
ORIF				*e*Sg		Sg	23 58 11.4	+1.5
	2µm,0.7s							
BERF	Bertagne	1.21	228	Pg		Pg	23 57 57.9	-0.1
BERF				Sg		Sg	23 58 15.1	+0.9
OCF	Saint Nazaire	1.24	292	Pg		Pg	23 58 00.1	+1.4
OG26	St.-Nazaire-De	1.24	292	Pg		Pg	23 58 00.1	+1.4
PRAF	Pradon	1.30	256	Pg		Pg	23 57 59.6	-0.3
GELF	Grande-Etoile	1.31	236	Pg		Pg	23 57 59.6	-0.5
LPG	La Plagne	1.37	355	*e*Pg		Pg	23 58 01.7	+0.4
LPG				*e*Sg		Sg	23 58 20.0	+0.5
	875nm,0.7s							
LPG	La Plagne	1.37	355	*e*Pn		Pn	23 58 00.7	+1.4
LPG				*e*Pg		Pg	23 58 01.7	+0.4
LPG				*e*Sg		Sg	23 58 20.0	+0.5
LPG	La Plagne	1.37	355	*e*Pg		Pg	23 58 01.7	+0.4
LPG				*e*Sg		Sg	23 58 20.0	+0.5
	438nm,0.7s							
LPL	La Plagne	1.39	355	*e*Pn		Pn	23 58 01.1	+1.5
LPL				*e*Sg		Sg	23 58 20.0	-0.2
	773nm,0.7s							
RSL	Roselend	1.57	353	Pn		Pn	23 58 04.9	+2.7
VIVF	Saint-Julien-l	1.76	295	*e*Pn		Pn	23 58 05.9	+1.0
VIVF				*e*Sn		Sn	23 58 27.8	+0.2
VIVF				*e*Sg		Sg	23 58 32.3	-0.2
	316nm,0.6s							
OG05	Jujurieux	2.17	332	Pg		Pg	23 58 17.0	-0.2
OG05	Jujurieux	2.17	332	Pn		Pn	23 58 12.9	+2.1
OG05				Pg		Pg	23 58 17.0	-0.2
OG05	Jujurieux	2.17	332	Pg		Pg	23 58 17.0	-0.2
PGF	Pioggiola	2.20	135	*e*Pn		Pn	23 58 09.3	-1.9
PGF				*e*Sn		Sn	23 58 35.1	-3.7
	73nm,0.4s							
LASF	Ste Croix	2.20	270	*e*Pn		Pn	23 58 11.4	+0.1
LASF				*e*Sn		Sn	23 58 38.4	-0.5
LASF				*e*Sg		Sg	23 58 46.3	-0.9
	146nm,0.5s							
OG01	Vacheresse	2.20	356	Pn		Pn	23 58 15.9	+4.6
CORF	Corte	2.46	137	Pn		Pn	23 58 13.3	-1.6
VLC	Villacollemand	2.50	88	*e*Pn		Pn	23 58 15.8	+0.3
VLC				*e*Sn		Sn	23 58 46.7	+0.2
VLC	Villacollemand	2.50	88	*e*Pn		Pn	23 58 15.9	+0.4
VLC				*e*Sn		Sn	23 58 46.7	+0.2
CABF	La Chapelle	2.54	347	*e*Pg		Pg	23 58 23.3	-1.4
CABF				*e*Sg		Sg	23 58 57.0	-1.7
	510nm,1.0s							
CABF	La Chapelle	2.54	347	*e*Pn		Pn	23 58 18.0	+1.8
CABF				*e*Pg		Pg	23 58 23.3	-1.4
CABF				*e*Sg		Sg	23 58 57.0	-1.7
CABF	La Chapelle	2.54	347	*e*Pg		Pg	23 58 23.3	-1.4
CABF				*e*Sg		Sg	23 58 57.0	-1.7
	255nm,1.0s							
COLF	Collangettes	2.68	302	Pn		Pn	23 58 18.2	+0.2
LBL	Lubilhac	2.84	294	Pn		Pn	23 58 21.7	+1.4
PLDF	La Plantade	2.97	309	Pn		Pn	23 58 23.1	+0.9
OSPF	L'Ospedale	2.98	145	Pn		Pn	23 58 21.4	-1.0
LOMF	Lomont	3.22	359	Pn		Pn	23 58 27.0	+1.2
AGO	Saint Agoulin	3.29	307	Pn		Pn	23 58 28.1	+1.3
SMF	Signal de Mont	3.31	320	*e*Pg		Pg	23 58 37.5	-2.6
SMF				*e*Sn		Sn	23 59 04.4	-2.8
SMF				*e*Sg		Sg	23 59 20.9	-3.4
	186nm,0.9s							
SMF	Signal de Mont	3.31	320	*e*Pn		Pn	23 58 27.9	+0.8
SMF				*e*Pg		Pg	23 58 37.5	-2.6
SMF				*e*Sn		Sn	23 59 04.4	-2.8
SMF				*e*Sg		Sg	23 59 20.9	-3.4
DAVOX	Davos	3.37	37	Pn		Pn	23 58 29.0	+1.1
	baz=231,slow=8.9							
DAVOX						Sn		
	1.4nm,0.3s,baz=339,slow=20,SNR=3.2						23 59 13.3	+4.7
EJON	La Jonquera	3.39	242	P		Pn	23 58 28.8	+0.7
EJON				S		Sn	23 59 16.5	+7.6
EJON	La Jonquera	3.39	242	P		Pn	23 58 28.8	+0.7
	2.1nm,0.1s,SNR=9.2							
CAF	Calviac	3.56	285	*e*Pn		Pn	23 58 30.8	+0.2
CAF				*e*Sn		Sn	23 59 10.7	-2.6
CAF				*e*Sg		Sg	23 59 27.9	-4.4
	102nm,0.7s							
AVF	Avril sur Loir	3.65	318	*e*Pn		Pn	23 58 32.8	+0.9
AVF				*e*Sg		Sg	23 59 31.3	-4.2
	94nm,0.7s							
HINF	Hinteralfeld	3.68	359	*e*Pg		Pg	23 58 44.0	-3.5
HINF				*e*Sg		Sg	23 59 30.5	-6.1
	74nm,0.7s							
HINF	Hinteralfeld	3.68	359	*e*Pn		Pn	23 58 32.6	+0.2
HINF				*e*Pg		Pg	23 58 44.0	-3.5
HINF				*e*Sg		Sg	23 59 30.5	-6.1
MOF	Molkenrain	3.72	2	Pn		Pn	23 58 34.4	+1.5
BGF	Bois d'Agland	3.75	312	*e*Pn		Pn	23 58 34.2	+0.8
BGF				*e*Sn		Sn	23 59 15.8	-2.5
	100nm,0.5s							
BGF				*e*Sg		Sg	23 59 34.7	-4.2
DAVA	Damuels	3.78	32	*i*Pn		Pn	23 58 34.9	+1.2
	SNR=5.6							
DAVA	Damuels	3.78	32	*i*Sn		Sn	23 59 25.5	+6.6
DAVA	Damuels	3.78	32	*i*Pn		Pn	23 58 34.9	+1.2
DAVA				Sn		Sn	23 59 25.5	+6.6
DAVA	Damuels	3.78	32	Pn		Pn	23 58 34.9	+1.2
	5.0nm,6.0s							
DAVA				Sn		Sn	23 59 25.5	+6.7
LOR	Lormes	3.79	327	*e*Pn		Pn	23 58 34.5	+0.6
	baz=150							
LOR	Lormes	3.79	327	*e*Pg		Pg	23 58 46.2	-3.5
	baz=140							
LOR				*e*Sn		Sn	23 59 16.3	-3.0
LOR				*e*Sg		Sg	23 59 36.7	-3.6
	85nm,0.8s							
LOR	Lormes	3.79	327	*e*Pn		Pn	23 58 34.5	+0.6
LOR				*e*Pg		Pg	23 58 46.2	-3.5
LOR				*e*Sn		Sn	23 59 16.3	-3.0
LOR				*e*Sg		Sg	23 59 36.7	-3.6
HAU	Haudompre	3.89	354	*e*Pn		Pn	23 58 35.7	+0.4
HAU				*e*Sn		Sn	23 59 18.1	-3.7
	74nm,0.4s							
TCF	Toulx Ste Croi	3.96	305	*e*Pn		Pn	23 58 36.7	+0.4
TCF				*e*Sg		Sg	23 59 41.4	-4.4
	92nm,0.9s							
RJF	Les Rejaudoux	4.02	289	*e*Pn		Pn	23 58 37.2	+0.1
RJF				*e*Sn		Sn	23 59 21.9	-3.1
RJF				*e*Sg		Sg	23 59 43.3	-4.5
	84nm,0.8s							
THEF	They Montfort	4.14	351	Pn		Pn	23 58 39.8	+0.9
SFTF	Sexfontaines	4.28	343	*e*Pn		Pn	23 58 41.3	+0.5
	baz=155							
SFTF				*e*Sn		Sn	23 59 27.5	-4.0
SFTF				*e*Sg		Sg	23 59 49.1	-7.2
	159nm,0.9s							
CDF	Champ du Feu	4.29	3	*e*Pg		Pg	23 58 55.3	-4.2
CDF				*e*Sn		Sn	23 59 27.5	-4.3
CDF				*e*Sg		Sg	23 59 49.5	-7.2
	120nm,1.0s							
CDF	Champ du Feu	4.29	3	*e*Pn		Pn	23 58 40.7	-0.2
CDF				*e*Pg		Pg	23 58 55.3	-4.2
CDF				*e*Sn		Sn	23 59 27.5	-4.3
CDF				*e*Sg		Sg	23 59 49.5	-7.2
WLS	Welschbruch	4.29	4	Pn		Pn	23 58 40.3	-0.7
BFO	Black Forest	4.31	13	*e*Pn		Pn	23 58 41.2	-0.1
SQTA	Sankt Quirin	4.31	43	*i*Pn		Pn	23 58 43.0	+1.7
SQTA				Sn		Sn	23 59 39.6	+7.2
SQTA	Sankt Quirin	4.31	43	*i*Pn		Pn	23 58 43.0	+1.7
SQTA				Sn		Sn	23 59 39.6	+7.2
HYF	Humbligny	4.33	318	*e*Pn		Pn	23 58 41.7	+0.1
HYF				*e*Pg		Pg	23 58 56.3	-4.1
HYF				*e*Sn		Sn	23 59 29.3	-3.7
HYF				*e*Sg		Sg	23 59 52.0	-6.2
MOTA	Moosalm	4.35	41	*i*Pn		Pn	23 58 42.9	+1.1
MOTA				Sn		Sn	23 59 38.9	+5.5
MOTA	Moosalm	4.35	41	Pn		Pn	23 58 42.9	+1.1
	32nm,3.0s							
MOTA				Sn		Sn	23 59 38.9	+5.5
SALF	Salau	4.39	254	Pn		Pn	23 58 41.3	-1.1
MLS	Moulis	4.39	256	Pn		Pn	23 58 42.1	-0.3
LFF	La Frestale	4.49	282	*e*Pn		Pn	23 58 44.0	+0.2
LFF				*e*Sg		Sg	23 59 57.0	-6.3
	114nm,0.7s							
EMIR	Miracle	4.53	243	P		Pn	23 58 45.0	+0.7
EMIR				S		Sn	23 59 43.8	+5.9
EMIR	Miracle	4.53	243	P		Pn	23 58 45.0	+0.6
	11nm,0.5s,SNR=10							
EMIR				S		Sn	23 59 43.8	+5.9
	13nm,0.4s							
WTTA	Wattenberg	4.55	45	*i*Pn		Pn	23 58 45.6	+0.8
WTTA				Sn		Sn	23 59 44.0	+5.4
WTTA	Wattenberg	4.55	45	Pn		Pn	23 58 45.6	+0.8
	10.0nm,3.0s							
WTTA				Sn		Sn	23 59 44.0	+5.5
MEZF	Maizieres J'vi	4.56	344	*e*Pn		Pn	23 58 44.2	-0.6
	baz=163							
MEZF				*e*Sg		Sg	23 59 58.9	-6.7
	109nm,0.9s							
WATA	Walderalm	4.57	44	*i*Pn		Pn	23 58 46.2	+1.2
	SNR=15							
WATA	Walderalm	4.57	44	*i*Sn		Sn	23 59 45.4	+6.4
WATA	Walderalm	4.57	44	*i*Pn		Pn	23 58 46.2	+1.2
WATA				Sn		Sn	23 59 45.4	+6.4
WATA	Walderalm	4.57	44	Pn		Pn	23 58 46.2	+1.2
	14nm,6.0s							
WATA				Sn		Sn	23 59 45.4	+6.4
RFYF	Reffroy	4.61	348	*e*Pn		Pn	23 58 46.1	+0.6
	baz=170							
RFYF				*e*Sn		Sn	23 59 35.6	-4.2
RFYF				*e*Sg		Sg	00 00 00.2	-7.1
	157nm,0.8s							
EPF	Esparros	4.90	259	*e*Pn		Pn	23 58 48.3	-1.3
EPF				*e*Sn		Sn	23 59 43.0	-4.3
	36nm,0.7s							
LABF	Labassere	5.08	260	Pn		Pn	23 58 50.9	-1.3
EPOB	Poblet	5.12	239	P		Pn	23 58 53.0	+0.4
EPOB				S		Sn	23 59 51.0	-1.7
EPOB	Poblet	5.12	239	P		Pn	23 58 53.0	+0.3
	4.3nm,0.5s,SNR=6.8							
EPOB				S		Sn	23 59 51.0	-1.7
	29nm,1.0s,SNR=7.9							
EBIE	Bielsa	5.14	256	P		Pn	23 58 53.4	+0.3
EBIE				S		Sn	23 59 55.4	+2.2
EBIE	Bielsa	5.14	256	P		Pn	23 58 53.3	+0.3
	5.7nm,0.7s,SNR=25							
EBIE				S		Sn	23 59 55.4	+2.1
	40nm,1.2s							
EGRA	Graus	5.20	250	P		Pn	23 58 55.0	+1.1
EGRA				S		Sn	23 59 58.8	+4.1
EGRA	Graus	5.20	250	P		Pn	23 58 55.0	+1.1
	22nm,0.6s,SNR=12							
EGRA				S		Sn	23 59 58.8	+4.0
	40nm,0.8s,SNR=5.9							
VOY	Vojsko	5.30	67	*e*Pn		Pn	23 58 55.3	+0.1
VOY				*e*Sn		Sn	23 59 53.5	-3.7
ETOS	Mallorca	5.33	216	P		Pn	23 58 56.8	+1.1
ETOS				S		Sn	23 59 57.1	-0.9
ETOS	Mallorca	5.33	216	P		Pn	23 58 56.8	+1.2
	57nm,1.2s,SNR=7.9							
ETOS				S		Sn	23 59 57.1	-0.8
	81nm,1.9s,SNR=7.9							
MFF	Saint Martin d	5.55	299	*e*Pn		Pn	23 58 59.0	+0.2
MFF				*e*Sg		Sg	00 00 30.7	-8.0
	94nm,1.2s							
WLF	Walferdange	5.56	355	*e*Pn		Pn	23 59 00.7	+1.8
	18nm,0.8s							
ETSF	Etsaut	5.57	260	*e*Sn		Sn	23 59 59.0	-5.1
	78nm,0.8s							
ETSF	Etsaut	5.57	260	*e*Pn		Pn	23 58 58.9	-0.2
ETSF				*e*Sn		Sn	23 59 59.0	-5.1
EBR	Ebro Roquetas	5.79	237	*e*PG		Pg	23 59 33.0	+3.6
EBR				*e*Rs			00 00 08.7	
EBR				*e*Rs			00 00 58.0	
ERTA	Horta de San J	5.80	239	P		Pn	23 59 04.1	+1.7
ERTA				S		Sn	00 00 14.8	+4.9
ERTA	Horta de San J	5.80	239	P		Pn	23 59 04.1	+1.7
	3.8nm,0.4s,SNR=7.9							
OBKA	Obir	5.88	64	*i*Pn		Pn	23 59 03.4	-0.1
OBKA	Obir	5.88	64	*i*Sn		Sn	00 00 14.5	+2.6
OBKA	Obir	5.88	64	Pn		Pn	23 59

ESDC	**Sonseca Array**	**9.25**	**245**	Pn	**P**	**23 59 48.3**	**-2.3**
	1.1nm,0.3s,baz=55,slow=14,SNR=18						
ESDC	**Sonseca Array**	**9.25**	**245**	P	**P**	**23 59 47.9**	**-2.6**
	0.8nm,0.3s						
ESDC				S	**Sn**	**00 01 30.6**	**-5.3**
EKA	**Eskdalemuir Ar**	**12.95**	**334**	Pn	**P**	**00 00 39.0**	**-1.8**
	0.2nm,0.3s,baz=150,slow=14,SNR=4.0						
BRTR	**Keskin Array B**	**20.33**	**93**	P	**P**	**00 02 14.6**	**+1.5**
	1.4nm,0.8s,baz=288,slow=3.9,SNR=6.2						
FINES	**FINESS Array B**	**20.71**	**26**	P	**P**	**00 02 16.1**	**-0.8**
	1.4nm,0.8s,baz=214,slow=10.0,SNR=2.9						
MKAR	**Makanchi Array**	**51.02**	**59**	P	**P**	**00 06 37.3**	**-0.7**
	0.5nm,0.7s,mb3.5,baz=293,slow=9.2,SNR=4.1						
YKA	**Yellowknife Ar**	**63.91**	**334**	P	**P**	**00 08 09.1**	**+0.3**
	0.8nm,0.8s,mb3.8,baz=46,slow=6.5,SNR=18						
ILAR	**Eielson Array**	**69.51**	**348**	P	**P**	**00 08 46.2**	**+1.9**
	0.7nm,1.0s,mb3.6,baz=20,slow=3.9,SNR=4.6						

NIED ***21*** *00:06:00,38.00N×143.30E,h14km,Mw3.8 Best double couple: M₀5.58×10¹⁴ NP1:φ=29°,δ55°,λ94°. NP2:φ=202°,δ35°,λ84°.*
IDC ***21*** *00:06:30.5±1.9,38.01N×143.51E,mb3.7/5,mb1 3.9/6, mb1mx3.6/20,mbtmp3.7/6,ML3.5/1,MS2.9/1,Ms1 2.9/1, ms1mx2.6/26,Error ellipse: s-maj=51.3km s-min=27.5km az=75.0*
JMA ***21*** *00:06:33.1±0.2,37.99N×143.35E,h47km,M3.7*
NEIC ***21*** *00:06:37.2±8.1,37.95N×143.27E,h43km±59km, MG3.7(JMA),Error ellipse: s-maj=85.1km s-min=18.8km az=70.0*
ISC 21 00:06:34.2±0.9,37.94N±0.05×143.25E±0.08,h33km,n21, σ0$72/25,mb3.6/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.58**	**289**	P		**P**		**00 07 00.3**	**+0.1**
JIO				*e*S		**S**		**00 07 19.2**	**-0.5**
OFUJ	**Ofunato**	**1.68**	**313**	P		**P**		**00 07 01.1**	**-0.5**
JMK	**Ichinoseki**	**1.88**	**303**	P		**P**		**00 07 04.4**	**-0.1**
JMM	**Marumori**	**1.94**	**269**	P		**P**		**00 07 05.6**	**+0.2**
JOM	**Ohasama**	**2.16**	**316**	P		**P**		**00 07 08.1**	**-0.4**
JOM				*e*S		**S**		**00 07 34.1**	**-0.3**
JYK	**Kaneyama**	**2.47**	**294**	P		**P**		**00 07 13.3**	**+0.4**
JANG	**Nango**	**2.78**	**332**	P		**P**		**00 07 17.0**	**-0.3**
JAG	**Ashikaga**	**3.39**	**245**	P		**P**		**00 07 25.9**	**-0.1**
JAG				*e*S		**S**		**00 08 05.6**	**0.0**
BSO1	**Boso 1**	**3.76**	**210**	P		**P**		**00 07 30.1**	**-1.2**
JRY	**Ryogami san**	**3.97**	**242**	P		**P**		**00 07 34.2**	**-0.1**
JRY				*e*S		**S**		**00 08 18.5**	**-2.0**
MJAR	**Matsushiro Arr**	**4.26**	**252**	Pn		**Pn**		**00 07 39.7**	**+1.2**
	2.5nm,0.3s,baz=71,slow=11,SNR=14								
MAJO	**Matsushiro**	**4.26**	**252**	*e*P		**P**		**00 07 39.6**	**+1.2**
MAT	**Matsushiro**	**4.26**	**252**	P		**P**		**00 07 39.6**	**+1.2**
MAT				S		**S**		**00 08 28.2**	**+0.6**
MAT	**Matsushiro**	**4.26**	**252**	*e*P		**P**		**00 07 40.0**	**+1.6**
MAT				*e*S		S		00 08 53.0	+25
ASAJ	**Asahikawa**	**6.19**	**356**	LR		LR		00 11 00.1	
	comp=Z,98nm,19.3s,baz=265,slow=44								
SONM	**Songino Array**	**28.51**	**302**	P		**P**		**00 12 28.6**	**+0.1**
	0.6nm,0.6s,mb3.5,baz=96,slow=8.1,SNR=4.3								
ZAL	**Zalesovo**	**42.40**	**312**	P		**P**		**00 14 27.6**	**+0.7**
	0.7nm,0.4s,mb3.6,baz=344,slow=9.7,SNR=3.7								
MKAR	**Makanchi Array**	**44.88**	**302**	P		**P**		**00 14 47.2**	**+0.2**
	0.5nm,0.6s,mb3.5,baz=85,slow=9.6,SNR=5.9								
MKAR	**Makanchi Array**	**44.88**	**302**	P		**P**		**00 14 47.2**	**+0.2**
WRA	**Warramunga Arr**	**58.18**	**190**	P		**P**		**00 16 26.9**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=8.2,slow=7.2,SNR=9.1								
FINES	**FINESS Array B**	**68.69**	**333**	P		**P**		**00 17 35.7**	**-0.2**
	0.6nm,0.6s,mb3.7,baz=22,slow=7.5,SNR=3.6								

NNC ***21*** *00:28:29.6±4.4,40.67N×54.53E,mb3.2,Error ellipse: s-maj=244.9km s-min=42.3km az=107.0*
TEH ***21*** *00:28:38.6,38.81N×53.07E,h10km,Mn3.1*
ISC 21 00:28:14.7±0.7,40.2N±0.1×54.1E±0.5,h10km,n13, σ0$94/10,2C-1D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IGLO	**Galoogah**	**3.90**	**187**	Pn		**Pn**		**00 29 12.9**	**-3.2**
IKIA	**Kiasar**	**3.99**	**184**	Pn		**Pn**		**00 29 17.9**	**+0.5**
IPRN	**Paran-Amol**	**4.19**	**200**	Pn		**Pn**		**00 29 18.6**	**-1.6**
IFIR	**Firoozkooh**	**4.66**	**193**	Pn		**Pn**		**00 29 27.8**	**+1.0**
IFIR	**Firoozkooh**	**4.66**	**193**	Lg				00 30 17.8	
IAFJ	**Afjeh**	**4.71**	**204**	Lg				00 30 16.7	
IAFJ	**Afjeh**	**4.71**	**204**	Pn		**Pn**		**00 29 27.8**	**+0.3**
IDMV	**Damavand**	**4.88**	**200**	Pn		**Pn**		**00 29 30.6**	**+0.7**
IDMV	**Damavand**	**4.88**	**200**	Lg				00 30 22.1	
IVRN	**Varamin**	**5.51**	**200**	Pn		**Pn**		**00 29 38.8**	**0.0**
IVRN	**Varamin**	**5.51**	**200**	Lg				00 30 41.8	
AB31	**Akbulak array**	**9.98**	**23**	⇑Pn		**P**		**00 30 46.3**	**+5.1**
	0.1nm,0.2s,baz=201,slow=12,SNR=14								
AB31				⇓Sn		**Sn**		**00 32 34.1**	**-0.2**
	1.5nm,0.3s,baz=187,slow=24,SNR=12								
AKTO	**Aktyubinsk**	**10.61**	**14**	⇑Sn		**S**		**00 32 50.0**	**+0.2**
	1.1nm,0.7s								

CSEM ***21*** *01:54:22.8±0.1,37.76N×25.37W,h5km,ML2.8,After PDA*
PDA ***21*** *01:54:22.8±0.5,37.76N×25.37W,h5km±1km,MD2.6, ML2.8,Error ellipse: s-maj=2.1km s-min=0.8km az=129.0*
SVSA 21 01:54:22.8±0.5,37.76N×25.37W,h5km±1km,MD2.6, ML2.8,Error ellipse: s-maj=2.1km s-min=0.8km az=129.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FRA1	**Furnas**	**0.02**	**153**	*i* P		Pg		01 54 23.9	+0.2
PCNG	**Congro**	**0.02**	**289**	*e*P		Pg		01 54 24.2	+0.4
PCNG				*e*S		Sg		01 54 25.3	+0.9
	5μm,0.4s								
VIF	**Vila Franca**	**0.06**	**256**	*i* P		Pg		01 54 24.9	+0.7
VIF				*e*S		Sg		01 54 26.5	+1.3
	4μm,0.3s								
MESC	**Monte Escuro**	**0.07**	**299**	*i* P		Pg		01 54 25.0	+0.6
MESC				*e*S		Sg		01 54 27.1	+1.6
MIRA	**Miradouro**	**0.07**	**69**	*i* P		Pg		01 54 24.7	+0.2
PFAD	**Fenais da Ajud**	**0.09**	**24**	*i* P		Pg		01 54 25.2	+0.5
PFAD				*e*S		Sg		01 54 27.2	+1.2
LFA	**Lagoa do Fogo**	**0.09**	**278**	*i* P		Pg		01 54 25.5	+0.7
PRCH	**Ribeira Ch**	**0.10**	**251**	*e*P		Pg		01 54 25.4	+0.5
PRCH				*e*S		Sg		01 54 27.3	+1.1
	3μm,0.2s								
PMAT	**Coroa da Mata**	**0.10**	**305**	*e*P		Pg		01 54 25.3	+0.3
PMAT				*e*S		Sg		01 54 27.3	+0.9
	650nm,0.2s								
PVER	**Pico Vermelho**	**0.12**	**288**	*e*P		Pg		01 54 24.6	-0.8
PVER				*e*S		Sg		01 54 27.0	-0.1
CML	**Cha da Macela**	**0.14**	**275**	*i* P		Pg		01 54 26.0	+0.2
FAC	**Faja de Cima**	**0.23**	**274**	*i* P		Pg		01 54 27.8	+0.4
PSAN	**Santo Antonio**	**0.30**	**288**	*i* P		Pg		01 54 28.9	+0.1
PFET	**Feteiras**	**0.34**	**280**	*i* P		Pg		01 54 29.6	0.0
SET2	**Ginetes**	**0.36**	**284**	*i* P		Pg		01 54 29.9	-0.1
SET4	**Mosteiros**	**0.36**	**289**	*i* P		Pg		01 54 29.7	-0.4
PSMN	**Pico do Norte,**	**0.79**	**162**	*e*S		Sg		01 54 46.0	-3.2

ATH ***21*** *01:57:59.0,39.34N×21.11E,h40km±3km,MD3.0/3*
THE ***21*** *01:57:59.8,39.18N×20.98E,h10km*
CSEM ***21*** *01:58:00.0±0.3,39.19N×20.97E,MD3.0,Error ellipse: s-maj=5.6km s-min=3.8km az=31.0*
ISC 21 01:57:59.6±0.5,39.19N±0.03×21.00E±0.04,h3km±10km, n12,σ0$83/19,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.48**	**346**	*e*P		**Pg**		**01 58 08.8**	**-0.3**
JAN				*e*S		**Sg**		**01 58 15.1**	**-0.4**
LKD	**Levkas**	**0.56**	**209**	*e*Pg		**Pg**		**01 58 09.4**	**-1.3**
LKD				*e*Sg		**Sg**		**01 58 18.3**	**+0.2**
MEV	**Metsovon**	**0.62**	**17**	*e*Pg		**Pg**		**01 58 11.4**	**-0.5**
MEV				*e*Sg		**Sg**		**01 58 21.4**	**+1.2**
IGT	**Igoumenitsa**	**0.62**	**303**	*e*Pg		**Pg**		**01 58 10.9**	**-1.0**
IGT				*e*Sg		**Sg**		**01 58 20.5**	**+0.3**
EVR	**Evrytania**	**0.69**	**113**	*e*P		**Pg**		**01 58 13.3**	**0.0**
EVR				*e*S		**Sg**		**01 58 23.3**	**+0.8**
SRN	**Sarande**	**1.03**	**312**	*i* Pg		**Pg**		**01 58 21.0**	**+0.8**
SRN				*i* Sg		**Sg**		**01 58 35.2**	**+1.2**
AGG	**Agios Georgios**	**1.05**	**99**	*e*Pg		**Pg**		**01 58 19.9**	**-0.6**
AGG				*e*Sg		**Sg**		**01 58 35.5**	**+1.0**
VLS	**Valsamata**	**1.06**	**198**	*e*P		**Pb**		**01 58 21.4**	**+1.1**
LIT	**Litokhoron**	**1.47**	**51**	*e*Pg		**Pg**		**01 58 27.3**	**-1.6**
FNA	**Florina**	**1.61**	**10**	*e*Pb		**Pb**		**01 58 29.3**	**-0.5**
XOR	**Xorichti**	**1.71**	**83**	*e*Pb		**Pb**		**01 58 30.8**	**-0.5**
GRG	**Griva**	**2.06**	**31**	*e*Pn		**Pn**		**01 58 35.6**	**0.0**

MOS ***21*** *01:58:27.1±0.4,59.08N×143.02E,h9km,mb4.0/1,Error ellipse: s-maj=43.1km s-min=21.7km az=63.3*
NERS 21 01:58:13.9,58.48N×141.51E,h8km,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OCHR	**Omchak**	**4.51**	**42**	*e*P		Pn		01 59 24.0	-0.1
OCHR				*e*Pg		Pg		01 59 36.3	-7.6
OCHR				Pgmax				01 59 41.8	
	10.0nm,0.4s								
OCHR				*e*				02 00 22.6	
OCHR				*e*Sg		Sg		02 00 33.8	-10
OCHR				Sgmax				02 00 42.3	
	80nm,0.6s								
MA2	**Magadan**	**4.91**	**73**	*e*P		Pn		01 59 30.2	+0.4
MA2				*e*Sg		Sg		02 00 46.0	-11
MA2				Sgmax				02 01 03.7	
	80nm,0.9s								
MA2				Sgmax				02 01 03.7	
	20nm,0.7s								
MGD	**Magadan 1**	**4.99**	**68**	*e*P		Pn		01 59 30.7	-0.2
MGD				Pmax				01 59 31.3	
	10.0nm,0.2s								
MGD				*e*S		Sn		02 00 24.9	-4.5
MGD				*e*Sg		Sg		02 00 48.1	-12
MGD				Sgmax				02 00 51.7	
	40nm,0.3s								
MGD				Sgmax				02 00 51.7	
	90nm,0.3s								
MGD	**Magadan 1**	**4.99**	**68**	*e*P		Pn		01 59 30.7	-0.2
MGD				*e*S		Sn		02 00 24.9	-4.5
MGD				pmax		pmax			
	comp=Z,10.0nm,0.2s								
MGD				smax					
	comp=N,40nm,0.3s								
MGD				smax					
	comp=E,90nm,0.3s								
SUUS	**Susuman**	**5.41**	**34**	*e*P		Pn		01 59 36.4	-0.5
SUUS				*e*				01 59 43.4	
SUUS				*e*Pg		Pg		01 59 54.2	-7.8
SUUS				Pgmax				01 59 54.4	
	comp=E,10.0nm,0.4s								
SUUS				*e*				01 59 56.0	
SUUS				*e*Sg		Sg		02 01 01.3	-13
SUUS				Sgmax				02 01 07.7	
	comp=E,20nm,0.7s								
SUUS				Sgmax				02 01 07.7	
	comp=E,60nm,0.7s								
SUUS	**Susuman**	**5.41**	**34**	*e*P		Pn		01 59 36.4	-0.5
SUUS				pmax		pmax			
	comp=Z,10.0nm,0.4s								
YAK	**Yakutsk**	**6.88**	**306**	*e*P		Pn		02 00 15.2	+18
YAK				*i*				02 01 39.4	
YAK				pmax		pmax			
	comp=Z,12nm,0.8s								
YAK				pmax		pmax			
	comp=N,4.0nm,1.0s								
YAK				pmax		pmax			
	comp=E,8.0nm,1.1s								
YAK				smax					
	comp=N,162nm,1.2s								
YAK				smax					
	comp=Z,60nm,0.9s								
YAK				smax					
	comp=E,113nm,1.0s								
YAK				MLR		MLR			
	comp=Z,44nm,8.0s								
SEY	**Seymchan**	**6.95**	**45**	*e*P		Pn		01 59 58.1	-0.5
SEY				*e*S		Sn		02 01 11.6	-7.1
SEY				*e*Sg		Sg		02 01 52.2	-13
SEY				Sgmax				02 01 56.5	
	comp=Z,60nm,0.5s								
SEY				Sgmax				02 01 56.5	
	comp=Z,10.0nm,0.5s								
SEY	**Seymchan**	**6.95**	**45**	*e*P		Pn		01 59 58.1	-0.5
SEY				*e*S		Sn		02 01 11.6	-7.1
SEY				smax					
	comp=N,60nm,0.5s								
SEY				smax					
	comp=E,10.0nm,0.6s								
OMS	**Omsukchan**	**8.11**	**54**	*e*Sg		Sg		02 02 29.0	-15
OMS				Sgmax				02 02 39.2	
	comp=E,60nm,1.0s								

IDC 21 01:58:43.2±3.3,12.18N×140.86E,mb3.9/3,mb1 4.1/3, mb1mx3.6/18,mbtmp3.9/3,Error ellipse: s-maj=157.1km s-min=32.0km az=82.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.56**	**191**	P		P		02 05 16.4	-2.1
	0.9nm,0.7s,baz=10,slow=10.0,SNR=11								
MKAR	**Makanchi Array**	**59.83**	**317**	P		P		02 08 51.8	-0.9
	0.4nm,0.6s,baz=117,slow=9.7,SNR=4.1								
FINES	**FINESS Array B**	**90.75**	**334**	P		P		02 11 46.3	-2.8
	1.3nm,1.0s,baz=72,slow=6.0,SNR=4.9								

IDC ***21*** *02:13:40.9±2.5,53.60N×160.15E,mb3.6/7,mb1 3.9/8, mb1mx3.7/22,mbtmp3.7/8,ML3.8/1,MS3.7/1,Ms1 3.6/1, ms1mx2.9/27,Error ellipse: s-maj=73.1km s-min=16.6km az=16.0*
MOS ***21*** *02:13:46.4±1.3,53.66N×160.67E,h53km,mb4.2/3,Error ellipse: s-maj=23.5km s-min=12.8km az=69.3*
KRSC ***21*** *02:13:47.6±1.0,53.62N×160.68E,h32km±5km,ML4.1*
ISC 21 02:13:47.3±0.5,53.58N±0.03×160.81E±0.06,h33km,n50, σ0$96/77,mb3.6/7,MS3.6/1,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.67**	**224**	P		**P**		**02 14 00.6**	**+0.3**
SPN				*i* S		**S**		**02 14 10.2**	**+0.5**
SPN	**Mys Shipunski**	**0.67**	**224**	*i* P		**P**		**02 14 00.6**	**+0.3**
SPN				*i* S		**S**		**02 14 10.3**	**+0.6**
KII	**Karymskiy**	**0.93**	**300**	P		**P**		**02 14 03.6**	**-0.2**
KII				S		**S**		**02 14 14.7**	**-1.4**
KII	**Karymskiy**	**0.93**	**300**	*i* P		**P**		**02 14 03.5**	**-0.3**
KII				*e*S		**S**		**02 14 14.6**	**-1.5**
NLC	**Nalytchevo**	**0.97**	**245**	*i* P		**P**		**02 14 04.4**	**-0.1**
NLC				*e*S		**S**		**02 14 16.8**	**-0.4**
SMAR	**Somma**	**1.24**	**256**	*i* P		**P**		**02 14 08.6**	**+0.3**
SMAR				*e*S		**S**		**02 14 24.2**	**0.0**
UGLR	**Uglovaya**	**1.24**	**253**	*i* P		**P**		**02 14 08.8**	**+0.4**
UGLR				*i* S		**S**		**02 14 23.9**	**-0.4**
AVH	**Avacha**	**1.28**	**256**	*i* P		**P**		**02 14 09.4**	**+0.6**
AVH				*e*S		**S**		**02 14 25.5**	**+0.4**
KOK	**Koryaka**	**1.33**	**258**	*i* P		**P**		**02 14 09.9**	**+0.2**
KOK				*i* S		**S**		**02 14 26.3**	**-0.1**
PET	**Petropavlovsk**	**1.41**	**247**	P		**P**		**02 14 11.0**	**+0.2**
PET				S		**S**		**02 14 28.5**	**+0.1**
PET	**Petropavlovsk**	**1.41**	**247**	*e*P		**P**		**02 14 11.0**	**+0.2**
PET				*i* S		**S**		**02 14 28.2**	**-0.2**
PET	**Petropavlovsk**	**1.41**	**247**	*e*PN		**Pn**		**02 14 10.9**	**-0.1**
PET				*e*S		**S**		**02 14 28.2**	**-0.2**
PET				pmax		pmax			
	comp=Z,91nm,0.4s								
PET				smax					
	comp=E,648nm,0.5s								
PET				smax					
	comp=N,602nm,0.7s								
GNL	**Ganaly**	**1.71**	**275**	*i* P		**P**		**02 14 15.3**	**+0.2**
TUMR	**Tumrok**	**1.75**	**348**	*i* P		**P**		**02 14 16.1**	**+0.4**
TUMR				*e*S		**S**		**02 14 35.8**	**-1.2**
KRMR	**Karymshinskiy**	**1.78**	**246**	*e*P		**P**		**02 14 16.2**	**+0.1**
KRMR				*e*S		**S**		**02 14 37.3**	**-0.4**
RUS	**Russkaya**	**1.80**	**231**	P		**P**		**02 14 16.3**	**-0.1**
RUS				S		**S**		**02 14 37.3**	**-1.0**
RUS	**Russkaya**	**1.80**	**231**	*e*P		**P**		**02 14 16.3**	**-0.1**
RUS				*e*S		**S**		**02 14 37.6**	**-0.7**
GRL	**Gorelyy**	**1.94**	**239**	*e*P		**P**		**02 14 19.0**	**+0.5**
KMNR	**Kamenistaya**	**2.21**	**352**	*e*P		**P**		**02 14 22.8**	**+0.6**
KMNR				*e*S		**S**		**02 14 48.6**	**0.0**
APC	**Apacha**	**2.29**	**255**	*e*P		**P**		**02 14 24.2**	**+0.8**
APC				*e*S		**S**		**02 14 49.0**	**-1.7**
APC				Smax					
	comp=N,70nm,0.7s								
KPT	**Kopyto**	**2.41**	**352**	*i* P		**P**		**02 14 25.9**	**+0.7**
ZLN	**Zelenaya**	**2.44**	**360**	*e*P		**P**		**02 14 26.4**	**+0.8**
ZLN				*e*S		**S**		**02 14 53.2**	**-1.4**
LGNR	**Loginova**	**2.51**	**359**	*i* P		**P**		**02 14 28.0**	**+1.5**
LGNR				*e*S		**S**		**02 14 57.9**	**+1.6**
CIRR	**Tsirk**	**2.54**	**359**	*e*P		**P**		**02 14 28.1**	**+1.1**
KRSR	**Krestovskiy**	**2.65**	**357**	*e*P		**P**		**02 14 28.7**	**+0.2**
KRSR				*e*S		**S**		**02 14 58.5**	**-1.3**
ESO	**Esso**	**2.65**	**333**	*e*P		**P**		**02 14 27.9**	**-0.6**
ESO				Smax					
	comp=N,90nm,0.6s								
KLY	**Klyuchi**	**2.74**	**358**	*e*P		**P**		**02 14 30.2**	**+0.4**
KLY				*e*S		**S**		**02 15 02.0**	**-0.1**
SRDR	**Sredinnyy**	**2.81**	**348**	*e*P		**P**		**02 14 30.4**	**-0.5**
KBTR	**Krutoberegovo**	**2.88**	**23**	P		**P**		**02 14 32.2**	**+0.4**
KBTR				S		**S**		**02 15 04.0**	**-1.7**
KBTR	**Krutoberegovo**	**2.88**	**23**	*i* P		**P**		**02 14 32.3**	**+0.5**
KBTR				*e*S		**S**		**02 15 06.3**	**+0.6**
BDR	**Baidarnaya**	**3.00**	**4**	*e*P		**P**		**02 14 34.5**	**+0.9**
SMKR	**Semkarok**	**3.03**	**7**	*i* P		**P**		**02 14 34.5**	**+0.5**
SRKR	**Sorokina**	**3.09**	**4**	*e*P		**P**		**02 14 35.3**	**+0.5**
SRKR				*e*S		**S**		**02 15 12.4**	**+1.4**
PAU	**Pauzhetka**	**3.23**	**231**	*e*P		**P**		**02 14 38.9**	**+2.1**
PAU				Smax					
	comp=N,110nm,1.3s								
BKI	**Bering**	**3.43**	**60**	*e*P		**P**		**02 14 39.1**	**-0.6**
BKI				*e*S		**S**		**02 15 15.5**	**-4.2**
BKI				Smax					
	comp=N,70nm,0.3s								
SKR	**Severo-Kuril's**	**4.09**	**227**	*e*P		**P**		**02 14 52.5**	**+3.4**
FX1	**Attu Island--F**	**7.45**	**90**	Pn		**Pn**		**02 15 35.6**	**-0.9**
	comp=N,4.4nm,0.3s,baz=206,slow=6.3,SNR=4.2								
FX1				Sn		**Sn**		**02 16 54.2**	**-6.6**
	comp=N,2.2nm,0.3s,baz=133,slow=19,SNR=2.6								
YKA	**Yellowknife Ar**	**42.51**	**43**	P		**P**		**02 21 37.6**	**-2.9**
	comp=N,0.3nm,0.6s,mb3.2,baz=297,slow=7.8,SNR=3.7								
YKA				LR		LR		02 39 56.2	
	comp=N,91nm,20.5s,MS3.6,baz=215,slow=37								
MKAR	**Makanchi Array**	**48.33**	**296**	P		**P**		**02 22 20.2**	**-6.8**
	comp=N,0.2nm,0.4s,mb3.5,baz=56,slow=6.1,SNR=6.3								
ARCES	**ARCESS Array B**	**52.96**	**342**	P		**P**		**02 22 58.1**	**-3.8**
	comp=N,1.8nm,0.9s,mb4.0,baz=28,slow=8.4,SNR=6.9								
ARCES	**ARCESS Array B**	**52.96**	**342**	P		**P**		**02 22 58.1**	**-3.8**
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.9s								
JOF	**Joensuu**	**57.30**	**335**	*e*p		**P**		**02 23 27.8**	**-5.7**
KAF	**Kangasniemi**	**59.20**	**337**	*e*p		**P**		**02 23 41.5**	**-5.3**
FINES	**FINESS Array B**	**59.84**	**337**	P		**P**		**02 23 47.0**	**-4.3**
	comp=Z,0.5nm,0.3s,mb4.0,baz=22,slow=6.5,SNR=9.9								
FINES	**FINESS Array B**	**59.84**	**337**	P		**P**		**02 23 47.0**	**-4.2**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.4s								
NB2	**NORSAR Subarra**	**63.19**	**344**	P		**P**		**02 24 08.9**	**-4.9**
	comp=Z,0.6nm,0.3s,mb4.2,baz=20,slow=7.0								
NOA	**NORSAR Array B**	**63.19**	**344**	P		**P**		**02 24 08.9**	**-4.9**
	comp=Z,0.7nm,0.4s,mb4.2,baz=26,slow=6.5,SNR=4.0								
NOA	**NORSAR Array B**	**63.19**	**344**	P		**P**		**02 24 08.9**	**-4.9**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
TXAR	**Lajitas Array**	**70.06**	**68**	P		**P**		**02 24 56.1**	**-1.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=323,slow=6.3,SNR=3.7								
GERES	**GERESS Array B**	**74.22**	**338**	P		**P**		**02 25 18.7**	**-3.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=18,slow=6.2,SNR=3.9								

ATH ***21*** *02:27:13.0,38.05N×20.15E,h12km±6km,MD3.3/5*
NEIC ***21*** *02:27:13.0,38.05N×20.15E,h12km,MD3.3(ATH),After ATH.*
THE ***21*** *02:27:16.7,38.25N×20.35E,h10km*
CSEM ***21*** *02:27:16.3±0.2,38.24N×20.31E,h2km,MD3.3,Error ellipse: s-maj=4.4km s-min=1.6km az=47.0*
ISC 21 02:27:14.8±1.6,38.20N±0.06×20.27E±0.09,h3km±8km, n17,σ0$61/21,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**96**	*e*PB		**Pg**		**02 27 20.6**	**+0.8**
LKD	**Levkas**	**0.58**	**30**	*e*Pg		**Pg**		**02 27 26.0**	**-0.5**
LKD				*e*Sg		**Sg**		**02 27 33.8**	**-0.5**
RLS	**Riolos of Patr**	**0.95**	**98**	*e*PN		**Pg**		**02 27 33.1**	**-0.7**
RLS				*e*SB		**Sb**		**02 27 46.7**	**+0.2**
IGT	**Igoumenitsa**	**1.33**	**2**	*e*Pg		**Pn**		**02 27 40.1**	**-0.2**
IGT				*e*Sg		**Sg**		**02 28 00.4**	**+1.3**
EVR	**Evrytania**	**1.40**	**59**	*e*PB		**Pb**		**02 27 42.4**	**+1.1**
JAN	**Janina**	**1.52**	**17**	*e*PG		**Pg**		**02 27 44.9**	**-0.3**
KEK	**Kerkira**	**1.55**	**346**	*e*PB		**Pb**		**02 27 43.8**	**-0.1**
MEV	**Metsovon**	**1.75**	**25**	*e*Pb		**Pb**		**02 27 46.1**	**-1.1**
AGG	**Ag

SONM LR LR 03 15 22.6
comp=Z,112nm,18.8s,MS3.4,baz=355,slow=39
MKAR Makanchi Array 38.76 315 P **P** **03 05 34.5 +0.3**
comp=Z,1.3nm,0.7s,mb3.7,baz=110,slow=9.5,SNR=12
WRAB Tennant Creek 45.86 164 *eP* **P** **03 06 33.1 +0.6**
comp=Z,10nm,1.0s,mb4.7
WRAB *e* 03 06 38.8
WRA Warramunga Arr 45.87 164 P **P** **03 06 32.9 +0.3**
comp=Z,3.0nm,0.9s,mb4.2,baz=346,slow=8.4,SNR=12
BVAR Borovoye Array 47.99 320 P **P** **03 06 48.5 -0.3**
comp=Z,1.1nm,0.5s,mb4.1,baz=105,slow=8.1,SNR=8.4
CHKZ Chkalovo 48.04 321 *eP* **P** **03 06 47.9 -1.2**
comp=Z,6.4nm,0.9s,mb4.7
BRVK Borovoye 48.06 320 *eP* **P** **03 06 48.6 -0.8**
comp=Z,3.6nm,1.0s,mb4.4
ZRNK Zerenda 48.78 320 *eP* **P** **03 06 54.0 -0.9**
comp=Z,4.7nm,0.9s,mb4.5
COLA College 67.81 27 *eP* **P** **03 09 08.5 +0.9**
FINES FINESS Array B 71.57 330 P **P** **03 09 30.1 -0.5**
comp=Z,0.9nm,0.7s,mb3.8,baz=51,slow=8.9,SNR=3.8
FINES LR LR 03 43 33.0
comp=Z,64nm,18.4s,MS3.9,baz=358,slow=38
NOA NORSAR Array B 78.29 332 P **P** **03 10 07.6 -1.6**
comp=Z,1.5nm,0.9s,mb3.9,baz=55,slow=5.4,SNR=3.2
NOA LR LR 03 50 40.6
comp=Z,16nm,19.4s,MS3.4,baz=265,slow=40
YKA Yellowknife Ar 82.05 23 P **P** **03 10 29.1 -0.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=312,slow=5.2,SNR=7.1
YKA Yellowknife Ar 82.05 23 P **P** **03 10 29.1 -0.2**

IDC 21 02:59:28.5±3.5, 12.14N×140.83E, mb4.0/4, mb1 4.1/4, mb1mx3.7/19, mbtmp4.0/4, Error ellipse: s-maj=164.4km s-min=31.3km az=81.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.51**	**191**	P	P	03 06 01.3	-2.0
	0.6nm,0.6s,baz=10,slow=10.0,SNR=5.7						
MKAR	**Makanchi Array**	**59.84**	**317**	P	P	03 09 36.9	-1.3
	0.5nm,0.8s,baz=83,slow=12,SNR=2.7						
BVAR	**Borovoye Array**	**68.64**	**322**	P	P	03 10 33.9	-1.7
	1.6nm,0.5s,baz=102,slow=7.9,SNR=10						
FINES	**FINESS Array B**	**90.78**	**334**	P	P	03 12 31.5	-3.1
	1.2nm,0.9s,baz=72,slow=4.4,SNR=3.6						

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*CSEM **21** 03:18:22.3±0.2, 38.20N×26.55E, h8km, MD2.9, Error ellipse: s-maj=6.6km s-min=4.8km az=100.0*
*ATH **21** 03:18:23.1, 38.14N×26.60E, h37km±5km, MD3.1/3*
*ISK **21** 03:18:24.5, 38.15N×26.74E, h15km, MD2.9*
ISC 21 03:18:23.4±0.6, 38.20N±0.03×26.56E±0.05, h8km, n14, σ1°15/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.16**	**10**	*i* P	**Pg**	**03 18 25.8**	**-1.2**
URLA				*i* S	**Sg**	**03 18 28.8**	**-0.5**
BLCB	**Balcova**	**0.42**	**64**	*i* PG	**Pg**	**03 18 31.2**	**-0.8**
BLCB				*i* SG	**Sg**	**03 18 37.8**	**+0.1**
SMG	**Samos**	**0.54**	**156**	*e*PB	**Pg**	**03 18 33.5**	**-0.7**
SMG				*e*SB	**Sg**	**03 18 41.8**	**+0.4**
KDAG	**Bornova**	**0.59**	**70**	*i* P	**Pg**	**03 18 33.7**	**-1.6**
KDAG				*i* S	**Sg**	**03 18 40.8**	**-2.5**
PRK	**Paraskevi**	**1.07**	**348**	*e*PN	**Pn**	**03 18 44.0**	**-0.6**
PRK				*e*SN	**Sn**	**03 18 59.8**	**+0.1**
AYVA	**Ayvalik**	**1.11**	**5**	*i* P	**Pb**	**03 18 44.9**	**+0.5**
AYVA				*i* S	**Sb**	**03 19 01.4**	**+2.5**
AYDN	**Tasoluk**	**1.17**	**117**	*i* P	**Pb**	**03 18 46.0**	**+0.4**
AYDN				*i* S	**Sb**	**03 19 00.9**	**+0.2**
AKS	**Akhisar**	**1.19**	**55**	PN	**Pn**	**03 18 45.6**	**-0.8**
MLSB	**Milas**	**1.32**	**133**	PN	**Pn**	**03 18 47.3**	**-0.9**
BDRM	**Kayabasi**	**1.33**	**148**	*i* P	**Pb**	**03 18 49.7**	**+1.5**
BDRM				*i* S	**Sb**	**03 19 06.1**	**+0.8**
APE	**Apeiranthos**	**1.39**	**216**	*e*PN	**Pn**	**03 18 47.6**	**-1.6**
MANT	**Manisa**	**1.60**	**79**	*i* P	**Pn**	**03 18 53.1**	**+0.9**
MANT				*i* S	**Sb**	**03 19 14.5**	**+1.5**
EZN	**Ezine**	**1.63**	**354**	*e*PN	**Pn**	**03 18 55.1**	**+2.4**
BALB	**Balikesir**	**1.77**	**35**	PN	**Pn**	**03 18 55.1**	**+0.5**

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*NNC **21** 03:27:31.6±1.0, 37.28N×70.23E, mb4.0, mpv3.7, Error ellipse: s-maj=9.4km s-min=9.0km az=153.0*
ISC 21 03:27:31.5±4.0, 36.9N±0.2×70.8E±0.4, h169km±62km, n9, σ0°62/11, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.72**	**22**	P	**P**	**03 28 54.9**	**-0.5**
	SNR=28						
UCH	**Uchtor**	**6.07**	**27**	P	**P**	**03 28 59.7**	**-0.4**
	SNR=11						
EKS2	**Erkin-Say**	**6.23**	**21**	P	**P**	**03 29 03.6**	**+1.5**
	SNR=9.3						
KZA	**Kyzart**	**6.24**	**32**	P	**P**	**03 29 02.6**	**+0.3**
	SNR=6.0						
KK31	**Karatay Array**	**6.24**	**358**	Pn	**P**	**03 29 01.8**	**-0.6**
	3.5nm,0.5s,baz=181,slow=12,SNR=36						
KK31				⇓Sn	**S**	**03 30 13.4**	**+0.3**
	8.5nm,0.7s,baz=185,slow=18,SNR=5.2						
AAK	**Ala-Archa**	**6.42**	**25**	P	**P**	**03 29 04.5**	**-0.3**
	SNR=10						
CHMS	**Chumysh**	**6.84**	**25**	P	**P**	**03 29 10.5**	**+0.3**
	SNR=5.9						
USP	**Ospenovka**	**7.00**	**23**	P	**P**	**03 29 11.6**	**-0.8**
	SNR=5.3						
AB31	**Akbulak array**	**14.70**	**331**	⇑Pn	**P**	**03 30 52.7**	**+0.6**
	1.6nm,0.7s,baz=152,slow=12,SNR=29						
AB31				⇑Sn	**S**	**03 33 30.5**	**-0.3**
	0.4nm,0.4s,baz=152,slow=22,SNR=3.5						

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*IDC **21** 03:29:52.8±3.4, 31.57S×177.92W, mb4.1/2, mb1 4.3/2, mb1mx3.9/12, mbtmp4.1/2, Error ellipse: s-maj=176.3km s-min=44.0km az=158.0*
NEIC 21 03:29:54.4±1.2, 31.40S×177.95W, h10km, mb4.4/2, Error ellipse: s-maj=75.9km s-min=17.9km az=167.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.95**	**209**	Sn	Sn	03 33 06.8	-17
	7.9nm,0.3s,baz=202,slow=17,SNR=11						
CTAO	**Charters Tower**	**34.01**	**281**	*e*P	P	03 36 39.0	-1.6
	3.2nm,0.7s						
STKA	**Stephens Creek**	**34.30**	**258**	P	P	03 36 41.6	-1.5
	0.8nm,0.4s,baz=111,slow=8.6,SNR=3.6						
WB2	**Warramunga Arr**	**44.17**	**273**	*e*P	P	03 38 03.4	-1.9
WRAB	**Tennant Creek**	**44.18**	**273**	*e*P	P	03 38 03.2	-2.2
	4.9nm,0.7s						
WRA	**Warramunga Arr**	**44.19**	**273**	P	P	03 38 03.5	-1.9
	2.0nm,0.4s,baz=115,slow=7.8,SNR=59						
CHKZ	**Chkalovo**	**127.06**	**316**	*e*PKPdf	PKPdf	03 48 58.4	-3.1
KAF	**Kangasniemi**	**145.50**	**340**	*e*pkp	PKPdf	03 49 31.8	-3.2
	baz=45,slow=3.6						
FINES	**FINESS Array B**	**146.10**	**339**	PKPbc	PKPbc	03 49 34.4	+0.4
	1.4nm,0.5s,baz=45,slow=3.9,SNR=20						
FINES	**FINESS Array B**	**146.10**	**339**	PKPbc	PKPbc	03 49 34.4	+0.3
AKASG	**Malin Array Be**	**152.12**	**322**	PKPbc	PKPdf	03 49 49.4	+3.5
	0.4nm,0.4s,baz=52,slow=3.0,SNR=4.2						
BRTR	**Keskin Array B**	**153.10**	**297**	PKPbc	PKPdf	03 49 52.2	+4.6
	0.7nm,0.7s,baz=104,slow=4.3,SNR=4.4						

IDC 21 03:30:35.3±4.0, 31.53S×177.97W, mb4.1/2, mb1 4.3/2, mb1mx3.9/12, mbtmp4.1/2, Error ellipse: s-maj=185.9km s-min=54.0km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.84**	**210**	Sn	Sn	03 33 49.3	-15
	4.3nm,0.3s,baz=336,slow=14,SNR=3.6						
STKA	**Stephens Creek**	**34.27**	**259**	P	P	03 37 23.4	-1.8
	0.9nm,0.4s,baz=111,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**44.18**	**273**	P	P	03 38 45.9	-1.9
	0.7nm,0.3s,baz=114,slow=7.9,SNR=4.7						
KAF	**Kangasniemi**	**145.61**	**340**	*e*pkp	PKPdf	03 50 13.7	-2.9
	baz=62,slow=2.9						
FINES	**FINESS Array B**	**146.21**	**339**	PKPbc	PKPbc	03 50 16.6	-0.2
	1.8nm,0.6s,baz=45,slow=2.0,SNR=3.2						
BRTR	**Keskin Array B**	**153.14**	**297**	PKPbc	PKPdf	03 50 34.3	+5.3
	0.6nm,0.5s,baz=90,slow=4.3,SNR=3.0						

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*NEIC **21** 04:05:04.3, 17.69N×68.18W, h25km, MD3.5(RSPR), After RSPR.*
RSPR 21 04:05:04.3, 17.69N×68.17W, h25km±27km, MD3.5/13, MD3.5/13, 10C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.06**	**73**	⇑*i*P	Pn	04 05 21.0	-2.8
CRPR				*e*S	Sb	04 05 34.4	-3.0
MGP	**Maguayo**	**1.08**	**73**	⇓*i*P	Pn	04 05 21.3	-2.7
MGP				*e*S	Sb	04 05 34.4	-3.5
LSP	**Las Mesas**	**1.15**	**65**	⇑*e*P	Pn	04 05 23.2	-1.7
LSP				*e*S	Sb	04 05 37.4	-2.4
LRS	**Lares**	**1.40**	**64**	⇑*e*P	Pn	04 05 26.4	-2.2
LRS				*e*S	Sn	04 05 43.7	-2.7
AOPR	**Arecibo Observ**	**1.50**	**64**	⇑*e*P	Pn	04 05 27.5	-2.6
AOPR				*e*S	Sn	04 05 45.7	-3.4
CELP	**Cerrillos**	**1.57**	**76**	⇓*e*P	Pn	04 05 28.6	-2.3
CELP				*e*S	Sn	04 05 47.2	-3.4
ICM	**Isla Caja Muer**	**1.59**	**82**	⇓*e*P	Pn	04 05 29.6	-1.6
ICM				*e*S	Sn	04 05 48.1	-3.0
SJG	**San Juan**	**1.97**	**77**	⇑*e*P	Pn	04 05 34.4	-2.4
SJG				*e*S	Sn	04 05 57.9	-3.1
SJG	**San Juan**	**1.97**	**77**	⇑*e*P	Pn	04 05 34.0	-2.8
SJG	**San Juan**	**1.97**	**77**	*e*S	Sn	04 05 58.2	-2.7
SJG	**San Juan**	**1.97**	**77**	⇑*e*P	Pn	04 05 34.0	-2.8
SJG				*e*S	Sn	04 05 58.2	-2.7
CPD	**Cerro la Pandu**	**2.18**	**80**	⇓*e*P	Pn	04 05 37.3	-2.5
CPD				*e*S	Sn	04 06 03.5	-2.7
HUMP	**Col San Antoni**	**2.26**	**78**	⇑*e*P	Pn	04 05 38.4	-2.5
HUMP				*e*S	Sn	04 06 04.4	-3.8
CBYP	**Canovanas**	**2.28**	**75**	⇑*e*P	Pn	04 05 39.2	-2.0
CBYP				*e*S	Sn	04 06 04.9	-3.9
MTP	**Monte Pirata**	**2.52**	**80**	⇓*e*P	Pn	04 05 42.2	-2.5
MTP				*e*S	Sn	04 06 11.1	-3.8
STVI	**Saint Thomas**	**3.13**	**77**	⇑*e*P	Pn	04 05 51.2	-2.0
STVI				*e*S	Sn	04 06 26.2	-4.0

IGQ 21 04:45:33.0, 1.34S×81.04W, h5km±15km, mb4.2, 7C-2D, Error ellipse: s-maj=18.6km s-min=5.2km az=33.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.79**	**45**	⇑P	Pn	04 46 07.2	+2.4
MAG1				S	Sn	04 46 28.7	+0.6
CAMI	**Rancho Maria**	**2.62**	**76**	⇓P	Pn	04 46 18.9	+2.1
ULBA	**Ulba**	**2.64**	**92**	⇓P	Pn	04 46 20.0	+3.0
ULBA				S	Sn	04 46 47.4	-2.4
TERV	**Terraza Guagua**	**2.70**	**65**	⇑P	Pn	04 46 19.2	+1.3
PINO	**Pino**	**2.70**	**64**	⇑P	Pn	04 46 19.1	+1.2
GGP	**Refugio Guagua**	**2.71**	**65**	⇑P	Pn	04 46 19.3	+1.3
VC1	**Cotopaxi 1**	**2.73**	**75**	P	Pn	04 46 20.9	+2.6
VC1				S	Sn	04 46 54.1	+2.0
TAMB	**Tambo**	**2.75**	**77**	⇑P	Pn	04 46 21.1	+2.5
YANA	**Yana**	**2.75**	**64**	P	Pn	04 46 19.6	+1.0
ANTI	**Antisana**	**3.01**	**73**	⇑P	Pn	04 46 25.1	+2.8
ANTI				S	Sn	04 46 58.8	-0.6
COTA	**Cotacachi**	**3.17**	**58**	P	Pn	04 46 27.2	+2.6
COTA				S	Sn	04 47 04.3	+0.9
CAYA	**Cayambe**	**3.36**	**65**	⇑P	Pn	04 46 30.3	+3.1

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*CSEM **21** 04:52:16.4±1.5, 38.52N×29.23W, h5km±8km, ML1.6, Error ellipse: s-maj=17.2km s-min=12.5km az=156.0, After PDA*
*PDA **21** 04:52:16.4±1.5, 38.52N×29.23W, h5km±8km, MD2.9, ML1.6, Error ellipse: s-maj=17.2km s-min=12.5km az=156.0*
SVSA 21 04:52:16.4±1.5, 38.52N×29.23W, h5km±8km, MD2.9, ML1.6, Error ellipse: s-maj=17.2km s-min=12.5km az=156.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.34**	**78**	*e*P	Pg	04 52 22.5	-0.8
PTCA				*e*S	Sg	04 52 27.9	0.0
	37nm,0.3s						
PTCA	**Ponta do Capel**	**0.34**	**78**	*e*P	Pg	04 52 22.5	-0.8
PTCA				*e*S	Sg	04 52 27.9	0.0
	37nm,0.3s						
CALA	**Caldeira**	**0.41**	**81**	*e*S	Sg	04 52 29.0	-1.3
PCED	**Cedros**	**0.43**	**74**	*e*P	Pg	04 52 24.3	-0.6
PCED				*e*S	Sg	04 52 29.3	-1.3
	25nm,0.2s						
PCED	**Cedros**	**0.43**	**74**	*e*P	Pg	04 52 24.3	-0.6
PCED				*e*S	Sg	04 52 29.3	-1.3
	25nm,0.2s						
HOR	**Horta**	**0.47**	**88**	*e*rx		04 52 29.8	
HOR	**Horta**	**0.47**	**88**	*e*-		04 52 29.8	
PCND	**Candelaria**	**0.60**	**94**	*e*S	Sg	04 52 34.1	-2.3
	13nm,0.1s						
PICO	**Pico**	**0.63**	**91**	*e*P	Pg	04 52 26.9	-2.1
PICO				*e*S	Sg	04 52 35.3	-2.0
PBOI	**Pico dos Bois**	**0.67**	**96**	*e*S	Sg	04 52 36.4	-2.4
	11nm,0.3s						
ROSA	**Rosais**	**0.80**	**75**	*e*S	Sg	04 52 39.1	-3.9

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*IDC **21** 05:21:41.3±2.0, 34.79N×73.93E, mb3.8/9, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, ML3.8/3, Error ellipse: s-maj=41.8km s-min=23.3km az=151.0*
*NEIC **21** 05:21:43.4±1.2, 34.86N×73.90E, h10km, mb3.4/4, Error ellipse: s-maj=19.2km s-min=11.1km az=152.0*
*MOS **21** 05:21:43.4±0.8, 34.93N×73.83E, h20km, mb3.8/1, Error ellipse: s-maj=21.5km s-min=7.2km az=96.3*
*NDI **21** 05:21:48.5±4.5, 34.58N×73.69E, h10km, MD3.4, ML3.7, mb3.4(NEIC)*
*NNC **21** 05:21:53.4±3.5, 35.60N×72.79E, mb3.7, mpv3.8, Error ellipse: s-maj=38.1km s-min=19.2km az=12.0*
ISC 21 05:21:42.5±0.4, 34.97N±0.04×73.82E±0.08, h10km, n42, σ1°07/51, mb3.7/8, 8C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.98**	**147**	*e*P	**Pn**	**05 22 33.6**	**+2.8**
THN				*e*SB	**Sb**	**05 23 12.5**	**+0.5**
DLH	**Dalhousie**	**3.01**	**143**	*e*PB	**Pb**	**05 22 36.0**	**+0.2**
DLH				*e*SB	**Sb**	**05 23 12.0**	**-0.8**
SMLA	**Simla**	**4.75**	**143**	*ex*	**Sn**	**05 23 51.4**	**-0.4**
KLP	**Kalpa**	**5.05**	**131**	*e*P	**Pn**	**05 23 01.6**	**+1.4**
KLP				*e*S	**Sn**	**05 23 58.8**	**-0.5**
KLP				AML	AML	05 24 11.5	
	comp=E,179nm,1.1s						
KLP				AML	AML	05 24 33.2	
	comp=N,178nm,0.6s						
DDI	**Dehra Dun**	**5.85**	**141**	*ex*	**Sn**	**05 24 24.5**	**+5.1**
NDI	**New Delhi**	**6.90**	**154**	*e*P	**Pn**	**05 23 30.0**	**+3.8**
NDI				*e*S	**Sn**	**05 24 42.0**	**-3.6**
KUDL	**Kundal**	**7.17**	**161**	*e*P	**Pn**	**05 23 29.6**	**-0.5**
KUDL				*ex*	**Sn**	**05 24 48.5**	**-3.9**
AAK	**Ala-Archa**	**7.67**	**4**	*e*P	**Pn**	**05 23 38.5**	**+1.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**7.67**	**4**	*e*P	**Pn**	**05 23 38.5**	**+1.5**
	comp=Z,2.1nm,0.6s						
TKM2	**Tokmak 2**	**8.06**	**9**	⇑Pn	**P**	**05 23 44.5**	**+2.0**
	comp=Z,2.7nm,0.7s						
TKM2				⇓Sn	**Sn**	**05 25 12.7**	**-1.9**
	comp=Z,4.9nm,0.7s						
KK31	**Karatay Array**	**8.52**	**343**	⇑Pn	**P**	**05 23 49.6**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=152,slow=12,SNR=62						
KK31				⇑Sn	**Sn**	**05 25 21.4**	**-4.6**
	comp=Z,4.4nm,0.6s,baz=163,slow=23,SNR=5.5						
KKAR	**Karatay Array**	**8.52**	**343**	*i* P	**P**	**05 23 49.6**	**+0.8**
KKAR				S	**Sn**	**05 25 23.7**	**-2.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KKAR				smax			
	comp=Z,3.0nm,0.4s						
MK31	**Makanchi Array**	**13.43**	**26**	⇑P	**P**	**05 25 03.5**	**+7.9**
	comp=Z,1.1nm,0.7s,baz=219,slow=15,SNR=6.6						
MKAR	**Makanchi Array**	**13.43**	**26**	Pn	**P**	**05 24 55.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=217,slow=14,SNR=4.1						
KURK	**Kurchatov**	**16.12**	**11**	*e*P	**P**	**05 25 30.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**16.12**	**11**	*e*P	**P**	**05 25 30.4**	**-0.2**
	comp=Z,3.2nm,0.9s						
AB31	**Akbulak array**	**17.56**	**329**	P	**P**	**05 25 48.3**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=341,slow=35,SNR=17						
AB31				⇑S	**S**	**05 28 55.1**	**-7.3**
	comp=Z,1.3nm,0.8s,baz=147,slow=23,SNR=2.9						
VOSK	**Vostochnaya**	**17.86**	**354**	⇓P	**P**	**05 25 54.9**	**+2.4**
	comp=Z,2.9nm,1.2s						
BVA0	**Borovoye Array**	**18.21**	**353**	⇑P	**P**	**05 25 57.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=160,slow=10,SNR=16						
BVA0	**Borovoye Array**	**18.21**	**353**	*i* P	**P**	**05 25 57.5**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,10.0nm,1.9s						
BVAR	**Borovoye Array**	**18.21**	**353**	P	**P**	**05 25 57.9**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=162,slow=9.6,SNR=16						
BRVK	**Borovoye**	**18.26**	**353**	*e*P	**P**	**05 25 57.7**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**18.26**	**353**	*e*P	**P**	**05 25 57.7**	**+0.1**
	comp=Z,1.8nm,0.6s						
ZRNK	**Zerenda**	**18.30**	**351**	⇑P	**P**	**05 25 57.7**	**-0.3**
	comp=Z,1.7nm,0.7s						
ZRNK	**Zerenda**	**18.30**	**351**	*e*P	**P**	**05 25 58.4**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	**Zerenda**	**18.30**	**351**	*e*P	**P**	**05 25 58.4**	**+0.4**
	comp=Z,2.0nm,0.6s						
CHKZ	**Chkalovo**	**18.84**	**354**	⇓P	**P**	**05 26 03.1**	**-1.5**
	comp=Z,1.7nm,0.7s						
CHKZ	**Chkalovo**	**18.84**	**354**	*e*P	**P**	**05 26 03.9**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHKZ	**Chkalovo**	**18.84**	**354**	*e*P	**P**	**05 26 03.9**	**-0.7**
	comp=Z,1.6nm,0.6s						
AKTK	**Aktyubinsk**	**19.27**	**328**	P	**P**	**05 26 09.2**	**-0.5**
AKTO	**Aktyubinsk**	**19.27**	**328**	⇑P	**P**	**05 26 08.8**	**-0.9**
	comp=Z,0.4nm,0.5s						
AKTO	**Aktyubinsk**	**19.27**	**328**	P	**P**	**05 26 09.2**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=126,slow=10,SNR=18						
ZAL	**Zalesovo**	**20.47**	**19**	P	**P**	**05 26 21.8**	**-1.1**
	comp=Z,4.8nm,0.4s,baz=262,slow=7.1,SNR=7.6						
SONM	**Songino Array**	**27.39**	**52**	P	**P**	**05 27 29.4**	**-0.4**
	comp=Z,7.4nm,0.6s,mb3.1,baz=236,slow=5.2,SNR=2.9						
BRTR	**Keskin Array B**	**32.10**	**291**	P	**P**	**05 28 12.7**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=103,slow=11,SNR=3.1						
AKASG	**Malin Array Be**	**35.69**	**310**	P	**P**	**05 28 42.6**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=104,slow=9.3,SNR=3.8						
FINES	**FINESS Array B**	**40.03**	**326**	P	**P**	**05 29 19.1**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.6,baz=117,slow=9.3,SNR=8.2						
ARCES	**ARCESS Array B**	**43.43**	**338**	P	**P**	**05 29 47.0**	**+0.3**
	comp=Z,5.7nm,1.0s,mb4.3,baz=120,slow=9.8,SNR=6.6						
NOA	**NORSAR Array B**	**46.98**	**324**	P	**P**	**05 30 14.7**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=101,slow=6.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**68.01**	**271**	P	**P**	**05 32 42.9**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.8,baz=48,slow=5.8,SNR=15						
YKA	**Yellowknife Ar**	**82.64**	**4**	P	**P**	**05 34 06.8**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.9,baz=346,slow=5.4,SNR=13						
YKA	**Yellowknife Ar**	**82.64**	**4**	P	**P**	**05 34 06.8**	**+0.1**

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*BJI **21** 05:26:33.7, 9.69S×124.35E, h74km, mB5.3, mb4.9, Ms4.6, Msz4.1*
*MOS **21** 05:26:37.9±1.0, 8.82S×123.63E, h46km, mb5.1/15, Error ellipse: s-maj=16.1km s-min=8.1km az=123.1*
*NEIC **21** 05:26:42.9±1.3, 8.88S×123.65E, h74km±12km, mb5.0/18, Error ellipse: s-maj=10.6km s-min=6.9km az=58.0*
*IDC **21** 05:26:43.9±5.3, 8.83S×123.68E, h83km±48km, mb4.2/16, mb1 4.2/16, mb1mx4.1/19, mbtmp4.5/16, MS3.5/3, Ms1 3.5/3, ms1mx2.9/22, Error ellipse: s-maj=20.3km s-min=13.7km az=65.0*
ISC 21 05:26:39.0±1.9, 8.82S±0.06×123.87E±0.09, h58km±18km, n101, σ0°76/99, mb4.8/48, MS3.8/8, 4C-2D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.39**	**170**	*e*P	**P**	**05 28 53.6**	**-0.5**
	69nm,0.6s						
FITZ				*e*S	**S**	**05 30 30.5**	**-8.7**
MBWA	**Marble Bar**	**12.90**	**198**	*e*P	**P**	**05 29 42.1**	**+0.5**
WRA	**Warramunga Arr**	**15.00**	**139**	P	**P**	**05 30 08.2**	**-0.8**
	3.9nm,0.3s,baz=315,slow=13,SNR=117						
WRA				S	**S**	**05 32 42.3**	**-12**
	6.3nm,0.3s,baz=310,slow=23,SNR=32						
WRAB	**Tennant Creek**	**15.00**	**139**	*e*P	**P**	**05 30 08.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,64nm,0.8s						
WRAB	**Tennant Creek**	**15.00**	**139**	*e*P	**P**	**05 30 08.2**	**-0.8**
	comp=Z,64nm,0.8s						
WRAB				*e*S	**S**	**05 32 44.4**	**-10**
WB2	**Warramunga Arr**	**15.00**	**139**	*e*P	**P**	**05 30 08.1**	**-1.0**
WB2				*e*S	**S**	**05 32 42.4**	**-12**
ASPA	**Alice Springs**	**17.61**	**148**	*e*P	**P**	**05 30 43.9**	**+1.8**
ASPA				*e*S	**S**	**05 33 47.6**	**-6.2**
FORT	**Forrest**	**22.20**	**170**	*e*P	**P**	**05 31 32.2**	**+0.5**
	comp=Z,20nm,0.4s,mb4.9						
PMG	**Port Moresby**	**27.00**	**93**	P	**P**	**05 31 44.0**	**+4.2**
	comp=Z,7.4nm,0.7s,mb4.2,baz=10,slow=20,SNR=2.3						
KLBR	**Kellerberrin**	**23.36**	**193**	*e*P	**P**	**05 31 43.6**	**+0.5**
	comp=Z,64nm,1.4s,mb4.9						
KLBR				*e*S	**S**	**05 36 00.0**	**+12**
CTA	**Charters Tower**	**24.36**	**120**	*e*P	**P**	**05 31 57.2**	**+4.2**
	comp=Z,7.4nm,0.7s,mb4.2						
CTA	**Charters Tower**	**24.36**	**120**	P	**P**	**05 31 57.0**	**+4.0**
	comp=Z,7.2nm,0.6s,mb4.3,baz=290,slow=12,SNR=12						
CTA	**Charters Tower**	**24.36**	**120**	*e*P	**P**	**05

KKN Kakani 52.13 316 eP P 05 35 45.6 -0.3
comp=Z,26nm,0.6s,mb5.4
KKN Kakani 52.13 316 eP P 05 35 45.6 -0.3
KKN pmax pmax
comp=Z,13nm,0.6s,mb5.0
DMN Daman 52.14 315 eP P 05 35 46.0 0.0
comp=Z,28nm,0.5s,mb5.4
GKN Gorkha 52.71 315 eP P 05 35 50.0 -0.2
comp=Z,45nm,0.4s,mb5.7
GTA Gaotai 52.92 337 eP P 05 35 52.4 +0.7
KOLN Koldanda 53.30 314 eP P 05 35 54.2 -0.4
comp=Z,36nm,0.6s,mb5.5
MDJ Mudanjiang 53.43 5 P P 05 35 55.9 +0.5
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,110nm,3.3s
MDJ Mudanjiang 53.43 5 eP P 05 35 56.4 +1.0
comp=Z,21nm,1.1s,mb5.0
HIA Hailar 57.95 357 eP P 05 36 27.5 -0.2
ULN Ulaanbaatar 58.37 347 i P P 05 36 29.8 -0.9
SONM Songino Array 58.49 346 P P 05 36 31.7 +0.2
comp=Z,2.2nm,0.5s,mb4.5,baz=162,slow=8.4,SNR=17
SONM Songino Array 58.49 346 P P 05 36 31.7 +0.1
WMQ Urumqi 61.81 331 P P 05 36 55.0 +0.7
WMQ AMB AMB
comp=Z,20nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,190nm,5.0s
WMQ LR LR
comp=N,20nm,20.0s,MS3.6
WMQ LR LR
comp=E,40nm,20.0s,MS3.6
MKAR Makanchi Array 66.59 330 P P 05 37 25.4 0.0
comp=E,6.5nm,0.5s,mb4.9,baz=140,slow=6.7,SNR=84
MKAR Makanchi Array 66.59 330 i P P 05 37 25.2 -0.2
MKAR pmax pmax
comp=Z,4.0nm,0.6s
BOD Bodaibo 66.89 354 eP P 05 37 27.6 +0.5
BOD pmax pmax
comp=Z,11nm,0.8s,mb4.9
KZA Kyzart 67.37 323 P P 05 37 31.7 +1.3
SNR=10.0
TKM2 Tokmak 2 67.67 324 P P 05 37 32.9 +0.7
SNR=6.3
UCH Uchtor 67.90 323 P P 05 37 34.3 +0.6
SNR=7.2
AAK Ala-Archa 68.15 323 P P 05 37 35.8 +0.6
SNR=18
AAK Ala-Archa 68.15 323 ⇓ iP P 05 37 34.3 -0.9
AAK pmax pmax
comp=Z,19nm,1.1s,mb5.0
AAK Ala-Archa 68.15 323 eP P 05 37 34.7 -0.5
comp=Z,12nm,0.8s,mb5.0
AML Almayashu 68.34 322 P P 05 37 37.1 +0.7
SNR=19
USP Ospenovka 68.52 323 P P 05 37 37.3 -0.2
SNR=11
EKS2 Erkin-Say 68.60 323 P P 05 37 38.2 +0.2
SNR=7.8
ZAL Zalesovo 70.68 337 P P 05 37 49.8 -0.7
comp=Z,8.1nm,0.7s,mb4.8,baz=342,slow=5.0,SNR=30
YAK Yakutsk 70.78 3⇑ eP P 05 37 51.4 +0.5
YAK pmax pmax
comp=Z,31nm,0.7s,mb5.3
YAK MLR MLR
comp=Z,100nm,17.0s,MS4.1
KURK Kurchatov 71.05 331 eP P 05 37 52.3 -0.4
KURK pmax pmax
comp=Z,26nm,0.8s,mb5.2
KURK Kurchatov 71.05 331 eP P 05 37 52.3 -0.4
comp=Z,26nm,0.8s,mb5.2
VNDA Vanda 71.45 172 P P 05 37 54.9 +0.1
comp=Z,0.7nm,0.8s,baz=333,slow=6.9,SNR=4.3
VNDA LR LR 06 06 37.1
comp=Z,56nm,18.8s,MS3.9,baz=106,slow=34
NVS Novosibirsk 71.96 337 eP P 05 37 54.4 -3.7
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,11nm,1.0s,mb4.7
OPO Ambohidratompo 74.68 253 P P 05 38 15.9 +1.2
comp=Z,4.5nm,0.5s,mb4.6,baz=76,slow=2.2,SNR=10
SEY Seymchan 74.82 13⇑ eP P 05 38 14.8 +0.2
BVAR Borovoye Array 76.47 330 P P 05 38 24.1 -0.2
comp=Z,4.5nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=12
BRVK Borovoye 76.54 330 eP P 05 38 24.4 -0.3
BRVK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BRVK Borovoye 76.54 330 eP P 05 38 24.4 -0.3
comp=Z,9.5nm,1.2s,mb4.6
CHKZ Chkalovo 76.74 331 eP P 05 38 25.6 -0.2
CHKZ pmax pmax
comp=Z,24nm,1.5s,mb4.9
CHKZ Chkalovo 76.74 331 eP P 05 38 25.6 -0.2
comp=Z,24nm,1.5s,mb4.9
ZRNK Zerenda 77.12 329 eP P 05 38 27.9 0.0
ZRNK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZRNK Zerenda 77.12 329 eP P 05 38 27.9 0.0
comp=Z,8.6nm,1.0s,mb4.6
AB31 Akbulak array 80.24 323 i P P 05 38 44.3 -0.7
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
TIXI Tiksi 80.36 2⇑ eP P 05 38 45.1 -0.1
TIXI pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
AKTK Aktyubinsk 81.87 324 P P 05 38 52.9 -0.6
AKTO Aktyubinsk 81.87 324 P P 05 38 52.9 -0.6
comp=Z,8.5nm,0.8s,mb4.7,baz=96,slow=7.4,SNR=15
BILL Bilibino 82.33 15 eP P 05 38 55.7 +0.1
BILL i 05 39 18.3
BILL eSS SS 05 54 27.3 -2.6
BILL pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BILL MLR MLR
comp=Z,100nm,26.0s,MS4.1
RDF Al-Radifah 82.44 301 eP P 05 38 56.5 -0.4
RDF AMb AMB 05 38 57.4
comp=Z,27nm,0.6s,mb5.4
NAY Al-Naaiem 82.78 301 eP P 05 38 58.0 -0.6
NAY AMb AMB 05 38 59.0
comp=Z,13nm,1.0s,mb4.9
MIB Mutribah 82.83 302 eP P 05 38 58.0 -0.9
MIB AMb AMB 05 38 59.4
comp=Z,17nm,0.5s,mb5.3
SVE Sverdlovsk 83.25 330 eP P 05 39 00.0 -0.5
ARU Arti 84.10 330 ⇓ iP P 05 39 04.3 -0.4
ARU e 05 42 19.5
ARU eS S 05 49 20.5 -2.8
ARU eSS SS 05 54 54.5 -1.2
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ARU Arti 84.10 330 eP P 05 39 04.0 -0.7
comp=Z,3.6nm,0.4s,mb4.8
KMBO Kilima Mbogo 86.49 269 P P 05 39 18.4 +0.9
comp=Z,3.3nm,0.8s,mb4.6,baz=37,slow=10.0,SNR=6.4
KMBO Kilima Mbogo 86.49 269 i P P 05 39 18.7 +1.1
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 86.49 269 P P 05 39 18.4 +0.9
LSZ Lusaka 93.13 254 eP P 05 39 49.3 +0.6
LSZ pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
LSZ Lusaka 93.13 254 eP P 05 39 49.3 +0.6
comp=Z,3.5nm,0.6s,mb5.0
ANN Anapa 93.62 315 eP P 05 39 54.5 +4.2
ANN pmax pmax
comp=Z,53nm,1.2s,mb5.8
TAOE Nuku Hiva Isla 94.50 100 eLR LR 05 40 47.8
comp=Z,800nm,30.4s
OBN Obninsk 95.62 325⇑ eP P 05 39 58.9 -0.2
OBN e 05 43 44.9
OBN e 05 50 25.2
OBN eSS SS 05 57 42.7 +0.9
OBN pmax pmax
comp=Z,22nm,1.2s,mb5.5
BRTR Keskin Array B 95.74 309 P P 05 39 59.4 -0.7
comp=Z,0.6nm,0.6s,mb4.2,baz=124,slow=4.5,SNR=3.8
BRTR PP PP 05 43 49.1 -5.4
comp=Z,1.2nm,0.8s,baz=124,slow=4.5,SNR=2.7
AKASG Malin Array Be 99.70 320 P P 05 40 16.4 -1.3
comp=Z,0.8nm,0.7s,mb4.2,baz=72,slow=5.6,SNR=4.8
AKASG Malin Array Be 99.70 320 P P 05 40 16.4 -1.3

YKA Yellowknife Ar 112.01 25 PKiKP 05 45 08.5
comp=Z,0.1nm,0.4s,baz=311,slow=2.0,SNR=4.4
YKA PKKPbc 05 56 00.5
comp=Z,0.1nm,0.6s,baz=106,slow=3.4,SNR=4.4
YKA Yellowknife Ar 112.01 25 PKPdf PKPdf 05 45 08.5 +1.1
YKA PKKPbc 05 56 00.5
PDAR Pinedale Array 122.46 44 PKP PKPdf 05 45 30.1 +1.9
comp=Z,0.5nm,0.7s,baz=45,slow=0.8,SNR=5.0
TORD Torodi Ar. Bea 123.17 280 PKP PKPdf 05 45 31.4 +1.2
comp=Z,2.6nm,0.5s,baz=57,slow=1.7,SNR=38
ULM Lac du Bonnet 127.20 31 PKP PKPdf 05 45 37.9 +0.7
comp=Z,0.9nm,0.5s,baz=166,slow=2.7,SNR=4.5
DBIC Dimbokro 129.18 271 PKP PKPdf 05 45 42.9 +0.9
comp=Z,1.2nm,0.5s,baz=156,slow=5.9,SNR=4.7
TXAR Lajitas Array 131.06 59 SKPbc 05 49 02.0
comp=Z,1.1nm,0.8s,baz=270,slow=2.5,SNR=11
LPAZ La Paz 152.37 154 PKPbc PKPdf 05 46 32.6 +10
comp=Z,0.7nm,0.5s,baz=146,slow=4.2,SNR=8.2

GUC 21 05:33:31.7±0.7, 24.71S×69.34W, h85km±20km, MD3.7, ML2.7, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANCH	**Antofagasta**	**1.41**	**316**	*eP*		P	05 33 56.6	-0.1
ANCH				*i* S		S	05 34 15.4	+0.4
CEN1	**Los Morros**	**1.53**	**329**	*eP*		P	05 33 57.4	-0.7
CEN1				*i* S		S	05 34 16.4	-1.2
CEN1				AMP			05 34 20.1	
	comp=E,75nm,0.4s							
CRCH	**Chaqaral**	**2.00**	**215**	*eP*		P	05 34 04.4	+0.2
CRCH				*i* S		S	05 34 29.1	+0.8
SPCH	**San Pedro de A**	**2.08**	**30**	*eP*		P	05 34 06.2	+0.8
SPCH				*i* S		S	05 34 32.5	+2.3
SPCH				AMP			05 34 33.6	
	comp=E,163nm,0.4s							
CDCH	**Caldera**	**2.71**	**209**	*eP*		P	05 34 13.3	-0.9
CDCH				*i* S		S	05 34 46.2	+0.3

*IDC **21** 05:40:18.4±1.8,23.41S×179.96W,h521km±20km, mb3.6/10,mb1 3.8/11,mb1mx3.7/17,mbtmp4.5/11,Error ellipse: s-maj=19.0km s-min=15.9km az=14.0*
*NEIC **21** 05:40:18.1±1.2,23.40S×179.97W,h523km±16km,mb4.3/2, Error ellipse: s-maj=17.3km s-min=11.4km az=182.0*
ISC 21 05:40:18.3±1.5, 23.5S±0.1×180.0E±0.1, h536km±20km, n24,σ0 85/21, mb4.1/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**6.02**	**162**	P		**P**	**05 41 56.8**	**-0.4**
	152nm,0.3s,baz=110,slow=12,SNR=6.1							
RAO	**Raoul Island**	**6.02**	**162**	*eP*		**P**	**05 41 56.3**	**-0.9**
RAO				P			05 41 56.8	
URZ	**Urewera**	**14.89**	**189**	P		**P**	**05 43 27.0**	**+0.4**
	4.1nm,0.3s,baz=104,slow=1.7,SNR=5.1							
URZ				S		**S**	**05 45 55.1**	**-3.4**
	0.5nm,0.3s,baz=237,slow=22,SNR=4.2							
RPZ	**Rata Peaks**	**21.43**	**198**	P		**P**	**05 44 30.7**	**+1.7**
	4.9nm,0.5s,mb4.4,baz=13,slow=16,SNR=4.6							
CTA	**Charters Tower**	**31.43**	**270**	P		**P**	**05 45 58.2**	**+1.0**
	27nm,0.5s,mb5.0,baz=97,slow=10,SNR=53							
CTAO	**Charters Tower**	**31.43**	**270**	*eP*		**P**	**05 45 58.0**	**+0.8**
PMG	**Port Moresby**	**34.33**	**289**	P		**P**	**05 46 22.0**	**+0.3**
	20nm,0.7s,mb4.8,baz=104,slow=4.8,SNR=6.7							
STKA	**Stephens Creek**	**34.82**	**248**	P		**P**	**05 46 26.6**	**+1.1**
	1.9nm,0.4s,mb4.0,baz=62,slow=8.8,SNR=5.5							
ASPA	**Alice Springs**	**42.06**	**260**	*eP*		**P**	**05 47 24.8**	**+0.4**
WB2	**Warramunga Arr**	**42.38**	**266**	*eP*		**P**	**05 47 26.7**	**-0.3**
WRAB	**Tennant Creek**	**42.38**	**266**	*eP*		**P**	**05 47 26.5**	**-0.6**
	9.6nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**42.39**	**266**	P		**P**	**05 47 26.8**	**-0.3**
	6.5nm,0.4s,mb4.6,baz=91,slow=8.4,SNR=172							
WRA				ScP			05 52 09.7	
	1.4nm,0.9s,baz=96,slow=4.5,SNR=7.0							
WRA				S		**S**	**05 53 06.8**	**-3.7**
	0.7nm,0.8s,baz=99,slow=14,SNR=4.4							
FITZ	**Fitzroy Crossi**	**50.81**	**265**	*eP*		**P**	**05 48 30.9**	**-0.4**
	8.5nm,0.8s,mb4.1							
VNDA	**Vanda**	**54.75**	**185**	P		**P**	**05 48 59.1**	**+0.4**
	1.5nm,0.8s,mb3.3,baz=12,slow=7.1,SNR=5.4							
MBWA	**Marble Bar**	**55.40**	**260**	*eP*		**P**	**05 49 03.1**	**-0.8**
MJAR	**Matsushiro Arr**	**71.56**	**326**	P		**P**	**05 50 45.8**	**-0.9**
	2.1nm,0.6s,mb3.7,baz=156,slow=5.7,SNR=4.6							
NVAR	**Mina Array Bea**	**84.51**	**44**	P		**P**	**05 51 55.6**	**0.0**
	0.3nm,0.6s,mb3.0,baz=212,slow=6.8,SNR=5.0							
TXAR	**Lajitas Array**	**90.27**	**58**	P		**P**	**05 52 23.5**	**+0.5**
	1.5nm,0.7s,mb3.9,baz=211,slow=6.7,SNR=17							
PDAR	**Pinedale Array**	**92.45**	**44**	P		**P**	**05 52 32.5**	**-0.2**
	0.6nm,0.7s,mb3.8,baz=221,slow=3.9,SNR=6.3							
HFS	**Hagfors**	**142.17**	**349**	PKhKP			05 58 45.0	
	1.0nm,0.3s,baz=63,slow=3.3,SNR=15							
HFS	**Hagfors**	**142.17**	**349**	PKP		PKPdf	05 58 45.0	-3.6
AKASG	**Malin Array Be**	**144.63**	**328**	PKP		PKPdf	05 58 53.1	0.0
	0.9nm,0.4s,baz=43,slow=4.4,SNR=9.2							
BRTR	**Keskin Array B**	**147.32**	**308**	PKPbc		PKPdf	05 59 05.5	+7.4
	1.1nm,0.6s,baz=112,slow=4.9,SNR=6.1							
TORD	**Torodi Ar. Bea**	**169.55**	**189**	PKPab		PKPab	06 00 41.8	-1.3
	1.1nm,0.9s,baz=172,slow=4.7,SNR=5.0							

MEX 21 06:31:00.3±0.5, 19.63N×96.71W, h4km±35km, MD3.8, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PPM	**Popocatepetl**	**1.90**	**253**	*i* P		Pn	06 31 30.1	-3.7
PPM				*eP*			06 31 32.0	
PPM				*i* S		Sn	06 31 54.5	-3.9
OXX	**Oaxaca**	**2.54**	**180**	*eP*		Pn	06 31 40.0	-2.9
OXX				*i* S		Sn	06 32 10.0	-4.6
VHO	**Vista Hermosa**	**2.55**	**180**	*i* P		Pn	06 31 39.2	-3.9
VHO				*i* S		Sn	06 32 10.6	-4.3

*BJI **21** 07:09:01.6,0.47S×125.07E,h39km,mB6.3,mb6.0,Ms6.0, Msz5.9*
*HRVD **21** 07:09:05.2±0.1,0.20S×124.95E,h31km,MW6.3/91, Centroid moment Tensor Solution. LP body waves: s90,c220;Mantle waves: s91,c332; Half duration: 3s6 Moment tensor: Scale 10^18 Nm; Mrr 2.44±.02; Mθθ -1.81±.02; Mφφ -0.63±.02; Mrθ 0.45±.04; Mrφ -1.69±.02; Mθφ 3.01±.04; Best double couple: Mo 4.096×10^18 NP1: φs 259°,δ 31°,λ 140°. NP2: φs 24°,δ 71°,λ 65°. Principal axes: T 4.327, Plg 57°, Azm 261°; N -.462, Plg 24°, Azm 33°; P -3.865, Plg 22°, Azm 133°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **21** 07:09:05.3±1.1,0.04N×124.53E,h33km,mb6.4/54, MS5.8/32 Error ellipse: s-maj=8.3km s-min=4.6km az=113.7*
*NEIC **21** 07:09:05.2±0.1,0.07S×124.67E,h25km,mb6.3/89,ME6.1, MS5.9/10,MW6.2,Error ellipse: s-maj=5.1km s-min=3.6km az=59.0 Broadband fault plane solution: P waves. NP1: φs 25°,δ 75°,λ 55°. NP2: φs 275°,δ 38°,λ 155°. Principal axes: T Plg 48°, Azm 258°; N Plg 0°, Azm 0°; P Plg 22°, Azm 141°; Moment Tensor Solution. s31 Moment tensor: Scale 10^18 Nm; Mrr 1.42; Mθθ -0.75; Mφφ -0.66; Mrθ 1.10; Mθφ -0.85; Mrr 1.91; Best double couple: Mo 2.7×10^18 NP1: φs 241°,δ 19°,λ 117°. NP2: φs 33°,δ 73°,λ 81°. Principal axes: T 2.64, Plg 61°, Azm 290°; N .05, Plg 8°, Azm 35°; P -2.69, Plg 28°, Azm 130°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Manado, Indonesia. Also felt in Kepulauan Sangir.
*CRAAG **21** 07:09:07.4,0.40S×124.83E,Mb6.0*
*CSEM **21** 07:09:07.4,0.40S×124.83E,h60km,mb6.0*
*IDC **21** 07:09:09.8±1.1,0.06S×124.80E,h67km±8km, mb5.6/30, mb1 5.5/30,mb1mx5.5/31,mbtmp5.9/30,MS5.9/9, Ms1 5.9/9,ms1mx5.6/20,Error ellipse: s-maj=11.3km s-min=6.6km az=80.0*
*ORF **21** 07:09:44.0,6.11N×119.37E,h30km,mb5.8*
ISC 21 07:09:10.3±0.5, 0.16S±0.02×124.71E±0.03, h86km±3km, h64km±4.1km: pP-P, n909, σ1 15/589, mb6.0/150, 111C-47D, Southern Molucca Sea

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

GSPH General Santos 6.21 2⇓ eP P 07 10 41.4 +0.4
KCP Kidapawan 7.13 3 eP P 07 10 53.6 -0.2
MATI Mati 7.22 12 eP P 07 10 54.7 -0.4
MATI eS S 07 12 19.0 +2.9
DAV Davao City (W) 7.23 7⇓ eP P 07 10 56.0 +0.8
DAV Davao City (W) 7.23 7 Pn **P 07 10 53.9 -1.3**
19μm,1.5s
CTBH Cotabato--PC H 7.34 356⇑ eP P 07 10 56.3 -0.4
BUKP Musuan 7.99 2 eP P 07 11 04.6 -0.9
PAGZ Pagadian 8.06 351 eP P 07 11 04.3 -2.2
TSM Tawau 8.14 303 P **P 07 11 06.6 -0.9**
IPIL Ipil 8.18 345 eP P 07 11 06.7 -1.4
IPIL eS S 07 12 32.1 -7.5
BIPH Bislig 8.45 11⇑ eP P 07 11 11.0 -0.7
BIPH eS S 07 12 46.1 -0.1
CGP Cagayan de Oro 8.55 360⇑ iP P 07 11 14.5 +1.3
DCPH Dipolog City 8.79 351⇓ eP P 07 11 15.4 -1.0
BUTP Butuan 9.11 6 eP P 07 11 20.4 -0.3
SNPH Sibulan 9.55 351 eP P 07 11 27.5 +0.7
10μm,1.0s
TBP Tagbilaran 9.82 355 eP P 07 11 29.1 -1.4
SCPH Surigao 9.90 4 eP P 07 11 31.5 -0.1
MSLP Maasin 10.22 1 eP P 07 11 35.2 -0.7
LLP Lapu-Lapu 10.43 356⇑ iP P 07 11 39.3 +0.6
KKM Kota Kinabalu 10.48 306 P P 07 11 40.8 +1.4
KKM Kota Kinabalu 10.48 306⇓ ePn P 07 11 40.7 +1.3
GUIM Jordan 10.92 349 eP P 07 11 47.1 +1.8
OCLP Ormoc 11.13 359 eP P 07 11 49.0 +0.9
BATP Bataraza 11.25 322 eP P 07 11 49.6 -0.1
PLP Palo 11.25 1 eP P 07 11 52.1 +2.4
PPR Puerto Princes 11.52 329⇓ eP P 07 11 53.9 +0.5
CUYO Cuyo Island 11.53 342 eP P 07 11 55.3 +1.8
BESP Borongan 11.70 4 eP P 07 12 00.8 +5.0
RCP Roxas 11.80 351⇑ eP P 07 11 59.3 +2.2
ENPP El Nido 12.45 335 eP P 07 12 07.5 +1.8
CNP Catarman 12.58 360 eP P 07 12 09.4 +2.0
OTRP Odiongan 12.72 348 eP P 07 12 10.4 +1.1
BUSP Coron 12.88 340 eP P 07 12 12.4 +0.9
SJMP San Jose 13.03 344 eP P 07 12 15.5 +2.1
AUQP San Andres 13.54 352 eP P 07 12 24.3 +4.2
PVCP Virac 13.67 358 eP P 07 12 21.6 -0.2
BOAC Boac 13.82 348 eP P 07 12 25.5 +1.7
PGP Puerto Galera 14.07 345 eP P 07 12 30.3 +3.4
GQP Guinayangan 14.15 351⇑ iP P 07 12 30.1 +2.1
LUBP Lubang 14.49 342 eP P 07 12 35.4 +3.0
KSM Kuching 14.49 276⇑ ePn P 07 12 33.7 +1.3
KAKA Kakadu 14.64 149⇓ iP Px 07 12 51.3
750nm,0.6s
TGY Tagaytay City 14.65 345 P **P 07 12 36.3 +1.8**
baz=224,slow=2.8,SNR=25
TGY LR LR 07 19 16.9
comp=Z,147nm,18.8s,baz=177,slow=42
TGY Tagaytay City 14.65 345⇓ eP P 07 12 37.6 +3.1
POLP Polillo Island 15.04 350 eP P 07 12 42.3 +2.8
PCPH Palayan 16.02 347⇓ eP P 07 12 53.2 +1.3
BALP Baler 16.10 349 eP P 07 12 55.8 +3.0
SCZP Santa Cruz 16.52 344 eP P 07 12 58.5 +0.4
BCPH Baguio City Da 16.93 346⇑ eP P 07 13 02.5 -0.7
BOLP Bolinao 17.10 344 eP P 07 13 01.7 -3.6
CAUP Cauayan 17.23 351 eP P 07 13 07.4 +0.4
FITZ Fitzroy Crossi 17.86 177⇓ iP P 07 13 10.9 -3.8
466nm,0.7s
CVP Callao Caves 17.97 351⇓ eP P 07 13 16.0 -0.1
ABRA Dolores 18.13 348 eP P 07 13 16.8 -1.1
APYP Conner 18.23 349 eP P 07 13 18.9 -0.1
SGCP Mt. Cagua 18.47 352 eP P 07 13 20.0 -1.8
PIP Pasuquin 18.80 348⇑ eP P 07 13 25.9 +0.3
429μm,3.8s
PIP eS S 07 16 58.6 +10
MBWA Marble Bar 21.43 193⇑ eP P 07 13 52.6 -0.5
2μm,1.5s,mb6.1
KGM Kluang 21.50 276 P P 07 13 55.2 +1.5
WRAB Tennant Creek 21.80 155⇓ iP P 07 13 53.4 -3.3
WRAB pmax pmax
comp=Z,4μm,1.5s,mb6.6
WRAB Tennant Creek 21.80 155⇓ iP P 07 13 53.4 -3.3
comp=Z,4μm,1.5s,mb6.6
WRA Warramunga Arr 21.81 155 P **P 07 13 53.2 -3.5**
comp=Z,97nm,0.7s,mb5.2,baz=330,slow=11,SNR=124
WRA S **S 07 17 47.1 -0.3**
comp=Z,34nm,1.2s,slow=7.5,SNR=2.5
WRA ScP 07 21 27.6
comp=Z,21nm,1.1s,baz=341,slow=3.4,SNR=5.8
WRA ScS ScS 07 25 11.6 +5.6
comp=Z,5.9nm,1.1s,baz=313,slow=2.7,SNR=4.7
WRA P3KPbc 07 47 45.1
comp=Z,3.6nm,1.0s,baz=152,slow=4.2,SNR=14
WRA Warramunga Arr 21.81 155 P **P 07 13 53.2 -3.5**
WRA S **S 07 17 47.1 -0.2**
WRA 07 25 11.6
WB2 Warramunga Arr 21.81 155 *eP* **P 07 13 53.3 -3.5**
WB2 eS S 07 17 49.5 +2.1
WB2 eSCS ScS 07 25 10.5 +4.5
QIZ Qiongzhong 24.01 323⇑ iP P 07 14 19.4 +1.2
QIZ S **S 07 18 30.5 +4.5**
QIZ AMB AMB
comp=Z,630nm,2.1s,mb5.6
QIZ LR LR
comp=N,17μm,21.5s
QIZ LR LR
comp=E,17μm,17.9s
QIZ LR LR
comp=Z,29μm,27.3s
QIZ Qiongzhong 24.01 323 *eP* **P 07 14 19.1 +0.9**
comp=Z,2μm,1.5s,mb6.2
IPM Ipoh 24.11 281 P **P 07 14 20.6 +1.4**
PMG Port Moresby 24.16 113 P **P 07 14 15.7 -4.0**
comp=Z,59nm,0.9s,baz=319,slow=6.7,SNR=27
PMG S **S 07 18 30.7 +2.2**
comp=Z,34nm,0.9s,baz=166,slow=19,SNR=1.6
PMG Port Moresby 24.16 113 P **P 07 14 15.7 -4.0**
PMG S **S 07 18 30.7 +2.1**
PMG pmax pmax
comp=Z,59nm,0.9s
PMG smax
comp=N,34nm,1.0s
PMG Port Moresby 24.16 113⇓ iP P 07 14 15.9 -3.8
comp=N,2μm,1.5s,mb6.2
GUMO Guam 24.19 55 P **P 07 14 18.7 -1.3**
comp=N,276nm,0.6s,mb5.8,baz=177,slow=21,SNR=9.1
GUMO Guam 24.19 55 *eP* **P 07 14 18.9 -1.1**
GUMO pmax pmax
comp=Z,1μm,1.4s,mb6.0
GUMO Guam 24.19 55 *eP* **P 07 14 18.9 -1.1**
comp=Z,1μm,1.4s,mb6.0
NACB Ninganchiao 24.37 353 *eP* **P 07 14 21.3 -0.4**
HKC Hong Kong 24.57 336⇑ iP P 07 14 24.0 +0.3
YHNB Yeheng 24.89 353 *eP* **P 07 14 25.5 -1.1**
ASPA Alice Springs 25.02 160⇓ iP P 07 14 26.7 -1.2
ASPA eS S 07 18 49.9 +7.0
ASPA eSCP 07 21 37.9
ASPA ePCS 07 21 41.6
ASPA eSCS ScS 07 25 22.8 +4.3
SNG Songkhla 25.11 287 P **P 07 14 30.5 +1.6**
comp=Z,970nm,1.0s,mb6.2
TATO Taipei 25.18 353 *eP* **P 07 14 26.1 -3.3**
comp=Z,914nm,1.4s,mb6.0
GZH Guangzhou 25.61 335 P **P 07 14 36.6 +3.1**
GZH S **S 07 19 07.0 +14**
GZH AMB AMB
comp=Z,390nm,1.8s,mb5.5
GZH LR LR
comp=N,19μm,15.2s
GZH LR LR
comp=E,15μm,17.7s
GZH LR LR
comp=Z,35μm,17.1s
QZH Quanzhou 25.64 347 P **P 07 14 31.4 -2.4**
QZH S **S 07 18 54.0 +0.7**
QZH LR LR
comp=N,15μm,15.3s
QZH LR LR
comp=E,13μm,14.0s
QZH LR LR
comp=Z,40μm,21.7s
PSI Prapat 25.95 277 P **P 07 14 36.5 -0.2**
comp=Z,462nm,1.1s,mb5.8,baz=108,slow=5.5,SNR=118
PSI ScP 07 21 39.1
comp=Z,29nm,1.1s,baz=172,slow=2.7,SNR=4.7
JOW Kunigami 27.05 7 P **P 07 14 46.6 -0.1**
comp=Z,470nm,1.0s,mb6.0,baz=189,slow=7.7,SNR=20
JOW S **S 07 19 15.8 -0.6**
comp=Z,28nm,0.8s,baz=66,slow=19,SNR=2.7
JOW LR LR 07 25 00.9

comp=Z,27µm,21.9s,baz=153,slow=35
KKTK Khon Kaen 27.11 308 ⇑P P **07 14 46.5 -0.8**
comp=Z,3µm,0.6s,mb7.0
NNT Nongplab 27.83 298 P P **07 14 54.1 +0.2**
NST Nakhon Sawan 28.92 304 P P **07 15 02.0 -1.6**
CTA Charters Tower 28.93 134 *e*P P **07 15 02.1 -1.6**
comp=Z,96nm,1.2s,mb5.3
CTA *e* pP 07 15 25.7 +2.2
CTA *e*S **S** **07 19 45.6 -1.0**
CTA Charters Tower 28.93 134 P P **07 15 02.5 -1.2**
comp=Z,82nm,1.2s,mb5.2,baz=313,slow=10,SNR=31
CTA S **S** **07 19 48.8 +2.1**
comp=Z,5.5nm,0.6s,baz=152,slow=18,SNR=1.6
CTA Charters Tower 28.93 134 P P **07 15 02.6 -1.1**
CTA S **S** **07 19 48.8 +2.2**
CTA pmax pmax
comp=Z,82nm,1.2s
CTA smax
comp=N,6.0nm,0.6s
CTAO Charters Tower 28.93 134 P P **07 15 02.3 -1.4**
CTAO pmax pmax
comp=Z,500nm,1.4s,mb6.0
CTAO Charters Tower 28.93 134⇓ *e*P P **07 15 02.1 -1.6**
comp=Z,502nm,1.4s,mb6.0
COCO West Island 30.14 246 *e*P P **07 15 15.4 +1.0**
FORT Forrest 30.62 174 *e*P P **07 15 16.9 -1.7**
comp=Z,312nm,0.7s,mb6.2
FORT *e*S **S** **07 20 13.5 +0.4**
SSE Sheshan 31.26 354 P P **07 15 26.0 +1.8**
SSE XP sP 07 15 42.6 -12
SSE PCP PcP 07 18 18.3 +1.6
SSE S **S** **07 20 27.5 +4.3**
SSE AMB AMB
comp=Z,120nm,1.2s,mb5.5
SSE AMB AMB
comp=Z,2µm,10.6s
SSE LR LR
comp=N,10µm,24.2s
SSE LR LR
comp=E,9µm,24.2s
SSE LR LR
comp=Z,18µm,19.1s
CHG Chiang Mai 31.55 308 ⇓P P **07 15 27.5 +0.7**
GYA Guiyang 31.66 328⇑ *i*P P **07 15 27.8 +0.1**
GYA PCP PcP 07 18 19.8 +1.9
GYA S **S** **07 20 28.1 -1.5**
GYA AMB AMB
comp=Z,190nm,1.2s,mb5.7
GYA AMB AMB
comp=Z,4µm,12.9s
GYA LR LR
comp=N,18µm,22.2s
GYA LR LR
comp=E,15µm,18.3s
GYA LR LR
comp=Z,24µm,20.7s
CBIJ Chichi jima 31.88 30 P P **07 15 26.2 -3.4**
comp=Z,287nm,0.7s,mb6.1,baz=275,slow=5.2,SNR=14
KLBR Kellerberrin 31.95 191⇑ *i*P P **07 15 28.9 -1.3**
comp=Z,174nm,0.8s,mb5.8
KLBR *e*S **S** **07 20 33.7 -0.3**
WHN Wuhan 32.08 343 P P **07 15 31.0 -0.3**
WHN AP pP 07 15 43.5 -8.0
WHN S **S** **07 20 41.3 +5.2**
WHN LR LR
comp=N,11µm,14.0s
WHN LR LR
comp=E,15µm,14.6s
WHN LR LR
comp=Z,32µm,19.5s
NJ2 Nanjing 32.51 351 *e*P P **07 15 35.3 +0.2**
NJ2 S **S** **07 20 48.0 +5.3**
NJ2 XS 07 21 03.0
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.2
NJ2 AMB AMB
comp=Z,2µm,10.7s
NJ2 LR LR
comp=N,46µm,22.2s
NJ2 LR LR
comp=E,49µm,28.6s
NJ2 LR LR
comp=Z,33µm,32.8s
MUN Mundaring 32.66 193⇓ *i*P P **07 15 36.0 -0.3**
MUN *e*S **S** **07 20 47.5 +2.6**
KMI Kunming 32.91 321⇑ P P **07 15 40.1 +1.5**
KMI AP pP 07 15 46.5 -12
KMI PP PP 07 16 49.3 -1.8
KMI S **S** **07 20 56.1 +7.1**
KMI PCS 07 22 07.9
KMI SS SS 07 22 54.3 +0.8
KMI AMB AMB
comp=Z,140nm,2.0s,mb5.5
KMI AMB AMB
comp=Z,2µm,3.7s
KMI LR LR
comp=N,16µm,18.2s
KMI LR LR
comp=E,12µm,19.1s
KMI LR LR
comp=Z,18µm,19.5s
NWAO Narrogin (SRO) 33.35 191 P P **07 15 41.5 -0.9**
comp=Z,84nm,0.8s,mb5.6,baz=15,slow=8.6,SNR=31
NWAO S **S** **07 20 56.5 +0.8**
comp=Z,35nm,1.0s,baz=172,slow=18,SNR=2.1
NWAO Narrogin (SRO) 33.35 191 P P **07 15 41.5 -0.8**
NWAO S **S** **07 20 56.5 +0.8**
NWAO pmax pmax
comp=Z,84nm,0.8s
NWAO smax
comp=N,35nm,1.0s
NWAO Narrogin (SRO) 33.35 191 *e*P P **07 15 41.3 -1.0**
comp=N,328nm,1.4s,mb6.0
ENH Enshi 33.55 336 *e*P P **07 15 43.3 -0.8**
comp=N,876nm,1.5s,mb6.4
PBA Port Blair 33.85 291 *ex* P **07 15 51.8 +5.0**
STKA Stephens Creek 35.36 155⇓ *i*P P **07 15 58.5 -1.0**
comp=N,303nm,0.9s,mb6.1
STKA *e*S **S** **07 21 28.6 +1.8**
STKA *e*SCS ScS 07 26 12.1 +4.2
STKA Stephens Creek 35.36 155 P P **07 15 58.6 -0.9**
comp=N,373nm,0.8s,mb6.2,baz=323,slow=8.4,SNR=106
STKA S **S** **07 21 27.8 +1.0**
comp=N,108nm,1.3s,baz=209,slow=19,SNR=6.3
JHJ Hachijo jima 2 36.01 22 LR LR 07 32 02.9
comp=N,11µm,18.3s,baz=223,slow=38
HNR Honiara 36.26 106 P P **07 16 05.6 -1.7**
comp=N,121nm,0.7s,mb6.0,baz=68,slow=0.7,SNR=4.5
CD2 Chengdu 36.75 329 P P **07 16 10.9 -0.3**
CD2 XP sP 07 16 28.6 -14
CD2 PP PP 07 17 35.8 -2.5
CD2 S **S** **07 21 47.5 -0.5**
CD2 XS 07 22 17.3
CD2 AMB AMB
comp=Z,220nm,1.6s,mb5.8
CD2 AMB AMB
comp=Z,560nm,5.9s
CD2 LR LR
comp=N,16µm,18.0s
CD2 LR LR
comp=Z,12µm,20.4s
XAN Xi'an 37.10 338 P P **07 16 13.0 -1.2**
XAN AMB AMB
comp=Z,200nm,1.7s,mb5.8
XAN LR LR
comp=N,12µm,15.7s
XAN LR LR
comp=E,10µm,18.1s
XAN LR LR
comp=Z,27µm,17.0s
INCN Inchon 37.49 3 *e*P P **07 16 18.2 +0.9**
comp=Z,347nm,1.3s,mb6.1
KS15 Wonju Array Si 37.53 4 *e*P P **07 16 17.8 +0.2**
MAJO Matsushiro 38.60 18 P P **07 16 25.1 -1.5**
MAJO pmax pmax
comp=Z,1µm,1.6s,mb6.5
MAJO Matsushiro 38.60 18 *e*P P **07 16 25.0 -1.6**
comp=Z,1µm,1.6s,mb6.5
MAT Matsushiro 38.60 18 P P **07 16 25.0 -1.6**
MAT S **S** **07 22 15.2 -0.9**
MAT Matsushiro 38.60 18 *e*P P **07 16 25.0 -1.6**
MAT *e*S **S** **07 22 15.0 -1.1**
MAT pmax pmax
comp=Z,5µm,2.7s,mb6.9
MAT MLR MLR
comp=Z,14µm,20.0s
MAT Matsushiro 38.60 18 *e*P P **07 16 25.0 -1.6**
comp=Z,5µm,2.7s,mb6.9
MAT *e*S **S** **07 22 15.0 -1.1**
MAT LR LR
comp=Z,14µm,20.0s
MJAR Matsushiro Arr 38.60 18 P P **07 16 25.0 -1.6**
comp=Z,147nm,0.9s,mb5.8,baz=192,slow=8.4,SNR=78
MJAR S **S** **07 22 15.8 -0.3**
comp=Z,7.7nm,0.9s,baz=209,slow=12,SNR=4.5
DL2 Dalian 38.98 356⇑ *i*P P **07 16 28.6 -1.1**
DL2 AP pP 07 16 42.6 -7.7
DL2 XP sP 07 16 49.4 -11
DL2 PP PP 07 18 05.9 +1.9
DL2 S **S** **07 22 23.1 +1.4**
DL2 XS 07 22 45.5
DL2 SS SS 07 25 13.8 +4.2
DL2 AMB AMB
comp=Z,250nm,1.0s,mb6.0
DL2 AMB AMB
comp=Z,1µm,7.8s
DL2 LR LR
comp=N,6µm,22.3s
DL2 LR LR
comp=E,8µm,20.3s
DL2 LR LR
comp=Z,12µm,22.2s
TIY Taiyuan 39.35 345 *e*P P **07 16 35.0 +2.2**
TIY LR LR
comp=N,6µm,19.0s
AGT Agartala 40.31 309 *ex* x 07 16 45.0
AGT *ex* x 07 17 03.0
SHL Shillong 40.73 311 *e*P P **07 16 45.0 +0.7**
SHL *ex* x 07 22 34.0
LZH Lanzhou 40.95 334⇑ P P **07 16 46.8 +0.8**
LZH AP pP 07 17 00.3 -6.4
LZH XP sP 07 17 04.9 -12
LZH AMB AMB
comp=Z,1µm,1.3s,mb6.6
LZH AMB AMB
comp=Z,4µm,4.3s
LZH LR LR
comp=E,31µm,15.2s
LZH LR LR
comp=Z,47µm,19.6s
RIV Riverview 41.68 146 *e*P P **07 16 54.0 +1.9**
RIV *e*S **S** **07 23 07.8 +5.6**
RIV *e*SS SS 07 26 23.8 +19
SNY Shenyang 41.80 359⇑ P P **07 16 52.0 -1.0**
SNY S **S** **07 22 58.4 -5.4**
SNY AMB AMB
comp=Z,200nm,1.0s,mb5.8
SNY LR LR
comp=N,15µm,23.4s
SNY LR LR
comp=Z,24µm,27.0s
CNB Canberra Magne 41.85 149⇓ *i*P P **07 16 54.1 +0.6**
comp=Z,635nm,1.9s,mb6.0
CNB *e*S **S** **07 23 09.9 +5.2**
CNB *e*SS SS 07 26 27.2 +19
TOO Toolangi 41.88 155 *e*P P **07 16 54.8 +1.1**
comp=Z,171nm,1.0s,mb5.7
TOO *e*SCP 07 22 36.4
TOO *e*S **S** **07 23 10.1 +5.1**
TOO Toolangi 41.88 155 *e*P P **07 16 54.8 +1.1**
TOO *e*S **S** **07 23 10.1 +5.1**
TOO pmax pmax
comp=Z,171nm,1.0s,mb5.7
HHC Hu-ho-hao-te 42.53 345 *e*P P **07 16 57.8 -1.2**
HHC PP PP 07 18 38.6 -3.0
HHC PCP PcP 07 18 51.8 +1.1
HHC PCS 07 22 43.3
HHC S **S** **07 23 16.9 +2.5**
HHC SCS ScS 07 26 56.9 +7.5
HHC AMB AMB
comp=Z,120nm,1.0s,mb5.6
HHC AMB AMB
comp=Z,3µm,6.2s
HHC LR LR
comp=N,8µm,19.0s
HHC LR LR
comp=E,6µm,21.4s
HHC LR LR
comp=Z,14µm,33.3s
BTO Baotou 42.72 343 *e*P P **07 16 58.5 -2.0**
BTO AMB AMB
comp=Z,110nm,2.3s,mb5.2
LSA Lhasa 43.64 316 P P **07 17 09.3 +1.1**
LSA AP pP 07 17 25.3 -3.7
LSA PP PP 07 18 55.8 +2.9
LSA S **S** **07 23 38.4 +7.6**
LSA AMB AMB
comp=Z,390nm,2.0s,mb5.8
LSA AMB AMB
comp=Z,3µm,6.0s
LSA LR LR
comp=N,8µm,34.0s
LSA LR LR
comp=E,10µm,32.0s
LSA LR LR
comp=Z,91µm,32.0s
LSA Lhasa 43.64 316⇑ *i*P P **07 17 08.4 +0.2**
LSA pmax pmax
comp=Z,1µm,1.7s,mb6.3
LSA Lhasa 43.64 316⇑ *i*P P **07 17 08.4 +0.2**
comp=Z,1µm,1.7s,mb6.3
CN2 Changchun 43.77 1 *e*P P **07 17 07.5 -1.5**
CN2 *e*S **S** **07 23 37.3 +4.9**
CN2 SS SS 07 26 45.6 +3.2
CN2 AMB AMB
comp=Z,80nm,1.1s,mb5.4
CN2 AMB AMB
comp=Z,3µm,14.0s
CN2 LR LR
comp=N,6µm,21.0s
CN2 LR LR
comp=E,8µm,21.0s
CN2 LR LR
comp=Z,10µm,25.0s
VIS Vishakhapatnam 44.41 296 *e*P P **07 17 11.4 -3.1**
VIS AMb AMB 07 17 28.2
comp=Z,420nm,1.9s,mb5.8
PALK Pallekele 44.51 280 *e*P P **07 17 14.7 -0.7**
comp=Z,524nm,1.8s,mb6.0
BOK Bokaro 44.56 305 *e*P P **07 17 15.3 -0.3**
MDJ Mudanjiang 44.79 5 P P **07 17 17.0 -0.2**
MDJ AP pP 07 17 21.9 -16
MDJ PP PP 07 19 01.6 -2.5
MDJ PCS 07 22 51.9
MDJ S **S** **07 23 49.3 +2.1**
MDJ AMB AMB
comp=Z,290nm,1.0s,mb6.0
MDJ AMB AMB
comp=Z,1µm,3.1s
MDJ LR LR
comp=N,8µm,26.7s
MDJ LR LR
comp=E,5µm,26.7s
MDJ LR LR
comp=Z,13µm,27.9s
MDJ Mudanjiang 44.79 5⇑ *i*P P **07 17 16.8 -0.4**
comp=Z,224nm,0.8s,mb6.0
GTA Gaotai 45.49 333⇑ P P **07 17 22.6 -0.3**
GTA AP pP 07 17 30.0 -14
GTA PCP PcP 07 19 02.3 +1.5
GTA PP PP 07 19 09.3 -1.9
GTA PCS 07 22 54.9
GTA S **S** **07 24 01.4 +4.1**
GTA SCS ScS 07 27 13.8 +5.9
GTA SS SS 07 27 15.3 +1.4
GTA AMB AMB
comp=Z,20nm,1.4s
GTA AMB AMB
comp=Z,3µm,6.1s
GTA LR LR
comp=N,12µm,20.1s
GTA LR LR
comp=E,12µm,20.5s
GTA LR LR
comp=Z,19µm,20.1s
MDRS Chennai 45.99 288 *e*P P **07 17 26.9 -0.2**
MDRS AMS AMS 07 41 08.7
comp=Z,8µm,20.6s
NOUC Port Laguerre 46.00 121 *e*P P **07 17 26.7 -0.4**
DZM Mont Dzumac 46.11 121 *e*P P **07 17 27.3 -0.6**
DZM Mont Dzumac 46.11 121 S S **07 24 07.7 +1.4**
comp=Z,7.8nm,1.0s,baz=164,slow=8.7,SNR=2.1
DZM Mont Dzumac 46.11 121 *e*P P **07 17 27.3 -0.7**
JIRN Jiri 46.16 310 *e*P P **07 17 28.6 +0.3**
comp=Z,413nm,0.6s,mb6.3
GUN Gumba 46.52 310 *e*P P **07 17 31.3 +0.2**
comp=Z,1µm,0.8s,mb6.6
PKI Pulchoki 46.71 309 *e*P P **07 17 32.3 -0.4**
ASAJ Asahikawa 46.88 18 P P **07 17 33.2 -0.5**
comp=Z,59nm,0.5s,mb5.6,baz=229,slow=13,SNR=26
ASAJ S **S** **07 24 17.2 +0.3**
comp=Z,5.1nm,0.6s,baz=13,slow=18,SNR=1.8
ASAJ Asahikawa 46.88 18 P P **07 17 33.3 -0.4**
ASAJ S **S** **07 24 17.3 +0.4**
ASAJ pmax pmax
comp=Z,59nm,0.5s
ASAJ smax
comp=N,5.0nm,0.6s
KKN Kakani 46.92 310 *e*P P **07 17 34.0 -0.3**
DMN Daman 46.97 309 *e*P P **07 17 34.6 0.0**
comp=N,3µm,1.5s,mb6.7
BLSP Bilaspur 47.02 301 *e*P P **07 17 34.6 -0.5**
BLSP AMb AMB 07 17 42.9
comp=Z,354nm,1.3s,mb5.9
TAU Tasmania Unive 47.15 157 *e*P P **07 17 37.0 +1.1**
TAU pmax pmax
comp=Z,223nm,1.4s,mb5.7
TAU Tasmania Unive 47.15 157 *e*P P **07 17 37.0 +1.1**
comp=Z,223nm,1.4s,mb5.7
GKN Gorkha 47.52 309 *e*P P **07 17 38.6 -0.4**
comp=Z,1µm,1.2s,mb6.5
KOLN Koldanda 48.21 309 *e*P P **07 17 44.3 -0.1**
comp=Z,1µm,1.0s,mb6.7
TRD Trivandrum 48.35 281 *e*P P **07 17 43.8 -1.7**
TRD AMS AMS 07 40 57.2
comp=Z,13µm,20.8s
HYB Hyderabad 48.66 293 *i* P P **07 17 47.0 -0.9**
comp=Z,470nm,1.0s,mb6.4
HYB *e*sP sP 07 18 00.0 -19
HYB *e*PcP PcP 07 19 16.0 +3.6
HYB *e*PP PP 07 19 42.0 +0.4
HYB *e* 07 23 06.0
HYB *e*S **S** **07 24 40.0 -2.3**
HYB *e*ScS ScS 07 27 36.0 +7.1
HYB LR LR 07 37 12.0
comp=Z,17nm,24.0s
HYB Hyderabad 48.66 293 *e*P P **07 17 47.0 -0.9**
HYB *e*S **S** **07 24 42.0 -0.3**
HYB pmax pmax
comp=Z,470nm,1.0s,mb6.4
HYB Hyderabad 48.66 293 *e*P P **07 17 47.0 -0.9**
comp=Z,470nm,1.0s,mb6.4
HYB *e*S **S** **07 24 42.0 -0.3**
HABR Khabarovsk 49.26 9 *i* P P **07 17 52.3 +0.2**
HABR *i* S **S** **07 24 51.1 +0.8**
HABR pmax pmax
comp=Z,731nm,1.5s,mb6.4
HABR pmax pmax
comp=Z,2µm,2.6s,mb6.7
HABR MLR MLR
comp=Z,4µm,16.0s
HIA Hailar 49.42 356⇑ *i*P P **07 17 52.7 -0.6**
HIA pmax pmax
comp=Z,219nm,0.9s
HIA Hailar 49.42 356⇑ *i*P P **07 17 52.7 -0.6**
comp=Z,219nm,0.9s,mb6.1
YSS Yuzh-Sakhalins 49.51 16α *i*P P **07 17 53.0 -1.1**
YSS *e* 07 18 02.3
YSS *e* 07 18 07.0
YSS *e* 07 19 47.0
YSS *e*S **S** **07 24 54.0 +0.3**
YSS pmax pmax
comp=N,100nm,1.1s
YSS pmax pmax
comp=Z,150nm,1.1s,mb5.8
YSS pmax pmax
comp=Z,2µm,10.0s
YSS smax
comp=N,3µm,12.0s
YSS MLR MLR
comp=N,5µm,20.0s
YSS MLR MLR
comp=Z,6µm,20.0s
YSS MLR MLR
comp=E,4µm,18.0s
YSS Yuzh-Sakhalins 49.51 16 *e*P P **07 17 52.7 -1.3**
comp=E,371nm,1.4s,mb6.1
KLR Kul'dur 49.57 6⇓ *i*P P **07 17 50.2 -4.3**
KLR *e*S **S** **07 24 51.5 -3.0**
KLR *e*SS SS 07 28 26.0 +2.2
KLR pmax pmax
comp=E,220nm,2.4s
KLR pmax pmax
comp=Z,600nm,2.4s,mb6.1
KLR pmax pmax
comp=N,2µm,9.5s
KLR pmax pmax
comp=Z,4µm,9.5s
KLR MLR MLR
comp=E,5µm,14.0s
KLR MLR MLR
comp=Z,8µm,14.0s
ULN Ulaanbaatar 50.24 345 *e*P P **07 17 58.7 -0.9**
ULN pmax pmax
comp=Z,64nm,1.0s,mb5.5
ULN Ulaanbaatar 50.24 345 *e*P P **07 17 58.6 -1.0**
comp=Z,64nm,1.0s,mb5.5
SONM Songino Array 50.39 344 P P **07 17 59.7 -1.1**
comp=Z,132nm,0.7s,mb6.0,baz=157,slow=8.5,SNR=69
SONM PKPPKP 07 48 45.0
comp=Z,1.7nm,0.8s,slow=5.9,SNR=3.7
DGAR Diego Garcia 52.60 261 *e*P P **07 18 15.7 -2.2**
DGAR pmax pmax
comp=Z,888nm,1.4s,mb6.6
DGAR Diego Garcia 52.60 261 *e*P P **07 18 15.7 -2.2**
comp=Z,888nm,1.4s,mb6.6
KAD Karad 52.67 292 *e*P P **07 18 15.1 -3.3**
KAD AMb AMB 07 18 18.4
comp=Z,117nm,0.5s,mb6.2
CIT Chita 52.83 351 *e*P P **07 18 18.3 -0.8**
CIT *e* 07 25 47.1
CIT pmax pmax
comp=Z,443nm,1.4s,mb6.3
POO Poona 53.27 293 *e*P P **07 18 18.2 -4.7**
POO AMb AMB 07 18 26.8
comp=Z,155nm,1.0s,mb6.0
ZAK Zakamensk 53.57 343⇑ *i*P P **07 18 23.4 -1.2**
ZAK pmax pmax
comp=Z,238nm,1.5s,mb6.0
NDI New Delhi 53.68 306 *e*P P **07 18 23.5 -2.2**
NDI *ex* x 07 25 51.0
WMQ Urumqi 54.83 328⇑ *i*P P **07 18 32.8 -1.0**
WMQ XP sP 07 18 51.8 -13
WMQ PCP PcP 07 19 34.0 -0.9
WMQ PP PP 07 20 37.8 -1.0
WMQ S **S** **07 26 06.3 0.0**
WMQ SCS ScS 07 28 11.1 +0.1
WMQ AMB AMB
comp=Z,430nm,1.0s,mb6.4
WMQ AMB AMB
comp=Z,3µm,4.0s
WMQ LR LR
comp=N,16µm,22.0s
WMQ LR LR
comp=E,13µm,24.0s
WMQ LR LR
comp=Z,18µm,22.0s
FUNA Funafuti 54.90 100 *e*P P **07 18 34.7 -0.1**
FUNA *e* pP 07 18 54.0 -2.4
AJM Ajmer 54.96 303 *e*P P **07 18 32.6 -2.5**
IRK Irkutsk 54.97 345 *e*P P **07 18 33.2 -1.6**
IRK pmax pmax
comp=Z,217nm,2.2s,mb5.8
MOY Mondy 55.38 342 *e*P P **07 18 37.4 -0.4**
MOY pmax pmax
comp=Z,403nm,2.0s,mb6.1
CLNS Chul'man 56.81 0⇑ *i*P P **07 18 45.6 -2.3**
CLNS *e**PP pP 07 18 52.5 -17
CLNS *e* 07 19 43.3
CLNS *e*S **S** **07 26 29.2 -3.3**
CLNS pmax pmax
comp=N,79nm,1.0s
CLNS pmax pmax
comp=E,32nm,1.0s
CLNS pmax pmax
comp=Z,136nm,1.0s,mb5.9

CLNS pmax pmax
comp=N,93nm,1.0s
CLNS pmax pmax
comp=Z,42nm,1.0s,mb5.4
CLNS pmax pmax
comp=E,58nm,1.1s
CLNS smax
comp=N,413nm,10.0s
CLNS smax
comp=Z,2μm,11.9s
CLNS smax
comp=E,873nm,11.8s
CLNS Chul'man 56.81 0 *e*P **P** **07 18 46.1 -1.8**
BHJ Bhuj 58.28 298 *e*P **P** **07 18 54.8 -3.9**
BOD Bodaibo 58.43 353 *e*P **P** **07 18 58.1 -1.1**
BOD *e* 07 28 37.6
BOD pmax pmax
comp=Z,332nm,1.3s,mb6.2
QRZ Quartz Range 59.25 139 *e*PN **P** **07 19 05.8 +0.7**
QRZ Quartz Range 59.25 139 *e*P **P** **07 19 05.8 +0.7**
DSZ Denniston Nort 59.25 140 *e*PN **P** **07 19 06.5 +1.4**
DSZ Denniston Nort 59.25 140 *e*P **P** **07 19 06.5 +1.4**
KSH Kashi 59.44 318⇑ *i*P **P** **07 19 07.0 +0.5**
KSH AP pP 07 19 23.5 -4.8
KSH PCP PcP 07 19 54.1 +1.1
KSH PP PP 07 21 20.3 -0.1
KSH SCP 07 23 48.3
KSH PCS 07 23 56.0
KSH S **S** **07 27 08.0 +0.9**
KSH SCS ScS 07 28 48.6 +4.0
KSH AMB AMB
comp=Z,2μm,2.2s,mb6.8
KSH LR LR
comp=N,6μm,18.3s
KSH LR LR
comp=E,5μm,16.9s
MKAR Makanchi Array 59.65 328 P **P** **07 19 06.6 -1.2**
comp=E,195nm,0.6s,mb6.3,baz=124,slow=8.3,SNR=260
MKAR ScP 07 23 48.9
comp=E,17nm,0.7s,baz=128,slow=4.5,SNR=4.6
MKAR S **S** **07 27 11.8 +2.1**
comp=E,1.6nm,0.8s,baz=153,slow=6.4,SNR=2.6
MKAR LR LR 07 46 37.8
comp=E,15μm,19.6s,baz=160,slow=38
MKAR PKPPKP 07 48 22.2
comp=E,2.8nm,1.0s,baz=270,slow=2.4,SNR=7.8
MKAR P4KPbc 07 56 14.0
comp=E,3.9nm,0.8s,baz=123,slow=4.4,SNR=30
MKAR Makanchi Array 59.65 328 P **P** **07 19 06.6 -1.2**
MKAR S **S** **07 27 11.8 +2.1**
MKAR Makanchi Array 59.65 328 P **P** **07 19 06.6 -1.2**
MKAR ScP 07 23 48.9
MKAR S **S** **07 27 11.8 +2.1**
MKAR LR LR 07 46 37.8
MKAR P'P' 07 48 22.2
LBZ Lake Benmore 59.69 144 *e*PN **P** **07 19 08.0 -0.1**
LBZ Lake Benmore 59.69 144 *e*P **P** **07 19 08.0 -0.1**
RPZ Rata Peaks 59.84 143 S **S** **07 27 14.8 +2.7**
comp=E,8.2nm,1.0s,baz=246,slow=20,SNR=2.4
RPZ LR LR 07 45 53.5
comp=E,7μm,21.1s,baz=212,slow=37
RPZ Rata Peaks 59.84 143 *e*PN **P** **07 19 09.1 0.0**
RPZ Rata Peaks 59.84 143 *e*P **P** **07 19 09.1 0.0**
THZ Tophouse 59.97 140 PN **P** **07 19 09.9 -0.2**
THZ Tophouse 59.97 140 *e*P **P** **07 19 03.6 -6.4**
PET Petropavlovsk 60.07 23α *i*P **P** **07 19 10.2 -0.4**
PET *e**PP pP 07 19 28.1 -4.4
PET *e* 07 19 55.3
PET *e*S **S** **07 27 16.5 +1.6**
PET *e*PS PS 07 27 44.7 +1.2
PET pmax pmax
comp=Z,246nm,1.4s,mb6.0
PET pmax pmax
comp=Z,2μm,5.0s
PET pmax pmax
comp=Z,2μm,9.8s
PET pmax pmax
comp=Z,2μm,4.4s
PET pmax pmax
comp=Z,215nm,1.0s,mb6.1
PET pmax pmax
comp=Z,238nm,1.4s,mb6.0
PET pmax pmax
comp=Z,188nm,1.3s,mb6.0
PET smax
comp=N,4μm,14.7s
PET smax
comp=N,8μm,23.3s
PET MLR MLR
comp=Z,3μm,20.0s
PET MLR MLR
comp=Z,4μm,20.0s
PET Petropavlovsk 60.07 23⇑ *i*P **P** **07 19 10.3 -0.3**
comp=Z,260nm,1.1s,mb6.2
LTZ Lake Taylor 60.09 141 *e*PN **P** **07 19 10.5 -0.3**
LTZ Lake Taylor 60.09 141 *e*P **P** **07 19 10.5 -0.4**
ULHL Ulahol 60.63 320 P **P** **07 19 14.1 -0.5**
SNR=73
AAA Alma-Ata 60.72 322 *e*P **P** **07 19 15.0 -0.1**
AAA *e*S **S** **07 27 23.0 -0.4**
AAA pmax pmax
comp=Z,3μm,5.0s
AAA smax
comp=E,5μm,6.0s
SNZO South Karori 60.91 139 *e*P **P** **07 19 14.8 -1.8**
comp=E,169nm,0.9s,mb6.1
KZA Kyzart 61.18 320 P **P** **07 19 18.5 +0.2**
SNR=228
URZ Urewera 61.18 135 S **S** **07 27 30.5 +1.1**
comp=E,18nm,1.0s,baz=32,slow=19,SNR=2.8
TKM2 Tokmak 2 61.38 321 P **P** **07 19 19.1 -0.5**
SNR=189
KRAR Krasnoyarsk 61.65 340 *e*P **P** **07 19 21.9 +0.7**
KBK Karagaybulak 61.66 320 P **P** **07 19 21.4 -0.1**
SNR=103
UCH Uchtor 61.73 320 P **P** **07 19 22.1 +0.1**
SNR=396
PUZ Puketiti 61.92 134 *e*PN **P** **07 19 22.1 -1.3**
PUZ Puketiti 61.92 134 *e*P **P** **07 19 22.1 -1.2**
AAK Ala-Archa 61.94 320 P **P** **07 19 23.0 -0.3**
SNR=163
AAK Ala-Archa 61.94 320*c* *i*P **P** **07 19 21.3 -2.1**
AAK pmax pmax
comp=Z,436nm,1.4s,mb6.3
AAK MLR MLR
comp=Z,10μm,20.0s
AAK Ala-Archa 61.94 320⇑ *e*P **P** **07 19 21.9 -1.4**
comp=Z,281nm,1.1s,mb6.2
CHMS Chumysh 61.96 320 P **P** **07 19 24.1 +0.6**
SNR=39
FRU Bishkek 61.96 320⇑ *i*P **P** **07 19 23.0 -0.5**
FRU *e*S **S** **07 27 43.0 +3.9**
FRU pmax pmax
comp=Z,2μm,2.5s,mb6.6
FRU MLR MLR
comp=N,8μm,22.0s
FRU MLR MLR
comp=E,7μm,22.0s
FRU MLR MLR
comp=Z,9μm,22.0s
YAK Yakutsk 62.14 3*c* *i*P **P** **07 19 23.5 -0.9**
YAK pmax pmax
comp=Z,577nm,0.9s,mb6.6
YAK MLR MLR
comp=Z,5μm,18.0s
YAK Yakutsk 62.14 3⇑ *i*P **P** **07 19 23.6 -0.9**
comp=Z,817nm,0.8s,mb6.8
AML Almayashu 62.22 319 P **P** **07 19 26.0 +0.8**
SNR=172
USP Ospenovka 62.25 321 P **P** **07 19 24.6 -0.8**
SNR=322
EKS2 Erkin-Say 62.42 320 P **P** **07 19 26.3 -0.3**
SNR=244
MA2 Magadan 62.94 15 *e*P **P** **07 19 29.7 -0.1**
MA2 *e**PP pP 07 19 48.0 -3.9
MA2 pmax pmax
comp=Z,325nm,0.8s,mb6.3
MA2 Magadan 62.94 15 *e*P **P** **07 19 29.6 -0.2**
comp=Z,325nm,0.8s,mb6.3
MA2 *e*pP pP 07 19 48.0 -3.9
ZAL Zalesovo 63.17 335 P **P** **07 19 29.3 -2.1**
comp=Z,66nm,0.7s,mb5.7,baz=348,slow=6.0,SNR=96
ZAL S **S** **07 27 53.5 -0.7**
comp=Z,3.4nm,0.6s,baz=58,slow=19,SNR=6.4
ZAL PKPPKP 07 48 28.9
comp=Z,2.7nm,0.3s,baz=112,slow=2.7,SNR=3.5

KURK Kurchatov 63.97 329 *e*P **P** **07 19 34.7 -2.0**
KURK pmax pmax
comp=Z,442nm,0.5s,mb6.5
KURK Kurchatov 63.97 329 *e*P **P** **07 19 34.7 -2.0**
comp=Z,442nm,0.5s,mb6.5
NVS Novosibirsk 64.46 335⇑ *i*P **P** **07 19 36.6 -3.2**
NVS *e*S **S** **07 28 07.7 -2.4**
NVS pmax pmax
comp=N,103nm,0.8s
NVS pmax pmax
comp=E,111nm,0.8s
NVS pmax pmax
comp=Z,177nm,0.8s,mb5.9
NVS smax
comp=N,145nm,1.8s
NVS smax
comp=E,194nm,1.8s
KKAR Karatay Array 64.75 319 *i*P **P** **07 19 40.4 -1.5**
KKAR pmax pmax
comp=Z,294nm,1.0s,mb6.1
SEY Seymchan 66.25 13 *i*P **P** **07 19 51.7 +0.6**
SEY pP 07 20 16.6 +3.2
SEY 07 22 13.8
SEY *e*S S 07 28 38.8 +7.0
SEY PS PS 07 29 04.4 -2.2
SEY 07 29 43.4
SEY SS SS 07 32 59.3 +8.4
SEY pmax pmax
comp=Z,260nm,1.7s,mb5.8
SEY pmax pmax
comp=N,110nm,1.2s
SEY pmax pmax
comp=E,60nm,1.2s
SEY smax
comp=N,6μm,8.9s
SEY smax
comp=E,2μm,13.0s
SEY Seymchan 66.25 13⇑ *e*P **P** **07 19 50.8 -0.3**
FX1 Attu Island--F 66.43 30 P **P** **07 19 52.8 +0.4**
comp=E,479nm,1.1s,mb6.2,baz=267,slow=4.4,SNR=13
FX1 Attu Island--F 66.43 30 P **P** **07 19 52.8 +0.3**
FX1 pmax pmax
comp=Z,479nm,1.2s
FX1 Attu Island--F 66.43 30 *e*P **P** **07 19 53.1 +0.7**
CASY Casey 66.75 186 *e*P **P** **07 19 55.0 +0.7**
SMY Shemya 66.81 30 *e*P **P** **07 19 55.4 +0.5**
SMY pmax pmax
comp=Z,1μm,1.5s,mb6.6
SMY Shemya 66.81 30 *e*P **P** **07 19 55.4 +0.5**
comp=Z,1μm,1.5s,mb6.6
DRV Dumont d'Urvil 67.25 173 P **P** **07 20 08.0 +11**
DRV S S 07 28 55.0 +11
JMDO Jabal Madar 68.50 294 P **P** **07 20 04.5 -1.4**
SNR=28
SMDO Samad 68.67 295 P **P** **07 20 05.5 -1.3**
SNR=8.2
BIDO Bidbid 68.67 295 P **P** **07 20 05.7 -1.2**
SNR=11
MSEY Mahe Island 69.29 265 *e*P **P** **07 20 10.7 -0.2**
comp=Z,400nm,1.8s,mb6.0
BSY Bisya 69.39 294 P **P** **07 20 10.2 -1.2**
SNR=32
BVA0 Borovoye Array 69.50 328 *i*P **P** **07 20 10.4 -1.1**
BVA0 pmax pmax
comp=Z,30nm,1.0s,mb5.1
BVAR Borovoye Array 69.50 328 P **P** **07 20 10.3 -1.2**
comp=Z,141nm,0.9s,mb5.8,baz=129,slow=9.9,SNR=132
BVAR S S 07 29 15.3 +4.3
comp=Z,2.3nm,0.9s,baz=143,slow=7.2,SNR=3.4
BVAR P4KPbc 07 56 57.1
comp=Z,0.6nm,0.5s,baz=135,slow=2.1,SNR=4.0
BRVK Borovoye 69.58 328 *e*P **P** **07 20 10.6 -1.4**
BRVK pmax pmax
comp=Z,148nm,0.9s,mb5.8
BRVK Borovoye 69.58 328 *e*P **P** **07 20 10.6 -1.4**
comp=Z,148nm,0.9s,mb5.8
CHKZ Chkalovo 69.71 329 P **P** **07 20 11.4 -1.4**
CHKZ pmax pmax
comp=Z,3.0nm,0.9s
CHKZ Chkalovo 69.71 329⇑ *i*P **P** **07 20 11.5 -1.3**
comp=Z,177nm,0.9s,mb5.9
MIR Mirnyy 69.94 193*d* *i*P **P** **07 20 15.0 +1.0**
MIR *e*S S 07 29 22.0 +6.2
MIR *e*PS PS 07 29 58.0 +3.2
MIR pmax pmax
comp=E,800nm,5.0s
MIR smax
comp=N,2μm,20.0s
ARQ Araqi 70.10 295 P **P** **07 20 14.6 -1.0**
SNR=34
SHAO Shalim 70.20 289⇑ *i*P **P** **07 20 16.0 -0.3**
ZRNK Zerenda 70.20 328⇑ *i*P **P** **07 20 14.4 -1.3**
ZRNK pmax pmax
comp=Z,294nm,0.8s,mb6.2
ZRNK Zerenda 70.20 328⇑ *i*P **P** **07 20 14.4 -1.3**
comp=Z,294nm,0.8s,mb6.2
TIXI Tiksi 71.74 1 *e*P **P** **07 20 18.7 -6.0**
TIXI *e* 07 22 58.8
TIXI *e*S S 07 29 31.1 -5.3
TIXI pmax pmax
comp=Z,2μm,3.1s
TIXI pmax pmax
comp=Z,207nm,1.1s,mb5.9
TIXI pmax pmax
comp=N,124nm,1.3s
TIXI pmax pmax
comp=E,39nm,0.9s
TIXI MLR MLR
comp=Z,5μm,20.0s
TIXI Tiksi 71.74 1⇑ *i*P **P** **07 20 23.3 -1.4**
VAN Vannovskaya 71.81 310⇑ *i*P **P** **07 20 25.1 -0.6**
WHFO Wadi Hawf 71.94 289 P **P** **07 20 25.1 -1.6**
SNR=45
ABTO Aybut 72.33 288 P **P** **07 20 28.0 -1.1**
SNR=27
BILL Bilibino 73.80 15⇑ *i*P **P** **07 20 36.0 -0.8**
BILL pmax pmax
comp=Z,67nm,1.0s,mb5.3
BILL Bilibino 73.80 15⇑ *i*P **P** **07 20 36.0 -0.8**
comp=Z,67nm,1.0s,mb5.3
AB31 Akbulak array 73.90 322 *i*P **P** **07 20 36.9 -0.9**
AKTK Aktyubinsk 75.47 323 P **P** **07 20 46.2 -0.5**
AKTK S S 07 30 20.1 +1.6
AKTK LR LR 07 56 25.5
AKTO Aktyubinsk 75.47 323 P **P** **07 20 46.2 -0.5**
comp=Z,276nm,0.8s,mb6.1,baz=108,slow=6.9,SNR=141
AKTO S S 07 30 20.1 +1.6
comp=Z,3.9nm,0.8s,baz=343,slow=19,SNR=8.8
AKTO LR LR 07 56 25.5
comp=Z,12μm,21.8s,slow=38
NIKO Nikolski 76.14 35 *e*P **P** **07 20 50.5 0.0**
SVE Sverdlovsk 76.23 329⇑ *i*P **P** **07 20 50.4 -0.5**
SVE *e*PPP PPP 07 25 36.0 +3.8
SVE *e*S S 07 30 32.0 +5.3
SVE *e*PS PS 07 31 20.0 +3.1
SVE pmax pmax
comp=Z,540nm,1.8s,mb6.0
HASS Wahat al Ahsa' 76.52 296 P **P** **07 20 52.6 -0.6**
ARU Arti 77.15 329⇑ *i*P **P** **07 20 55.1 -1.0**
ARU *e* 07 21 04.4
ARU *e* 07 23 50.4
ARU *e*PPP PPP 07 25 37.3 -3.4
ARU *e*S S 07 30 43.0 +6.3
ARU *e* 07 31 02.8
ARU *e*SS SS 07 35 35.9 -2.8
ARU pmax pmax
comp=Z,331nm,1.0s,mb6.0
ARU Arti 77.15 329 *e*P **P** **07 20 55.0 -1.1**
comp=Z,303nm,0.9s,mb6.0
UNV Unalaska Valle 77.75 34 *e*P **P** **07 20 59.5 +0.1**
comp=Z,2μm,1.4s,mb6.7
KIP Kipapa 78.21 68 *i*P **P** **07 21 05.9 +3.3**
HON Honolulu 78.22 68 *e*P **P** **07 21 03.8 +1.2**
AKUT Akutan 78.24 34 *e*P **P** **07 21 02.4 +0.3**
comp=Z,2μm,1.2s,mb6.6
QRN Al-Qurain 78.50 299 *e*P **P** **07 21 03.2 -0.9**
QRN AMb AMB 07 21 06.8
comp=Z,133nm,0.3s,mb6.2
KBD Kabd 78.75 300 *e*P **P** **07 21 04.5 -0.9**
KBD AMb AMB 07 21 09.4
comp=Z,347nm,0.9s,mb6.2
UMR Umm Al-Rimmam 78.77 300 *e*P **P** **07 21 04.8 -0.8**
UMR AMb AMB 07 21 19.8
comp=Z,115nm,0.6s,mb5.9
RDF Al-Radifah 78.84 299 *e*P **P** **07 21 05.0 -1.0**

RDF AMb AMB 07 21 07.7
comp=Z,84nm,0.6s,mb5.7
MIB Mutribah 79.13 300 *e*P **P** **07 21 06.9 -0.6**
MIB AMb AMB 07 21 08.1
comp=Z,128nm,0.9s,mb5.8
NAY Al-Naaiem 79.15 300 *e*P **P** **07 21 06.4 -1.2**
NAY AMb AMB 07 21 13.2
comp=Z,93nm,0.8s,mb5.7
RYDS Riyadh 79.19 295 P **P** **07 21 07.6 -0.3**
MAW Mawson 79.44 200 *e*P **P** **07 21 10.1 +1.7**
comp=Z,110nm,1.5s,mb5.5
MAW *e*S S 07 31 05.6 +4.7
MAW Mawson 79.44 200 P **P** **07 21 09.4 +1.0**
comp=Z,50nm,1.1s,mb5.3,baz=266,slow=20,SNR=8.5
MAW S S 07 31 06.4 +5.5
comp=Z,0.6nm,0.3s,baz=310,slow=19,SNR=3.0
MAW LR LR 07 50 38.8
comp=Z,6μm,21.5s,baz=58,slow=31
MAW Mawson 79.44 200 P **P** **07 21 09.4 +1.0**
MAW S S 07 31 06.4 +5.5
MAW pmax pmax
comp=Z,50nm,1.1s
MAW smax
comp=N,1.0nm,0.3s
HKL Haleakala 79.79 69 *e*P **P** **07 21 13.6 +2.4**
LBOS 79.81 284 *e*P **P** **07 21 12.7 +1.2**
VNDA Vanda 79.86 172 P **P** **07 21 11.2 +0.7**
comp=N,41nm,0.8s,mb5.3,baz=320,slow=5.8,SNR=53
VNDA S S 07 31 08.2 +3.0
comp=N,0.8nm,0.9s,baz=49,slow=19,SNR=2.8
VNDA PKKPbc 07 39 59.9
comp=N,2.7nm,1.2s,baz=75,slow=5.1,SNR=3.5
VNDA LR LR 07 56 43.8
comp=N,8μm,21.9s,baz=326,slow=36
VNDA Vanda 79.86 172 P **P** **07 21 11.2 +0.7**
VNDA S S 07 31 08.3 +3.1
VNDA pmax pmax
comp=Z,41nm,0.8s
VNDA smax
comp=N,1.0nm,0.9s
VNDA pmax pmax
comp=Z,3.0nm,1.2s
VNDA MLR MLR
comp=Z,8μm,21.9s
VNDA Vanda 79.86 172⇑ *i*P **P** **07 21 11.0 +0.4**
comp=Z,533nm,1.8s,mb6.1
DHBB Dhamar BB 80.67 285⇑ *e*P **P** **07 21 16.5 +0.5**
MAK Makhachkala 80.75 314⇓ *i*P **P** **07 21 10.7 -5.2**
MAK *i* 07 21 18.8
MAK *i*S S 07 31 10.4 -4.7
MAK pmax pmax
comp=Z,260nm,1.3s,mb5.9
MAK pmax pmax
comp=Z,317nm,1.4s,mb6.0
MAK smax
comp=N,510nm,1.9s
MAK smax
comp=E,298nm,1.1s
SBA Scott Base 80.80 172 P **P** **07 21 16.0 +0.5**
SBA pmax pmax
comp=Z,220nm,1.3s,mb5.8
SBA Scott Base 80.80 172 *e*P **P** **07 21 16.8 +1.3**
comp=Z,224nm,1.4s,mb5.8
TNA Tin City 80.93 23 *e*P **P** **07 21 17.3 +0.9**
comp=Z,113nm,1.2s,mb5.6
SDPT Sand Point 81.52 34 *e*P **P** **07 21 19.6 -0.1**
comp=Z,3μm,1.8s,mb6.8
DJNS Zahran al Janu 81.63 288 P **P** **07 21 22.3 +1.3**
BHD Baghdad 82.00 303 *i*x x 07 21 23.5
BHD *i*x x 07 21 32.5
BHD *i*x x 07 24 36.0
BHD *ex* x 07 31 30.0
DGRG David-gareji 82.11 312 P **P** **07 21 23.5 +0.5**
ARSS Ar Rass 82.39 296 P **P** **07 21 25.4 +0.6**
GNI Garni 82.43 310 P **P** **07 21 26.4 +1.8**
comp=Z,28nm,0.7s,mb5.2,baz=186,slow=3.8,SNR=15
GNI Garni 82.43 310 *e*P **P** **07 21 25.5 +0.8**
GNI pmax pmax
comp=Z,144nm,1.0s
GNI Garni 82.43 310 *e*P **P** **07 21 25.5 +0.9**
comp=Z,144nm,1.0s,mb5.8
AFFS 'Afif 82.48 294 P **P** **07 21 26.0 +0.8**
MTA Mtatsminda 82.57 312 P **P** **07 21 26.2 +0.8**
TI2 Plekhanov 82.61 312⇑ *i*P **P** **07 21 26.4 +0.8**
TI2 S S 07 31 41.2 +7.1
TBLG Delisi 82.62 312 P **P** **07 21 26.3 +0.7**
TBLG S 07 30 10.0
CLDR Caldiran 82.95 309 P **P** **07 21 27.5 +0.1**
FRSS Farasan al Kab 82.95 287 P **P** **07 21 30.0 +2.2**
HAKT HAKKARI 82.96 308 *i*P **P** **07 21 27.2 -0.2**
TVAN Van 83.29 309 *i*P **P** **07 21 27.5 -1.6**
VANB Van 83.31 309 P **P** **07 21 27.4 -1.7**
MSL Mosul 83.33 306 *ex* x 07 21 31.0
DIGO Kars 83.50 311 *i*P **P** **07 21 30.6 +0.5**
AKH Akhalkalaki 83.51 312 P **P** **07 21 31.7 +1.5**
BLJS Baljurashi 83.57 290 P **P** **07 21 32.9 +1.9**
ONI Oni 83.66 313 P **P** **07 21 32.2 +1.3**
ONI S S 07 31 53.2 +8.4
KARS Kars 83.73 311 P **P** **07 21 34.3 +3.0**
HILS Ha'il 83.78 297 P **P** **07 21 33.3 +1.5**
KIV Kislovodsk 84.36 314*c* *i*P **P** **07 21 35.2 +0.9**
KIV *e* 07 24 49.1
KIV *e*PPP PPP 07 26 46.6 -1.1
KIV *e* 07 31 54.9
KIV *e*SS SS 07 37 30.4 +4.6
KIV pmax pmax
comp=Z,157nm,0.9s,mb5.8
KIV pmax pmax
comp=Z,659nm,5.9s
KIV Kislovodsk 84.36 314⇑ *i*P **P** **07 21 34.8 +0.5**
comp=Z,373nm,1.4s,mb6.0
ARTV Artvin 84.66 311 *i*P **P** **07 21 36.4 +0.5**
LTHS Al Lith 84.71 290 P **P** **07 21 38.1 +1.5**
BEST Besiri 84.91 308 *i*P **P** **07 21 38.3 +1.0**
PECR Pechory 84.92 327*d* *i*P **P** **07 21 36.8 0.0**
PECR *e* 07 24 59.4
PECR *e*S S 07 32 00.0 +3.2
PECR *e* 07 32 51.0
PECR pmax pmax
comp=Z,5μm,2.4s,mb7.0
PECR MLR MLR
comp=Z,2μm,20.0s
ERZM Erzurum 84.99 310 *i*P **P** **07 21 38.5 +1.0**
EZM Erzurum 84.99 310 P **P** **07 21 38.7 +1.1**
BNGL BINGOL 85.08 309 *i*P **P** **07 21 39.4 +1.3**
SVW2 Sparrevohn 85.16 29 *e*P **P** **07 21 38.9 +1.0**
MARD Mardin 85.26 307 *i*P **P** **07 21 38.9 -0.1**
VRHR Novokhopersk 85.77 321 *e*P **P** **07 21 41.4 +0.3**
VRHR *e**PP pP 07 21 53.0 -11
VRHR *e**SP sP 07 21 58.1 -16
VRHR *e*S S 07 32 07.5 +2.4
VRHR pmax pmax
comp=Z,370nm,0.8s,mb6.4
VRHR pmax pmax
comp=N,60nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.6s
VRHR smax
comp=N,970nm,2.7s
VRHR smax
comp=Z,1μm,10.7s
VRHR smax
comp=E,2μm,9.8s
VRHR MLR MLR
comp=Z,8μm,27.0s
VRHR MLR MLR
comp=N,5μm,30.0s
VRHR MLR MLR
comp=E,8μm,30.0s
PAE Paea 85.86 108 *e*P **P** **07 21 42.6 +0.2**
comp=E,112nm,1.1s,mb5.7
PPT Papeete 85.86 107 *e*P **P** **07 21 42.9 +0.5**
comp=E,59nm,1.4s,mb5.3
PPT Papeete 85.86 107 *e*PP PP 07 25 00.7 -3.5
PPT Papeete 85.86 107 *e*S S 07 32 11.5 +4.7
PPT *e*SS SS 07 37 49.3 +0.3
PPT *e*LR LR 07 49 01.6
comp=E,10μm,25.5s
KBRS Khaybar 85.97 296 P **P** **07 21 44.7 +2.0**
TBI Tubuai 86.10 113 *e*SKSac 07 32 05.6
TBI *e*LR LR 07 49 09.4
comp=E,8μm,29.8s
EZC Erzincan 86.17 310 P **P** **07 21 47.2 +3.8**
TVO Taravao 86.18 108 *e*P **P** **07 21 44.4 +0.5**

comp=E,206nm,1.4s,mb5.9
KDAK Kodiak Island 86.23 32 P **P 07 21 44.3 +1.1**
comp=E,174nm,1.1s,mb5.9,baz=262,slow=4.7,SNR=23
MACK Trabzon 86.27 311 *i*P **P 07 21 45.1 +1.2**
PTK Pertek 86.45 309 P **P 07 21 43.5 -1.2**
GUMT Gumushane 86.47 310 P **P 07 21 47.5 +2.6**
SOC Sochi 86.47 314⇑*i*P **P 07 21 44.6 -0.2**
KELT Kelkit 86.62 310 *i*P **P 07 21 46.2 +0.6**
IMA2 Indian Mountai 86.73 24 *e*P **P 07 21 46.5 +1.0**
ELZG Elazig 86.75 308 *i*P **P 07 21 47.2 +0.9**
URFA Urfa 86.83 307 P **P 07 21 45.8 -0.8**
YNBS Yanbu' al Bahr 87.07 294 P **P 07 21 49.9 +1.8**
MALT Malatya 87.17 308 P **P 07 21 49.6 +1.3**
MALT pmax pmax
comp=Z,390nm,1.5s,mb6.1
MALT Malatya 87.17 308⇑*i*P **P 07 21 49.6 +1.3**
comp=Z,389nm,1.5s,mb6.1
MYA Malataya 87.18 308 P **P 07 21 48.7 +0.4**
ATAB Bozova 87.25 307 *i*P **P 07 21 49.0 +0.3**
VRSR Storozhevoye 87.31 321*c i*P **P 07 21 48.5 -0.1**
VRSR *e* 07 25 17.7
VRSR *e*S S 07 32 22.6 +2.8
VRSR *e*SS SS 07 38 12.5 +3.6
VRSR pmax pmax
comp=Z,10.0nm,1.0s
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,1.1s
VRSR smax
comp=N,10.0nm,1.0s
VRSR smax
comp=Z,1.0nm,0.8s
VRSR smax
comp=E,3.0nm,1.0s
VRSR MLR MLR
comp=Z,830nm,24.0s
VRSR MLR MLR
comp=N,600nm,22.0s
VRSR MLR MLR
comp=E,520nm,21.0s
VOR Voronezh 87.33 322 *e*P **P 07 21 37.5 -11**
VOR *e* 07 32 29.5
VOR pmax pmax
comp=N,430nm,2.3s
VOR pmax pmax
comp=E,720nm,2.3s
VOR pmax pmax
comp=Z,2μm,2.3s,mb6.7
VOR pmax pmax
comp=Z,180nm,2.5s,mb5.6
GRSN GIRESUNGRSN 87.41 311 *i*P **P 07 21 49.0 -0.4**
KMBO Kilima Mbogo 87.46 269 P **P 07 21 53.4 +3.1**
comp=Z,154nm,1.0s,mb5.9,baz=67,slow=6.0,SNR=203
KMBO LR LR 07 59 37.9
comp=Z,7μm,20.0s,baz=89,slow=35
KMBO Kilima Mbogo 87.46 269 P **P 07 21 53.4 +3.1**
KMBO LR LR 07 59 37.9
SLKM Skilak Lake 87.70 30 P **P 07 21 50.5 +0.2**
SLKM Skilak Lake 87.70 30 *e*P **P 07 21 50.4 +0.1**
UMJS Umm Lajj 87.71 295 P **P 07 21 53.3 +2.0**
FIB Fire Island 87.77 29 P **P 07 21 52.7 +2.1**
FIB pmax pmax
comp=Z,33nm,0.7s,mb5.5
FIB Fire Island 87.77 29 *e*P **P 07 21 51.1 +0.5**
comp=Z,33nm,0.7s,mb5.5
KLMR Klimovskoe 87.78 331*c i*P **P 07 21 50.4 -0.3**
KLMR *e* 07 25 19.7
KLMR *e*S S 07 32 09.3 -15
KLMR pmax pmax
comp=Z,790nm,1.8s,mb6.4
KLMR pmax pmax
comp=Z,930nm,9.6s
KLMR smax
comp=E,1μm,4.6s
GZT Gaziantep 87.82 307 *i*P **P 07 21 52.0 +0.5**
QURS Qurayyt al Mil 87.85 301 P **P 07 21 53.5 +1.7**
GAZ Gaziantep 88.10 307 P **P 07 21 54.5 +1.7**
SYO Syowa Base 88.10 201 ⇑P **P 07 21 53.6 +1.6**
SYO Syowa Base 88.10 201 ⇑PcP PcP 07 21 56.5 +2.5
SYO Syowa Base 88.10 201 ⇓*e*pP pP 07 21 58.3 -17
SYO Syowa Base 88.10 201 ⇓*e*sP sP 07 22 00.3 -24
SYO Syowa Base 88.10 201⇑*i*P **P 07 21 53.6 +1.6**
SYO *e* 07 22 00.3
SYO *e*S S 07 32 33.1 +6.3
SYO Syowa Base 88.10 201⇑*i*P **P 07 21 53.6 +1.6**
SYO ⇑*e*PcP PcP 07 21 56.5 +2.5
SYO ⇓*e*pP pP 07 21 58.3 -17
SYO ⇓*e*sP sP 07 22 00.3 -24
SYO *e*S S 07 32 33.1 +6.3
ANN Anapa 88.17 315*c i*P **P 07 21 52.5 -0.4**
ANN *e**PP pP 07 22 03.4 -13
ANN *e* 07 25 19.5
ANN *e* 07 32 16.1
ANN *e*SP SP 07 34 08.4 +35
ANN pmax pmax
comp=Z,805nm,1.2s,mb6.6
ANN Anapa 88.17 315⇑*i*P **P 07 21 52.6 -0.3**
PMR Palmer 88.30 29 *e*P **P 07 21 53.3 +0.2**
PMR pmax pmax
comp=Z,183nm,1.5s,mb5.9
PMR Palmer 88.30 29 *e*P **P 07 21 53.3 +0.2**
comp=Z,183nm,1.5s,mb5.9
SVSK Karacayir 88.34 310 *e*P **P 07 21 55.4 +1.5**
SVST Sivas 88.37 310 *i*P **P 07 21 55.8 +1.7**
TBKS Tabuk 88.45 298 P **P 07 21 56.3 +1.7**
MOS Moscow 88.48 326*α i*P **P 07 21 54.2 +0.1**
MOS *e* 07 22 07.7
MOS *e* 07 25 17.9
MOS *e*S S 07 32 18.2 -12
MOS *e*SS SS 07 38 27.6 +1.7
MOS *e*SSS SSS 07 41 58.6 -1.1
MOS pmax pmax
comp=Z,1μm,2.0s,mb6.6
MOS pmax pmax
comp=Z,4μm,2.5s
MOS Moscow 88.48 326⇑*i*P **P 07 21 54.4 +0.3**
MCK McKinley 88.52 26 *e*P **P 07 21 53.9 -0.2**
comp=Z,9μm,1.2s
FKH Fakeheh 88.69 304 *e*P **P 07 21 57.3 +1.6**
SML Sawmill 88.69 28 P **P 07 21 56.1 +1.1**
SML Sawmill 88.69 28 *e*P **P 07 21 55.5 +0.6**
SML *e*PP PP 07 25 23.4 -3.3
TOKT Tokat 88.70 310 *e*P **P 07 21 55.0 -0.5**
HTY Hatay 88.94 306 *e*P **P 07 21 57.3 +0.6**
COLA College 89.05 25 *e*P **P 07 21 55.5 -1.1**
COLA pmax pmax
comp=Z,37nm,1.1s,mb5.3
COLA College 89.05 25 *e*P **P 07 21 55.5 -1.1**
comp=Z,37nm,1.1s,mb5.3
OBN Obninsk 89.06 325*c i*P **P 07 21 56.9 0.0**
OBN *e* 07 22 09.4
OBN *e* 07 25 27.3
OBN *e*S S 07 32 20.7 -15
OBN pmax pmax
comp=Z,797nm,1.7s,mb6.5
OBN MLR MLR
comp=Z,8μm,29.0s
OBN Obninsk 89.06 325⇑*i*P **P 07 21 56.8 -0.1**
comp=Z,161nm,0.6s,mb6.2
KVT Kavak 89.09 311 *e*P **P 07 21 58.4 +1.0**
KOZT Kozan 89.21 307 *e*P **P 07 21 59.2 +1.2**
CEYT Ceyhan 89.26 307 *e*P **P 07 22 00.0 +1.7**
BHL Bhannes 89.30 304 *e*P **P 07 21 59.9 +1.3**
ILAR Eielson Array 89.45 25 P **P 07 21 57.2 -1.2**
comp=Z,31nm,1.1s,mb5.3,baz=248,slow=3.5,SNR=68
ILAR PKKPbc 07 39 33.0
comp=Z,3.0nm,1.0s,baz=74,slow=1.0,SNR=8.1
AYUS 'Aynunah 89.58 298 P **P 07 22 01.1 +1.1**
JMOS Jabal al Moall 89.73 299 P **P 07 22 02.0 +1.4**
ALWS Ilw as Safayha 89.77 299 P **P 07 22 02.1 +1.3**
HAQS Haql 89.89 299 P **P 07 22 02.8 +1.4**
DIV Divide 89.90 29 *e*P **P 07 22 01.7 +1.0**
comp=Z,660nm,1.3s,mb6.6
TAYS Tayyib Ism 89.93 298 P **P 07 22 02.7 +1.1**
CORM Corum 90.16 310 *e*P **P 07 22 02.9 +0.4**
LVZ Lovozero 90.17 338 *i*P **P 07 22 00.9 -0.9**
LVZ *i*S S 07 32 24.7 -21
LVZ *i*SS SS 07 38 53.6 +3.4
LVZ pmax pmax
comp=E,24nm,1.0s
LVZ pmax pmax
comp=Z,105nm,1.0s,mb5.9
LVZ MLR MLR
comp=Z,6μm,24.0s
LVZ MLR MLR
comp=N,2μm,18.0s
LVZ MLR MLR
comp=E,5μm,26.0s
MERS Mersin 90.25 307 *e*P **P 07 22 04.0 +1.1**
CDAG Cicekdag 90.36 309 *i*P **P 07 22 02.6 -0.8**
SIM Simferopol' 90.53 315*c i*P **P 07 22 04.3 +0.3**
SIM 07 32 33.0
SIM *e*S S 07 32 51.5 +1.9
SIM pmax pmax
comp=Z,110nm,0.8s,mb6.0
TOS Tosya 90.62 311 *e*P **P 07 22 04.2 -0.3**
APA Apatity 90.64 337⇓*i*P **P 07 22 03.0 -1.0**
APA *i* 07 22 19.3
APA *e* 07 25 40.0
APA *e* 07 32 32.0
APA *i*S S 07 32 53.0 +2.9
APA *e*PS PS 07 34 14.0 +1.5
APA pmax pmax
comp=Z,2μm,8.0s
APA pmax pmax
comp=Z,100nm,1.0s,mb5.9
MENT Mentasta 90.86 27 *e*P **P 07 22 05.6 +0.5**
KAMT Kaman 90.87 309 *e*P **P 07 22 06.8 +1.0**
IKL Isikli 90.92 306 *e*P **P 07 22 07.4 +1.3**
BR131 Keskin Array S 90.93 310 *e*P **P 07 22 05.7 -0.4**
comp=Z,22nm,0.9s,mb5.3
BRTR Keskin Array B 90.93 310 P **P 07 22 06.0 -0.1**
comp=Z,9.8nm,0.9s,mb5.0,baz=129,slow=5.9,SNR=27
BRTR PKKPbc 07 39 32.5
comp=Z,1.3nm,0.8s,SNR=5.0
ELDT Eldivan 91.08 310 *i*P **P 07 22 05.7 -1.0**
BALT Daday 91.10 311 *i*P **P 07 22 05.9 -0.9**
CSS Prodhromos 91.22 305 *e*P **P 07 22 07.7 +0.2**
comp=Z,76nm,0.8s,mb5.9
ERMK Ermenek 91.54 306 *i*P **P 07 22 08.5 -0.4**
JOF Joensuu 91.69 333 *e*p **P 07 22 07.2 -1.8**
SGKT Sivrigoynuk 92.12 310 *i*P **P 07 22 10.7 -0.8**
KDHN Kadinhani 92.13 308 *i*P **P 07 22 17.4 +5.8**
PUL Pulkovo 92.36 330 *i*P **P 07 22 05.3 -6.8**
PUL *i*S S 07 33 01.2 -4.1
PUL *i*SS SS 07 39 29.4 +8.0
PUL pmax pmax
comp=Z,70nm,0.6s,mb6.1
PUL MLR MLR
comp=Z,4μm,20.0s
PUL MLR MLR
comp=N,7μm,23.0s
PUL MLR MLR
comp=E,4μm,23.0s
PUL Pulkovo 92.36 330 *i*P **P 07 22 12.7 +0.6**
DAWY Dawson 92.73 26 *e*P **P 07 22 14.8 +1.1**
KEV Kevo 92.82 340 *e*p **P 07 22 12.9 -1.1**
KEV Kevo 92.82 340 P **P 07 22 13.6 -0.4**
KEV pmax pmax
comp=Z,33nm,0.9s,mb5.7
HENT Hendek 92.99 311 *i*P **P 07 22 11.9 -3.6**
ESKT Eskisehir 93.08 309 *e*P **P 07 22 14.6 -1.4**
ARCES ARCESS Array B 93.37 340 P **P 07 22 16.1 -0.5**
comp=Z,54nm,0.9s,mb5.9,baz=83,slow=4.0,SNR=42
ARCES PKKP PKKP 07 39 28.2 +19
comp=Z,4.2nm,1.0s,baz=270,slow=3.6,SNR=5.3
ARCES LR LR 08 10 03.3
comp=Z,7μm,19.6s,baz=90,slow=39
ARCES ARCESS Array B 93.37 340 P **P 07 22 16.1 -0.5**
ARCES PKKP PKKP 07 39 28.2 +19
ARCES LR LR 08 10 03.3
ARCES ARCESS Array S 93.37 340 *e*P **P 07 22 15.4 -1.1**
BORA Eskisehir 93.38 310 *i*P **P 07 22 16.6 -0.7**
ISP Isparta 93.42 308*c i*P **P 07 22 16.8 -0.7**
ISP Isparta 93.42 308⇑*i*P **P 07 22 16.9 -0.6**
AKASG Malin Array Be 93.61 321 P **P 07 22 17.7 -0.3**
comp=Z,27nm,0.7s,mb5.7,baz=74,slow=4.2,SNR=104
AKASG PP PP 07 26 06.8 +0.5
comp=Z,13nm,1.1s,baz=69,slow=7.2,SNR=4.1
AKASG Malin Array Be 93.61 321 P **P 07 22 17.7 -0.3**
AKASG PP PP 07 26 06.8 +0.5
ELL Elmali 93.95 307 *e*P **P 07 22 18.6 -1.3**
KAF Kangasniemi 94.08 332 *e*p **P 07 22 18.0 -1.9**
comp=Z,40nm,0.9s,mb5.8,baz=79,slow=4.2
KAF Kangasniemi 94.08 332 *e*P **P 07 22 18.0 -1.9**
KAF pmax pmax
comp=Z,40nm,0.9s,mb5.8
MNK Minsk 94.13 325⇑*i*P **P 07 22 19.0 -1.3**
MNK *e*S S 07 33 20.0 -0.8
MNK pmax pmax
comp=Z,3μm,2.0s
MNK MLR MLR
comp=Z,5μm,24.0s
KIS Kishinev 94.14 317*α i*P **P 07 22 20.0 -0.5**
KIS 07 26 10.0
KIS *e*S S 07 33 28.0 +6.9
KIS pmax pmax
comp=Z,300nm,2.0s,mb6.3
KIS pmax pmax
comp=Z,500nm,2.0s,mb6.5
KIS pmax pmax
comp=Z,500nm,2.0s,mb6.5
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=E,3μm,20.0s
KIS MLR MLR
comp=Z,300nm,20.0s
KIS MLR MLR
comp=Z,900nm,22.0s
GDZ Gediz 94.17 309 *i*P **P 07 22 18.8 -2.0**
GOLH Golhisar 94.20 307 *i*P **P 07 22 19.4 -1.6**
AKAS Kas 94.22 306 *i*P **P 07 22 13.0 -8.1**
KTK1 Kautokeino 94.26 339 *e*P **P 07 22 20.4 -0.1**
KTK1 AMb AMB 07 22 24.7
comp=Z,149nm,1.6s,mb6.1
KTK1 Kautokeino 94.26 339 *e*P **P 07 22 20.4 -0.1**
comp=Z,149nm,1.6s,mb6.1
FINES FINESS Array B 94.27 332 P **P 07 22 20.2 -0.6**
comp=Z,13nm,0.7s,mb5.4,baz=90,slow=9.5,SNR=33
BJO Bjornoya 94.28 345 AMS AMS 08 07 23.9
comp=Z,3μm,22.1s
VSU Vasula 94.32 329*c e*P **P 07 22 20.8 -0.2**
ULDT Uludag 94.37 310 *i*P **P 07 22 20.8 -1.0**
KBS Kingsbay 94.44 350 *e*P **P 07 22 21.1 -0.1**
KBS *e*PP PP 07 26 09.6 -2.4
KBS *e*SS SS 07 39 55.4 +4.4
KBS AMS AMS 08 04 47.8
comp=Z,1μm,20.2s
KBS Kingsbay 94.44 350 *e*P **P 07 22 21.1 -0.1**
KBS LR LR
comp=Z,1321μm,20.2s
INK Inuvik 94.49 21 P **P 07 22 21.5 -0.2**
comp=Z,140nm,1.2s,mb6.2,baz=283,slow=5.2,SNR=78
INK S 07 32 52.3
comp=Z,4.8nm,1.2s,baz=88,slow=32,SNR=9.3
INK PKKPbc 07 39 20.3
comp=Z,4.0nm,0.7s,baz=88,slow=5.0,SNR=13
INK Inuvik 94.49 21 P **P 07 22 21.5 -0.1**
INK S 07 32 52.3
INK pmax pmax
comp=Z,140nm,1.2s
INK smax
comp=N,5.0nm,1.3s
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 94.49 21 *e*P **P 07 22 21.7 0.0**
comp=Z,0.5nm,0.5s
TIRR Tirgusor 94.62 314 ⇑P **P 07 22 22.5 -0.3**
TIRR Tirgusor 94.62 314 ⇑P **P 07 22 22.6 -0.2**
IDID Didziasalis 94.68 325 *e*P **P 07 22 23.1 +0.4**
IDID AMb AMB 07 22 24.8
comp=Z,2μm,0.9s
IDID *e*sP sP 07 22 35.4 -20
PSN Preselentsi 94.84 314 *i*P **P 07 22 24.3 +0.5**
ELBA Catalca 94.84 311 *i*P **P 07 22 23.2 -0.7**
IZAR Zarasai 94.90 326 *e*P **P 07 22 24.0 +0.1**
IZAR AMb AMB 07 22 28.5
comp=Z,40nm,1.6s,mb5.6
HARR Harsova 94.94 315 ⇓P **P 07 22 24.0 -0.3**
HARR Harsova 94.94 315 ⇓P **P 07 22 24.1 -0.2**
IIGN Ignalina 94.97 325 *e*P **P 07 22 24.5 +0.4**
IIGN AMb AMB 07 22 26.1
comp=Z,2μm,1.0s
IIGN *e*sP sP 07 22 36.3 -20
IAS Iasi 94.98 317 P **P 07 22 25.6 +1.2**
TAOE Nuku Hiva Isla 95.06 99 *e*SKSac 07 32 56.8
TAOE *e*LR LR 07 53 10.1
comp=Z,24μm,22.9s
ARG Arkhangelos 95.41 306 *e*P **P 07 22 22.9 -3.7**
PRD Provadia 95.45 313 P **P 07 22 27.0 +0.4**
TRO Tromso 95.61 340 *e*P **P 07 22 24.6 -2.1**
TRO AMb AMB 07 22 29.5
comp=Z,101nm,1.7s,mb6.0
TRO *e*SKSa 07 32 59.8
TRO *e*SS SS 07 40 13.6 +6.2
TRO AMS AMS 08 07 22.0
comp=Z,3μm,21.6s
TRO Tromso 95.61 340 *e*P **P 07 22 24.6 -2.1**
comp=Z,101nm,1.7s,mb6.0
TRO LR LR
comp=Z,2630μm,21.6s
VRI Vrincioaia 95.68 316 ⇓P **P 07 22 28.3 +0.7**
VRI Vrincioaia 95.68 316 ⇓P **P 07 22 28.3 +0.7**
SART Tekirdag 95.82 311 *i*P **P 07 22 27.1 -1.2**
LSZ Lusaka 96.25 255⇑*i*P **P 07 22 32.2 +1.4**
LSZ *e* 07 26 23.6
LSZ pmax pmax
comp=Z,332nm,1.6s,mb6.5
LSZ Lusaka 96.25 255⇑*i*P **P 07 22 32.2 +1.4**
comp=Z,332nm,1.6s,mb6.5
LSZ *e*PP PP 07 26 23.6 -3.8
MLR Muntele Rosu 96.27 316 P **P 07 22 30.4 +0.1**
comp=Z,34nm,0.8s,mb5.8,baz=36,slow=2.4,SNR=33
MLR S 07 33 05.9
comp=Z,5.5nm,0.8s,baz=214,slow=11,SNR=4.5
MLR Muntele Rosu 96.27 316 ⇑P **P 07 22 29.6 -0.6**
MLR Muntele Rosu 96.27 316 P **P 07 22 30.4 +0.2**
MLR S 07 33 05.9
MLR pmax pmax
comp=Z,34nm,0.8s
MLR smax
comp=N,6.0nm,0.8s
MLR Muntele Rosu 96.27 316 ⇑P **P 07 22 29.6 -0.7**
URLA Izmir 96.47 308 *i*P **P 07 22 29.9 -1.4**
BURAR Bucovina Array 96.52 318 ⇑P **P 07 22 32.3 +0.9**
BURAR Bucovina Array 96.52 318 ⇑P **P 07 22 32.3 +1.0**
PRK Paraskevi 96.64 309 *e*P **P 07 22 31.9 -0.2**
VOIR 96.90 316 ⇑P **P 07 22 33.3 +0.2**
VOIR 96.90 316 ⇑P **P 07 22 33.3 +0.1**
SUW Suwalki 96.90 324⇑*i*P **P 07 22 33.2 +0.2**
comp=N,800nm,1.5s,mb6.9
SUW *e*pP pP 07 22 54.4 -2.2
SUW *e*PP PP 07 26 32.1 +0.4
SUW *e*S S 07 33 48.1 +3.8
SUW MLR MLR 08 03 51.6
comp=N,7μm,31.9s
SUW Suwalki 96.90 324⇑*i*P **P 07 22 33.2 +0.3**
SUW *e* 07 26 32.1
SUW *e*S S 07 33 48.1 +3.8
SUW Suwalki 96.90 324⇑*i*P **P 07 22 33.2 +0.3**
SUW *e*pP pP 07 22 54.4 -2.2
SUW *e*PP PP 07 26 32.1 +0.5
SUW *e*S S 07 33 48.1 +3.8
LVV L'vov 97.02 320 *e*P **P 07 22 33.4 -0.2**
LVV MLR MLR
comp=Z,2μm,21.0s
RDO Rodhopi 97.02 311 *e*P **P 07 22 33.3 -0.5**
NVL N'lazarevskaya 97.25 198 *e*P **P 07 22 33.1 -1.1**
NVL *e**PP pP 07 22 44.4 -13
NVL *e**SP sP 07 22 48.8 -18
MAIT Maitri 97.28 198 *e*P **P 07 22 37.1 +2.8**
MAIT *e*PP PP 07 26 20.0 -14
LIA Limnos Island 97.42 310 *e*P **P 07 22 35.1 -0.6**
RZN Rozhen 97.57 312 *i*P **P 07 22 36.3 0.0**
PGB Panagyurishte 97.88 313 *i*P **P 07 22 37.5 -0.2**
KWP Kalwaria 97.89 320⇑*i*P **P 07 22 38.8 +1.2**
comp=Z,900nm,1.9s,mb7.0
KWP *e*pP pP 07 22 59.5 -1.6
KWP *e*PP PP 07 26 36.8 -2.8
KWP *e*S S 07 34 00.7 +8.0
KWP MLR MLR 08 06 35.8
comp=Z,6μm,27.6s
KWP Kalwaria 97.89 320⇑*i*P **P 07 22 38.8 +1.3**
KWP *e* 07 26 36.8
KWP *e*S S 07 34 00.7 +8.0
KWP Kalwaria 97.89 320⇑*i*P **P 07 22 38.8 +1.3**
KWP *e*pP pP 07 22 59.5 -1.6
KWP *e*PP PP 07 26 36.8 -2.9
KWP *e*S S 07 34 00.7 +8.0
CRAR CRAIOVA 97.92 315 P **P 07 22 39.3 +1.5**
DLBC Dease Lake 98.09 31 P **P 07 22 39.3 +1.1**
comp=Z,4.2nm,0.6s,mb5.2,baz=310,slow=2.4,SNR=9.4
IDI Anoyia 98.11 305 P **P 07 22 38.7 -0.2**
comp=Z,7.9nm,0.7s,mb5.4,baz=142,slow=5.0,SNR=3.4
LBTB Lobatse 98.20 245 *e*P **P 07 22 39.1 -0.4**
LBTB pmax pmax
comp=Z,37nm,1.5s,mb5.7
LBTB Lobatse 98.20 245 *e*P **P 07 22 39.1 -0.4**
comp=Z,37nm,1.5s,mb5.7
MOR8 Moi Rana 98.23 337 *e*P **P 07 22 39.0 +0.3**
NVR Nevrokopi 98.25 312 *e*P **P 07 22 38.7 -0.7**
KOLS Kolonicke sedl 98.28 319 *e*P **P 07 22 39.6 +0.3**
KOLS *e* 07 26 02.3
UZH Uzhgorod 98.32 319 *e*P **P 07 22 40.0 +0.5**
UZH *e*S 07 33 15.0
UZH MLR MLR
comp=Z,4μm,20.0s
MMB Musomiste 98.32 312 *i*P **P 07 22 38.0 -1.7**
WAR Warsaw 98.49 323 *e*P **P 07 22 42.8 +2.6**
WAR *e*SKS SKS 07 33 28.0 +19
WAR MLR MLR 08 07 11.8
comp=Z,10μm,27.5s
WAR Warsaw 98.49 323 *e*P **P 07 22 42.8 +2.6**
WAR MLR MLR
comp=Z,10μm,27.5s
WAR Warsaw 98.49 323 *e*P **P 07 22 42.8 +2.6**
WAR *e*SKS SKS 07 33 28.0 +19
WAR LR LR
comp=Z,10μm,27.5s
VTS Vitosha 98.58 313 *i*P **P 07 22 40.5 -0.3**
VAM Vamos 98.66 306 *e*P **P 07 22 41.8 +0.4**
PLG Polygyros 98.69 311 *e*P **P 07 22 40.2 -1.2**
KKB Krupnik 98.76 312 *i*P **P 07 22 41.3 -0.4**
CRVS Cervenica-Dubn 98.82 319 *i*P **P 07 22 43.1 +1.3**
CRVS *e* 07 22 46.1
CRVS *e* 07 25 46.5
CRVS *e*PP PP 07 26 47.6 +1.3
CRVS Cervenica-Dubn 98.82 319 *i*P **P 07 22 43.1 +1.3**
CRVS *e* 07 26 47.6
STHS Stebnicka Huta 98.87 320 *i*P **P 07 22 43.4 +1.4**
STHS *e* 07 22 47.3
STHS *e*PP PP 07 26 45.3 -1.3
STHS Stebnicka Huta 98.87 320 *i*P **P 07 22 43.4 +1.4**
STHS *e* 07 26 45.3
NEO Neokhori 98.99 310 *e*P **P 07 22 41.1 -1.7**
LKR Lokris 99.25 309 *e*P **P 07 22 42.0 -2.0**
BZS Buzias 99.26 316 ⇑P **P 07 22 43.6 -0.3**
BZS Buzias 99.26 316 ⇑P **P 07 22 43.6 -0.3**
BOLS Boljevac 99.30 314⇓*i*P **P 07 22 43.5 -0.6**
RKT Rikitea 99.43 113 *e*PP PP 07 26 54.4 +2.8
RKT Rikitea 99.43 113 *e*PS PS 07 35 48.1 -1.1
RKT Rikitea 99.43 113 *e*SKSac 07 33 20.4
RKT *e*SS SS 07 41 07.2 +5.3
RKT *e*LR LR 07 55 14.7
comp=Z,4μm,36.5s
NIE Niedzica 99.47 320 *e*P **P 07 22 46.1 +1.4**
NIE *e*PP PP 07 26 48.7 -2.6
KECS Kecovo 99.53 319 *i*P **P 07 22 45.8 +0.8**
KECS *e* 07 22 49.1
KECS *e*PP PP 07 26 49.9 -1.9
KECS Kecovo 99.53 319 *i*P **P 07 22 45.8 +0.8**
KECS *e* 07 26 49.9
VLI Veliai 99.53 307 *e*P **P 07 22 43.1 -2.2**
OJC Ojcow 99.64 321 *e*P **P 07 22 46.1 +0.6**
OJC *e*PP PP 07 26 42.5 -10
OJC *e*S S 07 34 12.5 +5.1
OJC MLR MLR 08 14 44.3
comp=Z,5μm,21.8s
OJC Ojcow 99.64 321 *e*P **P 07 22 46.1 +0.6**
OJC *e*S S 07 34 12.5 +5.1
SVIS Svilajnac 99.75 315⇓*i*P **P 07 22 46.7 +0.6**
NSS Namsos 99.77 336 AMS AMS 08 14 07.0
comp=Z,7μm,19.0s
KZN Kozani 99.96 311 *e*P **P 07 22 45.9 -1.3**
PSZ Piszkesteto 100.02 319⇑*e*P P 07 22 47.5 +0.2
PSZ Piszkesteto 100.02 319 P P 07 22 48.2 +0.9
PSZ pmax pmax
comp=Z,840nm,2.4s

EVR	**Evrytania**	**100.13**	**309**	*e*P		P	07 22 46.0	-2.0
GRUS	**Gruza**	**100.18**	**315**	*e*P		P	07 22 47.9	-0.2
BEO	**Belgrade**	**100.20**	**316**	⇓*i*P		P	07 22 48.2	+0.1
ITM	**Ithomi**	**100.28**	**308**	*e*P		P	07 22 48.1	-0.6
LIKS	**Likavka**	**100.31**	**320**	*e*P		P	07 22 53.0	+4.5
HFS	**Hagfors**	**100.48**	**332**	P		P	07 22 48.5	-0.5
	comp=Z,60nm,1.1s,baz=90,slow=5.9,SNR=22							
RLS	**Riolos of Patr**	**100.52**	**309**	*e*P		P	07 22 49.1	-0.6
VYHS	**Vyhne**	**100.60**	**319**	*i* P		P	07 22 50.1	+0.2
VYHS				*e*			07 25 48.9	
VYHS				*e*PP		PP	07 26 57.8	-2.6
VYHS	**Vyhne**	**100.60**	**319**	*i* P		P	07 22 50.1	+0.2
VYHS				*e*			07 26 57.8	
DIVS	**Divcibare**	**100.66**	**315**	*e*P		P	07 22 50.5	+0.3
RAC	**Raciborz**	**100.67**	**321**	*e*P		P	07 22 51.7	+1.6
RAC				MLR		MLR	08 15 11.6	
	comp=Z,4μm,20.4s							
JAN	**Janina**	**100.76**	**310**	*e*P		P	07 22 50.0	-0.8
OKC	**Ostrava-Krasne**	**100.76**	**321**	*e*PDIF		P	07 22 51.1	+0.6
OKC				*e*pP			07 22 59.7	
OKC				AMS		AMS	08 15 10.0	
	comp=Z,4μm,20.8s							
OKC	**Ostrava-Krasne**	**100.76**	**321**	*e*P		P	07 22 51.1	+0.6
OKC				MLR		MLR		
	comp=Z,4μm,20.8s							
DAG	**Danmarks Havn**	**100.80**	**352**	⇓*i*P		P	07 22 49.9	-0.3
	comp=Z,25nm,0.8s							
DAG	**Danmarks Havn**	**100.80**	**352**	⇓*e*P		P	07 22 49.9	-0.3
DAG				pmax		pmax		
	comp=Z,25nm,0.8s							
DAG	**Danmarks Havn**	**100.80**	**352**	⇓*e*P		P	07 22 49.9	-0.3
	comp=Z,25nm,0.8s							
SNAA	**Sanae**	**100.97**	**195**	P		P	07 22 51.5	+0.5
	comp=Z,8.5nm,1.1s,baz=131,slow=4.1,SNR=16							
SNAA				PP		PP	07 27 01.2	-1.6
	comp=Z,5.5nm,1.1s,baz=118,slow=7.1,SNR=3.6							
SNAA				S			07 33 27.5	
	comp=Z,0.6nm,1.0s,baz=51,slow=20,SNR=9.7							
SNAA				PKKPbc			07 39 03.1	
	comp=Z,0.9nm,0.7s,baz=11,slow=3.1,SNR=6.1							
SNAA	**Sanae**	**100.97**	**195**	P		P	07 22 51.5	+0.5
SNAA							07 27 01.2	
SNAA				S			07 33 27.5	
SNAA				pmax		pmax		
	comp=Z,9.0nm,1.1s							
SNAA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
SNAA				smax				
	comp=N,1.0nm,1.0s							
SNAA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SNAA	**Sanae**	**100.97**	**195**	*e*Pdif		P	07 22 52.5	+1.5
	comp=Z,33nm,1.3s							
SRO	**Srobarova**	**101.09**	**319**	*e*P		P	07 22 55.2	+3.2
BBLS	**Bajina Basta -**	**101.11**	**315**	*e*P		P	07 22 49.5	-2.8
MORC	**Moravsky Berou**	**101.15**	**321**	P		P	07 22 53.3	+1.0
MORC				pmax		pmax		
	comp=Z,310nm,2.1s							
MORC	**Moravsky Berou**	**101.15**	**321**	*e*Pdif		P	07 22 53.2	+0.9
	comp=Z,312nm,2.1s							
VLS	**Valsamata**	**101.19**	**309**	*e*P		P	07 22 50.7	-2.0
PKSM	**Moragy**	**101.20**	**317**	P		P	07 22 53.5	+0.9
NB2	**NORSAR Subarra**	**101.33**	**333**	P		P	07 22 51.7	-1.1
	comp=Z,47nm,1.1s,baz=72,slow=4.5							
NB2	**NORSAR Subarra**	**101.33**	**333**	P		P	07 22 51.7	-1.1
	baz=72,slow=4.6							
NB2	**NORSAR Subarra**	**101.33**	**333**	P		P	07 22 51.7	-1.1
NB2				pmax		pmax		
	comp=Z,47nm,1.1s							
NOA	**NORSAR Array B**	**101.33**	**333**	P		P	07 22 52.0	-0.8
	comp=Z,22nm,1.0s,baz=70,slow=4.5,SNR=28							
NOA				PP		PP	07 27 02.9	-2.7
	comp=Z,8.2nm,1.0s,baz=72,slow=7.3,SNR=3.3							
BSD	**Bornholm Skovb**	**101.35**	**327**	⇑*i*P		P	07 22 53.4	+0.4
	comp=Z,79nm,1.2s							
BSD				*i*			07 26 59.7	
BSD				*i* S			07 33 31.9	
BSD				*e*			07 36 02.6	
	comp=Z,2μm,20.0s							
BSD	**Bornholm Skovb**	**101.35**	**327**	⇑*i*P		P	07 22 53.4	+0.4
BSD				*i*			07 26 59.7	
BSD				*i* S			07 33 31.9	
BSD				*e*			07 36 02.6	
BSD				pmax		pmax		
	comp=Z,79nm,1.2s							
BSD				MLR		MLR		
	comp=Z,2μm,20.0s							
NAO01	**NORSAR Array S**	**101.55**	**333**	*e*Pdif		P	07 22 52.7	-1.0
	comp=Z,23nm,1.0s							
RHK1	**Bakonya**	**101.61**	**317**	⇑*i*P		P	07 22 57.8	+3.4
KSP	**Ksiaz**	**101.68**	**322**	⇑*e*P		P	07 22 55.8	+1.2
	comp=Z,600nm,2.5s							
KSP				*e*SKS		SKS	07 33 35.8	+11
KSP				*e*SP		SP	07 36 18.8	+18
KSP				*e*PS		PS	07 36 20.2	+8.2
KSP				MLR		MLR	08 10 46.5	
	comp=Z,10μm,26.6s							
KSP	**Ksiaz**	**101.68**	**322**	⇑*e*P		P	07 22 55.5	+0.9
KSP				*e*S		S	07 34 24.5	0.0
KSP				*e*SP		SP	07 36 06.0	+4.8
KSP				MLR		MLR		
	comp=Z,12μm,26.6s							
KSP	**Ksiaz**	**101.68**	**322**	⇑*e*P		P	07 22 55.5	+0.9
KSP				*e*pP			07 23 06.4	
KSP				*e*PP		PP	07 26 56.5	-12
KSP				*e*S		S	07 34 24.5	0.0
KSP				*e*SP		SP	07 36 06.0	+4.8
KSP				*e*SKKP			07 42 18.0	
KSP				*e*SSS		SSS	07 45 35.0	+8.8
KSP				LR		LR		
	comp=Z,12μm,26.6s							
DPC	**Dobruska-Polom**	**101.78**	**322**	*e*PDIF		P	07 22 56.3	+1.2
DPC				*ex*		x	07 23 07.5	
DPC				*e*PS		PS	07 36 15.0	+2.0
DPC				AMS		AMS	08 10 30.0	
	comp=Z,6μm,25.7s							
DPC	**Dobruska-Polom**	**101.78**	**322**	*e*P		P	07 22 56.3	+1.2
DPC				*e*			07 36 15.0	
DPC				MLR		MLR		
	comp=Z,6μm,25.7s							
ZST	**Bratislava**	**101.80**	**319**	*e*P		P	07 22 55.5	+0.3
ZST				*e*PP		PP	07 27 14.4	+5.3
VRAC	**Vranov**	**101.86**	**321**	P		P	07 22 56.7	+1.3
	comp=Z,16nm,1.0s,baz=100,slow=4.2,SNR=25							
VRAC	**Vranov**	**101.86**	**321**	P		P	07 22 56.7	+1.3
VRAC				pmax		pmax		
	comp=Z,16nm,1.0s							
VRAC	**Vranov**	**101.86**	**321**	⇓P		P	07 22 56.5	+1.0
UPC	**Upice**	**101.94**	**322**	*e*PDIF		P	07 22 56.6	+0.9
UPC				*ex*		x	07 23 08.8	
RES	**Resolute Bay**	**101.97**	**10**	P		P	07 22 56.3	+1.0
RES				pmax		pmax		
	comp=Z,110nm,1.7s							
RES	**Resolute Bay**	**101.97**	**10**	*e*Pdif		P	07 22 56.0	+0.6
	comp=Z,111nm,1.7s							
MOL	**Molde**	**102.35**	**335**	*e*P		Pdif	07 23 04.0	+6.7
COP	**Copenhagen**	**102.53**	**328**	*i* P		Pdif	07 22 58.8	+0.6
COP				*i*			07 27 10.9	
COP				*i* S			07 33 43.6	
COP				*i*			07 37 19.9	
COP				*e*			07 42 10.9	
	comp=Z,1μm,20.0s							
COP	**Copenhagen**	**102.53**	**328**	*i* P		Pdif	07 22 58.8	+0.6
COP				*i*			07 27 10.9	
COP				MLR		MLR		
	comp=Z,1μm,20.0s							
TREC	**Trest**	**102.57**	**321**	*e*PDIF		Pdif	07 22 59.3	+0.7
TREC				AMS		AMS	08 06 40.0	
	comp=Z,5μm,23.5s							
KONO	**Kongsberg**	**102.58**	**332**	*e*P		Pdif	07 22 58.6	+0.3
KONO				*e*PP		PP	07 27 11.0	-3.9
RUE	**Ruedersdorf**	**102.75**	**324**	*e*Pdif		Pdif	07 23 00.7	+1.4
	comp=Z,110nm,1.1s							
PVCC	**Panska Ves**	**102.82**	**322**	*e*PDIF		Pdif	07 23 00.7	+1.1
PVCC				AMS		AMS	08 11 20.0	
	comp=Z,6μm,28.1s							
PRU	**Pruhonice**	**102.98**	**322**	*e*PDIF		Pdif	07 23 01.3	+0.9
PRU				*e*pP			07 23 13.8	
PRU				*e*SKS		SKS	07 33 38.8	+8.0
PRU				*ex*		x	07 36 38.5	
PRU				AMS		AMS	08 11 20.0	
	comp=Z,5μm,24.7s							
PRU	**Pruhonice**	**102.98**	**322**	*e*P		Pdif	07 23 01.3	+0.9
PRU				*e*			07 33 38.8	
PRU				MLR		MLR		
	comp=Z,5μm,24.7s							
PRA	**Prague**	**103.03**	**322**	PDIF		Pdif	07 23 02.0	+1.4
ARSA	**Arzberg**	**103.06**	**319**	⇑*i*P		Pdif	07 23 01.3	+0.6
	comp=Z,276nm,2.9s,SNR=8.9							
BRG	**Berggiesshubel**	**103.11**	**323**	*i* P		Pdif	07 23 01.9	+1.0
BRG							07 33 41.0	
BRG				S		S	07 34 31.0	-5.4
BRG				PS		PS	07 36 25.0	-2.3
BRG				pmax		pmax		
	comp=Z,62nm,1.4s							
BRG				MLR		MLR		
	comp=N,9μm,28.2s							
BRG				MLR		MLR		
	comp=E,3μm,27.0s							
BRG				MLR		MLR		
	comp=Z,5μm,20.5s							
BRG	**Berggiesshubel**	**103.11**	**323**	*i* P		Pdif	07 23 01.9	+1.0
	comp=Z,62nm,1.4s							
BRG				*i*			07 23 04.1	
BRG				PP		PP	07 26 57.0	-22
BRG				SKS		SKS	07 33 41.0	+10
BRG				S		S	07 34 31.0	-5.4
BRG				PS		PS	07 36 25.0	-2.3
BRG				SS		SS	07 42 20.0	+27
BRG				LR		LR		
	comp=Z,5μm,20.5s							
JMIC	**Jan Mayen**	**103.12**	**346**	*e*PP		PP	07 27 14.9	-4.0
JMIC				AMS		AMS	08 09 39.5	
	comp=Z,3μm,24.8s							
CRES	**Cresnjev**	**103.45**	**317**	*e*Pdiff		Pdif	07 23 03.3	+0.8
PERS	**Pernice**	**103.48**	**318**	*e*Pdiff		Pdif	07 23 03.1	+0.5
PERS				*e*			07 33 43.2	
PERS				*e*			07 34 45.0	
PERS				*e*			07 37 00.4	
PERS				*e*			07 37 42.1	
PERS				*e*			07 42 46.6	
CLL	**Collm**	**103.55**	**323**	⇑*i*PDIF		Pdif	07 23 02.8	0.0
CLL				*e*			07 23 25.0	
CLL				*e*			07 26 10.0	
CLL				*i*			07 27 06.2	
CLL				*i* PP		PP	07 27 21.6	-0.7
CLL				*i* *PPP			07 27 41.2	
CLL				*e*PPP		PPP	07 29 36.0	-0.3
CLL				*e*			07 33 43.0	
CLL				*e*			07 34 44.0	
CLL				*e*PS		PS	07 36 36.0	+4.3
CLL				*e*PPS		PPS	07 37 23.0	-3.3
CLL				*i* PKKP		PKKP	07 39 20.1	+29
CLL				*e*SSS			07 42 37.0	
CLL				*e*SSS		SSS	07 46 20.0	+25
CLL				*e*			07 50 49.0	
CLL	**Collm**	**103.55**	**323**	P		Pdif	07 23 43.7	+41
	comp=Z,logA/T=1.3							
CLL	**Collm**	**103.55**	**323**	*i* P		Pdif	07 23 02.8	0.0
CLL				*i*			07 27 21.6	
CLL				*e*			07 33 43.0	
CLL				*e*S		S	07 34 44.0	+3.9
CLL				pmax		pmax		
	comp=Z,261nm,2.4s							
CLL	**Collm**	**103.55**	**323**	*i* Pdif		Pdif	07 23 02.8	0.0
	comp=Z,261nm,2.4s							
CLL				*e*pP			07 23 25.0	
CLL				*i* PP		PP	07 27 21.6	-0.7
CLL				*e*SKS		SKS	07 33 43.0	+10
CLL				*e*Sdif			07 34 44.0	
CLL				*i* PKKP		PKKP	07 39 20.1	+29
BOJS	**Bojanci**	**103.66**	**317**	*e*Pdiff		Pdif	07 23 04.3	+0.8
BOJS				*e*			07 26 18.6	
BOJS				*e*PP		PP	07 27 20.2	-3.1
BOJS				*e*			07 29 41.8	
BOJS				*e*			07 30 13.3	
MOA	**Molln**	**103.73**	**319**	⇑*i*P		Pdif	07 23 04.5	+0.8
	comp=Z,282nm,2.8s,SNR=11							
YKW3	**Yellowknife Ar**	**103.81**	**24**	*e*Pdif		Pdif	07 23 03.9	+0.2
KHC	**Kasperske Hory**	**103.82**	**321**	*e*PDIF		Pdif	07 23 04.9	+0.8
KHC				*ex*		x	07 27 14.1	
KHC				*e*SKS		SKS	07 33 41.6	+7.0
KHC				AMS		AMS	08 12 00.0	
	comp=Z,5μm,22.2s							
KHC	**Kasperske Hory**	**103.82**	**321**	*e*P		Pdif	07 23 04.9	+0.8
KHC				*e*			07 33 41.6	
KHC				MLR		MLR		
	comp=Z,5μm,22.2s							
GEC2	**GERESS Array S**	**103.82**	**321**	*e*P		Pdif	07 23 04.9	+0.8
GEC2				*e*			07 27 26.0	
GERES	**GERESS Array B**	**103.82**	**321**	Pdiff		Pdif	07 23 04.7	+0.7
	comp=Z,10nm,1.0s,baz=76,slow=4.0,SNR=21							
GERES				PP		PP	07 27 21.7	-2.6
	comp=Z,7.9nm,0.9s,baz=76,slow=5.5,SNR=4.7							
GERES				PKKPbc			07 38 55.3	
	comp=Z,0.9nm,0.7s,baz=243,slow=3.0,SNR=4.8							
GERES				PKPPKP			07 47 17.9	
	comp=Z,0.5nm,0.8s,baz=225,slow=1.9,SNR=5.5							
YKA	**Yellowknife Ar**	**103.85**	**24**	Pdiff		Pdif	07 23 04.1	+0.3
	comp=Z,3.0nm,0.7s,baz=294,slow=4.5,SNR=23							
YKA				PKiKP			07 27 21.6	
	comp=Z,2.6nm,0.6s,baz=305,slow=1.8,SNR=9.6							
YKA				PKKPbc			07 38 55.4	
	comp=Z,2.2nm,0.8s,baz=114,slow=2.9,SNR=14							
YKA	**Yellowknife Ar**	**103.85**	**24**	Pdif		Pdif	07 23 04.1	+0.3
TIP	**Timpagrande**	**103.96**	**310**	*e*Pdif		Pdif	07 23 04.7	-0.2
MUD	**Monsted U'grnd**	**103.98**	**329**	*i* P		Pdif	07 23 05.3	+0.7
	comp=Z,37nm,1.2s							
MUD				*i*			07 27 27.0	
MUD				*e*			07 36 33.0	
MUD				*i*			07 42 34.8	
	comp=Z,4μm,18.0s							
MUD	**Monsted U'grnd**	**103.98**	**329**	*e*P		Pdif	07 23 05.3	+0.7
MUD				*i*			07 27 27.0	
MUD				*e*			07 36 33.0	
MUD				pmax		pmax		
	comp=Z,37nm,1.2s							
MUD				MLR		MLR		
	comp=Z,4μm,18.0s							
MUD	**Monsted U'grnd**	**103.98**	**329**	*e*P		Pdif	07 23 05.3	+0.7
	comp=Z,37nm,1.2s							
MUD				*i*			07 27 27.0	
MUD				*e*			07 36 33.0	
MUD				*i*			07 42 34.8	
LJU	**Ljubljana**	**104.02**	**318**	*e*Pdiff		Pdif	07 23 05.8	+0.8
LJU				*e*PP		PP	07 27 22.9	-2.9
LJU				*e*			07 30 30.5	
NKC	**Novy Kostel**	**104.21**	**322**	*e*PDIF		Pdif	07 23 07.1	+1.4
NKC				*e*PP		PP	07 27 26.5	-0.7
NKC				AMS		AMS	08 19 30.0	
	comp=Z,6μm,19.9s							
BER	**Bergen**	**104.24**	**333**	*e*P		Pdif	07 23 06.8	+1.2
BER				*e*PP		PP	07 27 23.9	-3.3
BER				AMS		AMS	08 14 08.5	
	comp=Z,6μm,22.7s							
BER	**Bergen**	**104.24**	**333**	*e*P		Pdif	07 23 06.8	+1.2
BER				LR		LR		
	comp=Z,5889μm,22.7s							
WET	**Wettzell**	**104.26**	**321**	*e*P		Pdif	07 23 07.1	+1.1
WET				*e*			07 27 30.0	
BSEG	**Bad Segeberg**	**104.27**	**326**	*e*P		Pdif	07 23 07.2	+1.3
BSEG				*e*			07 27 28.5	
MOX	**Moxa**	**104.59**	**323**	*i* P		Pdif	07 23 08.4	+1.0
	comp=Z,logA/T=1.9							
MOX				PP		PP	07 27 31.0	+0.8
MOX				PS		PS	07 37 00.0	+18
MOX				RM			08 14 34.0	
MOX				QM			08 16 46.0	
MOX	**Moxa**	**104.59**	**323**	*e*P		Pdif	07 23 08.4	+1.0
MOX				pmax		pmax		
	comp=Z,189nm,2.2s							
MOX				MLR		MLR		
	comp=Z,4μm,22.0s							
MOX	**Moxa**	**104.59**	**323**	*e*P		Pdif	07 23 08.4	+1.0
	comp=Z,189nm,2.2s							
MOX				LR		LR		
	comp=Z,4μm,22.0s							
CLZ	**Clausthal**	**104.94**	**324**	*e*P		Pdif	07 23 10.3	+1.4
CLZ				*e*			07 27 33.7	
GRA1	**Grafenberg Arr**	**105.12**	**322**	*e*Pdif		Pdif	07 23 11.1	+1.3
GRA1				*e*PP		PP	07 27 35.2	+0.8
GRA1				*e*SKSac			07 33 52.1	
GRA1				*e*Sdif			07 35 02.8	
GRA1				*e*SP		SP	07 36 53.2	+16
GRA1				*e*PKKPab			07 39 02.0	
GRA1				*e*SS		SS	07 42 58.9	+39
GRA1				LR		LR		
	comp=Z,5μm,21.4s							
GRF	**Grafenberg Arr**	**105.12**	**322**	*e*P		Pdif	07 23 11.1	+1.3
GRF				*e*			07 27 35.2	
GRF				*e*			07 33 52.1	
GRF				*e*S			07 35 02.8	
GRF	**Grafenberg Arr**	**105.12**	**322**	*e*Pdif		Pdif	07 23 11.1	+1.3
GRF				*e*PP		PP	07 27 35.2	+0.8
GRF				*e*SKS		SKS	07 33 52.1	+12
GRF				Sdif			07 35 02.8	
GRF				*e*SP		SP	07 36 53.2	+16
GRF				PKKPab			07 39 02.0	
GRF				*e*SS		SS	07 42 58.9	+39
GRF				LR		LR		
	comp=Z,5μm,21.4s							
FUR	**Furstenfeldbru**	**105.56**	**320**	*e*P		Pdif	07 23 12.5	+0.7
WTTA	**Wattenberg**	**105.60**	**319**	⇑*i*P		Pdif	07 23 12.5	+0.6
	comp=Z,316nm,2.7s,SNR=10							
SQTA	**Sankt Quirin**	**105.89**	**319**	⇑*i*P		Pdif	07 23 13.9	+0.6
	comp=Z,99nm,2.0s							
MOTA	**Moosalm**	**105.92**	**320**	⇑*i*P		Pdif	07 23 14.0	+0.6
	comp=Z,67nm,1.9s							
TOD	**Tromm**	**106.64**	**322**	*e*P			07 27 27.8	
TNS	**Taunus Mts**	**106.64**	**323**	*e*P		Pdif	07 23 17.8	+1.4
TNS				*e*			07 27 44.5	
DAVA	**Damuels**	**106.73**	**320**	⇑*i*P		Pdif	07 23 17.6	+0.7
	comp=Z,199nm,2.8s							
DAVOX	**Davos**	**106.89**	**319**	Pdiff		Pdif	07 23 19.0	+1.3
	comp=Z,13nm,0.9s,baz=52,slow=3.3,SNR=14							
DAVOX				PP		PP	07 27 45.6	-2.1
	comp=Z,6.4nm,0.8s,baz=30,slow=15,SNR=5.3							
WTSB	**Winterswijk**	**106.96**	**325**	*e*PKP		PP	07 27 45.6	-2.6
BFO	**Black Forest**	**107.37**	**321**	*e*P		Pdif	07 23 20.3	+0.6
BFO				*e*			07 27 51.4	
LANF	**Langenberg**	**107.47**	**322**	*e*P			07 27 30.7	
HGN	**Heimansgroeve**	**107.93**	**324**	*e*PKP		PP	07 27 55.5	+0.5
	comp=Z,73nm,2.0s							
WLS	**Welschbruch**	**107.95**	**322**	*e*P			07 27 31.9	
CDF	**Champ du Feu**	**108.00**	**322**	*e*P		Pdif	07 23 23.4	+0.9
	comp=Z,149nm,1.9s							
HINF	**Hinteralfeld**	**108.48**	**321**	*e*P		Pdif	07 23 25.3	+0.7
	comp=Z,108nm,1.9s							
NEW	**Newport**	**108.51**	**38**	Pdiff		Pdif	07 23 25.5	+0.8
	comp=Z,2.9nm,0.9s,baz=201,slow=4.1,SNR=3.1							
NEW				PP		PP	07 27 50.3	-9.3
	comp=Z,2.7nm,0.8s,baz=259,slow=7.0,SNR=3.3							
NEW	**Newport**	**108.51**	**38**	P		Pdif	07 23 25.5	+0.8
NEW				pmax		pmax		
	comp=Z,3.0nm,0.9s							
NEW				pmax		pmax		
	comp=Z,3.0nm,0.9s							
NEW	**Newport**	**108.51**	**38**	Pdif		Pdif	07 23 25.5	+0.8
NEW				PP		PP	07 27 50.3	-9.3
EDM	**Edmonton**	**108.68**	**33**	*e*PKiKP			07 27 31.4	
HAU	**Haudompre**	**108.73**	**321**	*e*P		Pdif	07 23 26.6	+0.9
	comp=Z,99nm,1.7s							
HAU				*e*R				
	comp=Z,3μm,21.0s							
GIVF	**Givet**	**108.84**	**324**	*e*P		Pdif	07 23 27.9	+1.8
THEF	**They Montfort**	**108.87**	**322**	*e*P			07 27 33.0	
BAIF	**Baives**	**109.22**	**324**	*e*P		Pdif	07 23 29.4	+1.6
MEZF	**Maizieres J'vi**	**109.34**	**322**	*e*P		Pdif	07 23 29.8	+1.4
SAOF	**Saorge**	**109.35**	**317**	*e*P			07 27 34.4	
LPG	**La Plagne**	**109.37**	**319**	*e*P		Pdif	07 23 30.1	+1.5
	comp=Z,71nm,1.5s							
LPL	**La Plagne**	**109.38**	**319**	*e*P		Pdif	07 23 30.0	+1.4
	comp=Z,60nm,1.4s							
CABF	**La Chapelle**	**109.40**	**320**	*e*P		Pdif	07 23 29.3	+0.6
	comp=Z,140nm,1.9s							
AUTN	**L'Aution**	**109.44**	**317**	*e*P			07 27 33.9	
TOUF	**Mont Tournerai**	**109.55**	**317**	*e*P			07 27 34.8	
BNI	**Bardonecchia**	**109.58**	**318**	*e*P		Pdif	07 23 30.3	+0.8
MBDF	**Montbardon**	**109.63**	**318**	*e*P		Pdif	07 23 31.6	+1.9
SURF	**Saint Ours**	**109.69**	**318**	*e*P			07 27 35.2	
FRF	**La Foret Royal**	**110.11**	**317**	*e*P		Pdif	07 23 32.9	+1.0
ORIF	**Oris-en-Rattie**	**110.15**	**318**	*e*P		Pdif	07 23 33.2	+1.2
ORIF				*e*R				
	comp=Z,7μm,23.0s							
LOR	**Lormes**	**110.56**	**321**	*e*P		Pdif	07 23 34.8	+1.0
	comp=Z,113nm,1.9s							
LOR				*e*R				
	comp=Z,4μm,20.8s							
EKA	**Eskdalemuir Ar**	**110.67**	**331**	PP		PP	07 28 12.2	-2.9
	comp=Z,11nm,1.0s,baz=59,slow=4.9,SNR=4.5							
EKA				PKKPbc			07 38 34.4	
	comp=Z,2.9nm,0.7s,baz=243,slow=3.4,SNR=5.9							
SMRF	**Simiane la Rot**	**110.70**	**318**	*e*P		Pdif	07 23 35.7	+1.2
PUYF	**Puyloubier**	**110.77**	**317**	*e*P		PKPdf	07 27 39.5	+6.3
SMF	**Signal de Mont**	**110.82**	**321**	*e*P		Pdif	07 23 36.1	+1.2
SSF	**Saint Saulge**	**110.87**	**321**	*e*P		Pdif	07 23 36.3	+1.2
	comp=Z,27nm,1.3s							
VIVF	**Saint-Julien-l**	**110.97**	**319**	*e*P		Pdif	07 23 36.7	+1.0
	comp=Z,97nm,1.8s							
NVAR	**Mina Array Bea**	**110.98**	**49**	Pdiff		Pdif	07 23 39.0	+3.2
	comp=Z,0.7nm,0.7s,baz=262,slow=3.5,SNR=6.0							
NVAR				PKiKP			07 27 36.0	
	comp=Z,2.9nm,0.8s,baz=196,slow=0.8,SNR=10							
NVAR				PP		PP	07 28 13.4	-4.3
	comp=Z,2.6nm,0.7s,baz=264,slow=4.9,SNR=8.1							
NVAR				PKKPbc			07 38 34.8	
	comp=Z,1.1nm,0.8s,baz=122,slow=3.9,SNR=4.8							
NVAR				PKKPab			07 38 44.5	
	comp=Z,3.2nm,0.8s,baz=116,slow=6.3,SNR=10							
GELF	**Grande-Etoile**	**111.01**	**317**	*e*P		PKPdf	07 27 39.7	+6.0
MSO	**Missoula**	**111.05**	**39**	*e*PKiKP			07 27 36.2	
AVF	**Avril sur Loir**	**111.07**	**321**	*e*P		Pdif	07 23 37.0	+1.0
MNV	**Mina**	**111.09**	**49**	PKiKP		PKPdf	07 27 38.3	+4.4
MNV	**Mina**	**111.09**	**49**	*e*PKiKP			07 27 37.5	

ARUT	**Antelope Range**	**114.82**	**48**	PKIKP	PKPdf	07 27 48.1	+6.8	
ARUT	**Antelope Range**	**114.82**	**48**	PKiKP		07 27 45.9		
EBIE	**Bielsa**	**114.85**	**318**	PKP	PKPdf	07 27 46.3	+5.0	
EGRA	**Graus**	**114.94**	**317**	PKP	PKPdf	07 27 46.2	+4.8	
NLU	**North Lily Min**	**115.01**	**45**	*e*PKiKP		07 27 45.5		
TCUT	**Toone Canyon**	**115.02**	**44**	*e*PKiKP		07 27 45.1		
DAU	**Daniels Canyon**	**115.41**	**44**	PKIKP	PKPdf	07 27 46.8	+4.4	
DAU	**Daniels Canyon**	**115.41**	**44**	*e*PKPdf	PKPdf	07 27 46.6	+4.2	
ERTA	**Horta de San J**	**115.43**	**316**	PKP	PKPdf	07 27 47.2	+4.8	
MVU	**Marysvale**	**115.46**	**47**	*e*PKiKP		07 27 48.2		
EIBI	**Ibiza**	**115.48**	**314**	PKP	PKPdf	07 27 47.2	+4.7	
MSU	**Marysvale**	**115.48**	**47**	PKIKP	PKPdf	07 27 47.2	+4.6	
MSU	**Marysvale**	**115.48**	**47**	*e*PKPdf	PKPdf	07 27 46.9	+4.3	
PDAR	**Pinedale Array**	**115.59**	**42**	Pdiff	Pdif	07 24 06.8	+11	
	comp=Z,0.4nm,0.6s,baz=288,slow=4.7,SNR=3.7							
PDAR				PKP	PKPdf	07 27 45.6	+2.9	
	comp=Z,3.7nm,0.7s,baz=270,slow=1.5,SNR=16							
PDAR				PKKPbc		07 38 17.8		
	comp=Z,6.4nm,0.9s,baz=122,slow=6.7,SNR=14							
PDAR				PKKP	PKKP	07 38 41.2	+12	
	comp=Z,8.2nm,0.8s,baz=117,slow=5.7,SNR=8.3							
PDAR	**Pinedale Array**	**115.59**	**42**	PKP	PKPdf	07 27 45.6	+2.9	
PDAR				PKKPbc		07 38 17.8		
PDAR				PKKP	PKKP	07 38 41.2	+12	
EALK	**Alkurruntz**	**115.71**	**319**	PKP	PKPdf	07 27 47.8	+4.9	
LAO	**LASA Array**	**115.84**	**36**	*e*PKPdf	PKPdf	07 27 46.6	+3.6	
TMUT	**Trail Mountain**	**115.88**	**46**	*e*PKiKP		07 27 47.6		
DGMT	**Dagmar**	**116.07**	**34**	*e*PKPdf	PKPdf	07 27 46.4	+2.9	
EMOS	**Mosqueruela**	**116.23**	**316**	PKP	PKPdf	07 27 48.9	+5.0	
SRU	**San Rafael**	**116.44**	**46**	PKIKP	PKPdf	07 27 48.1	+3.7	
SRU	**San Rafael**	**116.44**	**46**	*e*PKPdf	PKPdf	07 27 47.7	+3.3	
EBEN	**Beniarda**	**116.73**	**314**	PKP	PKPdf	07 27 49.7	+4.8	
ELAN	**Lanestosa**	**116.96**	**320**	PKP	PKPdf	07 27 50.1	+4.8	
WUAZ	**Wupatki**	**117.18**	**50**	*e*PKPdf	PKPdf	07 27 50.1	+4.2	
RWWY	**Rawlins**	**117.63**	**42**	*e*PKPdf	PKPdf	07 27 49.8	+3.2	
PV10	**Paradox Valley**	**117.80**	**46**	*e*PKPdf	PKPdf	07 27 50.6	+3.6	
EMUR	**La Murta**	**117.81**	**314**	PKP	PKPdf	07 27 51.8	+4.8	
PV01	**Paradox Valley**	**118.24**	**46**	*e*PKPdf	PKPdf	07 27 51.8	+3.9	
RSSD	**Black Hills**	**118.47**	**38**	PKIKP	PKPdf	07 27 50.0	+1.8	
RSSD	**Black Hills**	**118.47**	**38**	*e*PKPdf	PKPdf	07 27 49.8	+1.6	
GUD	**Guadarrama**	**118.64**	**318**	PKP	PKPdf	07 27 53.5	+4.9	
TUC	**Tucson**	**118.76**	**53**	PKIKP	PKPdf	07 27 52.3	+3.3	
TUC	**Tucson**	**118.76**	**53**	*e*PKPdf	PKPdf	07 27 52.7	+3.1	
SMCO	**Snowmass**	**118.92**	**44**	*e*PKPdf	PKPdf	07 27 53.2	+4.0	
ESDC	**Sonseca Array**	**118.95**	**316**	PKP	PKPdf	07 27 52.4	+3.2	
	comp=Z,0.7nm,0.4s,baz=2.0,slow=5.1,SNR=7.7							
ESDC				PP	PP	07 29 04.3	-10	
	comp=Z,1.0nm,0.5s,baz=48,slow=6.8,SNR=5.1							
ESDC				PKKPbc		07 38 07.8		
	comp=Z,0.2nm,0.3s,baz=259,slow=2.1,SNR=6.2							
ESDC	**Sonseca Array**	**118.95**	**316**	PKP	PKPdf	07 27 54.0	+4.7	
ESLA	**Sonseca Array**	**118.95**	**316**	PKPdf	PKPdf	07 27 51.4	+2.2	
EQES	**Quesada**	**119.14**	**314**	PKP	PKPdf	07 27 54.5	+4.8	
EPON	**Pontenova**	**119.27**	**321**	PKP	PKPdf	07 27 53.9	+4.2	
ULM	**Lac du Bonnet**	**119.31**	**29**	PKP	PKPdf	07 27 51.2	+1.5	
	comp=Z,11nm,0.6s,baz=321,slow=1.8,SNR=24							
ULM				PKKPbc		07 38 03.7		
	comp=Z,5.1nm,0.8s,baz=125,slow=3.3,SNR=8.3							
ULM	**Lac du Bonnet**	**119.31**	**29**	PKP	PKPdf	07 27 51.2	+1.5	
ULM				PKKPbc		07 38 03.7		
EBER	**Berja**	**119.39**	**313**	PKP	PKPdf	07 27 55.0	+4.9	
EBAN	**Banos Encina**	**119.50**	**315**	PKP	PKPdf	07 27 55.0	+4.7	
ISCO	**Idaho Springs**	**119.58**	**43**	PKIKP	PKPdf	07 27 54.2	+3.8	
ISCO	**Idaho Springs**	**119.58**	**43**	*e*PKPdf	PKPdf	07 27 53.5	+3.1	
ECAL	**Calabor**	**119.71**	**320**	PKP	PKPdf	07 27 54.3	+3.7	
EGUA	**Guajares**	**119.91**	**313**	PKP	PKPdf	07 27 54.1	+3.0	
ERON	**Agron**	**120.00**	**314**	PKP	PKPdf	07 27 54.6	+3.3	
EAOA	**Adamuz**	**120.05**	**315**	PKP	PKPdf	07 27 55.0	+3.6	
ELUQ	**Luque**	**120.10**	**314**	PKP	PKPdf	07 27 54.3	+2.8	
SDCO	**Great Sand Dun**	**120.59**	**45**	*e*PKPdf	PKPdf	07 27 55.8	+3.3	
ELOB	**Lobios**	**120.60**	**320**	PKP	PKPdf	07 27 55.1	+2.7	
ECAB	**El Cabril**	**120.69**	**315**	PKP	PKPdf	07 27 55.2	+2.5	
MTE	**Manteigas**	**121.02**	**319**	*e*Pdif	Pdif	07 24 22.3	+2.3	
MTE	**Manteigas**	**121.02**	**319**	*e*PKPdf	PKPdf	07 27 54.0	+0.8	
MTE	**Manteigas**	**121.02**	**319**	*e*PP	PP	07 29 26.0	-1.9	
MTE				*e*SP	SP	07 39 11.1	+4.2	
MTE	**Manteigas**	**121.02**	**319**	*e*PKPdf	PKPdf	07 27 57.2	+3.9	
PVIS	**Viseu**	**121.09**	**319**	*e*PKPdf	PKPdf	07 27 55.8	+2.4	
ANMO	**Albuquerque**	**121.10**	**48**	PKIKP	PKPdf	07 27 57.0	+3.5	
ANMO	**Albuquerque**	**121.10**	**48**	*e*PKPdf	PKPdf	07 27 56.8	+3.3	
PCBR	**Castelo Branco**	**121.25**	**318**	*e*PKPdf	PKPdf	07 27 55.9	+2.2	
EJIF	**Jimena Fronter**	**121.45**	**314**	PKP	PKPdf	07 27 56.7	+2.5	
RPN	**Rapa Nui**	**121.47**	**122**	*e*PKPdf	PKPdf	07 27 58.5	+4.1	
EBAD	**Badajoz**	**121.47**	**317**	PKP	PKPdf	07 27 56.7	+2.6	
ESPR	**Espera**	**121.55**	**314**	PKP	PKPdf	07 27 56.9	+2.5	
EMIN	**Mina Concepcio**	**121.71**	**316**	PKP	PKPdf	07 27 57.2	+2.6	
PTOM	**Tomar**	**121.99**	**318**	*e*PKPdf	PKPdf	07 27 58.6	+3.5	
PTOM	**Tomar**	**121.99**	**318**	*e*PP	PP	07 29 34.0	-0.7	
TORD	**Torodi Ar. Bea**	**122.10**	**285**	PKP	PKPdf	07 27 58.3	+2.4	
	comp=Z,28nm,0.7s,baz=61,slow=1.8,SNR=73							
TORD				PKKPbc		07 37 56.0		
	comp=Z,6.0nm,0.9s,baz=275,slow=3.6,SNR=9.4							
EVO	**Evora**	**122.26**	**317**	*e*PKIKP	PKPdf	07 27 59.2	+3.5	
	comp=Z,120nm,1.3s							
EVO				*e*R				
	comp=Z,3μm,21.5s							
EGRO	**El Granado**	**122.38**	**316**	PKP	PKPdf	07 27 58.5	+2.6	
PBEJ	**Beja**	**122.41**	**316**	*e*PKPdf	PKPdf	07 27 58.5	+2.5	
EYMN	**Ely**	**122.99**	**28**	*e*PKPdf	PKPdf	07 27 58.6	+1.8	
MNTX	**Cornudas Mount**	**123.25**	**51**	*e*PKPdf	PKPdf	07 28 00.1	+2.3	
CBKS	**Cedar Bluff**	**124.01**	**41**	PKIKP	PKPdf	07 28 02.1	+3.0	
CBKS	**Cedar Bluff**	**124.01**	**41**	*e*PKPdf	PKPdf	07 28 01.7	+2.6	
USHA	**Ushuaia**	**124.14**	**171**	PKP	PKPdf	07 28 01.8	+2.9	
	comp=Z,36nm,0.8s,baz=139,slow=3.3,SNR=19							
SCHQ	**Schefferville**	**124.69**	**8**	PKP	PKPdf	07 28 02.8	+2.8	
	comp=Z,15nm,0.5s,baz=344,slow=2.2,SNR=22							
SCHQ	**Schefferville**	**124.69**	**8**	*e*PKPdf	PKPdf	07 28 02.3	+2.4	
LTX	**Lajitas**	**125.54**	**53**	*e*PKIKP	PKPdf	07 28 05.1	+2.8	
TXAR	**Lajitas Array**	**125.54**	**53**	PKP	PKPdf	07 28 04.6	+2.3	
	comp=Z,12nm,0.9s,baz=261,slow=1.0,SNR=30							
TXAR				PKKPbc		07 37 41.2		
	comp=Z,0.9nm,0.9s,baz=333,slow=2.0,SNR=4.7							
TXAR	**Lajitas Array**	**125.54**	**53**	PKIKP	PKPdf	07 28 04.6	+2.3	
TXAR				pmax	pmax			
	comp=Z,12nm,0.9s							
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KSU1	**Kansas State U**	**125.88**	**39**	*e*PKPdf	PKPdf	07 28 05.4	+2.7	
WMOK	**Wichita Mounta**	**126.80**	**45**	*e*PKIKP	PKPdf	07 28 07.1	+2.6	
JCT	**Junction City**	**128.09**	**50**	*e*PKIKP	PKPdf	07 28 09.1	+1.9	
SFJM	**Santa Fe**	**129.14**	**63**	*i* P	PKPdf	07 28 14.0	+4.5	
DBIC	**Dimbokro**	**129.28**	**278**	PKP	PKPdf	07 28 12.5	+2.6	
	comp=Z,35nm,1.1s,baz=84,slow=1.5,SNR=8.6							
DBIC				SKPbc		07 31 30.2		
	comp=Z,9.7nm,1.0s,baz=64,slow=7.8,SNR=6.8							
DBIC	**Dimbokro**	**129.28**	**278**	PKIKP	PKPdf	07 28 12.5	+2.6	
DBIC				pmax	pmax			
	comp=Z,35nm,1.1s							
DBIC				pmax	pmax			
	comp=N,10.0nm,1.0s							
DBIC	**Dimbokro**	**129.28**	**278**	*e*PKPdf	PKPdf	07 28 12.2	+2.3	
LIC	**Lamto**	**129.49**	**278**	*e*PKIKP	PKPdf	07 28 12.6	+2.3	
	comp=N,37nm,0.7s							
LIC				*e*R				
	comp=N,5μm,22.8s							
CCM	**Cathedral Cave**	**129.84**	**37**	PKIKP	PKPdf	07 28 12.9	+2.6	
CCM	**Cathedral Cave**	**129.84**	**37**	*e*PKPdf	PKPdf	07 28 12.5	+2.2	
CCM				*e*SKP		07 31 28.6		
FVM	**French Village**	**130.38**	**37**	PKIKP	PKPdf	07 28 13.8	+2.4	
FVM	**French Village**	**130.38**	**37**	*e*PKPdf	PKPdf	07 28 13.5	+2.1	
FVM				*e*PP	PP	07 30 25.5	-5.0	
FVM				*e*SKP		07 31 31.9		
MIAR	**Mount Ida**	**130.50**	**42**	*e*PKPdf	PKPdf	07 28 12.9	+1.2	
MIAR				*e*SKP		07 31 34.5		
UALR	**University of**	**131.18**	**41**	*e*PKPdf	PKPdf	07 28 16.7	+3.7	
UALR				*e*SKP		07 31 36.1		
NATX	**Nacogdoches**	**131.29**	**46**	*e*PKPdf	PKPdf	07 28 17.6	+4.3	
NATX				*e*SKP		07 31 37.8		
CFTV	**Fuerteventura**	**131.61**	**309**	PKP	PKPdf	07 28 18.6	+4.7	
PARMO	**Parma**	**131.65**	**38**	*e*PKPdf	PKPdf	07 28 17.5	+3.7	
PARMO				*e*SKP		07 31 36.8		
BLO	**Bloomington**	**131.79**	**33**	PKIKP	PKPdf	07 28 17.4	+3.4	
BLO	**Bloomington**	**131.79**	**33**	*e*PKPdf	PKPdf	07 28 17.6	+3.6	
BLO				*e*SKP		07 31 37.2		
HBAR	**Harrisburg**	**131.80**	**39**	*e*PKPdf	PKPdf	07 28 18.0	+3.8	
HBAR				*e*SKP		07 31 38.9		
GNAR	**Gosnell**	**131.94**	**38**	*e*PKPdf	PKPdf	07 28 18.1	+3.7	
COYC	**Coyhaique**	**132.11**	**164**	*e*P	PKPdf	07 28 15.1	+0.7	
GLAT	**Glass**	**132.19**	**38**	*e*PKPdf	PKPdf	07 28 18.7	+3.9	
GLAT				*e*SKP		07 31 40.4		
HALT	**Halls**	**132.39**	**38**	*e*PKPdf	PKPdf	07 28 18.6	+3.4	
MET	**Memphis--Engin**	**132.53**	**39**	PKPdf	PKPdf	07 28 18.4	+2.8	
WCI	**Wyandotte Cave**	**132.59**	**33**	*e*PKIKP	PKPdf	07 28 16.7	+1.1	
ACSO	**Alum Creek Sta**	**132.81**	**29**	*e*PKPdf	PKPdf	07 28 19.7	+3.8	
ACSO				*e*SKP		07 31 41.1		
EOSO	**Osorio**	**132.91**	**310**	PKP	PKPdf	07 28 18.7	+2.3	
PLIG	**Platanillo**	**132.95**	**65**	*i* P	PKPdf	07 28 20.1	+3.4	
WVT	**Waverly**	**133.16**	**37**	PKHKP		07 28 04.9		
WVT	**Waverly**	**133.16**	**37**	*e*PKPdf	PKPdf	07 28 18.5	+1.8	
WVT				*e*PP	PP	07 30 44.5	-3.3	
WVT				*e*SKP		07 31 42.8		
NCB	**Newcomb**	**133.22**	**19**	*e*PKPdf	PKPdf	07 28 20.1	+3.5	
NCB				*e*SKP		07 31 42.2		
OXF	**Oxford**	**133.25**	**39**	*e*PKIKP	PKPdf	07 28 19.1	+2.2	
EBAJ	**Bajamar**	**133.28**	**311**	PKP	PKPdf	07 28 19.3	+2.2	
MDV	**Middlebury**	**133.52**	**18**	*e*PKPdf	PKPdf	07 28 19.7	+2.6	
MDV				*e*SKP		07 31 42.3		
PPM	**Popocatepetl**	**133.53**	**64**	*i* P	PKPdf	07 28 23.1	+5.3	
LBNH	**Lisbon**	**133.67**	**17**	PKIKP	PKPdf	07 28 22.1	+4.7	
LBNH	**Lisbon**	**133.67**	**17**	*e*PKPdf	PKPdf	07 28 21.4	+4.0	
ADH	**Angra Heroismo**	**133.84**	**329**	*e*PP	PP	07 31 15.0	+23	
ADH	**Angra Heroismo**	**133.84**	**329**	*i* LR	LR	08 13 00.0		
EGOM	**La Gomera**	**134.13**	**311**	PKP	PKPdf	07 28 21.0	+2.3	
MCWV	**Mont Chateau**	**134.74**	**27**	*e*PKPdf	PKPdf	07 28 23.6	+4.1	
MCWV				*e*SKP		07 31 48.3		
SWET	**Sewanee**	**134.91**	**36**	*e*PKPdf	PKPdf	07 28 22.6	+2.6	
SWET				*e*SKP		07 31 46.4		
TZTN	**Tazewell**	**135.31**	**33**	*e*PKPdf	PKPdf	07 28 24.0	+3.3	
WES	**Weston**	**135.55**	**17**	PKHKP		07 28 12.4		
CPCT	**Cooper Cave**	**135.56**	**35**	*e*PKPpre		07 28 08.7		
CPCT				*e*PKPdf	PKPdf	07 28 23.5	+2.4	
LRAL	**Lakeview Retre**	**135.73**	**39**	*e*PKPpre		07 28 11.1		
LRAL				*e*PKPdf	PKPdf	07 28 23.3	+1.8	
LRAL				*e*SKPpc		07 31 50.4		
MVL	**Millersville**	**135.94**	**23**	*e*PKPdf	PKPdf	07 28 24.7	+3.0	
MVL				*e*SKP		07 31 51.0		
PAL	**Palisades**	**135.97**	**20**	PKIKP	PKPdf	07 28 26.4	+4.7	
PAL				*e*		07 28 42.0		
PAL	**Palisades**	**135.97**	**20**	*e*PKPdf	PKPdf	07 28 23.9	+2.3	
PAL				*e*SKP		07 31 51.8		
MYNC	**Murphy**	**136.06**	**35**	PKHKP		07 28 16.9		
MYNC	**Murphy**	**136.06**	**35**	*e*PKPpre		07 28 15.1		
MYNC				*e*PKPdf	PKPdf	07 28 25.1	+3.1	
SDMD	**Soldier's Deli**	**136.24**	**24**	*e*PKPdf	PKPdf	07 28 19.6	-2.7	
SDMD				*e*SKP		07 31 46.5		
BLA	**Blacksburg**	**136.42**	**29**	PKIKP	PKPdf	07 28 26.8	+4.2	
BLA	**Blacksburg**	**136.42**	**29**	*e*PKPdf	PKPdf	07 28 26.6	+3.9	
BLA				*e*PP	PP	07 31 08.4	+0.5	
BLA				*e*SKP		07 31 52.9		
PLCA	**Paso Flores**	**137.00**	**163**	PKhKP		07 28 15.5		
	comp=N,6.8nm,1.1s,baz=180,slow=3.1,SNR=8.0							
PLCA				PKP	PKPdf	07 28 26.6	+3.0	
	comp=N,35nm,0.9s,baz=188,slow=3.0,SNR=23							
PLCA				SKPbc		07 31 56.4		
	comp=N,33nm,1.2s,baz=212,slow=3.5,SNR=9.7							
PLCA	**Paso Flores**	**137.00**	**163**	PKIKP	PKPdf	07 28 26.6	+3.0	
PLCA				pmax	pmax			
	comp=Z,35nm,0.9s							
PLCA				pmax	pmax			
	comp=N,33nm,1.2s							
PLCA	**Paso Flores**	**137.00**	**163**	*e*PKPpre		07 28 16.6		
PLCA				PKP	PKPdf	07 28 26.6	+3.0	
PLCA				*e*PKPdf	PKPdf	07 28 27.7	+4.1	
PLCA				*e*SKP		07 31 56.3		
CBN	**Corbin**	**137.03**	**26**	*e*PKPdf	PKPdf	07 28 27.4	+3.7	
GOGA	**Godfrey**	**137.63**	**36**	PKIKP	PKPdf	07 28 21.0	-4.0	
GOGA	**Godfrey**	**137.63**	**36**	*e*PKPpre		07 28 20.5		
GOGA				*e*PKPdf	PKPdf	07 28 27.5	+2.5	
JSC	**Jenkinsville**	**138.24**	**33**	PKIKP	PKPdf	07 28 27.4	+1.3	
JSC	**Jenkinsville**	**138.24**	**33**	*e*PKPdf	PKPdf	07 28 26.6	+0.5	
CCHI	**Chillan**	**140.25**	**159**	*e*P	PKPdf	07 28 25.3	-4.4	
TRQA	**Tornquist**	**141.48**	**172**	*e*PKPpre		07 28 28.9		
DWPF	**Disney**	**142.58**	**40**	*e*PKPpre		07 28 32.6		
FCH	**Farellones**	**143.82**	**158**	*e*P	PKPbc	07 28 36.6	+1.6	
MDZ	**Mendoza**	**144.74**	**160**	PKP	PKPdf	07 28 42.0	+4.4	
MDZ				SKS		07 32 00.0		
LPA	**La Plata**	**145.03**	**176**	*e*PKP	PKPdf	07 28 38.0	-0.1	
LPA	**La Plata**	**145.03**	**176**	*e*PKP	PKPdf	07 28 42.0	+3.9	
LPA				PKIKP	PKPdf	07 28 43.0	+4.9	
LPA				*ep*PKP		07 28 44.4		
LPA				*ep*PKP		07 28 45.0		
LPA				*e*PKS	PKS	07 32 17.0	+4.4	
	comp=Z,4μm,22.0s							
CMCH	**Combarbala**	**145.46**	**156**	*e*P	PKPdf	07 28 41.6	+2.7	
BBSR	**BB Station**	**146.75**	**15**	*e*PKPdf	PKPdf	07 28 44.3	+3.2	
JTS	**JuntasAbangare**	**148.83**	**70**	*e*PKIKP	PKPdf	07 28 47.0	+2.1	
JTS				*e*		07 28 52.0		
MBJ	**Montego Bay**	**151.35**	**49**	*i* P	PKPdf	07 28 57.6	+9.0	
CVJ	**Coleyville**	**151.71**	**49**	*e*P	PKPdf	07 28 58.7	+9.5	
MCJ	**Malvern**	**151.77**	**50**	*e*P	PKPdf	07 28 58.6	+9.3	
BBJ	**Bamboo Saint A**	**151.81**	**49**	*e*P	PKPdf	07 28 53.2	+3.8	
PCJ	**Portland Cotta**	**152.28**	**50**	*e*P	PKPdf	07 28 59.8	+10	
STH	**Stony Hill**	**152.34**	**49**	*e*P	PKPdf	07 28 55.7	+5.5	
GWJ	**Greenwich**	**152.41**	**49**	*e*P	PKPdf	07 28 53.8	+3.6	
CEN1	**Los Morros**	**152.47**	**149**	*e*P	PKPdf	07 28 53.8	+3.6	
CMJ	**Castle Mountai**	**152.64**	**48**	*e*P	PKPdf	07 28 55.1	+4.5	
CPUP	**Villa Florida**	**153.59**	**176**	*e*PKIKP	PKPdf	07 28 54.8	+3.2	
CPUP				*e*		07 29 02.9		
NNA	**Nana**	**155.43**	**120**	*e*PKPdf	PKPdf	07 28 57.8	+3.3	
OTAV	**Otavalo**	**156.84**	**90**	*e*PKPdf	PKPdf	07 29 00.3	+4.0	
SJG	**San Juan**	**159.21**	**30**	PKIKP	PKPdf	07 29 03.0	+3.9	
SJG	**San Juan**	**159.21**	**30**	*e*PKPdf	PKPdf	07 29 01.3	+2.2	
SJG				*e*PKPab	PKPab	07 29 39.1	+0.2	
LPAZ	**La Paz**	**159.32**	**143**	PKP	PKPdf	07 29 03.3	+4.0	
	comp=Z,16nm,1.1s,baz=46,slow=0.8,SNR=27							
LPAZ				PKPab	PKPab	07 29 40.6	+1.1	
	comp=Z,34nm,0.8s,baz=204,slow=4.5,SNR=12							
CPD	**Cerro la Pandu**	**159.38**	**30**	PKIKP	PKPdf	07 29 02.3	+3.0	
CPD	**Cerro la Pandu**	**159.38**	**30**	*e*P	PKPdf	07 29 02.2	+2.9	
CPD				*e*PKPab	PKPab	07 29 40.0	+0.2	
MTP	**Monte Pirata**	**159.51**	**29**	*e*PKPdf	PKPdf	07 29 01.8	+2.3	
MTP				*e*PKPab	PKPab	07 29 40.6	+0.3	
ROSC	**El Rosal**	**160.42**	**76**	PKP	PKPdf	07 29 04.7	+4.2	
	comp=Z,24nm,1.0s,baz=219,slow=2.7,SNR=26							
SDV	**Santo Domingo**	**162.43**	**60**	*e*PKPdf	PKPdf	07 29 05.2	+2.7	
BDFB	**Brasilia**	**162.74**	**204**	PKP	PKPdf	07 29 06.4	+3.7	
	comp=Z,35nm,1.2s,baz=39,slow=1.5,SNR=17							
BDFB				PKPab	PKPab	07 29 55.5	+1.1	
	comp=Z,38nm,0.9s,baz=100,slow=3.4,SNR=8.8							
LZG	**Guadaloupe-1**	**162.88**	**22**	*e*P	PKPdf	07 29 06.2	+3.4	
DEG	**La Desirade**	**162.97**	**19**	*e*P	PKPdf	07 29 04.4	+1.4	
TBG	**Guadaloupe-3**	**163.19**	**22**	*e*P	PKPdf	07 29 06.7	+3.5	
BBL	**Barber's Block**	**163.55**	**22**	*e*P	PKPdf	07 29 06.6	+3.1	

***IDC* 21 07:19:00.1±1.3, 23.17N×142.37E, mb 4.4/4, mb1 4.6/5, mb1mx4.2/20, mbtmp4.4/5, ML3.8/1, Error ellipse: s-maj=79.0km s-min=26.4km az=101.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.91**	**358**	Pn		Pn		07 20 01.3	-1.4
	12nm,0.3s,baz=198,slow=19,SNR=6.1								
CBIJ				Sn		Sn		07 20 43.2	-6.8
	12nm,0.3s,baz=116,slow=21,SNR=3.8								
WRA	**Warramunga Arr**	**43.56**	**191**	P		P		07 27 05.7	-2.0
	5.7nm,0.9s,baz=12,slow=7.8,SNR=5.4								
ILAR	**Eielson Array**	**61.08**	**28**	P		P		07 29 14.8	-3.1
	4.8nm,0.9s,baz=263,slow=5.3,SNR=7.2								
INK	**Inuvik**	**66.53**	**24**	P		P		07 29 52.2	-1.3
	11nm,1.3s,baz=274,slow=3.6,SNR=3.1								
FINES	**FINESS Array B**	**81.53**	**334**	P		P		07 31 19.9	-0.7
	1.1nm,0.7s,baz=45,slow=3.9,SNR=2.7								

***IDC* 21 07:43:54.4±0.8, 6.71N×72.95W, h158km±13km, mb3.1/1, mb1 3.4/3, mb1mx3.0/22, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx3.0/4, Error ellipse: s-maj=59.6km s-min=7.5km az=132.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.29**	**217**	P		P		07 44 35.8	+2.0
	38nm,0.3s,baz=317,slow=3.8,SNR=203								
ROSC				S		S		07 45 04.3	+0.2
	33nm,0.3s,baz=94,slow=16,SNR=14								
SDV	**Santo Domingo**	**3.16**	**46**	P		P		07 44 45.9	+1.2
	3.1nm,0.3s,baz=235,slow=5.6,SNR=60								
SDV				S		S		07 45 22.6	-0.6
	24nm,0.3s,baz=271,slow=6.7,SNR=36								
SDV				LR		LR		07 46 01.6	
	comp=Z,548nm,21.6s,baz=43,slow=40								
YKA	**Yellowknife Ar**	**63.43**	**340**	P		P		07 54 06.9	-2.3
	0.4nm,0.7s,baz=133,slow=6.9,SNR=10								
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc		PKPdf		08 03 27.6	+5.2
	0.8nm,0.5s,baz=108,slow=2.6,SNR=22								
WRA				pPKPbc				08 04 09.1	
	0.3nm,0.5s,baz=105,slow=2.7,SNR=4.7								

***IDC* 21 07:57:16.2±3.2, 16.80S×177.56W, mb3.8/5, mb1 4.2/5, mb1mx4.0/14, mbtmp3.8/5, Error ellipse: s-maj=183.9km s-min=32.0km az=152.0**

***NEIC* 21 07:57:18.2±1.8, 16.64S×177.68W, h10km, mb4.5/1, Error ellipse: s-maj=116.0km s-min=18.5km az=151.0**

ISC 21 07:57:16.1±2.8, 16.8S±1.0×177.7W±0.6, h10km, n11, σ0 95/6, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**45.55**	**258**	P		**P**		**08 05 38.5**	**+0.3**
	7.2nm,1.2s,mb4.5								
WRA	**Warramunga Arr**	**45.56**	**258**	P		**P**		**08 05 37.9**	**-0.4**
	2.3nm,1.0s,mb4.1,baz=97,slow=7.5,SNR=7.0								
NVAR	**Mina Array Bea**	**78.10**	**44**	P		**P**		**08 09 16.7**	**-0.4**
	0.7nm,0.8s,mb3.7,baz=234,slow=9.3,SNR=4.2								
ILAR	**Eielson Array**	**84.62**	**13**	P		**P**		**08 09 50.0**	**-0.7**
	1.0nm,1.0s,mb3.9,baz=230,slow=5.5,SNR=4.6								
PDAR	**Pinedale Array**	**86

KKN **Kakani** 10.40 223 *e*P P 08 34 27.5 +0.7
comp=N,57nm,0.9s
KKN **Kakani** 10.40 223 *e*P P 08 34 27.5 +0.7
KKN pmax pmax
comp=Z,29nm,0.9s
PKI **Pulchoki** 10.50 221 *e*P P 08 34 28.8 +0.7
comp=Z,59nm,1.0s
PKI **Pulchoki** 10.50 221 *e*P P 08 34 28.8 +0.7
PKI pmax pmax
comp=Z,30nm,1.0s
GKN **Gorkha** 10.60 226 *e*P P 08 34 29.6 +0.1
comp=Z,65nm,1.0s
DMN **Daman** 10.64 223 *e*P P 08 34 30.3 +0.3
comp=Z,107nm,1.1s
KOLN **Koldanda** 11.39 229 *e*P P 08 34 39.9 -0.4
comp=Z,44nm,0.8s
KMI **Kunming** 13.37 140 P P 08 35 10.6 +4.0
KMI AP 08 35 15.8
KMI AMB AMB
comp=Z,10.0nm,0.9s
KMI LR LR
comp=N,370nm,13.3s
KMI LR LR
comp=E,440nm,12.7s
KMI LR LR
comp=Z,580nm,27.2s
MKAR **Makanchi Array** 13.77 327 Pn P 08 35 08.6 -3.2
comp=Z,4.1nm,0.3s,baz=132,slow=14,SNR=138
MKAR Sn S 08 37 37.3 -7.2
comp=Z,0.1nm,0.3s,baz=140,slow=22,SNR=2.8
MKAR Lg 08 39 15.3
baz=122,slow=27,SNR=2.8
MKAR **Makanchi Array** 13.77 327 Pn P 08 35 08.6 -3.2
MKAR Sn S 08 37 37.3 -7.2
MKAR Lg 08 39 15.3
ENH **Enshi** 14.68 107 P P 08 35 21.9 -2.0
HHC **Hu-ho-hao-te** 15.28 65 *e*P P 08 35 32.9 +1.3
HHC AP 08 35 36.3
HHC XP 08 35 39.1
HHC PP PP 08 35 41.9 -1.7
HHC AMB AMB
comp=Z,20nm,1.3s
HHC AMB AMB
comp=Z,240nm,4.5s
HHC LR LR
comp=N,1μm,7.1s
HHC LR LR
comp=E,1μm,6.5s
HHC LR LR
comp=Z,680nm,10.3s
KZA **Kyzart** 15.36 300 P P 08 35 39.7 +7.1
SNR=9.4
TKM2 **Tokmak 2** 15.41 303 P P 08 35 40.0 +6.8
SNR=9.8
SONM **Songino Array** 15.56 35 Pn P 08 35 35.1 -0.1
comp=Z,0.6nm,0.3s,baz=222,slow=13,SNR=40
SONM Lg 08 40 04.6
comp=Z,0.1nm,0.3s,baz=221,slow=29,SNR=5.2
KBK **Karagaybulak** 15.76 302 P P 08 35 44.9 +7.2
SNR=9.0
ULN **Ulaanbaatar** 15.89 36 *e*P P 08 35 41.6 +2.2
UCH **Uchtor** 15.92 300 P P 08 35 43.5 +3.7
SNR=12
FRU **Bishkek** 16.05 302 *e*P P 08 35 46.5 +5.0
FRU pmax pmax
comp=Z,40nm,1.8s
AAK **Ala-Archa** 16.07 301 P P 08 35 42.3 +0.6
SNR=7.2
AAK **Ala-Archa** 16.07 301 *e*P P 08 35 40.8 -0.9
AAK pmax pmax
comp=Z,16nm,1.0s
AAK **Ala-Archa** 16.07 301 *e*P P 08 35 40.8 -0.8
comp=Z,16nm,1.0s
USP **Ospenovka** 16.28 303 P P 08 35 49.7 +5.3
SNR=9.8
ZAK **Zakamensk** 16.37 23 *e*P P 08 35 47.4 +2.0
ZAK pmax pmax
comp=Z,143nm,1.4s
AML **Almayashu** 16.48 299 P P 08 35 50.8 +3.9
SNR=8.4
EKS2 **Erkin-Say** 16.58 301 P P 08 35 53.0 +4.9
SNR=9.3
MOY **Mondy** 16.88 17 *e*P P 08 35 57.5 +5.6
MOY pmax pmax
comp=Z,85nm,2.5s
CHG **Chiang Mai** 17.59 162 ⇑P P 08 36 08.7 +7.8
comp=Z,14nm,0.9s
IRK **Irkutsk** 18.29 22 *e*P P 08 36 13.8 +4.2
IRK pmax pmax
comp=Z,81nm,2.9s
KURK **Kurchatov** 18.33 329‖ *e*P P 08 36 07.0 -3.1
KURK **Kurchatov** 18.33 329 *e*P P 08 36 06.4 -3.6
comp=Z,22nm,0.9s
WHN **Wuhan** 18.42 100 *e*P P 08 36 08.0 -3.3
ZAL **Zalesovo** 19.14 345 P P 08 36 19.2 -0.6
comp=Z,0.3nm,0.3s,baz=320,slow=12,SNR=16
ZAL Lg 08 42 03.0
comp=Z,4.8nm,0.3s,baz=69,slow=19,SNR=12
KRAR **Krasnoyarsk** 20.29 359 *i*P P 08 36 31.6 -0.7
NST **Nakhon Sawan** 20.90 161 P P 08 36 37.3 -1.5
comp=Z,48nm,0.7s
NJ2 **Nanjing** 21.57 92 *e*P P 08 36 45.1 -0.3
NJ2 AP 08 36 54.3
NJ2 XP 08 36 58.4
NJ2 PP PP 08 37 10.0 -0.2
NJ2 S **S** **08 40 35.0 -2.5**
NJ2 XS 08 40 50.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.5
NJ2 AMB AMB
comp=Z,550nm,7.5s
NJ2 LR LR
comp=N,3μm,32.0s
NJ2 LR LR
comp=E,3μm,18.5s
NJ2 LR LR
comp=Z,480nm,13.2s
CIT **Chita** 21.79 35 *e*P P 08 36 48.7 +1.2
CIT *e* 08 37 07.6
CIT pmax pmax
comp=Z,111nm,1.4s,mb5.1
HYB **Hyderabad** 22.41 219 *i*P P 08 36 53.0 -0.9
comp=Z,50nm,1.0s,mb4.9
HYB **Hyderabad** 22.41 219 *e*P P 08 36 53.0 -0.9
BVA0 **Borovoye Array** 23.62 324 P P 08 37 06.4 +1.0
BVA0 pmax pmax
comp=Z,2.0nm,1.0s
BVAR **Borovoye Array** 23.62 324 P P 08 37 06.6 +1.2
comp=Z,5.6nm,0.7s,mb4.1,baz=124,slow=11,SNR=29
HIA **Hailar** 23.63 47 *e*P P 08 37 06.7 +1.1
HIA pmax pmax
comp=Z,47nm,1.4s
HIA **Hailar** 23.63 47 *e*P P 08 37 06.7 +1.1
comp=Z,47nm,1.4s,mb4.7
BRVK **Borovoye** 23.69 324 *e*P P 08 37 07.2 +1.1
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
BRVK **Borovoye** 23.69 324 *e*P P 08 37 07.2 +1.1
comp=Z,8.2nm,0.6s,mb4.3
SSE **Sheshan** 23.75 93 P P 08 37 06.4 -0.6
SSE AMB AMB
comp=Z,40nm,0.9s,mb4.8
SSE AMB AMB
comp=Z,280nm,5.1s
CHKZ **Chkalovo** 23.92 326 *e*P P 08 37 08.8 +0.5
CHKZ pmax pmax
comp=Z,21nm,1.2s,mb4.4
CHKZ **Chkalovo** 23.92 326 *e*P P 08 37 08.8 +0.4
comp=Z,21nm,1.2s,mb4.4
ZRNK **Zerenda** 24.25 323 *e*P P 08 37 11.7 +0.2
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
ZRNK **Zerenda** 24.25 323 *e*P P 08 37 11.7 +0.2
comp=Z,6.3nm,0.9s,mb4.0
CN2 **Changchun** 25.93 62 *e*P P 08 37 27.4 -0.2
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.7
BOD **Bodaibo** 26.08 26 *e*P P 08 37 28.6 -0.3
BOD pmax pmax
comp=Z,11nm,1.3s,mb4.2
AKTK **Aktyubinsk** 29.30 311 P P 08 37 57.6 -0.5
AKTO **Aktyubinsk** 29.30 311 P P 08 37 57.6 -0.5
comp=Z,2.5nm,0.7s,mb4.1,baz=115,slow=9.6,SNR=10.0
ARU **Arti** 31.23 322 *e*P P 08 38 14.6 -0.6
ARU pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
ARU **Arti** 31.23 322 *e*P P 08 38 14.6 -0.6
comp=Z,9.9nm,0.6s,mb4.8
HABR **Khabarovsk** 33.13 54 *e*P P 08 38 30.4 -1.5
YAK **Yakutsk** 34.80 29 *i*P P 08 38 46.6 +0.5
KKM **Kota Kinabalu** 36.31 139 *e*P P 08 38 59.6 +0.2
GNI **Garni** 38.12 292 *i*P P 08 39 16.2 +1.9
YSS **Yuzh-Sakhalins** 38.26 57 *i*P P 08 39 14.7 -0.7
UMR **Umm Al-Rimmam** 38.55 274 *e*P P 08 39 18.5 +0.4
UMR AMb AMB 08 39 19.7
comp=Z,49nm,0.8s,mb5.3
KBD **Kabd** 38.70 274 *e*P P 08 39 20.0 +0.7
KBD AMb AMB 08 39 21.1
comp=Z,152nm,1.2s,mb5.6
MIB **Mutribah** 38.76 275 *e*P P 08 39 20.5 +0.7
MIB AMb AMB 08 39 21.6
comp=Z,85nm,0.8s,mb5.5
RDF **Al-Radifah** 38.91 273 *e*P P 08 39 21.3 +0.3
RDF AMb AMB 08 39 22.9
comp=Z,54nm,0.9s,mb5.3
NAY **Al-Naaiem** 39.04 274 *e*P P 08 39 22.5 +0.4
NAY AMb AMB 08 39 23.9
comp=Z,57nm,0.8s,mb5.3
KIV **Kislovodsk** 39.15 298 *e*P P 08 39 22.2 -0.6
KIV pmax pmax
comp=Z,15nm,0.8s,mb4.8
TIXI **Tiksi** 40.47 17 *e*P P 08 39 31.5 -2.0
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KLMR **Klimovskoe** 42.04 324 *e*P P 08 39 45.7 -0.8
KLMR pmax pmax
comp=Z,50nm,1.7s,mb4.9
MALT **Malatya** 43.29 290 *e*P P 08 39 59.2 +2.2
comp=Z,6.7nm,1.1s,mb4.3
SEY **Seymchan** 44.95 34⇑ *e*P P 08 40 11.4 +1.4
JOF **Joensuu** 46.20 326 *e*p P 08 40 18.0 -2.0
BR131 **Keskin Array S** 46.55 294 *e*P P 08 40 23.6 +0.6
comp=Z,5.0nm,0.9s,mb4.4
BRTR **Keskin Array B** 46.55 294 P P 08 40 24.1 +1.0
comp=Z,6.0nm,0.9s,mb4.5,baz=100,slow=7.5,SNR=20
AKASG **Malin Array Be** 47.51 309 P P 08 40 30.0 -0.4
comp=Z,3.0nm,0.8s,mb4.4,baz=71,slow=6.6,SNR=13
AKASG **Malin Array Be** 47.51 309 P P 08 40 30.0 -0.4
KAF **Kangasniemi** 48.47 325 *e*p P 08 40 37.0 -0.8
FINES **FINESS Array B** 48.58 324 P P 08 40 38.3 -0.3
comp=Z,2.5nm,0.6s,mb4.4,baz=94,slow=7.2,SNR=17
FINES **FINESS Array B** 48.58 324 *i*P P 08 40 38.2 -0.4
FINES pmax pmax
comp=Z,3.0nm,0.6s
ARCES **ARCESS Array B** 49.26 335 P P 08 40 43.5 -0.2
comp=Z,2.3nm,0.8s,mb4.3,baz=80,slow=7.4,SNR=6.4
ARCES PcP PcP 08 42 05.6 -1.1
comp=Z,1.9nm,0.7s,baz=117,slow=2.7,SNR=4.4
KWP **Kalwaria** 51.83 309 *e*P P 08 41 04.1 +0.6
KWP **Kalwaria** 51.83 309 *e*P P 08 41 04.1 +0.6
KOLS **Kolonicke sedl** 52.26 308 *e*P P 08 41 05.6 -1.2
STHS **Stebnicka Huta** 52.80 309 *e*P P 08 41 11.3 +0.5
KECS **Kecovo** 53.52 308 *e*P P 08 41 16.1 -0.1
OJC **Ojcow** 53.52 310 *e*P P 08 41 16.6 +0.5
VYHS **Vyhne** 54.57 308 *e*P P 08 41 23.7 -0.2
MORC **Moravsky Berou** 55.04 310 *e*P P 08 41 27.6 +0.3
MORC pmax pmax
comp=Z,11nm,1.3s,mb4.7
MORC **Moravsky Berou** 55.04 310 *e*P P 08 41 27.6 +0.4
comp=Z,11nm,1.3s,mb4.7
KSP **Ksiaz** 55.52 311 *e*P P 08 41 30.6 -0.1
DPC **Dobruska-Polom** 55.64 311 *e*P P 08 41 32.1 +0.5
NB2 **NORSAR Subarra** 55.75 324 P P 08 41 31.1 -1.1
comp=Z,6.7nm,0.7s,mb4.8,baz=77,slow=7.0
NB2 **NORSAR Subarra** 55.75 324 P P 08 41 31.1 -1.1
NB2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
NOA **NORSAR Array B** 55.75 324 P P 08 41 31.4 -0.8
comp=Z,5.4nm,0.7s,mb4.7,baz=78,slow=7.1,SNR=17
UPC **Upice** 55.78 311 *e*P P 08 41 33.2 +0.6
PVCC **Panska Ves** 56.66 311 *e*P P 08 41 39.2 +0.3
PRU **Pruhonice** 56.84 311 *e*P P 08 41 40.5 +0.3
BRG **Berggiesshubel** 56.94 312 *e*P P 08 41 40.8 -0.1
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BRG **Berggiesshubel** 56.94 312 *e*P P 08 41 40.8 -0.1
comp=Z,8.2nm,0.9s,mb4.8
GROS **Grobnik** 57.34 307 *e*P P 08 41 43.6 -0.3
CLL **Collm** 57.37 313 ⇑P P 08 41 43.3 -0.7
comp=Z,logA/T=1.0,mb4.8
CLL *i* 08 41 47.8
CLL **Collm** 57.37 313⇑ *i*P P 08 41 43.3 -0.7
CLL pmax pmax
comp=Z,11nm,1.1s,mb4.8
CLL **Collm** 57.37 313⇑ *i*P P 08 41 43.3 -0.7
comp=Z,11nm,1.1s,mb4.8
CLL *i* 08 41 47.8
PERS **Pernice** 57.54 307 *e*P P 08 41 45.1 -0.1
KHC **Kasperske Hory** 57.70 310 *e*P P 08 41 46.4 +0.1
GEC2 **GERESS Array S** 57.72 310 *e*P P 08 41 46.6 +0.2
GEC2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
GEC2 **GERESS Array S** 57.72 310 *e*P P 08 41 46.6 +0.2
comp=Z,10.0nm,1.1s,mb4.8
GERES **GERESS Array B** 57.72 310 P P 08 41 46.8 +0.3
comp=Z,3.7nm,0.7s,mb4.5,baz=63,slow=6.0,SNR=29
VISS **Visnje** 58.00 306 *e*P P 08 41 48.4 0.0
LJU **Ljubljana** 58.12 306 *e*P P 08 41 49.2 -0.1
WET **Wettzell** 58.13 310 *e*P P 08 41 49.5 +0.2
WET pmax pmax
comp=Z,12nm,1.4s,mb4.7
WET **Wettzell** 58.13 310 *e*P P 08 41 49.5 +0.2
comp=Z,12nm,1.4s,mb4.7
MOX **Moxa** 58.41 312 *i*P P 08 41 51.4 +0.1
comp=Z,logA/T=1.1,mb4.9
MOX **Moxa** 58.41 312 *e*P P 08 41 51.4 +0.1
MOX pmax pmax
comp=Z,22nm,1.6s,mb4.9
MOX **Moxa** 58.41 312 *e*P P 08 41 51.4 +0.1
comp=Z,22nm,1.6s,mb4.9
CLZ **Clausthal** 58.76 314 *e*P P 08 41 53.9 +0.2
CLZ pmax pmax
comp=Z,20nm,1.3s,mb5.0
CLZ **Clausthal** 58.76 314 *e*P P 08 41 53.9 +0.2
comp=Z,20nm,1.3s,mb5.0
GRA1 **Grafenberg Arr** 58.97 311 *e*P P 08 41 55.6 +0.4
comp=Z,18nm,0.9s,mb5.1
GRF **Grafenberg Arr** 58.97 311 *e*P P 08 41 55.6 +0.4
GRF pmax pmax
comp=Z,18nm,0.9s,mb5.1
GRF **Grafenberg Arr** 58.97 311 *e*P P 08 41 55.6 +0.4
GRF pmax pmax
comp=Z,18nm,0.9s,mb5.1
GRF **Grafenberg Arr** 58.97 311 *e*P P 08 41 55.6 +0.4
comp=Z,18nm,0.9s,mb5.1
FUR **Furstenfeldbru** 59.47 310 *e*P P 08 41 59.3 +0.7
FUR pmax pmax
comp=Z,30nm,0.9s,mb5.3
FUR **Furstenfeldbru** 59.47 310 *e*P P 08 41 59.3 +0.7
comp=Z,30nm,0.9s,mb5.3
TNS **Taunus Mts** 60.46 313 *e*P P 08 42 05.6 +0.2
TNS pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
TNS **Taunus Mts** 60.46 313 *e*P P 08 42 05.6 +0.2
comp=Z,7.0nm,1.0s,mb4.7
BFO **Black Forest** 61.24 311 *e*P P 08 42 10.5 -0.2
BFO pmax pmax
comp=Z,51nm,1.8s,mb5.3
BFO **Black Forest** 61.24 311 *e*P P 08 42 10.5 -0.2
comp=Z,51nm,1.8s,mb5.3
CDF **Champ du Feu** 61.85 311⇑ *i*P P 08 42 14.4 -0.4
comp=Z,12nm,0.8s,mb4.8
CDF **Champ du Feu** 61.85 311⇑ *i*P P 08 42 14.4 -0.4
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
HINF **Hinteralfeld** 62.35 311⇑ *i*P P 08 42 17.5 -0.7
comp=Z,14nm,0.7s,mb4.9
HINF **Hinteralfeld** 62.35 311⇑ *i*P P 08 42 17.5 -0.7
HINF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
HAU **Haudompre** 62.58 311 *e*P P 08 42 19.0 -0.7
BAIF **Baives** 63.04 314 *e*P P 08 42 22.6 -0.1
PGF **Pioggiola** 63.12 304 *e*P P 08 42 23.1 -0.3
comp=Z,19nm,0.9s,mb4.9
PGF **Pioggiola** 63.12 304 *e*P P 08 42 23.1 -0.3
PGF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
CABF **La Chapelle** 63.32 310⇑ *i*P P 08 42 24.0 -0.6
comp=Z,14nm,0.9s,mb4.8
CABF **La Chapelle** 63.32 310⇑ *i*P P 08 42 24.0 -0.6
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
LPG **La Plagne** 63.36 308⇑ *i*P P 08 42 25.3 +0.4
comp=Z,44nm,0.9s,mb5.3
LPG **La Plagne** 63.36 308⇑ *i*P P 08 42 25.3 +0.4
LPG pmax pmax
comp=Z,22nm,0.9s,mb5.3
LPL **La Plagne** 63.37 308⇑ *i*P P 08 42 25.3 +0.4
comp=Z,38nm,0.9s,mb5.2
LPL **La Plagne** 63.37 308⇑ *i*P P 08 42 25.3 +0.4
LPL pmax pmax
comp=Z,19nm,0.9s,mb5.2
BNI **Bardonecchia** 63.59 308 *e*P P 08 42 26.3 -0.1
BNI pmax pmax
comp=Z,18nm,1.1s,mb5.0
BNI **Bardonecchia** 63.59 308 *e*P P 08 42 26.3 -0.1
comp=Z,18nm,1.1s,mb5.0
SBF **Sospel** 63.60 306⇑ *i*P P 08 42 26.2 -0.3
comp=Z,64nm,1.0s,mb5.3
SBF **Sospel** 63.60 306⇑ *i*P P 08 42 26.2 -0.3
SBF pmax pmax
comp=Z,32nm,1.0s,mb5.3
KMBO **Kilima Mbogo** 63.65 248 P P 08 42 27.1 -0.2
comp=Z,4.4nm,0.8s,mb4.5,baz=52,slow=12,SNR=8.9
KMBO **Kilima Mbogo** 63.65 248 *i*P P 08 42 27.5 +0.2
KMBO pmax pmax
comp=Z,4.0nm,0.8s
MBDF **Montbardon** 63.67 307⇑ *i*P P 08 42 26.1 -0.8
comp=Z,17nm,0.8s,mb4.8
MBDF **Montbardon** 63.67 307⇑ *i*P P 08 42 26.1 -0.8
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ORIF **Oris-en-Rattie** 64.16 308⇑ *i*P P 08 42 29.7 -0.4
comp=Z,31nm,0.8s,mb5.1
FRF **La Foret Royal** 64.25 306⇑ *i*P P 08 42 30.0 -0.7
comp=Z,11nm,0.8s,mb4.6
LOR **Lormes** 64.42 311 *e*P P 08 42 30.9 -0.8
LMR **La Mourre** 64.44 306 *e*P P 08 42 31.4 -0.5
comp=Z,23nm,0.9s,mb4.9
SMF **Signal de Mont** 64.70 310⇑ *i*P P 08 42 33.1 -0.5
comp=Z,39nm,0.9s,mb5.2
SSF **Saint Saulge** 64.73 311⇑ *i*P P 08 42 33.1 -0.6
comp=Z,16nm,0.8s,mb4.8
SMRF **Simiane la Rot** 64.77 307 *e*P P 08 42 33.8 -0.2
AVF **Avril sur Loir** 64.94 311⇑ *i*P P 08 42 34.5 -0.6
comp=Z,35nm,1.0s,mb5.0
VIVF **Saint-Julien-l** 64.96 308⇑ *i*P P 08 42 35.0 -0.3
comp=Z,46nm,1.2s,mb5.1
BGF **Bois d'Agland** 65.36 311⇑ *i*P P 08 42 37.2 -0.6
comp=Z,23nm,1.0s,mb4.9
LASF **Ste Croix** 65.83 308⇑ *i*P P 08 42 41.0 +0.1
comp=Z,31nm,1.0s,mb5.0
TCF **Toulx Ste Croi** 65.87 311⇑ *i*P P 08 42 41.1 0.0
comp=Z,75nm,1.1s,mb5.3
LDF **La Druitiere** 66.23 314⇑ *i*P P 08 42 42.7 -0.6
comp=Z,27nm,1.0s,mb4.9
IMA2 **Indian Mountai** 66.39 24 *e*P P 08 42 44.1 +0.1
CAF **Calviac** 66.59 309⇑ *i*P P 08 42 46.0 +0.4
comp=Z,16nm,0.9s,mb4.8
RJF **Les Rejaudoux** 66.75 310⇑ *i*P P 08 42 47.1 +0.4
comp=Z,55nm,1.3s,mb5.1
GRR **Gorron** 66.76 314⇑ *i*P P 08 42 46.1 -0.5
comp=Z,30nm,0.9s,mb5.0
SUMG **Summit** 66.97 346 *e*P P 08 42 47.5 -0.1
comp=Z,18nm,1.1s,mb5.0
MFF **Saint Martin d** 67.17 312⇑ *i*P P 08 42 48.9 -0.4
comp=Z,56nm,1.5s,mb5.1
MTLF **Montolieu** 67.23 308⇑ *i*P P 08 42 49.7 0.0
comp=Z,11nm,0.7s,mb4.7
LFF **La Frestale** 67.41 310⇑ *i*P P 08 42 51.1 +0.3
comp=Z,34nm,0.9s,mb5.1
WRAB **Tennant Creek** 67.68 138 *e*P P 08 42 52.4 -0.5
WRAB pmax pmax
comp=Z,43nm,1.1s,mb5.4
WRAB **Tennant Creek** 67.68 138 *e*P P 08 42 52.4 -0.6
comp=Z,43nm,1.1s,mb5.4
WRA **Warramunga Arr** 67.69 138 P P 08 42 52.5 -0.5
comp=Z,12nm,0.9s,mb4.9,baz=338,slow=6.7,SNR=69
WB2 **Warramunga Arr** 67.69 138 *e*P P 08 42 52.5 -0.5
ROSF **Rostrenen** 68.19 314 *e*P P 08 42 55.7 0.0
comp=Z,28nm,1.0s,mb4.9
EPF **Esparros** 68.58 308 *e*P P 08 42 58.0 -0.2
COLA **College** 69.05 24‖ *e*P P 08 43 00.6 -0.1
COLA **College** 69.05 24 *e*P P 08 43 01.1 +0.5
comp=Z,12nm,0.9s,mb4.8
ETSF **Etsaut** 69.22 308⇑ *i*P P 08 43 02.7 +0.6
comp=Z,19nm,0.8s,mb4.7
MCK **McKinley** 69.42 25 *e*P P 08 43 03.1 +0.1
comp=Z,2.0nm,0.7s,mb4.2
ILAR **Eielson Array** 69.43 23 P P 08 43 02.4 -0.6
comp=Z,7.4nm,1.0s,mb4.6,baz=295,slow=5.3,SNR=59
SJPF **Ste Jean** 69.54 309⇑ *i*P P 08 43 04.8 +0.7
comp=Z,10nm,0.7s,mb4.5
ASPA **Alice Springs** 70.50 141 *e*P P 08 43 10.3 +0.1
INK **Inuvik** 70.59 17 *e*P P 08 43 09.6 -0.4
INK pmax pmax
comp=Z,12nm,1.2s
INK **Inuvik** 70.59 17 *e*P P 08 43 09.6 -0.4
comp=Z,12nm,1.2s,mb4.7
PMR **Palmer** 70.73 27 *e*P P 08 43 11.2 +0.2
PMR pmax pmax
comp=Z,27nm,1.2s,mb5.0
PMR **Palmer** 70.73 27 *e*P P 08 43 11.2 +0.1
comp=Z,27nm,1.2s,mb5.0
SML **Sawmill** 70.88 26 *e*P P 08 43 12.3 +0.4
DAWY **Dawson** 72.25 22 *e*P P 08 43 20.0 0.0
DIV **Divide** 72.25 26 *e*P P 08 43 20.8 +0.7
comp=Z,44nm,0.8s,mb5.4
ESDC **Sonseca Array** 73.08 307 P P 08 43 26.2 +0.8
comp=Z,6.4nm,0.8s,mb4.6,baz=49,slow=6.4,SNR=18
EVO **Evora** 76.34 308 *e*P P 08 43 45.1 +0.9
comp=Z,18nm,0.9s,mb4.7
YKW3 **Yellowknife Ar** 79.53 13 *e*P P 08 44 01.1 -0.1
YKA **Yellowknife Ar** 79.59 13 P P 08 44 01.6 0.0
comp=Z,3.5nm,0.8s,mb4.3,baz=332,slow=4.8,SNR=53
STKA **Stephens Creek** 81.11 140 *e*P P 08 44 10.5 +0.1
comp=Z,7.1nm,0.8s,mb4.7
STKA **Stephens Creek** 81.11 140 P P 08 44 10.1 -0.3
comp=Z,9.1nm,0.8s,mb4.8,baz=333,slow=4.6,SNR=14
TORD **Torodi Ar. Bea** 83.67 282 P P 08 44 24.1 +0.2
comp=Z,13nm,0.7s,mb5.1,baz=42,slow=5.1,SNR=82
EDM **Edmonton** 88.46 16 *e*P P 08 44 47.5 +1.1
DBIC **Dimbokro** 92.67 280 P P 08 45 06.8 -0.3
comp=Z,7.1nm,1.2s,mb5.0,baz=303,slow=4.8,SNR=3.2
ULM **Lac du Bonnet** 94.02 6 P P 08 45 11.2 -1.1
comp=Z,2.2nm,0.8s,mb4.6,baz=45,slow=5.6,SNR=5.1

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*IDC **21** 08:59:16.5±0.8, 35.67N×93.28E, mb4.0/12, mb1 4.2/15, mb1mx4.1/23, mbtmp4.0/15, ML3.2/2, Error ellipse: s-maj=25.1km s-min=17.9km az=49.0*
*BJI **21** 08:59:18.2, 35.94N×93.14E, h6km, ML4.1, Ms3.6, Msz3.5*
*NEIC **21** 08:59:19.5±0.6, 35.87N×93.24E, h10km, mb3.9/3, Error ellipse: s-maj=12.3km s-min=7.2km az=109.0*
*MOS **21** 08:59:21.1±1.9, 35.86N×93.12E, h33km, mb4.2/1, Error ellipse: s-maj=14.7km s-min=7.9km az=97.8*

ISC 21 08:59:21.0±1.1, **35.77N**±0.04×**93.18E**±0.08, **h38**km±11km, **n41**, σ1§**18**/43, **mb3.9**/13, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**6.29**	**196**	*e*P	**P**	**09 00 56.1**	**+2.4**
LSA	**Lhasa**	**6.29**	**196**	*e*P	**P**	**09 00 56.7**	**+3.0**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**6.29**	**196**	*e*P	**P**	**09 00 56.7**	**+3.1**
	comp=Z,9.7nm,0.7s						
GTA	**Gaotai**	**6.40**	**53**	P	**P**	**09 00 55.8**	**+0.6**
GTA				PG	**P**	**09 01 14.8**	**+20**
GTA				SG	S	09 02 37.6	+30
GTA				Smax			
	comp=N,20nm,1.2s						
GTA				Smax			
	comp=E,10.0nm,1.3s						
GTA				LR	LR		
	comp=N,390nm,14.4s						
GTA				LR	LR		
	comp=E,390nm,11.4s						
GTA				LR	LR		
	comp=Z,480nm,13.7s						
WMQ	**Urumqi**	**9.08**	**334**	*e*P	**P**	**09 01 31.6**	**-0.9**
WMQ				S	**S**	**09 03 15.0**	**+0.5**
WMQ				Smax			
	comp=N,60nm,0.8s						
WMQ				Smax			
	comp=E,130nm,1.0s						
GUN	**Gumba**	**9.99**	**220**	*e*P	**P**	**09 01 45.6**	**+0.5**

JIRN	**Jiri**	**10.04**	**218**	*e*P		**P**	**09 01 45.8**	**+0.1**
	comp=E,15nm,0.7s							
KKN	**Kakani**	**10.41**	**222**	*e*P		**P**	**09 01 51.0**	**+0.2**
	comp=E,7.0nm,0.4s							
KKN	**Kakani**	**10.41**	**222**	*e*P		**P**	**09 01 51.0**	**+0.2**
KKN				pmax	pmax			
	comp=Z,4.0nm,0.4s							
GKN	**Gorkha**	**10.61**	**226**	*e*P		**P**	**09 01 52.0**	**-1.6**
	comp=Z,17nm,0.6s							
KOLN	**Koldanda**	**11.40**	**228**	*e*P		**P**	**09 02 03.4**	**-0.8**
MKAR	**Makanchi Array**	**13.71**	**327**	Pn		**P**	**09 02 32.3**	**-2.6**
	comp=Z,2.9nm,0.3s,baz=139,slow=14,SNR=112							
MKAR				Lg			09 06 38.7	
	comp=Z,0.1nm,0.3s,baz=162,slow=23,SNR=2.9							
MKAR	**Makanchi Array**	**13.71**	**327**	Pn		**P**	**09 02 32.3**	**-2.6**
MKAR				Lg			09 06 38.7	
SONM	**Songino Array**	**15.54**	**35**	Pn		**P**	**09 02 58.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=228,slow=12,SNR=7.5							
SONM				Lg			09 07 35.4	
	comp=Z,0.3nm,0.3s,baz=227,slow=26,SNR=6.1							
ULN	**Ulaanbaatar**	**15.88**	**36**	*e*P		**P**	**09 03 04.0**	**+0.9**
ULN				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ULN	**Ulaanbaatar**	**15.88**	**36**	*e*P		**P**	**09 03 04.0**	**+0.9**
	comp=Z,7.5nm,0.9s							
AAK	**Ala-Archa**	**16.01**	**301**	P		**P**	**09 03 05.6**	**+0.8**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AAK	**Ala-Archa**	**16.01**	**301**	P		**P**	**09 03 05.6**	**+0.8**
	comp=Z,3.2nm,0.8s							
ZAK	**Zakamensk**	**16.34**	**24**	*e*P		**P**	**09 03 12.1**	**+3.2**
ZAK				pmax	pmax			
	comp=Z,20nm,1.4s							
KURK	**Kurchatov**	**18.27**	**329**	*e*P		**P**	**09 03 30.4**	**-2.7**
KURK				pmax	pmax			
	comp=Z,107nm,0.4s							
KURK	**Kurchatov**	**18.27**	**329**	*e*P		**P**	**09 03 30.4**	**-2.7**
	comp=Z,107nm,0.4s							
ZAL	**Zalesovo**	**19.09**	**345**	P		**P**	**09 03 41.9**	**-1.0**
	comp=Z,1nm,0.3s,baz=314,slow=10,SNR=4.8							
NVS	**Novosibirsk**	**20.27**	**343**	*e*P		**P**	**09 03 53.8**	**-1.9**
BVAR	**Borovoye Array**	**23.56**	**324**	P		**P**	**09 04 29.8**	**+1.4**
	comp=Z,1.7nm,0.6s,mb3.6,baz=124,slow=11,SNR=6.0							
BRVK	**Borovoye**	**23.63**	**324**	*e*P		**P**	**09 04 30.4**	**+1.3**
CHKZ	**Chkalovo**	**23.86**	**326**	*e*P		**P**	**09 04 32.3**	**+0.9**
CHKZ				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.0							
CHKZ	**Chkalovo**	**23.86**	**326**	*e*P		**P**	**09 04 32.2**	**+0.9**
	comp=Z,6.0nm,0.9s,mb4.0							
ZRNK	**Zerenda**	**24.18**	**323**	*e*P		**P**	**09 04 37.8**	**+3.2**
BRTR	**Keskin Array B**	**46.50**	**294**	P		**P**	**09 07 47.5**	**+1.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=108,slow=7.8,SNR=5.1							
FINES	**FINESS Array B**	**48.52**	**324**	P		**P**	**09 08 01.2**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=90,slow=7.6,SNR=7.0							
NB2	**NORSAR Subarra**	**55.69**	**324**	P		**P**	**09 08 54.7**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=76,slow=7.0							
NOA	**NORSAR Array B**	**55.69**	**324**	P		**P**	**09 08 53.8**	**-1.6**
	comp=Z,1.7nm,0.7s,mb4.2,baz=78,slow=7.1,SNR=5.4							
GERES	**GERESS Array B**	**57.66**	**310**	P		**P**	**09 09 10.2**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=72,slow=4.2,SNR=7.1							
WRA	**Warramunga Arr**	**67.75**	**138**	P		**P**	**09 10 15.8**	**-1.1**
	comp=Z,2.1nm,1.0s,mb4.1,baz=336,slow=6.9,SNR=7.8							
ILAR	**Eielson Array**	**69.40**	**23**	P		**P**	**09 10 26.2**	**-0.1**
	comp=Z,1.2nm,0.9s,mb3.8,baz=302,slow=4.8,SNR=7.5							
INK	**Inuvik**	**70.56**	**17**	P		**P**	**09 10 33.1**	**-0.3**
	comp=Z,1.6nm,0.9s,mb4.0,baz=336,slow=10,SNR=5.8							
ESDC	**Sonseca Array**	**73.02**	**307**	P		**P**	**09 10 49.0**	**+0.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=49,slow=6.0,SNR=4.0							
YKA	**Yellowknife Ar**	**79.55**	**13**	P		**P**	**09 11 24.9**	**0.0**
	comp=Z,0.6nm,0.9s,mb3.5,baz=345,slow=4.8,SNR=8.8							
STKA	**Stephens Creek**	**81.18**	**140**	P		**P**	**09 11 33.4**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=5.7,slow=10,SNR=2.2							
STKA	**Stephens Creek**	**81.18**	**140**	P		**P**	**09 11 33.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**83.63**	**282**	P		**P**	**09 11 47.5**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.3,baz=46,slow=5.3,SNR=10							

*IDC **21** 09:02:37.4±0.7, 4.96N×82.63W, mb4.2/15, mb1 4.4/16, mb1mx4.3/26, mbtmp4.3/16, ML4.3/1, Error ellipse: s-maj=26.8km s-min=12.9km az=58.0*
*NEIC **21** 09:02:38.8±0.4, 5.04N×82.49W, h10km, mb4.5/6, Error ellipse: s-maj=14.4km s-min=6.3km az=61.0*
ISC 21 09:02:40.2±0.4, 5.11N±0.04×82.60W±0.06, h33km, n44, σ1§31/48, mb4.2/19, 3C-3D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**3.66**	**359**	↓*i*P	**P**	**09 03 35.6**	**-0.2**
BRU2				*e*S	**S**	**09 04 19.4**	**+1.0**
BUS	**Buena Vista**	**4.56**	**345**	↓*e*P	**P**	**09 03 48.1**	**-0.6**
LCR2	**La Lucha 2**	**4.80**	**343**	↑*e*P	**P**	**09 03 50.7**	**-1.4**
LAJ	**Bijagual**	**4.96**	**342**	↑*e*P	**P**	**09 03 52.8**	**-1.4**
SJS	**Escuela Geolog**	**5.01**	**343**	*e*P	**P**	**09 03 54.2**	**-0.7**
PRS1	**Puriscal**	**5.13**	**341**	↓*e*P	**P**	**09 03 54.0**	**-2.6**
VPS2	**Volcan Poas 2**	**5.30**	**342**	↑*e*P	**P**	**09 03 58.6**	**-0.4**
JTS	**JuntasAbangare**	**5.65**	**336**	*e*P	**P**	**09 04 02.3**	**-1.6**
	150nm,0.5s						
FORC	**Fortuna**	**5.70**	**339**	*e*P	**P**	**09 04 04.5**	**-0.2**
VCR	**Vista de Mar**	**5.82**	**329**	*e*P	**P**	**09 04 04.4**	**-1.9**
OTAV	**Otavalo**	**6.37**	**139**	*e*P	**P**	**09 04 09.5**	**-4.7**
	12nm,0.6s						
ROSC	**El Rosal**	**8.24**	**91**	Pn	**P**	**09 04 43.6**	**+3.4**
	2.3nm,0.3s,baz=87,slow=10,SNR=6.1						
ROSC				Sn	**Sn**	**09 06 17.5**	**+4.0**
	1.7nm,0.3s,baz=85,slow=19,SNR=1.8						
SDV	**Santo Domingo**	**12.46**	**72**	Pn	**P**	**09 05 39.1**	**+1.1**
	1.8nm,0.3s,baz=293,slow=10,SNR=13						
SDV				Sn	**S**	**09 07 56.1**	**-0.5**
	1.5nm,0.3s,baz=21,slow=17,SNR=3.6						
SDV	**Santo Domingo**	**12.46**	**72**	*e*P	**P**	**09 05 35.4**	**-2.6**
SDV				Sn	**S**	**09 07 56.1**	**-0.5**
NNA	**Nana**	**17.93**	**161**	*e*P	**P**	**09 06 48.2**	**-0.5**
	21nm,0.9s						
SJG	**San Juan**	**20.63**	**50**	P	**P**	**09 07 21.4**	**+1.9**
	23nm,0.7s,baz=312,slow=16,SNR=9.1						
SJG	**San Juan**	**20.63**	**50**	*e*P	**P**	**09 07 19.4**	**0.0**
ARE	**Arequipa**	**24.09**	**153**	*e*P	**P**	**09 07 55.0**	**+1.1**
LPAZ	**La Paz**	**25.63**	**146**	P	**P**	**09 08 08.7**	**0.0**
	3.9nm,0.8s,mb4.0,baz=329,slow=7.9,SNR=14						
LPAZ	**La Paz**	**25.63**	**146**	*e*P	**P**	**09 08 08.6**	**-0.2**
	4.9nm,0.9s,mb4.0						
LRAL	**Lakeview Retre**	**28.08**	**352**	*e*P	**P**	**09 08 31.7**	**+0.7**
	8.8nm,0.8s,mb4.4						
SIV	**San Ignacio**	**29.89**	**135**	P	**P**	**09 08 46.5**	**-0.8**
	3.4nm,1.1s,mb4.0,baz=288,slow=10,SNR=9.4						
WVT	**Waverly**	**31.24**	**352**	*e*P	**P**	**09 08 58.6**	**-0.5**
	8.6nm,0.9s,mb4.6						
TXAR	**Lajitas Array**	**31.27**	**323**	P	**P**	**09 09 00.2**	**+0.8**
	0.7nm,0.8s,mb3.5,baz=142,slow=8.3,SNR=5.9						
CCM	**Cathedral Cave**	**33.72**	**348**	*e*P	**P**	**09 09 20.1**	**-0.6**
	8.1nm,0.8s,mb4.7						
ANMO	**Albuquerque**	**36.98**	**326**	P	**P**	**09 09 51.2**	**+2.7**
	5.2nm,1.1s,mb4.3,baz=147,slow=8.7,SNR=10						
ANMO	**Albuquerque**	**36.98**	**326**	*e*P	**P**	**09 09 50.6**	**+2.1**
SDCO	**Great Sand Dun**	**38.62**	**330**	*e*P	**P**	**09 10 05.0**	**+2.9**
	11nm,1.2s,mb4.5						
CFAA	**Coronel Fontan**	**39.00**	**160**	P	**P**	**09 10 04.9**	**-0.4**
	0.3nm,0.8s,mb3.1,baz=325,slow=6.9,SNR=5.6						
CPUP	**Villa Florida**	**39.71**	**143**	*e*P	**P**	**09 10 09.4**	**-1.9**
NEN	**Nelson**	**42.48**	**320**	*e*P	**P**	**09 10 36.7**	**+2.6**
PDAR	**Pinedale Array**	**44.46**	**332**	P	**P**	**09 10 51.5**	**+1.5**
	1.5nm,0.7s,mb3.8,baz=124,slow=8.9,SNR=13						
ULM	**Lac du Bonnet**	**46.35**	**348**	P	**P**	**09 11 04.4**	**-0.5**
	1.8nm,0.8s,mb4.0,baz=155,slow=13,SNR=4.3						
NVAR	**Mina Array Bea**	**46.36**	**321**	P	**P**	**09 11 08.1**	**+2.8**
	4.0nm,0.9s,mb4.3,baz=128,slow=8.5,SNR=20						
PLCA	**Paso Flores**	**46.94**	**167**	P	**P**	**09 11 07.9**	**-1.8**
	1.2nm,0.6s,mb4.0,baz=326,slow=3.6,SNR=3.3						
YBH	**Yreka Blue Hor**	**51.03**	**322**	P	**P**	**09 11 40.4**	**-0.8**
	2.7nm,0.9s,mb4.2,baz=144,slow=8.5,SNR=3.9						
SCHQ	**Schefferville**	**51.18**	**12**	P	**P**	**09 11 42.1**	**-0.2**
	5.7nm,0.8s,mb4.5,baz=184,slow=3.7,SNR=4.8						
EDM	**Edmonton**	**54.16**	**338**	*e*P	**P**	**09 12 04.9**	**+0.4**
YKA	**Yellowknife Ar**	**61.93**	**344**	P	**P**	**09 12 58.9**	**+0.1**
	2.0nm,0.8s,mb4.3,baz=140,slow=6.4,SNR=32						
DLBC	**Dease Lake**	**64.55**	**335**	P	**P**	**09 13 17.3**	**+1.2**
	4.9nm,0.8s,mb4.6,baz=117,slow=4.2,SNR=5.7						
DLBC	**Dease Lake**	**64.55**	**335**	P	**P**	**09 13 17.3**	**+1.2**
INK	**Inuvik**	**71.60**	**342**	P	**P**	**09 14 01.5**	**+1.7**
	4.6nm,0.8s,mb4.4,baz=113,slow=7.1,SNR=11						
INK	**Inuvik**	**71.60**	**342**	P	**P**	**09 14 01.5**	**+1.7**
ILAR	**Eielson Array**	**74.62**	**336**	P	**P**	**09 14 19.1**	**+1.5**
	2.7nm,0.8s,mb4.2,baz=113,slow=4.2,SNR=27						

*IDC **21** 09:31:55.6±45.0, 37.18N×21.05E, mb3.8/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=877.6km s-min=54.7km az=37.0*
*ATH **21** 09:31:58.6, 37.21N×20.95E, h4km±1km, MD3.8/10, ML3.7*
*NEIC **21** 09:31:58.7, 37.19N×20.96E, h6km, ML3.7(ATH), After ATH.*
*CSEM **21** 09:31:59.2±0.3, 37.23N×20.96E, h10km, ML3.7, Error ellipse: s-maj=6.3km s-min=2.3km az=32.0*
ISC 21 09:31:58.5±1.1, 37.20N±0.06×21.00E±0.07, h4km, n30, σ1§19/34, mb3.9/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.74**	**91**	*e*PB	**Pb**	**09 32 13.6**	**+0.1**
ITM				*e*SG	**Sg**	**09 32 24.1**	**+1.0**
RLS	**Riolos of Patr**	**0.94**	**23**	*e*PG	**Pg**	**09 32 16.3**	**-0.9**
VLS	**Valsamata**	**1.03**	**342**	*e*PG	**Pg**	**09 32 18.1**	**-1.0**
VLS				*e*SG	**Sg**	**09 32 31.4**	**-1.5**
VLS	**Valsamata**	**1.03**	**342**	*e*Pg	**Pg**	**09 32 18.1**	**-1.0**
VLS				*e*Sg	**Sg**	**09 32 33.7**	**+0.8**
LKD	**Levkas**	**1.53**	**350**	*e*P	**Pn**	**09 32 26.5**	**-0.3**
ITM	**Veliai**	**1.62**	**107**	*e*PG	**Pg**	**09 32 29.8**	**-1.1**
EVR	**Evrytania**	**1.83**	**20**	*e*PB	**Pb**	**09 32 33.2**	**+1.0**
EVR				*e*SG	**Sg**	**09 32 58.3**	**-1.2**
KYTH	**Kithira**	**1.87**	**119**	*e*PG	**Pg**	**09 32 34.2**	**-1.7**
AGG	**Agios Georgios**	**2.10**	**29**	*e*P	**Pn**	**09 32 35.9**	**+1.0**
LKR	**Lokris**	**2.14**	**47**	*e*PB	**Pb**	**09 32 36.7**	**-0.9**
ATH	**Athens Observa**	**2.29**	**69**	*e*PN	**Pn**	**09 32 39.6**	**+2.0**
MPAR	**Parnis Oros**	**2.37**	**65**	*e*PN	**Pn**	**09 32 40.5**	**+1.8**
JAN	**Janina**	**2.46**	**357**	*e*PN	**Pn**	**09 32 42.0**	**+2.0**
MEV	**Metsovon**	**2.59**	**4**	*e*P	**Pn**	**09 32 43.2**	**+1.3**
KEK	**Kerkira**	**2.68**	**340**	*e*PN	**Pn**	**09 32 44.0**	**+0.7**
NEO	**Neokhori**	**2.74**	**39**	*e*PN	**Pn**	**09 32 45.6**	**+1.6**
XOR	**Xorichti**	**2.77**	**38**	*e*P	**Pn**	**09 32 44.7**	**+0.3**
AOS	**Aonnisos**	**3.00**	**48**	*e*P	**Pn**	**09 32 47.3**	**-0.5**
LIT	**Litokhoron**	**3.12**	**21**	*e*P	**Pn**	**09 32 50.1**	**+0.6**
KZN	**Kozani**	**3.16**	**11**	*e*PN	**Pn**	**09 32 51.7**	**+1.6**
PAIG	**Paliouri**	**3.44**	**37**	*e*P	**Pn**	**09 32 52.8**	**-1.2**
FNA	**Florina**	**3.59**	**5**	*e*P	**Pn**	**09 32 55.9**	**-0.3**
OUR	**Ouranopolis**	**3.90**	**36**	*e*P	**Pn**	**09 32 59.4**	**-1.2**
OUR	**Ouranopolis**	**3.90**	**36**	*e*P	**Pn**	**09 32 59.3**	**-1.3**
GRG	**Griva**	**3.91**	**16**	*e*P	**Pn**	**09 32 59.9**	**-0.8**
LOS	**Limnos**	**4.21**	**48**	*e*P	**Pn**	**09 33 03.7**	**-1.2**
KNT	**Kendrikon**	**4.22**	**20**	*e*P	**Pn**	**09 33 04.9**	**-0.3**
FINES	**FINESS Array B**	**24.48**	**6**	P	**P**	**09 37 16.1**	**-3.3**
	3.1nm,0.9s,mb3.7,baz=194,slow=12,SNR=4.6						
ARCES	**ARCESS Array B**	**32.49**	**3**	P	**P**	**09 38 27.7**	**-4.2**
	2.9nm,1.0s,mb4.1,baz=188,slow=8.6,SNR=6.9						
MKAR	**Makanchi Array**	**45.50**	**58**	P	**P**	**09 40 16.3**	**-4.2**
	0.7nm,0.5s,mb3.6,baz=278,slow=7.6,SNR=13						

IDC 21 10:03:01.5±1.1, 12.24N×141.20E, mb3.8/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=48.6km s-min=26.9km az=85.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**32.68**	**192**	*e*P	P	10 09 36.5	-1.3
WRA	**Warramunga Arr**	**32.68**	**192**	P	P	10 09 35.5	-2.3
	1.3nm,0.6s,baz=10,slow=9.8,SNR=11						
SONM	**Songino Array**	**45.86**	**328**	P	P	10 11 25.9	-1.3
	0.4nm,0.7s,baz=135,slow=8.2,SNR=2.4						
MKAR	**Makanchi Array**	**60.01**	**317**	P	P	10 13 10.7	-1.6
	1.6nm,0.8s,baz=90,slow=8.5,SNR=6.0						
ILAR	**Eielson Array**	**71.31**	**25**	P	P	10 14 22.7	-1.9
	0.3nm,0.7s,baz=241,slow=5.7,SNR=6.2						
FINES	**FINESS Array B**	**90.84**	**334**	P	P	10 16 05.0	-2.9
	1.9nm,0.7s,baz=72,slow=6.0,SNR=5.7						
LPAZ	**La Paz**	**151.30**	**102**	PKPbc	PKPdf	10 22 59.4	+5.7
	0.5nm,0.6s,baz=278,slow=7.3,SNR=4.1						

IDC 21 10:20:22.5±0.9, 12.25N×141.18E, mb4.0/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.0/5, MS3.6/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=50.8km s-min=23.3km az=92.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**20.81**	**357**	LR	LR	10 30 41.9	
	comp=Z,169nm,21.5s,baz=288,slow=30						
WRA	**Warramunga Arr**	**32.69**	**192**	P	P	10 26 56.6	-2.3
	2.2nm,0.8s,baz=10,slow=9.9,SNR=17						
STKA	**Stephens Creek**	**43.88**	**179**	P	P	10 28 30.4	-2.2
	1.6nm,0.7s,baz=351,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**59.98**	**317**	P	P	10 30 31.6	-1.6
	0.3nm,0.7s,baz=98,slow=8.6,SNR=4.9						
ILAR	**Eielson Array**	**71.31**	**25**	P	P	10 31 43.5	-2.2
	0.6nm,0.7s,baz=247,slow=6.1,SNR=13						
FINES	**FINESS Array B**	**90.82**	**334**	P	P	10 33 26.5	-2.2
	1.7nm,0.8s,baz=72,slow=6.0,SNR=4.5						
LPAZ	**La Paz**	**151.33**	**102**	PKPbc	PKPdf	10 40 20.7	+6.0
	1.1nm,0.6s,baz=274,slow=6.8,SNR=5.9						

*CSEM **21** 10:26:31.9±1.6, 39.11N×28.57W, ML2.1, Error ellipse: s-maj=10.0km s-min=4.7km az=143.0, After PDA*
*PDA **21** 10:26:31.9±1.6, 39.11N×28.57W, MD3.4, ML2.1, Error ellipse: s-maj=10.0km s-min=4.7km az=143.0*
SVSA 21 10:26:31.9±1.6, 39.11N×28.57W, MD3.4, ML2.1, Error ellipse: s-maj=10.0km s-min=4.7km az=143.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLUZ	**Luz**	**0.33**	**253**	*e*S	Sg	10 26 47.4	+4.6
	28nm,0.1s						
PVIA	**Vitoria**	**0.41**	**96**	*e*S	Sg	10 26 45.6	+0.1
	15nm,0.2s						
STGR	**Santa Cruz**	**0.45**	**94**	*e*S	Sg	10 26 46.4	-0.3
	52nm,0.2s						
STGR	**Santa Cruz**	**0.45**	**94**	*e*S	Sg	10 26 46.4	-0.3
	52nm,0.2s						
PGRA	**Graciosa**	**0.47**	**100**	*e*P	Pg	10 26 40.2	-1.0
PGRA				*e*S	Sg	10 26 46.4	-1.1
	227nm,0.3s						
PGRA	**Graciosa**	**0.47**	**100**	*e*P	Pg	10 26 40.2	-1.0
PGRA				*e*S	Sg	10 26 46.4	-1.1
	227nm,0.3s						
ROSA	**Rosais**	**0.47**	**146**	*e*P	Pg	10 26 40.4	-0.9
ROSA				*e*S	Sg	10 26 46.9	-0.6
PCED	**Cedros**	**0.49**	**192**	*e*P	Pg	10 26 40.7	-1.0
PCED				*e*S	Sg	10 26 47.5	-0.8
	174nm,0.2s						
PCED	**Cedros**	**0.49**	**192**	*e*P	Pg	10 26 40.7	-1.0
PCED				*e*S	Sg	10 26 47.5	-0.8
	174nm,0.2s						
PAMA	**Santo Amaro**	**0.53**	**144**	*e*S	Sg	10 26 48.9	-0.6
CALA	**Caldeira**	**0.54**	**191**	*e*S	Sg	10 26 48.8	-1.0
PTCA	**Ponta do Capel**	**0.55**	**198**	*e*S	Sg	10 26 49.8	-0.5
	43nm,0.1s						
PTCA	**Ponta do Capel**	**0.55**	**198**	*e*S	Sg	10 26 49.8	-0.5
	43nm,0.1s						
PMAN	**Manadas**	**0.61**	**142**	*e*S	Sg	10 26 50.3	-1.9
	66nm,0.1s						
PMAN	**Manadas**	**0.61**	**142**	*e*S	Sg	10 26 50.3	-1.9
	66nm,0.1s						
PICO	**Pico**	**0.62**	**169**	*e*P	Pg	10 26 42.8	-1.5
PICO				*e*S	Sg	10 26 51.1	-1.4
PCND	**Candelaria**	**0.65**	**172**	*e*P	Pg	10 26 43.9	-0.9
PCND				*e*S	Sg	10 26 52.1	-1.3
	30nm,0.2s						
PBOI	**Pico dos Bois**	**0.69**	**167**	*e*S	Sg	10 26 53.3	-1.6
	25nm,0.3s						
PBIS	**Biscoitos**	**1.09**	**108**	*e*S	Sb	10 27 02.9	-5.0
	10.0nm,0.1s						

*MOS **21** 10:29:43.4±1.1, 57.35N×120.78E, h16km, mb4.3/1, Error ellipse: s-maj=30.3km s-min=25.6km az=159.2*
BYKL 21 10:29:41.1±0.5, 57.48N×120.90E, 2C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.75**	**222**	↓*i*Pg	Pg	10 29 55.3	-0.8
KHNR				*e*Sg	Sg	10 30 04.5	-1.6
YKLR	**Yuktali**	**0.98**	**155**	*e*Pg	Pg	10 29 59.8	-0.9
YKLR				*e*Sg	Sg	10 30 12.8	-1.0
YKLR				Smax			
	1µm,0.1s						
CRS	**Chara**	**1.55**	**249**	↓*i*Pg	Pg	10 30 09.7	-2.3
CRS				*e*Sg	Sg	10 30 29.1	-3.5
CRS				Pmax			
	230nm,0.8s						
CRS				Smax			
	297nm,1.2s						
CRS	**Chara**	**1.55**	**249**	*e*P	Pn	10 30 09.8	-0.2
CRS				*e*		10 30 29.2	
CRS				pmax	pmax		
	comp=Z,216nm,0.4s						
CRS				smax			
	comp=N,204nm,0.6s						
NRGR	**Nerungri**	**2.25**	**110**	*e*P	Pn	10 30 22.6	+2.6
NRGR				S	Sn	10 30 50.2	+1.4
CLNS	**Chul'man**	**2.27**	**105**	*e*P	Pn	10 30 22.5	+2.1
CLNS				*e*S	Sn	10 30 50.3	+0.9
CLNS				pmax	pmax		
	comp=N,5.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,51nm,0.4s						
CLNS				pmax	pmax		
	comp=N,13nm,0.3s						
CLNS				pmax	pmax		
	comp=E,14nm,0.3s						
CLNS				smax			
	comp=N,22nm,0.3s						
CLNS				smax			
	comp=E,42nm,0.3s						
CLNS				smax			
	comp=Z,13nm,0.3s						
CLNS				smax			
	comp=E,616nm,0.4s						
CLNS				smax			
	comp=N,243nm,0.3s						
CLNS				smax			
	comp=Z,124nm,0.3s						
CLNS				MLR	MLR		
	comp=Z,20nm,10.0s						
NLYR	**Nelyaty**	**3.01**	**253**	*e*Pn	Pn	10 30 30.6	-0.4
NLYR				*e*Pg	Pg	10 30 35.4	-5.8
NLYR				*e*Sg	Sg	10 31 13.8	-7.6
NLYR				*e*SgSg		10 31 19.2	
NLYR				Pmax			
	comp=Z,60nm,0.5s						
NLYR				max			
	comp=Z,363nm,0.9s						
NLYR	**Nelyaty**	**3.01**	**253**	*e*P	Pn	10 30 30.5	-0.5
NLYR				*e*		10 31 13.2	
NLYR				pmax	pmax		
	comp=Z,62nm,0.4s						
NLYR				smax			
	comp=N,363nm,0.9s						
TUP	**Tupik**	**3.11**	**190**	*e*Pn	Pn	10 30 30.8	-1.5
TUP				*e*Pg	Pg	10 30 36.1	-7.1
TUP				*e*		10 30 38.7	
TUP				*e*Sn	Sn	10 31 06.4	-4.3
TUP				*e*Sg	Sg	10 31 15.8	-8.8
TUP				max			
	comp=N,81nm,0.7s						
TUP				Smax			
	comp=N,311nm,1.2s						
TUP	**Tupik**	**3.11**	**190**	*e*P	Pn	10 30 30.8	-1.5
TUP				*e*S	Sn	10 31 06.9	-3.8
TUP				pmax	pmax		
	comp=Z,69nm,0.4s						
TUP				smax			
	comp=E,309nm,0.8s						
TNDR	**Tynda**	**3.16**	**136**	↑*i*Pn	Pn	10 30 32.6	-0.5
TNDR				*e*Pg	Pg	10 30 38.6	-5.6
TNDR				*e*Sn	Sn	10 31 07.5	-4.6
TNDR				*e*Sg	Sg	10 31 19.2	-7.2
TNDR				Pmax			
	comp=E,120nm,0.2s						
TNDR				Smax			
	comp=E,1µm,0.2s						
BOD	**Bodaibo**	**3.72**	**278**	*e*Pn	Pn	10 30 39.9	-1.1
BOD				*e*Pg	Pg	10 30 48.2	-7.2
BOD				*e*Sg	Sg	10 31 35.6	-9.4
BOD				Pmax			
	comp=E,15nm,0.3s						
BOD				Smax			
	comp=E,117nm,0.5s						
BOD	**Bodaibo**	**3.72**	**278**	*e*P	Pn	10 30 39.2	-1.8
BOD				pmax	pmax		
	comp=Z,20nm,0.2s						
SVKR	**Severomuysk**	**4.26**	**254**	*e*Pg	Pg	10 30 58.3	-7.9
SVKR				*e*Sg	Sg	10 31 52.3	-11

XOR	**Xorichti**	**1.24**	**32**	*e*Pg	**Pg**	**10 32 05.2**	**-0.3**
XOR				*e*Sg	**Sg**	**10 32 22.8**	**+0.6**
LKD	**Levkas**	**1.38**	**287**	*e*Pg	**Pg**	**10 32 08.2**	**-0.2**
VLS	**Valsamata**	**1.39**	**265**	*e*PN	**Pn**	**10 32 07.8**	**+0.8**
AOS	**Alonnisos**	**1.47**	**54**	*e*Pg	**Pg**	**10 32 08.3**	**-1.9**
AOS				*e*Sg	**Sg**	**10 32 27.6**	**-2.2**
VLI	**Veliai**	**1.66**	**163**	*e*PB	**Pb**	**10 32 11.3**	**-0.3**
MEV	**Metsovon**	**1.71**	**330**	*e*Pb	**Pb**	**10 32 13.2**	**+0.8**
MEV				*e*Sb	**Sb**	**10 32 36.2**	**+2.1**
MEV	**Metsovon**	**1.71**	**330**	*e*Pb	**Pb**	**10 32 13.1**	**+0.7**
MEV				*e*Sb	**Sb**	**10 32 36.2**	**+2.1**
LIT	**Litokhoron**	**1.79**	**4**	*e*Pb	**Pb**	**10 32 13.4**	**-0.4**
PAIG	**Paliouri**	**1.92**	**32**	*e*Pb	**Pb**	**10 32 14.2**	**-1.8**
OUR	**Ouranopolis**	**2.38**	**32**	*e*Pn	**Pn**	**10 32 20.8**	**-0.4**
FNA	**Florina**	**2.58**	**343**	*e*Pn	**Pn**	**10 32 24.6**	**+0.7**
FNA	**Florina**	**2.58**	**343**	*e*Pn	**Pn**	**10 32 24.6**	**+0.6**
GRG	**Griva**	**2.64**	**1**	*e*Pn	**Pn**	**10 32 25.4**	**+0.5**
KNT	**Kendrikon**	**2.88**	**8**	*e*Pn	**Pn**	**10 32 28.5**	**+0.2**

CASC 21 10:42:26.3±2.2, 13.61N×89.07W, h10km±6km, MD3.7, ML3.0, 3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNET	**Serv Nac Est T**	**0.18**	**296**	⇓*iP*	Pg	10 42 29.5	-0.7
SNET				*e*S	Sg	10 42 32.7	-0.2
SNVI	**San Vicente**	**0.22**	**89**	*e*P	Pg	10 42 39.3	+8.2
SNVI				*e*S	Sg	10 42 43.0	+8.8
SBLS	**San Blas**	**0.59**	**293**	*e*P	Pg	10 42 45.6	+7.5
SBLS				*e*S	Sg	10 42 54.5	+8.5
RTR	**El Retiro**	**0.63**	**297**	*e*P	Pb	10 42 46.3	+7.4
RTR				*e*S	Sg	10 42 56.6	+9.2
CAHU	**Cacacuatique**	**0.85**	**79**	*e*P	Pb	10 42 50.2	+7.5
CAHU				*e*S	Sb	10 43 02.5	+8.6
CNCH	**Conchagua**	**1.25**	**105**	*e*P	Pb	10 42 57.7	+8.2
CNCH				*e*S	Sb	10 43 15.2	+10
IXG	**Ixpaco**	**1.46**	**293**	⇓*e*P	Pn	10 42 52.3	-0.5
IXG				*e*S	Sb	10 43 13.1	+1.5
MRL	**Marmol**	**1.57**	**337**	⇓*e*P	Pn	10 42 54.2	-0.3
MRL				*e*S	Sb	10 43 14.9	+0.1
MRL				AML	AML	10 43 17.8	
	comp=E,219nm,0.3s						

MAN 21 11:17:36.2, 9.19N×125.47E, h1km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.26**	**144**	*e*P	Pg	11 17 41.2	-0.2
BUTP				*e*S	Sg	11 17 46.7	+1.7
SCPH	**Surigao**	**0.59**	**2**	*e*P	Pg	11 17 47.5	-0.5
SCPH				*e*S	Sg	11 17 57.3	+1.3
CGP	**Cagayan de Oro**	**1.05**	**226**	⇑*iP*	Pb	11 17 56.7	-0.1
CGP				*i* S	Sb	11 18 13.0	+2.0
MSLP	**Maasin**	**1.12**	**328**	*e*P	Pb	11 17 57.1	-0.8
BUKP	**Musuan**	**1.36**	**197**	*e*P	Pb	11 18 02.0	-0.1
BUKP				*e*S	Sb	11 18 22.9	+3.0
PAGZ	**Pagadian**	**2.45**	**237**	*e*P	Pn	11 18 18.3	+0.4
PAGZ				*e*S	Sn	11 18 50.8	+1.8

MAN 21 12:09:13.8, 17.21N×119.90E, h8km, mb4.2, ML3.1, MS2.8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.82**	**179**	*e*P	Pb	12 09 29.8	-0.1
BOLP				*e*S	Sb	12 09 41.3	+0.5
ABRA	**Dolores**	**0.89**	**60**	*e*P	Pb	12 09 31.2	+0.1
ABRA				*e*S	Sb	12 09 44.3	+1.5
BCPH	**Baguio City Da**	**1.05**	**141**	⇓*e*P	Pb	12 09 33.5	-0.3
BCPH				*e*S	Sb	12 09 49.4	+1.9
SCZP	**Santa Cruz**	**1.42**	**180**	*e*P	Pn	12 09 39.1	-1.0
SCZP				*e*S	Sb	12 09 58.0	-0.3
APYP	**Conner**	**1.44**	**63**	*e*P	Pn	12 09 39.1	-1.1
APYP				*e*S	Sb	12 09 54.5	-4.2
CAUP	**Cauayan**	**1.86**	**98**	*e*P	Pn	12 09 48.9	+2.6
BALP	**Baler**	**2.17**	**132**	*e*P	Pn	12 09 52.1	+1.4
BALP				*e*S	Sn	12 10 22.7	+4.6
SJMP	**San Jose**	**4.86**	**166**	*e*P	Pn	12 10 59.4	+30
SJMP				*e*S	Sn	12 11 09.9	-16

NEIC 21 12:31:07.2, 62.94N×149.07W, h0km, ML3.7(PMR), **ML3.2**(AEIC), **After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.75**	**313**	P	Pg	12 31 21.5	-0.8
TRF				S	Sg	12 31 32.5	+0.2
MCK	**McKinley**	**0.80**	**4**	P	Pg	12 31 22.3	-0.9
MCK				S	Sg	12 31 33.2	-0.7
KTH	**Kantishna Hill**	**1.04**	**307**	P	Pb	12 31 26.8	-1.0
KTH				S	Sb	12 31 41.4	-0.4
GHO	**Glory Hole Cre**	**1.17**	**177**	P	Pb	12 31 28.6	-1.4
SML	**Sawmill**	**1.19**	**163**	P	Pb	12 31 29.2	-1.1
PMR	**Palmer**	**1.35**	**181**	P	Pb	12 31 31.8	-1.4
PAX	**Paxson**	**1.65**	**87**	P	Pn	12 31 36.8	-0.7
FIB	**Fire Island**	**1.85**	**197**	P	Pn	12 31 40.8	+0.2
RC01	**Rabbit Creek A**	**1.88**	**190**	P	Pn	12 31 40.4	-0.5
COLA	**College**	**2.02**	**15**	P	Pn	12 31 42.1	-0.7
IL1	**Eielson Array**	**2.08**	**27**	P	Pn	12 31 43.1	-0.6
DIV	**Divide**	**2.39**	**138**	P	Pn	12 31 47.5	-0.7
MENT	**Mentasta**	**2.45**	**88**	P	Pn	12 31 48.9	-0.1
SLKM	**Skilak Lake**	**2.50**	**193**	*e*P	Pn	12 31 50.2	+0.4
SEW	**Seward**	**2.85**	**184**	P	Pn	12 31 54.7	0.0
EYAK	**Cordova Ski Ar**	**2.87**	**145**	P	Pn	12 31 55.3	+0.2
BMRM	**Bremner River**	**2.89**	**131**	P	Pn	12 31 55.6	+0.3
TT01	**Tatalina**	**3.18**	**273**	P	Pn	12 31 58.2	-1.2
SVW2	**Sparrevohn**	**3.58**	**242**	P	Pn	12 32 03.3	-1.8
IM3	**Indian Mountai**	**3.67**	**329**	P	Pn	12 32 05.5	-0.9
IMA2	**Indian Mountai**	**3.72**	**330**	*e*P	Pn	12 32 05.8	-1.4
GCSA	**Galena City Sc**	**3.91**	**301**	P	Pn	12 32 08.8	-0.9
DAWY	**Dawson**	**4.48**	**71**	P	Pn	12 32 17.0	-0.9
BM3	**Burnt Mountain**	**4.88**	**21**	P	Pn	12 32 22.4	-1.1
INK	**Inuvik**	**8.37**	**43**	*e*P	P	12 33 10.6	-2.0
TNA	**Tin City**	**8.61**	**296**	P	P	12 33 12.8	-3.2

*IDC **21** 12:44:26.0±1.3, 26.14S×177.12W, mb4.1/4, mb1 4.4/4, mb1mx4.1/13, mbtmp4.1/4, Error ellipse: s-maj=40.4km s-min=34.4km az=172.0*
*NEIC **21** 12:44:27.8±1.1, 26.26S×177.21W, h10km, mb4.3/3, Error ellipse: s-maj=37.4km s-min=25.2km az=177.0*
ISC 21 12:44:30.3±1.2, 26.21S±0.08×177.4W±0.2, h33km, n15, σ0s85/11, mb4.2/6, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.07**	**188**	Sn	**Sn**	**12 45 54.1**	**+0.5**
	341nm,0.3s,baz=86,slow=23,SNR=10						
CTA	**Charters Tower**	**33.89**	**273**	P	**P**	**12 51 14.3**	**+2.1**
	5.6nm,1.0s,mb4.5,baz=82,slow=11,SNR=8.2						
CTAO	**Charters Tower**	**33.89**	**273**	*e*P	**P**	**12 51 14.5**	**+2.2**
	1.4nm,0.4s,mb4.2						
ASPA	**Alice Springs**	**44.03**	**262**	*e*P	**P**	**12 52 36.5**	**-0.2**
WB2	**Warramunga Arr**	**44.62**	**268**	*e*P	**P**	**12 52 41.2**	**-0.3**
WRAB	**Tennant Creek**	**44.63**	**268**	*e*P	**P**	**12 52 41.1**	**-0.4**
	5.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**44.63**	**268**	P	**P**	**12 52 41.5**	**-0.1**
	1.2nm,0.4s,mb4.1,baz=102,slow=6.0,SNR=54						
VNDA	**Vanda**	**52.30**	**186**	P	**P**	**12 53 39.2**	**-1.1**
	1.4nm,0.7s,mb4.0,baz=11,slow=6.7,SNR=6.4						
VNDA	**Vanda**	**52.30**	**186**	P	**P**	**12 53 39.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**53.02**	**266**	*e*P	**P**	**12 53 45.8**	**-0.6**
	3.2nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**92.73**	**43**	P	**P**	**12 57 41.0**	**+0.7**
	0.3nm,0.7s,mb3.9,baz=248,slow=4.9,SNR=3.8						
NB2	**NORSAR Subarra1**	**44.69**	**353**	PKPabc	PKPdf	13 04 02.7	-0.2
	3.0nm,1.0s,baz=10.0,slow=3.1						
NOA	**NORSAR Array B**	**144.69**	**353**	PKP	PKPdf	13 04 02.5	-0.5
	1.9nm,0.8s,baz=15,slow=2.6,SNR=4.5						
AKASG	**Malin Array Be**	**148.18**	**327**	PKPbc	PKPdf	13 04 12.6	+3.5
	2.2nm,0.6s,baz=40,slow=3.5,SNR=10						
BURAR	**Bucovina Array**	**152.19**	**326**	⇓P	PKPdf	13 04 22.6	+7.2

*IDC **21** 12:49:52.7±1.2, 34.62N×73.12E, mb3.7/4, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML3.5/3, MS3.6/2, Ms1 3.6/2, ms1mx2.8/35, Error ellipse: s-maj=34.0km s-min=27.0km az=64.0*
*NDI **21** 12:49:53.5±4.2, 34.80N×72.36E, h35km, MD3.9, ML4.0*
*MOS **21** 12:49:54.4±0.4, 34.65N×73.03E, h21km, mb4.0/2, Error ellipse: s-maj=46.4km s-min=14.5km az=99.4*
*NNC **21** 12:50:05.8±2.2, 35.47N×72.18E, mb3.6, mpv3.8, Error ellipse: s-maj=35.4km s-min=18.0km az=92.0*
ISC 21 12:49:57.2±0.4, 34.86N±0.03×73.12E±0.05, h33km, n28, σ1s19/35, mb3.6/4, MS3.6/2, 4C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**1.20**	**174**	P	**P**	**12 50 16.1**	**-1.6**
CEP	**Cherat**	**1.44**	**224**	P	**P**	**12 50 19.7**	**-1.4**
CEP				S	**S**	**12 50 41.0**	**+2.0**
THW	**Thamme Wali**	**2.35**	**209**	P	**P**	**12 50 34.6**	**+0.3**
THW				S	**S**	**12 50 57.0**	**-5.3**
SBDP	**Sheikh Budin**	**3.20**	**218**	P	**P**	**12 50 46.1**	**-0.2**
THN	**Thein Dam**	**3.25**	**137**	*e*P	**P**	**12 50 48.6**	**+1.6**
THN				*e*S	**S**	**12 51 27.2**	**+2.2**
DLH	**Dalhousie**	**3.31**	**133**	*e*P	**P**	**12 50 49.0**	**+1.0**
DLH				*e*S	**S**	**12 51 32.0**	**+5.3**
PONG	**Pong**	**3.74**	**140**	*e*P	**P**	**12 50 55.0**	**+1.0**
PONG				*e*S	**S**	**12 51 41.0**	**+3.4**
DRP	**Derazinda**	**3.95**	**219**	P	**P**	**12 50 56.5**	**-0.5**
SDNR	**Sundarnagar**	**4.65**	**135**	*e*P	**P**	**12 51 06.6**	**-0.4**
SDNR				*e*S	**S**	**12 51 58.4**	**-2.2**
KLP	**Kalpa**	**5.43**	**126**	*e*P	**P**	**12 51 17.2**	**-0.7**
KLP				*e*S	**S**	**12 52 19.0**	**-1.1**
KLP				AML	AML	12 52 52.4	
	comp=E,295nm,0.5s						
KLP				AML	AML	12 52 57.0	
	comp=N,176nm,0.5s						
DDI	**Dehra Dun**	**6.15**	**136**	*ex*	x	12 51 48.5	
NDI	**New Delhi**	**7.08**	**149**	*ex*	x	12 51 31.0	
NDI				*e*S	**S**	**12 52 53.0**	**-8.2**
KK31	**Karatay Array**	**8.48**	**347**	⇑Pn	**P**	**12 52 01.9**	**+1.3**
	comp=N,2.0nm,0.4s,baz=163,slow=12,SNR=35						
KK31				⇑Sn	**Sn**	**12 53 34.9**	**-1.5**
	comp=N,1.9nm,0.4s,baz=164,slow=22,SNR=8.0						
KKAR	**Karatay Array**	**8.48**	**347**	*e*P	**P**	**12 52 01.8**	**+1.2**
KKAR				S	**S**	**12 53 36.1**	**-0.1**
KKAR				smax			
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**13.79**	**27**	Pn	**P**	**12 53 12.2**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=198,slow=12,SNR=3.6						
AB31	**Akbulak array**	**17.36**	**330**	⇑P	**P**	**12 53 58.1**	**-0.3**
	comp=Z,0.3nm,0.3s						
AB31				⇑S	**S**	**12 57 01.1**	**-7.5**
	comp=Z,0.7nm,0.7s						
BVAR	**Borovoye Array**	**18.27**	**355**	P	**P**	**12 54 10.9**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=164,slow=10,SNR=4.7						
AKTO	**Aktyubinsk**	**19.07**	**329**	⇓P	**P**	**12 54 19.4**	**+0.1**
	comp=Z,0.6nm,0.7s						
AKTO	**Aktyubinsk**	**19.07**	**329**	P	**P**	**12 54 19.4**	**0.0**
	comp=Z,0.5nm,0.3s,baz=139,slow=11,SNR=13						
AKTO	**Aktyubinsk**	**19.07**	**329**	P	**P**	**12 54 19.4**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**43.32**	**338**	P	**P**	**12 57 58.0**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.6,baz=112,slow=9.2,SNR=7.4						
ARCES	**ARCESS Array B**	**43.32**	**338**	P	**P**	**12 57 58.0**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VAE	**Valguarnera**	**46.80**	**291**	LR	LR	13 19 36.9	
	comp=Z,36nm,21.5s,MS3.3,baz=318,slow=38						
TORD	**Torodi Ar. Bea**	**67.43**	**271**	P	**P**	**13 00 50.2**	**-1.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=42,slow=5.9,SNR=11						
WRA	**Warramunga Arr**	**79.66**	**123**	P	**P**	**13 02 02.1**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=323,slow=5.0,SNR=7.8						
WRA	**Warramunga Arr**	**79.66**	**123**	P	**P**	**13 02 02.1**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PMG	**Port Moresby**	**82.49**	**107**	LR	LR	13 47 26.4	
	comp=Z,53nm,18.1s,MS4.0,baz=181,slow=42						
YKA	**Yellowknife Ar**	**82.79**	**4**	P	**P**	**13 02 18.6**	**-0.1**
	comp=Z,0.2nm,0.6s,mb3.3,baz=345,slow=5.1,SNR=4.8						

*NIED **21** 13:02:00,24.20N×122.80E, h35km, Mw4.0 Best double couple: M0 1.26×10^15 NP1:φs203°, δ78°, λ137°. NP2: φs304°, δ48°, λ16°.*
*IDC **21** 13:02:43.6±1.2,24.06N×122.64E, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/29, Error ellipse: s-maj=63.2km s-min=24.3km az=67.0*
*JMA **21** 13:02:49.4±0.1,24.17N×122.83E, h55km±2km, M4.2*
*NEIC **21** 13:02:51.8±1.7,24.03N×122.54E, h65km±11km, Error ellipse: s-maj=25.6km s-min=18.4km az=64.0*
ISC 21 13:02:48.8±0.6, 24.15N±0.09×122.81E±0.04, h58km±6km, n23, σ0s86/31, mb3.9/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.36**	**31**	P	**P**	**13 02 59.2**	**-0.1**
YOJ				S	**S**	**13 03 06.3**	**-0.6**
IRIF	**Iriomote-Funau**	**0.86**	**78**	P	**P**	**13 03 05.0**	**0.0**
IRIF				S	**S**	**13 03 17.1**	**-0.1**
HATJ	**Hateruma jima**	**0.91**	**96**	P	**P**	**13 03 05.9**	**+0.1**
HATJ				S	**S**	**13 03 17.9**	**-0.6**
JKRS	**Kuro-shima**	**1.10**	**85**	P	**P**	**13 03 08.7**	**+0.4**
JKRS				S	**S**	**13 03 22.9**	**+0.1**
NACB	**Ninganchiao**	**1.11**	**271**	*e*P	**P**	**13 03 08.3**	**-0.2**
JIJ	**Ishigaki jima**	**1.23**	**80**	P	**P**	**13 03 10.0**	**-0.2**
JIJ				S	**S**	**13 03 24.9**	**-1.2**
YHNB	**Yeheng**	**1.41**	**292**	*e*P	**P**	**13 03 14.5**	**+1.8**
TATO	**Taipei**	**1.46**	**304**	*e*P	**P**	**13 03 13.8**	**+0.4**
JTJ	**Tarama**	**1.79**	**74**	P	**P**	**13 03 18.1**	**+0.1**
JTJ				S	**S**	**13 03 39.5**	**-0.3**
JMJ	**Miyako jima 2**	**2.36**	**73**	P	**P**	**13 03 26.9**	**+0.9**
JMJ				S	**S**	**13 03 54.3**	**+0.6**
JOGS	**Gusukube**	**2.44**	**75**	P	**P**	**13 03 28.0**	**+0.8**
JOGS				S	**S**	**13 03 57.1**	**+1.2**
JKE	**Kume jima 2**	**4.20**	**58**	P	**P**	**13 03 51.2**	**-0.7**
JKE				S	**S**	**13 04 39.0**	**-1.2**
JOW	**Kunigami**	**5.61**	**60**	LR	LR	13 06 20.9	
	comp=Z,77nm,20.9s,baz=179,slow=37						
SONM	**Songino Array**	**27.00**	**335**	P	**P**	**13 08 26.9**	**-0.2**
	0.5nm,0.8s,mb3.1,baz=164,slow=10,SNR=4.0						
JIRN	**Jiri**	**33.05**	**284**	*e*P	**P**	**13 09 21.1**	**+0.1**
GUN	**Gumba**	**33.31**	**284**	*e*P	**P**	**13 09 21.6**	**-1.7**
KKN	**Kakani**	**33.85**	**284**	*e*P	**P**	**13 09 27.9**	**0.0**
	2.3nm,0.3s,mb4.6						
DMN	**Daman**	**34.01**	**284**	*e*P	**P**	**13 09 28.8**	**-0.5**
	4.6nm,0.4s,mb4.8						
KOLN	**Koldanda**	**35.34**	**284**	*e*P	**P**	**13 09 38.6**	**-2.0**
MKAR	**Makanchi Array**	**39.40**	**315**	P	**P**	**13 10 15.1**	**+0.7**
	0.2nm,0.5s,mb3.1,baz=129,slow=9.2,SNR=3.1						
WRA	**Warramunga Arr**	**45.24**	**165**	P	**P**	**13 11 02.3**	**-0.1**
	5.3nm,0.7s,mb4.5,baz=346,slow=8.8,SNR=54						
YKA	**Yellowknife Ar**	**82.42**	**23**	P	**P**	**13 15 08.2**	**+2.5**
	0.3nm,0.7s,mb3.4,baz=313,slow=4.9,SNR=8.1						
YKA	**Yellowknife Ar**	**82.42**	**23**	P	**P**	**13 15 08.2**	**+2.5**

*NEIC **21** 13:37:37.4, 30.22S×71.62W, h22km, ML3.3(GUC), After GUC.*
GUC 21 13:37:37.4±0.7, 30.22S×71.62W, h22km±6km, MD3.6, ML3.3, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.45**	**47**	*e*P	Pb	13 37 46.4	-0.1
LSCH				*i* S	Sb	13 37 53.1	+0.4
LSCH				AMP		13 37 53.7	
	comp=E,9μm,0.4s						
CMCH	**Combarbala**	**1.09**	**151**	⇓*iP*	Pb	13 37 56.6	-0.9
CMCH				*i* S	Sb	13 38 11.5	+0.1
CMCH				AMP		13 38 13.7	
	comp=E,3μm,0.7s						
CHNG	**Los Chungos**	**1.67**	**177**	*e*P	Pn	13 38 05.2	-0.5
CHNG				*i* S	Sn	13 38 27.4	+0.8
CHNG				AMP		13 38 42.3	
	comp=E,120nm,0.7s						
PEL	**Peldehue**	**3.03**	**165**	*e*P	Pn	13 38 19.3	-5.9
FCH	**Farellones**	**3.30**	**160**	*e*P	Pn	13 38 29.7	+0.6
TACH	**Talagante**	**3.48**	**171**	*e*P	Pn	13 38 31.3	-0.3
PCH	**Pirque**	**3.52**	**165**	*e*P	Pn	13 38 32.3	+0.1
SFDO	**San Fernando**	**4.42**	**174**	*e*P	Pn	13 38 44.7	-0.3

*FUNV **21** 14:00:44.2, 10.60N×61.89W, h38km, MW2.9*
*TRN **21** 14:00:45.0, 10.79N×61.67W, h79km, MD2.7*

*NEIC **21** 14:00:46.3, 10.79N×61.60W, h73km, MD2.7(TRN), After TRN.*
ISC 21 14:00:41.3±0.7, 10.64N±0.05×61.96W±0.03, h86km±8km, n17, σ1s33/32, 3D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.26**	**273**	⇓*iP*	**P**	**14 00 53.4**	**-0.7**
GUIV				*e*S	**S**	**14 00 58.0**	**-5.7**
TRN	**Trinidad (W)**	**0.55**	**89**	⇓*iP*	**P**	**14 00 57.5**	**+1.3**
TRN				*e*S	**S**	**14 01 05.8**	**-1.5**
TPP	**Pointe-a-Pierr**	**0.59**	**122**	*e*P	**P**	**14 00 58.5**	**+1.9**
TPP				*e*S	**S**	**14 01 09.7**	**+1.7**
TBH	**Brigand Hill**	**0.89**	**100**	*e*P	**P**	**14 01 00.1**	**+0.4**
TBH				*e*S	**S**	**14 01 11.8**	**-1.7**
GUNV	**Guanoco**	**1.07**	**244**	*e*P	**P**	**14 01 03.4**	**+1.5**
GUNV				*e*S	**S**	**14 01 17.8**	**+0.5**
CRUV	**Carupano**	**1.25**	**272**	⇓*e*P	**P**	**14 01 04.9**	**+0.7**
CRUV				*e*S	**S**	**14 01 20.1**	**-1.1**
TPR	**Prospect**	**1.29**	**65**	*e*P	**P**	**14 01 03.9**	**-0.7**
BOT	**Bacolet**	**1.33**	**66**	*e*P	**P**	**14 01 04.1**	**-1.1**
ITEV	**Isla Los Testi**	**1.35**	**302**	*e*P	**P**	**14 01 06.4**	**+0.9**
ITEV				*e*S	**S**	**14 01 23.3**	**-0.1**
GRW	**Mount Saint Ca**	**1.54**	**11**	*e*P	**P**	**14 01 11.5**	**+3.6**
GRW				*e*S	**S**	**14 01 26.2**	**-1.4**
GURV	**El Guri**	**3.06**	**201**	*e*P	**P**	**14 01 29.1**	**+0.4**
GURV				*e*S	**S**	**14 02 01.4**	**-3.0**
CUPV	**Cœpira**	**3.81**	**262**	*e*P	**P**	**14 01 40.6**	**+1.6**
CUPV				*e*S	**S**	**14 02 20.9**	**-2.0**
BIRV	**Birongo**	**4.24**	**268**	*e*P	**P**	**14 01 46.2**	**+1.2**
BIRV				*e*S	**S**	**14 02 32.3**	**-1.3**
LUEV	**Luepa**	**4.79**	**174**	*e*P	**P**	**14 01 51.5**	**-1.0**
LUEV				*e*S	**S**	**14 02 41.9**	**-5.4**
CAOV	**Caicara del Or**	**5.42**	**233**	*e*P	**P**	**14 02 01.9**	**+0.7**
CAOV				*e*S	**S**	**14 02 58.0**	**-4.9**
TURV	**Turiamo**	**5.78**	**269**	*e*P	**P**	**14 02 07.4**	**+1.2**
TURV				*e*S	**S**	**14 03 08.0**	**-3.9**
BAUV	**El Baul**	**6.22**	**255**	*e*P	**P**	**14 02 12.4**	**+0.1**
BAUV				*e*S	**S**	**14 03 17.2**	**-5.5**

*NEIC **21** 14:08:34.9, 16.09N×98.35W, h5km, MD3.8(MEX), After MEX.*
MEX 21 14:08:35.5±0.6, 16.14N×98.37W, h5km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**43**	*i* P	Pg	14 08 41.5	-0.9
PNIG				*i* S	Sg	14 08 47.2	+0.2
ACX	**Acapulco**	**1.65**	**296**	*e*P	Pn	14 09 02.0	-3.4
ACX				*e*S	Sb	14 09 22.0	-5.1
VHO	**Vista Hermosa**	**1.82**	**59**	*i* P	Pn	14 09 03.8	-4.1
VHO				*i* S	Sn	14 09 27.2	-4.5
VHO	**Vista Hermosa**	**1.82**	**59**	*i* P	Pn	14 09 03.8	-4.1
VHO				*i* S	Sn	14 09 27.9	-3.7
OXX	**Oaxaca**	**1.84**	**59**	*i* P	Pn	14 09 05.0	-3.1
OXX				*i* S	Sn	14 09 29.0	-3.0
OXX	**Oaxaca**	**1.84**	**59**	*i* P	Pn	14 09 07.0	-1.1
OXX				*i* S	Sn	14 09 32.0	0.0
CAIG	**El Cayaco**	**2.03**	**297**	*i* P	Pn	14 09 07.1	-3.7
CAIG				*e*S	Sn	14 09 32.0	-4.9
CAIG	**El Cayaco**	**2.03**	**297**	*i* P	Pn	14 09 08.4	-2.4
CAIG				*e*S	Sn	14 09 32.4	-4.5
PLIG	**Platanillo**	**2.49**	**334**	*i* P	Pn	14 09 14.1	-3.2
PLIG				*i* S	Sn	14 09 43.3	-5.2
PLIG	**Platanillo**	**2.49**	**334**	*i* P	Pn	14 09 14.1	-3.2
PLIG				*i* S	Sn	14 09 46.9	-1.6
YAIG	**Yautepec**	**2.79**	**346**	*e*P	Pn	14 09 19.2	-2.4
YAIG				*i* S	Sn	14 09 50.0	-6.1
YAIG	**Yautepec**	**2.79**	**346**	*e*P	Pn	14 09 19.2	-2.4
YAIG				*i* S	Sn	14 09 53.9	-2.2
PPM	**Popocatepetl**	**2.92**	**355**	*e*P	Pn	14 09 23.1	-0.4
PPM				*i* S	Sn	14 09 59.6	0.0
PPM	**Popocatepetl**	**2.92**	**355**	*e*P	Pn	14 09 26.5	+2.9
PPM				*i* S	Sn	14 10 00.6	+1.0

*NEIC **21** 14:21:17.0, 32.91S×71.40W, h60km, MD3.5(GUC), After GUC.*
GUC 21 14:21:17.0±0.8, 32.91S×71.40W, h60km±7km, MD3.5, ML3.1, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.33**	**101**	⇓*iP*	P	14 21 27.

cutoff=50s.

ISC 21 14:32:38.6±0.2,6.82N±0.03×82.72W±0.02,h8km,
h8km±.6km:pP-P,n826,σ1°08/715,mb5.8/285,MS5.3/161,
120C-22D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**1.87**	**346⇑**	*eP*	**Pn**	**14 33 09.6**	**-1.6**
BRU2	**Volcan**	**1.96**	**1**	*eP*	**Pn**	**14 33 11.7**	**-0.7**
BRU2				*eS*	**Sn**	**14 33 39.4**	**+2.0**
BUS	**Buena Vista**	**2.90**	**339⇑**	*eP*	**Pn**	**14 33 25.2**	**-0.7**
LCR2	**La Lucha 2**	**3.17**	**336⇑**	*iP*	**Pn**	**14 33 28.4**	**-1.3**
URSC	**Urasca**	**3.17**	**341⇑**	*eP*	**Pn**	**14 33 29.2**	**-0.6**
ICR	**Volcan Irazu**	**3.32**	**341⇑**	*eP*	**Pn**	**14 33 31.7**	**-0.2**
SJS	**Escuela Geolog**	**3.37**	**337⇓**	*eP*	**Pn**	**14 33 32.1**	**-0.5**
SJS				*eS*	**Sn**	**14 34 16.5**	**+3.3**
PRS1	**Puriscal**	**3.51**	**333⇑**	*eP*	**Pn**	**14 33 32.2**	**-2.4**
VPS2	**Volcan Poas 2**	**3.67**	**336⇑**	*eP*	**Pn**	**14 33 36.1**	**-0.7**
UPA	**Univ. de Panam**	**3.81**	**56**	*eP*	**Pn**	**14 33 38.6**	**-0.3**
UPA				*eS*	**Sn**	**14 34 25.6**	**+1.2**
ACLA	**Agua Clara, Si**	**3.91**	**50⇑**	*eP*	**Pn**	**14 33 38.1**	**-2.1**
ACLA				*eS*	**Sn**	**14 34 26.4**	**-0.4**
JTS	**JuntasAbangare**	**4.09**	**327**	*eP*	**Pn**	**14 33 40.6**	**-2.3**
JTS	**JuntasAbangare**	**4.09**	**327**	*eP*	**Pn**	**14 33 40.1**	**-2.8**
FORC	**Fortuna**	**4.11**	**332⇑**	*eP*	**Pn**	**14 33 42.2**	**-0.9**
VCR	**Vista de Mar**	**4.37**	**319**	*eP*	**Pn**	**14 33 44.8**	**-2.0**
UPD1	**Univ de Panama**	**4.96**	**70**	*eP*	**Pn**	**14 33 53.5**	**-1.7**
UPD1				*eS*	**Sn**	**14 34 51.6**	**-2.1**
MADN	**Villa Maderas**	**5.34**	**329**	*eP*	**Pn**	**14 34 00.3**	**-0.2**
SSNN	**San Juan del S**	**5.41**	**325**	*eP*	**Pn**	**14 34 01.4**	**-0.1**
CONN	**Concepcion**	**5.52**	**329⇑**	*eP*	**Pn**	**14 34 02.5**	**-0.5**
CONN				*i*		14 36 06.9	
	comp=Z,335nm,0.8s						
TICN	**Ticuantepe**	**6.23**	**326**	*eP*	**Pn**	**14 34 12.5**	**-0.6**
WILN	**Americas 2**	**6.31**	**327**	*eP*	**Pn**	**14 34 14.2**	**0.0**
MGAN	**Managua**	**6.33**	**327**	*eP*	**Pn**	**14 34 14.6**	**+0.1**
COPN	**Copaltepe**	**6.55**	**325**	*eP*	**Pn**	**14 34 17.4**	**-0.2**
MOMJ	**Momotombo**	**6.71**	**326⇑**	*eP*	**Pn**	**14 34 18.5**	**-1.4**
MIRN	**Miramar**	**6.83**	**325⇑**	*eP*	**Pn**	**14 34 21.3**	**-0.3**
CNGN	**Cerro Negro**	**6.87**	**325**	*eP*	**Pn**	**14 34 22.4**	**+0.3**
LEON	**Leon**	**6.92**	**324**	*eP*	**Pn**	**14 34 22.8**	**0.0**
TEL3	**Telica 3**	**7.01**	**325**	*eP*	**Pn**	**14 34 24.1**	**0.0**
TELN	**Telica**	**7.03**	**325⇑**	*eP*	**Pn**	**14 34 23.4**	**-0.9**
OTAV	**Otavalo**	**7.80**	**147**	*eP*	**Pn**	**14 34 29.4**	**-5.8**
	comp=Z,140nm,0.8s						
ROSC	**El Rosal**	**8.57**	**103**	Pn	**P**	**14 34 44.0**	**-1.9**
	comp=Z,11nm,0.3s,baz=292,slow=2.3,SNR=125						
ROSC				Sn	**Sn**	**14 36 28.0**	**+4.3**
	comp=Z,1.4nm,0.3s,baz=78,slow=20,SNR=2.2						
ROSC				LR	LR	14 37 21.2	
	comp=Z,10μm,20.8s,baz=73,slow=33						
MCJ	**Malvern**	**12.07**	**24**	*eP*	**P**	**14 35 33.4**	**-0.7**
PCJ	**Portland Cotta**	**12.13**	**26⇑**	*eP*	**P**	**14 35 33.8**	**-1.0**
SDV	**Santo Domingo**	**12.14**	**80**	Pn	**P**	**14 35 32.7**	**-2.3**
	comp=Z,9.2nm,0.3s,baz=274,slow=8.2,SNR=162						
SDV				Sn	**S**	**14 37 42.8**	**-8.9**
	comp=Z,14nm,0.3s,baz=139,slow=20,SNR=7.4						
SDV	**Santo Domingo**	**12.14**	**80**	*eP*	**P**	**14 35 32.8**	**-2.2**
	comp=Z,524nm,0.9s						
CVJ	**Coleyville**	**12.41**	**24⇑**	*eP*	**P**	**14 35 37.5**	**-1.0**
MBJ	**Montego Bay**	**12.44**	**22⇑**	*eP*	**P**	**14 35 38.6**	**-0.3**
HOJ	**Hope**	**12.54**	**27**	*eP*	**P**	**14 35 40.3**	**0.0**
STH	**Stony Hill**	**12.58**	**27⇑**	*eP*	**P**	**14 35 39.8**	**-1.0**
GWJ	**Greenwich**	**12.61**	**27⇑**	*eP*	**P**	**14 35 40.2**	**-1.1**
BBJ	**Bamboo Saint A**	**12.66**	**24⇑**	*eP*	**P**	**14 35 40.9**	**-1.0**
CCIG	**Comitan**	**13.17**	**316**	*iP*	**P**	**14 35 47.9**	**-0.7**
LMGC	**Las Mercedes**	**14.28**	**22**	*eP*	**P**	**14 36 06.2**	**+2.8**
RCC	**Rio Carpintero**	**14.76**	**27**	*eP*	**P**	**14 36 10.5**	**+0.8**
	baz=207						
RCC				*eS*	**S**	**14 39 02.6**	**+8.3**
	comp=N,408nm,17.3s						
	comp=E,608nm,17.3s						
CCCC	**Cccc**	**15.07**	**18**	*eP*	**P**	**14 36 16.4**	**+2.6**
	baz=200						
CCCC				*eS*	**S**	**14 39 19.5**	**+18**
	comp=N,4.4nm,2.7s						
	comp=E,23nm,1.9s						
GTMO	**Guantanamo**	**15.09**	**28**	*eP*	**P**	**14 36 16.9**	**+2.9**
SABC	**Sabc**	**15.32**	**28**	*eP*	**P**	**14 36 17.8**	**+0.7**
HLGC	**Holguin**	**15.40**	**24**	*eP*	**P**	**14 36 16.3**	**-1.7**
MGV	**Manicaragua**	**15.42**	**10**	*iP*	**P**	**14 36 20.7**	**+2.3**
	baz=189						
MGV				*iS*	**S**	**14 39 13.8**	**+3.8**
	comp=N,1.8nm,4.1s						
	comp=E,5.5nm,10.9s						
MOAC	**Moa**	**15.67**	**28**	*eP*	**P**	**14 36 24.9**	**+3.3**
	baz=214						
MOAC				*eS*	**S**	**14 39 04.2**	**-12**
	comp=N,7.8nm,3.4s						
	comp=E,11nm,4.1s						
HUIG	**Huatulco**	**15.85**	**305**	*iP*	**P**	**14 36 22.5**	**-1.4**
SOR	**Soroa**	**15.88**	**359**	*eP*	**P**	**14 36 27.0**	**+2.8**
TUIG	**Tuzandepetl**	**15.95**	**315**	*iP*	**P**	**14 36 30.3**	**+5.1**
OXX	**Oaxaca**	**17.07**	**308**	*iP*	**P**	**14 36 40.0**	**+0.7**
VHO	**Vista Hermosa**	**17.07**	**308**	*iP*	**P**	**14 36 40.0**	**+0.6**
PNIG	**Pinotepa**	**17.83**	**304**	*iP*	**P**	**14 36 49.3**	**+0.5**
ACX	**Acapulco**	**19.55**	**302**	*iP*	**P**	**14 37 10.0**	**+0.3**
NNA	**Nana**	**19.58**	**163**	*eP*	**P**	**14 37 05.0**	**-5.0**
	comp=E,368nm,1.1s						
SJG	**San Juan**	**19.66**	**54**	P	**P**	**14 37 09.9**	**-1.0**
	comp=E,16nm,0.3s,baz=245,slow=9.9,SNR=61						
SJG	**San Juan**	**19.66**	**54**	*eP*	**P**	**14 37 09.0**	**-2.0**
SJG				pmax	pmax		
	comp=Z,886nm,1.2s						
SJG	**San Juan**	**19.66**	**54**	*eP*	**P**	**14 37 09.0**	**-1.9**
	comp=Z,886nm,1.2s						
PPM	**Popocatepetl**	**19.69**	**310**	*iP*	**P**	**14 37 13.5**	**+2.3**
CPD	**Cerro la Pandu**	**19.81**	**54**	*eP*	**P**	**14 37 10.0**	**-2.7**
	comp=Z,1μm,0.8s						
YAIG	**Yautepec**	**19.91**	**308**	*iP*	**P**	**14 37 15.5**	**+1.8**
CAIG	**El Cayaco**	**19.93**	**302**	*iP*	**P**	**14 37 14.1**	**+0.1**
PLIG	**Platanillo**	**19.99**	**307**	*iP*	**P**	**14 37 16.1**	**+1.6**
MTP	**Monte Pirata**	**20.13**	**55**	*eP*	**P**	**14 37 13.3**	**-2.8**
UNM	**Universidad Na**	**20.26**	**309**	*iP*	**P**	**14 37 19.2**	**+1.8**
ZIIG	**Zihuatanejo**	**21.20**	**302**	*iP*	**P**	**14 37 28.3**	**+1.2**
DWPF	**Disney**	**21.21**	**3**	*eP*	**P**	**14 37 27.3**	**+0.2**
	comp=Z,669nm,1.1s,mb5.9						
DWPF				LR	LR		
	comp=Z,6μm,20.0s,MS5.0						
TPP	**Pointe-a-Pierr**	**21.31**	**79**	*eP*	**P**	**14 37 28.0**	**-0.2**
TRN	**Trinidad (W)**	**21.40**	**78**	*eP*	**P**	**14 37 27.7**	**-1.5**
GRW	**Mount Saint Ca**	**21.43**	**74**	*eP*	**P**	**14 37 29.7**	**+0.3**
TBH	**Brigand Hill**	**21.71**	**79**	*eP*	**P**	**14 37 31.9**	**-0.3**
MOIG	**Morelia**	**22.02**	**307**	*iP*	**P**	**14 37 37.6**	**+2.2**
TPR	**Prospect**	**22.09**	**77**	*eP*	**P**	**14 37 34.9**	**-1.2**
BOT	**Bacolet**	**22.15**	**77**	*eP*	**P**	**14 37 35.5**	**-1.1**
LZG	**Guadaloupe-1**	**22.49**	**64**	*eP*	**P**	**14 37 39.6**	**-0.5**
TBG	**Guadaloupe-3**	**22.50**	**65**	*eP*	**P**	**14 37 40.3**	**0.0**
DSHT	**Scott's Head**	**22.53**	**66**	*eP*	**P**	**14 37 43.8**	**+3.3**
BBL	**Barber's Block**	**22.55**	**66**	*eP*	**P**	**14 37 42.3**	**+1.6**
MDN	**Morne-Daniel**	**22.55**	**66**	*eP*	**P**	**14 37 42.5**	**+1.8**
FDF	**Fort de France**	**22.58**	**66⇑**	*eP*	**P**	**14 37 41.3**	**+0.3**
DWS	**Wesley**	**22.70**	**66**	*eP*	**P**	**14 37 43.6**	**+1.4**
MVM	**Montagne Vaucl**	**22.76**	**68**	*eP*	**P**	**14 37 42.4**	**-0.4**
BPA	**Boggy Peak**	**22.77**	**62**	*eP*	**P**	**14 37 43.3**	**+0.4**
CRM	**Caravelle**	**22.80**	**68**	*eP*	**P**	**14 37 43.3**	**0.0**
MGG	**Marie-Galante**	**22.82**	**65**	*eP*	**P**	**14 37 44.8**	**+1.3**
CPB	**Codrington**	**23.04**	**60**	*eP*	**P**	**14 37 41.9**	**-3.7**
DEG	**La Desirade**	**23.19**	**64**	*eP*	**P**	**14 37 49.3**	**+2.2**
SFJM	**Santa Fe**	**23.92**	**307**	*iP*	**P**	**14 37 56.5**	**+2.4**
ARE	**Arequipa**	**25.66**	**154**	*eP*	**P**	**14 38 09.0**	**-1.8**
NHSC	**New Hope**	**26.26**	**5**	*eP*	**P**	**14 38 15.2**	**-1.0**
	comp=Z,926nm,1.4s,mb6.1						
NHSC				LR	LR		
	comp=Z,9μm,19.0s,MS5.3						
LRAL	**Lakeview Retre**	**26.38**	**352⇑**	*eP*	**P**	**14 38 17.8**	**+0.4**
	comp=Z,575nm,1.0s,mb6.1						
LRAL				LR	LR		
	comp=Z,4μm,20.0s,MS4.9						
GOGA	**Godfrey**	**26.46**	**359**	P	**P**	**14 38 19.0**	**+0.9**
GOGA				pmax	pmax		
	comp=Z,330nm,1.0s,mb5.8						
GOGA	**Godfrey**	**26.46**	**359**	*eP*	**P**	**14 38 18.7**	**+0.6**
	comp=Z,25nm,1.0s,mb4.7						
GOGA				LR	LR		
	comp=Z,416nm,19.0s						
LPAZ	**La Paz**	**27.12**	**148**	P	**P**	**14 38 21.4**	**-2.9**
	comp=Z,42nm,1.1s,mb4.9,baz=333,slow=7.2,SNR=50						
LPAZ				LR	LR	14 49 58.2	
	comp=Z,14μm,19.9s,MS5.5,baz=313,slow=38						
LPAZ	**La Paz**	**27.12**	**148**	P	**P**	**14 38 20.9**	**-3.4**
LPAZ				pmax	pmax		
	comp=Z,100nm,1.3s						
LPAZ	**La Paz**	**27.12**	**148**	*eP*	**P**	**14 38 20.3**	**-4.0**
	comp=Z,105nm,1.4s,mb5.2						
LPAZ				LR	LR		
	comp=Z,14μm,20.0s,MS5.5						
NATX	**Nacogdoches**	**27.20**	**337**	*eP*	**P**	**14 38 24.6**	**-0.2**
	comp=Z,150nm,0.9s,mb5.5						
NATX				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
JSC	**Jenkinsville**	**27.36**	**3**	P	**P**	**14 38 27.1**	**+0.9**
JSC	**Jenkinsville**	**27.36**	**3**	*eP*	**P**	**14 38 26.3**	**+0.1**
MAIG	**Mazatlaan**	**28.01**	**308**	*iP*	**P**	**14 38 33.8**	**+1.5**
MYNC	**Murphy**	**28.14**	**358**	P	**P**	**14 38 34.1**	**+0.7**
MYNC				pmax	pmax		
	comp=Z,110nm,0.9s,mb5.5						
MYNC	**Murphy**	**28.14**	**358**	*eP*	**P**	**14 38 33.8**	**+0.5**
	comp=Z,94nm,0.9s,mb5.4						
OXF	**Oxford**	**28.24**	**348**	P	**P**	**14 38 34.0**	**-0.2**
OXF				pmax	pmax		
	comp=Z,200nm,1.0s,mb5.7						
OXF	**Oxford**	**28.24**	**348**	*eP*	**P**	**14 38 32.6**	**-1.6**
	comp=Z,199nm,1.0s,mb5.7						
OXF				LR	LR		
	comp=Z,4μm,21.0s,MS4.9						
SWET	**Sewanee**	**28.41**	**354**	*eP*	**P**	**14 38 34.6**	**-1.1**
JCT	**Junction City**	**28.48**	**328**	P	**P**	**14 38 35.4**	**-1.0**
JCT				pmax	pmax		
	comp=Z,640nm,1.3s,mb6.1						
JCT	**Junction City**	**28.48**	**328**	*eP*	**P**	**14 38 34.8**	**-1.6**
	comp=Z,645nm,1.4s,mb6.1						
JCT				LR	LR		
	comp=Z,5μm,20.0s,MS5.1						
CPCT	**Cooper Cave**	**28.54**	**357**	*eP*	**P**	**14 38 37.1**	**+0.2**
UALR	**University of**	**29.20**	**344**	*eP*	**P**	**14 38 41.2**	**-1.7**
	comp=Z,134nm,0.8s,mb5.7						
MIAR	**Mount Ida**	**29.35**	**342**	P	**P**	**14 38 43.9**	**-0.4**
MIAR				pmax	pmax		
	comp=Z,140nm,1.4s,mb5.5						
MIAR	**Mount Ida**	**29.35**	**342**	*eP*	**P**	**14 38 42.6**	**-1.7**
	comp=Z,137nm,1.4s,mb5.5						
MIAR				LR	LR		
	comp=Z,2μm,22.0s,MS4.7						
HBAR	**Harrisburg**	**29.51**	**347**	*eP*	**P**	**14 38 44.6**	**-1.1**
WVT	**Waverly**	**29.54**	**352**	P	**P**	**14 38 44.8**	**-1.2**
WVT				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.2						
WVT	**Waverly**	**29.54**	**352**	*eP*	**P**	**14 38 44.4**	**-1.5**
	comp=Z,46nm,0.8s,mb5.3						
WVT				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
HALT	**Halls**	**29.58**	**349**	*eP*	**P**	**14 38 44.9**	**-1.4**
TZTN	**Tazewell**	**29.59**	**359**	*eP*	**P**	**14 38 46.4**	**0.0**
	comp=Z,240nm,1.1s,mb5.8						
GNAR	**Gosnell**	**29.77**	**348**	*eP*	**P**	**14 38 47.2**	**-0.8**
	comp=Z,801nm,1.4s,mb6.3						
LTX	**Lajitas**	**29.86**	**321**	P	**P**	**14 38 49.7**	**+0.8**
LTX				pmax	pmax		
	comp=Z,76nm,1.2s,mb5.3						
LTX	**Lajitas**	**29.86**	**321⇑**	*eP*	**P**	**14 38 49.3**	**+0.5**
	comp=Z,76nm,1.3s,mb5.3						
LTX				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
TXAR	**Lajitas Array**	**29.86**	**321**	P	**P**	**14 38 46.6**	**-2.2**
	comp=Z,40nm,1.1s,mb5.1,baz=135,slow=8.8,SNR=78						
TXAR				LR	LR	14 52 02.6	
	comp=Z,3μm,20.8s,MS4.8,baz=105,slow=39						
UTMT	**University of**	**29.91**	**350**	*eP*	**P**	**14 38 48.2**	**-1.1**
	comp=Z,527nm,1.2s,mb6.1						
GLAT	**Glass**	**29.92**	**349**	P	**P**	**14 38 47.1**	**-2.2**
BLA	**Blacksburg**	**30.32**	**4**	P	**P**	**14 38 53.6**	**+0.7**
BLA				pmax	pmax		
	comp=Z,220nm,1.0s,mb5.8						
BLA	**Blacksburg**	**30.32**	**4**	*eP*	**P**	**14 38 53.2**	**+0.4**
	comp=Z,3μm,1.0s						
BLA				LR	LR		
	comp=Z,67μm,22.0s,MS6.2						
PARMO	**Parma**	**30.39**	**349**	*eP*	**P**	**14 38 52.6**	**-0.9**
BBSR	**BB Station**	**30.46**	**31**	*eP*	**P**	**14 38 54.8**	**+0.6**
	comp=Z,108nm,1.0s,mb5.5						
BBSR				LR	LR		
	comp=Z,4μm,19.0s,MS5.1						
WCI	**Wyandotte Cave**	**31.43**	**355**	P	**P**	**14 39 02.2**	**-0.4**
WCI				pmax	pmax		
	comp=Z,370nm,1.1s,mb6.1						
WCI	**Wyandotte Cave**	**31.43**	**355⇑**	*eP*	**P**	**14 39 01.5**	**-1.2**
	comp=Z,371nm,1.1s,mb6.1						
WCI				LR	LR		
	comp=Z,3μm,22.0s,MS4.8						
WMOK	**Wichita Mounta**	**31.48**	**334**	P	**P**	**14 39 01.7**	**-1.4**
WMOK				pmax	pmax		
	comp=Z,79nm,1.2s,mb5.4						
WMOK	**Wichita Mounta**	**31.48**	**334⇑**	*eP*	**P**	**14 39 01.5**	**-1.6**
	comp=Z,79nm,1.2s,mb5.4						
WMOK				LR	LR		
	comp=Z,4μm,22.0s,MS5.0						
CBN	**Corbin**	**31.61**	**8**	*eP*	**P**	**14 39 04.4**	**+0.2**
	comp=Z,235nm,1.4s,mb5.8						
CBN				LR	LR		
	comp=Z,12μm,19.0s,MS5.6						
FVM	**French Village**	**31.80**	**348**	P	**P**	**14 39 04.7**	**-1.2**
FVM				pmax	pmax		
	comp=Z,320nm,1.6s,mb5.9						
FVM	**French Village**	**31.80**	**348**	*eP*	**P**	**14 39 04.0**	**-1.8**
	comp=Z,354nm,1.6s,mb6.0						
CCM	**Cathedral Cave**	**32.04**	**347**	*eP*	**P**	**14 39 06.5**	**-1.5**
CCM				pmax	pmax		
	comp=Z,193nm,1.1s,mb5.8						
CCM				MLR	MLR		
	comp=Z,3μm,22.0s,MS4.9						
CCM	**Cathedral Cave**	**32.04**	**347**	*eP*	**P**	**14 39 06.5**	**-1.5**
	comp=Z,193nm,1.1s,mb5.8						
CCM				LR	LR		
	comp=Z,3μm,22.0s,MS4.9						
BLO	**Bloomington**	**32.39**	**354**	P	**P**	**14 39 10.3**	**-0.7**
BLO				pmax	pmax		
	comp=Z,220nm,1.0s,mb5.9						
BLO	**Bloomington**	**32.39**	**354**	*eP*	**P**	**14 39 09.9**	**-1.1**
	comp=Z,226nm,1.0s,mb6.0						
SLM	**Saint Louis**	**32.39**	**349**	P	**P**	**14 39 10.5**	**-0.5**
SLM				pmax	pmax		
	comp=Z,180nm,1.0s,mb5.9						
SLM	**Saint Louis**	**32.39**	**349**	P	**P**	**14 39 09.2**	**-1.8**
	comp=Z,177nm,1.0s,mb5.8						
MNTX	**Cornudas Mount**	**32.56**	**322**	*eP*	**P**	**14 39 11.2**	**-1.4**
	comp=Z,180nm,1.3s,mb5.8						
MNTX				LR	LR		
	comp=Z,3μm,21.0s,MS4.9						
MCWV	**Mont Chateau**	**32.79**	**4**	*eP*	**P**	**14 39 14.7**	**+0.2**
	comp=Z,256nm,1.3s,mb6.0						
MCWV				LR	LR		
	comp=Z,8μm,19.0s,MS5.5						
SDMD	**Soldier's Deli**	**32.87**	**8**	*eP*	**P**	**14 39 09.4**	**-5.8**
	comp=Z,152nm,1.3s,mb5.8						
ACSO	**Alum Creek Sta**	**33.26**	**360**	*eP*	**P**	**14 39 18.0**	**-0.6**
	comp=Z,486nm,1.0s,mb6.4						
ACSO				LR	LR		
	comp=Z,6μm,19.0s,MS5.3						
MVL	**Millersville**	**33.52**	**9**	*eP*	**P**	**14 39 21.4**	**+0.5**
	comp=Z,487nm,1.7s,mb6.2						
KSU1	**Kansas State U**	**34.49**	**341**	*eP*	**P**	**14 39 28.1**	**-1.2**
	comp=Z,19nm,0.7s,mb5.1						
BRNJ	**Basking Ridge**	**34.49**	**11**	*eP*	**P**	**14 39 30.4**	**+1.2**
	comp=Z,116nm,1.0s,mb5.8						
CPNY	**Central Park**	**34.72**	**12**	*eP*	**P**	**14 39 30.5**	**-0.6**
	comp=Z,112nm,1.3s,mb5.6						
ALLY	**Alegheny Colle**	**34.75**	**3**	*eP*	**P**	**14 39 31.1**	**-0.4**
	comp=Z,119nm,1.0s,mb5.8						
PAL	**Palisades**	**34.93**	**12**	P	**P**	**14 39 34.1**	**+1.1**
PAL				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.8						
PAL	**Palisades**	**34.93**	**12**	*eP*	**P**	**14 39 33.4**	**+0.4**
	comp=Z,239nm,1.5s,mb5.9						
ERPA	**Erie**	**35.23**	**4**	*eP*	**P**	**14 39 34.7**	**-0.9**
	comp=Z,161nm,1.2s,mb5.8						
ERPA				LR	LR		
	comp=Z,3μm,19.0s,MS5.1						
CBKS	**Cedar Bluff**	**35.37**	**337**	P	**P**	**14 39 37.0**	**+0.3**
CBKS				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.7						
CBKS	**Cedar Bluff**	**35.37**	**337**	*eP*	**P**	**14 39 36.1**	**-0.6**
	comp=Z,123nm,1.1s,mb5.8						
CBKS				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
ANMO	**Albuquerque**	**35.51**	**325**	*eP*	**P**	**14 39 38.3**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,1μm,1.7s						
ANMO				MLR	MLR		
	comp=Z,4μm,19.0s						
ANMO	**Albuquerque**	**35.51**	**325**	*eP*	**P**	**14 39 38.2**	**+0.2**
	comp=Z,1μm,1.7s,mb6.5						
ANMO				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
TUC	**Tucson**	**36.41**	**318**	P	**P**	**14 39 47.5**	**+1.8**
TUC				pmax	pmax		
	comp=Z,220nm,1.6s,mb5.8						
TUC	**Tucson**	**36.41**	**318**	*eP*	**P**	**14 39 47.0**	**+1.4**
	comp=Z,219nm,1.6s,mb5.8						
TUC				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
QUA2	**Belchertown**	**36.48**	**13**	*eP*	**P**	**14 39 45.8**	**-0.3**
	comp=Z,1μm,1.9s,mb6.4						
WES	**Weston**	**36.82**	**14**	P	**P**	**14 39 49.2**	**+0.2**
WES				pmax	pmax		
	comp=Z,162nm,1.2s,mb5.7						
WES				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.1						
WES	**Weston**	**36.82**	**14**	P	**P**	**14 39 49.2**	**+0.2**
	comp=Z,229nm,1.2s,mb5.9						
WES				LR	LR		
	comp=Z,4μm,21.0s,MS5.1						
SDCO	**Great Sand Dun**	**37.09**	**329**	*eP*	**P**	**14 39 51.1**	**-0.2**
	comp=Z,922nm,1.4s,mb6.4						
SDCO				LR	LR		
	comp=Z,5μm,21.0s,MS5.3						
ACCN	**Adirondack Com**	**37.27**	**11**	*eP*	**P**	**14 39 53.6**	**+0.8**
	comp=Z,183nm,1.3s,mb5.8						
NCB	**Newcomb**	**37.74**	**10**	*eP*	**P**	**14 39 57.0**	**+0.3**
	comp=Z,319nm,1.8s,mb5.8						
NCB				LR	LR		
	comp=Z,4μm,22.0s,MS5.1						
HNH	**Hanover**	**37.86**	**12**	*eP*	**P**	**14 39 58.6**	**+0.9**
	comp=Z,169nm,1.1s,mb5.7						
SADO	**Sadowa**	**37.93**	**4**	P	**P**	**14 39 57.5**	**-0.7**
	comp=Z,31nm,0.9s,mb5.0,baz=208,slow=9.9,SNR=13						
SADO				PP	PP	14 41 28.1	+0.3
	comp=Z,36nm,1.2s,baz=183,slow=12,SNR=3.3						
SADO				LR	LR	14 55 55.6	
	comp=Z,3μm,19.7s,MS5.1,baz=197,slow=37						
MDV	**Middlebury**	**37.96**	**11**	*eP*	**P**	**14 39 58.4**	**-0.1**
MIV	**Mineville/With**	**37.97**	**11**	*eP*	**P**	**14 39 58.6**	**0.0**
LBNH	**Lisbon**	**38.45**	**12**	*eP*	**P**	**14 40 03.6**	**+0.9**
	comp=Z,225nm,1.3s,mb5.7						
LBNH				LR	LR		
	comp=Z,5μm,22.0s,MS5.3						
FRNY	**Flat Rock**	**38.69**	**10**	*eP*	**P**	**14 40 04.8**	**+0.2**
	comp=Z,168nm,1.4s,mb5.6						
ISCO	**Idaho Springs**	**38.74**	**331**	P	**P**	**14 40 07.0**	**+1.9**
ISCO				pmax	pmax		
	comp=Z,510nm,1.8s,mb6.0						
ISCO	**Idaho Springs**	**38.74**	**331**	*eP*	**P**	**14 40 06.2**	**+1.0**
	comp=Z,472nm,1.8s,mb5.9						
ISCO				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
WUAZ	**Wupatki**	**38.82**	**321**	*eP*	**P**	**14 40 06.7**	**+0.8**
	comp=Z,286nm,1.0s,mb6.0						
WUAZ				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
SMCO	**Snowmass**	**38.93**	**329**	*eP*	**P**	**14 40 06.9**	**+0.2**
	comp=Z,249nm,1.0s,mb5.9						
PV01	**Paradox Valley**	**38.99**	**327**	*eP*	**P**	**14 40 07.6**	**+0.4**
PV10	**Paradox Valley**	**39.42**	**327**	*eP*	**P**	**14 40 10.6**	**-0.2**
PHWY	**Pilot Hill**	**39.86**	**333**	*eP*	**P**	**14 40 15.1**	**+0.6**
BAR	**Barrett**	**40.71**	**314**	P	**P**	**14 40 20.6**	**-0.9**
	comp=Z,94nm,1.5s,mb5.2						
SRU	**San Rafael**	**40.76**	**326**	*eP*	**P**	**14 40 21.7**	**-0.1**
SRU				pmax	pmax		
	comp=Z,426nm,1.0s,mb6.0						
SRU	**San Rafael**	**40.76**	**326**	*eP*	**P**	**14 40 21.7**	**-0.1**
	comp=Z,426nm,1.0s,mb6.0						
RWWY	**Rawlins**	**40.97**	**332**	*eP*	**P**	**14 40 24.8**	**+1.3**
	comp=Z,585nm,1.4s,mb6.0						
BDFB	**Brasilia**	**40.98**	**123**	P	**P**	**14 40 20.6**	**-3.2**
	comp=Z,42nm,0.8s,mb5.1,baz=289,slow=9.5,SNR=20						
B

comp=Z,4µm,22.0s,MS5.2
SPUT South Promonto 43.34 327 *e*P **P** **14 40 43.3 +0.3**
BGU Big Grassy Mou 43.40 326 *e*P **P** **14 40 43.6 +0.2**
ISA Isabella 43.56 316 *e*P **P** **14 40 45.6 +0.8**
comp=Z,120nm,1.4s,mb5.4
ISA LR LR
comp=Z,2µm,20.0s,MS5.1
AHID Auburn Hatcher 43.68 330 *e*P **P** **14 40 46.8 +1.0**
comp=Z,190nm,1.2s,mb5.7
AHID LR LR
comp=Z,3µm,20.0s,MS5.2
HVU Hansel Valley 43.85 327 P **P** **14 40 47.7 +0.6**
HVU pmax pmax
comp=Z,380nm,1.5s,mb5.9
HVU Hansel Valley 43.85 327 *e*P **P** **14 40 47.2 +0.1**
comp=Z,381nm,1.5s,mb5.9
REDW Red Top Meadow 43.99 330 *e*P **P** **14 40 47.9 -0.3**
comp=Z,388nm,1.5s,mb6.3
LOHW Long Hollow 44.06 331 *e*P **P** **14 40 48.2 -0.5**
comp=Z,407nm,1.4s,mb6.0
TPH Tonopah 44.09 320 P **P** **14 40 49.3 +0.2**
TPH pmax pmax
comp=Z,160nm,1.2s,mb5.6
TPH Tonopah 44.09 320 *e*P **P** **14 40 48.4 -0.7**
comp=Z,156nm,1.2s,mb5.6
TPH LR LR
comp=Z,3µm,19.0s,MS5.3
TPAW Teton Pass 44.14 330 *e*P **P** **14 40 50.0 +0.6**
comp=Z,284nm,1.1s,mb5.9
IMW Indian Meadow 44.43 331 *e*P **P** **14 40 50.6 -1.2**
comp=Z,98nm,0.9s,mb5.5
ELK Elko 44.53 324 P **P** **14 40 52.6 0.0**
ELK pmax pmax
comp=Z,150nm,1.2s
ELK Elko 44.53 324 *e*P **P** **14 40 52.2 -0.4**
comp=Z,148nm,1.2s,mb5.7
ELK LR LR
comp=Z,3µm,19.0s,MS5.3
LAO LASA Array 44.56 337 *e*P **P** **14 40 52.5 -0.3**
comp=Z,204nm,1.4s,mb5.8
LAO LR LR
comp=Z,3µm,20.0s,MS5.2
ULM Lac du Bonnet 44.66 348 P **P** **14 40 51.5 -2.0**
comp=Z,93nm,1.0s,mb5.6,baz=162,slow=7.8,SNR=91
ULM PP PP 14 42 41.3 +2.3
comp=Z,35nm,1.2s,baz=174,slow=11,SNR=4.4
ULM LR LR 15 01 41.5
comp=Z,2µm,18.0s,MS5.1,baz=339,slow=39
LKWY Lake 44.67 332 *e*P **P** **14 40 54.5 +0.8**
comp=Z,246nm,1.5s,mb5.8
LKWY LR LR
comp=Z,6µm,21.0s,MS5.5
YFT Old Faithful 44.80 331 *e*P **P** **14 40 55.9 +1.2**
MNV Mina 44.89 320 P **P** **14 40 55.7 +0.1**
MNV pmax pmax
comp=Z,160nm,1.1s,mb5.8
MNV Mina 44.89 320 *e*P **P** **14 40 55.5 -0.1**
comp=Z,163nm,1.1s,mb5.8
MNV LR LR
comp=Z,4µm,22.0s,MS5.3
NVAR Mina Array Bea 44.98 320 P **P** **14 40 55.8 -0.5**
comp=Z,47nm,0.9s,mb5.3,baz=131,slow=6.6,SNR=155
NVAR PP PP 14 42 46.5 +4.1
comp=Z,8.7nm,1.0s,baz=153,slow=6.0,SNR=2.5
NVAR LR LR 15 01 55.3
comp=Z,1µm,18.1s,MS4.8,baz=135,slow=39
YMR Madison River 45.02 331 *e*P **P** **14 40 57.7 +1.1**
comp=Z,449nm,1.3s,mb6.1
YMR LR LR
comp=Z,3µm,20.0s,MS5.2
GCMT Greycliff 45.28 333 *e*P **P** **14 40 59.0 +0.4**
DGMT Dagmar 45.33 340 *e*P **P** **14 40 58.8 -0.1**
comp=Z,218nm,1.0s,mb5.9
DGMT LR LR
comp=Z,4µm,20.0s,MS5.4
QLMT Earthquake Lak 45.36 331 *e*P **P** **14 40 60.0 +0.7**
LRV Little Rabbit 45.71 316 P **P** **14 41 01.8 -0.3**
HLID Hailey 45.95 328 *e*P **P** **14 41 04.1 +0.2**
comp=Z,63nm,0.8s,mb5.6
HLID LR LR
comp=Z,5µm,19.0s,MS5.5
MCMT McKenzie Canyo 46.05 330 *e*P **P** **14 41 03.8 -0.8**
BOZ Bozeman (W) 46.06 332 *e*P **P** **14 41 06.4 +1.6**
BOZ pmax pmax
comp=Z,350nm,1.1s,mb6.2
BOZ Bozeman (W) 46.06 332 *e*P **P** **14 41 04.9 +0.1**
comp=Z,350nm,1.2s,mb6.2
BOZ LR LR
comp=Z,4µm,22.0s,MS5.3
CMB Columbia Colle 46.12 318 P **P** **14 41 06.2 +0.8**
CMB pmax pmax
comp=Z,93nm,1.5s,mb5.5
CMB Columbia Colle 46.12 318 *e*P **P** **14 41 04.6 -0.8**
comp=Z,91nm,1.5s,mb5.5
CMB LR LR
comp=Z,3µm,19.0s,MS5.3
SAO San Andreas Ge 46.18 316 PFAKE 14 41 20.0 +14
SAO LR LR
comp=Z,4µm,22.0s,MS5.3
DLMT Dillon 46.31 331 *e*P **P** **14 41 07.4 +0.7**
comp=Z,423nm,1.4s,mb6.2
PAHR Pah Rah Range 46.41 320 *e*P **P** **14 41 08.5 +0.9**
comp=Z,186nm,1.3s,mb5.9
HRY Holter Researc 46.95 333 *e*P **P** **14 41 12.0 +0.3**
EGMT Eagleton 47.06 335 *e*P **P** **14 41 12.7 +0.1**
comp=Z,259nm,1.5s,mb5.9
EGMT LR LR
comp=Z,4µm,22.0s,MS5.3
WVOR Wild Horse Val 47.57 324 P **P** **14 41 15.9 -0.8**
WVOR pmax pmax
comp=Z,530nm,1.3s,mb6.4
WVOR Wild Horse Val 47.57 324 *e*P **P** **14 41 15.4 -1.3**
comp=Z,490nm,1.4s,mb6.3
WVOR LR LR
comp=Z,3µm,20.0s,MS5.3
CHMT Chamberlain Mo 47.76 332 *e*P **P** **14 41 17.6 -0.6**
MSO Missoula 48.02 331 *e*P **P** **14 41 18.9 -1.2**
comp=Z,116nm,1.2s,mb5.8
MSO LR LR
comp=Z,3µm,21.0s,MS5.2
MOD Modoc 48.24 322 *e*P **P** **14 41 21.2 -0.8**
comp=Z,129nm,1.3s,mb5.8
MOD LR LR
comp=Z,6µm,20.0s,MS5.6
BMO Blue Mountains 48.36 327 *e*P **P** **14 41 21.6 -1.2**
comp=Z,59nm,1.3s,mb5.5
BMO LR LR
comp=Z,3µm,20.0s,MS5.3
RCBR Riachuelo 48.38 104 PFAKE 14 41 30.0 +6.6
RCBR LR LR
comp=Z,4µm,19.0s,MS5.4
HOPS Hopland 48.42 318 PFAKE 14 41 30.0 +6.6
HOPS LR LR
comp=Z,4µm,19.0s,MS5.5
PLCA Paso Flores 48.63 168 P **P** **14 41 21.7 -3.3**
comp=Z,39nm,0.9s,mb5.5,baz=341,slow=8.8,SNR=48
PLCA Paso Flores 48.63 168 P **P** **14 41 20.9 -4.1**
PLCA pmax pmax
comp=Z,130nm,1.2s
PLCA Paso Flores 48.63 168 *e*P **P** **14 41 20.8 -4.2**
comp=Z,127nm,1.3s,mb5.8
PLCA LR LR
comp=Z,2µm,21.0s,MS5.0
TRQA Tornquist 48.65 158 PFAKE 14 41 30.0 +4.8
TRQA LR LR
comp=Z,2µm,20.0s,MS5.0
WDC Whiskeytown Da 48.90 320 PFAKE 14 41 40.0 +13
WDC LR LR
comp=Z,3µm,21.0s,MS5.3
KIPM Iron Peak 49.11 318 *e*P **P** **14 41 29.7 +1.0**
VSP Spence Mountai 49.50 322 P **P** **14 41 32.5 +0.9**
SCHQ Schefferville 49.54 12 P **P** **14 41 30.7 -1.1**
comp=Z,121nm,1.0s,mb5.9,baz=203,slow=6.3,SNR=34
SCHQ PcP PcP 14 42 52.5 -1.4
comp=Z,17nm,0.7s,baz=204,slow=1.3,SNR=5.2
SCHQ LR LR 15 01 10.1
comp=Z,4µm,21.6s,MS5.3,baz=343,slow=34
SCHQ Schefferville 49.54 12 *e*P **P** **14 41 30.1 -1.7**
comp=Z,298nm,1.2s,mb6.2
SCHQ LR LR
comp=Z,6µm,22.0s,MS5.6
YBH Yreka Blue Hor 49.63 321 PFAKE 14 41 40.0 +7.3
YBH LR LR
comp=Z,4µm,20.0s,MS5.4
KHMM Horse Mountain 49.83 319 *e*P **P** **14 41 34.6 +0.4**
HUMO Hull Mountain 50.27 322 PFAKE 14 41 50.0 +12
HUMO LR LR
comp=Z,3µm,22.0s,MS5.3
CROR Criterion Ridg 50.47 325 P **P** **14 41 39.9 +0.9**
HAWA Hanford 50.55 328 *e*P **P** **14 41 39.1 -0.5**
comp=Z,106nm,1.2s,mb5.7
OD2 Odessa Site #2 50.77 329 P **P** **14 41 41.7 +0.4**
BROR Big Rock Looko 50.90 324 P **P** **14 41 42.5 +0.2**
MXC Moxie City 51.07 327 P **P** **14 41 44.8 +1.2**
COR Corvallis 51.58 324 P **P** **14 41 48.4 +0.9**
COR pmax pmax
comp=Z,1.0nm,1.2s
COR Corvallis 51.58 324 *e*P **P** **14 41 47.2 -0.3**
comp=Z,0.6nm,1.2s
WTV Waterville 51.61 329 P **P** **14 41 48.4 +0.7**
TBM Table Mountain 51.61 328 P **P** **14 41 48.8 +1.1**
NLW Nelson Butte 52.05 329 P **P** **14 41 51.5 +0.6**
FCC Fort Churchill 52.55 353 P **P** **14 41 52.9 -1.7**
FCC pmax pmax
comp=Z,450nm,1.7s,mb6.1
FCC Fort Churchill 52.55 353 *e*P **P** **14 41 52.7 -1.9**
comp=Z,450nm,1.8s,mb6.1
EDM Edmonton 52.55 337 P **P** **14 41 54.1 -0.6**
EDM Edmonton 52.55 337 *e*P **P** **14 41 53.4 -1.3**
RPW Rockport 52.89 328 P **P** **14 41 57.3 0.0**
OCWA Octopus Mounta 53.89 326 PFAKE 14 42 10.0 +5.4
OCWA LR LR
comp=Z,5µm,19.0s,MS5.6
PGC Sidney 54.03 328 *e*P **P** **14 42 04.5 -1.2**
comp=Z,307nm,1.5s,mb6.0
FRB Frobisher Bay 57.73 7 P **P** **14 42 29.6 -2.5**
comp=Z,121nm,0.9s,mb5.9,baz=202,slow=7.3,SNR=44
CALA Caldeira 57.95 48 *e*P **P** **14 42 25.2 -8.8**
PICO Pico 58.13 49 *e*P **P** **14 42 25.8 -9.5**
ROSA Rosais 58.34 48 *e*P **P** **14 42 25.9 -11**
ADH Angra Heroismo 59.07 49 eLR LR 15 00 25.0
RKT Rikitea 59.10 238 *e*S **S** **14 50 42.5 -5.3**
RKT *e*SS SS 14 54 28.6 -15
RKT eLR LR 15 00 34.6
comp=Z,5µm,33.8s,baz=63
TAOE Nuku Hiva Isla 59.32 256 *e*S **S** **14 50 44.4 -6.4**
TAOE *e*SS SS 14 54 39.1 -7.9
TAOE eLQ 14 57 37.7
TAOE eLR LR 15 00 34.9
comp=Z,6µm,24.9s,baz=75
YKA Yellowknife Ar 60.26 344 P **P** **14 42 46.4 -3.3**
comp=Z,72nm,1.1s,mb5.6,baz=138,slow=6.8,SNR=155
YKA PP PP 14 44 57.1 -7.5
comp=Z,4.4nm,1.1s,baz=142,slow=11,SNR=2.6
YKA LR LR 15 11 44.3
comp=Z,2µm,20.3s,MS5.3,baz=120,slow=39
YKA PKP2bc 15 12 18.4
comp=Z,0.3nm,0.8s,baz=318,slow=2.3,SNR=5.7
YKA Yellowknife Ar 60.26 344 P **P** **14 42 46.4 -3.3**
YKA PP PP 14 44 57.1 -7.5
YKA LR LR 15 11 44.3
YKA ⇑*e* 15 12 18.4
YKW3 Yellowknife Ar 60.32 344 *e*P **P** **14 42 48.3 -1.8**
comp=Z,2.6nm,1.1s
EFI East Falkland 61.99 163 PFAKE 14 43 10.0 +8.4
EFI LR LR
comp=Z,912nm,21.0s,MS4.9
DLBC Dease Lake 62.97 334 *e*P **P** **14 43 07.4 -0.5**
SFJD Kangerlussuaq 63.95 13 P **P** **14 43 11.7 -2.6**
comp=Z,82nm,0.9s,mb5.8,baz=175,slow=5.6,SNR=13
SFJD Kangerlussuaq 63.95 13 *i* P **P** **14 43 11.3 -3.0**
comp=Z,103nm,1.0s,mb5.8
SFJD *i* 14 51 46.2
SFJD *i* 14 58 42.9
SFJD *i* 14 59 06.8
comp=Z,2µm,21.0s
SFJD Kangerlussuaq 63.95 13 *i* P **P** **14 43 11.3 -3.0**
SFJD *i* 14 51 46.2
SFJD *i* 14 58 42.9
SFJD pmax pmax
comp=Z,100nm,1.0s,mb5.8
SFJD MLR MLR
comp=Z,2µm,21.0s,MS5.2
CHIE El Hierro 64.53 63 P **P** **14 43 17.2 -1.5**
comp=Z,123nm,0.9s,mb5.9
SIT Sitka 64.64 331 PFAKE 14 43 30.0 +11
SIT LR LR
comp=Z,4µm,20.0s,MS5.6
EGOM La Gomera 65.23 62 P **P** **14 43 21.7 -1.5**
comp=Z,190nm,1.0s,mb6.1
EBAJ Bajamar 66.03 62 P **P** **14 43 28.8 +0.5**
comp=Z,110nm,1.1s,mb5.8
CFTV Fuerteventura 68.00 62 P **P** **14 43 40.3 -0.5**
comp=Z,21nm,0.8s,mb5.2
RES Resolute Bay 68.18 357 P **P** **14 43 38.4 -2.8**
RES pmax pmax
comp=Z,130nm,1.3s,mb5.8
RES Resolute Bay 68.18 357 *e*P **P** **14 43 37.9 -3.3**
comp=Z,4µm,1.3s
EFAM Famara 68.54 61 P **P** **14 43 43.5 -0.6**
comp=Z,136nm,1.1s,mb5.8
DAWY Dawson 69.76 337 *e*P **P** **14 43 49.0 -2.1**
INK Inuvik 69.95 342 P **P** **14 43 50.0 -2.1**
comp=Z,73nm,1.0s,mb5.6,baz=121,slow=6.6,SNR=137
INK PKPPKP 15 11 59.9
comp=Z,0.3nm,0.3s,baz=37,slow=1.1,SNR=3.1
INK LR LR 15 17 45.4
comp=Z,3µm,18.3s,MS5.6,baz=292,slow=39
INK Inuvik 69.95 342 P **P** **14 43 50.7 -1.4**
INK pmax pmax
comp=Z,150nm,1.2s
INK Inuvik 69.95 342 *e*P **P** **14 43 50.5 -1.6**
comp=Z,5µm,1.2s
PPT Papeete 70.31 249 *e*P **P** **14 43 53.6 -1.6**
comp=Z,44nm,1.2s,mb5.3
PPT Papeete 70.31 249 *e*S S 14 53 01.2 -5.1
PPT *e*SS SS 14 57 30.9 -7.4
PPT eLR LR 15 05 30.0
comp=Z,4µm,25.5s,baz=64
PAE Paea 70.34 249 *e*P **P** **14 43 53.5 -1.9**
comp=Z,106nm,1.1s,mb5.7
SUMG Summit 70.92 13 *e*P **P** **14 43 57.0 -1.1**
comp=Z,506nm,1.0s,mb6.4
MENT Mentasta 71.03 335 *e*P **P** **14 43 59.5 +0.7**
DIV Divide 71.24 333 *e*P **P** **14 43 59.6 -0.5**
comp=Z,80nm,1.2s,mb5.5
DIV LR LR
comp=Z,6µm,20.0s,MS5.9
POHA Pohakuloa 71.58 288 PFAKE 14 44 10.0 +7.1
POHA LR LR
comp=Z,4µm,20.0s,MS5.7
TBI Tubuai 71.71 243 *e*S S 14 53 17.4 -5.0
TBI *e*SS SS 14 57 55.6 -4.2
TBI eLR LR 15 06 24.3
comp=Z,5µm,28.0s,baz=69
BORG Borgarnes 71.90 23 P **P** **14 44 03.5 -0.5**
comp=Z,88nm,0.9s,mb5.7,baz=222,slow=4.8,SNR=10
BORG Borgarnes 71.90 23 *e*P **P** **14 44 03.5 -0.5**
comp=Z,108nm,1.0s,mb5.7
BORG LR LR
comp=Z,791nm,21.0s,MS5.0
KKH Kailua Kona 72.04 288 P **P** **14 44 07.4 +1.8**
SML Sawmill 72.63 333 *e*P **P** **14 44 08.1 -0.2**
PMSA Palmer Station 72.75 172 *e*P **P** **14 44 05.5 -3.5**
comp=Z,21nm,0.9s,mb5.1
PMSA LR LR
comp=Z,834nm,20.0s,MS5.0
PMR Palmer 72.92 333 *e*P **P** **14 44 08.2 -1.9**
PMR pmax pmax
comp=Z,55nm,1.4s,mb5.3
PMR Palmer 72.92 333 *e*P **P** **14 44 10.0 -0.1**
comp=Z,50nm,1.1s,mb5.3
ILAR Eielson Array 73.02 336 P **P** **14 44 08.2 -2.4**
comp=Z,25nm,0.9s,mb5.1,baz=119,slow=4.1,SNR=121
ILAR PP PP 14 46 50.6 -4.7
comp=Z,6.8nm,0.9s,baz=124,slow=5.7,SNR=5.0
ILAR LR LR 15 18 48.2
comp=Z,1µm,22.0s,MS5.1,baz=122,slow=38
ILAR Eielson Array 73.02 336 P **P** **14 44 08.2 -2.4**
ILAR PP PP 14 46 50.6 -4.7
ILAR LR LR 15 18 48.2
SLKM Skilak Lake 73.11 331 P **P** **14 44 11.5 +0.3**
SLKM Skilak Lake 73.11 331 *e*P **P** **14 44 10.5 -0.7**
PTEO Sao Teotonio 73.18 53 *e*P **P** **14 44 12.7 +0.6**
comp=Z,161nm,1.1s,mb5.9
PTEO *e*pP pP 14 44 14.8 +0.2
FIB Fire Island 73.28 332 P **P** **14 44 13.8 +1.7**
FIB pmax pmax
comp=Z,110nm,1.2s,mb5.7
FIB Fire Island 73.28 332 *e*P **P** **14 44 12.2 +0.1**
comp=Z,232nm,1.2s,mb6.0
FIB LR LR
comp=Z,2µm,21.0s,MS5.4
COLA College 73.44 336 P **P** **14 44 13.2 +0.2**
COLA pmax pmax
comp=Z,45nm,1.2s,mb5.3
COLA College 73.44 336 *e*P **P** **14 44 12.4 -0.7**
comp=Z,45nm,1.2s,mb5.3
COLA LR LR
comp=Z,1µm,20.0s,MS5.2
EMAZ Mazaricos 73.48 47 P **P** **14 44 14.5 +0.7**
comp=Z,211nm,1.3s,mb5.9
MCK McKinley 73.51 335 P **P** **14 44 13.6 +0.2**
MCK pmax pmax
comp=Z,44nm,1.0s,mb5.3
MCK McKinley 73.51 335 *e*P **P** **14 44 12.5 -1.0**
comp=Z,89nm,1.1s,mb5.6
MCK LR LR
comp=Z,797nm,21.0s,MS5.0
MOE Montemor 73.55 52 *e*P **P** **14 44 15.7 +1.5**
KDAK Kodiak Island 73.58 328 LR LR 15 22 34.6
comp=Z,972nm,18.1s,MS5.1,baz=113,slow=41
PTOM Tomar 73.59 51 *e*P **P** **14 44 14.1 -0.4**
comp=Z,149nm,1.5s,mb5.7
EZAM Zamans 73.61 48 P **P** **14 44 14.5 +0.1**
comp=Z,123nm,1.1s,mb5.8
STS Santiago 73.79 47 P **P** **14 44 15.0 -0.5**
comp=Z,65nm,1.0s,mb5.5
EVO Evora 73.82 52⇑*i* P **P** **14 44 14.9 -0.9**
comp=Z,267nm,1.3s,mb5.7
EVO *e*R
comp=Z,3µm,22.5s
KIP Kipapa 73.88 290⇑*e*P **P** **14 44 15.6 -0.8**
PBEJ Beja 73.90 53 *e*P **P** **14 44 17.4 +1.2**
comp=Z,72nm,1.6s,mb5.3
PBEJ *e*pP pP 14 44 18.6 -0.1
ELOB Lobios 74.05 49 P **P** **14 44 17.5 +0.5**
comp=Z,160nm,1.8s,mb5.7
PVIS Viseu 74.08 50 *e*P **P** **14 44 16.9 -0.3**
comp=Z,112nm,1.1s,mb5.7
PVIS *e*pP pP 14 44 19.4 -0.3
SCO Scoresbysund 74.09 18 *i* P **P** **14 44 15.2 -1.5**
comp=Z,60nm,0.9s,mb5.5
EGRO El Granado 74.17 53 P **P** **14 44 18.9 +1.1**
comp=Z,104nm,1.3s,mb5.6
PVRL Vila Real 74.26 49 *e*P **P** **14 44 18.3 0.0**
comp=Z,129nm,1.4s,mb5.7
PVRL *e*pP pP 14 44 20.5 -0.2
MTE Manteigas 74.32 50 *e*P **P** **14 44 18.1 -0.5**
comp=Z,92nm,1.2s,mb5.6
MTE *e*pP pP 14 44 20.9 -0.2
MTE *e*S S 14 53 54.0 +2.4
MTE *e*LQ 15 01 11.0
comp=Z,894nm,13.2s
MTE Manteigas 74.32 50 P **P** **14 44 15.1 -3.6**
comp=Z,71nm,1.2s,mb5.5
PCBR Castelo Branco 74.33 51 *e*P **P** **14 44 18.3 -0.4**
comp=Z,108nm,1.3s,mb5.6
PCBR *e*pP pP 14 44 20.9 -0.3
EBAD Badajoz 74.61 52 P **P** **14 44 21.3 +1.0**
comp=Z,101nm,1.3s,mb5.6
ERUA La Rua 74.78 48 P **P** **14 44 22.8 +1.5**
comp=Z,48nm,0.9s,mb5.4
EMIN Mina Concepcio 74.82 53 P **P** **14 44 22.3 +0.7**
comp=Z,114nm,1.4s,mb5.6
EPON Pontenova 74.85 47 P **P** **14 44 22.4 +0.8**
comp=Z,459nm,1.9s,mb6.1
PBRG Braganca 75.03 49 *e*P **P** **14 44 22.7 0.0**
comp=Z,136nm,1.6s,mb5.6
PBRG *e*pP pP 14 44 25.1 -0.1
ECAL Calabor 75.04 49 P **P** **14 44 22.8 0.0**
comp=Z,186nm,1.3s,mb5.9
ESPR Espera 75.43 54 P **P** **14 44 26.0 +0.9**
comp=Z,90nm,0.8s,mb5.8
SVW2 Sparrevohn 75.80 331 *e*P **P** **14 44 25.7 -1.0**
ECAB El Cabril 75.83 53 P **P** **14 44 26.7 -0.6**
comp=Z,85nm,1.1s,mb5.6
DCN Croghan 75.87 37 *e*P **P** **14 44 26.5 -0.7**
IMA2 Indian Mountai 76.12 337 *e*P **P** **14 44 28.7 +0.3**
EARI Arriondas 76.26 47 P **P** **14 44 30.8 +1.1**
comp=Z,275nm,1.6s,mb5.9
EMIJ Mijas 76.29 54 P **P** **14 44 30.0 0.0**
comp=Z,172nm,1.2s,mb5.9
DLF Lyons Farm 76.31 37 *e*P **P** **14 44 28.7 -1.0**
MDT Midelt 76.35 58 P **P** **14 44 30.5 +0.1**
comp=Z,35nm,1.0s,mb5.2,baz=282,slow=6.4,SNR=20
MDT LR LR 15 15 20.7
comp=Z,923nm,19.7s,MS5.1,baz=273,slow=34
EADA Adamuz 76.50 52 P **P** **14 44 30.7 -0.4**
comp=Z,216nm,1.8s,mb5.8
CPZ Penzance 76.55 40 *e*P **P** **14 44 30.5 -0.6**
CPZ AMb AMB 14 44 34.1
comp=Z,154nm,1.6s,mb5.7
ELUQ Luque 76.72 53 P **P** **14 44 33.4 +1.0**
comp=Z,16nm,0.6s,mb5.1
CGW Gweek 76.77 40⇑*e*P **P** **14 44 31.8 -0.6**
CCA1 Carnmenellis 76.78 40⇑*e*P **P** **14 44 32.0 -0.4**
ELOJ Sierra Loja 76.80 54 P **P** **14 44 33.7 +0.9**
comp=Z,87nm,0.9s,mb5.7
CGH1 Goonhilly 76.81 40⇑*e*P **P** **14 44 32.2 -0.3**
CRQ2 Rosemanowes 2 76.81 40⇑*e*P **P** **14 44 32.1 -0.6**
CRQ2 AMb AMB 14 44 35.8
comp=Z,239nm,1.3s,mb6.0
CMA1 Manaccan 76.83 40⇑*e*P **P** **14 44 32.4 -0.4**
GUD Guadarrama 76.91 50 P **P** **14 44 33.5 +0.2**
comp=Z,98nm,1.3s,mb5.6
CSA1 St Austell 77.01 40 *e*P **P** **14 44 33.2 -0.5**
ESDC Sonseca Array 77.02 51 P **P** **14 44 33.3 -0.8**
comp=Z,0.6nm,0.4s,baz=270,slow=5.3,SNR=26
ESDC Sonseca Array 77.02 51 P **P** **14 44 34.2 +0.2**
comp=Z,53nm,0.8s,mb5.5
ESLA Sonseca Array 77.02 51 *e*P **P** **14 44 33.7 -0.4**
comp=Z,31nm,1.2s,mb5.1
ESLA LR LR
comp=Z,10µm,21.0s,MS6.1
ERON Agron 77.08 54 P **P** **14 44 36.7 +2.3**
comp=Z,14nm,0.6s,mb5.1
LIC Lamto 77.10 85 *e*P **P** **14 44 33.5 -1.5**
comp=Z,219nm,1.5s,mb5.6
LIC *e*R
comp=Z,1µm,21.8s
DBIC Dimbokro 77.23 85 P **P** **14 44 34.3 -1.4**
comp=Z,23nm,1.0s,mb5.1,baz=259,slow=7.5,SNR=13
DBIC LR LR 15 16 45.3
comp=Z,1µm,21.1s,MS5.1,baz=256,slow=34
DBIC Dimbokro 77.23 85 *e*P **P** **14 44 34.6 -1.1**
comp=Z,89nm,1.4s,mb5.5
DBIC LR LR
comp=Z,1µm,20.0s,MS5.2
ECOG Cogollos-Vega 77.27 53 P **P** **14 44 36.0 +0.5**
comp=Z,43nm,0.7s,mb5.5
SDPT Sand Point 77.46 325 *e*P **P** **14 44 36.4 +0.3**
comp=Z,204nm,1.2s,mb5.9
ELAN Lanestosa 77.55 47 P **P** **14 44 38.4 +1.5**
comp=Z,306nm,1.7s,mb6.0
DAG Danmarks Havn 77.59 12⇓*i* P **P** **14 44 34.7 -1.8**
comp=Z,115nm,0.9s,mb5.8
DAG Danmarks Havn 77.59 12⇓*e*P **P** **14 44 34.7 -1.8**
DAG pmax pmax
comp=Z,120nm,0.9s,mb5.8
DAG Danmarks Havn 77.59 12⇓*e*P **P** **14 44 34.7 -1.8**
comp=Z,116nm,0.9s,mb5.8
HSA Swansea 77.59 39⇑*e*P **P** **14 44 36.0 -0.9**
HSA AMb AMB 14 44 39.8
comp=Z,290nm,1.2s,mb6.1
EQES Quesada 77.68 53 P **P** **14 44 37.6 0.0**
comp=Z,190nm,1.1s,mb5.9
HEX Exmoor 77.76 39⇑*e*P **P** **14 44 37.0 -0.8**
HEX AMb AMB 14 44 40.6
comp=Z,249nm,1.3s,mb6.0
EBER Berja 77.81 54 P **P** **14 44 37.2 -1.2**
comp=Z,644nm,2.3s,mb6.2
EAB Aberfoyle 77.89 34 *e*P **P** **14 44 36.9 -1.5**
ROSF Rostrenen 77.92 42⇑*i*P **P** **14 44 38.5 -0.2**
comp=Z,389nm,1.3s,mb5.9
QUIF Quistinic 77.97 43⇑*i*P **P** **14 44 38.9 -0.1**
comp=Z,161nm,0.8s,mb5.7
EVIA Vianos 78.14 52 P **P** **14 44 39.8 -0.4**
comp=Z,50nm,1.0s,mb5.4
ECRI Cripan 78.21 48 P **P** **14 44 41.5 +1.0**
comp=Z,32nm,0.8s,mb5.3
EAU Auchinoon 78.36 34 *e*P **P** **14 44 39.8 -1.2**
EAU AMb AMB 14 44 46.0
comp=Z,161nm,1.7s,mb5.7
SGMF Saint Gilles 78.39 42⇑*i*P **P** **14 44 41.0 -0.3**
comp=Z,430nm,1.3s,mb5.9
ESK Eskdalemuir 78.45 35⇑*e*P **P** **14 44 40.2 -1.3**
ESK AMb AMB 14 44 46.5
comp=Z,171nm,1.7s,mb5.7

ESK Eskdalemuir 78.45 35 *e*P **P 14 44 40.2 -1.3**
comp=Z,178nm,1.4s,mb5.8
ESK LR LR
comp=Z,416nm,20.0s,MS4.8
JMIC Jan Mayen 78.45 19 LR LR 15 17 10.6
comp=Z,1µm,19.1s,MS5.2,baz=80,slow=34
EKA Eskdalemuir Ar 78.48 35 P **P 14 44 40.5 -1.1**
comp=Z,66nm,1.0s,mb5.5,baz=263,slow=5.4,SNR=28
EDI Edinburgh 78.51 34 *e*P **P 14 44 40.7 -1.1**
EBL Broad Law 78.58 35 *e*P **P 14 44 41.6 -0.7**
EBL AMb AMB 14 44 44.6
comp=Z,152nm,1.6s,mb5.7
TRIS Tristan da Cun 78.72 130 PFAKE 14 44 50.0 +6.6
TRIS LR LR
comp=Z,2µm,21.0s,MS5.4
EALK Alkurruntz 78.96 47 P **P 14 44 44.9 +0.3**
comp=Z,275nm,1.4s,mb6.0
LRYF La Roche-sur-Y 79.01 44 *e*P **P 14 44 44.5 -0.3**
KWE Weaver Farm 79.09 37⇑*e*P **P 14 44 44.4 -0.7**
EMUR La Murta 79.13 53 P **P 14 44 45.6 0.0**
comp=Z,45nm,1.0s,mb5.3
OLEF Ile d'Oleron 79.13 45 *e*P **P 14 44 46.9 +1.4**
SJPF Ste Jean 79.17 48⇑*i*P **P 14 44 46.1 +0.4**
comp=Z,500nm,1.4s,mb6.0
KBI1 Birley Grange 79.30 37⇑*e*P **P 14 44 45.5 -0.7**
ECHE Chera 79.34 51 P **P 14 44 47.4 +0.7**
comp=Z,22nm,1.0s,mb5.0
GRR Gorron 79.53 42⇑*i*P **P 14 44 47.3 -0.3**
comp=Z,667nm,1.2s,mb6.2
ATE Arette 79.55 48 *e*P **P 14 44 47.6 -0.2**
LCHF La Chataignera 79.57 44 *e*P **P 14 44 48.0 +0.2**
ETSF Etsaut 79.65 48⇑*i*P **P 14 44 48.8 +0.5**
comp=Z,430nm,1.7s,mb5.8
EMOS Mosqueruela 79.72 50 P **P 14 44 50.1 +1.3**
comp=Z,170nm,1.6s,mb5.7
ESAC San Caprasio 79.72 49 P **P 14 44 48.1 -0.7**
comp=Z,368nm,1.5s,mb6.1
FLN La Foliniere 79.79 42⇑*i*P **P 14 44 48.8 -0.1**
comp=Z,627nm,1.2s,mb6.1
FLN *e*R
comp=Z,1µm,22.0s
EBEN Beniarda 79.92 52 P **P 14 44 50.9 +1.0**
comp=Z,434nm,2.4s,mb6.0
MFF Saint Martin d 79.98 44⇑*i*P **P 14 44 49.8 -0.2**
comp=Z,169nm,0.8s,mb5.7
LDF La Druitiere 80.02 42⇑*i*P **P 14 44 49.9 -0.3**
comp=Z,629nm,1.2s,mb6.1
EBIE Bielsa 80.17 48 P **P 14 44 51.7 +0.6**
comp=Z,249nm,1.7s,mb5.9
EGRA Graus 80.30 48 P **P 14 44 52.3 +0.4**
comp=Z,195nm,1.4s,mb5.8
EPF Esparros 80.31 48⇑*i*P **P 14 44 52.1 +0.2**
comp=Z,622nm,1.6s,mb6.0
ERTA Horta de San J 80.32 50 P **P 14 44 53.3 +1.3**
comp=Z,190nm,1.4s,mb5.8
EBR Ebro Roquetas 80.45 50 *e*PCP **P 14 44 46.5 -6.1**
LFF La Frestale 80.59 46⇑*i*P **P 14 44 53.1 -0.2**
comp=Z,630nm,1.5s,mb6.0
UNV Unalaska Valle 80.86 323 *e*P **P 14 44 54.4 -0.2**
comp=Z,91nm,1.0s,mb5.7
UNV LR LR
comp=Z,2µm,19.0s,MS5.5
EPOB Poblet 80.88 49 P **P 14 44 54.7 -0.2**
comp=Z,48nm,1.1s,mb5.3
EIBI Ibiza 81.14 52 P **P 14 44 55.4 -0.9**
comp=Z,115nm,1.1s,mb5.7
RJF Les Rejaudoux 81.14 45⇑*i*P **P 14 44 55.9 -0.3**
comp=Z,527nm,1.5s,mb6.0
EMIR Miracle 81.20 49 P **P 14 44 57.0 +0.4**
comp=Z,166nm,1.3s,mb5.8
CAF Calviac 81.53 46⇑*i*P **P 14 44 58.0 -0.2**
comp=Z,328nm,1.3s,mb5.8
TCF Toulx Ste Croi 81.61 44⇑*i*P **P 14 44 58.2 -0.4**
comp=Z,366nm,1.5s,mb5.8
MTLF Montolieu 81.68 47⇑*i*P **P 14 44 58.9 -0.1**
comp=Z,398nm,1.4s,mb5.9
VERF Verneugheol 81.81 45 *e*P **P 14 44 59.4 -0.3**
TNA Tin City 81.84 335 *e*P **P 14 44 59.9 +0.5**
comp=Z,64nm,1.2s,mb5.4
TNA LR LR
comp=Z,1µm,22.0s,MS5.2
FRNF Fournols 81.87 45 *e*P **P 14 44 59.8 -0.2**
HYF Humbligny 81.88 43⇑*i*P **P 14 44 59.9 -0.1**
BGF Bois d'Agland 82.04 44⇑*i*P **P 14 45 00.5 -0.3**
comp=Z,582nm,1.5s,mb6.0
PYM Petit Puy Mans 82.18 45 *e*P **P 14 45 01.5 -0.1**
EJON La Jonquera 82.20 48 P **P 14 45 01.9 +0.1**
comp=Z,211nm,1.5s,mb5.8
ETOS Mallorca 82.25 51 P **P 14 45 02.7 +0.6**
comp=Z,73nm,1.3s,mb5.5
AGO Saint Agoulin 82.25 45 *e*P **P 14 45 02.2 +0.2**
LBL Lubilhac 82.36 45 *e*P **P 14 45 02.0 -0.5**
AVF Avril sur Loir 82.38 44⇑*i*P **P 14 45 01.9 -0.7**
comp=Z,210nm,1.3s,mb5.6
SSF Saint Saulge 82.48 43⇑*i*P **P 14 45 02.4 -0.7**
comp=Z,281nm,1.6s,mb5.6
EMHD Djebel Mahouad 82.53 54 P **P 14 45 07.0 +3.4**
PLDF La Plantade 82.60 45 *e*P **P 14 45 03.4 -0.4**
COLF Collangettes 82.67 45 *e*P **P 14 45 04.3 +0.2**
LOR Lormes 82.71 43⇑*i*P **P 14 45 03.7 -0.6**
comp=Z,167nm,1.3s,mb5.6
LOR *e*R
comp=Z,2µm,18.5s
SMF Signal de Mont 82.72 44⇑*i*P **P 14 45 03.7 -0.7**
comp=Z,193nm,1.2s,mb5.7
BAIF Baives 82.84 40⇑*i*P **P 14 45 04.4 -0.5**
comp=Z,337nm,1.8s,mb5.8
LASF Ste Croix 82.84 46⇑*i*P **P 14 45 05.5 +0.4**
comp=Z,413nm,1.7s,mb5.9
TORD Torodi Ar. Bea 83.06 78 P **P 14 45 05.9 -0.9**
comp=Z,17nm,0.9s,mb5.1,baz=283,slow=4.7,SNR=48
TORD PKKPbc 15 03 28.0
comp=Z,0.8nm,0.9s,baz=358,slow=1.4,SNR=4.1
TORD PKPPKP 15 11 30.0
comp=Z,1.1nm,1.0s,baz=180,slow=1.5,SNR=3.6
BER Bergen 83.15 30 *e*P **P 14 45 08.5 +2.2**
BER *e*SKSa 14 55 27.0
BER *e*SS SS 15 00 51.2 -1.4
BER AMS AMS 15 19 13.8
comp=Z,727nm,23.3s,MS5.0
BER Bergen 83.15 30 *e*P **P 14 45 08.5 +2.2**
BER LR LR
comp=Z,727µm,23.3s
GIVF Givet 83.24 40⇑*i*P **P 14 45 06.6 -0.4**
comp=Z,258nm,1.2s,mb5.8
VIVF Saint-Julien-l 83.39 46⇑*i*P **P 14 45 08.4 +0.5**
comp=Z,409nm,1.3s,mb6.0
MEZF Maizieres J'vi 83.46 42⇑*i*P **P 14 45 07.9 -0.3**
comp=Z,360nm,1.2s,mb6.0
PRAF Pradon 83.80 47 *e*P **P 14 45 12.5 +2.5**
HGN Heimansgroeve 83.91 40⇑*e*P **P 14 45 10.1 -0.3**
comp=Z,106nm,1.5s,mb5.7
HGN Heimansgroeve 83.91 40 *e*S S 14 55 40.1 +7.2
GELF Grande-Etoile 84.02 47 *e*P **P 14 45 12.8 +1.7**
SMRF Simiane la Rot 84.08 47⇑*i*P **P 14 45 12.0 +0.5**
comp=Z,220nm,1.6s,mb5.7
THEF They Montfort 84.10 42 *e*P **P 14 45 11.1 -0.3**
MOL Molde 84.12 28 *e*P pP 14 45 23.3 +10
WLF Walferdange 84.12 41 *e*P **P 14 45 10.9 -0.6**
WLF pmax pmax
comp=Z,170nm,1.1s,mb6.1
WLF Walferdange 84.12 41 *e*P **P 14 45 10.9 -0.6**
comp=Z,165nm,1.1s,mb6.1
GRN Grenoble 84.12 45 *e*P **P 14 45 12.3 +0.7**
VILF Villemus 84.19 47 *e*P **P 14 45 14.7 +2.7**
PUYF Puyloubier 84.20 47 *e*P **P 14 45 14.0 +1.9**
BERF Bertagne 84.21 47 *e*P **P 14 45 14.4 +2.3**
ORIF Oris-en-Rattie 84.24 46⇑*i*P **P 14 45 12.9 +0.7**
comp=Z,511nm,1.5s,mb6.1
ORIF *e*R
comp=Z,1µm,21.5s
WIT Witteveen 84.24 38 *e*P **P 14 45 14.4 +2.4**
KBS Kingsbay 84.25 11 *e*P **P 14 45 11.9 +0.4**
comp=Z,324nm,1.4s,mb6.3
KBS LR LR
comp=Z,3µm,21.0s,MS5.6
CABF La Chapelle 84.27 44⇑*i*P **P 14 45 12.2 -0.1**
comp=Z,398nm,1.4s,mb6.1
STOF St-Étienne Org 84.32 46 *e*P **P 14 45 14.9 +2.2**
HAU Haudompre 84.36 42⇑*i*P **P 14 45 12.4 -0.3**
comp=Z,344nm,1.5s,mb6.0
HAU *e*R
comp=Z,1µm,17.8s
WTSB Winterswijk 84.38 38 *e*P **P 14 45 12.4 -0.3**
comp=Z,250nm,2.0s,mb6.0
GDM Grand'Maison 84.39 45 *e*P **P 14 45 13.3 +0.4**

TAVF Tavernes 84.46 47 *e*P **P 14 45 13.5 +0.2**
SET Setif 84.50 54 P **P 14 45 17.0 +3.3**
RUP Ruppelstein 84.70 41⇑*e*P **P 14 45 14.5 +0.1**
RUP Ruppelstein 84.70 41 *e*P **P 14 45 14.4 0.0**
HINF Hinteralfeld 84.71 43⇑*i*P **P 14 45 13.9 -0.6**
comp=Z,282nm,1.4s,mb5.9
LOMF Lomont 84.72 43 *e*P **P 14 45 14.4 -0.2**
BNI Bardonecchia 84.80 45 *e*P **P 14 45 15.3 +0.3**
BNI pmax pmax
comp=Z,280nm,1.7s,mb6.1
BNI Bardonecchia 84.80 45 *e*P **P 14 45 15.3 +0.3**
comp=Z,279nm,1.8s,mb6.1
LPL La Plagne 84.80 45⇑*i*P **P 14 45 15.7 +0.7**
comp=Z,168nm,1.3s,mb5.7
LMR La Mourre 84.81 47⇑*i*P **P 14 45 15.0 -0.1**
comp=Z,294nm,1.4s,mb5.9
LPG La Plagne 84.81 45⇑*i*P **P 14 45 15.9 +0.8**
comp=Z,217nm,1.3s,mb5.8
DFRA Djebel Bou Aff 84.86 54 P **P 14 45 19.0 +3.5**
EMV Vieux Emosson 84.87 44 P **P 14 45 14.4 -0.9**
ECH Echery 84.88 42 *e*P **P 14 45 15.1 -0.2**
MBDF Montbardon 84.89 46⇑*i*P **P 14 45 16.0 +0.6**
comp=Z,227nm,1.2s,mb5.9
FRF La Foret Royal 84.89 47⇑*i*P **P 14 45 15.3 -0.2**
comp=Z,256nm,1.2s,mb5.9
MOF Molkenrain 84.89 43 *e*P **P 14 45 14.9 -0.5**
SURF Saint Ours 84.94 46 *e*P **P 14 45 16.6 +0.9**
CDF Champ du Feu 84.94 42⇑*i*P **P 14 45 15.4 -0.2**
comp=Z,396nm,1.6s,mb6.0
WLS Welschbruch 85.00 42 *e*P **P 14 45 15.6 -0.3**
ABH Alteburg 85.00 40⇑*e*P **P 14 45 15.9 0.0**
ABH Alteburg 85.00 40 *e*P **P 14 45 15.8 -0.1**
BBS Basel-Blauen 85.18 43 *e*P **P 14 45 16.4 -0.4**
BBS Basel-Blauen 85.18 43 *e*P **P 14 45 16.3 -0.5**
LIBD Limburg 85.18 42 *e*P **P 14 45 16.8 0.0**
DIX Grande Dixence 85.23 44 P **P 14 45 19.7 +2.6**
MVIF Mont Vial 85.23 47 *e*P **P 14 45 17.1 -0.1**
LANF Langenberg 85.25 41 *e*P **P 14 45 17.2 +0.1**
TOUF Mont Tournerai 85.29 46 *e*P **P 14 45 17.6 +0.1**
KONO Kongsberg 85.33 31 *e*P **P 14 45 18.0 +0.7**
KONO Kongsberg 85.33 31 *e*P **P 14 45 18.6 +1.3**
KONO pmax pmax
comp=Z,29nm,0.9s,mb5.4
CASM Ain Smara 85.38 54 P **P 14 45 18.0 -0.1**
REVF Revere 85.40 47 *e*P **P 14 45 18.0 0.0**
KTD Kalmit 85.40 41 *e*P **P 14 45 17.3 -0.6**
KIZ Kirchzarten 85.41 42⇑*e*P **P 14 45 17.4 -0.6**
MUD Monsted U'grnd 85.41 34 *i* P **P 14 45 22.3 +4.5**
MUD *e* 14 47 55.8
MUD *i* S S 14 55 50.2 +2.6
comp=Z,850nm,19.0s
MUD Monsted U'grnd 85.41 34 *e*P **P 14 45 22.3 +4.5**
MUD *i* S S 14 55 50.2 +2.6
MUD MLR MLR
comp=Z,850nm,19.0s,MS5.2
MUD Monsted U'grnd 85.41 34 *e*P **P 14 45 22.3 +4.5**
MUD *e* 14 47 55.8
MUD *i* S S 14 55 50.2 +2.6
AUTN L'Aution 85.42 46 *e*P **P 14 45 18.0 -0.1**
AUTN L'Aution 85.42 46 *e*P **P 14 45 20.9 +2.8**
SBF Sospel 85.43 47⇑*i*P **P 14 45 18.1 -0.1**
comp=Z,362nm,1.3s,mb6.0
FELD Feldberg 85.48 42 *e*P **P 14 45 18.0 -0.3**
SAOF Saorge 85.51 46 *e*P **P 14 45 18.3 -0.3**
CKFL Kef-Lekhel 85.55 54 P **P 14 45 20.0 +1.0**
TNS Taunus Mts 85.55 40 *e*P **P 14 45 18.6 0.0**
TNS pmax pmax
comp=Z,213nm,1.4s,mb6.2
TNS Taunus Mts 85.55 40 *e*P **P 14 45 18.6 0.0**
comp=Z,213nm,1.4s,mb6.2
MMK Mattmark 85.61 44 P **P 14 45 20.2 +1.2**
CAEH 'Ain El Ouahch 85.62 54 P **P 14 45 22.0 +2.7**
MCGN Macugnaga 85.64 44 P **P 14 45 19.9 +0.7**
BFO Black Forest 85.65 42 *e*P **P 14 45 18.6 -0.6**
BFO pmax pmax
comp=Z,94nm,1.1s,mb5.9
BFO Black Forest 85.65 42 *e*P **P 14 45 18.6 -0.6**
comp=Z,94nm,1.1s,mb5.9
IMI Imperia 85.76 46 P **P 14 45 19.8 0.0**
SWS Schriesheim 85.79 41 *e*P **P 14 45 19.1 -0.7**
TOD Tromm 85.84 41⇑*e*P **P 14 45 19.5 -0.6**
TOD Tromm 85.84 41 *e*P **P 14 45 19.6 -0.5**
NAO01 NORSAR Array S 85.85 29 *e*P **P 14 45 21.2 +1.4**
comp=Z,182nm,1.3s,mb6.2
NSS Namsos 85.91 26 *e*P **P 14 45 20.8 +0.7**
NSS AMb AMB 14 45 23.3
comp=Z,201nm,1.3s,mb6.2
NSS AMS AMS 15 20 17.4
comp=Z,1µm,22.6s,MS5.3
NSS Namsos 85.91 26 *e*P **P 14 45 20.8 +0.7**
comp=Z,201nm,1.3s,mb6.2
LBG Lerchenberg 85.93 42 *e*P **P 14 45 21.1 +0.6**
NB2 NORSAR Subarra 85.99 29 P **P 14 45 20.5 0.0**
comp=Z,6.7nm,0.8s,mb4.9,baz=278,slow=4.6
NB2 NORSAR Subarra 85.99 29 P **P 14 45 20.5 0.0**
baz=278,slow=4.6
NOA NORAR Array B 85.99 29 P **P 14 45 20.5 0.0**
comp=Z,88nm,0.9s,mb6.0,baz=276,slow=4.6,SNR=79
NOA PP PP 14 48 40.2 -1.9
comp=Z,2.1nm,1.0s,baz=278,slow=9.0,SNR=2.6
NOA LR LR 15 22 01.3
comp=Z,783nm,19.2s,MS5.1,baz=275,slow=34
LOF Lofoten 86.05 22⇓*i*P **P 14 45 24.7 +4.0**
STU Stuttgart 86.18 42 P **P 14 45 20.8 -1.0**
STU pmax pmax
comp=Z,190nm,1.1s,mb6.2
STU Stuttgart 86.18 42 *e*P **P 14 45 20.2 -1.5**
comp=Z,194nm,1.1s,mb6.2
GUT Gutenstein 86.20 42⇑*e*P **P 14 45 21.3 -0.6**
BUCH Bad Urach 86.32 42⇑*e*P **P 14 45 22.1 -0.4**
BSEG Bad Segeberg 86.32 36 *e*P **P 14 45 22.3 -0.1**
BSEG pmax pmax
comp=Z,170nm,1.2s,mb6.2
MUGIO Muggio 86.37 44 P **P 14 45 22.1 -0.7**
SIND Sindeldorf 86.39 41 *e*P **P 14 45 22.5 -0.3**
TUE Stuetta 86.53 44 P **P 14 45 24.2 +0.7**
BJO1 Bjornoya 86.59 15 *e*P **P 14 45 30.7 +7.4**
BJO1 LR LR
comp=Z,6817µm,22.5s
CLZ Clausthal 86.59 38 *e*P **P 14 45 23.9 +0.2**
CLZ pmax pmax
comp=Z,241nm,1.1s,mb6.3
CLZ Clausthal 86.59 38 *e*P **P 14 45 23.9 +0.2**
comp=Z,241nm,1.1s,mb6.3
BJO Bjornoya 86.64 15 *e*P **P 14 45 30.7 +7.2**
BJO AMb AMB 14 45 34.5
comp=Z,413nm,1.9s,mb6.3
BJO *e* 14 55 53.4
BJO AMS AMS 15 20 54.6
comp=Z,1µm,20.0s,MS5.4
MOR8 Moi Rana 86.70 24⇓*i*P **P 14 45 26.5 +2.6**
MOR8 AMb AMB 14 45 28.5
comp=Z,200nm,1.4s,mb6.2
MOR8 Moi Rana 86.70 24 *i* P **P 14 45 26.5 +2.6**
comp=Z,200nm,1.4s,mb6.2
PGF Pioggiola 86.70 48⇑*i*P **P 14 45 24.2 -0.3**
comp=Z,242nm,1.2s,mb6.0
BOB Bobbio (Coli) 86.78 45 P **P 14 45 25.8 +1.0**
DAVA Damuels 86.80 43 *i* P **P 14 45 25.2 +0.4**
comp=Z,34nm,1.1s,mb5.5,SNR=49
DAVA ⇓*i*P pP 14 45 27.6 +0.3
comp=Z,172nm,1.1s
DAVOX Davos 86.86 43 P **P 14 45 25.7 +0.6**
comp=Z,42nm,0.9s,mb5.7,baz=256,slow=6.6,SNR=28
DAVOX LR LR 15 17 25.2
comp=Z,692nm,21.4s,MS5.0,baz=278,slow=31
DAVOX Davos 86.86 43 P **P 14 45 25.7 +0.6**
HDH Heidenheim 86.87 42 *e*P **P 14 45 24.9 -0.3**
UBR Uberruh 86.91 43⇑*e*P **P 14 45 25.3 -0.1**
FUORN Ofenpass 87.14 44 P **P 14 45 27.4 +0.9**
BRMO Bormio 87.23 44 *i* P **P 14 45 27.3 +0.3**
COP Copenhagen 87.32 34 *i* P **P 14 45 26.3 -0.8**
COP *i* 14 48 40.5
COP *i* S S 14 55 57.2 -8.7
comp=Z,360nm,20.0s
COP Copenhagen 87.32 34 *e*P **P 14 45 26.3 -0.8**
COP *i* S S 14 55 57.2 -8.7
COP MLR MLR
comp=Z,370nm,20.0s,MS4.8
COP Copenhagen 87.32 34 *e*P **P 14 45 26.3 -0.8**
COP *i* 14 48 40.5
COP *i* S S 14 55 57.2 -8.7
COP LR LR
comp=Z,370nm,20.0s,MS4.8

GRA1 Grafenberg Arr 87.39 40 *e*P **P 14 45 27.8 +0.1**
comp=Z,198nm,1.2s,mb6.2
GRA1 *e*pP pP 14 45 30.3 +0.1
GRA1 *e*S S 14 56 04.0 -2.7
GRA1 *e*SS SS 15 02 08.8 +14
GRA1 LR LR
comp=Z,2µm,22.0s,MS5.5
GRF Grafenberg Arr 87.39 40 *e*P **P 14 45 27.8 +0.1**
GRF *e**PP pP 14 45 30.3 +0.1
GRF *e*S S 14 56 04.0 -2.7
GRF pmax pmax
comp=Z,198nm,1.2s,mb6.2
GRF Grafenberg Arr 87.39 40 *e*P **P 14 45 27.8 +0.1**
comp=Z,198nm,1.2s,mb6.2
GRF *e*pP pP 14 45 30.3 +0.1
GRF *e*S S 14 56 04.0 -2.7
GRF *e*SS SS 15 02 08.8 +14
GRF LR LR
comp=Z,2µm,22.0s,MS5.5
SAL Salo 87.44 45 P **P 14 45 29.5 +1.5**
comp=Z,245nm,1.0s,mb6.4
MOX Moxa 87.52 39 *i* P **P 14 45 28.0 -0.3**
comp=Z,logA/T=1.9,mb5.9
MOX S S 14 56 02.0 -5.9
MOX L 15 23 23.0
MOX Moxa 87.52 39 *e*P **P 14 45 28.0 -0.3**
MOX pmax pmax
comp=Z,118nm,1.4s,mb5.9
MOX MLR MLR
comp=Z,900nm,21.0s,MS5.2
MOX Moxa 87.52 39 *e*P **P 14 45 28.0 -0.3**
comp=Z,118nm,1.4s,mb5.9
MOX *e*S S 14 56 02.0 -5.9
MOX LR LR
comp=Z,900nm,21.0s,MS5.2
VLC Villacollemand 87.52 46 P **P 14 45 29.5 +1.1**
MOTA Moosalm 87.62 43⇓*i*P **P 14 45 29.1 +0.3**
comp=Z,7.9nm,1.0s,mb4.9,SNR=11
MOTA Moosalm 87.62 43 ⇑X 14 45 31.5
comp=Z,28nm,0.9s
MOTA Moosalm 87.62 43⇑*i*P **P 14 45 31.5 +2.7**
comp=Z,28nm,0.9s,mb5.5
MOTA Moosalm 87.62 43⇓*i*P **P 14 45 29.1 +0.3**
comp=Z,7.9nm,1.0s,mb4.9
MOTA *e* pP 14 45 31.5 +0.1
FUR Furstenfeldbru 87.63 42 *e*P **P 14 45 28.9 +0.1**
FUR pmax pmax
comp=Z,283nm,1.8s,mb6.2
FUR Furstenfeldbru 87.63 42 *e*P **P 14 45 28.9 +0.1**
comp=Z,283nm,1.8s,mb6.2
GSCL Gusciola 87.64 46 P **P 14 45 30.1 +1.1**
PII Pisa 87.67 46 P **P 14 45 30.7 +1.5**
comp=Z,284nm,2.1s,mb6.1
TRO Tromso 87.69 20 *e*P **P 14 45 29.6 +1.0**
TRO AMb AMB 14 45 33.7
comp=Z,176nm,2.0s,mb6.0
TRO *e*SKSa 14 55 56.3
TRO *e*SS SS 15 02 05.7 +7.2
TRO AMS AMS 15 22 32.0
comp=Z,584nm,25.5s,MS4.9
TRO Tromso 87.69 20 *e*P **P 14 45 29.6 +1.0**
comp=Z,176nm,2.0s,mb6.0
TRO LR LR
comp=Z,584µm,25.5s
SQTA Sankt Quirin 87.70 43⇑*i*P **P 14 45 29.4 +0.2**
comp=Z,19nm,1.3s,mb5.2
SQTA Sankt Quirin 87.70 43⇑*i*P **P 14 45 32.2 +3.0**
comp=Z,74nm,1.1s,mb5.8
SQTA Sankt Quirin 87.70 43 ⇑P **P 14 45 29.4 +0.2**
comp=Z,19nm,1.3s,mb5.2
SQTA *e* pP 14 45 32.2 +0.5
APPI Appiano 87.81 44 P **P 14 45 30.2 +0.4**
ZCCA Zocca 87.92 46 P **P 14 45 30.2 -0.1**
WATA Walderalm 87.94 43⇑*i*P **P 14 45 32.9 +2.5**
comp=Z,32nm,1.0s,mb5.5
WATA Walderalm 87.94 43⇑*e*P **P 14 45 32.9 +2.5**
comp=Z,32nm,1.0s,mb5.5
WTTA Wattenberg 87.99 43⇑*i*P **P 14 45 33.7 +3.1**
comp=Z,77nm,1.4s,mb5.7
WTTA Wattenberg 87.99 43⇑*i*P **P 14 45 30.1 -0.5**
comp=Z,7.1nm,1.0s,mb4.8
WTTA ⇑*i*P pP 14 45 33.7 +0.6
RGN Rugen 87.99 35 P **P 14 45 30.2 -0.2**
comp=Z,164nm,0.9s,mb6.3
FNVD Fontana Vidola 88.05 46 P **P 14 45 30.6 -0.3**
GRFL Gerfalco 88.07 47 P **P 14 45 32.2 +1.1**
comp=Z,86nm,1.6s,mb5.7
NKC Novy Kostel 88.10 40 *e*P **P 14 45 33.1 +2.0**
NKC *e*SKS SKS 14 56 05.9 +3.8
NKC AMS AMS 15 18 10.0
comp=Z,2µm,21.5s
BRES Bressanone 88.13 43 P **P 14 45 30.6 -0.7**
CTI Castel Tesino 88.16 44 P **P 14 45 31.0 -0.4**
comp=Z,82nm,1.0s,mb5.9
CSNT Castellina Chi 88.26 47 P **P 14 45 33.8 +1.8**
CLL Collm 88.29 39 ⇑P **P 14 45 31.9 0.0**
comp=Z,logA/T=1.5,mb5.5
CLL *i* pP 14 45 34.1 -0.3
CLL *i* 14 45 43.3
CLL *e* 14 56 01.0
CLL *e*S S 14 56 20.0 +4.9
CLL *e*PS PS 14 57 16.0 -5.2
CLL *e*SS SS 15 02 13.0 +5.2
CLL *e*SSS SSS 15 05 54.0 +14
CLL *e* 15 08 54.0
CLL Collm 88.29 39⇑*i*P **P 14 45 31.9 0.0**
CLL *i* pP 14 45 34.1 -0.3
CLL *e* 14 56 01.0
CLL *e*S S 14 56 20.0 +4.9
CLL pmax pmax
comp=Z,166nm,1.2s,mb6.1
CLL MLR MLR
comp=Z,1µm,17.6s,MS5.4
CLL Collm 88.29 39⇑*i*P **P 14 45 31.9 0.0**
comp=Z,166nm,1.2s,mb6.1
CLL *i* pP 14 45 34.1 -0.3
CLL *e*SKS SKS 14 56 01.0 -2.3
CLL *e*S S 14 56 20.0 +4.9
CLL LR LR
comp=Z,1µm,17.6s,MS5.4
VMG Vicchio 88.37 46 P **P 14 45 31.6 -0.9**
WET Wettzell 88.54 41 *e*P **P 14 45 33.0 -0.2**
WET pmax pmax
comp=Z,177nm,1.2s,mb6.3
WET Wettzell 88.54 41 *e*P **P 14 45 33.0 -0.2**
comp=Z,177nm,1.2s,mb6.3
RUE Ruedersdorf 88.59 37 P **P 14 45 31.8 -1.5**
comp=Z,23nm,0.6s,mb5.7
SFI Santa Sofia 88.60 46 P **P 14 45 34.2 +0.6**
comp=Z,63nm,1.2s,mb5.8
BRG Berggiesshubel 88.95 39⇓*i*P **P 14 45 35.1 0.0**
BRG 14 56 06.0
BRG S S 14 56 29.0 +7.8
BRG PS PS 14 57 23.0 -6.1
BRG SS SS 15 02 15.0 -2.0
BRG pmax pmax
comp=Z,96nm,1.3s,mb6.0
BRG MLR MLR
comp=N,1µm,24.1s,MS5.4
BRG MLR MLR
comp=E,930nm,20.6s,MS5.4
BRG MLR MLR
comp=Z,2µm,20.9s,MS5.4
BRG Berggiesshubel 88.95 39⇓*i*P **P 14 45 35.1 0.0**
comp=Z,96nm,1.3s,mb6.0
BRG SKS SKS 14 56 06.0 -1.3
BRG S S 14 56 29.0 +7.8
BRG PS PS 14 57 23.0 -6.1
BRG SS SS 15 02 15.0 -2.0
BRG LR LR
comp=Z,2µm,20.9s,MS5.4
TOLF Tolfa 88.97 48 P **P 14 45 35.1 -0.3**
KHC Kasperske Hory 89.00 41 *e*P **P 14 45 35.2 -0.2**
KHC pP pP 14 45 37.0 -0.9
KHC *e*PP PP 14 49 09.9 +2.4
KHC *e*S S 14 56 25.0 +3.3
KHC AMS AMS 15 15 40.0
comp=Z,3µm,27.6s
KHC Kasperske Hory 89.00 41 *e*P **P 14 45 35.2 -0.2**
KHC *e* pP 14 45 37.0 -0.9
KHC *e*PP PP 14 49 09.9 +2.4
KHC *e*SKS S 14 56 25.0 +3.3
KHC LR LR
comp=Z,3µm,27.6s,MS5.5
GEC2 GERESS Array S 89.12 41 *e*P **P 14 45 35.8 -0.2**

GEC2 pmax pmax
comp=Z,68nm,1.2s,mb5.8
GEC2 GERESS Array S 89.12 41 *e*P **P 14 45 35.8 -0.2**
comp=Z,68nm,1.2s,mb5.8
GERES GERESS Array B 89.12 41 P **P 14 45 35.5 -0.5**
comp=Z,19nm,0.9s,mb5.4,baz=270,slow=2.7,SNR=42
GERES LR LR 15 19 27.7
comp=Z,1µm,21.9s,MS5.3,baz=278,slow=32
KBA Koelnbreinsper 89.17 43⇑*i*P **P 14 45 36.1 -0.1**
comp=Z,9.0nm,1.1s,mb5.0,SNR=7.2
KBA Koelnbreinsper 89.17 43⇓*i*P **P 14 45 38.4 +2.2**
comp=Z,67nm,1.2s,mb5.8
KBA Koelnbreinsper 89.17 43⇑*i*P **P 14 45 36.1 -0.1**
comp=Z,9.0nm,1.1s,mb5.0
KBA *e* pP 14 45 38.4 -0.4
PTCC Patocco-Chiusa 89.28 43 P **P 14 45 36.1 -0.7**
KTK1 Kautokeino 89.33 20 *e*P **P 14 45 38.3 +1.8**
KTK1 AMb AMB 14 45 42.1
comp=Z,192nm,1.7s,mb6.1
KTK1 Kautokeino 89.33 20 *e*P **P 14 45 38.3 +1.8**
comp=Z,192nm,1.7s,mb6.2
PRA Prague 89.39 40 P **P 14 45 39.0 +1.8**
PVCC Panska Ves 89.40 39 *e*P **P 14 45 37.1 -0.1**
ROBS Robic 89.41 44 *e*P **P 14 45 36.4 -1.0**
ROBS *e* pP 14 45 40.5 +0.6
MNS Montasola 89.42 48 P **P 14 45 37.8 +0.2**
comp=Z,183nm,2.4s,mb6.0
PRU Pruhonice 89.47 40 *e*P **P 14 45 37.0 -0.6**
PRU *e*PP PP 14 49 06.4 -4.9
PRU *e*S S 14 56 33.8 +7.7
PRU AMS AMS 15 19 00.0
comp=Z,2µm,26.2s
SNTG Esanatoglia 89.48 47 P **P 14 45 37.8 0.0**
MOA Molln 89.66 42⇑*i*P **P 14 45 38.1 -0.4**
comp=Z,3.0nm,0.7s,mb4.7,SNR=14
MOA Molln 89.66 42⇓*i*P **P 14 45 40.5 +2.0**
comp=Z,32nm,1.0s,mb5.6
MOA Molln 89.66 42⇑*i*P **P 14 45 38.1 -0.4**
comp=Z,3.0nm,0.7s,mb4.7
MOA *e* pP 14 45 40.5 -0.5
VOY Vojsko 89.71 44 *e*P **P 14 45 38.6 -0.2**
VOY *e* 14 45 46.8
JAVS Javornik 89.85 44 *e*P **P 14 45 41.5 +2.0**
ARCES ARCESS Array B 89.93 20 P **P 14 45 38.6 -0.7**
comp=Z,17nm,0.9s,mb5.4,baz=288,slow=3.8,SNR=17
ARCES LR LR 15 23 55.0
comp=Z,732nm,20.2s,MS5.1,baz=294,slow=34
ARE0 ARCESS Array S 89.93 20 *e*P **P 14 45 39.3 0.0**
OBKA Obir 90.08 43⇑*i*P **P 14 45 40.3 -0.3**
comp=Z,4.2nm,0.8s,mb4.8
OBKA Obir 90.08 43⇓*i*P **P 14 45 42.5 +2.0**
comp=Z,26nm,1.1s,mb5.5
OBKA Obir 90.08 43 ⇑P **P 14 45 40.2 -0.3**
comp=Z,4.2nm,0.8s,mb4.8
OBKA *e* pP 14 45 42.5 -0.6
LJU Ljubljana 90.14 44 *e*P **P 14 45 42.5 +1.7**
TREC Trest 90.20 40 *e*P **P 14 45 40.9 -0.1**
TREC AMS AMS 15 19 20.0
comp=Z,2µm,22.9s
UPC Upice 90.31 39 *e*P **P 14 45 41.5 0.0**
KEV Kevo 90.34 19 *e*P **P 14 45 42.0 +0.8**
KEV pmax pmax
comp=Z,33nm,0.9s,mb5.7
KEV MLR MLR
comp=Z,1µm,20.0s,MS5.3
KEV Kevo 90.34 19 *e*P **P 14 45 42.0 +0.8**
comp=Z,33nm,0.9s,mb5.7
KEV LR LR
comp=Z,1µm,20.0s,MS5.3
KSP Ksiaz 90.42 39 *e*P **P 14 45 41.8 -0.1**
KSP Ksiaz 90.42 39 *e*P **P 14 45 41.5 -0.5**
KSP *e*pP pP 14 45 43.8 -0.7
KSP *e*SKS SKS 14 56 17.0 +0.8
KSP *e*SP SP 14 57 42.5 -2.0
KSP LR LR
comp=Z,3µm,20.9s,MS5.7
PDKS Podkum 90.46 44 *e*P **P 14 45 42.4 +0.1**
PDKS *e* 14 56 15.3
PDKS *e* 14 56 43.3
DPC Dobruska-Polom 90.53 39 *e*P **P 14 45 42.6 +0.1**
DPC *e*PP PP 14 49 11.9 -7.8
DPC *e*SKS SKS 14 56 18.3 +1.4
DPC Dobruska-Polom 90.53 39 *e*P **P 14 45 42.6 +0.1**
DPC *e* 14 56 18.3
ARSA Arzberg 90.60 42⇑*i*P **P 14 45 42.4 -0.5**
comp=Z,4.2nm,0.8s,mb4.8
ARSA Arzberg 90.60 42⇓*i*P **P 14 45 44.9 +2.0**
comp=Z,30nm,1.1s,mb5.5
ARSA Arzberg 90.60 42 ⇑P **P 14 45 42.4 -0.5**
comp=Z,4.2nm,0.8s,mb4.8
ARSA *e* pP 14 45 44.9 -0.5
AFI Afiamalu 90.71 256 LR LR 15 14 56.1
comp=Z,404nm,21.6s,MS4.8,baz=59,slow=28
AFI Afiamalu 90.71 256 PFAKE 14 45 50.0 +5.9
AFI LR LR
comp=Z,975nm,19.0s,MS5.3
BOJS Bojanci 90.74 44 *e*P **P 14 45 42.9 -0.7**
BILL Bilibino 91.41 339⇑*e*P **P 14 45 46.9 +0.8**
BILL *e* 14 45 55.6
BILL *e* 14 49 23.2
BILL *e* 14 56 17.5
BILL *e*SS SS 15 03 01.1 +9.0
BILL pmax pmax
comp=Z,119nm,2.1s,mb5.8
BILL MLR MLR
comp=Z,2µm,25.0s,MS5.4
BILL Bilibino 91.41 339⇑*e*P **P 14 45 46.9 +0.8**
comp=Z,119nm,2.1s,mb5.8
BILL *e* 14 45 55.6
BILL *e* 14 49 23.2
BILL *e* 14 56 17.5
BILL *e*SS SS 15 03 01.1 +9.0
BILL LR LR
comp=Z,2µm,25.0s,MS5.4
MORC Moravsky Berou 91.42 40 *e*P **P 14 45 46.7 +0.1**
MORC pmax pmax
comp=Z,43nm,1.2s,mb5.7
MORC Moravsky Berou 91.42 40 *e*P **P 14 45 46.7 +0.1**
comp=Z,43nm,1.3s,mb5.6
ZST Bratislava 91.47 41 *e*P **P 14 45 46.9 +0.1**
ZST *e*pP pP 14 45 49.7 +0.3
ZST *e*PP PP 14 49 28.8 +1.6
SMOL Smolenice 91.61 41 *e*P **P 14 45 50.6 +3.1**
RAC Raciborz 91.77 39 *e*P **P 14 45 47.8 -0.4**
RAC MLR MLR 15 20 09.3
comp=Z,2µm,23.6s,MS5.5
OKC Ostrava-Krasne 91.79 40 *e*P **P 14 45 48.1 -0.2**
OKC AMS AMS 15 20 10.0
comp=Z,2µm,21.9s
SRO1 Iza 92.30 42 *e*P **P 14 45 53.5 +2.8**
VYHS Vyhne 92.53 41 *e*P **P 14 45 52.0 +0.3**
VYHS *e*pP pP 14 45 53.9 -0.3
VYHS *e*PP PP 14 49 27.9 -7.9
RHK1 Bakonya 92.56 43⇑*i*P **P 14 45 54.5 +2.6**
OJC Ojcow 92.74 39 *e*P **P 14 45 54.9 +2.3**
OJC *e*PP PP 14 49 33.0 -4.4
OJC ⇑*e*SKSa 14 56 26.9
OJC *e*S S 14 56 58.7 +3.6
OJC MLR MLR 15 26 25.9
OJC Ojcow 92.74 39 *e*P **P 14 45 54.9 +2.3**
OJC *e* 14 49 33.0
OJC *e*S S 14 56 58.7 +3.6
OJC MLR MLR
comp=Z,1µm,21.2s,MS5.2
OJC Ojcow 92.74 39 *e*P **P 14 45 54.9 +2.3**
OJC *e*PP PP 14 49 33.0 -4.4
OJC *e*SKSac 14 56 26.9
OJC *e*S S 14 56 58.7 +3.6
OJC LR LR
comp=Z,1µm,21.2s,MS5.2
KAF Kangasniemi 92.75 26 *e*p **P 14 45 53.1 +0.7**
comp=Z,21nm,1.0s,mb5.5
KAF Kangasniemi 92.75 26 *e*P **P 14 45 53.1 +0.7**
KAF pmax pmax
comp=Z,21nm,1.0s,mb5.5
FINES FINESS Array B 92.88 27 P **P 14 45 51.6 -1.4**
comp=Z,18nm,1.1s,mb5.4,baz=333,slow=4.3,SNR=12
FINES LR LR 15 26 02.8
comp=Z,788nm,20.0s,MS5.2,baz=100,slow=34
PKSM Moragy 92.92 43⇑*e*P **P 14 45 55.0 +1.4**
TIP Timpagrande 93.03 50 *e*P **P 14 45 52.4 -1.9**
comp=Z,39nm,1.1s,mb5.8
SNAA Sanae 93.25 162 P **P 14 45 52.5 -2.1**
SNAA pmax pmax
comp=Z,27nm,1.1s
SNAA Sanae 93.25 162 *e*P **P 14 45 51.6 -3.0**
comp=Z,27nm,1.1s,mb5.6
NIE Niedzica 93.26 40 *e*P **P 14 45 58.5 +3.4**
PSZ Piszkesteto 93.35 41⇑*e*PP **P 14 45 58.2 +2.7**
PSZ Piszkesteto 93.35 41 *e*P **P 14 45 56.2 +0.7**
PSZ pmax pmax
comp=Z,96nm,1.5s,mb6.0
APA Apatity 93.37 20⇑*e*P **P 14 45 56.4 +1.2**
APA *e* 14 49 43.0
APA *e*S S 14 56 56.0 -4.2
APA *e*SS SS 15 03 30.0 +9.5
APA pmax pmax
comp=Z,16nm,0.8s,mb5.5
APA MLR MLR
comp=Z,1µm,20.0s,MS5.3
APA Apatity 93.37 20⇑*e*P **P 14 45 56.4 +1.2**
comp=Z,16nm,0.8s,mb5.5
APA *e* 14 49 43.0
APA *e*S S 14 56 56.0 -4.2
APA *e*SS SS 15 03 30.0 +9.5
APA LR LR
comp=Z,1µm,20.0s,MS5.3
KECS Kecovo 93.60 40 *e* **P 14 45 53.9 -2.8**
KECS *e* 14 45 59.6
SUW Suwalki 93.74 35 *e*P **P 14 45 58.8 +1.6**
SUW Suwalki 93.74 35 *e*P **P 14 45 58.8 +1.6**
STHS Stebnicka Huta 93.84 39 *e*P **P 14 45 57.8 0.0**
STHS *e*pP pP 14 46 01.0 +0.7
STHS *e* 14 46 14.5
CRVS Cervenica-Dubn 94.12 40 *e* **P 14 46 01.0 +2.0**
CRVS *e*PP PP 14 49 40.2 -8.1
VSU Vasula 94.21 30 *i* P **P 14 46 00.4 +1.2**
JOF Joensuu 94.59 25 *e*p **P 14 45 59.0 -1.9**
KOLS Kolonicke sedl 94.62 40 *e* **P 14 46 03.7 +2.3**
KOLS *e*PP PP 14 49 47.6 -4.3
KWP Kalwaria 94.71 39 *e*P **P 14 46 04.1 +2.4**
KWP Kalwaria 94.71 39 *e*P **P 14 46 04.1 +2.4**
UZH Uzhgorod 94.72 40 *e*P **P 14 46 03.5 +1.7**
UZH *e* 14 56 36.0
UZH *e*S S 14 57 17.0 +4.7
UZH *i* PS PS 14 58 32.0 -2.7
UZH MLR MLR
comp=Z,900nm,23.0s,MS5.2
BZS Buzias 95.07 43⇓P **P 14 46 06.3 +2.8**
BZS Buzias 95.07 43⇓P **P 14 46 06.3 +2.8**
LVV L'vov 95.47 39 *e*P **P 14 46 06.6 +1.4**
LVV *e* 14 56 42.0
LVV *e*S S 14 57 24.0 +5.4
LVV MLR MLR
comp=Z,830nm,22.5s,MS5.2
MNK Minsk 96.17 33 *e*P **P 14 46 07.0 -1.3**
QSPA South Pole Qui 96.83 180 *e*P **P 14 46 08.8 -2.0**
comp=Z,72nm,1.4s,mb5.9
QSPA LR LR
comp=Z,1µm,22.0s,MS5.3
VOIR 97.44 43⇓P **P 14 46 15.7 +1.4**
RAO Raoul Island 97.82 241 PFAKE 14 46 30.0 +14
RAO LR LR
comp=Z,2µm,19.0s,MS5.6
NVL N'lazarevskaya 97.90 161 *e*P **P 14 46 18.7 +2.9**
NVL *e* pP 14 46 19.4 +1.1
NVL *e*PP pP 14 46 25.6 +7.3
NVL *e*S 14 56 48.2
NVL *e* 14 57 33.3
NVL pmax pmax
comp=Z,2.0nm,1.1s
NVL MLR MLR
comp=Z,33nm,19.4s
MLR Muntele Rosu 98.03 42⇓P **P 14 46 19.6 +2.7**
MLR Muntele Rosu 98.03 42⇓P **P 14 46 19.6 +2.7**
AKASG Malin Array Be 98.33 37 P **P 14 46 18.4 +0.3**
comp=Z,4.0nm,0.9s,mb4.9,baz=290,slow=3.3,SNR=17
AKASG PP PP 14 50 10.5 -10
comp=Z,0.3nm,0.4s,baz=293,slow=7.3,SNR=5.6
FUNA Funafuti 98.95 262 PFAKE 14 46 30.0 +8.2
FUNA LR LR
comp=Z,3µm,20.0s,MS5.8
TIXI Tiksi 98.97 350 *e*P **P 14 46 17.8 -2.8**
TIXI *e* 14 50 19.5
TIXI *e* 14 56 54.2
TIXI *e*SP SP 14 59 16.9 -1.9
TIXI pmax pmax
comp=Z,16nm,0.9s,mb5.5
TIXI pmax pmax
comp=N,4.0nm,0.8s
TIXI pmax pmax
comp=E,2.0nm,0.9s
TIXI pmax pmax
comp=Z,99nm,2.4s,mb5.9
TIXI Tiksi 98.97 350 *e*P **P 14 46 17.8 -2.8**
comp=Z,16nm,0.9s,mb5.5
TIXI *e* 14 50 19.5
TIXI *e* 14 56 54.2
TIXI *e*SP SP 14 59 16.9 -1.9
KLMR Klimovskoe 99.00 25*c i*P **P 14 46 21.6 +0.7**
KLMR *i* 14 50 23.6
KLMR *e*SS SS 15 04 40.0 +0.6
KLMR pmax pmax
comp=Z,70nm,1.6s,mb5.9
KLMR pmax pmax
comp=Z,80nm,4.5s
OBN Obninsk 100.51 31 *i* P P 14 46 29.1 +1.2
OBN *e* 14 50 36.1
OBN *e* 14 57 03.5
OBN *e*SS SS 15 05 02.2 +1.4
OBN pmax pmax
comp=Z,25nm,0.8s
OBN MLR MLR
comp=Z,700nm,15.0s,MS5.3
OBN Obninsk 100.51 31 *i* P P 14 46 29.1 +1.2
comp=Z,25nm,0.8s
OBN *e* 14 50 36.1
OBN *e* 14 57 03.5
OBN *e*SS SS 15 05 02.2 +1.4
OBN LR LR
comp=Z,700nm,15.0s,MS5.3
MOS Moscow 100.74 30 *e*P P 14 46 32.5 +3.6
MOS MLR MLR
comp=Z,900nm,19.0s,MS5.3
SBA Scott Base 100.90 192 PFAKE 14 46 40.0 +11
SBA LR LR
comp=Z,635nm,21.0s,MS5.1
PET Petropavlovsk 101.15 327 PFAKE 14 46 40.0 +9.2
PET LR LR
comp=Z,1µm,20.0s,MS5.3
MA2 Magadan 101.49 335 PFAKE 14 46 40.0 +7.8
MA2 LR LR
comp=Z,1µm,20.0s,MS5.4
TSUM Tsumeb 101.91 108 Pdif P 14 46 32.9 -2.2
comp=Z,17nm,1.3s
TSUM LR LR
comp=Z,2µm,19.0s,MS5.6
VNDA Vanda 102.00 192 PFAKE 14 46 40.0 +5.7
VNDA LR LR
comp=Z,421nm,20.0s,MS5.0
SIM Simferopol' 103.60 41 P Pdif 14 46 56.8 +15
SIM *i* 14 51 01.5
SIM *e* 14 57 26.0
SIM pmax pmax
comp=Z,100nm,10.5s
SNZO South Karori 103.92 229 PFAKE 14 46 50.0 +6.5
SNZO LR LR
comp=Z,1µm,20.0s,MS5.4
BR131 Keskin Array S 105.36 46 PFAKE 14 51 10.0
BR131 LR LR
comp=Z,508nm,22.0s,MS5.0
BRTR Keskin Array B 105.36 46 Pdiff Pdif 14 46 50.0 +0.2
comp=Z,1.6nm,1.0s,baz=243,slow=2.8,SNR=5.4
BRTR PP PP 14 51 10.1 -4.1
comp=Z,1.6nm,1.0s,baz=225,slow=7.0,SNR=3.6
YAK Yakutsk 106.93 345 PFAKE 14 51 20.0
YAK LR LR
comp=Z,1µm,21.0s,MS5.5
WAKE Wake Island 106.96 292 PFAKE 14 51 20.0
WAKE LR LR
comp=Z,3µm,19.0s,MS5.8
SYO Syowa Base 107.54 161⇓PP PP 14 51 18.4 -11
KWAJ Kwajalein Atol 108.21 282 PFAKE 14 51 20.0
KWAJ LR LR
comp=Z,633nm,20.0s,MS5.2
ARU Arti 109.41 22 PFAKE 14 51 20.0
ARU LR LR
comp=Z,303nm,19.0s,MS4.9
LBTB Lobatse 109.43 114 PFAKE 14 51 20.0
LBTB LR LR
comp=Z,2µm,19.0s,MS5.6
KIV Kislovodsk 109.50 39 PFAKE 14 51 20.0
KIV LR LR
comp=Z,595nm,22.0s,MS5.1
ONI Oni 110.69 40 P PP 14 51 50.6 -2.8
LSZ Lusaka 111.89 104 PFAKE 14 51 30.0 +12
LSZ LR LR
comp=Z,2µm,21.0s,MS5.6
GNI Garni 112.78 41 PFAKE 14 51 30.0 +11
GNI LR LR
comp=Z,614nm,22.0s,MS5.2
YSS Yuzh-Sakhalins 113.02 328 PFAKE 14 51 30.0 +11
YSS LR LR
comp=Z,1µm,20.0s,MS5.5
AB31 Akbulak array 115.35 26 *i* PKIKP PKPdf 14 51 23.2 -0.6
AB31 pmax pmax
comp=Z,5.0nm,0.8s
ZRNK Zerenda 115.80 19 *e*PKIKP PKPdf 14 51 21.4 -3.2
BHD Baghdad 115.93 48 *ex* x 14 52 30.0
NVS Novosibirsk 117.45 9⇑*e*PKIKP PKPdf 14 51 24.4 -3.3
NVS pmax pmax
comp=N,61nm,1.8s
NVS pmax pmax
comp=E,24nm,1.8s
NVS pmax pmax
comp=Z,87nm,1.8s
HNR Honiara 117.98 263 PFAKE 14 51 40.0 +10
HNR LR LR
comp=Z,681nm,20.0s,MS5.3
KMBO Kilima Mbogo 119.88 87 PFAKE 14 51 40.0 +6.7
KMBO LR LR
comp=Z,639nm,21.0s,MS5.2
CASY Casey 119.93 186 PFAKE 14 51 40.0 +7.8
CASY LR LR
comp=Z,1µm,19.0s,MS5.5
MDJ Mudanjiang 121.12 334 PKP PKPdf 14 51 33.1 -2.0
MDJ PP PP 14 53 01.9 -4.5
MDJ SKS SKS 14 58 42.6 +7.9
MDJ SS SS 15 09 37.8 +1.4
MDJ PP PP
comp=Z,260nm,4.5s
MDJ LR LR
comp=N,740nm,29.4s,MS5.5
MDJ LR LR
comp=E,2µm,28.0s,MS5.5
MDJ LR LR
comp=Z,790nm,23.8s,MS5.3
MAJO Matsushiro 122.29 321 PFAKE 14 51 50.0 +12
MAJO LR LR
comp=Z,855nm,21.0s,MS5.4
MAT Matsushiro 122.29 321 PKP PKPdf 14 51 33.6 -3.9
MAT Matsushiro 122.29 321 *e*PKP PKPdf 14 51 34.0 -3.5
MJAR Matsushiro Arr 122.29 321 PKP PKPdf 14 51 36.7 -0.8
comp=Z,3.3nm,0.8s,baz=78,slow=1.3,SNR=5.9
TAU Tasmania Unive 123.28 222 PFAKE 14 51 50.0 +11
TAU LR LR
comp=Z,247nm,22.0s,MS4.8
CN2 Changchun 123.54 336 *e*PKP PKPdf 14 51 38.8 -1.0
CN2 PP PP 14 53 25.8 +2.4
CN2 LR LR
comp=N,1µm,19.0s,MS5.7
CN2 LR LR
comp=E,1µm,19.0s,MS5.7
CN2 LR LR
comp=Z,1µm,21.0s,MS5.5
ULN Ulaanbaatar 124.87 352⇑*i*PKIKP PKPdf 14 51 41.9 -0.4
ULN Ulaanbaatar 124.87 352 *e*PKP PKPdf 14 51 37.4 -4.9
MKAR Makanchi Array 124.98 13 PKP PKPdf 14 51 40.0 -2.6
comp=Z,4.6nm,0.8s,baz=351,slow=2.2,SNR=26
MKAR PP PP 14 53 25.3 -7.2
comp=Z,7.9nm,1.0s,slow=6.1,SNR=9.9
MKAR Makanchi Array 124.98 13 PKPdf PKPdf 14 51 40.0 -2.6
MKAR *e* 14 53 25.3
SONM Songino Array 124.99 353 PKP PKPdf 14 51 39.7 -2.8
comp=Z,5.7nm,0.7s,baz=356,slow=0.8,SNR=26
SONM PP PP 14 53 22.5 -10
comp=Z,4.4nm,1.0s,baz=352,slow=12,SNR=3.6
USP Ospenovka 126.03 20 P PKPdf 14 51 45.4 +0.7
SNR=12
EKS2 Erkin-Say 126.30 21 P PKPdf 14 51 46.3 +1.2
SNR=14
CHMS Chumysh 126.35 20 P PKPdf 14 51 45.8 +0.6
SNR=5.4
FRU Bishkek 126.45 21 *e*PKIKP PKPdf 14 51 47.0 +1.6
AAK Ala-Archa 126.58 21 P PKPdf 14 51 46.7 +1.1
SNR=9.3
AAK Ala-Archa 126.58 21⇑*i*PKIKP PKPdf 14 51 44.9 -0.7
AAK Ala-Archa 126.58 21 *e*PKPdf PKPdf 14 51 41.0 -4.7
AAK ⇑*i*PKPdf PKPdf 14 51 44.9 -0.7
AAK LR LR
comp=Z,281nm,21.0s,MS4.9
TKM2 Tokmak 2 126.71 20 P PKPdf 14 51 46.7 +0.8
SNR=6.1
KBK Karagabulak 126.72 20 P PKPdf 14 51 46.8 +0.9
SNR=7.2
AML Almayashu 126.73 22 P PKPdf 14 51 47.5 +1.6
SNR=21
UCH Uchtor 126.94 21 P PKPdf 14 51 48.2 +1.9
SNR=19
KZA Kyzart 127.33 21 P PKPdf 14 51 49.1 +2.0
SNR=6.8
WMQ Urumqi 128.85 9 *e*PKP PKPdf 14 51 48.0 -2.1
WMQ PP PP 14 54 00.5 +1.9
WMQ PKS PKS 14 55 23.1 +0.5
WMQ PP PP
comp=Z,630nm,5.0s
WMQ LR LR
comp=N,1µm,22.0s,MS5.7
WMQ LR LR
comp=E,1µm,21.0s,MS5.7
WMQ LR LR
comp=Z,2µm,22.0s,MS5.7
DL2 Dalian 129.20 335 PKP PKPdf 14 51 51.0 +0.1
DL2 PP PP 14 54 03.6 +2.6
DL2 PP PP
comp=Z,240nm,5.5s
DL2 LR LR
comp=N,660nm,19.3s,MS5.5
DL2 LR LR
comp=E,610nm,18.1s,MS5.5
DL2 LR LR
comp=Z,700nm,19.5s,MS5.4
KSH Kashi 129.85 21 *e*PKP PKPdf 14 51 51.8 -0.3
KSH *e*PKS PKS 14 55 26.5 +2.0
KSH *e*SKS SKS 14 58 57.0 -3.7
KSH *e*SKKS 15 00 55.0
KSH PP PP
comp=Z,360nm,4.6s
KSH LR LR
comp=N,580nm,15.2s,MS5.6
KSH LR LR
comp=E,640nm,14.8s,MS5.6
CTA Charters Tower 130.77 249 *e*P PKPdf 14 51 50.5 -3.9
comp=E,9.4nm,1.3s
HHC Hu-ho-hao-te 130.78 346 *e*PKP PKPdf 14 51 46.5 -7.3
HHC PP PP 14 54 08.4 -2.8
HHC PKS PKS 14 55 20.9 -5.3
HHC SKS SKS 14 58 53.4 -10
HHC SKKS 15 00 59.9
HHC SS SS 15 11 37.8 +0.4
HHC PP PP
comp=Z,230nm,9.4s
HHC LR LR
comp=N,690nm,20.2s,MS5.5
HHC LR LR
comp=E,650nm,15.5s,MS5.5
HHC LR LR
comp=Z,1µm,19.0s,MS5.5
STKA Stephens Creek 131.80 233 *e*P PKPdf 14 51 52.4 -3.6
comp=Z,8.0nm,1.0s
STKA Stephens Creek 131.80 233 PKP PKPdf 14 51 52.3 -3.8
comp=Z,3.4nm,0.5s,baz=66,slow=4.8,SNR=9.7
GTA Gaotai 133.94 357 PKP PKPdf 14 51 58.4 -1.3
GTA PP PP 14 54 28.6 -2.8
GTA PKS PKS 14 55 34.0 +1.9
GTA SKS SKS 14 59 06.9 -3.3
GTA SKKS 15 01 21.1
GTA PP PP
comp=Z,260nm,6.8s
GTA LR LR
comp=N,660nm,27.4s,MS5.4
GTA LR LR
comp=E,690nm,25.9s,MS5.4

GTA					LR	LR			
	comp=Z,1μm,29.7s,MS5.4								
SSE	**Sheshan**	**135.90**	**330**		PKP	PKPdf	14 52 01.5	-2.2	
SSE					PP	PP	14 54 43.9	+0.5	
SSE					SS	SS	15 12 41.4	+1.4	
SSE					PP	PP			
	comp=Z,750nm,5.5s								
SSE					LR	LR			
	comp=N,520nm,23.0s,MS5.6								
SSE					LR	LR			
	comp=E,1μm,22.9s,MS5.6								
SSE					LR	LR			
	comp=Z,610nm,24.3s,MS5.2								
NJ2	**Nanjing**	**136.21**	**333**	*e*	PKP	PKPdf	14 51 57.0	-7.1	
NJ2					PKS	PKS	14 55 32.0	-4.5	
NJ2					SKS	SKS	14 59 02.0	-12	
NJ2					PP	PP			
	comp=Z,480nm,5.6s								
NJ2					LR	LR			
	comp=N,4μm,25.1s,MS6.1								
NJ2					LR	LR			
	comp=E,2μm,25.2s,MS6.1								
NJ2					LR	LR			
	comp=Z,2μm,24.7s,MS5.6								
LZH	**Lanzhou**	**136.88**	**352**	*e*	PKP	PKPdf	14 52 06.4	+1.2	
LZH					PP	PP	14 54 55.0	+5.9	
LZH					SKKS		15 01 43.0		
LZH					SS	SS	15 12 58.0	+6.5	
LZH					PP	PP			
	comp=Z,250nm,7.3s								
LZH					LR	LR			
	comp=N,2μm,19.9s								
LZH					LR	LR			
	comp=Z,2μm,21.0s,MS5.9								
AJM	**Ajmer**	**140.27**	**33**	*ex*		x	14 51 59.5		
ASPA	**Alice Springs**	**141.07**	**240**	*e*	PKP	PKPdf	14 52 06.0	-7.3	
WB2	**Warramunga Arr**	**141.76**	**246**	*e*	PKP	PKPdf	14 52 05.7	-8.9	
WRAB	**Tennant Creek**	**141.76**	**246**	*i*	PKIKP	PKPdf	14 52 15.1	+0.5	
WRAB	**Tennant Creek**	**141.76**	**246**	*e*	PKPpre		14 52 05.5		
WRA	**Warramunga Arr**	**141.77**	**246**		PKhKP		14 52 05.7		
	comp=Z,13nm,1.0s,baz=98,slow=2.7,SNR=32								
WRA					PKP	PKPdf	14 52 12.7	-1.9	
	comp=Z,15nm,0.9s,baz=100,slow=2.4,SNR=25								
WRA	**Warramunga Arr**	**141.77**	**246**		PKIKP	PKPdf	14 52 12.7	-1.9	
CD2	**Chengdu**	**141.97**	**351**		PKP	PKPdf	14 52 15.8	+1.1	
CD2					PKS	PKS	14 55 48.3	+1.9	
CD2					SKS	SKS	14 59 19.5	-4.4	
CD2					LR	LR			
	comp=N,420nm,12.6s								
CD2					LR	LR			
	comp=Z,780nm,22.2s								
KOLN	**Koldanda**	**143.15**	**20**	*e*	P	PKPbc	14 52 10.4	-1.7	
	comp=Z,113nm,1.1s								
LSA	**Lhasa**	**143.21**	**9**		PKP	PKPdf	14 52 14.3	-2.5	
GKN	**Gorkha**	**143.28**	**19**	*e*	P	PKPbc	14 52 10.6	-1.9	
	comp=Z,77nm,0.8s								
KKN	**Kakani**	**143.69**	**18**	*e*	P	PKPbc	14 52 12.1	-1.6	
	comp=Z,144nm,0.8s								
GUN	**Gumba**	**143.75**	**17**	*e*	P	PKPbc	14 52 13.2	-0.7	
	comp=Z,425nm,1.2s								
DMN	**Daman**	**143.80**	**18**	*e*	P	PKPbc	14 52 12.8	-1.2	
	comp=Z,481nm,1.3s								
PKI	**Pulchoki**	**143.93**	**18**	*e*	P	PKPbc	14 52 13.2	-1.2	
	comp=Z,209nm,0.9s								
JIRN	**Jiri**	**144.08**	**17**	*e*	P	PKPbc	14 52 14.2	-0.7	
	comp=Z,367nm,1.0s								
BHPL	**Bhopal**	**144.37**	**32**	*i*	P	PKPbc	14 52 14.6	-1.2	
BHPL					AMb	AMB	14 52 18.0		
	comp=Z,101nm,0.9s								
KAKA	**Kakadu**	**144.89**	**258**	*e*	PKP	PKPdf	14 52 38.5	+18	
	comp=Z,86nm,0.8s								
GYA	**Guiyang**	**145.69**	**345**	⇑*i*	PKP	PKPdf	14 52 19.9	-1.3	
GYA					PP	PP	14 55 46.0	+2.6	
GYA					SKS	SKS	14 59 27.3	-2.2	
GYA					SKKS		15 02 35.0		
GYA					SS	SS	15 14 39.3	+5.4	
GYA					PP	PP			
	comp=Z,680nm,9.4s								
GYA					LR	LR			
	comp=N,920nm,19.1s,MS5.8								
GYA					LR	LR			
	comp=E,1μm,19.7s,MS5.8								
GYA					LR	LR			
	comp=Z,1μm,19.8s,MS5.8								
POO	**Poona**	**145.81**	**42**	*e*	P	PKPbc	14 52 21.6	+1.9	
POO					AMb	AMB	14 52 25.2		
	comp=Z,197nm,1.4s								
GZH	**Guangzhou**	**146.38**	**333**		PKP	PKPdf	14 52 19.0	-3.5	
KAD	**Karad**	**146.89**	**43**	*e*	P	PKPbc	14 52 22.6	+0.4	
KAD					AMb	AMB	14 52 26.4		
	comp=Z,118nm,1.0s								
SHL	**Shillong**	**147.38**	**9**	*e*	P	PKPdf	14 52 23.0	-1.1	
BOK	**Bokaro**	**147.60**	**20**	*e*	P	PKPdf	14 52 25.1	+0.6	
BOK					AMb	AMB	14 52 32.4		
	comp=Z,163nm,1.3s								
BLSP	**Bilaspur**	**147.62**	**27**	*e*	P	PKPdf	14 52 24.1	-0.5	
BLSP					AMb	AMB	14 52 29.9		
	comp=Z,190nm,0.8s								
KMI	**Kunming**	**147.81**	**351**		PKP	PKPdf	14 52 21.3	-3.5	
KMI					APKP		14 52 25.5		
KMI					XPKP		14 52 27.0		
KMI					PKP2	PKPab	14 52 29.6	+0.1	
KMI					PP	PP	14 55 56.3	+0.2	
KMI					SKS	SKS	14 59 25.6	-6.9	
KMI					SKKS		15 02 45.8		
KMI					SS	SS	15 14 58.4	+0.2	
KMI					PP	PP			
	comp=Z,140nm,4.9s								
KMI					LR	LR			
	comp=N,1μm,24.5s,MS5.7								
KMI					LR	LR			
	comp=E,900nm,24.5s,MS5.7								
KMI					LR	LR			
	comp=Z,1μm,23.4s,MS5.6								
NWAO	**Narrogin (SRO)**	**148.09**	**213**	*e*	PKHKP		14 52 21.1		
NWAO				*e*			14 52 24.4		
NWAO				*e*			14 52 27.5		
KLBR	**Kellerberrin**	**148.81**	**215**	*e*	P	PKPdf	14 52 26.0	-0.2	
	comp=Z,120nm,1.2s								
MUN	**Mundaring**	**149.37**	**213**	*e*	P	PKPdf	14 52 23.5	-3.6	
CAL	**Calcutta**	**149.53**	**16**	*ex*		x	14 52 36.6		
HYB	**Hyderabad**	**149.62**	**37**	*i*	PKP	PKPdf	14 52 27.5	-0.4	
	comp=Z,80nm,1.0s								
HYB				*es*	PKP		14 52 31.5		
HYB				*e*			14 52 36.0		
HYB				*e*	PP	PP	14 56 00.0	-6.2	
HYB	**Hyderabad**	**149.62**	**37**	*e*	P	PKPdf	14 52 27.5	-0.4	
HYB				*e*			14 52 31.5		
FITZ	**Fitzroy Crossi**	**150.18**	**245**	*e*	P	PKPdf	14 52 25.7	-3.0	
	comp=Z,98nm,0.9s								

NEIC 21 14:58:59.2,59.50N×152.96W,h7km,ML3.7(PMR), **ML3.3**(AEIC), **After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.27**	**244**	P	Pg	14 59 05.0	+0.2
AUL				S	Sg	14 59 09.4	+0.9
SLKM	**Skilak Lake**	**1.70**	**53**	*e*P	Pn	14 59 27.7	-1.9
KDAK	**Kodiak Island**	**1.74**	**173**	P	Pn	14 59 28.4	-1.6
SEW	**Seward**	**1.87**	**70**	P	Pn	14 59 29.9	-2.1
SVW2	**Sparrevohn**	**2.06**	**322**	P	Pn	14 59 33.1	-1.6
FIB	**Fire Island**	**2.17**	**38**	*e*P	Pn	14 59 36.6	+0.4
RC01	**Rabbit Creek A**	**2.26**	**44**	P	Pn	14 59 36.0	-1.5
PMR	**Palmer**	**2.82**	**40**	P	Pn	14 59 44.1	-1.5
SML	**Sawmill**	**3.25**	**43**	*e*P	Pn	14 59 50.5	-1.1
TT01	**Tatalina**	**3.72**	**338**	P	Pn	14 59 56.3	-2.1
DIV	**Divide**	**3.93**	**62**	*e*P	Pn	14 59 59.5	-1.8
TRF	**Thorofare Moun**	**4.16**	**17**	P	Pn	15 00 02.7	-1.9
MCK	**McKinley**	**4.66**	**23**	P	Pn	15 00 10.1	-1.5
GCSA	**Galena City Sc**	**5.57**	**342**	P	Pn	15 00 21.6	-2.9
MENT	**Mentasta**	**5.64**	**48**	*e*P	Pn	15 00 25.0	-0.5
IL1	**Eielson Array**	**6.00**	**26**	P	Pn	15 00 27.3	-3.3
IM3	**Indian Mountai**	**6.51**	**357**	P	Pn	15 00 33.3	-4.6
IMA2	**Indian Mountai**	**6.60**	**357**	*e*P	Pn	15 00 37.0	-2.1

*JMA **21** 15:07:23.5,34.87N×136.48E,h42km,M3.5 Broadband fault plane solution: P waves. NP1:φs7°,δ40°,λ-79°. NP2:φs172°,δ50°,λ-100°. Principal axes: T Plg5°, Azm269°; N Plg7°, Azm178°; P Plg81°, Azm33°; JMA Felt I J1.*

ISC 21 15:07:23.7±0.7,34.87N±0.04×136.47E±0.05,h40km±9km, n10,σ0s34/18,4C-4D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUJ	**Tsu 2**	**0.16**	**194**	⇓P	**P**	**15 07 30.6**	**0.0**
TSUJ				S	**S**	**15 07 35.6**	**+0.1**
JEG	**Eigenji**	**0.28**	**347**	⇓P	**P**	**15 07 31.6**	**-0.1**
JEG				S	**S**	**15 07 37.1**	**-0.2**
JIE	**Ise**	**0.51**	**157**	⇓P	**P**	**15 07 34.7**	**+0.1**
JIE				S	**S**	**15 07 42.6**	**+0.3**
JKN2	**Miekihoku**	**0.65**	**194**	⇑P	**P**	**15 07 36.1**	**-0.3**
JHE	**Heguri**	**0.68**	**252**	⇑P	**P**	**15 07 36.8**	**0.0**
JHE				S	**S**	**15 07 46.8**	**+0.4**
JGM	**Miyama**	**0.86**	**14**	⇓P	**P**	**15 07 39.4**	**+0.1**
JGM				S	**S**	**15 07 51.0**	**+0.1**
JWT	**Wachi**	**0.97**	**296**	⇑P	**P**	**15 07 41.1**	**+0.2**
JWT				S	**S**	**15 07 53.7**	**0.0**
JWY	**Kouya**	**0.97**	**228**	⇑P	**P**	**15 07 40.9**	**0.0**
JWY				S	**S**	**15 07 53.3**	**-0.4**
TK04	**Tokai 4**	**1.26**	**112**	P	**P**	**15 07 44.9**	**-0.1**
MAT	**Matsushiro**	**2.19**	**40**	P	**P**	**15 07 58.0**	**-0.4**
MAT				S	**S**	**15 08 28.4**	**+3.9**

CASC 21 15:12:10.2±2.1,11.62N×86.00W,h162km±8km,MD3.6,2C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.36**	**156**	*e*P	P	15 12 33.0	+0.3
SSNN				*e*S	S	15 12 50.8	+0.7
COPN	**Copaltepe**	**0.80**	**314**	*e*P	P	15 12 34.2	-0.7
COPN				*e*S	S	15 12 54.2	+0.3
MOMJ	**Momotombo**	**0.94**	**326**	⇑*e*P	P	15 12 35.6	-0.2
MIRN	**Miramar**	**1.07**	**319**	*e*P	P	15 12 36.7	-0.2
MIRN				*e*S	S	15 12 58.2	+0.8
LEON	**Leon**	**1.18**	**312**	⇑*e*P	P	15 12 37.3	-0.5
LEON				*e*S	S	15 12 58.9	-0.2
TEL3	**Telica 3**	**1.25**	**319**	*e*P	P	15 12 38.4	-0.2
PRS1	**Puriscal**	**2.32**	**134**	*e*P	P	15 12 52.5	+2.3
LAJ	**Bijagual**	**2.54**	**133**	*e*P	P	15 12 51.7	-1.3
LCR2	**La Lucha 2**	**2.71**	**133**	*e*P	P	15 12 56.1	+1.0
LCR2				*e*S	S	15 13 29.8	+0.3
BUS	**Buena Vista**	**3.01**	**133**	*e*P	P	15 13 01.0	+2.2
BUS				*e*S	S	15 13 36.5	+0.4

*BJI **21** 15:14:29.0,8.43S×123.92E,h280km,mB4.7,mb4.3*
*IDC **21** 15:14:37.8±5.2,7.65S×123.48E,h284km±54km,mb3.9/8, mb1 4.0/9,mb1mx3.9/16,mbtmp4.6/9,Error ellipse: s-maj=23.7km s-min=12.7km az=81.0*
*NEIC **21** 15:14:37.1±1.1,7.73S×123.43E,h281km±13km,mb4.4/18, Error ellipse: s-maj=10.7km s-min=5.4km az=58.0*
ISC 21 15:14:35.6±0.9,7.74S±0.04×123.39E±0.07,h276km±10km, n57,σ0s96/60,mb4.3/26,1C-4D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.53**	**168**	*e*P	**P**	**15 17 00.5**	**-0.9**
	40nm,0.4s						
FITZ				*e*S	**S**	**15 18 55.9**	**-0.5**
TSM	**Tawau**	**13.16**	**335**	P	**P**	**15 17 36.0**	**+2.1**
MBWA	**Marble Bar**	**13.80**	**194**	*e*P	**P**	**15 17 41.3**	**-0.5**
	48nm,0.8s						
KKM	**Kota Kinabalu**	**15.45**	**332**	P	**P**	**15 18 02.5**	**+0.9**
KKM	**Kota Kinabalu**	**15.45**	**332**	*e*P	**P**	**15 18 02.4**	**+0.8**
PAGZ	**Pagadian**	**15.48**	**360**	*e*P	**P**	**15 18 02.2**	**+0.3**
KSM	**Kuching**	**15.94**	**305**	*e*P	**P**	**15 18 07.8**	**+0.7**
WRA	**Warramunga Arr**	**16.12**	**140**	P	**P**	**15 18 07.5**	**-1.4**
	8.7nm,0.3s,baz=316,slow=12,SNR=317						
WRA				S	**S**	**15 21 01.9**	**+2.3**
	baz=314,slow=21,SNR=14						
WRAB	**Tennant Creek**	**16.12**	**140**	*e*P	**P**	**15 18 07.4**	**-1.6**
	122nm,0.7s						
WB2	**Warramunga Arr**	**16.12**	**140**	⇓*i*P	**P**	**15 18 07.5**	**-1.6**
WB2				*e*S	**S**	**15 21 00.4**	**+0.6**
BATP	**Bataraza**	**17.34**	**341**	*e*P	**P**	**15 18 23.4**	**+1.4**
GUIM	**Jordan**	**18.26**	**357**	*e*P	**P**	**15 18 32.4**	**+0.9**
ASPA	**Alice Springs**	**18.77**	**149**	⇓*i*P	**P**	**15 18 37.2**	**+0.6**
ASPA				*e*		15 18 42.0	
ASPA				*e*S	**S**	**15 21 52.8**	**+1.9**
LUBP	**Lubang**	**21.56**	**352**	*e*P	**P**	**15 19 06.4**	**+2.3**
FORT	**Forrest**	**23.34**	**170**	*e*P	**P**	**15 19 21.6**	**+0.6**
	16nm,0.5s,mb4.6						
PMG	**Port Moresby**	**23.56**	**96**	P	**P**	**15 19 22.6**	**-0.7**
	14nm,0.6s,mb4.5,baz=248,slow=11,SNR=8.0						
KLBR	**Kellerberrin**	**24.31**	**192**	*e*P	**P**	**15 19 30.0**	**0.0**
	22nm,0.6s,mb4.7						
MUN	**Mundaring**	**25.03**	**195**	*e*P	**P**	**15 19 36.8**	**+0.2**
CTA	**Charters Tower**	**25.32**	**121**	P	**P**	**15 19 38.8**	**-0.5**
	5.5nm,1.0s,mb4.0,baz=291,slow=8.6,SNR=3.5						
CTAO	**Charters Tower**	**25.32**	**121**	P	**P**	**15 19 39.3**	**0.0**
NWAO	**Narrogin (SRO)**	**25.71**	**192**	P	**P**	**15 19 43.2**	**+0.5**
	16nm,0.5s,mb4.8,baz=23,slow=7.3,SNR=42						
NWAO	**Narrogin (SRO)**	**25.71**	**192**	*e*P	**P**	**15 19 42.4**	**-0.3**
STKA	**Stephens Creek**	**29.40**	**147**	*e*P	**P**	**15 20 16.0**	**+0.1**
	7.9nm,0.9s,mb4.1						
STKA				*ep*P	pP	15 21 03.4	-6.2
STKA				*e*S	**S**	**15 24 48.2**	**0.0**
STKA	**Stephens Creek**	**29.40**	**147**	P	**P**	**15 20 16.3**	**+0.4**
	10.0nm,0.6s,mb4.4,baz=320,slow=7.8,SNR=31						
WHN	**Wuhan**	**39.04**	**348**	P	**P**	**15 21 38.0**	**+0.4**
ENH	**Enshi**	**40.08**	**341**	*e*P	**P**	**15 21 46.3**	**+0.1**
	37nm,1.5s,mb4.5						
XAN	**Xi'an**	**43.76**	**343**	P	**P**	**15 22 15.1**	**-0.8**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.0						
MJAR	**Matsushiro Arr**	**46.19**	**17**	P	**P**	**15 22 33.8**	**-1.3**
	comp=Z,4.3nm,0.5s,mb4.0,baz=189,slow=8.8,SNR=14						
LZH	**Lanzhou**	**47.31**	**338**	*e*P	**P**	**15 22 44.6**	**+0.8**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
LSA	**Lhasa**	**48.44**	**322**	*e*P	**P**	**15 22 53.0**	**+0.5**
LSA	**Lhasa**	**48.44**	**322**	*e*P	**P**	**15 22 52.5**	**-0.1**
	comp=Z,8.4nm,0.8s,mb4.1						
JIRN	**Jiri**	**50.33**	**316**	*e*P	**P**	**15 23 06.7**	**0.0**
	comp=Z,21nm,0.6s,mb4.7						
GUN	**Gumba**	**50.70**	**316**	*e*P	**P**	**15 23 09.0**	**-0.5**
	comp=Z,26nm,0.6s,mb4.7						
PKI	**Pulchoki**	**50.82**	**315**	*e*P	**P**	**15 23 09.5**	**-0.8**
	comp=Z,24nm,0.5s,mb4.8						
KKN	**Kakani**	**51.04**	**315**	*e*P	**P**	**15 23 10.7**	**-1.3**
	comp=Z,16nm,0.8s,mb4.4						
DMN	**Daman**	**51.05**	**315**	*e*P	**P**	**15 23 11.4**	**-0.7**
	comp=Z,15nm,0.7s,mb4.5						
GKN	**Gorkha**	**51.62**	**315**	*e*P	**P**	**15 23 15.4**	**-0.9**
	comp=Z,21nm,0.4s,mb4.8						
GTA	**Gaotai**	**51.75**	**337**	*e*P	**P**	**15 23 17.4**	**+0.3**
KOLN	**Koldanda**	**52.21**	**314**	*e*P	**P**	**15 23 19.2**	**-1.4**
	comp=Z,15nm,0.6s,mb4.5						
HIA	**Hailar**	**56.85**	**357**	*e*P	**P**	**15 23 52.1**	**-1.5**
SONM	**Songino Array**	**57.34**	**346**	P	**P**	**15 23 56.4**	**-0.6**
	comp=Z,2.4nm,0.8s,mb3.7,baz=161,slow=8.3,SNR=17						
MKAR	**Makanchi Array**	**65.42**	**330**	P	**P**	**15 24 50.4**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.1,baz=132,slow=7.4,SNR=84						
MKAR	**Makanchi Array**	**65.42**	**330**	P	**P**	**15 24 50.4**	**-0.4**
AAK	**Ala-Archa**	**67.01**	**323**	*e*P	**P**	**15 25 00.1**	**-0.8**
	comp=Z,3.8nm,0.6s,mb4.3						
KURK	**Kurchatov**	**69.88**	**332**	*e*P	**P**	**15 25 17.7**	**-0.7**
	comp=Z,1.9nm,0.6s,mb4.0						
JMDO	**Jabal Madar**	**70.56**	**297**	P	**P**	**15 25 23.2**	**+0.3**
	SNR=6.9						
SMDO	**Samad**	**70.81**	**298**	⇑P	**P**	**15 25 25.5**	**+1.1**
BIDO	**Bidbid**	**70.88**	**298**	⇓P	**P**	**15 25 26.2**	**+1.3**
BSY	**Bisya**	**71.47**	**297**	⇓P	**P**	**15 25 29.1**	**+0.8**
VNDA	**Vanda**	**72.58**	**172**	P	**P**	**15 25 34.5**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=318,slow=9.0,SNR=8.6						
WHFO	**Wadi Hawf**	**73.28**	**291**	P	**P**	**15 25 39.2**	**-0.1**
	SNR=9.5						
ABTO	**Aybut**	**73.59**	**291**	P	**P**	**15 25 41.4**	**+0.3**
	SNR=7.7						
CHKZ	**Chkalovo**	**75.57**	**331**	*e*P	**P**	**15 25 50.7**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.6						
ZRNK	**Zerenda**	**75.95**	**330**	*e*P	**P**	**15 25 53.0**	**-0.9**
	comp=Z,1.6nm,0.7s,mb3.8						
QSPA	**South Pole Qui**	**82.25**	**180**	*e*P	**P**	**15 26 27.8**	**+0.9**
	comp=Z,3.6nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**111.24**	**25**	PKiKP		15 32 36.6	
	comp=Z,0.1nm,0.5s,baz=309,slow=1.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**122.51**	**281**	PKP	PKPdf	15 33 00.2	+1.1
	comp=Z,0.9nm,0.6s,baz=82,slow=1.8,SNR=7.3						

*NEIC **21** 15:39:00.3±1.2,23.13S×179.62W,h573km±21km,mb4.5/8, Error ellipse: s-maj=24.7km s-min=14.6km az=167.0*
*IDC **21** 15:39:02.8±2.2,22.73S×179.61W,h629km±46km,mb3.6/5, mb1 3.7/7,mb1mx3.4/17,mbtmp4.7/7,Error ellipse: s-maj=34.7km s-min=22.1km az=14.0*
ISC 21 15:39:00.9±1.5,23.1S±0.2×179.6W±0.1,h610km±29km, n22,σ0s63/24,mb4.4/11,5D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.75**	**41**	P	**P**	**15 41 36.8**	**-0.3**
	2.6nm,0.3s,baz=180,slow=8.1,SNR=4.4						
AFI				S	**S**	**15 43 42.4**	**-0.1**
	1.2nm,0.3s,baz=261,slow=16,SNR=3.2						
DZM	**Mont Dzumac**	**12.90**	**272**	P	**P**	**15 41 48.8**	**+0.3**
	0.4nm,0.3s,baz=77,slow=18,SNR=8.7						
CNB	**Canberra Magne**	**29.58**	**239**	*e*P	**P**	**15 44 19.1**	**-0.8**
	4.0nm,0.3s,mb4.5						
CTA	**Charters Tower**	**31.82**	**269**	⇓*i*P	**P**	**15 44 40.1**	**+1.0**
	16nm,0.3s,mb5.1						
CTA	**Charters Tower**	**31.82**	**269**	P	**P**	**15 44 40.2**	**+1.1**
	22nm,0.4s,mb5.2,baz=97,slow=11,SNR=79						
CTAO	**Charters Tower**	**31.82**	**269**	*e*P	**P**	**15 44 40.0**	**+0.9**
TOO	**Toolangi**	**33.20**	**236**	*e*P	**P**	**15 44 49.7**	**-0.7**
	4.4nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**35.36**	**247**	⇓*i*P	**P**	**15 45 08.2**	**-0.2**
	4.6nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**35.36**	**247**	P	**P**	**15 45 08.2**	**-0.2**
	5.9nm,0.4s,mb4.6,baz=92,slow=9.6,SNR=33						
ASPA	**Alice Springs**	**42.52**	**260**	⇓*i*P	**P**	**15 46 06.4**	**+0.2**
WB2	**Warramunga Arr**	**42.80**	**265**	⇓*i*P	**P**	**15 46 08.5**	**+0.1**
WRAB	**Tennant Creek**	**42.80**	**265**	*e*P	**P**	**15 46 08.3**	**-0.2**
	11nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**42.81**	**265**	P	**P**	**15 46 08.6**	**+0.1**
	7.6nm,0.3s,mb4.7,baz=93,slow=8.5,SNR=185						
WRA				S	**S**	**15 51 49.0**	**-1.5**
	0.6nm,0.9s,baz=94,slow=13,SNR=4.6						
FORT	**Forrest**	**46.93**	**249**	*e*P	**P**	**15 46 39.2**	**-0.8**
	29nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.24**	**265**	*e*P	**P**	**15 47 13.4**	**+1.5**
	7.2nm,0.7s,mb4.2						
VNDA	**Vanda**	**55.25**	**185**	P	**P**	**15 47 40.2**	**+0.7**
	1.5nm,0.8s,mb3.4,baz=20,slow=9.1,SNR=5.7						
VNDA	**Vanda**	**55.25**	**185**	P	**P**	**15 47 40.2**	**+0.7**
KLBR	**Kellerberrin**	**55.63**	**247**	⇓*i*P	**P**	**15 47 42.3**	**-0.3**
	6.9nm,0.4s,mb4.2						
MBWA	**Marble Bar**	**55.86**	**259**	*e*P	**P**	**15 47 44.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**55.90**	**245**	P	**P**	**15 47 44.2**	**-0.2**
	3.2nm,0.5s,mb3.8,baz=144,slow=9.5,SNR=8.4						
NWAO	**Narrogin (SRO)**	**55.90**	**245**	P	**P**	**15 47 44.2**	**-0.2**
MUN	**Mundaring**	**56.88**	**246**	*e*P	**P**	**15 47 51.5**	**+0.3**

*NEIC **21** 15:42:09.5, 16.00N×98.38W, h6km,MD3.9(MEX), After MEX.*
MEX 21 15:42:09.6±0.7,16.01N×98.39W,h4km±8km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**34**	*i*P	Pg	15 42 17.9	-0.8
PNIG				*i*S	Sg	15 42 24.8	-0.1
ACX	**Acapulco**	**1.69**	**300**	*e*P	Pn	15 42 36.5	-3.6
ACX				*i*S	Sn	15 42 57.0	-5.5
VHO	**Vista Hermosa**	**1.91**	**56**	*i*P	Pn	15 42 39.9	-3.3
VHO				*i*S	Sn	15 43 01.6	-6.4
OXX	**Oaxaca**	**1.92**	**56**	*i*P	Pn	15 42 40.0	-3.4
OXX				*i*S	Sn	15 43 03.0	-5.3
OXX	**Oaxaca**	**1.92**	**56**	*i*P	Pn	15 42 40.0	-3.4
OXX				*i*S	Sn	15 43 07.0	-1.3
PLIG	**Platanillo**	**2.60**	**336**	*i*P	Pn	15 42 47.4	-5.7
PLIG				*i*S	Sn	15 43 20.6	-4.8
YAIG	**Yautepec**	**2.91**	**347**	*i*P	Pn	15 42 54.0	-3.5
YAIG				*i*S	Sn	15 43 29.1	-4.3
PPM	**Popocatepetl**	**3.05**	**356**	*e*P	Pn	15 42 56.2	-3.3
PPM				*e*P		15 43 06.0	
PPM				*i*S	Sn	15 43 34.3	-2.6

*IDC **21** 16:14:36.4±3.1,40.47N×125.14W,mb3.0/2,mb1 3.2/4, mb1mx3.2/22,mbtmp3.0/4,ML2.9/1,Error ellipse: s-maj=34.4km s-min=24.2km az=88.0*
*NEIC **21** 16:14:36.9,40.44N×125.19W,h1km,MD3.1(NCEDC), After NCEDC.*
ISC 21 16:14:36.4±1.6,40.39N±0.07×125.2W±0.2,h10km,n21, σ0s94/22,mb3.1/2,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.20**	**66**	*e*P	**Pb**	**16 14 59.2**	**+0.4**
KCPM	**Cahto Peak**	**1.41**	**119**	*e*P	**Pn**	**16 15 02.2**	**0.0**
KIPM	**Iron Peak**	**1.42**	**113**

*NEIC **21** 17:05:29.3,39.46N×23.78E,h9km,MD3.5(ATH),After ATH.*
*CSEM **21** 17:05:29.4±0.2,39.48N×23.73E,h5km,ML3.0,Error ellipse: s-maj=4.9km s-min=3.0km az=95.0*
ISC 21 17:05:28.7±0.4,39.51N±0.02×23.68E±0.04,h7km,n26, σ1©28/35,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.37**	**155**	*e*Pg	**Pg**	**17 05 35.6**	**-0.6**
XOR	**Xorichti**	**0.40**	**250**	*e*Pg	**Pg**	**17 05 36.1**	**-0.7**
NEO	**Neokhori**	**0.41**	**241**	*e*PB	**Pb**	**17 05 38.6**	**+0.9**
PAIG	**Paliouri**	**0.42**	**360**	*e*Pg	**Pg**	**17 05 38.5**	**+1.3**
PAIG				*e*Sg	**Sg**	**17 05 45.3**	**+2.5**
OUR	**Ouranopolis**	**0.86**	**16**	*e*Pg	**Pg**	**17 05 46.5**	**+0.6**
PLG	**Polygyros**	**0.89**	**348**	*e*PB	**Pb**	**17 05 46.2**	**+0.2**
PLG				*e*SB	**Sb**	**17 06 00.0**	**+2.2**
LKR	**Lokris**	**1.00**	**212**	*e*PG	**Pg**	**17 05 48.2**	**-0.6**
LKR				*e*SB	**Sb**	**17 06 02.0**	**+0.8**
LIT	**Litokhoron**	**1.09**	**303**	*e*Pg	**Pg**	**17 05 49.2**	**-1.3**
LIT				*e*Sg	**Sg**	**17 06 04.1**	**-1.0**
LIT	**Litokhoron**	**1.09**	**303**	*e*Pg	**Pg**	**17 05 49.2**	**-1.3**
LIT				*e*Sg	**Sg**	**17 06 04.1**	**-1.0**
AGG	**Agios Georgios**	**1.15**	**246**	*e*Pg	**Pg**	**17 05 49.6**	**-2.2**
AGG				*e*Sg	**Sg**	**17 06 07.1**	**0.0**
LIA	**Limnos Island**	**1.22**	**71**	*e*PN	**Pn**	**17 05 51.0**	**-1.2**
LIA				*e*SB	**Sb**	**17 06 07.6**	**0.0**
THE	**Thessaloniki**	**1.25**	**334**	*e*Pg	**Pg**	**17 05 52.6**	**-1.1**
SOH	**Sokhos**	**1.34**	**349**	*e*Pg	**Pg**	**17 05 54.3**	**-1.1**
MPAR	**Parnis Oros**	**1.35**	**178**	*e*PG	**Pg**	**17 05 53.5**	**-2.2**
ATH	**Athens Observa**	**1.53**	**179**	*e*PB	**Pb**	**17 05 57.9**	**+0.9**
ATH				*e*SB	**Sb**	**17 06 17.1**	**+0.6**
MGER	**Gerania Oros**	**1.55**	**192**	*e*PG	**Pg**	**17 05 57.4**	**-2.3**
EVR	**Evrytania**	**1.57**	**249**	*e*PB	**Pb**	**17 06 00.0**	**+2.4**
EVR				*e*SB	**Sb**	**17 06 21.9**	**+4.3**
SRS	**Serrai**	**1.61**	**358**	*e*Pb	**Pb**	**17 05 57.2**	**-1.2**
KZN	**Kozani**	**1.67**	**299**	*e*PG	**Pg**	**17 06 02.0**	**-0.1**
KVR	**Kavouri**	**1.68**	**178**	*e*PB	**Pb**	**17 06 00.5**	**+1.0**
GRG	**Griva**	**1.75**	**326**	*e*Pb	**Pb**	**17 05 59.4**	**-1.3**
NAIG	**Nisos Aigina**	**1.75**	**185**	*e*PN	**Pn**	**17 06 02.0**	**+2.3**
FNA	**Florina**	**2.18**	**307**	*e*Pn	**Pn**	**17 06 05.5**	**-0.4**
ALN	**Alexandroupoli**	**2.28**	**52**	*e*Pn	**Pn**	**17 06 06.8**	**-0.5**
LKD	**Levkas**	**2.49**	**252**	*e*Pn	**Pn**	**17 06 11.3**	**+1.0**
IGT	**Igoumenitsa**	**2.59**	**272**	*e*Pn	**Pn**	**17 06 13.7**	**+2.0**

*NEIC **21** 17:07:08.5±0.2,43.21N×11.38E,h10km,ML2.6(ROM), ML2.6(LDG),Error ellipse: s-maj=2.7km s-min=2.1km az=190.0*
*CSEM **21** 17:07:08.3±0.1,43.24N×11.37E,h12km,ML3.2/14,Error ellipse: s-maj=1.5km s-min=0.9km az=174.0*
*LDG **21** 17:07:10.0±0.1,43.24N×11.40E,h10km,Ml2.6/6,Error ellipse: s-maj=4.1km s-min=2.4km az=11.0*
ROM 21 17:07:07.8±0.1,43.23N×11.39E,h6km±1km,Md2.8/23, Ml2.6/12,Error ellipse: s-maj=1.0km s-min=1.0km az=61.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSNT	**Castellina Chi**	**0.25**	**344**	Pg	Pg	17 07 13.7	+0.8
CSNT				Sg	Sg	17 07 17.4	+1.1
	4µm,0.4s						
GRFL	**Gerfalco**	**0.31**	**254**	Pg	Pg	17 07 15.1	+1.0
GRFL				Sg	Sg	17 07 19.6	+1.2
	254nm,0.4s						
SACS	**San Casciano d**	**0.54**	**135**	Pg	Pg	17 07 19.6	+0.9
SACS				Sg	Sg	17 07 28.7	+2.8
CRE	**Caprese Michel**	**0.56**	**46**	Pg	Pg	17 07 20.0	+0.9
CRE				Sg	Sg	17 07 28.3	+1.6
	741nm,0.3s						
BADI	**Badiali**	**0.68**	**66**	Pg	Pg	17 07 22.5	+1.0
BADI				Sg	Sg	17 07 32.4	+1.8
	406nm,0.5s						
VMG	**Vicchio**	**0.74**	**9**	Pg	Pg	17 07 23.5	+0.9
VMG				Sg	Sg	17 07 34.3	+1.9
	207nm,0.3s						
SFI	**Santa Sofia**	**0.75**	**26**	Pg	Pg	17 07 23.5	+0.7
SFI				Sg	Sg	17 07 34.6	+1.8
	83nm,0.3s						
PII	**Pisa**	**0.80**	**308**	Pg	Pg	17 07 23.8	+0.1
	137nm,0.2s						
SEI	**Scarperia**	**0.82**	**358**	Pg	Pg	17 07 25.0	+0.8
SEI				Sg	Sg	17 07 37.3	+2.1
	660nm,0.3s						
MAON	**Monte Argentar**	**0.83**	**193**	Pg	Pg	17 07 25.0	+0.7
MAON				Sg	Sg	17 07 37.9	+2.5
	166nm,0.4s						
MURB	**Monte Urbino**	**0.83**	**88**	Pg	Pg	17 07 24.8	+0.4
MURB				Sg	Sg	17 07 38.3	+2.8
	1µm,0.3s						
PIEI	**Pieia**	**0.89**	**70**	Pg	Pg	17 07 25.9	+0.3
PIEI				Sg	Sg	17 07 39.4	+1.9
PZZT	**Monte Pizzetto**	**0.98**	**337**	Pg	Pg	17 07 27.4	+0.1
PZZT				Sg	Sg	17 07 43.5	+3.2
	157nm,0.5s						
BDI	**Bagni Di Lucca**	**1.01**	**326**	Pg	Pg	17 07 27.9	-0.1
BDI				Sg	Sg	17 07 44.0	+2.6
	133nm,0.3s						
FSSB	**Fossombrone**	**1.11**	**65**	Pg	Pg	17 07 29.8	-0.2
FSSB				Sg	Sg	17 07 46.7	+1.9
	42nm,0.3s						
SNTG	**Esanatoglia**	**1.14**	**88**	Pg	Pg	17 07 30.1	-0.4
	33nm,0.2s						
ZCCA	**Zocca**	**1.16**	**345**	Pg	Pg	17 07 30.9	0.0
	79nm,0.7s						
ARV	**Arcevia**	**1.16**	**76**	Pg	Pg	17 07 31.2	+0.2
ARV				Sg	Sg	17 07 48.7	+2.1
	18nm,0.3s						
ARVD	**Arcevia**	**1.16**	**76**	Pg	Pg	17 07 31.4	+0.3
ARVD				Sg	Sg	17 07 48.9	+2.3
	127nm,1.1s						
VLC	**Villacollemand**	**1.18**	**322**	Pg	Pg	17 07 30.9	-0.4
VLC				Sg	Sg	17 07 49.6	+2.6
	93nm,0.9s						
TOLF	**Tolfa**	**1.25**	**159**	Pg	Pg	17 07 31.9	-0.9
	43nm,0.9s						
GSCL	**Gusciola**	**1.26**	**333**	Pg	Pg	17 07 33.3	+0.3
	25nm,0.5s						
MNS	**Montasola**	**1.27**	**131**	Pg	Pg	17 07 32.2	-1.1
	14nm,0.5s						
LNSS	**Leonessa**	**1.37**	**117**	Pg	Pg	17 07 34.6	-0.5
	79nm,0.9s						
AQU	**L'Aquila**	**1.72**	**120**	*e*P	Pn	17 07 42.1	+3.6
PGF	**Pioggiola**	**1.88**	**250**	*e*Pn	Pn	17 07 40.4	-0.4
PGF				*e*Sn	Sn	17 08 03.6	-1.5
	15nm,0.3s						
SBF	**Sospel**	**2.94**	**284**	*e*Pn	Pn	17 07 55.1	-0.9
SBF				*e*Sn	Sn	17 08 28.6	-3.4
	2.0nm,0.3s						
LMR	**La Mourre**	**3.56**	**273**	*e*Pn	Pn	17 08 03.1	-1.7
LMR				*e*Sn	Sn	17 08 43.6	-4.1
	1.9nm,0.3s						
LMR				*e*Sg	Sg	17 09 00.6	-5.9
MBDF	**Montbardon**	**3.65**	**296**	*e*Pn	Pn	17 08 05.0	-1.0
MBDF				*e*Pg	Pg	17 08 17.2	-3.5
LPG	**La Plagne**	**4.02**	**306**	*e*Pn	Pn	17 08 10.2	-1.1
LPL	**La Plagne**	**4.04**	**306**	*e*Pn	Pn	17 08 10.3	-1.3
SMRF	**Simiane la Rot**	**4.29**	**282**	*e*Pn	Pn	17 08 14.6	-0.5
SMRF				*e*Sn	Sn	17 09 00.5	-5.5
	1.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.31**	**295**	*e*Pn	Pn	17 08 14.5	-0.9
CABF	**La Chapelle**	**5.06**	**314**	*e*Pn	Pn	17 08 25.0	-1.0
HINF	**Hinteralfeld**	**5.58**	**327**	*e*Pn	Pn	17 08 31.7	-1.7
HINF				*e*Sn	Sn	17 09 31.1	-7.6
	4.3nm,0.5s						
CDF	**Champ du Feu**	**5.92**	**332**	*e*Pn	Pn	17 08 35.7	-2.5
HAU	**Haudompre**	**5.94**	**325**	*e*Pn	Pn	17 08 36.9	-1.5
HAU				*e*Sn	Sn	17 09 40.0	-7.6
	4.1nm,0.4s						
MTLF	**Montolieu**	**6.69**	**274**	*e*Pn	Pn	17 08 46.2	-2.9
BGF	**Bois d'Agland**	**6.92**	**302**	*e*Pn	Pn	17 08 49.2	-3.0

*NEIC **21** 17:08:41.7±0.9,16.06S×179.79W,h465km±10km,mb4.5/2, Error ellipse: s-maj=16.7km s-min=8.3km az=154.0*
*IDC **21** 17:08:42.7±1.9,16.12S×179.82W,h480km±22km,mb3.4/9, mb1 3.7/11,mb1mx3.5/18,mbtmp4.3/11,Error ellipse: s-maj=23.6km s-min=11.8km az=151.0*
ISC 21 17:08:41.4±1.3,16.1S±0.1×179.8W±0.1,h480km±18km, n80,σ0©82/21,mb4.0/11,2C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.05**	**75**	P	**P**	**17 10 38.1**	**-1.1**
	7.2nm,0.3s,baz=288,slow=21,SNR=5.9						
DZM	**Mont Dzumac**	**14.29**	**243**	P	**P**	**17 11 46.2**	**+0.9**
	0.3nm,0.3s,baz=109,slow=20,SNR=5.3						
URZ	**Urewera**	**22.22**	**186**	P	**P**	**17 13 01.7**	**-0.6**
	5.7nm,0.5s,mb4.4,baz=342,slow=4.5,SNR=7.4						
PMG	**Port Moresby**	**32.88**	**278**	P	**P**	**17 14 36.4**	**+0.4**
	7.7nm,0.6s,mb4.3,baz=90,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**38.37**	**239**	P	**P**	**17 15 22.8**	**+1.3**
	1.2nm,0.6s,mb3.5,baz=67,slow=13,SNR=5.3						
STKA	**Stephens Creek**	**38.37**	**239**	P	**P**	**17 15 22.8**	**+1.3**
WB2	**Warramunga Arr**	**43.67**	**258**	*e*P	**P**	**17 16 04.0**	**-0.2**
WRA	**Warramunga Arr**	**43.68**	**258**	P	**P**	**17 16 03.8**	**-0.5**
	0.6nm,0.4s,mb3.4,baz=94,slow=7.3,SNR=19						
WRA				PcP	PcP	17 17 41.9	+0.3
	0.4nm,0.4s,baz=89,slow=3.3,SNR=5.2						
WRA				S	**S**	**17 21 57.7**	**-1.3**
	0.2nm,0.7s,baz=99,slow=14,SNR=4.5						
ASPA	**Alice Springs**	**44.03**	**253**	*e*P	**P**	**17 16 07.4**	**+0.4**
ASPA				*e*		17 16 26.0	
ASPA				*e*S	**S**	**17 22 02.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**52.03**	**259**	*e*P	**P**	**17 17 08.1**	**+0.5**
	5.6nm,0.6s,mb4.1						
KLBR	**Kellerberrin**	**58.45**	**243**	*e*P	**P**	**17 17 52.0**	**-0.2**
	82nm,1.6s,mb4.8						
MJAR	**Matsushiro Arr**	**65.69**	**324**	P	**P**	**17 18 38.3**	**-0.9**
	2.4nm,0.6s,mb4.0,baz=155,slow=6.2,SNR=7.2						
NACB	**Ningan Chiao**	**69.82**	**304**	*e*P	**P**	**17 19 05.8**	**+1.2**
YHNB	**Yeheng**	**70.24**	**304**	*e*P	**P**	**17 19 06.8**	**-0.3**
TATO	**Taipei**	**70.30**	**305**	*e*P	**P**	**17 19 06.4**	**-1.0**
	306nm,0.4s						
NVAR	**Mina Array Bea**	**79.08**	**45**	P	**P**	**17 19 57.6**	**+1.3**
	2.0nm,0.7s,mb3.8,baz=230,slow=10,SNR=15						
ILAR	**Eielson Array**	**84.46**	**14**	P	**P**	**17 20 22.6**	**-0.4**
	2.3nm,0.4s,mb4.0,baz=232,slow=5.6,SNR=56						
PDAR	**Pinedale Array**	**86.98**	**44**	P	**P**	**17 20 36.6**	**+0.8**
	0.9nm,0.6s,mb3.7,baz=234,slow=3.1,SNR=9.5						
YKA	**Yellowknife Ar**	**93.27**	**25**	P	**P**	**17 21 04.4**	**0.0**
	0.4nm,0.6s,mb3.6,baz=244,slow=4.5,SNR=11						
MKAR	**Makanchi Array**	**106.94**	**315**	PKiKP		17 26 12.3	
	0.4nm,0.5s,baz=177,slow=0.8,SNR=9.4						
ARCES	**ARCESS Array B**	**124.33**	**350**	PKP	PKPdf	17 26 45.6	+1.2
	5.4nm,0.9s,baz=95,slow=0.2,SNR=12						
NOA	**NORSAR Array B**	**134.44**	**353**	PKP	PKPdf	17 27 06.2	+2.5
	0.4nm,0.6s,baz=358,slow=0.5,SNR=2.8						
BR131	**Keskin Array S**	**142.58**	**316**	*e*PKPpre		17 27 17.9	
BRTR	**Keskin Array B**	**142.58**	**316**	PKP	PKPdf	17 27 18.4	-0.6
	1.2nm,0.8s,baz=27,slow=2.8,SNR=7.0						
KOLS	**Kolonicke sedl**	**142.64**	**336**	*e*PKP	PKPdf	17 27 22.3	+3.5
UPC	**Upice**	**143.41**	**343**	*e*PKP	PKPdf	17 27 18.8	-1.2
CLL	**Collm**	**143.43**	**347**	⇑P	PKPbc	17 27 20.0	+1.0
	logA/T=0.8						
CLL	**Collm**	**143.43**	**347**	⇑*i*P	PKPbc	17 27 20.0	+1.0
DPC	**Dobruska-Polom**	**143.46**	**343**	*e*PKP	PKPdf	17 27 20.6	+0.5
BRG	**Berggiesshubel**	**143.61**	**345**	*i* P	PKPbc	17 27 20.7	+1.2
KECS	**Kecovo**	**143.69**	**337**	*e*	PKPbc	17 27 20.8	+0.9
PVCC	**Panska Ves**	**143.77**	**344**	*e*PKP	PKPdf	17 27 21.6	+1.0
PRU	**Pruhonice**	**144.28**	**344**	*e*PKP	PKPdf	17 27 23.3	+1.8
VYHS	**Vyhne**	**144.28**	**339**	*e*PKP	PKPdf	17 27 23.6	+2.0
MOX	**Moxa**	**144.35**	**348**	*i* P	PKPdf	17 27 23.2	+1.5
MOX	**Moxa**	**144.35**	**348**	*e*PKP	PKPdf	17 27 23.2	+1.5
NKC	**Novy Kostel**	**144.56**	**346**	*e*PKP	PKPdf	17 27 24.6	+2.5
TREC	**Trest**	**144.65**	**343**	*e*PKP	PKPdf	17 27 24.2	+2.0
KHC	**Kasperske Hory**	**145.31**	**345**	*e*PKP	PKPdf	17 27 26.0	+2.6
TNS	**Taunus Mts**	**145.34**	**351**	*e*PKPbc	PKPbc	17 27 26.9	+2.5
GRA1	**Grafenberg Arr**	**145.34**	**347**	*e*PKPbc	PKPbc	17 27 26.9	+2.5
GRF	**Grafenberg Arr**	**145.34**	**347**	*e*PKP	PKPdf	17 27 26.9	+3.5
WET	**Wettzell**	**145.48**	**345**	*e*PKPbc	PKPbc	17 27 27.0	+2.2
GEC2	**GERESS Array S**	**145.54**	**344**	*e*PKPbc	PKPbc	17 27 26.9	+1.9
GERES	**GERESS Array B**	**145.54**	**344**	PKPbc	PKPbc	17 27 26.9	+2.0
	1.6nm,0.7s,baz=29,slow=4.0,SNR=15						
GIVF	**Givet**	**145.90**	**355**	*e*PKP1	PKPbc	17 27 27.9	+2.1
BAIF	**Baives**	**145.99**	**355**	*e*PKP1	PKPbc	17 27 28.2	+2.2
	6.8nm,0.5s						
FUR	**Furstenfeldbru**	**146.77**	**346**	*e*PKPbc	PKPbc	17 27 30.7	+2.8
BFO	**Black Forest**	**147.19**	**350**	*e*PKPbc	PKPdf	17 27 31.2	+4.7
CDF	**Champ du Feu**	**147.28**	**351**	*e*PKP1	PKPdf	17 27 31.8	+5.2
	13nm,0.7s						
FLN	**La Foliniere**	**147.44**	**1**	*e*PKP1	PKPdf	17 27 31.8	+4.9
	20nm,0.8s						
MEZF	**Maizieres J'vi**	**147.46**	**354**	*e*PKP1	PKPdf	17 27 32.5	+5.6
LDF	**La Druitiere**	**147.61**	**0**	*e*PKP1	PKPdf	17 27 32.0	+4.8
HAU	**Haudompre**	**147.80**	**352**	*e*PKP1	PKPdf	17 27 33.0	+5.5
	4.3nm,0.6s						
GRR	**Gorron**	**147.81**	**1**	*e*PKP1	PKPdf	17 27 32.9	+5.4
	12nm,0.5s						
SGMF	**Saint Gilles**	**147.87**	**3**	*e*PKP1	PKPdf	17 27 32.7	+5.1
	14nm,0.7s						
QUIF	**Quistinic**	**148.17**	**4**	*e*PKP1	PKPdf	17 27 34.1	+6.0
LOR	**Lormes**	**148.79**	**355**	*e*PKP1	PKPdf	17 27 35.6	+6.5
	12nm,0.8s						
SSF	**Saint Saulge**	**149.03**	**356**	*e*PKP1	PKPdf	17 27 36.3	+6.8
	7.7nm,0.7s						
CABF	**La Chapelle**	**149.21**	**352**	*e*PKP1	PKPdf	17 27 37.4	+7.6
AVF	**Avril sur Loir**	**149.31**	**356**	*e*PKP1	PKPdf	17 27 36.5	+6.5
	7.0nm,0.7s						
SMF	**Signal de Mont**	**149.41**	**355**	*e*PKP1	PKPdf	17 27 36.8	+6.7
BGF	**Bois d'Agland**	**149.57**	**356**	*e*PKP1	PKPdf	17 27 37.6	+7.2
	8.9nm,0.6s						
MFF	**Saint Martin d**	**149.60**	**0**	*e*PKP1	PKPdf	17 27 37.4	+7.0
	5.2nm,0.6s						
TCF	**Toulx Ste Croi**	**149.87**	**357**	*e*PKP1	PKPdf	17 27 38.1	+7.2
	3.3nm,0.5s						
LPL	**La Plagne**	**150.18**	**351**	*e*PKP1	PKPdf	17 27 40.0	+8.6
	7.2nm,0.7s						
LPG	**La Plagne**	**150.20**	**351**	*e*PKP1	PKPdf	17 27 40.1	+8.7
	7.4nm,0.7s						
RJF	**Les Rejaudoux**	**150.88**	**358**	*e*PKP1	PKPdf	17 27 40.5	+8.1
	7.2nm,0.7s						
ORIF	**Oris-en-Rattie**	**150.89**	**352**	*e*PKP1	PKPdf	17 27 41.1	+8.6
	9.8nm,0.8s						
MBDF	**Montbardon**	**150.95**	**350**	*e*PKP1	PKPdf	17 27 41.1	+8.6
	14nm,0.7s						
VIVF	**Saint-Julien-l**	**151.11**	**353**	*e*PKP1	PKPdf	17 27 41.4	+8.6
	3.4nm,0.5s						
CAF	**Calviac**	**151.24**	**357**	*e*PKP1	PKPdf	17 27 41.6	+8.6
	4.2nm,0.5s						
LFF	**La Frestale**	**151.27**	**359**	*e*PKP1	PKPdf	17 27 41.5	+8.5
	9.3nm,0.6s						
SBF	**Sospel**	**151.67**	**349**	*e*PKP1	PKPdf	17 27 42.0	+8.4
	8.5nm,0.5s						
SMRF	**Simiane la Rot**	**151.86**	**352**	*e*PKP1	PKPdf	17 27 43.5	+10
	15nm,1.0s						
LASF	**Ste Croix**	**151.96**	**354**	*e*PKP1	PKPdf	17 27 43.4	+9.4
FRF	**La Foret Royal**	**152.10**	**350**	*e*PKP1	PKPdf	17 27 43.1	+8.9
LMR	**La Mourre**	**152.35**	**350**	*e*PKP1	PKPdf	17 27 43.6	+9.0
PGF	**Pioggiola**	**152.60**	**346**	*e*PKP1	PKPdf	17 27 44.4	+9.5
	16nm,0.9s						
ETSF	**Etsaut**	**153.30**	**1**	*e*PKP1	PKPdf	17 27 46.3	+10
	2.9nm,0.6s						

IDC 21 17:20:21.9±4.0,22.77N×11.63W,mb3.5/2,mb1 3.6/4, mb1mx3.4/23,mbtmp3.5/4,ML3.2/2,Error ellipse: s-maj=121.6km s-min=36.6km az=83.0,Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.87**	**125**	Pn	P	17 24 07.0	-1.4
	0.0nm,0.3s,baz=316,slow=13,SNR=2.7						
DBIC	**Dimbokro**	**17.29**	**157**	P	P	17 24 24.8	-1.6
	0.1nm,0.3s,baz=321,slow=11,SNR=3.2						
GERES	**GERESS Array B**	**32.86**	**31**	P	P	17 26 57.6	-1.8
	0.3nm,0.4s,baz=221,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**76.34**	**45**	P	P	17 32 12.8	-1.6
	0.2nm,0.5s,baz=281,slow=6.7,SNR=5.4						
WRA	**Warramunga Arr**	**148.22**	**91**	PKPbc	PKPdf	17 40 10.0	+1.0
	0.3nm,0.7s,baz=293,slow=2.7,SNR=3.9						

*ATH **21** 17:34:56.8,39.00N×23.17E,h28km±1km,MD3.2/4,ML3.1*
*NEIC **21** 17:34:56.9,39.00N×23.18E,h25km,ML3.1(ATH),After ATH.*
*THE **21** 17:34:57.4,38.95N×23.27E,h5km,ML2.7*
*CSEM **21** 17:34:57.6±0.1,38.96N×23.27E,h15km,ML3.1,Error ellipse: s-maj=2.0km s-min=1.5km az=105.0*
ISC 21 17:34:56.9±0.6,38.97N±0.03×23.26E±0.04,h14km±5km, n16,σ0©88/24,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.34**	**355**	*e*PB	**Pb**	**17 35 04.5**	**+0.3**
NEO				*e*SB	**Sb**	**17 35 09.4**	**+0.3**
LKR	**Lokris**	**0.37**	**213**	*e*PB	**Pb**	**17 35 05.2**	**+0.5**
LKR				*e*SB	**Sb**	**17 35 11.7**	**+1.6**
XOR	**Xorichti**	**0.40**	**353**	*e*Pg	**Pg**	**17 35 05.7**	**+0.4**
XOR				*e*Sg	**Sg**	**17 35 11.5**	**+0.6**
AOS	**Alonnisos**	**0.52**	**67**	*e*Pg	**Pg**	**17 35 07.6**	**0.0**
AOS				*e*Sg	**Sg**	**17 35 14.8**	**0.0**
AGG	**Agios Georgios**	**0.73**	**275**	*e*Pg	**Pg**	**17 35 11.3**	**-0.3**
AGG				*e*Sg	**Sg**	**17 35 22.1**	**+0.6**
PAIG	**Paliouri**	**1.01**	**19**	*e*Pg	**Pg**	**17 35 16.6**	**-0.7**
PAIG				*e*Sg	**Sg**	**17 35 31.4**	**+0.5**
ATH	**Athens Observa**	**1.05**	**160**	*e*PN	**Pn**	**17 35 17.7**	**+0.6**
EVR	**Evrytania**	**1.13**	**268**	*e*PN	**Pn**	**17 35 17.7**	**-0.6**
EVR				*e*SN	Sn	**17 35 31.9**	**-1.7**
LIT	**Litokhoron**	**1.28**	**333**	*e*Pg	**Pg**	**17 35 20.8**	**-1.8**
LIT				*e*Sg	**Sg**	**17 35 40.3**	**+0.6**
PLG	**Polygyros**	**1.41**	**6**	*e*PN	**Pn**	**17 35 22.3**	**0.0**
OUR	**Ouranopolis**	**1.48**	**22**	*e*Pg	**Pg**	**17 35 23.4**	**-3.0**
SOH	**Sokhos**	**1.86**	**2**	*e*Pb	**Pb**	**17 35 29.4**	**-0.7**
GRG	**Griva**	**2.10**	**342**	*e*Pn	**Pn**	**17 35 32.3**	**+0.2**
SRS	**Serrai**	**2.17**	**7**	*e*Pn	**Pn**	**17 35 33.6**	**+0.6**
KNT	**Kendrikon**	**2.21**	**353**	*e*Pn	**Pn**	**17 35 34.7**	**+1.0**
VLI	**Veliai**	**2.26**	**187**	*e*Pb	**Pb**	**17 35 35.8**	**-1.1**

*IDC **21** 18:34:34.2±1.4,14.92S×178.72W,mb3.9/8,mb1 4.3/8, mb1mx4.1/15,mbtmp3.9/8,MS4.0/14,Ms1 4.0/14, ms1mx3.7/27,Error ellipse: s-maj=93.4km s-min=19.5km az=149.0*
ISC 21 18:34:37.9±1.2,14.9S±0.5×178.8W±0.3,h33km,n22, σ0©50/8,mb4.0/8,MS4.1/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.89**	**82**	LR	LR	18 38 12.0	
	comp=Z,643nm,19.4s,baz=257,slow=32						
RAO	**Raoul Island**	**14.28**	**177**	LR	LR	18 41 52.0	
	comp=Z,388nm,20.9s,baz=241,slow=31						
DZM	**Mont Dzumac**	**15.68**	**241**	LR	LR	18 42 56.7	
	comp=Z,262nm,20.1s,baz=31,slow=32						
RAR	**Rarotonga**	**19.14**	**112**	LR	LR	18 44 24.7	
	comp=Z,308nm,19.3s,baz=303,slow=31						
HNR	**Honiara**	**21.46**	**282**	LR	LR	18 46 49.5	
	comp=Z,292nm,18.8s,MS3.7,baz=110,slow=34						
URZ	**Urewera**	**23.52**	**188**	LR	LR	18 47 25.9	
	comp=Z,397nm,19.9s,MS3.9,baz=71,slow=33						
PPT	**Papeete**	**28.18**	**99**	*e*LR	LR	18 46 49.0	
TBI	**Tubuai**	**28.92**	**111**	*e*LR	LR	18 47 10.8	
CTA	**Charters Tower**	**33.67**	**256**	P	**P**	**18 41 18.5**	**+0.3**
	2.7nm,0.8s,mb4.2,baz=43,slow=13,SNR=2.2						
STKA	**Stephens Creek**	**39.80**	**238**	P	**P**	**18 42 09.6**	**-0.1**
	7.1nm,1.0s,mb4.3,baz=60,slow=7.8,SNR=7.3						
STKA				LR	LR	18 57 00.9	
	comp=Z,254nm,19.7s,MS4.1,baz=25,slow=34						
RKT	**Rikitea**	**42.11**	**108**	*e*LR	LR	18 53 16.9	
	195nm,26.0s						
WRA	**Warramunga Arr**	**44.87**	**257**	P	**P**	**18 42 51.1**	**-0.2**
	1.7nm,0.9s,mb3.9,baz=89,slow=7.7,SNR=12						
VNDA	**Vanda**	**63.37**	**185**	LR	LR	19 08 02.5	
	comp=Z,58nm,18.2s,MS3.8,baz=134,slow=32						
MJAR	**Matsushiro Arr**	**65.30**	**323**	LR	LR	19 06 51.4	
	comp=Z,120nm,21.3s,MS4.1,baz=170,slow=30						
NVAR	**Mina Array Bea**	**77.56**	**44**	P	**P**	**18 46 33.0**	**+0.5**
	0.7nm,0.8s,mb3.6,baz=236,slow=7.7,SNR=3.5						
ILAR	**Eielson Array**	**83.08**	**13**	P	**P**	**18 47 01.2**	**-0.1**
	1.7n

*CASC **21** 19:18:32.7±2.6, 12.31N×87.30W, h60km±22km, MD4.3, mb4.2(NEIC)*
*BJI **21** 19:18:33.2, 12.50N×87.10W, h73km, mB4.4, Ms5.1, Msz4.6*
*NEIC **21** 19:18:33.3±1.6, 12.53N×87.05W, h74km±16km, mb4.2/18, Error ellipse: s-maj=17.5km s-min=8.0km az=62.0*
*IDC **21** 19:18:34.4±8.4, 12.52N×87.08W, h84km±81km, mb3.9/9, mb1 4.2/9, mb1mx3.8/20, mbtmp4.2/9, MS3.1/2, Ms1 3.1/2, ms1mx2.8/27, Error ellipse: s-maj=39.0km s-min=14.8km az=62.0*

ISC 21 19:18:32.0±0.6, 12.40N±0.07×87.24W±0.09, h78km±4km, n67, σ1§08/67, mb4.2/26, 4C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.34**	**87**	⇓*i*P		**P**	**19 18 43.3**	**-1.0**
LEON				*e*S		**S**	**19 18 52.5**	**-1.1**
CRIN	**San Cristobal**	**0.35**	**31**	⇓*i*P		**P**	**19 18 44.4**	**0.0**
CRIN				*e*S		**S**	**19 18 54.4**	**+0.7**
TEL3	**Telica 3**	**0.42**	**66**	⇓*i*P		**P**	**19 18 44.7**	**-0.2**
TELN	**Telica**	**0.45**	**63**	⇓*e*P		**P**	**19 18 45.1**	**0.0**
TELN				*e*S		**S**	**19 18 55.1**	**+0.1**
MIRN	**Miramar**	**0.51**	**85**	⇑*i*P		**P**	**19 18 45.4**	**-0.3**
CNGN	**Cerro Negro**	**0.54**	**79**	⇓*e*P		**P**	**19 18 45.8**	**-0.1**
CNGN				*e*S		**S**	**19 18 57.7**	**+1.4**
COPN	**Copaltepe**	**0.67**	**109**	⇑*i*P		**P**	**19 18 46.7**	**-0.6**
COPN				*e*S		**S**	**19 18 57.0**	**-1.6**
MOMJ	**Momotombo**	**0.68**	**89**	⇓*e*P		**P**	**19 18 47.4**	**0.0**
MOMJ				*e*S		**S**	**19 18 59.8**	**+0.9**
XAVN	**Gruta Xavier**	**0.92**	**105**	⇑*e*P		**P**	**19 18 50.4**	**+0.3**
MGAN	**Managua**	**1.00**	**104**	⇓*e*P		**P**	**19 18 51.2**	**+0.1**
MGAN				*e*S		**S**	**19 19 05.3**	**-0.2**
TICN	**Ticuantepe**	**1.05**	**110**	*e*P		**P**	**19 18 51.9**	**+0.2**
CNCH	**Conchagua**	**1.05**	**326**	⇓*e*P		Px	19 19 02.2	
CNCH				*e*S		Sx	19 19 15.8	
WILN	**Americas 2**	**1.05**	**103**	⇓*e*P		**P**	**19 18 52.0**	**+0.3**
WILN				*e*S		**S**	**19 19 07.4**	**+0.8**
MASN	**Masaya**	**1.14**	**111**	*e*P		**P**	**19 18 53.3**	**+0.5**
MASN				*e*S		**S**	**19 19 07.4**	**-1.0**
APON	**Apoyo**	**1.24**	**113**	*e*P		**P**	**19 18 54.2**	**0.0**
BLLM	**Bellamira**	**1.43**	**317**	*e*P		Px	19 19 06.6	
BLLM				*e*S		Sx	19 19 25.4	
SSNN	**San Juan del S**	**1.75**	**129**	*e*P		**P**	**19 18 59.7**	**-1.3**
CONN	**Concepcion**	**1.78**	**118**	*e*P		**P**	**19 19 00.5**	**-0.9**
CONN				*e*S		**S**	**19 19 24.5**	**+1.4**
MADN	**Villa Maderas**	**1.94**	**120**	*e*P		**P**	**19 19 02.3**	**-1.2**
SNVI	**San Vicente**	**1.97**	**308**	*e*P		Px	19 19 13.5	
SNVI				*e*S		Sx	19 19 36.7	
JTS	**JuntasAbangare**	**3.07**	**133**	*e*P		**P**	**19 19 18.4**	**-0.9**
JTS				S		**S**	**19 19 55.8**	**+0.9**
LAJ	**Bijagual**	**3.96**	**129**	*e*P		**P**	**19 19 30.3**	**-1.4**
LCR2	**La Lucha 2**	**4.13**	**129**	*e*P		**P**	**19 19 36.8**	**+2.8**
URSC	**Urasca**	**4.24**	**127**	*e*P		**P**	**19 19 37.2**	**+1.5**
BUS	**Buena Vista**	**4.43**	**129**	⇑*e*P		**P**	**19 19 39.8**	**+1.5**
BUS				*e*S		**S**	**19 20 28.7**	**-0.3**
SJG	**San Juan**	**21.11**	**72**	LR		LR	19 31 17.5	
	comp=Z,57nm,20.0s,baz=282,slow=36							
GOGA	**Godfrey**	**21.20**	**9**	P		**P**	**19 23 11.6**	**-1.4**
	7.6nm,0.5s,mb4.3							
JCT	**Junction City**	**21.43**	**329**	P		**P**	**19 23 18.3**	**+3.0**
	4.3nm,0.4s,mb4.1							
LTX	**Lajitas**	**22.75**	**320**	*e*P		**P**	**19 23 29.5**	**+1.2**
	7.7nm,0.7s,mb4.1							
TXAR	**Lajitas Array**	**22.75**	**320**	P		**P**	**19 23 29.7**	**+1.4**
	6.1nm,0.6s,mb4.1,baz=136,slow=10,SNR=45							
CPCT	**Cooper Cave**	**23.08**	**6**	*e*P		**P**	**19 23 32.7**	**+1.2**
TZTN	**Tazewell**	**24.27**	**7**	P		**P**	**19 23 44.2**	**+1.1**
MNTX	**Cornudas Mount**	**25.46**	**322**	*e*P		**P**	**19 23 53.0**	**-1.4**
	2.6nm,0.6s,mb3.8							
SDCO	**Great Sand Dun**	**30.06**	**330**	*e*P		**P**	**19 24 36.0**	**-0.1**
	1.4nm,0.7s,mb3.7							
CPNY	**Central Park**	**30.59**	**20**	*e*P		**P**	**19 24 37.6**	**-3.1**
PAL	**Palisades**	**30.80**	**20**	P		**P**	**19 24 37.5**	**-5.1**
	39nm,0.7s,mb5.2							
PV10	**Paradox Valley**	**32.34**	**327**	*e*P		**P**	**19 24 54.9**	**-1.2**
LPAZ	**La Paz**	**34.20**	**146**	LR		LR	19 39 07.3	
	comp=Z,23nm,20.1s,baz=265,slow=36							
LPAZ	**La Paz**	**34.20**	**146**	P		**P**	**19 25 15.0**	**+2.8**
	0.7nm,0.4s,mb3.8							
DUG	**Dugway**	**35.69**	**325**	*e*P		**P**	**19 25 25.5**	**+0.7**
	3.7nm,1.0s,mb4.3							
TPNV	**Topopah Spring**	**35.70**	**318**	*e*P		**P**	**19 25 26.0**	**+1.2**
	3.8nm,1.1s,mb4.2							
BW06	**Boulder Array**	**35.92**	**332**	*e*P		**P**	**19 25 26.5**	**-0.1**
	1.2nm,0.6s,mb4.0							
PDAR	**Pinedale Array**	**35.92**	**332**	P		**P**	**19 25 26.9**	**+0.3**
	1.9nm,0.6s,mb4.2,baz=126,slow=10,SNR=24							
REDW	**Red Top Meadow**	**36.98**	**331**	*e*P		**P**	**19 25 36.4**	**+0.8**
	16nm,0.5s,mb5.2							
TPAW	**Teton Pass**	**37.13**	**331**	*e*P		**P**	**19 25 37.6**	**+0.8**
	7.3nm,0.6s,mb4.8							
ELK	**Elko**	**37.43**	**324**	*e*P		**P**	**19 25 39.0**	**-0.3**
	3.0nm,0.9s,mb4.2							
MNV	**Mina**	**37.78**	**319**	P		**P**	**19 25 43.0**	**+0.7**
	1.1nm,0.5s,mb3.9							
NVAR	**Mina Array Bea**	**37.88**	**319**	P		**P**	**19 25 44.8**	**+1.7**
	1.2nm,0.8s,mb3.8,baz=127,slow=9.1,SNR=6.8							
NVAR				PcP		PcP	19 27 59.2	+0.8
	0.7nm,0.6s,baz=173,slow=3.0,SNR=5.5							
SIV	**San Ignacio**	**38.28**	**137**	P		**P**	**19 25 47.0**	**+0.4**
	4.1nm,0.6s,mb4.4,baz=316,slow=8.9,SNR=33							
ULM	**Lac du Bonnet**	**38.40**	**351**	P		**P**	**19 25 46.1**	**-1.2**
	3.0nm,0.5s,mb4.4,baz=174,slow=9.1,SNR=15							
HLID	**Hailey**	**38.90**	**328**	P		**P**	**19 25 50.9**	**-0.6**
	1.8nm,0.7s,mb4.0							
SCHQ	**Schefferville**	**45.27**	**16**	P		**P**	**19 26 42.8**	**-0.6**
	4.3nm,0.4s,mb4.5,baz=232,slow=7.2,SNR=29							
SCHQ	**Schefferville**	**45.27**	**16**	*e*P		**P**	**19 26 43.0**	**-0.4**
	5.2nm,0.5s,mb4.5							
YKA	**Yellowknife Ar**	**53.72**	**345**	P		**P**	**19 27 46.2**	**-1.8**
	1.7nm,0.8s,mb4.2,baz=139,slow=7.7,SNR=34							
YKA	**Yellowknife Ar**	**53.72**	**345**	P		**P**	**19 27 46.2**	**-1.8**
PLCA	**Paso Flores**	**55.07**	**165**	P		**P**	**19 27 57.5**	**-0.7**
	1.0nm,0.6s,mb4.1,baz=323,slow=9.1,SNR=5.8							
PLCA	**Paso Flores**	**55.07**	**165**	*e*P		**P**	**19 27 57.3**	**-1.0**
	1.4nm,0.7s,mb4.1							
TRQA	**Tornquist**	**55.49**	**156**	P		**P**	**19 28 00.6**	**-0.7**
	3.6nm,1.0s,mb4.4							
INK	**Inuvik**	**63.32**	**342**	P		**P**	**19 28 52.5**	**-2.3**
	3.0nm,1.2s,mb4.1							
ILAR	**Eielson Array**	**66.15**	**336**	P		**P**	**19 29 11.8**	**-1.3**
	0.9nm,0.5s,mb3.8,baz=157,slow=4.5,SNR=21							
CN2	**Changchun**	**116.63**	**334**	*e*PKP		PKPdf	19 37 05.4	-1.9
WMQ	**Urumqi**	**123.86**	**4**	*e*PKP		PKPdf	19 37 22.6	+1.3
WMQ				LR		LR		
	comp=N,750nm,20.4s							
WMQ				LR		LR		
	comp=E,900nm,21.0s							
WMQ				LR		LR		
	comp=Z,900nm,20.0s							
GTA	**Gaotai**	**128.04**	**353**	PKP		PKPdf	19 37 25.4	-4.2
GTA				PP		PP		
	comp=Z,50nm,6.5s							
GTA				LR		LR		
	comp=N,120nm,7.3s							
GTA				LR		LR		
	comp=E,130nm,6.5s							
GTA				LR		LR		
	comp=Z,100nm,9.9s							
NJ2	**Nanjing**	**129.23**	**331**	*e*PKP		PKPdf	19 37 30.3	-1.7
LZH	**Lanzhou**	**130.66**	**348**	*e*PKP		PKPdf	19 37 36.3	+1.7
WRAB	**Tennant Creek**	**139.45**	**254**	PKPdf		PKPdf	19 37 53.6	+2.3
WRA	**Warramunga Arr**	**139.46**	**254**	PKhKP			19 37 45.3	
	comp=Z,0.8nm,0.7s,baz=91,slow=3.5,SNR=5.8							
WRA				PKP		PKPdf	19 37 53.1	+1.8
	comp=Z,1.0nm,0.8s,baz=88,slow=2.2,SNR=14							

*IDC **21** 19:50:32.8±0.7, 14.45S×75.43W, h44km±6km, mb4.2/16, mb1 4.3/18, mb1mx4.2/24, mbtmp4.4/18, MS3.7/5, Ms1 3.7/5, ms1mx3.4/28, Error ellipse: s-maj=24.9km s-min=12.4km az=62.0*
*NEIC **21** 19:50:32.6±0.3, 14.41S×75.43W, mb4.7/8, Error ellipse: s-maj=13.1km s-min=5.6km az=54.0*
NEIC Felt at Ica.

ISC 21 19:50:30.7±0.4, 14.49S±0.07×75.65W±0.08, h44km, h44km±1.0km:pP-P, n53, σ1§12/40, mb4.4/23, MS3.9/4, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.75**	**335**	*e*P		**P**	**19 51 14.5**	**+1.1**
ARE	**Arequipa**	**4.46**	**117**	⇑*i*P		**P**	**19 51 38.5**	**+0.8**
ARE				*i*S		**S**	**19 52 30.5**	**+1.5**
LPAZ	**La Paz**	**7.47**	**105**	P		**P**	**19 52 21.5**	**+1.8**
	4.5nm,0.3s,baz=295,slow=9.7,SNR=82							
LPAZ				LR		LR	19 55 33.1	
	comp=Z,227nm,21.1s,baz=276,slow=41							
LPAZ	**La Paz**	**7.47**	**105**	P		**P**	**19 52 21.5**	**+1.8**
LPAZ				LR		LR	19 55 33.1	
SIV	**San Ignacio**	**14.14**	**98**	P		**P**	**19 53 46.3**	**-4.1**
	1.5nm,0.3s,baz=286,slow=12,SNR=23							
OTAV	**Otavalo**	**14.89**	**349**	P		**P**	**19 54 06.7**	**+6.5**
	5.0nm,0.8s							
CFAA	**Coronel Fontan**	**18.34**	**160**	P		**P**	**19 54 42.8**	**-0.8**
	0.1nm,0.3s,baz=335,slow=12,SNR=26							
CFAA				LR		LR	20 00 45.2	
	comp=Z,12nm,21.6s,baz=96,slow=34							
CPUP	**Villa Florida**	**20.79**	**127**	*e*P		**P**	**19 55 09.5**	**-1.2**
	52nm,0.9s							
TRQA	**Tornquist**	**26.41**	**155**	*e*P		**P**	**19 56 04.0**	**-1.2**
	5.5nm,0.7s,mb4.2							
PLCA	**Paso Flores**	**26.52**	**171**	P		**P**	**19 56 05.5**	**-0.7**
	5.8nm,1.0s,mb4.1,baz=360,slow=9.5,SNR=11							
BDFB	**Brasilia**	**26.70**	**96**	P		**P**	**19 56 06.0**	**-2.1**
	3.8nm,0.5s,mb4.2,baz=259,slow=11,SNR=4.7							
BDFB				LR		LR	20 07 25.8	
	comp=Z,227nm,20.5s,MS3.7,baz=278,slow=38							
BDFB	**Brasilia**	**26.70**	**96**	P		**P**	**19 56 06.0**	**-2.1**
BDFB				LR		LR	20 07 25.8	
USHA	**Ushuaia**	**40.65**	**174**	P		**P**	**19 58 07.9**	**-0.2**
	14nm,0.8s,mb4.6,baz=306,slow=5.9,SNR=4.1							
LRAL	**Laaview Retre**	**48.48**	**347**	*e*P		**P**	**19 59 09.0**	**-2.3**
	6.7nm,0.9s,mb4.7							
SWET	**Sewanee**	**50.38**	**349**	*e*P		**P**	**19 59 23.3**	**-2.6**
TXAR	**Lajitas Array**	**51.28**	**328**	P		**P**	**19 59 33.4**	**+0.7**
	1.4nm,0.6s,mb4.0,baz=146,slow=9.0,SNR=12							
TXAR				pP		pP	19 59 45.1	+0.2
	1.0nm,0.5s,baz=145,slow=11,SNR=3.1							
TXAR				sP		sP	19 59 51.1	+0.9
	0.5nm,0.4s,baz=140,slow=9.8,SNR=2.4							
RKT	**Rikitea**	**56.50**	**252**	*e*LR		LR	20 16 47.8	
	85nm,32.8s							
SDCO	**Great Sand Dun**	**59.04**	**333**	*e*P		**P**	**20 00 28.3**	**-0.5**
	2.9nm,0.8s,mb4.4							
SDCO				*e*pP		pP	20 00 41.1	-0.2
SADO	**Sadowa**	**59.06**	**357**	P		**P**	**20 00 26.8**	**-2.0**
	9.4nm,1.1s,mb4.7,baz=197,slow=16,SNR=2.6							
SADO				LR		LR	20 25 47.4	
	comp=Z,85nm,20.7s,MS3.9,baz=222,slow=36							
TPNV	**Topopah Spring**	**63.87**	**324**	*e*P		**P**	**20 01 02.5**	**+1.1**
	3.6nm,0.9s,mb4.4							
DUG	**Dugway**	**64.44**	**329**	*e*P		**P**	**20 01 06.0**	**+0.9**
	11nm,0.8s,mb4.9							
TCUT	**Toone Canyon**	**64.47**	**331**	*e*P		**P**	**20 01 05.9**	**+0.7**
HWUT	**Hardware Ranch**	**64.92**	**331**	*e*P		**P**	**20 01 08.1**	**-0.1**
	9.3nm,1.0s,mb4.8							
PDAR	**Pinedale Array**	**64.93**	**333**	P		**P**	**20 01 08.0**	**-0.2**
	1.0nm,0.7s,mb4.0,baz=120,slow=9.0,SNR=9.6							
NVAR	**Mina Array Bea**	**66.07**	**324**	P		**P**	**20 01 16.8**	**+1.3**
	0.6nm,0.3s,mb4.1,baz=135,slow=7.2,SNR=6.7							
NVAR				pP		pP	20 01 29.7	+1.4
	0.8nm,0.4s,baz=164,slow=6.6,SNR=2.7							
ELK	**Elko**	**66.08**	**328**	*e*P		**P**	**20 01 16.1**	**+0.5**
TPAW	**Teton Pass**	**66.12**	**333**	*e*P		**P**	**20 01 16.0**	**+0.3**
ULM	**Lac du Bonnet**	**66.87**	**346**	P		**P**	**20 01 19.1**	**-1.2**
	4.9nm,0.6s,mb4.7,baz=164,slow=4.9,SNR=12							
PPT	**Papeete**	**70.71**	**256**	*e*LR		LR	20 23 23.0	
	62nm,24.0s							
SNAA	**Sanae**	**70.95**	**161**	P		**P**	**20 01 45.4**	**+0.2**
	2.2nm,0.7s,mb4.4,baz=281,slow=5.7,SNR=33							
NEW	**Newport**	**72.55**	**332**	P		**P**	**20 01 55.4**	**+0.4**
	2.2nm,0.5s,mb4.3,baz=181,slow=2.4,SNR=3.9							
DBIC	**Dimbokro**	**73.27**	**78**	P		**P**	**20 01 58.8**	**-1.3**
	1.7nm,0.7s,mb4.1,baz=81,slow=19,SNR=3.6							
EDM	**Edmonton**	**74.80**	**338**	*e*P		**P**	**20 02 07.5**	**-0.6**
QSPA	**South Pole Qui**	**75.66**	**180**	*e*P		**P**	**20 02 14.1**	**+1.6**
	9.2nm,0.8s,mb4.8							
FRB	**Frobisher Bay**	**78.18**	**3**	LR		LR	20 36 25.1	
	comp=Z,89nm,21.4s,MS4.1,baz=145,slow=35							
TORD	**Tordi Ar. Bea**	**81.34**	**74**	P		**P**	**20 02 44.5**	**-0.3**
	11nm,1.0s,mb4.7,baz=261,slow=4.8,SNR=20							
YKA	**Yellowknife Ar**	**82.56**	**343**	P		**P**	**20 02 50.1**	**-0.1**
	2.0nm,0.9s,mb4.2,baz=137,slow=5.5,SNR=32							
VNDA	**Vanda**	**82.56**	**191**	LR		LR	20 36 41.4	
	comp=Z,40nm,18.2s,MS3.8,baz=222,slow=34							
DLBC	**Dease Lake**	**85.11**	**335**	P		**P**	**20 03 04.8**	**+1.7**
	5.8nm,0.9s,mb4.7,baz=311,slow=27,SNR=7.1							
RES	**Resolute Bay**	**89.81**	**355**	P		**P**	**20 03 25.9**	**+0.5**
INK	**Inuvik**	**92.25**	**342**	P		**P**	**20 03 37.0**	**+0.1**
	2.0nm,0.4s,mb4.3,baz=48,slow=4.4,SNR=4.2							
MATP	**Matopo**	**97.80**	**113**	P		**P**	**20 04 04.3**	**+1.0**
	1.2nm,0.7s,mb4.5,baz=279,slow=6.7,SNR=3.8							
MATP	**Matopo**	**97.80**	**113**	P		**P**	**20 04 04.3**	**+1.0**
NOA	**NORSAR Array B**	**101.03**	**30**	P		P	20 04 18.4	+1.4
	1.2nm,0.8s,baz=315,slow=5.7,SNR=3.4							
STKA	**Stephens Creek**	**121.69**	**217**	PKP		PKPdf	20 09 22.5	+2.0
	1.1nm,0.7s,baz=34,slow=16,SNR=3.8							
AKTK	**Aktyubinsk**	**128.23**	**36**	PKP		PKPdf	20 09 34.8	+2.1
AKTO	**Aktyubinsk**	**128.23**	**36**	PKP		PKPdf	20 09 34.8	+2.1
	0.4nm,0.3s,baz=93,slow=1.1,SNR=4.8							
BVAR	**Borovoye Array**	**133.11**	**28**	PKP		PKPdf	20 09 43.9	+2.1
	0.7nm,0.7s,baz=342,slow=4.7,SNR=4.2							
WRA	**Warramunga Arr**	**134.83**	**222**	PKP		PKPdf	20 09 47.8	+1.9
	2.6nm,0.6s,baz=130,slow=2.0,SNR=36							
WRA				pPKP			20 10 01.5	
	2.1nm,0.8s,baz=139,slow=1.6,SNR=8.4							
ZAL	**Zalesovo**	**137.75**	**17**	PKP		PKPdf	20 09 52.4	+2.0
	3.0nm,1.0s,baz=192,slow=2.9,SNR=14							
MKAR	**Makanchi Array**	**142.86**	**25**	PKhKP			20 09 57.0	
	0.6nm,0.7s,baz=333,slow=3.3,SNR=3.3							
MKAR				PKP		PKPdf	20 10 01.3	+1.7
	1.1nm,0.9s,baz=344,slow=2.3,SNR=7.2							
MKAR	**Makanchi Array**	**142.88**	**25**	PKP		PKPdf	20 09 57.0	-2.6
MKAR				PKP		PKPdf	20 10 01.3	+1.7
SONM	**Songino Array**	**146.71**	**357**	PKPbc		PKPbc	20 10 10.0	+2.4
	4.7nm,0.6s,baz=326,slow=2.2,SNR=33							

IDC 21 20:06:23.4±1.8, 1.31N×126.54E, mb3.9/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=174.1km s-min=24.6km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.46**	**160**	P		P	20 11 24.0	-1.8
	1.7nm,0.4s,baz=339,slow=11,SNR=31							
WB2	**Warramunga Arr**	**22.46**	**160**	*e*P		P	20 11 24.1	-1.7
ASPA	**Alice Springs**	**25.84**	**164**	*e*P		P	20 11 58.5	+0.1
STKA	**Stephens Creek**	**35.96**	**158**	P		P	20 13 26.1	-1.8
	2.7nm,0.7s,baz=354,slow=6.8,SNR=7.5							
MKAR	**Makanchi Array**	**59.44**	**326**	P		P	20 16 28.0	-2.3
	0.3nm,0.4s,baz=116,slow=7.7,SNR=8.2							

*NEIC **21** 20:35:43.5±1.3, 23.19S×179.89E, h500km, mb4.3/4, Error ellipse: s-maj=80.0km s-min=18.7km az=156.0*
*IDC **21** 20:35:45.6±3.7, 22.67S×179.60E, h511km±36km, mb3.6/3, mb1 3.9/3, mb1mx3.3/13, mbtmp4.5/3, Error ellipse: s-maj=97.6km s-min=26.7km az=155.0*

ISC 21 20:35:43.0±1.5, 23.5S±0.7×179.9E±0.3, h500km, n12, σ0§49/9, mb4.2/6, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.76**	**248**	⇓*i*P		**P**	**20 41 52.7**	**+0.7**
	2.0nm,0.4s,mb3.9							
STKA	**Stephens Creek**	**34.76**	**248**	P		**P**	**20 41 52.8**	**+0.8**
	2.7nm,0.5s,mb3.9,baz=94,slow=9.6,SNR=16							
ASPA	**Alice Springs**	**41.98**	**260**	⇓*i*P		**P**	**20 42 51.3**	**+0.3**
WB2	**Warramunga Arr**	**42.30**	**266**	⇓*i*P		**P**	**20 42 53.5**	**-0.1**
WRAB	**Tennant Creek**	**42.30**	**266**	*e*P		**P**	**20 42 53.4**	**-0.3**
	8.5nm,0.7s,mb4.3							
WRA	**Warramunga Arr**	**42.31**	**266**	P		**P**	**20 42 53.6**	**-0.1**
	4.7nm,0.3s,mb4.3,baz=95,slow=8.3,SNR=536							
WRA				ScP			20 47 37.0	
	1.0nm,0.9s,baz=96,slow=4.7,SNR=4.8							
FORT	**Forrest**	**46.34**	**249**	*e*P		**P**	**20 43 23.9**	**-1.0**
	22nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**50.74**	**265**	*e*P		**P**	**20 43 58.5**	**+0.3**
	6.1nm,0.7s,mb4.0							
TXAR	**Lajitas Array**	**90.33**	**58**	P		**P**	**20 47 51.4**	**0.0**
	0.4nm,0.4s,mb3.6,baz=217,slow=6.3,SNR=4.1							
HFS	**Hagfors**	**142.13**	**349**	PKhKP			20 54 12.9	
	1.5nm,0.4s,baz=50,slow=3.5,SNR=14							
AKASG	**Malin Array Be**	**144.57**	**327**	PKP		PKPdf	20 54 21.2	-0.2
	0.2nm,0.3s,baz=42,slow=3.0,SNR=4.4							
EKA	**Eskdalemuir Ar**	**148.13**	**3**	PKPbc		PKPdf	20 54 30.1	+3.0
	0.4nm,0.3s,baz=336,slow=2.2,SNR=3.9							

*NIED **21** 20:46:00, 43.10N×143.90E, h110km, Mw4.4 Best double couple: M0 4.79×10^15 NP1:φs264°, δ83°, λ-106°. NP2: φs152°, δ17°, λ-24°.*
*BJI **21** 20:46:54.9, 43.31N×143.87E, h118km, mB5.0, mb4.8*
*MOS **21** 20:46:54.7±1.0, 43.06N×143.84E, h114km, mb4.7/39, Error ellipse: s-maj=9.0km s-min=4.7km az=103.3*
*IDC **21** 20:46:56.7±0.6, 43.08N×143.87E, h119km±3km, mb4.3/26, mb1 4.5/27, mb1mx4.5/28, mbtmp4.7/27, Error ellipse: s-maj=10.7km s-min=8.1km az=39.0*
*JMA **21** 20:46:56.6±0.1, 43.07N×143.86E, h114km±1km, M4.3 Broadband fault plane solution: P waves. NP1:φs34°, δ14°, λ-135°. NP2:φs260°, δ80°, λ-80°. Principal axes: T Plg34°, Azm341°; N Plg10°, Azm78°; P Plg54°, Azm182°;*
JMA Felt II J1.
*NEIC **21** 20:46:56.3±0.2, 43.10N×143.83E, mb4.7/53, MW4.4(NIED) Error ellipse: s-maj=4.9km s-min=3.6km az=142.0*

ISC 21 20:46:55.0±0.2, 43.11N±0.03×143.86E±0.03, h114km, h114km±1.5km:pP-P, n259, σ1§08/283, mb4.7/92, 21C-20D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.20**	**186**	⇓P		**P**	**20 47 12.8**	**+1.8**
JOB				*e*S		**S**	**20 47 24.5**	**+1.4**
JAR	**Ashorobuto**	**0.20**	**340**	⇓P		**P**	**20 47 12.7**	**+1.7**
JAR				*e*S		**S**	**20 47 24.5**	**+1.4**
JCH	**Churui**	**0.61**	**217**	⇑P		**P**	**20 47 14.3**	**+1.1**
JCH				S		**S**	**20 47 27.0**	**0.0**
JAK	**Akkeshi**	**0.62**	**100**	⇑P		**P**	**20 47 14.4**	**+1.1**
JAK				S		**S**	**20 47 28.1**	**+1.0**
JNK	**Nakash**	**0.79**	**52**	⇓P		**P**	**20 47 16.1**	**+1.4**
JNK				*e*S		**S**	**20 47 30.9**	**+1.4**
JTKR	**Abashiri--Toko**	**0.87**	**2**	⇓P		**P**	**20 47 17.2**	**+1.7**
JTKR				*e*S		**S**	**20 47 32.6**	**+1.7**
JFR	**Furan**	**0.93**	**274**	⇓P		**P**	**20 47 17.3**	**+1.1**
JFR				*e*S		**S**	**20 47 32.1**	**+0.1**
JMP	**Maruseppu**	**0.97**	**338**	⇓P		**P**	**20 47 18.3**	**+1.7**
JMP				S		**S**	**20 47 34.1**	**+1.4**
JKK2	**Kamakawa 2**	**1.12**	**314**	⇓P		**P**	**20 47 19.9**	**+1.8**
JKK2				*e*S		**S**	**20 47 37.1**	**+1.7**
JBT2	**Biratori 2**	**1.15**	**254**	⇓P		**P**	**20 47 19.6**	**+1.1**
JBT2				S		**S**	**20 47 37.3**	**+1.3**
JNBK	**Urakawa-nobuka**	**1.16**	**225**	⇑P		**P**	**20 47 19.4**	**+0.8**
JNBK				S		**S**	**20 47 36.1**	**-0.2**
JRA	**Rausu**	**1.24**	**47**	⇓P		**P**	**20 47 21.1**	**+1.6**
ASAJ	**Asahikawa**	**1.37**	**318**	P		**P**	**20 47 23.1**	**+2.1**
	454nm,0.3s,baz=190,slow=12,SNR=2911							
ASAJ				S		**S**	**20 47 43.1**	**+2.5**
	93nm,0.3s,baz=40,slow=26,SNR=16							
ASAJ	**Asahikawa**	**1.37**	**318**	PN		**P**	**20 47 23.1**	**+2.1**
ASAJ				S		**S**	**20 47 43.1**	**+2.5**
ASAJ				pmax		pmax		
	comp=Z,454nm,0.3s							
ASAJ				smax				
	comp=N,93nm,0.3s							
NEM2	**Nemuro 2**	**1.40**	**79**	⇓P		**P**	**20 47 21.8**	**+0.5**
NEM2				*e*S		**S**	**20 47 40.1**	**-1.1**
JHR	**Hokuryu**	**1.68**	**293**	⇓P		**P**	**20 47 26.9**	**+2.2**

YAK Yakutsk 20.73 341 *e*P **P** **20 51 23.4 -4.4**
comp=Z,37nm,0.5s
SSE Sheshan 21.62 244 P **P** **20 51 39.8 +2.9**
SSE AMB AMB
comp=Z,30nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,250nm,3.8s
FX1 Attu Island--F 21.77 53 P **P** **20 51 40.2 +2.0**
comp=Z,56nm,0.6s,mb5.1,baz=54,slow=8.6,SNR=7.3
FX1 Attu Island--F 21.77 53 P **P** **20 51 40.2 +2.0**
FX1 pmax pmax
comp=Z,56nm,0.6s
CIT Chita 22.18 304 *e*P **P** **20 51 42.9 +0.7**
NJ2 Nanjing 22.60 249 *e*P **P** **20 51 46.1 -0.3**
NJ2 AP 20 52 09.1
NJ2 PP PP 20 52 19.8 +1.3
NJ2 XP 20 52 22.8
NJ2 S **S** **20 55 41.0 -0.5**
NJ2 XS 20 56 23.0
NJ2 AMB AMB
comp=Z,160nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,750nm,7.4s
NJ2 LR LR
comp=N,2μm,15.9s
NJ2 LR LR
comp=E,2μm,15.0s
NJ2 LR LR
comp=Z,490nm,17.0s
BOD Bodaibo 23.78 319 *e*P **P** **20 51 54.7 -2.8**
BOD pmax pmax
comp=Z,4.0nm,0.8s,mb3.8
ULN Ulaanbaatar 26.07 293 *e*P **P** **20 52 19.0 -0.3**
ULN pmax pmax
comp=Z,5.0nm,0.4s,mb4.3
ULN Ulaanbaatar 26.07 293 *e*P **P** **20 52 19.0 -0.3**
comp=Z,4.8nm,0.4s,mb4.3
SONM Songino Array 26.52 293 P **P** **20 52 23.7 +0.3**
comp=Z,29nm,0.8s,mb4.9,baz=79,slow=8.4,SNR=159
BILL Bilibino 27.68 18⇓ *e*P **P** **20 52 30.9 -2.9**
BILL pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
BILL Bilibino 27.68 18 *e*P **P** **20 52 29.9 -3.9**
comp=Z,7.7nm,0.6s,mb4.4
ZAK Zakamensk 28.46 299 *e*P **P** **20 52 35.0 -6.0**
ZAK pmax pmax
comp=Z,22nm,1.5s,mb4.5
TIXI Tiksi 29.55 350⇓ *e*P **P** **20 52 46.0 -4.5**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
LZH Lanzhou 31.39 271 *e*P **P** **20 53 08.0 +0.9**
LZH AP pP 20 53 32.5 +0.1
LZH XP sP 20 53 45.8 0.0
LZH PP PP 20 54 15.8 +1.3
LZH *e*S **S** **20 58 06.1 +1.2**
LZH XS 20 58 48.1
LZH *e*SS SS 21 00 00.3 -0.3
LZH AMB AMB
comp=Z,30nm,1.6s,mb4.8
LZH AMB AMB
comp=Z,100nm,4.6s
LZH LR LR
comp=N,1μm,14.5s
LZH LR LR
comp=Z,1μm,15.6s
CD2 Chengdu 33.95 262 *e*P **P** **20 53 28.4 -0.8**
CD2 AP pP 20 53 53.3 -1.6
CD2 XP sP 20 54 06.3 -2.1
CD2 PP PP 20 54 45.1 -1.5
CD2 S **S** **20 58 43.1 -1.6**
CD2 XS 20 59 26.3
CD2 SS SS 21 00 56.4 -3.1
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,90nm,5.4s
KRAR Krasnoyarsk 34.69 310 *i* P **P** **20 53 34.4 -0.8**
KMI Kunming 38.04 255 P **P** **20 54 04.3 +0.6**
KMI AP pP 20 54 31.8 +2.0
KMI S **S** **20 59 47.9 +0.7**
KMI AMB AMB
comp=Z,150nm,4.5s
KMI LR LR
comp=Z,110nm,18.3s
ZAL Zalesovo 39.49 307 P **P** **20 54 15.3 -0.2**
comp=Z,10nm,0.6s,mb4.8,baz=30,slow=9.0,SNR=69
ZAL ScP 20 59 58.5
comp=Z,0.9nm,0.5s,baz=116,slow=1.5,SNR=4.1
SVW2 Sparrevohn 39.64 42 *e*P **P** **20 54 17.1 +0.5**
NVS Novosibirsk 40.25 309 *e*P **P** **20 54 19.2 -2.5**
NVS pmax pmax
comp=Z,14nm,1.6s,mb4.5
IMA2 Indian Mountai 40.55 34 *e*P **P** **20 54 24.0 0.0**
KDAK Kodiak Island 41.44 46 P **P** **20 54 31.2 -0.2**
comp=Z,6.2nm,0.4s,mb4.8,baz=321,slow=17,SNR=16
FIB Fire Island 42.26 41 P **P** **20 54 38.6 +0.6**
MCK McKinley 42.60 37 *e*P **P** **20 54 40.6 -0.2**
MCK pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
MCK McKinley 42.60 37 *e*P **P** **20 54 40.6 -0.2**
comp=Z,7.1nm,0.5s,mb4.7
PMR Palmer 42.71 40 *e*P **P** **20 54 41.8 +0.1**
PMR pmax pmax
comp=Z,17nm,0.9s,mb4.8
PMR Palmer 42.71 40 *e*P **P** **20 54 41.8 +0.1**
comp=Z,17nm,0.9s,mb4.8
MKAR Makanchi Array 42.76 297 P **P** **20 54 42.2 -0.1**
comp=Z,5.8nm,0.5s,mb4.5,baz=83,slow=9.8,SNR=48
COLA College 43.00 36 *e*P **P** **20 54 44.2 +0.2**
COLA pmax pmax
comp=Z,26nm,0.8s,mb5.0
COLA College 43.00 36 *e*P **P** **20 54 44.1 +0.2**
comp=Z,26nm,0.8s,mb5.0
SML Sawmill 43.06 40 *e*P **P** **20 54 44.5 0.0**
ILAR Eielson Array 43.42 36 P **P** **20 54 47.1 -0.2**
comp=Z,11nm,0.5s,mb4.9,baz=261,slow=5.4,SNR=129
DIV Divide 44.38 41 *e*P **P** **20 54 55.3 +0.2**
comp=Z,33nm,0.6s,mb5.2
DAWY Dawson 46.74 36 *e*P **P** **20 55 13.3 -0.5**
CHKZ Chkalovo 47.71 310 *e*P **P** **20 55 20.3 -1.2**
CHKZ pmax pmax
comp=Z,15nm,0.6s,mb5.0
CHKZ Chkalovo 47.71 310 *e*P **P** **20 55 20.3 -1.3**
comp=Z,15nm,0.6s,mb5.0
BVA0 Borovoye Array 48.05 309 *i* P **P** **20 55 23.6 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
BVAR Borovoye Array 48.05 309 P **P** **20 55 23.8 -0.4**
comp=Z,9.7nm,0.4s,mb5.0,baz=76,slow=8.7,SNR=109
BVAR ScP 21 00 33.1
comp=Z,0.6nm,0.7s,baz=90,slow=4.3,SNR=3.6
INK Inuvik 48.16 30 P **P** **20 55 24.5 -0.3**
comp=Z,21nm,0.5s,mb5.2,baz=298,slow=6.1,SNR=141
INK Inuvik 48.16 30 P **P** **20 55 24.5 -0.3**
INK pmax pmax
comp=Z,21nm,0.5s
INK Inuvik 48.16 30 *e*P **P** **20 55 23.9 -0.9**
comp=Z,20nm,0.5s,mb5.2
JIRN Jiri 48.56 271 *e*P **P** **20 55 28.7 +0.2**
GUN Gumba 48.65 272 *e*P **P** **20 55 29.1 -0.1**
comp=Z,6.9nm,0.4s,mb5.0
ZRNK Zerenda 48.87 309 *e*P **P** **20 55 29.8 -0.7**
ZRNK pmax pmax
comp=Z,15nm,0.6s,mb5.1
ZRNK Zerenda 48.87 309 *e*P **P** **20 55 29.8 -0.7**
comp=Z,14nm,0.6s,mb5.1
KKN Kakani 49.16 272 *e*P **P** **20 55 32.5 -0.6**
DMN Daman 49.38 272 *e*P **P** **20 55 34.1 -0.7**
AAK Ala-Archa 49.47 295⇓ *e*P **P** **20 55 34.0 -1.2**
AAK Ala-Archa 49.47 295 *e*P **P** **20 55 33.6 -1.6**
comp=Z,1.8nm,0.8s,mb4.0
GKN Gorkha 49.51 273 *e*P **P** **20 55 35.3 -0.4**
comp=Z,5.2nm,0.3s,mb4.9
KOLN Koldanda 50.40 273 *e*P **P** **20 55 42.3 -0.2**
comp=Z,45nm,1.6s,mb5.2
KKAR Karatay Array 51.88 297 *i* P **P** **20 55 52.4 -1.2**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ARU Arti 53.17 316⇑ *i*P **P** **20 56 01.6 -1.3**
ARU *e*PPP PPP 20 59 09.4 -5.4
ARU *e*S **S** **21 03 19.9 -3.0**
ARU *e*SS SS 21 07 03.6 +0.2
ARU pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
ARU Arti 53.17 316 *e*P **P** **20 56 01.1 -1.8**
comp=Z,15nm,0.5s,mb5.3
AB31 Akbulak array 55.59 308 *i* P **P** **20 56 19.7 -0.9**
AB31 pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
AKTO Aktyubinsk 56.13 310 P **P** **20 56 23.3 -1.2**
AKTO pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
RES Resolute Bay 56.26 16 *e*P **P** **20 56 23.3 -1.8**
RES *e**PP pP 20 56 49.5 -3.2
RES pmax pmax
comp=Z,41nm,0.6s,mb5.6
RES Resolute Bay 56.26 16 *e*P **P** **20 56 23.3 -1.9**
comp=Z,40nm,0.6s,mb5.6
RES *e*pP pP 20 56 49.5 -3.2
YKW3 Yellowknife Ar 57.61 33 *e*P **P** **20 56 33.1 -1.6**
YKA Yellowknife Ar 57.65 33 P **P** **20 56 34.1 -0.9**
comp=Z,10.0nm,0.6s,mb5.0,baz=304,slow=6.8,SNR=82
YKA pP pP 20 57 02.4 -0.3
comp=Z,2.5nm,0.8s,baz=301,slow=6.6,SNR=3.6
YKA Yellowknife Ar 57.65 33 P **P** **20 56 34.2 -0.9**
YKA *PP pP 20 57 02.4 -0.3
APA Apatity 57.96 335⇓ *e*P **P** **20 56 35.3 -1.9**
APA pmax pmax
comp=Z,77nm,1.6s,mb5.5
KEV Kevo 58.46 339 *e*p **P** **20 56 37.6 -3.0**
comp=Z,22nm,0.6s,mb5.4
KEV Kevo 58.46 339 *e*P **P** **20 56 37.6 -3.0**
KEV pmax pmax
comp=Z,23nm,0.6s,mb5.4
ARCES ARCESS Array B 59.00 339 P **P** **20 56 43.0 -1.3**
comp=Z,11nm,0.8s,mb4.9,baz=32,slow=7.1,SNR=33
KTK1 Kautokeino 59.95 339 *e*P **P** **20 56 49.7 -1.2**
TRO Tromso 60.60 341 *e*P **P** **20 56 52.8 -2.4**
TRO *e*pP pP 20 57 21.8 -1.4
JOF Joensuu 61.52 331 *e*p **P** **20 56 58.9 -2.7**
LOF Lofoten 63.02 341 *e*P **P** **20 57 11.6 +0.1**
FITZ Fitzroy Crossi 63.17 199 P **P** **20 57 12.7 -0.4**
comp=Z,2.3nm,0.8s,mb4.1,baz=340,slow=10,SNR=4.7
WRAB Tennant Creek 63.33 190 *e*P **P** **20 57 12.5 -1.7**
WRAB pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
WRAB Tennant Creek 63.33 190 *e*P **P** **20 57 12.5 -1.8**
comp=Z,3.2nm,0.6s,mb4.4
WRA Wanunga Arr 63.34 190 P **P** **20 57 12.6 -1.7**
comp=Z,2.5nm,0.7s,mb4.2,baz=8.5,slow=6.7,SNR=32
WRA pP pP 20 57 41.5 -0.9
comp=Z,1.9nm,0.9s,baz=9.0,slow=6.9,SNR=3.7
KAF Kangasniemi 63.80 332 *e*p **P** **20 57 14.0 -2.5**
comp=Z,5.3nm,0.5s,mb4.6,baz=46,slow=6.2
KAF Kangasniemi 63.80 332 *e*P **P** **20 57 14.0 -2.5**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
MOR8 Moi Rana 64.33 340 *e*P **P** **20 57 17.3 -2.7**
MOR8 AMb AMB 20 57 19.5
comp=Z,72nm,0.8s,mb5.5
MOR8 Moi Rana 64.33 340 *e*P **P** **20 57 17.3 -2.7**
comp=Z,72nm,0.8s,mb5.5
FINES FINESS Array B 64.34 332 P **P** **20 57 18.5 -1.6**
comp=Z,11nm,0.5s,mb5.0,baz=50,slow=7.2,SNR=101
OBN Obninsk 64.39 323 *i* P **P** **20 57 18.9 -1.6**
OBN *e*S **S** **21 05 39.7 -8.4**
OBN pmax pmax
comp=Z,29nm,1.0s,mb5.1
OBN Obninsk 64.39 323 *e*P **P** **20 57 18.9 -1.7**
comp=Z,20nm,0.8s,mb5.0
SUMG Summit 64.61 1 *e*P **P** **20 57 21.1 -0.6**
comp=Z,15nm,0.6s,mb5.0
VRSR Storozhevoye 65.63 318 *e*P **P** **20 57 27.2 -1.4**
VRSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,0.4s
VRSR pmax pmax
comp=E,1.0nm,0.4s
VSU Vasula 66.19 329*c* *i*P **P** **20 57 30.7 -1.3**
NSS Namsos 66.27 339 *e*P **P** **20 57 30.6 -1.8**
NSS AMb AMB 20 57 41.3
comp=Z,134nm,2.0s,mb5.4
NSS Namsos 66.27 339 *e*P **P** **20 57 30.6 -1.8**
comp=Z,134nm,2.0s,mb5.4
BMO Blue Mountains 66.51 50 *e*P **P** **20 57 34.2 0.0**
comp=Z,1.4nm,0.5s,mb4.0
MOD Modoc 66.58 54 P **P** **20 57 34.2 -0.5**
comp=Z,9.0nm,0.6s,mb4.8
GOF Gofitskoye 67.49 311 *e*P **P** **20 57 37.7 -2.7**
GOF pmax pmax
comp=Z,35nm,0.8s,mb5.2
FCC Fort Churchill 67.76 29 *e*P **P** **20 57 40.5 -1.3**
FCC pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
FCC Fort Churchill 67.76 29 *e*P **P** **20 57 40.5 -1.3**
comp=Z,6.1nm,0.5s,mb4.7
IZAR Zarasai 68.31 327 *e*P **P** **20 57 44.3 -1.0**
KIV Kislovodsk 68.38 310 *e*P **P** **20 57 46.4 +0.5**
KIV pmax pmax
comp=Z,28nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,28nm,16.0s
KIV Kislovodsk 68.38 310 *e*P **P** **20 57 46.1 +0.1**
comp=Z,34nm,1.0s,mb5.1
IDID Didziasalis 68.42 327 *e*P **P** **20 57 45.1 -0.9**
ISAL Salakas 68.48 327 *e*P **P** **20 57 45.4 -0.9**
IIGN Ignalina 68.60 327 *e*P **P** **20 57 46.4 -0.7**
MOL Molde 69.01 340 *e*P **P** **20 57 58.4 +8.9**
BOZ Bozeman (W) 69.11 47 *e*P **P** **20 57 50.6 +0.3**
comp=Z,5.1nm,0.6s,mb4.5
NB2 NORSAR Subarra 69.31 338 P **P** **20 57 50.2 -1.1**
comp=Z,15nm,0.8s,mb4.9,baz=37,slow=6.2
NB2 NORSAR Subarra 69.31 338 P **P** **20 57 50.2 -1.1**
baz=37,slow=6.5
NB2 NORSAR Subarra 69.31 338 P **P** **20 57 50.2 -1.1**
NB2 pmax pmax
comp=Z,15nm,0.8s,mb4.9
NOA NORSAR Array B 69.31 338 P **P** **20 57 50.2 -1.1**
comp=Z,9.7nm,0.5s,mb4.9,baz=35,slow=6.2,SNR=40
NOA pP pP 20 58 18.7 -1.3
comp=Z,3.1nm,0.7s,baz=34,slow=6.1,SNR=2.4
HFS Hagfors 69.33 336 P **P** **20 57 50.4 -1.1**
comp=Z,17nm,0.4s,mb5.3,baz=45,slow=6.3,SNR=97
NAO01 NORSAR Array S 69.56 338 *e*P **P** **20 57 51.2 -1.7**
NVAR Mina Array Bea 69.94 56 P **P** **20 57 56.1 +0.5**
comp=Z,1.8nm,0.6s,mb4.1,baz=295,slow=4.7,SNR=7.9
ELK Elko 70.28 52 *e*P **P** **20 57 57.8 +0.2**
AKASG Malin Array Be 70.65 322 P **P** **20 57 58.6 -1.1**
comp=Z,14nm,0.5s,mb5.0,baz=40,slow=6.2,SNR=96
BW06 Boulder Array 72.14 48 *e*P **P** **20 58 08.6 0.0**
comp=Z,2.0nm,0.6s,mb4.1
TPNV Topopah Spring 72.14 56 *e*P **P** **20 58 09.0 +0.3**
PDAR Pinedale Array 72.14 48 P **P** **20 58 08.9 +0.3**
comp=Z,3.0nm,0.5s,mb4.4,baz=310,slow=0.7,SNR=44
PDAR pP pP 20 58 38.0 +0.6
comp=Z,1.4nm,0.6s,baz=262,slow=2.0,SNR=3.7
ULM Lac du Bonnet 73.44 35 P **P** **20 58 15.4 -0.6**
comp=Z,2.1nm,0.8s,mb4.0,baz=353,slow=8.6,SNR=3.9
KWP Kalwarnia 74.28 325 *e*P **P** **20 58 21.4 +0.4**
STKA Stephens Creek 74.64 182 P **P** **20 58 24.0 +0.6**
comp=Z,3.2nm,0.8s,mb4.1,baz=345,slow=8.9,SNR=7.1
STKA Stephens Creek 74.64 182 *e*P **P** **20 58 22.8 -0.6**
MIB Mutribah 74.67 296 *e*P **P** **20 58 22.6 -1.0**
MIB AMb AMB 20 58 23.8
comp=Z,14nm,0.7s,mb4.8
BURAR Bucovina Array 74.70 322⇓ P **P** **20 58 23.6 +0.2**
BURAR Bucovina Array 74.70 322⇓ P **P** **20 58 23.6 +0.2**
QRN Al-Qurain 74.98 295 *e*P **P** **20 58 25.0 -0.4**
QRN AMb AMB 20 58 26.2
comp=Z,23nm,0.3s,mb5.3
KOLS Kolonicke sedl 75.00 324 *e*P **P** **20 58 25.5 +0.5**
OJC Ojcow 75.03 327 *e*P **P** **20 58 25.4 +0.2**
STHS Stebnicka Huta 75.06 325 *e*P **P** **20 58 26.6 +1.2**
NAY Al-Naaiem 75.10 296 *e*P **P** **20 58 25.2 -0.8**
NAY AMb AMB 20 58 26.1
comp=Z,6.3nm,0.8s,mb4.4
RDF Al-Radifah 75.11 296 *e*P **P** **20 58 25.2 -0.8**
RDF AMb AMB 20 58 27.3
comp=Z,15nm,0.8s,mb4.8
CFR Carcaliu 75.14 319⇑ P **P** **20 58 25.0 -0.9**
VRI Vrincioaia 75.31 320⇑ P **P** **20 58 28.9 +2.1**
CRVS Cervenica-Dubn 75.37 325 *e*P **P** **20 58 26.9 -0.2**
NIE Niedzica 75.45 326 *e*P **P** **20 58 28.5 +1.0**
BSEG Bad Segeberg 75.48 334 *e*P **P** **20 58 27.8 +0.2**
KSP Ksiaz 75.91 329 *e*P **P** **20 58 30.6 +0.4**
KSP Ksiaz 75.91 329 *e*P **P** **20 58 30.2 +0.1**
MLR Muntele Rosu 75.95 320⇓ P **P** **20 58 31.0 +0.5**
OKC Ostrava-Krasne 75.99 327 *e*P **P** **20 58 29.3 -1.3**
BRTR Keskin Array B 76.22 312 P **P** **20 58 32.3 +0.2**
comp=Z,1.3nm,0.6s,mb3.8,baz=97,slow=4.4,SNR=7.9
MORC Moravsky Berou 76.28 327 *e*P **P** **20 58 32.2 0.0**
comp=Z,12nm,1.0s,mb4.6
UPC Upice 76.29 329 *e*P **P** **20 58 32.4 +0.1**
DPC Dobruska-Polom 76.30 328 *e*P **P** **20 58 32.3 0.0**
VOIR 76.41 321⇓ P **P** **20 58 34.0 +0.9**
CLL Collm 76.75 331⇑ P **P** **20 58 34.5 -0.3**
comp=Z,logA/T=1.2,mb4.7
CLL *i* 20 58 37.7
CLL *i* *PP pP 20 59 03.5 -0.5
CLL Collm 76.75 331⇑ *i*P **P** **20 58 34.5 -0.3**
CLL *i* *PP pP 20 59 03.5 -0.5
CLL pmax pmax
comp=Z,13nm,0.9s,mb4.7
CLL Collm 76.75 331⇑ *i*P **P** **20 58 34.5 -0.3**
comp=Z,13nm,0.9s,mb4.7
CLL *i* 20 58 37.7
CLL *i* pP pP 20 59 03.5 -0.5
BRG Berggiesshubel 76.76 330 *e*P **P** **20 58 34.3 -0.6**
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
BRG Berggiesshubel 76.76 330 *e*P **P** **20 58 34.3 -0.6**
comp=Z,2.4nm,0.9s,mb3.9
VYHS Vyhne 76.78 326 *e*P **P** **20 58 35.6 +0.5**
PVCC Panska Ves 76.81 330 *e*P **P** **20 58 35.4 +0.2**
CLZ Clausthal 77.22 333 *e*P **P** **20 58 37.6 +0.2**
CLZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
CLZ Clausthal 77.22 333 *e*P **P** **20 58 37.6 +0.2**
comp=Z,6.0nm,0.8s,mb4.4
PRU Pruhonice 77.26 329 *e*P **P** **20 58 38.0 +0.3**
SMOL Smolenice 77.33 327 *e*P **P** **20 58 39.5 +1.4**
TREC Trest 77.47 328 *e*P **P** **20 58 39.0 +0.1**
SRO Srobarova 77.53 326 *e*P **P** **20 58 39.7 +0.5**
MOX Moxa 77.79 331 *i* P **P** **20 58 40.7 +0.1**
BZS Buzias 77.83 323⇑ P **P** **20 58 40.5 -0.5**
SDCO Great Sand Dun 77.85 49 *e*P **P** **20 58 41.4 +0.2**
comp=Z,6.1nm,1.4s,mb4.1
EKA Eskdalemuir Ar 78.01 341 P **P** **20 58 41.6 -0.1**
comp=Z,2.5nm,0.5s,mb4.2,baz=24,slow=5.0,SNR=19
KHC Kasperske Hory 78.33 329 *e*P **P** **20 58 43.9 +0.3**
KHC x x 20 58 47.0
KHC pP pP 20 59 12.0 -0.8
KHC Kasperske Hory 78.33 329 *e*P **P** **20 58 43.9 +0.3**
KHC *e* 20 58 47.0
KHC *e* pP 20 59 12.0 -0.8
GEC2 GERESS Array S 78.52 329 *e*P **P** **20 58 44.6 0.0**
GEC2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
GEC2 GERESS Array S 78.52 329 *e*P **P** **20 58 44.6 0.0**
comp=Z,4.0nm,1.0s,mb4.2
GERES GERESS Array B 78.52 329 P **P** **20 58 44.6 -0.1**
comp=Z,1.5nm,0.5s,mb4.1,baz=38,slow=6.1,SNR=23
GERES pP pP 20 59 14.2 +0.3
comp=Z,0.7nm,0.8s,baz=90,slow=4.0,SNR=2.4
WET Wettzell 78.58 330 *e*P **P** **20 58 45.4 +0.5**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
WET Wettzell 78.58 330 *e*P **P** **20 58 45.4 +0.5**
comp=Z,6.0nm,0.9s,mb4.4
GRA1 Grafenberg Arr 78.72 331 *e*P **P** **20 58 46.5 +0.8**
comp=Z,19nm,1.1s,mb4.8
GRF Grafenberg Arr 78.72 331 *e*P **P** **20 58 46.5 +0.8**
GRF pmax pmax
comp=Z,19nm,1.1s,mb4.8
GRF Grafenberg Arr 78.72 331 *e*P **P** **20 58 46.5 +0.8**
GRF pmax pmax
comp=Z,19nm,1.1s,mb4.8
GRF Grafenberg Arr 78.72 331 *e*P **P** **20 58 46.5 +0.8**
comp=Z,19nm,1.1s,mb4.8
SCHQ Schefferville 78.99 18 P **P** **20 58 47.0 0.0**
comp=Z,3.7nm,0.6s,mb4.4,baz=12,slow=4.7,SNR=8.8
CBKS Cedar Bluff 80.18 45 P **P** **20 58 53.3 -0.6**
GIVF Givet 80.52 335 *e*P **P** **20 58 54.7 -0.7**
BAIF Baives 80.75 335 *e*P **P** **20 58 56.1 -0.5**
BFO Black Forest 80.89 332 *e*P **P** **20 59 01.1 +3.7**
BFO pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
BFO Black Forest 80.89 332 *e*P **P** **20 59 01.1 +3.7**
comp=Z,8.0nm,1.2s,mb4.4
CDF Champ du Feu 81.18 332⇑ *i*P **P** **20 58 58.8 -0.1**
HINF Hinteralfeld 81.84 332 *e*P **P** **20 59 01.9 -0.5**
MEZF Maizieres J'vi 81.84 334 *e*P **P** **20 59 02.3 -0.1**
HAU Haudompre 81.85 333 *e*P **P** **20 59 01.9 -0.5**
MNTX Cornudas Mount 82.25 54 P **P** **20 59 05.1 +0.2**
CABF La Chapelle 83.15 332 *e*P **P** **20 59 09.1 0.0**
FLN La Foliniere 83.30 337 *e*P **P** **20 59 10.1 +0.3**
LOR Lormes 83.31 334⇑ *i*P **P** **20 59 09.6 -0.3**
comp=Z,30nm,1.3s,mb4.7
LOR Lormes 83.31 334⇑ *i*P **P** **20 59 09.6 -0.3**
LOR pmax pmax
comp=Z,15nm,1.3s,mb4.7
LDF La Druitiere 83.35 337 *e*P **P** **20 59 10.3 +0.3**
SSF Saint Saulge 83.61 334 *e*P **P** **20 59 12.0 +0.7**
GRR Gorron 83.74 337 *e*P **P** **20 59 11.8 -0.1**
SMF Signal de Mont 83.87 334⇑ *i*P **P** **20 59 12.7 +0.1**
comp=Z,13nm,0.9s,mb4.5
SMF Signal de Mont 83.87 334⇑ *i*P **P** **20 59 12.7 +0.1**
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
LPL La Plagne 83.87 331 *e*P **P** **20 59 13.6 +1.0**
comp=Z,6.1nm,0.7s,mb4.2
LPL La Plagne 83.87 331 *e*P **P** **20 59 13.6 +1.0**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
LPG La Plagne 83.88 331 *e*P **P** **20 59 13.6 +0.9**
comp=Z,4.5nm,0.6s,mb4.2
LPG La Plagne 83.88 331 *e*P **P** **20 59 13.6 +0.9**
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
AVF Avril sur Loir 83.90 334⇑ *i*P **P** **20 59 12.9 +0.2**
comp=Z,18nm,1.1s,mb4.5
AVF Avril sur Loir 83.90 334⇑ *i*P **P** **20 59 12.9 +0.2**
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
BGF Bois d'Agland 84.27 334 *e*P **P** **20 59 14.9 +0.3**
ROSF Rostrenen 84.45 339 *e*P **P** **20 59 16.0 +0.5**
MBDF Montbardon 84.54 331 *e*P **P** **20 59 17.0 +1.0**
comp=Z,4.9nm,0.6s,mb4.3
MBDF Montbardon 84.54 331 *e*P **P** **20 59 17.0 +1.0**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ORIF Oris-en-Rattie 84.69 331 *e*P **P** **20 59 17.4 +0.7**
TCF Toulx Ste Croi 84.71 334 *e*P **P** **20 59 17.0 +0.2**
TXAR Lajitas Array 84.98 54 P **P** **20 59 19.8 +1.2**
comp=Z,1.1nm,0.4s,mb4.1,baz=300,slow=4.0,SNR=7.5
SBF Sospel 85.05 330 *e*P **P** **20 59 20.0 +1.4**
comp=Z,13nm,0.8s,mb4.6
SBF Sospel 85.05 330 *e*P **P** **20 59 20.0 +1.4**
SBF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MFF Saint Martin d 85.15 336 *e*P **P** **20 59 19.7 +0.7**
comp=Z,8.7nm,0.7s,mb4.5
MFF Saint Martin d 85.15 336 *e*P **P** **20 59 19.7 +0.7**
MFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
VIVF Saint-Julien-l 85.16 332 *e*P **P** **20 59 19.6 +0.5**
comp=Z,6.0nm,0.7s,mb4.3
VIVF Saint-Julien-l 85.16 332 *e*P **P** **20 59 19.6 +0.5**
VIVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SMRF Simiane la Rot 85.62 331 *e*P **P** **20 59 21.9 +0.5**
RJF Les Rejaudoux 85.81 334 *e*P **P** **20 59 22.9 +0.7**
LMR La Mourre 85.84 330 *e*P **P** **20 59 22.5 0.0**
CAF Calviac 85.97 334 *e*P **P** **20 59 24.2 +1.2**
comp=Z,22nm,1.2s,mb4.7
CAF Calviac 85.97 334 *e*P **P** **20 59 24.2 +1.2**
CAF pmax pmax
comp=Z,11nm,1.2s,mb4.7
LASF Ste Croix 86.13 332 *e*P **P** **20 59 24.9 +1.1**
LFF La Frestale 86.38 335 *e*P **P** **20 59 26.1 +1.1**
comp=Z,15nm,1.0s,mb4.6
LFF La Frestale 86.38 335 *e*P **P** **20 59 26.1 +1.1**
LFF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MTLF Montolieu 87.33 333 *e*P **P** **20 59 30.6 +0.9**
EPF Esparros 88.22 334 *e*P **P** **20 59 35.2 +1.3**
ETSF Etsaut 88.62 335 *e*P **P** **20 59 37.0 +1.1**
comp=Z,4.9nm,0.7s,mb4.4
ETSF Etsaut 88.62 335 *e*P **P** **20 59 37.0 +1.1**
ETSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
SJPF Ste Jean 88.63 335 *e*P **P** **20 59 37.1 +1.2**
ESDC Sonseca Array 92.61 336 P **P** **20 59 54.9 +0.4**
comp=Z,0.7nm,0.7s,mb4.1,baz=3.8,slow=4.3,SNR=3.9

TORD	**Torodi Ar. Bea**	**114.18**	**319**	PP	PP	21 06 09.2	-13
	comp=Z,1.2nm,0.9s,baz=34,slow=6.1,SNR=5.7						
SIV	**San Ignacio**	**145.60**	**46**	PKPbc	PKPbc	21 06 22.0	+1.3
	comp=Z,3.5nm,0.6s,baz=309,slow=3.4,SNR=28						
SIV				pPKPbc		21 06 51.4	
	comp=Z,3.0nm,0.9s,baz=292,slow=0.7,SNR=3.7						
SNAA	**Sanae**	**147.10**	**199**	*e*PKP2	PKPab	21 06 24.6	-2.5
BDFB	**Brasilia**	**150.80**	**24**	PKPbc	PKPdf	21 06 36.8	+8.5
	comp=Z,1.3nm,0.5s,baz=135,slow=1.4,SNR=3.0						
BDFB	**Brasilia**	**150.80**	**24**	PKIKP	PKPdf	21 06 36.8	+8.6
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*MAN **21** 21:00:37.8, 17.25N×119.89E, h14km, mb4.6, ML3.4, MS3.3*
*IDC **21** 21:00:38.3±3.1, 17.00N×120.16E, h35km±26km, mb3.7/12, mb1 3.9/12, mb1mx3.7/22, mbtmp3.9/12, ML4.7/1, MS3.5/6, Ms1 3.5/6, ms1mx3.4/21, Error ellipse: s-maj=32.0km s-min=14.7km az=70.0*
*NEIC **21** 21:00:43.7±1.4, 17.11N×120.34E, h88km±14km, mb4.4/3, Error ellipse: s-maj=18.4km s-min=8.7km az=81.0*

ISC 21 21:00:37.3±1.0, 17.30N±0.03×119.82E±0.04, h23km±7km, n41, σ1§07/51, mb4.0/14, MS3.5/6, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BOLP	**Bolinao**	**0.92**	**175**	*e*P		**Pb**	**21 00 53.9**	**-0.5**
BOLP				*e*S		**Sb**	**21 01 06.5**	**+0.3**
ABRA	**Dolores**	**0.92**	**67**	*e*P		**Pb**	**21 00 54.0**	**-0.4**
ABRA				*e*S		**Sb**	**21 01 06.3**	**+0.1**
BCPH	**Baguio City Da**	**1.16**	**141**	⇓*i*P		**Pn**	**21 00 57.1**	**-1.2**
BCPH				*i* S		**Sb**	**21 01 13.8**	**+0.4**
APYP	**Conner**	**1.47**	**67**	*e*P		**Pn**	**21 01 02.2**	**-0.5**
APYP				*e*S		**Sn**	**21 01 19.6**	**-1.7**
SCZP	**Santa Cruz**	**1.52**	**177**	*e*P		**Pn**	**21 01 02.6**	**-0.8**
SCZP				*e*S		**Sn**	**21 01 23.0**	**+0.4**
CAUP	**Cauayan**	**1.94**	**100**	*e*P		**Pn**	**21 01 11.9**	**+2.4**
PCPH	**Palayan**	**2.11**	**145**	⇓*e*P		**Pn**	**21 01 11.2**	**-0.7**
PCPH				*e*S		**Sn**	**21 01 37.5**	**-0.3**
BALP	**Baler**	**2.29**	**132**	*e*P		**Pn**	**21 01 14.8**	**+0.4**
BALP				*e*S		**Sn**	**21 01 46.4**	**+4.3**
SGCP	**Mt. Cagua**	**2.32**	**66**	*e*P		**Pn**	**21 01 15.8**	**+0.9**
SGCP				*e*S		**Sn**	**21 01 43.9**	**+1.0**
POLP	**Polilio Island**	**3.27**	**141**	*e*P		**Pn**	**21 01 29.5**	**+1.1**
POLP				*e*S		**Sn**	**21 02 11.4**	**+4.5**
TGY	**Tagaytay City**	**3.35**	**161**	Pg		**Pn**	**21 01 31.2**	**+1.6**
	102nm,0.3s,baz=319,slow=3.3,SNR=24							
TGY				Lg			21 02 14.9	
	83nm,0.3s,baz=257,slow=4.7,SNR=4.7							
TGY	**Tagaytay City**	**3.35**	**161**	⇑*e*P		**Pn**	**21 01 30.2**	**+0.6**
TGY				*i* S		**Sn**	**21 02 14.1**	**+5.0**
LUBP	**Lubang**	**3.57**	**173**	*e*P		**Pn**	**21 01 32.9**	**+0.2**
LUBP				*e*S		**Sn**	**21 02 20.8**	**+6.2**
PGP	**Puerto Galera**	**3.93**	**164**	*e*P		Px	21 01 51.0	
GQP	**Guinayangan**	**4.21**	**143**	⇑*e*P		**Pn**	**21 01 41.9**	**+0.1**
GQP				*e*S		**Sn**	**21 02 30.9**	**0.0**
BUSP	**Coron**	**5.28**	**176**	*e*P		**Pn**	**21 01 55.6**	**-1.3**
OTRP	**Odiongan**	**5.35**	**156**	*e*P		**Pn**	**21 01 59.2**	**+1.4**
ENPP	**El Nido**	**6.07**	**184**	*e*P		**Pn**	**21 02 05.8**	**-2.2**
JOW	**Kunigami**	**12.30**	**38**	Pn		**P**	**21 03 32.0**	**-2.1**
	9.2nm,0.3s,baz=329,slow=30,SNR=3.7							
GUMO	**Guam**	**24.41**	**95**	LR		LR	21 13 59.6	
	comp=Z,118nm,19.7s,MS3.4,baz=301,slow=33							
PSI	**Prapat**	**25.07**	**237**	P		**P**	**21 06 01.9**	**0.0**
	2.4nm,0.5s,mb4.0,baz=305,slow=22,SNR=3.7							
PSI				LR		LR	21 14 51.7	
	comp=Z,84nm,18.4s,MS3.3,baz=239,slow=34							
PSI	**Prapat**	**25.07**	**237**	P		**P**	**21 06 01.9**	**0.0**
PSI				LR		LR	21 14 51.7	
SONM	**Songino Array**	**32.39**	**343**	P		**P**	**21 07 08.5**	**+1.1**
	0.5nm,0.8s,mb3.4,baz=180,slow=8.6,SNR=3.1							
SONM				LR		LR	21 21 18.9	
	comp=Z,92nm,18.1s,MS3.5,baz=121,slow=38							
MBWA	**Marble Bar**	**38.22**	**180**	*e*P		**P**	**21 07 53.4**	**-4.0**
	5.0nm,0.7s,mb4.3							
WRAB	**Tennant Creek**	**39.65**	**158**	*e*P		**P**	**21 08 03.6**	**-5.8**
	3.8nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**39.66**	**158**	P		**P**	**21 08 04.2**	**-5.3**
	2.8nm,0.7s,mb4.1,baz=341,slow=8.9,SNR=40							
WRA				PcP		PcP	21 10 13.2	-3.5
	0.6nm,0.6s,baz=343,slow=3.3,SNR=6.0							
WB2	**Warramunga Arr**	**39.66**	**158**	*e*P		**P**	**21 08 04.3**	**-5.2**
MKAR	**Makanchi Array**	**42.67**	**322**	P		**P**	**21 08 35.6**	**+1.7**
	1.3nm,0.9s,mb3.6,baz=113,slow=9.2,SNR=8.7							
MKAR				PcP		PcP	21 10 23.9	-2.3
	1.0nm,0.8s,baz=124,slow=4.4,SNR=4.2							
MKAR				LR		LR	21 27 44.4	
	comp=Z,84nm,18.3s,MS3.7,baz=139,slow=38							
ZAL	**Zalesovo**	**45.50**	**332**	P		**P**	**21 08 58.9**	**+2.3**
	0.8nm,0.3s,mb4.1,baz=152,slow=21,SNR=2.7							
ZAL				LR		LR	21 30 56.3	
	comp=Z,32nm,19.0s,MS3.3,baz=221,slow=40							
ZAL	**Zalesovo**	**45.50**	**332**	P		**P**	**21 08 58.9**	**+2.3**
ZAL				LR		LR	21 30 56.3	
KURK	**Kurchatov**	**46.76**	**325**	*e*P		**P**	**21 09 07.5**	**+0.8**
BVAR	**Borovoye Array**	**52.35**	**325**	P		**P**	**21 09 50.2**	**+0.6**
	0.4nm,0.5s,mb3.6,baz=119,slow=8.7,SNR=5.2							
BVAR				PcP		PcP	21 10 58.4	-2.1
	0.6nm,0.7s,baz=153,slow=6.6,SNR=3.8							
STKA	**Stephens Creek**	**53.16**	**157**	P		**P**	**21 09 49.5**	**-6.5**
	1.7nm,0.6s,mb4.2,baz=339,slow=9.8,SNR=6.6							
STKA	**Stephens Creek**	**53.16**	**157**	*e*P		**P**	**21 09 50.4**	**-5.6**
AKTK	**Aktyubinsk**	**58.95**	**319**	P		**P**	**21 10 37.0**	**-0.2**
AKTO	**Aktyubinsk**	**58.95**	**319**	P		**P**	**21 10 37.0**	**-0.2**
	0.7nm,0.6s,mb3.9,baz=112,slow=5.4,SNR=3.4							
AKASG	**Malin Array Be**	**77.19**	**319**	P		**P**	**21 12 29.6**	**-1.4**
	0.6nm,0.6s,mb3.7,baz=68,slow=5.6,SNR=4.8							
HFS	**Hagfors**	**82.94**	**331**	P		**P**	**21 13 01.4**	**-0.1**
	1.9nm,0.7s,mb4.3,baz=104,slow=6.1,SNR=7.4							
NB2	**NORSAR Subarra**	**83.70**	**332**	P		**P**	**21 13 04.1**	**-1.2**
	1.0nm,0.8s,mb4.0,baz=66,slow=4.6							
NOA	**NORSAR Array B**	**83.70**	**332**	P		**P**	**21 13 04.2**	**-1.2**
	1.4nm,0.8s,mb4.2,baz=65,slow=4.5,SNR=3.7							
NOA				pP		pP	21 13 15.4	+2.6
	1.7nm,0.7s,baz=66,slow=4.8,SNR=6.1							
NOA				LR		LR	21 51 41.7	
	comp=Z,36nm,20.1s,MS3.8,baz=65,slow=36							
YKA	**Yellowknife Ar**	**89.79**	**22**	P		**P**	**21 13 33.8**	**-1.2**
	0.3nm,0.7s,mb3.7,baz=313,slow=4.3,SNR=6.9							

*CSEM **21** 21:30:57.6±0.6, 39.18N×28.63W, h10km, ML2.0, Error ellipse: s-maj=17.9km s-min=5.6km az=147.0, After PDA*
*PDA **21** 21:30:57.6±0.9, 39.18N×28.63W, h10km, MD3.2, ML2.0, Error ellipse: s-maj=7.0km s-min=3.0km az=133.0*

SVSA 21 21:30:57.6±0.9, 39.18N×28.63W, h10km, MD3.2, ML2.0, Error ellipse: s-maj=7.0km s-min=3.0km az=133.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STGR	**Santa Cruz**	**0.49**	**101**	*e*S		Sg	21 31 12.7	-1.7
	14nm,0.1s							
PGRA	**Graciosa**	**0.52**	**106**	*e*P		Pg	21 31 06.2	-2.0
PGRA				*e*S		Sg	21 31 12.5	-2.8
	37nm,0.1s							
ROSA	**Rosais**	**0.55**	**147**	*e*P		Pg	21 31 06.5	-2.2
ROSA				*e*S		Sg	21 31 13.4	-2.7
PCED	**Cedros**	**0.55**	**186**	*e*P		Pg	21 31 06.8	-2.0
PCED				*e*S		Sg	21 31 13.5	-2.8
	36nm,0.1s							
CALA	**Caldeira**	**0.60**	**186**	*e*P		Pg	21 31 07.5	-2.2
CALA				*e*S		Sg	21 31 15.1	-2.7
HOR	**Horta**	**0.65**	**180**	*e*S		Sb	21 31 15.9	-3.6
PICO	**Pico**	**0.70**	**167**	*e*P		Pb	21 31 08.8	-2.6
PICO				*e*S		Sb	21 31 17.2	-3.5

GUC 21 21:31:48.8±0.6, 30.72S×71.47W, h37km±2km, MD4.1, ML3.9, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMCH	**Combarbala**	**0.60**	**138**	⇓*i*P		P	21 32 01.1	+0.2
CMCH				*i* S		S	21 32 10.2	+0.6
CMCH				AMP			21 32 10.9	
	comp=N,20μm,0.5s							
LSCH	**La Serena**	**0.83**	**13**	*i* P		P	21 32 03.9	-0.2
LSCH				*i* S		S	21 32 16.2	+0.8
LSCH				AMP			21 32 18.3	
	comp=E,2μm,0.5s							
CHNG	**Los Chungos**	**1.16**	**181**	⇑*i*P		P	21 32 09.0	+0.3
CHNG				*i* S		S	21 32 25.0	+1.4
CHNG				AMP			21 32 28.6	
	comp=E,875nm,0.6s							
JACH	**Jahuel**	**2.09**	**159**	*e*P		P	21 32 22.6	+0.5
JACH				*i* S		S	21 32 49.0	+1.9
ROCH	**El Roble**	**2.28**	**170**	*i* S		S	21 32 53.9	+2.1
PEL	**Peldehue**	**2.50**	**165**	⇓*i*P		P	21 32 28.7	+0.7
PEL				*i* S		S	21 32 58.2	+0.6
PEL				AMP			21 33 03.6	
	comp=E,1μm,0.4s							
FCH	**Farellones**	**2.78**	**159**	*e*P		P	21 32 32.9	+0.9
FCH				*i* S		S	21 33 06.7	+1.9
FCH				AMP			21 33 15.6	
	comp=E,625nm,0.4s							
RCDM	**Rinconada Maip**	**2.81**	**169**	*i* P		P	21 32 32.8	+0.3
RCDM				*i* S		S	21 33 05.7	+0.1
RCDM				AMP			21 33 13.6	
	comp=E,1μm,0.1s							
ANTU	**Antumapu**	**2.92**	**166**	*e*P		P	21 32 34.0	0.0
ANTU				*e*S		S	21 33 08.4	+0.1
ANTU				AMP			21 33 16.1	
	comp=E,702nm,0.3s							
TACH	**Talagante**	**2.96**	**171**	*e*P		P	21 32 34.4	-0.1
PCH	**Pirque**	**3.00**	**165**	*e*P		P	21 32 35.4	+0.3
PCH				*i* S		S	21 33 10.7	+0.5
CHCH	**Chadas Angostu**	**3.27**	**168**	*e*P		P	21 32 39.1	+0.1
CHCH				*i* S		S	21 33 17.1	-0.1
CACH	**El Canelo**	**3.46**	**168**	*e*P		P	21 32 42.2	+0.5
CACH				*i* S		S	21 33 23.2	+1.2

*IDC **21** 22:19:42.5±0.6, 42.64S×73.85W, mb4.6/15, mb1 4.6/17, mb1mx4.6/21, mbtmp4.5/17, ML3.5/1, MS4.6/15, Ms1 4.6/15, ms1mx4.5/20, Error ellipse: s-maj=25.4km s-min=13.8km az=92.0*
*BJI **21** 22:19:46.2, 42.70S×74.10W, h25km, mB5.1, Ms5.3, Msz5.0*
*NEIC **21** 22:19:46.2±0.3, 42.71S×74.06W, mb4.9/23, Error ellipse: s-maj=9.9km s-min=6.7km az=76.0*
*MOS **21** 22:19:46.4±1.2, 42.68S×73.79W, h33km, mb5.1/10, Error ellipse: s-maj=25.1km s-min=11.1km az=92.6*
*HRVD **21** 22:19:46.2±0.3, 42.85S×74.43W, h30km, MW5.2/57, Centroid moment Tensor Solution. LP body waves: s43,c65;Mantle waves: s57,c86; Half duration: 1§0 Moment tensor: Scale 10^16^Nm; Mrr4.73±.26; Mθθ0.46±.21; Mϕϕ-5.19±.18; Mrθ-1.01±.36; Mθϕ1.07±.15; Mϕr-5.87±.27; Best double couple: M0 7.832×10^16^ NP1:ϕs333°, δ23°, λ60°. NP2:ϕs185°, δ70°, λ102°. Principal axes: T 7.713, Plg63°, Azm114°; N .237, Plg11°, Azm1°; P -7.951, Plg25°, Azm266°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 22:19:44.8±0.3, 42.71S±0.05×73.95W±0.08, h27km, h27km±1.0km:pP-P, n113, σ1§01/77, mb4.7/34, MS4.7/12, 5C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLCA	**Paso Flores**	**3.22**	**53**	Pn		**Pn**	**22 20 38.5**	**+3.5**
	8.1nm,0.3s,baz=230,slow=12,SNR=170							
PLCA				Lg			22 21 27.1	
	91nm,0.3s,baz=135,slow=22,SNR=4.9							
PLCA				LR		LR	22 22 02.2	
	comp=Z,14μm,19.6s,baz=242,slow=45							
PLCA	**Paso Flores**	**3.22**	**53**	*e*P		**Pn**	**22 20 39.3**	**+4.4**
TRQA	**Tornquist**	**10.24**	**67**	*e*P		**P**	**22 22 15.5**	**+2.3**
	44nm,0.9s							
CFAA	**Coronel Fontan**	**11.98**	**24**	Pn		**P**	**22 22 33.1**	**-3.7**
	0.7nm,0.3s,baz=199,slow=16,SNR=15							
CFAA				Sn		**S**	**22 24 47.7**	**-2.9**
	0.3nm,0.3s,baz=320,slow=14,SNR=4.7							
CFAA				Lg			22 26 01.2	
	baz=28,slow=12,SNR=4.3							
CFAA				LR		LR	22 27 46.7	
	comp=E,666nm,18.0s,baz=196,slow=41							
CFAA	**Coronel Fontan**	**11.98**	**24**	Pn		**P**	**22 22 33.1**	**-3.7**
CFAA				Sn		**S**	**22 24 47.7**	**-2.9**
CFAA				Lg			22 26 01.2	
CFAA				LR		LR	22 27 46.7	
USHA	**Ushuaia**	**12.66**	**165**	Pn		**P**	**22 22 46.3**	**+0.3**
	0.3nm,0.3s,baz=314,slow=7.6,SNR=3.9							
USHA				LR		LR	22 27 37.3	
	comp=Z,4μm,21.1s,baz=318,slow=37							
EFI	**East Falkland**	**14.02**	**135**	*e*P		**P**	**22 23 03.6**	**-0.1**
	77nm,0.8s							
LPA	**La Plata**	**14.70**	**63**	*e*P		**P**	**22 23 14.0**	**+1.1**
LPA				*e*PP		PP	22 23 22.0	-2.4
LPA				*e*pP			22 23 29.0	
LPA				*e*S		**S**	**22 26 01.0**	**+5.3**
CPUP	**Villa Florida**	**21.25**	**45**	*e*P		**P**	**22 24 31.0**	**-0.2**
CPUP				pmax	pmax			
	comp=Z,75nm,0.5s							
CPUP	**Villa Florida**	**21.25**	**45**	*e*P		**P**	**22 24 31.0**	**-0.2**
	comp=Z,75nm,0.5s,mb5.3							
PMSA	**Palmer Station**	**22.82**	**169**	P		**P**	**22 24 46.6**	**+0.2**
	comp=Z,8.8nm,0.9s,mb4.2							
ARE	**Arequipa**	**26.24**	**5**	*e*P		**P**	**22 25 21.0**	**+1.4**
LPAZ	**La Paz**	**26.80**	**12**	P		**P**	**22 25 25.7**	**+1.0**
	comp=Z,3.0nm,0.7s,mb3.9,baz=192,slow=7.1,SNR=13							
LPAZ	**La Paz**	**26.80**	**12**	*e*P		**P**	**22 25 24.9**	**+0.2**
LPAZ				pmax	pmax			
	comp=Z,11nm,0.9s							
LPAZ	**La Paz**	**26.80**	**12**	*e*P		**P**	**22 25 24.9**	**+0.2**
	comp=Z,11nm,0.9s,mb4.4							
SIV	**San Ignacio**	**28.82**	**26**	P		**P**	**22 25 42.0**	**-1.0**
	comp=Z,4.7nm,0.8s,mb4.3,baz=215,slow=9.3,SNR=15							
RPN	**Rapa Nui**	**32.64**	**287**	LR		LR	22 35 49.4	
	comp=Z,1μm,18.1s,MS4.7,baz=129,slow=30							
BDFB	**Brasilia**	**34.95**	**47**	P		**P**	**22 26 34.6**	**-2.1**
	comp=Z,8.3nm,0.7s,mb4.8,baz=231,slow=6.7,SNR=13							
BDFB				LR		LR	22 42 18.3	
	comp=Z,7μm,18.6s,MS5.4,baz=217,slow=39							
OTAV	**Otavalo**	**42.94**	**353**	*e*P		**P**	**22 27 44.6**	**+1.3**
	comp=Z,19nm,1.3s,mb4.7							
SNAA	**Sanae**	**44.23**	**155**	P		**P**	**22 27 52.5**	**-0.5**
	comp=Z,17nm,1.0s,mb4.7,baz=279,slow=6.3,SNR=58							
SNAA	**Sanae**	**44.23**	**155**	*i* P		**P**	**22 27 52.7**	**-0.3**
SNAA	**Sanae**	**44.23**	**155**	⇑*e*P		**P**	**22 27 52.3**	**-0.8**
	comp=Z,50nm,1.0s,mb5.2							
ROSC	**El Rosal**	**47.34**	**359**	LR		LR	22 47 04.7	
	comp=Z,377nm,19.3s,MS4.4,baz=185,slow=35							
MAIT	**Maitri**	**49.01**	**154**	*e*P		**P**	**22 28 30.7**	**+0.1**
NVL	**N'lazarevskaya**	**49.04**	**154**	⇑*i*P		**P**	**22 28 30.6**	**-0.3**
NVL				*e**PP		pP	22 28 42.2	+3.2
NVL				*e**SP		sP	22 28 46.6	+4.4
NVL				*e*			22 30 31.6	
NVL				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
SDV	**Santo Domingo**	**51.43**	**4**	P		**P**	**22 28 48.9**	**-1.0**
	comp=Z,3.5nm,0.6s,mb4.5,baz=202,slow=12,SNR=4.8							
SDV	**Santo Domingo**	**51.43**	**4**	*e*P		**P**	**22 28 48.5**	**-1.3**
	comp=Z,7.2nm,0.8s,mb4.7							
RKT	**Rikitea**	**53.66**	**271**	*e*S		**S**	**22 36 35.8**	**-1.0**
RKT				*e*LR		LR	22 44 34.4	
	comp=Z,2μm,25.5s							
VNDA	**Vanda**	**55.29**	**193**	P		**P**	**22 29 18.6**	**+0.9**
	comp=Z,3.9nm,1.0s,mb4.4,baz=134,slow=5.1,SNR=8.1							
VNDA				LR		LR	22 51 35.8	
	comp=Z,156nm,18.7s,MS4.1,baz=143,slow=35							
SYO	**Syowa Base**	**58.38**	**157**	⇑P		**P**	**22 29 37.1**	**-2.6**
SYO	**Syowa Base**	**58.38**	**157**	⇑*e*P		**P**	**22 29 37.1**	**-2.6**
SJG	**San Juan**	**60.94**	**8**	P		**P**	**22 29 55.7**	**-2.3**
	comp=Z,12nm,0.6s,mb5.2,baz=243,slow=4.5,SNR=4.0							
TBI	**Tubuai**	**64.16**	**261**	*e*S		**S**	**22 38 51.6**	**-1.6**
TBI				*e*LR		LR	22 49 24.7	
	comp=Z,538nm,24.0s							
MAW	**Mawson**	**65.28**	**163**	P		**P**	**22 30 25.4**	**-0.5**
	comp=Z,8.8nm,1.0s,mb4.7,baz=236,slow=9.0,SNR=5.4							
MAW				LR		LR	22 59 41.0	
	comp=Z,801nm,18.6s,MS5.0,baz=231,slow=37							
TAOE	**Nuku Hiva Isla**	**66.59**	**280**	*e*S		S	22 39 21.5	-1.5
TAOE				*e*LR		LR	22 50 48.8	
	comp=Z,3μm,26.0s							
PPT	**Papeete**	**67.83**	**266**	*e*S		S	22 39 36.9	-1.0
PPT				*e*LR		LR	22 51 04.3	
	comp=Z,366nm,23.8s							
LRAL	**Lakeview Retre**	**76.32**	**349**	*e*P		**P**	**22 31 32.6**	**-0.5**
	comp=Z,10nm,0.8s,mb4.8							
JCT	**Junction City**	**76.61**	**337**	*e*P		**P**	**22 31 34.7**	**0.0**
JCT				pmax	pmax			
	comp=Z,12nm,0.8s,mb4.9							
JCT	**Junction City**	**76.61**	**337**	*e*P		**P**	**22 31 34.7**	**0.0**
	comp=Z,12nm,0.8s,mb4.9							
TXAR	**Lajitas Array**	**76.72**	**334**	P		**P**	**22 31 35.9**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=149,slow=7.3,SNR=7.2							
TXAR				LR		LR	23 01 12.7	
	comp=Z,289nm,18.3s,MS4.6,baz=200,slow=32							
SWET	**Sewanee**	**78.32**	**350**	*e*P		**P**	**22 31 42.5**	**-1.6**
TSUM	**Tsumeb**	**78.33**	**105**	P		**P**	**22 31 44.6**	**+0.2**
	comp=Z,6.6nm,0.8s,mb4.6,baz=212,slow=5.8,SNR=13							
TSUM	**Tsumeb**	**78.33**	**105**	*e*P		**P**	**22 31 43.4**	**-1.0**
	comp=Z,11nm,0.9s,mb4.8							
CPCT	**Cooper Cave**	**78.38**	**351**	*e*P		**P**	**22 31 43.8**	**-0.6**
CPCT				*e*PcP		PcP	22 31 52.3	-1.7
DBIC	**Dimbokro**	**79.44**	**71**	P		**P**	**22 31 50.9**	**+0.3**
	comp=Z,11nm,0.6s,mb5.0,baz=206,slow=6.0,SNR=28							
DBIC				LR		LR	23 06 07.1	
	comp=Z,448nm,18.0s,MS4.8,baz=165,slow=35							
DBIC	**Dimbokro**	**79.44**	**71**	*e*P		**P**	**22 31 50.5**	**-0.1**
DBIC				pmax	pmax			
	comp=Z,50nm,0.9s							
DBIC	**Dimbokro**	**79.44**	**71**	*e*P		**P**	**22 31 50.5**	**-0.1**
	comp=Z,50nm,0.9s,mb5.4							
MNTX	**Cornudas Mount**	**79.47**	**333**	*e*P		**P**	**22 31 50.7**	**+0.3**
	comp=Z,2.9nm,0.8s,mb4.3							
WVT	**Waverly**	**79.48**	**349**	*e*P		**P**	**22 31 49.3**	**-1.1**
WVT				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
WVT	**Waverly**	**79.48**	**349**	*e*P		**P**	**22 31 49.3**	**-1.0**
	comp=Z,7.7nm,0.8s,mb4.7							
LBTB	**Lobatse**	**80.02**	**115**	*e*P		**P**	**22 31 52.9**	**-0.6**
LBTB				pmax	pmax			
	comp=Z,40nm,0.8s,mb5.4							
LBTB	**Lobatse**	**80.02**	**115**	*e*P		**P**	**22 31 52.9**	**-0.6**
	comp=Z,40nm,0.8s,mb5.4							
CCM	**Cathedral Cave**	**81.91**	**346**	*e*P		**P**	**22 32 02.4**	**-0.8**
	comp=Z,27nm,0.8s,mb5.2							
CCM				*e*		pP	22 32 11.5	-0.1
ANMO	**Albuquerque**	**82.80**	**334**	LR		LR	23 02 43.3	
	comp=Z,349nm,21.6s,MS4.7,slow=31							
ANMO	**Albuquerque**	**82.80**	**334**	*e*P		**P**	**22 32 08.5**	**+0.6**
ANMO				*e**PP		pP	22 32 16.9	+0.5
ANMO				pmax	pmax			
	comp=Z,12nm,0.9s							
ANMO	**Albuquerque**	**82.80**	**334**	*e*P		**P**	**22 32 08.5**	**+0.6**
	comp=Z,12nm,0.9s,mb4.9							
ANMO				*e*pP		pP	22 32 16.9	+0.5
WUAZ	**Wupatki**	**85.03**	**330**	*e*P		**P**	**22 32 20.8**	**+1.8**
	comp=Z,64nm,1.9s,mb5.4							
WUAZ				*e*pP		pP	22 32 28.5	+0.8
SDCO	**Great Sand Dun**	**85.06**	**335**	*e*P		**P**	**22 32 19.8**	**+0.6**
	comp=Z,6.0nm,0.9s,mb4.7							
SDCO				*e*pP		pP	22 32 27.9	+0.2
PV01	**Paradox Valley**	**86.40**	**333**	*e*P		**P**	**22 32 26.8**	**+1.0**
PV01				*e*pP		pP	22 32 36.0	+1.6
NEN	**Nelson**	**86.46**	**328**	P		**P**	**22 32 25.6**	**-0.7**
PV10	**Paradox Valley**	**86.77**	**333**	P		**P**	**22 32 28.9**	**+1.3**
SADO	**Sadowa**	**87.21**	**356**	LR		LR	23 14 53.5	
	comp=Z,157nm,20.6s,MS4.4,baz=102,slow=38							
SRU	**San Rafael**	**87.94**	**332**	*e*P		**P**	**22 32 32.8**	**-0.4**
SRU				*e**PP		pP	22 32 41.9	+0.1
SRU				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.8							
SRU	**San Rafael**	**87.94**	**332**	*e*P		**P**	**22 32 32.8**	**-0.4**
	comp=Z,7.7nm,1.3s,mb4.8							
SRU				*e*pP		pP	22 32 41.9	+0.1
MSU	**Marysvale**	**87.98**	**331**	*e*P		**P**	**22 32 34.6**	**+1.1**
MSU				*e**PP		pP	22 32 42.2	+0.2
TPNV	**Topopah Spring**	**88.15**	**327**	*e*P		**P**	**22 32 35.3**	**+1.0**
TPNV				*e**PP		pP	22 32 43.8	+0.9
TPNV				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.8							
TPNV	**Topopah Spring**	**88.15**	**327**	*e*P		**P**	**22 32 35.3**	**+1.0**
	comp=Z,5.0nm,0.7s,mb4.8							
TPNV				*e*pP		pP	22 32 43.8	+0.9
LSZ	**Lusaka**	**88.43**	**109**	*e*P		**P**	**22 32 36.8**	**+0.7**
LSZ				pmax	pmax			
	comp=Z,12nm,0.9s,mb5.1							

comp=Z,260nm,7.8s
NJ2 LR LR
comp=N,880nm,18.0s
NJ2 LR LR
comp=E,780nm,17.8s
NJ2 LR LR
comp=Z,570nm,22.6s
CN2 Changchun 165.82 281 *e*PKP PKPdf 22 39 47.1 -4.2
WMQ Urumqi 166.57 79 *e*PKP PKPdf 22 39 49.1 -2.7
WMQ APKP 22 39 59.9
WMQ XPKP 22 40 02.1
WMQ PP PP
comp=Z,90nm,4.2s
WMQ LR LR
comp=N,230nm,20.0s
WMQ LR LR
comp=E,190nm,21.0s
WMQ LR LR
comp=Z,230nm,22.0s
LZH Lanzhou 173.17 165 *e*PKP PKPdf 22 39 50.3 -5.6
LZH APKP 22 40 01.3
LZH XPKP 22 40 04.6
LZH PP PP
comp=Z,80nm,4.6s
LZH LR LR
comp=N,350nm,19.6s
LZH LR LR
comp=Z,530nm,20.6s
ULN Ulaanbaatar 174.79 353 *i* PKIKP PKPdf 22 39 50.4 -5.6
SONM Songino Array 174.87 357 PKPab PKPab 22 41 28.7 +0.9
comp=Z,0.5nm,1.0s,baz=12,slow=13,SNR=4.5

BJI ***21*** *22:35:09.7,2.97S×87.99E,h10km,mB5.3,mb4.9,Ms5.0, Msz4.6*
IDC ***21*** *22:35:17.4±0.5,1.96S×88.10E,mb4.5/20,mb1 4.6/21, mb1mx4.6/23,mbtmp4.5/21,ML4.5/1,MS4.5/9,Ms1 4.5/9, ms1mx4.4/12,Error ellipse: s-maj=16.9km s-min=13.5km az=62.0*
HRVD ***21*** *22:35:18.8±0.3,1.94S×88.16E,h12km,MW5.1/69, Centroid moment Tensor Solution. LP body waves: s30,c39;Mantle waves: s69,c115; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.21±.16; Mθθ-4.32±.14; Mϕϕ4.11±.16; Mrθ-0.56±.41; Mrϕ-1.75±.13; Mθϕ-2.74±.46; Best double couple: M◎5.315×10¹⁶ NP1: ϕs121°,δ62°,λ171°. NP2:ϕs215°,δ82°,λ29°. Principal axes: T 5.696, Plg26°, Azm82°; N -.76, Plg60°, Azm229°; P -4.934, Plg14°, Azm345°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***21*** *22:35:18.8±0.1,2.01S×88.13E,h10km,mb5.2/59, MS5.0/10 Error ellipse: s-maj=5.2km s-min=3.7km az=42.0*
MOS ***21*** *22:35:20.1±1.0,1.96S×88.20E,h29km,mb5.3/34, MS4.6/18,Error ellipse: s-maj=10.7km s-min=5.7km az=115.9*
ISC 21 22:35:17.5±0.2,**2.02S**±0.04×**88.12E**±0.03,**h10**km, **(h16**km±2.2km**;pP-P),n263,**σ1ş**06**/257**,mb5.0**/111, **MS4.6**/36,**11C-16D,South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**11.81**	**66**	Pn		**P**	**22 38 06.8**	**-2.3**
	2.8nm,0.3s,baz=272,slow=4.7,SNR=14							
PSI				Sn		**S**	**22 40 11.7**	**-10**
	0.8nm,0.3s,baz=101,slow=11,SNR=2.9							
PALK	**Pallekele**	**11.83**	**321**	*e*P		**P**	**22 38 04.8**	**-4.6**
	93nm,0.3s							
KULM	**Kulim**	**14.47**	**60**	*e*P		**P**	**22 38 42.4**	**-2.2**
TRD	**Trivandrum**	**15.27**	**313**	AMb		AMB	22 38 51.8	
	comp=Z,29nm,1.1s							
TRD				*e*P			22 38 55.7	
TRD				*ex*		x	22 41 25.2	
MDRS	**Chennai**	**16.90**	**333**	*e*P		**P**	**22 39 13.4**	**-2.5**
MDRS				*ex*		x	22 42 04.1	
VIS	**Vishakhapatnam**	**20.18**	**347**	*e*P		**P**	**22 39 54.0**	**-1.1**
VIS				*ex*		x	22 43 26.4	
NST	**Nakhon Sawan**	**21.21**	**34**	P		**P**	**22 40 03.0**	**-2.8**
	comp=Z,57nm,0.8s,mb5.0							
HYB	**Hyderabad**	**21.49**	**334**	*i* P		**P**	**22 40 11.5**	**+2.8**
	comp=Z,100nm,1.0s,mb5.1							
HYB				*e*			22 43 58.0	
HYB				*e*S		**S**	**22 44 09.0**	**+7.0**
HYB	**Hyderabad**	**21.49**	**334**	*e*P		**P**	**22 40 11.5**	**+2.8**
HYB				*e*S		**S**	**22 43 52.0**	**-10**
HYB				pmax		pmax		
	comp=Z,100nm,1.0s,mb5.1							
HYB	**Hyderabad**	**21.49**	**334**	*e*P		**P**	**22 40 11.5**	**+2.8**
	comp=Z,100nm,1.0s,mb5.1							
HYB				*e*S		**S**	**22 43 52.0**	**-10**
KSM	**Kuching**	**22.45**	**81**	*e*P		**P**	**22 40 18.3**	**+0.1**
CHG	**Chiang Mai**	**23.28**	**27**	⇓P		**P**	**22 40 27.1**	**+0.7**
	comp=Z,43nm,1.1s,mb4.8							
KAD	**Karad**	**23.62**	**325**	*e*P		**P**	**22 40 32.1**	**+2.4**
KAD				AMb		AMB	22 40 36.8	
	comp=Z,60nm,1.4s,mb4.8							
KAD				*ex*		x	22 44 40.3	
CAL	**Calcutta**	**24.41**	**0**	*ex*		x	22 40 41.9	
CAL				*ex*		x	22 45 25.3	
CHRT	**Chiangrai**	**24.58**	**27**	⇓P		**P**	**22 40 39.0**	**-0.1**
	comp=Z,290nm,1.1s,mb5.7							
BLSP	**Bilaspur**	**24.70**	**347**	*i* P		**P**	**22 40 41.3**	**+1.0**
BLSP				AMb		AMB	22 40 47.1	
	comp=Z,51nm,1.6s,mb4.8							
BLSP				*ex*		x	22 45 11.5	
POO	**Poona**	**24.78**	**326**	*i* P		**P**	**22 40 38.9**	**-2.2**
POO				*ex*		x	22 40 59.8	
POO				*ex*		x	22 45 10.4	
BOK	**Bokaro**	**25.75**	**355**	*e*P		**P**	**22 40 52.4**	**+2.3**
BOK				AMb		AMB	22 40 56.8	
	comp=Z,77nm,1.5s,mb5.0							
BHPL	**Bhopal**	**27.18**	**338**	*i* P		**P**	**22 41 03.2**	**-0.1**
BHPL				AMb		AMB	22 41 14.6	
	comp=Z,39nm,1.5s,mb4.7							
SHL	**Shillong**	**27.66**	**7**	*e*P		**P**	**22 41 10.0**	**+2.3**
SHL				*ex*		x	22 46 30.0	
PKI	**Pulchoki**	**29.53**	**355**	*e*P		**P**	**22 41 25.4**	**+0.8**
	comp=Z,130nm,1.6s,mb5.4							
PKI	**Pulchoki**	**29.53**	**355**	*e*P		**P**	**22 41 25.4**	**+0.8**
PKI				pmax		pmax		
	comp=Z,65nm,1.6s,mb5.1							
JIRN	**Jiri**	**29.57**	**357**	*e*P		**P**	**22 41 24.9**	**+0.1**
	comp=Z,216nm,1.2s,mb5.8							
DMN	**Daman**	**29.60**	**355**	*e*P		**P**	**22 41 26.5**	**+1.4**
	comp=Z,64nm,1.0s,mb5.3							
KKN	**Kakani**	**29.76**	**355**	*e*P		**P**	**22 41 27.4**	**+0.8**
GUN	**Gumba**	**29.83**	**356**	*e*P		**P**	**22 41 26.8**	**-0.5**
	comp=Z,177nm,1.0s,mb5.8							
QIZ	**Qiongzhong**	**29.89**	**45**	P		**P**	**22 41 24.4**	**-3.4**
QIZ				S		**S**	**22 46 25.3**	**+1.7**
QIZ				LR		LR		
	comp=N,2μm,16.2s							
QIZ				LR		LR		
	comp=Z,1μm,16.7s,MS4.6							
KOLN	**Koldanda**	**29.93**	**352**	*e*P		**P**	**22 41 28.4**	**+0.3**
	comp=Z,144nm,1.4s,mb5.5							
GKN	**Gorkha**	**30.04**	**354**	*e*P		**P**	**22 41 28.8**	**-0.2**
	comp=Z,90nm,1.1s,mb5.4							
KMI	**Kunming**	**30.48**	**27**	P		**P**	**22 41 34.6**	**+1.7**
KMI				AP		pP	22 41 37.1	+1.2
KMI				PP		PP	22 42 35.6	+2.9
KMI				S		**S**	**22 46 36.9**	**+4.0**
KMI				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.5							
KMI				AMB		AMB		
	comp=Z,290nm,5.3s							
KMI				LR		LR		
	comp=N,730nm,13.3s,MS4.6							
KMI				LR		LR		
	comp=E,810nm,17.3s,MS4.6							
KMI				LR		LR		
	comp=Z,540nm,13.3s,MS4.4							
LSA	**Lhasa**	**31.67**	**5**	P		**P**	**22 41 44.3**	**+0.9**
LSA	**Lhasa**	**31.67**	**5**	*e*P		**P**	**22 41 44.1**	**+0.7**
LSA				pmax		pmax		
	comp=Z,64nm,1.3s,mb5.3							
LSA	**Lhasa**	**31.67**	**5**	*e*P		**P**	**22 41 44.1**	**+0.7**
	comp=Z,64nm,1.3s,mb5.3							
GYA	**Guiyang**	**33.50**	**31**	⇑*i*P		**P**	**22 42 00.3**	**+0.9**
GYA				AP		pP	22 42 04.8	+2.5
GYA				XP		sP	22 42 07.6	+4.0
GYA				PP		PP	22 43 12.4	+0.9
GYA				S		**S**	**22 47 21.3**	**+1.3**
GYA				SCP			22 48 23.5	
GYA				AMB		AMB		
	comp=Z,30nm,1.3s,mb5.1							
GYA				AMB		AMB		
	comp=Z,160nm,4.5s							
GYA				LR		LR		
	comp=N,870nm,16.8s,MS4.7							
GYA				LR		LR		
	comp=E,960nm,17.0s,MS4.7							
GYA				LR		LR		
	comp=Z,920nm,17.4s,MS4.5							
GZH	**Guangzhou**	**35.02**	**43**	P		**P**	**22 42 16.4**	**+3.8**
GZH				S		**S**	**22 47 52.1**	**+8.4**
GZH				LR		LR		
	comp=N,1μm,13.3s,MS4.8							
GZH				LR		LR		
	comp=E,1μm,17.1s,MS4.8							
GZH				LR		LR		
	comp=Z,980nm,19.3s,MS4.6							
MBWA	**Marble Bar**	**36.20**	**124**	*e*P		**P**	**22 42 22.2**	**-0.3**
	comp=Z,13nm,0.9s,mb4.8							
ENH	**Enshi**	**38.04**	**31**	*e*P		**P**	**22 42 36.8**	**-1.1**
	comp=Z,44nm,0.7s,mb5.3							
MUN	**Mundaring**	**39.85**	**141**	*e*P		**P**	**22 42 53.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**40.12**	**116**	*e*P		**P**	**22 42 55.9**	**+0.6**
	comp=Z,12nm,0.6s,mb4.8							
KLBR	**Kellerberrin**	**40.58**	**140**	*e*P		**P**	**22 42 59.3**	**+0.3**
LZH	**Lanzhou**	**40.65**	**20**	*e*P		**P**	**22 43 00.3**	**+0.8**
LZH				AP		pP	22 43 05.0	+2.5
LZH				XP		sP	22 43 07.5	+3.7
LZH				PP		PP	22 44 38.0	+1.4
LZH				*e*S		**S**	**22 49 10.8**	**+1.6**
LZH				AMB		AMB		
	comp=Z,60nm,1.2s,mb5.1							
LZH				AMB		AMB		
	comp=Z,290nm,4.8s							
LZH				LR		LR		
	comp=E,1μm,14.4s							
LZH				LR		LR		
	comp=Z,2μm,16.0s,MS5.0							
XAN	**Xi'an**	**40.86**	**27**	P		**P**	**22 43 00.0**	**-1.3**
XAN				AP		pP	22 43 09.3	+5.0
XAN				AMB		AMB		
	comp=Z,30nm,1.2s,mb4.8							
NWAO	**Narrogin (SRO)**	**41.13**	**142**	P		**P**	**22 43 03.8**	**+0.3**
	comp=Z,22nm,0.8s,mb4.9,baz=311,slow=8.2,SNR=14							
GTA	**Gaotai**	**42.60**	**13**	⇑P		**P**	**22 43 16.8**	**+1.2**
GTA				AP		pP	22 43 21.1	+2.5
GTA				XP		sP	22 43 23.8	+4.0
GTA				PP		PP	22 45 00.3	+3.1
GTA				PcP		PcP	22 45 05.8	-2.7
GTA				SCP			22 48 56.0	
GTA				PCS			22 48 58.1	
GTA				S		**S**	**22 49 41.3**	**+3.2**
GTA				XS			22 49 50.4	
GTA				SS		SS	22 52 49.9	+7.9
GTA				SCS		ScS	22 53 13.8	-1.3
GTA				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.5							
GTA				AMB		AMB		
	comp=Z,160nm,5.0s							
GTA				LR		LR		
	comp=N,280nm,14.5s,MS4.4							
GTA				LR		LR		
	comp=E,220nm,16.1s,MS4.4							
GTA				LR		LR		
	comp=Z,240nm,17.2s,MS4.2							
KSH	**Kashi**	**42.81**	**346**	P		**P**	**22 43 20.4**	**+3.1**
KSH				AP		pP	22 43 24.8	+4.5
KSH				XP		sP	22 43 27.3	+5.8
KSH				*e*PP		PP	22 45 03.1	+3.8
KSH				*e*SCP			22 48 59.8	
KSH				*e*S		**S**	**22 49 46.8**	**+5.7**
KSH				XS			22 49 53.0	
KSH				*e*SS		SS	22 52 52.6	+6.6
KSH				*e*SCS		ScS	22 53 17.4	+1.0
KSH				AMB		AMB		
	comp=Z,160nm,2.4s,mb5.3							
KSH				LR		LR		
	comp=N,270nm,10.1s							
KSH				LR		LR		
	comp=E,900nm,17.1s							
OPO	**Ambohidratompo**	**43.34**	**245**	P		**P**	**22 43 22.4**	**+0.5**
	comp=E,1.6nm,0.6s,baz=63,slow=5.0,SNR=5.4							
NJ2	**Nanjing**	**44.68**	**38**	*e*P		**P**	**22 43 32.5**	**-0.1**
NJ2				AP		pP	22 43 42.4	+6.8
NJ2				PP		PP	22 45 17.8	-0.3
NJ2				S		**S**	**22 50 05.0**	**-3.4**
NJ2				XS			22 50 21.0	
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,650nm,6.4s							
NJ2				LR		LR		
	comp=N,960nm,19.0s,MS5.0							
NJ2				LR		LR		
	comp=E,1μm,17.8s,MS5.0							
NJ2				LR		LR		
	comp=Z,560nm,15.2s,MS4.6							
SSE	**Sheshan**	**45.53**	**41**	P		**P**	**22 43 40.4**	**+1.1**
SSE				AP		pP	22 43 49.0	+6.6
SSE				S		**S**	**22 50 19.8**	**-0.8**
SSE				XS			22 50 35.3	
SSE				SCS		ScS	22 53 34.8	+1.3
SSE				SS		SS	22 53 44.9	+8.9
SSE				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
SSE				AMB		AMB		
	comp=Z,130nm,3.1s							
SSE				LR		LR		
	comp=N,460nm,20.4s,MS4.5							
SSE				LR		LR		
	comp=E,270nm,20.4s,MS4.5							
SSE				LR		LR		
	comp=Z,240nm,17.1s,MS4.2							
WMQ	**Urumqi**	**45.63**	**360**	P		**P**	**22 43 40.5**	**+0.5**
WMQ				AP		pP	22 43 45.0	+2.0
WMQ				XP		sP	22 43 47.5	+3.3
WMQ				PCP		PcP	22 45 19.3	+0.6
WMQ				PP		PP	22 45 27.8	+0.4
WMQ				*e*S		**S**	**22 50 21.8**	**-0.1**
WMQ				SCS		ScS	22 53 33.9	-0.1
WMQ				AMB		AMB		
	comp=Z,60nm,1.2s,mb5.4							
WMQ				AMB		AMB		
	comp=Z,450nm,5.0s							
WMQ				LR		LR		
	comp=N,3μm,20.5s,MS5.4							
WMQ				LR		LR		
	comp=E,3μm,22.0s,MS5.4							
WMQ				LR		LR		
	comp=Z,3μm,22.0s,MS5.2							
UCH	**Uchtor**	**45.73**	**346**	P		**P**	**22 43 42.2**	**+1.4**
	SNR=5.7							
AML	**Almayashu**	**45.85**	**345**	P		**P**	**22 43 43.1**	**+1.4**
	SNR=15							
HASS	**Wahat al Ahsa'**	**46.01**	**308**	P		**P**	**22 43 42.8**	**-0.4**
KBK	**Karagaybulak**	**46.03**	**346**	P		**P**	**22 43 45.1**	**+1.9**
	SNR=21							
AAK	**Ala-Archa**	**46.12**	**346**	P		**P**	**22 43 48.0**	**+4.2**
	SNR=7.9							
AAK	**Ala-Archa**	**46.12**	**346**	⇑*e*P		**P**	**22 43 44.5**	**+0.7**
AAK				pmax		pmax		
	comp=Z,40nm,1.9s,mb5.0							
AAK				MLR		MLR		
	comp=Z,400nm,16.0s,MS4.5							
AAK	**Ala-Archa**	**46.12**	**346**	*e*P		**P**	**22 43 43.9**	**+0.1**
	comp=Z,33nm,1.2s,mb5.1							
TKM2	**Tokmak 2**	**46.14**	**347**	P		**P**	**22 43 44.9**	**+0.9**
	SNR=6.2							
EKS2	**Erkin-Say**	**46.32**	**345**	P		**P**	**22 43 46.5**	**+1.1**
	SNR=9.7							
USP	**Ospenovka**	**46.72**	**346**	P		**P**	**22 43 49.5**	**+1.0**
	SNR=5.2							
BTO	**Baotou**	**46.90**	**23**	*e*P		**P**	**22 43 48.0**	**-2.0**
FORT	**Forrest**	**47.37**	**131**	⇓*i*P		**P**	**22 43 54.5**	**+0.6**
	comp=Z,128nm,0.7s,mb6.0							
KKAR	**Karatay Array**	**47.64**	**343**	*i* P		**P**	**22 43 55.5**	**-0.3**
KKAR				pmax		pmax		
	comp=Z,17nm,0.7s,mb5.2							
HHC	**Hu-ho-hao-te**	**47.72**	**24**	*e*P		**P**	**22 43 56.4**	**-0.1**
HHC				AP		pP	22 44 01.0	+1.5
HHC				XP		sP	22 44 03.4	+2.7
HHC				PCP		PcP	22 45 25.8	-0.3
HHC				PP		PP	22 45 47.5	-0.1
HHC				SCP			22 49 18.0	
HHC				PCS			22 49 19.3	
HHC				S		**S**	**22 50 51.9**	**+0.3**
HHC				SCS		ScS	22 53 46.8	-0.8
HHC				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.1							
HHC				AMB		AMB		
	comp=Z,180nm,2.6s,mb5.6							
HHC				LR		LR		
	comp=N,390nm,15.5s,MS4.7							
HHC				LR		LR		
	comp=E,500nm,13.1s,MS4.7							
HHC				LR		LR		
	comp=Z,430nm,14.3s,MS4.6							
DJNS	**Zahran al Janu**	**48.09**	**296**	P		**P**	**22 44 00.9**	**+1.3**
KAMS	**Al Khamasin**	**48.10**	**300**	P		**P**	**22 43 58.0**	**-1.7**
WRA	**Warramunga Arr**	**48.52**	**115**	P		**P**	**22 44 02.6**	**-0.3**
	comp=Z,7.3nm,0.8s,mb4.8,baz=289,slow=8.5,SNR=32							
WRAB	**Tennant Creek**	**48.52**	**115**	*e*P		**P**	**22 44 02.0**	**-1.0**
WRAB				pmax		pmax		
	comp=Z,20nm,0.9s,mb5.2							
WRAB	**Tennant Creek**	**48.52**	**115**	*e*P		**P**	**22 44 02.0**	**-1.0**
	comp=Z,20nm,0.9s,mb5.2							
WB2	**Warramunga Arr**	**48.53**	**115**	*e*P		**P**	**22 44 03.0**	**0.0**
MKAR	**Makanchi Array**	**48.88**	**355**	P		**P**	**22 44 04.9**	**-0.5**
	comp=Z,4.9nm,0.9s,mb4.5,baz=180,slow=9.7,SNR=12							
MKAR				LR		LR	23 05 30.9	
	comp=Z,392nm,21.2s,MS4.4,baz=352,slow=37							
MKAR	**Makanchi Array**	**48.88**	**355**	*i* P		**P**	**22 44 05.0**	**-0.4**
MKAR				pmax		pmax		
	comp=Z,29nm,1.1s							
MZLS	**Mizel**	**49.08**	**305**	P		**P**	**22 44 06.8**	**-0.4**
ASPA	**Alice Springs**	**49.23**	**120**	*e*P		**P**	**22 44 08.7**	**+0.3**
RDF	**Al-Radifah**	**49.56**	**311**	*e*P		**P**	**22 44 09.8**	**-1.1**
RDF				AMb		AMB	22 44 19.7	
	comp=Z,42nm,0.5s,mb5.7							
UMR	**Umm Al-Rimmam**	**49.77**	**312**	*e*P		**P**	**22 44 11.5**	**-1.0**
UMR				AMb		AMB	22 44 21.5	
	comp=Z,62nm,0.5s,mb5.9							
NAY	**Al-Naaiem**	**49.96**	**312**	*e*P		**P**	**22 44 12.3**	**-1.7**
NAY				AMb		AMB	22 44 23.3	
	comp=Z,16nm,0.5s,mb5.3							
MIB	**Mutribah**	**50.18**	**312**	*e*P		**P**	**22 44 14.7**	**-0.9**
MIB				AMb		AMB	22 44 24.4	
	comp=Z,73nm,0.7s,mb5.8							
BLJS	**Baljurashi**	**50.56**	**298**	P		**P**	**22 44 19.6**	**+1.0**
KMBO	**Kilima Mbogo**	**50.86**	**270**	P		**P**	**22 44 21.1**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=72,slow=13,SNR=3.9							
KMBO	**Kilima Mbogo**	**50.86**	**270**	⇑*e*P		**P**	**22 44 22.2**	**+1.2**
AFFS	**'Afif**	**50.86**	**303**	P		**P**	**22 44 22.7**	**+1.8**
SONM	**Songino Array**	**52.15**	**16**	P		**P**	**22 44 29.9**	**-0.4**
	comp=Z,9.1nm,0.8s,mb4.8,baz=197,slow=7.2,SNR=24							
SONM				LR		LR	23 08 33.4	
	comp=Z,263nm,18.8s,MS4.3,baz=208,slow=38							
ULN	**Ulaanbaatar**	**52.36**	**16**	*i* P		**P**	**22 44 30.9**	**-1.0**
KURK	**Kurchatov**	**53.16**	**352**	P		**P**	**22 44 36.8**	**-1.0**
KURK				pmax		pmax		
	comp=Z,39nm,1.0s,mb5.3							
KURK	**Kurchatov**	**53.16**	**352**	*e*P		**P**	**22 44 36.7**	**-1.1**
	comp=Z,71nm,1.0s,mb5.5							
ZAL	**Zalesovo**	**55.83**	**358**	P		**P**	**22 44 56.3**	**-1.0**
	comp=Z,2.9nm,0.5s,mb4.6,baz=299,slow=6.5,SNR=3.3							
UMJS	**Umm Lajj**	**56.14**	**302**	P		**P**	**22 44 58.1**	**-1.9**
AB31	**Akbulak array**	**56.58**	**338**	*i* P		**P**	**22 45 01.6**	**-1.1**
AB31				pmax		pmax		
	comp=Z,27nm,0.8s,mb5.3							
NVS	**Novosibirsk**	**56.81**	**357**	⇑*i*P		**P**	**22 45 01.8**	**-2.5**
NVS				*e*			22 46 01.7	
NVS				pmax		pmax		
	comp=Z,43nm,1.1s,mb5.4							
NVS				pmax		pmax		
	comp=N,39nm,1.4s							
NVS				pmax		pmax		
	comp=E,14nm,1.3s							
BRVK	**Borovoye**	**56.88**	**347**	*e*P		**P**	**22 45 03.4**	**-1.5**
BRVK				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.8							
BRVK	**Borovoye**	**56.88**	**347**	*e*P		**P**	**22 45 03.4**	**-1.5**
	comp=Z,10nm,1.1s,mb4.8							
ZRNK	**Zerenda**	**57.08**	**346**	*e*P		**P**	**22 45 04.2**	**-2.0**
ZRNK				pmax		pmax		
	comp=Z,14nm,1.0s,mb5.0							
ZRNK	**Zerenda**	**57.08**	**346**	*e*P		**P**	**22 45 04.2**	**-2.0**
	comp=Z,14nm,1.0s,mb5.0							
CHKZ	**Chkalovo**	**57.39**	**348**	P		**P**	**22 45 06.9**	**-1.5**
CHKZ				pmax		pmax		
	comp=Z,39nm,1.2s,mb5.3							
CHKZ	**Chkalovo**	**57.39**	**348**	*e*P		**P**	**22 45 06.4**	**-2.0**
	comp=Z,34nm,1.0s,mb5.3							
GNI	**Garni**	**57.70**	**321**	*i* P		**P**	**22 45 09.2**	**-1.6**
GNI				MLR		MLR		
	comp=Z,300nm,29.0s							
KRAR	**Krasnoyarsk**	**57.97**	**3**	*i* P		**P**	**22 45 13.6**	**+1.2**
CIT	**Chita**	**57.98**	**18**	*e*P		**P**	**22 45 08.6**	**-4.0**
AKTK	**Aktyubinsk**	**58.26**	**338**	P		**P**	**22 45 13.4**	**-1.2**
AKTO	**Aktyubinsk**	**58.26**	**338**	P		**P**	**22 45 13.4**	**-1.2**
	comp=Z,7.9nm,0.9s,mb4.7,baz=124,slow=7.7,SNR=13							
STKA	**Stephens Creek**	**58.37**	**127**	*e*P		**P**	**22 45 15.4**	**-0.2**
	comp=Z,12nm,0.7s,mb5.0							
STKA	**Stephens Creek**	**58.37**	**127**	P		**P**	**22 45 15.5**	**-0.1**
	comp=Z,13nm,0.7s,mb5.1,baz=296,slow=6.6,SNR=38							
QURS	**Qurayyt al Mil**	**58.53**	**309**	P		**P**	**22 45 15.7**	**-1.0**
PMG	**Port Moresby**	**59.13**	**100**	⇑*e*P		**P**	**22 45 22.1**	**+1.0**
MDJ	**Mudanjiang**	**59.31**	**33**	P		**P**	**22 45 21.4**	**-0.6**
MDJ				AP		pP	22 45 30.0	+4.9
MDJ				PP		PP	22 47 35.1	+0.2
MDJ				S		**S**	**22 53 30.1**	**+1.5**
MDJ				XS			22 53 38.8	
MDJ				SS		SS	22 57 27.3	+2.4
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,210nm,3.3s							
MDJ				LR		LR		
	comp=N,110nm,19.8s,MS4.3							
MDJ				LR		LR		
	comp=E,180nm,18.1s,MS4.3							
MDJ				LR		LR		
	comp=Z,160nm,16.5s,MS4.2							
TAYS	**Tayyib Ism**	**59.38**	**305**	P		**P**	**22 45 29.7**	**+7.1**
CTA	**Charters Tower**	**59.48**	**112**	*e*P		**P**	**22 45 23.5**	**+0.1**
	comp=Z,8.6nm,1.0s,mb4.7							
CTA	**Charters Tower**	**59.48**	**112**	*e*P		**P**	**22 45 23.5**	**+0.1**
CTA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
CTAO	**Charters Tower**	**59.48**	**112**	*e*P		**P**	**22 45 22.1**	**-1.3**
CTAO				MLR		MLR		
	comp=Z,370nm,20.0s,MS4.5							
MJAR	**Matsushiro Arr**	**60.29**	**45**	P		**P**	**22 45 27.7**	**-1.1**
	comp=Z,2.6nm,0.9s,mb4.3,baz=248,slow=8.6,SNR=4.5							
MJAR				LR		LR	23 13 02.9	
	comp=Z,252nm,18.7s,MS4.4,baz=240,slow=38							
MJAR	**Matsushiro Arr**	**60.29**	**45**	P		**P**	**22 45 27.7**	**-1.1**
MJAR				LR		LR	23 13 02.9	
LSZ	**Lusaka**	**60.50**	**254**	*e*P		**P**	**22 45 29.6**	**-0.9**
LSZ				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.7							
LSZ	**Lusaka**	**60.50**	**254**	*e*P		**P**	**22 45 29.6**	**-0.9**
	comp=Z,5.6nm,1.0s,mb4.7							
MALT	**Malatya**	**60.86**	**317**	*e*P		**P**	**22 45 31.5**	**-1.1**
	comp=Z,36nm,1.1s,m

SOC e 22 46 22.3
SOC e 22 48 00.6
SOC eS **S** **22 54 13.2 +1.0**
SOC eSSS SSS 23 01 03.1 +0.6
SOC pmax pmax
comp=Z,21nm,1.1s,mb5.2
SOC MLR MLR
comp=Z,145nm,16.0s,MS4.2
ARU Arti 63.01 342 *i* P **P** **22 45 45.7 -1.1**
ARU pmax pmax
comp=Z,35nm,1.8s,mb5.2
ARU MLR MLR
comp=Z,200nm,13.0s,MS4.5
ARU Arti 63.01 342 eP **P** **22 45 45.5 -1.3**
comp=Z,32nm,0.9s,mb5.5
BOD Bodaibo 63.15 15 eP **P** **22 45 45.0 -2.7**
BOD pmax pmax
comp=Z,13nm,1.8s,mb4.8
KLR Kul'dur 63.40 30 eP **P** **22 45 43.2 -6.2**
LBTB Lobatse 64.34 243 eP **P** **22 45 55.0 -1.1**
LBTB pmax pmax
comp=Z,20nm,1.0s,mb5.1
LBTB MLR MLR
comp=Z,515nm,21.0s,MS4.7
LBTB Lobatse 64.34 243 eP **P** **22 45 55.0 -1.1**
comp=Z,20nm,1.0s,mb5.1
LBTB LR LR
comp=Z,515nm,21.0s,MS4.7
HABR Khabarovsk 64.66 33 eP **P** **22 45 52.6 -5.1**
BR131 Keskin Array S 64.82 316 eP **P** **22 45 57.2 -1.7**
comp=Z,2.3nm,0.5s,mb4.5
BRTR Keskin Array B 64.82 316 P **P** **22 45 57.6 -1.3**
comp=Z,3.5nm,0.9s,mb4.4,baz=135,slow=8.7,SNR=14
CLNS Chul'man 65.75 21 eP **P** **22 46 00.8 -3.8**
CLNS pmax pmax
comp=Z,12nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,10.0nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS MLR MLR
comp=Z,200nm,15.0s,MS4.4
CLNS MLR MLR
comp=N,100nm,14.0s,MS4.5
CLNS MLR MLR
comp=E,200nm,14.0s,MS4.5
VRHR Novokhopersk 66.00 330 eP **P** **22 46 05.0 -1.3**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRSR Storozhevoye 67.31 329 eP **P** **22 46 13.0 -1.7**
VRSR pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
VRSR pmax pmax
comp=N,1.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,1.0s
VOR Voronezh 67.60 330 P **P** **22 46 17.0 +0.5**
VOR pmax pmax
comp=Z,70nm,1.7s,mb5.4
MAW Mawson 67.75 190 P **P** **22 46 16.7 -0.4**
comp=Z,6.8nm,0.7s,mb4.8,baz=14,slow=7.8,SNR=9.7
MAW LR LR 23 09 36.0
comp=Z,265nm,18.7s,MS4.5,baz=168,slow=30
MOS Moscow 70.69 332 eP **P** **22 46 36.1 +0.7**
MOS e 22 46 42.3
MOS pmax pmax
comp=Z,75nm,1.2s,mb5.5
OBN Obninsk 70.83 332⇓ eP **P** **22 46 36.1 -0.2**
OBN e 22 46 44.2
OBN e 22 46 57.9
OBN pmax pmax
comp=Z,39nm,1.5s,mb5.1
OBN MLR MLR
comp=Z,300nm,26.0s,MS4.4
YAK Yakutsk 71.23 19⇑ eP **P** **22 46 39.5 +0.9**
YAK pmax pmax
comp=Z,23nm,0.8s,mb5.2
YAK MLR MLR
comp=Z,400nm,23.0s,MS4.6
VRI Vrincioaia 71.98 320 ⇓P **P** **22 46 43.3 -0.1**
MLR Muntele Rosu 72.35 319 ⇓P **P** **22 46 45.7 +0.1**
AKASG Malin Array Be 72.47 325 P **P** **22 46 45.0 -1.2**
comp=Z,0.6nm,0.5s,baz=114,slow=4.3,SNR=11
AKASG Malin Array Be 72.47 325 *i* P **P** **22 46 47.9 +1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 72.47 325 P **P** **22 46 45.0 -1.2**
KLMR Klimovskoe 72.96 337 *d i* P **P** **22 46 48.1 -0.8**
KLMR pmax pmax
comp=Z,50nm,1.5s,mb5.2
BURAR Bucovina Array 73.61 321 ⇓P **P** **22 46 51.6 -1.3**
BURAR Bucovina Array 73.61 321 ⇓P **P** **22 46 51.6 -1.3**
SYO Syowa Base 74.27 196 ⇓P **P** **22 46 55.7 -0.6**
SYO Syowa Base 74.27 196 ⇓PcP PcP 22 47 09.7 -1.8
SYO Syowa Base 74.27 196⇓ eP **P** **22 46 55.7 -0.6**
SYO ⇓ ePcP PcP 22 47 09.7 -1.8
BZS Buzias 75.24 318 ⇓P **P** **22 47 01.8 -0.6**
KOLS Kolonicke sedl 75.92 322 eP **P** **22 47 06.4 +0.2**
KOLS e 22 47 15.2
STHS Stebnicka Huta 76.72 322 eP **P** **22 47 12.6 +2.0**
KECS Kecovo 76.89 321 eP **P** **22 47 10.8 -0.8**
KECS e 22 47 20.1
VSU Vasula 77.19 332 *i* P **P** **22 47 15.1 +2.0**
SUW Suwalki 77.20 327 eP **P** **22 47 12.5 -0.8**
SUW e 22 47 21.2
JOF Joensuu 77.33 337 ep **P** **22 47 12.3 -1.5**
VYHS Vyhne 77.94 320 eP **P** **22 47 17.4 0.0**
TIXI Tiksi 78.07 12⇓ eP **P** **22 47 16.4 -1.3**
TIXI pmax pmax
comp=Z,38nm,1.8s,mb5.0
TIXI MLR MLR
comp=Z,100nm,12.0s,MS4.4
MA2 Magadan 78.25 27 P **P** **22 47 13.4 -5.5**
MA2 pmax pmax
comp=Z,20nm,1.5s,mb4.8
OKC Ostrava-Krasne 78.76 322 AMS AMS 23 29 10.0
comp=Z,500nm,20.5s
FINES FINESS Array B 78.79 334 P **P** **22 47 21.4 -0.4**
comp=Z,3.2nm,0.6s,mb4.5,baz=124,slow=6.9,SNR=19
KAF Kangasniemi 78.98 335 ep **P** **22 47 22.0 -0.9**
DPC Dobruska-Polom 80.03 322 eP **P** **22 47 28.9 +0.1**
KSP Ksiaz 80.18 322 eP **P** **22 47 30.8 +1.2**
KSP Ksiaz 80.18 322 eP **P** **22 47 30.1 +0.5**
KSP e 22 47 38.5
KSP Ksiaz 80.18 322 eP **P** **22 47 30.1 +0.5**
KSP epP pP 22 47 33.6 +0.9
KSP e 22 47 38.5
UPC Upice 80.26 322 eP **P** **22 47 30.5 +0.5**
TREC Trest 80.28 321 AMS AMS 23 28 10.0
comp=Z,700nm,24.4s
SEY Seymchan 80.36 25 *i* P **P** **22 47 32.6 +2.3**
PRU Pruhonice 81.05 321 eP **P** **22 47 34.1 -0.1**
PRU AMS AMS 23 28 20.0
comp=Z,600nm,20.2s
PVCC Panska Ves 81.16 322 eP **P** **22 47 35.7 +1.0**
GEC2 GERESS Array S 81.31 320 eP **P** **22 47 35.6 0.0**
GEC2 pmax pmax
comp=Z,26nm,1.5s,mb4.9
GEC2 GERESS Array S 81.31 320 eP **P** **22 47 35.6 0.0**
comp=Z,26nm,1.5s,mb4.9
GERES GERESS Array B 81.31 320 P **P** **22 47 34.9 -0.7**
comp=Z,1.1nm,0.8s,baz=135,slow=5.7,SNR=10
GERES LR LR 23 28 11.8
comp=Z,625nm,20.2s,MS5.0,baz=294,slow=39
KHC Kasperske Hory 81.46 320 eP **P** **22 47 36.5 +0.2**
KHC pP pP 22 47 39.5 0.0
KHC x x 22 47 45.0
KHC AMS AMS 23 27 50.0
comp=Z,600nm,18.5s
KHC Kasperske Hory 81.46 320 eP **P** **22 47 36.5 +0.2**
KHC e 22 47 45.0
KHC MLR MLR
comp=Z,600nm,18.5s,MS5.0
KHC Kasperske Hory 81.46 320 eP **P** **22 47 36.5 +0.2**
KHC e pP 22 47 39.5 0.0
KHC e 22 47 45.0
KHC LR LR
comp=Z,600nm,18.5s,MS5.0
BRG Berggiesshubel 81.63 322 eP **P** **22 47 37.7 +0.5**
BRG e 22 47 45.9
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BRG MLR MLR
comp=Z,570nm,15.4s,MS5.0
BRG Berggiesshubel 81.63 322 eP **P** **22 47 37.7 +0.5**
comp=Z,5.8nm,1.0s,mb4.5
BRG e 22 47 45.9
BRG LR LR
comp=Z,570nm,15.4s,MS5.0
WET Wettzell 81.91 320 eP **P** **22 47 38.8 +0.1**
WET pmax pmax
comp=Z,22nm,1.4s,mb4.9
WET Wettzell 81.91 320 eP **P** **22 47 38.8 +0.1**
comp=Z,22nm,1.4s,mb4.9
RUE Ruedersdorf 82.11 324 P **P** **22 47 39.7 0.0**
comp=Z,68nm,1.1s,mb5.5
CLL Collm 82.31 322 ⇑P **P** **22 47 40.9 +0.2**
comp=Z,logA/T=0.9,mb4.6
CLL *i* *PP pP 22 47 44.4 +0.5
CLL *i* 22 47 50.1
CLL e 22 53 00.0
CLL Collm 82.31 322⇑ *i* P **P** **22 47 40.9 +0.2**
CLL *i* 22 47 50.1
CLL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CLL Collm 82.31 322⇑ *i* P **P** **22 47 40.9 +0.2**
comp=Z,8.0nm,1.1s,mb4.6
CLL *i* pP 22 47 44.4 +0.5
CLL *i* 22 47 50.1
NKC Novy Kostel 82.42 321 eP **P** **22 47 45.9 +4.6**
ARCES ARCESS Array B 82.59 342 P **P** **22 47 42.0 +0.2**
comp=Z,7.0nm,0.6s,mb4.9,baz=117,slow=5.4,SNR=32
ARCES LR LR 23 25 40.1
comp=Z,420nm,20.4s,MS4.8,baz=182,slow=37
ARCES ARCESS Array B 82.59 342 P **P** **22 47 42.0 +0.2**
ARCES LR LR 23 25 40.1
FUR Furstenfeldbru 82.75 319 eP **P** **22 47 42.6 -0.4**
FUR pmax pmax
comp=Z,16nm,1.4s,mb4.9
FUR Furstenfeldbru 82.75 319 eP **P** **22 47 42.6 -0.4**
comp=Z,16nm,1.4s,mb4.9
MOX Moxa 83.02 321 *i* P **P** **22 47 45.5 +1.1**
comp=Z,logA/T=1.3,mb5.1
MOX L 23 29 46.0
MOX Moxa 83.02 321 eP **P** **22 47 45.5 +1.1**
MOX pmax pmax
comp=Z,34nm,1.6s,mb5.1
MOX MLR MLR
comp=Z,400nm,20.0s,MS4.8
MOX Moxa 83.02 321 eP **P** **22 47 45.5 +1.1**
comp=Z,34nm,1.6s,mb5.1
MOX LR LR
comp=Z,400nm,20.0s,MS4.8
GRA1 Grafenberg Arr 83.08 320 eP **P** **22 47 45.6 +0.9**
comp=Z,37nm,1.3s,mb5.2
GRA1 LR LR
comp=Z,700nm,18.8s,MS5.1
GRF Grafenberg Arr 83.08 320 eP **P** **22 47 45.6 +0.9**
GRF pmax pmax
comp=Z,37nm,1.3s,mb5.2
GRF MLR MLR
comp=Z,700nm,18.8s,MS5.1
GRF Grafenberg Arr 83.08 320 eP **P** **22 47 45.6 +0.9**
GRF pmax pmax
comp=Z,37nm,1.3s,mb5.2
GRF MLR MLR
comp=Z,700nm,18.8s,MS5.1
GRF Grafenberg Arr 83.08 320 eP **P** **22 47 45.6 +0.9**
comp=Z,37nm,1.3s,mb5.2
GRF LR LR
comp=Z,700nm,18.8s,MS5.1
PGF Pioggiola 83.35 313 eP **P** **22 47 46.1 -0.2**
comp=Z,37nm,1.3s,mb5.0
CLZ Clausthal 84.02 322 eP **P** **22 47 49.8 +0.3**
CLZ pmax pmax
comp=Z,30nm,1.4s,mb5.2
CLZ Clausthal 84.02 322 eP **P** **22 47 49.8 +0.3**
comp=Z,30nm,1.4s,mb5.2
VNDA Vanda 84.55 168 P **P** **22 47 52.1 +0.5**
comp=Z,2.8nm,1.2s,mb4.3,baz=63,slow=4.5,SNR=5.3
VNDA LR LR 23 18 03.8
comp=Z,330nm,21.8s,MS4.7,baz=295,slow=30
SBF Sospel 84.67 314 eP **P** **22 47 53.1 +0.1**
comp=Z,58nm,1.2s,mb5.3
BFO Black Forest 84.71 319 eP **P** **22 47 53.1 +0.1**
BFO pmax pmax
comp=Z,11nm,1.0s,mb4.9
BFO Black Forest 84.71 319 eP **P** **22 47 53.1 +0.1**
comp=Z,11nm,1.0s,mb4.9
TNS Taunus Mts 84.94 321 eP **P** **22 47 54.7 +0.6**
TNS pmax pmax
comp=Z,12nm,1.2s,mb4.9
TNS Taunus Mts 84.94 321 eP **P** **22 47 54.7 +0.6**
comp=Z,12nm,1.2s,mb4.9
FRF La Foret Royal 85.20 314 eP **P** **22 47 55.8 +0.2**
MBDF Montbardon 85.26 315 eP **P** **22 47 55.5 -0.4**
comp=Z,13nm,1.0s,mb4.7
LMR La Mourre 85.27 314 eP **P** **22 47 56.0 0.0**
comp=Z,19nm,1.2s,mb4.8
BNI Bardonecchia 85.37 315 eP **P** **22 47 55.6 -0.8**
comp=Z,12nm,1.2s,mb4.9
LPG La Plagne 85.38 316 eP **P** **22 47 56.5 +0.1**
LPL La Plagne 85.39 316 eP **P** **22 47 56.6 +0.1**
CDF Champ du Feu 85.42 319 eP **P** **22 47 56.7 +0.1**
comp=Z,16nm,1.1s,mb4.8
NB2 NORSAR Subarra 85.43 332 P **P** **22 47 56.2 -0.1**
comp=Z,8.9nm,1.2s,mb4.8,baz=103,slow=5.0
NB2 NORSAR Subarra 85.43 332 P **P** **22 47 56.2 -0.1**
NB2 pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
NOA NORSAR Array B 85.43 332 P **P** **22 47 56.2 -0.1**
comp=Z,3.0nm,1.0s,mb4.4,baz=97,slow=6.1,SNR=4.2
NOA LR LR 23 31 27.2
comp=Z,194nm,18.2s,MS4.5,baz=245,slow=40
HINF Hinteralfeld 85.62 318 eP **P** **22 47 57.4 -0.2**
ORIF Oris-en-Rattie 85.92 315 eP **P** **22 47 59.5 +0.4**
ORIF eR
comp=Z,1μm,22.0s
CABF La Chapelle 85.98 317 eP **P** **22 48 00.1 +0.7**
comp=Z,48nm,1.3s,mb5.3
HAU Haudompre 85.98 318 eP **P** **22 47 59.3 -0.1**
comp=Z,52nm,1.5s,mb5.2
HAU eR
comp=Z,792nm,19.2s
SMRF Simiane la Rot 86.02 314 eP **P** **22 48 00.4 +0.7**
VIVF Saint-Julien-l 86.76 315 eP **P** **22 48 03.7 +0.4**
MEZF Maizieres J'vi 86.90 319 eP **P** **22 48 04.1 +0.2**
TORD Torodi Ar. Bea 86.98 283 P **P** **22 48 05.2 +0.2**
comp=Z,0.9nm,0.9s,mb4.0,baz=70,slow=6.2,SNR=4.9
LASF Ste Croix 87.27 314 eP **P** **22 48 06.5 +0.7**
BILL Bilibino 87.43 22 *i* P **P** **22 48 06.8 +0.8**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.8
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
BILL MLR MLR
comp=Z,300nm,16.0s,MS4.8
SMF Signal de Mont 87.52 317 eP **P** **22 48 06.8 -0.1**
comp=Z,36nm,1.3s,mb5.2
LOR Lormes 87.57 317 eP **P** **22 48 07.3 +0.2**
comp=Z,27nm,1.2s,mb5.1
LOR eR
comp=Z,841nm,18.2s
BAIF Baives 87.62 320 eP **P** **22 48 07.7 +0.4**
SSF Saint Saulge 87.79 317 eP **P** **22 48 08.6 +0.4**
comp=Z,31nm,1.2s,mb5.1
AVF Avril sur Loir 87.87 317 eP **P** **22 48 08.8 +0.2**
comp=Z,37nm,1.5s,mb5.1
BGF Bois d'Agland 88.20 317 eP **P** **22 48 10.8 +0.6**
comp=Z,63nm,1.4s,mb5.3
MTLF Montolieu 88.39 313 eP **P** **22 48 11.9 +0.7**
comp=Z,30nm,1.3s,mb5.1
SNAA Sanae 88.40 198⇓ eP **P** **22 48 11.1 +0.5**
SNAA Sanae 88.40 198 eP **P** **22 48 10.8 +0.2**
comp=Z,14nm,1.1s,mb5.1
CAF Calviac 88.61 315 eP **P** **22 48 13.2 +1.0**
TCF Toulx Ste Croi 88.61 316 eP **P** **22 48 13.1 +0.9**
RJF Les Rejaudoux 89.03 315 eP **P** **22 48 15.2 +1.0**
comp=Z,37nm,1.3s,mb5.2
LFF La Frestale 89.55 315 eP **P** **22 48 17.7 +1.0**
EPF Esparros 89.74 313 eP **P** **22 48 17.5 -0.1**
comp=Z,36nm,1.6s,mb5.2
MFF Saint Martin d 90.26 316 eP **P** **22 48 19.3 -0.6**
comp=Z,20nm,1.2s,mb5.0
LDF La Druitiere 90.33 318 eP **P** **22 48 20.3 +0.1**
comp=Z,78nm,1.6s,mb5.5
ETSF Etsaut 90.39 313 eP **P** **22 48 21.8 +1.2**
comp=Z,26nm,1.3s,mb5.1
FLN La Foliniere 90.58 319 eP **P** **22 48 21.4 +0.1**
FLN eR
comp=Z,442nm,21.2s
SJPF Ste Jean 90.89 313 eP **P** **22 48 24.2 +1.3**
DBIC Dimbokro 93.19 277 LR LR 23 26 16.3
comp=Z,136nm,19.6s,MS4.4,baz=66,slow=33
YKA Yellowknife Ar 117.32 12 PKP PKPdf 22 54 03.3 -2.8
comp=Z,0.1nm,0.4s,baz=300,slow=3.6,SNR=3.3
YKA PP PP 22 55 08.8 -10
comp=Z,0.4nm,0.9s,baz=330,slow=6.0,SNR=3.7
PDAR Pinedale Array 136.46 19 PKP PKPdf 22 54 40.4 -2.7
comp=Z,0.6nm,0.8s,baz=38,slow=0.8,SNR=4.3
MSU Marysvale 139.20 25 PKP PKPdf 22 54 45.8 -2.5
ANMO Albuquerque 144.53 21⇑ *i* PKIKP PKPdf 22 54 56.2 -1.6
ANMO Albuquerque 144.53 21 ePKP PKPdf 22 54 55.5 -2.3
TZTN Tazewell 144.79 348 ePKP PKPdf 22 54 54.7 -3.5
WVT Waverly 145.85 354 ePKP PKPdf 22 54 56.9 -3.2
CPCT Cooper Cave 146.04 349 ePKPdf PKPdf 22 54 57.3 -3.1
SWET Sewanee 146.51 351 ePKPdf PKPdf 22 54 58.0 -3.1
OXF Oxford 147.59 356 PKP PKPdf 22 55 00.3 -2.6
MNTX Cornudas Mount 147.85 22 ePKPdf PKPdf 22 55 01.4 -2.0
MNTX ePKPbc PKPdf 22 55 05.2 +1.8
NATX Nacogdoches 150.30 5 PKPdf PKPdf 22 55 05.7 -1.7
LPAZ La Paz 150.32 231 PKP PKPdf 22 55 07.3 -0.4
comp=Z,3.9nm,0.8s,baz=118,slow=3.9,SNR=4.8
LPAZ PKPbc PKPdf 22 55 12.0 +4.2
comp=Z,3.9nm,0.8s,baz=88,slow=5.4,SNR=18
LPAZ La Paz 150.32 231 ePKPdf PKPdf 22 55 06.4 -1.4
LPAZ ePKPbc PKPdf 22 55 12.0 +4.2
LTX Lajitas 150.61 21 PKPbc PKPdf 22 55 11.9 +3.9
TXAR Lajitas Array 150.61 21 PKPbc PKPdf 22 55 12.3 +4.4
comp=Z,1.1nm,0.5s,baz=225,slow=1.9,SNR=10
TXAR Lajitas Array 150.61 21 PKPbc PKPdf 22 55 12.3 +4.3
JCT Junction City 150.71 14 ePKPbc PKPdf 22 55 11.7 +3.6

*ISK **21** 22:44:09.3,36.91N×27.65E,h19km,MD3.1*
*CSEM **21** 22:44:09.9±0.1,36.98N×27.70E,h20km,MD3.1,Error ellipse: s-maj=2.8km s-min=2.5km az=84.0*
*ATH **21** 22:44:10.9,36.88N×27.61E,h31km±1km,MD3.0/3*
*NEIC **21** 22:44:10.9,36.88N×27.61E,h31km,MD3.0(ATH),After ATH.*

ISC 21 22:44:10.1±0.8,36.92N±0.04×27.69E±0.05,h16km±10km, n13,σ0s59/18,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BODT	**Bodrum**	**0.33**	**295**		PG		**Pb**	**22 44 16.4**	**-0.8**
BODT					SG		**Sb**	**22 44 21.9**	**-0.1**
MLSB	**Milas**	**0.38**	**11**		PG		**Pb**	**22 44 17.1**	**-0.9**
MLSB					SG		**Sb**	**22 44 24.5**	**+1.2**
NISR	**Nisiros**	**0.55**	**236**		ePB		**Pb**	**22 44 21.2**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.78**	**101**		ePG		**Pb**	**22 44 25.4**	**+0.7**
ARG	**Arkhangelos**	**0.79**	**153**		ePN		**Pn**	**22 44 25.8**	**-0.6**
ARG					eSN		**Sn**	**22 44 38.2**	**+0.4**
SMG	**Samos**	**1.04**	**319**		ePN		**Pn**	**22 44 30.7**	**+0.7**
SMG					eSN		**Sn**	**22 44 44.7**	**+0.5**
FETY	**Fethiye**	**1.16**	**104**		ePN		**Pn**	**22 44 31.6**	**-0.1**
DENT	**Denizli**	**1.36**	**52**		ePN		**Pn**	**22 44 34.3**	**-0.2**
KARP	**Karpathos**	**1.44**	**197**		ePN		**Pn**	**22 44 35.8**	**+0.1**
KARP					eSN		**Sn**	**22 44 54.2**	**-0.1**
BLCB	**Balcova**	**1.55**	**341**		ePN		**Pn**	**22 44 36.4**	**-0.9**
APE	**Apeiranthos**	**1.73**	**276**		ePN		**Pn**	**22 44 40.4**	**+0.5**
ELL	**Elmali**	**1.79**	**95**		ePN		**Pn**	**22 44 40.6**	**-0.1**
AKS	**Akhisar**	**1.96**	**3**		ePN		**Pn**	**22 44 42.5**	**-0.6**

*MOS **21** 23:31:34.4±1.2,23.98S×67.01W,h165km,mb5.0/43, Error ellipse: s-maj=10.4km s-min=5.8km az=103.6*
*IDC **21** 23:31:35.7±1.2,24.07S×66.91W,h167km±9km, mb4.5/13, mb1 4.6/17,mb1mx4.6/18,mbtmp5.0/17,Error ellipse: s-maj=14.7km s-min=9.5km az=84.0*
*BJI **21** 23:31:36.8,24.00S×66.90W,h175km,mB5.3*
*GUC **21** 23:31:36.6±1.1,24.27S×67.32W,h183km±15km,ML4.9*
*NEIC **21** 23:31:36.9±0.2,23.97S×66.91W,mb5.0/107,Error ellipse: s-maj=6.0km s-min=4.1km az=37.0*
*HRVD **21** 23:31:36.9±0.7,24.21S×67.11W,h196km±6km,MW5.0/20, Centroid moment Tensor Solution. LP body waves: s14,c17;Mantle waves: s20,c30; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.65±.41; Mθθ-0.23±.44; Mφφ2.88±.63; Mrθ-1.62±.26; Mθφ-0.01±.41; Mφr-3.19±.36; Best double couple: M0:4.524×10^16 NP1:φ161°,δ23°, λ-127°. NP2:φ62°,δ72°,λ-76°. Principal axes: T 4.437, Plg26°, Azm100°; N .17, Plg13°, Azm196°; P -4.611, Plg61°, Azm311°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*LDG **21** 23:31:41.3,23.10S×66.99W,h200km*

ISC 21 23:31:34.1±0.5,24.09S±0.03×67.00W±0.04,h167km±4km, h176km±2.7km:pP-P,n354,σ1s05/282,mb4.8/118,10C-18D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SPCH	**San Pedro de A**	**1.61**	**317**⇑	*i* P			**P**	**23 32 11.0**	**+4.5**
SPCH				*i* S			**S**	**23 32 37.3**	**+5.9**
SPCH				AMP				23 32 38.7	
comp=N,4μm,0.4s									
CEN1	**Los Morros**	**3.01**	**283**⇓	*i* P			**P**	**23 32 25.0**	**+2.0**
CEN1				*i* S			**S**	**23 33 01.6**	**+1.1**
CEN1				AMP				23 33 04.1	
comp=E,6μm,0.7s									
ANCH	**Antofagasta**	**3.15**	**277**⇑	*i* P			**P**	**23 32 26.1**	**+1.4**
CPCH	**Copiapo**	**4.44**	**222**⇑	*i* P			**P**	**23 32 41.1**	**-0.3**
CPCH				*i* S			**S**	**23 33 31.1**	**-2.1**
CDCH	**Caldera**	**4.56**	**229**	*i* P			**P**	**23 32 41.3**	**-1.6**
CDCH				*i* S			**S**	**23 33 31.0**	**-4.9**
CFAA	**Coronel Fontan**	**7.57**	**188**	P			**P**	**23 33 22.4**	**-0.3**
comp=E,1.0nm,0.3s,baz=12,slow=12,SNR=59									
CFAA				S			**S**	**23 34 41.8**	**-5.5**
comp=E,1.1nm,0.3s,baz=304,slow=20,SNR=12									
LPAZ	**La Paz**	**7.83**	**352**	P			**P**	**23 33 28.1**	**+1.9**
comp=E,26nm,0.3s,baz=151,slow=8.6,SNR=355									
LPAZ				S			**S**	**23 34 54.3**	**+0.7**
comp=E,3.9nm,0.3s,baz=327,slow=20,SNR=9.4									
LPAZ	**La Paz**	**7.83**	**352**	P			**P**	**23 33 28.1**	**+1.9**
LPAZ				S			**S**	**23 34 54.3**	**+0.7**
LPAZ				pmax	pmax				
comp=Z,26nm,0.3s									
LPAZ				smax					
comp=E,4.0nm,0.3s									
LPAZ	**La Paz**	**7.83**	**352**	eP			**P**	**23 33 27.8**	**+1.6**
comp=E,92nm,0.6s									
ARE	**Arequipa**	**8.68**	**330**	eP			**P**	**23 33 35.0**	**-2.3**
ARE				*i* S			**S**	**23 35 09.0**	**-4.6**
CPUP	**Villa Florida**	**9.04**	**106**	eP			**P**	**23 33 41.9**	**-0.2**
CPUP				pmax	pmax				
comp=Z,145nm,0.5s									
CPUP	**Villa Florida**	**9.04**	**106**	eP			**P**	**23 33 41.9**	**-0.1**
comp=Z,145nm,0.5s									
SIV	**San Ignacio**	**9.79**	**36**	P			**P**	**23 33 52.4**	**+0.4**
comp=Z,7.0nm,0.3s,baz=224,slow=12,SNR=96									
SIV				S			**S**	**23 35 34.7**	**-5.2**
comp=Z,0.8nm,0.3s,baz=213,slow=11,SNR=3.1									
TRQA	**Tornquist**	**14.57**	**164**	eP			**P**	**23 34 50.1**	**-3.3**
comp=Z,258nm,0.7s									
NNA	**Nana**	**15.24**	**320**	eP			**P**	**23 35 02.7**	**+0.8**
comp=Z,44nm,0.7s									
PLCA	**Paso Flores**	**16.86**	**189**	P			**P**	**23 35 21.1**	**-0.6**
comp=Z,1.0nm,0.3s,baz=12,slow=12,SNR=18									
PLCA				PcP			PcP	23 39 58.5	-1.3
comp=Z,0.3nm,0.3s,baz=77,slow=5.6,SNR=5.2									
PLCA				ScP				23 43 17.3	
comp=Z,0.1nm,0.3s,baz=1.9,slow=1.0,SNR=8.6									
PLCA	**Paso Flores**	**16.86**	**189**	eP			**P**	**23 35 19.8**	**-1.9**
comp=Z,17nm,0.8s									
BDFB	**Brasilia**	**19.72**	**68**	P			**P**	**23 35 52.9**	**+0.1**
comp=Z,28nm,0.3s,baz=250,slow=8.6,SNR=468									
BDFB	**Brasilia**	**19.72**	**68**	P			**P**	**23 35 52.9**	**+0.1**
BDFB				pmax	pmax				
comp=Z,28nm,0.3s									
BAO	**Brasilia Array**	**19.74**	**68**	P			**P**	**23 35 53.0**	**0.0**
OTAV	**Otavalo**	**26.61**	**334**	eP			**P**	**23 36 59.7**	**+0.5**
comp=Z,16nm,0.8s,mb4.7									
EFI	**East Falkland**	**28.39**	**168**	eP			**P**	**23 37 15.2**	**+0.4**
ROSC	**El Rosal**	**29.64**	**345**	P			**P**	**23 37 26.5**	**+0.1**
comp=Z,20nm,0.5s,mb5.1,baz=203,slow=2.3,SNR=12									
USHA	**Ushuaia**	**30.72**	**182**	P			**P**	**23 37 35.2**	**-0.3**
comp=Z,9.8nm,0.8s,mb4.6,baz=337,slow=2.2,SNR=2.8									
SDV	**Santo Domingo**	**32.97**	**353**	eP			**P**	**23 37 52.8**	**-2.5**
comp=Z,30nm,0.7s,mb5.1									

JTS JuntasAbangare 38.41 331 *d iP* P 23 38 42.8 +1.6
JTS JuntasAbangare 38.41 331 *e*P P 23 38 41.8 +0.6
comp=Z,48nm,1.0s,mb5.1
FDF Fort de France 39.01 9 *e*P P 23 38 45.0 -1.2
CRM Caravelle 39.06 9 *e*P P 23 38 45.0 -1.6
CPD Cerro la Pandu 41.88 2 *e*P P 23 39 06.3 -3.5
MTP Monte Pirata 41.95 2 *e*P P 23 39 06.8 -3.6
SJG San Juan 41.95 1 *e*P P 23 39 07.3 -3.0
SJG pmax pmax
comp=Z,70nm,0.8s
SJG San Juan 41.95 1 eP P 23 39 07.3 -3.1
comp=Z,70nm,0.8s,mb5.3
NHSC New Hope 58.25 347 eP P 23 41 12.7 -0.8
comp=Z,363nm,1.1s
SNAA Sanae 59.27 161 P P 23 41 19.4 -0.6
comp=Z,7.4nm,0.8s,mb4.6,baz=283,slow=7.2,SNR=54
SNAA Sanae 59.27 161 P P 23 41 19.4 -0.6
SNAA pmax pmax
comp=Z,7.0nm,0.8s
SNAA Sanae 59.27 161 eP P 23 41 18.8 -1.2
comp=Z,20nm,0.8s,mb5.0
GOGA Godfrey 59.29 344 eP P 23 41 18.6 -2.1
GOGA pmax pmax
comp=Z,30nm,0.8s,mb5.2
GOGA Godfrey 59.29 344 eP P 23 41 18.6 -2.1
comp=Z,30nm,0.8s,mb5.2
JSC Jenkinsville 59.61 346 eP P 23 41 21.7 -1.1
LRAL Lakeview Retre 59.92 341 eP P 23 41 22.7 -2.3
comp=Z,38nm,0.9s,mb5.2
CPCT Cooper Cave 61.50 344 eP P 23 41 33.4 -2.2
NATX Nacogdoches 61.51 333 eP P 23 41 35.1 -0.6
comp=Z,39nm,0.5s,mb5.5
SWET Sewanee 61.65 342 eP P 23 41 33.9 -2.8
OXF Oxford 62.04 339 eP P 23 41 36.8 -2.4
OXF pmax pmax
comp=Z,105nm,1.1s,mb5.6
OXF Oxford 62.04 339 eP P 23 41 36.8 -2.5
comp=Z,105nm,1.1s,mb5.6
BLA Blacksburg 62.27 348 eP P 23 41 39.6 -1.1
BLA pmax pmax
comp=Z,27nm,1.0s,mb5.0
BLA Blacksburg 62.27 348 eP P 23 41 39.5 -1.1
comp=Z,27nm,1.0s,mb5.0
TZTN Tazewell 62.30 345 eP P 23 41 38.9 -2.0
JCT Junction City 62.72 328 eP P 23 41 42.5 -1.3
JCT pmax pmax
comp=Z,71nm,0.8s,mb5.5
JCT Junction City 62.72 328 eP P 23 41 42.5 -1.2
comp=Z,71nm,0.8s,mb5.5
WVT Waverly 63.05 341 eP P 23 41 43.3 -2.5
WVT pmax pmax
comp=Z,88nm,0.8s,mb5.6
WVT Waverly 63.05 341 eP P 23 41 43.3 -2.6
comp=Z,88nm,0.8s,mb5.6
UALR University of 63.29 337 eP P 23 41 45.6 -1.9
comp=Z,64nm,1.4s,mb5.3
MIAR Mount Ida 63.54 336 eP P 23 41 47.2 -1.9
MIAR pmax pmax
comp=Z,81nm,1.4s,mb5.4
MIAR Mount Ida 63.54 336 eP P 23 41 47.2 -1.9
comp=Z,81nm,1.4s,mb5.4
UTMT University of 63.55 340 eP P 23 41 47.5 -1.7
comp=Z,311nm,1.1s
GNAR Gosnell 63.57 339 eP P 23 41 47.9 -1.4
comp=Z,134nm,1.0s,mb5.7
GLAT Glass 63.62 340 eP P 23 41 47.7 -1.9
LTX Lajitas 63.75 324 eP P 23 41 49.5 -1.1
LTX pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
LTX Lajitas 63.75 324 eP P 23 41 49.5 -1.0
comp=Z,6.6nm,0.7s,mb4.6
TXAR Lajitas Array 63.75 324 P P 23 41 50.1 -0.5
comp=Z,9.6nm,0.8s,mb4.7,baz=148,slow=8.4,SNR=70
TXAR Lajitas Array 63.75 324 P P 23 41 50.1 -0.5
TXAR pmax pmax
comp=Z,10.0nm,0.8s
MAIT Maitri 63.76 159 eP P 23 41 50.1 +0.2
NVL N'lazarevskaya 63.79 159 ⇑*iP* P 23 41 50.2 0.0
NVL *e**PP pP 23 42 32.0 +2.4
NVL *e* pP 23 42 34.0 +4.4
NVL *e**SP sP 23 42 51.7 +4.0
NVL pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
PARMO Parma 64.13 340 eP P 23 41 51.6 -1.3
WCI Wyandotte Cave 64.58 343 eP P 23 41 53.3 -2.5
WCI *e* 23 42 26.3
WCI pmax pmax
comp=Z,70nm,0.6s,mb5.7
WCI Wyandotte Cave 64.58 343 eP P 23 41 53.3 -2.5
comp=Z,70nm,0.6s,mb5.7
WCI *e*PcP PcP 23 42 26.3 -1.9
BLO Bloomington 65.53 343 eP P 23 41 59.2 -2.7
BLO pmax pmax
comp=Z,44nm,0.6s,mb5.5
BLO Bloomington 65.53 343 eP P 23 41 59.2 -2.7
comp=Z,44nm,0.6s,mb5.5
FVM French Village 65.55 340 eP P 23 42 00.1 -1.9
FVM pmax pmax
comp=Z,91nm,1.0s,mb5.6
FVM French Village 65.55 340 eP P 23 42 00.1 -2.0
comp=Z,91nm,1.0s,mb5.6
ACSO Alum Creek Sta 65.70 347 eP P 23 42 01.2 -1.7
comp=Z,52nm,1.1s,mb5.3
WMOK Wichita Mounta 65.82 332 eP P 23 42 01.3 -2.5
WMOK *e* 23 42 31.4
WMOK pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
WMOK Wichita Mounta 65.82 332 eP P 23 42 01.3 -2.5
comp=Z,9.1nm,0.7s,mb4.7
WMOK *e*PcP PcP 23 42 31.4 -1.9
CCM Cathedral Cave 65.88 339 eP P 23 42 02.4 -1.7
CCM pmax pmax
comp=Z,66nm,0.8s,mb5.5
CCM Cathedral Cave 65.88 339 eP P 23 42 02.4 -1.7
comp=Z,66nm,0.8s,mb5.5
MNTX Cornudas Mount 66.52 325 eP P 23 42 06.7 -1.6
comp=Z,34nm,0.9s,mb5.2
ALLY Alegheny Colle 66.53 349 eP P 23 42 07.0 -1.2
LIC Lamto 67.47 72 eP P 23 42 12.9 -1.6
comp=Z,9.2nm,0.5s,mb4.6
DBIC Dimbokro 67.83 72 P P 23 42 15.3 -1.5
comp=Z,13nm,0.8s,mb4.7,baz=207,slow=6.9,SNR=28
DBIC Dimbokro 67.83 72 eP P 23 42 15.1 -1.7
DBIC *e**PP pP 23 42 58.0 +1.4
DBIC pmax pmax
comp=Z,34nm,1.2s
DBIC Dimbokro 67.83 72 eP P 23 42 15.1 -1.7
comp=Z,34nm,1.2s,mb5.0
DBIC *e*pP pP 23 42 58.0 +1.4
MDV Middlebury 67.99 355 P P 23 42 15.1 -2.2
KSU1 Kansas State U 68.69 336 eP P 23 42 20.0 -1.6
ANMO Albuquerque 69.62 326 *d iP* P 23 42 27.9 +0.5
ANMO Albuquerque 69.62 326 eP P 23 42 27.6 +0.2
comp=Z,46nm,0.9s,mb5.2
CBKS Cedar Bluff 69.68 333 eP P 23 42 27.5 -0.2
CBKS pmax pmax
comp=Z,108nm,0.8s,mb5.6
CBKS Cedar Bluff 69.68 333 eP P 23 42 27.5 -0.2
comp=Z,108nm,0.8s,mb5.6
TUC Tucson 69.95 321 eP P 23 42 29.1 -0.3
TUC pmax pmax
comp=Z,45nm,1.3s,mb5.0
TUC Tucson 69.95 321 eP P 23 42 29.1 -0.3
comp=Z,45nm,1.3s,mb5.0
SDCO Great Sand Dun 71.36 329 eP P 23 42 38.3 +0.5
comp=Z,45nm,0.9s,mb5.2
SDCO *e*pP pP 23 43 19.6 +1.5
WUAZ Wupatki 72.65 323 eP P 23 42 46.4 +0.9
comp=Z,33nm,0.8s,mb5.1
ISCO Idaho Springs 73.06 330 eP P 23 42 48.1 +0.3
ISCO pmax pmax
comp=Z,30nm,0.9s,mb5.0
ISCO Idaho Springs 73.06 330 eP P 23 42 48.1 +0.3
comp=Z,30nm,0.9s,mb5.0
PV01 Paradox Valley 73.17 327 eP P 23 42 49.3 +0.9
SMCO Snowmass 73.20 329 eP P 23 42 49.4 +0.8
SYO Syowa Base 73.47 159 ⇑P P 23 42 49.6 +0.1
SYO Syowa Base 73.47 159 ⇓PcP PcP 23 43 01.9 -3.0
SYO Syowa Base 73.47 159 ⇑eP P 23 42 49.6 +0.1
SYO ⇓*e*PcP PcP 23 43 01.9 -3.0
SYO *e*S S 23 52 05.0 +1.3
SBA Scott Base 73.61 190 eP P 23 42 51.9 +1.6
PHWY Pilot Hill 74.19 331 eP P 23 42 54.5 +0.2
PHWY *e*PcP PcP 23 43 08.0 -0.6
PFO Pinyon Flat Ob 74.20 319 eP P 23 42 55.2 +0.7
PFO pmax pmax
comp=Z,35nm,1.1s,mb5.0
PFO Pinyon Flat Ob 74.20 319 eP P 23 42 55.1 +0.6
comp=Z,35nm,1.1s,mb5.0
VNDA Vanda 74.61 190 P P 23 42 56.4 +0.3
comp=Z,4.5nm,0.9s,mb4.1,baz=134,slow=4.4,SNR=11
VNDA Vanda 74.61 190 P P 23 42 56.4 +0.4
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA Vanda 74.61 190 eP P 23 42 56.3 +0.3
comp=Z,6.7nm,1.1s,mb4.2
NEN Nelson 74.69 321 eP P 23 42 57.6 +0.4
SRU San Rafael 74.90 326 eP P 23 42 58.7 +0.3
EYMN Ely 75.01 343 eP P 23 42 57.0 -1.7
comp=Z,40nm,0.9s,mb5.0
RWWY Rawlins 75.30 330 eP P 23 43 01.0 +0.5
comp=Z,51nm,0.9s,mb5.2
MSU Marysvale 75.30 325 eP P 23 43 01.8 +1.1
TMUT Trail Mountain 75.38 326 eP P 23 43 01.5 +0.4
ARUT Antelope Range 75.44 324 eP P 23 43 02.4 +0.9
MWC Mount Wilson 75.60 318 eP P 23 43 02.9 +0.5
RSSD Black Hills 75.89 333 eP P 23 43 04.0 +0.2
RSSD pmax pmax
comp=Z,19nm,0.8s,mb4.8
RSSD Black Hills 75.89 333 eP P 23 43 04.0 +0.2
comp=Z,19nm,0.8s,mb4.8
MPU Maple Canyon 76.14 326 eP P 23 43 05.9 +0.6
comp=Z,36nm,1.0s,mb5.0
DAU Daniels Canyon 76.25 327 eP P 23 43 06.8 +0.9
NLU North Lily Min 76.32 326 eP P 23 43 06.5 +0.2
TPNV Topopah Spring 76.41 321 eP P 23 43 07.8 +0.9
TPNV pmax pmax
comp=Z,51nm,0.9s,mb5.2
TPNV Topopah Spring 76.41 321 eP P 23 43 07.8 +0.9
comp=Z,51nm,0.9s,mb5.2
TORD Torodi Ar. Bea 76.60 69 P P 23 43 07.5 -0.8
comp=Z,9.4nm,0.4s,mb4.8,baz=257,slow=5.8,SNR=238
DAC Darwin (Calif) 76.72 320 eP P 23 43 09.2 +0.6
DAC pmax pmax
comp=Z,33nm,0.9s,mb5.0
DAC Darwin (Calif) 76.72 320 eP P 23 43 09.2 +0.6
comp=Z,33nm,0.9s,mb5.0
TCUT Toone Canyon 76.86 327 eP P 23 43 09.8 +0.5
DUG Dugway 76.88 326 eP P 23 43 09.8 +0.4
DUG pmax pmax
comp=Z,37nm,1.1s,mb4.9
DUG Dugway 76.88 326 eP P 23 43 09.8 +0.3
comp=Z,37nm,1.1s,mb4.9
BW06 Boulder Array 77.22 329 eP P 23 43 10.6 -0.7
comp=Z,11nm,0.8s,mb4.5
PDAR Pinedale Array 77.22 329 P P 23 43 11.7 +0.4
comp=Z,7.5nm,0.6s,mb4.5,baz=134,slow=7.9,SNR=55
HWUT Hardware Ranch 77.30 327 eP P 23 43 11.8 +0.1
comp=Z,24nm,0.6s,mb5.0
SPUT South Promonto 77.52 327 eP P 23 43 13.4 +0.4
TSUM Tsumeb 77.63 106 eP P 23 43 13.3 -0.6
comp=Z,14nm,0.6s,mb4.8
TSUM *e*pP pP 23 43 56.1 +1.2
TPH Tonopah 77.75 322 eP P 23 43 14.8 +0.5
TPH pmax pmax
comp=Z,43nm,1.2s,mb5.0
TPH Tonopah 77.75 322 eP P 23 43 14.8 +0.5
comp=Z,43nm,1.2s,mb5.0
AHID Auburn Hatcher 77.95 328 eP P 23 43 15.5 +0.2
comp=Z,64nm,0.9s,mb5.2
HVU Hansel Valley 78.03 327 eP P 23 43 15.7 0.0
HVU pmax pmax
comp=Z,36nm,1.0s,mb5.0
HVU Hansel Valley 78.03 327 eP P 23 43 15.7 0.0
comp=Z,36nm,1.0s,mb5.0
REDW Red Top Meadow 78.29 329 eP P 23 43 17.3 +0.2
comp=Z,39nm,0.9s,mb5.2
ULM Lac du Bonnet 78.31 342 P P 23 43 16.4 -0.7
comp=Z,43nm,0.7s,mb5.2,baz=153,slow=6.2,SNR=118
SNOW Snow King Moun 78.32 329 eP P 23 43 17.6 +0.3
comp=Z,35nm,0.8s,mb5.0
LOHW Long Hollow 78.36 329 eP P 23 43 17.9 +0.4
comp=Z,30nm,0.7s,mb5.0
TPAW Teton Pass 78.43 329 eP P 23 43 18.4 +0.5
comp=Z,61nm,1.1s,mb5.1
MNV Mina 78.52 321 eP P 23 43 18.5 0.0
MNV pmax pmax
comp=Z,18nm,1.0s,mb4.7
MNV Mina 78.52 321 eP P 23 43 18.5 0.0
comp=Z,18nm,1.0s,mb4.6
ELK Elko 78.55 325 eP P 23 43 18.9 +0.4
ELK pmax pmax
comp=Z,31nm,0.9s
ELK Elko 78.55 325 eP P 23 43 18.9 +0.4
comp=Z,31nm,0.9s,mb4.9
SCHQ Schefferville 78.60 0 P P 23 43 18.3 -0.2
comp=Z,7.9nm,0.6s,mb4.5,baz=221,slow=4.7,SNR=24
SCHQ Schefferville 78.60 0 P P 23 43 18.3 -0.2
NVAR Mina Array Bea 78.61 321 P P 23 43 19.7 +0.7
IMW Indian Meadow 78.74 329 eP P 23 43 20.0 +0.5
comp=Z,47nm,0.9s,mb5.1
LRV Little Rabbit 78.86 318 eP P 23 43 21.5 +1.2
LKWY Lake 79.00 330 eP P 23 43 22.5 +1.6
LKWY pmax pmax
comp=Z,35nm,1.2s,mb4.9
LKWY Lake 79.00 330 eP P 23 43 22.5 +1.6
comp=Z,35nm,1.2s,mb4.9
YFT Old Faithful 79.11 330 eP P 23 43 23.1 +1.6
YMR Madison River 79.34 330 eP P 23 43 24.2 +1.5
comp=Z,40nm,0.7s,mb5.2
DGMT Dagmar 79.54 336 eP P 23 43 24.2 +0.5
comp=Z,129nm,0.8s,mb5.6
CMB Columbia Colle 79.55 320 eP P 23 43 24.2 +0.2
CMB pmax pmax
comp=Z,13nm,1.0s,mb4.5
CMB Columbia Colle 79.55 320 eP P 23 43 24.2 +0.2
comp=Z,13nm,1.0s,mb4.5
GCMT Greycliff 79.62 331 eP P 23 43 24.6 +0.3
QLMT Earthquake Lak 79.67 330 eP P 23 43 25.4 +0.8
PAHR Pah Rah Range 80.09 322 eP P 23 43 27.6 +0.7
comp=Z,81nm,0.9s,mb5.3
HLID Hailey 80.16 327 eP P 23 43 28.0 +0.8
comp=Z,55nm,0.8s,mb5.2
MCMT McKenzie Canyo 80.34 329 eP P 23 43 29.3 +1.2
BOZ Bozeman (W) 80.39 330 P P 23 43 25.4 -2.9
BOZ pmax pmax
comp=Z,28nm,1.3s,mb4.7
BOZ Bozeman (W) 80.39 330 P P 23 43 25.4 -2.9
comp=Z,28nm,1.3s,mb4.7
DLMT Dillon 80.62 329 eP P 23 43 30.3 +0.8
comp=Z,85nm,1.4s,mb5.2
HRY Holter Researc 81.29 331 eP P 23 43 33.5 +0.5
MAW Mawson 81.35 163 P P 23 43 33.3 +0.4
comp=Z,7.4nm,0.7s,mb4.4,baz=250,slow=8.7,SNR=8.9
MAW Mawson 81.35 163 P P 23 43 33.3 +0.3
MAW pmax pmax
comp=Z,7.0nm,0.7s
EGMT Eagleton 81.39 333 eP P 23 43 33.0 -0.5
comp=Z,32nm,0.9s,mb5.0
WVOR Wild Horse Val 81.54 324 eP P 23 43 35.0 +0.5
WVOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
WVOR Wild Horse Val 81.54 324 eP P 23 43 35.0 +0.5
comp=Z,7.5nm,1.0s,mb4.3
LBCM Butte Creek Ri 81.96 321 P P 23 43 37.2 +0.5
CHMT Chamberlain Mo 82.08 330 eP P 23 43 37.4 +0.3
MOD Modoc 82.09 323 eP P 23 43 37.6 +0.3
comp=Z,40nm,1.1s,mb5.0
MSO Missoula 82.33 330 eP P 23 43 38.6 +0.1
comp=Z,4.3nm,0.6s,mb4.3
LBTB Lobatse 82.35 114 eP P 23 43 38.8 -0.2
LBTB pmax pmax
comp=Z,28nm,0.5s,mb5.2
LBTB Lobatse 82.35 114 eP P 23 43 38.8 -0.2
comp=Z,28nm,0.5s,mb5.2
BMO Blue Mountains 82.53 326 eP P 23 43 39.4 -0.1
comp=Z,34nm,1.3s,mb4.9
EVO Evora 83.25 43 eP P 23 43 42.4 -0.9
comp=Z,15nm,0.9s,mb4.5
BSMT Bassoo Peak 83.48 330 P P 23 43 45.1 +0.9
ESPR Espera 83.61 45 P P 23 43 46.5 +1.3
comp=Z,1.7nm,0.5s,mb4.0
EMIN Mina Concepcio 83.63 44 P P 23 43 46.1 +0.9
comp=Z,1.6nm,0.5s,mb4.0
PTOM Tomar 83.68 42 eP P 23 43 46.5 +1.1
KTRM Thompson Ridge 83.82 321 P P 23 43 47.5 +1.4
EBAD Badajoz 84.01 43 P P 23 43 48.0 +0.9
comp=Z,1.2nm,0.4s,mb4.0
VIPM Ingram Point 84.01 325 ⇓P P 23 43 48.1 +1.1
PCBR Castelo Branco 84.38 42 eP P 23 43 50.1 +1.2
CROR Criterion Ridg 84.53 325 ⇓P P 23 43 50.9 +1.4
IRO Indian Ridge 84.56 323 P P 23 43 49.7 0.0
FRIS Frissel Point 84.61 324 P P 23 43 50.1 +0.2
MTE Manteigas 84.68 41 eP P 23 43 51.5 +1.1
GBL Gable Mountain 84.83 327 P P 23 43 51.8 +0.8
NEW Newport 84.86 329 eP P 23 43 50.2 -0.9
NEW pmax pmax
comp=Z,11nm,0.7s
NEW Newport 84.86 329 eP P 23 43 50.2 -0.9
comp=Z,11nm,0.7s,mb4.7
OD2 Odessa Site #2 85.01 328 ⇓P P 23 43 52.5 +0.6
ELUQ Luque 85.05 45 P P 23 43 53.4 +1.1
ELUQ pmax pmax
comp=Z,13nm,0.8s,mb4.7
ELUQ Luque 85.05 45 P P 23 43 53.4 +1.1
comp=Z,13nm,0.8s,mb4.7
DPW Davenport 85.10 328 ⇓P P 23 43 52.9 +0.6
PVRL Vila Real 85.12 41 eP P 23 43 53.4 +0.8
comp=Z,26nm,1.3s,mb4.8
EADA Adamuz 85.20 45 P P 23 43 53.7 +0.7
comp=Z,3.0nm,0.6s,mb4.2
ELOB Lobios 85.28 40 P P 23 43 52.6 -0.7
comp=Z,2.0nm,0.5s,mb4.1
EMAZ Mazaricos 85.42 39 P P 23 43 54.6 +0.6
comp=Z,1.9nm,0.8s,mb3.9
FCC Fort Churchill 85.55 346 eP P 23 43 54.3 +0.1
FCC *e*PP pP 23 44 37.8 +1.9
FCC pmax pmax
comp=Z,83nm,0.7s,mb5.6
FCC Fort Churchill 85.55 346 eP P 23 43 54.3 +0.1
comp=Z,83nm,0.7s,mb5.6
FCC *e*pP pP 23 44 37.8 +1.8
EBG Ellensburg 85.60 326 ⇓P P 23 43 56.0 +1.2
EBAN Banos Encina 85.70 45 P P 23 43 56.8 +1.3
EBAN pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
EBAN Banos Encina 85.70 45 P P 23 43 56.8 +1.3
comp=Z,5.4nm,0.6s,mb4.5
TBM Table Mountain 85.80 327 P P 23 43 56.5 +0.8
WTV Waterville 85.83 327 ⇓P P 23 43 56.4 +0.5
ETW Entiat 85.96 327 ⇓P P 23 43 57.2 +0.7
EQES Quesada 85.96 46 P P 23 43 56.8 0.0
comp=Z,1.6nm,0.4s,mb4.1
NLW Nelson Butte 86.28 327 ⇓P P 23 43 58.3 +0.2
ESDC Sonseca Array 86.46 44 P P 23 44 00.4 +1.3
comp=Z,1.5nm,0.5s,mb4.0,baz=244,slow=4.9,SNR=15
ESLA Sonseca Array 86.46 44 eP P 23 43 57.7 -1.4
EPON Pontenova 86.70 39 P P 23 44 00.8 +0.5
comp=Z,1.3nm,0.4s,mb4.1
EDM Edmonton 86.84 334 eP P 23 43 59.4 -1.2
GUD Guadarrama 86.90 43 P P 23 44 02.3 +1.1
GUD pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
GUD Guadarrama 86.90 43 P P 23 44 02.3 +1.1
comp=Z,0.9nm,0.4s,mb4.0
RPW Rockport 87.11 327 ⇓P P 23 44 01.6 -0.4
CMW Cultus Mountai 87.40 327 ⇓P P 23 44 03.5 +0.1
ETOB Tobarra 87.43 45 P P 23 44 03.4 -0.4
comp=Z,2.5nm,0.6s,mb4.2
EBEN Beniarda 88.32 46 P P 23 44 10.2 +2.1
comp=Z,3.2nm,0.6s,mb4.3
LSZ Lusaka 88.48 106 eP P 23 44 11.1 +1.8
LSZ pmax pmax
comp=Z,30nm,0.9s,mb5.1
LSZ Lusaka 88.48 106 eP P 23 44 11.1 +1.8
comp=Z,30nm,0.9s,mb5.1
ELAN Lanestosa 88.83 41 P P 23 44 10.8 +0.4
comp=Z,1.0nm,0.5s,mb4.0
EMOS Mosqueruela 89.06 45 P P 23 44 12.5 +1.0
comp=Z,1.3nm,0.6s,mb4.0
EIBI Ibiza 89.53 46 P P 23 44 13.9 +0.2
comp=Z,4.8nm,0.6s,mb4.6
ERTA Horta de San J 89.90 44 P P 23 44 16.3 +0.8
comp=Z,1.1nm,0.6s,mb4.0
SJPF Ste Jean 90.10 42 eP P 23 44 17.1 +0.8
comp=Z,9.3nm,0.8s,mb4.5
SJPF Ste Jean 90.10 42 eP P 23 44 17.1 +0.8
SJPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ETSF Etsaut 90.39 42 eP P 23 44 18.5 +0.8
comp=Z,13nm,0.8s,mb4.6
ETSF Etsaut 90.39 42 eP P 23 44 18.5 +0.8
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
EGRA Graus 90.56 43 P P 23 44 19.1 +0.7
comp=Z,2.7nm,0.6s,mb4.5
EBIE Bielsa 90.71 43 P P 23 44 20.2 +1.1
comp=Z,1.4nm,0.6s,mb4.2
EPF Esparros 91.02 43 eP P 23 44 21.0 +0.4
comp=Z,8.3nm,0.8s,mb4.5
EPF Esparros 91.02 43 eP P 23 44 21.0 +0.4
EPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ROSF Rostremen 91.86 37 eP P 23 44 23.9 -0.4
LFF La Frestale 92.28 41 eP P 23 44 26.4 0.0
comp=Z,9.6nm,0.6s,mb4.7
LFF La Frestale 92.28 41 eP P 23 44 26.4 0.0
LFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MTLF Montolieu 92.35 43 eP P 23 44 26.6 -0.1
MFF Saint Martin d 92.65 39 eP P 23 44 27.9 -0.1
comp=Z,38nm,1.1s,mb5.1
MFF Saint Martin d 92.65 39 eP P 23 44 27.9 -0.1
MFF pmax pmax
comp=Z,19nm,1.1s,mb5.1
RJF Les Rejaudoux 92.94 41 eP P 23 44 29.1 -0.3
comp=Z,8.9nm,0.9s,mb4.6
RJF Les Rejaudoux 92.94 41 eP P 23 44 29.1 -0.3
RJF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CAF Calviac 93.08 42 eP P 23 44 30.0 0.0
comp=Z,7.6nm,0.9s,mb4.5
CAF Calviac 93.08 42 eP P 23 44 30.0 0.0
CAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
GRR Gorron 93.22 38 eP P 23 44 29.8 -0.8
comp=Z,9.0nm,0.7s,mb4.7
GRR Gorron 93.22 38 eP P 23 44 29.8 -0.8
GRR pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
FLN La Foliniere 93.63 37 eP P 23 44 31.9 -0.5
LDF La Druitiere 93.74 38 eP P 23 44 32.3 -0.6
comp=Z,15nm,0.8s,mb4.9
LDF La Druitiere 93.74 38 eP P 23 44 32.3 -0.6
LDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
TCF Toulx Ste Croi 93.87 41 eP P 23 44 33.2 -0.4
comp=Z,4.6nm,0.7s,mb4.4
TCF Toulx Ste Croi 93.87 41 eP P 23 44 33.2 -0.4
TCF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
YKA Yellowknife Ar 94.21 340 P P 23 44 34.8 +0.2
comp=Z,22nm,0.8s,mb5.4,baz=131,slow=4.5,SNR=406
YKA PKiKP 23 49 16.5
comp=Z,0.3nm,0.7s,baz=133,slow=2.3,SNR=4.1
YKW3 Yellowknife Ar 94.26 340 eP P 23 44 34.7 -0.2
SMF Signal de Mont 95.02 41 eP P 23 44 38.6 -0.2
comp=Z,13nm,0.9s,mb4.8
SMF Signal de Mont 95.02 41 eP P 23 44 38.6 -0.2
SMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
SSF Saint Saulge 95.03 40 eP P 23 44 38.2 -0.7
LOR Lormes 95.34 40 eP P 23 44 39.6 -0.7
ORIF Oris-en-Rattie 95.42 43 eP P 23 44 41.5 +0.8
comp=Z,6.9nm,0.8s,mb4.6
MBDF Montbardon 95.89 43 eP P 23 44 43.6 +0.8
LPL La Plagne 96.23 43 eP P 23 44 45.4 +1.1
comp=Z,3.3nm,0.8s,mb4.6
LPL La Plagne 96.23 43 eP P 23 44 45.4 +1.1
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
LPG La Plagne 96.24 43 eP P 23 44 45.6 +1.3
comp=Z,5.5nm,0.8s,mb4.7
LPG La Plagne 96.24 43 eP P 23 44 45.6 +1.3
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
BAIF Baives 96.92 38 eP P 23 44 46.8 -0.6
comp=Z,8.9nm,0.9s,mb4.8
BAIF Baives 96.92 38 eP P 23 44 46.8 -0.6
BAIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
HAU Haudompre 97.17 40 eP P 23 44 48.7 +0.1
GIVF Givet 97.29 38 eP P 23 44 48.7 -0.4
CDF Champ du Feu 97.91 40 eP P 23 44 51.6 -0.3
SUMG Summit 98.34 8 P P 23 44 53.7 +0.3

GERES	**GERESS Array B**	**101.95**	**42**	PKKPbc			00 01 15.0	
	comp=Z,0.7nm,0.7s,baz=63,slow=2.2,SNR=4.7							
AKASG	**Malin Array Be**	**112.10**	**43**	PKiKP			23 49 50.0	
	comp=Z,1.8nm,0.6s,baz=265,slow=3.1,SNR=11							
AKASG	**Malin Array Be**	**112.10**	**43**	*i* PKIKP	PKPdf		23 49 50.0	+0.7
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**112.10**	**43**	PKPdf	PKPdf		23 49 50.0	+0.7
FINES	**FINESS Array B**	**112.30**	**31**	PKKPbc			00 00 40.6	
	comp=Z,2.7nm,1.1s,baz=90,slow=1.9,SNR=3.5							
BRTR	**Keskin Array B**	**112.86**	**55**	PKiKP			23 49 52.6	
	comp=Z,1.3nm,0.7s,baz=199,slow=1.0,SNR=7.7							
BRTR				PKKPbc			00 00 48.6	
	comp=Z,1.2nm,0.7s,baz=105,slow=5.3,SNR=6.5							
BRTR	**Keskin Array B**	**112.86**	**55**	*i* PKIKP	PKPdf		23 49 52.7	+1.6
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**113.20**	**22**	PKKPbc			00 00 39.0	
	comp=Z,3.3nm,0.8s,baz=45,slow=1.7,SNR=5.3							
MALT	**Malatya**	**116.22**	**58**	*e*PKIKP	PKPdf		23 49 59.0	+1.3
ANN	**Anapa**	**116.56**	**50**	*i* PKIKP	PKPdf		23 50 04.4	+6.2
ANN				*e*			23 56 50.2	
ANN				pmax	pmax			
	comp=Z,68nm,1.3s							
OBN	**Obninsk**	**117.09**	**39**	⇑ *i* PKIKP	PKPdf		23 50 00.1	+1.2
OBN				*e*			23 51 10.9	
OBN				*e*SS	SS		00 07 10.7	+3.6
OBN				pmax	pmax			
	comp=Z,6.0nm,0.9s							
VOR	**Voronezh**	**118.45**	**43**	PKIKP	PKPdf		23 50 04.0	+2.3
VOR				pmax	pmax			
	comp=Z,40nm,1.5s							
KIV	**Kislovodsk**	**120.20**	**52***c*	*i* PKIKP	PKPdf		23 50 06.7	+1.4
NAY	**Al-Naaiem**	**121.68**	**69**	*e*P	PKPdf		23 50 09.7	+1.2
NAY				AMb	AMB		23 50 10.9	
	comp=Z,4.2nm,0.8s							
MIB	**Mutribah**	**121.88**	**69**	*e*P	PKPdf		23 50 10.2	+1.4
MIB				AMb	AMB		23 50 11.5	
	comp=Z,9.2nm,0.9s							
RDF	**Al-Radifah**	**121.88**	**70**	*e*P	PKPdf		23 50 10.1	+1.2
RDF				AMb	AMB		23 50 10.6	
	comp=Z,7.2nm,0.5s							
UMR	**Umm Al-Rimmam**	**122.15**	**69**	*e*P	PKPdf		23 50 10.9	+1.5
UMR				AMb	AMB		23 50 11.4	
	comp=Z,22nm,0.5s							
CTA	**Charters Tower**	**125.43**	**219**	*e*P	PKPdf		23 50 17.6	+1.6
	comp=Z,4.4nm,0.6s							
CTA	**Charters Tower**	**125.43**	**219**	PKP	PKPdf		23 50 17.1	+1.1
	comp=Z,6.4nm,0.6s,baz=167,slow=3.4,SNR=7.8							
BILL	**Bilibino**	**125.57**	**338**	*e*PKIKP	PKPdf		23 50 14.6	-0.4
BILL				*e*			23 52 10.7	
BILL				*e*			23 57 08.9	
BILL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ASPA	**Alice Springs**	**128.38**	**205**	*e*P	PKPdf		23 50 22.4	+0.8
ARU	**Arti**	**129.25**	**36**	*i* PKIKP	PKPdf		23 50 23.8	+1.4
ARU				*e*			23 52 33.2	
ARU				*e*			23 57 21.7	
ARU				*e*SS	SS		00 09 47.3	+5.7
WB2	**Warramunga Arr**	**131.54**	**207**	⇓ *i* P	PKPdf		23 50 28.8	+1.1
WRA	**Warramunga Arr**	**131.55**	**207**	PKhKP			23 50 08.4	
	comp=Z,0.6nm,1.1s,baz=164,slow=2.1,SNR=5.8							
WRA				PKP	PKPdf		23 50 28.8	+1.1
	comp=Z,7.4nm,0.5s,baz=160,slow=1.7,SNR=119							
WRA				SKPbc			23 53 37.1	
	comp=Z,13nm,0.8s,baz=152,slow=3.4,SNR=53							
WRA	**Warramunga Arr**	**131.55**	**207**	PKHKP			23 50 08.4	
WRA							23 50 28.8	
WRA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
WRA				pmax	pmax			
	comp=Z,7.0nm,0.5s							
WRA				pmax	pmax			
	comp=E,13nm,0.8s							
WRAB	**Tennant Creek**	**131.55**	**207**	*d* iPKIKP	PKPdf		23 50 28.9	+1.2
TIXI	**Tiksi**	**131.56**	**353**	*e*PKIKP	PKPdf		23 50 22.8	-3.6
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TIXI				pmax	pmax			
	comp=Z,7.0nm,0.9s							
AB31	**Akbulak array**	**131.80**	**45**	*i* PKIKP	PKPdf		23 50 29.2	+1.8
AB31				pmax	pmax			
	comp=Z,4.0nm,0.6s							
SEY	**Seymchan**	**133.16**	**337**	⇓ *i* PKIKP	PKPdf		23 50 31.4	+1.8
ZRNK	**Zerenda**	**136.13**	**37**	*e*PKIKP	PKPdf		23 50 37.1	+1.8
CHKZ	**Chkalovo**	**136.71**	**36**	*e*PKIKP	PKPdf		23 50 37.5	+1.2
BVA0	**Borovoye Array**	**136.87**	**37**	PKIKP	PKPdf		23 50 38.5	+1.9
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KAKA	**Kakadu**	**138.78**	**210**	*e*P	PKPdf		23 50 56.7	+15
	comp=Z,3.3nm,0.6s							
NVS	**Novosibirsk**	**142.19**	**28**	*e*PKHKP			23 50 42.5	
NVS				pmax	pmax			
	comp=Z,16nm,1.0s							
KURK	**Kurchatov**	**142.45**	**36**	*i* PKIKP	PKPdf		23 50 49.0	+2.3
KURK	**Kurchatov**	**142.45**	**36**	*e*PKP	PKPdf		23 50 44.4	-2.3
EKS2	**Erkin-Say**	**142.78**	**50**	P	PKPdf		23 50 54.0	+2.9
	SNR=5.5							
USP	**Ospenovka**	**143.10**	**49**	P	PKPbc		23 50 51.0	+4.8
	SNR=6.4							
AAK	**Ala-Archa**	**143.29**	**50**	P	PKPbc		23 50 48.4	+1.5
	SNR=8.4							
AAK	**Ala-Archa**	**143.29**	**50**	⇑ *i* PKIKP	PKPdf		23 50 49.3	+0.9
AAK	**Ala-Archa**	**143.29**	**50**	*e*PKP	PKPdf		23 50 46.9	-1.5
UCH	**Uchtor**	**143.43**	**51**	P	PKPbc		23 50 49.5	+2.2
	SNR=8.8							
ZAL	**Zalesovo**	**143.47**	**28**	PKP	PKPdf		23 50 47.9	-0.4
	comp=Z,19nm,0.7s,baz=168,slow=3.9,SNR=86							
ZAL				SKPbc			23 54 12.7	
	comp=Z,2.6nm,0.7s,baz=146,slow=3.7,SNR=5.3							
ZAL	**Zalesovo**	**143.47**	**28**	PKIKP	PKPdf		23 50 47.9	-0.4
ZAL							23 54 12.7	
ZAL				pmax	pmax			
	comp=Z,19nm,0.7s							
ZAL				pmax	pmax			
	comp=E,3.0nm,0.7s							
KBK	**Karagaybulak**	**143.60**	**50**	P	PKPbc		23 50 49.4	+1.7
	SNR=9.7							
TKM2	**Tokmak 2**	**143.97**	**49**	P	PKPbc		23 50 50.0	+1.2
	SNR=7.8							
KZA	**Kyzart**	**144.00**	**51**	P	PKPbc		23 50 51.5	+2.6
	SNR=11							
ULHL	**Ulahol**	**144.64**	**50**	P	PKPbc		23 50 53.1	+2.4
	SNR=11							
KRAR	**Krasnoyarsk**	**144.86**	**20**	*e*PKIKP	PKPdf		23 50 51.8	+1.1
CLNS	**Chul'man**	**146.16**	**348**	*e*PKIKP	PKPdf		23 50 52.0	-0.9
CLNS				pmax	pmax			
	comp=Z,34nm,0.6s							
CLNS				pmax	pmax			
	comp=N,16nm,0.7s							
CLNS				pmax	pmax			
	comp=E,10.0nm,0.9s							
BOD	**Bodaibo**	**146.29**	**359**	*e*PKP2	PKPab		23 50 55.5	-2.4
BOD				pmax	pmax			
	comp=Z,503nm,0.7s							
MKAR	**Makanchi Array**	**146.59**	**40**	PKPbc	PKPbc		23 50 56.0	+0.5
	comp=Z,33nm,0.6s,baz=318,slow=1.1,SNR=165							
MKAR				SKPbc			23 54 19.6	
	comp=Z,1.4nm,0.8s,baz=275,slow=1.7,SNR=5.5							
MKAR	**Makanchi Array**	**146.59**	**40**	PKP2	PKPab		23 50 56.0	-3.4
MKAR							23 54 19.6	
MKAR				pmax	pmax			
	comp=Z,33nm,0.6s							
MKAR				pmax	pmax			
	comp=E,1.0nm,0.8s							
YSS	**Yuzh-Sakhalins**	**147.06**	**321**	*e*PKIKP	PKPdf		23 50 56.7	+2.0
YSS				pmax	pmax			
	comp=Z,60nm,0.9s							
YSS	**Yuzh-Sakhalins**	**147.06**	**321**	*e*PKP	PKPdf		23 50 56.6	+1.9
HYB	**Hyderabad**	**147.17**	**95**	*i* PKP	PKPdf		23 51 00.0	+4.3
HYB	**Hyderabad**	**147.17**	**95**	*e*PKP2	PKPab		23 51 00.0	-2.5
HABR	**Khabarovsk**	**150.07**	**330**	*i* PKP2	PKPab		23 51 06.8	-6.6
KLR	**Kul'dur**	**150.91**	**334**	⇑ *i* PKIKP	PKPdf		23 51 05.0	+4.3
KLR				pmax	pmax			
	comp=E,16nm,0.8s							
KLR				pmax	pmax			
	comp=Z,32nm,0.8s							
MOY	**Mondy**	**150.96**	**15**	*e*PKIKP	PKPdf		23 51 09.4	+8.7
MOY				pmax	pmax			
	comp=Z,43nm,2.3s							
WMQ	**Urumqi**	**151.41**	**40**	*e*PKP	PKPdf		23 51 03.6	+2.0
WMQ				LR	LR			
	comp=N,450nm,22.0s							
WMQ				LR	LR			
	comp=E,560nm,21.0s							
WMQ				LR	LR			
	comp=Z,600nm,22.0s							
CIT	**Chita**	**152.11**	**359**	*e*PKIKP	PKPdf		23 51 12.7	+10
ZAK	**Zakamensk**	**152.69**	**14**	*e*PKIKP	PKPdf		23 51 05.1	+1.9
ZAK				pmax	pmax			
	comp=Z,12nm,2.0s							
MJAR	**Matsushiro Arr**	**155.03**	**306**	PKPbc	PKPdf		23 51 17.7	+11
	comp=Z,5.5nm,0.6s,baz=80,slow=1.2,SNR=8.2							
MJAR				PKPab	PKPab		23 51 34.3	-0.3
	comp=Z,23nm,0.9s,baz=84,slow=2.0,SNR=19							
MJAR	**Matsushiro Arr**	**155.03**	**306**	PKIKP	PKPdf		23 51 17.7	+11
MJAR							23 51 34.3	
MJAR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
MJAR				pmax	pmax			
	comp=Z,23nm,0.9s							
MDJ	**Mudanjiang**	**155.46**	**331**	PKP	PKPdf		23 51 09.4	+2.3
SONM	**Songino Array**	**155.73**	**11**	PKP	PKPdf		23 51 10.3	+3.0
	comp=Z,3.3nm,0.8s,baz=312,slow=1.2,SNR=25							
SONM				PKPab	PKPab		23 51 36.8	-0.4
	comp=Z,6.2nm,0.7s,baz=319,slow=3.1,SNR=12							
SONM	**Songino Array**	**155.73**	**11**	PKIKP	PKPdf		23 51 10.3	+2.9
SONM							23 51 36.8	
SONM				pmax	pmax			
	comp=Z,3.0nm,0.8s							
SONM				pmax	pmax			
	comp=Z,6.0nm,0.7s							
ULN	**Ulaanbaatar**	**155.81**	**10**	*i* PKIKP	PKPdf		23 51 09.6	+2.1
CN2	**Changchun**	**157.84**	**336**	*e*PKP	PKPdf		23 51 13.8	+3.4
LSA	**Lhasa**	**159.74**	**69**	PKP	PKPdf		23 51 15.6	+2.6
LSA	**Lhasa**	**159.74**	**69**	*e*PKIKP	PKPdf		23 51 15.5	+2.5
GTA	**Gaotai**	**161.09**	**33**	PKP	PKPdf		23 51 16.8	+2.7
GTA				APKP			23 51 59.5	
GTA				XPKP			23 52 16.3	
GTA				PKS	PKS		23 54 48.9	+2.5
GTA				PP	PP		23 55 47.6	+2.6
GTA				SKS	SKS		23 58 04.4	+3.5
GTA				PP	PP			
	comp=Z,170nm,7.3s							
GTA				LR	LR			
	comp=N,120nm,9.2s							
GTA				LR	LR			
	comp=E,110nm,8.8s							
GTA				LR	LR			
	comp=Z,90nm,10.3s							
HHC	**Hu-ho-hao-te**	**163.24**	**4**	*e*PKP	PKPdf		23 51 15.3	-0.9
HHC				APKP			23 52 04.9	
HHC				XPKP			23 52 16.6	
HHC				PKS	PKS		23 54 49.0	+0.6
HHC				SKS	SKS		23 58 01.8	-0.7
HHC				PP	PP			
	comp=Z,280nm,10.0s							
HHC				LR	LR			
	comp=N,260nm,15.5s							
HHC				LR	LR			
	comp=E,350nm,15.5s							
HHC				LR	LR			
	comp=Z,230nm,11.9s							
LZH	**Lanzhou**	**165.67**	**31**	*e*PKP	PKPdf		23 51 20.8	+2.1
LZH				APKP			23 52 03.4	
LZH				PP	PP		23 56 09.8	+0.8
LZH				*e*SKS	SKS		23 58 07.1	+2.8
LZH				PP	PP			
	comp=Z,150nm,4.6s							
LZH				LR	LR			
	comp=N,230nm,19.7s							
LZH				LR	LR			
	comp=Z,560nm,20.6s							
CD2	**Chengdu**	**169.35**	**48**	*e*PKP	PKPdf		23 51 22.0	+0.7
SSE	**Sheshan**	**169.93**	**316**	PKP	PKPdf		23 51 23.0	+1.4
NJ2	**Nanjing**	**170.53**	**328**	*e*PKP	PKPdf		23 51 25.0	+3.1
NJ2				APKP			23 52 09.0	
NJ2				XPKP			23 52 23.5	
NJ2				PKP2	PKPab		23 52 45.6	+3.5
NJ2				PKS	PKS		23 54 57.0	+3.6
NJ2				PP	PP		23 56 37.0	+3.6
NJ2				PP	PP			
	comp=Z,690nm,5.2s							
NJ2				LR	LR			
	comp=N,960nm,22.2s							
NJ2				LR	LR			
	comp=E,950nm,21.6s							
NJ2				LR	LR			
	comp=Z,550nm,32.0s							
KMI	**Kunming**	**170.61**	**82**	PKP	PKPdf		23 51 21.4	-0.8
GYA	**Guiyang**	**173.80**	**66**	*e*PKP	PKPdf		23 51 25.4	+1.7
GYA				APKP			23 52 08.3	
GYA				XPKP			23 52 24.8	
GYA				PKP2	PKPab		23 52 55.3	-1.4
GYA				PP	PP		23 56 47.9	-2.0
GYA				PP	PP			
	comp=Z,120nm,8.4s							

JMA 22 00:05:07.4±0.2, 38.35N×144.74E, h54km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.51**	**288**	P	P	00 05 47.0	+0.3
OFUJ				*e*S	S	00 06 16.2	0.0
MIYJ	**Miyakonagasawa**	**2.58**	**299**	P	P	00 05 47.6	-0.2
MIYJ				*e*S	S	00 06 17.3	-0.8
JIO	**Ouri**	**2.67**	**273**	P	P	00 05 49.1	+0.1
JIO				S	S	00 06 20.4	+0.2
JMK	**Ichinoseki**	**2.82**	**283**	P	P	00 05 51.6	+0.4
JMK				*e*S	S	00 06 24.5	+0.4

IDC 22 00:07:10.4±2.7, 16.31S×173.82W, h95km±35km, mb3.8/4, mb1 3.9/6, mb1mx3.6/18, mbtmp4.2/6, Error ellipse: s-maj=34.2km s-min=24.8km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.09**	**40**	P	P	00 07 59.3	+0.9
	41nm,0.3s,baz=85,slow=2.2,SNR=33						
AFI				S	S	00 08 33.7	-0.8
	76nm,0.3s,baz=141,slow=20,SNR=13						
DZM	**Mont Dzumac**	**19.50**	**250**	P	P	00 11 32.0	-0.6
	0.5nm,0.3s,baz=88,slow=17,SNR=4.1						
URZ	**Urewera**	**23.28**	**198**	P	P	00 12 08.4	-1.9
	11nm,0.6s,baz=4.3,slow=15,SNR=9.6						
STKA	**Stephens Creek**	**43.24**	**241**	P	P	00 15 01.7	-2.4
	4.6nm,0.8s,baz=79,slow=9.4,SNR=8.4						
WRA	**Warramunga Arr**	**49.25**	**258**	P	P	00 15 49.3	-2.4
	0.4nm,0.4s,baz=96,slow=6.7,SNR=14						
VNDA	**Vanda**	**62.44**	**186**	P	P	00 17 24.0	-1.4
	1.2nm,0.8s,baz=46,slow=6.5,SNR=3.6						
BRTR	**Keskin Array B**	**146.60**	**320**	PKPbc	PKPbc	00 26 41.1	+0.2
	0.7nm,0.8s,baz=90,slow=4.9,SNR=4.3						

NNC 22 00:23:53.8±0.7, 42.72N×76.43E, h2km±48km, mb2.6, mpv3.0, Error ellipse: s-maj=41.6km s-min=1.0km az=163.0
KNET 22 00:23:54.9, 42.73N×76.34E, h17km, ml1.6
ISC 22 00:23:54.3±0.8, 42.76N±0.04×76.42E±0.06, h5km±8km, n10, σ0°43/19, 15C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.53**	**195**	⇓ P	Pg	**00 24 04.7**	**-0.2**
	22nm,0.1s,SNR=13						
ULHL				⇑ S	Sg	**00 24 12.2**	**+0.2**
	23nm,0.1s						
KNDC	**Almaty**	**0.61**	**41**	⇑ P	Pg	**00 24 06.4**	**-0.2**
	166nm,0.1s						
KNDC				⇑ S	Sg	**00 24 15.3**	**+0.7**
	623nm,0.3s						
TKM2	**Tokmak 2**	**0.63**	**285**	⇑ P	Pg	**00 24 06.6**	**-0.3**
	9.7nm,0.2s,SNR=36						
TKM2				⇑ S	Sg	**00 24 15.7**	**+0.3**
	89nm,0.1s						
TKM2	**Tokmak 2**	**0.63**	**285**	⇑ P	Pg	**00 24 06.5**	**-0.4**
	1.4nm,0.2s						
TKM2				⇓ S	Sg	**00 24 15.7**	**+0.4**
	17nm,0.2s						
KBK	**Karagaybulak**	**1.09**	**265**	⇑ P	Pb	**00 24 14.9**	**-0.4**
	2.9nm,0.1s,SNR=12						
KBK				⇓ S	Sb	**00 24 30.2**	**+0.6**
	14nm,0.2s						
KZA	**Kyzart**	**1.10**	**232**	⇓ P	Pb	**00 24 15.4**	**-0.1**
	1.2nm,0.1s,SNR=7.5						
KZA				⇑ S	Sb	**00 24 30.6**	**+0.6**
	7.5nm,0.2s						
CHMS	**Chumysh**	**1.25**	**282**	⇑ P	Pb	**00 24 17.2**	**-0.8**
	1.3nm,0.1s						
CHMS				⇑ S	Sb	**00 24 34.0**	**-0.4**
	11nm,0.2s						
AAK	**Ala-Archa**	**1.43**	**266**	⇑ P	Pn	**00 24 20.6**	**-0.4**
	1.4nm,0.2s						
AAK				⇑ S	Sb	**00 24 39.6**	**+0.2**
	3.3nm,0.1s						
USP	**Ospenovka**	**1.50**	**291**	⇓ P	Pn	**00 24 21.7**	**-0.3**
	2.9nm,0.1s,SNR=9.2						
USP				⇑ S	Sb	**00 24 42.0**	**+0.4**
	14nm,0.2s						
KK31	**Karatay Array**	**4.35**	**277**	⇑ Pg	Pg	**00 25 16.0**	**-5.2**
	0.2nm,0.4s,baz=96,slow=18,SNR=4.5						
KK31				⇑ Lg		00 26 07.8	
	1.3nm,0.6s,baz=98,slow=28						

JMA 22 00:27:10.7±0.5, 44.83N×148.00E, h180km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.19**	**229**	P	P	00 27 50.1	-0.2
NEM2				*e*S	S	00 28 20.5	-0.2
JNK	**Nakash**	**2.67**	**243**	P	P	00 27 55.7	-0.2
JAK	**Akkeshi**	**3.01**	**234**	P	P	00 27 59.3	-0.7
JAK				*e*S	S	00 28 37.1	-0.9
JAR	**Ashorobuto**	**3.41**	**245**	P	P	00 28 04.9	-0.2
JCH	**Churui**	**4.03**	**238**	P	P	00 28 10.6	-2.2
JCH				*e*S	S	00 28 57.2	-3.6
JNBK	**Urakawa-nobuka**	**4.59**	**238**	P	P	00 28 16.7	-3.4
JNBK				*e*S	S	00 29 09.0	-4.7
JKB	**Kayabe**	**5.87**	**242**	P	P	00 28 32.2	-4.5
JKB				*e*S	S	00 29 35.5	-8.1
JOT	**Ohata**	**6.14**	**238**	P	P	00 28 35.8	-4.6
JOT				*e*S	S	00 29 41.3	-8.8

CSEM 22 00:44:06.1±1.2, 38.66N×28.97W, ML2.0, Error ellipse: s-maj=8.5km s-min=5.7km az=56.0, After PDA
PDA 22 00:44:06.1±1.2, 38.66N×28.97W, MD3.2, ML2.0, Error ellipse: s-maj=8.5km s-min=5.7km az=56.0
SVSA 22 00:44:06.1±1.2, 38.66N×28.97W, MD3.2, ML2.0, Error ellipse: s-maj=8.5km s-min=5.7km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.15**	**119**	*e*P	Pg	00 44 09.7	+0.5
PTCA				*e*S	Sg	00 44 12.1	+0.8
	76nm,0.1s						
PTCA	**Ponta do Capel**	**0.15**	**119**	*e*P	Pg	00 44 09.7	+0.5
PTCA				*e*S	Sg	00 44 12.1	+0.8
	76nm,0.1s						
PCED	**Cedros**	**0.21**	**98**	*i* P	Pg	00 44 10.1	-0.2
PCED				*i* S	Sg	00 44 13.7	+0.5
	77nm,0.2s						
PCED	**Cedros**	**0.21**	**98**	*i* S	Sg	00 44 13.7	+0.5
	77nm,0.2s						
CALA	**Caldeira**	**0.22**	**110**	*e*S	Sg	00 44 13.4	-0.2
HOR	**Horta**	**0.30**	**116**	*e*S	Sg	00 44 15.6	-0.4
PCND	**Candelaria**	**0.44**	**115**	*e*P	Pg	00 44 14.5	-0.4
PCND				*e*S	Sg	00 44 20.2	-0.6
	31nm,0.2s						
PICO	**Pico**	**0.46**	**110**	*e*P	Pg	00 44 14.1	-1.1
PICO				*e*S	Sg	00 44 20.8	-0.4
PBOI	**Pico dos Bois**	**0.52**	**115**	*e*P	Pg	00 44 15.7	-0.7
PBOI				*e*S	Sg	00 44 22.4	-0.9
	39nm,0.2s						
ROSA	**Rosais**	**0.57**	**84**	*i* P	Pg	00 44 16.1	-1.4
ROSA				*e*S	Sg	00 44 23.9	-1.3
PPNO	**Prainha do Nor**	**0.58**	**108**	*e*P	Pg	00 44 16.7	-1.1
PPNO				*i* S	Sg	00 44 24.9	-0.7
	130nm,0.1s						
PAMA	**Santo Amaro**	**0.62**	**88**	*e*S	Sg	00 44 25.5	-1.2
PGRA	**Graciosa**	**0.86**	**64**	*e**rx*	Sg	00 44 32.0	-2.6

IDC 22 01:13:03.4±3.8, 35.88N×70.00E, mb3.7/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.6/5, ML3.3/2, MS4.2/1, Ms1 4.2/1, ms1mx2.8/20, Error ellipse: s-maj=93.1km s-min=28.4km az=138.0
NNC 22 01:13:22.5±6.4, 36.88N×70.01E, h34km±63km, mb4.1, mpv3.7, Error ellipse: s-maj=111.0km s-min=19.5km az=1.0
ISC 22 01:13:21.1±2.4, 36.7N±0.1×70.3E±0.1, h126km±22km, n15, σ0°67/17, mb3.5/2, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.04**	**25**	P	**P**	**01 14 49.2**	**0.0**
	SNR=61						
KK31	**Karatay Array**	**6.40**	**2**	⇑ Pn	**P**	**01 14 54.6**	**+0.4**
	2.1nm,0.5s,baz=184,slow=13,SNR=38						
KK31				⇓ Sn	**S**	**01 16 06.5**	**+0.1**
	2.0nm,0.3s,baz=188,slow=25,SNR=7.7						
UCH	**Uchtor**	**6.43**	**29**	P	**P**	**01 14 54.0**	**-0.5**
	SNR=7.2						
EKS2	**Erkin-Say**	**6.54**	**23**	P	**P**	**01 14 56.9**	**+0.7**
	SNR=15						
KZA	**Kyzart**	**6.62**	**34**	P	**P**	**01 14 57.2**	**+0.1**
	SNR=6.3						
AAK	**Ala-Archa**	**6.77**	**28**	P	**P**	**01 14 55.9**	**-3.3**
	SNR=6.6						
TKM2	**Tokmak 2**	**7.45**	**32**	P	**P**	**01 15 07.4**	**-0.9**
	SNR=6.9						
TKM2	**Tokmak 2**	**7.45**	**32**	⇑ Pn	**P**	**01 15 07.6**	**-0.8**
	3.0nm,0.5s						
TKM2				⇓ Sn	**S**	**01 16 32.3**	**+0.6**
	5.4nm,0.7s						
MKAR	**Makanchi Array**	**13.49**	**38**	Pn	**P**	**01 16 28.3**	**+0.1**
	0.0nm,0.3s,baz=225,slow=16,SNR=3.1						
AB31	**Akbulak array**	**14.63**	**332**	P	**P**	**01 16 43.0**	**+0.3**
	2.4nm,0.5s,baz=151,slow=11,SNR=44						
AB31				⇓ S	**S**	**01 19 21.1**	**-0.7**
	1.2nm,0.5s,baz=152,slow=23,SNR=6.8						
BVAR	**Borovoye Array**	**16.33**	**0**	P	**P**	**01 17 04.7**	**+0.7**
	0.3nm,0.3s,baz=164,slow=10,SNR=7.2						
ZAL	**Zalesovo**	**19.97**	**26**	P	**P**	**01 17 44.7**	**-0.6**
	3.5nm,0.4s,baz=248,slow=6.1,SNR=11						
ARCES	**ARCESS Array B**	**40.74**	**338**	P	**P**	**01 20 51.1**	**+0.5**
	2.3nm,0.9s,mb4.0,baz=117,slow=8.1,SNR=5.0						
JNU	**Nakatsue**	**49.12**	**75**	LR	LR	01 45 43.4	
	comp=Z,251nm,21.6s,baz=324,slow=40						
TORD	**Torodi Ar. Bea**	**65.13**	**268**	P	**P**	**01 23 44.9**	**-6.0**
	0.2nm,0.7s,mb3.0,baz=49,sl

Error ellipse: s-maj=2.0km s-min=1.8km az=1.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIL1	**Quilotoa**	**0.37**	**68**	⫴P	P	01 49 43.8	-0.2
IGUA	**Igualata**	**0.81**	**128**	P	P	01 49 48.2	+1.2
CAMI	**Rancho Maria**	**0.83**	**68**	⫴P	P	01 49 47.9	+0.8
CAMI				S	S	01 50 03.8	+0.8
CUSU	**Cusua**	**0.92**	**120**	P	P	01 49 48.8	+0.9
JUIV	**Juive**	**0.92**	**118**	P	P	01 49 48.4	+0.4
VC1	**Cotopaxi 1**	**0.94**	**69**	⫴P	P	01 49 48.8	+0.6
TAMB	**Tambo**	**0.95**	**72**	⫴P	P	01 49 48.9	+0.6
ULBA	**Ulba**	**0.98**	**118**	⫴P	P	01 49 49.1	+0.4
JUA2	**San Juan 2**	**1.02**	**41**	⫴P	P	01 49 49.4	+0.4
JUA2				S	S	01 50 06.5	+0.4
MAG1	**Magdalena**	**1.03**	**331**	⫴P	P	01 49 49.6	+0.4
TERV	**Terraza Guagua**	**1.05**	**40**	⫴P	P	01 49 49.8	+0.5
TERV				S	S	01 50 07.1	+0.4
GGP	**Refugio Guagua**	**1.06**	**40**	⫴P	P	01 49 49.9	+0.6
PINO	**Pino**	**1.06**	**39**	⫴P	P	01 49 49.8	+0.4
PINO				S	S	01 50 06.8	-0.1
YANA	**Yana**	**1.11**	**39**	⫴P	P	01 49 50.2	+0.2
JAMA	**Jama**	**1.17**	**308**	P	P	01 49 50.7	+0.1
ANTI	**Antisana**	**1.24**	**64**	⫴P	P	01 49 51.9	+0.6
COTA	**Cotacachi**	**1.61**	**36**	⫴P	P	01 49 56.3	+0.7
COTA				S	S	01 50 18.1	+0.2
ANGU	**Angureal**	**1.63**	**51**	⫴P	P	01 49 56.7	+0.9
ANGU				S	S	01 50 19.9	+1.7
LAV3	**Lava3-Reventad**	**1.87**	**62**	P	P	01 49 59.4	+0.8
CONE	**Cono NE Rev Vo**	**1.87**	**61**	P	P	01 49 59.3	+0.7

*NEIC **22** 02:10:47.4±1.5,48.30N×154.75E,h61km±14km,mb4.2/5, Error ellipse: s-maj=16.4km s-min=11.2km az=136.0*
*MOS **22** 02:10:48.0±0.9,48.42N×154.77E,h76km,mb4.2/10,Error ellipse: s-maj=22.4km s-min=13.6km az=81.4*
*IDC **22** 02:10:51.4±4.3,48.38N×154.80E,h94km±40km,mb3.4/9, mb1 3.7/10,mb1mx3.5/22,mbtmp3.8/10,MS3.4/4, Ms1 3.4/4,ms1mx2.9/23,Error ellipse: s-maj=26.2km s-min=17.7km az=143.0*
ISC 22 02:10:46.2±1.5,48.34N±0.09×154.8E±0.1,h65km±14km, n37,σ1§10/38,mb3.9/16,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**5.29**	**26**	*e*PN	**P**	**02 12 04.4**	**0.0**
PET				*e*S	**S**	**02 12 59.7**	**-5.0**
PET				pmax	pmax		
	comp=Z,25nm,0.6s						
PET				smax			
	comp=E,94nm,0.6s						
PET				smax			
	comp=N,115nm,0.5s						
PET	**Petropavlovsk**	**5.29**	**26**	*e*Pn	**P**	**02 12 04.4**	**0.0**
	comp=N,25nm,0.6s						
PET				*e*S	**S**	**02 12 59.7**	**-5.0**
KUR	**Kuril'sk**	**5.69**	**240**	*e*PN	**P**	**02 12 08.0**	**-2.0**
KUR				S	**S**	**02 13 15.0**	**+0.2**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,130nm,0.8s						
KUR				smax			
	comp=E,60nm,0.8s						
KUR	**Kuril'sk**	**5.69**	**240**	*e*Pn	**P**	**02 12 08.0**	**-2.0**
	comp=E,80nm,0.6s						
KUR				S	**S**	**02 13 15.0**	**+0.2**
ASAJ	**Asahikawa**	**9.46**	**248**	P	**P**	**02 13 04.5**	**+2.4**
	comp=E,1.2nm,0.3s,baz=85,slow=17,SNR=7.1						
ASAJ				LR	LR	02 16 39.6	
	comp=E,101nm,19.1s,baz=342,slow=37						
ASAJ	**Asahikawa**	**9.46**	**248**	PN	**P**	**02 13 04.5**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,101nm,19.1s						
YAK	**Yakutsk**	**19.67**	**323**	P	**P**	**02 15 13.2**	**+1.1**
YAK				pmax	pmax		
	comp=Z,27nm,0.7s						
YAK	**Yakutsk**	**19.67**	**323**	P	**P**	**02 15 13.2**	**+1.1**
	comp=Z,27nm,0.7s						
BILL	**Bilibino**	**20.59**	**12**	P	**P**	**02 15 17.4**	**-4.3**
SONM	**Songino Array**	**31.92**	**288**	LR	LR	02 30 12.3	
	comp=Z,84nm,18.4s,baz=110,slow=36						
ILAR	**Eielson Array**	**34.59**	**40**	P	**P**	**02 17 31.9**	**+1.6**
	comp=Z,0.8nm,1.0s,mb3.5,baz=276,slow=8.2,SNR=5.2						
INK	**Inuvik**	**39.69**	**34**	P	**P**	**02 18 13.3**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.6,baz=235,slow=5.0,SNR=4.3						
INK	**Inuvik**	**39.69**	**34**	P	**P**	**02 18 13.3**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**39.69**	**34**	P	**P**	**02 18 07.2**	**-5.8**
ZAL	**Zalesovo**	**42.65**	**305**	LR	LR	02 37 17.5	
	comp=Z,56nm,21.1s,baz=279,slow=37						
MKAR	**Makanchi Array**	**47.25**	**297**	P	**P**	**02 19 14.4**	**+0.2**
	comp=Z,1.2nm,0.6s,mb3.8,baz=68,slow=8.0,SNR=20						
KURK	**Kurchatov**	**47.46**	**303**	*e*P	**P**	**02 19 15.5**	**-0.3**
KURK				*e*	pP	02 19 33.2	+0.8
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
YKA	**Yellowknife Ar**	**48.96**	**38**	P	**P**	**02 19 27.5**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=295,slow=7.2,SNR=6.5						
CHKZ	**Chkalovo**	**50.30**	**310**	*e*P	**P**	**02 19 36.4**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**50.79**	**309**	*e*P	**P**	**02 19 38.3**	**-3.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**50.79**	**309**	*e*P	**P**	**02 19 38.3**	**-3.1**
	comp=Z,1.0nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**51.50**	**310**	*e*P	**P**	**02 19 47.5**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**56.73**	**341**	LR	LR	02 49 54.3	
	comp=Z,44nm,18.8s,baz=196,slow=41						
FCC	**Fort Churchill**	**59.30**	**34**	*e*P	**P**	**02 20 41.9**	**-1.1**
FCC				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FCC	**Fort Churchill**	**59.30**	**34**	*e*P	**P**	**02 20 41.9**	**-1.1**
	comp=Z,0.9nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**62.89**	**55**	P	**P**	**02 21 06.3**	**-1.2**
	comp=Z,1.2nm,1.0s,mb3.8,baz=270,slow=1.5,SNR=6.6						
FINES	**FINESS Array B**	**63.09**	**335**	P	**P**	**02 21 08.0**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=45,slow=5.4,SNR=7.1						
FINES	**FINESS Array B**	**63.09**	**335**	P	**P**	**02 21 08.0**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRAB	**Tennant Creek**	**70.38**	**200**	P	**P**	**02 21 55.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**70.38**	**200**	P	**P**	**02 21 55.4**	**+0.2**
	comp=Z,3.2nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**70.40**	**200**	P	**P**	**02 21 55.7**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.0,baz=16,slow=6.3,SNR=14						
WRA	**Warramunga Arr**	**70.40**	**200**	P	**P**	**02 21 55.7**	**+0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**75.72**	**62**	P	**P**	**02 22 26.9**	**+0.7**
	comp=Z,1.2nm,0.7s,mb3.8,baz=297,slow=4.0,SNR=20						
TXAR	**Lajitas Array**	**75.72**	**62**	P	**P**	**02 22 26.9**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.72**	**62**	P	**P**	**02 22 26.9**	**+0.7**
GERES	**GERESS Array B**	**77.52**	**335**	P	**P**	**02 22 36.8**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.3,baz=45,slow=5.6,SNR=4.0						
STKA	**Stephens Creek**	**80.72**	**191**	P	**P**	**02 22 53.2**	**-0.5**
	comp=Z,3.0nm,1.0s,mb4.1						

*OTT **22** 02:21:40.6±1.7,60.55N×43.99W,h18km,ML3.9/3,South Coast of Greenland 1079km northeast from Aillik, Nl*
*IDC **22** 02:21:41.0±0.5,60.51N×44.45W,mb4.0/21,mb1 4.1/25, mb1mx4.1/31,mbtmp4.0/25,ML3.5/4,MS3.5/7,Ms1 3.5/7, ms1mx3.1/27,Error ellipse: s-maj=16.0km s-min=10.6km az=3.0*
*MOS **22** 02:21:40.5±0.8,60.50N×44.40W,h10km,mb4.6/28,Error ellipse: s-maj=10.9km s-min=10.0km az=118.0*
*NEIC **22** 02:21:42.2±0.2,60.50N×44.47W,h10km,mb4.4/32, ML3.9(OTT),Error ellipse: s-maj=6.8km s-min=3.4km az=191.0*
ISC 22 02:21:40.4±0.2,60.59N±0.05×44.45W±0.05,h10km,n133,

σ1§14/149,mb4.2/52,MS3.5/6,Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**6.99**	**340**	Pn	**Pn**	**02 23 23.2**	**-2.1**
	4.9nm,0.3s,baz=125,slow=1,SNR=21						
SFJD				Sn	**Sn**	**02 24 41.1**	**-4.5**
	17nm,0.3s,baz=59,slow=10,SNR=5.7						
SFJD				Lg		02 25 14.2	
	19nm,0.3s,baz=239,slow=18,SNR=14						
SFJD	**Kangerlussuaq**	**6.99**	**340**	*i* P	**Pn**	**02 23 25.2**	**-0.1**
SFJD				*i* S	**Sn**	**02 24 40.8**	**-4.8**
BORG	**Borgarnes**	**11.38**	**59**	Pn	**P**	**02 24 26.4**	**+0.5**
	1.3nm,0.3s,baz=68,slow=5.9,SNR=5.4						
BORG				Sn	**S**	**02 26 29.4**	**-4.7**
	0.4nm,0.3s,baz=6.6,slow=4.3,SNR=2.1						
BORG	**Borgarnes**	**11.38**	**59**	*e*Pn	**P**	**02 24 24.6**	**-1.2**
FRB	**Frobisher Bay**	**11.67**	**296**	Pn	**P**	**02 24 27.6**	**-2.1**
	0.4nm,0.3s,baz=99,slow=12,SNR=8.4						
FRB				Sn	**S**	**02 26 30.1**	**-11**
	0.1nm,0.3s,baz=184,slow=13,SNR=2.4						
FRB				LR	LR	02 28 44.5	
	comp=Z,145nm,19.4s,baz=300,slow=36						
FRB	**Frobisher Bay**	**11.67**	**296**	PN	**P**	**02 24 25.4**	**-4.4**
FRB				SN	**S**	**02 26 33.4**	**-7.7**
FRB				SN	**S**	**02 26 33.6**	**-7.5**
SUMG	**Summit**	**12.26**	**9**	*e*Pn	**P**	**02 24 33.5**	**-4.3**
	20nm,0.7s						
SUMG				*e*Sn	**S**	**02 26 39.2**	**-16**
SCHQ	**Schefferville**	**13.24**	**254**	Pn	**P**	**02 24 48.4**	**-2.5**
	0.7nm,0.3s,baz=49,slow=14,SNR=13						
SCHQ				Sn	**S**	**02 27 04.8**	**-14**
	0.3nm,0.3s,baz=188,slow=17,SNR=1.9						
SCHQ	**Schefferville**	**13.24**	**254**	PN	**P**	**02 24 48.3**	**-2.6**
SCHQ				SN	**S**	**02 27 06.7**	**-13**
SCHQ				Trac		02 27 14.3	
	comp=Z,2.6nm,0.3s						
SCHQ	**Schefferville**	**13.24**	**254**	*e*Pn	**P**	**02 24 48.5**	**-2.4**
SCHQ				*e*Sn	**S**	**02 27 09.2**	**-10**
SCO	**Scoresbysund**	**13.50**	**33**	*i* P	**P**	**02 24 57.1**	**+2.9**
	3.2nm,0.8s						
SCO				*e*S	**S**	**02 27 40.0**	**+15**
DRLN	**Deer Lake**	**13.58**	**219**	PN	**P**	**02 24 56.2**	**+1.1**
DRLN				SN	**S**	**02 27 19.5**	**-7.6**
DRLN				Trac		02 27 39.7	
	comp=Z,2.1nm,0.6s						
NATG	**Natashquan Que**	**14.61**	**233**	PN	**P**	**02 25 09.5**	**+0.8**
NATG				SN	**S**	**02 27 41.4**	**-10**
SMQ	**Clarke City**	**16.26**	**240**	PN	**P**	**02 25 29.5**	**-0.7**
SMQ				SN	**S**	**02 28 23.4**	**-7.0**
CHEG	**Cheticamp, Nov**	**16.75**	**222**	PN	**P**	**02 25 36.2**	**-0.1**
MNQ	**Manicouagan**	**16.94**	**244**	PN	**P**	**02 25 38.5**	**-0.3**
MNQ				SN	**S**	**02 28 34.3**	**-12**
YOSQ	**Ashton Mining**	**16.97**	**255**	PN	**P**	**02 25 36.0**	**-3.0**
YOSQ				SN	**S**	**02 28 33.4**	**-13**
YOSQ				Trac		02 28 43.1	
	comp=Z,1.4nm,0.4s						
ICQ	**Pointe Anglais**	**17.03**	**240**	PN	**P**	**02 25 40.6**	**+0.7**
ICQ				PN	**P**	**02 25 40.7**	**+0.8**
ICQ				SN	**S**	**02 28 40.5**	**-7.7**
LG4Q	**La Grande 4**	**17.43**	**260**	PN	**P**	**02 25 42.9**	**-1.9**
CNQ	**Baie Comeau**	**17.54**	**240**	PN	**P**	**02 25 47.6**	**+1.3**
GBN	**Guysborough**	**18.26**	**221**	PN	**P**	**02 25 56.8**	**+1.6**
BATG	**Bathurst New B**	**18.31**	**233**	PN	**P**	**02 25 56.5**	**+0.6**
WEMQ	**Wemindji, Queb**	**19.65**	**262**	PN	**P**	**02 26 09.8**	**-2.0**
WEMQ				SN	**S**	**02 29 37.5**	**-10**
EKA	**Eskdalemuir Ar**	**22.23**	**85**	P	**P**	**02 26 37.8**	**-0.6**
	1.2nm,0.8s,mb3.4,baz=294,slow=10,SNR=4.1						
RES	**Resolute Bay**	**22.79**	**328**	*e*P	**P**	**02 26 46.0**	**+2.4**
RES				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3						
RES	**Resolute Bay**	**22.79**	**328**	*e*P	**P**	**02 26 46.0**	**+2.4**
	comp=Z,12nm,0.9s,mb4.3						
FCC	**Fort Churchill**	**24.66**	**288**	*e*P	**P**	**02 27 02.1**	**+0.3**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
FCC	**Fort Churchill**	**24.66**	**288**	*e*P	**P**	**02 27 02.0**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.1						
KBS	**Kingsbay**	**25.03**	**22**	*e*P	**P**	**02 27 02.3**	**-2.9**
KBS				pmax	pmax		
	comp=Z,106nm,1.6s,mb5.1						
KBS	**Kingsbay**	**25.03**	**22**	*e*P	**P**	**02 27 02.3**	**-2.9**
	comp=Z,106nm,1.6s,mb5.1						
GRR	**Gorron**	**27.55**	**96**	*e*P	**P**	**02 27 28.8**	**-0.1**
LDF	**La Druitiere**	**27.77**	**95**	*e*P	**P**	**02 27 30.6**	**-0.3**
	comp=Z,7.0nm,0.8s,mb4.0						
LDF	**La Druitiere**	**27.77**	**95**	*e*P	**P**	**02 27 30.6**	**-0.3**
LDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ARCES	**ARCESS Array B**	**29.12**	**43**	P	**P**	**02 27 42.5**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.2,baz=301,slow=7.1,SNR=11						
ARE0	**ARCESS Array S**	**29.12**	**43**	*e*P	**P**	**02 27 42.5**	**-0.3**
MFF	**Saint Martin d**	**29.14**	**98**	*e*P	**P**	**02 27 42.9**	**-0.3**
KEV	**Kevo**	**29.55**	**42**	*e*p	**P**	**02 27 36.2**	**-10**
EYMN	**Ely**	**29.55**	**266**	*e*P	**P**	**02 27 46.5**	**-0.5**
	comp=Z,9.9nm,0.9s,mb4.5						
ULM	**Lac du Bonnet**	**30.19**	**273**	P	**P**	**02 27 51.8**	**-0.8**
	comp=Z,0.6nm,0.3s,mb3.7,baz=72,slow=6.4,SNR=2.9						
TCF	**Toulx Ste Croi**	**30.51**	**97**	*e*P	**P**	**02 27 55.1**	**-0.3**
	comp=Z,28nm,1.2s,mb4.7						
TCF	**Toulx Ste Croi**	**30.51**	**97**	*e*P	**P**	**02 27 55.1**	**-0.3**
TCF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.7						
SSF	**Saint Saulge**	**30.61**	**94**	*e*P	**P**	**02 27 55.6**	**-0.7**
BGF	**Bois d'Agland**	**30.63**	**96**	*e*P	**P**	**02 27 56.1**	**-0.4**
LOR	**Lormes**	**30.64**	**94**	*e*P	**P**	**02 27 56.1**	**-0.4**
LOR				*e*R			
	comp=Z,98nm,19.2s						
AVF	**Avril sur Loir**	**30.72**	**95**	*e*P	**P**	**02 27 56.5**	**-0.8**
	comp=Z,5.7nm,0.6s,mb4.2						
AVF	**Avril sur Loir**	**30.72**	**95**	*e*P	**P**	**02 27 56.5**	**-0.8**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
LFF	**La Frestale**	**30.76**	**100**	*e*P	**P**	**02 27 57.6**	**-0.1**
	comp=Z,24nm,0.9s,mb4.7						
LFF	**La Frestale**	**30.76**	**100**	*e*P	**P**	**02 27 57.6**	**-0.1**
LFF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
RJF	**Les Rejaudoux**	**30.87**	**99**	*e*P	**P**	**02 27 58.8**	**+0.2**
SMF	**Signal de Mont**	**31.06**	**95**	*e*P	**P**	**02 27 59.7**	**-0.6**
	comp=Z,7.1nm,0.6s,mb4.4						
SMF	**Signal de Mont**	**31.06**	**95**	*e*P	**P**	**02 27 59.7**	**-0.6**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
SJPF	**Ste Jean**	**31.17**	**104**	*e*P	**P**	**02 28 01.5**	**+0.2**
CDF	**Champ du Feu**	**31.54**	**89**	*e*P	**P**	**02 28 04.4**	**-0.1**
ETSF	**Etsaut**	**31.65**	**104**	*e*P	**P**	**02 28 06.1**	**+0.6**
	comp=Z,12nm,1.0s,mb4.4						
ETSF	**Etsaut**	**31.65**	**104**	*e*P	**P**	**02 28 06.1**	**+0.6**
ETSF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
HINF	**Hinteralfeld**	**31.74**	**90**	*e*P	**P**	**02 28 05.8**	**-0.4**
EPF	**Esparros**	**31.98**	**103**	*e*P	**P**	**02 28 08.7**	**+0.3**
	comp=Z,13nm,1.0s,mb4.4						
EPF	**Esparros**	**31.98**	**103**	*e*P	**P**	**02 28 08.7**	**+0.3**
EPF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**32.00**	**304**	P	**P**	**02 28 07.5**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.4,baz=59,slow=9.7,SNR=8.2						
YKA				PcP	PcP	02 30 56.5	-1.8
	comp=Z,0.3nm,0.6s,baz=50,slow=2.8,SNR=4.8						
YKA				ScP		02 34 38.8	
	comp=Z,0.3nm,0.8s,baz=55,slow=4.0,SNR=4.4						
YKA	**Yellowknife Ar**	**32.00**	**304**	P	**P**	**02 28 07.5**	**-0.8**
YKA				PcP	PcP	02 30 56.5	-1.8
YKA				ScP		02 34 38.9	
CABF	**La Chapelle**	**32.19**	**93**	*e*P	**P**	**02 28 10.4**	**+0.2**
	comp=Z,3.6nm,0.5s,mb4.1						
CABF	**La Chapelle**	**32.19**	**93**	*e*P	**P**	**02 28 10.4**	**+0.2**
CABF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
ESDC	**Sonseca Array**	**32.57**	**111**	P	**P**	**02 28 13.7**	**+0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=320,slow=9.0,SNR=10						
ESLA	**Sonseca Array**	**32.57**	**111**	*e*P	**P**	**02 28 14.0**	**+0.5**
MTLF	**Montolieu**	**32.66**	**100**	*e*P	**P**	**02 28 14.2**	**-0.1**
	comp=Z,7.9nm,0.8s,mb4.4						
MTLF	**Montolieu**	**32.66**	**100**	*e*P	**P**	**02 28 14.2**	**-0.1**
MTLF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**32.67**	**57**	P	**P**	**02 28 14.8**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.0,baz=307,slow=9.2,SNR=6.3						
VIVF	**Saint-Julien-l**	**32.74**	**96**	*e*P	**P**	**02 28 15.3**	**+0.3**
LPL	**La Plagne**	**33.28**	**93**	*e*P	**P**	**02 28 20.3**	**+0.6**
	comp=Z,3.4nm,0.5s,mb4.2						
LPL	**La Plagne**	**33.28**	**93**	*e*P	**P**	**02 28 20.3**	**+0.6**
LPL				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ORIF	**Oris-en-Rattie**	**33.29**	**95**	*e*P	**P**	**02 28 20.1**	**+0.3**
	comp=Z,10.0nm,0.7s,mb4.5						
LPG	**La Plagne**	**33.30**	**93**	*e*P	**P**	**02 28 20.6**	**+0.7**
BNI	**Bardonecchia**	**33.59**	**94**	*e*P	**P**	**02 28 22.0**	**-0.4**
BNI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BNI	**Bardonecchia**	**33.59**	**94**	*e*P	**P**	**02 28 22.0**	**-0.4**
	comp=Z,3.9nm,0.8s,mb4.4						
MBDF	**Montbardon**	**33.87**	**94**	*e*P	**P**	**02 28 25.4**	**+0.6**
	comp=Z,4.8nm,0.7s,mb4.2						
MBDF	**Montbardon**	**33.87**	**94**	*e*P	**P**	**02 28 25.4**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
DAVOX	**Davos**	**33.94**	**89**	LR	LR	02 40 27.1	
	comp=Z,61nm,19.7s,MS3.3,baz=276,slow=33						
JOF	**Joensuu**	**34.02**	**52**	*e*p	**P**	**02 28 25.5**	**-0.5**
GERES	**GERESS Array B**	**34.41**	**83**	P	**P**	**02 28 29.2**	**-0.2**
	comp=Z,0.4nm,0.8s,mb3.4,baz=315,slow=8.3,SNR=4.2						
GERES				LR	LR	02 40 37.9	
	comp=Z,64nm,19.0s,MS3.4,baz=278,slow=33						
FRF	**La Foret Royal**	**34.66**	**96**	*e*P	**P**	**02 28 31.6**	**0.0**
	comp=Z,15nm,1.0s,mb4.6						
FRF	**La Foret Royal**	**34.66**	**96**	*e*P	**P**	**02 28 31.6**	**0.0**
FRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
INK	**Inuvik**	**35.87**	**321**	P	**P**	**02 28 42.5**	**+0.8**
	comp=Z,3.5nm,0.7s,mb4.4,baz=44,slow=9.9,SNR=13						
INK	**Inuvik**	**35.87**	**321**	*e*P	**P**	**02 28 42.0**	**+0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**35.87**	**321**	*e*P	**P**	**02 28 42.0**	**+0.3**
	comp=Z,3.4nm,0.8s,mb4.3						
MDT	**Midelt**	**37.98**	**119**	LR	LR	02 42 02.0	
	comp=Z,24nm,18.4s,MS3.0,baz=144,slow=32						
PSZ	**Piszkesteto**	**38.07**	**80**	*e*P	**P**	**02 29 01.1**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
PSZ	**Piszkesteto**	**38.07**	**80**	*e*P	**P**	**02 29 01.1**	**+0.8**
	comp=Z,4.3nm,0.8s,mb4.2						
KWP	**Kalwaria**	**38.25**	**75**	*e*P	**P**	**02 29 03.5**	**+1.6**
KWP				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
KWP	**Kalwaria**	**38.25**	**75**	*e*P	**P**	**02 29 03.5**	**+1.6**
	comp=Z,11nm,1.1s,mb4.5						
DAWY	**Dawson**	**40.32**	**317**	*e*P	**P**	**02 29 21.0**	**+2.0**
DLBC	**Dease Lake**	**40.56**	**306**	*e*P	**P**	**02 29 24.6**	**+3.6**
AKASG	**Malin Array Be**	**40.59**	**70**	P	**P**	**02 29 21.8**	**+0.5**
	comp=Z,1.2nm,0.6s,mb3.7,baz=314,slow=8.2,SNR=10						
PDAR	**Pinedale Array**	**42.15**	**276**	P	**P**	**02 29 34.6**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.4,baz=54,slow=9.6,SNR=5.9						
ILAR	**Eielson Array**	**42.25**	**322**	P	**P**	**02 29 37.2**	**+2.6**
	comp=Z,3.5nm,0.8s,mb4.1,baz=43,slow=7.3,SNR=39						
ILAR				PcP	PcP	02 31 28.1	-1.1
	comp=Z,1.2nm,0.8s,baz=20,slow=2.2,SNR=12						
ILAR				LR	LR	02 46 47.1	
	comp=Z,79nm,18.0s,MS3.6,baz=179,slow=36						
COLA	**College**	**42.47**	**322**	*e*P	**P**	**02 29 37.7**	**+1.3**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
COLA	**College**	**42.47**	**322**	*e*P	**P**	**02 29 37.7**	**+1.2**
	comp=Z,4.4nm,0.8s,mb4.1						
WMOK	**Wichita Mounta**	**43.09**	**258**	*e*P	**P**	**02 29 41.1**	**-0.8**
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
WMOK	**Wichita Mounta**	**43.09**	**258**	*e*P	**P**	**02 29 41.1**	**-0.8**
	comp=Z,2.9nm,0.9s,mb4.0						
MCK	**McKinley**	**43.62**	**321**	*e*P	**P**	**02 29 47.3**	**+1.5**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
MCK	**McKinley**	**43.62**	**321**	*e*P	**P**	**02 29 47.2**	**+1.5**
	comp=Z,2.6nm,0.8s,mb4.0						
ANMO	**Albuquerque**	**46.67**	**266**	P	**P**	**02 30 11.8**	**+1.3**
BILL	**Bilibino**	**49.74**	**345**	P	**P**	**02 30 31.0**	**-3.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BILL	**Bilibino**	**49.74**	**345**	P	**P**	**02 30 31.0**	**-3.1**
	comp=Z,4.4nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**49.75**	**279**	P	**P**	**02 30 34.8**	**+0.3**
	comp=

WIZ	**White Island**	**0.84**	**45**	PN	P	02 40 44.2	-0.9
MWZ	**Matawai**	**0.88**	**104**	PN	P	02 40 45.2	-0.2
MWZ				SN	S	02 41 03.4	-0.9
MWZ	**Matawai**	**0.88**	**104**	P	P	02 40 45.2	-0.1
MWZ				S	S	02 41 04.1	-0.2
BKZ	**Black Stump Fm**	**1.04**	**178**	⇓PN	P	02 40 46.5	-0.1
BKZ				SN	S	02 41 05.5	-0.9
BKZ	**Black Stump Fm**	**1.04**	**178**	P	P	02 40 46.5	0.0
BKZ				S	S	02 41 05.6	-0.8
CNZ	**Chateau**	**1.28**	**213**	PN	P	02 40 48.5	-0.3
TUVZ	**Tukino**	**1.29**	**208**	PN	P	02 40 48.8	-0.2
TUVZ	**Tukino**	**1.29**	**208**	P	P	02 40 48.8	-0.2
KNZ	**Kokohu**	**1.32**	**133**	PN	P	02 40 49.3	+0.1
KNZ				SN	S	02 41 11.4	+0.2
KNZ	**Kokohu**	**1.32**	**133**	P	P	02 40 49.3	+0.1
FWVZ	**Far West T-bar**	**1.32**	**211**	PN	P	02 40 49.1	-0.2
TRVZ	**Turoa**	**1.36**	**210**	PN	P	02 40 49.5	-0.2
WNVZ	**Wahianoa**	**1.37**	**208**	P	P	02 40 49.5	-0.2
MOVZ	**Moawhango**	**1.39**	**203**	PN	P	02 40 49.2	-0.8
MOVZ	**Moawhango**	**1.39**	**203**	P	P	02 40 49.2	-0.7
PUZ	**Puketiti**	**1.44**	**88**	PN	P	02 40 49.6	-0.8
PUZ				SN	S	02 41 11.5	-1.9
PUZ	**Puketiti**	**1.44**	**88**	P	P	02 40 49.8	-0.6
PUZ				S	S	02 41 12.4	-0.9
PKVZ	**Pokaka**	**1.44**	**216**	PN	P	02 40 50.0	-0.5
MTVZ	**Mangateitei**	**1.47**	**211**	PN	P	02 40 50.3	-0.5
MXZ	**Matakaoa Point**	**1.58**	**70**	PN	P	02 40 51.6	-0.4
MXZ	**Matakaoa Point**	**1.58**	**70**	P	P	02 40 51.6	-0.3
VRZ	**Vera Road**	**1.65**	**232**	PN	P	02 40 52.2	-0.4
VRZ	**Vera Road**	**1.65**	**232**	P	P	02 40 52.3	-0.4
PXZ	**Pawanui**	**1.93**	**170**	PN	P	02 40 55.2	-0.5
TSZ	**Takapari Road**	**1.97**	**191**	PN	P	02 40 55.0	-1.1
TSZ	**Takapari Road**	**1.97**	**191**	P	P	02 40 55.2	-0.9
WAZ	**Wanganui**	**1.98**	**214**	PN	P	02 40 55.4	-1.0
WAZ	**Wanganui**	**1.98**	**214**	P	P	02 40 55.6	-0.7
BFZ	**Birch Farm**	**2.56**	**183**	PN	P	02 41 01.6	-1.8
BFZ	**Birch Farm**	**2.56**	**183**	P	P	02 41 01.7	-1.7
MRZ	**Mangatainoka R**	**2.62**	**194**	⇓PN	P	02 41 02.0	-2.2
KIW	**Kapiti Island**	**2.98**	**203**	PN	P	02 41 05.7	-3.0
KIW	**Kapiti Island**	**2.98**	**203**	P	P	02 41 05.7	-3.0
MTW	**Mount Morrison**	**3.11**	**193**	PN	P	02 41 07.3	-3.2
MTW	**Mount Morrison**	**3.11**	**193**	P	P	02 41 07.4	-3.1
CAW	**Cannon Point**	**3.16**	**199**	PN	P	02 41 08.0	-3.1
CAW	**Cannon Point**	**3.16**	**199**	P	P	02 41 08.1	-3.0
DUWZ	**D'Urville Isla**	**3.31**	**215**	PN	P	02 41 09.5	-3.5
TRWZ	**Traveller**	**3.32**	**190**	PN	P	02 41 10.0	-3.1
PAWZ	**Paruwai Farm**	**3.34**	**193**	PN	P	02 41 10.0	-3.4
PAWZ	**Paruwai Farm**	**3.34**	**193**	P	P	02 41 10.1	-3.3
MRW	**Makara Radio**	**3.38**	**203**	PN	P	02 41 10.3	-3.6
MRW	**Makara Radio**	**3.38**	**203**	P	P	02 41 10.4	-3.5
WEL	**Wellington**	**3.41**	**202**	PN	P	02 41 10.9	-3.4
WEL	**Wellington**	**3.41**	**202**	P	P	02 41 10.9	-3.4
MSWZ	**Moikau Station**	**3.41**	**195**	PN	P	02 41 10.6	-3.7
MSWZ	**Moikau Station**	**3.41**	**195**	P	P	02 41 10.8	-3.5
SNZO	**South Karori**	**3.45**	**202**	PN	P	02 41 10.9	-3.9
SNZO	**South Karori**	**3.45**	**202**	P	P	02 41 11.1	-3.7
BHW	**Baring Head**	**3.49**	**200**	PN	P	02 41 11.6	-3.8
BHW	**Baring Head**	**3.49**	**200**	P	P	02 41 11.7	-3.7
TCW	**Tory Channel**	**3.50**	**208**	PN	P	02 41 11.5	-4.1
TCW	**Tory Channel**	**3.50**	**208**	P	P	02 41 11.7	-3.8
TUWZ	**Tuamarina**	**3.82**	**209**	PN	P	02 41 15.4	-4.2
NNZ	**Nelson**	**3.89**	**216**	PN	P	02 41 16.1	-4.4
NNZ	**Nelson**	**3.89**	**216**	P	P	02 41 16.4	-4.1
QRZ	**Quartz Range**	**4.05**	**227**	PN	P	02 41 18.0	-4.6
QRZ	**Quartz Range**	**4.05**	**227**	*eP*	P	02 41 18.0	-4.6
BSWZ	**Blackbirch Sta**	**4.09**	**208**	PN	P	02 41 19.2	-3.9
BSWZ	**Blackbirch Sta**	**4.09**	**208**	P	P	02 41 19.3	-3.8
THZ	**Tophouse**	**4.54**	**216**	PN	P	02 41 24.4	-4.6
THZ	**Tophouse**	**4.54**	**216**	P	P	02 41 24.8	-4.2
KHZ	**Kahutara**	**4.83**	**206**	PN	P	02 41 28.0	-4.8
KHZ	**Kahutara**	**4.83**	**206**	P	P	02 41 28.2	-4.6
DSZ	**Denniston Nort**	**5.08**	**223**	PN	P	02 41 29.8	-6.3
DSZ	**Denniston Nort**	**5.08**	**223**	*eP*	P	02 41 30.6	-5.5
LTZ	**Lake Taylor**	**5.63**	**213**	PN	P	02 41 38.0	-5.4
LTZ	**Lake Taylor**	**5.63**	**213**	*eP*	P	02 41 38.1	-5.4
MQZ	**McQueen's Vall**	**6.27**	**206**	PN	P	02 41 45.6	-6.4
MQZ	**McQueen's Vall**	**6.27**	**206**	*eP*	P	02 41 45.0	-6.9
RPZ	**Rata Peaks**	**6.91**	**214**	*eP*	P	02 41 55.2	-5.4
LBZ	**Lake Benmore**	**7.83**	**215**	*eP*	P	02 42 06.5	-6.3
ODZ	**Otahua Downs**	**8.16**	**210**	PN	P	02 42 11.3	-5.9
ODZ	**Otahua Downs**	**8.16**	**210**	*eP*	P	02 42 11.5	-5.7
TUZ	**Tuapeka**	**9.31**	**211**	PN	P	02 42 27.4	-5.0
TUZ	**Tuapeka**	**9.31**	**211**	*eP*	P	02 42 28.0	-4.4

*BJI **22** 03:13:48.9, 6.78S×75.11W, h108km, mB5.4*
*NEIC **22** 03:13:50.2±0.2, 7.12S×76.04W, mb4.4/21, Error ellipse: s-maj=7.3km s-min=4.1km az=68.0*
*IDC **22** 03:13:51.5±0.6, 7.09S×76.02W, h121km±4km, mb4.0/14, mb1 4.1/18, mb1mx4.1/22, mbtmp4.3/18, MS2.8/2, Ms1 2.9/2, ms1mx2.5/22, Error ellipse: s-maj=18.7km s-min=10.8km az=62.0*

ISC 22 03:13:49.1±0.3, 7.10S±0.04×76.08W±0.06, h114km, h114km±2.6km; pP-P, n84, σ0°75/70, mb4.3/34, 1C, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.92**	**189**	*eP*	**P**	**03 15 03.0**	**+0.9**
OTAV	**Otavalo**	**7.66**	**342**	*eP*	**P**	**03 15 41.4**	**+2.0**
	13nm,0.7s						
LPAZ	**La Paz**	**11.99**	**140**	P	**P**	**03 16 36.9**	**-0.4**
	0.2nm,0.3s,baz=260,slow=21,SNR=5.8						
LPAZ				LR	LR	03 22 13.5	
	comp=Z,22nm,19.5s,baz=91,slow=42						
LPAZ	**La Paz**	**11.99**	**140**	*eP*	**P**	**03 16 36.3**	**-1.0**
	4.8nm,0.7s						
ROSC	**El Rosal**	**12.00**	**8**	P	**P**	**03 16 39.5**	**+2.0**
	1.0nm,0.3s,baz=302,slow=23,SNR=2.5						
SDV	**Santo Domingo**	**16.78**	**19**	P	**P**	**03 17 40.5**	**+1.9**
	3.2nm,0.3s,baz=220,slow=12,SNR=27						
SDV				S	**S**	**03 20 38.6**	**-1.5**
	0.5nm,0.3s,baz=234,slow=23,SNR=1.9						
SDV	**Santo Domingo**	**16.78**	**19**	*eP*	**P**	**03 17 40.0**	**+1.4**
	17nm,0.5s						
SIV	**San Ignacio**	**17.14**	**122**	P	**P**	**03 17 42.5**	**-0.5**
	0.9nm,0.3s,baz=307,slow=11,SNR=17						
SIV				S	**S**	**03 20 48.3**	**+0.1**
	0.4nm,0.3s,baz=162,slow=22,SNR=1.9						
CFAA	**Coronel Fontan**	**25.46**	**164**	P	**P**	**03 19 08.4**	**+0.3**
	0.2nm,0.4s,mb2.9,baz=354,slow=4.9,SNR=3.6						
CPUP	**Villa Florida**	**26.16**	**139**	*eP*	**P**	**03 19 13.9**	**-0.8**
	16nm,0.4s,mb4.8						
SJG	**San Juan**	**26.90**	**21**	P	**P**	**03 19 21.6**	**+0.1**
	9.2nm,0.4s,mb4.7,baz=187,slow=7.8,SNR=6.9						
MTP	**Monte Pirata**	**27.10**	**22**	*eP*	**P**	**03 19 22.3**	**-1.1**
BDFB	**Brasilia**	**28.76**	**110**	P	**P**	**03 19 37.8**	**-0.5**
	4.4nm,0.8s,mb4.1,baz=274,slow=9.9,SNR=4.3						
BDFB				LR	LR	03 31 44.1	
	comp=Z,46nm,19.8s,baz=97,slow=37						
PLCA	**Paso Flores**	**33.85**	**172**	P	**P**	**03 20 22.7**	**+0.1**
	1.5nm,0.5s,mb4.1,baz=347,slow=10,SNR=9.6						
PLCA				PcP	PcP	03 22 58.9	-0.2
	0.8nm,0.5s,baz=304,slow=4.5,SNR=5.7						
PLCA	**Paso Flores**	**33.85**	**172**	*eP*	**P**	**03 20 21.8**	**-0.8**
GOGA	**Godfrey**	**40.89**	**351**	P	**P**	**03 21 21.7**	**+0.2**
LRAL	**Lakeview Retre**	**41.24**	**346**	*eP*	**P**	**03 21 23.7**	**-0.7**
	2.9nm,0.5s,mb4.4						
CPCT	**Cooper Cave**	**43.06**	**350**	*eP*	**P**	**03 21 39.0**	**-0.4**
TZTN	**Tazewell**	**43.97**	**351**	*eP*	**P**	**03 21 45.8**	**-0.9**
TXAR	**Lajitas Array**	**44.91**	**325**	P	**P**	**03 21 55.2**	**+0.9**
	0.8nm,0.5s,mb3.7,baz=151,slow=8.5,SNR=23						
TXAR				pP	pP	03 22 20.5	-0.3
	0.4nm,0.7s,baz=142,slow=8.3,SNR=2.3						
TXAR				PcP	PcP	03 23 33.9	-0.4
	0.8nm,0.8s,baz=149,slow=7.3,SNR=4.0						
WMOK	**Wichita Mounta**	**46.81**	**334**	*eP*	**P**	**03 22 09.0**	**-0.3**
	15nm,1.8s,mb4.4						
MNTX	**Cornudas Mount**	**47.66**	**326**	*eP*	**P**	**03 22 15.2**	**-0.7**
ANMO	**Albuquerque**	**50.71**	**328**	*eP*	**P**	**03 22 39.4**	**+0.2**
	1.1nm,0.8s,mb3.9						
ANMO				*e*pP	pP	03 23 05.2	-1.1
SDCO	**Great Sand Dun**	**52.38**	**331**	*eP*	**P**	**03 22 51.7**	**-0.1**
	6.0nm,0.9s,mb4.6						
SDCO				*e*pP	pP	03 23 16.5	-2.6
TPNV	**Topopah Spring**	**57.72**	**322**	P	**P**	**03 23 30.3**	**-0.1**
PDAR	**Pinedale Array**	**58.23**	**331**	P	**P**	**03 23 33.1**	**-0.7**
	0.6nm,0.7s,mb3.7,baz=124,slow=7.6,SNR=5.0						
PDAR				pP	pP	03 23 59.4	-2.1
	0.6nm,0.5s,baz=122,slow=9.4,SNR=4.0						
ULM	**Lac du Bonnet**	**59.65**	**345**	P	**P**	**03 23 41.9**	**-1.6**
	6.9nm,0.8s,mb4.7,baz=155,slow=6.7,SNR=14						
ULM				pP	pP	03 24 11.2	-0.2
	1.9nm,0.3s,baz=145,slow=7.5,SNR=4.4						
ELK	**Elko**	**59.68**	**326**	*eP*	**P**	**03 23 42.9**	**-1.0**
NVAR	**Mina Array Bea**	**59.92**	**322**	P	**P**	**03 23 45.8**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=145,slow=7.3,SNR=5.7						
NVAR				pP	pP	03 24 15.2	+1.7
	0.3nm,0.4s,baz=142,slow=6.4,SNR=3.5						
GCMT	**Greycliff**	**60.61**	**334**	*eP*	**P**	**03 23 49.6**	**-0.6**
HLID	**Hailey**	**61.21**	**329**	*eP*	**P**	**03 23 53.5**	**-0.8**
HLID				*e*pP	pP	03 24 20.0	-2.3
SCHQ	**Schefferville**	**62.19**	**6**	P	**P**	**03 23 59.5**	**-1.1**
	1.0nm,0.5s,mb4.1,baz=217,slow=8.1,SNR=3.6						
LIC	**Lamto**	**72.11**	**81**	*eP*	**P**	**03 25 02.9**	**-0.6**
	5.2nm,0.5s,mb4.4						
DBIC	**Dimbokro**	**72.35**	**81**	P	**P**	**03 25 04.9**	**0.0**
	9.2nm,0.5s,mb4.9,baz=247,slow=6.0,SNR=53						
YKA	**Yellowknife Ar**	**75.42**	**343**	P	**P**	**03 25 21.1**	**-0.6**
	2.1nm,0.5s,mb4.1,baz=140,slow=6.2,SNR=119						
YKA				pP	pP	03 25 52.5	+1.6
	1.0nm,0.5s,baz=137,slow=6.1,SNR=7.0						
YKA	**Yellowknife Ar**	**75.42**	**343**	P	**P**	**03 25 21.1**	**-0.6**
YKA				pP	pP	03 25 52.5	+1.6
SNAA	**Sanae**	**78.05**	**162**	*eP*	**P**	**03 25 36.2**	**-0.1**
	3.3nm,0.6s,mb4.2						
SNAA				*e*pP	pP	03 26 05.8	+0.2
TORD	**Torodi Ar. Bea**	**79.80**	**75**	P	**P**	**03 25 46.5**	**-0.4**
	4.6nm,0.7s,mb4.5,baz=292,slow=6.7,SNR=59						
TORD				pP	pP	03 26 15.4	-0.8
	2.8nm,0.9s,baz=282,slow=6.3,SNR=4.4						
ESDC	**Sonseca Array**	**80.96**	**48**	P	**P**	**03 25 53.5**	**+0.9**
	0.4nm,0.6s,mb3.5,baz=258,slow=5.2,SNR=9.0						
SUMG	**Summit**	**83.12**	**11**	*eP*	**P**	**03 26 03.9**	**+0.9**
	12nm,0.8s,mb4.8						
SJPF	**Ste Jean**	**83.90**	**45**	*eP*	**P**	**03 26 08.6**	**+1.0**
	11nm,0.9s,mb4.4						
ROSF	**Rostrenen**	**84.01**	**40**	*eP*	**P**	**03 26 08.2**	**+0.2**
	7.2nm,0.7s,mb4.3						
ETSF	**Etsaut**	**84.31**	**46**	*eP*	**P**	**03 26 10.7**	**+1.1**
EPF	**Esparros**	**84.98**	**46**	*eP*	**P**	**03 26 13.8**	**+0.8**
	2.8nm,0.6s,mb4.1						
MFF	**Saint Martin d**	**85.56**	**42**	*eP*	**P**	**03 26 16.0**	**+0.3**
	7.6nm,0.7s,mb4.4						
GRR	**Gorron**	**85.57**	**40**	*eP*	**P**	**03 26 15.9**	**+0.2**
LFF	**La Frestale**	**85.74**	**44**	*eP*	**P**	**03 26 17.0**	**+0.3**
	30nm,1.1s,mb4.8						
RJF	**Les Rejaudoux**	**86.36**	**44**	*eP*	**P**	**03 26 20.0**	**+0.3**
MTLF	**Montolieu**	**86.39**	**46**	*eP*	**P**	**03 26 20.7**	**+0.8**
TCF	**Toulx Ste Croi**	**87.06**	**43**	*eP*	**P**	**03 26 23.8**	**+0.7**
LASF	**Ste Croix**	**87.71**	**45**	*eP*	**P**	**03 26 26.5**	**+0.2**
AVF	**Avril sur Loir**	**87.94**	**43**	*eP*	**P**	**03 26 26.7**	**-0.6**
	3.2nm,0.8s,mb4.1						
SSF	**Saint Saulge**	**88.10**	**42**	*eP*	**P**	**03 26 27.3**	**-0.7**
	9.4nm,1.0s,mb4.5						
SMF	**Signal de Mont**	**88.24**	**43**	*eP*	**P**	**03 26 28.4**	**-0.3**
	8.8nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**88.34**	**336**	P	**P**	**03 26 28.9**	**+0.1**
	2.2nm,0.8s,mb4.2,baz=134,slow=3.5,SNR=19						
ILAR				pP	pP	03 27 01.6	+2.8
	1.3nm,1.0s,baz=128,slow=2.8,SNR=4.4						
LOR	**Lormes**	**88.38**	**42**	*eP*	**P**	**03 26 28.7**	**-0.7**
BAIF	**Baives**	**89.19**	**39**	*eP*	**P**	**03 26 32.8**	**-0.3**
ORIF	**Oris-en-Rattie**	**89.30**	**45**	*eP*	**P**	**03 26 34.5**	**+0.8**
	6.8nm,0.7s,mb4.5						
MEZF	**Maizieres J'vi**	**89.42**	**41**	*eP*	**P**	**03 26 34.0**	**-0.2**
GIVF	**Givet**	**89.59**	**39**	*eP*	**P**	**03 26 35.1**	**+0.2**
FRF	**La Foret Royal**	**89.59**	**46**	*eP*	**P**	**03 26 35.1**	**0.0**
VNDA	**Vanda**	**89.70**	**191**	P	**P**	**03 26 35.5**	**+0.5**
	1.2nm,0.8s,mb4.1,baz=74,slow=14,SNR=5.6						
VNDA	**Vanda**	**89.70**	**191**	P	**P**	**03 26 35.5**	**+0.5**
MBDF	**Montbardon**	**89.89**	**45**	*eP*	**P**	**03 26 37.0**	**+0.5**
LPL	**La Plagne**	**90.00**	**44**	*eP*	**P**	**03 26 37.8**	**+0.8**
	4.7nm,0.8s,mb4.4						
LPG	**La Plagne**	**90.01**	**44**	*eP*	**P**	**03 26 38.0**	**+1.0**
	24nm,1.2s,mb4.9						
HINF	**Hinteralfeld**	**90.48**	**42**	*eP*	**P**	**03 26 38.8**	**-0.4**
CDF	**Champ du Feu**	**90.86**	**41**	*eP*	**P**	**03 26 40.5**	**-0.5**
SYO	**Syowa Base**	**92.31**	**161**	⇑sP	sP	03 27 27.6	-2.0
BVAR	**Borovoye Array**	**126.69**	**25**	PKP	PKPdf	03 32 39.5	+0.4
	1.4nm,0.7s,baz=267,slow=1.4,SNR=8.1						
ZAL	**Zalesovo**	**130.80**	**15**	PKP	PKPdf	03 32 48.2	+1.2
	2.8nm,0.8s,baz=211,slow=2.0,SNR=18						
ZAL	**Zalesovo**	**130.80**	**15**	PKP	PKPdf	03 32 48.2	+1.2
MKAR	**Makanchi Array**	**136.31**	**22**	PKP	PKPdf	03 32 58.6	+1.2
	0.8nm,0.5s,baz=323,slow=2.0,SNR=12						
MKAR				pPKP		03 33 33.0	
	0.5nm,0.6s,slow=1.2,SNR=3.2						
CN2	**Changchun**	**138.86**	**336**	*e*PKP	PKPdf	03 33 05.0	+2.8
SONM	**Songino Array**	**139.35**	**357**	PKP	PKPdf	03 33 02.8	-0.2
	0.5nm,0.6s,baz=45,slow=2.0,SNR=3.4						
WB2	**Warramunga Arr**	**139.77**	**228**	*eP*	PKPdf	03 32 59.8	-4.7
WRA	**Warramunga Arr**	**139.78**	**228**	PKhKP		03 32 59.2	
	0.2nm,0.5s,baz=125,slow=2.4,SNR=6.3						
WRA				PKP	PKPdf	03 33 05.5	+1.0
	1.8nm,0.8s,baz=126,slow=1.9,SNR=16						
WRA				pPKP		03 33 39.8	
	1.0nm,0.7s,baz=122,slow=2.0,SNR=4.1						
WMQ	**Urumqi**	**140.75**	**19**	*e*PKP	PKPdf	03 33 07.3	+1.6
KAKA	**Kakadu**	**145.50**	**235**	*eP*	Px	03 33 38.4	
	4.1nm,0.6s						
HHC	**Hu-ho-hao-te**	**145.71**	**350**	*e*PKP	PKPdf	03 33 08.3	-6.0
HHC				SKS	SKS	03 40 07.1	-2.8
HHC				PP	PP		
	comp=Z,140nm,5.8s						
HHC				LR	LR		
	comp=N,230nm,13.1s						
HHC				LR	LR		
	comp=E,320nm,10.7s						
HHC				LR	LR		
	comp=Z,280nm,13.1s						
FITZ	**Fitzroy Crossi**	**147.04**	**220**	*eP*	PKPdf	03 33 20.6	+3.4
	comp=Z,7.7nm,1.1s						
GTA	**Gaotai**	**147.62**	**6**	PKP	PKPdf	03 33 20.1	+2.6
GTA				APKP		03 33 46.8	
GTA				XPKP		03 33 57.5	
GTA				PP	PP	03 36 51.3	0.0
GTA				PKS	PKS	03 36 53.8	+2.2
GTA				SKS	SKS	03 40 17.3	+4.7
GTA				SKKS		03 43 29.5	
GTA				PP	PP		
	comp=Z,240nm,7.6s						
GTA				LR	LR		
	comp=N,180nm,8.0s						
GTA				LR	LR		
	comp=E,190nm,6.9s						
GTA				LR	LR		
	comp=Z,90nm,13.0s						
LZH	**Lanzhou**	**151.15**	**0**	*e*PKP	PKPdf	03 33 26.5	+3.4
LZH				PKP2	PKPab	03 33 42.8	+3.1
LZH				APKP		03 33 56.3	
LZH				LR	LR		
	comp=N,180nm,18.5s						
LZH				LR	LR		
	comp=Z,250nm,20.0s						
NJ2	**Nanjing**	**151.54**	**333**	*e*PKP	PKPdf	03 33 26.5	+2.7
NJ2				PKP2	PKPab	03 33 43.8	+2.4
NJ2				APKP		03 33 53.9	
NJ2				PKS	PKS	03 37 00.0	+2.6
NJ2				PP	PP	03 37 15.0	+1.5
NJ2				PP	PP		
	comp=Z,250nm,5.0s						
NJ2				LR	LR		
	comp=N,1μm,20.0s						
NJ2				LR	LR		
	comp=E,940nm,20.6s						
NJ2				LR	LR		
	comp=Z,620nm,29.6s						

IDC 22 03:25:33.0±2.7, 49.72S×125.00E, mb3.8/3, mb1 4.0/3, mb1mx3.9/9, mbtmp3.8/3, MS3.4/3, Ms1 3.3/3, ms1mx3.1/14, Error ellipse: s-maj=117.6km s-min=26.8km az=98.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.72**	**41**	P	P	03 30 25.8	-1.8
	5.9nm,0.9s,baz=198,slow=11,SNR=9.1						
STKA				LR	LR	03 36 24.7	
	comp=Z,89nm,20.6s,baz=61,slow=30						
WRA	**Warramunga Arr**	**30.63**	**17**	P	P	03 31 48.5	-2.5
	0.9nm,0.9s,baz=193,slow=8.3,SNR=3.4						
VNDA	**Vanda**	**31.19**	**165**	P	P	03 31 53.1	-2.2
	0.8nm,0.7s,baz=318,slow=12,SNR=4.7						
MAW	**Mawson**	**35.02**	**216**	LR	LR	03 44 24.1	
	comp=Z,23nm,21.3s,baz=64,slow=32						
LBTB	**Lobatse**	**77.08**	**247**	LR	LR	04 02 28.5	
	comp=Z,92nm,21.5s,baz=81,slow=29						
YKA	**Yellowknife Ar**	**145.71**	**45**	PKPbc	PKPbc	03 45 11.8	-0.9
	0.5nm,0.9s,baz=268,slow=2.8,SNR=7.8						

*CSEM **22** 04:04:27.2±0.1, 43.08N×47.10E, h10km, mb4.3/14, Error ellipse: s-maj=1.9km s-min=1.7km az=144.0*
*IDC **22** 04:04:28.0±0.7, 42.97N×47.11E, mb4.0/18, mb1 4.1/25, mb1mx4.1/29, mbtmp4.0/25, ML3.8/7, MS3.3/8, Ms1 3.3/8, ms1mx3.1/30, Error ellipse: s-maj=15.0km s-min=8.9km az=145.0*
*TIF **22** 04:04:28.8, 43.04N×47.15E, h9km±2km*
*MOS **22** 04:04:28.0±1.8, 43.07N×47.17E, h12km, mb4.5/14, Error ellipse: s-maj=4.6km s-min=4.3km az=103.0*
MOS Felt (IV) at Uchkent; (III) at Karanay, Buinaksk; (II-III) at Makhachkala.
*NEIC **22** 04:04:29.4±0.3, 43.18N×47.23E, h10km, mb4.4/24, Error ellipse: s-maj=7.5km s-min=4.7km az=176.0*
NEIC Felt [IV] at Uchkent; [III] at Buynaksk, Karanayaul and Makhachkala.
*NNC **22** 04:04:44.2±4.4, 43.72N×47.86E, h75km±39km, mb3.9, Error ellipse: s-maj=84.1km s-min=30.4km az=134.0*

ISC 22 04:04:27.6±0.6, 43.22N±0.02×47.34E±0.03, h6km±4km, n205, σ1°§47/277, mb4.1/35, MS3.2/6, 26C-14D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.29**	**155**	*i* PG	**Pg**	**04 04 35.7**	**+2.3**
MAK				*i*		04 04 41.3	
MAK				pmax	pmax		
	comp=Z,850nm,0.2s						
MAK				smax			
	comp=N,13μm,0.2s						
MAK	**Makhachkala**	**0.29**	**155**	*i* Pg	**Pg**	**04 04 35.7**	**+2.3**
	comp=N,850nm,0.2s						
MAK				*i* Sg	**Sg**	**04 04 41.3**	**+4.0**
	comp=N,13μm,0.2s						
DBC	**Dubki**	**0.42**	**242**	⇓*i* PG	**Pg**	**04 04 31.9**	**-4.2**
DBC				pmax	pmax		
	comp=Z,2μm,0.2s						
DBC	**Dubki**	**0.42**	**242**	*i* Pg	**Pg**	**04 04 31.9**	**-4.2**
	comp=Z,2μm,0.2s						
KRNR	**Karanay**	**0.51**	**219**	PG	**Pg**	**04 04 30.0**	**-7.7**
MNSR	**Manas**	**0.59**	**152**	*e*PG	**Pg**	**04 04 38.5**	**-0.9**
MNSR				*e*S	**Sg**	**04 04 46.5**	**-0.7**
MNSR				pmax	pmax		
	comp=Z,2μm,0.3s						
MNSR	**Manas**	**0.59**	**152**	*e*Pg	**Pg**	**04 04 38.5**	**-0.9**
	comp=Z,2μm,0.3s						
MNSR				*e*Sg	**Sg**	**04 04 46.5**	**-0.7**
UNCR	**Uncukul**	**0.65**	**218**	⇑*i* PG	**Pg**	**04 04 34.3**	**-6.2**
UNCR	**Uncukul**	**0.65**	**218**	*i* Pg	**Pg**	**04 04 34.3**	**-6.2**
SGKR	**Sergokala**	**0.80**	**163**	⇓*i* PG	**Pg**	**04 04 43.0**	**-0.5**
SGKR				*i* S	**Sg**	**04 04 57.5**	**+3.4**
SGKR				pmax	pmax		
	comp=Z,3μm,0.2s						
SGKR	**Sergokala**	**0.80**	**163**	*i* Pg	**Pg**	**04 04 43.0**	**-0.5**
	comp=Z,3μm,0.2s						
SGKR				*i* Sg	**Sg**	**04 04 57.5**	**+3.4**
GNBR	**Gunib**	**0.88**	**198**	⇑*i* PG	**Pg**	**04 04 39.3**	**-5.8**
GNBR				*e*S	**Sg**	**04 04 49.0**	**-7.8**
GNBR	**Gunib**	**0.88**	**198**	*i* Pg	**Pg**	**04 04 39.3**	**-5.8**
GNBR				*e*Sg	**Sg**	**04 04 49.0**	**-7.8**
BTLR	**Botlikh**	**0.99**	**236**	⇓*i* PG	**Pg**	**04 04 42.0**	**-5.4**
BTLR				*e*S	**Sb**	**04 04 52.5**	**-7.4**
URKR	**Urkarakh**	**1.08**	**168**	*i* Pg	**Pg**	**04 04 44.5**	**-4.6**
URKR				*e*Sg	**Sg**	**04 05 02.0**	**-1.5**
KMKR	**Kumukh**	**1.10**	**189**	*i* PG	**Pg**	**04 04 45.0**	**-4.6**
KMKR				pmax	pmax		
	comp=Z,2μ

GNI Sn **Sn** **04 06 10.0 +0.6**
CHVG Ch'k'valeri 3.89 264 P **Pn** **04 05 32.1 +2.9**
CHVG S **Sn** **04 06 16.8 +1.0**
DIGO Kars 4.08 228 *i* P **Pn** **04 05 35.6 +3.6**
DIGO *i* S **Sn** **04 06 25.5 +4.8**
ARTV Artvin 4.50 245 *i* P **Pn** **04 05 38.7 +0.7**
ARTV *i* S **Sn** **04 06 46.3 +15**
SOC Sochi 5.56 276 *eP* **Pn** **04 05 48.8 -4.2**
SOC *e* 04 06 51.4
SOC pmax pmax
comp=Z,14nm,0.7s
SOC MLR MLR
comp=Z,154nm,9.0s
SOC Sochi 5.56 276 *eP* **Pn** **04 05 48.8 -4.2**
comp=Z,14nm,0.7s
SOC *eS* **Sn** **04 06 51.4 -6.8**
comp=Z,154nm,9.0s
ERZM Erzurum 5.57 236 *i* P **Pn** **04 05 52.2 -0.9**
ERZM *i* S **Sn** **04 06 54.6 -3.7**
ANN Anapa 7.31 286 *eP* **Pn** **04 06 14.8 -2.8**
ANN *eS* **Sn** **04 07 36.3 -5.6**
ANN pmax pmax
comp=Z,86nm,1.3s
ANN Anapa 7.31 286 *eP* **Pn** **04 06 14.8 -2.8**
comp=Z,86nm,1.3s
ANN *eS* **Sn** **04 07 36.3 -5.6**
MALT Malatya 8.35 237 *eP* **P** **04 06 34.0 +1.9**
MALT pmax pmax
comp=Z,3.0nm,0.9s
MALT Malatya 8.35 237 *ePn* **P** **04 06 34.0 +1.9**
comp=Z,3.2nm,0.9s
MALT Malatya 8.35 237 *eP* **P** **04 06 34.0 +1.9**
comp=Z,3.0nm,0.9s
AKTK Aktyubinsk 10.27 42 Pn **P** **04 07 00.5 +1.9**
AKTK Sn **S** **04 08 50.0 -5.1**
AKTK LR LR 04 12 29.2
AKTK Aktyubinsk 10.27 42 P **P** **04 07 00.5 +2.0**
AKTK S **S** **04 08 50.0 -5.1**
AKTO Aktyubinsk 10.27 42 ⇑P **P** **04 07 00.3 +1.8**
comp=Z,1.8nm,0.5s
AKTO ⇓S **S** **04 08 50.7 -4.5**
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 10.27 42 Pn **P** **04 07 00.5 +1.9**
comp=Z,4.1nm,0.3s,baz=217,slow=11,SNR=75
AKTO Sn **S** **04 08 50.0 -5.1**
comp=Z,1.6nm,0.3s,baz=111,slow=21,SNR=5.5
AKTO LR LR 04 12 29.2
comp=Z,124nm,18.9s,slow=46
AB31 Akbulak array 10.61 51 ⇑P **P** **04 07 04.7 +1.5**
comp=Z,4.9nm,0.3s,baz=233,slow=11,SNR=191
AB31 ⇓S **S** **04 08 59.8 -3.7**
comp=Z,11nm,0.4s,baz=234,slow=19,SNR=7.1
AB31 Akbulak array 10.61 51 P **P** **04 07 05.8 +2.6**
AB31 S **S** **04 09 01.5 -1.9**
AB31 pmax pmax
comp=Z,3.0nm,0.3s
AB31 Akbulak array 10.61 51 P **P** **04 07 05.8 +2.6**
comp=Z,3.0nm,0.3s
AB31 S **S** **04 09 01.5 -1.9**
BR131 Keskin Array S 10.86 256 *ePn* **P** **04 07 08.0 +1.4**
comp=Z,2.6nm,0.9s
BRTR Keskin Array B 10.86 256 Pn **P** **04 07 02.8 -3.8**
comp=Z,0.0nm,0.3s,baz=187,slow=12,SNR=2.4
TIRR Tirgusor 13.72 282 *ePn* **P** **04 07 40.1 -4.9**
OBN Obninsk 13.81 333 *eP* **P** **04 07 44.6 -1.5**
OBN *i* S **S** **04 10 17.1 -3.7**
OBN pmax pmax
comp=Z,16nm,0.8s
OBN Obninsk 13.81 333 *eP* **P** **04 07 44.6 -1.5**
comp=Z,16nm,0.8s
OBN *i* S **S** **04 10 17.1 -3.7**
MOS Moscow 14.01 337 *eP* **S** **04 07 55.4 +6.7**
MOS *eS* **S** **04 10 36.0 +10**
AKASG Malin Array Be 14.43 308 Pn **P** **04 07 50.6 -3.7**
comp=Z,1.0nm,0.3s,baz=110,slow=12,SNR=5.1
ARU Arti 15.05 25 *eP* **P** **04 08 02.7 +0.4**
ARU *eS* **S** **04 10 51.6 +1.4**
ARU Arti 15.05 25 *ePn* **P** **04 08 01.4 -0.9**
comp=Z,14nm,0.4s
ARU *eSn* **S** **04 10 39.5 -11**
ARU Arti 15.05 25 *ePn* **P** **04 08 01.4 -0.9**
comp=Z,14nm,0.4s
ARU *eSn* **S** **04 10 39.5 -11**
MLR Muntele Rosu 15.47 286 Pn **P** **04 08 08.5 +0.6**
comp=Z,0.2nm,0.3s,baz=81,slow=18,SNR=2.7
MLR Muntele Rosu 15.47 286 ⇑P **P** **04 08 14.5 +6.7**
MLR Muntele Rosu 15.47 286 Pn **P** **04 08 08.5 +0.6**
MLR ⇑P 04 08 14.5
VOIR 16.10 286 ⇑P **P** **04 08 11.5 -4.5**
BURAR Bucovina Array 16.13 293 ⇓P **P** **04 08 15.9 -0.4**
BURAR Bucovina Array 16.13 293 ⇓P **P** **04 08 15.9 -0.4**
KK31 Karatay Array 16.90 82 ⇓P **P** **04 08 27.1 +0.9**
comp=Z,1.4nm,0.5s,baz=287,slow=13,SNR=18
KKAR Karatay Array 16.90 82 P **P** **04 08 27.0 +0.8**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 16.90 82 P **P** **04 08 27.0 +0.8**
comp=Z,2.0nm,0.7s
SOKR Solikamsk 17.37 16 *eP* **P** **04 08 37.2 +5.2**
SOKR *eS* **S** **04 11 40.3 -3.8**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
SOKR MLR MLR
comp=Z,740nm,21.0s
SOKR Solikamsk 17.37 16 *eP* **P** **04 08 37.2 +5.2**
comp=Z,10.0nm,0.8s
SOKR *eS* **S** **04 11 40.3 -3.8**
comp=Z,740nm,21.0s
ZRNK Zerenda 17.38 48 ⇑P **P** **04 08 31.4 -0.8**
comp=Z,7.9nm,0.6s
ZRNK ⇑S **S** **04 11 38.9 -5.4**
comp=Z,11nm,0.8s
ZRNK Zerenda 17.38 48 *eP* **P** **04 08 31.1 -1.0**
ZRNK *eS* **S** **04 11 38.4 -5.9**
ZRNK pmax pmax
comp=Z,19nm,0.9s
ZRNK Zerenda 17.38 48 *eP* **P** **04 08 31.1 -1.0**
comp=Z,19nm,0.9s
ZRNK *eS* **S** **04 11 38.4 -6.0**
ZRNK Zerenda 17.38 48 *eP* **P** **04 08 31.1 -1.0**
comp=Z,19nm,0.9s
ZRNK *eS* **S** **04 11 38.4 -5.9**
KWP Kalwaria 18.10 299 *eP* **P** **04 08 39.5 -1.7**
KWP pmax pmax
comp=Z,24nm,1.1s
KWP Kalwaria 18.10 299 *eP* **P** **04 08 39.5 -1.7**
comp=Z,24nm,1.1s
KWP Kalwaria 18.10 299 *eP* **P** **04 08 39.5 -1.7**
comp=Z,24nm,1.1s
SANT Santorini 18.12 255 *eP* **P** **04 08 41.5 -0.1**
comp=Z,23nm,1.0s
BRVK Borovoye 18.13 49 *eP* **P** **04 08 41.6 +0.1**
BRVK pmax pmax
comp=Z,10.0nm,0.6s
BRVK Borovoye 18.13 49 *eP* **P** **04 08 41.6 +0.1**
comp=Z,9.7nm,0.6s
BRVK *eS* **S** **04 11 45.4 -16**
BRVK Borovoye 18.13 49 *eP* **P** **04 08 41.6 +0.1**
comp=Z,9.7nm,0.6s
BVA0 Borovoye Array 18.17 49 ⇑P **P** **04 08 44.8 +2.7**
comp=Z,2.7nm,1.4s,baz=237,slow=12,SNR=44
BVA0 ⇑S **S** **04 11 58.3 -4.1**
comp=Z,2.2nm,0.8s
BVA0 Borovoye Array 18.17 49 *eP* **P** **04 08 44.7 +2.7**
BVA0 S **S** **04 11 58.9 -3.5**
BVA0 pmax pmax
comp=Z,4.0nm,1.4s
BVA0 Borovoye Array 18.17 49 *eP* **P** **04 08 44.7 +2.7**
comp=Z,4.0nm,1.4s
BVA0 S **S** **04 11 58.9 -3.5**
BVAR Borovoye Array 18.17 49 Pn **P** **04 08 41.5 -0.5**
comp=Z,1.7nm,0.3s,baz=230,slow=11,SNR=17
BVAR Sn **S** **04 11 59.5 -2.9**
comp=Z,0.5nm,0.3s,baz=230,slow=24,SNR=6.3
KOLS Kolonicke sedl 18.26 297 *eP* **P** **04 08 41.8 -1.4**
KLMR Klimovskoe 18.28 348 *eP* **P** **04 08 42.9 -0.4**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
VOSK Vostochnaya 18.39 51 ⇑P **P** **04 08 44.7 0.0**
comp=Z,7.7nm,0.6s
VOSK ⇑S **S** **04 12 02.5 -4.7**
comp=Z,20nm,1.1s
VOSK Vostochnaya 18.39 51 P **P** **04 08 46.6 +1.9**
VOSK pmax pmax
comp=Z,5.0nm,0.6s
VOSK Vostochnaya 18.39 51 P **P** **04 08 46.6 +1.9**
comp=Z,5.0nm,0.6s
CHKZ Chkalovo 18.56 48 ⇑P **P** **04 08 46.4 -0.5**
comp=Z,11nm,0.7s
CHKZ ⇑S **S** **04 12 05.7 -5.5**
comp=Z,16nm,1.6s
CHKZ Chkalovo 18.56 48 *eP* **P** **04 08 46.2 -0.7**
CHKZ *eS* **S** **04 12 06.0 -5.2**
CHKZ pmax pmax
comp=Z,17nm,0.6s
CHKZ Chkalovo 18.56 48 *eP* **P** **04 08 46.2 -0.7**
comp=Z,16nm,0.6s
CHKZ *eS* **S** **04 12 06.0 -5.2**
CHKZ Chkalovo 18.56 48 *eP* **P** **04 08 46.2 -0.7**
comp=Z,17nm,0.6s
CHKZ *eS* **S** **04 12 06.0 -5.2**
BANOM Banah 18.75 154 P **P** **04 08 50.2 +0.9**
SNR=8.5
CRVS Cervenica-Dubn 18.79 297 *eP* **P** **04 08 48.1 -1.5**
STHS Stebnicka Huta 19.00 298 *eP* **P** **04 08 50.4 -1.8**
IDI Anoyia 19.07 253 P **P** **04 08 50.6 -2.5**
comp=Z,1.1nm,0.3s,baz=34,slow=14,SNR=13
SUW Suwalki 19.18 313 *eP* **P** **04 08 49.6 -4.7**
SUW pmax pmax
comp=Z,12nm,0.4s
SUW Suwalki 19.18 313 *eP* **P** **04 08 49.6 -4.7**
comp=Z,12nm,0.4s
SUW Suwalki 19.18 313 *eP* **P** **04 08 49.6 -4.7**
comp=Z,12nm,0.4s
PSZ Piszkesteto 19.73 293 P **P** **04 08 59.0 -1.6**
ASHO Ashiyiah 19.83 156 P **P** **04 09 00.7 -1.2**
SNR=8.2
AAK Ala-Archa 19.87 82 P **P** **04 09 01.8 -0.4**
AAK pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 19.87 82 P **P** **04 09 01.8 -0.4**
comp=Z,11nm,1.3s
AAK Ala-Archa 19.87 82 P **P** **04 09 01.8 -0.4**
comp=Z,11nm,1.3s
OJC Ojcow 20.06 300 *eP* **P** **04 09 03.0 -1.2**
ARQ Araqi 21.24 156 P **P** **04 09 16.0 -0.6**
SNR=5.7
MORC Moravsky Berou 21.44 298 *eP* **P** **04 09 17.7 -0.8**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb3.7
MORC Moravsky Berou 21.44 298 *eP* **P** **04 09 17.7 -0.8**
comp=Z,3.0nm,0.8s,mb3.7
MORC Moravsky Berou 21.44 298 *eP* **P** **04 09 17.7 -0.8**
comp=Z,3.0nm,0.8s,mb3.7
JOF Joensuu 21.83 340 *ep* **P** **04 09 23.2 +0.9**
SMDO Samad 21.98 153 ⇑P **P** **04 09 24.2 +0.1**
SNR=11
BSY Bisya 22.00 155 ⇑P **P** **04 09 25.2 +0.9**
FINES FINESS Array B 22.21 333 P **P** **04 09 26.5 +0.4**
comp=Z,2.4nm,0.4s,mb4.0,baz=141,slow=13,SNR=26
KURK Kurchatov 22.50 60 ⇑P **P** **04 09 32.5 +3.5**
comp=Z,8.5nm,1.0s,mb4.1
KURK Kurchatov 22.50 60 *eP* **P** **04 09 32.4 +3.4**
KURK pmax pmax
comp=Z,19nm,1.0s,mb4.5
KURK Kurchatov 22.50 60 *eP* **P** **04 09 32.4 +3.3**
comp=Z,18nm,1.0s,mb4.5
KURK Kurchatov 22.50 60 *eP* **P** **04 09 32.4 +3.4**
comp=Z,18nm,1.0s,mb4.5
KAF Kangasniemi 22.62 334 *ep* **P** **04 09 31.3 +1.2**
GERES GERESS Array B 23.89 295 P **P** **04 09 43.3 +0.8**
comp=Z,1.0nm,0.5s,mb3.5,baz=94,slow=9.3,SNR=11
KHC Kasperske Hory 23.98 296 *eP* **P** **04 09 45.5 +2.1**
MK31 Makanchi Array 24.84 70 ⇑P **P** **04 09 54.7 +2.9**
comp=Z,1.8nm,0.6s,mb3.8
MKAR Makanchi Array 24.84 70 P **P** **04 09 54.4 +2.6**
comp=Z,2.1nm,0.6s,mb3.9,baz=277,slow=7.8,SNR=22
MKAR LR LR 04 21 20.9
comp=Z,60nm,19.3s,MS3.1,baz=179,slow=40
MKAR Makanchi Array 24.84 70 P **P** **04 09 54.4 +2.6**
MKAR LR LR 04 21 20.9
VAE Valguarnera 25.63 268 P **P** **04 09 58.1 -1.3**
comp=Z,11nm,0.9s,mb4.4,baz=90,slow=19,SNR=2.0
WHFO Wadi Hawf 25.80 166 ⇑P **P** **04 10 00.7 -0.5**
NVS Novosibirsk 25.95 51 *eP* **P** **04 10 05.5 +3.3**
NVS *eS* **S** **04 14 40.5 +10**
NVS pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS smax
comp=E,5.0nm,0.7s
NVS Novosibirsk 25.95 51 *eP* **P** **04 10 05.5 +3.3**
comp=E,5.0nm,1.0s,mb4.0
NVS *eS* **S** **04 14 40.5 +10**
ABTO Aybut 26.28 167 ⇑P **P** **04 10 03.9 -1.7**
RBK Rabkut 26.29 165 ⇑P **P** **04 10 04.3 -1.4**
HFS Hagfors 26.45 321 P **P** **04 10 05.9 -0.8**
comp=E,4.1nm,0.6s,mb4.1,baz=108,slow=9.4,SNR=17
DAVOX Davos 26.56 291 P **P** **04 10 06.0 -1.9**
comp=E,1.0nm,0.4s,mb3.7,baz=49,slow=11,SNR=3.9
DAVOX LR LR 04 21 36.4
comp=E,32nm,18.5s,MS2.9,baz=259,slow=39
DAVOX Davos 26.56 291 P **P** **04 10 06.0 -1.9**
DAVOX LR LR 04 21 36.4
ZAL Zalesovo 26.70 53 P **P** **04 10 11.9 +2.8**
comp=E,1.5nm,0.6s,mb3.7,baz=210,slow=7.5,SNR=6.3
ZAL LR LR 04 22 05.3
comp=E,59nm,19.1s,MS3.2,baz=12,slow=39
NB2 NORSAR Subarra 27.93 322 P **P** **04 10 19.6 -0.7**
comp=E,0.9nm,0.5s,mb3.7,baz=116,slow=8.6
NB2 NORSAR Subarra 27.93 322 P **P** **04 10 19.6 -0.7**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
NOA NORSAR Array B 27.93 322 P **P** **04 10 19.7 -0.6**
comp=Z,2.1nm,0.8s,mb3.8,baz=117,slow=8.5,SNR=5.3
NOA LR LR 04 22 50.1
comp=Z,45nm,19.1s,MS3.1,baz=290,slow=39
ARCES ARCESS Array B 28.67 344 P **P** **04 10 28.7 +1.9**
comp=Z,0.8nm,0.4s,mb3.8,baz=151,slow=8.6,SNR=10
LPG La Plagne 28.89 289 *eP* **P** **04 10 27.9 -1.2**
comp=Z,4.6nm,0.7s,mb4.0
LPG La Plagne 28.89 289 *eP* **P** **04 10 27.9 -1.2**
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
LPL La Plagne 28.90 289 *eP* **P** **04 10 27.3 -1.9**
comp=Z,2.0nm,0.4s,mb3.9
LPL La Plagne 28.90 289 *eP* **P** **04 10 27.3 -1.9**
LPL pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
MBDF Montbardon 29.02 287 *eP* **P** **04 10 28.7 -1.6**
comp=Z,18nm,1.0s,mb4.5
MBDF Montbardon 29.02 287 *eP* **P** **04 10 28.7 -1.6**
MBDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
BNI Bardonecchia 29.03 288 *eP* **P** **04 10 27.9 -2.4**
BNI pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
BNI Bardonecchia 29.03 288 *eP* **P** **04 10 27.9 -2.3**
comp=Z,2.4nm,0.6s,mb4.1
BNI Bardonecchia 29.03 288 *eP* **P** **04 10 27.9 -2.4**
comp=Z,2.3nm,0.6s,mb4.1
CABF La Chapelle 29.17 291 *eP* **P** **04 10 29.9 -1.7**
comp=Z,7.8nm,0.8s,mb4.2
CABF La Chapelle 29.17 291 *eP* **P** **04 10 29.9 -1.7**
CABF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
FRF La Foret Royal 29.37 285 *eP* **P** **04 10 31.1 -2.3**
KOLN Koldanda 33.01 106 *eP* **P** **04 11 04.0 -1.6**
comp=Z,5.8nm,0.3s,mb5.0
GKN Gorkha 33.60 104 *eP* **P** **04 11 11.7 +0.9**
KKN Kakani 34.19 104 *eP* **P** **04 11 14.9 -0.9**
EKA Eskdalemuir Ar 34.34 309 P **P** **04 11 15.9 -0.9**
comp=Z,1.1nm,0.3s,mb4.2,baz=99,slow=8.4,SNR=10
EKA Eskdalemuir Ar 34.34 309 P **P** **04 11 15.9 -0.9**
ESK Eskdalemuir 34.37 309 *eP* **P** **04 11 15.6 -1.5**
ESK pmax pmax
comp=Z,14nm,1.1s,mb4.8
ESK Eskdalemuir 34.37 309 *eP* **P** **04 11 15.6 -1.4**
comp=Z,14nm,1.1s,mb4.8
ESK Eskdalemuir 34.37 309 *eP* **P** **04 11 15.6 -1.5**
comp=Z,14nm,1.1s,mb4.8
GUN Gumba 34.54 103 *eP* **P** **04 11 22.7 +3.8**
JIRN Jiri 34.91 104 *eP* **P** **04 11 23.7 +1.7**
comp=Z,12nm,0.5s,mb5.1
ESDC Sonseca Array 38.13 283 P **P** **04 11 46.7 -2.4**
comp=Z,0.2nm,0.3s,mb3.3,baz=63,slow=8.5,SNR=5.9
SONM Songino Array 40.76 62 P **P** **04 12 12.4 +1.6**
comp=Z,0.2nm,0.5s,mb3.0,baz=260,slow=8.8,SNR=2.3
SONM LR LR 04 31 26.1
comp=Z,115nm,18.9s,MS3.8,baz=106,slow=39
ULN Ulaanbaatar 41.17 62 *eP* **P** **04 12 18.7 +4.5**
ULN pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
ULN Ulaanbaatar 41.17 62 *eP* **P** **04 12 18.7 +4.5**
comp=Z,7.3nm,1.2s,mb4.2
ULN Ulaanbaatar 41.17 62 *eP* **P** **04 12 18.7 +4.5**
comp=Z,7.0nm,1.2s,mb4.2
KMBO Kilima Mbogo 45.07 194 LR LR 04 32 21.6
comp=Z,36nm,18.7s,MS3.3,baz=79,slow=37
TORD Torodi Ar. Bea 49.30 247 P **P** **04 13 16.3 -3.2**
comp=Z,4.0nm,0.8s,mb4.5,baz=41,slow=7.2,SNR=24
DBIC Dimbokro 58.41 247 P **P** **04 14 23.1 -3.4**
comp=Z,1.8nm,0.4s,mb4.4,baz=9.8,slow=6.9,SNR=6.7
DBIC Dimbokro 58.41 247 P **P** **04 14 23.1 -3.4**
DBIC pmax pmax
comp=Z,2.0nm,0.4s
DBIC Dimbokro 58.41 247 *eP* **P** **04 14 23.2 -3.4**
comp=Z,22nm,1.4s,mb5.0
LIC Lamto 58.85 247 *eP* **P** **04 14 26.4 -3.2**
comp=Z,5.5nm,0.5s,mb4.6
BILL Bilibino 60.05 22 *eP* **P** **04 14 41.4 +4.2**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BILL Bilibino 60.05 22 *eP* **P** **04 14 41.4 +4.2**
comp=Z,2.0nm,0.9s,mb4.2
SCHQ Schefferville 67.46 325 P **P** **04 15 25.7 -0.1**
comp=Z,3.2nm,0.9s,mb4.3,baz=30,slow=14,SNR=3.5
TSUM Tsumeb 67.87 210 P **P** **04 15 28.1 -1.0**
comp=Z,22nm,1.8s,mb4.9
IMA2 Indian Mountai 69.84 9 P **P** **04 15 43.4 +3.0**
LBTB Lobatse 70.78 201 *eP* **P** **04 15 45.1 -1.8**
LBTB pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
LBTB Lobatse 70.78 201 *eP* **P** **04 15 45.1 -1.7**
comp=Z,10nm,1.4s,mb4.6
LBTB Lobatse 70.78 201 *eP* **P** **04 15 45.1 -1.8**
comp=Z,10.0nm,1.4s,mb4.5
ILAR Eielson Array 71.77 6 P **P** **04 15 53.5 +1.4**
comp=Z,0.4nm,0.7s,mb3.5,baz=335,slow=3.2,SNR=5.4
YKA Yellowknife Ar 73.64 351 P **P** **04 16 03.9 +0.9**
comp=Z,0.6nm,0.7s,mb3.6,baz=8.6,slow=6.0,SNR=15
ULM Lac du Bonnet 81.53 337 P **P** **04 16 47.2 +0.3**
comp=Z,0.9nm,0.4s,mb4.1,baz=84,slow=4.5,SNR=5.0
ULM Lac du Bonnet 81.53 337 P **P** **04 16 47.2 +0.3**

NIED ***22*** *04:19:00,24.90N×123.00E,h80km,Mw4.1 Best double couple: M₀1.61×10¹⁵ NP1:φ₀s331°,δ80°,λ-30°. NP2:φ₀67°, δ61°,λ-178°.*
NEIC ***22*** *04:19:39.7±0.5,24.97N×122.97E,h129km±5km,mb4.3/16, Error ellipse: s-maj=8.8km s-min=5.9km az=65.0*
BJI ***22*** *04:19:40.7,24.93N×122.92E,h140km,mB4.5,mb4.3*
IDC ***22*** *04:19:40.3±3.2,25.08N×123.08E,h134km±30km, mb3.8/16,mb1 3.9/17,mb1mx3.8/25,mbtmp4.2/17,Error ellipse: s-maj=27.1km s-min=12.9km az=61.0*
JMA ***22*** *04:19:40.9±0.2,24.90N×122.99E,h116km±3km,M4.0*
ISC 22 04:19:38.4±0.3,24.92N±0.05×122.93E±0.03,h131km±3km, n59,σ0°96/73,mb4.0/31,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.46**	**171**	P	**P**	**04 19 58.0**	**+0.5**
YOJ				S	**S**	**04 20 11.5**	**-0.5**
IRIF	**Iriomote-Funau**	**0.93**	**128**	P	**P**	**04 20 01.3**	**+0.4**
IRIF				S	**S**	**04 20 17.1**	**-1.0**
HATJ	**Hateruma jima**	**1.17**	**137**	P	**P**	**04 20 04.2**	**+0.9**
HATJ				S	**S**	**04 20 21.6**	**-0.6**
JKRS	**Kuro-shima**	**1.19**	**124**	P	**P**	**04 20 04.5**	**+0.9**
JKRS				S	**S**	**04 20 21.8**	**-0.8**
JIJ	**Ishigaki jima**	**1.23**	**116**	P	**P**	**04 20 04.4**	**+0.4**
JIJ				S	**S**	**04 20 21.7**	**-1.7**
TATO	**Taipei**	**1.31**	**273**	*ePg*	**P**	**04 20 06.4**	**+1.5**
TATO				*eSg*	**S**	**04 20 19.4**	**-5.8**
NACB	**Ninganchiao**	**1.43**	**239**	*ePg*	**P**	**04 20 06.4**	**+0.3**
NACB				*eSg*	**S**	**04 20 19.4**	**-7.9**
YHNB	**Yeheng**	**1.44**	**260**	*ePg*	**P**	**04 20 07.8**	**+1.6**
YHNB				*eSg*	**S**	**04 20 24.9**	**-2.6**
JTJ	**Tarama**	**1.63**	**99**	P	**P**	**04 20 09.4**	**+0.9**
JTJ				S	**S**	**04 20 30.4**	**-1.0**
JMJ	**Miyako jima 2**	**2.15**	**92**	P	**P**	**04 20 16.2**	**+1.4**
JMJ				*eS*	**S**	**04 20 42.5**	**+0.1**
JOGS	**Gusukube**	**2.25**	**93**	P	**P**	**04 20 17.9**	**+1.8**
JOGS				*eS*	**S**	**04 20 44.8**	**0.0**
JKE	**Kume jima 2**	**3.75**	**67**	P	**P**	**04 20 36.6**	**+0.7**
JKE				*eS*	**S**	**04 21 19.7**	**-0.2**
QZH	**Quanzhou**	**3.94**	**271**	⇓*i*	P	**04 20 39.0**	**+0.6**
QZH				S	**S**	**04 21 21.4**	**-2.9**
QZH				Smax			
	comp=N,160nm,0.7s						
QZH				Smax			
	comp=E,130nm,0.9s						
JOW	**Kunigami**	**5.18**	**67**	P	**P**	**04 20 54.4**	**-0.5**
	comp=E,13nm,0.3s,baz=295,slow=17,SNR=6.5						
JOW				S	**S**	**04 21 50.3**	**-3.7**
	comp=E,11nm,0.3s,baz=130,slow=24,SNR=2.6						
JOW	**Kunigami**	**5.18**	**67**	P	**P**	**04 20 54.6**	**-0.3**
ENH	**Enshi**	**13.06**	**297**	Pn	**P**	**04 22 41.3**	**+1.4**
	comp=E,19nm,0.9s						
KS15	**Wonju Array Si**	**13.18**	**18**	*ePn*	**P**	**04 22 48.5**	**+7.0**
GYA	**Guiyang**	**14.75**	**279**	⇑*i*	P	**04 23 07.4**	**+5.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**15.20**	**310**	P	**P**	**04 23 11.3**	**+4.0**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.6s						
CD2	**Chengdu**	**17.96**	**294**	P	**P**	**04 23 41.6**	**+0.5**
HHC	**Hu-ho-hao-te**	**18.51**	**332**	*eP*	**P**	**04 23 48.8**	**+1.8**
HHC				AP		04 24 03.0	
HHC				AMB	AMB		
	comp=Z,190nm,4.8s						
LZH	**Lanzhou**	**19.82**	**309**	*eP*	**P**	**04 24 02.3**	**+1.4**
LZH				AMB	AMB		
	comp=Z,20nm,1.2s						
LZH				AMB	AMB		
	comp=Z,40nm,5.2s						
LZH				LR	LR		
	comp=E,280nm,13.4s						
LZH				LR	LR		
	comp=Z,430nm,17.2s						
KKM	**Kota Kinabalu**	**19.84**	**200**	*eP*	**P**	**04 24 01.3**	**0.0**
GTA	**Gaotai**	**24.23**	**312**	*eP*	**P**	**04 24 45.3**	**+1.1**
ULN	**Ulaanbaatar**	**26.12**	**335**	P	**P**	**04 25 03.2**	**+1.3**
	comp=Z,2.3nm,0.8s,mb3.9						
SONM	**Songino Array**	**26.35**	**334**	P	**P**	**04 25 04.0**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.1,baz=152,slow=9.2,SNR=22						
LSA	**Lhasa**	**28.59**	**287**	P	**P**	**04 25 23.8**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**38.94**	**315**	P	**P**	**04 26 53.1**	**+0.1**
	comp=Z,2.3nm,0.5s,mb4.0,baz=101,slow=9.9,SNR=41						
MKAR				PcP	PcP	04 29 01.0	-0.5
	comp=Z,1.2nm,0.7s,baz=90,slow=4.9,SNR=8.6						
ZAL	**Zalesovo**	**40.52**	**326**	P	**P**	**04 27 05.8**	**-0.1**
	comp=Z,2.8nm,0.5s,mb4.2,baz=354,slow=7.6,SNR=13						
KURK	**Kurchatov**	**42.57**	**319**	*eP*	**P**	**04 27 22.2**	**-0.5**
	comp=Z,8.5nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**42.84**	**176**	*eP*	**P**	**04 27 25.4**	**0.0**
	comp=Z,3.8nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**43.34**	**306**	*eP*	**P**	**04 27 28.2**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.0						
MBWA	**Marble Bar**	**45.91**	**184**	*eP*	**P**	**04 27 48.9**	**-0.9**
	comp=Z,2.0nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**45.95**	**165**	*eP*	**P**	**04 27 50.4**	**+0.3**
	comp=Z,6.6nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**45.95**	**165**	P	**P**	**04 27 50.8**	**+0.6**
	comp=Z,4.9nm,0.5s,mb4.4,baz=347,slow=8.5,SNR=70						
WB2	**Warramunga Arr**	**45.95**	**165**	*eP*	**P**	**04 27 50.7**	**+0.5**
BVAR	**Borovoye Array**	**48.13**	**320**	P	**P**	**04 28 06.0**	**-0.7**
	comp=Z,2.3nm,0.5s,mb4.1,baz=106,slow=8.1,SNR=16						
BVAR				PcP	PcP	04 29 31.5	-1.1
	comp=Z,1.6nm,0.5s,baz=135,slow=2.1,SNR=8.1						
CHKZ	**Chkalovo**	**48.16**	**321**	*eP*	**P**	**04 28 06.2**	**-0.8**
	comp=Z,7.2nm,0.9s,mb4.3						
BRVK	**Borovoye**	**48.20**	**320**	*eP*	**P**	**04 28 06.8**	**-0.5**
	comp=Z,3.1nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**48.92**	**320**	*eP*	**P**	**04 28 12.1**	**-0.8**
	comp=Z,8.1nm,0.9s,mb4.3						
ZRNK				*ePcP*	PcP	04 29 34.1	-1.4
ASPA	**Alice Springs**	**49.45**	**167**	*eP*	**P**	**04 28 18.5**	**+1.1**
ARU	**Arti**	**55.49**	**323**	*eP*	**P**	**04 29 00.3**	**-1.5**
	comp=Z,6.4nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**57.78**	**186**	*eP*	**P**	**04 29 19.0**	**+0.7**
	comp=Z,19nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**59.22**	**162**	P	**P**	**04 29 28.4**	**0.0**
	comp=Z,1.7nm,0.4s,mb4.2,baz=354,slow=7.7,SNR=11						

STKA	Stephens Creek	59.22	162	*e*P	P	04 29 27.9	-0.5
JOF	Joensuu	68.85	331	*e*p	P	04 30 29.2	-1.2
ARCES	ARCESS Array B	69.45	338	P	P	04 30 32.6	-1.4
	comp=Z,1.7nm,0.8s,mb3.8,baz=45,slow=3.8,SNR=2.7						
MALT	Malatya	70.91	304	*e*P	P	04 30 43.5	+0.2
	comp=Z,2.1nm,0.7s,mb4.0						
FINES	FINESS Array B	71.62	330	P	P	04 30 46.6	-0.5
	comp=Z,1.0nm,0.4s,mb3.9,baz=67,slow=6.1,SNR=15						
INK	Inuvik	71.95	22	*e*P	P	04 30 48.5	-0.4
	comp=Z,2.4nm,0.9s,mb3.9						
AKASG	Malin Array Be	73.38	319	P	P	04 30 56.5	-1.1
	comp=Z,1.0nm,0.4s,mb3.9,baz=71,slow=5.8,SNR=6.3						
BRTR	Keskin Array B	74.02	307	P	P	04 31 02.2	+0.7
	comp=Z,1.2nm,0.8s,mb3.7,baz=97,slow=6.1,SNR=4.9						
MLR	Muntele Rosu	77.28	314	P	P	04 31 19.6	-0.3
	comp=Z,2.1nm,0.8s,mb3.8,baz=40,slow=11,SNR=3.6						
HFS	Hagfors	77.70	331	P	P	04 31 21.5	-0.4
	comp=Z,1.2nm,0.6s,mb3.7,baz=90,slow=7.2,SNR=4.0						
NOA	NORSAR Array B	78.32	333	P	P	04 31 24.7	-0.5
	comp=Z,0.6nm,0.6s,mb3.4,baz=53,slow=5.5,SNR=2.7						
YKA	Yellowknife Ar	81.67	23	P	P	04 31 43.2	+0.1
	comp=Z,0.6nm,0.8s,mb3.3,baz=313,slow=4.6,SNR=17						
GERES	GERESS Array B	83.28	321	P	P	04 31 51.3	-0.3
	comp=Z,1.2nm,0.8s,mb3.7,baz=56,slow=4.8,SNR=8.5						
DAVOX	Davos	86.56	321	P	P	04 32 09.2	+1.4
	comp=Z,1.0nm,0.5s,mb3.9,baz=92,slow=3.4,SNR=3.6						
FCC	Fort Churchill	91.16	18	*e*P	P	04 32 27.8	-1.6
	comp=Z,4.9nm,1.2s,mb4.4						

ATH ***22*** *04:28:16.3,34.34N×26.86E,h40km±10km,MD3.7/6*
CSEM ***22*** *04:28:16.0±0.1,34.32N×26.96E,h40km,ML3.8,Error ellipse: s-maj=3.8km s-min=1.7km az=41.0*
HLW ***22*** *04:28:20.3,34.22N×27.17E,h21km,Mb3.8*
IDC ***22*** *04:28:24.0±3.5,34.89N×26.40E,h81km±31km,mb3.5/5, mb1 3.6/5,mb1mx3.2/19,mbtmp3.8/5,Error ellipse: s-maj=44.9km s-min=17.7km az=136.0*

ISC 22 04:28:16.5±0.4,34.29N±0.03×26.92E±0.05,h33km,n23, σ1§02/31,mb3.7/5,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
XRY	Khrisi	1.17	300	*e*P	P		04 28 37.0	+0.5
XRY				*e*S	S		04 28 52.0	+0.4
KARP	Karpathos	1.27	9	*e*P	P		04 28 38.7	+0.8
KARP				*e*S	S		04 28 54.6	+0.5
KARP	Karpathos	1.27	9	*e*P	P		04 28 38.7	+0.8
KARP				*e*S	S		04 28 53.9	-0.2
NPS	Neapolis	1.45	312	*e*P	P		04 28 40.2	-0.4
NPS				*e*S	S		04 28 57.3	-1.4
IDI	Anoyia	1.95	301	P	P		04 28 47.1	-0.6
	10nm,0.3s,baz=129,slow=10,SNR=57							
IDI				S	S		04 29 03.9	-7.4
	8.8nm,0.3s,baz=126,slow=19,SNR=8.4							
ARG	Arkhangelos	2.16	27	*e*P	P		04 28 51.3	+0.5
ARG				*e*S	S		04 29 17.1	+0.5
ARG	Arkhangelos	2.16	27	*e*P	P		04 28 51.3	+0.5
ARG				*e*S	S		04 29 15.3	-1.3
GVD	Gavdhos	2.40	284	*e*P	P		04 28 54.0	-0.3
VAM	Vamos	2.50	297	*e*P	P		04 28 55.1	-0.6
SWA1		5.12	192	P	P		04 29 34.7	+1.9
SWA1				S	S		04 30 29.2	-2.3
SWA2		5.18	194	P	P		04 29 35.7	+2.0
HSAF	As Saff	6.10	139	P	P		04 29 46.0	-0.5
HHAG	Hagoal	6.16	133	P	P		04 29 47.0	-0.5
AWBH		6.19	164	P	P		04 29 47.7	-0.1
GLL	Jalalah	6.21	138	P	P		04 29 47.6	-0.6
AMAG	Maghara	6.44	123	P	P		04 29 50.6	-0.7
SUZ		6.69	130	P	P		04 29 54.1	-0.9
HFRF	Wahat Farafira	7.22	170	P	P		04 30 03.4	+1.1
AKTO	Aktyubinsk	27.80	45	P	P		04 34 05.4	+0.9
	0.5nm,0.5s,mb3.4,baz=231,slow=6.5,SNR=3.8							
TORD	Torodi Ar. Bea	31.09	234	P	P		04 34 33.5	-0.6
	0.5nm,0.5s,mb3.6,baz=39,slow=8.5,SNR=14							
ARCES	ARCESS Array B	35.31	359	P	P		04 35 05.6	-4.4
	2.9nm,1.0s,mb4.2,baz=188,slow=8.6,SNR=8.4							
DBIC	Dimbokro	40.20	234	P	P		04 35 53.9	+2.4
	4.7nm,1.1s,mb4.1,baz=52,slow=6.6,SNR=2.5							
MKAR	Makanchi Array	43.05	56	P	P		04 36 14.5	-0.1
	0.3nm,0.6s,mb3.2,baz=284,slow=5.9,SNR=4.7							

IDC ***22*** *04:28:21.9±0.6,54.65S×135.74W,mb4.4/9,mb1 4.5/9, mb1mx4.4/14,mbtmp4.4/9,MS4.7/12,Ms1 4.7/12, ms1mx4.6/17,Error ellipse: s-maj=29.9km s-min=18.2km az=172.0*
HRVD ***22*** *04:28:23.6±0.1,54.61S×135.64W,h16km±1km,MW5.5/85, Centroid moment Tensor Solution. LP body waves: s73,c134;Mantle waves: s85,c161; Half duration: 1s3 Moment tensor: Scale 10^17^Nm; Mrr=0.24±.03; Mθθ=1.56±.04; Mrθ=-1.32±.03; Mrφ=0.50±.09; Mθφ=1.31±.03; Mφφ=0.22±.07; Best double couple: M=2.009×10^17^ NP1: φs=115°,δ80°,λ8°. NP2:φs=23°,δ82°,λ170°. Principal axes: T:2.19, Plg13°, Azm339°; N:-.367, Plg77°, Azm163°; P :-1.827, Plg1°, Azm69°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *04:28:23.6±0.3,54.50S×135.66W,h10km,mb5.0/16, MS5.1/ Error ellipse: s-maj=17.9km s-min=11.2km az=171.0*

ISC 22 04:28:21.5±0.4,54.46S±0.08×135.7W±0.1,h10km,n68, σ1§13/33,mb4.8/21,MS4.8/12,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBA	Scott Base	30.71	200	P	P		04 34 39.7	+1.6
	56nm,1.5s,mb5.2							
RKT	Rikitea	31.30	1	*e*S	S		04 39 48.3	-1.1
RKT				*e*LQ			04 41 32.5	
RKT				*e*LR	LR		04 42 51.1	
	4μm,29.5s,baz=178							
VNDA	Vanda	31.66	202	P	P		04 34 45.8	-0.8
	3.4nm,1.1s,mb4.1,baz=54,slow=5.1,SNR=3.8							
VNDA				LR	LR		04 44 00.5	
	comp=Z,2μm,21.9s,MS4.6,baz=82,slow=30							
VNDA	Vanda	31.66	202	P	P		04 34 45.8	-0.8
VNDA				*e*P	pP		04 34 49.0	-0.5
VNDA				LR	LR		04 44 00.5	
TBI	Tubuai	32.74	336	*e*S	S		04 40 12.0	+0.1
TBI				*e*LR	LR		04 43 23.0	
	6μm,29.8s,baz=171							
RPN	Rapa Nui	33.44	46	LR	LR		04 45 05.5	
	comp=Z,2μm,21.1s,MS4.8,baz=208,slow=30							
RPZ	Rata Peaks	35.67	265	LR	LR		04 44 42.6	
	comp=Z,408nm,21.6s,MS4.2,baz=123,slow=28							
PMSA	Palmer Station	35.68	136	*e*P	P		04 35 21.2	-0.1
	45nm,1.3s,mb5.2							
USHA	Ushuaia	37.56	119	P	P		04 35 37.0	-0.3
	25nm,1.0s,mb4.9,baz=221,slow=6.4,SNR=5.8							
PPT	Papeete	38.35	338	*e*S	S		04 41 37.8	-0.5
PPT				*e*LQ			04 44 41.5	
PPT				*e*LR	LR		04 45 56.2	
	6μm,27.0s,baz=174							
PLCA	Paso Flores	44.42	100	P	P		04 36 33.3	-0.5
	1.8nm,0.9s,mb3.8,baz=216,slow=9.8,SNR=3.7							
PLCA				LR	LR		04 50 48.4	
	comp=Z,1μm,19.2s,MS4.9,baz=229,slow=30							
PLCA	Paso Flores	44.42	100	*e*P	P		04 36 32.6	-1.2
	9.0nm,1.3s,mb4.3							
EFI	East Falkland	44.51	120	*e*P	P		04 36 34.3	-0.1
	86nm,1.3s,mb5.4							
TAOE	Nuku Hiva Isla	45.62	354	*e*LQ			04 47 32.1	
TAOE				*e*LR	LR		04 49 28.1	
	8μm,25.6s,baz=191							
SNAA	Sanae	49.87	162	P	P		04 37 14.2	-2.0
	4.3nm,1.0s,mb4.4,baz=210,slow=5.6,SNR=13							
SNAA	Sanae	49.87	162	*e*P	P		04 37 15.1	-1.1
	23nm,1.2s,mb5.1							
TRQA	Tornquist	51.12	103	*e*P	P		04 37 26.4	+0.2
	7.3nm,0.9s,mb4.6							
MAW	Mawson	57.47	188	LR	LR		05 02 09.6	
	comp=Z,724nm,18.1s,MS4.8,baz=162,slow=35							
STKA	Stephens Creek	60.68	255	*e*P	P		04 38 36.3	+1.3
	5.0nm,1.1s,mb4.6							
STKA	Stephens Creek	60.68	255	P	P		04 38 34.5	-0.6
	4.9nm,0.9s,mb4.6,baz=137,slow=7.6,SNR=8.3							
STKA				LR	LR		05 00 17.4	
	comp=Z,913nm,19.6s,MS4.9,baz=159,slow=32							
STKA	Stephens Creek	60.68	255	*e*P	P		04 38 35.4	+0.3
CPUP	Villa Florida	62.37	97	*e*P	P		04 38 43.9	-2.6
	16nm,0.6s,mb5.3							
LPAZ	La Paz	63.88	81	P	P		04 38 57.5	+0.9
	2.0nm,0.9s,mb4.2,baz=205,slow=7.0,SNR=10							
LPAZ				LR	LR		05 00 32.2	
	comp=Z,198nm,18.6s,MS4.3,baz=42,slow=30							
LPAZ	La Paz	63.88	81	*e*P	P		04 38 57.8	+1.3
	11nm,1.2s,mb4.8							
CTA	Charters Tower	67.00	267	*e*P	P		04 39 13.3	-3.3
	8.5nm,0.9s,mb4.8							
CTAO	Charters Tower	67.00	267	*e*P	P		04 39 16.0	-0.5
	27nm,1.2s,mb5.2							
OTAV	Otavalo	71.78	62	*e*P	P		04 39 45.7	-0.4
	18nm,1.4s,mb4.8							
WB2	Warramunga Arr	74.00	258	*e*P	P		04 39 58.6	-0.3
WRA	Warramunga Arr	74.00	258	P	P		04 39 58.3	-0.6
	9.3nm,0.9s,mb4.7,baz=142,slow=5.3,SNR=32							
WRA	Warramunga Arr	74.00	258	P	P		04 39 58.3	-0.6
WRAB	Tennant Creek	74.01	258	*e*P	P		04 39 58.5	-0.5
	37nm,1.2s,mb5.2							
BDFB	Brasilia	76.10	97	P	P		04 40 13.2	+2.1
	3.0nm,0.7s,mb4.3,baz=236,slow=6.7,SNR=3.5							
BDFB				LR	LR		05 09 25.5	
	comp=Z,1μm,21.5s,MS5.3,baz=214,slow=32							
JTS	JuntasAbangare	77.32	51	*e*P	P		04 40 19.7	+1.8
	10.0nm,1.0s,mb4.7							
ROSC	El Rosal	77.84	63	P	P		04 40 21.9	+1.1
	6.7nm,0.7s,mb4.7,baz=116,slow=12,SNR=6.3							
ROSC				LR	LR		05 08 09.5	
	comp=Z,453nm,21.6s,MS4.8,baz=192,slow=31							
FITZ	Fitzroy Crossi	80.39	252	*e*P	P		04 40 36.6	+2.1
	7.3nm,0.9s,mb4.6							
MBWA	Marble Bar	81.13	246	*e*P	P		04 40 38.5	+0.1
	17nm,1.1s,mb4.9							
SDV	Santo Domingo	83.18	64	*e*P	P		04 40 48.2	-1.0
	5.9nm,1.1s,mb4.5							
NVAR	Mina Array Bea	93.72	14	LR	LR		05 14 39.1	
	comp=Z,241nm,20.8s,MS4.6,baz=190,slow=30							
YBH	Yreka Blue Hor	96.46	10	LR	LR		05 15 54.9	
	comp=Z,510nm,18.4s,MS5.0,baz=182,slow=30							
PDAR	Pinedale Array	99.39	19	LR	LR		05 17 40.1	
	comp=Z,360nm,18.6s,MS4.9,baz=211,slow=30							
YKA	Yellowknife Ar	117.78	11	PKP	PKPdf		04 47 10.2	+0.2
	0.2nm,0.8s,baz=194,slow=2.5,SNR=2.7							
YKA	Yellowknife Ar	117.78	11	PKP	PKPdf		04 47 10.2	+0.2
ILAR	Eielson Array	119.21	355	PKP	PKPdf		04 47 10.0	-2.8
	0.3nm,0.8s,baz=196,slow=1.7,SNR=3.3							
TORD	Torodi Ar. Bea	127.02	124	PKP	PKPdf		04 47 26.3	-2.6
	1.0nm,0.8s,baz=225,slow=1.5,SNR=9.7							
SONM	Songino Array	141.63	286	PKP	PKPdf		04 47 52.4	-2.7
	0.7nm,0.8s,baz=90,slow=2.9,SNR=2.7							
ESDC	Sonseca Array	144.70	95	PKP	PKPdf		04 47 58.0	-2.7
	2.0nm,0.8s,baz=250,slow=3.4,SNR=10.0							
SJPF	Ste Jean	148.47	92	*e*PKIKP	PKPdf		04 48 07.9	+1.0
	51nm,1.3s							
ETSF	Etsaut	148.73	93	*e*PKIKP	PKPdf		04 48 09.2	+1.9
	31nm,1.1s							
EPF	Esparros	149.33	94	*e*PKIKP	PKPdf		04 48 11.1	+2.8
	49nm,1.5s							
QUIF	Quistinic	150.02	83	*e*PKIKP	PKPdf		04 48 09.8	+0.6
	71nm,1.4s							
ROSF	Rostrenen	150.17	82	*e*PKIKP	PKPdf		04 48 10.4	+1.0
SGMF	Saint Gilles	150.54	83	*e*PKIKP	PKPdf		04 48 10.3	+0.3
	70nm,1.3s							
MTLF	Montolieu	150.61	95	*e*PKIKP	PKPdf		04 48 09.8	-0.5
LFF	La Frestale	150.69	91	*e*PKIKP	PKPdf		04 48 10.4	+0.1
FLN	La Foliniere	151.99	83	*e*PKIKP	PKPdf		04 48 12.4	+0.3
	52nm,1.3s							
FLN				*e*R				
	318nm,21.2s							
BGF	Bois d'Agland	152.81	90	*e*PKIKP	PKPdf		04 48 13.8	+0.4
EKA	Eskdalemuir Ar	153.10	69	PKPbc	PKPdf		04 48 21.3	+7.8
	1.2nm,0.7s,baz=288,slow=2.2,SNR=3.3							
FRF	La Foret Royal	153.32	98	*e*PKIKP	PKPdf		04 48 13.4	-0.8
ORIF	Oris-en-Rattie	153.67	95	*e*PKIKP	PKPdf		04 48 14.9	+0.3
ORIF				*e*R				
	394nm,22.8s							
MBDF	Montbardon	154.08	96	*e*PKIKP	PKPdf		04 48 14.9	-0.3
LPL	La Plagne	154.51	95	*e*PKIKP	PKPdf		04 48 14.8	-0.9
LPG	La Plagne	154.51	95	*e*PKIKP	PKPdf		04 48 15.2	-0.5
MKAR	Makanchi Array	154.97	268	PKPbc	PKPdf		04 48 25.7	+9.4
	1.0nm,0.9s,baz=108,slow=3.8,SNR=6.2							
MKAR				PP	PP		04 52 14.2	-2.6
	0.6nm,0.9s,baz=135,slow=2.0,SNR=4.1							
DAVOX	Davos	157.03	95	PKP	PKPdf		04 48 17.4	-1.6
	2.2nm,0.7s,baz=169,slow=4.0,SNR=4.2							
GERES	GERESS Array B	160.30	94	PKP	PKPdf		04 48 20.0	-2.8
	0.4nm,0.6s,slow=6.9,SNR=3.1							
BRTR	Keskin Array B	163.60	150	PKP	PKPdf		04 48 26.2	-0.2
	0.9nm,1.0s,baz=252,slow=4.6,SNR=2.8							
AKASG	Malin Array Be	170.08	106	PKP	PKPdf		04 48 31.5	+0.6
	0.2nm,0.3s,baz=270,slow=0.9,SNR=4.5							
AKASG	Malin Array Be	170.08	106	PKP	PKPdf		04 48 31.5	+0.6

MEX 22 04:38:26.5±0.6,23.71N×105.19W,h20km,MD4.1, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MAIG	Mazatlaan	1.25	246	*i* P	Pn		04 38 45.4	-3.7
MAIG				*i* S	Sb		04 39 01.1	-3.9
ZAIG	Zacatecas	2.58	111	*i* P	Pn		04 39 05.7	-2.4
ZAIG				*i* S	Sn		04 39 35.4	-3.9
SFJM	Santa Fe	3.77	148	*e*P	Pn		04 39 21.5	-3.6
SFJM				*i* S	Sn		04 40 02.0	-7.4

NEIC ***22*** *05:00:42.6±1.6,20.97N×109.15W,h10km,mb3.6/4,Error ellipse: s-maj=30.2km s-min=21.0km az=101.0*
IDC ***22*** *05:00:43.9±8.3,21.16N×109.13W,mb3.1/4,mb1 3.6/6, mb1mx3.5/20,mbtmp3.3/6,ML3.0/2,MS3.9/1,Ms1 3.9/1, ms1mx3.2/8,Error ellipse: s-maj=140.2km s-min=61.4km az=150.0*

ISC 22 05:00:41.0±1.4,21.0N±0.1×109.1W±0.2,h10km,n13, σ1§33/13,mb3.2/4,MS3.9/1,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LTX	Lajitas	9.64	30	*e*P	P		05 03 02.5	-0.5
	12nm,1.2s							
TXAR	Lajitas Array	9.64	30	Pn	P		05 03 03.2	+0.2
	0.1nm,0.3s,baz=198,slow=12,SNR=14							
ANMO	Albuquerque	14.08	9	Pn	P		05 04 05.0	+2.1
	baz=197,slow=20,SNR=2.3							
WMOK	Wichita Mounta	16.43	32	*e*P	P		05 04 31.9	-1.4
	5.5nm,1.1s							
SDCO	Great Sand Dun	16.96	10	*e*P	P		05 04 41.7	+1.7
	5.1nm,1.2s							
ELK	Elko	20.34	347	P	P		05 05 20.4	+0.2
	1.2nm,0.9s,baz=129,slow=11,SNR=3.3							
HWUT	Hardware Ranch	20.63	355	*e*P	P		05 05 20.5	-2.7
	9.6nm,1.4s							
PDAR	Pinedale Array	21.69	359	P	P		05 05 33.7	-0.3
	1.0nm,0.9s,mb3.3,baz=180,slow=7.2,SNR=7.1							
HLID	Hailey	22.91	350	P	P		05 05 44.3	-1.8
	0.6nm,0.5s,mb3.3							
YKA	Yellowknife Ar	41.62	356	P	P		05 08 34.1	+3.5
	0.2nm,1.0s,mb2.7,baz=173,slow=8.5,SNR=4.1							
YKA				LR	LR		05 25 56.6	
	comp=Z,183nm,21.2s,MS3.9,baz=225,slow=36							
YKA	Yellowknife Ar	41.62	356	P	P		05 08 34.1	+3.5
YKA				LR	LR		05 25 56.6	
ILAR	Eielson Array	50.31	340	P	P		05 09 39.9	+0.3
	0.6nm,1.1s,mb3.5,baz=148,slow=8.1,SNR=4.2							
EFI	East Falkland	85.03	151	P	P		05 13 18.3	+0.4
	59nm,1.2s							

IDC 22 05:28:23.2±1.1,23.03N×142.96E,mb3.8/6,mb1 4.0/6, mb1mx3.8/20,mbtmp3.7/6,MS4.6/1,Ms1 4.6/1, ms1mx2.9/32,Error ellipse: s-maj=44.7km s-min=25.6km az=107.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHJ	Hachijo jima 2	10.44	345	LR	LR		05 34 02.3	
	comp=Z,3μm,19.0s,baz=108,slow=32							
WRA	Warramunga Arr	43.53	192	P	P		05 36 28.6	-2.0
	2.1nm,0.7s,baz=11,slow=8.5,SNR=13							
MKAR	Makanchi Array	53.66	312	P	P		05 37 46.2	-2.5
	0.5nm,0.9s,baz=90,slow=9.2,SNR=2.9							
ILAR	Eielson Array	60.95	27	P	P		05 38 37.4	-2.7
	1.0nm,1.0s,baz=251,slow=5.4,SNR=7.1							
INK	Inuvik	66.44	24	P	P		05 39 13.8	-2.1
	1.5nm,1.0s,baz=283,slow=7.6,SNR=5.5							
YKA	Yellowknife Ar	75.39	28	P	P		05 40 08.5	-1.4
	0.2nm,0.6s,baz=292,slow=5.7,SNR=4.6							
GERES	GERESS Array B	95.34	329	P	P		05 41 50.6	+0.2
	0.2nm,0.4s,baz=20,slow=15,SNR=3.5							

NEIC ***22*** *05:32:11.5,18.32N×68.73W,h173km,MD4.0(RSPR), After RSPR.*

RSPR 22 05:32:11.5,18.32N×68.73W,h173km±3km,MD4.0/7, MD4.0/7,8C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AGPR	Aguadilla, PR	1.54	84	*e*P	P		05 32 43.2	-0.4
AGPR				*e*S	S		05 33 08.3	-0.1
CRPR	Cabo Rojo, PR	1.57	101	*e*P	P		05 32 43.7	-0.3
CRPR				*e*S	S		05 33 08.5	-0.5
MGP	Maguayo	1.59	101	*e*P	P		05 32 43.4	-0.7
LRS	Lares	1.79	91	*e*P	P		05 32 46.5	+0.4
LRS				*e*S	S		05 33 13.4	+0.5
AOPR	Arecibo Observ	1.88	89	*e*P	P		05 32 46.4	-0.7
AOPR				*e*S	S		05 33 14.1	-0.5
CPD	Cerro la Pandu	2.69	96	*e*P	P		05 32 57.4	+0.7
CPD				*e*S	S		05 33 31.9	+0.5
CBYP	Canovanas	2.73	91	*e*P	P		05 32 56.5	-0.6
CBYP				*e*S	S		05 33 32.4	+0.2
HUMP	Col San Antoni	2.75	93	*e*P	P		05 32 57.6	+0.3
HUMP				*e*S	S		05 33 32.7	-0.2
MTP	Monte Pirata	3.03	94	*e*P	P		05 33 00.3	-0.5
MTP				*e*S	S		05 33 39.5	+0.9
STVI	Saint Thomas	3.58	89	*e*S	S		05 33 51.7	+0.6

IDC ***22*** *05:35:00.8±0.8,33.35N×142.46E,mb3.7/12,mb1 3.9/14, mb1mx3.8/25,mbtmp3.7/14,ML3.7/2,Error ellipse: s-maj=20.1km s-min=18.0km az=154.0*
JMA ***22*** *05:35:04.2±0.3,33.41N×142.46E,h73km,M3.8*
NEIC ***22*** *05:35:06.5±1.7,33.36N×142.40E,h39km±14km,mb4.6/1, Error ellipse: s-maj=15.3km s-min=12.6km az=112.0*

ISC 22 05:35:04.7±1.1,33.44N±0.06×142.43E±0.07,h37km±10km, n34,σ1§02/47,mb3.7/13,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	Boso 1	1.71	316	P	P		05 35 32.9	+0.4
BSO1				*e*S	S		05 35 54.1	+0.8
BSO2	Boso 2	1.91	314	*e*S	S		05 35 51.1	+3.0
BSO3	Boso 3	2.09	311	P	P		05 35 38.8	+0.8
BSO3				*e*S	S		05 36 03.8	+0.8
JHJ	Hachijo jima 2	2.24	263	Pn	P		05 35 39.8	-0.3
	52nm,0.3s,baz=55,slow=23,SNR=3.2							
JHJ				Sn	S		05 36 06.9	+0.2
	95nm,0.3s,baz=223,slow=24,SNR=5.8							
BSO4	Boso 4	2.32	312	P	P		05 35 42.4	+1.1
BSO4				*e*S	S		05 36 08.3	-0.6
JOD2	Odawara 2	3.31	304	P	P		05 35 55.4	+0.1
JOD2				*e*S	S		05 36 32.3	-1.6
JYT	Yasato	3.33	327	P	P		05 35 56.2	+0.5
JHO	Hitachi	3.51	335	P	P		05 35 57.1	-1.1
JHU	Hanno	3.54	314	P	P		05 35 59.4	+0.8
JYN	Shimob	3.81	304	P	P		05 36 02.9	+0.5
JAG	Ashikaga	3.85	321	P	P		05 36 02.8	-0.3
JAG				*e*S	S		05 36 46.8	-0.9
JRY	Ryogami san	3.88	313	P	P		05 36 04.4	+1.0
JRY				*e*S	S		05 36 49.1	+0.7
JFK	Kawauchi	4.12	342	P	P		05 36 04.7	-2.1
JFK				*e*S	S		05 36 48.4	-6.1
JMM	Marumori	4.61	344	P	P		05 36 11.7	-2.2
JMM				*e*S	S		05 37 00.9	-6.0
MJAR	Matsushiro Arr	4.64	313	Pn	P		05 36 14.8	+0.5
	3.2nm,0.3s,baz=148,slow=9.0,SNR=18							
MJAR				Sn	S		05 37 07.0	-0.8
	3.4nm,0.3s,baz=121,slow=32,SNR=6.7							
MAJO	Matsushiro	4.65	313	*e*Pn	P		05 36 14.6	+0.3
MAT	Matsushiro	4.65	313	P	P		05 36 14.5	+0.2
MAT				S	S		05 37 06.9	-0.9
MAT	Matsushiro	4.65	313	P	P		05 36 14.8	+0.5
MAT				*e*S	S		05 37 06.7	-1.1
MAT	Matsushiro	4.65	313	*e*P	P		05 36 15.0	+0.7
MAT				*e*S	S		05 37 07.0	-0.8
MA2	Magadan	26.72	9	P	P		05 40 38.0	-4.3
SONM	Songino Array	30.58	309	P	P		05 41 15.9	-1.2
	0.2nm,0.4s,mb3.3,baz=90,slow=7.2,SNR=3.2							
MKAR	Makanchi Array	46.80	305	P	P		05 43 33.5	+1.2
	0.8nm,0.7s,mb3.7,baz=90,slow=9.1,SNR=7.5							
MKAR	Makanchi Array	46.80	305	P	P		05 43 33.5	+1.1
KURK	Kurchatov	48.85	311	*e*P	P		05 43 48.5	+0.2
	4.3nm,0.8s,mb4.5							
KURK				*e*	pP		05 43 56.4	-2.7
ILAR	Eielson

CAMI	**Rancho Maria**	**2.84**	**84**	P		Pn	06 06 57.2 +1.5
TERV	**Terraza Guagua**	**2.84**	**73**	P		Pn	06 06 57.3 +1.5
PINO	**Pino**	**2.84**	**73**	⇓P		Pn	06 06 57.1 +1.4
GGP	**Refugio Guagua**	**2.85**	**74**	⇓P		Pn	06 06 57.4 +1.5
CUSU	**Cusua**	**2.88**	**99**	P		Pn	06 06 58.6 +2.3
YANA	**Yana**	**2.89**	**73**	⇑P		Pn	06 06 58.0 +1.5
YANA				S		Sn	06 07 33.3 +1.3
JUIV	**Juive**	**2.90**	**99**	P		Pn	06 06 58.6 +2.1
VC1	**Cotopaxi 1**	**2.95**	**83**	P		Pn	06 06 59.2 +2.0
VC1				S		Sn	06 07 35.2 +1.8
ULBA	**Ulba**	**2.96**	**99**	P		Pn	06 06 58.7 +1.4
TAMB	**Tambo**	**2.98**	**84**	P		Pn	06 06 59.8 +2.1
ANTI	**Antisana**	**3.21**	**80**	P		Pn	06 07 02.9 +1.9
COTA	**Cotacachi**	**3.27**	**66**	P		Pn	06 07 03.8 +2.1
CAYA	**Cayambe**	**3.50**	**73**	⇓P		Pn	06 07 08.7 +3.6

*IDC **22** 06:09:41.7±1.6, 16.87N×96.20W, mb3.5/5, mb1 3.7/6, mb1mx3.6/21, mbtmp3.5/6, ML2.3/1, Error ellipse: s-maj=116.9km s-min=26.5km az=70.0*
*NEIC **22** 06:09:49.8±0.7, 16.79N×96.22W, h73km±8km, mb4.1/7, MD4.2(MEX), Error ellipse: s-maj=12.1km s-min=9.4km az=203.0*
*MEX **22** 06:09:50.7±0.7, 16.71N×96.26W, h76km±7km, MD4.3*
ISC 22 06:09:48.4±0.4,**16.74N**±0.04×**96.27W**±0.03,**h81**km±4km,
n36,σ1§**09**/55,**mb3.8**/7,**Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.55**	**308**	*i*	P	**P**	**06 10 04.0**	**+1.1**
OXX				*i*	S	**S**	**06 10 13.5**	**-0.1**
VHO	**Vista Hermosa**	**0.55**	**306**	*i*	P	**P**	**06 10 03.7**	**+0.8**
VHO				*i*	S	**S**	**06 10 13.7**	**0.0**
VHO	**Vista Hermosa**	**0.55**	**306**	*i*	P	**P**	**06 10 03.7**	**+0.8**
VHO				*i*	S	**S**	**06 10 13.6**	**-0.1**
HUIG	**Huatulco**	**0.98**	**171**	*i*	P	**P**	**06 10 07.8**	**+0.2**
HUIG				*i*	S	**S**	**06 10 20.6**	**-1.4**
PNIG	**Pinotepa**	**1.82**	**259**	*i*	P	**P**	**06 10 18.7**	**+0.2**
PNIG				*i*	S	**S**	**06 10 40.0**	**-0.6**
TUIG	**Tuzandepetl**	**2.18**	**54**	*i*	P	**P**	**06 10 23.5**	**+0.1**
TUIG				*i*	S	**S**	**06 10 48.6**	**-0.8**
TUIG	**Tuzandepetl**	**2.18**	**54**	*i*	P	**P**	**06 10 23.5**	**+0.1**
TUIG				*i*	S	**S**	**06 10 48.7**	**-0.6**
PPM	**Popocatepetl**	**3.22**	**316**	*e*	P	**P**	**06 10 39.0**	**+0.9**
PPM				*e*			06 10 40.0	
PPM				*i*	S	**S**	**06 11 15.8**	**+0.4**
PPM	**Popocatepetl**	**3.22**	**316**	*e*	P	**P**	**06 10 39.8**	**+1.8**
PPM				*i*	S	**S**	**06 11 22.2**	**+6.8**
YAIG	**Yautepec**	**3.40**	**309**	*i*	P	**P**	**06 10 41.8**	**+1.4**
YAIG				*i*	S	**S**	**06 11 19.4**	**-0.4**
YAIG	**Yautepec**	**3.40**	**309**	*i*	P	**P**	**06 10 42.7**	**+2.3**
YAIG				*i*	S	**S**	**06 11 19.4**	**-0.4**
PLIG	**Platanillo**	**3.50**	**298**	*i*	P	**P**	**06 10 43.5**	**+1.8**
PLIG				*i*	S	**S**	**06 11 21.3**	**-0.9**
PLIG	**Platanillo**	**3.50**	**298**	*i*	P	**P**	**06 10 44.5**	**+2.7**
PLIG				*i*	S	**S**	**06 11 21.3**	**-0.9**
ACX	**Acapulco**	**3.50**	**273**	*i*	P	**P**	**06 10 41.0**	**-0.8**
ACX				*i*	S	**S**	**06 11 17.0**	**-5.2**
ACX	**Acapulco**	**3.50**	**273**	*i*	P	**P**	**06 10 41.0**	**-0.8**
ACX				*i*	S	**S**	**06 11 12.0**	**-10**
CAIG	**El Cayaco**	**3.84**	**275**	*i*	P	**P**	**06 10 45.7**	**-0.9**
CAIG				*i*	S	**S**	**06 11 26.0**	**-4.8**
CAIG	**El Cayaco**	**3.84**	**275**	*i*	P	**P**	**06 10 45.7**	**-0.9**
CAIG				*i*	S	**S**	**06 11 26.3**	**-4.5**
CCIG	**Comitan**	**3.99**	**96**	*e*	P	**P**	**06 10 49.4**	**+0.8**
CCIG				*i*	S	**S**	**06 11 35.0**	**+0.6**
CCIG	**Comitan**	**3.99**	**96**	*e*	P	**P**	**06 10 49.0**	**+0.3**
CCIG				*i*	S	**S**	**06 11 34.7**	**+0.2**
TXAR	**Lajitas Array**	**14.26**	**333**		Pn	**P**	**06 13 05.0**	**-2.7**
	0.0nm,0.3s,baz=143,slow=14,SNR=2.6							
MIAR	**Mount Ida**	**17.89**	**7**	*e*	P	**P**	**06 13 53.4**	**-0.1**
	7.2nm,0.6s							
WMOK	**Wichita Mounta**	**18.06**	**353**	*e*	P	**P**	**06 13 55.6**	**+0.2**
	3.2nm,0.9s							
UALR	**University of**	**18.30**	**10**	*e*	P	**P**	**06 13 58.5**	**+0.2**
	7.5nm,0.6s							
ANMO	**Albuquerque**	**20.30**	**335**		P	**P**	**06 14 16.9**	**-3.1**
	0.3nm,0.3s,baz=135,slow=15,SNR=1.9							
SWET	**Sewanee**	**20.58**	**25**	*e*	P	**P**	**06 14 20.5**	**-2.5**
WVT	**Waverly**	**20.71**	**20**	*e*	P	**P**	**06 14 23.1**	**-1.2**
	12nm,0.6s							
KSU1	**Kansas State U**	**22.28**	**359**		P	**P**	**06 14 40.0**	**+0.2**
TZTN	**Tazewell**	**22.72**	**27**	*e*	P	**P**	**06 14 43.5**	**-0.6**
WCI	**Wyandotte Cave**	**23.13**	**20**	*e*	P	**P**	**06 14 49.4**	**+1.3**
	19nm,0.7s,mb4.5							
SDV	**Santo Domingo**	**26.16**	**104**	*e*	P	**P**	**06 15 17.1**	**-0.2**
	4.4nm,1.1s,mb3.8							
ULM	**Lac du Bonnet**	**33.42**	**0**		P	**P**	**06 16 20.2**	**-1.2**
	2.6nm,0.9s,mb4.0,baz=189,slow=4.5,SNR=4.0							
YKA	**Yellowknife Ar**	**47.48**	**349**		P	**P**	**06 18 18.4**	**+1.6**
	0.2nm,0.5s,mb3.1,baz=154,slow=7.3,SNR=7.2							
YKA	**Yellowknife Ar**	**47.48**	**349**		P	**P**	**06 18 18.4**	**+1.6**
INK	**Inuvik**	**56.68**	**344**	*e*	P	**P**	**06 19 25.1**	**-0.4**
	1.0nm,0.8s,mb3.9							
ILAR	**Eielson Array**	**58.72**	**337**		P	**P**	**06 19 41.1**	**+1.4**
	0.4nm,0.7s,mb3.5,baz=143,slow=5.9,SNR=6.0							
PLCA	**Paso Flores**	**61.97**	**158**		P	**P**	**06 20 03.8**	**+1.6**
	0.9nm,0.8s,mb3.8,baz=309,slow=7.9,SNR=3.0							

*IDC **22** 06:39:24.2±0.7, 54.03S×135.88W, mb4.1/9, mb1 4.3/9, mb1mx4.2/14, mbtmp4.1/9, MS4.5/19, Ms1 4.5/19, ms1mx4.5/24, Error ellipse: s-maj=30.2km s-min=17.5km az=175.0*
*HRVD **22** 06:39:26.2±0.2, 54.65S×135.62W, h14km±1km, MW5.2/72, Centroid moment Tensor Solution. LP body waves: s51,c80;Mantle waves: s72,c128; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.01±.02; $M_{\theta\theta}$0.55±.02; $M_{\phi\phi}$-0.54±.02; $M_{r\theta}$0.27±.06; $M_{\theta\phi}$0.55±.02; $M_{\phi r}$0.22±.05; Best double couple: M_o.847×10^{17} NP1: ϕ_s114°,δ70°,λ9°. NP2:ϕ_s21°,δ81°,λ160°. Principal axes: T.905, Plg20°, Azm336°; N-.117, Plg68°, Azm179°; P-.788, Plg8°, Azm69°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 06:39:26.2±0.6, 54.26S×135.90W, h10km, mb4.9/14 Error ellipse: s-maj=25.0km s-min=13.9km az=177.0*
ISC 22 06:39:25.8±0.5,**54.87S**±0.08×**135.9W**±0.2,**h10**km,**n49,**
σ1§**12**/29,**mb4.7**/19,**MS4.6**/19,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**30.28**	**201**		P	**P**	**06 45 43.5**	**+4.9**
	56nm,1.5s,mb5.1							
VNDA	**Vanda**	**31.24**	**202**		P	**P**	**06 45 53.3**	**+6.3**
	1.5nm,1.0s,mb3.8,baz=101,slow=10,SNR=2.6							
VNDA					LR	LR	06 55 02.7	
	comp=Z,728nm,21.8s,MS4.3,baz=82,slow=29							
VNDA	**Vanda**	**31.24**	**202**	*e*	P	**P**	**06 45 53.1**	**+6.1**
	12nm,1.4s,mb4.5							
RKT	**Rikitea**	**31.71**	**2**	*e*	S	**S**	**06 51 00.8**	**+0.6**
RKT				*e*	LQ		06 52 38.6	
RKT				*e*	LR	LR	06 53 57.3	
	2µm,25.8s,baz=179							
TBI	**Tubuai**	**33.07**	**337**	*e*	LR	LR	06 54 28.1	
	4µm,25.8s,baz=168							
RPN	**Rapa Nui**	**33.81**	**46**		LR	LR	06 56 07.8	
	comp=Z,1µm,21.8s,MS4.6,baz=33,slow=30							
PMSA	**Palmer Station**	**35.47**	**135**	*e*	P	**P**	**06 46 24.1**	**+0.3**
	62nm,1.6s,mb5.3							
RPZ	**Rata Peaks**	**35.52**	**266**		LR	LR	06 57 08.9	
	comp=Z,2µm,20.6s,MS4.8,baz=116,slow=30							
URZ	**Urewera**	**35.55**	**278**		P	**P**	**06 46 21.7**	**-3.1**
	7.8nm,0.8s,mb4.7,baz=99,slow=13,SNR=2.8							
URZ					LR	LR	06 57 17.0	
	comp=Z,1µm,20.8s,MS4.7,baz=19,slow=30							
USHA	**Ushuaia**	**37.46**	**119**		P	**P**	**06 46 41.4**	**+0.7**
	8.0nm,0.9s,mb4.5,baz=162,slow=13,SNR=3.0							
USHA					LR	LR	06 58 04.3	
	comp=Z,562nm,19.4s,MS4.4,baz=221,slow=30							
RAR	**Rarotonga**	**38.12**	**322**		LR	LR	06 59 07.3	
	comp=Z,838nm,18.1s,MS4.6,baz=119,slow=32							
PPT	**Papeete**	**38.69**	**339**	*e*	S	**S**	**06 52 48.8**	**+1.1**
PPT				*e*	LQ		06 55 45.7	
PPT				*e*	LR	LR	06 57 02.1	
	4µm,26.0s,baz=176							
PLCA	**Paso Flores**	**44.47**	**100**		P	**P**	**06 47 38.2**	**-0.3**
	2.1nm,1.0s,mb3.8,baz=252,slow=11,SNR=3.2							
PLCA					LR	LR	07 01 59.7	
	comp=Z,802nm,18.6s,MS4.7,baz=229,slow=30							
PLCA	**Paso Flores**	**44.47**	**100**	*e*	P	**P**	**06 47 39.0**	**+0.6**
	4.3nm,1.0s,mb4.1							

TAOE	**Nuku Hiva Isla**	**46.02**	**354**	*e*	S	**S**	**06 54 36.3**	**+0.8**
TAOE				*e*	LQ		06 58 34.5	
TAOE				*e*	LR	LR	07 00 33.7	
	5µm,25.1s,baz=191							
AFI	**Afiamalu**	**49.48**	**312**		LR	LR	07 03 44.8	
	comp=Z,552nm,19.2s,MS4.6,baz=147,slow=30							
SNAA	**Sanae**	**49.52**	**162**		P	**P**	**06 48 17.8**	**+0.1**
	1.6nm,0.9s,mb4.1,baz=222,slow=4.8,SNR=7.3							
SNAA	**Sanae**	**49.52**	**162**	*e*	P	**P**	**06 48 17.4**	**-0.3**
	15nm,1.2s,mb4.9							
TRQA	**Tornquist**	**51.15**	**103**	*e*	P	**P**	**06 48 30.5**	**-0.1**
	21nm,1.3s,mb4.9							
CFAA	**Coronel Fontan**	**52.19**	**93**		P	**P**	**06 48 34.8**	**-3.8**
	0.1nm,0.5s,baz=234,slow=7.2,SNR=4.1							
MAW	**Mawson**	**57.04**	**188**		P	**P**	**06 49 16.0**	**+2.4**
	4.8nm,0.9s,mb4.5,baz=121,slow=5.1,SNR=3.8							
MAW					LR	LR	07 13 12.3	
	comp=Z,503nm,18.4s,MS4.7,baz=160,slow=35							
STKA	**Stephens Creek**	**60.46**	**256**		P	**P**	**06 49 37.6**	**-0.2**
	1.7nm,0.8s,mb4.1,baz=134,slow=6.4,SNR=3.6							
STKA					LR	LR	07 11 21.2	
	comp=Z,676nm,19.3s,MS4.8,baz=100,slow=32							
STKA	**Stephens Creek**	**60.46**	**256**	*e*	P	**P**	**06 49 38.5**	**+0.7**
CPUP	**Villa Florida**	**62.43**	**97**	*e*	P	**P**	**06 49 48.9**	**-2.3**
	26nm,1.1s,mb5.3							
LPAZ	**La Paz**	**64.06**	**81**		P	**P**	**06 50 01.4**	**-0.5**
	3.0nm,1.1s,mb4.2,baz=255,slow=7.5,SNR=6.1							
LPAZ					LR	LR	07 11 34.3	
	comp=Z,92nm,18.8s,MS4.0,baz=40,slow=30							
LPAZ	**La Paz**	**64.06**	**81**	*e*	P	**P**	**06 50 02.5**	**+0.6**
	8.9nm,1.3s,mb4.6							
CTA	**Charters Tower**	**66.86**	**268**		LR	LR	07 12 53.7	
	comp=Z,110nm,21.7s,MS4.0,baz=180,slow=30							
CTAO	**Charters Tower**	**66.86**	**268**		P	**P**	**06 50 24.3**	**+4.3**
	14nm,1.0s,mb4.9							
HNR	**Honiara**	**67.57**	**286**		LR	LR	07 13 07.2	
	comp=Z,148nm,19.3s,MS4.2,baz=298,slow=30							
OTAV	**Otavalo**	**72.08**	**62**	*e*	P	**P**	**06 50 52.0**	**-0.1**
	12nm,1.4s,mb4.6							
NWAO	**Narrogin (SRO)**	**72.52**	**238**		LR	LR	07 15 02.0	
	comp=Z,579nm,20.9s,MS4.8,baz=154,slow=29							
WRA	**Warramunga Arr**	**73.80**	**258**		P	**P**	**06 51 01.0**	**-1.1**
	3.9nm,0.9s,mb4.3,baz=145,slow=5.4,SNR=8.6							
WRAB	**Tennant Creek**	**73.81**	**258**	*e*	P	**P**	**06 51 01.0**	**-1.1**
	7.7nm,0.8s,mb4.7							
PMG	**Port Moresby**	**74.85**	**275**		LR	LR	07 19 29.0	
	comp=Z,445nm,19.1s,MS4.8,baz=340,slow=32							
BDFB	**Brasília**	**76.16**	**97**		LR	LR	07 20 27.0	
	comp=Z,765nm,21.8s,MS5.0,baz=98,slow=32							
JTS	**JuntasAbangare**	**77.67**	**51**		P	**P**	**06 51 23.2**	**-0.9**
	28nm,1.5s,mb5.0							
ROSC	**El Rosal**	**78.14**	**64**		LR	LR	07 19 00.4	
	comp=Z,334nm,21.2s,MS4.6,baz=192,slow=31							
MBWA	**Marble Bar**	**80.86**	**246**		P	**P**	**06 51 41.7**	**+0.5**
	8.5nm,1.0s,mb4.6							
SDV	**Santo Domingo**	**83.47**	**65**	*e*	P	**P**	**06 51 55.9**	**+1.0**
	15nm,1.4s,mb4.8							
TXAR	**Lajitas Array**	**88.33**	**28**		P	**P**	**06 52 13.9**	**-4.6**
	0.1nm,0.6s,baz=210,slow=7.3,SNR=2.6							
ANMO	**Albuquerque**	**92.97**	**24**		LR	LR	07 25 36.4	
	comp=Z,187nm,20.6s,MS4.5,baz=147,slow=30							
PDAR	**Pinedale Array**	**99.82**	**19**		LR	LR	07 28 42.2	
	comp=Z,240nm,19.8s,MS4.7,baz=214,slow=30							
TORD	**Torodi Ar. Bea**	**126.88**	**125**		PKP	PKPdf	06 58 30.4	-2.5
	1.2nm,0.8s,baz=219,slow=0.5,SNR=5.7							
SONM	**Songino Array**	**141.63**	**286**		PKP	PKPdf	06 58 54.8	-4.6
	0.2nm,0.4s,baz=124,slow=5.2,SNR=2.6							
ESDC	**Sonseca Array**	**144.79**	**95**		PKP	PKPdf	06 59 02.9	-2.2
	1.4nm,0.6s,baz=242,slow=4.0,SNR=6.2							
ESLA	**Sonseca Array**	**144.79**	**95**	*e*	PKPdf	PKPdf	06 59 04.2	-0.9
MKAR	**Makanchi Array**	**154.83**	**267**		PKPbc	PKPdf	06 59 25.9	+5.5
	1.4nm,0.9s,baz=90,slow=3.6,SNR=5.6							
GERES	**GERESS Array B**	**160.38**	**95**		PKP	PKPdf	06 59 25.2	-2.0
	comp=Z,1s,baz=180,slow=1.3,SNR=7.3							
AKASG	**Malin Array Be**	**170.07**	**109**		PKP	PKPdf	06 59 31.5	-3.7
	0.2nm,0.2s,baz=270,slow=1.2,SNR=4.0							

IDC 22 06:48:33.7±0.9,**26.98N**×**140.76E, mb3.7**/5,**mb1 4.0**/5,
mb1mx3.7/19,**mbtmp3.7**/5,**Error ellipse: s-maj=41.0km s-min=22.4km az=93.0,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.27**	**84**		Sn	Sn	06 49 13.3	-3.5
	157nm,0.3s,baz=276,slow=22,SNR=3.6							
HNR	**Honiara**	**40.70**	**150**		P	P	06 56 17.1	-0.7
	89nm,0.5s,baz=56,slow=11,SNR=4.4							
WRA	**Warramunga Arr**	**47.05**	**188**		P	P	06 57 06.7	-2.5
	1.5nm,0.7s,baz=10.0,slow=8.6,SNR=18							
MKAR	**Makanchi Array**	**49.57**	**310**		P	P	06 57 26.9	-1.5
	0.4nm,0.6s,baz=90,slow=7.2,SNR=4.1							
ILAR	**Eielson Array**	**58.42**	**25**		P	P	06 58 29.4	-3.9
	0.3nm,0.6s,baz=278,slow=6.4,SNR=3.6							
YKA	**Yellowknife Ar**	**72.85**	**28**		P	P	07 00 04.9	-0.9
	0.6nm,0.6s,baz=295,slow=6.2,SNR=14							
PDAR	**Pinedale Array**	**85.19**	**44**		P	P	07 01 13.1	-0.1
	0.3nm,0.5s,baz=168,slow=1.7,SNR=3.8							
PLCA	**Paso Flores**	**150.77**	**126**		PKPbc	PKPdf	07 08 26.2	+2.0
	0.8nm,0.6s,baz=260,slow=6.1,SNR=3.5							
LPAZ	**La Paz**	**151.18**	**74**		PKPbc	PKPdf	07 08 31.1	+5.6
	0.8nm,0.6s,baz=291,slow=3.5,SNR=5.9							

*IDC **22** 06:49:29.9±1.0, 14.76S×166.80E, mb3.9/6, mb1 4.1/7, mb1mx3.9/16, mbtmp3.8/7, ML3.6/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/34, Error ellipse: s-maj=40.5km s-min=23.9km az=114.0*
*LDG **22** 06:49:32.2±0.1, 14.84S×167.78E, h10km, Mb4.1/1, Error ellipse: s-maj=15.8km s-min=3.0km az=96.0*
ISC 22 06:49:33.4±0.9,**14.9S**±0.1×**166.8E**±0.2,**h33**km,**n24,**
σ0§**89**/8,**mb3.8**/6,**MS3.8**/2,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.10**	**182**		Pn	**Pn**	**06 51 16.8**	**-0.9**
	1.0nm,0.3s,baz=15,slow=23,SNR=15							
DZM					Sn	**Sn**	**06 52 31.8**	**-6.3**
	baz=121,slow=19,SNR=1.6							
DZM					LR	LR	06 53 53.7	
	comp=Z,167nm,18.5s,baz=13,slow=36							
HNR	**Honiara**	**8.63**	**309**		LR	LR	06 54 20.9	
	comp=Z,80nm,21.0s,baz=142,slow=34							
CTA	**Charters Tower**	**20.22**	**252**		LR	LR	07 00 08.5	
	comp=Z,99nm,18.6s,MS3.2,baz=18,slow=32							
STKA	**Stephens Creek**	**28.49**	**229**		P	**P**	**06 55 27.9**	**+0.1**
	0.9nm,0.8s,mb3.5,baz=58,slow=9.5,SNR=2.1							
WRA	**Warramunga Arr**	**31.30**	**256**		P	**P**	**06 55 52.8**	**-0.2**
	0.3nm,0.5s,mb3.4,baz=85,slow=9.1,SNR=6.7							
VNDA	**Vanda**	**62.64**	**181**		P	**P**	**06 59 56.8**	**+0.2**
	1.0nm,0.7s,mb4.0,baz=1.7,slow=6.6,SNR=4.6							
ILAR	**Eielson Array**	**86.88**	**18**		P	**P**	**07 02 14.9**	**-0.6**
	1.0nm,0.6s,mb4.2,baz=245,slow=4.8,SNR=16							
SNAA	**Sanae**	**93.31**	**183**		P	**P**	**07 02 48.0**	**+2.3**
	0.6nm,0.9s,mb4.0,baz=240,slow=6.4,SNR=3.4							
YKA	**Yellowknife Ar**	**97.96**	**27**		P	**P**	**07 03 06.7**	**-0.2**
	0.2nm,0.6s,mb3.8,baz=254,slow=4.8,SNR=5.1							
YKA					LR	LR	07 46 50.3	
	comp=Z,142nm,18.2s,MS4.5,baz=210,slow=35							
ARCES	**ARCESS Array B**	**120.33**	**345**		PKP	PKPdf	07 08 21.8	+0.8
	6.4nm,1.1s,baz=90,slow=1.2,SNR=6.3							
BAIF	**Baives**	**142.21**	**342**	*e*	PKP1	PKPdf	07 09 05.9	+3.5
CABF	**La Chapelle**	**144.53**	**337**	*e*	PKP1	PKPbc	07 09 09.2	+2.9
	4.9nm,0.7s							
SSF	**Saint Saulge**	**145.07**	**340**	*e*	PKP1	PKPbc	07 09 09.4	+1.7
	14nm,0.8s							
GRR	**Gorron**	**145.12**	**346**	*e*	PKP1	PKPbc	07 09 09.8	+2.0
LPL	**La Plagne**	**145.19**	**335**	*e*	PKP1	PKPbc	07 09 10.3	+2.2
LPG	**La Plagne**	**145.19**	**335**	*e*	PKP1	PKPbc	07 09 10.2	+2.1
	10nm,0.8s							
SMF	**Signal de Mont**	**145.32**	**339**	*e*	PKP1	PKPbc	07 09 10.1	+1.7
	10.0nm,0.9s							
AVF	**Avril sur Loir**	**145.36**	**340**	*e*	PKP1	PKPbc	07 09 10.1	+1.6
	12nm,1.0s							
BGF	**Bois d'Agland**	**145.73**	**340**	*e*	PKP1	PKPbc	07 09 11.3	+1.9
MBDF	**Montbardon**	**145.81**	**334**	*e*	PKP1	PKPbc	07 09 12.2	+2.5
ORIF	**Oris-en-Rattie**	**146.02**	**335**	*e*	PKP1	PKPbc	07 09 12.5	+2.3
	7.1nm,0.6s							
VIVF	**Saint-Julien-l**	**146.55**	**337**	*e*	PKP1	PKPbc	07 09 14.1	+2.7
MFF	**Saint Martin d**	**146.59**	**344**	*e*	PKP1	PKPbc	07 09 13.7	+2.3
	8.5nm,0.7s							
ETSF	**Etsaut**	**150.09**	**341**	*e*	PKP1	PKPdf	07 09 23.4	+7.6
	7.2nm,0.7s							

*IDC **22** 07:07:52.4±1.9, 34.10N×73.65E, mb3.8/8, mb1 4.0/11, mb1mx3.8/23, mbtmp3.8/11, ML3.9/3, MS4.2/1, Ms1 4.2/1, ms1mx2.6/28, Error ellipse: s-maj=42.1km s-min=26.0km az=152.0*
*NEIC **22** 07:07:53.3±0.9, 34.07N×73.62E, h10km, mb4.1/6, Error ellipse: s-maj=15.8km s-min=13.8km az=80.0*
*NDI **22** 07:07:58.0±3.1, 34.36N×73.72E, h10km, MD3.4, ML3.8*
*NNC **22** 07:08:03.0±3.7, 34.52N×73.44E, h50km±33km, mb3.3, mpv3.9, Error ellipse: s-maj=32.6km s-min=29.7km az=95.0*
ISC 22 07:07:57.6±1.0,**34.32N**±0.04×**73.58E**±0.10,**h43**km±13km,
n41,σ1§**21**/47,**mb4.0**/11,**MS4.2**/1,**1C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.60**	**136**	*e*	P	**P**	**07 08 39.8**	**+1.6**
THN				*e*	SB	**S**	**07 09 17.5**	**+8.7**
DLH	**Dalhousie**	**2.67**	**131**	*e*	P	**P**	**07 08 42.0**	**+2.7**
DLH				*e*	SB	**S**	**07 09 16.0**	**+5.3**
PONG	**Pong**	**3.09**	**139**	*e*	P	**P**	**07 08 48.0**	**+2.8**
PONG				*e*	x	x	07 09 31.0	
SDNR	**Sundarnagar**	**4.01**	**134**	*e*	P	**P**	**07 08 58.7**	**+0.5**
SDNR				*e*	S	**S**	**07 09 43.0**	**-1.5**
SMLA	**Simla**	**4.39**	**135**	*e*	P	**P**	**07 09 03.1**	**-0.5**
SMLA				*e*	S	**S**	**07 09 53.4**	**-0.8**
	408nm,0.4s							
KLP	**Kalpa**	**4.82**	**124**	*e*	P	**P**	**07 09 09.3**	**-0.3**
KLP				*e*	S	**S**	**07 10 01.9**	**-2.9**
KLP				*e*	x	x	07 10 26.9	
KLP					AML	AML	07 10 28.6	
	comp=E,222nm,0.5s							
KLP					AML	AML	07 10 29.4	
	comp=N,160nm,0.4s							
DDI	**Dehra Dun**	**5.50**	**135**	*e*	x	x	07 10 18.1	
NDI	**New Delhi**	**6.42**	**150**	*e*	x	x	07 11 21.0	
KHET	**Khetri**	**6.52**	**162**	*e*	P	**P**	**07 09 31.4**	**-2.0**
KHET				*e*	S	**S**	**07 10 43.3**	**-4.0**
KUDL	**Kundal**	**6.64**	**157**	*e*	P	**P**	**07 09 34.5**	**-0.8**
KUDL				*e*	S	**S**	**07 10 47.0**	**-3.5**
AAK	**Ala-Archa**	**8.33**	**5**	*e*	P	**P**	**07 09 55.6**	**-2.9**
	comp=N,2.4nm,0.8s							
TKM2	**Tokmak 2**	**8.73**	**10**		P	**P**	**07 10 03.9**	**-0.2**
TKM2					S	**S**	**07 11 41.6**	**-0.7**
KK31	**Karatay Array**	**9.09**	**346**		P	**P**	**07 10 09.2**	**+0.1**
	comp=N,2.2nm,0.4s,baz=163,slow=12,SNR=48							
KK31					LR	**S**	**07 11 46.6**	**-4.6**
	comp=N,1.1nm,0.3s,baz=139,slow=21,SNR=9.2							
MK31	**Makanchi Array**	**14.10**	**25**		P	**P**	**07 11 17.3**	**+1.0**
	comp=N,0.3nm,0.4s,baz=202,slow=12,SNR=4.2							
MKAR	**Makanchi Array**	**14.10**	**25**		Pn	**P**	**07 11 18.2**	**+1.8**
	comp=N,0.1nm,0.3s,baz=197,slow=15,SNR=3.3							
LSA	**Lhasa**	**15.60**	**102**	*e*	P	**P**	**07 11 39.8**	**+3.8**
	comp=N,9.3nm,1.0s							
KURK	**Kurchatov**	**16.79**	**11**		P	**P**	**07 11 48.9**	**-2.1**
AB31	**Akbulak array**	**18.01**	**330**		P	**P**	**07 12 06.3**	**+0.1**
	comp=N,1.4nm,0.6s,baz=143,slow=12,SNR=22							
VOSK	**Vostochnaya**	**18.49**	**355**		P	**P**	**07 12 11.1**	**-1.0**
BVA0	**Borovoye Array**	**18.83**	**354**		P	**P**	**07 12 16.1**	**-0.1**
	comp=N,0.2nm,0.8s,baz=163,slow=8.0,SNR=12							
**B

comp=Z,3.6nm,0.9s,mb4.4
SONM Songino Array 57.44 354 P **P** 07 24 36.8 **+0.4**
comp=Z,1.5nm,0.5s,mb4.3,baz=178,slow=8.0,SNR=15
SONM pP pP 07 24 49.8 +0.5
comp=Z,1.2nm,0.5s,baz=176,slow=7.7,SNR=5.2
MKAR Makanchi Array 62.80 336 P **P** **07 25 12.7 -0.4**
comp=Z,1.0nm,0.4s,mb4.3,baz=158,slow=6.8,SNR=8.3
MKAR pP pP 07 25 24.6 -1.4
comp=Z,2.7nm,0.5s,baz=147,slow=7.5,SNR=9.8
AAK Ala-Archa 63.25 328 *eP* **P** **07 25 15.4 -0.6**
AAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
AAK Ala-Archa 63.25 328 *eP* **P** **07 25 15.4 -0.6**
comp=Z,4.8nm,1.1s,mb4.5
MAW Mawson 67.25 199 LR LR 07 48 09.5
comp=Z,91nm,18.3s,MS4.0,baz=242,slow=30
ZAL Zalesovo 67.86 342 P **P** **07 25 45.0 -0.4**
comp=Z,1.0nm,0.3s,mb4.4,baz=117,slow=4.5,SNR=2.5
ZAL pP pP 07 25 59.7 +1.1
comp=Z,1.1nm,0.3s,baz=25,slow=3.6,SNR=2.4
VNDA Vanda 72.33 170 P **P** **07 26 10.4 -1.7**
comp=Z,2.1nm,0.8s,mb4.1,baz=54,slow=2.5,SNR=6.5
VNDA pP pP 07 26 25.6 +0.2
comp=Z,2.5nm,0.9s,baz=351,slow=9.0,SNR=4.0
VNDA LR LR 07 56 17.5
comp=Z,140nm,18.1s,MS4.3,baz=319,slow=34
BVAR Borovoye Array 72.53 334 P **P** **07 26 13.2 -0.5**
comp=Z,0.8nm,0.5s,mb3.9,baz=141,slow=9.5,SNR=5.5
CHKZ Chkalovo 72.89 335 *eP* **P** **07 26 15.7 -0.1**
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CHKZ Chkalovo 72.89 335 *eP* **P** **07 26 15.7 -0.1**
comp=Z,3.9nm,0.6s,mb4.5
ZRNK Zerenda 73.09 333 *eP* **P** **07 26 15.8 -1.2**
ZRNK *e**PP pP 07 26 28.5 -1.8
ZRNK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
ZRNK Zerenda 73.09 333 *eP* **P** **07 26 15.8 -1.2**
comp=Z,10nm,1.2s,mb4.6
ZRNK *e*pP pP 07 26 28.5 -1.8
AKTK Aktyubinsk 76.95 327 P **P** **07 26 39.8 +0.6**
AKTK pP pP 07 26 52.2 -0.4
AKTO Aktyubinsk 76.95 327 P **P** **07 26 39.8 +0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=110,slow=6.6,SNR=7.2
AKTO pP pP 07 26 52.2 -0.4
comp=Z,5.6nm,1.1s,baz=120,slow=6.2,SNR=7.4
TIXI Tiksi 81.50 5 *eP* **P** **07 27 02.0 -1.4**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MATP Matopo 82.78 251 P **P** **07 27 10.5 -0.5**
comp=Z,1.1nm,0.8s,mb4.0,baz=84,slow=7.0,SNR=5.0
LSZ Lusaka 83.76 256 *eP* **P** **07 27 16.4 +0.2**
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LSZ Lusaka 83.76 256 *eP* **P** **07 27 16.4 +0.2**
comp=Z,2.9nm,0.8s,mb4.5
BRTR Keskin Array B 88.80 310 P **P** **07 27 40.5 +0.2**
comp=Z,1.0nm,0.8s,mb4.2,baz=124,slow=8.9,SNR=4.9
BRTR pP pP 07 27 54.3 +0.3
comp=Z,2.2nm,1.0s,baz=135,slow=7.0,SNR=4.6
SNAA Sanae 89.28 196 P **P** **07 27 41.0 -0.8**
SNAA pmax pmax
comp=Z,4.0nm,1.2s
SNAA Sanae 89.28 196 P **P** **07 27 41.0 -0.8**
comp=Z,3.8nm,1.2s,mb4.6
AKASG Malin Array Be 94.07 321 pP pP 07 28 17.1 -1.0
comp=Z,1.0nm,0.6s,baz=79,slow=4.9,SNR=2.8
FINES FINESS Array B 97.32 331 pP pP 07 28 32.6 -0.1
comp=Z,4.8nm,1.0s,baz=72,slow=6.0,SNR=4.0
YKA Yellowknife Ar 116.48 23 PKP PKPdf 07 33 30.6 +2.2
comp=Z,0.4nm,0.7s,baz=313,slow=1.7,SNR=10
TXAR Lajitas Array 139.41 55 PKP PKPdf 07 34 14.3 +1.4
comp=Z,0.7nm,1.1s,baz=297,slow=2.0,SNR=2.7
WCI Wyandotte Cave 145.91 29 *e*PKPbc PKPbc 07 34 27.6 +2.7
WVT Waverly 146.72 34 *e*PKPdf PKPdf 07 34 29.9 +4.5
OXF Oxford 146.97 37 *e*PKPbc PKPbc 07 34 28.8 +1.2
SIV San Ignacio 154.31 191 pPKPbc 07 35 01.5
comp=Z,0.8nm,0.6s,baz=100,slow=6.1,SNR=3.6
LPAZ La Paz 154.34 175 pPKPbc 07 35 02.2
comp=Z,1.0nm,0.6s,baz=247,slow=7.7,SNR=3.5

GUC 22 07:19:17.4±0.6, 31.33S×69.03W, h150km, MD3.6, ML3.5, 1C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.70**	**275**	⇓*iP*	P	07 19 49.5	+0.1
CMCH				*i* S	S	07 20 14.4	+0.3
CMCH				AMP		07 20 15.8	
	comp=E,2μm,0.4s						
JACH	**Jahuel**	**1.89**	**224**	*eP*	P	07 19 52.0	+0.4
JACH				*i* S	S	07 20 18.5	+0.5
FCH	**Farellones**	**2.26**	**208**	⇓*iP*	P	07 19 56.8	+0.7
FCH				*i* S	S	07 20 27.1	+1.4
FCH				AMP		07 20 31.1	
	comp=E,78nm,0.6s						
PEL	**Peldehue**	**2.29**	**217**	*i* P	P	07 19 56.4	0.0
PEL				*i* S	S	07 20 25.7	-0.6
PEL				AMP		07 20 27.9	
	comp=E,177nm,0.3s						
ROCH	**El Roble**	**2.35**	**225**	*i* P	P	07 19 57.7	+0.5
ROCH				*i* S	S	07 20 27.8	+0.2
LSCH	**La Serena**	**2.38**	**306**	*eP*	P	07 19 57.5	-0.1
LSCH				*i* S	S	07 20 27.5	-0.9
LSCH				AMP		07 20 29.1	
	comp=N,226nm,0.4s						
PCH	**Pirque**	**2.61**	**208**	*i* P	P	07 20 00.5	0.0
PCH				*e*S	S	07 20 33.5	+0.1
RCDM	**Rinconada Maip**	**2.63**	**215**	⇑*iP*	P	07 20 00.6	-0.1
RCDM				*i* S	S	07 20 33.5	-0.3
RCDM				AMP		07 20 38.4	
	comp=E,93nm,0.4s						
LCCH	**Las Cruces**	**3.03**	**225**	*i* P	P	07 20 05.6	-0.3

IGQ 22 07:29:24.2, 0.98S×81.40W, h5km±9km, mb4.5, 4C-4D, Error ellipse: s-maj=11.1km s-min=5.4km az=39.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.86**	**61**	⇓P	Pn	07 29 59.5	+2.5
MAG1				S	Sn	07 30 22.9	+1.8
TERV	**Terraza Guagua**	**2.91**	**74**	P	Pn	07 30 12.7	+0.7
PINO	**Pino**	**2.91**	**74**	⇑P	Pn	07 30 13.3	+1.3
PINO				S	Sn	07 30 51.9	+4.1
CAMI	**Rancho Maria**	**2.91**	**84**	P	Pn	07 30 13.7	+1.7
GGP	**Refugio Guagua**	**2.92**	**74**	⇑P	Pn	07 30 13.4	+1.2
CUSU	**Cusua**	**2.95**	**99**	P	Pn	07 30 15.4	+2.7
YANA	**Yana**	**2.95**	**73**	⇓P	Pn	07 30 14.0	+1.3
YANA				S	Sn	07 30 49.8	+0.8
JUIV	**Juive**	**2.97**	**99**	P	Pn	07 30 15.1	+2.2
VC1	**Cotopaxi 1**	**3.01**	**84**	P	Pn	07 30 15.2	+1.7
ULBA	**Ulba**	**3.03**	**99**	⇓P	Pn	07 30 15.1	+1.4
ULBA				S	Sn	07 30 50.4	-0.4
TAMB	**Tambo**	**3.04**	**85**	P	Pn	07 30 17.2	+3.3
ANTI	**Antisana**	**3.28**	**81**	⇑P	Pn	07 30 18.6	+1.3
COTA	**Cotacachi**	**3.33**	**67**	⇑P	Pn	07 30 20.0	+2.0
CAYA	**Cayambe**	**3.56**	**73**	⇓P	Pn	07 30 24.4	+3.0

WEL 22 07:40:01.5±0.7, 36.58S×179.77W, h33km, ML3.7/2, Error ellipse: s-maj=13.6km s-min=12.8km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.17**	**226**	PN	Pn	07 40 35.5	-0.7
PUZ				S	Sn	07 40 59.9	-2.2
MWZ	**Matawai**	**2.78**	**230**	PN	Pn	07 40 43.0	-1.8
MWZ				S	Sn	07 41 13.7	-3.8
KNZ	**Kokohu**	**3.17**	**219**	PN	Pn	07 40 48.3	-2.1

ATH 22 08:03:00.8, 39.99N×23.14E, h38km, MD3.1/4
THE 22 08:03:00.9, 39.83N×23.78E, h4km, ML2.9
NEIC 22 08:03:01.3, 39.92N±23.58E, h29km, MD3.1(ATH), After ATH.
CSEM 22 08:03:01.3±0.1, 39.86N×23.77E, h12km, ML2.9, Error ellipse: s-maj=2.7km s-min=1.9km az=145.0
ISC 22 08:02:59.9±0.5, 39.84N±0.03×23.77E±0.04, h14km±4km, n19, σ0.86/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.11**	**322**	*eP*g	**Pg**	**08 03 03.2**	**-0.2**
PAIG				*e*Sg	**Sg**	**08 03 05.2**	**-0.4**
OUR	**Ouranopolis**	**0.52**	**18**	*eP*g	**Pg**	**08 03 11.2**	**+0.6**
OUR	**Ouranopolis**	**0.52**	**18**	*eP*g	**Pg**	**08 03 11.2**	**+0.6**
PLG	**Polygyros**	**0.59**	**335**	*eP*B	**Pb**	**08 03 10.9**	**-0.6**
PLG				*e*SB	**Sb**	**08 03 18.1**	**-1.3**
XOR	**Xorichti**	**0.65**	**224**	*eP*g	**Pg**	**08 03 13.7**	**+0.6**
XOR				*e*Sg	**Sg**	**08 03 22.7**	**+0.8**
NEO	**Neokhori**	**0.68**	**219**	*eP*N	**Pn**	**08 03 14.8**	**0.0**
THE	**Thessaloniki**	**1.01**	**322**	*eP*g	**Pg**	**08 03 20.6**	**+0.5**
THE				*e*Sg	**Sg**	**08 03 35.5**	**+1.9**
LOS	**Limnos**	**1.01**	**84**	*eP*g	**Pg**	**08 03 19.8**	**-0.5**
LOS				*e*Sg	**Sg**	**08 03 34.0**	**+0.1**
LIT	**Litokhoron**	**1.02**	**285**	*eP*g	**Pg**	**08 03 20.1**	**-0.3**
LIT				*e*Sg	**Sg**	**08 03 34.3**	**+0.2**
SOH	**Sokhos**	**1.03**	**342**	*eP*g	**Pg**	**08 03 20.8**	**+0.1**
SOH				*e*Sg	**Sg**	**08 03 35.3**	**+0.7**
SRS	**Serrai**	**1.29**	**354**	*eP*g	**Pg**	**08 03 24.8**	**-0.9**
AGG	**Agios Georgios**	**1.38**	**234**	*eP*g	**Pg**	**08 03 26.0**	**-1.6**
AGG				*e*Sg	**Sg**	**08 03 45.9**	**-0.2**
KNT	**Kendrikon**	**1.48**	**334**	*eP*g	**Pg**	**08 03 28.0**	**-1.6**
NVR	**Nevrokopi**	**1.51**	**3**	*e*PB	**Pb**	**08 03 26.4**	**-0.8**
NVR	**Nevrokopi**	**1.51**	**3**	*e*Pn	**Pn**	**08 03 27.4**	**+0.7**
RDO	**Rodhopi**	**1.88**	**45**	*eP*N	**Pn**	**08 03 36.3**	**+4.4**
RDO	**Rodhopi**	**1.88**	**45**	*eP*n	**Pn**	**08 03 34.3**	**+2.4**
ALN	**Alexandroupoli**	**2.03**	**58**	*eP*n	**Pn**	**08 03 34.8**	**+0.6**
FNA	**Florina**	**2.06**	**298**	*eP*n	**Pn**	**08 03 35.3**	**+0.7**

NEIC 22 08:36:32.4±0.8, 5.41N×82.78W, h10km, mb4.2/4, Error ellipse: s-maj=21.7km s-min=11.2km az=51.0
CASC 22 08:36:35.0±1.2, 5.77N×82.62W, h20km±249km, MD4.3, mb4.2(NEIC)
IDC 22 08:36:46.2±6.2, 5.58N×82.20W, h126km±60km, mb3.3/4, mb1 3.6/6, mb1mx3.3/22, mbtmp3.8/6, MS3.5/1, Ms1 3.4/1, ms1mx2.6/12, Error ellipse: s-maj=52.5km s-min=18.9km az=61.0
ISC 22 08:36:31.3±2.4, 5.53N±0.07×82.86W±0.08, h20km±20km, n22, σ1.922/29, mb3.7/6, MS3.5/1, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**3.25**	**3**	*eP*	**Pn**	**08 37 22.2**	**-0.2**
BUS	**Buena Vista**	**4.10**	**348**	⇑*eP*	**Pn**	**08 37 35.3**	**+0.8**
BUS				*e*S	**Sn**	**08 38 21.8**	**-0.7**
LCR2	**La Lucha 2**	**4.34**	**345**	⇓*eP*	**Pn**	**08 37 38.5**	**+0.7**
LCR2				*e*S	**Sn**	**08 38 28.3**	**-0.2**
LAJ	**Bijagual**	**4.48**	**344**	*eP*	**Pn**	**08 37 40.2**	**+0.3**
LAJ				*e*S	**Sn**	**08 38 27.1**	**-5.2**
PRS1	**Puriscal**	**4.65**	**342**	*eP*	**Pn**	**08 37 41.5**	**-0.9**
PRS1				*e*S	**Sn**	**08 38 33.8**	**-2.7**
JTS	**JuntasAbangare** 42nm,0.5s	**5.16**	**337**	*e*Pn	**Pn**	**08 37 50.1**	**+0.5**
JTS				*e*Sn	**Sn**	**08 38 45.4**	**-3.9**
VCR	**Vista de Mar**	**5.33**	**329**	*eP*	**Pn**	**08 37 52.9**	**+1.0**
OTAV	**Otavalo** 6.3nm,0.5s	**6.86**	**140**	*e*Pn	**Pn**	**08 38 12.1**	**-1.4**
ROSC	**El Rosal** 3.2nm,0.3s,baz=275,slow=12,SNR=5.0	**8.52**	**94**	P	**P**	**08 38 40.0**	**+3.3**
ROSC				S	**Sn**	**08 40 14.2**	**+0.9**
	0.1nm,0.3s,baz=263,slow=19,SNR=1.9						
SDV	**Santo Domingo** 0.5nm,0.3s,baz=269,slow=13,SNR=13	**12.58**	**74**	P	**P**	**08 39 31.0**	**-1.3**
SDV				S	**S**	**08 41 44.6**	**-8.3**
	0.2nm,0.3s,baz=266,slow=19,SNR=2.5						
SDV	**Santo Domingo**	**12.58**	**74**	*e*Pn	**P**	**08 39 30.9**	**-1.4**
SDV				S	**S**	**08 41 44.6**	**-8.3**
SJG	**San Juan** 4.4nm,0.3s,baz=260,slow=6.3,SNR=4.7	**20.56**	**51**	P	**P**	**08 41 12.9**	**+1.2**
SJG	**San Juan** 23nm,1.1s	**20.56**	**51**	P	**P**	**08 41 12.6**	**+0.9**
LPAZ	**La Paz** 0.9nm,0.7s,mb3.4,baz=313,slow=12,SNR=4.7	**26.12**	**146**	P	**P**	**08 42 05.8**	**-0.3**
LPAZ	**La Paz** 2.1nm,1.0s,mb3.6	**26.12**	**146**	*eP*	**P**	**08 42 05.2**	**-0.9**
SIV	**San Ignacio** 0.4nm,0.7s,mb3.3,baz=301,slow=12,SNR=5.2	**30.37**	**135**	P	**P**	**08 42 43.2**	**-1.4**
TXAR	**Lajitas Array** 0.2nm,0.7s,mb3.0,baz=108,slow=11,SNR=2.9	**30.78**	**323**	P	**P**	**08 42 52.9**	**+4.9**
BDFB	**Brasilia** comp=Z,63nm,19.4s,MS3.5,baz=297,slow=34	**40.41**	**122**	LR	LR	08 59 42.8	
GLA	**Glamis**	**40.43**	**317**	*eP*	**P**	**08 44 14.4**	**+4.2**
HWUT	**Hardware Ranch** 2.3nm,0.8s,mb4.0	**44.10**	**329**	P	**P**	**08 44 43.0**	**+2.8**
YKA	**Yellowknife Ar** 1.3nm,0.7s,mb4.2,baz=140,slow=6.7,SNR=38	**61.46**	**344**	P	**P**	**08 46 50.4**	**+1.7**
INK	**Inuvik** 4.7nm,1.4s,mb4.2	**71.13**	**342**	*eP*	**P**	**08 47 49.9**	**-0.4**

PRU 22 08:39:38.6, 50.04N×18.39E
NEIC 22 08:39:38.3±0.8, 50.06N×18.37E, h5km, MG2.6(WAR), Error ellipse: s-maj=13.6km s-min=7.4km az=177.0
WAR 22 08:39:37.9, 50.04N×18.44E, h1km, MW2.6, 1C-5D, Location given by Central Institute of Mining, origin time based upon RAC, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**287**	⇓*i*PG	Pg	08 39 41.9	+0.8
RAC				⇓*e*SG	Sg	08 39 45.9	+2.6
RAC	**Raciborz**	**0.16**	**287**	⇓*i*Pg	Pg	08 39 41.9	+0.8
RAC				*e*Sg	Sg	08 39 45.2	+1.9
OKC	**Ostrava-Krasne**	**0.27**	**223**	*e*PG	Pg	08 39 43.5	+0.2
OKC				*e*SG	Sg	08 39 47.9	+0.9
	230nm,0.5s						
MORC	**Moravsky Berou**	**0.63**	**246**	*e*Pg	Pg	08 39 49.6	-0.9
MORC				*e*Sg	Sg	08 39 57.0	-2.0
OJC	**Ojcow**	**0.90**	**78**	*e*PG	Pg	08 40 05.0	-0.8
OJC				*e*SG	Sg	08 40 07.0	-0.7
LIKS	**Likavka**	**1.08**	**156**	*e*SN	Sn	08 40 14.6	-1.2
NIE	**Niedzica**	**1.37**	**116**	*e*Pg	Pg	08 40 04.3	-0.8
NIE				*e*Sg	Sg	08 40 23.7	+0.4
DPC	**Dobruska-Polom**	**1.40**	**284**	*e*PG	Pg	08 40 03.6	-2.1
DPC				*e*SG	Sg	08 40 22.6	-1.7
	58nm,0.5s						
VYHS	**Vyhne**	**1.57**	**170**	*e*PN	Pn	08 40 07.1	+0.2
VYHS				*e*SN	Sn	08 40 27.5	-0.6
VYHS				*e*LG		08 40 30.0	
KSP	**Ksiaz**	**1.59**	**301**	*e*PN	Pn	08 40 06.0	-1.3
KSP				*e*PG	Pg	08 40 08.0	-1.6
KSP				*e*SG	Sg	08 40 28.0	-2.8
UPC	**Upice**	**1.62**	**288**	*e*PG	Pg	08 40 07.8	-2.5
UPC				*e*SG	Sg	08 40 29.8	-2.2
STHS	**Stebnicka Huta**	**1.93**	**108**	*e*PG	Pg	08 40 14.8	-1.5
STHS				*e*SN	Sn	08 40 39.5	+2.2
STHS				*e*LG		08 40 50.0	
ZST	**Bratislava**	**2.04**	**206**	*e*SN	Sn	08 40 38.1	-2.1
KECS	**Kecovo**	**2.05**	**138**	*e*PN	Pn	08 40 13.0	-0.9
KECS				*e*		08 40 19.3	
KECS				*e*		08 40 38.4	
KECS				*e*LG		08 40 40.0	
CRVS	**Cervenica-Dubn**	**2.28**	**119**	*e*PG	Pg	08 40 20.3	-3.0
CRVS				*e*		08 40 52.6	
PRU	**Pruhonice**	**2.51**	**270**	*e*SG	Sg	08 40 55.4	-6.1
BRG	**Berggiesshubel**	**2.99**	**288**	Pg	Pg	08 40 31.9	-5.6
BRG				*i*		08 40 33.9	
BRG				*i*		08 40 58.8	
BRG				Sg	Sg	08 41 11.8	-5.6
KHC	**Kasperske Hory**	**3.29**	**256**	*e*PN	Pn	08 40 29.0	-2.6
KHC				*e*PG	Pg	08 40 38.5	-5.0
KHC				*e*SG	Sg	08 41 20.1	-7.2
MOA	**Molln**	**3.51**	**233**	⇓*e*Pn	Pn	08 40 34.1	-0.7
MOA				⇓*i*Sg	Sg	08 41 28.7	-6.1
	comp=N,12nm,0.6s						
MOA	**Molln**	**3.51**	**233**	⇓*e*Pn	Pn	08 40 34.1	-0.7
MOA				Sg	Sg	08 41 28.7	-6.1
CLL	**Collm**	**3.68**	**292**	*e*SG	Sg	08 41 36.0	-4.5

IDC 22 08:49:26.5±0.7, 72.04N×0.37E, mb3.7/9, mb1 4.0/14, mb1mx3.8/29, mbtmp3.8/14, ML3.7/5, MS3.5/18, Ms1 3.5/18, ms1mx3.4/42, Error ellipse: s-maj=21.7km s-min=12.0km az=45.0
CSEM 22 08:49:26.3±0.3, 72.34N×1.22E, h10km, ML2.6, Error ellipse: s-maj=9.5km s-min=7.8km az=57.0
BER 22 08:49:27.3±0.6, 72.18N×0.64W, h10km, MD2.7, ML2.6
NEIC 22 08:49:27.9±0.5, 72.14N×0.89E, h10km, mb4.1/1, Error ellipse: s-maj=12.4km s-min=7.4km az=46.0
ISC 22 08:49:26.2±0.6, 72.12N±0.07×1.0E±0.2, h10km, n47, σ1.934/39, mb3.7/10, MS3.5/13, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.84**	**127**	*eP*	**Pn**	**08 50 57.9**	**+2.9**
STOK	**Stokkvaagen**	**7.19**	**138**	*eP*	**Pn**	**08 51 14.4**	**+0.4**
KBS	**Kingsbay** 57nm,1.2s	**7.35**	**17**	*eP*	**Pn**	**08 51 05.1**	**-11**
MOR8	**Moi Rana**	**7.63**	**135**	*eP*	**Pn**	**08 51 20.8**	**+0.7**
MOR8				*e*S	**Sn**	**08 52 44.1**	**-3.4**
MOR8				AML	AML	08 52 45.1	
	comp=Z,6.2nm,0.7s						
KTK1	**Kautokeino**	**8.00**	**102**	*eP*	**P**	**08 51 26.6**	**+1.3**
ARCES	**ARCESS Array B**	**8.42**	**96**	Pn	**P**	**08 51 31.7**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=299,slow=11,SNR=22						
ARCES				Sn	**Sn**	**08 53 05.4**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=299,slow=21,SNR=3.7						
ARCES				LR	LR	08 54 39.6	
	comp=Z,152nm,21.4s,baz=276,slow=36						
ARE0	**ARCESS Array S**	**8.42**	**96**	*eP*	**P**	**08 51 31.5**	**+0.3**
ARE0	**ARCESS Array S**	**8.42**	**96**	*eP*	**P**	**08 51 31.5**	**+0.3**
NSS	**Namsos**	**8.61**	**147**	*eP*	**P**	**08 51 32.5**	**-1.2**
NSS				*e*S	**Sn**	**08 53 05.0**	**-7.0**
KEV	**Kevo**	**8.78**	**93**	*eP*	**P**	**08 51 35.3**	**-0.9**
KEV				*e*Pn	**P**	**08 51 35.4**	**-0.7**
NB2	**NORSAR Subarra** comp=Z,6.9nm,0.9s,baz=345,slow=14	**11.81**	**155**	Pn	**P**	**08 52 17.0**	**-0.5**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.3s,baz=321,slow=13,SNR=7.2	**11.81**	**155**	Pn	**P**	**08 52 16.7**	**-0.8**
NOA				LR	LR	08 56 38.3	
	comp=Z,169nm,19.2s,baz=350,slow=36						
NOA	**NORSAR Array B**	**11.81**	**155**	Pn	**P**	**08 52 16.7**	**-0.8**
NOA				LR	LR	08 56 38.3	
SUMG	**Summit** comp=Z,51nm,1.8s	**11.84**	**291**	*e*Pn	**P**	**08 52 10.8**	**-7.0**
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=12	**13.03**	**151**	Pn	**P**	**08 52 33.5**	**-0.3**
HFS				LR	LR	08 57 18.0	
	comp=Z,200nm,20.8s,baz=65,slow=36						
KAF	**Kangasniemi**	**13.89**	**123**	*e*p	**P**	**08 52 44.1**	**-0.9**
FINES	**FINESS Array B** comp=Z,0.3nm,0.3s,baz=342,slow=12,SNR=9.1	**14.40**	**125**	Pn	**P**	**08 52 51.9**	**+0.2**
FINES				LR	LR	08 58 01.6	
	comp=Z,204nm,20.8s,baz=332,slow=36						
FINES	**FINESS Array B**	**14.40**	**125**	Pn	**P**	**08 52 51.8**	**+0.1**
JOF	**Joensuu**	**14.60**	**114**	*e*p	**P**	**08 52 52.9**	**-1.3**
EKA	**Eskdalemuir Ar** comp=Z,0.3nm,0.3s,baz=354,slow=8.4,SNR=4.2	**16.95**	**188**	Pn	**P**	**08 53 22.4**	**-2.1**
SFJD	**Kangerlussuaq** comp=Z,175nm,20.0s,baz=25,slow=34	**18.22**	**280**	LR	LR	08 59 37.2	
BRG	**Berggiesshubel** comp=Z,1nm,1.4s,mb4.1	**22.09**	**158**	*eP*	**P**	**08 54 24.1**	**+1.3**
BRG	**Berggiesshubel**	**22.09**	**158**	*eP*	**P**	**08 54 24.0**	**+1.3**
KHC	**Kasperske Hory**	**23.76**	**159**	*eP*	**P**	**08 54 41.5**	**+2.5**
VRAC	**Vranov** comp=Z,2.7nm,0.6s,mb3.8,baz=3.5,slow=12,SNR=5.3	**23.96**	**154**	P	**P**	**08 54 42.6**	**+1.7**
GERES	**GERESS Array B** comp=Z,4.0nm,0.8s,mb3.9,baz=352,slow=9.4,SNR=18	**24.06**	**159**	P	**P**	**08 54 44.5**	**+2.6**
GERES				LR	LR	09 04 15.3	
	comp=Z,102nm,18.9s,MS3.3,baz=334,slow=37						
AKASG	**Malin Array Be** comp=Z,1.9nm,0.6s,mb3.8,baz=332,slow=10,SNR=6.6	**24.89**	**134**	P	**P**	**08 54 49.9**	**0.0**
DAVOX	**Davos** comp=Z,95nm,19.5s,MS3.3,baz=90,slow=36	**25.75**	**166**	LR	LR	09 04 59.8	
FRB	**Frobisher Bay** comp=Z,122nm,18.8s,MS3.5,baz=330,slow=35	**25.87**	**287**	LR	LR	09 04 28.8	
MLR	**Muntele Rosu** comp=Z,65nm,20.7s,MS3.2,baz=88,slow=34	**29.18**	**143**	LR	LR	09 06 06.1	
AKTO	**Aktyubinsk** comp=Z,46nm,18.2s,MS3.2,slow=38	**32.98**	**100**	LR	LR	09 10 19.7	
BVAR	**Borovoye Array** comp=Z,0.3nm,0.5s,mb3.5,baz=18,slow=4.6,SNR=3.1	**34.54**	**86**	P	**P**	**08 56 19.0**	**+2.8**
BVAR	**Borovoye Array**	**34.54**	**86**	P	**P**	**08 56 19.0**	**+2.8**
INK	**Inuvik** comp=Z,2.6nm,1.0s,mb4.0,baz=47,slow=6.2,SNR=7.6	**36.65**	**334**	P	**P**	**08 56 33.5**	**-0.4**
INK	**Inuvik**	**36.65**	**334**	P	**P**	**08 56 33.5**	**-0.5**
ZAL	**Zalesovo** comp=Z,39nm,20.3s,MS3.2,baz=0.3,slow=40	**38.11**	**72**	LR	LR	09 15 09.3	
GNI	**Garni** comp=Z,75nm,19.3s,MS3.5,baz=349,slow=36	**38.56**	**122**	LR	LR	09 12 52.8	
YKA	**Yellowknife Ar** comp=Z,0.9nm,1.0s,mb3.5,baz=24,slow=8.8,SNR=10	**38.71**	**318**	P	**P**	**08 56 50.4**	**-0.9**
YKA				PcP	PcP	08 59 02.3	-1.4
	comp=Z,0.4nm,0.7s,baz=21,slow=2.9,SNR=8.4						
YKA				LR	LR	09 11 23.7	
	comp=Z,106nm,21.6s,MS3.6,baz=235,slow=34						
YKA	**Yellowknife Ar**	**38.71**	**318**	P	**P**	**08 56 50.4**	**-0.9**
YKA				PcP	PcP	08 59 02.3	-1.4
YKA				LR	LR	09 11 23.7	
IDI	**Anoyia** comp=Z,61nm,19.0s,MS3.5,baz=256,slow=38	**38.91**	**148**	LR	LR	09 13 53.7	
ILAR	**Eielson Array** comp=Z,1.0nm,0.8s,mb3.5,baz=6.1,slow=7.4,SNR=10	**41.66**	**340**	P	**P**	**08 57 16.5**	**+1.1**
ULM	**Lac du Bonnet** comp=Z,100nm,21.8s,MS3.7,baz=234,slow=34	**45.14**	**296**	LR	LR	09 15 10.7	
BBB	**Bella Bella** comp=Z,203nm,18.5s,MS4.2,baz=180,slow=36	**51.00**	**322**	LR	LR	09 20 16.8	
PDAR	**Pinedale Array** comp=Z,65nm,18.0s,MS3.8,baz=226,slow=35	**55.71**	**303**	LR	LR	09 21 30.6	
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.7s,mb3.7,baz=354,slow=6.9,SNR=5.4	**58.94**	**179**	P	**P**	**08 59 27.1**	**-0.6**
YBH	**Yreka Blue Hor** comp=Z,106nm,19.8s,MS4.0,baz=357,slow=36	**59.85**	**314**	LR	LR	09 25 18.9	
TXAR	**Lajitas Array** comp=Z,0.2nm,0.7s,mb3.2,baz=14,slow=3.7,SNR=3.0	**66.73**	**293**	P	**P**	**09 00 17.4**	**-1.7**

GUC 22 08:50:47.2±0.5, 30.36S×70.79W, h2km±6km, MD4.0, ML3.2, 1C-1D, Chile-Argentina border region

0.6nm,0.6s,mb3.8
TORD Torodi Ar. Bea 78.28 73 P **P** **09 08 56.6 +0.3**
1.9nm,0.7s,mb4.1,baz=258,slow=5.2,SNR=10
YKA Yellowknife Ar 82.19 342 P **P** **09 09 16.1 -0.1**
0.2nm,0.8s,mb3.1,baz=136,slow=5.8,SNR=5.9
SONM Songino Array 145.46 1 PKP PKPdf 09 16 35.4 +0.1
0.7nm,0.8s,baz=333,slow=3.2,SNR=3.8

BJI 22 08:58:19.6, 28.19N×105.38E, h21km, ML3.1, Ms3.5, Msz3.2, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.07**	**146**	P	Pn	08 58 54.8	+1.0
GYA				PG	Pn	08 58 57.0	+3.2
GYA				S	Sn	08 59 21.5	+2.3
GYA				SG	Sn	08 59 24.1	+4.9
GYA				Smax			
	comp=N,230nm,1.0s						
GYA				Smax			
	comp=E,160nm,0.9s						
CD2	**Chengdu**	**3.06**	**333**	PG	Pn	08 59 16.8	+8.9
CD2				SG	Sn	08 59 56.6	+12
CD2				Smax			
	comp=N,180nm,0.8s						
CD2				Smax			
	comp=E,230nm,1.0s						
CD2				LR	LR		
	comp=N,440nm,4.8s						
CD2				LR	LR		
	comp=Z,220nm,5.4s						

IDC 22 09:06:12.6±5.8, 1.37N×98.66E, h92km±32km, mb3.5/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.8/4, Error ellipse: s-maj=125.7km s-min=20.9km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.45**	**11**	P	P	09 06 36.5	-1.8
	4.2nm,0.3s,baz=129,slow=13,SNR=15						
WRA	**Warramunga Arr**	**40.89**	**123**	P	P	09 13 45.7	-1.7
	0.5nm,0.5s,baz=301,slow=9.1,SNR=8.3						
SONM	**Songino Array**	**46.77**	**7**	P	P	09 14 33.0	-1.6
	0.6nm,0.4s,baz=187,slow=9.6,SNR=7.9						
MKAR	**Makanchi Array**	**47.45**	**345**	P	P	09 14 37.8	-2.1
	0.8nm,0.5s,baz=160,slow=8.1,SNR=14						
STKA	**Stephens Creek**	**52.39**	**133**	P	P	09 15 15.9	-1.9
	0.7nm,0.6s,baz=287,slow=8.2,SNR=3.5						

*CSEM **22** 09:13:06.7±0.0, 35.76N×26.99E, h80km, mb3.9/6, Mw3.5, Error ellipse: s-maj=1.4km s-min=0.9km az=61.0*
*ISK **22** 09:13:07.8, 35.86N×26.79E, h72km, MD3.9, ML4.1*
*HLW **22** 09:13:07.9, 35.89N×26.98E, h33km, Mb4.7*
*MOS **22** 09:13:07.9±1.1, 35.78N×26.88E, h86km, mb3.9/7, Error ellipse: s-maj=10.5km s-min=6.2km az=87.9*
*IDC **22** 09:13:08.9±1.2, 36.04N×26.68E, h71km±13km, mb3.7/11, mb1 3.7/13, mb1mx3.6/25, mbtmp4.0/13, Error ellipse: s-maj=25.4km s-min=9.7km az=147.0*
*NEIC **22** 09:13:08.8±0.5, 35.77N×26.85E, h85km±5km, mb4.2/5, MD3.8(ATH), Error ellipse: s-maj=7.9km s-min=6.0km az=166.0*
*ATH **22** 09:13:09.4, 35.90N×26.79E, h44km±2km, MD3.8/5, ML4.0*
*NIC **22** 09:13:10.8±0.2, 35.80N×27.12E, h25km, mb4.4, ML4.0, MW3.5*
*THE **22** 09:13:13.8, 36.06N×26.62E, h27km*
ISC 22 09:13:07.1±0.2, 35.72N±0.02×26.90E±0.02, h87km±3km, n171, σ1§05/201, mb4.0/15, 22C-13D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.11**	**63**	⇓*i* P	**P**	**09 13 30.0**	**+1.8**
ARG				*e*S	**S**	09 13 44.9	+0.9
NPS	**Neapolis**	**1.15**	**247**	⇓*i* P	**P**	**09 13 29.9**	**+1.2**
NPS				*e*S	**S**	09 13 45.0	+0.2
XRY	**Khrisi**	**1.30**	**230**	*e*P	**P**	**09 13 33.2**	**+2.6**
THR1	**Thera Island**	**1.34**	**300**	*e*Pg	**P**	**09 13 30.5**	**-0.7**
THR1				*e*Sg	**S**	09 13 44.3	-4.7
SANT	**Santorini**	**1.34**	**300**	*e*Pn	**P**	**09 13 30.3**	**-0.9**
SANT				*e*Sn	**S**	09 13 41.5	-7.5
SANT	**Santorini**	**1.34**	**300**	*e*Pn	**P**	**09 13 30.3**	**-0.9**
BODT	**Bodrum**	**1.38**	**14**	PN	**P**	**09 13 30.5**	**-1.2**
THR3	**Thira Island,**	**1.40**	**300**	*e*Pg	**P**	**09 13 31.5**	**-0.5**
BDRM	**Kayabasi**	**1.42**	**18**	*i* P	**P**	**09 13 32.2**	**+0.1**
BDRM				*i* S	**S**	09 13 48.5	-2.1
THR4	**Thira Island,**	**1.43**	**302**	*e*Pg	**P**	**09 13 31.8**	**-0.5**
THR4				*e*Sg	**S**	09 13 45.2	-5.7
IDI	**Anoyia**	**1.70**	**256**	P	**P**	**09 13 36.4**	**+0.6**
	194nm,0.3s,baz=59,slow=15,SNR=815						
IDI				S	**S**	**09 13 56.2**	**-0.7**
	156nm,0.3s,baz=278,slow=12,SNR=26						
IDI	**Anoyia**	**1.70**	**256**	P	**P**	**09 13 36.3**	**+0.5**
IDI				S	**S**	09 13 56.2	-0.7
MLSB	**Milas**	**1.73**	**24**	PN	**P**	**09 13 36.2**	**+0.1**
APE	**Apeiranthos**	**1.75**	**321**	*c*e P	**P**	**09 13 35.6**	**-0.8**
APE				*e*S	**S**	09 13 54.6	-3.4
APE	**Apeiranthos**	**1.75**	**321**	*e*Pn	**P**	**09 13 36.0**	**-0.4**
APE				*e*S	**S**	09 13 54.6	-3.4
DALT	**Dalyan (Mudla)**	**1.75**	**53**	PN	**P**	**09 13 37.0**	**+0.5**
DALT				SN	**S**	09 13 58.5	+0.4
FETY	**Fethiye**	**1.99**	**62**	PN	**P**	**09 13 40.5**	**+0.9**
SMG	**Samos**	**1.99**	**358**	*e*P	**P**	**09 13 39.5**	**-0.1**
AYDN	**Tasoluk**	**2.09**	**22**	*i* P	**P**	**09 13 42.0**	**+1.0**
AYDN				*i* S	**S**	09 13 57.2	-8.9
AKAS	**Kas**	**2.25**	**76**	*i* P	**P**	**09 13 44.4**	**+1.2**
AKAS				*i* S	**S**	09 14 10.9	+0.8
GVD	**Gavdhos**	**2.46**	**250**	*e*Pn	**P**	**09 13 48.3**	**+2.1**
GVD				*e*Sn	**S**	09 14 14.3	-1.1
GVD	**Gavdhos**	**2.46**	**250**	*e*Pn	**P**	**09 13 48.3**	**+2.1**
GVD				*e*Sn	**S**	09 14 14.3	-1.1
GOLH	**Golhisar**	**2.62**	**54**	*i* P	**P**	**09 13 49.8**	**+1.3**
GOLH				*i* S	**S**	09 14 18.4	-0.9
ELL	**Elmali**	**2.64**	**66**	PN	**P**	**09 13 50.8**	**+2.1**
DENT	**Denizli**	**2.66**	**39**	PN	**P**	**09 13 49.3**	**+0.4**
AKS	**Akhisar**	**3.24**	**13**	PN	**P**	**09 13 57.1**	**+0.1**
KHL	**Karahalli**	**3.34**	**38**	*e*PN	**P**	**09 13 59.2**	**+0.8**
VLI	**Veliai**	**3.36**	**288**	⇓*i* P	**P**	**09 13 59.0**	**+0.4**
VLI	**Veliai**	**3.36**	**288**	⇓*i* Pn	**P**	**09 13 58.9**	**+0.3**
ATH	**Athens Observa**	**3.41**	**312**	*e*P	**P**	**09 13 59.0**	**-0.3**
BCK	**Bucak**	**3.44**	**59**	*e*PN	**P**	**09 14 01.1**	**+1.4**
ISP	**Isparta**	**3.59**	**53**	*c i* P	**P**	**09 14 02.5**	**+0.7**
ISP	**Isparta**	**3.59**	**53**	*e*Pn	**P**	**09 14 01.5**	**-0.3**
ISP	**Isparta**	**3.59**	**53**	*e*Pn	**P**	**09 14 01.5**	**-0.3**
GDZ	**Gediz**	**3.94**	**31**	*i* P	**P**	**09 14 05.9**	**-0.8**
GDZ				*i* S	**S**	09 14 48.6	-3.4
BALB	**Balikesir**	**3.99**	**11**	*e*PN	**P**	**09 14 06.2**	**-1.2**
EZN	**Ezine**	**4.13**	**354**	*e*PN	**P**	**09 14 07.9**	**-1.3**
ALT	**Altintas**	**4.20**	**37**	*e*PN	**P**	**09 14 10.5**	**+0.3**
LOS	**Limnos**	**4.45**	**342**	*e*Pn	**P**	**09 14 13.2**	**-0.5**
AKMC	**Akamas**	**4.49**	**97**	P	**P**	**09 14 14.3**	**+0.1**
PPCY	**Paphos**	**4.53**	**99**	P	**P**	**09 14 14.8**	**+0.1**
LPK	**Lapseki**	**4.65**	**359**	*e*PN	**P**	**09 14 15.9**	**-0.5**
ALFC	**Alevga**	**4.68**	**95**	P	**P**	**09 14 16.7**	**-0.2**
	28nm,0.2s						
ALFC				S	**S**	**09 15 08.4**	**-2.0**
EDC	**Edincik**	**4.69**	**9**	*e*PN	**P**	**09 14 16.0**	**-0.9**
KCT	**Karacabey**	**4.69**	**14**	*e*PN	**P**	**09 14 16.7**	**-0.2**
XOR	**Xorichti**	**4.69**	**322**	*e*Pn	**P**	**09 14 16.9**	**-0.1**
BNT	**Bandirma**	**4.70**	**10**	*e*Pn	**P**	**09 14 16.5**	**-0.6**
DABA	**Dabaa**	**4.83**	**166**	⇓P	**P**	**09 14 20.2**	**+1.2**
KONT	**Konya--Tatoy**	**4.91**	**61**	*e*PN	**P**	**09 14 21.3**	**+1.3**
AGG	**Agios Georgios**	**4.92**	**314**	*e*Pn	**P**	**09 14 20.6**	**+0.5**
PAIG	**Paliouri**	**4.92**	**330**	*e*Pn	**P**	**09 14 19.4**	**-0.7**
ESKT	**Eskisehir**	**4.92**	**38**	*e*PN	**P**	**09 14 20.5**	**+0.3**
ERMK	**Ermenek**	**4.95**	**77**	*i* P	**P**	**09 14 22.2**	**+1.7**
SZAC	**Souni-Zanaja**	**4.99**	**99**	P	**P**	**09 14 20.7**	**-0.4**
OUR	**Ouranopolis**	**5.16**	**334**	*e*Pn	**P**	**09 14 23.3**	**-0.1**
ALN	**Alexandroupoli**	**5.22**	**353**	*e*Pn	**P**	**09 14 23.5**	**-0.7**
CSS	**Prodhromos**	**5.31**	**96**	⇑P	**P**	**09 14 25.3**	**-0.1**
	6.0nm,0.2s						
CSS				S	**S**	**09 15 24.0**	**-1.8**
CSS	**Prodhromos**	**5.31**	**96**	*e*Pn	**P**	**09 14 24.6**	**-0.8**
	27nm,0.4s						
CSS				*e*Sn	**S**	**09 15 17.7**	**-8.2**
CSS	**Prodhromos**	**5.31**	**96**	*e*Pn	**P**	**09 14 24.6**	**-0.8**
	27nm,0.4s						
CSS	**Prodhromos**	**5.31**	**96**	⇑P	**P**	**09 14 25.3**	**-0.1**
	6.0nm,0.2s						
CSS				*e*Sn	**S**	**09 15 17.7**	**-8.1**
CSS				S	**S**	**09 15 24.0**	**-1.8**
IKL	**Isikli**	**5.52**	**83**	*e*PN	**P**	**09 14 29.8**	**+1.4**
LIT	**Litokhoron**	**5.60**	**323**	*e*Pn	**P**	**09 14 29.6**	**+0.2**
HBRG	**Burj al 'Arab**	**5.69**	**154**	⇓P	**P**	**09 14 31.2**	**+0.6**
HBRG				S	**S**	**09 15 33.1**	**-2.2**
LKD	**Levkas**	**5.81**	**303**	*e*Pn	**P**	**09 14 32.5**	**+0.2**
LKD				*e*Sn	**S**	**09 15 34.9**	**-3.5**
LKD	**Levkas**	**5.81**	**303**	*e*Pn	**P**	**09 14 32.5**	**+0.1**
LKD				*e*Sn	**S**	**09 15 34.8**	**-3.6**
PHNC	**Paralimni**	**5.87**	**95**	P	**P**	**09 14 34.2**	**+1.1**
RZN	**Rozhen**	**6.20**	**345**	*i* P	**P**	**09 14 37.5**	**-0.3**
MERS	**Mersin**	**6.26**	**77**	*e*PN	**P**	**09 14 40.0**	**+1.4**
MMB	**Musomiste**	**6.37**	**339**	*i* P	**P**	**09 14 40.0**	**-0.1**
SWA1		**6.51**	**189**	⇑P	**P**	**09 14 42.9**	**+0.8**
KAMT	**Kaman**	**6.52**	**54**	*e*PN	**P**	**09 14 42.7**	**+0.5**
SWA2		**6.57**	**191**	⇑P	**P**	**09 14 43.4**	**+0.5**
AANS		**6.60**	**144**	⇑P	**P**	**09 14 43.0**	**-0.2**
BR131	**Keskin Array S**	**6.67**	**51**	*e*Pn	**P**	**09 14 44.9**	**+0.6**
	1.8nm,0.3s						
BR131				*e*Sn	**S**	**09 15 52.6**	**-6.8**
BR131	**Keskin Array S**	**6.67**	**51**	*e*Pn	**P**	**09 14 44.9**	**+0.6**
	1.8nm,0.3s						
BRTR	**Keskin Array B**	**6.67**	**51**	P	**P**	**09 14 44.8**	**+0.5**
	0.8nm,0.3s,baz=222,slow=12,SNR=16						
BRTR				S	**S**	**09 15 57.1**	**-2.3**
	0.7nm,0.3s,baz=222,slow=24,SNR=5.2						
FNA	**Florina**	**6.67**	**321**	*e*Pn	**P**	**09 14 45.0**	**+0.7**
KARA	**Karaisali**	**6.75**	**74**	*e*PN	**P**	**09 14 46.5**	**+1.2**
HNAT	**Natroun**	**6.83**	**152**	⇓P	**P**	**09 14 46.4**	**-0.1**
KKB	**Krupnik**	**6.83**	**335**	*i* P	**P**	**09 14 46.5**	**0.0**
SQR		**6.85**	**147**	⇑P	**P**	**09 14 46.7**	**0.0**
HLW	**Helwan**	**6.93**	**146**	⇑P	**P**	**09 14 47.9**	**-0.1**
HLW	**Helwan**	**6.93**	**146**	⇑P	**P**	**09 14 47.9**	**-0.1**
HLW	**Helwan**	**6.93**	**146**	P	**P**	**09 14 47.8**	**-0.1**
FYM	**Al Fayyum**	**6.95**	**149**	⇓P	**P**	**09 14 48.2**	**+0.1**
FYM				S	**S**	**09 16 02.1**	**-4.1**
AYT	**Al 'Ayyat**	**6.98**	**148**	⇑P	**P**	**09 14 48.7**	**+0.1**
KOT	**Kottamia**	**7.11**	**143**	⇑P	**P**	**09 14 49.7**	**-0.6**
HHAG	**Hagoal**	**7.22**	**141**	⇑P	**P**	**09 14 51.1**	**-0.7**
HHAG				S	**S**	**09 16 08.4**	**-4.5**
HSAF	**As Saff**	**7.23**	**146**	P	**P**	**09 14 51.8**	**-0.3**
AMAG	**Maghara**	**7.32**	**132**	P	**P**	**09 14 52.2**	**-1.0**
HNTI	**Hanita**	**7.32**	**109**	Sn	**S**	**09 16 11.4**	**-4.0**
GLL	**Jalalah**	**7.34**	**145**	⇓P	**P**	**09 14 52.7**	**-0.8**
PRD	**Provadia**	**7.48**	**3**	*i* P	**P**	**09 14 55.0**	**-0.5**
HTY	**Hatay**	**7.50**	**84**	*e*PN	**P**	**09 14 56.8**	**+1.1**
HWQ	**Hawqa**	**7.56**	**98**	*e*Pn	**P**	**09 14 55.9**	**-0.5**
AWBH		**7.57**	**166**	⇓P	**P**	**09 14 56.3**	**-0.3**
SLTI	**Sal'it**	**7.59**	**115**	Sn	**S**	**09 16 18.5**	**-3.6**
HBNS	**Bani Suwayf**	**7.67**	**150**	⇑P	**P**	**09 14 58.2**	**+0.2**
HRI	**Mount Hermon**	**7.69**	**106**	Sn	**S**	**09 16 20.7**	**-3.8**
SUZ		**7.70**	**138**	P	**P**	**09 14 57.8**	**-0.6**
KSHT	**Keshet**	**7.85**	**108**	Sn	**S**	**09 16 25.3**	**-3.2**
FKH	**Fakeheh**	**7.94**	**98**	*e*Pn	**P**	**09 15 00.9**	**-0.7**
ZAF		**7.99**	**142**	⇓P	**P**	**09 15 01.7**	**-0.7**
ZNM		**8.08**	**140**	P	**P**	**09 15 03.1**	**-0.5**
DSI	**Dead Sea**	**8.19**	**118**	Sn	**S**	**09 16 32.9**	**-3.8**
HNKL	**Nakhl**	**8.29**	**132**	P	**P**	**09 15 05.7**	**-0.8**
MZDA	**Masada**	**8.32**	**119**	Sn	**S**	**09 16 34.9**	**-5.4**
RMNI	**Mount Ramon**	**8.33**	**126**	Sn	**S**	**09 16 33.9**	**-6.4**
HFRF	**Wahat Farafira**	**8.62**	**172**	⇓P	**P**	**09 15 11.0**	**+0.1**
KMTI	**Karmit**	**8.63**	**128**	Sn	**S**	**09 16 39.6**	**-8.0**
ZFRI	**Zfri**	**8.64**	**124**	Sn	**S**	**09 16 40.7**	**-7.0**
PRNI	**Paran**	**8.65**	**126**	Sn	**S**	**09 16 40.2**	**-7.8**
TIP	**Timpagrande**	**8.78**	**296**	*e*Pn	**P**	**09 15 08.8**	**-4.2**
TIP				*e*Sn	**S**	**09 16 35.0**	**-16**
TIRR	**Tirgusor**	**8.81**	**7**	*e*Pn	**P**	**09 15 12.1**	**-1.3**
HRDS	**Abu Rudays**	**8.84**	**140**	P	**P**	**09 15 13.2**	**-0.6**
MBH	**Mount Berech**	**8.96**	**129**	Sn	**S**	**09 16 48.4**	**-7.3**
ASUT		**9.20**	**153**	P	**P**	**09 15 18.7**	**0.0**
HKAT	**Jabal Katrina**	**9.36**	**138**	⇑P	**P**	**09 15 20.3**	**-0.5**
HDHB	**Dhahab**	**9.55**	**135**	P	**P**	**09 15 22.8**	**-0.7**
MALT	**Malatya**	**9.57**	**71**	*e*P	**P**	**09 15 22.9**	**-0.9**
TR1		**9.74**	**140**	⇑P	**P**	**09 15 25.3**	**-0.9**
MLR	**Muntele Rosu**	**9.79**	**356**	P	**P**	**09 15 27.1**	**+0.3**
	0.3nm,0.3s,baz=194,slow=10,SNR=4.9						
VAE	**Valguarnera**	**10.20**	**284**	S	**S**	**09 17 18.6**	**-7.0**
	6.0nm,0.3s,baz=88,slow=16,SNR=4.8						
HHRG	**Al Ghardaqah**	**10.20**	**144**	⇑P	**P**	**09 15 32.1**	**-0.3**
HDK1	**Dakhla**	**10.37**	**167**	⇑P	**P**	**09 15 35.0**	**+0.4**
AKRG	**Al Kharijah**	**10.64**	**162**	⇑P	**P**	**09 15 38.5**	**+0.2**
GTR	**Jabal at Tayr**	**10.65**	**162**	⇑P	**P**	**09 15 38.8**	**+0.4**
HSFG		**10.92**	**145**	P	**P**	**09 15 41.7**	**-0.3**
HQSR		**11.83**	**145**	P	**P**	**09 15 54.0**	**-0.1**
ASHG	**Umm Shaghir**	**13.08**	**160**	⇓P	**P**	**09 16 11.7**	**+1.0**
PSZ	**Piszkesteto**	**13.26**	**339**	*e*P	**P**	**09 16 16.6**	**+3.7**
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PSZ	**Piszkesteto**	**13.26**	**339**	*e*Pn	**P**	**09 16 16.6**	**+3.7**
	comp=Z,5.0nm,0.8s						
PSZ	**Piszkesteto**	**13.26**	**339**	*e*Pn	**P**	**09 16 16.5**	**+3.6**
	comp=Z,5.0nm,0.8s						
STHS	**Stebnicka Huta**	**14.31**	**345**	*e*PN	**P**	**09 16 32.4**	**+6.0**
KIV	**Kislovodsk**	**14.64**	**51**	*e*P	**P**	**09 16 28.1**	**-2.7**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIV				MLR	MLR		
	comp=Z,26nm,16.0s						
KIV	**Kislovodsk**	**14.64**	**51**	*e*P	**P**	**09 16 28.1**	**-2.7**
	comp=Z,26nm,16.0s						
AKASG	**Malin Array Be**	**15.07**	**6**	P	**P**	**09 16 38.9**	**+2.6**
	comp=Z,5.4nm,0.3s,baz=195,slow=11,SNR=36						
VRAC	**Vranov**	**15.54**	**334**	P	**P**	**09 16 40.2**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=103,slow=15,SNR=5.4						
GERES	**GERESS Array B**	**16.32**	**328**	*i* P	**P**	**09 16 52.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=5.8						
KHC	**Kasperske Hory**	**16.59**	**328**	*ce* P	**P**	**09 16 56.9**	**+1.5**
KHC	**Kasperske Hory**	**16.59**	**328**	*e*P	**P**	**09 16 56.9**	**+1.5**
OBN	**Obninsk**	**20.51**	**16**	*e*P	**P**	**09 17 42.2**	**+2.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN	**Obninsk**	**20.51**	**16**	*e*P	**P**	**09 17 42.2**	**+2.1**
	comp=Z,6.0nm,1.2s						
FINES	**FINESS Array B**	**25.75**	**359**	P	**P**	**09 18 29.2**	**-1.7**
	comp=Z,0.9nm,0.5s,mb3.5,baz=149,slow=11,SNR=5.1						
FINES	**FINESS Array B**	**25.75**	**359**	*i* P	**P**	**09 18 31.8**	**+0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**25.75**	**359**	*i* P	**P**	**09 18 31.8**	**+0.9**
	comp=Z,1.0nm,0.5s,mb3.5						
HFS	**Hagfors**	**25.89**	**345**	P	**P**	**09 18 30.8**	**-1.3**
	comp=Z,0.6nm,0.3s,mb3.5,baz=146,slow=11,SNR=7.5						
AKTK	**Aktyubinsk**	**26.83**	**47**	P	**P**	**09 18 40.4**	**-0.6**
AKTK	**Aktyubinsk**	**26.83**	**47**	P	**P**	**09 18 40.4**	**-0.6**
AKTO	**Aktyubinsk**	**26.83**	**47**	P	**P**	**09 18 40.4**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.5,baz=265,slow=0.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**31.94**	**232**	P	**P**	**09 19 28.5**	**+1.7**
	comp=Z,1.8nm,0.3s,mb4.2,baz=32,slow=8.8,SNR=30						
ARCES	**ARCESS Array B**	**33.88**	**359**	P	**P**	**09 19 41.4**	**-1.7**
	comp=Z,1.3nm,0.8s,mb3.8,baz=172,slow=8.3,SNR=6.0						
ZRNK	**Zerenda**	**34.10**	**46**	*e*P	**P**	**09 19 45.9**	**+0.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**34.10**	**46**	*e*P	**P**	**09 19 45.9**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**34.10**	**46**	*e*P	**P**	**09 19 45.9**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**34.93**	**47**	P	**P**	**09 19 52.8**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.8,baz=262,slow=38,SNR=2.6						
CHKZ	**Chkalovo**	**35.21**	**45**	*e*P	**P**	**09 19 55.6**	**+1.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
CHKZ	**Chkalovo**	**35.21**	**45**	*e*P	**P**	**09 19 55.6**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.8						
CHKZ	**Chkalovo**	**35.21**	**45**	*e*P	**P**	**09 19 55.6**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.8						
DBIC	**Dimbokro**	**41.03**	**233**	P	**P**	**09 20 45.4**	**+2.0**
	comp=Z,2.4nm,0.7s,mb4.2,baz=46,slow=10,SNR=4.6						
DBIC	**Dimbokro**	**41.03**	**233**	P	**P**	**09 20 45.4**	**+2.0**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DBIC	**Dimbokro**	**41.03**	**233**	*e*P	**P**	**09 20 45.1**	**+1.7**
	comp=Z,2.9nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**42.28**	**57**	P	**P**	**09 20 55.8**	**+2.5**
	comp=Z,1.0nm,0.4s,mb3.9,baz=266,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	**42.28**	**57**	⇑*i* P	**P**	**09 20 55.7**	**+2.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**43.58**	**47**	P	**P**	**09 21 04.8**	**+0.9**
	comp=Z,1.0nm,0.3s,mb4.0,baz=173,slow=7.0,SNR=3.5						
ZAL	**Zalesovo**	**43.58**	**47**	*i* P	**P**	**09 21 05.6**	**+1.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**43.58**	**47**	*i* P	**P**	**09 21 05.6**	**+1.8**
	comp=Z,1.0nm,0.3s,mb4.0						
SUMG	**Summit**	**48.97**	**339**	P	**P**	**09 21 37.7**	**-8.4**
	comp=Z,9.6nm,1.3s,mb4.6						
TSUM	**Tsumeb**	**55.33**	**191**	P	**P**	**09 22 32.0**	**-2.3**
	comp=Z,2.7nm,1.0s,mb4.2						
SONM	**Songino Array**	**58.03**	**51**	P	**P**	**09 22 54.3**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=298,slow=6.6,SNR=4.1						
SCHQ	**Schefferville**	**63.68**	**320**	P	**P**	**09 23 30.2**	**-0.9**
	comp=Z,2.1nm,0.4s,mb4.3,baz=33,slow=6.0,SNR=11						

*THE **22** 09:19:59.2, 39.84N×23.75E, h9km, ML2.9*
*ATH **22** 09:20:14.0, 40.61N×23.73E, h10km, MD2.9/3*
ISC 22 09:19:58.1±0.6, 39.82N±0.03×23.75E±0.04, h10km±7km, n15, σ1§12/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.12**	**336**	*e*Pg	**Pg**	**09 20 01.4**	**+0.3**
PAIG				*e*Sg	**Sg**	**09 20 03.4**	**+0.2**
OUR	**Ouranopolis**	**0.55**	**19**	*e*Pg	**Pg**	**09 20 09.5**	**+0.2**
OUR				*e*Sg	**Sg**	**09 20 17.0**	**+0.3**
PLG	**Polygyros**	**0.60**	**338**	*e*PB	**Pb**	**09 20 20.0**	**+10**
XOR	**Xorichti**	**0.62**	**224**	*e*Pg	**Pg**	**09 20 11.6**	**+1.0**
XOR				*e*Sg	**Sg**	**09 20 20.8**	**+1.9**
LIT	**Litokhoron**	**1.01**	**287**	*e*Pg	**Pg**	**09 20 18.2**	**-0.1**
LIT				*e*Sg	**Sg**	**09 20 32.1**	**+0.4**
THE	**Thessaloniki**	**1.01**	**324**	*e*Pg	**Pg**	**09 20 18.0**	**-0.4**
THE				*e*Sg	**Sg**	**09 20 32.9**	**+1.0**
LOS	**Limnos**	**1.03**	**83**	*e*Pg	**Pg**	**09 20 17.9**	**-0.9**
LOS				*e*Sg	**Sg**	**09 20 34.0**	**+1.2**
SOH	**Sokhos**	**1.05**	**344**	*e*Pg	**Pg**	**09 20 19.0**	**-0.2**
SOH				*e*Sg	**Sg**	**09 20 33.2**	**0.0**
SRS	**Serrai**	**1.31**	**355**	*e*Pg	**Pg**	**09 20 22.2**	**-2.1**
AGG	**Agios Georgios**	**1.35**	**235**	*e*Pg	**Pg**	**09 20 23.1**	**-2.1**
AGG				*e*Sg	**Sg**	**09 20 42.3**	**-1.0**
KNT	**Kendrikon**	**1.49**	**335**	*e*Pg	**Pg**	**09 20 25.4**	**-2.6**
NVR	**Nevrokopi**	**1.54**	**3**	*e*PB	**Pb**	**09 20 28.2**	**+1.9**
RDO	**Rodhopi**	**1.91**	**45**	*e*PB	**Pb**	**09 20 41.6**	**+9.0**
FNA	**Florina**	**2.05**	**299**	*e*Pn	**Pn**	**09 20 34.0**	**+0.8**
ALN	**Alexandroupoli**	**2.06**	**58**	*e*Pn	**Pn**	**09 20 32.5**	**-0.9**

*ATH **22** 09:25:12.4, 39.85N×23.31E, h26km, MD3.2/3*
*THE **22** 09:25:12.8, 39.84N×23.74E, h5km, ML3.0*
*CSEM **22** 09:25:13.4±0.1, 39.85N×23.73E, h2km, ML3.0, Error ellipse: s-maj=3.0km s-min=1.9km az=124.0*
ISC 22 09:25:11.9±0.6, 39.83N±0.03×23.73E±0.04, h8km±5km, n14, σ1§03/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.10**	**337**	*e*Pg	**Pg**	**09 25 14.8**	**+0.4**
PAIG				*e*Sg	**Sg**	**09 25 16.9**	**+0.7**
OUR	**Ouranopolis**	**0.54**	**21**	*e*Pg	**Pg**	**09 25 22.9**	**+0.2**
OUR				*e*Sg	**Sg**	**09 25 30.6**	**+0.6**
PLG	**Polyg

comp=E,36nm,0.6s
BOK AML AML 09 55 18.5
comp=N,51nm,0.4s
AJM Ajmer 8.05 312 *e*S S 09 56 24.6 -11
AJM AML AML 09 56 29.2
comp=E,5.2nm,0.2s
AJM AML AML 09 56 29.3
comp=N,5.7nm,0.3s
KUDL Kundal 8.19 329 *ex* x 09 54 48.0
KHET Khetri 8.48 325 *ex* x 09 54 52.0
KLP Kalpa 10.66 346 *ex* x 09 57 43.0

*NNC **22** 10:45:30.8±4.1, 42.46N×75.13E, mb3.1, mpv2.8, Error ellipse: s-maj=43.0km s-min=9.9km az=150.0*
*KNET **22** 10:45:32.1, 43.03N×74.91E, h12km, ml1.9*
ISC 22 10:45:32.7±0.7, 43.05N±0.04×74.92E±0.04, h5km±6km, n13, σ0s42/23, 13C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.13 249**		⇑P	**Pg**	**10 45 35.4**	**-0.1**
	298nm,0.2s,SNR=388						
CHMS				⇑S	**Sg**	**10 45 37.3**	**0.0**
	620nm,0.3s						
USP	**Ospenovka**	**0.38 306**		P	**Pg**	**10 45 40.2**	**-0.1**
	81nm,0.1s,SNR=248						
USP				⇑S	**Sg**	**10 45 45.7**	**+0.3**
	147nm,0.2s						
KBK	**Karagaybulak**	**0.39 177**		P	**Pg**	**10 45 40.8**	**+0.3**
	208nm,0.2s,SNR=29						
KBK				⇑S	**Sg**	**10 45 46.7**	**+1.0**
	512nm,0.3s						
TKM2	**Tokmak 2**	**0.51 104**		⇑P	**Pg**	**10 45 42.6**	**-0.3**
	15nm,0.1s,SNR=118						
TKM2				⇓S	**Sg**	**10 45 49.9**	**+0.1**
	67nm,0.2s						
TKM2	**Tokmak 2**	**0.51 104**		⇑P	**Pg**	**10 45 42.6**	**-0.3**
	25nm,0.6s						
TKM2				⇑S	**Sg**	**10 45 49.9**	**+0.2**
	40nm,0.5s						
TKM2				⇓Rg		10 45 54.9	
	92nm,1.1s						
AAK	**Ala-Archa**	**0.52 217**		⇑P	**Pg**	**10 45 42.8**	**-0.3**
	31nm,0.2s,SNR=40						
AAK				⇑S	**Sg**	**10 45 50.0**	**0.0**
	121nm,0.3s						
UCH	**Uchtor**	**0.87 200**		⇑P	**Pb**	**10 45 49.3**	**-0.6**
	13nm,0.3s,SNR=32						
UCH				⇓S	**Sg**	**10 46 01.0**	**-0.7**
	15nm,0.2s						
EKS2	**Erkin-Say**	**0.92 246**		P	**Pb**	**10 45 50.4**	**-0.3**
	16nm,0.1s,SNR=13						
EKS2				⇓S	**Sb**	**10 46 03.4**	**+0.3**
	20nm,0.2s						
KZA	**Kyzart**	**1.00 166**		⇑P	**Pb**	**10 45 52.0**	**0.0**
	13nm,0.2s,SNR=21						
ULHL	**Ulahol**	**1.26 129**		⇑P	**Pb**	**10 45 56.3**	**-0.3**
	6.6nm,0.3s,SNR=7.6						
AML	**Almayashu**	**1.29 225**		⇑P	**Pb**	**10 45 56.9**	**-0.1**
	7.8nm,0.2s,SNR=32						
AML				⇓S	**Sb**	**10 46 14.0**	**+0.4**
	28nm,0.2s						
KK31	**Karatay Array**	**3.23 273**		⇓Pn	**Pn**	**10 46 29.3**	**+4.2**
	0.4nm,0.2s,baz=92,slow=16,SNR=19						
KK31				⇓Sn	**Sn**	**10 47 13.1**	**+8.7**
	0.9nm,0.3s,baz=92,slow=30,SNR=5.4						
KK31				⇓Lg		10 47 20.8	
	1.7nm,0.3s,baz=81,slow=25,SNR=6.2						
MK31	**Makanchi Array**	**6.43 52**		Pn	**Pn**	**10 47 10.7**	**+0.3**
	0.4nm,0.3s,baz=236,slow=14,SNR=11						
MK31				Lg		10 48 59.1	
	baz=225,slow=29						

*JMA **22** 10:50:13.2±0.4, 33.26N×142.55E, h89km, M3.5*
*IDC **22** 10:50:17.0±1.4, 32.84N×141.37E, mb3.3/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=43.3km s-min=25.7km az=76.0*
ISC 22 10:50:12.7±2.9, 33.32N±0.07×142.53E±0.09, h15km±26km, n13, σ0s97/18, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.85 316**		P	**Pn**	**10 50 44.6**	**+0.3**
BSO1				*e*S	**Sn**	**10 51 08.9**	**+1.4**
BSO2	**Boso 2**	**2.05 315**		*e*S	**Sn**	**10 51 13.5**	**+0.9**
BSO3	**Boso 3**	**2.23 312**		P	**Pn**	**10 50 50.0**	**+0.3**
BSO3				*e*S	**Sn**	**10 51 17.5**	**+0.3**
JHJ2	**Mitsune**	**2.28 266**		*e*S	**Sn**	**10 51 18.1**	**-0.3**
JHJ	**Hachijo jima 2**	**2.31 266**		Pn	**Pn**	**10 50 52.0**	**+1.2**
	70nm,0.3s,baz=78,slow=19,SNR=4.4						
JHJ				Sn	**Sn**	**10 51 18.3**	**-0.7**
	39nm,0.3s,baz=79,slow=23,SNR=3.7						
JOD2	**Odawara 2**	**3.45 305**		*e*S	**Sn**	**10 51 47.6**	**-0.3**
JYN	**Shimob**	**3.95 305**		*e*S	**Sn**	**10 51 59.9**	**-0.6**
JAG	**Ashikaga**	**4.00 322**		P	**Pn**	**10 51 14.5**	**-0.3**
JMM	**Marumori**	**4.75 343**		P	**Pn**	**10 51 23.4**	**-2.2**
JMM				*e*S	**Sn**	**10 52 13.3**	**-7.7**
MJAR	**Matsushiro Arr**	**4.79 313**		Pn	**Pn**	**10 51 26.3**	**+0.2**
	1.3nm,0.3s,baz=101,slow=12,SNR=14						
MJAR				Sn	**Sn**	**10 52 18.8**	**-3.1**
	1.0nm,0.3s,baz=26,slow=29,SNR=5.1						
MKAR	**Makanchi Array**	**46.94 305**		P	**P**	**10 58 45.3**	**+1.0**
	0.2nm,0.6s,mb3.2,baz=101,slow=7.3,SNR=3.5						
ILAR	**Eielson Array**	**52.18 31**		P	**P**	**10 59 35.8**	**+11**
	0.2nm,0.6s,mb3.2,baz=265,slow=6.2,SNR=5.4						
WRA	**Warramunga Arr**	**53.53 190**		P	**P**	**10 59 34.8**	**-0.3**
	0.3nm,0.5s,mb3.4,baz=8.6,slow=7.8,SNR=8.1						

*NIED **22** 10:51:00, 33.40N×142.30E, h5km, Mw3.9 Best double couple: M₀8.06×10¹⁴ NP1:φs147°, δ72°, λ-103°. NP2:φs3°, δ22°, λ-56°.*
*JMA **22** 10:51:42.0±0.4, 33.42N×142.34E, M4.3*
*BJI **22** 10:51:44.1, 33.43N×142.25E, h14km, mB5.1, mb4.2, Ms4.1*
*MOS **22** 10:51:44.3±1.0, 33.31N×142.36E, h34km, mb4.5/10, Error ellipse: s-maj=19.1km s-min=8.4km az=120.4*
*IDC **22** 10:51:46.8±0.5, 33.35N×142.43E, h35km±3km, mb3.8/16, mb1 4.0/18, mb1mx3.9/24, mbtmp4.0/18, ML4.2/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/34, Error ellipse: s-maj=13.8km s-min=11.7km az=102.0*
*NEIC **22** 10:51:46.9±0.4, 33.34N×142.35E, mb4.6/12, MW3.9(NIED), Error ellipse: s-maj=9.7km s-min=6.9km az=63.0*
ISC 22 10:51:44.7±0.4, 33.39N±0.04×142.44E±0.04, h35km, h35km±1.1km:pP-P,n75,σ1s05/91, mb4.3/29, MS4.0/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.75 316**		P	**P**	**10 52 12.9**	**-0.2**
BSO2	**Boso 2**	**1.95 315**		*e*S	**S**	**10 52 41.9**	**+2.5**
BSO3	**Boso 3**	**2.13 312**		P	**P**	**10 52 18.7**	**+0.1**
BSO3				*e*S	**S**	**10 52 45.6**	**+1.5**
JHJ2	**Mitsune**	**2.22 263**		P	**P**	**10 52 20.2**	**+0.4**
JHJ2				*e*S	**S**	**10 52 47.6**	**+1.4**
JHJ	**Hachijo jima 2**	**2.24 264**		Pn	**P**	**10 52 19.8**	**-0.4**
	317nm,0.3s,baz=214,slow=16,SNR=16						
JHJ				Sn	**S**	**10 52 47.6**	**+0.7**
	199nm,0.3s,baz=98,slow=22,SNR=6.8						
JHJ				LR	LR	10 52 53.2	
	comp=Z,2μm,21.9s,baz=114,slow=30						
BSO4	**Boso 4**	**2.36 313**		P	**P**	**10 52 22.5**	**+0.6**
KTR	**Katsuura**	**2.48 315**		P	**P**	**10 52 24.0**	**+0.4**
KTR				*e*S	**S**	**10 52 53.3**	**+0.3**
JIZS	**Izushimoda**	**3.24 295**		P	**P**	**10 52 33.8**	**-0.6**
JIZS				*e*S	**S**	**10 53 10.6**	**-1.6**
JOD2	**Odawara 2**	**3.34 305**		P	**P**	**10 52 34.8**	**-1.1**
JOD2				*e*S	**S**	**10 53 14.7**	**-0.2**
JYN	**Shimob**	**3.84 304**		P	**P**	**10 52 43.2**	**+0.2**
JYN				*e*S	**S**	**10 53 28.5**	**+0.9**
SHZ3	**Shizuoka 3**	**3.88 297**		P	**P**	**10 52 44.7**	**+1.2**
JAG	**Ashikaga**	**3.90 322**		P	**P**	**10 52 42.9**	**-0.8**
JAG				*e*S	**S**	**10 53 27.0**	**-1.9**
JRY	**Ryogami san**	**3.92 313**		P	**P**	**10 52 44.4**	**+0.4**
JRY				*e*S	**S**	**10 53 29.6**	**+0.1**
JMM	**Marumori**	**4.66 344**		P	**P**	**10 52 51.6**	**-3.0**
JMM				*e*S	**S**	**10 53 43.3**	**-4.9**
MJAR	**Matsushiro Arr**	**4.68 313**		Pn	**P**	**10 52 54.4**	**-0.5**
	6.8nm,0.3s,baz=195,slow=9.2,SNR=26						
MJAR				Sn	**S**	**10 53 47.9**	**-0.9**
	3.8nm,0.3s,baz=121,slow=32,SNR=5.6						
MJAR	**Matsushiro Arr**	**4.68 313**		Pn	**P**	**10 52 54.4**	**-0.5**
MJAR				Sn	**S**	**10 53 47.9**	**-0.9**
MAJO	**Matsushiro**	**4.69 313**		*e*Pn	**P**	**10 52 54.4**	**-0.5**
MAJO				*e*Sn	**S**	**10 53 47.4**	**-1.5**
MAT	**Matsushiro**	**4.69 313**		P	**P**	**10 52 54.7**	**-0.2**
MAT				S	**S**	**10 53 44.6**	**-4.2**
MAT	**Matsushiro**	**4.69 313**		P	**P**	**10 52 55.2**	**+0.3**
MAT				*e*S	**S**	**10 53 47.4**	**-1.4**
MAT	**Matsushiro**	**4.69 313**		*e*P	**P**	**10 52 55.0**	**+0.1**
MAT				*e*S	**S**	**10 53 45.0**	**-3.8**
ASAJ	**Asahikawa**	**10.71 1**		Pn	**P**	**10 54 14.0**	**-4.7**
	2.3nm,0.3s,baz=207,slow=14,SNR=11						
ASAJ				LR	LR	10 58 59.3	
	comp=Z,64nm,18.3s,baz=238,slow=40						
ASAJ	**Asahikawa**	**10.71 1**		P	**P**	**10 54 14.0**	**-4.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,64nm,18.3s						
KS15	**Wonju Array Si**	**12.54 293**		P	**P**	**10 54 49.5**	**+6.0**
YSS	**Yuzh-Sakhalins**	**13.55 1**		*e*P	**P**	**10 54 58.0**	**+1.3**
YSS	**Yuzh-Sakhalins**	**13.55 1**		*e*Pn	**P**	**10 55 02.7**	**+6.0**
	comp=Z,21nm,0.8s						
HHC	**Hu-ho-hao-te**	**25.63 296**		*e*P	**P**	**10 57 14.6**	**+2.0**
HHC				AP	pP	10 57 23.5	+1.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
HHC				AMB	AMB		
	comp=Z,240nm,5.6s						
HHC				LR	LR		
	comp=N,140nm,15.5s,MS4.0						
HHC				LR	LR		
	comp=E,260nm,11.9s,MS4.0						
ENH	**Enshi**	**28.11 273**		*e*P	**P**	**10 57 33.5**	**-1.9**
ENH				*e*	pP	10 57 45.2	-0.1
ULN	**Ulaanbaatar**	**30.20 309**		*e*P	**P**	**10 57 55.3**	**+1.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**30.20 309**		*e*P	**P**	**10 57 55.3**	**+1.4**
	comp=Z,3.0nm,0.6s,mb4.2						
SONM	**Songino Array**	**30.62 309**		P	**P**	**10 57 58.7**	**+1.1**
	comp=Z,2.3nm,0.7s,mb4.1,baz=106,slow=7.8,SNR=11						
BOD	**Bodaibo**	**31.08 330**		*e*P	**P**	**10 58 00.9**	**-0.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
GTA	**Gaotai**	**34.59 292**		*e*P	**P**	**10 58 32.8**	**+0.6**
GTA				AP	pP	10 58 40.3	-2.0
GTA				XP	sP	10 58 44.6	-2.3
ZAL	**Zalesovo**	**45.05 315**		P	**P**	**11 00 02.2**	**+3.6**
	comp=Z,1.2nm,0.3s,mb4.3,baz=2.2,slow=2.7,SNR=2.8						
NVS	**Novosibirsk**	**46.01 316**		*e*P	**P**	**11 00 03.8**	**-2.5**
MKAR	**Makanchi Array**	**46.83 305**		P	**P**	**11 00 13.6**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=87,slow=10,SNR=10						
JIRN	**Jiri**	**48.30 279**		*e*P	**P**	**11 00 25.2**	**+0.6**
	comp=Z,22nm,0.6s,mb5.4						
GUN	**Gumba**	**48.47 279**		*e*P	**P**	**11 00 25.9**	**0.0**
KURK	**Kurchatov**	**48.89 311**		*e*P	**P**	**11 00 28.5**	**-0.3**
KURK				*e*	pP	11 00 36.9	-2.2
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**48.89 311**		*e*P	**P**	**11 00 28.5**	**-0.3**
	comp=Z,9.0nm,0.8s,mb4.8						
KURK				*e*	pP	11 00 36.9	-2.3
KKN	**Kakani**	**49.01 280**		*e*P	**P**	**11 00 30.4**	**+0.4**
	comp=Z,16nm,0.8s,mb5.1						
KKN	**Kakani**	**49.01 280**		*e*P	**P**	**11 00 30.4**	**+0.4**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
GKN	**Gorkha**	**49.46 280**		*e*P	**P**	**11 00 32.7**	**-0.8**
	comp=Z,6.1nm,0.4s,mb5.0						
KOLN	**Koldanda**	**50.40 280**		*e*P	**P**	**11 00 40.7**	**0.0**
	comp=Z,8.5nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**52.15 31**		P	**P**	**11 00 53.2**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=261,slow=6.0,SNR=21						
ILAR				pP	pP	11 01 04.0	+0.2
	comp=Z,1.5nm,0.6s,baz=262,slow=6.1,SNR=8.8						
AAK	**Ala-Archa**	**53.02 301**		*e*P	**P**	**11 00 59.0**	**-1.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**53.02 301**		*e*P	**P**	**11 00 59.0**	**-1.3**
	comp=Z,1.3nm,0.6s,mb4.0						
AAK				*e*		11 01 04.1	
CTAO	**Charters Tower**	**53.30 176**		P	**P**	**11 01 08.5**	**+5.9**
CTAO				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
CTAO	**Charters Tower**	**53.30 176**		P	**P**	**11 01 08.5**	**+5.8**
	comp=Z,25nm,1.4s,mb5.0						
WRAB	**Tennant Creek**	**53.58 189**		*e*P	**P**	**11 01 03.3**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**53.58 189**		*e*P	**P**	**11 01 03.3**	**-1.4**
	comp=Z,5.1nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**53.59 189**		*e*P	**P**	**11 01 03.7**	**-1.1**
WRA	**Warramunga Arr**	**53.59 189**		P	**P**	**11 01 03.5**	**-1.3**
	comp=Z,1.9nm,0.5s,mb4.2,baz=7.6,slow=7.8,SNR=34						
WRA				pP		11 01 14.4	-0.9
	comp=Z,2.1nm,0.6s,baz=4.4,slow=7.5,SNR=8.5						
FITZ	**Fitzroy Crossi**	**53.66 200**		*e*P	**P**	**11 01 05.1**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.66 200**		P	**P**	**11 01 05.0**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=11,slow=6.9,SNR=11						
FITZ				pP	pP	11 01 15.3	-0.5
	comp=Z,1.8nm,0.5s,baz=357,slow=6.6,SNR=3.3						
BVAR	**Borovoye Array**	**53.68 315**		P	**P**	**11 01 05.0**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=246,slow=41,SNR=2.8						
BVAR				pP	pP	11 01 16.0	+0.5
	comp=Z,0.6nm,0.4s,baz=100,slow=9.0,SNR=4.7						
ZRNK	**Zerenda**	**54.52 315**		P	**P**	**11 01 10.3**	**-0.8**
ZRNK				*e*	pP	11 01 21.6	0.0
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**54.52 315**		P	**P**	**11 01 10.3**	**-0.9**
	comp=Z,4.6nm,1.0s,mb4.5						
ZRNK				*e*	pP	11 01 21.6	-0.1
INK	**Inuvik**	**57.26 26**		P	**P**	**11 01 31.1**	**+0.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=287,slow=5.0,SNR=14						
INK				pP	pP	11 01 41.9	+0.6
	comp=Z,1.4nm,0.5s,baz=294,slow=7.2,SNR=5.4						
INK	**Inuvik**	**57.26 26**		P	**P**	**11 01 31.1**	**+0.4**
INK				*PP	pP	11 01 41.9	+0.6
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**57.26 26**		*e*P	**P**	**11 01 32.0**	**+1.3**
	comp=Z,2.1nm,0.7s,mb4.3						
AKTK	**Aktyubinsk**	**61.76 314**		P	**P**	**11 02 02.1**	**+0.2**
AKTK				pP	pP	11 02 13.5	+1.0
AKTO	**Aktyubinsk**	**61.76 314**		P	**P**	**11 02 02.1**	**+0.2**
	comp=Z,1.3nm,0.9s,mb4.0,baz=77,slow=10,SNR=4.3						
AKTO				pP	pP	11 02 13.5	+1.0
	comp=Z,1.6nm,0.7s,baz=61,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**64.92 181**		P	**P**	**11 02 22.4**	**-0.6**
	comp=Z,3.5nm,0.9s,mb4.4,baz=318,slow=6.6,SNR=6.0						
STKA				pP	pP	11 02 33.6	-0.1
	comp=Z,1.5nm,0.7s,baz=315,slow=7.5,SNR=2.7						
STKA	**Stephens Creek**	**64.92 181**		*e*P	**P**	**11 02 22.9**	**-0.1**
YKA	**Yellowknife Ar**	**66.54 30**		P	**P**	**11 02 32.9**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=293,slow=6.4,SNR=8.1						
YKA				pP	pP	11 02 43.5	0.0
	comp=Z,1.0nm,0.7s,baz=294,slow=6.4,SNR=11						
FINES	**FINESS Array B**	**72.43 333**		P	**P**	**11 03 09.0**	**+0.2**
	comp=Z,1.2nm,0.9s,mb3.8,baz=72,slow=6.0,SNR=3.4						
FINES				pP	pP	11 03 19.7	+0.1
	comp=Z,1.9nm,0.8s,baz=27,slow=4.3,SNR=3.2						
NVAR	**Mina Array Bea**	**76.50 53**		P	**P**	**11 03 34.4**	**+1.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=292,slow=6.6,SNR=4.8						
NVAR				pP	pP	11 03 44.6	+1.0
	comp=Z,0.7nm,0.7s,baz=289,slow=7.0,SNR=4.7						
FCC	**Fort Churchill**	**76.88 27**		*e*P	**P**	**11 03 30.8**	**-3.7**
AKASG	**Malin Array Be**	**77.70 323**		P	**P**	**11 03 39.7**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=50,slow=5.6,SNR=2.9						
AKASG				pP	pP	11 03 50.6	+0.5
	comp=Z,1.1nm,0.5s,baz=47,slow=5.8,SNR=3.5						
NB2	**NORSAR Subarra**	**77.87 338**		P	**P**	**11 03 40.2**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**77.87 338**		P	**P**	**11 03 40.2**	**+0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**77.87 338**		P	**P**	**11 03 39.9**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=39,slow=5.6,SNR=4.5						
NOA				pP	pP	11 03 51.5	+0.8
	comp=Z,2.0nm,0.7s,baz=39,slow=5.7,SNR=4.3						
BRTR	**Keskin Array B**	**81.91 312**		P	**P**	**11 04 03.9**	**+1.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=125,slow=5.8,SNR=4.5						
BRTR				pP	pP	11 04 14.2	+1.2
	comp=Z,1.0nm,0.8s,baz=104,slow=5.1,SNR=3.9						
TXAR	**Lajitas Array**	**91.66 53**		P	**P**	**11 04 51.6**	**+1.8**
	comp=Z,0.7nm,0.6s,mb4.2,baz=304,slow=2.9,SNR=9.8						
TXAR				pP	pP	11 05 01.9	+1.1
	comp=Z,0.7nm,0.6s,baz=304,slow=3.0,SNR=6.3						
TXAR	**Lajitas Array**	**91.66 53**		P	**P**	**11 04 51.6**	**+1.8**
TXAR				*PP	pP	11 05 02.0	+1.1
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **22** 10:52:57.9, 19.38N×64.86W, h39km, MD3.5(RSPR), After RSPR.*
RSPR 22 10:52:57.9, 19.38N×64.86W, h39km±7km, MD3.5/6, MD3.5/6, 9C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.99 166**		⇑*e*P	P	10 53 14.3	-1.1
TBVI				*e*S	S	10 53 26.7	-1.9
STVI	**Saint Thomas**	**1.03 185**		⇑*e*P	P	10 53 14.4	-1.5
STVI				*e*S	S	10 53 27.9	-1.4
MTP	**Monte Pirata**	**1.44 207**		⇑*e*P	P	10 53 20.6	-1.4
MTP				*e*S	S	10 53 37.8	-2.1
CBYP	**Canovanas**	**1.45 221**		⇑*e*P	P	10 53 20.5	-1.6
CBYP				*e*S	S	10 53 38.2	-1.9
HUMP	**Col San Antoni**	**1.55 217**		⇑*e*P	P	10 53 22.2	-1.3
HUMP				*e*S	S	10 53 40.6	-1.9
CDVI	**St. Croix**	**1.62 177**		⇑*e*P	P	10 53 22.8	-1.7
CDVI				*e*S	S	10 53 42.6	-1.8
CPD	**Cerro la Pandu**	**1.67 217**		*e*P	P	10 53 23.4	-1.7
AOPR	**Arecibo Observ**	**2.06 240**		⇑*e*P	P	10 53 29.2	-1.6
ICM	**Isla Caja Muer**	**2.16 227**		⇑*e*P	P	10 53 30.4	-1.7
CRPR	**Cabo Rojo, PR**	**2.53 238**		⇑*e*P	P	10 53 35.5	-2.0
CRPR				*e*S	S	10 54 05.4	-2.0

*NEIC **22** 11:07:53.1, 32.83S×73.00W, h35km, ML3.7(GUC), After GUC.*
GUC 22 11:07:53.1±0.9, 32.83S×73.00W, h35km±5km, MD4.1, ML3.7, 1C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**1.35 78**		⇓*i*P	P	11 08 16.3	+0.5
LCCH	**Las Cruces**	**1.36 118**		⇓*i*P	P	11 08 17.0	+1.0
LCCH				*i* S	S	11 08 34.3	+1.4
LNV	**Longovilo**	**1.74 131**		*e*P	P	11 08 22.1	+0.8
LNV				*i* S	S	11 08 43.9	+1.4
TACH	**Talagante**	**1.91 116**		*i* P	P	11 08 25.0	+1.2
TACH				*i* S	S	11 08 48.4	+1.5
RCDM	**Rinconada Maip**	**1.95 110**		⇓*i*P	P	11 08 25.0	+0.6
RCDM				*i* S	S	11 08 50.0	+2.1
RCDM				AMP		11 08 53.4	
	comp=N,659nm,0.3s						
PEL	**Peldehue**	**1.97 100**		⇓*i*P	P	11 08 26.6	+2.0
PEL				*i* S	S	11 08 51.5	+3.2
PEL				AMP		11 08 53.7	
	comp=N,2μm,0.2s						
JACH	**Jahuel**	**2.03 86**		⇓*i*P	P	11 08 26.5	+1.0
JACH				*i* S	S	11 08 51.9	+2.0
PCH	**Pirque**	**2.23 111**		*e*P	P	11 08 30.3	+2.0
PCH				*i* S	S	11 08 58.5	+3.7
CHCH	**Chadas Angostu**	**2.25 120**		*e*P	P	11 08 29.7	+1.0
FCH	**Farellones**	**2.33 103**		⇑*i*P	P	11 08 32.0	+2.2
FCH				*i* S	S	11 09 01.2	+3.8
FCH				AMP		11 09 03.2	
	comp=N,402nm,0.1s						
CACH	**El Canelo**	**2.38 123**		*e*P	P	11 08 32.6	+2.1
CACH				*i* S	S	11 09 01.6	+2.9
SFDO	**San Fernando**	**2.43 138**		*e*P	P	11 08 31.7	+0.5
CICH	**Cipreses**	**2.61 125**		*e*P	P	11 08 35.3	+1.4

IDC 22 11:14:55.9±6.5, 26.80N×140.99E, h33km±52km, mb3.4/3, mb1 3.7/3, mb1mx3.3/19, mbtmp3.6/3, MS4.0/1, Ms1 4.0/1, ms1mx2.9/21, Error ellipse: s-maj=28.3km s-min=22.5km az=100.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.11 74**		Pn	Pn	11 15 14.4	-0.9
	89nm,0.3s,baz=282,slow=20,SNR=2.6						
CBIJ				Sn	Sn	11 15 30.1	+0.7
	149nm,0.3s,baz=259,slow=23,SNR=7.5						
JHJ	**Hachijo jima 2**	**6.38 351**		LR	LR	11 18 37.8	
	comp=Z,1μm,21.0s,baz=77,slow=35						
WRA	**Warramunga Arr**	**46.91 189**		P	P	11 23 22.9	-2.5
	1.0nm,0.7s,baz=9.9,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**49.84 310**		P	P	11 23 45.8	-2.0
	0.4nm,0.9s,baz=100,slow=8.8,SNR=3.2						
YKA	**Yellowknife Ar**	**72.90 28**		P	P	11 26 21.8	-1.4
	0.4nm,0.6s,baz=295,slow=6.3,SNR=9.6						

*NEIC **22** 11:17:53.8±0.9, 4.70N×76.11W, h117km±10km

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.55**	**50**	P	**P**	**11 26 48.2**	**+0.6**
	2.5nm,0.3s,baz=273,slow=23,SNR=5.8						
AFI				S	**S**	**11 28 18.9**	**-0.8**
	3.1nm,0.3s,baz=235,slow=23,SNR=6.6						
AFI	**Afiamalu**	**7.55**	**50**	*e*P	**P**	**11 26 48.1**	**+0.6**
AFI				*e*S	**S**	**11 28 18.9**	**-0.9**
URZ	**Urewera**	**19.85**	**192**	P	**P**	**11 28 44.8**	**-0.8**
	5.9nm,0.3s,baz=4.1,slow=1.0,SNR=29						
SNZO	**South Karori**	**23.30**	**194**	*e*P	**P**	**11 29 14.8**	**-2.0**
	72nm,1.1s,mb5.2						
RPZ	**Rata Peaks**	**26.52**	**198**	P	**P**	**11 29 45.0**	**-0.1**
	6.2nm,0.5s,mb4.5,baz=2.9,slow=9.6,SNR=7.6						
CTA	**Charters Tower**	**33.92**	**262**	*e*P	**P**	**11 30 49.4**	**+1.3**
	8.0nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**33.92**	**262**	*e*P	**P**	**11 30 49.3**	**+1.1**
	13nm,0.7s,mb4.7						
PMG	**Port Moresby**	**35.23**	**281**	P	**P**	**11 31 00.7**	**+1.6**
	29nm,0.8s,mb5.0,baz=93,slow=6.6,SNR=12						
PMG	**Port Moresby**	**35.23**	**281**	*e*P	**P**	**11 30 60.0**	**+0.9**
STKA	**Stephens Creek**	**38.73**	**242**	*e*P	**P**	**11 31 29.7**	**+2.1**
	4.8nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**11 31 28.5**	**+0.9**
	3.3nm,0.4s,mb4.2,baz=86,slow=8.0,SNR=13						
STKA	**Stephens Creek**	**38.73**	**242**	*e*P	**P**	**11 31 29.3**	**+1.7**
WB2	**Warramunga Arr**	**45.07**	**260**	⇓*i*P	**P**	**11 32 17.5**	**-0.2**
WB2				*e*S	**S**	**11 38 11.0**	**-3.4**
WRAB	**Tennant Creek**	**45.07**	**260**	*e*P	**P**	**11 32 17.5**	**-0.2**
	14nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**45.08**	**260**	P	**P**	**11 32 17.5**	**-0.2**
	12nm,0.6s,mb4.6,baz=98,slow=7.0,SNR=468						
WRA				PcP	PcP	11 33 45.4	-0.2
	1.1nm,0.5s,baz=91,slow=3.4,SNR=5.5						
WRA				S	**S**	**11 38 11.7**	**-2.9**
	1.0nm,0.9s,baz=94,slow=13,SNR=7.6						
ASPA	**Alice Springs**	**45.15**	**255**	*e*P	**P**	**11 32 18.8**	**+0.6**
ASPA				*e*S	**S**	**11 38 13.5**	**-1.9**
KAKA	**Kakadu**	**48.19**	**270**	⇓*i*P	Px	11 33 03.5	
	11nm,0.6s						
FORT	**Forrest**	**50.17**	**245**	*e*P	**P**	**11 32 55.7**	**-0.1**
	14nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.49**	**261**	*e*P	**P**	**11 33 20.0**	**+0.3**
	3.3nm,0.2s,mb4.3						
MBWA	**Marble Bar**	**58.45**	**256**	*e*P	**P**	**11 33 53.2**	**-0.5**
	6.0nm,0.6s,mb3.9						
MJAR	**Matsushiro Arr**	**69.03**	**323**	P	**P**	**11 34 59.4**	**-0.9**
	1.6nm,0.8s,mb3.5,baz=154,slow=6.2,SNR=8.9						
KKM	**Kota Kinabalu**	**69.57**	**284**	*e*P	**P**	**11 35 03.7**	**-0.2**
QSPA	**South Pole Qui**	**71.21**	**180**	*e*P	**P**	**11 35 14.5**	**+2.1**
	4.5nm,0.8s,mb4.0						
KSM	**Kuching**	**73.42**	**277**	*e*P	**P**	**11 35 26.2**	**0.0**
YSS	**Yuzh-Sakhalins**	**74.53**	**333**	*e*P	**P**	**11 35 32.4**	**+0.6**
	27nm,1.1s,mb4.7						
MDJ	**Mudanjiang**	**79.31**	**325**	P	**P**	**11 35 58.4**	**+0.9**
	12nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**79.67**	**43**	P	**P**	**11 36 00.3**	**+0.8**
	0.5nm,0.6s,mb3.0,baz=228,slow=9.9,SNR=5.1						
ENH	**Enshi**	**85.31**	**304**	*e*P	**P**	**11 36 29.0**	**+1.0**
	12nm,1.0s,mb4.5						
MCK	**McKinley**	**85.32**	**12**	*e*P	**P**	**11 36 25.1**	**-2.1**
	3.1nm,1.0s,mb3.9						
TXAR	**Lajitas Array**	**85.97**	**57**	P	**P**	**11 36 33.2**	**+2.0**
	1.5nm,0.8s,mb3.7,baz=218,slow=6.2,SNR=20						
COLA	**College**	**86.55**	**12**	*e*P	**P**	**11 36 31.9**	**-1.1**
	3.3nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**86.66**	**13**	P	**P**	**11 36 32.8**	**-0.8**
	0.9nm,0.5s,mb3.7,baz=227,slow=4.9,SNR=34						
PDAR	**Pinedale Array**	**87.61**	**43**	P	**P**	**11 36 39.4**	**+0.9**
	0.8nm,0.8s,mb3.5,baz=243,slow=2.4,SNR=7.2						
CHRT	**Chiangrai**	**89.52**	**291**	⇑PN	**P**	**11 36 48.0**	**0.0**
INK	**Inuvik**	**92.63**	**15**	P	**P**	**11 37 00.2**	**-0.9**
	1.6nm,1.0s,mb4.0,baz=224,slow=13,SNR=7.3						
INK	**Inuvik**	**92.63**	**15**	P	**P**	**11 37 00.2**	**-0.9**
YKA	**Yellowknife Ar**	**94.92**	**25**	P	**P**	**11 37 11.0**	**-0.6**
	0.2nm,0.7s,mb3.4,baz=239,slow=4.4,SNR=6.4						
YKA	**Yellowknife Ar**	**94.92**	**25**	P	**P**	**11 37 11.0**	**-0.6**
BVAR	**Borovoye Array**	**117.96**	**321**	P	PKPdf	11 42 31.5	+0.4
	0.9nm,0.4s,baz=90,slow=7.2,SNR=7.0						
ARCES	**ARCESS Array B**	**127.35**	**350**	PKP	PKPdf	11 42 49.1	+0.3
	3.4nm,0.9s,baz=60,slow=0.8,SNR=15						
FINES	**FINESS Array B**	**134.26**	**344**	PKP	PKPdf	11 43 02.7	+0.7
	1.1nm,0.5s,slow=1.9,SNR=5.0						
HFS	**Hagfors**	**137.95**	**351**	PKhKP		11 43 03.1	
	1.4nm,0.7s,baz=63,slow=3.3,SNR=4.8						
HFS				PKP	PKPdf	11 43 10.5	+1.7
	1.6nm,0.6s,baz=225,slow=2.0,SNR=2.6						
AKASG	**Malin Array Be**	**141.68**	**332**	PKhKP		11 43 11.8	
	1.0nm,0.4s,baz=41,slow=4.0,SNR=4.2						
BSEG	**Bad Segeberg**	**144.43**	**352**	*e*PKPbc	PKPbc	11 43 22.2	+1.7
BRTR	**Keskin Array B**	**145.88**	**314**	PKPbc	PKPbc	11 43 26.1	+1.3
	2.2nm,0.7s,baz=135,slow=5.2,SNR=8.3						
STHS	**Stebnicka Huta**	**145.89**	**338**	*e*PKP	PKPdf	11 43 28.9	+6.0
CLZ	**Clausthal**	**146.46**	**351**	*e*PKPbc	PKPbc	11 43 28.3	+2.6
CLL	**Collm**	**146.51**	**348**	⇓P	PKPdf	11 43 27.9	+4.0
	logA/T=1.2						
CLL				*i*		11 43 30.1	
CLL	**Collm**	**146.51**	**348**	⇓*i*P	PKPdf	11 43 27.9	+4.0
CLL				*i*		11 43 30.1	
VYHS	**Vyhne**	**147.51**	**339**	*e*PKP	PKPdf	11 43 31.3	+5.7
GRA1	**Grafenberg Arr**	**148.40**	**349**	*e*PKPbc	PKPdf	11 43 33.5	+6.6
GRF	**Grafenberg Arr**	**148.40**	**349**	*e*PKP	PKPdf	11 43 33.5	+6.6
KHC	**Kasperske Hory**	**148.44**	**346**	*e*P	PKPdf	11 43 31.5	+4.5
GEC2	**GERESS Array S**	**148.68**	**345**	*e*PKPbc	PKPdf	11 43 33.8	+6.4
GERES	**GERESS Array B**	**148.68**	**345**	PKPbc	PKPdf	11 43 33.4	+6.0
	2.6nm,0.9s,baz=45,slow=1.9,SNR=12						
DAVOX	**Davos**	**151.44**	**349**	PKPbc	PKPdf	11 43 40.4	+8.7
	10nm,0.5s,baz=255,slow=3.0,SNR=22						
DAVOX	**Davos**	**151.44**	**349**	PKPbc	PKPdf	11 43 40.4	+8.7

*THE **22** 11:27:25.0,38.28N×21.87E,h10km, ML3.4*
*CSEM **22** 11:27:24.4±0.5,38.25N×21.85E,h2km±3km, ML3.4, Error ellipse: s-maj=8.5km s-min=4.6km az=172.0*
*ATH **22** 11:27:26.0,38.37N×21.80E,h15km±1km, MD3.5/13, ML3.5*

ISC 22 11:27:26.6±0.4,38.39N±0.03×21.81E±0.04,h15km,n25, σ1§31/32,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.43**	**219**	⇑*i*PB	**Pb**	**11 27 34.4**	**-0.9**
RLS				*e*SB	**Sb**	**11 27 40.5**	**-0.8**
RLS	**Riolos of Patr**	**0.43**	**219**	*e*Pb	**Pb**	**11 27 39.0**	**+3.7**
EVR	**Evrytania**	**0.52**	**360**	*e*PN	**Pn**	**11 27 36.2**	**-2.9**
EVR				*e*SN	**Sn**	**11 27 44.6**	**-3.0**
AGG	**Agios Georgios**	**0.75**	**33**	*e*Pg	**Pg**	**11 27 39.6**	**-2.1**
AGG				*e*Sg	**Sg**	**11 27 52.6**	**+0.7**
LKD	**Levkas**	**0.96**	**289**	*e*Pg	**Pg**	**11 27 44.1**	**-1.9**
LKD				*e*Sg	**Sg**	**11 28 00.3**	**+1.4**
LKR	**Lokris**	**0.97**	**74**	*e*PN	**Pn**	**11 27 44.6**	**-0.9**
LKR				*e*SN	**Sn**	**11 27 59.0**	**+0.1**
LKR	**Lokris**	**0.97**	**74**	*e*Pb	**Pb**	**11 27 43.3**	**-1.2**
VLS	**Valsamata**	**0.98**	**258**	*e*PB	**Pb**	**11 27 44.0**	**-0.8**
MGER	**Gerania Oros**	**1.21**	**109**	*e*PN	**Pn**	**11 27 48.5**	**-0.5**
ITM	**Ithomi**	**1.22**	**176**	*e*PN	**Pn**	**11 27 48.5**	**-0.5**
NSAL	**Nisos Salamina**	**1.39**	**110**	*e*PN	**Pn**	**11 27 52.8**	**+1.2**
XOR	**Xorichti**	**1.45**	**48**	*e*Pg	**Pg**	**11 27 52.5**	**-3.1**
MEV	**Metsovon**	**1.46**	**342**	*e*Pg	**Pg**	**11 27 54.4**	**-1.5**
MEV				*e*Sg	**Sg**	**11 28 15.7**	**+0.3**
JAN	**Janina**	**1.47**	**330**	*e*PN	**Pn**	**11 27 54.1**	**+1.5**
MPAR	**Parnis Oros**	**1.54**	**98**	*e*PN	**Pn**	**11 27 54.5**	**+0.9**
ATH	**Athens Observa**	**1.56**	**105**	*e*PN	**Pn**	**11 27 55.3**	**+1.3**
LIT	**Litokhoron**	**1.79**	**17**	*e*Pb	**Pb**	**11 27 58.1**	**-0.4**
LIT				*e*Sb	**Sb**	**11 28 23.7**	**+3.2**
VLI	**Veliai**	**1.90**	**151**	*e*PN	**Pn**	**11 27 59.5**	**+0.7**
KZN	**Kozani**	**1.91**	**359**	*e*PN	**Pn**	**11 28 00.9**	**+1.9**
KEK	**Kerkira**	**2.05**	**311**	*e*PN	**Pn**	**11 28 02.8**	**+1.9**
PAIG	**Paliouri**	**2.11**	**43**	*e*Pn	**Pn**	**11 28 01.1**	**-0.8**
KYTH	**Kithira**	**2.32**	**155**	*e*PN	**Pn**	**11 28 06.0**	**+1.1**
OUR	**Ouranopolis**	**2.57**	**40**	*e*Pn	**Pn**	**11 28 07.8**	**-0.6**
SOH	**Sokhos**	**2.70**	**26**	*e*Pn	**Pn**	**11 28 11.1**	**+0.7**
SRS	**Serrai**	**3.05**	**26**	*e*Pn	**Pn**	**11 28 16.1**	**+0.8**

MAN 22 11:34:15.8,18.07N×120.14E,h27km,mb4.4,ML3.2, MS3.0,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.52**	**61**	⇓*i*P	Pb	11 34 27.9	+1.5
PIP				*e*S	Sb	11 34 36.2	+2.5
ABRA	**Dolores**	**0.69**	**127**	*e*P	Pb	11 34 28.6	-0.5
ABRA				*e*S	Sb	11 34 37.6	-0.7
CVP	**Callao Caves**	**1.65**	**103**	⇑*e*P	Pn	11 34 43.0	-0.4
CVP				*i* S	Sn	11 35 03.0	-0.8
BOLP	**Bolinao**	**1.69**	**187**	*e*P	Pn	11 34 43.7	-0.4
BOLP				*e*S	Sn	11 35 02.4	-2.6
SGCP	**Mt. Cagua**	**1.82**	**84**	*e*P	Pn	11 34 45.7	-0.2
SGCP				*e*S	Sn	11 35 05.4	-2.9
CAUP	**Cauayan**	**1.96**	**125**	*e*P	Pn	11 34 48.9	+1.0

*IDC **22** 11:34:03.1±1.1,26.08N×121.68E,mb3.9/6,mb1 4.1/7, mb1mx3.8/23,mbtmp3.9/7,ML3.8/1, Error ellipse: s-maj=32.0km s-min=25.0km az=67.0*
*JMA **22** 11:34:23.5±0.1,25.94N×125.38E,h96km,M3.3*

ISC 22 11:34:22.8±0.7,25.8N±0.1×125.47E±0.09,h111km±8km, n15,σ0§54/22,mb3.6/4,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.03**	**189**	P	**P**	**11 34 45.2**	**+0.5**
JMJ				*e*S	**S**	**11 35 00.9**	**-0.1**
JOGS	**Gusukube**	**1.07**	**183**	P	**P**	**11 34 45.9**	**+0.8**
JOGS				S	**S**	**11 35 02.0**	**+0.1**
JKE	**Kume jima 2**	**1.28**	**67**	P	**P**	**11 34 47.5**	**0.0**
JKE				*e*S	**S**	**11 35 05.8**	**-0.4**
JTJ	**Tarama**	**1.38**	**210**	P	**P**	**11 34 49.1**	**+0.5**
JTJ				S	**S**	**11 35 07.4**	**-0.7**
JIJ	**Ishigaki jima**	**1.89**	**220**	P	**P**	**11 34 55.0**	**+0.1**
JIJ				*e*S	**S**	**11 35 17.4**	**-1.6**
JKRS	**Kuro-shima**	**2.07**	**220**	P	**P**	**11 34 57.5**	**+0.3**
JKRS				*e*S	**S**	**11 35 22.9**	**-0.1**
JJT2	**Tamagusuku 2**	**2.08**	**81**	P	**P**	**11 34 57.7**	**+0.4**
JJT2				*e*S	**S**	**11 35 22.9**	**-0.3**
IRIF	**Iriomote-Funau**	**2.17**	**227**	P	**P**	**11 34 58.7**	**+0.1**
IRIF				*e*S	**S**	**11 35 25.8**	**+0.4**
HATJ	**Hateruma jima**	**2.33**	**221**	*e*S	**S**	**11 35 29.6**	**+0.5**
JOW	**Kunigami**	**2.71**	**68**	*e*S	**S**	**11 35 38.4**	**+0.1**
MJAR	**Matsushiro Arr**	**15.24**	**43**	P	Px	11 38 09.1	
	0.3nm,0.3s,baz=218,slow=6.9,SNR=4.3						
WRA	**Warramunga Arr**	**46.31**	**168**	P	**P**	**11 42 38.9**	**-0.4**
	0.9nm,0.5s,mb3.7,baz=350,slow=8.6,SNR=14						
ILAR	**Eielson Array**	**65.96**	**28**	P	**P**	**11 44 58.0**	**-0.9**
	0.4nm,0.6s,mb3.4,baz=260,slow=5.4,SNR=10						
INK	**Inuvik**	**70.23**	**23**	P	**P**	**11 45 25.2**	**0.0**
	2.2nm,0.7s,mb4.1,baz=308,slow=6.6,SNR=17						
YKA	**Yellowknife Ar**	**79.92**	**24**	P	**P**	**11 46 21.0**	**+0.6**
	0.3nm,0.6s,mb3.3,baz=305,slow=5.3,SNR=14						

*IDC **22** 11:34:47.2±2.1,52.09N×179.09E,h150km±19km, mb3.0/10,mb1 3.3/11,mb1mx3.2/25,mbtmp3.5/11, Error ellipse: s-maj=28.3km s-min=13.3km az=171.0*
*NEIC **22** 11:34:48.5,51.95N×179.24E,h155km,MG3.2(AEIC), After AEIC.*

ISC 22 11:34:46.0±1.2,52.1N±0.2×179.1E±0.1,h154km±11km, n14,σ0§77/16,mb3.3/10,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**3.72**	**285**	P	**P**	**11 35 44.5**	**+1.0**
	4.2nm,0.3s,baz=231,slow=20,SNR=10.0						
FX1				S	**S**	**11 36 27.4**	**-0.4**
	41nm,0.3s,baz=180,slow=22,SNR=50						
FX1	**Attu Island--F**	**3.72**	**285**	P	**P**	**11 35 44.5**	**+0.9**
FX1				S	**S**	**11 36 27.3**	**-0.5**
ATKA	**Atka Island**	**4.12**	**86**	P	**P**	**11 35 48.2**	**-0.6**
ILAR	**Eielson Array**	**21.52**	**41**	P	**P**	**11 39 24.1**	**+0.9**
	0.2nm,0.4s,mb2.9,baz=240,slow=7.9,SNR=7.8						
INK	**Inuvik**	**27.63**	**36**	P	**P**	**11 40 20.9**	**+0.3**
	1.0nm,1.1s,mb3.5,baz=262,slow=8.1,SNR=4.1						
YKA	**Yellowknife Ar**	**35.68**	**47**	P	**P**	**11 41 31.2**	**+0.6**
	0.2nm,0.4s,mb3.1,baz=283,slow=7.8,SNR=9.5						
YKA	**Yellowknife Ar**	**35.68**	**47**	P	**P**	**11 41 31.2**	**+0.6**
NVAR	**Mina Array Bea**	**44.74**	**82**	P	**P**	**11 42 45.3**	**+0.1**
	0.5nm,0.7s,mb3.3,baz=285,slow=8.1,SNR=4.4						
SONM	**Songino Array**	**45.17**	**295**	P	**P**	**11 42 48.8**	**+0.4**
	0.6nm,0.6s,mb3.4,baz=62,slow=8.9,SNR=4.6						
PDAR	**Pinedale Array**	**47.32**	**72**	P	**P**	**11 43 04.6**	**-0.8**
	0.3nm,0.5s,mb3.1,baz=320,slow=3.5,SNR=3.9						
MKAR	**Makanchi Array**	**58.57**	**307**	P	**P**	**11 44 26.3**	**-1.9**
	0.3nm,0.5s,mb3.4,baz=47,slow=6.4,SNR=3.7						
BVAR	**Borovoye Array**	**59.50**	**318**	P	**P**	**11 44 34.3**	**-0.3**
	0.3nm,0.4s,mb3.4,baz=56,slow=5.2,SNR=3.2						
TXAR	**Lajitas Array**	**59.82**	**80**	P	**P**	**11 44 36.8**	**-0.3**
	0.3nm,0.5s,mb3.4,baz=305,slow=5.4,SNR=15						
WRA	**Warramunga Arr**	**81.65**	**222**	P	**P**	**11 46 48.9**	**+0.8**
	0.3nm,0.5s,mb3.2,baz=31,slow=6.0,SNR=7.2						

BJI 22 11:35:46.7,24.58N×98.79E,h31km,ML3.6, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.63**	**81**	PG	Pn	11 36 50.1	+7.9
KMI				S	Sn	11 37 28.4	+3.9
KMI				Smax			
	comp=N,90nm,0.8s						
KMI				Smax			
	comp=E,70nm,0.9s						
CHG	**Chiang Mai**	**5.74**	**179**	PG	Pn	11 37 28.7	+17
CHG				SG	Sn	11 38 41.3	+24

SKHL 22 12:09:27.3±0.1,52.60N×142.70E,h10km,mb4.1/3, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.96**	**8**	*e*Pg	Pg	12 09 47.4	+0.8
OKH				AMB	AMB	12 09 48.0	
	219nm,0.2s						
OKH				*e*Sg	Sg	12 10 01.5	+2.0
OKH				A		12 10 04.5	
	354nm,0.4s						
OKH				A		12 10 04.5	
	268nm,0.4s						
NKL	**Nikolayevsk**	**1.34**	**295**	*e*Pg	Pg	12 09 54.0	-0.2
NKL				AMB	AMB	12 09 54.2	
	90nm,0.2s						
NKL				*i* Sg	Sg	12 10 12.7	+0.6
NKL				A		12 10 13.7	
	270nm,0.3s						
TYV	**Tymovskoe**	**1.74**	**181**	*e*Pg	Pg	12 10 02.0	-0.1
TYV				AMB	AMB	12 10 04.0	
	8.0nm,0.4s						
TYV				*e*Sg	Sg	12 10 26.0	+0.7
TYV				A		12 10 32.0	
	15nm,0.6s						
EKMR	**Ekimchan**	**5.93**	**278**	*e*Pg	Pg	12 11 24.6	-1.1
EKMR				*e*Sg	Sg	12 12 46.5	+1.8
EKMR				A		12 12 49.0	
	43nm,0.9s						

*BJI **22** 12:20:02.9,54.70S×135.90W,h10km,mB6.2,Ms6.3, Msz6.1*
*HRVD **22** 12:20:02.9±0.1,54.57S×135.91W,h15km,MW6.4/92, Centroid moment Tensor Solution. LP body waves: s92,c224;Mantle waves: s84,c375; Half duration: 3s6 Moment tensor: Scale 10^18Nm; Mrr=0.18±.03; Mθθ3.04±.03; Mϕϕ-2.86±.02; Mrθ0.69±.08; Mrϕ2.93±.02; Mθϕ0.45±.07; Best double couple: M=4.232×10^18 NP1: ϕs113°, δ81°,λ5°. NP2:ϕs22°, δ85°,λ171°. Principal axes: T 4.39, Plg10°, Azm337°; N -.315, Plg80°, Azm171°; P -4.074, Plg2°, Azm68°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=125s.*
*NEIC **22** 12:20:02.9±0.2,54.72S×135.87W,h10km,mb5.6/40, MS6.2/26,MW6.2 Error ellipse: s-maj=15.0km s-min=10.7km az=157.0,Moment Tensor Solution. s14 Moment tensor: Scale 10^18Nm; Mrr-0.42; Mθθ2.48; Mϕϕ-2.06; Mrθ0.06; Mrϕ1.48; Mθr-0.19; Best double couple: M=2.7×10^18 NP1:ϕs29°,δ86°,λ-176°. NP2:ϕs298°, δ86°,λ-4°. Principal axes: T 2.92, Plg0°, Azm343°; N -.41, Plg85°, Azm74°; P -2.52, Plg5°, Azm253°;*
*IDC **22** 12:20:03.4±0.5,54.26S×136.40W,mb4.6/9,mb1 4.7/9, mb1mx4.7/10,mbtmp4.6/9,MS6.1/10,Ms1 6.1/10, ms1mx5.8/12 Error ellipse: s-maj=24.8km s-min=14.9km az=170.0*
*MOS **22** 12:20:04.0±2.3,54.71S×136.10W,h10km,mb5.7/25, MS6.2/17,Error ellipse: s-maj=20.2km s-min=11.3km az=78.2*
*CRAAG **22** 12:20:05.7,54.83S×135.88W,Mb5.7*
*ORF **22** 12:20:11.6,51.41S×140.30W,h30km,mb5.8*

ISC 22 12:20:02.9±0.2,54.61S±0.05×135.95W±0.09,h10km, n408,σ1§25/107,mb5.4/47,MS6.2/49,12C-14D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**30.52**	**201**	⇑*e*P	**P**	**12 26 21.4**	**+3.6**
SBA				pmax	pmax		
	comp=Z,166nm,1.5s,mb5.6						
SBA				MLR	MLR		
	comp=Z,35μm,22.0s,MS6.0						
SBA	**Scott Base**	**30.52**	**201**	⇑*e*P	**P**	**12 26 21.4**	**+3.6**
	comp=Z,166nm,1.5s,mb5.6						
SBA				LR	LR		
	comp=Z,35μm,22.0s,MS6.0						
RKT	**Rikitea**	**31.45**	**2**	*e*S	**S**	**12 31 33.1**	**-0.1**
RKT				*e*LQ		12 33 21.5	
RKT				*e*LR	LR	12 34 33.1	
	comp=Z,133μm,28.5s,baz=178						
VNDA	**Vanda**	**31.47**	**202**	P	**P**	**12 26 28.7**	**+2.4**
	comp=Z,14nm,1.2s,mb4.7,baz=84,slow=9.1,SNR=13						
VNDA				LR	LR	12 36 16.3	
	comp=Z,16μm,18.1s,MS5.8,baz=81,slow=31						
VNDA	**Vanda**	**31.47**	**202**	*e*P	**P**	**12 26 25.3**	**-0.9**
VNDA				pmax	pmax		
	comp=Z,79nm,1.4s						
VNDA	**Vanda**	**31.47**	**202**	*e*P	**P**	**12 26 25.3**	**-0.9**
	comp=Z,79nm,1.4s,mb5.3						
VNDA				LR	LR	12 36 16.3	
TBI	**Tubuai**	**32.81**	**337**	*e*S	**S**	**12 31 53.8**	**-0.6**
TBI				*e*LR	LR	12 35 02.9	
	comp=Z,201μm,28.8s,baz=170						
RPN	**Rapa Nui**	**33.65**	**46**	LR	LR	12 36 59.5	
	comp=Z,32μm,19.8s,MS6.0,baz=210,slow=30						
RPN	**Rapa Nui**	**33.65**	**46**	*e*P	**P**	**12 26 44.9**	**-0.9**
	comp=Z,459nm,1.8s,mb6.1						
URZ	**Urewera**	**35.48**	**278**	LR	LR	12 36 30.1	
	comp=Z,12μm,21.6s,MS5.6,baz=138,slow=28						
RPZ	**Rata Peaks**	**35.51**	**265**	P	**P**	**12 27 02.4**	**+0.9**
	comp=Z,33nm,1.1s,mb5.2,baz=268,slow=5.6,SNR=4.9						
QSPA	**South Pole Qui**	**35.56**	**180**	*e*P	**P**	**12 27 02.6**	**+0.9**
	comp=Z,3μm,2.6s						
PMSA	**Palmer Station**	**35.68**	**136**	*e*P	**P**	**12 27 01.6**	**-1.1**
	comp=Z,240nm,1.6s,mb5.9						
PMSA				*e*PcP	PcP	12 29 34.9	+3.5
USHA	**Ushuaia**	**37.62**	**119**	P	**P**	**12 27 24.0**	**+4.8**
	comp=Z,28nm,0.9s,mb5.0,baz=227,slow=9.7,SNR=7.8						
TVO	**Taravao**	**38.15**	**339**	*e*P	**P**	**12 27 24.4**	**+0.4**
	comp=Z,207nm,1.2s,mb5.7						
PAE	**Paea**	**38.34**	**339**	*e*P	**P**	**12 27 25.5**	**-0.1**
	comp=Z,129nm,1.2s,mb5.5						
PPT	**Papeete**	**38.43**	**339**	*e*P	**P**	**12 27 26.7**	**+0.4**
	comp=Z,71nm,1.5s,mb5.2						
PPT	**Papeete**	**38.43**	**339**	*e*S	**S**	**12 33 20.4**	**-0.5**
PPT				*e*LQ		12 36 12.2	
PPT				*e*LR	LR	12 37 38.4	
	comp=Z,188μm,26.2s,baz=175						
PPT	**Papeete**	**38.43**	**339**	LR	LR	12 38 50.4	
	comp=Z,43μm,18.2s,MS6.3,baz=229,slow=30						
PLCA	**Paso Flores**	**44.55**	**100**	P	**P**	**12 28 18.9**	**+2.7**
	comp=Z,12nm,1.0s,mb4.7,baz=220,slow=9.7,SNR=7.1						
PLCA				LR	LR	12 42 32.8	
	comp=Z,19μm,20.1s,MS6.0,baz=227,slow=30						
PLCA	**Paso Flores**	**44.55**	**100**	P	**P**	**12 28 16.9**	**+0.7**
PLCA				pmax	pmax		
	comp=Z,56nm,1.5s						
PLCA	**Paso Flores**	**44.55**	**100**	P	**P**	**12 28 16.9**	**+0.7**
	comp=Z,56nm,1.5s,mb5.2						
TAOE	**Nuku Hiva Isla**	**45.75**	**354**	*e*S	**S**	**12 35 08.6**	**-0.2**
TAOE				*e*LQ		12 39 12.5	
TAOE				*e*LR	LR	12 41 10.5	
	comp=Z,260μm,25.2s,baz=191						
AFI	**Afiamalu**	**49.28**	**311**	*e*P	**P**	**12 28 55.2**	**+1.4**
AFI				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.4						
AFI	**Afiamalu**	**49.28**	**311**	*e*P	**P**	**12 28 55.2**	**+1.5**
	comp=Z,39nm,1.0s,mb5.4						
CASY	**Casey**	**49.47**	**209**	*e*P	**P**	**12 28 56.1**	**+1.6**
	comp=Z,16nm,1.1s,mb5.0						
TAU	**Tasmania Unive**	**49.47**	**250**	*e*P	**P**	**12 28 51.5**	**-3.3**
TAU				pmax	pmax		
	comp=Z,171nm,1.9s,mb5.8						
TAU	**Tasmania Unive**	**49.47**	**250**	*e*P	**P**	**12 28 51.5**	**-3.4**
	comp=

OTAV Otavalo 71.99 62 *e*P **P** **12 31 28.9 +0.1**
comp=Z,204nm,1.8s,mb5.8
NWAO Narrogin (SRO) 72.63 238 *e*P **P** **12 31 24.6 -7.5**
NWAO pmax pmax
comp=Z,40nm,1.1s
NWAO Narrogin (SRO) 72.63 238 *e*P **P** **12 31 24.1 -8.0**
comp=Z,40nm,1.2s,mb5.2
NWAO LR LR
comp=Z,17µm,19.0s,MS6.3
KLBR Kellerberrin 73.46 239 *e*P **P** **12 31 38.1 +1.1**
comp=Z,77nm,1.3s,mb5.5
WB2 Warramunga Arr 73.82 258 *e*P **P** **12 31 37.4 -1.9**
WB2 *e*S S 12 41 04.9 -4.4
WRA Warramunga Arr 73.83 258 P **P** **12 31 38.3 -1.0**
comp=Z,50nm,0.7s,mb5.5,baz=146,slow=5.3,SNR=313
WRAB Tennant Creek 73.83 258 *d* iP **P** **12 31 38.4 -0.9**
WRAB Tennant Creek 73.83 258 *e*P **P** **12 31 38.0 -1.4**
comp=Z,89nm,0.8s,mb5.8
MUN Mundaring 73.91 237 *e*P **P** **12 31 41.3 +1.7**
PMG Port Moresby 74.79 275 *e*P **P** **12 31 46.1 +1.1**
PMG Port Moresby 74.79 275 *e*P **P** **12 31 42.1 -3.0**
comp=Z,42nm,1.0s,mb5.3
BDFB Brasilia 76.23 98 P **P** **12 31 54.0 +0.9**
comp=Z,3.7nm,0.8s,mb4.4,baz=178,slow=4.0,SNR=4.9
BDFB LR LR 13 01 10.4
comp=Z,19µm,21.9s,MS6.4,baz=213,slow=32
BAO Brasilia Array 76.25 98 P **P** **12 31 54.0 +0.7**
JTS JuntasAbangare 77.53 52 *e*P **P** **12 32 00.8 +0.4**
JTS pmax pmax
comp=Z,160nm,1.7s
JTS JuntasAbangare 77.53 52 *e*P **P** **12 32 00.8 +0.3**
comp=Z,164nm,1.7s,mb5.7
ROSC El Rosal 78.05 64 P **P** **12 32 06.4 +3.1**
comp=Z,26nm,0.9s,mb5.2,baz=147,slow=5.5,SNR=28
ROSC LR LR 12 59 53.9
comp=Z,8µm,21.6s,MS6.0,baz=196,slow=31
KIP Kipapa 78.05 339 *e*P **P** **12 32 08.7 +5.5**
FITZ Fitzroy Crossi 80.20 253 ⇓ *i*P **P** **12 32 14.3 -0.6**
comp=Z,42nm,1.0s,mb5.3
FITZ *e*S S 12 42 22.8 +4.3
FITZ *e*SS SS 12 47 41.8 +10
KAKA Kakadu 80.68 261 *e*P Px 12 32 39.3
comp=Z,50nm,1.4s
MBWA Marble Bar 80.93 246 *e*P **P** **12 32 17.7 -1.0**
comp=Z,132nm,1.5s,mb5.7
SDV Santo Domingo 83.38 65 *e*P **P** **12 32 33.6 +2.0**
comp=Z,23nm,1.1s,mb5.1
LTX Lajitas 88.11 28 *e*P **P** **12 33 00.4 +5.8**
LTX pmax pmax
comp=Z,160nm,2.2s,mb5.9
LTX Lajitas 88.11 28 P **P** **12 32 53.4 -1.2**
comp=Z,156nm,2.3s,mb5.8
TXAR Lajitas Array 88.11 28 P **P** **12 32 54.5 0.0**
comp=Z,0.6nm,0.8s,baz=198,slow=8.5,SNR=7.5
TXAR PKKPbc 12 50 47.6
comp=Z,0.6nm,0.9s,baz=45,slow=2.6,SNR=4.0
WAKE Wake Island 88.33 307 PFAKE 12 33 10.0 +14
WAKE LR LR
comp=Z,10µm,22.0s,MS6.2
BAR Barrett 88.51 16 *e*P **P** **12 32 57.4 +1.0**
TUC Tucson 89.24 21 *e*P **P** **12 33 00.7 +0.7**
TUC pmax pmax
comp=Z,120nm,2.0s,mb5.9
TUC Tucson 89.24 21 *e*P **P** **12 33 00.7 +0.8**
comp=Z,120nm,2.0s,mb5.9
PFO Pinyon Flat Ob 89.45 16 *e*P **P** **12 32 59.6 -1.3**
PFO pmax pmax
comp=Z,61nm,1.5s,mb5.7
PFO Pinyon Flat Ob 89.45 16 *e*P **P** **12 32 59.6 -1.3**
comp=Z,61nm,1.5s,mb5.7
MWC Mount Wilson 89.80 15 *e*P **P** **12 33 03.7 +1.1**
MNTX Cormudas Mount 89.90 26 *e*P **P** **12 33 02.6 -0.4**
comp=Z,92nm,1.9s,mb5.8
JCT Junction City 90.28 31 *e*P **P** **12 33 03.3 -1.6**
JCT pmax pmax
comp=Z,73nm,1.4s,mb5.8
JCT Junction City 90.28 31 *e*P **P** **12 33 03.3 -1.5**
comp=Z,73nm,1.4s,mb5.8
NEN Nelson 91.71 17 *e*P **P** **12 33 12.6 +1.3**
DAC Darwin (Calif) 91.89 15 *e*P **P** **12 33 19.6 +7.5**
DAC pmax pmax
comp=Z,39nm,1.6s,mb5.5
DAC Darwin (Calif) 91.89 15 P **P** **12 33 14.5 +2.4**
comp=Z,39nm,1.6s,mb5.5
WUAZ Wupatki 92.22 20 P **P** **12 33 13.9 +0.3**
comp=Z,11nm,0.9s,mb5.2
ANMO Albuquerque 92.74 24 *e*P **P** **12 33 16.6 +0.5**
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO MLR MLR
comp=Z,8µm,20.0s
ANMO Albuquerque 92.74 24 *e*P **P** **12 33 16.6 +0.5**
comp=Z,8.8nm,1.0s,mb5.1
ANMO LR LR
comp=Z,8µm,20.0s,MS6.2
TPNV Topopah Spring 92.75 16 *e*P **P** **12 33 21.6 +5.6**
comp=Z,55nm,1.8s,mb5.7
TPNV LR LR
comp=Z,22µm,22.0s,MS6.6
NVAR Mina Array Bea 93.90 14 P **P** **12 33 24.7 +3.4**
comp=Z,0.8nm,0.9s,baz=231,slow=7.5,SNR=4.4
NVAR PP PP 12 37 08.8 -1.2
comp=Z,0.3nm,0.8s,baz=146,slow=3.3,SNR=2.6
NVAR Mina Array Bea 93.90 14 P **P** **12 33 24.7 +3.4**
NVAR PP PP 12 37 08.8 -1.2
ARUT Antelope Range 94.04 18 *e*P **P** **12 33 20.4 -1.6**
WMOK Wichita Mounta 94.56 30 *e*P **P** **12 33 28.7 +4.2**
WMOK pmax pmax
comp=Z,9.0nm,1.3s,mb5.0
WMOK Wichita Mounta 94.56 30 *e*P **P** **12 33 28.7 +4.3**
comp=Z,8.5nm,1.4s,mb5.0
MSU Marysvale 94.97 19 *e*P **P** **12 33 26.4 +0.2**
SDCO Great Sand Dun 95.64 24 *e*P **P** **12 33 36.3 +7.0**
comp=Z,18nm,1.7s,mb5.2
MOD Modoc 97.06 12 *e*P **P** **12 33 33.1 -2.6**
OXF Oxford 97.37 37 PFAKE 12 33 50.0 +13
OXF LR LR
comp=Z,2µm,22.0s,MS5.5
HUMO Hull Mountain 97.47 10 PFAKE 12 33 50.0 +13
HUMO LR LR
comp=Z,12µm,22.0s,MS6.3
WVT Waverly 99.38 38 PFAKE 12 34 00.0 +14
WVT LR LR
comp=Z,2µm,19.0s,MS5.6
PDAR Pinedale Array 99.58 19 P **P** **12 33 49.6 +2.6**
comp=Z,0.5nm,0.7s,baz=162,slow=4.7,SNR=3.6
PDAR PKKP PKKP 12 50 19.2 +11
comp=Z,0.6nm,0.9s,baz=315,slow=2.1,SNR=3.7
PDAR LR LR 13 10 14.6
comp=Z,13µm,20.4s,MS6.4,baz=212,slow=30
COCO West Island 99.98 232 PFAKE 12 34 00.0 +10
COCO LR LR
comp=Z,2µm,20.0s,MS5.6
NCB Newcomb 111.33 43 PFAKE 12 38 50.0 +11
NCB LR LR
comp=Z,4µm,20.0s,MS5.9
DGAR Diego Garcia 113.78 211 *i* PKIKP PKPdf 12 38 43.7 -1.2
DGAR Diego Garcia 113.78 211 *i* PKP PKPdf 12 38 43.8 -1.1
SMY Shemya 114.70 329 PFAKE 12 38 50.0 +4.4
SMY LR LR
comp=Z,19µm,20.0s,MS6.7
FX1 Attu Island--F 115.12 329 *e*PKiKP 12 38 39.4
PMR Palmer 116.32 353 PFAKE 12 39 00.0 +11
PMR LR LR
comp=Z,18µm,19.0s,MS6.7
TATO Taipei 117.15 275 *e*PKPdf PKPdf 12 38 46.9 -4.2
YKA Yellowknife Ar 117.95 11 PKP PKPdf 12 38 52.7 +0.9
comp=Z,1.4nm,0.9s,baz=191,slow=2.3,SNR=6.9
YKA PP PP 12 40 12.3 +4.4
comp=Z,0.5nm,0.9s,baz=190,slow=6.9,SNR=2.9
YKA PKKPbc 12 49 12.1
comp=Z,0.5nm,0.9s,baz=358,slow=3.9,SNR=5.5
YKA Yellowknife Ar 117.95 11 PKP PKPdf 12 38 52.7 +0.9
YKA PP PP 12 40 12.3 +4.4
YKA PKKPbc 12 49 12.2
MCK McKinley 118.43 353 *e*PKIKP PKPdf 12 38 50.8 -1.9
QIZ Qiongzhong 119.29 262 *e*PKP PKPdf 12 38 50.8 -4.6
QIZ PP PP 12 40 19.6 +1.6
QIZ LR LR
comp=N,3µm,21.6s,MS6.0
QIZ LR LR
comp=E,2µm,25.0s,MS6.0
QIZ LR LR
comp=Z,6µm,24.1s,MS6.2
QIZ Qiongzhong 119.29 262 PFAKE 12 39 00.0 +4.6
QIZ LR LR
comp=Z,4µm,20.0s,MS6.0
ILAR Eielson Array 119.34 355 PKP PKPdf 12 38 51.4 -3.0
comp=Z,1.1nm,0.7s,baz=207,slow=2.1,SNR=18
COLA College 119.50 354 *e*PKIKP PKPdf 12 38 51.7 -3.0
COLA MLR MLR
comp=Z,14µm,19.0s,MS6.6
MSEY Mahe Island 120.17 193 PFAKE 12 39 10.0 +13
MSEY LR LR
comp=Z,1µm,22.0s,MS5.5
IMA2 Indian Mountai 121.10 352 *e*PKPdf PKPdf 12 38 58.2 +0.3
SSE Sheshan 121.94 280 PKP PKPdf 12 39 00.6 +0.3
SSE PP PP 12 40 39.1 +3.5
SSE SKKS 12 47 32.1
SSE SS SS 12 57 15.1 +4.8
SSE PP PP
comp=Z,110nm,12.0s
SSE LR LR
comp=N,3µm,20.0s,MS6.2
SSE LR LR
comp=E,4µm,20.0s,MS6.2
SSE LR LR
comp=Z,6µm,20.0s,MS6.2
YSS Yuzh-Sakhalins 122.15 307 *i* PKIKP PKPdf 12 38 55.0 -5.3
YSS *e*SS SS 12 57 18.0 +5.3
YSS Yuzh-Sakhalins 122.15 307 *e*PKP PKPdf 12 38 57.2 -3.1
SCHQ Schefferville 122.92 40 PKP PKPdf 12 39 01.4 -0.1
comp=Z,3.0nm,0.8s,baz=190,slow=6.1,SNR=2.8
NJ2 Nanjing 123.99 279 *e*PKP PKPdf 12 38 59.3 -5.0
NJ2 PP PP 12 40 46.0 -3.9
NJ2 PKS PKS 12 42 35.0 -1.8
NJ2 PP PP
comp=Z,1µm,7.3s
NJ2 LR LR
comp=N,7µm,32.4s
NJ2 LR LR
comp=E,6µm,26.0s
NJ2 LR LR
comp=Z,5µm,31.0s,MS6.0
VLA Vladivostok 124.75 297 *i* PKIKP PKPdf 12 39 05.9 +0.6
MDJ Mudanjiang 126.98 297 PKP PKPdf 12 39 07.6 -1.9
MDJ PP PP 12 41 04.8 -3.6
MDJ SS SS 12 58 14.1 +0.7
MDJ LR LR
comp=N,7µm,47.0s,MS6.1
MDJ LR LR
comp=E,7µm,50.5s,MS6.1
MDJ LR LR
comp=Z,6µm,34.8s
MDJ Mudanjiang 126.98 297 PFAKE 12 39 20.0 +11
MDJ LR LR
comp=Z,5µm,22.0s,MS6.2
TORD Torodi Ar. Bea 127.06 125 PKP PKPdf 12 39 08.0 -2.4
comp=Z,2.4nm,0.7s,baz=245,slow=0.5,SNR=13
DL2 Dalian 127.33 287 *e*PKP PKPdf 12 39 05.1 -5.3
DL2 *e*PP PP 12 41 10.5 -0.5
DL2 SS SS 12 58 24.4 +6.7
DL2 PP PP
comp=Z,360nm,8.8s
DL2 LR LR
comp=N,1µm,20.5s,MS5.7
DL2 LR LR
comp=E,1µm,22.6s,MS5.7
DL2 LR LR
comp=Z,2µm,22.8s,MS5.8
ENH Enshi 128.11 270 *e*PKPdf PKPdf 12 39 08.0 -4.2
ENH LR LR
comp=Z,4µm,21.0s,MS6.1
KMI Kunming 128.13 260 PKP PKPdf 12 39 12.8 +0.4
KMI XPKP 12 39 16.3
KMI PP PP 12 41 20.4 +3.4
KMI PKS PKS 12 42 48.0 +3.3
KMI SKS SKS 12 46 20.0 +0.4
KMI SKKS 12 48 10.4
KMI SS SS 12 58 30.8 +2.9
KMI PP PP
comp=Z,420nm,8.1s
KMI LR LR
comp=N,4µm,19.6s,MS6.2
KMI LR LR
comp=E,4µm,22.2s,MS6.2
KMI LR LR
comp=Z,9µm,33.1s
CN2 Changchun 128.61 294 *e*PKP PKPdf 12 39 13.8 +1.0
CN2 PP PP 12 41 24.6 +4.8
CN2 SS SS 12 58 40.4 +6.9
CN2 LR LR
comp=N,3µm,19.0s,MS6.0
CN2 LR LR
comp=E,2µm,19.0s,MS6.0
CN2 LR LR
comp=Z,3µm,21.0s,MS5.9
KLR Kul'dur 129.01 303 *e*PKIKP PKPdf 12 39 15.2 +1.8
KLR *e* 12 51 28.0
KLR *e* 13 03 21.5
BILL Bilibino 129.56 336 *e*PKIKP PKPdf 12 39 12.3 -1.6
BILL *e* 12 41 24.0
BILL *e*PS PS 12 51 29.0 -1.4
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 129.56 336 *e*PKPdf PKPdf 12 39 12.2 -1.7
ADH Angra Heroismo 130.70 78 *e*SS SS 12 59 35.0 +36
ADH Angra Heroismo 130.70 78 *i* LR LR 13 22 52.5
PDA Ponta Delgada 130.98 80 *e*LR LR 13 22 34.0
RES Resolute Bay 131.87 14 *e*PKIKP PKPdf 12 39 18.1 -0.1
CD2 Chengdu 131.91 266 PKP PKPdf 12 39 15.9 -3.5
CD2 PKS PKS 12 42 51.9 +0.4
CD2 SKKS 12 48 34.3
CD2 SS SS 12 59 16.3 +1.5
CD2 PP PP
comp=Z,290nm,7.0s
CD2 LR LR
comp=N,2µm,20.4s
CD2 LR LR
comp=Z,2µm,33.0s
HHC Hu-ho-hao-te 134.32 282 *e*PKP PKPdf 12 39 23.4 -0.2
HHC PKS PKS 12 42 58.3 +2.6
HHC SKS SKS 12 46 28.6 -5.3
HHC PP PP
comp=Z,790nm,6.7s
HHC LR LR
comp=N,1µm,22.6s,MS5.9
HHC LR LR
comp=E,2µm,21.4s,MS5.9
HHC LR LR
comp=Z,5µm,27.4s
HYB Hyderabad 134.40 229 *i* PKP PKPdf 12 39 28.0 +3.7
HYB *e*PP PP 12 41 52.0 -5.6
HYB *e*SKS SKS 12 46 28.0 -6.6
HYB Hyderabad 134.40 229 *e*PKP PKPdf 12 39 28.0 +3.7
HIA Hailar 135.13 296 PFAKE 12 39 30.0 +5.1
HIA LR LR
comp=Z,3µm,21.0s,MS6.0
LZH Lanzhou 135.56 271 *e*PKP PKPdf 12 39 27.5 +1.4
LZH XPKP 12 39 31.3
LZH PP PP 12 42 08.6 +4.4
LZH PKS PKS 12 43 02.5 +4.4
LZH SKKS 12 48 58.8
LZH SS SS 13 00 03.3 +4.8
LZH PP PP
comp=Z,960nm,8.3s
LZH LR LR
comp=N,3µm,18.3s
LZH LR LR
comp=Z,4µm,20.1s,MS6.2
SFJD Kangerlussuaq 136.83 35 *i* P 12 39 15.3
SFJD *i* 12 42 55.3
SFJD Kangerlussuaq 136.83 35 *i* PKHKP 12 39 15.3
SFJD *i* 13 00 20.6
SFJD MLR MLR
comp=Z,7µm,19.0s,MS6.4
YAK Yakutsk 137.57 316 *e*PKP PKPdf 12 39 30.2 +1.2
YAK LR LR
comp=Z,5µm,20.0s,MS6.2
LSA Lhasa 138.20 253 *e*PKPdf PKPdf 12 39 31.6 +0.5
LSA LR LR
comp=Z,8µm,21.0s,MS6.4
JIRN Jiri 139.31 246 *e*P PKPdf 12 39 33.8 +0.7
comp=Z,23nm,0.9s
PKI Pulchoki 139.65 245 *e*P PKPdf 12 39 31.1 -2.6
GUN Gumba 139.67 246 *e*P PKPdf 12 39 35.5 +1.7
comp=Z,101nm,1.6s
DMN Daman 139.84 245 *e*P PKPdf 12 39 32.1 -2.0
comp=Z,31nm,0.9s
GTA Gaotai 140.16 271 PKP PKPdf 12 39 32.6 -1.7
GTA PP PP 12 42 30.9 -1.8
GTA PKS PKS 12 43 06.8 +0.8
GTA SKS SKS 12 46 40.9 -2.8
GTA SKKS 12 49 23.3
GTA SS SS 13 00 55.1 +2.7
GTA PP PP
comp=Z,570nm,10.3s
GTA LR LR
comp=N,2µm,19.9s,MS6.1
GTA LR LR
comp=E,3µm,18.7s,MS6.1
GTA LR LR
comp=Z,5µm,21.4s,MS6.2
GKN Gorkha 140.40 245 *e*P PKPdf 12 39 36.5 +1.4
comp=Z,13nm,0.6s
KOLN Koldanda 140.75 243 *e*P PKPdf 12 39 32.9 -2.8
comp=Z,194nm,2.0s
ULN Ulaanbaatar 141.18 287 *e*PKIKP PKPdf 12 39 29.8 -6.0
SONM Songino Array 141.53 286 PKhKP 12 39 28.4
comp=Z,1.1nm,0.8s,baz=153,slow=3.2,SNR=4.1
SONM PKP PKPdf 12 39 33.6 -2.8
comp=Z,3.4nm,1.1s,baz=148,slow=3.1,SNR=7.9
SONM PP PP 12 42 42.2 +1.6
comp=Z,2.3nm,1.2s,baz=135,slow=4.1,SNR=3.7
EVO Evora 141.73 93 *e*PKIKP PKPdf 12 39 33.9 -3.1
comp=Z,185nm,1.9s
EVO *e*R
comp=Z,4µm,21.8s
TIXI Tiksi 142.01 329 *i* PKHKP 12 39 30.8
TIXI *i* 12 39 36.5
TIXI *e* 12 42 40.3
TIXI *e*SS SS 13 01 17.2 +3.7
TIXI *e*SSS SSS 13 06 30.8 -2.0
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI pmax pmax
comp=Z,16nm,0.9s
TIXI Tiksi 142.01 329 *i* P PKPdf 12 39 37.5 +1.0
TIXI LR LR
comp=Z,6µm,20.0s,MS6.3
PTOM Tomar 142.22 91 *e*PKP PKPdf 12 39 43.8 +6.0
BOD Bodaibo 142.54 304 *e*PKHKP 12 39 28.7
BOD pmax pmax
comp=Z,16nm,2.2s
PCBR Castelo Branco 142.91 92 *e*PKP PKPdf 12 39 43.3 +4.3
SUMG Summit 142.98 30 PKPdf PKPdf 12 39 37.1 -1.0
MTE Manteigas 143.24 91 *e*PKP PKPdf 12 39 44.6 +5.1
MTE Manteigas 143.24 91 *e*SS SS 13 01 36.5 +8.3
MTE Manteigas 143.24 91 *e*LQ 13 19 59.8
MTE *e*LR LR 13 28 33.6
comp=Z,4µm,22.2s
EADA Adamuz 143.48 96 P PKPbc 12 39 34.1 -1.4
PVRL Vila Real 143.70 90 *e*PKP PKPdf 12 39 41.4 +1.1
PCAB Cabril 143.79 89 *e*PKP PKPdf 12 39 43.4 +3.0
EMAZ Mazaricos 144.01 87 P PKPbc 12 39 38.8 +1.8
EQES Quesada 144.10 98 P PKPbc 12 39 38.3 +1.0
ZAK Zakamensk 144.62 288 ⇓ *i*PKIKP PKPdf 12 39 38.5 -3.1
ZAK *e* 12 43 07.4
ZAK pmax pmax
comp=Z,133nm,1.9s
ZAK pmax pmax
comp=Z,17nm,2.1s
ECAL Calabor 144.69 90 P PKPbc 12 39 42.0 +3.1
ERUA La Rua 144.73 89 P PKPbc 12 39 41.8 +2.8
ESDC Sonseca Array 144.84 95 PKP PKPdf 12 39 40.5 -1.9
comp=Z,6.1nm,0.8s,baz=259,slow=3.2,SNR=14
ESDC Sonseca Array 144.84 95 P PKPbc 12 39 41.3 +1.9
ESLA Sonseca Array 144.84 95 *e*PKPdf PKPdf 12 39 37.2 -5.2
ETRT Tiaret 144.89 105 P PKPbc 12 39 45.0 +5.4
IRK Irkutsk 144.99 292 *e*PKIKP PKPdf 12 39 39.6 -2.6
IRK pmax pmax
comp=Z,241nm,3.2s
EANR 'Ain N'Sour 145.18 105 P PKPbc 12 39 46.0 +5.6
EMUR La Murta 145.18 100 P PKPbc 12 39 42.1 +1.8
EPON Pontenova 145.30 87 P PKPbc 12 39 45.6 +5.1
GUD Guadarrama 145.37 94 P PKPbc 12 39 41.7 +1.0
ECHA Ech Chlef 145.47 105 P PKPbc 12 39 50.0 +8.9
ETOB Tobarra 145.55 99 P PKPbc 12 39 43.2 +1.9
EBNR Beni Rached 145.66 105 P PKPbc 12 39 54.0 +12
EBEN Beniarda 146.35 100 P PKPbc 12 39 50.5 +7.3
EMHD Djebel Mahouad 146.40 106 P PKPbc 12 39 47.0 +3.7
EARI Arriondas 146.41 89 P PKPbc 12 39 47.4 +4.3
MOY Mondy 146.51 289 *e*PKP2 PKPab 12 39 45.0 -1.3
MOY pmax pmax
comp=Z,205nm,2.9s
ECHE Chera 146.52 98 P PKPbc 12 39 47.5 +4.0
BORG Borgarnes 147.00 46 PFAKE 12 39 50.0 +4.8
BORG LR LR
comp=Z,2µm,19.0s,MS6.0
EMOS Mosqueruela 147.32 97 P PKPdf 12 39 51.4 +4.9
ELAN Lanestosa 147.40 90 P PKPdf 12 39 54.0 +7.5
EIBI Ibiza 147.47 101 P PKPdf 12 39 51.3 +4.5
ECRI Cripan 147.56 92 P PKPdf 12 39 52.5 +5.7
CMER Merouana 147.60 110 P PKPdf 12 39 55.0 +7.9
SCO Scoresbysund 147.73 35 *i* P PKPdf 12 39 45.9 -0.4
comp=Z,1.7nm,0.8s
SET Setif 147.76 109 P PKPdf 12 39 55.5 +8.1
ERTA Horta de San J 148.17 97 P PKPdf 12 39 53.3 +5.4
EBR Ebro Roquetas 148.17 97 *e*Ts 12 40 00.0
ESAC San Caprasio 148.19 95 P PKPdf 12 39 54.3 +6.4
DFRA Djebel Bou Aff 148.27 109 P tx 12 40 01.0
CASM Ain Smara 148.40 110 P tx 12 40 05.0
EALK Alkurruntz 148.52 92 P PKPdf 12 39 57.2 +8.9
DAG Danmarks Havn 148.53 23 ⇑ *i*P PKPdf 12 39 48.0 +0.6
comp=Z,2.0nm,0.6s
comp=Z,9µm,23.0s
DAG Danmarks Havn 148.53 23 ⇑ *e*PKIKP PKPdf 12 39 48.0 +0.6
DAG pmax pmax
comp=Z,2.0nm,0.6s
DAG MLR MLR
comp=Z,9µm,23.0s,MS6.5
DAG MLR MLR
comp=N,2µm,20.0s,MS6.5
DAG MLR MLR
comp=E,8µm,22.0s,MS6.5
SJPF Ste Jean 148.62 93 *e*PKIKP PKPdf 12 39 43.6 -4.9
comp=E,410nm,1.6s
CKFL Kef-Lekhel 148.63 110 P tx 12 40 04.0
LARF Larrau 148.71 93 PKP PKPdf 12 39 52.2 +3.5
ETOS Mallorca 148.81 101 P PKPdf 12 39 56.3 +7.4
EPOB Poblet 148.85 97 P PKPdf 12 39 55.9 +7.0
ETSF Etsaut 148.87 93 *e*PKIKP PKPdf 12 39 44.8 -4.1
ATE Arette 148.91 93 PKP PKPdf 12 39 51.6 +2.6
EGRA Graus 148.94 95 P PKPdf 12 39 57.1 +8.1
CAEH 'Ain El Ouahch 148.98 110 P tx 12 40 03.0
REYF Montagne du Re 149.07 93 PKP PKPdf 12 39 49.2 0.0
EBIE Bielsa 149.15 94 P PKPdf 12 39 59.2 +10
VIEF Viey 149.20 94 PKP PKPdf 12 39 52.9 +3.4
LABF Labassere 149.33 94 PKP PKPdf 12 39 51.9 +2.2
RESF Ens 149.34 94 PKP PKPdf 12 39 51.2 +1.5
AFFS 'Afif 149.35 178 P PKPdf 12 39 53.4 +3.1
YNBS Yanbu' al Bahr 149.44 169 P PKPdf 12 39 54.2 +3.8
MZLS Mizel 149.45 182 P PKPdf 12 39 54.5 +4.1
EMIR Miracle 149.47 97 P PKPdf 12 39 58.4 +8.5
EPF Esparros 149.47 94 *e*PKIKP PKPdf 12 39 45.8 -4.1
RYDS Riyadh 149.56 185 P PKPdf 12 39 56.1 +5.5
MELF Melles 149.62 95 PKP PKPdf 12 39 53.8 +3.7
SALF Salau 149.80 95 PKP PKPdf 12 39 56.2 +5.8
MLS Moulis 149.87 95 PKP PKPdf 12 39 54.7 +4.2
WMQ Urumqi 149.99 267 PKP PKPdf 12 39 52.3 +1.6
WMQ PP PP 12 43 34.8 +4.4
WMQ SKS SKS 12 46 54.9 -2.9
WMQ SKKS 12 50 18.4
WMQ SS SS 13 02 44.3 +0.2
WMQ PP PP
comp=Z,1µm,7.4s
WMQ LR LR
comp=N,4µm,22.4s,MS6.2
WMQ LR LR
comp=E,2µm,22.4s,MS6.2
WMQ LR LR
comp=Z,3µm,22.0s,MS6.0
QUIF Quistinic 150.19 83 *e*PKIKP PKPdf 12 39 46.5 -4.4
comp=Z,330nm,1.8s
HASS Wahat al Ahsa' 150.32 190 P PKPdf 12 39 52.4 +0.6
DCN Croghan 150.33 71 *e*P PKPdf 12 39 57.0 +6.1
ROSF Rostrenen 150.34 82 *e*PKIKP PKPdf 12 39 46.9 -4.2
comp=Z,139nm,1.4s
FILF Fillols 150.47 97 PKP PKPdf 12 39 54.2 +2.7
EJON La Jonquera 150.59 97 P PKPdf 12 40 01.6 +10
SGMF Saint Gilles 150.71 83 *e*PKIKP PKPdf 12 39 47.0 -4.6
comp=Z,98nm,1.1s
DLF Lyons Farm 150.72 71 *e*P PKPdf 12 39 56.0 +4.5

MTLF	**Montolieu**	**150.75**	**95**	*e*PKIKP	PKPdf	12 39 47.8	-4.1		
	comp=Z,75nm,1.0s								
DSB	**Dublin**	**150.79**	**72**	*e*PKPbc	PKPdf	12 39 55.6	+4.0		
LFF	**La Frestale**	**150.84**	**91**	*e*PKIKP	PKPdf	12 39 47.0	-4.9		
	comp=Z,277nm,1.5s								
LCHF	**La Chataignera**	**150.94**	**87**	PKP	PKPdf	12 39 57.0	+5.0		
MFF	**Saint Martin d**	**151.25**	**88**	*e*PKIKP	PKPdf	12 39 47.9	-4.6		
CAF	**Calviac**	**151.60**	**92**	*e*PKIKP	PKPdf	12 39 47.5	-5.6		
	comp=Z,151nm,1.5s								
GRR	**Gorron**	**151.76**	**84**	*e*PKIKP	PKPdf	12 39 49.6	-3.6		
	comp=Z,130nm,1.3s								
LASF	**Ste Croix**	**152.15**	**95**	*e*PKIKP	PKPdf	12 39 48.7	-5.2		
FLN	**La Foliniere**	**152.16**	**84**	*e*PKIKP	PKPdf	12 39 49.5	-4.3		
FLN				*e*R					
	comp=Z,6μm,21.0s								
JMIC	**Jan Mayen**	**152.17**	**34**	*e*SS	SS	13 03 22.2	+15		
JMIC				AMS	AMS	13 45 52.9			
	comp=Z,6μm,16.9s,MS6.5								
LDF	**La Druitiere**	**152.29**	**84**	*e*PKIKP	PKPdf	12 39 49.7	-4.3		
TCF	**Toulx Ste Croi**	**152.45**	**90**	*e*PKIKP	PKPdf	12 39 48.9	-5.4		
	comp=Z,41nm,1.2s								
LBL	**Lubilhac**	**152.46**	**93**	PKP	PKPdf	12 39 59.2	+4.9		
BERF	**Bertagne**	**152.74**	**99**	PKP	PKPdf	12 40 00.9	+6.1		
PUYF	**Puyloubier**	**152.88**	**98**	PKP	PKPdf	12 40 01.1	+6.2		
BGF	**Bois d'Agland**	**152.97**	**90**	*e*PKIKP	PKPdf	12 39 50.4	-4.6		
VIVF	**Saint-Julien-l**	**153.08**	**95**	*e*PKIKP	PKPdf	12 39 50.3	-4.9		
SMRF	**Simiane la Rot**	**153.08**	**97**	*e*PKIKP	PKPdf	12 39 51.2	-4.0		
	comp=Z,46nm,1.3s								
TAVF	**Tavernes**	**153.14**	**98**	PKP	PKPdf	12 40 01.8	+6.5		
LMR	**La Mourre**	**153.22**	**99**	*e*PKIKP	PKPdf	12 39 51.1	-4.3		
	comp=Z,55nm,1.3s								
KBS	**Kingsbay**	**153.29**	**13**	*e*	PKPdf	12 39 51.2	-3.4		
KBS				*e*SS	SS	13 03 24.7	+5.2		
KBS				AMS	AMS	13 47 10.5			
	comp=Z,6μm,18.6s,MS6.4								
EKA	**Eskdalemuir Ar**	**153.29**	**69**	PKPbc	PKPdf	12 40 03.4	+8.3		
	comp=Z,4.4nm,0.9s,baz=256,slow=3.4,SNR=5.2								
EKA				PKPab	PKPab	12 40 12.3	-1.7		
	comp=Z,12nm,0.9s,baz=252,slow=2.6,SNR=12								
AVF	**Avril sur Loir**	**153.38**	**90**	*e*PKIKP	PKPdf	12 39 50.7	-4.8		
FRF	**La Foret Royal**	**153.44**	**99**	*e*PKIKP	PKPdf	12 39 51.2	-4.5		
	comp=Z,80nm,1.3s								
SMF	**Signal de Mont**	**153.59**	**91**	*e*PKIKP	PKPdf	12 39 51.4	-4.4		
SSF	**Saint Saulge**	**153.62**	**90**	*e*PKIKP	PKPdf	12 39 51.1	-4.7		
	comp=Z,41nm,1.3s								
ORIF	**Oris-en-Rattie**	**153.81**	**96**	*e*PKIKP	PKPdf	12 39 51.9	-4.3		
ORIF				*e*R					
	comp=Z,7μm,22.2s								
LOR	**Lormes**	**153.93**	**90**	*e*PKIKP	PKPdf	12 39 51.9	-4.4		
	comp=Z,69nm,1.4s								
LOR				*e*R					
	comp=Z,7μm,22.5s								
MVIF	**Mont Vial**	**153.94**	**99**	PKP	PKPdf	12 40 01.0	+4.6		
TOUF	**Mont Tournerai**	**154.06**	**99**	PKP	PKPdf	12 40 00.8	+4.2		
SBF	**Sospel**	**154.08**	**99**	*e*PKIKP	PKPdf	12 39 52.1	-4.5		
PGF	**Pioggiola**	**154.15**	**103**	*e*PKIKP	PKPdf	12 39 52.4	-4.3		
	comp=Z,63nm,1.1s								
MBDF	**Montbardon**	**154.22**	**97**	*e*PKIKP	PKPdf	12 39 52.5	-4.2		
SAOF	**Saorge**	**154.22**	**99**	PKP	PKPdf	12 40 02.1	+5.3		
BNI	**Bardonecchia**	**154.35**	**96**	*e*PKIKP	PKPdf	12 40 02.8	+5.9		
LPG	**La Plagne**	**154.65**	**96**	*e*PKIKP	PKPdf	12 39 53.9	-3.4		
LPL	**La Plagne**	**154.65**	**96**	*e*PKIKP	PKPdf	12 39 53.8	-3.5		
MKAR	**Makanchi Array**	**154.81**	**268**	PKP	PKPdf	12 39 55.8	-1.7		
	comp=Z,1.0nm,0.9s,baz=90,slow=1.2,SNR=5.0								
MKAR				PKPab	PKPab	12 40 20.3	-0.4		
	comp=Z,7.1nm,0.8s,baz=135,slow=1.7,SNR=11								
MKAR				PP	PP	12 43 55.0	-2.4		
	comp=Z,3.4nm,0.9s,baz=143,slow=6.1,SNR=5.6								
CABF	**La Chapelle**	**154.88**	**93**	*e*PKIKP	PKPdf	12 39 53.7	-3.8		
MEZF	**Maizieres J'vi**	**155.25**	**88**	*e*PKIKP	PKPdf	12 39 53.6	-4.4		
BAIF	**Baives**	**155.48**	**84**	*e*PKIKP	PKPdf	12 39 54.0	-4.2		
LOMF	**Lomont**	**155.70**	**92**	PKP	PKPdf	12 40 01.6	+3.0		
HAU	**Haudompre**	**155.75**	**90**	*e*PKIKP	PKPdf	12 39 54.2	-4.4		
HAU				*e*R					
	comp=Z,5μm,21.5s								
AAA	**Alma-Ata**	**155.83**	**256**	*i* PKP2	PKPab	12 40 20.1	-5.0		
AAA				pmax	pmax				
	comp=Z,800nm,5.5s								
GIVF	**Givet**	**155.85**	**84**	*e*PKIKP	PKPdf	12 39 54.3	-4.4		
HINF	**Hinteralfeld**	**155.95**	**91**	*e*PKIKP	PKPdf	12 39 54.6	-4.3		
MOF	**Molkenrain**	**156.13**	**91**	PKP	PKPdf	12 39 59.9	+0.8		
ECH	**Echery**	**156.33**	**90**	PKP	PKPdf	12 39 59.9	+0.5		
ZAL	**Zalesovo**	**156.42**	**285**	PKP	PKPdf	12 40 02.9	+3.5		
	comp=Z,0.6nm,0.5s,baz=336,slow=8.1,SNR=5.4								
ZAL				PKPab	PKPab	12 40 26.1	-1.3		
	comp=Z,2.3nm,0.8s,baz=1.6,slow=4.5,SNR=7.7								
CDF	**Champ du Feu**	**156.50**	**90**	*e*PKIKP	PKPdf	12 39 55.4	-4.2		
	comp=Z,87nm,1.7s								
WLS	**Welschbruch**	**156.54**	**90**	PKP	PKPdf	12 40 02.7	+3.0		
IDI	**Anoyia**	**156.54**	**138**	PKP	PKPdf	12 40 03.8	+3.7		
	comp=Z,8.6nm,0.9s,baz=169,slow=4.8,SNR=6.9								
IDI				PKPab	PKPab	12 40 30.9	+2.4		
	comp=Z,9.9nm,0.7s,baz=240,slow=11,SNR=7.1								
AAK	**Ala-Archa**	**156.78**	**252**	*e*PKIKP	PKPdf	12 39 47.9	-12		
FRU	**Bishkek**	**156.84**	**252**	*e*PKP2	PKPab	12 40 21.0	-8.5		
FRU				pmax	pmax				
	comp=Z,120nm,2.0s								
RUP	**Ruppelstein**	**156.97**	**87**	PKP	PKPdf	12 40 01.4	+1.2		
DAVOX	**Davos**	**157.17**	**96**	PKP	PKPdf	12 40 00.1	-0.5		
	comp=Z,4.2nm,0.8s,baz=239,slow=1.0,SNR=6.6								
ABH	**Alteburg**	**157.34**	**87**	PKP	PKPdf	12 40 02.2	+1.5		
DAVA	**Damuels**	**157.44**	**95**	⇑*i*P	PKPdf	12 40 00.6	-0.4		
	comp=Z,40nm,1.6s								
NVS	**Novosibirsk**	**157.56**	**287**	*e*PKIKP	PKPdf	12 39 56.7	-4.2		
NVS				pmax	pmax				
	comp=Z,100nm,2.5s								
NVS				pmax	pmax				
	comp=N,8.0nm,1.0s								
NVS				pmax	pmax				
	comp=E,28nm,1.5s								
SANT	**Santorini**	**157.71**	**137**	*e*PKPdf	PKPdf	12 40 02.5	+0.8		
BJO	**Bjornoya**	**157.72**	**17**	*e*SS	SS	13 04 12.8	+5.6		
BJO				AMS	AMS	13 45 44.9			
	comp=Z,8μm,17.6s,MS6.6								
STU	**Stuttgart**	**157.78**	**91**	*e*PKIKP	PKPdf	12 40 00.2	-1.1		
MOTA	**Moosalm**	**158.18**	**96**	⇓*i*P	PKPdf	12 40 01.4	-0.5		
	comp=Z,24nm,1.0s								
MOTA	**Moosalm**	**158.18**	**96**	⇓P	PKPdf	12 40 01.4	-0.5		
WTTA	**Wattenberg**	**158.44**	**97**	⇓*i*P	PKPdf	12 40 04.8	+2.5		
	comp=Z,28nm,1.1s								
BER	**Bergen**	**158.65**	**59**	*e*SS	SS	13 04 16.7	-1.2		
BER				AMS	AMS	13 49 06.9			
	comp=Z,6μm,20.4s,MS6.4								
BHD	**Baghdad**	**158.67**	**181**	*ex*	x	12 40 01.0			
KURK	**Kurchatov**	**158.81**	**274**	*e*PKIKP	PKPdf	12 39 58.1	-4.4		
CSS	**Prodhromos**	**158.98**	**155**	*e*PKPdf	PKPdf	12 40 02.6	-0.6		
VOY	**Vojsko**	**159.06**	**102**	*e*PKP	PKPdf	12 40 07.5	+4.5		
VOY				*e*		12 40 48.2			
KBA	**Koelnbreinsper**	**159.33**	**99**	⇓*i*P	PKPdf	12 40 08.1	+4.8		
	comp=Z,26nm,1.6s								
GRA1	**Grafenberg Arr**	**159.39**	**90**	*e*PKPdf	PKPdf	12 40 04.2	+1.0		
GRA1				*e*PKPab	PKPab	12 40 44.3	+4.1		
GRA1				*e*PP	PP	12 44 28.8	+6.6		
GRA1				*e*SKKSac		12 51 17.4			
GRA1				*e*SS	SS	13 04 35.1	+9.2		
GRA1				*e*SSS	SSS	13 10 52.4	+19		
GRA1				LR	LR				
	comp=Z,6μm,20.2s,MS6.4								
GRF	**Grafenberg Arr**	**159.39**	**90**	*e*PKIKP	PKPdf	12 40 04.2	+1.0		
OBKA	**Obir**	**159.71**	**101**	⇓*i*P	PKPdf	12 40 02.6	-1.1		
	comp=Z,34nm,1.6s								
OBKA	**Obir**	**159.71**	**101**	⇓P	PKPdf	12 40 02.6	-1.1		
MOX	**Moxa**	**160.02**	**88**	*i* P	PKPdf	12 40 09.3	+5.4		
MOX				PKP2	PKPab	12 40 50.0	+7.0		
MOX				PP	PP	12 44 30.0	+4.6		
MOX				*e*		12 54 54.0			
MOX				SS	SS	13 04 39.0	+6.7		
MOX				L		13 56 00.0			
MOX	**Moxa**	**160.02**	**88**	*e*PKIKP	PKPdf	12 40 09.3	+5.4		
MOX				MLR	MLR				
	comp=Z,4μm,21.0s								
MOX	**Moxa**	**160.02**	**88**	*e*PKP	PKPdf	12 40 09.3	+5.4		
MOX				*e*		12 40 49.9			
MOX				LR	LR				
	comp=Z,4μm,21.0s								
MOA	**Molln**	**160.27**	**98**	⇓*i*P	PKPdf	12 40 03.7	-0.5		
	comp=Z,40nm,1.6s								
NKC	**Novy Kostel**	**160.34**	**90**	*e*PKPDF	PKPdf	12 40 09.6	+5.4		
NKC				*ex*	x	12 40 57.2			
NKC				*e*PP	PP	12 44 34.6	+7.3		
NKC				*e*SS	SS	13 04 43.6	+8.2		
NKC				*ex*	x	13 11 07.5			
NKC				AMS	AMS	13 55 40.0			
	comp=Z,5μm,20.1s								

NKC	**Novy Kostel**	**160.34**	**90**	*e*PKIKP	PKPdf	12 40 09.6	+5.4		
NKC				*e*		12 44 34.6			
NKC				*e*SS	SS	13 04 43.6	+8.2		
NKC				MLR	MLR				
	comp=Z,5μm,20.1s								
GERES	**GERESS Array B**	**160.44**	**95**	PKP	PKPdf	12 40 03.7	-0.7		
	comp=Z,1.0nm,0.7s,baz=135,slow=3.8,SNR=7.8								
GERES				PP	PP	12 44 35.6	+7.7		
	comp=Z,2.2nm,1.0s,baz=225,slow=5.7,SNR=7.8								
KHC	**Kasperske Hory**	**160.50**	**94**	*e*PKPDF	PKPdf	12 40 08.3	+3.9		
KHC				*e*PKPAB	PKPab	12 40 44.5	-0.6		
KHC				*e*pPKP		12 40 54.4			
KHC				PP	PP	12 44 21.0	-7.3		
KHC				*e*PP	PP	12 44 29.6	+1.3		
KHC				*e*SS	SS	13 04 43.6	+6.5		
KHC				*ex*	x	13 11 09.4			
KHC				AMS	AMS	13 56 10.0			
	comp=Z,6μm,22.3s								
KHC	**Kasperske Hory**	**160.50**	**94**	*e*PKIKP	PKPdf	12 40 08.3	+3.9		
KHC				*e*		12 40 44.5			
KHC				*e*		12 44 29.6			
KHC				*e*SS	SS	13 04 43.6	+6.5		
KHC				MLR	MLR				
	comp=Z,6μm,22.3s								
KHC	**Kasperske Hory**	**160.50**	**94**	*e*PKP	PKPdf	12 40 08.3	+3.9		
KHC				*e*		12 40 44.5			
KHC				*e*		12 40 54.4			
KHC				*e*		12 44 21.0			
KHC				*e*PP	PP	12 44 29.6	+1.3		
ARSA	**Arzberg**	**160.67**	**101**	⇓*i*P	PKPdf	12 40 03.2	-1.5		
	comp=Z,27nm,1.3s								
KONO	**Kongsberg**	**160.79**	**61**	*e*SS	SS	13 04 39.8	+0.2		
ISP	**Isparta**	**160.85**	**146**	*e*PKIKP	PKPdf	12 40 03.1	-2.0		
CLL	**Collm**	**161.09**	**87**	⇑*i*PKIKP	PKPdf	12 40 09.1	+4.2		
	comp=Z,logA/T=1.2								
CLL				*e*		12 40 14.0			
CLL				*e*		12 40 29.0			
CLL				*i* PKP2	PKPab	12 40 53.8	+6.3		
CLL				*i*		12 41 00.1			
CLL				*e*		12 41 40.0			
CLL				*e*PP	PP	12 44 46.0	+14		
CLL				*e*		12 51 24.0			
CLL				*e*SKSP		12 55 12.0			
CLL				*e*PPS	PPS	12 58 00.0	+3.0		
CLL				*e*SS	SS	13 04 44.0	+1.0		
CLL				*e**SSS		13 05 41.0			
CLL				*e*SSS	SSS	13 10 38.0	-19		
CLL				*e*		13 14 48.0			
CLL	**Collm**	**161.09**	**87**	⇑*i*PKIKP	PKPdf	12 40 09.1	+4.2		
CLL				*e*		12 40 14.0			
CLL				pmax	pmax				
	comp=Z,24nm,1.4s								
CLL				pmax	pmax				
	comp=Z,64nm,1.7s								
CLL				MLR	MLR				
	comp=Z,5μm,17.7s								
TRO	**Tromso**	**161.14**	**27**	*e*	PKPdf	12 39 44.2	-20		
TRO				*e*SS	SS	13 04 47.6	+4.6		
TRO				AMS	AMS	13 44 10.3			
	comp=Z,5μm,24.1s								
NSS	**Namsos**	**161.18**	**45**	AMS	AMS	13 49 25.6			
	comp=Z,5μm,19.1s								
DIVS	**Divcibare**	**161.23**	**114**	*e*P	PKPdf	12 40 07.1	+1.8		
PRA	**Prague**	**161.42**	**92**	PKPAB	PKPab	12 40 56.0	+7.0		
PRA				PP	PP	12 44 36.0	+2.6		
PRU	**Pruhonice**	**161.45**	**92**	*e*PKPDF	PKPdf	12 40 09.4	+4.1		
PRU				*ex*	x	12 40 41.3			
PRU				*e*PKPAB	PKPab	12 40 53.0	+3.9		
PRU				*e*PP	PP	12 44 37.0	+3.5		
PRU				*e*SS	SS	13 04 57.1	+10		
PRU				*ex*	x	13 10 41.1			
PRU				AMS	AMS	14 03 00.0			
	comp=Z,6μm,20.2s								
PRU	**Pruhonice**	**161.45**	**92**	*e*PKIKP	PKPdf	12 40 09.4	+4.1		
PRU				*e*		12 44 37.0			
PRU				*e*SS	SS	13 04 57.1	+10		
PRU				MLR	MLR				
	comp=Z,6μm,20.2s								
BRG	**Berggiesshubel**	**161.47**	**89**	*e*PKIKP	PKPdf	12 40 06.2	+0.9		
BRG				*e*		12 58 02.0			
BRG				SS	SS	13 04 50.0	+2.8		
BRG				pmax	pmax				
	comp=Z,21nm,1.6s								
BRG				MLR	MLR				
	comp=N,5μm,18.8s								
BRG				MLR	MLR				
	comp=E,3μm,18.9s								
BRG				MLR	MLR				
	comp=Z,5μm,19.3s								
BRG	**Berggiesshubel**	**161.47**	**89**	*e*PKP	PKPdf	12 40 06.2	+0.9		
BRG				*i*		12 40 17.1			
BRG				*e*		12 40 53.0			
BRG				*e*		12 51 34.0			
BRG				*e*		12 55 01.0			
BRG				*e*		12 58 02.0			
BRG				SS	SS	13 04 50.0	+2.8		
BRG				LR	LR				
	comp=Z,5μm,19.3s								
NOA	**NORSAR Array B**	**161.52**	**56**	PKP	PKPdf	12 40 03.2	-1.9		
	comp=Z,1.6nm,0.9s,baz=297,slow=5.0,SNR=2.2								
MSL	**Mosul**	**161.67**	**178**	*ex*	x	12 39 51.5			
TREC	**Trest**	**161.69**	**95**	*e*PKPDF	PKPdf	12 40 07.1	+1.5		
TREC				*ex*	x	12 40 36.2			
TREC				*e*pPKP		12 40 56.0			
TREC				*e*PP	PP	12 44 40.3	+5.6		
TREC				*e*SS	SS	13 04 53.9	+4.3		
TREC				*ex*	x	13 10 40.9			
TREC				AMS	AMS	14 00 50.0			
	comp=Z,6μm,19.9s								
TREC	**Trest**	**161.69**	**95**	*e*PKIKP	PKPdf	12 40 07.1	+1.5		
TREC				*e*		12 44 40.3			
TREC				*e*SS	SS	13 04 53.9	+4.3		
TREC				MLR	MLR				
	comp=Z,6μm,19.9s								
PVCC	**Panska Ves**	**161.69**	**91**	*e*PKPDF	PKPdf	12 40 07.3	+1.8		
PVCC				*ex*	x	12 40 43.2			
PVCC				*e*pPKP		12 41 00.7			
PVCC				*ex*	x	12 44 44.9			
PVCC				*e*SS	SS	13 04 59.2	+10		
PVCC				*ex*	x	13 10 47.4			
PVCC				AMS	AMS	14 02 40.0			
	comp=Z,5μm,19.6s								
PVCC	**Panska Ves**	**161.69**	**91**	*e*PKIKP	PKPdf	12 40 07.3	+1.8		
PVCC				*e*SS	SS	13 04 59.2	+10		
PVCC				MLR	MLR				
	comp=Z,5μm,19.6s								
COP	**Copenhagen**	**161.98**	**74**	*i* P	PKPdf	12 40 05.0	-0.7		
COP				*e*		12 44 40.7			
COP				*e*		12 58 07.6			
COP				*e*		13 04 49.4			
	comp=Z,3μm,21.0s								
COP	**Copenhagen**	**161.98**	**74**	*e*PKIKP	PKPdf	12 40 05.0	-0.7		
COP				*e*		12 44 40.7			
COP				*e*		12 58 07.6			
COP				*e*		13 04 49.4			
COP				MLR	MLR				
	comp=Z,3μm,21.0s								
BOLS	**Boljevac**	**162.07**	**118**	⇓*i*P	PKPdf	12 40 08.4	+2.2		
UPC	**Upice**	**162.53**	**92**	*e*PKPDF	PKPdf	12 40 03.9	-2.5		
UPC				*ex*	x	12 40 31.9			
UPC				*e*PKPAB	PKPab	12 40 47.3	-6.5		
UPC				*e*PP	PP	12 44 43.1	+4.2		
UPC	**Upice**	**162.53**	**92**	*e*PKIKP	PKPdf	12 40 03.9	-2.5		
UPC				*e*		12 44 43.1			
DPC	**Dobruska-Polom**	**162.64**	**93**	*e*PKPDF	PKPdf	12 40 10.8	+4.3		
DPC				*ex*	x	12 40 43.1			
DPC				*e*pPKP		12 40 57.7			
DPC				*e*PP	PP	12 44 44.7	+5.3		
DPC				*e*SS	SS	13 05 07.7	+8.3		
DPC				*ex*	x	13 11 11.8			
DPC				AMS	AMS	13 56 30.0			
	comp=Z,5μm,20.5s								
DPC	**Dobruska-Polom**	**162.64**	**93**	*e*PKIKP	PKPdf	12 40 10.8	+4.3		
DPC				*e*		12 44 44.7			
DPC				*e*SS	SS	13 05 07.7	+8.3		
DPC				MLR	MLR				
	comp=Z,5μm,20.5s								
KSP	**Ksiaz**	**162.82**	**91**	*e*PKP	PKPdf	12 40 08.0	+1.3		
KSP				*e*		12 40 12.4			
KSP				*e*SS	SS	13 05 06.1	+4.8		
KSP	**Ksiaz**	**162.82**	**91**	*e*PKIKP	PKPdf	12 40 07.5	+0.8		
KSP				*e*		12 40 11.3			
KSP				*e*		12 44 42.0			
KSP				*e*SS	SS	13 05 04.0	+2.7		
KSP	**Ksiaz**	**162.82**	**91**	*e*PKP	PKPdf	12 40 07.5	+0.8		
KSP				*e*pPKP		12 40 11.3			
KSP				*e*PP	PP	12 44 42.0	+1.6		
KSP				*e*SKKS		12 51 47.0			
KSP				*e*SKSP		12 55 04.0			
KSP				*e*SS	SS	13 05 04.0	+2.7		
KSP				*e*SSS	SSS	13 11 12.0	-8.9		
KSP				LR	LR				
	comp=Z,11μm,22.7s								
MORC	**Moravsky Berou**	**163.10**	**96**	*e*PKIKP	PKPdf	12 40 05.4	-1.6		
VYHS	**Vyhne**	**163.22**	**101**	⇑*e*PKIKP	PKPdf	12 40 06.4	-0.7		
VYHS				*e*		12 44 49.0			
VYHS				*e*SS	SS	13 05 12.2	+6.6		
VYHS	**Vyhne**	**163.22**	**101**	*e*PKP	PKPdf	12 40 06.4	-0.7		
VYHS				*e*		12 41 00.7			
VYHS				*e*PP	PP	12 44 49.0	+6.3		
VYHS				*e*		12 45 21.3			
VYHS				*e*SKKSac		12 51 43.2			
BSD	**Bornholm Skovb**	**163.27**	**76**	*i* P		12 39 48.1			
BSD	**Bornholm Skovb**	**163.27**	**76**	*e*P		12 39 48.1			
BSD				*i*		13 06 38.0			
BSD				*i*		13 11 56.0			
OKC	**Ostrava-Krasne**	**163.47**	**96**	*e*PKPDF	PKPdf	12 40 11.9	+4.6		
OKC				*ex*	x	12 40 48.5			
OKC				*e*PKPAB	PKPab	12 41 03.0	+5.0		
OKC				*e*SS	SS	13 05 09.8	+1.5		
OKC				*ex*	x	13 11 17.3			
OKC				AMS	AMS	13 57 50.0			
	comp=Z,6μm,19.7s								
OKC	**Ostrava-Krasne**	**163.47**	**96**	*e*PKIKP	PKPdf	12 40 11.9	+4.6		
OKC				*e*SS	SS	13 05 09.8	+1.5		
OKC				MLR	MLR				
	comp=Z,6μm,19.7s								
PSZ	**Piszkesteto**	**163.52**	**104**	⇑*i*pPKP/F		12 40 08.8			
BR131	**Keskin Array S**	**163.55**	**151**	*e*PKPdf	PKPdf	12 40 06.4	-1.4		
BRTR	**Keskin Array B**	**163.55**	**151**	PKP	PKPdf	12 40 08.8	+1.0		
	comp=Z,4.4nm,0.9s,baz=207,slow=2.8,SNR=15								
KECS	**Kecovo**	**164.16**	**103**	*e*PKP	PKPdf	12 40 12.2	+4.1		
BVAR	**Borovoye Array**	**164.39**	**275**	PKP	PKPdf	12 40 06.4	-1.8		
	comp=Z,1.3nm,0.9s,baz=135,slow=2.0,SNR=3.9								
BVAR				PKPab	PKPab	12 41 01.2	-0.7		
	comp=Z,3.1nm,1.0s,baz=135,slow=4.2,SNR=5.7								
BVAR				PP	PP	12 44 49.2	0.0		
	comp=Z,0.9nm,0.7s,baz=108,slow=4.7,SNR=5.6								
CHKZ	**Chkalovo**	**164.43**	**277**	*e*PKIKP	PKPdf	12 39 59.9	-8.3		
BRVK	**Borovoye**	**164.46**	**275**	*e*PKIKP	PKPdf	12 40 01.8	-6.4		
OJC	**Ojcow**	**164.60**	**97**	*e*PKIKP	PKPdf	12 40 06.1	-2.4		
OJC				*e*PP	PP	12 45 13.0	+23		
OJC				⇑*e*SKKSa		12 52 03.7			
OJC				MLR	MLR	14 02 00.7			
	comp=Z,7μm,24.1s								
OJC	**Ojcow**	**164.60**	**97**	*i* PKIKP	PKPdf	12 40 06.1	-2.4		
CRVS	**Cervenica-Dubn**	**164.93**	**103**	*e*PKIKP	PKPdf	12 40 12.5	+3.7		
CRVS				*e*		12 44 58.3			
CRVS				*e*SS	SS	13 05 28.8	+5.4		
CRVS	**Cervenica-Dubn**	**164.93**	**103**	*e*PKP	PKPdf	12 40 12.5	+3.7		
CRVS				*e*		12 41 09.4			
CRVS				*e*PP	PP	12 44 58.3	+6.4		
CRVS				*e*SKKSac		12 51 47.9			
CRVS				*e*SS	SS	13 05 28.8	+5.4		
STHS	**Stebnicka Huta**	**165.06**	**101**	*e*	PKPdf	12 40 14.2	+5.3		
STHS				*e*PP	PP	12 45 07.1	+15		
MLR	**Muntele Rosu**	**165.26**	**121**	PKP	PKPdf	12 40 12.4	+3.1		
	comp=Z,4.1nm,0.8s,baz=185,slow=3.7,SNR=7.8								
MLR				PKPab	PKPab	12 41 10.0	+4.1		
	comp=Z,16nm,1.0s,baz=170,slow=6.9,SNR=6.2								
MLR				PP	PP	12 45 00.1	+6.3		
	comp=Z,5.8nm,1.0s,baz=300,slow=3.9,SNR=4.3								
KOLS	**Kolonicke sedl**	**165.40**	**104**	*e*	PKPdf

ATE				Sg	Sg	13 21 45.3	+0.1	
ATE	**Arette**	**0.45**	**192**	P	Pg	13 21 39.1	0.0	
ATE				S	Sg	13 21 45.5	+0.3	
REYF	**Montagne du Re**	**0.48**	**164**	Pg	Pg	13 21 39.9	+0.2	
REYF	**Montagne du Re**	**0.48**	**164**	P	Pg	13 21 40.0	+0.3	
REYF				S	Sg	13 21 46.7	+0.7	
OSSF	**Osses**	**0.57**	**242**	Pg	Pg	13 21 42.2	+0.7	
OSSF				Sg	Sg	13 21 49.9	+0.7	
OSSF	**Osses**	**0.57**	**242**	P	Pg	13 21 42.4	+0.8	
OSSF				S	Sg	13 21 50.1	+1.0	
LARF	**Larrau**	**0.58**	**212**	Pg	Pg	13 21 41.8	+0.1	
LARF				Sg	Sg	13 21 49.4	+0.1	
LARF	**Larrau**	**0.58**	**212**	P	Pg	13 21 41.7	0.0	
LARF				S	Sg	13 21 49.4	0.0	
ETSF	**Etsaut**	**0.63**	**179**	*e*Pg	Pg	13 21 42.5	-0.2	
ETSF				*e*Sg	Sg	13 21 50.5	-0.6	
	26nm,0.3s							
SJPF	**Ste Jean**	**0.63**	**229**	*e*Pg	Pg	13 21 42.9	+0.2	
SJPF				*e*Sg	Sg	13 21 50.2	-1.0	
	31nm,0.5s							
LABF	**Labassere**	**0.68**	**135**	Pg	Pg	13 21 44.8	+1.2	
LABF				Sg	Sg	13 21 54.6	+2.0	
LABF	**Labassere**	**0.68**	**135**	P	Pg	13 21 44.7	+1.0	
FDAF	**Les Forges d'A**	**0.71**	**180**	P	Pg	13 21 44.1	-0.2	
FDAF				S	Sg	13 21 53.3	-0.5	
EALK	**Alkurruntz**	**0.75**	**246**	Pg	Pg	13 21 45.5	+0.4	
	8.3nm,0.4s,SNR=19							
EALK				Lg		13 21 55.8		
	14nm,0.3s,SNR=10							
EPF	**Esparros**	**0.83**	**126**	*e*Pg	Pg	13 21 47.4	+0.6	
EPF				*e*Sg	Sg	13 21 58.8	+0.9	
	31nm,0.3s							
IUSE	**Utxeti**	**0.92**	**231**	Pg	Pg	13 21 49.2	+0.7	
	0.7nm,0.8s,SNR=7.9							
IUSE				Lg		13 22 00.8		
	20nm,1.5s,SNR=7.9							
IUSE	**Utxeti**	**0.92**	**231**	Pg	Pg	13 21 49.2	+0.7	
	0.7nm,0.8s,SNR=7.9							
IPRE	**Itoiz**	**0.92**	**219**	Pg	Pg	13 21 49.1	+0.6	
	0.9nm,0.2s,SNR=7.9							
IPRE				Lg		13 22 00.8		
	6.3nm,0.3s,SNR=4.5							
EBIE	**Bielsa**	**0.99**	**148**	Pg	Pg	13 21 49.7	-0.3	
	2.6nm,0.7s,SNR=9.4							
EBIE				Lg		13 22 03.2		
	4.0nm,0.3s,SNR=6.9							
EBIE	**Bielsa**	**0.99**	**148**	Pg	Pg	13 21 49.7	-0.3	
	2.6nm,0.7s,SNR=9.4							
IUNC	**Unciti**	**1.03**	**222**	Pg	Pg	13 21 51.0	+0.3	
	1.1nm,0.3s,SNR=7.9							
IUNC				Lg		13 22 05.5		
	88nm,1.5s,SNR=7.9							
IUNC	**Unciti**	**1.03**	**222**	Pg	Pg	13 21 51.0	+0.4	
	1.1nm,0.3s,SNR=7.9							
EARA	**Aranguren**	**1.05**	**225**	Pg	Pg	13 21 51.6	+0.4	
	1.9nm,0.7s,SNR=7.9							
EARA				Lg		13 22 06.3		
	57nm,1.4s,SNR=7.9							
MELF	**Melles**	**1.18**	**123**	S	Sb	13 22 09.3	+1.1	
EGRA	**Graus**	**1.48**	**154**	Pg	Pg	13 21 59.2	-0.6	
	1.8nm,0.7s,SNR=4.8							
EGRA				Lg		13 22 19.4		
	4.6nm,1.1s,SNR=6.5							
ECRI	**Cripan**	**1.69**	**238**	Pg	Pg	13 22 03.5	-0.4	
	1.4nm,0.6s,SNR=7.9							
ECRI				Lg		13 22 25.7		
	3.4nm,0.5s,SNR=7.9							
LFF	**La Frestale**	**1.70**	**33**	*e*Pg	Pg	13 22 05.1	+1.1	
LFF				*e*Sg	Sg	13 22 27.5	+0.8	
	16nm,0.3s							
ESAC	**San Caprasio**	**1.81**	**178**	Pg	Pg	13 22 04.9	-1.3	
	35nm,0.3s,SNR=4.8							
ESAC				Lg		13 22 28.6		
	46nm,0.3s,SNR=9.4							
ESAC	**San Caprasio**	**1.81**	**178**	Pg	Pg	13 22 04.9	-1.3	
	35nm,0.3s,SNR=4.8							
MTLF	**Montolieu**	**2.04**	**94**	*e*Pg	Pg	13 22 10.5	-0.4	
MTLF				*e*Sg	Sg	13 22 37.2	-0.9	
	4.6nm,0.4s							
MTLF	**Montolieu**	**2.04**	**94**	Pn	Pn	13 22 05.6	-0.2	
MTLF				Pg	Pg	13 22 10.5	-0.4	
MTLF				Lg		13 22 37.2		
	2.3nm,0.4s							
MTLF	**Montolieu**	**2.04**	**94**	*e*Pn	Pn	13 22 05.6	-0.2	
MTLF				*e*Pg	Pg	13 22 10.5	-0.4	
MTLF				*e*Sg	Sg	13 22 37.2	-0.9	
MTLF	**Montolieu**	**2.04**	**94**	*e*Pg	Pg	13 22 10.5	-0.4	
MTLF				*e*Sg	Sg	13 22 37.2	-0.9	
	2.3nm,0.4s							
ELAN	**Lanestosa**	**2.11**	**263**	Pg	Pg	13 22 09.6	-2.5	
	0.4nm,0.4s,SNR=7.9							
ELAN				Lg		13 22 38.8		
	4.2nm,0.8s,SNR=7.9							
ELAN	**Lanestosa**	**2.11**	**263**	Pg	Pg	13 22 09.6	-2.6	
	0.4nm,0.4s,SNR=7.9							
EMIR	**Miracle**	**2.24**	**135**	Pg	Pg	13 22 12.6	-2.1	
	1.8nm,0.6s,SNR=7.9							
EMIR				Lg		13 22 42.8		
	24nm,3.2s,SNR=7.9							
EMIR	**Miracle**	**2.24**	**135**	Pg	Pg	13 22 12.6	-2.2	
	1.8nm,0.6s,SNR=7.9							
RJF	**Les Rejaudoux**	**2.32**	**39**	*e*Pg	Pg	13 22 16.2	-0.3	
RJF				*e*Sg	Sg	13 22 47.3	-0.2	
	6.1nm,0.3s							
CAF	**Calviac**	**2.36**	**53**	*e*Pg	Pg	13 22 17.1	-0.1	
CAF				*e*Sn	Sn	13 22 39.1	-0.9	
CAF				*e*Sg	Sg	13 22 48.3	-0.3	
	4.1nm,0.2s							
CAF	**Calviac**	**2.36**	**53**	Pn	Pn	13 22 11.0	+0.7	
CAF				Pg	Pg	13 22 17.1	-0.1	
CAF				Sn	Sn	13 22 39.1	-0.9	
CAF				Lg		13 22 48.3		
	2.0nm,0.2s							
CAF	**Calviac**	**2.36**	**53**	*e*Pn	Pn	13 22 11.0	+0.7	
CAF				*e*Pg	Pg	13 22 17.1	-0.1	
CAF				*e*Sn	Sn	13 22 39.1	-0.9	
CAF				*e*Sg	Sg	13 22 48.3	-0.3	
CAF	**Calviac**	**2.36**	**53**	*e*Pg	Pg	13 22 17.1	-0.1	
CAF				*e*Sn	Sn	13 22 39.1	-0.9	
CAF				*e*Sg	Sg	13 22 48.3	-0.3	
	2.0nm,0.2s							
EPOB	**Poblet**	**2.50**	**150**	Pg	Pg	13 22 17.0	-3.0	
	2.4nm,0.5s,SNR=7.9							
EPOB				Lg		13 22 51.1		
	9.9nm,3.2s,SNR=7.9							
EPOB	**Poblet**	**2.50**	**150**	Pg	Pg	13 22 17.0	-3.0	
	2.4nm,0.5s,SNR=7.9							
ERTA	**Horta de San J**	**2.66**	**165**	Pg	Pg	13 22 20.3	-2.9	
	0.7nm,0.6s,SNR=7.9							
ERTA				Lg		13 22 56.1		
	3.7nm,0.7s,SNR=7.9							
ERTA	**Horta de San J**	**2.66**	**165**	Pg	Pg	13 22 20.3	-2.9	
	0.7nm,0.6s,SNR=7.9							
BGF	**Bois d'Agland**	**3.88**	**37**	*e*Sg	Sg	13 23 34.9	-4.4	
	9.4nm,0.4s							

*NEIC **22** 13:26:33.7±4.8, 1.95N×127.57E, h82km±48km, mb4.4/10, Error ellipse: s-maj=24.9km s-min=11.7km az=87.0*
*IDC **22** 13:26:42.6±10.0, 1.69N×127.12E, h155km±101km, mb3.9/6, mb1 4.0/6, mb1mx3.7/16, mbtmp4.3/6, Error ellipse: s-maj=67.9km s-min=18.5km az=68.0*

ISC 22 13:26:33.9±0.6, 1.96N±0.08×127.5E±0.2, h100km, n20, σ0§76/19, mb4.4/13, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.01**	**185**	*e*P	**P**	**13 30 59.7**	**-1.4**
	2.4nm,0.6s						
WRAB	**Tennant Creek**	**22.78**	**163**	*e*P	**P**	**13 31 29.4**	**+0.7**
	19nm,0.4s,mb4.8						
WRA	**Warramunga Arr**	**22.79**	**163**	P	**P**	**13 31 29.5**	**+0.7**
	10nm,0.4s,mb4.5,baz=336,slow=11,SNR=130						
WB2	**Warramunga Arr**	**22.79**	**163**	*i*P	**P**	**13 31 29.6**	**+0.8**
MBWA	**Marble Bar**	**24.19**	**198**	P	**P**	**13 31 42.6**	**+0.4**
	10.0nm,1.0s,mb4.1						
ASPA	**Alice Springs**	**26.23**	**167**	*e*P	**P**	**13 32 01.2**	**-0.3**
FORT	**Forrest**	**32.56**	**179**	*e*P	**P**	**13 32 57.3**	**-0.5**
	13nm,0.9s,mb4.8						
KLBR	**Kellerberrin**	**34.61**	**195**	*e*P	**P**	**13 33 14.9**	**-0.5**
	109nm,1.5s,mb5.5						
MUN	**Mundaring**	**35.40**	**197**	*e*P	**P**	**13 33 22.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**36.02**	**195**	P	**P**	**13 33 26.9**	**-0.4**
	8.0nm,0.9s,mb4.6,baz=27,slow=6.8,SNR=5.6						
STKA	**Stephens Creek**	**36.22**	**159**	*i*P	**P**	**13 33 29.6**	**+0.5**
	7.3nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**36.22**	**159**	P	**P**	**13 33 29.7**	**+0.6**
	5.8nm,0.3s,mb4.9,baz=338,slow=7.5,SNR=36						
YSS	**Yuzh-Sakhalins**	**46.76**	**14**	P	**P**	**13 34 53.3**	**-1.6**
	33nm,1.2s,mb4.9						
MKAR	**Makanchi Array**	**59.42**	**326**	P	**P**	**13 36 29.8**	**+1.4**
	1.3nm,0.6s,mb4.2,baz=117,slow=8.5,SNR=14						
MKAR	**Makanchi Array**	**59.42**	**326**	P	**P**	**13 36 29.8**	**+1.4**
KURK	**Kurchatov**	**63.62**	**328**	P	**P**	**13 36 56.9**	**+0.4**
	2.4nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**69.19**	**327**	P	**P**	**13 37 31.3**	**-0.5**
	0.3nm,0.5s,mb3.4,baz=108,slow=4.6,SNR=3.3						
ZRNK	**Zerenda**	**69.92**	**327**	*e*P	**P**	**13 37 36.6**	**+0.5**
	0.8nm,0.6s,mb3.7						
VNDA	**Vanda**	**81.59**	**173**	P	**P**	**13 38 41.6**	**-0.1**
	1.0nm,0.5s,mb3.9,baz=326,slow=8.8,SNR=9.7						
LBTB	**Lobatse**	**101.58**	**245**	P	P	13 40 13.4	-3.4
	9.7nm,1.2s						

*IDC **22** 13:32:21.6±1.1, 40.09N×29.74W, mb3.5/4, mb1 3.8/5, mb1mx3.5/23, mbtmp3.5/5, ML4.6/1, Error ellipse: s-maj=33.1km s-min=17.5km az=167.0*
*SVSA **22** 13:32:25.0±1.2, 40.09N×29.60W, MD3.7, ML3.4, Error ellipse: s-maj=7.7km s-min=4.5km az=70.0*
*CSEM **22** 13:32:25.0±0.3, 40.09N×29.60W, ML3.4, Error ellipse: s-maj=5.5km s-min=4.6km az=76.0, After PDA*
*PDA **22** 13:32:25.0±1.2, 40.09N×29.60W, MD3.7, ML3.4, Error ellipse: s-maj=7.7km s-min=4.5km az=70.0*

ISC 22 13:32:23.1±0.7, 39.99N±0.04×29.39W±0.07, h10km, n60, σ0§79/86, mb3.5/5, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLUZ	**Luz**	**1.02**	**162**	*e*P	**Pb**	**13 32 50.2**	**+7.7**
PVIA	**Vitoria**	**1.39**	**131**	*e*P	**Pn**	**13 32 49.2**	**+0.5**
PVIA				*e*S	**Sb**	**13 33 08.0**	**+1.7**
	43nm,0.3s						
STGR	**Santa Cruz**	**1.41**	**130**	*e*P	**Pn**	**13 32 49.5**	**+0.6**
STGR				*e*S	**Sb**	**13 33 08.5**	**+1.6**
	104nm,0.1s						
STGR	**Santa Cruz**	**1.41**	**130**	*e*P	**Pn**	**13 32 49.5**	**+0.6**
STGR				*e*S	**Sb**	**13 33 08.5**	**+1.6**
	104nm,0.1s						
SRBC	**Serra Branca**	**1.41**	**132**	*e*P	**Pn**	**13 32 48.7**	**-0.3**
PGRA	**Graciosa**	**1.45**	**131**	*e*P	**Pn**	**13 32 49.1**	**-0.5**
PGRA				*e*S	**Sb**	**13 33 08.7**	**+0.4**
	179nm,0.4s						
PGRA	**Graciosa**	**1.45**	**131**	*e*P	**Pn**	**13 32 49.1**	**-0.5**
PGRA				*e*S	**Sb**	**13 33 08.7**	**+0.4**
	179nm,0.4s						
PCED	**Cedros**	**1.46**	**158**	*e*S	**Sb**	**13 33 08.6**	**+0.1**
	197nm,0.6s						
PCED	**Cedros**	**1.46**	**158**	*e*S	**Sb**	**13 33 08.6**	**+0.1**
	197nm,0.6s						
PTCA	**Ponta do Capel**	**1.48**	**162**	*e*S	**Sb**	**13 33 07.5**	**-1.5**
	164nm,0.3s						
PTCA	**Ponta do Capel**	**1.48**	**162**	*e*S	**Sb**	**13 33 07.5**	**-1.5**
	164nm,0.3s						
CALA	**Caldeira**	**1.51**	**159**	*e*P	**Pn**	**13 32 50.8**	**+0.5**
CALA				*e*S	**Sb**	**13 33 09.6**	**-0.2**
ROSA	**Rosais**	**1.55**	**145**	*i* P	**Pn**	**13 32 51.1**	**+0.1**
ROSA				*e*S	**Sb**	**13 33 11.1**	**0.0**
HOR	**Horta**	**1.58**	**158**	*e*P	**Pn**	**13 32 51.2**	**-0.2**
HOR				*e*S	**Sb**	**13 33 11.8**	**-0.1**
PAMA	**Santo Amaro**	**1.61**	**144**	*e*P	**Pn**	**13 32 52.4**	**+0.5**
PICO	**Pico**	**1.67**	**153**	*e*P	**Pn**	**13 32 53.2**	**+0.6**
PICO				*e*S	**Sn**	**13 33 14.8**	**+0.6**
PCND	**Candelaria**	**1.68**	**154**	*e*P	**Pn**	**13 32 54.1**	**+1.2**
PCND				*e*S	**Sn**	**13 33 15.0**	**+0.4**
	172nm,0.2s						
PMAN	**Manadas**	**1.69**	**143**	*e*P	**Pn**	**13 32 52.8**	**-0.2**
PMAN				*e*S	**Sn**	**13 33 14.3**	**-0.6**
PBOI	**Pico dos Bois**	**1.74**	**153**	*e*P	**Pn**	**13 32 54.5**	**+0.8**
PBOI				*e*S	**Sn**	**13 33 15.3**	**-0.8**
	55nm,0.3s						
PPNO	**Prainha do Nor**	**1.75**	**150**	*e*rx		13 32 58.6	
PPNO	**Prainha do Nor**	**1.75**	**150**	*e*-		13 32 58.6	
PSBA	**Serra de Santa**	**2.02**	**127**	*e*P	**Pn**	**13 32 57.0**	**-0.6**
PSBA				*e*S	**Sn**	**13 33 20.9**	**-2.2**
	138nm,0.5s						
PSBA	**Serra de Santa**	**2.02**	**127**	*e*P	**Pn**	**13 32 57.0**	**-0.6**
PSBA				*e*S	**Sn**	**13 33 20.9**	**-2.2**
	138nm,0.5s						
ASBA	**Santa Barbara**	**2.04**	**128**	*e*P	**Pn**	**13 32 58.5**	**+0.5**
ASBA				*e*S	**Sn**	**13 33 23.8**	**0.0**
	28nm,0.2s						
ASBA	**Santa Barbara**	**2.04**	**128**	*e*P	**Pn**	**13 32 58.5**	**+0.5**
ASBA				*e*S	**Sn**	**13 33 23.8**	**0.0**
	28nm,0.2s						
PBIS	**Biscoitos**	**2.06**	**126**	*e*P	**Pn**	**13 32 58.5**	**+0.2**
PBIS				*e*S	**Sn**	**13 33 24.2**	**-0.1**
	28nm,0.3s						
PBIS	**Biscoitos**	**2.06**	**126**	*e*P	**Pn**	**13 32 58.5**	**+0.2**
PBIS				*e*S	**Sn**	**13 33 24.2**	**-0.1**
	28nm,0.3s						
PPAD	**Pico dos Padre**	**2.08**	**128**	*e*P	**Pn**	**13 32 59.0**	**+0.5**
PPAD				*e*S	**Sn**	**13 33 24.6**	**-0.1**
	20nm,0.3s						
PPAD	**Pico dos Padre**	**2.08**	**128**	*e*P	**Pn**	**13 32 59.0**	**+0.5**
PPAD				*e*S	**Sn**	**13 33 24.6**	**-0.1**
	20nm,0.3s						
PVNV	**Vila Nova**	**2.12**	**125**	*e*P	**Pn**	**13 32 59.4**	**+0.2**
PVNV				*e*S	**Sn**	**13 33 25.4**	**-0.4**
	11nm,0.2s						
PVNV	**Vila Nova**	**2.12**	**125**	*e*P	**Pn**	**13 32 59.4**	**+0.2**
PVNV				*e*S	**Sn**	**13 33 25.4**	**-0.4**
	11nm,0.2s						
ADH	**Angra Heroismo**	**2.14**	**128**	*e*P	**Pn**	**13 32 59.2**	**-0.2**
RIB2	**Ribeirinha**	**2.17**	**127**	*e*P	**Pn**	**13 33 00.1**	**+0.3**
RIB2				*e*S	**Sn**	**13 33 26.6**	**-0.4**
	25nm,0.2s						
RIB2	**Ribeirinha**	**2.17**	**127**	*e*P	**Pn**	**13 33 00.1**	**+0.3**
RIB2				*e*S	**Sn**	**13 33 26.6**	**-0.4**
	25nm,0.2s						
PFAV	**Pico das Favas**	**2.20**	**125**	*e*P	**Pn**	**13 33 00.5**	**+0.2**
PFAV				*e*S	**Sn**	**13 33 27.4**	**-0.3**
	46nm,0.4s						
PFAV	**Pico das Favas**	**2.20**	**125**	*e*P	**Pn**	**13 33 00.5**	**+0.2**
PFAV				*e*S	**Sn**	**13 33 27.4**	**-0.3**
	46nm,0.4s						
SET4	**Mosteiros**	**3.51**	**126**	*e*P	**Pn**	**13 33 19.3**	**+0.4**
SET2	**Ginetes**	**3.52**	**126**	*e*P	**Pn**	**13 33 19.7**	**+0.6**
PFET	**Feteiras**	**3.55**	**127**	*e*P	**Pn**	**13 33 19.8**	**+0.3**
PSAN	**Santo Antonio**	**3.57**	**126**	*e*P	**Pn**	**13 33 20.4**	**+0.6**
PSET	**Sete Cidades**	**3.59**	**126**	*e*P	**Pn**	**13 33 19.9**	**-0.2**
PSET				*e*S	**Sn**	**13 34 01.8**	**-1.2**
	44nm,0.5s						
FAC	**Faja de Cima**	**3.66**	**126**	*e*P	**Pn**	**13 33 21.9**	**+0.8**
CML	**Cha da Macela**	**3.73**	**125**	*e*P	**Pn**	**13 33 22.5**	**+0.4**
PVER	**Pico Vermelho**	**3.73**	**125**	*e*P	**Pn**	**13 33 22.8**	**+0.7**
PMAT	**Coroa da Mata**	**3.75**	**124**	*e*P	**Pn**	**13 33 22.5**	**+0.1**
LFA	**Lagoa do Fogo**	**3.77**	**125**	*e*P	**Pn**	**13 33 22.7**	**+0.1**
MESC	**Monte Escuro**	**3.78**	**124**	*e*P	**Pn**	**13 33 23.0**	**+0.2**
PRCH	**Ribeira Ch**	**3.80**	**125**	*e*P	**Pn**	**13 33 23.1**	**+0.1**
VIF	**Vila Franca**	**3.81**	**125**	*e*P	**Pn**	**13 33 22.6**	**-0.7**
PCNG	**Congro**	**3.83**	**124**	*e*P	**Pn**	**13 33 23.2**	**-0.3**
PFAD	**Fenais da Ajud**	**3.83**	**123**	*e*P	**Pn**	**13 33 23.2**	**-0.3**
FRA1	**Furnas**	**3.87**	**124**	*e*P	**Pn**	**13 33 23.4**	**-0.6**
MIRA	**Miradouro**	**3.89**	**123**	*e*P	**Pn**	**13 33 24.0**	**-0.4**
MIRA				*e*S	**Sn**	**13 34 08.4**	**-2.3**
PSMN	**Pico do Norte,**	**4.52**	**130**	*e*P	**Pn**	**13 33 32.7**	**-0.6**
ESDC	**Sonseca Array**	**19.52**	**83**	P	**P**	**13 36 55.0**	**+1.7**
	0.4nm,0.3s,baz=291,slow=8.8,SNR=4.8						
MDT	**Midelt**	**21.15**	**102**	P	**P**	**13 37 16.1**	**+5.5**
	1.6nm,0.7s,mb3.4,baz=321,slow=10,SNR=3.0						
TORD	**Torodi Ar. Bea**	**38.22**	**126**	P	**P**	**13 39 45.6**	**+0.6**
	0.4nm,0.7s,mb3.2,baz=315,slow=8.6,SNR=2.8						
AKASG	**Malin Array Be**	**41.54**	**55**	P	**P**	**13 40 10.2**	**-1.9**
	0.2nm,0.3s,mb3.2,baz=281,slow=8.3,SNR=3.4						
PDAR	**Pinedale Array**	**58.02**	**301**	P	**P**	**13 42 14.3**	**-3.9**
	1.1nm,0.9s,mb3.9,baz=68,slow=8.0,SNR=6.5						
TXAR	**Lajitas Array**	**60.41**	**285**	P	**P**	**13 42 32.2**	**-2.8**
	0.5nm,0.5s,mb3.8,baz=66,slow=8.9,SNR=2.8						

*IDC **22** 13:34:52.0±1.6, 18.56S×168.53E, mb3.9/4, mb1 4.0/5, mb1mx3.9/13, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=63.3km s-min=24.3km az=124.0*
*NEIC **22** 13:34:54.0±0.6, 18.42S×168.28E, h10km, mb4.7/6, Error ellipse: s-maj=16.4km s-min=11.1km az=98.0*
*LDG **22** 13:34:55.9±0.2, 18.22S×167.69E, h10km, Mb4.1/2, Error ellipse: s-maj=20.5km s-min=2.5km az=98.0*

ISC 22 13:34:54.0±1.9, 18.44S±0.07×168.2E±0.1, h19km±13km, n32, σ1§18/21, mb4.4/10, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.77**	**1**	*i*P	**Pb**	**13 35 08.9**	**+0.4**
DZM	**Mont Dzumac**	**3.98**	**205**	*e*P	**Pn**	**13 35 55.7**	**+0.1**
DZM				*e*S	**Sn**	**13 36 39.8**	**-2.5**
DZM	**Mont Dzumac**	**3.98**	**205**	Pn	**Pn**	**13 35 55.9**	**+0.3**
	7.9nm,0.3s,baz=139,slow=19,SNR=54						
DZM				Sn	**Sn**	**13 36 42.4**	**+0.1**
	15nm,0.3s,baz=76,slow=21,SNR=9.9						
HNR	**Honiara**	**12.03**	**317**	*e*Pn	**P**	**13 37 45.1**	**-2.5**
HNR				*e*Sn	**S**	**13 39 51.6**	**-11**
STKA	**Stephens Creek**	**27.48**	**236**	P	**P**	**13 40 42.9**	**+1.7**
	2.0nm,0.8s,mb3.7,baz=40,slow=10.0,SNR=4.2						
STKA	**Stephens Creek**	**27.48**	**236**	*e*P	**P**	**13 40 41.7**	**+0.5**
WB2	**Warramunga Arr**	**32.00**	**262**	*e*P	**P**	**13 41 23.7**	**+2.1**
WRAB	**Tennant Creek**	**32.00**	**262**	*e*P	**P**	**13 41 20.4**	**-1.2**
	13nm,1.2s,mb4.7						
WRA	**Warramunga Arr**	**32.01**	**262**	P	**P**	**13 41 21.3**	**-0.4**
	1.1nm,0.7s,mb3.8,baz=102,slow=8.0,SNR=11						
WRA				PcP	PcP	13 44 11.1	-0.4
	0.5nm,0.6s,baz=94,slow=3.0,SNR=7.0						
ASPA	**Alice Springs**	**32.40**	**255**	*i*P	**P**	**13 41 25.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**40.37**	**264**	*e*P	**P**	**13 42 34.2**	**+1.6**
	6.9nm,0.7s,mb4.5						
CASY	**Casey**	**60.47**	**203**	P	**P**	**13 45 01.9**	**-2.9**
	63nm,1.2s,mb5.5						
QSPA	**South Pole Qui**	**71.61**	**180**	*e*P	**P**	**13 46 16.3**	**+0.6**
	9.2nm,0.8s,mb4.8						
YAK	**Yakutsk**	**85.83**	**343**	P	**P**	**13 47 33.0**	**-0.3**
SONM	**Songino Array**	**86.01**	**323**	P	**P**	**13 47 35.6**	**+1.1**
	0.7nm,0.7s,mb4.0,baz=123,slow=3.3,SNR=5.1						
BILL	**Bilibino**	**86.24**	**359**	*e*P	**P**	**13 47 34.9**	**-0.4**
	9.5nm,1.4s,mb4.8						
ILAR	**Eielson Array**	**89.76**	**18**	P	**P**	**13 47 51.8**	**-0.4**
	0.4nm,0.8s,mb3.8,baz=225,slow=1.3,SNR=4.8						
SNAA	**Sanae**	**89.91**	**183**	*e*P	**P**	**13 47 52.6**	**-0.2**
	1.3nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**124.06**	**345**	PKP	PKPdf	13 53 51.6	-3.4
	3.0nm,0.9s,baz=72,slow=2.9,SNR=13						
BAIF	**Baives**	**145.95**	**342**	*e*PKP1	PKPbc	13 54 34.0	+1.3
CDF	**Champ du Feu**	**146.34**	**337**	*e*PKP1	PKPbc	13 54 35.3	+1.7
	7.6nm,0.6s						
DAVOX	**Davos**	**146.59**	**333**	PKPbc	PKPbc	13 54 36.1	+1.9
	baz=315,slow=1.4						
HINF	**Hinteralfeld**	**146.99**	**337**	*e*PKP1	PKPbc	13 54 36.8	+1.7
CABF	**La Chapelle**	**148.28**	**336**	*e*PKP1	PKPdf	13 54 41.1	+1.5
LOR	**Lormes**	**148.52**	**339**	*e*PKP1	PKPdf	13 54 41.3	+1.4
	6.7nm,0.7s						
SSF	**Saint Saulge**	**148.82**	**340**	*e*PKP1	PKPdf	13 54 42.1	+1.7
	5.4nm,0.6s						
ORIF	**Oris-en-Rattie**	**149.76**	**335**	*e*PKP1	PKPdf	13 54 44.6	+2.6
SBF	**Sospel**	**149.94**	**332**	*e*PKP1	PKPdf	13 54 44.7	+2.4
	30nm,0.9s						
PGF	**Pioggiola**	**150.19**	**328**	*e*PKP1	PKPdf	13 54 45.5	+2.7
	45nm,1.2s						
VIVF	**Saint-Julien-l**	**150.29**	**336**	*e*PKP1	PKPdf	13 54 45.8	+3.0
	14nm,0.9s						
SMRF	**Simiane la Rot**	**150.66**	**334**	*e*PKP1	PKPdf	13 54 47.0	+3.6
	19nm,1.0s						
LASF	**Ste Croix**	**151.26**	**336**	*e*PKP1	PKPdf	13 54 48.2	+3.9

*NEIC **22** 14:07:47.8, 15.87N×61.65W, h9km, MD3.2(FDF), After FDF.*
NEIC Felt [IV] on Guadeloupe.

TRN 22 14:07:48.8, 15.89N×61.65W, h3km, M2.6(FDF), Md3.5(FDF), 5C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBG	**Guadaloupe-3**	**0.04**	**179**	*e*P	Pg	14 07 49.3	-0.4
SCG	**Saint Claude**	**0.14**	**346**	*e*P

MBWA Marble Bar 30.55 188 eP P 14 25 00.6 -1.7
comp=Z,7.6nm,0.7s,mb4.3
WRAB Tennant Creek 30.71 161 eP P 14 25 02.9 -0.7
WRAB eS S 14 29 25.1 -5.5
WRAB pmax pmax
comp=Z,8.0nm,0.6s,mb4.4
WRAB Tennant Creek 30.71 161 eP P 14 25 02.9 -0.7
comp=Z,8.0nm,0.6s,mb4.4
WRAB eS S 14 29 25.1 -5.6
WRA Warramunga Arr 30.71 161 P P 14 25 03.1 -0.6
comp=Z,7.1nm,0.5s,mb4.4,baz=330,slow=11,SNR=104
WRA S S 14 29 25.4 -5.3
comp=Z,3.9nm,0.8s,baz=340,slow=15,SNR=11
WRA ScP 14 30 39.1
comp=Z,2.0nm,0.9s,baz=342,slow=3.8,SNR=7.0
WB2 Warramunga Arr 30.72 161 ⇓*iP* **P 14 25 03.2 -0.5**
WB2 eS S 14 29 24.7 -6.1
LZH Lanzhou 32.46 328 eP P 14 25 20.1 +1.7
LZH AMB AMB
comp=Z,20nm,1.6s,mb4.4
ASPA Alice Springs 34.09 164 ⇓*iP* **P 14 25 32.6 +0.4**
ASPA eS S 14 30 19.1 -3.5
MDJ Mudanjiang 35.53 7 P P 14 25 44.6 +0.7
comp=Z,12nm,0.7s,mb4.5
LSA Lhasa 36.95 308 eP P 14 25 56.8 +1.0
LSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
LSA Lhasa 36.95 308 eP P 14 25 56.8 +1.0
comp=Z,7.7nm,0.8s,mb4.3
LSA 14 26 05.2
GTA Gaotai 37.06 328 eP P 14 25 58.3 +1.7
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
FORT Forrest 40.00 175 eP P 14 26 21.0 +0.5
comp=Z,44nm,0.6s,mb5.2
HIA Hailar 40.04 356 eP P 14 26 21.6 +0.9
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 40.04 356 eP P 14 26 21.6 +0.9
comp=Z,10nm,0.8s,mb4.4
JIRN Jiri 40.16 302 eP P 14 26 22.9 +1.0
comp=Z,45nm,0.6s,mb5.2
GUN Gumba 40.51 302 eP P 14 26 25.6 +0.9
comp=Z,58nm,0.7s,mb5.2
YSS Yuzh-Sakhalins 40.76 20 P P 14 26 25.0 -1.5
YSS pmax pmax
comp=Z,63nm,1.5s,mb4.9
YSS Yuzh-Sakhalins 40.76 20 P P 14 26 25.0 -1.5
comp=Z,63nm,1.5s,mb4.9
PKI Pulchoki 40.79 302 eP P 14 26 27.3 +0.4
comp=Z,18nm,0.6s,mb4.8
PKI Pulchoki 40.79 302 eP P 14 26 27.3 +0.4
PKI pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
KKN Kakani 40.97 302 eP P 14 26 28.5 +0.1
comp=Z,39nm,1.0s,mb4.9
KKN Kakani 40.97 302 eP P 14 26 28.5 +0.1
KKN pmax pmax
comp=Z,20nm,1.0s,mb4.6
DMN Daman 41.05 302 eP P 14 26 29.4 +0.3
comp=Z,39nm,1.0s,mb4.9
KLBR Kellerberrin 41.09 188 eP P 14 26 28.7 -0.6
ULN Ulaanbaatar 41.09 342 eP P 14 26 30.0 +0.8
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
ULN Ulaanbaatar 41.09 342 eP P 14 26 30.0 +0.9
comp=Z,2.2nm,0.8s,mb3.7
SONM Songino Array 41.27 342 P P 14 26 31.2 +0.6
comp=Z,0.7nm,0.3s,mb3.7,baz=153,slow=9.3,SNR=10
SONM ScP 14 31 18.2
comp=Z,0.4nm,0.6s,baz=153,slow=3.2,SNR=3.5
GKN Gorkha 41.57 302 eP P 14 26 33.2 -0.1
comp=Z,20nm,0.6s,mb4.8
MUN Mundaring 41.71 190 eP P 14 26 35.0 +0.6
KOLN Koldanda 42.37 301 eP P 14 26 40.2 +0.5
comp=Z,40nm,0.5s,mb5.2
NWAO Narrogin (SRO) 42.48 189 P P 14 26 40.3 -0.1
comp=Z,19nm,1.1s,mb4.5,baz=10,slow=10,SNR=13
NWAO Narrogin (SRO) 42.48 189 eP P 14 26 38.7 -1.7
NWAO pmax pmax
comp=Z,23nm,1.1s
NWAO Narrogin (SRO) 42.48 189 eP P 14 26 38.7 -1.8
comp=Z,23nm,1.1s,mb4.6
PALK Pallekele 43.03 271 eP P 14 26 43.6 -1.4
comp=Z,75nm,1.6s,mb5.0
STKA Stephens Creek 44.19 159 P P 14 26 54.4 +0.5
comp=Z,4.1nm,0.6s,mb4.2,baz=328,slow=6.4,SNR=18
STKA Stephens Creek 44.19 159 eP P 14 26 54.1 +0.3
MKAR Makanchi Array 51.58 324 P P 14 27 49.4 -0.1
comp=Z,5.7nm,0.7s,mb4.0,baz=116,slow=7.0,SNR=72
MKAR PcP PcP 14 28 53.5 -1.2
comp=Z,1.8nm,0.6s,baz=122,slow=3.2,SNR=7.9
MKAR ScP 14 32 01.8
comp=Z,0.4nm,0.6s,baz=112,slow=5.5,SNR=3.7
MKAR Makanchi Array 51.58 324 P P 14 27 49.4 -0.1
MKAR PcP PcP 14 28 53.5 -1.2
MKAR ScP 14 32 01.8
PET Petropavlovsk 51.76 26 P P 14 27 47.3 -3.4
PET pmax pmax
comp=Z,61nm,1.4s,mb4.7
PET Petropavlovsk 51.76 26 P P 14 27 47.3 -3.4
comp=Z,62nm,1.4s,mb4.7
KZA Kyzart 53.85 316 P P 14 28 07.1 +1.3
SNR=8.5
TKM2 Tokmak 2 53.95 317 P P 14 28 07.2 +0.8
SNR=8.1
TKM2 Tokmak 2 53.95 317 P P 14 28 06.9 +0.4
TKM2 pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
KBK Karagaybulak 54.28 317 P P 14 28 09.6 +0.7
SNR=7.4
UCH Uchtor 54.41 316 P P 14 28 11.1 +1.3
SNR=15
ZAL Zalesovo 54.52 333 P P 14 28 09.4 -1.0
comp=Z,1.6nm,0.5s,mb3.5,baz=351,slow=4.8,SNR=6.9
AAK Ala-Archa 54.58 316 eP P 14 28 09.7 -1.2
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb3.6
AAK Ala-Archa 54.58 316 eP P 14 28 09.7 -1.3
comp=Z,2.5nm,0.8s,mb3.5
USP Ospenovka 54.82 317 P P 14 28 12.7 +0.1
SNR=12
AML Almayashu 54.94 316 P P 14 28 14.3 +0.8
SNR=12
EKS2 Erkin-Say 55.08 316 P P 14 28 15.0 +0.6
SNR=14
KURK Kurchatov 55.73 327 eP P 14 28 18.0 -0.8
KURK pmax pmax
comp=Z,11nm,0.6s,mb4.3
KURK Kurchatov 55.73 327 eP P 14 28 18.0 -0.8
comp=Z,11nm,0.6s,mb4.2
VOSK Vostochnaya 60.86 326 P P 14 28 52.6 -0.8
VOSK pmax pmax
comp=Z,2.0nm,0.5s,mb3.7
BVA0 Borovoye Array 61.31 326 *iP* **P 14 28 56.0 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.2
BVAR Borovoye Array 61.31 326 P P 14 28 55.9 -0.4
comp=Z,6.0nm,0.7s,mb4.0,baz=132,slow=8.3,SNR=36
BRVK Borovoye 61.38 326 eP P 14 28 55.9 -0.9
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
BRVK Borovoye 61.38 326 eP P 14 28 55.9 -0.9
comp=Z,9.2nm,0.9s,mb4.1
CHKZ Chkalovo 61.47 327 eP P 14 28 56.4 -0.9
CHKZ pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
CHKZ Chkalovo 61.47 327 eP P 14 28 56.4 -1.0
comp=Z,4.4nm,0.7s,mb3.9
ZRNK Zerenda 62.05 326 P P 14 29 00.7 -0.4
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
ZRNK Zerenda 62.05 326 eP P 14 29 00.5 -0.6
comp=Z,16nm,0.6s,mb4.6
AB31 Akbulak array 66.28 320 *iP* **P 14 29 27.6 -0.4**
AB31 pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
AKTK Aktyubinsk 67.76 321 P P 14 29 36.7 -0.4
AKTO Aktyubinsk 67.76 321 P P 14 29 36.7 -0.4
comp=Z,6.1nm,0.6s,mb4.3,baz=98,slow=8.5,SNR=27
ARU Arti 68.92 327 eP P 14 29 42.7 -1.2
ARU pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
ARU Arti 68.92 327 eP P 14 29 42.7 -1.2
comp=Z,7.3nm,0.5s,mb4.5
RDF Al-Radifah 73.89 297 eP P 14 30 12.7 -0.7
RDF AMb AMB 14 30 13.9
comp=Z,11nm,0.5s,mb4.5
MIB Mutribah 74.05 298 eP P 14 30 13.5 -0.7
MIB AMb AMB 14 30 14.5
comp=Z,23nm,0.6s,mb4.8
NAY Al-Naaiem 74.15 298 eP P 14 30 14.0 -0.8
NAY AMb AMB 14 30 15.0
comp=Z,10.0nm,0.8s,mb4.3
MCK McKinley 80.39 27 P P 14 30 48.2 +0.5
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb3.6
MCK McKinley 80.39 27 P P 14 30 48.2 +0.5
comp=Z,3.3nm,0.9s,mb3.7
ILAR Eielson Array 81.24 26 P P 14 30 52.9 +0.7
comp=Z,0.5nm,0.6s,mb3.1,baz=249,slow=5.2,SNR=7.5
JOF Joensuu 83.11 333 *ep* **P 14 31 00.8 -0.8**
ARCES ARCESS Array B 84.40 340 P P 14 31 08.4 +0.6
comp=Z,3.0nm,0.8s,mb3.9,baz=45,slow=5.1,SNR=4.5
KAF Kangasniemi 85.53 332 *ep* **P 14 31 12.9 -0.5**
comp=Z,4.8nm,0.8s,mb4.2,baz=76,slow=4.5
KAF Kangasniemi 85.53 332 *eP* **P 14 31 12.9 -0.5**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
FINES FINESS Array B 85.77 332 P P 14 31 14.8 +0.3
comp=Z,1.2nm,0.5s,mb3.8,baz=45,slow=5.4,SNR=6.2
INK Inuvik 85.97 21 P P 14 31 16.8 +1.3
comp=Z,1.4nm,0.8s,mb3.6,baz=272,slow=6.5,SNR=11
INK Inuvik 85.97 21 *eP* **P 14 31 16.2 +0.8**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 85.97 21 *eP* **P 14 31 16.2 +0.8**
comp=Z,2.5nm,1.0s,mb3.8
AKASG Malin Array Be 86.01 321 P P 14 31 15.5 -0.5
comp=Z,0.8nm,0.5s,mb3.6,baz=67,slow=5.3,SNR=4.4
VNDA Vanda 89.22 172 P P 14 31 31.4 +0.9
comp=Z,1.6nm,1.0s,mb3.8,baz=344,slow=9.7,SNR=3.1
PLCA Paso Flores 146.06 160 PKPbc PKPbc 14 38 12.8 +1.5
comp=Z,1.1nm,0.6s,baz=211,slow=1.9,SNR=3.8

*ATH **22** 14:28:40.6,39.95N×23.07E,h35km±1km,MD3.1/4*
*THE **22** 14:28:40.9,39.83N×23.73E,h3km,ML3.0*
*NEIC **22** 14:28:40.6,39.95N×23.07E,h35km,MD3.1(ATH),After ATH.*
*CSEM **22** 14:28:40.7±0.1,39.86N×23.77E,h12km,ML3.0,Error ellipse: s-maj=2.6km s-min=1.8km az=106.0*
ISC 22 14:28:40.4±0.5,39.84N±0.02×23.73E±0.04,h10km±4km, n22,σ0°79/34,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.10**	**334**	*e*Pg	**Pg**	**14 28 43.2**	**+0.2**
PAIG				*e*Sg	**Sg**	**14 28 45.2**	**+0.4**
PAIG	**Paliouri**	**0.10**	**334**	*e*Pg	**Pg**	**14 28 43.2**	**+0.2**
PAIG				*e*Sg	**Sg**	**14 28 45.2**	**+0.4**
OUR	**Ouranopolis**	**0.53**	**21**	*e*Pg	**Pg**	**14 28 51.3**	**+0.3**
OUR				*e*Sg	**Sg**	**14 28 58.9**	**+0.7**
PLG	**Polygyros**	**0.58**	**338**	*e*PN	**Pg**	**14 28 51.2**	**-0.8**
PLG				*e*SN	**Sg**	**14 28 59.2**	**-0.6**
XOR	**Xorichti**	**0.63**	**222**	*e*Pg	**Pg**	**14 28 52.8**	**-0.4**
XOR				*e*Sg	**Sg**	**14 29 01.8**	**+0.1**
NEO	**Neokhori**	**0.66**	**217**	*e*PN	**Pg**	**14 28 54.1**	**+0.4**
NEO				*e*SN	**Sg**	**14 29 03.9**	**+1.2**
THE	**Thessaloniki**	**0.99**	**324**	*e*Pg	**Pg**	**14 28 59.3**	**-0.8**
THE				*e*Sg	**Sg**	**14 29 13.0**	**-0.3**
LIT	**Litokhoron**	**0.99**	**286**	*e*Pg	**Pg**	**14 28 59.3**	**-0.9**
LIT				*e*Sg	**Sg**	**14 29 13.3**	**-0.2**
SOH	**Sokhos**	**1.02**	**344**	*e*Pg	**Pg**	**14 29 00.5**	**-0.4**
SOH				*e*Sg	**Sg**	**14 29 16.2**	**+1.7**
SOH	**Sokhos**	**1.02**	**344**	*e*Pg	**Pg**	**14 29 00.4**	**-0.5**
LOS	**Limnos**	**1.04**	**84**	*e*Pg	**Pg**	**14 28 59.9**	**-1.3**
LOS				*e*Sg	**Sg**	**14 29 15.9**	**+0.8**
SRS	**Serrai**	**1.28**	**355**	*e*Pg	**Pn**	**14 29 04.0**	**-0.3**
AGG	**Agios Georgios**	**1.36**	**234**	*e*Pg	**Pn**	**14 29 05.3**	**-0.2**
AGG				*e*Sg	**Sg**	**14 29 25.8**	**+0.1**
KNT	**Kendrikon**	**1.47**	**334**	*e*Pg	**Pn**	**14 29 08.3**	**+1.3**
KNT				*e*Sg	**Sn**	**14 29 27.8**	**+1.4**
NVR	**Nevrokopi**	**1.51**	**4**	*e*PN	**Pn**	**14 29 07.4**	**-0.2**
MMB	**Musomiste**	**1.75**	**360**	*i* P	**Pn**	**14 29 10.0**	**-1.0**
RDO	**Rodhopi**	**1.90**	**46**	*e*PN	**Pn**	**14 29 16.9**	**+3.8**
RZN	**Rozhen**	**1.99**	**22**	*i* P	**Pn**	**14 29 14.0**	**-0.5**
FNA	**Florina**	**2.03**	**298**	*e*Pn	**Pn**	**14 29 15.2**	**0.0**
FNA	**Florina**	**2.03**	**298**	*e*Pn	**Pn**	**14 29 15.1**	**0.0**
KKB	**Krupnik**	**2.08**	**346**	*i* P	**Pn**	**14 29 15.5**	**-0.3**
PGB	**Panagyurishte**	**2.73**	**7**	*i* P	**Pg**	**14 29 31.0**	**-3.8**

*NEIC **22** 14:30:11.7±0.5,32.58N×104.57W,h5km,MN3.6,Error ellipse: s-maj=7.4km s-min=6.8km az=67.0*
NEIC Felt at Artesia.
*IDC **22** 14:30:12.4±1.0,32.60N×104.39W,mb3.2/1,mb1 4.1/8, mb1mx3.8/26,mbtmp3.8/8,ML3.2/6,Error ellipse: s-maj=29.9km s-min=7.5km az=72.0*
ISC 22 14:30:10.1±0.5,32.67N±0.05×104.54W±0.05,h5km,n39, σ1°14/40,mb3.0/1,New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNTX	**Cornudas Mount**	**1.20**	**217**	*e*P	**Pb**	**14 30 32.1**	**-0.9**
ANMO	**Albuquerque**	**2.79**	**325**	Pn	**Pn**	**14 30 59.2**	**+3.1**
ANMO	baz=146,slow=14,SNR=163			Sn	**Sn**	**14 31 36.6**	**+6.1**
	baz=348,slow=7.8,SNR=39						
ANMO	**Albuquerque**	**2.79**	**325**	*e*P	**Pn**	**14 30 59.1**	**+3.0**
ANMO				*e*S	**Sn**	**14 31 35.8**	**+5.2**
LTX	**Lajitas**	**3.40**	**167**	*e*P	**Pn**	**14 31 06.4**	**+1.5**
TXAR	**Lajitas Array**	**3.40**	**167**	Pn	**Pn**	**14 31 07.0**	**+2.1**
	5.2nm,0.3s,baz=346,slow=13,SNR=70						
TXAR				Lg		14 31 55.9	
	78nm,0.3s,baz=331,slow=31,SNR=17						
TXAR	**Lajitas Array**	**3.40**	**167**	Pn	**Pn**	**14 31 07.0**	**+2.1**
TXAR				Lg		14 31 55.9	
JCT	**Junction City**	**4.59**	**117**	*e*P	**Pn**	**14 31 21.8**	**+0.1**
SDCO	**Great Sand Dun**	**5.13**	**351**	*e*P	**Pn**	**14 31 31.6**	**+2.1**
WMOK	**Wichita Mounta**	**5.22**	**65**	*e*P	**Pn**	**14 31 30.7**	**0.0**
TUC	**Tucson**	**5.29**	**268**	*e*P	**Pn**	**14 31 30.1**	**-1.6**
WUAZ	**Wupatki**	**6.35**	**298**	*e*P	**Pn**	**14 31 46.7**	**+0.1**
SMCO	**Snowmass**	**6.79**	**344**	*e*P	**Pn**	**14 31 52.9**	**0.0**
ISCO	**Idaho Springs**	**7.17**	**353**	*e*P	**Pn**	**14 31 58.7**	**+0.5**
	34nm,0.9s						
CBKS	**Bluff**	**7.27**	**31**	*e*P	**Pn**	**14 31 58.5**	**-1.1**
SRU	**San Rafael**	**8.06**	**325**	*e*P	**P**	**14 32 09.9**	**-0.7**
NATX	**Nacogdoches**	**8.41**	**94**	P	**P**	**14 32 13.9**	**-1.6**
MSU	**Marysvale**	**8.53**	**315**	*e*P	**P**	**14 32 16.4**	**-0.7**
TMUT	**Trail Mountain**	**8.54**	**323**	*e*P	**P**	**14 32 16.4**	**-0.9**
ARUT	**Antelope Range**	**8.90**	**308**	P	**P**	**14 32 22.2**	**-0.1**
NEN	**Nelson**	**9.05**	**292**	P	**P**	**14 32 24.4**	**+0.1**
KSU1	**Kansas State U**	**9.09**	**43**	P	**P**	**14 32 24.9**	**0.0**
MPU	**Maple Canyon**	**9.30**	**324**	P	**P**	**14 32 28.8**	**+0.9**
MIAR	**Mount Ida**	**9.33**	**75**	*e*P	**P**	**14 32 26.6**	**-1.6**
DAU	**Daniels Canyon**	**9.43**	**327**	P	**P**	**14 32 29.9**	**+0.3**
NLU	**North Lily Min**	**9.48**	**322**	P	**P**	**14 32 28.6**	**-1.7**
NOQ	**North Oquirrh**	**10.03**	**325**	P	**P**	**14 32 37.0**	**-0.8**
DUG	**Dugway**	**10.04**	**321**	P	**P**	**14 32 37.3**	**-0.8**
TCUT	**Toone Canyon**	**10.07**	**329**	P	**P**	**14 32 38.9**	**+0.5**
HWUT	**Hardware Ranch**	**10.54**	**330**	P	**P**	**14 32 43.6**	**-1.2**
PDAR	**Pinedale Array**	**10.84**	**340**	Pn	**P**	**14 32 53.1**	**+4.2**
	0.0nm,0.3s,baz=150,slow=12,SNR=18						
ELK	**Elko**	**11.77**	**316**	Pn	**P**	**14 33 07.0**	**+5.3**
	0.1nm,0.3s,baz=136,slow=3.5,SNR=3.9						
NVAR	**Mina Array Bea**	**12.60**	**301**	Pn	**P**	**14 33 18.6**	**+5.9**
	0.1nm,0.3s,baz=117,slow=15,SNR=28						
BMO	**Blue Mountains**	**15.70**	**324**	*e*P	**P**	**14 33 57.8**	**+4.3**
	16nm,1.5s						
CHMT	**Chamberlain Mo**	**15.71**	**337**	P	**P**	**14 33 55.1**	**+1.5**
NEW	**Newport**	**18.25**	**332**	P	**P**	**14 34 27.6**	**+1.9**
	0.2nm,0.3s,baz=156,slow=16,SNR=5.4						
ULM	**Lac du Bonnet**	**18.71**	**18**	P	**P**	**14 34 32.2**	**+0.9**
	0.1nm,0.3s,baz=208,slow=8.6,SNR=4.5						
YKA	**Yellowknife Ar**	**30.53**	**351**	P	**P**	**14 36 26.2**	**0.0**
	0.2nm,0.7s,mb3.0,baz=156,slow=8.5,SNR=5.6						
YKA	**Yellowknife Ar**	**30.53**	**351**	P	**P**	**14 36 26.2**	**0.0**
ILAR	**Eielson Array**	**41.19**	**334**	PcP	PcP	14 39 56.0	-0.8
	0.5nm,0.8s,baz=146,slow=3.3,SNR=5.2						

*IDC **22** 14:35:07.2±1.6,6.74N×92.00E,mb3.9/7,mb1 4.1/7, mb1mx3.8/21,mbtmp3.9/7,Error ellipse: s-maj=60.3km s-min=26.0km az=54.0*
*BJI **22** 14:35:09.8,6.60N×91.80E,h30km,mb4.4*
*NEIC **22** 14:35:10.9±0.7,6.57N×91.81E,h30km,mb4.5/5,Error ellipse: s-maj=13.4km s-min=12.1km az=50.0*
ISC 22 14:35:08.5±1.0,6.5N±0.1×91.8E±0.1,h30km,n22, σ0°83/23,mb4.2/14,1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.03**	**275**	*e*Pn	**P**	**14 37 46.5**	**-1.1**
PALK				*e*Sn	**S**	**14 39 39.5**	**-11**
JIRN	**Jiri**	**21.71**	**346**	*e*P	**P**	**14 39 59.8**	**+0.5**
	29nm,0.8s,mb4.8						
PKI	**Pulchoki**	**21.82**	**345**	*e*P	**P**	**14 40 00.7**	**+0.3**
	9.5nm,0.4s,mb4.6						
DMN	**Daman**	**21.94**	**344**	*e*P	**P**	**14 40 02.3**	**+0.7**
GUN	**Gumba**	**22.03**	**346**	*e*P	**P**	**14 40 02.2**	**-0.2**
	32nm,0.8s,mb4.8						
KKN	**Kakani**	**22.07**	**345**	*e*P	**P**	**14 40 02.5**	**-0.3**
GKN	**Gorkha**	**22.44**	**343**	*e*P	**P**	**14 40 07.0**	**+0.4**
KOLN	**Koldanda**	**22.54**	**341**	*e*P	**P**	**14 40 08.3**	**+0.7**
LSA	**Lhasa**	**23.10**	**359**	*e*P	**P**	**14 40 15.3**	**+2.3**
LSA	**Lhasa**	**23.10**	**359**	*e*P	**P**	**14 40 14.4**	**+1.4**
	16nm,1.1s,mb4.4						
GYA	**Guiyang**	**24.41**	**34**	⇓*iP*	**P**	**14 40 24.3**	**-1.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
GTA	**Gaotai**	**33.57**	**11**	*e*P	**P**	**14 41 47.8**	**-0.4**
GTA				AP	pP	14 41 54.0	-3.0
GTA				XP	sP	14 41 57.4	-3.5
AAK	**Ala-Archa**	**39.11**	**340**	*e*P	**P**	**14 42 35.2**	**+0.1**
	comp=Z,4.3nm,1.0s,mb4.1						
MKAR	**Makanchi Array**	**40.98**	**350**	P	**P**	**14 42 49.8**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.7,baz=169,slow=9.3,SNR=20						
SONM	**Songino Array**	**43.05**	**14**	P	**P**	**14 43 06.8**	**-0.5**
	comp=Z,1.2nm,0.8s,mb3.7,baz=193,slow=10.0,SNR=7.7						
KURK	**Kurchatov**	**45.43**	**348**	*e*P	**P**	**14 43 26.3**	**-0.2**
	comp=Z,8.7nm,1.3s,mb4.4						
ZAL	**Zalesovo**	**47.65**	**354**	P	**P**	**14 43 42.4**	**-1.6**
	comp=Z,2.0nm,0.4s,mb4.5,baz=314,slow=3.3,SNR=6.3						
WRA	**Warramunga Arr**	**49.42**	**123**	P	**P**	**14 43 58.7**	**+0.6**
	comp=Z,0.4nm,0.9s,mb3.4,baz=304,slow=7.8,SNR=3.1						
BVAR	**Borovoye Array**	**49.58**	**343**	P	**P**	**14 43 58.8**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=135,slow=6.3,SNR=5.0						
AKTK	**Aktyubinsk**	**52.08**	**333**	P	**P**	**14 44 17.8**	**-0.2**
AKTO	**Aktyubinsk**	**52.08**	**333**	P	**P**	**14 44 17.8**	**-0.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=126,slow=6.7,SNR=5.3						
GERES	**GERESS Array B**	**77.30**	**319**	P	**P**	**14 47 03.7**	**+1.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=2.0,SNR=8.5						

IDC 22 15:12:09.1±1.9,3.68S×151.15E,mb3.7/3,mb1 4.0/3, mb1mx3.7/13,mbtmp3.7/3,MS3.4/1,Ms1 3.4/1, ms1mx3.1/23,Error ellipse: s-maj=137.5km s-min=29.8km az=128.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.93**	**215**	LR	LR	15 16 04.5	
	comp=Z,289nm,18.2s,baz=202,slow=34						
WRA	**Warramunga Arr**	**23.02**	**224**	P	P	15 17 15.1	-1.9
	1.1nm,0.8s,baz=47,slow=9.4,SNR=13						
ILAR	**Eielson Array**	**81.76**	**22**	P	P	15 24 28.9	-2.0
	0.7nm,0.7s,baz=244,slow=5.8,SNR=9.6						
YKA	**Yellowknife Ar**	**95.21**	**28**	P	P	15 25 34.4	-1.2
	0.1nm,0.6s,baz=271,slow=4.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.39**	**289**	PKPbc	PKPdf	15 31 59.6	+2.7
	1.3nm,0.9s,baz=77,slow=2.2,SNR=6.1						

*NNC **22** 16:01:21.3±10.0,39.98N×78.59E,h4km±57km,mb3.5, mpv3.2,Error ellipse: s-maj=97.9km s-min=39.0km az=163.0*
ISC 22 16:01:21.7±2.0,39.7N±0.1×78.3E±0.1,h33km,n13, σ0°89/16,3C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**2.98**	**329**	P	**P**	**16 02 07.6**	**-0.2**
	SNR=94						
KZA	**Kyzart**	**3.32**	**317**	P	**P**	**16 02 11.6**	**-0.8**
	SNR=91						
KNDC	**Almaty**	**3.66**	**345**	⇓Sn	**Sn**	**16 03 01.1**	**+1.2**
	3μm,0.7s						
TKM2	**Tokmak 2**	**3.81**	**329**	P	**P**	**16 02 19.8**	**+0.3**
	SNR=6.5						
TKM2	**Tokmak 2**	**3.81**	**329**	⇑Pn	**Pn**	**16 02 19.1**	**-0.4**
	8.0nm,0.3s						
TKM2				⇓Sn	**Sn**	**16 03 03.5**	**-0.3**
	65nm,0.9s						
UCH	**Uchtor**	**3.82**	**313**	P	**P**	**16 02 19.5**	**-0.1**
	SNR=11						
KBK	**Karagaybulak**	**3.89**	**321**	P	**P**	**16 02 24.0**	**+3.4**
	SNR=22						
AAK	**Ala-Archa**	**4.10**	**317**	P	**P**	**16 02 23.7**	**+0.1**
	SNR=14						
CHMS	**Chumysh**	**4.24**	**322**	P	**P**	**16 02 25.2**	**-0.4**
	SNR=9.8						
AML	**Almayashu**	**4.25**	**306**	P	**P**	**16 02 25.8**	**0.0**
	SNR=16						
USP	**Ospenovka**	**4.57**	**323**	P	**P**	**16 02 35.5**	**+5.3**
	SNR=22						
KK31	**Karatay Array**	**6.77**	**303**	⇓Pn	**Pb**	**16 03 11.9**	**-6.5**
	0.7nm,0.5s,baz=129,slow=17,SNR=5.1						
KK31				⇑Sn	**Sb**	**16 04 31.9**	**-7.9**
	3.5nm,0.6s,baz=118,slow=29,SNR=9.4						
MK31	**Makanchi Array**	**7.67**	**21**	Pn	**Pn**	**16 03 15.2**	**+1.3**
	0.2nm,0.4s,baz=199,slow=11,SNR=15						
MK31				⇑Sn	**Sn**	**16 04 38.8**	**-1.8**
	0.6nm,0.5s						
MK31				⇓Lg		16 05 10.0	
	8.1nm,1.4s,baz=212,slow=26,SNR=3.7						

*NEIC **22** 16:06:01.9,18.14N×68.19W,h118km,MD3.9(RSPR), After RSPR.*
RSPR 22 16:06:01.9,18.14N×68.19W,h118km±1km,MD3.9/11, MD3.9/11,11C-5D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPR	**Mayaguez**	**1.01**	**86**	⇑*eP*	P	16 06 23.7	-0.5
MPR				*e*S	S	16 06 39.9	-0.8
CRPR	**Cabo Rojo, PR**	**1.04**	**97**	⇑*iP*	P	16 06 23.7	-0.8
CRPR				*e*S	S	16 06 40.7	-0.6
LSP	**Las Mesas**	**1.05**	**88**	⇑*eP*	P	16 06 24.0	-0.6
LSP				*e*S	S	16 06 41.8	+0.2
MGP	**Maguayo**	**1.06**	**97**	⇓*iP*	P	16 06 23.9	-0.8
MGP				*e*S	S	16 06 41.4	-0.3
LRS	**Lares**	**1.29**	**83**	⇓*eP*	P	16 06 26.5	-0.7
LRS				*e*S	S	16 06 45.5	-0.7
AOPR	**Arecibo Observ**	**1.39**	**81**	⇑*eP*	P	16 06 27.9	-0.5
AOPR				*e*S	S	16 06 47.9	-0.4
CELP	**Cerrillos**	**1.54**	**92**	⇑*eP*	P	16 06 29.4	-0.7
CELP				*e*S	S	16 06 50.1	-1.2
ICM	**Isla Caja Muer**	**1.61**	**98**	⇑*iP*	P	16 06 30.3	-0.6
ICM				*e*S	S	16 06 52.4	-0.4
SJG	**San Juan**	**1.94**	**90**	⇑*eP*	P	16 06 34.3	-0.7
SJG				*e*S	S	16 07 00.2	+0.3
SJG	**San Juan**	**1.94**	**90**	⇑*eP*	P	16 06 35.2	+0.2
SJG	**San Juan**	**1.94**	**90**	*e*S	S	16 06 59.7	-0.2
SJG	**San Juan**	**1.

SJMP	**San Jose**	**1.30**	**231**	*e*P	Pb	16 11 53.5	-0.4
SJMP				*e*S	Sb	16 12 12.4	+1.9
POLP	**Polilio Island**	**1.46**	**352**	*e*P	Pn	16 12 01.1	+4.7
POLP				*e*S	Sb	16 12 14.9	-0.2
LUBP	**Lubang**	**1.91**	**284**	*e*P	Pn	16 12 01.9	-1.0
LUBP				*e*S	Sn	16 12 27.8	+0.6
PVCP	**Virac**	**1.97**	**80**	*e*P	Pn	16 12 03.4	-0.3
BUSP	**Coron**	**2.29**	**237**	*e*P	Pn	16 12 07.2	-1.1
BUSP				*e*S	Sn	16 12 35.2	-1.6
BALP	**Baler**	**2.51**	**347**	*e*P	Pn	16 12 11.2	-0.3
BALP				*e*S	Sn	16 12 44.7	+2.2
BOLP	**Bolinao**	**3.77**	**325**	*e*P		16 10 05.9	

THR ***22*** *16:31:06.5±1.1,36.07N×53.53E,h18km±11km,ML3.6*
CSEM ***22*** *16:31:08.2±0.1,36.00N×53.40E,h16km,ML3.7,Error ellipse: s-maj=2.0km s-min=1.7km az=161.0*
TEH ***22*** *16:31:09.4,36.01N×53.42E,h10km,Mn3.7*

ISC 22 16:31:07.1±0.8,36.06N±0.06×53.39E±0.05,h4km±7km, n22,σ1§05/24,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Galoogah**	**0.26**	**20**	Pg	**Pg**	**16 31 20.7**	**+8.3**
ISHM	**Shahmirzad**	**0.27**	**197**	Pg	**Pg**	**16 31 13.9**	**+1.4**
IKIA	**Kiasar**	**0.28**	**59**	Pg	**Pg**	**16 31 14.8**	**+2.0**
IFIR	**Firoozkooh**	**0.66**	**231**	Pg	**Pg**	**16 31 20.6**	**+0.2**
IFIR				Sg	**Sg**	**16 31 29.8**	**+0.5**
IANJ	**Anjiloo**	**0.73**	**144**	Pg	**Pg**	**16 31 21.5**	**-0.3**
ILAS	**Lasjerd**	**0.76**	**207**	Pg	**Pg**	**16 31 22.4**	**0.0**
IPRN	**Paran-Amol**	**0.94**	**281**	Pg	**Pg**	**16 31 25.5**	**-0.5**
IDMV	**Damavand**	**1.20**	**247**	Pg	**Pg**	**16 31 30.5**	**-0.7**
DAMV	**Damavand**	**1.23**	**250**	*e*Pg	**Pg**	**16 31 30.7**	**-0.9**
DAMV				*e*Sg	**Sg**	**16 31 49.8**	**+1.8**
DAMV				AML	AML	16 31 55.1	
	comp=N,1μm,0.5s						
IAFJ	**Afjeh**	**1.37**	**262**	Pg	**Pg**	**16 31 33.8**	**-0.8**
IVRN	**Varamin**	**1.72**	**232**	Pn	**Pn**	**16 31 39.2**	**+1.1**
CHTH	**Charan**	**1.84**	**266**	*e*Pg	**Pg**	**16 31 42.2**	**-1.6**
CHTH	**Charan**	**1.84**	**266**	*e*Pg	**Pg**	**16 31 42.2**	**-1.7**
	SNR=91						
ISFB	**Sefidab**	**1.95**	**209**	Pn	**Pn**	**16 31 41.4**	**+0.1**
ISFB	**Sefidab**	**1.95**	**209**	Lg		16 32 07.2	
THKV	**Tehran--Karaj**	**2.04**	**267**	*e*Pg	**Pg**	**16 31 46.3**	**-1.5**
THKV				AML	AML	16 32 22.2	
	comp=N,408nm,0.7s						
IMHD	**Mahdasht**	**2.24**	**261**	Pn	**Pn**	**16 31 47.5**	**+2.0**
ASAO	**Ashtian**	**3.14**	**242**	*e*Pn	**Pn**	**16 31 58.8**	**+0.5**
ASAO				AML	AML	16 32 58.2	
	comp=N,99nm,0.6s						
NASN	**Na'in**	**3.29**	**189**	*e*Pn	**Pn**	**16 32 00.0**	**-0.4**
NASN				*e*Pg	**Pg**	**16 32 06.5**	**-6.3**
ICHK	**Chekchek**	**3.90**	**167**	Pn	**Pn**	**16 32 08.6**	**-0.5**
IMEH	**Mehriz**	**4.77**	**167**	Pn	**Pn**	**16 32 20.4**	**-1.1**
IBAF	**Bafgh**	**4.81**	**157**	Pn	**Pn**	**16 32 21.4**	**-0.7**

NEIC ***22*** *16:40:29.4,17.01N×94.86W,h95km,MD4.0(MEX),After MEX.*

MEX 22 16:40:27.9±0.9,16.98N×94.87W,h119km±16km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.13**	**22**	*i* P	P	16 40 49.9	-1.6
TUIG				*e*S	S	16 41 06.9	-2.2
TUIG	**Tuzandepetl**	**1.13**	**22**	*e*P	P	16 40 49.9	-1.6
TUIG				*e*S	S	16 41 04.6	-4.5
HUIG	**Huatulco**	**1.69**	**225**	*e*P	P	16 40 55.4	-2.6
HUIG				*i* S	S	16 41 19.0	-1.7
HUIG	**Huatulco**	**1.69**	**225**	*e*P	P	16 40 55.4	-2.6
HUIG				*e*S	S	16 41 19.3	-1.4
OXX	**Oaxaca**	**1.77**	**273**	*i* P	P	16 40 58.0	-0.9
OXX				*i* S	S	16 41 20.0	-2.4
VHO	**Vista Hermosa**	**1.78**	**273**	*e*P	P	16 40 57.7	-1.4
VHO				*e*S	S	16 41 20.4	-2.2
CCIG	**Comitan**	**2.71**	**105**	*e*P	P	16 41 10.6	-0.6
CCIG				*e*S	S	16 41 40.8	-3.2
CCIG	**Comitan**	**2.71**	**105**	*e*P	P	16 41 12.0	+0.8
CCIG				*e*S	S	16 41 41.2	-2.8
PPM	**Popocatepetl**	**4.13**	**301**	*e*P	P	16 41 29.3	-1.0
PPM				*e*S	S	16 42 15.1	-2.9
PPM	**Popocatepetl**	**4.13**	**301**	*e*P	P	16 41 29.3	-1.0
PPM				*e*S	S	16 42 09.8	-8.1

IDC 22 16:59:53.0±2.9,34.38N×79.25E,mb3.4/3,mb1 3.6/6, mb1mx3.4/21,mbtmp3.4/6,ML3.1/2,Error ellipse: s-maj=59.4km s-min=47.2km az=73.0,Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**11.06**	**325**	P	P	17 01 51.3	-44
	baz=173,slow=14						
KK31				S		17 03 25.5	
	0.6nm,0.2s,baz=124,slow=20,SNR=3.6						
MK31	**Makanchi Array**	**12.61**	**10**	P	P	17 02 54.1	-2.3
	0.6nm,0.4s,baz=191,slow=13,SNR=11						
MK31				S	S	17 05 10.0	-8.8
	2.2nm,0.9s,baz=196,slow=24,SNR=3.9						
MKAR	**Makanchi Array**	**12.61**	**10**	Pn	P	17 02 54.2	-2.2
	0.1nm,0.3s,baz=190,slow=14,SNR=7.0						
MKAR				Sn	S	17 05 10.8	-8.0
	0.1nm,0.3s,baz=194,slow=24,SNR=3.4						
BVAR	**Borovoye Array**	**19.68**	**344**	P	P	17 04 24.5	-1.8
	0.1nm,0.3s,baz=157,slow=11,SNR=6.6						
ZAL	**Zalesovo**	**19.94**	**10**	P	P	17 04 26.4	-2.8
	0.1nm,0.3s,baz=270,slow=8.1,SNR=3.0						
SONM	**Songino Array**	**24.32**	**48**	P	P	17 05 12.9	-0.1
	0.2nm,0.5s,baz=243,slow=10,SNR=3.1						
ILAR	**Eielson Array**	**74.80**	**19**	P	P	17 11 34.4	-1.8
	0.6nm,0.9s,baz=323,slow=4.8,SNR=5.6						
YKA	**Yellowknife Ar**	**82.82**	**6**	P	P	17 12 18.4	-1.4
	0.3nm,0.6s,baz=341,slow=5.1,SNR=9.9						

IDC 22 17:03:22.1±0.9,7.48S×156.39E,mb4.0/5,mb1 4.0/6, mb1mx3.9/14,mbtmp4.0/6,ML2.9/1,MS3.1/3,Ms1 3.1/3, ms1mx3.0/21,Error ellipse: s-maj=35.8km s-min=17.4km az=31.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.02**	**119**	Pn	Pn	17 04 27.0	+0.7
	0.7nm,0.3s,baz=72,slow=6.4,SNR=4.2						
HNR				Pg	Pg	17 04 35.9	-6.5
	12nm,0.3s,baz=320,slow=2.0,SNR=12						
HNR				LR	LR	17 05 24.4	
	comp=Z,165nm,18.8s,baz=68,slow=30						
HNR				Lg		17 05 27.1	
	31nm,0.3s,baz=290,slow=22,SNR=10						
PMG	**Port Moresby**	**9.33**	**258**	LR	LR	17 08 56.0	
	comp=Z,204nm,18.8s,baz=306,slow=36						
CTA	**Charters Tower**	**15.93**	**217**	LR	LR	17 12 16.4	
	comp=Z,62nm,20.5s,baz=53,slow=34						
WRA	**Warramunga Arr**	**24.71**	**238**	P	P	17 08 45.0	-1.4
	2.2nm,1.0s,baz=62,slow=9.0,SNR=7.4						
WRA				PcP	PcP	17 12 22.4	-2.4
	0.5nm,0.7s,baz=66,slow=2.8,SNR=5.6						
SONM	**Songino Array**	**70.49**	**327**	P	P	17 14 39.0	-1.6
	1.5nm,0.9s,baz=135,slow=5.9,SNR=8.9						
MKAR	**Makanchi Array**	**84.68**	**318**	P	P	17 15 58.0	-1.2
	5.0nm,0.8s,baz=103,slow=5.8,SNR=43						
ZAL	**Zalesovo**	**85.36**	**326**	P	P	17 16 00.8	-1.7
	1.1nm,0.6s,baz=351,slow=5.1,SNR=8.9						
YKA	**Yellowknife Ar**	**96.11**	**28**	P	P	17 16 51.5	-1.2
	0.1nm,0.6s,baz=278,slow=4.2,SNR=3.9						

KRSC 22 17:05:54.1±0.8,49.06N×156.19E,h17km±34km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.44**	**9**	P	Pn	17 06 32.9	-1.1
PAU				*i* S	Sn	17 07 01.3	-2.4
PAU				Smax			
	300nm,0.3s						
RUS	**Russkaya**	**3.69**	**23**	*e*P	Pn	17 06 51.5	-0.2
RUS				*e*S	Sn	17 07 32.6	-2.6
GRL	**Gorelyy**	**3.69**	**18**	*e*P	Pn	17 06 52.5	+0.7
GRL				*e*S	Sn	17 07 35.6	+0.2
PET	**Petropavlovsk**	**4.26**	**20**	*e*S	Sn	17 07 48.5	-1.3
UGLR	**Uglovaya**	**4.47**	**21**	*e*P	Pn	17 07 03.0	+0.1
AVH	**Avacha**	**4.51**	**20**	*e*P	Pn	17 07 04.3	+1.0
KOK	**Koryaka**	**4.51**	**19**	*e*P	Pn	17 07 04.1	+0.7
SMAR	**Somma**	**4.52**	**20**	P	Pn	17 07 04.3	+0.8
NLC	**Nalytchevo**	**4.57**	**25**	*e*S	Sn	17 07 52.5	-5.1
SPN	**Mys Shipunski**	**4.71**	**29**	*e*P	Pn	17 07 05.9	-0.3
SPN				*e*S	Sn	17 07 58.6	-2.5
GNL	**Ganaly**	**4.77**	**13**	*e*P	Pn	17 07 07.1	0.0
KBTR	**Krutoberegovo**	**8.21**	**27**	*e*P	P	17 07 55.3	-0.1

MAN 22 17:15:25.0,5.83N×126.13E,h115km,mb4.2,ML3.0, MS2.7,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.12**	**7**	*e*P	P	17 15 48.7	+0.5
MATI				*e*S	S	17 16 06.2	+0.6
GSPH	**General Santos**	**1.20**	**283**	*e*P	P	17 15 46.9	-2.3
GSPH				*i* S	S	17 16 03.4	-3.9
BUKP	**Musuan**	**2.30**	**333**	*e*P	P	17 16 02.6	-0.1
BUKP				*e*S	S	17 16 31.5	+0.4

IDC ***22*** *17:33:23.7±0.8,26.87N×140.96E,mb4.0/8,mb1 4.2/8, mb1mx4.0/19,mbtmp4.0/8,MS3.4/1,Ms1 3.4/1, ms1mx2.5/33,Error ellipse: s-maj=23.8km s-min=17.5km az=2.0*
MOS ***22*** *17:33:26.8±1.1,26.78N×140.83E,h33km,mb4.6/4,Error ellipse: s-maj=25.0km s-min=11.8km az=106.2*
BJI ***22*** *17:33:29.9,26.80N×140.90E,h50km,mB5.1,mb4.6*
NEIC ***22*** *17:33:30.9±1.9,26.80N×140.92E,h51km±16km,mb4.6/5, Error ellipse: s-maj=12.3km s-min=9.9km az=98.0*

ISC 22 17:33:26.4±4.1,26.79N±0.08×140.96E±0.06,h29km±30km, n35,σ0§88/32,mb4.3/15,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.14**	**74**	Pn	**Pn**	**17 33 46.0**	**-0.6**
	74nm,0.3s,baz=286,slow=20,SNR=2.8						
CBIJ				Sn	**Sn**	**17 34 01.8**	**+0.5**
	405nm,0.3s,baz=270,slow=21,SNR=3.8						
MAJO	**Matsushiro**	**10.00**	**347**	P	**P**	**17 35 51.5**	**0.0**
MAJO				pmax	pmax		
	comp=Z,43nm,1.4s						
MAJO	**Matsushiro**	**10.00**	**347**	P	**P**	**17 35 51.5**	**0.0**
	comp=Z,43nm,1.4s						
JOW	**Kunigami**	**11.33**	**273**	LR	LR	17 39 44.5	
	comp=Z,161nm,18.4s,baz=311,slow=34						
KS15	**Wonju Array Si**	**15.33**	**317**	*e*P	**P**	**17 37 08.8**	**+6.3**
LZH	**Lanzhou**	**32.83**	**296**	*e*P	**P**	**17 40 01.5**	**+1.7**
LZH				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.8						
MA2	**Magadan**	**33.47**	**9**	P	**P**	**17 40 06.1**	**+1.0**
MA2				pmax	pmax		
	comp=Z,77nm,1.6s,mb5.4						
MA2	**Magadan**	**33.47**	**9**	P	**P**	**17 40 06.1**	**+1.0**
	comp=Z,76nm,1.6s,mb5.4						
ULN	**Ulaanbaatar**	**33.80**	**318**	*e*P	**P**	**17 40 08.3**	**+0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.4						
ULN	**Ulaanbaatar**	**33.80**	**318**	*e*P	**P**	**17 40 08.3**	**+0.3**
	comp=Z,8.3nm,1.5s,mb4.4						
SONM	**Songino Array**	**34.19**	**317**	P	**P**	**17 40 10.8**	**-0.6**
	comp=Z,1.3nm,0.9s,mb3.8,baz=112,slow=8.0,SNR=6.5						
GTA	**Gaotai**	**36.40**	**301**	*e*P	**P**	**17 40 30.6**	**+0.3**
ZAK	**Zakamensk**	**37.13**	**320**	*e*P	**P**	**17 40 33.9**	**-2.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
BILL	**Bilibino**	**44.00**	**13**	*e*P	**P**	**17 41 33.6**	**+0.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**44.00**	**13**	*e*P	**P**	**17 41 33.6**	**+0.9**
	comp=Z,3.8nm,0.9s,mb4.1						
WRAB	**Tennant Creek**	**46.88**	**189**	*e*P	**P**	**17 41 55.9**	**-0.4**
WB2	**Warramunga Arr**	**46.89**	**189**	*e*P	**P**	**17 41 56.4**	**0.0**
WRA	**Warramunga Arr**	**46.89**	**189**	P	**P**	**17 41 56.1**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.2,baz=8.9,slow=8.5,SNR=31						
JIRN	**Jiri**	**48.37**	**284**	*e*P	**P**	**17 42 08.8**	**+1.0**
	comp=Z,7.3nm,0.5s,mb5.0						
GUN	**Gumba**	**48.58**	**285**	*e*P	**P**	**17 42 10.6**	**+1.1**
KKN	**Kakani**	**49.13**	**285**	*e*P	**P**	**17 42 14.6**	**+0.9**
GKN	**Gorkha**	**49.64**	**285**	*e*P	**P**	**17 42 18.4**	**+0.8**
MKAR	**Makanchi Array**	**49.83**	**310**	P	**P**	**17 42 18.4**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=90,slow=8.7,SNR=19						
MKAR				PcP	PcP	17 43 38.4	-1.1
	comp=Z,0.5nm,0.8s,baz=76,slow=5.9,SNR=2.6						
KOLN	**Koldanda**	**50.58**	**285**	*e*P	**P**	**17 42 24.0**	**-0.8**
KURK	**Kurchatov**	**52.42**	**315**	*e*P	**P**	**17 42 37.5**	**-0.9**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**52.42**	**315**	*e*P	**P**	**17 42 37.5**	**-0.9**
	comp=Z,7.4nm,1.0s,mb4.6						
ZRNK	**Zerenda**	**58.37**	**317**	*e*P	**P**	**17 43 20.4**	**-1.0**
ILAR	**Eielson Array**	**58.51**	**29**	P	**P**	**17 43 21.8**	**-0.4**
	comp=Z,1.0nm,0.9s,mb3.8,baz=265,slow=6.1,SNR=6.4						
YKA	**Yellowknife Ar**	**72.93**	**28**	P	**P**	**17 44 54.9**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=294,slow=6.2,SNR=26						
FINES	**FINESS Array B**	**77.74**	**334**	P	**P**	**17 45 20.6**	**-1.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=76,slow=5.7,SNR=5.8						
NOA	**NORSAR Array B**	**83.49**	**338**	P	**P**	**17 45 51.5**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=45,slow=5.1,SNR=2.4						
PDAR	**Pinedale Array**	**85.20**	**44**	P	**P**	**17 46 02.0**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.9,baz=270,slow=3.0,SNR=6.0						
PLCA	**Paso Flores**	**150.52**	**126**	PKPbc	PKPdf	17 53 18.2	+3.2
	comp=Z,1.9nm,0.8s,baz=331,slow=5.8,SNR=4.2						
LPAZ	**La Paz**	**151.06**	**75**	PKPbc	PKPdf	17 53 21.0	+4.6
	comp=Z,1.8nm,0.8s,baz=278,slow=3.9,SNR=9.5						
LPAZ	**La Paz**	**151.06**	**75**	*e*PKPdf	PKPdf	17 53 17.9	+1.5
LPAZ				*e*PKPbc	PKPdf	17 53 20.7	+4.3
LPAZ				PKPbc	PKPdf	17 53 21.0	+4.6

IDC ***22*** *17:49:16.1±3.2,3.58S×101.20E,mb4.2/5,mb1 4.3/5, mb1mx4.0/15,mbtmp4.2/5,MS2.7/1,Ms1 2.7/1, ms1mx2.6/20,Error ellipse: s-maj=141.5km s-min=21.5km az=56.0*
NEIC ***22*** *17:49:18.5±0.6,3.73S×100.85E,h30km,mb4.4/8,Error ellipse: s-maj=22.7km s-min=10.2km az=61.0*

ISC 22 17:49:16.5±0.6,3.7S±0.1×100.9E±0.1,h30km,n19, σ1§02/17,mb4.3/13,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.72**	**343**	LR	LR	17 54 17.8	
	comp=Z,64nm,18.4s,baz=8.3,slow=46						
KULM	**Kulim**	**8.91**	**359**	P	**P**	**17 51 24.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**28.18**	**122**	*e*P	**P**	**17 55 08.4**	**-0.4**
	4.2nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**36.42**	**119**	P	**P**	**17 56 20.1**	**-0.6**
	1.8nm,0.3s,mb4.4,baz=302,slow=8.9,SNR=50						
WRAB	**Tennant Creek**	**36.43**	**119**	*e*P	**P**	**17 56 20.1**	**-0.6**
	4.6nm,0.5s,mb4.7						
WB2	**Warramunga Arr**	**36.44**	**119**	*e*P	**P**	**17 56 20.8**	**+0.1**
ASPA	**Alice Springs**	**37.59**	**125**	*e*P	**P**	**17 56 31.2**	**+0.8**
CTAO	**Charters Tower**	**47.13**	**114**	*e*P	**P**	**17 57 47.9**	**-0.4**
	18nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**47.41**	**131**	P	**P**	**17 57 51.4**	**+1.1**
	1.1nm,0.3s,mb4.3,baz=275,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**47.41**	**131**	P	**P**	**17 57 51.4**	**+1.1**
SONM	**Songino Array**	**51.53**	**5**	P	**P**	**17 58 23.2**	**+1.5**
	3.0nm,0.8s,mb4.3,baz=183,slow=9.6,SNR=20						
ULN	**Ulaanbaatar**	**51.62**	**5**	*e*P	**P**	**17 58 22.5**	**+0.1**
	2.4nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**52.87**	**344**	P	**P**	**17 58 33.8**	**+1.9**
	0.6nm,0.3s,mb4.0,baz=155,slow=9.2,SNR=16						
KURK	**Kurchatov**	**57.45**	**343**	*e*P	**P**	**17 59 03.3**	**-1.6**
	2.6nm,0.7s,mb4.4						
ZAL	**Zalesovo**	**58.96**	**349**	P	**P**	**17 59 15.9**	**+0.4**
	1.5nm,0.3s,mb4.5,baz=335,slow=4.8,SNR=3.6						
CHKZ	**Chkalovo**	**62.50**	**340**	*e*P	**P**	**17 59 40.4**	**+0.9**
	1.6nm,0.7s,mb4.3						
MAW	**Mawson**	**68.88**	**195**	*e*P	**P**	**18 00 19.5**	**-0.7**
	4.9nm,0.7s,mb4.5						
TSUM	**Tsumeb**	**82.45**	**251**	P	**P**	**18 01 37.6**	**-0.4**
	1.7nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	**145.48**	**40**	PKPbc	PKPbc	18 08 55.9	+2.9
	1.9nm,0.5s,baz=274,slow=0.8,SNR=24						

NIED ***22*** *17:53:00,26.40N×128.80E,h5km,Mw4.0 Best double couple: M0 1.32×10^15 NP1:φ§26°,δ85°,λ91°. NP2:φ§195°, δ5°,λ79°.*

JMA 22 17:53:43.4±0.2,26.38N×128.78E,h23km±3km,M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.64**	**315**	P	Pb	17 53 55.6	-0.2
JOW				S	Sb	17 54 04.6	+0.3
JJT2	**Tamagusuku 2**	**0.96**	**256**	P	Pb	17 54 01.2	0.0
JJT2				*e*S	Sb	17 54 13.4	0.0
JIH	**Iheya**	**0.98**	**312**	P	Pb	17 54 01.4	-0.1
JIH				S	Sb	17 54 14.6	+0.6
NAH1	**Naha**	**0.99**	**260**	P	Pb	17 54 01.5	-0.3
NAH1				S	Sb	17 54 14.0	-0.5
JAGN	**Aguni-jima**	**1.39**	**279**	P	Pn	17 54 07.5	-0.3
JAGN				S	Sn	17 54 24.6	-1.0
JTK	**Tokunoshima**	**1.41**	**6**	P	Pn	17 54 08.4	+0.4
JKE	**Kume jima 2**	**1.79**	**269**	P	Pn	17 54 12.2	-1.2
JKE				*e*S	Sn	17 54 35.2	-0.4
JAM	**Amami Oshima**	**2.15**	**20**	P	Pn	17 54 19.3	+0.7
JAM				*e*S	Sn	17 54 44.7	-0.2
JMZ	**Minamidaito 2**	**2.27**	**104**	P	Pn	17 54 20.3	+0.1
JMZ				S	Sn	17 54 46.1	-1.6

LDG ***22*** *18:01:05.0±0.4,18.43S×169.80E,h10km,Mb4.7/2,Error ellipse: s-maj=53.3km s-min=25.7km az=29.0*
MOS ***22*** *18:01:34.9±1.0,19.02S×169.34E,h272km,mb4.6/13, Error ellipse: s-maj=13.4km s-min=11.4km az=31.5*
NEIC ***22*** *18:01:35.9±0.9,18.98S×169.36E,h270km±8km,mb4.7/14, Error ellipse: s-maj=8.4km s-min=6.9km az=170.0*
BJI ***22*** *18:01:36.9,18.58S×169.33E,h273km,mB5.0,mb4.6*
IDC ***22*** *18:01:36.2±1.3,19.06S×169.39E,h273km±13km, mb4.1/13,mb1 4.3/16,mb1mx4.2/20,mbtmp4.8/16,Error ellipse: s-maj=16.2km s-min=10.4km az=165.0*

ISC 22 18:01:34.2±0.6,18.95S±0.06×169.34E±0.06,h265km±4km, h287km±.7km:pP-P,n128,σ0§93/82,mb4.4/31,14C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.65**	**321**	*i* P	**P**	**18 02 14.8**	**-0.6**
BKM				S	**S**	**18 02 46.0**	**-1.4**
DZM	**Mont Dzumac**	**4.12**	**221**	*e*P	**P**	**18 02 41.8**	**+1.1**
DZM				*e*S	**S**	**18 03 33.8**	**+1.3**
DZM	**Mont Dzumac**	**4.12**	**221**	P	**P**	**18 02 41.7**	**+1.1**
	13nm,0.3s,baz=60,slow=18,SNR=147						
DZM				S	**S**	**18 03 33.3**	**+0.9**
	13nm,0.3s,baz=105,slow=20,SNR=3.8						
HNR	**Honiara**	**13.13**	**315**	P	**P**	**18 04 33.9**	**+1.4**
	28nm,0.3s,baz=182,slow=3.5,SNR=39						
HNR	**Honiara**	**13.13**	**315**	*e*P	**P**	**18 04 33.4**	**+0.9**
HNR				pmax	pmax		
	comp=Z,281nm,0.7s						
HNR	**Honiara**	**13.13**	**315**	*e*P	**P**	**18 04 33.4**	**+0.9**
	comp=Z,281nm,0.7s						
AFI	**Afiamalu**	**18.79**	**77**	P	**P**	**18 05 35.6**	**-0.5**
	comp=Z,7.2nm,0.3s,baz=109,slow=5.3,SNR=7.6						
AFI	**Afiamalu**	**18.79**	**77**	P	**P**	**18 05 35.6**	**-0.5**
AFI				pmax	pmax		
	comp=Z,7.0nm,0.3s						
URZ	**Urewera**	**20.39**	**162**	P	**P**	**18 05 51.8**	**-0.2**
	comp=Z,8.4nm,1.0s,baz=328,slow=13,SNR=3.5						
CTA	**Charters Tower**	**21.79**	**263**	*e*P	**P**	**18 06 07.6**	**+1.9**
	comp=Z,12nm,0.9s,mb4.2						
CTA	**Charters Tower**	**21.79**	**263**	P	**P**	**18 06 07.8**	**+2.0**
	comp=Z,20nm,0.8s,mb4.5,baz=88,slow=11,SNR=22						
CTA	**Charters Tower**	**21.79**	**263**	*e*P	**P**	**18 06 07.6**	**+1.9**
CTA				pmax	pmax		
	comp=Z,12nm,0.9s						
CTAO	**Charters Tower**	**21.79**	**263**	*e*P	**P**	**18 06 06.3**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,60nm,1.3s,mb4.8						
CTAO	**Charters Tower**	**21.79**	**263**	*e*P	**P**	**18 06 06.3**	**+0.5**
	comp=Z,60nm,1.3s,mb4.8						
PMG	**Port Moresby**	**23.48**	**291**	P	**P**	**18 06 23.9**	**+1.8**
	comp=Z,48nm,0.8s,mb4.9,baz=108,slow=5.5,SNR=18						
PMG	**Port Moresby**	**23.48**	**291**	*e*P	**P**	**18 06 22.1**	**+0.1**
PMG	**Port Moresby**	**23.48**	**291**	*e*P	**P**	**18 06 22.7**	**+0.7**
STKA	**Stephens Creek**	**28.08**	**237**	*e*P	**P**	**18 07 04.3**	**+0.5**
	comp=Z,16nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**28.08**	**237**	P	**P**	**18 07 04.4**	**+0.6**
	comp=Z,18nm,0.7s,mb4.6,baz=66,slow=8.4,SNR=56						
WB2	**Warramunga Arr**	**32.98**	**262**	*i* P	**P**	**18 07 45.7**	**-0.8**
WB2				*e*S	**S**	**18 12 41.6**	**-2.8**
WRAB	**Tennant Creek**	**32.98**	**262**	*e*P	**P**	**18 07 44.0**	**-2.6**
WRAB	**Tennant Creek**	**32.98**	**262**	*e*P	**P**	**18 07 43.8**	**-2.8**
	comp=Z,26nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**32.99**	**262**	P	**P**	**18 07 45.8**	**-0.8**
	comp=Z,14nm,0.6s,mb4.6,baz=97,slow=8.5,SNR=72						
WRA				S	**S**	**18 12 43.6**	**-0.9**
	comp=

HHC					LR	LR			
	comp=E,190nm,14.3s								
HHC					LR	LR			
	comp=Z,110nm,11.9s								
LZH	**Lanzhou**	**82.61**	**312**	*e*P	**P**		**18 13 28.5**	**-0.8**
LZH				AP	pP		18 14 37.1	+4.6
LZH				XP	sP		18 15 06.8	+7.1
LZH				PP	PP		18 16 44.6	+0.4
LZH				AMB	AMB			
	comp=Z,20nm,1.5s,mb4.7								
LZH				AMB	AMB				
	comp=Z,40nm,7.2s								
TNA	**Tin City**	**86.01**	**9**	*e*P	**P**		**18 13 46.1**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.2								
ULN	**Ulaanbaatar**	**86.69**	**323**	*e*P	**P**		**18 13 49.9**	**+0.6**
ULN				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.3								
ULN	**Ulaanbaatar**	**86.69**	**323**	*e*P	**P**		**18 13 49.9**	**+0.6**
	comp=Z,5.4nm,0.9s,mb4.4								
BILL	**Bilibino**	**86.77**	**359**	*d i*P	**P**		**18 13 49.4**	**+0.2**
BILL				pmax	pmax				
	comp=Z,17nm,1.4s,mb4.7								
BILL	**Bilibino**	**86.77**	**359**	*e*P	**P**		**18 13 48.8**	**-0.4**
	comp=Z,16nm,1.3s,mb4.7								
CMB	**Columbia Colle**	**86.89**	**48**	*e*P	**P**		**18 13 50.7**	**+0.2**
CMB				*e**PP	pP		18 14 59.6	+5.4
CMB				pmax	pmax				
	comp=Z,10.0nm,1.1s,mb4.6								
CMB	**Columbia Colle**	**86.89**	**48**	*e*P	**P**		**18 13 50.7**	**+0.2**
	comp=Z,10nm,1.1s,mb4.6								
CMB				*e*pP	pP		18 14 59.6	+5.4
GTA	**Gaotai**	**87.00**	**313**	*e*P	**P**		**18 13 52.5**	**+1.5**
GTA				AP	pP		18 15 00.6	+5.9
GTA				XP	sP		18 15 30.6	+8.8
GTA				PP	PP		18 17 22.5	+2.6
GTA				SKS	SKS		18 23 50.3	+0.1
GTA				S	S		18 24 05.3	+0.3
GTA				XS			18 26 01.8	
GTA				SS	SS		18 29 53.4	-4.2
GTA				AMB	AMB				
	comp=Z,130nm,6.1s								
GTA				LR	LR				
	comp=N,110nm,10.3s								
GTA				LR	LR				
	comp=E,110nm,8.8s								
GTA				LR	LR				
	comp=Z,110nm,8.0s								
YBH	**Yreka Blue Hor**	**87.02**	**44**	P	**P**		**18 13 52.1**	**+1.0**
	comp=Z,6.8nm,0.9s,mb4.5,baz=128,slow=2.8,SNR=7.8								
YBH	**Yreka Blue Hor**	**87.02**	**44**	P	**P**		**18 13 52.1**	**+1.1**
YBH				pmax	pmax				
	comp=Z,7.0nm,0.9s								
SONM	**Songino Array**	**87.05**	**323**	P	**P**		**18 13 52.1**	**+1.1**
	comp=Z,2.8nm,0.8s,mb4.2,baz=145,slow=5.4,SNR=24								
SONM	**Songino Array**	**87.05**	**323**	P	**P**		**18 13 52.1**	**+1.1**
SONM				pmax	pmax				
	comp=Z,3.0nm,0.8s								
NVAR	**Mina Array Bea**	**88.54**	**48**	P	**P**		**18 13 58.6**	**+0.4**
	comp=Z,2.6nm,0.8s,mb4.1,baz=214,slow=5.9,SNR=15								
IMA2	**Indian Mountai**	**89.21**	**14**	*e*P	**P**		**18 14 00.4**	**-0.3**
TPNV	**Topopah Spring**	**89.39**	**51**	*e*P	**P**		**18 14 02.9**	**+0.6**
TPNV				pmax	pmax				
	comp=Z,30nm,1.5s,mb4.9								
TPNV	**Topopah Spring**	**89.39**	**51**	*e*P	**P**		**18 14 02.9**	**+0.6**
	comp=Z,30nm,1.5s,mb4.9								
SNAA	**Sanae**	**89.45**	**182**	*e*P	**P**		**18 13 59.5**	**-2.2**
NEN	**Nelson**	**89.91**	**52**	*e*P	**P**		**18 14 05.3**	**+0.6**
ILAR	**Eielson Array**	**89.93**	**17**	P	**P**		**18 14 02.8**	**-1.4**
	comp=Z,3.5nm,0.9s,mb4.2,baz=234,slow=5.8,SNR=17								
ILAR	**Eielson Array**	**89.93**	**17**	P	**P**		**18 14 02.8**	**-1.3**
ILAR				pmax	pmax				
	comp=Z,4.0nm,0.9s								
ZAK	**Zakamensk**	**90.12**	**324**	*e*P	**P**		**18 14 05.8**	**+0.4**
ZAK				pmax	pmax				
	comp=Z,7.0nm,1.9s,mb4.2								
ELK	**Elko**	**91.65**	**47**	*e*P	**P**		**18 14 13.2**	**+0.5**
DAWY	**Dawson**	**91.69**	**20**	P	**P**		**18 14 11.9**	**-0.4**
BMO	**Blue Mountains**	**91.95**	**43**	*e*P	**P**		**18 14 13.5**	**-0.5**
WUAZ	**Wupatki**	**92.47**	**53**	*e*P	**P**		**18 14 17.1**	**+0.5**
	comp=Z,10nm,1.1s,mb4.7								
TIXI	**Tiksi**	**94.48**	**348**	*e*P	**P**		**18 14 23.9**	**-1.0**
TIXI				pmax	pmax				
	comp=Z,1.0nm,1.3s,mb3.7								
MCMT	**McKenzie Canyo**	**94.85**	**44**	P	**P**		**18 14 27.6**	**+0.4**
PDAR	**Pinedale Array**	**96.35**	**47**	P	**P**		**18 14 34.3**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.7,baz=90,slow=1.5,SNR=5.1								
TXAR	**Lajitas Array**	**96.54**	**61**	P	**P**		**18 14 35.7**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.9,baz=237,slow=7.2,SNR=5.3								
WMQ	**Urumqi**	**97.08**	**314**	*e*P	**P**		**18 14 37.3**	**-0.1**
WMQ				AP	pP		18 15 46.3	+4.7
WMQ				XP	sP		18 16 15.8	+7.3
WMQ				AMB	AMB				
	comp=Z,40nm,6.0s								
KRAR	**Krasnoyarsk**	**98.21**	**327**	*e*P	**P**		**18 14 42.5**	**+0.3**
YKA	**Yellowknife Ar**	**100.37**	**27**	P	P		18 14 52.1	+0.3
	comp=Z,1.5nm,0.8s,baz=254,slow=4.6,SNR=22								
YKA	**Yellowknife Ar**	**100.37**	**27**	P	P		18 14 52.2	+0.3
MKAR	**Makanchi Array**	**101.60**	**316**	P	P		18 14 59.1	+1.4
	comp=Z,0.5nm,0.8s,baz=99,slow=6.0,SNR=4.4								
MKAR	**Makanchi Array**	**101.60**	**316**	P	P		18 14 59.2	+1.4
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**124.82**	**345**	PKP	PKPdf		18 20 02.3	+0.2
	comp=Z,2.0nm,0.8s,baz=80,slow=2.5,SNR=13								
ARCES	**ARCESS Array B**	**124.82**	**345**	PKIKP	PKPdf		18 20 02.3	+0.2
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
OBN	**Obninsk**	**129.31**	**327**	*e*PKIKP	PKPdf		18 20 12.1	+1.0
SOC	**Sochi**	**131.33**	**312**	*i* PKHKP			18 19 56.2	
SOC				*e*			18 22 35.1	
NKC	**Novy Kostel**	**143.76**	**335**	*e*PKP	PKPdf		18 20 38.0	+0.6
MOX	**Moxa**	**143.76**	**336**	*i* P	PKPbc		18 20 37.0	+0.4
KHC	**Kasperske Hory**	**144.13**	**333**	*e*PKP	PKPdf		18 20 38.4	+0.3
KHC	**Kasperske Hory**	**144.13**	**333**	*i* PKIKP	PKPdf		18 20 38.6	+0.5
GEC2	**GERESS Array S**	**144.29**	**332**	*e*PKIKP	PKPdf		18 20 38.7	+0.3
GERES	**GERESS Array B**	**144.29**	**332**	PKP	PKPdf		18 20 38.4	0.0
	comp=Z,2.7nm,0.8s,baz=45,slow=3.8,SNR=26								
GERES	**GERESS Array B**	**144.29**	**332**	PKIKP	PKPdf		18 20 38.4	0.0
GERES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
WET	**Wettzell**	**144.42**	**333**	*e*PKIKP	PKPdf		18 20 39.0	+0.4
GRA1	**Grafenberg Arr**	**144.68**	**335**	*e*PKPbc	PKPbc		18 20 40.4	+1.1
GRF	**Grafenberg Arr**	**144.68**	**335**	*e*PKIKP	PKPdf		18 20 40.4	+1.3
GRF	**Grafenberg Arr**	**144.68**	**335**	*e*PKIKP	PKPdf		18 20 40.4	+1.3
MOA	**Molln**	**144.76**	**331**	⇑ *i*P	PKPdf		18 20 40.5	+1.2
	comp=Z,16nm,1.1s								
TNS	**Taunus Mts**	**145.28**	**338**	*e*PKP2	PKPab		18 20 42.3	-1.0
FUR	**Furstenfeldbru**	**145.85**	**334**	*e*PKPbc	PKPbc		18 20 43.7	+1.4
FUR				*e*PKPab	PKPab		18 20 47.3	+1.8
GIVF	**Givet**	**146.55**	**342**	*e*PKP1	PKPbc		18 20 45.5	+1.6
SQTA	**Sankt Quirin**	**146.61**	**333**	⇑ *i*P	PKPdf		18 20 46.0	+3.3
	comp=Z,5.6nm,0.9s								
BAIF	**Baives**	**146.77**	**342**	*e*PKP1	PKPbc		18 20 46.3	+1.9
	comp=Z,26nm,1.0s								
BFO	**Black Forest**	**146.90**	**337**	*e*PKP2	PKPab		18 20 46.4	-3.2
CDF	**Champ du Feu**	**147.21**	**338**	⇑ *i*PKP1	PKPdf		18 20 47.4	+3.8
	comp=Z,13nm,0.8s								
HINF	**Hinteralfeld**	**147.87**	**338**	*e*PKP1	PKPdf		18 20 48.9	+4.4
HAU	**Haudompre**	**147.89**	**338**	⇑ *i*PKP1	PKPdf		18 20 49.0	+4.5
	comp=Z,12nm,0.8s								
MEZF	**Maizieres J'vi**	**147.89**	**340**	*e*PKP1	PKPdf		18 20 49.5	+5.0
	comp=Z,21nm,0.9s								
FLN	**La Foliniere**	**149.15**	**347**	⇑ *i*PKP1	PKPdf		18 20 51.9	+5.4
CABF	**La Chapelle**	**149.17**	**337**	⇑ *i*PKP1	PKPdf		18 20 52.9	+6.3
	comp=Z,17nm,0.8s								
LOR	**Lormes**	**149.36**	**340**	⇑ *i*PKP1	PKPdf		18 20 52.8	+5.9
	comp=Z,11nm,0.7s								
GRR	**Gorron**	**149.58**	**347**	⇑ *i*PKP1	PKPdf		18 20 53.2	+6.0
	comp=Z,26nm,1.0s								
SSF	**Saint Saulge**	**149.66**	**341**	⇑ *i*PKP1	PKPdf		18 20 53.6	+6.3
	comp=Z,8.2nm,0.8s								
LPL	**La Plagne**	**149.84**	**335**	⇑ *i*PKP1	PKPdf		18 20 54.6	+6.9
	comp=Z,7.4nm,0.8s								
LPG	**La Plagne**	**149.85**	**335**	⇑ *i*PKP1	PKPdf		18 20 54.7	+7.0
	comp=Z,12nm,0.9s								
SMF	**Signal de Mont**	**149.92**	**340**	*e*PKP1	PKPdf		18 20 54.2	+6.5
AVF	**Avril sur Loir**	**149.94**	**341**	*e*PKP1	PKPdf		18 20 54.0	+6.2
SGMF	**Saint Gilles**	**150.04**	**349**	*e*PKP1	PKPdf		18 20 54.0	+6.1
BGF	**Bois d'Agland**	**150.31**	**341**	*e*PKP1	PKPdf		18 20 55.0	+6.7
	comp=Z,8.2nm,0.8s								
ORIF	**Oris-en-Rattie**	**150.67**	**336**	⇑ *i*PKP1	PKPdf		18 20 56.1	+7.2
	comp=Z,8.9nm,0.7s								
TCF	**Toulx Ste Croi**	**150.75**	**342**	⇑ *i*PKP1	PKPdf		18 20 56.0	+7.0
	comp=Z,13nm,1.0s								
SBF	**Sospel**	**150.89**	**333**	*e*PKP1	PKPdf		18 20 57.2	+7.9
MFF	**Saint Martin d**	**151.10**	**345**	*e*PKP1	PKPdf		18 20 56.7	+7.2
PGF	**Pioggiola**	**151.18**	**329**	*e*PKP1	PKPdf		18 20 57.1	+7.3
	comp=Z,33nm,0.9s								
VIVF	**Saint-Julien-l**	**151.18**	**337**	*e*PKP1	PKPdf		18 20 57.3	+7.6
	comp=Z,7.4nm,0.9s								
SMRF	**Simiane la Rot**	**151.58**	**335**	*e*PKP1	PKPdf		18 20 58.4	+8.1
	comp=Z,14nm,1.0s								
RJF	**Les Rejaudoux**	**151.84**	**342**	*e*PKP1	PKPdf		18 20 58.6	+7.9
LASF	**Ste Croix**	**152.15**	**337**	*e*PKP1	PKPdf		18 20 59.5	+8.3
	comp=Z,15nm,1.2s								
LFF	**La Frestale**	**152.40**	**342**	*e*PKP1	PKPdf		18 20 59.8	+8.3
EVO	**Evora**	**160.36**	**354**	*e*PKIKP	PKPdf		18 21 06.0	+4.2
	comp=Z,97nm,1.8s								
TORD	**Torodi Ar. Bea**	**166.80**	**246**	PKP	PKPdf		18 21 09.7	+1.2
	comp=Z,1.4nm,0.8s,baz=15,slow=0.9,SNR=7.5								

MAN 22 18:03:58.9, 12.33N×123.85E, h98km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CNP	**Catarman**	**0.82**	**77**	*e*P	P		18 04 17.6	0.0
CNP				*e*S	S		18 04 33.5	+2.1
PVCP	**Virac**	**1.30**	**13**	*e*P	P		18 04 23.4	+0.4
PVCP				*e*S	S		18 04 41.0	-0.2
RCP	**Roxas**	**1.32**	**235**	⇑ *e*P	P		18 04 24.1	+0.8
RCP				*e*S	S		18 04 41.4	0.0
OCLP	**Ormoc**	**1.47**	**149**	*e*P	P		18 04 30.2	+5.1
OCLP				*e*S	S		18 04 55.4	+1.1
AUQP	**San Andres**	**1.51**	**311**	*e*P	P		18 04 26.8	+1.1
AUQP				*e*S	S		18 04 47.4	+2.0
OTRP	**Odiongan**	**1.78**	**271**	*e*P	P		18 04 28.2	-0.8
OTRP				*e*S	S		18 04 49.7	-1.7
GUIM	**Jordan**	**2.09**	**216**	*e*P	P		18 04 37.0	+3.9
GUIM				*e*S	S		18 05 02.1	+3.6
BOAC	**Boac**	**2.25**	**300**	*e*P	P		18 04 34.9	-0.5
BOAC				*e*S	S		18 05 03.1	+0.6
MATI	**Mati**	**5.85**	**156**	*e*P	P		18 05 25.1	+0.5

*IDC **22** 18:42:47.2±11.0, 6.95S×130.78E, h300km±135km, mb3.3/4, mb1 3.4/5, mb1mx3.3/13, mbtmp4.0/5, Error ellipse: s-maj=106.1km s-min=51.9km az=83.0*
*NEIC **22** 18:42:47.4±2.7, 7.09S×130.26E, h299km±34km, mb4.1/9, Error ellipse: s-maj=19.8km s-min=18.4km az=215.0*
ISC 22 18:42:44.1±3.3, 6.9S±0.1×130.4E±0.2, h275km±39km, n20, σ1$00/22, mb4.0/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**13.53**	**164**	*e*Pn	P		**18 45 47.3**	**+0.2**
	6.2nm,0.5s							
WRAB				*e*S	S		18 48 11.2	-0.7
WRA	**Warramunga Arr**	**13.54**	**164**	P	P		18 45 46.9	-0.3
	1.3nm,0.3s,baz=348,slow=13,SNR=74							
WRA				S	S		18 48 14.1	+2.1
	1.5nm,0.3s,baz=342,slow=20,SNR=9.7							
PMG	**Port Moresby**	**16.83**	**100**	P	P		18 46 24.3	-0.9
	37nm,1.4s							
PALK	**Pallekele**	**51.48**	**285**	P	P		18 51 21.4	-2.6
	8.5nm,0.9s,mb4.1							
LSA	**Lhasa**	**52.36**	**316**	P	P		18 51 30.4	+0.1
YSS	**Yuzh-Sakhalins**	**54.73**	**10**	*e*P	P		18 51 41.8	-5.4
	82nm,1.4s,mb5.0							
JIRN	**Jiri**	**54.78**	**311**	*e*P	P		**18 51 47.6**	**-0.2**
	7.7nm,0.7s,mb4.2							
GUN	**Gumba**	**55.14**	**311**	*e*P	P		18 51 50.3	-0.1
PKI	**Pulchoki**	**55.32**	**310**	*e*P	P		18 51 52.1	+0.4
KKN	**Kakani**	**55.53**	**310**	*e*P	P		18 51 53.9	+0.7
DMN	**Daman**	**55.57**	**310**	*e*P	P		18 51 54.6	+1.1
GKN	**Gorkha**	**56.13**	**310**	*e*P	P		18 51 56.9	-0.5
	3.7nm,0.2s,mb4.4							
KOLN	**Koldanda**	**56.80**	**310**	*e*P	P		**18 52 01.0**	**-1.1**
	3.2nm,0.4s,mb4.1							
SONM	**Songino Array**	**58.45**	**341**	P	P		18 52 12.9	-0.5
	0.4nm,0.5s,mb3.1,baz=157,slow=7.0,SNR=8.4							
CASY	**Casey**	**60.86**	**189**	*e*P	P		18 52 26.6	-2.9
	108nm,1.3s							
MKAR	**Makanchi Array**	**68.32**	**327**	P	P		18 53 18.4	+0.9
	3.6nm,0.4s,mb4.5,baz=114,slow=8.0,SNR=111							
ZAL	**Zalesovo**	**71.64**	**334**	P	P		18 53 37.4	-0.1
	0.5nm,0.6s,mb3.3,baz=139,slow=20,SNR=3.1							
BVAR	**Borovoye Array**	**78.16**	**328**	P	P		18 54 15.7	+1.2
	0.4nm,0.4s,mb3.5,baz=120,slow=9.2,SNR=5.3							
BRVK	**Borovoye**	**78.23**	**328**	P	P		18 54 15.2	+0.3
	1.4nm,0.9s,mb3.7							
ZRNK	**Zerenda**	**78.86**	**327**	*e*P	P		18 54 19.0	+0.8
	2.0nm,0.9s,mb3.9							

*ATH **22** 18:47:52.4, 38.20N×26.73E, h19km±1km, MD2.9/3*
*ISK **22** 18:47:52.6, 38.23N×26.71E, h16km, MD2.7*
*CSEM **22** 18:47:53.5±0.1, 38.19N×26.83E, h15km, MD2.7, Error ellipse: s-maj=4.4km s-min=2.4km az=117.0*
ISC 22 18:47:52.4±0.7, 38.21N±0.04×26.69E±0.04, h8km±6km, n13, σ0$70/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URLA	**Izmir**	**0.17**	**334**	*i* P	**Pg**		**18 47 55.8**	**-0.2**
URLA				*i* S	**Sg**		**18 47 59.3**	**+0.8**
BLCB	**Balcova**	**0.33**	**58**	PG	**Pg**		**18 47 59.2**	**0.0**
BLCB				SG	**Sg**		**18 48 04.0**	**+0.2**
IZM	**Izmir**	**0.49**	**67**	PG	**Pg**		**18 48 02.5**	**+0.2**
IZM				SG	**Sg**		**18 48 09.7**	**+0.8**
KDAG	**Bornova**	**0.49**	**67**	*i* P	**Pg**		**18 48 01.5**	**-1.0**
KDAG				*i* S	**Sg**		**18 48 08.3**	**-0.7**
SMG	**Samos**	**0.51**	**167**	*e*PB	**Pb**		**18 48 02.3**	**-1.0**
SMG				*e*SB	**Sb**		**18 48 09.6**	**-1.0**
PRK	**Paraskevi**	**1.09**	**343**	*e*PN	**Pn**		**18 48 13.3**	**-0.6**
PRK				*e*SN	**Sn**		**18 48 28.9**	**-0.3**
AYDN	**Tasoluk**	**1.09**	**120**	*i* P	**Pb**		**18 48 12.7**	**-0.5**
AYDN				*i* S	**Sb**		**18 48 27.5**	**+0.2**
AKS	**Akhisar**	**1.11**	**52**	*e*PG	**Pg**		**18 48 13.8**	**-0.8**
BODT	**Bodrum**	**1.25**	**156**	*e*PN	**Pn**		**18 48 16.4**	**+0.2**
MLSB	**Milas**	**1.25**	**136**	*e*PN	**Pn**		**18 48 15.8**	**-0.5**
BDRM	**Kayabasi**	**1.29**	**152**	*i* P	**Pb**		**18 48 17.5**	**+0.9**
BDRM				*i* S	**Sb**		**18 48 34.0**	**+0.9**
APE	**Apeiranthos**	**1.46**	**219**	*e*PN	**Pn**		**18 48 20.3**	**+1.0**
MANT	**Manisa**	**1.50**	**79**	*i* P	**Pn**		**18 48 21.0**	**+1.3**
MANT				*i* S	**Sb**		**18 48 39.4**	**+0.2**

*IDC **22** 19:08:59.0±0.9, 15.88N×61.73W, mb4.0/8, mb1 4.2/10, mb1mx3.9/24, mbtmp4.0/10, ML4.6/2, MS3.0/3, Ms1 3.1/3, ms1mx2.7/28, Error ellipse: s-maj=28.3km s-min=18.9km az=41.0*
*TRN **22** 19:08:59.2, 15.86N×61.61W, h15km, MD4.0, M4.2(FDF)*
*NEIC **22** 19:09:00.2±0.3, 15.83N×61.71W, h10km, mb4.5/1, MD4.1(FDF), Error ellipse: s-maj=4.9km s-min=3.9km az=224.0*
NEIC Felt [VII] on Guadeloupe.
*RSPR **22** 19:09:02.5, 21.59N×62.56W, h127km±82km, MD4.7/5, MD4.7/5*
ISC 22 19:08:59.1±0.7, 15.79N±0.03×61.82W±0.04, h8km±5km, n46, σ1$20/57, mb4.0/8, MS3.1/2, 14C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TBG	**Guadaloupe-3**	**0.18**	**70**	⇑ *i*P	**Pg**		**19 09 02.4**	**-0.7**
SCG	**Saint Claude**	**0.27**	**30**	⇑ *e*P	**Pg**		**19 09 04.9**	**+0.1**
DOG	**Dongo Capester**	**0.31**	**39**	⇑ *e*P	**Pg**		**19 09 04.9**	**-0.6**
BCG	**Bois Riant Cap**	**0.35**	**33**	⇑ *e*P	**Pg**		**19 09 05.8**	**-0.6**
LZG	**Guadaloupe-1**	**0.35**	**7**	*e*P	**Pg**		**19 09 07.2**	**+0.9**
BBL	**Barber's Block**	**0.43**	**128**	*e*P	**Pg**		**19 09 08.9**	**+1.1**
MGG	**Marie-Galante**	**0.50**	**75**	⇑ *e*P	**Pg**		**19 09 08.0**	**-1.3**
DEG	**La Desirade**	**0.90**	**55**	⇑ *e*P	**Pb**		**19 09 14.0**	**-2.5**
FDF	**Fort de France**	**1.23**	**148**	⇑ *e*P	**Pb**		**19 09 22.6**	**+0.3**
FDF				*e*S	**Sb**		**19 09 40.6**	**+2.5**
BPA	**Boggy Peak**	**1.25**	**358**	*e*P	**Pb**		**19 09 23.5**	**+1.0**
BPA				*e*S	**Sb**		**19 09 39.8**	**+1.2**
CRM	**Caravelle**	**1.35**	**140**	⇓ *i*P	**Pb**		**19 09 24.3**	**0.0**
CRM				*e*S	**Sb**		**19 09 43.0**	**+1.5**
MVM	**Montagne Vaucl**	**1.52**	**144**	*e*P	**Pn**		**19 09 27.2**	**+0.5**
CPB	**Codrington**	**1.84**	**360**	*e*P	**Pn**		**19 09 31.8**	**+0.5**
CPB				*e*S	**Sn**		**19 09 55.4**	**+0.5**
STAT	**Sint Eustatius**	**2.03**	**327**	*e*P	**Pn**		**19 09 42.1**	**+8.1**
STAT				*e*S	**Sn**		**19 10 03.1**	**+3.5**
SABT	**Saba**	**2.27**	**323**	*e*P	**Pn**		**19 09 39.3**	**+1.8**
SABT				*e*S	**Sn**		**19 10 08.2**	**+2.3**
STMA	**St. Maarten, A**	**2.56**	**331**	*e*S	**Sn**		**19 10 16.7**	**+3.6**
TBVI	**Tortola**	**3.73**	**315**	*e*S	**Sn**		**19 10 41.8**	**-1.0**
TBVI	**Tortola**	**3.73**	**315**	⇑ *e*P	**Pn**		**19 09 58.4**	**+0.1**
TBVI				*e*S	**Sn**		**19 10 41.8**	**-1.0**
STVI	**Saint Thomas**	**3.94**	**311**	*e*S	**Sn**		**19 10 48.2**	**0.0**
STVI	**Saint Thomas**	**3.94**	**311**	⇑ *e*P	**Pn**		**19 10 02.2**	**+0.9**
STVI				*e*S	**Sn**		**19 10 48.2**	**0.0**
MTP	**Monte Pirata**	**4.25**	**303**	*e*S	**Sn**		**19 11 00.6**	**+4.6**
MTP	**Monte Pirata**	**4.25**	**303**	⇑ *e*P	**Pn**		**19 10 06.4**	**+0.8**
MTP				*e*Pn	**Pn**		**19 10 06.8**	**+1.2**
MTP				*e*S	**Sn**		**19 11 00.6**	**+4.6**
HUMP	**Col San Antoni**	**4.51**	**302**	⇑ *e*P	**Pn**		**19 10 10.4**	**+1.1**
CBYP	**Canovanas**	**4.58**	**303**	*e*S	**Sn**		**19 11 03.1**	**-1.3**
CBYP	**Canovanas**	**4.58**	**303**	⇑ *e*P	**Pn**		**19 10 11.6**	**+1.2**
CBYP				*e*S	**Sn**		**19 11 03.1**	**-1.3**
SJG	**San Juan**	**4.74**	**300**	Pn	**Pn**		**19 10 12.4**	**-0.2**
	5.4nm,0.3s,baz=147,slow=20,SNR=6.6							
SJG	**San Juan**	**4.74**	**300**	*e*Pn	**Pn**		**19 10 12.8**	**+0.2**
CELP	**Cerrillos**	**5.09**	**297**	⇑ *e*P	**Pn**		**19 10 17.6**	**0.0**
AOPR	**Arecibo Observ**	**5.36**	**299**	*e*S	**Sn**		**19 11 17.6**	**-6.3**
AOPR	**Arecibo Observ**	**5.36**	**299**	⇑ *e*P	**Pn**		**19 10 19.1**	**-2.2**
AOPR				*e*S	**Sn**		**19 11 17.6**	**-6.3**
CRPR	**Cabo Rojo, PR**	**5.52**	**294**	*e*S	**Sn**		**19 11 26.4**	**-1.6**
CRPR	**Cabo Rojo, PR**	**5.52**	**294**	⇓ *e*P	**Pn**		**19 10 23.2**	**-0.4**
CRPR				*e*S	**Sn**		**19 11 26.4**	**-1.6**
SDV	**Santo Domingo**	**11.01**	**232**	Pn	**P**		**19 11 39.1**	**-0.9**
	0.4nm,0.3s,baz=72,slow=9.6,SNR=2.7							
SDV				LR	LR		19 16 07.5	
	comp=Z,35nm,20.4s,baz=213,slow=38							
SIV	**San Ignacio**	**31.59**	**179**	P	**P**		**19 15 24.1**	**-0.6**
	1.2nm,0.6s,mb3.9,baz=21,slow=11,SNR=9.8							
LPAZ	**La Paz**	**32.48**	**191**	LR	LR		19 28 15.0	
	comp=Z,21nm,21.0s,MS2.8,baz=109,slow=36							
ULM	**Lac du Bonnet**	**43.99**	**329**	P	**P**		**19 17 07.4**	**-1.2**
	1.7nm,0.6s,mb4.0,baz=135,slow=6.2,SNR=8.3							
PDAR	**Pinedale Array**	**48.72**	**314**	P	**P**		**19 17 46.1**	**0.0**
	1.7nm,0.6s,mb4.2,baz=111,slow=9.8,SNR=7.3							
NVAR	**Mina Array Bea**	**54.20**	**306**	P	**P**		**19 18 28.3**	**+0.8**
	0.4nm,0.6s,mb3.5,baz=116,slow=6.9,SNR=3.9							
NVAR	**Mina Array Bea**	**54.20**	**306**	P	**P**		**19 18 28.3**	**+0.8**
DBIC	**Dimbokro**	**56.46**	**92**	P	**P**		**19 18 43.0**	**-1.2**
	2.7nm,0.8s,mb4.3,baz=207,slow=12,SNR=3.5							
DBIC	**Dimbokro**	**56.46**	**92**	*e*P	**P**		**19 18 42.3**	**-1.9**
	4.1nm,0.9s,mb4.5							
YKA	**Yellowknife Ar**	**59.34**	**335**	P	P		19 19 01.9	-1.9
	1.6nm,0.6s,mb4.2,baz=106,slow=7.4,SNR=38							
YKA	**Yellowknife Ar**	**59.34**	**335**	P	**P**		**19 19 01.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**61.36**	**83**	P	**P**		**19 19

comp=N,5.1nm,0.5s,mb4.4
YKA Yellowknife Ar 53.09 345 P **P** 19 27 19.0 -1.6
comp=N,0.6nm,0.4s,mb3.6,baz=139,slow=7.7,SNR=30
YKA ScP 19 32 06.8
comp=N,0.3nm,0.6s,baz=144,slow=4.4,SNR=10
YKA Yellowknife Ar 53.09 345 P **P** 19 27 19.1 -1.6
YKA ScP 19 32 06.8
PLCA Paso Flores 55.70 165 P **P** 19 27 39.2 -0.6
comp=N,14nm,1.6s,mb4.5
RES Resolute Bay 61.80 358 *eP* **P** 19 28 19.4 -2.1
comp=N,1.8nm,0.7s,mb4.0
INK Inuvik 62.70 342 *eP* **P** 19 28 25.8 -1.7
comp=N,1.3nm,0.9s,mb3.8
ILAR Eielson Array 65.55 336 P **P** 19 28 44.2 -1.9
comp=N,0.4nm,0.6s,mb3.4,baz=144,slow=4.1,SNR=7.6
WRA Warramunga Arr 139.53 255 PKhKP 19 37 21.2
comp=N,0.2nm,0.3s,baz=88,slow=3.5,SNR=5.7
WRA PKP PKPdf 19 37 27.8 +0.7
comp=N,2.0nm,0.6s,baz=90,slow=2.0,SNR=23

IDC ***22*** *19:26:00.7±0.8,27.54S×65.46E,mb4.2/10,mb1 4.3/11, mb1mx4.1/20,mbtmp4.2/11,MS3.8/6,Ms1 3.8/6, ms1mx3.5/20,Error ellipse: s-maj=29.9km s-min=18.9km az=40.0*
MOS ***22*** *19:26:00.4±1.1,27.62S×65.46E,h10km,mb4.8/5,Error ellipse: s-maj=24.6km s-min=17.1km az=84.9*
BJI ***22*** *19:26:01.0,27.60S×65.40E,h10km,mb4.4*
NEIC ***22*** *19:26:02.1±0.4,27.59S×65.37E,h10km,mb4.7/13,Error ellipse: s-maj=12.1km s-min=10.7km az=70.0*
ISC 22 19:26:00.2±0.5,27.62S±0.09×65.4E±0.1,h10km,n45, σ0°87/34,mb4.5/22,MS3.8/6,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**18.98**	**294**	P	**P**	**19 30 23.7**	**-0.7**
	0.2nm,0.3s,baz=142,slow=19,SNR=4.0						
LSZ	**Lusaka**	**36.59**	**282**	P	**P**	**19 33 08.2**	**-0.3**
	1.7nm,0.8s,mb4.0,baz=115,slow=8.1,SNR=6.3						
LSZ	**Lusaka**	**36.59**	**282**	*eP*	**P**	**19 33 07.9**	**-0.6**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
LSZ	**Lusaka**	**36.59**	**282**	*eP*	**P**	**19 33 07.9**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.0						
KMBO	**Kilima Mbogo**	**37.68**	**310**	LR	LR	19 44 46.4	
	comp=Z,106nm,20.1s,MS3.6,baz=81,slow=30						
MAW	**Mawson**	**40.04**	**181**	LR	LR	19 46 06.0	
	comp=Z,121nm,19.2s,MS3.8,baz=65,slow=30						
SNAA	**Sanae**	**57.21**	**200**	P	**P**	**19 35 48.7**	**-0.8**
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SNAA	**Sanae**	**57.21**	**200**	P	**P**	**19 35 48.7**	**-0.9**
	comp=Z,4.9nm,1.1s,mb4.5						
KOLN	**Koldanda**	**57.78**	**19**	*eP*	**P**	**19 35 54.2**	**+0.1**
GKN	**Gorkha**	**58.31**	**20**	*eP*	**P**	**19 35 57.2**	**-0.6**
	comp=Z,23nm,1.2s,mb5.1						
KKN	**Kakani**	**58.31**	**21**	*eP*	**P**	**19 35 57.7**	**-0.1**
	comp=Z,30nm,1.5s,mb5.1						
KKN	**Kakani**	**58.31**	**21**	*eP*	**P**	**19 35 57.7**	**-0.1**
KKN				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.8						
JIRN	**Jiri**	**58.48**	**22**	*eP*	**P**	**19 35 59.3**	**+0.3**
	comp=Z,23nm,1.2s,mb5.1						
GUN	**Gumba**	**58.61**	**21**	*eP*	**P**	**19 36 00.2**	**+0.3**
	comp=Z,9.1nm,0.7s,mb4.9						
LSA	**Lhasa**	**62.10**	**25**	P	**P**	**19 36 23.7**	**-0.1**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
LSA	**Lhasa**	**62.10**	**25**	P	**P**	**19 36 23.7**	**-0.1**
	comp=Z,6.0nm,1.1s,mb4.6						
QSPA	**South Pole Qui**	**62.53**	**180**	*eP*	**P**	**19 36 27.7**	**+1.8**
	comp=Z,8.5nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**62.87**	**99**	P	**P**	**19 36 28.0**	**-1.0**
	comp=Z,5.4nm,0.9s,mb4.7,baz=250,slow=6.3,SNR=19						
WRAB	**Tennant Creek**	**62.88**	**99**	*eP*	**P**	**19 36 28.1**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.4						
WRAB	**Tennant Creek**	**62.88**	**99**	*eP*	**P**	**19 36 28.1**	**-1.0**
	comp=Z,56nm,1.8s,mb5.4						
VNDA	**Vanda**	**64.64**	**166**	P	**P**	**19 36 41.6**	**+1.8**
	comp=Z,3.4nm,1.0s,mb4.3,baz=260,slow=5.0,SNR=6.2						
VNDA				LR	LR	20 00 38.1	
	comp=Z,140nm,21.4s,MS4.1,baz=318,slow=32						
STKA	**Stephens Creek**	**65.03**	**114**	P	**P**	**19 36 41.6**	**-1.4**
	comp=Z,60nm,19.2s,MS3.9,baz=165,slow=35						
GNI	**Garni**	**70.10**	**343**	LR	LR	20 06 53.5	
MALT	**Malatya**	**70.27**	**338**	P	**P**	**19 37 14.4**	**-1.4**
	comp=Z,4.0nm,1.3s,mb4.2						
ENH	**Enshi**	**71.34**	**39**	*eP*	**P**	**19 37 22.7**	**+0.3**
	comp=Z,9.3nm,1.2s,mb4.6						
CTAO	**Charters Tower**	**73.16**	**104**	P	**P**	**19 37 32.7**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**73.16**	**104**	P	**P**	**19 37 32.7**	**-0.6**
	comp=Z,14nm,1.1s,mb4.8						
BRTR	**Keskin Array B**	**73.23**	**335**	P	**P**	**19 37 34.1**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.6,baz=148,slow=16,SNR=3.9						
GTA	**Gaotai**	**74.01**	**27**	*eP*	**P**	**19 37 38.8**	**+0.8**
GTA				AP	pP	19 37 43.9	+2.8
GTA				XP	sP	19 37 46.9	+4.7
MKAR	**Makanchi Array**	**75.62**	**12**	P	**P**	**19 37 46.1**	**-1.0**
	comp=Z,1.2nm,0.9s,mb3.8,baz=180,slow=4.9,SNR=9.2						
MKAR				LR	LR	20 07 43.6	
	comp=Z,52nm,19.0s,MS3.9,baz=201,slow=33						
DBIC	**Dimbokro**	**75.83**	**285**	LR	LR	20 09 29.8	
	comp=Z,54nm,20.7s,MS3.8,baz=122,slow=34						
BVAR	**Borovoye Array**	**80.42**	**3**	P	**P**	**19 38 13.8**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=171,slow=7.6,SNR=11						
ZAL	**Zalesovo**	**82.94**	**11**	P	**P**	**19 38 27.7**	**+1.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=288,slow=6.0,SNR=8.5						
NVS	**Novosibirsk**	**83.54**	**10**	*i* P	**P**	**19 38 29.7**	**+0.2**
SONM	**Songino Array**	**83.66**	**26**	P	**P**	**19 38 31.4**	**+1.2**
	comp=Z,2.5nm,1.1s,mb4.3,baz=214,slow=3.2,SNR=9.3						
ULN	**Ulaanbaatar**	**83.95**	**27**	*eP*	**P**	**19 38 31.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**83.95**	**27**	*eP*	**P**	**19 38 31.7**	**0.0**
	comp=Z,2.8nm,0.9s,mb4.4						
AKASG	**Malin Array Be**	**84.27**	**338**	P	**P**	**19 38 33.5**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.8,baz=149,slow=4.4,SNR=5.7						
INK	**Inuvik**	**137.75**	**10**	*e*PKPdf	PKPdf	19 45 29.8	+2.5
YKW3	**Yellowknife Ar**	**145.06**	**360**	*e*PKPdf	PKPdf	19 45 36.8	-3.4
YKA	**Yellowknife Ar**	**145.12**	**360**	PKPbc	PKPbc	19 45 37.9	+0.3
	comp=Z,1.7nm,0.7s,baz=344,slow=3.4,SNR=33						
ULM	**Lac du Bonnet**	**153.25**	**333**	PKPbc	PKPdf	19 46 00.3	+6.9
	comp=Z,5.1nm,1.0s,baz=313,slow=16,SNR=4.1						
OXF	**Oxford**	**157.37**	**294**	PKIKP	PKPdf	19 45 59.4	-0.1
NEW	**Newport**	**159.29**	**5**	*e*PKP	PKPdf	19 46 10.2	+8.9
KSU1	**Kansas State U**	**161.13**	**312**	*e*PKPdf	PKPdf	19 46 02.1	-1.5

IDC ***22*** *19:30:55.7±1.0,67.06N×20.99E,mb1 3.0/3, mb1mx2.8/21,mbtmp2.9/3,ML2.6/3,Error ellipse: s-maj=18.0km s-min=8.8km az=113.0*
NAO ***22*** *19:30:56.4±1.1,67.06N×21.15E,ML2.0*
HEL ***22*** *19:30:56.2±0.1,67.07N×20.93E,ML2.0,ML2.2(UPP), ML1.7(BER),Explosion*
BER ***22*** *19:30:57.6±4.2,67.14N×20.92E,ML1.7,ML2.0(NAO), Suspected explosion*
ISC 22 19:30:54.2±0.3,67.03N±0.02×20.94E±0.06,n41,σ1°22/70, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.17**	**302**	*i* P	**Pg**	**19 30 58.5**	**+0.8**
MASU	**Masugnsbyn**	**0.59**	**43**	*i* P	**Pg**	**19 31 06.4**	**+0.3**
ERTU	**Ertsjaerv**	**0.69**	**133**	*i* P	**Pg**	**19 31 08.0**	**+0.1**
PAJU	**Pajala**	**0.85**	**89**	*i* P	**Pg**	**19 31 11.4**	**+0.2**
KUA	**Kurravaara**	**0.96**	**346**	*e*P	**Pg**	**19 31 12.3**	**-1.0**
SALU	**Saltoluokta**	**1.01**	**291**	*e*P	**Pb**	**19 31 14.1**	**-0.2**
LANU	**Lannavaara**	**1.10**	**21**	*e*P	**Pb**	**19 31 15.2**	**-0.6**
NIKU	**Nikkaluokta**	**1.12**	**320**	*e*P	**Pb**	**19 31 15.2**	**-1.0**
SJUU	**Sjulsmark**	**1.55**	**170**	*e*P	**Pn**	**19 31 24.0**	**+0.8**
KIF	**Kilpisjarvi**	**1.98**	**359**	*e*P	**Pn**	**19 31 30.8**	**+1.4**
KIF				*e*S	**Sn**	**19 31 56.9**	**+1.5**
KIF				*e*SG	**Sg**	**19 31 57.8**	**-2.5**
KIF				MSG		19 31 58.7	
	comp=Z,9.9nm,0.1s						
KTK1	**Kautokeino**	**2.17**	**22**	*e*P	**Pn**	**19 31 33.3**	**+1.2**
KTK1				*e*SG	**Sg**	**19 32 01.4**	**-5.1**
KTK1				AML	AML	19 32 07.5	
	comp=Z,9.6nm,0.1s						
SGF	**Sodankyl**	**2.21**	**77**	*e*P	**Pn**	**19 31 33.6**	**+1.0**
SGF				*e*S	**Sn**	**19 32 04.2**	**+3.1**
SGF				*e*SG	**Sg**	**19 32 06.2**	**-1.6**
SGF				MSG		19 32 06.7	
	comp=Z,5.7nm,0.1s						
MOR8	**Moi Rana**	**2.73**	**255**	*e*P	**Pn**	**19 31 40.6**	**+0.5**
MOR8				*e*SG	**Sg**	**19 32 15.6**	**-10**
MOR8				AML	AML	19 32 19.8	
	comp=Z,8.4nm,0.3s						
OUL	**Oulu**	**2.81**	**132**	*e*P	**Pn**	**19 31 43.0**	**+1.8**
OUL				*e*S	**Sn**	**19 32 17.9**	**+1.6**
ARA0	**ARCESS Array S**	**3.04**	**32**	Pn	**Pn**	**19 31 44.2**	**-0.2**
	baz=217,slow=14						
ARA0				Sn	**Sn**	**19 32 21.1**	**-0.9**
	baz=226,slow=22						
ARA0	**ARCESS Array S**	**3.04**	**32**	*e*P	**Pn**	**19 31 44.2**	**-0.2**
ARA0				*e*S	**Sn**	**19 32 21.1**	**-0.9**
ARCES	**ARCESS Array B**	**3.04**	**32**	Pn	**Pn**	**19 31 44.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=212,slow=13,SNR=88						
ARCES				Sn	**Sn**	**19 32 21.6**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=216,slow=24,SNR=6.1						
LOF	**Lofoten**	**3.04**	**295**	*e*P	**Pn**	**19 31 46.1**	**+1.5**
LOF	**Lofoten**	**3.04**	**295**	*e*	**Pn**	**19 31 46.1**	**+1.5**
STOK	**Stokkvaagen**	**3.23**	**261**	*e*P	**Pn**	**19 31 48.3**	**+1.1**
KU4	**Liikasenvaara**	**3.50**	**97**	*e*P	**Pn**	**19 31 52.3**	**+1.3**
KU4				*e*S	**Sn**	**19 32 34.1**	**+0.4**
KEV	**Kevo**	**3.54**	**37**	*e*P	**Pn**	**19 31 50.8**	**-0.7**
KEV				*e*S	**Sn**	**19 32 34.0**	**-0.7**
VAF	**Ylistaro**	**4.07**	**169**	*e*P	**Pn**	**19 32 00.2**	**+1.1**
VAF				*e*S	**Sn**	**19 32 46.5**	**-1.7**
KJN	**Kajaani**	**4.08**	**133**	*e*P	**Pn**	**19 32 00.5**	**+1.2**
KJN				*e*S	**Sn**	**19 32 48.2**	**-0.3**
NSS	**Namsos**	**4.47**	**240**	*e*P	**Pn**	**19 32 04.9**	**+0.2**
APA0	**Apatity Array**	**4.70**	**77**	*e*P	**Pn**	**19 32 08.2**	**+0.1**
APA0				*e*PG	**Pg**	**19 32 20.0**	**-8.0**
APA0				*e*S	**Sn**	**19 33 01.6**	**-2.6**
APA0				*e*SB	**Sb**	**19 33 17.2**	**+2.1**
APA0	**Apatity Array**	**4.70**	**77**	Pn	**Pn**	**19 32 08.2**	**+0.1**
	baz=270,slow=11						
APA0				Pg	**Pg**	**19 32 20.0**	**-8.0**
	baz=264,slow=16						
APA0				Sn	**Sn**	**19 33 01.6**	**-2.6**
	baz=281,slow=28						
APA0				Lg		19 33 17.2	
	baz=276,slow=37						
SUF	**Sumiainen**	**4.86**	**150**	*e*P	**Pn**	**19 32 11.4**	**+1.1**
SUF				*e*S	**Sn**	**19 33 07.7**	**-0.5**
KEF	**Keuruu**	**5.17**	**159**	*e*P	**Pn**	**19 32 15.6**	**+0.9**
KEF				*e*S	**Sn**	**19 33 14.3**	**-1.6**
KAF	**Kangasniemi**	**5.45**	**152**	*e*P	**Pn**	**19 32 19.4**	**+0.8**
KAF				*e*S	**Sn**	**19 33 20.8**	**-2.2**
JOF	**Joensuu**	**6.03**	**128**	*e*P	**Pn**	**19 32 26.2**	**-0.6**
JOF				*e*S	**Sn**	**19 33 33.0**	**-4.5**
FIA0	**FINESS Array S**	**6.04**	**156**	Pn	**Pn**	**19 32 26.9**	**0.0**
	baz=343,slow=14						
FIA0				Sn	**Sn**	**19 33 36.1**	**-1.6**
	baz=344,slow=28						
FIA0	**FINESS Array S**	**6.04**	**156**	*e*P	**Pn**	**19 32 27.4**	**+0.4**
FIA0				*e*S	**Sn**	**19 33 34.7**	**-3.0**
FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**19 32 26.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=8.3						
FINES				Sn	**Sn**	**19 33 36.0**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=339,slow=23,SNR=5.5						
NB2	**NORSAR Subarra**	**7.37**	**220**	Pn	**Pn**	**19 32 43.9**	**-1.7**
	baz=23,slow=14						
NB2	**NORSAR Subarra**	**7.37**	**220**	*e*P	**Pn**	**19 32 43.9**	**-1.7**
NOA	**NORSAR Array B**	**7.37**	**220**	Pn	**Pn**	**19 32 43.8**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=35,slow=15,SNR=3.0						
NOA				Sn	**Sn**	**19 34 04.5**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=259,slow=14,SNR=3.2						
HFS	**Hagfors**	**7.63**	**208**	Pn	**Pn**	**19 32 48.4**	**-1.0**
	baz=22,slow=14						
HFS				Sn	**Sn**	**19 34 13.9**	**-3.8**
	baz=16,slow=37						
HFS	**Hagfors**	**7.63**	**208**	*e*P	**Pn**	**19 32 48.4**	**-1.0**
HFS				*e*S	**Sn**	**19 34 13.9**	**-3.8**
SPA0	**Spitsbergen Ar**	**11.29**	**355**	Pn	**P**	**19 33 36.8**	**-2.8**
	baz=164,slow=16						
SPA0	**Spitsbergen Ar**	**11.29**	**355**	*e*P	**P**	**19 33 36.8**	**-2.8**

ATH ***22*** *19:33:26.9,38.14N×26.55E,h36km±4km,MD3.1/3*
ISK ***22*** *19:33:27.4,38.23N×26.65E,h28km,MD2.7*
CSEM ***22*** *19:33:27.3±0.1,38.13N×26.65E,h15km,MD2.7,Error ellipse: s-maj=4.2km s-min=2.6km az=134.0*
ISC 22 19:33:26.0±1.1,38.17N±0.03×26.51E±0.06,h2km±7km, n13,σ0°84/23,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.20**	**19**	*i* P	**Pg**	**19 33 30.1**	**+0.1**
URLA				*i* S	**Sg**	**19 33 33.5**	**+0.7**
BLCB	**Balcova**	**0.47**	**63**	PG	**Pg**	**19 33 35.8**	**+0.4**
BLCB				SG	**Sg**	**19 33 41.5**	**-0.2**
SMG	**Samos**	**0.53**	**150**	*e*PB	**Pb**	**19 33 37.6**	**0.0**
SMG				*e*SB	**Sb**	**19 33 45.8**	**+0.4**
IZM	**Izmir**	**0.64**	**69**	PG	**Pg**	**19 33 38.9**	**+0.2**
IZM				SG	**Sg**	**19 33 47.2**	**0.0**
KDAG	**Bornova**	**0.64**	**68**	*i* P	**Pg**	**19 33 37.8**	**-1.0**
KDAG				*i* S	**Sg**	**19 33 46.4**	**-1.0**
PRK	**Paraskevi**	**1.09**	**350**	*e*PN	**Pn**	**19 33 47.7**	**-0.5**
PRK				*e*SN	**Sn**	**19 34 03.5**	**-0.6**
AYVA	**Ayvalik**	**1.15**	**7**	*i* P	**Pb**	**19 33 48.6**	**+0.4**
AYVA				*i* S	**Sb**	**19 34 03.8**	**+0.4**
AYDN	**Tasoluk**	**1.20**	**115**	*i* P	**Pb**	**19 33 49.7**	**+0.6**
AYDN				*i* S	**Sb**	**19 34 03.8**	**-1.1**
BODT	**Bodrum**	**1.27**	**150**	*e*PN	**Pn**	**19 33 49.1**	**-1.7**
BDRM	**Kayabasi**	**1.33**	**146**	*i* P	**Pb**	**19 33 53.1**	**+1.8**
BDRM				*i* S	**Sb**	**19 34 09.6**	**+0.9**
MLSB	**Milas**	**1.33**	**131**	*e*PN	**Pn**	**19 33 50.8**	**-0.8**
APE	**Apeiranthos**	**1.34**	**216**	*e*PN	**Pn**	**19 33 51.1**	**-0.7**
MANT	**Manisa**	**1.64**	**78**	*i* P	**Pn**	**19 33 58.0**	**+1.9**
MANT				*i* S	**Sb**	**19 34 17.9**	**0.0**

IDC ***22*** *19:40:09.6±0.8,4.28S×134.15E,mb4.0/8,mb1 4.2/10, mb1mx4.2/14,mbtmp4.1/10,ML4.0/2,MS4.0/7,Ms1 4.0/7, ms1mx3.7/19,Error ellipse: s-maj=52.5km s-min=17.5km az=63.0*
MOS ***22*** *19:40:12.9±1.8,4.72S×133.51E,h33km,mb4.9/10,Error ellipse: s-maj=20.4km s-min=8.4km az=111.6*
BJI ***22*** *19:40:13.9,4.70S×134.00E,h49km,mB5.4,mb4.8,Ms4.2, Msz4.1*
NEIC ***22*** *19:40:14.0±3.3,4.73S×133.96E,h49km±36km,mb4.7/11, Error ellipse: s-maj=28.2km s-min=17.4km az=139.0*
ISC 22 19:40:12.5±0.4,4.86S±0.04×133.6E±0.1,h26km, h26km±1.8km:pP-P,n63,σ1°53/60,mb4.4/22,MS3.8/7, 2C-2D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.88**	**188**	*e*P	Px	19 42 35.5	
	61nm,0.4s						
KAKA				*e*S	Sx	19 44 02.1	
PMG	**Port Moresby**	**14.21**	**109**	Pn	**P**	**19 43 28.2**	**-6.3**
	0.6nm,0.3s,baz=266,slow=16,SNR=2.9						
PMG	**Port Moresby**	**14.21**	**109**	*d* iP	**P**	**19 43 35.2**	**+0.7**
PMG	**Port Moresby**	**14.21**	**109**	Pn	**P**	**19 43 28.2**	**-6.3**
	1.9nm,0.8s						
WRAB	**Tennant Creek**	**15.00**	**177**	*e*P	**P**	**19 43 44.9**	**+0.1**
WRAB				*e*S	**S**	**19 46 26.1**	**-4.8**
WRAB				pmax	pmax		
	comp=Z,69nm,0.8s						
WRAB	**Tennant Creek**	**15.00**	**177**	*e*P	**P**	**19 43 44.9**	**+0.1**
	comp=Z,69nm,0.8s						
WRAB				*e*S	**S**	**19 46 26.1**	**-4.8**
WRA	**Warramunga Arr**	**15.01**	**177**	Pn	**P**	**19 43 45.0**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=355,slow=13,SNR=103						
WRA				Sn	**S**	**19 46 29.0**	**-2.0**
	comp=Z,2.3nm,0.3s,baz=350,slow=24,SNR=7.2						
WB2	**Warramunga Arr**	**15.01**	**177**	*e*P	**P**	**19 43 44.9**	**-0.1**
WB2				*e*		19 43 55.3	
WB2				*e*S	**S**	**19 46 27.4**	**-3.7**
FITZ	**Fitzroy Crossi**	**15.28**	**210**	*e*P	**P**	**19 43 49.3**	**+0.8**
	comp=Z,19nm,0.3s						
FITZ				*e*S	**S**	**19 46 33.6**	**-3.9**
ASPA	**Alice Springs**	**18.70**	**179**	*e*P	**P**	**19 44 33.8**	**+2.3**
ASPA				*e*S	**S**	**19 47 53.0**	**-2.8**
CTA	**Charters Tower**	**19.53**	**142**	*i*P	**P**	**19 44 42.6**	**+1.5**
	comp=Z,32nm,0.8s						
CTA	**Charters Tower**	**19.53**	**142**	P	**P**	**19 44 41.8**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=325,slow=12,SNR=34						
CTA				LR	LR	19 53 15.7	
	comp=Z,755nm,18.4s,baz=327,slow=40						
CTA	**Charters Tower**	**19.53**	**142**	*i*P	**P**	**19 44 42.6**	**+1.5**
CTA				pmax	pmax		
	comp=Z,32nm,0.8s						
CTAO	**Charters Tower**	**19.53**	**142**	*e*P	**P**	**19 44 42.2**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,36nm,0.8s						
CTAO	**Charters Tower**	**19.53**	**142**	*e*P	**P**	**19 44 42.2**	**+1.1**
	comp=Z,36nm,0.8s						
MBWA	**Marble Bar**	**21.05**	**218**	*e*P	**P**	**19 45 01.6**	**+4.5**
	comp=Z,41nm,0.8s,mb4.8						
MBWA				*e*S	**S**	**19 48 47.2**	**+1.9**
GUMO	**Guam**	**21.48**	**31**	LR	LR	19 51 33.1	
	comp=Z,145nm,20.4s,MS3.4,baz=217,slow=33						
FORT	**Forrest**	**26.30**	**191**	*e*P	**P**	**19 45 52.4**	**+4.3**
	comp=Z,21nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**27.91**	**165**	*e*P	**P**	**19 46 04.6**	**+1.9**
	comp=Z,3.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.91**	**165**	P	**P**	**19 46 04.5**	**+1.8**
	comp=Z,3.3nm,0.6s,mb4.1,baz=342,slow=5.8,SNR=9.7						
JOW	**Kunigami**	**31.92**	**351**	LR	LR	19 58 32.8	
	comp=Z,421nm,18.6s,MS4.2,baz=65,slow=35						
SSE	**Sheshan**	**37.66**	**342**	P	**P**	**19 47 27.3**	**-0.2**
SSE				AP	pP	19 47 36.3	+1.0
SSE				PP	PP	19 48 54.3	-2.2
SSE				S	**S**	**19 53 17.9**	**+2.5**
SSE				XS		19 53 33.1	
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,250nm,5.4s						
SSE				LR	LR		
	comp=N,40nm,21.4s,MS3.3						
SSE				LR	LR		
	comp=E,40nm,21.5s,MS3.3						
JNU	**Nakatsue**	**37.86**	**356**	LR	LR	20 02 07.5	
	comp=E,140nm,19.7s,MS3.8,baz=66,slow=35						
VLA	**Vladivostok**	**47.78**	**358**	*e*P	**P**	**19 48 47.0**	**-2.7**
VLA				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.2						
LZH	**Lanzhou**	**49.34**	**328**	*e*P	**P**	**19 49 03.1**	**+1.2**
LZH				AP	pP	19 49 10.3	+0.5
LZH				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.9						
YSS	**Yuzh-Sakhalins**	**52.22**	**8**	*e*P	**P**	**19 49 22.8**	**-0.8**
YSS				pmax	pmax		
	comp=Z,35nm,1.7s,mb5.0						
GTA	**Gaotai**	**53.95**	**328**	*e*P	**P**	**19 49 39.5**	**+3.1**
GTA				AP	pP	19 49 47.0	+2.6
GTA				XP	sP	19 49 49.9	+2.5
ULN	**Ulaanbaatar**	**57.44**	**339**	*e*P	**P**	**19 50 02.3**	**+0.7**
SONM	**Songino Array**	**57.65**	**339**	P	**P**	**19 49 58.0**	**-5.0**
	comp=Z,0.2nm,0.9s,baz=162,slow=4.6,SNR=3.0						
ZAK	**Zakamensk**	**60.91**	**338**	*e*P	**P**	**19 50 21.0**	**-4.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.5						
MA2	**Magadan**	**65.66**	**10**	*e*P	**P**	**19 50 57.4**	**+0.7**
MA2				pmax	pmax		
	comp=Z,54nm,3.0s						
YAK	**Yakutsk**	**66.76**	**358**	*e*P	**P**	**19 51 00.8**	**-2.9**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
YAK	**Yakutsk**	**66.76**	**358**	*e*P	**P**	**19 50 58.6**	**-5.0**
	comp=Z,14nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	**68.47**	**325**	P	**P**	**19 51 13.4**	**-1.2**
	comp=Z,2.7nm,0.8s,mb4.3,baz=117,slow=7.9,SNR=13						
KRAR	**Krasnoyarsk**	**69.23**	**337**	*e*P	**P**	**19 51 19.1**	**-0.1**
AAK	**Ala-Archa**	**71.28**	**318**	*e*P	**P**	**19 51 31.3**	**-0.6**
ZAL	**Zalesovo**	**71.31**	**332**	P	**P**	**19 51 30.6**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=267,slow=0.9,SNR=4.7						
NVS	**Novosibirsk**	**72.59**	**332**	*e*P	**P**	**19 51 38.8**	**-0.6**
KURK	**Kurchatov**	**72.62**	**327**	P	**P**	**19 51 34.5**	**-5.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**72.62**	**327**	P	**P**	**19 51 34.5**	**-5.2**
	comp=Z,3.9nm,0.9s,mb4.3						
VNDA	**Vanda**	**74.16**	**174**	P	**P**	**19 51 49.9**	**+1.7**
	comp=Z,2.0nm,1.0s,mb4.0,baz=321,slow=10.0,SNR=5.1						
VNDA				LR	LR	20 25 54.7	
	comp=Z,125nm,18.5s,MS4.2,baz=329,slow=37						
VNDA	**Vanda**	**74.16**	**174**	P	**P**	**19 51 49.9**	**+1.7**
VNDA				LR	LR	20 25 54.7	
BILL	**Bilibino**	**76.26**	**12**	*e*P	**P**	**19 52 01.0**	**+0.6**

IDC 22 19:59:08.2±1.3, 6.87S×156.25E, mb3.6/3, mb1 3.7/4, mb1mx3.7/13, mbtmp3.7/4, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/18, Error ellipse: s-maj=42.3km s-min=27.2km az=42.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.46**	**125**	P	Pn	20 00 18.1	-0.6
	7.1nm,0.3s,baz=225,slow=10.0,SNR=2.4						
HNR				Sn	Sn	20 01 09.3	-2.8
	9.0nm,0.3s,baz=79,slow=16,SNR=4.0						
HNR				LR	LR	20 01 19.1	
	comp=Z,164nm,18.4s,baz=29,slow=29						
WRA	**Warramunga Arr**	**24.91**	**236**	P	P	20 04 33.3	-1.3
	1.0nm,1.0s,baz=63,slow=9.3,SNR=6.1						
SONM	**Songino Array**	**69.91**	**327**	P	P	20 10 21.7	-1.5
	0.4nm,0.8s,baz=108,slow=4.6,SNR=2.7						
MKAR	**Makanchi Array**	**84.14**	**318**	P	P	20 11 40.9	-1.7
	1.2nm,0.8s,baz=107,slow=5.3,SNR=12						

*IDC **22** 20:32:22.9±10.0, 7.51S×124.89E, h336km±118km, mb3.6/5, mb1 3.7/6, mb1mx3.4/14, mbtmp4.3/6, Error ellipse: s-maj=39.2km s-min=22.3km az=92.0*
*NEIC **22** 20:32:26.3±3.1, 7.51S×125.14E, h382km×39km, mb4.1/7, Error ellipse: s-maj=17.9km s-min=15.1km az=171.0*

ISC 22 20:32:18.1±2.3, 7.34S±0.08×125.1E±0.1, h297km±25km, n26, σ0§86/30, mb4.0/17, 3C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.71**	**177** ⇑	*i*P	**P**	**20 34 50.5**	**+4.5**
	41nm,0.6s						
MBWA	**Marble Bar**	**14.68**	**200**	*e*Pn	**P**	**20 35 33.8**	**-0.4**
WRAB	**Tennant Creek**	**15.42**	**145**	*e*P	**P**	**20 35 42.4**	**-0.3**
	18nm,0.8s						
WRAB				*e*S	**S**	**20 38 25.4**	**-0.6**
WRA	**Warramunga Arr**	**15.43**	**145**	P	**P**	**20 35 42.9**	**+0.2**
	2.1nm,0.3s,baz=317,slow=13,SNR=116						
WRA				S	**S**	**20 38 26.9**	**+0.9**
	0.1nm,0.3s,baz=316,slow=21,SNR=8.2						
WB2	**Warramunga Ar**	**15.43**	**145** ⇑	*i*P	**P**	**20 35 42.5**	**-0.3**
WB2				*e*S	**S**	**20 38 27.6**	**+1.5**
ASPA	**Alice Springs**	**18.32**	**153** ⇑	*i*P	**P**	**20 36 13.7**	**+0.7**
ASPA				*e*S	**S**	**20 39 22.7**	**+0.3**
PMG	**Port Moresby**	**21.96**	**97**	P	**P**	**20 36 47.5**	**-1.4**
NWAO	**Narrogin (SRO)**	**26.48**	**195**	P	**P**	**20 37 28.4**	**-2.2**
	9.2nm,0.9s,mb4.2,baz=40,slow=11,SNR=7.6						
NWAO	**Narrogin (SRO)**	**26.48**	**195**	P	**P**	**20 37 28.4**	**-2.2**
NWAO				P		20 37 28.6	
STKA	**Stephens Creek**	**28.87**	**150**	P	**P**	**20 37 51.2**	**-0.8**
	4.6nm,0.5s,mb4.1,baz=319,slow=9.1,SNR=16						
MJAR	**Matsushiro Arr**	**45.36**	**15**	P	**P**	**20 40 09.6**	**+0.5**
	3.0nm,0.8s,mb3.6,baz=202,slow=8.7,SNR=5.4						
LSA	**Lhasa**	**49.18**	**320**	P	**P**	**20 40 40.1**	**+1.5**
	2.8nm,0.7s,mb3.7						
JIRN	**Jiri**	**51.22**	**314**	*e*P	**P**	**20 40 54.7**	**+0.9**
	4.3nm,0.4s,mb4.2						
GUN	**Gumba**	**51.59**	**314**	*e*P	**P**	**20 40 57.0**	**+0.5**
	15nm,0.7s,mb4.4						
PKI	**Pulchoki**	**51.72**	**314**	*e*P	**P**	**20 40 57.9**	**+0.4**
	9.3nm,0.5s,mb4.4						
KKN	**Kakani**	**51.94**	**314**	*e*P	**P**	**20 40 59.6**	**+0.5**
	8.0nm,0.7s,mb4.2						
DMN	**Daman**	**51.96**	**314**	*e*P	**P**	**20 40 59.1**	**-0.2**
	6.3nm,0.6s,mb4.2						
GKN	**Gorkha**	**52.52**	**314**	*e*P	**P**	**20 41 04.0**	**+0.6**
	8.1nm,0.3s,mb4.5						
KOLN	**Koldanda**	**53.14**	**313**	*e*P	**P**	**20 41 08.4**	**+0.5**
	7.5nm,0.5s,mb4.3						
SONM	**Songino Array**	**57.36**	**345**	P	**P**	**20 41 37.9**	**+0.4**
	0.5nm,0.6s,mb3.1,baz=160,slow=7.8,SNR=5.1						
SONM	**Songino Array**	**57.36**	**345**	P	**P**	**20 41 37.9**	**+0.4**
MKAR	**Makanchi Array**	**65.92**	**329**	P	**P**	**20 42 34.2**	**0.0**
	1.4nm,0.5s,mb3.9,baz=127,slow=7.3,SNR=29						
AAK	**Ala-Archa**	**67.71**	**322**	*e*P	**P**	**20 42 44.4**	**-1.1**
	2.1nm,0.8s,mb3.9						
YAK	**Yakutsk**	**69.25**	**2**	*e*P	**P**	**20 42 54.1**	**-0.5**
	11nm,0.8s,mb4.7						
BRVK	**Borovoye**	**75.87**	**329**	*e*P	**P**	**20 43 32.6**	**-1.0**
	1.7nm,0.8s,mb3.7						
ZRNK	**Zerenda**	**76.46**	**329**	*e*P	**P**	**20 43 35.6**	**-1.3**
	1.8nm,0.7s,mb3.8						

*BJI **22** 21:30:28.3, 16.84N×95.65E, h10km, mB4.2, mb4.4, Ms4.6, Msz4.4*
*IDC **22** 21:30:34.9±1.4, 18.28N×97.47E, mb3.9/6, mb1 4.1/6, mb1mx3.7/19, mbtmp3.9/6, MS3.8/4, Ms1 3.8/4, ms1mx3.3/24, Error ellipse: s-maj=99.8km s-min=25.2km az=57.0*
*NEIC **22** 21:30:34.0±0.8, 17.60N×95.97E, h10km, mb4.4/6, Error ellipse: s-maj=25.3km s-min=11.4km az=50.0*

ISC 22 21:30:34.5±0.8, 17.81N±0.08×95.89E±0.04, h10km, n32, σ1§03/41, mb4.2/12, MS3.8/4, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**3.07**	**71**	PN	**Pn**	**21 31 23.8**	**-0.2**
CHG				PG	**Pg**	**21 31 34.3**	**-1.5**
CHG				SG	**Sg**	**21 32 27.7**	**+11**
CHRT	**Chiangrai**	**4.22**	**60** ⇑	PN	**Pn**	**21 31 41.0**	**+0.6**
CHRT				PG	**Pg**	**21 31 58.0**	**-0.7**
CHRT				SG	**Sg**	**21 32 55.0**	**0.0**
NST	**Nakhon Sawan**	**4.59**	**117**	PN	**Pn**	**21 31 39.0**	**-6.7**
NST				PG	**Pg**	**21 31 56.0**	**-10**
NST				SG	**Sg**	**21 32 56.0**	**-11**
KKTK	**Khon Kaen**	**6.79**	**101**	PN	**Pg**	**21 32 41.0**	**-9.1**
KKTK				PG	**Sb**	**21 34 06.0**	**+11**
KKTK				SG	**Sg**	**21 34 23.0**	**+2.3**
LSA	**Lhasa**	**12.60**	**341**	*e*P	**P**	**21 33 40.4**	**+3.7**
LSA	**Lhasa**	**12.60**	**341**	*e*Pn	**P**	**21 33 37.0**	**+0.3**
	4.6nm,0.6s						
LSA				*e*Sn	**S**	**21 35 57.8**	**-0.4**
JIRN	**Jiri**	**13.26**	**319**	*e*P	**P**	**21 33 46.3**	**+0.8**
	4.5nm,0.2s						
JIRN				*e*S	**S**	**21 36 10.0**	**-4.1**
GUN	**Gumba**	**13.63**	**319**	*e*P	**P**	**21 33 50.4**	**-0.1**
	13nm,0.4s						
PKI	**Pulchoki**	**13.70**	**317**	*e*P	**P**	**21 33 51.1**	**-0.2**
	16nm,0.5s						
DMN	**Daman**	**13.92**	**316**	*e*P	**P**	**21 33 53.8**	**-0.5**
KKN	**Kakani**	**13.93**	**317**	*e*P	**P**	**21 33 54.4**	**0.0**
	4.5nm,0.3s						
GKN	**Gorkha**	**14.49**	**316**	*e*P	**P**	**21 34 01.2**	**-0.6**
	13nm,0.3s						
CD2	**Chengdu**	**14.87**	**27**	*e*P	**P**	**21 34 17.6**	**+11**
KOLN	**Koldanda**	**15.04**	**313**	*e*P	**P**	**21 34 08.8**	**-0.1**
	35nm,0.8s						
KOLN				*e*S	**S**	**21 36 53.0**	**-3.4**
LZH	**Lanzhou**	**19.52**	**20**	*e*P	**P**	**21 35 08.6**	**+3.8**
LZH				AP		21 35 17.6	
LZH				XP		21 35 21.5	
LZH				PP	PP	21 35 24.8	+2.2
LZH				AMB	AMB		
	comp=Z,60nm,1.5s						
LZH				AMB	AMB		
	comp=Z,180nm,5.2s						
LZH				LR	LR		
	comp=N,930nm,10.3s						
LZH				LR	LR		
	comp=Z,1μm,12.1s						
XAN	**Xi'an**	**19.93**	**33**	P	**P**	**21 35 14.3**	**+4.9**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GTA	**Gaotai**	**21.79**	**8**	*e*P	**P**	**21 35 30.8**	**+2.3**
GTA				AP		21 35 35.4	
GTA				XP		21 35 38.3	
COCO	**West Island**	**29.83**	**178**	P	**P**	**21 36 47.6**	**+3.3**
	comp=Z,175nm,1.2s,mb5.7						
AAK	**Ala-Archa**	**30.71**	**328**	*e*P	**P**	**21 36 50.2**	**-1.6**
	comp=Z,5.2nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**31.00**	**342**	P	**P**	**21 36 54.8**	**+0.4**
	comp=Z,1.3nm,0.7s,mb3.9,baz=153,slow=9.2,SNR=26						
KURK	**Kurchatov**	**35.61**	**341**	*e*P	**P**	**21 37 34.2**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**37.06**	**349**	P	**P**	**21 37 45.9**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.9,baz=334,slow=18,SNR=3.1						
ZAL	**Zalesovo**	**37.06**	**349**	P	**P**	**21 37 45.9**	**-0.5**
ZRNK	**Zerenda**	**40.87**	**335**	*e*P	**P**	**21 38 18.2**	**+0.1**
	comp=Z,1.3nm,0.6s,mb3.7						
KIV	**Kislovodsk**	**51.51**	**312**	P	**P**	**21 39 43.6**	**+1.2**
	comp=Z,7.6nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**53.22**	**133**	P	**P**	**21 39 49.8**	**-5.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=318,slow=7.1,SNR=6.9						
FINES	**FINESS Array B**	**64.87**	**330**	P	**P**	**21 41 17.9**	**+2.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=90,slow=2.8,SNR=4.5						
FINES				LR	LR	22 14 19.2	
	comp=Z,60nm,18.3s,MS3.8,baz=152,slow=40						
STKA	**Stephens Creek**	**66.03**	**138**	LR	LR	22 16 53.8	
	comp=Z,96nm,18.3s,MS4.0,baz=224,slow=42						
ARCES	**ARCESS Array B**	**66.60**	**339**	P	**P**	**21 41 26.4**	**-0.4**
	comp=Z,6.4nm,1.1s,mb4.6,baz=76,slow=3.7,SNR=2.7						
ARCES				LR	LR	22 16 17.1	
	comp=Z,58nm,19.2s,MS3.8,baz=16,slow=41						
GERES	**GERESS Array B**	**71.71**	**316**	P	**P**	**21 42 03.7**	**+5.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=72,slow=4.2,SNR=7.7						
NOA	**NORSAR Array B**	**72.02**	**329**	LR	LR	22 16 59.0	
	comp=Z,34nm,18.2s,MS3.7,baz=105,slow=38						
LSZ	**Lusaka**	**74.38**	**248**	*e*P	**P**	**21 42 13.7**	**-1.2**
	comp=Z,3.4nm,0.8s,mb4.3						

MAN 22 21:34:35.6, 11.46N×124.44E, h22km, mb4.2, ML3.0, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.43**	**157**	*e*P	Pb	21 34 45.3	+0.6
OCLP				*e*S	Sb	21 34 54.2	+3.5
PLP	**Palo**	**0.60**	**118**	*e*P	Pb	21 34 48.0	+0.6
PLP				*i*S	Sb	21 34 58.2	+2.7
LLP	**Lapu-Lapu**	**1.22**	**202**	*i*P	Pn	21 34 57.1	-0.5
LLP				*e*S	Sb	21 35 13.8	+0.5
MSLP	**Maasin**	**1.38**	**163**	*e*P	Pn	21 35 01.0	+1.1
MSLP				*e*S	Sn	21 35 21.6	+4.1
RCP	**Roxas**	**1.66**	**274** ⇑	*e*P	Pn	21 35 02.2	-1.7
RCP				*e*S	Sn	21 35 27.5	+2.7
GUIM	**Jordan**	**1.99**	**246**	*e*P	Pn	21 35 08.7	0.0
GUIM				*e*S	Sn	21 35 32.9	-0.3
SJMP	**San Jose**	**3.40**	**287**	*e*P	Pn	21 36 18.2	+49
SJMP				*e*S	Sn	21 36 40.2	+31
PAGZ	**Pagadian**	**3.73**	**196**	*e*P	Pn	21 36 35.2	+1.8
MATI	**Mati**	**4.83**	**158**	*e*P	Pn	21 35 01.3	-48

*ATH **22** 21:51:39.7, 38.18N×26.59E, h37km±6km, MD3.1/3*
*ISK **22** 21:51:39.5, 38.24N×26.65E, h26km, MD2.8*
*CSEM **22** 21:51:40.0±0.1, 38.15N×26.69E, h15km, MD2.8, Error ellipse: s-maj=4.7km s-min=3.0km az=134.0*

ISC 22 21:51:39.0±0.7, 38.17N±0.03×26.60E±0.05, h14km±4km, n13, σ0§71/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.19**	**358**	*i*P	**Pg**	**21 51 42.8**	**-0.8**
URLA				*i*S	**Sg**	**21 51 44.9**	**-1.6**
BLCB	**Balcova**	**0.41**	**58**	PG	**Pg**	**21 51 47.8**	**+0.3**
BLCB				SG	**Sg**	**21 51 53.3**	**+0.2**
SMG	**Samos**	**0.50**	**158**	*e*PN	**Pn**	**21 51 50.9**	**-0.5**
SMG				*e*SN	**Sn**	**21 51 59.2**	**-0.5**
IZM	**Izmir**	**0.57**	**66**	PG	**Pg**	**21 51 50.6**	**0.0**
IZM				SG	**Sg**	**21 51 59.2**	**+0.9**
KDAG	**Bornova**	**0.57**	**66**	*i*P	**Pb**	**21 51 50.1**	**-0.2**
KDAG				*i*S	**Sb**	**21 51 57.4**	**-0.6**
PRK	**Paraskevi**	**1.10**	**347**	*e*PN	**Pn**	**21 52 00.2**	**+0.1**
PRK				*e*SN	**Sn**	**21 52 15.0**	**-0.1**
AYDN	**Tasoluk**	**1.13**	**116**	*i*P	**Pg**	**21 52 02.6**	**+0.9**
AYDN				*i*S	**Sg**	**21 52 17.5**	**+0.6**
AYVA	**Ayvalik**	**1.14**	**3**	*i*P	**Pg**	**21 52 02.9**	**+1.1**
AYVA				*i*S	**Sg**	**21 52 18.1**	**+1.0**
BODT	**Bodrum**	**1.24**	**153**	*e*PN	**Pn**	**21 52 01.7**	**-0.3**
MLSB	**Milas**	**1.28**	**133**	*e*PN	**Pn**	**21 52 03.4**	**+0.9**
BDRM	**Kayabasi**	**1.29**	**149**	*i*P	**Pg**	**21 52 05.5**	**+0.6**
BDRM				*i*S	**Sg**	**21 52 21.6**	**-0.6**
APE	**Apeiranthos**	**1.39**	**218**	*e*PN	**Pn**	**21 52 04.4**	**+0.2**
MANT	**Manisa**	**1.57**	**78**	*i*P	**Pg**	**21 52 09.7**	**-0.8**
MANT				*i*S	**Sg**	**21 52 30.3**	**-1.1**

IDC 22 22:03:19.8±2.7, 12.19N×140.95E, mb4.0/4, mb1 4.1/4, mb1mx3.7/18, mbtmp4.0/4, Error ellipse: s-maj=137.6km s-min=27.3km az=79.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.59**	**192**	P	P	22 09 53.3	-2.1
	2.3nm,0.6s,baz=10,slow=9.8,SNR=14						
STKA	**Stephens Creek**	**43.82**	**179**	P	P	22 11 27.6	-1.9
	1.9nm,0.7s,baz=340,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**59.88**	**317**	P	P	22 13 29.0	-0.8
	0.4nm,0.8s,baz=106,slow=8.8,SNR=3.7						
FINES	**FINESS Array B**	**90.78**	**334**	P	P	22 16 23.0	-2.9
	0.7nm,0.7s,baz=45,slow=2.0,SNR=4.9						

*ATH **22** 22:09:04.0, 38.18N×26.83E, h33km±1km, MD3.2/3*
*ISK **22** 22:09:04.2, 38.24N×26.74E, h21km, MD3.3*
*CSEM **22** 22:09:04.7±0.1, 38.23N×26.80E, h23km, MD3.3, Error ellipse: s-maj=3.0km s-min=1.6km az=103.0*

ISC 22 22:09:04.4±0.5, 38.22N±0.03×26.70E±0.04, h16km±6km, n21, σ0§84/31, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.16**	**330**	*i*P	**Pb**	**22 09 07.9**	**-0.8**
URLA				*i*S	**Sb**	**22 09 11.2**	**-0.3**
BLCB	**Balcova**	**0.32**	**59**	PG	**Pb**	**22 09 11.4**	**+0.1**
BLCB				SG	**Sb**	**22 09 15.2**	**-0.6**
IZM	**Izmir**	**0.48**	**68**	PG	**Pb**	**22 09 14.0**	**0.0**
IZM				SG	**Sb**	**22 09 21.0**	**+0.5**
KDAG	**Bornova**	**0.48**	**68**	*i*P	**Pb**	**22 09 13.2**	**-0.9**
KDAG				*i*S	**Sb**	**22 09 19.5**	**-1.1**
SMG	**Samos**	**0.52**	**168**	*e*PB	**Pb**	**22 09 14.6**	**-0.2**
SMG				*e*SB	**Sb**	**22 09 22.1**	**+0.3**
PRK	**Paraskevi**	**1.08**	**342**	*e*PN	**Pn**	**22 09 25.4**	**+0.5**
PRK				*e*SN	**Sn**	**22 09 41.0**	**+1.6**
AYVA	**Ayvalik**	**1.09**	**360**	*i*P	**Pb**	**22 09 26.1**	**+1.7**
AYVA				*i*S	**Sb**	**22 09 42.7**	**+4.6**
AYDN	**Tasoluk**	**1.09**	**121**	*i*P	**Pb**	**22 09 25.0**	**+0.6**
AYDN				*i*S	**Sb**	**22 09 38.8**	**+0.7**
AKS	**Akhisar**	**1.09**	**53**	PG	**Pb**	**22 09 25.3**	**+0.8**
BODT	**Bodrum**	**1.25**	**157**	*e*PN	**Pn**	**22 09 26.9**	**-0.5**
MLSB	**Milas**	**1.26**	**137**	*e*PN	**Pn**	**22 09 27.0**	**-0.4**
BDRM	**Kayabasi**	**1.30**	**153**	*i*P	**Pb**	**22 09 28.1**	**+0.1**
BDRM				*i*S	**Sb**	**22 09 44.1**	**-0.1**
APE	**Apeiranthos**	**1.48**	**219**	*e*PN	**Pn**	**22 09 30.8**	**+0.2**
MANT	**Manisa**	**1.49**	**79**	*i*P	**Pn**	**22 09 32.6**	**+1.9**
MANT				*i*S	**Sb**	**22 09 51.1**	**+1.4**
DENT	**Denizli**	**1.90**	**103**	*e*PN	**Pn**	**22 09 36.3**	**-0.4**
DALT	**Dalyan (Mudla)**	**2.12**	**133**	*e*PN	**Pn**	**22 09 39.2**	**-0.5**
EDC	**Edincik**	**2.31**	**23**	*e*PN	**Pn**	**22 09 41.9**	**-0.6**
BNT	**Bandirma**	**2.33**	**24**	*e*PN	**Pn**	**22 09 41.1**	**-1.7**
MRMT	**Marmara Adasi**	**2.48**	**16**	*e*PN	**Pn**	**22 09 44.4**	**-0.5**
ORLT	**Orhaneli**	**2.50**	**42**	*e*PN	**Pn**	**22 09 44.3**	**-0.9**
ESKT	**Eskisehir**	**3.49**	**67**	*e*PN	**Pn**	**22 09 58.6**	**-0.7**

*IDC **22** 22:29:30.6±3.4, 11.20S×165.14E, h44km±34km, mb3.7/6, mb1 4.1/8, mb1mx3.9/16, mbtmp4.1/8, ML4.7/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/27, Error ellipse: s-maj=34.0km s-min=18.7km az=45.0*

ISC 22 22:29:31.4±2.5, 11.42S±0.09×165.0E±0.1, h67km±24km, n14, σ1§19/14, mb3.7/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.31**	**291**	P	**P**	**22 30 50.0**	**+0.1**
	13nm,0.3s,baz=351,slow=11,SNR=4.2						
HNR				S	**S**	**22 31 49.4**	**-1.1**
	10nm,0.3s,baz=185,slow=22,SNR=3.3						
HNR				LR	LR	22 32 09.2	
	comp=Z,138nm,18.7s,baz=125,slow=29						
DZM	**Mont Dzumac**	**10.69**	**173**	*e*P	**P**	**22 32 04.9**	**+1.0**
DZM				*e*S	**S**	**22 34 00.6**	**-2.1**
DZM	**Mont Dzumac**	**10.69**	**173**	P	**P**	**22 32 04.9**	**+1.0**
	8.5nm,0.3s,baz=7.3,slow=9.7,SNR=89						
DZM				S	**S**	**22 34 02.0**	**-0.8**
	0.5nm,0.3s,baz=44,slow=14,SNR=3.9						
NOUC	**Port Laguerre**	**10.70**	**173**	*e*P	**P**	**22 32 05.6**	**+1.6**
NOUC				*e*S	**S**	**22 34 02.0**	**-1.0**
CTA	**Charters Tower**	**19.94**	**242**	LR	LR	22 40 12.2	
	comp=Z,111nm,19.2s,baz=47,slow=32						
AFI	**Afiamalu**	**22.83**	**99**	LR	LR	22 40 42.5	
	comp=Z,60nm,20.7s,baz=333,slow=30						
STKA	**Stephens Creek**	**29.64**	**223**	LR	LR	22 46 25.7	
	comp=Z,124nm,20.9s,baz=27,slow=34						
WRA	**Warramunga Arr**	**30.63**	**250**	P	**P**	**22 35 43.5**	**+1.8**
	0.7nm,0.6s,mb3.6,baz=81,slow=9.0,SNR=3.7						
RAR	**Rarotonga**	**35.15**	**111**	LR	LR	22 47 18.1	
	comp=Z,74nm,18.9s,baz=284,slow=30						
SONM	**Songino Array**	**78.51**	**324**	P	**P**	**22 41 26.8**	**-0.2**
	0.3nm,0.8s,mb3.2,baz=90,slow=5.8,SNR=3.0						
ILAR	**Eielson Array**	**84.11**	**19**	P	**P**	**22 41 55.2**	**-0.7**
	1.1nm,0.7s,mb3.8,baz=236,slow=5.8,SNR=9.7						
NVAR	**Mina Array Bea**	**86.85**	**50**	P	**P**	**22 42 10.3**	**+0.2**
	0.7nm,0.8s,mb3.6,baz=219,slow=5.4,SNR=4.6						
MKAR	**Makanchi Array**	**93.27**	**317**	P	**P**	**22 42 41.5**	**+1.6**
	1.1nm,1.0s,mb4.1,baz=94,slow=5.9,SNR=5.0						
MKAR				pP	pP	22 42 58.0	-0.9
	0.5nm,0.7s,baz=90,slow=6.1,SNR=3.8						
YKA	**Yellowknife Ar**	**95.66**	**27**	P	**P**	**22 42 48.6**	**-1.8**
	0.5nm,0.8s,mb4.0,baz=255,slow=4.6,SNR=8.8						

IDC 22 23:04:52.8±7.6, 19.47S×67.92W, h278km±62km, mb3.2/1, mb1 3.0/2, mb1mx2.7/17, mbtmp3.5/2, Error ellipse: s-maj=114.8km s-min=87.4km az=170.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.17**	**356**	P	P	23 05 49.5	+0.3
	0.9nm,0.3s,baz=200,slow=5.3,SNR=17						
LPAZ				S	S	23 06 35.1	+1.9
	0.3nm,0.3s,baz=164,slow=8.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**75.81**	**70**	P	P	23 16 09.1	-1.4
	0.7nm,0.7s,baz=258,slow=5.6,SNR=11						
MKAR	**Makanchi Array**	**143.45**	**35**	PKP	PKPdf	23 23 53.4	-0.6
	0.5nm,0.8s,baz=333,slow=2.7,SNR=4.7						

*IDC **22** 23:07:03.7±1.4, 2.13N×84.99W, mb3.9/6, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, ML2.9/2, MS3.6/18, Ms1 3.7/18, ms1mx3.6/22, Error ellipse: s-maj=49.6km s-min=22.4km az=45.0*
*NEIC **22** 23:07:07.4±0.7, 2.07N×84.86W, h30km, mb4.2/6, Error ellipse: s-maj=17.3km s-min=10.0km az=47.0*

ISC 22 23:07:03.4±0.8, 2.16N±0.10×84.9W±0.1, h10km, n30, σ1§19/17, mb4.0/9, MS3.7/16, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.71**	**106**	*e*Pn	**Pn**	**23 08 41.2**	**-3.3**
	16nm,0.8s						
JTS	**JuntasAbangare**	**8.08**	**360**	*e*Pn	**P**	**23 09 02.8**	**-0.9**
	18nm,0.8s						
ROSC	**El Rosal**	**10.87**	**75**	Pn	**P**	**23 09 41.7**	**-0.6**
	0.6nm,0.3s,baz=269,slow=22,SNR=5.1						
ROSC				LR	LR	23 13 26.8	
	comp=Z,100nm,19.8s,baz=208,slow=35						
SDV	**Santo Domingo**	**15.68**	**64**	Pn	**P**	**23 10 48.7**	**+2.4**
	0.3nm,0.3s,baz=253,slow=12,SNR=6.1						
SDV				LR	LR	23 16 14.5	
	comp=Z,171nm,20.4s,baz=9.5,slow=35						
SDV	**Santo Domingo**	**15.68**	**64**	Pn	**P**	**23 10 48.7**	**+2.4**
SDV				*e*		23 10 48.7	
SDV				LR	LR	23 16 14.5	
NNA	**Nana**	**16.17**	**151**	P	**P**	**23 10 51.5**	**-1.1**
	33nm,1.6s						
SJG	**San Juan**	**24.27**	**48**	LR	LR	23 22 28.0	
	comp=Z,53nm,18.3s,MS3.1,baz=251,slow=38						
LPAZ	**La Paz**	**24.70**	**138**	P	**P**	**23 12 27.8**	**+1.5**
	7.8nm,1.1s,mb4.1,baz=331,slow=11,SNR=14						
LPAZ				LR	LR	23 22 40.7	
	comp=Z,156nm,18.3s,MS3.5,baz=281,slow=38						
LPAZ	**La Paz**	**24.70**	**138**	*e*P	**P**	**23 12 27.4**	**+1.2**
	11nm,1.2s,mb4.3						
LPAZ				LR	LR	23 22 40.7	
TXAR	**Lajitas Array**	**32.39**	**328**	LR	LR	23 26 12.6	
	comp=Z,64nm,21.8s,MS3.3,baz=110,slow=36						
SDCO	**Great Sand Dun**	**40.16**	**334**	*e*P	**P**	**23 14 42.0**	**+0.6**
	4.5nm,1.3s,mb4.0						
BDFB	**Brasilia**	**40.52**	**117**	LR	LR	23 31 37.3	
	comp=Z,77nm,20.1s,MS3.5,baz=126,slow=36						
SADO	**Sadowa**	**42.73**	**6**	LR	LR	23 32 39.7	
	comp=Z,211nm,18.4s,MS4.1,baz=277,slow=36						
PLCA	**Paso Flores**	**44.65**	**164**	LR	LR	23 29 19.2	
	comp=Z,58nm,18.5s,MS3.5,baz=0.1,slow=30						
PDAR	**Pinedale Array**	**46.05**	**335**	P	**P**	**23 15 30.1**	**+0.8**
	0.5nm,0.7s,mb3.5,baz=135,slow=8.4,SNR=4.4						
PDAR				LR	LR	23 35 15.4	
	comp=Z,125nm,19.7s,MS3.9,baz=120,slow=37						
NVAR	**Mina Array Bea**	**47.29**	**324**	LR	LR	23 34 47.6	
	comp=Z,108nm,21.2s,MS3.8,baz=130,slow=35						
SCHQ	**Schefferville**	**54.53**	**13**	LR	LR	23 40 25.4	
	comp=Z,120nm,18.4s,MS4.0,baz=275,slow=37						
FCC	**Fort Churchill**	**56.90**	**354**	P	**P**	**23 16 50.0**

TRG	**Tyrgan**	**5.37**	**69**	*e*PN		Pn		23 10 42.5	+16
TRG				*e*		Sn		23 11 48.8	+20
TRG				pmax		pmax			
	comp=Z,28nm,0.3s								
TRG				smax					
	comp=N,222nm,0.6s								
SONM	**Songino Array**	**6.33**	**118**	Pn		Pn		23 10 39.0	-1.5
	comp=N,0.2nm,0.3s,baz=302,slow=14,SNR=8.7								
SONM				Pg		Pn		23 10 56.9	+16
	comp=N,5.9nm,0.3s,baz=300,slow=18,SNR=113								
SONM				Lg				23 12 19.3	
	comp=N,8.4nm,0.3s,baz=306,slow=29,SNR=12								
OGRR	**Ongureny**	**6.35**	**63**	*e*PN		Pn		23 10 41.8	+1.0
OGRR				*e*S		Sn		23 12 19.2	+26
OGRR				smax					
	comp=N,127nm,1.0s								
NIZ	**Nizh Angarsk**	**8.28**	**51**	*e*P		P		23 11 17.8	+10
ZAL	**Zalesovo**	**8.59**	**294**	Pn		P		23 11 24.6	+13
	comp=N,0.3nm,0.3s,baz=359,slow=7.6,SNR=3.2								
YLYR	**Ulyunkhan**	**8.74**	**59**	*e*P		P		23 11 13.2	-1.0
MK31	**Makanchi Array**	**11.24**	**254**	⇑Pn		P		23 11 53.2	+4.7
	comp=N,0.8nm,0.7s,baz=74,slow=17,SNR=2.8								
MK31				⇓Lg				23 14 56.7	
	comp=N,7.8nm,0.9s,baz=61,slow=29,SNR=3.9								
MKAR	**Makanchi Array**	**11.24**	**254**	Pn		P		23 11 53.1	+4.7
	comp=N,0.0nm,0.3s,baz=73,slow=15,SNR=3.3								
MKAR				Sn		S		23 13 53.5	-1.1
	comp=N,0.1nm,0.3s,baz=44,slow=12,SNR=2.5								
MKAR				Lg				23 15 00.2	
	comp=N,0.1nm,0.3s,baz=69,slow=28,SNR=3.9								
KURK	**Kurchatov**	**12.29**	**276**	⇓Lg				23 15 34.5	
	comp=N,5.4nm,1.2s								

BER ***22*** *23:24:22.1±4.5, 80.03N×23.44E, h15km±30km, MD2.8, ML2.5, ML2.2(NAO)*

NAO 22 23:24:20.0±5.5, 80.07N×23.33E, h22km±30km, ML2.2, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**2.31**	**218**	Pn		Pn	23 24 56.5	-1.0
	baz=50,slow=14							
SPA0				Pg		Pn	23 25 02.2	+4.7
	baz=38,slow=14							
SPA0				Sn		Sn	23 25 25.3	-0.3
	baz=34,slow=16							
SPA0				Lg			23 25 32.5	
	baz=50,slow=37							
KBS	**Kingsbay**	**2.38**	**247**	Pn		Pn	23 24 58.0	-0.5
KBS				Pg		Pn	23 25 04.2	+5.7
KBS				Lg			23 25 34.8	
HOPEN	**Hopen**	**3.59**	**174**	*e*P		Pn	23 25 14.5	-1.3
HOPEN				*e*S		Sn	23 25 55.4	-2.6
HOPEN				AML		AML	23 26 16.9	
	comp=N,29nm,0.2s							

IDC ***23*** *00:07:05.4±1.4, 12.03N×140.57E, mb3.9/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, MS4.1/2, Ms1 4.1/2, ms1mx3.2/27, Error ellipse: s-maj=49.7km s-min=28.4km az=86.0*

NEIC ***23*** *00:07:22.8±0.8, 11.91N×140.49E, h150km, mb4.4/2, Error ellipse: s-maj=36.0km s-min=12.8km az=85.0*

ISC 23 00:07:15.7±1.1, 11.9N±0.1×140.5E±0.3, h100km, n11, σ0 67/9, mb3.9/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**21.09**	**358**	LR		LR	00 17 26.6	
	comp=Z,3μm,20.9s,baz=113,slow=30							
WRAB	**Tennant Creek**	**32.24**	**191**	*e*P		**P**	**00 13 37.0**	**0.0**
	5.6nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**32.25**	**191**	P		**P**	**00 13 37.1**	**0.0**
	1.7nm,0.6s,mb4.0,baz=10,slow=9.9,SNR=5.9							
CTA	**Charters Tower**	**32.33**	**170**	LR		LR	00 26 15.9	
	comp=Z,76nm,20.7s,baz=229,slow=36							
SONM	**Songino Array**	**45.74**	**328**	P		**P**	**00 15 29.7**	**+1.1**
	0.4nm,0.9s,mb3.1,baz=135,slow=8.2,SNR=2.8							
MKAR	**Makanchi Array**	**59.75**	**317**	P		**P**	**00 17 12.2**	**-0.2**
	0.7nm,0.8s,mb3.7,baz=98,slow=8.6,SNR=5.3							
KURK	**Kurchatov**	**63.12**	**321**	*e*P		**P**	**00 17 34.0**	**-1.1**
	2.7nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**68.59**	**322**	P		**P**	**00 18 09.3**	**-0.5**
	1.1nm,0.6s,mb3.9,baz=98,slow=6.8,SNR=9.2							
ILAR	**Eielson Array**	**71.88**	**25**	P		**P**	**00 18 29.2**	**-0.3**
	0.4nm,0.7s,mb3.4,baz=236,slow=6.5,SNR=2.7							
FINES	**FINESS Array B**	**90.81**	**334**	P		**P**	**00 20 09.6**	**+0.9**
	2.7nm,1.0s,mb4.3,baz=45,slow=3.9,SNR=3.5							
FINES	**FINESS Array B**	**90.81**	**334**	P		**P**	**00 20 09.6**	**+0.9**

NEIC ***23*** *00:11:00.8±0.4, 50.29N×18.67E, h5km, ML3.6(SZGRF), ML3.3(CLL), Error ellipse: s-maj=4.8km s-min=4.1km az=201.0*

PRU ***23*** *00:11:01.8, 50.29N×18.65E*

IDC ***23*** *00:11:02.1±0.8, 50.04N×18.74E, mb1 3.4/7, mb1mx3.2/23, mbtmp3.3/7, ML3.2/7, Error ellipse: s-maj=13.3km s-min=6.1km az=145.0*

BGR ***23*** *00:11:03.3±0.8, 49.86N×18.43E, h1km, ML3.6/12, Error ellipse: s-maj=14.5km s-min=5.6km az=22.0*

WAR 23 00:11:02.0, 50.21N×18.73E, h1km, MW3.1, Mw3.0, 18C-7D, Location given by Central Institute of Mining, origin time based upon RAC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAC	**Raciborz**	**0.37**	**250**	*e*PG		Pg	00 11 10.0	+0.7
RAC				*e*SG		Sg	00 11 15.0	+0.8
OKC	**Ostrava-Krasne**	**0.53**	**225**	*e*PG		Pg	00 11 12.1	-0.5
OKC				*e*SG		Sg	00 11 19.5	-0.2
	458nm,0.8s							
OJC	**Ojcow**	**0.69**	**89**	⇑*i*PG		Pg	00 11 15.1	-0.6
OJC				⇑*i*SG		Sg	00 11 25.1	+0.2
LIKS	**Likavka**	**1.19**	**168**	*e*		Pb	00 11 24.6	-0.4
LIKS				*e*LG			00 12 00.0	
NIE	**Niedzica**	**1.30**	**127**	⇑*i*PG		Pg	00 11 26.3	-1.6
NIE				⇑*e*SG		Sg	00 11 45.3	+0.1
NIE	**Niedzica**	**1.30**	**127**	⇑*i*Pg		Pg	00 11 26.3	-1.6
NIE				*e*Sg		Sg	00 11 44.6	-0.6
DPC	**Dobruska-Polom**	**1.55**	**276**	*e*SG		Sn	00 11 49.9	-2.0
	226nm,0.7s							
VRAC	**Vranov**	**1.65**	**238**	Pg		Pn	00 11 31.0	-1.4
	7.2nm,0.3s,baz=59,slow=16,SNR=93							
VRAC				Lg			00 11 53.3	
	45nm,0.3s,baz=133,slow=18,SNR=44							
KSP	**Ksiaz**	**1.68**	**293**	*i* PG		Pn	00 11 31.9	-0.8
KSP				*e*SN		Sn	00 11 53.9	-1.2
KSP	**Ksiaz**	**1.68**	**293**	*e*Pn		Pn	00 11 30.8	-1.9
KSP				*i* Pg		Pg	00 11 32.9	-2.6
KSP				*e*Sg		Sg	00 11 53.3	-4.6
VYHS	**Vyhne**	**1.72**	**178**	*e*		Pn	00 11 32.3	-1.0
VYHS				*e*LG			00 12 10.0	
UPC	**Upice**	**1.77**	**281**	*e*Pg		Pn	00 11 33.0	-0.9
STHS	**Stebnicka Huta**	**1.81**	**115**	*e*PG		Pg	00 11 36.2	-2.0
STHS				*e*SN		Sn	00 12 03.8	+5.3
STHS				*e*LG			00 12 20.0	
STHS	**Stebnicka Huta**	**1.81**	**115**	*e*P		Pn	00 11 33.9	-0.7
STHS				*e*Pg		Pg	00 11 36.2	-2.0
STHS				*e*Sn		Sn	00 12 03.8	+5.3
SMOL	**Smolenice**	**1.90**	**207**	*e*PN		Pn	00 11 34.6	-1.3
KECS	**Kecovo**	**2.08**	**146**	*e*PG		Pg	00 11 44.0	+0.5
KECS				*e*SN		Sn	00 12 08.7	+3.4
KECS				*e*LG			00 12 20.0	
KECS	**Kecovo**	**2.08**	**146**	*e*P		Pn	00 11 36.9	-1.5
KECS				*e*Pg		Pg	00 11 44.0	+0.5
KECS				*e*Sn		Sn	00 12 08.7	+3.4
CRVS	**Cervenica-Dubn**	**2.21**	**125**	*e*SN		Sn	00 12 12.6	+4.0
CRVS				*e*LG			00 12 30.0	
CRVS	**Cervenica-Dubn**	**2.21**	**125**	*e*P		Pn	00 11 42.8	+2.5
CRVS				*e*Sn		Sn	00 12 12.6	+4.0
ZST	**Bratislava**	**2.28**	**208**	*e*PN		Pn	00 11 40.1	-1.2
ZST				*e*LG			00 12 30.0	
SRO	**Srobarova**	**2.42**	**187**	*e*		Pn	00 11 49.2	+6.0
SRO				*e*LG			00 12 30.0	
PSZ	**Piszkesteto**	**2.42**	**161**	⇓*i*Pn		Pn	00 11 42.1	-1.2
KWP	**Kalwaria**	**2.64**	**101**	*e*Pn		Pn	00 11 47.4	+1.0
KWP				*e*Sn		Sn	00 12 17.8	-1.7
KOLS	**Kolonicke sedl**	**2.64**	**118**	*e*PN		Pn	00 11 47.2	+0.8
KOLS				*e*PG		Pg	00 11 53.1	-1.6
KOLS				*e*LG			00 12 40.0	
PVCC	**Panska Ves**	**2.68**	**278**	*e*PN		Pn	00 11 45.8	-1.2
PVCC				*e*PG		Pg	00 11 49.2	-6.3
PVCC				*e*SG		Sg	00 12 26.0	-5.3
PRU	**Pruhonice**	**2.71**	**267**	*e*PN		Pn	00 11 44.5	-2.9
PRU				*e*PG		Pg	00 11 49.7	-6.3
PRU				*e*SN		Sn	00 12 17.8	-3.4
PRU				*e*SG		Sg	00 12 24.3	-7.8
	40nm,0.5s							
PRA	**Prague**	**2.77**	**269**	SG		Sg	00 12 30.0	-4.1
BRG	**Berggiesshubel**	**3.12**	**284**	*e*Pg		Pg	00 11 59.1	-5.2
BRG				*e*Sg		Sg	00 12 39.9	-6.1
BRG	**Berggiesshubel**	**3.12**	**284**	Pg		Pg	00 11 59.4	-5.0
BRG				Sg		Sg	00 12 40.0	-6.0
FBE	**Freiberg**	**3.50**	**284**	*e*Sg		Sg	00 12 52.1	-6.4
KHC	**Kasperske Hory**	**3.52**	**254**	*e*PN		Pn	00 11 56.5	-2.4
KHC				*e*PG		Pg	00 12 04.9	-7.3
KHC				*e*SN		Sn	00 12 37.8	-4.0
KHC				*e*SG		Sg	00 12 51.9	-7.2
	72nm,0.5s							
GEC2	**GERESS Array S**	**3.55**	**249**	*e*Pn		Pn	00 11 54.2	-5.1
GEC2	**GERESS Array S**	**3.55**	**249**	*e*Pn		Pn	00 11 54.2	-5.2
GERES	**GERESS Array B**	**3.55**	**249**	Pn		Pn	00 11 57.3	-2.0
	0.6nm,0.3s,baz=70,slow=14,SNR=24							
GERES				Pg		Pg	00 12 06.8	-6.0
	2.3nm,0.3s,baz=63,slow=18,SNR=35							
GERES				Sn		Sn	00 12 37.9	-4.7
	2.4nm,0.3s,baz=60,slow=19,SNR=6.0							
GERES				Lg			00 12 54.0	
	15nm,0.3s,baz=62,slow=27,SNR=21							
ARSA	**Arzberg**	**3.65**	**217**	⇑*i*Pn		Pn	00 11 58.8	-2.0
ARSA	**Arzberg**	**3.65**	**217**	⇑*i*Sg		Sg	00 12 56.6	-6.8
	comp=E,8.3nm,0.6s							
ARSA	**Arzberg**	**3.65**	**217**	⇑Pn		Pn	00 11 58.8	-2.0
ARSA						Sg	00 12 56.6	-6.8
MOA	**Molln**	**3.77**	**233**	⇑*i*Pn		Pn	00 11 60.0	-2.5
MOA	**Molln**	**3.77**	**233**	⇑*i*Sg		Sg	00 12 58.9	-8.6
	comp=E,28nm,0.6s							
MOA	**Molln**	**3.77**	**233**	⇑Pn		Pn	00 11 60.0	-2.5
MOA						Sg	00 12 58.9	-8.6
CLL	**Collm**	**3.80**	**289**	*e*Pn		Pn	00 12 02.6	-0.3
CLL				*e*Sg		Sg	00 13 02.2	-6.2
CLL	**Collm**	**3.80**	**289**	*e*PG		Pg	00 12 12.0	-5.8
CLL				*e*SG		Sg	00 13 03.0	-5.4
RUE	**Ruedersdorf**	**3.84**	**308**	*e*Pg		Pg	00 12 13.4	-5.4
WET	**Wettzell**	**3.95**	**257**	*e*Pn		Pn	00 11 59.6	-5.4
TANN	**Tannenbergstha**	**4.02**	**275**	*e*Sg		Sg	00 13 06.7	-9.2
WERN	**Wernitzgruen**	**4.08**	**273**	*e*Pn		Pn	00 12 04.3	-2.6
WERN				*e*Sg		Sg	00 13 07.8	-10
GUNZ	**Gunzen**	**4.11**	**275**	*e*Sg		Sg	00 13 09.5	-9.1
WERD	**Werda**	**4.12**	**276**	*e*Sg		Sg	00 13 09.8	-9.4
ROTZ	**Rotzenmuhle**	**4.23**	**266**	*e*Pn		Pn	00 12 04.1	-5.0
NOTT	**Nottersdorf**	**4.28**	**267**	*e*Pn		Pn	00 12 05.2	-4.6
MOX	**Moxa**	**4.57**	**278**	*i* P		Pn	00 12 09.8	-4.1
MOX						Sg	00 13 26.0	-8.1
MOX	**Moxa**	**4.57**	**278**	*e*Pn		Pn	00 12 09.8	-4.1
MOX				*e*Sg		Sg	00 13 26.4	-7.7
KBA	**Koelnbreinsper**	**4.75**	**231**	⇓*i*Pn		Pn	00 12 14.0	-2.5
KBA	**Koelnbreinsper**	**4.75**	**231**	⇓*i*Sg		Sg	00 13 32.0	-8.2
	comp=E,14nm,0.6s							
KBA	**Koelnbreinsper**	**4.75**	**231**	⇓Pn		Pn	00 12 14.0	-2.5
KBA						Sg	00 13 32.0	-8.2
GRF	**Grafenberg Arr**	**4.88**	**267**	*e*Sg		Sg	00 13 31.9	-12
BSD	**Bornholm Skovb**	**5.43**	**336**	*i* P		Pn	00 12 21.6	-4.4
BSD				*i* S		Sn	00 13 19.0	-11
WATA	**Walderalm**	**5.54**	**241**	⇓*i*Pn		Pn	00 12 25.4	-2.1
WATA	**Walderalm**	**5.54**	**241**	⇓*i*Sg		Sg	00 14 01.0	-5.2
	comp=Z,11nm,0.4s							
WATA	**Walderalm**	**5.54**	**241**	⇓Pn		Pn	00 12 25.4	-2.2
	11nm,0.4s							
WATA						Sg	00 14 01.0	-5.2
WTTA	**Wattenberg**	**5.54**	**241**	⇑*i*Sg		Sg	00 13 58.3	-8.2
	comp=E,15nm,0.5s							
MOTA	**Moosalm**	**5.80**	**243**	⇑*i*Pn		Pn	00 12 28.8	-2.5
MOTA	**Moosalm**	**5.80**	**243**	⇑*i*Sg		Sg	00 14 05.1	-10
	comp=Z,36nm,0.8s							
MOTA	**Moosalm**	**5.80**	**243**	⇑Pn		Pn	00 12 28.8	-2.5
	36nm,0.6s							
MOTA						Sg	00 14 05.1	-10
DAVA	**Damuels**	**6.54**	**247**	⇑*i*Pn		Pn	00 12 38.9	-2.8
DAVA	**Damuels**	**6.54**	**247**	⇑*i*Sg		Sg	00 14 30.9	-8.9
	comp=N,18nm,0.6s							
DAVA	**Damuels**	**6.54**	**247**	⇑Pn		Pn	00 12 38.9	-2.8
	18nm,0.6s							
DAVA						Sg	00 14 30.9	-8.9
AKASG	**Malin Array Be**	**6.72**	**82**	Pn		Pn	00 12 39.2	-5.0
	0.5nm,0.3s,baz=259,slow=14,SNR=2.8							
AKASG				Sn		Sn	00 13 54.1	-8.3
	1.1nm,0.3s,baz=260,slow=24,SNR=5.6							
AKASG				Lg			00 14 34.6	
	1.4nm,0.3s,baz=270,slow=27,SNR=6.1							
DAVOX	**Davos**	**6.81**	**243**	Pn		Pn	00 12 42.6	-2.9
	0.4nm,0.3s,baz=61,slow=10,SNR=8.7							
DAVOX				Sn		Sn	00 13 58.4	-6.2
	0.5nm,0.3s,baz=322,slow=21,SNR=5.9							
DAVOX				Lg			00 14 39.3	
	0.9nm,0.3s,baz=186,slow=21,SNR=5.5							
HFS	**Hagfors**	**10.35**	**346**	Pn		P	00 13 28.2	-6.3
	0.0nm,0.3s,baz=156,slow=14,SNR=3.9							
NOA	**NORSAR Array B**	**11.64**	**342**	Pn		P	00 13 45.9	-6.3
	0.2nm,0.3s,baz=155,slow=12,SNR=3.3							
NOA				Sn		S	00 15 53.2	-11
	0.2nm,0.3s,baz=130,slow=18,SNR=2.8							
FINES	**FINESS Array B**	**11.98**	**17**	Pn		P	00 13 49.9	-6.8
	0.3nm,0.3s,baz=203,slow=11,SNR=10							
FINES				Sn		S	00 15 60.0	-12
	0.5nm,0.3s,baz=197,slow=21,SNR=8.0							
FINES	**FINESS Array B**	**11.98**	**17**	Pn		P	00 13 49.9	-6.8
FINES				Sn		S	00 15 60.0	-12
ARCES	**ARCESS Array B**	**19.66**	**7**	Pn		P	00 15 31.3	-3.4
	0.1nm,0.3s,baz=190,slow=14,SNR=5.4							

IDC ***23*** *00:18:19.2±1.4, 12.18N×141.12E, mb4.1/7, mb1 4.2/7, mb1mx4.0/20, mbtmp4.1/7, Error ellipse: s-maj=51.3km s-min=27.5km az=85.0*

NEIC ***23*** *00:18:35.4±1.7, 12.08N×141.10E, h137km±18km, mb4.3/6, Error ellipse: s-maj=21.8km s-min=9.7km az=93.0*

ISC 23 00:18:34.2±2.9, 12.1N±0.1×141.1E±0.3, h145km±32km, n16, σ0 25/16, mb4.0/13, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**3.97**	**67**	Pn		**P**	**00 19 34.9**	**+0.1**
WRAB	**Tennant Creek**	**32.47**	**192**	*e*P		**P**	**00 24 53.3**	**+0.1**
	4.3nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**32.48**	**192**	P		**P**	**00 24 53.0**	**-0.2**
	1.9nm,0.7s,mb3.9,baz=9.6,slow=9.8,SNR=9.5							
ULN	**Ulaanbaatar**	**45.65**	**328**	*e*P		**P**	**00 26 41.6**	**-0.2**
	1.4nm,0.7s,mb3.7							
SONM	**Songino Array**	**45.97**	**328**	P		**P**	**00 26 44.5**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=143,slow=10,SNR=4.6							
BILL	**Bilibino**	**58.32**	**11**	P		**P**	**00 28 15.6**	**-0.3**
	3.8nm,0.9s,mb4.2							
MKAR	**Makanchi Array**	**60.09**	**317**	P		**P**	**00 28 28.2**	**-0.2**
	1.1nm,0.8s,mb3.8,baz=94,slow=9.0,SNR=12							
MKAR	**Makanchi Array**	**60.09**	**317**	P		**P**	**00 28 28.2**	**-0.2**
KURK	**Kurchatov**	**63.42**	**321**	*e*P		**P**	**00 28 50.1**	**-0.5**
	3.3nm,0.5s,mb4.4							
BVAR	**Borovoye Array**	**68.88**	**322**	P		**P**	**00 29 25.3**	**+0.3**
	3.3nm,0.6s,mb4.3,baz=105,slow=7.8,SNR=36							
BRVK	**Borovoye**	**68.94**	**322**	*e*P		**P**	**00 29 25.5**	**0.0**
	2.0nm,0.6s,mb4.0							
ZRNK	**Zerenda**	**69.69**	**322**	*e*P		**P**	**00 29 29.9**	**-0.1**
	7.3nm,1.2s,mb4.3							
ILAR	**Eielson Array**	**71.52**	**25**	P		**P**	**00 29 40.8**	**-0.1**
	0.3nm,0.7s,mb3.1,baz=248,slow=5.7,SNR=5.0							
AKTK	**Aktyubinsk**	**76.43**	**319**	P		**P**	**00 30 09.7**	**+0.4**
AKTO	**Aktyubinsk**	**76.43**	**319**	P		**P**	**00 30 09.7**	**+0.4**
	1.4nm,0.5s,mb3.8,baz=80,slow=12,SNR=7.2							
FINES	**FINESS Array B**	**90.97**	**334**	P		**P**	**00 31 23.0**	**+0.3**
	0.8nm,0.4s,mb4.1,baz=67,slow=5.0,SNR=8.3							

ATH ***23*** *00:30:15.9, 38.18N×26.82E, h19km, MD2.9/3*

ISK ***23*** *00:30:15.6, 38.22N×26.79E, h22km, MD2.8*

CSEM ***23*** *00:30:16.6±0.2, 38.18N×26.95E, h25km, MD2.8, Error ellipse: s-maj=7.6km s-min=4.4km az=118.0*

ISC 23 00:30:14.9±0.8, 38.17N±0.03×26.72E±0.04, h2km±6km, n13, σ0 65/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URLA	**Izmir**	**0.21**	**332**	*i* P		**Pg**	**00 30 18.7**	**-0.5**
URLA				*i* S		**Sg**	**00 30 22.1**	**+0.1**
BLCB	**Balcova**	**0.33**	**50**	PG		**Pg**	**00 30 22.0**	**+0.5**
BLCB				SG		**Sg**	**00 30 26.3**	**+0.4**
SMG	**Samos**	**0.47**	**169**	*e*PB		**Pb**	**00 30 25.5**	**-0.2**
SMG				*e*SB		**Sb**	**00 30 32.4**	**-0.4**
IZM	**Izmir**	**0.48**	**62**	PG		**Pg**	**00 30 25.1**	**+0.5**
IZM				SG		**Sg**	**00 30 31.7**	**+0.7**
KDAG	**Bornova**	**0.49**	**62**	*i* P		**Pg**	**00 30 24.1**	**-0.6**
KDAG				*i* S		**Sg**	**00 30 30.9**	**-0.3**
AYDN	**Tasoluk**	**1.05**	**119**	*i* P		**Pb**	**00 30 35.8**	**+0.3**
AYDN				*i* S		**Sb**	**00 30 49.7**	**+0.2**
AKS	**Akhisar**	**1.11**	**50**	*e*PG		**Pg**	**00 30 35.7**	**-1.4**
PRK	**Paraskevi**	**1.13**	**342**	*e*PN		**Pn**	**00 30 37.7**	**0.0**
PRK				*e*SN		**Sn**	**00 30 53.5**	**-0.5**
AYVA	**Ayvalik**	**1.13**	**359**	*i* P		**Pb**	**00 30 37.0**	**+0.1**
AYVA				*i* S		**Sb**	**00 30 52.1**	**+0.1**
MLSB	**Milas**	**1.21**	**136**	*e*PN		**Pn**	**00 30 37.4**	**-1.5**
BDRM	**Kayabasi**	**1.25**	**152**	*i* P		**Pb**	**00 30 39.3**	**+0.4**
BDRM				*i* S		**Sb**	**00 30 55.0**	**-0.2**
APE	**Apeiranthos**	**1.45**	**221**	*e*PN		**Pn**	**00 30 44.1**	**+1.8**
MANT	**Manisa**	**1.48**	**77**	*i* P		**Pn**	**00 30 43.3**	**+0.6**
MANT				*i* S		**Sb**	**00 31 02.0**	**0.0**

IDC ***23*** *00:35:27.0±5.8, 36.48N×71.37E, h59km±50km, mb3.6/8, mb1 3.8/12, mb1mx3.6/23, mbtmp4.0/12, ML4.1/4, Error ellipse: s-maj=33.8km s-min=20.3km az=14.0*

NEIC ***23*** *00:35:28.0±1.1, 36.53N×71.36E, h67km±10km, mb3.7/8, Error ellipse: s-maj=13.5km s-min=4.6km az=57.0*

MOS ***23*** *00:35:27.9±0.8, 36.58N×71.41E, h82km, mb3.9/3, Error ellipse: s-maj=15.9km s-min=8.0km az=96.7*

BJI ***23*** *00:35:28.9, 36.89N×71.19E, h73km, mb4.1*

NNC ***23*** *00:35:38.1±3.6, 37.22N×71.22E, h168km±35km, mb3.2, mpv4.4, Error ellipse: s-maj=31.3km s-min=17.5km az=21.0*

ISC 23 00:35:31.8±0.5, 36.66N±0.03×71.67E±0.06, h125km±7km, n74, σ1 920/96, mb3.8/12, 6C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.84**	**176**	P		**P**	**00 36 18.4**	**+1.5**
CHCP	**Chirah Chowk**	**3.27**	**156**	P		**P**	**00 36 26.6**	**+3.9**
THW	**Thamme Wali**	**3.86**	**179**	P		**P**	**00 36 31.1**	**+0.6**
SBDP	**Sheikh Budin**	**4.41**	**190**	P		**P**	**00 36 38.6**	**+0.7**
KSH	**Kashi**	**4.43**	**49**	*e*P		**P**	**00 36 38.3**	**0.0**
KSH				S		**S**	**00 37 30.8**	**+1.4**
KSH				Smax				
	comp=N,170nm,0.3s							
KSH				Smax				
	comp=E,200nm,0.3s							
SARP	**Sargodha**	**4.80**	**170**	P		**P**	**00 36 43.1**	**-0.1**
SARP				S		**S**	**00 37 37.0**	**-1.2**
DRP	**Derazinda**	**5.05**	**194**	⇑P		**P**	**00 36 46.9**	**+0.3**
AML	**Almayashu**	**5.68**	**15**	P		**P**	**00 36 55.0**	**-0.1**
	SNR=67							
UCH	**Uchtor**	**5.98**	**21**	P		**P**	**00 37 00.0**	**+1.0**
	SNR=33							
KZA	**Kyzart**	**6.08**	**26**	P		**P**	**00 37 01.9**	**+1.5**
	SNR=8.1							
EKS2	**Erkin-Say**	**6.21**	**15**	P		**P**	**00 37 02.3**	**0.0**
	SNR=56							
AAK	**Ala-Archa**	**6.35**	**19**	P		**P**	**00 37 04.7**	**+0.5**
	SNR=20							
AAK	**Ala-Archa**	**6.35**	**19**	*e*PN		**P**	**00 37 03.4**	**-0.8**
AAK				pmax		pmax		
	comp=Z,20nm,0.3s							
AAK	**Ala-Archa**	**6.35**	**19**	*e*Pn		**P**	**00 37 03.4**	**-0.8**
	comp=Z,20nm,0.3s							
AAK				*e*S		**S**	**00 38 12.3**	**-3.5**
KK31	**Karatay Array**	**6.50**	**353**	⇓P		**P**	**00 37 03.5**	**-2.6**
	comp=Z,20nm,0.3s,baz=177,slow=14,SNR=803							
KK31				⇑S		**S**	**00 38 11.8**	**-7.5**
	comp=Z,87nm,0.7s,baz=171,slow=22							
KBK	**Karagaybulak**	**6.50**	**22**	P		**P**	**00 37 07.3**	**+1.1**
	SNR=12							
ULHL	**Ulahol**	**6.61**	**31**	P		**P**	**00 37 09.0**	**+1.4**
	SNR=24							
CHMS	**

ZRNK	**Zerenda**	**16.40**	**354**	*eP*		**P**	**00 39 14.4**	**-1.3**
	comp=Z,1.4nm,0.5s								
BRVK	**Borovoye**	**16.43**	**357**	*eP*		**P**	**00 39 16.2**	**+0.2**
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BRVK	**Borovoye**	**16.43**	**357**	*eP*		**P**	**00 39 16.2**	**+0.2**
	comp=Z,2.6nm,0.9s								
AKTK	**Aktyubinsk**	**16.91**	**329**	P		**P**	**00 39 19.3**	**-2.8**
AKTO	**Aktyubinsk**	**16.91**	**329**	⇑P		**P**	**00 39 19.4**	**-2.7**
	comp=Z,0.6nm,0.6s								
AKTO				⇓S		**S**	**00 42 17.5**	**-7.0**
	comp=Z,0.9nm,0.8s								
AKTO	**Aktyubinsk**	**16.91**	**329**	P		**P**	**00 39 19.3**	**-2.8**
	comp=Z,1.1nm,0.3s,baz=139,slow=11,SNR=15								
LSA	**Lhasa**	**17.71**	**107**	P		**P**	**00 39 38.6**	**+6.7**
LSA				pmax	pmax				
	comp=Z,3.0nm,0.6s								
LSA	**Lhasa**	**17.71**	**107**	P		**P**	**00 39 38.6**	**+6.7**
	comp=Z,2.8nm,0.6s								
ZAL	**Zalesovo**	**19.53**	**24**	P		**P**	**00 39 51.8**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=254,slow=7.6,SNR=40								
NVS	**Novosibirsk**	**19.84**	**20**	*eP*		**P**	**00 39 53.8**	**-1.0**
GTA	**Gaotai**	**22.30**	**74**	*eP*		**P**	**00 40 25.5**	**+6.1**
GTA				AMB	AMB				
	comp=Z,10.0nm,1.1s,mb4.1								
SONM	**Songino Array**	**27.80**	**55**	P		**P**	**00 41 14.5**	**+3.5**
	comp=Z,1.0nm,0.4s,mb3.7,baz=266,slow=8.9,SNR=7.7								
ULN	**Ulaanbaatar**	**28.24**	**55**	*eP*		**P**	**00 41 17.4**	**+2.4**
ULN				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.5								
ULN	**Ulaanbaatar**	**28.24**	**55**	*eP*		**P**	**00 41 17.4**	**+2.5**
	comp=Z,1.5nm,0.6s,mb3.7								
JOF	**Joensuu**	**36.00**	**330**	*ep*		**P**	**00 42 22.5**	**+0.4**
	comp=Z,1.3nm,0.3s,mb4.3								
FINES	**FINESS Array B**	**37.65**	**326**	P		**P**	**00 42 36.6**	**+0.6**
	comp=Z,0.5nm,0.3s,mb3.8,baz=114,slow=8.9,SNR=11								
KAF	**Kangasniemi**	**37.78**	**327**	*ep*		**P**	**00 42 37.4**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.4								
ARCES	**ARCESS Array B**	**41.20**	**337**	P		**P**	**00 43 06.1**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.1,baz=119,slow=9.1,SNR=22								
HFS	**Hagfors**	**43.27**	**222**	P		**P**	**00 43 22.6**	**+0.6**
	comp=Z,1.4nm,0.5s,mb3.9,baz=100,slow=9.0,SNR=9.6								
NB2	**NORSAR Subarra**	**44.58**	**323**	P		**P**	**00 43 32.5**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.7,baz=97,slow=7.4								
NB2	**NORSAR Subarra**	**44.58**	**323**	P		**P**	**00 43 32.5**	**0.0**
NB2				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.7								
NOA	**NORSAR Array B**	**44.58**	**323**	P		**P**	**00 43 32.7**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.8,baz=96,slow=7.7,SNR=5.0								
TORD	**Torodi Ar. Bea**	**66.26**	**269**	P		**P**	**00 46 07.6**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.7,baz=48,slow=5.8,SNR=16								
YKA	**Yellowknife Ar**	**81.06**	**3**	P		**P**	**00 47 35.1**	**+1.4**
	comp=Z,0.5nm,0.6s,mb3.5,baz=349,slow=5.3,SNR=17								
YKA	**Yellowknife Ar**	**81.06**	**3**	P		**P**	**00 47 35.2**	**+1.5**
WRA	**Warramunga Arr**	**81.62**	**122**	P		**P**	**00 47 39.2**	**+1.7**
	comp=Z,0.4nm,0.3s,mb3.7,baz=333,slow=5.6,SNR=4.2								

*BJI **23** 00:37:56.8, 1.49S×97.21E, h49km, mb4.9*
*IDC **23** 00:37:58.7±0.9, 0.57S×96.73E, mb4.2/14, mb1 4.3/15, mb1mx4.2/23, mbtmp4.2/15, ML3.2/1, Error ellipse: s-maj=35.0km s-min=20.5km az=56.0*
*MOS **23** 00:38:02.1±1.1, 0.50S×96.83E, h33km, mb4.4/4, Error ellipse: s-maj=22.3km s-min=10.0km az=103.9*
*NEIC **23** 00:38:04.2±7.7, 0.54S×96.88E, h34km±52km, mb4.5/8, Error ellipse: s-maj=30.7km s-min=12.8km az=52.0*
ISC 23 00:38:02.6±0.6, 0.41S±0.08×96.98E±0.08, h33km, n36, σ1$22/36, mb4.3/24, 1C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.73**	**31**	Pn	**Pn**	**00 38 59.0**	**-0.5**
	1.7nm,0.3s,baz=96,slow=7.8,SNR=6.6						
PSI				Sn	**Sn**	**00 39 41.5**	**-1.3**
	9.1nm,0.3s,baz=58,slow=22,SNR=5.8						
KULM	**Kulim**	**6.74**	**33**	*ePn*	**Pn**	**00 39 41.3**	**-0.7**
KKM	**Kota Kinabalu**	**20.24**	**71**	P	**P**	**00 42 40.0**	**+2.0**
JIRN	**Jiri**	**29.77**	**340**	*eP*	**P**	**00 44 10.4**	**+1.8**
	23nm,0.6s,mb5.1						
GUN	**Gumba**	**30.11**	**340**	*eP*	**P**	**00 44 13.2**	**+1.6**
	20nm,0.7s,mb5.0						
KKN	**Kakani**	**30.21**	**339**	*eP*	**P**	**00 44 13.6**	**+1.1**
LSA	**Lhasa**	**30.45**	**350**	*eP*	**P**	**00 44 16.8**	**+2.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**30.45**	**350**	*eP*	**P**	**00 44 16.8**	**+2.1**
	comp=Z,4.0nm,0.7s,mb4.3						
GKN	**Gorkha**	**30.64**	**338**	*eP*	**P**	**00 44 17.6**	**+1.3**
	comp=Z,18nm,0.7s,mb5.0						
KOLN	**Koldanda**	**30.83**	**336**	*eP*	**P**	**00 44 19.5**	**+1.5**
	comp=Z,26nm,0.8s,mb5.1						
NWAO	**Narrogin (SRO)**	**37.55**	**151**	P	**P**	**00 45 15.0**	**-0.7**
	comp=Z,32nm,1.1s,mb5.0,baz=20,slow=6.4,SNR=3.2						
GTA	**Gaotai**	**39.71**	**3**	*eP*	**P**	**00 45 34.3**	**+0.7**
WRA	**Warramunga Arr**	**41.39**	**120**	P	**P**	**00 45 48.3**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.4,baz=303,slow=9.2,SNR=3.4						
MKAR	**Makanchi Array**	**48.74**	**347**	P	**P**	**00 46 46.9**	**+0.7**
	comp=Z,4.5nm,0.6s,mb4.7,baz=155,slow=8.3,SNR=53						
SONM	**Songino Array**	**48.75**	**8**	P	**P**	**00 46 47.3**	**+1.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=186,slow=9.0,SNR=12						
SONM				PcP	PcP	00 48 08.9	-2.3
	comp=Z,1.2nm,0.7s,baz=183,slow=3.4,SNR=5.5						
ULN	**Ulaanbaatar**	**48.88**	**9**	P	**P**	**00 46 48.8**	**+1.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**48.88**	**9**	P	**P**	**00 46 48.8**	**+1.6**
	comp=Z,0.8nm,0.6s,mb3.9						
KURK	**Kurchatov**	**53.28**	**346**	*eP*	**P**	**00 47 19.2**	**-1.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**53.28**	**346**	*eP*	**P**	**00 47 19.2**	**-1.3**
	comp=Z,2.5nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**55.10**	**351**	P	**P**	**00 47 33.7**	**-0.1**
	comp=Z,6.3nm,0.7s,mb4.8,baz=312,slow=6.7,SNR=30						
NVS	**Novosibirsk**	**56.22**	**350**	*i P*	**P**	**00 47 40.1**	**-1.7**
BVAR	**Borovoye Array**	**57.69**	**341**	P	**P**	**00 47 51.1**	**-1.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=135,slow=8.4,SNR=9.7						
AKTK	**Aktyubinsk**	**60.55**	**332**	P	**P**	**00 48 10.3**	**-1.9**
AKTO	**Aktyubinsk**	**60.55**	**332**	P	**P**	**00 48 10.3**	**-1.9**
	comp=Z,0.5nm,0.3s,mb4.1,baz=164,slow=7.4,SNR=3.5						
SOKR	**Solikamsk**	**67.50**	**339**	⇑*iP*	**P**	**00 48 57.1**	**-0.2**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
BRTR	**Keskin Array B**	**70.03**	**313**	P	**P**	**00 49 12.2**	**-1.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=129,slow=8.8,SNR=6.3						
AKASG	**Malin Array Be**	**76.40**	**323**	P	**P**	**00 49 49.0**	**-1.5**
	comp=Z,1.1nm,0.5s,mb4.0,baz=89,slow=5.1,SNR=6.3						
AKASG	**Malin Array Be**	**76.40**	**323**	P	**P**	**00 49 49.0**	**-1.5**
MLR	**Muntele Rosu**	**77.08**	**317**	P	**P**	**00 49 54.9**	**+0.4**
	comp=Z,2.4nm,0.6s,mb4.3,baz=190,slow=17,SNR=4.2						
JOF	**Joensuu**	**79.50**	**335**	*ep*	**P**	**00 50 05.0**	**-2.4**
	comp=Z,0.3nm,0.4s,mb3.6						
FINES	**FINESS Array B**	**81.32**	**333**	P	**P**	**00 50 16.9**	**-0.2**
	comp=Z,1.4nm,0.5s,mb4.2,baz=116,slow=5.6,SNR=16						
KAF	**Kangasniemi**	**81.41**	**333**	*ep*	**P**	**00 50 17.1**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.8						
ARCES	**ARCESS Array B**	**84.97**	**340**	P	**P**	**00 50 30.1**	**-0.4**
	comp=Z,3.2nm,1.1s,mb4.4,baz=90,slow=2.4,SNR=3.9						
GERES	**GERESS Array B**	**85.88**	**319**	P	**P**	**00 50 40.8**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.9,baz=117,slow=6.6,SNR=5.2						
HFS	**Hagfors**	**87.00**	**330**	P	**P**	**00 50 46.1**	**+0.5**
	comp=Z,2.9nm,0.9s,mb4.5,baz=117,slow=6.4,SNR=4.8						
TXAR	**Lajitas Array**	**145.14**	**33**	PKPbc	PKPbc	00 57 38.8	+0.9
	comp=Z,1.0nm,0.5s,baz=268,slow=0.5,SNR=19						

*CASC **23** 00:50:17.8±2.0, 15.98N×91.58W, h150km±47km, MD4.4, ML3.9, mb3.9(NEIC)*
*IDC **23** 00:50:23.6±1.4, 15.13N×91.22W, h167km±9km, mb3.1/4, mb1 3.3/5, mb1mx3.1/20, mbtmp3.5/5, Error ellipse: s-maj=57.4km s-min=17.1km az=44.0*
*NEIC **23** 00:50:24.1, 15.19N×91.79W, h190km, mb3.9/1, MD4.3(MEX), After MEX.*
*MEX **23** 00:50:27.8±1.2, 15.46N×92.02W, h177km±14km, MD4.3*
ISC 23 00:50:21.8±0.5, 15.02N±0.07×91.77W±0.05, h175km±5km, n31, σ1$27/48, mb3.6/6, 1C-4D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**0.76**	**108**	⇓*eP*	**P**	**00 50 47.7**	**+0.1**
TP2				*eS*	**S**	**00 51 07.7**	**+0.1**
TP2				AML	AML	00 51 09.5	
	comp=E,2μm,0.5s						
FUG	**Fuego 3**	**1.06**	**122**	⇓*eP*	**P**	**00 50 49.5**	**-0.1**

PCG	**Pacaya**	**1.28**	**119**	*eP*		**P**	**00 50 52.3**	**+0.6**
PCG				*eS*		**S**	**00 51 19.7**	**+4.9**
CCIG	**Comitan**	**1.30**	**344**	⇓*iP*		**P**	**00 50 52.6**	**+0.8**
CCIG				*i S*		**S**	**00 51 12.3**	**-2.8**
CCIG	**Comitan**	**1.30**	**344**	*i P*		**P**	**00 50 52.6**	**+0.7**
CCIG				*i S*		**S**	**00 51 15.1**	**0.0**
IXG	**Ixpaco**	**1.52**	**123**	⇓*eP*		**P**	**00 50 53.6**	**-0.3**
IXG				*eS*		**S**	**00 51 24.0**	**+5.2**
SCX	**San Cristobal**	**1.90**	**334**	*i P*		**P**	**00 50 58.5**	**+0.7**
SCX				*i S*		**S**	**00 51 21.0**	**-4.5**
SCX	**San Cristobal**	**1.90**	**334**	*i P*		**P**	**00 50 58.5**	**+0.7**
SCX				*i S*		**S**	**00 51 25.0**	**-0.5**
SCIG		**3.96**	**8**	*i P*		**P**	**00 51 21.9**	**-1.0**
SCIG				*i S*		**S**	**00 52 03.9**	**-6.2**
HUIG	**Huatulco**	**4.25**	**281**	*i P*		**P**	**00 51 26.4**	**-0.3**
HUIG				*i S*		**S**	**00 52 11.5**	**-5.3**
HUIG	**Huatulco**	**4.25**	**281**	*i P*		**P**	**00 51 26.6**	**-0.1**
HUIG				*i S*		**S**	**00 52 15.4**	**-1.4**
OXX	**Oaxaca**	**5.19**	**294**	*i P*		**P**	**00 51 41.5**	**+2.7**
OXX				*i S*		**S**	**00 52 37.0**	**-1.6**
VHO	**Vista Hermosa**	**5.19**	**294**	*i P*		**P**	**00 51 41.2**	**+2.3**
VHO				*i S*		**S**	**00 52 34.1**	**-4.6**
VHO	**Vista Hermosa**	**5.19**	**294**	*i P*		**P**	**00 51 39.1**	**+0.2**
VHO				*i S*		**S**	**00 52 37.0**	**-1.7**
PPM	**Popocatepetl**	**7.70**	**302**	⇑*iP*		**P**	**00 52 16.8**	**+4.9**
PPM				*i S*		**S**	**00 53 32.3**	**-5.6**
PPM	**Popocatepetl**	**7.70**	**302**	*i P*		**P**	**00 52 07.7**	**-4.3**
PPM				*i S*		**S**	**00 53 36.7**	**-1.2**
YAIG	**Yautepec**	**7.96**	**300**	*eP*		**P**	**00 52 18.9**	**+3.5**
YAIG				*i S*		**S**	**00 53 37.8**	**-6.4**
YAIG	**Yautepec**	**7.96**	**300**	*eP*		**P**	**00 52 16.3**	**+0.8**
ACX	**Acapulco**	**8.05**	**284**	*i P*		**P**	**00 52 18.0**	**+1.4**
PLIG	**Platanillo**	**8.13**	**295**	*eP*		**P**	**00 52 21.2**	**+3.5**
PLIG				*i S*		**S**	**00 53 42.7**	**-5.6**
PLIG	**Platanillo**	**8.13**	**295**	*eP*		**P**	**00 52 19.4**	**+1.7**
JTS	**JuntasAbangare**	**8.14**	**124**	*ePn*		**P**	**00 52 17.1**	**-0.7**
	comp=E,7.3nm,0.4s								
TXAR	**Lajitas Array**	**17.99**	**324**	P		**P**	**00 54 24.5**	**+2.8**
	comp=E,0.1nm,0.3s,baz=148,slow=8.5,SNR=7.2								
TXAR				pP			00 54 52.7		
	comp=E,0.0nm,0.3s,baz=135,slow=12,SNR=2.0								
WVT	**Waverly**	**21.31**	**9**	P		**P**	**00 54 55.6**	**+0.1**
	comp=E,1.6nm,0.4s,mb3.7								
SDV	**Santo Domingo**	**21.55**	**104**	P		**P**	**00 54 56.2**	**-1.8**
	comp=E,5.8nm,0.6s,mb4.2,baz=326,slow=9.2,SNR=4.9								
WCI	**Wyandotte Cave**	**23.62**	**11**	*eP*		**P**	**00 55 18.3**	**+0.4**
	comp=E,12nm,0.7s,mb4.5								
NVAR	**Mina Array Bea**	**33.03**	**320**	P		**P**	**00 56 45.6**	**+3.1**
	comp=E,0.1nm,0.3s,mb3.0,baz=149,slow=5.3,SNR=2.2								
NVAR				pP	pP		00 57 21.9	+2.3	
	comp=E,0.8nm,0.7s,baz=138,slow=7.6,SNR=5.1								
NVAR	**Mina Array Bea**	**33.03**	**320**	P		**P**	**00 56 45.6**	**+3.1**
NVAR				pP	pP		00 57 21.9	+2.3	
LPAZ	**La Paz**	**38.89**	**142**	P		**P**	**00 57 31.1**	**-0.9**
	comp=E,0.4nm,0.5s,mb3.3,baz=310,slow=7.9,SNR=3.7								
YKA	**Yellowknife Ar**	**50.09**	**346**	P		**P**	**00 59 00.8**	**+0.4**
	comp=E,0.3nm,0.6s,mb3.1,baz=147,slow=7.8,SNR=5.5								
YKA				pP	pP		00 59 38.3	-1.7	
	comp=E,0.7nm,0.7s,baz=147,slow=7.8,SNR=9.2								
YKA				sP	sP		00 59 57.3	-2.2	
	comp=E,0.3nm,0.6s,baz=145,slow=7.9,SNR=2.4								
YKA	**Yellowknife Ar**	**50.09**	**346**	P		**P**	**00 59 00.8**	**+0.4**
YKA				pP	pP		00 59 38.3	-1.7	
YKA				sP	sP		00 59 57.3	-2.2	

*NEIC **23** 01:12:18.0, 19.55N×67.21W, h20km, MD3.5(RSPR), After RSPR.*
RSPR 23 01:12:18.0, 19.55N×67.21W, h20km±22km, MD3.5/11, MD3.5/11, 7C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.27**	**160**	⇓*eP*	Pn	01 12 37.7	-3.2
AOPR				*eS*	Sb	01 12 53.7	-3.4
LRS	**Lares**	**1.29**	**164**	⇓*eP*	Pn	01 12 38.0	-3.2
LSP	**Las Mesas**	**1.37**	**175**	⇑*eP*	Pn	01 12 39.5	-2.7
CRPR	**Cabo Rojo, PR**	**1.54**	**176**	⇑*eP*	Pn	01 12 41.6	-3.1
CRPR				*eS*	Sn	01 12 59.8	-4.4
MGP	**Maguayo**	**1.54**	**176**	⇓*eP*	Pn	01 12 41.6	-3.0
MGP				*eS*	Sn	01 13 00.4	-3.8
CELP	**Cerrillos**	**1.58**	**158**	⇑*iP*	Pn	01 12 42.6	-2.7
CELP				*eS*	Sn	01 13 01.6	-3.7
SJG	**San Juan**	**1.75**	**145**	⇑*eP*	Pn	01 12 44.5	-3.2
SJG	**San Juan**	**1.75**	**145**	⇑*eP*	Pn	01 12 44.6	-3.1
SJG				*eS*	Sn	01 13 05.8	-3.7
ICM	**Isla Caja Muer**	**1.77**	**158**	⇑*eP*	Pn	01 12 45.5	-2.5
ICM				*eS*	Sn	01 13 05.9	-4.2
CBYP	**Canovanas**	**1.81**	**135**	⇑*eP*	Pn	01 12 45.5	-3.0
CBYP				*eS*	Sn	01 13 06.9	-4.1
MTP	**Monte Pirata**	**2.13**	**132**	⇑*eP*	Pn	01 12 49.8	-3.4
MTP				*eS*	Sn	01 13 14.9	-4.4

*CSEM **23** 01:15:26.2±0.3, 37.55N×24.80W, h5km, ML2.1, Error ellipse: s-maj=8.6km s-min=5.1km az=170.0, After PDA*
*PDA **23** 01:15:26.2±0.8, 37.55N×24.80W, h5km, MD2.5, ML2.1, Error ellipse: s-maj=6.8km s-min=2.7km az=66.0*
SVSA 23 01:15:26.2±0.8, 37.55N×24.80W, h5km, MD2.5, ML2.1, Error ellipse: s-maj=6.8km s-min=2.7km az=66.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIRA	**Miradouro**	**0.45**	**302**	*eP*	Pg	01 15 34.7	-0.5
MIRA				*eS*	Sg	01 15 39.6	-1.7
FRA1	**Furnas**	**0.49**	**294**	*eP*	Pg	01 15 35.0	-0.9
FRA1				*eS*	Sg	01 15 42.0	-0.5
PFAD	**Fenais da Ajud**	**0.51**	**305**	*eP*	Pg	01 15 34.6	-1.8
PCNG	**Congro**	**0.52**	**295**	*eP*	Pg	01 15 35.6	-1.1
PCNG				*eS*	Sg	01 15 43.3	-0.4
	41nm,0.1s						
PCNG	**Congro**	**0.52**	**295**	*eP*	Pg	01 15 35.6	-1.1
PCNG				*eS*	Sg	01 15 43.3	-0.4
	41nm,0.1s						
VIF	**Vila Franca**	**0.55**	**291**	*eP*	Pg	01 15 36.5	-0.7
VIF				*eS*	Sg	01 15 43.8	-0.7
	42nm,0.2s						
VIF	**Vila Franca**	**0.55**	**291**	*eP*	Pg	01 15 36.5	-0.7
VIF				*eS*	Sg	01 15 43.8	-0.7
	42nm,0.2s						
MESC	**Monte Escuro**	**0.57**	**296**	*eP*	Pg	01 15 36.4	-1.2
MESC				*eS*	Sg	01 15 43.8	-1.5
PRCH	**Ribeira Ch**	**0.57**	**289**	*eP*	Pg	01 15 36.8	-0.9
PRCH				*eS*	Sg	01 15 44.2	-1.1
	114nm,0.2s						
PRCH	**Ribeira Ch**	**0.57**	**289**	*eP*	Pg	01 15 36.8	-0.9
PRCH				*eS*	Sg	01 15 44.2	-1.1
	114nm,0.2s						
PSMN	**Pico do Norte,**	**0.58**	**202**	*eS*	Sg	01 15 44.2	-1.5
LFA	**Lagoa do Fogo**	**0.59**	**293**	*eP*	Pg	01 15 37.0	-1.0
PMAT	**Coroa da Mata**	**0.60**	**297**	*eS*	Sg	01 15 44.4	-1.8
	27nm,0.3s						
PMAT	**Coroa da Mata**	**0.60**	**297**	*eS*	Sg	01 15 44.4	-1.8
	27nm,0.3s						
PVER	**Pico Vermelho**	**0.62**	**294**	*eS*	Sg	01 15 45.3	-1.7
CML	**Cha da Macela**	**0.64**	**291**	*eP*	Pg	01 15 37.4	-1.5
CML				*eS*	Sg	01 15 45.9	-1.5
FAC	**Faja de Cima**	**0.71**	**289**	*eP*	Pg	01 15 38.6	-1.9
FAC				*eS*	Sg	01 15 47.9	-2.1
PSAN	**Santo Antonio**	**0.80**	**293**	*eS*	Sg	01 15 49.8	-3.0
SET2	**Ginetes**	**0.85**	**291**	*eP*	Pb	01 15 40.4	-2.7

*NNC **23** 01:17:46.7±31.0, 41.75N×77.97E, mb3.2, mpv2.7, Error ellipse: s-maj=391.1km s-min=264.7km az=29.0*
*KNET **23** 01:17:47.3, 41.16N×76.53E, ml2.2*
ISC 23 01:17:46.0±2.0, 41.1N±0.1×77.0E±0.1, h10km, n8, σ1$28/13, 10C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.29**	**334**	⇑P	**Pb**	**01 18 08.4**	**-1.6**
	3.7nm,0.2s,SNR=8.2						
ULHL				⇑S	**Sb**	**01 18 25.5**	**-1.0**
	12nm,0.3s						
KZA	**Kyzart**	**1.65**	**308**	⇑P	**Pn**	**01 18 12.9**	**-2.3**
	18nm,0.2s,SNR=23						
KZA				⇑S	**Sn**	**01 18 33.1**	**-3.5**
	22nm,0.2s						
TKM2	**Tokmak 2**	**2.11**	**331**	⇑Pn	**Pn**	**01 18 23.5**	**+1.6**
	2.0nm,0.3s						
TKM2				⇑Sn	**Sn**	**01 18 51.2**	**+2.7**
	11nm,0.6s						
UCH	**Uchtor**	**2.19**	**302**	⇑P	**Pn**	**01 18 22.5**	**-0.4**
	11nm,0.3s,SNR=16						
KBK	**Karagaybulak**	**2.19**	**316**	⇓P	**Pn**	**01 18 24.0**	**+0.9**
	3.4nm,0.2s,SNR=5.8						
KBK				⇑S	**Sn**	**01 18 51.1**	**+0.6**
	6.0nm,0.1s						
AAK	**Ala-Archa**	**2.43**	**311**	⇓P	**Pn**	**01 18 27.0**	**+0.6**
	4.0nm,0.2s,SNR=12						
AML	**Almayashu**	**2.69**	**294**	⇑P	**Pn**	**01 18 30.1**	**0.0**
	8.1nm,0.5s,SNR=10.0						
AML				⇓S	**Sn**	**01 19 03.8**	**+0.7**
	23nm,0.4s						
KK31	**Karatay Array**	**5.23**	**295**	⇑Sn	**Sb**	**01 20 20.6**	**-0.2**
	1.9nm,0.7s,baz=103,slow=28						

*GUC **23** 01:21:45.9±0.9, 21.92S×66.93W, h280km, ML5.2*
*IDC **23** 01:21:45.1±1.4, 21.35S×66.49W, h231km±13km, mb3.3/6, mb1 3.5/11, mb1mx3.4/19, mbtmp4.0/11, Error ellipse: s-maj=18.0km s-min=13.0km az=83.0*
*NEIC **23** 01:21:45.5±0.5, 21.37S×66.47W, h234km±6km, mb4.3/5, Error ellipse: s-maj=9.1km s-min=7.3km az=84.0*
ISC 23 01:21:44.3±0.6, 21.42S±0.05×66.52W±0.07, h239km±7km, n28, σ1$22/35, mb3.5/6, 2C-4D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**2.15**	**226**	⇑*iP*	**P**	**01 22 30.1**	**+2.5**
CEN1	**Los Morros**	**3.93**	**239**	⇓*iP*	**P**	**01 22 49.4**	**+2.1**
CEN1				*i S*	**S**	**01 23 37.0**	**+0.7**
CEN1				AMP		01 23 38.8	
	comp=N,524nm,0.4s						
ANCH	**Antofagasta**	**4.24**	**237**	⇑*iP*	**P**	**01 22 51.5**	**+0.4**
ANCH				*i S*	**S**	**01 23 40.9**	**-2.1**
ANCH				AMP		01 23 43.5	
	comp=E,2μm,0.1s						
LPAZ	**La Paz**	**5.32**	**343**	P	**P**	**01 23 05.0**	**+0.7**
	comp=E,7.4nm,0.3s,baz=145,slow=7.8,SNR=127						
LPAZ				S	**S**	**01 24 07.2**	**+0.4**
	comp=E,0.7nm,0.3s,baz=357,slow=16,SNR=19						
LPAZ	**La Paz**	**5.32**	**343**	⇓*iPn*	**P**	**01 23 04.8**	**+0.5**
	comp=E,21nm,0.4s						
LPAZ				*eS*	**S**	**01 24 06.4**	**-0.4**
CRCH	**Chaqaral**	**6.18**	**217**	⇓*iP*	**P**	**01 23 13.7**	**-1.4**
CRCH				*i S*	**S**	**01 24 20.9**	**-5.1**
ARE	**Arequipa**	**6.81**	**315**	⇓*iP*	**P**	**01 23 20.5**	**-2.6**
ARE				*eS*	**S**	**01 24 35.0**	**-5.4**
CDCH	**Caldera**	**6.87**	**214**	*eP*	**P**	**01 23 20.6**	**-3.2**
CDCH				*i S*	**S**	**01 24 34.6**	**-7.1**
SIV	**San Ignacio**	**7.47**	**45**	P	**P**	**01 23 30.9**	**-0.6**
	comp=E,14nm,0.3s,baz=230,slow=12,SNR=516						
CPUP	**Villa Florida**	**9.73**	**122**	*ePn*	**P**	**01 24 00.5**	**+0.1**
	comp=E,27nm,0.6s						
CFAA	**Coronel Fontan**	**10.26**	**188**	P	**P**	**01 24 07.4**	**+0.2**
	comp=E,0.2nm,0.3s,baz=8.8,slow=12,SNR=17						
CFAA				S	**S**	**01 25 55.0**	**-4.4**
	comp=E,0.8nm,0.3s,baz=219,slow=16,SNR=17						
NNA	**Nana**	**13.62**	**312**	*eP*	**P**	**01 24 50.6**	**+1.3**
	comp=E,34nm,1.0s						
TRQA	**Tornquist**	**17.04**	**168**	P	**P**	**01 25 28.5**	**-1.2**
	comp=E,2.6nm,0.6s						
BDFB	**Brasilia**	**18.46**	**75**	P	**P**	**01 25 44.6**	**0.0**
	comp=E,0.4nm,0.3s,

AYDN				*i* S	**Sb**	**02 30 55.0**	**+0.2**
AKS	**Akhisar**	**1.09**	**52**	PN	**Pn**	**02 30 41.6**	**-0.5**
PRK	**Paraskevi**	**1.09**	**342**	*e*PN	**Pn**	**02 30 41.8**	**-0.4**
PRK				*e*SN	**Sn**	**02 30 57.0**	**-0.5**
AYVA	**Ayvalik**	**1.10**	**359**	*i* P	**Pb**	**02 30 42.7**	**+1.3**
AYVA				*i* S	**Sb**	**02 30 58.9**	**+3.1**
BODT	**Bodrum**	**1.24**	**157**	PN	**Pn**	**02 30 42.4**	**-1.8**
MLSB	**Milas**	**1.24**	**137**	*e*PN	**Pn**	**02 30 43.4**	**-0.8**
BDRM	**Kayabasi**	**1.28**	**153**	*i* P	**Pb**	**02 30 43.8**	**-0.7**
BDRM				*i* S	**Sb**	**02 31 01.8**	**+0.9**
APE	**Apeiranthos**	**1.47**	**220**	*e*PN	**Pn**	**02 30 49.1**	**+1.5**
MANT	**Manisa**	**1.48**	**78**	*i* P	**Pn**	**02 30 48.8**	**+1.2**
MANT				*i* S	**Sb**	**02 31 07.7**	**+1.0**
EZN	**Ezine**	**1.65**	**349**	*e*PN	**Pn**	**02 30 49.3**	**-0.7**
DENT	**Denizli**	**1.89**	**103**	*e*PN	**Pn**	**02 30 52.4**	**-1.1**
BNT	**Bandirma**	**2.34**	**23**	*e*PN	**Pn**	**02 30 59.0**	**-1.0**

*NEIC **23** 02:37:52.0, 40.87S×176.34E, h30km, ML4.2(WEL), After WEL.*

WEL 23 02:37:51.8±0.1, 40.86S×176.34E, h29km±1km, ML4.2/37, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.19**	**339**	P*	Pb	02 37 57.3	-0.5
BFZ				S*	Sb	02 38 01.2	-0.6
BFZ	**Birch Farm**	**0.19**	**339**	P	Pb	02 37 57.3	-0.5
BFZ				S	Sb	02 38 01.2	-0.7
MRZ	**Mangatainoka R**	**0.61**	**289**	P*	Pb	02 38 03.7	-0.2
MRZ				S*	Sb	02 38 12.3	+0.1
MRZ	**Mangatainoka R**	**0.61**	**289**	P	Pb	02 38 03.7	-0.2
MTW	**Mount Morrison**	**0.70**	**244**	P*	Pb	02 38 05.5	+0.1
MTW				S*	Sb	02 38 15.7	+1.0
MTW	**Mount Morrison**	**0.70**	**244**	P	Pb	02 38 05.5	+0.1
TRWZ	**Traveller**	**0.73**	**222**	P*	Pb	02 38 05.8	-0.1
TSZ	**Takapari Road**	**0.85**	**340**	P*	Pb	02 38 07.7	-0.1
TSZ				S*	Sb	02 38 18.9	0.0
TSZ	**Takapari Road**	**0.85**	**340**	P	Pn	02 38 07.7	-0.1
TSZ				S	Sb	02 38 18.9	0.0
PAWZ	**Paruwai Farm**	**0.86**	**232**	P*	Pb	02 38 07.8	-0.3
PAWZ	**Paruwai Farm**	**0.86**	**232**	P	Pn	02 38 07.8	-0.2
PXZ	**Pawanui**	**0.92**	**26**	P*	Pb	02 38 08.4	-0.6
MSWZ	**Moikau Station**	**0.99**	**236**	P*	Pb	02 38 09.2	-1.0
MSWZ				S*	Sb	02 38 22.3	-0.7
MSWZ	**Moikau Station**	**0.99**	**236**	P	Pb	02 38 09.2	-0.7
CAW	**Cannon Point**	**0.99**	**255**	P*	Pb	02 38 09.6	-0.6
CAW	**Cannon Point**	**0.99**	**255**	P	Pn	02 38 09.6	-0.3
KIW	**Kapiti Island**	**1.08**	**269**	P*	Pb	02 38 11.1	-0.6
KIW				S*	Sb	02 38 24.6	-1.0
KIW	**Kapiti Island**	**1.08**	**269**	P	Pn	02 38 11.1	0.0
BHW	**Baring Head**	**1.23**	**243**	P*	Pb	02 38 12.6	-1.7
BHW	**Baring Head**	**1.23**	**243**	P	Pn	02 38 12.6	-0.7
WEL	**Wellington**	**1.26**	**250**	P*	Pb	02 38 13.2	-1.6
WEL	**Wellington**	**1.26**	**250**	P	Pn	02 38 13.2	-0.5
MRW	**Makara Radio**	**1.29**	**253**	P*	Pb	02 38 13.6	-1.7
MRW	**Makara Radio**	**1.29**	**253**	P	Pn	02 38 13.6	-0.5
SNZO	**South Karori**	**1.31**	**249**	P*	Pb	02 38 13.2	-2.5
SNZO	**South Karori**	**1.31**	**249**	P	Pn	02 38 13.8	-0.6
WAZ	**Wanganui**	**1.51**	**316**	PN	Pn	02 38 18.5	+1.3
WAZ	**Wanganui**	**1.51**	**316**	P	Pn	02 38 18.5	+1.2
MOVZ	**Moawhango**	**1.52**	**343**	PN	Pn	02 38 17.6	+0.3
MOVZ	**Moawhango**	**1.52**	**343**	P	Pn	02 38 18.0	+0.6
TCW	**Tory Channel**	**1.60**	**257**	PN	Pn	02 38 17.8	-0.8
TCW	**Tory Channel**	**1.60**	**257**	P	Pn	02 38 17.8	-0.7
MTVZ	**Mangateitei**	**1.61**	**335**	PN	Pn	02 38 19.8	+1.0
WNVZ	**Wahianoa**	**1.63**	**339**	P	Pn	02 38 20.9	+1.9
TRVZ	**Turoa**	**1.67**	**339**	PN	Pn	02 38 20.1	+0.6
TUVZ	**Tukino**	**1.67**	**342**	PN	Pn	02 38 19.4	-0.2
BKZ	**Black Stump Fm**	**1.69**	**4**	SN	Sn	02 38 39.6	-1.2
BKZ	**Black Stump Fm**	**1.69**	**4**	P	Pn	02 38 19.5	-0.4
WPVZ	**Whakapapa**	**1.76**	**340**	P	Pn	02 38 22.1	+1.3
CNZ	**Chateau**	**1.76**	**340**	P	Pn	02 38 22.2	+1.3
NGZ	**Ngauruhoe**	**1.77**	**341**	P	Pn	02 38 22.2	+1.2
WTVZ	**West Tongariro**	**1.83**	**342**	P	Pn	02 38 23.0	+1.1
TWVZ	**Taurewa**	**1.91**	**339**	P	Pn	02 38 24.1	+1.1
BSWZ	**Blackbirch Sta**	**2.04**	**244**	P	Pn	02 38 23.4	-1.5
KNZ	**Kokohu**	**2.10**	**30**	*e*P	Pn	02 38 23.8	-2.0
VRZ	**Vera Road**	**2.11**	**324**	*e*P	Pn	02 38 27.0	+1.1
NNZ	**Nelson**	**2.27**	**260**	P	Pn	02 38 27.5	-0.6
NRZ	**Ngariki Road**	**2.39**	**309**	*e*P	Pn	02 38 33.6	+3.7
KHZ	**Kahutara**	**2.61**	**232**	*e*P	Pn	02 38 30.6	-2.4
URZ	**Urewera**	**2.66**	**13**	P	Pn	02 38 31.7	-2.1
MWZ	**Matawai**	**2.68**	**20**	P	Pn	02 38 32.1	-2.0
THZ	**Tophouse**	**2.74**	**250**	*e*P	Pn	02 38 33.2	-1.6
QRZ	**Quartz Range**	**2.89**	**269**	P	Pn	02 38 35.9	-1.1
PUZ	**Puketiti**	**3.15**	**29**	*e*P	Pn	02 38 37.4	-3.3
DSZ	**Denniston Nort**	**3.53**	**254**	*e*P	Pn	02 38 44.0	-2.0
LTZ	**Lake Taylor**	**3.60**	**236**	*e*P	Pn	02 38 44.8	-2.2
MQZ	**McQueen's Vall**	**3.95**	**223**	P	Pn	02 38 48.0	-4.0
RPZ	**Rata Peaks**	**4.85**	**232**	*e*P	Pn	02 39 01.3	-3.5
ODZ	**Otahua Downs**	**5.91**	**223**	*e*P	Pn	02 39 15.4	-4.4

*IDC **23** 02:47:29.5±0.5, 55.26S×129.90W, mb4.4/11, mb1 4.6/11, mb1mx4.5/14, mbtmp4.4/11, MS4.5/14, Ms1 4.5/14, ms1mx4.5/14, Error ellipse: s-maj=30.4km s-min=15.9km az=171.0*

*NEIC **23** 02:47:30.2±0.2, 55.05S×129.98W, h10km, mb4.8/9, Error ellipse: s-maj=11.9km s-min=10.1km az=160.0*

ISC 23 02:47:29.0±0.4, 55.05S±0.07×130.0W±0.1, h10km, (h8km±2km; pP-P), n95, σ1s21/37, mb4.5/17, MS4.5/14, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**31.70**	**37**	LR	LR	03 03 26.7	
	comp=Z,543nm,20.1s,MS4.2,baz=200,slow=30						
RKT	**Rikitea**	**32.10**	**351**	*e*S	**S**	**02 59 08.6**	**-0.8**
RKT				*e*LQ		03 00 58.2	
RKT				*e*LR	LR	03 02 18.9	
	4μm,30.0s,baz=167						
VNDA	**Vanda**	**32.35**	**202**	P	**P**	**02 53 58.4**	**-1.6**
	1.5nm,1.0s,mb3.8,baz=107,slow=12,SNR=2.9						
VNDA				LR	LR	03 03 13.4	
	comp=Z,715nm,21.8s,MS4.3,baz=82,slow=29						
VNDA	**Vanda**	**32.35**	**202**	*e*P	**P**	**02 53 58.1**	**-1.9**
	6.0nm,1.1s,mb4.3						
USHA	**Ushuaia**	**34.35**	**116**	P	**P**	**02 54 17.1**	**-0.5**
	17nm,0.9s,mb5.0,baz=192,slow=6.7,SNR=5.5						
USHA				LR	LR	03 04 07.2	
	comp=Z,574nm,21.7s,MS4.3,baz=230,slow=29						
TBI	**Tubuai**	**34.81**	**328**	*e*S	**S**	**02 59 51.6**	**0.0**
TBI				*e*LQ		03 02 08.9	
TBI				*e*LR	LR	03 03 25.5	
	3μm,30.0s,baz=165						
PPT	**Papeete**	**40.30**	**330**	*e*S	**S**	**03 01 15.3**	**0.0**
PPT				*e*LQ		03 04 19.1	
PPT				*e*LR	LR	03 06 00.4	
	4μm,27.0s,baz=171						
RAR	**Rarotonga**	**40.51**	**315**	LR	LR	03 07 35.2	
	comp=Z,546nm,18.4s,MS4.4,baz=141,slow=30						
PLCA	**Paso Flores**	**41.07**	**95**	P	**P**	**02 55 13.9**	**-0.2**
	15nm,1.2s,mb4.5,baz=234,slow=7.6,SNR=13						
PLCA				LR	LR	03 07 52.5	
	comp=Z,635nm,19.5s,MS4.5,baz=228,slow=30						
PLCA	**Paso Flores**	**41.07**	**95**	*e*P	**P**	**02 55 15.3**	**+1.2**
	38nm,1.4s,mb4.8						
RAO	**Raoul Island**	**42.72**	**287**	LR	LR	03 08 28.4	
	comp=Z,691nm,20.0s,MS4.5,baz=214,slow=29						
TAOE	**Nuku Hiva Isla**	**46.77**	**346**	*e*S	**S**	**03 02 49.0**	**-0.5**
TAOE				*e*LQ		03 06 51.1	
TAOE				*e*LR	LR	03 09 08.3	
	6μm,26.0s,baz=187						
VNA3	**Neumayer Olymp**	**47.17**	**158**	*e*	**P**	**02 56 05.1**	**+2.3**
VNA3	**Neumayer Olymp**	**47.17**	**158**	*e*	**P**	**02 56 14.2**	**+11**
VNA3	**Neumayer Olymp**	**47.17**	**158**	*e*	Px	02 56 28.3	
VNA3	**Neumayer Olymp**	**47.17**	**158**	⇑*i* P	**P**	**02 56 02.6**	**-0.2**
VNA3				*e*	pP	02 56 05.1	-0.7
VNA3				*e*		02 56 14.2	
VNA3				*e*		02 56 28.3	
TRQA	**Tornquist**	**47.77**	**99**	*e*P	**P**	**02 56 07.6**	**-0.4**
	28nm,1.0s,mb5.2						
VNA2	**Neumayer--Watz**	**47.91**	**158**	*e*	**P**	**02 56 11.1**	**+2.5**
VNA2	**Neumayer--Watz**	**47.91**	**158**	*e*	**P**	**02 56 20.3**	**+12**
VNA2	**Neumayer--Watz**	**47.91**	**158**	*e*	Px	02 56 35.2	
VNA2	**Neumayer--Watz**	**47.91**	**158**	⇑*i* P	**P**	**02 56 08.7**	**+0.1**
VNA2				*e*	pP	02 56 11.1	-0.5
VNA2				*e*		02 56 20.3	
VNA2				*e*		02 56 35.2	
VNA1	**Neumayer--Stat**	**47.92**	**158**	*e*	**P**	**02 56 11.5**	**+2.8**
VNA1	**Neumayer--Stat**	**47.92**	**158**	*e*	**P**	**02 56 21.1**	**+12**
VNA1	**Neumayer--Stat**	**47.92**	**158**	*e*	Px	02 56 35.6	
VNA1	**Neumayer--Stat**	**47.92**	**158**	⇑*i* P	**P**	**02 56 09.2**	**+0.5**
VNA1				*e*	pP	02 56 11.5	-0.2
VNA1				*e*		02 56 21.1	
VNA1				*e*		02 56 35.6	
SNAA	**Sanae**	**48.26**	**160**	⇑*i*	**P**	**02 56 10.8**	**-0.5**
SNAA	**Sanae**	**48.26**	**160**	*e*	**P**	**02 56 13.9**	**+2.6**
SNAA	**Sanae**	**48.26**	**160**	*e*	**P**	**02 56 22.9**	**+12**
SNAA	**Sanae**	**48.26**	**160**	*e*	Px	02 56 37.2	
SNAA	**Sanae**	**48.26**	**160**	*e*P	**P**	**02 56 10.1**	**-1.1**
	4.7nm,0.6s,mb4.7						
SYO	**Syowa Base**	**56.02**	**175**	⇑pP	**P**	**02 57 09.2**	**-0.2**
MAW	**Mawson**	**57.29**	**186**	LR	LR	03 19 22.2	
	comp=Z,723nm,19.3s,MS4.8,baz=165,slow=34						
LPAZ	**La Paz**	**60.76**	**76**	P	**P**	**02 57 43.2**	**0.0**
	7.5nm,1.1s,mb4.8,baz=216,slow=4.0,SNR=13						
LPAZ				LR	LR	03 17 50.1	
	comp=Z,199nm,21.8s,MS4.2,baz=32,slow=30						
LPAZ	**La Paz**	**60.76**	**76**	*e*P	**P**	**02 57 42.9**	**-0.3**
	18nm,1.2s,mb5.1						
STKA	**Stephens Creek**	**63.68**	**252**	P	**P**	**02 58 02.4**	**-0.1**
	4.2nm,0.9s,mb4.5,baz=140,slow=11,SNR=3.4						
STKA				LR	LR	03 20 17.8	
	comp=Z,955nm,20.9s,MS5.0,baz=104,slow=31						
OTAV	**Otavalo**	**69.24**	**57**	*e*P	**P**	**02 58 38.1**	**-0.1**
	10.0nm,1.3s,mb4.6						
CTA	**Charters Tower**	**70.24**	**263**	P	**P**	**02 58 45.0**	**+0.9**
	5.0nm,0.9s,mb4.4,baz=151,slow=7.2,SNR=2.9						
CTA				LR	LR	03 27 10.2	
	comp=Z,314nm,18.3s,MS4.6,baz=44,slow=34						
BDFB	**Brasilia**	**72.76**	**93**	P	**P**	**02 58 58.3**	**-1.0**
	3.3nm,0.9s,mb4.3,baz=211,slow=5.9,SNR=3.5						
BDFB				LR	LR	03 26 12.6	
	comp=Z,761nm,21.4s,MS4.9,baz=212,slow=32						
ROSC	**El Rosal**	**75.25**	**58**	P	**P**	**02 59 15.2**	**+1.4**
	5.8nm,0.7s,mb4.6,baz=102,slow=22,SNR=6.2						
ROSC				LR	LR	03 26 24.5	
	comp=Z,241nm,18.8s,MS4.5,baz=98,slow=31						
WRA	**Warramunga Arr**	**77.06**	**254**	P	**P**	**02 59 23.8**	**-0.1**
	2.6nm,0.8s,mb4.2,baz=143,slow=5.1,SNR=37						
WRAB	**Tennant Creek**	**77.06**	**254**	*e*P	**P**	**02 59 23.6**	**-0.2**
	8.8nm,1.0s,mb4.6						
SDV	**Santo Domingo**	**80.55**	**60**	*e*P	**P**	**02 59 40.6**	**-2.3**
	5.7nm,1.2s,mb4.4						
TXAR	**Lajitas Array**	**87.03**	**23**	P	**P**	**03 00 17.6**	**+2.1**
	0.7nm,0.8s,mb3.9,baz=198,slow=5.9,SNR=8.0						
ANMO	**Albuquerque**	**91.89**	**19**	P	**P**	**03 00 35.7**	**-2.6**
	1.1nm,0.7s,mb4.3						
NVAR	**Mina Array Bea**	**93.64**	**9**	P	**P**	**03 00 48.3**	**+2.0**
	0.4nm,0.8s,mb3.9,baz=198,slow=8.6,SNR=2.7						
NVAR				LR	LR	03 33 16.9	
	comp=Z,143nm,20.5s,MS4.4,baz=140,slow=29						
PDAR	**Pinedale Array**	**98.98**	**15**	LR	LR	03 37 15.0	
	comp=Z,379nm,21.2s,MS4.9,baz=210,slow=30						
YKA	**Yellowknife Ar**	**117.82**	**8**	PKKPbc		03 16 40.3	
	0.1nm,0.5s,baz=356,slow=3.6,SNR=4.9						
ILAR	**Eielson Array**	**120.19**	**352**	PKP	PKPdf	03 06 20.4	-1.8
	0.8nm,0.6s,baz=195,slow=2.1,SNR=14						
INK	**Inuvik**	**123.07**	**358**	PKP	PKPdf	03 06 26.6	-1.0
	0.3nm,0.4s,baz=228,slow=4.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.90**	**119**	PKP	PKPdf	03 06 28.0	-2.5
	0.7nm,0.6s,baz=334,slow=2.5,SNR=7.9						
ESDC	**Sonseca Array**	**141.38**	**90**	PKP	PKPdf	03 07 01.5	-1.0
	0.6nm,0.7s,baz=270,slow=1.3,SNR=3.5						
SONM	**Songino Array**	**144.98**	**282**	PKPbc	PKPbc	03 07 06.9	+1.3
	2.8nm,0.6s,baz=141,slow=2.7,SNR=22						
SJPF	**Stn Stan**	**145.17**	**88**	*e*PKIKP	PKPdf	03 07 07.2	-1.7
	53nm,1.3s						
EPF	**Esparros**	**146.02**	**90**	*e*PKIKP	PKPdf	03 07 08.3	-2.1
	18nm,1.0s						
QUIF	**Quistinic**	**146.85**	**80**	*e*PKIKP	PKPdf	03 07 09.2	-2.4
	70nm,1.3s						
ROSF	**Rostrenen**	**147.01**	**79**	*e*PKIKP	PKPdf	03 07 09.9	-2.0
	55nm,1.1s						
SGMF	**Saint Gilles**	**147.37**	**80**	*e*PKIKP	PKPdf	03 07 10.4	-2.1
LFF	**La Frestale**	**147.40**	**87**	*e*PKIKP	PKPdf	03 07 10.2	-2.4
	20nm,0.9s						
MFF	**Saint Martin d**	**147.84**	**84**	*e*PKIKP	PKPdf	03 07 10.9	-2.4
	65nm,1.6s						
RJF	**Les Rejaudoux**	**148.06**	**87**	*e*PKIKP	PKPdf	03 07 11.5	-2.2
	23nm,1.1s						
CAF	**Calviac**	**148.16**	**88**	*e*PKIKP	PKPdf	03 07 11.9	-1.9
	23nm,1.1s						
GRR	**Gorron**	**148.41**	**81**	*e*PKIKP	PKPdf	03 07 11.9	-2.2
	45nm,1.3s						
LASF	**Ste Croix**	**148.68**	**91**	*e*PKIKP	PKPdf	03 07 12.6	-2.1
	24nm,1.2s						
LDF	**La Druitiere**	**148.93**	**81**	*e*PKIKP	PKPdf	03 07 12.6	-2.3
TCF	**Toulx Ste Croi**	**149.02**	**86**	*e*PKIKP	PKPdf	03 07 12.4	-2.8
	23nm,1.0s						
BGF	**Bois d'Agland**	**149.54**	**86**	*e*PKIKP	PKPdf	03 07 13.8	-2.2
SMRF	**Simiane la Rot**	**149.61**	**93**	*e*PKIKP	PKPdf	03 07 13.8	-2.4
VIVF	**Saint-Julien-l**	**149.62**	**90**	*e*PKIKP	PKPdf	03 07 14.5	-1.7
LMR	**La Mourre**	**149.75**	**94**	*e*PKIKP	PKPdf	03 07 14.0	-2.4
AVF	**Avril sur Loir**	**149.96**	**86**	*e*PKIKP	PKPdf	03 07 14.5	-2.1
	11nm,0.9s						
FRF	**La Foret Royal**	**149.97**	**94**	*e*PKIKP	PKPdf	03 07 14.1	-2.7
	35nm,1.1s						
SMF	**Signal de Mont**	**150.16**	**87**	*e*PKIKP	PKPdf	03 07 13.9	-3.1
	45nm,1.4s						
SSF	**Saint Saulge**	**150.19**	**86**	*e*PKIKP	PKPdf	03 07 14.6	-2.4
ORIF	**Oris-en-Rattie**	**150.35**	**91**	*e*PKIKP	PKPdf	03 07 15.1	-2.2
	12nm,0.8s						
ORIF				*e*R			
	156nm,19.2s						
LOR	**Lormes**	**150.51**	**86**	*e*PKIKP	PKPdf	03 07 14.9	-2.6
	25nm,1.2s						
MBDF	**Montbardon**	**150.75**	**92**	*e*PKIKP	PKPdf	03 07 16.4	-1.5
LPG	**La Plagne**	**151.18**	**91**	*e*PKIKP	PKPdf	03 07 16.7	-1.8
LPL	**La Plagne**	**151.18**	**91**	*e*PKIKP	PKPdf	03 07 16.7	-1.8
	14nm,1.0s						
CABF	**La Chapelle**	**151.43**	**89**	*e*PKIKP	PKPdf	03 07 17.2	-1.7
MEZF	**Maizieres J'vi**	**151.84**	**85**	*e*PKIKP	PKPdf	03 07 18.0	-1.4
BAIF	**Baives**	**152.12**	**81**	*e*PKIKP	PKPdf	03 07 17.7	-2.1
HAU	**Haudompre**	**152.32**	**86**	*e*PKIKP	PKPdf	03 07 18.9	-1.2
HAU				*e*R			
	140nm,21.5s						
GIVF	**Givet**	**152.49**	**81**	*e*PKIKP	PKPdf	03 07 17.7	-2.6
CDF	**Champ du Feu**	**153.07**	**86**	*e*PKIKP	PKPdf	03 07 18.9	-2.2
DAVOX	**Davos**	**153.70**	**92**	PKPbc	PKPdf	03 07 29.3	+7.2
	baz=229,slow=9.3						
GRA1	**Grafenberg Arr**	**155.96**	**87**	*e*PKP	PKPdf	03 07 30.7	+5.7
GERES	**GERESS Array B**	**156.98**	**90**	PKP	PKPdf	03 07 26.6	+0.2
	1.4nm,0.9s,baz=180,slow=2.7,SNR=6.6						
GERES				PKPab	PKPab	03 07 54.7	-1.3
	0.8nm,0.7s,baz=259,slow=5.0,SNR=2.8						
CLL	**Collm**	**157.69**	**84**	P	PKPdf	03 07 45.0	+18
CLL	**Collm**	**157.69**	**84**	*e*P	PKPdf	03 07 45.0	+18
BRG	**Berggiesshubel**	**158.05**	**86**	P	PKPdf	03 07 41.2	+13
MKAR	**Makanchi Array**	**158.20**	**261**	PKPab	PKPab	03 08 00.1	-1.2
	2.0nm,0.8s,baz=125,slow=4.1,SNR=11						
AAK	**Ala-Archa**	**159.78**	**242**	*e*PKPab	PKPab	03 08 07.0	-1.3
BRTR	**Keskin Array B**	**161.16**	**138**	PKPab	PKPab	03 08 13.5	-0.9
	2.1nm,0.8s,baz=183,slow=5.2,SNR=7.8						
AKASG	**Malin Array Be**	**166.74**	**101**	PKPab	PKPab	03 08 40.0	+1.7
	0.6nm,0.5s,baz=244,slow=4.8,SNR=5.4						
BVAR	**Borovoye Array**	**167.85**	**269**	PKPab	PKPab	03 08 45.5	+2.5
	0.8nm,0.8s,baz=135,slow=4.2,SNR=4.7						

*ISK **23** 02:48:38.4, 39.36N×40.84E, h5km, MD3.7*

*CSEM **23** 02:48:38.4, 39.36N×40.84E, h5km, MD3.7, After ISK*

ISC 23 02:48:39.7±0.4, 39.39N±0.03×40.86E±0.04, h5km, n23, σ0s98/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.49**	**153**	*i* P	**Pg**	**02 48 48.2**	**-1.3**
BNGL				*i* S	**Sg**	**02 48 56.3**	**+0.1**
EZM	**Erzurum**	**0.65**	**37**	*i* PG	**Pg**	**02 48 52.3**	**-0.3**
ERZM	**Erzurum**	**0.65**	**37**	*i* P	**Pg**	**02 48 51.4**	**-1.3**
ERZM				*i* S	**Sg**	**02 49 00.6**	**-0.8**
EZC	**Erzincan**	**0.88**	**294**	PN	**Pn**	**02 49 03.3**	**+4.7**
PTK	**Pertek**	**1.25**	**247**	*i* PN	**Pn**	**02 49 02.2**	**-1.6**
PTK				*i* SN	**Sn**	**02 49 20.8**	**-0.3**
BTMT	**Batman**	**1.29**	**157**	PN	**Pn**	**02 49 04.0**	**-0.5**
BTMT				SN	**Sn**	**02 49 23.4**	**+1.1**
KELT	**Kelkit**	**1.45**	**302**	*i* P	**Pn**	**02 49 06.6**	**-0.1**
KELT				*i* S	**Sb**	**02 49 30.2**	**+4.7**
GUMT	**Gumushane**	**1.51**	**316**	PN	**Pn**	**02 49 08.8**	**+1.3**
BEST	**Besiri**	**1.53**	**168**	*i* P	**Pn**	**02 49 08.6**	**+0.7**
BEST				*i* S	**Sb**	**02 49 30.1**	**+2.2**
DIY	**Diyarbakir**	**1.57**	**199**	PN	**Pn**	**02 49 08.5**	**+0.1**
MACK	**Trabzon**	**1.76**	**332**	*i* P	**Pn**	**02 49 13.8**	**+2.6**
MACK				*i* S	**Sn**	**02 49 39.8**	**+5.6**
MARD	**Mardin**	**2.07**	**182**	*i* P	**Pn**	**02 49 16.1**	**+0.5**
MARD				*i* S	**Sn**	**02 49 40.4**	**-1.7**
KARS	**Kars**	**2.10**	**54**	*e*PN	**Pn**	**02 49 16.3**	**+0.2**
VANB	**Van**	**2.12**	**111**	*e*PN	**Pn**	**02 49 16.9**	**+0.5**
MYA	**Malataya**	**2.18**	**242**	*e*PN	**Pn**	**02 49 16.8**	**-0.3**
VANT	**Van**	**2.19**	**115**	*e*PN	**Pn**	**02 49 16.2**	**-1.0**
DIGO	**Kars**	**2.19**	**61**	*i* P	**Pn**	**02 49 18.2**	**+0.9**
DIGO				*i* S	**Sn**	**02 49 50.2**	**+5.1**
CLDR	**Caldiran**	**2.39**	**95**	*e*PN	**Pn**	**02 49 20.6**	**+0.5**
URFA	**Urfa**	**2.52**	**220**	*e*PN	**Pn**	**02 49 21.4**	**-0.6**
HKR	**Hakkari**	**2.90**	**128**	*e*PN	**Pn**	**02 49 27.2**	**-0.2**
SVSK	**Karacayir**	**3.03**	**281**	*e*PN	**Pn**	**02 49 29.5**	**+0.2**
MSL	**Mosul**	**3.56**	**150**	*ex*	x	02 49 13.0	
MSL				*ex*	x	02 50 00.5	
MSL				*ex*	x	02 51 09.0	
GAZ	**Gaziantep**	**3.62**	**234**	*e*PN	**Pn**	**02 49 37.8**	**+0.1**

*IDC **23** 02:58:43.9±0.5, 0.11S×124.84E, mb4.5/14, mb1 4.6/14, mb1mx4.5/17, mbtmp4.4/14, Error ellipse: s-maj=28.5km s-min=15.8km az=73.0*

*MOS **23** 02:58:47.0±1.4, 0.03S×124.91E, h33km, mb4.7/16, Error ellipse: s-maj=22.3km s-min=8.4km az=110.1*

*BJI **23** 02:58:48.2, 0.04S×125.09E, h34km, mB5.1, mb4.7, Ms4.4, Msz4.1*

*NEIC **23** 02:58:49.5±2.9, 0.16S×124.93E, h40km±27km, mb4.6/13, Error ellipse: s-maj=19.2km s-min=10.2km az=71.0*

ISC 23 02:58:47.3±2.4, 0.12S±0.06×124.9E±0.1, h38km±22km, n71, σ1s20/67, mb4.6/44, MS3.9/5, 3C-4D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**14.71**	**276**	*e*Pn	**P**	**03 02 22.8**	**+8.0**
FITZ	**Fitzroy Crossi**	**17.89**	**178**	⇓*i* P	**P**	**03 02 55.1**	**+0.1**
	16nm,0.7s						
MBWA	**Marble Bar**	**21.52**	**193**	*e*P	**P**	**03 03 34.5**	**-0.7**
	22nm,1.0s,mb4.5						
WRAB	**Tennant Creek**	**21.75**	**155**	*e*P	**P**	**03 03 38.9**	**+1.5**
WRAB				*e*		03 03 54.4	
				pmax	pmax		
	comp=Z,31nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**21.75**	**155**	*e*P	**P**	**03 03 38.9**	**+1.5**
	comp=Z,31nm,0.8s,mb4.8						
WRAB				*e*		03 03 54.4	
WRA	**Warramunga Arr**	**21.75**	**156**	P	**P**	**03 03 35.8**	**-1.6**
	comp=Z,9.5nm,0.9s,mb4.2,baz=335,slow=11,SNR=31						
WRA				PcP	PcP	03 07 38.0	+0.3
	comp=Z,0.7nm,0.5s,baz=333,slow=1.9,SNR=5.5						
WB2	**Warramunga Arr**	**21.75**	**155**	*e*P	**P**	**03 03 35.8**	**-1.7**
WB2				*e*		03 03 55.0	
WB2				*e*PCP	PcP	03 07 37.9

	comp=Z,7.0nm,1.3s,mb4.6								
AAK	**Ala-Archa**	**62.06**	**320**	*e*P		**P**	**03 09 07.0**	**+0.5**	
	comp=Z,4.3nm,0.8s,mb4.6								
YAK	**Yakutsk**	**62.09**	**3**	*d i*P		**P**	**03 09 07.0**	**+0.6**	
YAK				pmax	pmax				
	comp=E,18nm,0.7s,mb5.3								
KURK	**Kurchatov**	**64.06**	**329**	*i*P		**P**	**03 09 18.2**	**-1.3**	
KURK				pmax	pmax				
	comp=Z,6.0nm,0.6s,mb4.8								
KURK	**Kurchatov**	**64.06**	**329**	*e*P		**P**	**03 09 18.1**	**-1.5**	
	comp=Z,12nm,0.6s,mb5.1								
KKAR	**Karatay Array**	**64.87**	**319**	*i*P		**P**	**03 09 23.8**	**-1.1**	
KKAR				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.3								
VOSK	**Vostochnaya**	**69.13**	**328**	P		**P**	**03 09 49.7**	**-1.9**	
VOSK				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2								
BVA0	**Borovoye Array**	**69.59**	**328**	*i*P		**P**	**03 09 54.4**	**0.0**	
BVA0				pmax	pmax				
	comp=Z,2.0nm,1.4s,mb3.9								
BVAR	**Borovoye Array**	**69.59**	**328**	P		**P**	**03 09 54.5**	**+0.1**	
	comp=Z,2.3nm,0.6s,mb4.3,baz=144,slow=8.6,SNR=10.0								
BRVK	**Borovoye**	**69.66**	**328**	*e*P		**P**	**03 09 55.2**	**+0.3**	
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.3								
BRVK	**Borovoye**	**69.66**	**328**	*e*P		**P**	**03 09 55.2**	**+0.4**	
	comp=Z,1.9nm,0.5s,mb4.3								
TIXI	**Tiksi**	**71.69**	**1**	⇓*i*P		**P**	**03 10 07.0**	**+0.2**	
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3								
BILL	**Bilibino**	**73.70**	**15**	⇓*e*P		**P**	**03 10 18.2**	**-0.5**	
BILL				pmax	pmax				
	comp=Z,11nm,2.5s,mb4.3								
AB31	**Akbulak array**	**74.01**	**322**	*i*P		**P**	**03 10 20.1**	**-0.8**	
AB31				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2								
AKTO	**Aktyubinsk**	**75.57**	**323**	P		**P**	**03 10 29.2**	**-0.6**	
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.1								
ARU	**Arti**	**77.23**	**329**	⇑*i*P		**P**	**03 10 39.8**	**+0.7**	
ARU				*e*	pP		03 10 49.0	-1.8	
ARU				*e*			03 13 34.5		
ARU				*e*S	S		03 20 28.7	+4.1	
ARU				*e*SS	SS		03 25 27.2	+1.4	
ARU				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.7								
ARU	**Arti**	**77.23**	**329**	*e*P		**P**	**03 10 39.4**	**+0.3**	
	comp=Z,7.8nm,0.8s,mb4.7								
OPO	**Ambohidratompo**	**78.35**	**251**	P		**P**	**03 10 47.4**	**+1.4**	
	comp=Z,1.7nm,0.8s,mb4.0,baz=98,slow=7.2,SNR=4.9								
VNDA	**Vanda**	**79.87**	**172**	P		**P**	**03 10 54.0**	**+0.8**	
	comp=Z,2.0nm,0.9s,mb4.0,baz=326,slow=3.6,SNR=3.3								
KDAK	**Kodiak Island**	**86.08**	**32**	P		**P**	**03 11 27.9**	**+2.8**	
	baz=251,slow=10								
IMA2	**Indian Mountai**	**86.60**	**24**	*e*P		**P**	**03 11 28.6**	**+1.1**	
KMBO	**Kilima Mbogo**	**87.69**	**269**	P		**P**	**03 11 36.0**	**+1.9**	
	comp=Z,4.0nm,0.7s,mb4.7,baz=51,slow=9.8,SNR=12								
KLMR	**Klimovskoe**	**87.86**	**331**	*e*P		**P**	**03 11 33.3**	**-0.4**	
KLMR				pmax	pmax				
	comp=Z,20nm,1.5s,mb5.1								
SYO	**Syowa Base**	**88.22**	**201**	⇑P		**P**	**03 11 30.8**	**-4.5**	
OBN	**Obninsk**	**89.16**	**325**	⇑*e*P		**P**	**03 11 40.4**	**+0.3**	
OBN				pmax	pmax				
	comp=Z,14nm,1.0s,mb5.2								
ILAR	**Eielson Array**	**89.32**	**25**	P		**P**	**03 11 40.9**	**+0.2**	
	comp=Z,0.8nm,0.9s,mb4.0,baz=248,slow=4.9,SNR=6.7								
JOF	**Joensuu**	**91.76**	**333**	*e*P		**P**	**03 11 51.6**	**-0.5**	
	comp=Z,0.6nm,0.3s,mb4.4								
ARCES	**ARCESS Array B**	**93.41**	**340**	P		**P**	**03 11 59.2**	**-0.3**	
	comp=Z,2.3nm,0.7s,mb4.7,baz=72,slow=7.7,SNR=7.2								
AKASG	**Malin Array Be**	**93.72**	**321**	P		**P**	**03 12 00.7**	**-0.6**	
	comp=Z,1.3nm,0.7s,mb4.5,baz=70,slow=4.7,SNR=5.8								
KAF	**Kangasniemi**	**94.15**	**332**	*e*p		**P**	**03 12 02.7**	**-0.2**	
	comp=Z,0.3nm,0.4s,mb4.1								
FINES	**FINESS Array B**	**94.35**	**332**	P		**P**	**03 12 03.8**	**0.0**	
	comp=Z,0.6nm,0.6s,mb4.2,baz=63,slow=4.3,SNR=4.9								
INK	**Inuvik**	**94.37**	**21**	P		**P**	**03 12 05.2**	**+1.4**	
	comp=Z,2.2nm,1.0s,mb4.5,baz=256,slow=6.0,SNR=6.5								
INK	**Inuvik**	**94.37**	**21**	*e*P		**P**	**03 12 04.7**	**+0.9**	
INK				pmax	pmax				
	comp=Z,42nm,2.3s								
INK	**Inuvik**	**94.37**	**21**	*e*P		**P**	**03 12 04.7**	**+0.8**	
	comp=Z,42nm,2.3s,mb5.5								
NOA	**NORSAR Array B**	**101.39**	**333**	P		P	03 12 35.1	-0.8	
	comp=Z,0.5nm,0.8s,baz=69,slow=4.5,SNR=3.8								
YKA	**Yellowknife Ar**	**103.72**	**24**	PKiKP			03 17 05.2		
	comp=Z,0.1nm,0.5s,baz=301,slow=1.7,SNR=5.0								
TORD	**Torodi Ar. Bea**	**122.31**	**285**	PKP		PKPdf	03 17 41.4	+2.1	
	comp=Z,1.5nm,0.6s,baz=65,slow=1.4,SNR=16								
SCHQ	**Schefferville**	**124.61**	**8**	PKP		PKPdf	03 17 45.4	+2.5	
	comp=Z,7.0nm,1.1s,baz=252,slow=4.5,SNR=3.6								
TXAR	**Lajitas Array**	**125.33**	**53**	PKP		PKPdf	03 17 48.5	+3.5	
	comp=Z,0.4nm,0.7s,baz=221,slow=2.4,SNR=6.7								
PLCA	**Paso Flores**	**136.97**	**163**	PKP		PKPdf	03 18 09.7	+3.1	
	comp=Z,1.0nm,0.8s,baz=180,slow=1.0,SNR=3.5								
LPAZ	**La Paz**	**159.22**	**142**	PKPab		PKPab	03 19 24.6	+2.8	
	comp=Z,1.3nm,0.7s,baz=180,slow=6.3,SNR=6.9								

*BGS **23** 03:25:51.1±0.5,56.68N×5.69W,h7km±37km,ML2.7*
*BER **23** 03:25:51.6±1.8,56.69N×5.75W,ML2.5,ML2.7(BGS)*
*NEIC **23** 03:25:51.1,56.68N×5.69W,h7km,ML2.7(BGS),After BGS.*
NEIC Felt [III] at Strontian.
*CSEM **23** 03:25:51.6,56.69N×5.74W,h5km,ML2.5,After BER*

ISC 23 03:25:50.7±0.5,56.67N±0.03×5.64W±0.08,h7km,n33, σ0°74/39,8C-1D,United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAR1	**Arisaig**	**0.28**	**338**	⇑*i*P		**Pg**	**03 25 57.1**	**+0.8**
KAR1	**Arisaig**	**0.28**	**338**	⇑*i*P		**Pg**	**03 25 56.9**	**+0.6**
KSB	**Sheil Bridge**	**0.56**	**12**	⇓*i*P		**Pg**	**03 26 02.2**	**+0.3**
KSB	**Sheil Bridge**	**0.56**	**12**	⇑*i*P		**Pg**	**03 26 02.0**	**+0.1**
KPL	**Plockton**	**0.68**	**360**	⇑*i*P		**Pg**	**03 26 04.0**	**-0.3**
KPL				*e*S		**Sg**	**03 26 12.5**	**-0.8**
KPL				AML	AML		03 26 17.2	
	comp=N,370nm,0.2s							
KPL				AML	AML		03 26 17.4	
	comp=E,484nm,0.3s							
KPL	**Plockton**	**0.68**	**360**	*e*P		**Pg**	**03 26 04.2**	**0.0**
KPL				*e*S		**Sg**	**03 26 12.8**	**-0.5**
KPL				AML	AML		03 26 17.5	
	comp=N,370nm,0.2s							
KPL				AML	AML		03 26 17.7	
	comp=E,484nm,0.3s							
KPL	**Plockton**	**0.68**	**360**	*e*P		**Pg**	**03 26 04.2**	**-0.1**
	SNR=90							
KPL				*e*S		**Sg**	**03 26 12.9**	**-0.4**
	comp=E,484nm,0.3s							
KAC	**Achnashellach**	**0.86**	**12**	⇑*i*P		**Pb**	**03 26 07.7**	**+0.1**
KAC	**Achnashellach**	**0.86**	**12**	*e*P		**Pb**	**03 26 08.0**	**+0.5**
	SNR=90							
EAB	**Aberfoyle**	**0.87**	**123**	⇑*i*P		**Pb**	**03 26 07.7**	**0.0**
EAB	**Aberfoyle**	**0.87**	**123**	*e*P		**Pb**	**03 26 07.7**	**0.0**
	SNR=90							
KSK	**Scoval**	**0.99**	**325**	*e*P		**Pb**	**03 26 10.3**	**+0.6**
KSK	**Scoval**	**0.99**	**325**	*e*P		**Pb**	**03 26 10.2**	**+0.4**
MDO	**Dochfour**	**1.05**	**41**	*e*P		**Pb**	**03 26 10.7**	**-0.1**
POB1	**Observatory**	**1.06**	**140**	*e*P		**Pb**	**03 26 11.5**	**+0.4**
PCOU	**Corrie**	**1.09**	**128**	⇑*i*P		**Pb**	**03 26 12.0**	**+0.4**
PCOU	**Corrie**	**1.09**	**128**	*e*P		**Pb**	**03 26 11.8**	**+0.2**
GMK	**Mull of Kintyr**	**1.32**	**179**	*e*P		**Pb**	**03 26 15.2**	**-0.3**
EAU	**Auchinoon**	**1.48**	**123**	⇑*i*P		**Pn**	**03 26 18.5**	**+0.7**
EAU	**Auchinoon**	**1.48**	**123**	*e*P		**Pn**	**03 26 18.4**	**+0.6**
	SNR=50							
MVH1	**Achvaich**	**1.49**	**31**	*e*P		**Pn**	**03 26 17.4**	**-0.7**
EDI	**Edinburgh**	**1.56**	**117**	*e*P		**Pn**	**03 26 19.9**	**+0.8**
EDI				*e*S		**Sb**	**03 26 39.0**	**-0.4**
EDI				AML	AML		03 26 42.9	
	comp=E,105nm,0.6s							
EDI				AML	AML		03 26 43.1	
	comp=N,120nm,0.3s							
EDI	**Edinburgh**	**1.56**	**117**	*e*P		**Pn**	**03 26 19.9**	**+0.8**
EDI				AML	AML		03 26 42.5	
	comp=N,115nm,0.2s							
EDI				AML	AML		03 26 42.9	
	comp=E,95nm,0.3s							
EDI	**Edinburgh**	**1.56**	**117**	*e*P		**Pn**	**03 26 19.9**	**+0.9**
	SNR=50							
EDI				*e*S		**Sb**	**03 26 39.0**	**-0.4**
	comp=E,120nm,0.3s,SNR=50							
MCD	**Coleburn Disti**	**1.59**	**54**	*e*P		**Pn**	**03 26 18.9**	**-0.6**
MCD				*e*S		**Sb**	**03 26 39.0**	**-1.4**
MCD				AML	AML		03 26 43.5	
	comp=E,114nm,0.2s							
MCD				AML	AML		03 26 44.6	
	comp=N,126nm,0.3s							
MCD	**Coleburn Disti**	**1.59**	**54**	*e*P		**Pn**	**03 26 18.9**	**-0.6**
MCD				AML	AML		03 26 43.5	
	comp=E,114nm,0.2s							
MCD				AML	AML		03 26 44.6	
	comp=N,126nm,0.3s							
MME1	**Meikle Cairn**	**1.60**	**65**	*e*P		**Pn**	**03 26 20.4**	**+0.7**
GCL	**Cushendall**	**1.62**	**190**	*e*P		**Pn**	**03 26 19.7**	**-0.2**
EBL	**Broad Law**	**1.70**	**121**	*e*P		**Pn**	**03 26 22.4**	**+1.3**
GAL1	**Galloway**	**1.88**	**163**	*e*P		**Pn**	**03 26 24.0**	**+0.4**
GAL1				AML	AML		03 26 50.5	
	comp=E,41nm,0.2s							
GAL1				AML	AML		03 26 52.4	
	comp=N,23nm,0.3s							
GAL1	**Galloway**	**1.88**	**163**	*e*P		**Pn**	**03 26 23.9**	**+0.3**
GAL1				AML	AML		03 26 50.5	
	comp=E,41nm,0.2s							
GAL1				AML	AML		03 26 52.4	
	comp=N,23nm,0.3s							
DLF	**Lyons Farm**	**3.42**	**189**	*e*P		**Sn**	**03 27 25.0**	**-1.8**
DCN	**Croghan**	**3.46**	**196**	*e*P		**Sn**	**03 27 24.0**	**-3.9**

*IDC **23** 03:49:14.5±1.1,23.39N×125.48E,mb3.7/5,mb1 3.9/5, mb1mx3.6/19,mbtmp3.7/5,MS3.5/2,Ms1 3.5/2, ms1mx3.1/22,Error ellipse: s-maj=51.0km s-min=24.6km az=73.0*
*JMA **23** 03:49:14.6±0.3,24.34N×126.78E,h99km,M3.0*

ISC 23 03:49:13.5±0.9,24.21N±0.06×126.88E±0.04,h33km,n22, σ0°98/28,mb3.5/5,MS4.2/1,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.45**	**292**	P		**P**	**03 49 39.1**	**+1.5**
JOGS				*e*S		**S**	**03 49 56.6**	**+1.0**
JMJ	**Miyako jima 2**	**1.56**	**293**	*e*S		**S**	**03 49 59.4**	**+0.9**
JTJ	**Tarama**	**2.03**	**283**	P		**P**	**03 49 46.6**	**+0.7**
JTJ				*e*S		**S**	**03 50 10.2**	**-0.1**
JJT2	**Tamagusuku 2**	**2.07**	**22**	P		**P**	**03 49 47.2**	**+0.7**
JKE	**Kume jima 2**	**2.11**	**358**	P		**P**	**03 49 47.7**	**+0.7**
JKE				*e*S		**S**	**03 50 11.7**	**-0.5**
JAGN	**Aguni-jima**	**2.39**	**8**	P		**P**	**03 49 51.4**	**+0.4**
JAGN				*e*S		**S**	**03 50 19.6**	**+0.2**
JIJ	**Ishigaki jima**	**2.50**	**274**	P		**P**	**03 49 52.8**	**+0.2**
JIJ				*e*S		**S**	**03 50 20.9**	**-1.4**
JKRS	**Kuro-shima**	**2.62**	**271**	P		**P**	**03 49 54.5**	**+0.2**
JKRS				*e*S		**S**	**03 50 24.5**	**-0.8**
HATJ	**Hateruma jima**	**2.81**	**267**	*e*S		**S**	**03 50 28.0**	**-2.2**
IRIF	**Iriomote-Funau**	**2.88**	**273**	P		**P**	**03 49 58.0**	**0.0**
IRIF				*e*S		**S**	**03 50 31.3**	**-0.5**
JOW	**Kunigami**	**2.90**	**26**	LR		LR	03 51 40.6	
	comp=Z,123nm,18.9s,baz=242,slow=34							
JOW	**Kunigami**	**2.90**	**26**	P		**P**	**03 49 58.7**	**+0.4**
JOW				*e*S		**S**	**03 50 29.7**	**-2.6**
JIH	**Iheya**	**2.98**	**19**	*e*S		**S**	**03 50 33.7**	**-0.7**
JTK	**Tokunoshima**	**4.02**	**27**	P		**P**	**03 50 14.1**	**-0.1**
JMZ	**Minamidaito 2**	**4.25**	**67**	*e*S		**S**	**03 51 00.1**	**-6.6**
JAM	**Amami Oshima**	**4.84**	**30**	P		**P**	**03 50 25.2**	**-0.8**
SONM	**Songino Array**	**28.64**	**331**	P		**P**	**03 55 13.2**	**+4.2**
	0.6nm,0.4s,mb3.6,baz=147,slow=11,SNR=14							
MKAR	**Makanchi Array**	**42.00**	**314**	P		**P**	**03 57 05.1**	**+2.0**
	0.4nm,0.6s,mb3.2,baz=97,slow=9.6,SNR=3.2							
WRA	**Warramunga Arr**	**44.48**	**170**	P		**P**	**03 57 23.1**	**-0.6**
	1.5nm,0.8s,mb3.8,baz=349,slow=8.9,SNR=14							
GNI	**Garni**	**69.04**	**306**	LR		LR	04 35 43.6	
	comp=Z,143nm,19.9s,MS4.2,baz=11,slow=41							
INK	**Inuvik**	**71.22**	**23**	P		**P**	**04 00 41.6**	**+11**
	0.2nm,0.3s,mb3.5,baz=292,slow=7.3,SNR=6.4							
YKA	**Yellowknife Ar**	**80.86**	**24**	P		**P**	**04 01 38.2**	**+13**
	0.2nm,0.5s,mb3.3,baz=298,slow=5.3,SNR=7.1							

*NEIC **23** 04:05:29.8±0.5,1.10S×99.54E,mb4.3/3,Error ellipse: s-maj=20.8km s-min=7.6km az=62.0*
*IDC **23** 04:05:30.3±1.1,1.00S×99.57E,h49km±7km,mb3.9/8, mb1 4.1/9,mb1mx3.8/17,mbtmp4.2/9,MS3.2/1,Ms1 3.2/1, ms1mx2.9/23,Error ellipse: s-maj=44.8km s-min=14.8km az=58.0*

ISC 23 04:05:28.1±0.8,1.1S±0.1×99.6E±0.2,h50km, h50km±2.8km:pP-P,n20,σ0°61/16,mb4.2/11,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.89**	**351**	P		**P**	**04 06 25.6**	**-1.2**
	9.2nm,0.3s,baz=116,slow=1.2,SNR=23							
PSI				LR	LR		04 08 11.4	
	comp=Z,333nm,20.4s,baz=154,slow=43							
KULM	**Kulim**	**6.40**	**10**	*e*Pn		**P**	**04 07 03.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**30.71**	**125**	*e*P		**P**	**04 11 39.9**	**-1.0**
	6.1nm,1.4s,mb4.2							
WRA	**Warramunga Arr**	**38.86**	**121**	P		**P**	**04 12 50.4**	**0.0**
	1.7nm,0.4s,mb4.2,baz=309,slow=8.7,SNR=52							
WRA				pP	pP		04 13 04.8	+1.2
	2.9nm,0.6s,baz=302,slow=9.1,SNR=9.3							
WRAB	**Tennant Creek**	**38.86**	**121**	*e*P		**P**	**04 12 50.3**	**-0.2**
	6.4nm,0.5s,mb4.6							
WB2	**Warramunga Arr**	**38.87**	**121**	*e*P		**P**	**04 12 49.9**	**-0.6**
ASPA	**Alice Springs**	**40.16**	**127**	*e*P		**P**	**04 13 02.0**	**+0.7**
SONM	**Songino Array**	**49.06**	**6**	P		**P**	**04 14 13.0**	**+0.7**
	1.6nm,0.8s,mb4.1,baz=187,slow=8.6,SNR=8.2							
SONM				pP	pP		04 14 24.6	-1.2
	1.9nm,0.7s,baz=190,slow=8.9,SNR=7.9							
MKAR	**Makanchi Array**	**50.01**	**345**	P		**P**	**04 14 19.3**	**-0.3**
	1.8nm,0.5s,mb4.4,baz=159,slow=8.5,SNR=35							
MKAR				pP	pP		04 14 33.1	0.0
	3.3nm,0.5s,baz=150,slow=8.0,SNR=11							
MKAR	**Makanchi Array**	**50.01**	**345**	P		**P**	**04 14 19.3**	**-0.4**
MKAR				pP	pP		04 14 33.1	0.0
STKA	**Stephens Creek**	**50.11**	**132**	P		**P**	**04 14 21.1**	**+0.6**
	1.4nm,0.4s,mb4.3,baz=309,slow=11,SNR=4.4							
KURK	**Kurchatov**	**54.59**	**344**	P		**P**	**04 14 53.3**	**-0.4**
	2.0nm,0.7s,mb4.3							
ZAL	**Zalesovo**	**56.16**	**350**	P		**P**	**04 15 05.0**	**-0.1**
	2.9nm,0.4s,mb4.6,baz=267,slow=2.3,SNR=10							
FINES	**FINESS Array B**	**83.08**	**332**	P		**P**	**04 17 49.8**	**+0.1**
	2.0nm,0.9s,mb4.2,baz=104,slow=7.9,SNR=6.0							
KAF	**Kangasniemi**	**83.15**	**333**	*e*p		pP	04 18 03.5	-0.9
	0.3nm,0.4s							
ARCES	**ARCESS Array B**	**85.44**	**340**	P		**P**	**04 18 01.7**	**+0.4**
	1.3nm,0.7s,mb4.2,baz=79,slow=6.2,SNR=4.1							
ARCES				pP	pP		04 18 16.5	+0.7
	1.4nm,0.5s,baz=98,slow=5.5,SNR=2.0							
GERES	**GERESS Array B**	**88.05**	**319**	P		**P**	**04 18 14.8**	**+0.4**
	0.1nm,0.3s,mb3.5,baz=68,slow=7.2,SNR=3.9							
BDFB	**Brasilia**	**143.91**	**241**	PKhKP			04 24 55.9	
	1.3nm,0.7s,baz=86,slow=9.1,SNR=3.5							
BDFB				PKP	PKPdf		04 24 59.0	0.0
	1.0nm,0.6s,baz=127,slow=5.1,SNR=3.3							
TXAR	**Lajitas Array**	**144.22**	**36**	PKP	PKPdf		04 25 00.0	+0.8
	0.9nm,0.5s,baz=200,slow=0.7,SNR=23							
CFAA	**Coronel Fontan**	**145.51**	**199**	PKPbc	PKPbc		04 25 04.4	+2.3
	0.8nm,0.6s,baz=168,slow=3.3,SNR=14							

*NEIC **23** 04:10:09.2±0.8,17.39S×70.13W,h140km±9km,mb3.9/4, Error ellipse: s-maj=15.7km s-min=10.4km az=55.0*
*IDC **23** 04:10:11.7±2.1,17.27S×69.86W,h162km±17km,mb3.3/5, mb1 3.5/6,mb1mx3.3/17,mbtmp3.8/6,Error ellipse: s-maj=27.3km s-min=21.5km az=51.0*

ISC 23 04:10:08.7±0.7,17.30S±0.08×70.06W±0.06,h152km±6km, n17,σ1°26/21,mb3.6/8,1C-1D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.61**	**301**	⇓*i*P		**P**	**04 10 40.2**	**+0.3**
ARE				*i* S		**S**	**04 11 04.0**	**+0.1**
LPAZ	**La Paz**	**2.10**	**62**	P		**P**	**04 10 47.6**	**+2.1**
	11nm,0.3s,baz=262,slow=7.5,SNR=294							
LPAZ				S		**S**	**04 11 15.0**	**+1.2**
	5.6nm,0.3s,baz=260,slow=13,SNR=7.6							
LPAZ	**La Paz**	**2.10**	**62**	⇑*i*Pn		**P**	**04 10 47.9**	**+2.4**
LPAZ				*e*Sn		**S**	**04 11 12.5**	**-1.4**
NNA	**Nana**	**8.43**	**308**	*e*Pn		**P**	**04 12 07.1**	**-1.7**
SIV	**San Ignacio**	**8.71**	**83**	P		**P**	**04 12 12.1**	**-0.4**
	1.1nm,0.3s,baz=277,slow=9.8,SNR=18							
SIV				S		**S**	**04 13 45.4**	**-3.8**
	0.1nm,0.3s,baz=13,slow=23,SNR=5.7							
CFAA	**Coronel Fontan**	**14.34**	**174**	P		**P**	**04 13 23.1**	**-2.7**
	0.1nm,0.3s,baz=349,slow=9.6,SNR=10							
OTAV	**Otavalo**	**19.29**	**334**	P		**P**	**04 14 25.1**	**+1.0**
	0.6nm,0.4s							
TRQA	**Tornquist**	**21.86**	**163**	*e*P		**P**	**04 14 49.8**	**0.0**
	3.9nm,0.9s,mb3.8							
PLCA	**Paso Flores**	**23.36**	**181**	P		**P**	**04 15 05.8**	**+1.5**
	1.5nm,0.8s,mb3.5,baz=339,slow=13,SNR=4.6							
WVT	**Waverly**	**55.74**	**343**	*e*P		**P**	**04 19 30.2**	**-1.8**
	2.1nm,0.5s,mb4.2							
TXAR	**Lajitas Array**	**56.59**	**325**	P		**P**	**04 19 38.1**	**+0.1**
	0.1nm,0.6s,mb2.9,baz=148,slow=8.5,SNR=3.0							
SNAA	**Sanae**	**66.58**	**161**	*e*P		**P**	**04 20 45.0**	**+0.7**
	1.7nm,0.7s,mb4.0							
ULM	**Lac du Bonnet**	**71.00**	**343**	P		**P**	**04 21 11.3**	**-0.3**
	1.5nm,0.3s,mb4.1,baz=145,slow=6.4,SNR=7.9							
ULM	**Lac du Bonnet**	**71.00**	**343**	P		**P**	**04 21 11.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**77.02**	**72**	P		**P**	**04 21 46.7**	**-0.3**
	0.5nm,0.6s,mb3.3,baz=254,slow=5.2,SNR=9.7							
YKA	**Yellowknife Ar**	**86.88**	**341**	P		**P**	**04 22 38.5**	**+1.6**
	0.4nm,0.7s,mb3.4,baz=134,slow=4.9,SNR=12							
YKA	**Yellowknife Ar**	**86.88**	**341**	P		**P**	**04 22 38.5**	**+1.6**

*ROM **23** 04:25:10.4±0.1,41.91N×15.30E,h23km±1km,Md2.9/39, Ml2.7/25,Error ellipse: s-maj=1.9km s-min=1.3km az=156.0*
*NEIC **23** 04:25:10.4,41.91N×15.30E,h23km,ML2.7(ROM),After ROM.*
*CSEM **23** 04:25:10.7±0.1,41.91N×15.30E,h12km,ML3.8/15,Error ellipse: s-maj=2.7km s-min=1.6km az=22.0*

ISC 23 04:25:10.1±0.3,41.94N±0.02×15.34E±0.02,h12km,n51, σ1°32/85,1C,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG2	**Serracapriola**	**0.19**	**225**	⇑*i*Pg		**Pg**	**04 25 15.5**	**+1.1**
FG2				Sg		**Sg**	**04 25 19.1**	**+1.8**
	1µm,0.2s							
RGNG	**Rignano Grg**	**0.32**	**145**	Pg		**Pg**	**04 25 18.1**	**+1.2**
RGNG				Sg		**Sg**	**04 25 23.0**	**+1.6**
CIGN	**Sant'Elia a Pi**	**0.43**	**229**	Pg		**Pg**	**04 25 19.5**	**+0.5**
CIGN				Sg		**Sg**	**04 25 26.8**	**+1.9**
	237nm,0.5s							
FRES	**Fresagrandinar**	**0.50**	**274**	Pg		**Pg**	**04 25 21.0**	**+0.7**
	470nm,0.6s							
MS1	**Monte Sant'Ang**	**0.51**	**117**	*e*Sg		**Sg**	**04 25 30.3**	**+2.9**
FGMS	**Monte Sant'Ang**	**0.51**	**116**	Pg		**Pg**	**04 25 21.7**	**+1.1**
FGMS				Sg		**Sg**	**04 25 30.4**	**+2.8**
	546nm,0.6s							
TRIV	**Trivento**	**0.61**	**254**	Pg		**Pg**	**04 25 23.3**	**+0.8**
TRIV				Sg		**Sg**	**04 25 31.2**	**+0.4**
BSSO	**Busso**	**0.68**	**235**	Pg		**Pg**	**04 25 23.8**	**-0.1**
BSSO				Sg		**Sg**	**04 25 33.8**	**+0.7**
	192nm,0.7s							
SACR	**S. Croce Del S**	**0.72**	**222**	Pg		**Pg**	**04 25 24.1**	**-0.5**
SACR				Sg		**Sg**	**04 25 34.7**	**+0.4**
	231nm,0.4s							
IPES	**Pescosannita**	**0.80**	**208**	Pg		**Pg**	**04 25 25.5**	**-0.7**
IPES				Sg		**Sg**	**04 25 36.8**	**-0.1**
FG4	**Candela**	**0.82**	**170**	Pg		**Pg**	**04 25 26.7**	**+0.2**
FG4				Sg		**Sg**	**04 25 39.6**	**+2.1**
	622nm,0.3s							
PSB1	**Pescosannita**	**0.82**	**209**	Pg		**Pg**	**04 25 25.7**	**-0.8**
PSB1				Sg		**Sg**	**04 25 37.5**	**0.0**
	295nm,0.5s							
MIDA	**Miranda**	**0.86**	**250**	Pg		**Pg**	**04 25 26.6**	**-0.9**
MIDA				Sg		**Sg**	**04 25 38.3**	**-0.8**
	188nm,0.4s							
CAFE	**Carife**	**0.91**	**185**	Pg		**Pg**	**04 25 28.8**	**+0.4**
CAFE				Sg		**S

APA0	**Apatity Array**	**0.39**	**263**		Pg	Pg	04 31 41.7	-0.8
	baz=98,slow=16							
APA0					Lg		04 31 45.6	
	baz=83,slow=37							
APA0					Rg		04 31 46.9	
	baz=83,slow=37							
KU4	**Liikasenvaara**	**2.17**	**235**	*e*PG		Pg	04 32 13.5	-4.4
KU4				*e*S		Sn	04 32 40.7	+0.2
SGF	**Sodankyl**	**2.88**	**269**	*e*P		Pn	04 32 21.1	-1.5
SGF				*e*S		Sn	04 32 57.9	-0.6
KEV	**Kevo**	**3.31**	**313**	*e*P		Pn	04 32 26.7	-2.0
KEV				*e*S		Sn	04 33 06.5	-2.9
KEV				*e*SG		Sg	04 33 17.2	-7.7
KEV				MSG			04 33 17.6	
	comp=Z,9.5nm,0.3s							
ARA0	**ARCESS Array S**	**3.64**	**305**	*e*P		Pn	04 32 32.5	-1.0
ARA0				*e*PG		Pg	04 32 41.3	-6.0
ARA0				*e*S		Sn	04 33 13.7	-4.1
ARA0				*e*SG		Sg	04 33 24.8	-11
ARA0	**ARCESS Array S**	**3.64**	**305**	Pn		Pn	04 32 32.5	-1.0
	baz=122,slow=16							
ARA0				Pg		Pg	04 32 41.3	-6.0
	baz=116,slow=16							
ARA0				Sn		Sn	04 33 13.7	-4.1
	baz=124,slow=28							
ARA0				Lg			04 33 24.8	
	baz=114,slow=28							
OUL	**Oulu**	**4.16**	**235**	*e*PG		Pg	04 32 49.4	-8.3
OUL				*e*SG		Sg	04 33 44.3	-8.9
KJN	**Kajaani**	**4.42**	**219**	*e*P		Pn	04 32 41.9	-2.6
KJN				*e*S		Sn	04 33 33.6	-3.9
KJN				*e*SG		Sg	04 33 51.7	-10
KJN				MSG			04 33 53.9	
	comp=Z,13nm,0.5s							
JOF	**Joensuu**	**4.89**	**195**	*e*S		Sn	04 33 43.6	-5.8
JOF				*e*SG		Sg	04 34 03.2	-14
FIA0	**FINESS Array S**	**7.11**	**212**	Pn		Pn	04 33 19.9	-2.5
	baz=28,slow=14							
FIA0				Sn		Sn	04 34 37.5	-7.4
	baz=29,slow=22							
FIA0				Lg			04 35 11.2	
	baz=37,slow=28							
FIA0	**FINESS Array S**	**7.11**	**212**	*e*P		Pn	04 33 19.9	-2.5
FIA0				*e*S		Sn	04 34 37.5	-7.4
FIA0				*e*SG		Sg	04 35 11.2	-20
HFS	**Hagfors**	**11.65**	**239**	Lg			04 37 32.5	
HFS	**Hagfors**	**11.65**	**239**	*e*SG		S	04 37 32.5	+56
SPA0	**Spitsbergen Ar**	**11.68**	**342**	Pn		P	04 34 18.9	-6.4
	baz=171,slow=16							
SPA0	**Spitsbergen Ar**	**11.68**	**342**	*e*P		P	04 34 18.9	-6.4

GUC 23 04:45:30.2±0.7, 32.78S×71.82W, h16km, MD3.5, ML2.1, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PACH	**Papudo**	**0.40**	**53**	*e*P		Pb	04 45 38.5	0.0
LCCH	**Las Cruces**	**0.72**	**164**	↓*i*P		Pb	04 45 43.1	-0.9
LCCH				*i* S		Sb	04 45 52.8	-0.5
PEL	**Peldehue**	**1.02**	**111**	*e*P		Pb	04 45 48.5	-0.5
PEL				*i* S		Sb	04 46 02.9	+1.1
JACH	**Jahuel**	**1.03**	**85**	↓*i*P		Pb	04 45 48.5	-0.7
JACH				*i* S		Sb	04 46 02.4	0.0
RCDM	**Rinconada Maip**	**1.10**	**130**	*i* P		Pb	04 45 49.6	-0.8
TACH	**Talagante**	**1.14**	**140**	*i* P		Pb	04 45 50.3	-0.8
TACH				*i* S		Sb	04 46 05.4	-0.1
PCH	**Pirque**	**1.38**	**128**	*i* P		Pn	04 45 54.4	-0.5
PCH				*i* S		Sb	04 46 14.6	+2.4
FCH	**Farellones**	**1.39**	**114**	*e*P		Pn	04 45 54.6	-0.6
FCH				*i* S		Sb	04 46 13.4	+0.6
FCH				AMP			04 46 17.9	
	comp=N,62nm,0.2s							
CHCH	**Chadas Angostu**	**1.51**	**140**	*i* P		Pn	04 45 56.3	-0.4
CHCH				*i* S		Sb	04 46 16.1	0.0

ISK ***23*** *04:54:33.6, 38.12N×26.67E, h28km, MD3.0*
ATH ***23*** *04:54:34.5, 38.14N×26.56E, h36km±3km, MD3.2/3*
CSEM ***23*** *04:54:34.8±0.1, 38.12N×26.74E, h30km, MD3.0, Error ellipse: s-maj=4.2km s-min=2.6km az=123.0*

ISC 23 04:54:34.2±0.6, 38.19N±0.02×26.56E±0.04, h13km±4km, n14, σ0=99/26, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URLA	**Izmir**	**0.17**	**10**	*i* P		**Pg**	**04 54 38.0**	**-0.3**
URLA				*i* S		**Sg**	**04 54 41.6**	**+0.6**
BLCB	**Balcova**	**0.43**	**63**	PG		**Pg**	**04 54 42.8**	**-0.2**
BLCB				SG		**Sg**	**04 54 49.1**	**+0.2**
SMG	**Samos**	**0.53**	**155**	*e*PB		**Pb**	**04 54 45.4**	**+0.5**
SMG				*e*SB		**Sg**	**04 54 53.4**	**+1.1**
IZM	**Izmir**	**0.59**	**70**	PG		**Pg**	**04 54 46.1**	**-0.1**
IZM				SG		**Sg**	**04 54 54.5**	**+0.3**
KDAG	**Bornova**	**0.60**	**69**	*i* P		**Pb**	**04 54 45.6**	**-0.4**
KDAG				*i* S		**Sb**	**04 54 54.0**	**0.0**
PRK	**Paraskevi**	**1.07**	**348**	*e*PN		**Pn**	**04 54 55.5**	**+0.6**
PRK				*e*SN		**Sn**	**04 55 10.7**	**+1.0**
AYVA	**Ayvalik**	**1.12**	**5**	*i* P		**Pg**	**04 54 56.8**	**+0.2**
AYVA				*i* S		**Sg**	**04 55 13.5**	**+1.9**
AYDN	**Tasoluk**	**1.17**	**117**	*i* P		**Pb**	**04 54 57.0**	**+1.2**
AYDN				*i* S		**Sb**	**04 55 12.8**	**+2.0**
AKS	**Akhisar**	**1.20**	**55**	*e*PN		**Pn**	**04 54 55.1**	**-1.6**
BODT	**Bodrum**	**1.28**	**152**	*e*PN		**Pn**	**04 54 54.1**	**-3.7**
BDRM	**Kayabasi**	**1.33**	**148**	*i* P		**Pg**	**04 55 00.7**	**-0.1**
BDRM				*i* S		**Sg**	**04 55 18.6**	**0.0**
APE	**Apeiranthos**	**1.39**	**216**	*e*PN		**Pn**	**04 54 58.7**	**-0.7**
APE				*e*SN		**Sn**	**04 55 16.5**	**-1.1**
MANT	**Manisa**	**1.60**	**79**	*i* P		**Pg**	**04 55 05.8**	**-0.4**
MANT				*i* S		**Sg**	**04 55 26.0**	**-1.6**
BTOK	**Tokmak**	**1.94**	**36**	*i* P		**Pg**	**04 55 11.1**	**-1.9**
BTOK				*i* S		**Sg**	**04 55 38.1**	**-0.8**

IDC ***23*** *05:24:55.5±0.4, 55.11N×165.50E, mb4.8/27, mb1 5.0/29, mb1mx5.0/30, mbtmp4.8/29, ML4.4/2, MS4.4/19, Ms1 4.4/19, ms1mx4.2/29, Error ellipse: s-maj=12.6km s-min=9.9km az=5.0*
KRSC ***23*** *05:24:57.9±1.0, 55.05N×165.62E, h32km±4km, ML5.5*
MOS ***23*** *05:24:58.7±0.8, 54.99N×165.63E, h38km, mb5.2/78, MS4.6/18, Error ellipse: s-maj=6.5km s-min=4.4km az=93.2*
BJI ***23*** *05:25:00.0, 55.10N×165.60E, h36km, mB5.2, mb4.8, Ms5.0, Msz4.7*
NEIC ***23*** *05:25:00.6±0.6, 55.05N×165.61E, h36km±5km, mb5.1/119, MS4.5/7, Error ellipse: s-maj=4.5km s-min=2.5km az=179.0*
HRVD ***23*** *05:25:00.6±0.2, 55.06N×165.72E, h20km±1km, MW5.1/75, Centroid moment Tensor Solution. LP body waves: s45,c75;Mantle waves: s75,c138; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.60±.15; Mθθ-3.67±.12; Mφφ5.28±.14; Mrθ2.29±.27; Mθφ-1.88±.11; Mφr1.59±.23; Best double couple: M○5.766×10^16 NP1: φs308°, δ60°, λ-162°. NP2:φs209°, δ74°, λ-31°. Principal axes: T 5.839, Plg9°, Azm261°; N -.137, Plg56°, Azm5°; P -5.692, Plg33°, Azm165°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 05:24:57.5±0.5, 54.98N±0.03×165.60E±0.02, h28km±3km, h32km±1.1km: pP-P, n445, σ0=95/470, mb5.0/168, MS4.6/51, 72C-13D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**0.31**	**44**	*i* P		**Pb**	**05 25 03.6**	**-1.2**
BKI				*i* S		**Sb**	**05 25 07.8**	**-2.1**
BKI				Smax				
	181μm,0.9s							
KBTR	**Krutoberegovo**	**2.00**	**309**	P		**Pn**	**05 25 28.8**	**-1.3**
KBTR				S		**Sn**	**05 25 52.2**	**-2.2**
KBTR	**Krutoberegovo**	**2.00**	**309**	*e*P		**Pn**	**05 25 28.1**	**-2.0**
KBTR				*e*S		**Sn**	**05 25 51.6**	**-2.8**
SMKR	**Semkarok**	**2.83**	**306**	*i* P		**Pn**	**05 25 42.2**	**+0.3**
ZLN	**Zelenaya**	**2.92**	**293**	*i* P		**Pn**	**05 25 44.7**	**+1.5**
ZLN				*e*S		**Sn**	**05 26 19.4**	**+1.7**
BDR	**Baidarnaya**	**2.95**	**304**	*i* P		**Pn**	**05 25 44.3**	**+0.7**
BDR				*e*S		**Sn**	**05 26 17.1**	**-1.3**
CIRR	**Tsirk**	**2.98**	**294**	*e*P		**Pn**	**05 25 44.7**	**+0.6**
LGNR	**Loginova**	**3.00**	**294**	*i* P		**Pn**	**05 25 45.6**	**+1.3**
SRKR	**Sorokina**	**3.01**	**306**	*i* P		**Pn**	**05 25 45.0**	**+0.5**
SRKR				*e*S		**Sn**	**05 26 19.8**	**-0.2**
KLY	**Klyuchi**	**3.11**	**297**	P		**Pn**	**05 25 45.4**	**-0.4**
KLY				S		**Sn**	**05 26 21.0**	**-1.4**
KLY	**Klyuchi**	**3.11**	**297**	*e*P		**Pn**	**05 25 45.4**	**-0.4**
TUMR	**Tumrok**	**3.15**	**278**	*e*P		**Pn**	**05 25 47.5**	**+1.1**
TUMR				*e*S		**Sn**	**05 26 21.9**	**-1.6**
KMNR	**Kamenistaya**	**3.16**	**286**	*i* P		**Pn**	**05 25 47.8**	**+1.2**
KPT	**Kopyto**	**3.22**	**290**	*i* P		**Pn**	**05 25 48.5**	**+1.1**
KOZR	**Kozyr**	**3.42**	**291**	PN		**Pn**	**05 25 52.1**	**+1.8**
KOZR				S		**Sn**	**05 26 32.1**	**+1.7**
KOZ	**Kozyrevsk**	**3.43**	**291**	P		**Pn**	**05 25 52.1**	**+1.7**
KOZ				S		**Sn**	**05 26 32.1**	**+1.5**
KOZ	**Kozyrevsk**	**3.43**	**291**	*i* P		**Pn**	**05 25 51.9**	**+1.5**
SRDR	**Sredinnyy**	**3.59**	**294**	*e*P		**Pn**	**05 25 53.8**	**+1.1**
SRDR				*e*S		**Sn**	**05 26 35.6**	**+0.9**
KII	**Karymskiy**	**3.71**	**258**	P		**Pn**	**05 25 55.1**	**+0.7**
KII				S		**Sn**	**05 26 38.5**	**+0.8**
KII	**Karymskiy**	**3.71**	**258**	*i* P		**Pn**	**05 25 55.2**	**+0.8**
KII				*e*S		**Sn**	**05 26 38.5**	**+0.8**
SPN	**Mys Shipunski**	**3.79**	**242**	P		**Pn**	**05 25 55.2**	**-0.4**
SPN				S		**Sn**	**05 26 36.7**	**-3.1**
SPN	**Mys Shipunski**	**3.79**	**242**	*i* P		**Pn**	**05 25 55.3**	**-0.3**
SPN				*i* S		**Sn**	**05 26 36.5**	**-3.3**
ESO	**Esso**	**4.04**	**286**	*e*P		**Pn**	**05 25 59.6**	**+0.5**
ESO				*e*S		**Sn**	**05 26 46.0**	**-0.1**
ESO				Smax				
	660nm,1.0s							
NLC	**Nalytchevo**	**4.11**	**246**	P		**Pn**	**05 25 59.7**	**-0.4**
NLC				S		**Sn**	**05 26 44.5**	**-3.3**
NLC	**Nalytchevo**	**4.11**	**246**	*i* P		**Pn**	**05 25 59.5**	**-0.6**
NLC				*i* S		**Sn**	**05 26 44.4**	**-3.4**
SMAR	**Somma**	**4.36**	**249**	*i* P		**Pn**	**05 26 03.9**	**+0.3**
SMAR				*i* S		**Sn**	**05 26 52.1**	**-2.0**
UGLR	**Uglovaya**	**4.37**	**249**	*e*P		**Pn**	**05 26 04.0**	**+0.2**
UGLR				*e*S		**Sn**	**05 26 52.6**	**-1.8**
AVH	**Avacha**	**4.39**	**250**	*i* P		**Pn**	**05 26 04.6**	**+0.5**
AVH				*e*S		**Sn**	**05 26 52.7**	**-2.2**
KOK	**Koryaka**	**4.43**	**250**	*i* P		**Pn**	**05 26 05.0**	**+0.3**
KOK				*e*S		**Sn**	**05 26 53.8**	**-2.2**
OSSR	**Ossora**	**4.50**	**343**	*i* P		**Pn**	**05 26 01.7**	**-3.9**
OSSR				Smax				
	510nm,0.8s							
PET	**Petropavlovsk**	**4.55**	**247**	P		**Pn**	**05 26 06.2**	**-0.1**
PET				S		**Sn**	**05 26 55.7**	**-3.2**
PET	**Petropavlovsk**	**4.55**	**247**	*i* P		**Pn**	**05 26 06.5**	**+0.2**
PET				*i* S		**Sn**	**05 26 55.7**	**-3.2**
PET	**Petropavlovsk**	**4.55**	**247**	↑*i*PN		**Pn**	**05 26 06.2**	**-0.1**
PET				pmax		pmax		
	comp=Z,682nm,1.2s							
PET				pmax		pmax		
	comp=N,523nm,0.8s							
PET				MLR		MLR		
	comp=Z,6μm,16.0s							
PET				MLR		MLR		
	comp=Z,7μm,18.0s							
PET	**Petropavlovsk**	**4.55**	**247**	↑*e*Pn		**Pn**	**05 26 06.0**	**-0.3**
PET				*e*Sn		**Sn**	**05 26 54.5**	**-4.3**
GNL	**Ganaly**	**4.67**	**257**	*i* P		**Pn**	**05 26 08.8**	**+0.8**
KRMR	**Karymshinskiy**	**4.92**	**247**	*i* P		**Pn**	**05 26 11.6**	**+0.1**
KRMR				*e*S		**Sn**	**05 27 05.6**	**-2.6**
RUS	**Russkaya**	**4.93**	**242**	P		**Pn**	**05 26 11.4**	**-0.2**
RUS				S		**Sn**	**05 27 04.7**	**-3.7**
RUS	**Russkaya**	**4.93**	**242**	*i* P		**Pn**	**05 26 11.3**	**-0.3**
RUS				*e*S		**Sn**	**05 27 04.7**	**-3.7**
FX1	**Attu Island--F**	**4.94**	**112**	Pn		**Pn**	**05 26 12.2**	**+0.4**
	comp=Z,73nm,0.3s,baz=339,slow=5.6,SNR=56							
FX1				Sn		**Sn**	**05 27 03.8**	**-4.9**
	comp=Z,105nm,0.3s,baz=135,slow=18,SNR=8.2							
FX1	**Attu Island--F**	**4.94**	**112**	*e*Pn		**Pn**	**05 26 10.4**	**-1.4**
GRL	**Gorelyy**	**5.09**	**244**	*e*P		**Pn**	**05 26 14.6**	**+0.7**
GRL				*e*S		**Sn**	**05 27 10.8**	**-1.7**
APC	**Apacha**	**5.40**	**251**	*i* P		**Pn**	**05 26 19.3**	**+1.0**
APC				*e*S		**Sn**	**05 27 18.7**	**-1.5**
APC				Smax				
	comp=Z,820nm,1.1s							
SMY	**Shemya**	**5.51**	**111**	*e*PN		**Pn**	**05 26 18.4**	**-1.5**
SMY				pmax		pmax		
	comp=Z,182nm,0.4s							
SMY	**Shemya**	**5.51**	**111**	*e*Pn		**Pn**	**05 26 18.4**	**-1.5**
	comp=Z,182nm,0.4s							
PAU	**Pauzhetka**	**6.35**	**240**	*i* P		**Pn**	**05 26 31.5**	**-0.2**
PAU				*e*S		**Sn**	**05 27 42.0**	**-2.0**
PAU				Smax				
	comp=Z,760nm,1.1s							
KAMR	**Kamenskoye**	**7.50**	**2**	*i* P		**Pn**	**05 26 47.3**	**-0.6**
KAMR				*e*S		**Sn**	**05 28 06.6**	**-6.3**
KAMR				Smax				
	comp=Z,300nm,0.8s							
MA2	**Magadan**	**9.25**	**306**	*i* PN		**P**	**05 27 11.6**	**-0.6**
SEY	**Seymchan**	**10.47**	**325**	*e*PN		**P**	**05 27 28.8**	**0.0**
BILL	**Bilibino**	**13.11**	**1**	↑*e*PN		**P**	**05 28 05.4**	**+1.2**
BILL				pmax		pmax		
	comp=Z,44nm,1.2s							
BILL	**Bilibino**	**13.11**	**1**	*e*Pn		**P**	**05 28 05.5**	**+1.3**
	comp=Z,103nm,1.4s							
NIKO	**Nikolski**	**15.14**	**87**	*e*P		**P**	**05 28 32.4**	**+1.7**
UNV	**Unalaska Valle**	**16.24**	**83**	*e*P		**P**	**05 28 46.6**	**+1.6**
	comp=Z,714nm,1.1s							
YSS	**Yuzh-Sakhalins**	**16.43**	**250**	*e*P		**P**	**05 28 47.1**	**-0.3**
YSS				pmax		pmax		
	comp=Z,28μm,1.3s							
AKUT	**Akutan**	**16.58**	**81**	*e*P		**P**	**05 28 52.1**	**+2.8**
	comp=Z,415nm,0.8s							
TNA	**Tin City**	**16.71**	**40**	*e*P		**P**	**05 28 51.7**	**+0.8**
	comp=Z,28nm,0.7s							
ASAJ	**Asahikawa**	**18.38**	**243**	P		**P**	**05 29 13.1**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=4.0,slow=2.3,SNR=12							
ASAJ				LR		LR	05 36 16.2	
	comp=Z,1μm,18.1s,baz=248,slow=37							
ASAJ	**Asahikawa**	**18.38**	**243**	P		**P**	**05 29 13.1**	**+1.3**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,1μm,18.1s							
SDPT	**Sand Point**	**19.27**	**75**	*e*P		**P**	**05 29 21.7**	**-0.7**
	comp=Z,254nm,1.0s							
YAK	**Yakutsk**	**19.83**	**305**	*e*P		**P**	**05 29 27.5**	**-1.1**
YAK				pmax		pmax		
	comp=Z,13nm,0.9s							
YAK				pmax		pmax		
	comp=N,7.0nm,1.4s							
YAK				pmax		pmax		
	comp=E,17nm,1.3s							
YAK				pmax		pmax		
	comp=Z,28nm,0.8s							
YAK				MLR		MLR		
	comp=Z,456nm,13.0s							
YAK				MLR		MLR		
	comp=N,749nm,12.0s							
YAK				MLR		MLR		
	comp=E,372nm,11.0s							
YAK	**Yakutsk**	**19.83**	**305**	*e*P		**P**	**05 29 27.6**	**-1.0**
	comp=E,67nm,0.7s							
HABR	**Khabarovsk**	**19.90**	**264**	*i* P		**P**	**05 29 29.7**	**+0.2**
HABR				MLR		MLR		
	comp=Z,2μm,15.0s							
SVW2	**Sparrevohn**	**21.18**	**57**	*e*P		**P**	**05 29 42.0**	**-0.6**
KLR	**Kul'dur**	**21.43**	**268**	*e*P		**P**	**05 29 42.8**	**-2.3**
KLR				MLR		MLR		
	comp=E,2μm,15.0s							
IMA2	**Indian Mountai**	**22.43**	**44**	*e*P		**P**	**05 29 54.9**	**-0.2**
TIXI	**Tiksi**	**22.87**	**331**	*e*P		**P**	**05 29 59.7**	**+0.6**
TIXI				*e*S		**S**	**05 34 07.3**	**+4.9**
TIXI				*e*SS		SS	05 34 42.4	-4.2
TIXI				pmax		pmax		
	comp=Z,16nm,0.9s,mb4.5							
TIXI				MLR		MLR		
	comp=Z,1μm,15.0s,MS4.5							
KDAK	**Kodiak Island**	**23.05**	**66**	P		**P**	**05 30 00.4**	**-0.6**
	comp=Z,59nm,0.5s,mb5.3,baz=298,slow=6.2,SNR=194							
FIB	**Fire Island**	**23.80**	**57**	*e*P		**P**	**05 30 07.8**	**-0.4**
FIB				pmax		pmax		
	comp=Z,28nm,0.7s,mb4.8							
FIB	**Fire Island**	**23.80**	**57**	*e*P		**P**	**05 30 07.8**	**-0.4**
	comp=Z,28nm,0.7s,mb4.8							
SLKM	**Skilak Lake**	**23.84**	**59**	*e*P		**P**	**05 30 08.3**	**-0.3**
MCK	**McKinley**	**24.26**	**51**	*e*P		**P**	**05 30 12.6**	**-0.1**
MCK				pmax		pmax		
	comp=Z,63nm,1.1s,mb5.0							
MCK	**McKinley**	**24.26**	**51**	*e*P		**P**	**05 30 12.6**	**0.0**
	comp=Z,63nm,1.1s,mb5.0							
PMR	**Palmer**	**24.26**	**56**	*e*P		**P**	**05 30 11.5**	**-1.2**
PMR				pmax		pmax		
	comp=Z,22nm,0.7s,mb4.7							
PMR	**Palmer**	**24.26**	**56**	*e*P		**P**	**05 30 12.0**	**-0.7**
	comp=Z,31nm,0.7s,mb4.8							
PMR				LR		LR		
	comp=Z,1μm,17.0s,MS4.4							
SML	**Sawmill**	**24.62**	**55**	↑*i*P		**P**	**05 30 15.5**	**-0.7**
COLA	**College**	**24.74**	**48**	*c i*P		**P**	**05 30 17.1**	**-0.2**
COLA	**College**	**24.74**	**48**	↑*i*P		**P**	**05 30 17.3**	**0.0**
	comp=Z,62nm,0.8s,mb5.2							
COLA				LR		LR		
	comp=Z,568nm,19.0s,MS4.1							
VLA	**Vladivostok**	**24.82**	**255**	*i* P		**P**	**05 30 19.2**	**+0.9**
ILAR	**Eielson Array**	**25.15**	**48**	P		**P**	**05 30 20.8**	**-0.4**
	comp=Z,65nm,0.8s,mb5.2,baz=256,slow=8.7,SNR=308							
ILAR				LR		LR	05 40 54.5	
	comp=Z,498nm,19.7s,MS4.0,baz=280,slow=38							
MDJ	**Mudanjiang**	**25.18**	**261**	P		**P**	**05 30 21.8**	**+0.1**
MDJ				AP		pP	05 30 30.8	+0.9
MDJ				XP		sP	05 30 34.6	+0.9
MDJ				S		**S**	**05 34 52.8**	**+10**
MDJ				XS			05 34 59.5	
MDJ				SCS		ScS	05 41 21.0	+2.1
MDJ				AMB		AMB		
	comp=Z,20nm,1.5s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,280nm,5.3s							
MDJ				LR		LR		
	comp=E,1μm,14.3s							
MDJ				LR		LR		
	comp=Z,2μm,14.8s,MS4.7							
DIV	**Divide**	**25.92**	**56**	↑*i*P		**P**	**05 30 27.7**	**-0.8**
	comp=Z,219nm,1.0s,mb5.6							
MAJO	**Matsushiro**	**26.29**	**237**	*e*P		**P**	**05 30 33.2**	**+1.1**
MAJO				pmax		pmax		
	comp=Z,87nm,1.1s,mb5.2							
MAJO	**Matsushiro**	**26.29**	**237**	*e*P		**P**	**05 30 33.2**	**+1.1**
	comp=Z,87nm,1.1s,mb5.2							
MAT	**Matsushiro**	**26.29**	**237**	P		**P**	**05 30 33.6**	**+1.5**
MAT				S		**S**	**05 35 20.6**	**+20**
MAT	**Matsushiro**	**26.29**	**237**	*e*P		**P**	**05 30 34.0**	**+1.9**
MAT				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.4							
MAT	**Matsushiro**	**26.29**	**237**	*e*P		**P**	**05 30 34.0**	**+1.9**
	comp=Z,7.5nm,0.7s,mb4.3							
MAT				*e*S		**S**	**05 35 21.0**	**+20**
MJAR	**Matsushiro Arr**	**26.29**	**237**	P		**P**	**05 30 33.0**	**+0.9**
	comp=Z,8.1nm,0.7s,mb4.3,baz=29,slow=8.3,SNR=14							
MJAR				LR		LR	05 42 03.5	
	comp=Z,376nm,18.4s,MS4.0,baz=40,slow=39							
MENT	**Mentasta**	**26.65**	**52**	*e*P		**P**	**05 30 34.3**	**-0.9**
CN2	**Changchun**	**28.04**	**263**	*e*P		**P**	**05 30 47.4**	**-0.6**
CN2				*e*XP		sP	05 31 01.8	+1.8
CN2				*e*S		**S**	**05 35 28.9**	**-0.3**
CN2				SS		SS	05 36 50.6	-1.4
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
CN2				AMB		AMB		
	comp=Z,420nm,4.0s							
CN2				LR		LR		
	comp=N,1μm,13.0s,MS4.9							
CN2				LR		LR		
	comp=E,1μm,13.0s,MS4.9							
CN2				LR		LR		
	comp=Z,1μm,14.0s,MS4.7							
BOD	**Bodaibo**	**28.13**	**297**	*e*P		**P**	**05 30 47.2**	**-1.4**
BOD				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.4							
DAWY	**Dawson**	**28.45**	**49**	*e*P		**P**	**05 30 50.2**	**-1.2**
INK	**Inuvik**	**30.36**	**40**	P		**P**	**05 31 08.4**	**-0.1**
	comp=Z,35nm,0.6s,mb5.3,baz=280,slow=7.0,SNR=345							
INK	**Inuvik**	**30.36**	**40**	P		**P**	**05 31 07.8**	**-0.7**
INK				pmax		pmax		
	comp=Z,54nm,0.8s							
INK	**Inuvik**	**30.36**	**40**	↑*i*P		**P**	**05 31 07.9**	**-0.6**
	comp=Z,54nm,0.8s,mb5.3							
CIT	**Chita**	**30.51**	**286**	*e*P		**P**	**05 31 11.6**	**+1.6**
CIT				*e*			05 31 22.1	
CIT				pmax		pmax		
	comp=Z,64nm,2.1s,mb5.1							
DL2	**Dalian**	**33.41**	**260**	*e*P		**P**	**05 31 37.9**	**+2.4**
DL2				*e*S		**S**	**05 36 56.8**	**+3.0**
DL2				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.2							
DL2				AMB		AMB		
	comp=Z,190nm,4.7s							
DL2				LR		LR		
	comp=N,530nm,16.7s,MS4.5							
DL2				LR		LR		
	comp=E,640nm,15.3s,MS4.5							
DL2				LR		LR		
	comp=Z,790nm,15.5s,MS4.5							
DLBC	**Dease Lake**	**34.30**	**57**	↑*i*P		**P**	**05 31 44.3**	**+1.3**
ULN	**Ulaanbaatar**	**36.23**	**284**	*e*P		**P**	**05 32 01.0**	**+1.5**
ULN				pmax		pmax		
	comp=Z,14nm,1.0s,mb4.8							
ULN				MLR		MLR		
	comp=Z,618nm,21.0s,MS4.4							
ULN	**Ulaanbaatar**	**36.23**	**284**	*e*P		**P**	**05 32 00.9**	**+1.4**
	comp=Z,14nm,1.0s,mb4.9							
ULN				LR		LR		
	comp=Z,618nm,21.0s,MS4.4							
SONM	**Songino Array**	**36.62**	**284**	P		**P**	**05 32 04.1**	**+1.3**
	comp=Z,12nm,0.8s,mb4.8,baz=58,slow=8.0,SNR=54							
SONM				LR		LR	05 47

NVS pmax pmax
comp=E,38nm,1.4s
NVS pmax pmax
comp=Z,39nm,1.4s,mb5.0
ETW Entiat 44.87 67 P **P** **05 33 11.2 +0.5**
WTV Waterville 45.01 67 ⇑P **P** **05 33 11.9 +0.1**
EDM Edmonton 45.02 57 ⇑*i*P **P** **05 33 11.9 +0.1**
EBG Ellensburg 45.18 68 ⇑P **P** **05 33 13.8 +0.7**
SAW Saint Andrews 45.30 67 P **P** **05 33 14.2 +0.1**
EPH Ephrata 45.42 67 P **P** **05 33 15.2 +0.2**
LZH Lanzhou 45.56 272 *e*P **P** **05 33 18.5 +2.1**
LZH AP pP 05 33 29.3 +4.4
LZH XP sP 05 33 32.8 +4.4
LZH PP PP 05 35 05.6 +2.1
LZH *e*S **S** **05 39 54.5 -1.5**
LZH XS 05 40 12.8
LZH SS SS 05 43 11.8 +0.4
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,170nm,6.4s
LZH LR LR
comp=E,890nm,14.2s
LZH LR LR
comp=Z,2μm,17.5s,MS5.0
GTA Gaotai 45.59 278 *e*P **P** **05 33 18.4 +1.9**
GTA AP pP 05 33 27.4 +2.4
GTA XP sP 05 33 31.8 +3.3
GTA PCP PcP 05 34 55.3 +0.2
GTA PP PP 05 35 06.4 +2.7
GTA SCP 05 38 44.4
GTA PCS 05 38 48.5
GTA S **S** **05 40 00.8 +4.5**
GTA XS 05 40 16.6
GTA SCS ScS 05 43 09.3 +1.1
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,310nm,5.7s
GTA LR LR
comp=N,1μm,14.9s,MS5.1
GTA LR LR
comp=E,1μm,16.0s,MS5.1
GTA LR LR
comp=Z,1μm,14.1s,MS4.9
MDW Midway 45.79 68 P **P** **05 33 18.6 +0.6**
OD2 Odessa Site #2 45.86 67 ⇑P **P** **05 33 18.4 -0.1**
NEW Newport 46.15 65 ⇑*i*P **P** **05 33 20.7 -0.1**
NEW pmax pmax
comp=Z,16nm,0.8s
NEW Newport 46.15 65 ⇑*i*P **P** **05 33 20.7 -0.1**
comp=Z,16nm,0.8s,mb5.0
CROR Criterion Ridg 46.17 71 P **P** **05 33 21.7 +0.6**
ENH Enshi 46.54 262 *e*P **P** **05 33 24.5 +0.4**
comp=Z,27nm,0.7s,mb5.3
KTRM Thompson Ridge 46.87 75 P **P** **05 33 28.0 +1.4**
BUOR Burton Butte 47.25 74 ⇓P **P** **05 33 30.4 +0.8**
YBH Yreka Blue Hor 47.35 75 *e*P **P** **05 33 31.5 +1.1**
YBH pmax pmax
comp=Z,6.0nm,0.6s
YBH Yreka Blue Hor 47.35 75 *e*P **P** **05 33 31.4 +1.0**
comp=Z,6.0nm,0.6s,mb4.7
BMO Blue Mountains 48.24 68 *e*P **P** **05 33 37.2 -0.1**
comp=Z,20nm,1.1s,mb5.1
BMO LR LR
comp=Z,505nm,20.0s,MS4.5
DAG Danmarks Havn 48.48 1⇓*i*P **P** **05 33 37.8 -1.0**
comp=Z,4.1nm,0.7s,mb4.6
DAG Danmarks Havn 48.48 1⇓*e*P **P** **05 33 37.8 -1.0**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
DAG Danmarks Havn 48.48 1⇓*e*P **P** **05 33 37.8 -1.0**
comp=Z,4.1nm,0.7s,mb4.6
MOD Modoc 48.58 73⇑*i*P **P** **05 33 40.5 +0.6**
comp=Z,24nm,0.6s,mb5.4
MSO Missoula 48.72 64⇑*i*P **P** **05 33 40.8 -0.2**
comp=Z,24nm,1.4s,mb5.0
CHMT Chamberlain Mo 49.02 64 *e*P **P** **05 33 42.6 -0.7**
WVOR Wild Horse Val 49.13 72 P **P** **05 33 44.5 +0.3**
WVOR pmax pmax
comp=Z,42nm,1.4s,mb5.3
WVOR Wild Horse Val 49.13 72 *e*P **P** **05 33 44.8 +0.6**
comp=Z,42nm,1.4s,mb5.3
CD2 Chengdu 49.35 267 P **P** **05 33 46.6 +0.6**
CD2 AP pP 05 33 55.3 +0.6
CD2 XP sP 05 34 01.5 +3.5
CD2 PP PP 05 35 41.5 +1.1
CD2 S **S** **05 40 48.6 -1.0**
CD2 SS SS 05 44 19.0 +1.7
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,90nm,6.2s
CD2 LR LR
comp=N,500nm,15.6s
CD2 LR LR
comp=Z,510nm,15.0s,MS4.6
WMQ Urumqi 49.37 291 P **P** **05 33 46.5 +0.5**
WMQ AP pP 05 33 56.4 +1.8
WMQ XP sP 05 34 00.3 +2.3
WMQ PCP PcP 05 35 08.9 +0.4
WMQ PP PP 05 35 41.0 +0.6
WMQ S **S** **05 40 50.0 +0.3**
WMQ SCS ScS 05 43 32.8 0.0
WMQ SS SS 05 44 17.8 +0.4
WMQ AMB AMB
comp=Z,30nm,0.9s,mb5.3
WMQ AMB AMB
comp=Z,250nm,5.0s
WMQ LR LR
comp=N,3μm,21.4s,MS5.3
WMQ LR LR
comp=E,2μm,22.0s,MS5.3
WMQ LR LR
comp=Z,2μm,22.0s,MS5.0
KURK Kurchatov 49.45 303 *e*P **P** **05 33 46.3 -0.3**
KURK pmax pmax
comp=Z,36nm,0.9s,mb5.4
KURK Kurchatov 49.45 303 *e*P **P** **05 33 46.3 -0.3**
comp=Z,36nm,0.9s,mb5.4
NSHM Saint Helena R 49.60 78 *e*P **P** **05 33 48.3 +0.4**
HRY Holter Researc 49.89 63 *e*P **P** **05 33 50.1 +0.2**
FCC Fort Churchill 49.94 42⇑*i*P **P** **05 33 49.6 -0.5**
FCC pmax pmax
comp=Z,100nm,0.8s,mb5.9
FCC Fort Churchill 49.94 42⇑*i*P **P** **05 33 49.6 -0.5**
comp=Z,100nm,0.8s,mb5.9
EGMT Eagleton 50.07 61⇑*i*P **P** **05 33 50.7 -0.7**
comp=Z,24nm,0.8s,mb5.3
MKAR Makanchi Array 50.22 297 P **P** **05 33 52.5 0.0**
comp=Z,3.8nm,0.7s,mb4.5,baz=50,slow=6.3,SNR=27
MKAR LR LR 05 55 36.5
comp=Z,412nm,20.1s,MS4.4,baz=55,slow=37
DLMT Dillon 50.40 65 *e*P **P** **05 33 53.4 -0.4**
comp=Z,18nm,1.1s,mb5.0
MCMT McKenzie Canyo 50.62 66 *e*P **P** **05 33 55.2 -0.4**
MCMT *e* 05 35 30.2
HLID Hailey 50.65 68 *e*P **P** **05 33 55.7 -0.1**
comp=Z,7.0nm,0.7s,mb4.7
HLID LR LR
comp=Z,581nm,20.0s,MS4.6
BOZ Bozeman (W) 50.71 64⇑*i*P **P** **05 33 56.4 +0.2**
BOZ pmax pmax
comp=Z,38nm,1.4s,mb5.1
BOZ Bozeman (W) 50.71 64⇑*i*P **P** **05 33 56.4 +0.2**
comp=Z,38nm,1.4s,mb5.1
GYA Guiyang 51.04 261⇑*i*P **P** **05 34 00.3 +1.3**
GYA AP pP 05 34 10.4 +2.7
GYA XP sP 05 34 15.3 +4.3
GYA PP PP 05 35 57.8 +1.4
GYA SCP 05 39 08.6
GYA S **S** **05 41 13.8 +0.7**
GYA XS 05 41 30.3
GYA SCS ScS 05 43 45.1 +0.7
GYA SS SS 05 44 46.6 +0.5
GYA AMB AMB
comp=Z,30nm,1.4s,mb5.0
GYA AMB AMB
comp=Z,160nm,5.1s
GYA LR LR
comp=N,840nm,17.9s,MS5.0
GYA LR LR
comp=E,920nm,17.6s,MS5.0
GYA LR LR
comp=Z,940nm,18.0s,MS4.8

CMB Columbia Colle 51.19 77 *e*P **P** **05 33 59.8 -0.2**
CMB pmax pmax
comp=Z,13nm,1.0s,mb4.8
CMB Columbia Colle 51.19 77 *e*P **P** **05 33 59.8 -0.2**
comp=Z,13nm,1.0s,mb4.8
QLMT Earthquake Lak 51.36 65 *e*P **P** **05 34 01.3 +0.1**
GCMT Greycliff 51.62 63 *e*P **P** **05 34 03.4 +0.2**
SUMG Summit 51.64 9 *e*P **P** **05 34 02.3 -0.6**
comp=Z,30nm,1.0s,mb5.2
VOSK Vostochnaya 51.66 309 P **P** **05 34 02.9 -0.4**
VOSK pmax pmax
comp=Z,30nm,1.6s,mb5.0
BVA0 Borovoye Array 51.71 310 *i*P **P** **05 34 03.4 -0.3**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BVAR Borovoye Array 51.71 310 P **P** **05 34 03.7 -0.1**
comp=Z,6.6nm,0.8s,mb4.6,baz=53,slow=7.4,SNR=29
YMR Madison River 51.72 65 *e*P **P** **05 34 04.2 +0.3**
comp=Z,29nm,0.8s,mb5.2
BRVK Borovoye 51.74 310 P **P** **05 34 04.1 +0.2**
BRVK pmax pmax
comp=Z,20nm,1.0s,mb5.0
BRVK Borovoye 51.74 310 *e*P **P** **05 34 03.5 -0.4**
comp=Z,20nm,1.0s,mb5.0
YFT Old Faithful 51.93 65 *e*P **P** **05 34 06.9 +1.4**
KEV Kevo 52.01 343 *e*p **P** **05 34 03.9 -1.9**
comp=Z,1.4nm,0.3s,mb4.4
KEV Kevo 52.01 343 *e*P **P** **05 34 03.9 -1.9**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
NVAR Mina Array Bea 52.08 75 P **P** **05 34 07.5 +0.7**
comp=Z,13nm,0.5s,mb5.1,baz=304,slow=7.2,SNR=133
ELK Elko 52.15 71 *e*P **P** **05 34 07.6 +0.4**
ELK pmax pmax
comp=Z,12nm,1.0s
ELK Elko 52.15 71 *e*P **P** **05 34 07.6 +0.4**
comp=Z,12nm,1.0s,mb4.8
MNV Mina 52.16 75⇑*e*P **P** **05 34 07.7 +0.4**
MNV pmax pmax
comp=Z,11nm,0.6s,mb5.0
MNV Mina 52.16 75⇑*e*P **P** **05 34 07.7 +0.4**
comp=Z,11nm,0.6s,mb5.0
IMW Indian Meadow 52.26 65⇑*i*P **P** **05 34 08.7 +0.7**
comp=Z,33nm,0.9s,mb5.3
ARCES ARCESS Array B 52.45 343 P **P** **05 34 08.0 -1.1**
comp=Z,4.8nm,0.7s,mb4.5,baz=37,slow=12,SNR=15
ARCES LR LR 06 00 12.9
comp=Z,402nm,18.2s,MS4.5,baz=260,slow=40
ARCES ARCESS Array B 52.45 343 P **P** **05 34 08.0 -1.1**
ARCES LR LR 06 00 12.9
SOKR Solikamsk 52.50 323 *e*P **P** **05 34 19.1 +10**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.0
SOKR MLR MLR
comp=Z,470nm,16.0s,MS4.6
DGMT Dagmar 52.51 57 *e*P **P** **05 34 09.2 -0.6**
comp=Z,75nm,1.4s,mb5.4
TPAW Teton Pass 52.53 66 *e*P **P** **05 34 10.4 +0.3**
comp=Z,32nm,1.3s,mb5.1
LOHW Long Hollow 52.63 65 *e*P **P** **05 34 11.3 +0.5**
comp=Z,34nm,1.1s,mb5.2
SNOW Snow King Moun 52.66 66 *e*P **P** **05 34 11.6 +0.6**
comp=Z,14nm,1.0s,mb4.8
LAO LASA Array 52.75 60⇑*i*P **P** **05 34 11.4 -0.2**
comp=Z,58nm,0.9s,mb5.5
HVU Hansel Valley 52.76 68 *e*P **P** **05 34 12.1 +0.4**
HVU pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
HVU Hansel Valley 52.76 68 *e*P **P** **05 34 12.1 +0.3**
comp=Z,8.6nm,0.7s,mb4.8
AHID Auburn Hatcher 52.96 66 *e*P **P** **05 34 13.3 +0.1**
comp=Z,15nm,1.1s,mb4.8
BGU Big Grassy Mou 53.22 69 *e*P **P** **05 34 15.2 +0.1**
SPUT South Promonto 53.26 69 *e*P **P** **05 34 15.6 +0.2**
HWUT Hardware Ranch 53.52 68 *e*P **P** **05 34 17.9 +0.5**
comp=Z,32nm,1.3s,mb5.1
BW06 Boulder Array 53.77 65 *e*P **P** **05 34 18.9 -0.2**
comp=Z,27nm,1.0s,mb5.1
PDAR Pinedale Array 53.77 65 P **P** **05 34 19.3 +0.1**
comp=Z,19nm,0.9s,mb5.0,baz=322,slow=3.1,SNR=130
DUG Dugway 53.85 70 P **P** **05 34 20.0 +0.2**
DUG pmax pmax
comp=Z,23nm,1.0s,mb5.1
DUG Dugway 53.85 70 *e*P **P** **05 34 20.1 +0.3**
comp=Z,23nm,1.0s,mb5.1
NOQ North Oquirrh 53.90 69 *e*P **P** **05 34 19.5 -0.6**
comp=Z,42nm,1.2s,mb5.2
TCUT Toone Canyon 53.95 68 *e*P **P** **05 34 20.8 +0.3**
ISA Isabella 53.95 78 *e*P **P** **05 34 19.8 -0.8**
ISA pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
ISA Isabella 53.95 78 *e*P **P** **05 34 19.8 -0.8**
comp=Z,6.4nm,0.4s,mb4.9
ARU Arti 54.15 319 P **P** **05 34 21.8 0.0**
ARU pmax pmax
comp=Z,14nm,0.7s,mb5.0
ARU Arti 54.15 319 *e*P **P** **05 34 21.6 -0.2**
comp=Z,14nm,0.6s,mb5.1
JMIC Jan Mayen 54.26 358 LR LR 05 55 09.5
comp=Z,248nm,21.0s,MS4.2,baz=264,slow=34
TPNV Topopah Spring 54.27 75⇑*e*P **P** **05 34 23.5 +0.6**
TPNV pmax pmax
comp=Z,19nm,0.6s,mb5.2
TPNV Topopah Spring 54.27 75⇑*e*P **P** **05 34 23.5 +0.5**
comp=Z,19nm,0.6s,mb5.2
KMI Kunming 54.31 263 P **P** **05 34 24.6 +1.2**
KMI AP pP 05 34 35.1 +3.0
KMI XP sP 05 34 39.1 +3.7
KMI PP PP 05 36 28.0 +1.2
KMI S **S** **05 41 57.6 -0.1**
KMI XS 05 42 14.9
KMI SS SS 05 45 39.1 -0.4
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,190nm,7.0s
KMI LR LR
comp=N,450nm,14.5s,MS4.9
KMI LR LR
comp=E,620nm,14.8s,MS4.9
KMI LR LR
comp=Z,520nm,17.3s,MS4.7
NLU North Lily Min 54.42 70 *e*P **P** **05 34 24.0 0.0**
MPU Maple Canyon 54.61 69 *e*P **P** **05 34 25.7 +0.3**
comp=Z,26nm,1.0s,mb5.2
ULM Lac du Bonnet 55.13 51 P **P** **05 34 28.6 -0.4**
comp=Z,27nm,0.7s,mb5.4,baz=312,slow=7.6,SNR=72
ULM LR LR 05 58 53.9
comp=Z,517nm,19.3s,MS4.6,baz=168,slow=37
ARUT Antelope Range 55.22 72 *e*P **P** **05 34 30.0 +0.1**
MWC Mount Wilson 55.23 79 *e*P **P** **05 34 29.9 -0.1**
TMUT Trail Mountain 55.35 69⇑*i*P **P** **05 34 31.4 +0.6**
MVU Marysvale 55.38 71 *e*P **P** **05 34 33.3 +2.3**
comp=Z,14nm,0.7s,mb5.1
MSU Marysvale 55.39 71⇑*e*P **P** **05 34 32.0 +0.9**
RSSD Black Hills 55.65 61⇑*i*P **P** **05 34 32.7 -0.2**
RSSD pmax pmax
comp=Z,32nm,0.8s,mb5.4
RSSD Black Hills 55.65 61⇑*i*P **P** **05 34 32.7 -0.2**
comp=Z,32nm,0.8s,mb5.4
RWWY Rawlins 55.76 65⇑*i*P **P** **05 34 33.5 -0.3**
comp=Z,54nm,1.3s,mb5.4
SRU San Rafael 55.86 69⇑*i*P **P** **05 34 35.0 +0.5**
SRU pmax pmax
comp=Z,75nm,0.7s,mb5.8
SRU San Rafael 55.86 69⇑*i*P **P** **05 34 35.0 +0.5**
comp=Z,75nm,0.7s,mb5.8
NEN Nelson 55.99 75 *e*P **P** **05 34 35.6 +0.1**
TKM2 Tokmak 2 56.33 298 P **P** **05 34 37.3 -0.5**
TKM2 pmax pmax
comp=Z,12nm,1.1s,mb4.8
PFO Pinyon Flat Ob 56.59 78 *e*P **P** **05 34 39.3 -0.5**
PFO pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
PFO Pinyon Flat Ob 56.59 78 *e*P **P** **05 34 39.3 -0.4**
comp=Z,5.6nm,0.6s,mb4.8
KLMR Klimovskoe 56.88 332 *e*P **P** **05 34 41.6 +0.1**
KLMR pmax pmax
comp=Z,20nm,1.4s,mb5.0
KLMR MLR MLR
comp=Z,840nm,18.0s,MS4.9
FRU Bishkek 56.89 299 *e*P **P** **05 34 40.0 -1.8**
FRU *e* pP 05 34 47.0 -3.6
FRU pmax pmax
comp=Z,50nm,1.7s,mb5.3
FRU MLR MLR

comp=Z,600nm,14.0s,MS4.8
AAK Ala-Archa 57.10 299 *e*P **P** **05 34 42.6 -0.7**
AAK *e* 05 34 57.3
AAK pmax pmax
comp=Z,30nm,1.0s,mb5.3
AAK Ala-Archa 57.10 299 *e*P **P** **05 34 42.6 -0.7**
comp=Z,30nm,1.0s,mb5.3
AAK *e* 05 34 57.2
JOF Joensuu 57.16 337 *e*p **P** **05 34 42.0 -1.4**
comp=Z,4.9nm,0.8s,mb4.6
LSA Lhasa 57.51 276 *e*P **P** **05 34 47.5 +1.2**
LSA pmax pmax
comp=Z,28nm,0.9s,mb5.3
LSA Lhasa 57.51 276 *e*P **P** **05 34 47.5 +1.2**
comp=Z,28nm,0.9s,mb5.3
SMCO Snowmass 57.70 67 *e*P **P** **05 34 47.8 +0.2**
comp=Z,21nm,0.9s,mb5.2
ISCO Idaho Springs 57.97 65⇑*i*P **P** **05 34 50.1 +0.7**
ISCO pmax pmax
comp=Z,38nm,1.2s,mb5.3
ISCO Idaho Springs 57.97 65⇑*i*P **P** **05 34 50.1 +0.7**
comp=Z,38nm,1.2s,mb5.3
WUAZ Wupatki 58.01 73⇑*e*P **P** **05 34 50.5 +0.7**
comp=Z,38nm,1.3s,mb5.3
KSH Kashi 58.62 295 *e*P **P** **05 35 00.3 +6.3**
KSH *e*AP pP 05 35 10.3 +7.5
KSH *e*XP sP 05 35 14.6 +8.6
KSH *e*PCP PcP 05 35 50.3 +6.6
KSH *e*PP PP 05 37 11.4 +6.0
KSH *e*SCP 05 39 46.6
KSH *e*PCS 05 39 49.3
KSH *e*S **S** **05 43 02.3 +7.7**
KSH *e*XS 05 43 17.0
KSH *e*SCS ScS 05 44 43.5 +5.5
KSH *e*SS SS 05 46 55.4 +6.3
KSH AMB AMB
comp=Z,70nm,6.2s
KSH LR LR
comp=N,1μm,17.4s,MS5.3
KSH LR LR
comp=E,2μm,16.6s,MS5.3
KKAR Karatay Array 58.74 301 P **P** **05 34 53.8 -1.0**
KKAR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
EYMN Ely 58.78 50⇑*i*P **P** **05 34 54.0 -1.0**
comp=Z,31nm,0.8s,mb5.4
AKTK Aktyubinsk 58.88 315 P **P** **05 34 54.5 -1.1**
AKTO Aktyubinsk 58.88 315 P **P** **05 34 54.5 -1.1**
comp=Z,3.5nm,0.7s,mb4.5,baz=23,slow=6.0,SNR=11
KAF Kangasniemi 58.95 339 *e*p **P** **05 34 54.0 -2.0**
comp=Z,1.8nm,0.4s,mb4.5
KAF Kangasniemi 58.95 339 *e*P **P** **05 34 54.0 -2.0**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
AB31 Akbulak array 58.98 313 P **P** **05 34 55.5 -0.8**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SDCO Great Sand Dun 59.54 67 *e*P **P** **05 35 00.7 +0.3**
comp=Z,56nm,1.8s,mb5.3
FINES FINESS Array B 59.60 339 P **P** **05 34 59.3 -1.2**
comp=Z,4.2nm,0.8s,mb4.5,baz=34,slow=6.9,SNR=13
FINES LR LR 06 03 35.0
comp=Z,256nm,18.8s,MS4.4,baz=166,slow=39
TUC Tucson 60.73 75 *e*P **P** **05 35 08.5 -0.1**
TUC pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
TUC Tucson 60.73 75 *e*P **P** **05 35 08.4 -0.1**
comp=Z,6.8nm,1.1s,mb4.7
ANMO Albuquerque 61.12 70 LR LR 06 01 20.3
comp=Z,334nm,18.3s,MS4.5,baz=347,slow=36
ANMO Albuquerque 61.12 70⇑*e*P **P** **05 35 11.3 +0.1**
ANMO pmax pmax
comp=Z,6.0nm,0.7s
ANMO Albuquerque 61.12 70⇑*e*P **P** **05 35 11.3 +0.1**
comp=Z,5.8nm,0.7s,mb4.8
CBKS Cedar Bluff 61.74 62⇑*i*P **P** **05 35 14.2 -1.2**
CBKS pmax pmax
comp=Z,21nm,1.0s,mb5.2
CBKS Cedar Bluff 61.74 62⇑*i*P **P** **05 35 14.2 -1.1**
comp=Z,21nm,1.0s,mb5.2
GUN Gumba 61.87 279 *e*P **P** **05 35 16.7 +0.3**
comp=Z,49nm,1.1s,mb5.5
JIRN Jiri 61.88 279 *e*P **P** **05 35 16.0 -0.5**
VSU Vasula 62.16 337 *e*P **P** **05 35 17.0 -0.9**
KKN Kakani 62.30 279 *e*P **P** **05 35 19.6 +0.3**
comp=Z,25nm,0.8s,mb5.4
KKN Kakani 62.30 279 *e*P **P** **05 35 19.6 +0.3**
KKN pmax pmax
comp=Z,12nm,0.8s,mb5.1
PKI Pulchoki 62.40 279 *e*P **P** **05 35 19.4 -0.5**
SCHQ Schefferville 62.41 31 P **P** **05 35 18.6 -1.0**
comp=Z,17nm,0.6s,mb5.3,baz=349,slow=6.6,SNR=38
GKN Gorkha 62.50 280 *e*P **P** **05 35 20.6 0.0**
comp=Z,51nm,1.1s,mb5.6
DMN Daman 62.54 279 *e*P **P** **05 35 20.9 +0.1**
NB2 NORSAR Subarra 62.56 346 P **P** **05 35 19.1 -1.4**
comp=Z,6.1nm,0.6s,mb4.9,baz=17,slow=7.0
NB2 NORSAR Subarra 62.56 346 P **P** **05 35 19.1 -1.4**
NB2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
NB2 NORSAR Subarra 62.56 346 P **P** **05 35 19.1 -1.4**
comp=Z,6.1nm,0.6s,mb4.9
NOA NORSAR Array B 62.56 346 P **P** **05 35 19.4 -1.1**
comp=Z,7.0nm,0.7s,mb4.9,baz=16,slow=6.9,SNR=31
NOA LR LR 06 07 58.5
comp=Z,138nm,18.1s,MS4.2,baz=10.0,slow=41
OBN Obninsk 62.60 330*de*P **P** **05 35 21.1 +0.3**
OBN *i* 05 35 37.7
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.7
NAO01 NORSAR Array S 62.79 346 *e*P **P** **05 35 20.6 -1.4**
comp=Z,5.9nm,0.8s,mb4.8
HFS Hagfors 63.07 345 LR LR 06 05 35.9
comp=Z,272nm,19.2s,MS4.4,baz=165,slow=39
KSU1 Kansas State U 63.09 60 *e*P **P** **05 35 22.4 -2.0**
KOLN Koldanda 63.27 281 *e*P **P** **05 35 25.5 -0.1**
comp=Z,23nm,1.1s,mb5.2
MNTX Cornudas Mount 64.17 71⇑*i*P **P** **05 35 31.6 +0.1**
comp=Z,20nm,1.0s,mb5.1
HNR Honiara 64.35 186 LR LR 05 58 22.1
comp=Z,453nm,20.9s,MS4.6,baz=322,slow=31
VRSR Storozhevoye 65.16 326 *e*P **P** **05 35 36.9 -0.6**
VRSR pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
VRSR pmax pmax
comp=N,3.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,1.1s
WMOK Wichita Mounta 65.35 64⇑*i*P **P** **05 35 38.3 -0.7**
WMOK pmax pmax
comp=Z,11nm,0.6s,mb5.1
WMOK Wichita Mounta 65.35 64⇑*i*P **P** **05 35 38.3 -0.7**
comp=Z,10nm,0.6s,mb5.0
PMG Port Moresby 65.99 200 P **P** **05 35 43.5 0.0**
comp=Z,8.5nm,0.6s,mb4.9,baz=4.1,slow=10,SNR=4.0
PMG LR LR 06 01 07.1
comp=Z,320nm,19.0s,MS4.5,baz=196,slow=33
CCM Cathedral Cave 66.54 57 *e*P **P** **05 35 45.0 -1.6**
CCM pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
CCM Cathedral Cave 66.54 57 *e*P **P** **05 35 45.0 -1.6**
comp=Z,7.8nm,0.6s,mb4.9
LTX Lajitas 66.93 72⇑*i*P **P** **05 35 49.2 0.0**
LTX pmax pmax
comp=Z,44nm,1.3s,mb5.3
LTX Lajitas 66.93 72⇑*i*P **P** **05 35 49.2 0.0**
comp=Z,44nm,1.3s,mb5.3
TXAR Lajitas Array 66.93 72 P **P** **05 35 49.4 +0.2**
comp=Z,14nm,0.6s,mb5.1,baz=300,slow=4.4,SNR=208
FVM French Village 66.99 56⇑*i*P **P** **05 35 48.3 -1.2**
FVM pmax pmax
comp=Z,30nm,0.6s,mb5.5
FVM French Village 66.99 56⇑*i*P **P** **05 35 48.3 -1.2**
comp=Z,30nm,0.6s,mb5.5
SUW Suwalki 67.04 337 *e*P **P** **05 35 45.4 -4.1**
SUW MLR MLR 06 08 59.5
comp=Z,500nm,16.0s,MS4.8
JCT Junction City 68.13 68 *e*P **P** **05 35 55.9 -0.8**
JCT pmax pmax
comp=Z,13nm,0.9s,mb5.0
JCT Junction City 68.13 68 *e*P **P** **05 35 55.9 -0.9**
comp=Z,13nm,0.9s,mb5.0
MIAR Mount Ida 68.17 61 *e*P **P** **05 35 56.2 -0.7**
MIAR pmax pmax

comp=Z,5.0nm,0.7s,mb4.7
MIAR Mount Ida 68.17 61 *e*P **P 05 35 56.2 -0.7**
comp=Z,5.5nm,0.7s,mb4.7
PARMO **Parma 68.37 57** *e*P **P 05 35 57.1 -1.0**
AKASG **Malin Array Be 68.57 332** P **P 05 35 58.2 -0.9**
comp=Z,1.2nm,0.5s,mb4.1,baz=27,slow=6.1,SNR=6.7
ACSO Alum Creek Sta 68.62 50 *e*P **P 05 35 58.3 -1.3**
comp=Z,20nm,1.4s,mb4.8
WCI Wyandotte Cave 68.75 53 *e*P **P 05 35 58.8 -1.6**
WCI pmax pmax
comp=Z,19nm,0.7s,mb5.1
WCI Wyandotte Cave 68.75 53 *e*P **P 05 35 58.8 -1.6**
comp=Z,19nm,0.7s,mb5.1
GOF Gofitskoye 69.11 320 *e*P **P 05 36 03.5 +0.9**
GOF pmax pmax
comp=Z,28nm,1.1s,mb5.1
WVT Waverly 69.72 56⇑*i*P **P 05 36 05.7 -0.7**
WVT pmax pmax
comp=Z,20nm,0.6s,mb5.2
WVT Waverly 69.72 56⇑*i*P **P 05 36 05.7 -0.7**
comp=Z,20nm,0.6s,mb5.2
KIV Kislovodsk 70.19 320 *de*P **P 05 36 09.7 +0.6**
KIV *e* 05 36 27.0
KIV pmax pmax
comp=Z,12nm,1.2s,mb4.7
KIV MLR MLR
comp=Z,400nm,20.0s,MS4.7
OXF Oxford 70.26 58⇑*i*P **P 05 36 08.8 -0.9**
OXF pmax pmax
comp=Z,32nm,0.9s,mb5.2
OXF Oxford 70.26 58⇑*i*P **P 05 36 08.8 -1.0**
comp=Z,32nm,0.9s,mb5.2
BHPL Bhopal 70.28 282 *e*P **P 05 36 17.3 +7.3**
MCWV Mont Chateau 70.45 48 *e*P **P 05 36 10.0 -0.8**
comp=Z,23nm,0.8s,mb5.2
KWP Kalwaria 71.22 336 *e*P **P 05 36 16.3 +1.0**
KWP MLR MLR 06 09 34.0
comp=Z,400nm,18.9s,MS4.7
KWP Kalwaria 71.22 336 *e*P **P 05 36 15.6 +0.3**
KWP pmax pmax
comp=Z,41nm,1.1s,mb5.3
KWP Kalwaria 71.22 336 *e*P **P 05 36 16.3 +1.0**
AFI Afiamalu 71.25 157 LR LR 06 00 56.1
comp=Z,201nm,19.7s,MS4.4,baz=347,slow=30
TI2 Plekhanov 71.30 317 *e*P **P 05 36 21.6 +5.7**
TI2 pmax pmax
comp=Z,30nm,0.2s,mb5.9
ANN Anapa 71.32 324 *e*P **P 05 36 12.0 -4.0**
ANN MLR MLR
comp=N,1μm,20.0s,MS5.3
ANN MLR MLR
comp=E,1μm,20.0s,MS5.3
ANN MLR MLR
comp=Z,675nm,20.0s,MS4.9
OJC Ojcow 71.34 338 *e*P **P 05 36 17.1 +1.1**
SWET Sewanee 71.36 55⇑*i*P **P 05 36 14.3 -2.1**
TZTN Tazewell 71.38 53⇑*e*P **P 05 36 16.1 -0.5**
KSP Ksiaz 71.48 340 *e*P **P 05 36 17.0 +0.2**
KSP MLR MLR 06 11 09.7
comp=Z,500nm,19.4s,MS4.8
KSP Ksiaz 71.48 340 *e*P **P 05 36 18.0 +1.2**
SOC Sochi 71.59 322 *e*P **P 05 36 15.6 -2.0**
SOC *e* 05 36 43.3
SOC *e*S S 05 45 33.1 -0.5
SOC MLR MLR
comp=Z,344nm,15.0s,MS4.7
CLL Collm 71.64 342⇑*e*P **P 05 36 18.5 +0.7**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 05 36 28.6 +1.9
CLL Collm 71.64 342⇑*i*P **P 05 36 18.5 +0.7**
CLL *i* *PP pP 05 36 28.6 +1.9
CLL pmax pmax
comp=Z,16nm,1.2s,mb4.8
CLL Collm 71.64 342⇑*i*P **P 05 36 18.5 +0.7**
comp=Z,16nm,1.2s,mb4.8
CLL *i* pP pP 05 36 28.6 +1.9
STHS Stebnicka Huta 71.77 336 *e*P **P 05 36 19.3 +0.7**
CPCT Cooper Cave 71.83 54⇑*i*P **P 05 36 18.4 -0.9**
UPC Upice 71.85 340 *e*P **P 05 36 19.2 +0.1**
DCN Croghan 71.88 356 *e*P **P 05 36 17.0 -2.2**
DLF Lyons Farm 71.89 355 *e*P **P 05 36 17.0 -2.3**
BRG Berggiesshubel 71.89 342 *e*P **P 05 36 20.1 +0.8**
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRG MLR MLR
comp=Z,350nm,16.1s,MS4.7
BRG Berggiesshubel 71.89 342 *e*P **P 05 36 20.1 +0.8**
comp=Z,5.2nm,1.1s,mb4.4
BRG *e* 05 36 26.2
BRG LR LR
comp=Z,350nm,16.1s,MS4.7
KOLS Kolonicke sedl 71.98 336 *e*P **P 05 36 19.9 +0.1**
KOLS *es*P sP 05 36 35.3 +3.5
OKC Ostrava-Krasne 72.05 339 *e*P **P 05 36 22.2 +1.9**
CRVS Cervenica-Dubn 72.20 336 *e*P **P 05 36 20.7 -0.5**
CRVS *e* 05 36 37.1
BLA Blacksburg 72.24 50 *e*P **P 05 36 21.1 -0.5**
BLA pmax pmax
comp=Z,28nm,1.1s,mb5.1
BLA Blacksburg 72.24 50 *e*P **P 05 36 21.1 -0.5**
comp=Z,28nm,1.1s,mb5.1
MYNC Murphy 72.32 54 *e*P **P 05 36 21.1 -1.0**
MOX Moxa 72.52 343 *i*P **P 05 36 23.9 +1.0**
MOX L 06 10 04.0
MOX Moxa 72.52 343 *e*P **P 05 36 23.9 +1.0**
MOX MLR MLR
comp=Z,200nm,20.0s,MS4.4
LRAL Lakeview Retre 72.63 57⇑*e*P **P 05 36 22.6 -1.3**
comp=Z,21nm,0.5s,mb5.3
PRU Pruhonice 72.63 341 *e*P **P 05 36 24.9 +1.3**
PRU AMS AMS 06 12 40.0
GNI Garni 72.65 316 *e*P **P 05 36 26.1 +2.2**
GNI pmax pmax
comp=Z,11nm,1.5s
GNI MLR MLR
comp=Z,400nm,23.0s
NKC Novy Kostel 72.78 342 *e*P **P 05 36 29.8 +5.4**
NKC AMS AMS 06 12 00.0
comp=Z,400nm,19.1s
KECS Kecovo 72.82 337 *e*P **P 05 36 23.9 -0.8**
KECS *e* 05 36 41.0
VRAC Vranov 72.88 339 LR LR 06 08 33.1
comp=Z,161nm,21.9s,MS4.3,baz=21,slow=36
KAKA Kakadu 73.01 214 *e*P Px 05 36 48.8
comp=Z,45nm,1.2s
TREC Trest 73.11 340 *e*P **P 05 36 27.0 +0.6**
TREC AMS AMS 06 12 30.0
comp=Z,600nm,17.2s
VYHS Vyhne 73.18 338 *e*P **P 05 36 27.7 +0.9**
VYHS *es*P sP 05 36 43.2 +4.4
GRA1 Grafenberg Arr 73.51 343 *e*P **P 05 36 27.7 -1.0**
comp=Z,14nm,1.5s,mb4.7
GRA1 LR LR
comp=Z,300nm,19.1s,MS4.6
GRF Grafenberg Arr 73.51 343 *e*P **P 05 36 27.7 -1.0**
GRF pmax pmax
comp=Z,14nm,1.5s,mb4.7
GRF MLR MLR
comp=Z,300nm,19.1s,MS4.6
KHC Kasperske Hory 73.63 341 *e*P **P 05 36 30.1 +0.7**
KHC x x 05 36 35.0
KHC x x 05 36 54.5
KHC AMS AMS 06 13 20.0
comp=Z,500nm,17.1s
KHC Kasperske Hory 73.63 341 *e*P **P 05 36 30.1 +0.7**
KHC MLR MLR
comp=Z,500nm,17.1s,MS4.9
KHC Kasperske Hory 73.63 341 *e*P **P 05 36 30.1 +0.7**
KHC *e* 05 36 35.0
KHC *e* 05 36 54.5
KHC LR LR
comp=Z,500nm,17.1s,MS4.9
GERES GERESS Array B 73.89 341 P **P 05 36 31.5 +0.6**
comp=Z,1.5nm,0.5s,mb4.2,baz=26,slow=5.3,SNR=20
GERES LR LR 06 12 35.9
comp=Z,296nm,20.1s,MS4.6,baz=18,slow=39
GERES GERESS Array B 73.89 341 P **P 05 36 31.5 +0.6**
GERES LR LR 06 12 35.9
GIVF Givet 74.06 347 *e*P **P 05 36 31.7 -0.2**
BAIF Baives 74.18 348 *e*P **P 05 36 32.3 -0.2**
comp=Z,99nm,1.8s,mb5.2
BAIF Baives 74.18 348 *e*P **P 05 36 32.3 -0.2**
BAIF pmax pmax
comp=Z,50nm,1.8s,mb5.1
MLR Muntele Rosu 74.23 332 P **P 05 36 33.4 +0.4**
comp=Z,1.7nm,0.4s,mb4.4,baz=293,slow=18,SNR=3.8
JSC Jenkinsville 74.30 52 *e*P **P 05 36 32.9 -0.7**
MOA Molln 74.73 340⇑*i*P **P 05 36 34.3 -1.5**
comp=Z,13nm,1.6s,mb4.6
MOA Molln 74.73 340⇑P **P 05 36 34.3 -1.5**
comp=Z,13nm,1.6s,mb4.6
CDF Champ du Feu 75.38 345 *e*P **P 05 36 39.5 0.0**
MEZF Maizieres J'vi 75.60 347 *e*P **P 05 36 40.9 +0.1**
WTTA Wattenberg 75.78 342⇑*i*P **P 05 36 41.9 0.0**
comp=Z,18nm,1.4s,mb4.8
WTTA Wattenberg 75.78 342⇑P **P 05 36 41.9 0.0**
WTTA pmax pmax
comp=Z,19nm,1.4s,mb4.8
WTTA Wattenberg 75.78 342⇑P **P 05 36 41.9 0.0**
comp=Z,18nm,1.4s,mb4.8
MOTA Moosalm 75.80 342⇓*i*P **P 05 36 43.3 +1.4**
comp=Z,19nm,1.3s,mb4.9
MOTA Moosalm 75.80 342⇓P **P 05 36 43.3 +1.4**
MOTA pmax pmax
comp=Z,19nm,1.3s,mb4.9
MOTA Moosalm 75.80 342⇓P **P 05 36 43.3 +1.4**
comp=Z,19nm,1.3s,mb4.9
SQTA Sankt Quirin 75.90 342⇓*i*P **P 05 36 43.8 +1.2**
comp=Z,12nm,1.0s,mb4.8
SQTA Sankt Quirin 75.90 342⇓P **P 05 36 43.8 +1.3**
SQTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
SQTA Sankt Quirin 75.90 342⇓P **P 05 36 43.8 +1.2**
comp=Z,12nm,1.0s,mb4.8
FLN La Foliniere 75.97 351 *e*P **P 05 36 42.3 -0.6**
comp=Z,24nm,0.9s,mb4.8
FLN *e*R
comp=Z,210nm,22.8s
FLN La Foliniere 75.97 351 *e*P **P 05 36 42.3 -0.6**
FLN pmax pmax
comp=Z,12nm,0.9s,mb4.8
FLN MLR MLR
comp=Z,210nm,22.8s,MS4.4
LDF La Druitiere 76.10 350 *e*P **P 05 36 43.1 -0.5**
comp=Z,36nm,1.1s,mb4.9
LDF La Druitiere 76.10 350 *e*P **P 05 36 43.1 -0.5**
LDF pmax pmax
comp=Z,18nm,1.1s,mb4.9
GRR Gorron 76.37 351 *e*P **P 05 36 45.0 -0.1**
comp=Z,61nm,1.2s,mb5.1
GRR Gorron 76.37 351 *e*P **P 05 36 45.0 -0.1**
GRR pmax pmax
comp=Z,31nm,1.2s,mb5.1
CTA Charters Tower 76.58 199 P **P 05 36 46.8 -0.1**
comp=Z,7.2nm,0.8s,mb4.7,baz=35,slow=8.3,SNR=5.3
CTAO Charters Tower 76.58 199 *e*P **P 05 36 46.9 +0.1**
CTAO pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CTAO Charters Tower 76.58 199 *e*P **P 05 36 46.9 +0.1**
comp=Z,5.3nm,0.7s,mb4.6
ROSF Rostrenen 76.63 352 *e*P **P 05 36 46.5 -0.1**
comp=Z,53nm,1.2s,mb5.0
ROSF Rostrenen 76.63 352 *e*P **P 05 36 46.5 -0.1**
ROSF pmax pmax
comp=Z,26nm,1.2s,mb5.0
SGMF Saint Gilles 76.65 352 *e*P **P 05 36 46.6 -0.1**
comp=Z,75nm,1.4s,mb5.1
SGMF Saint Gilles 76.65 352 *e*P **P 05 36 46.6 -0.1**
SGMF pmax pmax
comp=Z,37nm,1.4s,mb5.1
MALT Malatya 76.67 320 *e*P **P 05 36 49.4 +2.4**
MALT pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
MALT Malatya 76.67 320 *e*P **P 05 36 49.4 +2.3**
comp=Z,8.2nm,1.3s,mb4.5
LOR Lormes 76.96 347 *e*P **P 05 36 48.2 -0.3**
LOR *e*R
comp=Z,227nm,18.0s
QUIF Quistinic 77.04 352 *e*P **P 05 36 48.6 -0.3**
BR131 Keskin Array S 77.12 324 *e*P **P 05 36 49.9 +0.4**
comp=Z,3.3nm,0.8s,mb4.3
BRTR Keskin Array B 77.12 324 P **P 05 36 49.9 +0.4**
comp=Z,1.5nm,0.7s,mb4.0,baz=57,slow=4.0,SNR=8.1
SSF Saint Saulge 77.21 348 *e*P **P 05 36 49.6 -0.2**
comp=Z,16nm,1.0s,mb4.6
SSF Saint Saulge 77.21 348 *e*P **P 05 36 49.6 -0.2**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CABF La Chapelle 77.31 346 *e*P **P 05 36 50.9 +0.5**
AVF Avril sur Loir 77.50 348 *e*P **P 05 36 51.4 0.0**
comp=Z,21nm,1.0s,mb4.7
AVF Avril sur Loir 77.50 348 *e*P **P 05 36 51.4 0.0**
AVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SMF Signal de Mont 77.58 347 *e*P **P 05 36 51.9 0.0**
comp=Z,51nm,1.4s,mb5.0
SMF Signal de Mont 77.58 347 *e*P **P 05 36 51.9 0.0**
SMF pmax pmax
comp=Z,26nm,1.4s,mb5.0
BGF Bois d'Agland 77.79 348 *e*P **P 05 36 53.2 +0.2**
comp=Z,16nm,0.9s,mb4.6
BGF Bois d'Agland 77.79 348 *e*P **P 05 36 53.2 +0.2**
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
TAOE Nuku Hiva Isla 78.00 125 *e*LR LR 06 00 12.8
comp=Z,428nm,24.6s
MFF Saint Martin d 78.07 350 *e*P **P 05 36 54.7 +0.1**
TCF Toulx Ste Croi 78.13 348 *e*P **P 05 36 54.9 0.0**
LPL La Plagne 78.28 345 *e*P **P 05 36 55.7 -0.1**
comp=Z,52nm,1.2s,mb5.0
LPL La Plagne 78.28 345 *e*P **P 05 36 55.7 -0.1**
LPL pmax pmax
comp=Z,26nm,1.2s,mb5.0
LPG La Plagne 78.30 345 *e*P **P 05 36 55.9 +0.1**
comp=Z,30nm,1.1s,mb4.8
LPG La Plagne 78.30 345 *e*P **P 05 36 55.9 +0.1**
LPG pmax pmax
comp=Z,15nm,1.1s,mb4.8
BHD Baghdad 78.71 313 *ex* x 05 36 57.0
BNI Bardonecchia 78.75 345 *e*P **P 05 36 57.2 -1.1**
BNI pmax pmax
comp=Z,12nm,1.0s,mb4.8
BNI Bardonecchia 78.75 345 *e*P **P 05 36 57.2 -1.1**
comp=Z,12nm,1.0s,mb4.8
ORIF Oris-en-Rattie 79.00 345 *e*P **P 05 36 59.9 +0.2**
comp=Z,14nm,1.0s,mb4.6
ORIF *e*R
comp=Z,279nm,20.2s
MBDF Montbardon 79.05 345 *e*P **P 05 37 00.1 +0.1**
comp=Z,13nm,0.8s,mb4.6
MBDF Montbardon 79.05 345 *e*P **P 05 37 00.1 +0.1**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
RJF Les Rejaudoux 79.18 349 *e*P **P 05 37 00.3 -0.4**
VIVF Saint-Julien-l 79.23 346 *e*P **P 05 37 01.6 +0.7**
WRAB Tennant Creek 79.24 210 *e*P **P 05 37 01.3 -0.2**
WRAB *e**PP pP 05 37 18.9 +8.4
WRAB pmax pmax
comp=Z,33nm,1.0s,mb5.2
WRAB Tennant Creek 79.24 210 *e*P **P 05 37 01.2 -0.3**
comp=Z,33nm,1.0s,mb5.2
WRAB *ep*P pP 05 37 18.9 +8.4
WRAB *es*P sP 05 37 28.7 +15
WB2 Warramunga Arr 79.25 210 *e*P **P 05 37 01.6 0.0**
WRA Warramunga Arr 79.25 210 P **P 05 37 01.7 +0.1**
comp=Z,9.9nm,0.8s,mb4.8,baz=20,slow=5.9,SNR=65
LFF La Frestale 79.62 349 *e*P **P 05 37 03.7 +0.6**
SMRF Simiane la Rot 79.96 345 *e*P **P 05 37 04.8 -0.1**
LASF Ste Croix 80.10 347 *e*P **P 05 37 05.5 -0.2**
FRF La Foret Royal 80.21 345 *e*P **P 05 37 06.4 +0.2**
LMR La Mourre 80.45 345 *e*P **P 05 37 07.3 -0.2**
comp=Z,35nm,1.1s,mb4.9
LMR La Mourre 80.45 345 *e*P **P 05 37 07.3 -0.2**
LMR pmax pmax
comp=Z,17nm,1.1s,mb4.9
MTLF Montolieu 81.03 348 *e*P **P 05 37 10.8 +0.2**
RAR Rarotonga 81.45 148 LR LR 06 09 53.0
comp=Z,144nm,18.1s,MS4.4,baz=84,slow=33
EPF Esparros 81.56 349 *e*P **P 05 37 13.5 +0.2**
SJPF Ste Jean 81.64 350 *e*P **P 05 37 13.8 +0.1**
PPT Papeete 81.67 137 *e*LQ 05 58 27.8
PPT eLR LR 06 01 53.7
comp=Z,445nm,23.8s
ETSF Etsaut 81.78 350 *e*P **P 05 37 15.0 +0.5**
comp=Z,47nm,1.3s,mb5.0
ETSF Etsaut 81.78 350 *e*P **P 05 37 15.0 +0.5**
ETSF pmax pmax
comp=Z,23nm,1.3s,mb5.0
PVIS Viseu 84.51 355 *e*P **P 05 37 29.9 +1.5**
ESDC Sonseca Array 85.29 352 P **P 05 37 33.7 +1.3**
comp=Z,4.4nm,0.7s,mb4.7,baz=0.3,slow=4.6,SNR=22
ESLA Sonseca Array 85.29 352 *e*P **P 05 37 33.3 +0.9**
comp=Z,5.4nm,1.2s,mb4.5
MBWA Marble Bar 85.33 222 *e*P **P 05 37 33.2 +0.2**
comp=Z,12nm,0.8s,mb5.1
PCBR Castelo Branco 85.36 355 *e*P **P 05 37 34.0 +1.3**
TBI Tubuai 86.96 139 *e*LR LR 06 04 20.5
comp=Z,180nm,26.4s
STKA Stephens Creek 88.94 200 *e*P **P 05 37 51.0 +0.7**
comp=Z,6.8nm,0.9s,mb5.0
STKA Stephens Creek 88.94 200 P **P 05 37 51.1 +0.8**
comp=Z,5.1nm,0.8s,mb4.9,baz=4.6,slow=3.2,SNR=7.0
STKA LR LR 06 15 46.6
comp=Z,198nm,19.9s,MS4.5,baz=205,slow=34
RKT Rikitea 92.81 127 *e*LR LR 06 07 03.7
comp=Z,198nm,33.2s
BDFB Brasilia 132.95 47 PKP PKPdf 05 44 12.7 -2.5
comp=Z,1.1nm,0.5s,baz=122,slow=14,SNR=3.1
PLCA Paso Flores 140.82 93 PKP PKPdf 05 44 26.8 -2.1
comp=Z,2.1nm,0.9s,baz=269,slow=19,SNR=4.1
MAW Mawson 143.46 219 PKP PKPdf 05 44 31.0 -1.6
comp=Z,1.5nm,0.3s,baz=53,slow=14,SNR=6.3
SYO Syowa Base 152.18 219 ⇓PKPab PKPab 05 45 02.7 +2.1
SNAA Sanae 162.53 192 P PKPab 05 45 41.3 -3.5
SNAA Sanae 162.53 192 PKPab PKPab 05 45 44.0 -0.8
comp=Z,1.6nm,1.0s,baz=283,slow=2.3,SNR=4.8
SNAA Sanae 162.53 192 PKP2 PKPab 05 45 44.0 -0.8
SNAA pmax pmax
comp=Z,2.0nm,1.0s
VNA3 Neumayer Olymp 163.55 185 P PKPab 05 45 48.2 -1.1
VNA2 Neumayer--Watz 163.71 188 P PKPab 05 45 49.2 -0.8
VNA1 Neumayer--Stat 164.04 187 P PKPab 05 45 49.8 -1.7

MOS ***23*** *05:28:07.8±1.6,54.94N×165.54E,h30km,mb4.0/1, Error ellipse: s-maj=99.9km s-min=27.7km az=143.7*

KRSC 23 05:28:09.2±1.3, 55.09N×165.55E, h25km±7km, ML4.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.27**	**65**	*e*P		Pb	05 28 15.2	-0.6
BKI				*i* S		Sb	05 28 19.9	-0.3
BKI				Smax				
	25μm,0.3s							
KBTR	**Krutoberegovo**	**1.91**	**307**	*e*P		Pn	05 28 40.4	-0.4
KBTR				*e*S		Sn	05 29 04.8	+0.5
LGNR	**Loginova**	**2.93**	**292**	*e*P		Pn	05 28 56.1	+0.7
KMNR	**Kamenistaya**	**3.10**	**285**	P		Pn	05 28 59.5	+1.7
KII	**Karymskiy**	**3.71**	**256**	P		Pn	05 29 04.9	-1.4
KII	**Karymskiy**	**3.71**	**256**	P		Pn	05 29 05.7	-0.6
SPN	**Mys Shipunski**	**3.82**	**241**	P		Pn	05 29 06.0	-1.9
SPN				S		Sn	05 29 48.1	-4.5
SPN	**Mys Shipunski**	**3.82**	**241**	*e*P		Pn	05 29 06.8	-1.1
SPN				*e*S		Sn	05 29 48.0	-4.6
NLC	**Nalytchevo**	**4.12**	**245**	P		Pn	05 29 11.0	-2.0
NLC				S		Sn	05 29 56.3	-4.1
NLC	**Nalytchevo**	**4.12**	**245**	*e*P		Pn	05 29 11.2	-1.1
NLC				*e*S		Sn	05 29 56.6	-3.8
SMAR	**Somma**	**4.37**	**248**	*e*P		Pn	05 29 15.8	0.0
UGLR	**Uglovaya**	**4.38**	**247**	*e*P		Pn	05 29 16.5	+0.6
AVH	**Avacha**	**4.40**	**248**	*i*P		Pn	05 29 17.0	+0.8
KOK	**Koryaka**	**4.44**	**249**	*e*P		Pn	05 29 17.2	+0.4
KOK				*e*S		Sn	05 30 07.5	-0.9
PET	**Petropavlovsk**	**4.56**	**246**	P		Pn	05 29 18.0	-0.5
PET				S		Sn	05 30 09.1	-2.3
PET	**Petropavlovsk**	**4.56**	**246**	*e*P		Pn	05 29 18.5	0.0
PET				*e*S		Sn	05 30 07.6	-3.8
GNL	**Ganaly**	**4.66**	**256**	*e*P		Pn	05 29 20.8	+0.9
KRMR	**Karymshinskiy**	**4.93**	**246**	*e*P		Pn	05 29 23.6	-0.1
KRMR				*e*S		Sn	05 30 17.6	-3.1
RUS	**Russkaya**	**4.95**	**240**	P		Pn	05 29 22.9	-1.1
RUS				S		Sn	05 30 15.7	-5.5
RUS	**Russkaya**	**4.95**	**240**	*e*P		Pn	05 29 23.2	-0.6
RUS				*e*S		Sn	05 30 17.2	-4.0
GRL	**Gorelyy**	**5.11**	**243**	*e*P		Pn	05 29 26.4	+0.2

WEL 23 05:30:46.8±0.7, 45.36S×166.93E, h26km±2km, ML3.5/6, 2D, Error ellipse: s-maj=7.3km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.20**	**128**	⇓P*		Pb	05 30 52.6	0.0
DCZ				S*		Sb	05 30 56.4	0.0
DCZ				S*		Sb	05 30 56.5	+0.1
MLZ	**Mavora Lakes**	**0.88**	**90**	P*		Pb	05 31 02.4	-0.9
MLZ				S*		Sb	05 31 14.0	-0.6
WHZ	**Wether Hill Ro**	**0.90**	**127**	⇓PN		Pn	05 31 03.5	-0.3
WHZ				SN		Sn	05 31 15.9	-0.1
MSZ	**Milford Sound**	**0.98**	**46**	PN		Pn	05 31 03.4	-1.7
MSZ				SN		Sn	05 31 18.5	+0.3
WKZ	**Wanaka**	**1.57**	**71**	PN		Pn	05 31 14.3	+0.8
EAZ	**Earnscleugh**	**1.68**	**87**	PN		Pn	05 31 15.9	+0.7
JCZ	**Jackson Bay**	**1.83**	**46**	PN		Pn	05 31 17.1	-0.1
TUZ	**Tuapeka**	**1.99**	**109**	PN		Pn	05 31 20.1	+0.6
LBZ	**Lake Benmore**	**2.51**	**68**	PN		Pn	05 31 25.9	-1.1
ODZ	**Otahua Downs**	**2.65**	**85**	PN		Pn	05 31 27.7	-1.1
FOZ	**Fox Glacier**	**2.67**	**49**	PN		Pn	05 31 28.7	-0.5

TIF ***23*** *05:37:20.3,38.31N×45.32E,h20km±10km*
NSSP ***23*** *05:37:22.5,38.65N×45.18E,h10km,ML3.3*
ISK ***23*** *05:37:25.2,38.52N×45.39E,h32km,ML3.8*
NEIC ***23*** *05:37:27.4±1.0,38.58N×45.07E,h10km,mb3.8/1, Error ellipse: s-maj=15.3km s-min=8.7km az=150.0*
CSEM ***23*** *05:37:27.8±0.1,38.44N×45.11E,h30km,ML3.3, Error ellipse: s-maj=3.6km s-min=2.3km az=134.0*
IDC ***23*** *05:37:28.5±1.7,38.70N×45.28E,mb3.7/5,mb1 3.7/8, mb1mx3.5/22,mbtmp3.6/8,ML3.2/3, Error ellipse: s-maj=23.4km s-min=17.4km az=39.0*
MOS ***23*** *05:37:31.0±1.5,38.65N×45.24E,h33km,mb3.9/1, Error ellipse: s-maj=19.7km s-min=12.1km az=100.1*

ISC 23 05:37:24.7±0.6, 38.27N±0.04×45.36E±0.05, h10km, n50, σ1s50/66, mb3.6/6, 4D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CLDR	**Calciran**	**1.43**	**308**			Pn	**05 37 47.3**	**-3.5**
CLDR						SN	**05 38 04.0**	**-5.7**
HKR	**Hakkari**	**1.45**	**242**			PN	**05 37 51.6**	**+0.5**
HAKT	**HAKKARI**	**1.48**	**242**	*i* P		Pn	**05 37 51.7**	**+0.1**
HAKT				*i* S		Sb	**05 38 15.2**	**+4.5**
TVAN	**Van**	**1.56**	**280**	*i* P		Pn	**05 37 50.9**	**-1.7**
TVAN				*i* S		Sb	**05 38 11.8**	**-1.0**
VANT	**Van**	**1.56**	**277**	PN		Pn	**05 37 53.4**	**+0.8**
VANB	**Van**	**1.58**	**283**	PN		Pn	**05 37 51.6**	**-1.4**
GNI	**Garni**	**1.94**	**346**	Pg		Pn	**05 37 56.2**	**-1.9**
	118nm,0.3s,baz=205,slow=6.0,SNR=107							
GNI				Lg			05 38 18.4	
	62nm,0.3s,baz=78,slow=20,SNR=5.1							
GNI	**Garni**	**1.94**	**346**	⇓*e*PG		Pn	**05 37 56.0**	**-2.1**
GNI	**Garni**	**1.94**	**346**	⇓P		Pn	**05 37 55.8**	**-2.3**
GNI	**Garni**	**1.94**	**346**	⇓*e*Pn		Pn	**05 37 56.0**	**-2.1**
GNI	**Garni**	**1.94**	**346**	Pg		Pn	**05 37 56.2**	**-1.9**
PAAR	**P'arak'ar**	**2.03**	**339**	⇓P		Pn	**05 37 56.9**	**-2.4**
PAAR				S		Sn	**05 38 19.9**	**-5.0**
DIGO	**Kars**	**2.64**	**325**	*i* P		Pn	**05 38 07.5**	**-0.6**
DIGO				*i* S		Sg	**05 38 53.5**	**+0.8**
MSL	**Mosul**	**2.68**	**223**	*ex*		x	05 37 46.5	
MSL				*i* x		x	05 37 50.5	
MSL				*i* x		x	05 38 23.5	
MSL				*i* x		x	05 38 35.0	
STE	**Stepanavan**	**2.83**	**345**	P		Pn	**05 38 11.0**	**+0.2**
KARS	**Kars**	**2.93**	**324**	PN		Pn	**05 38 08.5**	**-3.7**
BTMT	**Batman**	**3.05**	**270**	PN		Pn	**05 38 15.5**	**+1.6**
DGRG	**David-gareji**	**3.18**	**0**	P		Pn	**05 38 18.6**	**+2.8**
DGRG				S		Sb	**05 39 00.5**	**+0.5**
DGRG	**David-gareji**	**3.18**	**0**	P		Pn	**05 38 18.2**	**+2.4**
DGRG				S		Sb	**05 39 00.8**	**+0.9**
BEST	**Besiri**	**3.25**	**265**	*i* P		Pn	**05 38 16.8**	**+0.1**
BEST				*i* S		Sb	**05 39 03.8**	**+1.9**
MTA	**Mtatsminda**	**3.45**	**353**	P		Pn	**05 38 24.0**	**+4.4**
MTA				S		Sn	**05 39 00.5**	**-0.6**
MTA	**Mtatsminda**	**3.45**	**353**	P		Pn	**05 38 24.1**	**+4.5**
MTA				S		Sn	**05 39 08.5**	**+7.5**
AKH	**Akhalkalaki**	**3.45**	**336**	P		Pn	**05 38 20.6**	**+1.0**
TBLG	**Delisi**	**3.49**	**352**	P		Pb	**05 38 24.5**	**-1.8**
TBLG				S		Sb	**05 39 07.7**	**-1.3**
TBLG	**Delisi**	**3.49**	**352**	P		Pb	**05 38 24.5**	**-1.8**

TBLG				S		Sb	05 39 10.1	+1.0	
ERZM	**Erzurum**	**3.51**	**299**	*i* P		Pn	05 38 22.6	+2.1	
ERZM				*i* S		Sg	05 39 16.4	-5.3	
EZM	**Erzurum**	**3.52**	**299**	*e*PN		Pn	05 38 18.1	-2.4	
MARD	**Mardin**	**3.75**	**257**	*i* P		Pn	05 38 23.3	-0.6	
MARD				*i* S		Sg	05 39 25.4	-4.1	
GOR	**Gori**	**3.84**	**346**	P		Pb	05 38 31.4	-0.7	
GOR				S		Sb	05 39 21.9	+2.9	
ARTV	**Artvin**	**3.94**	**319**	*i* P		Pn	05 38 32.2	+5.6	
ARTV				*i* S		Sg	05 39 40.1	+4.3	
ONI	**Oni**	**4.55**	**342**	P		Pb	05 38 46.5	+2.1	
ONI				S		Sb	05 39 47.1	+7.4	
EZC	**Erzincan**	**4.56**	**291**	*e*PN		Pn	05 38 38.0	+2.5	
PTK	**Pertek**	**4.72**	**279**	*e*PN		Pn	05 38 36.1	-1.5	
BHD	**Baghdad**	**5.05**	**189**	*ex*		x	05 39 07.0		
BHD				*ex*		x	05 40 32.0		
URFA	**Urfa**	**5.24**	**263**	*e*PN		Pn	05 38 44.2	-0.8	
KIV	**Kislovodsk**	**6.03**	**341**	*e*P		Pn	05 38 55.9	-0.3	
KIV				pmax	pmax				
	comp=Z,10.0nm,1.3s								
KIV	**Kislovodsk**	**6.03**	**341**	*e*P		Pn	05 38 55.9	-0.3	
	comp=Z,10.0nm,1.3s								
GZT	**Gaziantep**	**6.24**	**264**	*i* P		Pb	05 39 17.1	+3.9	
GZT				*i* S		Sb	05 40 39.1	+10	
BRTR	**Keskin Array B**	**9.24**	**283**	Pn		P	05 39 40.8	-0.3	
	comp=Z,0.1nm,0.3s,baz=97,slow=12,SNR=3.1								
AKTK	**Aktyubinsk**	**15.14**	**32**	Pn		P	05 40 57.7	-2.4	
AKTO	**Aktyubinsk**	**15.14**	**32**	Pn		P	05 40 57.7	-2.4	
	comp=Z,0.1nm,0.3s,baz=225,slow=7.1,SNR=3.3								
AKASG	**Malin Array Be**	**16.90**	**323**	Pn		P	05 41 20.6	-2.1	
	comp=Z,0.4nm,0.3s,baz=134,slow=11,SNR=8.1								
BRVK	**Borovoye**	**22.69**	**41**	*e*P		P	05 42 28.2	+0.9	
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb3.7								
BRVK	**Borovoye**	**22.69**	**41**	*e*P		P	05 42 28.2	+0.9	
	comp=Z,3.0nm,0.9s,mb3.7								
BRVK	**Borovoye**	**22.69**	**41**	*e*P		P	05 42 28.1	+0.8	
BVAR	**Borovoye Array**	**22.73**	**41**	P		P	05 42 28.5	+0.8	
	comp=Z,1.6nm,0.8s,mb3.5,baz=222,slow=18,SNR=6.7								
GERES	**GERESS Array B**	**25.09**	**305**	P		P	05 42 52.9	+2.2	
	comp=Z,0.7nm,0.7s,mb3.3,baz=108,slow=8.4,SNR=4.3								
FINES	**FINESS Array B**	**26.12**	**339**	P		P	05 43 00.2	+0.1	
	comp=Z,0.6nm,0.6s,mb3.3,baz=153,slow=13,SNR=4.6								
MKAR	**Makanchi Array**	**28.30**	**61**	P		P	05 43 22.4	+2.2	
	comp=Z,1.4nm,0.7s,mb3.7,baz=262,slow=7.6,SNR=14								
HFS	**Hagfors**	**29.63**	**328**	P		P	05 43 32.3	+0.2	
	comp=Z,2.4nm,0.8s,mb4.0,baz=122,slow=14,SNR=3.6								

NEIC ***23*** *05:48:37.9±1.1,24.79S×179.92E,h504km±13km,mb4.6/9, Error ellipse: s-maj=15.2km s-min=10.5km az=154.0*

IDC ***23*** *05:48:38.1±1.6,24.73S×179.82E,h499km±16km,mb3.6/8, mb1 3.8/11,mb1mx3.6/17,mbtmp4.4/11,Error ellipse: s-maj=25.1km s-min=12.9km az=160.0*

ISC 23 05:48:37.6±1.5,24.70S±0.08×179.78E±0.09, h503km±18km,n36,σ1℘07/27,mb4.1/15,5D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**12.52**	**279**	P		**P**	**05 51 24.5**	**+2.0**
	0.6nm,0.3s,baz=86,slow=16,SNR=7.8							
AFI	**Afiamalu**	**13.36**	**39**	P		**P**	**05 51 29.6**	**-1.6**
	2.7nm,0.3s,baz=15,slow=11,SNR=4.6							
URZ	**Urewera**	**13.71**	**189**	P		**P**	**05 51 32.9**	**-1.9**
	2.6nm,0.3s,baz=7.3,slow=23,SNR=10							
URZ				S		**S**	**05 53 59.5**	**+2.0**
	2.8nm,0.3s,baz=70,slow=22,SNR=14							
CTA	**Charters Tower**	**31.29**	**272**	⇓*i*P		**P**	**05 54 18.5**	**+1.3**
	14nm,0.4s,mb4.7							
CTAO	**Charters Tower**	**31.29**	**272**	*e*P		**P**	**05 54 18.3**	**+1.2**
	12nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**34.24**	**249**	*e*P		**P**	**05 54 42.8**	**+0.8**
	4.5nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**34.24**	**249**	P		**P**	**05 54 42.8**	**+0.8**
	5.5nm,0.4s,mb4.3,baz=97,slow=10,SNR=25							
PMG	**Port Moresby**	**34.57**	**290**	P		**P**	**05 54 45.2**	**+0.3**
	5.4nm,0.6s,mb4.1,baz=102,slow=3.0,SNR=3.6							
WB2	**Warramunga Arr**	**42.15**	**267**	⇓*i*P		**P**	**05 55 46.6**	**0.0**
WRAB	**Tennant Creek**	**42.15**	**267**	*e*P		**P**	**05 55 46.3**	**-0.3**
	8.0nm,0.5s,mb4.4							
WRA	**Warramunga Arr**	**42.16**	**267**	P		**P**	**05 55 46.6**	**-0.2**
	7.9nm,0.3s,mb4.6,baz=100,slow=7.0,SNR=335							
WRA				ScP			06 00 33.4	
	3.0nm,0.8s,baz=101,slow=4.0,SNR=16							
WRA				S		**S**	**06 01 29.6**	**-0.9**
	1.5nm,0.9s,baz=102,slow=14,SNR=7.5							
FORT	**Forrest**	**45.85**	**250**	*e*P		**P**	**05 56 14.5**	**-1.0**
	20nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**50.57**	**266**	*e*P		**P**	**05 56 51.0**	**-0.2**
	16nm,0.5s,mb4.5							
KLBR	**Kellerberrin**	**54.50**	**248**	*e*P		**P**	**05 57 18.1**	**-1.2**
	98nm,1.6s,mb4.9							
MBWA	**Marble Bar**	**55.04**	**261**	*e*P		**P**	**05 57 21.7**	**-1.5**
	2.7nm,0.4s,mb3.9							
SNAA	**Sanae**	**83.88**	**179**	⇓*i*		**P**	**06 00 13.3**	**-0.7**
SNAA	**Sanae**	**83.88**	**179**	*e*P		**P**	**06 00 12.9**	**-1.1**
	1.0nm,0.5s,mb3.6							
VNA3	**Neumayer Olymp**	**84.10**	**177**	⇓*i*		**P**	**06 00 14.9**	**-0.1**
VNA2	**Neumayer--Watz**	**84.51**	**178**	⇓*i*		**P**	**06 00 17.0**	**-0.1**
NVAR	**Mina Array Bea**	**85.46**	**44**	P		**P**	**06 00 23.6**	**+1.1**
	0.9nm,0.7s,mb3.5,baz=223,slow=9.7,SNR=7.1							
TXAR	**Lajitas Array**	**91.02**	**58**	P		**P**	**06 00 50.0**	**+1.3**
	1.5nm,0.8s,mb4.0,baz=211,slow=6.8,SNR=18							
ANMO	**Albuquerque**	**91.60**	**52**	P		**P**	**06 00 52.2**	**+0.9**
	0.9nm,0.8s,mb3.7,baz=210,slow=5.1,SNR=4.5							
ANMO	**Albuquerque**	**91.60**	**52**	P		**P**	**06 00 52.2**	**+0.9**
ILAR	**Eielson Array**	**92.85**	**14**	P		**P**	**06 00 55.7**	**-0.5**
	0.5nm,0.9s,mb3.5,baz=231,slow=5.9,SNR=4.9							
PDAR	**Pinedale Array**	**93.40**	**44**	P		**P**	**06 00 59.9**	**+0.5**
	0.4nm,0.7s,mb3.5,baz=252,slow=4.7,SNR=4.0							
ARCES	**ARCESS Array B**	**132.62**	**348**	PKP		PKPdf	06 06 54.0	+0.2
	2.2nm,0.8s,baz=333,slow=2.7,SNR=4.9							
ARCES	**ARCESS Array B**	**132.62**	**348**	PKP		PKPdf	06 06 54.0	+0.2
FINES	**FINESS Array B**	**139.13**	**341**	PKhKP			06 06 59.8	
	1.3nm,0.8s,baz=27,slow=4.3,SNR=5.2							
FINES				PKP		PKPdf	06 07 04.3	-1.6
	1.9nm,1.1s,baz=48,slow=2.1,SNR=2.5							
FINES				SKPbc			06 09 55.2	
	1.2nm,0.7s,baz=135,slow=5.4,SNR=4.0							
FINES	**FINESS Array B**	**139.13**	**341**	PKP		PKPdf	06 06 59.8	-6.1
FINES				PKP		PKPdf	06 07 04.3	-1.6
FINES				SKPbc			06 09 55.2	
NB2	**NORSAR Subarra**	**142.83**	**351**	PKPabc		PKPdf	06 07 10.8	-1.5
	0.7nm,0.6s,baz=14,slow=3.0							
NOA	**NORSAR Array B**	**142.83**	**351**	PKP		PKPdf	06 07 10.8	-1.4
	1.8nm,0.8s,baz=15,slow=4.8,SNR=4.5							
HFS	**Hagfors**	**143.28**	**348**	PKP		PKPdf	06 07 12.1	-0.9
	4.6nm,0.5s,baz=63,slow=3.3,SNR=20							
AKASG	**Malin Array Be**	**145.52**	**326**	PKPbc		PKPbc	06 07 19.4	+0.9
	1.1nm,0.5s,baz=43,slow=3.9,SNR=8.8							
BRTR	**Keskin Array B**	**147.89**	**306**	PKPbc		PKPdf	06 07 25.9	+4.5
	0.7nm,0.6s,baz=136,slow=5.8,SNR=3.8							
DBIC	**Dimbokro**	**161.53**	**165**	PKP		PKPdf	06 07 41.5	+1.3
	2.1nm,0.8s,baz=243,slow=4.1,SNR=4.0							
TORD	**Torodi Ar. Bea**	**168.37**	**189**	PKPab		PKPab	06 08 59.0	-1.2
	1.1nm,0.9s,baz=190,slow=3.4,SNR=5.9							

IDC ***23*** *06:07:26.9±0.5,22.45S×12.25W,mb4.2/19,mb1 4.3/19, mb1mx4.2/25,mbtmp4.2/19,MS4.0/12,Ms1 4.0/12, ms1mx4.0/15,Error ellipse: s-maj=18.3km s-min=12.7km az=169.0*

NEIC ***23*** *06:07:28.4±0.3,22.48S×12.25W,h10km,mb4.7/15,Error ellipse: s-maj=10.3km s-min=8.5km az=141.0*

ISC 23 06:07:26.6±0.4,22.43S±0.08×12.26W±0.08,h10km,n53, σ1℘04/46,mb4.3/28,MS4.1/12,4C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TSUM	**Tsumeb**	**28.06**	**89**	P		**P**	**06 13 20.5**	**0.0**
	7.3nm,0.6s,mb4.5,baz=245,slow=12,SNR=19							
TSUM				LR		LR	06 22 27.3	
	comp=Z,299nm,19.2s,MS3.9,baz=282,slow=32							
LIC	**Lamto**	**29.34**	**15**	*e*P		**P**	**06 13 30.4**	**-1.7**
	38nm,1.2s,mb4.7							
DBIC	**Dimbokro**	**29.81**	**15**	P		**P**	**06 13 34.7**	**-1.6**
	7.2nm,1.0s,mb4.4,baz=186,slow=8.9,SNR=7.9							
DBIC				LR		LR	06 21 50.6	
	comp=Z,248nm,21.9s,MS3.8,baz=186,slow=29							
DBIC	**Dimbokro**	**29.81**	**15**	*e*P		**P**	**06 13 34.8**	**-1.5**
	16nm,1.2s,mb4.6							
BDFB	**Brasilia**	**34.40**	**275**	P		**P**	**06 14 16.1**	**-0.2**
	9.2nm,0.9s,mb4.7,baz=94,slow=8.1,SNR=12							
BDFB				LR		LR	06 25 31.2	
	comp=Z,376nm,20.9s,MS4.1,baz=110,slow=32							
LBTB	**Lobatse**	**34.69**	**102**	P		**P**	**06 14 18.2**	**-0.5**
	4.0nm,0.7s,mb4.5,baz=281,slow=10,SNR=10							
LBTB	**Lobatse**	**34.69**	**102**	*e*P		**P**	**06 14 18.8**	**0.0**
	14nm,1.3s,mb4.7							
TORD	**Torodi Ar. Bea**	**37.91**	**22**	P		**P**	**06 14 45.3**	**-0.7**
	16nm,0.7s,mb4.8,baz=200,slow=9.0,SNR=145							
MATP	**Matopo**	**37.92**	**95**	P		**P**	**06 14 46.0**	**-0.1**
	4.5nm,0.7s,mb4.3,baz=256,slow=8.8,SNR=13							
LSZ	**Lusaka**	**38.85**	**87**	P		**P**	**06 14 54.9**	**+1.0**
	2.8nm,0.7s,mb4.1,baz=232,slow=8.1,SNR=7.3							
TRQA	**Tornquist**	**45.16**	**238**	*e*P		**P**	**06 15 45.6**	**+0.2**
	11nm,0.9s,mb4.7							
SIV	**San Ignacio**	**46.38**	**269**	P		**P**	**06 15 56.6**	**+1.4**
	2.0nm,0.7s,mb4.2,baz=105,slow=10,SNR=16							
SNAA	**Sanae**	**49.56**	**176**	P		**P**	**06 16 19.4**	**0.0**
	0.6nm,0.8s,mb3.7,baz=332,slow=8.2,SNR=3.8							
SNAA	**Sanae**	**49.56**	**176**	P		**P**	**06 16 20.7**	**+1.3**
	2.7nm,0.9s,mb4.3							
CFAA	**Coronel Fontan**	**50.24**	**247**	P		**P**	**06 16 24.9**	**-0.2**
	0.4nm,0.9s,mb3.4,baz=92,slow=8.6,SNR=5.3							
PLCA	**Paso Flores**	**51.96**	**235**	P		**P**	**06 16 37.9**	**-0.2**
	4.4nm,1.1s,mb4.3,baz=203,slow=2.1,SNR=3.3							
PLCA				LR		LR	06 34 45.8	
	comp=Z,157nm,20.1s,MS4.0,baz=44,slow=32							
PLCA	**Paso Flores**	**51.96**	**235**	*e*P		**P**	**06 16 37.9**	**-0.2**
	3.4nm,0.9s,mb4.3							
LPAZ	**La Paz**	**52.82**	**266**	P		**P**	**06 16 43.7**	**-1.1**
	1.2nm,0.7s,mb3.9,baz=101,slow=18,SNR=6.6							
LPAZ				LR		LR	06 36 07.4	
	comp=Z,136nm,20.2s,MS4.0,baz=281,slow=33							
LPAZ	**La Paz**	**52.82**	**266**	*e*P		**P**	**06 16 44.0**	**-0.8**
	2.2nm,1.1s,mb4.0							
SYO	**Syowa Base**	**55.96**	**160**	⇑P		**P**	**06 17 03.6**	**-3.5**
SYO	**Syowa Base**	**55.96**	**160**	⇑*e*P		**P**	**06 17 03.6**	**-3.5**
ESDC	**Scoresca Array**	**62.26**	**7**	P		**P**	**06 17 50.5**	**-0.7**
	0.2nm,0.3s,mb3.7,baz=198,slow=7.1,SNR=4.2							
MAW	**Mawson**	**63.81**	**156**	P		**P**	**06 17 59.0**	**-1.9**
	1.4nm,0.7s,mb4.1,baz=54,slow=14,SNR=2.0							
MAW				LR		LR	06 37 53.7	
	comp=Z,129nm,21.9s,MS4.1,baz=340,slow=29							
SDV	**Santo Domingo**	**65.08**	**292**	P		**P**	**06 18 10.5**	**+0.4**
	8.8nm,0.7s,mb4.9,baz=171,slow=5.9,SNR=16							
SDV	**Santo Domingo**	**65.08**	**292**	P		**P**	**06 18 10.5**	**+0.4**
ETSF	**Etsaut**	**65.89**	**9**	*e*P		**P**	**06 18 14.9**	**+0.1**
SJPF	**Ste Jean**	**66.00**	**9**	*e*P		**P**	**06 18 15.1**	**-0.4**
	16nm,1.0s,mb4.7							
ROSC	**El Rosal**	**66.42**	**286**	LR		LR	06 46 00.8	
	comp=Z,182nm,18.5s,MS4.3,baz=35,slow=35							
TIP	**Timpagrande**	**67.03**	**24**	*e*P		**P**	**06 18 24.1**	**+1.9**
MBDF	**Montbardon**	**69.05**	**14**	*e*P		**P**	**06 18 34.6**	**-0.1**
	8.4nm,0.8s,mb4.4							
LPG	**La Plagne**	**69.78**	**14**	*e*P		**P**	**06 18 39.1**	**0.0**
	13nm,1.0s,mb4.5							
LPL	**La Plagne**	**69.79**	**14**	*e*P		**P**	**06 18 39.0**	**-0.2**
	7.6nm,0.7s,mb4.5							
SMF	**Signal de Mont**	**70.27**	**12**	*e*P		**P**	**06 18 41.8**	**-0.3**
AVF	**Avril sur Loir**	**70.32**	**11**	*e*P		**P**	**06 18 42.2**	**-0.2**
CABF	**La Chapelle**	**70.69**	**13**	*e*P		**P**	**06 18 44.6**	**0.0**
ROSF	**Rostrenen**	**70.89**	**6**	*e*P		**P**	**06 18 45.2**	**-0.6**
ARSA	**Arzberg**	**73.74**	**19**	⇑*i*P		**P**	**06 19 02.0**	**-0.7**
	comp=Z,6.5nm,1.0s,mb4.5							
ARSA	**Arzberg**	**73.74**	**19**	⇑P		**P**	**06 19 02.0**	**-0.7**
	6.5nm,1.0s,mb4.5							
GERES	**GERESS Array B**	**74.64**	**17**	P		**P**	**06 19 07.4**	**-0.5**
	0.8nm,0.8s,mb3.7,baz=198,slow=4.2,SNR=5.8							
GERES				LR		LR	06 52 04.2	
	comp=Z,105nm,18.1s,MS4.2,baz=116,slow=36							
GRA1	**Grafenberg Arr**	**74.77**	**16**	*e*P		**P**	**06 19 11.5**	**+2.9**
	9.0nm,1.4s,mb4.5							
KHC	**Kasperske Hory**	**74.87**	**17**	*e*P		**P**	**06 19 12.0**	**+2.8**
BR131	**Keskin Array S**	**75.22**	**35**	*e*P		**P**	**06 19 15.5**	**+4.1**
	5.6nm,1.0s,mb4.5							
BRTR	**Keskin Array B**	**75.22**	**35**	P		**P**	**06 19 13.3**	**+1.9**
	2.9nm,1.1s,mb4.1,baz=180,slow=6.2,SNR=6.2							
PSZ	**Piszkesteto**	**75.74**	**22**	P		**P**	**06 19 13.7**	**-0.6**
	13nm,1.4s,mb4.7							
VNDA	**Vanda**	**80.21**	**179**	LR		LR	06 49 47.5	
	comp=Z,126nm,21.8s,MS4.2,baz=176,slow=32							
AKASG	**Malin Array Be**	**81.49**	**25**	P		**P**	**06 19 46.7**	**+1.2**
	2.1nm,0.6s,mb4.2,baz=221,slow=5.1,SNR=6.7							
AKASG	**Malin Array Be**	**81.49**	**25**	P		**P**	**06 19 46.7**	**+1.2**
NOA	**NORSAR Array B**	**85.31**	**11**	LR		LR	06 54 09.7	
	comp=Z,42nm,19.0s,MS3.9,baz=245,slow=33							
FINES	**FINESS Array B**	**89.08**	**17**	P		**P**	**06 20 25.0**	**+2.0**
	1.0nm,0.7s,mb4.3,baz=180,slow=7.6,SNR=4.4							
SCHQ	**Schefferville**	**89.94**	**332**	LR		LR	06 53 14.6	
	comp=Z,140nm,21.6s,MS4.3,baz=49,slow=30							
ARCES	**ARCESS Array B**	**95.61**	**13**	LR		LR	07 03 28.4	
	comp=Z,70nm,19.6s,MS4.1,baz=8.7,slow=35							
ILAR	**Eielson Array**	**128.41**	**337**	PKP		PKPdf	06 26 34.9	-1.5
	0.5nm,0.8s,baz=360,slow=2.0,SNR=4.6							
MJAR	**Matsushiro Ar**	**150.84**	**55**	PKPbc		PKPdf	06 27 21.2	+4.3
	1.4nm,0.7s,baz=84,slow=1.4,SNR=3.8							
MJAR				PKPab		PKPab	06 27 28.3	-0.8
	1.9nm,0.7s,baz=289,slow=1.3,SNR=4.9							

CSEM ***23*** *06:14:05.3±0.5,39.13N×28.58W,h10km±4km,ML2.1, Error ellipse: s-maj=3.2km s-min=3.0km az=134.0,After PDA*

PDA ***23*** *06:14:05.3±0.5,39.13N×28.58W,h10km±4km,MD3.2, ML2.1,Error ellipse: s-maj=3.2km s-min=3.0km az=134.0*

SVSA 23 06:14:05.3±0.5,39.13N×28.58W,h10km±4km,MD3.2, ML2.1,Error ellipse: s-maj=3.2km s-min=3.0km az=134.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STGR	**Santa Cruz**	**0.45**	**96**	*e*S		Sg	06 14 20.3	-0.3
	23nm,0.3s							
STGR	**Santa Cruz**	**0.45**	**96**	*e*S		Sg	06 14 20.3	-0.3
	23nm,0.3s							
PGRA	**Graciosa**	**0.47**	**102**	*e*S		Sg	06 14 19.4	-2.0
	39nm,0.3s							
PGRA	**Graciosa**	**0.47**	**102**	*e*S		Sg	06 14 19.4	-2.0
	39nm,0.3s							
ROSA	**Rosais**	**0.49**	**147**	*e*P		Pg	06 14 13.6	-1.6
ROSA				*e*S		Sg	06 14 19.6	-2.2
PAMA	**Santo Amaro**	**0.55**	**145**	*e*S		Sg	06 14 21.1	-2.6
CALA	**Caldeira**	**0.56**	**190**	*e*P		Pg	06 14 14.6	-1.9
CALA				*e*S		Sg	06 14 21.4	-2.6
HOR	**Horta**	**0.60**	**184**	*e*P		Pg	06 14 15.1	-2.4
HOR				*e*S		Sg	06 14 22.6	-3.0
PMAN	**Manadas**	**0.63**	**142**	*e*S		Sg	06 14 23.3	-3.1
	80nm,0.2s							
PMAN	**Manadas**	**0.63**	**142**	*e*S		Sg	06 14 23.3	-3.1
	80nm,0.2s							
PICO	**Pico**	**0.64**	**169**	*e*P		Pb	06 14 15.8	-2.3
PICO				*e*S		Sg	06 14 23.7	-3.1

IDC ***23*** *06:26:14.3±0.8,12.25N×141.15E,mb3.9/7,mb1 4.1/7, mb1mx3.9/17,mbtmp3.9/7,Error ellipse: s-maj=46.5km s-min=22.0km az=90.0*

NEIC ***23*** *06:26:15.9±0.6,12.23N×141.20E,h10km,mb4.4/3,Error ellipse: s-maj=29.8km s-min=12.8km az=87.0*

ISC 23 06:26:13.7±0.6,12.2N±0.1×141.4E±0.1,h10km,n13, σ0℘67/12,mb4.0/10,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**3.68**	**68**	*e*P		**Pg**	**06 27 26.6**	**-0.5**
WRAB	**Tennant Creek**	**32.68**	**192**	*e*P		**P**	**06 32 48.5**	**0.0**
	2.6nm,0.7s,mb4.3							
WRA	**Warramunga Arr**	**32.69**	**192**	P		**P**	**06 32 48.2**	**-0.4**
	2.1nm,0.7s,mb4.2,baz=10,slow=9.9,SNR=22							
STKA	**Stephens Creek**	**43.84**	**180**	P		**P**	**06 34 22.3**	**+0.4**
	2.6nm,0.9s,mb4.0,baz=340,slow=10,SNR=4.0							
STKA	**Stephens Creek**	**43.84**	**180**	P		**P**	**06 34 22.3**	**+0.4**
MKAR	**Makanchi Array**	**60.14**	**317**	P		**P**	**06 36 24.0**	**+0.2**
	1.0nm,0.9s,mb3.8,baz=106,slow=8.8,SNR=6.3							
KURK	**Kurchatov**	**63.46**	**321**	*e*P		**P**	**06 36 45.5**	**-0.5**
	2.6nm,0.7s,mb4.5							
KURK				*e*			06 36 53.3	
BRVK	**Borovoye**	**68.97**	**322**	*e*P		**P**	**06 37 21.2**	**0.0**
	2.1nm,0.7s,mb4.2							
ILAR	**Eielson Array**	**71.27**	**25**	P		**P**	**06 37 35.2**	**+0.3**
	0.3nm,0.7s,mb3.4,baz=247,slow=5.9,SNR=6.5							
YKA	**Yellowknife Ar**	**85.63**	**27**	P		**P**	**06 38 55.3**	**+1.9**
	0.1nm,0.5s,mb3.3,baz=289,slow=4.7,SNR=4.2							
ARCES	**ARCESS Array B**	**87.32**	**342**	P		**P**	**06 39 01.2**	**-0.3**
	1.5nm,0.8s,mb4.2,baz=83,slow=7.3,SNR=6.0							
FINES	**FINESS Array B**	**90.94**	**334**	P		**P**	**06 39 18.0**	**-0.8**
	1.9nm,0.7s,mb4.5,baz=63,slow=4.3,SNR=8.6							
LPAZ	**La Paz**	**151.14**	**102**	PKPbc		PKPdf	06 46 12.6	+7.4
	1.3nm,0.5s,baz=281,slow=3.1,SNR=9.6							

IDC 23 06:40:15.8±8.9,55.21N×166.86E,h65km±61km,mb3.3/5, mb1 3.6/6,mb1mx3.2/24,mbtmp3.6/6,ML3.2/1,Error ellipse: s-maj=91.3km s-min=42.9km az=60.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FX1	**Attu Island--F**	**4.39**	**120**	P		P	06 41 19.9	-1.7
	3.8nm,0.3s,baz=330,slow=18,SNR=6.5							
FX1				S		S	06 42 10.3	-1.6
	2.9nm,0.3s,baz=83,slow=22,SNR=3.8							
KDAK	**Kodiak Island**	**22.30**	**67**	P		P	06 45 07.4	-1.1
	3.8nm,0.8s,baz=264,slow=9.2,SNR=4.2							
ILAR	**Eielson Array**	**24.46**	**48**	P		P	06 45 27.9	-1.4
	0.9nm,0.8s,baz=260,slow=8.8,SNR=9.6							
INK	**Inuvik**	**29.72**	**40**	P		P	06 46 15.3	-2.1
	0.4nm,0.4s,baz=286,slow=5.8,SNR=12							
YKA	**Yellowknife Ar**	**38.86**	**46**	P		P	06 47 34.2	-1.5
	0.2nm,0.4s,baz=295,slow=7.6,SNR=7.2							
TXAR	**Lajitas Array**	**66.17**	**73**	P		P	06 50 56.6	-1.8
	0.1nm,0.4s,baz=307,slow=4.4,SNR=5.3							

IDC ***23*** *06:44:40.9±5.4,5.21S×151.11E,h81km±47km,mb3.5/5, mb1 3.8/6,mb1mx3.7/12,mbtmp3.8/6,ML3.0/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/26,Error ellipse: s-maj=62.4km s-min=32.7km az=121.0*

NEIC ***23*** *06:44:41.0±2.6,5.32S×151.20E,h85km±24km,mb4.0/2, Error ellipse: s-maj=46.2km s-min=17.7km az=126.0*

ISC 23 06:44:39.3±3.8,5.2S±0.2×151.1E±0.3,h78km±32km,n12, σ0℘56/12,mb3.6/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.72**	**222**	P		**P**	**06 46 03.3**	**-0.1**
	2.7nm,0.3s,baz=39,slow=7.1,SNR=7.7							
PMG				S		**S**	**06 47 08.9**	**+0.4**
	1.6nm,0.3s,baz=181,slow=12,SNR=2.5							
PMG				LR		LR	06 48 27.2	
	comp=Z,88nm,18.6s,baz=48,slow=40							
WRAB	**Tennant Creek**	**21.91**	**226**	*e*P		**P**	**06 49 27.1**	**-0.5**
	2.7nm,0.6s,mb3.8							
WB2	**Warramunga Arr**	**21.92**	**226**	*e*P		**P**	**06 49 27.3**	**-0.3**
WRA	**Warramunga Arr**	**21.93**	**226**	P		**P**	**06 49 27.4**	**-0.3**
	2.4nm,0.6s,mb3.7,baz=54,slow=10,SNR=25							
WRA				PcP		PcP	06 53 25.4	+0.3
	0.4nm,0.7s,baz=32,slow=2.1,SNR=4.6							
WRA	**Warramunga Arr**	**21.93**	**226**	P		**P**	**06 49 27.4**	**-0.3**

MGER eS S 07 11 09.0 +1.0
ATH Athens Observa 2.67 9 eP P 07 10 38.6 +1.4
ATH eS S 07 11 08.7 +0.2
PTL Penteli 2.77 11 eP P 07 10 39.6 +1.1
MPAR Parnis Oros 2.85 9 eP P 07 10 41.0 +1.3
MPAR eS S 07 11 13.2 +0.2
RLS Riolos of Patr 3.06 333 ⇓iP P 07 10 45.1 +2.5
RLS eS S 07 11 20.2 +2.0
KARP Karpathos 3.24 85 eP P 07 10 44.9 -0.3
LKR Lokris 3.32 357 eP P 07 10 47.4 +1.2
LKR eS S 07 11 24.4 -0.2
NISR Nisiros 3.44 67 eP P 07 10 47.5 -0.3
VLS Valsamata 3.53 324 eP P 07 10 49.8 +0.7
VLS Valsamata 3.53 324 eP P 07 10 50.8 +0.5
BODT Bodrum 3.75 61 PN P 07 10 51.0 -1.2
EVR Evrytania 3.75 343 eP P 07 10 54.3 +2.1
AGG Agios Georgios 3.75 350 ePn P 07 10 53.9 +1.7
AGG eSn S 07 11 35.2 -0.2
AGG Agios Georgios 3.75 350 P P 07 10 53.8 +1.6
AGG S S 07 11 35.2 -0.2
SMG Samos 3.77 50 eP P 07 10 52.5 0.0
BDRM Kayabasi 3.85 62 *i* P P 07 10 54.0 +0.5
LKD Levkas 3.94 330 ePn P 07 10 56.4 +1.6
LKD eSn S 07 11 39.5 -0.6
LKD Levkas 3.94 330 P P 07 10 56.3 +1.5
LKD S S 07 11 39.5 -0.6
NEO Neokhori 3.97 0 eP P 07 10 56.4 +1.2
XOR Xorichti 4.03 360 ePn P 07 10 57.0 +1.0
XOR eSn S 07 11 41.1 -1.3
XOR Xorichti 4.03 360 ePn P 07 10 57.0 +0.9
XOR eSn S 07 11 41.1 -1.2
URLA Izmir 4.07 41 *i* P P 07 10 56.2 -0.4
ARG Arkhangelos 4.10 76 ⇑iP P 07 10 57.3 +0.2
ARG eS S 07 11 41.1 -3.1
MLSB Milas 4.19 61 ePN P 07 10 56.7 -1.5
AYDN Tasoluk 4.43 57 *i* P P 07 11 02.9 +1.2
IZM Izmir 4.47 46 ePN P 07 11 02.6 +0.4
KDAG Bornova 4.48 46 *i* P P 07 11 02.0 -0.3
PAIG Paliouri 4.61 5 ePn P 07 11 04.4 +0.4
PAIG eSn S 07 11 55.3 -1.4
PRK Paraskevi 4.61 31 eP P 07 11 04.4 +0.2
DALT Dalyan (Mudla) 4.63 70 PN P 07 11 04.0 -0.5
JAN Janina 4.71 337 eP P 07 11 07.1 +1.7
JAN eS S 07 11 57.9 -1.3
MEV Metsovon 4.71 341 ePn P 07 11 07.3 +1.7
MEV eSn S 07 11 57.8 -1.6
MEV Metsovon 4.71 341 P P 07 11 07.2 +1.6
IGT Igoumenitsa 4.78 332 ePn P 07 11 07.3 +0.9
IGT eSn S 07 12 01.5 +0.6
IGT Igoumenitsa 4.78 332 P P 07 11 07.2 +0.8
IGT S S 07 12 01.4 +0.5
LIT Litokhoron 4.80 353 ePn P 07 11 07.2 +0.5
LIT eSn S 07 12 00.2 -1.2
LIT Litokhoron 4.80 353 P P 07 11 07.1 +0.4
LIT S S 07 12 00.2 -1.2
LOS Limnos 4.83 17 ePn P 07 11 07.4 +0.2
LOS eSn S 07 11 58.9 -3.5
LOS Limnos 4.83 17 P P 07 11 07.3 +0.1
AYVA Ayvalik 4.85 34 *i* P P 07 11 07.4 0.0
FETY Fethiye 4.95 73 PN P 07 11 07.4 -1.4
OUR Ouranopolis 5.04 7 ePn P 07 11 10.3 +0.4
OUR eSn S 07 12 05.6 -1.8
PLG Polygyros 5.04 2 eP P 07 11 10.5 +0.5
KZN Kozani 5.10 348 eP P 07 11 12.2 +1.4
KZN eS S 07 12 07.1 -1.8
KEK Kerkira 5.14 329 eP P 07 11 12.1 +0.7
KEK Kerkira 5.14 329 eP P 07 11 13.8 -0.5
SRN Sarande 5.20 332 Pn P 07 11 13.8 +1.5
LSK Leskovik 5.23 338 Pn P 07 11 14.6 +1.9
KSL Kastellorizon 5.26 79 eP P 07 11 12.0 -1.0
DENT Denizli 5.28 61 PN P 07 11 14.7 +1.4
AKAS Kas 5.29 78 *i* P P 07 11 11.8 -1.6
MANT Manisa 5.33 52 *i* P P 07 11 15.5 +1.5
GOLH Golhisar 5.48 68 *i* P P 07 11 15.8 -0.2
KBN Korca 5.62 341 Pn P 07 11 20.4 +2.5
ELL Elmali 5.62 73 PN P 07 11 18.3 +0.4
FNA Florina 5.63 346 ePn P 07 11 18.4 +0.2
FNA eSn S 07 12 19.2 -3.0
FNA Florina 5.63 346 P P 07 11 18.3 +0.2
GRG Griva 5.65 354 ePn P 07 11 18.2 -0.2
GRG eSn S 07 12 21.2 -1.5
SRS Serrai 5.79 3 ePn P 07 11 20.5 +0.3
KNT Kendrikon 5.83 358 ePn P 07 11 21.4 +0.6
KNT eSn S 07 12 24.1 -2.9
ALN Alexandroupoli 6.00 21 ePn P 07 11 24.5 +0.8
NVR Nevrokopi 6.03 5 eP P 07 11 24.5 +0.8
RDO Rodhopi 6.09 17 eP P 07 11 24.1 -0.4
GDZ Gediz 6.26 51 *i* P P 07 11 27.2 +0.3
MMB Musomiste 6.26 4 *i* P P 07 11 27.5 +0.6
BCK Bucak 6.33 68 ePN P 07 11 25.0 -2.8
TKTP Tekketepe 6.33 63 *i* P P 07 11 27.2 -0.6
SWA1 6.41 160 ⇓P P 07 11 25.5 -3.5
SWA1 S S 07 12 30.1 -11
TIP Timpagrande 6.41 309 ⇓iPn P 07 11 28.4 -0.6
TIP eSn S 07 12 33.0 -8.5
TIP Timpagrande 6.41 309 ⇓iPn P 07 11 28.4 -0.6
LCI Lecce 6.42 323 P P 07 11 28.2 -0.8
GRI Girifalco 6.44 305 P P 07 11 28.4 -1.0
RZN Rozhen 6.46 10 *i* P P 07 11 30.5 +0.8
KKB Krupnik 6.53 359 *i* P P 07 11 32.5 +1.9
KDZ Kurdzhali 6.55 15 *i* P P 07 11 32.0 +1.1
TIR Tirane 6.55 337 P P 07 11 31.9 +0.9
MTTG Motta San Giov 6.59 296 P P 07 11 30.2 -1.3
SCLL Scilla 6.68 298 P P 07 11 31.7 -1.0
PHP Peshkopia 6.70 342 Pn P 07 11 34.4 +1.3
AGST Augusta-Monte 6.72 289 P P 07 11 30.5 -2.8
MSI Messina ING 6.77 297 P P 07 11 34.0 0.0
SSY Sortino 6.81 288 P P 07 11 32.5 -2.1
ATN Antennamare 6.82 297 P P 07 11 33.2 -1.5
PZI Palazzolo 6.89 287 P P 07 11 33.2 -2.5
TDS Terranova Siba 6.96 310 P P 07 11 35.9 -0.7
WDD Wield Dalam 7.09 277 P P 07 11 36.1 -2.3
PE1 Pezze di Greco 7.11 322 ePn P 07 11 37.3 -1.4
ORI Oriolo Calabro 7.14 313 P P 07 11 38.4 -0.7
VTS Vitosha 7.25 0 *i* P P 07 11 51.0 +10
VTS Vitosha 7.25 0 P P 07 11 43.5 +2.9
BRT Bari-Castellan 7.28 321 P P 07 11 39.7 -1.3
ULC Ulcinj 7.31 336 ⇓iPn P 07 11 40.0 -1.4
ULC eSn S 07 12 57.7 -5.8
MNO Monte Soro 7.31 293 P P 07 11 41.2 0.0
ESKT Eskisehir 7.39 53 *i* P P 07 11 42.6 +0.2
VAE Valguarnera 7.40 289 P P 07 11 43.4 +0.7
45nm,0.3s,baz=310,slow=2.4,SNR=50
VAE S S 07 13 04.9 -0.9
22nm,0.3s,baz=211,slow=10,SNR=4.6
SLNA Salina 7.43 298 P P 07 11 42.2 -0.9
SG1 Sgolgore (BA) 7.53 319 ePn P 07 11 42.9 -1.5
JMB Yambol 7.60 19 P P 07 11 45.6 +0.2
BAI Bari 7.61 321 ePn P 07 11 43.9 -1.7
PVY Plav 7.68 342 ⇑iPn P 07 11 46.0 -0.5
PVY eSn S 07 13 07.0 -5.6
TTG Podgorica 7.72 338 ⇓iPn P 07 11 45.9 -1.2
TTG eSn S 07 13 08.2 -5.5
BUM Brajici-Budva 7.73 336 ⇑iPn P 07 11 45.6 -1.5
BUM eSn S 07 13 08.2 -5.6
MGR Morigerati 7.73 311 P P 07 11 46.2 -0.9
CSLB Castelbuono 7.79 292 P P 07 11 47.7 -0.4
SLCN Sala Consilina 7.83 312 P P 07 11 48.7 +0.2
GIB Gibilmanna 7.83 292 P P 07 11 48.1 -0.5
CDT Castel del Mon 7.92 319 ePn P 07 11 48.2 -1.5
FAVR Favara 7.94 287 P P 07 11 49.7 -0.3
IVA Berane 7.96 342 ⇓iPn P 07 11 49.5 -0.8
IVA eSn S 07 13 13.5 -6.0
ERMK Ermenek 7.98 78 *i* P P 07 11 48.8 -1.9
HCY Herceg Novi 8.00 334 ⇓iPn P 07 11 48.5 -2.3
HCY eSn S 07 13 14.0 -6.4
SGO Sicignano 8.13 312 P P 07 11 51.5 -1.1
MRLC Muro Lucano 8.14 314 P P 07 11 51.8 -1.0
NKY Niksic 8.15 338 ⇓iPn P 07 11 52.0 -1.0
NKY eSn S 07 13 18.3 -6.1
CSS Prodhromos 8.31 90 ePn P 07 11 50.5 -4.6
42nm,0.6s
CSS eSn S 07 13 16.9 -11
CSS Prodhromos 8.31 90 ePn P 07 11 50.5 -4.6
42nm,0.6s
CLTB Caltabellotta 8.35 289 P P 07 11 55.8 +0.2
FG4 Candela 8.37 316 P P 07 11 54.8 -1.1
BRY Bratogost 8.38 336 ⇓iPn P 07 11 54.6 -1.4
BRY eSn S 07 13 23.6 -6.3
HMYD Mayadein 8.46 129 ⇑P P 07 11 52.9 -4.2

AWBH 8.51 144 ⇓P P 07 11 53.0 -4.7
PLE Pljevlja 8.51 341 ⇑iPn P 07 11 56.6 -1.2
PLE eSn S 07 13 26.7 -6.5
FGMS Monte Sant'Ang 8.53 320 P P 07 11 56.4 -1.7
MS1 Monte Sant'Ang 8.53 320 ePn P 07 11 56.4 -1.7
UPM Unac-Piva 8.54 338 ⇓iPn P 07 11 57.7 -0.5
UPM eSn S 07 13 28.1 -5.6
IKL Isikli 8.57 81 ePN P 07 11 55.8 -2.8
STON Ston 8.66 332 *i* Pn P 07 11 56.9 -2.9
STON *i* Sn S 07 13 24.9 -12
SQR 8.66 127 ⇓P P 07 11 55.3 -4.6
FYM Al Fayyum 8.69 128 ⇑eP P 07 11 55.6 -4.5
USI Ustica 8.69 296 P P 07 11 58.1 -2.2
RGNG Rignano Grg 8.70 319 P P 07 11 58.7 -1.7
SGKT Sivrigoynuk 8.74 51 *i* P P 07 12 01.5 +0.6
AYT Al 'Ayyat 8.75 128 ⇑P P 07 11 56.8 -4.3
BBLS Bajina Basta - 9.01 342 ⇑iPn P 07 12 02.6 -2.0
FG2 Serracapriola 9.02 318 P P 07 12 03.5 -1.2
KOT Kottamia 9.05 124 ⇓eP P 07 12 00.0 -5.1
HSAF As Saff 9.07 127 ⇓P P 07 12 00.4 -4.9
DIVS Divcibare 9.10 345 ⇑iPn P 07 12 03.3 -2.5
GLL Jalalah 9.20 126 ⇑P P 07 12 02.2 -4.9
HHAG Hagoal 9.22 123 ⇑P P 07 12 02.5 -5.0
HFRF Wahat Farafira 9.25 150 ⇓P P 07 12 03.0 -5.0
KAMT Kaman 9.29 61 ePN P 07 12 08.2 -0.3
MERS Mersin 9.29 77 ePN P 07 12 05.3 -3.2
RFI Roccamonfina 9.38 312 P P 07 12 08.8 -0.8
BR131 Keskin Array S 9.38 59 ePn P 07 12 10.7 +1.1
7.7nm,0.7s
BRTR Keskin Array B 9.38 59 P P 07 12 10.2 +0.6
1.1nm,0.3s,baz=229,slow=13,SNR=35
BRTR S S 07 13 51.6 -2.7
0.7nm,0.3s,baz=325,slow=9.4,SNR=5.6
BRTR Keskin Array B 9.38 59 P P 07 12 10.2 +0.6
BRTR S S 07 13 51.6 -2.7
MIDA Miranda 9.42 315 P P 07 12 10.7 +0.5
RNI2 Rionero Sannit 9.52 315 P P 07 12 12.5 +1.0
KARA Karaisali 9.76 75 eP P 07 12 13.4 -1.5
SUZ 9.80 121 ⇑P P 07 12 10.4 -4.9
CDAG Cicekdag 9.86 61 *i* P P 07 12 15.0 -1.1
INTR Introdacqua 9.86 315 P P 07 12 16.2 +0.1
VVLD Villa Vallelon 9.94 314 P P 07 12 16.2 -1.0
ZAF 9.95 125 ⇑P P 07 12 12.4 -4.9
GUAR Guarcino 10.07 313 P P 07 12 16.2 -0.8
ZNM 10.11 123 ⇑P P 07 12 15.2 -4.3
OFRI 'Ofer 10.15 102 S S 07 14 01.4 -12
HNTI Hanita 10.17 99 S S 07 14 00.4 -13
MLR Muntele Rosu 10.36 11 P P 07 12 22.7 -0.2
0.6nm,0.3s,baz=186,slow=14,SNR=5.5
AQU L'Aquila 10.37 316 eP P 07 12 23.8 +0.8
AQU pmax pmax
comp=Z,68nm,0.6s
AQU L'Aquila 10.37 316 ePn P 07 12 23.8 +0.8
comp=Z,68nm,0.6s
AQU L'Aquila 10.37 316 ePn P 07 12 23.8 +0.8
comp=Z,68nm,0.6s
MMA0 Mount Meron ar 10.37 99 S S 07 14 06.8 -12
MMA1 Mount Meron ar 10.37 99 S S 07 14 07.2 -11
HWQ Hawqa 10.54 92 ePn P 07 12 20.2 -5.1
MMLI Mount Malkishu 10.56 102 S S 07 14 10.2 -13
HNKL Nakhl 10.56 118 ⇓P P 07 12 20.5 -5.2
ASUT 10.66 136 ⇑P P 07 12 21.2 -5.7
ASUT 10.66 136 P P 07 12 21.2 -5.7
COBT Iskenderun 10.66 80 *i* P P 07 12 23.4 -3.5
MZDA Masada 10.94 108 S S 07 14 19.2 -13
ZFRI Zfri 11.13 112 S S 07 14 22.5 -14
HRFI Mount Harif 11.28 115 S S 07 14 26.1 -14
MBH Mount Berech 11.32 116 S S 07 14 26.4 -15
HKAT Jabal Katrina 11.40 124 ⇑P P 07 12 32.1 -4.9
PKSM Moragy 11.40 344 ⇑iP P 07 12 34.3 -2.6
PKSM eS S 07 14 31.3 -12
EIL Elat 11.41 116 S S 07 14 28.1 -14
RHK1 Bakonya 11.43 342 eP P 07 12 33.3 -4.0
RHK1 eS S 07 14 30.4 -13
BOJS Bojanci 11.82 332 *i* Pn P 07 12 40.5 -2.0
SHRM 11.90 126 ⇓P P 07 12 38.8 -4.8
HHRG Al Ghardaqah 11.99 130 ⇑P P 07 12 39.8 -5.0
KNDS Knezji Dol 12.19 329 ePn P 07 12 45.3 -2.2
CEY Cerknica 12.35 330 P P 07 12 47.5 -2.0
LJU Ljubljana 12.55 331 P P 07 12 50.2 -2.0
MALT Malatya 12.56 72 eP P 07 12 52.2 -0.2
MALT pmax pmax
comp=Z,4.0nm,0.6s
MALT Malatya 12.56 72 eP P 07 12 52.2 -0.2
comp=Z,4.0nm,0.6s
JAVS Javornik 12.62 330 ePn P 07 12 50.9 -2.2
HSFG 12.68 131 ⇑P P 07 12 49.1 -4.9
VOY Vojsko 12.80 329 ePn P 07 12 53.3 -2.2
VOY *e* 07 15 04.6
VOY *e* 07 15 09.2
PERS Pernice 12.83 334 ePn P 07 12 53.7 -2.2
OBKA Obir 12.93 332 ⇓*i*Pn P 07 12 55.0 -2.2
SNR=6.8
OBKA Obir 12.93 332 ⇑*i*Sn S 07 15 11.6 -8.0
PGF Pioggiola 13.19 307 eP P 07 12 59.6 -0.9
comp=Z,29nm,0.6s
PGF Pioggiola 13.19 307 eP P 07 12 59.6 -0.9
PGF pmax pmax
comp=Z,14nm,0.6s
ARSA Arzberg 13.22 337 ⇑*i*Pn P 07 12 59.2 -1.8
ARSA Arzberg 13.22 337 ⇑*i*Sn S 07 15 17.7 -8.8
ARSA Arzberg 13.22 337 ⇑Pn P 07 12 59.2 -1.9
ARSA Sn S 07 15 17.7 -8.8
KECS Kecovo 13.30 352 *e* P 07 13 11.8 +10
VYHS Vyhne 13.55 348 eSN S 07 15 29.5 -4.6
HQSR 13.55 132 ⇑P P 07 13 01.2 -4.2
KOLS Kolonicke sedl 13.61 357 *e* P 07 13 10.1 +4.1
CRVS Cervenica-Dubn 13.62 355 *e* P 07 13 14.4 +8.3
KBA Koelnbreinsper 13.87 331 ⇓*i*Pn P 07 13 09.5 +0.1
KBA Koelnbreinsper 13.87 331 ⇓*i*Sn S 07 15 35.3 -6.4
KBA Koelnbreinsper 13.87 331 ⇓Pn P 07 13 09.5 +0.1
KBA Sn S 07 15 35.3 -6.4
STHS Stebnicka Huta 14.15 355 *e* P 07 13 21.0 +8.0
MOA Molln 14.17 335 ⇑iPn P 07 13 12.6 -0.6
MOA Sn S 07 15 41.4 -7.4
NIE Niedzica 14.24 352 eP P 07 13 21.4 +7.3
KWP Kalwaria 14.30 359 eP P 07 13 17.6 +2.7
WTTA Wattenberg 14.73 328 ⇓*i*Sn S 07 15 56.7 -5.5
WTTA Wattenberg 14.73 328 ⇑*i*P P 07 13 21.5 +1.0
WTTA 07 15 56.7
WTTA Wattenberg 14.73 328 ⇑*i*Pn P 07 13 21.5 +1.0
WTTA Sn S 07 15 56.6 -5.5
VRAC Vranov 14.79 343 P P 07 13 21.6 +0.4
comp=Z,0.5nm,0.3s,baz=143,slow=15,SNR=2.6
SAOF Saorge 14.81 310 eP P 07 13 20.3 -1.3
WATA Walderalm 14.81 328 ⇓*i*Sn S 07 15 58.3 -5.7
WATA Walderalm 14.81 328 ⇑*i*Pn P 07 13 21.9 +0.4
WATA Sn S 07 15 58.3 -5.7
WATA Walderalm 14.81 328 *i* P P 07 13 22.0 +0.4
SBF Sospel 14.82 310 eP P 07 13 21.7 0.0
comp=Z,56nm,0.7s
SBF Sospel 14.82 310 eP P 07 13 21.7 0.0
SBF pmax pmax
comp=Z,28nm,0.7s
SQTA Sankt Quirin 14.89 327 ⇑*i*Sn S 07 16 01.9 -3.9
SQTA Sankt Quirin 14.89 327 ⇓*i*Pn P 07 13 23.8 +1.3
SQTA Sn S 07 16 01.9 -3.9
SQTA Sankt Quirin 14.89 327 *i* P P 07 13 23.8 +1.2
AUTN L'Aution 14.89 310 eP P 07 13 23.6 +0.9
OKC Ostrava-Krasne 14.96 347 eP P 07 13 29.4 +5.9
MOTA Moosalm 15.03 327 ⇓*i*Sn S 07 16 04.9 -4.1
MOTA Moosalm 15.03 327 ⇑*i*P P 07 13 25.1 +0.7
MOTA 07 16 04.9
MOTA Moosalm 15.03 327 ⇑*i*Pn P 07 13 25.1 +0.8
MOTA Sn S 07 16 04.9 -4.1
TREC Trest 15.06 340 eP P 07 13 30.8 +6.0
OJC Ojcow 15.09 352 eP P 07 13 30.5 +5.4
LMR La Mourre 15.17 307 eP P 07 13 25.4 -0.8
SOC Sochi 15.17 52 eP P 07 13 24.5 -1.7
SOC *e* 07 16 17.0
SOC pmax pmax
comp=Z,29nm,0.9s
SOC Sochi 15.17 52 eP P 07 13 24.5 -1.7
comp=Z,29nm,0.9s
FRF La Foret Royal 15.18 308 eP P 07 13 24.9 -1.4
comp=Z,17nm,0.8s
FRF La Foret Royal 15.18 308 eP P 07 13 24.9 -1.4
FRF pmax pmax
comp=Z,9.0nm,0.8s
DAVOX Davos 15.20 323 P P 07 13 28.6 +2.1
comp=Z,1.6nm,0.3s,baz=143,slow=14,SNR=20

DAVOX S S 07 16 09.2 -3.8
comp=Z,1.4nm,0.3s,baz=330,slow=19,SNR=6.4
GEC2 GERESS Array S 15.22 335 eP P 07 13 27.6 +0.9
GERES GERESS Array B 15.22 335 P P 07 13 27.5 +0.8
comp=Z,2.0nm,0.3s,baz=159,slow=12,SNR=50
GERES S S 07 16 08.3 -5.1
comp=Z,1.1nm,0.3s,baz=152,slow=23,SNR=7.7
TUE Stuetta 15.26 321 P P 07 13 28.2 +0.9
KHC Kasperske Hory 15.50 336 eP P 07 13 30.0 -0.4
KHC x x 07 13 36.0
KHC x x 07 13 45.0
KHC Kasperske Hory 15.50 336 eP P 07 13 30.0 -0.4
KHC *e* 07 13 36.0
KHC *e* 07 13 45.0
DAVA Damuels 15.56 324 ⇑*i*Pn P 07 13 33.7 +2.7
DAVA Damuels 15.56 324 ⇓*i*Sn S 07 16 15.5 -5.6
DAVA Damuels 15.56 324 ⇑Pn P 07 13 33.7 +2.7
DAVA Sn S 07 16 15.5 -5.6
FUR Furstenfeldbru 15.58 329 eP P 07 13 31.1 -0.3
MBDF Montbardon 15.67 312 eP P 07 13 32.7 +0.2
comp=Z,33nm,0.8s
MBDF Montbardon 15.67 312 eP P 07 13 32.7 +0.2
MBDF pmax pmax
comp=Z,16nm,0.8s
WET Wettzell 15.76 334 eP P 07 13 33.4 -0.2
WET eS S 07 16 39.4 +14
DPC Dobruska-Polom 15.82 344 eP P 07 13 38.6 +4.2
BNI Bardonecchia 15.90 313 eP P 07 13 38.4 +3.0
BNI pmax pmax
comp=Z,14nm,1.0s
BNI Bardonecchia 15.90 313 eP P 07 13 38.4 +3.0
comp=Z,14nm,1.0s
BNI Bardonecchia 15.90 313 eP P 07 13 38.3 +2.9
comp=Z,14nm,1.0s
PRU Pruhonice 15.96 339 eP P 07 13 40.8 +4.7
AKASG Malin Array Be 15.97 14 P P 07 13 34.5 -1.8
comp=Z,9.3nm,0.3s,baz=209,slow=10,SNR=22
AKASG S S 07 16 36.9 +6.3
baz=201,slow=23,SNR=6.3
AKASG Malin Array Be 15.97 14 P P 07 13 34.5 -1.8
AKASG S S 07 16 36.9 +6.3
UPC Upice 16.04 343 eP P 07 13 41.6 +4.4
SMRF Simiane la Rot 16.06 308 eP P 07 13 37.6 +0.1
comp=Z,38nm,1.1s
LPG La Plagne 16.10 314 eP P 07 13 40.8 +2.9
comp=Z,17nm,0.7s
LPG La Plagne 16.10 314 eP P 07 13 40.8 +2.9
LPG pmax pmax
comp=Z,9.0nm,0.7s
LPL La Plagne 16.12 314 eP P 07 13 40.7 +2.6
comp=Z,9.8nm,0.5s
LPL La Plagne 16.12 314 eP P 07 13 40.7 +2.6
LPL pmax pmax
comp=Z,5.0nm,0.5s
KSP Ksiaz 16.29 344 eP P 07 13 43.4 +3.1
ORIF Oris-en-Rattie 16.32 311 eP P 07 13 42.1 +1.5
comp=Z,52nm,1.1s
ORIF eR
comp=Z,56nm,17.8s
PVCC Panska Ves 16.43 340 eP P 07 13 42.5 +0.5
GRA1 Grafenberg Arr 16.82 332 eP P 07 13 48.5 +1.7
comp=Z,27nm,1.5s
GRF Grafenberg Arr 16.82 332 eP P 07 13 48.5 +1.7
GRF pmax pmax
comp=Z,27nm,1.5s
BRG Berggiesshubel 16.92 340 eP P 07 13 51.3 +3.2
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 16.92 340 eP P 07 13 51.3 +3.2
comp=Z,3.7nm,1.1s
BRG *e* 07 14 05.0
BRG *e* 07 14 15.0
BRG Berggiesshubel 16.92 340 eP P 07 13 51.3 +3.2
STU Stuttgart 16.95 327 eP P 07 13 47.7 -0.7
STU pmax pmax
comp=Z,30nm,0.8s
STU Stuttgart 16.95 327 eP P 07 13 47.7 -0.8
comp=Z,30nm,0.8s
STU Stuttgart 16.95 327 eP P 07 13 47.7 -0.7
comp=Z,30nm,0.8s
BFO Black Forest 17.03 324 eP P 07 13 47.3 -2.2
BFO pmax pmax
comp=Z,10.0nm,0.9s
BFO Black Forest 17.03 324 eP P 07 13 47.3 -2.2
comp=Z,10.0nm,0.9s
VIVF Saint-Julien-l 17.04 310 eP P 07 13 50.2 +0.6
comp=Z,16nm,0.8s
VIVF Saint-Julien-l 17.04 310 eP P 07 13 50.2 +0.6
VIVF pmax pmax
comp=Z,8.0nm,0.8s
CABF La Chapelle 17.11 316 eP P 07 13 50.2 -0.3
comp=Z,14nm,0.6s
CABF La Chapelle 17.11 316 eP P 07 13 50.2 -0.3
CABF pmax pmax
comp=Z,7.0nm,0.6s
LOMF Lomont 17.14 319 eP P 07 13 51.6 +0.7
LASF Ste Croix 17.23 306 eP P 07 13 52.4 +0.4
comp=Z,30nm,0.9s
KIV Kislovodsk 17.28 54 eP P 07 13 53.2 +0.6
KIV pmax pmax
comp=Z,38nm,0.9s
KIV Kislovodsk 17.28 54 eP P 07 13 53.2 +0.5
comp=Z,38nm,0.9s
KIV Kislovodsk 17.28 54 eP P 07 13 53.2 +0.6
comp=Z,38nm,0.9s
MOF Molkenrain 17.30 321 eP P 07 13 54.5 +1.6
HINF Hinteralfeld 17.43 321 eP P 07 13 55.6 +1.1
comp=Z,23nm,0.7s
HINF Hinteralfeld 17.43 321 eP P 07 13 55.6 +1.1
HINF pmax pmax
comp=Z,12nm,0.7s
ECH Echery 17.53 322 eP P 07 13 57.7 +1.9
WLS Welschbruch 17.56 323 eP P 07 13 57.5 +1.3
CLL Collm 17.58 338 P P 07 13 58.5 +2.1
comp=Z,logA/T=1.0
CLL Collm 17.58 338 *i* P P 07 13 58.5 +2.1
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 17.58 338 *i* P P 07 13 58.5 +2.1
comp=Z,8.0nm,0.8s
CDF Champ du Feu 17.60 323 eP P 07 13 58.2 +1.5
comp=Z,25nm,0.5s
CDF Champ du Feu 17.60 323 eP P 07 13 58.2 +1.5
CDF pmax pmax
comp=Z,13nm,0.5s
GNI Garni 17.70 68 P P 07 13 56.7 -1.2
comp=Z,0.7nm,0.3s,baz=33,slow=4.2,SNR=4.6
GNI Garni 17.70 68 P P 07 13 56.7 -1.2
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 17.70 68 eP P 07 13 58.4 +0.5
comp=Z,7.3nm,0.6s
LANF Langenberg 17.74 325 eP P 07 14 02.2 +3.9
HAU Haudompre 17.81 320 eP P 07 14 00.1 +0.9
comp=Z,36nm,0.7s
HAU eR
comp=Z,76nm,18.5s
GOF Gofitskoye 17.96 51 eP P 07 13 59.0 -2.1
GOF pmax pmax
comp=Z,26nm,1.0s
GOF Gofitskoye 17.96 51 eP P 07 13 59.0 -2.1
comp=Z,26nm,1.0s
MTLF Montolieu 18.06 303 eP P 07 14 03.1 +0.8
comp=Z,17nm,0.9s
MTLF Montolieu 18.06 303 eP P 07 14 03.1 +0.8
MTLF pmax pmax
comp=Z,9.0nm,0.9s
THEF They Montfort 18.14 321 eP P 07 14 05.3 +2.2
SMF Signal de Mont 18.42 314 eP P 07 14 06.8 +0.3
RUP Ruppelstein 18.59 326 eP P 07 14 09.8 +1.4
SUW Suwalki 18.68 360 eP P 07 14 08.2 -1.2
SUW *e* 07 14 11.3
SUW Suwalki 18.68 360 eP P 07 14 07.8 -1.6
comp=Z,62nm,0.3s
SUW *e* 07 14 11.3
LOR Lormes 18.74 315 eP P 07 14 08.5 -1.6
comp=Z,13nm,0.8s
LOR Lormes 18.74 315 eP P 07 14 08.5 -1.6
LOR pmax pmax
comp=Z,7.0nm,0.8s
CAF Calviac 18.74 307 eP P 07 14 10.5 +0.3
comp=Z,8.2nm,0.7s
CAF Calviac 18.74 307 eP P 07 14 10.5 +0.3
CAF pmax pmax
comp=Z,4.0nm,0.7s

AVF	**Avril sur Loir**	**18.79**	**314**	*e*P		**P**	**07 14 10.4**	**-0.2**
	comp=Z,12nm,0.8s								
AVF	**Avril sur Loir**	**18.79**	**314**	*e*P		**P**	**07 14 10.4**	**-0.2**
AVF					pmax	pmax			
	comp=Z,6.0nm,0.8s								
MEZF	**Maizieres J'vi**	**18.79**	**320**	*e*P		**P**	**07 14 12.4**	**+1.7**
	comp=Z,45nm,0.8s								
SSF	**Saint Saulge**	**18.84**	**314**	*e*P		**P**	**07 14 11.8**	**+0.6**
SSF					pmax	pmax			
	comp=Z,9.0nm,1.0s								
SSF	**Saint Saulge**	**18.84**	**314**	*e*P		**P**	**07 14 11.8**	**+0.6**
	comp=Z,8.8nm,1.0s								
BGF	**Bois d'Agland**	**18.97**	**312**	*e*P		**P**	**07 14 12.6**	**-0.1**
	comp=Z,12nm,0.6s								
BGF	**Bois d'Agland**	**18.97**	**312**	*e*P		**P**	**07 14 12.6**	**-0.1**
BGF					pmax	pmax			
	comp=Z,6.0nm,0.6s								
WLF	**Walferdange**	**18.99**	**324**	*e*P		**P**	**07 14 16.8**	**+3.9**
WLF					pmax	pmax			
	comp=Z,49nm,1.0s								
WLF	**Walferdange**	**18.99**	**324**	*e*P		**P**	**07 14 16.8**	**+3.8**
	comp=Z,49nm,1.0s								
TCF	**Toulx Ste Croi**	**19.23**	**311**	*e*P		**P**	**07 14 15.5**	**-0.1**
	comp=Z,7.3nm,0.7s								
TCF	**Toulx Ste Croi**	**19.23**	**311**	*e*P		**P**	**07 14 15.5**	**-0.1**
TCF					pmax	pmax			
	comp=Z,4.0nm,0.7s								
RJF	**Les Rejaudoux**	**19.25**	**308**	*e*P		**P**	**07 14 16.2**	**+0.4**
	comp=Z,10nm,0.6s								
RJF	**Les Rejaudoux**	**19.25**	**308**	*e*P		**P**	**07 14 16.2**	**+0.4**
RJF					pmax	pmax			
	comp=Z,5.0nm,0.6s								
EPF	**Esparros**	**19.28**	**300**	*e*P		**P**	**07 14 15.6**	**-0.5**
EBIE	**Bielsa**	**19.33**	**299**	P		**P**	**07 14 17.5**	**+0.9**
	comp=Z,24nm,0.9s								
EBIE	**Bielsa**	**19.33**	**299**	P		**P**	**07 14 17.5**	**+0.9**
	comp=Z,24nm,0.9s,SNR=7.9								
LFF	**La Frestale**	**19.62**	**306**	*e*P		**P**	**07 14 20.7**	**+1.0**
	comp=Z,22nm,0.6s								
LFF	**La Frestale**	**19.62**	**306**	*e*P		**P**	**07 14 20.7**	**+1.0**
LFF					pmax	pmax			
	comp=Z,11nm,0.6s								
VRSR	**Storozhevoye**	**19.62**	**31***d*	*i*P		**P**	**07 14 18.2**	**-1.5**
VRSR					pmax	pmax			
	comp=Z,4.0nm,0.6s								
VRSR					pmax	pmax			
	comp=N,6.0nm,0.9s								
VRSR					pmax	pmax			
	comp=E,7.0nm,0.8s								
VRSR	**Storozhevoye**	**19.62**	**31**	*i*P		**P**	**07 14 18.2**	**-1.5**
	comp=E,6.0nm,0.9s								
ETSF	**Etsaut**	**19.88**	**299**	*e*P		**P**	**07 14 22.4**	**-0.1**
	comp=E,50nm,1.2s								
ETSF	**Etsaut**	**19.88**	**299**	*e*P		**P**	**07 14 22.4**	**-0.1**
ETSF					pmax	pmax			
	comp=Z,25nm,1.2s								
GIVF	**Givet**	**19.93**	**323**	*e*P		**P**	**07 14 23.8**	**+0.9**
	comp=Z,17nm,0.7s								
GIVF	**Givet**	**19.93**	**323**	*e*P		**P**	**07 14 23.8**	**+0.9**
GIVF					pmax	pmax			
	comp=Z,8.0nm,0.7s								
BAIF	**Baives**	**20.20**	**323**	*e*P		**P**	**07 14 26.2**	**+0.4**
	comp=Z,13nm,0.7s								
BAIF	**Baives**	**20.20**	**323**	*e*P		**P**	**07 14 26.2**	**+0.4**
BAIF					pmax	pmax			
	comp=Z,7.0nm,0.7s								
MAK	**Makhachkala**	**20.29**	**61**	*e*P		**P**	**07 14 27.8**	**+1.0**
SJPF	**Ste Jean**	**20.41**	**300**	*e*P		**P**	**07 14 28.8**	**+0.8**
	comp=Z,22nm,0.8s								
SJPF	**Ste Jean**	**20.41**	**300**	*e*P		**P**	**07 14 28.8**	**+0.8**
SJPF					pmax	pmax			
	comp=Z,11nm,0.8s								
IPRE	**Itoiz**	**20.43**	**299**	P		**P**	**07 14 29.4**	**+1.2**
	comp=Z,9.9nm,0.8s,SNR=7.9								
IUNC	**Unciti**	**20.52**	**299**	P		**P**	**07 14 30.6**	**+1.5**
	comp=Z,6.7nm,0.7s,SNR=7.9								
IUSE	**Utxeti**	**20.60**	**299**	P		**P**	**07 14 31.8**	**+1.9**
	comp=Z,8.4nm,0.8s,SNR=7.9								
VRHR	**Novokhopersk**	**20.61**	**34**	*e*P		**P**	**07 14 28.8**	**-1.2**
VRHR					pmax	pmax			
	comp=Z,40nm,0.4s								
VRHR					pmax	pmax			
	comp=N,30nm,0.5s								
VRHR					pmax	pmax			
	comp=E,50nm,1.0s								
MFF	**Saint Martin d**	**20.84**	**310**	*e*P		**P**	**07 14 31.8**	**-0.6**
	comp=E,22nm,0.6s								
MFF	**Saint Martin d**	**20.84**	**310**	*e*P		**P**	**07 14 31.8**	**-0.6**
MFF					pmax	pmax			
	comp=Z,11nm,0.6s								
EQES	**Quesada**	**21.22**	**284**	P		**P**	**07 14 36.8**	**+0.5**
	comp=Z,12nm,0.9s,mb4.2								
EQES	**Quesada**	**21.22**	**284**	P		**P**	**07 14 36.8**	**+0.5**
	comp=Z,12nm,0.9s,mb4.2,SNR=7.9								
ECOG	**Cogollos-Vega**	**21.64**	**283**	P		**P**	**07 14 42.6**	**+2.2**
ECOG					pmax	pmax			
	comp=Z,10.0nm,0.5s,mb4.4								
ECOG	**Cogollos-Vega**	**21.64**	**283**	P		**P**	**07 14 42.6**	**+2.2**
	comp=Z,9.5nm,0.5s,mb4.4								
ECOG	**Cogollos-Vega**	**21.64**	**283**	P		**P**	**07 14 42.6**	**+2.2**
	comp=Z,9.5nm,0.5s,mb4.4,SNR=7.9								
LDF	**La Druitiere**	**21.72**	**315**	*e*P		**P**	**07 14 41.2**	**+0.1**
	comp=Z,31nm,0.8s,mb4.4								
LDF	**La Druitiere**	**21.72**	**315**	*e*P		**P**	**07 14 41.2**	**+0.1**
LDF					pmax	pmax			
	comp=Z,16nm,0.8s,mb4.4								
OBN	**Obninsk**	**21.84**	**21**⇓	*e*P		**P**	**07 14 42.0**	**-0.3**
OBN				*e*S		**S**	**07 18 37.0**	**+3.4**
OBN					pmax	pmax			
	comp=Z,71nm,0.6s,mb5.2								
OBN	**Obninsk**	**21.84**	**21**	*e*P		**P**	**07 14 43.2**	**+0.9**
	comp=Z,44nm,0.4s,mb5.1								
OBN	**Obninsk**	**21.84**	**21**	*e*P		**P**	**07 14 43.2**	**+0.9**
	comp=Z,44nm,0.4s,mb5.1								
OBN				*e*S		**S**	**07 18 37.0**	**+3.4**
ESDC	**Sonseca Array**	**21.95**	**289**	P		**P**	**07 14 43.2**	**-0.2**
	comp=Z,5.0nm,0.8s,mb3.9,baz=82,slow=9.5,SNR=18								
ESDC	**Sonseca Array**	**21.95**	**289**	P		**P**	**07 14 45.9**	**+2.5**
	comp=Z,7.4nm,0.8s,mb4.1								
ESDC	**Sonseca Array**	**21.95**	**289**	P		**P**	**07 14 45.9**	**+2.5**
	comp=Z,7.4nm,0.8s,mb4.1,SNR=7.9								
ELAN	**Lanestosa**	**22.01**	**299**	P		**P**	**07 14 47.6**	**+3.5**
	comp=Z,39nm,1.0s,mb4.7								
FLN	**La Foliniere**	**22.01**	**315**	*e*P		**P**	**07 14 45.3**	**+1.3**
	comp=Z,78nm,0.9s,mb4.7								
FLN				*e*R					
	comp=Z,67nm,20.8s								
FLN	**La Foliniere**	**22.01**	**315**	*e*P		**P**	**07 14 45.3**	**+1.3**
FLN					pmax	pmax			
	comp=Z,39nm,0.9s,mb4.7								
FLN					MLR	MLR			
	comp=Z,70nm,20.8s								
GRR	**Gorron**	**22.05**	**314**	*e*P		**P**	**07 14 45.0**	**+0.6**
	comp=Z,52nm,1.0s,mb4.5								
GRR	**Gorron**	**22.05**	**314**	*e*P		**P**	**07 14 45.0**	**+0.6**
GRR					pmax	pmax			
	comp=Z,26nm,1.0s,mb4.5								
GUD	**Guadarrama**	**22.16**	**292**	P		**P**	**07 14 46.6**	**+1.1**
GUD					pmax	pmax			
	comp=Z,12nm,0.8s,mb4.3								
GUD	**Guadarrama**	**22.16**	**292**	P		**P**	**07 14 46.6**	**+1.1**
	comp=Z,12nm,0.8s,mb4.3								
GUD	**Guadarrama**	**22.16**	**292**	P		**P**	**07 14 46.6**	**+1.1**
	comp=Z,12nm,0.8s,mb4.3,SNR=7.9								
MOS	**Moscow**	**22.69**	**21**	*e*P		**P**	**07 14 50.6**	**+0.1**
MOS					pmax	pmax			
	comp=Z,158nm,1.3s,mb5.2								
MOS	**Moscow**	**22.69**	**21**	*e*P		**P**	**07 14 50.6**	**+0.1**
	comp=Z,158nm,1.3s,mb5.2								
SGMF	**Saint Gilles**	**23.01**	**312**	*e*P		**P**	**07 14 55.1**	**+1.4**
	comp=Z,24nm,0.6s,mb4.4								
SGMF	**Saint Gilles**	**23.01**	**312**	*e*P		**P**	**07 14 55.1**	**+1.4**
SGMF					pmax	pmax			
	comp=Z,12nm,0.6s,mb4.4								
MDT	**Midelt**	**23.15**	**272**	LR		LR	07 25 43.9		
	comp=Z,38nm,20.4s,baz=281,slow=41								
QUIF	**Quistinic**	**23.25**	**311**	*e*P		**P**	**07 14 57.5**	**+1.5**
VSU	**Vasula**	**23.26**	**5**	P		**P**	**07 14 56.1**	**+0.1**
VSU	**Vasula**	**23.26**	**5**	*i*P		**P**	**07 14 56.2**	**+0.2**
ROSF	**Rostrenen**	**23.48**	**312**	*e*P		**P**	**07 14 59.1**	**+0.9**
	comp=Z,50nm,1.0s,mb4.5								
ROSF	**Rostrenen**	**23.48**	**312**	*e*P		**P**	**07 14 59.1**	**+0.9**
ROSF					pmax	pmax			
	comp=Z,25nm,1.0s,mb4.5								
EBAD	**Badajoz**	**24.30**	**287**	P		**P**	**07 15 06.0**	**-0.3**
	comp=Z,11nm,0.9s,mb4.2								
EBAD	**Badajoz**	**24.30**	**287**	P		**P**	**07 15 06.0**	**-0.3**
	comp=Z,11nm,0.9s,mb4.2,SNR=7.9								
PUL	**Pulkovo**	**24.89**	**9**	*i*P		**P**	**07 15 11.8**	**0.0**
EVO	**Evora**	**25.09**	**287**	*e*P		**P**	**07 15 14.1**	**+0.2**
	comp=Z,38nm,1.2s,mb4.4								
EVO				*e*R					
	comp=Z,62nm,22.2s								
HFS	**Hagfors**	**25.57**	**349**	P		**P**	**07 15 18.3**	**+0.1**
	comp=Z,14nm,0.5s,mb4.6,baz=157,slow=11,SNR=44								
HFA0	**Hagfors New Ar**	**25.59**	**349**	P		**P**	**07 15 17.9**	**-0.4**
FINES	**FINESS Array B**	**26.20**	**3**	P		**P**	**07 15 23.6**	**-0.4**
	comp=Z,3.7nm,0.4s,mb4.2,baz=159,slow=11,SNR=57								
FINES					PcP	PcP	07 18 48.8	-0.7	
	comp=Z,1.7nm,0.5s,baz=225,slow=5.4,SNR=4.9								
FINES					LR	LR	07 26 24.4		
	comp=Z,38nm,19.1s,baz=139,slow=38								
FINES	**FINESS Array B**	**26.20**	**3**	PcP		PcP	07 18 48.8	-0.7	
NAO01	**NORSAR Array S**	**26.73**	**347**	*e*P		**P**	**07 15 28.9**	**0.0**
	comp=Z,6.3nm,0.5s,mb4.4								
NAO01	**NORSAR Array S**	**26.73**	**347**	*e*P		**P**	**07 15 28.9**	**0.0**
	comp=Z,6.3nm,0.5s,mb4.4								
NB2	**NORSAR Subarra**	**26.85**	**347**	P		**P**	**07 15 29.9**	**-0.1**
	comp=Z,4.2nm,0.6s,mb4.2,baz=156,slow=9.3								
NB2	**NORSAR Subarra**	**26.85**	**347**	P		**P**	**07 15 29.9**	**-0.1**
NB2					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.1								
NOA	**NORSAR Array B**	**26.85**	**347**	P		**P**	**07 15 30.3**	**+0.4**
	comp=Z,4.3nm,0.7s,mb4.1,baz=154,slow=11,SNR=16								
KAF	**Kangasniemi**	**26.88**	**3**	*e*p		**P**	**07 15 29.8**	**-0.4**
	comp=Z,1.9nm,0.4s,mb4.0								
KAF	**Kangasniemi**	**26.88**	**3**	*e*P		**P**	**07 15 29.8**	**-0.4**
KAF					pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.0								
EKA	**Eskdalemuir Ar**	**26.99**	**326**	P		**P**	**07 15 34.1**	**+2.9**
	comp=Z,1.8nm,0.6s,mb3.8,baz=126,slow=10,SNR=5.7								
KLMR	**Klimovskoe**	**27.61**	**17***d*	*i*P		**P**	**07 15 34.1**	**-2.8**
KLMR					pmax	pmax			
	comp=Z,40nm,1.7s,mb4.7								
JOF	**Joensuu**	**28.07**	**8**	*e*p		**P**	**07 15 39.5**	**-1.6**
	comp=Z,1.5nm,0.3s,mb4.0								
AKTK	**Aktyubinsk**	**29.32**	**48**	P		**P**	**07 15 51.4**	**-1.0**
AKTK	**Aktyubinsk**	**29.32**	**48**	P		**P**	**07 15 51.4**	**-0.9**
AKTO	**Aktyubinsk**	**29.32**	**48**	P		**P**	**07 15 51.4**	**-1.0**
	comp=Z,7.3nm,0.7s,mb4.4,baz=246,slow=9.0,SNR=32								
TORD	**Torodi Ar. Bea**	**29.40**	**227**	P		**P**	**07 15 52.8**	**-0.6**
	comp=Z,3.3nm,0.6s,mb4.1,baz=34,slow=8.5,SNR=25								
BANOM	**Banah**	**29.87**	**99**	⇑P		**P**	**07 15 57.1**	**-0.4**
ASHO	**Ashiyiah**	**30.24**	**101**	P		**P**	**07 16 00.3**	**-0.5**
	SNR=8.5								
ARQ	**Aragi**	**31.27**	**103**	P		**P**	**07 16 09.9**	**+0.1**
	SNR=8.4								
ARU	**Arti**	**31.89**	**37**⇓	*i*P		**P**	**07 16 13.2**	**-1.6**
ARU				*e*			07 19 00.7		
ARU				*e*S		**S**	**07 21 18.3**	**-0.4**
ARU				*e*SS		SS	07 23 14.8	-0.2	
ARU				*e*			07 26 36.6		
ARU					pmax	pmax			
	comp=Z,12nm,0.9s,mb4.6								
ARU	**Arti**	**31.89**	**37**⇑	*e*P		**P**	**07 16 13.5**	**-1.3**
ARU	**Arti**	**31.89**	**37**	*e*PcP		PcP	07 19 00.7	-3.1	
ARU				*e*S		**S**	**07 21 18.3**	**-0.4**
WHFO	**Wadi Hawf**	**32.19**	**115**	⇑P		**P**	**07 16 17.5**	**-0.3**
ABTO	**Aybut**	**32.19**	**116**	⇓P		**P**	**07 16 18.0**	**+0.1**
RBK	**Rabkut**	**32.77**	**115**	P		**P**	**07 16 22.9**	**+0.1**
	SNR=7.2								
WBK	**Wadi Bani Khal**	**33.58**	**102**	P		**P**	**07 16 30.8**	**+0.9**
	SNR=6.8								
ARCES	**ARCESS Array B**	**34.28**	**1**	P		**P**	**07 16 34.9**	**-0.6**
	comp=Z,9.2nm,0.5s,mb4.8,baz=181,slow=8.8,SNR=90								
ARCES					PcP	PcP	07 19 10.8	+0.5	
	comp=Z,1.2nm,0.6s,baz=180,slow=2.4,SNR=4.4								
ARCES					LR	LR	07 32 08.1		
	comp=Z,45nm,18.8s,baz=200,slow=39								
ARCES	**ARCESS Array B**	**34.28**	**1**	P		**P**	**07 16 34.9**	**-0.6**
ARCES					PcP	PcP	07 19 10.8	+0.5	
ARCES					LR	LR	07 32 08.1		
ARE0	**ARCESS Array S**	**34.28**	**1**	*e*P		**P**	**07 16 34.5**	**-0.9**
ARE0	**ARCESS Array S**	**34.28**	**1**	*e*P		**P**	**07 16 34.5**	**-0.9**
KEV	**Kevo**	**34.55**	**2**	*e*p		**P**	**07 16 37.5**	**-0.2**
	comp=Z,1.8nm,0.3s,mb4.4								
KEV	**Kevo**	**34.55**	**2**	*e*P		**P**	**07 16 37.5**	**-0.2**
KEV					pmax	pmax			
	comp=Z,2.0nm,0.3s,mb4.4								
KKAR	**Karatay Array**	**37.06**	**63**	*e*P		**P**	**07 16 59.4**	**+0.2**
KKAR					pmax	pmax			
	comp=Z,12nm,0.5s,mb5.1								
BRVK	**Borovoye**	**37.34**	**47**	*e*P		**P**	**07 17 01.6**	**+0.2**
BRVK					pmax	pmax			
	comp=Z,11nm,0.7s,mb4.9								
BRVK	**Borovoye**	**37.34**	**47**	*e*P		**P**	**07 17 01.6**	**+0.2**
	comp=Z,11nm,0.7s,mb4.9								
BRVK	**Borovoye**	**37.34**	**47**	*e*P		**P**	**07 17 01.6**	**+0.2**
	comp=Z,11nm,0.7s,mb4.9								
BVA0	**Borovoye Array**	**37.40**	**47**	*i*P		**P**	**07 17 01.8**	**-0.1**
BVA0					pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9								
BVA0	**Borovoye Array**	**37.40**	**47**	*i*P		**P**	**07 17 01.8**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9								
BVAR	**Borovoye Array**	**37.40**	**47**	P		**P**	**07 17 02.2**	**+0.3**
	comp=Z,8.8nm,0.7s,mb4.8,baz=259,slow=6.0,SNR=52								
VOSK	**Vostochnaya**	**37.71**	**47**	P		**P**	**07 17 04.2**	**-0.3**
VOSK					pmax	pmax			
	comp=Z,12nm,0.8s,mb4.8								
VOSK	**Vostochnaya**	**37.71**	**47**	P		**P**	**07 17 04.2**	**-0.3**
	comp=Z,12nm,0.8s,mb4.8								
DBIC	**Dimbokro**	**38.45**	**229**	P		**P**	**07 17 10.8**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.1,baz=350,slow=7.9,SNR=3.5								
LIC	**Lamto**	**38.90**	**228**	*e*P		**P**	**07 17 10.1**	**-4.7**
	comp=Z,14nm,0.8s,mb4.5								
EKS2	**Erkin-Say**	**39.49**	**64**	P		**P**	**07 17 20.9**	**+1.4**
	SNR=33								
AML	**Almayashu**	**39.50**	**64**	P		**P**	**07 17 20.3**	**+0.9**
	SNR=18								
USP	**Ospenovka**	**39.95**	**63**	P		**P**	**07 17 23.5**	**+0.3**
	SNR=10.0								
AAK	**Ala-Archa**	**40.02**	**64**	P		**P**	**07 17 25.3**	**+1.5**
	SNR=18								
AAK	**Ala-Archa**	**40.02**	**64**	*e*P		**P**	**07 17 24.1**	**+0.3**
AAK					pmax	pmax			
	comp=Z,23nm,0.8s,mb5.1								
AAK	**Ala-Archa**	**40.02**	**64**	*e*P		**P**	**07 17 24.1**	**+0.3**
	comp=Z,23nm,0.8s,mb5.0								
FRU	**Bishkek**	**40.09**	**63**	*e*P		**P**	**07 17 25.8**	**+1.5**
FRU					pmax	pmax			
	comp=Z,60nm,1.7s,mb5.2								
FRU	**Bishkek**	**40.09**	**63**	*e*P		**P**	**07 17 25.8**	**+1.5**
	comp=Z,60nm,1.7s,mb5.2								
UCH	**Uchtor**	**40.09**	**64**	P		**P**	**07 17 26.0**	**+1.7**
	SNR=20								
CHMS	**Chumysh**	**40.16**	**63**	P		**P**	**07 17 25.9**	**+0.9**
	SNR=14								
KBK	**Karagaybulak**	**40.35**	**63**	P		**P**	**07 17 28.1**	**+1.6**
	SNR=7.5								
KZA	**Kyzart**	**40.65**	**64**	P		**P**	**07 17 31.2**	**+2.3**
	SNR=22								
TKM2	**Tokmak 2**	**40.79**	**63**	P		**P**	**07 17 31.1**	**+1.0**
	SNR=17								
TKM2	**Tokmak 2**	**40.79**	**63**	P		**P**	**07 17 30.9**	**+0.8**
TKM2					pmax	pmax			
	comp=Z,11nm,0.8s,mb4.7								
TKM2	**Tokmak 2**	**40.79**	**63**	P		**P**	**07 17 30.9**	**+0.8**
	comp=Z,11nm,0.8s,mb4.7								
ULHL	**Ulahol**	**41.36**	**64**	P		**P**	**07 17 36.6**	**+1.9**
	SNR=24								
KURK	**Kurchatov**	**42.32**	**51**	*e*P		**P**	**07 17 42.1**	**-0.4**
KURK					pmax	pmax			
	comp=Z,19nm,0.6s,mb5.0								
KURK	**Kurchatov**	**42.32**	**51**	*e*P		**P**	**07 17 42.1**	**-0.4**
	comp=Z,19nm,0.6s,mb5.0								
KURK	**Kurchatov**	**42.32**	**51**	*e*P		**P**	**07 17 42.1**	**-0.4**
	comp=Z,19nm,0.6s,mb5.0								
MKAR	**Makanchi Array**	**45.02**	**56**	P		**P**	**07 18 04.6**	**+0.1**
	comp=Z,12nm,0.4s,mb5.0,baz=265,slow=7.6,SNR=220								
MKAR	**Makanchi Array**	**45.02**	**56**	*i*P		**P**	**07 18 04.2**	**-0.2**
MKAR					pmax	pmax			
	comp=Z,4.0nm,0.4s								
MKAR	**Makanchi Array**	**45.02**	**56**	P		**P**	**07 18 04.6**	**+0.1**
MKAR	**Makanchi Array**	**45.02**	**56**	*i*P		**P**	**07 18 04.2**	**-0.2**
	comp=Z,4.0nm,0.4s,mb4.5								
NVS	**Novosibirsk**	**45.10**	**45**	*i*P		**P**	**07 18 04.6**	**-0.4**
NVS					pmax	pmax			
	comp=N,7.0nm,0.6s								
NVS					pmax	pmax			
	comp=Z,39nm,0.6s,mb5.3								
NVS					pmax	pmax			
	comp=E,25nm,0.8s								
ZAL	**Zalesovo**	**46.03**	**46**	P		**P**	**07 18 12.1**	**-0.3**
	comp=E,26nm,0.4s,mb5.3,baz=202,slow=6.6,SNR=58								
WMQ	**Urumqi**	**49.30**	**60**	*e*P		**P**	**07 18 38.5**	**+0.5**
WMQ					AMB	AMB			
	comp=Z,30nm,0.7s,mb5.3								
WMQ					AMB	AMB			
	comp=Z,210nm,5.0s								
KOLN	**Koldanda**	**51.34**	**81**	*e*P		**P**	**07 18 53.3**	**-0.5**
	comp=Z,26nm,0.9s,mb5.3								
GKN	**Gorkha**	**52.08**	**80**	*e*P		**P**	**07 18 58.8**	**-0.5**
	comp=Z,47nm,0.6s,mb5.7								
DMN	**Daman**	**52.62**	**80**	*e*P		**P**	**07 19 03.0**	**-0.4**
	comp=Z,56nm,0.7s,mb5.7								
KKN	**Kakani**	**52.69**	**80**	*e*P		**P**	**07 19 03.4**	**-0.4**
PKI	**Pulchoki**	**52.88**	**80**	*e*P		**P**	**07 19 04.6**	**-0.7**
	comp=Z,36nm,0.8s,mb5.5								
PKI	**Pulchoki**	**52.88**	**80**	*e*P		**P**	**07 19 04.6**	**-0.7**
PKI					pmax	pmax			
	comp=Z,18nm,0.8s,mb5.2								
GUN	**Gumba**	**53.12**	**79**	*e*P		**P**	**07 19 06.7**	**-0.4**
	comp=Z,48nm,0.8s,mb5.6								
JIRN	**Jiri**	**53.47**	**80**	*e*P		**P**	**07 19 09.2**	**-0.5**
	comp=Z,27nm,0.7s,mb5.4								
LSA	**Lhasa**	**56.58**	**75**	P		**P**	**07 19 32.3**	**+0.2**
LSA					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9								
LSA	**Lhasa**	**56.58**	**75**	P		**P**	**07 19 32.3**	**+0.2**
	comp=Z,7.2nm,0.6s,mb4.9								
LSA	**Lhasa**	**56.58**	**75**	P		**P**	**07 19 32.3**	**+0.2**
	comp=Z,7.2nm,0.6s,mb4.9								
ZAK	**Zakamensk**	**57.83**	**48**	*e*P		**P**	**07 19 39.0**	**-1.6**
ZAK					pmax	pmax			
	comp=Z,14nm,1.6s,mb4.7								
ZAK	**Zakamensk**	**57.83**	**48**	*e*P		**P**	**07 19 39.0**	**-1.6**
	comp=Z,14nm,1.6s,mb4.7								
GTA	**Gaotai**	**59.29**	**61**	*e*P		**P**	**07 19 50.3**	**-0.6**
SONM	**Songino Array**	**60.62**	**50**	P		**P**	**07 19 59.7**	**-0.2**
	comp=Z,5.2nm,0.6s,mb4.7,baz=285,slow=7.5,SNR=40								
ULN	**Ulaanbaatar**	**61.02**	**50**	*e*P		**P**	**07 20 02.1**	**-0.5**
ULN					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.8								
ULN	**Ulaanbaatar**	**61.02**	**50**	*e*P		**P**	**07 20 02.1**	**-0.5**
	comp=Z,11nm,1.0s,mb4.8								
BOD	**Bodaibo**	**61.30**	**38**	*e*P		**P**	**07 20 02.5**	**-1.9**
BOD					pmax	pmax			
	comp=Z,15nm,0.8s,mb5.1								
BOD	**Bodaibo**	**61.30**	**38**	*e*P		**P**	**07 20 02.5**	**-1.9**
	comp=Z,15nm,0.8s,mb5.1								
TIXI	**Tiksi**	**61.57**	**20**	*i*P		**P**	**07 20 05.2**	**-0.8**
SCHQ	**Schefferville**	**62.01**	**319**	P		**P**	**07 20 09.4**	**+0.3**
	comp=Z,2.1nm,0.6s,mb4.4,baz=11,slow=5.2,SNR=6.7								
RES	**Resolute Bay**	**63.09**	**345**	*e*P		**P**	**07 20 16.7**	**+0.6**
RES					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
RES	**Resolute Bay**	**63.09**	**345**	*e*P		**P**	**07 20 16.7**	**+0.5**
	comp=Z,3.6nm,0.7s,mb4.4								
RES	**Resolute Bay**	**63.09**	**345**	*e*P		**P**	**07 20 16.7**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.4								
CD2	**Chengdu**	**65.83**	**68**	P		**P**	**07 20 34.0**	**-0.4**
CD2					AMB	AMB			
	comp=Z,20nm,0.8s,mb5.0								
YAK	**Yakutsk**	**66.53**	**30**	*i*P		**P**	**07 20 37.2**	**-1.1**
HHC	**Hu-ho-hao-te**	**66.87**	**56**	*e*P		**P**	**07 20 38.8**	**-2.1**
HHC					PCP	PcP	07 21 07.8	-1.1	
HHC					PP	PP	07 23 06.8	-4.0	
HHC					PCS		07 25 11.6		
HHC					S	S	07 29 20.1	-5

TRWZ	**Traveller**	**0.74**	**220**	P*	Pb	07 27 10.8	-0.2
TSZ	**Takapari Road**	**0.82**	**341**	⇑P*	Pb	07 27 12.5	0.0
TSZ				S*	Sb	07 27 24.0	+0.8
PAWZ	**Paruwai Farm**	**0.86**	**231**	P*	Pb	07 27 12.6	-0.6
PXZ	**Pawanui**	**0.91**	**28**	P*	Pb	07 27 11.5	-2.3
CAW	**Cannon Point**	**0.98**	**253**	P*	Pb	07 27 14.4	-0.8
MSWZ	**Moikau Station**	**0.99**	**234**	P*	Pb	07 27 14.1	-1.2
KIW	**Kapiti Island**	**1.07**	**268**	P*	Pb	07 27 16.0	-0.6
BHW	**Baring Head**	**1.23**	**242**	*e*P*	Pb	07 27 17.2	-2.1
WEL	**Wellington**	**1.25**	**248**	P*	Pb	07 27 18.6	-1.1
MRW	**Makara Radio**	**1.28**	**252**	P*	Pb	07 27 18.6	-1.7
SNZO	**South Karori**	**1.31**	**248**	P*	Pb	07 27 18.8	-1.9
WAZ	**Wanganui**	**1.48**	**316**	PN	Pn	07 27 23.2	+1.2
MOVZ	**Moawhango**	**1.49**	**343**	PN	Pn	07 27 22.9	+0.8
MTVZ	**Mangateitei**	**1.58**	**336**	PN	Pn	07 27 24.9	+1.4
TCW	**Tory Channel**	**1.59**	**256**	PN	Pn	07 27 23.0	-0.5
TUVZ	**Tukino**	**1.64**	**342**	PN	Pn	07 27 25.7	+1.4
BKZ	**Black Stump Fm**	**1.67**	**5**	PN	Pn	07 27 24.3	-0.4

*IDC **23** 07:36:02.2±5.8,5.98S×129.36E,h388km±60km, mb3.4/3, mb1 3.7/4, mb1mx3.4/12, mbtmp4.3/4, Error ellipse: s-maj=95.2km s-min=20.6km az=65.0*
*NEIC **23** 07:36:02.6±3.2,6.26S×128.88E,h394km±39km, mb4.3/2, Error ellipse: s-maj=41.6km s-min=19.3km az=58.0*

ISC 23 07:35:47.8±2.0,**5.6S**±0.1×**129.2E**±0.3,**h33**km±20km,**n12**, σ0°**70**/**13**,**mb3.8**/**4**,**1D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.91**	**195**	*e*P	**P**	**07 38 44.3**	**+0.2**
	12nm,0.4s						
WRAB	**Tennant Creek**	**15.13**	**161**	*e*Pn	**P**	**07 39 11.0**	**-0.6**
	15nm,0.3s						
WRA	**Warramunga Arr**	**15.13**	**161**	P	**P**	**07 39 11.1**	**-0.5**
	4.4nm,0.3s,baz=342,slow=13,SNR=236						
WRA				S	**S**	**07 41 55.0**	**+1.9**
	1.2nm,0.3s,baz=340,slow=23,SNR=5.4						
WB2	**Warramunga Ar**	**15.14**	**161**	⇓*i*P	**P**	**07 39 11.1**	**-0.6**
WB2				*e*S	**S**	**07 41 52.8**	**-0.3**
ASPA	**Alice Springs**	**18.55**	**166**	*e*P	**P**	**07 39 50.0**	**+0.6**
ASPA				*e*S	**S**	**07 43 03.2**	**-0.8**
SONM	**Songino Array**	**56.85**	**342**	P	**P**	**07 45 10.7**	**+0.6**
	0.3nm,0.3s,mb3.4,baz=169,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**66.60**	**327**	P	**P**	**07 46 15.1**	**+0.1**
	2.3nm,0.4s,mb4.2,baz=117,slow=8.7,SNR=30						
MKAR	**Makanchi Array**	**66.60**	**327**	P	**P**	**07 46 15.1**	**+0.1**
ZAL	**Zalesovo**	**69.96**	**334**	P	**P**	**07 46 35.5**	**0.0**
	1.3nm,0.5s,mb3.9,baz=185,slow=1.7,SNR=5.1						
KURK	**Kurchatov**	**70.89**	**329**	*e*P	**P**	**07 46 40.9**	**-0.3**
	1.2nm,0.3s,mb4.0						
LPAZ	**La Paz**	**152.33**	**142**	PKPbc	PKPdf	07 55 13.3	+3.6
	1.3nm,0.3s,baz=308,slow=14,SNR=14						
LPAZ	**La Paz**	**152.33**	**142**	PKPbc	PKPdf	07 55 13.3	+3.6

ISC 23 07:39:48.9±0.8,**39.65N**±0.05×**29.35E**±0.07,**h17**km±10km, **n6**,σ1°**14**/**12**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULDT	**Uludag**	**0.52**	**341**	*i* P	**Pb**	**07 39 58.4**	**-0.8**
ULDT				*i* S	**Sb**	**07 40 06.2**	**-0.1**
GDZ	**Gediz**	**0.57**	**170**	*i* P	**Pb**	**07 39 59.4**	**-0.5**
GDZ				*i* S	**Sb**	**07 40 07.7**	**+0.1**
BORA	**Eskisehir**	**0.88**	**74**	*i* P	**Pb**	**07 40 04.1**	**-1.2**
BORA				*i* S	**Sb**	**07 40 18.0**	**+1.5**
BTOK	**Tokmak**	**1.03**	**277**	*i* P	**Pn**	**07 40 10.2**	**+1.7**
BTOK				*i* S	**Sb**	**07 40 26.2**	**+5.4**
ESKT	**Eskisehir**	**1.16**	**96**	*e*PN	**Pn**	**07 40 09.2**	**-1.3**
ESKT				*e*SN	**Sn**	**07 40 25.6**	**-0.3**
ESKT	**Eskisehir**	**1.16**	**96**	*i* P	**Pn**	**07 40 09.1**	**-1.4**
ESKT				*i* S	**Sn**	**07 40 26.8**	**+0.9**

*IDC **23** 07:53:34.4±2.1,9.78S×119.21E,mb4.2/4,mb1 4.1/5, mb1mx3.9/12,mbtmp4.0/5,ML3.6/1, Error ellipse: s-maj=152.0km s-min=24.2km az=55.0*
*NEIC **23** 07:53:37.7±0.6,9.75S×119.32E,h20km,mb4.1/1, Error ellipse: s-maj=23.6km s-min=9.1km az=59.0*

ISC 23 07:53:37.2±0.8,**9.8S**±0.1×**119.2E**±0.2,**h33**km,**n9**,σ0°**60**/9, **mb4.0**/**5**,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**11.26**	**178**	*e*Pn	**P**	**07 56 18.7**	**-0.3**
	6.2nm,0.4s						
WRA	**Warramunga Arr**	**17.71**	**126**	P	**P**	**07 57 42.3**	**-0.7**
	0.2nm,0.3s,baz=301,slow=13,SNR=6.3						
WRA				S	**S**	**08 00 48.3**	**-8.6**
	0.3nm,0.3s,baz=298,slow=23,SNR=8.1						
WRAB	**Tennant Creek**	**17.72**	**126**	*e*P	**P**	**07 57 43.5**	**+0.4**
	2.4nm,0.5s						
STKA	**Stephens Creek**	**30.17**	**140**	P	**P**	**07 59 47.3**	**+0.7**
	2.1nm,0.7s,mb4.0,baz=306,slow=10,SNR=3.2						
SONM	**Songino Array**	**58.54**	**350**	P	**P**	**08 03 32.8**	**0.0**
	1.2nm,0.5s,mb4.2,baz=167,slow=8.0,SNR=10						
MKAR	**Makanchi Array**	**65.30**	**333**	P	**P**	**08 04 17.9**	**-0.2**
	1.9nm,0.9s,mb4.1,baz=148,slow=5.9,SNR=18						
AAK	**Ala-Archa**	**66.29**	**325**	P	**P**	**08 04 25.5**	**+1.0**
	0.6nm,0.4s,mb4.0						
ZAL	**Zalesovo**	**69.90**	**339**	P	**P**	**08 04 45.9**	**-0.9**
	1.0nm,0.6s,mb3.9,baz=318,slow=7.2,SNR=4.5						
YKA	**Yellowknife Ar**	**114.86**	**24**	PKP	PKPdf	08 12 16.6	+2.3
	0.1nm,0.6s,baz=317,slow=2.0,SNR=5.0						

*NEIC **23** 08:50:47.5, 16.03N×97.10W,h36km, MD3.8(MEX), After MEX.*

MEX 23 08:50:47.6±0.5,**16.03N×97.10W**,**h32**km±32km,**MD3.8**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.99**	**105**	*i* P	Pn	08 51 03.4	-2.1
HUIG				*i* S	Sn	08 51 15.6	-2.8
PNIG	**Pinotepa**	**1.05**	**290**	*i* P	Pn	08 51 04.2	-2.1
PNIG				*i* S	Sn	08 51 16.8	-3.0
VHO	**Vista Hermosa**	**1.10**	**19**	*i* P	Pn	08 51 04.7	-2.3
VHO				*i* S	Sn	08 51 18.0	-3.1
OXX	**Oaxaca**	**1.11**	**19**	*i* P	Pn	08 51 05.0	-2.1
OXX				*i* S	Sn	08 51 19.0	-2.4

IDC 23 08:54:51.3±3.1,**31.45S×59.14E**,**mb3.6**/2,**mb1 3.8**/2, **mb1mx3.5**/17,**mbtmp3.6**/2,**Error ellipse: s-maj=267.5km s-min=36.2km az=21.0**,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**67.58**	**100**	P	P	09 05 50.2	-1.9
	0.5nm,0.9s,baz=243,slow=5.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**70.69**	**300**	P	P	09 06 09.5	-1.8
	0.7nm,0.9s,baz=143,slow=4.4,SNR=3.8						
YKA	**Yellowknife Ar**	**148.68**	**354**	PKPbc	PKPdf	09 14 38.8	+1.2
	0.4nm,0.7s,baz=356,slow=2.8,SNR=17						

WEL 23 08:55:59.2±0.7,**36.23S×179.05E**,**h12**km,**ML3.7**/5,**Error ellipse: s-maj=8.8km s-min=6.4km az=90.0**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.46**	**204**	P*	Pb	08 56 23.4	-2.4
MXZ				S*	Sb	08 56 40.3	-3.9
PUZ	**Puketiti**	**1.94**	**199**	PN	Pn	08 56 31.4	-1.1
MWZ	**Matawai**	**2.43**	**210**	P*	Pb	08 56 38.2	-4.3
URZ	**Urewera**	**2.55**	**217**	P*	Pb	08 56 39.3	-5.2
URZ				S*	Sb	08 57 09.6	-6.3
BKZ	**Black Stump Fm**	**3.57**	**214**	P*	Pb	08 56 52.5	-9.3

IDC 23 09:17:10.3±4.5,**5.09S×77.01W**,**mb3.3**/3,**mb1 3.7**/3, **mb1mx3.5**/18,**mbtmp3.3**/3,**Error ellipse: s-maj=190.1km s-min=99.5km az=53.0**,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**42.75**	**325**	P	P	09 25 09.7	-1.6
	0.2nm,0.5s,baz=168,slow=8.3,SNR=3.0						
YKA	**Yellowknife Ar**	**73.24**	**343**	P	P	09 28 42.8	-2.1
	0.2nm,0.8s,baz=141,slow=6.2,SNR=4.1						
INK	**Inuvik**	**82.96**	**342**	P	P	09 29 37.0	-1.2
	0.7nm,0.8s,baz=178,slow=2.3,SNR=3.1						
WRA	**Warramunga Arr**	**140.39**	**230**	PKP	PKPdf	09 36 41.9	-2.4
	0.2nm,0.5s,baz=118,slow=2.2,SNR=4.9						

IDC 23 09:17:38.9±1.1,**10.82S×66.42E**,**mb4.0**/2,**mb1 4.2**/2, **mb1mx3.5**/19,**mbtmp4.0**/2,**MS3.5**/1,**Ms1 3.5**/1, **ms1mx2.8**/30,**Error ellipse: s-maj=75.9km s-min=33.4km az=3.0**,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**35.06**	**69**	LR	LR	09 36 01.5	
	comp=Z,76nm,18.6s,baz=38,slow=32						
LSZ	**Lusaka**	**37.47**	**259**	P	P	09 24 54.7	-1.5
	1.1nm,0.5s,baz=159,slow=8.6,SNR=3.9						
WRA	**Warramunga Ar**	**65.76**	**107**	P	P	09 28 26.3	-2.1
	1.1nm,1.1s,baz=276,slow=6.3,SNR=6.9						
YKA	**Yellowknife Ar**	**128.41**	**1**	PKP	PKPdf	09 36 46.1	-3.3
	0.2nm,0.8s,baz=0.2,slow=2.8,SNR=3.9						
PDAR	**Pinedale Array**	**147.98**	**354**	PKPbc	PKPdf	09 37 26.0	+0.8
	1.0nm,1.0s,baz=45,slow=2.6,SNR=5.0						
NVAR	**Mina Array Bea**	**152.18**	**8**	PKPbc	PKPdf	09 37 37.9	+6.1
	1.0nm,0.9s,baz=347,slow=0.8,SNR=6.0						

*WEL **23** 09:29:48.2±0.5,45.25S×166.90E,h24km±2km, ML4.5/15, Error ellipse: s-maj=5.0km s-min=2.4km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
*NEIC **23** 09:29:48.7, 45.23S×166.93E,h10km, ML4.4(WEL), After WEL.*
NEIC Felt at Manapouri.

ISC 23 09:29:46.6±1.3,**45.26S**±0.06×**166.8E**±0.1,**h22**km±7km, **n37**,σ0°**84**/**47**,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.34**	**131**	P*	**Pb**	**09 29 54.9**	**+0.9**
DCZ				S*	**Sb**	**09 29 58.7**	**-0.3**
DCZ				S*	**Sb**	**09 29 58.9**	**-0.1**
DCZ	**Deep Cove**	**0.34**	**131**	P	**Pb**	**09 29 54.9**	**+0.9**
DCZ				S	**Sb**	**09 29 58.9**	**-0.1**
MLZ	**Mavora Lakes**	**0.98**	**96**	P*	**Pb**	**09 30 04.7**	**-0.1**
MLZ				S*	**Sb**	**09 30 16.3**	**-1.0**
MLZ				S*	**Sb**	**09 30 16.4**	**-0.9**
MLZ	**Mavora Lakes**	**0.98**	**96**	P	**Pb**	**09 30 04.7**	**-0.1**
MLZ				S	**Sb**	**09 30 16.3**	**-1.0**
MSZ	**Milford Sound**	**1.00**	**55**	PN	**Pn**	**09 30 04.8**	**-0.5**
MSZ	**Milford Sound**	**1.00**	**55**	P	**Pb**	**09 30 04.8**	**-0.2**
WHZ	**Wether Hill Ro**	**1.03**	**129**	PN	**Pn**	**09 30 05.9**	**-0.1**
WHZ				SN	**Sn**	**09 30 18.6**	**-1.2**
WHZ	**Wether Hill Ro**	**1.03**	**129**	P	**Pb**	**09 30 05.9**	**+0.2**
WKZ	**Wanaka**	**1.64**	**76**	PN	**Pn**	**09 30 15.8**	**+1.3**
WKZ				SN	**Sn**	**09 30 36.1**	**+1.0**
WKZ	**Wanaka**	**1.64**	**76**	*e*P	**Pn**	**09 30 15.8**	**+1.3**
EAZ	**Earnscleugh**	**1.78**	**90**	PN	**Pn**	**09 30 17.7**	**+1.1**
EAZ				SN	**Sn**	**09 30 39.3**	**+0.6**
EAZ	**Earnscleugh**	**1.78**	**90**	P	**Pn**	**09 30 17.9**	**+1.3**
JCZ	**Jackson Bay**	**1.84**	**51**	PN	**Pn**	**09 30 19.2**	**+1.9**
JCZ	**Jackson Bay**	**1.84**	**51**	*e*P	**Pn**	**09 30 19.2**	**+1.8**
TUZ	**Tuapeka**	**2.12**	**110**	PN	**Pn**	**09 30 21.9**	**+0.5**
TUZ				SN	**Sn**	**09 30 47.0**	**-0.3**
TUZ	**Tuapeka**	**2.12**	**110**	*e*P	**Pn**	**09 30 21.9**	**+0.5**
LBZ	**Lake Benmore**	**2.57**	**71**	PN	**Pn**	**09 30 28.1**	**+0.2**
LBZ	**Lake Benmore**	**2.57**	**71**	*e*P	**Pn**	**09 30 28.1**	**+0.2**
FOZ	**Fox Glacier**	**2.68**	**52**	PN	**Pn**	**09 30 31.3**	**+1.8**
FOZ	**Fox Glacier**	**2.68**	**52**	*e*P	**Pn**	**09 30 31.4**	**+2.0**
ODZ	**Otahua Downs**	**2.74**	**87**	PN	**Pn**	**09 30 30.0**	**-0.2**
ODZ	**Otahua Downs**	**2.74**	**87**	P	**Pn**	**09 30 30.1**	**-0.2**
RPZ	**Rata Peaks**	**3.42**	**65**	PN	**Pn**	**09 30 39.0**	**-0.9**
RPZ	**Rata Peaks**	**3.42**	**65**	*e*P	**Pn**	**09 30 39.4**	**-0.5**
WVZ	**Waitaha Valley**	**3.58**	**54**	PN	**Pn**	**09 30 41.8**	**-0.4**
WVZ	**Waitaha Valley**	**3.58**	**54**	P	**Pn**	**09 30 42.3**	**+0.1**
MQZ	**McQueen's Vall**	**4.47**	**72**	PN	**Pn**	**09 30 54.5**	**-0.5**
MQZ	**McQueen's Vall**	**4.47**	**72**	P	**Pn**	**09 30 54.5**	**-0.4**
LTZ	**Lake Taylor**	**4.66**	**60**	PN	**Pn**	**09 30 57.2**	**-0.4**
DSZ	**Denniston Nort**	**5.06**	**48**	PN	**Pn**	**09 31 02.3**	**-0.9**
DSZ	**Denniston Nort**	**5.06**	**48**	*e*P	**Pn**	**09 31 02.4**	**-0.8**
THZ	**Tophouse**	**5.65**	**54**	PN	**Pn**	**09 31 11.2**	**-0.4**
THZ	**Tophouse**	**5.65**	**54**	*e*P	**Pn**	**09 31 11.2**	**-0.4**
QRZ	**Quartz Range**	**6.10**	**46**	PN	**Pn**	**09 31 16.6**	**-1.3**
QRZ	**Quartz Range**	**6.10**	**46**	*e*P	**Pn**	**09 31 16.6**	**-1.4**
NNZ	**Nelson**	**6.28**	**52**	*e*P	**Pn**	**09 31 20.4**	**0.0**
WCZ	**Waipu Caves**	**10.93**	**34**	*e*P	**P**	**09 32 23.7**	**-1.2**

IDC 23 09:39:23.7±1.0,**10.57S×66.39E**,**mb3.8**/7,**mb1 3.9**/7, **mb1mx3.8**/19,**mbtmp3.8**/7,**MS3.3**/2,**Ms1 3.3**/2, **ms1mx3.0**/24,**Error ellipse: s-maj=34.0km s-min=24.4km az=7.0**,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**37.49**	**259**	P	P	09 46 40.1	-1.1
	2.4nm,0.8s,baz=68,slow=9.8,SNR=5.2						
BRTR	**Keskin Array B**	**58.55**	**331**	P	P	09 49 23.0	-1.6
	0.5nm,0.3s,baz=117,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**58.85**	**13**	P	P	09 49 23.9	-2.6
	0.5nm,0.8s,baz=203,slow=7.9,SNR=3.5						
TGY	**Tagaytay City**	**59.38**	**67**	LR	LR	10 09 42.5	
	comp=Z,10nm,21.7s,baz=213,slow=31						
WRA	**Warramunga Arr**	**65.85**	**107**	P	P	09 50 11.1	-2.5
	1.6nm,0.7s,baz=277,slow=5.6,SNR=11						
MLR	**Muntele Rosu**	**66.62**	**330**	LR	LR	10 17 44.9	
	comp=Z,67nm,19.4s,baz=276,slow=34						
SONM	**Songino Array**	**68.11**	**28**	P	P	09 50 26.6	-1.0
	0.8nm,0.9s,baz=243,slow=6.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**68.40**	**289**	P	P	09 50 27.5	-2.4
	0.7nm,1.0s,baz=90,slow=2.9,SNR=3.6						
AKASG	**Malin Array Be**	**69.05**	**336**	P	P	09 50 29.2	-4.1
	0.3nm,0.3s,baz=149,slow=4.6,SNR=5.3						
YKA	**Yellowknife Ar**	**128.16**	**1**	PKP	PKPdf	09 58 31.0	-2.7
	0.1nm,0.5s,baz=338,slow=2.1,SNR=5.0						
PDAR	**Pinedale Array**	**147.73**	**354**	PKPbc	PKPdf	09 59 10.6	+1.0
	0.8nm,0.9s,baz=45,slow=2.1,SNR=5.5						
NVAR	**Mina Array Bea**	**151.94**	**8**	PKPbc	PKPdf	09 59 22.4	+6.2
	1.5nm,0.8s,baz=265,slow=4.3,SNR=8.8						

IDC 23 09:40:02.1±4.0,**10.39N×91.30E**,**mb3.6**/3,**mb1 3.7**/3, **mb1mx3.4**/19,**mbtmp3.6**/3,**Error ellipse: s-maj=144.4km s-min=30.4km az=64.0**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.08**	**350**	P	P	09 47 14.3	-1.5
	0.5nm,0.6s,baz=170,slow=8.2,SNR=7.5						
SONM	**Songino Array**	**39.43**	**16**	P	P	09 47 33.2	-2.4
	0.4nm,0.6s,baz=200,slow=7.5,SNR=4.1						
WRA	**Warramunga Arr**	**52.00**	**125**	P	P	09 49 13.8	-1.9
	0.3nm,0.5s,baz=300,slow=10.0,SNR=6.3						

*NEIC **23** 09:51:16.1±1.0,23.96S×179.64W,h400km, mb4.0/4, Error ellipse: s-maj=39.6km s-min=21.2km az=177.0*
*IDC **23** 09:51:18.5±7.7,23.46S×179.87W,h410km±84km, mb3.6/4, mb1 3.7/5, mb1mx3.5/15, mbtmp4.4/5, Error ellipse: s-maj=47.2km s-min=28.8km az=16.0*

ISC 23 09:51:24.8±4.2,**23.7S**±0.1×**180.0W**±0.2,**h508**km±48km, **n15**,σ0°**70**/**14**,**mb4.0**/8,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.77**	**189**	P	**P**	**09 54 31.9**	**-0.7**
	1.2nm,0.3s,baz=57,slow=10.0,SNR=7.5						
URZ				S	**S**	**09 57 05.0**	**+0.8**
	0.2nm,0.3s,baz=203,slow=22,SNR=7.4						
CTAO	**Charters Tower**	**31.51**	**270**	*e*P	**P**	**09 57 06.7**	**+0.7**
	7.5nm,0.5s,mb4.5						
PMG	**Port Moresby**	**34.45**	**289**	P	**P**	**09 57 31.1**	**+0.3**
	2.5nm,0.5s,mb4.0,baz=133,slow=5.7,SNR=3.8						
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**09 57 34.5**	**+0.6**
	4.0nm,1.0s,mb3.9,baz=92,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**09 57 35.0**	**+1.1**
ASPA	**Alice Springs**	**42.11**	**260**	*e*P	**P**	**09 58 33.2**	**0.0**
WB2	**Warramunga Ar**	**42.45**	**266**	*e*P	**P**	**09 58 35.3**	**-0.6**
WRAB	**Tennant Creek**	**42.45**	**266**	*e*P	**P**	**09 58 35.3**	**-0.6**
	3.5nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**42.46**	**266**	P	**P**	**09 58 35.4**	**-0.6**
	3.1nm,0.4s,mb4.2,baz=92,slow=8.4,SNR=119						
FITZ	**Fitzroy Crossi**	**50.88**	**265**	*e*P	**P**	**09 59 40.4**	**+0.1**
	2.8nm,0.5s,mb3.9						
SNAA	**Sanae**	**84.91**	**179**	*e*P	**P**	**10 03 04.5**	**-1.2**
	0.8nm,0.5s,mb3.5						
TXAR	**Lajitas Array**	**90.28**	**58**	P	**P**	**10 03 32.9**	**+0.9**
	0.5nm,0.7s,mb3.5,baz=214,slow=6.7,SNR=10						
TXAR	**Lajitas Array**	**90.28**	**58**	P	**P**	**10 03 32.9**	**+0.9**
HFS	**Hagfors**	**142.32**	**349**	PKhKP		10 09 54.4	
	1.5nm,0.7s,slow=1.5,SNR=5.5						
BRTR	**Keskin Array B**	**147.46**	**307**	PKPbc	PKPdf	10 10 16.0	+8.5
	0.6nm,0.5s,baz=111,slow=6.6,SNR=3.8						

*HEL **23** 09:59:28.6, 64.67N×30.87E, ML1.7(FIA0), Explosion*
*IDC **23** 09:59:30.7±2.7, 64.67N×30.88E, mb1 3.1/4, mb1mx3.0/22, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=35.7km s-min=8.4km az=101.0*

ISC 23 09:59:29.8±2.7,**64.81N**±0.06×**29.9E**±0.7,**n5**,σ0°**64**/9, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIA0	**FINESS Array S**	**3.79**	**209**	PN	**Pn**	**10 00 29.9**	**-0.8**
FIA0				PN	**Pn**	**10 00 38.8**	**+8.1**
FIA0				PN	**Pg**	**10 00 44.8**	**-0.7**
FIA0				LG		10 01 30.3	
FINES	**FINESS Array B**	**3.79**	**209**	Pn	**Pn**	**10 00 30.6**	**-0.1**
	0.2nm,0.3s,baz=33,slow=14,SNR=7.1						
FINES				Sn	**Sn**	**10 01 17.9**	**+1.2**
	0.4nm,0.3s,baz=42,slow=21,SNR=3.2						
FINES				Lg		10 01 30.9	
	1.0nm,0.3s,baz=42,slow=26,SNR=6.7						
ARCES	**ARCESS Array B**	**5.04**	**342**	Pn	**Pn**	**10 00 49.0**	**+0.5**
	0.7nm,0.3s,baz=150,slow=12,SNR=36						
ARCES				Sn	**Sn**	**10 01 48.4**	**0.0**
	0.4nm,0.3s,baz=159,slow=25,SNR=5.2						
ARCES				Lg		10 02 13.9	
	0.6nm,0.3s,baz=154,slow=33,SNR=5.2						
HFS	**Hagfors**	**8.82**	**245**	Pn	**P**	**10 01 41.0**	**-0.6**
	0.0nm,0.3s,baz=54,slow=13,SNR=5.9						
NOA	**NORSAR Array B**	**9.29**	**255**	Pn	**P**	**10 01 48.0**	**0.0**
	0.2nm,0.3s,baz=69,slow=15,SNR=3.0						

IDC 23 10:03:42.0±1.8,**53.65N×91.36E**,**mb2.9**/1,**mb1 3.3**/3, **mb1mx3.2**/22,**mbtmp3.1**/3,**ML3.0**/2,**Error ellipse: s-maj=17.5km s-min=16.1km az=126.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAL	**Zalesovo**	**3.90**	**277**	Pn	Pn	10 04 45.6	+1.1
	1.7nm,0.3s,baz=8.4,slow=10.0,SNR=7.3						
ZAL				Pg	Pg	10 04 50.8	-9.1
	5.7nm,0.3s,baz=21,slow=16,SNR=26						
ZAL				Sn	Sn	10 05 29.9	-1.8
	5.7nm,0.3s,baz=6.6,slow=9.0,SNR=5.9						
ZAL				Lg		10 05 44.5	
	14nm,0.3s,baz=346,slow=4.9,SNR=7.4						
MKAR	**Makanchi Array**	**8.98**	**224**	Pn	P	10 05 54.5	-1.6
	0.4nm,0.3s,baz=31,slow=14,SNR=14						
MKAR				Sn	Sn	10 07 32.0	-7.2
	0.0nm,0.3s,baz=42,slow=23,SNR=3.0						
MKAR				Lg		10 08 24.7	
	0.3nm,0.3s,baz=44,slow=31,SNR=3.7						
SONM	**Songino Array**	**11.15**	**115**	Lg		10 09 30.0	
	0.1nm,0.3s,baz=294,slow=26,SNR=4.6						
YKA	**Yellowknife Ar**	**62.41**	**13**	P	P	10 14 04.8	-3.6
	0.1nm,0.6s,baz=342,slow=6.6,SNR=3.8						

*IDC **23** 10:08:13.5±0.7,5.31S×77.30W,mb3.9/11,mb1 4.1/14, mb1mx4.0/22,mbtmp3.8/14,ML3.4/2,Error ellipse: s-maj=34.6km s-min=15.4km az=58.0*
*NEIC **23** 10:08:20.1±1.0,5.46S×77.41W,h46km±9km,mb4.3/10, Error ellipse: s-maj=19.6km s-min=6.1km az=67.0*

ISC 23 10:08:14.8±3.7,**5.39S**±0.05×**77.3W**±0.1,**h20**km±27km,**n41**, σ0°**69**/**35**,**mb4.0**/19,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**5.71**	**348**	*e*Pn	**Pn**	**10 09 44.5**	**+3.8**
	13nm,0.8s						
NNA	**Nana**	**6.57**	**176**	*e*Pn	**Pn**	**10 09 52.9**	**0.0**
	104nm,0.9s						
NNA				*e*Sn	**Sn**	**10 11 07.1**	**-0.8**
LPAZ	**La Paz**	**14.08**	**141**	Pn	P	**10 11 35.6**	**0.0**
	0.1nm,0.3s,baz=96,slow=25,SNR=3.2						
LPAZ	**La Paz**	**14.08**	**141**	*e*Pn	**P**	**10 11 41.0**	**+5.4**

IDC 23 10:18:29.0±2.6, 7.64S×107.93E, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=152.4km s-min=26.6km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.36**	**118**	P	P	10 24 25.3	-1.8
	0.4nm,0.4s,baz=291,slow=12,SNR=7.3						
STKA	**Stephens Creek**	**39.53**	**132**	P	P	10 26 01.6	-1.8
	2.5nm,0.8s,baz=317,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**58.80**	**340**	P	P	10 28 29.2	-2.2
	0.7nm,0.6s,baz=148,slow=8.5,SNR=8.4						
YKA	**Yellowknife Ar**	**117.13**	**21**	PKP	PKPdf	10 37 15.2	-2.5
	0.1nm,0.5s,baz=341,slow=1.5,SNR=6.7						

CASC 23 10:18:38.9±2.5, 12.56N×89.80W, h1km±9km, MD3.8, 3C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**1.25**	**26**	*e*P	Pb	10 19 01.2	-1.8
LFRS	**El Faro**	**1.28**	**34**	*e*P	Pb	10 19 28.4	+25
LFRS				*e*S	Sb	10 19 47.0	+27
SNJE	**San Jose**	**1.32**	**8⇑**	*e*P	Pb	10 19 30.9	+27
SNJE				*e*S	Sb	10 19 49.2	+28
RTR	**El Retiro**	**1.34**	**6⇑**	*e*P	Pb	10 19 31.6	+27
RTR				*e*S	Sb	10 19 51.9	+30
LCBS	**La Ceiba**	**1.35**	**36**	*e*P	Pb	10 19 29.4	+25
LCBS				*e*S	Sb	10 19 47.9	+25
LBRS	**Las Brisas**	**1.39**	**32**	*e*P	Pb	10 19 30.6	+25
LBRS				*e*S	Sb	10 19 51.1	+28
SNVI	**San Vicente**	**1.41**	**42**	*e*P	Pb	10 19 29.9	+24
SNVI				*e*S	Sb	10 19 50.7	+27
VSM	**San Miguel**	**1.72**	**60**	*e*P	Pn	10 19 32.8	+23
VSM				*e*S	Sb	10 19 57.4	+24
IXG	**Ixpaco**	**1.73**	**338⇓**	*e*P	Pn	10 19 09.4	-0.9
IXG				*e*S	Sn	10 19 33.7	+0.3
MTO2	**Montecristo 2**	**1.88**	**13**	*e*P	Pn	10 19 38.6	+26
MTO2				*e*S	Sn	10 20 06.9	+30
NBG	**Las Nubes**	**2.09**	**345**	*e*P	Pn	10 19 16.9	+1.4
NBG				*e*S	Sn	10 19 44.6	+2.2
MRL	**Marmol**	**2.50**	**2**	*e*P	Pn	10 19 21.1	-0.2
TELN	**Telica**	**2.90**	**89⇓**	*e*P	Pn	10 19 25.4	-1.6

ISK 23 10:21:19.4, 38.19N×26.51E, h10km, MD3.1
NEIC 23 10:21:19.0, 38.17N×26.58E, h10km, MD3.3(ISK), MD3.3(ATH), After ISK.
CSEM 23 10:21:21.9±0.2, 38.15N×26.67E, h15km, MD3.3, Error ellipse: s-maj=4.0km s-min=2.3km az=37.0
ATH 23 10:21:22.0, 38.11N×26.55E, h29km±8km, MD3.3/4
ISC 23 10:21:21.6±0.8, 38.16N±0.03×26.61E±0.05, h10km±5km, n18, σ0992/28, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**356**	*i* P	**Pg**	**10 21 26.3**	**+0.5**
URLA				*i* S	**Sg**	**10 21 29.7**	**+1.0**
SMG	**Samos**	**0.49**	**159⇑**	*i*PB	**Pb**	**10 21 32.1**	**+0.3**
SMG				*e*SB	**Sb**	**10 21 39.2**	**+0.5**
IZM	**Izmir**	**0.56**	**65**	*i* PG	**Pg**	**10 21 31.3**	**-1.6**
IZM				*i* SG	**Sg**	**10 21 41.7**	**+1.2**
KDAG	**Bornova**	**0.57**	**65**	*i* P	**Pg**	**10 21 30.4**	**-2.6**
KDAG				*i* S	**Sg**	**10 21 40.3**	**-0.4**
PRK	**Paraskevi**	**1.11**	**346**	*e*PN	**Pn**	**10 21 43.6**	**+0.4**
PRK				*e*SN	**Sn**	**10 21 58.8**	**+0.1**
AYDN	**Tasoluk**	**1.12**	**116**	*i* P	**Pb**	**10 21 43.3**	**+0.7**
AYDN				*i* S	**Sb**	**10 21 57.1**	**0.0**
AYVA	**Ayvalik**	**1.14**	**3**	*i* P	**Pb**	**10 21 44.6**	**+1.6**
AYVA				*i* S	**Sb**	**10 22 02.1**	**+4.3**
AKS	**Akhisar**	**1.18**	**52**	PN	**Pn**	**10 21 43.9**	**-0.3**
AKS				SN	**Sn**	**10 22 00.3**	**-0.1**
BODT	**Bodrum**	**1.23**	**153**	PN	**Pn**	**10 21 44.1**	**-0.8**
BODT				SN	**Sn**	**10 22 01.8**	**+0.1**
MLSB	**Milas**	**1.27**	**133**	*e*PN	**Pn**	**10 21 44.6**	**-0.8**
BDRM	**Kayabasi**	**1.28**	**149**	*i* P	**Pb**	**10 21 47.4**	**+2.0**
BDRM				*i* S	**Sb**	**10 22 02.9**	**+1.1**
APE	**Apeiranthos**	**1.39**	**218**	*e*PN	**Pn**	**10 21 46.3**	**-0.9**
YER	**Yerkesik**	**1.68**	**127**	*e*PN	**Pn**	**10 21 51.1**	**-0.2**
DENT	**Denizli**	**1.96**	**101**	*e*PN	**Pn**	**10 21 55.0**	**-0.3**
LIA	**Limnos Island**	**2.06**	**328**	*e*PB	**Pb**	**10 21 57.3**	**-1.4**
DALT	**Dalyan (Mudla)**	**2.13**	**130**	*e*PN	**Pn**	**10 21 57.1**	**-0.7**
KHL	**Karahalli**	**2.30**	**85**	*e*PN	**Pn**	**10 21 59.7**	**-0.5**
RDO	**Rodhopi**	**3.09**	**345**	*e*PN	**Pn**	**10 22 11.7**	**+0.2**

NNC 23 10:25:32.9±16.0, 39.03N×71.57E, mb3.7, mpv3.3, Error ellipse: s-maj=215.2km s-min=101.4km az=43.0
ISC 23 10:25:30.2±5.2, 38.9N±0.3×71.4E±0.3, h10km, n10, σ0955/11, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.70**	**27**	P	**Pn**	**10 26 28.6**	**-0.1**
	SNR=28						
UCH	**Uchtor**	**4.11**	**34**	P	**Pn**	**10 26 34.8**	**+0.3**
	SNR=15						
EKS2	**Erkin-Say**	**4.20**	**25**	P	**Pn**	**10 26 35.5**	**-0.3**
	SNR=6.9						
KK31	**Karatay Array**	**4.29**	**351**	⇑Pn	**Pn**	**10 26 37.3**	**+0.2**
	2.6nm,0.4s,baz=167,slow=12,SNR=31						
KK31				⇓Sn	**Sn**	**10 27 28.0**	**+0.2**
	3.9nm,0.2s,baz=178,slow=25						
KZA	**Kyzart**	**4.35**	**41**	P	**Pn**	**10 26 39.3**	**+1.4**
	SNR=20						
AAK	**Ala-Archa**	**4.43**	**31**	P	**Pn**	**10 26 38.6**	**-0.6**
	SNR=7.0						
CHMS	**Chumysh**	**4.84**	**30**	P	**Pn**	**10 26 44.9**	**-0.1**
	SNR=5.4						
USP	**Ospenovka**	**4.98**	**27**	P	**Pn**	**10 26 46.2**	**-0.7**
	SNR=12						
TKM2	**Tokmak 2**	**5.15**	**37**	P	**Pn**	**10 26 49.0**	**-0.2**
	SNR=5.9						
TKM2	**Tokmak 2**	**5.15**	**37**	⇑Pn	**Pn**	**10 26 48.8**	**-0.4**
	1.9nm,0.4s						

WEL 23 10:37:45.8±0.7, 35.38S×178.71E, h185km±15km, ML3.8/9, Error ellipse: s-maj=14.2km s-min=10.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.20**	**188**	PN	P	10 38 25.4	-0.4
MXZ				SN	S	10 38 55.3	-1.3
MXZ				SN	S	10 38 56.8	+0.2
PUZ	**Puketiti**	**2.71**	**188**	PN	P	10 38 30.9	-0.8
PUZ				SN	S	10 39 05.9	-1.3
MWZ	**Matawai**	**3.09**	**197**	PN	P	10 38 36.9	+0.5
MWZ				SN	S	10 39 14.9	-0.5
URZ	**Urewera**	**3.14**	**204**	PN	P	10 38 37.1	+0.1
URZ				SN	S	10 39 15.6	-0.9
KNZ	**Kokohu**	**3.72**	**192**	PN	P	10 38 43.5	-0.8
BKZ	**Black Stump Fm**	**4.17**	**204**	PN	P	10 38 49.1	-0.8
PXZ	**Pawanui**	**4.87**	**197**	PN	P	10 38 56.0	-2.8
TSZ	**Takapari Road**	**5.15**	**204**	PN	P	10 39 00.5	-2.1
MRZ	**Mangatainoka R**	**5.82**	**204**	PN	P	10 39 07.9	-3.3
TUWZ	**Tuamarina**	**7.10**	**210**	PN	P	10 39 23.8	-4.3
KHZ	**Kahutara**	**8.10**	**208**	*e*PN	P	10 39 36.8	-4.4
MQZ	**McQueen's Vall**	**9.53**	**207**	*e*SN	S	10 41 33.8	-11

IDC 23 11:01:10.7±2.4, 18.19S×178.12W, h407km±25km, mb3.4/10, mb1 3.7/11, mb1mx3.6/15, mbtmp4.1/11, Error ellipse: s-maj=21.5km s-min=14.0km az=134.0
NEIC 23 11:01:13.5±3.9, 18.33S×178.12W, h442km±41km, mb3.9/7, Error ellipse: s-maj=18.0km s-min=13.5km az=90.0
ISC 23 11:01:08.1±1.2, 18.3S±0.1×178.06W±0.07, h396km±14km, n52, σ0982/33, mb4.0/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.45**	**55**	P	**P**	**11 02 59.5**	**+1.9**
	3.3nm,0.3s,baz=53,slow=5.2,SNR=8.1						
AFI				S	**S**	**11 04 22.7**	**-1.2**
	3.6nm,0.3s,baz=34,slow=22,SNR=7.2						
AFI	**Afiamalu**	**7.45**	**55**	P	**P**	**11 02 59.5**	**+1.9**
AFI				S	**S**	**11 04 22.7**	**-1.2**
PAE	**Paea**	**27.09**	**93**	*e*P	**P**	**11 06 18.6**	**+0.2**
	12nm,0.5s,mb4.6						
PPT	**Papeete**	**27.10**	**93**	*e*P	**P**	**11 06 18.7**	**+0.2**
	3.7nm,0.5s,mb4.0						
TBI	**Tubuai**	**27.17**	**106**	*e*P	**P**	**11 06 18.4**	**-0.7**
	9.7nm,0.6s,mb4.4						
TVO	**Taravao**	**27.39**	**93**	*e*P	**P**	**11 06 21.1**	**+0.1**
	9.7nm,0.5s,mb4.5						
CTA	**Charters Tower**	**33.71**	**261**	*e*P	**P**	**11 07 16.4**	**+0.8**
	7.1nm,1.2s,mb3.9						
CTAO	**Charters Tower**	**33.71**	**261**	*e*P	**P**	**11 07 16.4**	**+0.8**
	2.1nm,0.5s,mb3.7						
TAOE	**Nuku Hiva Isla**	**37.96**	**81**	*e*P	**P**	**11 07 50.4**	**-0.7**
	50nm,0.4s,mb5.2						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**11 07 58.4**	**+1.1**
	1.7nm,0.4s,mb3.7,baz=86,slow=11,SNR=6.8						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**11 07 58.4**	**+1.1**
WB2	**Warramunga Arr**	**44.88**	**260**	*e*P	**P**	**11 08 46.1**	**-0.8**
WRAB	**Tennant Creek**	**44.88**	**260**	*e*P	**P**	**11 08 45.9**	**-1.0**
	5.2nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**44.89**	**260**	P	**P**	**11 08 45.8**	**-1.2**
	2.1nm,0.8s,mb3.5,baz=98,slow=6.6,SNR=34						
ASPA	**Alice Springs**	**45.01**	**255**	*e*P	**P**	**11 08 47.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.29**	**261**	*e*P	**P**	**11 09 50.0**	**-0.3**
	3.9nm,1.1s,mb3.5						
VNDA	**Vanda**	**60.08**	**185**	P	**P**	**11 10 37.0**	**+0.4**
	1.1nm,0.6s,mb3.5,baz=4.2,slow=8.3,SNR=10						
VNDA	**Vanda**	**60.08**	**185**	*e*P	**P**	**11 10 36.8**	**+0.2**
	1.2nm,0.6s,mb3.5						
MJAR	**Matsushiro Arr**	**68.42**	**323**	P	**P**	**11 11 30.3**	**+0.1**
	3.6nm,0.5s,mb4.2,baz=152,slow=6.0,SNR=18						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**11 12 33.7**	**+0.6**
	0.4nm,0.5s,mb3.3,baz=218,slow=7.5,SNR=4.8						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**11 12 33.7**	**+0.6**
MAW	**Mawson**	**83.60**	**200**	P	**P**	**11 12 55.3**	**+1.6**
	3.1nm,0.5s,mb4.3,baz=156,slow=10.0,SNR=4.0						
ENH	**Enshi**	**84.77**	**304**	P	**P**	**11 13 01.1**	**+0.7**
	5.5nm,0.6s,mb4.5						
TXAR	**Lajitas Array**	**85.93**	**57**	P	**P**	**11 13 07.0**	**+1.1**
	0.7nm,0.6s,mb3.5,baz=218,slow=8.2,SNR=19						
ILAR	**Eielson Array**	**86.20**	**13**	P	**P**	**11 13 05.8**	**-0.5**
	0.9nm,0.5s,mb3.8,baz=223,slow=4.5,SNR=22						
PDAR	**Pinedale Array**	**87.41**	**43**	P	**P**	**11 13 13.2**	**+0.5**
	0.4nm,0.8s,mb3.2,baz=207,slow=3.3,SNR=4.0						
SNAA	**Sanae**	**90.19**	**178**		**P**	**11 13 24.8**	**-0.2**
SNAA	**Sanae**	**90.19**	**178**	*e*P	**P**	**11 13 24.1**	**-0.9**
	1.6nm,0.6s,mb4.0						
VNA3	**Neumayer Olymp**	**90.33**	**176**		**P**	**11 13 24.8**	**-0.8**
VNA2	**Neumayer--Watz**	**90.77**	**177**		**P**	**11 13 27.2**	**-0.5**
YKA	**Yellowknife Ar**	**94.55**	**25**	P	**P**	**11 13 44.6**	**-0.6**
	0.4nm,0.7s,mb3.6,baz=242,slow=4.4,SNR=13						
ARCES	**ARCESS Array B**	**126.76**	**350**	PKP	PKPdf	11 19 24.6	-0.1
	2.2nm,0.8s,baz=45,slow=2.6,SNR=6.6						
BRTR	**Keskin Array B**	**145.30**	**315**	PKPbc	PKPbc	11 20 00.7	+0.5
	1.4nm,0.4s,baz=115,slow=2.9,SNR=10.0						
CLZ	**Clausthal**	**145.88**	**351**	*e*PKPbc	PKPbc	11 20 02.8	+1.5
CLL	**Collm**	**145.92**	**348**	P	PKPdf	11 20 02.9	+3.0
	logA/T=1.2						
CLL	**Collm**	**145.92**	**348**	*i* P	PKPdf	11 20 02.9	+3.0
UPC	**Upice**	**145.96**	**344**	*e*PKP	PKPdf	11 20 02.7	+2.7
DPC	**Dobruska-Polom**	**146.02**	**343**	*e*PKP	PKPdf	11 20 03.3	+3.1
PVCC	**Panska Ves**	**146.31**	**345**	*e*PKP	PKPdf	11 20 04.4	+3.8
PRU	**Pruhonice**	**146.81**	**345**	*e*PKP	PKPdf	11 20 05.3	+3.8
TREC	**Trest**	**147.21**	**344**	*e*PKP	PKPdf	11 20 06.5	+4.3
TREC				*ex*	x	11 20 09.5	
TNS	**Taunus Mts**	**147.73**	**352**	*e*PKPbc	PKPdf	11 20 07.9	+4.9
GRA1	**Grafenberg Arr**	**147.81**	**349**	*e*PKPbc	PKPdf	11 20 08.1	+5.0
KHC	**Kasperske Hory**	**147.84**	**346**	*e*PKP	PKPdf	11 20 08.2	+5.0
KHC				*ex*	x	11 20 12.7	
GEC2	**GERESS Array S**	**148.08**	**345**	*e*PKPbc	PKPdf	11 20 08.8	+5.2
GERES	**GERESS Array B**	**148.08**	**345**	PKPbc	PKPdf	11 20 08.5	+4.9
	2.1nm,0.6s,baz=21,slow=2.9,SNR=23						
GIVF	**Givet**	**148.19**	**356**	*e*PKP1	PKPdf	11 20 08.6	+4.9
	18nm,0.8s						
BAIF	**Baives**	**148.27**	**357**	*e*PKP1	PKPdf	11 20 08.8	+5.0
	8.5nm,0.8s						
CDF	**Champ du Feu**	**149.66**	**353**	*e*PKP1	PKPdf	11 20 12.2	+6.1
	2.8nm,0.6s						
MEZF	**Maizieres J'vi**	**149.77**	**356**	*e*PKP1	PKPdf	11 20 12.8	+6.5
HAU	**Haudompre**	**150.16**	**354**	*e*PKP1	PKPdf	11 20 13.2	+6.3
HINF	**Hinteralfeld**	**150.29**	**353**	*e*PKP1	PKPdf	11 20 13.4	+6.3

BJI 23 11:25:11.5, 0.26N×97.03E, h30km, mB5.0, mb4.7, Ms4.6, Msz4.4
IDC 23 11:25:16.2±1.1, 1.05N×96.92E, mb4.1/9, mb1 4.2/10, mb1mx4.0/21, mbtmp4.1/10, ML3.4/1, MS3.8/5, Ms1 3.7/5, ms1mx3.3/35, Error ellipse: s-maj=38.2km s-min=19.2km az=50.0
MOS 23 11:25:19.4±1.1, 1.10N×97.04E, h33km, mb4.5/9, Error ellipse: s-maj=18.6km s-min=10.7km az=100.2
NEIC 23 11:25:21.1±0.6, 1.10N×97.07E, h30km, mb4.6/9, Error ellipse: s-maj=18.6km s-min=9.4km az=49.0
ISC 23 11:25:17.8±0.6, 1.13N±0.09×97.03E±0.10, h20km, h20km±2km: pP-P, n45, σ1905/44, mb4.4/25, MS3.9/5, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.51**	**49**	Pn	**Pn**	**11 25 59.2**	**+0.8**
	7.5nm,0.3s,baz=245,slow=6.8,SNR=36						
PSI				Sn	**Sn**	**11 26 37.2**	**+8.4**
	14nm,0.3s,baz=260,slow=18,SNR=3.0						
PSI				LR	LR	11 26 48.9	
	comp=Z,734nm,21.4s,baz=306,slow=36						
PSI	**Prapat**	**2.51**	**49**	Pn	**Pn**	**11 25 59.2**	**+0.8**
PSI				Sn	**Sn**	**11 26 37.2**	**+8.4**
PSI				LR	LR	11 26 48.9	
KMI	**Kunming**	**24.48**	**13**	P	**P**	**11 30 39.3**	**+2.3**
KMI				AP		11 30 45.4	
KMI				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
KMI				LR	LR		
	comp=Z,300nm,16.8s,MS3.9						
GYA	**Guiyang**	**26.83**	**19⇓**	*i*P	**P**	**11 30 58.9**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
JIRN	**Jiri**	**28.35**	**339**	*e*P	**P**	**11 31 14.6**	**+1.8**
	comp=Z,40nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.55**	**338**	*e*P	**P**	**11 31 17.3**	**+2.7**
GUN	**Gumba**	**28.69**	**339**	*e*P	**P**	**11 31 17.2**	**+1.4**
	comp=Z,28nm,0.8s,mb5.0						
KKN	**Kakani**	**28.80**	**338**	*e*P	**P**	**11 31 18.1**	**+1.3**
GKN	**Gorkha**	**29.23**	**337**	*e*P	**P**	**11 31 21.1**	**+0.3**
KOLN	**Koldanda**	**29.45**	**335**	*e*P	**P**	**11 31 21.6**	**-1.1**
	comp=Z,26nm,0.9s,mb5.0						
ENH	**Enshi**	**31.30**	**21**	*e*P	**P**	**11 31 37.8**	**-1.2**
	comp=Z,16nm,0.8s,mb4.9						
ENH				*ep*P	pP	11 31 43.8	-1.2
XAN	**Xi'an**	**34.58**	**18**	P	**P**	**11 32 05.8**	**-1.7**
XAN				AP	pP	11 32 11.9	-1.6
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
LZH	**Lanzhou**	**35.35**	**10**	*e*P	**P**	**11 32 13.8**	**-0.3**
LZH				AP	pP	11 32 19.6	-0.5
LZH				XP	sP	11 32 22.3	-0.3
LZH				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.8						
GTA	**Gaotai**	**38.18**	**3**	*e*P	**P**	**11 32 37.8**	**-0.1**
GTA				AP	pP	11 32 43.9	0.0
GTA				XP	sP	11 32 46.8	+0.4
WRA	**Warramunga Arr**	**42.14**	**122**	P	**P**	**11 33 10.8**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=20						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P	**P**	**11 33 11.0**	**0.0**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P	**P**	**11 33 11.0**	**+0.1**
	comp=Z,21nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**42.15**	**122**	*e*P	**P**	**11 33 11.3**	**+0.3**
ASPA	**Alice Springs**	**43.49**	**127**	*e*P	**P**	**11 33 22.6**	**+0.8**
AAK	**Ala-Archa**	**45.99**	**337**	*e*P	**P**	**11 33 41.5**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**45.99**	**337**	*e*P	**P**	**11 33 41.5**	**-0.2**
	comp=Z,2.4nm,1.0s,mb4.1						
SONM	**Songino Array**	**47.22**	**9**	P	**P**	**11 33 51.7**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.4,baz=188,slow=8.7,SNR=29						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**11 33 52.1**	**+0.5**
	comp=Z,3.4nm,0.7s,mb4.4,baz=160,slow=8.8,SNR=36						
MKAR				LR	LR	11 55 36.0	
	comp=Z,49nm,18.8s,MS3.5,baz=89,slow=38						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**11 33 51.8**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ULN	**Ulaanbaatar**	**47.35**	**9**	*e*P	**P**	**11 33 52.5**	**+0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**47.35**	**9**	*e*P	**P**	**11 33 52.5**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.3						
HIA	**Hailar**	**51.76**	**19**	P	**P**	**11 34 25.4**	**-0.7**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HIA	**Hailar**	**51.76**	**19**	P	**P**	**11 34 25.4**	**-0.7**
	comp=Z,2.5nm,0.3s,mb4.6						
KURK	**Kurchatov**	**51.81**	**345**	*e*P	**P**	**11 34 26.8**	**+0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**51.81**	**345**	*e*P	**P**	**11 34 26.8**	**+0.3**
	comp=Z,4.2nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**53.44**	**132**	P	**P**	**11 34 39.0**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.3,baz=326,slow=15,SNR=3.7						
ZAL	**Zalesovo**	**53.59**	**351**	P	**P**	**11 34 39.9**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.3,baz=299,slow=6.9,SNR=20						
ZAL				LR	LR	12 02 59.4	
	comp=Z,47nm,19.1s,MS3.6,baz=113,slow=42						
ZAL	**Zalesovo**	**53.59**	**351**	P	**P**	**11 34 39.9**	**+0.2**
ZAL				LR	LR	12 02 59.4	
BVAR	**Borovoye Array**	**56.26**	**341**	P	**P**	**11 34 58.3**	**-0.8**
	comp=Z,2.9nm,0.7s,mb4.4,baz=140,slow=12,SNR=12						
KLR	**Kul'dur**	**56.39**	**27**	*e*P	**P**	**11 34 55.4**	**-4.8**
AB31	**Akbulak array**	**57.49**	**332**	*i* P	**P**	**11 35 07.4**	**-0.6**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
BOD	**Bodaibo**	**58.10**	**11**	*e*P	**P**	**11 35 11.3**	**-0.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
AKTK	**Aktyubinsk**	**59.21**	**332**	P	**P**	**11 35 18.9**	**-1.1**
AKTO	**Aktyubinsk**	**59.21**	**332**	P	**P**	**11 35 18.9**	**-1.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=131,slow=5.2,SNR=8.0						
LSZ	**Lusaka**	**69.94**	**253**	LR	LR	12 04 50.7	
	comp=Z,74nm,18.3s,MS4.0,baz=278,slow=34						
TIXI	**Tiksi**	**73.28**	**10⇑**	*i*P	**P**	**11 36 47.3**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AKASG	**Malin Array Be**	**75.21**	**322**	P	**P**	**11 36 59.5**	**-1.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=94,slow=4.5,SNR=4.3						
GERES	**GERESS Array B**	**84.75**	**319**	P	**P**	**11 37 54.0**	**+2.0**
	comp=Z,0.4nm,0.7s,mb3.6,baz=117,slow=3.0,SNR=4.1						
JMIC	**Jan Mayen**	**93.97**	**342**	LR	LR	12 26 58.4	
	comp=Z,194nm,18.6s,MS4.6,baz=269,slow=39						
TXAR	**Lajitas Array**	**143.81**	**32**	PKP	PKPdf	11 44 52.1	-4.3
	comp=Z,0.2nm,0.5s,baz=183,slow=2.4,SNR=4.1						

JMA 23 11:26:19.7±0.4, 30.16N×142.55E, M4.1, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**6.30**	**335**	P	Pn	11 27 56.8	+0.6
JHU				*e*S	Sn	11 29 09.6	-0.3
JRY	**Ryogami san**	**6.59**	**333**	P	Pn	11 28 00.3	0.0
JRY				*e*S	Sn	11 29 16.6	-0.5
JHO	**Hitachi**	**6.64**	**346**	P	Pn	11 28 01.3	+0.3
JHO				*e*S	Sn	11 29 16.4	-2.0
JMK	**Ichinoseki**	**8.84**	**353**	*e*S	Sn	11 30 10.0	-3.2

IDC 23 11:32:24.4±2.9, 37.85N×142.20E, h72km±24km, mb3.0/3, mb1 3.3/5, mb1mx3.1/22, mbtmp3.4/5, Error ellipse: s-maj=30.1km s-min=13.3km az=119.0
JMA 23 11:32:25.9±0.1, 37.82N×141.94E, h75km±2km, M3.9
JMA Felt I J1.
NEIC 23 11:32:28.4±1.4, 37.71N×141.84E, h100km, mb3.9/1, Error ellipse: s-maj=24.3km s-min=18.6km az=100.0
ISC 23 11:32:24.1±1.1, 37.83N±0.05×142.1E±0.1, h78km±8km, n18, σ0988/32, mb3.3/4, 1C-8D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.84**	**317**	⇓P	**P**	**11 32 42.3**	**+0.9**
JIO				S	**S**	**11 32 53.9**	**-0.5**
JMM	**Marumori**	**1.02**	**272**	⇓P	**P**	**11 32 43.9**	**+0.4**
JMM				*i* S	**S**	**11 32 56.8**	**-1.2**
JFK	**Kawauchi**	**1.06**	**244**	⇑P	**P**	**11 32 44.3**	**+0.2**
JFK				S	**S**	**11 32 57.3**	**-1.7**
JOU	**Okura**	**1.23**	**296**	⇓P	**P**	**11 32 46.8**	**+0.5**
JOU				S	**S**	**11 33 02.3**	**-0.6**
JMK	**Ichinoseki**	**1.30**	**329**	⇓P	**P**	**11 32 48.2**	**+0.9**
JMK				S	**S**	**11 33 04.3**	**-0.2**
JFT	**Otama**	**1.42**	**258**	⇓P	**P**	**11 32 49.2**	**+0.4**
JFT				S	**S**	**11 33 05.9**	**-1.1**
**J

*NEIC **23** 11:42:44.1±0.4, 1.12N×97.12E, mb4.6/14, Error ellipse: s-maj=14.4km s-min=7.2km az=51.0*
ISC 23 11:42:41.7±0.6, 1.17N±0.08×97.13E±0.09, h23km, h23km±1.8km; pP-P, n62, σ1§02/58, mb4.6/35, MS4.2/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.41**	**48**	Pn	**Pn**	**11 43 22.0**	**+1.4**
	6.1nm,0.3s,baz=234,slow=3.8,SNR=60						
PSI				Sn	**Sn**	**11 43 59.5**	**+10**
	9.7nm,0.3s,baz=193,slow=14,SNR=2.4						
PSI				LR	LR	11 44 12.0	
	comp=Z,700nm,20.1s,baz=302,slow=37						
PSI	**Prapat**	**2.41**	**48**	Pn	**Pn**	**11 43 22.0**	**+1.4**
PSI				Sn	**Sn**	**11 43 59.5**	**+10**
PSI				LR	LR	11 44 12.0	
KMI	**Kunming**	**24.42**	**12**	P	**P**	**11 48 02.3**	**+2.3**
KMI				AP		11 48 08.3	
KMI				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=Z,320nm,16.7s,MS3.9						
GYA	**Guiyang**	**26.76**	**19**	P	**P**	**11 48 21.5**	**-0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**28.35**	**339**	*e*P	**P**	**11 48 37.5**	**+1.2**
	comp=Z,60nm,1.0s,mb5.2						
PKI	**Pulchoki**	**28.55**	**338**	*e*P	**P**	**11 48 39.9**	**+1.7**
GUN	**Gumba**	**28.69**	**339**	*e*P	**P**	**11 48 40.7**	**+1.3**
	comp=Z,30nm,0.6s,mb5.2						
DMN	**Daman**	**28.70**	**337**	*e*P	**P**	**11 48 40.4**	**+0.9**
KKN	**Kakani**	**28.80**	**338**	*e*P	**P**	**11 48 41.2**	**+0.8**
	comp=Z,43nm,0.9s,mb5.2						
KKN	**Kakani**	**28.80**	**338**	*e*P	**P**	**11 48 41.2**	**+0.8**
KKN				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.9						
LSA	**Lhasa**	**28.93**	**349**	*e*P	**P**	**11 48 42.2**	**+0.6**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**28.93**	**349**	*e*P	**P**	**11 48 42.2**	**+0.6**
	comp=Z,7.4nm,0.8s,mb4.5						
GKN	**Gorkha**	**29.24**	**337**	*e*P	**P**	**11 48 45.2**	**+0.9**
KOLN	**Koldanda**	**29.45**	**335**	*e*P	**P**	**11 48 47.0**	**+0.7**
	comp=Z,29nm,0.8s,mb5.1						
ENH	**Enshi**	**31.23**	**21**	*e*P	**P**	**11 48 58.7**	**-3.2**
	comp=Z,24nm,0.8s,mb5.1						
ENH				*e*pP	pP	11 49 06.9	-1.8
FITZ	**Fitzroy Crossi**	**33.97**	**126**	*e*P	**P**	**11 49 25.2**	**-0.7**
	comp=Z,5.5nm,0.9s,mb4.5						
XAN	**Xi'an**	**34.51**	**17**	P	**P**	**11 49 29.3**	**-1.2**
XAN				AP	pP	11 49 35.1	-2.2
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GTA	**Gaotai**	**38.13**	**3**	*e*P	**P**	**11 50 01.4**	**+0.4**
GTA				AP	pP	11 50 08.4	+0.5
GTA				XP	sP	11 50 12.3	+1.5
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
JOW	**Kunigami**	**39.31**	**47**	P	**P**	**11 50 11.7**	**+0.7**
	comp=Z,27nm,0.7s,mb5.1,baz=161,slow=8.7,SNR=5.4						
HHC	**Hu-ho-hao-te**	**41.60**	**17**	*e*P	**P**	**11 50 28.0**	**-1.7**
HHC				AP	pP	11 50 35.4	-1.3
HHC				XP	sP	11 50 38.8	-0.7
HHC				PP	PP	11 52 05.8	-3.2
HHC				PCP	PcP	11 52 28.4	+1.1
HHC				PCS		11 56 17.9	
HHC				S	**S**	**11 56 38.1**	**-6.3**
HHC				SCS	ScS	12 00 28.3	-1.4
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,120nm,8.3s						
HHC				LR	LR		
	comp=N,400nm,11.9s,MS4.6						
HHC				LR	LR		
	comp=E,360nm,13.1s,MS4.6						
HHC				LR	LR		
	comp=Z,230nm,13.1s,MS4.2						
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**11 50 34.1**	**+0.2**
	comp=Z,3.6nm,0.7s,mb4.1,baz=300,slow=9.0,SNR=39						
WRA				PcP	PcP	11 52 29.1	-0.1
	comp=Z,0.6nm,0.8s,baz=297,slow=3.7,SNR=3.7						
WRAB	**Tennant Creek**	**42.08**	**122**	*e*P	**P**	**11 50 34.2**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**42.08**	**122**	*e*P	**P**	**11 50 34.2**	**+0.2**
	comp=Z,6.6nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**42.09**	**122**	*e*P	**P**	**11 50 34.1**	**+0.1**
WMQ	**Urumqi**	**43.29**	**350**	*e*P	**P**	**11 50 44.0**	**+0.5**
WMQ				AP	pP	11 50 48.8	-1.6
WMQ				XP	sP	11 50 51.0	-2.2
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,70nm,5.6s						
WMQ				LR	LR		
	comp=N,60nm,21.0s,MS3.6						
WMQ				LR	LR		
	comp=E,70nm,22.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,50nm,20.0s,MS3.4						
ASPA	**Alice Springs**	**43.43**	**127**	*e*P	**P**	**11 50 45.8**	**+0.9**
TKM2	**Tokmak 2**	**45.82**	**338**	P	**P**	**11 51 04.3**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**46.00**	**337**	*e*P	**P**	**11 51 05.9**	**+0.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**46.00**	**337**	*e*P	**P**	**11 51 05.8**	**+0.6**
	comp=Z,7.7nm,1.3s,mb4.5						
SONM	**Songino Array**	**47.17**	**9**	P	**P**	**11 51 14.6**	**+0.2**
	comp=Z,5.4nm,0.8s,mb4.6,baz=189,slow=7.9,SNR=6.1						
SONM				PcP	PcP	11 52 45.9	-0.3
	comp=Z,1.0nm,0.6s,baz=190,slow=3.3,SNR=4.0						
MKAR	**Makanchi Array**	**47.25**	**346**	P	**P**	**11 51 15.4**	**+0.3**
	comp=Z,4.9nm,0.6s,mb4.6,baz=161,slow=7.7,SNR=13						
MKAR	**Makanchi Array**	**47.25**	**346**	*i* P	**P**	**11 51 15.0**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ULN	**Ulaanbaatar**	**47.30**	**9**	*e*P	**P**	**11 51 14.8**	**-0.6**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
ULN	**Ulaanbaatar**	**47.30**	**9**	*e*P	**P**	**11 51 14.8**	**-0.7**
	comp=Z,8.1nm,1.2s,mb4.5						
KKAR	**Karatay Array**	**48.05**	**334**	*i* P	**P**	**11 51 21.5**	**+0.1**
CBIJ	**Chichi jima**	**50.29**	**55**	LR	LR	12 08 46.1	
	comp=Z,2μm,21.1s,MS5.2,baz=342,slow=31						
HIA	**Hailar**	**51.69**	**19**	*e*P	**P**	**11 51 48.4**	**-0.7**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HIA	**Hailar**	**51.69**	**19**	*e*P	**P**	**11 51 48.4**	**-0.7**
	comp=Z,6.4nm,0.8s,mb4.6						
KURK	**Kurchatov**	**51.80**	**345**	*e*P	**P**	**11 51 49.2**	**-0.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**51.80**	**345**	*e*P	**P**	**11 51 49.2**	**-0.7**
	comp=Z,4.7nm,0.8s,mb4.5						
CTA	**Charters Tower**	**52.55**	**116**	LR	LR	12 15 54.5	
	comp=Z,112nm,20.4s,MS3.9,baz=44,slow=38						
STKA	**Stephens Creek**	**53.39**	**132**	P	**P**	**11 52 03.1**	**+1.0**
	comp=Z,4.0nm,0.9s,mb4.3,baz=305,slow=19,SNR=4.6						
ZAL	**Zalesovo**	**53.56**	**351**	P	**P**	**11 52 02.9**	**-0.2**
	comp=Z,5.7nm,0.7s,mb4.6,baz=320,slow=6.2,SNR=27						
VOSK	**Vostochnaya**	**55.80**	**341**	P	**P**	**11 52 18.5**	**-0.9**
BVA0	**Borovoye Array**	**56.25**	**341**	*i* P	**P**	**11 52 21.4**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**56.25**	**341**	P	**P**	**11 52 21.5**	**-1.2**
	comp=Z,4.9nm,0.7s,mb4.7,baz=150,slow=8.9,SNR=18						
KLR	**Kul'dur**	**56.31**	**27**	*e*P	**P**	**11 52 19.3**	**-3.8**
BRVK	**Borovoye**	**56.31**	**341**	*e*P	**P**	**11 52 21.6**	**-1.5**
BRVK				*PP	pP	11 52 29.7	-0.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BRVK	**Borovoye**	**56.31**	**341**	*e*P	**P**	**11 52 21.6**	**-1.5**
	comp=Z,4.4nm,1.0s,mb4.4						
BRVK				pP	pP	11 52 29.7	-0.4
AB31	**Akbulak array**	**57.51**	**332**	*i* P	**P**	**11 52 30.4**	**-1.2**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
BOD	**Bodaibo**	**58.05**	**11**	*e*P	**P**	**11 52 34.2**	**-1.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
YAK	**Yakutsk**	**65.46**	**16**	P	**P**	**11 53 23.5**	**-1.5**
YAK				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.2						
YAK	**Yakutsk**	**65.46**	**16**	P	**P**	**11 53 23.5**	**-1.5**
	comp=Z,12nm,0.5s,mb5.2						
BRTR	**Keskin Array B**	**69.08**	**312**	P	**P**	**11 53 47.6**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=76,slow=6.0,SNR=2.6						
MAW	**Mawson**	**72.67**	**193**	LR	LR	12 22 10.9	
	comp=Z,74nm,19.4s,MS4.0,baz=247,slow=33						
TIXI	**Tiksi**	**73.22**	**10**	*e*P	**P**	**11 54 09.0**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
FINES	**FINESS Array B**	**79.99**	**333**	P	**P**	**11 54 50.1**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=124,slow=6.9,SNR=4.0						
GERES	**GERESS Array B**	**84.79**	**319**	P	**P**	**11 55 16.3**	**+0.7**
	comp=Z,0.2nm,0.2s,mb3.8,baz=117,slow=3.0,SNR=5.3						
NVAR	**Mina Array Bea**	**128.84**	**36**	PKP	PKPdf	12 01 50.9	-1.7
	comp=Z,0.3nm,0.6s,baz=290,slow=1.7,SNR=3.8						
TXAR	**Lajitas Array**	**143.73**	**32**	PKP	PKPdf	12 02 15.4	-4.7
	comp=Z,0.3nm,0.7s,baz=342,slow=4.0,SNR=4.9						
JCT	**Junction City**	**144.63**	**26**	*e*PKPdf	PKPdf	12 02 17.8	-3.9
CPUP	**Villa Florida**	**144.94**	**222**	*e*PKIKP	PKPdf	12 02 19.7	-2.6

*CSEM **23** 11:46:09.8±0.1, 34.74N×53.18E, h2km, ML3.6, Error ellipse: s-maj=1.7km s-min=1.2km az=82.0*
*THR **23** 11:46:10.6±1.1, 34.81N×53.33E, h14km±9km, ML3.4*
*TEH **23** 11:46:12.6, 34.75N×53.13E, h5km, Mn3.6*
ISC 23 11:46:10.8±0.5, 34.75N±0.03×53.18E±0.06, h5km, n22, σ1§19/24, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAS	**Lasjerd**	**0.65**	**344**	Pg	**Pg**	**11 46 24.3**	**+0.4**
ISFB	**Sefidab**	**0.88**	**243**	Pg	**Pg**	**11 46 27.3**	**-1.0**
IANJ	**Anjiloo**	**0.93**	**40**	Pg	**Pg**	**11 46 28.3**	**-1.1**
IFIR	**Firoozkooh**	**0.95**	**338**	Pg	**Pg**	**11 46 29.3**	**-0.5**
ISHM	**Shahmirzad**	**1.05**	**5**	Pg	**Pg**	**11 46 31.2**	**-0.7**
IVRN	**Varamin**	**1.22**	**282**	Pg	**Pg**	**11 46 34.1**	**-1.1**
IDMV	**Damavand**	**1.25**	**311**	Pg	**Pg**	**11 46 34.8**	**-1.0**
DAMV	**Damavand**	**1.32**	**312**	*e*Pg	**Pg**	**11 46 35.9**	**-1.3**
DAMV				*e*Sg	**Sg**	**11 46 54.8**	**0.0**
DAMV				AML	AML	11 46 56.0	
	comp=N,768nm,0.6s						
IAFJ	**Afjeh**	**1.63**	**313**	Pn	**Pn**	**11 46 41.3**	**+1.0**
IKLH	**Kalahroud**	**1.96**	**223**	Pn	**Pn**	**11 46 45.5**	**+0.6**
NASN	**Na'in**	**1.98**	**189**	*e*Pg	**Pg**	**11 46 47.8**	**-2.4**
NASN				*e*Sg	**Sg**	**11 47 15.5**	**-1.1**
IZEF	**Zefreh**	**1.98**	**201**	Pn	**Pn**	**11 46 45.1**	**+0.1**
THKV	**Tehran--Karaj**	**2.21**	**302**	*e*Pn	**Pn**	**11 46 50.5**	**+1.8**
ASAO	**Ashtian**	**2.61**	**266**	*e*Pn	**Pn**	**11 46 56.6**	**+2.3**
ASAO				AML	AML	11 47 46.9	
	comp=N,122nm,0.6s						
IGAR	**Garneh**	**2.63**	**198**	Pn	**Pn**	**11 46 53.0**	**-1.7**
ICHK	**Chekchek**	**2.70**	**157**	Pn	**Pn**	**11 46 56.6**	**+0.9**
IRAZ	**Razeghan**	**2.75**	**285**	Pn	**Pn**	**11 47 02.0**	**+5.7**
IPIR	**Pirpir**	**2.81**	**223**	Pn	**Pn**	**11 46 57.3**	**+0.1**
ISAD	**Sadrabad**	**2.86**	**171**	Pn	**Pn**	**11 46 59.9**	**+2.0**
IMEH	**Mehriz**	**3.56**	**160**	Pn	**Pn**	**11 47 08.7**	**+0.8**
IBAF	**Bafgh**	**3.73**	**147**	Pn	**Pn**	**11 47 10.5**	**+0.2**
SNGE	**Sanandaj**	**4.81**	**276**	*e*Pn	**Pn**	**11 47 27.3**	**+1.8**

IDC 23 12:04:02.0±2.2, 1.09N×96.98E, mb3.5/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=54.9km s-min=29.2km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.58**	**49**	Pn	Pn	12 04 44.8	-1.0
	1.8nm,0.3s,baz=214,slow=5.7,SNR=6.3						
PSI				Sn	Sn	12 05 22.2	+3.8
	1.8nm,0.3s,baz=288,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**42.16**	**122**	P	P	12 11 56.5	-1.8
	0.3nm,0.7s,baz=302,slow=9.0,SNR=5.0						
SONM	**Songino Array**	**47.27**	**9**	P	P	12 12 37.1	-1.9
	0.2nm,0.4s,baz=187,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**47.30**	**346**	P	P	12 12 37.1	-2.1
	0.4nm,0.5s,baz=166,slow=8.9,SNR=8.9						
ZAL	**Zalesovo**	**53.62**	**351**	P	P	12 13 25.1	-2.2
	1.0nm,0.3s,baz=343,slow=6.3,SNR=4.1						

*IDC **23** 12:11:51.9±1.5, 1.54S×145.34E, mb3.8/5, mb1 4.0/5, mb1mx3.9/13, mbtmp3.8/5, Error ellipse: s-maj=55.2km s-min=31.9km az=113.0*
*NEIC **23** 12:11:57.2±0.8, 1.59S×145.31E, h35km, mb4.1/1, Error ellipse: s-maj=43.6km s-min=11.9km az=110.0*
ISC 23 12:11:55.7±1.1, 1.6S±0.2×145.2E±0.4, h33km, n8, σ0§78/8, mb3.7/6, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**21.11**	**209**	*e*P	**P**	**12 16 39.1**	**-0.8**
	5.6nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**21.12**	**209**	*e*P	**P**	**12 16 39.8**	**-0.2**
WRA	**Warramunga Arr**	**21.13**	**209**	P	**P**	**12 16 39.5**	**-0.5**
	4.7nm,0.6s,mb4.0,baz=92,slow=11,SNR=88						
ASPA	**Alice Springs**	**24.55**	**206**	*e*P	**P**	**12 17 15.5**	**+1.7**
MKAR	**Makanchi Array**	**72.96**	**320**	P	**P**	**12 23 24.0**	**+0.2**
	0.4nm,0.8s,mb3.4,baz=100,slow=8.8,SNR=3.2						
ILAR	**Eielson Array**	**82.15**	**24**	P	**P**	**12 24 13.4**	**-0.9**
	0.5nm,0.7s,mb3.5,baz=258,slow=5.8,SNR=4.6						
BVAR	**Borovoye Array**	**82.15**	**324**	P	**P**	**12 24 14.7**	**+0.1**
	0.4nm,0.4s,mb3.7,baz=146,slow=5.2,SNR=3.4						
YKA	**Yellowknife Ar**	**96.10**	**27**	P	**P**	**12 25 21.5**	**+0.7**
	0.1nm,0.7s,mb3.3,baz=288,slow=3.5,SNR=3.6						

*NIED **23** 12:25:00, 43.70N×141.40E, h210km, Mw4.2 Best double couple: M0 2.08×10^15 NP1:φs279°, δ69°, λ-156°. NP2: φs180°, δ68°, λ-23°.*
*MOS **23** 12:25:13.3±0.9, 43.74N×141.30E, h208km, mb3.8/8, Error ellipse: s-maj=14.8km s-min=8.1km az=82.4*
*IDC **23** 12:25:14.3±0.5, 43.74N×141.33E, h199km±4km, mb3.5/13, mb1 3.7/15, mb1mx3.6/24, mbtmp4.1/15, Error ellipse: s-maj=14.1km s-min=10.8km az=149.0*
*JMA **23** 12:25:14.4±0.1, 43.75N×141.35E, h205km±1km, M3.8*
*NEIC **23** 12:25:14.0±0.4, 43.73N×141.33E, h199km±5km, mb4.2/12, Error ellipse: s-maj=6.5km s-min=4.0km az=131.0*
ISC 23 12:25:13.4±0.2, 43.72N±0.03×141.35E±0.05, h208km±2km, n79, σ0§90/99, mb3.8/25, 12C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHR	**Hokuryu**	**0.27**	**86**	⇓P	**P**	**12 25 42.0**	**+0.9**
JHR				*e*S	**S**	**12 26 03.0**	**+0.6**
JAB	**Ashibetsu**	**0.67**	**109**	⇓P	**P**	**12 25 43.2**	**+0.8**
JAB				*e*S	**S**	**12 26 05.5**	**+0.7**
JYG	**Yagishiri**	**0.71**	**4**	⇓P	**P**	**12 25 42.6**	**0.0**
JYG				*e*S	**S**	**12 26 04.7**	**-0.4**
JSK	**Shakotan**	**0.74**	**240**	⇑P	**P**	**12 25 43.2**	**+0.5**
JSK				*e*S	**S**	**12 26 04.9**	**-0.5**
JSS	**Shosan**	**0.77**	**28**	⇓P	**P**	**12 25 43.6**	**+0.8**
JEW	**Eniwo**	**0.89**	**175**	⇓P	**P**	**12 25 44.6**	**+1.1**
JEW				*e*S	**S**	**12 26 07.5**	**+0.8**
ASAJ	**Asahikawa**	**0.98**	**66**	P	**P**	**12 25 44.2**	**+0.2**
	27nm,0.3s,baz=247,slow=9.0,SNR=223						
ASAJ				S	**S**	**12 26 07.0**	**-0.7**
	20nm,0.3s,baz=101,slow=29,SNR=23						
ASAJ	**Asahikawa**	**0.98**	**66**	PN	**P**	**12 25 44.3**	**+0.3**
ASAJ				S	**S**	**12 26 07.0**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,27nm,0.3s						
ASAJ				smax			
	comp=N,20nm,0.3s						
JKK2	**Kamakawa 2**	**1.02**	**81**	⇑P	**P**	**12 25 44.8**	**+0.5**
JKK2				*e*S	**S**	**12 26 07.9**	**-0.3**
JFR	**Furan**	**1.06**	**121**	P	**P**	**12 25 44.9**	**+0.3**
JSE	**Soyaes**	**1.52**	**35**	P	**P**	**12 25 48.3**	**-0.1**
JSE				*e*S	**S**	**12 26 14.5**	**-0.8**
JWK2	**Keihoku**	**1.64**	**14**	P	**P**	**12 25 50.0**	**+0.5**
JWK2				*e*S	**S**	**12 26 17.2**	**0.0**
JNBK	**Urakawa-nobuka**	**1.77**	**144**	⇓P	**P**	**12 25 51.1**	**+0.4**
JNBK				*e*S	**S**	**12 26 18.9**	**-0.4**
JAR	**Ashorobuto**	**1.81**	**103**	⇑P	**P**	**12 25 51.7**	**+0.7**
JAR				*e*S	**S**	**12 26 20.8**	**+0.8**
JCH	**Churui**	**1.84**	**126**	P	**P**	**12 25 50.5**	**-0.8**
JCH				*e*S	**S**	**12 26 17.6**	**-2.9**
JKB	**Kayabe**	**1.85**	**187**	⇑P	**P**	**12 25 51.8**	**+0.4**
JKB				*e*S	**S**	**12 26 20.0**	**-0.6**
JTKR	**Abashiri--Toko**	**1.87**	**81**	⇑P	**P**	**12 25 52.2**	**+0.6**
JTKR				*e*S	**S**	**12 26 20.9**	**0.0**
JOSM	**Okushiri--Mats**	**2.14**	**221**	⇑P	**P**	**12 25 54.8**	**+0.4**
JOSM				*e*S	**S**	**12 26 26.0**	**+0.1**
JOT	**Ohata**	**2.35**	**186**	P	**P**	**12 25 56.7**	**+0.1**
JOT				*e*S	**S**	**12 26 29.4**	**-0.6**
JAK	**Akkeshi**	**2.54**	**105**	P	**P**	**12 25 58.3**	**-0.5**
JAK				*e*S	**S**	**12 26 31.3**	**-2.5**
JRA	**Rausu**	**2.74**	**84**	P	**P**	**12 26 01.7**	**+0.8**
JRA				*e*S	**S**	**12 26 38.6**	**+0.9**
YSS	**Yuzh-Sakhalins**	**3.38**	**17**	⇑*i*PN	**P**	**12 26 08.1**	**-0.4**
YSS				*i* S	**S**	**12 26 48.8**	**-2.3**
YSS				pmax	pmax		
	comp=N,150nm,0.6s						
YSS				pmax	pmax		
	comp=Z,180nm,0.6s						
YSS				smax			
	comp=N,380nm,0.9s						
YSS				smax			
	comp=E,400nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.38**	**17**	*e*Pn	**P**	**12 26 08.2**	**-0.3**
MAJO	**Matsushiro**	**7.56**	**200**	*e*PN	**P**	**12 27 01.8**	**0.0**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MAJO	**Matsushiro**	**7.56**	**200**	*e*Pn	**P**	**12 27 01.8**	**0.0**
	comp=Z,9.8nm,0.4s						
MAT	**Matsushiro**	**7.56**	**200**	P	**P**	**12 27 01.6**	**-0.2**
MAT	**Matsushiro**	**7.56**	**200**	*e*PN	**P**	**12 27 02.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,11nm,0.7s						
MAT	**Matsushiro**	**7.56**	**200**	*e*P	**P**	**12 27 02.0**	**+0.2**
	comp=Z,11nm,0.7s						
MJAR	**Matsushiro Arr**	**7.56**	**200**	P	**P**	**12 27 01.5**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=9.4,slow=13,SNR=36						
JHJ	**Hachijo jima 2**	**10.66**	**187**	P	**P**	**12 27 39.1**	**-2.7**
	comp=Z,1.5nm,0.3s,baz=221,slow=6.4,SNR=3.3						
KS15	**Wonju Array Si**	**12.00**	**243**	*e*Pn	**P**	**12 27 58.8**	**-0.1**
JNU	**Nakatsue**	**13.38**	**221**	P	**P**	**12 28 15.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=58,slow=21,SNR=2.7						
PET	**Petropavlovsk**	**14.76**	**45**	P	**P**	**12 28 33.0**	**-0.2**
HIA	**Hailar**	**15.86**	**298**	*e*P	**P**	**12 28 45.8**	**-0.9**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HIA	**Hailar**	**15.86**	**298**	*e*P	**P**	**12 28 45.8**	**-0.9**
	comp=Z,5.1nm,0.5s						
SEY	**Seymchan**	**20.28**	**15**	⇑*e*P	**P**	**12 29 34.0**	**-0.1**
ULN	**Ulaanbaatar**	**24.15**	**292**	⇑*e*P	**P**	**12 30 18.5**	**+7.0**
SONM	**Songino Array**	**24.59**	**292**	P	**P**	**12 30 16.1**	**+0.5**
	comp=Z,1.7nm,0.6s,mb3.9,baz=87,slow=8.6,SNR=14						
ENH	**Enshi**	**28.58**	**253**	*e*P	**P**	**12 30 51.5**	**-0.6**
	comp=Z,6.4nm,0.5s,mb4.5						
ZAL	**Zalesovo**	**37.65**	**306**	P	**P**	**12 32 09.9**	**+0.2**
	comp=Z,1.3nm,0.3s,mb3.9,baz=16,slow=8.3,SNR=4.4						
MKAR	**Makanchi Array**	**40.84**	**296**	P	**P**	**12 32 36.4**	**+0.3**
	comp=Z,2.7nm,0.7s,mb3.8,baz=82,slow=9.4,SNR=17						
IMA2	**Indian Mountai**	**41.06**	**34**	*e*P	**P**	**12 32 37.2**	**-0.5**
KURK	**Kurchatov**	**42.03**	**302**	⇑*e*P	**P**	**12 32 46.8**	**+1.2**
KURK	**Kurchatov**	**42.03**	**302**	*e*P	**P**	**12 32 45.5**	**-0.1**
	comp=Z,4.5nm,0.6s,mb4.1						
KDAK	**Kodiak Island**	**42.34**	**47**	P	**P**	**12 32 47.8**	**-0.3**
	comp=Z,4.2nm,0.6s,mb4.1,baz=278,slow=7.1,SNR=12						
MCK	**McKinley**	**43.23**	**38**	*e*P	**P**	**12 32 55.0**	**-0.1**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
MCK	**McKinley**	**43.23**	**38**	*e*P	**P**	**12 32 55.0**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.5						
COLA	**College**	**43.56**	**36**	*e*P	**P**	**12 32 58.3**	**+0.5**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.0						
COLA	**College**	**43.56**	**36**	*e*P	**P**	**12 32 58.3**	**+0.5**
	comp=Z,5.1nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**43.99**	**36**	P	**P**	**12 33 01.1**	**-0.1**
	comp=Z,2.6nm,0.6s,mb3.7,baz=278,slow=9.7,SNR=50						
VOSK	**Vostochnaya**	**45.99**	**307**	P	**P**	**12 33 17.7**	**+0.5**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.6						
BVA0	**Borovoye Array**	**46.23**	**308**	*i* P	**P**	**12 33 17.4**	**-1.6**
BVAR	**Borovoye Array**	**46.23**	**308**	P	**P**	**12 33 19.5**	**+0.4**
	comp=Z,1.8nm,0.4s,mb3.7,baz=68,slow=8.9,SNR=13						
INK	**Inuvik**	**48.53**	**30**	*e*P	**P**	**12 33 36.1**	**-0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	**Inuvik**	**48.53**	**30**	*e*P	**P**	**12 33 36.1**	**-0.5**
	comp=Z,2.8nm,0.

*BJI **23** 12:50:58.6, 15.94N×104.97W, h28km, mB5.6, mb5.4, Ms4.9, Msz4.7*

*NEIC **23** 12:51:01.2±2.0, 15.36N×105.05W, h36km±15km, mb4.6/19, Error ellipse: s-maj=20.2km s-min=7.7km az=45.0*

ISC 23 12:50:59.4±0.7, 15.36N±0.07×105.04W±0.09, h33km, n75, σ1°08/47, mb4.2/20, MS4.3/26, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFJM	**Santa Fe**	**5.44**	**20**	***e*P**	**P**	**12 52 19.0**	**-1.3**
MOIG	**Morelia**	**5.65**	**40**	***e*P**	**P**	**12 52 20.0**	**-3.2**
MOIG				*i* S	Px	12 52 57.2	
ZAIG	**Zacatecas**	**7.73**	**17**	***e*P**	**P**	**12 52 50.8**	**-1.5**
LTX	**Lajitas**	**13.96**	**5**	***e*P**	**P**	**12 54 17.3**	**+0.2**
	28nm,1.4s						
TXAR	**Lajitas Array**	**13.96**	**5**	Pn	**P**	**12 54 18.3**	**+1.1**
	0.0nm,0.3s,baz=186,slow=11,SNR=38						
TXAR				LR	LR	12 58 50.3	
	comp=Z,603nm,21.1s,baz=125,slow=34						
TXAR	**Lajitas Array**	**13.96**	**5**	Pn	**P**	**12 54 18.3**	**+1.1**
TXAR				LR	LR	12 58 50.3	
JCT	**Junction City**	**15.80**	**17**	***e*P**	**P**	**12 54 41.8**	**+0.8**
	87nm,1.8s						
MNTX	**Cornudas Mount**	**16.27**	**359**	***e*P**	**P**	**12 54 47.2**	**+0.3**
	51nm,1.9s						
TUC	**Tucson**	**17.66**	**344**	***e*P**	**P**	**12 55 05.8**	**+1.3**
	3.7nm,0.9s						
NATX	**Nacogdoches**	**18.88**	**28**	***e*P**	**P**	**12 55 19.1**	**-0.5**
ANMO	**Albuquerque**	**19.55**	**357**	P	**P**	**12 55 26.4**	**-0.7**
	baz=176,slow=9.4,SNR=8.1						
ANMO				LR	LR	13 03 34.6	
	comp=Z,378nm,18.2s,baz=73,slow=39						
ANMO	**Albuquerque**	**19.55**	**357**	***e*P**	**P**	**12 55 26.8**	**-0.3**
	8.4nm,1.2s						
JTS	**JuntasAbangare**	**20.22**	**102**	***e*P**	**P**	**12 55 35.2**	**+0.8**
	31nm,1.1s						
WUAZ	**Wupatki**	**20.86**	**345**	***e*P**	**P**	**12 55 41.6**	**+0.7**
	30nm,1.0s						
NEN	**Nelson**	**22.03**	**338**	***e*P**	**P**	**12 55 52.9**	**+0.3**
SDCO	**Great Sand Dun**	**22.30**	**359**	***e*P**	**P**	**12 55 57.0**	**+1.6**
	7.9nm,1.2s,mb4.0						
ARUT	**Antelope Range**	**23.54**	**343**	***e*P**	**P**	**12 56 08.9**	**+1.3**
TPNV	**Topopah Spring**	**23.70**	**337**	***e*P**	**P**	**12 56 10.5**	**+1.4**
	75nm,2.2s,mb4.7						
OXF	**Oxford**	**23.70**	**34**	***e*P**	**P**	**12 56 09.2**	**0.0**
	36nm,1.2s,mb4.7						
MET	**Memphis--Engin**	**23.90**	**32**	P	**P**	**12 56 12.2**	**+1.2**
MSU	**Marysvale**	**23.90**	**346**	***e*P**	**P**	**12 56 13.1**	**+2.0**
LRAL	**Lakeview Retre**	**24.03**	**40**	***e*P**	**P**	**12 56 12.6**	**+0.3**
	25nm,1.3s,mb4.5						
DAU	**Daniels Canyon**	**25.54**	**349**	***e*P**	**P**	**12 56 27.5**	**+0.7**
WVT	**Waverly**	**25.77**	**33**	***e*P**	**P**	**12 56 29.2**	**+0.3**
	22nm,1.8s,mb4.4						
NVAR	**Mina Array Bea**	**25.78**	**336**	P	**P**	**12 56 29.1**	**0.0**
	0.9nm,1.0s,mb3.2,baz=148,slow=8.5,SNR=4.9						
NVAR				LR	LR	13 05 22.0	
	comp=Z,546nm,21.6s,MS4.0,baz=155,slow=34						
SWET	**Sewanee**	**26.17**	**37**	P	**P**	**12 56 32.8**	**+0.1**
ELK	**Elko**	**26.80**	**343**	P	**P**	**12 56 37.6**	**-0.9**
	0.3nm,0.4s,mb3.2,baz=162,slow=9.1,SNR=2.5						
ELK				LR	LR	13 07 14.8	
	comp=Z,182nm,21.9s,MS3.6,baz=164,slow=36						
BW06	**Boulder Array**	**27.59**	**353**	***e*P**	**P**	**12 56 44.7**	**-0.9**
	47nm,2.3s,mb4.7						
PDAR	**Pinedale Array**	**27.59**	**353**	P	**P**	**12 56 45.2**	**-0.4**
	0.9nm,1.0s,mb3.4,baz=180,slow=7.4,SNR=6.7						
LOHW	**Long Hollow**	**28.55**	**352**	***e*P**	**P**	**12 56 54.4**	**+0.1**
	9.8nm,0.9s,mb4.5						
HLID	**Hailey**	**29.23**	**346**	***e*P**	**P**	**12 56 59.9**	**-0.4**
	2.8nm,0.9s,mb4.0						
OTAV	**Otavalo**	**30.26**	**117**	***e*P**	**P**	**12 57 10.4**	**+0.6**
	8.5nm,1.0s,mb4.4						
YBH	**Yreka Blue Hor**	**30.39**	**333**	LR	LR	13 08 33.6	
	comp=Z,453nm,18.2s,MS4.2,baz=149,slow=35						
BOZ	**Bozeman (W)**	**30.70**	**351**	***e*P**	**P**	**12 57 13.2**	**-0.1**
	4.7nm,1.0s,mb4.3						
ROSC	**El Rosal**	**31.94**	**106**	P	**P**	**12 57 26.0**	**+1.4**
	4.0nm,0.4s,mb4.7,baz=95,slow=22,SNR=3.5						
ROSC				LR	LR	13 07 33.3	
	comp=Z,228nm,21.0s,MS3.8,baz=224,slow=31						
NEW	**Newport**	**34.29**	**346**	P	**P**	**12 57 44.4**	**-0.2**
	1.6nm,0.7s,mb4.0,baz=161,slow=10,SNR=3.6						
NEW	**Newport**	**34.29**	**346**	***e*P**	**P**	**12 57 44.5**	**-0.1**
	9.7nm,1.1s,mb4.7						
ULM	**Lac du Bonnet**	**35.59**	**10**	LR	LR	13 12 00.0	
	comp=Z,450nm,19.1s,MS4.2,baz=356,slow=35						
EDM	**Edmonton**	**38.34**	**352**	***e*P**	**P**	**12 58 16.9**	**-1.9**
EDM				*e*		12 58 22.9	
BBB	**Bella Bella**	**41.07**	**338**	LR	LR	13 15 07.7	
	comp=Z,327nm,18.2s,MS4.2,baz=135,slow=35						
TAOE	**Nuku Hiva Isla**	**42.29**	**238**	*e*LQ		13 08 15.9	
TAOE				*e*LR	LR	13 10 02.4	
	2µm,25.1s,baz=59						
DLBC	**Dease Lake**	**46.85**	**342**	LR	LR	13 19 58.2	
	comp=Z,315nm,19.0s,MS4.3,baz=149,slow=37						
YKA	**Yellowknife Ar**	**47.56**	**354**	P	**P**	**12 59 32.0**	**-1.4**
	0.5nm,0.8s,mb3.6,baz=167,slow=7.4,SNR=13						
YKA				PcP	PcP	13 01 04.9	+1.5
	0.6nm,1.0s,baz=171,slow=4.3,SNR=4.3						
YKA				LR	LR	13 18 19.8	
	comp=Z,261nm,19.9s,MS4.2,baz=135,slow=34						
YKA	**Yellowknife Ar**	**47.56**	**354**	P	**P**	**12 59 32.0**	**-1.4**
YKA				PcP	PcP	13 01 04.9	+1.5
YKA				LR	LR	13 18 19.8	
YKW3	**Yellowknife Ar**	**47.62**	**354**	***e*P**	**P**	**12 59 32.6**	**-1.3**
LPAZ	**La Paz**	**48.13**	**129**	P	**P**	**12 59 38.6**	**+0.1**
	2.8nm,0.9s,mb4.3,baz=324,slow=9.1,SNR=9.5						
LPAZ				LR	LR	13 17 25.0	
	comp=Z,476nm,20.5s,MS4.5,baz=230,slow=33						
LPAZ	**La Paz**	**48.13**	**129**	***e*P**	**P**	**12 59 38.4**	**-0.1**
	12nm,1.4s,mb4.7						
RKT	**Rikitea**	**48.17**	**218**	***e*LR**	LR	13 12 42.8	
	798nm,27.8s						
SCHQ	**Schefferville**	**49.21**	**28**	LR	LR	13 21 22.5	
	comp=Z,281nm,18.7s,MS4.3,baz=254,slow=37						
DAWY	**Dawson**	**54.08**	**342**	***e*P**	**P**	**13 00 24.5**	**+1.6**
PPT	**Papeete**	**54.76**	**235**	***e*LR**	LR	13 15 48.3	
	619nm,25.5s,baz=56						
KDAK	**Kodiak Island**	**55.17**	**331**	LR	LR	13 22 08.4	
	comp=Z,138nm,20.1s,MS4.0,baz=128,slow=34						
INK	**Inuvik**	**55.97**	**348**	***e*P**	**P**	**13 00 34.9**	**-1.6**
	13nm,1.1s,mb4.9						
ILAR	**Eielson Array**	**56.92**	**340**	P	**P**	**13 00 42.2**	**-1.2**
	3.1nm,1.0s,mb4.3,baz=151,slow=5.6,SNR=20						
MCK	**McKinley**	**56.97**	**338**	***e*P**	**P**	**13 00 40.8**	**-3.0**
	18nm,1.9s,mb4.8						
TBI	**Tubuai**	**58.02**	**229**	***e*LR**	LR	13 17 18.3	
	745nm,28.2s,baz=54						
CPUP	**Villa Florida**	**62.20**	**131**	P	**P**	**13 01 18.6**	**-1.7**
SFJD	**Kangerlussuaq**	**62.44**	**21**	LR	LR	13 28 33.7	
	comp=Z,270nm,19.3s,MS4.4,baz=225,slow=36						
BDFB	**Brasilia**	**64.20**	**116**	LR	LR	13 28 37.5	
	comp=Z,261nm,18.5s,MS4.5,baz=295,slow=35						
PLCA	**Paso Flores**	**64.33**	**151**	LR	LR	13 23 00.7	
	comp=Z,184nm,20.5s,MS4.3,baz=352,slow=30						
RAR	**Rarotonga**	**64.84**	**237**	LR	LR	13 21 44.8	
	comp=Z,244nm,19.2s,MS4.4,baz=89,slow=29						
AFI	**Afiamalu**	**72.11**	**250**	LR	LR	13 26 53.4	
	comp=Z,165nm,18.2s,MS4.3,baz=73,slow=30						
ARCES	**ARCESS Array B**	**88.52**	**16**	LR	LR	13 43 37.0	
	comp=Z,213nm,20.2s,MS4.5,baz=321,slow=36						
NOA	**NORSAR Array B**	**88.73**	**26**	LR	LR	13 43 48.8	
	comp=Z,85nm,18.1s,MS4.2,baz=315,slow=36						
URZ	**Urewera**	**90.14**	**230**	LR	LR	13 34 05.0	
	comp=Z,188nm,20.2s,MS4.5,baz=261,slow=29						
FINES	**FINESS Array B**	**94.25**	**21**	LR	LR	13 45 06.9	
	comp=Z,121nm,19.9s,MS4.4,baz=341,slow=34						
DZM	**Mont Dzumac**	**94.31**	**248**	LR	LR	13 36 54.4	
	comp=Z,186nm,18.4s,MS4.6,baz=14,slow=29						
RPZ	**Rata Peaks**	**96.14**	**226**	LR	LR	13 37 58.0	
	comp=Z,146nm,18.1s,MS4.5,baz=129,slow=29						
GERES	**GERESS Array B**	**96.25**	**36**	LR	LR	13 47 38.0	
	comp=Z,134nm,18.2s,MS4.5,baz=104,slow=35						
MDJ	**Mudanjiang**	**102.39**	**323**	P	Pdif	13 04 52.1	-1.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.2s						
MDJ				LR	LR		
	comp=E,40nm,24.8s						
MDJ				LR	LR		
	comp=Z,50nm,22.3s,MS4.0						
NJ2	**Nanjing**	**116.83**	**319**	***e*PKP**	PKPdf	13 09 43.1	+2.1
WMQ	**Urumqi**	**119.97**	**349**	***e*PKP**	PKPdf	13 09 47.8	+0.9
WMQ				LR	LR		
	comp=N,100nm,21.0s,MS4.6						
WMQ				LR	LR		
	comp=E,100nm,21.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,120nm,20.0s,MS4.5						
GTA	**Gaotai**	**120.78**	**338**	PKP	PKPdf	13 09 49.3	+0.8
GTA				PP	PP	13 11 17.6	-3.5
GTA				PKS	PKS	13 13 25.0	+0.7
GTA				SKS	SKS	13 16 56.8	+14
GTA				SKKS		13 18 06.4	
GTA				PP	PP		
	comp=Z,130nm,5.7s						
GTA				LR	LR		
	comp=N,170nm,7.2s						
GTA				LR	LR		
	comp=E,170nm,7.6s						
GTA				LR	LR		
	comp=Z,180nm,9.9s						
LZH	**Lanzhou**	**122.00**	**333**	***e*PKP**	PKPdf	13 09 47.6	-3.3
LZH				XPKP		13 10 06.8	
LZH				LR	LR		
	comp=N,180nm,18.5s						
LZH				LR	LR		
	comp=Z,270nm,20.3s,MS4.9						
PSI	**Prapat**	**150.20**	**305**	PKPbc	PKPdf	13 10 48.3	+5.5
	comp=Z,16nm,1.0s,baz=158,slow=4.0,SNR=5.2						

JMA 23 12:53:30.8±0.3, 44.14N×147.10E, h79km±5km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.25**	**232**	P	P	12 53 53.2	0.0
NEM2				*e*S	S	12 54 09.3	-0.7
JRA	**Rausu**	**1.44**	**263**	P	P	12 53 55.5	-0.3
JNK	**Nakash**	**1.81**	**253**	P	P	12 54 00.5	-0.2
JNK				*e*S	S	12 54 22.7	0.0
JAK	**Akkeshi**	**2.09**	**238**	P	P	12 54 03.9	-0.6
JAK				*e*S	S	12 54 28.5	-0.9
JTKR	**Abashiri--Toko**	**2.31**	**267**	P	P	12 54 06.8	-0.8
JAR	**Ashorobuto**	**2.56**	**252**	P	P	12 54 11.1	0.0
JAR				*e*S	S	12 54 41.3	+0.2
JOB	**Onbets**	**2.68**	**244**	P	P	12 54 12.6	-0.2
JOB				*e*S	S	12 54 43.0	-1.1
JMP	**Maruseppu**	**2.70**	**268**	P	P	12 54 12.4	-0.7
JCH	**Churui**	**3.12**	**242**	P	P	12 54 17.9	-1.1
JCH				*e*S	S	12 54 53.2	-2.0
JKK2	**Kamakawa 2**	**3.15**	**267**	P	P	12 54 19.7	+0.3
JFR	**Furan**	**3.41**	**255**	P	P	12 54 22.9	-0.1
JNBK	**Urakawa-nobuka**	**3.68**	**241**	P	P	12 54 25.3	-1.4

*IDC **23** 13:05:13.2±0.9, 3.93S×129.11E, mb4.2/7, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, ML3.6/1, Error ellipse: s-maj=95.4km s-min=18.7km az=63.0*

*NEIC **23** 13:05:14.7±9.5, 3.865S×129.35E, h11km±61km, mb4.0/3, Error ellipse: s-maj=28.0km s-min=11.9km az=224.0*

ISC 23 13:05:16.1±0.6, 3.90S±0.08×129.3E±0.1, h33km, n17, σ0°86/16, mb4.1/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.55**	**194**	***e*P**	**P**	**13 08 42.7**	**+1.0**
	4.3nm,0.6s						
WRAB	**Tennant Creek**	**16.69**	**163**	***e*P**	**P**	**13 09 08.3**	**-0.8**
	9.5nm,0.8s						
WRA	**Warramunga Arr**	**16.70**	**163**	Pn	**P**	**13 09 07.7**	**-1.5**
	0.2nm,0.3s,baz=352,slow=13,SNR=14						
WB2	**Warramunga Arr**	**16.70**	**163**	***e*P**	**P**	**13 09 07.8**	**-1.5**
KSM	**Kuching**	**19.67**	**285**	***e*P**	**P**	**13 09 45.2**	**-0.2**
ASPA	**Alice Springs**	**20.15**	**168**	***e*P**	**P**	**13 09 51.8**	**+1.3**
CTA	**Charters Tower**	**23.09**	**136**	P	**P**	**13 10 21.8**	**+1.6**
	7.2nm,0.9s,mb4.1,baz=302,slow=16,SNR=3.9						
STKA	**Stephens Creek**	**30.15**	**159**	P	**P**	**13 11 25.7**	**+0.3**
	2.9nm,0.8s,mb4.1,baz=342,slow=6.4,SNR=2.9						
MKAR	**Makanchi Array**	**65.25**	**326**	P	**P**	**13 15 57.1**	**+0.4**
	1.1nm,0.4s,mb4.2,baz=117,slow=8.3,SNR=10						
FX1	**Attu Island--F**	**67.56**	**27**	P	**P**	**13 16 11.0**	**-0.2**
ZAL	**Zalesovo**	**68.50**	**334**	P	**P**	**13 16 16.8**	**-0.3**
	1.0nm,0.3s,mb4.3,baz=327,slow=13,SNR=6.4						
KURK	**Kurchatov**	**69.51**	**328**	***e*P**	**P**	**13 16 23.4**	**0.0**
	2.1nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**75.06**	**328**	P	**P**	**13 16 55.7**	**-0.6**
	0.6nm,0.5s,mb3.8,baz=104,slow=5.9,SNR=5.8						
VNDA	**Vanda**	**75.59**	**173**	P	**P**	**13 16 59.1**	**+0.2**
	0.8nm,0.7s,mb3.7,baz=324,slow=8.7,SNR=6.1						
VNDA	**Vanda**	**75.59**	**173**	***e*P**	**P**	**13 16 59.1**	**+0.2**
	0.7nm,0.6s,mb3.8						
ARCES	**ARCESS Array B**	**98.44**	**340**	P	**P**	**13 18 52.1**	**+0.3**
	1.7nm,0.7s,mb4.7,baz=59,slow=7.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**127.42**	**283**	PKP	PKPdf	13 24 21.2	+2.3
	0.4nm,0.7s,baz=83,slow=1.4,SNR=3.5						

*IDC **23** 13:20:12.8±2.0, 0.58N×98.86E, mb3.7/5, mb1 3.8/6, mb1mx3.7/20, mbtmp3.7/6, MS3.8/3, Ms1 3.8/3, ms1mx3.0/32, Error ellipse: s-maj=81.1km s-min=23.4km az=62.0*

*NEIC **23** 13:20:15.5±1.3, 0.37N×98.68E, h30km, Error ellipse: s-maj=33.8km s-min=18.5km az=73.0*

ISC 23 13:20:13.3±1.2, 0.37N±0.09×98.6E±0.2, h30km, n9, σ0°66/8, mb3.9/5, MS3.9/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.43**	**7**	Pn	**Pn**	**13 20 51.2**	**-0.7**
	15nm,0.3s,baz=172,slow=11,SNR=21						
PSI				Sn	**Sn**	**13 21 21.1**	**+0.1**
	14nm,0.3s,baz=164,slow=16,SNR=5.5						
KULM	**Kulim**	**5.29**	**23**	***e*Pn**	**Pn**	**13 21 32.9**	**+0.4**
WRA	**Warramunga Arr**	**40.40**	**122**	P	**P**	**13 27 50.7**	**0.0**
	0.5nm,0.7s,mb3.4,baz=296,slow=9.0,SNR=5.1						
WRA				PcP	PcP	13 29 58.7	+4.6
	0.5nm,1.0s,baz=314,slow=2.6,SNR=4.8						
JNU	**Nakatsue**	**44.51**	**40**	LR	LR	13 45 17.9	
	comp=Z,148nm,21.9s,MS3.9,baz=253,slow=34						
SONM	**Songino Array**	**47.75**	**7**	P	**P**	**13 28 49.2**	**-0.5**
	0.9nm,0.6s,mb4.0,baz=190,slow=9.0,SNR=8.4						
MKAR	**Makanchi Array**	**48.39**	**345**	P	**P**	**13 28 53.9**	**-0.7**
	0.6nm,0.6s,mb3.8,baz=157,slow=7.6,SNR=8.5						
ZAL	**Zalesovo**	**54.59**	**350**	P	**P**	**13 29 42.7**	**+1.4**
	1.3nm,0.5s,mb4.3,baz=307,slow=5.5,SNR=5.5						
ZAL				LR	LR	13 58 41.3	
	comp=Z,79nm,18.2s,MS3.8,baz=107,slow=42						
BVAR	**Borovoye Array**	**57.49**	**340**	P	**P**	**13 30 02.2**	**+0.1**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.4,SNR=4.6						
MAW	**Mawson**	**72.24**	**194**	LR	LR	13 59 55.3	
	comp=Z,71nm,19.0s,MS4.0,baz=63,slow=33						

IDC 23 13:23:13.2±1.7, 68.57N×161.23W, mb3.3/1, mb1 3.6/4, mb1mx3.3/23, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=46.9km s-min=18.1km az=19.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**6.85**	**117**	Pn	Pn	13 24 51.5	-5.8
	0.2nm,0.3s,baz=317,slow=15,SNR=14						
ILAR				Sn	Sn	13 26 03.5	-13
	baz=309,slow=24,SNR=2.2						
ILAR				Lg		13 26 50.3	
	0.0nm,0.3s,baz=310,slow=31,SNR=4.1						
INK	**Inuvik**	**10.16**	**79**	Pn	P	13 25 39.0	-4.2
	0.2nm,0.3s,baz=288,slow=10,SNR=18						
INK				Sn	S	13 27 30.9	-8.3
	0.2nm,0.3s,baz=142,slow=26,SNR=9.3						
YKA	**Yellowknife Ar**	**19.80**	**85**	P	P	13 27 44.3	-3.2
	0.2nm,0.3s,baz=308,slow=11,SNR=18						
SONM	**Songino Array**	**47.39**	**294**	P	P	13 31 48.5	-1.9
	0.3nm,0.7s,baz=34,slow=10,SNR=2.7						

*LDG **23** 13:24:39.3±0.6, 44.93N×9.09E, h10km, Ml2.6/5, Error ellipse: s-maj=12.3km s-min=7.5km az=38.0*

*CSEM **23** 13:24:39.7±0.3, 44.85N×8.86E, h5km, ML2.7/8, Error ellipse: s-maj=7.2km s-min=3.1km az=1.0*

*ROM **23** 13:24:40.0±0.6, 44.78N×8.81E, h12km, Md2.4/3, Ml2.0/2, Error ellipse: s-maj=11.0km s-min=1.9km az=158.0*

*NEIC **23** 13:24:40.0, 44.78N×8.81E, h12km, ML2.6(LDG), ML2.0(ROM), After ROM.*

ISC 23 13:24:40.2±0.9, 44.82N±0.06×8.81E±0.05, h8km±5km, n10, σ1°13/19, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOB	**Bobbio (Coli)**	**0.46**	**96**	Pg	**Pg**	**13 24 49.4**	**-0.1**
BOB				Sg	**Sg**	**13 24 57.2**	**+1.5**
	70nm,0.4s						
FIN	**Finale Ligure**	**0.74**	**215**	Pg	**Pg**	**13 24 53.9**	**-1.2**
FIN				Sg	**Sg**	**13 25 06.5**	**+1.4**
	20nm,0.3s						
IMI	**Imperia**	**1.12**	**216**	Pg	**Pg**	**13 25 01.2**	**-1.4**
IMI				Sg	**Sg**	**13 25 17.3**	**-0.3**
	44nm,0.7s						
DOI	**San Damiano**	**1.16**	**255**	Pg	**Pg**	**13 25 02.9**	**-0.5**
DOI				Sg	**Sg**	**13 25 19.8**	**+1.0**
	32nm,0.4s						
SBF	**Sospel**	**1.37**	**226**	*e*Pn	**Pn**	**13 25 05.3**	**-0.5**
SBF				*e*Sn	**Sn**	**13 25 25.5**	**+1.2**
	20nm,0.3s						
MBDF	**Montbardon**	**1.45**	**267**	*e*Pn	**Pn**	**13 25 07.0**	**0.0**
MBDF				*e*Sn	**Sn**	**13 25 26.9**	**+0.5**
	5.5nm,0.3s						
FRF	**La Foret Royal**	**2.00**	**232**	*e*Pn	**Pn**	**13 25 14.8**	**0.0**
FRF				*e*Sn	**Sn**	**13 25 41.2**	**+1.0**
	16nm,0.5s						
ORIF	**Oris-en-Rattie**	**2.08**	**274**	*e*P	**Pn**	**13 25 18.4**	**+2.4**
ORIF				*e*Sn	**Sn**	**13 25 41.0**	**-1.4**
	4.5nm,0.4s						
LMR	**La Mourre**	**2.22**	**229**	*e*Pn	**Pn**	**13 25 16.4**	**-1.6**
LMR				*e*Sn	**Sn**	**13 25 46.0**	**+0.1**
	4.9nm,0.3s						
PGF	**Pioggiola**	**2.27**	**176**	*e*Pn	**Pn**	**13 25 16.8**	**-1.9**

*IDC **23** 13:33:11.4±1.5, 13.09N×144.57E, h49km±11km, mb3.8/8, mb1 4.1/8, mb1mx3.8/19, mbtmp4.1/8, MS3.5/4, Ms1 3.5/4, ms1mx3.2/28, Error ellipse: s-maj=33.3km s-min=20.2km az=105.0*

*NEIC **23** 13:33:11.5±1.7, 13.02N×144.56E, h55km±14km, Error ellipse: s-maj=31.0km s-min=18.9km az=98.0*

ISC 23 13:33:10.4±1.8, 13.0N±0.1×144.5E±0.2, h57km±14km, n23, σ0°98/17, mb4.0/8, MS3.5/4, 1C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.67**	**29**	P	**P**	**13 33 24.5**	**+0.4**
	1µm,0.3s,baz=184,slow=10,SNR=1006						
GUMO				S	**S**	**13 33 34.2**	**-0.2**
	1µm,0.3s,baz=322,slow=22,SNR=45						
GUMO	**Guam**	**0.67**	**29**	*i*Pg	**P**	**13 33 24.3**	**+0.1**
GUMO				*e*Sg	**S**	**13 33 34.1**	**-0.3**
SAPN	**Saipan**	**2.50**	**28**	*i*P	**P**	**13 33 49.6**	**0.0**
MJAR	**Matsushiro Arr**	**24.12**	**347**	P	**P**	**13 38 23.5**	**+1.5**
	2.9nm,0.8s,mb3.7,baz=164,slow=8.5,SNR=5.5						
MJAR	**Matsushiro Arr**	**24.12**	**347**	P	**P**	**13 38 23.5**	**+1.5**
HNR	**Honiara**	**27.04**	**145**	LR	LR	13 47 51.4	
	comp=Z,111nm,19.3s,MS3.4,baz=45,slow=32						
CTA	**Charters Tower**	**32.92**	**177**	LR	LR	13 52 08.2	
	comp=Z,83nm,18.9s,MS3.5,baz=233,slow=34						
WRA	**Warramunga Arr**	**34.24**	**197**	P	**P**	**13 39 53.1**	**+0.1**
	1.4nm,0.6s,mb4.1,baz=21,slow=9.7,SNR=19						
ASPA	**Alice Springs**	**37.89**	**196**	***e*P**	**P**	**13 40 16.1**	**-7.8**
MKAR	**Makanchi Array**	**61.69**	**316**	P	**P**	**13 43 24.6**	**-0.4**
	0.3nm,0.5s,mb3.7,baz=92,slow=8.3,SNR=9.0						
ILAR	**Eielson Array**	**69.24**	**25**	P	**P**	**13 44 11.0**	**-2.1**
	2.2nm,0.6s,mb4.3,baz=250,slow=6.2,SNR=50						
AKTO	**Aktyubinsk**	**77.89**	**319**	LR	LR	14 19 58.0	
	comp=Z,26nm,19.2s,MS3.6,slow=36						
YKA	**Yellowknife Ar**	**83.53**	**27**	P	**P**	**13 45 33.2**	**0.0**
	0.8nm,0.6s,mb4.0,baz=286,slow=5.1,SNR=19						
YKA	**Yellowknife Ar**	**83.53**	**27**	P	**P**	**13 45 33.2**	**0.0**
ARCES	**ARCESS Array B**	**87.54**	**342**	P	**P**	**13 45 53.1**	**+0.2**
	3.3nm,1.0s,mb4.5,baz=74,slow=8.8,SNR=3.7						
NVAR	**Mina Array Bea**	**87.54**	**51**	P	**P**	**13 45 55.4**	**+1.8**
	0.5nm,0.7s,mb3.9,baz=266,slow=5.8,SNR=5.7						
NVAR	**Mina Array Bea**	**87.54**	**51**	P	**P**	**13 45 55.4**	**+1.8**
FINES	**FINESS Array B**	**91.56**	**335**	P	**P**	**13 46 10.9**	**-1.1**
	0.8nm,0.7s,mb4.2,baz=63,slow=4.3,SNR=4.4						
MLR	**Muntele Rosu**	**99.74**	**321**	LR	LR	14 33 20.0	
	comp=Z,20nm,21.0s,MS3.6,baz=306,slow=36						
PLCA	**Paso Flores**	**138.71**	**139**	PKP	PKPdf	13 52 31.1	+0.6
	0.9nm,0.9s,baz=315,slow=2.9,SNR=2.9						
DBIC	**Dimbokro**	**143.85**	**301**	PKP	PKPdf	13 52 40.0	-0.3
	1.6nm,0.5s,baz=42,slow=2.0,SNR=5.1						
LPAZ	**La Paz**	**148.25**	**100**	PKPbc	PKPdf	13 52 54.6	+7.0
	1.5nm,0.6s,baz=306,slow=3.0,SNR=8.4						
LPAZ	**La Paz**	**148.

4.8nm,0.3s,baz=360,slow=9.3,SNR=30
URZ S **S** **14 31 54.5 +0.2**
5.7nm,0.3s,baz=95,slow=23,SNR=14
URZ Urewera 7.56 201 PN **P** **14 30 26.8 -0.8**
URZ SN **S** **14 31 52.8 -1.4**
BKZ Black Stump Fm 8.59 202 PN **P** **14 30 38.6 -0.9**
BKZ SN **S** **14 32 15.3 -0.6**
HIZ Hauiti 8.64 211 *e*PN **P** **14 30 45.7 +5.5**
MOVZ Moawhango 9.05 204 PN **P** **14 30 46.7 +1.7**
TSZ Takapari Road 9.57 202 PN **P** **14 30 51.4 +0.2**
MRZ Mangatainoka R 10.24 202 PN **P** **14 30 59.1 -0.1**
MRZ SN **S** **14 32 47.9 -3.4**
CAW Cannon Point 10.80 203 PN **P** **14 31 06.3 +0.3**
TCW Tory Channel 11.17 205 PN **P** **14 31 10.4 +0.1**
TUWZ Tuamarina 11.48 206 PN **P** **14 31 13.5 -0.5**
THZ Tophouse 12.17 208 PN **P** **14 31 21.4 -0.7**
KHZ Kahutara 12.49 205 PN **P** **14 31 24.7 -1.1**
LTZ Lake Taylor 13.28 207 PN **P** **14 31 34.9 -0.1**
RPZ Rata Peaks 14.55 208 P **P** **14 31 49.6 +0.7**
0.5nm,0.3s,baz=47,slow=19,SNR=3.8
RPZ S **S** **14 34 21.2 -1.1**
1.1nm,0.3s,baz=23,slow=18,SNR=5.5
RPZ Rata Peaks 14.55 208 P **P** **14 31 49.6 +0.7**
RPZ S **S** **14 34 21.2 -1.1**
DZM Mont Dzumac 15.53 303 P **P** **14 31 59.0 -0.3**
0.2nm,0.3s,baz=117,slow=18,SNR=5.5
CTA Charters Tower 32.70 282 P **P** **14 34 39.5 +0.9**
6.7nm,1.1s,mb3.8,baz=120,slow=14,SNR=2.8
WRA Warramunga Arr 42.88 274 P **P** **14 36 02.9 +0.2**
0.9nm,0.3s,mb3.4,baz=111,slow=8.1,SNR=76
ARCES ARCESS Array B 139.11 347 PKhKP 14 47 16.4
1.8nm,1.0s,baz=70,slow=1.9,SNR=8.3
ARCES PKP PKPdf 14 47 24.9 +4.8
2.7nm,0.9s,baz=27,slow=2.0,SNR=3.4
JOF Joensuu 142.70 337 *e*p PKPdf 14 47 26.4 -0.1
0.3nm,0.3s
KAF Kangasniemi 144.88 339 *e*p PKPdf 14 47 33.1 +2.9
0.6nm,0.3s
FINES FINESS Array B 145.47 339 PKPbc PKPbc 14 47 35.7 +3.5
3.0nm,0.4s,baz=64,slow=4.1,SNR=71
FINES FINESS Array B 145.47 339 PKPbc PKPbc 14 47 35.7 +3.5
NB2 NORSAR Subarra149.35 350 PKPabc PKPdf 14 47 46.5 +8.9
1.0nm,0.5s,baz=18,slow=4.1
NOA NORSAR Array B149.35 350 PKPbc PKPdf 14 47 47.0 +9.4
1.2nm,0.6s,baz=17,slow=4.2,SNR=4.3
NOA PKPab PKPab 14 47 52.5 +1.7
1.2nm,0.6s,baz=23,slow=3.3,SNR=4.7
AKASG Malin Array Be 151.16 321 PKPbc PKPdf 14 47 50.0 +9.3
0.8nm,0.6s,baz=71,slow=1.9,SNR=4.5
AKASG Malin Array Be 151.16 321 PKPbc PKPdf 14 47 50.0 +9.3
BRTR Keskin Array B 151.86 297 PKPbc PKPdf 14 47 52.9 +11
0.6nm,0.5s,baz=129,slow=3.8,SNR=3.6

*IDC **23** 14:41:21.5±0.9, 10.51N×126.08E, mb3.9/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=92.7km s-min=20.7km az=69.0*
*MAN **23** 14:41:36.0, 10.22N×125.63E, h116km, mb4.3, ML3.1, MS2.9*
ISC 23 14:41:35.3±0.5, 10.24N±0.03×125.65E±0.07, h126km±4km, n24, σ0°99/35, mb3.6/8, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SCPH	**Surigao**	**0.48**	**200**	*e*P		**P**		**14 41 53.6**	**-0.5**
SCPH				*e*S		**S**		**14 42 06.6**	**-1.6**
MSLP	**Maasin**	**0.79**	**262**	*e*P		**P**		**14 41 56.5**	**+0.3**
MSLP				*e*S		**S**		**14 42 11.6**	**-0.4**
PLP	**Palo**	**1.13**	**324**	*e*P		**P**		**14 42 00.2**	**+0.7**
PLP				*i* S		**S**		**14 42 15.8**	**-1.9**
BUTP	**Butuan**	**1.26**	**181**	*e*P		**P**		**14 42 01.2**	**+0.3**
BUTP				*e*S		**S**		**14 42 20.6**	**+0.3**
OCLP	**Ormoc**	**1.30**	**308**	*e*P		**P**		**14 42 02.8**	**+1.4**
OCLP				*e*S		**S**		**14 42 22.8**	**+1.5**
BESP	**Borongan**	**1.37**	**351**	*e*P		**P**		**14 42 03.1**	**+1.0**
BESP				*e*S		**S**		**14 42 22.8**	**+0.2**
LLP	**Lapu-Lapu**	**1.66**	**273**	*e*P		**P**		**14 42 06.7**	**+1.2**
LLP				*e*S		**S**		**14 42 28.5**	**+0.2**
TBP	**Tagbilaran**	**1.85**	**253**	*e*P		**P**		**14 42 08.4**	**+0.7**
TBP				*e*S		**S**		**14 42 30.4**	**-1.8**
BUKP	**Musuan**	**2.42**	**194**	*e*P		**P**		**14 42 15.3**	**+0.3**
CNP	**Catarman**	**2.46**	**337**	*e*P		**P**		**14 42 16.1**	**+0.5**
CNP				*e*S		**S**		**14 42 46.5**	**+0.5**
GUIM	**Jordan**	**3.04**	**278**	*e*P		**P**		**14 42 26.2**	**+3.0**
PAGZ	**Pagadian**	**3.27**	**224**	*e*P		**P**		**14 42 26.0**	**-0.2**
MATI	**Mati**	**3.33**	**170**	*e*P		**P**		**14 42 27.2**	**+0.2**
MATI				*e*S		**S**		**14 43 06.7**	**+0.3**
PVCP	**Virac**	**3.64**	**336**	*e*P		**P**		**14 42 31.4**	**+0.1**
PVCP				*e*S		**S**		**14 43 12.2**	**-1.8**
BUSP	**Coron**	**5.63**	**289**	*e*P		**P**		**14 42 57.8**	**-0.2**
CAUP	**Cauayan**	**7.63**	**331**	*e*P		**P**		**14 43 22.7**	**-2.4**
WRA	**Warramunga Arr**	**31.19**	**164**	P		**P**		**14 47 43.1**	**-1.8**
0.2nm,0.4s,mb3.2,baz=350,slow=7.7,SNR=11									
STKA	**Stephens Creek**	**44.57**	**161**	P		**P**		**14 49 37.0**	**+0.5**
1.9nm,0.3s,mb4.2,baz=326,slow=8.8,SNR=11									
MKAR	**Makanchi Array**	**51.69**	**323**	P		**P**		**14 50 31.4**	**-0.1**
0.1nm,0.3s,mb3.3,baz=124,slow=7.3,SNR=3.9									
MKAR				PcP		PcP		14 51 43.4	+0.1
0.5nm,0.6s,baz=108,slow=4.4,SNR=6.0									
JOF	**Joensuu**	**82.94**	**333**	*e*p		**P**		**14 53 46.4**	**-0.8**
0.3nm,0.4s,mb3.5									
ARCES	**ARCESS Array B**	**84.01**	**340**	P		**P**		**14 53 53.0**	**+0.6**
2.1nm,0.8s,mb4.0,baz=79,slow=5.6,SNR=6.8									
KAF	**Kangasniemi**	**85.37**	**332**	*e*p		**P**		**14 53 59.0**	**-0.3**
0.3nm,0.4s,mb3.6									
FINES	**FINESS Array B**	**85.63**	**332**	P		**P**		**14 54 01.2**	**+0.6**
0.8nm,0.4s,mb4.0,baz=74,slow=5.3,SNR=17									
YKA	**Yellowknife Ar**	**94.03**	**24**	P		**P**		**14 54 39.7**	**-0.3**
0.1nm,0.7s,mb3.2,baz=298,slow=4.5,SNR=3.9									

*NIED **23** 14:48:00, 41.70N×141.50E, h122km, Mw3.9 Best double couple: M0 8.83×10^14 NP1:φs164°, δ69°, λ-142°. NP2: φs58°, δ54°, λ-26°.*
*IDC **23** 14:48:15.9±1.5, 41.71N×141.37E, h122km±11km, mb3.7/14, mb1 3.9/16, mb1mx3.8/23, mbtmp4.0/16, Error ellipse: s-maj=16.5km s-min=12.4km az=138.0*
*MOS **23** 14:48:15.4±0.9, 41.70N×141.42E, h136km, mb4.2/7, Error ellipse: s-maj=14.3km s-min=8.5km az=83.4*
*JMA **23** 14:48:16.2±0.1, 41.66N×141.49E, h125km±1km, M3.8 Broadband fault plane solution: P waves. NP1:φs44°, δ47°, λ-36°. NP2:φs161°, δ64°, λ-131°. Principal axes: T Plg10°, Azm279°; N Plg36°, Azm182°; P Plg52°, Azm22°;*
JMA Felt I J1.
*NEIC **23** 14:48:16.5±0.7, 41.72N×141.39E, h128km±7km, mb4.4/13 Error ellipse: s-maj=9.6km s-min=6.3km az=135.0*
ISC 23 14:48:15.1±0.3, 41.68N±0.03×141.48E±0.05, h131km±2km, n62, σ0°83/81, mb4.0/25, 4C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JKB	**Kayabe**	**0.40**	**302**	⇓P		**P**		**14 48 34.2**	**+0.2**
JKB				*e*S		**S**		**14 48 48.2**	**-0.1**
JOT	**Ohata**	**0.44**	**228**	⇓P		**P**		**14 48 34.4**	**+0.2**
JOT				*e*S		**S**		**14 48 48.5**	**-0.1**
JSR	**Shiriuchi**	**0.81**	**260**	⇓P		**P**		**14 48 37.2**	**+0.6**
JSR				*e*S		**S**		**14 48 52.5**	**-0.6**
JNB	**Noboribetsu**	**0.86**	**337**	⇓P		**P**		**14 48 37.3**	**+0.3**
JNB				*e*S		**S**		**14 48 53.6**	**-0.1**
JYM2	**Yakumo 2**	**0.94**	**298**	⇑P		**P**		**14 48 38.4**	**+0.6**
JYM2				*e*S		**S**		**14 48 55.5**	**+0.5**
JTM	**Tenmabayashi**	**0.94**	**200**	⇓P		**P**		**14 48 38.2**	**+0.4**
JTM				*e*S		**S**		**14 48 54.7**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.12**	**57**	⇑P		**P**		**14 48 40.4**	**+0.8**
JNBK				*e*S		**S**		**14 48 58.8**	**+0.7**
JEW	**Eniwo**	**1.16**	**359**	⇓P		**P**		**14 48 40.7**	**+0.7**
JEW				*e*S		**S**		**14 48 58.4**	**-0.5**
JANG	**Nango**	**1.30**	**179**	⇓P		**P**		**14 48 41.5**	**-0.1**
JANG				*e*S		**S**		**14 48 59.9**	**-1.9**
JOSM	**Okushiri--Mats**	**1.55**	**286**	⇑P		**P**		**14 48 44.1**	**-0.2**
JOSM				*e*S		**S**		**14 49 05.4**	**-1.2**
JCH	**Churui**	**1.68**	**56**	⇑P		**P**		**14 48 46.5**	**+0.7**
JCH				*e*S		**S**		**14 49 08.3**	**-0.9**
JFR	**Furan**	**1.70**	**29**	P		**P**		**14 48 46.3**	**+0.3**
JSK	**Shakotan**	**1.83**	**336**	P		**P**		**14 48 48.2**	**+0.7**
JSK				*e*S		**S**		**14 49 13.1**	**+0.8**
JHR	**Hokuryu**	**2.07**	**5**	⇓P		**P**		**14 48 51.4**	**+0.9**
JHR				*e*S		**S**		**14 49 18.1**	**+0.7**
JOM	**Ohasama**	**2.21**	**184**	⇓P		**P**		**14 48 52.5**	**+0.2**
JOM				*e*S		**S**		**14 49 19.4**	**-1.1**
ASAJ	**Asahikawa**	**2.57**	**18**	P		**P**		**14 48 57.2**	**+0.3**
8.2nm,0.3s,baz=239,slow=11,SNR=191									
ASAJ				S		**S**		**14 49 28.1**	**-0.7**
9.4nm,0.3s,baz=270,slow=20,SNR=11									
ASAJ	**Asahikawa**	**2.57**	**18**	P		**P**		**14 48 57.3**	**+0.3**
ASAJ				S		**S**		**14 49 28.1**	**-0.7**
ASAJ				pmax		pmax			
comp=Z,8.0nm,0.3s									
ASAJ				smax					
comp=N,9.0nm,0.3s									
YUK	**Yuzh-Kuril'sk**	**3.99**	**52**	*e*P		**P**		**14 49 15.8**	**+0.1**
YUK				*e*S		**S**		**14 49 59.8**	**-2.4**
YUK				pmax		pmax			
comp=Z,260nm,0.4s									
YUK				smax					
comp=N,1μm,0.4s									
YUK				smax					
comp=E,290nm,0.3s									
YUK				smax					
comp=E,3μm,0.8s									
YSS	**Yuzh-Sakhalins**	**5.35**	**9**	⇓*i*P		**P**		**14 49 34.0**	**0.0**
YSS				*e*S		**S**		**14 50 34.0**	**-1.0**
YSS				pmax		pmax			
comp=Z,50nm,0.7s									
YSS				smax					
comp=N,30nm,1.0s									
YSS	**Yuzh-Sakhalins**	**5.35**	**9**	*e*Pn		**P**		**14 49 33.8**	**-0.2**
comp=N,20nm,0.3s									
MAJO	**Matsushiro**	**5.73**	**207**	*e*P		**P**		**14 49 39.3**	**+0.3**
MAJO				pmax		pmax			
comp=Z,51nm,0.8s									
MAJO	**Matsushiro**	**5.73**	**207**	*e*Pn		**P**		**14 49 39.3**	**+0.3**
comp=Z,51nm,0.8s									
MAT	**Matsushiro**	**5.73**	**207**	P		**P**		**14 49 39.3**	**+0.3**
MAT				*e*S		**S**		**14 50 45.5**	**+1.5**
MAT	**Matsushiro**	**5.73**	**207**	*e*P		**P**		**14 49 39.0**	**0.0**
MJAR	**Matsushiro Arr**	**5.73**	**207**	P		**P**		**14 49 39.6**	**+0.6**
comp=Z,6.4nm,0.3s,baz=26,slow=13,SNR=57									
ULN	**Ulaanbaatar**	**25.07**	**296**	*e*P		**P**		**14 53 28.7**	**+0.2**
ULN				pmax		pmax			
comp=Z,3.0nm,0.8s,mb3.9									
ULN	**Ulaanbaatar**	**25.07**	**296**	*e*P		**P**		**14 53 28.7**	**+0.2**
comp=Z,2.6nm,0.8s,mb3.8									
SONM	**Songino Array**	**25.51**	**296**	P		**P**		**14 53 32.3**	**-0.4**
comp=Z,0.9nm,0.4s,mb3.8,baz=82,slow=8.9,SNR=8.3									
TNA	**Tin City**	**36.85**	**32**	*e*P		**P**		**14 55 12.1**	**+0.3**
comp=Z,3.9nm,0.8s,mb4.1									
ZAL	**Zalesovo**	**38.97**	**308**	P		**P**		**14 55 29.5**	**-0.1**
comp=Z,1.9nm,0.5s,mb4.0,baz=24,slow=11,SNR=6.2									
MKAR	**Makanchi Array**	**41.85**	**298**	P		**P**		**14 55 53.0**	**-0.2**
comp=Z,0.9nm,0.4s,mb3.7,baz=84,slow=10,SNR=21									
IMA2	**Indian Mountai**	**42.71**	**33**	*e*P		**P**		**14 56 00.7**	**+0.6**
KURK	**Kurchatov**	**43.23**	**304**	*e*P		**P**		**14 56 03.9**	**-0.6**
KURK				pmax		pmax			
comp=Z,2.0nm,0.6s,mb3.9									
KURK	**Kurchatov**	**43.23**	**304**	*e*P		**P**		**14 56 03.9**	**-0.6**
comp=Z,2.4nm,0.6s,mb4.0									
KDAK	**Kodiak Island**	**43.70**	**45**	P		**P**		**14 56 08.4**	**+0.3**
comp=Z,2.8nm,0.7s,mb4.0,baz=299,slow=8.3,SNR=8.7									
COLA	**College**	**45.18**	**35**	*e*P		**P**		**14 56 20.9**	**+1.0**
COLA				pmax		pmax			
comp=Z,12nm,0.9s,mb4.5									
COLA	**College**	**45.18**	**35**	*e*P		**P**		**14 56 20.9**	**+1.0**
comp=Z,12nm,0.9s,mb4.5									
ILAR	**Eielson Array**	**45.60**	**35**	P		**P**		**14 56 23.8**	**+0.6**
comp=Z,3.6nm,0.7s,mb4.1,baz=271,slow=6.1,SNR=33									
JIRN	**Jiri**	**46.83**	**271**	*e*P		**P**		**14 56 34.8**	**+1.4**
comp=Z,4.7nm,0.3s,mb4.5									
GUN	**Gumba**	**46.92**	**271**	*e*P		**P**		**14 56 34.6**	**+0.5**
comp=Z,26nm,0.4s									
KKN	**Kani**	**47.44**	**272**	*e*P		**P**		**14 56 38.3**	**+0.1**
BVA0	**Borovoye Array**	**47.58**	**309**	*e*P		**P**		**14 56 38.8**	**-0.1**
TKM2	**Tokmak 2**	**47.60**	**295**	P		**P**		**14 56 39.9**	**+0.7**
TKM2				pmax		pmax			
comp=Z,1.0nm,0.4s,mb3.8									
GKN	**Gorkha**	**47.81**	**272**	*e*P		**P**		**14 56 42.0**	**+1.0**
comp=Z,9.2nm,0.5s,mb4.7									
INK	**Inuvik**	**50.26**	**29**	*e*P		**P**		**14 56 59.9**	**+0.6**
INK				pmax		pmax			
comp=Z,5.0nm,0.5s									
INK	**Inuvik**	**50.26**	**29**	*e*P		**P**		**14 56 59.9**	**+0.5**
comp=Z,5.5nm,0.5s,mb4.4									
KKAR	**Karatay Array**	**50.96**	**297**	*i* P		**P**		**14 57 04.1**	**-0.8**
AB31	**Akbulak array**	**55.06**	**308**	P		**P**		**14 57 34.8**	**-0.4**
AB31				pmax		pmax			
comp=Z,1.0nm,0.3s,mb4.0									
KEV	**Kevo**	**59.14**	**338**	*e*p		**P**		**14 58 02.4**	**-1.2**
comp=Z,0.3nm,0.3s,mb3.6									
ARCES	**ARCESS Array B**	**59.69**	**339**	P		**P**		**14 58 06.3**	**-1.1**
comp=Z,2.9nm,0.8s,mb4.2,baz=56,slow=8.7,SNR=6.9									
YKA	**Yellowknife Ar**	**59.80**	**31**	P		**P**		**14 58 07.8**	**-0.4**
comp=Z,0.8nm,0.5s,mb3.8,baz=304,slow=6.5,SNR=21									
WRA	**Warramunga Arr**	**61.66**	**188**	P		**P**		**14 58 19.9**	**-1.5**
comp=Z,0.1nm,0.5s,baz=4.6,slow=7.1,SNR=7.9									
JOF	**Joensuu**	**61.92**	**331**	*e*p		**P**		**14 58 20.6**	**-2.0**
comp=Z,0.3nm,0.3s,mb3.6									
KAF	**Kangasniemi**	**64.23**	**332**	*e*p		**P**		**14 58 34.3**	**-3.3**
comp=Z,0.3nm,0.3s,mb3.6									
FINES	**FINESS Array B**	**64.75**	**331**	P		**P**		**14 58 40.0**	**-1.0**
comp=Z,1.2nm,0.4s,mb4.1,baz=41,slow=8.4,SNR=16									
NB2	**NORSAR Subarra**	**69.94**	**337**	P		**P**		**14 59 12.7**	**-0.7**
comp=Z,1.3nm,0.5s,mb3.9,baz=36,slow=6.2									
NB2	**NORSAR Subarra**	**69.94**	**337**	P		**P**		**14 59 12.7**	**-0.7**
NB2				pmax		pmax			
comp=Z,1.0nm,0.5s,mb3.8									
NOA	**NORSAR Array B**	**69.94**	**337**	P		**P**		**14 59 12.7**	**-0.7**
comp=Z,1.2nm,0.5s,mb3.9,baz=39,slow=6.1,SNR=7.5									
AKASG	**Malin Array Be**	**70.68**	**321**	P		**P**		**14 59 17.0**	**-1.1**
comp=Z,1.0nm,0.4s,mb3.9,baz=44,slow=6.5,SNR=11									
NVAR	**Mina Array Bea**	**72.20**	**54**	P		**P**		**14 59 28.6**	**+1.3**
comp=Z,0.7nm,0.6s,mb3.5,baz=281,slow=7.9,SNR=7.7									
PDAR	**Pinedale Array**	**74.40**	**46**	P		**P**		**14 59 40.8**	**+0.8**
comp=Z,1.3nm,0.5s,mb3.9,baz=257,slow=1.4,SNR=12									
TXAR	**Lajitas Array**	**87.25**	**52**	P		**P**		**15 00 49.2**	**+1.4**
comp=Z,0.2nm,0.5s,mb3.2,baz=304,slow=3.3,SNR=3.3									

*IDC **23** 14:57:27.3±10.0, 6.88S×129.01E, h62km±104km, mb4.2/1, mb1 4.4/2, mb1mx3.7/11, mbtmp4.5/2, ML4.4/1, Error ellipse: s-maj=118.4km s-min=40.1km az=61.0*
ISC 23 14:57:34.5±1.3, 7.7S±0.1×127.9E±0.3, h150km, n7, σ1°29/9, mb3.6/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KAKA	**Kakadu**	**6.69**	**138**	*e*P		Px		14 59 34.5	
75nm,0.6s									
KAKA				*e*S		Sx		15 00 46.6	
FITZ	**Fitzroy Crossi**	**10.54**	**192**	*e*P		**P**		**15 00 02.3**	**-0.3**
7.8nm,0.4s									
FITZ				*e*S		Sx		15 01 53.1	
WRA	**Warramunga Arr**	**13.67**	**153**	P		**P**		**15 00 42.5**	**-0.8**
1.9nm,0.3s,baz=338,slow=13,SNR=100									
WRA				S		**S**		**15 03 06.0**	**-5.8**
3.8nm,0.3s,baz=319,slow=25,SNR=13									
WB2	**Warramunga Arr**	**13.68**	**153**	*e*P		**P**		**15 00 42.0**	**-1.3**
WB2				*e*S		**S**		**15 03 05.6**	**-6.3**
ASPA	**Alice Springs**	**16.88**	**161**	*e*P		**P**		**15 01 25.0**	**+1.7**
ASPA				*e*S		**S**		**15 04 24.7**	**+0.2**
STKA	**Stephens Creek**	**27.22**	**154**	P		**P**		**15 03 08.0**	**+1.5**
7.3nm,1.2s,mb4.2,baz=353,slow=9.1,SNR=4.5									
MKAR	**Makanchi Array**	**67.69**	**328**	P		**P**		**15 08 17.5**	**-0.3**
0.1nm,0.4s,mb2.9,baz=122,slow=7.8,SNR=7.3									

*NEIC **23** 15:13:45.0, 30.87S×71.56W, h31km, ML3.2(GUC), After GUC.*
GUC 23 15:13:45.0±0.8, 30.87S×71.56W, h31km±6km, MD4.1, ML3.2, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LSCH	**La Serena**	**1.00**	**16**	*e*P		Pn		15 14 03.1	+0.1
LSCH				*i* S		Sn		15 14 15.9	-0.2
LSCH				AMP				15 14 21.3	
comp=E,672nm,0.3s									
CHNG	**Los Chungos**	**1.01**	**177**	⇑*i*P		Pn		15 14 02.9	-0.4
CHNG				*i* S		Sn		15 14 16.7	+0.2
CHNG				AMP				15 14 18.4	
comp=E,819nm,0.3s									
PACH	**Papudo**	**1.67**	**177**	*e*P		Pn		15 14 13.2	+0.6
JACH	**Jahuel**	**1.98**	**156**	*e*P		Pn		15 14 18.4	+1.3
PEL	**Peldehue**	**2.38**	**162**	*e*P		Pn		15 14 23.0	+0.1
PEL				*i* S		Sn		15 14 52.6	+1.2
PEL				AMP				15 14 58.3	
comp=N,450nm,0.3s									
FCH	**Farellones**	**2.67**	**157**	*e*P		Pn		15 14 28.1	+1.1
FCH				*i* S		Sn		15 15 00.8	+2.1
FCH				AMP				15 15 11.6	
comp=N,137nm,0.3s									
RCDM	**Rinconada Maip**	**2.69**	**167**	*i* P		Pn		15 14 26.6	-0.6
TACH	**Talagante**	**2.82**	**169**	*i* P		Pn		15 14 29.1	0.0
CHCH	**Chadas Angostu**	**3.15**	**166**	*e*P		Pn		15 14 33.9	+0.2
CACH	**El Canelo**	**3.34**	**166**	*e*P		Pn		15 14 37.8	+1.3

ISC 23 15:17:28.9±3.5, 35.0S±0.1×178.9E±0.6, h200km, n5, σ0°41/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MWZ	**Matawai**	**3.52**	**198**	PN		**P**		**15 18 25.5**	**+0.1**
MWZ				SN		**S**		**15 19 09.3**	**+0.3**
URZ	**Urewera**	**3.58**	**203**	PN		**P**		**15 18 26.5**	**+0.5**
URZ				SN		**S**		**15 19 10.0**	**-0.1**
BKZ	**Black Stump Fm**	**4.60**	**204**	PN		**P**		**15 18 38.1**	**-0.8**
ASPA	**Alice Springs**	**40.52**	**274**	*e*P		**P**		**15 24 50.3**	**+0.4**
WB2	**Warramunga Arr**	**41.93**	**279**	*e*P		**P**		**15 25 01.2**	**-0.3**

*ATH **23** 15:20:16.7, 36.98N×28.19E, h52km±3km, MD3.2/3*
*ISK **23** 15:20:17.2, 36.89N×27.78E, h24km, MD2.9*
*CSEM **23** 15:20:18.0±0.2, 36.92N×27.78E, h12km, MD2.9, Error ellipse: s-maj=4.3km s-min=3.4km az=4.0*
ISC 23 15:20:18.5±0.5, 36.89N±0.03×27.81E±0.04, h8km±5km, n13, σ1°9°10/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DAT	**Datca**	**0.25**	**229**	PG		**Pg**		**15 20 23.2**	**-0.5**
DAT				SG		**Sg**		**15 20 28.2**	**+1.1**
BDRM	**Kayabasi**	**0.34**	**300**	*i* P		**Pg**		**15 20 25.2**	**-0.2**
BDRM				*i* S		**Sg**		**15 20 30.8**	**+0.7**
MLSB	**Milas**	**0.40**	**356**	PG		**Pg**		**15 20 26.5**	**-0.2**
BODT	**Bodrum**	**0.43**	**293**	PG		**Pg**		**15 20 26.2**	**-1.1**
BODT				SG		**Sg**		**15 20 33.0**	**-0.2**
YER	**Yerkesik**	**0.45**	**57**	PG		**Pg**		**15 20 27.5**	**-0.1**
YER				SG		**Sg**		**15 20 34.7**	**+1.1**
DALT	**Dalyan (Mudla)**	**0.68**	**100**	*e*PG		**Pg**		**15 20 31.7**	**-0.4**
ARG	**Arkhangelos**	**0.72**	**159**	*e*P		**Pb**		**15 20 32.4**	**-0.5**
ARG				*e*S		**Sb**		**15 20 43.6**	**+0.9**
AYDN	**Tasoluk**	**0.77**	**4**	*i* P		**Pb**		**15 20 33.2**	**-0.5**
AYDN				*i* S		**Sb**		**15 20 43.3**	**-0.7**
FETY	**Fethiye**	**1.05**	**104**	*e*PN		**Pn**		**15 20 37.4**	**-2.1**
SMG	**Samos**	**1.12**	**317**	*e*P		**Pb**		**15 20 39.7**	**-0.1**
SMG				*e*S		**Sb**		**15 20 56.5**	**+2.1**
DENT	**Denizli**	**1.30**	**48**	*e*PN		**Pn**		**15 20 40.7**	**-2.3**
GOLH	**Golhisar**	**1.44**	**76**	*i* P		**Pn**		**15 20 46.6**	**+1.6**
GOLH				*i* S		**Sb**		**15 21 06.4**	**+2.8**
KARP	**Karpathos**	**1.44**	**202**	*e*P		**Pn**		**15 20 44.6**	**-0.4**

*NEIC **23** 15:34:12.3±1.8, 6.15S×149.02E, h70km±15km, mb4.1/2, Error ellipse: s-maj=17.1km s-min=11.9km az=105.0*
*IDC **23** 15:34:16.2±2.2, 6.27S×148.72E, h101km±18km, mb3.5/5, mb1 3.8/7, mb1mx3.8/13, mbtmp4.0/7, MS3.2/3, Ms1 3.2/3, ms1mx2.8/19, Error ellipse: s-maj=26.6km s-min=14.2km az=115.0*
ISC 23 15:34:12.4±1.6, 6.2S±0.1×148.9E±0.2, h84km±14km, n26, σ0°55/21, mb3.8/7, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PMG	**Port Moresby**	**3.62**	**208**	P		**P**		**15 35 07.5**	**0.0**
15nm,0.3s,baz=33,slow=5.0,SNR=81									
PMG				S		**S**		**15 35 49.2**	**-0.2**
96nm,0.3s,baz=163,slow=21,SNR=17									
PMG	**Port Moresby**	**3.62**	**208**	P		**P**		**15 35 07.5**	**0.0**
PMG				S		**S**		**15 35 49.2**	**-0.2**
HNR	**Honiara**	**11.40**	**107**	LR		LR		15 40 48.5	
comp=Z,125nm,19.8s,baz=330,slow=34									
CTA	**Charters Tower**	**14.04**	**190**	*e*P		**P**		**15 37 35.8**	**+7.0**
5.1nm,0.9s									
CTA	**Charters Tower**	**14.04**	**190**	P		**P**		**15 37 35.7**	**+6.9**
0.2nm,0.3s,baz=4.6,slow=13,SNR=3.2									
CTA				LR		LR		15 42 35.1	
comp=Z,58nm,18.1s,baz=68,slow=36									
WRAB	**Tennant Creek**	**19.66**	**225**	*e*P		**P**		**15 38 36.7**	**-0.4**
3.8nm,0.4s									

n70,σ0§86/83,mb4.3/35,2C-9D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.14**	**358**	⇑P	**P**	**15 50 55.2**	**+0.3**
NEM2				*e*S	**S**	**15 51 05.0**	**-1.0**
JAK	**Akkeshi**	**0.80**	**254**	⇓P	**P**	**15 50 59.6**	**+0.3**
JAK				*e*S	**S**	**15 51 13.0**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**0.81**	**6**	⇓*i*PN	**P**	**15 50 59.2**	**-0.1**
YUK				*i* S	**S**	**15 51 12.2**	**-1.5**
YUK				pmax	pmax		
	comp=Z,5μm,0.4s						
YUK				pmax	pmax		
	comp=N,650nm,0.3s						
YUK				pmax	pmax		
	comp=Z,7μm,0.4s						
YUK				smax			
	comp=N,11μm,0.5s						
YUK				smax			
	comp=E,5μm,0.4s						
YUK				smax			
	comp=N,25μm,0.6s						
YUK				smax			
	comp=E,10μm,0.6s						
JNK	**Nakash**	**0.83**	**296**	⇓P	**P**	**15 50 59.6**	**+0.1**
JNK				*e*S	**S**	**15 51 12.7**	**-1.3**
JRA	**Rausu**	**0.84**	**328**	⇓P	**P**	**15 51 00.2**	**+0.5**
JRA				*e*S	**S**	**15 51 14.2**	**-0.1**
JOB	**Onbets**	**1.44**	**258**	⇓P	**P**	**15 51 07.1**	**+0.7**
JOB				*e*S	**S**	**15 51 25.9**	**-0.1**
JAR	**Ashorobuto**	**1.45**	**273**	⇓P	**P**	**15 51 07.2**	**+0.7**
JAR				*e*S	**S**	**15 51 26.0**	**-0.2**
JTKR	**Abashiri--Toko**	**1.53**	**300**	⇓P	**P**	**15 51 08.3**	**+0.8**
JTKR				*e*S	**S**	**15 51 28.3**	**+0.4**
JCH	**Churui**	**1.86**	**252**	⇓P	**P**	**15 51 12.1**	**+0.6**
JCH				*e*S	**S**	**15 51 34.3**	**-0.7**
JMP	**Maruseppu**	**1.90**	**295**	⇓P	**P**	**15 51 13.1**	**+1.0**
JMP				*e*S	**S**	**15 51 36.9**	**+0.9**
ASAJ	**Asahikawa**	**2.45**	**292**	P	**P**	**15 51 21.1**	**+1.5**
	comp=E,205nm,0.3s,baz=107,slow=11,SNR=1752						
ASAJ				S	**S**	**15 51 50.8**	**+1.7**
	comp=E,22nm,0.3s,baz=171,slow=19,SNR=14						
ASAJ	**Asahikawa**	**2.45**	**292**	PN	**P**	**15 51 21.1**	**+1.5**
ASAJ				S	**S**	**15 51 50.8**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,205nm,0.3s						
ASAJ				smax			
	comp=N,22nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.29**	**331**	*e*PN	**P**	**15 51 45.0**	**+0.5**
YSS				*i* S	**S**	**15 52 33.0**	**-0.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax			
	comp=N,110nm,0.9s						
YSS				smax			
	comp=E,70nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.29**	**331**	*e*Pn	**P**	**15 51 44.6**	**+0.1**
MAJO	**Matsushiro**	**8.84**	**223**	PN	**P**	**15 52 52.6**	**+6.2**
MJAR	**Matsushiro Arr**	**8.84**	**223**	P	**P**	**15 52 45.6**	**-0.8**
	comp=E,0.4nm,0.3s,baz=39,slow=12,SNR=4.7						
MJAR	**Matsushiro Arr**	**8.84**	**223**	PN	**P**	**15 52 45.7**	**-0.7**
YAK	**Yakutsk**	**21.10**	**339**	*i* P	**P**	**15 55 12.9**	**-4.4**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**27.29**	**293**	⇑*e*P	**P**	**15 56 16.6**	**+0.2**
ULN	**Ulaanbaatar**	**27.29**	**293**	*e*P	**P**	**15 56 16.8**	**+0.4**
	comp=Z,7.5nm,1.0s,mb4.2						
SONM	**Songino Array**	**27.74**	**293**	P	**P**	**15 56 20.8**	**+0.3**
	comp=Z,5.0nm,0.6s,mb4.2,baz=83,slow=8.3,SNR=41						
SONM				pP	pP	15 56 43.3	-0.3
	comp=Z,1.6nm,0.7s,baz=102,slow=11,SNR=3.5						
IMA2	**Indian Mountai**	**39.68**	**34**	*e*P	**P**	**15 58 03.8**	**+0.9**
KDAK	**Kodiak Island**	**40.35**	**47**	P	**P**	**15 58 08.7**	**+0.2**
	comp=Z,3.0nm,0.5s,mb4.4,baz=319,slow=5.5,SNR=8.4						
ZAL	**Zalesovo**	**40.52**	**307**	P	**P**	**15 58 08.9**	**-0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=30,slow=10,SNR=12						
MCK	**McKinley**	**41.67**	**37**	*e*P	**P**	**15 58 19.9**	**+0.8**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MCK	**McKinley**	**41.67**	**37**	*e*P	**P**	**15 58 19.9**	**+0.8**
	comp=Z,1.1nm,0.5s,mb3.8						
COLA	**College**	**42.09**	**36**	*e*P	**P**	**15 58 23.0**	**+0.4**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
COLA	**College**	**42.09**	**36**	*e*P	**P**	**15 58 22.9**	**+0.4**
	comp=Z,6.2nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**42.51**	**36**	P	**P**	**15 58 26.4**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.0,baz=254,slow=6.6,SNR=31						
MKAR	**Makanchi Array**	**43.92**	**298**	P	**P**	**15 58 38.0**	**+0.3**
	comp=Z,3.6nm,0.5s,mb4.3,baz=81,slow=9.3,SNR=83						
KURK	**Kurchatov**	**44.98**	**304**	*e*P	**P**	**15 58 46.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.5						
KURK	**Kurchatov**	**44.98**	**304**	*e*P	**P**	**15 58 46.0**	**-0.1**
	comp=Z,3.1nm,0.3s,mb4.5						
INK	**Inuvik**	**47.37**	**30**	P	**P**	**15 59 04.8**	**+0.1**
	comp=Z,1.7nm,0.4s,mb4.2,baz=285,slow=7.1,SNR=14						
INK	**Inuvik**	**47.37**	**30**	*e*P	**P**	**15 59 04.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**47.37**	**30**	*e*P	**P**	**15 59 04.9**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.2						
VOSK	**Vostochnaya**	**48.82**	**309**	P	**P**	**15 59 16.1**	**0.0**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BVA0	**Borovoye Array**	**49.05**	**309**	*i* P	**P**	**15 59 18.0**	**+0.1**
BVAR	**Borovoye Array**	**49.05**	**309**	P	**P**	**15 59 18.0**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.4,baz=79,slow=8.8,SNR=22						
BRVK	**Borovoye**	**49.09**	**309**	*e*P	**P**	**15 59 18.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**49.09**	**309**	*e*P	**P**	**15 59 18.4**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.1						
AAK	**Ala-Archa**	**50.66**	**295**	*e*P	**P**	**15 59 29.6**	**-0.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
AAK	**Ala-Archa**	**50.66**	**295**	*e*P	**P**	**15 59 29.6**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.2						
DLBC	**Dease Lake**	**51.75**	**42**	P	**P**	**15 59 40.4**	**+2.0**
	comp=Z,2.0nm,0.4s,mb4.5,baz=276,slow=7.7,SNR=18						
ARU	**Arti**	**54.03**	**317**	*e*P	**P**	**15 59 54.2**	**-1.0**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
ARU	**Arti**	**54.03**	**317**	*e*P	**P**	**15 59 54.2**	**-1.0**
	comp=Z,5.6nm,0.5s,mb4.8						
RES	**Resolute Bay**	**55.76**	**16**	*e*P	**P**	**16 00 06.7**	**-0.9**
RES				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.3						
RES	**Resolute Bay**	**55.76**	**16**	*e*P	**P**	**16 00 06.7**	**-0.9**
	comp=Z,15nm,0.5s,mb5.3						
AB31	**Akbulak array**	**56.59**	**308**	P	**P**	**16 00 13.3**	**-0.6**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
YKW3	**Yellowknife Ar**	**56.76**	**33**	*e*P	**P**	**16 00 16.5**	**+1.6**
YKA	**Yellowknife Ar**	**56.80**	**33**	P	**P**	**16 00 14.8**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=304,slow=6.8,SNR=34						
KEV	**Kevo**	**58.84**	**339**	*e*p	**P**	**16 00 27.0**	**-2.3**
	comp=Z,0.5nm,0.4s,mb3.9						
KEV	**Kevo**	**58.84**	**339**	*e*P	**P**	**16 00 27.0**	**-2.3**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**59.38**	**339**	P	**P**	**16 00 31.8**	**-1.2**
	comp=Z,3.1nm,0.7s,mb4.5,baz=45,slow=6.9,SNR=9.9						
JOF	**Joensuu**	**62.07**	**332**	*e*p	**P**	**16 00 50.0**	**-1.3**
	comp=Z,2.6nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**63.72**	**192**	P	**P**	**16 01 01.4**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.6,baz=9.0,slow=6.8,SNR=9.6						
KAF	**Kangasniemi**	**64.32**	**333**	*e*p	**P**	**16 01 04.8**	**-1.2**
	comp=Z,3.0nm,0.5s,mb4.4						
KAF	**Kangasniemi**	**64.32**	**333**	*e*P	**P**	**16 01 04.8**	**-1.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
SUMG	**Summit**	**64.46**	**1**	*e*P	**P**	**16 01 07.0**	**+0.2**
	comp=Z,3.7nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**64.87**	**333**	P	**P**	**16 01 08.8**	**-0.7**
	comp=Z,7.6nm,0.5s,mb4.8,baz=48,slow=7.1,SNR=86						
FCC	**Fort Churchill**	**66.98**	**29**	*e*P	**P**	**16 01 22.5**	**-0.6**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
FCC	**Fort Churchill**	**66.98**	**29**	*e*P	**P**	**16 01 22.5**	**-0.6**
	comp=Z,2.1nm,0.5s,mb4.2						
NVAR	**Mina Array Bea**	**68.72**	**57**	P	**P**	**16 01 34.8**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.5,baz=300,slow=4.7,SNR=5.6						
NB2	**NORSAR Subarra**	**69.72**	**338**	P	**P**	**16 01 39.5**	**-0.4**
	comp=Z,4.7nm,0.7s,mb4.4,baz=33,slow=6.2						
NB2	**NORSAR Subarra**	**69.72**	**338**	P	**P**	**16 01 39.5**	**-0.4**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
NOA	**NORSAR Array B**	**69.72**	**338**	P	**P**	**16 01 39.8**	**-0.1**
	comp=Z,8.7nm,0.9s,mb4.6,baz=34,slow=6.1,SNR=22						
NAO01	**NORSAR Array S**	**69.97**	**338**	P	**P**	**16 01 41.1**	**-0.4**
	comp=Z,8.1nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**71.03**	**49**	P	**P**	**16 01 48.8**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=298,slow=1.6,SNR=7.5						
AKASG	**Malin Array Be**	**71.39**	**323**	P	**P**	**16 01 49.8**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.2,baz=38,slow=6.0,SNR=13						
CLL	**Collm**	**77.30**	**332**	P	**P**	**16 02 27.2**	**+3.2**
	comp=Z,logA/T=0.7,mb4.2						
TXAR	**Lajitas Array**	**83.79**	**55**	P	**P**	**16 02 59.9**	**+1.1**
	comp=Z,0.3nm,0.7s,mb3.2,baz=304,slow=3.1,SNR=6.6						

*ISK **23** 16:04:45.9,36.89N×27.71E,h30km,MD3.1*
*CSEM **23** 16:04:47.4±0.1,36.87N×27.81E,h5km,MD3.1,Error ellipse: s-maj=2.0km s-min=1.4km az=137.0*
*ATH **23** 16:04:49.7,36.74N×27.58E,h57km±7km,MD3.1/3*
ISC 23 16:04:48.8±0.5,36.91N±0.03×27.79E±0.04,h5km,n11,σ1§12/18,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.25**	**223**	PG	**Pg**	**16 04 52.7**	**-1.1**
DAT				SG	**Sg**	**16 04 57.0**	**-0.1**
BDRM	**Kayabasi**	**0.31**	**300**	*i* P	**Pg**	**16 04 55.4**	**+0.3**
BDRM				*i* S	**Sg**	**16 05 00.7**	**+1.3**
MLSB	**Milas**	**0.39**	**359**	*e*PG	**Pg**	**16 04 56.3**	**-0.2**
MLSB				*e*SG	**Sg**	**16 05 02.4**	**+0.7**
BODT	**Bodrum**	**0.41**	**292**	PG	**Pg**	**16 04 54.8**	**-2.2**
YER	**Yerkesik**	**0.46**	**60**	*e*PG	**Pg**	**16 04 57.1**	**-0.9**
DALT	**Dalyan (Mudla)**	**0.70**	**101**	*e*PG	**Pg**	**16 05 00.9**	**-1.9**
ARG	**Arkhangelos**	**0.74**	**158**	*e*P	**Pg**	**16 05 04.5**	**+0.8**
ARG				*e*S	**Sg**	**16 05 15.0**	**+1.4**
AYDN	**Tasoluk**	**0.75**	**6**	*i* P	**Pg**	**16 05 03.1**	**-0.8**
AYDN				*i* S	**Sg**	**16 05 13.4**	**-0.5**
SMG	**Samos**	**1.10**	**317**	*e*P	**Pb**	**16 05 10.2**	**+0.3**
SMG				*e*S	**Sb**	**16 05 25.4**	**+1.0**
KARP	**Karpathos**	**1.45**	**201**	*e*P	**Pn**	**16 05 11.8**	**-4.0**
GOLH	**Golhisar**	**1.46**	**77**	*i* P	**Pn**	**16 05 16.0**	**+0.1**
GOLH				*i* S	**Sb**	**16 05 37.1**	**+2.4**

*NEIC **23** 16:14:42.5,34.03S×70.61W,h91km,MD3.5(GUC),After GUC.*
GUC 23 16:14:42.5±0.6,34.03S×70.61W,h91km±3km,MD3.5,ML2.7,4C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CACH	**El Canelo**	**0.09**	**177**	⇓*i*P	P	16 14 55.7	+0.2
CACH				*i* S	S	16 15 05.6	+0.5
CHCH	**Chadas Angostu**	**0.11**	**338**	⇑*i*P	P	16 14 55.3	-0.2
CHCH				*i* S	S	16 15 04.8	-0.4
CICH	**Cipreses**	**0.33**	**152**	⇑*i*P	P	16 14 56.3	+0.1
CICH				*i* S	S	16 15 07.3	+0.6
PCH	**Pirque**	**0.42**	**11**	⇑*i*P	P	16 14 57.0	+0.2
PCH				*i* S	S	16 15 07.7	0.0
ANTU	**Antumapu**	**0.46**	**357**	*i* P	P	16 14 57.3	+0.1
ANTU				*i* S	S	16 15 08.3	0.0
ANTU				AMP		16 15 08.7	
	comp=N,918nm,0.3s						
TACH	**Talagante**	**0.47**	**324**	⇓*i*P	P	16 14 57.2	-0.1
TACH				*i* S	S	16 15 08.1	-0.2
RCDM	**Rinconada Maip**	**0.57**	**343**	*i* P	P	16 14 57.9	-0.2
RCDM				*i* S	S	16 15 09.6	-0.1
RCDM				AMP		16 15 10.8	
	comp=E,855nm,0.1s						
SFDO	**San Fernando**	**0.67**	**210**	⇑*i*P	P	16 14 59.1	0.0
SFDO				*i* S	S	16 15 11.6	+0.2
LNV	**Longovilo**	**0.67**	**276**	*i* P	P	16 14 58.4	-0.7
FCH	**Farellones**	**0.75**	**21**	⇓*i*P	P	16 15 00.1	+0.3
FCH				*i* S	S	16 15 13.8	+1.1
FCH				AMP		16 15 16.2	
	comp=E,145nm,0.1s						
PEL	**Peldehue**	**0.89**	**356**	*e*P	P	16 15 01.6	+0.3
PEL				*i* S	S	16 15 15.8	+0.5
PEL				AMP		16 15 17.7	
	comp=N,222nm,0.5s						
LCCH	**Las Cruces**	**0.98**	**304**	⇓*i*P	P	16 15 01.9	-0.4
JACH	**Jahuel**	**1.35**	**0**	*i* P	P	16 15 06.9	+0.1

WEL 23 16:15:00.7±0.3,36.73S×177.45E,h194km±3km,ML3.6/9,Error ellipse: s-maj=4.8km s-min=4.1km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.07**	**141**	PN	P	16 15 30.2	-0.3
MXZ				SN	S	16 15 52.8	-0.9
PUZ	**Puketiti**	**1.48**	**155**	PN	P	16 15 33.8	-0.3
PUZ				SN	S	16 15 58.3	-1.6
URZ	**Urewera**	**1.55**	**190**	PN	P	16 15 34.6	-0.1
URZ				SN	S	16 16 00.6	-0.3
MWZ	**Matawai**	**1.60**	**178**	PN	P	16 15 35.1	-0.1
MWZ				SN	S	16 16 01.7	-0.1
KNZ	**Kokohu**	**2.29**	**176**	PN	P	16 15 41.9	-0.4
BKZ	**Black Stump Fm**	**2.55**	**197**	PN	P	16 15 44.6	-0.6
TSZ	**Takapari Road**	**3.52**	**199**	PN	P	16 15 55.2	-1.7
MRZ	**Mangatainoka R**	**4.19**	**200**	PN	P	16 16 02.8	-2.5
MRZ				SN	S	16 16 52.1	-3.1
TCW	**Tory Channel**	**5.11**	**208**	PN	P	16 16 13.3	-3.8
TUWZ	**Tuamarina**	**5.43**	**209**	PN	P	16 16 17.0	-4.1
NNZ	**Nelson**	**5.49**	**214**	SN	S	16 17 21.4	-3.7
THZ	**Tophouse**	**6.14**	**214**	PN	P	16 16 26.7	-3.7
KHZ	**Kahutara**	**6.43**	**207**	PN	P	16 16 30.2	-4.0
KHZ				*e*SN	S	16 17 42.0	-5.0
MQZ	**McQueen's Vall**	**7.87**	**206**	*e*SN	S	16 18 12.4	-8.5

*MAN **23** 16:45:48.6,7.32N×127.00E,h23km,mb4.8,ML3.7,MS3.7*
*NEIC **23** 16:45:52.9±1.4,7.17N×126.77E,h102km±13km,mb4.1/5,Error ellipse: s-maj=25.0km s-min=7.1km az=78.0*
*IDC **23** 16:45:56.6±6.5,7.17N×126.89E,h139km±63km,mb3.7/9,mb1 3.8/10,mb1mx3.6/20,mbtmp4.2/10,Error ellipse: s-maj=42.6km s-min=13.2km az=79.0*
ISC 23 16:45:48.2±0.9,7.24N±0.04×127.05E±0.08,h76km±8km,n40,σ1§01/50,mb4.2/13,3C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.84**	**250**	*e*P	**P**	**16 46 03.9**	**-1.4**
MATI				*e*S	**S**	**16 46 14.5**	**-3.6**
BIPH	**Bislig**	**1.16**	**324**	⇑*i*P	**P**	**16 46 08.8**	**-0.5**
BIPH				*i* S	**S**	**16 46 22.0**	**-3.1**
DAV	**Davao City (W)**	**1.47**	**264**	*e*Pn	**P**	**16 46 15.2**	**+1.6**
KCP	**Kidapawan**	**1.96**	**263**	⇓*e*P	**P**	**16 46 20.6**	**+0.6**
KCP				*e*S	**S**	**16 46 44.0**	**+0.5**
BUKP	**Musuan**	**2.07**	**288**	*e*P	**P**	**16 46 22.0**	**+0.4**
BUTP	**Butuan**	**2.23**	**321**	*e*P	**P**	**16 46 24.9**	**+1.1**
BUTP				*e*S	**S**	**16 46 53.0**	**+2.9**
CGP	**Cagayan de Oro**	**2.63**	**297**	⇑*i*P	**P**	**16 46 29.4**	**-0.1**
CGP				*i* S	**S**	**16 47 00.5**	**+0.2**
SCPH	**Surigao**	**2.96**	**329**	*e*P	**P**	**16 46 34.7**	**+0.6**
SCPH				*e*S	**S**	**16 47 07.8**	**-0.8**
MSLP	**Maasin**	**3.60**	**323**	*e*P	**P**	**16 46 42.5**	**-0.5**
MSLP				*e*S	**S**	**16 47 26.9**	**+2.4**
PAGZ	**Pagadian**	**3.69**	**280**	*e*P	**P**	**16 46 44.1**	**-0.1**
DCPH	**Dipolog City**	**3.90**	**290**	⇑*e*P	**P**	**16 46 47.1**	**0.0**
TBP	**Tagbilaran**	**3.99**	**308**	*e*P	**P**	**16 46 47.7**	**-0.6**
TBP				*e*S	**S**	**16 47 31.7**	**-2.5**
SNPH	**Sibulan**	**4.32**	**299**	*i* P	**P**	**16 46 53.1**	**+0.2**
LLP	**Lapu-Lapu**	**4.32**	**315**	⇓*i*P	**P**	**16 46 53.6**	**+0.6**
LLP				*i* S	**S**	**16 47 42.6**	**+0.1**
OCLP	**Ormoc**	**4.49**	**328**	*e*P	**P**	**16 46 54.3**	**-1.1**
BESP	**Borongan**	**4.62**	**340**	*e*P	**P**	**16 47 05.3**	**+8.2**
BESP				*e*S	**S**	**16 47 44.6**	**-5.3**
GUIM	**Jordan**	**5.55**	**308**	*e*P	**P**	**16 47 09.8**	**-0.1**
CNP	**Catarman**	**5.74**	**336**	*e*P	**P**	**16 47 13.7**	**+1.1**
CNP				*e*S	**S**	**16 48 11.3**	**-6.6**
JOW	**Kunigami**	**19.52**	**3**	P	**P**	**16 50 14.8**	**+2.6**
	4.3nm,0.3s,baz=188,slow=9.1,SNR=24						
KAKA	**Kakadu**	**20.53**	**165**	*e*P	Px	16 50 44.8	
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.22**	**183**	*e*P	**P**	**16 51 08.8**	**+0.1**
	3.4nm,0.4s,mb4.1						
WRAB	**Tennant Creek**	**27.94**	**165**	*e*P	**P**	**16 51 33.5**	**-0.3**
	1.8nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**27.95**	**165**	P	**P**	**16 51 32.8**	**-1.0**
	1.4nm,0.4s,mb3.8,baz=341,slow=11,SNR=38						
WB2	**Warramunga Arr**	**27.95**	**165**	*e*P	**P**	**16 51 33.5**	**-0.4**
ASPA	**Alice Springs**	**31.44**	**168**	*e*P	**P**	**16 52 04.7**	**0.0**
FORT	**Forrest**	**37.81**	**179**	*e*P	**P**	**16 52 59.6**	**+0.5**
	39nm,0.4s						
KLBR	**Kellerberrin**	**39.62**	**192**	*e*P	**P**	**16 53 14.6**	**+0.5**
	11nm,0.4s,mb5.0						
NWAO	**Narrogin (SRO)**	**41.02**	**193**	P	**P**	**16 53 26.5**	**+0.9**
	8.6nm,0.7s,mb4.7,baz=356,slow=13,SNR=10						
NWAO	**Narrogin (SRO)**	**41.02**	**193**	P	**P**	**16 53 26.5**	**+0.9**
STKA	**Stephens Creek**	**41.30**	**161**	P	**P**	**16 53 28.3**	**+0.4**
	0.9nm,0.3s,mb4.1,baz=352,slow=7.8,SNR=5.6						
STKA	**Stephens Creek**	**41.30**	**161**	P	**P**	**16 53 28.3**	**+0.4**
ULN	**Ulaanbaatar**	**43.92**	**341**	*e*P	**P**	**16 53 49.0**	**-0.2**
	1.5nm,0.5s,mb4.0						
SONM	**Songino Array**	**44.11**	**340**	P	**P**	**16 53 50.5**	**-0.2**
	0.6nm,0.4s,mb3.7,baz=154,slow=7.8,SNR=6.6						
MKAR	**Makanchi Array**	**54.90**	**324**	P	**P**	**16 55 12.5**	**-0.9**
	2.4nm,0.4s,mb4.6,baz=121,slow=8.0,SNR=28						
ZAL	**Zalesovo**	**57.65**	**332**	P	**P**	**16 55 31.6**	**-1.3**
	0.7nm,0.3s,mb4.2,baz=342,slow=16,SNR=4.2						
BRVK	**Borovoye**	**64.66**	**326**	*e*P	**P**	**16 56 18.9**	**-1.3**
	0.9nm,0.8s,mb3.6						
ILAR	**Eielson Array**	**81.82**	**26**	P	**P**	**16 58 01.5**	**+1.3**
	0.5nm,0.9s,baz=241,slow=5.4,SNR=5.5						
ARCES	**ARCESS Array B**	**87.29**	**340**	P	**P**	**16 58 27.1**	**-0.2**
	1.8nm,0.9s,mb4.0,baz=74,slow=5.5,SNR=5.0						
FINES	**FINESS Array B**	**88.91**	**332**	P	**P**	**16 58 34.7**	**-0.4**
	1.5nm,0.9s,mb4.0,baz=63,slow=3.1,SNR=4.0						
FINES	**FINESS Array B**	**88.91**	**332**	P	**P**	**16 58 34.7**	**-0.5**

*IDC **23** 16:57:30.0±1.8,40.48N×125.05W,mb3.6/4,mb1 3.9/8,mb1mx3.7/25,mbtmp3.6/8,ML3.5/4,MS3.3/6,Ms1 3.3/6,ms1mx3.0/30,Error ellipse: s-maj=22.0km s-min=17.0km az=51.0*
*NEIC **23** 16:57:29.9,40.45N×125.26W,h9km,MD3.6(NCEDC),After NCEDC.*
ISC 23 16:57:27.7±2.3,40.38N±0.04×125.18W±0.10,h2km±17km,n62,σ0§95/62,mb3.6/3,MS3.2/3,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHMM	**Horse Mountain**	**1.21**	**65**	*e*P	**Pb**	**16 57 51.7**	**+0.6**
KCPM	**Cahto Peak**	**1.41**	**119**	*e*P	**Pb**	**16 57 54.6**	**+0.1**
KIPM	**Iron Peak**	**1.42**	**113**	*e*P	**Pb**	**16 57 54.9**	**+0.3**
KBO	**Bosley Butte**	**1.97**	**21**	*e*P	**Pn**	**16 58 01.0**	**-1.5**
WDC	**Whiskeytown Da**	**2.02**	**83**	*e*P	**Pn**	**16 58 03.2**	**0.0**
HOPS	**Hopland**	**2.14**	**130**	*e*P	**Pn**	**16 58 04.4**	**-0.5**
YBH	**Yreka Blue Hor**	**2.31**	**53**	Pn	**Pn**	**16 58 07.4**	**+0.1**
	8.4nm,0.3s,baz=247,slow=12,SNR=98						
YBH				Sn	**Sn**	**16 58 35.7**	**-1.0**
	15nm,0.3s,baz=135,slow=19,SNR=8.2						
YBH				LR	LR	16 58 53.5	
	comp=Z,420nm,19.1s,baz=189,slow=39						
YBH	**Yreka Blue Hor**	**2.31**	**53**	*e*P	**Pn**	**16 58 06.9**	**-0.4**
LHEM	**Herd Peak**	**2.57**	**60**	*e*P	**Pn**	**16 58 11.4**	**+0.3**
KEBM	**Edson Butte**	**2.57**	**14**	*e*P	**Pn**	**16 58 09.7**	**-1.4**
NSHM	**Saint Helena R**	**2.73**	**132**	*e*P	**Pn**	**16 58 13.1**	**-0.2**
HUMO	**Hull Mountain**	**2.78**	**36**	*e*P	**Pn**	**16 58 13.0**	**-1.1**
BUOR	**Burton Butte**	**2.91**	**48**	P	**Pn**	**16 58 17.1**	**+1.1**
LBCM	**Butte Creek Ri**	**2.95**	**80**	P	**Pn**	**16 58 16.9**	**+0.3**
LASM	**Arnica Sink**	**2.99**	**65**	P	**Pn**	**16 58 17.7**	**+0.6**
VSP	**Spence Mountai**	**3.12**	**50**	P	**Pn**	**16 58 20.5**	**+1.6**
BBOR	**Butler Butte**	**3.13**	**36**	P	**Pn**	**16 58 20.3**	**+1.2**
HOG	**Hogback Mounta**	**3.21**	**53**	P	**Pn**	**16 58 21.5**	**+1.3**
MOD	**Modoc**	**3.99**	**66**	*e*P	**Pn**	**16 58 30.5**	**-0.7**
HBO	**Huckleberry Mo**	**4.06**	**31**	P	**Pn**	**16 58 33.2**	**+0.9**
IRO	**Indian Ridge**	**4.22**	**30**	P	**Pn**	**16 58 35.1**	**+0.4**
CMB	**Columb

0.4nm,0.7s,mb3.5,baz=117,slow=6.4,SNR=4.3

ILAR	**Eielson Array**	**83.92**	**22**	P	**P**	**17 16 19.6**	**-0.9**
	0.6nm,0.7s,mb3.9,baz=252,slow=5.3,SNR=5.2						
AAK	**Ala-Archa**	**85.27**	**314**	*e*P	**P**	**17 16 28.2**	**+0.5**
	2.1nm,0.6s,mb4.4						

IDC ***23*** *17:31:44.6±7.1, 18.73N×145.64E, h139km±67km, mb3.8/9, mb1 4.0/10, mb1mx3.7/21, mbtmp4.2/10, Error ellipse: s-maj=31.3km s-min=15.6km az=92.0*

NEIC ***23*** *17:31:44.3±4.2, 18.75N×145.85E, h134km±40km, mb4.1/8, Error ellipse: s-maj=20.1km s-min=9.3km az=98.0*

ISC 23 17:31:40.8±4.7, 18.76N±0.07×145.9E±0.2, h117km±44km**, n26, σ1$08/26, mb4.1/17, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.96**	**341**	P	**P**	**17 35 53.5**	**-1.9**
	0.6nm,0.3s,baz=164,slow=9.4,SNR=7.0						
MAJO	**Matsushiro**	**18.96**	**341**	P	**P**	**17 35 55.6**	**+0.1**
	5.5nm,0.5s						
YHNB	**Yeheng**	**23.50**	**289**	P	**P**	**17 36 43.8**	**+2.8**
PMG	**Port Moresby**	**28.01**	**177**	P	**P**	**17 37 21.7**	**-1.4**
	2.3nm,0.4s,mb4.1,baz=297,slow=6.8,SNR=4.1						
PMG	**Port Moresby**	**28.01**	**177**	P	**P**	**17 37 21.7**	**-1.4**
KKM	**Kota Kinabalu**	**31.54**	**250**	P	**P**	**17 37 55.3**	**+0.9**
WRAB	**Tennant Creek**	**40.08**	**197**	*e*P	**P**	**17 39 06.4**	**0.0**
	6.6nm,0.4s,mb4.8						
WB2	**Warramunga Arr**	**40.09**	**197**	*e*P	**P**	**17 39 06.4**	**-0.1**
WRA	**Warramunga Arr**	**40.09**	**197**	P	**P**	**17 39 06.4**	**-0.1**
	2.3nm,0.4s,mb4.3,baz=18,slow=9.0,SNR=72						
FITZ	**Fitzroy Crossi**	**41.68**	**210**	*e*P	**P**	**17 39 20.5**	**+0.8**
	2.0nm,0.2s,mb4.5						
ULN	**Ulaanbaatar**	**42.83**	**322**	*e*P	**P**	**17 39 28.6**	**-0.1**
	1.2nm,0.7s,mb3.7						
SONM	**Songino Array**	**43.21**	**321**	P	**P**	**17 39 32.6**	**+0.8**
	0.4nm,0.4s,mb3.5,baz=124,slow=6.4,SNR=4.8						
ASPA	**Alice Springs**	**43.76**	**196**	*e*P	**P**	**17 39 36.5**	**0.0**
MBWA	**Marble Bar**	**47.22**	**214**	*e*P	**P**	**17 40 03.5**	**-0.5**
	3.4nm,0.5s,mb4.3						
KDAK	**Kodiak Island**	**59.22**	**33**	P	**P**	**17 41 32.6**	**+0.8**
	2.6nm,0.6s,mb4.4,baz=217,slow=8.0,SNR=5.0						
ILAR	**Eielson Array**	**63.52**	**26**	P	**P**	**17 41 59.9**	**-0.7**
	2.7nm,0.8s,mb4.1,baz=256,slow=5.3,SNR=27						
INK	**Inuvik**	**69.25**	**23**	*e*P	**P**	**17 42 37.0**	**+0.3**
	2.9nm,0.8s,mb4.2						
YKW3	**Yellowknife Ar**	**77.83**	**28**	P	**P**	**17 43 27.1**	**+0.6**
YKA	**Yellowknife Ar**	**77.86**	**28**	P	**P**	**17 43 27.2**	**+0.5**
	1.0nm,0.5s,mb3.8,baz=290,slow=5.4,SNR=22						
YKA	**Yellowknife Ar**	**77.86**	**28**	P	**P**	**17 43 27.2**	**+0.5**
RES	**Resolute Bay**	**79.33**	**14**	*e*P	**P**	**17 43 35.3**	**+0.8**
	1.4nm,0.7s,mb3.9						
ARCES	**ARCESS Array B**	**82.49**	**342**	P	**P**	**17 43 51.0**	**-0.2**
	1.6nm,0.6s,mb4.0,baz=72,slow=7.7,SNR=6.1						
NVAR	**Mina Array Bea**	**82.97**	**52**	P	**P**	**17 43 56.9**	**+2.6**
	3.2nm,0.7s,mb4.3,baz=261,slow=8.1,SNR=33						
JOF	**Joensuu**	**84.04**	**335**	*e*p	**P**	**17 43 58.0**	**-1.1**
	0.8nm,0.3s,mb4.0						
KAF	**Kangasniemi**	**86.44**	**336**	*e*p	**P**	**17 44 08.1**	**-2.8**
	0.3nm,0.3s,mb3.7						
FINES	**FINESS Array B**	**86.91**	**335**	P	**P**	**17 44 11.7**	**-1.6**
	0.7nm,0.5s,mb3.9,baz=70,slow=5.4,SNR=11						

IDC ***23*** *17:38:51.7±5.3, 7.34S×128.56E, h119km±49km, mb3.8/7, mb1 3.9/8, mb1mx3.8/14, mbtmp4.2/8, Error ellipse: s-maj=37.2km s-min=17.1km az=69.0*

NEIC ***23*** *17:38:51.3±1.6, 7.29S×128.76E, h122km±16km, mb4.2/10, Error ellipse: s-maj=15.4km s-min=8.0km az=57.0*

ISC 23 17:38:51.2±2.1, 7.35S±0.08×128.6E±0.1, h135km±21km**, n31, σ0$91/33, mb4.1/13, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.54**	**145**	⇓*i*P	Px	17 40 51.7	
	164nm,0.1s						
KAKA				*e*S	Sx	17 41 59.6	
FITZ	**Fitzroy Crossi**	**11.07**	**195**	*e*P	**P**	**17 41 26.4**	**-0.3**
	51nm,0.3s						
FITZ				*e*S	**S**	**17 43 25.2**	**-3.2**
WRAB	**Tennant Creek**	**13.71**	**157**	*e*Pn	**P**	**17 42 00.6**	**-0.5**
	28nm,0.6s						
WRAB				*e*Sn	**S**	**17 44 24.7**	**-5.6**
WRA	**Warramunga Arr**	**13.71**	**157**	P	**P**	**17 42 00.1**	**-0.9**
	6.0nm,0.3s,baz=339,slow=13,SNR=95						
WRA				S	**S**	**17 44 24.6**	**-5.8**
	4.9nm,0.3s,baz=326,slow=24,SNR=7.4						
WB2	**Warramunga Arr**	**13.71**	**157**	*e*P	**P**	**17 42 00.3**	**-0.8**
WB2				*e*S	**S**	**17 44 24.3**	**-6.2**
MBWA	**Marble Bar**	**16.18**	**211**	*e*P	**P**	**17 42 34.7**	**+2.4**
	3.1nm,0.5s						
ASPA	**Alice Springs**	**17.01**	**163**	*e*P	**P**	**17 42 43.8**	**+1.3**
ASPA				*e*S	**S**	**17 45 46.1**	**+0.5**
KSM	**Kuching**	**20.23**	**295**	*e*P	**P**	**17 43 19.8**	**+1.9**
CTA	**Charters Tower**	**21.30**	**128**	*e*P	**P**	**17 43 31.3**	**+2.9**
	5.8nm,1.1s,mb3.8						
CTA	**Charters Tower**	**21.30**	**128**	P	**P**	**17 43 29.5**	**+1.1**
	2.1nm,0.6s,mb3.7,baz=300,slow=14,SNR=6.0						
KLBR	**Kellerberrin**	**26.16**	**201**	*e*P	**P**	**17 44 15.3**	**+0.4**
STKA	**Stephens Creek**	**27.25**	**155**	P	**P**	**17 44 25.2**	**+0.2**
	2.3nm,0.6s,mb4.0,baz=150,slow=20,SNR=7.5						
STKA	**Stephens Creek**	**27.25**	**155**	*e*P	**P**	**17 44 24.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**27.55**	**201**	P	**P**	**17 44 27.9**	**+0.2**
	5.1nm,0.3s,mb4.8,baz=61,slow=6.2,SNR=19						
JIRN	**Jiri**	**53.77**	**312**	*e*P	**P**	**17 48 02.1**	**-0.1**
GUN	**Gumba**	**54.13**	**312**	*e*P	**P**	**17 48 04.8**	**0.0**
	9.7nm,0.5s,mb4.8						
KKN	**Kakani**	**54.51**	**312**	*e*P	**P**	**17 48 07.2**	**-0.4**
DMN	**Daman**	**54.54**	**311**	*e*P	**P**	**17 48 07.3**	**-0.5**
GKN	**Gorkha**	**55.10**	**312**	*e*P	**P**	**17 48 11.4**	**-0.5**
	9.2nm,0.4s,mb4.9						
KOLN	**Koldanda**	**55.75**	**311**	*e*P	**P**	**17 48 15.6**	**-1.0**
	20nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**58.17**	**343**	P	**P**	**17 48 33.5**	**+0.2**
	0.9nm,0.5s,mb3.9						
SONM	**Songino Array**	**58.34**	**343**	P	**P**	**17 48 34.8**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=164,slow=7.0,SNR=4.0						
MKAR	**Makanchi Array**	**67.75**	**328**	P	**P**	**17 49 36.5**	**0.0**
	1.4nm,0.6s,mb3.9,baz=114,slow=8.2,SNR=17						
MKAR	**Makanchi Array**	**67.75**	**328**	P	**P**	**17 49 36.5**	**0.0**
AAK	**Ala-Archa**	**69.90**	**320**	*e*P	**P**	**17 49 49.6**	**-0.2**
	3.7nm,1.3s,mb4.0						
ZAL	**Zalesovo**	**71.28**	**334**	P	**P**	**17 49 57.4**	**-0.4**
	1.0nm,0.3s,mb4.0,baz=303,slow=7.0,SNR=4.1						
KURK	**Kurchatov**	**72.09**	**329**	*e*P	**P**	**17 50 02.6**	**0.0**
	1.4nm,0.4s,mb4.0						
VNDA	**Vanda**	**72.28**	**173**	P	**P**	**17 50 03.0**	**-0.4**
	0.9nm,0.8s,mb3.6,baz=18,slow=2.6,SNR=6.7						
VNDA	**Vanda**	**72.28**	**173**	*e*P	**P**	**17 50 02.9**	**-0.4**
	0.8nm,0.6s,mb3.6						
LPAZ	**La Paz**	**151.27**	**145**	PKPbc	PKPdf	17 58 32.2	+8.8
	1.1nm,0.4s,baz=304,slow=3.6,SNR=6.2						
LPAZ				PKPab	PKPab	17 58 42.0	+1.5
	2.2nm,0.5s,baz=213,slow=4.8,SNR=11						
LPAZ	**La Paz**	**151.27**	**145**	PKPbc	PKPdf	17 58 32.2	+8.8
LPAZ				PKPab	PKPab	17 58 42.0	+1.5

IDC ***23*** *18:03:57.4±0.4, 8.14N×38.04W, mb4.9/28, mb1 5.0/28, mb1mx5.0/28, mbtmp4.9/28, MS4.2/27, Ms1 4.2/27, ms1mx4.2/30, Error ellipse: s-maj=12.9km s-min=11.1km az=144.0*

MOS ***23*** *18:03:57.0±0.9, 8.12N×38.01W, h10km, mb5.4/54, MS4.4/13, Error ellipse: s-maj=11.8km s-min=4.4km az=55.4*

BJI ***23*** *18:03:58.9, 8.10N×38.00W, h10km, mB5.7, Ms5.7, Msz5.1*

NEIC ***23*** *18:03:59.0±0.1, 8.07N×38.04W, h10km, mb5.3/182, MS4.6/18, Error ellipse: s-maj=3.5km s-min=2.1km az=159.0*

HRVD ***23*** *18:03:59.0±0.3, 8.15N×38.10W, h12km, MW5.1/62, Centroid moment Tensor Solution. LP body waves: s35,c42;Mantle waves: s62,c105; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.41± 12; $M_{\theta\theta}$0.26±.11; $M_{\phi\phi}$4.15±.11; $M_{r\theta}$0.07±.43; $M_{\theta\phi}$-0.36±.10; $M_{\phi r}$2.05±.37; Best double couple: M_o4.761×10^{16} NP1: ϕ_s352°, δ32°, λ-95°. NP2:ϕ_s178°, δ58°, λ-87°. Principal axes: T 4.642, Plg13°, Azm265°; N .234, Plg3°, Azm356°; P -4.88, Plg77°, Azm98°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 18:03:57.2±0.2, 8.10N±0.04×38.03W±0.03, h10km**, (h15**km±2.4km**:pP-P), n515, σ0$81/478, mb5.2/225,**

MS4.5/52, 28C-35D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.99**	**171**	*e*Pn	**P**	**18 07 17.7**	**-0.4**
	34nm,1.1s						
BAO	**Brasilia Array**	**25.56**	**203**	P	**P**	**18 09 29.5**	**+1.3**
BDFB	**Brasilia**	**25.57**	**203**	P	**P**	**18 09 28.8**	**+0.4**
	102nm,1.2s,mb5.2,baz=37,slow=9.9,SNR=18						
BDFB				LR	LR	18 19 09.0	
	comp=Z,697nm,18.2s,MS4.2,baz=18,slow=36						
SJG	**San Juan**	**29.10**	**293**	LR	LR	18 19 08.4	
	comp=Z,1µm,21.7s,MS4.5,baz=94,slow=31						
SDV	**Santo Domingo**	**32.25**	**274**	*e*P	**P**	**18 10 28.4**	**0.0**
	21nm,1.1s,mb4.9						
LIC	**Lamto**	**32.79**	**91**	*e*P	**P**	**18 10 30.6**	**-2.5**
	74nm,1.4s,mb5.1						
LIC				*e*R			
	692nm,18.0s						
DBIC	**Dimbokro**	**32.92**	**90**	P	**P**	**18 10 32.3**	**-1.9**
	5.5nm,0.8s,mb4.6,baz=252,slow=9.5,SNR=8.6						
DBIC				LR	LR	18 21 28.4	
	comp=Z,826nm,18.7s,MS4.5,baz=246,slow=32						
DBIC	**Dimbokro**	**32.92**	**90**	*e*P	**P**	**18 10 32.2**	**-2.0**
DBIC				MLR	MLR		
	comp=Z,837nm,20.0s						
SIV	**San Ignacio**	**33.07**	**224**	P	**P**	**18 10 36.3**	**+0.9**
	comp=Z,16nm,1.1s,mb4.9,baz=64,slow=9.8,SNR=40						
ROSC	**El Rosal**	**36.21**	**267**	P	**P**	**18 11 03.5**	**+1.1**
	comp=Z,14nm,0.8s,mb5.0,baz=106,slow=1.9,SNR=18						
ROSC				LR	LR	18 25 08.7	
	comp=Z,822nm,21.9s,MS4.5,baz=28,slow=35						
LPAZ	**La Paz**	**38.40**	**231**	P	**P**	**18 11 22.2**	**+1.4**
	comp=Z,24nm,1.0s,mb4.8,baz=39,slow=9.4,SNR=41						
LPAZ				LR	LR	18 27 47.1	
	comp=Z,399nm,18.6s,MS4.3,baz=346,slow=37						
LPAZ	**La Paz**	**38.40**	**231**	*e*P	**P**	**18 11 22.1**	**+1.2**
LPAZ				pmax	pmax		
	comp=Z,51nm,1.1s						
LPAZ				MLR	MLR		
	comp=Z,416nm,20.0s						
LPAZ	**La Paz**	**38.40**	**231**	*e*P	**P**	**18 11 22.1**	**+1.3**
	comp=Z,51nm,1.1s,mb5.2						
LPAZ				LR	LR		
	comp=Z,416nm,20.0s,MS4.2						
CPUP	**Villa Florida**	**39.02**	**208**	*e*P	**P**	**18 11 26.1**	**+0.1**
CPUP				pmax	pmax		
	comp=Z,32nm,1.1s						
CPUP	**Villa Florida**	**39.02**	**208**	*e*P	**P**	**18 11 26.1**	**+0.2**
	comp=Z,32nm,1.1s,mb5.0						
MDT	**Midelt**	**39.52**	**47**	P	**P**	**18 11 31.5**	**+1.4**
	comp=Z,9.5nm,0.9s,mb4.5,baz=240,slow=8.0,SNR=14						
MDT				LR	LR	18 26 55.8	
	comp=Z,520nm,18.8s,MS4.4,baz=240,slow=35						
PTEO	**Sao Teotonio**	**39.54**	**38**	*e*P	**P**	**18 11 31.1**	**+1.0**
	comp=Z,99nm,1.3s,mb5.4						
EGRO	**El Granado**	**40.29**	**39**	P	**P**	**18 11 36.6**	**+0.3**
	comp=Z,17nm,1.0s,mb4.7						
PBEJ	**Beja**	**40.37**	**38**	*e*P	**P**	**18 11 38.0**	**+1.0**
	comp=Z,56nm,1.5s,mb5.1						
EVO	**Evora**	**40.60**	**37**	⇑*i*P	**P**	**18 11 39.4**	**+0.5**
	comp=Z,206nm,1.3s,mb5.3						
EVO				*e*R			
	comp=Z,937nm,20.8s						
ESPR	**Espera**	**40.91**	**41**	P	**P**	**18 11 42.1**	**+0.6**
	comp=Z,21nm,1.0s,mb4.7						
EJIF	**Jimena Fronter**	**40.92**	**41**	P	**P**	**18 11 43.1**	**+1.6**
EJIF				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.6						
EJIF	**Jimena Fronter**	**40.92**	**41**	P	**P**	**18 11 43.1**	**+1.6**
	comp=Z,18nm,1.1s,mb4.6						
EMIN	**Mina Concepcio**	**40.94**	**39**	P	**P**	**18 11 42.3**	**+0.6**
	comp=Z,30nm,1.2s,mb4.8						
OTAV	**Otavalo**	**41.03**	**261**	*e*P	**P**	**18 11 43.6**	**+0.9**
	comp=Z,21nm,1.3s,mb4.6						
PTOM	**Tomar**	**41.08**	**36**	*e*P	**P**	**18 11 44.0**	**+1.2**
	comp=Z,141nm,1.2s,mb5.5						
ARE	**Arequipa**	**41.13**	**234**	*e*P	**P**	**18 11 43.0**	**-0.5**
EBAD	**Badajoz**	**41.34**	**38**	P	**P**	**18 11 46.1**	**+1.1**
	comp=Z,37nm,0.9s,mb5.0						
PCBR	**Castelo Branco**	**41.77**	**36**	*e*P	**P**	**18 11 49.2**	**+0.7**
MTE	**Manteigas**	**42.10**	**35**	*e*P	**P**	**18 11 51.5**	**+0.3**
	comp=Z,61nm,1.4s,mb5.0						
MTE				*e*S	**S**	**18 18 21.1**	**+11**
MTE				*e*LQ		18 22 07.2	
MTE				*e*LR	LR	18 23 20.7	
	comp=Z,588nm,20.5s						
MTE	**Manteigas**	**42.10**	**35**	*e*P	**P**	**18 11 51.3**	**+0.1**
	comp=Z,62nm,1.3s,mb5.1						
PVIS	**Viseu**	**42.11**	**35**	*e*P	**P**	**18 11 52.1**	**+0.8**
	comp=Z,72nm,1.4s,mb5.1						
ELOJ	**Sierra Loja**	**42.18**	**42**	P	**P**	**18 11 53.4**	**+1.5**
ELOJ				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.7						
ELOJ	**Sierra Loja**	**42.18**	**42**	P	**P**	**18 11 53.4**	**+1.4**
	comp=Z,24nm,1.3s,mb4.7						
ERON	**Agron**	**42.34**	**42**	P	**P**	**18 11 54.7**	**+1.5**
	comp=Z,14nm,1.2s,mb4.5						
ELUQ	**Luque**	**42.34**	**41**	P	**P**	**18 11 54.4**	**+1.1**
ELUQ				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
ELUQ	**Luque**	**42.34**	**41**	P	**P**	**18 11 54.4**	**+1.2**
	comp=Z,4.1nm,0.4s,mb4.4						
EADA	**Adamuz**	**42.50**	**40**	P	**P**	**18 11 55.4**	**+0.9**
	comp=Z,7.5nm,1.1s,mb4.2						
PVRL	**Vila Real**	**42.59**	**34**	*e*P	**P**	**18 11 55.9**	**+0.7**
	comp=Z,46nm,1.1s,mb5.1						
ECOG	**Cogollos-Vega**	**42.64**	**42**	P	**P**	**18 11 57.1**	**+1.4**
ECOG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
ECOG	**Cogollos-Vega**	**42.64**	**42**	P	**P**	**18 11 57.1**	**+1.4**
	comp=Z,8.1nm,0.9s,mb4.5						
EZAM	**Zamans**	**42.65**	**33**	P	**P**	**18 11 56.6**	**+0.9**
EZAM				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.9						
EZAM	**Zamans**	**42.65**	**33**	P	**P**	**18 11 56.6**	**+0.9**
	comp=Z,27nm,1.0s,mb4.9						
PCAB	**Cabril**	**42.71**	**33**	*e*P	**P**	**18 11 56.8**	**+0.6**
	comp=Z,52nm,1.4s,mb5.1						
ELOB	**Lobios**	**42.80**	**33**	P	**P**	**18 11 57.0**	**+0.1**
	comp=Z,30nm,1.3s,mb4.9						
EBER	**Berja**	**42.88**	**43**	P	**P**	**18 11 59.4**	**+1.8**
	comp=Z,49nm,1.2s,mb5.1						
EBAN	**Banos Encina**	**43.00**	**41**	P	**P**	**18 11 59.9**	**+1.3**
EBAN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
EBAN	**Banos Encina**	**43.00**	**41**	P	**P**	**18 11 59.9**	**+1.3**
	comp=Z,5.7nm,0.7s,mb4.4						
EMAZ	**Mariaricos**	**43.07**	**31**	P	**P**	**18 11 59.4**	**+0.3**
	comp=Z,7.2nm,1.2s,mb4.3						
STS	**Santiago**	**43.24**	**32**	P	**P**	**18 12 01.5**	**+1.0**
STS				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
STS	**Santiago**	**43.24**	**32**	P	**P**	**18 12 01.5**	**+1.0**
	comp=Z,5.2nm,0.6s,mb4.4						
EQES	**Quesada**	**43.26**	**41**	P	**P**	**18 12 01.7**	**+0.9**
	comp=Z,47nm,1.0s,mb5.2						
ECAL	**Calabor**	**43.58**	**34**	P	**P**	**18 12 04.1**	**+0.9**
	comp=Z,26nm,1.0s,mb4.9						
EHUE	**Huescar**	**43.58**	**42**	P	**P**	**18 12 03.8**	**+0.4**
EHUE				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.1						
EHUE	**Huescar**	**43.58**	**42**	P	**P**	**18 12 03.8**	**+0.5**
	comp=Z,60nm,1.4s,mb5.1						
ERUA	**La Rua**	**43.66**	**33**	P	**P**	**18 12 04.2**	**+0.3**
ERUA				pmax	pmax		
	comp=Z,119nm,1.9s,mb5.3						
ERUA	**La Rua**	**43.66**	**33**	P	**P**	**18 12 04.2**	**+0.3**
	comp=Z,119nm,1.9s,mb5.3						
ESDC	**Sonseca Array**	**43.78**	**39**	P	**P**	**18 12 05.2**	**+0.3**
	comp=Z,15nm,1.1s,mb4.6,baz=238,slow=8.2,SNR=36						
ESDC	**Sonseca Array**	**43.78**	**39**	P	**P**	**18 12 05.2**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.5						
ESLA	**Sonseca Array**	**43.78**	**39**	*e*P	**P**	**18 12 05.2**	**+0.4**
	comp=Z,5.4nm,1.1s,mb4.2						
ESLA				LR	LR		
	comp=Z,4µm,21.0s,MS5.3						
EVIA	**Vianos**	**44.10**	**41**	P	**P**	**18 12 08.9**	**+1.4**
EVIA				pmax	pmax		
	comp=Z,63nm,1.1s,mb5.3						
EVIA	**Vianos**	**44.10**	**41**	P	**P**	**18 12 08.9**	**+1.4**
	comp=Z,63nm,1.1s,mb5.3						
GUD	**Guadarrama**	**44.24**	**37**	P	**P**	**18 12 09.4**	**+0.7**
GUD				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.9						
GUD	**Guadarrama**	**44.24**	**37**	P	**P**	**18 12 09.4**	**+0.7**
	comp=Z,25nm,1.1s,mb4.9						
EPON	**Pontenova**	**44.29**	**32**	P	**P**	**18 12 10.0**	**+1.0**
	comp=Z,51nm,1.2s,mb5.1						
ETOB	**Tobarra**	**44.73**	**41**	P	**P**	**18 12 13.1**	**+0.4**
	comp=Z,8.9nm,0.7s,mb4.7						
EARI	**Arriondas**	**45.32**	**34**	P	**P**	**18 12 17.6**	**+0.3**
	comp=Z,26nm,1.2s,mb4.9						
ECHE	**Chera**	**45.62**	**41**	P	**P**	**18 12 20.2**	**+0.5**
ECHE				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
ECHE	**Chera**	**45.62**	**41**	P	**P**	**18 12 20.2**	**+0.5**
	comp=Z,12nm,0.8s,mb4.9						
EBEN	**Beniarda**	**45.63**	**42**	P	**P**	**18 12 20.5**	**+0.7**
	comp=Z,14nm,1.0s,mb4.9						
ELAN	**Lanestosa**	**46.27**	**35**	P	**P**	**18 12 25.2**	**+0.4**
	comp=Z,23nm,1.1s,mb5.0						
MVL	**Millersville**	**46.66**	**319**	*e*P	**P**	**18 12 28.7**	**+0.7**
SDMD	**Soldier's Deli**	**46.67**	**318**	*e*P	**P**	**18 12 23.2**	**-4.8**
EIBI	**Ibiza**	**46.84**	**43**	P	**P**	**18 12 29.3**	**0.0**
	comp=Z,43nm,1.3s,mb5.2						
MDV	**Middlebury**	**47.07**	**325**	*e*P	**P**	**18 12 31.6**	**+0.5**
ESAC	**San Caprasio**	**47.13**	**39**	P	**P**	**18 12 32.5**	**+0.9**
	comp=Z,57nm,1.2s,mb5.4						
ERTA	**Horta de San J**	**47.20**	**40**	P	**P**	**18 12 33.0**	**+0.8**
	comp=Z,49nm,1.1s,mb5.3						
EALK	**Alkurruntz**	**47.38**	**36**	P	**P**	**18 12 35.1**	**+1.5**
	comp=Z,9.3nm,1.3s,mb4.5						
SJPF	**Ste Jean**	**47.48**	**37**	*e*P	**P**	**18 12 34.7**	**+0.4**
	comp=Z,97nm,1.4s,mb5.2						
SJPF	**Ste Jean**	**47.48**	**37**	*e*P	**P**	**18 12 34.7**	**+0.4**
SJPF				pmax	pmax		
	comp=Z,48nm,1.4s,mb5.2						
JSC	**Jenkinsville**	**47.48**	**310**	*e*P	**P**	**18 12 35.1**	**+0.6**
OSSF	**Osses**	**47.54**	**36**	*e*P	**P**	**18 12 35.0**	**+0.2**
ETSF	**Etsaut**	**47.75**	**37**	*e*P	**P**	**18 12 37.0**	**+0.5**
	comp=Z,108nm,1.5s,mb5.3						
FRNY	**Flat Rock**	**47.82**	**326**	*e*P	**P**	**18 12 37.2**	**+0.2**
EGRA	**Graus**	**47.88**	**38**	P	**P**	**18 12 38.8**	**+1.3**
	comp=Z,82nm,1.4s,mb5.6						
EPOB	**Poblet**	**47.89**	**40**	P	**P**	**18 12 38.5**	**+0.9**
	comp=Z,24nm,1.0s,mb5.2						
REYF	**Montagne du Re**	**47.95**	**37**	*e*P	**P**	**18 12 39.0**	**+1.0**
EBIE	**Bielsa**	**48.05**	**38**	P	**P**	**18 12 40.0**	**+1.2**
	comp=Z,12nm,0.8s,mb5.0						
BLA	**Blacksburg**	**48.08**	**314**	*e*P	**P**	**18 12 40.6**	**+1.4**
BLA				pmax	pmax		
	comp=Z,86nm,1.0s,mb5.7						
BLA	**Blacksburg**	**48.08**	**314**	*e*P	**P**	**18 12 40.6**	**+1.4**
	comp=Z,86nm,1.0s,mb5.7						
ETOS	**Mallorca**	**48.20**	**43**	P	**P**	**18 12 41.4**	**+1.3**
	comp=Z,20nm,1.3s,mb5.0						
LABF	**Labassere**	**48.21**	**37**	*e*P	**P**	**18 12 41.3**	**+1.2**
RESF	**Ens**	**48.24**	**38**	*e*P	**P**	**18 12 41.6**	**+1.3**
EPF	**Esparros**	**48.36**	**38**	*e*P	**P**	**18 12 42.0**	**+0.8**
	comp=Z,204nm,1.5s,mb5.6						
EMIR	**Miracle**	**48.48**	**39**	P	**P**	**18 12 42.6**	**+0.5**
	comp=Z,13nm,0.9s,mb5.0						
MELF	**Melles**	**48.53**	**38**	*e*P	**P**	**18 12 44.0**	**+1.5**
MLS	**Moulis**	**48.78**	**38**	*e*P	**P**	**18 12 46.0**	**+1.6**
CFAA	**Coronel Fontan**	**48.92**	**215**	LR	LR	18 33 56.8	
	comp=Z,36nm,18.2s,baz=6.4,slow=37						
QUIF	**Quistinic**	**49.45**	**30**	*e*P	**P**	**18 12 49.1**	**-0.5**
	comp=Z,157nm,1.5s,mb5.5						
EJON	**La Jonquera**	**49.62**	**40**	P	**P**	**18 12 51.9**	**+1.0**
	comp=Z,36nm,1.1s,mb5.3						
MTLF	**Montolieu**	**49.68**	**38**	*e*P	**P**	**18 12 50.9**	**-0.5**
	comp=Z,102nm,1.4s,mb5.4						
ROSF	**Rostrenen**	**49.68**	**30**	*e*P	**P**	**18 12 51.2**	**-0.1**
	comp=Z,162nm,1.3s,mb5.6						
LFF	**La Frestale**	**49.70**	**36**	*e*P	**P**	**18 12 51.3**	**-0.2**
	comp=Z,179nm,1.4s,mb5.6						
LFF	**La Frestale**	**49.70**	**36**	*e*P	**P**	**18 12 51.3**	**-0.2**
LFF				pmax	pmax		
	comp=Z,89nm,1.4s,mb5.6						
LCHF	**La Chataignera**	**49.91**	**33**	*e*P	**P**	**18 12 53.4**	**+0.3**
ALLY	**Alegheny Colle**	**49.

OG25 Le Caire 52.59 39 *eP* **P 18 13 14.1 +0.6**
ORIF Oris-en-Rattie 52.75 38 *eP* **P 18 13 14.7 +0.1**
comp=Z,36nm,1.3s,mb4.8
ORIF *eR*
comp=Z,652nm,20.5s
WCI Wyandotte Cave 52.75 312 *eP* **P 18 13 14.9 +0.2**
comp=Z,32nm,1.0s,mb5.2
WCI LR LR
comp=Z,107nm,20.0s,MS3.9
LOR Lormes 52.81 35 *eP* **P 18 13 14.2 -0.8**
comp=Z,123nm,1.5s,mb5.3
MVIF Mont Vial 53.04 40 *eP* **P 18 13 17.6 +0.8**
OG05 Jujurieux 53.07 37 *eP* **P 18 13 17.1 +0.1**
REVF Revere 53.10 40 *eP* **P 18 13 17.7 +0.4**
TOUF Mont Tournerai 53.16 40 *eP* **P 18 13 17.7 0.0**
WVT Waverly 53.17 309 *eP* **P 18 13 17.2 -0.6**
comp=Z,49nm,1.3s,mb5.3
MBDF Montbardon 53.20 39 *eP* **P 18 13 18.1 +0.1**
comp=Z,108nm,1.4s,mb5.3
SBF Sospel 53.20 40 *eP* **P 18 13 17.5 -0.5**
comp=Z,243nm,1.3s,mb5.7
AUTN L'Aution 53.26 40 *eP* **P 18 13 19.2 +0.8**
BNI Bardonecchia 53.31 38 *eP* **P 18 13 19.4 +0.7**
comp=Z,52nm,1.3s,mb5.3
SAOF Saorge 53.34 40 *eP* **P 18 13 19.5 +0.5**
LPL La Plagne 53.57 38 *eP* **P 18 13 20.9 +0.2**
comp=Z,54nm,1.3s,mb5.0
LPG La Plagne 53.57 38 *eP* **P 18 13 21.1 +0.4**
comp=Z,59nm,1.3s,mb5.1
RSL Roselend 53.59 38 *eP* **P 18 13 21.1 +0.3**
PGF Pioggiola 53.63 42 *eP* **P 18 13 20.2 -0.9**
comp=Z,106nm,1.3s,mb5.3
CABF La Chapelle 53.74 37 *eP* **P 18 13 21.7 -0.2**
comp=Z,119nm,1.4s,mb5.3
OXF Oxford 53.90 307 *eP* **P 18 13 22.4 -0.8**
comp=Z,76nm,1.1s,mb5.5
MEZF Maizieres J'vi 54.16 34 *eP* **P 18 13 24.1 -0.8**
comp=Z,175nm,1.6s,mb5.4
THEF They Montfort 54.53 35 *eP* **P 18 13 27.5 -0.2**
LOMF Lomont 54.56 36 *eP* **P 18 13 28.6 +0.7**
BAIF Baives 54.59 32 *eP* **P 18 13 27.0 -1.0**
comp=Z,151nm,1.4s,mb5.5
ESK Eskdalemuir 54.59 24 *eP* **P 18 13 27.3 -0.7**
comp=Z,45nm,1.3s,mb5.3
HAU Haudompre 54.62 35 *eP* **P 18 13 27.5 -0.8**
comp=Z,112nm,1.2s,mb5.5
HAU *eR*
comp=Z,306nm,21.8s
HINF Hinteralfeld 54.81 36 *eP* **P 18 13 28.9 -0.9**
comp=Z,181nm,1.5s,mb5.6
GIVF Givet 54.94 32 *eP* **P 18 13 29.4 -1.2**
comp=Z,174nm,1.3s,mb5.6
MOF Molkenrain 54.99 36 *eP* **P 18 13 31.2 +0.1**
BBS Basel-Blauen 55.01 36 *eP* **P 18 13 31.2 -0.1**
ECH Echery 55.20 35 *eP* **P 18 13 32.3 -0.3**
VLC Villacollemand 55.24 41 *eP* **P 18 13 32.1 -0.8**
comp=Z,12nm,1.0s,mb4.9
CDF Champ du Feu 55.37 35 *eP* **P 18 13 32.7 -1.1**
comp=Z,131nm,1.5s,mb5.4
WLF Walferdange 55.41 33 *eP* **P 18 13 32.9 -1.1**
comp=Z,38nm,1.5s,mb5.2
WLS Welschbruch 55.41 35 *eP* **P 18 13 34.3 +0.2**
FELD Feldberg 55.51 36 *eP* **P 18 13 34.5 -0.3**
FVM French Village 55.73 311 *eP* **P 18 13 35.3 -1.3**
comp=Z,29nm,1.1s,mb5.2
STR Strasbourg 55.73 35 *eP* **P 18 13 36.6 +0.2**
HGN Heimansgroeve 55.89 32 *eP* **P 18 13 35.1 -2.4**
comp=Z,38nm,1.7s,mb5.2
RUP Ruppelstein 55.92 34 *eP* **P 18 13 37.5 -0.3**
BFO Black Forest 55.93 36 *eP* **P 18 13 37.3 -0.5**
BFO pmax pmax
comp=Z,80nm,1.3s,mb5.6
BFO Black Forest 55.93 36 *eP* **P 18 13 37.3 -0.5**
comp=Z,80nm,1.3s,mb5.6
LANF Langenberg 55.96 35 *eP* **P 18 13 37.9 -0.1**
DAVOX Davos 56.10 38 P **P 18 13 39.1 +0.1**
comp=Z,9.9nm,0.9s,mb4.9,baz=232,slow=6.5,SNR=16
ABH Alteburg 56.28 34 *eP* **P 18 13 40.5 +0.1**
KTD Kalmit 56.29 35 *eP* **P 18 13 40.3 -0.1**
UALR University of 56.30 307 *eP* **P 18 13 39.5 -1.2**
comp=Z,29nm,1.0s,mb5.3
DAVA Damuels 56.33 37⇓*iP* **P 18 13 40.3 -0.4**
comp=Z,49nm,1.4s,mb5.3,SNR=16
DAVA Damuels 56.33 37⇓*iP* **P 18 13 40.3 -0.5**
comp=Z,49nm,1.4s,mb5.3
CCM Cathedral Cave 56.37 311 *eP* **P 18 13 39.9 -1.2**
comp=Z,56nm,1.4s,mb5.4
AQU L'Aquila 56.53 44 *eP* **P 18 13 41.5 -0.7**
comp=Z,19nm,0.8s,mb5.2
STU Stuttgart 56.65 36 *eP* **P 18 13 42.4 -0.5**
comp=Z,13nm,0.3s,mb5.4
TOD Tromm 56.84 35 *eP* **P 18 13 43.8 -0.6**
TNS Taunus Mts 56.96 34 *eP* **P 18 13 44.7 -0.5**
TNS pmax pmax
comp=Z,45nm,1.3s,mb5.3
TNS Taunus Mts 56.96 34 *eP* **P 18 13 44.7 -0.5**
comp=Z,45nm,1.3s,mb5.3
WTSB Winterswijk 57.02 31 *eP* **P 18 13 45.4 -0.2**
WTSB *ex* x 18 13 52.3
PLCA Paso Flores 57.08 209 P **P 18 13 45.2 -1.0**
comp=Z,16nm,1.1s,mb5.0,baz=36,slow=9.4,SNR=14
PLCA LR LR 18 39 28.9
comp=Z,370nm,18.3s,MS4.5,baz=23,slow=37
PLCA Paso Flores 57.08 209 *eP* **P 18 13 44.8 -1.4**
PLCA pmax pmax
comp=Z,68nm,1.5s
PLCA MLR MLR
comp=Z,447nm,19.0s
PLCA Paso Flores 57.08 209 *eP* **P 18 13 44.8 -1.4**
comp=Z,68nm,1.5s,mb5.5
PLCA LR LR
comp=Z,447nm,19.0s,MS4.6
MOTA Moosalm 57.10 38⇑*iP* **P 18 13 45.2 -1.0**
comp=Z,38nm,1.4s,mb5.2
MOTA Moosalm 57.10 38 ⇑P **P 18 13 45.2 -1.1**
MOTA pmax pmax
comp=Z,38nm,1.4s,mb5.2
SQTA Sankt Quirin 57.11 38⇓*iP* **P 18 13 45.4 -0.9**
comp=Z,26nm,1.2s,mb5.2,SNR=12
SQTA Sankt Quirin 57.11 38⇓*iP* **P 18 13 45.4 -0.9**
SQTA pmax pmax
comp=Z,26nm,1.2s,mb5.1
MIAR Mount Ida 57.22 306 *eP* **P 18 13 46.9 -0.4**
MIAR pmax pmax
comp=Z,77nm,1.8s,mb5.4
MIAR Mount Ida 57.22 306 *eP* **P 18 13 46.9 -0.5**
comp=Z,77nm,1.8s,mb5.4
WATA Walderalm 57.38 38⇓*iP* **P 18 13 47.2 -1.0**
comp=Z,25nm,1.2s,mb5.1
WATA Walderalm 57.38 38 ⇓P **P 18 13 47.2 -1.0**
WATA pmax pmax
comp=Z,25nm,1.2s,mb5.1
WATA Walderalm 57.38 38 ⇓P **P 18 13 47.2 -1.0**
comp=Z,25nm,1.2s,mb5.1
WTTA Wattenberg 57.39 38 *iP* **P 18 13 47.4 -0.9**
comp=Z,36nm,1.7s,mb5.1,SNR=10
WTTA Wattenberg 57.39 38 *iP* **P 18 13 47.4 -0.9**
WTTA pmax pmax
comp=Z,36nm,1.7s,mb5.1
WTTA Wattenberg 57.39 38 *iP* **P 18 13 47.4 -0.9**
comp=Z,36nm,1.7s,mb5.1
WIT Witteveen 57.42 30 *ex* **P 18 13 49.0 +0.6**
NATX Nacogdoches 57.51 302 *eP* **P 18 13 49.3 0.0**
comp=Z,20nm,0.4s,mb5.5
FUR Furstenfeldbru 57.58 37 *eP* **P 18 13 48.9 -0.7**
FUR pmax pmax
comp=Z,102nm,1.4s,mb5.7
FUR Furstenfeldbru 57.58 37 *eP* **P 18 13 48.9 -0.7**
comp=Z,102nm,1.4s,mb5.7
BORG Borgarnes 57.78 8 P **P 18 13 51.0 +0.2**
comp=Z,16nm,0.9s,mb5.0,baz=270,slow=3.0,SNR=2.7
TIP Timpagrande 57.87 49 *eP* **P 18 13 49.5 -2.2**
ROBS Robic 58.12 40 *eP* **P 18 13 52.6 -0.8**
GRA1 Grafenberg Arr 58.25 35 *eP* **P 18 13 53.6 -0.7**
comp=Z,106nm,1.3s,mb5.7
GRA1 LR LR
comp=Z,200nm,18.2s,MS4.3
GRF Grafenberg Arr 58.25 35 *eP* **P 18 13 53.6 -0.7**
GRF pmax pmax
comp=Z,106nm,1.3s,mb5.7
GRF MLR MLR
comp=Z,200nm,18.2s,MS4.3
VOY Vojsko 58.28 40 *eP* **P 18 13 53.5 -1.0**
VOY *e* 18 14 02.9
KBA Koelnbreinsper 58.36 39⇑*iP* **P 18 13 54.7 -0.3**
comp=Z,23nm,1.1s,mb5.1
KBA Koelnbreinsper 58.36 39 ⇑P **P 18 13 54.7 -0.4**
KBA pmax pmax
comp=Z,23nm,1.1s,mb5.1
KBA Koelnbreinsper 58.36 39 ⇑P **P 18 13 54.7 -0.3**
comp=Z,23nm,1.1s,mb5.1
CEY Cerknica 58.50 41 *eP* **P 18 13 55.4 -0.7**
LJU Ljubljana 58.69 40 *eP* **P 18 13 57.6 +0.2**
CLZ Clausthal 58.83 33 *eP* **P 18 13 57.6 -0.7**
CLZ pmax pmax
comp=Z,27nm,1.5s,mb5.1
CLZ Clausthal 58.83 33 *eP* **P 18 13 57.6 -0.7**
comp=Z,27nm,1.5s,mb5.1
OBKA Obir 58.88 40⇓*iP* **P 18 13 58.5 -0.3**
comp=Z,53nm,1.2s,mb5.5,SNR=9.1
OBKA Obir 58.88 40⇓*iP* **P 18 13 58.5 -0.3**
comp=Z,53nm,1.2s,mb5.4
MOX Moxa 58.93 35 *iP* **P 18 13 58.7 -0.3**
comp=Z,logA/T=1.6,mb5.4
MOX L 18 39 06.0
MOX Moxa 58.93 35 *eP* **P 18 13 58.7 -0.3**
MOX pmax pmax
comp=Z,61nm,1.6s,mb5.4
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.3
MOX Moxa 58.93 35 *eP* **P 18 13 58.7 -0.3**
comp=Z,61nm,1.6s,mb5.4
MOX LR LR
comp=Z,200nm,18.0s,MS4.3
BOJS Bojanci 58.95 41 *iP* **P 18 13 58.9 -0.3**
WET Wettzell 58.97 36 *eP* **P 18 13 58.1 -1.2**
WET pmax pmax
comp=Z,23nm,1.4s,mb5.0
WET Wettzell 58.97 36 *eP* **P 18 13 58.1 -1.2**
comp=Z,23nm,1.4s,mb5.0
NKC Novy Kostel 59.21 35 *eP* **P 18 14 00.9 0.0**
MOA Molln 59.25 38 *iP* **P 18 14 00.3 -1.0**
comp=Z,29nm,1.2s,mb5.2,SNR=10
MOA Molln 59.25 38 *iP* **P 18 14 00.2 -1.0**
comp=Z,29nm,1.2s,mb5.2
PERS Pernice 59.29 40 *eP* **P 18 14 00.9 -0.7**
GEC2 GERESS Array S 59.32 37 *eP* **P 18 14 00.7 -1.1**
GEC2 pmax pmax
comp=Z,24nm,1.5s,mb5.0
GEC2 GERESS Array S 59.32 37 *eP* **P 18 14 00.7 -1.1**
comp=Z,24nm,1.5s,mb5.0
GERES GERESS Array B 59.32 37 P **P 18 14 00.2 -1.5**
comp=Z,4.8nm,1.0s,mb4.5,baz=243,slow=6.0,SNR=29
GERES LR LR 18 33 59.2
comp=Z,238nm,21.1s,MS4.3,baz=255,slow=30
KHC Kasperske Hory 59.37 37 *eP* **P 18 14 00.9 -1.2**
KHC Kasperske Hory 59.37 37 *iP* **P 18 14 00.7 -1.4**
GOLS Golise 59.38 41 *eP* **P 18 14 01.7 -0.5**
SFJD Kangerlussuaq 59.44 354 P **P 18 14 00.6 -1.8**
comp=Z,50nm,1.2s,mb5.4,baz=127,slow=13,SNR=4.6
SFJD Kangerlussuaq 59.44 354⇓*iP* **P 18 14 02.0 -0.3**
comp=Z,55nm,1.2s,mb5.5
SFJD Kangerlussuaq 59.44 354⇓*eP* **P 18 14 02.0 -0.3**
SFJD pmax pmax
comp=Z,55nm,1.2s,mb5.5
SFJD Kangerlussuaq 59.44 354⇓*eP* **P 18 14 02.0 -0.3**
comp=Z,55nm,1.2s,mb5.5
STON Ston 59.68 45 *iP* **P 18 14 04.0 -0.3**
ARSA Arzberg 59.79 39⇑*iP* **P 18 14 04.0 -1.0**
comp=Z,17nm,1.2s,mb5.0,SNR=7.4
BSEG Bad Segeberg 59.87 31 *eP* **P 18 14 04.6 -0.8**
EYMN Ely 60.01 321 *eP* **P 18 14 05.4 -1.1**
comp=Z,32nm,1.4s,mb5.2
CLL Collm 60.01 34 ⇑P **P 18 14 06.2 -0.3**
comp=Z,logA/T=1.4,mb5.2
CLL *i* 18 14 13.4
CLL Collm 60.01 34⇑*iP* **P 18 14 06.2 -0.3**
CLL pmax pmax
comp=Z,32nm,1.3s,mb5.2
CLL Collm 60.01 34⇑*iP* **P 18 14 06.2 -0.3**
comp=Z,32nm,1.3s,mb5.2
PRU Pruhonice 60.31 36 *eP* **P 18 14 07.6 -0.9**
BRG Berggiesshubel 60.35 35 *iP* **P 18 14 08.5 -0.3**
BRG *e* 18 14 14.8
BRG pmax pmax
comp=Z,46nm,1.5s,mb5.3
BRG Berggiesshubel 60.35 35 *iP* **P 18 14 08.5 -0.2**
comp=Z,46nm,1.5s,mb5.3
BRG *e* 18 14 14.8
PVCC Panska Ves 60.55 36 *eP* **P 18 14 09.5 -0.7**
PVCC *ep* pP 18 14 16.6 +3.3
TREC Trest 60.58 37 *eP* **P 18 14 09.6 -0.8**
TREC *ep* pP 18 14 16.3 +2.8
MUD Monsted U'grnd 60.67 28⇓*iP* **P 18 14 10.3 -0.6**
comp=Z,46nm,1.2s,mb5.5
MUD *i* 18 14 16.9
MUD *e* 18 14 26.5
MUD Monsted U'grnd 60.67 28⇓*iP* **P 18 14 10.3 -0.6**
MUD *i* 18 14 16.9
MUD pmax pmax
comp=Z,46nm,1.2s,mb5.5
KSU1 Kansas State U 60.69 310 *eP* **P 18 14 09.5 -1.8**
RUE Ruedersdorf 60.98 33 *eP* **P 18 14 12.8 -0.2**
comp=Z,64nm,1.0s,mb5.7
RHK1 Bakonya 61.00 41⇑*eP* **P 18 14 12.9 -0.4**
TSUM Tsumeb 61.13 117 P **P 18 14 14.8 +0.3**
comp=Z,18nm,0.9s,mb5.2,baz=274,slow=6.8,SNR=18
TSUM Tsumeb 61.13 117 *eP* **P 18 14 13.9 -0.6**
comp=Z,54nm,1.4s,mb5.5
TSUM LR LR
comp=Z,919nm,20.0s,MS4.9
ZST Bratislava 61.13 39 *eP* **P 18 14 13.1 -1.0**
ZST *eL* 18 40 42.6
BBLS Bajina Basta - 61.18 44 *eP* **P 18 14 15.7 +1.2**
UPC Upice 61.38 36 *eP* **P 18 14 15.2 -0.6**
PKSM Moragy 61.41 41⇓*eP* **P 18 14 15.2 -0.9**
WMOK Wichita Mounta 61.46 305 *eP* **P 18 14 14.7 -1.9**
WMOK pmax pmax
comp=Z,14nm,1.0s,mb5.0
WMOK MLR MLR
comp=Z,807nm,22.0s,MS4.8
WMOK Wichita Mounta 61.46 305 *eP* **P 18 14 14.7 -1.8**
comp=Z,14nm,1.0s,mb5.0
WMOK LR LR
comp=Z,807nm,22.0s,MS4.8
DPC Dobruska-Polom 61.50 36 *eP* **P 18 14 15.9 -0.7**
DIVS Divcibare 61.65 44 *eP* **P 18 14 17.7 0.0**
JCT Junction City 61.65 300 *eP* **P 18 14 16.6 -1.4**
comp=Z,36nm,1.1s,mb5.4
KSP Ksiaz 61.68 36 *eP* **P 18 14 17.3 -0.5**
KSP MLR MLR 18 33 16.5
comp=Z,500nm,31.3s,MS4.5
KSP Ksiaz 61.68 36 *eP* **P 18 14 17.0 -0.8**
SRO1 Iza 61.68 40 *eP* **P 18 14 17.0 -0.9**
SRO Srobarova 61.75 40 *iP* **P 18 14 17.7 -0.7**
SRO *es* sP 18 14 24.8 +2.2
GRUS Gruza 62.09 44 *eP* **P 18 14 20.6 0.0**
VYHS Vyhne 62.32 39 *iP* **P 18 14 21.5 -0.7**
VYHS *eL* 18 37 38.5
OKC Ostrava-Krasne 62.38 37 *eP* **P 18 14 21.9 -0.7**
SVIS Svilajnac 62.55 44⇓*iP* **P 18 14 23.9 +0.2**
KONO Kongsberg 62.65 25 *iP* **P 18 14 22.7 -1.5**
KONO Kongsberg 62.65 25 *eP* **P 18 14 22.5 -1.7**
comp=Z,72nm,1.4s,mb5.6
PSZ Piszkesteto 62.79 40⇑*iP* **P 18 14 25.3 +0.1**
BOLS Boljevac 62.93 45⇓*iP* **P 18 14 25.9 -0.4**
CBKS Cedar Bluff 63.00 309 *eP* **P 18 14 25.7 -1.1**
comp=Z,114nm,1.4s,mb5.8
SCO Scoresbysund 63.16 6 *iP* **P 18 14 27.3 -0.1**
comp=Z,30nm,0.8s,mb5.5
BZS Buzias 63.20 43 ⇑P **P 18 14 28.3 +0.3**
BZS Buzias 63.20 43 ⇑P **P 18 14 28.3 +0.3**
KECS Kecovo 63.35 39 *iP* **P 18 14 28.8 -0.1**
KECS *es* sP 18 14 34.3 +1.1
OJC Ojcow 63.52 37 *eP* **P 18 14 29.7 -0.3**
ULM Lac du Bonnet 63.54 323 P **P 18 14 28.4 -1.7**
comp=Z,36nm,1.1s,mb5.3,baz=111,slow=6.2,SNR=36
ULM LR LR 18 38 02.0
comp=Z,129nm,19.5s,MS4.1,baz=103,slow=32
NIE Niedzica 63.55 38 *eP* **P 18 14 31.0 +0.7**
NAO01 NORSAR Array S 63.85 24 *eP* **P 18 14 31.8 -0.2**
comp=Z,19nm,0.8s,mb5.2
CRVS Cervenica-Dubn 64.10 39 *iP* **P 18 14 33.7 -0.2**
CRVS *e* 18 14 49.0
NB2 NORSAR Subarra 64.10 24 P **P 18 14 33.4 -0.2**
comp=Z,96nm,1.2s,mb5.7,baz=236,slow=6.5
NB2 NORSAR Subarra 64.10 24 P **P 18 14 33.4 -0.2**
baz=236,slow=6.9
NOA NORSAR Array B 64.10 24 P **P 18 14 33.5 -0.1**
comp=Z,31nm,1.1s,mb5.3,baz=237,slow=6.6,SNR=19
NOA LR LR 18 37 42.2
comp=Z,147nm,18.4s,MS4.2,baz=255,slow=32
STHS Stebnicka Huta 64.13 39 *iP* **P 18 14 34.3 +0.3**
STHS *e* 18 14 58.0
SUMG Summit 64.42 360 *eP* **P 18 14 35.6 -0.1**
comp=Z,104nm,1.3s,mb5.7
UZH Uzhgorod 64.53 40 *eP* **P 18 14 36.0 -0.7**
UZH *eS* S 18 23 06.0 -8.4
KOLS Kolonicke sedl 64.61 39 *iP* **P 18 14 37.2 0.0**
KOLS *es* P sP 18 14 43.9 +2.4
KOLS *e* 18 23 25.0
LTX Lajitas 64.86 299 *eP* **P 18 14 38.3 -0.9**
comp=Z,19nm,1.4s,mb4.9
TXAR Lajitas Array 64.86 299 P **P 18 14 38.6 -0.5**
comp=Z,2.1nm,0.7s,mb4.3,baz=90,slow=6.3,SNR=28
TXAR LR LR 18 43 17.7
comp=Z,124nm,18.3s,MS4.1,baz=320,slow=36
KWP Kalwaria 65.10 39 *eP* **P 18 14 40.8 +0.5**
KWP MLR MLR 18 39 17.7
comp=Z,300nm,23.8s,MS4.4
FCC Fort Churchill 65.95 332 *eP* **P 18 14 44.0 -1.6**
comp=Z,89nm,1.4s,mb5.6
MLR Muntele Rosu 66.10 44 ⇑P **P 18 14 47.2 +0.4**
MLR Muntele Rosu 66.10 44 ⇑P **P 18 14 47.2 +0.3**
BURAR Bucovina Array 66.13 41 ⇑P **P 18 14 47.4 +0.4**
BURAR Bucovina Array 66.13 41 ⇑P **P 18 14 47.4 +0.4**
MNTX Cornudas Mount 66.54 301 *eP* **P 18 14 48.4 -1.5**
comp=Z,20nm,1.1s,mb5.0
MNTX LR LR
comp=Z,235nm,19.0s,MS4.4
VRI Vrincioaia 66.72 43 ⇑P **P 18 14 50.7 -0.1**
VRI Vrincioaia 66.72 43 ⇑P **P 18 14 50.8 0.0**
VRI Vrincioaia 66.72 43 ⇑P **P 18 14 50.7 -0.1**
SUW Suwalki 66.77 34 *eP* **P 18 14 50.7 -0.3**
SUW MLR MLR 18 39 03.7
comp=Z,200nm,22.3s,MS4.3
RSSD Black Hills 67.23 314 *eP* **P 18 14 52.7 -1.4**
comp=Z,9.3nm,1.0s,mb4.8
SDCO Great Sand Dun 67.30 307 *eP* **P 18 14 54.5 0.0**
comp=Z,24nm,1.2s,mb5.1
TIRR Tirgusor 67.60 45⇓*iP* **P 18 14 56.5 +0.1**
TIRR Tirgusor 67.60 45⇓*iP* **P 18 14 56.5 +0.2**
ISCO Idaho Springs 67.66 310 *eP* **P 18 14 57.4 +0.5**
comp=Z,40nm,1.3s,mb5.3
USHA Ushuaia 67.67 198 LR LR 18 46 20.6
comp=Z,194nm,20.2s,MS4.3,baz=45,slow=38
ANMO Albuquerque 67.74 304 *iP* **P 18 14 57.5 0.0**
ANMO Albuquerque 67.74 304 *eP* **P 18 14 57.3 -0.2**
comp=Z,20nm,1.5s,mb4.9
DGMT Dagmar 68.24 319 *eP* **P 18 15 00.3 -0.1**
comp=Z,142nm,1.3s,mb5.8
KIS Kishinev 68.38 43 *eP* **P 18 15 00.0 -1.2**
KIS *e* pP 18 15 05.0 +0.7
KIS *e* 18 15 19.0
AKASG Malin Array Be 69.42 39 P **P 18 15 06.7 -0.9**
comp=Z,15nm,1.0s,mb4.5,baz=262,slow=5.8,SNR=37
DAG Danmarks Havn 69.44 5⇓*iP* **P 18 15 06.8 -0.5**
comp=Z,16nm,1.1s,mb4.9
DAG Danmarks Havn 69.44 5⇓*eP* **P 18 15 06.8 -0.5**
DAG pmax pmax
comp=Z,16nm,1.1s,mb4.9
DAG Danmarks Havn 69.44 5⇓*eP* **P 18 15 06.8 -0.5**
comp=Z,16nm,1.1s,mb4.9
LSZ Lusaka 69.59 110 P **P 18 15 09.8 +0.7**
comp=Z,24nm,1.2s,mb5.0,baz=280,slow=5.7,SNR=23
LSZ Lusaka 69.59 110 *eP* **P 18 15 09.0 -0.1**
comp=Z,49nm,1.4s,mb5.2
LSZ LR LR
comp=Z,332nm,20.0s,MS4.6
LBTB Lobatse 70.11 120 *eP* **P 18 15 11.2 -0.9**
comp=Z,51nm,1.6s,mb5.2
FINES FINESS Array B 70.70 27 P **P 18 15 15.1 -0.1**
comp=Z,9.3nm,1.0s,mb4.7,baz=252,slow=6.0,SNR=12
FINES LR LR 18 42 47.2
comp=Z,188nm,18.6s,MS4.4,baz=187,slow=33
FINES FINESS Array B 70.70 27 P **P 18 15 15.1 -0.1**
FINES LR LR 18 42 47.2
BR131 Keskin Array S 70.78 51 *eP* **P 18 15 15.6 -0.4**
comp=Z,21nm,1.3s,mb4.9
BRTR Keskin Array B 70.78 51 P **P 18 15 16.0 0.0**
comp=Z,18nm,1.2s,mb4.9,baz=252,slow=3.9,SNR=30
PDAR Pinedale Array 71.00 312 P **P 18 15 17.1 -0.3**
comp=Z,10nm,1.2s,mb4.6,baz=104,slow=6.1,SNR=32
PDAR LR LR 18 42 08.0
comp=Z,430nm,21.2s,MS4.7,baz=113,slow=32
BW06 Boulder Array 71.00 312 *eP* **P 18 15 16.7 -0.6**
comp=Z,34nm,1.4s,mb5.1
BW06 LR LR
comp=Z,633nm,21.0s,MS4.8
KAF Kangasniemi 71.03 27 *ep* **P 18 15 15.8 -1.3**
comp=Z,4.1nm,0.8s,mb4.4
KAF Kangasniemi 71.03 27 *ep* **P 18 15 22.9 +5.8**
comp=Z,3.0nm,0.8s,mb4.3
KAF Kangasniemi 71.03 27 *eP* **P 18 15 15.8 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TUC Tucson 71.16 301 *eP* **P 18 15 18.8 +0.3**
comp=Z,19nm,1.4s,mb4.8
TAYS Tayyib Ism 71.17 63 P **P 18 15 18.9 +0.2**
HAQS Haql 71.23 62 P **P 18 15 18.5 -0.4**
MATP Matopo 71.25 115 P **P 18 15 18.6 -0.6**
comp=Z,9.5nm,1.0s,mb4.7,baz=287,slow=7.0,SNR=18
ALWS Ilw as Safayha 71.36 62 P **P 18 15 19.6 -0.1**
SRU San Rafael 71.36 308 *eP* **P 18 15 19.8 +0.2**
comp=Z,49nm,1.5s,mb5.2
JMOS Jabal al Moall 71.39 62 P **P 18 15 20.4 +0.5**
WUAZ Wupatki 71.80 305 *eP* **P 18 15 23.2 +0.9**
comp=Z,52nm,1.2s,mb5.3
LKWY Lake 71.81 314 *eP* **P 18 15 23.4 +1.2**
comp=Z,109nm,1.6s,mb5.5
LOHW Long Hollow 71.85 313 *eP* **P 18 15 22.4 0.0**
comp=Z,67nm,1.4s,mb5.4
SNOW Snow King Moun 71.94 313 *eP* **P 18 15 23.4 +0.4**
comp=Z,129nm,1.6s,mb5.6
REDW Red Top Meadow 72.00 313 *eP* **P 18 15 23.3 0.0**
comp=Z,112nm,1.5s,mb5.6
DAU Daniels Canyon 72.03 310 *eP* **P 18 15 24.1 +0.6**
TPAW Teton Pass 72.09 313 *eP* **P 18 15 24.3 +0.4**
comp=Z,125nm,1.4s,mb5.7
YFT Old Faithful 72.11 314 *eP* **P 18 15 25.5 +1.6**
IMW Indian Meadow 72.12 313 *eP* **P 18 15 24.5 +0.4**
comp=Z,137nm,1.4s,mb5.7
AHID Auburn Hatcher 72.13 312 *eP* **P 18 15 24.0 -0.1**
comp=Z,71nm,1.5s,mb5.4
TCUT Toone Canyon 72.21 311 *eP* **P 18 15 24.9 +0.3**
YMR Madison River 72.22 314 *eP* **P 18 15 25.8 +1.1**
comp=Z,162nm,1.2s,mb5.8
MPU Maple Canyon 72.29 309 *eP* **P 18 15 25.4 +0.4**
comp=Z,35nm,1.6s,mb5.0
HWUT Hardware Ranch 72.36 311 *eP* **P 18 15 25.4 -0.2**
comp=Z,41nm,0.9s,mb5.3
QLMT Earthquake Lak 72.57 314 *eP* **P 18 15 27.6 +0.9**
MSU Marysvale 72.61 308 *eP* **P 18 15 27.7 +0.6**
NLU North Lily Min 72.62 309 *eP* **P 18 15 27.0 -0.1**
MVU Marysvale 72.64 308 *eP* **P 18 15 29.1 +1.9**
comp=Z,44nm,1.4s,mb5.2
NOQ North Quirrh 72.71 310 *eP* **P 18 15 28.3 +0.7**
comp=Z,167nm,1.7s,mb5.7
BOZ Bozeman (W) 72.80 315 *eP* **P 18 15 27.8 -0.2**
comp=Z,24nm,1.2s,mb5.0
SPUT South Promonto 73.00 311 *eP* **P 18 15 29.7 +0.4**
DUG Dugway 73.20 309 *eP* **P 18 15 30.6 +0.1**
comp=Z,73nm,1.5s,mb5.4
DUG LR LR
comp=Z,543nm,19.0s,MS4.8
HVU Hansel Valley 73.28 311 *eP* **P 18 15 30.9 0.0**
comp=Z,40nm,1.4s,mb5.2
ARCES ARCESS Array B 73.37 19 P **P 18 15 30.5 -0.4**
comp=Z,8.5nm,0.9s,mb4.7,baz=252,slow=3.8,SNR=12
ARCES LR LR 18 40 50.4
comp=Z,148nm,21.0s,MS4.2,baz=236,slow=30
ARE0 ARCESS Array S 73.37 19 *eP* **P 18 15 30.1 -0.7**
BGU Big Grassy Mou 73.42 310 *eP* **P 18 15 31.9 +0.2**
DLMT Dillon 73.44 315 *eP* **P 18 15 32.6 +0.8**
comp=Z,137nm,1.3s,mb5.7
JOF Joensuu 73.48 27 *ep* **P 18 15 29.8 -1.8**
comp=Z,5.4nm,0.8s,mb4.5
JOF Joensuu 73.48 27 *ep* **P 18 15 37.6 +6.0**
comp=Z,5.6nm,0.8s,mb4.5
JOF Joensuu 73.48 27 *eP* **P 18 15 29.8 -1.8**
JOF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ARUT Antelope Range 73.56 307 *eP* **P 18 15 33.4 +0.7**
MCMT McKenzie Canyo 73.58 314 *eP* **P 18 15 33.0 +0.5**
RES Resolute Bay 73.82 347 *eP* **P 18 15 33.0 -0.4**
RES pmax pmax
comp=Z,51nm,1.2s,mb5.3

RES	**Resolute Bay**	**73.82**	**347**	*e*P		**P**	**18 15 33.0**	**-0.5**
	comp=Z,51nm,1.2s,mb5.3								
KEV	**Kevo**	**73.94**	**19**	*e*p		**P**	**18 15 32.0**	**-2.2**
	comp=Z,7.5nm,0.6s,mb4.8								
KEV	**Kevo**	**73.94**	**19**	*e*p		**P**	**18 15 39.9**	**+5.7**
	comp=Z,8.8nm,0.7s,mb4.8								
KEV	**Kevo**	**73.94**	**19**	*e*P		**P**	**18 15 32.0**	**-2.2**
KEV					pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.8								
CHMT	**Chamberlain Mo**	**74.04**	**316**	*e*P		**P**	**18 15 35.0**	**-0.2**
MALT	**Malatya**	**74.41**	**53**	*e*P		**P**	**18 15 37.8**	**+0.2**
	comp=Z,28nm,1.4s,mb5.0								
OBN	**Obninsk**	**74.59**	**35**	⇓*i*P		**P**	**18 15 38.0**	**-0.2**
OBN				*i*			18 15 45.5		
OBN				*i*			18 15 52.7		
OBN					pmax	pmax			
	comp=Z,53nm,1.2s,mb5.3								
OBN	**Obninsk**	**74.59**	**35**	*e*P		**P**	**18 15 37.9**	**-0.3**
	comp=Z,72nm,1.4s,mb5.4								
HLID	**Hailey**	**74.61**	**313**	*e*P		**P**	**18 15 39.0**	**+0.4**
	comp=Z,35nm,1.3s,mb5.1								
HLID					LR	LR			
	comp=Z,676nm,21.0s,MS4.9								
NEN	**Nelson**	**74.63**	**305**	*e*P		**P**	**18 15 39.5**	**+0.6**
EDM	**Edmonton**	**74.77**	**323**	*e*P		**P**	**18 15 38.8**	**-0.5**
ELK	**Elko**	**75.08**	**310**	*e*P		**P**	**18 15 41.9**	**+0.6**
	comp=Z,29nm,1.3s,mb5.0								
KBRS	**Khaybar**	**75.11**	**66**	P		**P**	**18 15 42.7**	**+0.9**
MOS	**Moscow**	**75.28**	**35**	*e*P		**P**	**18 15 40.9**	**-1.3**
MOS					pmax	pmax			
	comp=Z,149nm,1.4s,mb5.7								
APA	**Apatity**	**75.51**	**22**	⇑*i*P		**P**	**18 15 50.6**	**+7.3**
APA					pmax	pmax			
	comp=Z,23nm,1.0s,mb5.1								
SOC	**Sochi**	**75.59**	**47**	*e*P		**P**	**18 15 43.5**	**-0.7**
SOC				*e*			18 15 57.0		
SOC				*e*			18 18 36.1		
SOC				*e*PPP		PPP	18 20 17.0	-4.8	
SOC				*e*			18 25 48.0		
SOC				*e*SS		SS	18 30 17.4	-0.1	
SOC					pmax	pmax			
	comp=Z,52nm,1.1s,mb5.4								
SOC					MLR	MLR			
	comp=Z,148nm,15.0s,MS4.4								
KMBO	**Kilima Mbogo**	**75.59**	**93**	P		**P**	**18 15 47.1**	**+2.3**
	comp=Z,5.7nm,1.1s,mb4.4,baz=51,slow=21,SNR=7.5								
KMBO					LR	LR	18 47 12.0		
	comp=Z,232nm,18.8s,MS4.5,baz=275,slow=34								
VRSR	**Storozhevoye**	**75.72**	**39**	*e*P		**P**	**18 15 44.3**	**-0.5**
VRSR					pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.1								
VRSR					pmax	pmax			
	comp=N,1.0nm,0.7s								
VRSR					pmax	pmax			
	comp=E,5.0nm,1.3s								
VOR	**Voronezh**	**75.78**	**39**	*e*P		**P**	**18 15 43.0**	**-2.1**
VOR					pmax	pmax			
	comp=Z,50nm,1.7s,mb5.2								
TPNV	**Topopah Spring**	**75.78**	**306**	*e*P		**P**	**18 15 46.4**	**+1.0**
TPNV					pmax	pmax			
	comp=Z,27nm,1.3s,mb5.0								
TPNV	**Topopah Spring**	**75.78**	**306**	*e*P		**P**	**18 15 46.4**	**+0.9**
	comp=Z,27nm,1.3s,mb5.0								
YKA	**Yellowknife Ar**	**76.67**	**332**	P		**P**	**18 15 48.6**	**-1.2**
	comp=Z,28nm,1.1s,mb5.1,baz=98,slow=5.9,SNR=136								
YKA					LR	LR	18 47 13.4		
	comp=Z,139nm,20.3s,MS4.3,baz=95,slow=34								
YKA	**Yellowknife Ar**	**76.67**	**332**	⇑*e*P		**P**	**18 15 48.5**	**-1.4**
YKW3	**Yellowknife Ar**	**76.68**	**332**	*e*P		**P**	**18 15 48.9**	**-1.1**
BMO	**Blue Mountains**	**76.74**	**314**	*e*P		**P**	**18 15 50.3**	**-0.4**
BMO					pmax	pmax			
	comp=Z,42nm,1.5s,mb5.2								
BMO					MLR	MLR			
	comp=Z,324nm,19.0s,MS4.7								
BMO	**Blue Mountains**	**76.74**	**314**	*e*P		**P**	**18 15 50.3**	**-0.4**
	comp=Z,42nm,1.5s,mb5.2								
BMO					LR	LR			
	comp=Z,324nm,19.0s,MS4.7								
NEW	**Newport**	**76.75**	**318**	LR		LR	18 44 16.0		
	comp=Z,134nm,21.7s,MS4.2,baz=488,slow=32								
NEW	**Newport**	**76.75**	**318**	*e*P		**P**	**18 15 49.6**	**-1.0**
NEW					pmax	pmax			
	comp=Z,33nm,1.2s								
NEW	**Newport**	**76.75**	**318**	*e*P		**P**	**18 15 49.6**	**-1.0**
	comp=Z,33nm,1.2s,mb5.1								
KLMR	**Klimovskoe**	**76.91**	**29**	*d i*P		**P**	**18 15 50.9**	**-0.3**
KLMR					pmax	pmax			
	comp=Z,110nm,1.5s,mb5.6								
KLMR					pmax	pmax			
	comp=Z,50nm,6.2s								
VRHR	**Novokhopersk**	**77.25**	**39**	*e*P		**P**	**18 15 53.9**	**+0.6**
VRHR					pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.9								
VRHR					pmax	pmax			
	comp=N,10.0nm,0.8s								
VRHR					pmax	pmax			
	comp=E,40nm,1.2s								
RPN	**Rapa Nui**	**77.33**	**240**	LR		LR	18 46 57.8		
	comp=E,129nm,18.4s,MS4.3,baz=88,slow=33								
NVAR	**Mina Array Bea**	**77.41**	**308**	P		**P**	**18 15 55.4**	**+0.9**
	comp=E,8.8nm,1.1s,mb4.6,baz=91,slow=4.7,SNR=41								
NVAR					LR	LR	18 45 34.6		
	comp=E,140nm,21.6s,MS4.2,baz=90,slow=32								
NVAR	**Mina Array Bea**	**77.41**	**308**	P		**P**	**18 15 55.4**	**+0.9**
NVAR					LR	LR	18 45 34.6		
WVOR	**Wild Horse Val**	**77.67**	**312**	*e*P		**P**	**18 15 56.5**	**+0.7**
	comp=E,53nm,1.5s,mb5.2								
KIV	**Kislovodsk**	**77.75**	**47**	⇑*i*P		**P**	**18 15 56.8**	**+0.5**
KIV				*i*			18 16 03.9		
KIV					pmax	pmax			
	comp=Z,46nm,1.1s,mb5.3								
KIV					MLR	MLR			
	comp=Z,100nm,23.0s,MS4.1								
KIV	**Kislovodsk**	**77.75**	**47**	*e*P		**P**	**18 15 56.7**	**+0.5**
	comp=Z,46nm,1.2s,mb5.3								
GOF	**Gofitskoye**	**78.01**	**46**	*e*P		**P**	**18 15 56.5**	**-1.1**
GOF					pmax	pmax			
	comp=Z,47nm,1.3s,mb5.3								
MOD	**Modoc**	**78.91**	**311**	*e*P		**P**	**18 16 03.4**	**+0.7**
	comp=Z,128nm,1.3s,mb5.7								
GNI	**Garni**	**79.32**	**51**	*e*P		**P**	**18 16 05.8**	**+0.9**
GNI					pmax	pmax			
	comp=Z,33nm,1.3s								
GNI	**Garni**	**79.32**	**51**	*e*P		**P**	**18 16 05.8**	**+0.9**
	comp=Z,33nm,1.3s,mb5.1								
LRV	**Little Rabbit**	**79.62**	**306**	*e*P		**P**	**18 16 07.9**	**+1.2**
OHCM	**Honcut**	**79.87**	**308**	*e*P		**P**	**18 16 08.0**	**0.0**
VNA1	**Neumayer--Stat**	**81.11**	**170**	*e*		**P**	**18 16 16.7**	**+2.9**
VNA1	**Neumayer--Stat**	**81.11**	**170**	*e*		**P**	**18 16 18.1**	**+4.3**
VNA1	**Neumayer--Stat**	**81.11**	**170**	*e*		**P**	**18 16 20.3**	**+6.5**
VNA1	**Neumayer--Stat**	**81.11**	**170**	*e*		**P**	**18 16 22.5**	**+8.7**
VNA1	**Neumayer--Stat**	**81.11**	**170**	P		**P**	**18 16 14.6**	**+0.8**
VNA1				*e*		pP	18 16 16.7	-0.3	
VNA1				*e*		pP	18 16 18.1	+1.1	
VNA1				*e*			18 16 20.3		
VNA1				*e*			18 16 22.5		
VNA3	**Neumayer Olymp**	**81.40**	**171**	*e*		**P**	**18 16 18.5**	**+3.1**
VNA3	**Neumayer Olymp**	**81.40**	**171**	*e*		**P**	**18 16 20.5**	**+5.1**
VNA3	**Neumayer Olymp**	**81.40**	**171**	*e*		**P**	**18 16 21.9**	**+6.5**
VNA3	**Neumayer Olymp**	**81.40**	**171**	*e*		**P**	**18 16 24.8**	**+9.4**
VNA3	**Neumayer Olymp**	**81.40**	**171**	⇓*i*P		**P**	**18 16 15.7**	**+0.3**
VNA3				*e*		pP	18 16 18.5	-0.1	
VNA3				*e*		pP	18 16 20.5	+1.9	
VNA3				*e*			18 16 21.9		
VNA3				*e*			18 16 24.8		
VNA3				*e*			18 17 18.1		
VNA2	**Neumayer--Watz**	**81.49**	**170**	*e*		**P**	**18 16 19.0**	**+3.2**
VNA2	**Neumayer--Watz**	**81.49**	**170**	*e*		**P**	**18 16 20.9**	**+5.1**
VNA2	**Neumayer--Watz**	**81.49**	**170**	*e*		**P**	**18 16 22.4**	**+6.6**
VNA2	**Neumayer--Watz**	**81.49**	**170**	*e*		**P**	**18 16 25.7**	**+10**
VNA2	**Neumayer--Watz**	**81.49**	**170**	*e*S		S	18 26 19.5	-6.5	
VNA2	**Neumayer--Watz**	**81.49**	**170**	⇓*i*P		**P**	**18 16 16.0**	**+0.2**
VNA2				*e*		pP	18 16 19.0	0.0	
VNA2				*e*		pP	18 16 20.9	+1.9	
VNA2				*e*			18 16 22.4		
VNA2				*e*			18 16 25.7		
VNA2				*e*			18 17 17.2		
VNA2				*e*			18 19 13.7		
VNA2				*e*			18 19 29.5		
VNA2				*e*			18 25 16.0		
VNA2				*e*			18 25 45.6		
VNA2				*e*S		S	18 26 19.5	-6.5	
VNA2				*e*			18 26 32.4		
VNA2				*e*			18 26 45.1		

SNAA	**Sanae**	**82.92**	**169**	*e*		**P**	**18 16 25.7**	**+2.5**
SNAA	**Sanae**	**82.92**	**169**	*e*		**P**	**18 16 27.6**	**+4.4**
SNAA	**Sanae**	**82.92**	**169**	*e*		**P**	**18 16 29.7**	**+6.5**
SNAA	**Sanae**	**82.92**	**169**	*e*		**P**	**18 16 31.6**	**+8.4**
SNAA	**Sanae**	**82.92**	**169**	⇓*i*P		**P**	**18 16 23.1**	**-0.1**
SNAA				*e*		pP	18 16 25.7	-0.7	
SNAA				*e*		pP	18 16 27.6	+1.2	
SNAA				*e*			18 16 29.7		
SNAA				*e*			18 16 31.6		
SNAA				*e*			18 17 29.8		
SNAA				*e*			18 26 08.5		
SNAA				*e*			18 26 30.6		
SNAA				*e*			18 27 01.7		
BBB	**Bella Bella**	**83.72**	**322**	LR		LR	18 52 53.1		
	comp=Z,184nm,18.8s,MS4.5,baz=204,slow=35								
DLBC	**Dease Lake**	**84.22**	**328**	LR		LR	18 50 39.6		
	comp=Z,171nm,19.3s,MS4.4,baz=238,slow=33								
DLBC	**Dease Lake**	**84.22**	**328**	*e*P		**P**	**18 16 31.7**	**+1.6**
INK	**Inuvik**	**84.57**	**338**	*e*P		**P**	**18 16 32.2**	**+0.6**
INK					pmax	pmax			
	comp=Z,80nm,1.3s								
INK	**Inuvik**	**84.57**	**338**	*e*P		**P**	**18 16 32.2**	**+0.6**
	comp=Z,80nm,1.3s,mb5.7								
NVL	**N'lazarevskaya**	**85.44**	**165**	*e*P		**P**	**18 16 35.6**	**-0.3**
NVL				*e*			18 16 42.6		
NVL					pmax	pmax			
	comp=Z,2.0nm,1.2s,mb4.1								
SOKR	**Solikamsk**	**85.52**	**31**	⇓*i*P		**P**	**18 16 38.5**	**+1.9**
SOKR					pmax	pmax			
	comp=Z,50nm,1.0s,mb5.7								
ARU	**Arti**	**86.95**	**34**	⇓*i*P		**P**	**18 16 44.8**	**+1.1**
ARU				*e*			18 20 05.6		
ARU				*e*PPP		PPP	18 22 03.0	-3.2	
ARU				*e*S		S	18 27 04.2	-16	
ARU					pmax	pmax			
	comp=Z,39nm,1.5s,mb5.4								
ARU	**Arti**	**86.95**	**34**	*e*P		**P**	**18 16 44.7**	**+1.1**
	comp=Z,48nm,1.4s,mb5.5								
AKTO	**Aktyubinsk**	**87.66**	**40**	LR		LR	18 53 59.5		
	comp=Z,116nm,21.2s,MS4.3,slow=34								
DAWY	**Dawson**	**87.72**	**334**	*e*P		**P**	**18 16 47.0**	**-0.2**
AB31	**Akbulak array**	**89.10**	**40**	*i* P		**P**	**18 16 55.5**	**+1.3**
AB31					pmax	pmax			
	comp=Z,20nm,0.9s,mb5.5								
MENT	**Mentasta**	**89.89**	**334**	*e*P		**P**	**18 16 58.5**	**+0.9**
ILAR	**Eielson Array**	**90.62**	**336**	P		**P**	**18 17 01.2**	**+0.4**
	comp=Z,5.3nm,1.1s,mb4.8,baz=56,slow=3.5,SNR=32								
ILAR					PP	PP	18 20 32.4	-6.1	
	comp=Z,1.9nm,1.2s,baz=60,slow=7.3,SNR=4.8								
ILAR					LR	LR	18 55 19.1		
	comp=Z,79nm,20.5s,MS4.1,baz=181,slow=34								
COLA	**College**	**90.97**	**336**	*i* P		**P**	**18 17 02.1**	**-0.4**
COLA	**College**	**90.97**	**336**	*e*P		**P**	**18 17 02.6**	**+0.1**
	comp=Z,2.9nm,0.4s,mb5.0								
IMA2	**Indian Mountai**	**92.70**	**338**	*e*P		**P**	**18 17 10.1**	**-0.3**
SYO	**Syowa Base**	**93.09**	**159**	⇓P		**P**	**18 17 12.5**	**+0.3**
SYO	**Syowa Base**	**93.09**	**159**	⇓pP		pP	18 17 18.3	+2.9	
SYO	**Syowa Base**	**93.09**	**159**	⇓*e*P		**P**	**18 17 12.5**	**+0.3**
SYO				⇓*e*pP		pP	18 17 18.3	+2.9	
KDAK	**Kodiak Island**	**95.87**	**331**	LR		LR	18 57 50.2		
	comp=Z,128nm,19.2s,MS4.4,baz=108,slow=34								
RKT	**Rikitea**	**99.49**	**248**	*e*SS		SS	18 36 03.6	-1.8	
RKT				*e*LR		LR	18 50 02.9		
	comp=Z,318nm,28.8s								
TIXI	**Tiksi**	**99.95**	**4**	*e*P		**P**	**18 17 42.6**	**-0.8**
TIXI					pmax	pmax			
	comp=Z,2.0nm,1.4s,mb4.3								
KURK	**Kurchatov**	**100.04**	**35**	*i* P		P	18 17 44.9	+0.7	
AAK	**Ala-Archa**	**100.69**	**44**	*i* P		P	18 17 47.9	+0.5	
AAK					pmax	pmax			
	comp=Z,3.0nm,0.9s								
AAK					MLR	MLR			
	comp=Z,100nm,23.0s,MS4.3								
AAK	**Ala-Archa**	**100.69**	**44**	*e*Pdif		P	18 17 48.3	+0.9	
	comp=Z,2.7nm,1.1s								
ZAL	**Zalesovo**	**101.80**	**31**	PP		PP	18 21 59.5	-5.8	
	comp=Z,0.9nm,0.7s,baz=182,slow=5.4,SNR=3.8								
MKAR	**Makanchi Array**	**103.99**	**38**	Pdiff		Pdif	18 18 03.0	+1.0	
	comp=Z,1.2nm,1.1s,baz=288,slow=3.8,SNR=5.6								
WMQ	**Urumqi**	**108.78**	**38**	*e*PDIF		Pdif	18 18 23.8	+0.7	
WMQ				PP		PP	18 22 58.8	+0.6	
WMQ				SS		SS	18 38 13.8	+1.6	
WMQ				PP		PP			
	comp=Z,120nm,5.6s								
WMQ				LR		LR			
	comp=N,930nm,22.6s,MS5.5								
WMQ				LR		LR			
	comp=E,940nm,22.4s,MS5.5								
WMQ				LR		LR			
	comp=Z,930nm,24.0s,MS5.3								
TBI	**Tubuai**	**112.81**	**248**	*e*LR		LR	18 56 13.1		
	comp=Z,217nm,29.5s								
PPT	**Papeete**	**112.89**	**254**	*e*SS		SS	18 39 11.3	+3.2	
PPT				*e*LR		LR	18 56 16.0		
	comp=Z,214nm,27.8s								
SONM	**Songino Array**	**116.05**	**26**	PKP		PKPdf	18 22 41.1	-2.8	
	comp=Z,0.7nm,0.8s,baz=270,slow=3.0,SNR=4.6								
GTA	**Gaotai**	**118.70**	**36**	PKP		PKPdf	18 22 47.8	-1.3	
GTA				PP		PP	18 24 07.3	-1.7	
GTA				PKS		PKS	18 26 23.0	+1.3	
GTA				SKS		SKS	18 29 59.3	+14	
GTA				SKKS			18 30 59.0		
GTA				PP		PP			
	comp=Z,70nm,5.3s								
GTA				LR		LR			
	comp=N,130nm,8.4s								
GTA				LR		LR			
	comp=E,180nm,7.2s								
GTA				LR		LR			
	comp=Z,160nm,8.4s								
LZH	**Lanzhou**	**123.29**	**37**	*e*PKP		PKPdf	18 22 54.3	-3.8	
LZH				XPKP			18 22 58.8		
LZH				*e*PP		PP	18 24 37.8	-2.4	
LZH				SKKS			18 31 28.9		
LZH				SS		SS	18 41 18.8	-3.9	
LZH				PP		PP			
	comp=Z,110nm,7.2s								
LZH				LR		LR			
	comp=N,500nm,18.3s								
LZH				LR		LR			
	comp=Z,780nm,20.0s,MS5.4								
CN2	**Changchun**	**126.22**	**15**	*e*PKP		PKPdf	18 23 00.8	-2.7	
CN2				PP		PP	18 24 58.8	-0.5	
CN2				SS		SS	18 41 57.8	-1.1	
CN2				PP		PP			
	comp=Z,310nm,6.0s								
CN2				LR		LR			
	comp=N,440nm,21.0s,MS5.2								
CN2				LR		LR			
	comp=E,370nm,21.0s,MS5.2								
CN2				LR		LR			
	comp=Z,400nm,23.0s,MS5.0								
CD2	**Chengdu**	**126.67**	**42**	*e*PKP		PKPdf	18 22 58.0	-6.7	
XAN	**Xi'an**	**127.68**	**35**	PKP		PKPdf	18 23 04.0	-2.7	
KMI	**Kunming**	**129.51**	**48**	PKP		PKPdf	18 23 09.9	-0.5	
KMI				PP		PP	18 25 22.5	+0.9	
KMI				SS		SS	18 42 41.3	+0.6	
KMI				LR		LR			
	comp=Z,70nm,27.3s,MS4.2								
ENH	**Enshi**	**130.72**	**38**	*e*P		PKPdf	18 23 11.0	-1.6	
GYA	**Guiyang**	**131.48**	**44**	⇑*i*PKP		PKPdf	18 23 12.4	-1.7	
GYA				PP		PP	18 25 33.5	-0.9	
GYA				PKS		PKS	18 26 47.4	+1.1	
GYA				SKS		SKS	18 30 22.8	-0.9	
GYA				SKKS			18 32 25.3		
GYA				SS		SS	18 43 03.8	-1.0	
GYA				PP		PP			
	comp=Z,150nm,6.8s								
GYA				LR		LR			
	comp=N,670nm,20.8s,MS5.5								
GYA				LR		LR			
	comp=E,780nm,21.4s,MS5.5								
GYA				LR		LR			
	comp=Z,840nm,20.4s,MS5.4								
NJ2	**Nanjing**	**134.38**	**28**	*e*PKP		PKPdf	18 23 13.0	-6.4	
NJ2				PP		PP	18 25 49.0	-3.6	
NJ2				PP		PP			
	comp=Z,220nm,5.0s								
NJ2				LR		LR			
	comp=N,830nm,37.0s,MS5.5								
NJ2				LR		LR			
	comp=E,2μm,37.6s,MS5.5								
NJ2				LR		LR			
	comp=Z,390nm,26.2s								
SSE	**Sheshan**	**136.24**	**26**	PKP		PKPdf	18 23 20.9	-1.9	
SSE					PP	PP	18 26 01.4	-2.4	
SSE					LR	LR			
	comp=Z,90nm,19.8s,MS4.5								
KSM	**Kuching**	**147.03**	**75**	*e*PKPbc		PKPdf	18 23 43.1	+0.7	
KLBR	**Kellerberrin**	**147.52**	**139**	*e*PKP		PKPdf	18 23 43.0	+0.3	
	comp=Z,62nm,1.3s								
KKM	**Kota Kinabalu**	**150.72**	**62**	*e*PKPdf		PKPdf	18 23 46.5	-1.7	
KKM				*e*PKPbc		PKPdf	18 23 52.2	+3.9	
KKM				*e*PKPab		PKPab	18 23 59.2	-0.9	
MBWA	**Marble Bar**	**154.91**	**124**	*e*PKPdf		PKPdf	18 23 52.3	-1.7	
FITZ	**Fitzroy Crossi**	**161.25**	**124**	*e*PKP		PKPab	18 24 44.9	+0.1	
	comp=Z,21nm,1.2s								
ASPA	**Alice Springs**	**162.69**	**154**	*e*PKP		PKPab	18 24 49.7	-1.2	
WRA	**Warramunga Arr**	**166.09**	**149**	PKP		PKPdf	18 24 04.1	-2.3	
	comp=Z,5.4nm,1.1s,baz=265,slow=1.3,SNR=18								
WRA					PKPab	PKPab	18 25 04.4	-1.5	
	comp=Z,2.0nm,0.8s,baz=213,slow=4.1,SNR=13								
WRAB	**Tennant Creek**	**166.11**	**149**	*e*PKIKP		PKPdf	18 24 04.5	-1.8	

*IDC **23** 18:20:28.8±2.4,21.92S×179.40W,h560km±36km, mb3.5/4, mb1 3.6/7,mb1mx3.4/17,mbtmp4.5/7,Error ellipse: s-maj=35.6km s-min=21.0km az=156.0*
*NEIC **23** 18:20:28.3±1.0,22.07S×179.31W,h563km±15km, mb4.5/9, Error ellipse: s-maj=19.9km s-min=11.7km az=157.0*

ISC 23 18:20:28.5±1.4,22.0S±0.2×179.4W±0.1,h582km±23km, n20,σ0°76/19,mb4.4/9,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.82**	**43**	P		**P**		**18 22 55.0**	**-0.4**
	1.8nm,0.3s,baz=309,slow=18,SNR=5.3								
AFI	**Afiamalu**	**10.82**	**43**	*e*Pn		**P**		**18 22 54.5**	**-1.0**
DZM	**Mont Dzumac**	**13.16**	**267**	P		**P**		**18 23 20.2**	**+1.3**
	0.7nm,0.3s,baz=86,slow=19,SNR=9.4								
URZ	**Urewera**	**16.47**	**190**	P		**P**		**18 23 50.7**	**-0.2**
	0.9nm,0.3s,baz=268,slow=2.0,SNR=5.9								
CTA	**Charters Tower**	**32.11**	**267**	*e*P		**P**		**18 26 11.1**	**+0.6**
	7.5nm,0.5s,mb4.6								
CTAO	**Charters Tower**	**32.11**	**267**	*e*P		**P**		**18 26 10.9**	**+0.4**
	8.6nm,0.5s,mb4.6								
PMG	**Port Moresby**	**34.49**	**286**	P		**P**		**18 26 30.2**	**-0.3**
	10.0nm,0.9s,mb4.4,baz=126,slow=14,SNR=3.5								
PMG	**Port Moresby**	**34.49**	**286**	*e*P		**P**		**18 26 30.9**	**+0.4**
	15nm,1.0s,mb4.6								
STKA	**Stephens Creek**	**36.00**	**246**	*e*P		**P**		**18 26 44.1**	**+1.4**
	7.4nm,0.6s,mb4.4								
STKA	**Stephens Creek**	**36.00**	**246**	P		**P**		**18 26 44.1**	**+1.4**
	8.9nm,0.6s,mb4.5,baz=92,slow=11,SNR=7.8								
ASPA	**Alice Springs**	**42.95**	**258**	*e*P		**P**		**18 27 38.7**	**-0.1**
WB2	**Warramunga Arr**	**43.14**	**264**	⇓*i*P		**P**		**18 27 39.6**	**-0.7**
WRAB	**Tennant Creek**	**43.15**	**264**	*e*P		**P**		**18 27 39.6**	**-0.8**
	13nm,0.9s,mb4.5								
WRA	**Warramunga Arr**	**43.15**	**264**	P		**P**		**18 27 40.0**	**-0.5**
	2.7nm,0.3s,mb4.2,baz=96,slow=7.7,SNR=190								
KAKA	**Kakadu**	**46.76**	**273**	*e*P		Px		18 28 30.2	
	5.6nm,0.4s								
FORT	**Forrest**	**47.54**	**248**	*e*P		**P**		**18 28 13.6**	**-0.3**
	20nm,0.6s,mb4.8								
FITZ	**Fitzroy Crossi**	**51.58**	**264**	*e*P		**P**		**18 28 43.8**	**-0.1**
	9.9nm,1.3s,mb4.0								
KLBR	**Kellerberrin**	**56.27**	**246**	*e*P		**P**		**18 29 16.3**	**-0.3**
	26nm,1.0s,mb4.4								
MBWA	**Marble Bar**	**56.30**	**259**	*e*P		**P**		**18 29 16.2**	**-0.7**
	9.8nm,0.5s,mb4.3								
TXAR	**Lajitas Array**	**88.94**	**58**	P		**P**		**18 32 24.6**	**+1.4**
	0.2nm,0.7s,baz=196,slow=9.1,SNR=3.4								

*MOS **23** 18:37:29.5±1.2,9.56N×126.23E,h33km,mb4.6/11,Error ellipse: s-maj=20.7km s-min=9.8km az=117.8*
*IDC **23** 18:37:32.7±7.5,9.51N×126.13E,h42km±69km,mb4.1/16, mb1 4.2/16,mb1mx4.2/21,mbtmp4.4/16,MS3.3/1, Ms1 3.3/1,ms1mx2.4/23,Error ellipse: s-maj=28.4km s-min=14.5km az=73.0*
*MAN **23** 18:37:34.8,9.43N×126.16E,h31km,mb4.9,ML3.9,MS3.9*
*NEIC **23** 18:37:35.2±1.6,9.51N×126.20E,h69km±14km,mb4.4/17, Error ellipse: s-maj=15.0km s-min=6.5km az=65.0*

ISC 23 18:37:34.2±0.5,9.41N±0.02×126.19E±0.04,h75km±4km, n82,σ1°17/101,mb4.3/34,4C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.71**	**232**	*e*P		**P**		**18 37 48.4**	**-1.3**
BUTP				*e*S		S		18 37 58.9	-2.4
SCPH	**Surigao**	**0.78**	**298**	*e*P		**P**		**18 37 49.1**	**-1.4**
SCPH				*e*S		S		**18 38 01.0**	**-1.7**
BIPH	**Bislig**

ULN	**Ulaanbaatar**	**41.60**	**341**	*eP*	**P**	**18 45 16.0**	**-0.2**
	comp=Z,1.1nm,0.4s,mb3.9						
SONM	**Songino Array**	**41.79**	**340**	P	**P**	**18 45 17.7**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.2,baz=156,slow=8.4,SNR=4.2						
SONM				PcP	PcP	18 47 12.9	-0.5
	comp=Z,0.9nm,0.8s,baz=181,slow=5.2,SNR=4.0						
JIRN	**Jiri**	**41.80**	**301**	*eP*	**P**	**18 45 18.6**	**+0.4**
	comp=Z,29nm,0.7s,mb5.1						
GUN	**Gumba**	**42.13**	**301**	*eP*	**P**	**18 45 21.2**	**+0.3**
PKI	**Pulchoki**	**42.43**	**301**	*eP*	**P**	**18 45 23.7**	**+0.3**
KKN	**Kakani**	**42.60**	**301**	*eP*	**P**	**18 45 24.4**	**-0.4**
DMN	**Daman**	**42.70**	**301**	*eP*	**P**	**18 45 25.5**	**-0.1**
NWAO	**Narrogin (SRO)**	**42.96**	**191**	P	**P**	**18 45 29.6**	**+2.0**
	comp=Z,6.6nm,0.7s,mb4.5,baz=8.9,slow=7.4,SNR=6.4						
STKA	**Stephens Creek**	**43.62**	**161**	P	**P**	**18 45 33.6**	**+0.6**
	comp=Z,6.6nm,0.7s,mb4.5,baz=343,slow=6.7,SNR=14						
KOLN	**Koldanda**	**44.02**	**300**	*eP*	**P**	**18 45 36.0**	**-0.3**
	comp=Z,20nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**52.66**	**323**	P	**P**	**18 46 42.0**	**-1.0**
	comp=Z,3.0nm,0.7s,mb4.5,baz=123,slow=7.9,SNR=24						
MKAR				PcP	PcP	18 47 51.6	-0.3
	comp=Z,1.7nm,0.8s,baz=124,slow=4.4,SNR=5.0						
ZAL	**Zalesovo**	**55.34**	**332**	P	**P**	**18 47 01.4**	**-1.1**
	comp=Z,1.0nm,0.3s,mb4.3,baz=41,slow=5.7,SNR=3.8						
AAK	**Ala-Archa**	**55.87**	**316**	*eP*	**P**	**18 47 04.8**	**-1.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**55.87**	**316**	*eP*	**P**	**18 47 04.8**	**-1.8**
	comp=Z,1.2nm,0.6s,mb4.1						
KURK	**Kurchatov**	**56.72**	**326**	*eP*	**P**	**18 47 10.4**	**-2.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**56.72**	**326**	*eP*	**P**	**18 47 10.4**	**-2.1**
	comp=Z,9.3nm,0.9s,mb4.8						
TIXI	**Tiksi**	**62.20**	**1**	*eP*	**P**	**18 47 47.6**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
BRVK	**Borovoye**	**62.39**	**326**	*eP*	**P**	**18 47 49.7**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**62.39**	**326**	*eP*	**P**	**18 47 49.7**	**-1.7**
	comp=Z,3.6nm,0.9s,mb4.4						
ARU	**Arti**	**69.89**	**327**	*eP*	**P**	**18 48 37.4**	**-1.6**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
ARU	**Arti**	**69.89**	**327**	*eP*	**P**	**18 48 37.4**	**-1.6**
	comp=Z,4.3nm,0.7s,mb4.4						
KDAK	**Kodiak Island**	**77.42**	**33**	P	**P**	**18 49 24.4**	**+1.7**
	comp=Z,4.1nm,0.7s,mb4.3,baz=205,slow=3.1,SNR=8.9						
MCK	**McKinley**	**79.36**	**27**	*eP*	**P**	**18 49 33.9**	**+0.7**
	comp=Z,2.9nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**80.24**	**26**	P	**P**	**18 49 38.2**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=238,slow=5.7,SNR=8.7						
JOF	**Joensuu**	**83.91**	**333**	*ep*	**P**	**18 49 56.5**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.7						
KEV	**Kevo**	**84.40**	**340**	*ep*	**P**	**18 49 58.6**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.7						
KEV	**Kevo**	**84.40**	**340**	*eP*	**P**	**18 49 58.6**	**-0.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**84.96**	**340**	P	**P**	**18 50 02.5**	**+0.5**
	comp=Z,7.2nm,0.8s,mb4.7,baz=77,slow=6.1,SNR=19						
BRTR	**Keskin Array B**	**86.01**	**309**	P	**P**	**18 50 07.3**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=63,slow=2.8,SNR=3.9						
KAF	**Kangasniemi**	**86.34**	**332**	*ep*	**P**	**18 50 07.8**	**-1.1**
	comp=Z,0.6nm,0.4s,mb3.9						
KAF	**Kangasniemi**	**86.34**	**332**	*eP*	**P**	**18 50 07.8**	**-1.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**86.60**	**332**	P	**P**	**18 50 10.0**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.3,baz=76,slow=4.7,SNR=16						
AKASG	**Malin Array Be**	**87.17**	**321**	P	**P**	**18 50 12.2**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=66,slow=3.9,SNR=4.0						
MAW	**Mawson**	**88.87**	**200**	P	**P**	**18 50 24.3**	**+3.4**
	comp=Z,3.2nm,0.5s,mb4.6,baz=143,slow=5.1,SNR=7.4						
VNDA	**Vanda**	**89.09**	**173**	P	**P**	**18 50 22.7**	**+0.9**
	comp=Z,1.4nm,0.6s,mb4.2,baz=53,slow=2.8,SNR=8.6						
VNDA	**Vanda**	**89.09**	**173**	*eP*	**P**	**18 50 22.9**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**89.09**	**173**	*eP*	**P**	**18 50 22.9**	**+1.1**
	comp=Z,2.3nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	**94.57**	**24**	P	**P**	**18 50 48.9**	**+1.6**
	comp=Z,0.8nm,0.7s,mb4.3,baz=299,slow=4.5,SNR=22						
PLCA	**Paso Flores**	**145.46**	**157**	PKPbc	PKPbc	18 57 06.6	+2.1
	comp=Z,2.9nm,0.9s,baz=188,slow=5.0,SNR=6.2						

*NNC **23** 18:49:39.4±20.0, 46.80N×92.78E, mb3.7, mpv3.4, Error ellipse: s-maj=187.6km s-min=115.5km az=93.0*

IDC 23 18:49:36.5±1.9, 48.73N×92.61E, mb1 3.3/4, mb1mx3.1/22, mbtmp3.2/4, ML3.0/4, 1C-2D, Error ellipse: s-maj=25.6km s-min=16.0km az=169.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**7.15**	**320**	Pn		Pn		18 51 23.8	-1.1
	0.3nm,0.3s,baz=281,slow=5.2,SNR=3.1								
ZAL				Sn		Sn		18 52 40.5	-7.3
	0.9nm,0.3s,baz=48,slow=24,SNR=3.3								
ZAL				Lg				18 53 19.2	
	0.8nm,0.3s,baz=2.1,slow=14,SNR=4.0								
MK31	**Makanchi Array**	**7.22**	**258**	↓Pn		Pn		18 51 26.1	+0.1
	1.4nm,0.8s,baz=90,slow=13,SNR=4.2								
MK31				↑Pg		Pg		18 51 50.0	-11
	1.3nm,0.5s,baz=81,slow=17,SNR=4.8								
MK31				↓Lg				18 53 28.8	
	33nm,0.9s,baz=88,slow=32								
MKAR	**Makanchi Array**	**7.22**	**258**	Pn		Pn		18 51 25.7	-0.3
	0.1nm,0.3s,baz=90,slow=14,SNR=3.4								
MKAR				Pg		Pg		18 51 40.0	-21
	0.2nm,0.3s,baz=82,slow=20,SNR=3.7								
MKAR				Sn		Sn		18 52 43.1	-6.6
	0.8nm,0.3s,baz=66,slow=21,SNR=4.0								
MKAR				Lg				18 53 27.1	
	1.1nm,0.3s,baz=68,slow=29,SNR=6.5								
SONM	**Songino Array**	**9.24**	**90**	Pn		P		18 51 50.5	-3.5
	1.1nm,0.3s,baz=276,slow=14,SNR=4.8								
SONM				Lg				18 54 26.3	
	1.4nm,0.3s,baz=275,slow=30,SNR=12								
BVAR	**Borovoye Array**	**14.65**	**295**	Pn		P		18 53 04.1	-2.7
	0.1nm,0.3s,baz=98,slow=10,SNR=2.9								

*IDC **23** 19:03:00.8±2.4, 43.33N×105.23W, mb4.5/1, mb1 4.0/4, mb1mx3.5/22, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=50.8km s-min=7.9km az=153.0*

*NEIC **23** 19:03:02.7±0.7, 43.58N×105.23W, ML3.1, Error ellipse: s-maj=13.0km s-min=6.0km az=145.0, Suspected Mining explosion.*

NEIC 80 km [50 miles] SSE of Gillette.

ISC 23 19:03:01.2±0.9, 43.63N±0.09×105.2W±0.1, n16, σ1s24/17, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**60**	*eP*		**Pg**		**19 03 22.7**	**+1.9**
RWWY	**Rawlins**	**2.44**	**218**	P		**Pn**		**19 03 43.3**	**+0.4**
LAO	**LASA Array**	**3.14**	**347**	P		**Pn**		**19 03 53.9**	**+0.9**
BW06	**Boulder Array**	**3.29**	**256**	*eP*		**Pn**		**19 03 56.1**	**+1.0**
PDAR	**Pinedale Array**	**3.29**	**256**	Pn		**Pn**		**19 03 56.4**	**+1.3**
	6.9nm,0.3s,baz=72,slow=15,SNR=21								
PDAR				Lg				19 04 41.2	
	17nm,0.3s,baz=67,slow=31,SNR=11								
LKWY	**Lake**	**3.85**	**286**	P		**Pn**		**19 04 03.1**	**+0.1**
YFT	**Old Faithful**	**4.14**	**283**	P		**Pn**		**19 04 06.9**	**-0.2**
YMR	**Madison River**	**4.27**	**286**	P		**Pn**		**19 04 08.0**	**-1.0**
AHID	**Auburn Hatcher**	**4.39**	**261**	P		**Pn**		**19 04 11.3**	**+0.7**
DGMT	**Dagmar**	**4.89**	**8**	*eP*		**Pn**		**19 04 19.6**	**+1.8**
BOZ	**Bozeman (W)**	**5.00**	**296**	*eP*		**Pn**		**19 04 18.4**	**-1.0**
	4.8nm,0.3s								
DAU	**Daniels Canyon**	**5.53**	**237**	P		**Pn**		**19 04 25.3**	**-1.5**
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn		**P**		**19 05 15.6**	**-2.5**
	3.1nm,0.3s,baz=230,slow=12,SNR=25								
ULM				Sn		**Sn**		**19 06 58.3**	**-5.3**
	0.5nm,0.3s,baz=311,slow=20,SNR=2.2								
ULM				Lg				19 07 51.3	
	0.4nm,0.3s,baz=321,slow=19,SNR=2.3								
YKA	**Yellowknife Ar**	**19.68**	**347**	P		**P**		**19 07 34.2**	**-0.2**
	0.1nm,0.3s,baz=154,slow=11,SNR=6.5								
YKA	**Yellowknife Ar**	**19.68**	**347**	P		**P**		**19 07 34.2**	**-0.2**
ARCES	**ARCESS Array B**	**61.51**	**18**	P		**P**		**19 13 19.9**	**-1.7**
	6.2nm,1.1s,baz=339,slow=7.7,SNR=4.9								

*NEIC **23** 19:15:14.0, 18.76N×68.99W, h99km, MD3.7(RSPR), After RSPR.*

RSPR 23 19:15:14.0, 18.76N×68.99W, h99km±10km, MD3.7/7, MD3.7/7, 8C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.93**	**112**	↑*eP*		P		19 15 45.7	-0.5
CRPR				*eS*		S		19 16 09.4	-0.6
LRS	**Lares**	**2.08**	**102**	↓*eP*		P		19 15 47.2	-0.9
LRS				*eS*		S		19 16 12.8	-0.7
AOPR	**Arecibo Observ**	**2.16**	**101**	↑*eP*		P		19 15 48.5	-0.8
AOPR				*eS*		S		19 16 15.3	-0.1
CELP	**Cerrillos**	**2.38**	**106**	↑*eP*		P		19 15 52.0	-0.4
CELP				*eS*		S		19 16 20.8	-0.1
SJG	**San Juan**	**2.77**	**103**	↑*eP*		P		19 15 56.3	-1.3
SJG				*eS*		S		19 16 29.8	-0.5
SJG	**San Juan**	**2.77**	**103**	↑*eP*		P		19 15 56.0	-1.6
SJG				*eS*		S		19 16 29.3	-1.0
CBYP	**Canovanas**	**3.01**	**99**	↑*eP*		P		19 15 59.9	-1.0
CBYP				*eS*		S		19 16 35.5	-0.7
HUMP	**Col San Antoni**	**3.04**	**101**	↑*eP*		P		19 15 59.7	-1.6
HUMP				*eS*		S		19 16 35.6	-1.3
MTP	**Monte Pirata**	**3.32**	**101**	↑*eP*		P		19 16 03.9	-1.3
MTP				*eS*		S		19 16 43.9	0.0

*IDC **23** 19:30:12.2±0.9, 35.05N×141.27E, mb3.7/8, mb1 4.0/10, mb1mx3.8/23, mbtmp3.8/10, ML3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/19, Error ellipse: s-maj=23.4km s-min=18.7km az=116.0*

*JMA **23** 19:30:14.0±0.2, 35.02N×141.36E, h48km±3km, M3.2*

*NEIC **23** 19:30:18.5±1.8, 34.97N×141.14E, h48km±16km, mb4.3/3, Error ellipse: s-maj=16.8km s-min=11.6km az=93.0*

ISC 23 19:30:15.1±1.1, 35.02N±0.04×141.30E±0.10, h37km±10km, n32, σ0s75/37, mb3.8/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.45**	**216**	P		**P**		**19 30 24.8**	**-0.2**
BSO1				S		S		**19 30 32.1**	**+0.1**
BSO2	**Boso 2**	**0.52**	**239**	S		**S**		**19 30 34.8**	**+1.0**
BSO3	**Boso 3**	**0.68**	**252**	P		**P**		**19 30 28.2**	**-0.1**
BSO3				S		**S**		**19 30 38.7**	**+0.8**
CHOJ	**Chosi**	**0.77**	**332**	P		**P**		**19 30 28.7**	**-0.8**
CHOJ				S		**S**		**19 30 40.0**	**-0.1**
BSO4	**Boso 4**	**0.79**	**268**	P		**P**		**19 30 29.8**	**0.0**
KTR	**Katsuura**	**0.82**	**279**	P		**P**		**19 30 30.0**	**-0.2**
KTR				S		**S**		**19 30 40.7**	**-0.5**
JCN	**Nagara**	**0.98**	**294**	P		**P**		**19 30 32.5**	**-0.1**
JYT	**Yasato**	**1.51**	**324**	P		**P**		**19 30 39.4**	**-0.6**
JIM2	**Oshima 3**	**1.57**	**259**	P		**P**		**19 30 39.8**	**-1.1**
JOD2	**Odawara 2**	**1.83**	**278**	P		**P**		**19 30 43.7**	**-0.9**
JHJ	**Hachijo jima 2**	**2.27**	**214**	Pn		**P**		**19 30 51.8**	**+0.8**
	41nm,0.3s,baz=73,slow=19,SNR=7.6								
JHJ				Sn		**S**		**19 31 17.6**	**-0.4**
	44nm,0.3s,baz=72,slow=19,SNR=5.1								
MJAR	**Matsushiro Arr**	**2.94**	**302**	Pn		**P**		**19 31 00.7**	**+0.3**
	4.3nm,0.3s,baz=102,slow=7.8,SNR=30								
MAJO	**Matsushiro**	**2.94**	**302**	*eP*		**P**		**19 31 02.5**	**+2.0**
MAT	**Matsushiro**	**2.94**	**302**	P		**P**		**19 30 50.1**	**-10**
MAT				*eS*		**S**		**19 31 39.4**	**+4.4**
MAT	**Matsushiro**	**2.94**	**302**	*eP*		**P**		**19 30 50.0**	**-11**
MAT				S		**S**		**19 31 39.0**	**+4.0**
JNU	**Nakatsue**	**8.85**	**261**	LR		LR		19 35 41.6	
	comp=Z,139nm,18.6s,baz=36,slow=37								
ASAJ	**Asahikawa**	**9.14**	**6**	Pn		**P**		**19 32 22.9**	**-4.7**
	1.8nm,0.3s,baz=221,slow=9.3,SNR=13								
JOW	**Kunigami**	**13.83**	**237**	LR		LR		19 38 39.4	
	comp=Z,124nm,19.8s,baz=272,slow=37								
SONM	**Songino Array**	**28.88**	**307**	P		**P**		**19 36 17.0**	**+4.7**
	0.4nm,0.7s,mb3.3,baz=92,slow=6.3,SNR=2.9								
ZAL	**Zalesovo**	**43.24**	**314**	P		**P**		**19 38 14.2**	**-0.1**
	0.6nm,0.4s,mb3.6,baz=355,slow=11,SNR=3.3								
MKAR	**Makanchi Array**	**45.14**	**304**	P		**P**		**19 38 29.8**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=90,slow=10,SNR=3.7								
KURK	**Kurchatov**	**47.12**	**310**	*eP*		**P**		**19 38 45.0**	**-0.2**
	2.7nm,0.7s,mb4.3								
ILAR	**Eielson Array**	**51.25**	**31**	P		**P**		**19 39 17.4**	**+0.5**
	1.0nm,0.7s,mb3.8,baz=263,slow=5.6,SNR=9.8								
BVAR	**Borovoye Array**	**51.88**	**313**	P		**P**		**19 39 21.8**	**+0.1**
	0.2nm,0.4s,mb3.4,baz=63,slow=13,SNR=2.4								
WRAB	**Tennant Creek**	**55.04**	**188**	*eP*		**P**		**19 39 44.7**	**-0.9**
	4.1nm,0.6s,mb4.6								
WB2	**Warramunga Arr**	**55.05**	**188**	*eP*		**P**		**19 39 45.0**	**-0.7**
WRA	**Warramunga Arr**	**55.05**	**188**	P		**P**		**19 39 45.1**	**-0.5**
	3.5nm,0.6s,mb4.6,baz=4.8,slow=7.5,SNR=22								
INK	**Inuvik**	**56.23**	**26**	P		**P**		**19 39 53.4**	**-0.1**
	0.6nm,0.8s,mb3.7,baz=326,slow=3.6,SNR=4.3								
INK	**Inuvik**	**56.23**	**26**	P		**P**		**19 39 54.1**	**+0.7**
	0.6nm,0.5s,mb3.9								
ASPA	**Alice Springs**	**58.78**	**188**	*eP*		**P**		**19 40 12.1**	**0.0**
YKA	**Yellowknife Ar**	**65.60**	**30**	P		**P**		**19 40 57.1**	**+0.2**
	0.5nm,0.8s,mb3.6,baz=300,slow=6.5,SNR=7.4								
NVAR	**Mina Array Bea**	**76.28**	**53**	P		**P**		**19 42 04.5**	**+2.8**
	0.5nm,0.8s,mb3.5,baz=270,slow=6.3,SNR=4.7								

*NEIC **23** 19:45:19.9±2.2, 8.10N×93.21E, h30km, mb4.1/5, Error ellipse: s-maj=49.8km s-min=32.3km az=49.0*

*IDC **23** 19:45:20.1±7.2, 8.70N×92.72E, mb3.9/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, Error ellipse: s-maj=155.5km s-min=78.2km az=124.0*

ISC 23 19:45:18.6±3.2, 8.2N±0.4×93.1E±0.4, h30km, n13, σ0s68/13, mb3.9/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**20.49**	**342**	*eP*		**P**		**19 49 56.9**	**+0.1**
	9.3nm,0.6s								
GUN	**Gumba**	**20.82**	**342**	*eP*		**P**		**19 50 00.3**	**+0.1**
	24nm,0.7s								
KKN	**Kakani**	**20.90**	**340**	*eP*		**P**		**19 50 01.0**	**-0.1**
	4.4nm,0.4s								
GKN	**Gorkha**	**21.32**	**339**	*eP*		**P**		**19 50 05.4**	**+0.1**
	13nm,0.6s,mb4.5								
KOLN	**Koldanda**	**21.50**	**336**	*eP*		**P**		**19 50 07.8**	**+0.7**
AAK	**Ala-Archa**	**38.06**	**338**	P		**P**		**19 52 36.9**	**+0.6**
	1.7nm,0.8s,mb3.8								
MKAR	**Makanchi Array**	**39.61**	**348**	P		**P**		**19 52 48.4**	**-0.7**
	1.0nm,0.5s,mb3.8,baz=174,slow=7.8,SNR=7.4								
MKAR	**Makanchi Array**	**39.61**	**348**	P		**P**		**19 52 48.4**	**-0.7**
SONM	**Songino Array**	**41.12**	**14**	P		**P**		**19 53 02.1**	**+0.6**
	0.4nm,0.4s,mb3.4,baz=205,slow=7.0,SNR=5.7								
ZAL	**Zalesovo**	**46.15**	**353**	P		**P**		**19 53 41.6**	**-0.5**
	1.4nm,0.4s,mb4.2,baz=298,slow=9.3,SNR=5.4								
BVAR	**Borovoye Array**	**48.41**	**342**	P		**P**		**19 53 58.2**	**-1.7**
	0.4nm,0.5s,mb3.7,baz=143,slow=8.2,SNR=5.6								
FINES	**FINESS Array B**	**72.00**	**332**	P		**P**		**19 56 41.2**	**-0.1**
	0.9nm,0.8s,mb3.7,baz=104,slow=7.9,SNR=4.2								
ARCES	**ARCESS Array B**	**74.67**	**340**	P		**P**		**19 56 57.6**	**+0.9**
	2.0nm,0.9s,mb4.1,baz=92,slow=6.4,SNR=10								

*IDC **23** 19:55:30.4±5.1, 27.32S×68.71W, h96km±41km, mb3.6/1, mb1 3.4/3, mb1mx3.2/15, mbtmp3.7/3, Error ellipse: s-maj=73.9km s-min=22.1km az=112.0*

*NEIC **23** 19:55:30.1±2.5, 27.23S×68.74W, h99km±20km, Error ellipse: s-maj=43.3km s-min=14.0km az=108.0*

*GUC **23** 19:55:31.3±0.6, 27.25S×69.37W, h120km±13km, ML3.9*

ISC 23 19:55:28.3±0.8, 27.30S±0.06×69.1W±0.2, h117km±39km, n14, σ1s19/17, mb3.7/1, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.13**	**267**	↓*iP*		**P**		**19 55 52.4**	**+0.7**
CPCH				*i* S		**S**		**19 56 08.3**	**-1.0**
CDCH	**Caldera**	**1.57**	**278**	↑*iP*		**P**		**19 55 56.6**	**-0.1**
CDCH				*i* S		**S**		**19 56 16.0**	**-2.4**
CDCH				AMP				19 56 21.0	
	comp=E,1μm,0.3s								
CRCH	**Chaqaral**	**1.67**	**304**	↑*iP*		**P**		**19 55 59.1**	**+1.1**
CRCH				*i* S		**S**		**19 56 19.3**	**-1.1**
CRCH				AMP				19 56 20.8	
	comp=N,2μm,0.3s								
CPN1	**Cerro Paranal**	**2.92**	**336**	*i* P		**P**		**19 56 15.9**	**+1.6**
CPN1				*i* S		**S**		**19 56 49.4**	**+0.3**
CPN1				AMP				19 56 54.7	
	comp=E,517nm,0.5s								
CEN1	**Los Morros**	**4.02**	**345**	*i* P		**P**		**19 56 27.3**	**-1.9**
CEN1				*i* S		**S**		**19 57 11.1**	**-4.6**
CFAA	**Coronel Fontan**	**4.35**	**170**	P		**P**		**19 56 35.2**	**+1.6**
	comp=E,1.1nm,0.3s,baz=351,slow=13,SNR=38								
CFAA				S		**S**		**19 57 22.6**	**-1.1**
	comp=E,1.4nm,0.3s,baz=234,slow=18,SNR=21								
CFAA	**Coronel Fontan**	**4.35**	**170**	P		**P**		**19 56 35.2**	**+1.6**
CFAA				S		**S**		**19 57 22.6**	**-1.1**
TRQA	**Tornquist**	**12.28**	**153**	Pn		**P**		**19 58 20.0**	**-0.1**
	comp=E,1.8nm,0.5s								
SIV	**San Ignacio**	**13.49**	**35**	P		**P**		**19 58 34.1**	**-1.7**
	comp=E,0.3nm,0.3s,baz=222,slow=10,SNR=5.2								
BDFB	**Brasilia**	**22.74**	**64**	P		**P**		**20 00 21.5**	**+0.4**
	comp=E,2.1nm,0.5s,mb3.7,baz=215,slow=10,SNR=3.1								
WRA	**Warramunga Arr**	**127.84**	**208**	PKP		PKPdf		20 14 24.4	+3.6
	comp=E,0.5nm,0.7s,baz=166,slow=1.6,SNR=6.3								
ZAL	**Zalesovo**	**147.18**	**29**	PKPbc		PKPdf		20 15 00.3	+5.6
	comp=E,0.8nm,0.4s,baz=268,slow=7.1,SNR=4.6								
MKAR	**Makanchi Array**	**150.25**	**42**	PKPbc		PKPdf		20 15 10.3	+10
	comp=E,1.1nm,0.7s,baz=322,slow=1.8,SNR=14								
MKAR	**Makanchi Array**	**150.25**	**42**	PKPbc		PKPdf		20 15 10.3	+10

IDC 23 20:35:24.7±1.2, 26.84N×141.00E, mb3.6/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=32.6km s-min=20.7km az=163.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.08**	**76**	Pn		Pn		20 35 47.5	+0.6
	41nm,0.3s,baz=281,slow=23,SNR=6.0								
CBIJ				Sn		Sn		20 36 02.8	-0.2
	120nm,0.3s,baz=254,slow=22,SNR=23								
WRA	**Warramunga Arr**	**46.95**	**189**	P		P		20 43 57.2	-2.1
	0.9nm,0.7s,baz=11,slow=8.3,SNR=6.2								
MKAR	**Makanchi Array**	**49.83**	**310**	P		P		20 44 19.1	-2.2
	0.3nm,0.7s,baz=86,slow=7.5,SNR=4.9								
YKA	**Yellowknife Ar**	**72.86**	**28**	P		P		20 46 55.3	-1.6
	0.3nm,0.6s,baz=296,slow=6.2,SNR=8.4								

MAN 23 20:59:52.8, 8.50N×126.10E, h40km, mb3.9, ML2.7, MS2.3, Mindanao

*IDC **23** 20:59:57.9±8.1, 15.08N×104.53W, mb3.5/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.5/4, ML3.3/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/24, Error ellipse: s-maj=159.9km s-min=105.3km az=128.0*

NEIC 23 20:59:57.2±2.9, 14.72N×104.68W, h10km, mb3.9/5, Error ellipse: s-maj=47.8km s-min=28.1km az=136.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LTX	**Lajitas**	**14.57**	**4**	*ePn*		P		21 03 19.8	-5.7
	21nm,1.5s								
TXAR	**Lajitas Array**	**14.57**	**4**	Pn		P		21 03 22.9	-2.5
	0.0nm,0.3s,baz=185,slow=11,SNR=17								
TXAR				LR		LR		21 08 37.0	
	comp=Z,299nm,18.2s,baz=100,slow=36								
JCT	**Junction City**	**16.31**	**15**	*eP*		P		21 03 47.3	-0.7
	25nm,1.3s								
MNTX	**Cornudas Mount**	**16.91**	**358**	*eP*		P		21 03 54.1	-1.5
	6.1nm,1.1s								
TUC	**Tucson**	**18.37**	**343**	*eP*		P		21 04 12.1	-1.8
	4.0nm,1.3s								
ANMO	**Albuquerque**	**20.21**	**356**	*eP*		P		21 04 33.3	-1.8
	9.1nm,1.5s								
WMOK	**Wichita Mounta**	**20.63**	**14**	*eP*		P		21 04 36.1	-3.3
	16nm,1.4s								
NVAR	**Mina Array Bea**	**26.51**	**336**	P		P		21 05 34.9	-1.8
	0.3nm,0.7s,baz=129,slow=10,SNR=3.1								
ELK	**Elko**	**27.51**	**342**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.68**	**294**	Pn	**Pn**	**21 32 39.9**	**+0.8**
	945nm,0.3s,baz=141,slow=8.0,SNR=127						
GUMO				Sn	**Sn**	**21 33 00.4**	**+0.1**
	2μm,0.3s,baz=324,slow=22,SNR=36						
GUMO				LR	LR	21 33 04.4	
	comp=Z,4μm,20.9s,baz=109,slow=34						
GUMO	**Guam**	**1.68**	**294**	*e*Pn	**Pn**	**21 32 39.6**	**+0.4**
GUMO				*e*Sn	**Sn**	**21 32 59.3**	**-1.0**
SAPN	**Saipan**	**2.38**	**343**↓	*e*P	**Pn**	**21 32 49.6**	**+0.4**
SARN	**Sarigan**	**3.82**	**350**	*e*P	**Pn**	**21 33 11.3**	**+1.7**
JOW	**Kunigami**	**21.96**	**312**	P	**P**	**21 37 05.0**	**0.0**
	28nm,0.5s,mb4.9,baz=145,slow=12,SNR=14						
JOW				LR	LR	21 45 29.6	
	comp=Z,830nm,19.2s,MS4.2,baz=138,slow=37						
PMG	**Port Moresby**	**22.19**	**178**	P	**P**	**21 37 07.3**	**0.0**
	37nm,0.8s,mb4.8,baz=25,slow=2.5,SNR=13						
PMG	**Port Moresby**	**22.19**	**178**	*e*P	**P**	**21 37 06.3**	**-1.0**
PMG				pmax	pmax		
	comp=Z,47nm,0.9s						
PMG	**Port Moresby**	**22.19**	**178**	*e*P	**P**	**21 37 06.3**	**-1.0**
	comp=Z,48nm,0.9s,mb4.9						
JNU	**Nakatsue**	**24.64**	**327**	P	**P**	**21 37 30.6**	**-0.6**
	comp=Z,30nm,0.8s,mb4.9,baz=173,slow=3.7,SNR=18						
JNU				LR	LR	21 46 40.8	
	comp=Z,299nm,19.3s,MS3.8,baz=338,slow=36						
MJAR	**Matsushiro Arr**	**24.66**	**344**	LR	LR	21 46 13.1	
	comp=Z,750nm,18.5s,MS4.2,baz=190,slow=34						
MAJO	**Matsushiro**	**24.66**	**344**	*e*P	**P**	**21 37 31.9**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.8						
MAJO	**Matsushiro**	**24.66**	**344**	*e*P	**P**	**21 37 31.9**	**+0.6**
	comp=Z,29nm,1.0s,mb4.8						
MAT	**Matsushiro**	**24.66**	**344**	P	**P**	**21 37 31.0**	**-0.4**
MAT				S	**S**	**21 41 48.0**	**-1.1**
HNR	**Honiara**	**25.93**	**148**	LR	LR	21 46 49.6	
	comp=Z,645nm,18.8s,MS4.2,baz=185,slow=34						
YHNB	**Yeheng**	**26.41**	**300**	*e*P	**P**	**21 37 47.4**	**-0.5**
SSE	**Sheshan**	**29.48**	**312**	P	**P**	**21 38 12.3**	**-3.3**
SSE				AP	pP	21 38 20.8	-0.2
SSE				XP	sP	21 38 24.8	+1.4
SSE				S	**S**	**21 43 04.3**	**-3.4**
SSE				XS		21 43 19.1	
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,210nm,6.2s						
SSE				LR	LR		
	comp=N,150nm,20.0s,MS3.9						
SSE				LR	LR		
	comp=E,250nm,20.0s,MS3.9						
SSE				LR	LR		
	comp=Z,360nm,20.0s,MS4.0						
NJ2	**Nanjing**	**31.67**	**311**	*e*P	**P**	**21 38 35.3**	**+0.3**
NJ2				AP	pP	21 38 40.3	-0.1
NJ2				XP	sP	21 38 43.4	+0.6
NJ2				PP	PP	21 39 36.6	-3.4
NJ2				S	**S**	**21 43 42.0**	**-0.3**
NJ2				XS		21 43 49.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,190nm,7.8s						
NJ2				LR	LR		
	comp=N,800nm,25.4s,MS4.6						
NJ2				LR	LR		
	comp=E,1μm,21.7s,MS4.6						
NJ2				LR	LR		
	comp=Z,390nm,19.0s,MS4.1						
CTA	**Charters Tower**	**32.80**	**180**	P	**P**	**21 38 44.9**	**0.0**
	comp=Z,15nm,1.3s,mb4.8,baz=294,slow=14,SNR=3.1						
DL2	**Dalian**	**33.97**	**324**	P	**P**	**21 38 55.6**	**+0.7**
DL2				S	**S**	**21 44 19.5**	**+1.7**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
DL2				AMB	AMB		
	comp=Z,250nm,5.9s						
DL2				LR	LR		
	comp=N,290nm,16.4s,MS4.2						
DL2				LR	LR		
	comp=E,270nm,15.3s,MS4.2						
DL2				LR	LR		
	comp=Z,400nm,15.9s,MS4.2						
MDJ	**Mudanjiang**	**34.73**	**339**	P	**P**	**21 39 01.9**	**+0.5**
MDJ				AP	pP	21 39 04.8	-2.0
MDJ				PCP	PcP	21 41 35.0	-0.2
MDJ				S	**S**	**21 44 34.5**	**+4.9**
MDJ				XS		21 44 38.8	
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,230nm,4.4s						
MDJ				LR	LR		
	comp=N,370nm,31.3s,MS4.2						
MDJ				LR	LR		
	comp=E,470nm,29.8s,MS4.2						
MDJ				LR	LR		
	comp=Z,420nm,29.8s,MS4.0						
WRAB	**Tennant Creek**	**34.75**	**200**	*e*P	**P**	**21 39 01.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.2						
WRAB	**Tennant Creek**	**34.75**	**200**	*e*P	**P**	**21 39 01.1**	**-0.7**
	comp=Z,45nm,1.3s,mb5.2						
WB2	**Warramunga Arr**	**34.76**	**200**	*e*P	**P**	**21 39 01.8**	**-0.1**
WRA	**Warramunga Arr**	**34.76**	**200**	P	**P**	**21 39 01.5**	**-0.5**
	comp=Z,10nm,1.0s,mb4.7,baz=23,slow=9.4,SNR=27						
QIZ	**Qiongzhong**	**35.67**	**285**	*e*P	**P**	**21 39 13.0**	**+3.4**
QIZ				S	**S**	**21 44 48.4**	**+3.9**
QIZ				LR	LR		
	comp=Z,380nm,15.3s,MS4.3						
CN2	**Changchun**	**35.68**	**334**	*e*P	**P**	**21 39 07.8**	**-1.7**
CN2				*e*XP	sP	21 39 15.1	-2.2
CN2				PP	PP	21 40 29.3	-1.0
CN2				*e*S	**S**	**21 44 44.8**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,430nm,4.0s						
CN2				LR	LR		
	comp=N,610nm,17.0s,MS4.7						
CN2				LR	LR		
	comp=E,810nm,17.0s,MS4.7						
CN2				LR	LR		
	comp=Z,790nm,19.0s,MS4.5						
FITZ	**Fitzroy Crossi**	**37.04**	**214**	*e*P	**P**	**21 39 21.1**	**-0.1**
	comp=Z,17nm,1.0s,mb4.8						
KSM	**Kuching**	**37.56**	**255**	*e*P	**P**	**21 39 24.8**	**-0.8**
ENH	**Enshi**	**38.25**	**303**	*e*P	**P**	**21 39 30.9**	**-0.3**
	comp=Z,32nm,0.6s,mb5.2						
ASPA	**Alice Springs**	**38.38**	**199**	*e*P	**P**	**21 39 34.5**	**+2.1**
GYA	**Guiyang**	**39.64**	**296**↑	*i*P	**P**	**21 39 43.8**	**+0.9**
GYA				AP	pP	21 39 47.9	-0.5
GYA				XP	sP	21 39 51.3	+0.6
GYA				PP	PP	21 41 19.6	+1.7
GYA				S	**S**	**21 45 47.4**	**+2.5**
GYA				SS	SS	21 48 36.5	+3.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=N,680nm,17.6s,MS4.7						
GYA				LR	LR		
	comp=E,570nm,18.0s,MS4.7						
GYA				LR	LR		
	comp=Z,510nm,18.2s,MS4.4						
DZM	**Mont Dzumac**	**39.92**	**150**	P	**P**	**21 39 45.9**	**+0.7**
	comp=Z,5.0nm,0.5s,mb4.5,baz=331,slow=12,SNR=13						
HHC	**Hu-ho-hao-te**	**41.28**	**319**	*e*P	**P**	**21 39 57.4**	**+1.1**
HHC				AP	pP	21 40 04.9	+3.1
HHC				XP	sP	21 40 08.5	+4.4
HHC				PP	PP	21 41 35.3	+0.6
HHC				PCP	PcP	21 41 55.5	0.0
HHC				SCP		21 45 43.8	
HHC				S	**S**	**21 46 08.8**	**-0.4**
HHC				XS		21 46 21.9	
HHC				SS	SS	21 49 07.9	-0.3
HHC				SCS	ScS	21 49 57.1	-0.4
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,260nm,6.9s						
HHC				LR	LR		
	comp=N,520nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=E,460nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=Z,340nm,19.0s,MS4.2						
HIA	**Hailar**	**42.41**	**334**	*e*P	**P**	**21 40 04.3**	**-1.1**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HIA	**Hailar**	**42.41**	**334**	*e*P	**P**	**21 40 04.3**	**-1.1**
	comp=Z,9.0nm,0.7s,mb4.5						
MBWA	**Marble Bar**	**42.85**	**218**	*e*P	**P**	**21 40 09.2**	**-0.2**
	comp=Z,32nm,1.3s,mb4.9						
KMI	**Kunming**	**42.89**	**293**	P	**P**	**21 40 09.8**	**+0.1**
KMI				PP	PP	21 41 51.8	0.0
KMI				S	**S**	**21 46 33.9**	**+0.7**
KMI				SS	SS	21 49 38.4	-0.2
KMI				LR	LR		
	comp=N,220nm,18.8s,MS4.2						
KMI				LR	LR		
	comp=E,140nm,17.3s,MS4.2						
KMI				LR	LR		
	comp=Z,310nm,20.4s,MS4.2						
CD2	**Chengdu**	**43.16**	**302**↑	*i*P	**P**	**21 40 11.6**	**-0.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
LZH	**Lanzhou**	**44.64**	**309**	*e*P	**P**	**21 40 23.9**	**+0.2**
LZH				AP	pP	21 40 27.3	-1.9
LZH				PP	PP	21 42 09.3	+0.2
LZH				*e*S	**S**	**21 46 59.1**	**+0.7**
LZH				XS		21 47 05.8	
LZH				SS	SS	21 50 10.3	0.0
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,130nm,6.5s						
LZH				LR	LR		
	comp=E,740nm,14.3s						
LZH				LR	LR		
	comp=Z,1μm,17.6s,MS4.9						
STKA	**Stephens Creek**	**44.78**	**186**	P	**P**	**21 40 24.3**	**-0.6**
	comp=Z,5.4nm,0.7s,mb4.5,baz=342,slow=12,SNR=5.4						
ULN	**Ulaanbaatar**	**47.81**	**325**c	*i*P	**P**	**21 40 48.4**	**-0.3**
ULN	**Ulaanbaatar**	**47.81**	**325**	*e*P	**P**	**21 40 48.0**	**-0.6**
	comp=Z,11nm,0.6s,mb5.0						
ULN				LR	LR		
	comp=Z,465nm,20.0s,MS4.5						
PSI	**Prapat**	**48.06**	**262**	P	**P**	**21 40 51.2**	**+0.1**
	comp=Z,6.2nm,0.6s,mb4.8,baz=59,slow=12,SNR=6.4						
SONM	**Songino Array**	**48.17**	**324**	P	**P**	**21 40 51.2**	**-0.3**
	comp=Z,8.8nm,0.6s,mb5.0,baz=137,slow=7.5,SNR=72						
GTA	**Gaotai**	**48.77**	**312**	*e*P	**P**	**21 40 56.1**	**-0.1**
GTA				AP	pP	21 41 00.1	-1.7
GTA				XP	sP	21 41 03.5	-0.5
GTA				PCP	PcP	21 42 19.6	-1.8
GTA				PP	PP	21 42 50.4	+1.0
GTA				SCP		21 46 14.0	
GTA				PCS		21 46 15.0	
GTA				S	**S**	**21 48 00.5**	**+3.4**
GTA				XS		21 48 07.4	
GTA				SCS	ScS	21 50 44.3	-0.7
GTA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
GTA				AMB	AMB		
	comp=Z,300nm,6.1s						
GTA				LR	LR		
	comp=N,280nm,9.9s						
GTA				LR	LR		
	comp=E,200nm,10.7s						
GTA				LR	LR		
	comp=Z,270nm,9.9s						
SEY	**Seymchan**	**50.12**	**4**↑	*e*P	**P**	**21 41 06.4**	**+0.2**
YAK	**Yakutsk**	**50.50**	**350**	*i*P	**P**	**21 41 06.7**	**-2.5**
YAK				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
YAK				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.4						
ZAK	**Zakamensk**	**51.25**	**326**	*e*P	**P**	**21 41 14.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
KLBR	**Kellerberrin**	**52.12**	**211**	*e*P	**P**	**21 41 20.8**	**-1.0**
	comp=Z,68nm,1.4s,mb5.4						
LSA	**Lhasa**	**53.67**	**297**	*e*P	**P**	**21 41 34.3**	**+0.9**
LSA				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.3						
LSA	**Lhasa**	**53.67**	**297**	*e*P	**P**	**21 41 34.3**	**+0.9**
	comp=Z,28nm,0.7s,mb5.3						
JIRN	**Jiri**	**57.89**	**295**	*e*P	**P**	**21 42 04.1**	**+0.3**
	comp=Z,58nm,0.7s,mb5.7						
GUN	**Gumba**	**58.17**	**295**	*e*P	**P**	**21 42 06.0**	**+0.2**
	comp=Z,68nm,0.8s,mb5.7						
PKI	**Pulchoki**	**58.58**	**294**	*e*P	**P**	**21 42 08.7**	**+0.1**
	comp=Z,20nm,0.6s,mb5.3						
PKI	**Pulchoki**	**58.58**	**294**	*e*P	**P**	**21 42 08.7**	**+0.1**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
KKN	**Kakani**	**58.70**	**295**	*e*P	**P**	**21 42 09.6**	**+0.1**
	comp=Z,23nm,0.7s,mb5.3						
KKN	**Kakani**	**58.70**	**295**	*e*P	**P**	**21 42 09.6**	**+0.1**
KKN				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
WMQ	**Urumqi**	**58.72**	**314**	*e*P	**P**	**21 42 09.4**	**+0.1**
WMQ				AP	pP	21 42 14.4	-0.6
WMQ				XP	sP	21 42 16.4	-0.7
DMN	**Daman**	**58.85**	**295**	*e*P	**P**	**21 42 10.8**	**+0.3**
	comp=Z,38nm,0.9s,mb5.4						
GKN	**Gorkha**	**59.27**	**295**	*e*P	**P**	**21 42 13.7**	**+0.3**
	comp=Z,37nm,0.7s,mb5.5						
TIXI	**Tiksi**	**59.66**	**354**	*i*P	**P**	**21 42 14.9**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
KOLN	**Koldanda**	**60.19**	**295**	*e*P	**P**	**21 42 19.7**	**0.0**
	comp=Z,26nm,0.7s,mb5.4						
TNA	**Tin City**	**60.94**	**20**	*e*P	**P**	**21 42 23.7**	**-0.6**
	comp=Z,14nm,1.4s,mb4.9						
MK31	**Makanchi Array**	**63.04**	**316**	P	**P**	**21 42 38.3**	**-0.3**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
MKAR	**Makanchi Array**	**63.04**	**316**	P	**P**	**21 42 38.7**	**0.0**
	comp=Z,17nm,0.5s,mb5.4,baz=89,slow=8.3,SNR=427						
ZAL	**Zalesovo**	**63.07**	**324**	P	**P**	**21 42 38.0**	**-0.8**
	comp=Z,6.1nm,0.5s,mb5.0,baz=1.8,slow=6.2,SNR=28						
ZAL	**Zalesovo**	**63.07**	**324**↑	*e*P	**P**	**21 42 38.2**	**-0.5**
KDAK	**Kodiak Island**	**63.83**	**31**	P	**P**	**21 42 43.7**	**+0.1**
	comp=Z,37nm,1.2s,mb5.3,baz=339,slow=5.6,SNR=10.0						
NVS	**Novosibirsk**	**64.19**	**325**	*i*P	**P**	**21 42 44.8**	**-1.3**
NVS				*e*		21 46 48.0	
NVS				*i*S	**S**	**21 51 18.3**	**-2.5**
NVS				pmax	pmax		
	comp=Z,48nm,1.7s,mb5.2						
NVS				pmax	pmax		
	comp=N,12nm,1.6s						
NVS				pmax	pmax		
	comp=E,30nm,1.6s						
NVS				smax			
	comp=N,72nm,2.6s						
NVS				smax			
	comp=E,95nm,2.8s						
HYB	**Hyderabad**	**65.40**	**283**	*i*P	**P**	**21 42 54.5**	**0.0**
HYB	**Hyderabad**	**65.40**	**283**	*e*P	**P**	**21 42 54.5**	**0.0**
SLKM	**Skilak Lake**	**65.82**	**29**	*e*P	**P**	**21 42 55.7**	**-0.8**
KURK	**Kurchatov**	**66.09**	**320**	*e*P	**P**	**21 42 57.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
KURK	**Kurchatov**	**66.09**	**320**	*e*P	**P**	**21 42 57.8**	**-0.6**
	comp=Z,17nm,0.6s,mb5.3						
IMA2	**Indian Mountai**	**66.26**	**23**	*e*P	**P**	**21 42 58.7**	**-0.6**
KSH	**Kashi**	**66.87**	**308**	*e*P	**P**	**21 43 05.4**	**+1.8**
KSH				*e*AP	pP	21 43 09.5	+0.2
KSH				*e*XP	sP	21 43 12.3	+0.9
KSH				*e*PCP	PcP	21 43 33.4	+1.2
KSH				*e*PP	PP	21 45 34.3	+1.6
KSH				*e*SCP		21 47 35.1	
KSH				*e*S	S	21 51 56.3	+2.4
KSH				*e*XS		21 52 03.3	
KSH				*e*SCS	ScS	21 52 58.5	+2.2
KSH				AMB	AMB		
	comp=Z,40nm,2.1s,mb5.1						
KSH				LR	LR		
	comp=N,590nm,8.4s						
KSH				LR	LR		
	comp=E,480nm,8.8s						
SML	**Sawmill**	**67.07**	**28**	*e*P	**P**	**21 43 04.3**	**-0.1**
TKM2	**Tokmak 2**	**67.32**	**311**	P	**P**	**21 43 07.1**	**+0.7**
	SNR=11						
TKM2	**Tokmak 2**	**67.32**	**311**	P	**P**	**21 43 06.9**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KZA	**Kyzart**	**67.53**	**310**	P	**P**	**21 43 09.4**	**+1.7**
	SNR=24						
KBK	**Karagaybulak**	**67.78**	**311**	P	**P**	**21 43 09.8**	**+0.6**
	SNR=11						
FRU	**Bishkek**	**68.03**	**311**	*e*P	**P**	**21 43 11.5**	**+0.7**
UCH	**Uchtor**	**68.08**	**310**	P	**P**	**21 43 12.7**	**+1.6**
	SNR=10						
DIV	**Divide**	**68.09**	**29**	*e*P	**P**	**21 43 11.2**	**+0.3**
	comp=Z,109nm,1.2s,mb5.8						
AAK	**Ala-Archa**	**68.12**	**311**↑	*i*P	**P**	**21 43 10.6**	**-0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AAK	**Ala-Archa**	**68.12**	**311**	*e*P	**P**	**21 43 10.3**	**-1.1**
	comp=Z,3.1nm,0.7s,mb4.5						
USP	**Ospenovka**	**68.14**	**312**	P	**P**	**21 43 11.3**	**-0.2**
	SNR=7.1						
COLA	**College**	**68.15**	**25**	*i*P	**P**	**21 43 09.9**	**-1.3**
COLA	**College**	**68.15**	**25**	*e*P	**P**	**21 43 09.8**	**-1.3**
	comp=Z,9.2nm,0.9s,mb4.8						
COLA				LR	LR		
	comp=Z,831nm,19.0s,MS5.0						
ILAR	**Eielson Array**	**68.52**	**25**	P	**P**	**21 43 11.4**	**-2.0**
	comp=Z,6.3nm,0.7s,mb4.7,baz=251,slow=6.1,SNR=50						
AML	**Almayashu**	**68.69**	**310**	P	**P**	**21 43 16.3**	**+1.4**
	SNR=10						
PPT	**Papeete**	**70.03**	**114**	*e*LR	LR	22 04 41.5	
	comp=Z,2μm,25.5s						
VOSK	**Vostochnaya**	**71.03**	**321**	P	**P**	**21 43 28.0**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
KKAR	**Karatay Array**	**71.05**	**311**	*i*P	**P**	**21 43 29.1**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
BVA0	**Borovoye Array**	**71.41**	**322**	P	**P**	**21 43 29.9**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.5						
BVAR	**Borovoye Array**	**71.41**	**322**	P	**P**	**21 43 31.1**	**-0.2**
	comp=Z,12nm,0.6s,mb5.0,baz=106,slow=7.9,SNR=128						
BRVK	**Borovoye**	**71.47**	**322**	*e*P	**P**	**21 43 31.2**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.0						
BRVK	**Borovoye**	**71.47**	**322**	*e*P	**P**	**21 43 31.2**	**-0.5**
	comp=Z,29nm,1.4s,mb5.0						
DAWY	**Dawson**	**71.54**	**26**	*e*P	**P**	**21 43 32.4**	**+0.5**
TBI	**Tubuai**	**72.30**	**120**	*e*LR	LR	22 05 46.0	
	comp=Z,2μm,29.2s						
INK	**Inuvik**	**74.39**	**22**	P	**P**	**21 43 48.1**	**-0.4**
	comp=Z,6.0nm,0.9s,mb4.5,baz=261,slow=6.6,SNR=13						
INK	**Inuvik**	**74.39**	**22**	*e*P	**P**	**21 43 48.0**	**-0.5**
INK				pmax	pmax		
	comp=Z,20nm,1.0s						
INK	**Inuvik**	**74.39**	**22**	*e*P	**P**	**21 43 48.0**	**-0.5**
	comp=Z,20nm,1.0s,mb5.0						
DLBC	**Dease Lake**	**75.71**	**33**	P	**P**	**21 43 57.5**	**+1.2**
	comp=Z,7.1nm,0.9s,mb4.6,baz=286,slow=12,SNR=3.3						
DLBC	**Dease Lake**	**75.71**	**33**	*e*P	**P**	**21 43 57.4**	**+1.2**
TAOE	**Nuku Hiva Isla**	**76.03**	**103**	*e*LR	LR	22 07 27.0	
	comp=Z,6μm,30.0s						
AB31	**Akbulak array**	**78.07**	**318**	P	**P**	**21 44 09.1**	**-0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ARU	**Arti**	**78.19**	**325**↑	*i*P	**P**	**21 44 10.4**	**+0.3**
ARU				*e*		21 44 18.7	
ARU				*e*		21 47 06.1	
ARU				*e*S	S	21 54 01.6	-0.9
ARU				*e*SS	SS	21 59 00.8	-6.8
ARU				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
ARU	**Arti**	**78.19**	**325**	*e*P	**P**	**21 44 09.6**	**-0.4**
	comp=Z,12nm,0.6s,mb5.0						
SOKR	**Solikamsk**	**78.81**	**329**	*e*P	**P**	**21 44 14.2**	**+0.8**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
AKTK	**Aktyubinsk**	**79.18**	**319**	P	**P**	**21 44 15.3**	**-0.3**
AKTO	**Aktyubinsk**	**79.18**	**319**	P	**P**	**21 44 15.3**	**-0.3**
	comp=Z,3.4nm,0.5s,mb4.5,baz=94,slow=8.3,SNR=14						
AKTO	**Aktyubinsk**	**79.18**	**319**	P	**P**	**21 44 15.5**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,1.2s						
YKA	**Yellowknife Ar**	**82.74**	**28**	P	**P**	**21 44 34.0**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.4,baz=286,slow=5.3,SNR=12						
RKT	**Rikitea**	**84.77**	**115**	*e*LR	LR	22 11 32.1	
	comp=Z,3μm,27.8s						
RES	**Resolute Bay**	**84.84**	**14**	*e*P	**P**	**21 44 45.0**	**+0.5**
RES				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
RES	**Resolute Bay**	**84.84**	**14**	*e*P	**P**	**21 44 45.0**	**+0.5**
	comp=Z,15nm,1.2s,mb5.0						
EDM	**Edmonton**	**85.77**	**36**	*e*P	**P**	**21 44 50.5**	**+0.9**
NVAR	**Mina Array Bea**	**86.13**	**52**	P	**P**	**21 44 54.3**	**+2.5**
	comp=Z,2.4nm,0.9s,mb4.5,baz=273,slow=5.6,SNR=4.8						
KLMR	**Klimovskoe**	**86.87**	**332**	*e*P	**P**	**21 44 56.6**	**+1.8**
KLMR				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.2						
KEV	**Kevo**	**87.63**	**342**	*e*P	**P**	**21 44 56.5**	**-1.8**
	comp=Z,0.9nm,0.5s,mb4.3						
KEV	**Kevo**	**87.63**	**342**	*e*P	**P**	**21 44 56.5**	**-1.8**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.3						
ELK	**Elko**	**87.86**	**49**	P	**P**	**21 45 01.9**	**+1.8**
	comp=Z,1.1nm,0.6s,mb4.3,baz=233,slow=5.1,SNR=2.7						
ELK	**Elko**	**87.86**	**49**	*e*P	**P**	**21 45 01.5**	**+1.4**
ELK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ELK	**Elko**	**87.86**	**49**	*e*P	**P**	**21 45 01.5**	**+1.4**
	comp=Z,4.5nm,0.7s,mb4.8						
ARCES	**ARCESS Array B**	**88.19**	**342**	P	**P**	**21 45 00.6**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.5,baz=59,slow=7.1,SNR=16						
QLMT	**Earthquake Lak**	**89.40**	**44**	P	**P**	**21 45 07.7**	**+0.4**
JOF	**Joensuu**	**89.55**	**336**	*e*p	**P**	**21 45 05.9**	**-1.7**
	comp=Z,0.7nm,0.4s,mb4.3						
DUG	**Dugway**	**89.79**	**49**	*e*P	**P**	**21 45 10.5**	**+1.2**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
DUG	**Dugway**	**89.79**	**49**	*e*P	**P**	**21 45 10.4**	**+1.2**
	comp=Z,3.8nm,0.8s,mb4.8						
HWUT	**Hardware Ranch**	**90.28**	**47**	P	**P**	**21 45 13.2**	**+1.7**
	comp=Z,8.9nm,1.3s,mb4.9						
OBN	**Obninsk**	**90.50**	**327**	*e*P	**P**	**21 45 13.2**	**+1.0**
OBN				pmax	pmax		
	comp=Z,17nm,1.6s,mb5.1						
OBN				MLR	MLR		
	comp=Z,1.0nm,18.0s						
VNDA	**Vanda**	**90.71**	**177**	P	**P**	**21 45 12.

CACH				*i* S		Sb	21 34 30.8	+0.2
LMEL	**Las Melosas**	**0.25**	**67**	*e*P		Pb	21 34 28.2	-0.1
LMEL				*i* S		Sb	21 34 32.1	+0.1
LMEL				AMP			21 34 33.3	
	comp=N,5μm,0.2s							
SJCH	**San Jose de Ma**	**0.32**	**19**	*e*P		Pb	21 34 28.8	-0.7
SJCH				*i* S		Sb	21 34 33.6	-0.5
SJCH				AMP			21 34 34.5	
	comp=N,924nm,0.2s							
PCH	**Pirque**	**0.33**	**355**⇓	*i*P		Pb	21 34 29.6	0.0
PCH				*i* S		Sb	21 34 34.1	-0.2
CICH	**Cipreses**	**0.38**	**172**⇑	*i*P		Pb	21 34 30.4	0.0
CICH				*i* S		Sb	21 34 35.8	0.0
ANTU	**Antumapu**	**0.40**	**341**	*e*P		Pb	21 34 30.5	-0.3
ANTU				*i* S		Sb	21 34 36.4	+0.1
ANTU				AMP			21 34 36.7	
	comp=E,383nm,0.2s							
TACH	**Talagante**	**0.48**	**307**⇑	*i*P		Pb	21 34 32.0	-0.2
TACH				*i* S		Sb	21 34 38.2	-0.5
SAN	**Santiago**	**0.51**	**343**	*i* S		Sb	21 34 39.9	+0.2
SAN				AMP			21 34 40.6	
	comp=N,574nm,0.2s							
RCDM	**Rinconada Maip**	**0.53**	**329**⇓	*i*P		Pb	21 34 32.8	-0.2
RCDM				*i* S		Sb	21 34 40.0	-0.2
RCDM				AMP			21 34 40.4	
	comp=E,685nm,0.1s							
CLCH	**Cerro Calan**	**0.55**	**355**	AMP			21 34 42.6	
	comp=E,415nm,0.2s							
FCH	**Farellones**	**0.64**	**14**⇓	*i*P		Pb	21 34 34.9	+0.1
FCH				*i* S		Sb	21 34 43.7	+0.4
FCH				AMP			21 34 44.3	
	comp=E,680nm,0.2s							
LNV	**Longovilo**	**0.77**	**269**⇑	*i*P		Pb	21 34 36.6	-0.6
SFDO	**San Fernando**	**0.80**	**213**⇑	*i*P		Pb	21 34 37.6	0.0
SFDO				*i* S		Sb	21 34 48.4	+0.5
PEL	**Peldehue**	**0.82**	**348**⇑	*i*P		Pb	21 34 38.3	+0.3
PEL				*i* S		Sb	21 34 49.3	+0.7
PEL				AMP			21 34 50.3	
	comp=N,339nm,0.3s							
LCCH	**Las Cruces**	**1.02**	**297**⇓	*i*P		Pb	21 34 41.1	-0.3
JACH	**Jahuel**	**1.26**	**356**⇑	*i*P		Pb	21 34 45.6	0.0
JACH				*i* S		Sb	21 35 02.0	+0.6

*BJI **23** 21:38:30.9, 40.40N× 125.30W, h3km, mB4.9, mb4.8, Ms5.0, Msz4.6*

*NEIC **23** 21:38:32.9, 40.43N× 125.35W, h4km, mb4.5/13, MW4.6(BRK), After NCEDC.*

NEIC Felt [IV] at Redway; [III] at Arcata, Ferndale, Fortuna, Garberville, Petrolia, Rio Dell, Scotia and Whitethorn; [II] at Eureka.

*IDC **23** 21:38:35.8±0.8, 40.56N× 124.90W, mb4.1/14, mb1 4.3/21, mb1mx4.2/33, mbtmp4.1/21, ML4.2/5, MS3.9/8, Ms1 3.9/8, ms1mx3.7/39, Error ellipse: s-maj=13.6km s-min=10.2km az=172.0*

ISC 23 21:38:34.5±0.5,**40.50N**±0.04×**125.06W**±0.05,**h10**km, **n113**,σ1§**25**/108,**mb4.2**/21,**MS4.9**/4,**1D**,**Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.08**	**69**	*e*P	**Pn**	**21 38 56.3**	**+0.7**
KIPM	**Iron Peak**	**1.39**	**119**	*e*P	**Pn**	**21 38 59.7**	**-0.4**
KCPM	**Cahto Peak**	**1.39**	**125**⇓	*e*P	**Pn**	**21 38 59.5**	**-0.6**
KBO	**Bosley Butte**	**1.82**	**20**	*e*P	**Pn**	**21 39 05.5**	**-0.7**
YBH	**Yreka Blue Hor**	**2.16**	**54**	Pn	**Pn**	**21 39 11.6**	**+0.5**
	53nm,0.3s,baz=248,slow=13,SNR=433						
YBH				Lg		21 39 39.7	
	122nm,0.3s,baz=68,slow=14,SNR=11						
YBH				LR	LR	21 39 58.6	
	comp=Z,1μm,19.7s,baz=254,slow=41						
KEBM	**Edson Butte**	**2.44**	**13**	*e*P	**Pn**	**21 39 14.2**	**-0.8**
NSHM	**Saint Helena R**	**2.74**	**135**	*e*P	**Pn**	**21 39 16.8**	**-2.5**
OHCM	**Honcut**	**2.98**	**112**	P	**Pn**	**21 39 21.4**	**-1.5**
SAC	**San Andreas**	**3.56**	**144**	*e*P	**Pn**	**21 39 27.1**	**-4.0**
COR	**Corvallis**	**4.29**	**17**	P	**Pn**	**21 39 39.7**	**-1.6**
LRV	**Little Rabbit**	**5.16**	**141**	*e*P	**Pn**	**21 39 50.8**	**-2.9**
WVOR	**Wild Horse Val**	**5.20**	**66**	*e*P	**Pn**	**21 39 52.8**	**-1.5**
NVAR	**Mina Array Bea**	**5.62**	**109**	Pn	**Pn**	**21 40 00.1**	**-0.1**
	7.6nm,0.3s,baz=281,slow=15,SNR=162						
NVAR				Lg		21 41 24.0	
	4.4nm,0.3s,baz=274,slow=28,SNR=3.2						
NVAR				LR	LR	21 41 49.2	
	comp=Z,641nm,19.5s,baz=285,slow=35						
MNV	**Mina**	**5.73**	**109**	*e*P	**Pn**	**21 40 01.1**	**-0.6**
PTRM	**Twissleman Ran**	**6.16**	**140**	*e*P	**Pn**	**21 40 03.4**	**-4.5**
ISA	**Isabella**	**7.09**	**131**	*e*P	**Pn**	**21 40 19.7**	**-1.2**
BMO	**Blue Mountains**	**7.18**	**50**	*e*P	**Pn**	**21 40 23.0**	**+0.8**
DAC	**Darwin (Calif)**	**7.22**	**123**	*e*P	**Pn**	**21 40 22.6**	**-0.1**
ELK	**Elko**	**7.47**	**85**	Pn	**Pn**	**21 40 25.8**	**-0.5**
	0.6nm,0.3s,baz=267,slow=10.0,SNR=24						
ELK				Sn	**Sn**	**21 41 50.2**	**-1.8**
	0.4nm,0.3s,baz=112,slow=12,SNR=3.1						
ELK				LR	LR	21 43 42.7	
	comp=Z,884nm,18.7s,baz=260,slow=42						
ELK	**Elko**	**7.47**	**85**	*e*P	**Pn**	**21 40 25.5**	**-0.8**
TPNV	**Topopah Spring**	**7.74**	**114**	*e*P	**Pn**	**21 40 31.0**	**+1.0**
PGC	**Sidney**	**8.23**	**7**	P	**P**	**21 40 33.4**	**-3.5**
MWC	**Mount Wilson**	**8.38**	**136**	*e*P	**P**	**21 40 36.5**	**-2.5**
HLID	**Hailey**	**8.49**	**65**	*e*P	**P**	**21 40 40.7**	**+0.2**
BGU	**Big Grassy Mou**	**9.15**	**83**	*e*P	**P**	**21 40 50.4**	**+0.9**
DUG	**Dugway**	**9.36**	**88**	*e*P	**P**	**21 40 51.4**	**-1.1**
HVU	**Hansel Valley**	**9.36**	**78**	*e*P	**P**	**21 40 53.4**	**+0.9**
NEN	**Nelson**	**9.39**	**118**	*e*P	**P**	**21 40 53.7**	**+0.7**
ARUT	**Antelope Range**	**9.42**	**103**	*e*P	**P**	**21 40 53.7**	**+0.3**
SPUT	**South Promonto**	**9.58**	**81**	*e*P	**P**	**21 40 56.7**	**+1.1**
NEW	**Newport**	**9.62**	**34**	Pn	**P**	**21 40 56.1**	**+0.1**
	0.9nm,0.3s,baz=198,slow=16,SNR=5.6						
NEW				LR	LR	21 44 55.6	
	comp=Z,936nm,18.2s,baz=223,slow=40						
NEW	**Newport**	**9.62**	**34**	*e*P	**P**	**21 40 55.7**	**-0.3**
PFO	**Pinyon Flat Ob**	**9.72**	**132**	*e*P	**P**	**21 40 54.1**	**-3.4**
NOQ	**North Oquirrh**	**9.85**	**85**	*e*P	**P**	**21 41 00.3**	**+1.1**
MCMT	**McKenzie Canyo**	**9.98**	**60**	*e*P	**P**	**21 41 01.2**	**+0.2**
MVU	**Marysvale**	**10.13**	**97**	*e*P	**P**	**21 41 04.3**	**+1.2**
MSU	**Marysvale**	**10.15**	**97**	*e*P	**P**	**21 41 03.6**	**+0.2**
MSO	**Missoula**	**10.24**	**48**	*e*P	**P**	**21 41 04.8**	**+0.2**
HWUT	**Hardware Ranch**	**10.25**	**79**	*e*P	**P**	**21 41 05.6**	**+0.8**
DLMT	**Dillon**	**10.35**	**58**	*e*P	**P**	**21 41 06.0**	**0.0**
TCUT	**Toone Canyon**	**10.37**	**82**	*e*P	**P**	**21 41 08.0**	**+1.6**
CHMT	**Chamberlain Mo**	**10.68**	**49**	*e*P	**P**	**21 41 11.1**	**+0.5**
AHID	**Auburn Hatcher**	**10.69**	**73**	*e*P	**P**	**21 41 10.6**	**-0.2**
TMUT	**Trail Mountain**	**10.71**	**92**	*e*P	**P**	**21 41 13.6**	**+2.6**
TPAW	**Teton Pass**	**10.92**	**69**	*e*P	**P**	**21 41 14.8**	**+0.9**
QLMT	**Earthquake Lak**	**10.93**	**62**	*e*P	**P**	**21 41 14.4**	**+0.4**
REDW	**Red Top Meadow**	**10.96**	**70**	*e*P	**P**	**21 41 12.9**	**-1.6**
IMW	**Indian Meadow**	**11.01**	**67**	*e*P	**P**	**21 41 16.1**	**+0.9**
SNOW	**Snow King Moun**	**11.05**	**70**	*e*P	**P**	**21 41 16.2**	**+0.5**
BOZ	**Bozeman (W)**	**11.09**	**58**	*e*P	**P**	**21 41 15.0**	**-1.2**
LOHW	**Long Hollow**	**11.19**	**69**	*e*P	**P**	**21 41 18.2**	**+0.6**
YMR	**Madison River**	**11.19**	**64**	*e*P	**P**	**21 41 17.5**	**-0.1**
YFT	**Old Faithful**	**11.22**	**65**	P	**P**	**21 41 17.2**	**-0.8**
SRU	**San Rafael**	**11.27**	**92**	*e*P	**P**	**21 41 19.7**	**+1.1**
HRY	**Holter Researc**	**11.42**	**53**	*e*P	**P**	**21 41 20.6**	**-0.1**
LKWY	**Lake**	**11.55**	**65**	*e*P	**P**	**21 41 21.5**	**-1.0**
BW06	**Boulder Array**	**11.82**	**74**	*e*P	**P**	**21 41 26.4**	**+0.2**
PDAR	**Pinedale Array**	**11.82**	**74**	Pn	**P**	**21 41 27.4**	**+1.2**
	0.4nm,0.3s,baz=260,slow=6.9,SNR=20						
PDAR				LR	LR	21 46 46.0	
	comp=Z,364nm,20.0s,baz=263,slow=42						
BBB	**Bella Bella**	**11.88**	**351**	LR	LR	21 45 03.5	
	comp=Z,419nm,19.9s,baz=359,slow=33						
WUAZ	**Wupatki**	**11.88**	**110**	*e*P	**P**	**21 41 28.8**	**+1.8**
PV10	**Paradox Valley**	**12.57**	**95**	*e*P	**P**	**21 41 37.8**	**+1.6**
PV01	**Paradox Valley**	**12.99**	**95**	*e*P	**P**	**21 41 40.0**	**+1.2**
EGMT	**Eagleton**	**13.29**	**50**	*e*P	**P**	**21 41 43.6**	**-2.1**
SMCO	**Snowmass**	**13.96**	**90**	P	**P**	**21 41 57.2**	**+2.5**
EDM	**Edmonton**	**15.01**	**28**	*e*P	**P**	**21 42 06.0**	**-2.2**
SDCO	**Great Sand Dun**	**15.43**	**94**	*e*P	**P**	**21 42 15.8**	**+2.0**
	46nm,1.0s						
ANMO	**Albuquerque**	**15.71**	**105**	Pn	**P**	**21 42 19.0**	**+1.4**
	baz=311,slow=13,SNR=11						
ANMO	**Albuquerque**	**15.71**	**105**	*e*P	**P**	**21 42 19.0**	**+1.5**
	5.4nm,0.9s						
RSSD	**Black Hills**	**15.96**	**70**	*e*P	**P**	**21 42 18.1**	**-2.5**
	18nm,1.1s						
DGMT	**Dagmar**	**16.85**	**55**	*e*P	**P**	**21 42 30.2**	**-1.7**
	91nm,1.5s						
MNTX	**Cornudas Mount**	**18.14**	**113**	*e*P	**P**	**21 42 48.0**	**-0.1**
	9.1nm,1.3s						
DLBC	**Dease Lake**	**18.24**	**352**	P	**P**	**21 42 50.6**	**+1.4**
	0.3nm,0.3s,baz=158,slow=15,SNR=3.9						
DLBC				LR	LR	21 48 32.0	
	comp=Z,276nm,20.1s,baz=329,slow=33						
CBKS	**Cedar Bluff**	**19.55**	**87**	*e*P	**P**	**21 43 03.3**	**-1.8**
	38nm,0.7s						
LTX	**Lajitas**	**20.72**	**116**	*e*P	**P**	**21 43 18.2**	**+0.6**
	40nm,1.3s						
TXAR	**Lajitas Array**	**20.72**	**116**	P	**P**	**21 43 18.5**	**+0.9**
	12nm,0.9s,baz=299,slow=8.9,SNR=85						
TXAR	**Lajitas Array**	**20.72**	**116**	P	**P**	**21 43 18.5**	**+0.9**
WMOK	**Wichita Mounta**	**21.55**	**97**	*e*P	**P**	**21 43 24.4**	**-1.7**
	3.1nm,0.6s,mb3.9						
KSU1	**Kansas State U**	**21.87**	**84**	P	**P**	**21 43 30.0**	**+0.8**
ULM	**Lac du Bonnet**	**22.57**	**55**	P	**P**	**21 43 35.2**	**-0.8**
	30nm,1.0s,mb4.7,baz=260,slow=10,SNR=46						
ULM	**Lac du Bonnet**	**22.57**	**55**	P	**P**	**21 43 35.2**	**-0.8**
JCT	**Junction City**	**22.80**	**108**	P	**P**	**21 43 38.0**	**-0.5**
	63nm,1.3s,mb4.9						
YKA	**Yellowknife Ar**	**22.91**	**12**	P	**P**	**21 43 39.5**	**+0.3**
	1.7nm,0.8s,mb3.5,baz=196,slow=10,SNR=24						
YKA	**Yellowknife Ar**	**22.91**	**12**	P	**P**	**21 43 39.5**	**+0.3**
YKW3	**Yellowknife Ar**	**22.97**	**12**	*e*P	**P**	**21 43 40.0**	**+0.2**
EYMN	**Ely**	**25.03**	**61**	*e*P	**P**	**21 43 58.9**	**-1.0**
	18nm,1.1s,mb4.5						
NATX	**Nacogdoches**	**25.95**	**100**	P	**P**	**21 44 08.9**	**+0.1**
FCC	**Fort Churchill**	**26.77**	**37**	*e*P	**P**	**21 44 14.4**	**-1.5**
	10nm,0.9s,mb4.4						
MIV	**Mineville/With**	**37.78**	**67**	P	**P**	**21 45 51.8**	**-0.6**
SCHQ	**Schefferville**	**40.54**	**49**	P	**P**	**21 46 15.9**	**+0.7**
	4.6nm,0.9s,mb4.1,baz=258,slow=6.1,SNR=7.9						
SUMG	**Summit**	**50.92**	**23**	P	**P**	**21 47 35.1**	**-2.2**
	5.3nm,0.8s,mb4.5						
RAR	**Rarotonga**	**69.38**	**215**	LR	LR	22 11 51.6	
	comp=Z,468nm,21.9s,MS4.7,baz=175,slow=29						
MDJ	**Mudanjiang**	**72.03**	**314**	P	**P**	**21 49 56.8**	**-3.5**
MDJ				AMB	AMB		
	comp=Z,10.0nm,3.1s						
MDJ				AMB	AMB		
	comp=Z,360nm,12.2s						
NOA	**NORSAR Array B**	**72.73**	**21**	P	**P**	**21 50 04.7**	**+0.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=295,slow=7.0,SNR=3.3						
CN2	**Changchun**	**74.82**	**315**	*e*P	**P**	**21 50 12.0**	**-4.5**
SONM	**Songino Array**	**80.92**	**328**	P	**P**	**21 50 51.9**	**+1.8**
	comp=Z,0.6nm,0.9s,mb3.5,baz=76,slow=5.9,SNR=3.1						
SIV	**San Ignacio**	**81.69**	**119**	P	**P**	**21 50 54.3**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=297,slow=9.0,SNR=4.5						
BRG	**Berggiesshubel**	**82.20**	**25**	P	**P**	**21 50 56.1**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.3						
ESDC	**Sonseca Array**	**83.84**	**42**	P	**P**	**21 51 05.7**	**+0.3**
	comp=Z,0.7nm,0.8s,mb3.9,baz=304,slow=4.9,SNR=5.4						
GERES	**GERESS Array B**	**83.87**	**26**	P	**P**	**21 51 06.3**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.8,baz=320,slow=7.7,SNR=3.8						
DAVOX	**Davos**	**84.28**	**29**	P	**P**	**21 51 08.2**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.2,baz=70,slow=3.2,SNR=3.7						
VRAC	**Vranov**	**84.40**	**24**	P	**P**	**21 51 09.0**	**+1.2**
	comp=Z,1.5nm,0.6s,mb4.3,baz=252,slow=2.0,SNR=4.3						
BVAR	**Borovoye Array**	**85.90**	**351**	P	**P**	**21 51 18.4**	**+3.1**
	comp=Z,0.4nm,0.6s,mb3.9,baz=11,slow=7.3,SNR=3.0						
AKASG	**Malin Array Be**	**86.43**	**16**	P	**P**	**21 51 20.4**	**+2.4**
	comp=Z,0.8nm,0.6s,mb4.1,baz=335,slow=4.0,SNR=5.8						
NJ2	**Nanjing**	**86.74**	**310**	*e*P	**P**	**21 51 19.6**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.2						
AKTK	**Aktyubinsk**	**89.41**	**358**	P	**P**	**21 51 35.2**	**+2.9**
AKTO	**Aktyubinsk**	**89.41**	**358**	P	**P**	**21 51 35.2**	**+2.9**
	comp=Z,1.3nm,0.8s,mb4.3,baz=0.3,slow=4.4,SNR=4.1						
GTA	**Gaotai**	**90.55**	**327**	*e*P	**P**	**21 51 32.9**	**-5.0**
GTA				AP	pP	21 51 36.6	-4.5
GTA				XP	sP	21 51 39.4	-2.7
GTA				PP	PP	21 55 08.0	-7.2
GTA				SKS	SKS	22 02 01.5	-11
GTA				S	S	22 02 24.5	-6.4
GTA				AMB	AMB		
	comp=Z,190nm,7.3s						
GTA				LR	LR		
	comp=N,850nm,16.4s,MS5.5						
GTA				LR	LR		
	comp=E,1μm,19.5s,MS5.5						
GTA				LR	LR		
	comp=Z,680nm,15.3s,MS5.2						
WMQ	**Urumqi**	**91.03**	**337**	*e*P	**P**	**21 51 38.3**	**-1.6**
WMQ				AMB	AMB		
	comp=Z,40nm,5.0s						
WMQ				LR	LR		
	comp=N,230nm,21.4s,MS4.7						
WMQ				LR	LR		
	comp=E,220nm,22.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,250nm,22.0s,MS4.6						
LZH	**Lanzhou**	**91.53**	**322**	*e*P	**P**	**21 51 43.5**	**+1.0**
LZH				PP	PP	21 55 24.6	+1.5
LZH				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,40nm,7.0s						
LZH				LR	LR		
	comp=E,300nm,15.2s						
LZH				LR	LR		
	comp=Z,350nm,18.1s,MS4.8						
LSZ	**Lusaka**	**145.75**	**51**	PKPbc	PKPbc	21 58 16.4	+2.0
	comp=Z,0.9nm,0.3s,baz=61,slow=7.7,SNR=4.1						
LSZ	**Lusaka**	**145.75**	**51**	PKPbc	PKPbc	21 58 16.4	+2.0
MATP	**Matopo**	**149.86**	**56**	PKPbc	PKPdf	21 58 27.0	+3.8
	comp=Z,1.0nm,0.8s,baz=82,slow=7.1,SNR=2.2						
MATP				PKPab	PKPab	21 58 33.9	+1.1
	comp=Z,1.3nm,0.8s,baz=239,slow=3.4,SNR=3.8						
MATP	**Matopo**	**149.86**	**56**	PKPbc	PKPdf	21 58 27.1	+3.8
MATP				PKPab	PKPab	21 58 33.9	+1.1

*IDC **23** 21:40:18.9±1.1, 15.11N× 105.17W, mb3.8/10, mb1 4.1/12, mb1mx4.0/23, mbtmp3.9/12, ML3.5/2, Error ellipse: s-maj=44.6km s-min=15.4km az=59.0*

*NEIC **23** 21:40:25.3±2.3, 15.36N× 104.90W, h35km±17km, mb4.4/16, Error ellipse: s-maj=22.2km s-min=9.7km az=50.0*

ISC 23 21:40:23.0±5.8,**15.4N**±0.1×**104.9W**±0.1,**h32**km±39km,**n37**, σ1§**13**/36,**mb4.1**/17,**Off coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	**5.39**	**18**	*e*P	**Pn**	**21 41 41.0**	**-2.5**
MOIG	**Morelia**	**5.55**	**39**	*e*P	**Pn**	**21 41 44.0**	**-1.6**
ZAIG	**Zacatecas**	**7.69**	**16**	*e*P	**Pn**	**21 42 15.4**	**-0.4**
MAIG	**Mazatlaan**	**7.94**	**349**	*e*P	**Pn**	**21 42 12.9**	**-6.4**
LTX	**Lajitas**	**13.96**	**4**	*e*Pn	**P**	**21 43 42.2**	**+1.1**
TXAR	**Lajitas Array**	**13.96**	**4**	Pn	**P**	**21 43 42.2**	**+1.1**
	0.1nm,0.3s,baz=174,slow=13,SNR=12						
JCT	**Junction City**	**15.76**	**16**	P	**P**	**21 44 05.8**	**+1.3**
	56nm,1.2s						
MNTX	**Cornudas Mount**	**16.28**	**358**	*e*P	**P**	**21 44 10.6**	**-0.6**
	9.8nm,1.1s						
TUC	**Tucson**	**17.73**	**343**	P	**P**	**21 44 29.6**	**+0.3**
	8.1nm,1.2s						
NATX	**Nacogdoches**	**18.80**	**28**	P	**P**	**21 44 42.6**	**+0.1**
	14nm,0.6s						
ANMO	**Albuquerque**	**19.57**	**356**	P	**P**	**21 44 52.3**	**+0.9**
	baz=168,slow=17,SNR=4.0						
ANMO	**Albuquerque**	**19.57**	**356**	*e*P	**P**	**21 44 51.8**	**+0.4**
	7.7nm,1.1s						
JTS	**JuntasAbangare**	**20.04**	**102**	*e*P	**P**	**21 44 57.4**	**+0.9**
	32nm,1.4s						
WMOK	**Wichita Mounta**	**20.07**	**15**	*e*P	**P**	**21 44 54.6**	**-2.1**
	31nm,1.3s						
WUAZ	**Wupatki**	**20.92**	**345**	*e*P	**P**	**21 45 05.8**	**+0.3**
	41nm,0.9s						
MIAR	**Mount Ida**	**21.65**	**26**	*e*P	**P**	**21 45 11.8**	**-1.1**
	55nm,1.8s,mb4.7						
SDCO	**Great Sand Dun**	**22.32**	**359**	*e*P	**P**	**21 45 20.2**	**+0.7**
	9.6nm,1.1s,mb4.1						
UALR	**University of**	**22.38**	**28**	*e*P	**P**	**21 45 20.5**	**+0.3**
	25nm,1.3s,mb4.5						
PV10	**Paradox Valley**	**23.23**	**352**	*e*P	**P**	**21 45 28.3**	**-0.2**
LRAL	**Lakeview Retre**	**23.92**	**39**	*e*P	**P**	**21 45 36.7**	**+1.4**
	48nm,1.4s,mb4.7						
ISCO	**Idaho Springs**	**24.37**	**359**	*e*P	**P**	**21 45 41.3**	**+1.8**
	6.6nm,1.0s,mb4.0						
WVT	**Waverly**	**25.68**	**33**	P	**P**	**21 45 52.0**	**0.0**
	26nm,1.7s,mb4.5						
NVAR	**Mina Array Bea**	**25.87**	**335**	P	**P**	**21 45 54.4**	**+0.6**
	0.4nm,0.7s,mb3.1,baz=160,slow=11,SNR=2.2						
PDAR	**Pinedale Array**	**27.62**	**353**	P	**P**	**21 46 10.9**	**+1.1**
	1.2nm,1.1s,mb3.5,baz=166,slow=7.4,SNR=3.1						
LOHW	**Long Hollow**	**28.59**	**351**	*e*P	**P**	**21 46 18.2**	**-0.4**
	4.9nm,1.0s,mb4.2						
SDV	**Santo Domingo**	**34.04**	**97**	P	**P**	**21 47 08.8**	**+2.0**
	1.5nm,0.4s,mb4.2,baz=296,slow=18,SNR=3.2						
DLBC	**Dease Lake**	**46.92**	**342**	P	**P**	**21 48 52.2**	**-0.2**
	4.2nm,0.8s,mb4.4,baz=144,slow=13,SNR=3.1						
DLBC	**Dease Lake**	**46.92**	**342**	P	**P**	**21 48 52.2**	**-0.2**
YKA	**Yellowknife Ar**	**47.59**	**354**	P	**P**	**21 48 56.0**	**-1.6**
	0.9nm,0.7s,mb3.9,baz=166,slow=7.1,SNR=5.1						
YKA	**Yellowknife Ar**	**47.59**	**354**	P	**P**	**21 48 56.0**	**-1.6**
LPAZ	**La Paz**	**47.98**	**129**	P	**P**	**21 49 00.0**	**-1.3**
	1.7nm,0.9s,mb4.1,baz=326,slow=8.6,SNR=7.3						
LPAZ	**La Paz**	**47.98**	**129**	*e*PKPbc	**P**	**21 49 02.7**	**+1.4**
	5.3nm,1.1s,mb4.5						
SIV	**San Ignacio**	**53.28**	**124**	P	**P**	**21 49 39.8**	**-1.8**
	0.9nm,0.8s,mb3.7,baz=326,slow=8.0,SNR=5.6						
INK	**Inuvik**	**56.02**	**348**	P	**P**	**21 50 00.1**	**-0.8**
	3.6nm,0.8s,mb4.4,baz=187,slow=5.7,SNR=8.3						
ILAR	**Eielson Array**	**56.99**	**340**	P	**P**	**21 50 06.5**	**-1.3**
	1.4nm,0.8s,mb4.0,baz=152,slow=7.6,SNR=11						
PLCA	**Paso Flores**	**64.23**	**152**	P	**P**	**21 50 57.4**	**-0.1**
	1.6nm,0.9s,mb4.0,baz=300,slow=4.1,SNR=3.0						
WRA	**Warramunga Arr**	**123.64**	**256**	PKP	PKPdf	21 59 18.0	-5.7
	0.2nm,0.6s,baz=74,slow=2.4,SNR=4.4						

MAN 23 21:40:30.7, 11.35N× 125.33E, h15km, mb4.2, ML3.0, MS2.7, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.28**	**23**	*e*P	Pb	21 40 37.6	+0.8
BESP				*e*S	Sb	21 40 44.0	+3.1
PLP	**Palo**	**0.39**	**242**	*e*P	Pb	21 40 40.8	+2.1
PLP				*e*S	Sb	21 40 49.5	+5.4
OCLP	**Ormoc**	**0.76**	**248**	*e*P	Pb	21 40 44.5	-0.7
MSLP	**Maasin**	**1.29**	**201**	*e*P	Pb	21 40 53.7	-0.4
MSLP				*e*S	Sb	21 41 13.3	+3.0
CNP	**Catarman**	**1.33**	**331**	*e*P	Pn	21 40 53.6	-1.2
CNP				*e*S	Sb	21 41 12.9	+1.4
PVCP	**Virac**	**2.51**	**333**	*e*P	Pn	21 41 08.4	-3.3
PVCP				*e*S	Sn	21 41 42.5	+0.2

*IGQ **23** 21:47:22.5, 1.56S× 77.77W, h225km±10km, mb5.4, Error ellipse: s-maj=8.6km s-min=4.8km az=20.8*

*CRAAG **23** 21:47:23.4, 1.43S× 77.60W, Mb5.8*

*MOS **23** 21:47:24.9±0.9, 1.34S× 77.62W, h175km, mb5.9/49, MS5.2/10, Error ellipse: s-maj=8.2km s-min=4.8km az=99.1*

*IGIL **23** 21:47:26.9, 1.40S× 77.50W, h192km, MS5.2*

*BGS **23** 21:47:28.0, 1.39S× 77.52W, h193km, mb5.6*

*BJI **23** 21:47:28.0, 1.40S× 77.50W, h192km, mB5.8*

*HRVD **23** 21:47:28.0±0.1, 1.59S× 77.76W, h197km, MW6.1/75, Centroid moment Tensor Solution. LP body waves: s72,c174;Mantle waves: s75,c285; Half duration: 2s8 Moment tensor: Scale 10^18Nm; Mrr=1.07±.01; Mθθ=0.65±.02; Mφφ=0.41±.02; Mrθ=0.92±.01; Mrφ=-0.87±.02; Mθφ=-1.06±.01; Best double couple: M=1.873×10^18 NP1: φs120°, δ21°, λ-107°. NP2:φs318°, δ69°, λ-84°. Principal axes: T 2.032, Plg24°, Azm43°; N -.319, Plg6°, Azm136°; P -1.714, Plg65°, Azm239°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **23** 21:47:28.0±0.4, 1.33S× 77.50W, h192km±3km, mb5.2/30, mb1 5.3/32, mb1mx5.3/32, mbtmp5.7/32, MS5.0/8, Ms1 5.0/8, ms1mx4.7/22 Error ellipse: s-maj=8.0km s-min=5.2km az=67.0*

*NEIC **23** 21:47:28.0±0.1, 1.39S× 77.52W, mb5.8/221, ME6.0, MW6.1, MD6.1(IGQ), Error ellipse: s-maj=3.2km s-min=2.2km az=213.0 Broadband fault plane solution: P waves. NP1:φs320°, δ75°, λ-80

HLGC Holguin 22.21 4 *eP* **P 21 52 08.9 +1.0**
SJG San Juan 22.43 30 P **P 21 52 09.8 -0.2**
comp=Z,211nm,0.6s,mb5.8,baz=188,slow=5.5,SNR=47
SJG San Juan 22.43 30⇑ *iP* **P 21 52 09.5 -0.5**
SJG pmax pmax
comp=Z,185nm,0.6s
SJG San Juan 22.43 30⇑ *iP* **P 21 52 09.4 -0.6**
comp=Z,185nm,0.6s,mb5.8
CCCC Cccc 22.46 360 *eP* **P 21 52 12.5 +2.1**
CPD Cerro la Pandu 22.48 30⇑ *iP* **P 21 52 09.7 -0.8**
CCIG Comitan 22.70 321 *i P* **P 21 52 14.3 +1.5**
MTP Monte Pirata 22.71 31⇑ *iP* **P 21 52 11.9 -1.0**
FDF Fort de France 22.84 45⇓ *eP* **P 21 52 13.3 -0.9**
FDF *eS* 21 52 52.1
MVM Montagne Vaucl 22.91 46⇑ *eP* **P 21 52 13.1 -1.7**
MVM *eS* 21 52 51.9
CEN1 Los Morros 23.00 162 *eP* **P 21 52 17.7 +2.0**
CRM Caravelle 23.02 45⇓ *eP* **P 21 52 15.0 -0.9**
CRM *eS* 21 52 52.7
BBL Barber's Block 23.17 43 *eP* **P 21 52 16.7 -0.7**
TBG Guadaloupe-3 23.29 42 *eP* **P 21 52 18.2 -0.2**
SCG Saint Claude 23.39 42 *eP* **P 21 52 19.6 +0.2**
LZG Guadaloupe-1 23.41 41 *eP* **P 21 52 19.5 0.0**
DOG Dongo Capester 23.43 42 *eP* **P 21 52 19.8 0.0**
MGV Manicaragua 23.49 354 *eP* **P 21 52 22.5 +2.2**
MGG Marie-Galante 23.55 42 *eP* **P 21 52 21.3 +0.4**
DEG La Desirade 24.01 42 *eP* **P 21 52 23.9 -1.3**
BPA Boggy Peak 24.02 40 *eP* **P 21 52 24.6 -0.7**
CPN1 Cerro Paranal 24.11 164 *eP* **P 21 52 27.1 +0.9**
CPB Codrington 24.48 39 *eP* **P 21 52 27.6 -2.0**
SOR Soroa 24.62 348 *eP* **P 21 52 31.3 +0.3**
HUIG Huatulco 25.02 314 *i P* **P 21 52 35.5 +0.8**
OXX Oaxaca 26.33 315 *eP* **P 21 52 48.0 +1.2**
VHO Vista Hermosa 26.33 315 *i P* **P 21 52 48.3 +1.4**
CAIG El Cayaco 28.92 310 *eP* **P 21 53 09.8 -0.3**
PPM Popocatepetl 29.00 316 *i P* **P 21 53 12.5 +1.7**
YAIG Yautepec 29.18 315 *i P* **P 21 53 14.0 +1.6**
PLIG Platanillo 29.18 313 *i P* **P 21 53 12.9 +0.4**
DWPF Disney 29.58 353⇑ *iP* **P 21 53 16.3 +0.4**
comp=Z,856nm,1.4s,mb6.2
CMCH Combarbala 30.26 169 *eP* **P 21 53 21.6 -0.2**
MOIG Morelia 31.23 313 *i P* **P 21 53 31.6 +1.2**
CFAA Coronel Fontan 31.31 165 P **P 21 53 31.0 0.0**
comp=Z,17nm,0.8s,mb4.7,baz=339,slow=8.3,SNR=176
CFAA pP pP 21 54 09.7 -1.2
comp=Z,7.0nm,0.8s,baz=327,slow=7.5,SNR=2.7
CFAA PcP PcP 21 56 20.4 +0.1
comp=Z,2.9nm,0.7s,baz=306,slow=2.9,SNR=3.9
CFAA S **S** **21 58 24.1 +1.7**
comp=Z,0.7nm,0.9s,baz=232,slow=19,SNR=2.4
CFAA ScP 21 59 44.3
comp=Z,1.3nm,0.9s,baz=349,slow=3.9,SNR=5.1
CFAA Coronel Fontan 31.31 165 P **P 21 53 31.0 0.0**
CFAA pP pP 21 54 09.7 -1.2
CFAA PcP PcP 21 56 20.4 +0.1
CFAA S **S** **21 58 24.1 +1.7**
CFAA ScP 21 59 44.2
CPUP Villa Florida 31.53 144 *eP* **P 21 53 30.5 -2.4**
CPUP *e**PP pP 21 54 10.0 -2.9
CPUP *e* 21 56 20.5
CPUP pmax pmax
comp=Z,1μm,0.9s
CPUP Villa Florida 31.53 144 *eP* **P 21 53 30.5 -2.5**
comp=Z,1μm,0.9s,mb6.4
CPUP *ep*P pP 21 54 10.0 -2.9
CPUP *e*PcP PcP 21 56 20.5 -0.5
PEL Peldehue 32.23 169⇑ *iP* **P 21 53 38.6 -0.4**
BDFB Brasilia 32.42 117 P **P 21 53 40.2 -0.5**
comp=Z,219nm,0.5s,mb5.9,baz=289,slow=9.9,SNR=192
BDFB S **S** **21 58 39.2 -0.5**
comp=Z,20nm,0.8s,baz=72,slow=19,SNR=1.7
BDFB LR LR 22 08 43.9
comp=Z,4μm,18.8s,baz=295,slow=39
BAO Brasilia Array 32.43 117 P **P 21 53 41.0 +0.1**
FCH Farellones 32.49 169⇑ *iP* **P 21 53 41.2 +0.1**
SFJM Santa Fe 33.09 312 *i P* **P 21 53 46.0 -0.4**
NICH Los Niches 33.95 171⇓ *iP* **P 21 53 53.5 -0.1**
ZAIG Zacatecas 34.20 316 *i P* **P 21 53 57.0 +1.1**
NHSC New Hope 34.41 356 *eP* **P 21 53 57.6 0.0**
comp=Z,2μm,1.1s,mb6.6
NHSC *ep*P pP 21 54 37.8 -0.4
LRAL Lakeview Retre 35.39 346⇑ *iP* **P 21 54 05.2 -0.6**
comp=Z,132nm,0.8s,mb5.5
LRAL *ep*P pP 21 54 46.5 -0.2
LRAL *e*ScP 21 59 59.1
CCHI Chillan 35.39 172⇓ *iP* **P 21 54 06.3 +0.5**
JSC Jenkinsville 35.66 355 *eP* **P 21 54 07.9 -0.3**
JSC *e**PP pP 21 54 49.7 +0.7
NATX Nacogdoches 36.74 335 *eP* **P 21 54 17.2 -0.1**
comp=Z,256nm,1.1s,mb5.7
NATX *ep*P pP 21 54 58.5 +0.3
MAIG Mazatlaan 37.22 313 *eP* **P 21 54 22.2 +0.9**
CPCT Cooper Cave 37.23 351 *eP* **P 21 54 21.1 -0.2**
CPCT *ep*P pP 21 55 02.7 +0.3
SWET Sewanee 37.26 349 *eP* **P 21 54 20.0 -1.6**
SWET *ep*P pP 21 55 01.0 -1.6
OXF Oxford 37.41 344 P **P 21 54 21.8 -1.0**
OXF pmax pmax
comp=Z,260nm,1.1s,mb5.7
OXF Oxford 37.41 344⇑ *iP* **P 21 54 21.1 -1.7**
comp=Z,260nm,1.1s,mb5.7
JCT Junction City 38.12 328 *eP* **P 21 54 28.8 0.0**
JCT *e**PP pP 21 55 10.1 +0.1
JCT *e* 21 56 39.6
JCT *e* 22 00 09.1
JCT pmax pmax
comp=Z,115nm,0.8s,mb5.5
JCT Junction City 38.12 328 *eP* **P 21 54 28.8 0.0**
comp=Z,114nm,0.8s,mb5.5
JCT *ep*P pP 21 55 10.1 +0.1
JCT *e*PcP PcP 21 56 39.6 -0.4
JCT *e*ScP 22 00 09.1
BLA Blacksburg 38.51 356⇑ *iP* **P 21 54 32.8 +0.9**
BLA *e* 21 56 41.6
BLA pmax pmax
comp=Z,798nm,1.2s,mb6.1
BLA Blacksburg 38.51 356⇑ *iP* **P 21 54 32.8 +0.9**
comp=Z,798nm,1.2s,mb6.1
BLA *e*PcP PcP 21 56 41.5 +0.4
WVT Waverly 38.54 347 P **P 21 54 29.6 -2.6**
WVT P 21 54 30.7
WVT Waverly 38.54 347⇑ *iP* **P 21 54 30.5 -1.7**
WVT *e**PP pP 21 55 12.0 -1.5
WVT *e* 22 00 10.6
WVT pmax pmax
comp=Z,89nm,0.6s,mb5.5
WVT Waverly 38.54 347⇑ *iP* **P 21 54 30.4 -1.8**
comp=Z,89nm,0.6s,mb5.5
WVT *ep*P pP 21 55 12.0 -1.4
WVT *e*ScP 22 00 10.6
UALR University of 38.56 340⇑ *eP* **P 21 54 31.4 -1.0**
comp=Z,204nm,0.8s,mb5.7
UALR *ep*P pP 21 55 12.9 -0.7
HALT Halls 38.71 345 *eP* **P 21 54 32.6 -1.0**
HBAR Harrisburg 38.74 343⇑ *iP* **P 21 54 33.1 -0.8**
MIAR Mount Ida 38.78 339⇑ *eP* **P 21 54 33.2 -1.0**
MIAR *e* 22 00 12.3
MIAR pmax pmax
comp=Z,129nm,1.4s,mb5.3
MIAR Mount Ida 38.78 339⇑ *eP* **P 21 54 33.2 -1.0**
comp=Z,129nm,1.4s,mb5.3
MIAR *e*ScP 22 00 12.3
GNAR Gosnell 38.94 344 *eP* **P 21 54 34.5 -1.1**
comp=Z,633nm,1.0s,mb6.1
UTMT University of 38.99 345 *eP* **P 21 54 35.4 -0.5**
comp=Z,353nm,1.0s,mb5.8
GLAT Glass 39.03 345⇑ *eP* **P 21 54 35.0 -1.3**
GLAT *ep*P pP 21 55 16.5 -1.1
TRQA Tornquist 39.19 160⇓ *iP* **P 21 54 36.8 -0.8**
comp=Z,735nm,1.4s,mb6.0
TRQA *e*PcP PcP 21 56 44.0 +0.6
TRQA *e*ScP 22 00 14.1
CBN Corbin 39.41 0⇑ *iP* **P 21 54 39.9 +0.5**
comp=Z,238nm,0.7s,mb5.8
CBN *ep*P pP 21 55 21.1 +0.4
LTX Lajitas 39.45 323 *eP* **P 21 54 39.6 -0.2**
LTX *e* 21 56 45.0
LTX pmax pmax
comp=Z,49nm,0.8s,mb5.1
LTX Lajitas 39.45 323 *eP* **P 21 54 39.6 -0.1**
comp=Z,49nm,0.8s,mb5.1
LTX *e*PcP PcP 21 56 45.0 +0.7
LTX *e*ScP 22 00 15.8

TXAR Lajitas Array 39.45 323 P **P 21 54 39.4 -0.4**
comp=Z,36nm,0.7s,mb5.0,baz=146,slow=6.5,SNR=126
TXAR pP pP 21 55 20.8 -0.4
comp=Z,9.9nm,0.9s,baz=112,slow=9.7,SNR=1.5
TXAR PcP PcP 21 56 44.5 +0.3
comp=Z,14nm,0.6s,baz=155,slow=5.9,SNR=8.3
TXAR ScP 22 00 15.2
comp=Z,3.7nm,0.7s,baz=140,slow=7.2,SNR=4.5
TXAR LR LR 22 12 21.6
comp=Z,2μm,21.8s,baz=150,slow=38
TXAR PKP2ab 22 28 30.1
PARMO Parma 39.53 345 *eP* **P 21 54 39.8 -0.5**
PLCA Paso Flores 39.66 172 P **P 21 54 41.8 +0.3**
comp=Z,337nm,1.0s,mb5.7,baz=344,slow=9.6,SNR=209
PLCA PcP PcP 21 56 44.6 -0.2
comp=Z,40nm,0.7s,baz=332,slow=4.4,SNR=6.5
PLCA ScP 22 00 15.9
comp=Z,7.7nm,0.7s,baz=346,slow=6.9,SNR=5.6
PLCA S **S** **22 00 31.4 +1.5**
PLCA Paso Flores 39.66 172⇓ *iP* **P 21 54 41.3 -0.1**
PLCA *e* 21 56 43.8
PLCA pmax pmax
comp=Z,951nm,1.4s
PLCA Paso Flores 39.66 172⇓ *iP* **P 21 54 41.3 -0.1**
comp=Z,951nm,1.4s,mb6.0
PLCA *e*PcP PcP 21 56 43.8 -1.1
RPN Rapa Nui 39.76 227 P **P 21 54 42.0 -0.4**
comp=Z,192nm,1.0s,mb5.5,baz=24,slow=3.1,SNR=14
RPN Rapa Nui 39.76 227⇓ *iP* **P 21 54 42.2 -0.2**
comp=Z,548nm,1.4s,mb5.8
WCI Wyandotte Cave 40.25 349 P **P 21 54 44.9 -1.3**
WCI Wyandotte Cave 40.25 349⇑ *iP* **P 21 54 44.8 -1.4**
WCI *e**PP pP 21 55 26.4 -1.3
WCI pmax pmax
comp=Z,309nm,1.4s,mb5.5
WCI Wyandotte Cave 40.25 349⇑ *iP* **P 21 54 44.8 -1.4**
comp=Z,309nm,1.4s,mb5.5
WCI *ep*P pP 21 55 26.4 -1.3
WCI *e*ScP 22 00 17.2
SDMD Soldier's Deli 40.62 1⇑ *iP* **P 21 54 44.0 -5.3**
SDMD *ep*P pP 21 55 29.7 -1.1
SDMD *e*PcP PcP 21 56 42.9 -5.0
LPIG La Paz 40.65 311 *eP* **P 21 54 50.5 +0.8**
MCWV Mont Chateau 40.91 357⇑ *iP* **P 21 54 52.2 +0.6**
comp=Z,376nm,1.2s,mb5.7
FVM French Village 40.95 344 P **P 21 54 50.0 -2.0**
FVM pmax pmax
comp=Z,690nm,1.2s,mb6.0
FVM French Village 40.95 344⇑ *eP* **P 21 54 50.6 -1.4**
comp=Z,397nm,1.2s,mb5.7
FVM *ep*P pP 21 55 32.6 -1.0
WMOK Wichita Mounta 41.08 333 P **P 21 54 52.7 -0.3**
WMOK pmax pmax
comp=Z,170nm,1.0s,mb5.4
WMOK Wichita Mounta 41.08 333⇑ *eP* **P 21 54 52.6 -0.5**
comp=Z,174nm,1.0s,mb5.4
WMOK *e*PcP PcP 21 56 48.6 -0.8
WMOK *e*ScP 22 00 20.9
BLO Bloomington 41.20 349 P **P 21 54 52.8 -1.2**
BLO pmax pmax
comp=Z,190nm,0.6s,mb5.7
BLO Bloomington 41.20 349⇑ *eP* **P 21 54 52.7 -1.3**
comp=Z,191nm,0.6s,mb5.7
BLO *ep*P pP 21 55 34.6 -1.1
BLO *e*PcP PcP 21 56 48.9 -0.9
MVL Millersville 41.22 1 *eP* **P 21 54 54.3 +0.2**
MVL *ep*P pP 21 55 35.7 0.0
CCM Cathedral Cave 41.24 344 P **P 21 54 52.0 -2.4**
CCM pmax pmax
comp=Z,170nm,0.9s,mb5.5
CCM Cathedral Cave 41.24 344⇑ *iP* **P 21 54 52.7 -1.6**
comp=Z,174nm,0.8s,mb5.5
CCM *ep*P pP 21 55 34.7 -1.3
CCM *e*PcP PcP 21 56 49.4 -0.5
CCM *e*ScP 22 00 21.2
SLM Saint Louis 41.51 345 P **P 21 54 55.4 -1.2**
SLM pmax pmax
comp=Z,180nm,0.9s,mb5.5
SLM Saint Louis 41.51 345⇑ *iP* **P 21 54 55.1 -1.5**
comp=Z,178nm,0.9s,mb5.5
SLM *ep*P pP 21 55 37.6 -0.7
ACSO Alum Creek Sta 41.73 354⇑ *iP* **P 21 54 57.7 -0.6**
comp=Z,408nm,1.1s,mb5.8
ACSO *ep*P pP 21 55 39.4 -0.6
RCBR Riachuelo 41.82 97⇑ *eP* **P 21 54 58.6 -0.9**
comp=Z,101nm,3.1s
RCBR *e*PP PP 21 56 38.8 -2.7
BRNJ Basking Ridge 41.98 3⇑ *iP* **P 21 55 01.4 +1.0**
CPNY Central Park 42.12 4⇑ *iP* **P 21 55 01.7 +0.1**
MNTX Cornudas Mount 42.17 324 *eP* **P 21 55 02.4 +0.3**
comp=Z,150nm,1.0s,mb5.4
MNTX *ep*P pP 21 55 43.9 +0.1
MNTX *e*ScP 22 00 24.7
PAL Palisades 42.34 4 P **P 21 55 02.7 -0.6**
PAL pmax pmax
comp=Z,270nm,1.1s,mb5.6
PAL Palisades 42.34 4⇑ *iP* **P 21 55 03.5 +0.1**
comp=Z,266nm,1.1s,mb5.6
ALLY Alegheny Colle 42.91 357⇑ *iP* **P 21 55 07.7 -0.2**
ALLY *ep*P pP 21 55 49.9 +0.1
ERPA Erie 43.37 357 *eP* **P 21 55 10.9 -0.7**
comp=Z,274nm,0.7s,mb5.8
ERPA *ep*P pP 21 55 52.5 -1.0
BRYW Bryant College 43.47 7 *eP* **P 21 55 12.5 +0.1**
comp=Z,875nm,1.5s,mb6.0
QUA2 Belchertown 43.74 6⇑ *iP* **P 21 55 14.7 +0.2**
comp=Z,411nm,1.2s,mb5.6
AAM Ann Arbor 43.85 354 P **P 21 55 14.6 -0.8**
AAM pmax pmax
comp=Z,170nm,0.8s,mb5.4
AAM Ann Arbor 43.85 354⇑ *iP* **P 21 55 14.4 -1.0**
comp=Z,165nm,0.8s,mb5.4
AAM *e* 21 56 58.1
KSU1 Kansas State U 43.94 339 *eP* **P 21 55 15.0 -1.2**
WES Weston 43.95 7 P **P 21 55 16.3 0.0**
WES pmax pmax
comp=Z,590nm,1.2s,mb5.8
WES Weston 43.95 7⇑ *iP* **P 21 55 16.5 +0.3**
comp=Z,586nm,1.3s,mb5.8
CBKS Cedar Bluff 44.91 335 P **P 21 55 24.1 +0.2**
CBKS pmax pmax
comp=Z,310nm,0.7s,mb5.8
CBKS Cedar Bluff 44.91 335 *eP* **P 21 55 23.9 -0.1**
comp=Z,309nm,0.6s,mb5.8
CBKS *ep*P pP 21 56 05.9 -0.1
FFD Franklin Falls 44.99 6 *eP* **P 21 55 24.2 -0.2**
comp=Z,587nm,1.2s,mb5.8
ANMO Albuquerque 45.15 326 P **P 21 55 26.1 +0.2**
comp=Z,206nm,0.7s,mb5.6,baz=138,slow=8.6,SNR=172
ANMO *ep*P pP 21 56 08.5 +0.5
comp=Z,88nm,1.0s,baz=143,slow=9.7,SNR=3.3
ANMO ScP 22 00 37.6
comp=Z,7.0nm,0.9s,baz=138,slow=9.2,SNR=6.8
ANMO S **S** **22 01 52.5 +2.8**
comp=Z,0.5nm,0.3s,baz=29,slow=19,SNR=12
ANMO Albuquerque 45.15 326*d iP* **P 21 55 26.1 +0.2**
ANMO Albuquerque 45.15 326 *eP* **P 21 55 26.2 +0.3**
comp=Z,242nm,0.7s,mb5.6
ANMO *ep*P pP 21 56 08.9 +0.9
HNH Hanover 45.16 5⇑ *iP* **P 21 55 26.6 +0.8**
comp=Z,29nm,1.2s
NCB Newcomb 45.27 3⇑ *iP* **P 21 55 27.1 +0.4**
comp=Z,235nm,0.7s,mb5.6
MDV Middlebury 45.37 4 *eP* **P 21 55 27.0 -0.5**
MIV Mineville/With 45.42 4 *eP* **P 21 55 27.5 -0.4**
LBNH Lisbon 45.72 6 P **P 21 55 30.6 +0.3**
LBNH pmax pmax
comp=Z,510nm,1.1s,mb5.8
LBNH Lisbon 45.72 6⇑ *iP* **P 21 55 30.9 +0.6**
comp=Z,507nm,1.2s,mb5.7
LBNH *ep*P pP 21 56 12.6 +0.1
LOZ Lake Ozonia 45.90 3⇑ *iP* **P 21 55 31.7 0.0**
TUC Tucson 45.94 320 P **P 21 55 31.9 -0.2**
TUC pmax pmax
comp=Z,130nm,1.0s,mb5.2
TUC Tucson 45.94 320 *eP* **P 21 55 31.7 -0.4**
TUC *ep*P pP 21 56 17.8 +3.3
TUC *e*ScP 22 00 41.4
FRNY Flat Rock 46.17 4⇑ *iP* **P 21 55 34.3 +0.5**
FRNY *ep*P pP 21 56 16.6 +0.5
SDCO Great Sand Dun 46.73 329 *eP* **P 21 55 38.7 +0.5**
comp=Z,178nm,0.8s,mb5.5
SDCO *ep*P pP 21 56 22.1 +1.5

ISCO Idaho Springs 48.37 331 *eP* **P 21 55 51.0 +0.1**
comp=Z,48nm,0.8s,mb4.9
ISCO *e*PcP PcP 21 57 14.1 -0.6
WUAZ Wupatki 48.41 323 *eP* **P 21 55 51.5 +0.2**
comp=Z,348nm,1.0s,mb5.6
WUAZ *e*ScP 22 00 52.2
SMCO Snowmass 48.56 329 *eP* **P 21 55 53.5 +1.1**
comp=Z,70nm,0.9s,mb5.0
PV10 Paradox Valley 49.06 327 *eP* **P 21 55 56.0 -0.2**
PHWY Pilot Hill 49.47 332 *eP* **P 21 56 00.2 +1.0**
BAR Barrett 50.11 316 *eP* **P 21 56 04.3 +0.1**
SRU San Rafael 50.40 327 P **P 21 56 06.2 -0.1**
SRU pmax pmax
comp=Z,250nm,1.3s,mb5.4
SRU San Rafael 50.40 327 *eP* **P 21 56 05.7 -0.6**
comp=Z,11μm,1.7s
PFO Pinyon Flat Ob 50.49 317 P **P 21 56 07.4 +0.3**
PFO pmax pmax
comp=Z,97nm,1.2s,mb5.0
PFO Pinyon Flat Ob 50.49 317 *eP* **P 21 56 07.5 +0.3**
comp=Z,96nm,1.2s,mb5.0
RWWY Rawlins 50.59 331 *eP* **P 21 56 07.7 -0.1**
comp=Z,137nm,0.8s,mb5.4
EYMN Ely 50.62 348⇑ *iP* **P 21 56 05.8 -2.1**
comp=Z,176nm,0.8s,mb5.5
EYMN *ep*P pP 21 56 49.4 -1.7
EYMN *e*ScP 22 00 59.4
NEN Nelson 50.66 320 *eP* **P 21 56 07.7 -0.6**
NEN *ep*P pP 21 56 52.0 +0.6
TMUT Trail Mountain 50.90 326 *eP* **P 21 56 10.1 0.0**
MSU Marysvale 50.91 325 P **P 21 56 10.2 0.0**
MSU Marysvale 50.91 325 *eP* **P 21 56 10.3 +0.2**
MVU Marysvale 50.92 325⇑ *eP* **P 21 56 12.4 +2.1**
comp=Z,128nm,1.1s,mb5.3
RSSD Black Hills 51.11 336 *eP* **P 21 56 11.9 +0.3**
RSSD Black Hills 51.11 336 *eP* **P 21 56 11.6 -0.1**
RSSD *ep*P pP 21 56 54.9 0.0
ARUT Antelope Range 51.16 323 *eP* **P 21 56 12.8 +0.7**
ARUT Antelope Range 51.16 323 *eP* **P 21 56 11.8 -0.2**
MPU Maple Canyon 51.64 327 *eP* **P 21 56 14.9 -0.7**
comp=Z,111nm,0.9s,mb5.3
DAU Daniels Canyon 51.71 327 P **P 21 56 16.6 +0.4**
DAU Daniels Canyon 51.71 327 *eP* **P 21 56 16.2 0.0**
NLU North Lily Min 51.84 326 *eP* **P 21 56 16.7 -0.4**
MWC Mount Wilson 51.93 317 P **P 21 56 18.0 +0.1**
MWC Mount Wilson 51.93 317 *eP* **P 21 56 18.1 +0.2**
TCUT Toone Canyon 52.30 328 *eP* **P 21 56 20.0 -0.5**
TCUT *e*PcP PcP 21 57 28.6 -0.5
NOQ North Oquirrh 52.35 327 *eP* **P 21 56 21.3 +0.4**
comp=Z,126nm,0.9s,mb5.3
TPNV Topopah Spring 52.35 321 P **P 21 56 21.1 +0.2**
TPNV pmax pmax
comp=Z,170nm,1.0s,mb5.4
TPNV Topopah Spring 52.35 321 *eP* **P 21 56 21.0 +0.1**
comp=Z,168nm,0.9s,mb5.5
TPNV *e*ScP 22 01 09.3
DUG Dugway 52.42 326 P **P 21 56 21.3 -0.1**
DUG pmax pmax
comp=Z,330nm,1.3s,mb5.6
DUG Dugway 52.42 326 *eP* **P 21 56 21.2 -0.1**
comp=Z,327nm,1.4s,mb5.6
DUG *ep*P pP 21 57 05.5 +0.7
DUG *e*ScP 22 01 07.7
BW06 Boulder Array 52.55 331 *eP* **P 21 56 21.3 -1.0**
comp=Z,33nm,0.8s,mb4.8
PDAR Pinedale Array 52.55 331 P **P 21 56 21.7 -0.6**
comp=Z,27nm,0.7s,mb4.8,baz=131,slow=8.3,SNR=81
PDAR PcP PcP 21 57 28.9 -1.2
comp=Z,9.8nm,0.6s,baz=132,slow=6.5,SNR=6.9
PDAR ScP 22 01 08.4
comp=Z,2.9nm,0.8s,baz=180,slow=2.7,SNR=4.5
PDAR S **S** **22 03 34.4 +1.9**
comp=Z,0.9nm,0.8s,baz=101,slow=9.2,SNR=2.6
PDAR PKPPKP 22 26 53.5
comp=Z,0.7nm,0.8s,slow=1.5,SNR=3.8
PDAR P4KPbc 22 33 44.9
comp=Z,0.9nm,0.6s,baz=128,slow=4.2,SNR=9.1
PDAR Pinedale Array 52.55 331 P **P 21 56 21.7 -0.7**
PDAR PcP PcP 21 57 28.9 -1.2
PDAR ScP 22 01 08.4
PDAR S **S** **22 03 34.4 +1.9**
PDAR P'P' 22 26 53.5
EFI East Falkland 52.72 165 P **P 21 56 23.1 -0.3**
EFI pmax pmax
comp=Z,1μm,1.3s,mb6.2
HWUT Hardware Ranch 52.73 328 *eP* **P 21 56 22.7 -1.0**
comp=Z,265nm,1.3s,mb5.5
HWUT *e*PcP PcP 21 57 30.1 -0.6
HWUT *e*PP PP 21 58 19.7 -6.3
HWUT *e*ScP 22 01 09.3
DAC Darwin (Calif) 52.81 319 *eP* **P 21 56 23.9 -0.7**
DAC *e* 21 57 30.9
SPUT South Promonto 52.99 327 *eP* **P 21 56 25.4 -0.2**
SPUT *ep*P pP 21 57 09.0 0.0
BGU Big Grassy Mou 53.04 327 *eP* **P 21 56 25.4 -0.6**
AHID Auburn Hatcher 53.32 330 *eP* **P 21 56 26.6 -1.4**
comp=Z,92nm,0.9s,mb5.2
AHID *e*ScP 22 01 11.5
HVU Hansel Valley 53.49 328 P **P 21 56 28.7 -0.6**
HVU pmax pmax
comp=Z,61nm,0.8s,mb5.1
HVU Hansel Valley 53.49 328 *eP* **P 21 56 29.0 -0.3**
comp=Z,14nm,0.3s,mb4.9
REDW Red Top Meadow 53.63 330 *eP* **P 21 56 29.8 -0.5**
comp=Z,270nm,1.4s,mb5.6
REDW *ep*P pP 21 57 14.6 +0.7
SNOW Snow King Moun 53.65 330 *eP* **P 21 56 30.6 +0.1**
comp=Z,146nm,1.0s,mb5.5
LOHW Long Hollow 53.69 331 *eP* **P 21 56 30.1 -0.6**
comp=Z,65nm,0.8s,mb5.2
TPAW Teton Pass 53.77 330 *eP* **P 21 56 31.7 +0.4**
comp=Z,54nm,0.8s,mb5.1
USHA Ushuaia 53.78 173 P **P 21 56 31.3 +0.1**
comp=Z,187nm,0.8s,mb5.7,baz=337,slow=5.6,SNR=46
ULM Lac du Bonnet 53.79 346 P **P 21 56 29.0 -2.4**
comp=Z,108nm,0.7s,mb5.5,baz=157,slow=7.5,SNR=139
ULM pP pP 21 57 12.8 -2.1
comp=Z,20nm,0.7s,baz=189,slow=9.3,SNR=1.4
ULM ScP 22 01 13.3
comp=Z,7.8nm,0.8s,baz=199,slow=10,SNR=2.9
ULM S **S** **22 03 46.8 -2.3**
comp=Z,1.5nm,0.8s,baz=45,slow=19,SNR=1.7
ULM LR LR 22 20 32.9
comp=Z,1μm,18.6s,baz=36,slow=37
ULM PKPPKP 22 26 42.6
comp=Z,1.1nm,0.7s,baz=49,slow=2.9,SNR=3.0
ULM Lac du Bonnet 53.79 346 P **P 21 56 29.0 -2.4**
ULM pP pP 21 57 12.8 -2.1
ULM ScP 22 01 13.3
ULM S **S** **22 03 46.8 -2.3**
ULM LR LR 22 20 32.9
ULM P'P' 22 26 42.6
IMW Indian Meadow 54.06 331 *eP* **P 21 56 33.7 +0.3**
comp=Z,234nm,0.8s,mb5.8
LAO LASA Array 54.10 336 *eP* **P 21 56 34.0 +0.3**
comp=Z,124nm,1.2s,mb5.3
ELK Elko 54.16 325 P **P 21 56 33.8 -0.3**
comp=Z,12nm,0.3s,mb4.8,baz=114,slow=5.8,SNR=61
ELK PcP PcP 21 57 37.5 +1.4
comp=Z,8.9nm,0.9s,baz=129,slow=4.9,SNR=3.8
ELK ScP 22 01 15.5
comp=Z,15nm,1.0s,baz=121,slow=3.6,SNR=10
ELK S **S** **22 03 58.5 +4.4**
comp=Z,0.6nm,0.8s,baz=54,slow=19,SNR=5.2
ELK Elko 54.16 325 P **P 21 56 33.2 -0.9**
ELK pmax pmax
comp=Z,56nm,1.0s
ELK Elko 54.16 325 *eP* **P 21 56 34.0 -0.1**
comp=Z,56nm,1.0s,mb5.0
ELK *e*ScP 22 01 15.3
LKWY Lake 54.30 332 *eP* **P 21 56 32.6 -2.5**
LKWY pmax pmax
comp=Z,49nm,0.8s,mb5.1
LKWY Lake 54.30 332 *eP* **P 21 56 33.1 -2.0**
comp=Z,49nm,0.8s,mb5.1
YFT Old Faithful 54.42 331 *eP* **P 21 56 36.8 +0.8**
MNV Mina 54.45 321 P **P 21 56 36.0 -0.3**
MNV pmax pmax
comp=Z,140nm,1.4s,mb5.3
MNV Mina 54.45 321 *eP* **P 21 56 36.0 -0.4**
comp=Z,145nm,1.4s,mb5.3
MNV *e*ScP 22 01 16.7
NVAR Mina Array Bea 54.54 321 P **P 21 56 36.2 -0.8**
comp=Z,8.8nm,0.6s,baz=146,slow=6.5,SNR=126
NVAR pP pP 21 57 20.9 +0.3

comp=Z,23nm,0.9s,baz=128,slow=6.5,SNR=4.1
NVAR PcP PcP 21 57 37.3 -0.4
comp=Z,13nm,0.7s,baz=127,slow=5.0,SNR=5.8
NVAR ScP 22 01 17.2
comp=Z,2.3nm,0.7s,baz=129,slow=4.8,SNR=4.5
NVAR LR LR 22 21 27.1
comp=Z,563nm,21.1s,baz=115,slow=37
NVAR PKPPKP 22 26 39.8
comp=Z,0.7nm,0.8s,baz=17,slow=2.8,SNR=3.6
NVAR PKP2bc 22 26 57.9
comp=Z,1.5nm,1.0s,baz=215,slow=0.7,SNR=5.9
NVAR Mina Array Bea 54.54 321 P **P** **21 56 36.2 -0.8**
NVAR pP pP 21 57 20.9 +0.3
NVAR PcP PcP 21 57 37.3 -0.4
NVAR ScP 22 01 17.2
NVAR LR LR 22 21 27.1
NVAR P'P' 22 26 39.8
NVAR ⇑*e* 22 26 57.9
YMR Madison River 54.64 331 *e*P **P** **21 56 38.3 +0.7**
comp=Z,117nm,0.7s,mb5.5
DGMT Dagmar 54.78 339 *e*P **P** **21 56 38.2 -0.3**
comp=Z,79nm,0.8s,mb5.3
GCMT Greycliff 54.88 333 *e*P **P** **21 56 38.6 -0.7**
QLMT Earthquake Lak 54.99 331 *e*P **P** **21 56 40.0 -0.1**
LRV Little Rabbit 55.17 318 *e*P **P** **21 56 41.5 0.0**
HLID Hailey 55.60 328 *e*P **P** **21 56 44.2 -0.2**
comp=Z,39nm,0.8s,mb5.0
HLID *ep*P pP 21 57 28.5 +0.2
HLID *e*ScP 22 01 22.6
MCMT McKenzie Canyo 55.68 330 *e*P **P** **21 56 45.3 +0.3**
BOZ Bozeman (W) 55.68 332 P **P** **21 56 44.1 -0.9**
BOZ pmax pmax
comp=Z,500nm,1.7s,mb5.8
BOZ Bozeman (W) 55.68 332 *e*P **P** **21 56 43.9 -1.1**
comp=Z,500nm,1.7s,mb5.8
BOZ *ep*P pP 21 57 28.7 -0.2
DLMT Dillon 55.94 331 *e*P **P** **21 56 46.5 -0.4**
comp=Z,103nm,1.3s,mb5.2
HRY Holter Researc 56.56 332 *e*P **P** **21 56 51.3 +0.1**
EGMT Eagleton 56.63 335 *e*P **P** **21 56 51.1 -0.6**
comp=Z,165nm,1.3s,mb5.5
SCHQ Schefferville 56.74 7 P **P** **21 56 51.6 -0.9**
comp=Z,239nm,1.1s,mb5.7,baz=193,slow=5.6,SNR=114
SCHQ S **S** **22 04 29.5 +1.3**
comp=Z,2.6nm,0.7s,baz=356,slow=19,SNR=2.8
SCHQ Schefferville 56.74 7⇑*i*P **P** **21 56 51.4 -1.1**
comp=Z,538nm,1.2s,mb6.0
OHCM Honcut 57.09 320 *e*P **P** **21 56 54.4 -0.7**
WVOR Wild Horse Val 57.19 325 P **P** **21 56 55.1 -0.7**
WVOR pmax pmax
comp=Z,270nm,1.1s,mb5.8
WVOR Wild Horse Val 57.19 325 *e*P **P** **21 56 55.2 -0.6**
comp=Z,266nm,1.1s,mb5.6
NSHM Saint Helena R 57.37 319 *e*P **P** **21 56 56.7 -0.4**
CHMT Chamberlain Mo 57.38 332 *e*P **P** **21 56 57.1 +0.1**
MSO Missoula 57.65 331 *e*P **P** **21 56 57.8 -1.1**
comp=Z,88nm,1.3s,mb5.2
LBCM Butte Creek Ri 57.86 322 P **P** **21 56 59.6 -0.9**
BMO Blue Mountains 58.00 328 *e*P **P** **21 56 59.6 -1.8**
comp=Z,38nm,1.1s,mb4.9
KCPM Cahto Peak 58.64 319 *e*P **P** **21 57 05.7 -0.2**
KCPM *e*PcP PcP 21 57 53.2 -0.5
KIPM Iron Peak 58.64 320 *e*P **P** **21 57 05.8 0.0**
LNOR Lincton Mounta 59.19 328 P **P** **21 57 08.7 -0.9**
YBH Yreka Blue Hor 59.21 322 P **P** **21 57 08.0 -1.8**
comp=Z,44nm,0.9s,mb5.1,baz=110,slow=3.8,SNR=33
YBH pP pP 21 57 54.0 -0.3
comp=Z,21nm,1.0s,baz=77,slow=6.3,SNR=2.9
YBH LR LR 22 23 40.9
comp=Z,1μm,20.0s,baz=117,slow=37
KHMM Horse Mountain 59.38 321 *e*P **P** **21 57 10.8 -0.1**
KHMM *e*PcP PcP 21 57 56.5 0.0
RKT Rikitea 59.63 244 *e*P **P** **21 57 12.5 -0.4**
comp=Z,639nm,1.2s,mb6.1
RKT *ep*P pP 21 57 57.4 -0.1
comp=Z,216nm,1.2s
RKT Rikitea 59.63 244 *e*LR LR 22 15 05.0
comp=Z,3μm,27.8s
CROR Criterion Ridg 60.11 326 P **P** **21 57 16.2 +0.3**
HAWA Hanford 60.19 328 *e*P **P** **21 57 15.3 -1.0**
comp=Z,4.2nm,0.8s
NEW Newport 60.19 331 P **P** **21 57 15.4 -1.0**
NEW pmax pmax
comp=Z,70nm,0.8s
NEW Newport 60.19 331 *e*P **P** **21 57 15.3 -1.1**
comp=Z,70nm,0.8s,mb5.3
KBO Bosley Butte 60.42 322 *e*P **P** **21 57 18.1 +0.1**
MXC Moxie City 60.71 328 P **P** **21 57 20.3 +0.4**
KEBM Edson Butte 60.85 322 *e*P **P** **21 57 20.6 -0.2**
ADH Angra Heroismo 61.03 44 *i* LR LR 22 17 12.5
RNO Roman Nose 61.07 323 P **P** **21 57 22.1 -0.3**
FCC Fort Churchill 61.39 350 P **P** **21 57 21.8 -2.5**
FCC pmax pmax
comp=Z,210nm,1.0s,mb5.7
FCC Fort Churchill 61.39 350⇑*i*P **P** **21 57 22.1 -2.2**
comp=Z,212nm,1.0s,mb5.7
FCC *e*PcP PcP 21 58 04.2 -0.1
EDM Edmonton 62.07 337 P **P** **21 57 27.6 -1.3**
JCW Jim Creek 62.59 328 P **P** **21 57 31.4 -1.0**
TAOE Nuku Hiva Isla 62.68 261 *e*P **P** **21 57 33.0 -0.5**
comp=Z,1μm,1.1s,mb6.5
PGC Sidney 63.67 328 *e*P **P** **21 57 39.4 -0.1**
comp=Z,118nm,0.8s,mb5.6
PMSA Palmer Station 63.99 174 *e*P **P** **21 57 40.4 -0.9**
comp=Z,598nm,1.3s,mb6.1
CHIE El Hierro 64.10 58 P **P** **21 57 41.6 -1.0**
comp=Z,66nm,0.8s,mb5.3
EHIG Higuera 64.47 57 P **P** **21 57 43.3 -1.7**
comp=Z,466nm,1.3s,mb6.0
EGOM La Gomera 64.86 58 P **P** **21 57 44.7 -2.9**
comp=Z,535nm,1.8s,mb5.9
EBAJ Bajamar 65.70 58 P **P** **21 57 50.9 -2.0**
comp=Z,576nm,2.0s,mb5.9
EOSO Osorio 66.24 59 P **P** **21 57 54.7 -1.7**
comp=Z,752nm,2.4s,mb5.9
CFTV Fuerteventura 67.58 59 P **P** **21 58 02.9 -1.9**
comp=Z,91nm,1.7s,mb5.1
EFAM Famara 68.23 58 P **P** **21 58 08.2 -0.6**
comp=Z,826nm,1.8s,mb6.1
YKA Yellowknife Ar 69.57 343 P **P** **21 58 14.3 -2.0**
comp=Z,44nm,0.7s,mb5.2,baz=139,slow=5.8,SNR=536
YKA pP pP 21 59 00.0 -2.2
comp=Z,8.4nm,0.9s,baz=135,slow=4.4,SNR=0.9
YKA S S 22 07 05.7 -1.5
comp=Z,0.6nm,0.8s,baz=140,slow=40,SNR=2.5
YKA PKP2bc 22 26 17.7
comp=Z,2.0nm,1.1s,baz=317,slow=2.9,SNR=5.4
YKA P4KPbc 22 34 56.9
comp=Z,0.2nm,0.7s,baz=140,slow=4.3,SNR=6.7
YKA Yellowknife Ar 69.57 343 P **P** **21 58 14.3 -2.0**
YKA pP pP 21 59 00.1 -2.2
YKA S S 22 07 05.7 -1.5
YKA ⇑*e* 22 26 17.7
TRIS Tristan da Cun 69.57 129 *e*P **P** **21 58 16.2 -0.5**
YKW3 Yellowknife Ar 69.62 343⇑*i*P **P** **21 58 15.4 -1.2**
SFJD Kangerlussuaq 70.86 11⇑*i*P **P** **21 58 22.7 -1.4**
comp=Z,326nm,1.2s,mb5.8
SFJD *i* pP 21 59 06.5 -3.6
SFJD *i* S S 22 07 21.9 -0.2
SFJD *i* 22 08 07.7
SFJD *i* 22 12 10.3
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 70.86 11⇑*i*P **P** **21 58 22.7 -1.4**
SFJD *i* pP 21 59 06.5 -3.6
SFJD *i* S S 22 07 21.9 -0.2
SFJD *i* 22 08 07.7
SFJD pmax pmax
comp=Z,330nm,1.2s,mb5.8
SFJD MLR MLR
comp=Z,2μm,21.0s
TVO Taravao 72.12 252 *e*P **P** **21 58 33.0 +0.6**
comp=Z,413nm,1.2s,mb5.9
PPT Papeete 72.41 252 *e*P **P** **21 58 34.8 +0.7**
comp=Z,182nm,1.2s,mb5.6
PPT Papeete 72.41 252 *e*LR LR 22 20 47.6
comp=Z,6μm,36.5s
PPT Papeete 72.41 252 P **P** **21 58 35.0 +1.0**
comp=Z,92nm,0.8s,mb5.5,baz=82,slow=7.0,SNR=11
PAE Paea 72.42 252 *e*P **P** **21 58 34.7 +0.6**
comp=Z,608nm,1.1s,mb6.2
DLBC Dease Lake 72.55 334 P **P** **21 58 34.4 +0.2**
comp=Z,42nm,0.8s,mb5.1,baz=121,slow=5.3,SNR=49
DLBC pP pP 21 59 20.2 -0.3
comp=Z,25nm,1.0s,baz=110,slow=6.5,SNR=3.0
DLBC Dease Lake 72.55 334 P **P** **21 58 34.4 +0.2**
DLBC pP pP 21 59 20.2 -0.3
TBI Tubuai 72.81 246 *e*P **P** **21 58 37.0 +0.5**
comp=Z,306nm,1.2s,mb5.8
TBI Tubuai 72.81 246 *e*LR LR 22 21 39.4
comp=Z,2μm,27.5s
LIC Lamto 72.83 83⇑*i*P **P** **21 58 35.2 -1.6**
comp=Z,2μm,1.3s,mb6.3
LIC *e*R
comp=Z,2μm,23.0s
DBIC Dimbokro 73.03 83 P **P** **21 58 36.5 -1.4**
comp=Z,352nm,0.7s,mb6.1,baz=252,slow=4.7,SNR=243
DBIC S S 22 07 48.7 +1.1
comp=Z,5.9nm,0.9s,baz=144,slow=19,SNR=12
DBIC Dimbokro 73.03 83 *e*P **P** **21 58 36.4 -1.5**
DBIC pmax pmax
comp=Z,980nm,1.1s
DBIC Dimbokro 73.03 83 *e*P **P** **21 58 36.4 -1.5**
comp=Z,980nm,1.1s,mb6.3
LIS Lisbon 74.20 49 *e*P **P** **21 58 42.2 -2.1**
LIS *e*S S 22 07 58.6 -1.6
LIS *e*S S 22 07 58.9 -1.3
LIS AMS AMS 22 26 29.9
comp=E,1μm,17.9s
MORF Marmelete 74.23 51 *e*P **P** **21 58 44.2 -0.2**
MORF *e*S S 22 08 00.6 0.0
MORF *e*S S 22 08 01.9 +1.4
MORF AMS AMS 22 26 31.4
comp=Z,811nm,17.4s
PTEO Sao Teotonio 74.23 50 *e*P **P** **21 58 43.9 -0.6**
comp=Z,160nm,1.6s,mb5.4
PTEO *ep*P pP 21 59 31.1 +0.3
PLOU Loures 74.25 49 *e*P **P** **21 58 45.6 +1.1**
comp=Z,166nm,1.3s,mb5.5
PLOU *ep*P pP 21 59 30.8 -0.1
PTOM Tomar 74.99 48 *e*P **P** **21 58 47.2 -1.5**
comp=Z,127nm,1.8s,mb5.2
PTOM *ep*P pP 21 59 34.8 -0.4
PBEJ Beja 75.01 50 *e*P **P** **21 58 48.3 -0.6**
comp=Z,105nm,1.7s,mb5.2
PBEJ *ep*P pP 21 59 34.7 -0.6
EVO Evora 75.02 50⇑*i*P **P** **21 58 47.5 -1.4**
comp=Z,174nm,1.2s,mb5.2
EVO *ep*P pP 21 59 33.3 -2.1
EVO *e*R
comp=Z,2μm,21.0s
EGRO El Granado 75.19 51 P **P** **21 58 48.9 -1.0**
comp=Z,356nm,1.9s,mb5.7
EZAM Zamans 75.44 46 P **P** **21 58 49.9 -1.3**
comp=Z,6.3nm,0.4s,mb4.6
EMAZ Mazaricos 75.45 45 P **P** **21 58 49.0 -2.3**
comp=Z,161nm,1.8s,mb5.3
PVIS Viseu 75.65 47 *e*P **P** **21 58 51.4 -1.0**
comp=Z,128nm,1.3s,mb5.4
PVIS *ep*P pP 21 59 38.6 -0.3
STS Santiago 75.74 45 P **P** **21 58 51.6 -1.2**
comp=Z,9.3nm,0.6s,mb4.6
PCBR Castelo Branco 75.74 48 *e*P **P** **21 58 51.7 -1.2**
comp=Z,137nm,1.5s,mb5.4
PCBR *ep*P pP 21 59 38.9 -0.6
PCAB Cabril 75.80 46 *e*P **P** **21 58 51.6 -1.6**
comp=Z,76nm,1.8s,mb5.0
PCAB *ep*P pP 21 59 38.5 -1.3
ELOB Lobios 75.82 46 P **P** **21 58 52.4 -0.9**
comp=Z,230nm,1.8s,mb5.5
MTE Manteigas 75.83 48 *e*P **P** **21 58 51.6 -1.8**
comp=Z,81nm,1.3s,mb5.2
MTE *ep*P pP 21 59 39.4 -0.6
MTE *e*S S 22 08 17.8 -0.2
MTE Manteigas 75.83 48 *e*LQ 22 19 13.5
MTE *e*LR LR 22 23 33.5
comp=Z,1μm,18.7s
EBAD Badajoz 75.83 50 P **P** **21 58 50.4 -3.1**
comp=Z,232nm,2.0s,mb5.5
EMIN Mina Concepcio 75.87 51 P **P** **21 58 51.6 -2.1**
comp=Z,312nm,2.2s,mb5.5
PVRL Vila Real 75.92 47 *e*P **P** **21 58 52.8 -1.1**
comp=Z,98nm,1.9s,mb5.1
PVRL *ep*P pP 21 59 40.2 -0.3
ESPR Espera 76.31 52 P **P** **21 58 55.0 -1.1**
comp=Z,282nm,1.5s,mb5.7
MDT Midelt 76.51 56 S S 22 08 28.7 +3.2
comp=Z,1.2nm,0.8s,baz=284,slow=17,SNR=1.9
EJIF Jimena Fronter 76.52 52 P **P** **21 58 57.1 -0.2**
comp=Z,109nm,1.4s,mb5.3
ERUA La Rua 76.61 46 P **P** **21 58 56.5 -1.2**
comp=Z,59nm,1.4s,mb5.0
RES Resolute Bay 76.69 355⇑*i*P **P** **21 58 56.4 -1.1**
comp=Z,104nm,1.4s,mb5.3
ECAL Calabor 76.80 46 P **P** **21 58 56.7 -2.0**
comp=Z,396nm,2.1s,mb5.7
EPON Pontenova 76.84 45 P **P** **21 58 56.8 -2.1**
comp=Z,375nm,1.6s,mb5.8
EMIJ Mijas 77.09 52 P **P** **21 58 59.5 -1.1**
comp=Z,296nm,1.7s,mb5.6
BORG Borgarnes 77.52 21 *e*P **P** **21 59 03.0 +0.7**
comp=Z,548nm,1.4s,mb6.0
EADA Adamuz 77.57 51 P **P** **21 59 02.1 -0.9**
comp=Z,405nm,2.0s,mb5.7
ELUQ Luque 77.69 51 P **P** **21 59 03.1 -0.7**
comp=Z,150nm,1.5s,mb5.3
ELOJ Sierra Loja 77.70 52 P **P** **21 59 03.6 -0.2**
comp=Z,162nm,1.2s,mb5.5
SUMG Summit 77.85 11 *e*P **P** **21 59 03.8 -0.2**
comp=Z,1μm,1.1s,mb6.4
SUMG *ep*P pP 21 59 50.9 +0.1
ERON Agron 77.94 52 P **P** **21 59 05.3 +0.1**
comp=Z,33nm,0.8s,mb5.0
EBAN Banos Encina 78.18 51 P **P** **21 59 05.4 -1.1**
comp=Z,12nm,0.6s,mb4.7
ECOG Cogollos-Vega 78.18 52 P **P** **21 59 06.1 -0.4**
comp=Z,64nm,0.6s,mb5.4
EARI Arriondas 78.21 45 P **P** **21 59 04.4 -2.0**
comp=Z,676nm,2.5s,mb5.8
ESDC Sonseca Array 78.34 49 P **P** **21 59 06.5 -0.8**
comp=Z,19nm,0.9s,mb4.7,baz=261,slow=5.6,SNR=59
ESDC pP pP 21 59 53.8 -0.4
comp=Z,61nm,1.1s,baz=258,slow=5.4,SNR=9.5
ESDC S S 22 08 46.5 +1.5
comp=Z,0.4nm,0.7s,baz=346,slow=16,SNR=2.9
ESDC PKPPKP 22 26 05.8
comp=Z,1.0nm,0.8s,baz=50,slow=2.4,SNR=7.0
ESDC Sonseca Array 78.34 49 P **P** **21 59 05.3 -2.0**
comp=Z,136nm,1.8s,mb5.3
GUD Guadarrama 78.40 48 P **P** **21 59 07.1 -0.4**
comp=Z,30nm,0.8s,mb5.0
EBER Berja 78.64 52 P **P** **21 59 07.8 -1.2**
comp=Z,674nm,1.7s,mb6.0
EQES Quesada 78.67 51 P **P** **21 59 08.0 -1.0**
comp=Z,811nm,1.9s,mb6.0
EHUE Huescar 79.04 51 P **P** **21 59 10.8 -0.3**
comp=Z,160nm,1.2s,mb5.5
EVIA Vianos 79.26 50 P **P** **21 59 12.1 -0.2**
comp=Z,139nm,0.9s,mb5.6
INK Inuvik 79.30 342 P **P** **21 59 11.9 +0.1**
comp=Z,149nm,0.9s,mb5.6,baz=112,slow=5.8,SNR=289
INK Inuvik 79.30 342*e*P **P** **21 59 12.4 +0.5**
comp=Z,199nm,0.9s,mb5.7
ELAN Lanestosa 79.46 46 P **P** **21 59 11.9 -1.3**
comp=Z,598nm,2.3s,mb5.8
DCN Croghan 79.49 35 *e*P **P** **21 59 12.6 -0.5**
DCN Croghan 79.49 35 *e*P pP 21 59 59.4 -0.8
CCA1 Carnmenellis 79.86 38⇑*e*P **P** **21 59 14.8 -0.3**
CGH1 Goonhilly 79.86 39⇑*e*P **P** **21 59 15.3 +0.1**
CRQ2 Rosemanowes 2 79.89 39⇑*e*P **P** **21 59 15.6 +0.3**
CRQ2 AMb AMb 21 59 18.1
comp=Z,222nm,1.0s,mb5.7
DLF Lyons Farm 79.90 35 *e*P **P** **21 59 14.5 -0.8**
DLF Lyons Farm 79.90 35 *e*P pP 21 59 59.9 -2.5
DSB Dublin 79.98 35 *e*P **P** **21 59 15.5 -0.3**
comp=Z,349nm,2.0s,mb5.6
ETOB Tobarra 80.00 51 P **P** **21 59 16.4 +0.2**
comp=Z,713nm,1.9s,mb6.0
ECRI Cripan 80.00 46 P **P** **21 59 19.4 +3.2**
comp=Z,109nm,1.2s,mb5.4
EMUR La Murta 80.10 51 P **P** **21 59 14.2 -2.6**
comp=Z,58nm,0.9s,mb5.2
CSA1 St Austell 80.11 38 *e*P **P** **21 59 16.7 +0.2**
SCO Scoresbysund 80.40 16 *i* P **P** **21 59 17.1 -0.6**
comp=Z,83nm,0.8s,mb5.4
SCO *i* S S 22 09 09.1 +3.2
GMM Mts of Mourne 80.49 34 *e*P **P** **21 59 18.6 +0.2**
HTL Hartland 80.52 38 *e*P **P** **21 59 19.0 +0.3**
MENT Mentasta 80.60 335 *e*P **P** **21 59 19.0 +0.2**
ECHE Chera 80.60 50 P **P** **21 59 20.0 +0.7**
comp=Z,303nm,0.6s,mb6.1
GCL Cushendall 80.62 34⇑*e*P **P** **21 59 18.7 -0.5**
QUIF Quistinic 80.64 41⇑*i*P **P** **21 59 18.9 -0.5**
QUIF *ep*P pP 22 00 05.8 -0.8
ROSF Rostrenen 80.67 41⇑*i*P **P** **21 59 19.2 -0.3**
EALK Alkurruntz 80.84 46 P **P** **21 59 20.6 0.0**
comp=Z,586nm,2.2s,mb5.8
DIV Divide 80.85 333 *e*P **P** **21 59 20.3 +0.1**
comp=Z,147nm,1.0s,mb5.6
HSA Swansea 80.90 37 *e*P **P** **21 59 20.9 +0.2**
HEX Exmoor 80.95 38 *e*P **P** **21 59 21.1 +0.1**
GMK Mull of Kintyr 81.00 38⇑*e*P **P** **21 59 21.0 -0.1**
OSSF Osses 81.02 46 *e*P **P** **21 59 20.9 -0.6**
YRC Rhoscolyn 81.02 36⇑*e*P **P** **21 59 20.7 -0.6**
YRC AMb AMb 21 59 25.4
comp=Z,225nm,1.5s,mb5.6
SJPF Ste Jean 81.03 46⇑*i*P **P** **21 59 21.7 +0.2**
comp=Z,153nm,1.1s,mb5.2
SJPF *ep*P pP 22 00 08.3 -0.4
EBEN Beniarda 81.03 51 P **P** **21 59 22.1 +0.5**
comp=Z,574nm,1.9s,mb5.9
YRE Yr Eifl 81.04 36⇑*e*P **P** **21 59 21.7 +0.3**
YRE AMb AMb 21 59 25.7
comp=Z,549nm,1.9s,mb5.9
WCB1 Church Bay 81.07 35 *e*P **P** **21 59 21.3 -0.2**
WCB1 AMb AMb 21 59 24.6
comp=Z,222nm,1.7s,mb5.5
EMOS Mosqueruela 81.11 49 P **P** **21 59 22.6 +0.6**
comp=Z,136nm,1.0s,mb5.5
SGMF Saint Gilles 81.11 41⇑*i*P **P** **21 59 21.2 -0.7**
comp=Z,312nm,1.3s,mb5.5
WLF1 Llynfaes 81.14 36 *e*P **P** **21 59 21.2 -0.7**
WLF1 AMb AMb 21 59 25.0
comp=Z,203nm,1.7s,mb5.5
WIM Isle of Man 81.19 35⇑*e*P **P** **21 59 21.6 -0.6**
WIM AMb AMb 21 59 25.5
comp=Z,337nm,2.0s,mb5.6
WME Myndd Eilian 81.22 35 *e*P **P** **21 59 21.6 -0.7**
ORDF Ordiarp 81.25 46 *e*P **P** **21 59 22.1 -0.6**
ESAC San Caprasio 81.33 48 P **P** **21 59 22.8 -0.4**
comp=Z,875nm,1.9s,mb6.1
GAL1 Galloway 81.36 34⇑*e*P **P** **21 59 23.1 +0.1**
ATE Arette 81.40 46 *e*P **P** **21 59 23.4 -0.1**
LRYF La Roche-sur-Y 81.45 43 *e*P **P** **21 59 22.8 -0.8**
ETSF Etsaut 81.47 46⇑*i*P **P** **21 59 24.4 +0.6**
comp=Z,399nm,1.6s,mb5.5
HTR Trewern Hill 81.51 37⇑*e*P **P** **21 59 23.9 0.0**
HTR AMb AMb 21 59 26.1
comp=Z,227nm,1.4s,mb5.6
REYF Montagne du Re 81.62 46 *e*P **P** **21 59 24.1 -0.5**
MCH1 Michaelchurch 81.66 37⇑*e*P **P** **21 59 24.5 -0.1**
EANR 'Ain N'Sour 81.67 54 P **P** **21 59 26.0 +1.0**
SSP1 Stoney Pound 81.69 37⇑*e*P **P** **21 59 24.6 -0.1**
SSP1 AMb AMb 21 59 27.8
comp=Z,179nm,1.8s,mb5.4
VNA3 Neumayer Olymp 81.69 162 *e* **P** **21 59 29.5 +5.1**
VNA3 Neumayer Olymp 81.69 162 *e* pP 22 00 10.9 -0.8
VNA3 Neumayer Olymp 81.69 162 *e* sP 22 00 28.5 -3.5
VNA3 Neumayer Olymp 81.69 162⇓*i*PKPdf **P** **21 59 24.1 -0.3**
VNA3 *e* 21 59 29.5
VNA3 *e* pP 22 00 10.9 -0.8
VNA3 *e* 22 00 28.5
VNA3 *e* 22 02 33.7
VNA3 *e* 22 05 36.6
VNA3 *e*S S 22 09 20.4 +1.4
VNA3 *e* 22 09 25.4
VNA3 *e* 22 09 36.1
VNA3 *e* 22 16 36.3
VNA3 *e* 22 17 54.4
VNA3 *e* 22 20 59.1
HGH Gray Hill 81.69 37⇑*e*P **P** **21 59 24.8 0.0**
HGH AMb AMb 21 59 27.2
comp=Z,287nm,1.4s,mb5.7
SBD1 Bryn Du 81.71 36⇑*e*P **P** **21 59 24.6 -0.2**
ETRT Tiaret 81.76 54 P **P** **21 59 27.0 +1.5**
ERTA Horta de San J 81.81 48 P **P** **21 59 25.2 -0.4**
comp=Z,482nm,1.4s,mb5.9
HLM1 Long Mynd 81.84 37⇑*e*P **P** **21 59 25.5 0.0**
HLM1 AMb AMb 21 59 27.9
comp=Z,269nm,1.4s,mb5.7
EAB Aberfoyle 81.90 33 *e*P **P** **21 59 25.6 -0.1**
EAB AMb AMb 21 59 27.9
comp=Z,202nm,1.3s,mb5.6
EBR Ebro Roquetas 81.91 49 *e*P **P** **21 59 27.0 +0.9**
EBR *e*Ts pP 22 00 11.5 -1.9
ECHA Ech Chlef 81.91 53 P **P** **21 59 28.0 +1.8**
VNA1 Neumayer--Stat 81.92 162 *e* **P** **21 59 29.7 +4.1**
VNA1 Neumayer--Stat 81.92 162 *e* **P** **21 59 32.7 +7.1**
VNA1 Neumayer--Stat 81.92 162⇑*i*PKPdf **P** **21 59 25.9 +0.3**
VNA1 *e* 21 59 29.7
VNA1 *e* 21 59 32.7
VNA1 *e* 22 02 37.8
SWK Warminster 81.93 38 *e*P **P** **21 59 26.3 +0.3**
EBIE Bielsa 81.94 47 P **P** **21 59 25.5 -0.7**
comp=Z,861nm,2.3s,mb6.0
LABF Labassere 81.95 46 *e*P **P** **21 59 26.6 +0.3**
XDE Dent Fell 81.95 35⇑*e*P **P** **21 59 26.1 +0.1**
XDE AMb AMb 21 59 30.4
comp=Z,233nm,1.5s,mb5.6
EGRA Graus 81.99 47 P **P** **21 59 26.7 +0.2**
comp=Z,209nm,1.1s,mb5.7
LCHF La Chataignera 82.01 43 *e*P **P** **21 59 26.8 +0.3**
EBNR Beni Rached 82.06 53 P **P** **21 59 29.0 +2.0**
CDU1 Dunnerdale 82.08 35⇑*e*P **P** **21 59 27.0 +0.3**
RESF Ens 82.10 47 *e*P **P** **21 59 27.7 +0.6**
EPF Esparros 82.14 46⇑*i*P **P** **21 59 27.7 +0.5**
comp=Z,1μm,1.7s,mb5.9
MATF Mathat 82.17 44 *e*P **P** **21 59 28.6 +1.3**
CKE Keswick 82.19 34⇑*e*P **P** **21 59 27.6 +0.3**
RAR Rarotonga 82.21 249 P **P** **21 59 28.7 +0.7**
comp=Z,33nm,1.1s,mb4.9,baz=153,slow=3.8,SNR=12
SML Sawmill 82.23 333 *e*P **P** **21 59 27.1 -0.3**
GRR Gorron 82.25 41⇑*i*P **P** **21 59 27.4 -0.3**
comp=Z,438nm,1.3s,mb5.6
SWN1 Swindon 82.28 38 *e*P **P** **21 59 27.9 +0.1**
VNA2 Neumayer--Watz 82.28 162 *e* **P** **21 59 32.0 +4.6**
VNA2 Neumayer--Watz 82.28 162 *e* **P** **21 59 34.4 +7.0**
VNA2 Neumayer--Watz 82.28 162 *e* pP 22 00 14.3 -0.5
VNA2 Neumayer--Watz 82.28 162 *e* sP 22 00 34.6 -0.5
VNA2 Neumayer--Watz 82.28 162⇑*i*PKPdf **P** **21 59 27.3 -0.1**
VNA2 *e* 21 59 32.0
VNA2 *e* 21 59 34.4
VNA2 *e* pP 22 00 14.3 -0.5
VNA2 *e* 22 00 34.6
VNA2 *e* 22 02 38.8
VNA2 *e* 22 05 37.5
VNA2 *e*S S 22 09 26.2 +1.2
VNA2 *e* 22 09 29.6
VNA2 *e* 22 09 40.9
VNA2 *e* 22 10 15.4
VNA2 *e* 22 10 47.9
VNA2 *e* 22 16 35.7
VNA2 *e* 22 17 53.5
VNA2 *e* 22 20 59.4
EIBI Ibiza 82.29 50 P **P** **21 59 25.7 -2.4**
comp=Z,664nm,2.3s,mb5.9
EAU Auchinoon 82.30 33 *e*P **P** **21 59 27.6 -0.2**
EAU AMb AMb 21 59 32.7
comp=Z,377nm,1.6s,mb5.8
FTO Torshavn 82.31 27 *e*P **P** **21 59 27.9 +0.2**
ESK Eskdalemuir 82.31 34⇑*e*P **P** **21 59 27.8 0.0**
ESK AMb AMb 21 59 32.0
comp=Z,252nm,1.8s,mb5.6
ESK Eskdalemuir 82.31 34 *e*P **P** **21 59 27.6 -0.2**
ESK *ep*P pP 22 00 15.4 +0.2
EKA Eskdalemuir Ar 82.34 34 PKKPbc 22 17 53.9
comp=Z,1.2nm,0.9s,baz=45,slow=1.2,SNR=3.5
SSW Stow on the Wo 82.34 37 *e*P **P** **21 59 28.4 +0.3**
MFF Saint Martin d 82.40 43⇑*i*P **P** **21 59 28.6 +0.1**
comp=Z,770nm,1.3s,mb5.9
MFF *ep*P pP 22 00 15.3 -0.6
MELF Melles 82.42 47 *e*P **P** **21 59 28.8 +0.1**
EPOB Poblet 82.42 48 P **P** **21 59 27.3 -1.4**
comp=Z,587nm,1.9s,mb5.9
EDI Edinburgh 82.46 33⇑*e*P **P** **21 59 28.1 -0.5**
EDI AMb AMb 21 59 30.9
comp=Z,218nm,1.4s,mb5.6
EBL Broad Law 82.50 33⇑*e*P **P** **21 59 28.2 -0.6**
EBL AMb AMb 21 59 33.1
comp=Z,226nm,1.7s,mb5.6
PMR Palmer 82.53 333 *e*P **P** **21 59 28.7 -0.2**
comp=Z,41nm,0.7s,mb5.3
PMR LR LR
comp=Z,2μm,19.0s
ILAR Eielson Array 82.56 336 P **P** **21 59 28.4 -0.6**

comp=Z,64nm,0.9s,mb5.4,baz=121,slow=3.1,SNR=181
ILAR PP PP 22 02 39.3 -3.4
comp=Z,8.0nm,1.0s,baz=103,slow=6.8,SNR=4.6
ILAR S S 22 09 31.1 +3.2
comp=Z,0.4nm,1.0s,baz=207,slow=2.0,SNR=3.5
ILAR PKKPbc 22 17 52.2
comp=Z,1.2nm,0.5s,baz=283,slow=3.4,SNR=11
ILAR LR LR 22 41 13.2
comp=Z,607nm,18.6s,baz=116,slow=39
FLN La Foliniere 82.57 41⇑ *iP* **P 21 59 29.3 0.0**
comp=Z,225nm,0.8s,mb5.6
FLN *eR*
comp=Z,737nm,22.0s
KWE Weaver Farm 82.57 36⇑ *eP* **P 21 59 29.7 +0.4**
LHO Holmfirth 82.68 36⇑ *eP* **P 21 59 30.3 +0.5**
MLS Moulis 82.68 47 *eP* **P 21 59 30.1 +0.1**
SLKM Skilak Lake 82.73 332 P **P 21 59 29.9 0.0**
SLKM Skilak Lake 82.73 332 *eP* **P 21 59 29.7 -0.2**
LFF La Frestale 82.73 45⇑ *iP* **P 21 59 30.4 +0.1**
comp=Z,513nm,1.1s,mb5.9
LFF *epP* pP 22 00 16.9 -0.8
LDF La Druitiere 82.77 41⇑ *iP* **P 21 59 30.2 -0.2**
comp=Z,591nm,1.3s,mb5.9
LDF *epP* pP 22 00 17.0 -0.8
KBI1 Birley Grange 82.81 36⇑ *eP* **P 21 59 30.7 +0.3**
EMIR Miracle 82.84 48 P **P 21 59 29.8 -1.0**
comp=Z,1μm,1.9s,mb6.3
FIB Fire Island 82.89 332 P **P 21 59 31.2 +0.5**
FIB pmax pmax
comp=Z,120nm,0.7s,mb5.7
FIB Fire Island 82.89 332 *eP* **P 21 59 30.6 -0.2**
comp=Z,120nm,0.7s,mb5.7
SKP1 Kophill 82.92 38⇑ *eP* **P 21 59 30.3 -0.8**
COLA College 82.98 336 P **P 21 59 30.9 -0.3**
COLA pmax pmax
comp=Z,71nm,0.9s,mb5.4
COLA College 82.98 336 *eP* **P 21 59 30.4 -0.8**
comp=Z,71nm,0.8s,mb5.5
COLA *epP* pP 22 00 18.2 -0.4
MCK McKinley 83.08 335 P **P 21 59 31.5 -0.2**
MCK pmax pmax
comp=Z,39nm,0.8s,mb5.2
MCK McKinley 83.08 335 *eP* **P 21 59 31.1 -0.6**
comp=Z,40nm,0.8s,mb5.2
EMHD Djebel Mahouad 83.19 53 P **P 21 59 34.0 +1.2**
KDAK Kodiak Island 83.22 329 P **P 21 59 30.9 -1.6**
comp=Z,13nm,0.8s,mb4.7,baz=109,slow=11,SNR=7.2
KDAK Kodiak Island 83.22 329 P **P 21 59 30.9 -1.6**
RJF Les Rejaudoux 83.33 44⇑ *iP* **P 21 59 33.2 -0.1**
comp=Z,625nm,1.3s,mb5.9
CARF Carcanieres 83.38 47 *eP* **P 21 59 34.4 +0.8**
ETOS Mallorca 83.52 50 P **P 21 59 33.6 -0.8**
comp=Z,734nm,1.7s,mb6.1
MTLF Montolieu 83.55 46⇑ *iP* **P 21 59 34.2 -0.3**
comp=Z,893nm,1.5s,mb6.0
MTLF *epP* pP 22 00 21.0 -0.9
CAF Calviac 83.66 45⇑ *iP* **P 21 59 34.9 -0.1**
comp=Z,948nm,1.6s,mb6.0
FILF Fillols 83.69 47 *eP* **P 21 59 35.3 +0.1**
LRDF Laroque-de-Fa 83.72 47 *eP* **P 21 59 34.9 -0.5**
SNAA Sanae 83.90 162 *e* **P 21 59 39.3 +3.7**
SNAA Sanae 83.90 162 *e* **P 21 59 42.5 +6.9**
SNAA Sanae 83.90 162 *e* pP 22 00 22.1 -1.0
SNAA Sanae 83.90 162 *e* sP 22 00 42.8 -0.7
SNAA Sanae 83.90 162 *e* PP 22 02 51.5 -1.7
SNAA Sanae 83.90 162 *eS* S 22 09 42.2 +1.0
SNAA Sanae 83.90 162 S S 22 09 42.1 +0.9
comp=Z,1.1nm,1.0s,baz=221,slow=19,SNR=7.1
SNAA Sanae 83.90 162 *i P* **P 21 59 35.3 -0.3**
SNAA Sanae 83.90 162 ⇓*i*PKPdf **P 21 59 35.7 +0.1**
SNAA *e* 21 59 39.3
SNAA *e* 21 59 42.5
SNAA *e* pP 22 00 22.1 -1.0
SNAA *e* 22 00 42.8
SNAA *e* 22 02 51.5
SNAA *e* 22 05 59.0
SNAA *eS* S 22 09 42.2 +1.0
SNAA *e* 22 09 45.4
SNAA *e* 22 09 55.3
SNAA *e* 22 10 41.2
EJON La Jonquera 83.91 47 P **P 21 59 35.5 -0.9**
comp=Z,699nm,1.8s,mb6.1
TCF Toulx Ste Croi 83.96 43⇑ *iP* **P 21 59 36.2 -0.3**
comp=Z,494nm,1.5s,mb5.7
TCF *epP* pP 22 00 23.0 -1.0
VERF Verneugheol 84.07 44 *eP* **P 21 59 36.9 -0.1**
FRNF Fournols 84.08 44 *eP* **P 21 59 37.4 +0.3**
WAL1 Walls 84.28 29 *eP* **P 21 59 37.5 -0.2**
HYF Humbligny 84.39 42 *eP* **P 21 59 38.7 +0.1**
BGF Bois d'Agland 84.43 43⇑ *iP* **P 21 59 38.7 -0.1**
comp=Z,876nm,1.3s,mb6.0
BGF *epP* pP 22 00 25.6 -0.8
LBL Lubilhac 84.53 44 *eP* **P 21 59 39.4 0.0**
AGO Saint Agoulin 84.56 44 *eP* **P 21 59 38.9 -0.6**
JMIC Jan Mayen 84.60 18 *e* 22 09 43.6
JMIC *e* 22 09 49.5
JMIC Jan Mayen 84.60 18 *eP* **P 21 59 41.0 +1.9**
AVF Avril sur Loir 84.81 43⇑ *iP* **P 21 59 40.1 -0.6**
comp=Z,459nm,1.4s,mb5.7
AVF *epP* pP 22 00 27.1 -1.2
LASF Ste Croix 84.82 46⇑ *iP* **P 21 59 41.2 +0.4**
comp=Z,534nm,1.5s,mb5.8
COLF Collangettes 84.88 44 *eP* **P 21 59 41.4 +0.3**
PLDF La Plantade 84.89 44 *eP* **P 21 59 41.0 -0.1**
SSF Saint Saulge 84.95 43⇑ *iP* **P 21 59 40.7 -0.7**
comp=Z,596nm,1.5s,mb5.8
SMF Signal de Mont 85.12 43⇑ *iP* **P 21 59 41.9 -0.4**
comp=Z,901nm,1.5s,mb6.0
SET Setif 85.16 54 P **P 21 59 43.0 +0.3**
LOR Lormes 85.22 43⇑ *iP* **P 21 59 42.2 -0.5**
comp=Z,590nm,1.5s,mb5.8
LOR *epP* pP 22 00 29.2 -1.1
LOR *eR*
comp=Z,875nm,21.2s
CKHR Kef el Ahmar 85.23 54 P **P 21 59 45.0 +1.9**
SVW2 Sparrevohn 85.43 332 *eP* **P 21 59 42.7 -0.7**
VIVF Saint-Julien-l 85.49 45⇑ *iP* **P 21 59 44.5 +0.4**
comp=Z,425nm,1.5s,mb5.7
VIVF *epP* pP 22 00 31.5 -0.2
CMER Merouana 85.51 54 P **P 21 59 47.0 +2.5**
DFRA Djebel Bou Aff 85.57 53 P **P 21 59 46.5 +1.8**
IMA2 Indian Mountai 85.66 337 *eP* **P 21 59 44.4 0.0**
PRAF Pradon 85.73 46 *eP* **P 21 59 45.9 +0.6**
BAIF Baives 85.80 40⇑ *iP* **P 21 59 45.5 0.0**
comp=Z,705nm,1.7s,mb5.8
BAIF *epP* pP 22 00 32.5 -0.6
GELF Grande-Etoile 85.87 47 *eP* **P 21 59 45.7 -0.3**
OCF Saint Nazaire 85.91 45 *eP* **P 21 59 46.9 +0.7**
OG26 St.-Nazaire-De 85.91 45 *eP* **P 21 59 46.9 +0.7**
CTEI Djebel Teioual 85.96 54 P **P 21 59 48.0 +1.4**
SMRF Simiane la Rot 86.04 46⇑ *iP* **P 21 59 47.3 +0.5**
comp=Z,462nm,1.7s,mb5.6
SMRF *epP* pP 22 00 34.3 -0.2
CASM Ain Smara 86.04 54 P **P 21 59 49.0 +2.0**
BERF Bertagne 86.06 47 *eP* **P 21 59 47.2 +0.3**
PUYF Puyloubier 86.09 46 *eP* **P 21 59 47.5 +0.4**
VILF Villemus 86.13 46 *eP* **P 21 59 47.7 +0.5**
MEZF Maizieres J'vi 86.16 41⇑ *iP* **P 21 59 47.2 -0.1**
comp=Z,1μm,1.5s,mb6.0
OG05 Jujurieux 86.17 44 *eP* **P 21 59 47.3 -0.1**
GIVF Givet 86.19 40⇑ *iP* **P 21 59 47.7 +0.3**
comp=Z,2μm,1.3s,mb6.2
CKFL Kef-Lekhel 86.24 54 P **P 21 59 49.0 +1.0**
STOF St-Etienne Org 86.28 46 *eP* **P 21 59 48.1 +0.1**
GRN Grenoble 86.29 45 *eP* **P 21 59 48.6 +0.6**
ORIF Oris-en-Rattie 86.35 45⇑ *iP* **P 21 59 48.9 +0.6**
comp=Z,373nm,1.3s,mb5.7
ORIF *epP* pP 22 00 36.0 0.0
ORIF *eR*
comp=Z,2μm,21.8s
TAVF Tavernes 86.35 46 *eP* **P 21 59 48.5 +0.2**
CAEH 'Ain El Ouahch 86.37 53 P **P 21 59 49.5 +0.9**
OG25 Le Caire 86.44 46 *eP* **P 21 59 49.2 +0.5**
GDM Grand'Maison 86.55 45 *eP* **P 21 59 49.4 +0.2**
LMR La Mourre 86.66 47⇑ *iP* **P 21 59 49.6 -0.2**
comp=Z,287nm,1.2s,mb5.6
CABF La Chapelle 86.66 43⇑ *iP* **P 21 59 49.8 +0.1**
comp=Z,833nm,1.6s,mb5.9
THEF They Montfort 86.75 42 *eP* **P 21 59 50.3 +0.2**
FRF La Foret Royal 86.77 46⇑ *iP* **P 21 59 50.0 -0.4**
comp=Z,166nm,0.8s,mb5.5
GIMEL Gimel 86.77 43⇑ *iP* **P 21 59 50.4 +0.1**
CMAH Djebel Manchou 86.82 53 P **P 21 59 52.0 +1.3**
BNI Bardonecchia 86.93 45 P **P 21 59 50.9 -0.1**
BNI pmax pmax
comp=Z,46nm,0.8s,mb5.3
RSL Roselend 86.95 44 *eP* **P 21 59 51.5 +0.4**
BRANT Les Verrieres 86.95 43⇑ *iP* **P 21 59 51.5 +0.4**
MBDF Montbardon 86.97 45⇑ *iP* **P 21 59 51.6 +0.4**
comp=Z,261nm,1.6s,mb5.4
MBDF *epP* pP 22 00 38.8 -0.2
HAU Haudompre 86.97 42⇑ *iP* **P 21 59 50.9 -0.3**
comp=Z,508nm,1.6s,mb5.7
HAU *eR*
comp=Z,867nm,22.0s
HGN Heimansgroeve 86.97 39 *eP* **P 21 59 50.5 -0.6**
comp=Z,309nm,1.6s,mb5.8
HGN *ex* x 22 00 34.7
HGN *eS* S 22 10 03.1 -8.0
SURF Saint Ours 86.97 46 *eP* **P 21 59 52.0 +0.7**
WLF Walferdange 87.00 40⇑ *iP* **P 21 59 51.5 +0.2**
WLF *epP* pP 22 00 38.5 -0.5
LPL La Plagne 87.01 44⇑ *iP* **P 21 59 52.2 +0.8**
comp=Z,249nm,1.5s,mb5.4
LPG La Plagne 87.02 44⇑ *iP* **P 21 59 52.4 +0.9**
comp=Z,346nm,1.5s,mb5.6
OG01 Vacheresse 87.04 44 *eP* **P 21 59 51.8 +0.2**
SDPT Sand Point 87.09 325 *eP* **P 21 59 51.9 +0.3**
comp=Z,144nm,1.0s,mb5.7
MVIF Mont Vial 87.17 46 *eP* **P 21 59 52.4 +0.2**
EMV Vieux Emosson 87.17 44⇑ *iP* **P 21 59 52.6 +0.4**
AIGLE Aigle 87.23 44⇑ *iP* **P 21 59 52.6 +0.1**
LOMF Lomont 87.23 43 *eP* **P 21 59 52.7 +0.3**
TOUF Mont Tournerai 87.25 46 *eP* **P 21 59 52.9 +0.3**
TORNY Torny 87.27 43⇑ *iP* **P 21 59 53.0 +0.4**
HINF Hinteralfeld 87.29 42⇑ *iP* **P 21 59 52.2 -0.5**
comp=Z,372nm,1.6s,mb5.6
HINF *epP* pP 22 00 39.4 -1.1
REVF Revere 87.31 46 *eP* **P 21 59 53.0 +0.1**
SBF Sospel 87.37 46⇑ *iP* **P 21 59 52.8 -0.4**
comp=Z,262nm,1.0s,mb5.6
AUTN L'Aution 87.37 46 *eP* **P 21 59 53.5 +0.3**
SAOF Saorge 87.47 46 *eP* **P 21 59 53.7 +0.1**
SENIN Lac Senin 87.47 44⇑ *iP* **P 21 59 54.2 +0.6**
MOF Molkenrain 87.48 42 *eP* **P 21 59 53.4 -0.2**
BOURR Bourrignon 87.51 43⇑ *iP* **P 21 59 53.7 0.0**
KMY Karmoy 87.52 31 *eP* **P 21 59 53.0 -0.6**
KMY AMb AMB 21 59 55.8
comp=Z,539nm,1.2s,mb6.2
KMY Karmoy 87.52 31 *eP* **P 21 59 53.0 -0.6**
comp=Z,539nm,1.2s,mb6.2
DIX Grande Dixence 87.53 44⇑ *iP* **P 21 59 54.7 +0.8**
DIX Grande Dixence 87.53 44⇑ *iP* **P 21 59 54.6 +0.7**
ECH Echery 87.53 42 *eP* **P 21 59 54.0 +0.2**
RUP Ruppelstein 87.59 40⇑ *eP* **P 21 59 54.8 +0.7**
RUP Ruppelstein 87.59 40 *eP* **P 21 59 54.9 +0.8**
CDF Champ du Feu 87.62 42⇑ *iP* **P 21 59 54.1 -0.2**
comp=Z,542nm,1.3s,mb5.9
WIT Witteveen 87.63 37 *eP* **P 21 59 55.3 +1.1**
WIT *ex* x 22 00 42.3
WTSB Winterswijk 87.63 38 *eP* **P 21 59 54.1 -0.1**
comp=Z,534nm,1.3s,mb6.2
WTSB *ex* x 22 00 42.0
EGD Espegrend 87.64 30 *eP* **P 21 59 55.3 +1.3**
EGD AMb AMB 21 59 57.4
comp=Z,583nm,2.1s,mb6.0
EGD Espegrend 87.64 30 *eP* **P 21 59 55.3 +1.3**
comp=Z,583nm,2.1s,mb6.0
ASK Askoy 87.65 29 *eP* **P 21 59 55.7 +1.6**
ASK AMb AMB 21 59 57.4
comp=Z,528nm,1.5s,mb6.2
ASK Askoy 87.65 29 *eP* **P 21 59 55.7 +1.6**
comp=Z,528nm,1.5s,mb6.2
WLS Welschbruch 87.67 42 *eP* **P 21 59 54.5 0.0**
LKBD Leukerbad 87.70 44⇑ *iP* **P 21 59 55.0 +0.3**
BBS Basel-Blauen 87.70 43 *eP* **P 21 59 54.7 0.0**
BBS Basel-Blauen 87.70 43 *eP* **P 21 59 55.1 +0.4**
BER Bergen 87.70 30 *e* **P 21 59 55.6 +1.3**
BER *e* 21 59 56.6
BER *e* 22 10 05.7
WIMIS Wimmis 87.72 43⇑ *iP* **P 21 59 55.1 +0.3**
RUND Rundenannen 87.72 30 *eP* **P 21 59 55.5 +1.1**
RUND AMb AMB 21 59 57.6
comp=Z,398nm,1.4s,mb6.1
BALST Balsthal 87.82 43⇑ *iP* **P 21 59 55.3 +0.1**
LIBD Limburg 87.82 42 *eP* **P 21 59 55.6 +0.4**
LIBD Limburg 87.82 42 *eP* **P 21 59 55.5 +0.3**
MMK Mattmark 87.91 44⇑ *iP* **P 21 59 56.6 +0.9**
ABH Alteburg 87.92 40⇑ *eP* **P 21 59 56.3 +0.7**
ABH Alteburg 87.92 40 *eP* **P 21 59 56.4 +0.8**
STR Strasbourg 87.96 41 *eP* **P 21 59 56.2 +0.3**
KIZ Kirchzarten 88.02 42⇑ *eP* **P 21 59 56.1 0.0**
LANF Langenberg 88.02 41 *eP* **P 21 59 56.4 +0.3**
FELD Feldberg 88.07 42 *eP* **P 21 59 56.5 +0.1**
HASLI Hasliberg 88.09 43⇑ *iP* **P 21 59 57.0 +0.5**
SULZ Sulz-Cheisache 88.12 43⇑ *iP* **P 21 59 56.6 0.0**
BLS5 Blasjo 88.16 31 *eP* **P 21 59 58.0 +1.5**
BLS5 AMb AMB 22 00 04.3
comp=Z,161nm,2.0s,mb5.5
BLS5 Blasjo 88.16 31 *eP* **P 21 59 58.0 +1.5**
comp=Z,161nm,2.0s,mb5.5
KTD Kalmit 88.23 41 *eP* **P 21 59 57.5 +0.4**
KTD Kalmit 88.23 41 *eP* **P 21 59 56.8 -0.3**
BNALP Bannalp 88.28 43⇑ *iP* **P 21 59 58.1 +0.7**
ODD1 Odda 88.30 30 *eP* **P 21 59 57.1 0.0**
ODD1 AMb AMB 21 59 59.7
comp=Z,248nm,1.3s,mb5.9
ODD1 Odda 88.30 30 *eP* **P 21 59 57.1 0.0**
comp=Z,248nm,1.3s,mb5.9
BFO Black Forest 88.32 42 *eP* **P 21 59 57.1 -0.4**
BFO *e* 22 03 23.8
BFO *e* 22 10 07.4
SLE Schleitheim 88.39 42⇑ *iP* **P 21 59 57.9 0.0**
FUSIO Fusio 88.42 44⇑ *iP* **P 21 59 58.8 +0.7**
PGF Pioggiola 88.42 48⇑ *iP* **P 21 59 57.9 -0.3**
comp=Z,99nm,0.9s,mb5.3
PGF *epP* pP 22 00 45.1 -1.0
ZUR Zurich 88.42 43⇑ *iP* **P 21 59 58.4 +0.3**
MUO Muotathal 88.43 43⇑ *iP* **P 21 59 58.9 +0.8**
MAIT Maitri 88.46 161 *eP* **P 21 59 52.7 -5.0**
MAIT *ePP* PP 22 03 12.4 -18
NVL N'lazarevskaya 88.49 161 *eP* **P 21 59 52.3 -5.6**
NVL *e* 22 03 29.0
NVL *eS* S 22 10 07.8 -17
NVL pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
TNS Taunus Mts 88.53 40 *eP* **P 21 59 58.4 -0.1**
TNS *e* 22 10 09.7
TNS pmax pmax
comp=Z,278nm,1.3s,mb5.9
TNS Taunus Mts 88.53 40 *eP* **P 21 59 58.4 -0.1**
comp=Z,278nm,1.3s,mb5.9
TNS *eSKSac* 22 10 09.7
WILA Wila 88.65 43⇑ *iP* **P 21 59 59.5 +0.4**
LBG Lerchenberg 88.65 41 *eP* **P 21 59 59.0 -0.1**
MUGIO Muggio 88.65 44⇑ *iP* **P 21 59 58.4 -0.8**
QSPA South Pole Qui 88.66 180⇓ *iP* **P 21 59 59.3 +0.8**
comp=Z,654nm,1.0s,mb6.4
LLS Linth-Limmern 88.68 43⇑ *iP* **P 21 59 59.8 +0.5**
TOD Tromm 88.72 40⇑ *eP* **P 21 59 59.5 +0.1**
TOD Tromm 88.72 40 *eP* **P 21 59 59.0 -0.4**
GUT Gutenstein 88.83 42 *eP* **P 21 59 59.9 0.0**
STU Stuttgart 88.92 41 *eP* **P 22 00 00.2 -0.2**
STU *e*PP pP 22 00 48.1 -0.2
STU pmax pmax
comp=Z,320nm,1.3s,mb6.0
STU Stuttgart 88.92 41 *eP* **P 22 00 00.2 -0.2**
comp=Z,317nm,1.4s,mb6.0
STU *epP* pP 22 00 48.1 -0.2
PLONS Plons 88.95 43⇑ *iP* **P 22 00 00.9 +0.4**
VDL Val di Lei 88.98 44⇑ *iP* **P 22 00 01.0 +0.3**
MOL Molde 88.99 27 *eP* **P 22 00 02.6 +2.2**
BUCH Bad Urach 89.01 42 *eP* **P 22 00 01.0 +0.2**
LIENZ Alp Oberkamor 89.04 43⇑ *iP* **P 22 00 01.5 +0.6**
SIND Sindeldorf 89.22 41 *eP* **P 22 00 02.1 +0.3**
DAVOX Davos 89.28 43 S S 22 10 15.0 -18
comp=Z,1.1nm,0.7s,baz=39,slow=19,SNR=7.7
DAVOX PKKPbc 22 17 38.9
comp=Z,2.6nm,0.7s,baz=55,slow=3.5,SNR=6.0
DAVOX Davos 89.28 43⇑ *iP* **P 22 00 02.7 +0.6**
DAVA Damuels 89.30 43⇑ *iP* **P 22 00 02.8 +0.7**
comp=Z,491nm,1.6s,mb6.1,SNR=89
BERNI Berninapass 89.36 44⇑ *iP* **P 22 00 03.0 +0.5**
MUD Monsted U'grnd 89.36 34⇑ *iP* **P 22 00 03.3 +1.1**
comp=Z,149nm,1.2s,mb5.7
MUD *i* pP 22 00 52.6 +2.4
MUD *i* S 22 10 16.8 -16
MUD *i* 22 10 41.4
MUD *i* 22 11 38.8
comp=Z,940nm,18.0s
MUD Monsted U'grnd 89.36 34⇑ *iP* **P 22 00 03.3 +1.1**
MUD *i* S S 22 10 16.8 -16
MUD *i* 22 11 38.8
MUD pmax pmax
comp=Z,150nm,1.2s,mb5.7
MUD MLR MLR
comp=Z,940nm,18.0s
UBR Uberruh 89.47 42 *eP* **P 22 00 02.7 -0.3**
FUORN Ofenpass 89.53 44⇑ *iP* **P 22 00 03.8 +0.5**
HDH Heidenheim 89.58 42⇑ *eP* **P 22 00 03.7 +0.2**
KONO Kongsberg 89.77 30 *eP* **P 22 00 05.0 +0.9**
KONO *e* 22 10 17.6
KONO *eSKS* SKS 22 10 48.0 +34
KONO Kongsberg 89.77 30 *eP* **P 22 00 04.5 +0.4**
KONO pmax pmax
comp=Z,46nm,1.1s,mb5.2
CLZ Clausthal 89.83 38 *eP* **P 22 00 05.4 +0.8**
CLZ *e* 22 10 18.9
CLZ pmax pmax
comp=Z,230nm,1.4s,mb5.8
CLZ Clausthal 89.83 38 *eP* **P 22 00 05.4 +0.8**
comp=Z,230nm,1.4s,mb5.8
CLZ *eSKSac* 22 10 18.9
BSEG Bad Segeberg 89.89 36 *eP* **P 22 00 05.2 +0.4**
BSEG pmax pmax
comp=Z,573nm,2.2s,mb6.0
MOTA Moosalm 90.13 43 *i P* **P 22 00 06.0 -0.1**
comp=Z,140nm,1.1s,mb5.7,SNR=42
SQTA Sankt Quirin 90.20 43 *i P* **P 22 00 06.4 0.0**
comp=Z,219nm,1.3s,mb5.8,SNR=107
SQTA Sankt Quirin 90.20 43 *i P* **P 22 00 06.4 0.0**
comp=Z,219nm,1.3s,mb5.8
FUR Furstenfeldbru 90.28 42 *eP* **P 22 00 06.5 -0.2**
FUR *e* 22 10 21.1
FUR pmax pmax
comp=Z,278nm,1.4s,mb5.9
FUR Furstenfeldbru 90.28 42 *eP* **P 22 00 06.5 -0.2**
comp=Z,278nm,1.4s,mb5.9
FUR *eSKSac* 22 10 21.1
GRA1 Grafenberg Arr 90.29 40 *eP* **P 22 00 06.9 +0.1**
comp=Z,215nm,1.4s,mb5.8
GRA1 *epP* pP 22 00 53.8 -1.0
GRA1 *eSKSac* 22 10 22.1
GRA1 *eP'P'* 22 25 36.1
GRF Grafenberg Arr 90.29 40 *eP* **P 22 00 06.9 +0.1**
GRF *e*PP* pP 22 00 53.8 -1.0
GRF *e* 22 10 22.1
GRF pmax pmax
comp=Z,215nm,1.4s,mb5.8
WATA Walderalm 90.45 43⇑ *iP* **P 22 00 07.7 +0.1**
comp=Z,126nm,1.3s,mb5.6,SNR=38
WATA Walderalm 90.45 43⇑ *iP* **P 22 00 07.7 +0.1**
comp=Z,126nm,1.3s,mb5.6
NAO01 NORSAR Array S 90.47 29⇓ *iP* **P 22 00 08.4 +1.1**
comp=Z,40nm,1.1s,mb5.2
UNV Unalaska Valle 90.48 324 *eP* **P 22 00 07.7 +0.1**
comp=Z,220nm,1.0s,mb5.9
WTTA Wattenberg 90.49 43⇑ *iP* **P 22 00 08.3 +0.5**
comp=Z,485nm,1.7s,mb6.1,SNR=60
WTTA Wattenberg 90.49 43⇑ *iP* **P 22 00 08.3 +0.5**
comp=Z,485nm,1.7s,mb6.1
MOX Moxa 90.57 40 *i P* **P 22 00 08.6 +0.6**
comp=Z,logA/T=2.1,mb5.8
MOX pP pP 22 00 57.0 +0.9
MOX SKS SKS 22 10 25.0 +5.8
MOX SS SS 22 16 56.0 +2.1
MOX L 22 37 40.0
MOX PKPPKP 23 25 54.0
MOX Moxa 90.57 40 *eP* **P 22 00 08.6 +0.6**
MOX *e* pP 22 00 56.9 +0.8
MOX pmax pmax
comp=Z,262nm,1.9s,mb5.8
MOX MLR MLR
comp=Z,800nm,21.0s
MOX Moxa 90.57 40 *eP* **P 22 00 08.6 +0.6**
comp=Z,262nm,1.9s,mb5.8
MOX *e* pP 22 00 56.9 +0.8
MOX LR LR
comp=Z,800nm,21.0s
NB2 NORSAR Subarra 90.64 29 P **P 22 00 08.3 +0.2**
comp=Z,54nm,0.9s,mb5.5,baz=268,slow=4.6
NB2 NORSAR Subarra 90.64 29 P **P 22 00 08.3 +0.2**
baz=268,slow=4.8
NOA NORSAR Array B 90.64 29 P **P 22 00 07.4 -0.7**
comp=Z,59nm,1.1s,mb5.4,baz=268,slow=4.5,SNR=34
NOA pP pP 22 00 56.1 0.0
comp=Z,6.8nm,0.8s,baz=269,slow=4.8,SNR=3.1
NOA LR LR 22 37 06.8
comp=Z,1μm,18.4s,baz=260,slow=33
NSS Namsos 91.07 26 *eP* **P 22 00 09.4 -0.6**
NSS AMb AMB 22 00 13.9
comp=Z,104nm,1.6s,mb5.5
NKC Novy Kostel 91.09 40 *eP* **P 22 00 11.2 +0.7**
NKC *epP* pP 22 01 00.2 +1.7
NKC *eSKS* SKS 22 10 22.8 +0.6
NKC *eS* S 22 10 52.8 +4.0
COP Copenhagen 91.16 35⇑ *iP* **P 22 00 11.5 +0.9**
comp=Z,36nm,0.8s,mb5.4
COP *i* pP 22 00 57.2 -1.5
COP *e* 22 03 19.7
COP *i S* S 22 10 26.3 -23
COP *i* 22 10 54.2
COP *i* 22 12 00.0
comp=Z,580nm,19.0s
COP Copenhagen 91.16 35⇑ *iP* **P 22 00 11.5 +0.9**
COP *i* pP 22 00 57.2 -1.5
COP *i S* S 22 10 26.3 -23
COP *i* 22 10 54.2
COP *i* 22 12 00.0
COP pmax pmax
comp=Z,36nm,0.8s,mb5.3
COP MLR MLR
comp=Z,580nm,19.0s
KBS Kingsbay 91.28 11 *eP* **P 22 00 13.1 +2.3**
KBS AMb AMB 22 00 14.9
comp=Z,89nm,1.2s,mb5.6
KBS *e* 22 10 23.5
KBS *e* 22 11 04.1
KBS Kingsbay 91.28 11 *i P* **P 22 00 12.3 +1.5**
WET Wettzell 91.36 41 *eP* **P 22 00 11.4 -0.3**
WET *e* 22 10 25.8
WET pmax pmax
comp=Z,339nm,1.6s,mb6.0
WET Wettzell 91.36 41 *eP* **P 22 00 11.4 -0.3**
comp=Z,339nm,1.6s,mb6.0
WET *eSKSac* 22 10 25.8
TNA Tin City 91.41 335 *eP* **P 22 00 12.1 +0.5**
comp=Z,6.4nm,0.7s,mb4.7
TNA *epP* pP 22 00 59.2 -0.5
CLL Collm 91.46 39⇑ *iP* **P 22 00 12.9 +0.8**
comp=Z,logA/T=2.2,mb5.9
CLL *e* 22 00 13.0
CLL *e*PP* pP 22 01 01.0 +0.8
CLL *e*SP* sP 22 01 22.0 +1.3
CLL *e* 22 10 28.0
CLL *eS* S 22 10 56.0 +4.1
CLL *eSP* SP 22 12 03.0 -3.8
CLL *ePS* PS 22 12 29.0 -3.4
CLL *eSS* SS 22 16 54.0 -12
CLL *ePKKP* PKKP 22 17 31.0 +27
CLL *e* 22 25 41.0
CLL Collm 91.46 39⇑ *iP* **P 22 00 12.9 +0.8**
CLL *e*PP* pP 22 01 01.0 +0.8
CLL *e* 22 10 28.0
CLL *eS* S 22 10 56.0 +4.1
CLL pmax pmax
comp=Z,199nm,1.4s,mb5.8
CLL Collm 91.46 39⇑ *iP* **P 22 00 12.9 +0.8**
comp=Z,199nm,1.4s,mb5.8
CLL *epP* pP 22 01 01.0 +0.8
CLL *eSKS* SKS 22 10 28.0 +3.7
CLL *eS* S 22 10 56.0 +4.1
CLL *ePKKP* PKKP 22 17 31.0 +27
CLL *eP'P'* 22 25 41.0
KBA Koelnbreinsper 91.66 43⇑ *iP* **P 22 00 13.5 +0.4**
comp=Z,268nm,1.7s,mb5.9,SNR=21
KBA Koelnbreinsper 91.66 43⇑ *iP* **P 22 00 13.5 +0.4**
comp=Z,268nm,1.7s,mb5.9
AQU L'Aquila 91.67 48 *eP* **P 22 00 12.9 -0.5**
LOF Lofoten 91.72 22 *eP* **P 22 00 14.7 +1.7**
LOF AMb AMB 22 00 17.2

comp=Z,169nm,1.3s,mb5.8
LOF Lofoten 91.72 22 *e*P **P 22 00 15.3 +2.3**
comp=Z,169nm,1.3s,mb5.8
ROBS Robic 91.77 44⇑*e*P **P 22 00 13.8 +0.1**
comp=Z,362nm,1.9s,mb6.0
ROBS *e*pP pP 22 01 01.3 -0.5
ROBS *e*pPP 22 04 36.9
ROBS *e*SKSac 22 10 29.6
ROBS *e* 22 10 58.0
KHC Kasperske Hory 91.82 41 *e*P **P 22 00 14.0 +0.1**
KHC *e*pP pP 22 01 00.1 -1.9
KHC *e*SKS SKS 22 10 26.6 +0.2
KHC *e*S S 22 10 58.1 +3.0
HFS Hagfors 91.85 30 LR LR 22 34 38.0
comp=Z,826nm,20.7s,baz=262,slow=31
GEC2 GERESS Array S 91.90 41 *e*P **P 22 00 14.5 +0.2**
GEC2 pmax pmax
comp=Z,87nm,1.5s,mb5.5
GEC2 GERESS Array S 91.90 41 *e*P **P 22 00 14.5 +0.2**
comp=Z,87nm,1.5s,mb5.5
GEC2 *e*PPP 22 04 37.2
GERES GERESS Array B 91.90 41 P **P 22 00 14.0 -0.3**
comp=Z,25nm,1.1s,mb5.0,baz=270,slow=2.7,SNR=39
GERES pP pP 22 01 02.5 +0.1
comp=Z,4.1nm,0.8s,baz=214,slow=4.8,SNR=2.9
GERES PKKPbc 22 17 30.1
comp=Z,0.8nm,0.6s,baz=45,slow=1.9,SNR=8.2
GERES PKPPKP 22 25 37.6
comp=Z,0.5nm,0.7s,baz=45,slow=1.9,SNR=5.5
RUE Ruedersdorf 91.94 38 *e*P **P 22 00 14.2 -0.1**
comp=Z,76nm,1.0s,mb5.6
VOY Vojsko 92.03 44 *e*P **P 22 00 15.2 +0.2**
VOY *e*pP pP 22 01 03.5 +0.4
BRG Berggiesshubel 92.05 39 *i*P **P 22 00 15.3 +0.4**
BRG *e*PP pP 22 01 04.5 +1.5
BRG 22 10 33.0
BRG SP SP 22 12 08.0 -5.8
BRG pmax pmax
comp=Z,215nm,1.3s,mb5.9
BRG MLR MLR
comp=Z,1μm,17.6s
BRG MLR MLR
comp=N,550nm,20.1s
BRG MLR MLR
comp=E,1μm,20.1s
BRG Berggiesshubel 92.05 39 *i*P **P 22 00 15.3 +0.4**
comp=E,215nm,1.3s,mb5.9
BRG pP pP 22 01 04.5 +1.5
BRG SKS SKS 22 10 33.0 +5.4
BRG SP SP 22 12 08.0 -5.8
BRG SS SS 22 16 54.0 -21
BRG PKKP PKKP 22 17 05.2 +2.1
BRG P'P' 22 25 39.7
BRG LR LR
comp=Z,1μm,17.6s
MOA Molln 92.28 42⇓*i*P **P 22 00 16.2 +0.1**
comp=Z,380nm,1.8s,mb6.0,SNR=56
MOA Molln 92.28 42⇓*i*P **P 22 00 16.2 +0.1**
comp=Z,380nm,1.8s,mb6.0
PRA Prague 92.37 40 P **P 22 00 17.0 +0.6**
KNDS Knezji Dol 92.38 45⇑*e*P **P 22 00 17.0 +0.4**
comp=Z,250nm,1.6s,mb5.9
KNDS *e*pP pP 22 01 04.7 0.0
CEY Cerknica 92.41 44 *i*P **P 22 00 17.0 +0.3**
CEY *e*pP pP 22 01 04.5 -0.3
VAE Valguarnera 92.44 53 LR LR 22 13 44.5
comp=Z,669nm,18.4s,baz=87,slow=44
PRU Pruhonice 92.44 40 *e*P **P 22 00 17.3 +0.6**
PRU *e*pP pP 22 01 05.8 +1.0
PRU *ex* x 22 04 42.2
PRU *e*SKS SKS 22 10 33.2 +3.4
PRU *ex* x 22 12 03.4
PRU Pruhonice 92.44 40 *e*P **P 22 00 17.3 +0.6**
PRU *e**PP pP 22 01 05.8 +1.0
PRU *e* 22 10 33.2
PVCC Panska Ves 92.45 40 *e*P **P 22 00 17.2 +0.4**
PVCC *e*pP pP 22 01 05.8 +0.9
PVCC *e*SKS SKS 22 10 32.8 +2.9
PVCC *e*S S 22 11 02.5 +1.9
LJU Ljubljana 92.47 44⇑*e*P **P 22 00 17.4 +0.4**
comp=Z,380nm,1.5s,mb6.1
LJU *i*pP pP 22 01 05.6 +0.5
LJU *e*pPP 22 04 43.2
LJU *e*SKSac 22 10 33.4
LJU *e* 22 13 22.6
LJU *e*SS SS 22 17 19.6 -1.4
OBKA Obir 92.48 44⇑*i*P **P 22 00 17.1 +0.1**
comp=Z,371nm,2.2s,mb5.9,SNR=24
OBKA Obir 92.48 44⇑*i*P **P 22 00 17.1 +0.1**
comp=Z,371nm,2.2s,mb5.9
BSD Bornholm Skovb 92.58 35⇑*i*P **P 22 00 17.9 +0.7**
comp=Z,67nm,1.2s,mb5.5
BSD *i* pP 22 01 07.6 +2.2
BSD *e* 22 03 27.2
BSD *i* S 22 10 35.6
BSD *i* 22 12 12.3
comp=Z,660nm,19.0s
BSD Bornholm Skovb 92.58 35⇑*i*P **P 22 00 17.9 +0.7**
BSD *i* S 22 10 35.6
BSD pmax pmax
comp=Z,67nm,1.2s,mb5.5
BSD MLR MLR
comp=Z,670nm,19.0s
BOJS Bojanci 92.99 45⇑*e*P **P 22 00 19.7 +0.3**
comp=Z,213nm,1.8s,mb5.9
BOJS *e*pP pP 22 01 07.4 -0.1
TREC Trest 93.07 41 *e*P **P 22 00 19.9 +0.3**
TREC *e*pP pP 22 01 08.9 +1.1
TREC *ex* x 22 12 07.4
ARSA Arzberg 93.14 43⇑*i*P **P 22 00 20.1 +0.1**
comp=Z,291nm,1.9s,mb6.0,SNR=35
BJO Bjornoya 93.16 16 *e* 22 10 41.2
GCIS Gornji Cirnik 93.25 44⇑*e*P **P 22 00 21.0 +0.5**
comp=Z,252nm,2.0s,mb5.9
GCIS *e*pP pP 22 01 09.0 +0.4
GCIS *e*PP PP 22 04 05.3 -3.8
GCIS *e*pPP 22 04 48.4
UPC Upice 93.37 40 *e*P **P 22 00 21.4 +0.4**
UPC *e*pP pP 22 01 09.3 +0.2
KSP Ksiaz 93.54 39⇑*e*P **P 22 00 23.0 +1.3**
comp=Z,600nm,1.5s,mb6.4
KSP *e*pP pP 22 01 09.0 -0.9
KSP *e*SKS SKS 22 10 40.6 +4.7
KSP *e*S S 22 11 14.3 +4.3
KSP Ksiaz 93.54 39 *e*P **P 22 00 22.2 +0.5**
KSP *e**PP pP 22 01 09.7 -0.1
KSP *e* 22 10 38.0
KSP *e*S S 22 11 14.0 +4.0
KSP *e*SP SP 22 12 27.0 -3.0
KSP *e*SS SS 22 17 33.5 -2.7
DPC Dobruska-Polom 93.58 40 *e*P **P 22 00 22.6 +0.7**
DPC *e*pP pP 22 01 09.7 -0.3
DPC *e*SKS SKS 22 10 39.5 +3.4
DPC *e*S S 22 11 13.1 +2.7
TRO Tromso 93.58 20 *e*P **P 22 00 21.3 -0.2**
TRO AMb AMB 22 00 23.2
comp=Z,143nm,1.6s,mb5.8
TRO *e* 22 10 14.7
TRO Tromso 93.58 20 *e*P **P 22 00 21.3 -0.2**
comp=Z,143nm,1.6s,mb5.8
KOGS Kog 93.66 44⇑*e*P **P 22 00 22.9 +0.5**
comp=Z,523nm,1.6s,mb6.3
KOGS *i*pP pP 22 01 10.8 +0.3
KOGS *e*pPP 22 04 51.7
KOGS *e*SKSac 22 10 40.1
AFI Afiamalu 93.73 256 P **P 22 00 23.7 +0.3**
comp=Z,10nm,0.3s,mb5.3,baz=178,slow=6.8,SNR=9.8
AFI Afiamalu 93.73 256 *e*P **P 22 00 23.7 +0.3**
AFI pmax pmax
comp=Z,88nm,1.3s,mb5.6
AFI Afiamalu 93.73 256 *e*P **P 22 00 23.7 +0.3**
comp=Z,88nm,1.3s,mb5.6
VRAC Vranov 93.79 41 P **P 22 00 23.7 +0.8**
SOP Sopron 93.83 42⇑*i*P **P 22 00 23.6 +0.5**
SBA Scott Base 93.89 191 *e*P **P 22 00 23.2 +0.4**
SBA pmax pmax
comp=Z,97nm,1.1s,mb5.8
SBA Scott Base 93.89 191 *e*P **P 22 00 23.2 +0.5**
comp=Z,97nm,1.1s,mb5.8
ZST Bratislava 94.17 42⇑*e*SKSp 22 10 42.2
ZST Bratislava 94.17 42 *i*P **P 22 00 25.0 +0.4**
ZST *e* pP 22 01 13.5 +0.7
ZST *e*S 22 10 42.2
ZST Bratislava 94.17 42 *i*P **P 22 00 25.0 +0.4**
ZST *e* pP 22 01 13.5 +0.7
ZST *e*PP PP 22 04 54.9 +39
ZST *e*S 22 10 42.2
TIP Timpagrande 94.26 51 *e*P **P 22 00 23.9 -1.4**
TIP *e*pP pP 22 01 12.1 -1.3
SMOL Smolenice 94.38 42 *i*P **P 22 00 26.4 +0.8**
MORC Moravsky Berou 94.39 40 P **P 22 00 26.5 +0.9**
TSUM Tsumeb 94.43 109 *e*P **P 22 00 27.9 +1.4**
comp=Z,81nm,0.9s,mb5.8
TSUM *e*pP pP 22 01 15.5 +0.9
OKC Ostrava-Krasne 94.78 40 *e*P **P 22 00 27.7 +0.3**
OKC *e*pP pP 22 01 15.6 +0.1
OKC *e*SKS SKS 22 10 45.7 +3.0
RAC Raciborz 94.79 40 *e*P **P 22 00 29.4 +2.0**
RAC MLR MLR 22 34 50.1
comp=Z,1μm,24.0s
STON Ston 94.83 47 *i*P **P 22 00 27.9 +0.1**
RHK1 Bakonya 94.94 44⇑*e*P **P 22 00 28.8 +0.6**
VNDA Vanda 94.98 191 P **P 22 00 28.7 +0.9**
comp=Z,30nm,0.7s,mb5.5,baz=128,slow=5.1,SNR=61
VNDA S 22 10 45.3
comp=Z,1.5nm,1.2s,baz=107,slow=11,SNR=2.8
VNDA Vanda 94.98 191⇓*i*P **P 22 00 28.6 +0.8**
VNDA pmax pmax
comp=Z,36nm,0.8s
VNDA Vanda 94.98 191⇓*i*P **P 22 00 28.6 +0.9**
comp=Z,36nm,0.8s,mb5.6
SRO Srobarova 95.01 42 *i*P **P 22 00 28.5 0.0**
SRO *e* pP 22 01 17.6 +1.0
SRO *e* 22 05 00.0
SRO2 Moca 95.06 42 *e*P **P 22 00 28.2 -0.5**
VYHS Vyhne 95.31 42⇑*e*SKSp 22 10 50.2
VYHS Vyhne 95.31 42 *e*P **P 22 00 30.1 +0.2**
VYHS *e* pP 22 01 19.0 +1.0
VYHS *e*S 22 10 50.2
VYHS Vyhne 95.31 42 *e*P **P 22 00 30.1 +0.2**
VYHS *e* pP 22 01 19.0 +1.0
VYHS *e* 22 03 19.3
VYHS *e*PP 22 05 07.4
VYHS *e*S 22 10 50.2
PKSM Moragy 95.33 44 P **P 22 00 30.6 +0.6**
PKSM Moragy 95.33 44⇑*e*P **P 22 00 30.4 +0.4**
PKSM *i* pP 22 01 19.2 +1.1
PKSM *e* 22 05 04.9
LIKS Likavka 95.45 41 *e*P **P 22 00 33.1 +2.6**
BUD Budapest 95.51 43 *e*P **P 22 00 31.0 +0.2**
OJC Ojcow 95.81 40⇑*i*P **P 22 00 33.4 +1.4**
OJC *i* pP pP 22 01 21.9 +1.7
OJC *e*PP PP 22 04 25.5 -2.8
OJC ⇑*e*SKSa 22 10 51.2
OJC *e*SP SP 22 12 47.6 -7.3
OJC *e*SS SS 22 18 09.5 +1.7
OJC MLR MLR 22 35 39.0
comp=Z,1μm,22.7s
OJC Ojcow 95.81 40⇑*i*P **P 22 00 33.4 +1.4**
OJC *i**PP pP 22 01 21.9 +1.7
OJC *e* 22 04 25.5
OJC *e* 22 10 51.2
OJC *e*SS SS 22 18 09.5 +1.7
OJC MLR MLR
comp=Z,1μm,22.7s
OJC Ojcow 95.81 40⇑*i*P **P 22 00 33.4 +1.4**
OJC *e*PP PP 22 04 25.5 -2.8
OJC *e*SKSac 22 10 51.2
OJC *e*SP SP 22 12 47.6 -7.3
OJC *e*SS SS 22 18 09.5 +1.7
OJC LR LR
comp=Z,1μm,22.7s
ARCES ARCESS Array B 95.88 20 P **P 22 00 31.6 -0.3**
comp=Z,20nm,0.6s,mb5.5,baz=272,slow=3.6,SNR=79
ARCES PKKPbc 22 17 19.6
comp=Z,2.1nm,0.5s,baz=123,slow=2.9,SNR=15
ARE0 ARCESS Array S 95.88 20 *e*P **P 22 00 31.5 -0.5**
PKS6 Bocsa 95.94 43⇓*e*P **P 22 00 33.6 +0.9**
PSZ Piszkesteto 96.06 42⇑*i*P **P 22 00 34.2 +1.0**
PSZ *i* pP 22 01 22.8 +1.4
PSZ Piszkesteto 96.06 42⇑*i*P **P 22 00 33.8 +0.6**
PSZ *e**PP pP 22 01 22.2 +0.8
PSZ pmax pmax
comp=Z,46nm,1.0s,mb5.7
NIE Niedzica 96.21 41 *e*P **P 22 00 35.7 +1.8**
KEV Kevo 96.34 20 *e*p **P 22 00 31.9 -2.1**
comp=Z,1.4nm,0.4s
KEV Kevo 96.34 20 *e*P **P 22 00 31.9 -2.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KECS Kecovo 96.41 42 *e*P **P 22 00 36.0 +1.2**
KECS *e* pP 22 01 24.6 +1.7
KECS *e* 22 05 16.1
DIVS Divcibare 96.42 46 *e*P **P 22 00 35.4 +0.4**
STHS Stebnicka Huta 96.82 41 *e*P **P 22 00 38.2 +1.5**
STHS *e* 22 01 20.2
STHS *e* 22 03 24.4
STHS *e* 22 05 16.9
IGT Igoumenitsa 97.01 51 *e*P **P 22 00 36.8 -1.0**
CRVS Cervenica-Dubn 97.01 41⇑*e*SKSp 22 10 56.2
CRVS Cervenica-Dubn 97.01 41 *e*P **P 22 00 39.0 +1.4**
CRVS *e* pP 22 01 28.1 +2.4
CRVS *e*S 22 10 56.2
CRVS Cervenica-Dubn 97.01 41 *e*P **P 22 00 39.0 +1.4**
CRVS *e* pP 22 01 28.1 +2.4
CRVS *e*PP 22 05 18.2
CRVS *e*S 22 10 56.2
SVIS Svilajnac 97.29 46⇑*i*P **P 22 00 39.4 +0.5**
BZS Buzias 97.45 44⇓*i*P SKS 22 10 58.7 +1.7
BZS Buzias 97.45 44 P **P 22 00 40.4 +0.8**
SUW Suwalki 97.46 36 *e*P **P 22 00 38.1 -1.4**
comp=Z,300nm,1.6s,mb6.3
SUW *e*pP pP 22 01 25.8 -1.8
SUW *e*SKS SKS 22 10 56.4 -0.5
SUW Suwalki 97.46 36 *e*P **P 22 00 38.1 -1.4**
SUW *e**PP pP 22 01 25.8 -1.8
SUW *e* 22 10 56.4
SUW pmax pmax
comp=Z,300nm,1.6s,mb6.3
KOLS Kolonicke sedl 97.54 41 *e*P **P 22 00 41.1 +1.1**
KOLS *e* 22 03 23.0
KOLS *e* 22 05 23.1
MEV Metsovon 97.68 50 *e*P **P 22 00 41.9 +1.1**
FNA Florina 97.71 49 *e*P **P 22 00 41.0 0.0**
KAF Kangasniemi 97.72 27 *e*p **P 22 00 39.5 -1.0**
comp=Z,0.7nm,0.4s
KAF Kangasniemi 97.72 27 *e*P **P 22 00 39.5 -1.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KWP Kalwaria 97.74 40 *e*P **P 22 00 40.8 -0.1**
comp=Z,400nm,2.1s,mb6.4
KWP *e*pP pP 22 01 28.0 -1.0
KWP *e*SKS SKS 22 10 59.7 +1.3
KWP Kalwaria 97.74 40 *e*P **P 22 00 40.7 -0.1**
KWP *e**PP pP 22 01 28.0 -1.0
KWP *e* 22 10 59.7
KWP pmax pmax
comp=Z,400nm,2.1s,mb6.4
FINES FINESS Array B 97.75 28 P **P 22 00 40.0 -0.6**
comp=Z,12nm,0.7s,mb5.4,baz=246,slow=3.2,SNR=25
FINES PKKPbc 22 17 14.8
comp=Z,3.0nm,0.8s,baz=116,slow=4.0,SNR=5.3
BOLS Boljevac 97.86 46⇑*i*P **P 22 00 41.8 +0.2**
SYO Syowa Base 98.16 161⇓P **P 22 00 42.0 -0.3**
SYO Syowa Base 98.16 161⇓pP pP 22 01 26.1 -4.3
SYO Syowa Base 98.16 161⇑sP sP 22 01 51.2 +0.4
SYO Syowa Base 98.16 161⇑PKiKP 22 05 12.8
SYO Syowa Base 98.16 161⇓*i*P **P 22 00 42.0 -0.3**
SYO *i* 22 04 44.6
SYO Syowa Base 98.16 161⇓*i*P **P 22 00 42.0 -0.3**
SYO ⇓*e*pP pP 22 01 26.1 -4.3
SYO ⇑*e*sP sP 22 01 51.2 +0.4
SYO ⇓*i*PP PP 22 04 44.6 -1.8
GRG Griva 98.47 49 *e*P **P 22 00 45.1 +0.7**
AGG Agios Georgios 98.59 51 *e*P **P 22 00 44.7 -0.3**
VSU Vasula 98.67 31 *i*P **P 22 00 44.4 -0.5**
KNT Kendrikon 98.82 49 *e*P **P 22 00 46.2 +0.2**
THE Thessaloniki 98.93 49 *e*P **P 22 00 46.6 +0.1**
SOH Sokhos 99.20 49 *e*P **P 22 00 47.8 +0.1**
APA Apatity 99.20 21⇓*e*P **P 22 00 48.0 +0.9**
APA *e**PP pP 22 01 34.0 -1.2
APA *i* 22 11 08.0
APA *i*PS PS 22 13 32.0 -22
APA pmax pmax
comp=Z,21nm,1.0s,mb5.4
APA MLR MLR
comp=Z,900nm,15.0s
SRS Serrai 99.35 49 *e*P **P 22 00 47.7 -0.7**
BURAR Bucovina Array 99.66 42⇓P **P 22 00 52.1 +2.4**
JOF Joensuu 99.78 26 *e*p **P 22 00 49.1 -0.7**
comp=Z,0.7nm,0.4s
JOF Joensuu 99.78 26 *e*P **P 22 00 49.1 -0.7**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.6
VOIR 99.86 44⇑P **P 22 00 53.3 +2.7**
MLR Muntele Rosu 100.48 44 P P 22 00 54.1 +0.7
ALN Alexandroupoli 101.22 49 *e*P P 22 00 56.6 -0.2
LBTB Lobatse 101.34 116 *e*Pdif P 22 00 58.2 +0.4
comp=Z,6.1nm,0.9s
AKASG Malin Array Be 101.69 38 P P 22 00 58.9 +0.3
comp=Z,6.1nm,1.1s,baz=268,slow=4.7,SNR=23
AKASG PP PP 22 05 10.7 -2.7
comp=Z,0.4nm,0.4s,baz=256,slow=7.9,SNR=5.0
AKASG PKKPbc 22 17 04.3
comp=Z,3.2nm,0.7s,baz=86,slow=3.0,SNR=14
AKASG PKPPKP 22 25 21.5
comp=Z,0.4nm,0.5s,baz=76,slow=2.0,SNR=7.5
AKASG Malin Array Be 101.69 38 P P 22 00 58.9 +0.3
AKASG PP PP 22 05 10.7 -2.7
AKASG PKKPbc 22 17 04.3
AKASG P'P' 22 25 21.5
KIS Kishinev 102.18 42 *e*P Pdif 22 00 56.0 -4.9
KIS *e* 22 05 11.0
KIS *e*PPP PPP 22 07 26.0 -4.6
KIS *e*S S 22 12 30.0 +7.1
KIS *e*SS SS 22 19 30.0 -6.6
TIRR Tirgusor 102.38 45 *e*Pdif Pdif 22 01 01.6 -0.3
KLMR Klimovskoe 104.14 27 *e*P Pdif 22 01 05.5 -3.7
KLMR pmax pmax
comp=Z,50nm,1.9s
MATP Matopo 104.56 111 Pdiff Pdif 22 01 14.0 +2.0
comp=Z,3.8nm,0.8s,baz=280,slow=5.7,SNR=9.4
MATP PP PP 22 05 30.2 -5.4
comp=Z,13nm,1.0s,baz=265,slow=7.8,SNR=4.5
OBN Obninsk 104.77 33 *e*P Pdif 22 01 12.2 +0.1
OBN *i* 22 11 33.4
OBN pmax pmax
comp=Z,17nm,1.0s
OBN pmax pmax
comp=Z,30nm,2.0s
LSZ Lusaka 104.83 106 Pdiff Pdif 22 01 16.3 +3.0
comp=Z,0.9nm,0.4s,baz=202,slow=3.5,SNR=5.4
LSZ PP PP 22 05 32.7 -5.1
comp=Z,8.0nm,0.9s,baz=265,slow=6.7,SNR=6.1
LSZ Lusaka 104.83 106 *e*Pdif Pdif 22 01 13.1 -0.2
comp=Z,25nm,1.9s
LSZ PP PP 22 05 32.7 -5.1
MAW Mawson 105.84 165 Pdiff Pdif 22 01 17.5 +1.0
comp=Z,3.0nm,0.7s,baz=226,slow=10.0,SNR=3.2
MAW PP PP 22 05 42.5 -1.4
comp=Z,4.6nm,0.8s,baz=240,slow=13,SNR=3.9
DRV Dumont d'Urvil 107.05 195 Pdif Pdif 22 01 24.0 +2.1
DRV Dumont d'Urvil 107.05 195 PP PP 22 05 54.0 +0.8
BR131 Keskin Array S 107.14 49 *e*Pdif Pdif 22 01 24.4 +1.5
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 107.14 49 Pdiff Pdif 22 01 25.6 +2.7
comp=Z,2.0nm,0.8s,baz=293,slow=2.9,SNR=7.9
BRTR PKiKP 22 05 32.2
comp=Z,1.0nm,0.7s,baz=225,slow=2.0,SNR=3.3
BRTR PKKPbc 22 16 48.6
comp=Z,2.8nm,0.9s,baz=133,slow=5.9,SNR=9.0
BRTR PKKP PKKP 22 17 03.9 +27
comp=Z,6.7nm,0.9s,baz=128,slow=5.0,SNR=16
VOR Voronezh 107.42 36 *e*P Pdif 22 01 23.0 -0.8
VOR pmax pmax
comp=Z,60nm,2.0s
TIXI Tiksi 107.85 351 *e*P Pdif 22 01 24.9 -0.4
TIXI *e* 22 11 41.6
TIXI *e*SSS SSS 22 24 57.3 -2.2
TIXI pmax pmax
comp=Z,5.0nm,1.5s
TIXI pmax pmax
comp=Z,5.0nm,1.2s
MALT Malatya 111.10 49 *e*PKP PKPdf 22 05 38.3 +1.0
KIV Kislovodsk 112.39 42 *e*P Pdif 22 01 45.3 -0.6
KIV *e* 22 06 28.7
KIV *i* 22 12 09.9
KIV *e*SS SS 22 21 59.1 +5.1
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,400nm,20.0s
UMJS Umm Lajj 113.05 63 P PKPdf 22 05 44.5 +3.1
ONI Oni 113.40 44 P SKS 22 12 14.3 +6.0
KMBO Kilima Mbogo 114.80 92 PKP PKPdf 22 05 49.0 +3.9
comp=Z,1.1nm,0.8s,baz=181,slow=6.2,SNR=3.1
KMBO PP PP 22 06 46.5 -4.1
comp=Z,7.8nm,1.1s,baz=253,slow=8.3,SNR=6.8
KMBO PKKPbc 22 16 24.8
comp=Z,2.5nm,0.9s,baz=48,slow=8.9,SNR=7.5
KMBO Kilima Mbogo 114.80 92 PKP PKPdf 22 05 49.0 +3.9
KMBO PP PP 22 06 46.5 -4.1
KMBO PKKPbc 22 16 24.8
ARU Arti 114.88 25 *i*PKIKP PKPdf 22 05 45.6 +1.4
ARU *e* 22 06 44.0
ARU *e*SP SP 22 16 05.3 -0.3
ARU *e*SSS SSS 22 26 43.5 -3.4
ARU Arti 114.88 25 *e*PKP PKPdf 22 05 45.1 +0.9
YAK Yakutsk 116.13 346 *e*PKIKP PKPdf 22 05 46.9 +0.4
YAK *i* 22 06 50.1
YAK pmax pmax
comp=Z,4.0nm,0.8s
YAK pmax pmax
comp=Z,11nm,1.0s
AFFS 'Afif 118.38 64 P PKPdf 22 05 54.4 +2.6
AKTO Aktyubinsk 118.39 31 PKKPbc 22 16 10.6
comp=Z,6.6nm,0.5s,baz=113,slow=4.2,SNR=21
AKTO Aktyubinsk 118.39 31 PKIKP PKPdf 22 05 53.0 +1.8
AKTO pmax pmax
comp=Z,1.0nm,0.8s
DJNS Zahran al Janu 120.00 70 P PKPdf 22 05 58.4 +3.4
ATD Arta Tunnel 120.08 78 PKP PKPdf 22 05 58.8 +3.5
comp=Z,7.8nm,0.8s,baz=259,slow=16,SNR=3.2
AB31 Akbulak array 120.10 31 *i*PKIKP PKPdf 22 05 56.1 +1.6
AB31 pmax pmax
comp=Z,4.0nm,0.5s
KAMS Al Khamasin 120.53 67 P PKPdf 22 05 58.4 +2.3
MIB Mutribah 120.63 56 *e*P PKPdf 22 05 58.2 +2.1
MIB AMb AMB 22 06 01.1
comp=Z,60nm,0.7s
NAY Al-Naaiem 120.72 57 *e*P PKPdf 22 05 58.2 +1.9
UMR Umm Al-Rimmam 121.02 56 *e*P PKPdf 22 05 59.1 +2.2
UMR AMb AMB 22 05 59.8
comp=Z,68nm,0.7s
BRVK Borovoye 122.03 22 *e*PKIKP PKPdf 22 05 59.7 +1.5
BVA0 Borovoye Array 122.10 22 *i*PKIKP PKPdf 22 05 59.4 +1.1
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 122.10 22 PKhKP 22 05 51.3
comp=Z,0.5nm,0.5s,baz=248,slow=3.4,SNR=4.8
BVAR PKP PKPdf 22 06 00.0 +1.7
comp=Z,10.0nm,0.7s,baz=265,slow=2.3,SNR=29
BVAR PP PP 22 07 35.5 -4.2
comp=Z,4.7nm,0.9s,baz=270,slow=4.4,SNR=4.0
BVAR Borovoye Array 122.10 22 PKIKP PKPdf 22 05 51.3 -7.0
BVAR 22 07 35.5
OPO Ambohidratompo 122.22 113 PKP PKPdf 22 06 01.8 +2.5
comp=Z,3.5nm,0.5s,baz=200,slow=2.0,SNR=15
VOSK Vostochnaya 122.56 22 PKIKP PKPdf 22 06 00.8 +1.6
VOSK pmax pmax
comp=Z,2.0nm,0.8s
YSS Yuzh-Sakhalins 122.66 328 *e*PKIKP PKPdf 22 06 02.0 +2.5
YSS *e* 22 24 05.0
YSS *e* 22 28 36.0
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,1μm,17.0s
CNB Canberra Magne 122.96 225 *e*PKP PKPdf 22 06 01.9 +1.5
comp=Z,46nm,0.7s
BOD Bodaibo 123.00 353 *e*PKIKP PKPdf 22 05 59.7 -0.2
BOD pmax pmax
comp=Z,7.0nm,0.6s
TOO Toolangi 124.43 221 *e*PKP PKPdf 22 06 03.7 +0.5
comp=Z,21nm,0.6s
NVS Novosibirsk 124.47 13 *i*PKIKP PKPdf 22 06 01.4 -1.5
NVS *e* 22 07 54.8
NVS *e* 22 19 29.2
NVS pmax pmax
comp=Z,17nm,1.4s
NVS pmax pmax

comp=E,18nm,2.0s
NVS pmax pmax
comp=N,27nm,1.7s
NVS pmax pmax
comp=E,18nm,1.7s
ASAJ Asahikawa 124.54 326 PKP PKPdf 22 06 04.7 +1.4
comp=E,22nm,0.7s,baz=83,slow=5.9,SNR=7.0
ZAL Zalesovo 125.66 13 PKhKP 22 05 55.9
comp=E,0.8nm,0.8s,baz=206,slow=3.4,SNR=5.2
ZAL PKP PKPdf 22 06 06.2 +1.1
comp=E,21nm,0.7s,baz=187,slow=1.8,SNR=59
ZAL pPKP 22 06 56.8
comp=E,7.7nm,0.8s,baz=197,slow=3.2,SNR=3.2
ZAL SKP 22 09 24.9
comp=E,4.1nm,0.9s,baz=263,slow=2.2,SNR=3.7
ZAL PKKPbc 22 15 42.0
comp=E,2.6nm,0.6s,baz=314,slow=1.8,SNR=9.0
ZAL SKKPbc 22 19 14.9
comp=E,2.0nm,1.0s,baz=266,slow=2.1,SNR=3.4
ZAL Zalesovo 125.66 13 PKIKP 22 05 55.9
ZAL 22 06 56.8
KLR Kul'dur 126.13 337 *e*PKIKP PKPdf 22 06 03.8 -2.4
KLR *e* 22 08 02.8
KLR pmax pmax
comp=Z,63nm,2.0s
KURK Kurchatov 126.89 19 *e*PKIKP PKPdf 22 06 08.3 +0.7
KKAR Karatay Array 129.66 30 *i* PKIKP PKPdf 22 06 14.9 +1.7
KKAR pmax pmax
comp=Z,13nm,1.0s
MOY Mondy 129.90 1 *e*PKIKP PKPdf 22 06 15.8 +2.4
MOY *e* 22 07 05.3
MOY *e* 22 08 27.3
MOY pmax pmax
comp=Z,43nm,2.4s
HIA Hailar 130.06 345 *e*PKPdf PKPdf 22 06 14.1 +0.4
HIA *e*PP PP 22 08 27.2 -5.4
HIA *e*SKPbc 22 09 20.0
STKA Stephens Creek 130.28 225 *e*PKP PKPdf 22 06 15.5 +0.8
comp=Z,50nm,0.9s
STKA *e*PP PP 22 08 28.8 -5.8
STKA *e*SKP 22 09 20.3
STKA *e*PKS PKS 22 09 39.8 -10
STKA Stephens Creek 130.28 225 PKhKP 22 06 06.8
comp=E,5.7nm,0.8s,baz=132,slow=21,SNR=4.7
STKA PKP PKPdf 22 06 15.7 +1.1
comp=Z,46nm,0.8s,baz=115,slow=1.4,SNR=27
STKA PP PP 22 08 28.4 -6.1
comp=Z,14nm,1.0s,baz=96,slow=5.9,SNR=6.8
STKA Stephens Creek 130.28 225 PKP 22 06 06.8
STKA *e*PKPdf PKPdf 22 06 14.8 +0.1
STKA *e*PKP PKPdf 22 06 15.5 +0.8
STKA *e*PP PP 22 08 28.8 -5.8
STKA *e*PP PP 22 08 29.3 -5.3
STKA *e*SKP 22 09 20.3
STKA *e*PKS PKS 22 09 39.8 -10
MDJ Mudanjiang 130.71 335 PKP PKPdf 22 06 16.3 +1.2
MDJ PKS PKS 22 09 53.3 +3.2
MDJ SS SS 22 25 49.6 +2.5
MDJ PP PP
comp=Z,430nm,10.2s
MDJ LR LR
comp=N,460nm,34.1s
MDJ LR LR
comp=E,1μm,31.6s
MDJ LR LR
comp=Z,870nm,24.0s
ZAK Zakamensk 131.20 359 *e*PKIKP PKPdf 22 06 17.6 +1.7
ZAK *e* 22 07 01.8
ZAK *e* 22 08 34.0
ZAK pmax pmax
comp=Z,10.0nm,1.9s
ZAK pmax pmax
comp=Z,11nm,1.9s
ZAK pmax pmax
comp=Z,109nm,1.8s
ZAK pmax pmax
comp=Z,134nm,2.0s
USP Ospenovka 131.45 27 P PKPdf 22 06 19.1 +2.5
SNR=12
MKAR Makanchi Array 131.50 18 PKhKP 22 06 05.5
comp=E,1.7nm,0.8s,baz=308,slow=2.7,SNR=10
MKAR PKP PKPdf 22 06 17.2 +0.7
comp=Z,7.0nm,0.6s,baz=320,slow=2.1,SNR=44
MKAR pPKP 22 07 07.5
comp=Z,5.4nm,0.8s,baz=304,slow=4.4,SNR=2.7
MKAR PP PP 22 08 35.8 -6.3
comp=Z,8.0nm,1.0s,baz=349,slow=6.2,SNR=4.9
MKAR SKPbc 22 09 25.4
comp=Z,8.6nm,0.8s,baz=326,slow=4.4,SNR=8.3
MKAR PKKP PKKP 22 16 14.1 +24
comp=Z,0.7nm,0.9s,baz=226,slow=2.8,SNR=4.5
MKAR tx tx 22 18 01.6
comp=Z,1.2nm,0.9s,baz=125,slow=7.4,SNR=3.8
MKAR SKKPbc 22 18 49.8
comp=Z,2.6nm,0.9s,baz=129,slow=7.8,SNR=2.7
MKAR Makanchi Array 131.50 18 PKP 22 06 05.5
MKAR PKP PKPdf 22 06 17.2 +0.7
MKAR pPKP 22 07 07.5
MKAR PP PP 22 08 35.8 -6.3
MKAR SKPbc 22 09 25.4
MKAR PKKP PKKP 22 16 14.1 +24
MKAR SKKPbc 22 18 49.8
EKS2 Erkin-Say 131.58 28 P PKPdf 22 06 18.7 +1.9
SNR=11
CHMS Chumysh 131.77 27 P PKPdf 22 06 20.1 +2.9
SNR=6.2
FRU Bishkek 131.84 27 *e*PKHKP 22 06 07.0
FRU *e* 22 13 10.0
FRU pmax pmax
comp=Z,120nm,2.2s
FRU pmax pmax
comp=Z,720nm,2.2s
FRU pmax pmax
comp=Z,3μm,7.0s
MAJO Matsushiro 131.87 321 *e*PKPdf PKPdf 22 06 18.3 +0.7
MAJO *e*SKP 22 09 27.1
MAT Matsushiro 131.87 321 PKP PKPdf 22 06 19.0 +1.4
MAT Matsushiro 131.87 321 *e*PKIKP PKPdf 22 06 19.0 +1.4
MJAR Matsushiro Arr 131.87 321 PKP PKPdf 22 06 18.6 +1.1
comp=Z,5.8nm,0.5s,baz=101,slow=1.1,SNR=18
MJAR SKPbc 22 09 27.4
comp=Z,15nm,0.8s,baz=41,slow=2.4,SNR=16
AAK Ala-Archa 131.94 28 P PKPdf 22 06 19.0 +1.5
SNR=11
AAK Ala-Archa 131.94 28 *e*PKPdf PKPdf 22 06 18.0 +0.5
AAK *e*SKP 22 09 28.2
CTA Charters Tower 132.02 241 *e*PKP PKPdf 22 06 18.5 +0.3
comp=Z,30nm,0.6s
CTA *e*PP PP 22 08 43.0 -2.9
CTA *e*SKP 22 09 26.7
CTA Charters Tower 132.02 241 PKP PKPdf 22 06 19.4 +1.1
comp=Z,35nm,0.5s,baz=116,slow=2.0,SNR=84
CTA PP PP 22 08 42.9 -3.0
comp=Z,7.7nm,1.1s,baz=102,slow=6.9,SNR=5.7
CTA SKPbc 22 09 27.0
comp=Z,36nm,1.1s,baz=117,slow=4.2,SNR=7.6
CTAO Charters Tower 132.02 241 *e*PKPdf PKPdf 22 06 18.6 +0.3
CTAO *e*PP PP 22 08 42.8 -3.0
CTAO *e*SKP 22 09 26.6
KBK Karagaybulak 132.13 27 P PKPdf 22 06 19.3 +1.4
SNR=8.4
TKM2 Tokmak 2 132.22 27 P PKPdf 22 06 21.6 +3.5
SNR=8.7
TKM2 Tokmak 2 132.22 27 PKIKP PKPdf 22 06 18.7 +0.7
TKM2 pmax pmax
comp=Z,33nm,1.1s
UCH Uchtor 132.26 28 P PKPdf 22 06 19.0 +0.8
SNR=9.5
CN2 Changchun 133.07 337 *e*PKP PKPdf 22 06 21.1 +1.5
CN2 PP PP 22 08 52.4 +0.9
CN2 PP PP
comp=Z,1μm,6.0s
CN2 LR LR
comp=N,1μm,21.0s
CN2 LR LR
comp=E,710nm,21.0s
CN2 LR LR
comp=Z,1μm,23.0s
ULN Ulaanbaatar 133.55 356 *e*PKPpre 22 06 15.3
ULN *e*PKPdf PKPdf 22 06 21.6 +1.2
ULN *e*SKP 22 09 33.3
SONM Songino Array 133.62 356 PKhKP 22 06 09.2
comp=Z,0.7nm,0.4s,baz=345,slow=2.5,SNR=4.3
SONM PKP PKPdf 22 06 22.0 +1.5
comp=Z,15nm,0.7s,baz=302,slow=1.2,SNR=36
SONM PP PP 22 08 50.4 -4.8
comp=Z,13nm,1.2s,baz=27,slow=3.3,SNR=6.2
SONM SKPbc 22 09 33.7
comp=Z,14nm,0.9s,baz=336,slow=2.1,SNR=8.4
SONM tx tx 22 18 14.6
comp=Z,1.1nm,0.9s,baz=160,slow=6.2,SNR=3.7
SONM SKKPbc 22 18 48.6
comp=Z,2.9nm,1.0s,baz=196,slow=2.2,SNR=5.2
SONM Songino Array 133.62 356 PKP 22 06 09.2
SONM PKP PKPdf 22 06 22.0 +1.5
SONM PP PP 22 08 50.4 -4.8
SONM SKPbc 22 09 33.7
SONM SKKPbc 22 18 48.6
PMG Port Moresby 134.16 256 PKhKP 22 06 20.4
comp=Z,13nm,1.0s,baz=41,slow=3.6,SNR=4.5
PMG PKP PKPdf 22 06 23.4 +1.0
comp=Z,13nm,1.0s,baz=52,slow=6.4,SNR=10
PMG SKPbc 22 09 34.3
comp=Z,25nm,1.2s,baz=43,slow=3.2,SNR=8.0
PMG Port Moresby 134.16 256 *e*PKPdf 22 06 20.7
PMG *e*SKP 22 09 34.4
WMQ Urumqi 135.78 15 *e*PKP PKPdf 22 06 24.8 +0.2
WMQ PP PP 22 09 09.1 +0.7
WMQ PKS PKS 22 09 59.6 +0.1
WMQ SKKS 22 15 42.3
WMQ SS SS 22 26 51.1 +2.6
WMQ PP PP
comp=Z,2μm,6.2s
WMQ LR LR
comp=N,1μm,22.0s
WMQ LR LR
comp=E,1μm,22.0s
WMQ LR LR
comp=Z,2μm,21.0s
KS15 Wonju Array Si 137.15 330 *e*PKPdf PKPdf 22 06 28.5 +1.2
KS15 *e*SKP 22 09 44.6
JNU Nakatsue 138.65 323 PKP PKPdf 22 06 30.8 +0.6
comp=Z,10nm,0.8s,baz=107,slow=12,SNR=3.8
FORT Forrest 139.75 215 *e*PKP PKPdf 22 06 28.0 -4.2
comp=Z,54nm,0.5s
HHC Hu-ho-hao-te 139.87 349 *e*PKP PKPdf 22 06 32.0 -0.2
HHC PKS PKS 22 10 06.0 -0.7
HHC SKS SKS 22 13 24.8 +3.7
HHC PP PP
comp=Z,820nm,6.5s
HHC LR LR
comp=N,580nm,21.1s
HHC LR LR
comp=E,780nm,20.6s
HHC LR LR
comp=Z,1μm,22.3s
ASPA Alice Springs 140.53 229 *e*PKP PKPdf 22 06 25.8 -8.1
ASPA *e*PKKS 22 18 38.7
BHJ Bhuj 141.52 53 *e*P PKPdf 22 06 35.6 +0.1
BHJ AMb AMB 22 06 37.8
comp=Z,84nm,1.0s
GTA Gaotai 142.10 3 PKP PKPdf 22 06 32.9 -3.2
GTA PP PP 22 09 44.3 -2.8
GTA PKS PKS 22 10 07.3 -3.2
GTA SKS SKS 22 13 25.3 +0.4
GTA SKKS 22 16 16.0
GTA SS SS 22 28 02.5 -0.4
GTA PP PP
comp=Z,470nm,8.0s
GTA LR LR
comp=N,820nm,22.9s
GTA LR LR
comp=E,380nm,20.3s
GTA LR LR
comp=Z,1μm,27.5s
WB2 Warramunga Arr 142.17 234 *e*PKP PKPdf 22 06 32.1 -4.7
WB2 *e*PP PP 22 09 43.3 -4.8
WB2 *e*SKIKP 22 09 57.5
WB2 *e*PKKS 22 18 32.6
WRAB Tennant Creek 142.18 234 *e*PKPpre 22 06 31.6
WRAB *e*PP PP 22 09 45.1 -3.0
WRAB *e*SKP 22 09 57.8
WRA Warramunga Arr 142.18 234 PKhKP 22 06 32.0
comp=Z,53nm,0.7s,baz=113,slow=3.2,SNR=270
WRA PKP PKPdf 22 06 38.0 +1.2
comp=Z,49nm,0.6s,baz=110,slow=2.9,SNR=35
WRA PP PP 22 09 43.7 -4.4
comp=Z,18nm,1.1s,baz=120,slow=5.2,SNR=14
WRA SKPbc 22 09 56.9
comp=Z,20nm,0.9s,baz=114,slow=2.6,SNR=11
WRA tx tx 22 17 26.9
comp=Z,2.5nm,1.0s,baz=265,slow=1.5,SNR=4.7
TIA Tai'an 142.78 340 *e*PKP PKPdf 22 06 35.1 -2.2
NWAO Narrogin (SRO) 143.09 201 PKhKP 22 06 36.0
comp=Z,31nm,0.5s,baz=144,slow=4.7,SNR=32
NWAO PKP PKPdf 22 06 39.7 +1.7
comp=Z,29nm,0.6s,baz=143,slow=4.8,SNR=13
NWAO Narrogin (SRO) 143.09 201 *e*PKHKP 22 06 35.6
NWAO 22 06 39.7
AJM Ajmer 143.48 45 *e*P PKPbc 22 06 38.8 +1.2
AJM AMb AMB 22 06 41.4
comp=Z,61nm,1.5s
KLBR Kellerberrin 144.10 203 *e*PKP PKPdf 22 06 38.0 -1.8
comp=Z,225nm,0.5s
JOW Kunigami 144.56 318 PKP PKPdf 22 06 40.8 +0.1
comp=Z,168nm,0.6s,baz=70,slow=2.9,SNR=46
LZH Lanzhou 145.47 358 ⇑PKP PKPdf 22 06 45.0 +3.0
LZH APKP 22 07 34.6
LZH XPKP 22 07 55.3
LZH PP PP 22 10 09.5 +2.1
LZH PKS PKS 22 10 19.3 +3.2
LZH SKS SKS 22 13 33.0 +3.0
LZH SKKS 22 16 38.6
LZH SS SS 22 28 42.9 +2.1
LZH PP PP
comp=Z,860nm,6.5s
LZH LR LR
comp=N,790nm,18.6s
LZH LR LR
comp=Z,1μm,20.0s
SSE Sheshan 145.53 331 PKP PKPdf 22 06 42.8 +0.5
SSE PP PP 22 10 08.4 +0.4
SSE SS SS 22 28 40.1 -1.6
SSE PP PP
comp=Z,290nm,12.0s
SSE LR LR
comp=N,530nm,20.0s
SSE LR LR
comp=E,760nm,20.0s
SSE LR LR
comp=Z,930nm,24.2s
NJ2 Nanjing 145.80 335 *e*PKP PKPdf 22 06 43.3 +0.6
NJ2 APKP 22 07 32.3
NJ2 PP PP 22 10 10.0 +0.5
NJ2 PKS PKS 22 10 20.0 +3.2
NJ2 SKKS 22 16 37.0
NJ2 SS SS 22 28 41.0 -3.6
NJ2 PP PP
comp=Z,780nm,10.1s
NJ2 LR LR
comp=N,2μm,31.6s
NJ2 LR LR
comp=E,3μm,36.3s
NJ2 LR LR
comp=Z,450nm,25.8s
BOM Bombay 146.18 57 *e*P PKPdf 22 06 45.7 +2.0
comp=Z,351nm,1.8s
KAKA Kakadu 147.06 244 *e*PKP PKPdf 22 07 08.3 +23
comp=Z,398nm,0.6s
POO Poona 147.22 57 *e*P PKPdf 22 06 46.7 +1.3
POO AMb AMB 22 06 53.8
comp=Z,457nm,1.1s
BHPL Bhopal 147.46 46 *e*P PKPdf 22 06 48.5 +2.8
BHPL AMb AMB 22 06 54.4
comp=Z,678nm,1.0s
KAD Karad 148.06 59 *e*P PKPdf 22 06 48.5 +1.7
KAD AMb AMB 22 06 58.0
comp=Z,217nm,0.8s
KOLN Koldanda 148.19 33 *e*P PKPdf 22 06 48.1 +1.3
comp=Z,533nm,1.1s
GKN Gorkha 148.56 31 *e*P PKPdf 22 06 48.3 +0.9
comp=Z,552nm,0.9s
DGAR Diego Garcia 148.86 107 *e*PKPdf PKPdf 22 06 49.8 +1.6
DGAR *e*PKPbc PKPdf 22 06 54.6 +6.4
WHN Wuhan 148.88 340 PKP PKPdf 22 06 50.0 +2.2
KKN Kakani 149.06 30 *e*P PKPdf 22 06 49.6 +1.4
comp=Z,341nm,0.6s
DMN Daman 149.12 31 *e*P PKPdf 22 06 49.0 +0.7
GUN Gumba 149.26 30 *e*P PKPdf 22 06 50.1 +1.6
comp=Z,594nm,0.8s
PKI Pulchoki 149.30 31 *e*P PKPdf 22 06 50.0 +1.4
comp=Z,315nm,0.7s
JIRN Jiri 149.62 29 *e*P PKPdf 22 06 50.6 +1.5
comp=Z,50nm,0.3s
LSA Lhasa 149.89 20 PKP PKPdf 22 06 52.4 +3.0
LSA Lhasa 149.89 20 *e*PKPdf PKPdf 22 06 52.1 +2.7
LSA *e*PKPbc PKPdf 22 06 56.8 +7.4
FITZ Fitzroy Crossi 150.03 229 *e*PKP PKPdf 22 06 50.5 +0.6
comp=Z,364nm,0.8s
FITZ *e*pPKP 22 07 46.8
YHNB Yeheng 150.49 323 *e*PKPbc PKPdf 22 06 56.1 +5.6
ENH Enshi 150.51 347 *e*PKPdf PKPdf 22 06 51.7 +1.3
ENH *e*PKPbc PKPdf 22 06 57.6 +7.2
CD2 Chengdu 150.63 358 PKP PKPdf 22 06 53.0 +2.5
CD2 PKS PKS 22 10 24.3 +0.4
CD2 PP PP
comp=Z,620nm,7.2s
CD2 LR LR
comp=N,450nm,19.2s
CD2 LR LR
comp=Z,500nm,21.6s
NACB Ninganchiao 150.72 322 *e*PKPbc PKPdf 22 06 57.9 +7.1
NACB *e*PKPab PKPab 22 07 04.8 -1.9
BLSP Bilaspur 151.47 42 *e*P PKPdf 22 06 54.3 +2.3
BLSP AMb AMB 22 07 10.7
comp=Z,379nm,0.8s
HYB Hyderabad 151.66 54 *i* PKP PKPdf 22 06 54.0 +1.6
comp=Z,390nm,1.0s
HYB *e*sPKP 22 07 49.0
HYB *e* 22 08 02.0
HYB *e*SKP 22 10 08.0
HYB *e*PP PP 22 10 42.0 -1.4
HYB *e* 22 11 29.0
HYB *e* 22 17 08.0
HYB Hyderabad 151.66 54 *e*P PKPdf 22 06 54.0 +1.6
HYB *e* 22 07 49.0
QZH Quanzhou 151.86 328 PKP PKPdf 22 06 51.4 -1.1
QZH APKP 22 07 42.5
QZH XPKP 22 08 00.0
QZH PKS PKS 22 10 31.5 +5.8
QZH PP PP 22 10 50.1 +5.9
QZH SS SS 22 29 54.1 +1.9
QZH LR LR
comp=Z,1μm,24.0s
MBWA Marble Bar 151.89 216 *e*PKPdf PKPdf 22 06 53.7 +1.0
MBWA *e*PKPbc PKPdf 22 06 59.8 +7.1
MBWA *e*PKPab PKPab 22 07 10.0 -1.7
BOK Bokaro 152.58 34 *e*P PKPdf 22 06 56.5 +2.9
BOK AMb AMB 22 07 15.9
comp=Z,329nm,1.1s
TRD Trivandrum 153.70 74 *e*P PKPdf 22 06 58.0 +2.6
GYA Guiyang 154.76 351 *i* PKP PKPdf 22 06 58.0 +1.6
GYA PP PP
comp=Z,670nm,8.9s
GYA LR LR
comp=N,1μm,20.4s
GYA LR LR
comp=E,1μm,20.6s
GYA LR LR
comp=Z,2μm,21.0s
VIS Vishakhapatnam 155.21 48 *e*P PKPdf 22 06 59.5 +2.3
KMI Kunming 156.42 359 PKP PKPdf 22 07 00.9 +2.2
KMI PKP2 PKPab 22 07 29.9 -0.8
KMI APKP 22 07 50.3
KMI XPKP 22 08 08.9
KMI SKS SKS 22 13 47.3 +3.5
KMI LR LR
comp=N,640nm,24.8s
KMI LR LR
comp=E,670nm,21.3s
KMI LR LR
comp=Z,990nm,22.6s
PALK Pallekele 157.59 74 *e*PKPdf PKPdf 22 07 01.4 +0.9
PALK *e*PKPab PKPab 22 07 34.8 -1.2
TGY Tagaytay City 157.76 305 PKPab PKPab 22 07 36.6 -0.1
comp=Z,64nm,0.3s,slow=2.0,SNR=4.0
QIZ Qiongzhong 161.03 338 PKP PKPdf 22 07 05.8 +1.6
QIZ APKP 22 07 57.0
QIZ PP PP 22 11 35.3 +0.1
QIZ SS SS 22 31 31.0 +1.3
QIZ PP PP
comp=Z,400nm,7.2s
CHRT Chiangrai 161.47 8 ⇓P PKPdf 22 07 05.0 +0.4
KKTK Khon Kaen 165.16 358 P PKPdf 22 07 10.0 +1.6
KSM Kuching 172.10 271 *e*PKPdf PKPdf 22 07 13.7 +0.8
KSM *e*PKPab PKPab 22 08 39.2 -0.2
KULM Kulim 175.76 24 *e*PKPdf PKPdf 22 07 15.8 +1.6
KULM *e*PKPab PKPab 22 08 53.8 -1.8

IDC ***23*** *21:47:29.7±1.2,3.60N×95.21E,mb4.2/11,mb1 4.3/12, mb1mx4.2/21,mbtmp4.2/12,ML3.6/1,MS5.2/1,Ms1 5.2/1, ms1mx3.6/19,Error ellipse: s-maj=41.4km s-min=17.0km az=37.0*
BJI ***23*** *21:47:30.8,3.89N×95.33E,h6km,mB5.1,mb4.6,Ms4.7, Msz4.3*
NEIC ***23*** *21:47:33.9±0.5,3.51N×95.22E,h30km,mb4.6/10,Error ellipse: s-maj=16.4km s-min=6.5km az=221.0*
MOS ***23*** *21:47:33.1±0.6,3.65N×95.27E,h33km,mb4.8/6,Error ellipse: s-maj=18.4km s-min=11.1km az=119.5*
ISC 23 21:47:33.1±0.6,3.61N±0.08×95.28E±0.06,h33km,n39, σ0s83/41,mb4.3/25,MS4.9/2,1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.72**	**102**	Pn	**Pn**	**21 48 31.5**	**+1.7**
	4.5nm,0.3s,baz=331,slow=8.0,SNR=13						
PSI				Sn	**Sn**	**21 49 17.6**	**+4.5**
	9.2nm,0.3s,baz=184,slow=22,SNR=4.4						
PSI				LR	LR	21 50 14.0	
	comp=Z,685nm,21.1s,baz=280,slow=43						
KULM	**Kulim**	**5.60**	**73**	*e*Pn	**Pn**	**21 48 56.8**	**+0.3**
KULM				*e*Sn	**Sn**	**21 50 00.3**	**-0.1**
KMI	**Kunming**	**22.56**	**18**	P	**P**	**21 52 32.9**	**+1.0**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
GYA	**Guiyang**	**25.20**	**25**	P	**P**	**21 52 57.6**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**25.44**	**341**	*e*P	**P**	**21 53 00.8**	**+1.0**
	comp=Z,42nm,0.7s,mb5.1						
GUN	**Gumba**	**25.77**	**341**	*e*P	**P**	**21 53 03.9**	**+1.0**
	comp=Z,28nm,0.6s,mb5.0						
KKN	**Kakani**	**25.87**	**339**	*e*P	**P**	**21 53 04.1**	**+0.3**
LSA	**Lhasa**	**26.24**	**352**	*e*P	**P**	**21 53 07.4**	**+0.2**
LSA				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.7						
LSA	**Lhasa**	**26.24**	**352**	*e*P	**P**	**21 53 07.4**	**+0.2**
	comp=Z,15nm,0.6s,mb4.7						
GKN	**Gorkha**	**26.29**	**338**	*e*P	**P**	**21 53 08.1**	**+0.4**
KOLN	**Koldanda**	**26.48**	**336**	*e*P	**P**	**21 53 10.7**	**+1.2**
	comp=Z,35nm,0.7s,mb5.0						
CD2	**Chengdu**	**28.30**	**15**	⇓*i*P	**P**	**21 53 24.0**	**-2.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**36.89**	**127**	*e*P	**P**	**21 54 37.4**	**-3.4**
	comp=Z,6.3nm,1.4s,mb4.2						
HHC	**Hu-ho-hao-te**	**39.87**	**19**	*e*P	**P**	**21 55 05.8**	**+0.4**
HHC				AP	pP	21 55 15.5	+0.3
HHC				PP	PP	21 56 41.8	+0.9
HHC				PCP	PcP	21 57 12.6	+1.2
HHC				SCP		22 00 56.3	
HHC				PCS		22 01 00.9	
HHC				S	**S**	**22 01 06.9**	**-0.8**
HHC				SS	SS	22 03 58.3	0.0
HHC				SCS	ScS	22 05 08.3	+0.3
HHC				AMB	AMB		
	comp=Z,250nm,5.9s						
HHC				LR	LR		
	comp=N,480nm,15.5s,MS4.6						
HHC				LR	LR		
	comp=E,470nm,14.3s,MS4.6						
HHC				LR	LR		
	comp=Z,300nm,14.3s,MS4.3						
MKAR	**Makanchi Array**	**44.47**	**347**	P	**P**	**21 55 42.9**	**0.0**
	comp=Z,1.5nm,0.4s,mb4.1,baz=161,slow=8.1,SNR=23						
WRA	**Warramunga Arr**	**44.94**	**123**	P	**P**	**21 55 46.8**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.1,baz=302,slow=9.1,SNR=7.9						
WRAB	**Tennant Creek**	**44.94**	**123**	*e*P	**P**	**21 55 47.3**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**44.94**	**123**	*e*P	**P**	**21 55 47.3**	**+0.2**

	comp=Z,3.0nm,0.5s,mb4.4								
WB2	**Warramunga Arr**	**44.95**	**123**	*e*P		**P**		**21 55 47.4**	**+0.2**
SONM	**Songino Array**	**45.08**	**11**	P		**P**		**21 55 47.1**	**-0.8**
	comp=Z,1.3nm,0.7s,mb3.9,baz=189,slow=8.0,SNR=12								
SONM				PcP		PcP		21 57 28.8	+0.1
	comp=Z,0.8nm,0.6s,baz=180,slow=3.1,SNR=5.3								
KURK	**Kurchatov**	**48.99**	**346**	*e*P		**P**		**21 56 17.6**	**-0.9**
KURK				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
KURK	**Kurchatov**	**48.99**	**346**	*e*P		**P**		**21 56 17.6**	**-0.9**
	comp=Z,3.3nm,0.7s,mb4.5								
HIA	**Hailar**	**50.03**	**21**	P		**P**		**21 56 26.0**	**-0.5**
HIA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
HIA	**Hailar**	**50.03**	**21**	P		**P**		**21 56 26.0**	**-0.5**
	comp=Z,3.4nm,0.7s,mb4.5								
ZAL	**Zalesovo**	**50.90**	**352**	P		**P**		**21 56 32.4**	**-0.7**
	comp=Z,6.2nm,0.7s,mb4.7,baz=303,slow=6.1,SNR=36								
MJAR	**Matsushiro Arr**	**51.27**	**45**	P		**P**		**21 56 36.1**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=266,slow=7.1,SNR=3.2								
PMG	**Port Moresby**	**53.29**	**104**	P		**P**		**21 56 50.9**	**-0.6**
	comp=Z,7.7nm,0.6s,mb4.8,baz=293,slow=8.5,SNR=4.6								
PMG	**Port Moresby**	**53.29**	**104**	*e*P		**P**		**21 56 50.6**	**-0.9**
PMG				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PMG	**Port Moresby**	**53.29**	**104**	*e*P		**P**		**21 56 50.6**	**-0.9**
	comp=Z,9.9nm,0.7s,mb4.8								
BVAR	**Borovoye Array**	**53.36**	**342**	P		**P**		**21 56 50.8**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.1,baz=142,slow=9.7,SNR=9.5								
KMBO	**Kilima Mbogo**	**58.19**	**266**	LR		LR		22 16 32.8	
	comp=Z,2µm,19.2s,MS5.3,baz=94,slow=30								
TIXI	**Tiksi**	**71.17**	**11**	*e*P		**P**		**21 58 46.7**	**-3.5**
TIXI				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
AKASG	**Malin Array Be**	**72.19**	**322**	P		**P**		**21 58 55.7**	**-0.8**
	comp=Z,1.8nm,0.7s,mb4.1,baz=91,slow=5.1,SNR=7.1								
AKASG	**Malin Array Be**	**72.19**	**322**	P		**P**		**21 58 55.7**	**-0.8**
JOF	**Joensuu**	**75.16**	**335**	*e*p		**P**		**21 59 13.9**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.7								
FINES	**FINESS Array B**	**76.99**	**333**	P		**P**		**21 59 24.1**	**0.0**
	comp=Z,1.0nm,0.3s,mb4.2,baz=98,slow=5.4,SNR=21								
KAF	**Kangasniemi**	**77.08**	**333**	*e*p		**P**		**21 59 24.4**	**-0.2**
	comp=Z,0.4nm,0.3s,mb3.8								
ARCES	**ARCESS Array B**	**79.63**	**340**	P		**P**		**21 59 38.9**	**+0.4**
	comp=Z,3.3nm,0.9s,mb4.2,baz=76,slow=5.0,SNR=10.0								
GERES	**GERESS Array B**	**81.75**	**319**	P		**P**		**21 59 50.8**	**+0.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=104,slow=5.5,SNR=12								

*NNC **23** 21:47:47.4±144.0, 42.58N×87.16E, mb2.9, mpv2.5, Error ellipse: s-maj=1522.9km s-min=1100.2km az=142.0*

BJI 23 21:47:46.5, 42.35N×86.76E, h15km, ML2.9, 1C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.62**	**25**	PG	Pg	21 48 16.5	-2.5
WMQ				SG	Sg	21 48 38.3	-2.4
WMQ				Smax			
	comp=N,230nm,0.5s						
WMQ				Smax			
	comp=E,280nm,0.3s						
MK31	**Makanchi Array**	**5.47**	**326**	Pn	Pn	21 49 10.0	+0.5
	comp=E,0.2nm,0.3s,baz=148,slow=14,SNR=8.7						
MK31				⇑Lg		21 50 40.9	
	comp=E,1.1nm,0.5s,baz=136,slow=26,SNR=3.9						

*KNET **23** 21:54:15.9, 42.78N×77.77E, ml2.5*
*NNC **23** 21:54:18.3±4.6, 42.81N×77.76E, mb3.1, mpv3.2, Error ellipse: s-maj=32.0km s-min=21.7km az=62.0*

ISC 23 21:54:14.3±1.9, 42.9N±0.1×78.2E±0.1, h10km, n11, σ1§27/20, 11C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**0.96**	**288**	⇑P	**Pb**	**21 54 32.5**	**+0.1**
KNDC	75nm,0.3s						
	309nm,0.3s			⇑S	**Sb**	**21 54 41.9**	**-3.0**
ULHL	**Ulahol**	**1.60**	**246**	⇑P	**Pn**	**21 54 40.0**	**-2.8**
ULHL	6.4nm,0.1s,SNR=74						
	89nm,0.1s			⇓S	**Sb**	**21 54 58.8**	**-4.9**
TKM2	**Tokmak 2**	**1.92**	**271**	⇓P	**Pn**	**21 54 46.5**	**-0.8**
TKM2	8.0nm,0.1s,SNR=16						
	54nm,0.1s			⇑S	**Sn**	**21 55 10.3**	**-1.4**
TKM2	**Tokmak 2**	**1.92**	**271**	⇑P	**Pn**	**21 54 46.5**	**-0.8**
TKM2	4.3nm,0.3s						
	5.1nm,0.1s			⇓S	**Sn**	**21 55 10.0**	**-1.8**
KZA	**Kyzart**	**2.34**	**250**	⇑P	**Pn**	**21 54 53.1**	**-0.4**
KZA	7.8nm,0.3s,SNR=12						
	22nm,0.3s			⇑S	**Sn**	**21 55 22.4**	**-0.3**
KBK	**Karagaybulak**	**2.41**	**265**	⇑P	**Pn**	**21 54 54.9**	**+0.4**
KBK	12nm,0.2s,SNR=25						
	40nm,0.2s			⇑S	**Sn**	**21 55 24.2**	**-0.2**
CHMS	**Chumysh**	**2.54**	**273**	⇓P	**Pn**	**21 54 56.8**	**+0.5**
CHMS	4.8nm,0.2s,SNR=8.0						
	12nm,0.2s			⇓S	**Sn**	**21 55 28.6**	**+1.1**
USP	**Ospenovka**	**2.74**	**278**	⇑P	**Pn**	**21 54 59.5**	**+0.4**
USP	6.0nm,0.2s,SNR=12						
	31nm,0.3s			⇓S	**Sn**	**21 55 34.9**	**+2.4**
AAK	**Ala-Archa**	**2.75**	**265**	⇓P	**Pn**	**21 54 60.0**	**+0.7**
AAK	5.4nm,0.2s,SNR=11						
	18nm,0.2s			⇑S	**Sn**	**21 55 34.7**	**+1.9**
UCH	**Uchtor**	**2.81**	**257**	⇓P	**Pn**	**21 55 00.8**	**+0.6**
	3.3nm,0.3s,SNR=8.7						
KK31	**Karatay Array**	**5.65**	**274**	Pg	**Pg**	**21 55 55.9**	**-11**
	0.8nm,0.5s,baz=86,slow=14,SNR=4.3						
KK31				⇓Lg		21 57 06.9	
	2.0nm,0.5s,baz=98,slow=29						

*ATH **23** 22:08:58.2, 38.32N×22.30E, h27km±1km, MD3.4/20, ML3.3*
*NEIC **23** 22:08:58.2, 38.32N×22.30E, h27km, ML3.3(ATH), After ATH.*
*CSEM **23** 22:08:58.6±0.1, 38.31N×22.34E, h10km, ML3.3, Error ellipse: s-maj=1.3km s-min=1.2km az=163.0*
*THE **23** 22:08:59.5, 38.37N×22.44E, h5km, ML3.4*
*IDC **23** 22:09:02.6±2.6, 38.13N×22.34E, h51km±31km, mb3.5/3, mb1 3.7/6, mb1mx3.4/22, mbtmp3.6/6, ML3.2/3, MS3.5/2, Ms1 3.5/2, ms1mx3.3/25, Error ellipse: s-maj=27.7km s-min=18.2km az=61.0*

ISC 23 22:08:58.7±0.7, 38.32N±0.03×22.33E±0.03, h17km±7km, n41, σ1§08/57, mb4.0/2, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.62**	**58**	*e*PB	**Pb**	**22 09 10.3**	**-0.4**
LKR				*e*SN	**Sn**	**22 09 20.1**	**-1.9**
AGG	**Agios Georgios**	**0.70**	**0**	*e*Pg	**Pb**	**22 09 11.2**	**-0.9**
AGG				*e*Sg	**Sb**	**22 09 21.6**	**+0.5**
EVR	**Evrytania**	**0.72**	**326**	*e*PN	**Pn**	**22 09 11.6**	**-2.4**
EVR				*e*SB	**Sb**	**22 09 22.8**	**+1.0**
RLS	**Riolos of Patr**	**0.73**	**249**	*e*PN	**Pn**	**22 09 12.0**	**-2.1**
RLS				*e*SN	**Sn**	**22 09 22.6**	**-2.2**
MGER	**Gerania Oros**	**0.81**	**114**	*e*PN	**Pn**	**22 09 15.3**	**+0.1**
MGER	**Gerania Oros**	**0.81**	**114**	*e*PN	**Pn**	**22 09 15.0**	**-0.2**
NAIG	**Nisos Aigina**	**1.07**	**121**	*e*PN	**Pn**	**22 09 20.0**	**+1.0**
MPAR	**Parnis Oros**	**1.12**	**98**	*e*PN	**Pn**	**22 09 19.5**	**-0.2**
MPAR				*e*SN	**Sn**	**22 09 35.8**	**+1.1**
MPAR	**Parnis Oros**	**1.12**	**98**	*e*PN	**Pn**	**22 09 20.0**	**+0.3**
MPAR	**Parnis Oros**	**1.12**	**98**	*e*Pn	**Pn**	**22 09 20.0**	**+0.3**
MPAR				*e*Sn	**Sn**	**22 09 35.8**	**+1.1**
ATH	**Athens Observa**	**1.15**	**107**	*e*PN	**Pn**	**22 09 20.9**	**+0.8**
ATH				*e*SN	**Sn**	**22 09 36.5**	**+1.1**
ITM	**Ithomi**	**1.19**	**196**	*e*PN	**Pn**	**22 09 20.2**	**-0.4**
ITM				*e*SN	**Sn**	**22 09 37.4**	**+1.0**
NEO	**Neokhori**	**1.21**	**35**	*e*PN	**Pn**	**22 09 21.2**	**+0.3**
NEO				*e*SN	**Sn**	**22 09 38.2**	**+1.3**
PTL	**Penteli**	**1.24**	**102**	*e*PN	**Pn**	**22 09 22.0**	**+0.6**
XOR	**Xorichti**	**1.24**	**33**	*e*Pg	**Pb**	**22 09 21.5**	**+0.2**
XOR				*e*Sg	**Sb**	**22 09 38.1**	**+1.2**
LKD	**Levkas**	**1.37**	**287**	*e*Pg	**Pn**	**22 09 24.5**	**+1.2**
LKD				*e*Sg	**Sb**	**22 09 46.3**	**+5.6**
VLS	**Valsamata**	**1.38**	**264**	*e*PN	**Pn**	**22 09 23.0**	**-0.4**
VLS				*e*SN	**Sn**	**22 09 42.5**	**+1.3**
VLI	**Veliai**	**1.67**	**163**	*e*PN	**Pn**	**22 09 27.7**	**+0.1**
VLI				*e*SN	**Sn**	**22 09 49.2**	**+0.5**
MEV	**Metsovon**	**1.69**	**330**	*e*Pb	**Pb**	**22 09 29.4**	**+0.4**
MEV				*e*Sb	**Sb**	**22 09 51.7**	**+1.7**
JAN	**Janina**	**1.76**	**320**	*e*PN	**Pn**	**22 09 29.6**	**+0.8**
LIT	**Litokhoron**	**1.78**	**4**	*e*Pb	**Pb**	**22 09 29.3**	**-1.2**
PAIG	**Paliouri**	**1.92**	**33**	*e*Pb	**Pb**	**22 09 30.7**	**-2.2**
PAIG				*e*Sb	**Sb**	**22 09 54.9**	**-1.5**
IGT	**Igoumenitsa**	**1.97**	**308**	*e*Pn	**Pn**	**22 09 34.5**	**+2.7**
KZN	**Kozani**	**2.03**	**348**	*e*PN	**Pn**	**22 09 33.4**	**+0.7**
PLG	**Polygyros**	**2.22**	**23**	*e*PN	**Pn**	**22 09 34.9**	**-0.6**
OUR	**Ouranopolis**	**2.38**	**32**	*e*Pn	**Pn**	**22 09 37.4**	**-0.4**
KEK	**Kerkira**	**2.41**	**306**	*e*PN	**Pn**	**22 09 37.5**	**-0.7**
FNA	**Florina**	**2.57**	**344**	*e*Pn	**Pn**	**22 09 40.8**	**+0.5**
SOH	**Sokhos**	**2.62**	**17**	*e*Pn	**Pn**	**22 09 41.3**	**+0.2**
GRG	**Griva**	**2.63**	**1**	*e*Pn	**Pn**	**22 09 41.7**	**+0.4**
APE	**Apeiranthos**	**2.83**	**115**	*e*PN	**Pn**	**22 09 44.0**	**-0.1**
KNT	**Kendrikon**	**2.87**	**9**	*e*Pn	**Pn**	**22 09 45.0**	**+0.4**
KNT	**Kendrikon**	**2.87**	**9**	*e*Pn	**Pn**	**22 09 45.0**	**+0.3**
SRS	**Serrai**	**2.96**	**19**	*e*Pn	**Pn**	**22 09 45.6**	**-0.3**
IDI	**Anoyia**	**3.66**	**145**	P	**Pn**	**22 09 55.8**	**-0.1**
	1.0nm,0.3s,baz=345,slow=16,SNR=17						
IDI				S	**Sn**	**22 10 35.1**	**-4.0**
	6.9nm,0.3s,baz=276,slow=23,SNR=8.7						
IDI				LR	LR	22 11 34.0	
	comp=Z,346nm,19.0s,baz=174,slow=43						
MLR	**Muntele Rosu**	**7.65**	**19**	P	**Pn**	**22 10 53.8**	**+1.6**
	0.2nm,0.3s,baz=243,slow=16,SNR=2.6						
MLR	**Muntele Rosu**	**7.65**	**19**	⇓P	**Pn**	**22 10 59.6**	**+7.4**
BRTR	**Keskin Array B**	**8.91**	**77**	P	**P**	**22 11 09.1**	**-0.7**
	0.1nm,0.3s,baz=258,slow=12,SNR=5.0						
ESDC	**Sonseca Array**	**20.46**	**282**	P	**P**	**22 13 36.2**	**-1.9**
	0.8nm,0.8s,baz=73,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**44.01**	**59**	P	**P**	**22 17 05.9**	**-0.9**
	0.7nm,0.5s,mb3.6,baz=272,slow=7.5,SNR=12						
ZAL	**Zalesovo**	**44.52**	**48**	P	**P**	**22 17 09.5**	**-1.4**
	1.9nm,0.3s,mb4.4,baz=189,slow=7.1,SNR=5.3						

BJI 23 22:35:59.4, 44.34N×114.92E, h22km, ML3.6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HHC	**Hu-ho-hao-te**	**4.28**	**217**	*e*PG	Pn	22 37 15.8	+11
HHC				S	Sn	22 38 04.4	+10
HHC				SG	Sn	22 38 08.9	+14
HHC				Smax			
	comp=N,370nm,0.5s						
HHC				Smax			
	comp=E,310nm,0.7s						
BTO	**Baotou**	**5.20**	**226**	*e*PG	Pn	22 37 32.9	+15
BTO				SG	Sn	22 38 34.5	+16
BTO				Smax			
	comp=N,60nm,0.7s						
BTO				Smax			
	comp=E,30nm,0.5s						

*INMG **23** 22:44:53.2±0.9, 42.10N×8.08W, h11km±3km, ML1.8, Error ellipse: s-maj=2.1km s-min=1.8km az=77.0*

MDD 23 22:44:53.2±0.3, 42.07N×8.13W, h19km±4km, mb4.7/1, mbLg2.0/10, 2C-1D, Error ellipse: s-maj=3.4km s-min=1.5km az=33.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELOB	**Lobios**	**0.21**	**166**	⇓Pg	**Pb**	**22 44 58.1**	**-0.3**
	13nm,0.2s,SNR=18						
ELOB				Lg		22 45 01.6	
	76nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**0.36**	**168**	*e*Pg	Pb	22 45 00.6	-0.3
PCAB				*e*Sg	Sb	22 45 06.1	0.0
	74nm,0.2s						
PCAB	**Cabril**	**0.36**	**168**	Pg	Pb	22 45 00.6	-0.3
PCAB				Lg		22 45 05.7	
EZAM	**Zamans**	**0.43**	**281**	⇑Pg	Pb	22 45 01.6	-0.4
	3.9nm,0.1s,SNR=18						
EZAM				Lg		22 45 07.7	
	33nm,0.2s,SNR=44						
ERUA	**La Rua**	**0.80**	**66**	⇑Pg	Pb	22 45 08.0	-0.3
	17nm,0.2s,SNR=18						
ERUA				Lg		22 45 19.1	
	11nm,0.2s,SNR=8.3						
PVRL	**Vila Real**	**0.85**	**159**	*e*P	Pb	22 45 09.0	-0.1
PVRL				*e*S	Sb	22 45 20.3	+0.3
	26nm,0.1s						
PVRL	**Vila Real**	**0.85**	**159**	Pg	Pb	22 45 09.0	-0.1
PVRL				Lg		22 45 20.2	
STS	**Santiago**	**0.88**	**339**	Pg	Pb	22 45 08.9	-0.6
	6.4nm,0.1s,SNR=9.7						
STS				Lg		22 45 20.5	
	18nm,0.2s,SNR=29						
ECAL	**Calabor**	**1.04**	**96**	P	Pb	22 45 11.4	-1.0
	2.7nm,0.2s,SNR=14						
ECAL				Pg	Pb	22 45 12.4	0.0
	SNR=7.9						
ECAL				Lg		22 45 25.7	
	33nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**1.08**	**325**	P	Pb	22 45 11.4	-1.6
	SNR=7.9						
EMAZ				Pg	Pb	22 45 12.5	-0.5
	SNR=7.9						
EMAZ				Lg		22 45 27.2	
	14nm,0.1s,SNR=22						
PVIS	**Viseu**	**1.36**	**173**	*e*P	Pn	22 45 17.5	+0.1
PVIS				*e*S	Sb	22 45 35.6	+0.7
	16nm,0.1s						
PVIS	**Viseu**	**1.36**	**173**	Pg	Pn	22 45 17.5	+0.1
PVIS				Lg		22 45 35.5	
EPON	**Pontenova**	**1.45**	**30**	Pn	Pn	22 45 16.1	-2.5
	SNR=7.9						
EPON				Pg	Pn	22 45 19.2	+0.6
	0.6nm,0.1s,SNR=6.5						
EPON				Lg		22 45 37.3	
	6.9nm,0.2s,SNR=5.7						
MTE	**Manteigas**	**1.72**	**165**	*e*Sg	Sn	22 45 47.6	+3.4
	6.0nm,0.2s						
PCBR	**Castelo Branco**	**2.28**	**167**	*e*Sg	Sn	22 46 04.2	+5.8
	2.6nm,0.3s						
PTOM	**Tomar**	**2.46**	**185**	*e*Sg	Sn	22 46 09.9	+7.0
	5.7nm,0.2s						
EARI	**Arriondas**	**2.48**	**59**	Pn	Pn	22 45 31.3	-2.1
	0.2nm,0.2s,SNR=4.0						
EARI				Pg	Pn	22 45 38.0	+4.5
	0.5nm,0.3s,SNR=4.0						
EARI				Sn	Sn	22 46 00.3	-3.2
	1.0nm,0.3s,SNR=4.0						
EARI				Lg		22 46 10.3	
	1.3nm,0.4s,SNR=4.0						
GUD	**Guadarrama**	**3.31**	**114**	Pn	Pn	22 45 44.0	-1.3
	0.3nm,0.2s,SNR=7.9						
GUD				Sn	Sn	22 46 20.7	-3.8
	SNR=7.9						
GUD				Lg		22 46 35.6	
	1.6nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**3.42**	**165**	Pn	Pn	22 45 44.5	-2.2
	0.2nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	22 46 22.8	-4.4
	0.9nm,0.2s,SNR=7.9						
EBAD				Lg		22 46 39.2	
	0.8nm,0.2s,SNR=7.9						

*NEIC **23** 23:16:57.9±0.6, 0.31N×122.03E, h150km, mb3.9/3, Error ellipse: s-maj=42.4km s-min=11.8km az=56.0*
*IDC **23** 23:17:32.5±21.0, 0.12N×122.71E, h575km±337km, mb2.9/4, mb1 3.1/4, mb1mx2.9/15, mbtmp3.8/4, Error ellipse: s-maj=164.4km s-min=56.5km az=82.0*

ISC 23 23:17:10.1±0.7, 0.2N±0.2×122.0E±0.3, h300km, n13, σ0§92/13, mb3.8/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**23.36**	**149**	*e*P	**P**	**23 21 54.2**	**+0.2**
	2.4nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**23.36**	**150**	P	**P**	**23 21 53.9**	**-0.1**
	1.7nm,0.5s,mb3.6,baz=326,slow=11,SNR=8.1						
LSA	**Lhasa**	**41.55**	**318**	*e*P	**P**	**23 24 32.5**	**+2.0**
	3.2nm,0.6s,mb3.7						
JIRN	**Jiri**	**43.89**	**312**	*e*P	**P**	**23 24 49.9**	**+0.5**
	7.6nm,0.3s,mb4.3						
GUN	**Gumba**	**44.25**	**312**	*e*P	**P**	**23 24 52.7**	**+0.4**
	10.0nm,0.4s,mb4.4						
PKI	**Pulchoki**	**44.43**	**311**	*e*P	**P**	**23 24 53.6**	**0.0**
KKN	**Kakani**	**44.64**	**311**	*e*P	**P**	**23 24 55.3**	**0.0**
GKN	**Gorkha**	**45.23**	**311**	*e*P	**P**	**23 24 59.4**	**-0.6**
	4.9nm,0.2s,mb4.3						
KOLN	**Koldanda**	**45.91**	**310**	*e*P	**P**	**23 25 02.3**	**-2.9**
ULN	**Ulaanbaatar**	**49.25**	**347**	*e*P	**P**	**23 25 31.2**	**+0.5**
	1.3nm,0.8s,mb3.3						
SONM	**Songino Array**	**49.38**	**346**	P	**P**	**23 25 31.6**	**0.0**
	0.6nm,0.6s,mb3.1,baz=162,slow=7.7,SNR=5.5						
MKAR	**Makanchi Array**	**57.95**	**329**	P	**P**	**23 26 33.5**	**+0.1**
	0.9nm,0.3s,mb3.6,baz=128,slow=8.7,SNR=36						
ZAL	**Zalesovo**	**61.75**	**336**	P	**P**	**23 26 57.6**	**-1.4**
	0.6nm,0.4s,mb3.6,baz=310,slow=16,SNR=2.9						

IDC 23 23:20:59.6±1.8, 1.71N×125.97E, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.9/3, Error ellipse: s-maj=190.7km s-min=24.4km az=63.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.03**	**160**	P	P	23 26 07.5	-0.1
	2.7nm,0.6s,baz=338,slow=10,SNR=8.3						
STKA	**Stephens Creek**	**36.54**	**157**	P	P	23 28 06.0	-0.3
	2.9nm,0.9s,baz=340,slow=9.9,SNR=5.1						
MKAR	**Makanchi Array**	**58.79**	**326**	P	P	23 30 59.9	-2.2
	0.3nm,0.4s,baz=118,slow=7.2,SNR=11						

*IDC **23** 23:29:51.0±0.8, 60.53N×149.57W, mb3.5/4, mb1 3.5/8, mb1mx3.4/23, mbtmp3.4/8, ML3.3/3, Error ellipse: s-maj=22.1km s-min=9.6km az=115.0*
*NEIC **23** 23:29:51.7, 60.86N×150.61W, h46km, ML3.7(PMR), ML3.5(AEIC), After AEIC.*
NEIC Felt at Anchorage and Eagle River.

ISC 23 23:29:49.8±0.5, 60.83N±0.03×150.80W±0.09, h33km, n27, σ1§05/30, mb3.0/1, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**0.43**	**139**	P	**P**	**23 30 01.3**	**+2.0**
FIB	**Fire Island**	**0.45**	**42**	P	**P**	**23 30 01.7**	**+2.1**
FIB				S	**S**	**23 30 08.3**	**+1.8**
RC01	**Rabbit Creek A**	**0.58**	**63**	P	**P**	**23 30 01.8**	**+0.5**
SEW	**Seward**	**0.99**	**137**	P	**P**	**23 30 07.9**	**+0.6**
SEW				S	**S**	**23 30 21.4**	**+1.2**
PMR	**Palmer**	**1.11**	**46**	P	**P**	**23 30 09.1**	**0.0**
PMR				S	**S**	**23 30 23.0**	**+0.3**
GHO	**Glory Hole Cre**	**1.31**	**43**	P	**P**	**23 30 12.1**	**+0.2**
SML	**Sawmill**	**1.54**	**49**	P	**P**	**23 30 15.1**	**-0.1**
SVW2	**Sparrevohn**	**2.35**	**279**	P	**P**	**23 30 28.1**	**+1.3**
DIV	**Divide**	**2.47**	**81**	P	**P**	**23 30 27.0**	**-1.5**
MCK	**McKinley**	**3.04**	**16**	*e*P	**P**	**23 30 37.1**	**+0.4**
KDAK	**Kodiak Island**	**3.19**	**197**	Pn	**Pn**	**23 30 38.8**	**-0.1**
	6.0nm,0.3s,baz=33,slow=9.8,SNR=102						
KDAK				Sn	**Sn**	**23 31 15.3**	**-0.9**
	10nm,0.3s,baz=303,slow=23,SNR=9.6						
KDAK				Lg		23 31 28.3	
	23nm,0.3s,baz=238,slow=18,SNR=11						
KDAK	**Kodiak Island**	**3.19**	**197**	P	**P**	**23 30 38.6**	**-0.1**
TT01	**Tatalina**	**3.23**	**312**	P	**P**	**23 30 40.1**	**+0.7**
PAX	**Paxson**	**3.31**	**47**	P	**P**	**23 30 39.8**	**-0.6**
COLA	**College**	**4.28**	**17**	*e*P	**P**	**23 30 53.4**	**-0.8**
ILAR	**Eielson Array**	**4.34**	**23**	Pn	**Pn**	**23 30 55.2**	**0.0**
	1.2nm,0.3s,baz=206,slow=14,SNR=26						
ILAR				Sn	**Sn**	**23 31 45.1**	**-0.3**
	2.9nm,0.3s,baz=218,slow=21,SNR=7.5						
ILAR				Lg		23 32 00.5	
	4.1nm,0.3s,baz=201,slow=27,SNR=8.0						
IMA2	**Indian Mountai**	**5.42**	**347**	*e*P	**P**	**23 31 10.6**	**+0.3**
DAWY	**Dawson**	**6.21**	**54**	*e*P	**P**	**23 31 18.0**	**-3.3**
TNA	**Tin City**	**9.06**	**309**	*e*P	**P**	**23 32 00.3**	**-0.8**
INK	**Inuvik**	**10.51**	**37**	Pn	**P**	**23 32 20.3**	**-0.7**
	0.1nm,0.3s,baz=236,slow=17,SNR=2.4						
INK				Sn	**S**	**23 34 18.9**	**+0.1**
	0.1nm,0.3s,baz=273,slow=19,SNR=5.3						
INK	**Inuvik**	**10.51**	**37**	Pn	**P**	**23 32 20.3**	**-0.7**
INK				Sn	**S**	**23 34 18.9**	**+0.1**
YKA	**Yellowknife Ar**	**17.12**	**69**	Pn	**P**	**23 33 45.3**	**-2.2**
	0.1nm,0.3s,baz=275,slow=9.9,SNR=12						
NVAR	**Mina Array Bea**	**30.21**	**123**	P	**P**	**23 35 57.4**	**-1.7**
	0.2nm,0.6s,mb3.0,baz=318,slow=11,SNR=3.4						
SONM	**Songino Array**	**55.18**	**307**	P	pP	23 39 31.0	0.0
	0.4nm,0.6s,baz=59,slow=8.4,SNR=2.5						
SONM	**Songino Array**	**55.18**	**307**	P	pP	23 39 31.0	0.0
MKAR	**Makanchi Array**	**64.45**	**322**	P	pP	23 40 32.9	-1.8
	0.1nm,0.5s,baz=27,slow=6.8,SNR=2.9						
AKASG	**Malin Array Be**	**68.82**	**360**	P	pP	23 41 00.1	-2.2
	0.6nm,0.5s,baz=359,slow=6.4,SNR=2.7						

BJI 23 23:46:59.2, 44.58N×114.73E, h21km, ML3.6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HHC	**Hu-ho-hao-te**	**4.40**	**213**	*e*PG	Pn	23 48 18.8	+12
HHC				S	Sn	23 48 58.0	+0.2
HHC				SG	Sn	23 49 11.8	+14
HHC				Smax			
	comp=N,310nm,0.

STS Lg 23 50 21.4
118nm,0.2s,SNR=12
ECAL Calabor 1.04 97 Pg Pb 23 50 13.5 -0.1
16nm,0.2s,SNR=68
ECAL Lg 23 50 26.9
98nm,0.2s,SNR=55
ECAL Calabor 1.04 97 Pg Pb 23 50 13.5 -0.1
16nm,0.2s,SNR=68
ECAL Lg 23 50 26.9
98nm,0.2s,SNR=55
EMAZ Mazaricos 1.08 325 Pn Pn 23 50 13.6 -1.1
15nm,0.1s,SNR=85
EMAZ Lg 23 50 28.1
58nm,0.1s,SNR=37
EMAZ Mazaricos 1.08 325 Pg Pb 23 50 13.6 -0.6
EMAZ Lg 23 50 27.4
EMAZ Mazaricos 1.08 325 Pn Pn 23 50 13.6 -1.0
15nm,0.1s,SNR=85
EMAZ Lg 23 50 28.1
58nm,0.1s,SNR=37
PVIS Viseu 1.37 173 *e*Pg Pn 23 50 18.6 -0.2
PVIS *e*S Sb 23 50 36.5 +0.3
74nm,0.3s
PVIS Viseu 1.37 173 Pg Pn 23 50 18.6 -0.2
PVIS Lg 23 50 36.5
PVIS Viseu 1.37 173 *e*Pg Pn 23 50 18.6 -0.2
PVIS *e*S Sb 23 50 36.5 +0.3
74nm,0.3s
EPON Pontenova 1.45 30 Pn Pn 23 50 17.2 -2.7
3.6nm,0.1s,SNR=35
EPON Lg 23 50 38.3
34nm,0.2s,SNR=16
EPON Pontenova 1.45 30 Pg Pn 23 50 17.2 -2.7
EPON Lg 23 50 38.3
EPON Pontenova 1.45 30 Pn Pn 23 50 17.2 -2.7
3.6nm,0.1s,SNR=35
EPON Lg 23 50 38.3
34nm,0.2s,SNR=16
MTE Manteigas 1.73 165 *e*Pg Pn 23 50 25.4 +1.4
MTE *e*Sg Sn 23 50 48.6 +2.9
MTE Manteigas 1.73 165 Pg Pn 23 50 25.4 +1.4
MTE Lg 23 50 48.6
MTE Manteigas 1.73 165 *e*Pg Pn 23 50 25.4 +1.4
MTE *e*Sg Sn 23 50 48.6 +2.9
PCBR Castelo Branco 2.28 167 *e*Pn Pn 23 50 29.7 -2.2
PCBR *e*Sg Sn 23 51 05.3 +5.5
11nm,0.4s
PCBR Castelo Branco 2.28 167 Pn Pn 23 50 29.7 -2.2
PCBR Lg 23 51 05.3
5.7nm,0.4s
PTOM Tomar 2.46 185 *e*Sg Sn 23 51 10.9 +6.6
20nm,0.4s
PTOM Tomar 2.46 185 Lg 23 51 10.9
10nm,0.4s
EARI Arriondas 2.48 59 Pn Pn 23 50 32.7 -1.9
1.1nm,0.1s,SNR=21
EARI Pg Pn 23 50 38.4 +3.7
1.7nm,0.3s,SNR=7.9
EARI Sn Sn 23 51 02.1 -2.6
1.8nm,0.2s,SNR=7.9
EARI Lg 23 51 11.2
2.8nm,0.3s,SNR=5.0
EARI Arriondas 2.48 59 Pn Pn 23 50 32.7 -2.0
1.1nm,0.1s,SNR=21
EARI Arriondas 2.48 59 Pg Pn 23 50 38.4 +3.7
1.7nm,0.3s,SNR=7.9
EARI Sn Sn 23 51 02.1 -2.6
1.8nm,0.2s,SNR=7.9
EARI Lg 23 51 11.2
2.8nm,0.3s,SNR=5.0
GUD Guadarrama 3.31 114 Pn Pn 23 50 45.0 -1.6
1.2nm,0.2s,SNR=17
GUD Sn Sn 23 51 22.6 -3.3
1.7nm,0.2s,SNR=5.1
GUD Lg 23 51 36.7
8.1nm,0.3s,SNR=5.0
GUD Guadarrama 3.31 114 Pn Pn 23 50 45.3 -1.3
GUD Sn Sn 23 51 22.6 -3.3
GUD Lg 23 51 36.7
EBAD Badajoz 3.42 165 Pn Pn 23 50 45.5 -2.6
0.8nm,0.2s,SNR=9.5
EBAD Sn Sn 23 51 23.1 -5.6
1.6nm,0.2s,SNR=7.9
EBAD Lg 23 51 40.5
6.9nm,0.3s,SNR=5.0
EBAD Badajoz 3.42 165 Pn Pn 23 50 45.5 -2.6
0.8nm,0.2s,SNR=9.5
EBAD Sn Sn 23 51 23.1 -5.5
1.6nm,0.2s,SNR=7.9
EBAD Lg 23 51 40.5
6.9nm,0.3s,SNR=5.0
ELAN Lanestosa 3.65 70 Pn Pn 23 50 49.7 -1.6
1.0nm,0.3s,SNR=7.9
ELAN Sn Sn 23 51 29.4 -5.1
1.1nm,0.2s,SNR=7.9
ELAN Lg 23 51 47.6
5.4nm,0.4s,SNR=7.9
ELAN Lanestosa 3.65 70 Pn Pn 23 50 49.7 -1.7
1.0nm,0.3s,SNR=7.9
ELAN Sn Sn 23 51 29.4 -5.0
1.1nm,0.2s,SNR=7.9
ELAN Lg 23 51 47.6
5.4nm,0.4s,SNR=7.9
ESDC Sonseca Array 3.96 126 Pn Pn 23 50 53.2 -2.6
1.0nm,0.1s,baz=308,slow=14,SNR=9.8
ESDC Sn Sn 23 51 36.9 -5.5
0.5nm,0.2s,baz=308,slow=24,SNR=4.3
ESDC Lg 23 51 57.1
1.9nm,0.4s,baz=309,slow=30,SNR=3.6
ESDC Sonseca Array 3.96 126 Pn Pn 23 50 53.2 -2.6
ESDC Sn Sn 23 51 35.7 -6.7
ESDC Lg 23 51 57.1
ESDC Sonseca Array 3.96 126 Pn Pn 23 50 53.2 -2.6
1.0nm,0.1s,SNR=9.8
ESDC Sn Sn 23 51 36.9 -5.5
0.5nm,0.2s,SNR=4.3
ESDC Lg 23 51 57.1
1.9nm,0.4s,SNR=3.6
PBEJ Beja 4.05 177 *e*Sg Sn 23 51 59.8 +15
EMIN Mina Concepcio 4.44 165 Pn Pn 23 50 59.3 -3.4
0.3nm,0.1s,SNR=7.9
EMIN Sn Sn 23 51 48.3 -6.2
0.3nm,0.1s,SNR=7.9
EMIN Lg 23 52 10.4
2.9nm,0.5s,SNR=7.9
EMIN Mina Concepcio 4.44 165 Pn Pn 23 50 59.3 -3.3
0.3nm,0.1s,SNR=7.9
EMIN Sn Sn 23 51 48.3 -6.2
0.3nm,0.1s,SNR=7.9
EMIN Lg 23 52 10.4
2.9nm,0.5s,SNR=7.9
EGRO El Granado 4.56 174 Lg 23 52 15.0
5.7nm,0.5s,SNR=7.9
EGRO El Granado 4.56 174 Lg 23 52 15.0
5.7nm,0.5s,SNR=7.9
EADA Adamuz 4.76 144 Pn Pn 23 51 03.9 -3.1
0.3nm,0.1s,SNR=7.9
EADA Sn Sn 23 51 56.2 -6.2
0.6nm,0.2s,SNR=7.9
EADA Lg 23 52 19.7
1.3nm,0.3s,SNR=7.9
EADA Adamuz 4.76 144 Pn Pn 23 51 03.9 -3.2
0.3nm,0.1s,SNR=7.9
EADA Sn Sn 23 51 56.2 -6.2
0.6nm,0.2s,SNR=7.9
EADA Lg 23 52 19.7
1.3nm,0.3s,SNR=7.9
EQES Quesada 5.77 136 Sn Sn 23 52 19.8 -8.1
0.3nm,0.3s,SNR=7.9
EQES Lg 23 52 51.1
0.6nm,0.4s,SNR=4.0
EQES Quesada 5.77 136 Sn Sn 23 52 19.8 -8.0
0.3nm,0.3s,SNR=7.9
EQES Lg 23 52 54.9
0.6nm,0.4s,SNR=7.9
ETOB Tobarra 6.08 122 Pn Pn 23 51 22.8 -3.0
0.1nm,0.2s,SNR=7.9
ETOB Sn Sn 23 52 28.5 -7.1
0.2nm,0.2s,SNR=7.9
ETOB Lg 23 53 02.6
2.7nm,0.6s,SNR=7.9
ETOB Tobarra 6.08 122 Pn Pn 23 51 22.8 -2.9
0.1nm,0.2s,SNR=7.9
ETOB Sn Sn 23 52 28.5 -7.1
0.2nm,0.2s,SNR=7.9
EBIE Bielsa 6.16 82 Pn Pn 23 51 23.8 -3.0
EBIE Sn Sn 23 52 29.6 -7.9
EBIE Lg 23 53 05.9

*ATH **24** 00:14:23.9, 39.01N×23.33E, h23km±1km, MD4.1/21, ML4.3*
*NEIC **24** 00:14:23.9, 39.01N×23.33E, h23km, mb3.9/6, MD3.7(PDG), ML4.3(ATH), After ATH.*
*PDG **24** 00:14:25.4±0.5, 39.03N×23.39E, h15km±1km*
*THE **24** 00:14:25.2, 39.02N×23.27E, h12km, ML4.0*
*CSEM **24** 00:14:26.9±0.1, 39.01N×23.40E, h40km, mb4.0/3, Error ellipse: s-maj=1.4km s-min=1.1km az=51.0*
*MOS **24** 00:14:27.1±1.2, 39.07N×23.41E, h33km, mb4.1/5, Error ellipse: s-maj=6.4km s-min=4.0km az=106.0*
*IDC **24** 00:14:28.2±3.5, 38.98N×23.18E, h31km±28km, mb3.6/10, mb1 3.9/17, mb1mx3.7/30, mbtmp3.8/17, ML3.8/7, MS3.1/4, Ms1 3.1/4, ms1mx2.7/34, Error ellipse: s-maj=19.1km s-min=15.0km az=178.0*

ISC 24 00:14:23.5±0.5, 39.02N±0.01×23.33E±0.02, h7km±3km, n156, σ1§02/184, mb3.8/13, 16C-8D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.30**	**344**	*e*PB	**Pb**	**00 14 31.2**	**+0.5**
NEO				*e*SB	**Sb**	**00 14 35.9**	**+0.4**
XOR	**Xorichti**	**0.36**	**343**	*e*Pg	**Pg**	**00 14 32.3**	**+1.5**
LKR	**Lokris**	**0.45**	**215**	*e*PB	**Pb**	**00 14 33.0**	**-0.4**
LKR				*e*SB	**Sb**	**00 14 39.3**	**-0.7**
AGG	**Agios Georgios**	**0.78**	**270**	*e*Pg	**Pg**	**00 14 38.4**	**-0.6**
AGG				*e*Sg	**Sg**	**00 14 49.5**	**0.0**
MPAR	**Parnis Oros**	**0.93**	**160**	⇓*i*PN	**Pn**	**00 14 41.8**	**-1.0**
PAIG	**Paliouri**	**0.94**	**17**	*e*Pg	**Pg**	**00 14 43.3**	**+1.0**
PAIG				*e*Sg	**Sg**	**00 14 57.4**	**+2.5**
MGER	**Gerania Oros**	**1.04**	**183**	*e*PN	**Pn**	**00 14 43.0**	**-1.3**
PTL	**Penteli**	**1.06**	**156**	*e*PN	**Pn**	**00 14 44.5**	**-0.2**
ATH	**Athens Observa**	**1.09**	**164**	*e*PN	**Pn**	**00 14 44.9**	**-0.2**
ATH				*e*SN	**Sn**	**00 14 59.0**	**-1.6**
EVR	**Evrytania**	**1.19**	**265**	*e*PN	**Pn**	**00 14 45.9**	**-0.6**
EVR				*e*SN	**Sn**	**00 15 03.1**	**0.0**
LIT	**Litokhoron**	**1.26**	**329**	*e*Pg	**Pg**	**00 14 47.7**	**-0.9**
LIT				*e*Sg	**Sg**	**00 15 04.2**	**-1.1**
NAIG	**Nisos Aigina**	**1.27**	**174**	*e*PN	**Pn**	**00 14 47.9**	**+0.2**
PLG	**Polygyros**	**1.35**	**4**	⇑*i*PN	**Pn**	**00 14 49.1**	**+0.2**
PLG				*e*SN	**Sn**	**00 15 06.9**	**-0.4**
OUR	**Ouranopolis**	**1.41**	**21**	*e*Pg	**Pg**	**00 14 50.2**	**-1.4**
OUR				*e*Sg	**Sg**	**00 15 08.4**	**-1.9**
THE	**Thessaloniki**	**1.63**	**350**	*e*Pb	**Pb**	**00 14 52.8**	**-0.8**
THE				*e*Sb	**Sb**	**00 15 13.9**	**-0.4**
LOS	**Limnos**	**1.63**	**56**	*e*Pb	**Pb**	**00 14 53.2**	**-0.4**
LIA	**Limnos Island**	**1.68**	**58**	*e*PN	**Pn**	**00 14 54.0**	**+0.4**
RLS	**Riolos of Patr**	**1.75**	**237**	*e*PN	**Pn**	**00 14 55.3**	**+0.8**
RLS				*e*SN	**Sn**	**00 15 16.7**	**-0.6**
KZN	**Kozani**	**1.76**	**317**	*e*PN	**Pn**	**00 14 55.2**	**+0.5**
MEV	**Metsovon**	**1.80**	**296**	*e*Pb	**Pb**	**00 14 55.5**	**-0.8**
SOH	**Sokhos**	**1.80**	**1**	*e*Pb	**Pb**	**00 14 56.0**	**-0.4**
SOH				*e*Sb	**Sb**	**00 15 19.0**	**-0.2**
JAN	**Janina**	**2.02**	**289**	*e*PN	**Pn**	**00 14 59.6**	**+1.1**
GRG	**Griva**	**2.06**	**340**	*e*Pn	**Pn**	**00 14 58.7**	**-0.3**
SRS	**Serrai**	**2.10**	**5**	*e*Pn	**Pn**	**00 14 59.8**	**+0.2**
LKD	**Levkas**	**2.11**	**262**	*e*Pn	**Pn**	**00 15 02.9**	**+3.2**
ITM	**Ithomi**	**2.15**	**211**	*e*PB	**Pb**	**00 15 01.4**	**-1.0**
ITM				*e*SN	**Sn**	**00 15 26.8**	**-0.6**
KNT	**Kendrikon**	**2.16**	**351**	*e*Pn	**Pn**	**00 15 01.1**	**+0.7**
KNT				*e*Sn	**Sn**	**00 15 27.7**	**-0.2**
PRK	**Paraskevi**	**2.30**	**83**	*e*PN	**Pn**	**00 15 02.9**	**+0.5**
VLS	**Valsamata**	**2.31**	**249**	*e*PB	**Pb**	**00 15 03.9**	**-1.2**
FNA	**Florina**	**2.31**	**320**	*e*Pn	**Pn**	**00 15 03.2**	**+0.5**
VLI	**Veliai**	**2.32**	**188**	*e*PN	**Pn**	**00 15 02.6**	**-0.1**
NVR	**Nevrokopi**	**2.36**	**10**	*e*PN	**Pn**	**00 15 03.3**	**0.0**
IGT	**Igoumenitsa**	**2.38**	**283**	*e*Pn	**Pn**	**00 15 05.8**	**+2.2**
LSK	**Leskovik**	**2.39**	**299**	*i* Pn	**Pn**	**00 15 06.1**	**+2.4**
LSK				*i* Sn	**Sn**	**00 15 38.5**	**+4.9**
LSK	**Leskovik**	**2.39**	**299**	*e*Pn	**Pn**	**00 15 06.1**	**+2.4**
EZN	**Ezine**	**2.46**	**70**	*e*PN	**Pn**	**00 15 03.9**	**-0.7**
APE	**Apeiranthos**	**2.61**	**138**	*e*PN	**Pn**	**00 15 06.3**	**-0.6**
APE	**Apeiranthos**	**2.61**	**138**	*e*Pn	**Pn**	**00 15 07.2**	**+0.3**
SRN	**Sarande**	**2.71**	**289**	*i* Pn	**Pn**	**00 15 10.3**	**+1.9**
SRN				*i* Sn	**Sn**	**00 15 43.1**	**+1.2**
SRN	**Sarande**	**2.71**	**289**	*e*Pn	**Pn**	**00 15 10.3**	**+1.9**
SRN				*i* Sn	**Sn**	**00 15 43.1**	**+1.2**
RDO	**Rodhopi**	**2.72**	**38**	*e*PN	**Pn**	**00 15 08.1**	**-0.3**
KYTH	**Kithira**	**2.75**	**185**	*e*PN	**Pn**	**00 15 09.4**	**+0.6**
ALN	**Alexandroupoli**	**2.81**	**47**	*e*Pn	**Pn**	**00 15 09.0**	**-0.6**
KEK	**Kerkira**	**2.82**	**285**	*e*PB	**Pb**	**00 15 11.0**	**-2.9**
KEK	**Kerkira**	**2.82**	**285**	*e*Pb	**Pb**	**00 15 11.4**	**-2.5**
LPK	**Lapseki**	**2.97**	**62**	*e*PN	**Pn**	**00 15 12.2**	**+0.2**
BLCB	**Balcova**	**2.97**	**101**	*e*PN	**Pn**	**00 15 12.8**	**+0.7**
SMG	**Samos**	**3.05**	**114**	*e*PN	**Pn**	**00 15 13.5**	**+0.3**
IZM	**Izmir**	**3.14**	**100**	*e*PN	**Pn**	**00 15 15.0**	**+0.6**
SANT	**Santorini**	**3.14**	**147**	*e*P	**Pn**	**00 15 14.9**	**+0.5**
SANT	**Santorini**	**3.14**	**147**	*e*P	**Pn**	**00 15 14.9**	**+0.5**
AKS	**Akhisar**	**3.50**	**91**	*e*PN	**Pn**	**00 15 20.3**	**+0.7**
MFT	**Murefte**	**3.51**	**59**	*e*PN	**Pn**	**00 15 18.1**	**-1.6**
BODT	**Bodrum**	**3.70**	**121**	*e*PN	**Pn**	**00 15 21.7**	**-0.7**
BNT	**Bandirma**	**3.79**	**68**	*e*PN	**Pn**	**00 15 23.5**	**0.0**
EDRB	**Edirne**	**3.84**	**42**	*e*PN	**Pn**	**00 15 24.5**	**+0.1**
IDI	**Anoyia**	**3.93**	**161**	Pn	**Pn**	**00 15 25.5**	**-0.1**
	6.7nm,0.3s,baz=323,slow=15,SNR=48						
IDI				LR	LR	00 16 58.5	
	comp=Z,253nm,22.0s,baz=305,slow=38						
NPS	**Neapolis**	**4.17**	**153**	*e*PN	**Pn**	**00 15 29.0**	**-0.1**
GVD	**Gavdhos**	**4.22**	**171**	*e*P	**Pn**	**00 15 30.1**	**+0.3**
GVD	**Gavdhos**	**4.22**	**171**	*e*P	**Pn**	**00 15 30.0**	**+0.2**
YER	**Yerkesik**	**4.34**	**114**	*e*PN	**Pn**	**00 15 32.4**	**+1.0**
PVY	**Plav**	**4.38**	**326**	⇑*i*PN	**Pn**	**00 15 32.5**	**+0.5**
PVY				*e*Sn	**Sn**	**00 16 24.0**	**-0.1**
PVY	**Plav**	**4.38**	**326**	⇑*i*PN	**Pn**	**00 15 32.5**	**+0.4**
TTG	**Podgorica**	**4.60**	**319**	⇑*i*PN	**Pn**	**00 15 36.9**	**+1.8**
TTG				*e*Sn	**Sn**	**00 16 30.1**	**+0.5**
KARP	**Karpathos**	**4.62**	**137**	*e*PN	**Pn**	**00 15 35.5**	**0.0**
IVA	**Berane**	**4.64**	**327**	⇑*i*PN	**Pn**	**00 15 36.2**	**+0.5**
IVA				*e*Sn	**Sn**	**00 16 30.3**	**-0.3**
DENT	**Denizli**	**4.66**	**104**	*e*PN	**Pn**	**00 15 37.2**	**+1.2**
BUM	**Brajici-Budva**	**4.70**	**316**	*e*Pn	**Pn**	**00 15 37.9**	**+1.3**
BUM				*e*Sn	**Sn**	**00 16 32.7**	**+0.6**
BUM	**Brajici-Budva**	**4.70**	**316**	*e*Pn	**Pn**	**00 15 37.8**	**+1.2**
YLV	**Yalova**	**4.91**	**70**	*e*PN	**Pn**	**00 15 38.8**	**-0.7**
NKY	**Niksic**	**5.01**	**320**	⇑*i*PN	**Pn**	**00 15 42.6**	**+1.6**
NKY				*e*Sn	**Sn**	**00 16 39.8**	**-0.1**
HCY	**Herceg Novi**	**5.02**	**315**	⇑*i*PN	**Pn**	**00 15 42.6**	**+1.5**
HCY				*e*Sn	**Sn**	**00 16 40.6**	**+0.5**
TIP	**Timpagrande**	**5.11**	**274**	*e*P	**Pn**	**00 15 41.6**	**-0.8**
TIP	**Timpagrande**	**5.11**	**274**	*e*P	**Pn**	**00 15 41.6**	**-0.8**
FETY	**Fethiye**	**5.14**	**116**	*e*PN	**Pn**	**00 15 43.8**	**+1.0**
PLE	**Pljevlja**	**5.23**	**327**	⇑*i*PN	**Pn**	**00 15 44.1**	**+0.1**
PLE				*e*Sn	**Sn**	**00 16 44.3**	**-1.1**
GRUS	**Gruza**	**5.24**	**339**	*e*Pn	**Pn**	**00 15 45.4**	**+1.2**
ALT	**Altintas**	**5.28**	**88**	*e*PN	**Pn**	**00 15 45.7**	**+0.9**
BRY	**Bratogost**	**5.30**	**318**	⇑*i*PN	**Pn**	**00 15 45.5**	**+0.4**
BRY				*e*Sn	**Sn**	**00 16 47.3**	**0.0**
UPM	**Unac-Piva**	**5.35**	**323**	⇑*i*Pn	**Pn**	**00 15 46.7**	**+1.0**
UPM				*e*Sn	**Sn**	**00 16 47.3**	**-1.1**
DIVS	**Divcibare**	**5.66**	**335**	*e*Pn	**Pn**	**00 15 49.4**	**-0.7**
BBLS	**Bajina Basta -**	**5.67**	**330**	*e*Pn	**Pn**	**00 15 49.0**	**-1.2**
ELL	**Elmali**	**5.68**	**112**	*e*PN	**Pn**	**00 15 52.5**	**+2.2**
ESKT	**Eskisehir**	**5.86**	**83**	*e*PN	**Pn**	**00 15 53.3**	**+0.3**
MTUR	**Matau**	**6.33**	**11**	⇓P	**Pn**	**00 15 58.5**	**-1.1**
SNX	**Sinaia**	**6.53**	**14**	⇑P	**Pn**	**00 16 01.5**	**-1.0**
VOIR		**6.54**	**11**	⇓P	**Pn**	**00 16 01.4**	**-1.1**
HARR	**Harsova**	**6.62**	**30**	⇑P	**Pn**	**00 16 02.4**	**-1.3**
TIRR	**Tirgusor**	**6.63**	**33**	⇑P	**Pn**	**00 16 05.4**	**+1.6**
TIRR	**Tirgusor**	**6.63**	**33**	⇑P	**Pn**	**00 16 05.5**	**+1.7**
TIRR	**Tirgusor**	**6.63**	**33**	P	**Pn**	**00 16 05.5**	**+1.7**
KIZT	**Kizilcal**	**6.67**	**89**	*e*PN	**Pn**	**00 16 04.7**	**+0.4**
BZS	**Buzias**	**6.71**	**350**	⇓P	**Pn**	**00 16 03.5**	**-1.5**
MLR	**Muntele Rosu**	**6.75**	**16**	Pn	**Pn**	**00 16 06.7**	**+1.2**
	1.9nm,0.3s,baz=183,slow=10,SNR=10						
MLR				LR	LR	00 19 04.2	
	comp=Z,235nm,20.7s,baz=271,slow=40						
MLR	**Muntele Rosu**	**6.75**	**16**	⇑P	**Pn**	**00 16 06.0**	**+0.5**
CFR	**Carcaliu**	**7.11**	**29**	⇑P	**Pn**	**00 16 08.8**	**-1.8**
VAE	**Valguarnera**	**7.18**	**260**	Pn	**Pn**	**00 16 11.3**	**-0.3**
	1.0nm,0.3s,baz=330,slow=13,SNR=4.0						
VAE				Sn	**Sn**	**00 17 35.2**	**+0.8**
	1.6nm,0.3s,baz=219,slow=15,SNR=4.8						
VAE	**Valguarnera**	**7.18**	**260**	Pn	**Pn**	**00 16 11.3**	**-0.3**
VAE				Sn	**Sn**	**00 17 35.2**	**+0.8**
VRI	**Vrincioaia**	**7.29**	**19**	⇓P	**Pn**	**00 16 13.8**	**+0.8**
BR131	**Keskin Array S**	**8.02**	**82**	*e*P	**P**	**00 16 23.0**	**-0.3**
BR131	**Keskin Array S**	**8.02**	**82**	*e*P	**P**	**00 16 23.0**	**-0.3**
BRTR	**Keskin Array B**	**8.02**	**82**	Pn	**P**	**00 16 23.4**	**+0.2**
	0.6nm,0.3s,baz=262,slow=11,SNR=25						
RHK1	**Bakonya**	**8.06**	**333**	⇓*e*P	**P**	**00 16 22.6**	**-1.3**
KAMT	**Kaman**	**8.07**	**84**	*e*P	**P**	**00 16 23.8**	**-0.2**
BURAR	**Bucovina Array**	**8.70**	**8**	⇓P	**P**	**00 16 31.9**	**-0.8**
BURAR	**Bucovina Array**	**8.70**	**8**	⇓P	**P**	**00 16 31.9**	**-0.8**
KOLS	**Kolonicke sedl**	**9.94**	**356**	*e*PN	**P**	**00 16 48.7**	**-1.1**
CRVS	**Cervenica-Dubn**	**9.97**	**353**	*e*PN	**P**	**00 16 51.4**	**+1.2**
VYHS	**Vyhne**	**10.01**	**343**	*e*PN	**P**	**00 16 50.1**	**-0.7**
STHS	**Stebnicka Huta**	**10.50**	**353**	*e*PN	**P**	**00 16 56.2**	**-1.3**
VRAC	**Vranov**	**11.36**	**337**	Pn	**P**	**00 17 07.9**	**-1.3**
	0.6nm,0.3s,baz=156,slow=7.1,SNR=3.4						
VRAC				LR	LR	00 21 28.4	
	comp=Z,50nm,21.6s,baz=90,slow=37						
PGF	**Pioggiola**	**11.42**	**293**	*e*P	**P**	**00 17 05.2**	**-4.9**
GERES	**GERESS Array B**	**12.01**	**328**	Pn	**P**	**00 17 17.4**	**-0.7**
	0.1nm,0.3s,baz=146,slow=14,SNR=7.0						
KHC	**Kasperske Hory**	**12.29**	**328**	*e*P	**P**	**00 17 20.1**	**-1.7**
KHC				x	x	00 17 24.0	
KHC				*ex*	x	00 17 31.9	
KHC	**Kasperske Hory**	**12.29**	**328**	*e*P	**P**	**00 17 20.1**	**-1.7**
KHC				*e*		00 17 24.0	
KHC				*e*		00 17 31.9	
DAVOX	**Davos**	**12.53**	**313**	Pn	**P**	**00 17 24.6**	**-0.5**
	0.1nm,0.3s,baz=108,slow=16,SNR=3.8						
DAVOX				LR	LR	00 22 55.4	
	comp=Z,146nm,20.1s,baz=121,slow=41						
PRU	**Pruhonice**	**12.62**	**333**	*e*P	**P**	**00 17 20.9**	**-5.3**
MBDF	**Montbardon**	**13.58**	**300**	*e*P	**P**	**00 17 42.5**	**+3.5**
	13nm,1.1s						
MBDF	**Montbardon**	**13.58**	**300**	*e*P	**P**	**00 17 42.5**	**+3.5**
MBDF				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LPG	**La Plagne**	**13.87**	**303**	*e*P	**P**	**00 17 46.3**	**+3.6**
	comp=Z,9.9nm,1.0s						
LPG	**La Plagne**	**13.87**	**303**	*e*P	**P**	**00 17 46.3**	**+3.6**
LPG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LPL	**La Plagne**	**13.89**	**303**	*e*P	**P**	**00 17 46.1**	**+3.1**
ORIF	**Oris-en-Rattie**	**14.24**	**300**	*e*P	**P**	**00 17 45.6**	**-2.1**
CABF	**La Chapelle**	**14.73**	**307**	*e*P	**P**	**00 17 55.5**	**+1.4**
	comp=Z,14nm,1.1s						
CABF	**La Chapelle**	**14.73**	**307**	*e*P	**P**	**00 17 55.5**	**+1.4**
CABF				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV	**Kislovodsk**	**15.31**	**65**	P	**P**	**00 18 11.0**	**+9.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SMF	**Signal de Mont**	**16.17**	**304**	*e*P	**P**	**00 18 14.3**	**+1.6**
AVF	**Avril sur Loir**	**16.54**	**304**	*e*P	**P**	**00 18 19.1**	**+1.7**
	comp=Z,12nm,1.1s						
AVF	**Avril sur Loir**	**16.54**	**304**	*e*P	**P**	**00 18 19.1**	**+1.7**
AVF				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BGF	**Bois d'Agland**	**16.79**	**303**	*e*P	**P**	**00 18 20.8**	**+0.3**
OBN	**Obninsk**	**18.40**	**25**	P	**P**	**00 18 36.0**	**-4.7**
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
SGMF	**Saint Gilles**	**20.80**	**305**	*e*P	**P**	**00 19 10.3**	**+2.5**
	comp=Z,24nm,1.2s						
SGMF	**Saint Gilles**	**20.80**	**305**	*e*P	**P**	**00 19 10.3**	**+2.5**
SGMF				pmax	pmax		
	comp=Z,12nm,1.2s						
ESDC	**Sonseca Array**	**21.09**	**280**	P	**P**	**00 19 09.2**	**-1.6**
	comp=Z,1.4nm,0.6s,mb3.5,baz=78,slow=11,SNR=19						
QUIF	**Quistinic**	**21.10**	**304**	*e*P	**P**	**00 19 08.6**	**-2.2**
	comp=Z,12nm,0.7s,mb4.0						
QUIF	**Quistinic**	**21.10**	**304**	*e*P	**P**	**00 19 08.6**	**-2.2**
QUIF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.0						
HFS	**Hagfors**	**21.99**	**347**	P	**P**	**00 19 20.2**	**+0.5**
	comp=Z,4.4nm,0.8s,mb3.9,baz=153,slow=13,SNR=11						
FINES	**FINESS Array B**	**22.51**	**3**	P	**P**	**00 19 25.1**	**+0.3**
	comp=Z,1.5nm,0.8s,mb3.5,baz=158,slow=10,SNR=6.7						
FINES	**FINESS Array B**	**22.51**	**3**	P	**P**	**00 19 25.1**	**+0.3**
NB2	**NORSAR Subarra**	**23.30**	**345**	P	**P**	**00 19 31.4**	**-1.1**
	comp=Z,2.9nm,0.9s,mb3.7,baz=151,slow=10						
NB2	**NORSAR Subarra**	**23.30**	**345**	P	**P**	**00 19 31.4**	**-1.1**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
NOA	**NORSAR Array B**	**23.30**	**345**	P	**P**	**00 19 32.2**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.5,baz=151,slow=10,SNR=5.3						
MDT	**Midelt**	**23.41**	**263**	P	**P**	**00 19 33.1**	**-0.8**
	comp=Z,2.8nm,0.9s,mb3.7,baz=100,slow=14,SNR=5.3						
EKA	**Eskdalemuir Ar**	**24.08**	**321**	P	**P**	**00 19 39.8**	**-0.4**
	comp=Z,3.7nm,0.8s,mb3.9,baz=114,slow=10,SNR=7.0						
AKTK	**Aktyubinsk**	**26.91**	**54**	P	**P**	**00 20 08.2**	**+1.3**
AKTK	**Aktyubinsk**	**26.91**	**54**	P	**P**	**00 20 08.2**	**+1.3**
AKTO	**Aktyubinsk**	**26.91**	**54**	P	**P**	**00 20 08.2**	**+1.3**
	comp=Z,0.8nm,0.6s,mb3.5,baz=243,slow=7.6,SNR=4.9						
BRVK	**Borovoye**	**34.83**	**51**	P	**P**	**00 21 17.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
BRVK	**Borovoye**	**34.83**	**51**	P	**P**	**00 21 17.0**	**+0.1**
	comp=Z,1.7nm,1.2s,mb3.9						
AAK	**Ala-Archa**	**38.41**	**68**	P	**P**	**00 21 46.8**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
AAK	**Ala-Archa**	**38.41**	**68**	P	**P**	**00 21 46.8**	**-0.4**
	comp=Z,3.0nm,1.1s,mb3.9						
AAK	**Ala-Archa**	**38.41**	**68**	P	**P**	**00 21 46.8**	**-0.4**
	comp=Z,3.0nm,1.1s,mb3.9						
KURK	**Kurchatov**	**40.00**	**54**	P	**P**	**00 21 59.5**	**-0.9**
MKAR	**Makanchi Array**	**42.98**	**60**	P	**P**	**00 22 25.0**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.7,baz=280,slow=7.1,SNR=14						
ZAL	**Zalesovo**	**43.47**

KIW	**Kapiti Island**	**1.64**	**254**	PN	**Pn**	00 16 23.7	**0.0**
KIW				SN	**Sn**	**00 16 44.3**	**-0.5**
MSWZ	**Moikau Station**	**1.64**	**233**	PN	**Pn**	**00 16 23.4**	**-0.3**
MSWZ	**Moikau Station**	**1.64**	**233**	P	**Pn**	**00 16 23.6**	**-0.1**
NGZ	**Ngauruhoe**	**1.65**	**319**	*e*PN	**Pn**	**00 16 24.8**	**+1.0**
NGZ	**Ngauruhoe**	**1.65**	**319**	P	**Pn**	**00 16 24.9**	**+1.1**
WPVZ	**Whakapapa**	**1.66**	**317**	*e*PN	**Pn**	**00 16 24.3**	**+0.4**
WPVZ	**Whakapapa**	**1.66**	**317**	P	**Pn**	**00 16 25.1**	**+1.2**
CNZ	**Chateau**	**1.66**	**317**	*e*PN	**Pn**	**00 16 25.1**	**+1.1**
CNZ	**Chateau**	**1.66**	**317**	P	**Pn**	**00 16 25.3**	**+1.4**
WAZ	**Wanganui**	**1.68**	**293**	*e*PN	**Pn**	**00 16 24.0**	**-0.3**
WAZ	**Wanganui**	**1.68**	**293**	P	**Pn**	**00 16 25.8**	**+1.6**
KRVZ	**Karewarewa**	**1.69**	**322**	*e*PN	**Pn**	**00 16 25.1**	**+0.7**
WTVZ	**West Tongariro**	**1.70**	**320**	*e*PN	**Pn**	**00 16 25.8**	**+0.5**
WTVZ	**West Tongariro**	**1.70**	**320**	P	**Pn**	**00 16 26.0**	**+1.5**
PKVZ	**Pokaka**	**1.71**	**312**	*e*PN	**Pn**	**00 16 25.0**	**+0.5**
KATZ	**Kakaramea**	**1.77**	**325**	*e*PN	**Pn**	**00 16 26.3**	**+0.9**
KATZ	**Kakaramea**	**1.77**	**325**	P	**Pn**	**00 16 27.3**	**+1.8**
RATZ	**Rangitukua**	**1.82**	**329**	*e*PN	**Pn**	**00 16 27.0**	**+0.7**
RATZ	**Rangitukua**	**1.82**	**329**	P	**Pn**	**00 16 28.8**	**+2.5**
MRW	**Makara Radio**	**1.91**	**245**	PN	**Pn**	**00 16 27.0**	**-0.5**
MRW	**Makara Radio**	**1.91**	**245**	P	**Pn**	**00 16 27.0**	**-0.5**
SNZO	**South Karori**	**1.94**	**242**	PN	**Pn**	**00 16 27.3**	**-0.6**
SNZO	**South Karori**	**1.94**	**242**	P	**Pn**	**00 16 27.4**	**-0.6**
MWZ	**Matawai**	**2.14**	**11**	*e*PN	**Pn**	**00 16 28.8**	**-2.0**
MWZ	**Matawai**	**2.14**	**11**	P	**Pn**	**00 16 28.6**	**-2.2**
VRZ	**Vera Road**	**2.16**	**306**	*e*PN	**Pn**	**00 16 32.9**	**+1.8**
VRZ	**Vera Road**	**2.16**	**306**	*e*P	**Pn**	**00 16 34.4**	**+3.3**
URZ	**Urewera**	**2.17**	**2**	PN	**Pn**	**00 16 29.5**	**-1.8**
URZ	**Urewera**	**2.17**	**2**	P	**Pn**	**00 16 29.5**	**-1.8**
TCW	**Tory Channel**	**2.20**	**248**	PN	**Pn**	**00 16 30.8**	**-0.9**
TCW	**Tory Channel**	**2.20**	**248**	P	**Pn**	**00 16 30.8**	**-0.9**
RAEZ	**Rainy Point**	**2.30**	**299**	P	**Pn**	**00 16 35.7**	**+2.5**
DUWZ	**D'Urville Isla**	**2.37**	**260**	*e*PN	**Pn**	**00 16 34.1**	**0.0**
NEZ	**North Egmont**	**2.51**	**297**	*e*PN	**Pn**	**00 16 37.7**	**+1.6**
NEZ	**North Egmont**	**2.51**	**297**	P	**Pn**	**00 16 39.0**	**+2.9**
TUWZ	**Tuamarina**	**2.52**	**246**	PN	**Pn**	**00 16 34.6**	**-1.6**
PKE	**Pukeiti**	**2.62**	**297**	*e*PN	**Pn**	**00 16 40.6**	**+2.8**
PKE	**Pukeiti**	**2.62**	**297**	*e*P	**Pn**	**00 16 40.4**	**+2.7**
BSWZ	**Blackbirch Sta**	**2.68**	**240**	*e*PN	**Pn**	**00 16 37.1**	**-1.5**
BSWZ	**Blackbirch Sta**	**2.68**	**240**	P	**Pn**	**00 16 37.1**	**-1.4**
NNZ	**Nelson**	**2.85**	**253**	PN	**Pn**	**00 16 39.8**	**-1.2**
NNZ	**Nelson**	**2.85**	**253**	P	**Pn**	**00 16 40.0**	**-1.0**
KHZ	**Kahutara**	**3.27**	**231**	PN	**Pn**	**00 16 44.7**	**-2.2**
KHZ	**Kahutara**	**3.27**	**231**	*e*P	**Pn**	**00 16 44.7**	**-2.2**
THZ	**Tophouse**	**3.36**	**245**	PN	**Pn**	**00 16 45.9**	**-2.3**
THZ	**Tophouse**	**3.36**	**245**	*e*P	**Pn**	**00 16 46.0**	**-2.2**
QRZ	**Quartz Range**	**3.42**	**262**	*e*PN	**Pn**	**00 16 47.6**	**-1.5**
QRZ	**Quartz Range**	**3.42**	**262**	*e*P	**Pn**	**00 16 47.6**	**-1.4**
LTZ	**Lake Taylor**	**4.25**	**235**	*e*PN	**Pn**	**00 16 57.6**	**-3.2**
LTZ	**Lake Taylor**	**4.25**	**235**	*e*P	**Pn**	**00 16 57.6**	**-3.2**
WB2	**Warramunga Arr**	**41.64**	**286**	*e*P	**P**	**00 23 42.9**	**-1.7**
MDJ	**Mudanjiang**	**94.77**	**328**	P	**P**	**00 29 18.8**	**+1.7**
CN2	**Changchun**	**95.85**	**325**	*e*P	**P**	**00 29 24.3**	**+2.3**
WMQ	**Urumqi**	**116.04**	**306**	*e*PKP	PKPdf	00 34 39.0	-1.7

*NNC **24** 00:17:15.2±29.0, 35.03N×74.23E, mb3.7, mpv3.5, Error ellipse: s-maj=1780.0km s-min=268.8km az=71.0*
ISC 24 00:17:05.3±1.3, 34.4N±0.1×73.4E±0.3, h10km, n5, σ1§30/8, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.81**	**130**	*e*P	**Pn**	**00 17 51.0**	**-0.2**
DLH				*e*S	**Sn**	**00 18 26.0**	**+0.6**
AYAN	**Aya Nagar**	**6.68**	**151**	*e*S	**Sn**	**00 20 03.5**	**+0.5**
AYAN				AML	AML	00 20 04.3	
	comp=Z,3.9nm,0.2s						
BISR	**Bishrakh**	**6.73**	**148**	*ex*	x	00 18 33.6	
BISR				*e*S	**Sn**	**00 20 03.8**	**-0.5**
BISR				AML	AML	00 20 48.8	
	comp=Z,2.7nm,0.5s						
SONA	**Sohna**	**6.87**	**152**	*e*P	**Pn**	**00 18 50.0**	**+1.4**
SONA				*e*S	**Sn**	**00 20 05.5**	**-2.2**
SONA				AML	AML	00 20 10.1	
	comp=E,5.6nm,0.2s						
SONA				AML	AML	00 20 10.8	
	comp=N,3.5nm,0.3s						
KK31	**Karatay Array**	**8.99**	**346**	P	**P**	**00 19 20.5**	**+2.2**
	comp=N,0.6nm,0.3s,baz=153,slow=10,SNR=52						
KK31				⇑S	**Sn**	**00 20 59.1**	**-1.6**
	comp=N,0.6nm,0.5s,baz=164,slow=22,SNR=4.9						

*NEIC **24** 00:27:59.2, 40.40S×176.98E, h12km, ML4.0(WEL), After WEL.*
WEL 24 00:27:58.9±0.2, 40.38S×176.98E, h12km, ML4.0/31, 3C-3D, Error ellipse: s-maj=2.2km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.36**	**345**	⇑*P**	Pb	00 28 06.5	-0.2
PXZ				*S**	Sb	00 28 11.2	-0.9
PXZ				*S**	Sb	00 28 11.5	-0.5
BFZ	**Birch Farm**	**0.64**	**242**	⇑*P**	Pb	00 28 13.7	+2.2
BFZ				*S**	Sb	00 28 21.5	+1.5
BFZ	**Birch Farm**	**0.64**	**242**	*P*	Pb	00 28 13.7	+2.2
BFZ				*S*	Sb	00 28 24.4	+4.4
TSZ	**Takapari Road**	**0.85**	**292**	⇓*P**	Pb	00 28 14.6	-0.4
TSZ	**Takapari Road**	**0.85**	**292**	*P*	Pb	00 28 14.6	-0.5
MRZ	**Mangatainoka R**	**1.11**	**255**	⇑*P**	Pb	00 28 19.5	0.0
MRZ	**Mangatainoka R**	**1.11**	**255**	*P*	Pb	00 28 19.5	0.0
BKZ	**Black Stump Fm**	**1.27**	**342**	⇓PN	Pn	00 28 21.5	-1.0
BKZ				*S**	Sb	00 28 37.2	-1.3
BKZ	**Black Stump Fm**	**1.27**	**342**	*P*	Pb	00 28 21.5	-0.8
MOVZ	**Moawhango**	**1.36**	**315**	PN	Pn	00 28 22.9	-0.8
MOVZ	**Moawhango**	**1.36**	**315**	P	Pn	00 28 23.0	-0.8
MTW	**Mount Morrison**	**1.37**	**235**	PN	Pn	00 28 22.9	-1.0
MTW	**Mount Morrison**	**1.37**	**235**	P	Pn	00 28 23.1	-0.8
TRWZ	**Traveller**	**1.41**	**224**	PN	Pn	00 28 23.7	-0.8
KNZ	**Kokohu**	**1.46**	**22**	PN	Pn	00 28 24.2	-1.0
KNZ	**Kokohu**	**1.46**	**22**	*e*P	Pn	00 28 24.2	-1.0
WNVZ	**Wahianoa**	**1.50**	**314**	P	Pn	00 28 26.2	+0.4
TUVZ	**Tukino**	**1.51**	**317**	*e*PN	Pn	00 28 26.2	+0.2
TUVZ	**Tukino**	**1.51**	**317**	P	Pn	00 28 27.0	+1.0
TRVZ	**Turoa**	**1.55**	**314**	PN	Pn	00 28 26.7	+0.2
PAWZ	**Paruwai Farm**	**1.55**	**229**	PN	Pn	00 28 25.5	-1.0
PAWZ	**Paruwai Farm**	**1.55**	**229**	P	Pn	00 28 25.5	-1.0
DRZ	**Dome Shelter**	**1.55**	**315**	P	Pn	00 28 29.6	+3.0
FWVZ	**Far West T-bar**	**1.57**	**315**	*e*PN	Pn	00 28 27.1	+0.2
FWVZ	**Far West T-bar**	**1.57**	**315**	P	Pn	00 28 27.3	+0.4
OTVZ	**Oturere**	**1.58**	**320**	*e*PN	Pn	00 28 25.9	-1.1
CNZ	**Chateau**	**1.62**	**316**	*e*PN	Pn	00 28 28.2	+0.7
CNZ	**Chateau**	**1.62**	**316**	P	Pn	00 28 28.3	+0.8
CAW	**Cannon Point**	**1.63**	**243**	PN	Pn	00 28 26.4	-1.2
CAW	**Cannon Point**	**1.63**	**243**	P	Pn	00 28 26.4	-1.2
KIW	**Kapiti Island**	**1.65**	**252**	PN	Pn	00 28 27.0	-0.9
KIW	**Kapiti Island**	**1.65**	**252**	P	Pn	00 28 27.1	-0.9
WAZ	**Wanganui**	**1.66**	**292**	*e*PN	Pn	00 28 27.6	-0.4
WAZ	**Wanganui**	**1.66**	**292**	P	Pn	00 28 28.9	+0.9
WTVZ	**West Tongariro**	**1.66**	**319**	P	Pn	00 28 29.8	+1.7
PKVZ	**Pokaka**	**1.67**	**310**	*e*PN	Pn	00 28 28.6	+0.4
MSWZ	**Moikau Station**	**1.67**	**231**	PN	Pn	00 28 26.8	-1.5
MSWZ	**Moikau Station**	**1.67**	**231**	P	Pn	00 28 26.9	-1.4
TWVZ	**Taurewa**	**1.77**	**317**	*e*PN	Pn	00 28 30.0	+0.4
TWVZ	**Taurewa**	**1.77**	**317**	P	Pn	00 28 30.0	+0.3
WEL	**Wellington**	**1.91**	**241**	*e*PN	Pn	00 28 29.7	-1.9
WEL	**Wellington**	**1.91**	**241**	P	Pn	00 28 30.1	-1.5
MRW	**Makara Radio**	**1.93**	**243**	*e*PN	Pn	00 28 30.3	-1.6
MRW	**Makara Radio**	**1.93**	**243**	P	Pn	00 28 30.3	-1.6
SNZO	**South Karori**	**1.96**	**241**	*e*PN	Pn	00 28 30.8	-1.7
SNZO	**South Karori**	**1.96**	**241**	P	Pn	00 28 29.4	-3.0
MWZ	**Matawai**	**2.09**	**12**	PN	Pn	00 28 32.2	-2.0
URZ	**Urewera**	**2.12**	**3**	⇓PN	Pn	00 28 32.8	-1.9
URZ	**Urewera**	**2.12**	**3**	P	Pn	00 28 32.8	-1.9
VRZ	**Vera Road**	**2.12**	**305**	*e*PN	Pn	00 28 35.7	+1.0
VRZ	**Vera Road**	**2.12**	**305**	*e*P	Pn	00 28 35.9	+1.2
TCW	**Tory Channel**	**2.22**	**247**	PN	Pn	00 28 34.1	-1.9
TCW	**Tory Channel**	**2.22**	**247**	P	Pn	00 28 34.1	-2.0
DUWZ	**D'Urville Isla**	**2.37**	**259**	*e*PN	Pn	00 28 37.5	-0.8
NEZ	**North Egmont**	**2.48**	**296**	*e*PN	Pn	00 28 42.0	+2.2
NEZ	**North Egmont**	**2.48**	**296**	P	Pn	00 28 42.9	+3.0
HIZ	**Hauiti**	**2.49**	**318**	*e*PN	Pn	00 28 40.7	+0.8
HIZ	**Hauiti**	**2.49**	**318**	*e*P	Pn	00 28 40.8	+0.9
TUWZ	**Tuamarina**	**2.53**	**245**	PN	Pn	00 28 38.0	-2.6
PKE	**Pukeiti**	**2.59**	**296**	*e*PN	Pn	00 28 41.9	+0.4
PKE	**Pukeiti**	**2.59**	**296**	P	Pn	00 28 41.9	+0.4
BSWZ	**Blackbirch Sta**	**2.70**	**239**	PN	Pn	00 28 40.4	-2.6
NNZ	**Nelson**	**2.86**	**252**	PN	Pn	00 28 43.4	-1.9
NNZ	**Nelson**	**2.86**	**252**	*e*P	Pn	00 28 43.5	-1.8
MXZ	**Matakaoa Point**	**3.00**	**21**	PN	Pn	00 28 44.9	-2.3
MXZ	**Matakaoa Point**	**3.00**	**21**	*e*P	Pn	00 28 45.0	-2.2
THZ	**Tophouse**	**3.38**	**245**	PN	Pn	00 28 49.4	-3.2
THZ	**Tophouse**	**3.38**	**245**	*e*P	Pn	00 28 49.4	-3.2
QRZ	**Quartz Range**	**3.42**	**261**	*e*P	Pn	00 28 51.1	-2.1
LTZ	**Lake Taylor**	**4.27**	**234**	*e*PN	Pn	00 29 00.8	-4.5
LTZ	**Lake Taylor**	**4.27**	**234**	*e*P	Pn	00 29 01.1	-4.2
WB2	**Warramunga Arr**	**41.62**	**286**	*e*P	P	00 35 46.1	-2.5

*IDC **24** 00:35:02.6±3.3, 34.99N×26.82E, mb3.8/2, mb1 3.6/4, mb1mx3.3/19, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=80.3km s-min=19.3km az=177.0*
*ISK **24** 00:35:04.6, 35.28N×26.59E, h64km, MD3.5*
*ATH **24** 00:35:05.9, 35.58N×26.69E, h14km±5km, MD3.4/5*
*NEIC **24** 00:35:05.9, 35.58N×26.69E, h14km, MD3.5(ISK), MD3.4(ATH), After ATH.*
*CSEM **24** 00:35:06.6±0.1, 35.50N×26.74E, h20km, MD3.4, Error ellipse: s-maj=5.0km s-min=2.2km az=166.0*
ISC 24 00:35:04.9±1.2, 35.3N±0.1×26.78E±0.06, h9km±8km, n20, σ0§97/25, mb3.7/2, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.37**	**56**	*e*PG	**Pg**	**00 35 13.3**	**+0.8**
KARP				*e*SB	**Sb**	**00 35 19.1**	**+0.2**
NPS	**Neapolis**	**0.96**	**266**	*e*PG	**Pg**	**00 35 23.7**	**-0.4**
NPS				*e*SB	**Sb**	**00 35 35.6**	**-0.2**
ARG	**Arkhangelos**	**1.40**	**51**	*e*PB	**Pb**	**00 35 31.4**	**+0.6**
ARG				*e*SB	**Sb**	**00 35 49.6**	**+0.9**
SANT	**Santorini**	**1.49**	**314**	P	**Pn**	**00 35 32.0**	**0.0**
SANT	**Santorini**	**1.49**	**314**	P	**Pn**	**00 35 32.0**	**0.0**
DAT	**Datca**	**1.53**	**25**	PN	**Pn**	**00 35 31.7**	**-0.9**
DAT				SN	**Sn**	**00 35 53.1**	**+0.4**
IDI	**Anoyia**	**1.55**	**269**	Pn	**Pn**	**00 35 32.3**	**-0.5**
	19nm,0.3s,baz=63,slow=21,SNR=94						
IDI				Sn	**Sn**	**00 35 54.4**	**+1.2**
	44nm,0.3s,baz=328,slow=18,SNR=12						
BODT	**Bodrum**	**1.77**	**14**	*e*PN	**Pn**	**00 35 35.2**	**-0.8**
APE	**Apeiranthos**	**2.00**	**330**	*e*PN	**Pn**	**00 35 37.6**	**-1.7**
APE	**Apeiranthos**	**2.00**	**330**	*e*Pn	**Pn**	**00 35 37.5**	**-1.8**
DALT	**Dalyan (Mudla)**	**2.07**	**46**	*e*PN	**Pn**	**00 35 40.2**	**-0.2**
VAM	**Vamos**	**2.11**	**273**	*e*PN	**Pn**	**00 35 42.5**	**+1.6**
YER	**Yerkesik**	**2.16**	**34**	*e*PN	**Pn**	**00 35 41.8**	**+0.1**
FETY	**Fethiye**	**2.27**	**55**	*e*PN	**Pn**	**00 35 43.7**	**+0.5**
ELL	**Elmali**	**2.90**	**60**	*e*PN	**Pn**	**00 35 52.8**	**+0.6**
BRTR	**Keskin Array B**	**6.99**	**49**	Pn	**Pn**	**00 36 48.8**	**-1.3**
	0.1nm,0.3s,baz=208,slow=12,SNR=5.2						
GERES	**GERESS Array B**	**16.59**	**328**	Pn	**P**	**00 39 02.1**	**+2.9**
	0.1nm,0.3s,baz=153,slow=12,SNR=6.1						
MKAR	**Makanchi Array**	**42.57**	**57**	P	**P**	**00 43 01.9**	**-0.7**
	0.8nm,0.5s,mb3.7,baz=270,slow=8.2,SNR=29						
ZAL	**Zalesovo**	**43.91**	**46**	P	**P**	**00 43 11.7**	**-1.7**
	0.6nm,0.5s,mb3.6,baz=156,slow=20,SNR=3.7						
ZAL	**Zalesovo**	**43.91**	**46**	P	**P**	**00 43 11.6**	**-1.7**

*ATH **24** 01:00:09.4, 39.01N×23.25E, h24km±2km, MD2.9/7, ML3.1*
*THE **24** 01:00:09.4, 38.96N×23.31E, h4km*
*NEIC **24** 01:00:09.5, 39.01N×23.25E, h23km, ML3.1(ATH), After ATH.*
*CSEM **24** 01:00:09.9±0.1, 38.97N×23.31E, h12km, ML3.1, Error ellipse: s-maj=3.0km s-min=1.7km az=85.0*
ISC 24 01:00:09.3±0.9, 38.99N±0.03×23.31E±0.07, h11km±8km, n17, σ0§83/22, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.32**	**348**	⇑*i*PB	**Pb**	**01 00 16.5**	**-0.1**
XOR	**Xorichti**	**0.38**	**346**	*e*Pg	**Pg**	**01 00 17.6**	**+0.4**
XOR				*e*Sg	**Sg**	**01 00 23.4**	**+0.9**
LKR	**Lokris**	**0.42**	**215**	⇑*i*PB	**Pb**	**01 00 18.1**	**-0.1**
AGG	**Agios Georgios**	**0.76**	**272**	*e*Pg	**Pg**	**01 00 24.1**	**-0.6**
AGG				*e*Sg	**Sg**	**01 00 35.1**	**+0.2**
MPAR	**Parnis Oros**	**0.90**	**158**	*e*PN	**Pn**	**01 00 27.0**	**-0.8**
PAIG	**Paliouri**	**0.98**	**17**	*e*Pg	**Pg**	**01 00 28.6**	**-0.2**
PAIG				*e*Sg	**Sg**	**01 00 43.1**	**+1.2**
MGER	**Gerania Oros**	**1.01**	**182**	*e*PN	**Pn**	**01 00 29.5**	**+0.2**
PTL	**Penteli**	**1.04**	**155**	*e*PN	**Pn**	**01 00 30.5**	**+0.8**
ATH	**Athens Observa**	**1.07**	**162**	*e*PN	**Pn**	**01 00 30.2**	**0.0**
ATH				*e*SN	**Sn**	**01 00 45.0**	**-0.1**
NAIG	**Nisos Aigina**	**1.24**	**173**	*e*PN	**Pn**	**01 00 34.2**	**+1.6**
LIT	**Litokhoron**	**1.27**	**330**	*e*Pg	**Pg**	**01 00 33.3**	**-1.5**
LIT				*e*Sg	**Sg**	**01 00 52.5**	**+0.7**
PLG	**Polygyros**	**1.38**	**4**	*e*PN	**Pn**	**01 00 34.5**	**-0.2**
OUR	**Ouranopolis**	**1.44**	**21**	*e*Pg	**Pg**	**01 00 35.4**	**-2.6**
SOH	**Sokhos**	**1.83**	**1**	*e*Pb	**Pb**	**01 00 41.1**	**-1.2**
GRG	**Griva**	**2.08**	**341**	*e*Pn	**Pn**	**01 00 44.6**	**-0.1**
SRS	**Serrai**	**2.13**	**6**	*e*Pn	**Pn**	**01 00 45.4**	**0.0**
KNT	**Kendrikon**	**2.19**	**352**	*e*Pn	**Pn**	**01 00 46.7**	**+0.5**

*INMG **24** 01:05:40.7±1.3, 42.08N×8.11W, h19km±3km, ML2.2, Error ellipse: s-maj=2.2km s-min=2.2km az=70.0*
*NEIC **24** 01:05:40.7, 42.08N×8.12W, h18km, MN2.6(MDD), After MDD.*
MDD 24 01:05:40.7±0.2, 42.08N×8.12W, h19km±2km, mbLg2.4/14, 2C-1D, Error ellipse: s-maj=3.0km s-min=2.0km az=50.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOB	**Lobios**	**0.21**	**168**	⇓Pg	Pb	01 05 45.7	-0.3
	SNR=18						
ELOB				Lg		01 05 49.2	
	227nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**0.37**	**169**	*i* Pg	Pb	01 05 48.2	-0.3
PCAB				*e*Sg	Sb	01 05 53.5	-0.4
	298nm,0.2s						
PCAB	**Cabril**	**0.37**	**169**	Pg	Pb	01 05 48.1	-0.4
PCAB				Lg		01 05 53.5	
EZAM	**Zamans**	**0.43**	**280**	⇑Pg	Pb	01 05 49.2	-0.3
	107nm,0.1s,SNR=18						
EZAM				Lg		01 05 54.9	
	133nm,0.2s,SNR=5.0						
ERUA	**La Rua**	**0.79**	**66**	⇑Pg	Pb	01 05 55.4	-0.2
	51nm,0.2s,SNR=18						
ERUA				Lg		01 06 05.7	
	34nm,0.2s,SNR=11						
PVRL	**Vila Real**	**0.86**	**159**	*e*P	Pb	01 05 56.2	-0.5
PVRL				*e*S	Sb	01 06 07.9	+0.2
	67nm,0.1s						
PVRL	**Vila Real**	**0.86**	**159**	Pg	Pb	01 05 56.5	-0.2
PVRL				Lg		01 06 07.8	
STS	**Santiago**	**0.87**	**339**	Pg	Pb	01 05 56.2	-0.7
	33nm,0.1s,SNR=38						
STS				Lg		01 06 08.1	
	154nm,0.1s,SNR=51						
ECAL	**Calabor**	**1.04**	**97**	Pn	Pn	01 05 58.9	-1.4
	SNR=7.9						
ECAL				Pg	Pb	01 05 59.8	0.0
	12nm,0.2s,SNR=89						
ECAL				Lg		01 06 13.3	
	82nm,0.2s,SNR=47						
EMAZ	**Mazaricos**	**1.08**	**324**	Pn	Pn	01 05 59.0	-1.9
	SNR=7.9						
EMAZ				Pg	Pb	01 06 00.1	-0.4
	9.2nm,0.1s,SNR=70						
EMAZ	**Mazaricos**	**1.08**	**324**	Pn	Pn	01 05 59.0	-1.9
EMAZ				Pg	Pb	01 06 00.1	-0.4
EMAZ				Lg		01 06 14.4	
PVIS	**Viseu**	**1.37**	**173**	Pn	Pn	01 06 03.6	-1.4
PVIS	**Viseu**	**1.37**	**173**	*e*Pg	Pn	01 06 05.0	0.0
PVIS				*e*Sg	Sb	01 06 23.2	+0.6
	37nm,0.2s						
PVIS	**Viseu**	**1.37**	**173**	Pn	Pn	01 06 03.6	-1.4
PVIS				Pg	Pn	01 06 05.0	0.0
PVIS				Lg		01 06 22.9	
PVIS	**Viseu**	**1.37**	**173**	Pg	Pn	01 06 05.0	0.0
PVIS				Lg		01 06 22.9	
EPON	**Pontenova**	**1.44**	**29**	Pn	Pn	01 06 03.7	-2.3
	1.9nm,0.1s,SNR=14						
EPON				Pg	Pn	01 06 06.6	+0.6
	SNR=7.9						
EPON				Lg		01 06 24.2	
	20nm,0.1s,SNR=17						
MTE	**Manteigas**	**1.73**	**165**	*e*Pn	Pn	01 06 08.4	-1.8
MTE	**Manteigas**	**1.73**	**165**	*e*Pg	Pn	01 06 11.9	+1.7
MTE				*e*Sg	Sn	01 06 34.9	+3.0
	16nm,0.3s						
MTE	**Manteigas**	**1.73**	**165**	Pn	Pn	01 06 08.4	-1.8
MTE				Pg	Pn	01 06 11.9	+1.7
MTE				Lg		01 06 34.9	
	7.9nm,0.3s						
PCBR	**Castelo Branco**	**2.29**	**168**	*e*Pn	Pn	01 06 16.1	-2.1
PCBR				*e*Sg	Sn	01 06 51.9	+5.8
	8.6nm,0.3s						
PCBR	**Castelo Branco**	**2.29**	**168**	Pn	Pn	01 06 16.1	-2.1
PCBR				Lg		01 06 51.9	
	4.3nm,0.3s						
PTOM	**Tomar**	**2.47**	**185**	*e*Pg	Pn	01 06 25.8	+5.1
PTOM				*e*Sg	Sn	01 06 57.3	+6.7
	16nm,0.4s						
PTOM	**Tomar**	**2.47**	**185**	Pg	Pn	01 06 25.8	+5.1
PTOM				Lg		01 06 57.3	
	7.9nm,0.4s						
EARI	**Arriondas**	**2.47**	**59**	Pn	Pn	01 06 19.2	-1.6
	0.4nm,0.1s,SNR=13						
EARI				Sn	Sn	01 06 47.2	-3.4
	1.4nm,0.2s,SNR=7.9						
EARI				Lg		01 06 56.5	
	1.8nm,0.2s,SNR=5.0						
GUD	**Guadarrama**	**3.31**	**114**	Pn	Pn	01 06 31.5	-1.2
	0.8nm,0.2s,SNR=7.3						
GUD				Sn	Sn	01 07 09.2	-2.7
	0.9nm,0.2s,SNR=9.8						
GUD				Lg		01 07 22.9	
	5.0nm,0.3s,SNR=5.0						
EBAD	**Badajoz**	**3.42**	**165**	Pn	Pn	01 06 32.2	-2.1
	0.5nm,0.1s,SNR=6.3						
EBAD				Sn	Sn	01 07 09.9	-5.0
	1.1nm,0.2s,SNR=7.9						
EBAD				Lg		01 07 25.9	
	2.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**3.64**	**70**	Pn	Pn	01 06 35.6	-1.9
	0.5nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	01 07 16.7	-3.7
	2.2nm,0.3s,SNR=7.9						
ELAN				Lg		01 07 34.7	
	2.1nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**3.96**	**126**	Pn	Pn	01 06 39.6	-2.4
	0.5nm,0.1s,baz=311,slow=14,SNR=6.4						
ESDC				Pg	Pn	01 06 51.6	+10
	0.1nm,0.3s,baz=309,slow=18,SNR=4.2						
ESDC				Sn	Sn	01 07 23.4	-5.1
	0.5nm,0.2s,baz=308,slow=24,SNR=7.9						
ESDC				Lg		01 07 41.7	
	1.8nm,0.5s,baz=308,slow=30,SNR=7.9						
PBEJ	**Beja**	**4.05**	**177**	*e*Sg	Sn	01 07 47.7	+17
EMIN	**Mina Concepcio**	**4.45**	**165**	Pn	Pn	01 06 45.6	-3.3
	0.3nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	01 07 34.0	-6.7
	0.8nm,0.4s,SNR=7.9						
EMIN				Lg		01 07 58.3	
	1.3nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**4.76**	**144**	Pn	Pn	01 06 49.8	-3.4
	0.2nm,0.2s,SNR=7.9						
EADA				Sn	Sn	01 07 41.3	-7.3
	0.5nm,0.2s,SNR=7.9						
EADA				Lg		01 08 07.5	
	0.8nm,0.3s,SNR=7.9						

*BJI **24** 01:06:39.6, 38.03N×72.33E, h116km, mB4.7, mb4.9*
*NEIC **24** 01:06:46.5±0.9, 37.97N×73.12E, h116km±10km, mb4.3/12, Error ellipse: s-maj=11.7km s

comp=N,110nm,22.0s
WMQ LR LR
comp=E,100nm,21.0s
WMQ LR LR
comp=Z,110nm,20.6s
KURK Kurchatov 13.30 15 ⇓P P 01 09 44.4 -7.2
comp=Z,4.6nm,0.9s
KURK Kurchatov 13.30 15 eP P 01 09 45.0 -6.6
KURK e 01 12 19.2
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 13.30 15 eP P 01 09 45.0 -6.6
comp=Z,8.0nm,0.8s
KURK eSn S 01 12 19.2 +2.9
KOLN Koldanda 13.44 136 ePn P 01 09 52.4 -1.1
KOLN eSn S 01 12 13.2 -6.4
comp=Z,44nm,0.8s
KOLN Koldanda 13.44 136 ePn P 01 09 52.4 -1.1
comp=Z,22nm,0.8s
KOLN eSn S 01 12 13.2 -6.4
GKN Gorkha 13.84 133 ePn P 01 09 57.6 -1.1
GKN eSn S 01 12 22.9 -6.0
comp=Z,52nm,0.3s
GKN Gorkha 13.84 133 ePn P 01 09 57.6 -1.1
comp=Z,26nm,0.4s
GKN eSn S 01 12 22.9 -6.0
KKN Kakani 14.38 132 ePn P 01 10 04.5 -1.0
KKN eSn S 01 12 35.3 -6.0
DMN Daman 14.41 132 ePn P 01 10 05.2 -0.7
DMN eSn S 01 12 36.4 -5.6
comp=Z,52nm,0.7s
DMN Daman 14.41 132 ePn P 01 10 05.2 -0.7
comp=Z,26nm,0.7s
DMN eSn S 01 12 36.4 -5.6
PKI Pulchoki 14.62 132 ePn P 01 10 07.8 -0.7
PKI eSn S 01 12 40.5 -6.2
comp=Z,28nm,0.6s
PKI Pulchoki 14.62 132 eP P 01 10 07.8 -0.7
PKI e 01 12 40.5
PKI pmax pmax
comp=Z,14nm,0.6s
PKI Pulchoki 14.62 132 ePn P 01 10 07.8 -0.7
comp=Z,14nm,0.6s
PKI eSn S 01 12 40.5 -6.2
GUN Gumba 14.65 130 ePn P 01 10 07.9 -1.0
AB31 Akbulak array 14.75 324 P P 01 10 07.6 -2.4
comp=Z,11nm,0.5s,baz=133,slow=13,SNR=257
AB31 ⇓S S 01 12 37.4 -12
comp=Z,17nm,0.5s
AB31 Akbulak array 14.75 324 *i* P P 01 10 07.6 -2.4
AB31 pmax pmax
comp=Z,10.0nm,0.5s
VOSK Vostochnaya 14.81 355 ⇓P P 01 10 08.5 -2.2
comp=Z,3.3nm,0.8s
BHJ Bhuj 15.00 193 eP P 01 10 18.0 +4.7
BHJ ex x 01 12 50.0
JIRN Jiri 15.02 130 ePn P 01 10 13.1 -0.5
JIRN eSn S 01 12 49.6 -6.3
BHPL Bhopal 15.15 165 eP P 01 10 16.8 +1.5
BHPL AMb AMB 01 10 19.1
comp=Z,8.2nm,0.5s
BHPL ex x 01 12 48.1
BVA0 Borovoye Array 15.15 354 P P 01 10 13.1 -1.9
comp=Z,1.6nm,1.0s,baz=273,slow=40,SNR=24
BVA0 ⇑S S 01 12 43.9 -15
comp=Z,2.5nm,1.1s,baz=168,slow=24,SNR=6.3
BVA0 Borovoye Array 15.15 354 P P 01 10 13.0 -2.0
BVA0 pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 15.15 354 P P 01 10 13.6 -1.4
comp=Z,1.5nm,0.3s,baz=157,slow=9.3,SNR=18
BVAR S S 01 12 54.6 -4.1
comp=Z,0.6nm,0.3s,baz=166,slow=24,SNR=7.2
BRVK Borovoye 15.20 353 eP P 01 10 14.2 -1.4
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 15.20 353 eP P 01 10 14.2 -1.3
comp=Z,7.6nm,0.8s
AKTK Aktyubinsk 16.47 324 P P 01 10 30.2 -1.2
AKTK S S 01 13 27.5 -0.9
AKTO Aktyubinsk 16.47 324 P P 01 10 30.2 -1.2
comp=Z,2.0nm,0.3s,baz=128,slow=12,SNR=32
AKTO S S 01 13 27.5 -0.9
comp=Z,1.5nm,0.3s,baz=223,slow=23,SNR=10
LSA Lhasa 17.06 114 eP P 01 10 41.8 +3.1
LSA Lhasa 17.06 114 eP P 01 10 41.3 +2.6
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 17.06 114 eP P 01 10 41.3 +2.6
comp=Z,9.4nm,0.8s
BLSP Bilaspur 17.60 151 ex x 01 13 44.9
ZAL Zalesovo 17.84 23 P P 01 10 47.0 -0.7
comp=Z,1.1nm,0.3s,baz=255,slow=9.5,SNR=26
BOK Bokaro 17.85 139 eP P 01 10 48.0 0.0
BOK AMb AMB 01 10 50.6
comp=Z,12nm,0.4s
NVS Novosibirsk 18.19 19 eP P 01 10 50.5 -1.0
NVS eS S 01 14 02.3 -4.0
GTA Gaotai 20.82 78 eP P 01 11 20.5 +1.7
ARU Arti 20.86 337 ⇓*i*P P 01 11 19.1 +0.1
ARU eS S 01 15 08.1 +10
ARU eSS SS 01 15 38.1 -5.1
ARU pmax pmax
comp=Z,16nm,0.9s
ARU Arti 20.86 337 eP P 01 11 18.5 -0.5
comp=Z,23nm,1.2s
KIV Kislovodsk 23.69 294 P P 01 11 49.0 +2.4
KIV e*SP 01 12 20.5
KIV e 01 12 29.7
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
KIV Kislovodsk 23.69 294 eP P 01 11 47.6 +1.0
comp=Z,16nm,0.6s,mb4.7
ZAK Zakamensk 24.71 50 eP P 01 11 52.9 -3.3
ZAK pmax pmax
comp=Z,17nm,1.7s,mb4.3
SONM Songino Array 26.07 57 P P 01 12 10.4 +1.5
comp=Z,1.0nm,0.7s,mb3.5,baz=256,slow=9.1,SNR=7.7
ANN Anapa 27.49 296 eP P 01 12 23.4 +1.5
ANN eS S 01 16 59.1 +9.2
ANN pmax pmax
comp=Z,161nm,6.7s
OBN Obninsk 29.98 317 P P 01 12 44.4 +0.3
OBN e 01 13 27.3
OBN pmax pmax
comp=Z,9.0nm,1.6s,mb4.2
BRTR Keskin Array B 30.66 286 P P 01 12 52.0 +1.7
comp=Z,1.4nm,0.6s,mb3.8,baz=103,slow=8.4,SNR=7.1
AKASG Malin Array Be 33.40 307 P P 01 13 14.1 +0.4
comp=Z,0.5nm,0.2s,mb3.9,baz=86,slow=14,SNR=8.1
JOF Joensuu 35.47 328 ep P 01 13 31.0 -0.2
comp=Z,3.6nm,0.7s,mb4.1
FINES FINESS Array B 37.24 324 P P 01 13 46.9 +0.7
comp=Z,0.8nm,0.3s,mb3.8,baz=113,slow=9.3,SNR=20
NJ2 Nanjing 37.59 85 eP P 01 13 51.3 +1.9
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
SSE Sheshan 39.80 85 eP P 01 14 06.0 -1.6
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,130nm,9.0s
ARCES ARCESS Array B 40.45 336 P P 01 14 13.6 +1.0
comp=Z,4.5nm,0.7s,mb4.2,baz=114,slow=9.0,SNR=32
KHC Kasperske Hory 43.53 305 *i* P P 01 14 38.9 +1.0
NB2 NORSAR Subarra 44.25 322 P P 01 14 43.7 +0.3
comp=Z,1.2nm,0.5s,mb3.8,baz=92,slow=7.9
NB2 NORSAR Subarra 44.25 322 P P 01 14 43.7 +0.3
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
NOA NORSAR Array B 44.25 322 P P 01 14 43.7 +0.3
comp=Z,3.0nm,0.6s,mb4.1,baz=92,slow=7.9,SNR=8.0
KONO Kongsberg 45.03 320 *i* P P 01 14 55.5 +5.8
ESDC Sonseca Array 58.29 298 P P 01 16 29.0 0.0
comp=Z,0.1nm,0.4s,mb3.0,baz=60,slow=8.8,SNR=5.2
SUMG Summit 60.21 341 P P 01 16 41.5 -0.1
comp=Z,2.6nm,0.8s,mb4.1
ILAR Eielson Array 72.86 17 P P 01 18 02.4 +1.0
comp=Z,0.6nm,0.9s,mb3.3,baz=295,slow=3.6,SNR=5.3
YKA Yellowknife Ar 79.66 4 P P 01 18 40.6 +1.2
comp=Z,0.4nm,0.6s,mb3.2,baz=348,slow=5.6,SNR=12
WRA Warramunga Arr 81.34 124 P P 01 18 50.1 +0.9
comp=Z,0.5nm,0.8s,mb3.2,baz=318,slow=4.2,SNR=5.5
WRAB Tennant Creek 81.34 124 P P 01 18 50.1 +0.9
WRAB pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
WRAB Tennant Creek 81.34 124 P P 01 18 50.1 +0.9
comp=Z,3.2nm,0.9s,mb4.0

*NIED **24** 01:15:00,38.20N×138.90E,h17km,Mw3.6 Best double couple: M₀2.96×10¹⁴ NP1:φs13°,δ54°,λ57°. NP2:φs240°, δ48°,λ126°.*
*JMA **24** 01:15:42.5,38.18N×138.85E,h23km±1km,M3.9*
JMA Felt I J1.
*NEIC **24** 01:15:42.6,38.18N×138.85E,h23km, mb4.3/2, After JMA.*
*IDC **24** 01:15:45.4±3.5,38.17N×138.63E,h44km±38km, mb3.2/3, mb1 3.6/3,mb1mx3.1/21,mbtmp3.4/3,Error ellipse: s-maj=34.5km s-min=23.4km az=111.0*
ISC 24 01:15:42.2±0.5,38.19N±0.03×138.85E±0.05,h30km±4km, n17,σ0°62/28,mb3.8/5,7D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.41**	**49**	⇓P			**Pb**	**01 15 51.1**	**-0.1**
JAW				S			**Sb**	**01 15 57.5**	**+0.1**
JSD	**Sado**	**0.49**	**252**	⇓P			**Pb**	**01 15 52.4**	**0.0**
JSD				S			**Sb**	**01 15 59.1**	**-0.3**
JNS	**Sasagawa**	**0.52**	**135**	⇓P			**Pb**	**01 15 52.4**	**-0.5**
JNS				S			**Sb**	**01 15 59.6**	**-0.7**
JIZZ	**Izumozaki**	**0.66**	**190**	P			**Pb**	**01 15 55.5**	**+0.3**
JIZZ				eS			**Sb**	**01 16 04.8**	**+0.6**
JYA	**Atsumi**	**0.79**	**59**	⇓P			**Pn**	**01 15 57.5**	**+0.2**
JYA				S			**Sb**	**01 16 08.1**	**+0.4**
JHK	**Hiroka**	**0.95**	**172**	⇓P			**Pn**	**01 15 59.1**	**-0.4**
JHK				S			**Sn**	**01 16 11.4**	**-0.6**
JYS	**Shirataka**	**0.96**	**88**	⇓P			**Pn**	**01 15 59.9**	**+0.3**
JYS				S			**Sn**	**01 16 12.8**	**+0.5**
JFY	**Yanaizu**	**1.03**	**139**	⇓P			**Pn**	**01 16 00.9**	**+0.2**
JFY				S			**Sn**	**01 16 14.2**	**0.0**
MAJO	**Matsushiro**	**1.72**	**198**	*e*P			**Pn**	**01 16 10.7**	**+0.2**
MAT	**Matsushiro**	**1.72**	**198**	P			**Pn**	**01 16 11.1**	**+0.5**
MAT				S			**Sn**	**01 16 32.1**	**+0.4**
MAT	**Matsushiro**	**1.72**	**198**	*e*P			**Pn**	**01 16 11.0**	**+0.4**
MAT				eS			**Sn**	**01 16 32.0**	**+0.3**
MJAR	**Matsushiro Arr**	**1.72**	**197**	P			**Pn**	**01 16 11.4**	**+0.8**
	7.6nm,0.3s,baz=12,slow=16,SNR=49								
MJAR				S			**Sn**	**01 16 32.7**	**+1.0**
	63nm,0.3s,baz=10,slow=28,SNR=42								
ILAR	**Eielson Array**	**49.62**	**33**	P			**P**	**01 24 32.5**	**+0.2**
	0.4nm,0.8s,mb3.5,baz=273,slow=7.0,SNR=4.8								
WRAB	**Tennant Creek**	**57.96**	**185**	P			**P**	**01 25 32.2**	**-2.1**
	2.0nm,0.8s,mb4.2								
WRA	**Warramunga Arr**	**57.97**	**185**	P			**P**	**01 25 33.0**	**-1.3**
	0.3nm,0.5s,mb3.6,baz=1.0,slow=7.3,SNR=6.5								
YKA	**Yellowknife Ar**	**63.83**	**30**	P			**P**	**01 26 13.5**	**+0.2**
	0.3nm,0.7s,mb3.5,baz=307,slow=6.7,SNR=7.4								
SUMG	**Summit**	**69.52**	**359**	P			**P**	**01 26 49.4**	**0.0**
	1.5nm,0.5s,mb4.2								

*CASC **24** 01:31:38.8±2.7,7.10N×82.09W,h36km±487km,MD4.1, MW4.5,mb4.3(NEIC)*
*NEIC **24** 01:31:41.3±0.5,7.36N×82.18W,h10km,mb4.3/8,Error ellipse: s-maj=19.5km s-min=8.4km az=51.0*
*IDC **24** 01:31:46.4±5.0,8.53N×81.82W,mb4.0/10,mb1 4.2/11, mb1mx4.0/23,mbtmp3.9/11,ML3.3/1,MS3.2/4,Ms1 3.2/4, ms1mx2.8/26,Error ellipse: s-maj=130.8km s-min=28.4km az=13.0*
ISC 24 01:31:39.1±0.5,7.36N±0.07×82.04W±0.06,h10km,n40, σ1°19/43,mb4.1/18,MS3.2/3,4C-1D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**1.57**	**336**	⇑*i*P			**Pn**	**01 32 07.7**	**+0.5**
BRU2				eS			**Sb**	**01 32 31.0**	**+3.4**
BUS	**Buena Vista**	**2.77**	**322**	⇑eP			**Pn**	**01 32 23.9**	**-0.5**
BUS				eS			**Sn**	**01 32 57.3**	**-0.9**
ICR	**Volcan Irazu**	**3.15**	**326**	⇑eP			**Pn**	**01 32 30.3**	**+0.4**
ICR				eS			**Sn**	**01 33 09.9**	**+2.0**
LAJ	**Bijagual**	**3.23**	**321**	⇓eP			**Pn**	**01 32 30.9**	**0.0**
PRS1	**Puriscal**	**3.44**	**319**	⇑eP			**Pn**	**01 32 31.6**	**-2.4**
FORC	**Fortuna**	**4.04**	**320**	eP			**Pn**	**01 32 42.7**	**+0.2**
FORC				eS			**Sn**	**01 33 31.6**	**+1.1**
JTS	**JuntasAbangare**	**4.10**	**316**	eP			**Pn**	**01 32 40.5**	**-2.8**
VCR	**Vista de Mar**	**4.49**	**308**	eP			**Pn**	**01 32 46.0**	**-2.9**
OTAV	**Otavalo**	**7.93**	**153**	eP			**Pn**	**01 33 37.4**	**+0.2**
	3.0nm,0.8s								
ROSC	**El Rosal**	**8.06**	**108**	LR			LR	01 36 16.6	
	comp=Z,74nm,18.9s,baz=10,slow=33								
SDV	**Santo Domingo**	**11.39**	**82**	Pn			**P**	**01 34 27.3**	**+2.2**
	0.2nm,0.3s,baz=274,slow=13,SNR=2.6								
SDV				Sn			**S**	**01 36 32.6**	**-1.0**
	1.4nm,0.3s,baz=17,slow=13,SNR=9.5								
SDV	**Santo Domingo**	**11.39**	**82**	Pn			**P**	**01 34 27.3**	**+2.2**
SDV				Sn			**S**	**01 36 32.6**	**-1.0**
LRAL	**Lakeview Retre**	**25.96**	**350**	P			**P**	**01 37 13.6**	**-0.2**
LPAZ	**La Paz**	**27.23**	**150**	LR			LR	01 48 22.9	
	comp=Z,55nm,18.5s,MS3.1,baz=256,slow=35								
TXAR	**Lajitas Array**	**29.88**	**320**	P			**P**	**01 37 48.5**	**-0.8**
	0.3nm,0.7s,mb3.1,baz=142,slow=7.5,SNR=5.2								
TXAR				LR			LR	01 50 30.5	
	comp=Z,37nm,19.2s,MS3.0,baz=225,slow=39								
WMOK	**Wichita Mounta**	**31.31**	**333**	eP			**P**	**01 37 59.5**	**-2.3**
	1.0nm,0.8s,mb3.7								
CCM	**Cathedral Cave**	**31.68**	**346**	eP			**P**	**01 38 03.6**	**-1.5**
	2.7nm,0.6s,mb4.2								
MNTX	**Cornudas Mount**	**32.56**	**321**	eP			**P**	**01 38 11.9**	**-0.9**
	2.1nm,0.9s,mb4.1								
ANMO	**Albuquerque**	**35.47**	**324**	P			**P**	**01 38 39.0**	**+1.1**
	2.3nm,0.8s,mb4.2,baz=149,slow=6.7,SNR=11								
ANMO	**Albuquerque**	**35.47**	**324**	P			**P**	**01 38 39.0**	**+1.1**
SDCO	**Great Sand Dun**	**36.98**	**328**	eP			**P**	**01 38 50.1**	**-0.5**
WUAZ	**Wupatki**	**38.83**	**320**	eP			**P**	**01 39 08.0**	**+1.8**
	12nm,1.0s,mb4.6								
SRU	**San Rafael**	**40.70**	**325**	eP			**P**	**01 39 22.2**	**+0.7**
	4.0nm,0.7s,mb4.2								
BDFB	**Brasilia**	**40.72**	**124**	LR			LR	01 56 09.9	
	comp=Z,52nm,19.0s,MS3.4,baz=110,slow=36								
CPUP	**Villa Florida**	**41.19**	**145**	P			**P**	**01 39 25.9**	**+0.2**
BW06	**Boulder Array**	**42.79**	**330**	eP			**P**	**01 39 38.5**	**-0.3**
PDAR	**Pinedale Array**	**42.79**	**330**	P			**P**	**01 39 39.0**	**+0.2**
	0.5nm,0.5s,mb3.5,baz=129,slow=10,SNR=8.3								
TPNV	**Topopah Spring**	**42.84**	**319**	eP			**P**	**01 39 40.3**	**+1.1**
	3.0nm,0.8s,mb4.1								
ULM	**Lac du Bonnet**	**44.29**	**347**	P			**P**	**01 39 48.8**	**-2.0**
	3.1nm,0.7s,mb4.2,baz=141,slow=8.1,SNR=9.7								
ELK	**Elko**	**44.49**	**324**	P			**P**	**01 39 54.2**	**+1.6**
	1.8nm,0.8s,mb3.9,baz=130,slow=6.5,SNR=8.3								
NVAR	**Mina Array Bea**	**45.02**	**319**	P			**P**	**01 39 58.6**	**+1.8**
	2.7nm,0.6s,mb4.3,baz=148,slow=6.2,SNR=36								
HLID	**Hailey**	**45.87**	**327**	eP			**P**	**01 40 03.5**	**0.0**
	10nm,1.6s,mb4.5								
WVOR	**Wild Horse Val**	**47.54**	**323**	eP			**P**	**01 40 16.7**	**-0.1**
	12nm,1.1s,mb4.8								
PLCA	**Paso Flores**	**49.01**	**168**	P			**P**	**01 40 28.7**	**+0.6**
YKA	**Yellowknife Ar**	**59.95**	**343**	P			**P**	**01 41 46.7**	**-1.1**
	0.6nm,0.6s,mb3.8,baz=138,slow=7.0,SNR=32								
YKA	**Yellowknife Ar**	**59.95**	**343**	P			**P**	**01 41 46.7**	**-1.1**
DLBC	**Dease Lake**	**62.78**	**334**	P			**P**	**01 42 06.8**	**-0.2**
	1.6nm,0.7s,mb4.3,baz=143,slow=11,SNR=3.4								
DAWY	**Dawson**	**69.54**	**337**	P			**P**	**01 42 50.2**	**+0.3**
INK	**Inuvik**	**69.65**	**342**	P			**P**	**01 42 50.8**	**+0.2**
	2.8nm,1.0s,mb4.2,baz=184,slow=3.7,SNR=6.8								
ILAR	**Eielson Array**	**72.81**	**336**	P			**P**	**01 43 09.8**	**+0.2**
	0.6nm,0.6s,mb3.7,baz=98,slow=5.1,SNR=13								

*IDC **24** 01:36:28.6±1.8,21.61S×179.40W,h593km±21km, mb3.5/11,mb1 3.7/12,mb1mx3.6/16,mbtmp4.4/12,Error ellipse: s-maj=19.3km s-min=15.2km az=2.0*
*NEIC **24** 01:36:28.1±1.1,21.68S×179.39W,h592km±13km,mb4.3/5, Error ellipse: s-maj=13.9km s-min=10.4km az=190.0*
ISC 24 01:36:27.1±1.3,21.7S±0.1×179.41W±0.09,h590km±16km, n53,σ0°88/31,mb4.0/14,3C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.61**	**170**	P			**P**	**01 38 23.3**	**+0.4**
	125nm,0.3s,baz=86,slow=21,SNR=5.1								
RAO				S			**S**	**01 39 54.5**	**-0.8**
	64nm,0.3s,baz=102,slow=22,SNR=4.8								
AFI	**Afiamalu**	**10.64**	**44**	S			**S**	**01 40 42.6**	**-6.5**
	1.8nm,0.3s,baz=31,slow=22,SNR=2.9								
DZM	**Mont Dzumac**	**13.14**	**266**	P			**P**	**01 39 18.9**	**+1.7**
	1.1nm,0.3s,baz=78,slow=21,SNR=17								
URZ	**Urewera**	**16.75**	**190**	P			**P**	**01 39 50.9**	**-1.2**
	0.6nm,0.3s,baz=333,slow=17,SNR=4.0								
URZ				S			**S**	**01 42 32.4**	**-4.7**
	0.2nm,0.3s,baz=49,slow=4.9,SNR=4.3								
ARMA	**Armidale**	**27.36**	**246**	⇑*i*P			**P**	**01 41 29.7**	**+1.6**
CTA	**Charters Tower**	**32.08**	**267**	*e*P			**P**	**01 42 09.3**	**+0.8**
	8.0nm,0.6s,mb4.5								
CTA	**Charters Tower**	**32.08**	**267**	P			**P**	**01 42 09.3**	**+0.8**
	13nm,0.6s,mb4.7,baz=87,slow=9.6,SNR=9.9								
PMG	**Port Moresby**	**34.37**	**286**	P			**P**	**01 42 28.0**	**+0.3**
	28nm,0.8s,mb5.0,baz=88,slow=5.6,SNR=12								
STKA	**Stephens Creek**	**36.08**	**245**	*e*P			**P**	**01 42 42.5**	**+0.9**
	3.8nm,0.5s,mb4.2								
STKA	**Stephens Creek**	**36.08**	**245**	P			**P**	**01 42 42.2**	**+0.7**
	5.8nm,0.6s,mb4.3,baz=89,slow=9.3,SNR=14								
ASPA	**Alice Springs**	**42.97**	**258**	⇓*i*P			**P**	**01 43 37.0**	**-0.1**
WB2	**Warramunga Arr**	**43.13**	**264**	⇓*i*P			**P**	**01 43 37.6**	**-0.8**
WRAB	**Tennant Creek**	**43.13**	**264**	*e*P			**P**	**01 43 37.2**	**-1.2**
	33nm,0.9s,mb4.9								
WRA	**Warramunga Arr**	**43.14**	**264**	P			**P**	**01 43 37.8**	**-0.7**
	14nm,0.8s,mb4.5,baz=97,slow=5.9,SNR=143								
WRA				ScP				01 48 09.3	
	1.4nm,1.0s,baz=83,slow=4.6,SNR=4.8								
WRA				S			**S**	**01 49 19.2**	**-4.5**
	1.2nm,1.0s,baz=101,slow=19,SNR=4.7								
FITZ	**Fitzroy Crossi**	**51.57**	**264**	*e*P			**P**	**01 44 41.3**	**-0.6**
	6.4nm,1.1s,mb3.9								
MBWA	**Marble Bar**	**56.31**	**258**	*e*P			**P**	**01 45 13.9**	**-1.2**
VNDA	**Vanda**	**56.58**	**185**	P			**P**	**01 45 16.8**	**+0.6**
	1.1nm,1.1s,mb3.0,baz=341,slow=6.4,SNR=6.5								
VNDA	**Vanda**	**56.58**	**185**	P			**P**	**01 45 16.8**	**+0.6**
MJAR	**Matsushiro Arr**	**70.43**	**325**	P			**P**	**01 46 43.9**	**-0.6**
	4.5nm,0.6s,mb4.0,baz=156,slow=5.7,SNR=8.4								
NVAR	**Mina Array Bea**	**82.82**	**44**	P			**P**	**01 47 52.2**	**+0.7**
	0.9nm,0.8s,mb3.4,baz=234,slow=10,SNR=7.2								
TPNV	**Topopah Spring**	**83.34**	**46**	*e*P			**P**	**01 47 54.3**	**+0.1**
	0.9nm,0.7s,mb3.4								
VNA3	**Neumayer Olymp**	**87.00**	**177**				**P**	**01 48 10.6**	**-0.4**
BMO	**Blue Mountains**	**87.09**	**39**	P			**P**	**01 48 11.6**	**-0.4**
VNA2	**Neumayer--Watz**	**87.43**	**177**				**P**	**01 48 14.1**	**+1.1**
TXAR	**Lajitas Array**	**88.82**	**58**	P			**P**	**01 48 20.7**	**+0.1**
	1.5nm,0.9s,mb3.8,baz=216,slow=6.5,SNR=14								
PLCA	**Paso Flores**	**89.38**	**134**	P			**P**	**01 48 24.2**	**+1.3**
	1.7nm,0.8s,mb3.9,baz=252,slow=3.2,SNR=4.3								
ILAR	**Eielson Array**	**89.80**	**13**	P			**P**	**01 48 23.1**	**-1.2**
	0.4nm,0.6s,mb3.4,baz=218,slow=5.3,SNR=7.7								
PDAR	**Pinedale Array**	**90.75**	**44**	P			**P**	**01 48 29.2**	**0.0**
	0.4nm,0.6s,mb3.5,baz=222,slow=2.6,SNR=4.3								
BVAR	**Borovoye Array**	**119.16**	**320**	PKP			PKPdf	01 54 09.5	0.0
	0.5nm,0.4s,baz=180,slow=1.5,SNR=4.4								
ARCES	**ARCESS Array B**	**129.88**	**349**	PKP			PKPdf	01 54 30.1	+0.4
	3.2nm,0.9s,baz=22,slow=6.5,SNR=4.4								
AKASG	**Malin Array Be**	**143.42**	**329**	PKP			PKPdf	01 54 53.5	-1.2
	6.4nm,0.6s,baz=41,slow=4.2,SNR=59								
AKASG	**Malin Array Be**	**143.42**	**329**	PKP			PKPdf	01 54 53.5	-1.2
BRTR	**Keskin Array B**	**146.66**	**310**	PKPbc			PKPbc	01 55 03.7	+1.0
	1.7nm,0.6s,baz=133,slow=5.3,SNR=9.4								
BURAR	**Bucovina Array**	**147.45**	**328**	⇑P			PKPdf	01 55 07.8	+6.2
KOLS	**Kolonicke sedl**	**147.83**	**333**	*e*PKP			PKPdf	01 55 07.8	+5.6
KOLS				*e*				01 57 36.2	
STHS	**Stebnicka Huta**	**147.88**	**334**	*e*PKP			PKPdf	01 55 07.8	+5.5
STHS				*e*				01 57 31.6	
CRVS	**Cervenica-Dubn**	**148.20**	**334**	*e*PKP			PKPdf	01 55 08.0	+5.3
CRVS				*e*				01 57 29.4	
OKC	**Ostrava-Krasne**	**148.71**	**338**	*e*PKPbc			PKPdf	01 55 09.3	+5.8
OKC				*e*PKPab			PKPab	01 55 19.9	+3.1
UPC	**Upice**	**148.83**	**341**	*e*PKPbc			PKPdf	01 55 09.5	+5.9
UPC				*e*PKPab			PKPab	01 55 15.7	-1.6
DPC	**Dobruska-Polom**	**148.87**	**340**	*e*PKPbc			PKPdf	01 55 10.4	+6.7
DPC				*e*PKPab			PKPab	01 55 16.6	-0.9
KECS	**Kecovo**	**148.93**	**334**	*e*PKP			PKPdf	01 55 08.3	+4.4
KECS				*e*				01 58 08.4	
CLL	**Collm**	**148.93**	**345**	P			PKPdf	01 55 10.0	+6.2
	logA/T=1.0								
CLL				*e*				01 55 16.0	
CLL				*e*				01 56 20.0	
CLL	**Collm**	**148.93**	**345**	*e*P			PKPdf	01 55 10.0	+6.2
CLZ	**Clausthal**	**149.00**	**348**	*e*PKP			PKPdf	01 55 10.5	+6.6
BRG	**Berggiesshubel**	**149.09**	**343**	*i* P			PKPdf	01 55 10.1	+6.0
BRG				*e*				01 55 16.7	
PVCC	**Panska Ves**	**149.23**	**342**	*e*PKPbc			PKPdf	01 55 10.6	+6.3
PVCC				*e*PKPab			PKPab	01 55 18.1	-0.8
VYHS	**Vyhne**	**149.57**	**336**	*e*PKP			PKPdf	01 55 10.9	+6.0
PRU	**Pruhonice**	**149.72**	**342**	*e*PKPbc			PKPdf	01 55 11.8	+6.7
PRU				*e*PKPab			PKPab	01 55 18.8	-2.2
NKC	**Novy Kostel**	**150.06**	**345**	*e*PKPbc			PKPdf	01 55 12.8	+7.2
SMOL	**Smolenice**	**150.07**	**337**	*e*PKP			PKPdf	01 55 13.0	+7.3
BZS	**Buzias**	**150.61**	**329**	⇑P			PKPdf	01 55 13.8	+7.2
KHC	**Kasperske Hory**	**150.77**	**342**	*e*PKPbc			PKPdf	01 55 14.2	+7.5
KHC				*e*PKPab			PKPab	01 55 24.4	-1.0
GERES	**GERESS Array B**	**150.99**	**342**	PKPbc			PKPdf	01 55 14.8	+7.7
	1.3nm,0.8s,baz=45,slow=1.9,SNR=10								
GERES				PKPab			PKPab	01 55 25.1	-1.2
	0.2nm,0.4s,baz=27,slow=3.0,SNR=4.6								

*IDC **24** 01:46:08.2±1.1,8.90N×93.64E,mb3.8/8,mb1 4.0/8, mb1mx3.8/19,mbtmp3.8/8,Error ellipse: s-maj=57.9km s-min=24.1km az=58.0*
*NEIC **24** 01:46:12.6±0.6,8.84N×93.70E,h30km,mb4.4/9,Error ellipse: s-maj=30.7km s-min=9.9km az=59.0*
ISC 24 01:46:08.4±8.9,8.7N±0.2×93.6E±0.3,h18km±60km,n22, σ0°80/21,mb3.9/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**20.08**	**341**	*e*P			**P**	**01 50 44.8**	**+0.8**
	30nm,0.8s								
PKI	**Pulchoki**	**20.27**	**339**	*e*P			**P**	**01 50 46.9**	**+0.9**

PCED	**Cedros**	**0.90**	**166**	*e*P	Pg	01 54 48.7	-3.4
PCED				e S	Sg	01 55 00.5	-3.6
	34nm,0.4s						
PCED	**Cedros**	**0.90**	**166**	*e*P	Pg	01 54 48.7	-3.4
PCED				e S	Sg	01 55 00.5	-3.6
	34nm,0.4s						
PGRA	**Graciosa**	**0.91**	**121**	*e*P	Pg	01 54 49.6	-2.7
PGRA				e S	Sg	01 54 59.9	-4.5
	31nm,0.3s						
PGRA	**Graciosa**	**0.91**	**121**	*e*P	Pg	01 54 49.6	-2.7
PGRA				e S	Sg	01 54 59.9	-4.5
	31nm,0.3s						
CALA	**Caldeira**	**0.95**	**166**	*e*P	Pg	01 54 50.0	-3.0
CALA				e S	Sg	01 55 01.4	-4.2
ROSA	**Rosais**	**0.97**	**143**	e S	Sg	01 55 02.4	-4.1
PICO	**Pico**	**1.09**	**156**	*e*P	Pb	01 54 51.7	-3.9
PICO				e S	Sb	01 55 05.3	-4.9
PCND	**Candelaria**	**1.11**	**158**	e S	Sb	01 55 07.0	-3.7
	26nm,0.1s						
PMAN	**Manadas**	**1.11**	**141**	e S	Sb	01 55 05.7	-5.1
	17nm,0.2s						
PPNO	**Prainha do Nor**	**1.17**	**151**	e S	Sb	01 55 06.6	-6.0
	31nm,0.3s						
PSBA	**Serra de Santa**	**1.49**	**119**	e S	Sb	01 55 14.8	-6.8
	25nm,0.3s						

CASC 24 02:00:02.5±3.5, 13.76N×89.98W, h114km±13km, MD3.8, ML3.1, 6C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.35**	**66**	⇓*e*P	P	02 00 25.3	+6.2
RTR				e S	S	02 00 37.6	+6.1
SBLS	**San Blas**	**0.35**	**76**	⇓*e*P	P	02 00 25.4	+6.3
SBLS				e S	S	02 00 39.4	+7.9
SNJE	**San Jose**	**0.38**	**73**	⇓*e*P	P	02 00 25.5	+6.3
SNJE				e S	S	02 00 38.3	+6.6
RBDL	**Robledal**	**0.45**	**38**	⇓*e*P	P	02 00 28.6	+9.0
RBDL				e S	S	02 00 41.1	+8.6
IXG	**Ixpaco**	**0.62**	**312**	⇑*e*P	P	02 00 20.4	-0.3
IXG				e S	S	02 00 34.8	+0.3
BOQS	**Boqueron**	**0.68**	**92**	⇓*e*P	P	02 00 27.1	+6.0
BOQS				e S	S	02 00 41.8	+6.5
SNET	**Serv Nac Est T**	**0.73**	**95**	⇑*e*P	P	02 00 20.9	-0.6
SNET				e S	S	02 00 35.5	-0.5
LFU	**La Fuente**	**0.84**	**90**	⇑*e*P	P	02 00 28.4	+5.7
LFU				e S	S	02 00 45.5	+7.8
MTO2	**Montecristo 2**	**0.88**	**43**	⇓*i*P	P	02 00 29.2	+6.1
MTO2				e S	S	02 00 43.7	+5.3
LFRS	**El Faro**	**0.90**	**98**	⇓*e*P	P	02 00 28.9	+5.6
LFRS				e S	S	02 00 45.1	+6.2
NBG	**Las Nubes**	**0.90**	**337**	⇑*e*P	P	02 00 24.7	+1.4
LBRS	**Las Brisas**	**0.91**	**91**	⇓*e*P	P	02 00 29.1	+5.7
LBRS				e S	S	02 00 47.0	+8.0
LCBS	**La Ceiba**	**0.98**	**96**	⇓*e*P	P	02 00 29.6	+5.6
LCBS				e S	S	02 00 48.2	+8.1
FUG	**Fuego 3**	**1.09**	**309**	*e*P	P	02 00 25.7	+0.5
SNVI	**San Vicente**	**1.11**	**97**	⇓*e*P	P	02 00 31.1	+5.6
SNVI				e S	S	02 00 50.4	+7.6
MRL	**Marmol**	**1.33**	**12**	⇓*e*P	P	02 00 28.1	+0.1
MRL				e S	S	02 00 47.5	+0.2
TP2	**Tecpan 2**	**1.44**	**315**	⇑*e*P	P	02 00 30.1	+0.8
TP2				e S	S	02 00 51.9	+2.5
TP2				AML	AML	02 00 55.4	
	comp=E,227nm,0.4s						
VSM	**San Miguel**	**1.69**	**101**	*e*P	P	02 00 37.3	+5.1
VSM				e S	S	02 01 01.5	+6.9
BLLM	**Bellamira**	**1.72**	**100**	*e*P	P	02 00 38.0	+5.4
BLLM				e S	S	02 01 02.2	+6.9
CNCH	**Conchagua**	**2.14**	**103**	*e*P	P	02 00 43.1	+5.2
CNCH				e S	S	02 01 11.8	+7.2

MOS ***24*** *02:01:51.2±1.0, 35.13N×136.69E, h33km, mb4.7/14, Error ellipse: s-maj=12.4km s-min=7.9km az=81.0*

IDC ***24*** *02:01:54.5±0.5, 35.22N×136.79E, h43km±4km, mb3.9/21, mb1 4.2/25, mb1mx4.1/29, mbtmp4.2/25, ML4.0/4, MS3.7/11, Ms1 3.6/11, ms1mx3.4/29, Error ellipse: s-maj=11.8km s-min=8.5km az=49.0*

JMA ***24*** *02:01:55.0, 35.23N×136.84E, h43km, M4.8 Broadband fault plane solution: P waves. NP1:φs244°, δ36°, λ6°. NP2:φs149°, δ87°, λ125°. Principal axes: T Plg38°, Azm90°; N Plg35°, Azm326°; P Plg32°, Azm210°;*

JMA Felt IV J1.

NEIC ***24*** *02:01:55.0, 35.23N×136.84E, h43km, mb4.5/24, MW4.7(NIED), After JMA.*

NEIC One person injured at Yokkaichi. Felt in the Nagoya-Osaka-Kyoto area. Recorded [4 JMA] in Aichi and Mie; [3 JMA] in Gifu, Nara and Shiga; [1 JMA] in Fukui, Hyogo, Kyoto, Osaka and Wakayama Prefectures.

NIED ***24*** *02:02:00, 35.20N×136.80E, h41km, Mw4.7 Best double couple: Mo1.16×10¹⁶ NP1:φs142°, δ71°, λ130°. NP2: φs254°, δ44°, λ29°.*

BJI ***24*** *02:02:02.6, 35.27N×136.96E, h43km, mB4.9, mb4.6, Ms4.0, Msz4.0*

ISC 24 02:01:53.4±0.2, 35.27N±0.02×136.80E±0.03, h42km, h42km±1.5km: pP-P, n113, σ1§14/111, mb4.4/42, MS3.8/8, 3C-7D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.38**	**91**	⇓P	**P**	**02 02 03.8**	**+1.1**
JAO				e S	**S**	**02 02 10.5**	**+1.3**
JGM	**Miyama**	**0.43**	**351**	⇓P	**P**	**02 02 05.7**	**+2.4**
JGM				e S	**S**	**02 02 13.4**	**+3.1**
TSUJ	**Tsu 2**	**0.64**	**209**	⇓P	**P**	**02 02 07.3**	**+1.2**
TSUJ				e S	**S**	**02 02 16.3**	**+0.9**
JIE	**Ise**	**0.88**	**185**	⇓P	**P**	**02 02 10.5**	**+1.0**
JIE				e S	**S**	**02 02 21.7**	**+0.4**
JKG	**Kaga**	**1.07**	**339**	⇓P	**P**	**02 02 14.7**	**+2.6**
JKG				e S	**S**	**02 02 29.7**	**+3.7**
JHE	**Heguri**	**1.10**	**236**	⇓P	**P**	**02 02 13.8**	**+1.2**
JHE				e S	**S**	**02 02 28.5**	**+1.6**
JKN2	**Miekihoku**	**1.12**	**203**	⇓P	**P**	**02 02 13.4**	**+0.6**
JKN2				e S	**S**	**02 02 27.6**	**+0.3**
JWT	**Wachi**	**1.14**	**271**	⇑P	**P**	**02 02 14.9**	**+1.8**
JWT				S	**S**	**02 02 30.0**	**+2.2**
SHZ3	**Shizuoka 3**	**1.18**	**100**	⇑P	**P**	**02 02 14.2**	**+0.6**
SHZ3				e S	**S**	**02 02 30.6**	**+1.9**
TK04	**Tokai 4**	**1.25**	**135**	⇑P	**P**	**02 02 15.3**	**+0.6**
TK04				e S	**S**	**02 02 31.1**	**+0.4**
MAJO	**Matsushiro**	**1.71**	**42**	*e*P	**P**	**02 02 22.8**	**+1.6**
MAT	**Matsushiro**	**1.71**	**42**	P	**P**	**02 02 22.9**	**+1.7**
MAT				S	**S**	**02 02 45.3**	**+3.3**
MAT	**Matsushiro**	**1.71**	**42**	*e*P	**P**	**02 02 23.0**	**+1.8**
MAT				e S	**S**	**02 02 46.0**	**+4.0**
MJAR	**Matsushiro Arr**	**1.71**	**42**	P	**P**	**02 02 23.3**	**+2.0**
	78nm,0.3s,baz=217,slow=15,SNR=382						
JHJ	**Hachijo jima 2**	**3.28**	**130**	P	**P**	**02 02 43.4**	**-0.2**
	29nm,0.3s,baz=256,slow=21,SNR=7.2						
JHJ				S	**S**	**02 03 21.1**	**-0.7**
	70nm,0.3s,baz=249,slow=23,SNR=10.0						
JNU	**Nakatsue**	**5.35**	**248**	P	**P**	**02 03 13.2**	**+0.4**
	21nm,0.3s,baz=54,slow=11,SNR=47						
ASAJ	**Asahikawa**	**9.89**	**25**	P	**P**	**02 04 13.9**	**-2.0**
	0.9nm,0.3s,baz=305,slow=30,SNR=2.3						
ASAJ				LR	LR	02 08 32.3	
	comp=Z,308nm,19.8s,baz=83,slow=40						
ASAJ	**Asahikawa**	**9.89**	**25**	P	**P**	**02 04 14.0**	**-1.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,308nm,19.8s						
MDJ	**Mudanjiang**	**10.84**	**332**	P		02 04 41.0	
MDJ				AMB	AMB		
	comp=Z,370nm,6.3s						
MDJ				LR	LR		
	comp=N,200nm,18.4s						
MDJ				LR	LR		
	comp=E,330nm,24.4s						
MDJ				LR	LR		
	comp=Z,190nm,20.3s						
MDJ	**Mudanjiang**	**10.84**	**332**	P	**P**	**02 04 28.1**	**-0.7**
	comp=Z,27nm,1.2s						
JOW	**Kunigami**	**11.14**	**223**	P	**P**	**02 04 30.4**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=15,slow=13,SNR=2.9						
JOW				LR	LR	02 09 10.2	
	comp=Z,337nm,19.6s,baz=88,slow=39						
YSS	**Yuzh-Sakhalins**	**12.50**	**19**	P		02 05 02.0	
KLR	**Kul'dur**	**14.43**	**347**	*e*P		02 05 26.7	
HIA	**Hailar**	**18.77**	**323**	P	**P**	**02 06 10.6**	**-0.8**
HIA				pmax	pmax		
	comp=Z,16nm,0.6s						
HIA	**Hailar**	**18.77**	**323**	P	**P**	**02 06 10.6**	**-0.8**
	comp=Z,16nm,0.6s						
HHC	**Hu-ho-hao-te**	**20.60**	**293**	*e*P		02 06 42.3	
HHC				XP		02 06 52.4	
HHC				PP	PP	02 06 59.5	+6.2
HHC				AMB	AMB		
	comp=Z,20nm,0.6s						
HHC				AMB	AMB		
	comp=Z,170nm,5.2s						
HHC				LR	LR		
	comp=N,240nm,6.6s						
HHC				LR	LR		
	comp=E,280nm,8.3s						
HHC				LR	LR		
	comp=Z,300nm,7.1s						
ENH	**Enshi**	**23.46**	**265**	*e*P	**P**	**02 07 00.6**	**+0.8**
	comp=Z,58nm,1.1s,mb4.9						
ENH				*e*pP		02 07 11.7	
ULN	**Ulaanbaatar**	**25.39**	**309**	P	**P**	**02 07 18.9**	**+0.7**
ULN				*e**PP	pP	02 07 29.6	+0.3
ULN				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**25.39**	**309**	P	**P**	**02 07 18.9**	**+0.7**
	comp=Z,14nm,1.0s,mb4.4						
ULN				*e*pP	pP	02 07 29.6	+0.3
SONM	**Songino Array**	**25.80**	**308**	P	**P**	**02 07 22.0**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=121,slow=8.4,SNR=4.6						
SONM				pP	pP	02 07 33.7	+0.5
	comp=Z,4.2nm,0.8s,baz=122,slow=11,SNR=19						
SONM				LR	LR	02 17 54.8	
	comp=Z,88nm,18.9s,baz=105,slow=37						
LZH	**Lanzhou**	**26.71**	**281**	*e*P	pP	02 07 42.1	+0.3
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.4						
CD2	**Chengdu**	**27.95**	**270**	P	pP	02 07 52.0	-1.2
GTA	**Gaotai**	**29.56**	**289**	*e*P	pP	02 08 06.8	-0.8
TIXI	**Tiksi**	**36.68**	**356**	*e*P	**P**	**02 08 53.1**	**-4.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**40.40**	**314**	pP	pP	02 09 40.6	+0.1
	comp=Z,1.2nm,0.7s,baz=4.4,slow=8.9,SNR=4.1						
ZAL				PcP	PcP	02 11 30.5	-1.4
	comp=Z,1.3nm,0.8s,baz=345,slow=4.7,SNR=6.4						
ZAL				pPcP		02 11 43.1	
	comp=Z,0.7nm,0.7s,baz=349,slow=6.6,SNR=3.3						
ZAL				LR	LR	02 26 23.2	
	comp=Z,72nm,21.1s,MS3.5,baz=24,slow=36						
MKAR	**Makanchi Array**	**41.92**	**303**	P	**P**	**02 09 41.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=90,slow=12,SNR=3.7						
MKAR				pP	pP	02 09 52.5	-0.5
	comp=Z,4.6nm,1.0s,baz=90,slow=9.7,SNR=12						
MKAR				PcP	PcP	02 11 35.4	-1.5
	comp=Z,0.7nm,0.7s,baz=63,slow=6.4,SNR=2.8						
MKAR				pPcP		02 11 47.6	
	comp=Z,2.2nm,1.0s,baz=76,slow=5.0,SNR=5.4						
MKAR				LR	LR	02 28 18.4	
	comp=Z,80nm,18.2s,baz=82,slow=38						
KURK	**Kurchatov**	**44.11**	**309**	*e*P	**P**	**02 09 58.6**	**-0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**44.11**	**309**	*e*P	**P**	**02 09 58.5**	**-0.5**
	comp=Z,6.1nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**48.04**	**299**	*e*P	**P**	**02 10 29.6**	**-0.7**
AAK				*e**PP	pP	02 10 40.3	-1.8
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**48.04**	**299**	*e*P	**P**	**02 10 29.6**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.3						
AAK				*e*pP	pP	02 10 40.3	-1.8
BVAR	**Borovoye Array**	**49.01**	**313**	P	**P**	**02 10 36.6**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=5.9,SNR=6.5						
BVAR				pP	pP	02 10 49.4	0.0
	comp=Z,1.2nm,0.5s,baz=90,slow=7.7,SNR=6.9						
BVAR				PcP	PcP	02 12 00.5	-0.8
	comp=Z,0.8nm,0.4s,baz=45,slow=2.1,SNR=4.2						
KDAK	**Kodiak Island**	**50.88**	**41**	P	**P**	**02 10 50.5**	**-1.4**
	comp=Z,7.0nm,0.8s,mb4.7,baz=255,slow=3.6,SNR=5.5						
ILAR	**Eielson Array**	**52.96**	**31**	P	**P**	**02 11 06.3**	**-1.0**
	comp=Z,2.8nm,0.8s,mb4.2,baz=280,slow=6.6,SNR=30						
ILAR				pP	pP	02 11 19.6	+0.2
	comp=Z,2.4nm,0.9s,baz=286,slow=7.9,SNR=7.1						
FITZ	**Fitzroy Crossi**	**54.13**	**193**	*e*P	pP	02 11 28.2	-0.5
	comp=Z,6.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.13**	**193**	P	**P**	**02 11 14.0**	**-2.6**
	comp=Z,3.4nm,1.2s,mb4.2,baz=136,slow=8.7,SNR=3.7						
FITZ				pP	pP	02 11 28.3	-0.4
	comp=Z,4.4nm,0.9s,baz=33,slow=7.7,SNR=4.1						
HYB	**Hyderabad**	**54.40**	**267**	*i* P	**P**	**02 11 18.0**	**-0.6**
HYB				*e*pP	pP	02 11 30.5	-0.2
WRAB	**Tennant Creek**	**54.95**	**183**	*e*P	**P**	**02 11 19.7**	**-2.9**
WB2	**Warramunga Arr**	**54.96**	**183**	*e*P	**P**	**02 11 20.3**	**-2.4**
WRA	**Warramunga Arr**	**54.96**	**183**	P	**P**	**02 11 20.5**	**-2.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=358,slow=7.6,SNR=27						
WRA				pP	pP	02 11 33.0	-1.8
	comp=Z,3.7nm,0.6s,baz=357,slow=7.5,SNR=13						
ARU	**Arti**	**55.20**	**319**	*e*P	**P**	**02 11 22.2**	**-1.7**
ARU	**Arti**	**55.20**	**319**	*e*P	**P**	**02 11 22.1**	**-1.9**
CTAO	**Charters Tower**	**55.78**	**169**	P	**P**	**02 11 27.0**	**-1.6**
INK	**Inuvik**	**57.63**	**26**	P	**P**	**02 11 40.3**	**-0.9**
	comp=Z,1.6nm,0.7s,mb4.2,baz=286,slow=7.1,SNR=11						
INK	**Inuvik**	**57.63**	**26**	P	**P**	**02 11 40.3**	**-0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**57.63**	**26**	*e*P	**P**	**02 11 39.8**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.2						
DLBC	**Dease Lake**	**62.28**	**36**	P	**P**	**02 12 13.3**	**+0.3**
	comp=Z,1.9nm,0.9s,mb4.2,baz=303,slow=16,SNR=4.1						
ARCES	**ARCESS Array B**	**64.30**	**339**	P	**P**	**02 12 23.7**	**-2.4**
	comp=Z,1.5nm,0.7s,mb4.1,baz=38,slow=10,SNR=2.7						
ARCES				LR	LR	02 44 29.4	
	comp=Z,122nm,19.6s,MS4.1,baz=62,slow=40						
RES	**Resolute Bay**	**65.20**	**13**	*e*P	**P**	**02 12 30.1**	**-1.8**
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
RES	**Resolute Bay**	**65.20**	**13**	*e*P	**P**	**02 12 30.1**	**-1.7**
	comp=Z,4.2nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**66.95**	**176**	P	**P**	**02 12 42.5**	**-1.2**
	comp=Z,2.7nm,0.9s,mb4.3,baz=308,slow=4.2,SNR=1.8						
STKA				LR	LR	02 41 55.1	
	comp=Z,83nm,18.2s,MS4.0,baz=27,slow=36						
YKA	**Yellowknife Ar**	**67.17**	**29**	P	**P**	**02 12 43.5**	**-1.0**
	comp=Z,1.5nm,0.9s,mb4.0,baz=293,slow=6.6,SNR=20						
OBN	**Obninsk**	**67.23**	**322**	P	**P**	**02 12 45.0**	**0.0**
OBN						02 13 15.0	
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
FINES	**FINESS Array B**	**68.59**	**331**	P	**P**	**02 12 53.2**	**-0.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=63,slow=4.3,SNR=7.1						
FINES				pP	pP	02 13 04.8	-1.1
	comp=Z,1.3nm,0.6s,baz=80,slow=5.4,SNR=1.9						
KIV	**Kislovodsk**	**69.19**	**310**	P	**P**	**02 12 57.2**	**-0.2**
KIV				pmax	pmax		
	comp=Z,21μm,1.1s						
KIV	**Kislovodsk**	**69.19**	**310**	P	**P**	**02 12 57.1**	**-0.3**
	comp=Z,21nm,1.1s,mb5.0						
SUMG	**Summit**	**72.39**	**358**	*e*P	**P**	**02 13 17.2**	**+1.0**
	comp=Z,10.0nm,0.8s,mb4.8						
EDM	**Edmonton**	**73.01**	**36**	*e*P	**P**	**02 13 19.8**	**-0.3**
EDM				*e*		02 13 36.6	
AKASG	**Malin Array Be**	**73.35**	**321**	P	**P**	**02 13 21.8**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.7,baz=45,slow=6.7,SNR=7.1						
AKASG				pP	pP	02 13 33.7	-1.0
	comp=Z,4.8nm,0.8s,baz=51,slow=6.1,SNR=7.2						
AKASG	**Malin Array Be**	**73.35**	**321**	P	**P**	**02 13 21.8**	**-0.4**
AKASG				pP	pP	02 13 33.7	-1.0
NEW	**Newport**	**73.96**	**42**	*e*P	**P**	**02 13 24.9**	**-0.9**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	**Newport**	**73.96**	**42**	*e*P	**P**	**02 13 24.9**	**-0.9**
	comp=Z,3.8nm,0.8s,mb4.4						
NB2	**NORSAR Subarra**	**74.31**	**336**	P	**P**	**02 13 26.9**	**-0.6**
	comp=Z,4.3nm,0.8s,mb4.4,baz=41,slow=5.8						
NB2	**NORSAR Subarra**	**74.31**	**336**	P	**P**	**02 13 26.9**	**-0.6**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**74.31**	**336**	P	**P**	**02 13 27.2**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=41,slow=5.8,SNR=6.4						
NOA				pP	pP	02 13 39.1	-1.0
	comp=Z,2.6nm,0.8s,baz=43,slow=5.9,SNR=4.0						
BMO	**Blue Mountains**	**75.84**	**45**	*e*P	**P**	**02 13 36.4**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.3						
BR131	**Keskin Array S**	**77.16**	**310**	*e*P	**P**	**02 13 44.0**	**-0.3**
	comp=Z,6.0nm,1.3s,mb4.4						
DLMT	**Dillon**	**78.19**	**42**	*e*P	**P**	**02 13 49.4**	**-0.4**
	comp=Z,17nm,1.1s,mb4.9						
HLID	**Hailey**	**78.28**	**45**	*e*P	**P**	**02 13 49.0**	**-1.3**
	comp=Z,2.9nm,0.8s,mb4.3						
BOZ	**Bozeman (W)**	**78.54**	**42**	*e*P	**P**	**02 13 51.4**	**-0.3**
BOZ				*e*	pP	02 14 02.7	-1.6
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BOZ	**Bozeman (W)**	**78.54**	**42**	*e*P	**P**	**02 13 51.4**	**-0.3**
	comp=Z,1.6nm,0.8s,mb4.0						
BOZ				*e*	pP	02 14 02.7	-1.6
NVAR	**Mina Array Bea**	**79.01**	**51**	P	**P**	**02 13 55.1**	**+0.6**
	comp=Z,3.5nm,0.8s,mb4.3,baz=278,slow=7.3,SNR=28						
NVAR				LR	LR	02 47 05.1	
	comp=Z,9.8nm,20.2s,MS3.1,baz=310,slow=34						
ELK	**Elko**	**79.51**	**47**	*e*P	**P**	**02 13 56.5**	**-0.6**
ELK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ELK	**Elko**	**79.51**	**47**	*e*P	**P**	**02 13 56.5**	**-0.6**
	comp=Z,3.6nm,1.1s,mb4.2						
CLL	**Collm**	**80.69**	**328**	P	**P**	**02 14 03.0**	**-0.2**
CLL				*e**SP	sP	02 14 20.0	-0.5
TPNV	**Topopah Spring**	**81.20**	**51**	*e*P	**P**	**02 14 05.0**	**-1.2**
TPNV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
TPNV	**Topopah Spring**	**81.20**	**51**	*e*P	**P**	**02 14 05.0**	**-1.2**
	comp=Z,8.9nm,1.0s,mb4.7						
DUG	**Dugway**	**81.30**	**47**	*e*P	**P**	**02 14 06.7**	**0.0**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
DUG	**Dugway**	**81.30**	**47**	*e*P	**P**	**02 14 06.7**	**0.0**
	comp=Z,7.7nm,1.3s,mb4.5						
BW06	**Boulder Array**	**81.53**	**43**	*e*P	**P**	**02 14 07.3**	**-0.5**
	comp=Z,6.0nm,1.4s,mb4.3						
PDAR	**Pinedale Array**	**81.53**	**43**	P	**P**	**02 14 07.8**	**0.0**
	comp=Z,2.9nm,1.1s,mb4.1,baz=303,slow=1.8,SNR=12						
GERES	**GERESS Array B**	**82.16**	**326**	P	**P**	**02 14 10.9**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=37,slow=6.7,SNR=7.4						
GERES				LR	LR	02 54 30.5	
	comp=Z,68nm,18.4s,MS4.0,baz=47,slow=38						
MSU	**Marysvale**	**82.75**	**48**	*e*P	**P**	**02 14 14.8**	**+0.7**
NEN	**Nelson**	**82.90**	**51**	*e*P	**P**	**02 14 15.2**	**+0.2**
ULM	**Lac du Bonnet**	**82.98**	**31**	P	**P**	**02 14 14.4**	**-0.6**
	comp=Z,4.2nm,0.9s,mb4.5,baz=325,slow=6.5,SNR=11						
SRU	**San Rafael**	**83.35**	**46**	*e*P	**P**	**02 14 17.0**	**-0.2**
SRU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
SRU	**San Rafael**	**83.35**	**46**	*e*P	**P**	**02 14 17.0**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.5						
PV10	**Paradox Valley**	**84.71**	**46**	*e*P	**P**	**02 14 25.4**	**+1.3**
PV01	**Paradox Valley**	**85.15**	**46**	*e*P	**P**	**02 14 26.8**	**+0.6**
WUAZ	**Wupatki**	**85.17**	**49**	*e*P	**P**	**02 14 26.5**	**+0.2**
	comp=Z,9.7nm,1.0s,mb4.9						
DAVOX	**Davos**	**85.42**	**327**	LR	LR	02 57 03.0	
	comp=Z,51nm,18.6s,MS3.9,baz=149,slow=39						
SDCO	**Great Sand Dun**	**87.20**	**45**	*e*P	**P**	**02 14 37.0**	**+0.7**
SCHQ	**Schefferville**	**87.98**	**13**	P	**P**	**02 14 40.6**	**+1.1**
	comp=Z,7.2nm,0.8s,mb5.0,baz=316,slow=2.3,SNR=7.0						
ANMO	**Albuquerque**	**88.55**	**47**	*e*P	**P**	**02 14 43.2**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**88.55**	**47**	*e*P	**P**	**02 14 43.2**	**+0.4**
	comp=Z,1.9nm,0.9s,mb4.4						
MNTX	**Cornudas Mount**	**91.43**	**49**	*e*P	**P**	**02 14 56.3**	**-0.1**
WMOK	**Wichita Mounta**	**93.14**	**43**	*e*P	**P**	**02 15 04.0**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.8						
WMOK	**Wichita Mounta**	**93.14**	**43**	*e*P	**P**	**02 15 04.0**	**-0.2**
	comp=Z,6.4nm,1.4s,mb4.9						
TXAR	**Lajitas Array**	**94.13**	**50**	P	**P**	**02 15 09.5**	**+0.7**
	comp=Z,4.0nm,0.8s,mb4.9,baz=289,slow=3.8,SNR=39						
KMBO	**Kilima Mbogo**	**98.45**	**275**	LR	LR	02 59 00.4	
	comp=Z,22nm,20.5s,MS3.6,baz=92,slow=35						
LPAZ	**La Paz**	**150.79**	**56**	PKPbc	PKPdf	02 21 43.5	+7.6
	comp=Z,3.9nm,1.0s,baz=352,slow=5.2,SNR=11						
LPAZ	**La Paz**	**150.79**	**56**	*e*PKIKP	PKPdf	02 21 37.8	+1.9
LPAZ						02 21 43.5	
LPAZ	**La Paz**	**150.79**	**56**	*e*PKPdf	PKPdf	02 21 37.8	+2.0
LPAZ				*e*PKPbc	PKPdf	02 21 43.0	+7.1
LPAZ				PKPbc	PKPdf	02 21 43.5	+7.6
SIV	**San Ignacio**	**155.01**	**44**	PKP	PKPdf	02 21 41.6	-0.2
	comp=Z,0.7nm,0.9s,baz=282,slow=13,SNR=4.0						
SIV				PKPab	PKPab	02 22 06.8	-1.9

EARI				Lg		02 32 06.3	
	2.1nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**2.47**	**185**	*e*Pn	Pn	02 31 28.1	-1.3
PTOM	**Tomar**	**2.47**	**185**	*e*Pg	Pn	02 31 35.5	+6.1
PTOM				*e*Sg	Sn	02 32 05.8	+6.5
	16nm,0.5s						
PTOM	**Tomar**	**2.47**	**185**	Pn	Pn	02 31 28.1	-1.3
PTOM				Lg		02 32 05.8	
	7.8nm,0.5s						
PLOU	**Loures**	**3.29**	**194**	*e*Sg	Sn	02 32 31.8	+12
GUD	**Guadarrama**	**3.31**	**114**	Pn	Pn	02 31 40.0	-1.3
	0.9nm,0.2s,SNR=12						
GUD				Sn	Sn	02 32 18.0	-2.6
	1.5nm,0.3s,SNR=7.9						
GUD				Lg		02 32 31.0	
	5.2nm,0.3s,SNR=5.0						
EBAD	**Badajoz**	**3.43**	**165**	Pn	Pn	02 31 40.5	-2.4
	0.6nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	02 32 18.1	-5.4
	2.2nm,0.2s,SNR=7.9						
EBAD				Lg		02 32 33.8	
	5.9nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**3.64**	**70**	Pn	Pn	02 31 44.1	-1.9
	0.5nm,0.3s,SNR=7.9						
ELAN				Sn	Sn	02 32 23.5	-5.5
	0.9nm,0.2s,SNR=7.9						
ELAN				Lg		02 32 42.7	
	6.8nm,0.5s,SNR=7.9						
ESDC	**Sonseca Array**	**3.96**	**126**	Pn	Pn	02 31 48.2	-2.4
	0.7nm,0.1s,baz=310,slow=13,SNR=6.5						
ESDC				Sn	Sn	02 32 32.0	-5.0
	0.4nm,0.2s,SNR=7.9						
ESDC				Lg		02 32 50.7	
	1.3nm,0.4s,SNR=7.9						
PBEJ	**Beja**	**4.05**	**177**	*e*Sg	Sn	02 32 54.7	+15
EMIN	**Mina Concepcio**	**4.45**	**165**	Pn	Pn	02 31 54.5	-3.0
	0.9nm,0.4s,SNR=7.9						
EMIN				Lg		02 33 06.2	
	1.1nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.45**	**165**	Pn	Pn	02 31 54.5	-3.0
EMIN				Sn	Sn	02 32 40.8	-8.6
EMIN				Lg		02 33 06.2	
EADA	**Adamuz**	**4.76**	**144**	Pn	Pn	02 31 58.7	-3.1
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	02 32 49.7	-7.5
	1.2nm,0.3s,SNR=7.9						
EADA				Lg		02 33 16.1	
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.08**	**122**	Pn	Pn	02 32 17.1	-3.4
	0.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**6.08**	**122**	Pn	Pn	02 32 17.1	-3.4
ETOB				Lg		02 33 60.0	

IDC 24 03:06:47.0±6.7, 20.28S×111.90W, mb3.3/2, mb1 3.7/2, mb1mx3.4/15, mbtmp3.3/2, MS3.1/3, Ms1 3.1/3, ms1mx2.9/15, Error ellipse: s-maj=610.1km s-min=87.5km az=109.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.21**	**161**	LR	LR	03 10 08.4	
	comp=Z,336nm,20.6s,baz=53,slow=28						
PLCA	**Paso Flores**	**40.58**	**129**	LR	LR	03 27 33.5	
	comp=Z,48nm,18.9s,baz=77,slow=31						
CFAA	**Coronel Fontan**	**40.61**	**115**	LR	LR	03 26 41.2	
	comp=Z,4.7nm,18.1s,baz=204,slow=29						
TXAR	**Lajitas Array**	**49.96**	**9**	P	P	03 15 42.8	-2.1
	0.3nm,1.0s,baz=162,slow=5.7,SNR=3.2						
YKA	**Yellowknife Ar**	**82.52**	**359**	P	P	03 19 11.2	-1.4
	0.1nm,0.5s,baz=173,slow=5.2,SNR=4.6						
BVAR	**Borovoye Array**	**147.27**	**357**	PKPbc	PKPdf	03 26 31.5	-0.1
	0.6nm,0.6s,slow=1.4,SNR=4.4						
MKAR	**Makanchi Array**	**151.13**	**340**	PKPbc	PKPdf	03 26 41.8	+3.9
	0.6nm,0.7s,baz=32,slow=2.3,SNR=4.1						

*ISK **24** 03:17:31.9, 38.14N×26.76E, h19km, MD2.7*
*NEIC **24** 03:17:31.9, 38.14N×26.76E, h19km, MD3.2(ATH), MD2.7(ISK), After ISK.*
*ATH **24** 03:17:32.4, 38.10N×26.59E, h34km±4km, MD3.2/3*
*CSEM **24** 03:17:32.9±0.1, 38.20N×26.83E, h25km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.3km az=102.0*

ISC 24 03:17:32.6±0.8, 38.16N±0.04×26.72E±0.09, h20km±11km, n9, σ0§85/15, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.34**	**49**	PG	**Pb**	**03 17 39.4**	**-0.6**
BLCB				SG	**Sb**	**03 17 44.4**	**-0.5**
SMG	**Samos**	**0.46**	**168**	*e*PB	**Pb**	**03 17 42.3**	**+0.4**
SMG				*e*SB	**Sb**	**03 17 49.8**	**+1.5**
SMG	**Samos**	**0.46**	**168**	*e*Pg	**Pb**	**03 17 42.3**	**+0.4**
SMG				*e*Sg	**Sb**	**03 17 49.7**	**+1.4**
IZM	**Izmir**	**0.49**	**61**	PG	**Pb**	**03 17 42.3**	**-0.1**
IZM				SG	**Sb**	**03 17 49.6**	**+0.4**
AKS	**Akhisar**	**1.12**	**50**	*e*PN	**Pn**	**03 17 53.5**	**+0.1**
PRK	**Paraskevi**	**1.14**	**342**	*e*PN	**Pn**	**03 17 54.0**	**+0.4**
PRK				*e*SN	**Sn**	**03 18 10.3**	**+1.6**
PRK	**Paraskevi**	**1.14**	**342**	*e*Pn	**Pn**	**03 17 53.7**	**+0.1**
PRK				*e*Sb	**Sb**	**03 18 07.4**	**-0.5**
BODT	**Bodrum**	**1.19**	**156**	*e*PN	**Pn**	**03 17 53.3**	**-1.1**
APE	**Apeiranthos**	**1.44**	**221**	*e*PN	**Pn**	**03 17 56.5**	**-1.4**

*ATH **24** 03:50:32.6, 39.02N×23.34E, h21km±2km, MD3.2/13, ML3.2*
*NEIC **24** 03:50:32.6, 39.02N×23.34E, h21km, ML3.2(ATH), After ATH.*
*CSEM **24** 03:50:32.6±0.1, 38.99N×23.38E, h2km, ML3.2, Error ellipse: s-maj=3.4km s-min=2.0km az=89.0*
*THE **24** 03:50:33.9, 39.01N×23.26E, h12km, ML3.0*

ISC 24 03:50:32.3±0.6, 39.00N±0.02×23.33E±0.05, h9km±4km, n27, σ0§93/38, 3C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.32**	**345**	⇑*i*PB	**Pb**	**03 50 40.0**	**+0.3**
NEO				*e*SB	**Sb**	**03 50 44.5**	**-0.1**
XOR	**Xorichti**	**0.38**	**343**	*e*Pg	**Pg**	**03 50 41.0**	**+0.9**
XOR				*e*Sg	**Sg**	**03 50 46.6**	**+1.3**
LKR	**Lokris**	**0.43**	**217**	⇑*i*PB	**Pb**	**03 50 41.5**	**-0.1**
LKR				*e*SB	**Sb**	**03 50 47.8**	**-0.1**
AGG	**Agios Georgios**	**0.78**	**272**	*e*Pg	**Pg**	**03 50 47.1**	**-0.8**
AGG				*e*Sg	**Sg**	**03 50 58.4**	**0.0**
MPAR	**Parnis Oros**	**0.90**	**159**	*e*PN	**Pn**	**03 50 50.7**	**-0.3**
PAIG	**Paliouri**	**0.96**	**16**	*e*Pg	**Pg**	**03 50 52.0**	**+0.4**
PAIG				*e*Sg	**Sg**	**03 51 06.1**	**+1.6**
MGER	**Gerania Oros**	**1.01**	**183**	*e*PN	**Pn**	**03 50 52.0**	**-0.5**
PTL	**Penteli**	**1.04**	**156**	*e*PN	**Pn**	**03 50 53.0**	**+0.1**
ATH	**Athens Observa**	**1.07**	**163**	*e*PN	**Pn**	**03 50 53.8**	**+0.5**
ATH				*e*SN	**Sn**	**03 51 07.8**	**-0.5**
EVR	**Evrytania**	**1.19**	**267**	*e*PN	**Pn**	**03 50 54.9**	**-0.2**
NAIG	**Nisos Aigina**	**1.25**	**174**	*e*PN	**Pn**	**03 50 57.5**	**+1.7**
LIT	**Litokhoron**	**1.28**	**330**	*e*Pg	**Pg**	**03 50 56.3**	**-1.6**
LIT				*e*Sg	**Sg**	**03 51 13.6**	**-1.4**
PLG	**Polygyros**	**1.38**	**4**	⇑*i*PN	**Pn**	**03 50 57.9**	**+0.2**
OUR	**Ouranopolis**	**1.43**	**20**	*e*Pg	**Pg**	**03 50 58.9**	**-1.9**
LOS	**Limnos**	**1.65**	**55**	*e*Pb	**Pb**	**03 51 01.9**	**-0.5**
THE	**Thessaloniki**	**1.66**	**350**	*e*Pb	**Pb**	**03 51 01.6**	**-1.0**
LIA	**Limnos Island**	**1.69**	**57**	*e*PN	**Pn**	**03 51 02.5**	**+0.3**
RLS	**Riolos of Patr**	**1.74**	**238**	*e*PN	**Pn**	**03 51 05.2**	**+2.3**
KZN	**Kozani**	**1.78**	**318**	*e*PN	**Pn**	**03 51 05.2**	**+1.7**
SOH	**Sokhos**	**1.82**	**1**	*e*Pb	**Pb**	**03 51 04.7**	**-0.6**
SOH				*e*Sb	**Sb**	**03 51 27.6**	**-0.6**
GRG	**Griva**	**2.08**	**340**	*e*PN	**Pn**	**03 51 07.7**	**-0.2**
GRG				*e*Sn	**Sn**	**03 51 33.4**	**-0.7**
SRS	**Serrai**	**2.12**	**5**	*e*Pn	**Pn**	**03 51 08.5**	**+0.1**
SRS				*e*Sn	**Sn**	**03 51 35.5**	**+0.3**
KNT	**Kendrikon**	**2.19**	**351**	*e*Pn	**Pn**	**03 51 09.8**	**+0.5**
KNT				*e*Sn	**Sn**	**03 51 36.6**	**-0.1**
VLI	**Veliai**	**2.30**	**188**	*e*PB	**Pb**	**03 51 12.1**	**-1.4**
NVR	**Nevrokopi**	**2.38**	**10**	*e*PN	**Pn**	**03 51 12.2**	**+0.1**
IGT	**Igoumenitsa**	**2.39**	**284**	*e*Pn	**Pn**	**03 51 15.3**	**+3.1**
RDO	**Rodhopi**	**2.73**	**38**	*e*PN	**Pn**	**03 51 16.7**	**-0.4**

*THE **24** 03:56:05.5, 38.78N×28.14E, h4km, ML4.5*
*IDC **24** 03:56:06.7±0.7, 38.89N×27.66E, mb4.1/17, mb1 4.2/23, mb1mx4.1/30, mbtmp4.1/23, ML3.9/6, MS3.6/14, Ms1 3.7/14, ms1mx3.5/33, Error ellipse: s-maj=13.1km s-min=12.0km az=64.0*
*CSEM **24** 03:56:06.9±0.0, 38.84N×27.77E, h10km, mb4.5/17, Ms3.4, Error ellipse: s-maj=1.1km s-min=0.8km az=13.0*
*MOS **24** 03:56:06.4±0.9, 38.83N×27.82E, h10km, mb4.6/20, Error ellipse: s-maj=4.6km s-min=2.6km az=115.4*
*ATH **24** 03:56:07.8, 38.80N×27.83E, h36km±4km, MD4.4/25, ML4.4*
*ISK **24** 03:56:07.3, 38.80N×27.78E, h14km, ML4.6*
*NEIC **24** 03:56:07.3, 38.80N×27.78E, h14km, mb4.3/48, ML4.6(ISK), ML4.4(ATH), After ISK.*
NEIC Slight damage at Akhisar.
*BJI **24** 03:56:07.2, 39.03N×26.95E, h43km, mB5.1, mb4.8, Ms4.9, Msz4.6*
*PDG **24** 03:56:08.0±0.2, 38.80N×27.80E, h6km*
*HLW **24** 03:56:17.9, 37.86N×28.02E, h11km, Mb4.1*

ISC 24 03:56:07.3±0.1, 38.83N±0.01×27.79E±0.01, h14km, n398, σ1§14/434, mb4.3/40, MS3.9/14, 45C-21D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.05**	**18**	*i* PG	**Pg**	**03 56 10.0**	**0.0**
AKS				*i* SG	**Sg**	**03 56 12.6**	**+0.8**
KDAG	**Bornova**	**0.59**	**224**	*i* P	**Pb**	**03 56 17.8**	**-1.1**
KDAG				*i* S	**Sb**	**03 56 26.0**	**-0.9**
IZM	**Izmir**	**0.60**	**224**	*i* PG	**Pg**	**03 56 18.8**	**-0.7**
MANT	**Manisa**	**0.69**	**119**	*i* P	**Pb**	**03 56 20.6**	**0.0**
MANT				*i* S	**Sb**	**03 56 28.9**	**-0.8**
BLCB	**Balcova**	**0.74**	**233**	*i* PG	**Pg**	**03 56 21.6**	**-0.6**
BLCB				*i* SG	**Sg**	**03 56 33.0**	**+0.8**
BTOK	**Tokmak**	**0.95**	**11**	*i* P	**Pb**	**03 56 26.6**	**+1.6**
BTOK				*i* S	**Sb**	**03 56 39.6**	**+2.4**
URLA	**Izmir**	**1.05**	**244**	*i* P	**Pb**	**03 56 26.6**	**-0.2**
URLA				*i* S	**Sb**	**03 56 42.1**	**+2.0**
AYDN	**Tasoluk**	**1.17**	**177**	*i* P	**Pb**	**03 56 29.2**	**+0.4**
AYDN				*i* S	**Sb**	**03 56 44.5**	**+0.9**
PRK	**Paraskevi**	**1.25**	**290**	*e*PN	**Pn**	**03 56 31.5**	**+1.0**
PRK				*e*SN	**Sn**	**03 56 48.3**	**+1.1**
GDZ	**Gediz**	**1.34**	**78**	*i* P	**Pn**	**03 56 31.6**	**-0.1**
GDZ				*i* S	**Sb**	**03 56 46.6**	**-2.0**
SMG	**Samos**	**1.35**	**214**	*e*PB	**Pb**	**03 56 31.4**	**-0.5**
SMG				*e*SN	**Sn**	**03 56 50.0**	**+0.4**
KHL	**Karahalli**	**1.45**	**110**	*i* PN	**Pn**	**03 56 34.4**	**+1.2**
DENT	**Denizli**	**1.45**	**137**	*i* PN	**Pn**	**03 56 33.5**	**+0.2**
ORLT	**Orhaneli**	**1.48**	**35**	*i* PN	**Pn**	**03 56 34.5**	**+0.7**
KCT	**Karacabey**	**1.50**	**17**	*i* PN	**Pn**	**03 56 34.4**	**+0.4**
EZN	**Ezine**	**1.51**	**312**	*i* PN	**Pn**	**03 56 35.0**	**+0.9**
EDC	**Edincik**	**1.52**	**4**	*i* PN	**Pn**	**03 56 34.9**	**+0.7**
BNT	**Bandirma**	**1.53**	**4**	*i* PN	**Pn**	**03 56 35.0**	**+0.6**
MLSB	**Milas**	**1.53**	**180**	*i* PN	**Pn**	**03 56 34.2**	**-0.2**
ULDT	**Uludag**	**1.67**	**38**	*i* P	**Pn**	**03 56 35.9**	**-0.6**
ULDT				*i* S	**Sn**	**03 56 53.9**	**-3.9**
LPK	**Lapseki**	**1.73**	**333**	*i* PN	**Pn**	**03 56 38.3**	**+1.0**
YER	**Yerkesik**	**1.74**	**167**	*i* PN	**Pn**	**03 56 37.3**	**-0.1**
MRMT	**Marmara Adasi**	**1.78**	**355**	*i* PN	**Pn**	**03 56 37.7**	**-0.2**
BODT	**Bodrum**	**1.81**	**192**	*i* PN	**Pn**	**03 56 37.9**	**-0.5**
ALT	**Altintas**	**1.82**	**82**	*i* PN	**Pn**	**03 56 39.4**	**+0.8**
SART	**Tekirdag**	**1.92**	**346**	*i* P	**Pn**	**03 56 39.4**	**-0.6**
SART				*i* S	**Sn**	**03 57 02.3**	**-1.7**
MFT	**Murefte**	**1.99**	**349**	*i* PN	**Pn**	**03 56 42.6**	**+1.6**
DAT	**Datca**	**2.10**	**185**	PN	**Pn**	**03 56 42.4**	**-0.2**
YLV	**Yalova**	**2.12**	**35**	PN	**Pn**	**03 56 44.3**	**+1.4**
TKTP	**Tekketepe**	**2.14**	**111**	*i* P	**Pn**	**03 56 42.2**	**-0.9**
TKTP				*i* S	**Sg**	**03 57 17.3**	**-1.2**
DALT	**Dalyan (Mudla)**	**2.16**	**162**	PN	**Pn**	**03 56 44.8**	**-0.3**
BADT	**Buyukada**	**2.26**	**26**	PN	**Pn**	**03 56 44.8**	**-0.1**
LIA	**Limnos Island**	**2.29**	**299**	*e*PN	**Pn**	**03 56 45.9**	**+0.7**
LIA				*e*SN	**Sn**	**03 57 12.9**	**-0.5**
BORA	**Eskisehir**	**2.31**	**62**	*i* P	**Pn**	**03 56 50.5**	**+4.9**
BORA				*i* S	**Sn**	**03 57 18.9**	**+4.8**
ISP	**Isparta**	**2.35**	**114**	PN	**Pn**	**03 56 46.2**	**0.0**
ISP	**Isparta**	**2.35**	**114**	*d* iP	**Pn**	**03 56 46.3**	**+0.1**
CTT	**Catalca**	**2.37**	**12**	PN	**Pn**	**03 56 47.2**	**+0.8**
ELBA	**Catalca**	**2.37**	**12**	*i* P	**Pn**	**03 56 44.6**	**-1.8**
ELBA				*i* S	**Sg**	**03 57 22.6**	**-3.5**
LOS	**Limnos**	**2.37**	**299**	*e*Pn	**Pn**	**03 56 47.4**	**+0.9**
LOS				*e*Sn	**Sn**	**03 57 20.3**	**+4.7**
FETY	**Fethiye**	**2.42**	**155**	PN	**Pn**	**03 56 47.0**	**-0.1**
GPA	**Golpazari**	**2.43**	**52**	PN	**Pn**	**03 56 48.8**	**+1.5**
ISK	**Istanbul-Kandi**	**2.44**	**23**	PN	**Pn**	**03 56 48.0**	**+0.6**
HRT	**Hereke**	**2.46**	**35**	*e*PN	**Pn**	**03 56 47.5**	**-0.2**
ALN	**Alexandroupoli**	**2.46**	**327**	*e*Pn	**Pn**	**03 56 48.3**	**+0.5**
ESKT	**Eskisehir**	**2.47**	**73**	PN	**Pn**	**03 56 49.0**	**+1.1**
ESKT	**Eskisehir**	**2.47**	**73**	*i* P	**Pn**	**03 56 47.4**	**-0.5**
ESKT				*i* S	**Sn**	**03 57 22.6**	**+4.5**
APE	**Apeiranthos**	**2.51**	**226**	PN	**Pn**	**03 56 47.5**	**-0.9**
APE	**Apeiranthos**	**2.51**	**226**	*e*PN	**Pn**	**03 56 47.4**	**-1.0**
APE	**Apeiranthos**	**2.51**	**226**	*c* iP	**Pn**	**03 56 47.3**	**-1.1**
BCK	**Bucak**	**2.59**	**121**	*e*PN	**Pn**	**03 56 50.2**	**+0.6**
ARG	**Arkhangelos**	**2.62**	**174**	*e*PN	**Pn**	**03 56 49.1**	**-0.9**
ARG				*e*SN	**Sn**	**03 57 19.5**	**-2.4**
ELL	**Elmali**	**2.67**	**140**	*e*PN	**Pn**	**03 56 51.7**	**+1.0**
RDO	**Rodhopi**	**2.89**	**324**	*e*PN	**Pn**	**03 56 54.3**	**+0.4**
RDO				*e*SN	**Sn**	**03 57 28.0**	**-0.7**
ANTB	**Antalya**	**2.97**	**130**	*e*PN	**Pn**	**03 56 55.8**	**+0.8**
KSL	**Kastellorizon**	**3.03**	**151**	*e*PN	**Pn**	**03 56 56.0**	**+0.1**
SANT	**Santorini**	**3.08**	**218**	*e*P	**Pn**	**03 56 54.2**	**-2.3**
SANT	**Santorini**	**3.08**	**218**	*e*P	**Pn**	**03 56 54.2**	**-2.3**
THR1	**Thera Island**	**3.08**	**218**	*e*Pn	**Pn**	**03 56 55.5**	**-1.0**
MDU	**Mudurnu**	**3.10**	**57**	*e*PN	**Pn**	**03 56 58.3**	**+1.4**
HENT	**Hendek**	**3.11**	**49**	*i* P	**Pn**	**03 56 57.8**	**+0.8**
HENT				*i* S	**Sg**	**03 57 44.4**	**-6.5**
EDRB	**Edirne**	**3.12**	**345**	*e*PN	**Pn**	**03 56 57.2**	**+0.1**
PTL	**Penteli**	**3.18**	**257**	*e*PN	**Pn**	**03 56 57.5**	**-0.5**
KIZT	**Kizilcal**	**3.19**	**88**	*e*PN	**Pn**	**03 56 58.7**	**+0.6**
MPAR	**Parnis Oros**	**3.25**	**259**	*e*PN	**Pn**	**03 56 59.0**	**0.0**
OUR	**Ouranopolis**	**3.31**	**298**	*e*Pn	**Pn**	**03 56 59.9**	**+0.1**
OUR	**Ouranopolis**	**3.31**	**298**	*e*Pn	**Pn**	**03 56 59.8**	**0.0**
ATH	**Athens Observa**	**3.31**	**256**	*e*PN	**Pn**	**03 57 00.8**	**+0.9**
KARP	**Karpathos**	**3.32**	**189**	*e*PN	**Pn**	**03 56 59.6**	**-0.3**
PAIG	**Paliouri**	**3.37**	**290**	*e*Pn	**Pn**	**03 57 01.6**	**+0.9**
NAIG	**Nisos Aigina**	**3.55**	**254**	*e*PN	**Pn**	**03 57 04.0**	**+0.8**
XOR	**Xorichti**	**3.62**	**280**	*e*Pn	**Pn**	**03 57 04.5**	**+0.3**
MGER	**Gerania Oros**	**3.66**	**258**	*e*PN	**Pn**	**03 57 05.0**	**+0.2**
PLG	**Polygyros**	**3.69**	**296**	*e*PN	**Pn**	**03 57 05.4**	**+0.1**
KONT	**Konya--Tatoy**	**3.70**	**102**	*e*PN	**Pn**	**03 57 06.4**	**+1.1**
LKR	**Lokris**	**3.75**	**269**	*e*PN	**Pn**	**03 57 07.0**	**+0.9**
NVR	**Nevrokopi**	**3.93**	**311**	*e*PN	**Pn**	**03 57 08.6**	**0.0**
SOH	**Sokhos**	**3.95**	**302**	*e*Pn	**Pn**	**03 57 09.2**	**+0.3**
SRS	**Serrai**	**3.95**	**307**	*e*Pn	**Pn**	**03 57 08.8**	**-0.1**
NPS	**Neapolis**	**3.96**	**207**	*e*PN	**Pn**	**03 57 08.1**	**-1.0**
THE	**Thessaloniki**	**4.13**	**297**	*e*Pn	**Pn**	**03 57 11.9**	**+0.4**
IDI	**Anoyia**	**4.23**	**214**	Pn	**Pn**	**03 57 11.5**	**-1.3**
	20nm,0.3s,baz=35,slow=13,SNR=60						
IDI				Lg		03 58 24.9	
	14nm,0.3s,baz=310,slow=17,SNR=2.7						
IDI				LR	LR	03 58 56.0	
	comp=Z,725nm,21.5s,baz=48,slow=40						
AGG	**Agios Georgios**	**4.26**	**274**	*e*Pn	**Pn**	**03 57 14.8**	**+1.4**
LIT	**Litokhoron**	**4.30**	**289**	*e*Pn	**Pn**	**03 57 14.9**	**+1.1**
VLI	**Veliai**	**4.39**	**243**	*e*PN	**Pn**	**03 57 14.3**	**-0.8**
KNT	**Kendrikon**	**4.42**	**303**	*e*Pn	**Pn**	**03 57 16.0**	**+0.4**
SAFT	**Safranbolu**	**4.46**	**56**	*e*PN	**Pn**	**03 57 16.7**	**+0.5**
KYTH	**Kithira**	**4.56**	**238**	*e*PN	**Pn**	**03 57 17.0**	**-0.5**
BR131	**Keskin Array S**	**4.62**	**77**	*e*P	**Pn**	**03 57 18.6**	**+0.2**
BR131	**Keskin Array S**	**4.62**	**77**	*e*P	**Pn**	**03 57 18.6**	**+0.1**
BRTR	**Keskin Array B**	**4.62**	**77**	Pn	**Pn**	**03 57 18.9**	**+0.4**
	9.4nm,0.3s,baz=244,slow=13,SNR=118						
BRTR				Pg	**Pg**	**03 57 35.5**	**-4.2**
	17nm,0.3s,baz=253,slow=16,SNR=34						
BRTR				Lg		03 58 38.4	
	11nm,0.3s,baz=262,slow=26,SNR=6.3						
BRTR	**Keskin Array B**	**4.62**	**77**	Pg	**Pg**	**03 57 35.5**	**-4.2**
KAMT	**Kaman**	**4.64**	**81**	*e*PN	**Pn**	**03 57 19.7**	**+1.0**
GRG	**Griva**	**4.66**	**299**	*e*Pn	**Pn**	**03 57 19.6**	**+0.7**
EVR	**Evrytania**	**4.67**	**273**	*e*PN	**Pn**	**03 57 19.5**	**+0.3**
CANT	**Cankiri**	**4.83**	**67**	*e*PN	**Pn**	**03 57 21.8**	**+0.4**
KZN	**Kozani**	**4.88**	**289**	*e*PN	**Pn**	**03 57 22.8**	**+0.7**
ITM	**Ithomi**	**4.92**	**252**	*e*PN	**Pn**	**03 57 23.1**	**+0.5**
GVD	**Gavdhos**	**4.97**	**218**	*e*P	**Pn**	**03 57 24.4**	**+1.0**
GVD	**Gavdhos**	**4.97**	**218**	*e*P	**Pn**	**03 57 24.4**	**+1.0**
RLS	**Riolos of Patr**	**5.03**	**263**	*e*PN	**Pn**	**03 57 24.4**	**+0.2**
VTS	**Vitosha**	**5.12**	**319**	P	**Pn**	**03 57 27.9**	**+2.4**
MEV	**Metsovon**	**5.18**	**283**	*e*Pn	**Pn**	**03 57 27.4**	**+1.1**
TOS	**Tosya**	**5.27**	**63**	*e*PN	**Pn**	**03 57 28.7**	**+1.1**
FNA	**Florina**	**5.31**	**294**	*e*Pn	**Pn**	**03 57 28.8**	**+0.5**
IKL	**Isikli**	**5.35**	**117**	*e*PN	**Pn**	**03 57 30.1**	**+1.4**
PPCY	**Paphos**	**5.37**	**136**	P	**Pn**	**03 57 28.4**	**-0.6**
NIG	**Nigde**	**5.40**	**96**	*e*PN	**Pn**	**03 57 30.7**	**+1.3**
JAN	**Janina**	**5.45**	**281**	*e*PN	**Pn**	**03 57 31.1**	**+0.9**
CORM	**Corum**	**5.46**	**74**	*e*PN	**Pn**	**03 57 30.6**	**+0.4**
LKD	**Levkas**	**5.58**	**271**	*e*Pn	**Pn**	**03 57 34.7**	**+2.7**
TIRR	**Tirgusor**	**5.64**	**5**	⇑P	**Pn**	**03 57 31.2**	**-1.7**
MAMC	**Mammari**	**5.67**	**128**	P	**Pn**	**03 57 32.6**	**-0.7**
VLS	**Valsamata**	**5.69**	**266**	*e*PN	**Pn**	**03 57 33.5**	**0.0**
VLS	**Valsamata**	**5.69**	**266**	*e*Pn	**Pn**	**03 57 30.9**	**-2.6**
IGT	**Igoumenitsa**	**5.84**	**279**	*e*Pn	**Pn**	**03 57 38.2**	**+2.6**
HARR	**Harsova**	**5.86**	**1**	⇑P	**Pn**	**03 57 33.6**	**-2.3**
CSS	**Prodhromos**	**5.88**	**129**	P	**Pn**	**03 57 33.0**	**-3.2**
YOZ	**Yozgat**	**5.90**	**80**	*e*PN	**Pn**	**03 57 37.2**	**+0.7**
BYBT	**Boyabat**	**5.96**	**62**	*e*PN	**Pn**	**03 57 38.3**	**+1.0**
BNN	**Bunyan**	**6.29**	**87**	*e*PN	**Pn**	**03 57 43.4**	**+1.4**
PHNC	**Paralimni**	**6.29**	**125**	P	**Pn**	**03 57 42.5**	**+0.5**
CFR	**Carcaliu**	**6.35**	**2**	⇓P	**Pn**	**03 57 40.0**	**-2.8**
KOZT	**Kozan**	**6.47**	**100**	*e*PN	**Pn**	**03 57 44.6**	**0.0**
BOLS	**Boljevac**	**6.65**	**321**	⇑*i*Pn	**Pn**	**03 57 45.4**	**-1.7**
BOLS	**Boljevac**	**6.65**	**321**	Pn	**Pn**	**03 57 45.3**	**-1.8**
MTUR	**Matau**	**6.71**	**343**	⇑P	**Pn**	**03 57 45.8**	**-2.1**
SNX	**Sinaia**	**6.74**	**346**	⇑P	**Pn**	**03 57 46.7**	**-1.6**
MLR	**Muntele Rosu**	**6.80**	**349**	Pn	**Pn**	**03 57 48.4**	**-0.7**
	2.9nm,0.3s,baz=191,slow=3.4,SNR=50						
MLR				Lg		03 59 43.4	
	2.3nm,0.3s,baz=120,slow=23,SNR=1.9						
MLR	**Muntele Rosu**	**6.80**	**349**	⇓P	**Pn**	**03 57 48.9**	**-0.2**
MLR	**Muntele Rosu**	**6.80**	**349**	⇓P	**Pn**	**03 57 48.9**	**-0.2**
MLR	**Muntele Rosu**	**6.80**	**349**	P	**Pn**	**03 57 49.0**	**-0.1**
VOIR		**6.91**	**344**	⇓P	**Pn**	**03 57 49.3**	**-1.4**
DJES	**Djerdap**	**7.01**	**328**	*e*Pn	**Pn**	**03 57 49.8**	**-2.3**
PVY	**Plav**	**7.03**	**305**	⇑*i*Pn	**Pn**	**03 57 53.4**	**+1.0**
PVY				*e*Sn	**Sn**	**03 59 13.0**	**+0.1**
VRI	**Vrincioaia**	**7.08**	**354**	⇑P	**Pn**	**03 57 51.9**	**-1.2**
VRI	**Vrincioaia**	**7.08**	**354**	P	**Pn**	**03 57 53.2**	**+0.1**
HTY	**Hatay**	**7.17**	**110**	*e*PN	**Pn**	**03 57 55.4**	**+1.1**
SVSK	**Karacayir**	**7.21**	**78**	*e*PN	**Pn**	**03 57 56.1**	**+1.1**
IVA	**Berane**	**7.22**	**307**	⇑*i*Pn	**Pn**	**03 57 55.6**	**+0.6**
IVA				*e*Sn	**Sn**	**03 59 17.8**	**+0.2**
ULC	**Ulcinj**	**7.23**	**298**	⇑*i*Pn	**Pn**	**03 57 56.8**	**+1.6**
ULC				*e*Sn	**Sn**	**03 59 17.7**	**-0.3**
GRUS	**Gruza**	**7.34**	**316**	*e*Pn	**Pn**	**03 57 55.1**	**-1.7**
SVIS	**Svilajnac**	**7.35**

comp=Z,186nm,19.0s,baz=214,slow=40
GERES GERESS Array B 14.25 319 P P 03 59 29.3 -1.3
UPC Upice 14.35 328 eP P 03 59 31.3 -0.6
WTTA Wattenberg 14.49 311 ⇑ iP P 03 59 36.3 +2.5
comp=Z,23nm,1.1s,SNR=11
WTTA Wattenberg 14.49 311 ⇑ iP P 03 59 36.3 +2.5
WTTA pmax pmax
comp=Z,23nm,1.1s
WTTA Wattenberg 14.49 311 ⇑ iP P 03 59 36.3 +2.5
comp=Z,23nm,1.1s
KHC Kasperske Hory 14.49 320 eP P 03 59 32.5 -1.3
KHC pP 03 59 41.0
KHC AMS AMS 04 05 30.0
comp=Z,900nm,8.7s
KHC Kasperske Hory 14.49 320 eP P 03 59 32.5 -1.3
KHC e 03 59 41.0
KSP Ksiaz 14.50 330 eP P 03 59 33.0 -0.8
WATA Walderalm 14.56 311 ⇓ iP P 03 59 37.6 +2.9
comp=Z,12nm,1.0s
WATA Walderalm 14.56 311 ⇓ P P 03 59 37.6 +2.9
WATA pmax pmax
comp=Z,12nm,1.0s
WATA Walderalm 14.56 311 ⇓ P P 03 59 37.6 +2.9
comp=Z,12nm,1.0s
PRU Pruhonice 14.61 324 eP P 03 59 36.4 +1.1
PRU epP 03 59 41.4
PRU AMS AMS 04 05 50.0
comp=Z,600nm,11.7s
SQTA Sankt Quirin 14.72 310 ⇑ iP P 03 59 39.5 +2.7
comp=Z,15nm,1.0s,SNR=9.9
SQTA Sankt Quirin 14.72 310 ⇑ iP P 03 59 39.5 +2.6
SQTA pmax pmax
comp=Z,15nm,1.0s
PGF Pioggiola 14.73 291 eP P 03 59 35.4 -1.6
comp=Z,49nm,1.2s
PGF Pioggiola 14.73 291 eP P 03 59 35.4 -1.6
PGF pmax pmax
comp=Z,25nm,1.2s
VRSR Storozhevoye 14.75 29 ceP P 03 59 36.2 -1.0
VRSR eS S 04 02 21.2 0.0
VRSR pmax pmax
comp=Z,3.0nm,1.0s
VRSR pmax pmax
comp=N,6.0nm,0.8s
VRSR pmax pmax
comp=E,3.0nm,0.8s
VRSR smax
comp=N,10.0nm,0.9s
VRSR smax
comp=E,3.0nm,0.9s
VRSR smax
comp=Z,2.0nm,0.9s
VRSR MLR MLR
comp=Z,30nm,19.0s
VRSR MLR MLR
comp=N,70nm,22.0s
VRSR MLR MLR
comp=E,30nm,19.0s
VRSR Storozhevoye 14.75 29 eP P 03 59 36.2 -1.0
comp=E,3.0nm,1.0s
MOTA Moosalm 14.85 310 ⇓ iP P 03 59 41.0 +2.6
comp=E,7.7nm,1.1s,SNR=15
MOTA Moosalm 14.85 310 ⇓ iP P 03 59 41.0 +2.5
MOTA pmax pmax
comp=Z,8.0nm,1.1s
WET Wettzell 14.86 319 eP P 03 59 45.0 +6.4
WET pmax pmax
comp=Z,20nm,0.9s
WET Wettzell 14.86 319 eP P 03 59 45.0 +6.4
comp=Z,20nm,0.9s
PVCC Panska Ves 14.98 326 eP P 03 59 39.9 -0.3
PVCC epP 03 59 46.3
FUR Furstenfeldbru 15.16 313 eP P 03 59 48.4 +5.8
FUR pmax pmax
comp=Z,21nm,1.0s
FUR Furstenfeldbru 15.16 313 eP P 03 59 48.4 +5.8
comp=Z,21nm,1.0s
DAVOX Davos 15.34 307 LR LR 04 06 00.2
comp=Z,306nm,20.6s,baz=112,slow=39
BRG Berggiesshubel 15.51 325 ⇑ iP P 03 59 52.2 +5.2
BRG pmax pmax
comp=Z,18nm,1.1s
BRG Berggiesshubel 15.51 325 ⇑ iP P 03 59 52.2 +5.2
comp=Z,18nm,1.1s
SUW Suwalki 15.51 350 eP P 03 59 43.3 -3.8
DAVA Damuels 15.56 309 ⇑ iP P 03 59 50.9 +3.2
comp=Z,36nm,1.0s,SNR=13
DAVA Damuels 15.56 309 ⇑ iP P 03 59 50.9 +3.2
comp=Z,36nm,1.0s
VRHR Novokhopersk 15.66 34 eP P 03 59 48.7 -0.3
VRHR pmax pmax
comp=Z,10.0nm,0.4s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
GRA1 Grafenberg Arr 16.05 318 eP P 03 59 58.5 +4.5
comp=E,20nm,1.1s
GRF Grafenberg Arr 16.05 318 eP P 03 59 58.5 +4.5
GRF pmax pmax
comp=Z,20nm,1.1s
GRF Grafenberg Arr 16.05 318 eP P 03 59 58.5 +4.5
GRF pmax pmax
comp=Z,20nm,1.1s
GRF Grafenberg Arr 16.05 318 eP P 03 59 58.5 +4.5
comp=Z,20nm,1.1s
SBF Sospel 16.08 295 eP P 03 59 54.8 +0.3
comp=Z,31nm,0.8s
SBF Sospel 16.08 295 eP P 03 59 54.8 +0.3
SBF pmax pmax
comp=Z,16nm,0.8s
CLL Collm 16.23 325 ⇑ P P 03 59 56.2 -0.2
comp=Z,logA/T=1.1
CLL *SP 04 00 00.2
CLL Collm 16.23 325 ⇑ iP P 03 59 56.2 -0.2
CLL pmax pmax
comp=Z,18nm,1.4s
CLL Collm 16.23 325 ⇑ iP P 03 59 56.2 -0.2
comp=Z,18nm,1.4s
CLL i 04 00 00.2
MOX Moxa 16.44 321 i P P 04 00 03.1 +4.1
comp=Z,logA/T=1.4
MOX L 04 08 21.0
MOX Moxa 16.44 321 eP P 04 00 03.1 +4.1
MOX pmax pmax
comp=Z,32nm,1.3s
MOX Moxa 16.44 321 eP P 04 00 03.1 +4.1
comp=Z,32nm,1.3s
FRF La Foret Royal 16.59 293 eP P 04 00 02.6 +1.6
comp=Z,55nm,1.4s
FRF La Foret Royal 16.59 293 eP P 04 00 02.6 +1.6
FRF pmax pmax
comp=Z,27nm,1.4s
LMR La Mourre 16.66 292 eP P 04 00 01.8 0.0
MBDF Montbardon 16.73 297 eP P 04 00 04.3 +1.6
comp=Z,34nm,1.0s
MBDF Montbardon 16.73 297 eP P 04 00 04.3 +1.6
MBDF pmax pmax
comp=Z,17nm,1.0s
BNI Bardonecchia 16.87 298 eP P 04 00 05.8 +1.3
BNI pmax pmax
comp=Z,32nm,1.3s
BNI Bardonecchia 16.87 298 eP P 04 00 05.8 +1.3
comp=Z,32nm,1.3s
LPG La Plagne 16.94 300 eP P 04 00 05.0 -0.3
comp=Z,38nm,1.0s
LPG La Plagne 16.94 300 eP P 04 00 05.0 -0.3
LPG pmax pmax
comp=Z,19nm,1.0s
LPL La Plagne 16.96 300 eP P 04 00 05.6 0.0
comp=Z,63nm,1.3s
LPL La Plagne 16.96 300 eP P 04 00 05.6 0.0
LPL pmax pmax
comp=Z,32nm,1.3s
BFO Black Forest 16.96 310 eP P 04 00 09.2 +3.6
BFO pmax pmax
comp=Z,18nm,1.2s
BFO Black Forest 16.96 310 eP P 04 00 09.2 +3.6
comp=Z,18nm,1.2s
OBN Obninsk 17.33 17 ⇑ eP P 04 00 07.5 -2.7
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,200nm,14.0s
ORIF Oris-en-Rattie 17.39 298 eP P 04 00 10.3 -0.7
comp=Z,22nm,1.0s
ORIF eR
comp=Z,395nm,19.5s
LOMF Lomont 17.48 306 eP P 04 00 19.8 +7.7
LANF Langenberg 17.57 312 eP P 04 00 16.3 +3.1
WLS Welschbruch 17.58 310 eP P 04 00 15.4 +2.0
CDF Champ du Feu 17.63 310 eP P 04 00 12.6 -1.3
comp=Z,32nm,1.0s
CDF Champ du Feu 17.63 310 eP P 04 00 12.6 -1.3
CDF pmax pmax
comp=Z,16nm,1.0s
HINF Hinteralfeld 17.64 307 eP P 04 00 13.0 -1.1
CABF La Chapelle 17.71 303 eP P 04 00 14.3 -0.6
comp=Z,27nm,0.9s
CABF La Chapelle 17.71 303 eP P 04 00 14.3 -0.6
CABF pmax pmax
comp=Z,14nm,0.9s
CLZ Clausthal 17.81 323 eP P 04 00 18.2 +2.1
CLZ pmax pmax
comp=Z,9.0nm,1.0s
CLZ Clausthal 17.81 323 eP P 04 00 18.2 +2.1
comp=Z,9.0nm,1.0s
TNS Taunus Mts 17.83 316 eP P 04 00 18.7 +2.3
TNS pmax pmax
comp=Z,24nm,1.5s
TNS Taunus Mts 17.83 316 eP P 04 00 18.7 +2.3
comp=Z,24nm,1.5s
HAU Haudompre 18.03 308 eP P 04 00 19.2 +0.2
comp=Z,14nm,0.9s
HAU eR
comp=Z,254nm,22.8s
MOS Moscow 18.15 18 eP P 04 00 16.0 -4.4
MOS eS S 04 03 29.8 -10
VIVF Saint-Julien-l 18.22 297 eP P 04 00 22.2 +0.8
comp=Z,51nm,1.7s
VIVF Saint-Julien-l 18.22 297 eP P 04 00 22.2 +0.8
VIVF pmax pmax
comp=Z,26nm,1.7s
RUP Ruppelstein 18.34 313 eP P 04 00 23.2 +0.4
THEF They Montfort 18.34 308 eP P 04 00 24.3 +1.5
LASF Ste Croix 18.66 294 eP P 04 00 26.9 +0.1
comp=Z,38nm,1.4s
WLF Walferdange 18.84 312 eP P 04 00 28.8 -0.1
WLF pmax pmax
comp=Z,12nm,0.9s
WLF Walferdange 18.84 312 eP P 04 00 28.8 -0.2
comp=Z,12nm,0.9s
WLF Walferdange 18.84 312 eP P 04 00 28.8 -0.1
comp=Z,12nm,0.9s
MEZF Maizieres J'vi 19.02 308 eP P 04 00 31.3 +0.2
comp=Z,39nm,1.1s
PLDF La Plantade 19.18 300 eP P 04 00 35.5 +2.5
SMF Signal de Mont 19.20 302 eP P 04 00 33.0 -0.2
comp=Z,27nm,0.8s
SMF Signal de Mont 19.20 302 eP P 04 00 33.0 -0.2
SMF pmax pmax
comp=Z,13nm,0.8s
BSEG Bad Segeberg 19.25 327 eP P 04 00 32.9 -0.8
LBL Lubilhac 19.28 297 eP P 04 00 35.9 +1.7
LOR Lormes 19.36 304 eP P 04 00 33.7 -1.4
comp=Z,21nm,1.0s
LOR Lormes 19.36 304 eP P 04 00 33.7 -1.4
LOR pmax pmax
comp=Z,10.0nm,1.0s
AGO Saint Agoulin 19.53 300 eP P 04 00 39.4 +2.4
SSF Saint Saulge 19.53 303 eP P 04 00 36.1 -0.9
SSF pmax pmax
comp=Z,9.0nm,0.8s
SSF Saint Saulge 19.53 303 eP P 04 00 36.1 -0.9
comp=Z,9.2nm,0.8s
AVF Avril sur Loir 19.56 302 eP P 04 00 37.1 -0.3
comp=Z,38nm,1.0s
AVF Avril sur Loir 19.56 302 eP P 04 00 37.1 -0.3
AVF pmax pmax
comp=Z,19nm,1.0s
VSU Vasula 19.66 358 i P P 04 00 36.2 -2.2
MTLF Montolieu 19.77 291 eP P 04 00 39.4 -0.3
comp=Z,32nm,1.4s
MTLF Montolieu 19.77 291 eP P 04 00 39.4 -0.3
MTLF pmax pmax
comp=Z,16nm,1.4s
GIVF Givet 19.81 312 eP P 04 00 38.9 -1.2
BGF Bois d'Agland 19.84 301 eP P 04 00 41.3 +0.8
comp=Z,44nm,1.1s
BGF Bois d'Agland 19.84 301 eP P 04 00 41.3 +0.8
BGF pmax pmax
comp=Z,22nm,1.1s
CAF Calviac 20.06 296 eP P 04 00 42.9 +0.1
BAIF Baives 20.15 312 eP P 04 00 43.3 -0.4
comp=Z,48nm,1.2s
BAIF Baives 20.15 312 eP P 04 00 43.3 -0.4
BAIF pmax pmax
comp=Z,24nm,1.2s
TCF Toulx Ste Croi 20.21 300 eP P 04 00 44.1 -0.3
comp=Z,40nm,1.2s
TCF Toulx Ste Croi 20.21 300 eP P 04 00 44.1 -0.3
TCF pmax pmax
comp=Z,20nm,1.2s
RJF Les Rejaudoux 20.50 297 eP P 04 00 48.3 +0.9
comp=Z,19nm,1.2s
RJF Les Rejaudoux 20.50 297 eP P 04 00 48.3 +0.9
RJF pmax pmax
comp=Z,9.0nm,1.2s
ETSF Etsaut 21.78 290 eP P 04 01 01.0 +0.5
comp=Z,17nm,0.9s,mb4.2
ETSF Etsaut 21.78 290 eP P 04 01 01.0 +0.5
ETSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
MFF Saint Martin d 21.87 300 eP P 04 01 01.5 +0.2
comp=Z,49nm,1.0s,mb4.6
MFF Saint Martin d 21.87 300 eP P 04 01 01.5 +0.2
MFF pmax pmax
comp=Z,24nm,1.0s,mb4.6
SJPF Ste Jean 22.27 290 eP P 04 01 05.4 0.0
comp=Z,16nm,0.8s,mb4.2
SJPF Ste Jean 22.27 290 eP P 04 01 05.4 0.0
SJPF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
LDF La Druitiere 22.30 305 eP P 04 01 04.4 -1.3
comp=Z,38nm,0.9s,mb4.5
LDF La Druitiere 22.30 305 eP P 04 01 04.4 -1.3
LDF pmax pmax
comp=Z,19nm,0.9s,mb4.5
FLN La Foliniere 22.58 305 eP P 04 01 08.6 +0.3
comp=Z,44nm,1.1s,mb4.5
FLN eR
comp=Z,255nm,21.2s
FLN La Foliniere 22.58 305 eP P 04 01 08.6 +0.3
FLN pmax pmax
comp=Z,22nm,1.1s,mb4.5
FLN MLR MLR
comp=Z,250nm,21.3s,MS3.6
FINES FINESS Array B 22.66 358 P P 04 01 08.3 -0.7
comp=Z,6.4nm,0.8s,mb4.1,baz=158,slow=12,SNR=14
FINES LR LR 04 09 56.2
comp=Z,128nm,21.5s,MS3.3,baz=164,slow=37
FINES FINESS Array B 22.66 358 P P 04 01 08.3 -0.7
FINES LR LR 04 09 56.2
GRR Gorron 22.72 304 eP P 04 01 08.5 -1.3
comp=Z,53nm,0.9s,mb4.7
GRR Gorron 22.72 304 eP P 04 01 08.5 -1.3
GRR pmax pmax
comp=Z,26nm,0.9s,mb4.7
HFS Hagfors 23.11 342 P P 04 01 13.8 +0.4
comp=Z,4.0nm,0.7s,mb4.0,baz=135,slow=10,SNR=7.0
HFS LR LR 04 10 29.5
comp=Z,108nm,19.6s,MS3.3,baz=126,slow=38
KLMR Klimovskoe 23.23 15 eP P 04 01 14.0 -0.6
KLMR pmax pmax
comp=Z,30nm,1.2s,mb4.6
KLMR MLR MLR
comp=Z,320nm,12.0s,MS4.0
KAF Kangasniemi 23.33 358 ep P 04 01 14.4 -1.1
comp=Z,5.7nm,0.7s,mb4.1
KAF Kangasniemi 23.33 358 eP P 04 01 14.4 -1.1
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
SGMF Saint Gilles 23.80 303 eP P 04 01 19.9 -0.3
comp=Z,50nm,1.1s,mb4.5
SGMF Saint Gilles 23.80 303 eP P 04 01 19.9 -0.3
SGMF pmax pmax
comp=Z,25nm,1.1s,mb4.6
QUIF Quistinic 24.13 302 eP P 04 01 23.4 -0.1
comp=Z,22nm,0.9s,mb4.3
QUIF Quistinic 24.13 302 eP P 04 01 23.4 -0.1
QUIF pmax pmax
comp=Z,11nm,0.9s,mb4.3
JOF Joensuu 24.21 4 ep P 04 01 23.3 -0.8
comp=Z,16nm,0.9s,mb4.5
AKTK Aktyubinsk 24.26 52 P P 04 01 26.4 +1.7
AKTK LR LR 04 13 40.7
AKTK Aktyubinsk 24.26 52 P P 04 01 26.5 +1.8
AKTO Aktyubinsk 24.26 52 P P 04 01 26.4 +1.7
comp=Z,3.3nm,0.7s,mb3.9,baz=263,slow=8.5,SNR=11
AKTO LR LR 04 13 40.7
comp=Z,130nm,20.1s,MS3.4,slow=43
ROSF Rostrenen 24.28 303 eP P 04 01 24.9 0.0
comp=Z,14nm,0.8s,mb4.2
ROSF Rostrenen 24.28 303 eP P 04 01 24.9 0.0
ROSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
NAO01 NORSAR Array S 24.44 340 eP P 04 01 25.8 -0.5
comp=Z,32nm,1.2s,mb4.6
NAO01 NORSAR Array S 24.44 340 eP P 04 01 25.8 -0.5
comp=Z,32nm,1.2s,mb4.6
NB2 NORSAR Subarra 24.52 340 P P 04 01 26.7 -0.4
comp=Z,1.5nm,0.7s,mb3.6,baz=153,slow=10
NB2 NORSAR Subarra 24.52 340 P P 04 01 26.7 -0.4
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
NOA NORSAR Array B 24.52 340 P P 04 01 26.2 -0.9
comp=Z,2.4nm,0.7s,mb3.8,baz=160,slow=11,SNR=5.5
ESDC Sonseca Array 24.54 282 P P 04 01 27.8 +0.2
comp=Z,1.7nm,0.6s,mb3.7,baz=70,slow=10,SNR=18
EKA Eskdalemuir Ar 26.46 319 P P 04 01 44.7 -0.7
comp=Z,1.7nm,0.6s,mb3.8,baz=116,slow=11,SNR=13
ARU Arti 26.87 39 ⇓ iP P 04 01 50.0 +0.9
ARU ePPP PPP 04 02 36.6 -10
ARU eS S 04 06 28.4 +5.1
ARU eSS SS 04 07 31.0 -5.3
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.4
ARU Arti 26.87 39 eP P 04 01 47.4 -1.7
comp=Z,9.4nm,0.8s,mb4.4
ARU Arti 26.87 39 i P P 04 01 50.0 +0.9
comp=Z,12nm,1.0s,mb4.4
ARCES ARCESS Array B 30.79 358 P P 04 02 22.2 -2.1
comp=Z,2.8nm,1.0s,mb4.0,baz=170,slow=7.4,SNR=6.0
ARCES LR LR 04 14 55.7
comp=Z,161nm,21.1s,MS3.6,baz=173,slow=37
ARCES ARCESS Array B 30.79 358 P P 04 02 22.2 -2.1
ARCES LR LR 04 14 55.7
BVAR Borovoye Array 32.33 50 P P 04 02 37.8 -0.1
comp=Z,0.5nm,0.6s,mb3.6,baz=280,slow=9.0,SNR=4.3
AAK Ala-Archa 35.24 69 eP P 04 03 04.8 +1.6
AAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
AAK Ala-Archa 35.24 69 eP P 04 03 04.8 +1.6
comp=Z,5.2nm,0.9s,mb4.5
AAK Ala-Archa 35.24 69 eP P 04 03 04.8 +1.6
comp=Z,5.2nm,0.9s,mb4.5
JMIC Jan Mayen 37.23 341 LR LR 04 18 33.4
comp=Z,80nm,21.9s,MS3.5,baz=271,slow=36
KURK Kurchatov 37.28 54 i P P 04 03 20.1 -0.2
NVS Novosibirsk 40.03 48 eP P 04 03 43.1 -0.2
NVS pmax pmax
comp=E,5.0nm,0.9s
NVS pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
MKAR Makanchi Array 40.06 60 P P 04 03 43.4 -0.2
comp=Z,7.8nm,0.7s,mb4.6,baz=281,slow=6.2,SNR=33
MKAR LR LR 04 22 32.2
comp=Z,62nm,18.1s,MS3.5,baz=33,slow=40
MKAR Makanchi Array 40.06 60 ⇑ eP P 04 03 45.4 +1.8
KMBO Kilima Mbogo 40.70 165 P P 04 03 50.0 +0.8
comp=Z,0.7nm,0.5s,mb3.6,baz=348,slow=9.1,SNR=4.1
KMBO Kilima Mbogo 40.70 165 ⇑ eP P 04 03 52.4 +3.2
KMBO Kilima Mbogo 40.70 165 P P 04 03 50.0 +0.8
DBIC Dimbokro 43.51 231 P P 04 04 11.2 -1.0
comp=Z,7.0nm,0.9s,mb4.4,baz=77,slow=3.7,SNR=6.3
LIC Lamto 43.96 231 eP P 04 04 13.4 -2.4
comp=Z,20nm,0.9s,mb4.5
LIC eR
comp=Z,87nm,17.5s
WMQ Urumqi 44.41 63 eP P 04 04 19.8 +0.7
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
WMQ LR LR
comp=N,720nm,22.6s,MS4.7
WMQ LR LR
comp=E,700nm,22.0s,MS4.7
WMQ LR LR
comp=Z,700nm,21.6s,MS4.5
LSZ Lusaka 53.82 180 P P 04 05 31.8 -0.2
comp=Z,1.7nm,0.5s,mb4.2,baz=357,slow=7.5,SNR=5.7
GTA Gaotai 54.44 65 P P 04 05 38.4 +2.2
GTA PCP PcP 04 06 39.6 -0.2
GTA PP PP 04 07 43.3 +3.3
GTA SCP 04 10 34.8
GTA PCS 04 10 39.3
GTA S S 04 13 18.5 +5.9
GTA AMB AMB
comp=Z,100nm,6.9s
GTA LR LR
comp=N,190nm,6.9s
GTA LR LR
comp=E,300nm,7.7s
GTA LR LR
comp=Z,250nm,12.2s,MS4.5
SONM Songino Array 55.57 53 P P 04 05 44.2 -0.2
comp=Z,2.7nm,0.8s,mb4.3,baz=294,slow=8.0,SNR=17
ULN Ulaanbaatar 55.97 53 eP P 04 05 46.6 -0.6
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ULN Ulaanbaatar 55.97 53 eP P 04 05 46.6 -0.6
comp=Z,3.8nm,0.9s,mb4.4
ULN Ulaanbaatar 55.97 53 eP P 04 05 46.6 -0.6
comp=Z,4.0nm,0.9s,mb4.5
TIXI Tiksi 56.99 22 i P P 04 05 53.3 -1.0
TIXI pmax pmax
comp=Z,12nm,2.9s,mb4.4
TIXI Tiksi 56.99 22 i P P 04 05 53.3 -1.0
comp=Z,12nm,2.9s,mb4.4
SCHQ Schefferville 61.78 319 LR LR 04 30 22.4
comp=Z,50nm,19.0s,MS3.7,baz=269,slow=33
LBTB Lobatse 63.54 182 eP P 04 06 39.0 -0.6
LBTB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LBTB Lobatse 63.54 182 eP P 04 06 39.0 -0.6
comp=Z,9.0nm,0.8s,mb4.8
LBTB Lobatse 63.54 182 eP P 04 06 39.0 -0.6
comp=Z,9.0nm,0.8s,mb4.8
CN2 Changchun 69.19 50 eP P 04 07 15.9 +0.6
MDJ Mudanjiang 71.16 48 P P 04 07 26.4 -0.8
MDJ AMB AMB
comp=Z,120nm,4.6s
NJ2 Nanjing 71.49 64 eP P 04 07 28.3 -1.2
NJ2 S S 04 16 45.0 -1.3
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,420nm,3.6s
NJ2 LR LR
comp=N,1μm,19.2s,MS5.4
NJ2 LR LR
comp=E,1μm,16.6s,MS5.4
NJ2 LR LR
comp=Z,3μm,27.9s
PSI Prapat 73.58 100 P P 04 07 43.3 +1.1
comp=Z,3.0nm,0.7s,mb4.3,baz=291,slow=8.6,SNR=4.9
SSE Sheshan 73.67 63 eP P 04 07 38.3 -4.0
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,70nm,3.5s
YKA Yellowknife Ar 74.59 343 P P 04 07 46.4 -0.6
comp=Z,0.2nm,0.7s,mb3.2,baz=11,slow=7.2,SNR=6.7
IMA2 Indian Mountai 75.43 1 eP P 04 07 51.7 0.0
ILAR Eielson Array 76.65 358 P P 04 07 58.4 -0.3
comp=Z,0.6nm,0.7s,mb3.7,baz=328,slow=5.3,SNR=4.8
PDAR Pinedale Array 90.03 330 LR LR 04 49 29.3
comp=Z,78nm,21.1s,MS4.1,baz=281,slow=36
TXAR Lajitas Array 98.47 319 P P 04 09 46.8 +0.4
comp=Z,0.5nm,0.9s,mb4.0,baz=14,slow=5.2,SNR=4.6
TXAR LR LR 04 55 16.7
comp=Z,58nm,18.5s,MS4.1,baz=20,slow=36

SKHL 24 04:03:37.1±0.5, 54.53N×134.09E, h10km△2km, mb3.8/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKMR	**Ekimchan**	**1.61**	**205**	*e*Pg	Pg	04 04 06.5	-2.8

EKMR				AMB	AMB	04 04 08.5		
	32nm,0.4s							
EKMR				AMB	AMB	04 04 08.5		
	7.0nm,0.4s							
EKMR				AMB	AMB	04 04 08.5		
	24nm,0.4s							
EKMR				pPg		04 04 10.0		
EKMR				*e*Sg	Sg	04 04 27.9	-2.9	
EKMR				A		04 04 28.6		
	84nm,0.4s							
EKMR				A		04 04 28.6		
	80nm,0.4s							
BMKR	**Bomnak**	**3.06**	**276**	*e*Pn	Pn	04 04 27.0	+0.5	
BMKR				*e*Pg	Pg	04 04 31.7	-6.5	
BMKR				AMB	AMB	04 04 32.9		
	8.0nm,0.5s							
BMKR				AMB	AMB	04 04 32.9		
	25nm,0.5s							
BMKR				AMB	AMB	04 04 32.9		
	30nm,0.5s							
BMKR				pPg		04 04 35.4		
BMKR				*e*Sg	Sg	04 05 11.3	-7.6	
BMKR				A		04 05 13.4		
	58nm,0.4s							
BMKR				A		04 05 13.4		
	34nm,0.4s							
BMKR				A		04 05 13.4		
	21nm,0.4s							
YASR	**Yasnyy**	**3.82**	**254**	*e*Pn	Pn	04 04 36.7	-0.6	
YASR				*e*Pg	Pg	04 04 45.7	-7.7	
YASR				AMB	AMB	04 04 48.2		
	7.0nm,0.6s							
YASR				sPg		04 04 49.3		
YASR				*e*Sg	Sg	04 05 36.6	-7.7	
YASR				A		04 05 44.6		
	30nm,0.6s							
GRNR	**Gornyy**	**4.03**	**158**	*e*Sg	Sg	04 05 44.5	-6.7	
GRNR				A		04 05 48.0		
	34nm,0.7s							
ZEA	**Zeya**	**4.10**	**262**	*e*Pg	Pg	04 04 50.2	-8.8	
ZEA				AMB	AMB	04 04 51.6		
	10.0nm,0.5s							
ZEA				pPg		04 04 52.8		
ZEA				*e*Sg	Sg	04 05 43.5	-10	
ZEA				A		04 05 49.7		
	39nm,0.5s							
ZEA				A		04 05 49.7		
	67nm,0.5s							
NKL	**Nikolayevsk**	**4.14**	**107**	*e*Pn	Pn	04 04 38.6	-3.3	
NKL				*e*Pg	Pg	04 04 51.9	-7.9	
NKL				*e*Sg	Sg	04 05 45.7	-9.3	
NKL				A		04 05 46.3		
	43nm,1.0s							
KROS	**Kirovskiy**	**4.15**	**272**	*e*Pn	Pn	04 04 41.7	-0.4	
KROS				*e*Pg	Pg	04 04 51.6	-8.4	
KROS				AMB	AMB	04 04 53.0		
	21nm,0.4s							
KROS				pPg		04 04 56.5		
KROS				*e*S	Sn	04 05 30.4	-0.9	
KROS				*e*Sg	Sg	04 05 47.1	-8.3	
KROS				A		04 05 50.5		
	39nm,0.5s							
KROS				A		04 05 50.5		
	23nm,0.5s							
KLR	**Kul'dur**	**5.50**	**196**	*e*Sg	Sg	04 06 27.2	-13	

BJI ***24*** *04:09:35.4, 11.55S×65.63E, h10km, mB5.2, mb4.6, Ms5.0, Msz4.6*

IDC ***24*** *04:09:44.1±0.5, 10.62S×66.42E, mb4.5/25, mb1 4.6/25, mb1mx4.6/27, mbtmp4.5/25, MS4.4/15, Ms1 4.4/15, ms1mx4.2/27, Error ellipse: s-maj=15.9km s-min=14.7km az=12.0*

MOS ***24*** *04:09:44.1±1.0, 10.62S×66.37E, h10km, mb5.1/48, Error ellipse: s-maj=10.0km s-min=5.4km az=116.2*

HRVD ***24*** *04:09:45.5±0.3, 10.75S×66.29E, h12km, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s30,c39;Mantle waves: s66,c100; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.94±.12; Mθθ-0.73±.13; Mϕϕ-3.20±.12; Mrθ-1.22±.48; Mϕθ0.90±.11; Mϕr-1.61±.45; Best double couple: Mo4.166×10¹⁶ NP1: ϕs327°, δ38°, λ62°. NP2:ϕs181°, δ57°, λ110°. Principal axes: T 4.644, Plg70°, Azm138°; N -.949, Plg17°, Azm350°; P -3.688, Plg10°, Azm257°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *04:09:45.5±0.2, 10.70S×66.40E, h10km, mb4.9/53, MS4.7/4 Error ellipse: s-maj=5.4km s-min=5.1km az=63.0*

ISC 24 04:09:43.5±2.4**, 10.67S**±0.05×**66.46E**±0.05**, h8**km±15**km**, h24**km±3.7**km:pP-P,n268,**σ**0s98/200,mb4.7/82,MS4.4/22, 24C-8D,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.75**	**62**	*i* P		**Pn**		**04 11 26.5**	**+1.2**
OPO	**Ambohidratompo**	**20.22**	**245**	P		**P**		**04 14 23.3**	**+1.5**
	2.3nm,0.8s,baz=54,slow=8.4,SNR=5.6								
PALK	**Pallekele**	**22.78**	**39**	*e*P		**P**		**04 14 49.7**	**+1.8**
	26nm,1.0s,mb4.6								
KMBO	**Kilima Mbogo**	**30.52**	**286**	P		**P**		**04 16 00.2**	**+0.5**
	3.6nm,0.9s,mb4.2,baz=84,slow=10,SNR=8.4								
KMBO				LR		LR		04 27 13.3	
	comp=Z,614nm,18.1s,MS4.3,baz=102,slow=34								
KMBO	**Kilima Mbogo**	**30.52**	**286**	*e*P		**P**		**04 15 59.2**	**-0.6**
KMBO	**Kilima Mbogo**	**30.52**	**286**	P		**P**		**04 16 00.2**	**+0.5**
KMBO				LR		LR		04 27 13.3	
ATD	**Arta Tunnel**	**32.20**	**313**	LR		LR		04 27 20.2	
	comp=Z,377nm,18.9s,MS4.1,baz=112,slow=33								
PSI	**Prapat**	**34.98**	**69**	LR		LR		04 29 26.3	
	comp=Z,1μm,18.2s,MS4.8,baz=290,slow=34								
LSZ	**Lusaka**	**37.54**	**259**	P		**P**		**04 17 00.2**	**+0.1**
	26nm,0.9s,mb5.0,baz=97,slow=6.1,SNR=37								
LSZ	**Lusaka**	**37.54**	**259**	*e*P		**P**		**04 16 59.1**	**-1.0**
LSZ				pmax		pmax			
	comp=Z,38nm,1.0s,mb5.1								
LSZ	**Lusaka**	**37.54**	**259**	*e*P		**P**		**04 16 59.1**	**-0.9**
	comp=Z,38nm,1.0s,mb5.1								
MATP	**Matopo**	**37.75**	**250**	P		**P**		**04 17 01.5**	**-0.4**
	comp=Z,7.0nm,1.2s,mb4.3,baz=69,slow=7.7,SNR=6.1								
LBTB	**Lobatse**	**41.25**	**244**	P		**P**		**04 17 30.5**	**-0.4**
	comp=Z,8.3nm,1.0s,mb4.3,baz=85,slow=10,SNR=7.2								
LBTB	**Lobatse**	**41.25**	**244**	*e*P		**P**		**04 17 30.0**	**-0.8**
LBTB				pmax		pmax			
	comp=Z,24nm,1.4s,mb4.6								
LBTB				MLR		MLR			
	comp=Z,839nm,20.0s,MS4.6								
LBTB	**Lobatse**	**41.25**	**244**	*e*P		**P**		**04 17 30.0**	**-0.9**
	comp=Z,24nm,1.4s,mb4.6								
LBTB				LR		LR			
	comp=Z,839nm,20.0s,MS4.6								
KOLN	**Koldanda**	**41.67**	**23**	*e*P		**P**		**04 17 36.1**	**+1.8**
	comp=Z,22nm,1.1s,mb4.7								
DMN	**Daman**	**42.13**	**25**	*e*P		**P**		**04 17 41.5**	**+3.4**
PKI	**Pulchoki**	**42.22**	**25**	*e*P		**P**		**04 17 41.8**	**+2.9**
GKN	**Gorkha**	**42.28**	**24**	*e*P		**P**		**04 17 39.5**	**+0.1**
KKN	**Kakani**	**42.36**	**25**	*e*P		**P**		**04 17 41.7**	**+1.7**
JIRN	**Jiri**	**42.63**	**26**	*e*P		**P**		**04 17 45.2**	**+2.9**
GUN	**Gumba**	**42.72**	**26**	*e*P		**P**		**04 17 43.6**	**+0.6**
LSA	**Lhasa**	**46.66**	**30**	P		**P**		**04 18 17.3**	**+2.7**
NWAO	**Narrogin (SRO)**	**51.52**	**124**	LR		LR		04 35 08.2	
	comp=Z,372nm,18.8s,MS4.4,baz=80,slow=30								
QIZ	**Qiongzhong**	**51.97**	**56**	*e*P		**P**		**04 18 53.3**	**-2.3**
QIZ				S		**S**		**04 26 16.6**	**-0.8**
QIZ				LR		LR			
	comp=E,470nm,15.1s								
QIZ				LR		LR			
	comp=Z,630nm,19.4s,MS4.7								
AAK	**Ala-Archa**	**53.55**	**7**	*e*P		**P**		**04 19 06.2**	**-0.9**
AAK				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
AAK	**Ala-Archa**	**53.55**	**7**	*e*P		**P**		**04 19 06.2**	**-0.9**
	comp=Z,5.3nm,0.9s,mb4.5								
GNI	**Garni**	**54.42**	**340**	P		**P**		**04 19 14.2**	**+0.8**
	comp=Z,14nm,0.9s,mb4.9,baz=194,slow=8.7,SNR=4.7								
GNI	**Garni**	**54.42**	**340**	P		**P**		**04 19 14.3**	**+0.8**
CD2	**Chengdu**	**54.69**	**40**	P		**P**		**04 19 14.6**	**-1.0**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
MAW	**Mawson**	**56.91**	**182**	P		**P**		**04 19 31.2**	**0.0**
	comp=Z,2.4nm,0.3s,mb4.7,baz=15,slow=8.5,SNR=5.2								
MAW				LR		LR		04 38 04.6	
	comp=Z,359nm,19.1s,MS4.5,baz=50,slow=30								

WMQ	**Urumqi**	**57.58**	**18**	*e*P		**P**	**04 19 34.5**	**-1.6**
WMQ				AP		pP	04 19 39.3	+0.6
WMQ				XP		sP	04 19 41.5	+1.8
WMQ				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.7							
WMQ				AMB		AMB		
	comp=Z,80nm,4.6s							
WMQ				LR		LR		
	comp=N,510nm,22.0s,MS4.8							
WMQ				LR		LR		
	comp=E,490nm,20.2s,MS4.8							
WMQ				LR		LR		
	comp=Z,490nm,20.0s,MS4.6							
ENH	**Enshi**	**58.04**	**44**	*e*P		**P**	**04 19 38.7**	**-0.9**
	comp=Z,8.7nm,0.8s,mb4.8							
KIV	**Kislovodsk**	**58.51**	**340**	P		**P**	**04 19 48.0**	**+5.4**
KIV				MLR		MLR		
	comp=Z,100nm,18.0s,MS4.0							
BR131	**Keskin Array S**	**58.67**	**331**	*e*P		**P**	**04 19 43.1**	**-0.8**
	comp=Z,5.3nm,1.1s,mb4.5							
BRTR	**Keskin Array B**	**58.67**	**331**	P		**P**	**04 19 43.2**	**-0.7**
	comp=Z,3.5nm,1.0s,mb4.3,baz=146,slow=13,SNR=9.9							
GTA	**Gaotai**	**58.69**	**30**	*e*P		**P**	**04 19 44.8**	**+0.8**
GTA				AP		pP	04 19 52.6	+6.0
GTA				XP		sP	04 19 56.5	+8.9
GTA				PCP		PcP	04 20 32.0	-1.7
GTA				PP		PP	04 21 55.5	-0.1
GTA				SCP			04 24 29.8	
GTA				PCS			04 24 32.8	
GTA				S		**S**	**04 27 51.3**	**+4.3**
GTA				XS			04 28 01.9	
GTA				SCS		ScS	04 29 27.8	-2.7
GTA				SS		SS	04 31 47.3	+5.6
GTA				AMB		AMB		
	comp=Z,180nm,6.9s							
GTA				LR		LR		
	comp=N,420nm,16.8s,MS4.8							
GTA				LR		LR		
	comp=E,620nm,21.0s,MS4.8							
GTA				LR		LR		
	comp=Z,700nm,19.9s,MS4.8							
MK31	**Makanchi Array**	**58.93**	**13**	*i* P		**P**	**04 19 44.3**	**-1.3**
MKAR	**Makanchi Array**	**58.93**	**13**	P		**P**	**04 19 43.8**	**-1.8**
	comp=Z,2.2nm,0.7s,mb4.3,baz=195,slow=7.3,SNR=17							
MKAR				LR		LR	04 45 39.2	
	comp=Z,230nm,18.3s,MS4.3,baz=182,slow=37							
SOC	**Sochi**	**59.24**	**338**	*e*P		**P**	**04 19 47.7**	**0.0**
SOC				*e*			04 22 03.3	
SOC				*e*PPP		PPP	04 23 24.3	-0.8
SOC				*e*S		**S**	**04 27 56.2**	**+2.1**
SOC				pmax		pmax		
	comp=Z,19nm,0.8s,mb5.2							
SOC				MLR		MLR		
	comp=Z,99nm,15.0s,MS4.1							
AB31	**Akbulak array**	**59.94**	**355**	*i* P		**P**	**04 19 51.6**	**-0.9**
AB31				pmax		pmax		
	comp=Z,25nm,1.2s,mb5.1							
SYO	**Syowa Base**	**60.82**	**191**	⇓P		**P**	**04 19 57.3**	**-0.9**
SYO	**Syowa Base**	**60.82**	**191**	⇑X		PP	04 22 08.0	-6.4
SYO	**Syowa Base**	**60.82**	**191**	⇓*e*P		**P**	**04 19 57.3**	**-0.9**
APE	**Apeiranthos**	**61.08**	**323**	*i* P		**P**	**04 19 59.1**	**-1.3**
ANN	**Anapa**	**61.14**	**337**	*e*P		**P**	**04 20 04.3**	**+3.6**
ANN				pmax		pmax		
	comp=Z,93nm,1.7s,mb5.6							
AKTK	**Aktyubinsk**	**61.29**	**354**	P		**P**	**04 20 00.5**	**-1.2**
AKTO	**Aktyubinsk**	**61.29**	**354**	P		**P**	**04 20 00.5**	**-1.2**
	comp=Z,5.4nm,0.9s,mb4.7,baz=185,slow=7.0,SNR=15							
KURK	**Kurchatov**	**62.04**	**9**	*e*P		**P**	**04 20 06.0**	**-0.8**
KURK				pmax		pmax		
	comp=Z,12nm,0.9s,mb5.0							
KURK	**Kurchatov**	**62.04**	**9**	*e*P		**P**	**04 20 06.0**	**-0.8**
	comp=Z,12nm,0.9s,mb5.0							
BVAR	**Borovoye Array**	**63.53**	**3**	P		**P**	**04 20 15.3**	**-1.3**
	comp=Z,5.5nm,0.9s,mb4.6,baz=153,slow=6.6,SNR=17							
KAKA	**Kakadu**	**64.49**	**99**	⇓*i*P		Px	04 20 46.2	
	comp=Z,11nm,0.8s							
HARR	**Harsova**	**65.19**	**331**	⇑P		**P**	**04 20 26.1**	**-1.5**
ASPA	**Alice Springs**	**65.22**	**111**	*e*P		**P**	**04 20 27.4**	**-0.7**
CFR	**Carcaliu**	**65.46**	**331**	⇓P		**P**	**04 20 27.7**	**-1.5**
WRA	**Warramunga Arr**	**65.76**	**107**	P		**P**	**04 20 31.1**	**-0.5**
	comp=Z,10nm,0.8s,mb4.9,baz=277,slow=5.7,SNR=62							
WB2	**Warramunga Arr**	**65.77**	**107**	*e*P		**P**	**04 20 31.1**	**-0.6**
WRAB	**Tennant Creek**	**65.77**	**107**	*e*P		**P**	**04 20 31.1**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,29nm,0.9s,mb5.3							
WRAB	**Tennant Creek**	**65.77**	**107**	*e*P		**P**	**04 20 31.1**	**-0.5**
	comp=Z,29nm,0.9s,mb5.3							
VRSR	**Storozhevoye**	**66.02**	**342**	*e*P		**P**	**04 20 31.0**	**-1.7**
VRSR				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
VRSR				pmax		pmax		
	comp=N,4.0nm,1.1s							
VRSR				pmax		pmax		
	comp=E,2.0nm,0.9s							
VRI	**Vrincioaia**	**66.64**	**331**	⇑P		**P**	**04 20 37.1**	**+0.4**
NVS	**Novosibirsk**	**66.78**	**10**	*e*P		**P**	**04 20 36.9**	**-0.6**
SSE	**Sheshan**	**66.90**	**50**	*e*P		**P**	**04 20 37.1**	**-1.6**
SSE				AP		pP	04 20 46.5	+5.2
SSE				XP		sP	04 20 50.3	+8.0
SSE				PCP		PcP	04 21 06.3	-1.0
SSE				PP		PP	04 23 05.9	-1.9
SSE				S		S	04 29 27.3	-3.0
SSE				XS			04 29 44.4	
SSE				SCS		ScS	04 30 31.4	-1.2
SSE				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
SSE				AMB		AMB		
	comp=Z,70nm,4.2s							
SSE				LR		LR		
	comp=N,70nm,28.4s,MS4.1							
SSE				LR		LR		
	comp=E,170nm,28.4s,MS4.1							
SSE				LR		LR		
	comp=Z,230nm,26.8s,MS4.3							
VOIR		**67.14**	**330**	⇑P		**P**	**04 20 39.6**	**-0.4**
ARU	**Arti**	**67.18**	**355**	⇑*i*P		**P**	**04 20 39.2**	**-0.8**
ARU				*e*			04 23 02.3	
ARU				*e*PPP		PPP	04 24 39.8	-7.0
ARU				*e*S		S	04 29 29.2	-3.9
ARU				*e*SSS		SSS	04 36 58.3	+6.7
ARU				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.8							
ARU	**Arti**	**67.18**	**355**	*e*P		**P**	**04 20 38.5**	**-1.5**
	comp=Z,10nm,0.9s,mb4.8							
SONM	**Songino Array**	**68.17**	**28**	P		**P**	**04 20 46.2**	**-0.2**
	comp=Z,5.6nm,0.8s,mb4.7,baz=216,slow=6.5,SNR=26							
SONM				LR		LR	04 49 45.7	
	comp=Z,896nm,20.7s,MS5.0,baz=76,slow=35							
ULN	**Ulaanbaatar**	**68.50**	**28**	*i* P		**P**	**04 20 48.8**	**+0.4**
BURAR	**Bucovina Array**	**68.62**	**331**	⇓P		**P**	**04 20 51.5**	**+2.3**
BURAR	**Bucovina Array**	**68.62**	**331**	⇓P		**P**	**04 20 51.5**	**+2.3**
BZS	**Buzias**	**69.02**	**328**	⇑P		**P**	**04 20 51.1**	**-0.6**
AKASG	**Malin Array Be**	**69.17**	**336**	P		**P**	**04 20 51.0**	**-1.5**
	comp=Z,1.4nm,0.5s,mb4.1,baz=138,slow=5.1,SNR=14							
OBN	**Obninsk**	**70.18**	**342**	*e*P		**P**	**04 20 58.3**	**-0.3**
OBN				pmax		pmax		
	comp=Z,33nm,1.8s,mb5.0							
KOLS	**Kolonicke sedl**	**70.94**	**331**	*e*P		**P**	**04 21 01.5**	**-1.9**
PKSM	**Moragy**	**70.98**	**327**	⇓*i*P		**P**	**04 21 03.1**	**-0.5**
CRVS	**Cervenica-Dubn**	**71.31**	**330**	*e*P		**P**	**04 21 05.8**	**+0.2**
CRVS				*e*PP		PP	04 23 44.8	-1.0
KECS	**Kecovo**	**71.51**	**330**	*e*P		**P**	**04 21 02.1**	**-4.7**
STHS	**Stebnicka Huta**	**71.77**	**331**	*e*P		**P**	**04 21 02.0**	**-6.3**
STHS				*e*			04 23 50.8	
STKA	**Stephens Creek**	**71.87**	**120**	P		**P**	**04 21 09.1**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.5,baz=223,slow=6.6,SNR=3.7							
STKA				LR		LR	04 47 04.5	
	comp=Z,415nm,19.3s,MS4.7,baz=212,slow=31							
STKA	**Stephens Creek**	**71.87**	**120**	P		**P**	**04 21 09.1**	**-0.2**
STKA				LR		LR	04 47 04.5	
SRO	**Srobarova**	**72.17**	**328**	*e*P		**P**	**04 21 09.9**	**-0.8**
VYHS	**Vyhne**	**72.34**	**329**	*e*P		**P**	**04 21 11.4**	**-0.3**
VYHS				*e*			04 59 07.3	
DBIC	**Dimbokro**	**73.05**	**280**	P		**P**	**04 21 16.1**	**-0.5**
	comp=Z,12nm,1.0s,mb4.8,baz=92,slow=5.9,SNR=6.7							
DBIC				LR		LR	04 51 49.0	
	comp=Z,636nm,19.7s,MS4.9,baz=99,slow=35							
DBIC	**Dimbokro**	**73.05**	**280**	*e*P		**P**	**04 21 15.4**	**-1.2**
DBIC				pmax		pmax		
	comp=Z,25nm,1.2s							
DBIC				MLR		MLR		
	comp=Z,685nm,20.0s							
DBIC	**Dimbokro**	**73.05**	**280**	*e*P		**P**	**04 21 15.3**	**-1.3**
	comp=Z,25nm,1.2s,mb5.0							

DBIC				LR		LR		
	comp=Z,685nm,20.0s,MS4.9							
SMOL	**Smolenice**	**73.08**	**328**	*e*P		**P**	**04 21 15.4**	**-0.7**
LIC	**Lamto**	**73.11**	**280**	*e*P		**P**	**04 21 16.4**	**-0.6**
	comp=Z,50nm,1.0s,mb5.1							
LIC				*e*R				
	comp=Z,1μm,21.8s							
ARSA	**Arzberg**	**73.30**	**326**	⇑*i*P		**P**	**04 21 18.0**	**+0.5**
	comp=Z,7.2nm,1.1s,mb4.5							
SNAA	**Sanae**	**73.47**	**198**	*e*P		**P**	**04 21 16.3**	**-1.6**
SNAA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
SNAA	**Sanae**	**73.47**	**198**	*e*P		**P**	**04 21 16.3**	**-1.6**
	comp=Z,3.8nm,0.8s,mb4.4							
VRAC	**Vranov**	**74.00**	**329**	P		**P**	**04 21 21.3**	**-0.1**
	comp=Z,1.2nm,0.4s,mb4.2,baz=93,slow=3.7,SNR=4.2							
MOA	**Moln**	**74.34**	**326**	⇑*i*P		**P**	**04 21 23.2**	**-0.2**
	comp=Z,11nm,0.9s,mb4.8,SNR=8.3							
KLMR	**Klimovskoe**	**74.42**	**347**	*d i*P		**P**	**04 21 23.3**	**-0.3**
KLMR				pmax		pmax		
	comp=Z,30nm,1.7s,mb5.0							
VNA2	**Neumayer--Watz**	**74.71**	**199**	⇑*i*P		**P**	**04 21 26.5**	**+1.4**
VNA2				*e*			04 21 36.3	
VNA2				*e*			04 21 39.3	
DPC	**Dobruska-Polom**	**74.79**	**329**	*e*P		**P**	**04 21 25.6**	**-0.4**
GERES	**GERESS Array B**	**75.23**	**327**	P		**P**	**04 21 28.2**	**-0.4**
	comp=Z,1.5nm,0.9s,mb3.9,baz=146,slow=4.8,SNR=6.6							
GERES				LR		LR	04 52 41.5	
	comp=Z,78nm,20.0s,MS4.0,baz=109,slow=34							
WTTA	**Wattenberg**	**75.46**	**325**	⇑*i*P		**P**	**04 21 29.6**	**-0.3**
	comp=Z,16nm,1.0s,mb4.9,SNR=7.1							
WTTA	**Wattenberg**	**75.46**	**325**	⇑*i*P		**P**	**04 21 29.6**	**-0.3**
WTTA				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.9							
KHC	**Kasperske Hory**	**75.47**	**327**	*e*P		**P**	**04 21 29.3**	**-0.6**
PRU	**Pruhonice**	**75.47**	**328**	*e*P		**P**	**04 21 30.0**	**+0.1**
VNA3	**Neumayer Olymp**	**75.50**	**199**	*e*		PcP	04 21 39.9	-3.2
VNA3	**Neumayer Olymp**	**75.50**	**199**	*e*		Px	04 21 43.8	
VNA3	**Neumayer Olymp**	**75.50**	**199**	⇑*i*P		**P**	**04 21 31.0**	**+1.3**
VNA3				*e*			04 21 39.9	
VNA3				*e*			04 21 43.8	
WATA	**Walderalm**	**75.54**	**325**	⇑*i*P		**P**	**04 21 30.1**	**-0.3**
	comp=Z,13nm,1.1s,mb4.8							
WATA	**Walderalm**	**75.54**	**325**	⇑P		**P**	**04 21 30.1**	**-0.2**
WATA				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.8							
SQTA	**Sankt Quirin**	**75.68**	**325**	⇑*i*P		**P**	**04 21 31.0**	**-0.1**
	comp=Z,11nm,1.3s,mb4.6							
SQTA	**Sankt Quirin**	**75.68**	**325**	⇑P		**P**	**04 21 31.0**	**-0.2**
SQTA				pmax		pmax		
	comp=Z,11nm,1.3s,mb4.6							
SQTA	**Sankt Quirin**	**75.68**	**325**	⇑P		**P**	**04 21 31.0**	**-0.1**
	comp=Z,11nm,1.3s,mb4.6							
PVCC	**Panska Ves**	**75.78**	**329**	*e*P		**P**	**04 21 32.0**	**+0.3**
MOTA	**Moosalm**	**75.81**	**325**	⇑*i*P		**P**	**04 21 31.7**	**-0.2**
	comp=Z,9.9nm,1.1s,mb4.7,SNR=8.1							
MOTA	**Moosalm**	**75.81**	**325**	⇑*i*P		**P**	**04 21 31.7**	**-0.2**
MOTA				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.7							
MOTA	**Moosalm**	**75.81**	**325**	⇑*i*P		**P**	**04 21 31.7**	**-0.2**
	comp=Z,9.9nm,1.1s,mb4.7							
WET	**Wettzell**	**75.85**	**327**	*e*P		**P**	**04 21 32.7**	**+0.6**
WET				pmax		pmax		
	comp=Z,13nm,1.4s,mb4.7							
WET	**Wettzell**	**75.85**	**327**	*e*P		**P**	**04 21 32.7**	**+0.6**
	comp=Z,13nm,1.4s,mb4.7							
FUR	**Furstenfeldbru**	**76.17**	**326**	*e*P		**P**	**04 21 32.8**	**-1.1**
FUR				pmax		pmax		
	comp=Z,25nm,1.1s,mb5.1							
FUR	**Furstenfeldbru**	**76.17**	**326**	*e*P		**P**	**04 21 32.8**	**-1.1**
	comp=Z,25nm,1.1s,mb5.1							
SBF	**Sospel**	**76.18**	**320**	*e*P		**P**	**04 21 33.9**	**-0.1**
	comp=Z,42nm,1.2s,mb5.0							
SBF	**Sospel**	**76.18**	**320**	*e*P		**P**	**04 21 33.9**	**-0.1**
SBF				pmax		pmax		
	comp=Z,21nm,1.2s,mb4.9							
DAVOX	**Davos**	**76.21**	**324**	P		**P**	**04 21 33.8**	**-0.3**
	comp=Z,4.4nm,0.9s,mb4.4,baz=119,slow=16,SNR=12							
BRG	**Berggiesshubel**	**76.31**	**329**	*e*P		**P**	**04 21 33.0**	**-1.6**
BRG	**Berggiesshubel**	**76.31**	**329**	*e*P		**P**	**04 21 34.0**	**-0.7**
	comp=Z,16nm,1.3s,mb4.8							
DAVA	**Damuels**	**76.48**	**324**	⇑*i*P		**P**	**04 21 35.6**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8							
DAVA	**Damuels**	**76.48**	**324**	⇑P		**P**	**04 21 35.5**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8							
NKC	**Novy Kostel**	**76.71**	**328**	*e*P		**P**	**04 21 36.5**	**-0.4**
CTA	**Charters Tower**	**76.91**	**108**	*e*P		**P**	**04 21 40.8**	**+2.2**
	comp=Z,8.3nm,1.1s,mb4.6							
CTA	**Charters Tower**	**76.91**	**108**	P		**P**	**04 21 40.8**	**+2.2**
	comp=Z,9.9nm,1.0s,mb4.7,baz=226,slow=3.3,SNR=6.3							
CTA	**Charters Tower**	**76.91**	**108**	*e*P		**P**	**04 21 40.8**	**+2.2**
CTA				pmax		pmax	

TNS	Taunus Mts	78.84	326	*e*P		P	04 21 49.6	+1.0
	comp=Z,5.0nm,0.8s,mb4.5							
HAU	Haudompre	78.89	324	*e*P		P	04 21 48.6	-0.3
HAU				*e*R				
	comp=Z,60nm,19.8s							
MDJ	Mudanjiang	79.14	40	P		P	04 21 50.9	+0.5
MDJ				AMB		AMB		
	comp=Z,230nm,6.5s							
MTLF	Montolieu	79.29	318	*e*P		P	04 21 51.8	+0.6
	comp=Z,51nm,1.4s,mb5.0							
MTLF	Montolieu	79.29	318	*e*P		P	04 21 51.8	+0.6
MTLF				pmax		pmax		
	comp=Z,25nm,1.4s,mb5.0							
SMF	Signal de Mont	79.74	322	*e*P		P	04 21 53.3	-0.3
	comp=Z,13nm,1.1s,mb4.5							
SMF	Signal de Mont	79.74	322	*e*P		P	04 21 53.3	-0.3
SMF				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.5							
MEZF	Maizieres J'vi	79.89	324	*e*P		P	04 21 54.6	+0.3
LOR	Lormes	80.02	322	*e*P		P	04 21 55.1	+0.1
	comp=Z,36nm,1.5s,mb4.8							
LOR	Lormes	80.02	322	*e*P		P	04 21 55.1	+0.1
LOR				pmax		pmax		
	comp=Z,18nm,1.5s,mb4.8							
CAF	Calviac	80.08	319	*e*P		P	04 21 56.0	+0.6
	comp=Z,26nm,1.3s,mb4.7							
CAF	Calviac	80.08	319	*e*P		P	04 21 56.0	+0.6
CAF				pmax		pmax		
	comp=Z,13nm,1.3s,mb4.7							
AVF	Avril sur Loir	80.11	322	*e*P		P	04 21 55.3	-0.2
	comp=Z,24nm,1.5s,mb4.6							
AVF	Avril sur Loir	80.11	322	*e*P		P	04 21 55.3	-0.2
AVF				pmax		pmax		
	comp=Z,12nm,1.5s,mb4.6							
SSF	Saint Saulge	80.14	322	*e*P		P	04 21 55.8	+0.1
	comp=Z,21nm,1.2s,mb4.7							
SSF	Saint Saulge	80.14	322	*e*P		P	04 21 55.8	+0.1
SSF				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.7							
MDT	Midelt	80.25	306	P		P	04 21 58.1	+1.5
	comp=Z,4.7nm,0.9s,mb4.4,baz=105,slow=3.4,SNR=7.4							
BGF	Bois d'Agland	80.31	321	*e*P		P	04 21 57.3	+0.7
	comp=Z,40nm,1.2s,mb4.9							
BGF	Bois d'Agland	80.31	321	*e*P		P	04 21 57.3	+0.7
BGF				pmax		pmax		
	comp=Z,20nm,1.2s,mb4.9							
TCF	Toulx Ste Croi	80.58	321	*e*P		P	04 21 58.6	+0.5
RJF	Les Rejaudoux	80.59	320	*e*P		P	04 21 58.9	+0.8
	comp=Z,41nm,1.3s,mb4.9							
RJF	Les Rejaudoux	80.59	320	*e*P		P	04 21 58.9	+0.8
RJF				pmax		pmax		
	comp=Z,21nm,1.3s,mb4.9							
HYF	Humbligny	80.76	322	*e*P		P	04 21 59.5	+0.5
GIVF	Givet	80.80	325	*e*P		P	04 21 59.5	+0.4
VNDA	Vanda	80.82	167	*e*P		P	04 21 59.5	+0.7
LFF	La Frestale	80.93	319	*e*P		P	04 22 00.7	+0.8
	comp=Z,45nm,1.3s,mb4.9							
LFF	La Frestale	80.93	319	*e*P		P	04 22 00.7	+0.8
LFF				pmax		pmax		
	comp=Z,22nm,1.3s,mb4.9							
ETSF	Etsaut	80.95	317	*e*P		P	04 22 01.1	+1.0
	comp=Z,28nm,1.2s,mb4.8							
ETSF	Etsaut	80.95	317	*e*P		P	04 22 01.1	+1.0
ETSF				pmax		pmax		
	comp=Z,14nm,1.2s,mb4.8							
BAIF	Baives	81.12	325	*e*P		P	04 22 01.6	+0.8
	comp=Z,33nm,1.2s,mb4.8							
BAIF	Baives	81.12	325	*e*P		P	04 22 01.6	+0.8
BAIF				pmax		pmax		
	comp=Z,17nm,1.2s,mb4.8							
SJPF	Ste Jean	81.49	317	*e*P		P	04 22 03.9	+1.0
	comp=Z,44nm,1.2s,mb5.0							
SJPF	Ste Jean	81.49	317	*e*P		P	04 22 03.9	+1.0
SJPF				pmax		pmax		
	comp=Z,22nm,1.2s,mb5.0							
MJAR	Matsushiro Arr	82.02	51	P		P	04 22 08.3	+2.5
	comp=Z,2.3nm,0.7s,mb4.2,baz=246,slow=7.9,SNR=4.1							
MJAR				LR		LR	04 56 59.6	
	comp=Z,203nm,20.6s,MS4.5,baz=260,slow=35							
HFS	Hagfors	82.04	336	P		P	04 22 05.6	+0.2
	comp=Z,8.2nm,0.9s,mb4.7,baz=158,slow=8.0,SNR=4.7							
ESDC	Sonseca Array	82.11	313	P		P	04 22 06.9	+0.7
	comp=Z,7.6nm,1.0s,mb4.6,baz=98,slow=4.3,SNR=24							
ESLA	Sonseca Array	82.11	313	*e*P		P	04 22 05.7	-0.5
	comp=Z,7.0nm,1.4s,mb4.4							
MFF	Saint Martin d	82.19	320	*e*P		P	04 22 07.1	+0.6
	comp=Z,24nm,1.3s,mb4.7							
MFF	Saint Martin d	82.19	320	*e*P		P	04 22 07.1	+0.6
MFF				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.7							
LDF	La Druitiere	83.00	322	*e*P		P	04 22 11.1	+0.5
	comp=Z,59nm,1.4s,mb5.1							
LDF	La Druitiere	83.00	322	*e*P		P	04 22 11.1	+0.5
LDF				pmax		pmax		
	comp=Z,30nm,1.4s,mb5.1							
GRR	Gorron	83.37	322	*e*P		P	04 22 12.9	+0.4
NOA	NORSAR Array B	83.57	336	P		P	04 22 13.6	+0.4
	comp=Z,2.8nm,0.9s,mb4.4,baz=117,slow=5.0,SNR=3.5							
NOA				LR		LR	04 59 56.5	
	comp=Z,74nm,18.6s,MS4.1,baz=285,slow=36							
SGMF	Saint Gilles	84.35	321	*e*P		P	04 22 18.8	+1.3
EVO	Evora	84.71	311	*e*P		P	04 22 19.7	+0.2
	comp=Z,33nm,1.2s,mb5.0							
EVO				*e*R				
	comp=Z,119nm,19.0s							
ROSF	Rostrenen	84.83	321	*e*P		P	04 22 21.3	+1.4
ARCES	ARCESS Array B	84.90	347	P		P	04 22 21.5	+1.7
	comp=Z,2.0nm,0.7s,mb4.3,baz=150,slow=9.8,SNR=4.4							
ARCES				LR		LR	05 01 36.7	
	comp=Z,78nm,19.0s,MS4.1,baz=100,slow=37							
ASAJ	Asahikawa	87.59	44	LR		LR	05 03 13.2	
	comp=Z,210nm,18.8s,MS4.6,baz=337,slow=37							
TIXI	Tiksi	91.74	16	*e*P		P	04 22 50.5	-1.9
TIXI				pmax		pmax		
	comp=Z,10.0nm,1.3s,mb5.0							
INK	Inuvik	120.95	9	PKP		PKPdf	04 28 36.4	-2.7
	comp=Z,3.4nm,0.9s,baz=65,slow=0.6,SNR=9.1							
INK	Inuvik	120.95	9	*e*PKIKP		PKPdf	04 28 35.8	-3.3
ILAR	Eielson Array	121.21	16	PKP		PKPdf	04 28 37.4	-2.3
	comp=Z,1.9nm,1.0s,baz=320,slow=2.7,SNR=9.5							
LPAZ	La Paz	127.69	240	PKP		PKPdf	04 28 53.2	-0.2
	comp=Z,1.0nm,0.8s,baz=50,slow=9.7,SNR=3.5							
LPAZ	La Paz	127.69	240	*e*PKIKP		PKPdf	04 28 52.8	-0.6
YKW3	Yellowknife Ar	128.19	1	*e*PKP		PKPdf	04 28 50.6	-2.6
YKA	Yellowknife Ar	128.26	1	PKP		PKPdf	04 28 51.3	-2.0
	comp=Z,3.6nm,0.9s,baz=351,slow=2.0,SNR=27							
YKA	Yellowknife Ar	128.26	1	PKIKP		PKPdf	04 28 51.4	-1.9
EDM	Edmonton	137.57	360	*e*PKIKP		PKPdf	04 29 09.8	-1.1
ULM	Lac du Bonnet	137.93	343	PKP		PKPdf	04 29 10.2	-1.5
	comp=Z,1.3nm,0.8s,baz=292,slow=0.9,SNR=4.6							
EGMT	Eagleton	142.63	356	*e*PKP		PKPdf	04 29 18.8	-1.3
MSO	Missoula	143.97	0	*e*PKP		PKPdf	04 29 19.5	-3.0
BOZ	Bozeman (W)	145.11	358	*e*PKIKP		PKPdf	04 29 23.8	-0.7
DLMT	Dillon	145.42	359	*e*PKP		PKPdf	04 29 24.3	-0.7
WVT	Waverly	145.58	322	*e*PKIKP		PKPdf	04 29 23.6	-2.0
RSSD	Black Hills	145.68	348	*e*PKIKP		PKPdf	04 29 24.4	-1.1
BMO	Blue Mountains	145.79	5	*e*PKIKP		PKPdf	04 29 24.5	-1.2
FVM	French Village	145.80	326	*e*PKP2		PKPab	04 29 25.2	-0.9
QLMT	Earthquake Lak	145.92	357	*e*PKP		PKPdf	04 29 26.5	+0.6
MCMT	McKenzie Canyo	145.96	359	*e*PKP		PKPdf	04 29 25.2	-0.8
UTMT	University of	146.07	323	PKP		PKPdf	04 29 25.4	-1.1
LKWY	Lake	146.12	356	*e*PKP2		PKPab	04 29 28.6	+1.5
CCM	Cathedral Cave	146.19	327	*e*PKP2		PKPab	04 29 25.2	-2.4
YFT	Old Faithful	146.26	357	*e*PKP		PKPdf	04 29 29.6	+3.1
IMW	Indian Meadow	146.82	357	PKP		PKPdf	04 29 26.4	-1.1
LRAL	Lakeview Retre	146.98	316	*e*PKPbc		PKPbc	04 29 28.3	+1.4
LOHW	Long Hollow	147.08	356	*e*PKP		PKPdf	04 29 27.5	-0.4
HLID	Hailey	147.22	1	*e*PKP		PKPdf	04 29 27.6	-0.6
TPAW	Teton Pass	147.23	357	*e*PKP		PKPdf	04 29 27.3	-0.9
SNOW	Snow King Moun	147.24	356	*e*PKPbc		PKPdf	04 29 29.3	+1.1
REDW	Red Top Meadow	147.35	356	*e*PKP		PKPdf	04 29 28.4	+0.1
OXF	Oxford	147.62	321	*e*PKIKP		PKPdf	04 29 28.2	-0.9
PDAR	Pinedale Array	147.84	354	PKP		PKPdf	04 29 28.2	-0.9
	comp=Z,5.4nm,0.9s,baz=45,slow=2.1,SNR=23							
PDAR				PKPbc		PKPdf	04 29 31.1	+1.9
	comp=Z,6.5nm,0.9s,baz=34,slow=1.6,SNR=30							
KSU1	Kansas State U	147.91	335	*e*PKP		PKPdf	04 29 28.9	-0.5
WVOR	Wild Horse Val	148.05	7	*e*PKIKP		PKPdf	04 29 28.8	-0.7
PHWY	Pilot Hill	148.67	348	*e*PKPbc		PKPdf	04 29 33.3	+2.8
HWUT	Hardware Ranch	149.14	357	*e*PKP		PKPdf	04 29 30.8	-0.6
UALR	University of	149.19	324	*e*PKPbc		PKPdf	04 29 34.7	+3.1
TCUT	Toone Canyon	149.62	357	*e*PKPbc		PKPdf	04 29 36.3	+4.2
BGU	Big Grassy Mou	149.87	359	*e*PKPbc		PKPdf	04 29 36.8	+4.3
ELK	Elko	150.01	3	*e*PKPdf		PKPdf	04 29 32.5	-0.3
ELK				*e*PKPbc		PKPdf	04 29 37.3	+4.6
MIAR	Mount Ida	150.05	326	*e*PKP2		PKPab	04 29 37.0	-6.2
ISCO	Idaho Springs	150.15	348	PKIKP		PKPdf	04 29 36.8	+3.8
DAU	Daniels Canyon	150.31	356	*e*PKIKP		PKPdf	04 29 38.0	+4.8
DUG	Dugway	150.59	359	*e*PKIKP		PKPdf	04 29 38.3	+4.7
MPU	Maple Canyon	150.73	357	*e*PKPbc		PKPdf	04 29 38.5	+4.7
NLU	North Lily Min	150.81	358	*e*PKPbc		PKPdf	04 29 39.1	+5.2
NSHM	Saint Helena R	151.11	15	*e*PKPbc		PKPdf	04 29 40.0	+5.5
TMUT	Trail Mountain	151.42	356	*e*PKPbc		PKPdf	04 29 39.9	+5.0
NVAR	Mina Array Bea	152.03	8	PKP		PKPdf	04 29 36.1	+0.3
	comp=Z,0.5nm,0.9s,baz=90,slow=1.2,SNR=4.6							
NVAR				PKPbc		PKPdf	04 29 42.9	+7.0
	comp=Z,16nm,0.9s,baz=268,slow=3.6,SNR=25							
MNV	Mina	152.05	8	*e*PKIKP		PKPdf	04 29 41.5	+5.6
SDCO	Great Sand Dun	152.09	346	*e*PKPbc		PKPdf	04 29 41.9	+6.0
PV10	Paradox Valley	152.12	352	*e*PKPbc		PKPdf	04 29 42.0	+6.1
MSU	Marysvale	152.25	358	PKIKP		PKPdf	04 29 35.5	-0.6
PV01	Paradox Valley	152.29	352	*e*PKPbc		PKPdf	04 29 42.6	+6.4
WMOK	Wichita Mounta	152.52	333	*e*PKIKP		PKPdf	04 29 42.4	+5.8
DAC	Darwin (Calif)	154.25	8	*e*PKIKP		PKPdf	04 29 46.4	+7.4
NEN	Nelson	155.11	3	PKP		PKPdf	04 29 40.3	+0.2
WUAZ	Wupatki	155.19	356	*e*PKPdf		PKPdf	04 29 39.9	-0.3
MNTX	Cornudas Mount	157.75	341	*e*PKPdf		PKPdf	04 29 43.2	-0.5
MNTX				*e*PKPab		PKPab	04 30 15.0	-0.9
TXAR	Lajitas Array	159.27	335	PKP		PKPdf	04 29 45.2	-0.4
	comp=Z,0.5nm,0.9s,baz=101,slow=6.4,SNR=4.2							
TXAR				PKPab		PKPab	04 30 22.2	-0.3
	comp=Z,3.0nm,0.9s,baz=47,slow=3.0,SNR=12							
TXAR	Lajitas Array	159.27	335	PKP		PKPdf	04 29 45.2	-0.4
TXAR				PKPab		PKPab	04 30 22.2	-0.3

*CSEM **24** 04:17:28.9±0.5,39.14N×28.57W,ML2.0,Error ellipse: s-maj=12.9km s-min=5.0km az=146.0,After PDA*
*PDA **24** 04:17:28.9±0.8,39.14N×28.57W,MD3.3,ML2.0,Error ellipse: s-maj=9.3km s-min=2.6km az=147.0*
SVSA 24 04:17:28.9±0.8,39.14N×28.57W,MD3.3,ML2.0,Error ellipse: s-maj=9.3km s-min=2.6km az=147.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PVIA	Vitoria	0.41	100	*e*S		Sg	04 17 43.5	+1.0
	16nm,0.3s							
STGR	Santa Cruz	0.44	98	*e*S		Sg	04 17 45.0	+1.3
	39nm,0.1s							
STGR	Santa Cruz	0.44	98	*e*S		Sg	04 17 45.0	+1.3
	39nm,0.1s							
PGRA	Graciosa	0.47	104	*e*P		Pg	04 17 37.4	-0.9
PGRA				*e*S		Sg	04 17 44.3	-0.3
	123nm,0.3s							
PGRA	Graciosa	0.47	104	*e*P		Pg	04 17 37.4	-0.9
PGRA				*e*S		Sg	04 17 44.3	-0.3
	123nm,0.3s							
ROSA	Rosais	0.49	149	*e*P		Pg	04 17 38.0	-0.7
ROSA				*e*S		Sg	04 17 44.7	-0.6
PCED	Cedros	0.52	192	*e*P		Pg	04 17 38.5	-0.8
PCED				*e*S		Sg	04 17 45.3	-1.0
	76nm,0.1s							
PCED	Cedros	0.52	192	*e*P		Pg	04 17 38.5	-0.8
PCED				*e*S		Sg	04 17 45.3	-1.0
	76nm,0.1s							
CALA	Caldeira	0.57	191	*e*P		Pg	04 17 39.1	-1.2
CALA				*e*S		Sg	04 17 47.2	-0.7
PTCA	Ponta do Capel	0.58	198	*e*S		Sg	04 17 47.2	-1.2
	42nm,0.3s							
PTCA	Ponta do Capel	0.58	198	*e*S		Sg	04 17 47.2	-1.2
	42nm,0.3s							
HOR	Horta	0.62	185	*e*S		Sg	04 17 47.9	-1.5
PMAN	Manadas	0.63	144	*e*P		Pg	04 17 40.0	-1.5
PMAN				*e*S		Sg	04 17 48.0	-1.9
PICO	Pico	0.65	170	*e*P		Pg	04 17 40.4	-1.5
PICO				*e*S		Sg	04 17 49.0	-1.5
PCND	Candelaria	0.68	173	*e*P		Pg	04 17 41.4	-1.0
PCND				*e*S		Sg	04 17 50.4	-1.0
	22nm,0.2s							
PPNO	Prainha do Nor	0.71	160	*e*P		Pg	04 17 41.3	-1.8
PPNO				*e*S		Sg	04 17 50.7	-1.8
	32nm,0.2s							
PSBA	Serra de Santa	1.04	111	*e*S		Sb	04 17 58.6	-4.9
	20nm,0.3s							

*ATH **24** 04:23:04.3,39.02N×23.35E,h24km,MD3.4/10,ML3.2*
*NEIC **24** 04:23:04.3,39.02N×23.36E,h23km,ML3.2(ATH),Error ATH.*
*CSEM **24** 04:23:04.7±0.1,38.99N×23.35E,h10km,ML3.2,Error ellipse: s-maj=2.2km s-min=1.5km az=105.0*
*THE **24** 04:23:05.5,39.00N×23.26E,h1km,ML3.2*
ISC 24 04:23:04.2±0.6,39.00N±0.02×23.32E±0.05,h11km±5km, n33,σ0°84/42,2C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEO	Neokhori	0.31	346	*i*P		Pb	04 23 11.7	+0.4
NEO				*e*SB		Sb	04 23 16.3	+0.3
XOR	Xorichti	0.37	345	*e*Pg		Pg	04 23 12.8	+0.8
XOR				*e*Sg		Sg	04 23 18.7	+1.6
LKR	Lokris	0.43	215	*i*P		Pb	04 23 13.3	0.0
AGG	Agios Georgios	0.77	272	*e*Pg		Pg	04 23 18.8	-0.9
AGG				*e*Sg		Sg	04 23 30.2	+0.1
PAIG	Paliouri	0.96	17	*e*Pg		Pg	04 23 23.6	+0.1
PAIG				*e*Sg		Sg	04 23 37.9	+1.5
ATH	Athens Observa	1.08	163	*e*PN		Pn	04 23 25.3	+0.1
ATH				*e*SN		Sn	04 23 39.8	-0.3
EVR	Evrytania	1.18	266	*e*PN		Pn	04 23 27.1	+0.5
LIT	Litokhoron	1.27	330	*e*Pg		Pg	04 23 28.0	-1.6
LIT				*e*Sg		Sg	04 23 44.7	-1.9
PLG	Polygyros	1.37	4	*e*PN		Pn	04 23 29.5	+0.1
PLG				*e*SN		Sn	04 23 46.9	-0.7
OUR	Ouranopolis	1.42	21	*e*Pg		Pg	04 23 30.5	-2.2
THE	Thessaloniki	1.65	351	*e*Pb		Pb	04 23 33.3	-0.9
LOS	Limnos	1.65	55	*e*Pb		Pb	04 23 33.3	-0.9
LIA	Limnos Island	1.70	58	*e*PN		Pn	04 23 34.1	+0.1
RLS	Riolos of Patr	1.73	238	*e*PN		Pn	04 23 35.5	+1.0
KZN	Kozani	1.77	318	*e*PN		Pn	04 23 35.8	+0.8
SOH	Sokhos	1.82	1	*e*Pb		Pb	04 23 36.3	-0.7
SOH				*e*Sb		Sb	04 23 59.2	-0.5
GRG	Griva	2.07	340	*e*Pn		Pn	04 23 39.2	-0.3
SERS	Serrai	2.12	6	*e*Pn		Pn	04 23 40.1	0.0
ITM	Ithomi	2.13	211	*e*PB		Pb	04 23 41.8	-0.5
ITM	Ithomi	2.13	211	*e*Pb		Pb	04 23 42.1	-0.2
KNT	Kendrikon	2.18	352	*e*Pn		Pn	04 23 41.6	+0.7
KNT				*e*Sn		Sn	04 24 08.1	-0.1
VLS	Valsamata	2.29	250	*e*PB		Pb	04 23 43.8	-1.4
VLS	Valsamata	2.29	250	*e*Pb		Pb	04 23 44.9	-0.3
VLI	Veliai	2.30	188	*e*PN		Pn	04 23 42.8	+0.1
IGT	Igoumenitsa	2.38	284	*e*Pn		Pn	04 23 46.6	+2.9
NVR	Nevrokopi	2.38	10	*e*PN		Pn	04 23 43.8	0.0
MMB	Musomiste	2.60	7	P		Pg	04 23 56.8	+0.6
APE	Apeiranthos	2.60	137	*e*PN		Pn	04 23 47.4	+0.4
RDO	Rodhopi	2.73	38	*e*PN		Pn	04 23 48.7	-0.2
ALN	Alexandroupoli	2.82	47	*e*Pn		Pn	04 23 50.2	0.0
KKB	Krupnik	2.87	356	P		Pn	04 23 50.5	-0.2
RZN	Rozhen	2.89	21	P		Pn	04 23 51.5	+0.5
VTS	Vitosha	3.58	359	P		Pn	04 24 02.0	+1.0

ISC 24 04:34:14.1±0.6,38.79N±0.04×27.77E±0.06,h6km±6km,n7, σ0°65/12,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKS	Akhisar	0.10	18	PG		Pg	04 34 16.4	+0.1
AKS				SG		Sg	04 34 18.4	+0.6
KDAG	Bornova	0.55	226	*i* P		Pg	04 34 24.6	-0.5
KDAG				*i* S		Sg	04 34 31.5	-1.1
IZM	Izmir	0.56	226	*e*PG		Pg	04 34 25.8	+0.5
MANT	Manisa	0.68	115	*i* P		Pg	04 34 28.1	+0.3
MANT				*i* S		Sg	04 34 36.0	-0.9
BLCB	Balcova	0.70	235	*e*PG		Pg	04 34 28.3	+0.2
AYDN	Tasoluk	1.13	176	*i* P		Pb	04 34 35.7	+0.1
AYDN				*i* S		Sb	04 34 51.6	+1.2
ULDT	Uludag	1.72	37	*i* P		Pn	04 34 44.9	+0.1
ULDT				*i* S		Sn	04 35 06.5	-0.8

IDC 24 05:06:02.7±2.2,22.65S×114.66W,mb3.6/3,mb1 4.0/3, mb1mx3.7/15,mbtmp3.6/3,MS3.7/1,Ms1 3.8/1, ms1mx3.2/25,Error ellipse: s-maj=89.5km s-min=40.7km az=28.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	La Paz	44.19	90	P		P	05 14 14.3	-1.1
	0.3nm,0.4s,baz=269,slow=9.6,SNR=4.3							
LPAZ				LR		LR	05 29 53.7	
	comp=Z,85nm,18.4s,baz=60,slow=32							
NVAR	Mina Array Bea	60.85	357	P		P	05 16 17.8	-1.5
	0.5nm,0.9s,baz=180,slow=6.3,SNR=4.4							
YKA	Yellowknife Ar	84.84	0	P		P	05 18 37.8	-2.2
	0.5nm,0.9s,baz=178,slow=5.7,SNR=11							
ZAL	Zalesovo	145.46	340	PKPbc		PKPbc	05 25 42.5	-0.4
	baz=8.9,slow=2.0							
BVAR	Borovoye Array	149.42	354	PKPbc		PKPdf	05 25 53.7	+3.0
	0.4nm,0.6s,baz=27,slow=3.2,SNR=4.0							
MKAR	Makanchi Array	152.29	334	PKPbc		PKPdf	05 25 59.7	+4.4
	0.6nm,0.8s,baz=45,slow=1.7,SNR=5.3							
MKAR				PKPab		PKPab	05 26 09.4	-3.0
	0.7nm,0.8s,baz=45,slow=2.0,SNR=4.5							

*NEIC **24** 05:19:33.8±1.1,50.32N×18.85E,h5km,MG2.6(WAR), Error ellipse: s-maj=18.5km s-min=8.7km az=3.0*
*PRU **24** 05:19:34.0,50.39N×18.76E*
WAR 24 05:19:32.9,50.37N×18.88E,h1km,MW2.6,Mw2.4, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OJC	Ojcow	0.61	104	*e*PG		Pg	05 19 45.0	0.0
OJC				*e*SG		Sg	05 19 54.0	+0.9
OKC	Ostrava-Krasne	0.71	222	*e*PG		Pg	05 19 46.3	-0.8
OKC				*e*SG		Sg	05 19 56.8	+0.3
	12nm,0.4s							
NIE	Niedzica	1.32	135	*e*PG		Pg	05 19 58.0	-1.4
NIE				*e*SG		Sg	05 20 17.0	0.0
DPC	Dobruska-Polom	1.64	270	*e*PG		Pg	05 20 02.3	-3.3
DPC				*e*SG		Sg	05 20 23.6	-3.9
	11nm,0.5s							
KSP	Ksiaz	1.72	287	*e*PG		Pg	05 20 05.0	-2.2
KSP				*e*SN		Sn	05 20 26.0	-1.0
STHS	Stebnicka Huta	1.80	121	*e*PN		Pn	05 20 06.8	+1.5
STHS				*e*SN		Sn	05 20 33.3	+4.2
STHS				*e*LG			05 20 50.0	
UPC	Upice	1.84	276	*e*PG		Pg	05 20 06.6	-3.1
UPC				*e*SG		Sg	05 20 30.5	-3.7
VYHS	Vyhne	1.87	181	*e*PN		Pn	05 20 05.6	-0.8
CRVS	Cervenica-Dubn	2.23	130	*e*PN		Pn	05 20 15.1	+3.6
KOLS	Kolonicke sedl	2.63	122	*e*SG		Sg	05 21 00.4	-0.1
PRU	Pruhonice	2.81	264	*e*SG		Sg	05 21 02.3	-4.3
KHC	Kasperske Hory	3.65	252	*e*SG		Sg	05 21 28.5	-6.1

*IDC **24** 05:38:20.4±5.7,25.08N×109.72W,mb3.1/1,mb1 3.8/5, mb1mx3.6/20,mbtmp3.4/5,ML3.3/4,MS3.5/1,Ms1 3.5/1, ms1mx2.9/14,Error ellipse: s-maj=75.3km s-min=26.7km az=171.0*
*NEIC **24** 05:38:22.7±6.1,25.16N×109.16W,h10km,MN3.3,Error ellipse: s-maj=80.8km s-min=21.7km az=6.0*
ISC 24 05:38:17.7±2.2,24.8N±0.2×109.3W±0.1,h10km,n13, σ1°33/14,mb2.8/1,MS3.5/1,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LTX	Lajitas	6.71	47	Pn		Pn	05 39 58.4	-0.4
LTX				*e*Pg		Pg	05 40 34.0	+2.3
TXAR	Lajitas Array	6.71	47	Pn		Pn	05 40 03.7	+5.0
	0.2nm,0.3s,baz=227,slow=12,SNR=18							
TXAR				Lg			05 41 56.0	
	2.0nm,0.3s,baz=79,slow=5.7,SNR=8.3							
TXAR	Lajitas Array	6.71	47	Pn		Pn	05 40 03.7	+5.0
TXAR				Lg			05 41 56.0	
M

NOA	**NORSAR Array B**	**18.07**	**167**	LR	LR	05 53 26.2		
	comp=N,31nm,19.2s,baz=280,slow=35							
SFJD	**Kangerlussuaq**	**18.74**	**261**	LR	LR	05 54 47.4		
	comp=N,76nm,19.1s,baz=2.8,slow=38							
FIA0	**FINESS Array S**	**18.84**	**145**	P	**P**	**05 47 13.9**	**+5.9**	
	baz=359,slow=14							
FINES	**FINESS Array B**	**18.84**	**145**	P	**P**	**05 47 13.2**	**+5.1**	
	comp=N,0.1nm,0.3s,baz=333,slow=8.5,SNR=4.6							
FINES				LR	LR	05 54 09.1		
	comp=N,42nm,21.3s,baz=332,slow=36							
FINES	**FINESS Array B**	**18.84**	**145**	P	**P**	**05 47 13.1**	**+5.1**	
HFS	**Hagfors**	**19.09**	**164**	P	**P**	**05 47 16.4**	**+5.3**	
	comp=N,0.1nm,0.3s,baz=18,slow=9.1,SNR=7.7							
HFS				LR	LR	05 53 47.2		
	comp=N,70nm,19.4s,baz=49,slow=34							
RES	**Resolute Bay**	**20.24**	**311**	*e*P	**P**	**05 47 18.4**	**-5.4**	
	comp=N,3.2nm,0.6s							
RES	**Resolute Bay**	**20.24**	**311**	*e*P	**P**	**05 47 18.5**	**-5.3**	
	comp=N,3.2nm,0.6s							
YKA	**Yellowknife Ar**	**34.26**	**313**	P	**P**	**05 49 33.5**	**-0.2**	
	comp=N,0.1nm,0.8s,mb2.8,baz=11,slow=7.9,SNR=4.3							
YKA	**Yellowknife Ar**	**34.26**	**313**	P	**P**	**05 49 33.5**	**-0.2**	
ILAR	**Eielson Array**	**35.52**	**338**	P	**P**	**05 49 45.2**	**+0.7**	
	comp=N,0.5nm,1.0s,mb3.4,baz=8.3,slow=7.4,SNR=5.7							
MKAR	**Makanchi Array**	**42.42**	**89**	P	**P**	**05 50 44.6**	**+2.7**	
	comp=N,0.3nm,0.6s,mb3.1,baz=336,slow=7.5,SNR=5.1							
LAO	**LASA Array**	**48.19**	**299**	P	**P**	**05 51 27.0**	**-1.0**	
SDCO	**Great Sand Dun**	**56.75**	**296**	P	**P**	**05 52 31.3**	**-0.8**	
TXAR	**Lajitas Array**	**64.63**	**292**	P	**P**	**05 53 26.2**	**+0.6**	
	comp=N,0.3nm,0.6s,mb3.5,baz=38,slow=4.6,SNR=5.6							

MAN 24 05:58:59.1, 17.31N×120.61E, h1km, mb4.1, ML2.9, MS2.6, Luzon

*NNC **24** 06:31:14.2±3.2, 41.48N×71.43E, mb3.6, mpv3.6, Error ellipse: s-maj=29.0km s-min=14.5km az=25.0*
ISC 24 06:31:08.9±2.2, 41.1N±0.1×70.8E±0.1, h10km, n14, σ1§16/15, 2C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**2.06**	**354**	P	**Pn**	**06 31 44.3**	**+0.2**
	22nm,0.3s,baz=155,slow=14,SNR=371						
KK31				S	**Sn**	**06 32 10.1**	**+0.1**
	144nm,0.6s,baz=154,slow=28,SNR=22						
AML	**Almayashu**	**2.42**	**63**	P	**Pn**	**06 31 45.9**	**-3.3**
	SNR=58						
EKS2	**Erkin-Say**	**2.74**	**53**	P	**Pn**	**06 31 52.2**	**-1.5**
	SNR=28						
UCH	**Uchtor**	**3.02**	**66**	P	**Pn**	**06 31 56.9**	**-0.7**
	SNR=34						
AAK	**Ala-Archa**	**3.18**	**59**	P	**Pn**	**06 32 00.0**	**+0.1**
	SNR=48						
KBK	**Karagaybulak**	**3.48**	**61**	P	**Pn**	**06 32 05.3**	**+1.0**
	SNR=8.4						
KZA	**Kyzart**	**3.49**	**71**	P	**Pn**	**06 32 05.3**	**+1.0**
	SNR=18						
CHMS	**Chumysh**	**3.52**	**55**	P	**Pn**	**06 32 05.8**	**+0.9**
	SNR=11						
USP	**Ospenovka**	**3.53**	**50**	P	**Pn**	**06 32 06.1**	**+1.2**
	SNR=7.9						
TKM2	**Tokmak 2**	**4.03**	**61**	P	**Pn**	**06 32 15.5**	**+3.5**
	SNR=14						
TKM2	**Tokmak 2**	**4.03**	**61**	⇑Pn	**Pn**	**06 32 11.2**	**-0.8**
	6.9nm,0.5s						
TKM2				⇓Lg		06 33 03.1	
	31nm,0.7s						
ULHL	**Ulahol**	**4.24**	**72**	P	**Pn**	**06 32 20.0**	**+4.9**
	SNR=6.7						
MK31	**Makanchi Array**	**10.07**	**51**	Pn	**P**	**06 33 33.8**	**-2.8**
	0.5nm,0.6s,baz=232,slow=13,SNR=8.0						
MK31				⇑Lg		06 36 11.3	
	1.4nm,0.8s,baz=239,slow=26,SNR=3.8						
AB31	**Akbulak array**	**11.22**	**321**	⇓Pn	**P**	**06 33 52.2**	**-0.1**
	0.3nm,0.5s,baz=129,slow=13,SNR=6.4						

*CSEM **24** 06:34:11.6±0.3, 31.11N×50.20E, h20km, ML3.9/2, Error ellipse: s-maj=7.7km s-min=2.9km az=177.0*
*TEH **24** 06:34:12.0, 31.07N×50.10E, h10km, Mn3.3*
*THR **24** 06:34:14.3±1.3, 31.40N×50.26E, h15km, ML2.9*
ISC 24 06:34:13.0±1.6, 31.3N±0.1×50.14E±0.05, h10km, n14, σ0§88/20, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.39**	**305**	*e*PG	**Pg**	**06 34 39.9**	**-0.9**
SHGR				*e*SG	**Sg**	**06 35 00.4**	**+0.9**
SHGR				AML	AML	06 35 04.8	
	comp=N,261nm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.39**	**305**	*e*Pg	**Pg**	**06 34 39.9**	**-0.9**
	SNR=90						
SHGR				*e*Sg	**Sg**	**06 35 00.4**	**+1.0**
	comp=N,261nm,0.2s,SNR=90						
IPIR	**Pirpir**	**1.51**	**25**	Pn	**Pn**	**06 34 38.3**	**-2.0**
IKLH	**Kalahroud**	**2.35**	**31**	Pn	**Pn**	**06 34 52.1**	**-0.1**
IZEF	**Zefreh**	**2.44**	**49**	Pn	**Pn**	**06 34 53.8**	**+0.2**
NASN	**Na'in**	**2.71**	**56**	*e*PN	**Pn**	**06 34 58.5**	**+1.2**
NASN				*e*SG	**Sg**	**06 35 35.0**	**-8.3**
NASN				AML	AML	06 35 49.3	
	comp=N,30nm,0.8s						
NASN	**Na'in**	**2.71**	**56**	*e*Pn	**Pn**	**06 34 58.5**	**+1.1**
	SNR=52						
NASN				*e*Sg	**Sg**	**06 35 35.0**	**-8.2**
	comp=N,30nm,0.8s,SNR=90						
ASAO	**Ashtian**	**3.23**	**358**	*e*PN	**Pn**	**06 35 05.9**	**+1.1**
ASAO				AML	AML	06 36 10.7	
	comp=N,28nm,0.7s						
IKOM	**Komasi**	**3.62**	**323**	Pn	**Pn**	**06 35 09.6**	**-0.7**
IVRN	**Varamin**	**3.91**	**19**	Pn	**Pn**	**06 35 14.8**	**+0.3**
IVRN				Sn	**Sn**	**06 36 01.3**	**+0.3**
IGHG	**Ghaleghazi**	**4.26**	**316**	Pn	**Pn**	**06 35 19.6**	**+0.2**
SNGE	**Sanandaj**	**4.44**	**329**	*e*PN	**Pn**	**06 35 22.9**	**+0.8**
IDMV	**Damavand**	**4.54**	**20**	Pn	**Pn**	**06 35 23.9**	**+0.5**
IDMV				Sn	**Sn**	**06 36 16.1**	**-0.9**
IDHR	**Dehrash**	**4.62**	**318**	Pn	**Pn**	**06 35 23.4**	**-1.2**

*NNC **24** 07:03:33.3±1.3, 43.59N×75.74E, mb3.0, mpv2.5, Error ellipse: s-maj=14.7km s-min=7.3km az=105.0*
*KNET **24** 07:03:35.0, 43.51N×75.39E, h7km, ml1.5*
ISC 24 07:03:34.1±0.7, 43.58N±0.05×75.48E±0.06, h7km, n13, σ1§11/21, 6C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.66**	**173**	P	**Pg**	**07 03 46.9**	**-0.5**
	11nm,0.1s,SNR=49						
TKM2				⇓S	**Sg**	**07 03 56.2**	**-0.2**
	40nm,0.1s						
TKM2	**Tokmak 2**	**0.66**	**173**	⇑P	**Pg**	**07 03 46.8**	**-0.7**
	3.4nm,0.3s						
TKM2				⇑S	**Sg**	**07 03 56.0**	**-0.3**
	4.6nm,0.2s						
USP	**Ospenovka**	**0.78**	**247**	⇓P	**Pb**	**07 03 48.2**	**-1.5**
	4.3nm,0.1s,SNR=16						
USP				⇓S	**Sb**	**07 03 58.6**	**-1.6**
	20nm,0.2s						
CHMS	**Chumysh**	**0.79**	**223**	⇓P	**Pb**	**07 03 48.5**	**-1.2**
	4.8nm,0.1s,SNR=9.4						
CHMS				⇓S	**Sb**	**07 03 59.0**	**-1.4**
	8.7nm,0.1s						
KBK	**Karagaybulak**	**1.00**	**203**	⇓P	**Pb**	**07 03 53.2**	**-0.2**
	4.4nm,0.1s,SNR=11						
AAK	**Ala-Archa**	**1.19**	**218**	⇓P	**Pb**	**07 03 56.3**	**-0.4**
	4.6nm,0.2s,SNR=9.5						
AAK				⇑S	**Sb**	**07 04 12.3**	**+0.2**
	10.0nm,0.3s						
ULHL	**Ulahol**	**1.45**	**157**	⇓P	**Pn**	**07 04 01.5**	**+0.7**
	3.6nm,0.1s,SNR=16						
KZA	**Kyzart**	**1.51**	**187**	⇓P	**Pn**	**07 04 02.7**	**+0.9**
	2.8nm,0.1s,SNR=7.0						
UCH	**Uchtor**	**1.53**	**208**	⇓P	**Pn**	**07 04 02.5**	**+0.5**
	1.9nm,0.1s,SNR=13						
EKS2	**Erkin-Say**	**1.55**	**234**	⇓P	**Pn**	**07 04 02.7**	**+0.4**
	4.5nm,0.1s,SNR=42						
EKS2				⇑S	**Sb**	**07 04 24.0**	**+1.5**
	37nm,0.3s						
AML	**Almayashu**	**1.96**	**223**	⇓P	**Pn**	**07 04 10.3**	**+2.2**
	6.8nm,0.2s,SNR=8.8						
KK31	**Karatay Array**	**3.66**	**264**	⇑Pn	**Pn**	**07 04 34.9**	**+2.5**
	0.4nm,0.3s,baz=70,slow=14,SNR=6.0						
KK31				⇑Sn	**Sn**	**07 05 26.5**	**+10**
	0.8nm,0.3s,baz=76,slow=27,SNR=4.2						
MK31	**Makanchi Array**	**5.79**	**54**	Pn	**Pn**	**07 05 02.5**	**-0.1**
	0.2nm,0.3s,baz=230,slow=13,SNR=25						
MK31				⇓Sn	**Sn**	**07 06 09.1**	**-0.9**
	0.1nm,0.3s,baz=233,slow=32,SNR=4.3						

*ATH **24** 07:07:56.2, 39.02N×23.32E, h23km±1km, MD3.3/9, ML3.2*
*NEIC **24** 07:07:56.2, 39.02N×23.32E, h23km, ML3.2(ATH), After ATH.*
*CSEM **24** 07:07:56.4±0.1, 38.97N×23.30E, h8km, ML3.1, Error ellipse: s-maj=2.4km s-min=1.6km az=75.0*
*THE **24** 07:07:57.0, 39.01N×23.27E, h8km, ML3.1*
ISC 24 07:07:55.7±0.7, 39.00N±0.03×23.32E±0.06, h8km±6km, n23, σ0§73/28, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.32**	**347**	⇑*i*PB	**Pb**	**07 08 03.3**	**+0.1**
NEO				*e*SB	**Sb**	**07 08 07.9**	**-0.3**
XOR	**Xorichti**	**0.38**	**345**	*e*Pg	**Pg**	**07 08 04.4**	**+1.0**
XOR				*e*Sg	**Sg**	**07 08 09.4**	**+0.8**
LKR	**Lokris**	**0.42**	**216**	*e*PB	**Pb**	**07 08 05.0**	**+0.1**
AGG	**Agios Georgios**	**0.77**	**272**	*e*Pg	**Pg**	**07 08 10.6**	**-0.5**
AGG				*e*Sg	**Sg**	**07 08 21.4**	**+0.1**
MPAR	**Parnis Oros**	**0.90**	**159**	*e*PN	**Pn**	**07 08 14.0**	**-0.5**
PAIG	**Palioui**	**0.97**	**17**	*e*Pg	**Pg**	**07 08 15.4**	**+0.2**
PAIG				*e*Sg	**Sg**	**07 08 29.4**	**+1.3**
MGER	**Gerania Oros**	**1.01**	**183**	*e*PN	**Pn**	**07 08 15.5**	**-0.5**
PTL	**Penteli**	**1.04**	**155**	*e*PN	**Pn**	**07 08 16.3**	**-0.1**
ATH	**Athens Observa**	**1.07**	**163**	*e*PN	**Pn**	**07 08 17.3**	**+0.5**
EVR	**Evrytania**	**1.18**	**267**	*e*PN	**Pn**	**07 08 18.9**	**+0.5**
NAIG	**Nisos Aigina**	**1.24**	**174**	*e*PN	**Pn**	**07 08 20.5**	**+1.2**
LIT	**Litokhoron**	**1.28**	**330**	*e*Pg	**Pg**	**07 08 19.7**	**-1.5**
PLG	**Polygyros**	**1.38**	**4**	*e*PN	**Pn**	**07 08 21.1**	**-0.2**
OUR	**Ouranopolis**	**1.43**	**21**	*e*Pg	**Pg**	**07 08 22.2**	**-2.1**
THE	**Thessaloniki**	**1.66**	**351**	*e*Pb	**Pb**	**07 08 25.1**	**-1.0**
KZN	**Kozani**	**1.77**	**318**	*e*PN	**Pn**	**07 08 27.6**	**+0.7**
SOH	**Sokhos**	**1.82**	**1**	*e*Pb	**Pb**	**07 08 28.1**	**-0.9**
SOH	**Sokhos**	**1.82**	**1**	*e*Pb	**Pb**	**07 08 28.0**	**-0.9**
GRG	**Griva**	**2.08**	**341**	*e*Pn	**Pn**	**07 08 31.1**	**-0.2**
SRS	**Serrai**	**2.13**	**6**	*e*Pn	**Pn**	**07 08 31.8**	**-0.2**
KNT	**Kendrikon**	**2.19**	**352**	*e*Pn	**Pn**	**07 08 33.3**	**+0.4**
KNT				*e*Sn	**Sn**	**07 09 00.6**	**+0.2**
FNA	**Florina**	**2.33**	**321**	*e*Pn	**Pn**	**07 08 35.0**	**+0.2**
APE	**Apeiranthos**	**2.60**	**137**	*e*PN	**Pn**	**07 08 39.0**	**+0.3**

*NEIC **24** 07:11:43.3, 17.07N×95.11W, h111km, MD3.8(MEX), After MEX.*
MEX 24 07:11:43.4±0.9, 17.07N×95.11W, h109km±15km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**1.16**	**34**	*e*P	P	07 12 04.8	-1.8
TUIG				*i*S	S	07 12 21.9	-2.3
OXX	**Oaxaca**	**1.55**	**271**	*i*P	P	07 12 10.0	-1.2
OXX				*i*S	S	07 12 30.0	-2.0
VHO	**Vista Hermosa**	**1.56**	**270**	*i*P	P	07 12 10.1	-1.2
VHO				*i*S	S	07 12 31.0	-1.6
HUIG	**Huatulco**	**1.61**	**217**	*i*P	P	07 12 09.3	-1.8
HUIG				*i*S	S	07 12 31.3	-2.1
CCIG	**Comitan**	**2.95**	**105**	*i*P	P	07 12 29.1	-0.5
CCIG				*i*S	S	07 13 02.9	-1.7

*ATH **24** 07:14:16.0, 38.99N×23.32E, h25km±1km, MD3.0/8, ML3.0*
*THE **24** 07:14:16.7, 38.96N×23.31E, h6km, ML2.7*
*NEIC **24** 07:14:16.0, 38.99N×23.32E, h24km, ML3.0(ATH), After ATH.*
*CSEM **24** 07:14:16.2±0.2, 38.95N×23.34E, h12km±2km, ML2.7, Error ellipse: s-maj=4.6km s-min=2.5km az=80.0*
ISC 24 07:14:15.4±0.8, 38.96N±0.03×23.35E±0.07, h7km±8km, n17, σ0§71/22, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.36**	**344**	*e*PB	**Pb**	**07 14 23.4**	**-0.3**
NEO				*e*SB	**Sb**	**07 14 29.0**	**-0.3**
LKR	**Lokris**	**0.41**	**222**	⇑*i*PB	**Pb**	**07 14 25.0**	**+0.5**
XOR	**Xorichti**	**0.43**	**343**	*e*Pg	**Pg**	**07 14 24.5**	**+0.5**
XOR				*e*Sg	**Sg**	**07 14 30.4**	**+0.7**
AGG	**Agios Georgios**	**0.80**	**275**	*e*Pg	**Pg**	**07 14 30.9**	**-0.4**
AGG				*e*Sg	**Sg**	**07 14 42.2**	**+0.2**
MPAR	**Parnis Oros**	**0.86**	**159**	*e*PN	**Pn**	**07 14 33.3**	**-0.4**
MGER	**Gerania Oros**	**0.97**	**184**	*e*PN	**Pn**	**07 14 36.0**	**+0.7**
PTL	**Penteli**	**0.99**	**156**	*e*PN	**Pn**	**07 14 35.5**	**-0.1**
PAIG	**Palioui**	**1.00**	**15**	*e*Pg	**Pg**	**07 14 35.5**	**+0.1**
PAIG				*e*Sg	**Sg**	**07 14 50.2**	**+1.4**
PAIG	**Palioui**	**1.00**	**15**	*e*Pg	**Pg**	**07 14 35.5**	**+0.1**
PAIG				*e*Sg	**Sg**	**07 14 50.2**	**+1.4**
ATH	**Athens Observa**	**1.02**	**164**	*e*PN	**Pn**	**07 14 36.0**	**-0.1**
NAIG	**Nisos Aigina**	**1.20**	**175**	*e*PN	**Pn**	**07 14 39.0**	**+0.4**
LIT	**Litokhoron**	**1.32**	**330**	*e*Pg	**Pg**	**07 14 40.5**	**-1.3**
PLG	**Polygyros**	**1.42**	**3**	*e*PN	**Pn**	**07 14 41.5**	**-0.2**
OUR	**Ouranopolis**	**1.46**	**19**	*e*Pg	**Pg**	**07 14 42.3**	**-2.3**
GRG	**Griva**	**2.13**	**340**	*e*Pn	**Pn**	**07 14 51.6**	**-0.2**
SRS	**Serrai**	**2.17**	**5**	*e*Pn	**Pn**	**07 14 52.5**	**+0.1**
KNT	**Kendrikon**	**2.23**	**351**	*e*Pn	**Pn**	**07 14 53.6**	**+0.3**

*ATH **24** 07:16:02.4, 39.00N×23.27E, h23km±2km, MD3.2/9, ML3.1*
*NEIC **24** 07:16:02.4, 39.00N×23.27E, h23km, ML3.1(ATH), After ATH.*
*CSEM **24** 07:16:02.8±0.1, 38.97N×23.29E, h8km, ML3.0, Error ellipse: s-maj=2.6km s-min=1.5km az=92.0*
*THE **24** 07:16:03.3, 39.01N×23.27E, h8km, ML3.0*
ISC 24 07:16:02.0±0.7, 39.00N±0.02×23.30E±0.05, h10km±5km, n22, σ0§66/31, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.32**	**349**	⇑*i*PB	**Pb**	**07 16 09.4**	**+0.1**
NEO				*e*SB	**Sb**	**07 16 14.6**	**+0.4**
XOR	**Xorichti**	**0.38**	**347**	*e*Pg	**Pg**	**07 16 10.4**	**+0.7**
XOR				*e*Sg	**Sg**	**07 16 15.7**	**+0.8**
LKR	**Lokris**	**0.42**	**214**	*e*PB	**Pb**	**07 16 11.0**	**0.0**
LKR				*e*SB	**Sb**	**07 16 16.6**	**-0.5**
AGG	**Agios Georgios**	**0.76**	**272**	*e*Pg	**Pg**	**07 16 16.5**	**-0.7**
AGG				*e*Sg	**Sg**	**07 16 27.7**	**+0.4**
MPAR	**Parnis Oros**	**0.91**	**158**	*e*PB	**Pb**	**07 16 19.3**	**-0.2**
PAIG	**Palioui**	**0.98**	**17**	*e*Pg	**Pg**	**07 16 21.4**	**-0.2**
PAIG				*e*Sg	**Sg**	**07 16 35.8**	**+1.2**
MGER	**Gerania Oros**	**1.01**	**182**	*e*PN	**Pn**	**07 16 22.5**	**+0.4**
PTL	**Penteli**	**1.04**	**155**	*e*PN	**Pn**	**07 16 22.8**	**+0.1**
ATH	**Athens Observa**	**1.07**	**162**	*e*PN	**Pn**	**07 16 23.3**	**+0.2**
EVR	**Evrytania**	**1.17**	**267**	*e*PN	**Pn**	**07 16 24.3**	**-0.1**
KVR	**Kavouri**	**1.22**	**162**	*e*PN	**Pn**	**07 16 25.5**	**+0.3**
NAIG	**Nisos Aigina**	**1.24**	**173**	*e*PN	**Pn**	**07 16 26.3**	**+0.8**
LIT	**Litokhoron**	**1.27**	**331**	*e*Pg	**Pg**	**07 16 25.8**	**-1.6**
LIT				*e*Sg	**Sg**	**07 16 44.6**	**+0.3**
PLG	**Polygyros**	**1.38**	**5**	*e*PN	**Pn**	**07 16 27.4**	**-0.1**
OUR	**Ouranopolis**	**1.44**	**21**	*e*Pg	**Pg**	**07 16 28.4**	**-2.4**
LOS	**Limnos**	**1.67**	**55**	*e*Pb	**Pb**	**07 16 32.3**	**-0.1**
SOH	**Sokhos**	**1.82**	**1**	*e*Pb	**Pb**	**07 16 34.5**	**-0.6**
SOH				*e*Sb	**Sb**	**07 16 57.0**	**-0.9**
SOH	**Sokhos**	**1.82**	**1**	*e*Pb	**Pb**	**07 16 34.5**	**-0.6**
SOH				*e*Sb	**Sb**	**07 16 57.0**	**-1.0**
GRG	**Griva**	**2.08**	**341**	*e*Pn	**Pn**	**07 16 37.4**	**0.0**
SRS	**Serrai**	**2.13**	**6**	*e*Pn	**Pn**	**07 16 38.4**	**+0.2**
KNT	**Kendrikon**	**2.19**	**352**	*e*Pn	**Pn**	**07 16 39.3**	**+0.3**
KNT				*e*Sn	**Sn**	**07 17 06.4**	**0.0**
FNA	**Florina**	**2.32**	**321**	*e*Pn	**Pn**	**07 16 41.4**	**+0.5**

CASC 24 07:18:18.2±2.8, 13.86N×91.49W, h35km±999km, MD3.7, ML4.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**1.00**	**58**	*e*P	P	07 18 37.0	+1.1
PCG				*e*S	S	07 18 51.4	+2.3
IXG	**Ixpaco**	**1.05**	**73**	*e*P	P	07 18 36.0	-0.6
IXG				*e*S	S	07 18 50.6	+0.4
IXG				AML	AML	07 18 52.8	
	comp=E,4μm,0.4s						
NBG	**Las Nubes**	**1.32**	**57**	*e*P	P	07 18 42.1	+1.6
RTR	**El Retiro**	**1.79**	**89**	*e*P	P	07 18 56.3	+9.1
RTR				*e*S	S	07 19 18.7	+10
SBLS	**San Blas**	**1.81**	**91**	*e*P	P	07 18 56.4	+8.9
SBLS				*e*S	S	07 19 19.4	+10
SNJE	**San Jose**	**1.83**	**90**	*e*P	P	07 18 56.8	+9.0
SNJE				*e*S	S	07 19 19.5	+10
BOQS	**Boqueron**	**2.15**	**93**	*e*P	P	07 19 01.8	+9.5
BOQS				*e*S	S	07 19 28.2	+10
LFRS	**El Faro**	**2.37**	**96**	*e*P	P	07 19 04.4	+8.9
LFRS				*e*S	S	07 19 33.2	+10
LCBS	**La Ceiba**	**2.44**	**95**	*e*P	P	07 19 06.0	+9.4
LCBS				*e*S	S	07 19 34.1	+8.5
SNVI	**San Vicente**	**2.58**	**95**	*e*P	P	07 19 09.3	+11
SNVI				*e*S	S	07 19 38.5	+9.4

*IDC **24** 07:42:36.5±0.7, 60.45N×44.58W, mb3.8/16, mb1 4.0/19, mb1mx4.0/26, mbtmp3.9/19, ML3.4/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/26, Error ellipse: s-maj=22.6km s-min=11.8km az=173.0*
*NEIC **24** 07:42:37.8±0.3, 60.46N×44.64W, h10km, mb4.1/6, ML3.9(OTT), Error ellipse: s-maj=9.2km s-min=4.4km az=192.0*
*OTT **24** 07:42:42.0±0.4, 60.56N×44.91W, h18km, ML3.9/9, South Coast of Greenland 1031km northeast from Nutak, NI*
ISC 24 07:42:35.9±0.3, 60.48N±0.05×44.60W±0.06, h10km, n65, σ1§12/81, mb3.9/23, MS3.4/3, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**7.06**	**340**	P	**Pn**	**07 44 19.5**	**-2.4**
	2.5nm,0.3s,baz=121,slow=11,SNR=12						
SFJD				Sn	**Sn**	**07 45 36.4**	**-6.6**
	12nm,0.3s,baz=57,slow=6.3,SNR=6.1						
SFJD				Lg		07 46 09.2	
	16nm,0.3s,baz=210,slow=22,SNR=16						
SFJD				LR	LR	07 47 15.9	
	comp=Z,164nm,21.2s,baz=124,slow=39						
SFJD	**Kangerlussuaq**	**7.06**	**340**	PN	**Pn**	**07 44 20.7**	**-1.2**
SFJD				SN	**Sn**	**07 45 36.2**	**-6.9**
SFJD				SN	**Sn**	**07 45 36.5**	**-6.6**
SFJD				LG		07 46 10.3	
SFJD				Trac		07 46 14.1	
	comp=Z,16nm,0.2s						
SFJD	**Kangerlussuaq**	**7.06**	**340**	*i* P	**Pn**	**07 44 19.8**	**-2.1**
SFJD				*i* S	**Sn**	**07 45 35.8**	**-7.3**
BORG	**Borgarnes**	**11.50**	**58**	Pn	**P**	**07 45 23.0**	**-0.1**
	1.1nm,0.3s,baz=315,slow=1.4,SNR=4.1						
KUQ	**Kuujjuuaa**	**12.38**	**269**	PN	**P**	**07 45 33.4**	**-1.5**
KUQ				SN	**S**	**07 47 41.2**	**-13**
KUQ				Trac		07 48 07.4	
	comp=Z,2.7nm,0.3s						
SUMG	**Summit**	**12.38**	**9**	*e*Pn	**P**	**07 45 29.6**	**-5.4**
SUMG				*e*Sn	S	07 47 34.7	-19
SCHQ	**Schefferville**	**13.14**	**254**	Pn	**P**	**07 45 43.5**	**-1.6**
	0.7nm,0.3s,baz=51,slow=7.8,SNR=14						
SCHQ				Sn	**S**	**07 48 02.6**	**-10**
	0.7nm,0.3s,baz=90,slow=20,SNR=5.6						
SCHQ	**Schefferville**	**13.14**	**254**	PN	**P**	**07 45 43.4**	**-1.7**
SCHQ				SN	**S**	**07 48 02.6**	**-10**
SCHQ				Trac		07 48 08.9	
	comp=Z,1.9nm,0.3s						
SCHQ	**Schefferville**	**13.14**	**254**	Pn	**P**	**07 45 43.5**	**-1.6**
SCHQ				Sn	**S**	**07 48 02.6**	**-10**
DRLN	**Deer Lake**	**13.44**	**219**	PN	**P**	**07 45 50.4**	**+1.2**
DRLN				SN	**S**	**07 48 10.6**	**-9.0**
DRLN				Trac		07 48 35.0	
	comp=Z,1.9nm,0.5s						
SCO	**Scoresbysund**	**13.63**	**33**	*i* P	**P**	**07 45 52.2**	**+0.8**
	1.7nm,1.0s						
SCO				*e*S	**S**	**07 48 44.8**	**+21**
SJNN	**Saint John's**	**13.74**	**204**	PN	**P**	**07 45 53.7**	**+0.9**
SJNN				SN	**S**	**07 48 16.1**	**-10**
SJNN				Trac		07 48 21.6	
	comp=Z,4.9nm,0.3s						
NATG	**Natashquan Que**	**14.48**	**233**	PN	**P**	**07 45 59.9**	**-2.7**
NATG				SN	**S**	**07 48 33.9**	**-10**
SMQ	**Clarke City**	**16.14**	**240**	PN	**P**	**07 46 25.0**	**+0.8**
SMQ				SN	**S**	**07 49 13.0**	**-10**
SMQ				Trac		07 49 28.1	
	comp=Z,0.7nm,0.2s						
MNQ	**Manicouagan**	**16.83**	**245**	PN	**P**	**07 46 35.0**	**+2.1**
MNQ				SN	**S**	**07 49 28.2**	**-11**
MNQ				Trac		07 49 57.0	
	comp=Z,0.7nm,0.2s						
YOSQ	**Ashton Mining**	**16.87**	**255**	PN	**P**	**07 46 31.2**	**-2.2**
YOSQ				SN	**S**	**07 49 27.7**	**-12**
YOSQ				Trac		07 49 33.0	
	comp=Z,0.8nm,0.2s						
ICQ	**Pointe Anglais**	**16.91**	**240**	PN	**P**	**07 46 34.6**	**+0.6**
ICQ				SN	**S**	**07 49 29.4**	**-12**
ICQ				Trac		07 51 01.6	
	comp=Z,1.9nm,0.5s						
GSQ	**Grosses Roches**	**17.31**	**238**	PN	**P**	**07 46 40.5**	**+1.6**
GSQ

1.2nm,0.7s,mb4.0,baz=57,slow=6.3,SNR=19
BRTR Keskin Array B 50.89 77 P **P 07 51 39.1 +0.4**
1.1nm,0.7s,mb3.9,baz=330,slow=3.2,SNR=4.6
BVAR Borovoye Array 55.53 42 P **P 07 52 13.3 +0.3**
0.7nm,0.5s,mb4.0,baz=314,slow=6.6,SNR=6.6
DBIC Dimbokro 61.41 134 P **P 07 52 53.2 -1.4**
2.3nm,0.8s,mb4.3,baz=8.1,slow=7.1,SNR=3.7
DBIC LR LR 08 15 56.7
comp=Z,39nm,20.4s,MS3.5,baz=354,slow=33
MKAR Makanchi Array 64.73 37 P **P 07 53 15.6 -0.3**
1.5nm,0.5s,mb4.3,baz=338,slow=5.6,SNR=16
SONM Songino Array 69.50 20 P **P 07 53 48.6 +2.6**
0.6nm,0.7s,mb3.6,baz=341,slow=7.5,SNR=3.7
BDFB Brasilia 75.91 183 LR LR 08 26 46.7
comp=Z,37nm,19.1s,MS3.7,baz=114,slow=35

IDC ***24*** *07:50:12.7±4.7, 6.13S×147.98E, h22km±28km, mb3.7/5, mb1 4.1/8, mb1mx4.0/14, mbtmp4.0/8, ML4.1/3, MS3.8/5, Ms1 3.8/5, ms1mx3.5/18, Error ellipse: s-maj=39.2km s-min=18.5km az=86.0*

NEIC ***24*** *07:50:15.6±1.9, 6.19S×147.89E, h44km±17km, mb4.8/6, Error ellipse: s-maj=17.5km s-min=13.7km az=107.0*

ISC 24 07:50:14.3±2.8, 6.2S±0.1×147.8E±0.2, h47km±26km, n26, σ0s76/21, mb4.3/10, MS3.8/3, 2C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.22**	**192**	Pn		**P**		**07 51 04.1**	**+0.4**
	34nm,0.3s,baz=11,slow=5.8,SNR=72								
PMG				Sn		**S**		**07 51 40.5**	**-0.7**
	36nm,0.3s,baz=193,slow=15,SNR=8.4								
PMG	**Port Moresby**	**3.22**	**192**	Pn		**P**		**07 51 04.1**	**+0.4**
PMG				Sn		**S**		**07 51 40.5**	**-0.7**
HNR	**Honiara**	**12.41**	**106**	LR		LR		07 57 20.4	
	comp=Z,291nm,20.0s,baz=301,slow=35								
CTA	**Charters Tower**	**13.86**	**186**	Pn		**P**		**07 53 30.9**	**+0.9**
	0.3nm,0.3s,baz=356,slow=13,SNR=2.4								
CTA				LR		LR		07 58 57.4	
	comp=Z,309nm,19.1s,baz=38,slow=38								
KAKA	**Kakadu**	**16.48**	**246**	⇑*iP*		Px		07 54 27.4	
	13nm,0.4s								
WRAB	**Tennant Creek**	**18.90**	**223**	*eP*		**P**		**07 54 32.5**	**-1.2**
	30nm,0.7s								
WB2	**Warramunga Arr**	**18.90**	**223**	*eP*		**P**		**07 54 32.9**	**-0.8**
WRA	**Warramunga Arr**	**18.91**	**223**	P		**P**		**07 54 33.0**	**-0.8**
	2.7nm,0.3s,baz=49,slow=11,SNR=83								
WRA				ScP				08 02 32.5	
	0.1nm,0.3s,baz=44,slow=2.4,SNR=6.4								
ASPA	**Alice Springs**	**21.91**	**216**	⇑*iP*		**P**		**07 55 06.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.66**	**239**	⇓*iP*		**P**		**07 55 33.7**	**+1.6**
	92nm,0.7s,mb5.4								
STKA	**Stephens Creek**	**26.17**	**192**	*eP*		**P**		**07 55 46.1**	**-0.2**
	24nm,0.9s,mb4.7								
STKA	**Stephens Creek**	**26.17**	**192**	P		**P**		**07 55 46.0**	**-0.3**
	35nm,0.9s,mb4.9,baz=2.3,slow=8.4,SNR=23								
STKA				LR		LR		08 06 58.6	
	comp=Z,280nm,19.0s,MS3.8,baz=22,slow=38								
MBWA	**Marble Bar**	**30.99**	**239**	*eP*		**P**		**07 56 30.0**	**+0.4**
	15nm,0.8s,mb4.9								
KLBR	**Kellerberrin**	**37.78**	**224**	*eP*		**P**		**07 57 28.0**	**+0.2**
	31nm,0.7s,mb5.2								
JOW	**Kunigami**	**37.94**	**331**	LR		LR		08 11 06.6	
	comp=Z,106nm,18.8s,MS3.7,baz=291,slow=33								
AFI	**Afiamalu**	**40.44**	**104**	LR		LR		08 11 50.7	
	comp=Z,161nm,18.5s,MS3.9,baz=288,slow=32								
ULN	**Ulaanbaatar**	**64.71**	**331**	*eP*		**P**		**08 00 50.1**	**+0.3**
	3.6nm,1.1s,mb4.3								
SONM	**Songino Array**	**65.01**	**331**	P		**P**		**08 00 52.2**	**+0.5**
	0.9nm,0.8s,mb3.9,baz=139,slow=5.5,SNR=6.7								
VNDA	**Vanda**		**71.63**	**177**	P	**P**		**08 01 33.0**	**+0.6**
	1.3nm,0.9s,mb3.9,baz=311,slow=8.5,SNR=5.8								
VNDA	**Vanda**		**71.63**	**177**	P	**P**		**08 01 33.0**	**+0.6**
MKAR	**Makanchi Array**	**78.20**	**320**	P		**P**		**08 02 10.4**	**-0.2**
	0.6nm,0.6s,mb3.7,baz=94,slow=7.3,SNR=7.6								
ILAR	**Eielson Array**	**85.37**	**23**	P		**P**		**08 02 46.2**	**-1.2**
	0.3nm,0.7s,mb3.5,baz=248,slow=4.8,SNR=5.4								
BVAR	**Borovoye Array**	**87.44**	**324**	P		**P**		**08 02 57.2**	**-0.7**
	0.6nm,0.6s,mb4.0,baz=90,slow=5.9,SNR=4.2								
LPAZ	**La Paz**		**137.97**	**123**	PKP	PKPdf		08 09 36.7	+1.9
	1.6nm,0.8s,baz=228,slow=2.5,SNR=4.1								
DBIC	**Dimbokro**		**152.86**	**272**	PKPbc	PKPdf		08 10 10.2	+10
	2.2nm,0.7s,baz=57,slow=4.8,SNR=4.0								
DBIC				PKPab		PKPab		08 10 21.6	+0.9
	1.0nm,0.4s,baz=78,slow=9.2,SNR=4.5								
BDFB	**Brasilia**		**153.19**	**144**	PKPbc	PKPdf		08 10 10.1	+10
	4.2nm,0.7s,baz=181,slow=3.6,SNR=6.6								
BDFB				PKPab		PKPab		08 10 21.8	-0.1
	4.6nm,0.5s,baz=231,slow=3.7,SNR=7.7								

NEIC ***24*** *08:01:41.6, 18.51N×68.97W, h139km, MD4.0(RSPR), After RSPR.*

RSPR 24 08:01:41.6, 18.51N×68.97W, h139km±4km, MD4.0/13, MD4.0/13, 14C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.82**	**100**	⇑*eP*		P		08 02 15.4	+1.2
LSP				*eS*		S		08 02 38.3	-1.0
CRPR	**Cabo Rojo, PR**	**1.84**	**105**	⇓*eP*		P		08 02 13.4	-1.1
CRPR				*eS*		S		08 02 40.0	+0.3
MGP	**Maguayo**	**1.85**	**105**	⇑*eP*		P		08 02 13.9	-0.8
MGP				*eS*		S		08 02 40.1	+0.1
LRS	**Lares**	**2.03**	**96**	⇑*eP*		P		08 02 16.5	-0.2
LRS				*eS*		S		08 02 43.5	-0.2
AOPR	**Arecibo Observ**	**2.11**	**94**	⇑*eP*		P		08 02 17.6	-0.3
AOPR				*eS*		S		08 02 45.6	0.0
CELP	**Cerrillos**	**2.31**	**100**	⇑*eP*		P		08 02 20.0	-0.4
CELP				*eS*		S		08 02 49.5	-0.5
ICM	**Isla Caja Muer**	**2.41**	**104**	⇑*eP*		P		08 02 20.5	-1.2
ICM				*eS*		S		08 02 51.8	-0.3
SJG	**San Juan**	**2.71**	**98**	⇑*eP*		P		08 02 24.9	-0.6
SJG				*eS*		S		08 02 58.6	-0.4
SJG	**San Juan**	**2.71**	**98**	⇑*eP*		P		08 02 24.8	-0.7
SJG				*eS*		S		08 02 58.9	0.0
CPD	**Cerro la Pandu**	**2.94**	**99**	⇑*eP*		P		08 02 28.4	-0.2
CPD				*eS*		S		08 03 04.3	0.0
CBYP	**Canovanas**	**2.96**	**94**	⇑*eP*		P		08 02 27.9	-1.0
CBYP				*eS*		S		08 03 03.8	-1.1
HUMP	**Col San Antoni**	**2.98**	**96**	⇑*eP*		P		08 02 28.8	-0.4
HUMP				*eS*		S		08 03 04.9	-0.5
MTP	**Monte Pirata**	**3.27**	**97**	⇑*eP*		P		08 02 32.7	-0.1
MTP				*eS*		S		08 03 12.2	+0.3
STVI	**Saint Thomas**	**3.81**	**92**	⇑*eP*		P		08 02 39.7	-0.2
STVI				*eS*		S		08 03 22.9	-1.7
TBVI	**Tortola**	**4.14**	**91**	⇑*eP*		P		08 02 44.4	0.0
TBVI				*eS*		S		08 03 30.0	-2.5

NIED ***24*** *08:09:00, 44.60N×149.30E, h92km, Mw4.3 Best double couple: M₀2.89×10¹⁵ NP1:φs227°, δ68°, λ-33°. NP2: φs331°, δ60°, λ-154°.*

SKHL ***24*** *08:09:45.6±2.6, 45.02N×149.68E, h98km±19km, mb5.3/6, msh6.1/2*

BJI ***24*** *08:09:47.3, 45.04N×149.44E, h111km, mB5.2, mb4.9*

IDC ***24*** *08:09:48.5±0.6, 45.06N×149.19E, h98km±4km, mb4.1/19, mb1 4.3/20, mb1mx4.2/25, mbtmp4.4/20, MS2.8/1, Ms1 2.8/1, ms1mx2.4/22, Error ellipse: s-maj=15.5km s-min=11.5km az=171.0*

MOS ***24*** *08:09:48.2±1.1, 45.00N×149.25E, h106km, mb4.6/46, Error ellipse: s-maj=9.4km s-min=5.2km az=112.5*

NEIC ***24*** *08:09:48.5±0.2, 44.95N×149.30E, mb4.6/49, Error ellipse: s-maj=6.5km s-min=4.7km az=154.0*

JMA ***24*** *08:09:50.4±0.4, 44.55N×149.33E, h101km, M4.6*

ISC 24 08:09:47.8±0.6, 44.88N±0.04×149.30E±0.06, h107km±4km, h100km±2.0km: pP-P, n261, σ1s27/268, mb4.6/84, 32C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.07**	**290**	*i* P			**P**	**08 10 08.1**	**-1.7**
KUR					AMB	AMB		08 10 08.7	
	680nm,0.5s								
KUR					AMB	AMB		08 10 08.7	
	670nm,0.5s								
KUR					AMB	AMB		08 10 08.7	
	2μm,0.5s								
KUR				*i* S			**S**	**08 10 25.0**	**-1.4**
KUR					A			08 10 27.8	
	42μm,1.0s								
KUR					A			08 10 29.2	
	7μm,0.6s								
KUR					A			08 10 29.2	
	8μm,0.6s								
KUR	**Kuril'sk**	**1.07**	**290**	⇓*i* PN			**P**	**08 10 08.1**	**-1.7**
KUR				*i* S			**S**	**08 10 25.0**	**-1.4**
KUR					pmax	pmax			
	comp=N,680nm,0.5s								
KUR					pmax	pmax			
	comp=E,670nm,0.5s								
KUR					pmax	pmax			
	comp=Z,2μm,0.5s								
KUR					smax				
	comp=N,7μm,0.6s								
KUR					smax				
	comp=E,8μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**2.60**	**252**	*eP*			**P**	**08 10 31.0**	**+1.7**
YUK					AMB	AMB		08 10 31.7	
	comp=E,2μm,0.4s								
YUK				*i* S			**S**	**08 11 02.5**	**+2.1**
YUK					A			08 11 04.0	
	comp=E,6μm,0.8s								
YUK					A			08 11 04.0	
	comp=E,8μm,0.8s								
YUK					A			08 11 04.0	
	comp=E,4μm,0.5s								
YUK					A			08 11 04.0	
	comp=E,4μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**2.60**	**252**	*eP*	N		**P**	**08 10 31.0**	**+1.7**
YUK				*i* S			**S**	**08 11 02.5**	**+2.1**
YUK					pmax	pmax			
	comp=Z,2μm,0.4s								
YUK					smax				
	comp=E,4μm,0.4s								
YUK					smax				
	comp=N,4μm,0.5s								
YUK					smax				
	comp=N,6μm,0.8s								
YUK					smax				
	comp=E,8μm,0.8s								
NEM2	**Nemuro 2**	**2.97**	**241**	P			**P**	**08 10 34.7**	**+0.3**
NEM2				*eS*			**S**	**08 11 09.2**	**-0.3**
JRA	**Rausu**	**3.13**	**254**	P			**P**	**08 10 38.5**	**+1.9**
JNK	**Nakash**	**3.54**	**250**	P			**P**	**08 10 43.4**	**+1.4**
JAK	**Akkeshi**	**3.82**	**242**	P			**P**	**08 10 46.1**	**+0.3**
JAK				*eS*			**S**	**08 11 28.9**	**-1.1**
JTKR	**Abashiri--Toko**	**3.96**	**259**	P			**P**	**08 10 49.8**	**+2.0**
JAR	**Ashorobuto**	**4.28**	**250**	P			**P**	**08 10 54.0**	**+1.8**
JMP	**Maruseppu**	**4.34**	**260**	P			**P**	**08 10 54.9**	**+2.0**
JOB	**Onbets**	**4.41**	**245**	P			**P**	**08 10 54.9**	**+1.0**
JOB				*eS*			**S**	**08 11 44.8**	**+0.2**
JSE	**Soyaes**	**4.77**	**273**	P			**P**	**08 11 00.9**	**+2.2**
JKK2	**Kamakawa 2**	**4.80**	**260**	P			**P**	**08 11 01.4**	**+2.2**
ASAJ	**Asahikawa**	**4.85**	**263**	P			**P**	**08 11 02.5**	**+2.5**
	comp=E,32nm,0.3s,baz=75,slow=20,SNR=168								
ASAJ					LR	LR		08 12 21.5	
	comp=E,117nm,21.2s,baz=153,slow=32								
ASAJ	**Asahikawa**	**4.85**	**263**	P			**P**	**08 11 02.3**	**+2.4**
ASAJ	**Asahikawa**	**4.85**	**263**	PN			**P**	**08 11 02.5**	**+2.6**
ASAJ					pmax	pmax			
	comp=Z,32nm,0.3s								
ASAJ					MLR	MLR			
	comp=Z,117nm,21.2s								
JCH	**Churui**	**4.86**	**244**	P			**P**	**08 11 00.2**	**+0.2**
JCH				*eS*			**S**	**08 11 53.5**	**-2.0**
YSS	**Yuzh-Sakhalins**	**5.01**	**297**	⇑*iP*			**P**	**08 11 03.3**	**+1.2**
YSS					AMB	AMB		08 11 04.0	
	comp=Z,120nm,0.4s								
YSS				*eS*			**S**	**08 11 58.8**	**-0.4**
YSS					A			08 12 04.2	
	comp=Z,460nm,1.0s								
YSS					A			08 12 04.2	
	comp=Z,600nm,1.0s								
YSS	**Yuzh-Sakhalins**	**5.01**	**297**	⇑*iPN*			**P**	**08 11 03.3**	**+1.2**
YSS				*eS*			**S**	**08 11 58.8**	**-0.4**
YSS					pmax	pmax			
	comp=Z,120nm,0.4s								
YSS					smax				
	comp=N,460nm,1.0s								
YSS					smax				
	comp=E,600nm,1.0s								
JFR	**Furan**	**5.13**	**253**	P			**P**	**08 11 05.5**	**+1.9**
JFR				*eS*			**S**	**08 12 03.5**	**+1.4**
JWK2	**Keihoku**	**5.25**	**277**	P			**P**	**08 11 08.7**	**+3.4**
JAB	**Ashibetsu**	**5.27**	**257**	P			**P**	**08 11 08.3**	**+2.8**
JEM	**Erimo**	**5.31**	**239**	P			**P**	**08 11 08.2**	**+2.2**
JNBK	**Urakawa-nobuka**	**5.42**	**244**	P			**P**	**08 11 07.6**	**+0.1**
JNBK				*eS*			**S**	**08 12 04.6**	**-4.5**
JBT2	**Biratori 2**	**5.44**	**250**	P			**P**	**08 11 08.3**	**+0.5**
JHR	**Hokuryu**	**5.55**	**261**	P			**P**	**08 11 12.4**	**+3.1**
JNB	**Noboribetsu**	**6.45**	**251**	P			**P**	**08 11 22.1**	**+0.3**
JNB				*eS*			**S**	**08 12 32.6**	**-1.9**
UGL	**Uglegorsk**	**6.49**	**313**	*eP*			**P**	**08 11 23.0**	**+0.8**
UGL					AMB	AMB		08 11 24.0	
	comp=E,89nm,0.5s								
UGL					A			08 12 46.5	
	comp=E,310nm,1.0s								
UGL					A			08 12 46.5	
	comp=E,160nm,1.0s								
UGL					A			08 12 46.5	
	comp=E,250nm,1.0s								
JKB	**Kayabe**	**6.72**	**246**	P			**P**	**08 11 25.3**	**-0.1**
JKB				*eS*			**S**	**08 12 36.4**	**-4.6**
JYM2	**Yakumo 2**	**7.05**	**250**	P			**P**	**08 11 30.0**	**0.0**
JYM2				*eS*			**S**	**08 12 45.7**	**-3.4**
JSH	**Shimam**	**7.06**	**255**	P			**P**	**08 11 31.4**	**+1.3**
JANG	**Nango**	**7.29**	**235**	P			**P**	**08 11 31.1**	**-2.1**
JANG				*eS*			**S**	**08 12 47.5**	**-7.5**
JSR	**Shiriuchi**	**7.30**	**246**	P			**P**	**08 11 32.7**	**-0.6**
JSR				*eS*			**S**	**08 12 49.7**	**-5.4**
JTM	**Tenmabayashi**	**7.30**	**239**	P			**P**	**08 11 32.3**	**-1.0**
JTM				*eS*			**S**	**08 12 48.8**	**-6.4**
JTH	**Tanohata**	**7.39**	**231**	P			**P**	**08 11 32.1**	**-2.5**
JTH				*eS*			**S**	**08 12 50.8**	**-6.6**
JOSM	**Okushiri--Mats**	**7.67**	**252**	P			**P**	**08 11 38.6**	**+0.2**
JOSM				*eS*			**S**	**08 13 02.2**	**-2.0**
OFUJ	**Ofunato**	**8.11**	**227**	P			**P**	**08 11 42.6**	**-1.7**
OFUJ				*eS*			**S**	**08 13 09.1**	**-5.9**
JRG	**Rokugo**	**8.45**	**233**	P			**P**	**08 11 46.8**	**-2.1**
JRG				*eS*			**S**	**08 13 18.6**	**-4.6**
JIO	**Ouri**	**8.75**	**226**	P			**P**	**08 11 51.3**	**-1.6**
JIO				*eS*			**S**	**08 13 24.2**	**-6.2**
JYA	**Atsumi**	**9.52**	**232**	*eS*			**S**	**08 13 45.2**	**-3.8**
JFK	**Kawauchi**	**9.83**	**223**	P			**P**	**08 12 05.3**	**-2.1**
JFK				*eS*			**S**	**08 13 50.3**	**-6.1**
NKL	**Nikolayevsk**	**10.02**	**329**	*eP**			**P**	**08 12 04.5**	**-5.3**
NKL					AMB	AMB		08 12 06.4	
	comp=E,40nm,1.0s								
HABR	**Khabarovsk**	**10.43**	**295**	*i* PN			**P**	**08 12 18.0**	**+2.7**
HABR					pmax	pmax			
	comp=Z,99nm,1.2s								
GRNR	**Gornyy**	**10.46**	**309**	*eP*			**P**	**08 12 13.0**	**-2.8**
GRNR					AMB	AMB		08 12 14.0	
	comp=Z,60nm,1.0s								
MJAR	**Matsushiro Arr**	**11.83**	**229**	P			**P**	**08 12 35.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=136,slow=16,SNR=3.4								
EKMR	**Ekimchan**	**13.48**	**313**	*eP*			**P**	**08 12 51.5**	**-4.0**
EKMR					AMB	AMB		08 13 07.6	
	comp=Z,6.0nm,0.5s								
MDJ	**Mudanjiang**	**14.01**	**276**	P			**P**	**08 13 02.4**	**+0.1**
MDJ					AMB	AMB			
	comp=Z,10.0nm,0.9s								
MDJ					AMB	AMB			
	comp=Z,470nm,6.0s								
MDJ	**Mudanjiang**	**14.01**	**276**	*e*Pn			**P**	**08 13 02.8**	**+0.5**
	comp=Z,12nm,0.6s								
YASR	**Yasnyy**	**16.25**	**309**	*eP*			**P**	**08 13 27.6**	**-3.1**
YASR					AMB	AMB		08 13 30.9	
	comp=Z,30nm,0.6s								
BMKR	**Bomnak**	**16.41**	**314**	*eP*			**P**	**08 13 29.9**	**-2.7**
BMKR					AMB	AMB		08 13 32.4	
	comp=Z,29nm,0.6s								
ZEA	**Zeya**	**16.83**	**310**	*eP*			**P**	**08 13 33.8**	**-4.0**
ZEA					AMB	AMB		08 13 35.8	
	comp=Z,20nm,0.7s								
CN2	**Changchun**	**17.08**	**275**	*eP*			**P**	**08 13 40.3**	**-0.8**
CN2					AMB	AMB			
	comp=Z,30nm,0.7s								
KROS	**Kirovskiy**	**17.26**	**312**	*i* P			**P**	**08 13 39.9**	**-3.3**
KROS					AMB	AMB		08 13 41.2	
	comp=Z,6.0nm,0.5s								
KROS					AMB	AMB		08 13 41.2	
	comp=Z,15nm,0.5s								
KS15	**Wonju Array Si**	**17.72**	**253**	*eP*			**P**	**08 13 47.1**	**-1.9**
SEY	**Seymchan**	**18.18**	**5**	*eP*			**P**	**08 13 51.6**	**-2.5**
SNY	**Shenyang**	**18.92**	**270**	⇑P			**P**	**08 14 03.0**	**+0.5**
SNY					AMB	AMB			
	comp=Z,50nm,1.0s								
CLNS	**Chul'man**	**19.38**	**317**	*eP*			**P**	**08 14 04.6**	**-2.7**
CLNS					pmax	pmax			
	comp=N,15nm,0.8s								
CLNS					pmax	pmax			
	comp=Z,28nm,0.8s								
CLNS					pmax	pmax			
	comp=E,17nm,1.0s								
HIA	**Hailar**	**20.53**	**293**	*eP*			**P**	**08 14 18.5**	**-0.8**
HIA					pmax	pmax			
	comp=Z,22nm,0.6s								
HIA	**Hailar**	**20.53**	**293**	*eP*			**P**	**08 14 18.5**	**-0.8**
	comp=Z,22nm,0.6s								
YAK	**Yakutsk**	**20.62**	**333**	*dP*			**P**	**08 14 18.2**	**-1.9**
YAK				*e*				08 14 44.4	
YAK				*eS*			**S**	**08 17 59.1**	**-0.3**
YAK					pmax	pmax			
	comp=Z,48nm,0.8s								
YAK					pmax	pmax			
	comp=N,15nm,1.0s								
YAK					pmax	pmax			
	comp=E,16nm,1.2s								
YAK					pmax	pmax			
	comp=N,6.0nm,1.1s								
YAK					pmax	pmax			
	comp=E,7.0nm,1.1s								
YAK					pmax	pmax			
	comp=Z,29nm,1.1s								
YAK					smax				
	comp=N,8.0nm,1.1s								
YAK					smax				
	comp=E,5.0nm,1.1s								
YAK					smax				
	comp=Z,4.0nm,1.1s								
CIT	**Chita**	**24.57**	**300**	*eP*			**P**	**08 14 56.8**	**-1.8**
CIT				*e*				08 15 39.5	
CIT					pmax	pmax			
	comp=Z,41nm,3.2s								
SSE	**Sheshan**	**25.93**	**248**	*eP*			**P**	**08 15 09.0**	**-2.6**
SSE					AMB	AMB			
	comp=Z,20nm,0.8s,mb4.6								
SSE					AMB	AMB			
	comp=Z,60nm,4.4s								
NJ2	**Nanjing**	**26.89**	**252**	*eP*			**P**	**08 15 18.3**	**-2.1**
NJ2					PP	PP		08 16 07.1	-2.6
NJ2					S		**S**	**08 19 44.0**	**-3.3**
NJ2					AMB	AMB			
	comp=Z,20nm,0.8s,mb4.7								
NJ2					AMB	AMB			
	comp=Z,420nm,6.6s								
NJ2					LR	LR			
	comp=N,560nm,21.6s								
NJ2					LR	LR			
	comp=E,3μm,21.7s								
NJ2					LR	LR			
	comp=Z,860nm,26.2s								
HHC	**Hu-ho-hao-te**	**27.78**	**275**	*eP*			**P**	**08 15 28.8**	**+0.4**
HHC					PP	PP		08 16 26.8	+5.5
HHC					AMB	AMB			
	comp=Z,20nm,0.8s,mb4.7								
HHC					AMB	AMB			
	comp=Z,190nm,5.2s								
HHC					LR	LR			
	comp=N,240nm,5.4s								
HHC					LR	LR			
	comp=E,330nm,6.5s								
HHC					LR	LR			
	comp=Z,240nm,7.1s								
TIXI	**Tiksi**	**28.59**	**347**	*cP*			**P**	**08 15 31.2**	**-4.2**
TIXI					pmax	pmax			
	comp=Z,17nm,0.7s,mb4.8								
TIXI					MLR	MLR			
	comp=Z,100nm,19.0s								
ULN	**Ulaanbaatar**	**29.04**	**291**	*cP*			**P**	**08 15 39.5**	**-0.1**
ULN	**Ulaanbaatar**	**29.04**	**291**	*eP*			**P**	**08 15 38.8**	**-0.8**
	comp=Z,12nm,0.7s,mb4.6								
SONM	**Songino Array**	**29.48**	**291**	P			**P**	**08 15 42.7**	**-0.9**
	comp=Z,4.9nm,0.5s,mb4.4,baz=79,slow=8.2,SNR=62								
SONM				ScP				08 22 17.1	
	comp=Z,0.5nm,0.7s,baz=96,slow=1.7,SNR=4.5								
ZAK	**Zakamensk**	**31.09**	**297**	*eP*			**P**	**08 15 56.6**	**-1.2**
ZAK					pmax	pmax			
	comp=Z,13nm,1.8s,mb4.4								
GTA	**Gaotai**	**36.63**	**279**	⇑P			**P**	**08 16 46.8**	**+1.5**
GTA					AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1								
IMA2	**Indian Mountai**	**36.88**	**35**	*eP*			**P**	**08 16 45.8**	**-1.3**
IMA2				*ep*	P	pP		08 17 09.3	-2.4
KDAK	**Kodiak Island**	**37.35**	**49**	P			**P**	**08 16 49.8**	**-1.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=259,slow=5.2,SNR=2.9								
KDAK					pP	pP		08 17 12.3	-3.4
	comp=Z,8.6nm,0.8s,baz=275,slow=7.8,SNR=3.4								
CD2	**Chengdu**	**38.05**	**264**	P			**P**	**08 16 58.4**	**+1.2**
CD2					AMB	AMB			
	comp=Z,20nm,0.6s,mb5.1								
COLA	**College**	**39.25**	**37**	⇓*iP*			**P**	**08 17 06.2**	**-0.6**
ILAR	**Eielson Array**	**39.66**	**37**	P			**P**	**08 17 09.2**	**-1.0**
	comp=Z,4.0nm,1.1s,mb4.2,baz=269,slow=8.9,SNR=27								
ZAL	**Zalesovo**	**41.57**	**306**	P			**P**	**08 17 24.3**	**-1.6**
	comp=Z,3.6nm,0.4s,mb4.4,baz=30,slow=7.1,SNR=16								
NVS	**Novosibirsk**	**42.22**	**308**	*i* P			**P**	**08 17 29.1**	**-2.2**
NVS				*e*				08 19 31.4	
NVS					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.6								
NVS					pmax	pmax			
	comp=E,12nm,0.9s								
WMQ	**Urumqi**	**43.12**	**291**	*eP*			**P**	**08 17 40.0**	**+1.3**
WMQ					AMB	AMB			
	comp=Z,30nm,0.8s,mb5.1								
WMQ					AMB	AMB			
	comp=Z,190nm,5.2s								
INK

KKN	**Kakani**	**52.98**	**274**	*e*P		**P**	**08 18 56.5**	**+1.0**
	comp=Z,33nm,0.8s,mb5.4								
KKN	**Kakani**	**52.98**	**274**	*e*P		**P**	**08 18 56.5**	**+1.0**
KKN					pmax	pmax			
	comp=Z,16nm,0.8s,mb5.1								
PKI	**Pulchoki**	**53.02**	**274**	*e*P		**P**	**08 18 56.3**	**+0.5**
	comp=Z,9.5nm,0.4s,mb5.1								
AML	**Almayashu**	**53.02**	**296**	P		**P**	**08 18 57.1**	**+1.5**
	SNR=21								
DMN	**Daman**	**53.21**	**274**	*e*P		**P**	**08 18 57.9**	**+0.7**
	comp=Z,19nm,0.6s,mb5.3								
GKN	**Gorkha**	**53.31**	**275**	*e*P		**P**	**08 18 58.3**	**+0.4**
	comp=Z,15nm,0.3s,mb5.5								
RES	**Resolute Bay**	**53.44**	**17**	*e*P		**P**	**08 18 56.2**	**-2.0**
RES					pmax	pmax			
	comp=Z,11nm,0.5s,mb5.1								
RES	**Resolute Bay**	**53.44**	**17**	*e*P		**P**	**08 18 56.2**	**-2.0**
	comp=Z,11nm,0.5s,mb5.1								
YKA	**Yellowknife Ar**	**54.00**	**35**	P		**P**	**08 19 01.2**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.1,baz=299,slow=6.5,SNR=39								
YKA					pP	pP	08 19 25.3	-3.0	
	comp=Z,1.3nm,0.6s,baz=299,slow=6.8,SNR=4.9								
KOLN	**Koldanda**	**54.18**	**275**	*e*P		**P**	**08 19 04.9**	**+0.6**
	comp=Z,25nm,0.7s,mb5.4								
KKAR	**Karatay Array**	**54.54**	**298**	P		**P**	**08 19 06.3**	**-0.4**
KKAR					pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
ARU	**Arti**	**54.57**	**317**	*e*P		**P**	**08 19 04.2**	**-2.5**
ARU					pmax	pmax			
	comp=Z,25nm,0.7s,mb5.3								
ARU	**Arti**	**54.57**	**317**	*e*P		**P**	**08 19 04.2**	**-2.5**
	comp=Z,25nm,0.7s,mb5.3								
AB31	**Akbulak array**	**57.55**	**309**	*i* P		**P**	**08 19 26.7**	**-1.4**
AB31					pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.7								
ARCES	**ARCESS Array B**	**58.72**	**340**	P		**P**	**08 19 33.4**	**-2.6**
	comp=Z,1.2nm,0.5s,mb4.2,baz=45,slow=7.6,SNR=15								
KAKA	**Kakadu**	**59.32**	**199**	*e*P		Px	08 20 03.2		
	comp=Z,7.1nm,0.6s								
KLMR	**Klimovskoe**	**60.30**	**328**	*e*P		**P**	**08 19 44.1**	**-2.8**
KLMR					pmax	pmax			
	comp=Z,50nm,2.7s,mb5.1								
YBH	**Yreka Blue Hor**	**60.99**	**59**	P		**P**	**08 19 52.3**	**+0.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=329,slow=5.9,SNR=3.4								
JOF	**Joensuu**	**61.80**	**333**	*e*p		**P**	**08 19 53.9**	**-3.1**
	comp=Z,9.6nm,0.4s,mb5.2								
KAF	**Kangasniemi**	**63.98**	**334**	*e*p		**P**	**08 20 07.2**	**-4.1**
	comp=Z,4.0nm,0.6s,mb4.4								
KAF	**Kangasniemi**	**63.98**	**334**	*e*P		**P**	**08 20 07.2**	**-4.1**
KAF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.4								
FINES	**FINESS Array B**	**64.56**	**344**	P		**P**	**08 20 12.7**	**-2.3**
	comp=Z,12nm,0.5s,mb5.0,baz=35,slow=7.6,SNR=142								
CTA	**Charters Tower**	**64.71**	**183**	*e*P		**P**	**08 20 16.2**	**-0.5**
	comp=Z,2.4nm,0.5s,mb4.3								
CTA	**Charters Tower**	**64.71**	**183**	*e*P		**P**	**08 20 16.2**	**-0.5**
CTA					pmax	pmax			
	comp=Z,2.0nm,0.5s								
CTAO	**Charters Tower**	**64.71**	**183**	*e*P		**P**	**08 20 16.3**	**-0.4**
OBN	**Obninsk**	**65.31**	**324**	*de*P		**P**	**08 20 18.3**	**-1.7**
OBN							08 20 52.0		
OBN					pmax	pmax			
	comp=Z,41nm,1.5s,mb5.0								
NVAR	**Mina Array Bea**	**65.68**	**59**	P		**P**	**08 20 22.6**	**-0.1**
	comp=Z,3.8nm,0.7s,mb4.3,baz=298,slow=6.2,SNR=45								
NVAR					pP	pP	08 20 47.5	-2.0	
	comp=Z,2.2nm,0.9s,baz=296,slow=7.4,SNR=4.4								
NVAR	**Mina Array Bea**	**65.68**	**59**	P		**P**	**08 20 22.6**	**-0.1**
NVAR					pP	pP	08 20 47.5	-2.0	
WRAB	**Tennant Creek**	**65.93**	**195**	*e*P		**P**	**08 20 22.0**	**-2.5**
WRAB					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.5								
WRAB	**Tennant Creek**	**65.93**	**195**	*e*P		**P**	**08 20 22.0**	**-2.5**
	comp=Z,6.7nm,0.8s,mb4.5								
WB2	**Warramunga Arr**	**65.94**	**195**	*e*P		**P**	**08 20 24.1**	**-0.5**
WRA	**Warramunga Ar**	**65.94**	**195**	P		**P**	**08 20 24.3**	**-0.3**
	comp=Z,4.7nm,0.7s,mb4.4,baz=14,slow=6.7,SNR=30								
ELK	**Elko**	**66.06**	**56**	P		**P**	**08 20 24.9**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.8,baz=276,slow=9.9,SNR=5.8								
ELK					pP	pP	08 20 49.6	-2.2	
	comp=Z,0.7nm,0.8s,baz=282,slow=9.3,SNR=2.5								
SNOW	**Snow King Moun**	**66.89**	**51**	*e*P		**P**	**08 20 29.6**	**-0.6**
	comp=Z,6.4nm,1.1s,mb4.4								
TPNV	**Topopah Spring**	**67.87**	**60**	*e*P		**P**	**08 20 36.2**	**-0.3**
TPNV					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.3								
TPNV	**Topopah Spring**	**67.87**	**60**	*e*P		**P**	**08 20 36.2**	**-0.3**
	comp=Z,4.6nm,0.9s,mb4.3								
PDAR	**Pinedale Array**	**68.00**	**51**	P		**P**	**08 20 36.9**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.0,baz=281,slow=2.4,SNR=18								
PDAR					pP	pP	08 21 01.1	-3.0	
	comp=Z,2.2nm,0.7s,baz=287,slow=2.4,SNR=6.9								
NB2	**NORSAR Subarra**	**69.09**	**340**	P		**P**	**08 20 41.6**	**-2.0**
	comp=Z,6.0nm,0.5s,mb4.7,baz=29,slow=6.5								
NB2	**NORSAR Subarra**	**69.09**	**340**	P		**P**	**08 20 41.6**	**-2.0**
NB2					pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.7								
NOA	**NORSAR Array B**	**69.09**	**340**	P		**P**	**08 20 41.9**	**-1.6**
	comp=Z,8.3nm,0.7s,mb4.7,baz=31,slow=6.3,SNR=32								
ASPA	**Alice Springs**	**69.65**	**195**	*e*P		**P**	**08 20 48.6**	**+1.0**
KIV	**Kislovodsk**	**70.14**	**313**	*d* iP		**P**	**08 20 51.9**	**+1.6**
KIV					pmax	pmax			
	comp=Z,82nm,1.3s,mb5.4								
KIV	**Kislovodsk**	**70.14**	**313**	*e*P		**P**	**08 20 49.5**	**-0.8**
	comp=Z,34nm,0.8s,mb5.2								
AKASG	**Malin Array Be**	**71.57**	**325**	P		**P**	**08 20 57.4**	**-1.3**
	comp=Z,16nm,0.6s,mb5.0,baz=35,slow=6.1,SNR=55								
AKASG	**Malin Array Be**	**71.57**	**325**	*i* P		**P**	**08 20 57.7**	**-1.0**
AKASG					pmax	pmax			
	comp=Z,16nm,0.6s								
ANN	**Anapa**	**72.22**	**316**	*e*P		**P**	**08 21 10.6**	**+8.0**
ANN				*e*		pP	08 21 39.9	+10	
ANN					pmax	pmax			
	comp=Z,45nm,1.3s,mb5.1								
ANMO	**Albuquerque**	**75.09**	**55**	P		**P**	**08 21 20.0**	**+0.6**
	comp=Z,0.9nm,0.5s,mb3.8,baz=343,slow=6.5,SNR=5.9								
ANMO	**Albuquerque**	**75.09**	**55**	⇑*e*P		**P**	**08 21 20.1**	**+0.7**
OJC	**Ojcow**	**75.61**	**329**	*e*P		**P**	**08 21 21.9**	**-0.1**
BURAR	**Bucovina Array**	**75.62**	**325**	⇑P		**P**	**08 21 22.3**	**+0.1**
KOLS	**Kolonicke sedl**	**75.74**	**327**	*e*P		**P**	**08 21 22.8**	**0.0**
KOLS				*e*			08 21 31.8		
STHS	**Stebnicka Huta**	**75.74**	**328**	*e*P		**P**	**08 21 23.3**	**+0.5**
CRVS	**Cervenica-Dubn**	**76.07**	**328**	*e*P		**P**	**08 21 24.9**	**+0.2**
CRVS				*e*			08 21 37.9		
MALT	**Malatya**	**76.41**	**311**	*e*P		**P**	**08 21 26.2**	**-0.6**
MALT					pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.5								
MALT	**Malatya**	**76.41**	**311**	*e*P		**P**	**08 21 26.1**	**-0.7**
	comp=Z,6.8nm,0.7s,mb4.5								
OKC	**Ostrava-Krasne**	**76.53**	**330**	*e*P		**P**	**08 21 27.3**	**+0.1**
UPC	**Upice**	**76.70**	**331**	*e*P		**P**	**08 21 28.0**	**-0.2**
DPC	**Dobruska-Polom**	**76.73**	**331**	*e*P		**P**	**08 21 28.3**	**0.0**
KECS	**Kecovo**	**76.79**	**328**	*e*		**P**	**08 21 24.7**	**-4.0**
KECS				*e*			08 21 38.1		
MLR	**Muntele Rosu**	**77.00**	**323**	⇑P		**P**	**08 21 30.5**	**+0.5**
MLR	**Muntele Rosu**	**77.00**	**323**	⇑P		**P**	**08 21 30.6**	**+0.6**
CLL	**Collm**	**77.01**	**334**	⇑P		**P**	**08 21 29.3**	**-0.6**
	comp=Z,logA/T=1.4,mb4.9								
CLL	**Collm**	**77.01**	**334**	⇑*i*P		**P**	**08 21 29.3**	**-0.6**
CLL					pmax	pmax			
	comp=Z,19nm,0.7s,mb4.9								
CLL	**Collm**	**77.01**	**334**	⇑*i*P		**P**	**08 21 29.3**	**-0.6**
	comp=Z,19nm,0.7s,mb4.9								
BRG	**Berggiesshubel**	**77.08**	**333**	*i* P		**P**	**08 21 29.9**	**-0.4**
BRG					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1								
BRG	**Berggiesshubel**	**77.08**	**333**	*i* P		**P**	**08 21 29.9**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.1								
PVCC	**Panska Ves**	**77.17**	**332**	*e*P		**P**	**08 21 31.2**	**+0.4**
CLZ	**Clausthal**	**77.35**	**335**	*e*P		**P**	**08 21 31.8**	**+0.1**
CLZ					pmax	pmax			
	comp=Z,12nm,0.8s,mb4.7								
CLZ	**Clausthal**	**77.35**	**335**	*e*P		**P**	**08 21 31.8**	**+0.1**
	comp=Z,12nm,0.8s,mb4.7								
VYHS	**Vyhne**	**77.40**	**329**	*e*P		**P**	**08 21 32.5**	**+0.4**
VOIR		**77.43**	**323**	⇑P		**P**	**08 21 33.5**	**+1.2**
PRU	**Pruhonice**	**77.64**	**332**	*e*P		**P**	**08 21 33.7**	**+0.3**
BRTR	**Keskin Array B**	**77.86**	**315**	P		**P**	**08 21 35.3**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.1,baz=95,slow=5.4,SNR=12								
TREC	**Trest**	**77.91**	**331**	*e*P		**P**	**08 21 35.4**	**+0.5**
MOX	**Moxa**	**78.02**	**334**	*i* P		**P**	**08 21 35.1**	**-0.3**
	comp=Z,logA/T=0.8,mb4.3								
MOX	**Moxa**	**78.02**	**334**	*e*P		**P**	**08 21 35.1**	**-0.3**
MOX					pmax	pmax			
	comp=Z,9.0nm,1.5s,mb4.3								
MOX	**Moxa**	**78.02**	**334**	*e*P		**P**	**08 21 35.1**	**-0.3**
	comp=Z,9.0nm,1.5s,mb4.3								
NKC	**Novy Kostel**	**78.11**	**333**	*e*P		**P**	**08 21 36.6**	**+0.6**
BZS	**Buzias**	**78.70**	**325**	⇓P		**P**	**08 21 40.1**	**+0.8**
KHC	**Kasperske Hory**	**78.70**	**332**	*e*P		**P**	**08 21 39.7**	**+0.5**
GEC2	**GERESS Array S**	**78.91**	**332**	*e*P		**P**	**08 21 40.7**	**+0.4**
GEC2					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.3								
GEC2	**GERESS Array S**	**78.91**	**332**	*e*P		**P**	**08 21 40.7**	**+0.4**
	comp=Z,3.0nm,0.6s,mb4.3								
GERES	**GERESS Array B**	**78.91**	**332**	P		**P**	**08 21 40.1**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.2,baz=38,slow=5.6,SNR=19								
WET	**Wettzell**	**78.92**	**333**	*e*P		**P**	**08 21 41.3**	**+0.9**
WET					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.5								
WET	**Wettzell**	**78.92**	**333**	*e*P		**P**	**08 21 41.3**	**+0.9**
	comp=Z,8.0nm,1.0s,mb4.5								
GRA1	**Grafenberg Arr**	**78.97**	**334**	*e*P		**P**	**08 21 41.5**	**+0.8**
	comp=Z,12nm,0.7s,mb4.8								
GRF	**Grafenberg Arr**	**78.97**	**334**	*e*P		**P**	**08 21 41.5**	**+0.8**
GRF					pmax	pmax			
	comp=Z,12nm,0.7s,mb4.8								
GRF	**Grafenberg Arr**	**78.97**	**334**	*e*P		**P**	**08 21 41.5**	**+0.8**
GRF					pmax	pmax			
	comp=Z,12nm,0.7s,mb4.8								
GRF	**Grafenberg Arr**	**78.97**	**334**	*e*P		**P**	**08 21 41.5**	**+0.8**
	comp=Z,12nm,0.7s,mb4.8								
TNS	**Taunus Mts**	**79.35**	**336**	*e*P		**P**	**08 21 42.8**	**+0.1**
TNS					pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.3								
TNS	**Taunus Mts**	**79.35**	**336**	*e*P		**P**	**08 21 42.8**	**+0.1**
	comp=Z,6.0nm,1.1s,mb4.3								
GIVF	**Givet**	**80.48**	**338**	*e*P		**P**	**08 21 49.5**	**+0.7**
BAIF	**Baives**	**80.68**	**338**	*e*P		**P**	**08 21 51.0**	**+1.1**
TXAR	**Lajitas Array**	**80.74**	**58**	P		**P**	**08 21 50.8**	**+0.1**
	comp=Z,4.5nm,0.5s,mb4.5,baz=297,slow=4.2,SNR=92								
TXAR					pP	pP	08 22 16.0	-2.4	
	comp=Z,0.9nm,0.4s,baz=298,slow=4.3,SNR=4.4								
WTTA	**Wattenberg**	**80.97**	**332**	⇑*i*P		**P**	**08 21 52.1**	**+0.7**
	comp=Z,7.7nm,0.5s,mb4.8								
WTTA	**Wattenberg**	**80.97**	**332**	⇑P		**P**	**08 21 52.1**	**+0.7**
WTTA					pmax	pmax			
	comp=Z,8.0nm,0.5s,mb4.8								
BFO	**Black Forest**	**81.07**	**335**	*e*P		**P**	**08 21 52.9**	**+1.0**
BFO					pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.3								
BFO	**Black Forest**	**81.07**	**335**	*e*P		**P**	**08 21 52.9**	**+1.0**
	comp=Z,5.0nm,1.1s,mb4.3								
MOTA	**Moosalm**	**81.07**	**333**	⇑*i*P		**P**	**08 21 52.3**	**+0.3**
	comp=Z,4.8nm,1.0s,mb4.3								
MOTA	**Moosalm**	**81.07**	**333**	⇑P		**P**	**08 21 52.3**	**+0.3**
MOTA					pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.3								
MOTA	**Moosalm**	**81.07**	**333**	⇑P		**P**	**08 21 52.3**	**+0.3**
	comp=Z,4.8nm,1.0s,mb4.3								
SQTA	**Sankt Quirin**	**81.14**	**333**	⇑*i*P		**P**	**08 21 53.2**	**+0.8**
	comp=Z,9.6nm,1.4s,mb4.4								
SQTA	**Sankt Quirin**	**81.14**	**333**	⇑P		**P**	**08 21 53.2**	**+0.8**
SQTA					pmax	pmax			
	comp=Z,10.0nm,1.4s,mb4.5								
CDF	**Champ du Feu**	**81.31**	**335**	⇑*i*P		**P**	**08 21 53.7**	**+0.5**
	comp=Z,7.1nm,0.7s,mb4.3								
CDF	**Champ du Feu**	**81.31**	**335**	⇑*i*P		**P**	**08 21 53.7**	**+0.5**
CDF					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.4								
MEZF	**Maizieres J'vi**	**81.87**	**337**	*e*P		**P**	**08 21 56.9**	**+0.8**
	comp=Z,11nm,0.7s,mb4.5								
HAU	**Haudompre**	**81.95**	**336**	*e*P		**P**	**08 21 56.9**	**+0.4**
HINF	**Hinteralfeld**	**81.97**	**335**	*e*P		**P**	**08 21 56.9**	**+0.3**
FLN	**La Foliniere**	**83.06**	**340**	*e*P		**P**	**08 22 02.1**	**-0.1**
LDF	**La Druitiere**	**83.13**	**340**	*e*P		**P**	**08 22 02.4**	**-0.1**
CABF	**La Chapelle**	**83.28**	**335**	*e*P		**P**	**08 22 03.5**	**+0.2**
	comp=Z,11nm,0.9s,mb4.4								
CABF	**La Chapelle**	**83.28**	**335**	*e*P		**P**	**08 22 03.5**	**+0.2**
CABF					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.4								
LOR	**Lormes**	**83.33**	**337**	⇑*i*P		**P**	**08 22 03.5**	**0.0**
	comp=Z,9.2nm,0.8s,mb4.3								
LOR	**Lormes**	**83.33**	**337**	⇑*i*P		**P**	**08 22 03.5**	**0.0**
LOR					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.4								
GRR	**Gorron**	**83.50**	**340**	*e*P		**P**	**08 22 04.6**	**+0.3**
	comp=Z,18nm,0.9s,mb4.6								
GRR	**Gorron**	**83.50**	**340**	*e*P		**P**	**08 22 04.6**	**+0.3**
GRR					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.6								
SSF	**Saint Saulge**	**83.61**	**337**	*e*P		**P**	**08 22 05.7**	**+0.8**
	comp=Z,9.0nm,0.9s,mb4.3								
SSF	**Saint Saulge**	**83.61**	**337**	*e*P		**P**	**08 22 05.7**	**+0.8**
SSF					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.3								
SMF	**Signal de Mont**	**83.90**	**337**	⇑*i*P		**P**	**08 22 07.4**	**+1.1**
	comp=Z,18nm,0.9s,mb4.6								
SMF	**Signal de Mont**	**83.90**	**337**	⇑*i*P		**P**	**08 22 07.4**	**+1.1**
SMF					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.6								
AVF	**Avril sur Loir**	**83.90**	**337**	⇑*i*P		**P**	**08 22 07.4**	**+1.1**
	comp=Z,5.4nm,0.6s,mb4.3								
AVF	**Avril sur Loir**	**83.90**	**337**	⇑*i*P		**P**	**08 22 07.4**	**+1.1**
AVF					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.3								
SGMF	**Saint Gilles**	**84.02**	**342**	*e*P		**P**	**08 22 07.2**	**+0.3**
	comp=Z,4nm,0.6s,mb4.5								
SGMF	**Saint Gilles**	**84.02**	**342**	*e*P		**P**	**08 22 07.2**	**+0.3**
SGMF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.4								
LPL	**La Plagne**	**84.08**	**335**	*e*P		**P**	**08 22 08.3**	**+1.0**
	comp=Z,11nm,0.9s,mb4.4								
LPL	**La Plagne**	**84.08**	**335**	*e*P		**P**	**08 22 08.3**	**+1.0**
LPL					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.4								
LPG	**La Plagne**	**84.09**	**335**	*e*P		**P**	**08 22 08.4**	**+1.1**
	comp=Z,8.4nm,0.7s,mb4.4								
LPG	**La Plagne**	**84.09**	**335**	*e*P		**P**	**08 22 08.4**	**+1.1**
LPG					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.4								
ROSF	**Rostrenen**	**84.10**	**342**	*e*P		**P**	**08 22 08.6**	**+1.3**
TCF	**Toulx Ste Croi**	**84.67**	**338**	⇑*i*P		**P**	**08 22 11.7**	**+1.5**
	comp=Z,22nm,1.1s,mb4.7								
TCF	**Toulx Ste Croi**	**84.67**	**338**	⇑*i*P		**P**	**08 22 11.7**	**+1.5**
TCF					pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7								
MBDF	**Montbardon**	**84.78**	**334**	*e*P		**P**	**08 22 11.1**	**+0.3**
	comp=Z,3.3nm,0.5s,mb4.2								
MBDF	**Montbardon**	**84.78**	**334**	*e*P		**P**	**08 22 11.1**	**+0.3**
MBDF					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3								
ORIF	**Oris-en-Rattie**	**84.88**	**335**	*e*P		**P**	**08 22 12.1**	**+0.8**
	comp=Z,10nm,0.8s,mb4.5								
MFF	**Saint Martin d**	**85.00**	**339**	*e*P		**P**	**08 22 12.5**	**+0.7**
VIVF	**Saint-Julien-l**	**85.29**	**336**	*e*P		**P**	**08 22 14.3**	**+1.0**
RJF	**Les Rejaudoux**	**85.77**	**338**	*e*P		**P**	**08 22 17.3**	**+1.7**
CAF	**Calviac**	**85.97**	**337**	*e*P		**P**	**08 22 18.0**	**+1.4**
	comp=Z,9.2nm,0.7s,mb4.5								
CAF	**Calviac**	**85.97**	**337**	*e*P		**P**	**08 22 18.0**	**+1.4**
CAF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
LFF	**La Frestale**	**86.31**	**338**	*e*P		**P**	**08 22 19.3**	**+1.0**
EPF	**Esparros**	**88.19**	**338**	*e*P		**P**	**08 22 28.6**	**+1.2**
SJPF	**Ste Jean**	**88.53**	**339**	*e*P		**P**	**08 22 29.7**	**+0.7**
ETSF	**Etsaut**	**88.56**	**338**	*e*P		**P**	**08 22 30.1**	**+1.0**
	comp=Z,16nm,1.1s,mb4.7								
ETSF	**Etsaut**	**88.56**	**338**	*e*P		**P**	**08 22 30.1**	**+1.0**
ETSF					pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.7								
VNDA	**Vanda**	**122.37**	**177**	PKP		PKPdf	08 28 30.7	+1.5	
	comp=Z,0.7nm,0.7s,baz=289,slow=2.5,SNR=6.5								
VNDA	**Vanda**	**122.37**	**177**	PKIKP		PKPdf	08 28 30.7	+1.5	
VNDA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
BDFB	**Brasilia**	**147.39**	**32**	PKPbc		PKPdf	08 29 21.2	+4.7	
	comp=Z,3.8nm,0.6s,baz=209,slow=2.9,SNR=6.3								
BDFB	**Brasilia**	**147.39**	**32**	PKP2		PKPab	08 29 21.2	-2.3	
BDFB					pmax	pmax			
	comp=Z,4.0nm,0.6s								
SNAA	**Sanae**	**149.99**	**197**	*e*		PKPab	08 29 39.2	+6.8	
SNAA	**Sanae**	**149.99**	**197**	PKPbc		PKPdf	08 29 26.2	+7.1	
	comp=Z,1.4nm,0.6s,baz=196,slow=5.0,SNR=15								
SNAA	**Sanae**	**149.99**	**197**	PKIKP		PKPdf	08 29 26.2	+7.2	
SNAA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SNAA	**Sanae**	**149.99**	**197**	*e*PKPdf		PKPdf	08 29 26.1	+7.1	
SNAA				*e*			08 29 39.2		
PLCA	**Paso Flores**	**150.68**	**96**	PKPbc		PKPdf	08 29 28.8	+7.8	
	comp=Z,5.0nm,0.7s,baz=241,slow=2.3,SNR=15								
PLCA					pPKPbc		08 29 55.4		
	comp=Z,3.3nm,0.8s,baz=247,slow=4.1,SNR=3.6								
PLCA	**Paso Flores**	**150.68**	**96**	PKIKP		PKPdf	08 29 28.8	+7.8	
PLCA							08 29 55.4		
PLCA					pmax	pmax			
	comp=Z,5.0nm,0.7s								
PLCA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
VNA2	**Neumayer--Watz**	**151.50**	**196**	*e*		PKPdf	08 29 32.5	+11	
VNA2	**Neumayer--Watz**	**151.50**	**196**	*e*		PKPdf	08 29 39.5	+18	
VNA2	**Neumayer--Watz**	**151.50**	**196**	*e*		PKPdf	08 29 43.2	+22	
VNA2	**Neumayer--Watz**	**151.50**	**196**	*e*		PKPdf	08 29 56.9	+36	
VNA2	**Neumayer--Watz**	**151.50**	**196**	*e*PKPdf		PKPdf	08 29 30.0	+8.7	
VNA2				*e*			08 29 32.5		
VNA2				*e*			08 29 39.5		
VNA2				*e*			08 29 43.2		
VNA2				*e*			08 29 56.9		
VNA3	**Neumayer Olymp**	**151.65**	**194**	*e*		PKPdf	08 29 33.1	+12	
VNA3	**Neumayer Olymp**	**151.65**	**194**	*e*		PKPdf	08 29 40.1	+19	
VNA3	**Neumayer Olymp**	**151.65**	**194**	*e*PKPdf		PKPdf	08 29 30.1	+8.6	
VNA3				*e*			08 29 33.1		
VNA3				*e*			08 29 40.1		

IDC 24 08:25:20.1±15.0, 55.08N×167.25E, mb3.3/4, mb1 3.7/4, mb1mx3.3/22, mbtmp3.3/4, Error ellipse: s-maj=293.5km s-min=120.5km az=77.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	1.1nm,1.1s,baz=257,slow=7.6,SNR=4.8						
ILAR	**Eielson Array**	**24.39**	**48**	P	P	08 30 38.8	-1.6
INK	**Inuvik**	**29.68**	**40**	P	P	08 31 27.1	-2.0
	1.2nm,1.1s,baz=252,slow=5.3,SNR=4.0						
YKA	**Yellowknife Ar**	**38.79**	**46**	P	P	08 32 46.2	-1.4
	0.1nm,0.5s,baz=297,slow=8.3,SNR=3.8						
PDAR	**Pinedale Array**	**52.87**	**67**	P	P	08 34 37.5	-1.8
	0.3nm,0.6s,baz=323,slow=4.5,SNR=3.5						

*ATH **24** 08:44:24.8, 39.00N×23.34E, h22km±1km, MD3.3/10, ML3.6*
*NEIC **24** 08:44:25.8, 39.05N×23.23E, h12km, ML3.2(CSEM), After CSEM.*
*CSEM **24** 08:44:25.0±0.1, 38.97N×23.34E, h10km, ML3.6, Error ellipse: s-maj=2.8km s-min=1.6km az=81.0*
*THE **24** 08:44:26.5, 39.03N×23.26E, h11km, ML3.4*

ISC 24 08:44:24.3±0.6, 38.99N±0.02×23.34E±0.04, h8km±4km, n42, σ0.983/54, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.33**	**344**	⇑*i*PB	**Pb**	**08 44 32.3**	**+0.4**
NEO				*e*SB	**Sb**	**08 44 37.0**	**0.0**
XOR	**Xorichti**	**0.39**	**343**	*e*Pg	**Pg**	**08 44 33.4**	**+1.1**
XOR				*e*Sg	**Sg**	**08 44 38.8**	**+1.1**
XOR	**Xorichti**	**0.39**	**343**	*e*Pg	**Pg**	**08 44 33.3**	**+1.0**
XOR				*e*Sg	**Sg**	**08 44 38.8**	**+1.2**
LKR	**Lokris**	**0.43**	**218**	*e*PB	**Pb**

TACH				*i* S		S	09 16 38.2	+0.2	
PCH	**Pirque**	**1.52**	**157**	⇑*i* P		P	09 16 20.9	+0.2	
PCH				*i* S		S	09 16 40.2	+0.5	
LNV	**Longovilo**	**1.74**	**185**	⇑*i* P		P	09 16 22.7	-0.9	
LNV				*i* S		S	09 16 44.5	-0.2	
CHCH	**Chadas Angostu**	**1.78**	**164**	*i* P		P	09 16 24.2	+0.1	
CHCH				*i* S		S	09 16 46.2	+0.6	
LMEL	**Las Melosas**	**1.84**	**152**	*e*P		P	09 16 25.7	+0.8	
LMEL				*i* S		S	09 16 48.6	+1.5	
LMEL				AMP			09 16 51.5		
	comp=E,1μm,0.2s								
CACH	**El Canelo**	**1.96**	**165**	⇑*i* P		P	09 16 27.3	+0.7	
CACH				*i* S		S	09 16 52.3	+2.2	
CICH	**Cipreses**	**2.20**	**162**	*e*P		P	09 16 30.1	+0.2	
CICH				*i* S		S	09 16 56.4	+0.4	
SFDO	**San Fernando**	**2.40**	**176**	⇑*i* P		P	09 16 32.0	-0.7	

MOS 24 09:37:40.0±1.1, 55.17N×110.40E, h15km, mb4.0/1, 1C, Error ellipse: s-maj=89.0km s-min=34.5km az=57.0, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMO	**Kumora**	**0.85**	**32**	*e*PG	Pg	09 37 54.6	-2.6
KMO				*e*		09 38 05.4	
KMO				pmax	pmax		
	comp=Z,191nm,0.4s						
KMO				smax			
	comp=N,403nm,0.6s						
YOA	**Uoyan**	**1.22**	**37**	⇑*i* PG	Pg	09 38 02.4	-2.2
YOA				*i*		09 38 18.1	
YOA				pmax	pmax		
	comp=Z,224nm,0.4s						
YOA				smax			
	comp=E,683nm,0.5s						
CRS	**Chara**	**4.74**	**65**	*e*PN	Pn	09 39 04.4	+12
CRS				*e*		09 40 07.0	
CRS				pmax	pmax		
	comp=Z,16nm,1.6s						
CRS				smax			
	comp=N,63nm,1.3s						
TUP	**Tupik**	**5.58**	**94**	*e*PN	Pn	09 39 04.1	-0.4
TUP				*e*		09 39 20.8	
TUP				*e*		09 40 32.4	
TUP				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TUP				smax			
	comp=N,63nm,1.1s						
MOY	**Mondy**	**6.63**	**242**	*e*PN	Pn	09 39 20.1	+0.8
MOY				*e*S	Sn	09 41 05.6	+30
MOY				smax			
	comp=N,48nm,1.0s						

MAN 24 10:08:31.1, 10.15N×122.26E, h13km, mb3.8, ML2.6, MS2.1, Panay

*IDC **24** 10:09:49.1±1.9, 15.80S×173.55W, mb3.7/5, mb1 4.1/5, mb1mx3.8/15, mbtmp3.7/5, Error ellipse: s-maj=174.7km s-min=24.6km az=150.0*
*NEIC **24** 10:09:50.8±1.5, 15.49S×173.65W, h10km, Error ellipse: s-maj=141.0km s-min=15.5km az=147.0*
ISC 24 10:09:49.4±1.4, 15.5S±0.7×173.7W±0.5, h10km, n8, σ0§77/9, mb3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.44**	**49**	*e*Pn	**Pn**	**10 10 28.8**	**-1.2**
AFI				*e*Sn	**Sn**	**10 11 00.2**	**0.0**
STKA	**Stephens Creek**	**43.74**	**240**	P	**P**	**10 17 56.3**	**-0.5**
	3.5nm,1.0s,mb4.0,baz=93,slow=9.8,SNR=3.6						
WRA	**Warramunga Arr**	**49.55**	**257**	P	**P**	**10 18 42.5**	**-0.3**
	0.3nm,0.3s,mb3.8,baz=92,slow=6.8,SNR=2.7						
NVAR	**Mina Array Bea**	**74.60**	**42**	P	**P**	**10 21 31.4**	**+0.7**
	0.5nm,0.6s,mb3.6,baz=226,slow=10,SNR=6.2						
NVAR	**Mina Array Bea**	**74.60**	**42**	P	**P**	**10 21 31.4**	**+0.7**
TXAR	**Lajitas Array**	**80.91**	**56**	P	**P**	**10 22 05.5**	**-0.2**
	0.1nm,0.5s,mb3.0,baz=217,slow=6.3,SNR=4.0						
TXAR	**Lajitas Array**	**80.91**	**56**	P	**P**	**10 22 05.5**	**-0.2**
PDAR	**Pinedale Array**	**82.54**	**42**	P	**P**	**10 22 15.3**	**+1.4**
	0.2nm,0.7s,mb3.2,baz=243,slow=4.0,SNR=4.5						

IDC 24 10:26:40.9±4.1, 48.93N×147.65E, mb3.6/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=138.7km s-min=39.7km az=4.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**41.82**	**33**	LR	LR	10 55 06.1	
	comp=Z,66nm,19.0s,baz=229,slow=41						
MKAR	**Makanchi Array**	**42.69**	**293**	P	P	10 34 39.1	-1.6
	0.2nm,0.3s,baz=74,slow=8.1,SNR=6.8						
FINES	**FINESS Array B**	**60.45**	**332**	P	P	10 36 51.7	-2.4
	2.8nm,0.9s,baz=34,slow=6.9,SNR=6.1						
TXAR	**Lajitas Array**	**79.52**	**56**	P	P	10 38 49.7	-1.2
	0.1nm,0.4s,baz=292,slow=4.9,SNR=4.0						

*CSEM **24** 10:42:19.0±1.0, 12.15N×44.84E, h4km, ML3.6, Error ellipse: s-maj=21.7km s-min=18.9km az=18.0, After DHMR*
DHMR 24 10:42:19.0±0.9, 12.15N×44.84E, h5km±14km, ML3.6, 4C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.28**	**327**	⇓*i* P	Pb	10 42 43.2	-0.1
TRBA				*i* S	Sb	10 43 01.3	+1.5
TRBA				AML	AML	10 43 13.6	
	comp=E,970nm,0.4s						
LBOS		**1.75**	**13**	*i* S	Sn	10 43 16.1	+2.8
BDHA	**Al Bayda'**	**1.95**	**21**	⇑*i* P	Pn	10 42 53.6	+0.5
BDHA				*i* S	Sn	10 43 21.3	+3.1
BDHA				AML	AML	10 43 29.1	
	comp=E,1μm,0.7s						
BDHA	**Al Bayda'**	**1.95**	**21**	⇑*i* P	Pn	10 42 53.6	+0.5
BDHA				*i* S	Sn	10 43 21.3	+3.1
	comp=E,528nm,0.7s						
UDYN	**Al 'Udayn**	**1.99**	**335**	⇑*i* P	Pn	10 42 54.8	+1.1
UDYN				*i* S	Sn	10 43 21.8	+2.4
UDYN				AML	AML	10 43 46.6	
	comp=N,339nm,0.6s						
DHBB	**Dhamar BB**	**2.44**	**350**	⇑*i* P	Pn	10 43 01.5	+1.4
DHBB				*i* S	Sn	10 43 35.5	+4.7

*IDC **24** 10:49:54.3±2.3, 0.76N×97.30E, mb3.9/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=58.0km s-min=29.6km az=60.0*
*NEIC **24** 10:49:59.0±0.8, 0.83N×97.36E, h30km, mb4.2/1, Error ellipse: s-maj=18.7km s-min=9.5km az=100.0*
ISC 24 10:49:55.2±4.8, 0.81N±0.10×97.3E±0.2, h17km±37km, n8, σ0§46/8, mb3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.53**	**39**	Pn	**Pn**	**10 50 37.0**	**+0.6**
	6.0nm,0.3s,baz=220,slow=5.7,SNR=7.6						
KULM	**Kulim**	**5.54**	**37**	*e*P	**Pn**	**10 51 18.4**	**-0.7**
COCO	**West Island**	**12.93**	**182**	*e*Pn	**P**	**10 53 01.1**	**0.0**
KKM	**Kota Kinabalu**	**19.54**	**74**	*e*P	**P**	**10 54 25.1**	**0.0**
WRA	**Warramunga Arr**	**41.71**	**122**	P	**P**	**10 57 45.2**	**0.0**
	0.5nm,0.4s,mb3.5,baz=300,slow=9.1,SNR=6.0						
WRAB	**Tennant Creek**	**41.72**	**122**	*e*P	**P**	**10 57 45.3**	**0.0**
	4.2nm,0.9s,mb4.1						
SONM	**Songino Array**	**47.49**	**8**	P	**P**	**10 58 31.4**	**0.0**
	0.8nm,0.8s,mb3.7,baz=186,slow=8.5,SNR=6.0						
MKAR	**Makanchi Array**	**47.65**	**346**	P	**P**	**10 58 32.6**	**0.0**
	1.4nm,0.5s,mb4.3,baz=162,slow=8.9,SNR=35						

*CSEM **24** 11:05:41.6±1.0, 38.73N×29.01W, ML2.0, Error ellipse: s-maj=9.4km s-min=5.5km az=67.0, After PDA*
*PDA **24** 11:05:41.6±1.0, 38.73N×29.01W, MD3.0, ML2.0, Error ellipse: s-maj=9.4km s-min=5.5km az=67.0*
SVSA 24 11:05:41.6±1.0, 38.73N×29.01W, MD3.0, ML2.0, Error ellipse: s-maj=9.4km s-min=5.5km az=67.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.22**	**130**	*e*S	Sg	11 05 49.5	+0.5
	41nm,0.1s						
PTCA	**Ponta do Capel**	**0.22**	**130**	*e*S	Sg	11 05 49.5	+0.5
	41nm,0.1s						
PCED	**Cedros**	**0.26**	**112**	*e*P	Pg	11 05 46.5	-0.4
PCED				*i* S	Sg	11 05 50.8	+0.4
	89nm,0.1s						
PCED	**Cedros**	**0.26**	**112**	*e*P	Pg	11 05 46.5	-0.4
PCED				*i* S	Sg	11 05 50.8	+0.4
	89nm,0.1s						
CALA	**Caldeira**	**0.28**	**121**	*e*P	Pg	11 05 46.8	-0.5
CALA				*e*S	Sg	11 05 50.9	-0.2
PICO	**Pico**	**0.51**	**116**	*i* P	Pg	11 05 51.4	-0.5
PICO				*e*S	Sg	11 05 57.9	-0.8
PICO	**Pico**	**0.51**	**116**	*e*S	Sg	11 05 57.9	-0.8
ROSA	**Rosais**	**0.60**	**91**	*e*P	Pg	11 05 52.4	-1.3
ROSA				*e*S	Sg	11 06 00.2	-1.5
PPNO	**Prainha do Nor**	**0.64**	**113**	*e*S	Sg	11 06 01.5	-1.5
	29nm,0.1s						

*IDC **24** 12:03:16.9±7.7, 31.92S×179.96W, h344km±87km, mb3.4/2, mb1 3.5/3, mb1mx3.2/13, mbtmp4.1/3, Error ellipse: s-maj=96.8km s-min=38.5km az=179.0*
ISC 24 12:03:18.9±1.2, 32.5S±0.1×179.7W±0.3, h417km±14km, n25, σ1§01/35, mb3.6/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.36**	**198**	PN	**P**	**12 04 46.5**	**+0.5**
MXZ				*e*SN	**S**	**12 05 53.4**	**-0.9**
PUZ	**Puketiti**	**5.86**	**196**	PN	**P**	**12 04 53.9**	**+2.7**
PUZ				*e*SN	**S**	**12 06 05.2**	**+1.5**
MWZ	**Matawai**	**6.30**	**201**	*e*PN	**P**	**12 04 56.0**	**0.0**
MWZ				SN	**S**	**12 06 12.4**	**0.0**
URZ	**Urewera**	**6.36**	**204**	P	**P**	**12 04 57.8**	**+1.2**
	2.3nm,0.3s,baz=0.3,slow=8.2,SNR=47						
URZ				S	**S**	**12 06 15.1**	**+1.4**
	4.2nm,0.3s,baz=85,slow=15,SNR=17						
URZ	**Urewera**	**6.36**	**204**	*e*PN	**P**	**12 04 57.3**	**+0.6**
URZ				SN	**S**	**12 06 12.7**	**-1.0**
BKZ	**Black Stump Fm**	**7.39**	**204**	*e*PN	**P**	**12 05 08.4**	**+0.3**
BKZ				*e*SN	**S**	**12 06 34.6**	**+0.4**
PXZ	**Pawanui**	**8.06**	**199**	*e*PN	**P**	**12 05 15.3**	**-0.4**
PXZ				*e*SN	**S**	**12 06 46.8**	**-1.1**
TSZ	**Takapari Road**	**8.37**	**204**	*e*PN	**P**	**12 05 18.5**	**-0.7**
TSZ				*e*SN	**S**	**12 06 54.0**	**-0.2**
BFZ	**Birch Farm**	**8.84**	**201**	*e*SN	**S**	**12 07 04.2**	**+0.3**
MRZ	**Mangatainoka R**	**9.04**	**204**	*e*PN	**P**	**12 05 24.8**	**-2.0**
MRZ				*e*SN	**S**	**12 07 05.5**	**-2.5**
KIW	**Kapiti Island**	**9.45**	**206**	*e*PN	**P**	**12 05 31.0**	**-0.5**
MTW	**Mount Morrison**	**9.51**	**203**	*e*PN	**P**	**12 05 33.4**	**+1.3**
CAW	**Cannon Point**	**9.61**	**205**	*e*PN	**P**	**12 05 33.2**	**-0.2**
TUWZ	**Tuamarina**	**10.31**	**208**	*e*PN	**P**	**12 05 40.8**	**-0.7**
NNZ	**Nelson**	**10.37**	**211**	*e*PN	**P**	**12 05 41.6**	**-0.5**
NNZ				*e*SN	**S**	**12 07 35.8**	**+0.3**
QRZ	**Quartz Range**	**10.44**	**215**	*e*PN	**P**	**12 05 42.6**	**-0.4**
THZ	**Tophouse**	**11.02**	**210**	*e*PN	**P**	**12 05 48.1**	**-1.4**
THZ				*e*SN	**S**	**12 07 49.1**	**0.0**
KHZ	**Kahutara**	**11.31**	**207**	*e*PN	**P**	**12 05 53.2**	**+0.4**
LTZ	**Lake Taylor**	**12.12**	**209**	*e*SN	**S**	**12 08 12.3**	**+0.3**
MQZ	**McQueen's Vall**	**12.75**	**206**	*e*SN	**S**	**12 08 26.8**	**+2.1**
STKA	**Stephens Creek**	**32.68**	**260**	P	**P**	**12 09 18.0**	**+2.1**
	1.2nm,0.5s,mb3.5,baz=104,slow=14,SNR=3.0						
ASPA	**Alice Springs**	**41.63**	**270**	*e*P	**P**	**12 10 30.1**	**0.0**
WB2	**Warramunga Arr**	**42.80**	**275**	*e*P	**P**	**12 10 38.9**	**-0.5**
WRA	**Warramunga Arr**	**42.81**	**275**	P	**P**	**12 10 39.0**	**-0.6**
	1.6nm,0.3s,mb3.8,baz=114,slow=7.8,SNR=26						
FINES	**FINESS Array B**	**146.55**	**338**	PKPbc	PKPbc	12 22 14.7	+4.0
	1.1nm,0.5s,baz=27,slow=4.3,SNR=13						

*NEIC **24** 12:19:28.7, 51.56N×16.16E, h2km, ML3.0(CSEM), ML3.0(SZGRF), ML2.9(PRU), After CSEM.*
*WAR **24** 12:19:30.6, 51.49N×16.10E, h1km, Location given by Rudna mine, origin time based upon KSP*
*IDC **24** 12:19:30.7±0.9, 51.46N×15.96E, mb1 3.6/5, mb1mx3.3/21, mbtmp3.5/5, ML3.0/4, Error ellipse: s-maj=17.5km s-min=8.2km az=103.0*
*BGR **24** 12:19:31.0±0.7, 51.54N×16.00E, h1km, ML3.0/14, Error ellipse: s-maj=8.9km s-min=6.7km az=54.0*
*PRU **24** 12:19:31.1, 51.42N×16.10E*
ISC 24 12:19:27.0±0.4, 51.54N±0.02×16.15E±0.03, n53, σ1§29/86, 6C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**173**	⇓*i* PG	**Pg**	**12 19 42.5**	**+1.4**
KSP				⇓*e* SG	**Sg**	**12 19 51.5**	**+1.0**
KSP	**Ksiaz**	**0.70**	**173**	*e*Pg	**Pg**	**12 19 42.6**	**+1.5**
KSP				*e*Sg	**Sg**	**12 19 51.1**	**+0.7**
KSP	**Ksiaz**	**0.70**	**173**	⇓*i* Pg	**Pg**	**12 19 42.5**	**+1.4**
KSP				*e*Sg	**Sg**	**12 19 51.1**	**+0.6**
UPC	**Upice**	**1.04**	**185**	*e*PG	**Pg**	**12 19 48.6**	**+0.9**
DPC	**Dobruska-Polom**	**1.20**	**175**	*e*PG	**Pg**	**12 19 51.4**	**+0.5**
DPC				*e*SG	**Sg**	**12 20 06.2**	**-0.7**
	81nm,0.4s						
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	**Pg**	**12 19 55.4**	**0.0**
BRG	**Berggiesshubel**	**1.54**	**245**	*e*Pg	**Pg**	**12 19 57.4**	**-0.3**
BRG				*e*Sg	**Sg**	**12 20 18.2**	**-0.1**
BRG	**Berggiesshubel**	**1.54**	**245**	Pn	**Pn**	**12 19 57.0**	**+1.2**
BRG				Pg	**Pg**	**12 19 58.3**	**+0.5**
BRG				Sg	**Sg**	**12 20 18.4**	**+0.1**
RUE	**Ruedersdorf**	**1.74**	**304**	*e*Pg	**Pg**	**12 19 59.9**	**-1.8**
RUE				*e*Sg	**Sg**	**12 20 26.5**	**+1.6**
RUE	**Ruedersdorf**	**1.74**	**304**	*e*Pg	**Pg**	**12 19 59.9**	**-1.9**
RUE				*e*Sg	**Sg**	**12 20 26.5**	**+1.5**
PRU	**Pruhonice**	**1.86**	**214**	*e*PN	**Pn**	**12 20 02.1**	**+1.7**
PRU				*e*PG	**Pg**	**12 20 03.0**	**-1.1**
PRU				*e*SG	**Sg**	**12 20 26.3**	**-2.6**
	45nm,0.4s						
FBE	**Freiberg**	**1.86**	**252**	*e*Pg	**Pg**	**12 20 02.8**	**-1.4**
FBE				*e*Sg	**Sg**	**12 20 28.5**	**-0.6**
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**12 20 02.7**	**+0.5**
CLL				*e*Sg	**Sg**	**12 20 32.5**	**-0.6**
CLL	**Collm**	**1.98**	**264**	*i* PN	**Pn**	**12 20 02.8**	**+0.6**
CLL				*i* PG	**Pg**	**12 20 06.0**	**-0.6**
CLL				*e*		12 20 10.0	
CLL				*e*SG	**Sg**	**12 20 33.0**	**-0.1**
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**12 20 02.8**	**+0.6**
CLL				*i* Pg	**Pg**	**12 20 06.0**	**-0.6**
CLL				*e*Sg	**Sg**	**12 20 33.0**	**-0.1**
OKC	**Ostrava-Krasne**	**2.13**	**143**	*e*PG	**Pg**	**12 20 08.6**	**-0.8**
OKC				*e*SG	**Sg**	**12 20 35.0**	**-2.8**
	36nm,0.9s						
VRAC	**Vranov**	**2.25**	**173**	Pn	**Pn**	**12 20 07.5**	**+1.5**
	1.7nm,0.3s,baz=344,slow=17,SNR=14						
VRAC				Lg		12 20 39.6	
	4.6nm,0.3s,baz=72,slow=20,SNR=14						
TREC	**Trest**	**2.29**	**191**	*e*PN	**Pn**	**12 20 08.9**	**+2.4**
TANN	**Tannenbergstha**	**2.59**	**246**	*e*Pn	**Pn**	**12 20 12.1**	**+1.2**
OJC	**Ojcow**	**2.66**	**118**	*e*PG	**Pg**	**12 20 20.0**	**-0.1**
OJC				*e*SG	**Sg**	**12 20 55.0**	**-0.6**
WERD	**Werda**	**2.67**	**247**	*e*Pn	**Pn**	**12 20 12.8**	**+0.9**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**12 20 14.2**	**+2.0**
NKC				*e*PG	**Pg**	**12 20 19.3**	**-1.3**
NKC				*e*SG	**Sg**	**12 20 55.2**	**-1.2**
	62nm,0.6s						
GUNZ	**Gunzen**	**2.69**	**245**	*e*Pn	**Pn**	**12 20 13.1**	**+0.9**
WERN	**Wernitzgruen**	**2.70**	**244**	*e*Pn	**Pn**	**12 20 13.5**	**+1.1**
NEUB	**Neuenburg**	**2.76**	**265**	*e*Pg	**Pg**	**12 20 20.9**	**-1.3**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**12 20 16.3**	**+0.7**
KHC				*e*PG	**Pg**	**12 20 22.3**	**-3.0**
KHC				*e*SN	**Sn**	**12 20 49.5**	**-2.4**
KHC				*e*SG	**Sg**	**12 20 59.1**	**-5.2**
	18nm,0.5s						
MOX	**Moxa**	**3.00**	**254**	*e*Pn	**Pn**	**12 20 18.1**	**+1.4**
MOX	**Moxa**	**3.00**	**254**	*i* P	**Pn**	**12 20 18.2**	**+1.5**
MOX				Pg	**Pg**	**12 20 26.0**	**-0.8**
MOX				Sg	**Sg**	**12 21 06.0**	**-0.8**
MOX	**Moxa**	**3.00**	**254**	*e*Pn	**Pn**	**12 20 18.2**	**+1.5**
MOX				*e*Pg	**Pg**	**12 20 26.2**	**-0.6**
MOX				*e*Sg	**Sg**	**12 21 06.1**	**-0.7**
ROTZ	**Rotzenmuhle**	**3.08**	**236**	*e*Pn	**Pn**	**12 20 18.7**	**+1.0**
GEC2	**GERESS Array S**	**3.12**	**211**	*e*Pn	**Pn**	**12 20 20.1**	**+1.6**
GEC2	**GERESS Array S**	**3.12**	**211**	*e*Pn	**Pn**	**12 20 20.1**	**+1.6**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**12 20 19.4**	**+0.9**
	0.8nm,0.3s,baz=26,slow=13,SNR=25						
GERES				Pg	**Pg**	**12 20 26.0**	**-3.3**
	1.9nm,0.3s,baz=28,slow=18,SNR=20						
GERES				Lg		12 21 03.9	
	4.7nm,0.3s,baz=30,slow=26,SNR=14						
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**12 20 20.0**	**+0.6**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**12 20 20.0**	**+0.7**
VYHS	**Vyhne**	**3.51**	**149**	*e*SG	**Sg**	**12 21 19.9**	**-3.9**
GRA1	**Grafenberg Arr**	**3.64**	**241**	*e*Pn	**Pn**	**12 20 26.8**	**+0.9**
GRF	**Grafenberg Arr**	**3.64**	**241**	*e*Pn	**Pn**	**12 20 26.8**	**+0.9**
GRF	**Grafenberg Arr**	**3.64**	**241**	*e*Pn	**Pn**	**12 20 26.8**	**+0.9**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**12 20 27.4**	**+1.4**
BSD				*i* S	**Sn**	**12 21 09.5**	**-1.0**
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*PG	**Pg**	**12 20 43.9**	**-0.7**
STHS				*e*		12 21 40.1	
STHS				*e*LG		12 21 50.0	
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*P	**Pn**	**12 20 30.9**	**+1.6**
STHS				*e*Pg	**Pg**	**12 20 43.9**	**-0.7**
STHS				*e*		12 21 40.1	
MOA	**Molln**	**3.89**	**199**	⇑*i* Pn	**Pn**	**12 20 30.1**	**+0.7**
MOA	**Molln**	**3.89**	**199**	⇑*i* Sg	**Sg**	**12 21 30.4**	**-6.2**
	comp=E,9.9nm,0.4s						
MOA	**Molln**	**3.89**	**199**	⇑Pn	**Pn**	**12 20 30.1**	**+0.7**
MOA				Sg	**Sg**	**12 21 30.4**	**-6.2**
CRVS	**Cervenica-Dubn**	**4.31**	**126**	*e*PG	**Pg**	**12 20 52.7**	**-0.4**
ARSA	**Arzberg**	**4.31**	**186**	⇑*i* Pn	**Pn**	**12 20 35.9**	**+0.5**
ARSA	**Arzberg**	**4.31**	**186**	⇑*i* Sg	**Sg**	**12 21 44.7**	**-5.9**
	comp=E,16nm,0.6s						
ARSA	**Arzberg**	**4.31**	**186**	⇑Pn	**Pn**	**12 20 35.9**	**+0.5**
ARSA				Sg	**Sg**	**12 21 44.7**	**-5.9**
HFS	**Hagfors**	**8.72**	**352**	Pn	**P**	**12 21 35.5**	**-1.8**
	0.0nm,0.3s,baz=159,slow=12,SNR=3.2						
HFS	**Hagfors**	**8.72**	**352**	Pn	**P**	**12 21 35.5**	**-1.8**
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**P**	**12 22 11.8**	**-1.2**
	0.2nm,0.3s,baz=220,slow=11,SNR=9.7						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**12 23 44.5**	**-2.7**
	0.1nm,0.3s,baz=196,slow=13,SNR=5.2						

IGQ 24 12:19:35.8, 0.98S×79.25W, h116km±3km, mb4.2, 6C-10D, Error ellipse: s-maj=1.8km s-min=1.4km az=160.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QIL1	**Quilotoa**	**0.34**	**66**	⇓*i* P	P	12 19 52.5	-0.1
CAMI	**Rancho Maria**	**0.81**	**68**	⇓*i* P	P	12 19 56.8	+0.9
CUSU	**Cusua**	**0.89**	**121**	⇓*i* P	P	12 19 57.5	+0.8
JUIV	**Juive**	**0.90**	**119**	⇓*i* P	P	12 19 57.3	+0.5
VC1	**Cotopaxi 1**	**0.91**	**68**	⇓*i* P	P	12 19 57.7	+0.8
TAMB	**Tambo**	**0.93**	**72**	⇓*i* P	P	12 19 57.8	+0.7
ULBA	**Ulba**	**0.96**	**119**	⇓*i* P	P	12 19 58.0	+0.6
ULBA				S	S	12 20 12.9	-0.7
JUA2	**San Juan 2**	**1.00**	**40**	⇓*i* P	P	12 19 58.4	+0.6
TERV	**Terraza Guagua**	**1.03**	**39**	⇑*i* P	P	12 19 58.7	+0.6
TERV				S	S	12 20 15.5	+0.7
GGP	**Refugio Guagua**	**1.04**	**39**	⇑*i* P	P	12 19 58.8	+0.6
PINO	**Pino**	**1.04**	**38**	⇑*i* P	P	12 19 58.8	+0.5
MAG1	**Magdalena**	**1.05**	**330**	⇓*i* P	P	12 19 58.5	+0.2
YANA	**Yana**	**1.10**	**38**	⇑*i* P	P	12 19 59.1	+0.3
YANA				S	S	12 20 17.3	+1.2
JAMA	**Jama**	**1.20**	**307**	P	P	12 19 59.7	-0.3
ANTI	**Antisana**	**1.21**	**64**	⇓*i* P	P	12 20 00.8	+0.6
CAYR	**Refugio Cayamb**	**1.59**	**51**	P	P	12 20 05.5	+1.0
COTA	**Cotacachi**	**1.60**	**35**	⇑*i* P	P	12 20 05.2	+0.6
COTA				S	S	12 20 26.9	+0.7
ANGU	**Angureal**	**1.61**	**50**	⇑*i* P	P	12 20 05.7	+0.9
CAYA	**Cayambe**	**1.64**	**50**	P	P	12 20 05.8	+0.8
LAV3	**Lava3-Reventad**	**1.84**	**61**	P	P	12 20 08.3	+0.7

*NIED **24** 12:20:00, 38.10N×138.60E, h14km, Mw3.8 Best double couple: M0 5.76×10^14 NP1:φ§206°, δ51°, λ90°. NP2:φ§25°, δ39°, λ89°.*
*JMA **24** 12:20:13.0, 38.08N×138.61E, h16km±1km, M4.4*
JMA Felt II J1.
*IDC **24** 12:20:14.1±7.5, 38.04N×138.39E, h26km±50km, mb3.9/15, mb1 4.1/16, mb1mx4.0/25, mbtmp4.1/16, ML3.5/1, Error ellipse: s-maj=20.9km s-min=13.5km az=93.0*
*NEIC **24** 12:20:15.7±0.3, 37.99N×138.56E, h40km, mb4.3/5, Error ellipse: s-maj=8.0km s-min=5.9km az=108.0*
NEIC Recorded [1 JMA] in Fukushima, Gumma and Niigata Prefectures.
ISC 24 12:20:12.6±0.4, 38.09N±0.03×138.57E±0.04, h27km±3km, n38, σ0§80/50, mb4.1/19, 1C-6D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSD	**Sado**	**0.25**	**259**	⇓*i* P	**Pb**	**12 20 18.9**	**-0.1**
JSD				S	**Sb**	**12 20 22.9**	**-0.4**
JIZZ	**Izumozaki**	**0.56**	**168**	⇓*i* P	**Pb**	**12 20 23.8**	**0.0**
JIZZ				S	**Sb**	**12 20 32.3**	**+0.7**
JNS	**Sasagawa**	**0.65**	**114**	⇓*i* P	**Pb**	**12 20 24.9**	**-0.4**
JNS				S	**Sb**	**12 20 33.6**	**-0.4**
JAW	**Awa shima**	**0.65**	**55**	⇓*i* P	**Pb**	**12 20 25.1**	**-0.2**
JAW				S	**Sb**	**12 20 34.1**	**+0.1**
**JH

LPAZ	**La Paz**	**148.02**	**55**	PKPbc	PKPdf	12 39 58.5	+0.9		
	0.6nm,0.5s,baz=5.2,slow=4.0,SNR=4.5								

*IDC **24** 12:25:57.1±3.3,51.89N×176.22W,h40km±24km,mb3.6/8, mb1 3.8/9,mb1mx3.6/24,mbtmp3.8/9,ML3.8/1,MS3.6/2, Ms1 3.6/2,ms1mx2.9/31,Error ellipse: s-maj=36.4km s-min=18.0km az=176.0*

*NEIC **24** 12:25:57.4±1.8,51.89N×176.17W,h48km±15km,mb4.0/4, ML3.3(AEIC),Error ellipse: s-maj=17.0km s-min=11.1km az=188.0*

ISC 24 12:25:56.9±2.1,**52.0N**±0.1×**176.2W**±0.2,**h58**km±16km,**n23, s0°76/22, mb3.9/11, MS3.7/2, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.25**	**78**	P	P	**12 26 18.5**	**+0.1**
ATKA				S	S	**12 26 34.4**	**-0.1**
SLKM	**Skilak Lake**	**16.67**	**49**	P	P	**12 29 51.7**	**+4.1**
PMR	**Palmer**	**17.54**	**46**	P	P	**12 29 59.6**	**+1.0**
	12nm,0.8s						
IMA2	**Indian Mountai**	**18.11**	**30**	*e*P	P	**12 30 04.2**	**-1.3**
ILAR	**Eielson Array**	**19.77**	**38**	P	P	**12 30 23.6**	**-0.8**
	0.1nm,0.3s,baz=241,slow=9.7,SNR=15						
INK	**Inuvik**	**26.04**	**35**	P	P	**12 31 26.2**	**+0.3**
	1.0nm,0.9s,mb3.4,baz=263,slow=4.9,SNR=3.9						
INK				PcP	PcP	12 34 53.2	0.0
	1.8nm,0.8s,baz=245,slow=1.0,SNR=5.4						
INK				ScP		12 38 28.7	
	0.3nm,0.7s,baz=270,slow=2.0,SNR=4.8						
INK	**Inuvik**	**26.04**	**35**	P	P	**12 31 26.2**	**+0.3**
INK				PcP	PcP	12 34 53.2	0.0
INK				ScP		12 38 28.7	
YKA	**Yellowknife Ar**	**33.64**	**47**	P	P	**12 32 34.7**	**+1.2**
	0.6nm,0.6s,mb3.7,baz=284,slow=8.4,SNR=13						
YKA				PcP	PcP	12 35 13.0	+0.3
	1.4nm,0.7s,baz=287,slow=3.3,SNR=15						
YKA				ScP		12 38 52.7	
	0.2nm,0.7s,baz=284,slow=3.5,SNR=3.7						
YKA	**Yellowknife Ar**	**33.64**	**47**	P	P	**12 32 34.7**	**+1.2**
YKA				PcP	PcP	12 35 13.0	+0.3
YKA				ScP		12 38 52.7	
HLID	**Hailey**	**41.21**	**76**	P	P	**12 33 37.2**	**-0.1**
	6.7nm,1.4s,mb4.1						
HWUT	**Hardware Ranch**	**44.06**	**77**	P	P	**12 34 01.5**	**+1.1**
PDAR	**Pinedale Array**	**44.58**	**74**	P	P	**12 34 05.5**	**+1.0**
	0.8nm,0.7s,mb3.7,baz=333,slow=3.3,SNR=7.7						
SONM	**Songino Array**	**47.83**	**297**	P	P	**12 34 30.7**	**+0.5**
	0.2nm,0.5s,mb3.5,baz=59,slow=8.4,SNR=3.3						
SONM				PcP	PcP	12 35 59.3	+0.7
	0.7nm,0.5s,baz=83,slow=2.8,SNR=5.8						
SONM				LR	LR	12 53 29.8	
	comp=Z,35nm,20.9s,MS3.3,baz=16,slow=34						
PV01	**Paradox Valley**	**48.01**	**79**	*e*P	P	**12 34 31.9**	**+0.1**
SDCO	**Great Sand Dun**	**50.12**	**77**	*e*P	P	**12 34 47.3**	**-0.7**
	0.8nm,0.7s,mb3.9						
MNTX	**Cornudas Mount**	**54.25**	**83**	P	P	**12 35 17.9**	**-1.1**
	0.4nm,0.7s,mb3.5						
TXAR	**Lajitas Array**	**56.96**	**83**	P	P	**12 35 37.6**	**-0.9**
	0.6nm,0.7s,mb3.7,baz=311,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**60.93**	**310**	P	P	**12 36 05.6**	**-0.2**
	0.6nm,0.4s,mb4.1,baz=50,slow=6.8,SNR=16						
MKAR	**Makanchi Array**	**60.93**	**310**	P	P	**12 36 05.6**	**-0.2**
BVAR	**Borovoye Array**	**61.48**	**321**	P	P	**12 36 09.1**	**-0.2**
	1.0nm,0.4s,mb4.3,baz=54,slow=6.2,SNR=8.0						
PMG	**Port Moresby**	**68.77**	**219**	LR	LR	13 02 06.0	
	comp=Z,92nm,19.9s,MS4.0,baz=267,slow=32						
KAKA	**Kakadu**	**78.17**	**231**	*e*P	Px	12 38 03.5	
	3.0nm,0.3s						
STKA	**Stephens Creek**	**91.33**	**215**	P	P	**12 38 57.1**	**-0.1**
	5.0nm,1.0s,mb4.8,baz=56,slow=3.6,SNR=3.2						

*NEIC **24** 12:28:46.4±2.7,56.47N×153.90W,h25km±19km,mb3.8/3, ML3.4(AEIC),Error ellipse: s-maj=11.1km s-min=9.4km az=204.0*

*IDC **24** 12:28:52.2±2.9,56.73N×153.46W,h62km±21km,mb3.5/16, mb1 3.8/18,mb1mx3.7/25,mbtmp3.8/18,Error ellipse: s-maj=29.3km s-min=14.8km az=39.0*

ISC 24 12:28:49.2±1.2,**56.67N**±0.07×**153.6W**±0.1,**h57**km±10km, **n39, s0°92/43, mb3.8/18, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.23**	**25**	P	P	**12 29 11.8**	**+1.2**
	74nm,0.3s,baz=203,slow=7.1,SNR=2094						
KDAK				S	S	**12 29 32.8**	**+6.3**
	55nm,0.3s,baz=108,slow=1.3,SNR=27						
KDAK	**Kodiak Island**	**1.23**	**25**	P	P	**12 29 11.9**	**+1.3**
KDAK				S	S	**12 29 33.2**	**+6.7**
SDPT	**Sand Point**	**4.10**	**254**	P	P	**12 29 42.7**	**-8.3**
SLKM	**Skilak Lake**	**4.23**	**23**	P	P	**12 29 52.3**	**-0.5**
SVW2	**Sparrevohn**	**4.56**	**348**	P	P	**12 29 59.1**	**+1.7**
FIB	**Fire Island**	**4.84**	**20**	*e*P	P	**12 30 01.1**	**-0.2**
	14nm,0.3s						
RC01	**Rabbit Creek A**	**4.86**	**23**	P	P	**12 30 00.9**	**-0.7**
PMR	**Palmer**	**5.44**	**23**	*e*P	P	**12 30 10.3**	**+0.7**
EYAK	**Cordova Ski Ar**	**5.64**	**43**	P	P	**12 30 08.8**	**-3.6**
SML	**Sawmill**	**5.81**	**25**	*e*P	P	**12 30 14.5**	**-0.2**
BMRM	**Bremner River**	**6.34**	**43**	P	P	**12 30 18.7**	**-3.5**
ILAR	**Eielson Array**	**8.75**	**19**	P	P	**12 30 55.8**	**+0.2**
	0.5nm,0.3s,baz=205,slow=14,SNR=18						
ILAR				S	S	**12 32 33.1**	**-0.8**
	0.2nm,0.3s,baz=211,slow=23,SNR=4.0						
NIKO	**Nikolski**	**9.57**	**254**	P	P	**12 31 05.3**	**-1.4**
DLBC	**Dease Lake**	**12.74**	**72**	P	P	**12 31 45.4**	**-4.2**
	0.1nm,0.3s,baz=255,slow=12,SNR=5.1						
DLBC				S	S	**12 34 02.5**	**-8.0**
	0.2nm,0.3s,baz=114,slow=18,SNR=4.3						
INK	**Inuvik**	**14.79**	**30**	P	P	**12 32 17.1**	**+1.1**
	0.3nm,0.3s,baz=248,slow=9.8,SNR=7.6						
INK	**Inuvik**	**14.79**	**30**	*e*P	P	**12 32 16.9**	**+0.9**
	7.8nm,1.1s						
INK				P		12 32 17.1	
YKW3	**Yellowknife Ar**	**20.31**	**57**	*e*P	P	**12 33 22.9**	**+0.4**
YKA	**Yellowknife Ar**	**20.31**	**57**	P	P	**12 33 20.4**	**-2.1**
	0.9nm,0.7s,baz=268,slow=8.9,SNR=18						
YKA				PcP	PcP	12 37 29.8	-4.2
	0.1nm,0.6s,baz=256,slow=1.5,SNR=5.0						
YKA	**Yellowknife Ar**	**20.31**	**57**	P	P	**12 33 20.4**	**-2.1**
YKA				PcP	PcP	12 37 29.8	-4.2
HLID	**Hailey**	**27.90**	**101**	P	P	**12 34 34.7**	**-0.8**
ELK	**Elko**	**29.41**	**106**	P	P	**12 34 49.9**	**+0.9**
	0.6nm,0.8s,mb3.4,baz=283,slow=14,SNR=4.1						
ELK	**Elko**	**29.41**	**106**	P	P	**12 34 49.9**	**+0.9**
NVAR	**Mina Array Bea**	**29.52**	**113**	P	P	**12 34 50.4**	**+0.3**
	1.0nm,0.7s,mb3.6,baz=308,slow=7.8,SNR=7.2						
PDAR	**Pinedale Array**	**31.07**	**98**	P	P	**12 35 03.9**	**+0.1**
	0.6nm,0.9s,mb3.4,baz=307,slow=4.5,SNR=1.9						
TPNV	**Topopah Spring**	**31.70**	**112**	*e*P	P	**12 35 08.6**	**-0.8**
	1.0nm,0.6s,mb3.8						
MNTX	**Cornudas Mount**	**41.43**	**106**	*e*P	P	**12 36 32.3**	**+0.7**
	0.9nm,0.8s,mb3.5						
TXAR	**Lajitas Array**	**44.20**	**107**	P	P	**12 36 55.6**	**+1.6**
	1.0nm,0.8s,mb3.6,baz=270,slow=1.3,SNR=4.7						
ARCES	**ARCESS Array B**	**54.10**	**0**	P	P	**12 38 09.9**	**+0.3**
	1.8nm,0.7s,mb4.1,baz=9.5,slow=7.4,SNR=6.1						
SONM	**Songino Array**	**56.54**	**307**	P	P	**12 38 28.0**	**+0.4**
	2.2nm,0.8s,mb4.3,baz=37,slow=7.4,SNR=16						
ZAL	**Zalesovo**	**59.92**	**324**	P	P	**12 38 52.0**	**+0.9**
	0.7nm,0.5s,mb3.9,baz=40,slow=9.3,SNR=5.5						
NOA	**NORSAR Array B**	**62.02**	**8**	P	P	**12 39 05.7**	**+0.4**
	1.1nm,0.6s,mb4.2,baz=350,slow=6.7,SNR=4.0						
FINES	**FINESS Array B**	**62.23**	**0**	P	P	**12 39 06.6**	**+0.1**
	1.0nm,0.8s,mb4.0,baz=342,slow=6.0,SNR=4.7						
HFS	**Hagfors**	**63.10**	**7**	P	P	**12 39 12.7**	**+0.3**
	1.1nm,0.4s,mb4.3,baz=56,slow=5.3,SNR=10						
BVAR	**Borovoye Array**	**64.88**	**332**	P	P	**12 39 24.1**	**+0.1**
	1.5nm,0.6s,mb4.2,baz=32,slow=5.3,SNR=7.7						
EKA	**Eskdalemuir Ar**	**65.79**	**18**	P	P	**12 39 29.3**	**-0.5**
	1.1nm,0.8s,mb3.9,baz=321,slow=5.3,SNR=3.6						
MKAR	**Makanchi Array**	**66.86**	**322**	P	P	**12 39 36.5**	**-0.2**
	0.5nm,0.7s,mb3.6,baz=54,slow=7.5,SNR=5.0						
AKASG	**Malin Array Be**	**72.97**	**358**	P	P	**12 40 11.9**	**-1.7**
	0.4nm,0.4s,mb3.8,baz=3.8,slow=6.3,SNR=5.3						
GERES	**GERESS Array B**	**74.32**	**9**	P	P	**12 40 21.4**	**-0.2**
	0.5nm,0.7s,mb3.5,slow=2.7,SNR=4.8						
ESDC	**Sonseca Array**	**80.64**	**23**	P	P	**12 40 57.0**	**+0.1**
	0.1nm,0.2s,mb3.3,baz=326,slow=6.6,SNR=4.1						

*IDC **24** 12:30:03.8±4.4,23.45S×179.85W,h543km±52km,mb3.5/6, mb1 3.7/8,mb1mx3.4/17,mbtmp4.4/8,Error ellipse: s-maj=40.7km s-min=26.1km az=176.0*

*NEIC **24** 12:30:04.4±1.6,23.60S×179.84W,h556km±19km,mb4.5/5, Error ellipse: s-maj=21.5km s-min=14.5km az=186.0*

ISC 24 12:30:05.0±2.6,**23.4S**±0.1×**180.0W**±0.2,**h571**km±33km, **n18, s0°81/16, mb4.2/8, 3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.59**	**273**	P	P	**12 32 50.8**	**+1.0**
	0.3nm,0.3s,baz=83,slow=18,SNR=4.2						
URZ	**Urewera**	**15.02**	**189**	P	P	**12 33 11.9**	**-1.9**
	0.9nm,0.3s,baz=7.6,slow=15,SNR=5.6						
URZ				S	S	**12 35 47.2**	**+1.3**
	0.6nm,0.3s,baz=165,slow=20,SNR=5.6						
CTA	**Charters Tower**	**31.49**	**269**	P	P	**12 35 42.9**	**+0.5**
	18nm,0.5s,mb4.9,baz=95,slow=10,SNR=87						
CTAO	**Charters Tower**	**31.49**	**269**	*e*P	P	**12 35 43.0**	**+0.6**
	13nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**34.92**	**247**	↓*i*P	P	**12 36 11.5**	**+0.5**
	2.7nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**34.92**	**247**	P	P	**12 36 11.4**	**+0.4**
	3.2nm,0.4s,mb4.2,baz=93,slow=10,SNR=13						
ASPA	**Alice Springs**	**42.13**	**260**	↓*i*P	P	**12 37 09.5**	**-0.1**
WB2	**Warramunga Arr**	**42.44**	**266**	↓*i*P	P	**12 37 11.4**	**-0.6**
WRA	**Warramunga Arr**	**42.45**	**266**	P	P	**12 37 11.6**	**-0.5**
	3.0nm,0.3s,mb4.3,baz=90,slow=5.8,SNR=72						
FORT	**Forrest**	**46.50**	**249**	*e*P	P	**12 37 42.5**	**-0.8**
	17nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.88**	**265**	*e*P	P	**12 38 16.4**	**+0.3**
	4.9nm,0.7s,mb4.0						
FITZ	**Fitzroy Crossi**	**50.88**	**265**	P	P	**12 38 16.3**	**+0.2**
	1.7nm,0.4s,mb3.7,baz=102,slow=8.4,SNR=9.6						
KLBR	**Kellerberrin**	**55.19**	**247**	*e*P	P	**12 38 45.9**	**-0.6**
	35nm,1.2s,mb4.5						
TXAR	**Lajitas Array**	**90.16**	**58**	P	P	**12 42 06.8**	**+0.6**
	0.7nm,0.8s,mb3.6,baz=217,slow=6.3,SNR=4.2						
PDAR	**Pinedale Array**	**92.32**	**44**	P	P	**12 42 15.9**	**+0.2**
	0.4nm,0.7s,mb3.5,baz=207,slow=3.3,SNR=4.0						
HFS	**Hagfors**	**142.06**	**349**	PKhKP		12 48 29.5	
	1.5nm,0.3s,baz=57,slow=4.2,SNR=31						
AKASG	**Malin Array Be**	**144.55**	**328**	PKP	PKPdf	12 48 37.7	+1.4
	0.5nm,0.4s,baz=45,slow=3.9,SNR=4.7						
AKASG	**Malin Array Be**	**144.55**	**328**	PKP	PKPdf	12 48 37.7	+1.4

*BJI **24** 13:00:15.3,21.90S×179.50W,h562km,mB4.5,mb4.6*

*NEIC **24** 13:00:15.4±0.7,21.88S×179.48W,h562km±8km,mb4.8/14, Error ellipse: s-maj=11.8km s-min=8.3km az=150.0*

*IDC **24** 13:00:16.5±1.4,21.85S×179.55W,h569km±16km, mb3.6/11,mb1 3.9/13,mb1mx3.8/16,mbtmp4.5/13,Error ellipse: s-maj=16.6km s-min=12.9km az=139.0*

*MOS **24** 13:00:16.4±3.2,21.77S×179.74W,h542km,mb4.9/6, Error ellipse: s-maj=15.3km s-min=13.3km az=52.8*

ISC 24 13:00:14.8±0.7,**22.02S**±0.06×**179.48W**±0.07, **h569**km±10km,**n127,σ1°15/72, mb4.4/26, 21C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.34**	**169**	P	P	**13 02 08.9**	**+1.5**
	140nm,0.3s,baz=95,slow=22,SNR=5.3						
RAO	**Raoul Island**	**7.34**	**169**	P	P	**13 02 08.9**	**+1.5**
RAO				pmax	pmax		
	comp=Z,140nm,0.3s						
AFI	**Afiamalu**	**10.89**	**44**	P	P	**13 02 42.2**	**-0.3**
	comp=Z,2.8nm,0.3s,baz=36,slow=8.7,SNR=7.3						
AFI				S	S	**13 04 39.9**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=52,slow=19,SNR=5.2						
AFI	**Afiamalu**	**10.89**	**44**	*e*P	P	**13 02 39.6**	**-2.9**
AFI				*e*		13 04 40.1	
AFI				pmax	pmax		
	comp=Z,34nm,0.8s						
AFI	**Afiamalu**	**10.89**	**44**	*e*Pn	P	**13 02 39.6**	**-2.9**
	comp=Z,34nm,0.8s						
AFI				*e*Sn	S	**13 04 40.1**	**-1.0**
DZM	**Mont Dzumac**	**13.06**	**267**	*e*P	P	**13 03 06.3**	**+2.0**
DZM	**Mont Dzumac**	**13.06**	**267**	P	P	**13 03 06.3**	**+2.0**
	comp=Z,2.1nm,0.3s,baz=71,slow=17,SNR=20						
DZM	**Mont Dzumac**	**13.06**	**267**	*e*P	P	**13 03 06.3**	**+2.0**
NOUC	**Port Laguerre**	**13.19**	**267**	*e*P	P	**13 03 07.2**	**+1.7**
URZ	**Urewera**	**16.45**	**190**	P	P	**13 03 37.5**	**0.0**
	comp=Z,3.0nm,0.3s,baz=352,slow=4.1,SNR=18						
URZ				S	S	**13 06 16.6**	**-4.4**
	comp=Z,1.5nm,0.3s,baz=136,slow=20,SNR=13						
URZ	**Urewera**	**16.45**	**190**	*e*PN	P	**13 03 35.5**	**-2.0**
MWZ	**Matawai**	**16.47**	**188**	*e*PN	P	**13 03 36.8**	**-0.8**
BKZ	**Black Stump Fm**	**17.44**	**191**	*e*PN	P	**13 03 43.6**	**-3.3**
TSZ	**Takapari Road**	**18.40**	**191**	*e*PN	P	**13 03 56.1**	**+0.1**
MRZ	**Mangatainoka R**	**19.05**	**192**	*e*PN	P	**13 04 01.0**	**-1.2**
QRZ	**Quartz Range**	**19.94**	**198**	*e*PN	P	**13 04 10.8**	**+0.5**
THZ	**Tophouse**	**20.70**	**196**	PN	P	**13 04 16.8**	**-0.6**
KHZ	**Kahutara**	**21.17**	**194**	*e*PN	P	**13 04 19.6**	**-2.0**
CNB	**Canberra Magne**	**30.25**	**237**	*e*P	P	**13 05 43.1**	**+1.5**
	comp=Z,63nm,0.7s,mb5.2						
CTA	**Charters Tower**	**32.00**	**267**	*e*P	P	**13 05 57.1**	**+0.5**
	comp=Z,17nm,0.5s,mb4.8						
CTA	**Charters Tower**	**32.00**	**267**	*e*P	P	**13 05 57.1**	**+0.5**
CTA				pmax	pmax		
	comp=Z,17nm,0.5s						
CTAO	**Charters Tower**	**32.00**	**267**	*e*P	P	**13 05 56.3**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,23nm,0.6s,mb4.9						
CTAO	**Charters Tower**	**32.00**	**267**	*e*P	P	**13 05 56.3**	**-0.4**
	comp=Z,24nm,0.6s,mb4.9						
TOO	**Toolangi**	**33.90**	**235**	*e*P	P	**13 06 13.5**	**+1.2**
	comp=Z,22nm,0.7s,mb4.8						
TOO	**Toolangi**	**33.90**	**235**	*e*P	P	**13 06 13.5**	**+1.2**
TOO				pmax	pmax		
	comp=Z,22nm,0.7s,mb4.8						
PMG	**Port Moresby**	**34.39**	**286**	P	P	**13 06 17.2**	**+0.5**
	comp=Z,27nm,0.8s,mb4.8,baz=91,slow=6.0,SNR=8.2						
PMG	**Port Moresby**	**34.39**	**286**	P	P	**13 06 17.2**	**+0.5**
PMG				pmax	pmax		
	comp=Z,27nm,0.8s						
PMG	**Port Moresby**	**34.39**	**286**	*e*P	P	**13 06 15.9**	**-0.8**
	comp=Z,42nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**35.90**	**246**	*e*P	P	**13 06 29.8**	**+0.8**
	comp=Z,15nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**35.90**	**246**	P	P	**13 06 30.1**	**+1.1**
	comp=Z,18nm,0.5s,mb4.8,baz=94,slow=10,SNR=52						
ASPA	**Alice Springs**	**42.85**	**258**	*e*P	P	**13 07 24.8**	**-0.3**
ASPA				*e*S	S	**13 13 05.1**	**-4.5**
WB2	**Warramunga Arr**	**43.04**	**264**	*e*P	P	**13 07 25.7**	**-0.9**
WB2				*e*S	S	**13 13 07.0**	**-5.3**
WRAB	**Tennant Creek**	**43.04**	**264**	*e*P	P	**13 07 25.7**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**43.04**	**264**	*e*P	P	**13 07 25.7**	**-0.9**
	comp=Z,61nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**43.05**	**264**	P	P	**13 07 25.8**	**-0.9**
	comp=Z,17nm,0.6s,mb4.7,baz=97,slow=8.0,SNR=167						
WRA				ScP		13 12 01.7	
	comp=Z,2.9nm,1.0s,baz=97,slow=4.2,SNR=6.7						
WRA	**Warramunga Arr**	**43.05**	**264**	P	P	**13 07 25.8**	**-0.9**
WRA				pmax	pmax		
	comp=Z,17nm,0.6s						
WRA				pmax	pmax		
	comp=E,3.0nm,1.0s						
FORT	**Forrest**	**47.44**	**248**	*e*P	P	**13 07 59.5**	**-0.9**
	comp=E,35nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.48**	**264**	*e*P	P	**13 08 29.6**	**-0.8**
	comp=E,21nm,1.2s,mb4.3						
FITZ				*e*S	S	**13 15 06.8**	**-1.5**
KLBR	**Kellerberrin**	**56.18**	**246**	*e*P	P	**13 09 02.0**	**-1.2**
	comp=E,39nm,1.1s,mb4.5						
VNDA	**Vanda**	**56.29**	**185**	P	P	**13 09 04.7**	**+1.3**
	comp=E,1.2nm,0.7s,mb3.2,baz=33,slow=9.0,SNR=13						
VNDA	**Vanda**	**56.29**	**185**	P	P	**13 09 04.7**	**+1.3**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**68.06**	**180**	*e*P	P	**13 10 19.7**	**+0.7**
	comp=Z,7.5nm,0.8s,mb4.3						
MJAR	**Matsushiro Arr**	**70.83**	**325**	P	P	**13 10 34.3**	**-0.7**
	comp=Z,5.4nm,0.9s,mb4.1,baz=145,slow=6.0,SNR=10						
MJAR	**Matsushiro Arr**	**70.63**	**325**	P	P	**13 10 34.3**	**-0.7**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SSE	**Sheshan**	**77.62**	**311**	*e*P	P	**13 11 12.8**	**-1.5**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
SSE				AMB	AMB		
	comp=Z,30nm,3.5s						
MAW	**Mawson**	**79.67**	**200**	P	P	**13 11 25.0**	**+0.7**
	comp=Z,1.4nm,0.6s,mb3.5,baz=134,slow=9.7,SNR=3.5						
MAW	**Mawson**	**79.67**	**200**	P	P	**13 11 25.0**	**+0.6**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NJ2	**Nanjing**	**79.80**	**311**	*e*P	P	**13 11 26.4**	**+0.7**
NJ2				PP	PP	13 14 40.5	+2.8
NJ2				S	S	13 20 40.0	-2.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,110nm,10.1s						
CN2	**Changchun**	**82.67**	**323**	*e*P	P	**13 11 41.9**	**+1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
NVAR	**Mina Array Bea**	**83.07**	**44**	P	P	**13 11 43.7**	**+1.5**
	comp=Z,2.2nm,0.9s,mb3.7,baz=232,slow=11,SNR=14						
NVAR	**Mina Array Bea**	**83.07**	**44**	P	P	**13 11 43.7**	**+1.4**
ENH	**Enshi**	**85.76**	**305**	*e*P	P	**13 11 56.3**	**+0.7**
	comp=Z,3.9nm,0.7s,mb4.2						
SEY	**Seymchan**	**87.54**	**348**	↑*e*P	P	**13 12 03.4**	**+0.2**
TXAR	**Lajitas Array**	**89.03**	**58**	P	P	**13 12 13.1**	**+2.1**
	comp=Z,1.7nm,0.9s,mb3.9,baz=256,slow=5.2,SNR=8.8						
TXAR	**Lajitas Array**	**89.03**	**58**	P	P	**13 12 13.1**	**+2.1**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**89.03**	**58**	P	P	**13 12 13.1**	**+2.1**
ANMO	**Albuquerque**	**89.42**	**52**	↑*e*P	P	**13 12 12.7**	**0.0**
IMA2	**Indian Mountai**	**89.97**	**10**	*e*P	P	**13 12 14.6**	**+0.1**
COLA	**College**	**89.98**	**13**	↑*i*P	P	**13 12 12.4**	**-2.1**
AHID	**Auburn Hatcher**	**90.02**	**43**	*e*P	P	**13 12 16.7**	**+1.5**
	comp=Z,3.0nm,0.9s,mb4.1						
ILAR	**Eielson Array**	**90.10**	**13**	P	P	**13 12 14.2**	**-0.8**
	comp=Z,1.0nm,0.6s,mb3.8,baz=220,slow=4.3,SNR=15						
ILAR	**Eielson Array**	**90.10**	**13**	P	P	**13 12 14.3**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BILL	**Bilibino**	**90.40**	**355**	↑*e*P	P	**13 12 16.7**	**+0.3**
BILL				pmax	pmax		
	comp=Z,13nm,2.2s,mb4.4						
PDAR	**Pinedale Array**	**91.00**	**44**	P	P	**13 12 20.6**	**+0.9**
	comp=Z,1.7nm,1.1s,mb3.9,baz=219,slow=2.6,SNR=9.8						
YAK	**Yakutsk**	**93.01**	**339**	↑*e*P	P	**13 12 27.6**	**-0.8**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
YKA	**Yellowknife Ar**	**98.46**	**25**	P	P	**13 12 52.4**	**-0.6**
	comp=Z,0.2nm,0.7s,mb3.6,baz=246,slow=4.5,SNR=5.8						
MKAR	**Makanchi Array**	**111.23**	**313**	PKiKP		13 17 43.8	
	comp=Z,0.5nm,0.5s,baz=216,slow=1.0,SNR=6.1						
MKAR	**Makanchi Array**	**111.23**	**313**	*i* PKiKP	PKPdf	13 17 43.8	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**130.15**	**349**	PKP	PKPdf	13 18 20.4	+0.5
	comp=Z,1.9nm,0.6s,baz=90,slow=1.2,SNR=15						
ARCES	**ARCESS Array B**	**130.15**	**349**	PKiKP	PKPdf	13 18 20.4	+0.5
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**136.82**	**342**	PKP	PKPdf	13 18 34.5	+2.1
	comp=Z,1.7nm,0.8s,baz=45,slow=2.0,SNR=3.3						
FINES	**FINESS Array B**	**136.82**	**342**	PKiKP	PKPdf	13 18 34.5	+2.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**140.30**	**352**	PKPabc	PKPdf	13 18 33.1	-5.6
	comp=Z,0.9nm,0.7s,baz=10.0,slow=2.8						
NOA	**NORSAR Array B**	**140.30**	**352**	PKhKP		13 18 33.0	
	comp=Z,1.8nm,0.8s,baz=11,slow=2.3,SNR=3.5						
NOA	**NORSAR Array B**	**140.30**	**352**	PKiKP		13 18 33.0	
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**143.64**	**329**	PKP	PKPdf	13 18 43.9	-0.8
	comp=Z,3.2nm,0.3s,baz=40,slow=4.2,SNR=51						
AKASG	**Malin Array Be**	**143.64**	**329**	PKHKP		13 18 43.9	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MALT	**Malatya**	**143.72**	**305**	*e*PKHKP		13 18 46.5	
SUW	**Suwalki**

CMCH	**Combarbala**	**0.60**	**106**	⇑*iP*	P	14 16 54.3	+0.6		
CMCH				*i* S	S	14 17 04.5	+0.9		
CMCH				AMP		14 17 06.0			
	comp=E,7μm,1.1s								
CHNG	**Los Chungos**	**0.88**	**170**	*eP*	P	14 16 56.8	-0.3		
CHNG				*i* S	S	14 17 09.8	+0.2		
CHNG				AMP		14 17 10.4			
	comp=E,1μm,0.2s								
LSCH	**La Serena**	**1.16**	**19**	⇑*iP*	P	14 17 00.6	-0.2		
LSCH				*i* S	S	14 17 15.6	-0.5		
LSCH				AMP		14 17 17.4			
	comp=E,2μm,0.3s								
JACH	**Jahuel**	**1.90**	**151**	⇑*iP*	P	14 17 11.5	+0.5		
JACH				*i* S	S	14 17 34.6	+0.7		
ROCH	**El Roble**	**2.04**	**164**	⇑*iP*	P	14 17 13.0	+0.2		
ROCH				*i* S	S	14 17 36.6	-0.4		
PEL	**Peldehue**	**2.29**	**159**	⇑*iP*	P	14 17 16.6	+0.1		
PEL				*i* S	S	14 17 43.5	+0.1		
PEL				AMP		14 17 44.3			
	comp=E,572nm,0.2s								
LCCH	**Las Cruces**	**2.46**	**178**	⇑*iP*	P	14 17 18.4	-0.5		
RCDM	**Rinconada Maip**	**2.58**	**164**	⇑*iP*	P	14 17 20.5	-0.1		
RCDM				*i* S	S	14 17 50.1	-0.7		
RCDM				AMP		14 17 50.9			
	comp=E,549nm,0.1s								
FCH	**Farellones**	**2.59**	**153**	⇑*iP*	P	14 17 21.5	+0.7		
FCH				*i* S	S	14 17 51.5	+0.4		
FCH				AMP		14 17 55.0			
	comp=E,274nm,0.2s								
ANTU	**Antumapu**	**2.70**	**161**	⇑*iP*	P	14 17 21.7	-0.6		
ANTU				*i* S	S	14 17 53.2	-0.6		
ANTU				AMP		14 17 57.0			
	comp=N,252nm,0.6s								
TACH	**Talagante**	**2.71**	**167**	*eP*	P	14 17 21.9	-0.6		
TACH				*i* S	S	14 17 53.2	-0.8		
CHCH	**Chadas Angostu**	**3.04**	**164**	*eP*	P	14 17 26.8	-0.3		
CHCH				*i* S	S	14 18 01.2	-1.2		
CICH	**Cipreses**	**3.47**	**163**	*eP*	P	14 17 32.8	-0.2		
CICH				*i* S	S	14 18 12.4	-0.7		

IGQ 24 14:19:53.1, 2.72S×79.22W, h12km±6km, mb4.2, 1C, Error ellipse: s-maj=13.1km s-min=4.0km az=42.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSU	**Cusua**	**1.47**	**30**	P	Pn	14 20 21.3	+1.7
JUIV	**Juive**	**1.49**	**31**	P	Pn	14 20 21.2	+1.3
ULBA	**Ulba**	**1.50**	**33**	P	Pn	14 20 21.4	+1.4
ULBA				S	Sb	14 20 41.7	+2.4
QIL1	**Quilotoa**	**1.88**	**9**	P	Pn	14 20 29.0	+3.5
CAMI	**Rancho Maria**	**2.15**	**19**	P	Pn	14 20 31.4	+2.1
TAMB	**Tambo**	**2.18**	**23**	⇑P	Pn	14 20 32.1	+2.3
VC1	**Cotopaxi 1**	**2.22**	**22**	P	Pn	14 20 32.2	+1.9
ANTI	**Antisana**	**2.49**	**25**	P	Pn	14 20 35.0	+0.8
JUA2	**San Juan 2**	**2.56**	**14**	P	Pn	14 20 41.6	+6.4
TERV	**Terraza Guagua**	**2.60**	**14**	P	Pn	14 20 38.3	+2.5
GGP	**Refugio Guagua**	**2.60**	**14**	P	Pn	14 20 40.3	+4.5
GGP				S	Sn	14 21 16.4	+8.8
PINO	**Pino**	**2.62**	**14**	P	Pn	14 20 38.0	+2.0
YANA	**Yana**	**2.66**	**14**	P	Pn	14 20 41.7	+5.1
MAG1	**Magdalena**	**2.68**	**348**	P	Pn	14 20 36.6	-0.3
CAYR	**Refugio Cayamb**	**2.97**	**24**	P	Pn	14 20 44.1	+3.0
ANGU	**Angureal**	**3.00**	**24**	P	Pn	14 20 43.0	+1.5
CAYA	**Cayambe**	**3.03**	**24**	P	Pn	14 20 45.0	+3.1

*ATH **24** 14:21:51.4, 38.76N×27.89E, h36km±6km, MD3.2/3*
*ISK **24** 14:21:51.4, 38.81N×27.78E, h14km, MD3.3*
*NEIC **24** 14:21:51.4, 38.81N×27.78E, h14km, MD3.3(ISK), MD3.2(ATH), After ISK.*
*CSEM **24** 14:21:51.3±0.1, 38.79N×27.79E, h15km, MD3.3, Error ellipse: s-maj=2.1km s-min=1.5km az=92.0*
ISC 24 14:21:51.4±0.5, 38.80N±0.02×27.80E±0.03, h9km±4km, n45, σ0s68/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.08**	**9**	*i* PG	**Pg**	**14 21 54.1**	**+0.4**
KDAG	**Bornova**	**0.57**	**227**	*i* P	**Pg**	**14 22 01.9**	**-1.1**
KDAG				*i* S	**Sg**	**14 22 10.2**	**-0.5**
IZM	**Izmir**	**0.58**	**226**	*i* PG	**Pg**	**14 22 02.9**	**-0.2**
IZM				*i* SG	**Sg**	**14 22 12.7**	**+1.2**
MANT	**Manisa**	**0.67**	**117**	*i* P	**Pb**	**14 22 04.7**	**-0.1**
MANT				*i* S	**Sg**	**14 22 14.0**	**+0.1**
BTOK	**Tokmak**	**0.98**	**11**	*i* P	**Pb**	**14 22 09.9**	**-0.1**
BTOK				*i* S	**Sb**	**14 22 23.6**	**+0.7**
URLA	**Izmir**	**1.04**	**245**	*i* P	**Pb**	**14 22 10.7**	**-0.5**
URLA				*i* S	**Sb**	**14 22 26.6**	**+1.9**
AYDN	**Tasoluk**	**1.14**	**177**	*i* P	**Pb**	**14 22 13.3**	**+0.5**
AYDN				*i* S	**Sb**	**14 22 29.0**	**+1.4**
PRK	**Paraskevi**	**1.27**	**291**	*e*PN	**Pn**	**14 22 15.6**	**+0.2**
PRK				*e*SN	**Sn**	**14 22 33.1**	**+0.5**
PRK	**Paraskevi**	**1.27**	**291**	*e*P	**Pn**	**14 22 15.6**	**+0.2**
PRK				*e*S	**Sb**	**14 22 32.2**	**+0.9**
SMG	**Samos**	**1.33**	**215**	*e*PN	**Pn**	**14 22 15.4**	**-0.8**
SMG				*e*SN	**Sn**	**14 22 32.7**	**-1.4**
GDZ	**Gediz**	**1.34**	**77**	*i* P	**Pb**	**14 22 15.9**	**-0.5**
GDZ				*i* S	**Sb**	**14 22 33.1**	**-0.4**
DENT	**Denizli**	**1.43**	**137**	PN	**Pn**	**14 22 18.6**	**+1.0**
KHL	**Karahalli**	**1.43**	**109**	PN	**Pn**	**14 22 18.1**	**+0.4**
MLSB	**Milas**	**1.50**	**181**	*e*PN	**Pn**	**14 22 18.6**	**-0.1**
ORLT	**Orhaneli**	**1.51**	**34**	PN	**Pn**	**14 22 19.2**	**+0.4**
KCT	**Karacabey**	**1.53**	**16**	*e*PN	**Pn**	**14 22 18.6**	**-0.4**
EZN	**Ezine**	**1.53**	**312**	PN	**Pn**	**14 22 18.5**	**-0.6**
EDC	**Edincik**	**1.54**	**2**	PN	**Pn**	**14 22 18.9**	**-0.4**
BNT	**Bandirma**	**1.56**	**3**	PN	**Pn**	**14 22 19.2**	**-0.3**
ULDT	**Uludag**	**1.69**	**37**	*i* P	**Pn**	**14 22 22.4**	**+1.0**
ULDT				*i* S	**Sn**	**14 22 42.8**	**-0.6**
YER	**Yerkesik**	**1.71**	**167**	*e*PN	**Pn**	**14 22 21.1**	**-0.5**
LPK	**Lapseki**	**1.76**	**333**	*e*PN	**Pn**	**14 22 22.7**	**+0.3**
BODT	**Bodrum**	**1.78**	**193**	*e*PN	**Pn**	**14 22 22.3**	**-0.3**
MRMT	**Marmara Adasi**	**1.81**	**355**	*e*PN	**Pn**	**14 22 23.1**	**+0.1**
ALT	**Altintas**	**1.82**	**81**	*e*PN	**Pn**	**14 22 23.2**	**-0.1**
SART	**Tekirdag**	**1.94**	**346**	*i* P	**Pn**	**14 22 24.0**	**-1.0**
MFT	**Murefte**	**2.02**	**349**	*e*PN	**Pn**	**14 22 26.6**	**+0.5**
DAT	**Datca**	**2.08**	**185**	*e*PN	**Pn**	**14 22 26.3**	**-0.6**
TKTP	**Tekketepe**	**2.12**	**110**	*i* P	**Pn**	**14 22 32.5**	**+4.9**
TKTP				*i* S	**Sn**	**14 23 06.4**	**+12**
DALT	**Dalyan (Mudla)**	**2.13**	**162**	*e*PN	**Pn**	**14 22 27.1**	**-0.6**
YLV	**Yalova**	**2.14**	**34**	*e*PN	**Pn**	**14 22 27.6**	**-0.2**
LIA	**Limnos Island**	**2.31**	**299**	*e*PN	**Pn**	**14 22 30.3**	**+0.1**
BORA	**Eskisehir**	**2.33**	**62**	*i* P	**Pn**	**14 22 35.0**	**+4.6**
BORA				*i* S	**Sn**	**14 23 05.7**	**+6.2**
FETY	**Fethiye**	**2.39**	**154**	*e*PN	**Pn**	**14 22 31.1**	**-0.3**
CTT	**Catalca**	**2.39**	**12**	*e*PN	**Pn**	**14 22 31.5**	**+0.1**
GPA	**Golpazari**	**2.45**	**52**	*e*PN	**Pn**	**14 22 32.8**	**+0.6**
ESKT	**Eskisehir**	**2.48**	**72**	*e*PN	**Pn**	**14 22 33.7**	**+1.0**
ESKT	**Eskisehir**	**2.48**	**72**	*i* P	**Pn**	**14 22 36.9**	**+4.2**
ESKT				*i* S	**Sn**	**14 23 12.1**	**+8.7**
HRT	**Hereke**	**2.48**	**35**	*e*PN	**Pn**	**14 22 33.5**	**+0.8**
RDO	**Rodhopi**	**2.92**	**324**	*e*PN	**Pn**	**14 22 38.1**	**-0.8**
MDU	**Mudurnu**	**3.12**	**57**	*e*PN	**Pn**	**14 22 42.5**	**+0.7**
HENT	**Hendek**	**3.13**	**49**	*i* P	**Pn**	**14 22 50.1**	**+8.2**
EDRB	**Edirne**	**3.15**	**346**	*e*PN	**Pn**	**14 22 41.3**	**-0.9**
KIZT	**Kizilcal**	**3.19**	**87**	*e*PN	**Pn**	**14 22 42.7**	**-0.1**
NVR	**Nevrokopi**	**3.95**	**311**	*e*PN	**Pn**	**14 22 52.9**	**-0.7**

IDC 24 14:27:24.1±7.7, 25.17N×109.75W, mb1 3.6/4, mb1mx3.4/20, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=90.9km s-min=25.3km az=173.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**6.82**	**51**	P	Pn	14 29 06.0	-1.9
	0.1nm,0.3s,baz=232,slow=16,SNR=4.1						
TXAR				Sn	Sn	14 30 23.0	-4.2
	0.2nm,0.3s,baz=232,slow=25,SNR=2.8						
TXAR				Lg		14 30 59.6	
	0.6nm,0.3s,baz=249,slow=31,SNR=5.9						
NVAR	**Mina Array Bea**	**15.07**	**333**	Pn	P	14 31 02.7	+2.6
	0.1nm,0.3s,baz=166,slow=12,SNR=5.1						
ELK	**Elko**	**16.19**	**345**	Pn	P	14 31 14.4	-0.2
	0.1nm,0.3s,baz=241,slow=14,SNR=3.5						
PDAR	**Pinedale Array**	**17.55**	**0**	P	P	14 31 30.3	-1.4
	0.0nm,0.3s,baz=172,slow=10,SNR=4.4						

*IDC **24** 14:42:45.3±1.6, 12.96N×92.21E, mb3.9/7, mb1 4.0/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=61.7km s-min=28.9km az=54.0*
*NEIC **24** 14:42:49.8±0.8, 12.93N×92.27E, h30km, mb4.0/3, Error ellipse: s-maj=32.8km s-min=9.6km az=56.0*
ISC 24 14:42:50.7±4.2, 13.0N±0.3×92.3E±0.3, h52km±33km, n15, σ0s44/15, mb3.9/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**15.68**	**340**	*e*P	**P**	**14 46 30.0**	**+0.3**
	7.9nm,0.4s						
PKI	**Pulchoki**	**15.87**	**337**	*e*P	**P**	**14 46 32.2**	**0.0**
GUN	**Gumba**	**16.01**	**339**	*e*P	**P**	**14 46 34.3**	**+0.4**
DMN	**Daman**	**16.02**	**336**	*e*P	**P**	**14 46 33.9**	**-0.2**
KKN	**Kakani**	**16.12**	**337**	*e*P	**P**	**14 46 35.3**	**0.0**
GKN	**Gorkha**	**16.56**	**336**	*e*P	**P**	**14 46 40.6**	**-0.2**
	12nm,0.4s						
KOLN	**Koldanda**	**16.80**	**333**	*e*P	**P**	**14 46 43.6**	**-0.2**
	12nm,0.6s						
MKAR	**Makanchi Array**	**34.74**	**348**	P	**P**	**14 49 38.2**	**+0.4**
	0.5nm,0.7s,mb3.5,baz=164,slow=8.8,SNR=7.4						
MKAR	**Makanchi Array**	**34.74**	**348**	P	**P**	**14 49 38.2**	**+0.4**
SONM	**Songino Array**	**36.71**	**16**	P	**P**	**14 49 54.3**	**-0.2**
	0.5nm,0.7s,mb3.5,baz=218,slow=5.7,SNR=4.6						
WRA	**Warramunga Arr**	**52.77**	**128**	P	**P**	**14 52 03.0**	**0.0**
	0.5nm,0.4s,mb3.8,baz=307,slow=8.3,SNR=4.6						
FINES	**FINESS Array B**	**67.37**	**332**	P	**P**	**14 53 41.4**	**-0.9**
	4.3nm,1.0s,mb4.4,baz=90,slow=5.7,SNR=3.5						
ARCES	**ARCESS Array B**	**69.87**	**340**	P	**P**	**14 53 57.0**	**-0.7**
	3.9nm,1.0s,mb4.3,baz=50,slow=9.5,SNR=3.5						
GERES	**GERESS Array B**	**72.83**	**317**	P	**P**	**14 54 16.5**	**+0.9**
	0.5nm,0.8s,mb3.5,baz=76,slow=4.0,SNR=4.0						
INK	**Inuvik**	**92.62**	**15**	P	**P**	**14 55 58.0**	**+0.4**
	0.6nm,0.9s,mb4.0,baz=339,slow=5.3						

*MOS **24** 14:52:33.4±0.9, 13.98N×120.77E, h208km, mb4.5/20, Error ellipse: s-maj=13.8km s-min=6.7km az=118.5*
*BJI **24** 14:52:36.0, 13.82N×120.90E, h246km, mB4.8, mb4.8*
*NEIC **24** 14:52:37.0±0.2, 13.94N×120.76E, mb4.6/24, Error ellipse: s-maj=7.0km s-min=4.5km az=86.0*
*MAN **24** 14:52:37.7, 13.99N×120.61E, h216km, mb5.0, ML4.0, MS4.0*
*IDC **24** 14:52:37.1±0.4, 13.92N×120.76E, h230km±3km, mb4.1/25, mb1 4.2/26, mb1mx4.2/28, mbtmp4.6/26, Error ellipse: s-maj=12.5km s-min=9.2km az=77.0*
ISC 24 14:52:35.4±0.2, 13.90N±0.03×120.82E±0.04, h228km, h228km±1.4km: pP-P, n163, σ1s01/167, mb4.4/68, 17C-8D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.23**	**29**	P	**P**	**14 53 07.2**	**+1.9**
	2μm,0.3s,baz=254,slow=1.2,SNR=345						
TGY				S	**S**	**14 53 32.0**	**+3.5**
	2μm,0.3s,baz=314,slow=13,SNR=5.8						
KKM	**Kota Kinabalu**	**9.03**	**211**	P	**P**	**14 54 45.2**	**+2.6**
KKM	**Kota Kinabalu**	**9.03**	**211**	*e*Pn	**P**	**14 54 44.8**	**+2.2**
TSM	**Tawau**	**9.98**	**197**	P	**P**	**14 54 54.7**	**-0.1**
NACB	**Ninganchiao**	**10.24**	**4**	*e*Pn	**P**	**14 54 57.5**	**-0.7**
NACB				*e*S	**S**	**14 56 44.8**	**-5.5**
YHNB	**Yeheng**	**10.72**	**3**	*e*Pn	**P**	**14 55 05.1**	**+0.7**
YHNB				*e*Sn	**S**	**14 56 52.6**	**-8.7**
QIZ	**Qiongzhong**	**11.70**	**297**	P	**P**	**14 55 17.6**	**+0.9**
QIZ				S	**S**	**14 57 25.9**	**+2.2**
QIZ				LR	LR		
	comp=N,240nm,10.3s						
JOW	**Kunigami**	**14.63**	**27**	P	**P**	**14 55 54.5**	**+1.4**
	comp=N,3.9nm,0.3s,baz=263,slow=8.8,SNR=18						
KSM	**Kuching**	**16.14**	**221**	*e*P	**P**	**14 56 11.2**	**-0.4**
SSE	**Sheshan**	**17.12**	**1**	*e*P	**P**	**14 56 23.3**	**+0.9**
SSE				S	**S**	**14 59 29.9**	**+6.0**
SSE				SCS	ScS	15 07 39.6	-5.0
SSE				AMB	AMB		
	comp=Z,90nm,1.2s						
SSE				AMB	AMB		
	comp=Z,90nm,4.8s						
SSE				LR	LR		
	comp=N,20nm,22.4s						
SSE				LR	LR		
	comp=E,70nm,22.4s						
SSE				LR	LR		
	comp=Z,40nm,18.7s						
KKTK	**Khon Kaen**	**17.55**	**280**	P	**P**	**14 56 26.0**	**-1.0**
	comp=Z,309nm,0.8s						
WHN	**Wuhan**	**17.61**	**341**	*e*P	**P**	**14 56 28.0**	**+0.4**
NJ2	**Nanjing**	**18.16**	**355**	*e*P	**P**	**14 56 34.8**	**+1.5**
NJ2				XP		14 57 36.8	
NJ2				S	**S**	**14 59 49.0**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,80nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,160nm,7.2s						
NJ2				LR	LR		
	comp=N,510nm,24.0s						
NJ2				LR	LR		
	comp=E,180nm,19.4s						
NJ2				LR	LR		
	comp=Z,90nm,18.0s						
GYA	**Guiyang**	**18.22**	**315**	P	**P**	**14 56 34.8**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
ENH	**Enshi**	**19.36**	**329**	*e*P	**P**	**14 56 44.4**	**-1.2**
	comp=Z,11nm,0.5s						
KMI	**Kunming**	**20.35**	**306**	P	**P**	**14 56 57.8**	**+2.3**
KMI				AMB	AMB		
	comp=Z,30nm,1.3s						
KGM	**Kluang**	**20.95**	**237**	P	**P**	**14 57 02.1**	**+0.5**
CHRT	**Chiangrai**	**20.98**	**289**	⇑P	**P**	**14 57 02.0**	**+0.2**
	comp=Z,224nm,1.1s						
JNU	**Nakatsue**	**21.21**	**24**	P	**P**	**14 57 05.0**	**+1.0**
	comp=Z,28nm,1.1s,mb4.7,baz=180,slow=8.3,SNR=9.5						
IPM	**Ipoh**	**21.61**	**246**	P	**P**	**14 57 09.0**	**+1.0**
XAN	**Xi'an**	**22.77**	**334**	P	**P**	**14 57 19.1**	**-0.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
CD2	**Chengdu**	**23.09**	**320**	P	**P**	**14 57 22.6**	**+0.4**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.9						
CBIJ	**Chichi jima**	**23.88**	**53**	P	**P**	**14 57 30.2**	**+0.5**
	comp=Z,124nm,0.4s,baz=264,slow=19,SNR=4.2						
INCN	**Inchon**	**24.05**	**11**	*e*P	**P**	**14 57 30.9**	**-0.3**
	comp=Z,43nm,0.9s,mb5.1						
KS15	**Wonju Array Si**	**24.27**	**14**	*e*P	**P**	**14 57 32.4**	**-0.9**
PSI	**Prapat**	**24.28**	**245**	P	**P**	**14 57 33.5**	**-0.1**
	comp=Z,30nm,0.7s,mb5.0,baz=49,slow=5.1,SNR=46						
LZH	**Lanzhou**	**26.84**	**328**	*e*P	**P**	**14 57 57.6**	**+0.8**
LZH				AP	pP	14 58 42.5	+1.0
LZH				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,70nm,6.2s						
MJAR	**Matsushiro Arr**	**27.40**	**32**	P	**P**	**14 58 00.4**	**-1.5**
	comp=Z,1.5nm,0.6s,mb3.8,baz=197,slow=7.6,SNR=4.1						
KAKA	**Kakadu**	**28.84**	**156**	*e*P	Px	14 58 36.8	
	comp=Z,18nm,1.0s						
CN2	**Changchun**	**30.06**	**7**	*e*P	**P**	**14 58 24.5**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
GTA	**Gaotai**	**31.43**	**328**	*e*P	**P**	**14 58 37.8**	**+0.4**
LSA	**Lhasa**	**31.59**	**305**	*e*P	**P**	**14 58 39.5**	**+0.6**
LSA	**Lhasa**	**31.59**	**305**	*e*P	**P**	**14 58 38.6**	**-0.3**
LSA				pmax	pmax		
	comp=Z,19nm,0.4s,mb5.0						
LSA	**Lhasa**	**31.59**	**305**	*e*P	**P**	**14 58 38.6**	**-0.4**
	comp=Z,19nm,0.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**32.15**	**171**	⇑*iP*	**P**	**14 58 43.0**	**-0.9**
	comp=Z,11nm,0.4s,mb4.7						
FITZ				*e*S	**S**	**15 03 34.5**	**-4.1**
BOK	**Bokaro**	**34.41**	**292**	*e*P	**P**	**14 59 03.2**	**0.0**
MBWA	**Marble Bar**	**34.86**	**182**	*e*P	**P**	**14 59 06.1**	**-0.8**
	comp=Z,60nm,1.4s,mb4.9						
MBWA				*e*PcP	PcP	15 01 34.9	+0.1
PMG	**Port Moresby**	**34.92**	**130**	*e*P	**P**	**14 59 08.9**	**+1.4**
PMG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PMG	**Port Moresby**	**34.92**	**130**	*e*P	**P**	**14 59 08.9**	**+1.4**
	comp=Z,6.9nm,0.7s,mb4.3						
JIRN	**Jiri**	**35.02**	**299**	⇑*iP*	**P**	**14 59 08.5**	**+0.3**
	comp=Z,114nm,0.4s						
GUN	**Gumba**	**35.35**	**299**	⇑*iP*	**P**	**14 59 11.2**	**+0.2**
	comp=Z,79nm,0.4s						
ASAJ	**Asahikawa**	**35.40**	**27**	P	**P**	**14 59 12.1**	**+0.9**
	comp=Z,10.0nm,0.8s,mb4.4,baz=119,slow=21,SNR=5.1						
PKI	**Pulchoki**	**35.66**	**298**	⇑*iP*	**P**	**14 59 13.2**	**-0.4**
	comp=Z,66nm,0.6s,mb5.4						
PKI	**Pulchoki**	**35.66**	**298**	⇑*iP*	**P**	**14 59 13.2**	**-0.4**
PKI				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.0						
ULN	**Ulaanbaatar**	**35.75**	**344**	*e*P	**P**	**14 59 14.0**	**-0.1**
ULN				*e*		15 01 37.0	
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**35.75**	**344**	*e*P	**P**	**14 59 14.0**	**-0.1**
	comp=Z,5.4nm,0.6s,mb4.2						
ULN				*e*PcP	PcP	15 01 37.0	-0.1
KKN	**Kakani**	**35.83**	**298**	⇑*iP*	**P**	**14 59 14.5**	**-0.5**
	comp=Z,31nm,0.5s,mb5.1						
KKN	**Kakani**	**35.83**	**298**	⇑*iP*	**P**	**14 59 14.5**	**-0.5**
KKN				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.8						
SONM	**Songino Array**	**35.90**	**343**	P	**P**	**14 59 15.7**	**+0.3**
	comp=Z,8.1nm,0.5s,mb4.5,baz=164,slow=9.7,SNR=79						
SONM				PcP	PcP	15 01 37.2	-0.4
	comp=Z,0.6nm,0.4s,baz=158,slow=4.3,SNR=7.8						
SONM				ScP		15 05 00.4	
	comp=Z,1.0nm,0.8s,baz=162,slow=4.7,SNR=4.8						
DMN	**Daman**	**35.93**	**298**	⇑*iP*	**P**	**14 59 15.6**	**-0.3**
	comp=Z,34nm,0.4s,mb5.2						
WRAB	**Tennant Creek**	**36.16**	**158**	*e*P	**P**	**14 59 17.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,73nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**36.16**	**158**	*e*P	**P**	**14 59 17.8**	**-0.1**
	comp=Z,73nm,0.9s,mb5.2						
WRA	**Warramunga Arr**	**36.16**	**158**	P	**P**	**14 59 17.8**	**-0.2**
	comp=Z,17nm,0.3s,mb5.0,baz=336,slow=9.5,SNR=91						
WRA				ScP		15 05 02.1	
	comp=Z,0.3nm,0.3s,baz=349,slow=4.9,SNR=4.8						
WB2	**Warramunga Arr**	**36.17**	**158**	*e*P	**P**	**14 59 17.6**	**-0.4**
WB2				*e*S	**S**	**15 04 36.0**	**-4.4**
KLR	**Kul'dur**	**36.36**	**12**	*e*P	**P**	**14 59 16.8**	**-2.5**
KLR				pmax	pmax		
	comp=E,20nm,0.8s						
KLR				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.8						
HABR	**Khabarovsk**	**36.43**	**16**	*e*P	**P**	**14 59 20.3**	**+0.4**
GKN	**Gorkha**	**36.44**	**298**	⇑*iP*	**P**	**14 59 19.4**	**-0.7**
	comp=Z,33nm,0.5s,mb5.1						
KOLN	**Koldanda**	**37.27**	**298**	⇑*iP*	**P**	**14 59 26.7**	**-0.4**
	comp=Z,14nm,0.3s,mb4.9						
ASPA	**Alice Springs**	**39.47**	**161**	⇑*iP*	**P**	**14 59 45.7**	**+0.4**
ASPA				*e*S	**S**	**15 05 27.8**	**-2.1**
CTA	**Charters Tower**	**42.03**	**143**	⇑*iP*	**P**	**15 00 08.3**	**+1.9**
	comp=Z,0.1nm,0.3s						
CTA	**Charters Tower**	**42.03**	**143**	*e*P	**P**	**15 00 08.3**	**+1.9**
	comp=Z,17nm,1.1s,mb4.4						
CTAO	**Charters Tower**	**42.03**	**143**	*e*P	**P**	**15 00 07.3**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,45nm,1.2s,mb4.8						
CTAO	**Charters Tower**	**42.03**	**143**	*e*P	**P**	**15 00 07.2**	**+0.9**
	comp=Z,45nm,1.2s,mb4.8						
BHPL	**Bhopal**	**42.04**	**289**	*e*P	**P**	**15 00 06.2**	**-0.3**
BHPL				AMb	AMB	15 00 06.4	
	comp=Z,26nm,0.1s,mb5.5						
AJM	**Ajmer**	**44.89**	**294**	*e*P	**P**	**15 00 27.4**	**-1.7**
AJM				AMb	AMB	15 00 29.1	
	comp=Z,19nm,0.6s,mb4.6						
FORT	**Forrest**	**44.96**	**171**	⇑*iP*	**P**	**15 00 29.6**	**-0.1**
	comp=Z,3.4nm,0.6s,mb3.9						
FORT	**Forrest**	**44.96**	**171**	*e*P	**P**	**15 00 29.6**	**-0.1**
	comp=Z,29nm,0.4s,mb5.0						
KAD	**Karad**	**44.97**	**281**	*e*P	**P**	**15 00 29.2**	**-0.7**
KAD				AMb	AMB	15 00 30.2	
	comp=Z,13nm,0.6s,mb4.4						
POO	**Poona**	**45.24**	**282**	*e*P	**P**	**15 00 30.9**	**-1.2**
POO				AMb	AMB	15 00 33.6	
	comp=Z,23nm,0.9s,mb4.5						
KLBR	**Kellerberrin**	**45.33**	**184**	*e*P	**P**	**15 00 31.6**	**-1.0**
	comp=Z,5.2nm,0.9s,mb3.9						
KLBR	**Kellerberrin**	**45.33**	**184**	*e*P	**P**	**15 00 31.6**	**-1.0**
	comp=Z,53nm,1.3s,mb4.7						
MKAR	**Makanchi Array**	**45.94**	**323**	P	**P**	**15 00 37.5**	**+0.3**
	comp=Z,3.0nm,0.3s,mb4.1,baz=111,slow=8.3,SNR=114						
MKAR				PcP	PcP	15 02 09.6	-0.9
	comp=Z,1.5nm,0.6s,baz=112,slow=3.6,SNR=5.0						
MKAR				ScP		15 05 40.4	
	comp=Z,0.9nm,0.8s,baz=119,slow=4.4,SNR=4.4				

VOSK	**Vostochnaya**	**55.22**	**326**	P		**P**	**15 01 45.8**	**-0.8**
VOSK				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.0							
BVA0	**Borovoye Array**	**55.67**	**326**	P		**P**	**15 01 49.3**	**-0.5**
BVA0				pmax	pmax			
	comp=Z,5.0nm,1.6s,mb3.8							
BVAR	**Borovoye Array**	**55.67**	**326**	P		**P**	**15 01 49.4**	**-0.5**
	comp=Z,4.3nm,0.5s,mb4.2,baz=114,slow=8.5,SNR=58							
BVAR				PcP	PcP		15 02 45.8	-0.7
	comp=Z,1.1nm,0.5s,baz=135,slow=2.1,SNR=3.6							
BRVK	**Borovoye**	**55.75**	**326**	*e*P		**P**	**15 01 49.9**	**-0.4**
BRVK				*e**PP	pP		15 02 39.9	-1.5
BRVK				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.3							
BRVK	**Borovoye**	**55.75**	**326**	*e*P		**P**	**15 01 49.9**	**-0.5**
	comp=Z,11nm,1.1s,mb4.3							
BRVK				*e*pP	pP		15 02 39.9	-1.5
TIXI	**Tiksi**	**57.93**	**3**	*e*P		**P**	**15 02 02.4**	**-3.1**
TIXI				*e*	pP		15 02 52.7	-4.3
TIXI				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.3							
AB31	**Akbulak array**	**60.66**	**319**	P		**P**	**15 02 23.7**	**-0.7**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.8							
BILL	**Bilibino**	**61.48**	**18**⇓	*e*P		**P**	**15 02 30.0**	**+0.3**
BILL				*e*	pP		15 03 22.1	+0.2
BILL				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb4.2							
BILL	**Bilibino**	**61.48**	**18**	*e*P		**P**	**15 02 30.1**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.1							
BILL				*e*pP	pP		15 03 22.3	+0.5
AKTK	**Aktyubinsk**	**62.14**	**320**	P		**P**	**15 02 33.5**	**-0.7**
AKTO	**Aktyubinsk**	**62.14**	**320**	P		**P**	**15 02 33.5**	**-0.7**
	comp=Z,5.7nm,0.5s,mb4.5,baz=103,slow=10.0,SNR=24							
ARU	**Arti**	**63.28**	**327**⇓	*i*P		**P**	**15 02 40.2**	**-1.5**
ARU				*e*	pP		15 03 32.5	-1.7
ARU				*e*			15 04 59.5	
ARU				*e*PPP	PPP		15 06 35.8	-2.6
ARU				*e*S		**S**	**15 10 51.4**	**-2.5**
ARU				*e*SS	SS		15 15 01.1	-5.6
ARU				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.5							
ARU	**Arti**	**63.28**	**327**	*e*P		**P**	**15 02 40.5**	**-1.2**
	comp=Z,5.5nm,0.5s,mb4.4							
KIV	**Kislovodsk**	**71.98**	**312**	*ce*P		**P**	**15 03 35.6**	**-0.4**
KIV							15 03 50.0	
KIV				pmax	pmax			
	comp=Z,21nm,1.2s,mb4.6							
OBN	**Obninsk**	**75.45**	**324**	⇓P		**P**	**15 03 55.0**	**-0.8**
OBN				*e*			15 04 13.6	
OBN				pmax	pmax			
	comp=Z,20nm,1.6s,mb4.5							
IMA2	**Indian Mountai**	**75.58**	**25**	*e*P		**P**	**15 03 57.9**	**+1.6**
JOF	**Joensuu**	**77.52**	**332**	*e*p		**P**	**15 04 05.4**	**-1.7**
	comp=Z,3.4nm,0.4s,mb4.3							
KEV	**Kevo**	**78.39**	**339**	*e*p		**P**	**15 04 09.9**	**-1.8**
	comp=Z,3.8nm,0.5s,mb4.3							
KEV	**Kevo**	**78.39**	**339**	*e*P		**P**	**15 04 09.9**	**-1.8**
KEV				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.3							
ILAR	**Eielson Array**	**78.52**	**26**	P		**P**	**15 04 12.0**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.6,baz=263,slow=3.9,SNR=19							
ILAR				pP	pP		15 05 07.9	+0.8
	comp=Z,0.8nm,0.9s,baz=293,slow=7.0,SNR=3.6							
ILAR				PKKPbc			15 23 05.8	
	comp=Z,0.2nm,0.6s,baz=124,slow=1.4,SNR=4.5							
ARCES	**ARCESS Array B**	**78.94**	**339**	P		**P**	**15 04 14.2**	**-0.5**
	comp=Z,3.9nm,0.5s,mb4.3,baz=85,slow=6.8,SNR=52							
BRTR	**Keskin Array B**	**79.12**	**308**	P		**P**	**15 04 15.7**	**-0.5**
	comp=Z,1.1nm,0.5s,mb3.8,baz=139,slow=7.3,SNR=7.3							
KAF	**Kangasniemi**	**79.94**	**332**	*e*p		**P**	**15 04 18.4**	**-1.7**
	comp=Z,2.6nm,0.5s,mb4.1							
KAF	**Kangasniemi**	**79.94**	**332**	*e*P		**P**	**15 04 18.4**	**-1.7**
KAF				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.2							
FINES	**FINESS Array B**	**80.17**	**331**	P		**P**	**15 04 20.5**	**-0.8**
	comp=Z,3.1nm,0.8s,mb4.0,baz=34,slow=6.7,SNR=17							
AKASG	**Malin Array Be**	**80.39**	**320**	P		**P**	**15 04 21.5**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=66,slow=4.9,SNR=7.2							
INK	**Inuvik**	**82.87**	**21**	P		**P**	**15 04 35.7**	**+0.5**
	comp=Z,4.7nm,0.8s,mb4.2,baz=294,slow=5.7,SNR=30							
INK	**Inuvik**	**82.87**	**21**	*e*P		**P**	**15 04 35.5**	**+0.3**
INK				*e**PP	pP		15 05 30.3	-0.1
INK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
INK	**Inuvik**	**82.87**	**21**	*e*P		**P**	**15 04 35.5**	**+0.3**
	comp=Z,7.8nm,1.0s,mb4.4							
INK				*e*pP	pP		15 05 30.3	-0.1
VRI	**Vrincioaia**	**82.97**	**315**	⇓P		**P**	**15 04 38.2**	**+2.0**
BURAR	**Bucovina Array**	**83.59**	**317**	⇓P		**P**	**15 04 40.0**	**+0.7**
BURAR	**Bucovina Array**	**83.59**	**317**	⇓P		**P**	**15 04 40.0**	**+0.7**
MLR	**Muntele Rosu**	**83.59**	**315**	P		**P**	**15 04 39.9**	**+0.5**
	baz=14,slow=4.2							
MLR	**Muntele Rosu**	**83.59**	**315**	⇑P		**P**	**15 04 40.3**	**+0.9**
KMBO	**Kilima Mbogo**	**84.03**	**267**	P		**P**	**15 04 43.7**	**+1.5**
	comp=Z,0.4nm,0.3s,mb3.6,baz=64,slow=12,SNR=7.0							
KOLS	**Kolonicke sedl**	**85.17**	**319**	*e*		**P**	**15 04 39.9**	**-7.2**
KOLS	**Kolonicke sedl**	**85.17**	**319**	*e*P		**P**	**15 04 48.3**	**+1.2**
KOLS	**Kolonicke sedl**	**85.17**	**319**	*e*P		**P**	**15 04 48.3**	**+1.2**
STHS	**Stebnicka Huta**	**85.69**	**320**	*e*P		**P**	**15 04 50.3**	**+0.7**
CRVS	**Cervenica-Dubn**	**85.69**	**319**	*e*P		**P**	**15 04 50.4**	**+0.7**
OJC	**Ojcow**	**86.35**	**321**	*e*P		**P**	**15 04 53.4**	**+0.6**
HFS	**Hagfors**	**86.36**	**331**	P		**P**	**15 04 52.0**	**-0.7**
	comp=Z,3.5nm,0.5s,mb4.3,baz=117,slow=3.3,SNR=20							
KECS	**Kecovo**	**86.43**	**319**	*e*		**P**	**15 04 44.2**	**-9.1**
KECS	**Kecovo**	**86.43**	**319**	*e*P		**P**	**15 04 53.5**	**+0.2**
KECS	**Kecovo**	**86.43**	**319**	*e*P		**P**	**15 04 53.5**	**+0.2**
NB2	**NORSAR Subarra**	**87.14**	**333**	P		**P**	**15 04 55.4**	**-0.9**
	comp=Z,5.4nm,0.7s,mb4.4,baz=67,slow=4.6							
NB2	**NORSAR Subarra**	**87.14**	**333**	P		**P**	**15 04 55.4**	**-0.9**
	baz=67,slow=4.6							
NB2	**NORSAR Subarra**	**87.14**	**333**	P		**P**	**15 04 55.4**	**-0.9**
NB2				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.3							
NOA	**NORSAR Array B**	**87.14**	**333**	P		**P**	**15 04 55.5**	**-0.8**
	comp=Z,3.4nm,0.7s,mb4.2,baz=67,slow=4.5,SNR=14							
NOA				pP	pP		15 05 50.8	-1.2
	comp=Z,3.4nm,0.7s,baz=66,slow=4.9,SNR=6.1							
BRG	**Berggiesshubel**	**89.66**	**323**	*e*P		**P**	**15 05 09.6**	**+1.2**
BRG				pmax	pmax			
	comp=Z,15nm,1.7s,mb4.5							
BRG	**Berggiesshubel**	**89.66**	**323**	*e*P		**P**	**15 05 09.6**	**+1.2**
	comp=Z,15nm,1.7s,mb4.6							
KHC	**Kasperske Hory**	**90.52**	**321**	*e*P		**P**	**15 05 12.3**	**-0.2**
GERES	**GERESS Array B**	**90.55**	**321**	P		**P**	**15 05 12.5**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=45,slow=5.7,SNR=7.3							
YKA	**Yellowknife Ar**	**92.55**	**23**	P		**P**	**15 05 22.4**	**+0.9**
	comp=Z,1.5nm,0.6s,mb4.2,baz=307,slow=4.4,SNR=82							
YKA				pP	pP		15 06 18.7	+1.2
	comp=Z,1.3nm,0.9s,baz=309,slow=4.5,SNR=5.6							
YKA				PKiKP			15 10 08.9	
	comp=Z,0.1nm,0.4s,baz=315,slow=1.7,SNR=7.0							
YKA				PKKPbc			15 22 32.5	
	comp=Z,0.2nm,0.4s,baz=129,slow=2.6,SNR=18							
YKA	**Yellowknife Ar**	**92.55**	**23**	P		**P**	**15 05 22.4**	**+0.8**
YKA				*PP	pP		15 06 18.8	+1.2
DAVOX	**Davos**	**93.73**	**320**	P		**P**	**15 05 27.9**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.4,baz=230,slow=7.1,SNR=6.6							
VNDA	**Vanda**	**94.22**	**172**	P		**P**	**15 05 28.7**	**-0.3**
	comp=Z,2.2nm,1.0s,mb4.1,baz=302,slow=4.6,SNR=5.9							
LSZ	**Lusaka**	**96.06**	**256**	P		**P**	**15 05 38.6**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.5,baz=93,slow=5.2,SNR=5.5							
PDAR	**Pinedale Array**	**107.13**	**36**	PKKP	PKKP		15 22 07.7	+30
	comp=Z,0.3nm,0.4s,baz=99,slow=4.8,SNR=4.8							
TXAR	**Lajitas Array**	**119.25**	**45**	PKP	PKPdf		15 10 60.0	+2.1
	comp=Z,0.8nm,0.4s,baz=200,slow=0.7,SNR=29							
JCT	**Junction City**	**121.05**	**41**	*e*PKIKP	PKPdf		15 11 03.8	+2.5
PLCA	**Paso Flores**	**151.48**	**162**	PKPbc	PKPdf		15 12 05.4	+10
	comp=Z,5.4nm,0.7s,baz=190,slow=3.3,SNR=17							
PLCA	**Paso Flores**	**151.48**	**162**	*e*PKIKP	PKPdf		15 12 04.7	+8.8
SDV	**Santo Domingo**	**154.67**	**27**	PKP	PKPdf		15 12 03.5	+2.5
	comp=Z,1.3nm,0.4s,baz=334,slow=1.3,SNR=3.6							
SDV				PKPbc	PKPdf		15 12 11.9	+11
	comp=Z,2.8nm,0.4s,baz=78,slow=3.2,SNR=7.1							
SIV	**San Ignacio**	**177.23**	**139**	PKP	PKPdf		15 12 20.4	+1.6
	comp=Z,0.9nm,0.6s,baz=349,slow=2.8,SNR=5.5							

*ROM **24** 15:08:03.8±0.2,37.46N×16.21E,h41km±1km, Md2.8/8, Ml2.9/13, Error ellipse: s-maj=3.7km s-min=1.6km az=87.0*
*NEIC **24** 15:08:03.8,37.46N×16.21E,h41km, MD2.8(ROM), After ROM.*
*CSEM **24** 15:08:04.3±0.2,37.48N×16.33E,h35km±1km, ML4.0/7, Error ellipse: s-maj=5.5km s-min=2.2km az=120.0*

ISC 24 15:08:03.1±1.0,37.42N±0.05×16.37E±0.07,h41km,n23, σ0§65/32,5C-7D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SOI	**Samo**	**0.70**	**339**	⇓*i*Pg		**P**	**15 08 17.0**	**+0.4**
	125nm,0.4s							
MTTG	**Motta San Giov**	**0.79**	**317**	⇓*i*Pg		**P**	**15 08 18.4**	**+0.5**
MTTG					Sg	**S**	**15 08 29.1**	**+0.3**
	363nm,0.7s							
CEL	**Celeste**	**0.92**	**336**	⇓*i*Pg		**P**	**15 08 20.3**	**+0.6**
	183nm,0.2s							
AGST	**Augusta-Monte**	**0.93**	**260**	⇑*i*Pg		**P**	**15 08 19.9**	**+0.1**
AGST					Sg	**S**	**15 08 31.6**	**-0.5**
	122nm,0.2s							
SCLL	**Scilla**	**0.98**	**328**	⇓*i*Pg		**P**	**15 08 21.0**	**+0.4**
	79nm,0.1s							
MSI	**Messina ING**	**1.02**	**321**	Pg		**P**	**15 08 21.8**	**+0.7**
	104nm,0.2s							
MMME	**Mongiuffi-Meli**	**1.03**	**300**	⇓*i*Pg		**P**	**15 08 21.6**	**+0.4**
MMME					Sg	**S**	**15 08 34.1**	**-0.6**
PLAC	**Placanica**	**1.03**	**3**	⇓*i*Pg		**P**	**15 08 21.9**	**+0.6**
	30nm,0.4s							
ATN	**Antennamare**	**1.03**	**316**	Pg		**P**	**15 08 22.1**	**+0.8**
SSY	**Sortino**	**1.07**	**256**	⇑*i*Pg		**P**	**15 08 21.9**	**+0.1**
SSY					Sg	**S**	**15 08 35.1**	**-0.7**
	563nm,0.2s							
MSRU	**Castanea**	**1.08**	**321**	Pg		**P**	**15 08 22.9**	**+0.9**
MSRU					Sg	**S**	**15 08 36.0**	**-0.1**
	263nm,0.8s							
HAVL	**Avola**	**1.10**	**246**	⇑*e*Pg		**P**	**15 08 22.7**	**+0.5**
HAVL					Sg	**S**	**15 08 36.3**	**-0.1**
	982nm,0.3s							
HVZN	**Vizzini**	**1.34**	**260**	⇑*i*Pg		**P**	**15 08 26.0**	**+0.2**
HVZN					Sg	**S**	**15 08 42.7**	**0.0**
	527nm,0.6s							
HMDC	**Modica**	**1.35**	**251**	⇑*i*Pg		**P**	**15 08 26.3**	**+0.4**
HMDC					Sg	**S**	**15 08 42.6**	**-0.3**
	299nm,0.6s							
VPL	**Vulcano Piano**	**1.46**	**312**	⇓*e*Pg		**P**	**15 08 27.5**	**0.0**
	300nm,0.4s							
SERS	**Sersale**	**1.63**	**9**	Pg		**P**	**15 08 30.5**	**+0.6**
	48nm,0.4s							
IFIL	**Filicudi i Eol**	**1.83**	**309**	Pg		**P**	**15 08 32.3**	**-0.4**
	292nm,0.2s							
CUC	**Castrocucco**	**2.61**	**351**	Pg		**P**	**15 08 43.2**	**-0.6**
	31nm,0.6s							
MGR	**Morigerati**	**2.79**	**347**	Pg		**P**	**15 08 46.2**	**-0.2**
	24nm,0.3s							
SGO	**Sicignano**	**3.25**	**346**	Pg		**P**	**15 08 52.7**	**-0.2**
	3.0nm,0.2s							
SG1	**Sgolgore (BA)**	**3.42**	**4**	*e*Pn		**P**	**15 08 53.8**	**-1.6**
CDT	**Castel del Mon**	**3.66**	**359**	*e*Pn		**P**	**15 08 57.1**	**-1.6**
STON	**Ston**	**5.54**	**10**	*i* Pn		**P**	**15 09 21.7**	**-3.5**
STON				*i* Sn		**S**	**15 10 18.0**	**-11**

ISC 24 15:31:49.4±0.6,38.81N±0.04×27.80E±0.05,h10km,n7, σ1§04/12,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.07**	**7**	PG		**Pg**	**15 31 51.0**	**-0.7**
KDAG	**Bornova**	**0.58**	**226**	*i* P		**Pg**	**15 31 59.6**	**-1.5**
KDAG				*i* S		**Sg**	**15 32 09.9**	**+0.9**
IZM	**Izmir**	**0.59**	**226**	*e*PG		**Pg**	**15 32 00.2**	**-1.0**
MANT	**Manisa**	**0.67**	**118**	*i* P		**Pb**	**15 32 02.4**	**-0.3**
MANT				*i* S		**Sb**	**15 32 11.2**	**-0.5**
BLCB	**Balcova**	**0.73**	**235**	*e*PG		**Pg**	**15 32 02.6**	**-1.4**
BLCB				*e*SG		**Sg**	**15 32 14.6**	**+0.8**
BTOK	**Tokmak**	**0.97**	**10**	*i* P		**Pb**	**15 32 08.8**	**+0.9**
BTOK				*i* S		**Sb**	**15 32 21.4**	**+0.9**
AYDN	**Tasoluk**	**1.15**	**177**	*i* P		**Pb**	**15 32 10.9**	**+0.1**
AYDN				*i* S		**Sb**	**15 32 27.6**	**+2.1**

IDC 24 15:51:49.4±1.2,0.22N×125.53E,mb3.9/5,mb1 3.9/5, mb1mx3.7/15,mbtmp3.9/5,Error ellipse: s-maj=130.0km s-min=20.8km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.81**	**157**	P		P	15 56 43.2	-2.0
	0.4nm,0.3s,baz=338,slow=10,SNR=13							
STKA	**Stephens Creek**	**35.35**	**156**	P		P	15 58 46.9	-1.8
	1.8nm,0.7s,slow=11,SNR=4.3							
SONM	**Songino Array**	**50.26**	**343**	P		P	16 00 49.5	0.0
	0.5nm,0.7s,baz=156,slow=9.0,SNR=4.8							
MKAR	**Makanchi Array**	**59.78**	**327**	P		P	16 01 55.1	-3.7
	1.2nm,0.4s,baz=122,slow=8.5,SNR=39							
AKTO	**Aktyubinsk**	**75.67**	**322**	P		P	16 03 36.7	-1.6
	1.2nm,0.6s,baz=110,slow=8.9,SNR=6.1							

*IDC **24** 16:11:22.1±2.2,61.67N×150.64W,h57km±17km,mb3.4/5, mb1 3.6/9,mb1mx3.4/23,mbtmp3.6/9,ML3.1/4, Error ellipse: s-maj=28.6km s-min=16.0km az=107.0*
*NEIC **24** 16:11:23.0,61.63N×150.66W,h70km,MG3.3(AEIC), After AEIC.*

ISC 24 16:11:21.4±0.4,61.66N±0.04×150.69W±0.09,h74km±5km, n37,σ0§86/41,mb3.4/5,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FIB	**Fire Island**	**0.55**	**153**	P		**P**	**16 11 36.4**	**+1.1**
FIB				S		**S**	**16 11 47.4**	**+2.0**
RC01	**Rabbit Creek A**	**0.73**	**141**	P		**P**	**16 11 37.3**	**+0.1**
RC01				S		**S**	**16 11 48.8**	**-0.1**
PMR	**Palmer**	**0.75**	**95**	P		**P**	**16 11 37.2**	**-0.1**
GHO	**Glory Hole Cre**	**0.85**	**82**	P		**P**	**16 11 39.1**	**+0.6**
KNK	**Knik Glacier**	**1.10**	**102**	P		**P**	**16 11 42.2**	**+0.7**
SML	**Sawmill**	**1.13**	**81**	P		**P**	**16 11 42.5**	**+0.5**
SLKM	**Skilak Lake**	**1.18**	**169**	P		**P**	**16 11 42.5**	**-0.2**
SEW	**Seward**	**1.68**	**158**	P		**P**	**16 11 48.6**	**-0.7**
TRF	**Thorofare Moun**	**1.81**	**6**	P		**P**	**16 11 52.0**	**+0.8**
KTH	**Kantishna Hill**	**1.90**	**357**	P		**P**	**16 11 53.6**	**+1.2**
MCK	**McKinley**	**2.23**	**20**	P		**P**	**16 11 57.9**	**+0.9**
SVW2	**Sparrevohn**	**2.42**	**259**	P		**P**	**16 11 59.5**	**-0.3**
DIV	**Divide**	**2.42**	**101**	P		**P**	**16 11 58.9**	**-0.9**
EYAK	**Cordova Ski Ar**	**2.65**	**113**	P		**P**	**16 12 01.4**	**-1.5**
TT01	**Tatalina**	**2.79**	**299**	P		**P**	**16 12 04.8**	**0.0**
BMRM	**Bremner River**	**3.02**	**101**	P		**P**	**16 12 07.3**	**-0.8**
COLA	**College**	**3.47**	**20**	P		**P**	**16 12 14.1**	**-0.3**
MENT	**Mentasta**	**3.50**	**65**	*e*P		**P**	**16 12 14.9**	**+0.2**
IL1	**Eielson Array**	**3.57**	**27**	P		**P**	**16 12 15.4**	**-0.3**
ILAR	**Eielson Array**	**3.57**	**27**	P		**P**	**16 12 15.4**	**-0.3**
	0.8nm,0.3s,baz=218,slow=14,SNR=49							
ILAR				S		**S**	**16 12 55.3**	**-1.5**
	3.3nm,0.3s,baz=217,slow=14,SNR=10							
KDAK	**Kodiak Island**	**4.01**	**195**	P		**P**	**16 12 20.2**	**-1.6**
	0.5nm,0.3s,baz=347,slow=6.2,SNR=18							
KDAK				S		**S**	**16 13 04.3**	**-3.6**
	2.4nm,0.3s,baz=66,slow=9.4,SNR=3.1							
GCSA	**Galena City Sc**	**4.18**	**321**	P		**P**	**16 12 23.8**	**-0.4**
IM3	**Indian Mountai**	**4.55**	**344**	P		**P**	**16 12 28.9**	**-0.5**
IMA2	**Indian Mountai**	**4.62**	**345**	*e*P		**P**	**16 12 29.7**	**-0.6**
IMA2				*e*P			16 12 30.1	
DAWY	**Dawson**	**5.71**	**60**	*e*P		**P**	**16 12 44.7**	**-0.6**
TNA	**Tin City**	**8.60**	**304**	*e*P		**P**	**16 13 25.0**	**-0.3**
INK	**Inuvik**	**9.83**	**40**	P		**P**	**16 13 40.9**	**-0.9**
	0.1nm,0.3s,baz=246,slow=14,SNR=14							
INK	**Inuvik**	**9.83**	**40**	P		**P**	**16 13 40.9**	**-0.9**
YKA	**Yellowknife Ar**	**16.79**	**71**	P		**P**	**16 15 12.5**	**0.0**
	0.1nm,0.3s,baz=280,slow=11,SNR=12							
YKA				ScP			16 23 26.2	
	0.0nm,0.3s,baz=296,slow=2.5,SNR=4.2							
YKA	**Yellowknife Ar**	**16.79**	**71**	P		**P**	**16 15 12.6**	**0.0**
YKA				ScP			16 23 26.2	
ULM	**Lac du Bonnet**	**31.75**	**86**	P		**P**	**16 17 40.5**	**+0.4**
	0.3nm,0.5s,mb3.3,baz=311,slow=7.9,SNR=3.9							
ULM	**Lac du Bonnet**	**31.75**	**86**	P		**P**	**16 17 40.5**	**+0.4**
TXAR	**Lajitas Array**	**44.57**	**114**	P		**P**	**16 19 28.3**	**+0.9**
	0.2nm,0.6s,mb3.0,baz=315,slow=7.1,SNR=3.5							
TXAR	**Lajitas Array**	**44.57**	**114**	P		**P**	**16 19 28.3**	**+0.9**
MKAR	**Makanchi Array**	**63.83**	**322**	P		**P**	**16 21 48.6**	**+1.1**
	0.2nm,0.4s,mb3.3,baz=35,slow=5.3,SNR=4.2							
ESDC	**Sonseca Array**	**75.47**	**26**	P		**P**	**16 22 59.0**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=343,slow=6.9,SNR=6.0							
MDT	**Midelt**	**81.92**	**28**	P		**P**	**16 23 35.3**	**+1.5**
	1.2nm,0.7s,mb3.9,baz=341,slow=7.0,SNR=4.2							

*IDC **24** 16:17:46.5±8.3,21.33S×169.50E,h62km±59km, mb3.5/3, mb1 3.7/4,mb1mx3.5/14,mbtmp3.7/4,ML3.4/1, Error ellipse: s-maj=197.3km s-min=65.8km az=156.0*

ISC 24 16:17:48.4±4.5,20.2S±0.3×168.5E±0.6,h37km±18km,n7, σ0§61/7,mb3.8/2,1C,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.50**	**353**	⇑*i*P		**P**	**16 18 27.5**	**+0.1**
DZM	**Mont Dzumac**	**2.73**	**226**	P		**P**	**16 18 30.6**	**-0.3**
	5.1nm,0.3s,baz=61,slow=18,SNR=219							
DZM				S		**S**	**16 19 03.2**	**+0.3**
	32nm,0.3s,baz=116,slow=23,SNR=13							
CTA	**Charters Tower**	**20.93**	**266**	P		**P**	**16 22 35.0**	**+4.6**
	2.3nm,0.6s,baz=93,slow=11,SNR=7.3							
WRA	**Warramunga Arr**	**32.10**	**264**	P		**P**	**16 24 13.9**	**-0.7**
	1.0nm,1.1s,mb3.6,baz=96,slow=8.2,SNR=6.7							
ASPA	**Alice Springs**	**32.28**	**257**	*e*P		**P**	**16 24 16.3**	**+0.2**
SONM	**Songino Array**	**87.56**	**323**	P		**P**	**16 30 34.1**	**+0.3**
	0.9nm,0.9s,mb4.0,baz=135,slow=3.3,SNR=5.8							
GERES	**GERESS Array B**	**144.98**	**331**	PKPbc		PKPbc	16 37 20.9	-1.0
	0.2nm,0.4s,baz=27,slow=3.0,SNR=4.0							

IDC 24 16:27:29.2±19.0,10.68S×165.80E,h209km±173km, mb3.2/3,mb1 3.4/3,mb1mx3.1/14,mbtmp3.7/3,Error ellipse: s-maj=136.3km s-min=55.6km az=141.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**5.89**	**282**	P		P	16 28 52.5	-3.4
	6.5nm,0.3s,baz=182,slow=10,SNR=5.1							
WRA	**Warramunga Arr**	**31.66**	**249**	P		P	16 33 33.1	-2.0
	0.3nm,0.6s,baz=80,slow=9.0,SNR=4.7							
ILAR	**Eielson Array**	**83.15**	**19**	P		P	16 39 31.4	-1.3
	0.5nm,0.6s,baz=233,slow=5.0,SNR=14							
MKAR	**Makanchi Array**	**93.29**	**317**	P		P	16 40 20.1	-1.2
	0.4nm,0.7s,baz=101,slow=6.2,SNR=6.5							
ARCES	**ARCESS Array B**	**116.00**	**346**	PKP		PKPdf	16 45 46.5	-0.2
	3.8nm,1.0s,baz=45,slow=3.8,SNR=5.7							

MAN 24 16:37:15.9,7.06N×124.62E,h10km,mb4.4,ML3.3,MS3.1, Mindanao

*MAN **24** 16:52:54.9,10.86N×126.51E,h52km,mb4.7,ML3.6, MS3.5*

IDC 24 16:52:52.9±2.4,11.05N×126.54E,mb3.8/3,mb1 4.0/3, mb1mx3.6/18,mbtmp3.8/3,Error ellipse: s-maj=221.8km s-min=28.5km az=67.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.74**	**166**	P		P	16 59 19.0	-2.1
	0.3nm,0.5s,baz=344,slow=9.3,SNR=3.0							
MKAR	**Makanchi Array**	**51.57**	**322**	P		P	17 02 01.6	-1.3
	0.8nm,0.6s,baz=119,slow=8.5,SNR=11							
FINES	**FINESS Array B**	**85.33**	**332**	P		P	17 05 30.6	-2.3
	5.0nm,1.1s,baz=90,slow=4.2,SNR=4.3							

GUC 24 17:18:56.2±0.8,29.50S×68.98W,h150km,MD3.8,ML3.8, 4C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LSCH	**La Serena**	**2.02**	**258**	⇑*i*P		P	17 19 32.2	+0.4
LSCH				*i* S		S	17 19 58.7	-0.5
LSCH				AMP			17 20 00.2	
	comp=N,317nm,0.

SEY Seymchan 18.31 318 *e*P **P** **17 28 53.1 +2.2**
SEY pmax pmax
comp=Z,40nm,1.0s
SEY pmax pmax
comp=N,20nm,0.9s
SEY pmax pmax
comp=E,20nm,0.9s
SLKM Skilak Lake 18.92 50 P **P** **17 28 58.2 +0.3**
SLKM Skilak Lake 18.92 50 *e*P **P** **17 28 57.1 -0.8**
FIB Fire Island 19.11 48 P **P** **17 29 01.9 +1.8**
FIB pmax pmax
comp=Z,110nm,1.0s
FIB Fire Island 19.11 48 *e*P **P** **17 29 00.5 +0.4**
comp=Z,106nm,1.1s
PMR Palmer 19.71 48 *e*P **P** **17 29 07.0 +0.4**
PMR pmax pmax
comp=Z,19nm,0.7s
PMR Palmer 19.71 48 *e*P **P** **17 29 07.0 +0.4**
comp=Z,19nm,0.7s
IMA2 Indian Mountai 19.77 33 *e*P **P** **17 29 08.4 +1.2**
SML Sawmill 20.14 47 P **P** **17 29 10.8 -0.3**
SML Sawmill 20.14 47 *e*P **P** **17 29 10.0 -1.0**
MCK McKinley 20.48 42 P **P** **17 29 14.5 -0.1**
MCK pmax pmax
comp=Z,61nm,1.0s
MCK McKinley 20.48 42 *e*P **P** **17 29 14.1 -0.5**
comp=Z,61nm,1.1s
DIV Divide 21.18 50 *e*P **P** **17 29 21.3 -0.4**
comp=Z,209nm,0.7s,mb5.6
COLA College 21.35 39 P **P** **17 29 23.7 +0.3**
COLA pmax pmax
comp=Z,83nm,0.8s,mb5.1
COLA College 21.35 39 *e*P **P** **17 29 23.4 0.0**
comp=Z,83nm,0.8s,mb5.1
ILAR Eielson Array 21.70 40 P **P** **17 29 25.8 -1.1**
comp=Z,7.7nm,0.5s,mb4.3,baz=245,slow=8.4,SNR=81
ILAR PcP PcP 17 33 24.1 -2.4
comp=Z,4.7nm,0.6s,baz=280,slow=3.4,SNR=10
ILAR ScP 17 36 53.2
comp=Z,21nm,0.9s,baz=283,slow=3.6,SNR=41
ILAR LR LR 17 37 00.3
comp=Z,462nm,20.4s,baz=249,slow=34
MENT Mentasta 22.50 46 *e*P **P** **17 29 36.9 +2.3**
YSS Yuzh-Sakhalins 24.23 273⇓ *i*P **P** **17 29 53.0 +1.5**
YSS *e* 17 30 22.8
YSS pmax pmax
comp=E,110nm,0.8s
YSS pmax pmax
comp=Z,150nm,0.8s,mb5.4
DAWY Dawson 24.63 44 *e*P **P** **17 29 55.9 +0.6**
ASAJ Asahikawa 25.64 268 P **P** **17 30 05.5 +0.5**
comp=Z,52nm,0.8s,mb5.0,baz=62,slow=7.0,SNR=27
ASAJ Asahikawa 25.64 268 P **P** **17 30 05.5 +0.5**
ASAJ pmax pmax
comp=Z,53nm,0.8s
INK Inuvik 27.84 36 P **P** **17 30 25.1 +0.1**
comp=Z,23nm,0.5s,mb5.0,baz=250,slow=8.2,SNR=150
INK PcP PcP 17 33 37.8 -1.8
comp=Z,4.0nm,0.7s,baz=238,slow=0.4,SNR=4.2
INK ScP 17 37 10.9
comp=Z,16nm,0.9s,baz=252,slow=4.2,SNR=16
INK LR LR 17 41 10.0
comp=Z,487nm,21.6s,baz=249,slow=36
INK Inuvik 27.84 36 *e*P **P** **17 30 25.1 +0.1**
INK pmax pmax
comp=Z,40nm,0.6s
INK Inuvik 27.84 36 *e*P **P** **17 30 25.1 +0.1**
comp=Z,40nm,0.6s,mb5.1
INK *e*ScP 17 37 10.2
HABR Khabarovsk 28.36 281 *i* P **P** **17 30 29.5 -0.3**
HABR *e*S **S** **17 35 11.2 +1.2**
HABR pmax pmax
comp=Z,126nm,1.8s,mb5.2
YAK Yakutsk 28.41 311 P **P** **17 30 28.4 -1.7**
YAK pmax pmax
comp=Z,58nm,1.0s,mb5.1
YAK Yakutsk 28.41 311 *e*P **P** **17 30 27.9 -2.3**
comp=Z,58nm,1.0s,mb5.1
DLBC Dease Lake 29.09 57 P **P** **17 30 36.2 0.0**
comp=Z,4.0nm,0.8s,mb4.1,baz=254,slow=13,SNR=8.8
DLBC ScP 17 37 15.7
comp=Z,12nm,1.0s,baz=268,slow=2.2,SNR=7.7
DLBC LR LR 17 42 00.5
comp=Z,408nm,21.3s,baz=269,slow=36
TIXI Tiksi 29.85 331 *e*P **P** **17 30 38.9 -4.0**
TIXI *e*S **S** **17 35 30.0 -3.4**
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
TIXI MLR MLR
comp=Z,301nm,16.0s
KLR Kul'dur 30.07 284⇑ *i*P **P** **17 30 40.3 -4.7**
KLR *e* 17 31 06.0
KLR pmax pmax
comp=E,32nm,0.8s
KLR pmax pmax
comp=Z,88nm,0.8s,mb5.4
MAJO Matsushiro 32.78 259 *e*P **P** **17 31 07.1 -1.8**
MAJO pmax pmax
comp=Z,34nm,1.0s,mb5.1
MAJO Matsushiro 32.78 259 *e*P **P** **17 31 07.0 -1.9**
comp=Z,34nm,1.0s,mb5.1
MAT Matsushiro 32.78 259 P **P** **17 31 09.0 +0.1**
MAT S **S** **17 36 21.0 +1.3**
MAT Matsushiro 32.78 259 *e*P **P** **17 31 09.0 +0.1**
MAT *e*S **S** **17 36 21.0 +1.3**
MAT pmax pmax
comp=Z,44nm,1.2s,mb5.2
MAT Matsushiro 32.78 259 *e*P **P** **17 31 09.0 +0.1**
comp=Z,44nm,1.2s,mb5.2
MAT *e*S **S** **17 36 21.0 +1.3**
MJAR Matsushiro Arr 32.78 259 P **P** **17 31 09.0 +0.1**
comp=Z,6.8nm,0.8s,mb4.5,baz=41,slow=6.4,SNR=27
MJAR PcP PcP 17 33 51.8 -1.0
comp=Z,2.5nm,0.4s,baz=73,slow=1.4,SNR=12
MJAR ScP 17 37 29.6
comp=Z,12nm,1.0s,baz=38,slow=2.1,SNR=18
MJAR LR LR 17 43 21.2
comp=Z,162nm,19.9s,baz=40,slow=34
MJAR Matsushiro Arr 32.78 259 P **P** **17 31 09.0 +0.1**
MJAR PcP PcP 17 33 51.8 -1.0
MJAR ScP 17 37 29.6
MJAR LR LR 17 43 21.2
VLA Vladivostok 32.81 274 *e*P **P** **17 31 04.0 -5.1**
VLA *i* pP 17 31 25.4 -0.6
VLA pmax pmax
comp=Z,75nm,1.5s,mb5.3
MDJ Mudanjiang 33.47 278 P **P** **17 31 13.0 -1.8**
MDJ AP pP 17 31 28.1 -3.6
MDJ PCP PcP 17 33 54.6 0.0
MDJ S **S** **17 36 30.6 +0.4**
MDJ PCS 17 37 40.0
MDJ AMB AMB
comp=Z,20nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,240nm,7.5s
MDJ LR LR
comp=N,470nm,45.2s
MDJ LR LR
comp=E,240nm,41.1s
MDJ Mudanjiang 33.47 278 *e*P **P** **17 31 13.3 -1.5**
comp=E,20nm,0.9s,mb5.0
KIP Kipapa 34.90 141⇑ *e*P **P** **17 31 28.2 +0.9**
YKW3 Yellowknife Ar 35.79 46 *e*P **P** **17 31 34.0 -0.3**
YKW3 *e*ScP 17 37 37.0
YKA Yellowknife Ar 35.81 46 P **P** **17 31 34.6 +0.1**
comp=E,41nm,0.7s,mb5.4,baz=281,slow=8.1,SNR=574
YKA PcP PcP 17 34 00.1 -1.1
comp=E,2.5nm,0.6s,baz=283,slow=3.0,SNR=5.8
YKA ScP 17 37 37.9
comp=E,3.8nm,0.5s,baz=285,slow=3.7,SNR=25
YKA LR LR 17 47 40.2
comp=E,544nm,19.8s,baz=275,slow=38
YKA Yellowknife Ar 35.81 46 P **P** **17 31 34.6 0.0**
YKA 17 34 00.1
YKA pmax pmax
comp=Z,41nm,0.7s
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA pmax pmax
comp=N,4.0nm,0.5s
YKA MLR MLR
comp=Z,544nm,19.8s
YKA Yellowknife Ar 35.81 46 P **P** **17 31 34.6 +0.1**
YKA PcP PcP 17 34 00.1 -1.1
YKA ScP 17 37 37.9
YKA LR LR 17 47 40.2

CN2 Changchun 36.44 279 *e*P **P** **17 31 39.3 -0.8**
CN2 AP pP 17 32 01.8 +4.6
CN2 *e*XP sP 17 32 11.3 +5.7
CN2 *e*S **S** **17 37 12.5 -3.6**
CN2 SS SS 17 39 43.1 -1.8
CN2 SCS ScS 17 41 45.1 -2.3
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,470nm,6.0s
BOD Bodaibo 36.94 306⇑ *i*P **P** **17 31 43.2 -0.9**
BOD pmax pmax
comp=Z,59nm,0.8s,mb5.6
HIA Hailar 37.18 291 *e*P **P** **17 31 45.5 -0.7**
HIA pmax pmax
comp=Z,57nm,0.6s
HIA Hailar 37.18 291 *e*P **P** **17 31 45.5 -0.8**
comp=Z,56nm,0.6s,mb5.7
FMW Mount Fremont 37.76 73 P **P** **17 31 52.4 +1.3**
SSOR Sweet Springs 38.34 77 P **P** **17 31 58.1 +2.2**
EBG Ellensburg 38.43 73 P **P** **17 31 58.0 +1.4**
KS15 Wonju Array Si 38.59 269 *e*P **P** **17 31 58.0 -0.1**
SNY Shenyang 38.67 278⇓ P **P** **17 31 59.3 +0.6**
SNY AP pP 17 32 18.3 +2.4
SNY XP sP 17 32 27.8 +3.7
SNY S **S** **17 37 53.6 +3.6**
SNY AMB AMB
comp=Z,70nm,1.7s,mb5.2
SNY AMB AMB
comp=Z,330nm,6.3s
SNY LR LR
comp=N,520nm,20.2s
SNY LR LR
comp=E,480nm,19.2s
SNY LR LR
comp=Z,430nm,12.8s
EPH Ephrata 38.78 72 P **P** **17 31 59.8 +0.3**
CROR Criterion Ridg 39.16 76 P **P** **17 32 04.2 +1.5**
OD2 Odessa Site #2 39.29 71 P **P** **17 32 03.9 +0.2**
HAWA Hanford 39.30 73 *e*P **P** **17 32 04.2 +0.3**
comp=Z,2.5nm,0.8s,mb4.1
HAWA *e*ScP 17 37 51.7
WRD Warden 39.33 72 P **P** **17 32 03.9 -0.2**
INCN Inchon 39.35 270 *e*P **P** **17 32 04.9 +0.5**
comp=Z,44nm,0.9s,mb5.3
H2OWA Water 39.37 73 P **P** **17 32 05.2 +0.8**
CIT Chita 39.45 297 *e*P **P** **17 32 05.0 -0.1**
CIT *e* 17 32 37.0
CIT *e* 17 34 11.7
CIT pmax pmax
comp=Z,187nm,1.4s,mb5.7
JNU Nakatsue 39.55 261 P **P** **17 32 07.5 +1.4**
comp=Z,37nm,0.9s,mb5.2,baz=51,slow=15,SNR=16
JNU PcP PcP 17 34 11.5 -1.5
comp=Z,14nm,1.1s,baz=16,slow=11,SNR=2.7
EDM Edmonton 39.60 60 P **P** **17 32 06.2 -0.1**
EDM Edmonton 39.60 60 *e*P **P** **17 32 06.0 -0.3**
VIPM Ingram Point 39.64 76 P **P** **17 32 08.2 +1.5**
KHMM Horse Mountain 39.76 83 P **P** **17 32 08.3 +0.6**
NEW Newport 39.78 69 P **P** **17 32 08.1 +0.2**
NEW pmax pmax
comp=Z,26nm,0.9s
NEW Newport 39.78 69 *e*P **P** **17 32 07.5 -0.4**
comp=Z,26nm,0.9s,mb5.0
RES Resolute Bay 39.92 24 *e*P **P** **17 32 09.1 +0.3**
RES pmax pmax
comp=Z,25nm,0.9s,mb5.0
RES Resolute Bay 39.92 24 *e*P **P** **17 32 09.1 +0.3**
comp=Z,25nm,0.9s,mb5.0
RES *e*ScP 17 37 52.3
LASM Arnica Sink 40.67 80 P **P** **17 32 18.4 +3.1**
LBCM Butte Creek Ri 41.25 81 P **P** **17 32 21.9 +1.9**
BSMT Bassoo Peak 41.35 68 P **P** **17 32 21.2 +0.4**
BMO Blue Mountains 41.45 74 *e*P **P** **17 32 22.0 +0.5**
comp=Z,18nm,0.8s,mb5.0
DL2 Dalian 41.59 276 P **P** **17 32 23.3 +0.5**
DL2 *e*S **S** **17 38 29.8 -3.7**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
DL2 LR LR
comp=N,410nm,13.2s
DL2 LR LR
comp=E,260nm,11.9s
DL2 LR LR
comp=Z,250nm,11.0s
WVOR Wild Horse Val 41.99 77 P **P** **17 32 27.3 +1.3**
WVOR pmax pmax
comp=Z,41nm,0.8s,mb5.2
WVOR Wild Horse Val 41.99 77 *e*P **P** **17 32 26.9 +0.9**
comp=Z,41nm,0.8s,mb5.2
OHCM Honcut 42.06 83 *e*P **P** **17 32 27.5 +0.9**
MSO Missoula 42.37 69 *e*P **P** **17 32 28.4 -0.6**
comp=Z,17nm,0.9s,mb4.8
CHMT Chamberlain Mo 42.73 69 *e*P **P** **17 32 31.1 -0.9**
CHMT *e*ScP 17 38 05.1
HRY Holter Researc 43.66 68 *e*P **P** **17 32 39.0 -0.6**
HRY *e*ScP 17 38 08.9
HLID Hailey 43.89 73 *e*P **P** **17 32 41.8 +0.3**
comp=Z,27nm,0.9s,mb5.0
DLMT Dillon 43.95 70 *e*P **P** **17 32 41.6 -0.4**
comp=Z,16nm,0.9s,mb4.8
DLMT *e*ScP 17 38 10.4
MCMT McKenzie Canyo 44.10 71 *e*P **P** **17 32 42.8 -0.4**
MCMT *e*ScP 17 38 11.0
EGMT Eagleton 44.14 66 *e*P **P** **17 32 42.3 -1.1**
comp=Z,28nm,0.8s,mb5.0
EGMT *e*ScP 17 38 10.6
BOZ Bozeman (W) 44.36 69 *e*P **P** **17 32 44.9 -0.3**
BOZ pmax pmax
comp=Z,31nm,0.7s,mb5.2
BOZ Bozeman (W) 44.36 69 *e*P **P** **17 32 44.9 -0.3**
comp=Z,32nm,0.7s,mb5.2
NVAR Mina Array Bea 44.58 82 P **P** **17 32 48.5 +1.4**
comp=Z,14nm,0.7s,mb4.8,baz=297,slow=6.7,SNR=74
NVAR pP pP 17 33 05.2 +0.7
comp=Z,12nm,0.7s,baz=300,slow=6.8,SNR=9.5
NVAR ScP 17 38 13.8
comp=Z,5.5nm,0.8s,baz=281,slow=6.7,SNR=19
NVAR LR LR 17 48 37.9
comp=Z,116nm,18.5s,baz=310,slow=32
QLMT Earthquake Lak 44.94 70 *e*P **P** **17 32 49.8 -0.1**
QLMT *e*ScP 17 38 15.1
ELK Elko 45.04 77 *e*P **P** **17 32 51.7 +0.9**
ELK *e**PP pP 17 33 08.1 0.0
ELK pmax pmax
comp=Z,24nm,0.7s
ELK Elko 45.04 77 *e*P **P** **17 32 51.7 +0.9**
comp=Z,24nm,0.7s,mb5.0
ELK *e*pP pP 17 33 08.1 -0.1
ELK *e*ScP 17 38 15.4
PTRM Twissleman Ran 45.15 86 *e*P **P** **17 32 52.9 +1.2**
PTRM *e*ScP 17 38 16.4
ULN Ulaanbaatar 45.16 295⇑ *e*P **P** **17 32 51.4 -0.2**
YMR Madison River 45.30 70 *e*P **P** **17 32 52.5 -0.3**
comp=Z,36nm,0.9s,mb5.1
YMR *e*ScP 17 38 17.1
YFT Old Faithful 45.50 70 *e*P **P** **17 32 55.4 +1.1**
YFT *e*pP pP 17 33 12.4 +0.6
SONM Songino Array 45.55 295 P **P** **17 32 55.5 +0.8**
comp=Z,69nm,0.6s,mb5.5,baz=58,slow=8.3,SNR=585
SONM pP pP 17 33 13.8 +1.7
comp=Z,9.3nm,0.7s,baz=102,slow=11,SNR=2.3
SONM PcP PcP 17 34 32.3 -0.5
comp=Z,8.3nm,0.8s,baz=62,slow=2.9,SNR=3.8
SONM ScP 17 38 18.2
comp=Z,6.9nm,0.7s,baz=44,slow=3.2,SNR=19
SONM LR LR 17 52 36.4
comp=Z,345nm,21.0s,baz=247,slow=37
JOW Kunigami 45.58 257 P **P** **17 32 56.1 +0.9**
comp=Z,36nm,1.1s,mb5.0,baz=358,slow=6.5,SNR=4.3
LKWY Lake 45.69 70 *e*P **P** **17 32 56.6 +0.8**
LKWY pmax pmax
comp=Z,36nm,0.9s,mb5.1
LKWY Lake 45.69 70 *e*P **P** **17 32 56.6 +0.7**
comp=Z,36nm,0.9s,mb5.1
LKWY *e*ScP 17 38 19.4
IMW Indian Meadow 45.76 71 *e*P **P** **17 32 56.5 +0.1**
comp=Z,23nm,0.9s,mb4.9
IMW *e*ScP 17 38 18.7
ZAK Zakamensk 45.88 300⇑ *i*P **P** **17 32 57.4 +0.1**
ZAK pmax pmax
comp=Z,85nm,1.7s,mb5.2
ZAK pmax pmax
comp=Z,30nm,1.7s,mb4.8
HVU Hansel Valley 45.91 75 *e*P **P** **17 32 58.0 +0.3**
HVU pmax pmax
comp=Z,23nm,0.6s,mb5.1
HVU Hansel Valley 45.91 75 *e*P **P** **17 32 58.0 +0.3**
comp=Z,23nm,0.6s,mb5.1
HVU *e*ScP 17 38 19.0
TPAW Teton Pass 45.99 71 *e*P **P** **17 32 58.2 -0.1**
comp=Z,18nm,0.9s,mb4.8
TIA Tai'an 46.06 276 P **P** **17 32 59.0 +0.1**
TIA AMB AMB
comp=Z,60nm,0.7s,mb5.4
SNOW Snow King Moun 46.12 71 *e*P **P** **17 32 59.8 +0.5**
comp=Z,15nm,1.1s,mb4.6
SNOW *e*pP pP 17 33 17.4 +0.7
LOHW Long Hollow 46.12 71 *e*P **P** **17 32 59.0 -0.3**
comp=Z,7.5nm,0.6s,mb4.6
LOHW *e*ScP 17 38 19.6
REDW Red Top Meadow 46.12 72 *e*P **P** **17 32 59.1 -0.2**
comp=Z,17nm,1.1s,mb4.7
REDW *e*ScP 17 38 19.8
ISA Isabella 46.22 85 P **P** **17 33 07.9 +7.7**
ISA pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
ISA Isabella 46.22 85 *e*P **P** **17 33 00.1 -0.1**
comp=Z,5.2nm,0.7s,mb4.4
BGU Big Grassy Mou 46.27 76 *e*P **P** **17 33 01.4 +0.9**
BGU *e*pP pP 17 33 18.3 +0.4
BGU *e*ScP 17 38 21.0
AHID Auburn Hatcher 46.33 72 *e*P **P** **17 33 00.7 -0.2**
comp=Z,25nm,0.9s,mb5.0
DAC Darwin (Calif) 46.37 84 *e*P **P** **17 32 59.9 -1.5**
DAC pmax pmax
comp=Z,11nm,0.7s,mb4.7
DAC Darwin (Calif) 46.37 84 *e*P **P** **17 32 59.1 -2.2**
comp=Z,11nm,0.6s,mb4.8
SPUT South Promonto 46.39 75 *e*P **P** **17 33 01.6 +0.1**
MOY Mondy 46.40 303 *e*P **P** **17 33 01.9 +0.5**
MOY pmax pmax
comp=Z,69nm,2.2s,mb5.0
FCC Fort Churchill 46.53 46 *e*P **P** **17 33 01.6 -0.7**
FCC *e**PP pP 17 33 19.4 -0.3
FCC pmax pmax
comp=Z,27nm,0.9s,mb5.0
FCC Fort Churchill 46.53 46 *e*P **P** **17 33 01.6 -0.7**
comp=Z,27nm,0.9s,mb5.0
FCC *e*pP pP 17 33 19.4 -0.4
HHC Hu-ho-hao-te 46.58 285⇓ P **P** **17 33 03.8 +0.9**
HHC AP pP 17 33 22.3 +2.0
HHC XP sP 17 33 28.8 +0.5
HHC PCP PcP 17 34 36.8 +0.3
HHC PP PP 17 34 54.6 +1.7
HHC SCP 17 38 21.5
HHC PCS 17 38 29.9
HHC S **S** **17 39 46.0 +0.4**
HHC XS 17 40 18.1
HHC SCS ScS 17 42 46.8 -1.6
HHC SS SS 17 43 05.9 +0.8
HHC AMB AMB
comp=Z,60nm,1.0s,mb5.3
HHC AMB AMB
comp=Z,420nm,5.8s
HHC LR LR
comp=N,340nm,15.5s
HHC LR LR
comp=E,320nm,15.5s
HHC LR LR
comp=Z,320nm,11.9s
HWUT Hardware Ranch 46.74 74 *e*P **P** **17 33 04.3 +0.1**
comp=Z,36nm,1.1s,mb5.0
HWUT *e*pP pP 17 33 21.1 -0.5
TPNV Topopah Spring 46.77 82 *e*P **P** **17 33 05.1 +0.6**
TPNV *e**PP pP 17 33 21.5 -0.5
TPNV pmax pmax
comp=Z,56nm,0.7s,mb5.4
TPNV Topopah Spring 46.77 82 *e*P **P** **17 33 05.1 +0.5**
comp=Z,56nm,0.7s,mb5.4
TPNV *e*pP pP 17 33 21.5 -0.5
TPNV *e*ScP 17 38 22.9
DUG Dugway 46.85 76 *e*P **P** **17 33 05.8 +0.8**
DUG *e**PP pP 17 33 22.7 +0.2
DUG pmax pmax
comp=Z,75nm,1.0s,mb5.4
DUG Dugway 46.85 76 *e*P **P** **17 33 05.8 +0.8**
comp=Z,75nm,1.0s,mb5.4
DUG *e*pP pP 17 33 22.6 +0.1
DUG *e*ScP 17 38 23.0
LAO LASA Array 46.88 65 *e*P **P** **17 33 04.7 -0.5**
comp=Z,11nm,0.5s,mb4.8
SSE Sheshan 46.93 267 *e*P **P** **17 33 02.3 -3.5**
SSE AP pP 17 33 27.0 +3.7
SSE XP sP 17 33 39.9 +8.1
SSE PCP PcP 17 34 33.9 -4.0
SSE PP PP 17 34 51.3 -5.3
SSE S **S** **17 39 42.8 -8.0**
SSE XS 17 40 26.8
SSE SCS ScS 17 42 46.3 -4.6
SSE SS SS 17 43 11.4 +0.1
SSE AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
SSE AMB AMB
comp=Z,80nm,6.8s
SSE LR LR
comp=N,150nm,40.3s
SSE LR LR
comp=E,130nm,40.3s
NOQ North Oquirrh 46.99 75 *e*P **P** **17 33 06.7 +0.6**
comp=E,78nm,1.1s,mb5.3
DGMT Dagmar 47.00 62 *e*P **P** **17 33 04.7 -1.5**
comp=E,16nm,0.7s,mb4.8
TCUT Toone Canyon 47.13 74 *e*P **P** **17 33 08.0 +0.7**
PDAR Pinedale Array 47.24 71 P **P** **17 33 08.1 0.0**
comp=E,18nm,0.7s,mb4.9,baz=307,slow=4.0,SNR=159
PDAR pP pP 17 33 25.3 -0.3
comp=E,36nm,0.8s,baz=291,slow=2.7,SNR=17
PDAR ScP 17 38 24.0
comp=E,18nm,0.9s,baz=270,slow=1.5,SNR=34
PDAR LR LR 17 50 26.5
comp=E,131nm,18.6s,baz=128,slow=33
MWC Mount Wilson 47.42 86 P **P** **17 33 10.5 +0.8**
MWC *e* pP 17 33 27.1 0.0
MWC Mount Wilson 47.42 86 *e*P **P** **17 33 10.0 +0.4**
MWC *e*pP pP 17 33 26.2 -0.9
NLU North Lily Min 47.44 76 *e*P **P** **17 33 09.7 -0.1**
BTO Baotou 47.65 285 *e*P **P** **17 33 12.1 +0.7**
DAU Daniels Canyon 47.65 75 *e*P **P** **17 33 12.2 +0.8**
DAU *e*pP pP 17 33 29.0 +0.1
DAU *e*ScP 17 38 26.6
MPU Maple Canyon 47.67 76 *e*P **P** **17 33 11.8 +0.3**
comp=E,22nm,0.8s,mb5.0
MPU *e*ScP 17 38 26.7
NJ2 Nanjing 47.73 270 *e*P **P** **17 33 11.9 -0.2**
NJ2 AP pP 17 33 35.1 +5.5
NJ2 PP PP 17 35 06.5 +2.7
NJ2 S **S** **17 39 58.0 -4.1**
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb5.1
NJ2 AMB AMB
comp=Z,160nm,4.2s
NJ2 LR LR
comp=N,670nm,26.8s
NJ2 LR LR
comp=E,570nm,17.3s
NJ2 LR LR
comp=Z,2μm,15.1s
ARUT Antelope Range 47.97 79 *e*P **P** **17 33 14.7 +0.8**
ARUT Antelope Range 47.97 79 *e*P **P** **17 33 14.2 +0.3**
KRAR Krasnoyarsk 48.08 311⇓ *i*P **P** **17 33 14.1 -0.4**
MVU Marysvale 48.26 78 *e*P **P** **17 33 18.1 +2.0**
comp=Z,24nm,0.8s,mb5.1
MVU *e*ScP 17 38 31.0
MSU Marysvale 48.28 78 *e*P **P** **17 33 17.1 +0.9**
MSU *e*ScP 17 38 29.7
TMUT Trail Mountain 48.37 76 *e*P **P** **17 33 17.7 +0.7**
TMUT *e*ScP 17 38 29.1
NEN Nelson 48.48 82 *e*P **P** **17 33 18.1 +0.3**
PFO Pinyon Flat Ob 48.83 86 P **P** **17 33 21.6 +1.1**
PFO pmax pmax
comp=Z,12nm,1.0s,mb4.8
PFO Pinyon Flat Ob 48.83 86 *e*P **P** **17 33 20.5 -0.1**
comp=Z,12nm,1.0s,mb4.8
SRU San Rafael 48.91 76 *e*P **P** **17 33 21.5 +0.4**
SRU pmax pmax
comp=Z,35nm,0.6s,mb5.5
SRU San Rafael 48.91 76 *e*P **P** **17 33 21.5 +0.4**
comp=Z,35nm,0.6s,mb5.5

SRU eScP 17 38 31.4
BAR Barrett 49.31 87 *e*P **P** **17 33 24.8 +0.5**
KBS Kingsbay 49.45 357 P **P** **17 33 25.2 +0.4**
KBS pmax pmax
comp=Z,17nm,0.4s,mb5.3
KBS Kingsbay 49.45 357 *e*P **P** **17 33 24.9 +0.1**
comp=Z,17nm,0.4s,mb5.3
RSSD Black Hills 49.64 67 *e*P **P** **17 33 25.1 -1.5**
RSSD pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
RSSD Black Hills 49.64 67 *e*P **P** **17 33 25.1 -1.6**
comp=Z,6.0nm,0.7s,mb4.6
RSSD eScP 17 38 33.7
PV10 Paradox Valley 50.27 76 *e*P **P** **17 33 31.7 +0.2**
PV10 ScP 17 38 37.7
ULM Lac du Bonnet 50.41 56 P **P** **17 33 31.1 -1.4**
comp=Z,5.8nm,0.5s,mb4.8,baz=306,slow=8.2,SNR=19
ULM ScP 17 38 36.4
comp=Z,5.6nm,0.7s,baz=312,slow=3.3,SNR=8.8
ULM LR LR 17 53 39.5
comp=Z,217nm,20.5s,baz=208,slow=34
ULM Lac du Bonnet 50.41 56 P **P** **17 33 31.1 -1.4**
ULM ScP 17 38 36.4
ULM LR LR 17 53 39.5
PHWY Pilot Hill 50.55 71 *e*P **P** **17 33 32.9 -0.8**
WUAZ Wupatki 50.70 80 *e*P **P** **17 33 35.2 +0.3**
comp=Z,38nm,0.9s,mb5.4
WUAZ eScP 17 38 40.2
PV01 Paradox Valley 50.70 76 *e*P **P** **17 33 34.7 -0.2**
SMCO Snowmass 50.99 74 *e*P **P** **17 33 37.0 -0.1**
comp=Z,9.6nm,0.5s,mb5.1
SMCO eScP 17 38 41.2
DAG Danmarks Havn 51.31 5⇑ *i*P **P** **17 33 38.0 -1.0**
comp=Z,7.0nm,0.5s,mb5.0
DAG Danmarks Havn 51.31 5⇑ *i*P **P** **17 33 38.0 -1.0**
DAG pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
WHN Wuhan 51.57 272 *e*P **P** **17 33 41.0 -0.5**
SDCO Great Sand Dun 52.80 74 *e*P **P** **17 33 50.5 -0.1**
comp=Z,48nm,1.3s,mb5.4
SDCO *e*pP pP 17 34 07.8 -0.6
SDCO eScP 17 38 48.3
ZAL Zalesovo 53.06 312 P **P** **17 33 51.4 -0.9**
comp=Z,15nm,0.5s,mb5.3,baz=58,slow=7.4,SNR=90
ZAL LR LR 17 58 44.7
comp=Z,219nm,21.6s,baz=54,slow=38
NVS Novosibirsk 53.20 314 *i*P **P** **17 33 51.6 -1.7**
NVS *e*S **S** **17 41 14.9 -2.3**
NVS *e* 17 43 33.9
NVS pmax pmax
comp=N,32nm,0.6s
NVS pmax pmax
comp=Z,79nm,0.6s,mb5.9
NVS pmax pmax
comp=E,48nm,0.6s
NVS smax
comp=N,27nm,2.1s
NVS smax
comp=E,20nm,2.0s
TUC Tucson 53.21 83 *e*P **P** **17 33 53.4 -0.4**
TUC *e**PP pP 17 34 09.7 -1.9
TUC pmax pmax
comp=Z,13nm,1.0s,mb4.9
TUC Tucson 53.21 83 *e*P **P** **17 33 53.4 -0.5**
comp=Z,13nm,1.0s,mb4.9
TUC *e*pP pP 17 34 09.7 -1.9
SUMG Summit 53.26 13 *e*P **P** **17 33 53.1 -0.6**
comp=Z,27nm,0.6s,mb5.5
SUMG *e*pP pP 17 34 12.7 +1.3
ANMO Albuquerque 54.08 77 *e*P **P** **17 33 59.9 -0.2**
ANMO pmax pmax
comp=Z,12nm,0.9s
ANMO Albuquerque 54.08 77 *e*P **P** **17 33 59.9 -0.1**
comp=Z,12nm,0.9s,mb4.9
ANMO eScP 17 38 54.5
EYMN Ely 54.10 56 *e*P **P** **17 33 58.2 -1.8**
comp=Z,26nm,1.0s,mb5.2
LZH Lanzhou 54.27 285⇓ *i*P **P** **17 34 01.6 +0.1**
LZH *e*S **S** **17 41 31.3 -0.7**
LZH AMB AMB
comp=Z,90nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,440nm,6.4s
LZH LR LR
comp=N,600nm,14.5s
LZH LR LR
comp=Z,890nm,18.0s
GTA Gaotai 54.46 291⇓ *i*P **P** **17 34 02.8 0.0**
GTA AP pP 17 34 25.8 +5.1
GTA XP sP 17 34 37.0 +8.5
GTA PCP PcP 17 35 03.6 -1.8
GTA PP PP 17 36 09.4 +2.5
GTA SCP 17 38 51.0
GTA PCS 17 39 01.8
GTA S **S** **17 41 36.0 +1.5**
GTA SCS ScS 17 43 39.8 -2.1
GTA AMB AMB
comp=Z,160nm,0.6s,mb6.2
GTA AMB AMB
comp=Z,350nm,5.0s
GTA LR LR
comp=N,340nm,20.3s
GTA LR LR
comp=E,260nm,14.9s
GTA LR LR
comp=Z,260nm,16.8s
ENH Enshi 54.78 276 *e*P **P** **17 34 03.6 -1.6**
comp=Z,17nm,0.8s,mb5.1
CBKS Cedar Bluff 55.50 69 *e*P **P** **17 34 09.6 -0.8**
CBKS pmax pmax
comp=Z,38nm,0.7s,mb5.5
CBKS Cedar Bluff 55.50 69 *e*P **P** **17 34 09.6 -0.8**
comp=Z,38nm,0.7s,mb5.5
SFJD Kangerlussuaq 55.77 21 *i*P **P** **17 34 09.8 -2.1**
SFJD *i* pP 17 34 32.7 +2.8
comp=Z,140nm,23.0s
SFJD Kangerlussuaq 55.77 21 *e*P **P** **17 34 09.8 -2.1**
SFJD *i* pP 17 34 32.7 +2.8
SFJD MLR MLR
comp=Z,150nm,23.0s
MNTX Cornudas Mount 56.96 79 *e*P **P** **17 34 20.8 -0.1**
comp=Z,32nm,1.0s,mb5.3
MNTX *e*pP pP 17 34 37.3 -1.6
KSU1 Kansas State U 57.12 67 *e*P **P** **17 34 19.9 -2.0**
KSU1 *e*ScP 17 39 06.1
SCO Scoresbysund 57.17 8 *i*P **P** **17 34 21.0 -0.9**
KEV Kevo 57.23 349 *e*p **P** **17 34 19.2 -3.1**
comp=Z,6.2nm,0.6s,mb4.8
KEV Kevo 57.23 349 *e*P **P** **17 34 19.2 -3.1**
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ARCES ARCESS Array B 57.61 349 P **P** **17 34 23.3 -1.7**
comp=Z,16nm,0.7s,mb5.2,baz=28,slow=8.8,SNR=84
ARCES PKiKP 17 41 39.2
comp=Z,2.5nm,0.9s,baz=326,slow=4.4,SNR=3.9
ARCES LR LR 17 58 03.4
comp=Z,211nm,21.9s,baz=17,slow=35
CD2 Chengdu 57.86 280⇓ *i*P **P** **17 34 26.8 -0.5**
CD2 AP pP 17 34 51.8 +6.5
CD2 S **S** **17 42 17.5 -2.2**
CD2 SS SS 17 46 12.1 -0.8
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
CD2 AMB AMB
comp=Z,110nm,4.8s
CD2 LR LR
comp=N,200nm,6.4s
CD2 LR LR
comp=Z,190nm,5.8s
KURK Kurchatov 58.03 313 P **P** **17 34 27.5 -0.7**
KURK pmax pmax
comp=Z,170nm,0.6s,mb6.2
KURK Kurchatov 58.03 313 *e*P **P** **17 34 27.3 -0.9**
comp=Z,170nm,0.6s,mb6.2
TRO Tromso 58.17 352 *e*P **P** **17 34 26.7 -2.2**
WMQ Urumqi 58.27 302⇓ *i*P **P** **17 34 30.3 +0.4**
WMQ AP pP 17 34 46.1 -1.9
WMQ PCP PcP 17 35 20.6 +0.4
WMQ PP PP 17 36 41.5 +0.3
WMQ *e*S **S** **17 42 26.1 +1.2**
WMQ SCS ScS 17 44 10.6 +1.2
WMQ SS SS 17 46 20.3 +1.0
WMQ AMB AMB
comp=Z,20nm,0.6s,mb5.3
WMQ AMB AMB
comp=Z,290nm,5.0s
WMQ LR LR
comp=N,1μm,20.0s
WMQ LR LR
comp=E,1μm,21.0s
WMQ LR LR
comp=Z,1μm,22.0s
KTK1 Kautokeino 58.36 350⇓ *i*P **P** **17 34 29.6 -0.6**
KTK1 AMb AMB 17 34 32.5
comp=Z,42nm,1.5s,mb5.2
KTK1 Kautokeino 58.36 350⇓ *i*P **P** **17 34 29.6 -0.6**
comp=Z,42nm,1.5s,mb5.2
APA Apatity 58.38 345⇓ *e*P **P** **17 34 30.7 +0.3**
APA *i* pP 17 34 46.8 -1.7
APA *i* 17 35 17.6
MKAR Makanchi Array 59.00 307 P **P** **17 34 33.8 -1.1**
comp=Z,37nm,0.5s,mb5.7,baz=48,slow=6.7,SNR=604
MKAR PcP PcP 17 35 22.4 -0.5
comp=Z,9.1nm,0.7s,baz=52,slow=3.9,SNR=3.9
MKAR LR LR 18 01 10.4
comp=Z,130nm,21.7s,baz=268,slow=37
MKAR Makanchi Array 59.00 307 *i*P **P** **17 34 33.7 -1.2**
MKAR pmax pmax
comp=Z,37nm,0.5s
GYA Guiyang 59.23 275⇓ *i*P **P** **17 34 35.4 -1.3**
GYA AP pP 17 34 59.5 +4.6
GYA XP sP 17 35 10.8 +8.0
GYA PP PP 17 36 48.8 -1.2
GYA S **S** **17 42 32.5 -5.0**
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
GYA AMB AMB
comp=Z,120nm,3.8s
GYA LR LR
comp=N,510nm,18.2s
GYA LR LR
comp=E,640nm,18.0s
GYA LR LR
comp=Z,690nm,17.9s
LTX Lajitas 59.67 80 P **P** **17 34 39.5 -0.3**
LTX pmax pmax
comp=Z,45nm,1.2s,mb5.4
LTX Lajitas 59.67 80 *e*P **P** **17 34 38.9 -0.9**
comp=Z,45nm,1.3s,mb5.3
TXAR Lajitas Array 59.67 80 P **P** **17 34 39.5 -0.2**
comp=Z,19nm,0.9s,mb5.1,baz=300,slow=4.5,SNR=76
TXAR pP pP 17 34 56.8 -1.1
comp=Z,11nm,0.6s,baz=302,slow=4.6,SNR=12
TXAR ScP 17 39 18.4
comp=Z,3.4nm,0.8s,baz=286,slow=3.4,SNR=9.2
TXAR LR LR 18 00 24.3
comp=Z,102nm,19.4s,baz=240,slow=36
TXAR Lajitas Array 59.67 80 P **P** **17 34 39.5 -0.2**
TXAR pP pP 17 34 56.8 -1.1
TXAR ScP 17 39 18.4
TXAR LR LR 18 00 24.3
TGY Tagaytay City 59.69 253 P **P** **17 34 41.8 +1.7**
comp=Z,101nm,0.8s,mb5.9,baz=168,slow=5.8,SNR=4.6
VOSK Vostochnaya 59.94 318 P **P** **17 34 40.5 -0.8**
VOSK pmax pmax
comp=Z,18nm,0.9s,mb5.1
BVA0 Borovoye Array 59.96 319 *i*P **P** **17 34 40.6 -0.9**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BVAR Borovoye Array 59.96 319 P **P** **17 34 40.7 -0.8**
comp=Z,31nm,0.5s,mb5.6,baz=52,slow=6.6,SNR=204
BVAR pP pP 17 34 59.6 -0.1
comp=Z,32nm,0.7s,baz=53,slow=7.4,SNR=8.4
BVAR PcP PcP 17 35 24.6 -2.2
comp=Z,6.4nm,0.5s,baz=66,slow=3.1,SNR=4.6
BVAR ScP 17 39 19.6
comp=Z,4.3nm,0.6s,baz=51,slow=3.5,SNR=7.8
BRVK Borovoye 59.98 319 P **P** **17 34 40.7 -0.9**
BRVK pmax pmax
comp=Z,18nm,0.6s,mb5.3
BRVK Borovoye 59.98 319 *e*P **P** **17 34 40.6 -1.0**
comp=Z,18nm,0.6s,mb5.3
SCHQ Schefferville 60.43 38 P **P** **17 34 43.3 -1.3**
comp=Z,13nm,0.7s,mb5.1,baz=328,slow=6.5,SNR=48
SCHQ pP pP 17 35 02.4 -0.5
comp=Z,13nm,0.7s,baz=338,slow=7.7,SNR=5.5
SCHQ LR LR 18 03 32.0
comp=Z,246nm,19.3s,baz=320,slow=39
SCHQ Schefferville 60.43 38 *e*P **P** **17 34 43.2 -1.4**
comp=Z,59nm,1.3s,mb5.5
CCM Cathedral Cave 60.89 65 *e*P **P** **17 34 45.0 -3.0**
CCM pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
CCM Cathedral Cave 60.89 65 *e*P **P** **17 34 45.0 -3.0**
comp=Z,9.0nm,0.6s,mb5.0
CCM *e*ScP 17 39 22.1
JCT Junction City 61.21 76 P **P** **17 34 49.5 -0.8**
JCT pmax pmax
comp=Z,37nm,1.0s,mb5.4
JCT Junction City 61.21 76 *e*P **P** **17 34 48.6 -1.6**
comp=Z,37nm,1.0s,mb5.4
FVM French Village 61.40 64 P **P** **17 34 49.5 -1.9**
FVM pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
FVM French Village 61.40 64 *e*P **P** **17 34 49.1 -2.3**
comp=Z,9.3nm,0.6s,mb5.0
ARU Arti 61.78 327⇓ *i*P **P** **17 34 52.4 -1.3**
ARU *e* 17 35 19.5
ARU *e* 17 35 32.1
ARU *e* 17 37 08.0
ARU *e*S **S** **17 43 07.3 -2.4**
ARU *e*SS SS 17 47 12.6 -1.6
ARU pmax pmax
comp=Z,17nm,0.7s,mb5.2
ARU Arti 61.78 327 *e*P **P** **17 34 52.5 -1.2**
comp=Z,24nm,0.6s,mb5.4
MOR8 Moi Rana 61.93 353⇓ *i*P **P** **17 34 52.1 -2.5**
MOR8 AMb AMB 17 34 53.2
comp=Z,48nm,0.6s,mb5.7
MOR8 Moi Rana 61.93 353⇓ *i*P **P** **17 34 52.1 -2.5**
comp=Z,48nm,0.6s,mb5.7
AAM Ann Arbor 62.00 57 P **P** **17 34 54.5 -0.9**
AAM pmax pmax
comp=Z,21nm,0.5s,mb5.4
AAM Ann Arbor 62.00 57 *e*P **P** **17 34 54.0 -1.4**
comp=Z,21nm,0.5s,mb5.4
MIAR Mount Ida 62.03 69 P **P** **17 34 55.3 -0.4**
MIAR pmax pmax
comp=Z,20nm,0.8s,mb5.2
MIAR Mount Ida 62.03 69 *e*P **P** **17 34 54.9 -0.8**
comp=Z,20nm,0.8s,mb5.2
SADO Sadowa 62.51 52 P **P** **17 34 57.2 -1.6**
comp=Z,9.1nm,0.6s,mb4.9,baz=340,slow=7.6,SNR=9.1
SADO Sadowa 62.51 52 P **P** **17 34 57.2 -1.6**
UALR University of 62.58 68 *e*P **P** **17 34 57.5 -1.8**
comp=Z,8.3nm,0.6s,mb4.8
KMI Kunming 62.62 276 P **P** **17 34 58.6 -1.2**
KMI PP PP 17 37 20.0 0.0
KMI S **S** **17 43 19.5 -1.3**
KMI XS 17 43 58.8
KMI SKS SKS 17 44 38.8 -3.1
KMI SS SS 17 47 27.5 -0.6
KMI AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
BLO Bloomington 62.71 61 P **P** **17 34 58.5 -1.7**
BLO pmax pmax
comp=Z,19nm,0.5s,mb5.3
BLO Bloomington 62.71 61 *e*P **P** **17 34 58.2 -2.0**
comp=Z,19nm,0.5s,mb5.3
PARMO Parma 62.71 65 P **P** **17 34 59.5 -0.8**
JOF Joensuu 63.03 344 *e*p **P** **17 34 59.3 -2.7**
comp=Z,8.8nm,0.6s,mb4.9
HNR Honiara 63.15 202 P **P** **17 35 02.1 -1.3**
comp=Z,49nm,0.9s,mb5.4,baz=51,slow=12,SNR=2.9
KLMR Klimovskoe 63.33 339 *e*P **P** **17 35 02.2 -1.8**
KLMR *e* 17 37 23.7
KLMR pmax pmax
comp=Z,30nm,2.0s,mb4.9
WCI Wyandotte Cave 63.51 61 *e*P **P** **17 35 03.3 -2.1**
WCI pmax pmax
comp=Z,19nm,0.6s,mb5.1
WCI Wyandotte Cave 63.51 61 *e*P **P** **17 35 03.3 -2.2**
comp=Z,19nm,0.6s,mb5.1
NSS Namsos 63.73 354 *e*P **P** **17 35 04.4 -2.0**
ACSO Alum Creek Sta 63.84 58 *e*P **P** **17 35 05.6 -1.9**
comp=Z,11nm,0.7s,mb4.8
ERPA Erie 64.02 54 *e*P **P** **17 35 07.2 -1.4**
comp=Z,23nm,0.8s,mb5.1
AAA Alma-Ata 64.17 308 *i*P **P** **17 35 10.3 +0.7**
AAA *i*S **S** **17 43 35.3 -4.4**
AAA pmax pmax
comp=Z,504nm,5.2s
AAA smax
comp=E,620nm,24.6s
WVT Waverly 64.17 64 P **P** **17 35 08.1 -1.6**
WVT pmax pmax
comp=Z,15nm,0.8s,mb4.9
WVT Waverly 64.17 64 *e*P **P** **17 35 08.0 -1.7**
comp=Z,14nm,0.8s,mb4.9
ALLY Alegheny Colle 64.28 55 *e*P **P** **17 35 08.8 -1.5**
ALLY *e*pP pP 17 35 26.9 -1.8
OXF Oxford 64.45 66 P **P** **17 35 10.3 -1.3**
OXF pmax pmax
comp=Z,93nm,0.6s,mb5.8
OXF Oxford 64.45 66 *e*P **P** **17 35 09.9 -1.7**
comp=Z,93nm,0.6s,mb5.8
KAF Kangasniemi 64.58 346 *e*p **P** **17 35 08.2 -3.7**
comp=Z,11nm,0.6s,mb4.9
KAF Kangasniemi 64.58 346 *e*P **P** **17 35 08.2 -3.7**
KAF pmax pmax
comp=Z,11nm,0.6s,mb4.9
TKM2 Tokmak 2 65.09 308 P **P** **17 35 16.0 +0.4**
SNR=118
FINES FINESS Array B 65.25 346 P **P** **17 35 14.5 -1.8**
comp=Z,9.2nm,0.7s,mb4.7,baz=15,slow=7.0,SNR=37
FINES LR LR 18 05 28.4
comp=Z,162nm,18.5s,baz=145,slow=38
ULHL Ulahol 65.28 307 P **P** **17 35 17.4 +0.6**
SNR=15
USP Ospenovka 65.37 309 P **P** **17 35 17.9 +0.6**
SNR=119
CHMS Chumysh 65.45 309 P **P** **17 35 18.2 +0.3**
SNR=46
NCB Newcomb 65.47 50 *e*P **P** **17 35 15.4 -2.6**
comp=Z,9.7nm,0.8s,mb4.7
KBK Karagaybulak 65.61 308 P **P** **17 35 19.5 +0.6**
SNR=123
FRU Bishkek 65.64 309⇓ *i*P **P** **17 35 19.5 +0.4**
FRU pmax pmax
comp=Z,270nm,1.2s,mb6.0
MIV Mineville/With 65.72 49 *e*P **P** **17 35 17.5 -2.0**
AFI Afiamalu 65.75 171 P **P** **17 35 19.4 -0.9**
comp=Z,15nm,0.8s,mb4.9,baz=288,slow=9.3,SNR=3.5
AAK Ala-Archa 65.85 309 P **P** **17 35 21.0 +0.6**
SNR=152
AAK Ala-Archa 65.85 309 *d*P **P** **17 35 20.1 -0.3**
AAK pmax pmax
comp=Z,152nm,0.7s,mb5.9
AAK Ala-Archa 65.85 309⇓ *i*P **P** **17 35 20.0 -0.5**
comp=Z,140nm,0.6s,mb6.0
KZA Kyzart 65.89 308 P **P** **17 35 21.8 +1.1**
SNR=75
SWET Sewanee 65.90 63 *e*P **P** **17 35 18.1 -2.8**
MCWV Mont Chateau 65.90 56 *e*P **P** **17 35 18.9 -1.9**
comp=Z,9.9nm,0.6s,mb4.8
MOL Molde 65.92 356⇓ *i*P **P** **17 35 22.0 +1.5**
MOL AMb AMB 17 35 23.3
comp=Z,139nm,0.9s,mb5.8
MOL Molde 65.92 356⇓ *i*P **P** **17 35 22.0 +1.5**
comp=Z,139nm,0.9s,mb5.8
MDV Middlebury 65.94 49 *e*P **P** **17 35 18.6 -2.4**
UCH Uchtor 66.14 308 P **P** **17 35 23.3 +1.0**
SNR=51
EKS2 Erkin-Say 66.17 309 P **P** **17 35 23.3 +0.8**
SNR=249
TZTN Tazewell 66.23 61 *e*P **P** **17 35 21.8 -1.2**
LSA Lhasa 66.33 288 P **P** **17 35 23.6 -0.1**
LSA Lhasa 66.33 288 *e*P **P** **17 35 24.7 +1.0**
LSA pmax pmax
comp=Z,61nm,0.7s,mb5.5
LSA Lhasa 66.33 288 *e*P **P** **17 35 24.7 +1.0**
comp=Z,61nm,0.7s,mb5.5
DOMB Dombas 66.38 355⇓ *i*P **P** **17 35 22.7 -0.8**
DOMB AMb AMB 17 35 23.9
comp=Z,55nm,0.8s,mb5.5
DOMB Dombas 66.38 355⇓ *i*P **P** **17 35 22.7 -0.8**
comp=Z,55nm,0.8s,mb5.4
CPCT Cooper Cave 66.51 62 *e*P **P** **17 35 23.1 -1.7**
AML Almayashu 66.61 309 P **P** **17 35 26.5 +1.2**
SNR=218
AKTK Aktyubinsk 66.82 324 P **P** **17 35 25.7 -0.7**
AKTO Aktyubinsk 66.82 324 P **P** **17 35 25.7 -0.7**
comp=Z,30nm,0.6s,mb5.3,baz=42,slow=6.5,SNR=56
LRAL Lakeview Retre 66.90 66 *e*P **P** **17 35 25.3 -1.9**
comp=Z,11nm,0.6s,mb4.9
PMG Port Moresby 66.91 215 P **P** **17 35 26.5 -1.1**
comp=Z,11nm,0.6s,mb4.8,baz=113,slow=4.6,SNR=7.3
FOO Floro 66.99 357 *e*P **P** **17 35 26.8 -0.5**
FOO AMb AMB 17 35 32.9
comp=Z,66nm,1.8s,mb5.2
FOO Floro 66.99 357 *e*P **P** **17 35 26.8 -0.5**
comp=Z,66nm,1.8s,mb5.2
AB31 Akbulak array 67.05 322 *i*P **P** **17 35 27.2 -0.7**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
NB2 NORSAR Subarra 67.25 354 P **P** **17 35 28.2 -0.7**
comp=Z,55nm,0.7s,mb5.5,baz=7.0,slow=6.2
NB2 NORSAR Subarra 67.25 354 P **P** **17 35 28.2 -0.7**
baz=6.9,slow=6.5
NB2 NORSAR Subarra 67.25 354 P **P** **17 35 28.2 -0.7**
NB2 pmax pmax
comp=Z,55nm,0.7s,mb5.5
NOA NORSAR Array B 67.25 354 P **P** **17 35 28.2 -0.7**
comp=Z,44nm,0.6s,mb5.4,baz=7.9,slow=6.3,SNR=159
NOA pP pP 17 35 47.5 0.0
comp=Z,10nm,0.8s,baz=8.1,slow=6.3,SNR=2.8
NOA LR LR 18 06 07.0
comp=Z,82nm,19.3s,baz=350,slow=37
HYA Hoyanger 67.38 356 *e*P **P** **17 35 31.0 +1.2**
HYA AMb AMB 17 35 32.7
comp=Z,79nm,1.3s,mb5.4
HYA Hoyanger 67.38 356 *e*P **P** **17 35 31.0 +1.2**
comp=Z,79nm,1.3s,mb5.4
KKAR Karatay Array 67.39 311 *e*P **P** **17 35 30.0 -0.1**
KKAR pmax pmax
comp=Z,61nm,0.6s,mb5.6
BLA Blacksburg 67.42 58 *e*P **P** **17 35 29.1 -1.3**
BLA *e**PP pP 17 35 47.3 -1.7
BLA pmax pmax
comp=Z,12nm,0.6s,mb4.9
BLA Blacksburg 67.42 58 *e*P **P** **17 35 29.1 -1.3**
comp=Z,12nm,0.6s,mb4.9
BLA *e*pP pP 17 35 47.3 -1.6
MVL Millersville 67.43 54 *e*P **P** **17 35 29.0 -1.4**
KSH Kashi 67.46 305 *i*PR 17 35 32.0
KSH AP pP 17 35 56.8 +7.6
KSH *e*PCP PcP 17 36 00.3 +2.7
KSH PP PP 17 38 01.6 -0.3
KSH *e*SCP 17 39 52.3
KSH *e*PCS 17 40 02.3
KSH *e*S S 17 44 17.0 -2.8
KSH XS 17 45 00.5
KSH *e*SCS ScS 17 45 17.1 -1.6
KSH AMB AMB
comp=Z,350nm,2.1s,mb5.8
KSH LR LR
comp=N,260nm,6.4s
KSH LR LR
comp=E,290nm,6.5s
NAO01 NORSAR Array S 67.46 354 *e*P **P** **17 35 28.9 -1.3**
comp=E,8.9nm,0.6s,mb4.8
PAL Palisades 67.87 52 P **P** **17 35 32.2 -1.0**
PAL pmax pmax
comp=Z,11nm,0.7s,mb4.8
PAL Palisades 67.87 52 *e*P **P** **17 35 31.4 -1.7**
comp=Z,11nm,0.6s,mb4.9
ASK Askoy 68.10 357 *e*P **P** **17 35 34.0 -0.3**
BER Bergen 68.20 357 *e*P **P** **17 35 34.8 0.0**
EGD Espegrend 68.31 357 *e*P **P** **17 35 33.6 -1.9**
MOS Moscow 68.39 338 *e*P **P** **17 35 30.8 -5.3**
MOS *e* 17 35 56.8
MOS pmax pmax
comp=Z,60nm,0.6s,mb5.6
GOGA Godfrey 68.60 63 P **P** **17 35 36.6 -1.2**
GOGA pmax pmax
comp=Z,16nm,0.8s,mb4.9
GOGA Godfrey 68.60 63 *e*P **P** **17 35 36.4 -1.5**
comp=Z,16nm,0.8s,mb4.9
ODD1 Odda 68.62 356⇓ *i*P **P** **17 35 35.8 -1.7**
KONO Kongsberg 68.73 355 *e*P **P** **17 35 37.6 -0.6**
KONO Kongsberg 68.73 355 P **P** **17 35 37.9 -0.3**
KONO pmax pmax
comp=Z,73nm,0.8s,mb5.6
BLS5 Blasjo 69.12 356⇓ *i*P **P** **17 35 40.7 +0.1**
JSC Jenkinsville 69.16 61 *e*P **P** **17 35 40.1 -1.2**
JSC *e**PP pP 17 35 58.2 -1.7
OBN Obninsk 69.20 338⇓ *e*P **P** **17 35 40.0 -1.2**

OBN pP 17 36 03.0 +3.2
OBN pmax pmax
comp=Z,31nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,400nm,24.0s
OBN Obninsk 69.20 338 *e*P **P 17 35 39.7 -1.5**
comp=Z,29nm,0.6s,mb5.3
SNART Snartemo 70.17 356⇓*i*P **P 17 35 46.6 -0.3**
NHSC New Hope 70.64 61 *e*P **P 17 35 49.4 -0.8**
comp=Z,36nm,0.7s,mb5.3
NHSC *e*pP pP 17 36 07.3 -1.6
GUN Gumba 70.75 291⇓*i*P **P 17 35 52.0 +1.0**
comp=Z,571nm,0.7s
JIRN Jiri 70.75 290⇓*i*P **P 17 35 52.2 +1.1**
comp=Z,320nm,0.8s,mb6.2
KKN Kakani 71.19 291⇓*i*P **P 17 35 54.4 +0.7**
comp=Z,240nm,0.6s,mb6.2
KKN Kakani 71.19 291⇓*i*P **P 17 35 54.4 +0.7**
KKN pmax pmax
comp=Z,120nm,0.6s,mb5.9
PKI Pulchoki 71.28 291⇓*i*P **P 17 35 54.8 +0.6**
comp=Z,172nm,0.7s,mb6.0
PKI Pulchoki 71.28 291⇓*i*P **P 17 35 54.8 +0.6**
PKI pmax pmax
comp=Z,86nm,0.7s,mb5.7
GKN Gorkha 71.40 292⇓*i*P **P 17 35 55.4 +0.5**
comp=Z,339nm,0.9s,mb6.2
DMN Daman 71.42 291⇓*i*P **P 17 35 56.0 +0.9**
comp=Z,181nm,0.9s,mb5.9
KOLN Koldanda 72.17 292⇓*i*P **P 17 36 00.0 +0.5**
comp=Z,107nm,0.8s,mb5.7
SUW Suwalki 72.83 346 *e*P **P 17 36 01.5 -1.3**
SUW MLR MLR 18 02 54.1
comp=Z,400nm,31.3s
GMK Mull of Kintyr 73.27 3⇓*e*P **P 17 36 05.2 -0.1**
EKA Eskdalemuir Ar 73.34 2 P **P 17 36 05.8 +0.1**
comp=Z,32nm,0.8s,mb5.2,baz=357,slow=4.8,SNR=93
ESK Eskdalemuir 73.36 2 P **P 17 36 06.0 +0.2**
ESK pmax pmax
comp=Z,67nm,1.2s,mb5.3
ESK Eskdalemuir 73.36 2 *e*P **P 17 36 05.6 -0.2**
comp=Z,67nm,1.3s,mb5.3
GCL Cushendall 73.52 3⇓*e*P **P 17 36 06.2 -0.5**
GAL1 Galloway 73.77 3⇓*e*P **P 17 36 08.2 0.0**
BOK Bokaro 73.85 288 *e*P **P 17 36 09.9 +0.5**
BOK AMb AMB 17 36 11.3
comp=Z,53nm,1.0s,mb5.2
PPT Papeete 74.05 149 LR LR 18 00 46.0
comp=Z,244nm,21.7s,baz=280,slow=29
GMM Mts of Mourne 74.36 3⇓*e*P **P 17 36 11.7 -0.1**
BSEG Bad Segeberg 74.37 353 *e*P **P 17 36 11.9 +0.1**
AKASG Malin Array Be 74.93 341 P **P 17 36 14.2 -0.9**
comp=Z,20nm,0.5s,mb5.2,baz=20,slow=6.2,SNR=69
DCN Croghan 75.20 4⇓*i*P **P 17 36 16.9 +0.4**
DLF Lyons Farm 75.28 4⇓*i*P **P 17 36 17.3 +0.3**
DSB Dublin 75.34 4 *e*P **P 17 36 17.1 -0.2**
comp=Z,36nm,0.7s,mb5.2
WIT Witteveen 75.71 356 *e*P **P 17 36 20.1 +0.6**
SBD1 Bryn Du 75.77 2⇓*e*P **P 17 36 20.0 +0.2**
SBD1 AMb AMB 17 36 20.8
comp=Z,81nm,0.9s,mb5.4
KAKA Kakadu 75.94 227⇑*i*P Px 17 36 43.1
comp=Z,38nm,0.7s
HLM1 Long Mynd 76.16 1⇓*e*P **P 17 36 22.1 0.0**
HLM1 AMb AMB 17 36 23.4
comp=Z,51nm,1.6s,mb5.0
SSP1 Stoney Pound 76.26 2⇓*e*P **P 17 36 22.7 +0.1**
CLZ Clausthal 76.45 353 *e*P **P 17 36 23.8 +0.1**
CLZ pmax pmax
comp=Z,35nm,0.9s,mb5.1
CLZ Clausthal 76.45 353 *e*P **P 17 36 23.8 +0.1**
comp=Z,35nm,0.9s,mb5.1
WTSB Winterswijk 76.55 355 *e*P **P 17 36 23.5 -0.8**
comp=Z,35nm,1.3s,mb4.9
GOF Gofitskoye 76.58 330⇑*i*P **P 17 36 24.6 0.0**
GOF pmax pmax
comp=Z,62nm,0.7s,mb5.5
HTR Trewern Hill 76.60 2⇓*e*P **P 17 36 24.6 +0.1**
HTR AMb AMB 17 36 25.9
comp=Z,105nm,1.4s,mb5.4
MCH1 Michaelchurch 76.68 2⇓*e*P **P 17 36 24.9 -0.1**
MCH1 AMb AMB 17 36 25.8
comp=Z,76nm,0.7s,mb5.5
SSW Stow on the Wo 76.73 1⇓*e*P **P 17 36 25.6 +0.4**
CLL Collm 76.76 351 P **P 17 36 24.2 -1.2**
comp=Z,logA/T=1.1,mb4.6
CLL Collm 76.76 351 *i* P **P 17 36 24.2 -1.2**
CLL pmax pmax
comp=Z,13nm,1.0s,mb4.6
CLL Collm 76.76 351 *i* P **P 17 36 24.2 -1.2**
comp=Z,13nm,1.0s,mb4.6
KSP Ksiaz 76.87 349 *e*P **P 17 36 25.5 -0.6**
KSP MLR MLR 18 07 44.8
comp=Z,400nm,26.5s
KSP Ksiaz 76.87 349 *e*P **P 17 36 25.4 -0.7**
SKP1 Kophill 76.98 0⇓*e*P **P 17 36 26.0 -0.6**
OJC Ojcow 77.03 347 *e*P **P 17 36 26.7 -0.2**
HGH Gray Hill 77.05 1⇓*e*P **P 17 36 27.2 +0.2**
HGH AMb AMB 17 36 27.9
comp=Z,151nm,0.7s,mb5.8
BRG Berggiesshubel 77.10 351 *i* P **P 17 36 26.9 -0.4**
BRG pmax pmax
comp=Z,36nm,1.7s,mb4.8
BRG Berggiesshubel 77.10 351 *i* P **P 17 36 26.9 -0.5**
comp=Z,36nm,1.7s,mb4.8
CTA Charters Tower 77.15 212⇑*i*P **P 17 36 27.6 -0.6**
comp=Z,19nm,0.9s,mb4.8
CTA Charters Tower 77.15 212⇑*i*P **P 17 36 27.6 -0.6**
CTA pmax pmax
comp=Z,19nm,0.9s
CTAO Charters Tower 77.15 212 *e*P **P 17 36 27.4 -0.8**
CTAO *e**PP pP 17 36 44.7 -2.4
CTAO pmax pmax
comp=Z,33nm,1.0s,mb5.0
CTAO Charters Tower 77.15 212 *e*P **P 17 36 27.4 -0.8**
comp=Z,33nm,1.0s,mb5.0
CTAO *e*pP pP 17 36 44.7 -2.4
KWP Kalwaria 77.15 345 *e*P **P 17 36 27.9 +0.2**
KWP MLR MLR 18 05 32.9
comp=Z,500nm,29.5s
KWP Kalwaria 77.15 345 *e*P **P 17 36 27.8 +0.1**
SWN1 Swindon 77.18 1⇓*e*P **P 17 36 28.1 +0.4**
UPC Upice 77.23 349 *e*P **P 17 36 27.5 -0.6**
DPC Dobruska-Polom 77.35 349 *e*P **P 17 36 28.7 0.0**
PVCC Panska Ves 77.37 350 *e*P **P 17 36 28.1 -0.8**
MOX Moxa 77.54 352 *i* P **P 17 36 29.5 -0.3**
comp=Z,logA/T=1.4,mb4.9
MOX Moxa 77.54 352 *e*P **P 17 36 29.5 -0.3**
MOX pmax pmax
comp=Z,21nm,0.9s,mb4.9
MOX Moxa 77.54 352 *e*P **P 17 36 29.5 -0.3**
comp=Z,21nm,0.9s,mb4.9
SWK Warminster 77.54 1⇓*e*P **P 17 36 30.0 +0.2**
STHS Stebnicka Huta 77.59 346 *i* P **P 17 36 30.3 +0.2**
OKC Ostrava-Krasne 77.62 348 *e*P **P 17 36 29.4 -0.9**
KIV Kislovodsk 77.68 330 P **P 17 36 31.0 +0.3**
KIV *e* 17 37 01.5
KIV *e* 17 46 51.0
KIV MLR MLR
comp=Z,200nm,21.0s
MORC Moravsky Berou 77.76 348 P **P 17 36 30.8 -0.2**
HGN Heimansgroeve 77.79 356 *e*P **P 17 36 30.4 -0.8**
comp=Z,48nm,1.0s,mb5.2
NKC Novy Kostel 77.87 352 *e*P **P 17 36 31.8 +0.2**
KOLS Kolonicke sedl 77.90 345 *i* P **P 17 36 31.5 -0.3**
PRU Pruhonice 77.91 350 *e*P **P 17 36 31.3 -0.5**
SIW Isle of Wight 78.03 1⇓*e*P **P 17 36 32.3 -0.2**
CRVS Cervenica-Dubn 78.06 345 *i* P **P 17 36 32.8 +0.1**
MENF Mencas 78.12 358⇓*e*P **P 17 36 32.8 -0.2**
TNS Taunus Mts 78.19 354 *e*P **P 17 36 33.2 -0.2**
TNS pmax pmax
comp=Z,23nm,0.8s,mb5.0
TNS Taunus Mts 78.19 354 *e*P **P 17 36 33.2 -0.2**
comp=Z,23nm,0.8s,mb5.0
AJM Ajmer 78.22 298 *e*P **P 17 36 34.2 +0.1**
AJM AMb AMB 17 36 35.6
comp=Z,54nm,1.2s,mb5.2
VRAC Vranov 78.34 349 P **P 17 36 34.4 +0.2**
TREC Trest 78.49 349 *e*P **P 17 36 34.5 -0.5**
GIVF Givet 78.50 356 *e*P **P 17 36 35.0 -0.1**
GRA1 Grafenberg Arr 78.52 352 *e*P **P 17 36 35.4 +0.2**
comp=Z,32nm,0.8s,mb5.2
GRA1 LR LR
comp=Z,100nm,19.0s
GRF Grafenberg Arr 78.52 352 *e*P **P 17 36 35.4 +0.2**
GRF pmax pmax
comp=Z,32nm,0.8s,mb5.2
GRF MLR MLR
comp=Z,100nm,19.0s
GRF Grafenberg Arr 78.52 352 *e*P **P 17 36 35.4 +0.2**
GRF pmax pmax
comp=Z,32nm,0.8s,mb5.2
GRF MLR MLR
comp=Z,100nm,19.0s
GRF Grafenberg Arr 78.52 352 *e*P **P 17 36 35.4 +0.2**
comp=Z,32nm,0.8s,mb5.2
GRF LR LR
comp=Z,100nm,19.0s
BAIF Baives 78.56 357⇓*i*P **P 17 36 35.7 +0.3**
comp=Z,80nm,0.9s,mb5.3
BAIF Baives 78.56 357⇓*i*P **P 17 36 35.7 +0.3**
BAIF pmax pmax
comp=Z,40nm,0.9s,mb5.2
ABH Alteburg 78.59 355⇓*e*P **P 17 36 35.3 -0.3**
KECS Kecovo 78.62 346 *i* P **P 17 36 35.5 -0.2**
BURAR Bucovina Array 78.66 343⇑P **P 17 36 36.4 +0.4**
BURAR Bucovina Array 78.66 343⇑P **P 17 36 36.4 +0.4**
TOD Tromm 78.79 354 *e*P **P 17 36 36.6 -0.1**
RUP Ruppelstein 78.80 355⇓*e*P **P 17 36 36.6 -0.1**
VYHS Vyhne 78.85 347 *i* P **P 17 36 37.3 +0.3**
KHC Kasperske Hory 78.86 351 *e*P **P 17 36 37.0 0.0**
WLF Walferdange 78.88 356 *e*P **P 17 36 37.1 -0.1**
WLF pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
WLF Walferdange 78.88 356 *e*P **P 17 36 37.1 -0.1**
comp=Z,9.4nm,0.8s,mb4.7
WET Wettzell 78.91 351 *e*P **P 17 36 37.3 -0.1**
comp=Z,7.0nm,1.0s,mb4.5
SOC Sochi 78.93 331 *e*P **P 17 36 38.5 +0.9**
SOC *e**PP pP 17 36 59.7 +3.2
SOC *e*S S 17 46 25.0 -4.0
SOC *e**SS 17 47 19.2
SOC pmax pmax
comp=Z,40nm,0.9s,mb5.2
SOC MLR MLR
comp=Z,296nm,22.0s
TI2 Plekhanov 79.00 327 *e*P **P 17 36 38.6 +0.6**
GEC2 GERESS Array S 79.13 350 *e*P **P 17 36 38.2 -0.3**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
GEC2 GERESS Array S 79.13 350 *e*P **P 17 36 38.2 -0.3**
comp=Z,10.0nm,0.9s,mb4.7
GERES GERESS Array B 79.13 350 P **P 17 36 37.7 -0.8**
comp=Z,4.5nm,0.7s,mb4.4,baz=25,slow=5.2,SNR=49
GERES LR LR 18 14 46.0
comp=Z,161nm,20.0s,baz=230,slow=38
BHPL Bhopal 79.20 294 *e*P **P 17 36 38.8 -0.7**
BHPL AMb AMB 17 36 42.4
comp=Z,72nm,1.3s,mb5.3
PSZ Piszkesteto 79.26 346 P **P 17 36 39.8 +0.5**
PSZ pmax pmax
comp=Z,23nm,1.1s,mb4.9
PSZ Piszkesteto 79.26 346 *e*P **P 17 36 39.3 0.0**
comp=Z,23nm,1.1s,mb4.9
ZST Bratislava 79.37 348 *e*P **P 17 36 40.4 +0.5**
ZST *e* 17 36 50.4
LANF Langenberg 79.47 354⇓*e*P **P 17 36 40.3 -0.1**
SRO Srobarova 79.59 347 *e*P **P 17 36 41.5 +0.5**
SRO *e*pP pP 17 37 01.0 +1.0
STU Stuttgart 79.59 353 *e*P **P 17 36 40.4 -0.6**
STU pmax pmax
comp=Z,7.0nm,0.4s,mb4.8
STU Stuttgart 79.59 353 *e*P **P 17 36 40.4 -0.7**
comp=Z,7.5nm,0.4s,mb4.9
FLN La Foliniere 79.94 360⇓*i*P **P 17 36 42.7 -0.2**
comp=Z,85nm,0.8s,mb5.3
FLN *e*R
comp=Z,93nm,19.0s
FLN La Foliniere 79.94 360⇓*i*P **P 17 36 42.7 -0.2**
FLN pmax pmax
comp=Z,43nm,0.8s,mb5.3
FLN MLR MLR
comp=Z,90nm,19.0s
FUR Furstenfeldbru 80.03 352 *e*P **P 17 36 43.2 -0.2**
FUR pmax pmax
comp=Z,22nm,0.8s,mb5.0
FUR Furstenfeldbru 80.03 352 *e*P **P 17 36 43.2 -0.2**
comp=Z,22nm,0.8s,mb5.0
VIS Vishakhapatnam 80.03 286 *e*P **P 17 36 44.1 +0.1**
VRI Vrincioaia 80.04 341⇑P **P 17 36 43.6 +0.1**
MOA Molln 80.05 350⇑*i*P **P 17 36 43.5 -0.1**
comp=Z,109nm,3.2s,SNR=13
WLS Welschbruch 80.06 355⇓*e*P **P 17 36 43.6 0.0**
CDF Champ du Feu 80.07 355⇓*i*P **P 17 36 43.5 -0.1**
comp=Z,24nm,0.8s,mb4.8
CDF Champ du Feu 80.07 355⇓*i*P **P 17 36 43.5 -0.1**
CDF pmax pmax
comp=Z,12nm,0.8s,mb4.8
BFO Black Forest 80.09 354 *e*P **P 17 36 43.3 -0.4**
BFO pmax pmax
comp=Z,14nm,0.8s,mb4.8
BFO Black Forest 80.09 354 *e*P **P 17 36 43.3 -0.4**
comp=Z,14nm,0.8s,mb4.8
MEZF Maizieres J'vi 80.09 356⇓*i*P **P 17 36 43.8 +0.1**
comp=Z,92nm,1.1s,mb5.2
LDF La Druitiere 80.11 360⇓*i*P **P 17 36 43.5 -0.3**
comp=Z,86nm,0.5s,mb5.5
LDF La Druitiere 80.11 360⇓*i*P **P 17 36 43.5 -0.3**
LDF pmax pmax
comp=Z,43nm,0.5s,mb5.5
ECH Echery 80.27 355⇓*e*P **P 17 36 44.6 -0.1**
LIBD Limburg 80.31 354⇓*e*P **P 17 36 44.9 0.0**
GRR Gorron 80.32 0⇓*i*P **P 17 36 45.0 +0.1**
comp=Z,92nm,0.6s,mb5.5
GRR Gorron 80.32 0⇓*i*P **P 17 36 45.0 +0.1**
GRR pmax pmax
comp=Z,46nm,0.6s,mb5.5
THEF They Montfort 80.32 356⇓*e*P **P 17 36 44.6 -0.4**
ROSF Rostrenen 80.34 2⇓*i*P **P 17 36 45.2 +0.1**
comp=Z,81nm,0.8s,mb5.3
ROSF Rostrenen 80.34 2⇓*i*P **P 17 36 45.2 +0.1**
ROSF pmax pmax
comp=Z,40nm,0.8s,mb5.3
CFR Carcaliu 80.41 340⇓P **P 17 36 45.8 +0.3**
GNI Garni 80.41 326 P **P 17 36 45.6 0.0**
comp=Z,2.7nm,0.5s,mb4.4,baz=217,slow=22,SNR=3.1
SGMF Saint Gilles 80.44 1⇓*i*P **P 17 36 45.7 +0.1**
comp=Z,135nm,0.6s,mb5.6
SGMF Saint Gilles 80.44 1⇓*i*P **P 17 36 45.7 +0.1**
SGMF pmax pmax
comp=Z,67nm,0.6s,mb5.7
ARSA Arzberg 80.50 349 *i* P **P 17 36 46.4 +0.4**
comp=Z,43nm,1.8s,mb5.0,SNR=8.8
HAU Haudompre 80.53 355⇓*i*P **P 17 36 45.9 -0.2**
comp=Z,25nm,0.8s,mb4.8
HAU *e*R
comp=Z,141nm,22.5s
HAU Haudompre 80.53 355⇓*i*P **P 17 36 45.9 -0.2**
HAU pmax pmax
comp=Z,13nm,0.8s,mb4.8
HAU MLR MLR
comp=Z,140nm,22.5s
MLR Muntele Rosu 80.56 341⇓P **P 17 36 47.7 +1.4**
MOF Molkenrain 80.64 355⇓*e*P **P 17 36 46.2 -0.5**
HINF Hinteralfeld 80.69 355⇓*i*P **P 17 36 46.4 -0.5**
comp=Z,15nm,0.8s,mb4.5
HINF Hinteralfeld 80.69 355⇓*i*P **P 17 36 46.4 -0.5**
HINF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
QUIF Quistinic 80.76 2⇓*i*P **P 17 36 47.4 +0.1**
comp=Z,34nm,0.7s,mb5.0
QUIF Quistinic 80.76 2⇓*i*P **P 17 36 47.4 +0.1**
QUIF pmax pmax
comp=Z,17nm,0.7s,mb5.0
SNX Sinaia 80.77 342⇑P **P 17 36 48.4 +1.0**
VOIR 80.78 342⇑P **P 17 36 48.3 +0.8**
WATA Walderalm 80.83 352 *i* P **P 17 36 47.9 +0.2**
comp=Z,32nm,1.2s,mb5.0,SNR=26
WATA Walderalm 80.83 352 *i* P **P 17 36 47.9 +0.2**
WATA pmax pmax
comp=Z,32nm,1.2s,mb5.0
MOTA Moosalm 80.86 352⇓*i*P **P 17 36 47.8 -0.1**
comp=Z,30nm,1.3s,mb5.0,SNR=11
MOTA Moosalm 80.86 352⇓*i*P **P 17 36 47.8 0.0**
MOTA pmax pmax
comp=Z,30nm,1.3s,mb5.0
WTTA Wattenberg 80.89 352 *i* P **P 17 36 48.4 +0.4**
comp=Z,64nm,1.6s,mb5.2,SNR=54
WTTA Wattenberg 80.89 352 *i* P **P 17 36 48.4 +0.4**
WTTA pmax pmax
comp=Z,64nm,1.6s,mb5.2
WTTA Wattenberg 80.89 352 *i* P **P 17 36 48.4 +0.4**
comp=Z,64nm,1.6s,mb5.2
KBA Koelnbreinsper 80.91 350 *i* P **P 17 36 49.1 +1.0**
comp=Z,75nm,1.2s,mb5.4,SNR=16
KBA Koelnbreinsper 80.91 350 *i* P **P 17 36 49.1 +1.0**
KBA pmax pmax
comp=Z,75nm,1.3s,mb5.4
SQTA Sankt Quirin 80.97 352⇓*i*P **P 17 36 48.8 +0.3**
comp=Z,69nm,1.8s,mb5.2,SNR=17
SQTA Sankt Quirin 80.97 352 *i* P **P 17 36 48.8 +0.4**
SQTA pmax pmax
comp=Z,69nm,1.8s,mb5.2
DAVA Damuels 81.02 353⇓*i*P **P 17 36 48.9 +0.2**
comp=Z,37nm,1.7s,mb4.9,SNR=5.7
PKSM Moragy 81.11 347 P **P 17 36 48.7 -0.5**
PERS Pernice 81.15 349 *e*P **P 17 36 49.6 +0.2**
LOMF Lomont 81.15 355⇓*e*P **P 17 36 48.7 -0.7**
BZS Buzias 81.23 344⇑P **P 17 36 49.9 +0.1**
GROS Grobnik 81.28 349 *i* P **P 17 36 50.1 +0.1**
OBKA Obir 81.34 350⇓*i*P **P 17 36 50.5 +0.2**
comp=Z,68nm,1.9s,mb5.1,SNR=18
OBKA Obir 81.34 350⇓*i*P **P 17 36 50.5 +0.2**
comp=Z,68nm,1.9s,mb5.2
LOR Lormes 81.37 357⇓*i*P **P 17 36 50.3 -0.2**
comp=Z,45nm,1.0s,mb5.0
LOR Lormes 81.37 357⇓*i*P **P 17 36 50.3 -0.2**
LOR pmax pmax
comp=Z,22nm,1.0s,mb4.9
HYF Humbligny 81.40 358⇓*i*P **P 17 36 51.0 +0.3**
WRAB Tennant Creek 81.48 222 *e*P **P 17 36 50.5 -1.1**
WRAB pmax pmax
comp=Z,43nm,0.9s,mb5.3
WRAB Tennant Creek 81.48 222 *e*P **P 17 36 50.5 -1.2**
comp=Z,43nm,0.9s,mb5.3
WB2 Warramunga Arr 81.49 222⇑*i*P **P 17 36 50.8 -0.9**
WRA Warramunga Arr 81.49 222 P **P 17 36 50.9 -0.8**
comp=Z,22nm,0.7s,mb5.1,baz=33,slow=6.2,SNR=152
WRA PKiKP 17 42 17.2
comp=Z,0.4nm,0.7s,baz=355,slow=1.6,SNR=4.8
WRA PKKPbc 17 55 23.3
comp=Z,0.5nm,0.6s,baz=225,slow=2.0,SNR=8.9
DAVOX Davos 81.52 353 P **P 17 36 51.6 +0.3**
comp=Z,15nm,0.7s,mb4.9,baz=344,slow=15,SNR=54
SSF Saint Saulge 81.58 357⇓*i*P **P 17 36 51.6 0.0**
comp=Z,37nm,0.8s,mb5.0
SSF Saint Saulge 81.58 357⇓*i*P **P 17 36 51.6 0.0**
SSF pmax pmax
comp=Z,18nm,0.8s,mb5.0
ROBS Robic 81.72 350 *e*P **P 17 36 51.4 -0.9**
AVF Avril sur Loir 81.86 357⇓*i*P **P 17 36 53.0 -0.1**
comp=Z,41nm,0.8s,mb5.0
AVF Avril sur Loir 81.86 357⇓*i*P **P 17 36 53.0 -0.1**
AVF pmax pmax
comp=Z,21nm,0.8s,mb5.0
CABF La Chapelle 81.93 355⇓*i*P **P 17 36 53.7 +0.3**
comp=Z,46nm,1.1s,mb4.9
CABF La Chapelle 81.93 355⇓*i*P **P 17 36 53.7 +0.3**
CABF pmax pmax
comp=Z,23nm,1.1s,mb4.9
SMF Signal de Mont 81.99 357⇓*i*P **P 17 36 53.7 0.0**
comp=Z,36nm,0.6s,mb5.0
SMF Signal de Mont 81.99 357⇓*i*P **P 17 36 53.7 0.0**
SMF pmax pmax
comp=Z,15nm,0.6s,mb5.0
VISS Visnje 82.00 349 *e*P **P 17 36 53.1 -0.7**
LCHF La Chataignera 82.04 0⇓*e*P **P 17 36 55.2 +1.2**
MFF Saint Martin d 82.10 360⇓*i*P **P 17 36 54.6 +0.3**
comp=Z,57nm,0.8s,mb5.2
MFF Saint Martin d 82.10 360⇓*i*P **P 17 36 54.6 +0.3**
MFF pmax pmax
comp=Z,29nm,0.8s,mb5.2
BGF Bois d'Agland 82.11 358⇓*i*P **P 17 36 54.4 +0.1**
comp=Z,17nm,0.6s,mb4.8
BGF Bois d'Agland 82.11 358⇓*i*P **P 17 36 54.4 +0.1**
BGF pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
BOJS Bojanci 82.25 349 *e*P **P 17 36 55.0 -0.1**
TCF Toulx Ste Croi 82.39 358⇓*i*P **P 17 36 55.8 0.0**
comp=Z,36nm,0.9s,mb4.9
TCF Toulx Ste Croi 82.39 358⇓*i*P **P 17 36 55.8 0.0**
TCF pmax pmax
comp=Z,18nm,0.9s,mb4.9
OG05 Jujurieux 82.53 356⇓*e*P **P 17 36 56.9 +0.4**
AGO Saint Agoulin 82.60 357 *e*P **P 17 36 57.6 +0.7**
PLDF La Plantade 82.67 357⇓*e*P **P 17 36 58.1 +0.9**
DIVS Divcibare 82.97 345⇓*i*P **P 17 36 58.9 +0.1**
LPL La Plagne 82.99 355⇓*i*P **P 17 37 00.0 +1.1**
comp=Z,14nm,0.6s,mb4.7
LPL La Plagne 82.99 355⇓*i*P **P 17 37 00.0 +1.1**
LPL pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
HYB Hyderabad 83.10 289 *i* P **P 17 37 00.0 0.0**
comp=Z,80nm,1.0s,mb5.5
HYB *e*pP pP 17 37 18.0 -1.1
HYB Hyderabad 83.10 289 *e*P **P 17 37 00.0 0.0**
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.5
HYB Hyderabad 83.10 289 *e*P **P 17 37 00.0 0.0**
comp=Z,80nm,1.0s,mb5.5
COLF Collangettes 83.12 357⇓*e*P **P 17 37 00.1 +0.6**
RJF Les Rejaudoux 83.39 359⇓*i*P **P 17 37 00.8 -0.1**
LBL Lubilhac 83.42 357 *e*P **P 17 37 01.6 +0.6**
BNI Bardonecchia 83.45 355 P **P 17 37 02.7 +1.5**
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.0
BNI Bardonecchia 83.45 355 *e*P **P 17 37 02.1 +0.9**
comp=Z,22nm,0.8s,mb5.0
BHJ Bhuj 83.52 299 *e*P **P 17 37 02.9 +0.9**
BHJ AMb AMB 17 37 03.8
comp=Z,53nm,0.3s,mb5.8
ORIF Oris-en-Rattie 83.63 355⇓*i*P **P 17 37 03.0 +1.0**
comp=Z,52nm,1.1s,mb5.0
ORIF *e*R
comp=Z,105nm,20.5s
VIVF Saint-Julien-l 83.75 356⇓*i*P **P 17 37 03.1 +0.5**
comp=Z,34nm,1.0s,mb4.8
VIVF Saint-Julien-l 83.75 356⇓*i*P **P 17 37 03.1 +0.5**
VIVF pmax pmax
comp=Z,17nm,1.0s,mb4.8
CAF Calviac 83.75 358⇓*i*P **P 17 37 03.2 +0.6**
comp=Z,64nm,1.1s,mb5.1
CAF Calviac 83.75 358⇓*i*P **P 17 37 03.2 +0.6**
CAF pmax pmax
comp=Z,32nm,1.1s,mb5.1
LFF La Frestale 83.76 359⇓*i*P **P 17 37 03.2 +0.5**
comp=Z,70nm,0.8s,mb5.2
LFF La Frestale 83.76 359⇓*i*P **P 17 37 03.2 +0.5**
LFF pmax pmax
comp=Z,35nm,0.8s,mb5.2
MBDF Montbardon 83.77 355⇓*i*P **P 17 37 03.8 +1.1**
comp=Z,20nm,0.6s,mb4.8
MBDF Montbardon 83.77 355⇓*i*P **P 17 37 03.8 +1.1**
MBDF pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
FITZ Fitzroy Crossi 83.81 231 *e*P **P 17 37 03.7 +0.2**
comp=Z,29nm,0.6s,mb5.3
VLC Villacollemand 84.08 352 *e*P **P 17 37 04.3 0.0**
comp=Z,16nm,0.6s,mb5.0
MALT Malatya 84.14 330 P **P 17 37 05.5 +0.8**
MALT pmax pmax
comp=Z,28nm,1.3s,mb4.9
MALT Malatya 84.14 330 *e*P **P 17 37 04.9 +0.2**
comp=Z,28nm,1.3s,mb4.9
OG25 Le Caire 84.17 355⇓*e*P **P 17 37 05.8 +1.1**
BR131 Keskin Array S 84.22 334 *e*P **P 17 37 05.2 0.0**
comp=Z,3.0nm,0.6s,mb4.3
BRTR Keskin Array B 84.22 334 P **P 17 37 04.8 -0.3**
comp=Z,5.4nm,0.8s,mb4.4,baz=55,slow=2.4,SNR=17
TOUF Mont Tournerai 84.46 354⇓*e*P **P 17 37 06.9 +0.7**
AUTN L'Aution 84.46 354 *e*P **P 17 37 06.7 +0.5**
STOF St-Etienne Org 84.55 355 *e*P **P 17 37 07.9 +1.3**
LASF Ste Croix 84.56 357⇓*i*P **P 17 37 07.4 +0.7**
comp=Z,26nm,0.7s,mb5.0
MVIF Mont Vial 84.58 354 *e*P **P 17 37 07.1 +0.3**
SMRF Simiane la Rot 84.58 356⇓*i*P **P 17 37 08.1 +1.3**
comp=Z,91nm,0.9s,mb5.4
SBF Sospel 84.59 354⇓*i*P **P 17 37 07.1 +0.2**
comp=Z,110nm,1.1s,mb5.4
SBF Sospel 84.59 354⇓*i*P **P 17 37 07.1 +0.2**
SBF pmax pmax
comp=Z,55nm,1.1s,mb5.4
VILF Villemus 84.70 355⇓*e*P **P 17 37 08.5 +1.1**
REVF Revere 84.72 354⇓*e*P **P 17 37 07.6 +0.1**
PRAF Pradon 84.78 356⇓*e*P **P 17 37 09.2 +1.4**
TAVF Tavernes 84.92 355⇓*e*P **P 17 37 09.4 +0.9**
FRF La Foret Royal 84.94 355⇓*i*P **P 17 37 08.9 +0.3**

	comp=Z,57nm,0.8s,mb5.2								
FRF	**La Foret Royal**	**84.94**	**355**	⇓	*i*P		**P**	17 37 08.9	**+0.3**
FRF					pmax	pmax			
	comp=Z,28nm,0.8s,mb5.2								
POO	**Poona**	**84.95**	**293**		*e*P		**P**	17 37 08.7	**-0.5**
POO					AMb		AMB	17 37 11.4	
	comp=Z,65nm,1.0s,mb5.5								
ASPA	**Alice Springs**	**84.99**	**221**	⇑	*i*P		**P**	17 37 09.4	**+0.1**
PUYF	**Puyloubier**	**85.02**	**355**	⇓	*e*P		**P**	17 37 10.2	**+1.2**
LMR	**La Mourre**	**85.18**	**355**	⇓	*i*P		**P**	17 37 10.2	**+0.4**
	comp=Z,50nm,0.9s,mb5.2								
LMR	**La Mourre**	**85.18**	**355**	⇓	*i*P		**P**	17 37 10.2	**+0.4**
LMR					pmax	pmax			
	comp=Z,25nm,0.9s,mb5.1								
GELF	**Grande-Etoile**	**85.18**	**356**	⇓	*e*P		**P**	17 37 10.9	**+1.1**
EPON	**Pontenova**	**85.20**	**5**		P		**P**	17 37 10.1	**+0.2**
	comp=Z,37nm,0.5s,mb5.6								
BERF	**Bertagne**	**85.24**	**355**	⇓	*e*P		**P**	17 37 11.1	**+1.0**
EARI	**Arriondas**	**85.32**	**3**		P		**P**	17 37 10.9	**+0.5**
	comp=Z,19nm,0.5s,mb5.3								
MTLF	**Montolieu**	**85.34**	**358**	⇓	*i*P		**P**	17 37 11.0	**+0.4**
	comp=Z,53nm,1.1s,mb5.1								
MTLF	**Montolieu**	**85.34**	**358**	⇓	*i*P		**P**	17 37 11.0	**+0.4**
MTLF					pmax	pmax			
	comp=Z,26nm,1.1s,mb5.1								
ELAN	**Lanestosa**	**85.44**	**2**		P		**P**	17 37 11.8	**+0.8**
	comp=Z,62nm,0.6s,mb5.7								
EMAZ	**Mazaricos**	**85.47**	**6**		P		**P**	17 37 11.4	**+0.1**
	comp=Z,10.0nm,0.5s,mb5.0								
EALK	**Alkurruntz**	**85.48**	**1**		P		**P**	17 37 12.1	**+0.8**
	comp=Z,10nm,0.6s,mb4.9								
STS	**Santiago**	**85.56**	**6**		P		**P**	17 37 12.1	**+0.4**
STS					pmax	pmax			
	comp=Z,12nm,0.6s,mb5.0								
STS	**Santiago**	**85.56**	**6**		P		**P**	17 37 12.1	**+0.4**
	comp=Z,12nm,0.6s,mb5.0								
AQU	**L'Aquila**	**85.57**	**350**		P		**P**	17 37 12.6	**+0.8**
AQU					pmax	pmax			
	comp=Z,34nm,0.9s,mb5.3								
AQU	**L'Aquila**	**85.57**	**350**		*e*P		**P**	17 37 12.2	**+0.5**
	comp=Z,34nm,0.8s,mb5.3								
SJPF	**Ste Jean**	**85.59**	**1**	⇓	*i*P		**P**	17 37 13.0	**+1.2**
	comp=Z,20nm,0.7s,mb5.0								
SJPF	**Ste Jean**	**85.59**	**1**	⇓	*i*P		**P**	17 37 13.0	**+1.2**
SJPF					pmax	pmax			
	comp=Z,15nm,0.7s,mb5.0								
LARF	**Larrau**	**85.67**	**0**	⇓	*e*P		**P**	17 37 13.5	**+1.3**
EPF	**Esparros**	**85.67**	**359**	⇓	*i*P		**P**	17 37 12.1	**-0.1**
	comp=Z,12nm,0.5s,mb4.8								
EPF	**Esparros**	**85.67**	**359**	⇓	*i*P		**P**	17 37 12.1	**-0.1**
EPF					pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.8								
KAD	**Karad**	**85.73**	**292**		*e*P		**P**	17 37 12.9	**-0.2**
MLS	**Moulis**	**85.74**	**359**		*e*P		**P**	17 37 13.0	**+0.5**
ETSF	**Etsaut**	**85.81**	**0**	⇓	*i*P		**P**	17 37 13.9	**+1.0**
	comp=Z,33nm,0.6s,mb5.1								
ETSF	**Etsaut**	**85.81**	**0**	⇓	*i*P		**P**	17 37 13.9	**+1.0**
ETSF					pmax	pmax			
	comp=Z,17nm,0.6s,mb5.2								
RESF	**Ens**	**85.90**	**359**	⇓	*e*P		**P**	17 37 14.8	**+1.5**
EBIE	**Bielsa**	**86.02**	**360**		P		**P**	17 37 15.5	**+1.6**
	comp=Z,9.7nm,0.6s,mb4.9								
ERUA	**La Rua**	**86.14**	**5**		P		**P**	17 37 15.1	**+0.6**
ERUA					pmax	pmax			
	comp=Z,12nm,0.6s,mb5.0								
ERUA	**La Rua**	**86.14**	**5**		P		**P**	17 37 15.1	**+0.6**
	comp=Z,12nm,0.6s,mb5.0								
EJON	**La Jonquera**	**86.21**	**357**		P		**P**	17 37 16.9	**+2.1**
	comp=Z,6.0nm,0.7s,mb4.6								
EZAM	**Zamans**	**86.29**	**6**		P		**P**	17 37 15.2	**-0.1**
EZAM					pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.6								
EZAM	**Zamans**	**86.29**	**6**		P		**P**	17 37 15.2	**-0.1**
	comp=Z,3.6nm,0.5s,mb4.6								
EGRA	**Graus**	**86.51**	**359**		P		**P**	17 37 17.7	**+1.4**
	comp=Z,11nm,0.5s,mb5.0								
ELOB	**Lobios**	**86.61**	**6**		P		**P**	17 37 17.0	**+0.2**
	comp=Z,9.8nm,0.6s,mb4.9								
ECAL	**Calabor**	**86.61**	**5**		P		**P**	17 37 16.9	**+0.1**
	comp=Z,10nm,0.7s,mb4.9								
OSPF	**L'Ospedale**	**86.66**	**353**		*e*P		**P**	17 37 17.0	**-0.1**
PCAB	**Cabril**	**86.77**	**6**		*e*P		**P**	17 37 17.8	**+0.2**
EMIR	**Miracle**	**86.77**	**358**		P		**P**	17 37 19.6	**+1.9**
	comp=Z,4.3nm,0.7s,mb4.5								
ESAC	**San Caprasio**	**86.98**	**360**		P		**P**	17 37 20.0	**+1.3**
	comp=Z,25nm,0.5s,mb5.4								
PVRL	**Vila Real**	**87.22**	**5**		*e*P		**P**	17 37 19.9	**+0.1**
	comp=Z,29nm,0.8s,mb5.3								
EPOB	**Poblet**	**87.34**	**359**		P		**P**	17 37 21.4	**+0.9**
	comp=Z,18nm,1.0s,mb5.0								
ERTA	**Horta de San J**	**87.75**	**359**		P		**P**	17 37 24.8	**+2.4**
	comp=Z,2.3nm,0.7s,mb4.3								
PVIS	**Viseu**	**87.77**	**6**		*e*P		**P**	17 37 22.3	**-0.2**
	comp=Z,29nm,0.8s,mb5.3								
EBR	**Ebro Roquetas**	**87.88**	**359**		*e*P		**P**	17 37 23.7	**+0.7**
GUD	**Guadarrama**	**88.01**	**3**		P		**P**	17 37 23.5	**-0.1**
GUD					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9								
GUD	**Guadarrama**	**88.01**	**3**		P		**P**	17 37 23.5	**-0.2**
	comp=Z,7.0nm,0.6s,mb4.9								
MTE	**Manteigas**	**88.10**	**5**		*e*P		**P**	17 37 24.0	**-0.1**
	comp=Z,32nm,1.0s,mb5.2								
MTE	**Manteigas**	**88.10**	**5**		*e*P		**P**	17 37 23.7	**-0.4**
	comp=Z,34nm,1.0s,mb5.3								
EMOS	**Mosqueruela**	**88.34**	**360**		P		**P**	17 37 25.9	**+0.6**
	comp=Z,4.5nm,0.7s,mb4.6								
PCBR	**Castelo Branco**	**88.66**	**5**		*e*P		**P**	17 37 26.5	**-0.3**
	comp=Z,24nm,0.8s,mb5.3								
PTOM	**Tomar**	**88.82**	**6**		*e*P		**P**	17 37 27.4	**-0.1**
	comp=Z,33nm,0.8s,mb5.4								
ESDC	**Sonseca Array**	**88.98**	**3**		P		**P**	17 37 27.8	**-0.5**
	comp=Z,5.5nm,0.7s,mb4.7,baz=351,slow=4.2,SNR=46								
ESDC	**Sonseca Array**	**88.98**	**3**		P		**P**	17 37 27.8	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.6								
ESLA	**Sonseca Array**	**88.98**	**3**		*e*P		**P**	17 37 27.4	**-0.9**
	comp=Z,1.7nm,0.8s,mb4.1								
ECHE	**Chera**	**89.11**	**0**		P		**P**	17 37 30.1	**+1.2**
ECHE					pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.7								
ECHE	**Chera**	**89.11**	**0**		P		**P**	17 37 30.1	**+1.2**
	comp=Z,4.1nm,0.5s,mb4.7								
PLOU	**Loures**	**89.50**	**7**		*e*P		**P**	17 37 31.2	**+0.5**
STKA	**Stephens Creek**	**89.60**	**211**	⇑	*i*P		**P**	17 37 32.0	**+0.6**
	comp=Z,17nm,0.7s,mb5.3								
STKA	**Stephens Creek**	**89.60**	**211**		P		**P**	17 37 32.1	**+0.7**
	comp=Z,21nm,0.7s,mb5.4,baz=345,slow=4.8,SNR=42								
STKA					LR		LR	18 11 31.5	
	comp=Z,322nm,20.2s,baz=26,slow=31								
EBAD	**Badajoz**	**89.77**	**5**		P		**P**	17 37 31.3	**-0.7**
	comp=Z,3.8nm,0.6s,mb4.7								
EBEN	**Beniarda**	**90.00**	**360**		P		**P**	17 37 34.0	**+1.0**
	comp=Z,3.6nm,0.6s,mb4.7								
EVIA	**Vianos**	**90.05**	**2**		P		**P**	17 37 33.5	**+0.2**
EVIA					pmax	pmax			
	comp=Z,9.0nm,0.7s,mb5.0								
EVIA	**Vianos**	**90.05**	**2**		P		**P**	17 37 33.5	**+0.2**
	comp=Z,9.1nm,0.7s,mb5.0								
ETOB	**Tobarra**	**90.05**	**1**		P		**P**	17 37 33.9	**+0.5**
	comp=Z,5.7nm,0.7s,mb4.8								
SJG	**San Juan**	**90.15**	**60**		P		**P**	17 37 34.6	**+0.4**
	comp=Z,13nm,0.6s,mb5.3,baz=59,slow=6.6,SNR=7.2								
SJG	**San Juan**	**90.15**	**60**		P		**P**	17 37 34.6	**+0.4**
SJG					pmax	pmax			
	comp=Z,13nm,0.6s								
PBEJ	**Beja**	**90.44**	**6**		*e*P		**P**	17 37 35.4	**+0.2**
EADA	**Adamuz**	**90.46**	**3**		P		**P**	17 37 34.9	**-0.4**
	comp=Z,6.5nm,0.8s,mb4.8								
MTP	**Monte Pirata**	**90.48**	**60**		*e*P		**P**	17 37 35.7	**-0.1**
EBAN	**Banos Encina**	**90.49**	**3**		P		**P**	17 37 35.1	**-0.3**
EBAN					pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.8								
EBAN	**Banos Encina**	**90.49**	**3**		P		**P**	17 37 35.1	**-0.3**
	comp=Z,5.5nm,0.7s,mb4.8								
EMIN	**Mina Concepcio**	**90.77**	**5**		P		**P**	17 37 36.4	**-0.3**
	comp=Z,7.6nm,0.7s,mb4.9								
EMUR	**La Murta**	**90.86**	**1**		P		**P**	17 37 36.3	**-0.8**
	comp=Z,4.0nm,0.9s,mb4.5								
EQES	**Quesada**	**90.87**	**2**		P		**P**	17 37 36.5	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.3								
EGRO	**El Granado**	**90.96**	**6**		P		**P**	17 37 37.0	**-0.6**
	comp=Z,2.2nm,0.5s,mb4.5								
ECOG	**Cogollos-Vega**	**91.38**	**2**		P		**P**	17 37 39.7	**+0.1**
ECOG					pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.6								
ECOG	**Cogollos-Vega**	**91.38**	**2**		P		**P**	17 37 39.7	**+0.1**
	comp=Z,2.3nm,0.4s,mb4.7								
ELOJ	**Sierra Loja**	**91.50**	**3**		P		**P**	17 37 40.4	**+0.3**
ELOJ					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.9								
ELOJ	**Sierra Loja**	**91.50**	**3**		P		**P**	17 37 40.4	**+0.3**
	comp=Z,9.6nm,1.0s,mb4.9								
ERON	**Agron**	**91.63**	**3**		P		**P**	17 37 40.0	**-0.8**
ESPR	**Espera**	**91.71**	**4**		P		**P**	17 37 41.6	**+0.5**
	comp=Z,13nm,1.1s,mb5.1								
EBER	**Berja**	**91.78**	**2**		P		**P**	17 37 43.2	**+1.8**
	comp=Z,4.4nm,0.6s,mb4.9								
EMIJ	**Mijas**	**92.06**	**3**		P		**P**	17 37 43.4	**+0.7**
	comp=Z,11nm,0.8s,mb5.1								
EJIF	**Jimena Fronter**	**92.14**	**4**		P		**P**	17 37 43.9	**+0.8**
SDV	**Santo Domingo**	**95.12**	**69**		P		**P**	17 37 57.7	**+0.5**
	comp=Z,2.7nm,0.4s,mb5.0,baz=24,slow=7.4,SNR=5.3								
MDT	**Midelt**	**95.80**	**3**		P		**P**	17 37 59.5	**-0.3**
	comp=Z,2.9nm,0.5s,mb4.9,baz=8.5,slow=3.2,SNR=23								
LPAZ	**La Paz**	**116.48**	**83**		PKP		PKPdf	17 43 19.7	**+3.2**
	comp=Z,0.6nm,0.5s,baz=262,slow=5.1,SNR=3.8								
LPAZ	**La Paz**	**116.48**	**83**		PKP		PKPdf	17 43 19.7	**+3.2**
KMBO	**Kilima Mbogo**	**120.49**	**315**		PKP		PKPdf	17 43 26.3	**+1.9**
	comp=Z,7.6nm,0.9s,baz=5.8,slow=3.8,SNR=20								
KMBO	**Kilima Mbogo**	**120.49**	**315**		PKP		PKPdf	17 43 26.3	**+1.9**
DBIC	**Dimbokro**	**121.77**	**5**		PKP		PKPdf	17 43 27.1	**+0.4**
	comp=Z,6.0nm,0.5s,baz=357,slow=3.4,SNR=30								
DBIC	**Dimbokro**	**121.77**	**5**		PKIKP		PKPdf	17 43 27.2	**+0.4**
DBIC					pmax	pmax			
	comp=Z,6.0nm,0.5s								
DBIC	**Dimbokro**	**121.77**	**5**		*e*PKP		PKPdf	17 43 27.0	**+0.2**
LIC	**Lamto**	**122.20**	**5**		*e*PKIKP		PKPdf	17 43 27.8	**+0.2**
	comp=Z,17nm,0.8s								
LIC					*e*R				
	comp=Z,113nm,23.0s								
CFAA	**Coronel Fontan**	**127.55**	**95**		PKP		PKPdf	17 43 37.7	**+0.2**
	comp=Z,0.2nm,0.5s,baz=217,slow=4.6,SNR=5.5								
CFAA					SKPbc			17 46 49.3	
	comp=Z,1.2nm,0.9s,baz=317,slow=3.7,SNR=15								
CFAA	**Coronel Fontan**	**127.55**	**95**		PKP		PKPdf	17 43 37.7	**+0.2**
CFAA					SKPbc			17 46 49.3	
BDFB	**Brasilia**	**127.95**	**64**		PKP		PKPdf	17 43 39.7	**+1.1**
	comp=Z,9.9nm,1.1s,baz=108,slow=1.1,SNR=6.5								
BDFB					SKPbc			17 46 50.7	
	comp=Z,4.1nm,0.7s,baz=296,slow=5.7,SNR=4.3								
VNDA	**Vanda**	**129.39**	**185**		PKP		PKPdf	17 43 41.1	**+1.3**
	comp=Z,1.3nm,0.9s,baz=232,slow=8.2,SNR=5.5								
VNDA					SKPbc			17 46 55.9	
	comp=Z,2.7nm,0.8s,baz=360,slow=4.1,SNR=9.8								
PLCA	**Paso Flores**	**132.08**	**106**		PKP		PKPdf	17 43 47.9	**+2.0**
	comp=Z,2.4nm,0.6s,baz=201,slow=1.9,SNR=13								
PLCA					pPKP			17 44 05.9	
	comp=Z,2.9nm,0.6s,baz=322,slow=2.7,SNR=3.9								
PLCA					SKPbc			17 47 07.2	
	comp=Z,15nm,1.0s,baz=307,slow=4.5,SNR=18								
LSZ	**Lusaka**	**137.05**	**317**		*e*PKIKP		PKPdf	17 43 56.8	**+1.1**
QSPA	**South Pole Qui**	**141.43**	**180**		*e*PKP		PKPdf	17 43 56.7	**-5.0**
TSUM	**Tsumeb**	**144.60**	**330**		PKP		PKPdf	17 44 08.9	**0.0**
	comp=Z,15nm,0.6s,baz=356,slow=5.3,SNR=83								
TSUM	**Tsumeb**	**144.60**	**330**		*e*PKP		PKPdf	17 44 09.2	**+0.3**
EFI	**East Falkland**	**145.12**	**113**		*e*PKIKP		PKPdf	17 44 09.4	**+0.5**
MAW	**Mawson**	**146.06**	**218**	⇑	*i*P		PKPdf	17 44 12.3	**+2.3**
	comp=Z,8.5nm,0.4s								
MAW	**Mawson**	**146.06**	**218**		PKPbc		PKPbc	17 44 12.3	**+1.2**
	comp=Z,9.6nm,0.5s,baz=96,slow=4.1,SNR=27								
LBTB	**Lobatse**	**146.75**	**313**		*e*PKPdf		PKPdf	17 44 13.9	**+1.4**
LBTB					*e*PKPbc		PKPbc	17 44 16.3	**+2.3**
SYO	**Syowa Base**	**154.36**	**212**	⇑	PKPab		PKPab	17 44 47.1	**-0.7**
SNAA	**Sanae**	**159.90**	**178**		P		PKPab	17 45 09.4	**-2.2**
SNAA	**Sanae**	**159.90**	**178**		PKPab		PKPab	17 45 09.8	**-1.8**
	comp=Z,1.5nm,0.8s,baz=238,slow=8.3,SNR=8.3								
SNAA	**Sanae**	**159.90**	**178**		PKP2		PKPab	17 45 09.8	**-1.8**
SNAA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
VNA3	**Neumayer Olymp**	**159.93**	**171**		P		PKPab	17 45 10.9	**-0.8**
VNA2	**Neumayer--Watz**	**160.43**	**173**		P		PKPab	17 45 13.2	**-0.6**
VNA2	**Neumayer--Watz**	**160.43**	**173**				tx	17 45 44.8	

*NEIC **24** 17:56:18.0, 32.66S×71.67W, h32km, ML3.7(GUC), After GUC.*
NEIC Felt [II] at Santiago, Valparaiso and Vina del Mar.

GUC 24 17:56:18.2±0.8, 32.66S×71.67W, h32km±3km, MD4.2, ML3.7, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m	s	ISC
PACH	**Papudo**	**0.23**	**58**	⇑	*i*P	**Pb**	17 56	25.2		**+0.2**
ROCH	**El Roble**	**0.63**	**120**	⇑	*i*P	**Pb**	17 56	30.8		**0.0**
ROCH					*i* S	**Sb**	17 56	40.0		**+0.4**
CHNG	**Los Chungos**	**0.79**	**10**	⇑	*i*P	**Pn**	17 56	32.8		**-0.3**
CHNG					*i* S	**Sn**	17 56	43.4		**-0.4**
CHNG					AMP		17 56	44.9		
	comp=N,1μm,0.3s									
LCCH	**Las Cruces**	**0.82**	**174**		*e*P	**Pn**	17 56	33.0		**-0.5**
LCCH					*i* S	**Sn**	17 56	43.5		**-1.1**
JACH	**Jahuel**	**0.91**	**92**		*i* P	**Pn**	17 56	34.7		**-0.1**
JACH					*i* S	**Sn**	17 56	47.5		**+0.7**
PEL	**Peldehue**	**0.96**	**121**	⇑	*i*P	**Pn**	17 56	36.0		**+0.5**
PEL					*i* S	**Sn**	17 56	49.1		**+1.1**
RCDM	**Rinconada Maip**	**1.10**	**139**		*e*P	**Pn**	17 56	37.6		**0.0**
RCDM					*i* S	**Sn**	17 56	52.2		**+0.5**
RCDM					AMP		17 56	55.2		
	comp=E,3μm,0.2s									
SAN	**Santiago**	**1.16**	**133**		*e*P	**Pn**	17 56	38.8		**+0.4**
SAN					*i* S	**Sn**	17 56	54.2		**+1.1**
TACH	**Talagante**	**1.16**	**148**		*e*P	**Pn**	17 56	38.7		**+0.2**
TACH					*i* S	**Sn**	17 56	54.0		**+0.7**
CLCH	**Cerro Calan**	**1.20**	**128**		*e*P	**Pn**	17 56	40.2		**+1.2**
CLCH					*i* S	**Sn**	17 56	56.2		**+2.0**
CLCH					AMP		17 56	57.8		
	comp=N,4μm,0.5s									
ANTU	**Antumapu**	**1.25**	**137**		*e*P	**Pn**	17 56	40.5		**+0.8**
ANTU					*i* S	**Sn**	17 56	57.0		**+1.3**
ANTU					AMP		17 56	59.2		
	comp=N,2μm,0.2s									
LNV	**Longovilo**	**1.31**	**171**		*e*P	**Pn**	17 56	40.1		**-0.4**
FCH	**Farellones**	**1.33**	**120**	⇓	*i*P	**Pn**	17 56	41.7		**+0.8**
FCH					*i* S	**Sn**	17 56	59.7		**+2.0**
FCH					AMP		17 57	01.0		
	comp=E,2μm,0.2s									
PCH	**Pirque**	**1.36**	**135**	⇑	*i*P	**Pn**	17 56	42.0		**+0.7**
PCH					*i* S	**Sn**	17 57	00.0		**+1.6**
SJCH	**San Jose de Ma**	**1.47**	**132**	⇓	*i*P	**Pn**	17 56	43.1		**+0.2**
SJCH					*i* S	**Sn**	17 57	02.1		**+1.0**
SJCH					AMP		17 57	05.4		
	comp=E,918nm,0.7s									
CHCH	**Chadas Angostu**	**1.53**	**146**		*e*P	**Pn**	17 56	44.8		**+1.1**
CMCH	**Combarbala**	**1.59**	**21**	⇓	*i*P	**Pn**	17 56	45.2		**+0.7**
CMCH					*i* S	**Sn**	17 57	06.3		**+2.2**
CMCH					AMP		17 57	11.1		
	comp=N,14μm,0.6s									
CACH	**El Canelo**	**1.71**	**149**	⇑	*i*P	**Pn**	17 56	48.0		**+1.8**
LMEL	**Las Melosas**	**1.71**	**134**		*i* P	**Pn**	17 56	47.6		**+1.4**
LMEL					*i* S	**Sn**	17 57	09.6		**+2.5**
LMEL					AMP		17 57	15.2		
	comp=N,2μm,0.2s									
CICH	**Cipreses**	**1.96**	**148**	⇓	*e*P	**Pn**	17 56	51.0		**+1.2**
SFDO	**San Fernando**	**2.02**	**165**		*e*P	**Pn**	17 56	51.1		**+0.3**
NICH	**Los Niches**	**2.37**	**171**		*e*P	**Pn**	17 56	57.3		**+1.6**

MAN 24 18:12:32.2, 11.04N×126.06E, h48km, mb4.0, ML2.8, MS2.5, Philippine Islands region

*ATH **24** 18:19:42.0, 38.80N×28.01E, h15km±4km, MD3.0/3*
*CSEM **24** 18:19:44.6±0.1, 38.84N×27.79E, h5km, MD2.9, Error ellipse: s-maj=2.5km s-min=1.8km az=122.0*
*ISK **24** 18:19:45.0, 38.86N×27.72E, h9km, MD2.9*
*NEIC **24** 18:19:45.0, 38.86N×27.72E, h9km, MD3.0(ATH), MD2.9(ISK), After ISK.*

ISC 24 18:19:44.8±0.5, 38.81N±0.02×27.78E±0.03, h7km±4km, n27, σ0°94/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m	s	ISC
AKS	**Akhisar**	**0.07**	**20**		PG	**Pg**	**18**	**19**	**47.4**	**+0.7**
KDAG	**Bornova**	**0.58**	**225**		*i* P	**Pg**	**18**	**19**	**55.2**	**-1.2**
KDAG					*i* S	**Sg**	**18**	**20**	**03.5**	**-0.7**
IZM	**Izmir**	**0.58**	**225**		PG	**Pg**	**18**	**19**	**56.4**	**-0.1**
IZM					SG	**Sg**	**18**	**20**	**05.5**	**+1.2**
MANT	**Manisa**	**0.69**	**118**		*i* P	**Pg**	**18**	**19**	**58.2**	**-0.4**
MANT					*i* S	**Sg**	**18**	**20**	**06.9**	**-1.0**
BTOK	**Tokmak**	**0.97**	**11**		*i* P	**Pb**	**18**	**20**	**03.4**	**0.0**
BTOK					*i* S	**Sb**	**18**	**20**	**14.7**	**-1.6**
AYVA	**Ayvalik**	**0.98**	**300**		*i* P	**Pb**	**18**	**20**	**04.6**	**+0.8**
AYVA					*i* S	**Sb**	**18**	**20**	**16.7**	**-0.1**
AYDN	**Tasoluk**	**1.15**	**176**		*i* P	**Pb**	**18**	**20**	**06.7**	**0.0**
AYDN					*i* S	**Sb**	**18**	**20**	**21.6**	**-0.1**
PRK	**Paraskevi**	**1.25**	**291**		*e*PN	**Pn**	**18**	**20**	**08.9**	**+0.1**
PRK					*e*SN	**Sn**	**18**	**20**	**28.5**	**+2.5**
PRK	**Paraskevi**	**1.25**	**291**		*e*Pn	**Pn**	**18**	**20**	**08.9**	**+0.1**
PRK					*e*Sn	**Sn**	**18**	**20**	**25.7**	**-0.3**
SMG	**Samos**	**1.33**	**214**		*e*PN	**Pn**	**18**	**20**	**08.9**	**-1.0**
SMG					*e*SN	**Sn**	**18**	**20**	**28.5**	**+0.5**
GDZ	**Gediz**	**1.35**	**78**		*i* P	**Pb**	**18**	**20**	**09.1**	**-1.0**
GDZ					*i* S	**Sb**	**18**	**20**	**28.7**	**+1.2**
ORLT	**Orhaneli**	**1.50**	**35**		PN	**Pn**	**18**	**20**	**13.3**	**+1.0**
EDC	**Edincik**	**1.53**	**2**		PN	**Pn**	**18**	**20**	**12.2**	**-0.5**
BNT	**Bandirma**	**1.54**	**4**		PN	**Pn**	**18**	**20**	**12.7**	**-0.2**
ULDT	**Uludag**	**1.69**	**38**		*i* P	**Pn**	**18**	**20**	**15.8**	**+0.8**
ULDT					*i* S	**Sn**	**18**	**20**	**35.5**	**-1.6**
YER	**Yerkesik**	**1.72**	**167**		*e*PN	**Pn**	**18**	**20**	**16.7**	**+1.2**
BDRM	**Kayabasi**	**1.77**	**189**		*i* P	**Pn**	**18**	**20**	**19.2**	**+3.1**
BDRM					*i* S	**Sn**	**18**	**20**	**37.6**	**-1.5**
MRMT	**Marmara Adasi**	**1.79**	**355**		*e*PN	**Pn**	**18**	**20**	**16.8**	**+0.3**
ALT	**Altintas**	**1.83**	**82**		*e*PN	**Pn**	**18**	**20**	**17.7**	**+0.7**
MFT	**Murefte**	**2.01**	**349**		*e*PN	**Pn**	**18**	**20**	**20.0**	**+0.5**
YLV	**Yalova**	**2.14**	**35**		*e*PN	**Pn**	**18**	**20**	**21.3**	**-0.1**
BADT	**Buyukada**	**2.28**	**26**		*e*PN	**Pn**	**18**	**20**	**23.6**	**+0.1**
LIA	**Limnos Island**	**2.29**	**299**		*e*PB	**Pb**	**18**	**20**	**23.2**	**-2.9**
CTT	**Catalca**	**2.38**	**12**		*e*PN	**Pn**	**18**	**20**	**25.0**	**+0.1**
HRT	**Hereke**	**2.48**	**35**		*e*PN	**Pn**	**18**	**20**	**26.3**	**+0.1**
ESKT	**Eskisehir**	**2.49**	**73**		*e*PN	**Pn**	**18**	**20**	**27.7**	**+1.3**
RDO	**Rodhopi**	**2.90**	**324**		*e*PN	**Pn**	**18**	**20**	**32.2**	**-0.1**

IDC 24 18:25:51.1±3.9, 10.33N×91.50E, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=141.5km s-min=29.1km az=64.0, Andaman Islands region

| Code |

PTEO				*e*Sn		S	19 17 13.0	-4.0	
	2.7nm,0.1s								
PTEO	**Sao Teotonio**	**2.89**	**317**	P		P	19 16 41.8	-1.4	
PTEO				S		S	19 17 12.4	-4.6	
EADA	**Adamuz**	**3.01**	**26**	P		P	19 16 43.4	-1.6	
	0.8nm,0.1s,SNR=7.9								
EADA				S		S	19 17 15.3	-4.9	
	0.7nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**3.01**	**26**	P		P	19 16 43.4	-1.6	
	0.8nm,0.1s,SNR=7.9								
EADA				S		S	19 17 15.3	-5.0	
	0.7nm,0.1s,SNR=7.9								
EBER	**Berja**	**3.07**	**61**	S		S	19 17 18.0	-3.7	
	0.2nm,0.1s,SNR=7.9								
EBER	**Berja**	**3.07**	**61**	S		S	19 17 18.0	-3.6	
	0.2nm,0.1s,SNR=7.9								
EBAN	**Banos Encina**	**3.34**	**35**	S		S	19 17 23.2	-5.4	
	2.8nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**3.35**	**350**	P		P	19 16 47.8	-1.9	
	1.7nm,0.1s,SNR=19								
EBAD				S		S	19 17 24.0	-4.7	
	0.6nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**3.35**	**350**	P		P	19 16 47.8	-1.9	
	1.7nm,0.1s,SNR=19								
EBAD				S		S	19 17 24.0	-4.7	
	0.6nm,0.2s,SNR=7.9								
EQES	**Quesada**	**3.46**	**47**	P		P	19 16 48.6	-2.7	
	SNR=4.0								
EQES				S		S	19 17 27.3	-4.3	
	0.6nm,0.1s,SNR=7.9								
EQES	**Quesada**	**3.46**	**47**	P		P	19 16 48.6	-2.7	
	SNR=4.0								
EQES				S		S	19 17 27.3	-4.3	
	0.6nm,0.1s,SNR=7.9								
MOE	**Montemor**	**3.49**	**332**	*e*Sn		S	19 17 26.8	-5.6	
EVIA	**Vianos**	**4.36**	**42**	S		S	19 17 48.7	-5.6	
	4.3nm,0.9s,SNR=7.9								
PCBR	**Castelo Branco**	**4.48**	**348**	*e*Pn		P	19 17 03.4	-2.4	
PCBR				*e*Sn		S	19 17 50.5	-6.9	
PCBR	**Castelo Branco**	**4.48**	**348**	P		P	19 17 03.2	-2.6	
PCBR				S		S	19 17 50.5	-6.9	
PTOM	**Tomar**	**4.49**	**338**	*e*Sn		S	19 17 50.7	-7.0	
	2.8nm,0.3s								
PTOM	**Tomar**	**4.49**	**338**	S		S	19 17 50.5	-7.2	
ESDC	**Sonseca Array**	**4.58**	**23**	P		P	19 17 04.4	-2.8	
	1.5nm,0.1s,baz=202,slow=13,SNR=7.9								
ESDC				S		S	19 17 53.7	-6.2	
	0.0nm,0.3s,baz=202,slow=23,SNR=7.9								
ESDC	**Sonseca Array**	**4.58**	**23**	P		P	19 17 04.4	-2.8	
	1.5nm,0.1s,SNR=7.9								
ETOB	**Tobarra**	**4.92**	**48**	P		P	19 17 08.9	-3.1	
	SNR=7.9								
ETOB				S		S	19 18 00.3	-8.1	
	0.3nm,0.1s,SNR=7.9								
ETOB	**Tobarra**	**4.92**	**48**	P		P	19 17 08.9	-3.1	
	SNR=7.9								
ETOB				S		S	19 18 00.3	-8.1	
	0.3nm,0.1s,SNR=7.9								
GUD	**Guadarrama**	**5.43**	**17**	P		P	19 17 15.7	-3.4	
	0.2nm,0.1s,SNR=7.9								
GUD				S		S	19 18 12.8	-8.5	
	0.5nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**6.48**	**357**	P		P	19 17 31.7	-2.2	
	0.3nm,0.1s,SNR=7.9								
ECAL				S		S	19 18 39.0	-8.6	
	0.1nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**6.48**	**357**	P		P	19 17 31.7	-2.2	
	0.3nm,0.1s,SNR=7.9								
ECAL				S		S	19 18 39.0	-8.5	
	0.1nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**6.55**	**348**	P		P	19 17 31.8	-3.1	
	0.2nm,0.1s,SNR=7.9								
ELOB				S		S	19 18 40.5	-8.8	
	0.2nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**6.55**	**348**	P		P	19 17 31.8	-3.1	
	0.2nm,0.1s,SNR=7.9								
ELOB				S		S	19 18 40.5	-8.8	
	0.2nm,0.1s,SNR=7.9								
EMOS	**Mosqueruela**	**6.69**	**41**	S		S	19 18 43.7	-8.9	
	5.9nm,0.9s,SNR=7.9								
EMOS	**Mosqueruela**	**6.69**	**41**	S		S	19 18 43.7	-9.0	
	5.9nm,0.9s,SNR=7.9								
EARI	**Arriondas**	**7.87**	**6**	P		P	19 17 49.5	-3.8	
	0.3nm,0.4s,SNR=4.0								
EARI	**Arriondas**	**7.87**	**6**	P		P	19 17 49.5	-3.8	
	0.3nm,0.4s,SNR=4.0								
ELAN	**Lanestosa**	**8.06**	**15**	P		P	19 17 52.5	-3.4	
	1.1nm,0.2s,SNR=4.0								
ELAN	**Lanestosa**	**8.06**	**15**	P		P	19 17 52.5	-3.4	
	1.1nm,0.2s,SNR=4.0								
EGRA	**Graus**	**8.45**	**35**	P		P	19 17 58.0	-3.2	
	2.6nm,0.6s,SNR=7.9								
EALK	**Alkurruntz**	**8.57**	**24**	P		P	19 18 00.2	-2.8	
	3.9nm,0.9s,SNR=4.0								
EBIE	**Bielsa**	**8.76**	**33**	P		P	19 18 02.8	-2.7	
	5.0nm,1.4s,SNR=4.0								
EBIE	**Bielsa**	**8.76**	**33**	P		P	19 18 02.8	-2.7	
	5.0nm,1.4s,SNR=4.0								

IDC 24 19:18:52.0±2.1, 4.95N×73.63W, h278km±9km, mb2.7/2, mb1 3.1/2, mb1mx2.7/19, mbtmp3.3/2, Error ellipse: s-maj=87.0km s-min=27.9km az=78.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**0.71**	**262**	P	P	19 19 30.6	+1.5
	10nm,0.3s,baz=84,slow=23,SNR=19						
ROSC				S	S	19 19 59.0	+1.0
	6.4nm,0.3s,baz=96,slow=20,SNR=7.5						
TXAR	**Lajitas Array**	**37.36**	**314**	P	P	19 25 39.1	-0.8
	0.2nm,0.7s,baz=118,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	**64.84**	**340**	P	P	19 29 00.7	-2.2
	0.3nm,0.6s,baz=133,slow=6.6,SNR=14						

*IDC **24** 19:29:04.5±1.5, 37.88N×145.17E, mb3.6/2, mb1 3.8/3, mb1mx3.3/21, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=57.6km s-min=29.6km az=127.0*
*JMA **24** 19:29:09.2±0.2, 38.09N×144.79E, h57km, M3.6*
ISC 24 19:29:08.3±1.4, 38.19N±0.06×144.88E±0.09, h55km±20km, n15, σ1§27/24, mb3.7/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.67**	**291**	P	**P**	**19 29 50.6**	**+0.7**
OFUJ				*e*S	**S**	**19 30 21.7**	**+0.6**
MIYJ	**Miyakonagasawa**	**2.76**	**301**	P	**P**	**19 29 51.9**	**+0.7**
MIYJ				*e*S	**S**	**19 30 24.2**	**+0.7**
JIO	**Ouri**	**2.79**	**277**	P	**P**	**19 29 51.8**	**+0.2**
JIO				S	**S**	**19 30 23.5**	**-0.7**
JMK	**Ichinoseki**	**2.97**	**286**	P	**P**	**19 29 55.0**	**+0.9**
JMK				*e*S	**S**	**19 30 29.4**	**+0.7**
JOT	**Ohata**	**4.35**	**318**	*e*S	**S**	**19 31 02.6**	**-0.8**
JCH	**Churui**	**4.57**	**346**	P	**S**	**19 30 17.2**	**+0.5**
JCH				*e*S	**S**	**19 31 06.1**	**-3.0**
JKB	**Kayabe**	**4.73**	**323**	*e*S	**S**	**19 31 11.2**	**-1.9**
NEM2	**Nemuro 2**	**5.21**	**7**	P	**P**	**19 30 23.6**	**-2.0**
NEM2				*e*S	**S**	**19 31 18.8**	**-6.4**
JRY	**Ryogami san**	**5.25**	**247**	P	**P**	**19 30 24.5**	**-1.6**
JRY				*e*S	**S**	**19 31 20.1**	**-5.9**
MJAR	**Matsushiro Arr**	**5.56**	**255**	Pn	**P**	**19 30 30.3**	**-0.1**
	0.8nm,0.3s,baz=80,slow=16,SNR=9.2						
MJAR				Sn	**S**	**19 31 32.8**	**-1.0**
	0.2nm,0.3s,baz=224,slow=34,SNR=2.8						
JOSM	**Okushiri--Mats**	**5.68**	**315**	P	**P**	**19 30 34.1**	**+2.0**
JTKR	**Abashiri--Toko**	**5.82**	**353**	P	**P**	**19 30 34.4**	**+0.3**
JTKR				*e*S	**S**	**19 31 36.9**	**-3.5**
JHR	**Hokuryu**	**6.04**	**338**	*e*S	**S**	**19 31 47.7**	**+1.9**
ILAR	**Eielson Array**	**47.04**	**33**	P	**P**	**19 37 38.2**	**+2.6**
	0.5nm,0.7s,mb3.5,baz=258,slow=6.3,SNR=6.7						
WRA	**Warramunga Arr**	**58.66**	**192**	P	**P**	**19 39 02.0**	**-0.5**
	0.7nm,0.6s,mb3.8,baz=12,slow=7.3,SNR=6.8						

*ATH **24** 20:00:30.6, 39.10N×21.68E, h26km±2km, MD3.2/4*
*NEIC **24** 20:00:30.6, 39.10N×21.68E, h26km, MD3.2(ATH), After ATH.*
*THE **24** 20:00:32.0, 39.12N×21.67E, h11km, ML3.0*
*CSEM **24** 20:00:31.6±0.1, 39.08N×21.66E, h15km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.4km az=134.0*
ISC 24 20:00:30.5±0.6, 39.10N±0.03×21.66E±0.04, h11km±5km, n23, σ0§86/30, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.22**	**147**	⇓*i*PB	**Pb**	**20 00 36.1**	**+0.1**
EVR				*e*SB	**Sb**	**20 00 40.3**	**+0.6**
AGG	**Agios Georgios**	**0.53**	**98**	*e*Pg	**Pg**	**20 00 41.6**	**+0.3**
AGG				*e*Sg	**Sg**	**20 00 50.5**	**+2.0**
MEV	**Metsovon**	**0.76**	**334**	*e*Pg	**Pg**	**20 00 45.9**	**+0.1**
MEV				*e*Sg	**Sg**	**20 00 57.0**	**+1.0**
JAN	**Janina**	**0.83**	**312**	*e*PN	**Pn**	**20 00 47.0**	**-1.0**
LKD	**Levkas**	**0.88**	**244**	*e*Pg	**Pg**	**20 00 48.1**	**-0.1**
RLS	**Riolos of Patr**	**1.05**	**188**	*e*PN	**Pn**	**20 00 51.6**	**+0.5**
IGT	**Igoumenitsa**	**1.11**	**293**	*e*Pg	**Pg**	**20 00 53.3**	**+0.4**
LKR	**Lokris**	**1.14**	**113**	*e*PN	**Pn**	**20 00 52.7**	**+0.3**
LIT	**Litokhoron**	**1.19**	**33**	*e*Pg	**Pg**	**20 00 53.0**	**-1.4**
LIT				*e*Sg	**Sg**	**20 01 09.9**	**-0.3**
KZN	**Kozani**	**1.21**	**4**	*e*PN	**Pn**	**20 00 53.0**	**-0.3**
KZN				*e*SN	**Sn**	**20 01 11.0**	**+1.3**
XOR	**Xorichti**	**1.22**	**77**	*e*Pg	**Pg**	**20 00 54.5**	**-0.5**
NEO	**Neokhori**	**1.24**	**80**	*e*PN	**Pn**	**20 00 54.2**	**+0.5**
VLS	**Valsamata**	**1.25**	**222**	*e*PN	**Pn**	**20 00 54.4**	**+0.5**
FNA	**Florina**	**1.69**	**353**	*e*Pb	**Pb**	**20 01 01.5**	**+0.3**
PAIG	**Paliouri**	**1.77**	**62**	*e*Pb	**Pb**	**20 01 01.0**	**-1.5**
PAIG				*e*Sb	**Sb**	**20 01 23.9**	**-0.8**
PLG	**Polygyros**	**1.88**	**47**	*e*PN	**Pn**	**20 01 02.1**	**-0.8**
ITM	**Ithomi**	**1.93**	**174**	*e*PB	**Pb**	**20 01 03.0**	**-2.3**
GRG	**Griva**	**1.94**	**17**	*e*Pb	**Pb**	**20 01 04.3**	**-1.1**
GRG	**Griva**	**1.94**	**17**	*e*Pb	**Pb**	**20 01 04.3**	**-1.1**
SOH	**Sokhos**	**2.16**	**37**	*e*Pn	**Pn**	**20 01 07.4**	**+0.5**
SOH				*e*Sn	**Sn**	**20 01 34.8**	**+0.9**
OUR	**Ouranopolis**	**2.18**	**55**	*e*Pn	**Pn**	**20 01 07.3**	**+0.1**
KNT	**Kendrikon**	**2.27**	**24**	*e*Pn	**Pn**	**20 01 09.1**	**+0.6**
SRS	**Serrai**	**2.50**	**36**	*e*Pn	**Pn**	**20 01 11.7**	**-0.2**

*NEIC **24** 20:00:32.1, 17.65N×99.16W, h55km, MD3.7(MEX), After MEX.*
MEX 24 20:00:32.1±1.4, 17.65N×99.16W, h55km±48km, MD3.7, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.81**	**336**	⇑*i*P	P	20 00 46.5	-1.0
PLIG				*i*S	S	20 00 57.3	-1.6
ACX	**Acapulco**	**1.06**	**223**	*i*P	P	20 00 49.0	-2.0
ACX				*i*S	S	20 01 03.0	-2.0
YAIG	**Yautepec**	**1.21**	**4**	*i*P	P	20 00 51.1	-1.9
YAIG				*i*S	S	20 01 05.6	-3.0
CAIG	**El Cayaco**	**1.21**	**241**	*i*P	P	20 00 51.9	-1.2
CAIG				*i*S	S	20 01 05.2	-3.6
PPM	**Popocatepetl**	**1.50**	**20**	*i*P	P	20 00 55.8	-1.4
PPM				*i*S	S	20 01 14.3	-1.4
OXX	**Oaxaca**	**2.40**	**103**	*e*P	P	20 01 10.0	+0.2
OXX				*i*S	S	20 01 39.0	+0.9

PGC 24 20:02:40.6, 56.89N×140.88W, h10km, MLSn3.6/7, Gulf of Alaska., Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**3.52**	**41**	Pn	Pn	20 03 34.8	-1.7
PLBC				Sn	Sn	20 04 13.7	-4.9
HYT	**Haines Junctio**	**4.32**	**23**	Pn	Pn	20 03 45.4	-2.6
HYT				Sn	Sn	20 04 32.7	-6.4
	comp=Z,7.0nm,0.3s						
HYT				Trac		20 04 34.5	
	comp=Z,7.0nm,0.3s						
WHY	**Whitehorse**	**4.91**	**37**	Pn	Pn	20 03 54.5	-1.7
WHY				Sn	Sn	20 04 48.0	-5.8
WHY				Trac		20 04 49.8	
	comp=Z,11nm,0.1s						
NDB	**Naden**	**5.39**	**120**	Pn	Pn	20 03 59.6	-3.5
NDB				Sn	Sn	20 04 58.6	-7.4
	comp=Z,12nm,0.1s						
NDB				Trac		20 05 04.5	
	comp=Z,12nm,0.1s						
VIB	**Van Inlet**	**6.02**	**124**	Pn	Pn	20 04 08.1	-3.8
VIB				Sn	Sn	20 05 12.1	-10
VIB				Trac		20 05 14.9	
	comp=Z,8.0nm,0.1s						
DLBC	**Dease Lake**	**6.03**	**71**	Pn	Pn	20 04 09.8	-2.4
MOBC	**Moresby Island**	**6.35**	**122**	Pn	Pn	20 04 13.2	-3.4
MOBC				Sn	Sn	20 05 21.6	-8.4
MOBC				Trac		20 05 24.5	
	comp=Z,5.0nm,0.1s						
RUBB	**Prince Rupert**	**6.55**	**109**	Pn	Pn	20 04 15.1	-4.3
RUBB				Sn	Sn	20 05 26.7	-8.2
RUBB				Trac		20 05 31.2	
	comp=Z,5.0nm,0.2s						
BNB	**Barry Inlet**	**6.83**	**125**	Pn	Pn	20 04 19.3	-4.0
BNB				Sn	Sn	20 05 32.9	-9.0
	comp=Z,174nm,0.3s						
BNB				Trac		20 05 39.7	
	comp=Z,174nm,0.3s						
DAWY	**Dawson**	**7.24**	**5**	Pn	Pn	20 04 25.0	-4.2

*NIED **24** 20:17:00, 44.00N×148.00E, h47km, Mw3.9 Best double couple: M₀8.76×10²⁴ NP1:φs3°, δ68°, λ72°. NP2:φs226°, δ28°, λ129°.*
*MOS **24** 20:17:07.8±1.4, 44.42N×148.21E, h54km, mb4.8/1, Error ellipse: s-maj=15.3km s-min=14.8km az=108.4*
*JMA **24** 20:17:09.3±0.2, 43.98N×147.96E, M4.5*
*NEIC **24** 20:17:09.9±1.8, 44.43N×148.13E, h52km±17km, mb4.6/6, Error ellipse: s-maj=16.0km s-min=8.7km az=161.0*
*IDC **24** 20:17:12.0±3.3, 44.41N×148.08E, h72km±31km, mb3.5/11, mb1 3.7/13, mb1mx3.6/21, mbtmp3.8/13, MS3.7/1, Ms1 3.7/1, ms1mx2.6/27, Error ellipse: s-maj=26.9km s-min=19.1km az=162.0*
ISC 24 20:17:09.4±1.0, 44.32N±0.06×148.15E±0.09, h67km±8km, n39, σ1§00/47, mb4.1/17, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.94**	**348**	⇓*i*PN	**P**	**20 17 22.9**	**-4.3**
KUR				*i*S	**S**	**20 17 35.0**	**-5.4**
KUR				pmax	pmax		
	comp=N,330nm,0.4s						
KUR				pmax	pmax		
	comp=E,330nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				smax			
	comp=N,1μm,0.4s						
KUR				smax			
	comp=E,2μm,0.4s						
KUR				smax			
	comp=N,12μm,1.8s						
KUR				smax			
	comp=E,8μm,1.8s						
YUK	**Yuzh-Kuril'sk**	**1.67**	**261**	*e*PN	**P**	**20 17 37.0**	**-0.1**
YUK				*e*S	**S**	**20 17 56.0**	**-1.6**
YUK				pmax	pmax		
	comp=Z,770nm,0.3s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=E,3μm,0.8s						
NEM2	**Nemuro 2**	**1.99**	**242**	P	**P**	**20 17 40.8**	**-0.6**
NEM2				*e*S	**S**	**20 18 03.4**	**-1.7**
JRA	**Rausu**	**2.21**	**261**	P	**P**	**20 17 45.5**	**+0.8**
JRA				*e*S	**S**	**20 18 12.5**	**+1.7**
JNK	**Nakash**	**2.59**	**255**	P	**P**	**20 17 50.3**	**+0.4**
JNK				*e*S	**S**	**20 18 20.2**	**0.0**
JAK	**Akkeshi**	**2.83**	**243**	P	**P**	**20 17 52.8**	**-0.6**
JTKR	**Abashiri--Toko**	**3.08**	**265**	P	**P**	**20 17 58.6**	**+1.8**
JAR	**Ashorobuto**	**3.33**	**254**	P	**P**	**20 18 01.4**	**+1.0**
JAR				*e*S	**S**	**20 18 40.2**	**+1.2**
JOB	**Onbets**	**3.44**	**247**	P	**P**	**20 18 02.0**	**+0.1**
JOB				*e*S	**S**	**20 18 40.7**	**-1.0**
JCH	**Churui**	**3.88**	**246**	P	**P**	**20 18 07.7**	**-0.3**
JCH				*e*S	**S**	**20 18 51.7**	**-1.0**
JKK2	**Kamakawa 2**	**3.92**	**265**	P	**P**	**20 18 10.4**	**+1.8**
ASAJ	**Asahikawa**	**4.00**	**269**	P	**P**	**20 18 11.0**	**+1.3**
	comp=E,2.3nm,0.3s,baz=28,slow=15,SNR=4.9						
ASAJ	**Asahikawa**	**4.00**	**269**	PN	**P**	**20 18 11.0**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFR	**Furan**	**4.19**	**256**	P	**P**	**20 18 13.9**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.44**	**245**	P	**P**	**20 18 15.7**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.61**	**307**	⇑*e*PN	**P**	**20 18 17.5**	**-0.8**
YSS				S	**S**	**20 19 11.0**	**0.0**
YSS				smax			
	comp=E,60nm,1.0s						
JKB	**Kayabe**	**5.75**	**247**	P	**P**	**20 18 33.8**	**-0.2**
JKB				*e*S	**S**	**20 19 36.6**	**-2.8**
MJAR	**Matsushiro Arr**	**10.85**	**228**	P	**P**	**20 19 42.9**	**-1.0**
	comp=E,0.3nm,0.3s,baz=27,slow=11,SNR=6.2						
JNU	**Nakatsue**	**17.47**	**236**	LR	LR	20 27 06.2	
	comp=E,263nm,19.0s,baz=295,slow=34						
SONM	**Songino Array**	**28.93**	**292**	P	**P**	**20 23 04.4**	**+0.5**
	comp=E,0.8nm,0.9s,mb3.3,baz=75,slow=8.8,SNR=4.2						
ILAR	**Eielson Array**	**40.60**	**37**	P	**P**	**20 24 44.1**	**+0.5**
	comp=E,0.7nm,0.9s,mb3.5,baz=266,slow=7.8,SNR=11						
ZAL	**Zalesovo**	**41.25**	**307**	PcP	PcP	20 26 47.2	-0.2
	comp=E,0.9nm,0.4s,baz=11,slow=5.6,SNR=5.1						
MKAR	**Makanchi Array**	**44.96**	**297**	P	**P**	**20 25 19.1**	**-0.1**
	comp=E,1.0nm,0.7s,mb3.6,baz=76,slow=8.2,SNR=12						
MKAR				PcP	PcP	20 26 59.9	0.0
	comp=E,0.8nm,0.6s,baz=64,slow=4.7,SNR=7.0						
JIRN	**Jiri**	**51.63**	**273**	*e*P	**P**	**20 26 11.6**	**+0.5**
	comp=E,13nm,0.9s,mb4.9						
GUN	**Gumba**	**51.70**	**273**	*e*P	**P**	**20 26 12.1**	**+0.4**
	comp=E,42nm,1.4s,mb5.3						
KKN	**Kakani**	**52.20**	**274**	*e*P	**P**	**20 26 15.7**	**+0.3**
	comp=E,8.1nm,0.7s,mb4.8						
KKN	**Kakani**	**52.20**	**274**	*e*P	**P**	**20 26 15.7**	**+0.3**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
PKI	**Pulchoki**	**52.24**	**273**	*e*P	**P**	**20 26 15.8**	**+0.1**
DMN	**Daman**	**52.43**	**274**	*e*P	**P**	**20 26 17.6**	**+0.4**
	comp=Z,11nm,0.7s,mb5.0						
GKN	**Gorkha**	**52.54**	**274**	*e*P	**P**	**20 26 17.7**	**-0.2**
	comp=Z,15nm,0.9s,mb5.0						
KOLN	**Koldanda**	**53.42**	**275**	*e*P	**P**	**20 26 24.7**	**+0.2**
	comp=Z,7.9nm,0.7s,mb4.8						
YKA	**Yellowknife Ar**	**54.93**	**34**	P	**P**	**20 26 34.7**	**-0.3**
	comp=Z,1.0nm,0.6s,mb4.1,baz=300,slow=7.1,SNR=27						
FINES	**FINESS Array B**	**64.70**	**333**	P	**P**	**20 27 40.4**	**-1.5**
	comp=Z,5.3nm,1.1s,mb4.3,baz=34,slow=5.0,SNR=4.1						
WRA	**Warramunga Arr**	**65.18**	**194**	P	**P**	**20 27 46.0**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.5,baz=17,slow=6.9,SNR=3.6						
NVAR	**Mina Array Bea**	**66.67**	**59**	P	**P**	**20 27 55.3**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.3,baz=290,slow=9.3,SNR=3.7						
NOA	**NORSAR Array B**	**69.33**	**339**	P	**P**	**20 28 10.1**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.7,baz=30,slow=6.4,SNR=2.7						
ULM	**Lac du Bonnet**	**70.61**	**38**	P	**P**	**20 28 17.9**	**-1.0**
	comp=Z,0.5nm,0.4s,mb3.7,baz=300,slow=8.1,SNR=3.3						
AKASG	**Malin Array Be**	**71.55**	**324**	P	**P**	**20 28 23.6**	**-0.9**
	comp=Z,0.1nm,0.3s,mb3.1,baz=37,slow=5.9,SNR=4.7						
TXAR	**Lajitas Array**	**81.73**	**57**	P	**P**	**20 29 23.2**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.3,baz=287,slow=3.5,SNR=7.9						

*IDC **24** 20:38:26.9±1.9, 34.82N×73.64E, mb3.6/4, mb1 3.9/4, mb1mx3.4/18, mbtmp3.6/4, ML2.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/21, Error ellipse: s-maj=61.5km s-min=32.7km az=71.0*
*NNC **24** 20:38:37.5±3.6, 35.18N×72.15E, mb3.6, mpv3.6, Error ellipse: s-maj=39.5km s-min=30.0km az=102.0*
ISC 24 20:38:33.1±4.5, 35.1N±0.2×73.6E±0.2, h52km±37km, n8, σ1§26/8, mb3.4/3, 2C-1D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.38**	**344**	⇓P	**P**	**20 40 35.1**	**+0.5**
	1.3nm,0.4s,baz=170,slow=12,SNR=79						
KK31				⇑S	**S**	**20 42 08.0**	**-0.8**
	0.6nm,0.4s,baz=171,slow=22,SNR=6.5						
MKAR	**Makanchi Array**	**13.42**	**27**	Pn	**P**	**20 41 43.4**	**+0.8**
	0.0nm,0.3s,baz=213,slow=15,SNR=2.6						
AB31	**Aqbulak array**	**17.39**	**329**	⇑P	**P**	**20 42 33.1**	**-0.4**
	0.4nm,0.5s,baz=355,slow=68,SNR=8.5						
AKTO	**Aktyubinsk**	**19.10**	**328**	LR	LR	20 50 27.7	
	comp=Z,47nm,20.3s,slow=37						
ZAL	**Zalesovo**	**20.44**	**19**	P	**P**	**20 43 07.6**	**-0.9**
	1.1nm,0.3s,baz=299,slow=7.6,SNR=4.1						
ARCES	**ARCESS Array B**	**43.28**	**338**	P	**P**	**20 46 31.6**	**+0.7**
	0.7nm,0.7s,mb3.5,baz=116,slow=8.2,SNR=6.7						
WRA	**Warramunga Arr**	**79.43**	**123**	P	**P**	**20 50 34.5**	**-1.3**
	0.3nm,0.4s,mb3.6,baz=325,slow=5.0,SNR=4.7						
YKA	**Yellowknife Ar**	**82.56**	**4**	P	**P**	**20 50 52.7**	**+1.4**
	0.1nm,0.4s,mb3.2,baz=346,slow=5.4,SNR=3.9						

*CSEM **24** 20:45:26.0±0.0, 38.67N×15.07E, h250km, mb4.0/3, ML3.8/10, Error ellipse: s-maj=1.8km s-min=1.3km az=67.0*
*LDG **24** 20:45:27.5±0.7, 38.96N×15.43E, h250km, Mb3.8/28, Error ellipse: s-maj=30.2km s-min=15.2km az=29.0*
*ROM **24** 20:45:27.3±0.2, 38.69N×15.10E, h235km±3km, Ml3.4/36, Error ellipse: s-maj=2.3km s-min=2.1km az=89.0*
*IDC **24** 20:45:27.9±0.6, 38.81N×14.87E, h254km±10km, mb3.3/11, mb1 3.4/16, mb1mx3.2/27, mbtmp3.9/16, Error ellipse: s-maj=19.4km s-min=14.9km az=29.0*
*NEIC **24** 20:45:27.3, 38.69N×15.10E, h235km, mb3.7/44, After ROM.*
**ISC 24 20:45:26.3±0.2, 38.64N±0.02×15.15E±0.04, h254km±2km, n196, σ1§14/214, mb3.8/13, 47C-31

285nm,0.3s
HVZN Vizzini 1.50 193 ⇓*i*Pg **P 20 46 05.9 +0.6**
HVZN Sg **S 20 46 36.0 +0.5**
470nm,0.6s
MGR Morigerati 1.53 12 P **P 20 46 07.2 +1.7**
MGR S **S 20 46 34.7 -1.3**
USI Ustica 1.54 273 ⇓*i*Pg **P 20 46 05.3 -0.3**
439nm,1.2s
HAVL Avola 1.67 181 ⇓*e*Pg **P 20 46 07.2 +0.6**
HAVL Sg **S 20 46 38.2 +0.3**
209nm,0.3s
CMPR Campora 1.68 4 ⇑*i*Pg **P 20 46 06.9 +0.2**
CMPR Sg **S 20 46 36.8 -1.3**
77nm,0.7s
HMDC Modica 1.70 190 ⇓*e*Pg **P 20 46 07.7 +0.9**
HMDC Sg **S 20 46 39.1 +0.8**
178nm,0.7s
ORI Oriolo Calabro 1.75 35 Pg **P 20 46 07.7 +0.5**
220nm,0.4s
SLCN Sala Consilina 1.79 12 Pg **P 20 46 07.9 +0.3**
11nm,0.2s
FAVR Favara 1.80 221 Pg **P 20 46 08.7 +1.1**
41nm,0.4s
CLTB Caltabellotta 1.85 236 Pg **P 20 46 08.0 -0.1**
130nm,0.3s
SGO Sicignano 1.93 4 ⇑*i*Pg **P 20 46 09.1 +0.4**
22nm,0.3s
MFNL Monte Finestre 1.94 245 ⇓*i*Pg **P 20 46 08.8 -0.1**
160nm,0.5s
ERC Erice 2.10 254 ⇑*i*Pg **P 20 46 09.3 -1.0**
109nm,0.7s
MRLC Muro Lucano 2.13 7 ⇑*i*Pg **P 20 46 11.2 +0.6**
MCRV Calabrutti - M 2.14 0 ⇑*i*Pg **P 20 46 11.1 +0.4**
MCRV Sg **S 20 46 44.5 -0.7**
36nm,0.5s
SNAL S. Angelo Dei 2.29 1 ⇑*i*Pg **P 20 46 12.5 +0.4**
155nm,1.4s
VULT Monte Vulture 2.34 9 ⇑*i*Pg **P 20 46 12.8 +0.1**
45nm,0.5s
CAFE Carife 2.39 2 ⇑*i*Pg **P 20 46 13.6 +0.5**
176nm,2.0s
SG1 Sgolgore (BA) 2.50 28 *e*Pn **P 20 46 13.3 -0.9**
FG4 Candela 2.51 6 Pg **P 20 46 14.8 +0.5**
116nm,1.0s
MSC Monte Massico 2.71 341 ⇑*i*Pg **P 20 46 16.3 0.0**
BRT Bari-Castellan 2.74 35 ⇑*i*Pg **P 20 46 15.8 -0.9**
PE1 Pezze di Greco 2.79 38 *e*Pn **P 20 46 16.3 -0.9**
RFI Roccamonfina 2.81 342 ⇓*i*Pg **P 20 46 17.9 +0.5**
1.0nm,0.4s
SGG Gregorio Mates 2.81 348 ⇑*e*Pg **P 20 46 17.7 +0.3**
LCI Lecce 2.85 53 Pg **P 20 46 17.7 -0.2**
VAGA Valle Agricola 2.86 346 ⇑*i*Pg **P 20 46 18.2 +0.2**
BSSO Busso 2.94 352 ⇑*i*Pg **P 20 46 19.4 +0.6**
34nm,0.7s
RGNG Rignano Grg 3.05 6 ⇑*i*Pg **P 20 46 19.8 -0.2**
MIDA Miranda 3.08 347 Pg **P 20 46 20.9 +0.6**
42nm,0.8s
FGMS Monte Sant'Ang 3.13 11 ⇓*i*Pg **P 20 46 20.7 -0.2**
66nm,0.7s
RNI2 Rionero Sannit 3.16 346 ⇑*i*Pg **P 20 46 22.4 +1.2**
50nm,0.6s
TRIV Trivento 3.16 352 Pg **P 20 46 22.3 +1.1**
FG2 Serracapriola 3.17 0 Pg **P 20 46 21.5 +0.2**
44nm,0.4s
GIUL Giuliano Di Ro 3.26 334 ⇑*i*Pg **P 20 46 22.3 0.0**
23nm,0.8s
FRES Fresagrandinar 3.35 354 ⇑*i*Pg **P 20 46 23.9 +0.5**
271nm,1.8s
VVLD Villa Vallelon 3.44 341 ⇑*i*Pg **P 20 46 24.7 +0.4**
51nm,0.5s
INTR Introdacqua 3.50 345 ⇑*i*Pg **P 20 46 25.8 +0.7**
60nm,0.7s
PTQR Pietraquaria 3.64 339 Pg **P 20 46 27.6 +1.0**
12nm,0.7s
CERT Cerreto 3.70 334 ⇑*i*Pg **P 20 46 27.4 +0.1**
40nm,1.0s
FAGN Fagnano 3.82 342 Pg **P 20 46 29.6 +0.9**
53nm,0.6s
MTCE Montecelio 3.85 332 ⇑*i*Pg **P 20 46 29.1 +0.1**
33nm,1.2s
VCEL Villa Celiera 3.88 346 ⇑*i*Pg **P 20 46 30.5 +1.1**
41nm,0.8s
AQU L'Aquila 3.94 341 ⇑*i*Pg **P 20 46 31.5 +1.4**
39nm,0.7s
FIAM Fiamignano 3.94 338 ⇑*i*Pg **P 20 46 31.3 +1.2**
57nm,0.6s
TERO Teramo 4.15 344 ⇑*i*Pg **P 20 46 33.6 +1.0**
28nm,0.9s
MNS Montasola 4.19 334 ⇑*i*Pg **P 20 46 33.4 +0.4**
10.0nm,0.5s
PGF Pioggiola 6.09 312 *e*P **P 20 46 56.6 +0.3**
6.7nm,0.5s
BOJS Bojanci 6.86 1 *e*Pn **P 20 47 06.0 +0.1**
JAVS Javornik 7.30 354 *e*Pn **P 20 47 10.7 -0.8**
RHK1 Bakonya 7.76 15 ⇑*i*P **P 20 47 16.9 -0.4**
GROS Grobnik 7.82 2 *e*Pn **P 20 47 17.4 -0.8**
PERS Pernice 8.00 360 P **P 20 47 20.3 0.0**
LMR La Mourre 8.04 308 *e*P **P 20 47 33.5 +13**
5.6nm,0.6s
FRF La Foret Royal 8.08 310 *e*P **P 20 47 31.2 +10**
4.8nm,0.5s
BZS Buzias 8.47 32 ⇑P **P 20 47 26.9 +0.6**
BZS Buzias 8.47 32 ⇑P **P 20 47 26.9 +0.6**
ARSA Arzberg 8.61 2 ⇑*i*P **P 20 47 28.1 -0.1**
comp=Z,2.9nm,0.7s
ARSA Arzberg 8.61 2 ⇑P **P 20 47 28.1 -0.1**
2.9nm,0.7s
MBDF Montbardon 8.73 317 *e*P **P 20 47 36.5 +6.9**
19nm,0.6s
TUE Stuetta 8.92 333 P **P 20 47 31.3 -0.7**
SMRF Simiane la Rot 8.96 310 *e*P **P 20 47 41.7 +9.2**
2.4nm,0.3s
BNI Bardonecchia 9.00 318 *e*Pn **P 20 47 38.6 +5.6**
9.8nm,0.8s
WTTA Wattenberg 9.00 345 ⇑*i*P **P 20 47 36.9 +3.9**
comp=Z,6.7nm,0.7s
WTTA Wattenberg 9.00 345 ⇑P **P 20 47 36.9 +3.9**
6.7nm,0.7s
DAVOX Davos 9.01 336 P **P 20 47 32.8 -0.4**
SQTA Sankt Quirin 9.05 343 ⇑*i*P **P 20 47 36.4 +2.7**
comp=Z,6.1nm,0.9s
WATA Walderalm 9.08 344 ⇑*i*P **P 20 47 37.8 +3.8**
comp=Z,3.7nm,0.7s
WATA Walderalm 9.08 344 ⇑P **P 20 47 37.8 +3.8**
3.7nm,0.7s
MOTA Moosalm 9.19 343 ⇑*i*P **P 20 47 38.5 +3.0**
comp=Z,3.0nm,1.0s
MOTA Moosalm 9.19 343 ⇑P **P 20 47 38.5 +3.0**
3.0nm,1.0s
LPL La Piagne 9.29 320 *e*P **P 20 47 42.2 +5.5**
11nm,0.4s
ORIF Oris-en-Rattie 9.34 315 *e*P **P 20 47 42.4 +5.1**
12nm,0.8s
DAVA Damuels 9.46 338 ⇑*i*P **P 20 47 39.9 +1.0**
comp=Z,9.7nm,1.2s
VIVF Saint-Julien-I 9.99 312 *e*P **P 20 47 49.2 +3.8**
3.0nm,0.5s
VOIR 10.02 44 ⇑P **P 20 47 55.9 +10**
VOIR 10.02 44 ⇑P **P 20 47 55.9 +10**
LASF Ste Croix 10.07 306 *e*P **P 20 47 45.1 -1.4**
GERES GERESS Array B 10.26 355 P **P 20 47 48.3 -0.5**
0.9nm,0.3s,baz=171,slow=11,SNR=33
CABF La Chapelle 10.39 323 *e*P **P 20 47 49.9 -0.6**
19nm,0.7s
KHC Kasperske Hory 10.55 354 *e*P **P 20 47 52.1 -0.4**
KHC *ex* x 20 47 55.4
VRAC Vranov 10.72 5 P **P 20 47 54.8 +0.1**
0.2nm,0.3s,baz=193,slow=11,SNR=4.3
BFO Black Forest 10.88 335 P **P 20 47 55.6 -1.0**
HINF Hinteralfeld 10.98 329 *e*P **P 20 47 56.1 -1.9**
1.6nm,0.3s
EPOB Poblet 11.13 289 P **P 20 48 04.3 +4.5**
0.9nm,0.3s
HARR Harsova 11.31 54 ⇓P **P 20 48 07.8 +5.7**
HARR Harsova 11.31 54 ⇓P **P 20 48 07.8 +5.8**
CDF Champ du Feu 11.31 332 *e*P **P 20 48 00.3 -1.8**
7.4nm,0.7s
HAU Haudompre 11.34 329 *e*P **P 20 48 00.7 -1.7**
3.0nm,0.3s
PRU Pruhonice 11.36 358 *e*P **P 20 48 03.9 +1.2**
PRU *ex* x 20 48 06.3
SMF Signal de Mont 11.54 318 *e*P **P 20 48 05.1 +0.1**
4.7nm,0.5s
BURAR Bucovina Array 11.59 36 ⇑P **P 20 48 12.4 +6.8**
BURAR Bucovina Array 11.59 36 ⇑P **P 20 48 12.3 +6.7**
CAF Calviac 11.61 307 *e*P **P 20 48 09.2 +3.4**
6.3nm,0.6s
TKM2 ⇑S **S 21 10 21.9 -1.1**
2.5nm,0.6s
MKAR Makanchi Array 12.09 37 P **P 21 10 25.5 -4.4**
0.0nm,0.3s,baz=199,slow=22,SNR=2.9
KURK Kurchatov 14.06 18 *e*Pn **P 21 10 54.2 -0.3**
3.7nm,0.3s
AB31 Akbulak array 14.54 328 ⇓P **P 21 10 59.8 -0.7**
0.3nm,0.5s,baz=142,slow=14,SNR=8.1
AB31 ⇑S **S 21 13 36.1 -0.4**
0.4nm,0.5s,baz=152,slow=24,SNR=5.8
BVAR Borovoye Array 15.54 357 P **P 21 11 14.6 +1.9**
0.1nm,0.3s,baz=162,slow=9.1,SNR=3.1
AKTK Aktyubinsk 16.25 327 P **P 21 11 22.9 +1.5**
AKTO Aktyubinsk 16.25 327 P **P 21 11 22.9 +1.5**
0.2nm,0.3s,baz=123,slow=14,SNR=3.6
ZAL Zalesovo 18.71 24 P **P 21 11 47.6 -0.3**
0.9nm,0.3s,baz=238,slow=4.9,SNR=8.3
BRTR Keskin Array B 29.76 286 P **P 21 13 31.8 -0.4**
0.4nm,0.8s,mb3.1,baz=106,slow=12,SNR=2.8
ARCES ARCESS Array B 40.46 337 P **P 21 15 03.0 +0.5**
3.0nm,1.0s,mb3.7,baz=117,slow=11,SNR=6.3
HFS Hagfors 42.68 321 P **P 21 15 20.8 +0.3**
1.9nm,0.5s,mb3.8,baz=90,slow=12,SNR=7.8
NOA NORSAR Array B 43.97 322 P **P 21 15 30.7 -0.2**
0.5nm,0.6s,mb3.0,baz=93,slow=7.6,SNR=2.7
ESDC Sonseca Array 57.56 298 P **P 21 17 11.7 -1.3**
0.1nm,0.3s,mb3.0,baz=54,slow=7.8,SNR=4.8
YKA Yellowknife Ar 80.20 3 P **P 21 19 30.6 -0.4**
0.3nm,0.5s,mb3.2,baz=348,slow=5.6,SNR=8.8

CFR Carcaliu 11.67 52 ⇑P **P 20 48 11.2 +4.6**
CFR Carcaliu 11.67 52 ⇑P **P 20 48 11.2 +4.6**
DPC Dobruska-Polom 11.74 4 *e*P **P 20 48 13.6 +6.1**
NKC Novy Kostel 11.75 351 *e*P **P 20 48 11.2 +3.6**
EGRA Graus 11.85 292 P **P 20 48 13.3 +4.4**
0.1nm,0.2s
UPC Upice 11.88 3 *e*P **P 20 48 12.7 +3.4**
AVF Avril sur Loir 11.89 317 *e*P **P 20 48 10.0 +0.6**
PVCC Panska Ves 11.90 358 *e*P **P 20 48 13.0 +3.6**
SSF Saint Saulge 11.98 318 *e*P **P 20 48 10.5 0.0**
2.5nm,0.6s
BGF Bois d'Agland 12.02 315 *e*P **P 20 48 11.5 +0.5**
5.8nm,0.6s
EPF Esparros 12.04 296 *e*P **P 20 48 14.4 +3.2**
EBIE Bielsa 12.09 294 P **P 20 48 15.5 +3.7**
0.7nm,0.3s
RJF Les Rejaudoux 12.13 308 *e*P **P 20 48 14.0 +1.7**
18nm,1.1s
BRG Berggiesshubel 12.27 356 P **P 20 48 15.6 +1.6**
BRG *i* P 20 48 17.2
MEZF Maizieres J'vi 12.27 327 *e*P **P 20 48 13.1 -0.9**
6.8nm,0.7s
LFF La Frestale 12.45 305 *e*P **P 20 48 18.9 +2.6**
8.2nm,0.7s
ETSF Etsaut 12.64 295 *e*P **P 20 48 21.0 +2.3**
5.3nm,0.6s
CLL Collm 12.76 354 P **P 20 48 23.0 +2.9**
logA/T=0.8
CLL Collm 12.76 354 *e*P **P 20 48 23.0 +2.9**
4.0nm,0.6s
SJPF Ste Jean 13.17 295 *e*P **P 20 48 27.7 +2.5**
6.1nm,0.6s
EALK Alkurruntz 13.40 295 P **P 20 48 30.3 +2.4**
1.4nm,0.5s
MFF Saint Martin d 13.77 310 *e*P **P 20 48 33.1 +0.6**
8.0nm,0.8s
BAIF Baives 13.83 329 *e*P **P 20 48 32.5 -0.6**
ELAN Lanestosa 14.77 294 P **P 20 48 44.9 0.0**
0.5nm,0.4s
ELAN Lanestosa 14.77 294 P **P 20 48 44.9 +0.1**
0.5nm,0.4s,SNR=7.9
LDF La Druitiere 14.85 317 *e*P **P 20 48 44.9 -0.9**
3.9nm,0.4s
ESDC Sonseca Array 14.87 280 P **P 20 48 44.9 -1.1**
0.1nm,0.3s,baz=77,slow=12,SNR=8.8
ESDC Sonseca Array 14.87 280 P **P 20 48 45.8 -0.2**
0.3nm,0.4s
ESDC Sonseca Array 14.87 280 P **P 20 48 45.8 -0.2**
0.3nm,0.5s,SNR=7.1
ESLA Sonseca Array 14.87 280 *e*P **P 20 48 51.3 +5.3**
2.9nm,1.5s
GRR Gorron 15.13 315 *e*P **P 20 48 47.2 -1.9**
FLN La Foliniere 15.14 317 *e*P **P 20 48 47.6 -1.7**
4.5nm,0.3s
ELUQ Luque 15.33 272 P **P 20 48 51.3 -0.2**
2.4nm,0.3s
ELUQ Luque 15.33 272 P **P 20 48 51.3 -0.2**
2.4nm,0.3s,SNR=9.0
EADA Adamuz 15.47 274 P **P 20 48 52.5 -0.8**
0.2nm,0.2s
EADA Adamuz 15.47 274 P **P 20 48 52.5 -0.7**
0.2nm,0.2s,SNR=7.9
AKASG Malin Array Be 15.64 35 P **P 20 48 53.5 -1.6**
1.6nm,0.3s,baz=227,slow=9.5,SNR=13
EMIJ Mijas 15.92 269 P **P 20 48 57.7 -0.8**
1.5nm,0.3s
EMIJ Mijas 15.92 269 P **P 20 48 57.7 -0.7**
1.5nm,0.3s,SNR=8.9
SGMF Saint Gilles 16.02 313 *e*P **P 20 48 56.8 -2.6**
12nm,0.8s
EARI Arriondas 16.06 293 P **P 20 48 58.6 -1.3**
0.5nm,0.5s,SNR=7.9
QUIF Quistinic 16.21 311 *e*P **P 20 48 58.9 -2.7**
ROSF Rostrenen 16.48 312 *e*P **P 20 49 01.8 -2.7**
ESPR Espera 16.70 270 P **P 20 49 04.6 -2.5**
2.7nm,0.4s
ESPR Espera 16.70 270 P **P 20 49 04.6 -2.5**
2.7nm,0.4s,SNR=7.9
EMIN Mina Concepcio 17.17 274 P **P 20 49 10.7 -1.4**
2.2nm,0.6s
EMIN Mina Concepcio 17.17 274 P **P 20 49 10.7 -1.4**
2.2nm,0.6s,SNR=9.7
EBAD Badajoz 17.30 277 P **P 20 49 11.5 -1.9**
0.7nm,0.3s
EBAD Badajoz 17.30 277 P **P 20 49 11.5 -1.9**
0.7nm,0.3s,SNR=6.6
EPON Pontenova 17.46 293 P **P 20 49 13.4 -1.7**
0.3nm,0.2s
EPON Pontenova 17.46 293 P **P 20 49 13.4 -1.7**
0.3nm,0.2s,SNR=7.9
EGRO El Granado 17.85 274 P **P 20 49 17.2 -1.9**
0.9nm,0.3s
EZAM Zamans 18.48 289 P **P 20 49 24.6 -1.0**
0.6nm,0.2s
EZAM Zamans 18.48 289 P **P 20 49 24.6 -1.0**
0.6nm,0.2s
EKA Eskdalemuir Ar 20.75 330 P **P 20 49 46.0 -2.1**
1.1nm,0.5s,baz=141,slow=11,SNR=9.7
EKA Eskdalemuir Ar 20.75 330 P **P 20 49 46.0 -2.1**
HFS Hagfors 21.54 358 P **P 20 49 54.5 -1.3**
0.9nm,0.3s,mb3.8,baz=178,slow=10,SNR=14
NB2 NORSAR Subarra 22.56 355 P **P 20 50 04.5 -1.1**
1.8nm,0.7s,mb3.7,baz=178,slow=10
NOA NORSAR Array B 22.56 355 P **P 20 50 04.5 -1.1**
1.0nm,0.5s,mb3.6,baz=179,slow=10,SNR=3.7
FINES FINESS Array B 23.82 13 P **P 20 50 16.6 -0.9**
1.7nm,0.3s,mb4.1,baz=194,slow=9.3,SNR=47
KAF Kagasniemi 24.49 13 *ep* **P 20 50 21.6 -2.0**
7.2nm,1.0s,mb4.3
ARCES ARCESS Array B 31.46 7 P **P 20 51 23.0 -2.8**
3.5nm,0.8s,mb4.1,baz=196,slow=8.9,SNR=32
BVAR Borovoye Array 40.07 50 P **P 20 52 39.3 +1.0**
0.5nm,0.4s,mb3.3,baz=264,slow=10,SNR=9.9
ZAL Zalesovo 48.51 48 P **P 20 53 45.6 +0.4**
1.4nm,0.4s,mb3.7,baz=191,slow=5.4,SNR=5.7
MKAR Makanchi Array 48.64 58 P **P 20 53 47.0 +0.7**
1.4nm,0.5s,mb3.5,baz=283,slow=6.8,SNR=31
SCHQ Schefferville 55.22 316 P **P 20 54 32.1 -2.5**
4.1nm,1.0s,mb3.9,baz=221,slow=6.8,SNR=3.9
GKN Gorkha 57.79 78 *e*P **P 20 54 53.8 +0.7**
DMN Daman 58.34 78 *e*P **P 20 54 58.0 +1.0**
KKN Kakani 58.39 78 *e*P **P 20 54 57.7 +0.4**
4.5nm,0.7s,mb4.2
PKI Pulchoki 58.60 78 *e*P **P 20 54 59.6 +0.9**
GUN Gumba 58.79 78 *e*P **P 20 55 01.2 +1.2**
JIRN Jiri 59.15 78 *e*P **P 20 55 03.7 +1.2**
2.4nm,0.4s,mb4.2
SONM Songino Array 63.38 49 P **P 20 55 30.6 +0.1**
0.5nm,0.5s,mb3.4,baz=294,slow=8.6,SNR=5.2
YKA Yellowknife Ar 71.45 338 P **P 20 56 19.6 -0.7**
0.4nm,0.5s,mb3.3,baz=39,slow=5.9,SNR=12
YKA Yellowknife Ar 71.45 338 P **P 20 56 19.6 -0.7**

NEIC ***24*** *21:07:34.8≤4.0,36.77N×72.28E,h165km≤25km,mb4.1/2, Error ellipse: s-maj=46.6km s-min=19.4km az=163.0*
IDC ***24*** *21:07:37.1≤7.5,36.95N×72.18E,h175km≤53km,mb3.2/6, mb1 3.2/10,mb1mx3.1/22,mbtmp3.6/10, Error ellipse: s-maj=72.5km s-min=25.8km az=161.0*
NNC ***24*** *21:07:46.3≤11.0,37.76N×71.64E,h217km≤154km,mb2.3, mpv3.4, Error ellipse: s-maj=119.2km s-min=61.0km az=10.0*
ISC 24 21:07:43.4±1.8,**37.5N**±0.1×**71.8E**±0.1,**h210**km±15km,**n21**, σ0**95**/25,**mb3.3**/6,**3C-2D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
AML	**Almayashu**	**4.83**	**17**	P	**P**	**21 08 56.5**	**0.0**
	SNR=91						
UCH	**Uchtor**	**5.14**	**23**	P	**P**	**21 09 00.3**	**-0.3**
	SNR=16						
EKS2	**Erkin-Say**	**5.36**	**16**	P	**P**	**21 09 04.1**	**+0.8**
	SNR=7.9						
AAK	**Ala-Archa**	**5.51**	**21**	P	**P**	**21 09 05.3**	**0.0**
	SNR=8.2						
AAK	**Ala-Archa**	**5.51**	**21**	*e*Pn	**P**	**21 09 03.4**	**-1.8**
	6.8nm,0.6s						
AAK				*e*Sn	**S**	**21 10 10.7**	**+1.8**
KK31	**Karatay Array**	**5.67**	**350**	P	**P**	**21 09 07.2**	**-0.1**
	0.6nm,0.3s,baz=168,slow=12,SNR=26						
KK31				⇑S	**S**	**21 10 11.0**	**-1.5**
	4.0nm,0.3s,baz=177,slow=24,SNR=6.3						
TKM2	**Tokmak 2**	**6.13**	**27**	P	**P**	**21 09 13.2**	**0.0**
	SNR=11						
TKM2	**Tokmak 2**	**6.13**	**27**	⇓P	**P**	**21 09 13.1**	**-0.1**

ROM ***24*** *21:16:44.8≤0.1,42.98N×12.89E,h17km≤3km, Md3.2/24, Ml2.8/21, Error ellipse: s-maj=1.5km s-min=0.8km az=113.0*
NEIC ***24*** *21:16:44.8,42.98N×12.89E,h17km, ML2.8(ROM), ML2.7(LDG), After ROM.*
CSEM ***24*** *21:16:45.0≤0.1,42.97N×12.93E,h15km,ML3.4/7, Error ellipse: s-maj=1.3km s-min=0.8km az=80.0*
LDG ***24*** *21:16:46.3≤0.1,42.97N×13.01E,h10km,Ml2.7/3, Error ellipse: s-maj=4.3km s-min=2.8km az=69.0*
ISC 24 21:16:45.3±0.2,**42.97N**±0.01×**12.84E**±0.03,**h10**km,**n76**, σ1§**31**/112,**20C-7D**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
SNTG	**Esanatoglia**	**0.29**	**14**	Pg	**Pg**	**21 16 51.0**	**-0.4**
SNTG				Sg	**Sg**	**21 16 56.0**	**+0.6**
MURB	**Monte Urbino**	**0.37**	**321**	Pg	**Pg**	**21 16 53.1**	**+0.2**
MURB				Sg	**Sg**	**21 17 00.2**	**+2.2**
2µm,0.3s							
LNSS	**Leonessa**	**0.40**	**158**	Pg	**Pg**	**21 16 53.6**	**+0.2**
LNSS				Sg	**Sg**	**21 17 00.3**	**+1.5**
4µm,0.2s							
CING	**Cingoli**	**0.48**	**33**	Pg	**Pg**	**21 16 54.5**	**-0.5**
CING				Sg	**Sg**	**21 17 02.0**	**+0.5**
2µm,0.4s							
ARV	**Arcevia**	**0.53**	**8**	Pg	**Pg**	**21 16 55.3**	**-0.7**
ARV				Sg	**Sg**	**21 17 04.2**	**+1.0**
ARVD	**Arcevia**	**0.53**	**8**	Pg	**Pg**	**21 16 55.3**	**-0.7**
ARVD				Sg	**Sg**	**21 17 04.7**	**+1.5**
492nm,0.7s							
MNS	**Montasola**	**0.60**	**191**	Pg	**Pg**	**21 16 57.6**	**+0.2**
MNS				Sg	**Sg**	**21 17 07.5**	**+2.1**
241nm,0.6s							
CAMP	**Campotosto**	**0.60**	**136**	Pg	**Pg**	**21 16 56.7**	**-0.8**
CAMP				Sg	**Sg**	**21 17 06.3**	**+0.7**
431nm,0.9s							
PIEI	**Pieia**	**0.61**	**338**	Pg	**Pg**	**21 16 56.8**	**-0.7**
PIEI				Sg	**Sg**	**21 17 07.0**	**+1.3**
154nm,0.3s							
TERO	**Teramo**	**0.66**	**122**	Pg	**Pg**	**21 16 57.6**	**-1.0**
TERO				Sg	**Sg**	**21 17 07.9**	**+0.4**
432nm,0.5s							
BADI	**Badiali**	**0.69**	**321**	Pg	**Pg**	**21 16 58.8**	**-0.4**
BADI				Sg	**Sg**	**21 17 11.1**	**+2.6**
313nm,0.5s							
SACS	**San Casciano d**	**0.70**	**260**	Pg	**Pg**	**21 16 59.7**	**+0.4**
SACS				Sg	**Sg**	**21 17 11.6**	**+3.0**
318nm,0.7s							
FSSB	**Fossombrone**	**0.72**	**356**	Pg	**Pg**	**21 16 58.9**	**-0.9**
101nm,0.2s							
FIAM	**Fiamignano**	**0.73**	**164**	Pg	**Pg**	**21 16 59.2**	**-0.8**
FIAM				Sg	**Sg**	**21 17 11.3**	**+1.5**
365nm,0.5s							
AQU	**L'Aquila**	**0.74**	**146**	Pg	**Pg**	**21 16 59.5**	**-0.7**
AQU				Sg	**Sg**	**21 17 11.7**	**+1.5**
220nm,0.6s							
AOI	**Ancona**	**0.80**	**44**	Pg	**Pg**	**21 17 00.6**	**-0.8**
AOI				Sg	**Sg**	**21 17 14.1**	**+2.0**
353nm,0.3s							
FAGN	**Fagnano**	**0.89**	**142**	Pg	**Pg**	**21 17 01.7**	**-1.5**
681nm,0.6s							
CRE	**Caprese Michel**	**0.92**	**315**	Pg	**Pg**	**21 17 03.2**	**-0.5**
152nm,0.5s							
VCEL	**Villa Celiera**	**0.94**	**128**	Pg	**Pg**	**21 17 02.8**	**-1.2**
VCEL				Sg	**Sg**	**21 17 18.1**	**+1.5**
430nm,0.7s							
MTCE	**Montecelio**	**0.95**	**184**	Pg	**Pg**	**21 17 03.7**	**-0.7**
MTCE				Sg	**Sg**	**21 17 19.9**	**+2.8**
212nm,0.5s							
PESA	**Pesaro**	**0.97**	**360**	Pg	**Pg**	**21 17 04.5**	**-0.2**
254nm,0.4s							
RSM	**Repubblica di**	**1.00**	**344**	Pg	**Pg**	**21 17 05.2**	**-0.1**
65nm,0.5s							
CERT	**Cerreto**	**1.03**	**174**	Pg	**Pg**	**21 17 04.7**	**-1.2**
CERT				Sg	**Sg**	**21 17 22.7**	**+3.1**
237nm,0.5s							
PTQR	**Pietraquaria**	**1.04**	**156**	Pg	**Pg**	**21 17 04.7**	**-1.3**
44nm,0.4s							
TOLF	**Tolfa**	**1.10**	**215**	Pg	**Pg**	**21 17 07.2**	**-0.1**
89nm,0.5s							
SFI	**Santa Sofia**	**1.18**	**322**	Pg	**Pg**	**21 17 08.1**	**-0.8**
44nm,0.4s							
CSNT	**Castellina Chi**	**1.24**	**294**	Pn	**Pn**	**21 17 09.3**	**+0.7**
50nm,0.4s							
INTR	**Introdacqua**	**1.24**	**140**	Pg	**Pg**	**21 17 07.5**	**-2.6**
345nm,0.7s							
VVLD	**Villa Vallelon**	**1.24**	**152**	Pg	**Pg**	**21 17 10.0**	**-0.1**
278nm,0.8s							
PGF	**Pioggiola**	**2.86**	**263**	*e*Pn	**Pn**	**21 17 32.4**	**+0.5**
PGF				*e*Sn	**Sn**	**21 18 05.6**	**-1.1**
3.8nm,0.5s							
BOJS	**Bojanci**	**3.07**	**34**	*i* Pn	**Pn**	**21 17 35.0**	**+0.2**
VOY	**Vojsko**	**3.15**	**13**	*e*Pn	**Pn**	**21 17 35.4**	**-0.6**
VOY				*e*		21 17 36.2	
VOY				*e*		21 17 46.1	
VOY				*e*Sn	**Sn**	**21 18 16.4**	**+2.4**
VISS	**Visnje**	**3.17**	**26**	*i* Pn	**Pn**	**21 17 35.9**	**-0.4**
CADS	**Cadrg**	**3.32**	**11**	*i* Pn	**Pn**	**21 17 37.6**	**-0.7**
GORS	**Gorjuse**	**3.44**	**13**	*i* Pn	**Pn**	**21 17 39.7**	**-0.4**
OBKA	**Obir**	**3.74**	**18**	⇑*i*Pn	**Pn**	**21 17 44.1**	**-0.3**
OBKA	**Obir**	**3.74**	**18**	⇑*i*Sn	**Sn**	**21 18 27.4**	**-1.6**
OBKA	**Obir**	**3.74**	**18**	⇑Pn	**Pn**	**21 17 44.0**	**-0.3**
OBKA					Sn	**21 18 27.4**	**-1.6**
OBKA	**Obir**	**3.74**	**18**	⇑Pn	**Pn**	**21 17 44.0**	**-0.3**
PERS	**Pernice**	**4.00**	**23**	*i* Pn	**Pn**	**21 17 47.6**	**-0.5**
SBF	**Sospel**	**4.04**	**285**	*e*Pn	**Pn**	**21 17 47.7**	**-0.9**
KBA	**Koelnbreinsper**	**4.12**	**5**	⇓*i*Pn	**Pn**	**21 17 50.4**	**+0.7**
KBA	**Koelnbreinsper**	**4.12**	**5**	⇓Pn	**Pn**	**21 17 50.4**	**+0.7**
KBA					Sn	**21 18 39.6**	**+1.0**
KBA	**Koelnbreinsper**	**4.12**	**5**	⇓Pn	**Pn**	**21 17 50.4**	**+0.6**
KBA					Sn	**21 18 39.6**	**+1.0**
WTTA	**Wattenberg**	**4.38**	**349**	⇓*i*Pn	**Pn**	**21 17 55.5**	**+2.1**
WTTA	**Wattenberg**	**4.38**	**349**	⇓Pn	**Pn**	**21 17 55.5**	**+2.1**
WTTA					Sn	**21 18 48.7**	**+3.7**
WTTA	**Wattenberg**	**4.38**	**349**	⇓Pn	**Pn**	**21 17 55.5**	**+2.1**
WTTA					Sn	**21 18 48.7**	**+3.7**
SQTA	**Sankt Quirin**	**4.40**	**345**	⇓*i*Pn	**Pn**	**21 17 56.4**	**+2.6**
	SNR=6.5						
SQTA	**Sankt Quirin**	**4.40**	**345**	⇑*i*Sn	**Sn**	**21 18 50.2**	**+4.5**
SQTA	**Sankt Quirin**	**4.40**	**345**	*i* Pn	**Pn**	**21 17 56.4**	**+2.6**
SQTA					Sn	**21 18 50.2**	**+4.5**
WATA	**Walderalm**	**4.45**	**349**	⇑*i*Pn	**Pn**	**21 17 56.7**	**+2.2**
WATA	**Walderalm**	**4.45**	**349**	⇑Pn	**Pn**	**21 17 56.7**	**+2.2**
WATA					Sn	**21 18 50.6**	**+3.6**
WATA	**Walderalm**	**4.45**	**349**	⇑Pn	**Pn**	**21 17 56.7**	**+2.2**
WATA					Sn	**21 18 50.6**	**+3.6**
MOTA	**Moosalm**	**4.54**	**345**	⇑*i*Pn	**Pn**	**21 17 58.0**	**+2.3**
MOTA	**Moosalm**	**4.54**	**345**	⇑Pn	**Pn**	**21 17 58.0**	**+2.3**
MOTA					Sn	**21 18 53.3**	**+4.1**
MOTA	**Moosalm**	**4.54**	**345**	⇑Pn	**Pn**	**21 17 58.0**	**+2.3**
MOTA					Sn	**21 18 53.3**	**+4.1**
FRF	**La Foret Royal**	**4.56**	**280**	*e*Pn	**Pn**	**21 17 55.1**	**-0.9**

LMR	**La Mourre**	**4.65**	**277**	*e*Pn		**Pn**	**21 17 55.7**	**-1.5**
ARSA	**Arzberg**	**4.68**	**23**	⇑*i*Pn		**Pn**	**21 17 56.3**	**-1.4**
ARSA	**Arzberg**	**4.68**	**23**	⇑*i*Sn		**Sn**	**21 18 49.9**	**-2.8**
ARSA	**Arzberg**	**4.68**	**23**	⇑Pn		**Pn**	**21 17 56.3**	**-1.4**
ARSA				Sn		**Sn**	**21 18 49.9**	**-2.8**
MBDF	**Montbardon**	**4.73**	**294**	*e*Pn		**Pn**	**21 17 57.4**	**-1.0**
MBDF				*e*Sn		**Sn**	**21 18 49.8**	**-4.1**
	4.2nm,0.8s							
DAVA	**Damuels**	**4.80**	**335**	⇑*i*Pn		**Pn**	**21 18 03.0**	**+3.6**
DAVA	**Damuels**	**4.80**	**335**	⇑*i*Sn		**Sn**	**21 18 58.7**	**+3.0**
DAVA	**Damuels**	**4.80**	**335**	⇑Pn		**Pn**	**21 18 03.0**	**+3.6**
DAVA				Sn		**Sn**	**21 18 58.7**	**+3.0**
MOA	**Molln**	**4.98**	**11**	⇑*i*Pn		**Pn**	**21 18 01.4**	**-0.5**
MOA	**Molln**	**4.98**	**11**	⇑*i*Sn		**Sn**	**21 18 59.6**	**-0.6**
MOA	**Molln**	**4.98**	**11**	⇑Pn		**Pn**	**21 18 01.4**	**-0.5**
MOA				Sn		**Sn**	**21 18 59.6**	**-0.6**
SMRF	**Simiane la Rot**	**5.38**	**283**	*e*Pn		**Pn**	**21 18 07.5**	**-0.1**
CABF	**La Chapelle**	**6.03**	**309**	*e*Pn		**Pn**	**21 18 14.7**	**-2.0**
KHC	**Kasperske Hory**	**6.18**	**4**	*e*PN		**Pn**	**21 18 18.7**	**-0.2**
KHC				*ex*		x	21 18 32.5	
KHC				*e*SN		**Sn**	**21 19 26.7**	**-3.7**
HINF	**Hinteralfeld**	**6.42**	**321**	*e*Pn		**Pn**	**21 18 20.0**	**-2.3**
HINF				*e*Sn		**Sn**	**21 19 29.1**	**-7.3**
	4.8nm,0.7s							
LASF	**Ste Croix**	**6.62**	**283**	*e*Pn		**Pn**	**21 18 24.2**	**-0.9**
CDF	**Champ du Feu**	**6.69**	**326**	*e*Pn		**Pn**	**21 18 24.2**	**-1.9**
HAU	**Haudompre**	**6.79**	**320**	*e*Pn		**Pn**	**21 18 24.8**	**-2.7**
PRU	**Pruhonice**	**7.12**	**9**	*e*SN		**Sn**	**21 19 47.9**	**-5.9**

WEL 24 21:26:30.9±0.2, 36.89S×177.17E, h33km, ML3.6/15, Error ellipse: s-maj=1.8km s-min=1.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.63**	**178**	P*	Pb	21 26 42.6	-1.0
WIZ				*e*S*	Sb	21 26 51.2	-1.1
MYRZ	**Mayor Island**	**0.83**	**242**	P*	Pb	21 26 45.4	-1.5
MYRZ				S*	Sb	21 26 56.4	-1.5
TGRZ	**Tauranga**	**1.10**	**221**	*e*P*	Pb	21 26 49.1	-2.2
MXZ	**Matakaoa Point**	**1.13**	**127**	P*	Pb	21 26 49.7	-2.1
MXZ				*e*S*	Sb	21 27 04.8	-1.3
MARZ	**Manawahe**	**1.16**	**200**	P*	Pb	21 26 50.3	-1.9
URZ	**Urewera**	**1.36**	**182**	P*	Pb	21 26 53.2	-2.6
URZ				*e*S*	Sb	21 27 11.4	-1.5
PUZ	**Puketiti**	**1.46**	**144**	*e*PN	Pn	21 26 55.3	-0.1
PUZ				T		21 28 31.4	
MWZ	**Matawai**	**1.47**	**169**	P*	Pb	21 26 54.9	-2.6
MWZ				S*	Sb	21 27 12.4	-3.5
MKAZ	**Moumakai**	**1.61**	**262**	*e*PN	Pn	21 26 56.2	-1.3
OTAZ	**Otara**	**1.80**	**268**	PN	Pn	21 26 59.5	-0.6
MTAZ	**Motutapu**	**1.81**	**273**	*e*PN	Pn	21 26 59.6	-0.7
KAAZ	**Kauri Point**	**1.98**	**271**	*e*PN	Pn	21 27 01.6	-1.1
HIZ	**Hauiti**	**2.44**	**228**	PN	Pn	21 27 08.9	-0.5
WCZ	**Waipu Caves**	**2.47**	**292**	PN	Pn	21 27 07.8	-1.9
OUZ	**Omahuta**	**3.34**	**299**	*e*PN	Pn	21 27 20.3	-1.8

*IDC **24** 21:40:49.9±0.7,2.44N×126.82E,mb4.3/11,mb1 4.4/11, mb1mx4.3/17,mbtmp4.3/11,MS3.7/1,Ms1 3.7/1, ms1mx2.5/27,Error ellipse: s-maj=47.2km s-min=15.3km az=73.0*

*MOS **24** 21:40:53.1±0.9,2.50N×126.83E,h33km,mb5.0/11,Error ellipse: s-maj=28.6km s-min=10.1km az=116.3*

*BJI **24** 21:40:56.5,2.81N×126.91E,h47km,mB4.8,mb4.6,Ms4.3, Msz4.2*

*NEIC **24** 21:40:58.5±2.1,2.43N×126.88E,h72km±18km,mb4.7/12, Error ellipse: s-maj=21.1km s-min=6.9km az=63.0*

ISC 24 21:40:52.8±0.4, 2.54N±0.06×127.0E±0.1, h33km, n54, σ1℘05/54, mb4.7/33, MS3.9/3, 4C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.25**	**288**	*e*Pn	**P**	**21 43 37.6**	**+3.2**
KAKA	**Kakadu**	**16.10**	**160**	*e*P	Px	21 45 05.1	
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.55**	**184**	*e*P	**P**	**21 45 29.4**	**-1.8**
	12nm,0.6s						
GUMO	**Guam**	**20.85**	**57**	LR	LR	21 52 10.8	
	comp=Z,195nm,18.5s,MS3.5,baz=224,slow=32						
WRAB	**Tennant Creek**	**23.48**	**162**	*e*P	**P**	**21 46 00.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**23.48**	**162**	*e*P	**P**	**21 46 00.4**	**-0.2**
	comp=Z,18nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**23.49**	**162**	P	**P**	**21 46 00.6**	**0.0**
	comp=Z,5.3nm,0.5s,mb4.2,baz=341,slow=10,SNR=16						
WB2	**Warramunga Arr**	**23.49**	**162**	*e*P	**P**	**21 46 01.1**	**+0.4**
WB2				*e*S	**S**	**21 50 10.5**	**+1.9**
ASPA	**Alice Springs**	**26.91**	**166**	*e*P	**P**	**21 46 32.4**	**-0.7**
SSE	**Sheshan**	**28.92**	**350**	*e*P	**P**	**21 46 51.5**	**+0.4**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,80nm,8.1s						
NJ2	**Nanjing**	**30.33**	**346**	*e*P	**P**	**21 47 01.0**	**-2.7**
NJ2				AP	pP	21 47 10.5	-2.8
NJ2				PP	PP	21 48 02.3	-1.0
NJ2				S	**S**	**21 51 59.0**	**-1.4**
NJ2				XS		21 52 14.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,60nm,6.2s						
NJ2				LR	LR		
	comp=N,170nm,22.1s						
NJ2				LR	LR		
	comp=E,380nm,15.4s						
NJ2				LR	LR		
	comp=Z,440nm,18.1s,MS4.2						
FORT	**Forrest**	**33.14**	**178**	*e*P	**P**	**21 47 27.6**	**-0.8**
	comp=Z,22nm,0.7s,mb5.2						
MJAR	**Matsushiro Arr**	**35.40**	**16**	P	**P**	**21 47 48.9**	**+1.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=195,slow=9.3,SNR=5.4						
CD2	**Chengdu**	**35.73**	**325**	*e*P	**P**	**21 47 50.5**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**36.94**	**159**	P	**P**	**21 48 00.5**	**-0.3**
	comp=Z,9.1nm,0.9s,mb4.6,baz=332,slow=9.2,SNR=18						
LZH	**Lanzhou**	**39.64**	**330**	*e*P	**P**	**21 48 24.5**	**+1.3**
LZH				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.6						
HHC	**Hu-ho-hao-te**	**40.59**	**342**	*e*P	**P**	**21 48 29.1**	**-2.0**
HHC				AMB	AMB		
	comp=Z,170nm,6.2s						
LSA	**Lhasa**	**43.39**	**312**	P	**P**	**21 48 55.8**	**+1.6**
LSA	**Lhasa**	**43.39**	**312**	*e*P	**P**	**21 48 55.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
LSA	**Lhasa**	**43.39**	**312**	*e*P	**P**	**21 48 55.4**	**+1.2**
	comp=Z,8.4nm,0.9s,mb4.5						
GTA	**Gaotai**	**44.23**	**330**	*e*P	**P**	**21 49 01.8**	**+1.0**
JIRN	**Jiri**	**46.25**	**307**	*e*P	**P**	**21 49 16.7**	**-0.4**
	comp=Z,14nm,0.7s,mb5.0						
HABR	**Khabarovsk**	**46.29**	**7**	*e*P	**P**	**21 49 14.6**	**-2.5**
GUN	**Gumba**	**46.60**	**307**	*e*P	**P**	**21 49 19.5**	**-0.3**
	comp=Z,19nm,0.8s,mb5.1						
PKI	**Pulchoki**	**46.84**	**306**	*e*P	**P**	**21 49 20.8**	**-0.9**
KKN	**Kakani**	**47.03**	**306**	*e*P	**P**	**21 49 22.2**	**-1.0**
	comp=Z,14nm,0.9s,mb4.9						
KKN	**Kakani**	**47.03**	**306**	*e*P	**P**	**21 49 22.2**	**-1.0**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
DMN	**Daman**	**47.10**	**306**	*e*P	**P**	**21 49 23.1**	**-0.6**
	comp=Z,16nm,0.9s,mb5.0						
GKN	**Gorkha**	**47.64**	**306**	*e*P	**P**	**21 49 26.7**	**-1.3**
ULN	**Ulaanbaatar**	**48.31**	**342**	⇑*e*P	**P**	**21 49 34.0**	**+1.0**
KOLN	**Koldanda**	**48.38**	**306**	*e*P	**P**	**21 49 33.2**	**-0.6**
	comp=Z,27nm,0.8s,mb5.3						
SONM	**Songino Array**	**48.49**	**342**	P	**P**	**21 49 35.3**	**+0.9**
	comp=Z,1.7nm,0.9s,mb4.1,baz=158,slow=8.0,SNR=11						
SONM				PcP	PcP	21 51 00.4	-0.1
	comp=Z,0.5nm,0.7s,baz=135,slow=4.2,SNR=3.8						
MKAR	**Makanchi Array**	**58.65**	**326**	P	**P**	**21 50 49.1**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.4,baz=127,slow=8.1,SNR=35						
MKAR				PcP	PcP	21 51 39.4	+0.5
	comp=Z,1.3nm,0.7s,baz=115,slow=6.0,SNR=5.1						
YAK	**Yakutsk**	**59.39**	**1**	⇑*e*P	**P**	**21 50 55.2**	**+1.0**
YAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
AAK	**Ala-Archa**	**61.38**	**318**	⇑*e*P	**P**	**21 51 08.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,2.4s,mb4.1						
ZAL	**Zalesovo**	**61.74**	**333**	P	**P**	**21 51 09.9**	**-0.4**
	comp=Z,0.8nm,0.6s,mb4.0,baz=336,slow=7.8,SNR=6.2						
KURK	**Kurchatov**	**62.86**	**328**	*e*P	**P**	**21 51 17.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
KURK	**Kurchatov**	**62.86**	**328**	*e*P	**P**	**21 51 17.5**	**-0.3**
	comp=Z,8.8nm,0.7s,mb5.0						
NVS	**Novosibirsk**	**63.03**	**333**	*e*P	**P**	**21 51 17.6**	**-1.3**
BVAR	**Borovoye Array**	**68.43**	**327**	P	**P**	**21 51 53.3**	**-0.1**
	comp=Z,4.2nm,0.9s,mb4.5,baz=135,slow=8.4,SNR=12						
TIXI	**Tiksi**	**69.03**	**1**	⇑*e*P	**P**	**21 51 56.4**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
ARU	**Arti**	**76.06**	**328**	⇓*i*P	**P**	**21 52 38.2**	**-0.3**
ARU				*e*		21 55 30.6	
ARU				*e*PPP	PPP	21 57 13.6	-4.6
ARU				*e*S	S	22 02 23.3	+5.0
ARU				*e*SS	SS	22 07 19.3	+4.7
ARU				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
ARU	**Arti**	**76.06**	**328**	*e*P	**P**	**21 52 38.4**	**-0.2**
	comp=Z,13nm,0.8s,mb4.9						
VNDA	**Vanda**	**82.22**	**173**	P	**P**	**21 53 12.4**	**+0.8**
	comp=Z,1.8nm,0.8s,mb4.1,baz=319,slow=7.9,SNR=9.1						
MAW	**Mawson**	**82.72**	**200**	P	**P**	**21 53 14.4**	**+0.1**
	comp=Z,2.4nm,1.0s,mb4.2,baz=65,slow=8.2,SNR=4.5						
VRHR	**Novokhopersk**	**85.10**	**321**	*e*P	**P**	**21 53 27.5**	**+0.9**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.2						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
SOC	**Sochi**	**86.26**	**313**	*e*P	**P**	**21 53 28.3**	**-4.2**
SOC				*e*		21 56 47.7	
SOC				*e*PPP	PPP	21 58 48.7	-3.7
SOC				*e*S	S	22 03 52.4	-11
SOC				*e*SS	SS	22 09 50.9	+4.2
SOC				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.5						
MALT	**Malatya**	**87.28**	**308**	*e*P	**P**	**21 53 39.2**	**+1.5**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
MALT	**Malatya**	**87.28**	**308**	*e*P	**P**	**21 53 39.2**	**+1.6**
	comp=Z,6.5nm,0.9s,mb4.9						
ANN	**Anapa**	**87.89**	**315**	*e*P	**P**	**21 53 40.8**	**+0.4**
ANN				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.6						
OBN	**Obninsk**	**88.16**	**325**	P	**P**	**21 53 43.0**	**+1.6**
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
KMBO	**Kilima Mbogo**	**89.74**	**269**	P	**P**	**21 53 51.6**	**+1.7**
	comp=Z,2.6nm,1.1s,mb4.5,baz=66,slow=10.0,SNR=3.5						
KMBO	**Kilima Mbogo**	**89.74**	**269**	*i* P	**P**	**21 53 53.5**	**+3.5**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRTR	**Keskin Array B**	**90.94**	**310**	P	**P**	**21 53 55.7**	**+0.7**
	comp=Z,1.0nm,0.7s,mb4.2,baz=109,slow=7.5,SNR=5.5						

*NEIC **24** 22:02:14.4, 16.08N×59.63W, h30km, MD3.5(FDF), After FDF.*

TRN 24 22:02:15.0, 16.00N×59.83W, h35km, Md3.6(FDF), 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.22**	**285**	*e*P	P	22 02 36.7	+0.9
DEG				*e*S	S	22 02 53.0	+1.6
MQG	**Marie-Galante**	**1.43**	**267**	*e*P	P	22 02 39.9	+0.9
BBL	**Barber's Block**	**1.65**	**254**	*e*P	P	22 02 42.3	+0.9
DOG	**Dongo Capester**	**1.72**	**271**	*e*P	P	22 02 44.7	+1.6
BCG	**Bois Riant Cap**	**1.72**	**273**	*e*P	P	22 02 44.8	+1.7
TBG	**Guadaloupe-3**	**1.75**	**266**	*e*P	P	22 02 44.4	+0.9
MVM	**Montagne Vaucl**	**1.77**	**216**	⇑*e*P	P	22 02 44.6	+1.0
SCG	**Saint Claude**	**1.78**	**271**	*e*P	P	22 02 45.5	+1.6
FDF	**Fort de France**	**1.79**	**226**	⇑*e*P	P	22 02 44.9	+0.9
FDF				*e*S	S	22 03 07.4	+1.6
LZG	**Guadaloupe-1**	**1.88**	**275**	*e*P	P	22 02 46.9	+1.7
LZG				*e*S	S	22 03 11.6	+3.6
MTP	**Monte Pirata**	**5.86**	**292**	*e*P	P	22 03 44.2	+2.5

WEL 24 22:33:32.5±0.5, 36.38S×179.95E, h33km, ML3.7/4, Error ellipse: s-maj=9.2km s-min=6.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.77**	**228**	PN	Pn	22 33 59.7	-1.7
MXZ				*e*SN	Sn	22 34 21.1	-1.8
PUZ	**Puketiti**	**2.16**	**218**	PN	Pn	22 34 05.3	-1.7
PUZ				SN	Sn	22 34 30.9	-2.1
MWZ	**Matawai**	**2.75**	**224**	PN	Pn	22 34 13.8	-1.5
MWZ				*e*SN	Sn	22 34 45.1	-2.6
URZ	**Urewera**	**2.94**	**230**	PN	Pn	22 34 16.4	-1.7
URZ				SN	Sn	22 34 48.7	-4.0
MQZ	**McQueen's Vall**	**9.21**	**215**	*e*SN	Sn	22 37 11.8	-18

IDC 24 22:51:50.2±8.1, 23.35N×141.97E, h31km±59km, mb3.6/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.9/6, ML3.7/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/33, Error ellipse: s-maj=43.0km s-min=21.8km az=98.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.74**	**3**	Pn	Pn	22 52 47.1	-0.1
	9.2nm,0.3s,baz=261,slow=20,SNR=2.3						
CBIJ				Sn	Sn	22 53 27.9	-2.9
	14nm,0.3s,baz=274,slow=22,SNR=3.3						
JOW	**Kunigami**	**12.89**	**288**	LR	LR	22 59 31.4	
	comp=Z,70nm,18.5s,baz=310,slow=36						
JNU	**Nakatsue**	**13.79**	**317**	LR	LR	22 59 32.1	
	comp=Z,44nm,19.9s,baz=104,slow=34						
WRA	**Warramunga Arr**	**43.67**	**190**	P	P	22 59 52.2	-2.0
	3.0nm,0.7s,baz=7.0,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**52.77**	**312**	P	P	23 01 02.9	-1.7
	0.3nm,0.6s,baz=87,slow=9.5,SNR=7.6						
ILAR	**Eielson Array**	**61.09**	**28**	P	P	23 02 00.9	-2.5
	1.0nm,1.1s,baz=256,slow=5.7,SNR=4.6						
YKA	**Yellowknife Ar**	**75.53**	**28**	P	P	23 03 31.5	-1.5
	0.3nm,0.6s,baz=292,slow=5.8,SNR=7.5						
FINES	**FINESS Array B**	**81.22**	**334**	P	P	23 04 01.9	-2.3
	2.5nm,0.9s,baz=45,slow=2.7,SNR=9.3						
GERES	**GERESS Array B**	**94.60**	**329**	LR	LR	23 52 24.2	
	comp=Z,47nm,18.2s,baz=14,slow=38						

*NEIC **24** 23:00:38.1, 17.98N×68.29W, h111km, MD3.6(RSPR), After RSPR.*

RSPR 24 23:00:38.1, 17.98N×68.29W, h111km±1km, MD3.6/9, MD3.6/9, 9C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.12**	**89**	⇓*e*P	P	23 01 00.2	-0.8
CRPR				*e*S	S	23 01 17.7	-0.6
MGP	**Maguayo**	**1.14**	**88**	⇑*e*P	P	23 01 18.0	-0.7
MGP				*e*S	S	23 01 18.0	-0.6
LSP	**Las Mesas**	**1.16**	**80**	*e*S	S	23 01 18.1	-0.9
LRS	**Lares**	**1.41**	**77**	⇑*e*P	P	23 01 03.4	-0.9
LRS				*e*S	S	23 01 23.8	-0.3
AOPR	**Arecibo Observ**	**1.51**	**76**	⇑*e*P	P	23 01 04.8	-0.7
AOPR				*e*S	S	23 01 25.5	-0.6
SJG	**San Juan**	**2.04**	**86**	⇑*e*P	P	23 01 11.7	-0.5
SJG				*e*S	S	23 01 37.7	0.0
SJG	**San Juan**	**2.04**	**86**	⇑*e*P	P	23 01 10.9	-1.3
SJG	**San Juan**	**2.04**	**86**	⇑*e*P	P	23 01 10.9	-1.3
SJG				*e*S	S	23 01 37.2	-0.5
HUMP	**Col San Antoni**	**2.33**	**86**	⇑*e*P	P	23 01 15.4	-0.6
HUMP				*e*S	S	23 01 43.9	-0.6
CBYP	**Canovanas**	**2.33**	**83**	⇑*e*P	P	23 01 14.9	-1.2
CBYP				*e*S	S	23 01 43.9	-0.7
MTP	**Monte Pirata**	**2.60**	**87**	⇑*e*P	P	23 01 19.2	-0.6
MTP				*e*S	S	23 01 50.7	-0.4

*TIF **24** 23:23:19.1, 43.27N×46.62E, h11km±2km*
*CSEM **24** 23:23:21.1, 43.07N×46.56E, h10km, mb4.1, After OBN*

*MOS **24** 23:23:21.1±2.1, 43.07N×46.56E, h10km, mb4.1/1, Error ellipse: s-maj=10.6km s-min=6.8km az=27.6*

ISC 24 23:23:19.4±0.8, 43.36N±0.04×46.74E±0.05, h11km, n36, σ1℘12/67, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.30**	**196**	*e*PG	**Pg**	**23 23 23.3**	**-2.3**
DLMR				*i* S	**Sg**	**23 23 27.7**	**-2.1**
DLMR				pmax	pmax		
	comp=Z,525nm,0.2s						
DLMR	**Dylym**	**0.30**	**196**	*e*Pg	**Pg**	**23 23 23.3**	**-2.3**
	comp=Z,525nm,0.2s						
DLMR				*i* Sg	**Sg**	**23 23 27.7**	**-2.1**
DBC	**Dubki**	**0.34**	**169**	*i* PG	**Pg**	**23 23 25.0**	**-1.5**
DBC				*i* S	**Sg**	**23 23 31.0**	**-0.3**
DBC				pmax	pmax		
	comp=Z,494nm,0.1s						
DBC	**Dubki**	**0.34**	**169**	*i* Pg	**Pg**	**23 23 25.0**	**-1.5**
	comp=Z,494nm,0.1s						
DBC				*i* Sg	**Sg**	**23 23 31.0**	**-0.3**
KRNR	**Karanay**	**0.54**	**167**	*e*PG	**Pg**	**23 23 31.2**	**+0.8**
KRNR				*i* S	**Sg**	**23 23 38.8**	**+1.0**
KRNR				pmax	pmax		
	comp=Z,125nm,0.2s						
KRNR	**Karanay**	**0.54**	**167**	*e*Pg	**Pg**	**23 23 31.2**	**+0.8**
	comp=Z,125nm,0.2s						
KRNR				*i* Sg	**Sg**	**23 23 38.8**	**+1.0**
BUJR	**Buynaksk**	**0.59**	**153**	*e*PG	**Pg**	**23 23 30.7**	**-0.7**
BUJR				*i* S	**Sg**	**23 23 40.3**	**+0.8**
BUJR				pmax	pmax		
	comp=Z,69nm,0.1s						
BUJR	**Buynaksk**	**0.59**	**153**	*e*Pg	**Pg**	**23 23 30.7**	**-0.7**
	comp=Z,69nm,0.1s						
BUJR				*i* Sg	**Sg**	**23 23 40.3**	**+0.8**
MAK	**Makhachkala**	**0.68**	**125**	*e*PG	**Pg**	**23 23 35.9**	**+2.7**
MAK				*e*		23 23 49.2	
MAK				pmax	pmax		
	comp=Z,46nm,0.1s						
MAK				smax			
	comp=N,810nm,0.5s						
MAK				smax			
	comp=E,238nm,0.2s						
MAK	**Makhachkala**	**0.68**	**125**	*e*Pg	**Pg**	**23 23 35.9**	**+2.7**
	comp=E,46nm,0.1s						
MAK				*e*Sg	**Sg**	**23 23 49.2**	**+6.8**
	comp=E,810nm,0.5s						
BTLR	**Botlikh**	**0.79**	**209**	*i* PG	**Pg**	**23 23 29.3**	**-6.0**
BTLR				*i* S	**Sb**	**23 23 38.3**	**-6.8**
BTLR				pmax	pmax		
	comp=Z,400nm,0.2s						
BTLR	**Botlikh**	**0.79**	**209**	*i* Pg	**Pg**	**23 23 29.3**	**-6.0**
	comp=Z,400nm,0.2s						
BTLR				*i* Sg	**Sb**	**23 23 38.3**	**-6.8**
GNBR	**Gunib**	**0.98**	**170**	⇑*i*PG	**Pg**	**23 23 38.3**	**-0.7**
GNBR				*e*S	**Sg**	**23 23 52.6**	**+0.4**
GNBR				pmax	pmax		
	comp=Z,85nm,0.3s						
GNBR	**Gunib**	**0.98**	**170**	*i* Pg	**Pg**	**23 23 38.3**	**-0.7**
	comp=Z,85nm,0.3s						
GNBR				*e*Sg	**Sg**	**23 23 52.6**	**+0.4**
KMKR	**Kumukh**	**1.25**	**168**	*i* PG	**Pg**	**23 23 41.0**	**-3.5**
KMKR				*e*S	**Sb**	**23 23 58.0**	**-0.5**
KMKR				pmax	pmax		
	comp=Z,95nm,0.2s						
KMKR	**Kumukh**	**1.25**	**168**	*i* Pg	**Pg**	**23 23 41.0**	**-3.5**
	comp=Z,95nm,0.2s						
KMKR				*e*Sg	**Sb**	**23 23 58.0**	**-0.5**
TRKR	**Terskaya**	**1.51**	**285**	*e*PG	**Pg**	**23 23 46.5**	**-3.0**
TRKR				*i* S	**Sb**	**23 24 06.8**	**+0.9**
VLKR	**Vladikavkaz**	**1.54**	**259**	*e*PG	**Pg**	**23 23 46.2**	**-4.0**
VLKR				*i* S	**Sb**	**23 24 06.2**	**-0.7**
BTKR	**Batakoyurt**	**1.60**	**271**	*i* PG	**Pg**	**23 23 47.5**	**-4.0**
BTKR				*i* S	**Sn**	**23 24 08.5**	**-0.2**
KMSR	**Komsomolskaya**	**1.79**	**271**	*e*PN	**Pn**	**23 23 50.2**	**-0.3**
KMSR				*i* S	**Sn**	**23 24 13.3**	**0.0**
ARNR	**Ardon**	**1.81**	**266**	*e*PN	**Pn**	**23 23 50.3**	**-0.4**
ARNR				*i* S	**Sn**	**23 24 13.3**	**-0.5**
PRTR	**Priterechnaya**	**1.83**	**283**	*e*Pn	**Pn**	**23 23 51.2**	**+0.1**
LACR	**Lac**	**1.87**	**254**	*e*PN	**Pn**	**23 23 50.6**	**-1.0**
LACR				*i* S	**Sn**	**23 24 14.2**	**-1.2**
LSNR	**Lesken**	**2.14**	**269**	*e*Pn	**Pn**	**23 23 54.9**	**-0.6**
DGRG	**David-gareji**	**2.16**	**209**	P	**Pn**	**23 23 56.1**	**+0.3**
DGRG				S	**Sn**	**23 24 26.6**	**+3.9**
SAMG	**Sameba**	**2.19**	**221**	P	**Pn**	**23 23 55.0**	**-1.1**
SAMG				S	**Sn**	**23 24 22.9**	**-0.5**
TI2	**Plekhanov**	**2.19**	**223**	*i* PN	**Pn**	**23 23 56.6**	**+0.4**
TI2				*i* S	**Sn**	**23 24 24.6**	**+1.0**
TI2				pmax	pmax		
	comp=Z,30nm,0.2s						
TI2				smax			
	comp=N,400nm,0.2s						
TI2				smax			
	comp=E,60nm,0.2s						
TI2				smax			
	comp=Z,80nm,0.2s						
TI2	**Plekhanov**	**2.19**	**223**	*i* Pn	**Pn**	**23 23 56.6**	**+0.4**
	comp=Z,30nm,0.2s						
TI2				*i* Sg	**Sn**	**23 24

ZAL	**Zalesovo**	**69.25**	**336**	P		**P**	**23 37 52.2**	**-0.9**
	1.2nm,0.5s,mb3.7,baz=327,slow=3.3,SNR=6.3							
BVAR	**Borovoye Array**	**75.18**	**330**	P		**P**	**23 38 27.3**	**0.0**
	1.3nm,0.6s,mb3.5,baz=120,slow=7.1,SNR=11							
YKA	**Yellowknife Ar**	**110.23**	**25**	PKiKP			23 45 08.0	
	0.1nm,0.4s,baz=288,slow=2.1,SNR=4.5							

WEL 24 23:28:39.9±0.5, 36.77S×177.43E, h158km±6km, ML3.5/12, Error ellipse: s-maj=9.0km s-min=7.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**1.06**	**139**	PN		P	23 29 05.8	-0.3
MXZ				*e*SN		S	23 29 25.0	-1.3
PUZ	**Puketiti**	**1.46**	**153**	PN		P	23 29 09.9	-0.1
PUZ				SN		S	23 29 31.8	-1.5
URZ	**Urewera**	**1.51**	**190**	PN		P	23 29 10.3	-0.2
URZ				SN		S	23 29 33.9	-0.3
URZ				SN		S	23 29 34.2	0.0
MWZ	**Matawai**	**1.57**	**177**	PN		P	23 29 11.2	+0.1
MWZ				SN		S	23 29 34.4	-0.8
KNZ	**Kokohu**	**2.26**	**175**	*e*PN		P	23 29 18.2	-0.8
BKZ	**Black Stump Fm**	**2.51**	**197**	PN		P	23 29 21.3	-0.7
PXZ	**Pawanui**	**3.29**	**188**	PN		P	23 29 29.9	-2.0
TSZ	**Takapari Road**	**3.48**	**199**	PN		P	23 29 32.1	-2.3
BFZ	**Birch Farm**	**4.02**	**193**	PN		P	23 29 38.4	-2.9
MRZ	**Mangatainoka R**	**4.15**	**200**	PN		P	23 29 39.7	-3.4
KIW	**Kapiti Island**	**4.54**	**205**	PN		P	23 29 44.7	-3.4
CAW	**Cannon Point**	**4.71**	**202**	PN		P	23 29 46.5	-4.0
TCW	**Tory Channel**	**5.07**	**208**	PN		P	23 29 51.1	-4.1
TUWZ	**Tuamarina**	**5.39**	**209**	PN		P	23 29 55.0	-4.4
NNZ	**Nelson**	**5.45**	**214**	*e*PN		P	23 29 56.3	-3.8
QRZ	**Quartz Range**	**5.58**	**222**	*e*PN		P	23 29 57.4	-4.4
KHZ	**Kahutara**	**6.39**	**207**	*e*PN		P	23 30 07.8	-4.9

*BJI **24** 23:49:18.4, 71.80N×150.20W, h10km, mB5.1, mb4.9, Ms4.4, Msz4.3*
*NEIC **24** 23:49:20.5±0.3, 71.82N×150.17W, h10km, mb4.4/16, ML4.0(AEIC), Error ellipse: s-maj=5.3km s-min=4.4km az=79.0*
*MOS **24** 23:49:21.9±1.3, 71.72N×150.07W, h33km, mb4.7/10, Error ellipse: s-maj=31.0km s-min=7.3km az=98.4*
*IDC **24** 23:49:23.6±0.6, 71.98N×149.65W, h26km±3km, mb3.8/12, mb1 4.1/15, mb1mx3.9/23, mbtmp4.0/15, ML4.3/3, MS3.1/3, Ms1 3.2/3, ms1mx2.9/33, Error ellipse: s-maj=22.8km s-min=10.8km az=45.0*
*PGC **24** 23:49:25.4, 72.01N×148.78W, h35km, ML5.0/6, Beaufort Sea.*
ISC 24 23:49:18.9±0.3, 71.72N±0.03×150.2W±0.1, h10km, n100, σ1§16/109, mb4.3/31, MS4.1/3, 2C-2D, Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BM3	**Burnt Mountain**	**4.75**	**153**	P		**Pn**	**23 50 32.7**	**+0.4**
BM3				S		**Sn**	**23 51 25.1**	**-2.9**
IMA2	**Indian Mountai**	**5.82**	**194**	*e*P		**Pn**	**23 50 48.1**	**+0.7**
IM3	**Indian Mountai**	**5.91**	**194**	P		**Pn**	**23 50 49.7**	**+1.0**
IM3				S		**Sn**	**23 51 55.6**	**-1.7**
INK	**Inuvik**	**6.65**	**113**	Pn		**Pn**	**23 50 55.5**	**-3.7**
	13nm,0.3s,baz=312,slow=16,SNR=635							
INK				Sn		**Sn**	**23 52 02.1**	**-14**
	94nm,0.3s,baz=211,slow=28,SNR=29							
INK	**Inuvik**	**6.65**	**113**	Pn		**Pn**	**23 50 55.8**	**-3.3**
INK				Sn		**Sn**	**23 52 01.7**	**-14**
INK				Trac			23 52 04.2	
	comp=Z,403nm,0.5s							
INK	**Inuvik**	**6.65**	**113**	*e*P		**Pn**	**23 50 54.8**	**-4.3**
COLA	**College**	**6.94**	**172**	*d* i P		**Pn**	**23 51 02.6**	**-0.6**
COLA	**College**	**6.94**	**172**	P		**Pn**	**23 51 03.3**	**+0.1**
IL1	**Eielson Array**	**7.09**	**168**	P		**Pn**	**23 51 05.0**	**-0.3**
ILAR	**Eielson Array**	**7.09**	**168**	Pn		**Pn**	**23 51 04.7**	**-0.7**
	3.7nm,0.3s,baz=347,slow=13,SNR=248							
ILAR				Sn		**Sn**	**23 52 21.1**	**-5.7**
	1.7nm,0.3s,baz=353,slow=24,SNR=5.7							
ILAR				LR		LR	23 54 18.0	
	comp=Z,172nm,19.7s,baz=306,slow=40							
GCSA	**Galena City Sc**	**7.43**	**203**	P		**Pn**	**23 51 12.1**	**+1.9**
MCK	**McKinley**	**8.04**	**176**	P		**P**	**23 51 18.0**	**-0.7**
KTH	**Kantishna Hill**	**8.21**	**182**	P		**P**	**23 51 20.8**	**-0.2**
TRF	**Thorofare Moun**	**8.31**	**180**	P		**P**	**23 51 22.9**	**+0.5**
TRF				S		**Sn**	**23 52 50.4**	**-6.9**
DAWY	**Dawson**	**8.68**	**147**	Pn		**P**	**23 51 26.4**	**-1.2**
DAWY				Sn		**Sn**	**23 52 57.4**	**-9.1**
DAWY				Trac			23 53 03.5	
	comp=Z,77nm,0.5s							
DAWY	**Dawson**	**8.68**	**147**	P		**P**	**23 51 26.4**	**-1.2**
TNA	**Tin City**	**8.91**	**235**	*e*P		**P**	**23 51 28.1**	**-2.7**
TTO1	**Tatalina**	**9.13**	**197**	P		**P**	**23 51 33.6**	**-0.1**
MENT	**Mentasta**	**9.16**	**161**	*e*P		**P**	**23 51 34.3**	**+0.1**
SML	**Sawmill**	**9.99**	**175**	*e*P		**P**	**23 51 45.0**	**-0.3**
PMR	**Palmer**	**10.19**	**177**	*e*P		**P**	**23 51 49.1**	**+1.0**
PMR				pmax	pmax			
	comp=Z,12nm,0.7s							
PMR	**Palmer**	**10.19**	**177**	*e*P		**P**	**23 51 49.1**	**+1.0**
	comp=Z,12nm,0.7s							
DIV	**Divide**	**10.78**	**168**	*e*P		**P**	**23 51 55.5**	**-0.7**
SVW2	**Sparrevohn**	**10.88**	**194**	*e*P		**P**	**23 51 57.9**	**+0.3**
SLKM	**Skilak Lake**	**11.27**	**180**	P		**P**	**23 52 02.1**	**-0.8**
HYT	**Haines Junctio**	**12.03**	**149**	Pn		**P**	**23 52 13.3**	**+0.1**
WHY	**Whitehorse**	**12.65**	**144**	Pn		**P**	**23 52 19.8**	**-1.7**
PLBC	**Pleasant Camp**	**13.52**	**149**	Pn		**P**	**23 52 34.1**	**+1.3**
KDAK	**Kodiak Island**	**14.04**	**185**	Pn		**P**	**23 52 38.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=20,slow=5.4,SNR=3.7							
BILL	**Bilibino**	**15.15**	**277**	*α i* P		**P**	**23 52 53.6**	**-0.5**
BILL				*e*			23 55 44.9	
BILL				pmax	pmax			
	comp=Z,45nm,1.7s							
BILL	**Bilibino**	**15.15**	**277**	*e*P		**P**	**23 52 52.2**	**-1.9**
	comp=Z,26nm,1.0s							
DLBC	**Dease Lake**	**15.67**	**138**	Pn		**P**	**23 52 59.3**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=344,slow=12,SNR=18							
DLBC	**Dease Lake**	**15.67**	**138**	Pn		**P**	**23 52 59.6**	**-1.4**
DLBC	**Dease Lake**	**15.67**	**138**	*e*P		**P**	**23 52 59.0**	**-2.0**
RES	**Resolute Bay**	**15.73**	**54**	Pn		**P**	**23 52 53.5**	**-8.2**
RES				Sn		S	23 55 30.6	-26
RES				Trac			23 55 45.5	
	comp=Z,21nm,0.6s							
RES	**Resolute Bay**	**15.73**	**54**	*e*P		**P**	**23 52 52.7**	**-9.0**
	comp=Z,19nm,0.6s							
YKW3	**Yellowknife Ar**	**16.29**	**106**	Pn		**P**	**23 53 02.1**	**-6.8**
YKW3				Pn		**P**	**23 53 03.8**	**-5.1**
YKW3				Sn		S	23 55 47.7	-22
YKW3				Sn		**S**	**23 55 48.1**	**-21**
YKW3				Trac			23 55 54.5	
	comp=Z,21nm,0.4s							
YKW3				Trac			23 55 54.6	
	comp=Z,18nm,0.3s							
YKW3	**Yellowknife Ar**	**16.29**	**106**	*e*P		**P**	**23 53 01.1**	**-7.8**
YKA	**Yellowknife Ar**	**16.35**	**106**	Pn		**P**	**23 53 02.8**	**-6.8**
	comp=Z,1.1nm,0.3s,baz=312,slow=13,SNR=70							
YKA				Sn		**S**	**23 55 49.6**	**-21**
	comp=Z,3.2nm,0.3s,baz=324,slow=22,SNR=15							
FNBB	**Fort Nelson**	**16.92**	**125**	Pn		**P**	**23 53 11.1**	**-5.9**
FNBB				Sn		**S**	**23 56 11.6**	**-12**
FNBB				Trac			23 56 32.6	
	comp=Z,6.0nm,0.7s							
SEY	**Seymchan**	**22.85**	**277**	*i* P		**P**	**23 54 25.1**	**+2.3**
TIXI	**Tiksi**	**23.68**	**309**	*e*P		**P**	**23 54 32.7**	**+2.0**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb3.9							
EDM	**Edmonton**	**24.49**	**120**	*e*P		**P**	**23 54 39.5**	**+0.7**
FCC	**Fort Churchill**	**25.63**	**91**	*e*P		**P**	**23 54 47.9**	**-1.7**
FCC				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.4							
FCC	**Fort Churchill**	**25.63**	**91**	*e*P		**P**	**23 54 47.9**	**-1.7**
	comp=Z,8.1nm,0.6s,mb4.4							
NEW	**Newport**	**28.03**	**129**	LR		LR	00 08 38.6	
	comp=Z,10nm,18.5s,baz=75,slow=41							
NEW	**Newport**	**28.03**	**129**	P		**P**	**23 55 12.3**	**+0.6**
SUMG	**Summit**	**29.59**	**35**	P		**P**	**23 55 24.6**	**-0.8**
YAK	**Yakutsk**	**30.42**	**293**	*i* P		**P**	**23 55 32.6**	**-0.3**
YAK				pmax	pmax			
	comp=Z,15nm,0.8s,mb4.8							
ULM	**Lac du Bonnet**	**32.25**	**102**	P		**P**	**23 55 47.0**	**-2.2**
	comp=Z,0.8nm,0.4s,mb3.9,baz=311,slow=7.4,SNR=4.5							
ULM	**Lac du Bonnet**	**32.25**	**102**	P		**P**	**23 55 47.0**	**-2.2**
HLID	**Hailey**	**33.10**	**129**	P		**P**	**23 55 57.0**	**+0.4**
IMW	**Indian Meadow**	**33.67**	**124**	*e*P		**P**	**23 56 02.7**	**+1.1**
	comp=Z,6.4nm,0.8s,mb4.6							
TPAW	**Teton Pass**	**34.04**	**125**	*e*P		**P**	**23 56 05.5**	**+0.6**
	comp=Z,4.8nm,1.0s,mb4.4							
AHID	**Auburn Hatcher**	**34.68**	**125**	*e*P		**P**	**23 56 11.5**	**+1.2**
	comp=Z,1.8nm,0.6s,mb4.2							
BW06	**Boulder Array**	**35.08**	**123**	*e*P		**P**	**23 56 14.0**	**+0.2**
	comp=Z,3.5nm,1.0s,mb4.2							
PDAR	**Pinedale Array**	**35.08**	**123**	P		**P**	**23 56 14.1**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.2,baz=7.0,slow=4.9,SNR=23							
RSSD	**Black Hills**	**35.34**	**116**	P		**P**	**23 56 15.8**	**-0.1**
OHCM	**Honcut**	**35.54**	**140**	*e*P		**P**	**23 56 17.7**	**0.0**
ELK	**Elko**	**35.57**	**132**	P		**P**	**23 56 19.5**	**+1.6**
	comp=Z,3.5nm,0.8s,mb4.4,baz=344,slow=9.9,SNR=15							
HWUT	**Hardware Ranch**	**35.65**	**127**	*e*P		**P**	**23 56 18.7**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.3							
TCUT	**Toone Canyon**	**36.15**	**127**	*e*P		**P**	**23 56 23.7**	**+0.9**
DUG	**Dugway**	**36.67**	**129**	*e*P		**P**	**23 56 27.9**	**+0.7**
DUG				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.1							
DUG	**Dugway**	**36.67**	**129**	*e*P		**P**	**23 56 27.9**	**+0.7**
	comp=Z,3.3nm,0.9s,mb4.2							
NVAR	**Mina Array Bea**	**37.08**	**137**	P		**P**	**23 56 32.7**	**+2.0**
	comp=Z,3.5nm,0.6s,mb4.3,baz=356,slow=6.2,SNR=18							
NVAR				sP		sP	23 56 43.8	+8.9
	comp=Z,2.8nm,0.8s,baz=342,slow=5.9,SNR=6.0							
SCHQ	**Schefferville**	**37.34**	**71**	P		**P**	**23 56 30.2**	**-2.4**
	comp=Z,1.2nm,0.4s,mb4.0,baz=326,slow=7.3,SNR=3.9							
SRU	**San Rafael**	**38.27**	**127**	*e*P		**P**	**23 56 41.2**	**+0.6**
SRU				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.1							
SRU	**San Rafael**	**38.27**	**127**	*e*P		**P**	**23 56 41.2**	**+0.5**
	comp=Z,1.9nm,0.5s,mb4.1							
MSU	**Marysvale**	**38.42**	**129**	*e*P		**P**	**23 56 43.5**	**+1.6**
ARUT	**Antelope Range**	**38.80**	**131**	*e*P		**P**	**23 56 46.3**	**+1.1**
TPNV	**Topopah Spring**	**38.95**	**135**	*e*P		**P**	**23 56 47.0**	**+0.6**
TPNV				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.5							
TPNV	**Topopah Spring**	**38.95**	**135**	*e*P		**P**	**23 56 47.0**	**+0.5**
	comp=Z,8.4nm,0.8s,mb4.5							
PV10	**Paradox Valley**	**39.34**	**125**	*e*P		**P**	**23 56 50.9**	**+1.3**
NEN	**Nelson**	**40.52**	**134**	*e*P		**P**	**23 57 00.4**	**+1.1**
SDCO	**Great Sand Dun**	**40.86**	**122**	*e*P		**P**	**23 57 02.7**	**+0.5**
	comp=Z,1.7nm,0.6s,mb3.9							
WUAZ	**Wupatki**	**41.47**	**129**	*e*P		**P**	**23 57 08.1**	**+1.0**
	comp=Z,9.6nm,0.7s,mb4.5							
FINES	**FINESS Array B**	**47.09**	**2**	P		**P**	**23 57 51.6**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=342,slow=8.8,SNR=3.2							
CN2	**Changchun**	**47.40**	**282**	*e*P		**P**	**23 57 53.8**	**-0.8**
NVS	**Novosibirsk**	**48.30**	**322**	*e*P		**P**	**23 58 09.4**	**+7.9**
ZAL	**Zalesovo**	**48.84**	**320**	pP		pP	23 58 12.0	+3.3
	comp=Z,2.6nm,0.7s,baz=96,slow=9.7,SNR=4.7							
ZAL				sP		sP	23 58 16.0	+6.1
	comp=Z,2.6nm,0.7s,baz=95,slow=8.9,SNR=10.0							
ZAL	**Zalesovo**	**48.84**	**320**	*i* P		**P**	**23 58 12.1**	**+6.5**
ZAL				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ULN	**Ulaanbaatar**	**49.11**	**300**	P		**P**	**23 58 07.6**	**-0.2**
JCT	**Junction City**	**49.26**	**119**	*e*P		**P**	**23 58 08.3**	**-1.0**
JCT				*e*			23 58 19.5	
JCT				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
JCT	**Junction City**	**49.26**	**119**	*e*P		**P**	**23 58 08.2**	**-1.0**
	comp=Z,8.5nm,0.8s,mb4.8							
JCT				*e*			23 58 19.4	
TXAR	**Lajitas Array**	**49.30**	**123**	P		**P**	**23 58 09.9**	**+0.3**
	comp=Z,3.3nm,0.7s,mb4.5,baz=336,slow=5.9,SNR=49							
TXAR				sP		sP	23 58 21.0	+7.2
	comp=Z,2.5nm,0.6s,baz=351,slow=6.0,SNR=14							
SONM	**Songino Array**	**49.32**	**300**	P		**P**	**23 58 10.2**	**+0.8**
	comp=Z,1.6nm,0.9s,mb4.1,baz=22,slow=8.0,SNR=9.5							
SONM				pP		pP	23 58 17.5	+5.0
	comp=Z,2.6nm,0.9s,baz=37,slow=6.1,SNR=6.8							
SONM				sP		sP	23 58 21.6	+7.9
	comp=Z,3.1nm,1.0s,baz=13,slow=7.7,SNR=7.9							
SONM	**Songino Array**	**49.32**	**300**	P		**P**	**23 58 10.2**	**+0.8**
SONM				*SP		sP	23 58 21.6	+7.9
MJAR	**Matsushiro Arr**	**50.00**	**266**	P		**P**	**23 58 15.7**	**+0.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=3.9,slow=8.2,SNR=5.9							
ARU	**Arti**	**50.55**	**340**	*‖ i* P		**P**	**23 58 27.5**	**+8.7**
ARU				*e*			00 00 21.2	
ARU				*e*PPP		PPP	00 01 20.6	+7.5
ARU				*e*S		**S**	**00 05 42.1**	**+10**
ARU				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**52.30**	**330**	P		**P**	**23 58 32.0**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=56,slow=5.3,SNR=6.9							
BVAR				sP		sP	23 58 42.0	+5.7
	comp=Z,2.5nm,0.8s,baz=34,slow=5.3,SNR=8.1							
KURK	**Kurchatov**	**53.10**	**323**	P		**P**	**23 58 37.2**	**-0.9**
KURK				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**53.10**	**323**	P		**P**	**23 58 37.2**	**-0.9**
	comp=Z,6.5nm,0.8s,mb4.6							
MKAR	**Makanchi Array**	**56.12**	**319**	P		**P**	**23 58 58.6**	**-1.5**
	comp=Z,2.0nm,0.5s,mb3.5,baz=47,slow=6.2,SNR=3.9							
AKTO	**Aktyubinsk**	**56.52**	**339**	LR		LR	00 23 11.6	
	comp=Z,50nm,19.3s,MS3.6,baz=304,slow=36							
AKASG	**Malin Array Be**	**57.88**	**0**	P		**P**	**23 59 10.3**	**-2.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=1.8,slow=7.5,SNR=3.0							
GTA	**Gaotai**	**58.91**	**302**	P		**P**	**23 59 20.4**	**+0.5**
GTA				AP		pP	23 59 27.8	+4.8
GTA				XP		sP	23 59 31.8	+7.6
NJ2	**Nanjing**	**60.22**	**282**	*e*P		**P**	**23 59 32.8**	**+3.7**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.1							
NJ2				AMB		AMB		
	comp=Z,160nm,10.2s							
NJ2				LR		LR		
	comp=N,390nm,19.8s,MS4.8							
NJ2				LR		LR		
	comp=E,450nm,16.0s,MS4.8							
NJ2				LR		LR		
	comp=Z,650nm,20.9s,MS4.8							
SSE	**Sheshan**	**60.39**	**279**	*e*P		**P**	**23 59 29.3**	**-0.9**
SSE				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,150nm,5.4s							
SSE				LR		LR		
	comp=N,90nm,18.3s,MS4.0							
SSE				LR		LR		
	comp=E,20nm,18.3s,MS4.0							
SSE				LR		LR		
	comp=Z,100nm,17.7s,MS4.0							
AAK	**Ala-Archa**	**61.65**	**324**	*e*P		**P**	**23 59 37.6**	**-1.1**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**61.65**	**324**	*e*P		**P**	**23 59 37.6**	**-1.1**
	comp=Z,3.0nm,0.8s,mb4.5							

*IDC **25** 00:04:45.7±0.6, 16.28S×177.90E, mb4.5/12, mb1 4.6/14, mb1mx4.5/19, mbtmp4.5/14, MS3.9/10, Ms1 3.9/10, ms1mx3.7/23, Error ellipse: s-maj=27.0km s-min=15.3km az=146.0*
*NEIC **25** 00:04:47.5±3.4, 16.27S×177.87E, h12km±20km, mb4.8/14, Error ellipse: s-maj=9.8km s-min=5.9km az=154.0*
ISC 25 00:04:49.2±0.3, 16.29S±0.09×177.77E±0.07, h33km, n118, σ0§83/45, mb4.6/24, MS4.0/8, 2C-5D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**10.37**	**78**	Pn		**P**	**00 07 14.8**	**-4.0**
	1.1nm,0.3s,baz=118,slow=8.0,SNR=2.7							
AFI				LR		LR	00 10 22.5	
	comp=Z,875nm,21.1s,baz=269,slow=33							
RAO	**Raoul Island**	**13.50**	**164**	LR		LR	00 11 59.0	
	comp=Z,316nm,21.4s,baz=89,slow=32							
HNR	**Honiara**	**18.66**	**289**	P		**P**	**00 09 06.0**	**-0.9**
	4.9nm,0.3s,baz=199,slow=9.0,SNR=3.5							
HNR	**Honiara**	**18.66**	**289**	P		**P**	**00 09 06.0**	**-0.9**
RAR	**Rarotonga**	**21.81**	**106**	LR		LR	00 16 15.3	
	comp=Z,302nm,19.8s,MS3.7,baz=274,slow=32							
URZ	**Urewera**	**21.90**	**181**	P		**P**	**00 09 41.2**	**0.0**
	7.2nm,0.9s,mb4.1,baz=56,slow=9.7,SNR=3.2							
CTA	**Charters Tower**	**30.16**	**258**	*‖ i* P		**P**	**00 10 59.2**	**+0.6**
	7.2nm,0.9s,mb4.4							
CTA	**Charters Tower**	**30.16**	**258**	P		**P**	**00 10 59.3**	**+0.7**
	10nm,0.9s,mb4.5,baz=82,slow=10,SNR=16							
CTA				LR		LR	00 20 47.2	
	comp=Z,264nm,18.9s,MS3.9,baz=51,slow=32							
CTAO	**Charters Tower**	**30.16**	**258**	*e*P		**P**	**00 10 58.4**	**-0.2**
	11nm,1.0s,mb4.5							
PMG	**Port Moresby**	**30.59**	**279**	*e*P		**P**	**00 11 01.8**	**-0.7**
	5.6nm,0.7s,mb4.5							
PPT	**Papeete**	**31.25**	**97**	*e*S		**S**	**00 16 05.0**	**-6.3**
PPT				*e*LR		LR	00 19 05.2	
	630nm,29.2s							
PPT	**Papeete**	**31.25**	**97**	LR		LR	00 20 52.9	
	comp=Z,194nm,18.4s,MS3.8,baz=256,slow=31							
TBI	**Tubuai**	**31.57**	**108**	*e*LR		LR	00 19 18.6	
	797nm,29.8s,baz=289							
STKA	**Stephens Creek**	**36.29**	**238**	*e*P		**P**	**00 11 53.1**	**+1.4**
	23nm,0.9s,mb5.1							
STKA	**Stephens Creek**	**36.29**	**238**	P		**P**	**00 11 53.0**	**+1.3**
	30nm,0.9s,mb5.2,baz=60,slow=7.2,SNR=29							
STKA				LR		LR	00 24 35.7	
	comp=Z,216nm,20.2s,MS3.9,baz=27,slow=33							
WRAB	**Tennant Creek**	**41.35**	**258**	P		**P**	**00 12 33.6**	**-0.3**
	63nm,1.7s,mb5.0							
WRA	**Warramunga Arr**	**41.36**	**258**	P		**P**	**00 12 33.7**	**-0.3**
	6.9nm,0.9s,mb4.3,baz=89,slow=8.8,SNR=27							
ASPA	**Alice Springs**	**41.75**	**253**	*‖ i* P		**P**	**00 12 37.3**	**0.0**
RKT	**Rikitea**	**44.85**	**107**	*e*S		**S**	**00 19 31.5**	**-5.7**
RKT				*e*LR		LR	00 25 26.1	
	519nm,28.5s							
FORT	**Forrest**	**47.44**	**243**	*e*P		**P**	**00 13 23.2**	**+0.4**
	30nm,0.9s,mb5.2							
FITZ	**Fitzroy Crossi**	**49.70**	**260**	*e*P		**P**	**00 13 42.8**	**+2.3**
	15nm,1.0s,mb5.0							
KLBR	**Kellerberrin**	**56.30**	**243**	*e*P		**P**	**00 14 28.7**	**-0.6**
	23nm,0.7s,mb5.3							
NWAO	**Narrogin (SRO)**	**56.77**	**241**	P		**P**	**00 14 32.0**	**-0.6**
	9.5nm,1.1s,mb4.8,baz=55,slow=11,SNR=4.5							
VNDA	**Vanda**	**61.77**	**184**	P		**P**	**00 15 05.9**	**-0.7**
SBA	**Scott Base**	**61.83**	**183**	*e*P		**P**	**00 15 06.4**	**-0.6**
	15nm,1.1s,mb5.0							
MJAR	**Matsushiro Arr**	**64.47**	**325**	P		**P**	**00 15 25.6**	**+0.7**
	2.0nm,0.8s,mb4.2,baz=154,slow=7.8,SNR=5.3							
MJAR				LR		LR	00 41 26.4	
	comp=Z,103nm,19.4s,MS4.0,baz=90,slow=34							
NVAR	**Mina Array Bea**	**80.85**	**46**	P		**P**	**00 17 01.9**	**+0.3**
	3.8nm,0.9s,mb4.3,baz=212,slow=6.9,SNR=16							
NEN	**Nelson**	**82.01**	**49**	*e*P		**P**	**00 17 07.8**	**+0.1**
MCK	**McKinley**	**83.82**	**14**	*e*P		**P**	**00 17 15.8**	**-0.5**
	6.0nm,1.2s,mb4.6							
MAW	**Mawson**	**84.12**	**200**	P		**P**	**00 17 17.9**	**+0.2**
	5.8nm,0.8s,mb4.8,baz=73,slow=5.7,SNR=6.5							
WUAZ	**Wupatki**	**84.51**	**51**	*e*P		**P**	**00 17 19.7**	**-0.7**
	29nm,1.5s,mb5.2							
COLA	**College**	**85.04**	**14**	*e*P		**P**	**00 17 21.4**	**-1.0**
	4.7nm,0.9s,mb4.6							
ILAR	**Eielson Array**	**85.19**	**14**	P		**P**	**00 17 22.4**	**-0.7**
	3.6nm,0.8s,mb4.5,baz=235,slow=6.4,SNR=24							
HLID	**Hailey**	**85.86**	**42**	*e*P		**P**	**00 17 27.8**	**+0.8**
	5.6nm,0.9s,mb4.8							
TMUT	**Trail Mountain**	**86.18**	**47**	*e*P		**P**	**00 17 29.2**	**+0.6**
TCUT	**Toone Canyon**	**86.80**	**46**	*e*P		**P**	**00 17 32.4**	**+0.8**
MNTX	**Cornudas Mount**	**87.68**	**56**	*e*P		**P**	**00 17 36.1**	**+0.1**
	2.9nm,1.1s,mb4.4							
AHID	**Auburn Hatcher**	**87.70**	**44**	*e*P		**P**	**00 17 35.5**	**-0.4**
	4.8nm,1.2s,mb4.6							
CHMT	**Chamberlain Mo**	**88.09**	**40**	*e*P		**P**	**00 17 37.3**	**-0.3**
TXAR	**Lajitas Array**	**88.25**	**59**	P		**P**	**00 17 39.9**	**+1.0**
	1.8nm,0.9s,mb4.3,baz=231,slow=4.3,SNR=16							
TXAR				LR		LR	00 48 32.1	
	comp=Z,92nm,19.1s,MS4.2,baz=305,slow=30							
QLMT	**Earthquake Lak**	**88.34**	**42**	*e*P		**P**	**00 17 40.3**	**+1.4**
PDAR	**Pinedale Array**	**88.73**	**45**	P		**P**	**00 17 40.1**

		20nm,1.0s							
FRF	**La Foret Royal**	**151.78**	**346**	*e*PKP1	PKPdf	00 24 42.1	+8.0
	22nm,1.1s								
TIP	**Timpagrande**	**151.79**	**328**	PKPdf	PKPdf	00 24 35.8	+1.6
LASF	**Ste Croix**	**151.82**	**351**	*e*PKP1	PKPdf	00 24 41.2	+7.0
	28nm,1.2s								
LMR	**La Mourre**	**152.03**	**346**	*e*PKP1	PKPdf	00 24 42.8	+8.3
	31nm,1.2s								
MTLF	**Montolieu**	**152.77**	**353**	*e*PKP1	PKPdf	00 24 44.6	+9.0
SJPF	**Ste Jean**	**153.25**	**358**	*e*PKP1	PKPdf	00 24 45.6	+9.4
	25nm,1.5s								
EPF	**Esparros**	**153.25**	**356**	*e*PKP1	PKPdf	00 24 45.8	+10
ETSF	**Etsaut**	**153.44**	**357**	*e*PKP1	PKPdf	00 24 46.3	+10
	7.6nm,0.9s								
ESDC	**Sonseca Array**	**156.65**	**3**	PKPab	PKPab	00 25 12.1	-0.4
	0.3nm,0.8s,slow=4.4,SNR=4.4								

IDC ***25*** *00:08:50.5±1.0, 1.79N×96.84E, mb4.3/16, mb1 4.4/16, mb1mx4.2/22, mbtmp4.3/16, ML2.9/1, MS3.8/3, Ms1 3.7/3, ms1mx3.3/20, Error ellipse: s-maj=29.8km s-min=17.2km az=27.0*

BJI ***25*** *00:08:52.2, 1.53N×97.19E, h39km, mB4.8, mb4.7, Ms4.5, Msz4.0*

NEIC ***25*** *00:08:57.9±1.6, 1.94N×97.03E, h48km±12km, mb4.5/14, Error ellipse: s-maj=14.7km s-min=7.0km az=215.0*

MOS ***25*** *00:08:59.3±0.9,2.11N×97.17E, h73km, mb4.7/19, Error ellipse: s-maj=14.6km s-min=7.4km az=110.3*

ISC 25 00:08:54.0±0.6, 1.91N±0.09×97.00E±0.05, h31km, h31km±9km:pP-P, n85, σ1⇕05/84, mb4.5/48, MS4.0/8, 7C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.12**	**65**	Pn	**Pn**	**00 09 29.9**	**+2.0**
	3.5nm,0.3s,baz=280,slow=6.7,SNR=27						
IPM	**Ipoh**	**4.81**	**56**	P	**Pn**	**00 10 07.3**	**+1.0**
KULM	**Kulim**	**4.95**	**47**	*e*P	**Pn**	**00 10 08.8**	**+0.6**
KGM	**Kluang**	**6.32**	**89**	P	**Pn**	**00 10 28.8**	**+1.4**
KKM	**Kota Kinabalu**	**19.60**	**77**	*e*P	**P**	**00 13 22.5**	**-0.3**
KMI	**Kunming**	**23.73**	**13**	P	**P**	**00 14 05.0**	**+0.5**
KMI				AP		00 14 13.8	
KMI				XP		00 14 15.5	
KMI				PP	PP	00 14 42.3	+4.5
KMI				S	**S**	**00 18 21.5**	**+7.2**
KMI				XS		00 18 34.5	
KMI				SS	SS	00 19 07.6	+3.4
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
KMI				AMB	AMB		
	comp=Z,150nm,5.6s						
KMI				LR	LR		
	comp=N,330nm,14.0s,MS4.0						
KMI				LR	LR		
	comp=E,240nm,16.3s,MS4.0						
KMI				LR	LR		
	comp=Z,290nm,15.2s,MS3.9						
HYB	**Hyderabad**	**23.79**	**312**	*i* P	**P**	**00 14 07.0**	**+1.9**
HYB				*e*		00 14 20.0	
HYB	**Hyderabad**	**23.79**	**312**	*e*P	**P**	**00 14 07.0**	**+1.9**
GYA	**Guiyang**	**26.12**	**20**	P	**P**	**00 14 27.9**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**27.62**	**339**	*e*P	**P**	**00 14 41.5**	**+0.6**
	comp=Z,18nm,0.6s,mb4.8						
PKI	**Pulchoki**	**27.83**	**338**	*e*P	**P**	**00 14 43.1**	**+0.3**
	comp=Z,5.2nm,0.6s,mb4.3						
PKI	**Pulchoki**	**27.83**	**338**	*e*P	**P**	**00 14 43.1**	**+0.3**
PKI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
GUN	**Gumba**	**27.96**	**339**	*e*P	**P**	**00 14 44.6**	**+0.6**
	comp=Z,24nm,0.5s,mb5.0						
KKN	**Kakani**	**28.07**	**338**	*e*P	**P**	**00 14 45.2**	**+0.2**
LSA	**Lhasa**	**28.19**	**349**	*e*P	**P**	**00 14 46.7**	**+0.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**28.19**	**349**	*e*P	**P**	**00 14 46.7**	**+0.6**
	comp=Z,5.7nm,0.8s,mb4.2						
GKN	**Gorkha**	**28.52**	**337**	*e*P	**P**	**00 14 49.0**	**0.0**
KOLN	**Koldanda**	**28.74**	**335**	*e*P	**P**	**00 14 51.3**	**+0.3**
	comp=Z,14nm,0.6s,mb4.9						
ENH	**Enshi**	**30.60**	**22**	*e*P	**P**	**00 15 06.0**	**-1.6**
	comp=Z,9.3nm,0.6s,mb4.8						
WHN	**Wuhan**	**32.88**	**28**	⇓P	**P**	**00 15 27.3**	**-0.3**
XAN	**Xi'an**	**33.85**	**18**	P	**P**	**00 15 34.3**	**-1.7**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NJ2	**Nanjing**	**36.37**	**32**	*e*P	**P**	**00 15 57.3**	**-0.1**
NJ2				AP	pP	00 16 07.1	+0.4
NJ2				XP	sP	00 16 11.0	+0.3
NJ2				PP	PP	00 17 19.3	-2.0
NJ2				S	**S**	**00 21 34.0**	**-2.0**
NJ2				XS		00 21 51.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,100nm,10.8s						
NJ2				LR	LR		
	comp=N,390nm,19.8s,MS4.4						
NJ2				LR	LR		
	comp=E,420nm,16.6s,MS4.4						
NJ2				LR	LR		
	comp=Z,280nm,22.5s						
SSE	**Sheshan**	**36.95**	**36**	*e*P	**P**	**00 15 59.3**	**-3.0**
SSE				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,70nm,4.0s						
SSE				LR	LR		
	comp=N,90nm,18.3s,MS3.6						
SSE				LR	LR		
	comp=E,20nm,18.3s,MS3.6						
SSE				LR	LR		
	comp=Z,100nm,17.8s,MS3.6						
GTA	**Gaotai**	**37.41**	**4**	*e*P	**P**	**00 16 05.6**	**-0.5**
GTA				AP	pP	00 16 14.3	-1.1
GTA				XP	sP	00 16 17.6	-1.8
JOW	**Kunigami**	**38.91**	**48**	P	**P**	**00 16 19.5**	**+0.7**
	comp=Z,6.4nm,0.6s,mb4.5,baz=140,slow=29,SNR=2.3						
HHC	**Hu-ho-hao-te**	**40.94**	**17**	*e*P	**P**	**00 16 36.9**	**+1.5**
HHC				AP	pP	00 16 46.4	+1.6
HHC				XP	sP	00 16 50.3	+1.6
HHC				PP	PP	00 18 10.3	-2.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
HHC				AMB	AMB		
	comp=Z,160nm,5.0s						
HHC				LR	LR		
	comp=N,330nm,10.7s,MS4.4						
HHC				LR	LR		
	comp=E,120nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=Z,170nm,13.1s,MS4.1						
WRA	**Warramunga Arr**	**42.58**	**123**	P	**P**	**00 16 49.0**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=5.1						
UCH	**Uchtor**	**44.93**	**336**	P	**P**	**00 17 09.7**	**+1.8**
	SNR=6.4						
TKM2	**Tokmak 2**	**45.09**	**338**	P	**P**	**00 17 10.2**	**+1.0**
	SNR=6.8						
KBK	**Karagaybulak**	**45.12**	**337**	P	**P**	**00 17 11.0**	**+1.6**
	SNR=9.2						
AML	**Almayashu**	**45.18**	**335**	P	**P**	**00 17 11.1**	**+1.2**
	SNR=5.9						
AAK	**Ala-Archa**	**45.27**	**337**	⇑*e*P	**P**	**00 17 11.0**	**+0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.8						
AAK	**Ala-Archa**	**45.27**	**337**	*e*P	**P**	**00 17 10.1**	**-0.5**
	comp=Z,4.1nm,0.9s,mb4.3						
EKS2	**Erkin-Say**	**45.59**	**336**	P	**P**	**00 17 14.8**	**+1.7**
	SNR=5.8						
USP	**Ospenovka**	**45.81**	**337**	P	**P**	**00 17 15.7**	**+0.8**
	SNR=9.1						
SONM	**Songino Array**	**46.47**	**9**	P	**P**	**00 17 20.6**	**+0.6**
	comp=Z,5.6nm,0.8s,mb4.5,baz=188,slow=8.7,SNR=38						
SONM				PcP	PcP	00 18 54.9	+0.2
	comp=Z,1.5nm,0.7s,baz=198,slow=3.6,SNR=4.7						
MK31	**Makanchi Array**	**46.51**	**346**	P	**P**	**00 17 20.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**46.51**	**346**	P	**P**	**00 17 20.3**	**0.0**
	comp=Z,5.5nm,0.7s,mb4.6,baz=159,slow=7.1,SNR=60						
ULN	**Ulaanbaatar**	**46.60**	**9**	⇑*e*P	**P**	**00 17 20.4**	**-0.6**
ULN	**Ulaanbaatar**	**46.60**	**9**	*e*P	**P**	**00 17 20.2**	**-0.8**
	comp=Z,3.2nm,0.9s,mb4.2						
KKAR	**Karatay Array**	**47.34**	**334**	*i* P	**P**	**00 17 26.9**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CN2	**Changchun**	**48.77**	**27**	*e*P	**P**	**00 17 37.8**	**-0.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
KURK	**Kurchatov**	**51.06**	**345**	*e*P	**P**	**00 17 55.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
KURK	**Kurchatov**	**51.06**	**345**	*e*P	**P**	**00 17 55.2**	**-0.2**
	comp=Z,11nm,1.1s,mb4.7						
MJAR	**Matsushiro Arr**	**51.31**	**43**	P	**P**	**00 17 57.9**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.2,baz=212,slow=5.7,SNR=8.0						
ZAL	**Zalesovo**	**52.82**	**351**	P	**P**	**00 18 09.0**	**+0.3**
	comp=Z,12nm,0.7s,mb4.9,baz=306,slow=5.8,SNR=56						
CTA	**Charters Tower**	**53.00**	**117**	P	**P**	**00 18 10.5**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=278,slow=12,SNR=4.3						
NVS	**Novosibirsk**	**53.95**	**350**	⇑*i*P	**P**	**00 18 15.2**	**-1.7**
NVS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.7s						
STKA	**Stephens Creek**	**53.98**	**132**	LR	LR	00 41 45.3	
	comp=E,112nm,18.0s,MS4.0,baz=213,slow=37						
VOSK	**Vostochnaya**	**55.07**	**341**	P	**P**	**00 18 24.2**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BVA0	**Borovoye Array**	**55.52**	**341**	*i* P	**P**	**00 18 27.3**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**55.52**	**341**	P	**P**	**00 18 27.4**	**-1.1**
	comp=Z,4.5nm,0.7s,mb4.6,baz=141,slow=8.5,SNR=50						
BRVK	**Borovoye**	**55.58**	**341**	*e*P	**P**	**00 18 27.6**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**55.58**	**341**	*e*P	**P**	**00 18 27.6**	**-1.3**
	comp=Z,2.8nm,0.6s,mb4.5						
KLR	**Kul'dur**	**55.72**	**27**	*e*P	**P**	**00 18 26.0**	**-3.9**
AB31	**Akbulak array**	**56.80**	**332**	*i* P	**P**	**00 18 36.8**	**-0.9**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
BOD	**Bodaibo**	**57.35**	**11**	*e*P	**P**	**00 18 40.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
AKTK	**Aktyubinsk**	**58.52**	**332**	P	**P**	**00 18 48.5**	**-1.2**
AKTO	**Aktyubinsk**	**58.52**	**332**	P	**P**	**00 18 48.5**	**-1.2**
	comp=Z,3.1nm,0.8s,mb4.4,baz=128,slow=10						
KMBO	**Kilima Mbogo**	**59.82**	**268**	LR	LR	00 42 33.9	
	comp=Z,61nm,18.3s,MS3.8,baz=89,slow=34						
ARU	**Arti**	**62.46**	**337**	⇑*i*P	**P**	**00 19 15.8**	**-0.8**
ARU				*e*		00 19 55.0	
ARU				*e*		00 21 31.3	
ARU				*e*S	**S**	**00 27 42.3**	**+2.5**
ARU				*e*SS	SS	00 31 46.1	+0.4
ARU				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
KIV	**Kislovodsk**	**63.65**	**319**	*e*P	**P**	**00 19 14.6**	**-10**
KIV				*e*S	**S**	**00 27 45.3**	**-10**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
YAK	**Yakutsk**	**64.80**	**16**	⇑*e*P	**P**	**00 19 31.2**	**-0.6**
YAK				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.4						
YAK	**Yakutsk**	**64.80**	**16**	*e*P	**P**	**00 19 30.6**	**-1.2**
	comp=Z,25nm,0.8s,mb5.3						
BRTR	**Keskin Array B**	**68.49**	**312**	P	**P**	**00 19 54.9**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.6,baz=135,slow=5.2,SNR=4.1						
OBN	**Obninsk**	**71.92**	**328**	*e*P	**P**	**00 20 16.3**	**+0.1**
OBN				*e*		00 20 33.1	
OBN				*e*		00 22 54.5	
OBN				*e*S	S	00 29 36.2	+2.6
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
TIXI	**Tiksi**	**72.53**	**10**	⇑*e*P	**P**	**00 20 18.2**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
SEY	**Seymchan**	**73.19**	**23**	⇑*e*P	**P**	**00 20 21.3**	**-2.2**
MAW	**Mawson**	**73.35**	**193**	LR	LR	00 47 08.9	
	comp=Z,55nm,19.6s,MS3.9,baz=246,slow=31						
AKASG	**Malin Array Be**	**74.58**	**322**	P	**P**	**00 20 30.6**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=90,slow=5.1,SNR=5.5						
AKASG	**Malin Array Be**	**74.58**	**322**	*i* P	**P**	**00 20 32.5**	**+0.7**
MLR	**Muntele Rosu**	**75.42**	**317**	P	**P**	**00 20 36.5**	**-0.3**
	comp=Z,0.7nm,0.3s,mb4.0,baz=170,slow=21,SNR=2.4						
FINES	**FINESS Array B**	**79.28**	**332**	P	**P**	**00 20 57.9**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=108,slow=6.0,SNR=8.1						
BILL	**Bilibino**	**80.58**	**21**	*e*P	**P**	**00 21 02.7**	**-1.9**
BILL				*e*S	S	00 31 06.8	-1.2
BILL				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.1						
ARCES	**ARCESS Array B**	**81.81**	**340**	P	**P**	**00 21 11.5**	**+0.5**
	comp=Z,1.8nm,0.9s,mb4.0,baz=124,slow=3.3,SNR=4.1						
GERES	**GERESS Array B**	**84.15**	**319**	P	**P**	**00 21 24.5**	**+1.0**
	comp=Z,1.3nm,0.8s,mb4.1,baz=104,slow=5.5,SNR=15						
GRA1	**Grafenberg Arr**	**85.82**	**320**	*e*P	**P**	**00 21 33.1**	**+1.3**
	comp=Z,2.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**85.82**	**320**	*e*P	**P**	**00 21 33.1**	**+1.3**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**85.82**	**320**	*e*P	**P**	**00 21 33.1**	**+1.3**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
GRF	**Grafenberg Arr**	**85.82**	**320**	*e*P	**P**	**00 21 33.1**	**+1.3**
	comp=Z,2.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**86.29**	**331**	P	**P**	**00 21 33.6**	**-0.2**
	comp=Z,1.1nm,0.7s,mb4.2,baz=95,slow=4.9,SNR=4.0						
BAIF	**Baives**	**90.35**	**320**	*e*P	**P**	**00 21 54.9**	**+1.4**
	comp=Z,7.7nm,0.8s,mb4.8						
BAIF	**Baives**	**90.35**	**320**	*e*P	**P**	**00 21 54.9**	**+1.4**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
TAOE	**Nuku Hiva Isla**	**122.74**	**99**	*e*LR	LR	00 23 50.4	
	comp=Z,2μm,26.4s						
TXAR	**Lajitas Array**	**143.17**	**31**	PKP	PKPdf	00 28 26.4	-4.5
	comp=Z,0.3nm,0.7s,baz=17,slow=2.5,SNR=4.7						

IDC ***25*** *01:04:05.5±2.3, 18.24N×61.31W, mb3.3/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.3/3, Error ellipse: s-maj=86.1km s-min=21.9km az=70.0*

NEIC ***25*** *01:04:08.4±0.9, 18.13N×61.41W, h20km, mb3.8/1, MD3.6(FDF), MD3.5(TRN), Error ellipse: s-maj=14.5km s-min=7.8km az=64.0*

TRN ***25*** *01:04:10.3, 17.80N×61.42W, h24km, MD3.5*

ISC 25 01:04:06.0±2.7, 18.22N±0.06×61.38W±0.08, h13km±20km, n18, σ0⇕98/22, mb3.5/4, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPB	**Codrington**	**0.71**	**217**	⇓*i*P	**Pb**	**01 04 20.9**	**+1.1**
CPB				*e*S	**Sb**	**01 04 28.5**	**-0.7**
BPA	**Boggy Peak**	**1.25**	**201**	*e*P	**Pb**	**01 04 28.5**	**-0.4**
BPA				*e*S	**Sb**	**01 04 41.4**	**-3.4**
STAT	**Sint Eustatius**	**1.68**	**245**	*e*P	**Pn**	**01 04 37.3**	**+1.9**
STAT				*e*S	**Sn**	**01 04 57.8**	**+0.9**
DEG	**La Desirade**	**1.92**	**171**	*e*P	**Pn**	**01 04 38.5**	**-0.2**
DEG				*e*S	**Sn**	**01 04 56.2**	**-6.6**
LZG	**Guadaloupe-1**	**2.10**	**190**	*e*P	**Pn**	**01 04 41.4**	**+0.1**
BCG	**Bois Riant Cap**	**2.13**	**186**	*e*P	**Pn**	**01 04 42.2**	**+0.4**
SCG	**Saint Claude**	**2.20**	**188**	*e*P	**Pn**	**01 04 43.9**	**+1.2**
TBG	**Guadaloupe-3**	**2.37**	**186**	*e*P	**Pn**	**01 04 46.0**	**+0.8**
BBL	**Barber's Block**	**2.68**	**182**	*e*P	**Pn**	**01 04 48.1**	**-1.5**
MTP	**Monte Pirata**	**3.97**	**269**	*e*P	**Pn**	**01 05 06.8**	**-1.2**
CPD	**Cerro la Pandu**	**4.32**	**268**	*e*P	**Pn**	**01 05 11.8**	**-1.1**
SJG	**San Juan**	**4.54**	**269**	*e*P	**Pn**	**01 05 15.7**	**-0.4**
OTAV	**Otavalo**	**24.51**	**225**	*e*P	**P**	**01 09 26.3**	**-0.1**
	2.6nm,0.9s,mb3.8						
TXAR	**Lajitas Array**	**40.05**	**294**	P	**P**	**01 11 43.0**	**+0.3**
	0.2nm,0.5s,mb3.1,baz=119,slow=9.3,SNR=7.7						
TXAR	**Lajitas Array**	**40.05**	**294**	P	**P**	**01 11 43.0**	**+0.3**
PDAR	**Pinedale Array**	**47.39**	**312**	P	**P**	**01 12 42.5**	**+0.6**
	0.6nm,0.8s,mb3.5,baz=100,slow=9.0,SNR=5.6						
YKA	**Yellowknife Ar**	**57.36**	**334**	P	**P**	**01 13 55.2**	**-0.8**
	0.3nm,0.6s,mb3.5,baz=106,slow=7.4,SNR=10						
YKA	**Yellowknife Ar**	**57.36**	**334**	P	**P**	**01 13 55.2**	**-0.8**

NNC 25 01:41:10.3±7.3, 35.87N×69.08E, h12km±38km, mb3.5, mpv3.5, 7C, Error ellipse: s-maj=46.7km s-min=36.3km az=74.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**7.30**	**8**	⇑Pn	Pn	01 42 57.9	-1.6
	1.1nm,0.5s,baz=194,slow=15,SNR=17						
KK31				⇑Sn	Sn	01 44 24.2	+1.1
	1.5nm,0.5s						
KK31				⇑Lg		01 45 03.1	
	4.8nm,0.7s,baz=185,slow=30,SNR=3.8						
TKM2	**Tokmak 2**	**8.66**	**34**	⇑Pn	P	01 43 15.9	-2.4
	1.8nm,0.6s						
AB31	**Akbulak array**	**14.96**	**336**	⇑P	P	01 44 40.5	-2.6
	0.3nm,0.5s,baz=2.9,slow=26,SNR=6.8						
AB31				⇑S	S	01 47 29.3	-0.2
	0.6nm,0.7s						
BVA0	**Borovoye Array**	**17.17**	**3**	⇑P	P	01 45 12.1	+0.6
	0.8nm,1.4s,baz=173,slow=10,SNR=5.2						

WAR ***25*** *01:50:57.5, 51.48N×16.04E, h1km, Location given by Polkowice mine, origin time based upon KSP*

PRU ***25*** *01:50:57.3, 51.44N×16.08E*

IDC ***25*** *01:50:57.1±0.9, 51.46N×16.04E, mb1 3.4/5, mb1mx3.2/20, mbtmp3.2/5, ML2.5/5, Error ellipse: s-maj=19.4km s-min=8.2km az=102.0*

ISC 25 01:50:53.2±0.6, 51.57N±0.03×16.11E±0.05, n17, σ1⇕42/33, 2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**01 51 09.5**	**+1.7**
KSP				*e*Sg	**Sg**	**01 51 19.1**	**+1.5**
UPC	**Upice**	**1.06**	**183**	*e*PG	**Pg**	**01 51 15.3**	**+0.9**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	**Pg**	**01 51 18.2**	**+0.5**
DPC				*e*SG	**Sg**	**01 51 32.8**	**-1.2**
	15nm,0.4s						
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pg**	**01 51 21.9**	**+0.3**
PRU	**Pruhonice**	**1.86**	**213**	*e*PN	**Pn**	**01 51 27.6**	**+0.9**
PRU				*e*PG	**Pg**	**01 51 29.3**	**-1.1**
PRU				*e*SG	**Sg**	**01 51 51.9**	**-3.4**
	7.3nm,0.3s						
CLL	**Collm**	**1.96**	**264**	*i* PN	**Pn**	**01 51 29.3**	**+1.3**
CLL				*e*PG	**Pg**	**01 51 32.0**	**-0.3**
CLL				*e*		01 51 34.0	
CLL				*e*SG	**Sg**	**01 51 58.0**	**-0.4**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PG	**Pg**	**01 51 35.2**	**-1.2**
OKC				*e*SG	**Sg**	**01 52 02.5**	**-2.7**
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**01 51 34.4**	**+1.8**
	0.2nm,0.3s,baz=342,slow=16,SNR=3.1						
VRAC				Lg		01 52 06.5	
	2.0nm,0.3s,baz=83,slow=20,SNR=11						
NKC	**Novy Kostel**	**2.67**	**241**	*e*PN	**Pn**	**01 51 40.5**	**+2.3**
NKC				*e*PG	**Pg**	**01 51 46.1**	**-0.4**
NKC				*e*SG	**Sg**	**01 52 21.2**	**-1.0**
	15nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**01 51 42.7**	**+0.9**
KHC				*e*PG	**Pg**	**01 51 48.0**	**-3.6**
KHC				*e*x	x	01 52 18.5	
KHC				*e*SG	**Sg**	**01 52 26.5**	**-4.1**
MOX	**Moxa**	**2.98**	**254**	*i* P	**Pn**	**01 51 44.2**	**+1.6**
MOX				Pg	**Pg**	**01 51 52.0**	**-0.6**
MOX				Sg	**Sg**	**01 52 32.0**	**-0.3**
GERES	**GERESS Array B**	**3.13**	**210**	Pn	**Pn**	**01 51 46.5**	**+1.7**
	0.3nm,0.3s,baz=27,slow=12,SNR=15						
GERES				Pg	**Pg**	**01 51 52.2**	**-3.5**
	1.3nm,0.3s,baz=31,slow=17,SNR=29						
GERES				Lg		01 52 31.7	
	1.3nm,0.3s,baz=33,slow=27,SNR=7.8						
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**01 51 52.9**	**+1.1**
BSD				*i*		01 51 58.9	
BSD				*i* S	**Sn**	**01 52 33.3**	**-2.7**
MOA	**Molln**	**3.91**	**198**	⇓*i*Pn	**Pn**	**01 51 56.0**	**+0.2**
MOA				⇓*i*Sg	**Sg**	**01 52 58.8**	**-4.5**
	comp=E,2.6nm,0.4s						
NOA	**NORSAR Array B**	**9.88**	**346**	Pn	**P**	**01 53 19.0**	**-0.4**
	0.1nm,0.3s,baz=313,slow=23,SNR=2.9						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**P**	**01 53 37.5**	**-1.6**
	0.1nm,0.3s,baz=219,slow=11,SNR=5.1						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**01 55 09.8**	**-3.4**
	0.0nm,0.3s,baz=189,slow=12,SNR=3.2						

IDC ***25*** *01:58:25.7±0.8, 7.99S×124.45E, mb4.1/7, mb1 4.2/7, mb1mx4.0/14, mbtmp4.1/7, MS3.5/6, Ms1 3.5/6, ms1mx3.2/20, Error ellipse: s-maj=66.9km s-min=18.1km az=59.0*

NEIC ***25*** *01:58:27.4±0.4, 8.07S×124.42E, h10km, mb4.7/6, Error ellipse: s-maj=19.6km s-min=7.7km az=68.0*

ISC 25 01:58:26.6±0.5, 8.19S±0.07×124.9E±0.1, h33km, n33, σ0⇕78/27, mb4.4/11, MS3.6/5, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.71**	**122**	*e*P	Px	02 00 59.5	
	18nm,0.4s						
FITZ	**Fitzroy Crossi**	**9.88**	**176**	*e*P	**P**	**02 00 49.9**	**+0.4**
	38nm,1.4s						
FITZ				*e*S	**S**	**02 02 39.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**9.88**	**176**	LR	LR	02 05 49.9	
	comp=Z,44nm,18.0s,baz=358,slow=44						
MBWA	**Mar

*MOS **25** 02:02:07.8±0.7,36.90N×135.34E,h384km,mb3.9/5,Error ellipse: s-maj=17.4km s-min=11.3km az=114.3*
*IDC **25** 02:02:08.7±1.1,36.97N×135.40E,h375km±12km, mb3.3/10,mb1 3.4/13,mb1mx3.2/25,mbtmp4.0/13,Error ellipse: s-maj=21.2km s-min=14.2km az=81.0*
*JMA **25** 02:02:08.7±0.3,36.94N×135.28E,h376km±3km,M3.6*
*NEIC **25** 02:02:09.0±0.3,36.90N×135.31E,h378km±4km, mb4.0/9, Error ellipse: s-maj=7.2km s-min=6.6km az=154.0*

ISC 25 02:02:08.0±0.3,36.91N±0.05×135.37E±0.06,h385km±4km, n55,σ0$63/62,mb3.8/18,1D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**1.00**	**129**	P	**P**	**02 02 57.7**	**0.0**
JJH	**Hakui**	**1.13**	**89**	P	**P**	**02 02 58.4**	**+0.2**
JWT	**Wachi**	**1.62**	**179**	P	**P**	**02 03 00.6**	**-0.1**
JWT				S	**S**	**02 03 40.9**	**-1.1**
JGM	**Miyama**	**1.62**	**137**	P	**P**	**02 03 00.7**	**0.0**
JGM				S	**S**	**02 03 41.9**	**-0.1**
JSZ	**Suzu**	**1.68**	**71**	P	**P**	**02 03 01.5**	**+0.5**
MAJO	**Matsushiro**	**2.31**	**98**	*eP*	**P**	**02 03 05.3**	**+0.3**
MAT	**Matsushiro**	**2.31**	**98**	P	**P**	**02 03 05.3**	**+0.3**
MAT	**Matsushiro**	**2.31**	**98**	P	**P**	**02 03 05.4**	**+0.4**
MAT	**Matsushiro**	**2.31**	**98**	*eP*	**P**	**02 03 05.0**	**0.0**
MJAR	**Matsushiro Arr**	**2.31**	**98**	P	**P**	**02 03 05.7**	**+0.7**
	13nm,0.3s,baz=279,slow=9.7,SNR=274						
JSD	**Sado**	**2.56**	**63**	P	**P**	**02 03 07.1**	**+0.2**
JIE	**Ise**	**2.73**	**156**	P	**P**	**02 03 09.0**	**+0.8**
JRY	**Ryogami san**	**2.98**	**106**	P	**P**	**02 03 10.7**	**+0.5**
JRY				S	**S**	**02 04 00.9**	**+1.7**
JWZ	**Kozaga**	**3.38**	**175**	P	**P**	**02 03 13.6**	**-0.1**
JTO	**Tosashimizu**	**4.55**	**208**	P	**P**	**02 03 25.3**	**+0.1**
JMK	**Ichinoseki**	**5.06**	**64**	P	**P**	**02 03 30.4**	**0.0**
JMK				S	**S**	**02 04 34.8**	**-0.2**
BSO1	**Boso 1**	**5.08**	**115**	P	**P**	**02 03 29.7**	**-1.0**
BSO1				S	**S**	**02 04 34.3**	**-1.3**
JNU	**Nakatsue**	**5.28**	**226**	P	**P**	**02 03 32.8**	**+0.1**
	1.0nm,0.3s,baz=148,slow=34,SNR=4.4						
KS15	**Wonju Array Si**	**6.00**	**277**	*eP*	**P**	**02 03 40.4**	**-0.2**
VLA	**Vladivostok**	**6.75**	**338**	*eP*	**P**	**02 03 48.7**	**-0.5**
VLA				pmax	pmax		
	comp=Z,98nm,1.0s						
MDJ	**Mudanjiang**	**8.86**	**332**	P	**P**	**02 04 13.4**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,20nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,300nm,5.4s						
MDJ	**Mudanjiang**	**8.86**	**332**	*eP*	**P**	**02 04 13.2**	**-0.3**
	comp=Z,22nm,0.9s						
ASAJ	**Asahikawa**	**9.06**	**35**	P	**P**	**02 04 16.0**	**+0.1**
	comp=Z,9.1nm,0.3s,baz=241,slow=12,SNR=22						
ASAJ				S	**S**	**02 05 53.0**	**-3.9**
	comp=Z,2.2nm,0.3s,baz=37,slow=27,SNR=10						
ASAJ	**Asahikawa**	**9.06**	**35**	P	**P**	**02 04 16.0**	**+0.1**
ASAJ				S	**S**	**02 05 53.1**	**-3.9**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
CN2	**Changchun**	**10.23**	**315**	*eP*	**P**	**02 04 29.5**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CBIJ	**Chichi jima**	**11.36**	**148**	S	**S**	**02 06 40.5**	**-5.4**
	comp=Z,14nm,0.3s,baz=302,slow=22,SNR=3.2						
YSS	**Yuzh-Sakhalins**	**11.44**	**26**	P	**P**	**02 04 43.0**	**-0.8**
ENH	**Enshi**	**22.51**	**260**	*eP*	**P**	**02 06 36.6**	**-0.9**
	comp=Z,12nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**23.48**	**307**	*eP*	**P**	**02 06 46.2**	**+0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
ULN	**Ulaanbaatar**	**23.48**	**307**	*eP*	**P**	**02 06 46.2**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.5						
SONM	**Songino Array**	**23.89**	**306**	P	**P**	**02 06 49.9**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.4,baz=112,slow=8.7,SNR=7.5						
MKAR	**Makanchi Array**	**40.07**	**301**	P	**P**	**02 09 08.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.4,baz=84,slow=10,SNR=21						
MKAR				ScP		02 14 18.2	
	comp=Z,0.2nm,0.6s,baz=74,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**40.07**	**301**	P	**P**	**02 09 08.6**	**-0.1**
MKAR				ScP		02 14 18.2	
KURK	**Kurchatov**	**42.19**	**308**	*eP*	**P**	**02 09 25.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.7						
KURK	**Kurchatov**	**42.19**	**308**	*eP*	**P**	**02 09 25.5**	**-0.2**
	comp=Z,3.6nm,1.0s,mb3.7						
JIRN	**Jiri**	**42.19**	**272**	*eP*	**P**	**02 09 26.9**	**+0.9**
	comp=Z,6.7nm,0.5s,mb4.2						
GUN	**Gumba**	**42.34**	**273**	*eP*	**P**	**02 09 28.2**	**+1.0**
	comp=Z,18nm,0.8s,mb4.5						
KKN	**Kakani**	**42.87**	**273**	*eP*	**P**	**02 09 32.4**	**+1.0**
	comp=Z,12nm,0.6s,mb4.4						
KKN	**Kakani**	**42.87**	**273**	*eP*	**P**	**02 09 32.4**	**+1.0**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
GKN	**Gorkha**	**43.29**	**273**	*eP*	**P**	**02 09 35.1**	**+0.3**
KOLN	**Koldanda**	**44.22**	**274**	*eP*	**P**	**02 09 41.4**	**-0.8**
	comp=Z,10nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**47.06**	**312**	P	**P**	**02 10 03.8**	**-0.1**
	comp=Z,1.2nm,0.4s,mb3.5,baz=82,slow=8.2,SNR=16						
BRVK	**Borovoye**	**47.12**	**312**	*eP*	**P**	**02 10 04.5**	**+0.1**
AKTK	**Aktyubinsk**	**55.12**	**310**	P	**P**	**02 11 02.4**	**-1.1**
AKTO	**Aktyubinsk**	**55.12**	**310**	P	**P**	**02 11 02.4**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.0,baz=73,slow=14,SNR=3.8						
WRAB	**Tennant Creek**	**56.54**	**181**	*eP*	**P**	**02 11 13.3**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.1						
WRAB	**Tennant Creek**	**56.54**	**181**	*eP*	**P**	**02 11 13.3**	**-0.6**
	comp=Z,3.9nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**56.55**	**181**	P	**P**	**02 11 13.6**	**-0.4**
	comp=Z,2.9nm,0.3s,mb4.0,baz=358,slow=7.6,SNR=26						
INK	**Inuvik**	**56.68**	**26**	*eP*	**P**	**02 11 14.4**	**+0.2**
ARCES	**ARCESS Array B**	**62.36**	**338**	P	**P**	**02 11 53.2**	**+0.9**
	comp=Z,3.2nm,1.0s,mb3.8,baz=72,slow=7.7,SNR=4.5						
FINES	**FINESS Array B**	**66.60**	**330**	P	**P**	**02 12 19.2**	**-0.1**
	comp=Z,4.4nm,1.0s,mb4.0,baz=90,slow=3.8,SNR=11						
FINES	**FINESS Array B**	**66.60**	**330**	P	**P**	**02 12 19.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	**Malin Array Be**	**71.36**	**320**	P	**P**	**02 12 48.5**	**+0.3**
	comp=Z,1.6nm,0.6s,mb3.7,baz=54,slow=6.1,SNR=6.9						
BRTR	**Keskin Array B**	**75.23**	**309**	P	**P**	**02 13 11.2**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.1,baz=59,slow=7.2,SNR=3.8						
GERES	**GERESS Array B**	**80.16**	**325**	P	**P**	**02 13 38.1**	**+0.9**
	comp=Z,0.1nm,0.3s,mb2.9,baz=117,slow=3.0,SNR=3.7						

IDC 25 02:32:16.0±0.9,7.08N×73.27W,h140km±57km,mb2.7/2, mb1 3.2/4,mb1mx2.9/21,mbtmp3.3/4,Error ellipse: s-maj=112.6km s-min=8.0km az=133.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.44**	**206**	P	P	02 32 56.5	-0.1
	18nm,0.3s,baz=345,slow=2.8,SNR=68						
ROSC				S	S	02 33 28.0	+0.5
	17nm,0.3s,baz=74,slow=19,SNR=10.0						
SDV	**Santo Domingo**	**3.17**	**55**	P	P	02 33 06.4	+0.5
	6.2nm,0.3s,baz=242,slow=3.7,SNR=50						
SDV				S	S	02 33 43.6	-0.5
	14nm,0.3s,baz=88,slow=23,SNR=32						
TXAR	**Lajitas Array**	**36.19**	**312**	P	P	02 39 05.2	-1.6
	0.2nm,0.6s,baz=121,slow=9.1,SNR=5.2						
YKA	**Yellowknife Ar**	**62.98**	**340**	P	P	02 42 27.3	-2.4
	0.1nm,0.6s,baz=134,slow=6.8,SNR=8.0						

*BJI **25** 02:49:13.8,0.97N×97.48E,h28km,mB4.8,mb4.9,Ms4.5, Ms2.4*
*NEIC **25** 02:49:17.5±0.3,1.30N×97.12E,mb4.6/15,Error ellipse: s-maj=10.0km s-min=6.2km az=225.0*
*IDC **25** 02:49:21.4±4.9,1.45N×97.17E,h52km±43km,mb4.0/12, mb1 4.1/13,mb1mx3.9/19,mbtmp4.2/13,ML3.4/1,MS3.5/2, Ms1 3.5/2,ms1mx3.0/22,Error ellipse: s-maj=39.0km s-min=14.7km az=58.0*
*MOS **25** 02:49:21.3±0.8,1.46N×97.24E,h68km,mb4.6/14,Error ellipse: s-maj=15.8km s-min=9.0km az=105.5*

ISC 25 02:49:15.3±0.4,1.30N±0.06×97.09E±0.06,h21km, h21km±.6km:pP-P,n75,σ1$04/75,mb4.6/38,MS4.1/4,5C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.37**	**51**	P	**Pn**	**02 49 54.7**	**+1.0**
	11nm,0.3s,baz=233,slow=4.9,SNR=67						
PSI				LR	LR	02 50 34.5	
	comp=Z,478nm,21.3s,baz=286,slow=34						
TSI	**Tuntungan**	**2.64**	**34**	P	**Pn**	**02 49 59.1**	**+1.5**
	529nm,1.0s						
PPI	**Padang Panjang**	**3.74**	**118**	P	**Pn**	**02 50 15.3**	**+2.0**
	151nm,0.9s						
IPM	**Ipoh**	**5.11**	**50**	P	**Pn**	**02 50 32.9**	**+0.3**
KULM	**Kulim**	**5.32**	**42**	*eP*	**Pn**	**02 50 35.5**	**-0.2**
KKM	**Kota Kinabalu**	**19.66**	**76**	P	**P**	**02 53 37.1**	**-8.9**
KKM	**Kota Kinabalu**	**19.66**	**76**	*eP*	**P**	**02 53 44.8**	**-1.1**
TSM	**Tawau**	**20.97**	**81**	P	**P**	**02 53 48.5**	**-11**
KMI	**Kunming**	**24.30**	**13**	P	**P**	**02 54 34.8**	**+2.1**
KMI				AP		02 54 40.9	
KMI				XP		02 54 43.8	
KMI				PP	PP	02 55 08.5	+0.5
KMI				S	**S**	**02 58 51.0**	**+3.5**
KMI				XS		02 59 02.3	
KMI				SS	SS	02 59 44.8	+3.5
KMI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=N,570nm,13.8s,MS4.3						
KMI				LR	LR		
	comp=E,310nm,13.2s,MS4.3						
KMI				LR	LR		
	comp=Z,630nm,13.5s,MS4.3						
GYA	**Guiyang**	**26.66**	**19**	*iP*	**P**	**02 54 54.0**	**-0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
JIRN	**Jiri**	**28.21**	**339**	*eP*	**P**	**02 55 10.2**	**+1.3**
	comp=Z,67nm,1.0s,mb5.2						
PKI	**Pulchoki**	**28.42**	**338**	*eP*	**P**	**02 55 11.7**	**+0.9**
	comp=Z,24nm,0.9s,mb4.8						
PKI	**Pulchoki**	**28.42**	**338**	*eP*	**P**	**02 55 11.7**	**+0.9**
PKI				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
GUN	**Gumba**	**28.55**	**339**	*eP*	**P**	**02 55 13.1**	**+1.1**
	comp=Z,48nm,0.8s,mb5.3						
DMN	**Daman**	**28.57**	**337**	*eP*	**P**	**02 55 12.9**	**+0.8**
KKN	**Kakani**	**28.66**	**338**	*eP*	**P**	**02 55 14.0**	**+1.0**
	comp=Z,39nm,1.0s,mb5.1						
KKN	**Kakani**	**28.66**	**338**	*eP*	**P**	**02 55 14.0**	**+1.0**
KKN				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
LSA	**Lhasa**	**28.80**	**349**	P	**P**	**02 55 14.0**	**-0.2**
LSA	**Lhasa**	**28.80**	**349**	*eP*	**P**	**02 55 15.6**	**+1.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**28.80**	**349**	*eP*	**P**	**02 55 15.6**	**+1.4**
	comp=Z,7.0nm,0.6s,mb4.6						
GKN	**Gorkha**	**29.10**	**337**	*eP*	**P**	**02 55 17.9**	**+1.0**
	comp=Z,38nm,0.9s,mb5.1						
KOLN	**Koldanda**	**29.32**	**335**	*eP*	**P**	**02 55 19.9**	**+1.0**
	comp=Z,30nm,0.7s,mb5.1						
ENH	**Enshi**	**31.13**	**21**	*eP*	**P**	**02 55 33.3**	**-1.5**
	comp=Z,31nm,0.8s,mb5.2						
ENH				*e*	pP	02 55 40.0	-1.2
FITZ	**Fitzroy Crossi**	**34.08**	**126**	*eP*	**P**	**02 55 59.5**	**-1.2**
XAN	**Xi'an**	**34.40**	**18**	P	**P**	**02 56 01.8**	**-1.5**
XAN				AP	pP	02 56 08.0	-1.7
XAN				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2	**Nanjing**	**36.84**	**32**	*eP*	**P**	**02 56 23.0**	**-1.0**
NJ2				AP	pP	02 56 29.0	-1.4
NJ2				XP	sP	02 56 31.0	-2.1
NJ2				PP	PP	02 57 48.5	-1.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,100nm,10.8s						
NJ2				LR	LR		
	comp=N,1μm,19.1s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,18.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,23.5s,MS4.6						
SSE	**Sheshan**	**37.40**	**35**	*eP*	**P**	**02 56 27.3**	**-1.4**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,20nm,3.5s						
SSE				LR	LR		
	comp=N,60nm,17.2s,MS3.5						
SSE				LR	LR		
	comp=E,20nm,17.2s,MS3.5						
SSE				LR	LR		
	comp=Z,80nm,17.9s,MS3.6						
KAKA	**Kakadu**	**37.75**	**113**	*eP*	Px	02 56 52.6	
	comp=Z,7.7nm,0.8s						
GTA	**Gaotai**	**38.01**	**3**	*eP*	**P**	**02 56 34.1**	**+0.3**
GTA				AP	pP	02 56 41.3	+1.1
GTA				XP	sP	02 56 45.3	+2.4
HHC	**Hu-ho-hao-te**	**41.49**	**17**	*eP*	**P**	**02 57 04.0**	**+1.4**
HHC				AP	pP	02 57 09.9	+0.8
HHC				XP	sP	02 57 13.3	+1.6
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,130nm,4.4s						
WRA	**Warramunga Arr**	**42.18**	**122**	P	**P**	**02 57 08.1**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=26						
WRAB	**Tennant Creek**	**42.19**	**122**	*eP*	**P**	**02 57 08.7**	**0.0**
WB2	**Warramunga Arr**	**42.20**	**122**	*eP*	**P**	**02 57 08.5**	**-0.2**
ASPA	**Alice Springs**	**43.54**	**127**	*eP*	**P**	**02 57 19.7**	**0.0**
AAK	**Ala-Archa**	**45.86**	**337**	*iP*	**P**	**02 57 38.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.0s,mb4.2						
AAK	**Ala-Archa**	**45.86**	**337**	*eP*	**P**	**02 57 38.7**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.2						
SONM	**Songino Array**	**47.05**	**9**	P	**P**	**02 57 47.6**	**+0.3**
	comp=Z,6.9nm,0.8s,mb4.7,baz=189,slow=8.9,SNR=58						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**02 57 48.1**	**+0.3**
	comp=Z,4.6nm,0.7s,mb4.5,baz=159,slow=8.0,SNR=60						
MKAR	**Makanchi Array**	**47.12**	**346**	*eP*	**P**	**02 57 48.0**	**+0.2**
ULN	**Ulaanbaatar**	**47.18**	**9**	*eP*	**P**	**02 57 48.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**47.18**	**9**	*eP*	**P**	**02 57 48.3**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.5						
ULN				*e*	pP	02 57 54.8	0.0
ZAK	**Zakamensk**	**49.18**	**5**	*eP*	**P**	**02 58 03.4**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,9.0nm,2.2s,mb4.4						
KURK	**Kurchatov**	**51.66**	**345**	*eP*	**P**	**02 58 22.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**51.66**	**345**	*eP*	**P**	**02 58 22.4**	**-0.3**
	comp=Z,4.2nm,0.8s,mb4.4						
CTA	**Charters Tower**	**52.65**	**117**	P	**P**	**02 58 31.9**	**+1.3**
	comp=Z,2.4nm,0.8s,mb4.2,baz=309,slow=8.2,SNR=4.0						
STKA	**Stephens Creek**	**53.51**	**132**	P	**P**	**02 58 36.9**	**0.0**
	comp=Z,3.5nm,0.7s,mb4.4,baz=284,slow=21,SNR=6.3						
STKA				LR	LR	03 22 18.2	
	comp=Z,124nm,18.4s,MS4.0,baz=26,slow=37						
NVS	**Novosibirsk**	**54.56**	**350**	*eP*	**P**	**02 58 41.1**	**-3.1**
BRVK	**Borovoye**	**56.18**	**341**	*eP*	**P**	**02 58 54.9**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**56.18**	**341**	*eP*	**P**	**02 58 54.9**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.2						
BOD	**Bodaibo**	**57.93**	**11**	*eP*	**P**	**02 58 59.4**	**-8.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
AKTK	**Aktyubinsk**	**59.09**	**332**	P	**P**	**02 59 15.6**	**-0.9**
AKTO	**Aktyubinsk**	**59.09**	**332**	P	**P**	**02 59 15.6**	**-0.9**
	comp=Z,5.4nm,1.1s,mb4.5,baz=134,slow=7.2,SNR=16						
ARU	**Arti**	**63.05**	**337**	*iP*	**P**	**02 59 41.6**	**-1.6**
ARU				*e*		03 02 01.2	
ARU				*e*PPP	PPP	03 03 28.5	-6.0
ARU				*e*S	**S**	**03 08 14.8**	**+3.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
YAK	**Yakutsk**	**65.36**	**16**	*eP*	**P**	**02 59 56.7**	**-1.4**
YAK				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
BR131	**Keskin Array S**	**68.96**	**312**	*eP*	**P**	**03 00 20.7**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.9						
BRTR	**Keskin Array B**	**68.96**	**312**	P	**P**	**03 00 20.6**	**-0.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=119,slow=7.5,SNR=6.1						
OBN	**Obninsk**	**72.47**	**328**	*eP*	**P**	**03 00 41.0**	**-1.2**
OBN				*e*		03 03 25.7	
OBN				*e*S	S	03 10 05.2	+1.5
OBN				pmax	pmax		
	comp=Z,19nm,1.9s,mb4.7						
MAW	**Mawson**	**72.78**	**193**	P	**P**	**03 00 46.2**	**+2.4**
	comp=Z,4.6nm,0.3s,mb4.9,baz=284,slow=2.4,SNR=8.9						
TIXI	**Tiksi**	**73.11**	**10**	*iP*	**P**	**03 00 44.5**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
SEY	**Seymchan**	**73.71**	**23**	*iP*	**P**	**03 00 48.5**	**-0.8**
AKASG	**Malin Array Be**	**75.11**	**322**	P	**P**	**03 00 56.7**	**-1.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=89,slow=4.8,SNR=8.5						
AKASG	**Malin Array Be**	**75.11**	**322**	P	**P**	**03 00 56.7**	**-1.0**
JOF	**Joensuu**	**78.00**	**335**	*ep*	**P**	**03 01 13.8**	**+0.2**
FINES	**FINESS Array B**	**79.86**	**333**	P	**P**	**03 01 23.8**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=117,slow=4.3,SNR=9.5						
KAF	**Kangasniemi**	**79.94**	**333**	*ep*	**P**	**03 01 24.1**	**0.0**
BILL	**Bilibino**	**81.11**	**21**	*eP*	**P**	**03 01 29.1**	**-1.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
ARCES	**ARCESS Array B**	**82.40**	**340**	P	**P**	**03 01 37.5**	**+0.6**
	comp=Z,5.8nm,1.1s,mb4.4,baz=96,slow=5.1,SNR=9.3						
GERES	**GERESS Array B**	**84.66**	**319**	P	**P**	**03 01 49.1**	**+0.3**
	comp=Z,0.7nm,0.8s,mb3.9,baz=108,slow=4.2,SNR=8.1						
MOX	**Moxa**	**86.12**	**320**	*eP*	**P**	**03 01 50.0**	**-6.1**
GRA1	**Grafenberg Arr**	**86.33**	**320**	*eP*	**P**	**03 01 58.0**	**+0.9**
	comp=Z,1.0nm,0.8s,mb4.1						
GRF	**Grafenberg Arr**	**86.33**	**320**	*eP*	**P**	**03 01 58.0**	**+0.9**
GRF				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.1						
GRF	**Grafenberg Arr**	**86.33**	**320**	*eP*	**P**	**03 01 58.0**	**+0.9**
GRF				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.1						
GRF	**Grafenberg Arr**	**86.33**	**320**	*eP*	**P**	**03 01 58.0**	**+0.9**
	comp=Z,1.0nm,0.8s,mb4.1						
IMA2	**Indian Mountai**	**96.53**	**23**	*eP*	**P**	**03 02 44.2**	**-0.1**
TXAR	**Lajitas Array**	**143.64**	**31**	PKP	PKPdf	03 08 48.7	-4.9
	comp=Z,0.5nm,0.7s,baz=183,slow=0.3,SNR=12						

*IDC **25** 03:14:33.4±5.6,41.48N×144.03E,mb3.8/3,mb1 3.8/4, mb1mx3.5/20,mbtmp3.8/4,ML3.9/1,Error ellipse: s-maj=103.3km s-min=64.5km az=119.0*
*JMA **25** 03:14:50.0±0.1,42.35N×143.12E,h50km±1km,M3.3*

ISC 25 03:14:48.5±0.8,42.31N±0.06×143.13E±0.06,h65km±5km, n14,σ0$95/22,mb3.4/3,3C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.28**	**264**	*i*P	**P**	**03 14 58.8**	**-0.2**
JNBK				*e*S	**S**	**03 15 05.9**	**-0.9**
JEM	**Erimo**	**0.30**	**176**	*i*P	**P**	**03 14 59.6**	**+0.5**
JEM				*e*S	**S**	**03 15 06.8**	**-0.2**
JCH	**Churui**	**0.35**	**30**	*i*P	**P**	**03 14 59.1**	**-0.4**
JCH				S	**S**	**03 15 06.6**	**-1.1**
JBT2	**Biratori 2**	**0.73**	**310**	*i*P	**P**	**03 15 04.0**	**+0.5**
JOB	**Onbets**	**0.79**	**41**	*i*P	**P**	**03 15 05.2**	**+1.0**
JOB				*e*S	**S**	**03 15 16.8**	**+0.9**
JFR	**Furan**	**0.94**	**335**	P	**P**	**03 15 05.5**	**-0.6**
JFR				S	**S**	**03 15 17.4**	**-1.9**
JAR	**Ashorobuto**	**1.09**	**25**	P	**P**	**03 15 08.4**	**+0.2**
JAR				S	**S**	**03 15 22.3**	**-0.5**
JAK	**Akkeshi**	**1.34**	**59**	P	**P**	**03 15 11.4**	**-0.3**
JAK				*e*S	**S**	**03 15 29.4**	**+0.5**
JEW	**Eniwo**	**1.35**	**294**	*i*P	**P**	**03 15 12.7**	**+0.9**
JEW				*e*S	**S**	**03 15 30.6**	**+1.6**
JAB	**Ashibetsu**	**1.37**	**331**	P	**P**	**03 15 12.9**	**+0.9**
ASAJ	**Asahikawa**	**1.85**	**348**	Pn	**P**	**03 15 20.1**	**+1.5**
	14nm,0.3s,baz=203,slow=14,SNR=34						
SONM	**Songino Array**	**26.35**	**295**	P	**P**	**03 20 18.7**	**-1.2**
	0.2nm,0.5s,mb2.8,baz=74,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**42.64**	**298**	P	**P**	**03 22 40.2**	**+0.4**
	0.5nm,0.6s,mb3.4,baz=82,slow=9.5,SNR=6.4						
FINES	**FINESS Array B**	**64.78**	**332**	P	**P**	**03 25 19.9**	**-1.9**
	2.3nm,0.9s,mb4.0,baz=56,slow=5.0,SNR=6.7						

*ROM **25** 03:15:11.6±0.1,45.98N×11.07E,h17km±1km,Md2.6/15, Ml2.1/11,Error ellipse: s-maj=1.5km s-min=1.3km az=38.0*
*CSEM **25** 03:15:11.7±0.1,45.97N×11.11E,h12km,ML2.8/17,Error ellipse: s-maj=1.7km s-min=1.5km az=147.0*
*ZUR **25** 03:15:12.1,45.97N×11.05E,h10km,ML2.2/5*
*PRU **25** 03:15:16.6,46.14N×11.24E*
*LDG **25** 03:15:19.8±0.7,45.98N×10.53E,h10km,Ml2.1/5,Error ellipse: s-maj=15.4km s-min=4.9km az=96.0*

ISC 25 03:15:11.6±0.2,46.00N±0.02×11.09E±0.02,h8km±3km, n66,σ1$11/106,10C-10D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTI	**Castel Tesino**	**0.39**	**83**	Pg	**Pg**	**03 15 19.9**	**+0.4**

FIU					Sg		**Sg**	03 15 58.6	+0.7
	61nm,0.4s								
MUGIO	**Muggio**	**1.43**	**268**		Pg		**Pg**	03 15 38.3	-1.9
MUGIO					Sg		**Sg**	03 15 59.3	0.0
MUGIO	**Muggio**	**1.43**	**268**	⇓	*i*Pn		**Pn**	03 15 38.2	+0.2
BUA	**Buia**	**1.43**	**81**	⇑	*e*Pg		**Pg**	03 15 38.9	-1.2
BUA					*e*Sg		**Sg**	03 15 59.5	+0.3
GMNA	**Gemona**	**1.52**	**79**		Pg		**Pg**	03 15 39.1	-2.8
GMNA					Sg		**Sg**	03 15 59.8	-2.4
	49nm,0.4s								
DAVA	**Damuels**	**1.53**	**328**	⇓	*i*Pg		**Pg**	03 15 41.9	-0.3
DAVA	**Damuels**	**1.53**	**328**		Pg		**Pg**	03 15 41.9	-0.3
DAVA					Sg		**Sg**	03 16 01.5	-1.1
	5.4nm,0.3s								
PTCC	**Patocco-Chiusa**	**1.62**	**75**		Pg		**Pg**	03 15 41.7	-2.3
PTCC					Sg		**Sg**	03 16 05.3	-0.4
	16nm,0.2s								
ROBS	**Robic**	**1.70**	**81**	*i*	Pn		**Pn**	03 15 43.3	+1.5
ROBS				*i*	Sn		**Sn**	03 16 05.2	+1.2
	comp=Z,2.0nm,0.1s								
FUSIO	**Fusio**	**1.74**	**286**	⇑	*i*Pn		**Pn**	03 15 44.5	+2.1
CADS	**Cadrg**	**1.86**	**82**	*i*	Pn		**Pn**	03 15 44.4	+0.3
KBA	**Koelnbreinsper**	**1.89**	**54**	⇓	*i*Pn		**Pn**	03 15 46.3	+1.8
KBA	**Koelnbreinsper**	**1.89**	**54**		Pn		**Pn**	03 15 46.3	+1.7
KBA					Sg		**Sg**	03 16 13.9	-0.7
	comp=Z,4.9nm,0.2s								
VOJS	**Vojsko**	**1.95**	**88**	*i*	Pn		**Pn**	03 15 45.3	0.0
VOJS				*i*	Sn		**Sn**	03 16 07.3	-3.0
OBKA	**Obir**	**2.45**	**77**	⇑	Pg		**Pg**	03 16 01.2	+0.6
OBKA	**Obir**	**2.45**	**77**	⇑	*i*Pn		**Pn**	03 15 55.0	+2.4
OBKA	**Obir**	**2.45**	**77**	⇑	*i*Pg		**Pg**	03 16 01.2	+0.6
OBKA	**Obir**	**2.45**	**77**	⇑	*i*Sn		**Sn**	03 16 25.9	+2.9
OBKA				⇓	*i*Sg		**Sg**	03 16 35.3	+2.0
	comp=Z,3.8nm,0.3s								
OBKA	**Obir**	**2.45**	**77**		Pg		**Pg**	03 16 01.2	+0.6
OBKA					Sn		**Sn**	03 16 25.9	+2.8
LPL	**La Plagne**	**3.09**	**263**		*e*Pn		**Pn**	03 16 01.3	-0.3
MBDF	**Montbardon**	**3.30**	**249**		*e*Pn		**Pn**	03 16 05.2	+0.6
SBF	**Sospel**	**3.36**	**232**		*e*Sn		**Sn**	03 16 41.1	-5.0
	comp=Z,3.5nm,0.3s								
HINF	**Hinteralfeld**	**3.42**	**304**		*e*Pn		**Pn**	03 16 07.2	+0.8
HINF					*e*Sn		**Sn**	03 16 42.2	-5.5
	comp=Z,1.7nm,0.4s								
CDF	**Champ du Feu**	**3.55**	**314**		*e*Pn		**Pn**	03 16 09.8	+1.7
KHC	**Kasperske Hory**	**3.56**	**27**		*e*PN		**Pn**	03 16 09.3	+1.0
KHC					*e*PG		**Pg**	03 16 17.1	-5.5
KHC					*e*SN		**Sn**	03 16 49.4	-1.6
KHC					*e*SG		**Sg**	03 17 04.3	-5.7
HAU	**Haudompre**	**3.81**	**303**		*e*Pn		**Pn**	03 16 12.7	+0.8
ORIF	**Oris-en-Rattie**	**3.82**	**255**		*e*Pn		**Pn**	03 16 12.0	-0.1
FRF	**La Foret Royal**	**3.99**	**234**		*e*Pn		**Pn**	03 16 14.7	+0.2
FRF					*e*Sn		**Sn**	03 16 56.1	-6.0
	comp=Z,0.8nm,0.3s								
LMR	**La Mourre**	**4.22**	**232**		*e*Sn		**Sn**	03 17 01.3	-6.5
	comp=Z,0.4nm,0.2s								
NKC	**Novy Kostel**	**4.33**	**12**		*e*SG		**Sg**	03 17 29.9	-5.9
VIVF	**Saint-Julien-l**	**4.66**	**258**		*e*Pn		**Pn**	03 16 22.6	-1.4
SMF	**Signal de Mont**	**5.06**	**280**		*e*Pn		**Pn**	03 16 28.7	-1.0
SMF					*e*Sn		**Sn**	03 17 19.7	-9.4
	comp=Z,0.4nm,0.2s								
LOR	**Lormes**	**5.14**	**287**		*e*Pn		**Pn**	03 16 30.5	-0.2
AVF	**Avril sur Loir**	**5.41**	**281**		*e*Pn		**Pn**	03 16 32.9	-1.7
LASF	**Ste Croix**	**5.47**	**252**		*e*Pn		**Pn**	03 16 33.6	-1.9
BGF	**Bois d'Agland**	**5.74**	**279**		*e*Pn		**Pn**	03 16 38.2	-1.0

*BJI **25** 03:16:40.0, 4.50S×102.90E, h44km, mB5.2, mb4.9, Ms4.8*
*NEIC **25** 03:16:40.9±0.8, 4.49S×102.90E, h44km±6km, mb5.0/17, Error ellipse: s-maj=9.9km s-min=5.7km az=49.0*
*MOS **25** 03:16:42.7±1.0, 4.20S×103.07E, h69km, mb4.9/14, Error ellipse: s-maj=16.4km s-min=7.5km az=119.9*
*IDC **25** 03:16:44.9±3.8, 4.42S×102.90E, h77km±33km, mb4.3/14, mb1 4.3/15, mb1mx4.3/17, mbtmp4.5/15, MS3.4/6, Ms1 3.4/6, ms1mx3.2/30, Error ellipse: s-maj=25.8km s-min=13.0km az=45.0*

ISC 25 03:16:47.8±1.1,**4.33S**±0.06×**103.06E**±0.08,**h118**km±10km, **n117,σ1§09/100,mb4.6/45,14C-1D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBJI	**Citeko**	**4.31**	**119**	P	**P**	**03 17 53.6**	**+1.0**
	468nm,0.8s						
LEM	**Lembang**	**5.17**	**119**	P	**P**	**03 18 04.2**	**0.0**
	114nm,0.9s						
KGM	**Kluang**	**6.31**	**2**	P	**P**	**03 18 19.3**	**-0.4**
PSI	**Prapat**	**8.20**	**330**	P	**P**	**03 18 39.4**	**-5.9**
	0.5nm,0.3s,baz=151,slow=13,SNR=2.1						
PSI				LR	LR	03 22 24.7	
	comp=Z,135nm,19.4s,baz=149,slow=42						
PSI	**Prapat**	**8.20**	**330**	P	**P**	**03 18 39.4**	**-5.9**
PSI				LR	LR	03 22 24.7	
IPM	**Ipoh**	**9.08**	**347**	P	**P**	**03 18 58.7**	**+1.5**
COCO	**West Island**	**9.94**	**218**	*e*P	**P**	**03 18 56.6**	**-12**
	225nm,0.8s						
KKM	**Kota Kinabalu**	**16.70**	**52**	P	**P**	**03 20 40.7**	**+4.5**
KKM	**Kota Kinabalu**	**16.70**	**52**	*e*pP		03 20 45.0	
TSM	**Tawau**	**17.11**	**60**	P	**P**	**03 20 45.6**	**+4.4**
MBWA	**Marble Bar**	**23.28**	**137**	*e*P	**P**	**03 21 46.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**25.99**	**124**	*e*P	**P**	**03 22 11.2**	**-0.4**
	10nm,0.6s,mb4.4						
GYA	**Guiyang**	**30.81**	**6**	P	**P**	**03 22 55.9**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**34.19**	**120**	P	**P**	**03 23 23.2**	**-0.9**
	comp=Z,7.5nm,0.7s,mb4.7,baz=300,slow=8.9,SNR=69						
WRAB	**Tennant Creek**	**34.20**	**120**	*e*P	**P**	**03 23 23.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**34.20**	**120**	*e*P	**P**	**03 23 23.5**	**-0.6**
	comp=Z,15nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**34.20**	**120**	*e*P	**P**	**03 23 23.3**	**-0.9**
ENH	**Enshi**	**34.96**	**10**	*e*P	**P**	**03 23 30.5**	**0.0**
	comp=Z,9.3nm,0.7s,mb4.7						
ASPA	**Alice Springs**	**35.42**	**126**	*e*P	**P**	**03 23 34.2**	**-0.3**
JIRN	**Jiri**	**35.73**	**334**	*e*P	**P**	**03 23 37.1**	**0.0**
	comp=Z,40nm,0.9s,mb5.3						
GUN	**Gumba**	**36.08**	**334**	*e*P	**P**	**03 23 39.8**	**-0.2**
	comp=Z,58nm,0.7s,mb5.6						
DMN	**Daman**	**36.17**	**332**	*e*P	**P**	**03 23 40.4**	**-0.4**
KKN	**Kakani**	**36.25**	**333**	*e*P	**P**	**03 23 41.3**	**-0.1**
	comp=Z,30nm,0.6s,mb5.4						
KKN	**Kakani**	**36.25**	**333**	*e*P	**P**	**03 23 41.3**	**-0.1**
KKN				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
WHN	**Wuhan**	**36.32**	**17**	*e*P	**P**	**03 23 44.0**	**+1.9**
GKN	**Gorkha**	**36.73**	**332**	*e*P	**P**	**03 23 45.1**	**-0.4**
	comp=Z,17nm,0.4s,mb5.3						
KOLN	**Koldanda**	**37.02**	**331**	*e*P	**P**	**03 23 48.0**	**0.0**
	comp=Z,60nm,0.8s,mb5.6						
XAN	**Xi'an**	**38.57**	**8**	P	**P**	**03 24 02.1**	**+1.3**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
NJ2	**Nanjing**	**39.18**	**21**	*e*P	**P**	**03 24 03.1**	**-2.8**
NJ2				PP	PP	03 25 37.1	-4.1
NJ2				S	**S**	**03 29 59.0**	**+2.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,160nm,4.8s						
NJ2				LR	LR		
	comp=N,240nm,26.6s						
NJ2				LR	LR		
	comp=E,450nm,21.2s						
SSE	**Sheshan**	**39.25**	**25**	*e*P	**P**	**03 24 05.0**	**-1.5**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,80nm,3.5s						
JOW	**Kunigami**	**39.43**	**37**	LR	LR	03 39 47.3	
	comp=Z,58nm,18.6s,baz=300,slow=35						
GTA	**Gaotai**	**43.63**	**356**	*e*P	**P**	**03 24 43.3**	**+1.1**
GTA				PP	PP	03 26 29.3	+2.0
PMG	**Port Moresby**	**44.05**	**99**	P	**P**	**03 24 45.9**	**0.0**
	comp=Z,9.2nm,0.7s,mb4.6,baz=222,slow=4.6,SNR=4.1						
CTA	**Charters Tower**	**44.86**	**114**	⇑ *i*P		**P**	**03 24 52.8**	**+0.5**
	comp=Z,20nm,0.8s,mb4.9						
CTA	**Charters Tower**	**44.86**	**114**	P		**P**	**03 24 53.0**	**+0.6**
	comp=Z,26nm,0.8s,mb5.0,baz=289,slow=9.9,SNR=57						
CTA	**Charters Tower**	**44.86**	**114**	⇑ *i*P		**P**	**03 24 52.8**	**+0.5**
CTA				pmax	pmax		
	comp=Z,20nm,0.8s						
CTAO	**Charters Tower**	**44.86**	**114**	*e*P		**P**	**03 24 52.7**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
CTAO	**Charters Tower**	**44.86**	**114**	*e*P		**P**	**03 24 52.7**	**+0.4**
	comp=Z,29nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**45.33**	**132**	⇑ *i*P		**P**	**03 24 56.2**	**+0.2**
	comp=Z,22nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**45.33**	**132**	P		**P**	**03 24 56.5**	**+0.6**
	comp=Z,31nm,0.6s,mb5.2,baz=307,slow=8.2,SNR=104						
STKA				LR		LR	03 43 08.0	
	comp=Z,161nm,18.8s,baz=25,slow=35						
HHC	**Hu-ho-hao-te**	**45.63**	**9**	*e*P		**P**	**03 25 01.0**	**+2.8**
HHC				AP		pP	03 25 07.1	-18
HHC				XP		sP	03 25 14.0	-25
HHC				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
HHC				AMB		AMB		
	comp=Z,110nm,3.7s							
CN2	**Changchun**	**51.99**	**20**	*e*P		**P**	**03 25 47.1**	**0.0**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
SONM	**Songino Array**	**52.03**	**3**	P		**P**	**03 25 48.5**	**+1.1**
	comp=Z,22nm,0.8s,mb5.3,baz=182,slow=9.1,SNR=158							
ULN	**Ulaanbaatar**	**52.10**	**3**	⇑ *e*P		**P**	**03 25 47.0**	**-0.9**
ULN	**Ulaanbaatar**	**52.10**	**3**	*e*P		**P**	**03 25 48.8**	**+1.0**
	comp=Z,11nm,0.9s,mb4.9							
MJAR	**Matsushiro Arr**	**52.26**	**36**	P		**P**	**03 25 49.5**	**+0.2**
	comp=Z,5.4nm,0.9s,mb4.6,baz=219,slow=6.9,SNR=13							
UCH	**Uchtor**	**53.10**	**334**	P		**P**	**03 25 55.6**	**+0.2**
	SNR=7.0							
TKM2	**Tokmak 2**	**53.20**	**335**	P		**P**	**03 25 56.0**	**-0.2**
	SNR=14							
TKM2	**Tokmak 2**	**53.20**	**335**	P		**P**	**03 25 55.1**	**-1.1**
TKM2				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
AML	**Almayashu**	**53.39**	**333**	P		**P**	**03 25 57.1**	**-0.5**
	SNR=8.8							
AAK	**Ala-Archa**	**53.44**	**334**	⇑ *e*P		**P**	**03 25 56.0**	**-1.9**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
AAK	**Ala-Archa**	**53.44**	**334**	*e*P		**P**	**03 25 55.7**	**-2.3**
	comp=Z,4.5nm,1.1s,mb4.4							
EKS2	**Erkin-Say**	**53.78**	**333**	P		**P**	**03 26 00.1**	**-0.3**
	SNR=15							
USP	**Ospenovka**	**53.95**	**334**	P		**P**	**03 26 00.9**	**-0.7**
	SNR=8.5							
MKAR	**Makanchi Array**	**54.12**	**343**	P		**P**	**03 26 02.3**	**-0.5**
	comp=Z,16nm,0.7s,mb5.2,baz=145,slow=7.9,SNR=187							
MKAR				LR		LR	03 51 13.8	
	comp=Z,39nm,18.1s,baz=144,slow=38							
MKAR	**Makanchi Array**	**54.12**	**343**	⇑ *i*P		**P**	**03 26 01.9**	**-0.9**
MKAR				pmax		pmax		
	comp=Z,16nm,0.7s							
KKAR	**Karatay Array**	**55.63**	**331**	*e*P		**P**	**03 26 12.1**	**-1.7**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
KURK	**Kurchatov**	**58.72**	**342**	*e*P		**P**	**03 26 34.3**	**-1.2**
KURK				pmax		pmax		
	comp=Z,23nm,0.9s,mb5.2							
KURK	**Kurchatov**	**58.72**	**342**	*e*P		**P**	**03 26 34.3**	**-1.2**
	comp=Z,23nm,0.9s,mb5.2							
NVS	**Novosibirsk**	**61.22**	**347**	*e*P		**P**	**03 26 50.2**	**-2.3**
NVS				pmax		pmax		
	comp=N,6.0nm,1.2s							
NVS				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.8							
BOD	**Bodaibo**	**62.58**	**7**	*e*P		**P**	**03 27 00.6**	**-0.9**
BOD				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
VOSK	**Vostochnaya**	**62.98**	**339**	P		**P**	**03 27 02.1**	**-2.1**
VOSK				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
BVA0	**Borovoye Array**	**63.43**	**339**	*i*P		**P**	**03 27 05.6**	**-1.6**
BRVK	**Borovoye**	**63.50**	**339**	*e*P		**P**	**03 27 06.0**	**-1.6**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
BRVK	**Borovoye**	**63.50**	**339**	*e*P		**P**	**03 27 06.0**	**-1.6**
	comp=Z,3.3nm,0.7s,mb4.4							
AB31	**Akbulak array**	**65.15**	**330**	*i*P		**P**	**03 27 16.9**	**-1.5**
AB31				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.2							
KMBO	**Kilima Mbogo**	**65.79**	**271**	P		**P**	**03 27 22.2**	**-1.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=54,slow=13,SNR=4.8							
KMBO	**Kilima Mbogo**	**65.79**	**271**	⇑ *i*P		**P**	**03 27 22.7**	**-0.4**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.8s							
KMBO	**Kilima Mbogo**	**65.79**	**271**	P		**P**	**03 27 22.2**	**-1.0**
MAW	**Mawson**	**68.82**	**195**	LR		LR	03 50 38.3	
	comp=Z,99nm,18.6s,baz=244,slow=30							
YAK	**Yakutsk**	**69.26**	**13**	*i*P		**P**	**03 27 43.2**	**-0.7**
YAK				pmax		pmax		
	comp=Z,20nm,1.0s,mb4.9							
ARU	**Arti**	**70.56**	**336**	⇑ *i*P		**P**	**03 27 50.8**	**-1.1**
ARU				*e*			03 30 24.0	
ARU				*e*PPP		PPP	03 32 09.4	-3.0
ARU				*e*S		S	03 37 02.7	+8.3
ARU				*e*SS		SS	03 41 30.9	+0.9
ARU				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.5							
ARU	**Arti**	**70.56**	**336**	*e*P		**P**	**03 27 50.6**	**-1.3**
	comp=Z,4.6nm,0.9s,mb4.3							
VRHR	**Novokhopersk**	**75.97**	**325**	*e*P		**P**	**03 28 22.5**	**-0.9**
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.7							
VRHR				pmax		pmax		
	comp=N,10.0nm,0.7s							
VRHR				pmax		pmax		
	comp=E,20nm,0.8s							
BR131	**Keskin Array S**	**77.14**	**312**	*e*P		**P**	**03 28 29.6**	**-0.6**
	comp=E,4.4nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**77.14**	**312**	P		**P**	**03 28 29.7**	**-0.5**
	comp=E,4.0nm,0.8s,mb4.2,baz=134,slow=8.4,SNR=25							
VRSR	**Storozhevoye**	**77.41**	**325**	*e*P		**P**	**03 28 30.6**	**-0.9**
VRSR				pmax		pmax		
	comp=N,1.0nm,0.9s							
VRSR				pmax		pmax		
	comp=E,1.0nm,0.9s							
VRSR				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb3.9							
TIXI	**Tiksi**	**77.69**	**8**	⇑ *e*P		**P**	**03 28 31.5**	**-1.2**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.7s,mb3.9							
VNDA	**Vanda**	**79.30**	**169**	P		**P**	**03 28 41.3**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.7,baz=296,slow=7.6,SNR=3.7							
VNDA	**Vanda**	**79.30**	**169**	*e*P		**P**	**03 28 41.0**	**-0.4**
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
VNDA	**Vanda**	**79.30**	**169**	*e*P		**P**	**03 28 41.0**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.6							
OBN	**Obninsk**	**80.38**	**328**	⇓ *e*P		**P**	**03 28 47.0**	**-0.5**
OBN				*e*S		S	03 38 51.2	+9.2
OBN				pmax		pmax		
	comp=Z,17nm,1.7s,mb4.6							
AKASG	**Malin Array Be**	**83.19**	**322**	P		**P**	**03 29 02.2**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.1,baz=88,slow=4.8,SNR=10							
AKASG	**Malin Array Be**	**83.19**	**322**	P		**P**	**03 29 02.2**	**+0.1**
VRI	**Vrincioaia**	**83.63**	**317**	⇑ P		**P**	**03 29 06.1**	**+1.6**
MLR	**Muntele Rosu**	**84.08**	**316**	⇑ P		**P**	**03 29 08.4**	**+1.7**
BILL	**Bilibino**	**84.29**	**20**	*e*P		**P**	**03 29 07.2**	**-0.1**
BILL				*e*S		S	03 39 27.0	+5.7
BILL				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.6							
BURAR	**Bucovina Array**	**85.02**	**318**	⇑ P		**P**	**03 29 13.1**	**+1.7**
BURAR	**Bucovina Array**	**85.02**	**318**	⇑ P		**P**	**03 29 13.1**	**+1.7**
JOF	**Joensuu**	**85.63**	**334**	*ep*		**P**	**03 29 14.8**	**+0.8**
BZS	**Buzias**	**87.09**	**316**	⇑ P		**P**	**03 29 22.8**	**+1.3**
KOLS	**Kolonicke sedl**	**87.20**	**319**	*e*P		**P**	**03 29 23.5**	**+1.5**
FINES	**FINESS Array B**	**87.58**	**332**	P		**P**	**03 29 24.2**	**+0.7**
	comp=Z,2.7nm,0.9s,mb4.3,baz=118,slow=6.4,SNR=12							
KAF	**Kangasniemi**	**87.64**	**333**	*ep*		**P**	**03 29 24.5**	**+0.7**
STHS	**Stebnicka Huta**	**87.94**	**320**	*e*P		**P**	**03 29 26.7**	**+1.2**
KECS	**Kecovo**	**88.30**	**319**	*e*P		**P**	**03 29 28.3**	**+1.1**
ARCES	**ARCESS Array B**	**89.69**	**340**	P		**P**	**03 29 33.9**	**+0.6**
	comp=Z,1.8nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=8.2							
ZST	**Bratislava**	**90.50**	**318**	*e*P		**P**	**03 29 38.2**	**+0.6**
SNAA	**Sanae**	**90.87**	**198**	LR		LR	04 02 19.8	
	comp=Z,2.8nm,20.8s,baz=48,slow=30							
KOGS	**Kog**	**90.91**	**316**	*e*P		**P**	**03 29 40.9**	**+1.3**
GCIS	**Gornji Cirnik**	**91.28**	**316**	*e*P		**P**	**03 29 42.8**	**+1.5**
GROS	**Grobnik**	**91.42**	**316**	*e*P		**P**	**03 29 43.3**	**+1.4**
GERES	**GERESS Array B**	**92.80**	**319**	P		**P**	**03 29 49.4**	**+1.2**
	comp=Z,0.6nm,0.7s,mb4.0,baz=117,slow=3.0,SNR=5.7							
YKA	**Yellowknife Ar**	**115.66**	**18**	PKP		PKPdf	03 35 17.1	+1.2
	comp=Z,0.3nm,0.8s,baz=321,slow=2.0,SNR=7.0							
YKA	**Yellowknife Ar**	**115.66**	**18**	PKIKP		PKPdf	03 35 17.2	+1.3
ULM	**Lac du Bonnet**	**131.54**	**16**	PKP		PKPdf	03 35 48.3	+1.5
	comp=Z,1.0nm,0.6s,baz=62,slow=6.8,SNR=3.4							
PDAR	**Pinedale Array**	**132.02**	**32**	PKP		PKPdf	03 35 49.0	+1.1
	comp=Z,0.3nm,0.8s,baz=315,slow=2.1,SNR=3.6							
MNTX	**Cornudas Mount**	**141.88**	**41**	*e*PKPpre			03 36 07.4	
BLO	**Bloomington**	**144.25**	**13**	*e*PKIKP	PKPdf		03 36 10.8	+0.7
LTX	**Lajitas**	**144.52**	**43**	*e*PKIKP	PKPdf		03 36 12.7	+1.8
TXAR	**Lajitas Array**	**144.52**	**43**	PKP	PKPdf		03 36 13.3	+2.4
	comp=Z,8.2nm,0.7s,baz=277,slow=1.4,SNR=124							
MCWV	**Mont Chateau**	**144.74**	**4**	*e*PKPdf	PKPdf		03 36 12.5	+1.5
BDFB	**Brasilia**	**145.16**	**235**	PKP	PKPdf		03 36 14.6	+2.3
	comp=Z,6.4nm,0.7s,baz=188,slow=2.0,SNR=11							
WCI	**Wyandotte Cave**	**145.20**	**13**	*e*PKIKP	PKPdf		03 36 13.5	+1.7
JCT	**Junction City**	**146.22**	**37**	*e*PKPdf	PKPdf		03 36 16.4	+2.6
JCT				*e*PKPbc	PKPbc		03 36 18.0	+3.0
WVT	**Waverly**	**146.81**	**16**	*e*PKP2	PKPab		03 36 18.4	-1.9
TZTN	**Tazewell**	**147.38**	**10**	*e*PKPbc	PKPdf		03 36 20.3	+4.8
TZTN				*e*PKPab	PKPab		03 36 22.6	+0.1

*NEIC **25** 03:23:39.6, 38.14S×176.56E, h141km, MG4.1(WEL), After WEL.*

WEL 25 03:23:39.5±0.2,38.12S×176.55E,h140km±1km,ML4.0/12, 4C,Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAZ	**Tarawera**	**0.12**	**195**	PN	P	03 23 58.8	+0.1
TAZ	**Tarawera**	**0.12**	**195**	P	P	03 23 58.9	+0.2
UTU	**Utuhina**	**0.28**	**259**	PN	P	03 23 59.1	-0.2
UTU	**Utuhina**	**0.28**	**259**	P	P	03 23 59.3	+0.1
PATZ	**Paeroa**	**0.34**	**221**	PN	P	03 23 59.5	0.0
PATZ	**Paeroa**	**0.34**	**221**	P	P	03 23 59.6	+0.1
TGRZ	**Tauranga**	**0.45**	**330**	PN	P	03 23 59.4	-0.6
TGRZ				SN	S	03 24 14.8	-0.8
TGRZ	**Tauranga**	**0.45**	**330**	P	P	03 23 59.4	-0.6
TGRZ				S	S	03 24 15.0	-0.6
URZ	**Urewera**	**0.47**	**107**	⇑ PN	P	03 23 59.3	-0.7
URZ				SN	S	03 24 14.2	-1.6
URZ	**Urewera**	**0.47**	**107**	P	P	03 23 59.3	-0.7
WIZ	**White Island**	**0.78**	**41**	PN	P	03 24 00.9	-0.9
MWZ	**Matawai**	**0.80**	**106**	PN	P	03 24 01.8	-0.2
MWZ	**Matawai**	**0.80**	**106**	P	P	03 24 01.9	-0.1
MYRZ	**Mayor Island**	**0.87**	**344**	PN	P	03 24 01.8	-0.7
RATZ	**Rangitukua**	**0.96**	**219**	⇑ PN	P	03 24 03.2	0.0
BKZ	**Black Stump Fm**	**1.04**	**182**	PN	P	03 24 03.7	-0.2
BKZ	**Black Stump Fm**	**1.04**	**182**	P	P	03 24 03.7	-0.2
KRVZ	**Karewarewa**	**1.20**	**216**	PN	P	03 24 05.3	-0.2
WTVZ	**West Tongariro**	**1.24**	**217**	PN	P	03 24 05.6	-0.3
WTVZ	**West Tongariro**	**1.24**	**217**	P	P	03 24 05.7	-0.2
KNZ	**Kokohu**	**1.26**	**136**	PN	P	03 24 06.0	-0.1
KNZ	**Kokohu**	**1.26**	**136**	*e*P	P	03 24 06.1	0.0
TWVZ	**Taurewa**	**1.29**	**222**	PN	P	03 24 06.0	-0.4
NGZ	**Ngauruhoe**	**1.29**	**215**	PN	P	03 24 06.0	-0.3
NGZ	**Ngauruhoe**	**1.29**	**215**	P	P	03 24 06.3	-0.1
CNZ	**Chateau**	**1.33**	**216**	PN	P	03 24 06.5	-0.4
CNZ	**Chateau**	**1.33**	**216**	P	P	03 24 06.5	-0.3
WPVZ	**Whakapapa**	**1.33**	**216**	PN	P	03 24 06.4	-0.4
**WPVZ

0.5nm,0.3s,baz=305,slow=14,SNR=18
WRA Sn S 03 37 07.9 -3.9
2.3nm,0.3s,baz=301,slow=23,SNR=13
WRAB Tennant Creek 13.23 133 *eP* P 03 34 45.5 +0.6
WB2 Warramunga Arr 13.23 133 *eP* P 03 34 46.1 +1.1
WB2 *eS* S 03 37 06.7 -5.2
ASPA Alice Springs 15.61 145 *eP* P 03 35 19.2 +3.0
ASPA *eS* S 03 38 05.5 -2.8
KKM Kota Kinabalu 18.74 335 *eP* P 03 35 54.5 -1.0
STKA Stephens Creek 26.25 145 P P 03 37 16.5 +5.5
3.8nm,1.1s,mb3.8,baz=323,slow=10,SNR=2.7
SONM Songino Array 60.74 346 P P 03 41 46.9 -0.7
0.8nm,0.6s,mb4.0,baz=161,slow=8.5,SNR=8.5
MKAR Makanchi Array 68.66 331 P P 03 42 39.0 0.0
0.9nm,0.5s,mb3.9,baz=136,slow=7.6,SNR=15

NEIC ***25*** *03:56:20.4±2.9,22.41S×171.52E,h112km±18km, mb3.7/3, Error ellipse: s-maj=58.6km s-min=18.3km az=157.0*
IDC ***25*** *03:56:21.3±5.3,21.98S×171.41E,h112km±39km, mb3.6/5, mb1 3.8/6, mb1mx3.6/14, mbtmp4.0/6, MS3.9/1, Ms1 3.9/1, ms1mx2.8/26, Error ellipse: s-maj=67.7km s-min=31.6km az=156.0*
ISC 25 03:56:20.5±3.1,22.4S±0.3×171.4E±0.2,h122km±22km, n17,σ0°85/19,mb4.0/7,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.61**	**273**	P	**P**		**03 57 29.5**	**+0.1**
	9.4nm,0.3s,baz=84,slow=17,SNR=536							
DZM				S	**S**		**03 58 21.9**	**-0.4**
	28nm,0.3s,baz=80,slow=22,SNR=23							
NOUC	**Port Laguerre**	**4.74**	**272**	*eP*	**P**		**03 57 31.1**	**0.0**
NOUC				*eS*	**S**		**03 58 25.4**	**+0.1**
NOUC	**Port Laguerre**	**4.74**	**272**	*eP*	**P**		**03 57 31.1**	**0.0**
NOUC				*eS*	**S**		**03 58 25.4**	**+0.1**
CTA	**Charters Tower**	**23.55**	**271**	*eP*	**P**		**04 01 23.1**	**+2.4**
	2.2nm,0.9s,mb3.5							
CTA	**Charters Tower**	**23.55**	**271**	P	**P**		**04 01 23.1**	**+2.4**
	1.4nm,0.4s,mb3.6,baz=96,slow=12,SNR=9.5							
CTAO	**Charters Tower**	**23.55**	**271**	*eP*	**P**		**04 01 22.8**	**+2.1**
	1.7nm,0.6s,mb3.5							
STKA	**Stephens Creek**	**28.10**	**244**	P	**P**		**04 02 03.9**	**+0.9**
	2.9nm,1.0s,mb3.8,baz=96,slow=13,SNR=5.1							
STKA	**Stephens Creek**	**28.10**	**244**	*eP*	**P**		**04 02 02.7**	**-0.3**
WB2	**Warramunga Arr**	**34.59**	**267**	*eP*	**P**		**04 02 58.7**	**-1.0**
WRAB	**Tennant Creek**	**34.59**	**267**	*eP*	**P**		**04 02 58.7**	**-1.0**
	1.6nm,0.4s,mb4.2							
WRA	**Warramunga Arr**	**34.60**	**267**	P	**P**		**04 02 58.8**	**-1.0**
	1.1nm,0.4s,mb4.0,baz=95,slow=8.4,SNR=24							
FITZ	**Fitzroy Crossi**	**43.03**	**267**	*eP*	**P**		**04 04 10.9**	**+1.0**
	14nm,0.8s,mb4.8							
GUMO	**Guam**	**44.20**	**321**	LR	LR		04 19 27.0	
	comp=Z,162nm,21.5s,baz=106,slow=32							
NVAR	**Mina Array Bea**	**89.36**	**48**	P	**P**		**04 09 03.9**	**-0.6**
	0.5nm,0.8s,mb3.6,baz=236,slow=9.4,SNR=5.8							
NVAR	**Mina Array Bea**	**89.36**	**48**	P	**P**		**04 09 03.9**	**-0.6**
TPNV	**Topopah Spring**	**90.18**	**50**	*eP*	**P**		**04 09 08.3**	**+0.3**
SONM	**Songino Array**	**90.92**	**322**	P	**P**		**04 09 11.9**	**+0.3**
	0.6nm,0.9s,mb3.7,baz=168,slow=3.3,SNR=3.9							

IDC ***25*** *04:09:26.6±3.1,34.89N×22.98E,mb3.8/7, mb1 3.8/10, mb1mx3.6/22, mbtmp3.7/10, ML3.3/2, Error ellipse: s-maj=59.5km s-min=22.5km az=22.0*
THE ***25*** *04:09:28.7,34.82N±23.21E,h10km*
CSEM ***25*** *04:09:32.8±0.1,34.94N×23.25E,h67km±1km, mb3.5/1, Error ellipse: s-maj=3.4km s-min=1.8km az=59.0*
ATH ***25*** *04:09:33.5,34.98N×23.27E,h41km±5km, MD3.7/16, ML3.9*
HLW ***25*** *04:09:34.7,35.07N×23.81E,h33km, Mb3.9*
NEIC ***25*** *04:09:34.4,35.04N×23.38E,h60km, mb3.5/1, After ATH.*
ISC 25 04:09:31.9±0.5,34.88N±0.04×23.16E±0.05,h60km±7km, n66,σ1°913/72,mb3.7/7,4C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.77**	**93**	*ePg*	**P**		**04 09 41.9**	**-5.2**
GVD				*eP*			04 09 45.4	
GVD				*eSg*	**S**		**04 09 56.4**	**-2.0**
VAM	**Vamos**	**1.00**	**58**	*eP*	**P**		**04 09 50.9**	**+0.7**
VAM				*eS*	**S**		**04 10 03.3**	**-0.5**
VAM	**Vamos**	**1.00**	**58**	*eP*	**P**		**04 09 50.9**	**+0.7**
VAM				*eS*	**S**		**04 10 01.7**	**-2.1**
KYTH	**Kithira**	**1.40**	**356**	*eP*	**P**		**04 09 56.8**	**+1.0**
IDI	**Anoyia**	**1.48**	**74**	Pn	**P**		**04 09 58.1**	**+1.2**
	36nm,0.3s,baz=272,slow=15,SNR=417							
VLI	**Veliai**	**1.84**	**354**	*eP*	**P**		**04 10 03.9**	**+2.1**
VLI	**Veliai**	**1.84**	**354**	*eP*	**P**		**04 10 04.0**	**+2.2**
NPS	**Neapolis**	**2.05**	**79**	*eP*	**P**		**04 10 06.0**	**+1.3**
XRY	**Khrisi**	**2.08**	**90**	*eP*	**P**		**04 10 06.0**	**+0.7**
XRY	**Khrisi**	**2.08**	**90**	*eP*	**P**		**04 10 05.0**	**-0.3**
SANT	**Santorini**	**2.39**	**51**	*ePn*	**P**		**04 10 08.7**	**-0.9**
SANT				*ePg*	**P**		**04 10 16.9**	**+7.3**
SANT	**Santorini**	**2.39**	**51**	*ePn*	**P**		**04 10 08.7**	**-0.9**
THR1	**Thera Island**	**2.39**	**51**	*ePn*	**P**		**04 10 09.1**	**-0.5**
ITM	**Ithomi**	**2.50**	**337**	*eP*	**P**		**04 10 13.1**	**+2.0**
NAIG	**Nisos Aigina**	**2.88**	**1**	*eP*	**P**		**04 10 17.1**	**+0.5**
MGER	**Gerania Oros**	**3.10**	**0**	*eP*	**P**		**04 10 20.5**	**+0.9**
ATH	**Athens Observa**	**3.12**	**8**	*eP*	**P**		**04 10 20.0**	**+0.2**
PTL	**Penteli**	**3.21**	**10**	*eP*	**P**		**04 10 21.5**	**+0.3**
MPAR	**Parnis Oros**	**3.29**	**8**	*eP*	**P**		**04 10 23.0**	**+0.6**
KARP	**Karpathos**	**3.34**	**77**	*eP*	**P**		**04 10 23.3**	**+0.2**
LKR	**Lokris**	**3.76**	**358**	*eP*	**P**		**04 10 29.0**	**+0.1**
EVR	**Evrytania**	**4.17**	**345**	*eP*	**P**		**04 10 36.6**	**+2.0**
AGG	**Agios Georgios**	**4.18**	**351**	*ePn*	**P**		**04 10 35.4**	**+0.6**
ARG	**Arkhangelos**	**4.26**	**70**	*eP*	**P**		**04 10 35.3**	**-0.7**
LKD	**Levkas**	**4.31**	**333**	*ePn*	**P**		**04 10 36.7**	**0.0**
NEO	**Neokhori**	**4.42**	**1**	*eP*	**P**		**04 10 38.3**	**+0.2**
XOR	**Xorichti**	**4.47**	**0**	*ePn*	**P**		**04 10 39.1**	**+0.1**
PAIG	**Paliouri**	**5.05**	**5**	*ePn*	**P**		**04 10 45.9**	**-1.1**
MEV	**Metsovon**	**5.13**	**343**	*ePn*	**P**		**04 10 48.5**	**+0.5**
IGT	**Igoumenitsa**	**5.16**	**335**	*ePn*	**P**		**04 10 47.8**	**-0.6**
LIT	**Litokhoron**	**5.24**	**354**	*ePn*	**P**		**04 10 48.9**	**-0.6**
OUR	**Ouranopolis**	**5.48**	**7**	*ePn*	**P**		**04 10 52.2**	**-0.7**
LSK	**Leskovik**	**5.64**	**340**	*ePg*	**P**		**04 10 55.6**	**+0.5**
SWA2		**5.95**	**160**	⇑P	**P**		**04 11 01.0**	**+1.6**
SWA1		**6.01**	**158**	P	**P**		**04 11 01.7**	**+1.5**
SWA1				S	**S**		**04 12 05.2**	**-3.3**
FNA	**Florina**	**6.06**	**347**	*ePn*	**P**		**04 11 00.3**	**-0.6**
GRG	**Griva**	**6.09**	**355**	*ePn*	**P**		**04 10 60.0**	**-1.4**
KNT	**Kendrikon**	**6.27**	**358**	*ePn*	**P**		**04 11 03.8**	**-0.1**
TIP	**Timpagrande**	**6.68**	**312**	*ePn*	**P**		**04 11 08.8**	**-0.8**
TIP	**Timpagrande**	**6.68**	**312**	*ePn*	**P**		**04 11 08.8**	**-0.8**
VAE	**Valguarnera**	**7.53**	**293**	Sn	**S**		**04 12 44.8**	**-1.4**
	0.9nm,0.3s,baz=281,slow=16,SNR=4.8							
SG1	**Sgolgore (BA)**	**7.85**	**321**	*ePn*	**P**		**04 11 25.0**	**-0.8**
AWBH		**8.17**	**142**	⇓P	**P**		**04 11 29.6**	**-0.6**
AWBH		**8.17**	**142**	P	**P**		**04 11 29.6**	**-0.7**
HSAF	**As Saff**	**8.84**	**124**	⇑P	**P**		**04 11 36.9**	**-2.4**
HFRF	**Wahat Farafira**	**8.89**	**149**	⇓P	**P**		**04 11 40.2**	**+0.1**
STON	**Ston**	**9.04**	**334**	*i* Pn	**P**		**04 11 37.8**	**-4.3**
STON				*i* Sn	**S**		**04 13 08.9**	**-14**
AMAG	**Maghara**	**9.46**	**114**	⇑P	**P**		**04 11 43.6**	**-4.3**
BR131	**Keskin Array S**	**9.64**	**57**	*eP*	**P**		**04 11 50.2**	**-0.3**
BR131				*e*			04 11 58.5	
BR131	**Keskin Array S**	**9.64**	**57**	*eP*	**P**		**04 11 50.2**	**-0.2**
BRTR	**Keskin Array B**	**9.64**	**57**	Pn	**P**		**04 11 49.9**	**-0.5**
	0.1nm,0.3s,baz=236,slow=16,SNR=7.8							
HDK1	**Dakhla**	**10.76**	**148**	⇑P	**P**		**04 12 06.0**	**+0.4**
BOJS	**Bojanci**	**12.20**	**333**	*i* Pn	**P**		**04 12 22.1**	**-2.8**
CRES	**Cresnjev**	**12.40**	**334**	*ePn*	**P**		**04 12 24.4**	**-3.2**
VRAC	**Vranov**	**15.21**	**343**	Pn	**P**		**04 13 07.3**	**+3.1**
	0.4nm,0.3s,baz=154,slow=7.6,SNR=5.2							
GERES	**GERESS Array B**	**15.61**	**336**	Pn	**P**		**04 13 08.0**	**-1.4**
	0.1nm,0.3s,baz=157,slow=13,SNR=5.9							
AKASG	**Malin Array Be**	**16.41**	**14**	Pn	**P**		**04 13 19.3**	**-0.2**
	2.6nm,0.3s,baz=206,slow=10,SNR=16							
HFS	**Hagfors**	**26.00**	**349**	P	**P**		**04 15 01.1**	**+0.5**
	1.8nm,0.4s,mb3.9,baz=141,slow=9.5,SNR=18							
FINES	**FINESS Array B**	**26.64**	**3**	P	**P**		**04 15 05.6**	**-0.9**
	3.6nm,1.0s,mb3.9,baz=170,slow=11,SNR=7.9							
NB2	**NORSAR Subarra**	**27.28**	**347**	P	**P**		**04 15 12.8**	**+0.5**
	0.7nm,0.5s,mb3.5,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**27.28**	**347**	P	**P**		**04 15 12.4**	**+0.1**
	0.6nm,0.4s,mb3.4,baz=152,slow=10,SNR=2.8							
ARCES	**ARCESS Array B**	**34.73**	**1**	P	**P**		**04 16 16.8**	**-1.0**
	0.8nm,0.5s,mb3.9,baz=180,slow=9.7,SNR=14							
ARCES	**ARCESS Array B**	**34.73**	**1**	P	**P**		**04 16 16.8**	**-1.0**
MKAR	**Makanchi Array**	**45.29**	**56**	P	**P**		**04 17 45.9**	**+0.6**
	0.6nm,0.4s,mb3.8,baz=267,slow=7.6,SNR=14							
SONM	**Songino Array**	**60.93**	**50**	P	**P**		**04 19 41.4**	**+0.7**
	0.5nm,0.5s,mb3.9,baz=284,slow=7.1,SNR=7.6							
YKA	**Yellowknife Ar**	**77.20**	**341**	P	**P**		**04 21 23.3**	**+2.9**
	0.1nm,0.5s,mb3.0,baz=32,slow=5.3,SNR=6.6							

IGQ 25 04:10:08.8,1.59S×81.06W,h5km±18km,mb4.4,Error ellipse: s-maj=19.7km s-min=3.0km az=154.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.98**	**41**	P	P	Pn	04 10 44.8	+1.4
MAG1					S	Sn	04 11 10.6	+1.7
JUIV	**Juive**	**2.60**	**86**	P	P	Pn	04 10 53.5	+1.3
ULBA	**Ulba**	**2.65**	**87**	P	P	Pn	04 10 54.9	+1.8
ULBA					S	Sn	04 11 27.1	+1.1
CAMI	**Rancho Maria**	**2.71**	**71**	P	P	Pn	04 10 55.2	+1.4
PISA	**Pisayambo**	**2.72**	**79**	P	P	Pn	04 10 56.1	+2.0
VC1	**Cotopaxi 1**	**2.82**	**71**	P	P	Pn	04 10 58.2	+2.9
VC1					S	Sn	04 11 37.4	+7.3
TERV	**Terraza Guagua**	**2.83**	**60**	P	P	Pn	04 10 56.3	+0.8
PINO	**Pino**	**2.83**	**60**	P	P	Pn	04 10 56.1	+0.5
TAMB	**Tambo**	**2.83**	**72**	P	P	Pn	04 10 58.1	+2.6
GGP	**Refugio Guagua**	**2.83**	**60**	P	P	Pn	04 10 57.0	+1.3
YANA	**Yana**	**2.88**	**60**	P	P	Pn	04 10 56.8	+0.4
YANA					S	Sn	04 11 32.1	+0.3
ANTI	**Antisana**	**3.11**	**69**	P	P	Pn	04 11 01.7	+2.2
COTA	**Cotacachi**	**3.32**	**55**	P	P	Pn	04 11 04.3	+1.7
CAYA	**Cayambe**	**3.48**	**62**	P	P	Pn	04 11 08.6	+3.8
CAYA					S	Sn	04 11 51.5	+4.5

IDC ***25*** *04:10:35.3±1.1,8.32S×111.16E,mb4.0/6,mb1 4.1/6, mb1mx3.9/14, mbtmp4.0/6, Error ellipse: s-maj=58.3km s-min=18.9km az=57.0*
NEIC ***25*** *04:10:47.9±3.7,8.37S×111.23E,h105km±35km, mb3.9/2, Error ellipse: s-maj=34.9km s-min=15.6km az=52.0*
ISC 25 04:10:46.5±4.4,8.3S±0.2×111.2E±0.2,h108km±42km,n13, σ0°73/15,mb4.0/7,Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.17**	**148**	*eP*	**P**		**04 14 15.2**	**-1.0**
MBWA				*eS*	**S**		**04 16 47.3**	**-14**
FITZ	**Fitzroy Crossi**	**17.05**	**126**	*eP*	**P**		**04 14 41.4**	**+1.8**
	3.4nm,0.6s							
FITZ				*eS*	**S**		**04 17 33.9**	**-10**
WRA	**Warramunga Arr**	**25.16**	**120**	P	**P**		**04 16 02.9**	**-0.6**
	2.2nm,0.6s,mb3.8,baz=294,slow=11,SNR=24							
WRAB	**Tennant Creek**	**25.17**	**120**	*eP*	**P**		**04 16 02.9**	**-0.7**
	5.6nm,0.7s,mb4.1							
WB2	**Warramunga Arr**	**25.17**	**120**	*eP*	**P**		**04 16 03.0**	**-0.6**
CTAO	**Charters Tower**	**35.82**	**113**	*eP*	**P**		**04 17 38.1**	**+0.6**
STKA	**Stephens Creek**	**36.67**	**134**	P	**P**		**04 17 45.0**	**+0.4**
	2.6nm,0.8s,mb4.2,baz=310,slow=7.6,SNR=7.3							
STKA	**Stephens Creek**	**36.67**	**134**	*eP*	**P**		**04 17 44.7**	**+0.1**
SONM	**Songino Array**	**56.07**	**356**	P	**P**		**04 20 16.5**	**-0.2**
	0.8nm,0.4s,mb4.1,baz=174,slow=9.0,SNR=12							
MKAR	**Makanchi Array**	**60.62**	**338**	P	**P**		**04 20 47.8**	**-0.6**
	0.9nm,0.3s,mb4.3,baz=152,slow=7.2,SNR=42							
VNDA	**Vanda**	**73.93**	**170**	P	**P**		**04 22 11.7**	**+0.5**
	0.9nm,0.9s,mb3.5,baz=296,slow=7.0,SNR=3.9							
AKTK	**Aktyubinsk**	**74.43**	**328**	P	**P**		**04 22 14.9**	**+0.3**
AKTO	**Aktyubinsk**	**74.43**	**328**	P	**P**		**04 22 14.9**	**+0.3**
	1.2nm,0.5s,mb3.9,baz=114,slow=3.9,SNR=7.3							

NEIC ***25*** *04:14:08.6±0.7,23.31N×141.84E,h10km,mb4.5/3, Error ellipse: s-maj=27.0km s-min=16.1km az=109.0*
IDC ***25*** *04:14:12.7±4.4,23.32N×141.90E,h40km±38km,mb3.7/9, mb1 3.9/10,mb1mx3.7/21,mbtmp3.9/10,ML4.0/1,MS3.4/4, Ms1 3.4/4,ms1mx3.0/26,Error ellipse: s-maj=31.2km s-min=22.2km az=107.0*
ISC 25 04:14:10.6±2.6,23.3N±0.1×141.9E±0.2,h37km±21km,n21, σ1°11/18,mb4.1/12,MS3.3/2,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.79**	**4**	P	**P**		**04 15 08.3**	**+0.3**
	18nm,0.3s,baz=300,slow=18,SNR=3.4							
CBIJ				LR	LR	LR	04 16 26.6	
	comp=Z,734nm,20.3s,baz=109,slow=36							
JOW	**Kunigami**	**12.82**	**289**	LR	LR	LR	04 21 11.7	
	comp=Z,103nm,21.5s,baz=134,slow=33							
ASAJ	**Asahikawa**	**20.77**	**1**	LR	LR	LR	04 26 19.3	
	comp=Z,365nm,20.6s,MS3.7,baz=302,slow=35							
FX1	**Attu Island--F**	**37.90**	**31**	LR	LR	LR	04 33 56.9	
	comp=Z,19nm,19.7s,MS2.9,baz=15,slow=31							
FX1	**Attu Island--F**	**37.90**	**31**	*eP*	**P**		**04 21 24.5**	**-1.4**
WRAB	**Tennant Creek**	**43.60**	**190**	*eP*	**P**		**04 22 13.3**	**0.0**
	58nm,1.6s,mb5.1							
WRA	**Warramunga Arr**	**43.61**	**190**	P	**P**		**04 22 13.1**	**-0.3**
	3.1nm,0.8s,mb4.1,baz=11,slow=8.3,SNR=14							
MKAR	**Makanchi Array**	**52.73**	**312**	P	**P**		**04 23 23.2**	**-0.6**
	0.3nm,0.6s,mb3.4,baz=89,slow=8.9,SNR=3.7							
MKAR	**Makanchi Array**	**52.73**	**312**	P	**P**		**04 23 23.2**	**-0.6**
IMA2	**Indian Mountai**	**58.60**	**26**	*eP*	**P**		**04 24 08.0**	**+2.1**
BVAR	**Borovoye Array**	**60.67**	**319**	P	**P**		**04 24 20.8**	**+0.5**
	0.9nm,0.7s,mb4.0,baz=90,slow=10,SNR=5.1							
COLA	**College**	**60.78**	**27**	P	**P**		**04 24 18.9**	**-2.0**
	4.6nm,1.0s,mb4.6							
ILAR	**Eielson Array**	**61.17**	**28**	P	**P**		**04 24 22.6**	**-0.9**
	3.3nm,1.0s,mb4.4,baz=256,slow=5.8,SNR=13							
INK	**Inuvik**	**66.59**	**24**	P	**P**		**04 24 57.9**	**-0.9**
	2.6nm,0.9s,mb4.2,baz=314,slow=6.8,SNR=7.0							
INK	**Inuvik**	**66.59**	**24**	*eP*	**P**		**04 25 00.1**	**+1.2**
	4.1nm,1.1s,mb4.4							
YKA	**Yellowknife Ar**	**75.61**	**28**	P	**P**		**04 25 52.5**	**-0.6**
	0.5nm,0.7s,mb3.6,baz=293,slow=5.7,SNR=9.7							
YKA	**Yellowknife Ar**	**75.61**	**28**	P	**P**		**04 25 52.5**	**-0.6**
RES	**Resolute Bay**	**75.80**	**13**	*eP*	**P**		**04 25 55.3**	**+1.4**
	4.7nm,1.0s,mb4.4							
FINES	**FINESS Array B**	**81.22**	**334**	P	**P**		**04 26 23.6**	**-0.2**
	2.4nm,1.0s,mb4.1,baz=45,slow=5.4,SNR=5.7							
NVAR	**Mina Array Bea**	**83.09**	**51**	P	**P**		**04 26 36.1**	**+2.2**
	0.2nm,0.4s,mb3.5,baz=266,slow=2.8,SNR=4.3							
GERES	**GERESS Array B**	**94.59**	**329**	P	**P**		**04 27 28.7**	**+0.2**
	0.4nm,0.9s,mb3.9,baz=11,slow=5.0,SNR=2.9							

FUNV ***25*** *04:35:23.3,10.80N×62.41W,h99km,MW3.4*
TRN ***25*** *04:35:24.2,10.83N×62.41W,h103km,MD3.6*
NEIC ***25*** *04:35:24.7,10.82N×62.40W,h103km,MD3.6(TRN),After TRN.*
ISC 25 04:35:21.5±0.4,10.76N±0.03×62.52W±0.03,h111km±5km, n35,σ1°07/59,8C-7D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**112**	*i* P	**P**		**04 35 37.8**	**+0.2**
GUIV				*eS*	**S**		**04 35 47.8**	**-1.8**
CRUV	**Carupano**	**0.71**	**263**	⇓*i* P	**P**		**04 35 41.4**	**-1.2**
CRUV				*eS*	**S**		**04 35 54.5**	**+0.2**
GUNV	**Guanoco**	**0.73**	**215**	⇑*i* P	**P**		**04 35 42.5**	**+2.2**
GUNV				*eS*	**S**		**04 35 55.6**	**+1.0**
ITEV	**Isla Los Testi**	**0.84**	**314**	⇓*i* P	**P**		**04 35 41.2**	**-0.2**
ITEV				*eS*	**S**		**04 35 55.2**	**-1.2**
TRN	**Trinidad (W)**	**1.10**	**96**	⇑*i* P	**P**		**04 35 45.0**	**+0.9**
TRN				*eS*	**S**		**04 35 59.5**	**-1.7**
TRN	**Trinidad (W)**	**1.10**	**96**	⇑*i* P	**P**		**04 35 45.0**	**+0.9**
TRN				*i* S	**S**		**04 35 59.5**	**-1.7**
TPP	**Pointe-a-Pierr**	**1.14**	**113**	*eP*	**P**		**04 35 46.4**	**+1.8**
TPP				*eS*	**S**		**04 36 01.6**	**-0.3**
TPP	**Pointe-a-Pierr**	**1.14**	**113**	*eP*	**P**		**04 35 47.5**	**+2.9**
TPP				*eS*	**S**		**04 36 01.6**	**-0.3**
TBH	**Brigand Hill**	**1.45**	**101**	⇓*eP*	**P**		**04 35 49.5**	**+1.3**
TBH				*eS*	**S**		**04 36 07.5**	**-0.9**
TBH	**Brigand Hill**	**1.45**	**101**	⇓*eP*	**P**		**04 35 49.5**	**+1.3**
TBH				*eS*	**S**		**04 36 09.3**	**+0.9**
GRW	**Mount Saint Ca**	**1.62**	**31**	*eP*	**P**		**04 35 51.1**	**+0.8**
GRHS	**Sauteurs**	**1.69**	**30**	*eP*	**P**		**04 35 52.0**	**+0.9**
GRHS				*eS*	**S**		**04 36 12.0**	**-1.2**
GRHS	**Sauteurs**	**1.69**	**30**	*eP*	**P**		**04 35 52.0**	**+0.9**
GRHS				*eS*	**S**		**04 36 13.3**	**0.0**
TPR	**Prospect**	**1.76**	**76**	*eP*	**P**		**04 35 52.5**	**+0.5**
TPR				*eS*	**S**		**04 36 13.3**	**-1.5**
BOT	**Bacolet**	**1.81**	**77**	*eP*	**P**		**04 35 53.0**	**+0.4**
BOT				*eS*	**S**		**04 36 14.9**	**-1.0**
ORIV	**Oritupano**	**1.90**	**208**	*eP*	**P**		**04 35 55.5**	**+1.8**
ORIV				*eS*	**S**		**04 36 18.9**	**+1.1**
IBAV	**Isla La Blanqu**	**2.28**	**298**	⇓*i* P	**P**		**04 35 59.8**	**+1.1**
IBAV				*eS*	**S**		**04 36 26.3**	**-0.4**
SVB	**Belmont**	**2.78**	**26**	*eP*	**P**		**04 36 06.7**	**+1.2**
SVB				*eS*	**S**		**04 36 43.5**	**+4.7**
GURV	**El Guri**	**3.04**	**191**	⇑*i* P	**P**		**04 36 09.6**	**+0.7**
GURV				*eS*	**S**		**04 36 43.1**	**-1.7**
CUPV	**Cœpira**	**3.29**	**258**	⇑*i* P	**P**		**04 36 13.7**	**+1.2**
CUPV				*eS*	**S**		**04 36 50.1**	**-1.0**
BIRV	**Birongo**	**3.70**	**266**	*eP*	**P**		**04 36 19.8**	**+1.9**
MERV	**Las Mercedes**	**4.01**	**248**	*eP*	**P**		**04 36 22.6**	**+0.4**
MERV				*eS*	**S**		**04 37 07.9**	**-0.7**
MVM	**Montagne Vaucl**	**4.09**	**23**	⇑*eP*	**P**		**04 36 22.9**	**-0.3**
FDF	**Fort de France**	**4.17**	**19**	⇑*eP*	**P**		**04 36 23.8**	**-0.4**
LUEV	**Luepa**	**5.00**	**168**	*eP*	**P**		**04 36 34.4**	**-1.1**
LUEV				*eS*	**S**		**04 37 26.9**	**-5.7**
CAOV	**Caicara del Or**	**5.08**	**228**	*eP*	**P**		**04 36 36.4**	**-0.3**
CAOV				*eS*	**S**		**04 37 30.8**	**-3.8**
TURV	**Turiamo**	**5.24**	**267**	*eP*	**P**		**04 36 38.9**	**+0.1**
BAUV	**El Baul**	**5.74**	**252**	*eP*	**P**		**04 36 44.9**	**-0.6**
BAUV				*eS*	**S**		**04 37 46.5**	**-4.2**
TEPV	**Terepaima**	**6.62**	**264**	*eP*	**P**		**04 36 56.9**	**-0.7**
SANV	**Sanarito**	**7.02**	**260**	⇓*i* P	**P**		**04 37 02.9**	**-0.3**
CURV	**Curarigua**	**7.36**	**265**	⇓*eP*	**P**		**04 37 07.8**	**0.0**
MONV	**Montecano**	**7.41**	**280**	*eP*	**P**		**04 37 08.2**	**-0.2**
ELOV	**Elorza**	**7.83**	**242**	*e*	**P**		**04 37 13.3**	**-0.9**
ELOV				*eP*			04 37 13.3	
SDV	**Santo Domingo**	**8.21**	**258**	*eP*	**P**		**04 37 17.8**	**-1.5**
	3.9nm,0.4s							
SDV				*eS*	**S**		**04 38 45.8**	**-5.3**
SOCV	**Socops**	**8.59**	**254**	*eP*	**P**		**04 37 23.3**	**-1.0**

BJI ***25*** *04:43:08.7,23.20N×142.27E,h32km,mB5.1,mb4.6, Ms4.6,Msz4.3*
MOS ***25*** *04:43:09.0±1.4,23.25N×142.07E,h34km,mb4.9/18, MS4.5/9, Error ellipse: s-maj=16.0km s-min=7.0km az=103.3*
NEIC ***25*** *04:43:12.4±1.7,23.22N×142.12E,h50km±15km,mb4.8/21, Error ellipse: s-maj=12.0km s-min=8.6km az=99.0*
IDC ***25*** *04:43:13.3±2.4,23.27N×142.03E,h65km±20km,mb4.0/19, mb1 4.1/21,mb1mx4.0/25,mbtmp4.2/21,MS4.4/23, Ms1 4.4/23,ms1mx4.2/35,Error ellipse: s-maj=21.4km s-min=12.4km az=88.0*
ISC 25 04:43:07.3±2.3,23.18N±0.04×142.23E±0.06,h22km±15km, h19km±1.5km:pP-P,n125,σ1°29/121,mb4.7/49,MS4.5/36, 2C-2D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.90**	**359**	P	**P**	Pn	**04 44 08.8**	**+1.5**
	47nm,0.3s,baz=268,slow=16,SNR=9.3							
CBIJ				S	**S**	Sn	**04 44 53.6**	**+0.6**
	82nm,0.3s,baz=276,slow=22,SNR=7.3							
CBIJ				LR	LR	LR	04 45 25.2	
	comp=Z,5μm,20.2s,baz=152,slow=35							
GUMO	**Guam**	**9.86**	**165**	LR	LR	LR	04 48 13.2	
	comp=Z,1μm,20.1s,baz=159,slow=30							
JOW	**Kunigami**	**13.16**	**289**	LR

KMI AMB AMB
comp=Z,230nm,6.7s
KMI LR LR
comp=N,390nm,16.0s,MS4.3
KMI LR LR
comp=E,250nm,16.0s,MS4.3
KMI LR LR
comp=Z,300nm,13.9s,MS4.2
SONM Songino Array 37.64 320 P **P** **04 50 20.6 -1.7**
comp=Z,0.7nm,0.6s,mb3.5,baz=135,slow=7.2,SNR=5.2
SONM LR LR 05 06 27.3
comp=Z,854nm,18.1s,MS4.6,baz=6.9,slow=37
GTA Gaotai 39.30 304 *eP* **P** **04 50 40.8 +4.5**
GTA AP pP 04 50 45.3 +2.3
GTA XP sP 04 50 47.8 +2.0
GTA PP PP 04 52 09.5 -1.0
GTA PCP PcP 04 52 40.8 -4.6
GTA SCP 04 56 31.5
GTA S **S** **04 56 43.1 +7.5**
GTA XS 04 56 49.3
GTA SCS ScS 05 00 43.1 +1.4
GTA AMB AMB
comp=Z,230nm,8.0s
GTA LR LR
comp=N,590nm,15.3s,MS4.7
GTA LR LR
comp=E,520nm,13.8s,MS4.7
GTA LR LR
comp=Z,420nm,13.0s,MS4.5
YAK Yakutsk 39.77 351 *i* P **P** **04 50 37.4 -2.5**
YAK pmax pmax
comp=Z,29nm,2.5s,mb4.6
YAK MLR MLR
comp=Z,800nm,17.0s,MS4.6
NST Nakhon Sawan 40.28 267 P **P** **04 50 45.0 +0.4**
SEY Seymchan 40.33 7 *eP* **P** **04 50 42.9 -1.6**
CHG Chiang Mai 40.53 272 ⇑P **P** **04 50 48.1 +1.4**
CTA Charters Tower 43.18 174 *eP* **P** **04 51 09.3 +0.9**
comp=Z,6.1nm,0.8s,mb4.4
CTA Charters Tower 43.18 174 P **P** **04 51 08.9 +0.5**
comp=Z,5.5nm,0.9s,mb4.3,baz=346,slow=8.4,SNR=11
CTA Charters Tower 43.18 174 *eP* **P** **04 51 09.3 +0.9**
CTA pmax pmax
comp=Z,6.0nm,0.8s
CTAO Charters Tower 43.18 174 *eP* **P** **04 51 08.8 +0.4**
CTAO pmax pmax
comp=Z,11nm,1.0s,mb4.5
CTAO Charters Tower 43.18 174 *eP* **P** **04 51 08.8 +0.4**
comp=Z,11nm,1.0s,mb4.5
WRAB Tennant Creek 43.53 191 *eP* **P** **04 51 11.1 -0.2**
WRAB pmax pmax
comp=Z,77nm,1.0s,mb5.4
WRAB Tennant Creek 43.53 191 *eP* **P** **04 51 11.1 -0.2**
comp=Z,77nm,1.0s,mb5.4
WB2 Warramunga Arr 43.54 191 *eP* **P** **04 51 11.1 -0.2**
WRA Warramunga Arr 43.54 191 P **P** **04 51 11.2 -0.1**
comp=Z,45nm,1.1s,mb5.1,baz=11,slow=8.4,SNR=103
FITZ Fitzroy Crossi 44.11 203 *eP* **P** **04 51 16.4 +0.4**
comp=Z,20nm,1.0s,mb4.8
LSA Lhasa 45.90 289 P **P** **04 51 32.4 +2.3**
LSA Lhasa 45.90 289 P **P** **04 51 29.7 -0.4**
LSA pmax pmax
comp=Z,23nm,1.0s,mb5.1
LSA Lhasa 45.90 289 P **P** **04 51 29.7 -0.4**
comp=Z,23nm,1.0s,mb5.1
BILL Bilibino 47.26 12 *eP* **P** **04 51 39.4 -0.9**
BILL *e* 04 53 08.6
BILL *eS* **S** **04 58 33.0 +1.7**
BILL pmax pmax
comp=Z,12nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,300nm,14.0s,MS4.4
BILL Bilibino 47.26 12 *eP* **P** **04 51 39.6 -0.7**
comp=Z,20nm,1.1s,mb5.0
ASPA Alice Springs 47.26 190 *eP* **P** **04 51 41.0 0.0**
TIXI Tiksi 49.09 354 *eP* **P** **04 51 50.9 -3.7**
TIXI *eS* **S** **04 58 49.1 -8.0**
TIXI pmax pmax
comp=Z,5.0nm,1.7s,mb4.3
TIXI MLR MLR
comp=Z,345nm,18.0s,MS4.4
MBWA Marble Bar 49.22 208 *eP* **P** **04 51 55.6 -0.6**
MKAR Makanchi Array 53.05 312 P **P** **04 52 23.3 -1.6**
comp=Z,1.4nm,0.6s,mb4.0,baz=98,slow=7.5,SNR=14
MKAR LR LR 05 17 03.2
comp=Z,177nm,18.6s,MS4.1,baz=73,slow=38
STKA Stephens Creek 54.75 181 P **P** **04 52 36.3 -1.3**
comp=Z,5.7nm,0.9s,mb4.6,baz=348,slow=6.3,SNR=10
STKA LR LR 05 14 50.5
comp=Z,442nm,21.2s,MS4.5,baz=156,slow=35
KURK Kurchatov 55.79 316 *eP* **P** **04 52 41.2 -3.7**
KURK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KURK Kurchatov 55.79 316 *eP* **P** **04 52 41.2 -3.7**
comp=Z,6.3nm,1.0s,mb4.6
KDAK Kodiak Island 57.50 35 P **P** **04 52 55.2 -1.7**
comp=Z,12nm,1.1s,mb4.8,baz=302,slow=15,SNR=6.6
AFI Afiamalu 58.18 125 LR LR 05 13 11.0
comp=Z,240nm,20.1s,MS4.3,baz=75,slow=31
AAK Ala-Archa 58.57 307 *i* P **P** **04 53 03.8 -0.9**
AAK pmax pmax
comp=Z,7.0nm,1.8s,mb4.4
AAK MLR MLR
comp=Z,400nm,17.0s,MS4.6
IMA2 Indian Mountai 58.58 25 *eP* **P** **04 53 04.5 +0.1**
MCK McKinley 60.11 29 *eP* **P** **04 53 14.2 -0.8**
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MCK McKinley 60.11 29 *eP* **P** **04 53 14.2 -0.8**
comp=Z,9.0nm,1.1s,mb4.7
SML Sawmill 60.14 31 *eP* **P** **04 53 15.4 +0.2**
COLA College 60.74 27 *eP* **P** **04 53 19.8 +0.5**
COLA pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
COLA College 60.74 27 *eP* **P** **04 53 19.8 +0.5**
comp=Z,5.6nm,1.0s,mb4.7
BVAR Borovoye Array 60.98 319 P **P** **04 53 17.6 -3.4**
comp=Z,3.5nm,0.8s,mb4.5,baz=88,slow=6.5,SNR=15
BRVK Borovoye 61.04 319 *eP* **P** **04 53 20.3 -1.2**
BRVK pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
BRVK Borovoye 61.04 319 *eP* **P** **04 53 20.3 -1.1**
comp=Z,5.5nm,1.1s,mb4.6
ILAR Eielson Array 61.14 28 P **P** **04 53 20.1 -1.9**
comp=Z,5.4nm,0.9s,mb4.7,baz=255,slow=6.2,SNR=25
ILAR LR LR 05 18 20.5
comp=Z,334nm,18.6s,MS4.5,baz=100,slow=34
DAWY Dawson 64.34 29 *eP* **P** **04 53 43.1 -0.1**
INK Inuvik 66.58 24 *eP* **P** **04 53 56.2 -1.3**
INK pmax pmax
comp=Z,19nm,1.4s
INK Inuvik 66.58 24 *eP* **P** **04 53 56.2 -1.3**
comp=Z,19nm,1.4s,mb4.9
ARU Arti 67.55 323 ⇓*iP* **P** **04 54 03.1 -0.8**
ARU *e* 04 56 30.4
ARU *eS* S 05 02 59.1 +1.5
ARU *eSS* SS 05 07 19.7 -0.2
ARU pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ARU MLR MLR
comp=Z,200nm,20.0s,MS4.3
ARU MLR MLR
comp=N,200nm,17.0s,MS4.4
ARU MLR MLR
comp=E,100nm,20.0s,MS4.4
AKTO Aktyubinsk 68.88 317 LR LR 05 27 31.0
comp=E,252nm,18.6s,MS4.5,baz=75,slow=39
RAR Rarotonga 71.69 124 LR LR 05 18 03.7
comp=E,120nm,21.7s,MS4.1,baz=299,slow=29
YKW3 Yellowknife Ar 75.54 28 *eP* **P** **04 54 51.0 -0.4**
YKA Yellowknife Ar 75.57 28 P **P** **04 54 50.2 -1.4**
comp=E,0.5nm,0.6s,mb3.6,baz=292,slow=6.0,SNR=17
YKA LR LR 05 23 12.1
comp=E,289nm,21.6s,MS4.5,baz=275,slow=32
YKA Yellowknife Ar 75.57 28 P **P** **04 54 50.2 -1.4**
YKA LR LR 05 23 12.1
RES Resolute Bay 75.85 13 *eP* **P** **04 54 52.7 -0.3**
RES pmax pmax
comp=Z,11nm,0.9s,mb4.8
RES Resolute Bay 75.85 13 *eP* **P** **04 54 52.7 -0.3**
comp=Z,11nm,0.9s,mb4.8
ARCES ARCESS Array B 77.24 341 P **P** **04 54 59.9 -1.0**
comp=Z,2.3nm,0.9s,mb4.1,baz=82,slow=8.6,SNR=7.1
ARCES LR LR 05 30 57.8
comp=Z,326nm,18.7s,MS4.7,baz=58,slow=37
PPT Papeete 77.96 115 *eLR* LR 05 18 50.3
comp=Z,141nm,23.2s
PPT Papeete 77.96 115 LR LR 05 22 16.9
comp=Z,190nm,22.0s,MS4.4,baz=268,slow=30
YBH Yreka Blue Hor 78.54 50 LR LR 05 24 39.5
comp=Z,166nm,21.4s,MS4.3,baz=330,slow=32
JOF Joensuu 78.60 334 *ep* **P** **04 55 06.7 -1.8**
comp=Z,2.1nm,0.4s,mb4.4
OBN Obninsk 79.77 326 *eP* **P** **04 55 13.8 -1.1**
OBN *e* pP 04 55 20.7 -1.4
OBN *eS* S 05 05 16.7 +1.7
OBN *eSS* SS 05 10 24.2 -2.9
OBN pmax pmax
comp=Z,25nm,1.5s,mb4.9
OBN MLR MLR
comp=Z,600nm,19.0s,MS5.0
EDM Edmonton 79.93 36 *eP* **P** **04 55 18.2 +2.3**
KIV Kislovodsk 80.76 314 *eP* **P** **04 55 19.9 -0.6**
KIV *eS* S 05 05 24.2 -1.4
KIV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
TBI Tubuai 80.89 120 *eLR* LR 05 20 11.2
comp=Z,146nm,27.8s
KAF Kangasniemi 81.01 335 *ep* **P** **04 55 22.0 +0.6**
FINES FINESS Array B 81.47 334 P **P** **04 55 21.8 -2.0**
comp=Z,3.4nm,0.8s,mb4.3,baz=59,slow=4.9,SNR=35
FINES LR LR 05 32 33.7
comp=Z,134nm,20.3s,MS4.3,baz=348,slow=36
FINES FINESS Array B 81.47 334 P **P** **04 55 21.8 -2.0**
FINES LR LR 05 32 33.6
SOC Sochi 82.88 314 *eP* **P** **04 55 31.7 +0.2**
SOC *e*PPP PPP 05 00 35.9 -0.9
SOC *eS* S 05 05 44.6 -2.7
SOC pmax pmax
comp=Z,29nm,1.1s,mb5.2
SOC MLR MLR
comp=Z,301nm,16.0s,MS4.8
NVAR Mina Array Bea 82.92 51 P **P** **04 55 33.1 +1.3**
comp=Z,1.2nm,0.8s,mb4.0,baz=265,slow=5.2,SNR=7.7
ANN Anapa 83.83 316 *eP* **P** **04 55 39.0 +2.7**
ANN *i* 04 55 55.7
ANN *eS* S 05 05 58.3 +1.5
ANN pmax pmax
comp=Z,23nm,0.9s,mb5.3
QLMT Earthquake Lak 84.80 43 P **P** **04 55 42.1 +1.0**
AKASG Malin Array Be 85.79 324 P **P** **04 55 44.4 -1.6**
comp=Z,1.4nm,0.6s,mb4.4,baz=53,slow=4.9,SNR=9.8
AKASG Malin Array Be 85.79 324 *i* P **P** **04 55 46.2 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 85.79 324 P **P** **04 55 44.4 -1.6**
NEN Nelson 86.60 53 *eP* **P** **04 55 50.7 +0.3**
ARUT Antelope Range 86.66 50 *eP* **P** **04 55 51.0 +0.4**
BW06 Boulder Array 86.97 44 *eP* **P** **04 55 54.3 +2.3**
comp=Z,24nm,1.2s,mb4.3
PDAR Pinedale Array 86.97 44 P **P** **04 55 53.1 +1.2**
comp=Z,0.7nm,1.0s,mb3.8,baz=252,slow=4.7,SNR=3.7
PDAR LR LR 05 29 06.2
comp=Z,285nm,19.8s,MS4.7,baz=310,slow=32
PDAR Pinedale Array 86.97 44 P **P** **04 55 53.1 +1.2**
PDAR LR LR 05 29 06.2
HFS Hagfors 87.03 337 P **P** **04 55 50.0 -1.9**
comp=Z,1.9nm,0.5s,mb4.5,baz=72,slow=4.7,SNR=11
MVU Marysvale 87.20 49 *eP* **P** **04 55 56.2 +3.0**
comp=Z,14nm,1.7s,mb4.9
NB2 NORSAR Subarra 87.25 338 P **P** **04 55 54.3 +1.4**
comp=Z,2.8nm,0.8s,mb4.5,baz=40,slow=6.5
NB2 NORSAR Subarra 87.25 338 P **P** **04 55 54.3 +1.4**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
NOA NORSAR Array B 87.25 338 P **P** **04 55 53.6 +0.7**
comp=Z,2.4nm,0.9s,mb4.4,baz=45,slow=4.4,SNR=4.2
NOA LR LR 05 40 30.7
comp=Z,268nm,18.7s,MS4.7,baz=25,slow=40
BRTR Keskin Array B 88.69 313 P **P** **04 55 59.7 -0.6**
comp=Z,2.2nm,0.8s,mb4.5,baz=72,slow=3.9,SNR=9.1
SFJD Kangerlussuaq 89.59 5 LR LR 05 39 32.2
comp=Z,193nm,18.2s,MS4.6,baz=317,slow=38
ULM Lac du Bonnet 90.70 33 LR LR 05 33 01.8
comp=Z,134nm,21.1s,MS4.3,baz=188,slow=33
KSP Ksiaz 92.28 329 *eP* **P** **04 56 18.5 +1.8**
DPC Dobruska-Polom 92.59 329 *eP* **P** **04 56 17.5 -0.7**
DPC pmax pmax
comp=Z,10.0nm,0.4s,mb5.6
DPC Dobruska-Polom 92.59 329 *eP* **P** **04 56 17.5 -0.7**
comp=Z,10nm,0.4s,mb5.6
UPC Upice 92.64 329 *eP* **P** **04 56 22.1 +3.8**
RKT Rikitea 92.67 114 *eLR* LR 05 25 39.4
comp=Z,135nm,32.5s
ANMO Albuquerque 92.96 50 ⇑*iP* **P** **04 56 21.7 +1.5**
VRAC Vranov 93.15 328 P **P** **04 56 18.9 -1.9**
comp=Z,1.6nm,0.7s,mb4.6,baz=45,slow=10.0,SNR=2.5
PVCC Panska Ves 93.30 330 *eP* **P** **04 56 22.7 +1.3**
CLL Collm 93.47 331 *eP* **P** **04 56 23.0 +0.8**
PRU Pruhonice 93.68 329 *eP* **P** **04 56 24.4 +1.2**
CLZ Clausthal 94.24 332 *eP* **P** **04 56 28.0 +2.3**
CLZ pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
CLZ Clausthal 94.24 332 *eP* **P** **04 56 28.0 +2.3**
comp=Z,7.0nm,1.2s,mb5.0
KHC Kasperske Hory 94.73 329 *eP* **P** **04 56 26.8 -1.2**
GEC2 GERESS Array S 94.87 329 *eP* **P** **04 56 29.9 +1.2**
GEC2 pmax pmax
comp=Z,6.0nm,1.5s,mb4.8
GEC2 GERESS Array S 94.87 329 *eP* **P** **04 56 29.9 +1.2**
comp=Z,6.0nm,1.5s,mb4.8
GERES GERESS Array B 94.87 329 P **P** **04 56 26.3 -2.3**
comp=Z,0.9nm,0.8s,mb4.3,baz=45,slow=3.8,SNR=8.0
GERES LR LR 05 40 24.9
comp=Z,317nm,20.7s,MS4.8,baz=218,slow=36
GRA1 Grafenberg Arr 95.42 331 *eP* **P** **04 56 32.5 +1.3**
comp=Z,18nm,1.5s,mb5.3
GRF Grafenberg Arr 95.42 331 *eP* **P** **04 56 32.5 +1.3**
GRF pmax pmax
comp=Z,18nm,1.5s,mb5.3
GRF Grafenberg Arr 95.42 331 *eP* **P** **04 56 32.5 +1.3**
GRF pmax pmax
comp=Z,18nm,1.5s,mb5.3
GRF Grafenberg Arr 95.42 331 *eP* **P** **04 56 32.5 +1.3**
comp=Z,18nm,1.5s,mb5.3
SCHQ Schefferville 98.41 17 LR LR 05 37 43.9
comp=Z,151nm,21.7s,MS4.5,baz=335,slow=33

*NEIC **25** 04:56:29.3±2.4,51.53N×16.16E,h5km,ML2.5(CLL), ML2.2(BRG),Error ellipse: s-maj=31.6km s-min=10.6km az=198.0*
*WAR **25** 04:56:30.3,51.50N×16.10E,h1km,Location given by Rudna mine, origin time based upon KSP*
*PRU **25** 04:56:30.3,51.45N×16.16E*
ISC 25 04:56:29.0±0.9,51.43N±0.04×16.06E±0.05,n14,σ1§13/32, 3C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**166**	*e*PG	**Pg**	**Pg**	**04 56 42.0**	**+0.9**
KSP				*e*SG	**Sg**	**Sg**	**04 56 51.0**	**+1.8**
KSP	**Ksiaz**	**0.61**	**166**	*e*Pg	**Pg**	**Pg**	**04 56 42.5**	**+1.4**
KSP				*e*Sg	**Sg**	**Sg**	**04 56 51.2**	**+2.0**
UPC	**Upice**	**0.93**	**182**	*e*PG	**Pg**	**Pg**	**04 56 48.5**	**+1.1**
DPC	**Dobruska-Polom**	**1.09**	**171**	*e*PG	**Pg**	**Pg**	**04 56 51.1**	**+0.3**
DPC				*e*SG	**Sg**	**Sg**	**04 57 05.6**	**+0.2**
	10nm,0.4s							
PVCC	**Panska Ves**	**1.31**	**227**	*e*PG	**Pg**	**Pg**	**04 56 55.9**	**+0.8**
BRG	**Berggiesshubel**	**1.45**	**248**	Pg	**Pg**	**Pg**	**04 56 58.3**	**+0.4**
BRG				Sg	**Sg**	**Sg**	**04 57 18.2**	**+1.0**
PRU	**Pruhonice**	**1.74**	**214**	*e*PN	**Pn**	**Pn**	**04 57 01.7**	**+1.1**
PRU				*e*PG	**Pg**	**Pg**	**04 57 03.1**	**-0.6**
PRU				*e*SG	**Sg**	**Sg**	**04 57 27.1**	**+0.2**
	13nm,0.4s							
CLL	**Collm**	**1.92**	**268**	*e*PN	**Pn**	**Pn**	**04 57 04.0**	**+0.7**
CLL				*e*PG	**Pg**	**Pg**	**04 57 06.0**	**-1.3**
CLL				*e*SG	**Sg**	**Sg**	**04 57 33.0**	**0.0**
OKC	**Ostrava-Krasne**	**2.08**	**139**	*e*PN	**Pn**	**Pn**	**04 57 04.6**	**-0.8**
OKC				*e*PG	**Pg**	**Pg**	**04 57 08.4**	**-2.0**
OKC				*e*SG	**Sg**	**Sg**	**04 57 34.8**	**-3.3**
	13nm,0.7s							
NKC	**Novy Kostel**	**2.59**	**244**	*e*PN	**Pn**	**Pn**	**04 57 14.4**	**+1.6**
NKC				*e*PG	**Pg**	**Pg**	**04 57 21.0**	**+0.4**
NKC				*e*SG	**Sg**	**Sg**	**04 57 55.0**	**-0.1**
	22nm,0.4s							
KHC	**Kasperske Hory**	**2.80**	**216**	*e*PN	**Pn**	**Pn**	**04 57 16.6**	**+0.8**
KHC				*e*PG	**Pg**	**Pg**	**04 57 21.8**	**-3.1**
KHC				*e*SN	**Sn**	**Sn**	**04 57 51.0**	**+0.2**
KHC				*e*SG	**Sg**	**Sg**	**04 58 00.7**	**-1.5**
MOX	**Moxa**	**2.92**	**256**	*e*Pg	**Pg**	**Pg**	**04 57 25.5**	**-1.7**
MOX				*e*Sg	**Sg**	**Sg**	**04 58 05.1**	**-0.9**
MOA	**Molln**	**3.77**	**199**	⇑*i*Pn	**Pn**	**Pn**	**04 57 30.1**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**Sg**	**04 58 33.2**	**-1.3**
	comp=N,2.8nm,0.3s							
MOA	**Molln**	**3.77**	**199**	⇑Pn	**Pn**	**Pn**	**04 57 30.1**	**+0.5**
MOA				Sg	**Sg**	**Sg**	**04 58 33.2**	**-1.3**

*GUC **25** 04:56:52.8±0.7,31.43S×69.14W,h150km,ML4.8*
*IDC **25** 04:56:53.3±0.5,31.37S×68.74W,h104km±4km, mb4.3/18, mb1 4.5/20,mb1mx4.4/22,mbtmp4.7/20,MS3.5/3, Ms1 3.5/3,ms1mx3.2/14,Error ellipse: s-maj=18.0km s-min=11.0km az=80.0*
*MOS **25** 04:56:53.5±1.0,31.32S×68.63W,h116km,mb4.9/22, Error ellipse: s-maj=16.3km s-min=7.6km az=100.6*
*NEIC **25** 04:56:54.0±0.5,31.34S×68.58W,h110km±4km,mb4.8/51, Error ellipse: s-maj=7.3km s-min=4.5km az=72.0*
ISC 25 04:56:52.3±0.4,31.39S±0.03×68.84W±0.04,h106km±3km, h98km±3.6km:pP-P,n223,σ0§97/183,mb4.8/63,10C-13D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.56**	**113**	P		**P**	**04 57 10.6**	**+1.4**
	822nm,0.3s,baz=293,slow=5.7							
CFAA				S		**S**	**04 57 23.2**	**+1.3**
	644nm,0.3s,baz=188,slow=21,SNR=113							
MDZ	**Mendoza**	**1.49**	**180**	⇓*i*P		**P**	**04 57 22.6**	**+3.4**
MDZ				*i* S		**S**	**04 57 40.6**	**+1.3**
CMCH	**Combarbala**	**1.86**	**276**	⇓*i*P		**P**	**04 57 24.3**	**+0.5**
CMCH				*i* S		**S**	**04 57 48.4**	**+1.1**
CMCH				AMP			04 57 50.2	
	comp=E,48μm,0.8s							
JACH	**Jahuel**	**1.97**	**229**	⇓*i*P		**P**	**04 57 25.9**	**+0.8**
FCH	**Farellones**	**2.29**	**212**	⇑*i*P		**P**	**04 57 30.5**	**+1.1**
FCH				*i* S		**S**	**04 57 59.4**	**+2.1**
FCH				AMP			04 58 08.0	
	comp=E,3μm,0.6s							
CHNG	**Los Chungos**	**2.32**	**257**	*i* P		**P**	**04 57 29.1**	**-0.8**
CHNG				*i* S		**S**	**04 57 56.0**	**-2.1**
PEL	**Peldehue**	**2.35**	**221**	⇓*i*P		**P**	**04 57 30.1**	**-0.2**
PEL				*i* S		**S**	**04 57 58.6**	**0.0**
PEL				AMP			04 58 00.8	
	comp=N,9μm,0.3s							
ROCH	**El Roble**	**2.42**	**229**	⇓*i*P		**P**	**04 57 30.9**	**-0.4**
ROCH				*i* S		**S**	**04 57 59.9**	**-0.7**
LSCH	**La Serena**	**2.54**	**305**	⇑*i*P		**P**	**04 57 32.9**	**-0.1**
LSCH				*i* S		**S**	**04 58 02.7**	**-0.8**
LSCH				AMP			04 58 04.5	
	comp=E,6μm,0.3s							
SAN	**Santiago**	**2.57**	**216**	*i* P		**P**	**04 57 33.2**	**-0.1**
SAN				*i* S		**S**	**04 58 03.8**	**-0.3**
SAN				AMP			04 58 05.7	
	comp=E,2μm,0.7s							
SJCH	**San Jose de Ma**	**2.58**	**209**	⇑*i*P		**P**	**04 57 33.9**	**+0.4**
SJCH				*i* S		**S**	**04 58 04.9**	**+0.5**
SJCH				AMP			04 58 19.9	
	comp=N,1μm,0.8s							
PCH	**Pirque**	**2.64**	**212**	⇓*i*P		**P**	**04 57 34.3**	**+0.1**
ANTU	**Antumapu**	**2.65**	**214**	*e*P		**P**	**04 57 34.4**	**0.0**
ANTU				*i* S		**S**	**04 58 06.0**	**0.0**
ANTU				AMP			04 58 09.5	
	comp=N,3μm,0.6s							
RCDM	**Rinconada Maip**	**2.67**	**218**	*e*P		**P**	**04 57 34.2**	**-0.5**
RCDM				*i* S		**S**	**04 58 06.2**	**-0.3**
RCDM				AMP			04 58 11.6	
	comp=N,3μm,0.3s							
LMEL	**Las Melosas**	**2.71**	**205**	*i* P		**P**	**04 57 35.5**	**+0.4**
LMEL				AMP			04 58 17.6	
	comp=E,2μm,0.5s							
TACH	**Talagante**	**2.87**	**218**	⇓*i*P		**P**	**04 57 36.4**	**-1.0**
CHCH	**Chadas Angostu**	**2.96**	**211**	⇓*i*P		**P**	**04 57 38.4**	**-0.2**
CACH	**El Canelo**	**3.10**	**208**	⇑*i*P		**P**	**04 57 40.6**	**+0.2**
LCCH	**Las Cruces**	**3.11**	**227**	⇓*i*P		**P**	**04 57 38.9**	**-1.7**
CICH	**Cipreses**	**3.21**	**204**	⇓*i*P		**P**	**04 57 42.1**	**+0.1**
NICH	**Los Niches**	**4.12**	**208**	⇑*i*P		**P**	**04 57 51.9**	**-2.5**
TALC	**Talca**	**4.63**	**210**	⇓*i*P		**P**	**04 57 57.8**	**-3.6**
TALC				*i* S		**S**	**04 58 48.9**	**-5.4**
CCHI	**Chillan**	**5.85**	**206**	*e*P		**P**	**04 58 13.8**	**-4.1**
CCHI				*i* S		**S**	**04 59 17.9**	**-6.4**
TRQA	**Tornquist**	**8.72**	**142**	⇑*i*Pn		**P**	**04 58 54.8**	**-2.2**
	comp=E,191nm,0.5s							
TRQA				*e*Sn		**S**	**05 00 28.1**	**-6.2**
PLCA	**Paso Flores**	**9.43**	**188**	P		**P**	**04 59 03.1**	**-3.4**
	comp=E,3.6nm,0.3s,baz=0.8,slow=11,SNR=90							
PLCA	**Paso Flores**	**9.43**	**188**	*e*P		**P**	**04 59 03.6**	**-2.9**
PLCA				pmax	pmax			
	comp=Z,12nm,0.5s							
PLCA	**Paso Flores**	**9.43**	**188**	*e*Pn		**P**	**04 59 03.6**	**-2.9**
	comp=Z,12nm,0.5s							
CPUP	**Villa Florida**	**11.28**	**66**	*e*P		**P**	**04 59 27.8**	**-3.5**
CPUP				pmax	pmax			
	comp=Z,70nm,0.4s							
CPUP	**Villa Florida**	**11.28**	**66**	*e*Pn		**P**	**04 59 27.8**	**-3.5**
	comp=Z,70nm,0.4s							
LPAZ	**La Paz**	**15.05**	**3**	P		**P**	**05 00 20.7**	**+0.2**
	comp=Z,3.1nm,0.3s,baz=163,slow=6.1,SNR=79							
LPAZ				LR		LR	05 06 52.0	
	comp=Z,101nm,18.7s,baz=161,slow=40							
LPAZ	**La Paz**	**15.05**	**3**	*e*P		**P**	**05 00 19.3**	**-1.2**
LPAZ				*e*S		**S**	**05 03 09.3**	**+4.8**
LPAZ				pmax	pmax			
	comp=Z,74nm,0.8s							
LPAZ	**La Paz**	**15.05**	**3**	*e*Pn		**P**	**05 00 19.3**	**-1.2**
	comp=Z,74nm,0.8s							
LPAZ				*e*P			05 00 22.4	
LPAZ				*e*S		**S**	**05 03 09.3**	**+4.8**
ARE	**Arequipa**	**15.06**	**350**	*e*P		**P**	**05 00 23.0**	**+2.4**
SIV	**San Ignacio**	**16.89**	**27**	P		**P**	**05 00 41.2**	**-2.2**
	comp=Z,3.7nm,0.3s,baz=211,slow=14,SNR=56							
EFI	**East Falkland**	**21.77**	**162**	*e*P		**P**	**05 01 34.3**	**-2.0**
EFI				pmax	pmax			
	comp=Z,48nm,0.6s,mb5.0							
EFI	**East Falkland**	**21.77**	**162**	*e*P		**P**	**05 01 34.2**	**-2.0**
	comp=Z,48nm,0.6s,mb5.0							
USHA	**Ushuaia**	**23.43**	**179**	P		**P**	**05 01 53.2**	**+0.9**
	comp=Z,43nm,0.6s,mb5.0,baz=332,slow=8.4,SNR=42							
BDFB	**Brasilia**	**24.64**	**55**	P		**P**	**05 02 04.0**	**-0.3**
	comp=Z,2.3nm,0.6s,mb3.8,baz=221,slow=9.4,SNR=7.3							
BDFB				LR		LR	05 12 01.6	
	comp=Z,87nm,18.5s,baz=295,slow=37							
BDFB	**Brasilia**	**24.64**	**55**	P		**P**	**05 02 04.1**	**-0.2**
BDFB				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BDFB				MLR	MLR			
	comp=Z,87nm,18.5s							
BAO	**Brasilia Array**	**24.66**	**55**	P		**P**	**05 02 04.0**	**-0.5**
SDV	**Santo Domingo**	**40.08**	**357**	P		**P**	**05 04 18.0**	**-0.9**
	comp=Z,4.4nm,0.6s,mb4.5,baz=228,slow=5.5,SNR=7.8							
SDV	**Santo Domingo**	**40.08**	**357**	*e*P		**P**	**05 04 18.1**	**-0.9**
	comp=Z,7.0nm,0.9s,mb4.5							
JTS	**JuntasAbangare**	**44.23**	**337**	*i* P		**P**	**05 04 52.9**	**0.0**
SJG	**San Juan**	**49.28**	**3**	P		**P**	**05 05 30.3**	**-2.1**
	comp=Z,11nm,0.7s,mb4.9,baz=229,slow=2.9,SNR=3.9							
SJG	**San Juan**	**49.28**	**3**	P		**P**	**05 05 30.4**	**-2.1**
VNA3	**Neumayer Olymp**	**50.79**	**159**	*e*		**P**	**05 05 51.4**	**+8.2**
VNA3	**Neumayer Olymp**	**50.79**	**159**	*e*		**P**	**05 05 55.9**	**+13**
VNA3	**Neumayer Olymp**	**50.79**	**159**	*e*		pP	**05 06 08.8**	**+0.2**
VNA3	**Neumayer Olymp**	**50.79**	**159**	P		**P**	**05 05 46.5**	**+3.3**
VNA3				*e*			05 05 51.4	
VNA3				*e*			05 05 55.9	
VNA3				*e*		pP	05 06 08.8	+0.2
VNA1	**Neumayer--Stat**	**51.05**	**158**	*e*		**P**	**05 05 54.9**	**+10**
VNA1	**Neumayer--Stat**	**51.05**	**158**	*e*		**P**	**05 06 02.2**	**+17**
VNA1	**Neumayer--Stat**	**51.05**	**158**	*e*		pP	05 06 15.2	+4.7
VNA1	**Neumayer--Stat**	**51.05**	**158**	P		**P**	**05 05 51.1**	**+5.9**
VNA1				*e*			05 05 54.9	
VNA1				*e*			05 06 02.2	
VNA1				*e*		pP	05 06 15.2	+4.7
VNA2	**Neumayer--Watz**	**51.40**	**158**	*e*		**P**	**05 05 51.1**	**+3.2**
VNA2	**Neumayer--Watz**	**51.40**	**158**	*e*		**P**	**05 05 57.1**	**+9.2**
VNA2	**Neumayer--Watz**	**51.40**	**158**	*e*		pP	05 06 08.2	-5.0
VNA2	**Neumayer--Watz**	**51.40**	**158**	P		**P**	**05 05 47.6**	**-0.3**
VNA2				*e*			05 05 51.1	
VNA2				*e*			05 05 57.1	
VNA2				*e*		pP	05 06 08.2	-5.0
SNAA	**Sanae**	**53.01**	**159**	*e*		**P**	**05

SNAA pP pP 05 06 24.2 -1.2
comp=Z,1.7nm,0.5s,baz=270,slow=6.7,SNR=4.2
SNAA Sanae 53.01 159 P **P** **05 06 00.4 +0.5**
SNAA *e* pP 05 06 25.1 -0.3
SNAA Sanae 53.01 159 P **P** **05 06 00.4 +0.5**
SNAA *e* 05 06 04.9
SNAA *e* 05 06 10.4
SNAA *e* pP 05 06 25.1 -0.3
VNDA Vanda 67.17 191 P **P** **05 07 36.2 -0.1**
comp=Z,1.7nm,0.7s,mb4.0,baz=124,slow=5.8,SNR=9.9
VNDA Vanda 67.17 191 P **P** **05 07 36.2 -0.1**
VNDA pmax pmax
comp=Z,2.0nm,0.7s
NATX Nacogdoches 67.40 336 *eP* **P** **05 07 38.7 +0.2**
comp=Z,35nm,0.9s,mb5.2
SWET Sewanee 68.17 345 *eP* **P** **05 07 41.2 -2.0**
JCT Junction City 68.19 331 *eP* **P** **05 07 43.3 -0.1**
JCT pmax pmax
comp=Z,26nm,0.7s,mb5.2
JCT Junction City 68.19 331 *eP* **P** **05 07 43.3 -0.1**
comp=Z,26nm,0.7s,mb5.2
OXF Oxford 68.35 342 *eP* **P** **05 07 43.0 -1.3**
OXF pmax pmax
comp=Z,30nm,0.5s,mb5.4
OXF Oxford 68.35 342 *eP* **P** **05 07 43.0 -1.4**
comp=Z,30nm,0.5s,mb5.4
LTX Lajitas 68.88 328 *eP* **P** **05 07 47.6 -0.1**
LTX pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
LTX Lajitas 68.88 328 *eP* **P** **05 07 47.6 0.0**
comp=Z,6.0nm,0.7s,mb4.5
TXAR Lajitas Array 68.88 328 P **P** **05 07 47.6 -0.1**
comp=Z,5.5nm,0.6s,mb4.5,baz=152,slow=8.3,SNR=105
TXAR Lajitas Array 68.88 328 P **P** **05 07 47.6 -0.1**
TXAR pmax pmax
comp=Z,6.0nm,0.6s
TZTN Tazewell 68.97 347 *eP* **P** **05 07 46.7 -1.4**
WVT Waverly 69.49 344 *eP* **P** **05 07 50.1 -1.2**
WVT pmax pmax
comp=Z,56nm,0.6s,mb5.6
WVT Waverly 69.49 344 *eP* **P** **05 07 50.1 -1.2**
comp=Z,56nm,0.6s,mb5.6
GNAR Gosnell 69.89 342 *eP* **P** **05 07 53.5 -0.2**
comp=Z,192nm,1.1s,mb5.8
UTMT University of 69.94 343 *eP* **P** **05 07 53.5 -0.6**
comp=Z,68nm,0.4s,mb5.8
PVMO Portageville 70.23 342 *eP* **P** **05 07 55.6 -0.1**
WCI Wyandotte Cave 71.15 346 *eP* **P** **05 07 59.3 -1.9**
WCI pmax pmax
comp=Z,19nm,0.7s,mb5.0
WCI Wyandotte Cave 71.15 346 *eP* **P** **05 07 59.3 -2.0**
comp=Z,19nm,0.7s,mb5.0
MNTX Cornudas Mount 71.66 328 *eP* **P** **05 08 03.3 -1.1**
comp=Z,12nm,0.8s,mb4.8
DBIC Dimbokro 71.77 70 P **P** **05 08 04.8 -0.5**
comp=Z,14nm,0.7s,mb4.9,baz=208,slow=7.4,SNR=36
DBIC pP pP 05 08 30.6 -1.8
comp=Z,11nm,0.7s,baz=212,slow=7.0,SNR=7.1
DBIC Dimbokro 71.77 70 P **P** **05 08 04.8 -0.6**
DBIC *PP pP 05 08 30.6 -1.7
DBIC pmax pmax
comp=Z,14nm,0.7s
DBIC pmax pmax
comp=Z,11nm,0.7s
DBIC Dimbokro 71.77 70 *eP* **P** **05 08 04.8 -0.6**
comp=Z,14nm,0.9s,mb4.8
FVM French Village 71.90 342 *eP* **P** **05 08 05.0 -0.7**
FVM pmax pmax
comp=Z,38nm,0.6s,mb5.4
FVM French Village 71.90 342 *eP* **P** **05 08 05.0 -0.7**
comp=Z,38nm,0.6s,mb5.4
BLO Bloomington 72.10 346 *eP* **P** **05 08 05.4 -1.5**
BLO pmax pmax
comp=Z,24nm,0.6s,mb5.2
BLO Bloomington 72.10 346 *eP* **P** **05 08 05.4 -1.5**
comp=Z,24nm,0.6s,mb5.2
CCM Cathedral Cave 72.18 342 *eP* **P** **05 08 06.7 -0.7**
CCM pmax pmax
comp=Z,28nm,0.6s,mb5.3
CCM Cathedral Cave 72.18 342 *eP* **P** **05 08 06.7 -0.7**
comp=Z,28nm,0.6s,mb5.3
ACSO Alum Creek Sta 72.46 349 *eP* **P** **05 08 07.8 -1.2**
comp=Z,24nm,1.0s,mb5.0
ALLY Alegheny Colle 73.42 351 *eP* **P** **05 08 13.5 -1.0**
KSU1 Kansas State U 74.74 338 *eP* **P** **05 08 21.3 -0.9**
ANMO Albuquerque 74.88 329 P **P** **05 08 23.8 +0.7**
comp=Z,5.8nm,0.7s,mb4.4,baz=147,slow=7.7,SNR=8.0
ANMO Albuquerque 74.88 329 P **P** **05 08 23.8 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,0.7s
ANMO Albuquerque 74.88 329 *eP* **P** **05 08 23.5 +0.4**
comp=Z,16nm,1.2s,mb4.6
MAW Mawson 74.89 163 P **P** **05 08 22.1 -0.4**
comp=Z,10nm,0.7s,mb4.7,baz=207,slow=6.1,SNR=18
MAW LR LR 05 39 43.3
comp=Z,55nm,19.1s,baz=246,slow=34
MDV Middlebury 75.13 357 *eP* **P** **05 08 24.1 -0.3**
CBKS Cedar Bluff 75.54 336 *eP* **P** **05 08 26.9 +0.1**
CBKS pmax pmax
comp=Z,44nm,1.2s,mb5.1
CBKS Cedar Bluff 75.54 336 *eP* **P** **05 08 26.9 +0.1**
comp=Z,44nm,1.2s,mb5.1
SADO Sadowa 76.37 352 P **P** **05 08 30.5 -0.8**
comp=Z,76nm,0.6s,mb4.6,baz=189,slow=5.4,SNR=14
SADO Sadowa 76.37 352 P **P** **05 08 30.5 -0.9**
SDCO Great Sand Dun 76.83 331 *eP* **P** **05 08 34.7 +0.6**
comp=Z,8.5nm,0.8s,mb4.5
TSUM Tsumeb 77.30 105 *eP* **P** **05 08 37.1 +0.1**
comp=Z,4.5nm,0.8s,mb4.2
WUAZ Wupatki 77.62 326 *eP* **P** **05 08 39.5 +1.0**
comp=Z,20nm,1.0s,mb4.8
BAR Barrett 78.13 320 *eP* **P** **05 08 42.1 +0.7**
PV01 Paradox Valley 78.47 329 *eP* **P** **05 08 44.0 +0.9**
ISCO Idaho Springs 78.62 332 *eP* **P** **05 08 44.7 +0.8**
ISCO pmax pmax
comp=Z,29nm,1.5s,mb4.9
ISCO Idaho Springs 78.62 332 *eP* **P** **05 08 44.7 +0.8**
comp=Z,29nm,1.5s,mb4.9
SMCO Snowmass 78.65 331 *eP* **P** **05 08 45.5 +1.5**
comp=Z,24nm,0.9s,mb5.0
PV10 Paradox Valley 78.87 329 *eP* **P** **05 08 45.5 +0.2**
NEN Nelson 79.45 323 *eP* **P** **05 08 49.0 +0.5**
PHWY Pilot Hill 79.84 333 *eP* **P** **05 08 51.1 +0.6**
SRU San Rafael 80.14 328 *eP* **P** **05 08 52.3 +0.2**
SRU pmax pmax
comp=Z,14nm,0.9s,mb4.8
SRU San Rafael 80.14 328 *eP* **P** **05 08 52.3 +0.2**
comp=Z,14nm,0.9s,mb4.8
MSU Marysvale 80.41 327 *eP* **P** **05 08 54.2 +0.6**
MVU Marysvale 80.42 327 *eP* **P** **05 08 55.8 +2.1**
comp=Z,9.1nm,0.9s,mb4.6
ARUT Antelope Range 80.43 326 *eP* **P** **05 08 55.1 +1.4**
LBTB Lobatse 80.91 114 *eP* **P** **05 08 55.4 -1.1**
LBTB pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LBTB Lobatse 80.91 114 *eP* **P** **05 08 55.4 -1.1**
comp=Z,7.3nm,0.5s,mb4.8
TPNV Topopah Spring 81.17 323 *eP* **P** **05 08 58.6 +1.0**
TPNV pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
TPNV Topopah Spring 81.17 323 *eP* **P** **05 08 58.6 +0.9**
comp=Z,8.3nm,0.8s,mb4.6
DAC Darwin (Calif) 81.36 322 *eP* **P** **05 08 59.5 +0.9**
DAC pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
DAC Darwin (Calif) 81.36 322 *eP* **P** **05 08 59.5 +0.9**
comp=Z,9.0nm,0.9s,mb4.6
DAU Daniels Canyon 81.53 329 *eP* **P** **05 09 00.2 +0.8**
EYMN Ely 81.55 345 *eP* **P** **05 08 58.6 -0.8**
comp=Z,11nm,1.1s,mb4.6
RSSD Black Hills 81.73 335 *eP* **P** **05 09 00.7 +0.3**
RSSD pmax pmax
comp=Z,23nm,1.1s,mb4.9
RSSD Black Hills 81.73 335 *eP* **P** **05 09 00.7 +0.3**
comp=Z,23nm,1.1s,mb4.9
DUG Dugway 82.05 328 *eP* **P** **05 09 02.6 +0.5**
DUG pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
DUG Dugway 82.05 328 *eP* **P** **05 09 02.6 +0.5**
comp=Z,5.3nm,0.8s,mb4.4
HWUT Hardware Ranch 82.63 329 *eP* **P** **05 09 05.2 +0.2**
comp=Z,9.2nm,0.8s,mb4.7
BW06 Boulder Array 82.72 331 *eP* **P** **05 09 05.6 +0.1**
comp=Z,5.6nm,0.8s,mb4.5
PDAR Pinedale Array 82.72 331 P **P** **05 09 05.5 0.0**
comp=Z,4.7nm,0.7s,mb4.5,baz=133,slow=6.4,SNR=38

SPUT South Promonto 82.78 328 *eP* **P** **05 09 06.3 +0.4**
HVU Hansel Valley 83.31 328 *eP* **P** **05 09 08.1 -0.4**
HVU pmax pmax
comp=Z,11nm,0.9s,mb4.7
HVU Hansel Valley 83.31 328 *eP* **P** **05 09 08.1 -0.3**
comp=Z,11nm,0.9s,mb4.7
NVAR Mina Array Bea 83.36 323 P **P** **05 09 09.8 +1.0**
comp=Z,4.7nm,0.7s,mb4.4,baz=158,slow=6.3,SNR=29
NVAR Mina Array Bea 83.36 323 P **P** **05 09 09.8 +1.0**
ELK Elko 83.62 326 *eP* **P** **05 09 10.6 +0.5**
ELK pmax pmax
comp=Z,9.0nm,0.9s
ELK Elko 83.62 326 *eP* **P** **05 09 10.6 +0.5**
comp=Z,9.4nm,0.9s,mb4.6
REDW Red Top Meadow 83.75 331 *eP* **P** **05 09 10.5 -0.1**
comp=Z,8.9nm,1.2s,mb4.5
SNOW Snow King Moun 83.79 331 *eP* **P** **05 09 11.4 +0.6**
comp=Z,7.7nm,0.9s,mb4.5
LOHW Long Hollow 83.85 331 *eP* **P** **05 09 11.5 +0.4**
comp=Z,3.8nm,0.6s,mb4.4
TPAW Teton Pass 83.90 331 *eP* **P** **05 09 11.8 +0.4**
comp=Z,18nm,1.5s,mb4.7
IMW Indian Meadow 84.23 331 *eP* **P** **05 09 13.6 +0.6**
comp=Z,4.7nm,0.6s,mb4.5
LKWY Lake 84.55 332 *eP* **P** **05 09 14.9 +0.3**
LKWY pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LKWY Lake 84.55 332 *eP* **P** **05 09 14.9 +0.3**
comp=Z,2.7nm,0.6s,mb4.3
LAO LASA Array 84.73 335 *eP* **P** **05 09 15.4 0.0**
comp=Z,14nm,0.8s,mb4.9
ULM Lac du Bonnet 84.74 343 P **P** **05 09 14.9 -0.5**
comp=Z,11nm,0.7s,mb4.9,baz=154,slow=4.6,SNR=41
YMR Madison River 84.87 331 *eP* **P** **05 09 17.2 +1.1**
comp=Z,19nm,0.8s,mb5.1
QLMT Earthquake Lak 85.19 331 *eP* **P** **05 09 19.0 +1.3**
HLID Hailey 85.45 329 *eP* **P** **05 09 20.1 +1.0**
comp=Z,12nm,0.9s,mb4.8
DGMT Dagmar 85.56 337 *eP* **P** **05 09 20.1 +0.6**
comp=Z,30nm,0.6s,mb5.4
MCMT McKenzie Canyo 85.78 330 *eP* **P** **05 09 22.0 +1.3**
SCHQ Schefferville 85.89 1 P **P** **05 09 20.7 -0.2**
comp=Z,7.3nm,0.9s,mb4.6,baz=193,slow=6.3,SNR=11
SCHQ Schefferville 85.89 1 P **P** **05 09 20.7 -0.3**
DLMT Dillon 86.11 331 *eP* **P** **05 09 23.2 +0.9**
comp=Z,20nm,1.3s,mb4.9
HRY Holter Researc 86.88 332 *eP* **P** **05 09 26.7 +0.7**
EGMT Eagleton 87.15 334 *eP* **P** **05 09 27.2 -0.1**
comp=Z,6.1nm,0.6s,mb4.7
CHMT Chamberlain Mo 87.62 331 *eP* **P** **05 09 30.4 +0.8**
LSZ Lusaka 88.01 107 *eP* **P** **05 09 33.4 +1.3**
YBH Yreka Blue Hor 88.07 323 P **P** **05 09 31.8 0.0**
comp=Z,4.6nm,0.7s,mb4.6,baz=79,slow=7.8,SNR=11
YBH Yreka Blue Hor 88.07 323 P **P** **05 09 31.8 0.0**
YBH pmax pmax
comp=Z,5.0nm,0.7s
MDT Midelt 88.08 49 P **P** **05 09 32.3 +0.2**
comp=Z,3.4nm,1.0s,mb4.3,baz=196,slow=4.3,SNR=4.6
MDT pP pP 05 10 00.6 +0.6
comp=Z,1.8nm,0.8s,baz=240,slow=6.9,SNR=3.4
FCC Fort Churchill 92.25 347 *eP* **P** **05 09 51.0 +0.1**
FCC pmax pmax
comp=Z,14nm,0.6s,mb5.4
FCC Fort Churchill 92.25 347 *eP* **P** **05 09 51.0 0.0**
comp=Z,14nm,0.6s,mb5.4
ESDC Sonseca Array 92.83 44 P **P** **05 09 54.1 +0.1**
comp=Z,0.1nm,0.2s,mb3.8,baz=246,slow=3.5,SNR=4.7
YKA Yellowknife Ar 100.49 340 P P 05 10 27.6 -0.6
comp=Z,0.9nm,0.7s,baz=142,slow=4.5,SNR=37
YKA PP PP 05 14 34.7 -3.8
comp=Z,0.2nm,0.8s,baz=138,slow=8.0,SNR=4.4
YKA PKKPbc 05 26 41.6
comp=Z,0.1nm,0.5s,baz=320,slow=3.7,SNR=6.8
YKA Yellowknife Ar 100.49 340 P P 05 10 27.6 -0.6
YKA PP PP 05 14 34.7 -3.8
YKA PKKPbc 05 26 41.6
ILAR Eielson Array 113.10 333 PKiKP 05 15 16.9
comp=Z,0.5nm,0.4s,baz=163,slow=0.9,SNR=15
ILAR Eielson Array 113.10 333 *i* PKIKP PKPdf 05 15 16.9 +0.5
ILAR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 118.19 59 PKP PKPdf 05 15 27.7 +0.8
comp=Z,1.3nm,0.7s,baz=174,slow=2.9,SNR=7.0
BRTR Keskin Array B 118.19 59 PKIKP PKPdf 05 15 27.7 +0.8
BRTR pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 118.44 46 PKP PKPdf 05 15 26.9 -0.3
comp=Z,1.0nm,0.6s,baz=265,slow=3.0,SNR=14
AKASG Malin Array Be 118.44 46 PKIKP PKPdf 05 15 26.9 -0.2
AKASG pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 119.33 33 PKP PKPdf 05 15 28.7 +0.2
comp=Z,3.1nm,1.0s,SNR=7.7
FINES FINESS Array B 119.33 33 PKIKP PKPdf 05 15 28.7 +0.1
FINES pmax pmax
comp=Z,3.0nm,1.0s
KAF Kangasniemi 119.57 33 *ep* PKPdf 05 15 29.0 0.0
ARCES ARCESS Array B 120.53 24 PKP PKPdf 05 15 31.1 +0.4
comp=Z,1.9nm,0.9s,baz=270,slow=3.6,SNR=9.4
ARCES ARCESS Array B 120.53 24 PKIKP PKPdf 05 15 31.1 +0.3
ARCES pmax pmax
comp=Z,2.0nm,0.9s
KEV Kevo 121.08 24 *ep* PKPdf 05 15 30.0 -1.8
ASPA Alice Springs 121.08 204 *eP* PKPdf 05 15 32.6 -0.3
JOF Joensuu 121.99 32 *ep* PKPdf 05 15 34.1 +0.4
ANN Anapa 122.31 54 *i* PKIKP PKPdf 05 15 24.4 -10
ANN pmax pmax
comp=Z,11nm,0.7s
OBN Obninsk 123.69 42 ⇓ *i* PKIKP PKPdf 05 15 36.8 -0.4
OBN pmax pmax
comp=Z,7.0nm,1.2s
WB2 Warramunga Arr 124.32 207 *eP* PKPdf 05 15 39.2 0.0
WRA Warramunga Arr 124.32 207 PKP PKPdf 05 15 39.0 -0.2
comp=Z,2.0nm,0.6s,baz=169,slow=1.6,SNR=19
WRA pPKP 05 16 08.3
comp=Z,1.2nm,0.6s,baz=165,slow=1.6,SNR=4.0
WRA PKKPbc 05 25 24.3
comp=Z,0.6nm,0.6s,baz=341,slow=4.5,SNR=6.5
WRA Warramunga Arr 124.32 207 PKIKP PKPdf 05 15 39.0 -0.2
WRA 05 16 08.3
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA pmax pmax
comp=Z,1.0nm,0.6s
BILL Bilibino 131.62 336 *e* PKIKP PKPdf 05 15 52.1 +0.1
BILL *e* 05 18 11.2
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,100nm,13.0s
ARU Arti 136.02 39 *i* PKIKP PKPdf 05 15 59.1 -1.3
ARU *e*SS SS 05 36 27.7 -5.4
AB31 Akbulak array 137.95 50 *i* PKIKP PKPdf 05 16 04.7 +0.5
AB31 pmax pmax
comp=Z,2.0nm,0.6s
TIXI Tiksi 138.56 352 ⇑ *e*PKIKP PKPdf 05 16 04.6 -0.2
SEY Seymchan 139.04 333 ⇑ *i* PKIKP PKPdf 05 16 07.5 +1.7
BRVK Borovoye 143.47 42 *e*PKIKP PKPdf 05 16 11.8 -1.9
BVA0 Borovoye Array 143.54 42 *i* PKIKP PKPdf 05 16 13.0 -0.9
KKAR Karatay Array 145.91 58 *i* PKP2 PKPab 05 16 19.3 -2.7
KKAR pmax pmax
comp=Z,2.0nm,0.5s
YAK Yakutsk 147.08 344 ⇑ *i* PKP2 PKPab 05 16 23.0 -2.9
HYB Hyderabad 147.35 108 *i* PKP PKPdf 05 16 25.0 +3.5
HYB *e*PP 05 16 53.0
EKS2 Erkin-Say 148.34 59 P PKPdf 05 16 27.9 +5.5
SNR=12
AML Almayashu 148.35 60 P PKPdf 05 16 28.1 +5.7
SNR=7.7
USP Ospenovka 148.77 57 P PKPdf 05 16 28.8 +5.8
SNR=13
AAK Ala-Archa 148.87 58 P PKPdf 05 16 29.6 +6.4
SNR=14
AAK Ala-Archa 148.87 58 *e*PKPdf PKPdf 05 16 24.5 +1.3
AAK *e*PKPbc PKPdf 05 16 28.5 +5.3
AAK *e*PKPab PKPab 05 16 32.4 -1.3
FRU Bishkek 148.93 58 *e*PKP2 PKPab 05 16 29.0 -4.9
FRU pmax pmax
comp=Z,40nm,1.4s
UCH Uchtor 148.94 59 P PKPdf 05 16 30.3 +7.0
SNR=15
CHMS Chumysh 149.00 58 P PKPdf 05 16 29.3 +5.9
SNR=12
KURK Kurchatov 149.14 42 *e*PKIKP PKPdf 05 16 24.9 +1.6
KURK *e* 05 16 28.7
KBK Karagaybulak 149.20 58 P PKPdf 05 16 30.4 +6.7
SNR=13
NVS Novosibirsk 149.30 32 ⇓ *i* PKP2 PKPab 05 16 28.6 -6.5
NVS pmax pmax
comp=Z,22nm,1.0s
TKM2 Tokmak 2 149.62 58 P PKPdf 05 16 31.0 +6.7
SNR=17
TKM2 Tokmak 2 149.62 58 PKHKP 05 16 28.8
TKM2 pmax pmax
comp=Z,22nm,0.9s
ULHL Ulahol 150.21 59 P PKPdf 05 16 33.3 +8.0
SNR=6.3
YSS Yuzh-Sakhalins 151.23 312 ⇑ *i* PKIKP PKPdf 05 16 34.5 +7.8
MKAR Makanchi Array 153.02 47 PKP PKPdf 05 16 30.4 +1.1
comp=Z,0.4nm,0.7s,baz=278,slow=0.6,SNR=5.7
MKAR PKPbc PKPdf 05 16 37.9 +8.6
comp=Z,7.8nm,0.8s,baz=304,slow=2.0,SNR=60
MKAR PKPab PKPab 05 16 50.0 -0.8
comp=Z,6.9nm,0.6s,baz=295,slow=4.1,SNR=25
MKAR pPKPbc 05 17 09.1
comp=Z,2.1nm,0.6s,baz=288,slow=3.8,SNR=3.4
MKAR pPKPab 05 17 18.8
comp=Z,5.5nm,0.8s,baz=292,slow=3.7,SNR=8.2
MKAR Makanchi Array 153.02 47 PKIKP PKPdf 05 16 30.4 +1.1
MKAR 05 17 09.1
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 153.02 47 PKP PKPdf 05 16 30.4 +1.1
MKAR PKPbc PKPdf 05 16 37.9 +8.6
MKAR PKPab PKPab 05 16 50.0 -0.8
MKAR pPKPbc 05 17 09.1
MKAR pPKPab 05 17 18.8
BOD Bodaibo 153.50 357 *e*PKIKP PKPdf 05 16 29.2 -0.3
MJAR Matsushiro Arr 157.02 290 PKPab PKPab 05 17 07.6 -0.6
comp=Z,3.6nm,0.7s,baz=108,slow=2.6,SNR=8.5
MJAR pPKPab 05 17 36.5
comp=Z,2.0nm,0.7s,baz=91,slow=2.6,SNR=4.0
SONM Songino Array 163.18 11 PKP PKPdf 05 16 42.8 +1.5
comp=Z,0.9nm,0.8s,SNR=6.2
SONM PKPab PKPab 05 17 34.4 -0.1
comp=Z,4.0nm,0.7s,baz=326,slow=4.6,SNR=21
SONM Songino Array 163.18 11 PKIKP PKPdf 05 16 42.8 +1.5
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=Z,4.0nm,0.7s

NNC 25 05:07:34.0±1.2, 37.15N×70.62E, mb3.5, mpv3.7, 3C-1D,
Error ellipse: s-maj=21.7km s-min=11.7km az=100.0,
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.95**	**359**	⇑Pn		Pn	05 09 06.0	+0.6
	3.6nm,0.5s,baz=180,slow=12,SNR=72							
KK31				⇑Sn		Sn	05 10 18.7	+3.4
	1.3nm,0.3s,baz=174,slow=22,SNR=7.0							
AB31	**Akbulak array**	**14.37**	**331**	⇑P		P	05 10 58.2	-2.3
	0.1nm,0.3s,baz=145,slow=15,SNR=5.0							
AKTO	**Aktyubinsk**	**16.07**	**330**	⇓P		P	05 11 22.4	-0.3
	1.4nm,2.5s							

BJI ***25*** *05:20:51.8,21.21N×144.20E,h130km,mB4.5,mb4.5*
IDC ***25*** *05:21:01.0±0.6,22.25N×143.72E,h120km±4km,mb4.2/19,*
mb1 4.4/21,mb1mx4.3/24,mbtmp4.6/21,Error ellipse:
s-maj=14.3km s-min=11.1km az=81.0
MOS ***25*** *05:21:00.8±1.0,22.25N×143.58E,h132km,mb4.4/16,*
Error ellipse: s-maj=14.7km s-min=7.7km az=105.8
NEIC ***25*** *05:21:02.2±0.2,22.17N×143.70E,mb4.5/26,Error*
ellipse: s-maj=7.1km s-min=5.7km az=96.0

ISC 25 05:20:59.6±0.3, 22.20N±0.04×143.63E±0.06, h121km,
h121km±4.0km: pP-P,n105,c0s99/102, mb4.5/56, 3C-2D,
Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.04**	**345**	P		**P**	**05 22 16.1**	**+1.8**
	96nm,0.3s,baz=206,slow=5.8,SNR=20							
CBIJ				S		**S**	**05 23 10.5**	**-1.4**
	129nm,0.3s,baz=220,slow=21,SNR=17							
MJAR	**Matsushiro Arr**	**15.04**	**343**	P		**P**	**05 24 28.6**	**+1.7**
	1.0nm,0.3s,baz=167,slow=8.6,SNR=11							
MAJO	**Matsushiro**	**15.04**	**343**	*eP*		**P**	**05 24 31.5**	**+4.5**
MAT	**Matsushiro**	**15.04**	**343**	P		**P**	**05 24 31.0**	**+4.0**
SSE	**Sheshan**	**21.90**	**299**	*eP*		**P**	**05 25 45.3**	**+1.5**
SSE				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.3							
NJ2	**Nanjing**	**24.08**	**299**	*eP*		**P**	**05 26 07.3**	**+2.3**
NJ2				S		**S**	**05 30 12.0**	**+1.3**
NJ2				SS	SS		05 31 23.0	+10
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.2							
NJ2				AMB	AMB			
	comp=Z,100nm,7.7s							
NJ2				LR	LR			
	comp=N,520nm,16.0s							
NJ2				LR	LR			
	comp=E,370nm,22.0s							
NJ2				LR	LR			
	comp=Z,330nm,18.6s							
WHN	**Wuhan**	**27.46**	**294**	*eP*		**P**	**05 26 32.0**	**-4.4**
ULN	**Ulaanbaatar**	**38.84**	**320**	*eP*		**P**	**05 28 15.5**	**+1.2**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.4							
ULN	**Ulaanbaatar**	**38.84**	**320**	*eP*		**P**	**05 28 15.5**	**+1.2**
	comp=Z,4.3nm,0.7s,mb4.4							
SONM	**Songino Array**	**39.22**	**320**	P		**P**	**05 28 18.5**	**+1.1**
	comp=Z,4.6nm,0.6s,mb4.5,baz=130,slow=7.3,SNR=54							
GTA	**Gaotai**	**40.92**	**305**	*eP*		**P**	**05 28 33.1**	**+1.6**
YAK	**Yakutsk**	**40.94**	**350**	⇑ *eP*		**P**	**05 28 31.5**	**0.0**
YAK				pmax	pmax			
	comp=Z,21nm,0.9s,mb5.0							
SEY	**Seymchan**	**41.14**	**6**	⇑ *eP*		**P**	**05 28 33.1**	**0.0**
CTA	**Charters Tower**	**42.11**	**176**	*eP*		**P**	**05 28 41.4**	**-0.2**
	comp=Z,10nm,0.6s,mb4.7							
CTA	**Charters Tower**	**42.11**	**176**	*eP*		**P**	**05 28 41.4**	**-0.2**
CTA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CTAO	**Charters Tower**	**42.11**	**176**	*eP*		**P**	**05 28 41.3**	**-0.3**
CTAO				pmax	pmax			
	comp=Z,12nm,0.6s,mb4.8							
CTAO	**Charters Tower**	**42.11**	**176**	*eP*		**P**	**05 28 41.3**	**-0.3**
	comp=Z,12nm,0.6s,mb4.8							
ZAK	**Zakamensk**	**42.20**	**322**	*eP*		**P**	**05 28 42.2**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,10.0nm,2.0s,mb4.2							
WRAB	**Tennant Creek**	**42.85**	**193**	⇓ *iP*		**P**	**05 28 47.5**	**-0.1**
WRAB	**Tennant Creek**	**42.85**	**193**	*eP*		**P**	**05 28 47.4**	**-0.2**
WB2	**Warramunga Arr**	**42.86**	**193**	*eP*		**P**	**05 28 47.9**	**+0.2**
WRA	**Warramunga Arr**	**42.86**	**193**	P		**P**	**05 28 47.5**	**-0.2**
	comp=Z,2.6nm,0.3s,mb4.4,baz=11,slow=8.4,SNR=130							
FITZ	**Fitzroy Crossi**	**43.75**	**205**	*eP*		**P**	**05 28 55.7**	**+0.8**
	comp=Z,4.8nm,0.3s,mb4.7							
ASPA	**Alice Springs**	**46.57**	**192**	*eP*		**P**	**05 29 16.7**	**-0.5**
PSI	**Prapat**	**47.46**	**252**	P		**P**	**05 29 25.8**	**+1.4**
	comp=Z,4.3nm,0.5s,mb4.5,baz=150,slow=2.9,SNR=9.9							
BILL	**Bilibino**	**47.95**	**11**	*eP*		**P**	**05 29 25.0**	**-2.4**
BILL				pmax	pmax			
	comp=Z,9.0nm,1.4s,mb4.4							
BILL				MLR	MLR			
	comp=Z,100nm,15.0s							
MBWA	**Marble Bar**	**49.00**	**210**	*eP*		**P**	**05 29 35.8**	**-0.4**
	comp=Z,5.4nm,0.7s,mb4.6							
TIXI	**Tiksi**	**50.19**	**354**	⇑ *eP*		**P**	**05 29 43.4**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,9.0nm,2.2s,mb4.3							
JIRN	**Jiri**	**51.98**	**288**	*eP*		**P**	**05 29 59.6**	**+0.9**
	comp=Z,14nm,0.6s,mb5.2							
GUN	**Gumba**	**52.22**	**289**	*eP*		**P**	**05 30 00.9**	**+0.4**
	comp=Z,7.3nm,0.4s,mb5.0							
GKN	**Gorkha**	**53.30**	**289**	*eP*		**P**	**05 30 07.5**	**-1.0**
STKA	**Stephens Creek**	**53.81**	**182**	*eP*		**P**	**05 30 10.7**	**-1.5**
	comp=Z,3.4nm,0.3s,mb4.8							
STKA	**Stephens Creek**	**53.81**	**182**	P		**P**	**05 30 10.6**	**-1.6**

comp=Z,4.4nm,0.4s,mb4.9,baz=352,slow=8.4,SNR=47
KOLN Koldanda 54.24 289 *e*P **P 05 30 16.0 +0.6**
MKAR Makanchi Array 54.66 312 P **P 05 30 18.4 +0.2**
comp=Z,2.9nm,0.4s,mb4.6,baz=90,slow=9.1,SNR=54
MKAR pP pP 05 30 45.4 -1.5
comp=Z,1.9nm,0.5s,baz=88,slow=9.7,SNR=4.7
MKAR PcP PcP 05 31 18.4 -0.9
comp=Z,5.6nm,0.6s,baz=70,slow=4.9,SNR=14
FORT Forrest 54.76 196 *e*P **P 05 30 18.6 -0.5**
comp=Z,10nm,0.6s,mb5.0
NVS Novosibirsk 55.16 322 *e*P **P 05 30 20.5 -1.2**
KURK Kurchatov 57.39 317 *e*P **P 05 30 37.1 -0.5**
KURK pmax pmax
comp=Z,19nm,0.8s,mb5.2
KURK Kurchatov 57.39 317 *e*P **P 05 30 37.1 -0.5**
comp=Z,19nm,0.8s,mb5.2
KDAK Kodiak Island 57.55 35 P **P 05 30 37.6 -0.9**
comp=Z,17nm,1.0s,mb5.0,baz=319,slow=20,SNR=19
KLBR Kellerberrin 58.95 206 *e*P **P 05 30 48.1 -0.7**
comp=Z,8.7nm,0.6s,mb5.0
AAK Ala-Archa 60.19 307 *i*P **P 05 30 56.2 -0.9**
AAK Ala-Archa 60.19 307 *e*P **P 05 30 56.7 -0.3**
comp=Z,2.1nm,0.5s,mb4.4
MCK McKinley 60.35 28 *e*P **P 05 30 56.2 -1.6**
comp=Z,1.0nm,0.5s,mb4.1
ILAR Eielson Array 61.40 27 P **P 05 31 02.9 -2.1**
comp=Z,3.8nm,0.8s,mb4.5,baz=259,slow=5.4,SNR=42
ILAR pP pP 05 31 31.1 -3.4
comp=Z,0.7nm,0.7s,baz=269,slow=5.5,SNR=1.9
BVA0 Borovoye Array 62.56 319 *i*P **P 05 31 12.4 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
BVAR Borovoye Array 62.56 319 P **P 05 31 12.7 -0.2**
comp=Z,30nm,0.4s,mb5.5,baz=91,slow=7.2,SNR=268
BVAR pP pP 05 31 40.5 -1.9
comp=Z,10nm,0.8s,baz=90,slow=7.4,SNR=3.7
BRVK Borovoye 62.62 319 *e*P **P 05 31 12.9 -0.4**
BRVK pmax pmax
comp=Z,13nm,0.6s,mb5.0
BRVK Borovoye 62.62 319 *e*P **P 05 31 12.9 -0.3**
comp=Z,13nm,0.6s,mb5.0
KKAR Karatay Array 63.07 308 *i*P **P 05 31 16.0 -0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
INK Inuvik 66.94 24 *e*P **P 05 31 39.8 -1.1**
INK pmax pmax
comp=Z,6.0nm,0.9s
INK Inuvik 66.94 24 *e*P **P 05 31 39.8 -1.1**
comp=Z,6.5nm,0.9s,mb4.5
ARU Arti 69.10 324⇓*i*P **P 05 31 53.8 -0.6**
ARU *e* 05 34 26.6
ARU *e*PPP PPP 05 36 07.6 -1.7
ARU *e*S S 05 40 46.7 -1.8
ARU *e*SS SS 05 45 15.1 -3.7
ARU pmax pmax
comp=Z,12nm,0.7s,mb4.8
ARU Arti 69.10 324 *e*P **P 05 31 53.5 -0.9**
comp=Z,12nm,0.6s,mb4.9
AB31 Akbulak array 69.48 316 *i*P **P 05 31 56.1 -0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
AKTK Aktyubinsk 70.48 317 P **P 05 32 02.3 -0.5**
AKTO Aktyubinsk 70.48 317 P **P 05 32 02.3 -0.5**
comp=Z,2.7nm,0.5s,mb4.3,baz=88,slow=10,SNR=12
YKA Yellowknife Ar 75.82 28 P **P 05 32 33.2 -0.5**
comp=Z,4.4nm,0.7s,mb4.3,baz=292,slow=5.8,SNR=94
KEBM Edson Butte 76.67 49 *e*P **P 05 32 36.9 -1.9**
KLMR Klimovskoe 77.47 331 *e*P **P 05 32 42.4 -0.5**
KLMR pmax pmax
comp=Z,20nm,2.0s,mb4.5
KHMM Horse Mountain 77.73 51 P **P 05 32 46.4 +1.6**
KEV Kevo 78.02 341 *e*p **P 05 32 45.6 -0.2**
comp=Z,1.3nm,0.4s,mb4.0
KEV Kevo 78.02 341 *e*P **P 05 32 45.6 -0.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
ARCES ARCESS Array B 78.58 342 P **P 05 32 48.7 -0.1**
comp=Z,5.9nm,0.6s,mb4.6,baz=72,slow=8.4,SNR=60
JOF Joensuu 80.04 335 *e*p **P 05 32 56.2 -0.7**
comp=Z,5.5nm,0.4s,mb4.7
OBN Obninsk 81.30 326 *e*P **P 05 33 02.9 -0.8**
OBN pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
KIV Kislovodsk 82.37 314 *e*P **P 05 33 07.5 -1.9**
KIV *e*S S 05 43 07.4 -6.3
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.6
KAF Kangasniemi 82.44 335 *e*p **P 05 33 08.4 -1.0**
comp=Z,2.0nm,0.4s,mb4.3
KAF Kangasniemi 82.44 335 *e*P **P 05 33 08.4 -1.0**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
NVAR Mina Array Bea 82.51 52 P **P 05 33 11.2 +0.9**
comp=Z,4.6nm,0.7s,mb4.4,baz=274,slow=5.6,SNR=34
NVAR pP pP 05 33 40.0 -1.3
comp=Z,1.0nm,0.8s,baz=283,slow=5.0,SNR=2.1
MNV Mina 82.61 52 *e*P **P 05 33 11.5 +0.7**
MNV pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
MNV Mina 82.61 52 *e*P **P 05 33 11.5 +0.6**
comp=Z,6.6nm,1.2s,mb4.3
FINES FINESS Array B 82.91 335 P **P 05 33 10.9 -0.8**
comp=Z,4.7nm,0.4s,mb4.7,baz=62,slow=5.2,SNR=78
FINES pP pP 05 33 44.2 +1.4
comp=Z,2.3nm,0.6s,baz=78,slow=5.7,SNR=3.2
HRY Holter Researc 83.54 42 *e*P **P 05 33 15.8 +0.5**
QLMT Earthquake Lak 84.61 44 *e*P **P 05 33 22.0 +1.3**
GSC Goldstone 84.83 54 *e*P **P 05 33 22.5 +0.5**
LKWY Lake 85.38 44 *e*P **P 05 33 27.2 +2.7**
comp=Z,2.8nm,0.6s,mb4.4
DUG Dugway 85.69 48 *e*P **P 05 33 26.8 +0.6**
DUG pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
DUG Dugway 85.69 48 *e*P **P 05 33 26.8 +0.6**
comp=Z,1.9nm,0.4s,mb4.4
HWUT Hardware Ranch 85.93 47 *e*P **P 05 33 27.7 +0.4**
comp=Z,5.2nm,1.0s,mb4.4
NEN Nelson 86.15 53 *e*P **P 05 33 29.1 +0.6**
ARUT Antelope Range 86.28 51 *e*P **P 05 33 29.9 +0.8**
DAU Daniels Canyon 86.67 48 *e*P **P 05 33 31.9 +1.0**
BW06 Boulder Array 86.74 45 *e*P **P 05 33 31.4 +0.2**
comp=Z,0.6nm,0.4s,mb3.9
PDAR Pinedale Array 86.74 45 P **P 05 33 30.9 -0.3**
comp=Z,0.7nm,0.5s,mb5.8,baz=275,slow=1.8,SNR=9.6
MSU Marysvale 86.86 50 *e*P **P 05 33 32.9 +1.0**
LAO LASA Array 86.97 40 *e*P **P 05 33 33.0 +0.7**
comp=Z,15nm,1.1s,mb4.8
AKASG Malin Array Be 87.34 325 P **P 05 33 32.8 -1.0**
comp=Z,1.2nm,0.4s,mb4.2,baz=49,slow=4.6,SNR=16
AKASG pP pP 05 34 06.5 +1.2
comp=Z,0.8nm,0.4s,baz=51,slow=5.1,SNR=6.1
AKASG Malin Array Be 87.34 325 P **P 05 33 32.8 -1.0**
AKASG pP pP 05 34 06.5 +1.2
SRU San Rafael 87.75 49 *e*P **P 05 33 36.6 +0.4**
SRU pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
SRU San Rafael 87.75 49 *e*P **P 05 33 36.6 +0.4**
comp=Z,2.1nm,0.5s,mb4.4
NB2 NORSAR Subarra 88.63 339 P **P 05 33 38.6 -1.1**
comp=Z,0.6nm,0.4s,mb4.0,baz=42,slow=5.0
NOA NORSAR Array B 88.63 339 P **P 05 33 38.7 -1.0**
comp=Z,1.6nm,0.7s,mb4.2,baz=47,slow=4.6,SNR=4.7
NOA pP pP 05 34 12.5 +1.3
comp=Z,2.1nm,0.6s,baz=45,slow=4.7,SNR=4.4
PV10 Paradox Valley 89.12 49 *e*P **P 05 33 43.5 +0.9**
PV01 Paradox Valley 89.56 49 *e*P **P 05 33 45.1 +0.4**
SMCO Snowmass 90.16 47 *e*P **P 05 33 48.6 +1.1**
comp=Z,5.6nm,0.9s,mb4.7
BRTR Keskin Array B 90.30 314 P **P 05 33 47.8 -0.3**
comp=Z,2.3nm,0.7s,mb4.4,baz=105,slow=4.3,SNR=12
ULM Lac du Bonnet 90.79 34 P **P 05 33 50.3 +0.1**
comp=Z,1.5nm,0.6s,mb4.3,baz=328,slow=4.5,SNR=5.7
ANMO Albuquerque 92.58 51 *i*P **P 05 33 53.4 -5.4**
TXAR Lajitas Array 97.42 54 P **P 05 34 21.4 +0.4**
comp=Z,0.5nm,0.8s,mb4.0,baz=294,slow=2.1,SNR=8.5
DBIC Dimbokro 137.85 309 PKP PKPdf 05 40 12.8 +2.0
comp=Z,3.1nm,0.9s,baz=352,slow=6.1,SNR=3.5
PLCA Paso Flores 145.77 131 PKPbc PKPbc 05 40 26.1 +1.3
comp=Z,13nm,0.5s,baz=234,slow=3.6,SNR=78
PLCA Paso Flores 145.77 131 *e*PKP2 PKPab 05 40 26.1 -1.3
LPAZ La Paz 149.48 85 PKP PKPdf 05 40 33.2 +2.6
comp=Z,6.6nm,0.5s,baz=205,slow=1.0,SNR=4.8
LPAZ PKPbc PKPdf 05 40 37.7 +7.1
comp=Z,6.5nm,0.5s,baz=31,slow=8.3,SNR=47
LPAZ La Paz 149.48 85 *e*PKPdf PKPdf 05 40 32.9 +2.2
LPAZ *e*PKPbc PKPdf 05 40 37.6 +7.0
LPAZ *e*PKPab PKPab 05 40 43.1 +0.3

*IDC **25** 05:28:26.1±0.9,23.29N×141.96E,mb3.9/9,mb1 4.1/10, mb1mx3.9/21,mbtmp3.9/10,ML3.5/1,MS3.2/2,Ms1 3.2/2, ms1mx3.0/20,Error ellipse: s-maj=32.5km s-min=23.0km az=103.0*
*NEIC **25** 05:28:31.5±0.5,23.33N×141.91E,h35km,mb4.3/3,Error ellipse: s-maj=18.4km s-min=12.2km az=93.0*
ISC 25 05:28:30.3±2.6,23.3N±0.1×141.9E±0.2,h40km±21km**,n18, σ0s73/17,mb4.0/11,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.78**	**4**	Pn		**P**		**05 29 27.5**	**-0.1**
	6.4nm,0.3s,baz=118,slow=21,SNR=2.5								
CBIJ				Sn		**S**		**05 30 15.8**	**+4.3**
	11nm,0.3s,baz=300,slow=22,SNR=3.0								
GUMO	**Guam**	**10.08**	**163**	LR		LR		05 34 40.0	
	comp=Z,115nm,18.0s,baz=53,slow=37								
JOW	**Kunigami**	**12.80**	**289**	LR		LR		05 36 34.1	
	comp=Z,126nm,18.5s,baz=74,slow=38								
WRAB	**Tennant Creek**	**43.60**	**190**	*e*P		**P**		**05 36 33.0**	**+0.4**
	23nm,0.9s,mb4.9								
WRA	**Warramunga Arr**	**43.61**	**190**	P		**P**		**05 36 32.4**	**-0.3**
	6.2nm,0.8s,mb4.4,baz=12,slow=8.3,SNR=25								
MKAR	**Makanchi Array**	**52.71**	**312**	P		**P**		**05 37 43.6**	**+0.6**
	0.3nm,0.5s,mb3.5,baz=89,slow=9.0,SNR=4.8								
KURK	**Kurchatov**	**55.47**	**316**	*e*P		**P**		**05 38 02.1**	**-1.1**
	2.2nm,0.9s,mb4.2								
BVAR	**Borovoye Array**	**60.66**	**319**	P		**P**		**05 38 39.7**	**+0.2**
	0.9nm,0.6s,mb4.1,baz=71,slow=8.0,SNR=5.6								
ILAR	**Eielson Array**	**61.18**	**28**	P		**P**		**05 38 41.6**	**-1.3**
	1.5nm,0.9s,mb4.1,baz=256,slow=3.5,SNR=10								
INK	**Inuvik**	**66.59**	**24**	P		**P**		**05 39 18.1**	**0.0**
	1.3nm,0.9s,mb4.0,baz=262,slow=12,SNR=4.6								
INK	**Inuvik**	**66.59**	**24**	*e*P		**P**		**05 39 17.8**	**-0.4**
	1.9nm,1.0s,mb4.1								
YKA	**Yellowknife Ar**	**75.61**	**28**	P		**P**		**05 40 12.2**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=292,slow=5.9,SNR=12								
YKA	**Yellowknife Ar**	**75.61**	**28**	P		**P**		**05 40 12.2**	**-0.2**
JOF	**Joensuu**	**78.34**	**334**	*e*p		**P**		**05 40 27.7**	**+0.1**
FINES	**FINESS Array B**	**81.20**	**334**	P		**P**		**05 40 43.4**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=68,slow=5.1,SNR=12								
NVAR	**Mina Array Bea**	**83.10**	**51**	P		**P**		**05 40 54.6**	**+1.3**
	0.2nm,0.3s,mb3.6,baz=260,slow=5.5,SNR=5.4								
AKASG	**Malin Array Be**	**85.49**	**324**	P		**P**		**05 41 05.2**	**+0.2**
	0.4nm,0.5s,mb3.8,baz=51,slow=4.5,SNR=5.0								
AKASG	**Malin Array Be**	**85.49**	**324**	P		**P**		**05 41 05.2**	**+0.2**

CASC 25 05:51:04.3±3.5,15.19N×89.29W,h4km±27km**,MD3.8, ML4.1,1C-3D,Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.41**	**252**⇑	*e*P		Pg		05 51 12.0	-0.4
MRL				*e*S		Sg		05 51 18.3	+0.5
MTO2	**Montecristo 2**	**0.79**	**185**⇓	*e*P		Pg		05 51 36.9	+17
MTO2				*e*S		Sg		05 51 46.8	+16
NBG	**Las Nubes**	**1.18**	**240**	*e*P		Pb		05 51 27.6	+0.6
NBG				*e*S		Sb		05 51 44.6	+2.1
RTR	**El Retiro**	**1.33**	**195**	*e*P		Pb		05 51 47.2	+18
RTR				*e*S		Sb		05 52 06.5	+20
SNJE	**San Jose**	**1.35**	**193**	*e*P		Pb		05 51 46.9	+17
SNJE				*e*S		Sb		05 52 06.9	+20
SBLS	**San Blas**	**1.38**	**193**	*e*P		Pb		05 51 47.9	+17
SBLS				*e*S		Sb		05 52 07.7	+19
LFU	**La Fuente**	**1.45**	**173**⇓	*e*P		Pn		05 51 48.9	+18
LFU				*e*S		Sb		05 52 08.7	+19
BOQS	**Boqueron**	**1.45**	**180**	*e*P		Pn		05 51 49.0	+18
BOQS				*e*S		Sb		05 52 08.4	+18
LBRS	**Las Brisas**	**1.47**	**171**	*e*P		Pn		05 51 49.3	+18
LBRS				*e*S		Sb		05 52 10.8	+20
SNET	**Serv Nac Est T**	**1.50**	**178**	*e*P		Pn		05 51 30.4	-1.7
IXG	**Ixpaco**	**1.51**	**228**	*e*P		Pn		05 51 31.8	-0.5
IXG				*e*S		Sb		05 51 54.8	+2.7
IXG					AML	AML		05 52 02.3	
	comp=E,3μm,0.4s								
LCBS	**La Ceiba**	**1.56**	**169**⇓	*e*P		Pn		05 51 50.3	+17
LCBS				*e*S		Sb		05 52 11.6	+18
LFRS	**El Faro**	**1.58**	**172**	*e*P		Pn		05 51 50.9	+18
LFRS				*e*S		Sb		05 52 12.9	+19
SNVI	**San Vicente**	**1.63**	**164**	*e*P		Pn		05 51 52.1	+18
SNVI				*e*S		Sb		05 52 14.0	+18
FUG	**Fuego 3**	**1.67**	**244**	*e*P		Pn		05 51 35.5	+0.9
FUG				*e*S		Sb		05 51 57.3	+0.6
CAHU	**Cacacuatique**	**1.76**	**143**	*e*P		Pn		05 51 55.0	+19
CAHU				*e*S		Sn		05 52 18.5	+20
VSM	**San Miguel**	**2.01**	**151**	*e*P		Pn		05 51 58.5	+19
VSM				*e*S		Sn		05 52 24.9	+20
CNCH	**Conchagua**	**2.37**	**143**	*e*P		Pn		05 52 03.4	+19
CNCH				*e*S		Sn		05 52 36.0	+21

*IDC **25** 05:53:10.6±1.0,23.35N×141.94E,mb3.6/4,mb1 3.8/5, mb1mx3.6/18,mbtmp3.7/5,ML3.6/1,MS3.5/1,Ms1 3.5/1, ms1mx2.7/26,Error ellipse: s-maj=43.2km s-min=23.7km az=96.0*
*NEIC **25** 05:53:15.9±0.5,23.33N×141.91E,h35km,Error ellipse: s-maj=26.9km s-min=12.0km az=97.0*
ISC 25 05:53:13.7±0.7,23.36N±0.09×141.9E±0.3,h33km**,n12, σ0s37/11,mb3.9/6,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.73**	**3**	Pn		**Pn**		**05 54 09.9**	**-0.5**
	8.0nm,0.3s,baz=298,slow=17,SNR=2.0								
CBIJ				Sn		**Sn**		**05 55 02.4**	**+8.6**
	16nm,0.3s,baz=296,slow=23,SNR=3.2								
JOW	**Kunigami**	**12.85**	**288**	LR		LR		06 00 30.8	
	comp=Z,226nm,19.1s,baz=48,slow=34								
WRAB	**Tennant Creek**	**43.66**	**190**	*e*P		**P**		**06 01 17.1**	**-0.2**
	27nm,1.2s,mb4.9								
WB2	**Warramunga Arr**	**43.67**	**190**	*e*P		**P**		**06 01 17.2**	**-0.1**
WRA	**Warramunga Arr**	**43.67**	**190**	P		**P**		**06 01 17.2**	**-0.1**
	11nm,0.9s,mb4.6,baz=12,slow=8.5,SNR=44								
ASPA	**Alice Springs**	**47.39**	**190**	*e*P		**P**		**06 01 46.9**	**0.0**
MKAR	**Makanchi Array**	**52.73**	**312**	P		**P**		**06 02 27.1**	**-0.2**
	0.2nm,0.6s,mb3.2,baz=90,slow=10,SNR=5.4								
ILAR	**Eielson Array**	**61.10**	**28**	P		**P**		**06 03 26.5**	**-0.1**
	1.1nm,1.1s,mb3.9,baz=232,slow=6.8,SNR=4.1								
YKA	**Yellowknife Ar**	**75.53**	**28**	P		**P**		**06 04 56.5**	**+0.3**
	0.2nm,0.7s,mb3.2,baz=295,slow=5.7,SNR=5.7								
YKA	**Yellowknife Ar**	**75.53**	**28**	P		**P**		**06 04 56.5**	**+0.3**
FINES	**FINESS Array B**	**81.19**	**334**	P		**P**		**06 05 28.1**	**+0.9**
	1.2nm,0.7s,mb3.9,baz=88,slow=6.3,SNR=9.2								
LPAZ	**La Paz**	**150.90**	**82**	PKPbc		PKPdf		06 13 06.4	+8.5
	0.6nm,0.5s,baz=355,slow=8.6,SNR=3.9								

*NEIC **25** 06:14:51.7,37.76S×176.07E,h255km,MG4.5(WEL), After WEL.*
WEL 25 06:14:51.5±0.3,37.77S×176.06E,h258km±2km**,ML4.5/14, 3C-1D,Error ellipse: s-maj=4.2km s-min=3.5km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.96**	**121**	PN		P		06 15 26.7	-0.6
URZ				SN		S		06 15 54.9	-0.3
URZ	**Urewera**	**0.96**	**121**	P		P		06 15 26.9	-0.4
MWZ	**Matawai**	**1.29**	**116**	PN		P		06 15 29.1	-0.3
MWZ				SN		S		06 15 58.3	-0.6
MWZ	**Matawai**	**1.29**	**116**	P		P		06 15 29.2	-0.2
MWZ				S		S		06 15 58.1	-0.7
KRVZ	**Karewarewa**	**1.36**	**194**	*e*PN		P		06 15 30.3	+0.5
TWVZ	**Taurewa**	**1.39**	**200**	PN		P		06 15 29.9	-0.1
TWVZ	**Taurewa**	**1.39**	**200**	P		P		06 15 29.9	-0.1
WTVZ	**West Tongariro**	**1.39**	**195**	PN		P		06 15 30.0	-0.1
WTVZ	**West Tongariro**	**1.39**	**195**	P		P		06 15 30.0	-0.1
BKZ	**Black Stump Fm**	**1.43**	**166**	PN		P		06 15 30.3	-0.1
BKZ				SN		S		06 15 59.4	-1.2
BKZ	**Black Stump Fm**	**1.43**	**166**	P		P		06 15 30.3	-0.1
BKZ				S		S		06 15 57.2	-3.4
NGZ	**Ngauruhoe**	**1.45**	**194**	PN		P		06 15 30.4	-0.1
NGZ	**Ngauruhoe**	**1.45**	**194**	P		P		06 15 30.5	0.0
CNZ	**Chateau**	**1.48**	**196**	PN		P		06 15 30.3	-0.4
CNZ	**Chateau**	**1.48**	**196**	P		P		06 15 30.7	0.0
WPVZ	**Whakapapa**	**1.49**	**196**	PN		P		06 15 30.4	-0.4
WPVZ	**Whakapapa**	**1.49**	**196**	P		P		06 15 30.7	0.0
TUVZ	**Tukino**	**1.53**	**192**	PN		P		06 15 31.0	0.0
TUVZ	**Tukino**	**1.53**	**192**	P		P		06 15 31.0	0.0
FWVZ	**Far West T-bar**	**1.53**	**195**	PN		P		06 15 31.0	-0.1
FWVZ	**Far West T-bar**	**1.53**	**195**	P		P		06 15 31.1	0.0
TRVZ	**Turoa**	**1.58**	**195**	PN		P		06 15 31.4	0.0
WNVZ	**Wahianoa**	**1.59**	**193**	P		P		06 15 31.5	-0.1
PKVZ	**Pokaka**	**1.62**	**200**	PN		P		06 15 31.4	-0.3
MOVZ	**Moawhango**	**1.65**	**188**	⇑PN		P		06 15 31.4	-0.6
MOVZ	**Moawhango**	**1.65**	**188**	P		P		06 15 31.4	-0.6
VRZ	**Vera Road**	**1.69**	**217**	PN		P		06 15 32.3	0.0
VRZ	**Vera Road**	**1.69**	**217**	P		P		06 15 32.4	+0.1
PUZ	**Puketiti**	**1.77**	**100**	PN		P		06 15 32.2	-0.6
PUZ	**Puketiti**	**1.77**	**100**	P		P		06 15 32.3	-0.6
KNZ	**Kokohu**	**1.78**	**135**	PN		P		06 15 32.7	-0.3
KNZ				SN		S		06 16 05.1	-0.1
KNZ	**Kokohu**	**1.78**	**135**	P		P		06 15 32.7	-0.3
MXZ	**Matakaoa Point**	**1.80**	**84**	PN		P		06 15 32.4	-0.7
MXZ				SN		S		06 16 05.8	+0.3
MXZ	**Matakaoa Point**	**1.80**	**84**	P		P		06 15 32.4	-0.7
RAEZ	**Rainy Point**	**2.00**	**220**	PN		P		06 15 34.9	+0.1
RAEZ	**Rainy Point**	**2.00**	**220**	P		P		06 15 35.0	+0.2
NEZ	**North Egmont**	**2.15**	**225**	PN		P		06 15 36.5	+0.2
NEZ	**North Egmont**	**2.15**	**225**	P		P		06 15 36.7	+0.5
WAZ	**Wanganui**	**2.15**	**203**	PN		P		06 15 35.6	-0.7
WAZ	**Wanganui**	**2.15**	**203**	P		P		06 15 35.6	-0.7
PKE	**Pukeiti**	**2.16**	**228**	PN		P		06 15 36.5	+0.1
PKE				SN		S		06 16 14.3	+3.2
PKE	**Pukeiti**	**2.16**	**228**	P		P		06 15 36.6	+0.3
NRZ	**Ngariki Road**	**2.28**	**226**	PN		P		06 15 37.5	0.0
NRZ	**Ngariki Road**	**2.28**	**226**	P		P		06 15 37.8	+0.2
TSZ	**Takapari Road**	**2.29**	**182**	⇑PN		P		06 15 36.5	-1.1
TSZ	**Takapari Road**	**2.29**	**182**	P		P		06 15 36.5	-1.1
WCZ	**Waipu Caves**	**2.29**	**323**	⇓PN		P		06 15 36.8	-0.8
WCZ	**Waipu Caves**	**2.29**	**323**	P		P		06 15 36.8	-0.8
BFZ	**Birch Farm**	**2.91**	**177**	P		P		06 15 42.3	-1.6
MRZ	**Mangatainoka R**	**2.91**	**187**	⇑PN		P		06 15 41.8	-2.1
MRZ	**Mangatainoka R**	**2.91**	**187**	P		P		06 15 41.8	-2.1
KIW	**Kapiti Island**	**3.21**	**196**	PN		P		06 15 44.7	-2.5
KIW	**Kapiti Island**	**3.21**	**196**	P		P		06 15 44.8	-2.4
CAW	**Cannon Point**	**3.42**	**193**	PN		P		06 15 46.8	-2.7
CAW	**Cannon Point**	**3.42**	**193**	P		P		06 15 46.8	-2.7
DUWZ	**D'Urville Isla**	**3.45**	**208**	PN		P		06 15 46.9	-3.0
MRW	**Makara Radio**	**3.61**	**196**	PN		P		06 15 48.5	-3.1
MRW	**Makara Radio**	**3.61**	**196**	P		P		06 15 48.6	-3.1
TRWZ	**Traveller**	**3.63**	**184**	PN		P		06 15 49.2	-2.7
PAWZ	**Paruwai Farm**	**3.64**	**188**	PN		P		06 15 48.8	-3.2
PAWZ	**Paruwai Farm**	**3.64**	**188**	P		P		06 15 49.2	-2.8
WEL	**Wellington**	**3.65**	**195**	PN		P		06 15 49.3	-2.8
WEL	**Wellington**	**3.65**	**195**	P		P		06 15 49.4	-2.7
SNZO	**South Karori**	**3.68**	**196**	PN		P		06 15 49.6	-2.9
SNZO	**South Karori**	**3.68**	**196**	P		P		06 15 49.7	-2.8
MSWZ	**Moikau Station**	**3.69**	**189**	PN		P		06 15 49.3	-3.3
MSWZ	**Moikau Station**	**3.69**	**189**	P		P		06 15 49.6	-3.0
TCW	**Tory Channel**	**3.70**	**201**	PN		P		06 15 49.6	-3.1
TCW	**Tory Channel**	**3.70**	**201**	P		P		06 15 49.8	-2.9
BHW	**Baring Head**	**3.75**	**194**	PN		P		06 15 49.9	-3.4
BHW	**Baring Head**	**3.75**	**194**	P		P		06 15 50.1	-3.1
TUWZ	**Tuamarina**	**4.00**	**203**	PN		P		06 15 52.7	-3.4
NNZ	**Nelson**	**4.02**	**210**	PN		P		06 15 52.6	-3.7
NNZ	**Nelson**	**4.02**	**210**	P		P		06 15 52.7	-3.6
QRZ	**Quartz Range**	**4.10**	**221**	PN		P		06 15 53.0	-4.3
QRZ	**Quartz Range**	**4.10**	**221**	P		P		06 15 53.1	-4.2
BSWZ	**Blackbirch Sta**	**4.28**	**202**	PN		P		06 15 56.2	-3.2
BSWZ	**Blackbirch Sta**	**4.28**	**202**	P		P		06 15 56.3	-3.1
THZ	**Tophouse**	**4.67**	**210**	PN		P		06 15 59.7	-4.3
THZ	**Tophouse**	**4.67**	**210**	P		P		06 15 59.8	-4.2
KHZ	**Kahutara**	**5.03**	**202**	PN		P		06 16 04.5	-3.8
KHZ	**Kahutara**	**5.03**	**202**	P		P		06 16 04.4	-3.9
DSZ	**Denniston Nort**	**5.15**	**218**	PN		P		06 16 04.7	-5.1
DSZ	**Denniston Nort**	**5.15**	**218**	P		P		06 16 05.0	-4.8
LTZ	**Lake Taylor**	**5.78**	**209**	PN		P		06 16 13.0	-4.6
LTZ	**Lake Taylor**	**5.78**	**209**	P		P		06 16 12.9	-4.8
CRLZ	**Canterbury Las**	**6.36**	**203**	SN		S		06 17 30.9	-7.1
MQZ	**McQueen's Vall**	**6.47**	**202**	PN		P		06 16 20.4	-5.9
MQZ	**McQueen's Vall**	**6.47**	**202**	P		P		06 16 20.5	-5.7
WVZ	**Waitaha Valley**	**6.67**	**216**	*e*PN		P		06 16 22.3	-6.4
WVZ	**Waitaha Valley**	**6.67**	**216**	*e*P		P		06 16 23.3	-5.5
RPZ	**Rata Peaks**	**7.05**	**211**	PN		P		06 16 27.2	-6.3
RPZ	**Rata Peaks**	**7.05**	**211**	P		P		06 16 27.6	-5.9
FOZ	**Fox Glacier**	**7.54**	**218**	PN		P		06 16 31.6	-8.1
FOZ	**Fox Glacier**	**7.54**	**218**	*e*P		P		06 16 31.9	-7.8
LBZ	**Lake Benmore**	**7.96**	**212**	PN		P		06 16 38.5	-6.4
LBZ	**Lake Benmore**	**7.96**	**212**	*e*P		P		06 16 38.7	-6.3
ODZ	**Otahua Downs**	**8.32**	**208**	PN		P		06 16 44.3	-5.3
ODZ	**Otahua Downs**	**8.32**	**208**	*e*P		P		06 16 42.3	-7.3
JCZ	**Jackson Bay

*CSEM **25** 06:23:21.6±0.1,36.21N×28.40E,h40km±1km,MD3.3, Error ellipse: s-maj=2.7km s-min=2.1km az=118.0*
*ATH **25** 06:23:22.6,36.35N×28.36E,h44km,MD3.3/6*
*ISK **25** 06:23:22.9,36.28N×28.33E,h33km,MD3.3*
*NEIC **25** 06:23:22.9,36.28N×28.33E,h33km,MD3.3(ATH), MD3.3(ISK),After ISK.*
*HLW **25** 06:23:34.1,35.47N×28.57E,h33km,Mb3.2*

ISC 25 06:23:22.6±0.5,36.23N±0.04×28.32E±0.04,h55km±7km, n25,σ0°96/33,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.16**	**265**	*eP*		**P**		**06 23 31.4**	**+0.2**
ARG				*eS*		**S**		**06 23 37.1**	**-0.5**
DALT	**Dalyan (Mudla)**	**0.59**	**25**	*i* PG		**P**		**06 23 34.6**	**-0.7**
DALT				*i* SG		**S**		**06 23 42.9**	**-1.8**
FETY	**Fethiye**	**0.73**	**56**	*i* PG		**P**		**06 23 36.3**	**-0.8**
DAT	**Datca**	**0.78**	**310**	*i* PG		**P**		**06 23 37.5**	**-0.2**
YER	**Yerkesik**	**0.90**	**358**	*i* PG		**P**		**06 23 39.6**	**+0.3**
KSL	**Kastellorizon**	**1.02**	**94**	*eP*		**P**		**06 23 41.5**	**+0.5**
AKAS	**Kas**	**1.04**	**89**	*i* P		**P**		**06 23 41.4**	**+0.2**
AKAS				*i* S		**S**		**06 23 56.2**	**+1.3**
BDRM	**Kayabasi**	**1.09**	**320**	*i* P		**P**		**06 23 42.3**	**+0.3**
BDRM				*i* S		**S**		**06 23 55.5**	**-0.9**
MLSB	**Milas**	**1.15**	**338**	PN		**P**		**06 23 43.3**	**+0.6**
BODT	**Bodrum**	**1.16**	**316**	*i* PN		**P**		**06 23 42.4**	**-0.5**
KARP	**Karpathos**	**1.17**	**235**	*eP*		**P**		**06 23 45.0**	**+2.1**
KARP				*eS*		**S**		**06 24 01.5**	**+3.4**
ELL	**Elmali**	**1.38**	**67**	PN		**P**		**06 23 46.5**	**+0.5**
GOLH	**Golhisar**	**1.41**	**44**	*i* P		**P**		**06 23 47.0**	**+0.4**
GOLH				*i* S		**S**		**06 24 05.4**	**+1.1**
AYDN	**Tasoluk**	**1.47**	**346**	*i* P		**P**		**06 23 48.0**	**+0.7**
AYDN				*i* S		**S**		**06 24 05.9**	**+0.3**
DENT	**Denizli**	**1.62**	**20**	PN		**P**		**06 23 49.4**	**0.0**
SMG	**Samos**	**1.90**	**322**	*eP*		**P**		**06 23 52.9**	**-0.3**
IZM	**Izmir**	**2.32**	**339**	PN		**P**		**06 23 58.6**	**-0.7**
NPS	**Neapolis**	**2.41**	**247**	*eP*		**P**		**06 24 01.3**	**+0.8**
NPS	**Neapolis**	**2.41**	**247**	*eP*		**P**		**06 24 01.2**	**+0.7**
XRY	**Khrisi**	**2.54**	**239**	*eP*		**P**		**06 24 03.6**	**+1.3**
XRY	**Khrisi**	**2.54**	**239**	*eP*		**P**		**06 24 03.5**	**+1.2**
SWA1		**7.29**	**198**	P		**P**		**06 25 08.3**	**-0.5**
SWA1				S		**S**		**06 26 18.9**	**-12**
SWA2		**7.37**	**200**	⇑P		**P**		**06 25 09.6**	**-0.5**
SUZ		**7.41**	**148**	P		**P**		**06 25 08.5**	**-2.0**
HFRF	**Wahat Farafira**	**9.05**	**180**	P		**P**		**06 25 31.0**	**-2.2**

IGQ 25 06:32:22.1,2.01S×81.27W,h5km±4km,mb4.4,3D,Error ellipse: s-maj=9.6km s-min=4.2km az=84.5,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUSU	**Cusua**	**2.84**	**79**	P			Pn	06 33 10.9	+1.9
ULBA	**Ulba**	**2.91**	**79**	P			Pn	06 33 10.9	+1.0
ULBA				S			Sn	06 33 46.6	+0.8
PISA	**Pisayambo**	**3.03**	**72**	⇓P			Pn	06 33 13.7	+2.0
CAMI	**Rancho Maria**	**3.06**	**64**	P			Pn	06 33 13.2	+1.1
VC1	**Cotopaxi 1**	**3.17**	**65**	⇓P			Pn	06 33 15.8	+2.2
VC1				S			Sn	06 33 57.1	+4.8
TAMB	**Tambo**	**3.18**	**66**	⇓P			Pn	06 33 15.6	+1.9
TAMB				S			Sn	06 33 57.3	+4.8
TERV	**Terraza Guagua**	**3.23**	**56**	P			Pn	06 33 14.8	+0.3
PINO	**Pino**	**3.23**	**55**	P			Pn	06 33 14.8	+0.3
GGP	**Refugio Guagua**	**3.23**	**56**	P			Pn	06 33 14.7	+0.2
YANA	**Yana**	**3.28**	**55**	P			Pn	06 33 15.0	-0.3
ANTI	**Antisana**	**3.47**	**64**	P			Pn	06 33 19.5	+1.6
COTA	**Cotacachi**	**3.74**	**52**	P			Pn	06 33 23.6	+1.8
CAYA	**Cayambe**	**3.87**	**58**	P			Pn	06 33 26.0	+2.4

MAN 25 06:33:50.7,15.35N×121.75E,h1km,mb4.4,ML3.3,MS3.1, 1C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.42**	**336**	*eP*			Pg	06 33 59.0	-0.2
BALP				*eS*			Sg	06 34 06.4	+1.5
POLP	**Polilio Island**	**0.64**	**164**	*eP*			Pg	06 34 03.2	-0.4
POLP				*eS*			Sg	06 34 15.3	+3.1
PCPH	**Palayan**	**0.67**	**288⇓**	*eP*			Pg	06 34 03.7	-0.4
PCPH				*eS*			Sg	06 34 13.7	+0.7
TGY	**Tagaytay City**	**1.47**	**213⇓**	*eP*			Pn	06 34 19.7	+1.2
BCPH	**Baguio City Da**	**1.52**	**312⇑**	*i* P			Pn	06 34 19.0	-0.2
BCPH				*i* S			Sb	06 34 40.2	+1.0
GQP	**Guinayangan**	**1.58**	**155**	*i* P			Pn	06 34 21.1	+1.0
GQP				*i* S			Sb	06 34 44.5	+3.5
CAUP	**Cauayan**	**1.59**	**2**	*eP*			Pn	06 34 19.2	-0.9
CAUP				*eS*			Sb	06 34 41.3	+0.2
BOAC	**Boac**	**1.88**	**177**	*eP*			Pn	06 34 24.3	0.0
BOAC				*eS*			Sn	06 34 51.9	+2.9
BOLP	**Bolinao**	**2.05**	**300**	*eP*			Pn	06 34 22.1	-4.6
BOLP				*eS*			Sn	06 34 57.2	+4.0
LUBP	**Lubang**	**2.17**	**222**	*eP*			Pn	06 34 31.0	+2.5
OTRP	**Odiongan**	**2.98**	**175**	*eP*			Pn	06 34 39.3	-0.7

MAN 25 06:37:27.5,15.13N×119.75E,h27km,mb3.6,ML2.3, MS1.8,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.66**	**14**	*eP*			Pb	06 37 40.6	+0.2
SCZP				*eS*			Sb	06 37 51.3	+2.1
BOLP	**Bolinao**	**1.25**	**7**	*eP*			Pn	06 37 49.2	-0.3
BOLP				*eS*			Sn	06 38 07.7	+2.2
LUBP	**Lubang**	**1.47**	**161**	*eP*			Pn	06 37 52.2	-0.4
LUBP				*eS*			Sn	06 38 10.6	-0.6
BCPH	**Baguio City Da**	**1.48**	**33⇑**	*eP*			Pn	06 37 53.0	+0.2
BCPH				*i* S			Sn	06 38 13.5	+2.2
BALP	**Baler**	**1.86**	**71**	*eP*			Pn	06 37 58.0	-0.3
BALP				*eS*			Sn	06 38 20.4	-0.7
POLP	**Polilio Island**	**2.16**	**100**	*eP*			Pn	06 38 05.4	+3.0

MOS 25 06:47:13.1±1.4,55.25N×110.44E,h10km,mb4.1/1,1C, Error ellipse: s-maj=30.5km s-min=11.9km az=48.2, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.77**	**34**	*e*PG			Pg	06 47 27.6	-1.0
KMO				*e*				06 47 38.2	
KMO					pmax	pmax			
	comp=Z,99nm,0.4s								
KMO					smax				
	comp=N,325nm,0.6s								
YOA	**Uoyan**	**1.15**	**39⇑**	*i*PG			Pg	06 47 34.5	-1.5
YOA				*i*				06 47 50.6	
YOA					pmax	pmax			
	comp=Z,94nm,0.4s								
YOA					smax				
	comp=N,613nm,0.5s								
UKT	**Uakit**	**1.83**	**81**	*e*PN			Pn	06 47 46.6	+1.6
UKT				*e*				06 48 11.4	
UKT					pmax	pmax			
	comp=Z,52nm,0.3s								
UKT					smax				
	comp=N,188nm,0.3s								
SVKR	**Severomuysk**	**1.97**	**63**	*e*PN			Pn	06 47 49.5	+2.6
SVKR				*eS*			Sn	06 48 13.7	+1.8
SVKR				*e*				06 48 16.6	
SVKR					pmax	pmax			
	comp=Z,86nm,0.3s								
SVKR					smax				
	comp=N,2μm,0.6s								
OGRR	**Ongureny**	**2.31**	**227**	*e*PN			Pn	06 47 53.0	+1.1
OGRR				*e*				06 47 55.5	
OGRR				*e*				06 48 25.0	
OGRR					pmax	pmax			
	comp=Z,56nm,0.5s								
OGRR					smax				
	comp=N,204nm,0.4s								
CRS	**Chara**	**4.69**	**66**	*e*PN			Pn	06 48 38.7	+13
CRS				*e*				06 49 40.1	
CRS					pmax	pmax			
	comp=Z,17nm,1.0s								
CRS					smax				
	comp=E,49nm,1.1s								
IRK	**Irkutsk**	**4.74**	**233**	*e*PN			Pn	06 48 39.2	+13
IRK				*e*				06 49 37.4	
IRK					pmax	pmax			
	comp=Z,228nm,0.2s								
IRK					smax				
	comp=N,181nm,0.4s								
TUP	**Tupik**	**5.56**	**95**	*e*PN			Pn	06 48 37.0	-1.0
TUP				*e*				06 48 53.8	
TUP				*e*				06 50 05.0	
TUP					pmax	pmax			
	comp=Z,4.0nm,0.4s								
TUP					smax				
	comp=N,56nm,1.0s								
MOY	**Mondy**	**6.69**	**241**	*e*PN			Pn	06 48 53.1	-0.7
MOY				*e*				06 49 14.1	
MOY				*e*				06 50 40.0	
MOY					pmax	pmax			
	comp=Z,5.0nm,0.6s								
MOY					smax				
	comp=E,35nm,1.3s								
ORL	**Orlik**	**6.84**	**251**	*e*PN			Pn	06 48 55.9	-0.2
ORL				*e*				06 49 16.6	
ORL				*e*				06 50 43.5	
ORL					pmax	pmax			
	comp=Z,6.0nm,0.7s								
ORL					smax				
	comp=N,19nm,0.7s								

*IDC **25** 06:54:39.9±3.0,55.72N×159.86E,h149km±29km, mb3.5/16,mb1 3.7/17,mb1mx3.6/25,mbtmp3.9/17,Error ellipse: s-maj=19.0km s-min=12.1km az=164.0*
*KRSC **25** 06:54:41.7±0.8,55.53N×160.36E,h195km±2km,ML4.1*
*MOS **25** 06:54:41.7±1.0,55.63N×160.02E,h187km,mb3.7/5,Error ellipse: s-maj=16.4km s-min=9.0km az=88.1*
*NEIC **25** 06:54:42.4±0.8,55.73N×159.91E,h174km±9km,mb3.9/7, Error ellipse: s-maj=10.0km s-min=5.8km az=161.0*

ISC 25 06:54:42.4±0.2,55.58N±0.03×160.20E±0.06,h192km±1km, n82,σ1°902/118,mb3.6/21,1C-1D,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.18**	**7**	*i* P			**P**	**06 55 08.5**	**+0.5**
KMNR				*eS*			**S**	**06 55 28.0**	**+0.3**
TUMR	**Tumrok**	**0.30**	**186**	*i* P			**P**	**06 55 09.2**	**+0.9**
TUMR				*i* S			**S**	**06 55 28.8**	**+0.6**
KPT	**Kopyto**	**0.39**	**2**	*i* P			**P**	**06 55 08.6**	**+0.1**
KPT				*eS*			**S**	**06 55 27.9**	**-0.8**
KOZ	**Kozyrevsk**	**0.51**	**339**	P			**P**	**06 55 09.1**	**+0.1**
KOZ				S			**S**	**06 55 29.0**	**-0.5**
KOZ	**Kozyrevsk**	**0.51**	**339**	*i* P			**P**	**06 55 09.2**	**+0.2**
KOZ				*i* S			**S**	**06 55 29.4**	**-0.1**
KOZR	**Kozyr**	**0.52**	**341**	PN			**P**	**06 55 09.1**	**+0.1**
KOZR				S			**S**	**06 55 29.0**	**-0.5**
ZLN	**Zelenaya**	**0.56**	**38**	*i* P			**P**	**06 55 09.9**	**+0.8**
LGNR	**Loginova**	**0.58**	**29**	*i* P			**P**	**06 55 09.7**	**+0.5**
LGNR				*eS*			**S**	**06 55 30.9**	**+1.0**
CIRR	**Tsirk**	**0.62**	**30**	*eP*			**P**	**06 55 09.7**	**+0.3**
KLY	**Klyuchi**	**0.78**	**19**	P			**P**	**06 55 10.6**	**+0.4**
KLY				S			**S**	**06 55 31.3**	**-0.3**
KLY	**Klyuchi**	**0.78**	**19**	*i* P			**P**	**06 55 10.6**	**+0.4**
KLY				*eS*			**S**	**06 55 32.1**	**+0.5**
SRDR	**Sredinnyy**	**0.79**	**340**	*i* P			**P**	**06 55 10.3**	**+0.1**
SRDR				*i* S			**S**	**06 55 31.2**	**-0.5**
ESO	**Esso**	**0.92**	**293**	*i* P			**P**	**06 55 11.4**	**+0.5**
ESO				*i* S			**S**	**06 55 33.1**	**+0.1**
ESO					Smax				
	540nm,0.7s								
BDR	**Baidarnaya**	**1.14**	**29**	*i* P			**P**	**06 55 12.9**	**+0.3**
BDR				*eS*			**S**	**06 55 36.5**	**+0.5**
SRKR	**Sorokina**	**1.21**	**26**	*i* P			**P**	**06 55 13.4**	**+0.2**
SRKR				*eS*			**S**	**06 55 37.4**	**+0.4**
SMKR	**Semkarok**	**1.23**	**35**	P			**P**	**06 55 13.5**	**+0.1**
MKZ	**Mys Kozlova**	**1.35**	**139**	P			**P**	**06 55 13.2**	**-1.2**
MKZ				S			**S**	**06 55 36.2**	**-3.0**
MKZ	**Mys Kozlova**	**1.35**	**139**	*i* P			**P**	**06 55 13.2**	**-1.2**
MKZ				*i* S			**S**	**06 55 36.8**	**-2.4**
KBTR	**Krutoberegovo**	**1.60**	**66**	P			**S**	**06 55 15.9**	**-0.8**
KBTR				S			**S**	**06 55 40.6**	**-2.6**
KBTR	**Krutoberegovo**	**1.60**	**66**	*i* P			**P**	**06 55 15.9**	**-0.8**
KBTR				*i* S			**S**	**06 55 40.8**	**-2.4**
KII	**Karymskiy**	**1.61**	**196**	*eP*			**P**	**06 55 17.3**	**+0.5**
KII				*eS*			**S**	**06 55 41.0**	**-2.3**
GNL	**Ganaly**	**2.30**	**216**	*i* P			**P**	**06 55 25.0**	**+1.0**
GNL				*eS*			**S**	**06 55 57.4**	**+1.3**
SDLR	**Sedlovina**	**2.43**	**199**	*eP*			**P**	**06 55 25.6**	**+0.1**
SDLR				*eS*			**S**	**06 55 57.3**	**-1.4**
SMAR	**Somma**	**2.46**	**200**	*i* P			**P**	**06 55 26.6**	**+0.8**
SMAR				*eS*			**S**	**06 56 00.0**	**+0.7**
NLC	**Nalytchevo**	**2.46**	**192**	P			**P**	**06 55 25.4**	**-0.5**
NLC				S			**S**	**06 55 57.3**	**-2.1**
NLC	**Nalytchevo**	**2.46**	**192**	*eP*			**P**	**06 55 25.4**	**-0.5**
NLC				*i* S			**S**	**06 55 57.4**	**-2.0**
KOK	**Koryaka**	**2.47**	**202**	*i* P			**P**	**06 55 27.1**	**+1.2**
KOK				*eS*			**S**	**06 56 00.2**	**+0.7**
AVH	**Avacha**	**2.47**	**201**	*i* P			**P**	**06 55 27.2**	**+1.3**
AVH				*eS*			**S**	**06 56 00.7**	**+1.2**
SPN	**Mys Shipunski**	**2.49**	**182**	*eP*			**P**	**06 55 24.5**	**-1.6**
SPN				*eS*			**S**	**06 55 55.6**	**-4.3**
UGLR	**Uglovaya**	**2.51**	**199**	*i* P			**P**	**06 55 27.0**	**+0.6**
UGLR				*eS*			**S**	**06 56 00.4**	**+0.1**
PET	**Petropavlovsk**	**2.72**	**200**	P			**P**	**06 55 29.2**	**+0.4**
PET				S			**S**	**06 56 03.5**	**-1.1**
PET	**Petropavlovsk**	**2.72**	**200**	*eP*			**P**	**06 55 29.2**	**+0.4**
PET				*eS*			**S**	**06 56 03.6**	**-1.0**
PET	**Petropavlovsk**	**2.72**	**200**	*i*P		N	**S**	**06 55 29.2**	**+0.4**
PET				*eS*			**S**	**06 56 03.5**	**-1.1**
PET					pmax	pmax			
	comp=Z,74nm,0.9s								
PET					smax				
	comp=E,152nm,0.5s								
PET					smax				
	comp=N,146nm,0.8s								
PET	**Petropavlovsk**	**2.72**	**200**	*eP*			**P**	**06 55 28.7**	**0.0**
KRMR	**Karymshinskiy**	**3.01**	**205**	*eP*			**P**	**06 55 32.8**	**+0.5**
KRMR				*eS*			**S**	**06 56 10.6**	**-0.2**
APC	**Apacha**	**3.20**	**215**	*i* P			**P**	**06 55 35.9**	**+1.3**
APC					Smax				
	comp=N,30nm,0.9s								
GRL	**Gorelyy**	**3.28**	**203**	*eP*			**P**	**06 55 36.3**	**+0.7**
GRL				*eS*			**S**	**06 56 17.2**	**+0.5**
RUS	**Russkaya**	**3.31**	**198**	P			**P**	**06 55 35.1**	**-0.8**
RUS				*eS*			**S**	**06 56 14.3**	**-2.9**
BKI	**Bering**	**3.31**	**94**	*i* P			**S**	**06 55 36.5**	**+0.5**
BKI				*i* S			**S**	**06 56 15.5**	**-1.9**
SKR	**Severo-Kuril's**	**5.49**	**208**	*eS*			**S**	**06 57 01.2**	**-5.4**
FX1	**Attu Island--F**	**8.06**	**104**	P			**P**	**06 56 37.8**	**+0.5**
	comp=N,6.7nm,0.3s,baz=123,slow=19,SNR=7.1								
FX1				S			**S**	**06 58 06.1**	**-1.0**
	comp=N,3.2nm,0.3s,baz=217,slow=9.2,SNR=3.7								
FX1	**Attu Island--F**	**8.06**	**104**	PN			**P**	**06 56 37.8**	**+0.5**
FX1				S			**S**	**06 58 06.1**	**-1.0**
FX1					pmax	pmax			
	comp=Z,7.0nm,0.3s								
FX1					smax				
	comp=N,3.0nm,0.3s								
FX1	**Attu Island--F**	**8.06**	**104**	Pn			**P**	**06 56 38.0**	**+0.7**
YAK	**Yakutsk**	**16.95**	**305**	*i* P			**P**	**06 58 28.3**	**-1.0**
YAK					pmax	pmax			
	comp=Z,24nm,0.8s								
TNA	**Tin City**	**18.36**	**44**	*eP*			**P**	**06 58 44.9**	**+0.5**
	comp=Z,12nm,1.2s								
TIXI	**Tiksi**	**20.87**	**332⇑**	*eP*			**P**	**06 59 10.8**	**+0.8**
TIXI					pmax	pmax			
	comp=Z,3.0nm,0.6s								
IMA2	**Indian Mountai**	**24.20**	**46**	*eP*			**P**	**06 59 42.1**	**+0.1**
MJAR	**Matsushiro Arr**	**24.21**	**227**	P			**P**	**06 59 43.3**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.6,baz=18,slow=9.4,SNR=6.0								
BOD	**Bodaibo**	**25.08**	**294**	*eP*			**P**	**06 59 47.0**	**-3.2**
KDAK	**Kodiak Island**	**25.62**	**65**	P			**P**	**06 59 55.5**	**+0.2**
	comp=Z,11nm,1.0s,mb4.4,baz=265,slow=19,SNR=7.0								
MCK	**McKinley**	**26.28**	**51**	*eP*			**P**	**07 00 00.1**	**-1.2**
MCK					pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.7								
MCK	**McKinley**	**26.28**	**51**	*eP*			**P**	**07 00 00.1**	**-1.1**
	comp=Z,0.7nm,0.5s,mb3.5								
COLA	**College**	**26.65**	**49**	*i* P			**P**	**07 00 05.2**	**+0.6**
ILAR	**Eielson Array**	**27.07**	**49**	P			**P**	**07 00 08.0**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.7,baz=263,slow=8.3,SNR=29								
INK	**Inuvik**	**31.89**	**40**	P			**P**	**07 00 51.0**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.4,baz=229,slow=4.2,SNR=9.9								
INK	**Inuvik**	**31.89**	**40**	P			**P**	**07 00 51.0**	**0.0**
INK					pmax	pmax			
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**31.89**	**40**	*eP*			**P**	**07 00 50.8**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.4								
SONM	**Songino Array**	**33.47**	**280**	P			**P**	**07 01 03.1**	**-1.7**
	comp=Z,0.2nm,0.6s,mb2.8,baz=66,slow=8.7,SNR=3.2								
SONM				PcP		PcP	PcP	07 03 40.3	-1.1
	comp=Z,0.3nm,0.9s,baz=82,slow=2.3,SNR=3.7								
YKA	**Yellowknife Ar**	**41.31**	**44**	P			**P**	**07 02 10.5**	**+0.5**
	comp=Z,1.1nm,0.5s,mb3.5,baz=301,slow=7.9,SNR=35								
KURK	**Kurchatov**	**46.51**	**300**	*i* P			**P**	**07 02 50.4**	**-1.1**
KURK	**Kurchatov**	**46.51**	**300**	*eP*			**P**	**07 02 49.8**	**-1.7**
	comp=Z,3.2nm,0.3s,mb4.1								
EDM	**Edmonton**	**47.25**	**55**	*eP*			**P**	**07 02 57.8**	**+0.6**
BRVK	**Borovoye**	**48.95**	**307**	*eP*			**P**	**07 03 09.0**	**-1.3**
BRVK					pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.3								
BRVK	**Borovoye**	**48.95**	**307**	*eP*			**P**	**07 03 09.0**	**-1.3**
	comp=Z,1.3nm,0.6s,mb3.4								
YBH	**Yreka Blue Hor**	**50.15**	**72**	P			**P**	**07 03 21.5**	**+1.9**
	comp=Z,5.1nm,1.2s,mb3.7,baz=281,slow=5.2,SNR=3.9								
ARCES	**ARCESS Array B**	**50.94**	**341**	P			**P**	**07 03 23.4**	**-1.8**
	comp=Z,1.6nm,0.9s,mb3.4,baz=36,slow=9.8,SNR=6.2								
HRY	**Holter Researc**	**52.33**	**60**	*eP*			**P**	**07 03 36.3**	**+0.5**
ELK	**Elko**	**54.83**	**68**	P			**P**	**07 03 55.9**	**+1.7**
	comp=Z,0.4nm,0.6s,mb3.1,baz=169,slow=20,SNR=6.7								
NVAR	**Mina Array Bea**	**54.87**	**72**	P			**P**	**07 03 56.2**	**+1.6**
	comp=Z,0.6nm,0.5s,mb3.4,baz=301,slow=7.1,SNR=5.2								
JOF	**Joensuu**	**55.34**	**334**	*ep*			**P**	**07 03 55.9**	**-1.7**
BW06	**Boulder Array**	**56.28**	**62**	*eP*			**P**	**07 04 05.3**	**+0.7**
	comp=Z,1.5nm,0.4s,mb3.9								
PDAR	**Pinedale Array**	**56.28**	**62**	P			**P**	**07 04 05.8**	**+1.2**
	comp=Z,1.3nm,0.4s,mb3.8,baz=351,slow=2.0,SNR=18								
KAF	**Kangasniemi**	**57.23**	**336**	*ep*			**P**	**07 04 09.5**	**-1.4**
FINES	**FINESS Array B**	**57.87**	**336**	P			**P**	**07 04 13.9**	**-1.5**
	comp=Z,0.6nm,0.4s,mb3.6,baz=36,slow=8.7,SNR=12								
AKASG	**Malin Array Be**	**66.52**	**328**	P			**P**	**07 05 11.0**	**-1.8**
	comp=Z,0.3nm,0.3s,mb3.4,baz=26,slow=6.7,SNR=4.6								
AKASG	**Malin Array Be**	**66.52**	**328**	*eP*			**P**	**07 05 13.0**	**+0.2**
AKASG	**Malin Array Be**	**66.52**	**328**	P			**P**	**07 05 11.0**	**-1.8**
TXAR	**Lajitas Array**	**69.62**	**68**	P			**P**	**07 05 33.6**	**+1.3**
	comp=Z,1.0nm,0.5s,mb3.7,baz=291,slow=5.5,SNR=36								
WRAB	**Tennant Creek**	**78.36**	**205**	*eP*			**P**	**07 06 22.9**	**+0.2**
WRAB					pmax	pmax			
	comp=Z,1.0nm,0.3s,mb3.9								
WRAB	**Tennant Creek**	**78.36**	**205**	*eP*			**P**	**07 06 22.9**	**+0.2**
	comp=Z,0.8nm,0.3s,mb3.8								
WRA	**Warramunga Arr**	**78.37**	**205**	P			**P**	**07 06 22.9**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.4,baz=12,slow=5.9,SNR=5.8								
ESDC	**Sonseca Array**	**84.16**	**348**	P			**P**	**07 06 52.4**	**0.0**
	comp=Z,0.1nm,0.4s,mb2.9,baz=357,slow=6.6,SNR=4.9								

*NEIC **25** 07:09:29.8,19.50N×64.79W,h25km,MD3.6(RSPR), After RSPR.*

RSPR 25 07:09:29.8,19.50N×64.79W,h25km±22km,MD3.6/11, MD3.6/11,13C-2D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.10**	**171⇑**	*eP*			Pn	07 09 47.4	-2.4
TBVI				*eS*			Sb	07 10 00.6	-3.3
STVI	**Saint Thomas**	**1.16**	**188⇑**	*eP*			Pn	07 09 48.0	-2.6
STVI				*eS*			Sb	07 10 02.5	-3.1
MTP	**Monte Pirata**	**1.58**	**208⇑**	*eP*			Pn	07 09 54.2	-2.4
MTP				*eS*			Sn	07 10 13.3	-3.1
CBYP	**Canovanas**	**1.59**	**220⇑**	*iP*			Pn	07 09 53.9	-2.8
CBYP				*eS*			Sn	07 10 13.3	-3.3
CBYP				*eS*			Sn	07 10 14.2	-2.5
HUMP	**Col San Antoni**	**1.69**	**217⇑**	*eP*			Pn	07 09 55.3	-2.8
HUMP				*eS*			Sn	07 10 15.6	-3.5
CDVI	**St. Croix**	**1.74**	**179⇑**	*eP*			Pn	07 09 56.7	-2.2
CDVI				*eS*			Sn	07 10 17.2	-3.3
CPD	**Cerro la Pandu**	**1.81**	**216⇑**	*eP*			Pn	07 09 57.5	-2.4
CPD				*eS*			Sn	07 10 19.0	-3.2
SJG	**San Juan**	**1.89**	**223**	*eS*			Sn	07 10 20.8	-3.5
SJG	**San Juan**	**1.89**	**223⇑**	*eP*			Pn	07 09 58.4	-2.7
SJG				*eS*			Sn	07 10 21.0	-3.3
SJG	**San Juan**	**1.89**	**223⇑**	*eP*			Pn	07 09 58.2	-2.9
SJG				*eS*			Sn	07 10 20.8	-3.5
AOPR	**Arecibo Observ**	**2.18**	**239⇑**	*eP*			Pn	07 10 02.5	-2.8
CELP	**Cerrillos**	**2.21**	**230⇓**	*eP*	

Azm5°; N.171, Plg10°, Azm105°; P-8.555, Plg42°, Azm205°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC ***25*** *08:02:07.5±2.3,34.76N×73.30E,h18km±13km,mb4.9/31, mb1 5.0/34,mb1mx5.0/34,mbtmp5.1/34,ML5.2/3,MS4.5/19, Ms1 4.6/19,ms1mx4.4/25 Error ellipse: s-maj=14.5km s-min=10.3km az=4.0*

NNC ***25*** *08:02:13.2±4.8,35.07N×72.81E,h33km,mb5.7,mpv6.2, Error ellipse: s-maj=49.6km s-min=33.3km az=175.0*

CRAAG ***25*** *08:02:17.3,35.08N×74.21E,Mb5.0*

ISC 25 08:02:05.0±0.1,34.65N±0.02×73.26E±0.02,h16km, h16km±1.3km:pP-P,n582,σ1§13/629,mb5.2/196,MS4.8/55, 92C-34D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CHCP	**Chirah Chowk**	**0.98**	**180**	⇓P		**Pb**	**08 02 25.8**	**+2.6**
CEP	**Cherat**	**1.39**	**234**	⇓P		**Pn**	**08 02 30.8**	**+1.0**
SRNI	**Srinagar**	**1.42**	**112**	*e*P		**Pn**	**08 02 34.2**	**+3.9**
SRNI				*e*S		**Sb**	**08 02 58.5**	**+10**
THW	**Thamme Wali**	**2.24**	**215**	P		**Pn**	**08 02 44.8**	**+2.8**
SBDP	**Sheikh Budin**	**3.11**	**222**	⇑P		**Pn**	**08 02 57.4**	**+3.0**
PONG	**Pong**	**3.50**	**139**	*e*P		**Pn**	**08 03 04.0**	**+4.0**
PONG				*ex*		**Sn**	**08 03 49.0**	**+7.5**
DRP	**Derazinda**	**3.87**	**222**	⇓P		**Pn**	**08 03 07.1**	**+2.0**
SDNR	**Sundarnagar**	**4.42**	**134**	*e*P		**Pn**	**08 03 14.2**	**+1.2**
SMLA	**Simla**	**4.81**	**136**	*e*P		**Pn**	**08 03 20.8**	**+2.3**
SMLA				*ex*		**Sn**	**08 04 19.7**	**+5.3**
KLP	**Kalpa**	**5.21**	**125**	*e*P		**Pn**	**08 03 26.9**	**+2.7**
KLP				*e*S		**Sn**	**08 04 26.2**	**+1.5**
KKR	**Kurukshetra**	**5.56**	**146**	*ex*		**Pn**	**08 03 20.0**	**-9.1**
DDI	**Dehra Dun**	**5.92**	**135**	*e*P		**Pn**	**08 03 35.9**	**+1.8**
DDI				*ex*		**Sn**	**08 04 50.1**	**+7.8**
NDI	**New Delhi**	**6.83**	**149**	*e*P		**Pn**	**08 03 46.0**	**-1.1**
NDI				*e*S		**Sn**	**08 05 00.0**	**-5.3**
KHET	**Khetri**	**6.90**	**161**	*e*P		**Pn**	**08 03 47.5**	**-0.6**
KHET				*e*S		**Sn**	**08 05 03.1**	**-3.9**
KHET				AML		AML	08 05 06.4	
	comp=N,581nm,0.2s							
KHET				AML		AML	08 05 06.5	
	comp=E,896nm,0.4s							
KALG	**Kalgarh**	**6.93**	**136**	*e*P		**Pn**	**08 03 46.1**	**-2.2**
AYAN	**Aya Nagar**	**6.97**	**151**	*e*P		**Pn**	**08 03 49.2**	**+0.1**
ASOR	**Ausora**	**7.02**	**146**	*e*P		**Pn**	**08 03 49.9**	**+0.2**
KUDL	**Kundal**	**7.04**	**156**	*e*P		**Pn**	**08 03 49.7**	**-0.3**
SONA	**Sohna**	**7.16**	**152**	*e*P		**Pn**	**08 03 51.8**	**+0.1**
SONA				*e*S		**Sn**	**08 05 10.8**	**-2.7**
AML	**Almayashu** SNR=302	**7.48**	**2**	P		**Pn**	**08 03 58.8**	**+2.6**
KZA	**Kyzart** SNR=472	**7.58**	**11**	P		**Pn**	**08 04 00.3**	**+2.7**
UCH	**Uchtor** SNR=1460	**7.63**	**7**	P		**Pn**	**08 04 01.1**	**+2.8**
PTH	**Pithoragarh**	**7.79**	**129**	*e*P		**Pn**	**08 04 00.5**	**+0.1**
PTH				*ex*		**Sn**	**08 05 27.2**	**-1.9**
ULHL	**Ulahol** SNR=206	**7.94**	**16**	P		**Pn**	**08 04 05.1**	**+2.5**
JASL	**Jaisalmer**	**7.96**	**195**	*e*P		**Pn**	**08 04 01.1**	**-1.8**
EKS2	**Erkin-Say** SNR=360	**8.01**	**3**	P		**P**	**08 04 06.2**	**+2.6**
AAK	**Ala-Archa** SNR=268	**8.03**	**7**	P		**P**	**08 04 06.5**	**+2.6**
AAK	**Ala-Archa**	**8.03**	**7**	*e*P		**P**	**08 04 05.4**	**+1.5**
AAK				pmax		pmax		
	comp=Z,281nm,0.8s							
AAK	**Ala-Archa**	**8.03**	**7**	*e*P		**P**	**08 04 05.4**	**+1.5**
	comp=Z,281nm,0.8s							
KBK	**Karagaybulak** SNR=228	**8.11**	**9**	P		**P**	**08 04 07.7**	**+2.8**
FRU	**Bishkek**	**8.24**	**7**	⇑*i*P		**P**	**08 04 09.6**	**+2.8**
FRU				pmax		pmax		
	comp=Z,1μm,1.6s							
FRU				pmax		pmax		
	comp=Z,2μm,2.0s							
FRU				pmax		pmax		
	comp=E,8.0nm,3.0s							
FRU				MLR		MLR		
	comp=Z,15μm,10.0s							
AGRA	**Agra**	**8.41**	**150**	*e*P		**P**	**08 04 08.0**	**-1.2**
AGRA				*ex*		**Sn**	**08 05 41.3**	**-3.4**
AGRA				AML		AML	08 05 42.8	
	comp=N,824nm,0.4s							
AGRA				AML		AML	08 05 43.4	
	comp=E,2μm,0.4s							
CHMS	**Chumysh** SNR=26	**8.42**	**7**	P		**P**	**08 04 11.7**	**+2.4**
TKM2	**Tokmak 2** SNR=349	**8.46**	**12**	P		**P**	**08 04 12.2**	**+2.3**
TKM2	**Tokmak 2**	**8.46**	**12**	⇑Pn		**P**	**08 04 12.1**	**+2.3**
	comp=E,195nm,0.5s							
TKM2				⇓Sn		**Sn**	**08 05 40.1**	**-5.8**
	comp=E,279nm,0.6s							
TKM2				⇑Lg			08 06 36.2	
	comp=E,1μm,1.7s							
TKM2	**Tokmak 2**	**8.46**	**12**	P		**P**	**08 04 11.7**	**+1.9**
TKM2				S		**Sn**	**08 05 42.7**	**-3.2**
TKM2				pmax		pmax		
	comp=Z,88nm,0.5s							
TKM2				smax				
	comp=Z,2μm,1.7s							
USP	**Ospenovka** SNR=53	**8.66**	**6**	P		**P**	**08 04 14.8**	**+2.2**
KK31	**Karatay Array**	**8.71**	**347**	⇑Pn		**P**	**08 04 14.4**	**+1.1**
	comp=Z,322nm,0.3s,baz=170,slow=13,SNR=6830							
KK31				⇓Sn		**Sn**	**08 05 47.2**	**-5.0**
	comp=Z,670nm,1.0s,baz=165,slow=21							
KKAR	**Karatay Array**	**8.71**	**347**	*e*P		**P**	**08 04 14.4**	**+1.1**
KKAR				S		**Sn**	**08 05 49.7**	**-2.5**
KKAR				pmax		pmax		
	comp=Z,178nm,0.3s							
KKAR				smax				
	comp=Z,57nm,0.4s							
KNDC	**Almaty**	**9.03**	**18**	⇑Pn		**P**	**08 04 19.9**	**+2.2**
	comp=Z,3μm,0.9s							
KNDC				⇓Lg			08 06 53.9	
	comp=Z,6μm,1.6s							
AAA	**Alma-Ata**	**9.08**	**17**	*i* P		**P**	**08 04 20.0**	**+1.6**
AAA				MLR		MLR		
	comp=Z,23μm,8.3s							
AAA	**Alma-Ata**	**9.08**	**17**	⇑*i*P		**P**	**08 04 20.0**	**+1.6**
KOLN	**Koldanda**	**11.19**	**125**	*e*Pn		**P**	**08 04 45.9**	**-1.5**
KOLN				*e*Sn		**S**	**08 06 44.9**	**-8.2**
	comp=Z,946nm,0.7s							
KOLN	**Koldanda**	**11.19**	**125**	*e*Pn		**P**	**08 04 45.9**	**-1.5**
	comp=Z,473nm,0.7s							
KOLN				*e*Sn		**S**	**08 06 44.9**	**-8.2**
GKN	**Gorkha**	**11.76**	**121**	*e*Pn		**P**	**08 04 52.7**	**-2.5**
GKN				*e*Sn		**S**	**08 06 57.3**	**-10**
	comp=Z,674nm,0.4s							
GKN	**Gorkha**	**11.76**	**121**	*e*Pn		**P**	**08 04 52.7**	**-2.5**
	comp=Z,337nm,0.4s							
GKN				*e*Sn		**S**	**08 06 57.3**	**-10**
BHPL	**Bhopal**	**11.93**	**161**	*e*P		**P**	**08 04 54.3**	**-3.2**
BHPL				*e*S		**S**	**08 07 02.1**	**-9.1**
DMN	**Daman**	**12.33**	**121**	*e*Sn		**S**	**08 07 11.7**	**-9.1**
	comp=Z,1μm,0.9s							
DMN	**Daman**	**12.33**	**121**	*e*Pn		**P**	**08 05 00.1**	**-2.7**
	comp=Z,550nm,0.9s							
DMN				*e*Sn		**S**	**08 07 11.7**	**-9.1**
KKN	**Kakani**	**12.34**	**120**	*e*Sn		**S**	**08 07 11.4**	**-10**
	comp=Z,1μm,1.0s							
KKN	**Kakani**	**12.34**	**120**	*e*P		**P**	**08 05 00.1**	**-2.9**
KKN				pmax		pmax		
	comp=Z,727nm,1.0s							
KKN	**Kakani**	**12.34**	**120**	*e*Pn		**P**	**08 05 00.1**	**-2.9**
	comp=Z,727nm,1.0s							
KKN				*e*Sn		**S**	**08 07 11.4**	**-10**
PKI	**Pulchoki**	**12.57**	**121**	*e*Pn		**P**	**08 05 03.1**	**-2.9**
PKI				*e*Sn		**S**	**08 07 17.2**	**-9.4**
	comp=Z,2μm,1.1s							
PKI	**Pulchoki**	**12.57**	**121**	*e*Pn		**P**	**08 05 03.1**	**-2.9**
	comp=Z,940nm,1.1s							
PKI				*e*Sn		**S**	**08 07 17.2**	**-9.4**
VAN	**Vannovskaya**	**12.66**	**289**	P		**P**	**08 05 05.3**	**-1.9**
VAN				*e*S		**S**	**08 07 22.1**	**-6.7**
GUN	**Gumba**	**12.71**	**118**	*e*Pn		**P**	**08 05 05.4**	**-2.4**
GUN				*e*Sn		**S**	**08 07 19.8**	**-10**
	comp=Z,565nm,0.7s							
GUN	**Gumba**	**12.71**	**118**	*e*Pn		**P**	**08 05 05.4**	**-2.4**
	comp=Z,282nm,0.7s							
GUN				*e*Sn		**S**	**08 07 19.8**	**-10**
JIRN	**Jiri**	**13.07**	**119**	*e*Pn		**P**	**08 05 10.4**	**-2.3**
JIRN				*e*Sn		**S**	**08 07 28.3**	**-10**
	comp=Z,785nm,0.5s							
JIRN	**Jiri**	**13.07**	**119**	*e*Pn		**P**	**08 05 10.4**	**-2.3**
	comp=Z,392nm,0.5s							
JIRN				*e*Sn		**S**	**08 07 28.3**	**-10**
MK31	**Makanchi Array**	**13.92**	**27**	⇑P		**P**	**08 05 23.4**	**-0.4**
	comp=Z,136nm,1.1s,baz=209,slow=11,SNR=330							
MKAR	**Makanchi Array**	**13.92**	**27**	Pn		**P**	**08 05 22.8**	**-1.0**
	comp=Z,3.0nm,0.3s,baz=212,slow=13,SNR=207							
MKAR	**Makanchi Array**	**13.92**	**27**	*i* P		**P**	**08 05 23.3**	**-0.5**
MKAR				pmax		pmax		
	comp=Z,16nm,0.5s							
MKAR	**Makanchi Array**	**13.92**	**27**	Pn		**P**	**08 05 22.8**	**-1.0**
WMQ	**Urumqi**	**14.44**	**46**	P		**P**	**08 05 28.5**	**-2.1**
WMQ				AP			08 05 32.0	
WMQ				XP			08 05 35.5	
WMQ				PP		PP	08 05 40.3	-1.8
WMQ				S		**S**	**08 08 10.3**	**-1.0**
WMQ				SS		SS	08 08 25.5	-2.8
WMQ				PCP		PcP	08 10 43.5	-2.9
WMQ				AMB		AMB		
	comp=Z,2μm,3.6s							
WMQ				LR		LR		
	comp=N,9μm,18.0s							
WMQ				LR		LR		
	comp=E,10μm,17.6s							
WMQ				LR		LR		
	comp=Z,12μm,17.6s							
BOK	**Bokaro**	**15.42**	**131**	*ex*		x	08 05 40.0	
BOK				AMb		AMB	08 05 43.1	
	comp=Z,50nm,0.6s							
BOM	**Bombay**	**15.69**	**182**	*e*P		**P**	**08 05 46.5**	**-0.6**
LSA	**Lhasa**	**15.93**	**103**	P		**P**	**08 05 48.3**	**-1.8**
LSA				S		**S**	**08 08 44.8**	**-1.5**
LSA				AMB		AMB		
	comp=Z,40nm,1.0s							
LSA				AMB		AMB		
	comp=Z,400nm,4.0s							
LSA				LR		LR		
	comp=N,1μm,9.8s							
LSA				LR		LR		
	comp=E,1μm,9.8s							
LSA				LR		LR		
	comp=Z,2μm,11.0s							
LSA	**Lhasa**	**15.93**	**103**	*e*P		**P**	**08 05 46.9**	**-3.2**
LSA				pmax		pmax		
	comp=Z,95nm,0.8s							
LSA	**Lhasa**	**15.93**	**103**	*e*P		**P**	**08 05 46.9**	**-3.2**
	comp=Z,95nm,0.8s							
KURK	**Kurchatov**	**16.53**	**12**	⇑P		**P**	**08 05 55.6**	**-2.0**
	comp=Z,266nm,1.8s							
KURK	**Kurchatov**	**16.53**	**12**	*e*P		**P**	**08 05 55.4**	**-2.2**
KURK				pmax		pmax		
	comp=Z,286nm,1.0s							
KURK	**Kurchatov**	**16.53**	**12**	*e*P		**P**	**08 05 55.4**	**-2.1**
	comp=Z,286nm,1.0s							
BANOM	**Banah** SNR=12	**17.02**	**244**	P		**P**	**08 06 07.8**	**+3.9**
BIDO	**Bidbid** SNR=8.0	**17.23**	**234**	⇓P		**P**	**08 06 09.7**	**+3.1**
KAD	**Karad**	**17.29**	**177**	*e*P		**P**	**08 06 04.1**	**-3.2**
KAD				AMb		AMB	08 06 07.8	
	comp=Z,246nm,1.2s							
WBK	**Wadi Bani Khal** SNR=46	**17.33**	**230**	P		**P**	**08 06 08.9**	**+1.1**
AB31	**Akbulak array**	**17.60**	**330**	⇑P		**P**	**08 06 08.8**	**-2.2**
	comp=Z,238nm,1.0s							
AB31				⇑S		**S**	**08 09 13.2**	**-11**
	comp=Z,96nm,0.8s,baz=150,slow=24,SNR=5.9							
AB31	**Akbulak array**	**17.60**	**330**	*i* P		**P**	**08 06 08.5**	**-2.5**
SMDO	**Samad** SNR=19	**17.61**	**233**	P		**P**	**08 06 11.3**	**+0.1**
HYB	**Hyderabad**	**17.80**	**163**	*i* P		**P**	**08 06 09.0**	**-4.7**
	comp=Z,250nm,1.0s							
HYB				*e*			08 09 18.0	
HYB				*e*S		**S**	**08 09 29.0**	**-0.3**
HYB				LR		LR	08 18 10.0	
	comp=Z,32nm,10.0s							
HYB	**Hyderabad**	**17.80**	**163**	*e*P		**P**	**08 06 09.0**	**-4.7**
HYB				pmax		pmax		
	comp=Z,250nm,1.0s							
HYB	**Hyderabad**	**17.80**	**163**	*e*P		**P**	**08 06 09.0**	**-4.7**
	comp=Z,250nm,1.0s							
HYB				*e*S		**S**	**08 09 18.0**	**-11**
ASHO	**Ashiyiah** SNR=19	**17.92**	**241**	P		**P**	**08 06 17.9**	**+2.7**
JMDO	**Jabal Madar** SNR=42	**18.06**	**231**	P		**P**	**08 06 18.2**	**+1.3**
VOSK	**Vostochnaya**	**18.14**	**356**	⇑P		**P**	**08 06 15.5**	**-2.3**
	comp=Z,100nm,0.9s							
VOSK	**Vostochnaya**	**18.14**	**356**	P		**P**	**08 06 15.5**	**-2.3**
VOSK				pmax		pmax		
	comp=Z,90nm,0.9s							
BSY	**Bisya** SNR=63	**18.39**	**234**	P		**P**	**08 06 22.3**	**+1.3**
ARQ	**Araqi** SNR=33	**18.45**	**237**	P		**P**	**08 06 23.8**	**+2.0**
BVA0	**Borovoye Array**	**18.49**	**355**	⇓P		**P**	**08 06 20.3**	**-1.7**
	comp=Z,56nm,0.9s							
BVA0	**Borovoye Array**	**18.49**	**355**	P		**P**	**08 06 20.3**	**-1.8**
BVA0				pmax		pmax		
	comp=Z,58nm,0.9s							
BVAR	**Borovoye Array**	**18.49**	**355**	P		**P**	**08 06 20.5**	**-1.5**
	comp=Z,13nm,0.3s,baz=159,slow=13,SNR=106							
BRVK	**Borovoye**	**18.53**	**354**	*e*P		**P**	**08 06 21.0**	**-1.6**
BRVK				pmax		pmax		
	comp=Z,188nm,0.8s							
BRVK	**Borovoye**	**18.53**	**354**	*e*P		**P**	**08 06 21.0**	**-1.5**
	comp=Z,188nm,0.8s							
AGT	**Agartala**	**18.98**	**120**	*e*P		**P**	**08 06 30.0**	**+1.8**
VIS	**Vishakhapatnam**	**19.10**	**149**	*e*P		**P**	**08 06 26.6**	**-3.0**
VIS				AMb		AMB	08 06 34.3	
	comp=Z,129nm,1.4s							
AKTK	**Aktyubinsk**	**19.31**	**329**	P		**P**	**08 06 31.6**	**-0.3**
AKTK				LR		LR	08 15 37.7	
AKTO	**Aktyubinsk**	**19.31**	**329**	⇑P		**P**	**08 06 31.6**	**-0.3**
	comp=Z,66nm,0.8s							
AKTO				⇑S		**S**	**08 09 55.1**	**-8.2**
	comp=Z,43nm,1.6s							
AKTO	**Aktyubinsk**	**19.31**	**329**	P		**P**	**08 06 31.6**	**-0.3**
	comp=Z,15nm,0.3s,baz=136,slow=11,SNR=805							
AKTO				LR		LR	08 15 37.7	
	comp=Z,561nm,21.2s,slow=42							
NVS	**Novosibirsk**	**21.36**	**16**	⇑*i*P		**P**	**08 06 52.1**	**-1.4**
NVS				*e*S		**S**	**08 10 45.5**	**+0.4**
NVS				pmax		pmax		
	comp=Z,490nm,1.5s,mb5.6							
NVS				pmax		pmax		
	comp=N,706nm,1.6s							
NVS				smax				
	comp=N,210nm,1.7s							
MAK	**Makhachkala**	**21.66**	**300**	*e*P		**P**	**08 06 56.1**	**-0.6**
MAK				*i* PPP		PPP	08 07 27.1	-4.1
MAK				*i* S		**S**	**08 10 53.0**	**+2.2**
MAK				*i* SSS		SSS	08 11 42.4	+0.5
MAK				pmax		pmax		
	comp=Z,370nm,1.9s,mb5.5							
MAK				MLR		MLR		
	comp=Z,1μm,10.0s,MS4.6							
MAK				MLR		MLR		
	comp=N,1μm,11.0s,MS4.8							
MAK				MLR		MLR		
	comp=E,1μm,10.0s,MS4.8							
GTA	**Gaotai**	**21.69**	**70**	⇑*i*P		**P**	**08 06 58.0**	**+1.0**
GTA				AP			08 07 02.5	
GTA				XP			08 07 05.3	
GTA				PP		PP	08 07 25.5	+3.5
GTA				S		**S**	**08 10 58.3**	**+6.9**
GTA				XS			08 11 05.8	
GTA				SCS		ScS	08 18 18.3	+1.7
GTA				AMB		AMB		
	comp=Z,430nm,1.4s,mb5.7							
GTA				AMB		AMB		
	comp=Z,430nm,4.2s							
GTA				LR		LR		
	comp=N,2μm,12.2s,MS4.8							
GTA				LR		LR		
	comp=E,1μm,16.8s,MS4.8							
GTA				LR		LR		
	comp=Z,2μm,15.7s,MS4.5							
UMR	**Umm Al-Rimmam**	**22.20**	**264**	*e*P		**P**	**08 07 02.6**	**+0.4**
UMR				AMb		AMB	08 07 10.4	
	comp=Z,559nm,0.8s,mb6.0							
QRN	**Al-Qurain**	**22.32**	**262**	*e*P		**P**	**08 07 03.6**	**+0.2**
QRN				AMb		AMB	08 07 10.1	
	comp=Z,368nm,0.8s,mb5.9							
KBD	**Kabd**	**22.35**	**263**	*e*P		**P**	**08 07 04.1**	**+0.4**
KBD				AMb		AMB	08 07 11.6	
MIB	**Mutribah**	**22.43**	**265**	*e*P		**P**	**08 07 05.2**	**+0.7**
MIB				AMb		AMB	08 07 11.7	
	comp=Z,1μm,0.9s							
HASS	**Wahat al Ahsa'**	**22.45**	**252**	P		**P**	**08 07 04.3**	**-0.4**
RDF	**Al-Radifah**	**22.56**	**262**	*e*P		**P**	**08 07 06.5**	**+0.8**
RDF				AMb		AMB	08 07 13.8	
	comp=Z,565nm,0.9s,mb6.0							
NAY	**Al-Naaiem**	**22.70**	**264**	*e*P		**P**	**08 07 07.5**	**+0.4**
NAY				AMb		AMB	08 07 11.1	
	comp=Z,502nm,0.9s,mb5.9							
DGRG	**David-gareji**	**22.93**	**296**	P		**P**	**08 07 10.8**	**+1.6**
DGRG				S		**S**	**08 11 27.6**	**+14**
GNI	**Garni**	**23.26**	**292**	P		**P**	**08 07 16.0**	**+3.6**
	comp=Z,43nm,0.8s,baz=341,slow=2.5,SNR=16							
GNI				LR		LR	08 17 46.3	
	comp=Z,141nm,20.3s,baz=275,slow=40							
GNI	**Garni**	**23.26**	**292**	P		**P**	**08 07 14.3**	**+1.8**
GNI				pmax		pmax		
	comp=Z,361nm,1.1s							
GNI	**Garni**	**23.26**	**292**	P		**P**	**08 07 14.3**	**+1.8**
	comp=Z,361nm,1.1s,mb5.7							
MTA	**Mtatsminda**	**23.39**	**296**	P		**P**	**08 07 15.6**	**+1.9**
MTA				S		**S**	**08 11 28.2**	**+6.1**
TI2	**Plekhanov**	**23.43**	**296**	⇓*i*P		**P**	**08 07 16.8**	**+2.7**
TI2				*i*			08 07 16.8	
TI2				*e*S		**S**	**08 11 26.2**	**+3.4**
TI2				MLR		MLR		
	comp=E,500nm,13.0s							
TI2				MLR		MLR		
	comp=Z,2μm,13.0s,MS4.6							
TBLG	**Delisi**	**23.44**	**296**	P		**P**	**08 07 17.6**	**+3.4**
TBLG				S		**S**	**08 11 31.7**	**+8.8**
ARU	**Arti**	**24.00**	**340**	⇑*i*P		**P**	**08 07 21.1**	**+1.7**
ARU				*e*PPP		PPP	08 07 56.6	-7.1
ARU				*e*S		**S**	**08 11 38.1**	**+5.7**
ARU				*e*SS		SS	08 12 19.2	-4.5
ARU				pmax		pmax		
	comp=Z,197nm,0.9s,mb5.5							
ARU				MLR		MLR		
	comp=Z,5μm,17.0s,MS5.0							
ARU				MLR		MLR		
	comp=N,3μm,16.0s,MS4.9							
ARU				MLR		MLR		
	comp=E,2μm,17.0s,MS4.9							
ARU	**Arti**	**24.00**	**340**	*e*P		**P**	**08 07 20.7**	**+1.3**
	comp=E,245nm,1.0s,mb5.6							
WHFO	**Wadi Hawf** SNR=48	**24.07**	**231**	P		**P**	**08 07 22.5**	**+1.9**
RBK	**Rabkut** SNR=17	**24.10**	**230**	P		**P**	**08 07 22.9**	**+2.1**
AKH	**Akhalkalaki**	**24.32**	**295**	P		**P**	**08 07 23.6**	**+0.8**
ONI	**Oni**	**24.51**	**298**	P		**P**	**08 07 25.3**	**+0.6**
ONI				S		**S**	**08 11 59.3**	**+18**
MSL	**Mosul**	**24.58**	**283**	*ex*		x	08 07 30.5	
MSL				*ex*		x	08 11 44.5	
MSL				*ex*		x	08 16 56.5	
MSL				*ex*		x	08 18 24.0	
ABTO	**Aybut** SNR=72	**24.79**	**231**	P		**P**	**08 07 29.2**	**+1.7**
LZH	**Lanzhou**	**24.94**	**78**	*e*P		**P**	**08 07 31.8**	**+3.0**
LZH				AP			08 07 36.3	
LZH				XP			08 07 39.8	
LZH				S		**S**	**08 11 55.0**	**+6.4**
LZH				AMB		AMB		
	comp=Z,440nm,1.4s,mb5.8							
LZH				AMB		AMB		
	comp=Z,780nm,4.6s							
LZH				LR		LR		
	comp=N,3μm,12.3s							
LZH				LR		LR		
	comp=Z,2μm,15.2s,MS4.8							
GOF	**Gofitskoye**	**25.29**	**303**	*e*P		**P**	**08 07 32.4**	**+0.3**
GOF				pmax		pmax		
	comp=Z,78nm,0.8s,mb5.3							
KIV	**Kislovodsk**	**25.30**	**301**	*e*P		**P**	**08 07 32.9**	**+0.8**
KIV				*e*			08 11 06.3	
KIV				*e*S		**S**	**08 11 54.6**	**0.0**
KIV				pmax		pmax		
	comp=Z,29nm,1.0s,mb4.8							
KIV				MLR		MLR		
	comp=Z,1μm,17.0s,MS4.5							
KIV	**Kislovodsk**	**25.30**	**301**	P		**P**	**08 07 32.1**	**0.0**
	comp=Z,72nm,0.8s,mb5.2							
RYDS	**Riyadh**	**25.35**	**253**	P		**P**	**08 07 32.3**	**-0.5**
CD2	**Chengdu**	**25.86**	**90**	P		**P**	**08 07 38.3**	**+0.8**
CD2				PP		PP	08 08 18.3	0.0
CD2				PCP		PcP	08 11 08.5	+1.2
CD2				S		**S**	**08 12 04.3**	**+0.2**
CD2				SS		SS	08 13 09.0	-0.7
CD2				PCS			08 14 47.8	
CD2				AMB		AMB		
	comp=Z,30nm,1.5s,mb4.6							
CD2				AMB		AMB		
	comp=Z,120nm,8.0s							
CD2				LR		LR		
	comp=N,1μm,13.2s							
CD2				LR		LR		
	comp=Z,730nm,10.8s,MS4.5							
MOY	**Mondy**	**26.20**	**41**	*e*P		**P**	**08 07 42.6**	**+2.2**
MOY				pmax		pmax		
	comp=Z,189nm,2.2s,mb5.2							
TRD	**Trivandrum**	**26.23**	**172**	*ex*		x	08 07 43.0	
MZLS	**Mizel**	**26.57**	**254**	P		**P**	**08 07 44.5**	**+0.5**
ZAK	**Zakamensk**	**26.91**	**45**	⇑*i*P		**P**	**08 07 48.3**	**+1.4**
ZAK				pmax		pmax		
	comp=Z,84nm,1.8s,mb5.0							
ZAK				pmax		pmax		
	comp=Z,38nm,1.7s,mb4.7							
ZAK				pmax		pmax		
	comp=Z,32nm,1.9s,mb4.5							
ZAK				pmax		pmax		
	comp=Z,31nm,2.0s,mb4.5							
SOKR	**Solikamsk**	**27.18**	**342**	*c i*P		**P**	**08 07 49.5**	**+0.1**
SOKR				pmax		pmax		
	comp=Z,140nm,1.0s,mb5.5							
SOKR				MLR		MLR		
	comp=Z,4μm,14.0s,MS5.1							
KMI	**Kunming**	**27.18**	**102**	P		**P**	**08 07 49.0**	**-0.7**
KMI				AP		pP	08 07 52.8	-1.7
KMI				PP		PP	08 08 36.8	+0.3
KMI				S		**S**	**08 12 27.0**	**+1.1**
KMI				SS		SS	08 13 41.0	-0.5
KMI				LR		LR		
	comp=N,1μm,20.5s							
KMI				LR		LR		
	comp=E,870nm,14.6s							
KMI				LR		LR		
	comp=Z,990nm,13.4s							
ARSS	**Ar Rass**	**27.29**	**260**	P		**P**	**08 07 50.8**	**+0.1**
CHRT	**Chiangrai**	**27.68**	**115**	⇓P		**P**	**08 07 55.0**	**+0.7**
	comp=Z,153nm,0.8s,mb5.

comp=Z,680nm,14.4s,MS4.4
PECR Pechory 29.42 326 *i* P **P** **08 08 08.6 -1.1**
PECR pmax pmax
comp=Z,900nm,0.8s
PECR MLR MLR
comp=E,1μm,15.0s
PECR MLR MLR
comp=Z,1μm,15.0s,MS4.7
BTO Baotou 29.57 67 *e*P **P** **08 08 11.0 -0.1**
BTO AMB AMB
comp=Z,20nm,1.2s,mb4.7
BTO LR LR
comp=N,670nm,4.2s
BTO LR LR
comp=E,1μm,10.0s
VRSR Storozhevoye 29.60 314 *e*P **P** **08 08 09.9 -1.4**
VRSR *e**PP pP 08 08 13.9 -2.2
VRSR *e* 08 11 16.0
VRSR *e*S **S** **08 13 02.1 -2.3**
VRSR *e*SS SS 08 14 33.9 -4.3
VRSR pmax pmax
comp=Z,2.0nm,1.1s
VRSR pmax pmax
comp=E,3.0nm,0.8s
VRSR smax
comp=N,1.0nm,0.7s
VRSR smax
comp=Z,2.0nm,1.4s
VRSR smax
comp=E,6.0nm,1.3s
VRSR MLR MLR
comp=Z,140nm,18.0s
VRSR MLR MLR
comp=N,210nm,21.0s,MS4.2
VRSR MLR MLR
comp=E,460nm,16.0s,MS4.2
VOR Voronezh 29.78 315 P **P** **08 08 09.0 -3.9**
VOR pmax pmax
comp=Z,80nm,1.6s,mb5.2
VOR pmax pmax
comp=N,50nm,1.5s
VOR pmax pmax
comp=E,90nm,1.6s
GYA Guiyang 29.80 97⇑ *i*P **P** **08 08 12.5 -0.8**
GYA AP pP 08 08 16.8 -1.3
GYA XP sP 08 08 19.5 -0.8
GYA PP PP 08 09 09.5 -1.0
GYA S **S** **08 13 08.0 +0.2**
GYA SCP 08 14 56.3
GYA AMB AMB
comp=Z,30nm,0.6s,mb5.2
GYA AMB AMB
comp=Z,120nm,2.8s,mb5.1
GYA LR LR
comp=N,1μm,14.8s,MS4.8
GYA LR LR
comp=E,620nm,13.5s,MS4.8
GYA LR LR
comp=Z,750nm,14.7s,MS4.5
KBRS Khaybar 30.56 263 P **P** **08 08 21.8 +1.8**
NST Nakhon Sawan 30.64 121 P **P** **08 08 20.0 -0.9**
HHC Hu-ho-hao-te 30.74 67 *e*P **P** **08 08 22.3 +0.8**
HHC AP pP 08 08 28.5 +2.2
HHC XP sP 08 08 32.5 +4.1
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
HHC AMB AMB
comp=Z,290nm,3.6s
HHC LR LR
comp=N,940nm,13.1s,MS4.9
HHC LR LR
comp=E,1μm,11.9s,MS4.9
HHC LR LR
comp=Z,1μm,11.9s,MS4.8
ENH Enshi 30.77 88 P **P** **08 08 21.5 -0.3**
comp=Z,60nm,1.1s,mb5.3
DJNS Zahran al Janu 31.39 245 P **P** **08 08 29.1 +1.7**
SIM Simferopol' 31.51 301 P **P** **08 08 38.0 +10**
SIM *e*S **S** **08 13 44.0 +9.4**
SIM pmax pmax
comp=Z,15μm,0.8s
BLJS Baljurashi 31.60 251 P **P** **08 08 30.4 +1.2**
BR131 Keskin Array S 31.79 291 *e*P **P** **08 08 31.4 +0.6**
comp=Z,9.3nm,0.7s,mb4.7
BRTR Keskin Array B 31.79 291 P **P** **08 08 30.9 +0.2**
comp=Z,5.8nm,0.9s,mb4.4,baz=90,slow=7.4,SNR=16
BRTR ScP 08 15 04.0
comp=Z,2.5nm,1.0s,baz=143,slow=6.2,SNR=4.5
KKTK Khon Kaen 32.14 117 P **P** **08 08 35.0 +1.0**
comp=Z,309nm,0.6s
MOS Moscow 32.26 322 *e*P **P** **08 08 32.4 -2.2**
MOS *e* 08 09 39.5
MOS *e*PPP PPP 08 09 50.5 -6.9
MOS *e*S **S** **08 13 39.2 -6.9**
MOS *e*SS SS 08 15 46.5 +5.8
MOS pmax pmax
comp=Z,50nm,0.9s,mb5.3
MOS MLR MLR
comp=Z,1μm,12.1s,MS4.8
UMJS Umm Lajj 32.39 263 P **P** **08 08 38.3 +2.2**
OBN Obninsk 32.54 320 *i* P **P** **08 08 36.7 -0.4**
OBN *e* pP 08 08 42.0 0.0
OBN *e* 08 11 22.7
OBN *e*S **S** **08 13 52.9 +2.4**
OBN *e*SS SS 08 15 43.4 -3.8
OBN pmax pmax
comp=Z,25nm,0.5s,mb5.4
OBN MLR MLR
comp=Z,1μm,22.0s,MS4.6
OBN Obninsk 32.54 320 *i* P **P** **08 08 36.7 -0.4**
OBN LR LR
comp=Z,1μm,22.0s,MS4.6
CIT Chita 33.54 46 *e*P **P** **08 08 45.6 -0.2**
CIT *e* 08 09 56.5
CIT pmax pmax
comp=Z,137nm,2.7s,mb5.4
KLMR Klimovskoe 34.00 331*c i*P **P** **08 08 49.3 -0.4**
KLMR *e*S **S** **08 14 11.5 -1.6**
KLMR pmax pmax
comp=Z,160nm,1.4s,mb5.8
KLMR pmax pmax
comp=Z,130nm,4.3s
KLMR MLR MLR
comp=Z,2μm,12.0s,MS5.0
WHN Wuhan 34.69 85 ⇓P **P** **08 08 56.8 +0.8**
WHN S **S** **08 14 25.0 +0.9**
WHN LR LR
comp=N,1μm,9.9s
WHN LR LR
comp=E,2μm,10.9s
WHN LR LR
comp=Z,2μm,12.6s,MS5.1
KIS Kishinev 35.37 304 *e*P **P** **08 09 04.0 +2.4**
KIS *e* 08 10 19.0
KIS *e* 08 10 38.0
KIS *e*S **S** **08 14 40.0 +5.5**
AKASG Malin Array Be 35.55 311 P **P** **08 09 02.0 -1.1**
comp=Z,16nm,0.8s,mb5.0,baz=86,slow=7.0,SNR=41
TIA Tai'an 35.55 75 *e*P **P** **08 09 03.3 0.0**
BOD Bodaibo 35.67 37⇓ *i*P **P** **08 09 04.0 -0.1**
BOD pmax pmax
comp=Z,39nm,0.9s,mb5.3
CFR Carcaliu 35.76 301 ⇓P **P** **08 09 04.4 -0.5**
QIZ Qiongzhong 35.93 106 *e*P **P** **08 09 09.5 +2.8**
QIZ S **S** **08 14 42.5 -1.0**
QIZ LR LR
comp=E,460nm,12.1s
QIZ LR LR
comp=Z,580nm,14.9s,MS4.5
ATD Arta Tunnel 35.98 238 P **P** **08 09 09.3 +2.2**
comp=Z,46nm,1.1s,mb5.3,baz=107,slow=19
ATD Arta Tunnel 35.98 238 P **P** **08 09 09.3 +2.2**
VRI Vrincioaia 36.76 302⇑P **P** **08 09 14.2 +0.8**
HIA Hailar 36.92 52 *e*P **P** **08 09 15.1 +0.4**
HIA pmax pmax
comp=Z,46nm,1.4s
HIA Hailar 36.92 52 *e*P **P** **08 09 15.1 +0.4**
comp=Z,46nm,1.4s,mb5.1
MNK Minsk 37.14 317 *e*P **P** **08 09 15.0 -1.5**
MNK *e* 08 10 38.0
MLR Muntele Rosu 37.31 301 P **P** **08 09 19.7 +1.8**
comp=Z,67nm,0.9s,mb5.5,baz=96,slow=2.1,SNR=74
MLR Muntele Rosu 37.31 301⇑P **P** **08 09 19.7 +1.7**
BURAR Bucovina Array 37.85 305⇑P **P** **08 09 23.4 +0.9**
KDZ Kurdzhali 37.87 295 *i* P **P** **08 09 30.0 +7.2**

NJ2 Nanjing 37.93 81 *e*P **P** **08 09 25.5 +2.2**
NJ2 AP pP 08 09 30.0 +1.8
NJ2 XP sP 08 09 32.5 +2.2
NJ2 PP PP 08 10 55.5 +2.3
NJ2 S **S** **08 15 17.0 +3.1**
NJ2 XS 08 15 24.0
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,110nm,4.6s
NJ2 LR LR
comp=N,1μm,20.6s,MS5.0
NJ2 LR LR
comp=E,2μm,19.4s,MS5.0
NJ2 LR LR
comp=Z,800nm,25.3s
VOIR 37.94 301⇓P **P** **08 09 23.8 +0.5**
JOF Joensuu 38.39 330 *e*p **P** **08 09 27.4 +0.5**
comp=Z,28nm,0.4s,mb5.3
RZN Rozhen 38.39 295 *i* P **P** **08 09 28.5 +1.4**
PGB Panagyurishte 38.72 297 *i* P **P** **08 09 31.0 +1.1**
VSU Vasula 38.78 322 *i* P **P** **08 09 30.3 +0.1**
VSU Vasula 38.78 322 *i* Pr 08 09 30.3
MMB Musomiste 39.14 295 *i* P **P** **08 09 34.5 +1.1**
IDI Anoyia 39.33 285 P **P** **08 09 36.1 +1.1**
comp=Z,6.7nm,0.7s,mb4.5,baz=24,slow=15,SNR=7.6
VTS Vitosha 39.42 297 *i* P **P** **08 09 37.0 +1.3**
KKB Krupnik 39.59 296 *i* P **P** **08 09 38.0 +0.9**
KWP Kalwaria 39.60 308 *e*P **P** **08 09 37.5 +0.4**
SNY Shenyang 39.70 64⇑P **P** **08 09 38.5 +0.5**
SNY S **S** **08 15 35.0 -5.5**
SNY LR LR
comp=N,1μm,11.4s,MS5.2
SNY LR LR
comp=E,2μm,15.6s,MS5.2
SNY LR LR
comp=Z,2μm,15.4s,MS5.1
SUW Suwalki 39.73 315 *e*P **P** **08 09 37.9 -0.3**
KOLS Kolonicke sedl 39.85 307 *e*P **P** **08 09 39.8 +0.6**
KOLS *e* 08 09 52.3
KOLS *e*PP PP 08 11 07.6 -7.2
KOLS Kolonicke sedl 39.85 307 *e*P **P** **08 09 39.8 +0.6**
KOLS *e* 08 11 07.6
LVZ Lovozero 39.86 338 *i* P **P** **08 09 38.8 -0.3**
LVZ pmax pmax
comp=Z,96nm,1.0s,mb5.5
LVZ pmax pmax
comp=N,8.0nm,0.8s
LVZ pmax pmax
comp=E,44nm,1.1s
LVZ MLR MLR
comp=Z,7μm,14.0s,MS5.6
LVZ MLR MLR
comp=N,3μm,13.0s,MS5.5
LVZ MLR MLR
comp=E,3μm,14.0s,MS5.5
LVZ MLR MLR
comp=Z,375nm,18.0s
FINES FINESS Array B 40.04 327 P **P** **08 09 40.8 +0.2**
comp=Z,15nm,0.8s,mb4.8,baz=119,slow=10.0,SNR=58
FINES LR LR 08 29 52.8
comp=Z,489nm,19.5s,MS4.4,baz=261,slow=42
APA Apatity 40.05 338⇓ *i*P **P** **08 09 40.9 +0.2**
APA *i* 08 11 10.3
APA pmax pmax
comp=Z,47nm,1.2s,mb5.1
APA MLR MLR
comp=N,2μm,13.0s,MS5.7
APA MLR MLR
comp=E,6μm,13.0s,MS5.7
APA MLR MLR
comp=Z,9μm,13.0s,MS5.8
SSE Sheshan 40.12 81 *e*P **P** **08 09 40.5 -1.1**
SSE AP pP 08 09 47.0 +0.5
SSE XP sP 08 09 49.5 +1.0
SSE PP PP 08 11 13.5 -4.2
SSE PCP PcP 08 11 42.5 -4.2
SSE S **S** **08 15 46.8 -0.1**
SSE XS 08 15 56.0
SSE SCS ScS 08 19 47.8 +2.0
SSE AMB AMB
comp=Z,20nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,60nm,6.2s
SSE LR LR
comp=N,630nm,16.7s,MS4.6
SSE LR LR
comp=E,180nm,16.6s,MS4.6
SSE LR LR
comp=Z,740nm,13.6s,MS4.7
KAF Kangasniemi 40.18 328 *e*p **P** **08 09 42.3 +0.5**
BZS Buzias 40.34 302⇑P **P** **08 09 44.6 +1.3**
CRVS Cervenica-Dubn 40.39 307 *e*P **P** **08 09 45.2 +1.6**
CRVS *e*PP PP 08 11 20.2 -0.1
CRVS *e*L 08 29 42.5
STHS Stebnicka Huta 40.54 308 *e*P **P** **08 09 44.7 -0.2**
STHS *e* 08 09 57.4
STHS *e*PP PP 08 11 27.3 +5.5
STHS Stebnicka Huta 40.54 308 *e*P **P** **08 09 44.7 -0.2**
STHS *e* 08 11 27.3
KECS Kecovo 41.03 306 *e*P **P** **08 09 49.1 +0.2**
KECS *e*PP PP 08 11 26.9 +0.2
CLNS Chul'man 41.06 41 *e*P **P** **08 09 49.9 +0.9**
CLNS *e*S **S** **08 15 55.0 -5.7**
CLNS pmax pmax
comp=Z,74μm,1.2s
GRUS Gruza 41.11 299 *e*P **P** **08 09 49.6 +0.1**
NIE Niedzica 41.15 308 *e*P **P** **08 09 51.3 +1.4**
PSZ Piszkesteto 41.44 305⇓ *i*P **P** **08 09 53.3 +1.1**
PSZ *i* PP PP 08 11 34.2 +3.0
OJC Ojcow 41.49 309⇓ *i*P **P** **08 09 52.7 0.0**
OJC *e*S **S** **08 16 07.5 +0.3**
OJC *e*SS SS 08 18 57.6 -9.4
OJC MLR MLR 08 30 17.3
comp=Z,600nm,18.9s,MS4.5
OJC Ojcow 41.49 309⇓ *i*P **P** **08 09 52.7 0.0**
OJC *e*S **S** **08 16 07.5 +0.3**
OJC MLR MLR
comp=Z,600nm,18.9s,MS4.5
DIVS Divcibare 41.61 300 *e*P **P** **08 09 53.9 +0.3**
VYHS Vyhne 42.13 306 *e*P **P** **08 09 58.2 +0.3**
VYHS *e* 08 10 10.3
VYHS *e*L 08 31 42.6
PKSM Moragy 42.38 303⇑ *e*P **P** **08 10 00.3 +0.4**
SRO Srobarova 42.51 305 *e*P **P** **08 10 01.6 +0.6**
SRO *e* 08 10 23.2
OKC Ostrava-Krasne 42.56 308 *e*P **P** **08 10 01.4 0.0**
OKC AMS AMS 08 30 30.0
comp=Z,500nm,16.7s
YHNB Yeheng 42.64 90 *e*P **P** **08 10 03.5 +1.2**
RHK1 Bakonya 42.78 303⇑ *i*P **P** **08 10 03.6 +0.3**
KEV Kevo 43.20 338 *e*p **P** **08 10 06.9 +0.6**
comp=Z,42nm,0.8s,mb5.2
KEV Kevo 43.20 338 *e*P **P** **08 10 06.9 +0.6**
KEV pmax pmax
comp=Z,42nm,0.8s,mb5.2
ZST Bratislava 43.30 306 *e*P **P** **08 10 05.6 -1.8**
ZST *e*PP PP 08 11 55.4 +5.1
ZST *e*L 08 32 53.9
ARCES ARCESS Array B 43.56 338 P **P** **08 10 09.8 +0.6**
comp=Z,55nm,0.8s,mb5.3,baz=117,slow=8.1,SNR=111
ARCES LR LR 08 29 35.9
comp=Z,4μm,19.7s,MS5.3,baz=121,slow=38
ARE0 ARCESS Array S 43.56 338 *e*P **P** **08 10 09.5 +0.3**
VRAC Vranov 43.58 308 P **P** **08 10 10.3 +0.6**
comp=Z,15nm,0.9s,mb4.7,baz=90,slow=7.9,SNR=22
VRAC LR LR 08 31 21.2
comp=Z,500nm,20.6s,MS4.4,baz=83,slow=40
DPC Dobruska-Polom 43.72 309 *e*P **P** **08 10 11.1 +0.3**
DPC *ex* x 08 10 23.8
DPC *e*PP PP 08 11 56.9 +2.4
DPC Dobruska-Polom 43.72 309 *e*P **P** **08 10 11.1 +0.3**
DPC *e* 08 11 56.9
KSP Ksiaz 43.73 310 *e*P **P** **08 10 11.2 +0.4**
KSP Ksiaz 43.73 310 *e*P **P** **08 10 10.9 0.0**
KSP *e* 08 11 59.9
KSP Ksiaz 43.73 310 *e*P **P** **08 10 10.9 0.0**
KSP *e* 08 10 23.5
KSP *e*PcP PcP 08 11 59.9 +1.6
MDJ Mudanjiang 43.73 59 P **P** **08 10 11.8 +0.8**
MDJ AP pP 08 10 14.8 -1.1
MDJ PP PP 08 11 53.5 -1.2
MDJ S **S** **08 16 42.5 +2.4**

MDJ AMB AMB
comp=Z,50nm,1.3s,mb5.1
MDJ AMB AMB
comp=Z,260nm,4.8s
MDJ LR LR
comp=N,650nm,11.4s
MDJ LR LR
comp=E,2μm,16.8s
MDJ LR LR
comp=Z,3μm,15.2s,MS5.3
MDJ Mudanjiang 43.73 59 *e*P **P** **08 10 12.0 +1.0**
comp=Z,99nm,1.3s,mb5.4
UPC Upice 43.92 309 *e*P **P** **08 10 12.9 +0.5**
UPC *ex* x 08 10 24.7
KOGS Kog 44.01 303 *e*P **P** **08 10 13.6 +0.3**
KOGS *e*PcP PcP 08 12 03.0 +3.6
KTK1 Kautokeino 44.05 337 *e*P **P** **08 10 14.2 +1.0**
KTK1 AMb AMB 08 10 15.4
comp=Z,64nm,0.8s,mb5.4
KTK1 Kautokeino 44.05 337 *e*P **P** **08 10 14.2 +1.0**
comp=Z,64nm,0.8s,mb5.4
TREC Trest 44.31 308 *e*P **P** **08 10 16.1 +0.5**
TREC AMS AMS 08 31 20.0
comp=Z,600nm,17.0s
ARSA Arzberg 44.43 305⇑ *i*P **P** **08 10 17.0 +0.3**
comp=Z,8.3nm,1.1s,mb4.4
ARSA Arzberg 44.43 305 ⇑P **P** **08 10 17.0 +0.3**
comp=Z,8.3nm,1.1s,mb4.4
YAK Yakutsk 44.44 34⇑ *i*P **P** **08 10 16.7 +0.3**
YAK *e*S **S** **08 16 50.0 0.0**
YAK pmax pmax
comp=Z,59μm,0.8s
YAK MLR MLR
comp=Z,900nm,17.4s
CRES Cresnjev 44.62 303⇑ *i*P **P** **08 10 18.5 +0.3**
comp=Z,46nm,1.3s,mb5.2
CRES *e*pP pP 08 10 31.9 +8.8
KLR Kul'dur 44.78 53 *e*P **P** **08 10 16.9 -2.5**
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,34nm,1.4s
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,11μm,13.0s
TIP Timpagrande 44.79 293 *e*P **P** **08 10 19.0 -0.6**
PVCC Panska Ves 44.84 309 *e*P **P** **08 10 19.5 -0.4**
PVCC *e*PP PP 08 12 01.8 -3.9
PRU Pruhonice 44.88 309 *e*P **P** **08 10 20.7 +0.5**
PRU *ex* x 08 10 25.4
PRU AMS AMS 08 31 40.0
comp=Z,700nm,14.9s
OBKA Obir 45.17 304⇓ *i*P **P** **08 10 23.2 +0.7**
comp=Z,20nm,1.5s,mb4.7
OBKA Obir 45.17 304 ⇓P **P** **08 10 23.2 +0.7**
comp=Z,20nm,1.5s,mb4.7
BRG Berggiesshubel 45.22 310⇑ *i*P **P** **08 10 23.0 +0.1**
BRG *i* 08 10 31.4
BRG S **S** **08 17 05.0 +3.6**
BRG SS SS 08 20 22.0 +6.2
BRG pmax pmax
comp=Z,19nm,0.9s,mb4.9
BRG MLR MLR
comp=Z,1μm,13.5s,MS4.9
BRG Berggiesshubel 45.22 310⇑ *i*P **P** **08 10 23.0 +0.1**
comp=Z,19nm,0.9s,mb4.9
BRG *i* 08 10 31.4
BRG *e* 08 10 34.5
BRG *e* 08 12 24.1
BRG S **S** **08 17 05.0 +3.6**
BRG SS SS 08 20 22.0 +6.2
BRG LR LR
comp=Z,1μm,13.5s,MS4.9
MOA Molln 45.22 306⇑ *i*P **P** **08 10 22.8 -0.1**
comp=Z,22nm,1.1s,mb4.9,SNR=9.4
LJU Ljubljana 45.24 303⇑ *i*P **P** **08 10 23.6 +0.5**
comp=Z,76nm,1.2s,mb5.4
LJU *e*ScP 08 15 54.3
LJU Ljubljana 45.24 303⇑ *i*P **P** **08 10 23.7 +0.6**
LJU pmax pmax
comp=Z,76nm,1.2s,mb5.4
RUE Ruedersdorf 45.27 312 *e*P **P** **08 10 23.2 -0.1**
comp=Z,31nm,0.9s,mb5.1
GEC2 GERESS Array S 45.51 307 *e*P **P** **08 10 24.9 -0.3**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GEC2 GERESS Array S 45.51 307 *e*P **P** **08 10 24.9 -0.3**
comp=Z,8.0nm,1.1s,mb4.6
GERES GERESS Array B 45.51 307 P **P** **08 10 24.9 -0.3**
comp=Z,2.4nm,0.9s,mb4.1,baz=90,slow=6.7,SNR=20
GERES LR LR 08 32 30.4
comp=Z,451nm,21.1s,MS4.4,baz=174,slow=40
KHC Kasperske Hory 45.57 307 *e*P **P** **08 10 25.8 +0.2**
KHC *ex* x 08 10 36.8
KHC *e*PP PP 08 12 15.0 +2.0
KHC AMS AMS 08 32 10.0
comp=Z,700nm,16.4s
KHC Kasperske Hory 45.57 307 *e*P **P** **08 10 25.8 +0.2**
KHC *e* 08 12 15.0
KHC MLR MLR
comp=Z,700nm,16.4s,MS4.7
JAVS Javornik 45.58 303 *i* P **P** **08 10 25.9 0.0**
VLA Vladivostok 45.60 61 *e*P **P** **08 10 26.8 +0.8**
VLA *i* pP 08 10 31.7 +0.8
VLA pmax pmax
comp=Z,151nm,1.2s,mb5.8
VLA MLR MLR
comp=Z,2μm,12.0s,MS5.2
VLA Vladivostok 45.60 61 *i* P **P** **08 10 27.3 +1.3**
HFS Hagfors 45.66 323 P **P** **08 10 26.1 -0.1**
comp=Z,26nm,0.6s,mb5.3,baz=100,slow=9.0,SNR=86
HFS LR LR 08 32 20.7
comp=Z,447nm,19.3s,MS4.4,baz=86,slow=40
VOY Vojsko 45.68 303 *e*P **P** **08 10 26.5 -0.1**
VOY *e* 08 10 35.7
TRO Tromso 45.70 337 *e*P **P** **08 10 25.5 -1.0**
TRO AMb AMB 08 10 27.9
comp=Z,99nm,1.4s,mb5.6
TRO Tromso 45.70 337 *e*P **P** **08 10 25.5 -1.0**
comp=Z,99nm,1.4s,mb5.5
CADS Cadrg 45.76 303 *e*P **P** **08 10 27.2 -0.1**
CLL Collm 45.79 311 P **P** **08 10 26.9 -0.5**
comp=Z,logA/T=1.0,mb4.7
CLL *e*PP PP 08 12 11.0 -4.2
CLL *e*S **S** **08 17 14.0 +4.4**
CLL *e*SS SS 08 20 42.0 +16
CLL Collm 45.79 311 *i* P **P** **08 10 26.9 -0.5**
CLL *e*S **S** **08 17 14.0 +4.4**
CLL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLL Collm 45.79 311 *i* P **P** **08 10 26.9 -0.5**
comp=Z,10.0nm,0.9s,mb4.8
CLL *e*S **S** **08 17 14.0 +4.4**
KBA Koelnbreinsper 45.93 305⇑ *i*P **P** **08 10 28.8 +0.3**
comp=Z,8.9nm,1.2s,mb4.6
KBA Koelnbreinsper 45.93 305 ⇑P **P** **08 10 28.8 +0.3**
KBA pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
KBA Koelnbreinsper 45.93 305 ⇑P **P** **08 10 28.8 +0.3**
comp=Z,8.9nm,1.2s,mb4.6
WET Wettzell 46.02 308 *e*P **P** **08 10 29.5 +0.2**
WET pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
WET Wettzell 46.02 308 *e*P **P** **08 10 29.5 +0.2**
comp=Z,6.0nm,1.3s,mb4.4
NKC Novy Kostel 46.21 309 *e*P **P** **08 10 31.8 +1.1**
NKC *ex* x 08 10 42.9
NKC AMS AMS 08 32 30.0
comp=Z,1μm,15.8s
MOR8 Moi Rana 46.33 331 *e*P **P** **08 10 30.9 -0.5**
MOR8 AMb AMB 08 10 32.9
comp=Z,102nm,2.1s,mb5.4
MOR8 Moi Rana 46.33 331 *e*P **P** **08 10 30.9 -0.5**
comp=Z,102nm,2.1s,mb5.4
MOX Moxa 46.71 310 *i* P **P** **08 10 35.0 +0.3**
MOX pP pP 08 10 46.0 +6.4
MOX PcP PcP 08 12 08.0 -0.6
MOX PP PP 08 12 40.0 +16
MOX L 08 33 10.0
MOX Moxa 46.71 310 *e*P **P** **08 10 35.0 +0.3**
MOX *e* 08 12 08.3
MOX pmax pmax
comp=Z,27nm,1.5s,mb5.0
MOX MLR MLR

comp=Z,700nm,16.0s,MS4.7
MOX Moxa 46.71 310 *e*P P 08 10 35.0 +0.3
comp=Z,27nm,1.5s,mb5.0
MOX *e*pP pP 08 10 46.3 +6.7
MOX *e*PcP PcP 08 12 08.3 -0.3
MOX *e*PP PP 08 12 40.0 +16
MOX LR LR
comp=Z,700nm,16.0s,MS4.7
TIXI Tiksi 46.82 21 *e*P P 08 10 32.2 -3.1
TIXI *e*S S 08 17 17.5 -6.6
TIXI pmax pmax
comp=Z,56nm,1.1s,mb5.4
TIXI MLR MLR
comp=Z,4μm,15.0s,MS5.5
TIXI Tiksi 46.82 21⇑ *i*P P 08 10 35.6 +0.3
NB2 NORSAR Subarra 46.96 324 P P 08 10 35.6 -0.9
comp=Z,27nn,0.8s,mb5.2,baz=95,slow=7.4
NB2 NORSAR Subarra 46.96 324 P P 08 10 35.6 -0.9
baz=95,slow=7.9
NB2 NORSAR Subarra 46.96 324 P P 08 10 35.6 -0.9
NB2 pmax pmax
comp=Z,27nn,0.8s,mb5.2
NOA NORSAR Array B 46.96 324 P P 08 10 35.9 -0.6
comp=Z,22nn,0.8s,mb5.2,baz=96,slow=7.7,SNR=50
NOA LR LR 08 31 25.5
comp=Z,846nm,18.2s,MS4.7,baz=115,slow=38
NOA NORSAR Array B 46.96 324 P P 08 10 35.9 -0.6
NOA LR LR 08 31 25.5
HABR Khabarovsk 47.02 53 *i* P P 08 10 37.9 +0.8
HABR pmax pmax
comp=Z,65nm,1.2s,mb5.4
GRA1 Grafenberg Arr 47.05 308 *e*P P 08 10 38.1 +0.7
comp=Z,13nn,1.0s,mb4.8
GRA1 LR LR
comp=Z,600nm,18.3s,MS4.6
GRF Grafenberg Arr 47.05 308 *e*P P 08 10 38.1 +0.7
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRF MLR MLR
comp=Z,600nm,18.3s,MS4.6
GRF Grafenberg Arr 47.05 308 *e*P P 08 10 38.1 +0.7
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRF MLR MLR
comp=Z,600nm,18.3s,MS4.6
GRF Grafenberg Arr 47.05 308 *e*P P 08 10 38.1 +0.7
comp=Z,13nm,1.0s,mb4.8
GRF LR LR
comp=Z,600nm,18.3s,MS4.6
WTTA Wattenberg 47.06 305⇑ *i*P P 08 10 36.6 -0.9
comp=Z,18nn,1.1s,mb4.9
WTTA Wattenberg 47.06 305 ⇑P P 08 10 36.6 -0.9
WTTA pmax pmax
comp=Z,18nn,1.1s,mb4.9
WATA Walderalm 47.09 305⇑ *i*P P 08 10 36.8 -0.9
comp=Z,16nn,1.3s,mb4.8,SNR=6.7
WATA Walderalm 47.09 305⇑ *i*P P 08 10 36.8 -0.9
WATA pmax pmax
comp=Z,16nn,1.3s,mb4.8
WATA Walderalm 47.09 305⇑ *i*P P 08 10 36.8 -0.9
comp=Z,16nn,1.3s,mb4.8
NAO01 NORSAR Array S 47.11 324 *e*P P 08 10 36.6 -1.0
comp=Z,14nn,0.9s,mb4.9
LOF Lofoten 47.12 334 *e*P P 08 10 40.4 +2.7
FUR Furstenfeldbru 47.19 306 *e*P P 08 10 38.9 +0.4
FUR pmax pmax
comp=Z,40nn,1.2s,mb5.2
FUR Furstenfeldbru 47.19 306 *e*P P 08 10 38.9 +0.4
comp=Z,40nn,1.2s,mb5.2
JNU Nakatsue 47.29 75 P P 08 10 39.8 +0.3
comp=Z,41nn,1.0s,mb5.3,baz=30,slow=27,SNR=3.9
SQTA Sankt Quirin 47.35 305⇓ *i*P P 08 10 38.8 -1.1
comp=Z,23nn,1.4s,mb4.9,SNR=8.3
SQTA Sankt Quirin 47.35 305⇓ *i*P P 08 10 38.8 -1.0
SQTA pmax pmax
comp=Z,23nn,1.4s,mb4.9
SQTA Sankt Quirin 47.35 305⇓ *i*P P 08 10 38.8 -1.1
comp=Z,23nn,1.4s,mb4.9
CLZ Clausthal 47.40 311 *e*P P 08 10 39.9 -0.2
CLZ pmax pmax
comp=Z,23nn,1.1s,mb5.0
CLZ Clausthal 47.40 311 *e*P P 08 10 39.9 -0.2
comp=Z,23nn,1.1s,mb5.0
MOTA Moosalm 47.41 305⇑ *i*P P 08 10 39.1 -1.2
comp=Z,10nn,1.1s,mb4.7,SNR=7.1
MOTA Moosalm 47.41 305⇑ *i*P P 08 10 39.1 -1.1
MOTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
JOW Kunigami 47.43 84 P P 08 10 40.6 -0.1
comp=Z,6.6nm,0.4s,mb5.0,baz=307,slow=7.7,SNR=9.1
KONO Kongsberg 47.68 322 *e*P P 08 10 41.0 -1.2
KSM Kuching 47.76 126 *e*P P 08 10 44.7 +1.3
MUD Monsted U'grnd 47.88 318 *i* P sP 08 11 03.4 +13
comp=Z,23nn,0.9s
MUD *i* 08 12 42.4
MUD *i* 08 14 56.4
MUD *e*S SS 08 21 22.1 +20
MUD *i* 08 29 40.4
comp=Z,660nm,19.0s
DAVA Damuels 48.24 305 *i* P P 08 10 46.0 -0.8
comp=Z,42nn,1.2s,mb5.3,SNR=17
DAVOX Davos 48.32 305 P P 08 10 47.0 -0.4
comp=Z,5.0nm,0.5s,mb4.8,baz=113,slow=7.6,SNR=18
DAVOX LR LR 08 33 39.1
comp=Z,304nm,19.6s,MS4.3,baz=70,slow=39
STU Stuttgart 48.48 307 *e*P P 08 10 48.0 -0.5
STU pmax pmax
comp=Z,21nn,1.0s,mb5.1
STU Stuttgart 48.48 307 *e*P P 08 10 48.0 -0.5
comp=Z,21nn,1.0s,mb5.1
TOD Tromm 48.62 309 *e*P P 08 10 49.0 -0.6
KKM Kota Kinabalu 48.75 116 *e*P P 08 10 52.5 +1.4
TNS Taunus Mts 48.77 309 *e*P P 08 10 50.5 -0.3
TNS *e* 08 12 15.3
TNS pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
TNS Taunus Mts 48.77 309 *e*P P 08 10 50.5 -0.3
comp=Z,7.0nm,1.1s,mb4.6
TNS *e*PcP PcP 08 12 15.3 -0.7
MOL Molde 48.81 326 *e*P P 08 10 52.7 +1.8
KMBO Kilima Mbogo 49.02 231 P P 08 10 54.9 +1.6
comp=Z,17nn,0.9s,mb5.0,baz=35,slow=11,SNR=37
KMBO LR LR 08 33 43.4
comp=Z,780nm,19.0s,MS4.7,baz=275,slow=39
BFO Black Forest 49.11 307 *e*P P 08 10 53.2 -0.2
BFO *e* 08 12 15.9
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
BFO Black Forest 49.11 307 *e*P P 08 10 53.2 -0.2
comp=Z,10.0nm,1.1s,mb4.8
BFO *e*PcP PcP 08 12 15.9 -1.4
ODD1 Odda 49.19 322 *e*P P 08 10 53.9 0.0
LANF Langenberg 49.35 308 *e*P P 08 10 55.1 -0.2
PGF Pioggiola 49.77 299 *e*P P 08 10 57.7 -0.9
comp=Z,48nn,1.1s,mb5.2
PGF Pioggiola 49.77 299 *e*P P 08 10 57.7 -0.9
PGF pmax pmax
comp=Z,24nn,1.1s,mb5.1
CDF Champ du Feu 49.79 307 *e*P P 08 10 58.2 -0.5
comp=Z,9.8nm,0.8s,mb4.6
CDF Champ du Feu 49.79 307 *e*P P 08 10 58.2 -0.5
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BBS Basel-Blauen 49.80 306 *e*P P 08 10 57.5 -1.2
ASK Askoy 49.90 323 *e*P P 08 10 59.6 +0.3
MOF Molkenrain 49.98 306 *e*P P 08 10 59.2 -0.9
HINF Hinteralfeld 50.17 306 *e*P P 08 11 00.6 -1.0
comp=Z,19nn,0.9s,mb4.8
HINF Hinteralfeld 50.17 306 *e*P P 08 11 00.6 -1.0
HINF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LOMF Lomont 50.28 306 *e*P P 08 11 01.2 -1.2
WLF Walferdange 50.32 309 *e*P P 08 11 02.5 -0.2
WLF pmax pmax
comp=Z,17nn,0.9s,mb5.1
WLF Walferdange 50.32 309 *e*P P 08 11 02.5 -0.2
comp=Z,17nn,0.9s,mb5.1
HAU Haudompre 50.47 307 *e*P P 08 11 03.0 -0.9
comp=Z,67nn,1.3s,mb5.2
HAU *e*R
comp=Z,562nm,18.0s
HAU Haudompre 50.47 307 *e*P P 08 11 03.0 -0.9
HAU pmax pmax
comp=Z,33nn,1.3s,mb5.2
HAU MLR MLR
comp=Z,560nm,18.0s,MS4.6

AUTN L'Aution 50.56 301 *e*P P 08 11 04.2 -0.4
SBF Sospel 50.58 301 *e*P P 08 11 04.3 -0.5
comp=Z,140nm,1.3s,mb5.4
SBF Sospel 50.58 301 *e*P P 08 11 04.3 -0.5
SBF pmax pmax
comp=Z,70nm,1.3s,mb5.4
THEF They Montfort 50.67 307 *e*P P 08 11 04.6 -0.8
TOUF Mont Tournerai 50.68 302 *e*P P 08 11 05.3 -0.2
LPL La Plagne 50.71 304 *e*P P 08 11 05.6 -0.1
comp=Z,120nm,1.1s,mb5.4
LPL La Plagne 50.71 304 *e*P P 08 11 05.6 -0.1
LPL pmax pmax
comp=Z,60nm,1.1s,mb5.4
KBS Kingsbay 50.82 347 *e*P P 08 11 07.2 +1.0
BNI Bardonecchia 50.84 303 *e*P P 08 11 05.8 -0.9
BNI pmax pmax
comp=Z,34nm,1.1s,mb5.2
BNI Bardonecchia 50.84 303 *e*P P 08 11 05.8 -0.9
comp=Z,34nn,1.1s,mb5.2
MBDF Montbardon 50.85 303 *e*P P 08 11 05.9 -0.9
comp=Z,59nn,0.8s,mb5.2
MBDF Montbardon 50.85 303 *e*P P 08 11 05.9 -0.9
MBDF pmax pmax
comp=Z,30nm,0.8s,mb5.3
SURF Saint Ours 50.88 302 *e*P P 08 11 06.7 -0.3
CABF La Chapelle 50.92 305 *e*P P 08 11 06.9 -0.4
comp=Z,112nm,1.3s,mb5.3
CABF La Chapelle 50.92 305 *e*P P 08 11 06.9 -0.4
CABF pmax pmax
comp=Z,56nm,1.3s,mb5.3
GIVF Givet 51.09 310 *e*P P 08 11 08.2 -0.3
FRF La Foret Royal 51.21 301⇑ *i*P P 08 11 08.6 -0.9
comp=Z,33nm,1.0s,mb4.9
FRF La Foret Royal 51.21 301⇑ *i*P P 08 11 08.6 -0.9
FRF pmax pmax
comp=Z,17nn,1.0s,mb4.9
MEZF Maizieres J'vi 51.23 308⇑ *i*P P 08 11 09.2 -0.4
LMR La Mourre 51.36 301 *e*P P 08 11 09.5 -1.2
comp=Z,38nn,1.2s,mb4.9
LMR La Mourre 51.36 301 *e*P P 08 11 09.5 -1.2
LMR pmax pmax
comp=Z,19nm,1.2s,mb4.9
ORIF Oris-en-Rattie 51.43 303 *e*P P 08 11 09.8 -1.3
comp=Z,21nm,0.9s,mb4.8
ORIF *e*R
comp=Z,649nm,19.8s
GRN Grenoble 51.45 303 *e*P P 08 11 10.4 -0.9
BAIF Baives 51.49 310⇑ *i*P P 08 11 11.3 -0.3
comp=Z,46nn,1.0s,mb5.1
BAIF Baives 51.49 310⇑ *i*P P 08 11 11.3 -0.3
BAIF pmax pmax
comp=Z,23nn,1.0s,mb5.1
SMRF Simiane la Rot 51.86 302 *e*P P 08 11 13.9 -0.6
MAJO Matsushiro 51.93 68 *e*P P 08 11 14.5 -0.6
MAJO *e* pP 08 11 20.2 +0.1
MAJO pmax pmax
comp=Z,53nm,1.0s,mb5.4
MAJO Matsushiro 51.93 68 *e*P P 08 11 14.5 -0.6
comp=Z,53nm,1.0s,mb5.4
MAJO *e* pP 08 11 20.2 +0.1
MAT Matsushiro 51.93 68 P P 08 11 14.1 -1.0
MAT *e*S S 08 18 34.8 -1.0
MAT Matsushiro 51.93 68 *e*P P 08 11 14.0 -1.1
MAT S S 08 18 35.0 -0.8
MAT pmax pmax
comp=Z,36nm,1.0s,mb5.3
MAT Matsushiro 51.93 68 *e*P P 08 11 14.0 -1.1
comp=Z,36nn,1.0s,mb5.3
MAT S S 08 18 35.0 -0.8
MJAR Matsushiro Arr 51.93 68 P P 08 11 14.8 -0.3
comp=Z,28nn,0.9s,mb5.2,baz=289,slow=9.9,SNR=39
MJAR LR LR 08 36 13.2
comp=Z,237nm,18.2s,MS4.3,baz=100,slow=39
MJAR Matsushiro Arr 51.93 68 P P 08 11 14.8 -0.3
MJAR LR LR 08 36 13.2
LOR Lormes 52.27 306⇑ *i*P P 08 11 16.1 -1.4
comp=Z,26nn,1.2s,mb4.8
LOR Lormes 52.27 306⇑ *i*P P 08 11 16.1 -1.4
LOR pmax pmax
comp=Z,13nn,1.2s,mb4.7
VIVF Saint-Julien-l 52.27 303⇑ *i*P P 08 11 16.9 -0.7
comp=Z,102nn,1.4s,mb5.3
VIVF Saint-Julien-l 52.27 303⇑ *i*P P 08 11 16.9 -0.7
VIVF pmax pmax
comp=Z,51nm,1.4s,mb5.3
YSS Yuzh-Sakhalins 52.40 54 *e*P P 08 11 18.2 -0.3
YSS *e* pP 08 11 23.2 -0.3
YSS pmax pmax
comp=Z,110nm,1.3s,mb5.6
YSS pmax pmax
comp=Z,140nm,1.2s,mb5.8
YSS MLR MLR
comp=N,1μm,14.0s,MS5.3
YSS MLR MLR
comp=E,2μm,14.0s,MS5.3
YSS MLR MLR
comp=Z,2μm,14.0s,MS5.4
YSS Yuzh-Sakhalins 52.40 54 *e*P P 08 11 18.7 +0.2
SMF Signal de Mont 52.42 306⇑ *i*P P 08 11 17.6 -1.1
comp=Z,72nn,1.0s,mb5.3
SMF Signal de Mont 52.42 306⇑ *i*P P 08 11 17.6 -1.1
SMF pmax pmax
comp=Z,36nn,1.0s,mb5.3
SSF Saint Saulge 52.55 306⇑ *i*P P 08 11 18.4 -1.2
comp=Z,68nn,1.2s,mb5.2
SSF Saint Saulge 52.55 306⇑ *i*P P 08 11 18.4 -1.2
SSF pmax pmax
comp=Z,34nn,1.2s,mb5.2
AVF Avril sur Loir 52.72 306⇑ *i*P P 08 11 19.7 -1.2
comp=Z,60nn,1.0s,mb5.2
AVF Avril sur Loir 52.72 306⇑ *i*P P 08 11 19.7 -1.2
AVF pmax pmax
comp=Z,30nn,1.0s,mb5.2
PLDF La Plantade 52.73 305 *e*P P 08 11 20.6 -0.3
COLF Collangettes 52.79 304 *e*P P 08 11 20.5 -0.9
ASAJ Asahikawa 52.98 58 P P 08 11 21.9 -0.9
comp=Z,12nn,1.0s,mb4.8,baz=327,slow=13,SNR=3.3
ASAJ Asahikawa 52.98 58 P P 08 11 22.0 -0.9
ASAJ pmax pmax
comp=Z,12nn,1.0s
LASF Ste Croix 53.03 302 *e*P P 08 11 22.8 -0.5
comp=Z,84nn,1.1s,mb5.3
AGO Saint Agoulin 53.04 305 *e*P P 08 11 22.7 -0.6
BGF Bois d'Agland 53.11 306 *e*P P 08 11 22.7 -1.1
comp=Z,19nn,0.8s,mb4.8
BGF Bois d'Agland 53.11 306 *e*P P 08 11 22.7 -1.1
BGF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LBL Lubilhac 53.16 304 *e*P P 08 11 23.1 -1.1
TCF Toulx Ste Croi 53.60 305⇑ *i*P P 08 11 26.8 -0.6
comp=Z,93nn,1.1s,mb5.3
TCF Toulx Ste Croi 53.60 305⇑ *i*P P 08 11 26.8 -0.6
TCF pmax pmax
comp=Z,47nn,1.1s,mb5.3
CAF Calviac 54.05 304⇑ *i*P P 08 11 30.3 -0.4
comp=Z,47nn,1.1s,mb5.0
CAF Calviac 54.05 304⇑ *i*P P 08 11 30.3 -0.4
CAF pmax pmax
comp=Z,24nn,1.1s,mb5.0
RJF Les Rejaudoux 54.32 304⇑ *i*P P 08 11 32.3 -0.4
comp=Z,59nn,1.2s,mb5.1
RJF Les Rejaudoux 54.32 304⇑ *i*P P 08 11 32.3 -0.4
RJF pmax pmax
comp=Z,29nn,1.2s,mb5.1
MTLF Montolieu 54.38 302⇑ *i*P P 08 11 32.4 -0.7
comp=Z,40nn,1.2s,mb4.9
MTLF Montolieu 54.38 302⇑ *i*P P 08 11 32.4 -0.7
MTLF pmax pmax
comp=Z,20nn,1.2s,mb4.9
LDF La Druitiere 54.57 309 *e*P P 08 11 33.2 -1.2
comp=Z,26nn,0.9s,mb4.9
LDF La Druitiere 54.57 309 *e*P P 08 11 33.2 -1.2
LDF pmax pmax
comp=Z,13nn,0.9s,mb5.0
FLN La Foliniere 54.76 309⇑ *i*P P 08 11 35.4 -0.4
comp=Z,26nn,0.9s,mb5.0
FLN *e*R
comp=Z,380nm,20.2s
FLN La Foliniere 54.76 309⇑ *i*P P 08 11 35.4 -0.4
FLN pmax pmax
comp=Z,13nm,0.9s,mb5.0
FLN MLR MLR
comp=Z,380nm,20.3s,MS4.5
SEY Seymchan 54.94 33 *e*P P 08 11 35.7 -1.3
SEY *e* 08 12 32.0
SEY *e* 08 13 35.5
SEY PPP PPP 08 14 59.9 +6.0
SEY *e*S **S** 08 19 21.8 +5.6
SEY *e* 08 21 24.8
SEY *e*SSS SSS 08 24 54.8 -5.5
SEY pmax pmax
comp=E,60nm,1.2s
SEY pmax pmax
comp=Z,80nm,1.2s,mb5.6
SEY pmax pmax
comp=N,30nm,1.0s
SEY smax
comp=N,30nm,11.8s
SEY smax
comp=E,130nm,15.4s
SEY MLR MLR
comp=Z,980nm,23.0s,MS4.8
SEY MLR MLR
comp=N,510nm,19.0s,MS4.7
SEY MLR MLR
comp=E,330nm,15.0s,MS4.7
SEY Seymchan 54.94 33⇓ *e*P P 08 11 36.9 -0.1
LFF La Frestale 54.95 304⇑ *i*P P 08 11 36.7 -0.6
comp=E,78nn,1.1s,mb5.3
LFF La Frestale 54.95 304⇑ *i*P P 08 11 36.7 -0.6
LFF pmax pmax
comp=Z,39nn,1.1s,mb5.3
JMIC Jan Mayen 55.02 337 P P 08 11 36.7 -0.8
comp=Z,58nn,0.7s,mb5.7,baz=108,slow=14,SNR=3.5
GRR Gorron 55.09 309 *e*P P 08 11 36.7 -1.6
comp=Z,49nn,1.1s,mb5.1
GRR Gorron 55.09 309 *e*P P 08 11 36.7 -1.6
GRR pmax pmax
comp=Z,24nn,1.1s,mb5.1
MFF Saint Martin d 55.09 306 *e*P P 08 11 36.9 -1.5
comp=Z,35nn,1.0s,mb5.1
MFF Saint Martin d 55.09 306 *e*P P 08 11 36.9 -1.5
MFF pmax pmax
comp=Z,17nn,1.0s,mb5.0
EMIR Miracle 55.28 300 P P 08 11 38.6 -1.2
comp=Z,14nn,0.8s,mb5.0
EPOB Poblet 55.78 300 P P 08 11 42.7 -0.7
comp=Z,12nn,0.7s,mb5.0
EPF Esparros 55.78 302 *e*P P 08 11 41.5 -1.9
comp=Z,17nn,0.7s,mb4.9
EPF Esparros 55.78 302 *e*P P 08 11 41.5 -1.9
EPF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
RESF Ens 55.85 302 *e*P P 08 11 43.0 -0.9
LABF Labassere 55.96 302 *e*P P 08 11 43.6 -1.0
EBIE Ibelsa 56.03 302 P P 08 11 44.9 -0.2
comp=Z,11nn,1.0s,mb4.8
VIEF Viey 56.05 302 *e*P P 08 11 44.6 -0.7
EGRA Graus 56.06 301 P P 08 11 44.4 -0.9
comp=Z,14nn,0.8s,mb5.0
SGMF Saint Gilles 56.22 309 *e*P P 08 11 45.2 -1.2
comp=Z,62nn,1.3s,mb5.2
SGMF Saint Gilles 56.22 309 *e*P P 08 11 45.2 -1.2
SGMF pmax pmax
comp=Z,31nn,1.3s,mb5.2
EBR Ebro Roquetas 56.37 299 *e*P P 08 11 46.8 -0.8
ETSF Etsaut 56.45 302⇑ *i*P P 08 11 47.6 -0.6
comp=Z,61nn,0.8s,mb5.4
ETSF Etsaut 56.45 302⇑ *i*P P 08 11 47.6 -0.6
ETSF pmax pmax
comp=Z,30nn,0.8s,mb5.4
ROSF Rostrenen 56.66 309 *e*P P 08 11 48.2 -1.4
comp=Z,52nn,0.9s,mb5.2
ROSF Rostrenen 56.66 309 *e*P P 08 11 48.2 -1.4
ROSF pmax pmax
comp=Z,26nn,0.9s,mb5.3
QUIF Quistinic 56.71 309 *e*P P 08 11 48.4 -1.5
comp=Z,58nn,1.2s,mb5.2
QUIF Quistinic 56.71 309 *e*P P 08 11 48.4 -1.5
QUIF pmax pmax
comp=Z,29nn,1.2s,mb5.2
ESAC San Caprasio 56.76 301 P P 08 11 49.4 -1.0
comp=Z,26nn,0.8s,mb5.3
SJPF Ste Jean 56.85 303⇑ *i*P P 08 11 50.4 -0.6
comp=Z,18nn,0.9s,mb4.8
SJPF Ste Jean 56.85 303⇑ *i*P P 08 11 50.4 -0.6
SJPF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
EALK Alkurruntz 57.01 303 P P 08 11 51.7 -0.5
comp=Z,15nn,1.0s,mb5.0
DAG Danmarks Havn 57.02 344⇓ *i*P P 08 11 51.5 -0.3
comp=Z,45nn,0.9s,mb5.5
DAG Danmarks Havn 57.02 344⇓ *e*P P 08 11 51.5 -0.3
DAG pmax pmax
comp=Z,45nn,0.9s,mb5.5
DAG Danmarks Havn 57.02 344⇓ *e*P P 08 11 51.5 -0.3
comp=Z,45nn,0.9s,mb5.5
DLF Lyons Farm 57.30 315 *e*P P 08 11 52.0 -2.0
DCN Croghan 57.71 316 *e*P P 08 11 56.0 -1.0
ECHE Chera 57.83 299⇓ P P 08 11 58.4 +0.4
ELAN Lanestosa 58.34 303⇑ P P 08 12 00.9 -0.5
comp=Z,43nn,0.9s,mb5.5
ETOB Tobarra 58.59 298 P P 08 12 03.4 +0.1
comp=Z,9.8nm,0.7s,mb5.0
EVIA Vianos 59.29 298 P P 08 12 08.1 -0.1
EVIA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
EVIA Vianos 59.29 298 P P 08 12 08.1 -0.1
comp=Z,6.2nm,0.6s,mb4.8
BILL Bilibino 59.47 26*c* *i*P P 08 12 09.4 +0.4
BILL *e* 08 12 57.5
BILL *e* 08 14 19.4
BILL *e*S **S** 08 20 18.0 +2.2
BILL pmax pmax
comp=Z,63nn,1.0s,mb5.6
BILL MLR MLR
comp=Z,2μm,20.0s,MS5.2
BILL Bilibino 59.47 26⇑ *e*P P 08 12 09.3 +0.3
comp=Z,83nn,1.1s,mb5.7
SCO Scoresbysund 59.48 337 *i* P P 08 12 09.6 +0.5
comp=Z,11nn,0.8s,mb4.9
EARI Arriondas 59.53 304 P P 08 12 09.4 -0.3
comp=Z,18nn,0.9s,mb5.1
EHUE Huescar 59.66 297 P P 08 12 09.7 -1.1
EHUE pmax pmax
comp=Z,11nn,0.9s,mb4.9
EHUE Huescar 59.66 297 P P 08 12 09.7 -1.1
comp=Z,11nn,0.9s,mb4.9
GUD Guadarrama 59.74 301⇑P P 08 12 10.4 -0.9
GUD pmax pmax
comp=Z,23nn,0.8s,mb5.3
GUD Guadarrama 59.74 301⇑P P 08 12 10.4 -0.9
comp=Z,23nn,0.8s,mb5.2
ESDC Sonseca Array 59.96 300 P P 08 12 11.6 -1.2
comp=Z,10nn,0.8s,mb4.9,baz=61,slow=7.2,SNR=80
ESDC Sonseca Array 59.96 300⇑P P 08 12 11.7 -1.0
comp=Z,11nn,0.8s,mb5.0
ESLA Sonseca Array 59.96 300 *e*P P 08 12 12.0 -0.8
comp=Z,3.3nm,0.9s,mb4.4
EQES Quesada 60.02 297⇑P P 08 12 12.6 -0.6
comp=Z,41nn,1.1s,mb5.4
EBER Berja 60.23 296 P P 08 12 14.7 +0.1
comp=Z,17nn,0.8s,mb5.1
EBAN Banos Encina 60.40 298⇓P P 08 12 15.2 -0.6
EBAN pmax pmax
comp=Z,15nn,0.8s,mb5.1
EBAN Banos Encina 60.40 298⇓P P 08 12 15.2 -0.6
comp=Z,15nn,0.8s,mb5.1
ECOG Cogollos-Vega 60.58 297 P P 08 12 15.8 -1.2
ECOG pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
ECOG Cogollos-Vega 60.58 297 P P 08 12 15.8 -1.2
comp=Z,4.8nm,0.6s,mb4.8
EPON Pontenova 60.85 305 P P 08 12 18.3 -0.4
comp=Z,24nn,0.8s,mb5.4
ERON Agron 60.86 297 P P 08 12 17.7 -1.2
comp=Z,8.4nm,0.6s,mb5.0
EADA Adanuz 60.98 298 P P 08 12 19.2 -0.5
comp=Z,10nn,0.8s,mb5.0
ELUQ Luque 60.99 297⇑P P 08 12 18.4 -1.4
ELUQ pmax pmax
comp=Z,16nn,0.9s,mb5.2
ELUQ Luque 60.99 297⇑P P 08 12 18.4 -1.3
comp=Z,16nn,0.9s,mb5.2
ELOJ Sierra Loja 61.06 297 P P 08 12 18.5 -1.8
ELOJ pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
ELOJ Sierra Loja 61.06 297 P P 08 12 18.5 -1.8
comp=Z,2.6nm,0.6s,mb4.5
ECAL Calabor 61.08 303 P P 08 12 20.6 +0.3
comp=Z,20nn,1.1s,mb5.2
ERUA La Rua 61.19 304⇓P P 08 12 20.9 -0.2

ERUA pmax pmax
comp=Z,12nm,0.7s,mb5.1
ERUA La Rua 61.19 304 ⇓P **P 08 12 20.9 -0.2**
comp=Z,12nm,0.7s,mb5.2
ECAB El Cabril 61.62 298 P **P 08 12 23.6 -0.5**
comp=Z,7.4nm,0.7s,mb4.9
EMIJ Mijas 61.75 297 P **P 08 12 24.0 -1.0**
comp=Z,7.2nm,0.6s,mb5.0
PVRL Vila Real 62.01 303 *e*P **P 08 12 26.6 -0.1**
ELOB Lobios 62.02 303 P **P 08 12 26.7 -0.1**
comp=Z,21nm,0.7s,mb5.4
PCAB Cabril 62.05 303 *e*P **P 08 12 26.5 -0.5**
comp=Z,77nm,1.4s,mb5.6
EMAZ Mazaricos 62.23 305 P **P 08 12 28.0 -0.1**
comp=Z,23nm,0.8s,mb5.4
MTE Manteigas 62.23 302 *e*P **P 08 12 28.0 -0.1**
comp=Z,47nm,0.8s,mb5.7
MTE *e*S **S 08 20 56.6 +5.2**
MTE Manteigas 62.23 302 *e*P **P 08 12 27.3 -0.9**
comp=Z,39nm,0.9s,mb5.5
EZAM Zamans 62.34 304 P **P 08 12 27.7 -1.2**
PVIS Viseu 62.35 302 *e*P **P 08 12 28.9 0.0**
comp=Z,67nm,1.3s,mb5.6
PCBR Castelo Branco 62.40 301 *e*P **P 08 12 29.4 +0.1**
ESPR Espera 62.42 297 P **P 08 12 27.3 -2.2**
comp=Z,8.4nm,0.7s,mb5.0
EBAD Badajoz 62.50 300 P **P 08 12 29.2 -0.8**
comp=Z,30nm,0.8s,mb5.5
PTOM Tomar 63.15 301 *e*P **P 08 12 33.7 -0.5**
comp=Z,79nm,1.0s,mb5.8
EVO Evora 63.31 300 ⇑*i*P **P 08 12 34.9 -0.4**
comp=Z,70nm,1.4s,mb5.3
EVO *e*R
comp=Z,223nm,21.5s
SUMG Summit 63.40 342 *e*P **P 08 12 35.6 +0.1**
comp=Z,90nm,0.9s,mb5.9
PBEJ Beja 63.41 299 *e*P **P 08 12 35.2 -0.8**
comp=Z,48nm,1.5s,mb5.4
MOE Montemor 63.55 300 *e*P **P 08 12 35.9 -1.0**
PLOU Loures 63.98 301 *e*P **P 08 12 39.9 +0.2**
LSZ Lusaka 65.56 229 *e*P **P 08 12 49.9 -0.3**
LSZ pmax pmax
comp=Z,42nm,1.2s,mb5.3
LSZ Lusaka 65.56 229 *e*P **P 08 12 49.9 -0.4**
comp=Z,42nm,1.2s,mb5.3
FX1 Attu Island--F 68.64 40 P **P 08 13 09.8 +0.7**
comp=Z,61nm,0.8s,mb5.6,baz=299,slow=12,SNR=3.3
FX1 Attu Island--F 68.64 40 P **P 08 13 09.9 +0.8**
FX1 pmax pmax
comp=Z,61nm,0.8s
TNA Tin City 69.56 23 *e*P **P 08 13 15.4 +0.9**
comp=Z,38nm,1.2s,mb5.2
SFJD Kangerlussuaq 70.14 340 *i*P **P 08 13 17.6 -0.5**
comp=Z,31nm,0.9s,mb5.2
comp=Z,560nm,20.0s
SFJD Kangerlussuaq 70.14 340 *i*P **P 08 13 17.6 -0.5**
SFJD pmax pmax
comp=Z,31nm,0.9s,mb5.2
SFJD MLR MLR
comp=Z,570nm,20.0s,MS4.8
RES Resolute Bay 70.66 357 *e*P **P 08 13 20.6 -0.6**
RES pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
RES Resolute Bay 70.66 357 *e*P **P 08 13 20.6 -0.5**
comp=Z,2.9nm,0.7s,mb4.3
FITZ Fitzroy Crossi 72.31 128 *e*P **P 08 13 32.3 +0.4**
comp=Z,17nm,1.0s,mb4.9
KAKA Kakadu 73.23 119 ⇓*i*P Px 08 14 00.4
comp=Z,21nm,0.8s
IMA2 Indian Mountai 73.32 18 *e*P **P 08 13 37.4 +0.4**
LBTB Lobatse 74.58 224 *e*P **P 08 13 45.6 +0.5**
LBTB pmax pmax
comp=Z,76nm,0.9s,mb5.6
LBTB Lobatse 74.58 224 *e*P **P 08 13 45.6 +0.5**
comp=Z,76nm,0.9s,mb5.6
TSUM Tsumeb 75.27 234 *e*P **P 08 13 49.7 +0.5**
comp=Z,47nm,1.2s,mb5.3
INK Inuvik 75.42 10 *e*P **P 08 13 49.4 +0.3**
INK pmax pmax
comp=Z,106nm,1.2s
INK Inuvik 75.42 10 *e*P **P 08 13 49.4 +0.3**
comp=Z,106nm,1.2s,mb5.6
COLA College 75.73 17 ⇑*i*P **P 08 13 51.4 +0.5**
ILAR Eielson Array 76.04 17 P **P 08 13 52.2 -0.4**
comp=Z,12nm,1.1s,mb4.7,baz=315,slow=4.6,SNR=42
ILAR PP PP 08 16 42.2 -3.0
comp=Z,7.5nm,1.1s,baz=319,slow=8.1,SNR=5.2
ILAR PKKP PKKP 08 32 53.0 +4.7
comp=Z,0.5nm,0.9s,baz=196,slow=4.4,SNR=4.1
ILAR LR LR 08 51 37.6
comp=Z,511nm,18.2s,MS4.9,baz=339,slow=39
MCK McKinley 76.41 18 *e*P **P 08 13 55.1 +0.4**
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MCK McKinley 76.41 18 *e*P **P 08 13 55.1 +0.4**
comp=Z,7.0nm,1.0s,mb4.5
DBIC Dimbokro 76.47 269 P **P 08 13 56.0 -0.1**
comp=Z,31nm,0.9s,mb5.3,baz=35,slow=7.0,SNR=33
DBIC LR LR 08 50 58.0
comp=Z,416nm,18.2s,MS4.8,baz=41,slow=38
DBIC Dimbokro 76.47 269 P **P 08 13 56.1 0.0**
DBIC pmax pmax
comp=Z,31nm,0.9s
DBIC MLR MLR
comp=Z,416nm,18.3s
DBIC Dimbokro 76.47 269 *e*P **P 08 13 56.0 -0.1**
comp=Z,35nm,0.9s,mb5.3
SVW2 Sparrevohn 76.64 22 *e*P **P 08 13 58.1 +2.0**
LIC Lamto 76.86 269 ⇑*i*P **P 08 13 58.4 +0.1**
comp=Z,99nm,1.1s,mb5.4
LIC *e*R
comp=Z,480nm,19.5s
KLBR Kellerberrin 78.06 142 *e*P **P 08 14 03.8 -0.8**
comp=Z,40nm,1.0s,mb5.3
PMR Palmer 78.12 19 *e*P **P 08 14 05.2 +0.9**
PMR pmax pmax
comp=Z,49nm,1.7s,mb5.2
PMR Palmer 78.12 19 *e*P **P 08 14 05.2 +0.9**
comp=Z,49nm,1.7s,mb5.2
SML Sawmill 78.16 19 *e*P **P 08 14 04.1 -0.3**
DAWY Dawson 78.29 14 *e*P **P 08 14 05.5 +0.4**
MENT Mentasta 78.35 16 *e*P **P 08 14 07.1 +1.6**
NWAO Narrogin (SRO) 78.88 143 LR LR 08 48 38.7
comp=Z,280nm,19.7s,MS4.6,baz=321,slow=35
NWAO Narrogin (SRO) 78.88 143 *e*P **P 08 14 07.8 -1.2**
NWAO pmax pmax
comp=Z,16nm,0.8s
NWAO Narrogin (SRO) 78.88 143 *e*P **P 08 14 07.8 -1.2**
comp=Z,16nm,0.8s,mb5.0
WRA Warramunga Arr 79.44 123 P **P 08 14 12.9 +0.6**
comp=Z,30nm,0.8s,mb5.3,baz=324,slow=5.2,SNR=113
WRA PKKPbc 08 33 02.9
comp=Z,0.6nm,0.7s,baz=128,slow=2.4,SNR=3.0
WRAB Tennant Creek 79.44 123 *e*P **P 08 14 12.3 0.0**
WRAB pmax pmax
comp=Z,54nm,0.8s,mb5.5
WRAB Tennant Creek 79.44 123 *e*P **P 08 14 12.3 -0.1**
comp=Z,54nm,0.8s,mb5.5
WB2 Warramunga Arr 79.45 123 *e*P **P 08 14 12.8 +0.4**
WB2 *e*S S 08 24 11.4 0.0
ASPA Alice Springs 81.68 126 *e*P **P 08 14 24.6 +0.5**
ASPA Alice Springs 81.68 126 *e*S S 08 24 35.1 +0.6
YKW3 Yellowknife Ar 82.92 4 *e*P **P 08 14 30.2 +0.5**
YKA Yellowknife Ar 82.99 4 P **P 08 14 30.5 +0.4**
comp=Z,17nm,0.8s,mb5.1,baz=347,slow=5.1,SNR=347
YKA PP PP 08 17 40.0 -2.8
comp=Z,1.8nm,0.8s,baz=353,slow=7.5,SNR=4.1
YKA PKKPbc 08 32 50.7
comp=Z,0.4nm,0.9s,baz=169,slow=2.9,SNR=8.8
YKA LR LR 08 55 30.0
comp=Z,728nm,18.5s,MS5.1,baz=340,slow=39
YKA Yellowknife Ar 82.99 4 P **P 08 14 30.5 +0.4**
YKA 08 17 40.0
YKA pmax pmax
comp=Z,17nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA MLR MLR
comp=Z,728nm,18.5s
YKA Yellowknife Ar 82.99 4 P **P 08 14 30.6 +0.4**
YKA PP PP 08 17 40.0 -2.8
YKA PKKPbc 08 32 50.7
YKA LR LR 08 55 30.1
FORT Forrest 83.06 135 *e*P **P 08 14 31.9 +0.8**
comp=Z,47nm,0.6s,mb5.7
SCHQ Schefferville 84.51 338 P **P 08 14 37.8 -0.1**
comp=Z,14nm,0.9s,mb5.1,baz=43,slow=5.8,SNR=9.4
SCHQ Schefferville 84.51 338 *e*P **P 08 14 37.8 -0.1**
comp=Z,15nm,0.9s,mb5.1
DLBC Dease Lake 85.24 12 P **P 08 14 42.5 +1.1**
comp=Z,11nm,1.0s,mb4.9,baz=360,slow=6.6,SNR=7.4
FCC Fort Churchill 86.35 353 *e*P **P 08 14 47.3 +0.4**
FCC pmax pmax
comp=Z,36nm,1.6s,mb5.3
FCC Fort Churchill 86.35 353 *e*P **P 08 14 47.3 +0.4**
comp=Z,36nm,1.6s,mb5.3
CTA Charters Tower 88.08 116 *e*P **P 08 14 58.1 +1.9**
comp=Z,9.6nm,0.9s,mb5.0
CTA Charters Tower 88.08 116 LR LR 08 58 45.1
comp=Z,165nm,20.4s,MS4.4,baz=42,slow=39
CTA Charters Tower 88.08 116 *e*P **P 08 14 58.1 +1.9**
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 88.08 116 *e*P **P 08 14 57.2 +1.0**
CTAO pmax pmax
comp=Z,13nm,0.8s,mb5.2
CTAO Charters Tower 88.08 116 *e*P **P 08 14 57.2 +0.9**
comp=Z,13nm,0.8s,mb5.2
STKA Stephens Creek 92.20 128 *e*P **P 08 15 17.6 +2.4**
comp=Z,4.4nm,1.4s,mb4.6
STKA Stephens Creek 92.20 128 P **P 08 15 16.7 +1.5**
comp=Z,3.3nm,1.0s,mb4.6,baz=25,slow=5.7,SNR=7.1
STKA LR LR 09 00 54.4
comp=Z,304nm,19.2s,MS4.8,baz=25,slow=38
EDM Edmonton 92.31 4 *e*P **P 08 15 16.1 +0.9**
HNR Honiara 92.59 100 LR LR 08 53 54.3
comp=Z,662nm,19.2s,MS5.1,baz=321,slow=34
ULM Lac du Bonnet 94.93 353 P **P 08 15 26.9 -0.4**
comp=Z,4.9nm,0.9s,mb4.9,baz=20,slow=4.6,SNR=12
ULM LR LR 09 04 26.1
comp=Z,277nm,18.2s,MS4.8,baz=221,slow=39
NEW Newport 96.94 7 P **P 08 15 37.3 +0.8**
comp=Z,2.6nm,0.8s,mb4.7,baz=326,slow=4.0,SNR=7.5
NEW PP PP 08 19 30.9 -3.9
comp=Z,0.9nm,0.3s,baz=261,slow=22,SNR=3.0
PDAR Pinedale Array 102.92 2 PP PP 08 20 13.0 -7.7
comp=Z,1.6nm,1.2s,baz=45,slow=4.2,SNR=4.3
PDAR PKiKP 08 20 24.1
comp=Z,1.0nm,1.0s,baz=27,slow=6.0,SNR=3.8
PDAR PKKPbc 08 32 00.5
comp=Z,0.5nm,0.9s,baz=162,slow=4.7,SNR=4.2
SYO Syowa Base 106.30 192 ⇑P Pdif 08 16 38.4 +21
NVAR Mina Array Bea 106.51 9 PKiKP 08 20 30.5
comp=Z,0.4nm,0.7s,baz=337,slow=2.1,SNR=4.2
NVAR Mina Array Bea 106.51 9 PKPdf 08 20 30.5
TXAR Lajitas Array 116.30 357 PKP PKPdf 08 20 49.3 -2.4
comp=Z,0.4nm,0.8s,baz=142,slow=0.8,SNR=4.7
TXAR PKKPbc 08 31 18.5
comp=Z,1.6nm,0.9s,baz=184,slow=7.8,SNR=12
VNDA Vanda 123.23 165 PKP PKPdf 08 21 01.3 -2.7
comp=Z,1.6nm,0.8s,baz=312,slow=4.1,SNR=7.8
ROSC El Rosal 130.24 316 PKP PKPdf 08 21 17.2 -1.8
comp=Z,4.2nm,0.8s,baz=90,slow=11,SNR=8.2
ROSC SKPbc 08 24 39.5
comp=Z,19nm,1.1s,baz=91,slow=3.8,SNR=18
SIV San Ignacio 135.16 283 PKP PKPdf 08 21 26.8 -1.4
comp=Z,2.1nm,0.9s,baz=117,slow=9.1,SNR=4.6
PPT Papeete 138.29 77 *e*LR LR 09 06 30.3
comp=Z,108nm,21.8s
LPAZ La Paz 140.94 288 PKP PKPdf 08 21 38.1 -0.6
comp=Z,0.7nm,0.7s,baz=164,slow=7.4,SNR=3.1
LPAZ La Paz 140.94 288 *e*PKPdf PKPdf 08 21 37.9 -0.8
LPAZ *e*SKPdf 08 25 17.7
ARE Arequipa 143.65 291 PKIKP PKPdf 08 21 41.0 -2.3
TRQA Tornquist 144.05 251 *e*PKP PKPdf 08 21 39.5 -3.9
NNA Nana 144.70 302 *e*PKPdf PKPdf 08 21 41.5 -3.7
USHA Ushuaia 146.71 221 PKPbc PKPbc 08 21 48.0 +2.8
comp=Z,9.2nm,0.7s,baz=94,slow=2.1,SNR=4.4
CFAA Coronel Fontan 147.74 264 PKPbc PKPdf 08 21 51.3 +1.4
comp=Z,2.5nm,0.6s,baz=66,slow=3.2,SNR=51
PLCA Paso Flores 150.87 247 PKPbc PKPdf 08 21 58.0 +3.5
comp=Z,5.8nm,1.0s,baz=93,slow=6.6,SNR=7.8
PLCA Paso Flores 150.87 247 PKIKP PKPdf 08 21 58.0 +3.5
PLCA pmax pmax
comp=Z,6.0nm,1.0s
PLCA Paso Flores 150.87 247 *e*PKPbc PKPdf 08 22 00.0 +5.5
RKT Rikitea 152.83 73 *e*LR LR 09 13 14.5
comp=Z,179nm,29.8s

*ATH **25** 08:24:18.1,40.85N×21.33E,h10km±2km,MD3.5/8*
*SOF **25** 08:24:19.1,40.81N×21.35E,h6km,MD3.1*
*THE **25** 08:24:20.3,40.80N×21.24E,h16km,ML3.4*
*NEIC **25** 08:24:20.3±0.3,40.68N×21.27E,h10km,MD3.5(ATH),MD3.4(PDG),MD3.1(SOF),Error ellipse: s-maj=5.4km s-min=4.2km az=46.0*
*PDG **25** 08:24:21.1±0.2,40.65N×21.05E,h14km±26km*
*CSEM **25** 08:24:21.2±0.1,40.71N×21.43E,h2km,ML3.4,Error ellipse: s-maj=1.7km s-min=1.3km az=34.0*
ISC 25 08:24:19.1±0.2,**40.75N**±0.02×**21.31E**±0.02,**h10km,n75,**
σ1§**47**/112,**16C-9D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.06**	**52**	*e*Pg	**Pg**	**08 24 23.2**	**+2.0**
FNA				*e*Sg	**Sg**	**08 24 27.0**	**+4.3**
KBN	**Korca**	**0.42**	**253**	*e*Pg	**Pg**	**08 24 27.3**	**-0.3**
KBN				*i* Sg	**Sg**	**08 24 33.2**	**-0.1**
KZN	**Kozani**	**0.56**	**141**	*e*PB	**Pb**	**08 24 31.0**	**+0.5**
KZN				*e*SB	**Sb**	**08 24 39.3**	**+1.0**
LSK	**Leskovik**	**0.81**	**223**	*i* Pg	**Pg**	**08 24 33.8**	**-1.5**
LSK				*i* Sg	**Sg**	**08 24 46.8**	**+0.7**
GRG	**Griva**	**0.85**	**75**	*e*Pg	**Pg**	**08 24 36.1**	**-0.1**
LIT	**Litokhoron**	**1.11**	**125**	*e*Pg	**Pg**	**08 24 41.2**	**0.0**
LIT				*e*Sg	**Sg**	**08 24 58.0**	**+1.9**
JAN	**Janina**	**1.14**	**198**	*e*PG	**Pg**	**08 24 41.4**	**-0.6**
JAN				*e*SB	**Sb**	**08 24 58.8**	**+3.6**
THE	**Thessaloniki**	**1.26**	**95**	*e*Pg	**Pg**	**08 24 43.2**	**-1.1**
KNT	**Kendrikon**	**1.27**	**70**	*e*Pg	**Pg**	**08 24 43.6**	**-0.9**
SRN	**Sarande**	**1.32**	**230**	*i* Pn	**Pn**	**08 24 44.7**	**+1.0**
SRN				*i* Sn	**Sn**	**08 25 03.5**	**+2.0**
SRN	**Sarande**	**1.32**	**230**	*e*Pn	**Pn**	**08 24 44.7**	**+1.0**
SRN				*i* Sn	**Sn**	**08 25 03.5**	**+2.0**
IGT	**Igoumenitsa**	**1.43**	**212**	*e*Pg	**Pg**	**08 24 45.8**	**-1.8**
LACI	**Lac**	**1.50**	**307**	*e*Pg	**Pg**	**08 24 45.0**	**-4.1**
LACI				*i* Sg	**Sg**	**08 25 08.5**	**-0.7**
SOH	**Sokhos**	**1.55**	**87**	*e*Pg	**Pg**	**08 24 47.7**	**-2.4**
SOH				*e*Sg	**Sg**	**08 25 08.4**	**-2.4**
KEK	**Kerkira**	**1.55**	**229**	*e*PG	**Pg**	**08 24 48.6**	**-1.5**
KEK				*e*SB	**Sb**	**08 25 10.8**	**+3.7**
PLG	**Polygyros**	**1.67**	**102**	*e*PB	**Pb**	**08 24 49.2**	**-0.2**
PLG				*e*SB	**Sb**	**08 25 11.4**	**+1.0**
KKB	**Krupnik**	**1.74**	**49**	*i* P	**Pn**	**08 24 51.0**	**+1.3**
KKB				*i* Pg	**Pg**	**08 24 53.2**	**-0.7**
SRS	**Serrai**	**1.77**	**77**	*e*Pb	**Pb**	**08 24 50.1**	**-1.1**
EVR	**Evrytania**	**1.87**	**168**	*e*PN	**Pn**	**08 24 53.8**	**+2.3**
EVR				*e*SN	**Sn**	**08 25 20.4**	**+5.1**
AGG	**Agios Georgios**	**1.89**	**155**	*e*Pb	**Pb**	**08 24 52.8**	**-0.5**
AGG				*e*Sb	**Sb**	**08 25 16.9**	**0.0**
ULC	**Ulcinj**	**1.97**	**309**	⇓*i*Pn	**Pn**	**08 24 54.0**	**+1.1**
ULC				*e*Sn	**Sn**	**08 25 19.6**	**+1.7**
ULC	**Ulcinj**	**1.97**	**309**	⇓*i*Pn	**Pn**	**08 24 54.0**	**+1.0**
ULC				*e*Sn	**Sn**	**08 25 19.6**	**+1.6**
PAIG	**Paliouri**	**1.98**	**114**	*e*Pn	**Pn**	**08 24 53.3**	**+0.1**
XOR	**Xorichti**	**2.00**	**133**	*e*Pn	**Pn**	**08 24 53.7**	**+0.5**
MMB	**Musomiste**	**2.01**	**64**	*i* P	**Pn**	**08 24 54.5**	**+1.0**
MMB				*i* Pg	**Pg**	**08 24 58.0**	**-1.2**
NVR	**Nevrokopi**	**2.02**	**72**	*e*PN	**Pn**	**08 24 54.3**	**+0.7**
NEO	**Neokhori**	**2.05**	**134**	*e*PN	**Pn**	**08 24 55.9**	**+1.8**
OUR	**Ouranopolis**	**2.08**	**101**	*e*Pn	**Pn**	**08 24 55.0**	**+0.5**
LKD	**Levkas**	**2.10**	**194**	*e*Pn	**Pn**	**08 24 56.6**	**+1.8**
PVY	**Plav**	**2.10**	**332**	⇓*i*Pn	**Pn**	**08 24 56.9**	**+2.1**
PVY				*e*Sn	**Sn**	**08 25 25.7**	**+4.4**
TTG	**Podgorica**	**2.28**	**318**	⇑*i*Pn	**Pn**	**08 24 58.7**	**+1.3**
TTG				*e*Sn	**Sn**	**08 25 28.6**	**+2.8**
VTS	**Vitosha**	**2.33**	**37**	*e*P	**Pn**	**08 24 59.5**	**+1.4**
VTS				*e*Pg	**Pg**	**08 25 04.5**	**-1.1**
IVA	**Berane**	**2.37**	**334**	⇑*i*Pn	**Pn**	**08 25 00.0**	**+1.3**
IVA				*e*Sn	**Sn**	**08 25 31.9**	**+3.8**
BUM	**Brajici-Budva**	**2.39**	**311**	⇑*i*Pn	**Pn**	**08 24 60.0**	**+1.1**
BUM				*e*Sn	**Sn**	**08 25 30.4**	**+1.9**
VLS	**Valsamata**	**2.63**	**193**	*e*PB	**Pb**	**08 25 04.1**	**-1.8**
NKY	**Niksic**	**2.69**	**321**	⇓*i*Pn	**Pn**	**08 25 05.0**	**+1.7**
NKY				*e*Sn	**Sn**	**08 25 38.2**	**+1.9**
HCY	**Herceg Novi**	**2.71**	**310**	⇑*i*Pn	**Pn**	**08 25 04.1**	**+0.6**
HCY				*e*Sn	**Sn**	**08 25 37.8**	**+1.1**
RZN	**Rozhen**	**2.73**	**69**	*e*P	**Pn**	**08 25 05.0**	**+1.1**
RZN				*i* Pg	**Pg**	**08 25 11.5**	**-2.2**
PGB	**Panagyurishte**	**2.80**	**49**	*e*P	**Pn**	**08 25 07.5**	**+2.7**
PLE	**Pljevlja**	**2.95**	**332**	⇑*i*Pn	**Pn**	**08 25 08.8**	**+1.8**
PLE				*e*Sn	**Sn**	**08 25 45.2**	**+2.4**
PE1	**Pezze di Greco**	**2.96**	**272**	*e*Pn	**Pn**	**08 25 06.5**	**-0.5**
BRY	**Bratogost**	**2.99**	**317**	⇑*i*Pn	**Pn**	**08 25 08.7**	**+1.2**
BRY				*e*Sn	**Sn**	**08 25 44.7**	**+1.0**
UPM	**Unac-Piva**	**3.04**	**325**	⇑*i*Pn	**Pn**	**08 25 09.9**	**+1.7**
UPM				*e*Sn	**Sn**	**08 25 47.3**	**+2.2**
GRUS	**Gruza**	**3.17**	**352**	*e*Pn	**Pn**	**08 25 09.2**	**-0.9**
KDZ	**Kurdzhali**	**3.23**	**72**	*e*P	**Pn**	**08 25 12.5**	**+1.7**
KDZ				*e*Pg	**Pg**	**08 25 22.0**	**-1.5**
BAI	**Bari**	**3.38**	**278**	*e*Pn	**Pn**	**08 25 11.6**	**-1.4**
BBLS	**Bajina Basta -**	**3.42**	**336**	*e*Pn	**Pn**	**08 25 13.6**	**0.0**
STON	**Ston**	**3.44**	**309**	*i* Pn	**Pn**	**08 25 12.9**	**-0.9**
STON				*i* Sn	**Sn**	**08 25 52.4**	**-2.6**
DIVS	**Divcibare**	**3.49**	**344**	*e*Pn	**Pn**	**08 25 13.4**	**-1.2**
DIVS	**Divcibare**	**3.49**	**344**	Pn	**Pn**	**08 25 13.4**	**-1.2**
SG1	**Sgolgore (BA)**	**3.52**	**273**	*e*Pn	**Pn**	**08 25 13.9**	**-1.1**
CDT	**Castel del Mon**	**3.83**	**277**	*e*Pn	**Pn**	**08 25 18.1**	**-1.4**
MS1	**Monte Sant'Ang**	**4.16**	**285**	*e*Pn	**Pn**	**08 25 22.3**	**-1.9**
BZS	**Buzias**	**4.87**	**3**	⇓P	**Pn**	**08 25 32.5**	**-1.8**
MLR	**Muntele Rosu**	**5.83**	**34**	⇑P	**Pn**	**08 25 54.5**	**+6.8**
BOJS	**Bojanci**	**6.50**	**319**	*e*Pn	**Pn**	**08 25 55.5**	**-1.8**
BOJS				*e*Sn	**Sn**	**08 27 05.8**	**-6.5**
comp=Z,10.0nm,0.6s							
GCIS	**Gornji Cirnik**	**6.59**	**323**	*e*Pn	**Pn**	**08 25 57.0**	**-1.4**
VISS	**Visnje**	**6.92**	**319**	*e*Pn	**Pn**	**08 26 01.0**	**-2.1**
VISS				*e*Sn	**Sn**	**08 27 18.5**	**-4.2**
PDKS	**Podkum**	**7.03**	**321**	*e*Pn	**Pn**	**08 26 02.8**	**-1.8**
VOY	**Vojsko**	**7.55**	**317**	*e*(Pn)	**Pn**	**08 26 09.7**	**-2.3**
VOY				*e*(Sn)	**Sn**	**08 27 34.3**	**-4.3**
OBKA	**Obir**	**7.56**	**322**	⇑*i*Pn	**Pn**	**08 26 10.1**	**-2.1**
OBKA	**Obir**	**7.56**	**322**	⇑*i*Sn	**Sn**	**08 27 33.3**	**-5.5**
OBKA	**Obir**	**7.56**	**322**	⇑Pn	**Pn**	**08 26 10.1**	**-2.1**
ARSA	**Arzberg**	**7.72**	**329**	⇑*i*Pn	**Pn**	**08 26 13.8**	**-0.6**
ARSA	**Arzberg**	**7.72**	**329**	⇑*i*Sn	**Sn**	**08 27 36.7**	**-6.1**
ARSA	**Arzberg**	**7.72**	**329**	⇑Pn	**Pn**	**08 26 13.8**	**-0.6**
ARSA				Sn	**Sn**	**08 27 36.7**	**-6.1**
KOLS	**Kolonicke sedl**	**8.21**	**4**	*e*Pn	**P**	**08 26 28.0**	**+6.8**
STHS	**Stebnicka Huta**	**8.67**	**360**	*e*Pn	**P**	**08 26 31.7**	**+4.1**
MOA	**Molln**	**8.71**	**327**	⇓*i*Pn	**P**	**08 26 26.1**	**-2.0**
MOA	**Molln**	**8.71**	**327**	⇑*i*Sn	**Sn**	**08 28 01.5**	**-6.0**
MOA	**Molln**	**8.71**	**327**	⇓Pn	**P**	**08 26 26.1**	**-2.0**
MOA				Sn	**Sn**	**08 28 01.4**	**-6.0**
WTTA	**Wattenberg**	**9.54**	**316**	⇓*i*Pn	**P**	**08 26 37.0**	**-2.5**
WTTA	**Wattenberg**	**9.54**	**316**	⇑*i*Sn	**Sn**	**08 28 19.9**	**-7.9**
WTTA	**Wattenberg**	**9.54**	**316**	⇓Pn	**P**	**08 26 37.0**	**-2.5**
WTTA				Sn	**Sn**	**08 28 19.9**	**-7.9**
KHC	**Kasperske Hory**	**10.01**	**329**	*e*P	**P**	**08 26 44.0**	**-2.0**

*IDC **25** 08:35:31.6±1.1,0.07N×123.73E,mb4.2/4,mb1 4.4/4, mb1mx4.0/14,mbtmp4.2/4,Error ellipse: s-maj=61.3km s-min=20.5km az=70.0*
*NEIC **25** 08:35:48.1±1.9,0.04S×123.94E,h145km±21km,mb4.3/7, Error ellipse: s-maj=23.7km s-min=8.3km az=69.0*
ISC 25 08:35:49.5±2.6,**0.0S**±0.1×**123.9E**±0.2,**h176**km±27km,**n14,**
σ1§**04**/15,**mb4.2/9,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**9.78**	**308**	*e*P	**P**	**08 38 06.2**	**-0.8**
KKM				*e*S	**S**	**08 39 56.1**	**+1.4**
FITZ	**Fitzroy Crossi**	**18.03**	**175**	*e*P	**P**	**08 39 47.7**	**-2.2**
5.2nm,0.7s							
MBWA	**Marble Bar**	**21.38**	**191**	*e*P	**P**	**08 40 23.5**	**-0.5**
11nm,0.9s,mb4.2							
WRAB	**Tennant Creek**	**22.26**	**153**	*e*P	**P**	**08 40 33.9**	**+1.3**
12nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**22.26**	**153**	P	**P**	**08 40 32.3**	**-0.2**
6.9nm,0.6s,mb4.3,baz=333,slow=10.0,SNR=53							
WB2	**Warramunga Arr**	**22.27**	**153**	*e*P	**P**	**08 40 33.6**	**+1.0**
FORT	**Forrest**	**30.82**	**173**	*e*P	**P**	**08 41 51.0**	**-0.1**
9.5nm,0.6s,mb4.7							
NWAO	**Narrogin (SRO)**	**33.31**	**190**	P	**P**	**08 42 11.9**	**-0.7**
STKA	**Stephens Creek**	**35.81**	**154**	*e*P	**P**	**08 42 34.6**	**+0.8**
4.2nm,0.4s,mb4.4							
STKA	**Stephens Creek**	**35.81**	**154**	P	**P**	**08 42 34.4**	**+0.7**
6.3nm,0.5s,mb4.5,baz=328,slow=8.5,SNR=51							
MJAR	**Matsushiro Arr**	**38.74**	**19**	P	**P**	**08 42 57.8**	**-0.5**
1.1nm,1.1s,mb3.4,baz=188,slow=9.5,SNR=6.3							
MKAR	**Makanchi Array**	**59.13**	**328**	P	**P**	**08 45 33.3**	**-0.5**
0.6nm,0.4s,mb3.7,baz=121,slow=8.7,SNR=9.8							
MKAR				PcP	PcP	08 46 20.4	+0.2
0.7nm,0.7s,baz=146,slow=4.4,SNR=4.8							
KURK	**Kurchatov**	**63.47**	**330**	*e*P	**P**	**08 46 01.9**	**-0.9**
2.6nm,0.8s,mb4.1							
SBA	**Scott Base**	**81.03**	**172**	*e*P	**P**	**08 47 47.4**	**+1.8**
6.1nm,1.2s,mb4.1							

*NDI **25** 08:41:01.2±2.5,34.81N×72.80E,h10km,mb4.3, mb4.6(NEIC)*
*IDC **25** 08:41:03.6±1.7,34.64N×73.48E,mb3.7/3,mb1 3.7/6, mb1mx3.5/20,mbtmp3.5/6,ML3.3/3,Error ellipse: s-maj=63.8km s-min=25.8km az=61.0*
*NEIC **25** 08:41:04.8±1.1,34.59N×73.30E,h10km,mb4.6/1,Error ellipse: s-maj=31.2km s-min=17.2km az=65.0*
*NNC **25** 08:41:14.7±5.8,34.99N×72.58E,h46km±141km,mb3.4, mpv3.9,Error ellipse: s-maj=282.8km s-min=84.3km az=49.0*
ISC 25 08:41:02.7±0.7,**34.61N**±0.08×**72.9E**±0.1,**h10**km,**n21,**
σ1§**36**/28,**mb3.9**/4,**3C-1D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**3.27**	**128**	*e*P	**Pn**	**08 41 56.0**	**+0.9**
DLH				*e*S	**Sn**	**08 42 35.0**	**+0.6**
PONG	**Pong**	**3.66**	**136**	*e*P	**Pn**	**08 42 02.0**	**+1.3**
PONG				*ex*	**Sn**	**08 42 48.0**	**+3.6**
SDNR	**Sundarnagar**	**4.59**	**131**	*e*P	**Pn**	**08 42 13.2**	**-0.7**
SDNR				*ex*	x	08 42 23.0	
SMLA	**Simla**	**4.97**	**133**	*e*P	**Pn**	**08 42 19.1**	**-0.2**
SMLA				*e*S	**Sn**	**08 43 14.3**	**-3.2**
KLP	**Kalpa**	**5.41**	**123**	*e*P	**Pn**	**08 42 24.8**	**-0.7**
KLP				AMb	AMB	08 42 31.9	
comp=Z,11nm,0.7s							
KLP				*ex*	**Sn**	**08 43 29.9**	**+1.3**
NDI	**New Delhi**	**6.94**	**147**	*ex*	**Pn**	**08 42 50.0**	**+2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.65**	**25**	LR	LR	08 47 10.3	
	comp=Z,420nm,18.0s,baz=85,slow=30						
MXZ	**Matakaoa Point**	**5.24**	**198**	*e*PN	**P**	**08 47 27.3**	**+1.6**
MXZ				SN	**S**	**08 48 30.3**	**+4.6**
PUZ	**Puketiti**	**5.74**	**196**	*e*PN	**P**	**08 47 31.8**	**-0.5**
PUZ				SN	**S**	**08 48 38.0**	**+0.4**
MWZ	**Matawai**	**6.18**	**201**	*e*PN	**P**	**08 47 35.4**	**-2.9**
URZ	**Urewera**	**6.24**	**204**	Pn	**P**	**08 47 40.2**	**+1.1**
	2.2nm,0.3s,baz=352,slow=14,SNR=19						
URZ				Sn	**S**	**08 48 52.5**	**+2.8**
	3.4nm,0.3s,baz=162,slow=23,SNR=17						
URZ	**Urewera**	**6.24**	**204**	*e*PN	**P**	**08 47 39.2**	**+0.1**
URZ				SN	**S**	**08 48 55.2**	**+5.5**
BKZ	**Black Stump Fm**	**7.27**	**204**	*e*PN	**P**	**08 47 53.2**	**+0.3**
TCW	**Tory Channel**	**9.88**	**207**	SN	**S**	**08 50 16.2**	**-0.2**
KHZ	**Kahutara**	**11.19**	**207**	PN	**P**	**08 48 42.4**	**-2.3**
KHZ				SN	**S**	**08 50 46.9**	**-0.6**
WRA	**Warramunga Arr**	**42.78**	**275**	P	**P**	**08 53 53.3**	**+0.5**
	0.9nm,0.3s,mb3.9,baz=113,slow=7.9,SNR=18						
FX1	**Attu Island--F**	**85.32**	**356**	LR	LR	09 26 42.5	
	comp=Z,208nm,20.8s,baz=15,slow=29						
JOF	**Joensuu**	**143.86**	**336**	*e*p	PKPbc	09 05 23.4	-0.4
KAF	**Kangasniemi**	**146.06**	**338**	*e*p	PKPdf	09 05 30.2	+1.7
FINES	**FINESS Array B**	**146.64**	**338**	PKPbc	PKPbc	09 05 32.4	+1.4
	1.9nm,0.4s,baz=50,slow=5.0,SNR=40						
NOA	**NORSAR Array B**	**150.64**	**349**	PKPbc	PKPdf	09 05 42.4	+6.6
	0.6nm,0.5s,baz=18,slow=4.1,SNR=2.6						

IDC 25 09:17:37.2±4.0, 59.70S×30.49W, 4C, Error ellipse: s-maj=714.6km s-min=90.9km az=26.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.29**	**149**	↑*i*P	P	09 20 44.3	-18
VNA1	**Neumayer--Stat**	**14.29**	**149**	*e*	P	09 20 45.7	-17
VNA1	**Neumayer--Stat**	**14.29**	**149**	*e*	P	09 20 47.7	-15
VNA3	**Neumayer Olymp**	**14.33**	**152**	↑*i*P	P	09 20 46.6	-16
VNA3	**Neumayer Olymp**	**14.33**	**152**	*e*	P	09 20 50.9	-12
VNA3	**Neumayer Olymp**	**14.33**	**152**	*e*	P	09 20 59.2	-3.9
VNA2	**Neumayer--Watz**	**14.69**	**149**	↑*i*P	P	09 20 49.2	-18
VNA2	**Neumayer--Watz**	**14.69**	**149**	*e*	P	09 20 50.2	-17
VNA2	**Neumayer--Watz**	**14.69**	**149**	*e*	P	09 20 53.5	-14
VNA2	**Neumayer--Watz**	**14.69**	**149**	*e*	P	09 21 01.1	-6.6
SNAA	**Sanae**	**16.32**	**148**	↑*i*P	P	09 21 10.2	-19
SNAA	**Sanae**	**16.32**	**148**	*e*	P	09 21 11.5	-17
SNAA	**Sanae**	**16.32**	**148**	*e*	P	09 21 13.8	-15
YKA	**Yellowknife Ar**	**137.66**	**317**	PKP	PKPdf	09 37 00.1	-3.6
	0.3nm,0.6s,baz=132,slow=2.1,SNR=14						
INK	**Inuvik**	**147.42**	**318**	PKPbc	PKPdf	09 37 20.0	-0.4
	1.0nm,0.6s,baz=92,slow=3.8,SNR=12						
ILAR	**Eielson Array**	**151.09**	**307**	PKPbc	PKPdf	09 37 30.8	+4.5
	0.5nm,0.7s,baz=162,slow=5.7,SNR=9.6						
SONM	**Songino Array**	**152.41**	**96**	PKPbc	PKPdf	09 37 34.1	+5.3
	0.8nm,1.0s,baz=232,slow=2.8,SNR=3.9						

WEL 25 09:28:49.3±0.7, 45.16S×166.90E, h12km, ML3.5/8, 2D, Error ellipse: s-maj=7.4km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.37**	**151**	P*	Pb	09 28 56.6	-0.6
DCZ				S*	Sb	09 29 01.7	-0.9
DCZ				S*	Sb	09 29 01.9	-0.7
MSZ	**Milford Sound**	**0.87**	**57**	P*	Pb	09 29 04.6	-1.3
MLZ	**Mavora Lakes**	**0.92**	**102**	↓P*	Pb	09 29 05.6	-1.1
MLZ				S*	Sb	09 29 17.3	-1.2
WHZ	**Wether Hill Ro**	**1.04**	**136**	↓P*	Pb	09 29 07.7	-1.0
WHZ				S*	Sb	09 29 21.9	-0.3
WKZ	**Wanaka**	**1.54**	**78**	PN	Pn	09 29 16.7	0.0
EAZ	**Earnscleugh**	**1.70**	**93**	PN	Pn	09 29 18.7	-0.4
TUZ	**Tuapeka**	**2.08**	**114**	PN	Pn	09 29 22.9	-1.5
LBZ	**Lake Benmore**	**2.46**	**73**	PN	Pn	09 29 28.8	-1.1
ODZ	**Otahua Downs**	**2.65**	**89**	PN	Pn	09 29 30.7	-1.9
RPZ	**Rata Peaks**	**3.30**	**66**	*e*PN	Pn	09 29 39.6	-2.4

IDC 25 09:28:51.7±1.1, 5.32S×149.99E, h262km±9km, mb3.7/11, mb1 3.9/14, mb1mx3.9/17, mbtmp4.4/14, Error ellipse: s-maj=14.5km s-min=9.5km az=103.0
MOS 25 09:28:52.6±1.0, 5.24S×149.87E, h279km, mb4.2/6, Error ellipse: s-maj=16.2km s-min=9.7km az=80.1
NEIC 25 09:28:53.9±1.1, 5.26S×149.88E, h286km±11km, mb4.6/14, Error ellipse: s-maj=10.3km s-min=8.6km az=101.0
ISC 25 09:28:52.0±1.1, 5.29S±0.06×149.91E±0.08, h278km±11km, n58, σ0s87/55, mb4.3/25, 1C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.91**	**214**	P	**P**	**09 30 09.0**	**+0.8**
	15nm,0.3s,baz=16,slow=5.6,SNR=62						
PMG				S	**S**	**09 31 06.4**	**-1.4**
	6.5nm,0.3s,baz=73,slow=15,SNR=5.1						
PMG	**Port Moresby**	**4.91**	**214**	*e*P	**P**	**09 30 08.7**	**+0.5**
PMG				S	**S**	**09 31 06.4**	**-1.4**
HNR	**Honiara**	**10.77**	**113**	P	**P**	**09 31 19.3**	**-1.5**
	2.0nm,0.3s,baz=204,slow=12,SNR=3.1						
HNR	**Honiara**	**10.77**	**113**	*e*P	**P**	**09 31 22.3**	**+1.5**
CTA	**Charters Tower**	**15.13**	**193**	*e*P	**P**	**09 32 14.8**	**+0.6**
	15nm,0.9s						
CTA	**Charters Tower**	**15.13**	**193**	P	**P**	**09 32 14.2**	**0.0**
	0.4nm,0.3s,baz=20,slow=12,SNR=22						
CTA	**Charters Tower**	**15.13**	**193**	*e*P	**P**	**09 32 14.8**	**+0.6**
CTA				pmax	pmax		
	comp=Z,15nm,0.9s						
CTAO	**Charters Tower**	**15.13**	**193**	*e*P	**P**	**09 32 15.0**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,25nm,1.0s						
CTAO	**Charters Tower**	**15.13**	**193**	*e*P	**P**	**09 32 15.0**	**+0.8**
	comp=Z,25nm,1.0s						
WRAB	**Tennant Creek**	**21.00**	**225**	*e*P	**P**	**09 33 15.9**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,125nm,0.6s						
WRAB	**Tennant Creek**	**21.00**	**225**	*e*P	**P**	**09 33 15.9**	**+1.1**
	comp=Z,125nm,0.6s						
WB2	**Warramunga Arr**	**21.00**	**225**	↓*i*P	**P**	**09 33 15.9**	**+1.0**
WB2				eS	**S**	**09 36 53.4**	**+6.3**
WRA	**Warramunga Arr**	**21.01**	**225**	P	**P**	**09 33 15.8**	**+0.9**
	comp=Z,62nm,0.6s,mb5.1,baz=49,slow=9.5,SNR=296						
WRA				S	**S**	**09 36 54.1**	**+6.8**
	comp=Z,4.2nm,0.8s,baz=44,slow=18,SNR=4.8						
WRA				ScP		09 40 22.5	
	comp=Z,1.7nm,0.9s,baz=49,slow=2.8,SNR=5.2						
DZM	**Mont Dzumac**	**23.11**	**138**	P	**P**	**09 33 35.1**	**-0.1**
	comp=Z,4.4nm,0.7s,mb3.9,baz=318,slow=11,SNR=5.6						
ASPA	**Alice Springs**	**23.91**	**219**	*e*P	**P**	**09 33 43.2**	**+0.6**
ARMA	**Armidale**	**25.05**	**176**	*e*P	**P**	**09 33 53.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**26.91**	**249**	↓*i*P	**P**	**09 34 09.6**	**-0.4**
	comp=Z,88nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**27.57**	**195**	P	**P**	**09 34 13.8**	**-2.1**
	comp=Z,5.6nm,0.5s,mb4.2,baz=28,slow=13,SNR=7.9						
STKA	**Stephens Creek**	**27.57**	**195**	*e*P	**P**	**09 34 14.4**	**-1.5**
CNB	**Canberra Magne**	**29.88**	**181**	*e*P	**P**	**09 34 36.6**	**+0.4**
	comp=Z,27nm,1.0s,mb4.7						
TOO	**Toolangi**	**32.38**	**187**	*e*P	**P**	**09 34 58.5**	**+0.6**
	comp=Z,15nm,0.8s,mb4.6						
TOO	**Toolangi**	**32.38**	**187**	*e*P	**P**	**09 34 58.5**	**+0.6**
TOO				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
FORT	**Forrest**	**32.63**	**216**	↓*i*P	**P**	**09 34 59.6**	**-0.5**
	comp=Z,55nm,0.7s,mb5.2						
MBWA	**Marble Bar**	**33.24**	**239**	*e*P	**P**	**09 35 05.0**	**-0.4**
	comp=Z,53nm,1.1s,mb5.0						
KLBR	**Kellerberrin**	**39.90**	**225**	↓*i*P	**P**	**09 36 00.1**	**-0.7**
	comp=Z,42nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**41.02**	**224**	P	**P**	**09 36 09.7**	**-0.3**
	comp=Z,12nm,0.6s,mb4.3,baz=73,slow=6.2,SNR=17						
JNU	**Nakatsue**	**42.26**	**336**	P	**P**	**09 36 20.8**	**+0.7**
	comp=Z,19nm,0.8s,mb4.4,baz=91,slow=8.0,SNR=7.7						
MJAR	**Matsushiro Arr**	**43.03**	**346**	P	**P**	**09 36 27.1**	**+0.9**
	comp=Z,1.1nm,0.5s,mb3.3,baz=168,slow=8.9,SNR=7.0						
HIA	**Hailar**	**60.35**	**338**	*e*P	**P**	**09 38 34.1**	**+0.3**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HIA	**Hailar**	**60.35**	**338**	*e*P	**P**	**09 38 34.1**	**+0.2**
	comp=Z,2.8nm,0.4s,mb4.2						
ULN	**Ulaanbaatar**	**64.93**	**330**	↑*e*P	**P**	**09 39 04.9**	**+1.1**
SONM	**Songino Array**	**65.24**	**329**	P	**P**	**09 39 06.7**	**+0.9**
	comp=Z,1.7nm,0.7s,mb3.8,baz=148,slow=3.5,SNR=12						
ZAK	**Zakamensk**	**68.44**	**330**	*e*P	**P**	**09 39 25.9**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.3						
YAK	**Yakutsk**	**68.92**	**350**	*i* P	**P**	**09 39 29.8**	**+1.4**
GUN	**Gumba**	**69.93**	**302**	*e*P	**P**	**09 39 34.9**	**-0.3**
	comp=Z,9.9nm,0.4s,mb4.8						
PKI	**Pulchoki**	**70.22**	**302**	*e*P	**P**	**09 39 34.0**	**-3.0**
GKN	**Gorkha**	**71.00**	**302**	*e*P	**P**	**09 39 41.0**	**-0.6**
	comp=Z,5.0nm,0.4s,mb4.5						
KOLN	**Koldada**	**71.82**	**301**	*e*P	**P**	**09 39 45.8**	**-0.7**
	comp=Z,9.1nm,0.8s,mb4.5						
VNDA	**Vanda**	**72.46**	**177**	P	**P**	**09 39 50.0**	**+0.5**
	comp=Z,3.5nm,0.7s,mb4.1,baz=338,slow=6.1,SNR=20						
VNDA	**Vanda**	**72.46**	**177**	*e*P	**P**	**09 39 49.9**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	**Vanda**	**72.46**	**177**	*e*P	**P**	**09 39 49.9**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.1						
BILL	**Bilibino**	**74.07**	**6**	*e*P	**P**	**09 39 58.8**	**-0.2**
BILL				*e**PP	pP	09 41 03.0	-0.7
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
TIXI	**Tiksi**	**78.03**	**353**	*i* P	**P**	**09 40 19.6**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**78.82**	**320**	P	**P**	**09 40 25.8**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.6,baz=108,slow=6.1,SNR=12						
KURK	**Kurchatov**	**82.39**	**323**	*i* P	**P**	**09 40 44.4**	**+0.1**
MCK	**McKinley**	**82.43**	**23**	P	**P**	**09 40 43.5**	**-0.7**
ILAR	**Eielson Array**	**83.71**	**23**	P	**P**	**09 40 49.3**	**-1.3**
	comp=Z,1.1nm,0.8s,mb3.7,baz=248,slow=3.2,SNR=11						
INK	**Inuvik**	**89.95**	**21**	P	**P**	**09 41 20.1**	**-0.5**
	comp=Z,1.7nm,1.0s,mb3.8,baz=208,slow=12,SNR=6.2						
YKA	**Yellowknife Ar**	**97.20**	**28**	P	**P**	**09 41 53.7**	**-0.2**
	comp=Z,0.2nm,0.7s,mb3.5,baz=274,slow=4.9,SNR=4.8						
YKA				PKKPbc		09 58 31.3	
	comp=Z,0.2nm,0.7s,baz=88,slow=2.7,SNR=7.7						
YKA	**Yellowknife Ar**	**97.20**	**28**	*i* P	**P**	**09 41 54.2**	**+0.3**
YKA	**Yellowknife Ar**	**97.20**	**28**	P	**P**	**09 41 53.7**	**-0.2**
YKA				PKKPbc		09 58 31.3	
GERES	**GERESS Array B**	**122.93**	**327**	PKP	PKPdf	09 47 15.9	+0.6
	comp=Z,0.4nm,0.6s,baz=90,slow=1.3,SNR=5.7						
CFAA	**Coronel Fontan**	**128.35**	**138**	PKP	PKPdf	09 47 26.8	+0.6
	comp=Z,0.3nm,0.7s,baz=278,slow=2.4,SNR=10						
LPAZ	**La Paz**	**136.69**	**120**	PKP	PKPdf	09 47 44.8	+2.7
	comp=Z,1.0nm,0.8s,baz=246,slow=5.4,SNR=5.6						
LPAZ				SKPbc		09 50 51.8	
	comp=Z,1.3nm,0.8s,baz=292,slow=6.6,SNR=6.7						
SDV	**Santo Domingo**	**139.63**	**83**	PKP	PKPdf	09 47 49.2	+1.6
	comp=Z,5.1nm,0.9s,baz=278,slow=1.5,SNR=7.4						
SIV	**San Ignacio**	**142.75**	**125**	PKP	PKPdf	09 47 52.1	-1.0
	comp=Z,1.5nm,0.7s,baz=239,slow=5.2,SNR=11						
SIV				SKPbc		09 51 08.2	
	comp=Z,3.0nm,1.0s,baz=254,slow=3.6,SNR=9.6						
BDFB	**Brasilia**	**152.66**	**140**	PKP	PKPdf	09 48 11.3	+2.3
	comp=Z,4.0nm,0.9s,baz=123,slow=9.3,SNR=5.1						
BDFB				PKPbc	PKPdf	09 48 17.4	+8.4
	comp=Z,4.7nm,0.6s,baz=267,slow=1.7,SNR=11						
DBIC	**Dimbokro**	**154.87**	**274**	PKP	PKPdf	09 48 14.5	+2.3
	comp=Z,3.1nm,0.9s,baz=274,slow=14,SNR=3.5						

IDC 25 09:35:27.8±3.0, 16.16S×174.25W, h108km±31km, mb3.9/4, mb1 4.0/5, mb1mx3.6/16, mbtmp4.2/5, Error ellipse: s-maj=37.7km s-min=25.5km az=114.0
NEIC 25 09:35:28.7±1.4, 16.14S×174.12W, h123km±16km, mb4.2/2, Error ellipse: s-maj=22.7km s-min=15.8km az=132.0
ISC 25 09:35:29.0±2.9, 15.9S±0.3×173.9W±0.3, h162km±52km, n15, σ0s92/14, mb4.1/5, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.88**	**46**	P	**P**	**09 36 17.6**	**+1.6**
	34nm,0.3s,baz=213,SNR=104						
AFI				S	**S**	**09 36 51.1**	**-0.9**
	142nm,0.3s,baz=157,slow=18,SNR=18						
AFI	**Afiamalu**	**2.88**	**46**	↑*i*P	**P**	**09 36 17.4**	**+1.5**
AFI				*e*S	**S**	**09 36 49.5**	**-2.5**
URZ	**Urewera**	**23.61**	**198**	P	**P**	**09 40 25.3**	**-0.9**
	4.7nm,0.6s,mb4.2,baz=134,slow=19,SNR=7.1						
CTAO	**Charters Tower**	**38.05**	**258**	P	**P**	**09 42 34.6**	**+1.1**
STKA	**Stephens Creek**	**43.35**	**240**	P	**P**	**09 43 17.0**	**+0.1**
	5.5nm,0.9s,mb4.2,baz=143,slow=13,SNR=3.8						
STKA	**Stephens Creek**	**43.35**	**240**	*e*P	**P**	**09 43 16.7**	**-0.2**
WB2	**Warramunga Arr**	**49.24**	**257**	*e*P	**P**	**09 44 03.2**	**0.0**
WRAB	**Tennant Creek**	**49.24**	**257**	*e*P	**P**	**09 44 03.1**	**-0.1**
	2.4nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**49.25**	**257**	P	**P**	**09 44 02.6**	**-0.7**
	1.6nm,0.5s,mb3.9,baz=95,slow=7.6,SNR=22						
ASPA	**Alice Springs**	**49.49**	**252**	*e*P	**P**	**09 44 04.4**	**-0.6**
VNDA	**Vanda**	**62.80**	**186**	P	**P**	**09 45 40.0**	**+0.9**
	2.6nm,1.0s,mb4.0,baz=29,slow=6.2,SNR=7.5						
VNDA	**Vanda**	**62.80**	**186**	*e*P	**P**	**09 45 40.0**	**+0.9**
	2.6nm,1.0s,mb4.0						
KMBO	**Kilima Mbogo**	**144.87**	**244**	PKP	PKPdf	09 54 52.0	+4.4
	2.9nm,0.8s,baz=102,slow=1.4,SNR=8.6						
BRTR	**Keskin Array B**	**146.25**	**320**	PKPbc	PKPbc	09 54 55.6	+5.1
	0.7nm,0.7s,baz=104,slow=5.1,SNR=4.2						
GERES	**GERESS Array B**	**146.59**	**351**	PKPbc	PKPbc	09 54 56.2	+5.3
	0.4nm,0.7s,baz=18,slow=3.1,SNR=5.0						

IDC 25 10:05:16.2±6.9, 18.99N×145.33E, h323km±70km, mb3.0/8, mb1 3.2/9, mb1mx3.1/20, mbtmp3.8/9, Error ellipse: s-maj=33.7km s-min=15.7km az=82.0
NEIC 25 10:05:16.5±5.2, 18.97N×145.33E, h325km±53km, mb3.8/1, Error ellipse: s-maj=28.3km s-min=13.0km az=82.0
ISC 25 10:05:12.6±0.7, 19.0N±0.1×145.4E±0.2, h300km, n15, σ0s74/15, mb3.4/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**17.59**	**299**	P	**P**	**10 08 59.5**	**-0.3**
	1.9nm,0.3s,baz=123,slow=15,SNR=7.7						
NACB	**Ninganchiao**	**22.72**	**287**	P	**P**	**10 09 51.8**	**+1.4**
WRAB	**Tennant Creek**	**40.16**	**196**	*e*P	**P**	**10 12 21.9**	**+0.3**
	3.1nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**40.17**	**196**	P	**P**	**10 12 21.9**	**+0.1**
	1.0nm,0.4s,mb3.5,baz=16,slow=8.9,SNR=21						
SONM	**Songino Array**	**42.72**	**321**	P	**P**	**10 12 41.5**	**-0.8**
	0.2nm,0.4s,mb2.7,baz=127,slow=7.2,SNR=2.9						
STKA	**Stephens Creek**	**50.70**	**184**	P	**P**	**10 13 43.4**	**-0.7**
	2.7nm,1.0s,mb3.5,baz=8.3,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**58.06**	**314**	P	**P**	**10 14 36.5**	**-0.1**
	0.3nm,0.6s,mb2.9,baz=93,slow=8.7,SNR=5.9						
ILAR	**Eielson Array**	**63.52**	**26**	P	**P**	**10 15 11.9**	**-0.8**
	0.2nm,0.6s,mb2.9,baz=267,slow=4.3,SNR=4.9						
INK	**Inuvik**	**69.23**	**23**	*e*P	**P**	**10 15 49.7**	**+1.3**
AKTK	**Aktyubinsk**	**73.97**	**318**	P	**P**	**10 16 16.9**	**0.0**
AKTO	**Aktyubinsk**	**73.97**	**318**	P	**P**	**10 16 16.9**	**0.0**
	0.5nm,0.5s,mb3.4,baz=58,slow=15,SNR=3.9						
YKA	**Yellowknife Ar**	**77.87**	**28**	P	**P**	**10 16 39.3**	**+0.8**
	0.2nm,0.5s,mb3.1,baz=289,slow=5.4,SNR=10.0						
YKA	**Yellowknife Ar**	**77.87**	**28**	P	**P**	**10 16 39.3**	**+0.8**
FINES	**FINESS Array B**	**86.51**	**335**	P	**P**	**10 17 21.5**	**-1.0**
	5.2nm,1.1s,mb4.3,baz=77,slow=4.8,SNR=11						
FINES	**FINESS Array B**	**86.51**	**335**	P	**P**	**10 17 21.5**	**-1.0**

BJI 25 10:12:06.7, 51.10N×157.70E, h47km, mB4.6, mb4.5
KRSC 25 10:12:07.9±1.2, 50.96N×157.84E, h40km±9km, ML4.4
IDC 25 10:12:08.7±0.7, 51.14N×157.67E, h47km±5km, mb3.6/12, mb1 4.0/12, mb1mx3.8/22, mbtmp3.9/12, MS3.3/2, Ms1 3.3/2, ms1mx2.8/35, Error ellipse: s-maj=21.8km s-min=12.4km az=149.0
NEIC 25 10:12:08.8±0.3, 51.11N×157.74E, mb4.5/8, Error ellipse: s-maj=12.4km s-min=6.2km az=156.0
MOS 25 10:12:08.3±1.1, 51.09N×157.81E, h64km, mb4.8/3, Error ellipse: s-maj=17.1km s-min=7.1km az=75.0
ISC 25 10:12:06.7±0.4, 50.91N±0.04×157.90E±0.06, h47km, h47km±.8km: pP-P, n79, σ1s24/95, mb4.3/21, MS3.3/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.15**	**260**	*i* P	**P**	**10 12 25.5**	**-1.1**
SKR				*i* S	**S**	**10 12 40.0**	**-1.5**
ALID	**Alaid**	**1.49**	**269**	*i* P	**P**	**10 12 33.7**	**+2.2**
ALID				*e*S	**S**	**10 12 51.8**	**+1.9**
MIPR	**Malaya Ipel'ka**	**1.55**	**333**	*i* P	**P**	**10 12 33.4**	**+1.1**
RUS	**Russkaya**	**1.58**	**14**	P	**P**	**10 12 32.4**	**-0.3**
RUS				S	**S**	**10 12 49.6**	**-2.5**
RUS	**Russkaya**	**1.58**	**14**	*i* P	**P**	**10 12 32.4**	**-0.3**
RUS				*e*S	**S**	**10 12 50.0**	**-2.1**
GRL	**Gorelyy**	**1.65**	**4**	*i* P	**P**	**10 12 34.5**	**+0.7**
GRL				*e*S	**S**	**10 12 53.3**	**-0.6**
KRMR	**Karymshinskiy**	**1.93**	**4**	*e*P	**P**	**10 12 38.5**	**+0.8**
KRMR				*e*S	**S**	**10 12 59.7**	**-1.1**
APC	**Apacha**	**2.07**	**348**	*i* P	**P**	**10 12 40.6**	**+0.9**
APC				Smax			
	400nm,0.7s						
PET	**Petropavlovsk**	**2.17**	**12**	P	**P**	**10 12 41.4**	**+0.3**
PET				S	**S**	**10 13 05.1**	**-1.8**
PET	**Petropavlovsk**	**2.17**	**12**	*e*P	**P**	**10 12 41.5**	**+0.4**
PET				*i* S	**S**	**10 13 05.5**	**-1.4**
PET	**Petropavlovsk**	**2.17**	**12**	*e*P	**P**	**10 12 41.3**	**+0.1**
UGLR	**Uglovaya**	**2.38**	**14**	*i* P	**P**	**10 12 44.7**	**+0.6**
AVH	**Avacha**	**2.42**	**12**	*i* P	**P**	**10 12 45.8**	**+1.1**
SMAR	**Somma**	**2.42**	**13**	*e*P	**P**	**10 12 45.2**	**+0.4**
KOK	**Koryaka**	**2.43**	**10**	*i* P	**P**	**10 12 46.3**	**+1.4**
KOK				*e*S	**S**	**10 13 13.8**	**+0.3**
NLC	**Nalytchevo**	**2.44**	**21**	P	**P**	**10 12 43.2**	**-1.7**
NLC				S	**S**	**10 13 08.7**	**-5.0**
NLC	**Nalytchevo**	**2.44**	**21**	*e*P	**P**	**10 12 43.5**	**-1.4**
SDLR	**Sedlovina**	**2.45**	**14**	*i* P	**P**	**10 12 45.1**	**0.0**
SPN	**Mys Shipunski**	**2.56**	**30**	P	**P**	**10 12 46.7**	**+0.1**
SPN				S	**S**	**10 13 13.7**	**-3.0**
SPN	**Mys Shipunski**	**2.56**	**30**	*e*P	**P**	**10 12 46.7**	**+0.1**
SPN				*e*S	**S**	**10 13 15.0**	**-1.7**
GNL	**Ganaly**	**2.79**	**1**	*e*P	**P**	**10 12 51.0**	**+1.0**
MKZ	**Mys Kozlova**	**4.33**	**31**	P	**P**	**10 13 11.0**	**-0.8**
MKZ				S	**S**	**10 13 56.4**	**-5.3**
MKZ	**Mys Kozlova**	**4.33**	**31**	*e*P	**P**	**10 13 11.6**	**-0.2**
MKZ				*e*S	**S**	**10 13 58.0**	**-3.7**
TUMR	**Tumrok**	**4.59**	**16**	P	**P**	**10 13 18.1**	**+2.7**
ESO	**Esso**	**5.05**	**5**	*i* P	**P**	**10 13 23.7**	**+1.8**
ESO				Smax			
	30nm,2.3s						
KMNR	**Kamenistaya**	**5.06**	**15**	*e*P	**P**	**10 13 21.7**	**-0.2**
KPT	**Kopyto**	**5.26**	**14**	*e*P	**P**	**10 13 23.8**	**-0.9**
KOZ	**Kozyrevsk**	**5.29**	**12**	P	**P**	**10 13 26.7**	**+1.5**
KOZ	**Kozyrevsk**	**5.29**	**12**	*e*P	**P**	**10 13 27.1**	**+1.9**
KOZR	**Kozyr**	**5.30**	**12**	PN	**P**	**10 13 26.7**	**+1.3**
ZLN	**Zelenaya**	**5.41**	**18**	*e*P	**P**	**10 13 29.1**	**+2.3**
LGNR	**Loginova**	**5.45**	**17**	*e*P	**P**	**10 13 30.3**	**+2.9**
CIRR	**Tsirk**	**5.49**	**17**	P	**P**	**10 13 28.9**	**+1.0**
SRDR	**Sredinnyy**	**5.53**	**11**	*e*P	**P**	**10 13 32.4**	**+3.9**
KLY	**Klyuchi**	**5.66**	**16**	P	**P**	**10 13 33.8**	**+3.5**
BDR	**Baidarnaya**	**6.00**	**18**	P	**P**	**10 13 37.2**	**+2.2**
KBTR	**Krutoberegovo**	**6.07**	**27**	P	**P**	**10 13 35.8**	**-0.2**
KBTR	**Krutoberegovo**	**6.07**	**27**	*e*P	**P**	**10 13 35.5**	**-0.5**
KBTR				*e*S	**S**	**10 14 39.5**	**-5.5**
SRKR	**Sorokina**	**6.08**	**17**	P	**P**	**10 13 37.2**	**+1.1**
FX1	**Attu Island--F**	**9.64**	**72**	P	**P**	**10 14 25.1**	**-0.4**
	6.8nm,0.3s,baz=250,slow=10,SNR=13						
FX1				S	**S**	**10 16 05.0**	**-8.6**
	9.3nm,0.3s,baz=74,slow=19,SNR=6.8						
FX1	**Attu Island--F**	**9.64**	**72**	*e*P	**P**	**10 14 24.9**	**-0.6**
FX1				*e*S	**S**	**10 16 05.7**	**-8.0**
ASAJ	**Asahikawa**	**12.36**	**243**	P	**P**	**10 15 04.2**	**+1.8**
	1.7nm,0.3s,baz=80,

*IDC **25** 10:20:23.8±2.0,86.29N×26.43E,mb3.5/4,mb1 3.8/5, mb1mx3.4/21,mbtmp3.5/5,ML3.5/1,Error ellipse: s-maj=83.7km s-min=27.0km az=83.0*

NEIC 25 10:20:25.3±1.3,86.20N×22.74E,h10km,mb4.0/1,Error ellipse: s-maj=42.4km s-min=12.3km az=80.0,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**7.42**	**196**	*eP*	Pn	10 22 14.3	-2.1
	14nm,0.5s						
ARCES	**ARCESS Array B**	**16.77**	**177**	Pn	P	10 24 18.8	-2.5
	0.2nm,0.3s,baz=4.6,slow=9.4,SNR=8.1						
RES	**Resolute Bay**	**17.51**	**309**	*eP*	P	10 24 27.4	-3.2
	1.0nm,0.4s						
INK	**Inuvik**	**25.37**	**340**	P	P	10 25 51.2	-2.1
	1.2nm,0.9s,baz=16,slow=11,SNR=5.1						
INK	**Inuvik**	**25.37**	**340**	*eP*	P	10 25 51.5	-1.9
	3.4nm,1.1s						
ILAR	**Eielson Array**	**29.15**	**351**	P	P	10 26 25.8	-2.1
	0.9nm,1.0s,baz=357,slow=7.5,SNR=7.1						
YKA	**Yellowknife Ar**	**30.58**	**322**	P	P	10 26 40.1	-0.5
	0.3nm,0.7s,baz=5.6,slow=8.0,SNR=15						
YKA				PcP	PcP	10 29 35.4	-4.0
	0.1nm,0.7s,baz=356,slow=2.5,SNR=5.1						
TXAR	**Lajitas Array**	**63.15**	**308**	P	P	10 30 53.8	-1.3
	0.1nm,0.5s,baz=0.5,slow=3.8,SNR=5.9						

*IDC **25** 10:48:53.2±1.1,5.43S×133.93E,mb4.2/3,mb1 4.3/6, mb1mx4.1/12,mbtmp4.2/6,ML3.8/3,MS3.4/2,Ms1 3.4/2, ms1mx2.8/21,Error ellipse: s-maj=54.1km s-min=22.5km az=61.0*

*NEIC **25** 10:48:58.7±0.8,5.47S×133.75E,h35km,mb4.0/5,Error ellipse: s-maj=26.2km s-min=15.4km az=61.0*

ISC 25 10:48:59.9±2.3,5.84S±0.06×134.0E±0.1,h82km±24km, n22,σ1§21/24,mb4.0/5,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.01**	**193**	*eP*	Px	10 51 06.5	
	21nm,0.4s						
KAKA				*eS*	Sx	10 52 24.9	
PMG	**Port Moresby**	**13.48**	**106**	Pn	**P**	**10 52 08.4**	**-0.6**
	0.6nm,0.3s,baz=326,slow=15,SNR=3.0						
PMG				LR	LR	10 58 19.5	
	comp=Z,96nm,18.4s,baz=3.0,slow=41						
PMG	**Port Moresby**	**13.48**	**106**	*eP*	**P**	**10 52 07.8**	**-1.2**
PMG				LR	LR	10 58 19.5	
WRAB	**Tennant Creek**	**14.01**	**179**	*eP*	**P**	**10 52 16.0**	**0.0**
	20nm,0.6s						
WRAB				*eS*	**S**	**10 54 48.3**	**-1.5**
WRA	**Warramunga Arr**	**14.02**	**179**	Pn	**P**	**10 52 16.7**	**+0.6**
	0.5nm,0.3s,slow=13,SNR=22						
WRA				Sn	**S**	**10 54 49.6**	**-0.4**
	0.9nm,0.3s,baz=0.3,slow=23,SNR=4.2						
WB2	**Warramunga Arr**	**14.02**	**179**	*eP*	**P**	**10 52 16.6**	**+0.5**
WB2				*eS*	**S**	**10 54 49.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**14.69**	**213**	*eP*	**P**	**10 52 23.6**	**-1.2**
	7.8nm,0.3s						
FITZ				*eS*	**S**	**10 54 59.5**	**-6.3**
ASPA	**Alice Springs**	**17.72**	**180**	*eP*	**P**	**10 53 05.1**	**+2.2**
CTA	**Charters Tower**	**18.48**	**141**	*eP*	**P**	**10 53 17.2**	**+5.3**
	5.8nm,0.9s						
CTA	**Charters Tower**	**18.48**	**141**	P	**P**	**10 53 15.7**	**+3.8**
	0.7nm,0.3s,baz=316,slow=12,SNR=17						
CTA				LR	LR	11 01 18.6	
	comp=Z,184nm,18.1s,baz=225,slow=40						
CTAO	**Charters Tower**	**18.48**	**141**	*eP*	**P**	**10 53 17.3**	**+5.4**
	7.4nm,0.8s						
MBWA	**Marble Bar**	**20.59**	**221**	*eP*	**P**	**10 53 38.2**	**+3.6**
MBWA				*eS*	**S**	**10 57 16.2**	**+1.1**
STKA	**Stephens Creek**	**26.85**	**166**	*eP*	**P**	**10 54 39.7**	**+4.8**
	3.6nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**26.85**	**166**	P	**P**	**10 54 39.2**	**+4.4**
	5.6nm,0.9s,mb4.1,baz=332,slow=4.6,SNR=7.2						
NWAO	**Narrogin (SRO)**	**31.16**	**208**	*eP*	**P**	**10 55 13.3**	**0.0**
MKAR	**Makanchi Array**	**69.53**	**325**	P	**P**	**11 00 01.2**	**-0.7**
	1.4nm,0.6s,mb4.0,baz=114,slow=8.0,SNR=24						
MKAR	**Makanchi Array**	**69.53**	**325**	P	**P**	**11 00 01.2**	**-0.7**
VNDA	**Vanda**	**73.14**	**174**	P	**P**	**11 00 27.6**	**+4.7**
	1.7nm,0.8s,mb4.0,baz=318,slow=6.0,SNR=7.7						
KURK	**Kurchatov**	**73.68**	**327**	*eP*	**P**	**11 00 25.9**	**-0.6**
	4.1nm,1.2s,mb4.0						
BRVK	**Borovoye**	**79.34**	**327**	*eP*	**P**	**11 00 58.5**	**+0.2**
	1.0nm,0.6s,mb3.8						
LPAZ	**La Paz**	**148.94**	**135**	PKPbc	PKPdf	11 08 46.1	+11
	2.8nm,0.7s,baz=296,slow=1.2,SNR=10						
LPAZ	**La Paz**	**148.94**	**135**	*e*PKPbc	PKPdf	11 08 46.2	+11

*ATH **25** 10:54:44.5,38.27N×27.07E,h20km,MD2.9/3*
*ISK **25** 10:54:45.0,38.16N×26.65E,h29km,MD2.8*
*NEIC **25** 10:54:45.0,38.16N±26.65E,h29km,MD2.9(ATH), MD2.8(ISK),After ISK.*
*CSEM **25** 10:54:46.2±0.8,38.17N×26.88E,h42km±7km,MD2.8, Error ellipse: s-maj=14.6km s-min=6.7km az=110.0*

ISC 25 10:54:43.5±1.3,38.12N±0.04×26.48E±0.06,h1km±8km, n11,σ1§14/20,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.26**	**20**	*i* P	**Pg**	**10 54 52.4**	**+0.5**
URLA				*i* S	**Sg**	**10 54 52.3**	**+0.2**
SMG	**Samos**	**0.49**	**145**	*e*PN	**Pn**	**10 54 56.1**	**-1.2**
SMG				*e*SN	**Sn**	**10 55 04.6**	**-1.9**
SMG	**Samos**	**0.49**	**145**	*e*Pn	**Pn**	**10 54 56.1**	**-1.2**
SMG				*e*Sn	**Sn**	**10 55 05.1**	**-1.4**
BLCB	**Balcova**	**0.52**	**58**	PG	**Pg**	**10 54 54.6**	**+0.8**
BLCB				SG	**Sg**	**10 55 00.4**	**-0.3**
IZM	**Izmir**	**0.68**	**65**	PG	**Pg**	**10 54 56.7**	**-0.3**
IZM				SG	**Sg**	**10 55 05.7**	**-0.3**
KDAG	**Bornova**	**0.68**	**65**	*i* P	**Pg**	**10 54 56.8**	**-0.3**
KDAG				*i* S	**Sg**	**10 55 04.6**	**-1.5**
PRK	**Paraskevi**	**1.14**	**352**	*e*PN	**Pn**	**10 55 06.6**	**+0.1**
PRK				*e*SN	**Sn**	**10 55 22.6**	**-0.4**
AYDN	**Tasoluk**	**1.19**	**112**	*i* P	**Pb**	**10 55 08.9**	**+2.3**
AYDN				*i* S	**Sb**	**10 55 23.3**	**+0.9**
APE	**Apeiranthos**	**1.29**	**216**	*e*PN	**Pn**	**10 55 09.0**	**+0.3**
AKS	**Akhisar**	**1.29**	**53**	*e*PN	**Pn**	**10 55 05.7**	**-3.0**
MANT	**Manisa**	**1.67**	**76**	*i* P	**Pn**	**10 55 16.8**	**+2.7**
MANT				*i* S	**Sb**	**10 55 37.4**	**+1.0**

*KISR **25** 10:56:29.6±0.4,30.66N×50.51E,h33km,ML2.7*
*CSEM **25** 10:56:31.5±0.1,30.77N×50.44E,h80km,ML3.1,Error ellipse: s-maj=9.0km s-min=1.6km az=131.0*
*TEH **25** 10:56:35.3,31.05N×50.56E,h10km,Mn3.1*

ISC 25 10:56:31.8±1.0,30.7N±0.1×50.5E±0.1,h33km,n14, σ0§72/19,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIR	**Pirpir**	**1.97**	**10**		**Pn**	**10 57 04.2**	**+0.6**
IGAR	**Garneh**	**2.09**	**43**	Pn	**Pn**	**10 57 06.8**	**+1.5**
IZEF	**Zefreh**	**2.66**	**35**	Pn	**Pn**	**10 57 14.1**	**+0.7**
UMR	**Umm Al-Rimmam**	**2.69**	**245**	*eP*	**P**	**10 57 13.6**	**-0.1**
IKLH	**Kalahroud**	**2.73**	**19**	Pn	**Pn**	**10 57 14.9**	**+0.4**
KBD	**Kabd**	**2.89**	**238**	*eP*	**P**	**10 57 16.1**	**-0.4**
KBD				*eS*	**S**	**10 57 51.0**	**+0.4**
MIB	**Mutribah**	**2.89**	**252**	*eP*	**P**	**10 57 16.1**	**-0.4**
MIB				*eS*	**S**	**10 57 51.4**	**+0.9**
QRN	**Al-Qurain**	**3.00**	**229**	*eP*	**P**	**10 57 17.5**	**-0.5**
QRN				AML	AML	10 57 56.0	
	comp=Z,44nm,0.2s						
RDF	**Al-Radifah**	**3.13**	**236**	*eP*	**P**	**10 57 19.4**	**-0.7**
RDF				AML	AML	10 57 58.6	
	comp=Z,26nm,0.3s						
NAY	**Al-Naaiem**	**3.19**	**243**	*eP*	**P**	**10 57 20.6**	**-0.2**
NAY				*eS*	**S**	**10 57 58.6**	**+0.4**
NAY				AML	AML	10 58 00.5	
	comp=Z,8.2nm,0.2s						
ISFB	**Sefidab**	**3.90**	**22**	Pn	**Pn**	**10 57 30.4**	**-0.6**
IVRN	**Varamin**	**4.37**	**13**	Pn	**Pn**	**10 57 36.8**	**-1.0**
IVRN				Sn	**Sn**	**10 58 22.6**	**-5.7**
IRAZ	**Razeghan**	**4.68**	**354**	Pn	**Pn**	**10 57 47.0**	**+4.9**
IDMV	**Damavand**	**5.00**	**14**	Pn	**Pn**	**10 57 45.4**	**-1.2**
IDMV				Sn	**Sn**	**10 58 37.3**	**-6.7**

*HLW **25** 11:06:18.4,35.18N×23.40E,h33km,Mb3.9*
*CSEM **25** 11:06:19.5±0.1,34.96N×23.30E,h62km±1km,mb4.0/2, Error ellipse: s-maj=3.6km s-min=1.7km az=70.0*
*ATH **25** 11:06:20.6,35.03N×23.35E,h66km±4km,ML3.8*
*NEIC **25** 11:06:20.6,35.03N×23.35E,h66km,mb4.0/2,After ATH.*
*IDC **25** 11:06:21.7±2.7,35.18N×23.24E,h54km±27km,mb3.5/7, mb1 3.4/10,mb1mx3.3/22,mbtmp3.6/10,ML3.5/3,Error ellipse: s-maj=24.4km s-min=20.8km az=7.0*

ISC 25 11:06:19.1±0.6,34.92N±0.03×23.23E±0.07,h69km±7km, n46,σ0§92/52,mb3.7/8,4C-5D,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.71**	**96**	*eP*	**P**	**11 06 35.0**	**+0.8**
VAM	**Vamos**	**0.93**	**58**	*eP*	**P**	**11 06 37.2**	**+0.3**
VAM				*eS*	**S**	**11 06 49.5**	**-0.6**
KYTH	**Kithira**	**1.37**	**353**	*eP*	**P**	**11 06 43.5**	**+0.7**
IDI	**Anoyia**	**1.41**	**74**	P	**P**	**11 06 44.4**	**+1.0**
	25nm,0.3s,baz=274,slow=14,SNR=222						
IDI				S	**S**	**11 07 01.3**	**0.0**
	25nm,0.3s,baz=306,slow=18,SNR=8.5						
VLI	**Veliai**	**1.81**	**352**	*eP*	**P**	**11 06 50.2**	**+1.4**
VLI				*eS*	**S**	**11 07 10.3**	**-0.4**
NPS	**Neapolis**	**1.98**	**79**	*eP*	**P**	**11 06 51.7**	**+0.6**
XRY	**Khrisi**	**2.02**	**91**	*eP*	**P**	**11 06 52.5**	**+0.8**
SANT	**Santorini**	**2.32**	**51**	*e*Pn	**P**	**11 06 55.1**	**-0.8**
SANT	**Santorini**	**2.32**	**51**	*e*Pn	**P**	**11 06 55.1**	**-0.8**
ATH	**Athens Observa**	**3.07**	**7**	*eP*	**P**	**11 07 06.5**	**0.0**
PTL	**Penteli**	**3.17**	**9**	*eP*	**P**	**11 07 08.0**	**+0.2**
MPAR	**Parnis Oros**	**3.25**	**7**	*i*P	**P**	**11 07 09.0**	**0.0**
KARP	**Karpathos**	**3.28**	**78**	*eP*	**P**	**11 07 09.0**	**-0.4**
SLUM		**3.80**	**154**	P	**P**	**11 07 17.2**	**+0.5**
SLUM				S	**S**	**11 07 59.9**	**-0.6**
SLUM		**3.80**	**154**	P	**P**	**11 07 17.2**	**+0.5**
SLUM				S	**S**	**11 07 59.8**	**-0.6**
DABA	**Dabaa**	**5.76**	**131**	P	**P**	**11 07 43.6**	**-0.3**
SWA2		**5.97**	**161**	⇑P	**P**	**11 07 47.5**	**+0.8**
SWA1		**6.02**	**159**	⇓P	**P**	**11 07 48.2**	**+0.8**
SWA1		**6.02**	**159**	P	**P**	**11 07 48.2**	**+0.8**
TIP	**Timpagrande**	**6.70**	**311**	*e*Pn	**P**	**11 07 55.8**	**-1.2**
TIP	**Timpagrande**	**6.70**	**311**	*e*Pn	**P**	**11 07 55.8**	**-1.2**
HBRG	**Burj al 'Arab**	**7.05**	**126**	P	**P**	**11 08 01.2**	**-0.7**
AWBH		**8.16**	**142**	⇓P	**P**	**11 08 16.7**	**-0.4**
KOT	**Kottamia**	**8.81**	**122**	⇑P	**P**	**11 08 24.8**	**-1.1**
HFRF	**Wahat Farafira**	**8.88**	**149**	⇓P	**P**	**11 08 26.5**	**-0.5**
GLL	**Jalalah**	**8.94**	**124**	⇓P	**P**	**11 08 26.8**	**-0.9**
STON	**Ston**	**9.03**	**333**	*i* Pn	**P**	**11 08 23.1**	**-5.9**
STON				*i* Sn	**S**	**11 09 56.2**	**-14**
AMAG	**Maghara**	**9.42**	**114**	⇑P	**P**	**11 08 31.3**	**-3.0**
BRTR	**Keskin Array B**	**9.57**	**57**	P	**P**	**11 08 35.4**	**-1.0**
	0.1nm,0.3s,baz=242,slow=15,SNR=2.3						
HDK1	**Dakhla**	**10.76**	**149**	⇓P	**P**	**11 08 53.4**	**+0.8**
GERES	**GERESS Array B**	**15.60**	**336**	P	**P**	**11 09 53.5**	**-2.5**
	0.1nm,0.3s,baz=157,slow=13,SNR=2.6						
AKASG	**Malin Array Be**	**16.36**	**14**	P	**P**	**11 10 06.2**	**+0.6**
	1.6nm,0.3s,baz=205,slow=10,SNR=9.6						
AKASG	**Malin Array Be**	**16.36**	**14**	P	**P**	**11 10 06.2**	**+0.6**
HFS	**Hagfors**	**25.98**	**349**	P	**P**	**11 11 47.5**	**+0.7**
	1.7nm,0.5s,mb3.7,baz=121,slow=8.6,SNR=12						
HFS	**Hagfors**	**25.98**	**349**	P	**P**	**11 11 47.5**	**+0.7**
FINES	**FINESS Array B**	**26.61**	**3**	P	**P**	**11 11 51.8**	**-0.8**
	2.6nm,1.0s,mb3.7,baz=170,slow=10,SNR=5.5						
NOA	**NORSAR Array B**	**27.25**	**347**	P	**P**	**11 11 58.7**	**+0.1**
	0.6nm,0.5s,mb3.4,baz=156,slow=12,SNR=2.9						
NOA	**NORSAR Array B**	**27.25**	**347**	P	**P**	**11 11 58.7**	**+0.1**
ARCES	**ARCESS Array B**	**34.69**	**1**	P	**P**	**11 13 02.6**	**-1.2**
	0.3nm,0.4s,mb3.5,baz=185,slow=10.0,SNR=7.2						
DBIC	**Dimbokro**	**38.20**	**229**	P	**P**	**11 13 37.6**	**+3.8**
	2.3nm,1.0s,mb4.0,baz=47,slow=7.4,SNR=4.1						
DBIC	**Dimbokro**	**38.20**	**229**	*eP*	**P**	**11 13 38.1**	**+4.3**
	1.4nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**45.23**	**56**	P	**P**	**11 14 32.4**	**+1.3**
	0.4nm,0.4s,mb3.5,baz=268,slow=7.5,SNR=7.2						
MKAR	**Makanchi Array**	**45.23**	**56**	P	**P**	**11 14 32.3**	**+1.3**
SONM	**Songino Array**	**60.86**	**50**	P	**P**	**11 16 27.7**	**+1.1**
	0.3nm,0.5s,mb3.6,baz=282,slow=6.8,SNR=3.9						
ULN	**Ulaanbaatar**	**61.26**	**50**	*eP*	**P**	**11 16 30.6**	**+1.4**
	0.6nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**61.26**	**50**	*eP*	**P**	**11 16 30.6**	**+1.3**

*JMA **25** 11:06:54.4±0.1,35.81N×141.15E,h34km±1km,M4.3*
JMA Felt II J1.
*IDC **25** 11:06:56.0±0.7,35.79N×141.03E,h38km±4km,mb3.9/20, mb1 4.0/22,mb1mx4.0/27,mbtmp4.1/22,ML3.9/2,MS3.6/7, Ms1 3.7/7,ms1mx3.3/28,Error ellipse: s-maj=18.3km s-min=14.8km az=169.0*
*NEIC **25** 11:06:55.8±0.4,35.82N×141.12E,mb4.6/6,MW4.3(NIED), Error ellipse: s-maj=11.2km s-min=6.7km az=179.0*
NEIC Recorded [1 JMA] in Chiba and Ibaraki Prefectures.
*MOS **25** 11:06:59.2±0.6,36.39N×140.91E,h53km,mb4.7/10,Error ellipse: s-maj=13.0km s-min=8.2km az=115.8*
*NIED **25** 11:07:00,35.80N×141.20E,h41km,Mw4.3 Best double couple: M₀3.6×10¹⁵ NP1:φs60°,δ69°,λ88°. NP2:φs246°, δ21°,λ96°.*
*BJI **25** 11:07:01.4,36.52N×140.21E,h37km,mB4.4,mb4.1, Ms3.9,Msz3.5*

ISC 25 11:06:54.2±0.7,35.82N±0.03×141.17E±0.07,h40km±5km, h37km±7km:pP-P,n67,σ0§91/77,mb4.2/29,MS3.8/9,1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.28**	**245**	⇑P	**P**	**11 07 01.6**	**-0.6**
CHOJ				S	**S**	**11 07 06.6**	**-1.2**
JCN	**Nagara**	**0.88**	**243**	P	**P**	**11 07 11.4**	**+1.1**
JYT	**Yasato**	**0.89**	**298**	⇓P	**P**	**11 07 10.0**	**-0.3**
JYT				*eS*	**S**	**11 07 21.5**	**-0.7**
JHO	**Hitachi**	**0.93**	**329**	⇓P	**P**	**11 07 11.1**	**+0.2**
JHO				*eS*	**S**	**11 07 24.5**	**+1.3**
BSO4	**Boso 4**	**1.07**	**220**	P	**P**	**11 07 14.3**	**+1.4**
BSO3	**Boso 3**	**1.15**	**208**	P	**P**	**11 07 14.2**	**+0.2**
BSO1	**Boso 1**	**1.17**	**188**	P	**P**	**11 07 14.1**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.31**	**347**	⇓P	**P**	**11 07 16.8**	**+0.3**
ONAJ				*eS*	**S**	**11 07 33.4**	**+0.4**
JAG	**Ashikaga**	**1.51**	**294**	⇓P	**P**	**11 07 19.0**	**-0.3**
MJAR	**Matsushiro Arr**	**2.50**	**288**	Pn	**P**	**11 07 34.0**	**+0.6**
	23nm,0.3s,baz=95,slow=9.1,SNR=171						
MJAR				Sn	**S**	**11 08 06.9**	**+4.0**
	13nm,0.3s,baz=45,slow=52,SNR=5.6						
MAJO	**Matsushiro**	**2.50**	**288**	*eP*	**P**	**11 07 34.0**	**+0.6**
MAT	**Matsushiro**	**2.50**	**288**	P	**P**	**11 07 34.0**	**+0.6**
MAT				*eS*	**S**	**11 08 05.8**	**+2.9**
MAT	**Matsushiro**	**2.50**	**288**	*eP*	**P**	**11 07 34.0**	**+0.6**
MAT				S	**S**	**11 08 06.0**	**+3.1**
JHJ	**Hachijo jima 2**	**2.93**	**203**	Pn	**P**	**11 07 39.6**	**+0.2**
	64nm,0.3s,baz=252,slow=21,SNR=7.3						
JHJ				Sn	**S**	**11 08 13.8**	**0.0**
	79nm,0.3s,baz=88,slow=20,SNR=6.9						
ASAJ	**Asahikawa**	**8.36**	**7**	Pn	**P**	**11 08 52.4**	**-3.3**
	5.0nm,0.3s,baz=227,slow=12,SNR=38						
ASAJ				Sn	**S**	**11 10 24.2**	**-5.6**
	0.3nm,0.3s,baz=342,slow=19,SNR=2.5						
ASAJ				LR	LR	11 12 28.9	
	comp=Z,190nm,21.5s,baz=181,slow=40						
ASAJ	**Asahikawa**	**8.36**	**7**	P	**P**	**11 08 52.4**	**-3.3**
ASAJ						11 10 24.3	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,190nm,21.5s						
CBIJ	**Chichi jima**	**8.74**	**174**	Pn	**P**	**11 08 55.5**	**-5.5**
	comp=Z,37nm,0.3s,baz=313,slow=17,SNR=9.7						
CBIJ				Sn	**S**	**11 10 28.1**	**-11**
	comp=Z,14nm,0.3s,baz=252,slow=19,SNR=3.5						
YSS	**Yuzh-Sakhalins**	**11.19**	**6**	*eP*	**P**	**11 09 31.9**	**-2.6**
HABR	**Khabarovsk**	**13.43**	**342**	*eP*	**P**	**11 09 51.4**	**-13**
SSE	**Sheshan**	**17.32**	**260**	*eP*	**P**	**11 10 54.0**	**-0.6**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE				AMB	AMB		
	comp=Z,20nm,3.5s						
SSE				LR	LR		
	comp=N,100nm,27.7s						
SSE				LR	LR		
	comp=E,20nm,27.7s						
NJ2	**Nanjing**	**18.89**	**265**	*eP*	**P**	**11 11 13.3**	**-0.6**
NJ2				AP		11 11 21.3	
NJ2				XP		11 11 25.5	
NJ2				PP	PP	11 11 28.3	-2.0
NJ2				S	**S**	**11 14 28.0**	**-11**
NJ2				XS		11 14 45.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,90nm,5.4s						
NJ2				LR	LR		
	comp=N,350nm,12.0s						
NJ2				LR	LR		
	comp=E,340nm,13.8s						
NJ2				LR	LR		
	comp=Z,200nm,19.3s						
HHC	**Hu-ho-hao-te**	**23.70**	**291**	*eP*	**P**	**11 12 02.8**	**-0.3**
HHC				AP		11 12 13.0	
HHC				XP		11 12 18.8	
HHC				LR	LR		
	comp=N,190nm,13.1s,MS3.8						
HHC				LR	LR		
	comp=E,100nm,13.1s,MS3.8						
HHC				LR	LR		
	comp=Z,130nm,13.1s,MS3.6						
YAK	**Yakutsk**	**27.21**	**348**	*i* P	**P**	**11 12 33.9**	**-2.1**
SONM	**Songino Array**	**28.32**	**306**	P	**P**	**11 12 45.7**	**-0.4**
	comp=Z,1.0nm,0.3s,mb3.9,baz=108,slow=6.1,SNR=5.4						
SONM				LR	LR	11 24 35.6	
	comp=Z,80nm,18.6s,MS3.3,baz=250,slow=38						
BOD	**Bodaibo**	**28.46**	**329**	*eP*	**P**	**11 12 45.4**	**-1.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
GTA	**Gaotai**	**32.75**	**289**	*eP*	**P**	**11 13 25.3**	**-0.1**
TIXI	**Tiksi**	**36.47**	**353**	⇓*eP*	**P**	**11 13 56.5**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.5						
MKAR	**Makanchi Array**	**44.60**	**303**	P	**P**	**11 15 03.6**	**-0.6**
	comp=Z,6.1nm,0.7s,mb4.6,baz=86,slow=9.7,SNR=62						
MKAR				LR	LR	11 34 12.0	
	comp=Z,86nm,19.3s,MS3.7,baz=125,slow=37						
KURK	**Kurchatov**	**46.53**	**309**	*eP*	**P**	**11 15 18.7**	**-0.7**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
KURK	**Kurchatov**	**46.53**	**309**	*eP*	**P**	**11 15 18.7**	**-0.7**
	comp=Z,7.0nm,0.6s,mb4.8						
HNR	**Honiara**	**48.37**	**155**	LR	LR	11 34 44.8	
	comp=Z,109nm,19.2s,MS3.9,baz=269,slow=34						
ILAR	**Eielson Array**	**50.63**	**32**	P	**P**	**11 15 51.5**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=265,slow=6.0,SNR=31						
AAK	**Ala-Archa**	**50.90**	**299**	*i* P	**P**	**11 15 52.5**	**-0.9**
BVAR	**Borovoye Array**	**51.25**	**313**	P	**P**	**11 15 55.6**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.3,baz=79,slow=7.6,SNR=15						
BRVK	**Borovoye**	**51.30**	**313**	*eP*	**P**	**11 15 56.1**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,23nm,1.9s,mb4.8						
BRVK	**Borovoye**	**51.30**	**313**	*eP*	**P**	**11 15 56.1**	**-0.2**
	comp=Z,23nm,1.9s,mb4.8						
INK	**Inuvik**	**55.56**	**27**	P	**P**	**11 16 28.3**	**+0.8**
	comp=Z,1.9nm,0.5s,mb4.4,baz=302,slow=6.2,SNR=29						
INK	**Inuvik**	**55.56**	**27**	P	**P**	**11 16 28.3**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**55.56**	**27**	*eP*	**P**	**11 16 28.0**	**+0.5**
	comp=Z,1.8nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**55.83**	**188**	P	**P**	**11 16 28.5**	**-1.6**
	comp=Z,1.7nm,0.6s,mb4.2,baz=8.3,slow=7.6,SNR=5.1						
ARU	**Arti**	**57.14**	**319**	⇓*i*P	**P**	**11 16 38.2**	**-0.8**
ARU				*e*		11 18 41.8	
ARU				*e*S	**S**	**11 24 20.5**	**-9.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ARU	**Arti**	**57.14**	**319**	*eP*	**P**	**11 16 38.0**	**-1.0**
	comp=Z,9.1nm,0.9s,mb4.8						
AKTK	**Aktyubinsk**	**59.34**	**312**	P	**P**	**11 16 54.7**	**+0.3**
AKTO	**Aktyubinsk**	**59.34**	**312**	P	**P**	**11 16 54.7**	**+0.3**
	comp=Z,0.7nm,0.3s,mb4.1,baz=72,slow=11,SNR=4.8						
YKA	**Yellowknife Ar**	**64.96**	**30**	P	**P**	**11 17 31.7**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=305,slow=7.3,SNR=19						
YKA				pP	pP	11 17 43.4	0.0
	comp=Z,0.6nm,0.7s,baz=301,slow=6.4,SNR=7.7						
YKA	**Yellowknife Ar**	**64.96**	**30**	P	**P**	**11 17 31.8**	**+0.2**
YKA				*PP	pP	11 17 43.4	0.0
ARCES	**ARCESS Array B**	**65.06**	**340**	P	**P**	**11 17 31.7**	**-0.5**
	comp=Z,2.1nm,0.9s,mb4.2,baz=56,slow=8.7,SNR=5.9						
ARCES				LR	LR	11 51 11.0	
	comp=Z,57nm,18.3s,MS3.8,baz=197,slow=41						
JOF	**Joensuu**	**66.94**	**332**	*ep*	**P**	**11 17 43.4**	**-0.8**
	comp=Z,1.5nm,0.4s,mb4.4						
OBN	**Obninsk**	**68.95**	**323**	*eP*	**P**	**11 17 57.8**	**+0.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5

FITZ	**Fitzroy Crossi**	**14.71**	**213**	Pn		**P**	**11 12 44.0**	**-0.1**
	1.2nm,0.3s,baz=38,slow=12,SNR=45							
FITZ				Sn		**S**	**11 15 19.8**	**-6.6**
	2.2nm,0.3s,baz=186,slow=18,SNR=9.8							
ASPA	**Alice Springs**	**17.84**	**180**	*e*P		**P**	**11 13 24.7**	**+1.1**
CTA	**Charters Tower**	**18.65**	**141**	*e*P		**P**	**11 13 37.0**	**+3.4**
	2.9nm,0.6s							
CTA	**Charters Tower**	**18.65**	**141**	P		**P**	**11 13 34.8**	**+1.2**
	0.3nm,0.3s,baz=320,slow=13,SNR=8.2							
CTAO	**Charters Tower**	**18.65**	**141**	*e*P		**P**	**11 13 37.3**	**+3.7**
MBWA	**Marble Bar**	**20.60**	**221**	*e*P		**P**	**11 13 57.5**	**+2.7**
STKA	**Stephens Creek**	**26.99**	**165**	P		**P**	**11 14 58.8**	**+2.1**
	3.7nm,1.0s,mb3.9,baz=352,slow=6.9,SNR=3.8							
STKA				LR		LR	11 26 01.6	
	comp=Z,110nm,19.9s,MS3.4,baz=25,slow=37							
MKAR	**Makanchi Array**	**69.36**	**325**	P		**P**	**11 20 20.8**	**-1.2**
	0.9nm,0.7s,mb3.8,baz=118,slow=7.9,SNR=12							
VNDA	**Vanda**	**73.26**	**174**	P		**P**	**11 20 47.4**	**+2.6**
	0.9nm,0.7s,mb3.8,baz=346,slow=4.3,SNR=4.4							
VNDA	**Vanda**	**73.26**	**174**	*e*P		**P**	**11 20 47.5**	**+2.7**
	1.0nm,0.7s,mb3.9							
BVAR	**Borovoye Array**	**79.10**	**327**	P		**P**	**11 21 16.7**	**-1.5**
	0.2nm,0.4s,mb3.4,baz=153,slow=6.4,SNR=3.9							
LPAZ	**La Paz**	**149.11**	**135**	PKPbc	PKPdf		11 29 02.4	+5.3
	1.7nm,0.9s,baz=27,slow=4.5,SNR=2.9							
LPAZ	**La Paz**	**149.11**	**135**	*e*PKPbc	PKPdf		11 29 05.2	+8.1

*TIF **25** 11:09:38.4, 43.07N×45.89E, h46km±2km*
*CSEM **25** 11:09:38.3±0.2, 43.06N×45.90E, h46km, mb4.2, Error ellipse: s-maj=12.9km s-min=2.8km az=26.0, After OBN*
*MOS **25** 11:09:38.3±1.0, 43.06N×45.90E, h46km, mb4.2/1, Error ellipse: s-maj=23.6km s-min=7.7km az=32.7*
*NNC **25** 11:09:49.5±6.2, 43.92N×46.95E, mb3.4, Error ellipse: s-maj=421.4km s-min=57.3km az=144.0*

ISC 25 11:09:38.6±0.4, 43.19N±0.03×45.92E±0.03, h46km, n32, σ1℅29/64, 8C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BTLR	**Botlikh**	**0.57**	**157**	⇑*i*	P	**P**	**11 09 50.4**	**-0.1**
BTLR				*i*	S	**S**	**11 10 00.2**	**+1.0**
BTLR				pmax		pmax		
	comp=Z,474nm,0.3s							
BTLR	**Botlikh**	**0.57**	**157**	*i*	P	**P**	**11 09 50.4**	**-0.1**
	comp=Z,474nm,0.3s							
BTLR				*i*	S	**S**	**11 10 00.2**	**+1.0**
DBC	**Dubki**	**0.69**	**104**	*i*	P	**P**	**11 09 53.0**	**+0.9**
DBC				*i*	S	**S**	**11 10 04.5**	**+2.6**
DBC				pmax		pmax		
	comp=Z,169nm,0.2s							
DBC	**Dubki**	**0.69**	**104**	*i*	P	**P**	**11 09 53.0**	**+0.9**
	comp=Z,169nm,0.2s							
DBC				*i*	S	**S**	**11 10 04.5**	**+2.6**
UNCR	**Uncukul**	**0.80**	**126**	*i*	P	**P**	**11 09 52.8**	**-0.8**
UNCR				*i*	S	**S**	**11 10 05.3**	**+0.7**
UNCR				pmax		pmax		
	comp=Z,107nm,0.2s							
UNCR	**Uncukul**	**0.80**	**126**	*i*	P	**P**	**11 09 52.8**	**-0.8**
	comp=Z,107nm,0.2s							
UNCR				*i*	S	**S**	**11 10 05.3**	**+0.7**
KRNR	**Karanay**	**0.81**	**116**	⇑*i*	P	**P**	**11 09 52.7**	**-1.1**
KRNR				*i*	S	**S**	**11 10 05.7**	**+0.8**
KRNR				pmax		pmax		
	comp=Z,75nm,0.2s							
KRNR	**Karanay**	**0.81**	**116**	*i*	P	**P**	**11 09 52.7**	**-1.1**
	comp=Z,75nm,0.2s							
KRNR				*i*	S	**S**	**11 10 05.7**	**+0.8**
BUJR	**Buynaksk**	**0.95**	**112**	*e*P		**P**	**11 09 57.0**	**+1.4**
BUJR				*i*	S	**S**	**11 10 12.5**	**+4.2**
BUJR				pmax		pmax		
	comp=Z,78nm,0.2s							
BUJR	**Buynaksk**	**0.95**	**112**	*e*P		**P**	**11 09 57.0**	**+1.4**
	comp=Z,78nm,0.2s							
BUJR				*i*	S	**S**	**11 10 12.5**	**+4.2**
TRKR	**Terskaya**	**1.01**	**302**	*e*P		**P**	**11 09 59.2**	**+2.6**
TRKR				*e*S		**S**	**11 10 14.9**	**+4.9**
ARNR	**Ardon**	**1.20**	**270**	*e*P		**P**	**11 10 00.2**	**+1.0**
ARNR				*e*S		**S**	**11 10 16.9**	**+2.3**
LACR	**Lac**	**1.25**	**253**	*e*P		**P**	**11 09 59.9**	**0.0**
LACR				*e*S		**S**	**11 10 16.4**	**+0.6**
PRTR	**Priterechnaya**	**1.32**	**296**	*e*P		**P**	**11 10 02.7**	**+1.7**
PRTR				*e*S		**S**	**11 10 21.3**	**+3.6**
KMKR	**Kumukh**	**1.37**	**140**	*e*P		**P**	**11 10 00.0**	**-1.8**
KMKR				*i*	S	**S**	**11 10 17.0**	**-2.0**
KMKR				pmax		pmax		
	comp=Z,95nm,0.2s							
KMKR	**Kumukh**	**1.37**	**140**	*e*P		**P**	**11 10 00.0**	**-1.8**
	comp=Z,95nm,0.2s							
KMKR				*i*	S	**S**	**11 10 17.0**	**-2.0**
LSNR	**Lesken**	**1.54**	**274**	*e*P		**P**	**11 10 04.5**	**+0.4**
LSNR				*e*S		**S**	**11 10 24.7**	**+1.6**
URKR	**Urkarakh**	**1.63**	**128**	*e*P		**P**	**11 10 04.0**	**-1.4**
URKR				*e*S		**S**	**11 10 24.5**	**-0.8**
TBLG	**Delisi**	**1.70**	**211**	P		**P**	**11 10 05.7**	**-0.7**
TBLG				S		**S**	**11 10 26.6**	**-0.5**
SAMG	**Sameba**	**1.70**	**209**	P		**P**	**11 10 06.2**	**-0.2**
SAMG				S		**S**	**11 10 26.7**	**-0.3**
MTA	**Mtatsminda**	**1.71**	**210**	P		**P**	**11 10 05.9**	**-0.7**
MTA				S		**S**	**11 10 26.9**	**-0.4**
DGRG	**David-gareji**	**1.79**	**193**	P		**P**	**11 10 06.5**	**-1.1**
DGRG				S		**S**	**11 10 29.3**	**+0.2**
ONI	**Oni**	**1.92**	**252**	P		**P**	**11 10 09.7**	**+0.3**
ONI				S		**S**	**11 10 35.2**	**+2.8**
KUBR	**Kubataba**	**1.93**	**289**	⇑*i*	P	**P**	**11 10 09.9**	**+0.4**
KUBR				*e*S		**S**	**11 10 33.5**	**+0.9**
KUBR	**Kubataba**	**1.93**	**289**	*i*	P	**P**	**11 10 09.9**	**+0.4**
KUBR				*e*S		**S**	**11 10 33.5**	**+0.9**
PYA	**Pyatigorsk**	**2.24**	**293**	*e*P		**P**	**11 10 14.1**	**0.0**
PYA				*e*S		**S**	**11 10 38.7**	**-1.9**
KSMR	**Kasumkent**	**2.28**	**133**	*e*P		**P**	**11 10 15.0**	**+0.4**
KSMR				*e*S		**S**	**11 10 44.0**	**+2.4**
SHAR	**Shatzhatmas**	**2.43**	**284**	⇑*i*	P	**P**	**11 10 15.9**	**-0.9**
SHAR				*i*	S	**S**	**11 10 43.2**	**-2.2**
KIV0	**Kislovodsk Arr**	**2.46**	**289**	⇑*i*	P	**P**	**11 10 16.6**	**-0.6**
KIV0				*i*	S	**S**	**11 10 44.5**	**-1.8**
KIV0	**Kislovodsk Arr**	**2.46**	**289**	*i*	P	**P**	**11 10 16.6**	**-0.6**
KIV0				*i*	S	**S**	**11 10 44.5**	**-1.8**
KIV	**Kislovodsk**	**2.47**	**289**	⇑*i*	P	**P**	**11 10 16.8**	**-0.5**
KIV				*i*	S	**S**	**11 10 44.2**	**-2.2**
AB31	**Akbulak array**	**11.44**	**53**	⇑Pn		**P**	**11 12 20.0**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=245,slow=12,SNR=4.3							
AB31				⇑Sn		**S**	**11 14 18.6**	**-11**
	comp=Z,0.7nm,0.5s,baz=243,slow=20,SNR=11							

ISC 25 11:12:15.0±1.3, 39.24N±0.07×40.61E±0.05, h10km, n7, σ1℅17/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EZM	**Erzurum**	**0.88**	**41**	PG		**Pg**	**11 12 33.4**	**+0.6**
EZM				SG		**Sg**	**11 12 44.1**	**-0.5**
ERZM	**Erzurum**	**0.89**	**41**	*i*	P	**Pb**	**11 12 32.6**	**+0.6**
ERZM				*i*	S	**Sb**	**11 12 43.1**	**-0.6**
PTK	**Pertek**	**1.01**	**250**	*e*PN		**Sg**	**11 12 49.2**	**+0.4**
KELT	**Kelkit**	**1.39**	**311**	*i*	P	**Pg**	**11 12 43.5**	**+0.7**
KELT				*i*	S	**Sg**	**11 13 02.4**	**+1.1**
GUMT	**Gumushane**	**1.50**	**325**	PG		**Pg**	**11 12 42.8**	**-2.2**
ARTV	**Artvin**	**2.19**	**27**	*i*	P	**Pn**	**11 12 51.8**	**-0.2**
ARTV				*i*	S	**Sn**	**11 13 22.3**	**+2.8**
GRSN	**GIRESUNGRSN**	**2.46**	**314**	*i*	P	**Pg**	**11 13 01.9**	**-2.4**
GRSN				*i*	S	**Sg**	**11 13 37.1**	**0.0**

*STR **25** 11:15:47.1±0.5, 42.70N×1.87W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **25** 11:15:48.2±0.8, 42.72N×1.81W, h5km, Md2.3/2, Ml2.1/2, Error ellipse: s-maj=12.2km s-min=9.4km az=40.0*
*NEIC **25** 11:15:49.2, 42.74N×1.76W, ML2.5(STR), ML2.1(LDG), MN1.8(MDD), After MDD.*

MDD 25 11:15:49.2±0.3, 42.74N×1.76W, mbLg1.4/10, 3C, Error ellipse: s-maj=2.2km s-min=2.1km az=7.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EARA	**Aranguren**	**0.14**	**77**	⇑Pg		Pg	11 15 51.2	-0.8
	SNR=18							
EARA				Lg			11 15 52.7	
	560nm,0.1s,SNR=7.9							
IUNC	**Unciti**	**0.20**	**86**	⇑Pg		Pg	11 15 53.0	-0.1
	SNR=18							
IUNC				Lg			11 15 55.5	
	49nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**0.26**	**37**	Pg		Pg	11 15 54.3	-0.1
	SNR=7.9							
IUSE				Lg			11 15 58.4	
	4.1nm,0.1s,SNR=7.9							
IPRE	**Itoiz**	**0.31**	**78**	⇑Pg		Pg	11 15 55.4	0.0
	9.5nm,0.3s,SNR=18							
IPRE				Lg			11 15 59.4	
	3.6nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**0.51**	**21**	Pg		Pg	11 15 59.2	-0.3
	5.3nm,0.4s,SNR=22							
EALK				Lg			11 16 05.0	
	8.8nm,0.2s,SNR=17							
SJPF	**Ste Jean**	**0.54**	**47**	*e*Pg		Pg	11 15 59.3	-0.8
SJPF				*e*Sg		Sg	11 16 06.8	-0.5
	9.7nm,0.3s							
ECRI	**Cripan**	**0.57**	**257**	Pg		Pg	11 16 00.7	+0.1
	SNR=7.9							
ECRI				Lg			11 16 05.6	
	1.0nm,0.1s,SNR=7.9							
OSSF	**Osses**	**0.63**	**35**	Pg		Pg	11 16 00.3	-1.5
OSSF				Sg		Sg	11 16 10.5	+0.2
OSSF	**Osses**	**0.63**	**35**	P		Pg	11 16 00.4	-1.4
OSSF				S		Sg	11 16 10.1	-0.2
LARF	**Larrau**	**0.64**	**62**	Pg		Pg	11 16 01.0	-1.1
LARF				Sg		Sg	11 16 10.9	+0.3
ETSF	**Etsaut**	**0.90**	**80**	*e*Pg		Pg	11 16 06.4	-0.8
ETSF				*e*Sg		Sg	11 16 17.0	-2.2
	3.6nm,0.3s							
ELAN	**Lanestosa**	**1.32**	**292**	Pg		Pg	11 16 14.7	-0.9
	2.4nm,0.5s,SNR=7.5							
ELAN				Lg			11 16 34.2	
	0.3nm,0.0s,SNR=7.9							
ELAN	**Lanestosa**	**1.32**	**292**	Pg		Pg	11 16 14.7	-0.9
ELAN				Lg			11 16 34.2	
ESAC	**San Caprasio**	**1.40**	**136**	Pg		Pg	11 16 15.6	-1.5
	SNR=7.9							
ESAC				Lg			11 16 34.4	
	3.5nm,0.2s,SNR=7.3							
EBIE	**Bielsa**	**1.41**	**92**	Pg		Pg	11 16 16.1	-1.2
	1.6nm,0.3s,SNR=9.2							
EBIE				Lg			11 16 34.8	
	0.1nm,0.1s,SNR=4.0							
EPF	**Esparros**	**1.57**	**79**	*e*Sn		Sn	11 16 35.5	-4.4
EPF				*e*Sg		Sg	11 16 38.2	-3.4
	4.3nm,0.3s							
EGRA	**Graus**	**1.63**	**109**	Pg		Pg	11 16 19.4	-2.4
	1.5nm,0.4s,SNR=4.0							
EGRA				Lg			11 16 42.1	
	SNR=7.9							
ERTA	**Horta de San J**	**2.37**	**138**	Pn		Pn	11 16 28.4	-1.6
	SNR=7.9							
ERTA				Pg		Pg	11 16 30.6	-6.0
	SNR=7.9							
ERTA				Lg			11 17 04.3	
	SNR=4.0							
EPOB	**Poblet**	**2.53**	**122**	Pn		Pn	11 16 30.2	-2.0
	SNR=7.9							
EPOB				Lg			11 17 09.5	
	SNR=4.0							
EMOS	**Mosqueruela**	**2.56**	**157**	Lg			11 17 10.1	
	SNR=7.9							
ECAL	**Calabor**	**3.77**	**259**	Pn		Pn	11 16 47.8	-2.1
	SNR=4.0							
ECAL				Lg			11 17 49.6	
	SNR=4.0							

*KISR **25** 11:27:32.9±1.1, 31.50N×50.05E, h33km, ML2.8*
*THR **25** 11:27:34.3±0.9, 31.64N×49.95E, h15km, ML3.0*
*CSEM **25** 11:27:34.2±0.1, 31.55N×49.93E, h20km, ML3.0, Error ellipse: s-maj=3.3km s-min=1.4km az=131.0*
*TEH **25** 11:27:37.5, 31.64N×50.12E, h5km, Mn3.1*

ISC 25 11:27:33.7±1.2, 31.59N±0.05×49.88E±0.07, h11km±8km, n23, σ0℅97/30, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.05**	**300**	*e*Pg		**Pg**	**11 27 54.6**	**-0.1**
IPIR	**Pirpir**	**1.39**	**38**	Pg		**Pg**	**11 27 59.1**	**-2.3**
IGAR	**Garneh**	**2.08**	**71**	Pn		**Pn**	**11 28 09.1**	**+0.2**
IKLH	**Kalahroud**	**2.24**	**39**	Pn		**Pn**	**11 28 12.3**	**+1.0**
IZEF	**Zefreh**	**2.45**	**57**	Pn		**Pn**	**11 28 15.1**	**+0.9**
NASN	**Na'in**	**2.76**	**63**	*e*Pn		**Pn**	**11 28 19.1**	**+0.5**
NASN				Sn		**Sn**	**11 28 52.2**	**-0.1**
NASN	**Na'in**	**2.76**	**63**	*e*Pn		**Pn**	**11 28 19.1**	**+0.5**
	SNR=52							
NASN				Sn		**Sn**	**11 28 52.2**	**0.0**
	SNR=52							
UMR	**Umm Al-Rimmam**	**2.76**	**223**	*e*P		**Pn**	**11 28 18.4**	**-0.3**
UMR				AML		AML	11 28 51.6	
	comp=Z,26nm,0.4s							
MIB	**Mutribah**	**2.82**	**231**	*e*P		**Pn**	**11 28 19.6**	**0.0**
MIB	**Mutribah**	**2.82**	**231**	*e*P		**Pn**	**11 28 19.5**	**0.0**
ASAO	**Ashtian**	**2.95**	**2**	*e*Pn		**Pn**	**11 28 22.9**	**+1.6**
ASAO				*e*Sg		**Sg**	**11 29 05.1**	**-6.8**
ASAO				AML		AML	11 29 17.2	
	comp=N,48nm,0.9s							
KBD	**Kabd**	**3.06**	**219**	*e*P		**Pn**	**11 28 22.8**	**-0.2**
KBD				*e*S		**Sn**	**11 29 00.8**	**+0.9**
NAY	**Al-Naaiem**	**3.26**	**225**	*e*P		**Pn**	**11 28 25.7**	**0.0**
NAY				*e*S		**Sn**	**11 29 05.1**	**+0.1**
QRN	**Al-Qurain**	**3.31**	**211**	*e*P		**Pn**	**11 28 25.4**	**-1.0**
RDF	**Al-Radifah**	**3.33**	**218**	*e*P		**Pn**	**11 28 26.6**	**-0.2**
RDF				*e*S		**Sn**	**11 29 05.8**	**-1.1**
RDF				AML		AML	11 29 07.9	
	comp=Z,25nm,0.3s							
ISFB	**Sefidab**	**3.39**	**35**	Pn		**Pn**	**11 28 28.4**	**+0.8**
ISFB				Sn		**Sn**	**11 29 06.1**	**-2.2**
IVRN	**Varamin**	**3.73**	**24**	Pn		**Pn**	**11 28 33.3**	**+0.9**
IVRN				Sn		**Sn**	**11 29 14.7**	**-2.1**
IRAZ	**Razeghan**	**3.80**	**1**	Pn		**Pg**	**11 28 45.6**	**-4.0**
SNGE	**Sanandaj**	**4.08**	**329**	*e*Pn		**Pn**	**11 28 37.7**	**+0.3**
SNGE				AML		AML	11 29 42.6	
	comp=N,20nm,0.5s							
IDMV	**Damavand**	**4.36**	**24**	Pn		**Pn**	**11 28 42.1**	**+0.7**
IDMV	**Damavand**	**4.36**	**24**	Lg			11 29 49.6	
CHTH	**Charan**	**4.43**	**13**	*e*Pn		**Pn**	**11 28 42.6**	**+0.3**
IFIR	**Firoozkooh**	**4.70**	**30**	Pn		**Pn**	**11 28 46.8**	**+0.6**

*IDC **25** 11:34:40.6±3.0, 24.43S×179.74E, h450km±37km, mb3.1/4, mb1 3.4/7, mb1mx3.3/15, mbtmp4.1/7, Error ellipse: s-maj=35.8km s-min=19.8km az=154.0*
*NEIC **25** 11:34:40.4±1.2, 24.45S×179.77E, h450km±17km, mb3.9/2, Error ellipse: s-maj=17.7km s-min=12.7km az=143.0*

ISC 25 11:34:38.4±2.3, 24.49S±0.09×179.8E±0.1, h434km±30km, n15, σ0℅87/15, mb3.5/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.49**	**278**	P		**P**	**11 37 23.7**	**-1.3**
	0.0nm,0.3s,baz=107,slow=19,SNR=1.8							
AFI	**Afiamalu**	**13.20**	**39**	P		**P**	**11 37 32.8**	**+0.2**
	2.7nm,0.3s,baz=38,slow=3.8,SNR=4.9							
AFI	**Afiamalu**	**13.20**	**39**	*e*P		**P**	**11 37 32.5**	**-0.2**
URZ	**Urewera**	**13.91**	**189**	P		**P**	**11 37 40.7**	**+0.6**
	2.1nm,0.3s,baz=331,slow=3.4,SNR=9.8							
URZ				S		**S**	**11 40 05.2**	**-0.9**
	0.8nm,0.3s,baz=248,slow=21,SNR=8.4							
SNZO	**South Karori**	**17.30**	**193**	P		**P**	**11 38 15.3**	**+0.6**
CTA	**Charters Tower**	**31.28**	**271**	*e*P		**P**	**11 40 23.6**	**+1.1**
	2.5nm,0.3s,mb4.0							
CTAO	**Charters Tower**	**31.28**	**271**	*e*P		**P**	**11 40 23.9**	**+1.5**
	2.8nm,0.4s,mb4.0							
STKA	**Stephens Creek**	**34.32**	**249**	P		**P**	**11 40 48.5**	**+0.5**
	1.9nm,0.8s,mb3.5,baz=72,slow=15,SNR=7.6							
STKA	**Stephens Creek**	**34.32**	**249**	*e*P		**P**	**11 40 48.5**	**+0.4**
ASPA	**Alice Springs**	**41.74**	**261**	*e*P		**P**	**11 41 50.8**	**+1.5**
WRAB	**Tennant Creek**	**42.16**	**267**	*e*P		**P**	**11 41 52.0**	**-0.7**
	1.5nm,0.4s,mb3.7							
WRA	**Warramunga Arr**	**42.17**	**267**	P		**P**	**11 41 51.7**	**-1.0**
	1.0nm,0.5s,mb3.4,baz=101,slow=8.0,SNR=15							
NVAR	**Mina Array Bea**	**85.32**	**44**	P		**P**	**11 46 28.6**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=225,slow=8.9,SNR=3.7							
TXAR	**Lajitas Array**	**90.92**	**58**	P		**P**	**11 46 55.9**	**+0.1**
	0.6nm,0.8s,mb3.5,baz=210,slow=7.2,SNR=7.7							
ARCES	**ARCESS Array B**	**132.42**	**348**	PKP		PKPdf	11 53 00.8	-0.7
	3.0nm,1.0s,baz=45,slow=1.7,SNR=5.1							

*IDC **25** 11:47:35.0±1.8, 24.22S×67.02W, h167km±18km, mb3.1/2, mb1 3.5/4, mb1mx3.2/14, mbtmp3.7/4, Error ellipse: s-maj=29.4km s-min=15.1km az=90.0*
*NEIC **25** 11:47:36.5±1.2, 24.15S×67.01W, h180km±15km, Error ellipse: s-maj=24.1km s-min=12.2km az=85.0*

ISC 25 11:47:35.0±1.1, 24.22S±0.05×67.1W±0.2, h179km±16km, n9, σ1℅26/10, mb3.3/2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.43**	**188**	P		**P**	**11 49 22.4**	**+0.7**
	baz=12,slow=13							
CFAA				S		**S**	**11 50 42.8**	**-2.0**
	0.2nm,0.3s,baz=276,slow=14,SNR=12							
LPAZ	**La Paz**	**7.95**	**353**	P		**P**	**11 49 29.9**	**+1.5**
	1.0nm,0.3s,baz=161,slow=8.1,SNR=28							
LPAZ				S		**S**	**11 50 56.2**	**-0.8**
	0.1nm,0.3s,baz=319,slow=20,SNR=2.5							
LPAZ	**La Paz**	**7.95**	**353**	*e*P		**P**	**11 49 29.2**	**+0.7**
LPAZ				S		**S**	**11 50 56.2**	**-0.8**
TRQA	**Tornquist**	**14.47**	**164**	*e*P		**P**	**11 50 54.8**	**+2.2**
BDFB	**Brasília**	**19.85**	**68**	P		**P**	**11 51 52.8**	**-1.3**
	0.4nm,0.3s,baz=245,slow=8.5,SNR=7.5							
TXAR	**Lajitas Array**	**63.80**	**325**	P		**P**	**11 57 50.0**	**-0.4**
	0.2nm,0.7s,mb3.0,baz=162,slow=8.6,SNR=3.3							
YKA	**Yellowknife Ar**	**94.29**	**340**	P		**P**	**12 00 35.1**	**+0.6**
	0.2nm,0.5s,mb3.5,baz=132,slow=4.6,SNR=15							
MKAR	**Makanchi Array**	**146.75**	**40**	PKPbc		PKPbc	12 06 56.0	+0.8
	0.9nm,0.6s,baz=308,slow=3.2,SNR=11							
MKAR	**Makanchi Array**	**146.75**	**40**	PKPbc		PKPbc	12 06 56.0	+0.8

IDC 25 11:53:14.8±1.3, 2.74N×127.37E, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, MS3.8/1, Ms1 3.8/1, ms1mx3.0/24, Error ellipse: s-maj=125.1km s-min=20.9km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.55**	**163**	P		P	11 58 26.6	-1.3
	4.3nm,0.7s,baz=344,slow=11,SNR=34							
WB2	**Warramunga Arr**	**23.56**	**163**	*e*P		P	11 58 26.5	-1.5
ASPA	**Alice Springs**	**27.00**	**167**	*e*P		P	11 58 58.3	-2.3
STKA	**Stephens Creek**	**36.98**	**160**	P		P	12 00 26.3	-1.6
	5.5nm,0.9s,baz=342,slow=6.4,SNR=9.4							
DZM	**Mont Dzumac**	**45.45**	**125**	LR		LR	12 18 43.1	
	comp=Z,116nm,19.0s,baz=26,slow=34							
SONM	**Songino Array**	**48.44**	**341**	P		P	12 01 59.9	-1.0
	0.6nm,0.7s,baz=148,slow=8.1,SNR=5.1							
MKAR	**Makanchi Array**	**58.73**	**325**	P		P	12 03 13.8	-3.0
	0.3nm,0.5s,baz=117,slow=8.1,SNR=5.9							

*IDC **25** 12:19:36.0±4.9, 29.74N×83.59E, mb3.3/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=99.0km s-min=93.9km az=157.0*
*NEIC **25** 12:19:37.3±3.1, 29.74N×83.48E, h10km, mb3.6/1, Error ellipse: s-maj=56.9km s-min=15.8km az=216.0*

ISC 25 12:19:36.2±4.1, 29.8N±0.4×83.5E±0.4, h10km, n5, σ0℅75/5, mb3.3/3, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**6.62**	**89**	P		**Pn**	**12 21 15.8**	**-0.3**
	14nm,0.8s							
MKAR	**Makanchi Array**	**17.01**	**357**	P		**P**	**12 23 36.0**	**+0.3**
	0.1nm,0.3s,baz=186,slow=11,SNR=6.2							
KURK	**Kurchatov**	**21.23**	**351**	*e*P		**P**	**12 24 23.5**	**-0.9**
	2.1nm,0.8s,mb3.5							
SONM	**Songino Array**	**25.19**	**38**	P		**P**	**12 25 03.6**	**+0.4**
	0.3nm,0.6s,mb3.0,baz=219,slow=11,SNR=4.5							
YKA	**Yellowknife Ar**	**86.89**	**8**	P		**P**	**12 32 22.4**	**+0.5**
	0.2nm,0.7s,mb3.4,baz=337,slow=5.1,SNR=7.2							

*ATH **25** 12:23:13.7, 38.05N×26.57E, h32km±2km, MD3.0/3*
*ISK **25** 12:23:13.7, 38.15N×26.64E, h21km, MD3.0*
*NEIC **25** 12:23:13.7, 38.15N×26.64E, h21km, MD3.0(ISK), MD3.0(ATH), After ISK.*
*CSEM **25** 12:23:14.6±0.1, 38.12N×26.74E, h20km, MD3.0, Error ellipse: s-maj=3.5km s-min=2.0km az=97.0*

ISC 25 12:23:12.6±1.1, 38.10N±0.03×26.56E±0.05, h1km±8km, n16, σ0℅64/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URLA	**Izmir**	**0.26**	**5**	*i*	P	**Pg**	**12 23 17.8**	**0.0**
URLA				*i*	S	**Sg**	**12 23 22.0**	**+0.6**
SMG	**Samos**	**0.44**	**151**	*e*PB		**Pb**	**12 23 23.0**	**+0.1**
SMG				*e*SB		**Sb**	**12 23 29.8**	**+0.1**
SMG	**Samos**	**0.44**	**151**	*e*Pb		**Pb**	**12 23 23.0**	**+0.1**
SMG				*e*Sb		**Sb**	**12 23 30.3**	**+0.6**
BLCB	**Balcova**	**0.47**	**52**	PG		**Pg**	**12 23 22.4**	**+0.3

SNR=7.4
SDNR Sundarnagar 6.90 134 *ex* x 13 00 34.2
SDNR *eS* **S** **13 00 55.6 -5.0**
ULHL Ulahol 7.03 33 P **P** **12 59 45.0 +0.1**
SNR=7.4
CHMS Chumysh 7.13 22 P **P** **12 59 46.4 +0.1**
SNR=15
USP Ospenovka 7.30 20 P **P** **12 59 48.7 0.0**
SNR=10
TKM2 Tokmak 2 7.34 27 P **P** **12 59 49.2 +0.1**
SNR=24
TKM2 Tokmak 2 7.34 27 ⇑P **P** **12 59 49.1 -0.1**
comp=Z,12nm,0.5s
TKM2 ⇓S **S** **13 01 08.5 -2.9**
comp=Z,15nm,0.7s
TKM2 Tokmak 2 7.34 27 P **P** **12 59 48.9 -0.2**
TKM2 S **S** **13 01 07.6 -3.8**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 smax
comp=Z,15nm,0.8s
KLP Kalpa 7.66 128 *eP* **P** **12 59 55.4 +2.0**
KLP *eS* **S** **13 01 14.0 -5.2**
KLP AML AML 13 01 19.7
comp=E,183nm,0.5s
KLP AML AML 13 01 24.1
comp=N,159nm,0.6s
DDI Dehra Dun 8.39 135 *ex* x 13 03 16.0
KHET Khetri 9.21 153 *eP* **P** **13 00 14.7 +0.2**
KHET *eS* **S** **13 01 49.9 -7.2**
KHET *eS* **S** **13 01 51.0 -6.1**
KHET AML AML 13 01 54.7
comp=E,23nm,0.4s
KHET AML AML 13 01 54.7
comp=N,17nm,0.3s
NDI New Delhi 9.26 145 *eS* **S** **13 01 50.0 -8.3**
KUDL Kundal 9.41 150 *eP* **P** **13 00 18.2 +1.0**
KUDL *eS* **S** **13 01 52.7 -9.2**
MK31 Makanchi Array 13.29 35 ⇑P **P** **13 01 07.7 -0.8**
comp=N,0.6nm,0.3s,baz=210,slow=9.6,SNR=45
MKAR Makanchi Array 13.29 35 Pn **P** **13 01 06.7 -1.8**
comp=N,0.1nm,0.3s,baz=222,slow=15,SNR=13
KOLN Koldanda 13.63 126 *eP* **P** **13 01 13.0 0.0**
comp=N,4.5nm,0.4s
GKN Gorkha 14.17 123 *eP* **P** **13 01 20.1 +0.1**
comp=N,17nm,0.5s
KKN Kakani 14.74 122 *eP* **P** **13 01 26.5 -0.9**
comp=N,8.3nm,0.4s
KKN Kakani 14.74 122 *eP* **P** **13 01 26.5 -0.9**
KKN pmax pmax
comp=Z,4.0nm,0.4s
PKI Pulchoki 14.97 122 *eP* **P** **13 01 28.0 -2.3**
comp=Z,5.0nm,0.4s
PKI Pulchoki 14.97 122 *eP* **P** **13 01 28.0 -2.3**
PKI pmax pmax
comp=Z,3.0nm,0.4s
GUN Gumba 15.08 120 *eP* **P** **13 01 32.1 +0.4**
comp=Z,8.3nm,0.6s
AB31 Akbulak array 15.20 331 ⇑P **P** **13 01 31.7 -1.5**
comp=Z,1.2nm,0.5s,baz=136,slow=11,SNR=50
AB31 ⇑S **S** **13 04 07.3 -12**
comp=Z,2.9nm,0.6s,baz=153,slow=21,SNR=8.7
AB31 Akbulak array 15.20 331 *eP* **P** **13 01 31.6 -1.5**
KURK Kurchatov 15.27 18 *eP* **P** **13 01 35.9 +2.0**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 15.27 18 *eP* **P** **13 01 35.9 +2.0**
comp=Z,6.7nm,0.8s
JIRN Jiri 15.45 120 *eP* **P** **13 01 36.0 -0.4**
comp=Z,7.7nm,0.4s
VOSK Vostochnaya 16.30 360 ⇓P **P** **13 01 44.5 -2.3**
comp=Z,5.5nm,1.7s
VOSK Vostochnaya 16.30 360 P **P** **13 01 44.0 -2.8**
VOSK pmax pmax
comp=Z,2.0nm,0.8s
BVA0 Borovoye Array 16.61 358 ⇑P **P** **13 01 49.1 -1.5**
comp=Z,0.4nm,0.7s,baz=151,slow=11,SNR=20
BVA0 Borovoye Array 16.61 358 P **P** **13 01 48.7 -1.9**
BVAR Borovoye Array 16.61 358 P **P** **13 01 49.6 -1.0**
comp=Z,0.6nm,0.3s,baz=165,slow=10,SNR=16
BRVK Borovoye 16.64 358 *eP* **P** **13 01 50.7 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 16.64 358 *eP* **P** **13 01 50.7 -0.4**
comp=Z,2.8nm,0.7s
AKTK Aktyubinsk 16.90 330 P **P** **13 01 54.6 +0.3**
AKTO Aktyubinsk 16.90 330 ⇑S **S** **13 04 52.7 -4.8**
comp=Z,0.9nm,0.8s
AKTO Aktyubinsk 16.90 330 P **P** **13 01 54.6 +0.3**
comp=Z,0.3nm,0.3s,baz=136,slow=12,SNR=8.9
GTA Gaotai 22.78 74 P **P** **13 02 59.5 +2.2**
SONM Songino Array 28.29 55 P **P** **13 03 48.0 -0.7**
comp=Z,0.2nm,0.5s,mb2.9,baz=270,slow=8.6,SNR=3.2
AKASG Malin Array Be 33.08 309 P **P** **13 04 31.9 +1.0**
comp=Z,1.1nm,0.6s,mb3.9,baz=81,slow=7.4,SNR=6.2
FINES FINESS Array B 37.61 326 P **P** **13 05 07.9 -1.2**
comp=Z,3.2nm,1.0s,mb4.1,baz=135,slow=5.4,SNR=4.0
ARCES ARCESS Array B 41.26 338 P **P** **13 05 40.6 +1.4**
comp=Z,1.2nm,0.5s,mb4.0,baz=115,slow=9.3,SNR=19
NB2 NORSAR Subarra 44.51 323 P **P** **13 06 06.2 +0.6**
comp=Z,1.0nm,0.5s,mb3.8,baz=100,slow=7.4
NB2 NORSAR Subarra 44.51 323 P **P** **13 06 06.2 +0.6**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
NOA NORSAR Array B 44.51 323 P **P** **13 06 06.5 +0.8**
comp=Z,1.1nm,0.6s,mb3.8,baz=96,slow=7.7,SNR=5.1
INK Inuvik 73.96 9 *eP* **P** **13 09 28.8 +0.5**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 73.96 9 *eP* **P** **13 09 28.8 +0.4**
comp=Z,0.5nm,0.5s,mb3.5
YKA Yellowknife Ar 81.32 3 P **P** **13 10 09.5 +0.5**
comp=Z,0.6nm,0.6s,mb3.6,baz=351,slow=5.3,SNR=21
YKA Yellowknife Ar 81.32 3 P **P** **13 10 09.6 +0.6**

*CSEM **25** 13:01:55.0±0.1,33.77N×4.23W,h10km,MD3.2,Error ellipse: s-maj=4.0km s-min=1.9km az=111.0*
*MDD **25** 13:01:56.3±1.0,33.72N×4.09W,h3km±6km,mb3.4/1, Error ellipse: s-maj=10.4km s-min=3.9km az=109.0, PRXIMO*
*CNRM **25** 13:01:56.5,33.71N×4.07W,h1km,MD3.2*
ISC 25 13:01:55.8±0.6,33.77N±0.03×4.24W±0.06,h10km,n16, σ1§15/31,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TZK	**Tazeka**	**0.32**	**8**	P	**Pg**	**13 02 03.0**	**+0.5**
TZK				S	**Sg**	**13 02 09.0**	**+0.2**
TZK	**Tazeka**	**0.32**	**8**	*i* P	**Pg**	**13 02 03.0**	**+0.5**
CZD	**Col de Zad**	**1.00**	**223**	*i* P	**Pb**	**13 02 15.0**	**+0.3**
CZD				*i* S	**Sb**	**13 02 31.0**	**+3.3**
TOU	**Touzarine**	**1.26**	**18**	*e*P	**Pb**	**13 02 20.0**	**+0.8**
TOU				*i* S	**Sb**	**13 02 36.0**	**+0.8**
MPAL	**Palemas**	**1.47**	**9**	*e*P	**Pn**	**13 02 22.0**	**-0.6**
MPAL				*e*S	**Sb**	**13 02 42.0**	**+0.5**
ZAI	**Zaio**	**1.72**	**45**	*i* P	**Pn**	**13 02 25.0**	**-1.1**
ZAI				*i* S	**Sn**	**13 02 48.0**	**-0.3**
ZFT	**Errachidia**	**1.73**	**183**	*i* P	**Pn**	**13 02 26.0**	**-0.3**
ZFT				*i* S	**Sn**	**13 02 46.0**	**-2.6**
KIB	**El Ksiba**	**1.92**	**232**	P	**Pn**	**13 02 31.0**	**+2.0**
KIB				S	**Sn**	**13 02 55.0**	**+1.6**
TZC	**Tazercounte**	**2.49**	**230**	*i* P	**Pn**	**13 02 37.0**	**-0.1**
TZC				*i* S	**Sn**	**13 03 07.0**	**-0.8**
EMIJ	**Mijas**	**2.83**	**351**	P	**Pn**	**13 02 42.6**	**+0.7**
SNR=7.9							
EMIJ				S	**Sn**	**13 03 15.3**	**-1.0**
0.1nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**4.40**	**348**	P	**Pn**	**13 03 05.0**	**+0.7**
SNR=7.9							
ECAB				S	**Sn**	**13 03 55.9**	**-0.4**
SNR=7.9							
ECAB	**El Cabril**	**4.40**	**348**	P	**Pn**	**13 03 05.0**	**+0.7**
SNR=7.9							
ECAB				S	**Sn**	**13 03 55.9**	**-0.4**
SNR=7.9							
EMIN	**Mina Concepcio**	**4.46**	**334**	P	**Pn**	**13 03 04.5**	**-0.6**
1.6nm,0.6s,SNR=7.2							
EMIN				S	**Sn**	**13 03 55.7**	**-1.9**
SNR=7.9							
EMIN	**Mina Concepcio**	**4.46**	**334**	P	**Pn**	**13 03 04.5**	**-0.6**
1.6nm,0.6s,SNR=7.2							
EMIN				S	**Sn**	**13 03 55.7**	**-1.9**
SNR=7.9							
EGRO	**El Granado**	**4.59**	**326**	P	**Pn**	**13 03 06.3**	**-0.7**
SNR=7.9							
EGRO				S	**Sn**	**13 03 57.6**	**-3.6**
0.9nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.59**	**326**	P	**Pn**	**13 03 06.3**	**-0.7**
SNR=7.9							
EGRO				S	**Sn**	**13 03 57.6**	**-3.5**
0.9nm,0.2s,SNR=7.9							

*BJI **25** 13:05:15.0,9.30S×156.80E,h35km,mB5.1,mb4.5*
*NEIC **25** 13:05:15.1±0.5,9.30S×156.77E,h35km,mb4.6/3,Error ellipse: s-maj=17.2km s-min=10.1km az=162.0*
*IDC **25** 13:05:17.3±3.5,9.07S×156.74E,h48km±36km,mb3.9/6, mb1 4.1/7,mb1mx3.9/13,mbtmp4.1/7,ML3.8/1,MS4.0/10, Ms1 4.0/10,ms1mx3.8/20,Error ellipse: s-maj=33.8km s-min=19.9km az=147.0*
ISC 25 13:05:10.8±5.4,9.0S±0.1×156.67E±0.06,h9km±34km,n26, σ0§74/16,mb4.2/9,MS4.0/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.26**	**97**	P	**Pn**	**13 06 04.0**	**+0.7**
11nm,0.3s,baz=174,slow=6.2,SNR=11							
HNR				S	**Sn**	**13 06 42.3**	**-0.3**
12nm,0.3s,baz=278,slow=16,SNR=4.5							
HNR				LR	LR	13 07 15.9	
comp=Z,2μm,20.3s,baz=111,slow=37							
HNR	**Honiara**	**3.26**	**97**	*e*P	**Pn**	**13 06 02.4**	**-0.8**
HNR				S	**Sn**	**13 06 42.3**	**-0.3**
HNR				LR	LR	13 07 15.9	
PMG	**Port Moresby**	**9.40**	**267**	LR	LR	13 10 55.4	
comp=Z,2μm,20.2s,baz=112,slow=36							
CTA	**Charters Tower**	**14.91**	**221**	LR	LR	13 13 38.4	
comp=Z,217nm,21.9s,baz=45,slow=34							
WRAB	**Tennant Creek**	**24.14**	**241**	*e*P	**P**	**13 10 27.9**	**-0.5**
22nm,0.9s,mb4.6							
WB2	**Warramunga Arr**	**24.15**	**241**	*e*P	**P**	**13 10 27.5**	**-0.9**
WRA	**Warramunga Arr**	**24.16**	**241**	P	**P**	**13 10 28.2**	**-0.3**
10nm,0.9s,mb4.3,baz=65,slow=9.4,SNR=14							
GUMO	**Guam**	**25.34**	**332**	LR	LR	13 18 39.0	
comp=Z,114nm,20.9s,MS3.4,baz=132,slow=32							
STKA	**Stephens Creek**	**26.70**	**210**	P	**P**	**13 10 53.8**	**+1.4**
4.8nm,0.9s,mb4.0,baz=34,slow=14,SNR=6.6							
STKA				LR	LR	13 21 25.8	
comp=Z,347nm,18.0s,MS4.0,baz=130,slow=36							
STKA	**Stephens Creek**	**26.70**	**210**	*e*P	**P**	**13 10 54.1**	**+1.7**
STKA				LR	LR	13 21 25.8	
AFI	**Afiamalu**	**31.28**	**102**	LR	LR	13 21 24.3	
comp=Z,422nm,18.6s,MS4.1,baz=264,slow=31							
PPT	**Papeete**	**52.85**	**105**	*e*LR	LR	13 29 51.1	
206nm,23.8s							
PPT	**Papeete**	**52.85**	**105**	LR	LR	13 32 24.0	
comp=Z,193nm,18.4s,MS4.2,baz=245,slow=31							
TAOE	**Nuku Hiva Isla**	**62.34**	**95**	*e*LR	LR	13 34 14.9	
532nm,26.0s							
HHC	**Hu-ho-hao-te**	**64.70**	**324**	*e*P	**P**	**13 15 56.0**	**+4.3**
HHC				AP	pP	13 16 01.0	+6.6
HHC				XP	sP	13 16 04.5	+9.1
HHC				AMB	AMB		
comp=Z,70nm,4.2s							
RKT	**Rikitea**	**66.66**	**111**	*e*LR	LR	13 36 15.1	
comp=Z,188nm,29.8s							
VNDA	**Vanda**	**68.52**	**179**	LR	LR	13 40 54.2	
comp=Z,130nm,18.4s,MS4.2,baz=338,slow=31							
ULN	**Ulaanbaatar**	**71.60**	**327**	*e*P	**P**	**13 16 34.8**	**+0.3**
comp=Z,7.1nm,1.1s,mb4.5							
SONM	**Songino Array**	**71.93**	**327**	P	**P**	**13 16 37.0**	**+0.4**
comp=Z,4.1nm,1.0s,mb4.3,baz=94,slow=2.9,SNR=11							
MAW	**Mawson**	**83.17**	**203**	LR	LR	13 47 26.1	
comp=Z,90nm,21.4s,MS4.1,baz=244,slow=30							
MCK	**McKinley**	**83.32**	**21**	*e*P	**P**	**13 17 39.8**	**+0.5**
comp=Z,5.8nm,1.2s,mb4.5							
ILAR	**Eielson Array**	**84.65**	**21**	P	**P**	**13 17 44.8**	**-1.1**
comp=Z,1.1nm,1.0s,mb4.0,baz=251,slow=5.8,SNR=6.0							
ILAR				LR	LR	13 54 28.6	
comp=Z,100nm,19.5s,MS4.2,baz=193,slow=35							
MKAR	**Makanchi Array**	**86.02**	**318**	P	**P**	**13 17 52.8**	**-0.4**
comp=Z,1.4nm,0.8s,mb4.2,baz=104,slow=5.0,SNR=13							
YKA	**Yellowknife Ar**	**97.34**	**28**	P	**P**	**13 18 46.1**	**+0.6**
comp=Z,0.1nm,0.7s,mb3.3,baz=265,slow=4.5,SNR=3.7							
ESDC	**Sonseca Array**	**144.92**	**334**	PKP	PKPdf	13 24 49.2	-2.5
comp=Z,0.5nm,0.8s,baz=346,slow=11,SNR=3.5							
BDFB	**Brasilia**	**145.38**	**135**	PKPbc	PKPbc	13 24 48.8	-2.0
comp=Z,5.6nm,0.8s,baz=232,slow=3.1,SNR=7.5							

MAN 25 13:09:36.4,7.18N×126.13E,h31km,mb4.3,ML3.2,MS2.9, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.26**	**152**	*e*P	Pb	13 09 44.6	+1.2
MATI				*e*S	Sb	13 09 51.3	+3.0
KCP	**Kidapawan**	**1.05**	**261**	⇓*i*P	Pn	13 09 55.4	+0.3
KCP				*i* S	Sn	13 10 08.8	0.0
BUKP	**Musuan**	**1.27**	**303**	*e*P	Pn	13 09 57.2	-1.1
BUKP				*e*S	Sn	13 10 13.6	-0.8
BUTP	**Butuan**	**1.85**	**344**	*e*P	Pn	13 10 07.9	+1.4
BUTP				*e*S	Sn	13 10 34.2	+5.1

*IDC **25** 13:11:08.0±1.7,22.08S×67.17W,h164km±16km,mb3.5/5, mb1 3.8/8,mb1mx3.6/16,mbtmp4.0/8,Error ellipse: s-maj=33.4km s-min=12.9km az=82.0*
*NEIC **25** 13:11:08.3±1.0,22.09S×67.11W,h168km±11km,mb3.9/6, Error ellipse: s-maj=17.2km s-min=8.2km az=83.0*
*GUC **25** 13:11:10.0±0.7,22.53S×67.34W,h200km,ML4.2*
ISC 25 13:11:07.1±0.7,22.16S±0.05×67.22W±0.08,h173km±7km, n24,σ1§13/26,mb3.7/10,1C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.18**	**230**	⇓*i*P	**P**	**13 11 40.5**	**+4.7**
SPCH				AMP		13 12 19.3	
comp=E,361nm,0.7s							
ANCH	**Antofagasta**	**3.31**	**242**	⇓*i*P	**P**	**13 12 00.2**	**+0.2**
ANCH				*i* S	**S**	**13 12 40.1**	**-0.6**
ANCH				AMP		13 12 42.3	
comp=N,1μm,0.1s							
CPN1	**Cerro Paranal**	**3.82**	**229**	⇑*i*P	**P**	**13 12 08.2**	**+1.8**
CPN1				*i* S	**S**	**13 12 52.4**	**+0.2**
CPN1				AMP		13 12 53.0	
comp=E,346nm,0.3s							
CRCH	**Chaqaral**	**5.20**	**216**	*i* S	**S**	**13 13 22.3**	**-1.8**
LPAZ	**La Paz**	**5.90**	**351**	P	**P**	**13 12 35.2**	**+1.7**
comp=E,3.1nm,0.3s,baz=162,slow=7.5,SNR=90							
LPAZ				S	**S**	**13 13 40.5**	**-0.1**
comp=E,0.7nm,0.3s,baz=72,slow=23,SNR=6.1							
SIV	**San Ignacio**	**8.45**	**45**	P	**P**	**13 13 05.0**	**-2.2**
comp=E,9.4nm,0.3s,baz=226,slow=11,SNR=179							
CFAA	**Coronel Fontan**	**9.45**	**185**	P	**P**	**13 13 20.9**	**+0.5**
comp=E,0.1nm,0.3s,baz=359,slow=13,SNR=19							
CFAA				S	**S**	**13 15 00.8**	**-3.9**
comp=E,0.2nm,0.3s,baz=149,slow=17,SNR=8.0							
CPUP	**Villa Florida**	**9.93**	**117**	P	**P**	**13 13 27.2**	**+0.5**
TRQA	**Tornquist**	**16.48**	**165**	*e*P	**P**	**13 14 49.4**	**-0.3**
comp=E,6.8nm,0.5s							
PLCA	**Paso Flores**	**18.73**	**188**	P	**P**	**13 15 15.3**	**+0.4**
comp=E,0.2nm,0.3s,baz=1.3,slow=12,SNR=10							
PLCA	**Paso Flores**	**18.73**	**188**	P	**P**	**13 15 15.3**	**+0.4**
SDV	**Santo Domingo**	**31.03**	**353**	*e*P	**P**	**13 17 08.8**	**-2.1**
comp=E,2.4nm,0.4s,mb4.3							
SNAA	**Sanae**	**61.15**	**161**	P	**P**	**13 21 05.5**	**+0.5**
comp=E,0.7nm,0.9s,mb3.5,baz=309,slow=5.3,SNR=6.3							
TXAR	**Lajitas Array**	**62.07**	**324**	P	**P**	**13 21 11.2**	**-0.5**
comp=E,0.2nm,0.5s,mb3.2,baz=153,slow=6.9,SNR=8.9							
MNTX	**Cornudas Mount**	**64.83**	**324**	P	**P**	**13 21 27.8**	**-2.0**
comp=E,0.4nm,0.6s,mb3.4							
ANMO	**Albuquerque**	**67.92**	**326**	*e*P	**P**	**13 21 49.8**	**+0.6**
comp=E,1.2nm,0.7s,mb3.7							
BW06	**Boulder Array**	**75.47**	**329**	*e*P	**P**	**13 22 34.2**	**+0.5**
comp=E,0.6nm,0.6s,mb3.4							
PDAR	**Pinedale Array**	**75.47**	**329**	P	**P**	**13 22 34.4**	**+0.7**
comp=E,0.6nm,0.6s,mb3.4,baz=128,slow=9.2,SNR=7.3							
ULM	**Lac du Bonnet**	**76.42**	**342**	P	**P**	**13 22 38.1**	**-0.8**
comp=E,2.3nm,0.6s,mb4.0,baz=165,slow=7.5,SNR=12							
HLID	**Hailey**	**78.44**	**327**	*e*P	**P**	**13 22 52.0**	**+1.9**
comp=E,2.1nm,0.8s,mb3.8							
YKA	**Yellowknife Ar**	**92.33**	**340**	P	**P**	**13 23 58.7**	**+0.4**
comp=E,0.7nm,0.5s,mb3.9,baz=130,slow=4.6,SNR=44							
YKA	**Yellowknife Ar**	**92.33**	**340**	P	**P**	**13 23 58.7**	**+0.4**
MKAR	**Makanchi Array**	**145.22**	**38**	PKPbc	PKPbc	13 30 25.9	+1.6
comp=E,1.1nm,0.8s,baz=323,slow=4.6,SNR=17							
MKAR	**Makanchi Array**	**145.22**	**38**	PKPbc	PKPbc	13 30 25.9	+1.6

WEL 25 13:18:53.3±0.4,35.78S×178.94E,h33km,ML3.5/5,Error ellipse: s-maj=6.4km s-min=3.3km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.85**	**196**	P*	Pb	13 19 21.8	-4.7
MXZ				S*	Sb	13 19 45.3	-4.1
PUZ	**Puketiti**	**2.35**	**193**	PN	Pn	13 19 29.1	-1.5
PUZ				SN	Sn	13 19 55.9	-2.7
PUZ				SN	Sn	13 19 56.8	-1.8
MWZ	**Matawai**	**2.79**	**204**	P*	Pb	13 19 35.6	-6.8
MWZ				S*	Sb	13 20 08.5	-7.9
URZ	**Urewera**	**2.88**	**210**	P*	Pb	13 19 37.3	-6.5
URZ				S*	Sb	13 20 09.7	-9.2
KNZ	**Kokohu**	**3.39**	**197**	*e*PN	Pn	13 19 41.9	-3.4
BKZ	**Black Stump Fm**	**3.90**	**209**	*e*P*	Pb	13 19 49.9	-11

KRSC 25 13:23:54.1±0.5,53.31N×160.33E,h48km±4km,ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.28**	**221**	*i* P	P	13 24 03.6	+0.7
SPN				*i* S	S	13 24 10.0	+0.9
NLC	**Nalytchevo**	**0.61**	**257**	*i* P	P	13 24 06.9	+0.3
NLC				*i* S	S	13 24 16.2	+0.5
SDLR	**Sedlovina**	**0.87**	**268**	*i* P	P	13 24 10.6	+0.5
SDLR				*e*S	S	13 24 22.0	+0.6
KII	**Karymskiy**	**0.90**	**325**	*e*P	P	13 24 10.6	+0.1
KII				*e*S	S	13 24 22.2	-0.5
UGLR	**Uglovaya**	**0.91**	**264**	*i* P	P	13 24 11.4	+0.7
UGLR				*i* S	S	13 24 24.1	+1.1
SMAR	**Somma**	**0.92**	**268**	*i* P	P	13 24 11.2	+0.4
AVH	**Avacha**	**0.96**	**268**	*i* P	P	13 24 12.0	+0.6
AVH				*e*S	S	13 24 25.3	+1.2
KOK	**Koryaka**	**1.02**	**270**	*i* P	P	13 24 12.6	+0.4
KOK				*e*S	S	13 24 25.7	+0.1
PET	**Petropavlovsk**	**1.05**	**255**	*i* P	P	13 24 12.9	+0.2
PET				*e*S	S	13 24 26.3	-0.1
RUS	**Russkaya**	**1.41**	**232**	*i* P	P	13 24 17.8	0.0
RUS				*e*S	S	13 24 34.9	-0.6
KRMR	**Karymshinskiy**	**1.41**	**251**	*i* P	P	13 24 18.2	+0.3
KRMR				*i* S	S	13 24 35.9	+0.4
GNL	**Ganaly**	**1.48**	**286**	*i* P	P	13 24 19.0	+0.2
GNL				*e*S	S	13 24 37.6	+0.5
MKZ	**Mys Kozlova**	**1.50**	**33**	*e*P	P	13 24 18.0	-1.1
MKZ				*i* S	S	13 24 35.4	-2.2
GRL	**Gorelyy**	**1.56**	**242**	*i* P	P	13 24 20.8	+0.8
GRL				*e*S	S	13 24 40.0	+0.8
APC	**Apacha**	**1.95**	**260**	*i* P	P	13 24 26.3	+0.9
APC				*i* S	S	13 24 50.4	+1.7
APC				Smax			
90nm,0.8s							
TUMR	**Tumrok**	**1.98**	**357**	*i* P	P	13 24 26.4	+0.6
MIPR	**Malaya Ipel'ka**	**2.40**	**246**	*e*P	P	13 24 33.0	+1.1
KMNR	**Kamenistaya**	**2.45**	**359**	*e*P	P	13 24 33.1	+0.5
KMNR				*e*S	S	13 25 02.0	+0.5
KPT	**Kopyto**	**2.66**	**359**	*e*P	P	13 24 36.1	+0.5
ZLN	**Zelenaya**	**2.73**	**6**	*e*P	P	13 24 37.6	+1.1
ZLN				*e*S	S	13 25 10.0	+1.6
KOZ	**Kozyrevsk**	**2.77**	**355**	*e*P	P	13 24 37.3	+0.2
ESO	**Esso**	**2.79**	**341**	*i* P	P	13 24 37.3	0.0
ESO				Smax			
60nm,0.8s							
LGNR	**Loginova**	**2.79**	**4**	*e*P	P	13 24 38.6	+1.3
LGNR				*e*S	S	13 25 11.9	+1.9
CIRR	**Tsirk**	**2.82**	**5**	*e*P	P	13 24 38.7	+0.9
KLY	**Klyuchi**	**3.02**	**3**	*e*P	P	13 24 41.1	+0.5
KLY				*e*S	S	13 25 16.0	+0.2
SRDR	**Sredinnyy**	**3.04**	**354**	*i* P	P	13 24 40.5	-0.4
KBTR	**Krutoberegovo**	**3.24**	**25**	*e*P	P	13 24 43.9	+0.1
KBTR				*e*S	S	13 25 21.0	-0.5
BDR	**Baidarnaya**	**3.30**	**8**	*e*P	P	13 24 46.5	+1.8
SRKR	**Sorokina**	**3.39**	**8**	*e*P	P	13 24 46.0	+0.2

*IDC **25** 13:49:35.8±1.9,23.20S×66.70W,h188km±24km, mb1 3.5/3,mb1mx3.1/15,mbtmp3.9/3,Error ellipse: s-maj=33.5km s-min=19.0km az=93.0*
*NEIC **25** 13:49:36.0±1.0,23.23S×66.66W,h194km±18km,mb3.7/1, Error ellipse: s-maj=25.9km s-min=11.0km az=99.0*
*GUC **25** 13:49:37.3±0.7,23.48S×67.01W,h218km±14km,ML4.4*
ISC 25 13:49:35.9±0.7,23.30S±0.06×66.9W±0.2,h238km±28km, n13,σ1§29/20,4C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.29**	**287**	⇑*i*P	**P**	**13 50 12.1**	**+0.3**
CEN1	**Los Morros**	**3.06**	**268**	⇓*i*P	**P**	**13 50 30.7**	**+1.9**
CEN1				*i* S	**S**	**13 51 10.8**	**+0.9**
CEN1				AMP		13 51 14.2	
comp=N,217nm,0.5s							
ANCH	**Antofagasta**	**3.27**	**263**	⇑*i*P	**P**	**13 50 32.9**	**+1.7**
ANCH				*i* S	**S**	**13 51 14.0**	**-0.2**
ANCH				AMP		13 51 16.6	
comp=E,568nm,0.6s							
CPN1	**Cerro Paranal**	**3.49**	**247**	⇑*i*P	**P**	**13 50 34.4**	**+0.7**
CPN1				*i* S	**S**	**13 51 17.5**	**-1.1**
CPN1				AMP		13 51 20.9	
comp=E,419nm,0.4s							
CRCH	**Chaqaral**	**4.56**	**228**	⇑*i*P	**P**	**13 50 46.4**	**-0.1**
CRCH				*i* S	**S**	**13 51 39.7**	**-1.7**
LPAZ	**La Paz**	**7.08**	**350**	P	**P**	**13 51 18.1**	**0.0**
comp=E,1.3nm,0.3s,baz=170,slow=8.0,SNR=40							
LPAZ				S	**S**	**13 52 36.1**	**-2.0**
comp=E,0.1nm,0.3s,baz=316,slow=18,SNR=3.6							
LPAZ	**La Paz**	**7.08**	**350**	*e*P	**P**	**13 51 17.9**	**-0.2**
LPAZ				S	**S**	**13 52 36.1**	**-2.0**
CFAA	**Coronel Fontan**	**8.36**	**188**	P	**P**	**13 51 35.1**	**+0.6**
comp=E,0.1nm,0.3s,baz=17,slow=14,SNR=28							
CFAA				S	**S**	**13 53 04.6**	**-2.8**
comp=E,0.2nm,0.3s,baz=198,slow=15,SNR=10							
CFAA	**Coronel Fontan**	**8.36**	**188**	P	**P**	**13 51 35.1**	**+0.6**
CFAA				S	**S**	**13 53 04.6**	**-2.8**
SIV	**San Ignacio**	**9.09**	**38**	P	**P**	**13 51 40.5**	**-3.3**
comp=E,0.6nm,0.3s,baz=233,slow=13,SNR=15							
TRQA	**Tornquist**	**15.29**	**165**	*e*P	**P**	**13 53 02.5**	**+1.1**
comp=E,1.1nm,0.4s		

ILAR	**Eielson Array**	**85.59**	**13**	P		**P**	14 01 41.9	**-0.6**
	0.2nm,0.4s,mb3.1,baz=225,slow=5.5,SNR=10							
TXAR	**Lajitas Array**	**86.07**	**58**	P		**P**	14 01 46.1	**+0.5**
	0.9nm,0.8s,mb3.4,baz=216,slow=6.2,SNR=11							
PDAR	**Pinedale Array**	**87.31**	**44**	P		**P**	14 01 51.1	**0.0**
	0.4nm,0.6s,mb3.2,baz=218,slow=3.7,SNR=6.0							
YKA	**Yellowknife Ar**	**94.13**	**25**	P		**P**	14 02 21.8	**-0.4**
	0.1nm,0.6s,mb3.1,baz=242,slow=4.7,SNR=4.8							

NIED ***25*** *14:08:00,38.20N×138.90E,h14km,Mw3.6 Best double couple: M0 2.79×10^14 NP1:φs205°,δ49°,λ67°. NP2:φs57°,δ46°,λ114°.*
IDC ***25*** *14:08:34.3±0.9,38.14N×138.77E,mb3.4/5,mb1 3.7/5,mb1mx3.5/21,mbtmp3.4/5,Error ellipse: s-maj=37.3km s-min=16.4km az=107.0*
JMA ***25*** *14:08:37.3,38.17N×138.85E,h23km±1km,M4.2*
JMA Felt II J1.
NEIC ***25*** *14:08:40.3±1.6,38.06N×138.83E,h44km±18km,mb3.8/2, Error ellipse: s-maj=19.0km s-min=12.7km az=58.0*
NEIC Recorded [1 JMA] in Fukushima, Gumma and Niigata Prefectures.

ISC 25 14:08:37.1±0.5,38.19N±0.03×138.85E±0.04,h28km±4km, n23,σ0s68/34,mb3.5/6,1C-5D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAW	**Awa shima**	**0.41**	**49**	⇑P		**Pb**	**14 08 45.8**	**-0.2**
JAW				*e*S		**Sb**	**14 08 52.1**	**+0.1**
JSD	**Sado**	**0.49**	**253**	⇓P		**Pb**	**14 08 47.0**	**-0.2**
JSD				S		**Sb**	**14 08 53.8**	**-0.4**
JNS	**Sasagawa**	**0.52**	**135**	⇓P		**Pb**	**14 08 47.1**	**-0.5**
JNS				S		**Sb**	**14 08 54.4**	**-0.5**
JIZZ	**Izumozaki**	**0.66**	**190**	P		**Pb**	**14 08 50.5**	**+0.5**
JIZZ				*e*S		**Sb**	**14 09 00.8**	**+1.9**
JYA	**Atsumi**	**0.79**	**59**	P		**Pb**	**14 08 52.2**	**+0.1**
JYA				*e*S		**Sb**	**14 09 02.9**	**+0.5**
JHK	**Hiroka**	**0.94**	**172**	⇓P		**Pn**	**14 08 53.8**	**-0.8**
JHK				S		**Sb**	**14 09 06.1**	**-0.8**
JYS	**Shirataka**	**0.95**	**87**	⇓P		**Pn**	**14 08 54.7**	**0.0**
JYS				S		**Sb**	**14 09 07.6**	**+0.4**
JFY	**Yanaizu**	**1.03**	**139**	⇓P		**Pn**	**14 08 55.6**	**-0.2**
JFY				S		**Sb**	**14 09 08.9**	**-0.4**
MAJO	**Matsushiro**	**1.72**	**198**	*e*P		**Pn**	**14 09 05.7**	**0.0**
MAJO				*e*S		**Sn**	**14 09 27.1**	**+0.2**
MAT	**Matsushiro**	**1.72**	**198**	P		**Pn**	**14 09 05.7**	**0.0**
MAT				S		**Sn**	**14 09 26.9**	**0.0**
MAT	**Matsushiro**	**1.72**	**198**	*e*P		**Pn**	**14 09 06.0**	**+0.3**
MAT				*e*S		**Sn**	**14 09 27.0**	**+0.1**
MJAR	**Matsushiro Arr**	**1.72**	**198**	Pn		**Pn**	**14 09 05.8**	**+0.2**
	15nm,0.3s,baz=340,slow=13,SNR=169							
MJAR				Sn		**Sn**	**14 09 27.7**	**+0.8**
	96nm,0.3s,baz=309,slow=7.7,SNR=40							
KS15	**Wonju Array Si**	**8.71**	**268**	*e*P		**P**	**14 10 44.3**	**-0.1**
SONM	**Songino Array**	**25.46**	**303**	P		**P**	**14 14 03.6**	**-0.5**
	0.2nm,0.5s,mb2.9,baz=100,slow=8.8,SNR=3.3							
ILAR	**Eielson Array**	**49.62**	**33**	P		**P**	**14 17 27.4**	**-0.2**
	0.5nm,0.8s,mb3.6,baz=269,slow=6.0,SNR=8.4							
INK	**Inuvik**	**54.29**	**27**	P		**P**	**14 18 02.6**	**0.0**
	0.5nm,0.5s,mb3.7,baz=296,slow=6.2,SNR=12							
INK	**Inuvik**	**54.29**	**27**	*e*P		**P**	**14 18 02.1**	**-0.5**
	0.6nm,0.5s,mb3.8							
WRA	**Warramunga Arr**	**57.97**	**185**	P		**P**	**14 18 27.7**	**-1.9**
	0.3nm,0.4s,mb3.7,baz=0.9,slow=7.4,SNR=12							
YKA	**Yellowknife Ar**	**63.83**	**30**	P		**P**	**14 19 08.5**	**-0.2**
	0.2nm,0.6s,mb3.3,baz=304,slow=6.6,SNR=10							
YKA	**Yellowknife Ar**	**63.83**	**30**	P		**P**	**14 19 08.5**	**-0.2**
HLID	**Hailey**	**75.06**	**46**	*e*P		**P**	**14 20 18.6**	**+0.8**
	0.6nm,0.6s,mb3.7							
PV10	**Paradox Valley**	**81.52**	**47**	P		**P**	**14 20 54.9**	**+1.6**
LPAZ	**La Paz**	**147.78**	**55**	PKPbc		PKPdf	14 28 21.8	+0.1
	0.5nm,0.7s,baz=254,slow=7.4,SNR=4.1							

ATH ***25*** *14:14:47.4,38.15N×26.58E,h36km±11km,MD3.1/3*
ISK ***25*** *14:14:47.1,38.15N×26.68E,h30km,MD2.9*
NEIC ***25*** *14:14:47.1,38.15N×26.68E,h30km,MD3.1(ATH), MD2.9(ISK),After ISK.*
CSEM ***25*** *14:14:47.9±0.7,38.14N×26.94E,h43km±6km,MD2.9, Error ellipse: s-maj=11.5km s-min=5.5km az=91.0*

ISC 25 14:14:48.3±0.8,38.13N±0.04×26.77E±0.09,h39km±18km, n10,σ0s75/15,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BLCB	**Balcova**	**0.34**	**40**	PG		**P**	**14 14 56.2**	**-0.7**
BLCB				SG		**S**	**14 15 02.3**	**-0.6**
SMG	**Samos**	**0.42**	**172**	*e*PB		**P**	**14 14 58.2**	**+0.2**
SMG				*e*SB		**S**	**14 15 06.1**	**+1.3**
SMG	**Samos**	**0.42**	**172**	*e*Pb		**P**	**14 14 58.2**	**+0.2**
SMG				*e*Sb		**S**	**14 15 06.3**	**+1.5**
IZM	**Izmir**	**0.47**	**55**	PG		**P**	**14 14 59.2**	**+0.5**
AKS	**Akhisar**	**1.11**	**47**	*e*PN		**P**	**14 15 07.5**	**-0.1**
BODT	**Bodrum**	**1.15**	**158**	*e*PN		**P**	**14 15 08.6**	**+0.5**
MLSB	**Milas**	**1.16**	**136**	*e*PN		**P**	**14 15 07.6**	**-0.6**
PRK	**Paraskevi**	**1.18**	**341**	*e*Pb		**P**	**14 15 08.4**	**-0.2**
PRK				*e*Sn		**S**	**14 15 25.0**	**+1.3**
APE	**Apeiranthos**	**1.44**	**223**	*e*PN		**P**	**14 15 11.7**	**-0.7**
APE				*e*SN		**S**	**14 15 29.9**	**-0.5**
APE	**Apeiranthos**	**1.44**	**223**	*e*Pn		**P**	**14 15 11.1**	**-1.3**

IDC ***25*** *14:15:08.9±1.9,42.54N×107.80W,mb3.8/2,mb1 3.7/5, mb1mx3.5/22,mbtmp3.5/5,ML2.3/3,Error ellipse: s-maj=43.9km s-min=12.3km az=148.0*
NEIC ***25*** *14:15:08.7±0.2,42.27N×107.55W,h5km,ML3.1,Error ellipse: s-maj=3.4km s-min=2.8km az=62.0*

ISC 25 14:15:07.3±0.4,42.27N±0.03×107.52W±0.04,h5km,n52, σ0s88/53,mb4.2/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RWWY	**Rawlins**	**0.63**	**159**	*e*P		**Pg**	**14 15 19.9**	**+0.1**
BW06	**Boulder Array**	**1.59**	**289**	*e*P		**Pn**	**14 15 36.5**	**+0.3**
BW06				*e*S		**Sb**	**14 15 56.2**	**-0.9**
PDAR	**Pinedale Array**	**1.59**	**289**	Pg		**Pn**	**14 15 35.9**	**-0.3**
	28nm,0.3s,baz=113,slow=19,SNR=127							
PDAR				Lg			14 15 56.6	
	50nm,0.3s,baz=109,slow=31,SNR=11							
PHWY	**Pilot Hill**	**1.82**	**122**	*e*P		**Pn**	**14 15 41.3**	**+1.8**
LOHW	**Long Hollow**	**2.63**	**302**	*e*Pn		**Pn**	**14 15 51.9**	**+0.7**
SNOW	**Snow King Moun**	**2.66**	**298**	*e*P		**Pn**	**14 15 52.8**	**+1.2**
REDW	**Red Top Meadow**	**2.68**	**295**	*e*P		**Pn**	**14 15 53.3**	**+1.4**
AHID	**Auburn Hatcher**	**2.69**	**282**	*e*P		**Pn**	**14 15 52.9**	**+0.9**
TPAW	**Teton Pass**	**2.80**	**297**	*e*P		**Pn**	**14 15 55.2**	**+1.6**
ISCO	**Idaho Springs**	**2.86**	**149**	*e*Pn		**Pn**	**14 15 55.8**	**+1.4**
HWUT	**Hardware Ranch**	**3.09**	**259**	*e*Pn		**Pn**	**14 15 57.7**	**-0.1**
LKWY	**Lake**	**3.11**	**318**	Pn		**Pn**	**14 15 58.6**	**+0.6**
SMCO	**Snowmass**	**3.12**	**172**	Pn		**Pn**	**14 15 59.7**	**+1.5**
TCUT	**Toone Canyon**	**3.13**	**250**	*e*Pn		**Pn**	**14 15 58.6**	**+0.3**
RSSD	**Black Hills**	**3.14**	**53**	*e*Pn		**Pn**	**14 15 59.9**	**+1.4**
YFT	**Old Faithful**	**3.25**	**313**	Pn		**Pn**	**14 16 00.4**	**+0.3**
DAU	**Daniels Canyon**	**3.37**	**238**	*e*Pn		**Pn**	**14 16 01.9**	**+0.1**
YMR	**Madison River**	**3.47**	**315**	Pn		**Pn**	**14 16 03.3**	**+0.2**
SPUT	**South Promonto**	**3.81**	**257**	*e*Pn		**Pn**	**14 16 07.8**	**-0.2**
NOQ	**North Oquirrh**	**3.82**	**246**	*e*Pn		**Pn**	**14 16 08.0**	**-0.1**
QLMT	**Earthquake Lak**	**3.82**	**313**	Pn		**Pn**	**14 16 08.4**	**+0.3**
MPU	**Maple Canyon**	**3.84**	**235**	*e*Pn		**Pn**	**14 16 07.7**	**-0.6**
GCMT	**Greycliff**	**3.84**	**337**	Pn		**Pn**	**14 16 08.7**	**+0.3**
SRU	**San Rafael**	**3.90**	**217**	*e*Pn		**Pn**	**14 16 09.2**	**0.0**
HVU	**Hansel Valley**	**3.95**	**265**	*e*Pn		**Pn**	**14 16 09.3**	**-0.6**
PV10	**Paradox Valley**	**4.06**	**197**	*e*Pn		**Pn**	**14 16 11.7**	**+0.1**
TMUT	**Trail Mountain**	**4.09**	**225**	*e*Pn		**Pn**	**14 16 12.4**	**+0.5**
NLU	**North Lily Min**	**4.15**	**238**	*e*Pn		**Pn**	**14 16 11.9**	**-0.9**
PV01	**Paradox Valley**	**4.21**	**191**	*e*Pn		**Pn**	**14 16 13.7**	**+0.1**
BGU	**Big Grassy Mou**	**4.35**	**254**	*e*Pn		**Pn**	**14 16 15.0**	**-0.5**
BOZ	**Bozeman (W)**	**4.49**	**320**	Pn		**Pn**	**14 16 18.7**	**+1.0**
DUG	**Dugway**	**4.50**	**244**	*e*Pn		**Pn**	**14 16 17.1**	**-0.7**
LAO	**LASA Array**	**4.51**	**11**	*e*Pn		**Pn**	**14 16 17.9**	**0.0**
MCMT	**McKenzie Canyo**	**4.64**	**305**	*e*Pn		**Pn**	**14 16 19.3**	**-0.5**
SDCO	**Great Sand Dun**	**4.78**	**160**	*e*Pn		**Pn**	**14 16 21.2**	**-0.5**
DLMT	**Dillon**	**4.80**	**312**	Pn		**Pn**	**14 16 22.0**	**0.0**
MSU	**Marysvale**	**5.17**	**225**	*e*Pn		**Pn**	**14 16 26.7**	**-0.6**
MVU	**Marysvale**	**5.20**	**225**	Pn		**Pn**	**14 16 26.9**	**-0.8**
HLID	**Hailey**	**5.23**	**287**	*e*Pn		**Pn**	**14 16 27.9**	**-0.1**
EGMT	**Eagleton**	**5.96**	**345**	*e*Pn		**Pn**	**14 16 36.7**	**-1.7**
ELK	**Elko**	**6.00**	**258**	Pn		**Pn**	**14 16 38.9**	**0.0**
	0.1nm,0.3s,baz=63,slow=8.3,SNR=5.8							
ARUT	**Antelope Range**	**6.38**	**227**	*e*Pn		**Pn**	**14 16 44.0**	**-0.3**

DGMT	**Dagmar**	**6.62**	**20**	Pn		**Pn**	**14 16 46.6**	**-1.1**
CBKS	**Cedar Bluff**	**6.86**	**118**	*e*Pn		**Pn**	**14 16 50.0**	**-1.0**
WUAZ	**Wupatki**	**7.39**	**205**	*e*Pn		**Pn**	**14 16 57.4**	**-1.1**
KSU1	**Kansas State U**	**8.87**	**107**	*e*Pn		**P**	**14 17 18.2**	**-0.9**
NVAR	**Mina Array Bea**	**9.09**	**249**	Pn		**P**	**14 17 23.2**	**+1.1**
	0.1nm,0.3s,baz=58,slow=12,SNR=6.1							
ULM	**Lac du Bonnet**	**11.33**	**41**	Pn		**P**	**14 17 48.7**	**-4.1**
	0.2nm,0.3s,baz=229,slow=12,SNR=6.3							
ULM	**Lac du Bonnet**	**11.33**	**41**	Pn		**P**	**14 17 48.7**	**-4.1**
YKA	**Yellowknife Ar**	**20.68**	**351**	P		**P**	**14 19 48.8**	**-1.7**
	1.9nm,0.7s,baz=164,slow=11,SNR=42							
YKA	**Yellowknife Ar**	**20.68**	**351**	P		**P**	**14 19 48.8**	**-1.7**
ARCES	**ARCESS Array B**	**63.30**	**17**	P		**P**	**14 25 36.4**	**-2.4**
	1.8nm,0.9s,mb4.2,baz=323,slow=9.0,SNR=3.6							

IDC 25 14:28:43.0±2.8,27.58N×141.82E,h32km±22km,mb3.5/5, mb1 3.7/6,mb1mx3.4/20,mbtmp3.6/6,ML3.3/1,MS2.9/1, Ms1 2.9/1,ms1mx2.2/20,Error ellipse: s-maj=44.6km s-min=22.0km az=93.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.58**	**146**	Pg		Pb	14 28 55.5	+0.6
	392nm,0.3s,baz=312,slow=12,SNR=141							
CBIJ				Lg			14 29 02.4	
	2µm,0.3s,baz=300,slow=20,SNR=275							
MJAR	**Matsushiro Arr**	**9.44**	**342**	Pn		P	14 30 55.0	-5.1
	0.3nm,0.3s,baz=169,slow=26,SNR=3.5							
JOW	**Kunigami**	**12.08**	**270**	LR		LR	14 35 07.9	
	comp=Z,52nm,19.9s,baz=195,slow=32							
WRA	**Warramunga Arr**	**47.80**	**190**	P		P	14 37 17.5	-2.2
	0.9nm,0.4s,baz=12,slow=8.6,SNR=22							
ILAR	**Eielson Array**	**57.44**	**29**	P		P	14 38 28.8	-2.2
	0.5nm,0.8s,baz=247,slow=5.9,SNR=4.5							
INK	**Inuvik**	**62.73**	**25**	P		P	14 39 04.7	-2.3
	0.2nm,0.5s,baz=267,slow=4.8,SNR=4.6							
YKA	**Yellowknife Ar**	**71.87**	**28**	P		P	14 40 02.5	-2.0
	0.2nm,0.7s,baz=292,slow=5.9,SNR=5.8							
FINES	**FINESS Array B**	**77.37**	**334**	P		P	14 40 34.2	-1.9
	2.0nm,1.0s,baz=72,slow=8.8,SNR=8.1							

IGQ 25 14:30:26.6,1.36S×80.93W,h5km±11km,mb4.2,1C,Error ellipse: s-maj=16.1km s-min=4.5km az=6.8,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAMA	**Jama**	**1.31**	**34**	P		Pb	14 30 51.3	+0.1
JAMA				S		Sb	14 31 08.4	+0.2
MAG1	**Magdalena**	**1.72**	**42**	P		Pn	14 30 58.6	+1.1
QIL1	**Quilotoa**	**2.06**	**76**	P		Pn	14 31 01.5	-0.8
IGUA	**Igualata**	**2.29**	**93**	P		Pn	14 31 07.3	+1.6
IGUA				S		Sn	14 31 38.5	+3.9
CAMI	**Rancho Maria**	**2.52**	**74**	P		Pn	14 31 11.3	+2.5
ULBA	**Ulba**	**2.52**	**92**	P		Pn	14 31 11.2	+2.2
JUA2	**San Juan 2**	**2.59**	**64**	P		Pn	14 31 11.2	+1.4
TERV	**Terraza Guagua**	**2.61**	**63**	P		Pn	14 31 12.3	+2.2
PINO	**Pino**	**2.61**	**63**	P		Pn	14 31 11.5	+1.3
GGP	**Refugio Guagua**	**2.62**	**63**	P		Pn	14 31 11.0	+0.8
VC1	**Cotopaxi 1**	**2.63**	**74**	P		Pn	14 31 12.4	+2.1
TAMB	**Tambo**	**2.65**	**76**	P		Pn	14 31 13.3	+2.6
YANA	**Yana**	**2.66**	**62**	P		Pn	14 31 11.9	+1.0
ANTI	**Antisana**	**2.91**	**72**	P		Pn	14 31 17.3	+2.8
COTA	**Cotacachi**	**3.09**	**57**	P		Pn	14 31 16.6	+2.6
CAYR	**Refugio Cayamb**	**3.23**	**65**	⇑P		Pn	14 31 23.5	+4.6
ANGU	**Angureal**	**3.24**	**65**	P		Pn	14 31 22.5	+3.4
ANGU				S		Sn	14 32 04.1	+5.6
CAYA	**Cayambe**	**3.27**	**64**	P		Pn	14 31 23.4	+3.9

RSPR 25 14:41:03.9,17.43N×69.75W,h68km±31km,MD4.1/4, MD4.1/4,3C-2D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRPR	**Cabo Rojo, PR**	**2.58**	**77**	⇓*e*P		P	14 41 42.5	-1.8
CRPR	**Cabo Rojo, PR**	**2.58**	**77**	*e*S		S	14 42 13.5	-1.1
AOPR	**Arecibo Observ**	**3.00**	**72**	⇑*e*P		P	14 41 48.7	-1.5
AOPR	**Arecibo Observ**	**3.00**	**72**	*e*S		S	14 42 23.6	-1.5
SJG	**San Juan**	**3.50**	**78**	⇑*e*P		P	14 41 56.7	-0.5
SJG	**San Juan**	**3.50**	**78**	⇓*e*P		P	14 41 55.7	-1.5
SJG	**San Juan**	**3.50**	**78**	*e*S		S	14 42 35.8	-1.8
HUMP	**Col San Antoni**	**3.79**	**79**	*e*S		S	14 42 42.5	-2.3
MTP	**Monte Pirata**	**4.05**	**80**	⇑*e*P		P	14 42 02.7	-2.2
MTP	**Monte Pirata**	**4.05**	**80**	*e*S		S	14 42 50.6	-0.8

IDC ***25*** *14:48:37.1±6.2,21.65N×143.06E,h289km±61km,mb3.1/6, mb1 3.3/7,mb1mx3.1/20,mbtmp3.7/7,Error ellipse: s-maj=31.9km s-min=16.2km az=90.0*
NEIC ***25*** *14:48:39.8±3.3,21.64N×143.11E,h319km±32km,mb4.0/1, Error ellipse: s-maj=29.6km s-min=16.6km az=97.0*

ISC 25 14:48:35.9±4.7,21.6N±0.2×143.2E±0.3,h298km±45km, n15,σ0s59/12,mb3.5/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MJAR	**Matsushiro Arr**	**15.49**	**345**	P		**P**	**14 52 00.7**	**-0.4**
	0.4nm,0.3s,baz=164,slow=18,SNR=4.0							
MAJO	**Matsushiro**	**15.50**	**345**	*e*P		**P**	**14 52 01.5**	**+0.4**
WRA	**Warramunga Arr**	**42.20**	**192**	P		**P**	**14 56 01.8**	**0.0**
	0.8nm,0.4s,mb3.4,baz=16,slow=9.8,SNR=30							
MKAR	**Makanchi Array**	**54.77**	**313**	P		**P**	**14 57 37.2**	**+0.2**
	0.1nm,0.5s,mb2.5,baz=90,slow=10,SNR=2.9							
COLA	**College**	**61.71**	**27**	*e*P		**P**	**14 58 23.3**	**-1.2**
	2.3nm,0.5s,mb4.1							
ILAR	**Eielson Array**	**62.10**	**27**	P		**P**	**14 58 27.1**	**0.0**
	0.4nm,0.7s,mb3.2,baz=259,slow=4.6,SNR=6.0							
INK	**Inuvik**	**67.64**	**24**	*e*P		**P**	**14 59 02.8**	**+0.6**
YKA	**Yellowknife Ar**	**76.52**	**28**	P		**P**	**14 59 55.4**	**+0.9**
	0.5nm,0.5s,mb3.5,baz=291,slow=5.8,SNR=24							
YKA	**Yellowknife Ar**	**76.52**	**28**	P		**P**	**14 59 55.4**	**+0.8**
ARCES	**ARCESS Array B**	**79.00**	**342**	P		**P**	**15 00 08.3**	**+0.4**
	1.2nm,0.9s,mb3.6,baz=84,slow=9.1,SNR=5.3							
ARCES	**ARCESS Array B**	**79.00**	**342**	P		**P**	**15 00 08.3**	**+0.4**
FINES	**FINESS Array B**	**83.26**	**334**	P		**P**	**15 00 29.3**	**-0.8**
	2.6nm,1.0s,mb4.0,baz=56,slow=5.0,SNR=7.9							
PLCA	**Paso Flores**	**145.69**	**131**	PKPbc		PKPbc	15 07 42.8	+2.9
	1.3nm,0.7s,baz=263,slow=2.5,SNR=7.1							
LPAZ	**La Paz**	**149.93**	**85**	PKPbc		PKPdf	15 07 55.7	+9.3
	0.9nm,0.6s,baz=22,slow=5.4,SNR=6.3							
LPAZ	**La Paz**	**149.93**	**85**	*e*PKPbc		PKPdf	15 07 55.2	+8.8

WEL 25 15:02:05.0±0.2,36.87S×177.85E,h129km±2km,ML3.5/12, Error ellipse: s-maj=3.7km s-min=2.7km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.78**	**152**	PN		P	15 02 25.8	-0.2
MXZ				SN		S	15 02 41.9	-0.1
PUZ	**Puketiti**	**1.24**	**165**	PN		P	15 02 30.3	-0.3
PUZ				SN		S	15 02 48.9	-1.1
MWZ	**Matawai**	**1.48**	**190**	PN		P	15 02 33.0	-0.2
URZ	**Urewera**	**1.50**	**203**	PN		P	15 02 33.2	-0.2
URZ				SN		S	15 02 54.7	-0.6
KNZ	**Kokohu**	**2.15**	**184**	PN		P	15 02 40.4	-0.8
PXZ	**Pawanui**	**3.25**	**193**	PN		P	15 02 53.1	-2.6
PXZ				SN		S	15 03 30.3	-4.0
TSZ	**Takapari Road**	**3.51**	**204**	PN		P	15 02 56.5	-2.7
WAZ	**Wanganui**	**3.66**	**217**	PN		P	15 03 00.1	-1.0
MRZ	**Mangatainoka R**	**4.18**	**204**	PN		P	15 03 04.5	-3.6
KIW	**Kapiti Island**	**4.60**	**209**	PN		P	15 03 10.0	-3.7
MTW	**Mount Morrison**	**4.66**	**202**	PN		P	15 03 09.8	-4.6
CAW	**Cannon Point**	**4.75**	**206**	PN		P	15 03 11.3	-4.5
SNZO	**South Karori**	**5.06**	**208**	PN		P	15 03 15.5	-4.5
SNZO				SN		S	15 04 11.8	-6.0
TCW	**Tory Channel**	**5.15**	**212**	PN		P	15 03 16.3	-4.7
TUWZ	**Tuamarina**	**5.47**	**212**	*e*PN		P	15 03 20.6	-4.8
NNZ	**Nelson**	**5.56**	**217**	SN		S	15 04 25.2	-4.7
KHZ	**Kahutara**	**6.46**	**210**	*e*PN		P	15 03 33.2	-5.6
LTZ	**Lake Taylor**	**7.30**	**214**	PN		P	15 03 44.2	-6.0
MQZ	**McQueen's Vall**	**7.90**	**209**	SN		S	15 05 14.4	-12

IDC 25 15:19:51.3±3.2,14.86S×176.33W,mb3.7/3,mb1 4.2/3, mb1mx3.8/14,mbtmp3.7/3,Error ellipse: s-maj=297.3km s-min=32.8km az=156.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**47.22**	**256**	P		P	15 28 26.5	-1.6
	2.1nm,1.1s,baz=93,slow=7.6,SNR=9.3							
TXAR	**Lajitas Array**	**82.68**	**57**	P		P	15 32 18.1	-0.4
	0.5nm,1.1s,baz=211,slow=7.3,SNR=4.1							
PDAR	**Pinedale Array**	**83.78**	**43**	P		P	15 32 22.4	-1.5
	0.6nm,0.9s,baz=270,slow=1.8,SNR=4.7							
BRTR	**Keskin Array B**	**143.93**	**319**	PKP		PKPdf	15 39 27.6	-3.2
	1.5nm,0.8s,baz=129,slow=7.9,SNR=6.4							
GERES	**GERESS Array B**	**145.12**	**348**	PKP		PKPdf	15 39 30.2	-2.4
	0.5nm,0.9s,baz=34,slow=3.5,SNR=4.2							

IDC 25 15:25:24.9±4.0,15.64S×69.37W,h170km±49km,mb2.7/1, mb1 3.1/1,mb1mx2.7/17,mbtmp3.2/1,Error ellipse: s-maj=134.5km s-min=97.6km az=25.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**1.35**	**119**	P		P	15 25 55.1	+0.2
	1.5nm,0.3s,baz=299,slow=6.2,SNR=56							
LPAZ				S		S	15 26 18.7	+0.6
	3.3nm,0.3s,baz=152,slow=22,SNR=18							
YKA	**Yellowknife Ar**	**85.54**	**341**	P		P	15 37 43.4	-1.3
	0.1nm,0.4s,baz=132,slow=4.6,SNR=7.6							
SONM	**Songino Array**	**147.71**	**5**	PKPbc		PKPdf	15 44 49.1	+2.7
	0.4nm,0.5s,baz=329,slow=1.8,SNR=5.5							

CASC 25 15:44:15.6±2.6,14.06N×91.85W,h24km±10km,MD4.0, ML3.2,1C,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FUG	**Fuego 3**	**1.05**	**68**	*e*P		Pb	15 44 34.5	-0.5
TP2	**Tecpan 2**	**1.08**	**48**	*e*P		Pn	15 44 34.7	-0.7
PCG	**Pacaya**	**1.25**	**74**	*e*P		Pn	15 44 38.9	+1.0
PCG				*e*S		Sn	15 44 55.0	+1.0
IXG	**Ixpaco**	**1.36**	**85**	⇑*i*P		Pn	15 44 38.6	-0.8
IXG				*e*S		Sn	15 44 56.2	-0.5
NBG	**Las Nubes**	**1.55**	**70**	*e*P		Pn	15 44 43.5	+1.4
NBG				*e*S		Sn	15 45 06.6	+5.0
RTR	**El Retiro**	**2.14**	**94**	*e*P		Pn	15 45 13.3	+23
RTR				*e*S		Sn	15 45 41.0	+24
SBLS	**San Blas**	**2.17**	**95**	*e*P		Pn	15 45 13.3	+22
SBLS				*e*S		Sn	15 45 41.6	+24
SNJE	**San Jose**	**2.18**	**95**	*e*P		Pn	15 45 13.8	+23
SNJE				*e*S		Sn	15 45 41.9	+24
MRL	**Marmol**	**2.32**	**64**	*e*P		Pn	15 44 52.0	-1.1
MRL				*e*S		Sn	15 45 26.3	+5.2
SNET	**Serv Nac Est T**	**2.57**	**98**	*e*P		Pn	15 44 55.8	-0.9
SNET				*e*S		Sn	15 45 27.1	-0.4
LFRS	**El Faro**	**2.74**	**99**	*e*P		Pn	15 45 21.6	+22
LFRS				*e*S		Sn	15 45 55.3	+23
LCBS	**La Ceiba**	**2.81**	**98**	*e*P		Pn	15 45 23.1	+23
LCBS				*e*S		Sn	15 45 57.7	+24
SNVI	**San Vicente**	**2.96**	**98**	*e*P		Pn	15 45 24.7	+22
SNV

Plg69°, Azm117°; N -.279, Plg19°, Azm273°; P -2.3, Plg8°, Azm6°: nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC ***25*** *16:28:48.1±0.1,2.31N×128.35E,mb5.0/37 Error ellipse: s-maj=6.4km s-min=3.8km az=69.0*

IDC ***25*** *16:28:49.8±1.1,2.30N×128.07E,h163km↓9km,mb4.5/24, mb1 4.6/25,mb1mx4.6/26,mbtmp5.0/25,MS3.8/3, Ms1 3.8/3,ms1mx3.1/28,Error ellipse: s-maj=13.5km s-min=7.3km az=79.0*

ISC 25 16:28:47.7±0.5,2.31N±0.03×128.33E±0.05,h159km↓4km, h157km↓3.3km:pP-P,n237,σ1ˢ02/212,mb4.8/79,21C-9D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**5.05**	**336**	*e*P		**P**	**16 30 03.4**	**+0.6**
MATI				*e*S		**S**	**16 30 58.8**	**-2.0**
DAV	**Davao City (W)**	**5.47**	**330**	*e*Pn		**P**	**16 30 08.9**	**+0.6**
	474nm,0.5s							
KCP	**Kidapawan**	**5.68**	**325**	⇑*i*P		**P**	**16 30 14.1**	**+3.0**
KCP				*i* S		**S**	**16 31 20.4**	**+4.7**
BIPH	**Bislig**	**6.16**	**342**	⇓*i*P		**P**	**16 30 16.0**	**-1.4**
BIPH				*e*S		**S**	**16 31 18.4**	**-8.9**
BUKP	**Musuan**	**6.42**	**330**	*e*P		**P**	**16 30 21.1**	**+0.1**
BUKP				*e*S		**S**	**16 31 35.9**	**+2.4**
BUTP	**Butuan**	**7.15**	**338**	*e*P		**P**	**16 30 29.9**	**-0.8**
PAGZ	**Pagadian**	**7.39**	**318**	*e*P		**P**	**16 30 33.3**	**-0.6**
IPIL	**Ipil**	**7.91**	**314**	*e*P		**P**	**16 30 40.1**	**-0.7**
IPIL				*e*S		**S**	**16 32 04.5**	**-4.6**
SCPH	**Surigao**	**7.95**	**339**	⇓*e*P		**P**	**16 30 41.4**	**0.0**
MSLP	**Maasin**	**8.51**	**336**	*e*P		**P**	**16 30 46.2**	**-2.6**
TBP	**Tagbilaran**	**8.57**	**329**	*e*P		**P**	**16 30 48.6**	**-1.1**
SNPH	**Sibulan**	**8.63**	**324**	*e*P		**P**	**16 30 51.0**	**+0.6**
LLP	**Lapu-Lapu**	**9.06**	**332**	*e*P		**P**	**16 30 55.9**	**-0.1**
PCI	**Palu**	**9.07**	**250**	P		**P**	**16 30 55.0**	**-1.2**
	323nm,0.9s							
OCLP	**Ormoc**	**9.44**	**337**	*e*P		**P**	**16 31 00.7**	**-0.3**
GUIM	**Jordan**	**10.04**	**326**	*e*P		**P**	**16 31 08.6**	**-0.4**
OTRP	**Odiongan**	**11.78**	**328**	*e*P		**P**	**16 31 33.1**	**+1.3**
PVCP	**Virac**	**11.95**	**340**	*e*P		**P**	**16 31 30.4**	**-3.6**
BATP	**Bataraza**	**12.30**	**302**	*e*P		**P**	**16 31 41.6**	**+3.1**
SJMP	**San Jose**	**12.36**	**325**	*e*P		**P**	**16 31 29.5**	**-10**
BUSP	**Coron**	**12.56**	**320**	*e*P		**P**	**16 31 37.3**	**-4.6**
KKM	**Kota Kinabalu**	**12.64**	**287**	*e*P		**P**	**16 31 43.4**	**+0.5**
BOAC	**Boac**	**12.80**	**330**	*e*P		**P**	**16 31 44.7**	**-0.3**
TGY	**Tagaytay City**	**13.81**	**328**	P		**P**	**16 31 58.2**	**+0.3**
	5.7nm,0.3s,baz=150,slow=0.8,SNR=9.5							
POLP	**Polillo Island**	**13.86**	**333**	*e*P		**P**	**16 31 55.4**	**-3.2**
LUBP	**Lubang**	**13.88**	**325**	*e*P		**P**	**16 32 00.4**	**+1.5**
BAP	**Baler**	**14.92**	**334**	*e*P		**P**	**16 32 12.6**	**+0.7**
SCZP	**Santa Cruz**	**15.75**	**329**	*e*P		**P**	**16 32 22.9**	**+0.7**
CAUP	**Cauayan**	**15.89**	**337**	*e*P		**P**	**16 32 23.4**	**-0.6**
BOLP	**Bolinao**	**16.25**	**330**	*e*P		**P**	**16 32 28.2**	**-0.3**
CVP	**Callao Caves**	**16.58**	**338**	⇑*e*P		**P**	**16 32 34.0**	**+1.5**
	50μm,1.0s							
APYP	**Conner**	**16.95**	**336**	*e*P		**P**	**16 32 37.0**	**+0.1**
ABRA	**Dolores**	**16.98**	**334**	*e*P		**P**	**16 32 36.7**	**-0.6**
KSM	**Kuching**	**18.03**	**268**	*e*P		**P**	**16 32 49.5**	**0.0**
GUMO	**Guam**	**19.83**	**55**	P		**P**	**16 33 03.7**	**-4.6**
	89nm,1.1s,baz=204,slow=13,SNR=2.5							
FITZ	**Fitzroy Crossi**	**20.45**	**187**	⇑*i*P		**P**	**16 33 13.4**	**-1.1**
	25nm,0.5s							
FITZ				*e*S		**S**	**16 36 50.4**	**+1.1**
BJII	**Banjamegara**	**20.90**	**243**	P		**P**	**16 33 25.6**	**+6.6**
	45nm,1.5s							
PMG	**Port Moresby**	**22.08**	**122**	P		**P**	**16 33 29.6**	**-0.9**
	5.0nm,0.4s,mb4.3,baz=0.2,slow=21,SNR=8.7							
PMG	**Port Moresby**	**22.08**	**122**	*d*P		**P**	**16 33 31.1**	**+0.6**
PMG	**Port Moresby**	**22.08**	**122**	*e*P		**P**	**16 33 29.4**	**-1.1**
	48nm,1.3s,mb4.8							
LEM	**Lembang**	**22.58**	**246**	P		**P**	**16 33 38.7**	**+3.1**
	47nm,1.0s,mb4.9							
NACB	**Ningamchiao**	**22.69**	**344**	*e*P		**P**	**16 33 37.2**	**+0.6**
WRAB	**Tennant Creek**	**22.88**	**165**	*e*P		**P**	**16 33 39.0**	**+0.6**
WRAB				*e*S		**S**	**16 37 39.1**	**+6.6**
WRAB				pmax		pmax		
	comp=Z,150nm,0.6s,mb5.6							
WRAB	**Tennant Creek**	**22.88**	**165**	*e*P		**P**	**16 33 39.0**	**+0.6**
	comp=Z,150nm,0.6s,mb5.6							
WRAB				*e*S		**S**	**16 37 39.1**	**+6.7**
WRA	**Warramunga Arr**	**22.88**	**165**	P		**P**	**16 33 39.0**	**+0.5**
	comp=Z,66nm,0.4s,mb5.4,baz=341,slow=10,SNR=629							
WRA				S		**S**	**16 37 33.6**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=345,slow=14,SNR=3.7							
WRA				PKiKP			16 45 08.0	
	comp=Z,0.5nm,0.7s,baz=312,slow=1.3,SNR=5.5							
WB2	**Warramunga Arr**	**22.89**	**165**	⇑*i*P		**P**	**16 33 38.7**	**+0.2**
WB2				*e*S		**S**	**16 37 33.3**	**+0.7**
WB2				*e*PCS			16 41 01.3	
CBJI	**Citeko**	**23.13**	**248**	P		**P**	**16 33 46.7**	**+5.8**
	comp=Z,91nm,1.1s,mb5.1							
YHNB	**Yeheng**	**23.22**	**344**	*e*P		**P**	**16 33 41.7**	**0.0**
TATO	**Taipei**	**23.48**	**344**	*e*P		**P**	**16 33 43.9**	**-0.3**
	comp=Z,39nm,0.6s,mb5.0							
JOW	**Kunigami**	**24.39**	**360**	P		**P**	**16 33 53.6**	**+0.9**
	comp=Z,40nm,0.8s,mb5.0,baz=182,slow=10.0,SNR=9.3							
QIZ	**Qiongzhong**	**24.57**	**314**	P		**P**	**16 33 56.0**	**+1.4**
QIZ				S		**S**	**16 38 00.5**	**-0.6**
QIZ				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.7							
QIZ	**Qiongzhong**	**24.57**	**314**	P		**P**	**16 33 55.0**	**+0.4**
	comp=Z,17nm,0.7s,mb4.7							
MBWA	**Marble Bar**	**24.79**	**199**	*e*P		**P**	**16 33 55.9**	**-0.7**
	comp=Z,9.6nm,0.5s,mb4.6							
GZH	**Guangzhou**	**25.25**	**326**	P		**P**	**16 34 04.3**	**+3.3**
GZH				LR		LR		
	comp=N,370nm,19.0s							
GZH				LR		LR		
	comp=E,260nm,17.7s							
GZH				LR		LR		
	comp=Z,290nm,13.1s							
ASPA	**Alice Springs**	**26.38**	**168**	⇑*i*P		**P**	**16 34 10.6**	**-0.7**
ASPA				*e*PCP		PcP	**16 37 32.6**	**-0.6**
ASPA				*e*PCS			16 41 11.1	
KULM	**Kulim**	**27.77**	**277**	*e*P		**P**	**16 34 23.4**	**-0.8**
CTA	**Charters Tower**	**28.37**	**142**	⇑*i*P		**P**	**16 34 29.3**	**-0.1**
	comp=Z,9.6nm,0.8s,mb4.6							
CTA	**Charters Tower**	**28.37**	**142**	P		**P**	**16 34 29.4**	**0.0**
	comp=Z,14nm,0.9s,mb4.7,baz=317,slow=9.8,SNR=20							
CTA				PcP		PcP	**16 37 38.3**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=352,slow=21,SNR=2.8							
CTA				ScP			16 41 03.9	
	comp=Z,1.9nm,0.6s,baz=260,slow=6.1,SNR=3.4							
CTA				LR		LR	16 45 45.5	
	comp=Z,153nm,18.0s,baz=129,slow=36							
CTA	**Charters Tower**	**28.37**	**142**	⇑*i*P		**P**	**16 34 29.3**	**-0.1**
CTA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CTAO	**Charters Tower**	**28.37**	**142**	*e*P		**P**	**16 34 29.2**	**-0.2**
CTAO				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.6							
CTAO	**Charters Tower**	**28.37**	**142**	*e*P		**P**	**16 34 29.1**	**-0.2**
	comp=Z,10nm,0.8s,mb4.6							
PSI	**Prapat**	**29.38**	**272**	P		**P**	**16 34 34.0**	**-4.4**
	comp=Z,2.7nm,0.4s,mb4.3,baz=276,slow=4.8,SNR=2.5							
PSI				PcP		PcP	**16 37 40.0**	**-0.6**
	comp=Z,5.9nm,0.7s,baz=40,slow=15,SNR=3.3							
WHN	**Wuhan**	**31.05**	**336**	⇑P		**P**	**16 34 54.3**	**+1.3**
FORT	**Forrest**	**32.90**	**180**	*e*P		**P**	**16 35 07.7**	**-1.4**
	comp=Z,40nm,0.5s,mb5.4							
FORT				*e*PCP		PcP	**16 37 49.2**	**-0.6**
ENH	**Enshi**	**33.05**	**329**	*e*P		**P**	**16 35 10.6**	**+0.2**
	comp=Z,59nm,1.3s,mb5.2							
KMI	**Kunming**	**33.51**	**315**	P		**P**	**16 35 15.8**	**+1.5**
KMI				AP		pP	**16 35 51.3**	**+3.0**
KMI				XP		sP	**16 36 10.8**	**+4.2**
KMI				PP		PP	**16 36 32.3**	**+0.1**
KMI				PCP		PcP	**16 37 52.8**	**+1.3**
KMI				S		**S**	**16 40 21.5**	**-1.9**
KMI				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.8							
KMI				AMB		AMB		
	comp=Z,90nm,4.0s							
KMI				LR		LR		
	comp=N,110nm,14.3s							
KMI				LR		LR		
	comp=E,130nm,11.4s							
KMI				LR		LR		
	comp=Z,160nm,20.1s							
KS15	**Wonju Array Si**	**34.97**	**359**	*e*P		**P**	**16 35 26.7**	**+0.2**
KLBR	**Kellerberrin**	**35.18**	**196**	*e*P		**P**	**16 35 26.9**	**-1.5**
	comp=Z,33nm,0.8s,mb5.0							
KLBR				*e*PCP		PcP	**16 37 55.6**	**-0.7**
MJAR	**Matsushiro Arr**	**35.27**	**14**	P		**P**	**16 35 27.6**	**-1.5**
	comp=Z,18nm,0.7s,mb4.8,baz=188,slow=9.2,SNR=41							
MJAR				PcP		PcP	**16 37 56.5**	**0.0**
	comp=Z,3.9nm,1.0s,baz=183,slow=2.5,SNR=4.6							
MJAR				S		**S**	**16 40 50.9**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=139,slow=13,SNR=2.9							
MAJO	**Matsushiro**	**35.27**	**14**	*e*P		**P**	**16 35 27.5**	**-1.6**
MAJO				pmax		pmax		
	comp=Z,25nm,0.7s,mb5.0							
MAJO	**Matsushiro**	**35.27**	**14**	*e*P		**P**	**16 35 27.5**	**-1.6**
	comp=Z,25nm,0.7s,mb5.0							
MAT	**Matsushiro**	**35.27**	**14**	P		**P**	**16 35 27.5**	**-1.6**
MAT	**Matsushiro**	**35.27**	**14**	*e*P		**P**	**16 35 28.0**	**-1.1**
MAT				pmax		pmax		
	comp=Z,22nm,0.8s,mb4.8							
MAT	**Matsushiro**	**35.27**	**14**	*e*P		**P**	**16 35 28.0**	**-1.1**
	comp=Z,22nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**36.25**	**161**	⇑*i*P		**P**	**16 35 37.5**	**+0.1**
	comp=Z,76nm,0.4s,mb5.7							
STKA				*e*S		**S**	**16 41 03.3**	**-2.1**
STKA	**Stephens Creek**	**36.25**	**161**	P		**P**	**16 35 37.5**	**+0.1**
	comp=Z,92nm,0.4s,mb5.8,baz=342,slow=7.7,SNR=84							
STKA				PP		PP	**16 37 01.8**	**-3.1**
	comp=Z,16nm,0.7s,baz=317,slow=9.2,SNR=3.2							
STKA				PcP		PcP	**16 37 58.8**	**-0.6**
	comp=Z,13nm,0.5s,baz=328,slow=5.5,SNR=5.0							
STKA				S		**S**	**16 41 03.5**	**-1.9**
	comp=Z,6.1nm,1.1s,baz=91,slow=20,SNR=3.4							
STKA				LR		LR	**16 50 51.6**	
	comp=Z,121nm,19.2s,baz=26,slow=36							
XAN	**Xi'an**	**36.40**	**332**	P		**P**	**16 35 39.0**	**+0.3**
XAN				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.0							
NWAO	**Narrogin (SRO)**	**36.58**	**196**	P		**P**	**16 35 39.2**	**-0.9**
	comp=Z,9.4nm,0.4s,mb4.8,baz=3.7,slow=14,SNR=35							
NWAO				PcP		PcP	**16 37 59.9**	**-0.5**
	comp=Z,22nm,0.6s,baz=359,slow=1.9,SNR=9.2							
NWAO	**Narrogin (SRO)**	**36.58**	**196**	*e*P		**P**	**16 35 39.2**	**-1.0**
CD2	**Chengdu**	**36.73**	**323**	P		**P**	**16 35 42.0**	**+0.6**
CD2				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8							
CD2				AMB		AMB		
	comp=Z,130nm,9.8s							
ADE	**Adelaide**	**38.34**	**166**	*e*P		**P**	**16 35 56.0**	**+1.2**
SNY	**Shenyang**	**39.58**	**354**	⇓P		**P**	**16 36 05.3**	**+0.3**
LZH	**Lanzhou**	**40.53**	**329**	⇓P		**P**	**16 36 15.0**	**+2.1**
LZH				AP		pP	**16 36 51.3**	**+3.4**
LZH				XP		sP	**16 37 07.8**	**+1.2**
LZH				PCP		PcP	**16 38 13.5**	**+0.7**
LZH				PCS			**16 42 04.0**	
LZH				S		**S**	**16 42 12.0**	**+2.2**
LZH				XS			**16 43 16.0**	
LZH				*e*SS		SS	**16 45 17.0**	**+6.8**
LZH				AMB		AMB		
	comp=Z,130nm,1.0s,mb5.5							
LZH				AMB		AMB		
	comp=Z,190nm,5.8s							
LZH				LR		LR		
	comp=E,200nm,15.0s							
LZH				LR		LR		
	comp=Z,210nm,17.2s							
HHC	**Hu-ho-hao-te**	**41.25**	**341**	*e*P		**P**	**16 36 19.5**	**+0.7**
HHC				AMB		AMB		
	comp=Z,20nm,0.6s,mb4.9							
HHC				AMB		AMB		
	comp=Z,150nm,4.4s							
HHC				LR		LR		
	comp=N,130nm,11.9s							
HHC				LR		LR		
	comp=E,90nm,10.7s							
HHC				LR		LR		
	comp=Z,130nm,13.1s							
MDJ	**Mudanjiang**	**42.15**	**1**	P		**P**	**16 36 26.5**	**+0.4**
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.5s,mb4.2							
MDJ				AMB		AMB		
	comp=Z,460nm,3.5s							
CNB	**Canberra Magne**	**42.29**	**154**	*e*P		**P**	**16 36 29.3**	**+1.9**
	comp=Z,63nm,1.8s,mb4.9							
TOO	**Toolangi**	**42.75**	**160**	*e*P		**P**	**16 36 32.3**	**+1.2**
	comp=Z,20nm,0.5s,mb5.0							
TOO	**Toolangi**	**42.75**	**160**	*e*P		**P**	**16 36 32.3**	**+1.2**
TOO				pmax		pmax		
	comp=Z,20nm,0.5s,mb5.0							
ASAJ	**Asahikawa**	**43.51**	**15**	P		**P**	**16 36 38.3**	**+1.2**
	comp=Z,17nm,1.0s,mb4.7,baz=309,slow=22,SNR=11							
LSA	**Lhasa**	**44.57**	**311**	*e*P		**P**	**16 36 47.8**	**+2.0**
LSA	**Lhasa**	**44.57**	**311**	*e*P		**P**	**16 36 47.6**	**+1.8**
LSA				pmax		pmax		
	comp=Z,12nm,0.4s,mb4.9							
LSA	**Lhasa**	**44.57**	**311**	*e*P		**P**	**16 36 47.6**	**+1.8**
	comp=Z,12nm,0.4s,mb4.9							
GTA	**Gaotai**	**45.13**	**329**	P		**P**	**16 36 50.8**	**+0.7**
GTA				AP		pP	**16 37 26.5**	**+1.0**
GTA				XP		sP	**16 37 44.8**	**+1.0**
GTA				PCP		PcP	**16 38 28.5**	**+0.2**
GTA				PP		PP	**16 38 39.5**	**+1.1**
GTA				SCP			**16 42 05.8**	
GTA				PCS			**16 42 21.3**	
GTA				S		**S**	**16 43 17.8**	**+1.3**
GTA				SCS		ScS	**16 46 28.5**	**+1.0**
GTA				SS		SS	**16 46 37.3**	**+1.9**
GTA				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
GTA				LR		LR		
	comp=N,420nm,15.7s							
GTA				LR		LR		
	comp=E,150nm,11.5s							
GTA				LR		LR		
	comp=Z,150nm,12.2s							
KLR	**Kul'dur**	**46.84**	**3**	*e*P		**P**	**16 37 01.8**	**-1.6**
HIA	**Hailar**	**47.36**	**352**	P		**P**	**16 37 07.6**	**+0.2**
HIA				pmax		pmax		
	comp=Z,2.0nm,0.5s							
HIA	**Hailar**	**47.36**	**352**	P		**P**	**16 37 07.6**	**+0.1**
	comp=Z,2.5nm,0.5s,mb4.1							
JIRN	**Jiri**	**47.49**	**306**	*e*P		**P**	**16 37 09.6**	**+0.8**
	comp=Z,33nm,0.5s,mb5.2							
GUN	**Gumba**	**47.85**	**306**	*e*P		**P**	**16 37 12.6**	**+1.0**
	comp=Z,48nm,0.7s,mb5.3							
PKI	**Pulchoki**	**48.09**	**306**	*e*P		**P**	**16 37 14.6**	**+1.2**
KKN	**Kakani**	**48.28**	**306**	*e*P		**P**	**16 37 15.0**	**+0.1**
DMN	**Daman**	**48.35**	**306**	*e*P		**P**	**16 37 16.8**	**+1.3**
	comp=Z,14nm,0.4s,mb4.9							
GKN	**Gorkha**	**48.89**	**306**	*e*P		**P**	**16 37 19.8**	**+0.2**
ULN	**Ulaanbaatar**	**48.97**	**341**	*e*P		**P**	**16 37 19.9**	**0.0**
ULN				pmax		pmax		
	comp=Z,18nm,0.7s,mb4.8							
ULN	**Ulaanbaatar**	**48.97**	**341**	*e*P		**P**	**16 37 19.9**	**0.0**
	comp=Z,18nm,0.7s,mb4.8							
SONM	**Songino Array**	**49.15**	**341**	P		**P**	**16 37 21.6**	**+0.3**
	comp=Z,11nm,0.7s,mb4.6,baz=152,slow=8.1,SNR=76							
SONM				pP		pP	**16 37 56.1**	**-1.2**
	comp=Z,5.1nm,0.6s,baz=153,slow=8.9,SNR=3.2							
SONM				PcP		PcP	**16 38 42.6**	**+0.1**
	comp=Z,6.7nm,0.7s,baz=154,slow=3.5,SNR=7.8							
SONM				ScP			**16 42 22.1**	
	comp=Z,2.5nm,0.8s,baz=164,slow=6.0,SNR=7.2							
SONM				S		**S**	**16 44 12.3**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=35,slow=34,SNR=2.7							
SONM	**Songino Array**	**49.15**	**341**	P		**P**	**16 37 21.6**	**+0.3**
SONM				*PP		pP	**16 37 56.1**	**-1.2**
SONM							**16 38 42.6**	
SONM				S		**S**	**16 44 12.3**	**-0.8**
KOLN	**Koldanda**	**49.64**	**305**	*e*P		**P**	**16 37 25.9**	**+0.6**
	comp=Z,66nm,0.9s,mb5.2							
HYB	**Hyderabad**	**51.10**	**291**	*i* P		**P**	**16 37 36.0**	**-0.5**
HYB				*e*pP		pP	**16 38 13.5**	**+0.8**
HYB	**Hyderabad**	**51.10**	**291**	*e*P		**P**	**16 37 36.0**	**-0.5**
ZAK	**Zakamensk**	**52.39**	**340**	*e*P		**P**	**16 37 45.7**	**0.0**
ZAK				*e*		pP	**16 38 18.5**	**-3.6**
ZAK				*e*			**16 38 54.2**	
ZAK				pmax		pmax		
	comp=Z,8.0nm,1.7s,mb4.1							
ZAK				pmax		pmax		
	comp=Z,11nm,1.6s,mb4.2							
ZAK				pmax		pmax		
	comp=Z,11nm,1.6s,mb4.2							
ZAK				pmax		pmax		
	comp=Z,8.0nm,1.8s,mb4.0							
MOY	**Mondy**	**54.26**	**339**	*e*P		**P**	**16 38 00.3**	**+0.9**
WMQ	**Urumqi**	**54.80**	**325**	*e*P		**P**	**16 38 04.0**	**+0.6**
WMQ				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,160nm,4.6s							
WMQ				LR		LR		
	comp=N,60nm,20.0s							
WMQ				LR		LR		
	comp=E,70nm,21.0s							
WMQ				LR		LR		
	comp=Z,10.0nm,20.0s							
BOD	**Bodaibo**	**56.50**	**351**	*e*P		**P**	**16 38 07.7**	**-7.8**
BOD				pmax		pmax		
	comp=Z,8.0nm,1.3s,mb4.4							
YAK	**Yakutsk**	**59.59**	**1**	*e*P		**P**	**16 38 35.1**	**-1.8**
YAK				*e*			**16 46 29.4**	
YAK				pmax		pmax		
	comp=Z,19nm,0.9s,mb4.9							
YAK				pmax		pmax		
	comp=N,3.0nm,1.0s							
YAK				pmax		pmax		
	comp=N,7.0nm,1.4s							
YAK	**Yakutsk**	**59.59**	**1**	*e*P		**P**	**16 38 36.2**	**-0.7**
	comp=N,60nm,0.6s,mb5.6							
MKAR	**Makanchi Array**	**59.63**	**325**	P		**P**	**16 38 36.9**	**-0.5**
	comp=N,14nm,0.5s,mb5.1,baz=116,slow=8.2,SNR=289							
MKAR				pP		pP	**16 39 11.9**	**-2.7**
	comp=N,11nm,0.7s,baz=117,slow=8.1,SNR=8.2							
MKAR				PcP		PcP	**16 39 21.9**	**-0.6**
	comp=N,11nm,0.7s,baz=138,slow=4.5,SNR=11							
MKAR				ScP			**16 43 06.8**	
	comp=N,1.2nm,0.9s,baz=109,slow=6.4,SNR=5.2							
MKAR				S		**S**	**16 46 33.2**	**+0.1**
	comp=N,0.6nm,0.9s,baz=128,slow=14,SNR=6.4							
MKAR	**Makanchi Array**	**59.63**	**325**	P		**P**	**16 38 36.9**	**-0.5**
MKAR				*PP		pP	**16 39 12.0**	**-2.7**
MKAR							**16 39 21.9**	
MKAR				S		**S**	**16 46 33.3**	**+0.2**
KSH	**Kashi**	**60.17**	**315**	*e*P		**P**	**16 38 42.0**	**+0.8**
KSH				AMB		AMB		
	comp=Z,90nm,3.8s							
KZA	**Kyzart**	**61.74**	**317**	P		**P**	**16 38 52.4**	**+0.7**
	SNR=18							
TKM2	**Tokmak 2**	**61.86**	**318**	P		**P**	**16 38 52.2**	**-0.4**
	SNR=10							
UCH	**Uchtor**	**62.30**	**317**	P		**P**	**16 38 56.5**	**+1.1**
	SNR=15							
AAK	**Ala-Archa**	**62.48**	**318**	⇑*e*P		**P**	**16 38 55.5**	**-1.1**
AAK				pmax		pmax		
	comp=Z,7.0nm,1.5s,mb4.3							
AAK				MLR		MLR		
	comp=Z,100nm,29.0s							
AAK	**Ala-Archa**	**62.48**	**318**	*e*P		**P**	**16 38 55.4**	**-1.2**
	comp=Z,26nm,1.5s,mb4.8							
FX1	**Attu Island--F**	**62.53**	**29**	P		**P**	**16 38 57.5**	**+0.7**
	comp=Z,26nm,0.8s,mb5.1,baz=63,slow=13,SNR=5.3							
ZAL	**Zalesovo**	**62.58**	**333**	P		**P**	**16 38 55.8**	**-1.3**
	comp=Z,2.0nm,0.4s,mb4.3,baz=358,slow=6.7,SNR=15							
ZAL				S		**S**	**16 47 08.1**	**-2.2**
	comp=Z,0.5nm,0.5s,baz=267,slow=24,SNR=7.1							
USP	**Ospenovka**	**62.74**	**318**	P		**P**	**16 38 57.9**	**-0.4**
	SNR=24							
AML	**Almayashu**	**62.81**	**317**	P		**P**	**16 38 59.3**	**+0.5**
	SNR=20							
EKS2	**Erkin-Say**	**62.97**	**318**	P		**P**	**16 39 00.1**	**+0.3**
	SNR=12							
SEY	**Seymchan**	**63.07**	**12**	⇑*e*P		**P**	**16 39 01.3**	**+1.1**
KURK	**Kurchatov**	**63.79**	**327**	*c i*P		**P**	**16 39 04.2**	**-0.9**
KURK	**Kurchatov**	**63.79**	**327**	*e*P		**P**	**16 39 03.8**	**-1.3**
	comp=Z,23nm,0.6s,mb5.2							
NVS	**Novosibirsk**	**63.86**	**333**	*e*P		**P**	**16 39 02.8**	**-2.6**
NVS				*e**PP		pP	**16 39 36.3**	**-6.9**
NVS				*e*S		**S**	**16 47 22.8**	**-3.4**
NVS				pmax		pmax		
	comp=N,4.0nm,0.9s							
NVS				pmax		pmax		
	comp=E,8.0nm,0.9s							
NVS				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.6							
NVS				smax				
	comp=N,14nm,1.8s							
NVS				smax				
	comp=E,13nm,1.8s							
KKAR	**Karatay Array**	**65.36**	**317**	*i* P		**P**	**16 39 14.1**	**-1.3**
KKAR				pmax		pmax		
	comp=Z,26nm,1.1s,mb5.0							
TIXI	**Tiksi**	**69.24**	**0**	⇓*e*P		**P**	**16 39 37.9**	**-1.2**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.5							
BVA0	**Borovoye Array**	**69.38**	**327**	*i* P		**P**	**16 39 39.0**	**-1.2**
BVA0				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb3.9							
BVAR	**Borovoye Array**	**69.38**	**327**	S		S	**16 48 31.0**	**-1.6**
	comp=Z,2.8nm,1.0s,baz=127,slow=15,SNR=11							
BRVK	**Borovoye**	**69.45**	**327**	*e*P		**P**	**16 39 39.7**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,17nm,0.9s,mb4.8							
BRVK	**Borovoye**	**69.45**	**327**	*e*P		**

comp=Z,30nm,1.6s,mb4.9
DAWY Dawson 88.94 26 *e*P **P 16 41 25.9 +0.8**
ANN Anapa 89.03 315 *e*P **P 16 41 21.9 -4.1**
ANN *e*S S 16 51 33.0 -25
ANN pmax pmax
comp=Z,20nm,0.6s,mb5.2
OBN Obninsk 89.14 325 *d i*P **P 16 41 25.4 -0.8**
OBN *e**PP pP 16 42 07.1 +0.7
OBN pmax pmax
comp=Z,24nm,1.0s,mb5.1
INK Inuvik 90.89 22 P **P 16 41 34.2 0.0**
comp=Z,3.1nm,0.8s,mb4.4,baz=280,slow=3.9,SNR=17
INK PKKP PKKP 16 58 57.7 +24
comp=Z,3.5nm,0.9s,baz=70,slow=2.6,SNR=23
INK Inuvik 90.89 22 P **P 16 41 34.2 0.0**
INK PKKP PKKP 16 58 57.7 +24
KMBO Kilima Mbogo 91.12 269 P **P 16 41 36.9 +0.3**
comp=Z,3.7nm,0.9s,mb4.4,baz=56,slow=11,SNR=7.3
JOF Joensuu 91.17 333 *ep* **P 16 41 34.5 -1.0**
comp=Z,6.3nm,0.6s,mb4.8
BRTR Keskin Array B 92.15 310 P **P 16 41 39.2 -1.5**
comp=Z,1.8nm,0.9s,mb4.1,baz=121,slow=7.2,SNR=5.9
QSPA South Pole Qui 92.22 180 *e*P **P 16 41 40.6 +0.5**
comp=Z,16nm,0.7s,mb5.2
ARCES ARCESS Array B 92.33 340 P **P 16 41 40.1 -0.7**
comp=Z,14nm,0.7s,mb5.1,baz=82,slow=6.6,SNR=56
ARCES PKiKP 16 46 29.1
comp=Z,0.6nm,0.4s,baz=90,slow=1.2,SNR=7.6
ARCES PKKP PKKP 16 58 54.4 +23
comp=Z,2.4nm,1.0s,baz=270,slow=2.4,SNR=5.5
KAF Kangasniemi 93.59 333 *ep* **P 16 41 45.5 -1.2**
comp=Z,1.7nm,0.4s,mb4.5
KAF Kangasniemi 93.59 333 *e*P **P 16 41 45.5 -1.2**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
FINES FINESS Array B 93.83 332 P **P 16 41 47.2 -0.5**
comp=Z,2.0nm,0.5s,mb4.5,baz=71,slow=3.9,SNR=28
FINES PKiKP 16 46 32.0
comp=Z,2.5nm,1.0s,baz=117,slow=6.2,SNR=4.5
FINES S S 16 52 06.0 -34
comp=Z,1.6nm,0.9s,baz=162,slow=42,SNR=2.6
AKASG Malin Array Be 94.00 321 P **P 16 41 47.2 -1.5**
comp=Z,0.8nm,0.4s,mb4.2,baz=69,slow=4.6,SNR=9.6
DLBC Dease Lake 94.13 31 P **P 16 41 50.4 +1.2**
comp=Z,0.6nm,0.5s,mb4.0,baz=268,slow=6.6,SNR=7.1
VRI Vrincioaia 96.42 316 ⇑P **P 16 42 00.1 +0.2**
MLR Muntele Rosu 97.03 316 P **P 16 42 02.7 -0.1**
comp=Z,3.4nm,0.6s,mb4.8,baz=227,slow=4.7,SNR=10
MLR Muntele Rosu 97.03 316 ⇑P **P 16 42 02.9 +0.2**
BURAR Bucovina Array 97.12 318 ⇓P **P 16 42 03.1 0.0**
BURAR Bucovina Array 97.12 318 ⇓P **P 16 42 03.1 0.0**
DAG Danmarks Havn 98.86 353 ⇑*i*P **P 16 42 09.8 -0.6**
comp=Z,2.1nm,0.7s,mb4.7
DAG Danmarks Havn 98.86 353 ⇑*e*P **P 16 42 09.8 -0.6**
DAG pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
DAG Danmarks Havn 98.86 353 ⇑*e*P **P 16 42 09.8 -0.6**
comp=Z,2.0nm,0.7s,mb4.7
RES Resolute Bay 98.91 11 *e*P **P 16 42 10.9 +0.2**
RES pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
RES Resolute Bay 98.91 11 *e*P **P 16 42 10.9 +0.2**
comp=Z,6.4nm,0.8s,mb5.1
HFS Hagfors 100.01 332 P P 16 42 14.7 -1.2
comp=Z,7.0nm,0.9s,baz=90,slow=5.8,SNR=4.7
YKA Yellowknife Ar 100.12 25 P P 16 42 16.8 +0.5
comp=Z,0.8nm,0.7s,baz=297,slow=4.5,SNR=23
YKA PKiKP 16 46 43.1
comp=Z,0.5nm,0.5s,baz=296,slow=1.7,SNR=33
YKA PKKP PKKP 16 58 30.2 +13
comp=Z,0.8nm,0.8s,baz=111,slow=2.4,SNR=14
NB2 NORSAR Subarra100.76 334 P P 16 42 17.6 -1.6
comp=Z,3.4nm,0.7s,baz=67,slow=4.5
NB2 NORSAR Subarra100.76 334 P P 16 42 17.6 -1.6
baz=67,slow=4.4
NB2 NORSAR Subarra100.76 334 P P 16 42 17.6 -1.6
NB2 pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 100.76 334 P P 16 42 18.1 -1.2
comp=Z,2.7nm,0.7s,baz=66,slow=4.5,SNR=8.5
GERES GERESS Array B 104.19 322 Pdiff Pdif 16 42 34.7 +0.1
comp=Z,0.4nm,0.8s,baz=56,slow=4.8,SNR=4.9
GERES PKiKP 16 46 51.4
comp=Z,0.7nm,0.7s,baz=45,slow=1.9,SNR=6.1
SNAA Sanae 104.24 194 *e*P Pdif 16 42 33.5 -0.9
NVAR Mina Array Bea 106.65 49 PKiKP 16 46 57.5
comp=Z,0.4nm,0.6s,baz=233,slow=1.4,SNR=3.7
DAVOX Davos 107.34 321 PKiKP 16 46 56.8
comp=Z,1.0nm,0.6s,baz=320,slow=21,SNR=3.3
ELK Elko 108.18 46 PKKPbc 16 58 10.3
comp=Z,1.1nm,0.8s,baz=112,slow=1.3,SNR=5.6
EKA Eskdalemuir Ar 110.21 333 PKiKP 16 47 02.1
comp=Z,0.6nm,0.6s,baz=45,slow=3.0,SNR=4.4
PDAR Pinedale Array 111.35 42 PKiKP 16 47 05.0
comp=Z,0.8nm,0.6s,baz=134,slow=1.6,SNR=13
PDAR PKKPbc 16 57 59.8
comp=Z,0.8nm,0.8s,baz=115,slow=5.9,SNR=6.4
PDAR PKKPab 16 58 09.1
comp=Z,0.8nm,0.5s,baz=114,slow=6.8,SNR=12
PV10 Paradox Valley 113.50 46 *e*PKiKP 16 47 09.8
PV01 Paradox Valley 113.94 46 *e*PKiKP 16 47 10.5
RSSD Black Hills 114.31 39 *e*PKiKP PKPdf 16 47 10.2 +1.5
ULM Lac du Bonnet 115.42 30 PKP PKPdf 16 47 11.5 +0.8
comp=Z,2.8nm,0.5s,baz=281,slow=2.5,SNR=13
ULM PKKPbc 16 57 44.5
comp=Z,0.6nm,0.5s,baz=119,slow=2.6,SNR=3.6
ANMO Albuquerque 116.77 49 *i* PKiKP PKPdf 16 47 16.4 +2.8
MNTX Cornudas Mount 118.89 52 *e*PKPdf PKPdf 16 47 20.2 +2.4
ESDC Sonseca Array 119.57 319 PKP PKPdf 16 47 20.1 +1.2
comp=Z,0.3nm,0.5s,baz=20,slow=2.4,SNR=4.1
TXAR Lajitas Array 121.18 54 PKP PKPdf 16 47 24.4 +2.0
comp=Z,2.4nm,0.6s,baz=236,slow=1.6,SNR=30
TXAR PKKPab 16 57 26.8
comp=Z,0.8nm,0.7s,baz=117,slow=6.5,SNR=12
SCHQ Schefferville 121.69 10 PKhKP 16 47 17.7
comp=Z,2.9nm,0.9s,slow=4.0,SNR=5.0
SCHQ PKP PKPdf 16 47 24.1 +1.4
comp=Z,2.6nm,0.3s,baz=293,slow=8.6,SNR=15
SCHQ Schefferville 121.69 10 PKP PKPdf 16 47 17.7 -5.0
SCHQ PKP PKPdf 16 47 24.1 +1.4
WMOK Wichita Mounta 122.51 46 *e*PKPdf PKPdf 16 47 25.9 +1.2
JCT Junction City 123.75 51 *e*PKPdf PKPdf 16 47 29.0 +1.7
CCM Cathedral Cave 125.69 38 *e*PKPdf PKPdf 16 47 31.8 +0.9
MIAR Mount Ida 126.25 43 *e*PKPdf PKPdf 16 47 34.3 +2.3
BLO Bloomington 127.75 34 *e*PKPdf PKPdf 16 47 36.7 +1.9
WCI Wyandotte Cave 128.53 35 *e*PKPdf PKPdf 16 47 38.0 +1.6
LRAL Lakeview Retre 131.54 40 *e*PKPdf PKPdf 16 47 43.9 +1.7
DBIC Dimbokro 132.43 281 PKP PKPdf 16 47 46.2 +1.8
comp=Z,3.6nm,0.7s,baz=47,slow=3.4,SNR=10
DBIC SKPbc 16 50 56.5
comp=Z,4.8nm,1.0s,baz=115,slow=6.1,SNR=4.1
DBIC Dimbokro 132.43 281 PKP PKPdf 16 47 46.2 +1.8
DBIC SKPbc 16 50 56.5
PLCA Paso Flores 138.11 158 PKP PKPdf 16 47 56.7 +2.5
comp=Z,4.1nm,0.8s,baz=225,slow=1.2,SNR=5.5
PLCA SKP 16 51 15.2
comp=Z,1.5nm,0.9s,baz=211,slow=3.9,SNR=4.1
PLCA Paso Flores 138.11 158 *e*PKIKP PKPdf 16 47 56.2 +2.0
JTS JuntasAbangare 144.58 69 *c i*PKIKP PKPdf 16 48 07.7 +1.3
JTS JuntasAbangare 144.58 69 *e*PKP PKPdf 16 48 07.6 +1.2
CFAA Coronel Fontan 146.93 154 PKPbc PKPbc 16 48 11.9 +0.4
comp=Z,4.0nm,0.7s,baz=221,slow=3.1,SNR=80
OTAV Otavalo 153.11 85 *e*PKPdf PKPdf 16 48 22.7 +2.9
OTAV *e*PKPbc PKPbc 16 48 30.1 +10
CPUP Villa Florida 155.50 168 *e*PKIKP PKPdf 16 48 25.1 +2.5
CPUP *e* 16 48 51.6
CPUP Villa Florida 155.50 168 *e*PKPdf PKPdf 16 48 25.1 +2.5
CPUP *e*PKPbc PKPdf 16 48 33.8 +11
CPUP *e*PKPab PKPab 16 48 51.6 -0.1
ROSC El Rosal 156.27 73 PKP PKPdf 16 48 27.0 +3.0
comp=Z,1.6nm,0.3s,baz=278,slow=23,SNR=4.6
ROSC PKPbc PKPdf 16 48 36.8 +13
comp=Z,3.3nm,0.6s,baz=84,slow=19,SNR=4.6
ROSC PKPab PKPab 16 48 57.9 +2.5
comp=Z,10.0nm,0.8s,baz=95,slow=21,SNR=7.0
SDV Santo Domingo 158.07 59 PKP PKPdf 16 48 28.2 +1.8
comp=Z,15nm,0.8s,baz=307,slow=1.9,SNR=21
SDV PKPab PKPab 16 49 03.7 +0.5
comp=Z,8.5nm,0.7s,baz=25,slow=2.4,SNR=7.1
LPAZ La Paz 158.66 132 PKP PKPdf 16 48 30.8 +3.8
comp=Z,2.4nm,0.8s,baz=48,slow=3.4,SNR=12
LPAZ PKPab PKPab 16 49 07.7 +2.1
comp=Z,6.7nm,0.9s,baz=195,slow=4.1,SNR=12
LPAZ La Paz 158.66 132 *e*PKPdf PKPdf 16 48 30.3 +3.3
LPAZ *e*PKPab PKPab 16 49 07.0 +1.5
SIV San Ignacio 163.55 146 PKP PKPdf 16 48 34.8 +2.7
comp=Z,3.5nm,1.0s,baz=238,slow=1.5,SNR=14
SIV PKPab PKPab 16 49 27.0 +0.3
comp=Z,3.1nm,0.8s,baz=198,slow=4.7,SNR=8.0
BDFB Brasilia 166.27 195 PKP PKPdf 16 48 36.3 +1.8
comp=Z,2.5nm,0.9s,baz=106,slow=2.6,SNR=4.3
BDFB PKPab PKPab 16 49 37.8 -0.8
comp=Z,1.3nm,0.6s,baz=224,slow=9.4,SNR=4.4

NIED ***25*** *16:55:00,35.60N×140.10E,h65km,Mw3.5 Best double couple: M0 2.3×10^14 NP1:φs247°,δ74°,λ78°. NP2:φs106°, δ20°,λ127°.*

JMA 25 16:55:31.1±0.2,35.62N×140.02E,h70km±2km,M3.6, 4C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.22**	**287**	⇑P	P		P	16 55 42.0	+0.2
TOK				S	S		S	16 55 50.6	+0.8
JCN	**Nagara**	**0.25**	**144**	⇑P	P		P	16 55 42.5	+0.5
JOD2	**Odawara 2**	**0.84**	**245**	⇓P	P		P	16 55 47.5	-0.3
JOD2				S	S		S	16 55 59.1	-1.1
BSO3	**Boso 3**	**0.91**	**154**	⇓P	P		S	16 55 47.7	-1.0
BSO3				S	S		S	16 56 01.2	-0.5
JAG	**Ashikaga**	**0.93**	**330**	⇑P	P		S	16 55 49.1	+0.2
JAG				S	S		S	16 56 02.1	0.0
JRY	**Ryogami san**	**0.99**	**294**	⇑P	P		P	16 55 50.4	+0.7
JIM2	**Oshima 3**	**1.02**	**208**	P	P		P	16 55 48.9	-1.2
BSO1	**Boso 1**	**1.24**	**141**	P	P		P	16 55 51.4	-1.7
BSO1				S	S		S	16 56 07.8	-1.6
JIZS	**Izushimoda**	**1.30**	**226**	⇓P	P		S	16 55 53.1	-0.7
JIZS				S	S		S	16 56 09.2	-1.5
JKT	**Katashina**	**1.30**	**332**	P	P		P	16 55 53.9	-0.1
MAT	**Matsushiro**	**1.73**	**303**	P	P		P	16 55 59.9	+0.2
MAT				*e*S	S		S	16 56 18.9	-1.9

IDC ***25*** *17:30:54.9±5.4,36.30N×71.42E,h80km±45km,mb3.8/12, mb1 4.1/16,mb1mx4.0/21,mbtmp4.3/16,ML4.1/3,MS2.6/1, Ms1 2.6/1,ms1mx2.4/32,Error ellipse: s-maj=30.8km s-min=17.1km az=9.0*
NEIC ***25*** *17:30:54.6±0.9,36.35N×71.40E,h74km±10km,mb4.4/18, Error ellipse: s-maj=9.1km s-min=5.0km az=225.0*
BJI ***25*** *17:30:55.4,36.51N×71.25E,h82km,mB4.9,mb4.7,Ms4.1, Msz4.0*
MOS ***25*** *17:30:56.3±1.1,36.44N×71.43E,h100km,mb4.5/22,Error ellipse: s-maj=8.6km s-min=5.1km az=104.7*
NNC ***25*** *17:31:07.0±4.2,37.21N×71.10E,h194km±45km,mb3.8, mpv5.4,Error ellipse: s-maj=48.4km s-min=22.9km az=32.0*

ISC 25 17:30:56.2±0.5,36.37N±0.02×71.48E±0.04,h105km±5km, n148,σ1s21/184,mb4.3/37,14C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.57**	**172**	⇓P	P		P	**17 31 40.2**	**+3.0**
CHCP	**Chirah Chowk**	**3.08**	**151**	⇓P	P		P	**17 31 47.4**	**+3.3**
CHCP				S	S		S	**17 32 20.0**	**-0.3**
THW	**Thamme Wali**	**3.58**	**176**	P	P		P	**17 31 52.1**	**+1.2**
SBDP	**Sheikh Budin**	**4.10**	**188**	P	P		P	**17 31 58.5**	**+0.5**
KSH	**Kashi**	**4.74**	**47**	P	P		P	**17 32 10.8**	**+4.0**
KSH				S	S		S	**17 33 04.5**	**+3.6**
KSH				Smax					
	comp=N,260nm,0.6s								
KSH				Smax					
	comp=E,360nm,0.4s								
PONG	**Pong**	**5.76**	**139**	*e*P	P		P	**17 32 24.0**	**+3.5**
PONG				*e*S	S		S	**17 33 29.0**	**+3.1**
AML	**Almayashu**	**6.00**	**16**	P	P		P	**17 32 24.4**	**+0.5**
	SNR=542								
UCH	**Uchtor**	**6.30**	**21**	P	P		P	**17 32 28.9**	**+0.9**
	SNR=152								
KZA	**Kyzart**	**6.41**	**26**	P	P		P	**17 32 30.2**	**+0.8**
	SNR=100								
EKS2	**Erkin-Say**	**6.53**	**15**	P	P		P	**17 32 31.4**	**+0.3**
	SNR=193								
AAK	**Ala-Archa**	**6.67**	**20**	P	P		P	**17 32 33.9**	**+0.7**
	SNR=186								
AAK	**Ala-Archa**	**6.67**	**20**	*d* iPN	P		P	**17 32 32.7**	**-0.5**
AAK				pmax	pmax				
	comp=Z,87nm,0.5s								
AAK	**Ala-Archa**	**6.67**	**20**	*e*P	P		P	**17 32 32.6**	**-0.6**
	comp=Z,116nm,0.4s								
KK31	**Karatay Array**	**6.76**	**354**	⇓P	P		P	**17 32 32.8**	**-1.6**
	comp=Z,95nm,0.3s,baz=178,slow=12,SNR=4023								
KK31				⇑S	S		S	**17 33 42.9**	**-7.6**
	comp=Z,86nm,0.5s,baz=182,slow=15,SNR=2.6								
KKAR	**Karatay Array**	**6.76**	**354**	PN	P		P	**17 32 32.8**	**-1.6**
KKAR				pmax	pmax				
	comp=Z,58nm,0.3s								
KBK	**Karagaybulak**	**6.82**	**22**	P	P		P	**17 32 36.1**	**+0.8**
	SNR=27								
FRU	**Bishkek**	**6.89**	**20**	⇑*i* PN	P		P	**17 32 37.0**	**+0.8**
FRU				pmax	pmax				
	comp=Z,120nm,1.6s								
ULHL	**Ulahol**	**6.93**	**31**	P	P		P	**17 32 37.7**	**+1.0**
	SNR=6.3								
CHMS	**Chumysh**	**7.08**	**20**	P	P		P	**17 32 39.4**	**+0.6**
	SNR=38								
USP	**Ospenovka**	**7.27**	**18**	P	P		P	**17 32 41.1**	**-0.1**
	SNR=72								
TKM2	**Tokmak 2**	**7.27**	**25**	P	P		P	**17 32 42.0**	**+0.7**
	SNR=104								
TKM2	**Tokmak 2**	**7.27**	**25**	⇓P	P		P	**17 32 41.9**	**+0.6**
	comp=Z,50nm,0.5s								
TKM2				⇑S	S		S	**17 33 59.6**	**-3.2**
	comp=Z,56nm,0.9s								
TKM2	**Tokmak 2**	**7.27**	**25**	PN	P		P	**17 32 41.6**	**+0.3**
TKM2				pmax	pmax				
	comp=Z,25nm,0.5s								
KLP	**Kalpa**	**7.41**	**129**	*e*P	P		P	**17 32 44.3**	**+1.0**
KLP				*e*S	S		S	**17 34 03.7**	**-2.7**
KLP				AML	AML			17 34 11.2	
	comp=E,992nm,0.6s								
KLP				AML	AML			17 34 12.2	
	comp=N,1μm,0.5s								
KNDC	**Almaty**	**8.03**	**30**	⇑P	P		P	**17 32 53.1**	**+1.4**
	comp=N,638nm,0.7s								
KHET	**Khetri**	**9.05**	**155**	*e*P	P		P	**17 33 02.9**	**-2.5**
KHET				*e*S	S		S	**17 34 38.0**	**-8.2**
KHET				AML	AML			17 34 42.9	
	comp=E,286nm,0.4s								
KHET				AML	AML			17 34 43.2	
	comp=N,232nm,0.4s								
NDI	**New Delhi**	**9.07**	**146**	*e*P	P		P	**17 33 07.1**	**+1.5**
NDI				*e*S	S		S	**17 34 39.5**	**-7.1**
AYAN	**Aya Nagar**	**9.20**	**147**	*e*P	P		P	**17 33 06.3**	**-1.1**
AYAN				*e*S	S		S	**17 34 42.6**	**-7.2**
AYAN				AML	AML			17 34 50.4	
	comp=Z,88nm,0.3s								
KUDL	**Kundal**	**9.23**	**151**	*e*S	S		S	**17 34 42.0**	**-8.6**
KUDL				AML	AML			17 34 48.9	
	comp=Z,104nm,0.4s								
BISR	**Bishrakh**	**9.27**	**145**	*e*S	S		S	**17 34 44.6**	**-6.7**
BISR				AML	AML			17 34 53.3	
	comp=Z,20nm,0.5s								
SONA	**Sohna**	**9.38**	**148**	*e*P	P		P	**17 33 07.1**	**-2.8**
SONA				*e*S	S		S	**17 34 47.2**	**-7.0**
SONA				AML	AML			17 34 52.2	
	comp=N,111nm,0.6s								
MK31	**Makanchi Array**	**13.17**	**34**	⇑P	P		P	**17 33 59.6**	**-0.4**
	comp=N,8.7nm,0.6s,baz=205,slow=7.7,SNR=100								
MKAR	**Makanchi Array**	**13.17**	**34**	P	P		P	**17 33 59.0**	**-1.0**
	comp=N,0.2nm,0.3s,baz=221,slow=12,SNR=64								
MKAR	**Makanchi Array**	**13.17**	**34**	*i* P	P		P	**17 33 59.5**	**-0.6**
MKAR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
KOLN	**Koldanda**	**13.38**	**126**	*e*Pn	P		P	**17 34 01.8**	**-1.0**
KOLN				*e*Sn	S		S	**17 36 22.8**	**-6.5**
	comp=Z,72nm,0.5s								
KOLN	**Koldanda**	**13.38**	**126**	*e*Pn	P		P	**17 34 01.8**	**-1.0**
	comp=Z,36nm,0.5s								
KOLN				*e*Sn	S		S	**17 36 22.8**	**-6.5**
GKN	**Gorkha**	**13.91**	**123**	*e*Pn	P		P	**17 34 08.5**	**-1.2**
GKN				*e*Sn	S		S	**17 36 34.1**	**-7.7**
	comp=Z,187nm,0.5s								
GKN	**Gorkha**	**13.91**	**123**	*e*Pn	P		P	**17 34 08.5**	**-1.2**
	comp=Z,93nm,0.5s								
GKN				*e*Sn	S		S	**17 36 34.1**	**-7.7**
BHPL	**Bhopal**	**14.06**	**157**	*e*P	P		P	**17 34 10.4**	**-1.2**
BHPL				*ex*	x		x	17 36 38.8	
WMQ	**Urumqi**	**14.46**	**54**	*e*P	P		P	**17 34 17.0**	**+0.4**
WMQ				PP	PP			17 34 28.0	-1.4
WMQ				S	S			**17 36 52.0**	**-2.5**
WMQ				AMB	AMB				
	comp=Z,10.0nm,0.8s								
WMQ				AMB	AMB				
	comp=Z,80nm,4.6s								
WMQ				LR	LR				
	comp=N,200nm,5.0s								
WMQ				LR	LR				
	comp=E,210nm,4.8s								
WMQ				LR	LR				
	comp=Z,200nm,4.6s								
DMN	**Daman**	**14.48**	**123**	*e*Pn	P		P	**17 34 16.4**	**-0.7**
DMN				*e*Sn	S		S	**17 36 49.4**	**-5.8**
	comp=Z,206nm,0.7s								
DMN	**Daman**	**14.48**	**123**	*e*Pn	P		P	**17 34 16.4**	**-0.7**
	comp=Z,103nm,0.7s								
DMN				*e*Sn	S		S	**17 36 49.4**	**-5.8**
KKN	**Kakani**	**14.48**	**122**	*e*Pn	P		P	**17 34 16.2**	**-0.9**
KKN				*e*Sn	S		S	**17 36 49.2**	**-6.1**
	comp=Z,310nm,0.9s								
KKN	**Kakani**	**14.48**	**122**	*e*P	P		P	**17 34 16.2**	**-0.9**
KKN				*e*				17 36 49.2	
KKN				pmax	pmax				
	comp=Z,155nm,0.9s								
KKN	**Kakani**	**14.48**	**122**	*e*Pn	P		P	**17 34 16.2**	**-0.9**
	comp=Z,155nm,0.9s								
KKN				*e*Sn	S		S	**17 36 49.2**	**-6.1**
PKI	**Pulchoki**	**14.71**	**123**	*e*Pn	P		P	**17 34 19.4**	**-0.6**
PKI				*e*Sn	S		S	**17 36 53.3**	**-7.3**
	comp=Z,185nm,1.0s								
PKI	**Pulchoki**	**14.71**	**123**	*e*P	P		P	**17 34 19.4**	**-0.6**
PKI				*e*				17 36 53.3	
PKI				pmax	pmax				
	comp=Z,93nm,1.0s								
PKI	**Pulchoki**	**14.71**	**123**	*e*Pn	P		P	**17 34 19.4**	**-0.6**
	comp=Z,93nm,1.0s								
PKI				*e*Sn	S		S	**17 36 53.3**	**-7.3**
GUN	**Gumba**	**14.82**	**121**	*e*Pn	P		P	**17 34 21.1**	**-0.3**
GUN				*e*Sn	S		S	**17 36 55.4**	**-7.7**
	comp=Z,95nm,0.6s								
GUN	**Gumba**	**14.82**	**121**	*e*Pn	P		P	**17 34 21.1**	**-0.3**
	comp=Z,48nm,0.6s								
GUN				*e*Sn	S		S	**17 36 55.4**	**-7.7**
JIRN	**Jiri**	**15.19**	**121**	*e*Pn	P		P	**17 34 25.2**	**-0.9**
JIRN				*e*Sn	S		S	**17 37 05.6**	**-6.1**
	comp=Z,131nm,0.5s								
JIRN	**Jiri**	**15.19**	**121**	*e*Pn	P		P	**17 34 25.2**	**-0.9**
	comp=Z,65nm,0.5s								
JIRN				*e*Sn	S		S	**17 37 05.6**	**-6.1**
KURK	**Kurchatov**	**15.23**	**18**	⇑P	P		P	**17 34 28.5**	**+2.0**
	comp=Z,7.4nm,0.8s								
KURK	**Kurchatov**	**15.23**	**18**	P	P		P	**17 34 28.4**	**+2.0**
KURK				pmax	pmax				
	comp=Z,6.0nm,0.8s								
KURK	**Kurchatov**	**15.23**	**18**	*e*P	P		P	**17 34 22.9**	**-3.5**
	comp=Z,854nm,4.7s								
AB31	**Akbulak array**	**15.38**	**330**	⇓P	P		P	**17 34 24.0**	**-4.3**
	comp=Z,4.8nm,0.3s,baz=140,slow=12,SNR=303								
AB31				⇓S	S		S	**17 37 00.6**	**-15**
	comp=Z,32nm,0.9s,baz=145,slow=24,SNR=18								
AB31	**Akbulak array**	**15.38**	**330**	*e*P	P		P	**17 34 24.0**	**-4.3**
AB31				pmax	pmax				
	comp=Z,3.0nm,0.4s								
VOSK	**Vostochnaya**	**16.35**	**359**	⇑P	P		P	**17 34 37.3**	**-3.2**
	comp=Z,16nm,1.1s								
VOSK	**Vostochnaya**	**16.35**	**359**	P	P		P	**17 34 36.8**	**-3.7**
VOSK				pmax	pmax				
	comp=Z,16nm,1.1s								
BVA0	**Borovoye Array**	**16.67**	**358**	⇑P	P		P	**17 34 42.6**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=162,slow=13,SNR=108								
BVA0	**Borovoye Array**	**16.67**	**358**	*i* P	P		P	**17 34 43.7**	**-0.7**
BVA0				pmax	pmax				
	comp=Z,2.0nm,0.8s								
BVAR	**Borovoye Array**	**16.67**	**358**	P	P		P	**17 34 42.2**	**-2.2**
	comp=Z,1.7nm,0.3s,baz=156,slow=13,SNR=54								
BVAR				S	S		S	**17 37 37.3**	**-7.8**
	comp=Z,0.4nm,0.3s,baz=346,slow=18,SNR=3.3								
BRVK	**Borovoye**	**16.70**	**357**	*e*P	P		P	**17 34 41.7**	**-3.1**
BRVK				pmax	pmax				
	comp=Z,11nm,0.8s								
BRVK	**Borovoye**	**16.70**	**357**	*e*P	P		P	**17 34 41.7**	**-3.1**
	comp=Z,11nm,0.8s								
AKTK	**Aktyubinsk**	**17.08**	**330**	P	P		P	**17 34 47.2**	**-2.3**
AKTK				S	S		S	**17 37 43.8**	**-11**
AKTK				LR	LR			17 42 50.3	
AKTO	**Aktyubinsk**	**17.08**	**330**	⇓P	P		P	**17 34 47.0**	**-2.5**
	comp=Z,6.0nm,0.7s								
AKTO				⇑S	S		S	**17 37 42.8**	**-12**
	comp=Z,4.5nm,0.9s								
AKTO	**Aktyubinsk**	**17.08**	**330**	P	P		P	**17 34 47.2**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=130,slow=12,SNR=45								
AKTO				S	S		S	**17 37 43.8**	**-11**
	comp=Z,0.5nm,0.3s,baz=162,slow=22,SNR=5.4								
AKTO				LR	LR			17 42 50.3	
	comp=Z,20nm,18.2s,slow=42								
LSA	**Lhasa**	**17.77**	**106**	P	P		P	**17 34 59.0**	**+0.8**
LSA	**Lhasa**	**17.77**	**106**	*e*P	P		P	**17 35 00.0**	**+1.8**
LSA				pmax	pmax				
	comp=Z,8.0nm,0.7s								
LSA	**Lhasa**	**17.77**	**106**	*e*P	P		P	**17 34 60.0**	**+1.8**
	comp=Z,8.2nm,0.7s								
ZAL	**Zalesovo**	**19.86**	**24**	P	P		P	**17 35 20.1**	**-0.8**
ZAL				S	S		S	**17 38 54.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=174,slow=22,SNR=2.8								
HYB	**Hyderabad**	**19.89**	**160**	*i* P	P		P	**17 35 25.5**	**+4.0**
HYB				*e*S	S		S	**17 38 52.5**	**-2.0**
HYB	**Hyderabad**	**19.89**	**160**	*e*P	P		P	**17 35 25.5**	**+4.0**
HYB				*e*S	S		S	**17 38 52.5**	**-2.0**
NVS	**Novosibirsk**	**20.17**	**20**	⇓*i* P	P		P	**17 35 22.2**	**-1.9**
NVS				*e*S	S		S	**17 39 01.4**	**+1.9**
NVS				pmax	pmax				
	comp=N,17nm,0.8s								
NVS				pmax	pmax				
	comp=E,5.0nm,0.8s								
NVS				pmax	pmax				
	comp=Z,20nm,0.8s								
NVS				smax					
	comp=N,15nm,2.1s								
NVS				smax					
	comp=E,9.0nm,1.7s								
GNI	**Garni**	**21.30**	**288**	P	P		P	**17 35 37.6**	**+2.0**
	comp=E,12nm,0.6s,mb4.4,baz=344,slow=2.4,SNR=10								
GNI	**Garni**	**21.30**	**288**	P	P		P	**17 35 37.6**	**+2.0**
GNI				pmax	pmax				
	comp

OBN					pmax	pmax			
	comp=Z,15nm,0.8s,mb4.7								
KLMR	**Klimovskoe**	**31.78**	**331**	*eP*	**P**		**17 37 11.0**	**-1.2**	
KLMR					pmax	pmax			
	comp=Z,20nm,2.1s,mb4.5								
ENH	**Enshi**	**32.19**	**90**	*eP*	**P**		**17 37 18.0**	**+1.9**	
AKASG	**Malin Array Be**	**33.32**	**309**	P	**P**		**17 37 24.9**	**-0.8**	
	comp=Z,6.4nm,0.6s,mb4.6,baz=82,slow=7.1,SNR=34								
AKASG	**Malin Array Be**	**33.32**	**309**	*i* P	**P**		**17 37 25.2**	**-0.5**	
AKASG					pmax	pmax			
	comp=Z,6.0nm,0.6s								
MLR	**Muntele Rosu**	**35.18**	**299**	ǁP	**P**		**17 37 43.6**	**+2.0**	
BURAR	**Bucovina Array**	**35.68**	**303**	⇑P	**P**		**17 37 46.4**	**+0.6**	
JOF	**Joensuu**	**36.17**	**330**	*ep*	**P**		**17 37 49.8**	**0.0**	
	comp=Z,6.2nm,0.4s,mb4.9								
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**		**17 38 03.6**	**+0.2**	
	comp=Z,6.7nm,0.7s,mb4.6,baz=122,slow=10,SNR=41								
KAF	**Kangasniemi**	**37.94**	**327**	*ep*	**P**		**17 38 04.5**	**-0.1**	
NJ2	**Nanjing**	**39.11**	**82**	*eP*	**P**		**17 38 20.0**	**+5.3**	
NJ2					AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.8								
PSZ	**Piszkesteto**	**39.26**	**304**	P	**P**		**17 38 15.2**	**-0.5**	
OJC	**Ojcow**	**39.29**	**307**	*eP*	**P**		**17 38 15.1**	**-0.8**	
SSE	**Sheshan**	**41.31**	**82**	*eP*	**P**		**17 38 38.0**	**+5.2**	
SSE					AMB	AMB			
	comp=Z,30nm,0.7s,mb5.2								
SSE					AMB	AMB			
	comp=Z,70nm,5.2s								
ARCES	**ARCESS Array B**	**41.41**	**338**	P	**P**		**17 38 33.7**	**+0.5**	
	comp=Z,14nm,0.8s,mb4.8,baz=112,slow=8.2,SNR=71								
BRG	**Berggiesshubel**	**43.00**	**308**	*i* P	**P**		**17 38 47.4**	**+1.0**	
BRG					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.1								
BRG					MLR	MLR			
	comp=Z,450nm,16.5s								
BRG	**Berggiesshubel**	**43.00**	**308**	*i* P	**P**		**17 38 47.4**	**+1.0**	
	comp=Z,2.7nm,0.7s,mb4.1								
BRG					LR	LR			
	comp=Z,450nm,16.5s								
GERES	**GERESS Array B**	**43.32**	**305**	P	**P**		**17 38 49.9**	**+0.9**	
	comp=Z,0.2nm,0.5s,mb3.1,baz=45,slow=3.8,SNR=3.6								
GERES					PP	PP	17 40 28.6	-4.7	
	comp=Z,0.6nm,0.7s,baz=45,slow=8.3,SNR=3.1								
YAK	**Yakutsk**	**43.85**	**35**	*i* P	**P**		**17 38 53.7**	**+0.7**	
YAK					pmax	pmax			
	comp=Z,11nm,1.2s,mb4.5								
NB2	**NORSAR Subarra**	**44.71**	**323**	P	**P**		**17 38 59.4**	**-0.6**	
	comp=Z,9.8nm,0.6s,mb4.7,baz=97,slow=7.9								
NB2	**NORSAR Subarra**	**44.71**	**323**	P	**P**		**17 38 59.4**	**-0.6**	
NB2					pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.7								
NOA	**NORSAR Array B**	**44.71**	**323**	P	**P**		**17 38 59.7**	**-0.3**	
	comp=Z,11nm,0.7s,mb4.7,baz=96,slow=7.8,SNR=33								
TIXI	**Tiksi**	**45.75**	**22**	*i* P	**P**		**17 39 07.8**	**-0.3**	
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.0								
HAU	**Haudompre**	**48.28**	**305**	*eP*	**P**		**17 39 28.0**	**-0.2**	
LPG	**La Plagne**	**48.54**	**302**	*eP*	**P**		**17 39 30.6**	**+0.4**	
	comp=Z,8.8nm,0.9s,mb4.4								
LPG	**La Plagne**	**48.54**	**302**	*eP*	**P**		**17 39 30.6**	**+0.4**	
LPG					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3								
LPL	**La Plagne**	**48.55**	**302**	*eP*	**P**		**17 39 30.9**	**+0.6**	
MBDF	**Montbardon**	**48.71**	**301**	*eP*	**P**		**17 39 31.2**	**-0.3**	
	comp=Z,5.5nm,0.7s,mb4.3								
MBDF	**Montbardon**	**48.71**	**301**	*eP*	**P**		**17 39 31.2**	**-0.3**	
MBDF					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
CABF	**La Chapelle**	**48.74**	**304**	*eP*	**P**		**17 39 32.2**	**+0.4**	
SMF	**Signal de Mont**	**50.24**	**304**	*eP*	**P**		**17 39 42.9**	**-0.4**	
	comp=Z,3.0nm,0.5s,mb4.1								
SMF	**Signal de Mont**	**50.24**	**304**	*eP*	**P**		**17 39 42.9**	**-0.4**	
SMF					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3								
AVF	**Avril sur Loir**	**50.53**	**304**	*eP*	**P**		**17 39 45.0**	**-0.5**	
	comp=Z,10nm,0.9s,mb4.6								
AVF	**Avril sur Loir**	**50.53**	**304**	*eP*	**P**		**17 39 45.0**	**-0.5**	
AVF					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.5								
BGF	**Bois d'Agland**	**50.93**	**304**	*eP*	**P**		**17 39 48.7**	**+0.2**	
TCF	**Toulx Ste Croi**	**51.42**	**304**	*eP*	**P**		**17 39 52.2**	**-0.1**	
	comp=Z,11nm,1.0s,mb4.5								
TCF	**Toulx Ste Croi**	**51.42**	**304**	*eP*	**P**		**17 39 52.2**	**-0.1**	
TCF					pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.5								
SGMF	**Saint Gilles**	**54.01**	**307**	*eP*	**P**		**17 40 10.8**	**-0.6**	
ETSF	**Etsaut**	**54.31**	**301**	*eP*	**P**		**17 40 13.7**	**0.0**	
	comp=Z,5.8nm,0.7s,mb4.4								
ETSF	**Etsaut**	**54.31**	**301**	*eP*	**P**		**17 40 13.7**	**0.0**	
ETSF					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
DAG	**Danmarks Havn**	**54.96**	**344**⇑	*i*P	**P**		**17 40 18.1**	**+0.1**	
	comp=Z,7.6nm,0.9s,mb4.7								
DAG	**Danmarks Havn**	**54.96**	**344**⇑	*eP*	**P**		**17 40 18.1**	**+0.1**	
DAG					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8								
DAG	**Danmarks Havn**	**54.96**	**344**⇑	*eP*	**P**		**17 40 18.1**	**+0.1**	
	comp=Z,7.6nm,0.9s,mb4.7								
ESDC	**Sonseca Array**	**57.86**	**298**	P	**P**		**17 40 37.7**	**-1.3**	
	comp=Z,0.2nm,0.5s,mb3.4,baz=69,slow=7.9,SNR=4.4								
BILL	**Bilibino**	**58.55**	**26**	*eP*	**P**		**17 40 44.4**	**+0.9**	
BILL					pmax	pmax			
	comp=Z,1.0nm,1.1s,mb3.8								
SUMG	**Summit**	**61.31**	**341**	*eP*	**P**		**17 41 02.9**	**+0.6**	
	comp=Z,9.4nm,0.6s,mb5.0								
INK	**Inuvik**	**73.97**	**9**	*eP*	**P**		**17 42 22.1**	**+1.0**	
INK					pmax	pmax			
	comp=Z,2.0nm,0.6s								
INK	**Inuvik**	**73.97**	**9**	*eP*	**P**		**17 42 22.1**	**+1.1**	
	comp=Z,1.7nm,0.6s,mb4.0								
ILAR	**Eielson Array**	**74.80**	**16**	P	**P**		**17 42 25.8**	**-0.1**	
	comp=Z,0.5nm,0.9s,mb3.3,baz=306,slow=5.1,SNR=6.8								
LBTB	**Lobatse**	**74.84**	**222**	*eP*	**P**		**17 42 26.4**	**-0.5**	
LBTB					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.2								
LBTB	**Lobatse**	**74.84**	**222**	*eP*	**P**		**17 42 26.4**	**-0.5**	
	comp=Z,2.8nm,0.6s,mb4.2								
YKA	**Yellowknife Ar**	**81.36**	**3**	P	**P**		**17 43 02.7**	**+0.9**	
	comp=Z,1.2nm,0.4s,mb4.0,baz=351,slow=5.4,SNR=73								
WRA	**Warramunga Arr**	**81.60**	**122**	P	**P**		**17 43 04.0**	**0.0**	
	comp=Z,0.8nm,0.7s,mb3.6,baz=324,slow=4.8,SNR=16								
WRAB	**Tennant Creek**	**81.60**	**122**	P	**P**		**17 43 04.8**	**+0.8**	
ULM	**Lac du Bonnet**	**93.03**	**352**	P	**P**		**17 43 58.7**	**+0.2**	
	comp=Z,1.7nm,0.8s,mb4.4,baz=38,slow=5.6,SNR=5.5								
CFAA	**Coronel Fontan**	**146.43**	**266**	PKPbc	PKPbc		17 50 25.3	+0.6	
	baz=59,slow=2.9								
PLCA	**Paso Flores**	**150.14**	**250**	PKPbc	PKPdf		17 50 35.6	+6.6	
	comp=Z,2.1nm,0.9s,baz=118,slow=9.3,SNR=4.3								

WEL 25 17:42:20.6±0.3, 38.34S×176.18E, h129km±2km, ML3.5/13, Error ellipse: s-maj=2.4km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.73**	**84**	PN	P	17 42 40.9	-0.4
URZ				SN	S	17 42 56.6	-0.5
BKZ	**Black Stump Fm**	**0.86**	**164**	PN	P	17 42 42.4	+0.1
BKZ				SN	S	17 42 58.5	-0.4
TWVZ	**Taurewa**	**0.94**	**218**	PN	P	17 42 43.0	-0.1
NGZ	**Ngauruhoe**	**0.95**	**208**	PN	P	17 42 43.3	0.0
CNZ	**Chateau**	**0.99**	**210**	PN	P	17 42 43.7	0.0
WPVZ	**Whakapapa**	**1.00**	**210**	PN	P	17 42 43.7	0.0
TUVZ	**Tukino**	**1.02**	**204**	PN	P	17 42 43.8	-0.1
MWZ	**Matawai**	**1.06**	**90**	PN	P	17 42 44.1	-0.2
MOVZ	**Moawhango**	**1.12**	**197**	PN	P	17 42 44.4	-0.5
PKVZ	**Pokaka**	**1.15**	**214**	PN	P	17 42 44.9	-0.3
MTVZ	**Mangateitei**	**1.19**	**208**	PN	P	17 42 45.2	-0.4
KNZ	**Kokohu**	**1.35**	**121**	PN	P	17 42 47.3	-0.2
KNZ				SN	S	17 43 06.8	-1.1
PUZ	**Puketiti**	**1.66**	**81**	PN	P	17 42 50.2	-0.7
TSZ	**Takapari Road**	**1.73**	**186**	PN	P	17 42 50.4	-1.3
MXZ	**Matakaoa Point**	**1.85**	**66**	PN	P	17 42 52.8	-0.4
MRZ	**Mangatainoka R**	**2.37**	**191**	PN	P	17 42 57.1	-2.6
KIW	**Kapiti Island**	**2.71**	**201**	PN	P	17 43 00.7	-3.5
MTW	**Mount Morrison**	**2.87**	**190**	PN	P	17 43 02.6	-3.7
CAW	**Cannon Point**	**2.90**	**197**	PN	P	17 43 02.9	-3.8
DUWZ	**D'Urville Isla**	**3.02**	**215**	PN	P	17 43 04.6	-3.7
TRWZ	**Traveller**	**3.08**	**187**	PN	P	17 43 05.4	-3.7
PAWZ	**Paruwai Farm**	**3.10**	**191**	PN	P	17 43 04.8	-4.6
MSWZ	**Moikau Station**	**3.16**	**193**	PN	P	17 43 05.9	-4.2
TCW	**Tory Channel**	**3.23**	**206**	PN	P	17 43 06.9	-4.2
TUWZ	**Tuamarina**	**3.54**	**208**	PN	P	17 43 10.5	-4.7
NNZ	**Nelson**	**3.60**	**216**	PN	P	17 43 11.4	-4.6
QRZ	**Quartz Range**	**3.76**	**227**	*e*PN	P	17 43 13.7	-4.5
THZ	**Tophouse**	**4.25**	**215**	PN	P	17 43 19.8	-4.8
KHZ	**Kahutara**	**4.55**	**205**	PN	P	17 43 23.5	-5.2
MQZ	**McQueen's Vall**	**5.99**	**205**	SN	S	17 44 43.9	-12

IDC 25 17:52:59.8±4.2, 1.43N×97.42E, mb3.4/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=164.6km s-min=27.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.97**	**122**	P	P	18 00 52.8	-1.8
	0.2nm,0.5s,baz=303,slow=9.1,SNR=4.4						
SONM	**Songino Array**	**46.87**	**8**	P	P	18 01 32.4	-1.2
	0.3nm,0.5s,baz=181,slow=8.0,SNR=5.6						
MKAR	**Makanchi Array**	**47.07**	**346**	P	P	18 01 33.2	-2.1
	0.2nm,0.6s,baz=158,slow=8.1,SNR=7.3						
ZAL	**Zalesovo**	**53.36**	**351**	P	P	18 02 20.3	-2.9
	0.7nm,0.5s,baz=178,slow=5.1,SNR=3.2						

IDC 25 17:59:36.7±4.2, 46.74N×150.97E, mb3.2/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.2/3, Error ellipse: s-maj=144.3km s-min=35.3km az=176.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.63**	**296**	P	P	18 07 58.6	-1.7
	0.3nm,0.8s,baz=76,slow=5.9,SNR=2.9						
YKA	**Yellowknife Ar**	**51.81**	**36**	P	P	18 08 45.6	-2.3
	0.2nm,0.6s,baz=299,slow=6.9,SNR=6.3						
TXAR	**Lajitas Array**	**78.77**	**59**	P	P	18 11 41.6	-1.1
	0.4nm,0.8s,baz=280,slow=3.7,SNR=4.4						

*IDC **25** 18:03:20.5±0.8, 2.22N×126.66E, mb4.2/14, mb1 4.3/14, mb1mx4.2/18, mbtmp4.2/14, Error ellipse: s-maj=40.6km s-min=16.9km az=71.0*
*NEIC **25** 18:03:28.0±2.8, 2.57N×126.91E, h43km±26km, mb4.6/8, Error ellipse: s-maj=24.2km s-min=10.0km az=72.0*
ISC 25 18:03:25.5±0.5, 2.58N±0.07×126.8E±0.1, h33km, n36, σ1§24/35, mb4.3/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.11**	**288**	*eP*	**P**	**18 06 05.4**	**+0.2**
KAKA	**Kakadu**	**16.18**	**160**	*eP*	Px	18 07 24.2	
	24nm,1.0s						
KSM	**Kuching**	**16.53**	**267**	*eP*	**P**	**18 07 24.8**	**+8.3**
FITZ	**Fitzroy Crossi**	**20.58**	**183**	*eP*	**P**	**18 08 04.6**	**+0.3**
	9.2nm,1.1s						
WRAB	**Tennant Creek**	**23.56**	**162**	*eP*	**P**	**18 08 27.9**	**-6.2**
	16nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**23.57**	**162**	P	**P**	**18 08 28.2**	**-6.0**
	16nm,0.9s,mb4.5,baz=339,slow=12,SNR=70						
WB2	**Warramunga Arr**	**23.57**	**162**	*eP*	**P**	**18 08 28.1**	**-6.1**
WB2				*eS*	**S**	**18 12 48.7**	**+6.0**
JOW	**Kunigami**	**24.16**	**3**	P	**P**	**18 08 42.1**	**+2.3**
	14nm,0.8s,mb4.4,baz=11,slow=24,SNR=4.2						
MBWA	**Marble Bar**	**24.59**	**196**	*eP*	**P**	**18 08 45.1**	**+1.0**
ASPA	**Alice Springs**	**26.98**	**166**	*eP*	**P**	**18 09 01.7**	**-4.8**
CTA	**Charters Tower**	**29.52**	**141**	P	**P**	**18 09 27.4**	**-1.9**
	2.2nm,1.1s,mb3.8,baz=318,slow=13,SNR=2.5						
CTA	**Charters Tower**	**29.52**	**141**	P	**P**	**18 09 27.4**	**-1.9**
CTAO	**Charters Tower**	**29.52**	**141**	P	**P**	**18 09 25.7**	**-3.5**
ENH	**Enshi**	**32.06**	**331**	*eP*	**P**	**18 09 48.0**	**-3.7**
	5.9nm,0.4s,mb4.8						
KLBR	**Kellerberrin**	**35.05**	**194**	*eP*	**P**	**18 10 19.3**	**+1.8**
	46nm,1.3s,mb5.2						
MJAR	**Matsushiro Arr**	**35.40**	**16**	P	**P**	**18 10 21.3**	**+0.9**
	2.9nm,1.0s,mb4.2,baz=185,slow=9.3,SNR=4.0						
STKA	**Stephens Creek**	**37.03**	**159**	*eP*	**P**	**18 10 31.4**	**-2.8**
	1.7nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**37.03**	**159**	P	**P**	**18 10 30.8**	**-3.4**
	3.7nm,0.6s,mb4.3,baz=326,slow=8.1,SNR=13						
ULN	**Ulaanbaatar**	**48.23**	**342**	*eP*	**P**	**18 12 04.8**	**-0.3**
SONM	**Songino Array**	**48.41**	**342**	P	**P**	**18 12 06.0**	**-0.4**
	1.3nm,0.7s,mb4.1,baz=151,slow=8.0,SNR=14						
MKAR	**Makanchi Array**	**58.54**	**326**	P	**P**	**18 13 19.7**	**-1.5**
	1.6nm,0.5s,mb4.3,baz=119,slow=8.4,SNR=24						
MKAR	**Makanchi Array**	**58.54**	**326**	P	**P**	**18 13 19.7**	**-1.5**
ZAL	**Zalesovo**	**61.65**	**333**	P	**P**	**18 13 40.5**	**-1.9**
	1.1nm,0.3s,mb4.4,baz=6.5,slow=4.9,SNR=4.8						
KURK	**Kurchatov**	**62.75**	**328**	*eP*	**P**	**18 13 48.6**	**-1.2**
	6.1nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**68.33**	**327**	P	**P**	**18 14 25.3**	**-0.1**
	0.5nm,0.4s,mb3.9,baz=141,slow=10,SNR=5.0						
AKTK	**Aktyubinsk**	**74.61**	**322**	P	**P**	**18 15 03.7**	**+0.6**
AKTO	**Aktyubinsk**	**74.61**	**322**	P	**P**	**18 15 03.7**	**+0.6**
	2.5nm,0.7s,mb4.3,baz=105,slow=9.2,SNR=12						
ARU	**Arti**	**75.95**	**328**	*eP*	**P**	**18 15 08.7**	**-1.9**
	2.3nm,0.6s,mb4.3						
VNDA	**Vanda**	**82.28**	**173**	P	**P**	**18 15 45.0**	**+0.3**
	1.0nm,0.5s,mb4.0,baz=326,slow=7.1,SNR=12						
VNDA	**Vanda**	**82.28**	**173**	*eP*	**P**	**18 15 45.4**	**+0.7**
	1.0nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**86.10**	**25**	P	**P**	**18 16 04.8**	**+0.8**
	0.4nm,0.5s,mb3.9,baz=252,slow=5.2,SNR=11						
INK	**Inuvik**	**91.20**	**22**	P	**P**	**18 16 29.1**	**+0.9**
	0.5nm,0.5s,mb4.1,baz=288,slow=6.7,SNR=7.4						
ARCES	**ARCESS Array B**	**91.55**	**340**	P	**P**	**18 16 30.7**	**+0.9**
	1.6nm,0.8s,mb4.4,baz=80,slow=5.5,SNR=4.8						
AKASG	**Malin Array Be**	**92.83**	**321**	P	**P**	**18 16 36.9**	**+0.8**
	0.5nm,0.5s,mb4.2,baz=80,slow=6.4,SNR=4.8						
FINES	**FINESS Array B**	**92.88**	**332**	P	**P**	**18 16 35.9**	**-0.2**
	2.7nm,1.0s,mb4.6,baz=117,slow=8.5,SNR=5.9						
YKA	**Yellowknife Ar**	**100.51**	**24**	P	P	18 17 12.1	+1.4
	0.1nm,0.5s,baz=296,slow=4.2,SNR=7.9						

*IDC **25** 18:08:00.5±1.6, 28.57N×86.18E, mb3.9/6, mb1 4.1/7, mb1mx3.7/20, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=56.8km s-min=24.1km az=66.0*
*NDI **25** 18:08:07.6±1.4, 28.54N×86.23E, h10km, ML3.6, mb4.0(NEIC)*
*NEIC **25** 18:08:07.6±2.9, 28.58N×86.09E, h55km±23km, mb4.0/2, Error ellipse: s-maj=28.0km s-min=12.6km az=50.0*
ISC 25 18:08:05.1±0.5, 28.64N±0.05×86.11E±0.04, h33km, n25, σ1§47/34, mb3.9/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.54**	**75**	*eP*	**P**	**18 09 14.3**	**+1.1**
LSA				*eS*	**S**	**18 10 01.2**	**-4.3**
BOK	**Bokaro**	**4.83**	**182**	*eP*	**P**	**18 09 19.2**	**+1.9**
BOK				*eS*	**S**	**18 10 11.6**	**-1.2**
BOK				*eS*	**S**	**18 10 13.0**	**+0.2**
KLP	**Kalpa**	**7.39**	**295**	*eP*	**P**	**18 09 58.1**	**+4.8**
KLP				*eS*	**S**	**18 11 17.6**	**+0.6**
KLP				AML	AML	18 11 28.8	
	comp=E,42nm,0.5s						
KLP				AML	AML	18 11 35.5	
	comp=N,38nm,0.4s						
BISR	**Bishrakh**	**7.62**	**272**	*eS*	**S**	**18 11 14.7**	**-7.9**
AYAN	**Aya Nagar**	**7.90**	**271**	*eP*	**P**	**18 10 03.0**	**+2.6**
AYAN				*eS*	**S**	**18 11 27.5**	**-2.0**
SONA	**Sohna**	**7.95**	**269**	*eP*	**P**	**18 10 03.3**	**+2.2**
SONA				*eS*	**S**	**18 11 29.9**	**-1.0**
SONA				AML	AML	18 11 34.6	
	comp=N,43nm,0.3s						
SONA				AML	AML	18 11 35.6	
	comp=E,32nm,0.3s						
KUDL	**Kundal**	**8.48**	**269**	*eP*	**P**	**18 10 11.2**	**+2.7**
KUDL				*eS*	**S**	**18 11 42.1**	**-2.0**
KHET	**Khetri**	**9.09**	**269**	*eP*	**P**	**18 10 19.6**	**+2.7**
KHET				*eS*	**S**	**18 11 56.6**	**-2.7**
KHET				AML	AML	18 12 00.8	
	comp=E,24nm,0.1s						
KHET				AML	AML	18 12 01.1	
	comp=N,21nm,0.2s						
BHPL	**Bhopal**	**9.48**	**237**	*eP*	**P**	**18 10 24.0**	**+1.7**
BHPL				*eS*	**S**	**18 12 03.5**	**-5.4**
CHCP	**Chirah Chowk**	**12.08**	**298**	P	**P**	**18 10 59.0**	**+1.2**
THW	**Thamme Wali**	**13.03**	**292**	P	**P**	**18 11 11.3**	**+0.8**
THW				S		18 11 15.0	
CEP	**Cherat**	**13.20**	**297**	P	**P**	**18 11 13.3**	**+0.6**
MKAR	**Makanchi Array**	**18.37**	**352**	P	**P**	**18 12 18.9**	**0.0**
	comp=N,0.4nm,0.3s,baz=164,slow=13,SNR=29						
KURK	**Kurchatov**	**22.77**	**348**	*eP*	**P**	**18 13 06.7**	**+1.2**
	comp=N,5.8nm,1.2s,mb3.9						
SONM	**Songino Array**	**24.80**	**34**	P	**P**	**18 13 25.0**	**-0.2**
	comp=N,4.2nm,0.7s,mb4.1,baz=222,slow=10,SNR=32						
ULN	**Ulaanbaatar**	**25.14**	**35**	*eP*	**P**	**18 13 27.9**	**-0.6**
	comp=N,3.0nm,0.5s,mb4.1						
ZAL	**Zalesovo**	**25.30**	**358**	P	**P**	**18 13 29.1**	**-0.8**
	comp=N,1.7nm,0.3s,mb4.1,baz=297,slow=5.8,SNR=6.3						
FINES	**FINESS Array B**	**51.01**	**328**	P	**P**	**18 17 05.2**	**-0.3**
	comp=N,1.5nm,1.0s,mb3.9,baz=90,slow=5.6,SNR=4.4						
FINES	**FINESS Array B**	**51.01**	**328**	P	**P**	**18 17 05.2**	**-0.3**
WRA	**Warramunga Arr**	**67.10**	**130**	P	**P**	**18 18 55.9**	**-1.7**
	comp=N,0.7nm,0.4s,mb4.0,baz=324,slow=6.5,SNR=20						
WRAB	**Tennant Creek**	**67.10**	**130**	*eP*	**P**	**18 18 55.8**	**-1.8**
INK	**Inuvik**	**79.00**	**14**	P	**P**	**18 20 05.2**	**-1.5**
	comp=N,0.7nm,0.8s,mb3.6,baz=334,slow=3.4,SNR=6.6						
INK	**Inuvik**	**79.00**	**14**	*eP*	**P**	**18 20 05.3**	**-1.4**
YKA	**Yellowknife Ar**	**87.68**	**9**	P	**P**	**18 20 49.7**	**-1.2**
	comp=N,0.2nm,0.6s,mb3.5,baz=331,slow=4.9,SNR=9.7						
YKA	**Yellowknife Ar**	**87.68**	**9**	P	**P**	**18 20 49.7**	**-1.2**

*IDC **25** 18:15:23.3±2.5, 26.31N×125.79E, h115km±22km, mb3.3/7, mb1 3.4/8, mb1mx3.3/22, mbtmp3.6/8, Error ellipse: s-maj=25.2km s-min=20.6km az=51.0*
*JMA **25** 18:15:23.5±0.2, 26.26N×125.70E, h123km±4km, M3.3*
*NEIC **25** 18:15:23.7±2.1, 26.27N×125.70E, h121km±19km, Error ellipse: s-maj=28.0km s-min=19.8km az=62.0*
ISC 25 18:15:22.4±0.4, 26.26N±0.08×125.73E±0.07, h126km±6km, n27, σ1§03/44, mb3.5/7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.95**	**86**	P	**P**	**18 15 45.8**	**+1.1**
JKE				S	**S**	**18 16 02.5**	**+0.9**
JAGN	**Aguni-jima**	**1.40**	**76**	P	**P**	**18 15 50.4**	**+0.9**
JAGN				S	**S**	**18 16 09.9**	**-0.2**
JMJ	**Miyako jima 2**	**1.49**	**195**	P	**P**	**18 15 51.3**	**+0.8**
JMJ				S	**S**	**18 16 12.0**	**+0.1**
JOGS	**Gusukube**	**1.52**	**191**	P	**P**	**18 15 51.8**	**+1.0**
JOGS				S	**S**	**18 16 12.8**	**+0.3**
NAH1	**Naha**	**1.77**	**91**	P	**P**	**18 15 54.6**	**+0.9**
NAH1				S	**S**	**18 16 17.2**	**-0.3**
JJT2	**Tamagusuku 2**	**1.82**	**93**	P	**P**	**18 15 55.8**	**+1.4**
JJT2				S	**S**	**18 16 20.0**	**+1.3**
JTJ	**Tarama**	**1.86**	**210**	P	**P**	**18 15 55.3**	**+0.5**
JTJ				S	**S**	**18 16 18.6**	**-0.8**
JIH	**Iheya**	**2.15**	**68**	P	**P**	**18 15 59.5**	**+1.0**
JIH				S	**S**	**18 16 25.3**	**-0.6**
JOW	**Kunigami**	**2.35**	**75**	P	**P**	**18 16 01.8**	**+0.6**
	4.2nm,0.3s,baz=122,slow=24,SNR=60						
JOW				S	**S**	**18 16 28.9**	**-1.7**
	32nm,0.3s,baz=126,slow=24,SNR=29						
JOW	**Kunigami**	**2.35**	**75**	P	**P**	**18 16 01.7**	**+0.5**
JOW				S	**S**	**18 16 29.1**	**-1.5**
JIJ	**Ishigaki jima**	**2.37**	**218**	P	**P**	**18 16 01.1**	**-0.3**
JIJ				S	**S**	**18 16 28.4**	**-2.6**
JKRS	**Kuro-shima**	**2.54**	**218**	P	**P**	**18 16 05.1**	**+1.4**
JKRS				S	**S**	**18 16 33.6**	**-1.4**
IRIF	**Iriomote-Funau**	**2.63**	**224**	P	**P**	**18 16 04.5**	**-0.4**
IRIF				*eS*	**S**	**18 16 36.3**	**-0.8**
HATJ	**Hateruma jima**	**2.80**	**219**	*eS*	**S**	**18 16 39.7**	**-1.3**
YOJ	**Yonaguni jima**	**3.04**	**235**	P	**P**	**18 16 10.9**	**+0.7**
YOJ				*eS*	**S**	**18 16 47.7**	**+1.1**
JTK	**Tokunoshima**	**3.25**	**61**	P	**P**	**18 16 13.1**	**0.0**
JTK				*eS*	**S**	**18 16 50.3**	**-1.4**
JAM	**Amami Oshima**	**4.06**	**57**	P	**P**	**18 16 23.2

NVL				*e*S		**S**	**18 55 08.0**	**-7.8**
NVL				pmax		pmax		
	comp=Z,3.0nm,0.8s							
NVL				MLR		MLR		
	comp=Z,152nm,16.4s							
EFI	**East Falkland**	**20.09**	**278**	*e*P		**P**	**18 52 02.8**	**+0.8**
	comp=Z,138nm,0.9s							
USHA	**Ushuaia**	**23.73**	**262**	P		**P**	**18 52 40.3**	**+1.9**
	comp=Z,71nm,0.8s,mb5.1,baz=117,slow=9.7,SNR=18							
USHA				LR		LR	19 00 08.3	
	comp=Z,6µm,18.4s,MS5.1,baz=60,slow=32							
QSPA	**South Pole Qui**	**30.93**	**180**	*e*P		**P**	**18 53 45.8**	**+1.5**
	comp=Z,36nm,0.9s,mb5.2							
TRQA	**Tornquist**	**31.77**	**295**	*e*P		**P**	**18 53 52.1**	**-0.1**
PLCA	**Paso Flores**	**33.84**	**283**	P		**P**	**18 54 09.5**	**-0.6**
	comp=Z,5.5nm,0.6s,mb4.7,baz=138,slow=5.7,SNR=24							
PLCA				LR		LR	19 06 19.7	
	comp=Z,1µm,21.9s,MS4.6,baz=132,slow=34							
PLCA	**Paso Flores**	**33.84**	**283**	*e*P		**P**	**18 54 09.3**	**-0.8**
PLCA				pmax		pmax		
	comp=Z,34nm,1.4s							
PLCA	**Paso Flores**	**33.84**	**283**	*e*P		**P**	**18 54 09.3**	**-0.8**
	comp=Z,34nm,1.4s,mb5.1							
MAW	**Mawson**	**36.83**	**140**	P		**P**	**18 54 35.7**	**+0.5**
	comp=Z,9.5nm,1.1s,mb4.6,baz=231,slow=8.0,SNR=10							
MAW				LR		LR	19 08 24.9	
	comp=Z,1µm,18.0s,MS4.8,baz=248,slow=34							
FCH	**Farellones**	**39.54**	**291**	*i*P		**P**	**18 54 59.2**	**+0.8**
CFAA	**Coronel Fontan**	**39.99**	**294**	P		**P**	**18 55 01.7**	**-0.4**
	comp=Z,3.8nm,0.8s,mb4.2,baz=150,slow=8.0,SNR=80							
CFAA				LR		LR	19 11 04.5	
	comp=Z,325nm,20.5s,MS4.2,baz=139,slow=36							
SBA	**Scott Base**	**42.90**	**184**	P		**P**	**18 55 24.5**	**-0.8**
SBA				pmax		pmax		
	comp=Z,122nm,1.9s,mb5.3							
SBA	**Scott Base**	**42.90**	**184**	P		**P**	**18 55 24.4**	**-0.8**
	comp=Z,122nm,1.9s,mb5.3							
VNDA	**Vanda**	**43.36**	**182**	P		**P**	**18 55 31.4**	**+2.4**
	comp=Z,9.3nm,0.8s,mb4.6,baz=187,slow=7.3,SNR=33							
VNDA	**Vanda**	**43.36**	**182**	*e*P		**P**	**18 55 31.1**	**+2.1**
VNDA				pmax		pmax		
	comp=Z,14nm,0.9s							
VNDA	**Vanda**	**43.36**	**182**	*e*P		**P**	**18 55 31.1**	**+2.1**
	comp=Z,14nm,0.9s,mb4.7							
BAO	**Brasilia Array**	**46.80**	**329**	P		**P**	**18 55 58.0**	**+0.7**
BDFB	**Brasilia**	**46.80**	**329**	P		**P**	**18 55 56.9**	**-0.3**
	comp=Z,4.6nm,0.7s,mb4.5,baz=204,slow=4.3,SNR=6.8							
BDFB				LR		LR	19 14 14.9	
	comp=Z,1µm,18.1s,MS5.0,baz=36,slow=34							
LBTB	**Lobatse**	**48.95**	**68**	P		**P**	**18 56 14.2**	**+0.2**
	comp=Z,14nm,0.7s,mb5.1,baz=220,slow=7.6,SNR=41							
LBTB	**Lobatse**	**48.95**	**68**	*e*P		**P**	**18 56 14.2**	**+0.2**
	comp=Z,34nm,1.0s,mb5.3							
TSUM	**Tsumeb**	**50.36**	**56**	P		**P**	**18 56 25.1**	**+0.2**
	comp=Z,3.5nm,0.7s,mb4.5,baz=190,slow=9.1,SNR=15							
TSUM				LR		LR	19 14 43.8	
	comp=Z,1µm,18.2s,MS5.0,baz=187,slow=32							
TSUM	**Tsumeb**	**50.36**	**56**	*e*P		**P**	**18 56 25.7**	**+0.8**
	comp=Z,64nm,1.5s,mb5.4							
SIV	**San Ignacio**	**50.70**	**313**	P		**P**	**18 56 25.5**	**-2.0**
	comp=Z,1.8nm,0.5s,mb4.2,baz=157,slow=9.1,SNR=15							
LPAZ	**La Paz**	**53.25**	**305**	P		**P**	**18 56 46.4**	**-0.3**
	comp=Z,2.6nm,0.4s,mb4.5,baz=143,slow=6.4,SNR=16							
LPAZ				LR		LR	19 15 50.2	
	comp=Z,465nm,19.1s,MS4.5,baz=302,slow=32							
LPAZ	**La Paz**	**53.25**	**305**	*e*P		**P**	**18 56 46.3**	**-0.4**
LPAZ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
LPAZ	**La Paz**	**53.25**	**305**	*e*P		**P**	**18 56 46.2**	**-0.4**
	comp=Z,7.4nm,0.8s,mb4.7							
ARE	**Arequipa**	**54.54**	**301**	*e*P		**P**	**18 56 55.0**	**-1.1**
LSZ	**Lusaka**	**58.55**	**65**	*e*P		**P**	**18 57 24.6**	**-0.2**
	comp=Z,24nm,1.0s,mb5.2							
NNA	**Nana**	**60.87**	**298**	*e*P		**P**	**18 57 39.5**	**-1.3**
	comp=Z,20nm,1.0s,mb5.2							
DBIC	**Dimbokro**	**67.70**	**22**	P		**P**	**18 58 25.8**	**+0.5**
	comp=Z,8.6nm,0.9s,mb4.8,baz=176,slow=8.4,SNR=16							
DBIC				LR		LR	19 22 32.6	
	comp=Z,614nm,18.0s,MS4.9,baz=174,slow=31							
DBIC	**Dimbokro**	**67.70**	**22**	*e*P		**P**	**18 58 25.5**	**+0.1**
DBIC				pmax		pmax		
	comp=Z,26nm,1.0s							
DBIC	**Dimbokro**	**67.70**	**22**	*e*P		**P**	**18 58 25.5**	**+0.2**
	comp=Z,26nm,1.0s,mb5.2							
OTAV	**Otavalo**	**72.46**	**303**	*e*P		**P**	**18 58 54.5**	**+0.1**
	comp=Z,15nm,1.0s,mb4.9							
ROSC	**El Rosal**	**74.90**	**308**	LR		LR	19 32 17.2	
	comp=Z,580nm,18.2s,MS4.9,baz=192,slow=36							
KMBO	**Kilima Mbogo**	**75.17**	**66**	P		**P**	**18 59 10.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=45,slow=23,SNR=1.6							
KMBO				LR		LR	19 29 49.9	
	comp=Z,2µm,18.4s,MS5.5,baz=276,slow=34							
KMBO	**Kilima Mbogo**	**75.17**	**66**	*i* P		**P**	**18 59 16.0**	**+5.9**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KMBO	**Kilima Mbogo**	**75.17**	**66**	P		**P**	**18 59 10.5**	**+0.4**
KMBO				LR		LR	19 29 49.9	
RPZ	**Rata Peaks**	**76.49**	**192**	LR		LR	19 31 15.4	
	comp=Z,508nm,19.9s,MS4.8,baz=293,slow=34							
SDV	**Santo Domingo**	**77.16**	**314**	P		**P**	**18 59 20.5**	**-0.7**
	comp=Z,5.2nm,0.6s,mb4.6,baz=332,slow=7.5,SNR=7.7							
SDV	**Santo Domingo**	**77.16**	**314**	*e*P		**P**	**18 59 20.6**	**-0.6**
	comp=Z,13nm,1.1s,mb4.8							
RKT	**Rikitea**	**80.02**	**241**	*e*LQ			19 21 20.0	
RKT				eLR		LR	19 24 41.9	
	comp=Z,805nm,30.5s,baz=158							
URZ	**Urewera**	**81.08**	**197**	LR		LR	19 31 36.4	
	comp=Z,331nm,20.9s,MS4.7,baz=208,slow=33							
TBI	**Tubuai**	**85.92**	**229**	*e*S		S	19 10 39.0	+0.1
TBI				*e*LQ			19 23 29.7	
TBI				eLR		LR	19 26 53.9	
	comp=Z,662nm,22.0s,baz=146							
STKA	**Stephens Creek**	**88.47**	**169**	P		**P**	**19 00 20.3**	**+1.2**
	comp=Z,4.0nm,1.0s,mb4.6,baz=157,slow=8.5,SNR=4.1							
STKA				LR		LR	19 39 27.9	
	comp=Z,1µm,18.3s,MS5.4,baz=198,slow=35							
STKA	**Stephens Creek**	**88.47**	**169**	P		**P**	**19 00 20.3**	**+1.2**
STKA				LR		LR	19 39 27.9	
PPT	**Papeete**	**91.18**	**232**	*e*SS		SS	19 17 32.5	-3.2
PPT				*e*LQ			19 25 49.8	
PPT				eLR		LR	19 29 50.1	
	comp=Z,642nm,19.5s,baz=149							
PPT	**Papeete**	**91.18**	**232**	LR		LR	19 34 14.5	
	comp=Z,1µm,18.8s,MS5.3,baz=61,slow=31							
MDT	**Midelt**	**93.33**	**17**	P		**P**	**19 00 45.1**	**+3.4**
	comp=Z,2.7nm,1.0s,mb4.6,baz=204,slow=6.1,SNR=3.6							
TAOE	**Nuku Hiva Isla**	**94.86**	**244**	*e*LR		LR	19 31 37.1	
	comp=Z,2µm,20.9s							
WRA	**Warramunga Arr**	**99.22**	**160**	PKiKP			19 05 40.2	
	comp=Z,0.8nm,1.1s,baz=222,slow=1.3,SNR=2.8							
TXAR	**Lajitas Array**	**109.32**	**295**	PKiKP			19 05 57.3	
	comp=Z,0.4nm,0.9s,baz=162,slow=4.0,SNR=4.1							
PMG	**Port Moresby**	**111.22**	**172**	*i* PKIKP		PKPdf	19 05 57.2	-5.4
WUAZ	**Wupatki**	**118.07**	**293**	PKPdf		PKPdf	19 06 15.1	-0.4
AKASG	**Malin Array Be**	**118.13**	**36**	PKP		PKPdf	19 06 13.1	-2.2
	comp=Z,0.4nm,0.6s,baz=241,slow=2.3,SNR=5.1							
AKASG	**Malin Array Be**	**118.13**	**36**	*i* PKIKP		PKPdf	19 06 14.6	-0.6
SCHQ	**Schefferville**	**118.64**	**334**	PKP		PKPdf	19 06 14.2	-1.9
	comp=Z,3.5nm,0.9s,baz=90,slow=1.0,SNR=3.5							
SMCO	**Snowmass**	**119.00**	**298**	PKPdf		PKPdf	19 06 16.6	-0.7
MSU	**Marysvale**	**120.86**	**294**	*e*PKIKP		PKPdf	19 06 20.5	-0.4
MSU				*e*			19 06 32.4	
MVU	**Marysvale**	**120.87**	**294**	*e*PKPdf		PKPdf	19 06 23.0	+2.0
MVU				*e*			19 06 34.4	
TPNV	**Topopah Spring**	**121.55**	**290**	*e*PKIKP		PKPdf	19 06 22.2	-0.1
DUG	**Dugway**	**122.50**	**295**	*e*PKIKP		PKPdf	19 06 23.2	-0.7
DUG				*e*			19 06 35.0	
TCUT	**Toone Canyon**	**122.58**	**296**	*e*PKPdf		PKPdf	19 06 23.6	-0.5
KOLN	**Koldanda**	**122.84**	**90**	*e*P		PKPdf	19 06 23.0	-1.8
	comp=Z,20nm,1.0s							
HFS	**Hagfors**	**122.86**	**22**	PKP		PKPdf	19 06 23.7	-0.4
	comp=Z,6.6nm,0.8s,baz=166,slow=5.9,SNR=3.4							
HWUT	**Hardware Ranch**	**123.04**	**297**	*e*PKPdf		PKPdf	19 06 23.9	-1.0
BGU	**Big Grassy Mou**	**123.18**	**295**	*e*PKPdf		PKPdf	19 06 25.0	-0.2
BGU				*e*			19 06 36.7	
ULM	**Lac du Bonnet**	**123.41**	**313**	PKP		PKPdf	19 06 23.2	-2.2
	comp=Z,3.5nm,0.9s,baz=197,slow=1.2,SNR=9.7							
DMN	**Daman**	**123.48**	**92**	*e*P		PKPdf	19 06 25.3	-0.9
GKN	**Gorkha**	**123.56**	**91**	*e*P		PKPdf	19 06 24.4	-1.9
MNV	**Mina**	**123.64**	**290**	*e*PKIKP		PKPdf	19 06 25.3	-1.0
NVAR	**Mina Array Bea**	**123.71**	**290**	PKP		PKPdf	19 06 26.4	0.0
	comp=Z,2.8nm,0.8s,baz=140,slow=2.6,SNR=11							
NVAR	**Mina Array Bea**	**123.71**	**290**	PKP		PKPdf	19 06 26.4	0.0
KKN	**Kakani**	**123.72**	**92**	*e*P		PKPdf	19 06 25.0	-1.7
	comp=Z,12nm,0.8s							
ELK	**Elko**	**124.07**	**293**	*e*PKIKP		PKPdf	19 06 26.5	-0.6
ELK				*e*			19 06 38.3	
JIRN	**Jiri**	**124.08**	**93**	*e*P		PKPdf	19 06 26.1	-1.3
	comp=Z,27nm,0.8s							
OBN	**Obninsk**	**124.20**	**38**	*e*PKIKP		PKPdf	19 06 25.7	-1.2
OBN				pmax		pmax		
	comp=Z,6.0nm,0.9s							
HLID	**Hailey**	**125.88**	**296**	PKPdf		PKPdf	19 06 29.8	-0.5
FINES	**FINESS Array B**	**126.71**	**28**	PKP		PKPdf	19 06 29.4	-1.8
	comp=Z,1.9nm,0.8s,baz=315,slow=5.4,SNR=3.7							
KAF	**Kangasniemi**	**127.35**	**27**	*e*p		PKPdf	19 06 31.1	-1.5
CHMT	**Chamberlain Mo**	**127.93**	**300**	*e*PKPdf		PKPdf	19 06 33.9	-0.3
CHMT				*e*			19 06 45.6	
MSO	**Missoula**	**128.17**	**299**	*e*PKPdf		PKPdf	19 06 34.5	-0.2
MSO				*e*			19 06 45.8	
LSA	**Lhasa**	**128.27**	**96**	*e*PKP		PKPdf	19 06 34.8	-0.5
LSA	**Lhasa**	**128.27**	**96**	*e*PKIKP		PKPdf	19 06 35.2	-0.1
JOF	**Joensuu**	**129.26**	**29**	*e*p		PKPdf	19 06 34.5	-1.8
AAK	**Ala-Archa**	**129.89**	**72**	*i* PKIKP		PKPdf	19 06 36.2	-1.9
AAK				MLR		MLR		
	comp=Z,500nm,18.0s,MS5.2							
AAK	**Ala-Archa**	**129.89**	**72**	*e*PKPdf		PKPdf	19 06 35.9	-2.1
NEW	**Newport**	**130.67**	**298**	PKP		PKPdf	19 06 38.3	-1.0
	comp=Z,1.0nm,0.5s,baz=172,slow=7.1,SNR=4.2							
EDM	**Edmonton**	**132.64**	**305**	*e*PKIKP		PKPdf	19 06 41.0	-2.0
ARCES	**ARCESS Array B**	**133.53**	**22**	PKP		PKPdf	19 06 43.0	-1.2
	comp=Z,3.6nm,0.8s,baz=209,slow=1.8,SNR=8.4							
ARCES				SKP			19 10 18.5	
	comp=Z,2.3nm,0.9s,baz=198,slow=2.9,SNR=6.3							
BRVK	**Borovoye**	**135.45**	**59**	*e*PKIKP		PKPdf	19 06 47.0	-1.2
MKAR	**Makanchi Array**	**136.73**	**73**	PKhKP			19 06 41.2	
	comp=Z,0.3nm,0.7s,baz=233,slow=6.1,SNR=4.6							
MKAR				PKP		PKPdf	19 06 49.0	-1.5
	comp=Z,1.5nm,0.8s,baz=225,slow=3.4,SNR=7.0							
MKAR				SKPbc			19 10 18.7	
	comp=Z,1.2nm,0.9s,baz=270,slow=2.9,SNR=4.9							
ENH	**Enshi**	**137.83**	**113**	*e*PKPdf		PKPdf	19 06 53.0	-0.2
YKA	**Yellowknife Ar**	**139.37**	**315**	PKhKP			19 06 45.0	
	comp=Z,0.3nm,0.4s,baz=124,slow=3.0,SNR=16							
YKA				PKP		PKPdf	19 06 53.9	-1.2
	comp=Z,7.3nm,0.9s,baz=130,slow=2.3,SNR=48							
YKA				PP		PP	19 09 46.7	-3.4
	comp=Z,1.0nm,1.1s,baz=127,slow=7.3,SNR=4.3							
YKA				SKPbc			19 10 28.0	
	comp=Z,1.1nm,0.8s,baz=130,slow=3.3,SNR=7.9							
YKA	**Yellowknife Ar**	**139.37**	**315**	PKP			19 06 45.0	
YKA				PKP		PKPdf	19 06 53.9	-1.2
YKA				PP		PP	19 09 46.7	-3.4
YKA				SKPbc			19 10 28.0	
YKW3	**Yellowknife Ar**	**139.42**	**315**	*e*PKPdf		PKPdf	19 06 54.1	-1.0
RES	**Resolute Bay**	**141.34**	**336**	*e*PKHKP			19 06 50.6	
NVS	**Novosibirsk**	**142.44**	**64**	*e*PKIKP		PKPdf	19 07 04.3	+3.8
NVS				*e*			19 10 10.0	
NVS				*e*			19 14 00.2	
NVS				pmax		pmax		
	comp=N,10.0nm,1.7s							
NVS				pmax		pmax		
	comp=Z,18nm,1.7s							
NVS				pmax		pmax		
	comp=E,4.0nm,1.0s							
ZAL	**Zalesovo**	**142.63**	**66**	PKhKP			19 06 55.9	
	comp=E,1.1nm,0.4s,baz=276,slow=2.5,SNR=5.6							
DLBC	**Dease Lake**	**143.16**	**302**	PKhKP			19 06 57.6	
	comp=E,1.6nm,0.3s,baz=165,slow=18,SNR=2.7							
TIA	**Tai'an**	**146.31**	**116**	*e*PKP		PKPdf	19 07 08.0	+0.2
BTO	**Baotou**	**146.35**	**103**	*e*PKP		PKPdf	19 07 08.3	+0.6
HHC	**Hu-ho-hao-te**	**147.30**	**105**	*e*PKP		PKPdf	19 07 12.0	+2.7
HHC				XPKP			19 07 26.3	
HHC				PKS		PKS	19 10 47.0	+6.8
HHC				PP		PP		
	comp=Z,200nm,7.1s							
HHC				LR		LR		
	comp=N,190nm,13.1s,MS5.2							
HHC				LR		LR		
	comp=E,220nm,14.3s,MS5.2							
HHC				LR		LR		
	comp=Z,220nm,14.3s,MS5.1							
INK	**Inuvik**	**149.06**	**317**	PKP		PKPdf	19 07 08.9	-2.3
	comp=Z,48nm,0.9s,baz=92,slow=4.2,SNR=6.3							
INK				PKPbc		PKPdf	19 07 14.7	+3.4
	comp=Z,39nm,0.7s,baz=90,slow=2.7,SNR=195							
INK				SKPbc			19 10 53.0	
	comp=Z,2.0nm,0.7s,baz=133,slow=3.0,SNR=3.7							
INK	**Inuvik**	**149.06**	**317**	*e*PKIKP		PKPdf	19 07 09.2	-2.1
INK				*e*			19 07 14.5	
MOY	**Mondy**	**149.21**	**80**	*e*PKP2		PKPab	19 07 15.4	-4.5
MOY				pmax		pmax		
	comp=Z,68nm,2.8s							
SONM	**Songino Array**	**149.61**	**90**	PKP		PKPdf	19 07 11.5	-1.2
	comp=Z,0.9nm,0.9s,baz=250,slow=2.7,SNR=6.2							
SONM				PKPbc		PKPdf	19 07 16.7	+3.9
	comp=Z,5.8nm,0.9s,baz=291,slow=2.3,SNR=19							
ZAK	**Zakamensk**	**149.61**	**84**	*e*PKP2		PKPab	19 07 16.5	-5.1
ZAK				pmax		pmax		
	comp=Z,55nm,1.6s							
DAWY	**Dawson**	**149.81**	**307**	*e*PKPbc		PKPdf	19 07 16.4	+3.9
ULN	**Ulaanbaatar**	**149.96**	**91**	*e*PKIKP		PKPdf	19 07 16.7	+3.4
IRK	**Irkutsk**	**151.20**	**82**	*e*PKIKP		PKPdf	19 07 19.5	+4.5
MENT	**Mentasta**	**151.21**	**304**	*e*P		PKPdf	19 07 20.7	+6.0
DIV	**Divide**	**151.42**	**299**	*e*PKPbc		PKPdf	19 07 21.2	+6.1
SML	**Sawmill**	**152.82**	**300**	*e*PKIKP		PKPdf	19 07 24.3	+7.2
ILAR	**Eielson Array**	**153.12**	**306**	PKP		PKPdf	19 07 15.4	-2.0
	comp=Z,0.4nm,0.5s,baz=184,slow=14,SNR=8.1							
ILAR				PKPbc		PKPdf	19 07 22.8	+5.4
	comp=Z,2.2nm,1.0s,baz=189,slow=1.8,SNR=7.5							
COLA	**College**	**153.54**	**306**	*e*PKIKP		PKPdf	19 07 24.6	+6.6
COLA				*e*			19 07 36.9	
MCK	**McKinley**	**153.69**	**304**	*e*PKIKP		PKPdf	19 07 25.8	+7.6
MCK				*e*			19 07 37.6	
MJAR	**Matsushiro Arr**	**154.72**	**147**	PKPab		PKPab	19 07 39.2	-4.2
	comp=Z,5.1nm,1.0s,baz=182,slow=3.7,SNR=6.8							
BOD	**Bodaibo**	**158.77**	**76**	*e*PKIKP		PKPdf	19 07 20.6	-4.5

IDC 25 19:09:42.1±15.0, 17.92S×178.30W, h533km±160km, mb2.9/3, mb1 3.1/3, mb1mx2.9/14, mbtmp3.8/3, Error ellipse: s-maj=146.4km s-min=64.6km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.72**	**241**	P	P	19 16 20.8	-0.7
	2.6nm,1.0s,baz=90,slow=12,SNR=2.9						
WB2	**Warramunga Arr**	**44.73**	**260**	*e*P	P	19 17 08.2	-1.2
WRA	**Warramunga Arr**	**44.74**	**260**	P	P	19 17 07.9	-1.6
	0.3nm,0.4s,baz=97,slow=7.4,SNR=16						
ASPA	**Alice Springs**	**44.90**	**254**	*e*P	P	19 17 09.4	-1.3
ILAR	**Eielson Array**	**85.87**	**13**	P	P	19 21 24.7	-1.0
	0.3nm,0.5s,baz=217,slow=4.4,SNR=6.6						
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	PKPdf	19 28 26.1	+3.7
	1.1nm,0.4s,baz=14,slow=4.0,SNR=4.2						
DAVOX	**Davos**	**150.43**	**349**	PKPbc	PKPdf	19 28 33.5	+6.6
	1.1nm,0.6s,baz=182,slow=22,SNR=3.0						

*ATH **25** 19:11:06.2, 37.67N×20.92E, h11km±2km, MD3.5/9*
*NEIC **25** 19:11:06.2, 37.67N×20.92E, h1 1km, MD3.5(ATH), After ATH.*
*CSEM **25** 19:11:06.6±0.2, 37.65N×20.84E, h2km, MD3.5, Error ellipse: s-maj=5.0km s-min=2.1km az=59.0*
*THE **25** 19:11:07.5, 37.73N×20.80E, h10km*
ISC 25 19:11:06.4±0.9, 37.65N±0.04×20.85E±0.07, h10km, n19, σ1§12/24, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.57**	**339**	*e*PG	**Pg**	**19 11 17.0**	**-0.8**
VLS				*e*SB	**Sg**	**19 11 26.1**	**+0.6**
RLS	**Riolos of Patr**	**0.64**	**50**	*e*PB	**Pg**	**19 11 16.9**	**-2.3**
RLS				*e*SB	**Sg**	**19 11 25.1**	**-2.7**
ITM	**Ithomi**	**0.98**	**118**	*e*PG	**Pn**	**19 11 23.9**	**-2.1**
ITM				*e*SB	**Sb**	**19 11 37.8**	**+0.2**
LKD	**Levkas**	**1.07**	**352**	*e*Pg	**Pn**	**19 11 25.5**	**-1.8**
EVR	**Evrytania**	**1.48**	**30**	*e*PB	**Pb**	**19 11 33.0**	**-0.4**
EVR				*e*SB	**Sb**	**19 11 53.2**	**+1.1**
AGG	**Agios Georgios**	**1.80**	**40**	*e*Pb	**Pb**	**19 11 39.0**	**0.0**
AGG				*e*Sb	**Sb**	**19 12 02.9**	**+1.3**
VLI	**Veliai**	**1.91**	**118**	*e*PN	**Pn**	**19 11 40.5**	**+1.2**
IGT	**Igoumenitsa**	**1.93**	**348**	*e*Pb	**Pb**	**19 11 39.6**	**-1.6**
LKR	**Lokris**	**1.97**	**59**	*e*PN	**Pn**	**19 11 41.1**	**+0.9**
MEV	**Metsovon**	**2.15**	**8**	*e*Pn	**Pn**	**19 11 44.0**	**+1.1**
KYTH	**Kithira**	**2.22**	**127**	*e*PN	**Pn**	**19 11 44.5**	**+0.7**
KEK	**Kerkira**	**2.22**	**339**	*e*PN	**Pn**	**19 11 45.3**	**+1.5**
NEO	**Neokhori**	**2.49**	**48**	*e*PN	**Pn**	**19 11 48.1**	**+0.4**
XOR	**Xorichti**	**2.52**	**46**	*e*Pn	**Pn**	**19 11 48.9**	**+0.9**
LIT	**Litokhoron**	**2.77**	**27**	*e*Pn	**Pn**	**19 11 51.6**	**0.0**
FNA	**Florina**	**3.16**	**7**	*e*Pn	**Pn**	**19 11 57.5**	**+0.4**
GRG	**Griva**	**3.52**	**20**	*e*Pn	**Pn**	**19 12 02.3**	**0.0**
OUR	**Ouranopolis**	**3.63**	**41**	*e*Pn	**Pn**	**19 12 03.6**	**-0.3**
KNT	**Kendrikon**	**3.85**	**24**	*e*Pn	**Pn**	**19 12 06.6**	**-0.4**

*MAN **25** 19:23:46.8, 11.19N×125.57E, h42km, mb4.6, ML3.5, MS3.4*
*NEIC **25** 19:23:50.2±2.2, 11.12N×125.75E, h90km±22km, mb4.1/2, Error ellipse: s-maj=29.5km s-min=14.2km az=67.0*
*IDC **25** 19:23:52.3±13.0, 10.95N×125.32E, h109km±123km, mb3.4/7, mb1 3.6/7, mb1mx3.4/18, mbtmp3.8/7, MS4.1/2, Ms1 4.1/2, ms1mx3.1/15, Error ellipse: s-maj=91.9km s-min=19.3km az=66.0*
ISC 25 19:23:46.8±0.6, 11.22N±0.03×125.60E±0.05, h64km±5km, n35, σ1§04/43, mb3.9/9, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.41**	**337**	*e*P	**P**	**19 23 58.2**	**-0.1**
BESP				*e*S	**S**	**19 24 06.0**	**-0.8**
OCLP	**Ormoc**	**0.99**	**260**	*e*P	**P**	**19 24 04.8**	**-0.2**
OCLP				*e*S	**S**	**19 24 19.6**	**+0.9**
MSLP	**Maasin**	**1.30**	**214**	*e*P	**P**	**19 24 09.3**	**-0.1**
MSLP				*e*S	**S**	**19 24 26.9**	**+0.6**
SCPH	**Surigao**	**1.43**	**184**	*i* eP	**P**	**19 24 10.2**	**-1.0**
SCPH				*e*S	**S**	**19 24 27.9**	**-1.3**
CNP	**Catarman**	**1.58**	**324**	*e*P	**P**	**19 24 13.6**	**+0.4**
CNP				*e*S	**S**	**19 24 35.9**	**+3.3**
LLP	**Lapu-Lapu**	**1.84**	**241**	*i* iP	**P**	**19 24 15.9**	**-0.8**
LLP				*i* S	**S**	**19 24 38.8**	**-0.1**
BUTP	**Butuan**	**2.24**	**180**	*e*P	**P**	**19 24 21.9**	**-0.3**
BUTP				*e*S	**S**	**19 24 50.3**	**+1.6**
TBP	**Tagbilaran**	**2.29**	**229**	*e*P	**P**	**19 24 22.0**	**-1.0**
PVCP	**Virac**	**2.75**	**329**	*e*P	**P**	**19 24 32.6**	**+3.0**
PVCP				*e*S	**S**	**19 25 07.9**	**+6.2**
RCP	**Roxas**	**2.82**	**277**	*e*P	**P**	**19 24 30.8**	**+0.2**
GUIM	**Jordan**	**3.02**	**259**	*e*P	**P**	**19 24 32.5**	**-0.8**
GUIM				*e*S	**S**	**19 25 07.5**	**-0.9**
BUKP	**Musuan**	**3.36**	**189**	*e*P	**P**	**19 24 39.4**	**+1.2**
BUKP				*e*S	**S**	**19 25 19.8**	**+2.7**
AUQP	**San Andres**	**3.54**	**306**	*e*P	**P**	**19 25 34.2**	**+13**
OTRP	**Odiongan**	**3.69**	**288**	*e*P	**P**	**19 24 42.2**	**-0.5**
PAGZ	**Pagadian**	**4.00**	**213**	*e*P	**P**	**19 24 46.4**	**-0.7**
DAV	**Davao City (W)**	**4.12**	**180**	P	**P**	**19 24 49.7**	**+0.9**
SJMP	**San Jose**	**4.56**	**286**	*e*P	**P**	**19 24 55.3**	**+0.4**
POLP	**Polilio Island**	**4.99**	**315**	*e*P	**S**	**19 25 43.5**	**-14**
BUSP	**Coron**

*CSEM **25** 20:01:09.9±0.1,38.22N×26.70E,h20km,MD2.9,Error ellipse: s-maj=4.0km s-min=2.7km az=115.0*
ISC 25 20:01:08.8±0.9,**38.20N**±0.03×**26.55E**±0.05,**h2**km±6km, **n17**,σ§**96**/29,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.16**	**12**	*i* P	**Pg**	**20 01 12.1**	**0.0**
URLA				*i* S	**Sg**	**20 01 15.1**	**+0.8**
BLCB	**Balcova**	**0.43**	**64**	PG	**Pg**	**20 01 17.2**	**-0.1**
BLCB				SG	**Sg**	**20 01 23.4**	**+0.4**
SMG	**Samos**	**0.54**	**155**	*e*PN	**Pg**	**20 01 19.5**	**-0.1**
SMG				*e*SN	**Sg**	**20 01 27.3**	**+0.5**
SMG	**Samos**	**0.54**	**155**	*e*Pn	**Pg**	**20 01 19.5**	**-0.1**
SMG				*e*Sn	**Sg**	**20 01 27.7**	**+0.9**
IZM	**Izmir**	**0.59**	**70**	PG	**Pg**	**20 01 20.3**	**-0.3**
IZM				SG	**Sg**	**20 01 28.8**	**+0.3**
KDAG	**Bornova**	**0.60**	**70**	*i* P	**Pg**	**20 01 19.8**	**-1.0**
KDAG				*i* S	**Sg**	**20 01 27.8**	**-0.9**
PRK	**Paraskevi**	**1.07**	**348**	*e*PN	**Pn**	**20 01 30.1**	**-0.5**
PRK				*e*SN	**Sn**	**20 01 45.5**	**-0.6**
PRK	**Paraskevi**	**1.07**	**348**	*e*Pn	**Pn**	**20 01 30.1**	**-0.5**
PRK				*e*Sn	**Sn**	**20 01 44.9**	**-1.2**
AYVA	**Ayvalik**	**1.11**	**6**	*i* P	**Pb**	**20 01 30.9**	**+0.5**
AYVA				*i* S	**Sb**	**20 01 47.0**	**+1.9**
AYDN	**Tasoluk**	**1.18**	**117**	*i* P	**Pb**	**20 01 31.7**	**+0.1**
AYDN				*i* S	**Sb**	**20 01 46.1**	**-1.0**
AKS	**Akhisar**	**1.20**	**55**	PN	**Pn**	**20 01 30.5**	**-2.0**
BODT	**Bodrum**	**1.29**	**152**	PN	**Pn**	**20 01 32.7**	**-1.0**
MLSB	**Milas**	**1.33**	**133**	*e*PN	**Pn**	**20 01 34.0**	**-0.3**
BDRM	**Kayabasi**	**1.34**	**148**	*i* P	**Pb**	**20 01 34.7**	**+0.5**
BDRM				*i* S	**Sb**	**20 01 53.5**	**+1.8**
APE	**Apeiranthos**	**1.39**	**216**	*e*PN	**Pn**	**20 01 36.2**	**+1.0**
APE	**Apeirianthos**	**1.39**	**216**	*e*Pn	**Pn**	**20 01 32.7**	**-2.5**
MANT	**Manisa**	**1.60**	**79**	*i* P	**Pn**	**20 01 39.7**	**+1.4**
MANT				*i* S	**Sb**	**20 01 59.8**	**+0.4**

*GUC **25** 20:01:31.9±0.8,31.45S×70.86W,h104km±4km,MD4.1, ML4.4*
*IDC **25** 20:01:32.8±2.7,31.48S×70.69W,h104km±22km,mb3.6/3, mb1 3.8/7,mb1mx3.6/17,mbtmp4.0/7,Error ellipse: s-maj=26.4km s-min=19.8km az=105.0*
*NEIC **25** 20:01:32.1±1.7,31.45S×70.78W,h102km±15km,mb4.2/3, Error ellipse: s-maj=25.8km s-min=12.9km az=93.0*
ISC 25 20:01:31.2±0.4,**31.45S**±0.03×**70.84W**±0.05,**h114**km±3km, **n47**,σ1§**02**/63,**mb3.8**/5,**12C-6D**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.31**	**332**	⇓*i* P	**P**	**20 01 47.4**	**-0.2**
CMCH				*i* S	**S**	**20 01 58.8**	**-1.1**
CMCH				AMP		20 01 59.8	
	comp=E,28μm,0.6s						
CHNG	**Los Chungos**	**0.71**	**232**	⇓*i* P	**P**	**20 01 51.2**	**+1.0**
CHNG				*i* S	**S**	**20 02 05.0**	**+0.4**
CHNG				AMP		20 02 08.1	
	comp=E,11μm,0.4s						
PACH	**Papudo**	**1.20**	**205**	⇓*i* P	**P**	**20 01 56.1**	**+0.9**
PACH				*i* S	**S**	**20 02 13.7**	**+0.4**
JACH	**Jahuel**	**1.25**	**171**	⇑*i* P	**P**	**20 01 56.2**	**+0.4**
JACH				*i* S	**S**	**20 02 13.7**	**-0.5**
ROCH	**El Roble**	**1.53**	**186**	⇑*i* P	**P**	**20 01 59.2**	**+0.2**
LSCH	**La Serena**	**1.57**	**347**	*i* P	**P**	**20 01 59.9**	**+0.2**
LSCH				*i* S	**S**	**20 02 20.2**	**-0.8**
LSCH				AMP		20 02 21.8	
	comp=N,5μm,0.3s						
PEL	**Peldehue**	**1.70**	**176**	⇑*i* P	**P**	**20 02 01.4**	**+0.4**
PEL				*i* S	**S**	**20 02 23.4**	**-0.1**
PEL				AMP		20 02 24.6	
	comp=E,8μm,0.3s						
FCH	**Farellones**	**1.93**	**166**	*e*P	**P**	**20 02 05.0**	**+1.0**
FCH				*i* S	**S**	**20 02 29.9**	**+1.3**
FCH				AMP		20 02 31.9	
	comp=E,5μm,0.3s						
CLCH	**Cerro Calan**	**1.96**	**173**	AMP		20 02 32.2	
	comp=N,4μm,0.5s						
SAN	**Santiago**	**2.01**	**176**	⇑*i* P	**P**	**20 02 05.8**	**+0.8**
SAN				*i* S	**S**	**20 02 30.4**	**+0.2**
SAN				AMP		20 02 31.6	
	comp=N,3μm,0.3s						
RCDM	**Rinconada Maip**	**2.04**	**179**	*e*P	**P**	**20 02 05.4**	**+0.1**
RCDM				*i* S	**S**	**20 02 31.0**	**0.0**
RCDM				AMP		20 02 34.3	
	comp=E,3μm,0.2s						
LCCH	**Las Cruces**	**2.12**	**197**	⇑*i* P	**P**	**20 02 06.6**	**+0.2**
LCCH				*i* S	**S**	**20 02 32.7**	**-0.1**
ANTU	**Antumapu**	**2.12**	**175**	⇑*i* P	**P**	**20 02 06.7**	**+0.2**
ANTU				*i* S	**S**	**20 02 32.8**	**-0.2**
ANTU				AMP		20 02 37.7	
	comp=N,3μm,0.4s						
PCH	**Pirque**	**2.19**	**173**	*e*P	**P**	**20 02 07.5**	**+0.1**
TACH	**Talagante**	**2.20**	**182**	*e*P	**P**	**20 02 07.5**	**0.0**
TACH				*i* S	**S**	**20 02 34.3**	**-0.5**
MDZ	**Mendoza**	**2.21**	**131**	⇑*i* P	**P**	**20 02 08.9**	**+1.2**
MDZ				*i* S	**S**	**20 02 36.8**	**+1.7**
CFAA	**Coronel Fontan**	**2.22**	**95**	P	**P**	**20 02 07.4**	**-0.4**
	comp=N,5.9nm,0.3s,baz=274,slow=11,SNR=315						
CFAA				S	**S**	**20 02 33.3**	**-2.1**
	comp=N,58nm,0.3s,baz=47,slow=18,SNR=132						
LMEL	**Las Melosas**	**2.45**	**168**	⇓*i* P	**P**	**20 02 12.3**	**+1.4**
LMEL				*i* S	**S**	**20 02 42.6**	**+1.8**
LMEL				AMP		20 02 44.3	
	comp=N,3μm,0.2s						
CHCH	**Chadas Angostu**	**2.48**	**176**	⇑*i* P	**P**	**20 02 11.2**	**-0.1**
CHCH				*i* S	**S**	**20 02 41.5**	**-0.1**
LNV	**Longovilo**	**2.55**	**191**	⇓*i* P	**P**	**20 02 11.6**	**-0.6**
CACH	**El Canelo**	**2.67**	**176**	⇑*i* P	**P**	**20 02 14.3**	**+0.4**
CACH				*i* S	**S**	**20 02 47.1**	**+1.1**
CICH	**Cipreses**	**2.89**	**173**	⇑*i* P	**P**	**20 02 17.3**	**+0.6**
CICH				*i* S	**S**	**20 02 50.8**	**-0.3**
SFDO	**San Fernando**	**3.16**	**183**	⇑*i* P	**P**	**20 02 20.2**	**-0.2**
NICH	**Los Niches**	**3.56**	**185**	⇓*i* P	**P**	**20 02 25.3**	**-0.5**
TALC	**Talca**	**4.00**	**189**	*e*P	**P**	**20 02 30.6**	**-1.1**
TALC				*i* S	**S**	**20 03 15.9**	**-2.0**
LNCH	**Linares**	**4.43**	**188**	⇑*i* P	**P**	**20 02 36.4**	**-1.3**
LNCH				*i* S	**S**	**20 03 26.7**	**-2.0**
CCHI	**Chillan**	**5.25**	**191**	*e*P	**P**	**20 02 48.6**	**0.0**
CCHI				*i* S	**S**	**20 03 46.5**	**-1.9**
PLCA	**Paso Flores**	**9.27**	**179**	P	**P**	**20 03 41.6**	**-1.5**
	comp=N,0.2nm,0.3s,baz=334,slow=19,SNR=6.4						
PLCA	**Paso Flores**	**9.27**	**179**	*e*P	**P**	**20 03 41.6**	**-1.5**
TRQA	**Tornquist**	**9.82**	**135**	*e*P	**P**	**20 03 48.1**	**-2.4**
	comp=N,5.5nm,0.4s						
CPUP	**Villa Florida**	**12.88**	**70**	*e*P	**P**	**20 04 26.9**	**-4.2**
LPAZ	**La Paz**	**15.29**	**10**	P	**P**	**20 05 03.9**	**+1.9**
	comp=N,0.6nm,0.3s,baz=186,slow=8.0,SNR=29						
LPAZ	**La Paz**	**15.29**	**10**	*e*P	**P**	**20 05 03.6**	**+1.6**
SIV	**San Ignacio**	**17.78**	**32**	P	**P**	**20 05 31.2**	**-1.7**
	comp=N,1.3nm,0.3s,baz=217,slow=10,SNR=57						
BDFB	**Brasilia**	**26.09**	**58**	P	**P**	**20 06 55.1**	**-1.0**
	comp=N,3.2nm,0.5s,mb4.0,baz=225,slow=7.8,SNR=9.4						
VNA3	**Neumayer Olymp**	**51.35**	**159**		**P**	**20 10 33.8**	**+8.2**
VNA1	**Neumayer--Stat**	**51.63**	**158**		**P**	**20 10 36.0**	**+8.3**
VNA2	**Neumayer--Watz**	**51.98**	**158**		**P**	**20 10 31.9**	**+1.6**
SNAA	**Sanae**	**53.57**	**159**		**P**	**20 10 42.8**	**+0.7**
SNAA	**Sanae**	**53.57**	**159**	P	**P**	**20 10 42.7**	**+0.5**
	comp=N,0.4nm,0.6s,mb3.6,baz=263,slow=14,SNR=7.0						
TXAR	**Lajitas Array**	**68.03**	**329**	P	**P**	**20 12 22.2**	**+1.8**
	comp=N,0.5nm,0.6s,mb3.5,baz=151,slow=8.6,SNR=7.9						
MNTX	**Cornudas Mount**	**70.81**	**329**	*e*P	**P**	**20 12 38.4**	**+1.0**
	comp=N,1.1nm,0.7s,mb3.8						
ISCO	**Idaho Springs**	**77.89**	**333**	*e*P	**P**	**20 13 16.9**	**-0.9**
	comp=N,3.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**123.48**	**209**	PKP	PKPdf	20 20 16.7	+1.2
	comp=N,0.4nm,0.5s,baz=163,slow=1.8,SNR=16						
ZAL	**Zalesovo**	**151.52**	**31**	PKPbc	PKPdf	20 21 14.6	+10
	comp=N,1.5nm,0.6s,baz=135,slow=2.7,SNR=9.9						
ZAL				pPKPbc		20 21 42.7	
	comp=N,0.7nm,0.6s,baz=218,slow=6.0,SNR=2.3						
ZAL	**Zalesovo**	**151.52**	**31**	PKPbc	PKPdf	20 21 14.6	+10
ZAL				pPKPbc		20 21 42.7	
MKAR	**Makanchi Array**	**154.29**	**46**	PKPbc	PKPdf	20 21 20.6	+12
	comp=N,0.4nm,0.8s,baz=336,slow=2.5,SNR=4.5						
MKAR				PKPab	PKPab	20 21 34.9	+0.7
	comp=N,0.5nm,0.7s,baz=285,slow=2.9,SNR=7.2						
MKAR				pPKPab		20 22 03.2	
	comp=N,0.4nm,0.6s,baz=297,slow=3.5,SNR=3.5						

IDC 25 20:04:26.2±1.6,**4.28N**×**127.24E**,**mb3.2**/3,**mb1 3.3**/3, **mb1mx3.3**/17,**mbtmp3.2**/3,**Error ellipse: s-maj=134.4km s-min=26.5km az=69.0**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.06**	**164**	P	P	20 09 52.4	-1.5
	0.3nm,0.4s,baz=344,slow=10,SNR=6.6						
SONM	**Songino Array**	**46.95**	**341**	P	P	20 12 58.5	-2.0
	0.1nm,0.4s,baz=162,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	20 14 16.7	-2.2
	0.2nm,0.4s,baz=110,slow=8.0,SNR=8.9						

*ATH **25** 20:41:11.8,38.14N×26.73E,h53km±3km,MD3.0/3*
*CSEM **25** 20:41:11.6±0.2,38.20N×26.53E,h10km,MD2.9,Error ellipse: s-maj=4.1km s-min=3.0km az=106.0*
*ISK **25** 20:41:12.4,38.22N×26.56E,h16km,MD2.9*
*NEIC **25** 20:41:12.4,38.22N×26.56E,h16km,MD3.0(ATH), MD2.9(ISK),After ISK.*
ISC 25 20:41:12.2±0.8,**38.19N**±0.02×**26.53E**±0.05,**h3**km±6km, **n15**,σ§**77**/24,**1C**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.18**	**17**	*i* P	**Pg**	**20 41 15.8**	**-0.1**
URLA				*i* S	**Sg**	**20 41 19.1**	**+0.8**
BLCB	**Balcova**	**0.45**	**64**	PG	**Pg**	**20 41 21.1**	**-0.1**
SMG	**Samos**	**0.54**	**153**	⇑*i* P	**Pg**	**20 41 23.2**	**+0.3**
SMG				*e*S	**Sg**	**20 41 32.3**	**+1.2**
IZM	**Izmir**	**0.61**	**70**	PG	**Pg**	**20 41 24.2**	**-0.3**
IZM				SG	**Sg**	**20 41 33.4**	**+0.7**
KDAG	**Bornova**	**0.62**	**69**	*i* P	**Pg**	**20 41 23.4**	**-1.2**
KDAG				*i* S	**Sg**	**20 41 31.4**	**-1.5**
PRK	**Paraskevi**	**1.08**	**349**	*e*P	**Pb**	**20 41 32.7**	**-0.5**
PRK				*e*S	**Sb**	**20 41 48.1**	**+0.6**
AYVA	**Ayvalik**	**1.13**	**6**	*i* P	**Pb**	**20 41 34.9**	**+0.8**
AYVA				*i* S	**Sb**	**20 41 49.3**	**+0.3**
AYDN	**Tasoluk**	**1.19**	**116**	*i* P	**Pb**	**20 41 35.3**	**+0.2**
AYDN				*i* S	**Sb**	**20 41 50.7**	**-0.1**
AKS	**Akhisar**	**1.22**	**55**	*e*PN	**Pn**	**20 41 34.9**	**-1.3**
BODT	**Bodrum**	**1.28**	**151**	*e*PN	**Pn**	**20 41 36.5**	**-0.6**
BDRM	**Kayabasi**	**1.33**	**147**	*i* P	**Pg**	**20 41 39.0**	**+0.1**
BDRM				*i* S	**Sg**	**20 41 57.1**	**+0.4**
APE	**Apeiranthos**	**1.37**	**216**	*e*PN	**Pn**	**20 41 38.7**	**+0.4**
APE	**Apeirianthos**	**1.37**	**216**	*e*P	**Pb**	**20 41 36.6**	**-1.6**
APE	**Apeiranthos**	**1.37**	**216**	*e*Pn	**Pn**	**20 41 38.7**	**+0.4**
MANT	**Manisa**	**1.62**	**79**	*i* P	**Pn**	**20 41 43.0**	**+1.0**
MANT				*i* S	**Sb**	**20 42 03.7**	**+0.3**

*GUC **25** 20:41:47.4±1.0,23.99S×70.33W,h47km±6km,MD4.1, ML4.0*
*IDC **25** 20:41:48.3±3.7,23.95S×70.32W,h49km±34km,mb3.4/1, mb1 3.7/4,mb1mx3.3/16,mbtmp3.6/4,ML3.3/1,MS2.7/1, Ms1 2.8/1,ms1mx2.3/9,Error ellipse: s-maj=80.6km s-min=19.8km az=93.0*
*NEIC **25** 20:41:50.3±1.1,24.05S×69.88W,h71km±13km,mb3.7/1, Error ellipse: s-maj=26.6km s-min=9.6km az=85.0*
ISC 25 20:41:46.5±0.8,**23.96S**±0.04×**70.4W**±0.1,**h60**km±6km,**n17**, σ1§**12**/19,**mb3.7**/1,**1C-1D**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**0.28**	**3**	⇓*i* P	**P**	**20 41 56.6**	**+0.1**
ANCH				*i* S	**S**	**20 42 02.6**	**-1.2**
ANCH				AMP		20 42 03.0	
	comp=N,41μm,0.1s						
CPN1	**Cerro Paranal**	**0.66**	**178**	*e*P	**P**	**20 42 01.2**	**+0.9**
CPN1				*i* S	**S**	**20 42 11.4**	**+0.8**
CPN1				AMP		20 42 12.4	
	comp=E,3μm,0.2s						
SPCH	**San Pedro de A**	**2.30**	**63**	⇑*i* P	**P**	**20 42 23.9**	**+1.0**
SPCH				*i* S	**S**	**20 42 50.8**	**+0.8**
SPCH				AMP		20 43 07.6	
	comp=E,2μm,0.5s						
CRCH	**Chaqaral**	**2.38**	**184**	*e*P	**P**	**20 42 24.3**	**+0.3**
CRCH				AMP		20 43 02.1	
	comp=E,908nm,0.4s						
CDCH	**Caldera**	**3.12**	**187**	AMP		20 43 28.8	
	comp=E,298nm,0.5s						
ARE	**Arequipa**	**7.53**	**352**	*e*P	**P**	**20 43 41.0**	**+4.9**
CFAA	**Coronel Fontan**	**7.85**	**166**	P	**P**	**20 43 39.2**	**-1.3**
	comp=E,0.1nm,0.3s,baz=349,slow=15,SNR=26						
CFAA				S	**S**	**20 45 08.9**	**+0.1**
	baz=335,slow=19,SNR=1.9						
CFAA	**Coronel Fontan**	**7.85**	**166**	P	**P**	**20 43 39.2**	**-1.3**
CFAA				S	**S**	**20 45 08.9**	**+0.1**
LPAZ	**La Paz**	**7.94**	**16**	P	**P**	**20 43 42.2**	**+0.6**
	comp=E,0.2nm,0.3s,baz=164,slow=7.4,SNR=5.6						
LPAZ				LR	LR	20 47 09.6	
	comp=E,48nm,18.9s,baz=104,slow=41						
LPAZ	**La Paz**	**7.94**	**16**	*e*P	**P**	**20 43 41.9**	**+0.3**
LPAZ				LR	LR	20 47 09.6	
SIV	**San Ignacio**	**11.84**	**50**	P	**P**	**20 44 32.4**	**-2.5**
	comp=E,2.3nm,0.3s,baz=234,slow=10,SNR=48						
TRQA	**Tornquist**	**15.79**	**155**	P	**P**	**20 45 24.6**	**-1.9**
	comp=E,3.7nm,0.6s						
PLCA	**Paso Flores**	**16.72**	**180**	*e*P	**P**	**20 45 32.0**	**-6.2**
PLCA				*e*		20 45 49.4	
YKA	**Yellowknife Ar**	**93.04**	**341**	P	**P**	**20 54 55.7**	**+1.3**
	comp=E,0.2nm,0.6s,mb3.7,baz=142,slow=4.7,SNR=9.5						
YKA	**Yellowknife Ar**	**93.04**	**341**	P	**P**	**20 54 55.7**	**+1.3**
WRA	**Warramunga Arr**	**130.13**	**211**	PKP	PKPdf	21 00 53.3	+2.7
	comp=E,0.3nm,0.6s,baz=151,slow=1.7,SNR=7.3						
MKAR	**Makanchi Array**	**148.44**	**37**	PKPbc	PKPdf	21 01 28.9	+6.3
	comp=E,0.7nm,0.7s,baz=315,slow=1.7,SNR=10						
MKAR				pPKPbc		21 01 42.3	
	comp=E,0.2nm,0.6s,baz=291,slow=4.5,SNR=2.9						

*CSEM **25** 20:57:58.1±1.1,38.63N×28.53W,h7km±4km,ML1.7,Error ellipse: s-maj=2.6km s-min=2.0km az=172.0,After PDA*
*PDA **25** 20:57:58.1±1.1,38.63N×28.53W,h7km±4km,MD2.8, ML1.7,Error ellipse: s-maj=2.6km s-min=2.0km az=172.0*
SVSA 25 20:57:58.1±1.1,**38.63N**×**28.53W**,**h7**km±4km,**MD2.8, ML1.7**,**Error ellipse: s-maj=2.6km s-min=2.0km az=172.0**,**Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOR	**Horta**	**0.13**	**217**	*i* P	Pg	20 58 00.2	-0.8
HOR				*e*S	Sg	20 58 02.7	-0.2
HOR	**Horta**	**0.13**	**217**	*e*S	Sg	20 58 02.7	-0.2
PCED	**Cedros**	**0.14**	**269**	*e*P	Pg	20 58 00.6	-0.5
PCED				*e*S	Sg	20 58 03.1	+0.1
	103nm,0.2s						
PCED	**Cedros**	**0.14**	**269**	*e*P	Pg	20 58 00.6	-0.5
PCED				*e*S	Sg	20 58 03.1	+0.1
	103nm,0.2s						
CALA	**Caldeira**	**0.14**	**250**	*e*P	Pg	20 58 01.0	-0.2
CALA				*e*S	Sg	20 58 03.5	+0.2
PICO	**Pico**	**0.15**	**148**	*i* P	Pg	20 58 00.9	-0.5
PICO				*e*S	Sg	20 58 03.5	-0.1
PICO	**Pico**	**0.15**	**148**	*e*S	Sg	20 58 03.5	-0.1
PCND	**Candelaria**	**0.17**	**162**	*e*P	Pg	20 58 01.4	-0.3
PCND				*e*S	Sg	20 58 04.3	+0.2
	64nm,0.1s						
PBOI	**Pico dos Bois**	**0.23**	**148**	*e*S	Sg	20 58 05.6	-0.4
	9.7nm,0.1s						
ROSA	**Rosais**	**0.24**	**69**	*e*P	Pg	20 58 02.5	-0.6
ROSA				*e*S	Sg	20 58 06.0	-0.4
PPNO	**Prainha do Nor**	**0.26**	**128**	*e*P	Pg	20 58 02.8	-0.7
PPNO				*e*S	Sg	20 58 06.9	-0.2
	52nm,0.3s						
PMAN	**Manadas**	**0.34**	**90**	*e*S	Sg	20 58 08.9	-0.8
	45nm,0.2s						

IDC 25 21:18:02.0±1.2,**0.16N**×**121.74E**,**mb3.9**/4,**mb1 4.0**/4, **mb1mx3.8**/16,**mbtmp3.9**/4,**Error ellipse: s-maj=144.9km s-min=20.2km az=63.0**,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.48**	**149**	P	P	21 23 13.5	-0.9
	2.7nm,0.6s,baz=325,slow=11,SNR=51						
STKA	**Stephens Creek**	**36.99**	**151**	P	P	21 25 13.3	-1.8
	0.8nm,0.3s,baz=320,slow=7.4,SNR=6.2						
SONM	**Songino Array**	**49.32**	**346**	P	P	21 26 52.8	-2.1
	1.1nm,0.6s,baz=159,slow=8.3,SNR=9.6						
MKAR	**Makanchi Array**	**57.82**	**329**	P	P	21 27 55.4	-2.3
	0.3nm,0.3s,baz=127,slow=8.4,SNR=19						

*NEIC **25** 21:39:48.1±0.4,31.36N×49.82E,h10km,mb4.2/28, ML4.0(TEH),Error ellipse: s-maj=8.1km s-min=5.5km az=194.0*
*THR **25** 21:39:49.8±1.1,31.39N×49.88E,h34km±17km,ML4.0*
*MOS **25** 21:39:49.6±0.9,31.50N×49.92E,h33km,mb4.5/24,Error ellipse: s-maj=13.1km s-min=5.9km az=125.5*
*CSEM **25** 21:39:52.1±0.1,31.46N×50.05E,h70km,mb4.3/29,Error ellipse: s-maj=1.8km s-min=1.1km az=119.0*
*TEH **25** 21:39:57.0,31.81N×49.88E,h7km,Mn4.0*
*IDC **25** 21:39:57.2±5.7,31.52N×49.85E,h91km±49km,mb3.6/15, mb1 3.7/17,mb1mx3.6/23,mbtmp3.9/17,MS3.2/1, Ms1 3.2/1,ms1mx2.5/17,Error ellipse: s-maj=35.1km s-min=15.5km az=163.0*
ISC 25 21:39:52.2±0.3,**31.45N**±0.02×**50.05E**±0.03,**h65**km±4km, **n138**,σ1§**00**/145,**mb4.1**/44,**11C-9D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.25**	**302**	*e*Pg	**P**	**21 40 11.2**	**-2.8**
SHGR				AML	AML	21 40 31.0	
	comp=N,3μm,0.4s						
IGAR	**Garneh**	**1.99**	**66**	Pn	**P**	**21 40 25.2**	**+1.0**
IKLH	**Kalahroud**	**2.27**	**34**	Pn	**P**	**21 40 29.2**	**+1.0**
IZEF	**Zefreh**	**2.41**	**53**	Pn	**P**	**21 40 31.7**	**+1.5**
NASN	**Na'in**	**2.70**	**59**	*e*Pn	**P**	**21 40 35.7**	**+1.4**
UMR	**Umm Al-Rimmam**	**2.76**	**227**	*e*P	**P**	**21 40 35.3**	**+0.2**
SHI	**Shiraz**	**2.78**	**130**	Pn	**P**	**21 40 35.6**	**+0.1**
MIB	**Mutribah**	**2.85**	**236**	*e*P	**P**	**21 40 36.4**	**-0.1**
MIB				AML	AML	21 41 13.8	
	comp=Z,181nm,0.4s						
IPAR	**Pars**	**3.04**	**121**	Pn	**P**	**21 40 40.9**	**+1.9**
KBD	**Kabd**	**3.05**	**223**	*e*P	**P**	**21 40 39.8**	**+0.7**
KBD				*e*S	**S**	**21 41 15.6**	**+1.1**
KBD				AML	AML	21 41 18.3	
	comp=Z,760nm,0.2s						
QRN	**Al-Qurain**	**3.27**	**215**	*e*P	**P**	**21 40 42.1**	**-0.1**
QRN				*e*S	**S**	**21 41 21.0**	**+0.9**
QRN				AML	AML	21 41 23.2	
	comp=Z,270nm,0.3s						
NAY	**Al-Naaiem**	**3.27**	**229**	*e*P	**P**	**21 40 42.5**	**+0.2**
NAY				*e*S	**S**	**21 41 21.0**	**+0.9**
NAY				AML	AML	21 41 24.6	
	comp=Z,114nm,0.4s						
RDF	**Al-Radifah**	**3.32**	**221**	*e*P	**P**	**21 40 43.4**	**+0.4**
RDF				*e*S	**S**	**21 41 22.5**	**+1.2**
RDF				AML	AML	21 41 28.2	
	comp=Z,348nm,0.3s						
RDF	**Al-Radifah**	**3.32**	**221**	*e*P	**P**	**21 40 43.3**	**+0.4**
RDF				*e*S	**S**	**21 41 22.5**	**+1.2**
IMOK	**Mook**	**3.32**	**135**	Pn	**P**	**21 40 41.4**	**-1.6**
ISRV	**Sarvestan**	**3.35**	**127**	Pn	**P**	**21 40 43.3**	**-0.1**
IKOM	**Komasi**	**3.46**	**323**	Pn	**P**	**21 40 44.2**	**-0.8**
IQOM	**Qom**	**3.49**	**14**	Pn	**P**	**21 40 45.3**	**-0.1**
IQOM				Sn	**S**	**21 41 26.2**	**+0.4**
IVRN	**Varamin**	**3.81**	**21**	Pn	**P**	**21 40 49.9**	**+0.1**
IVRN				Sn	**S**	**21 41 33.9**	**+0.2**
IRAZ	**Razeghan**	**3.95**	**359**	Pn	**P**	**21 40 58.3**	**+6.5**
GHIR	**Ghir-Karzin**	**4.05**	**140**	*e*Pn	**P**	**21 40 52.8**	**-0.4**
IMHD	**Mahdasht**	**4.26**	**7**	Pn	**P**	**21 40 56.0**	**-0.1**
SNGE	**Sanandaj**	**4.28**	**329**	*e*Pn	**P**	**21 40 54.6**	**-1.9**
SNGE				AML	AML	21 41 49.4	
	comp=N,219nm,0.3s						
ILIN	**Laeen**	**4.32**	**324**	Pn	**P**	**21 40 55.9**	**-1.1**
IDMV	**Damavand**	**4.44**	**21**	Pn	**P**	**21 40 58.4**	**-0.3**
IDMV				Lg		21 42 10.6	
DAMV	**Damavand**	**4.47**	**20**	*e*Pn	**P**	**21 40 58.6**	**-0.4**
DAMV				AML	AML	21 42 14.6	
	comp=N,113nm,0.6s						
IDHR	**Dehrash**	**4.47**	**318**	Pn	**P**	**21 40 57.9**	**-1.2**
THKV	**Tehran--Karaj**	**4.51**	**9**	*e*Pn	**P**	**21 40 59.9**	**+0.3**
CHTH	**Charan**	**4.54**	**11**	*e*Pn	**P**	**21 40 59.6**	**-0.5**
IFIR	**Firoozkooh**	**4.75**	**28**	Pn	**P**	**21 41 02.8**	**-0.2**
IFIR				Sn	**S**	**21 41 56.4**	**-1.0**
BHD	**Baghdad**	**5.13**	**292**	*ex*	x	21 41 04.0	
BHD				*ex*	x	21 41 31.0	
BHD				*ex*	x	21 42 14.5	
BHD				*ex*	x	21 42 33.0	
BHD				*i* x	x	21 42 49.0	
BNDS	**Bandar-Abbas**	**6.69**	**126**	*e*Pn	**P**	**21 41 28.6**	**-1.4**
MSL	**Mosul**	**7.54**	**312**	*ex*	x	21 41 34.0	
MSL				*ex*	x	21 42 59.0	
BANOM	**Banah**	**7.77**	**134**	P	**P**	**21 41 44.0**	**-0.

comp=Z,9.0nm,1.3s,mb4.4
WTTA **Wattenberg** **33.26 309** ⇓P **P** **21 46 24.9 -0.2**
WTTA pmax pmax
comp=Z,9.0nm,1.3s,mb4.4
WATA **Walderalm** **33.31 310** ⇑*iP* **P** **21 46 25.2 -0.5**
comp=Z,4.2nm,1.1s,mb4.2
WATA **Walderalm** **33.31 310** ⇑P **P** **21 46 25.2 -0.4**
WATA pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
ZAL **Zalesovo** **33.50 38** P **P** **21 46 28.5 +1.3**
comp=Z,1.1nm,0.5s,mb3.9,baz=198,slow=9.4,SNR=5.0
SQTA **Sankt Quirin** **33.53 309** ⇓*iP* **P** **21 46 26.9 -0.6**
comp=Z,2.6nm,0.7s,mb4.2
SQTA **Sankt Quirin** **33.53 309** ⇓P **P** **21 46 26.9 -0.6**
SQTA pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MOTA **Moosalm** **33.63 309** ⇑*iP* **P** **21 46 26.0 -2.3**
comp=Z,1.8nm,0.8s,mb4.0
MOTA **Moosalm** **33.63 309** ⇑P **P** **21 46 26.0 -2.3**
MOTA pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
JOF **Joensuu** **33.69 345** *eP* **P** **21 46 28.6 -0.1**
comp=Z,1.6nm,0.6s,mb4.0
FINES **FINESS Array B** **33.85 339** P **P** **21 46 29.5 -0.6**
comp=Z,1.3nm,0.4s,mb4.1,baz=140,slow=8.9,SNR=38
FINES **FINESS Array B** **33.85 339** *eP* **P** **21 46 29.6 -0.5**
KAF **Kangasniemi** **34.31 340** *eP* **P** **21 46 33.8 -0.2**
comp=Z,0.4nm,0.4s,mb3.6
DAVA **Damuels** **34.42 309** ⇑*iP* **P** **21 46 34.8 -0.4**
comp=Z,7.9nm,0.5s,mb4.8
MBDF **Montbardon** **36.13 304** *eP* **P** **21 46 49.5 -0.3**
comp=Z,9.5nm,0.7s,mb4.5
MBDF **Montbardon** **36.13 304** *eP* **P** **21 46 49.5 -0.3**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPG **La Plagne** **36.24 305** *eP* **P** **21 46 51.2 +0.5**
comp=Z,6.8nm,0.7s,mb4.4
LPG **La Plagne** **36.24 305** *eP* **P** **21 46 51.2 +0.5**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LPL **La Plagne** **36.26 305** *eP* **P** **21 46 50.6 -0.2**
comp=Z,5.5nm,0.7s,mb4.3
LPL **La Plagne** **36.26 305** *eP* **P** **21 46 50.6 -0.2**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
HINF **Hinteralfeld** **36.54 309** *eP* **P** **21 46 52.4 -0.7**
ORIF **Oris-en-Rattie** **36.79 304** *eP* **P** **21 46 56.5 +1.3**
comp=Z,5.4nm,0.9s,mb4.2
CABF **La Chapelle** **36.85 307** *eP* **P** **21 46 55.7 -0.1**
comp=Z,13nm,0.7s,mb4.6
CABF **La Chapelle** **36.85 307** *eP* **P** **21 46 55.7 -0.1**
CABF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
HAU **Haudompre** **36.91 309** *eP* **P** **21 46 55.1 -1.1**
comp=Z,2.6nm,0.5s,mb4.1
HAU **Haudompre** **36.91 309** *eP* **P** **21 46 55.1 -1.1**
HAU pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
MEZF **Maizieres J'vi** **37.85 310** *eP* **P** **21 47 03.9 -0.1**
SMF **Signal de Mont** **38.39 307** *eP* **P** **21 47 08.2 -0.4**
comp=Z,7.8nm,0.5s,mb4.5
SMF **Signal de Mont** **38.39 307** *eP* **P** **21 47 08.2 -0.4**
SMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
LOR **Lormes** **38.46 308** *eP* **P** **21 47 08.4 -0.7**
comp=Z,3.3nm,0.7s,mb4.0
LOR **Lormes** **38.46 308** *eP* **P** **21 47 08.4 -0.7**
LOR pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
SSF **Saint Saulge** **38.67 307** *eP* **P** **21 47 10.4 -0.5**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
SSF **Saint Saulge** **38.67 307** *eP* **P** **21 47 10.4 -0.5**
comp=Z,1.9nm,0.6s,mb4.1
AVF **Avril sur Loir** **38.74 307** *eP* **P** **21 47 11.1 -0.4**
comp=Z,1.8nm,0.4s,mb3.9
AVF **Avril sur Loir** **38.74 307** *eP* **P** **21 47 11.1 -0.4**
AVF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
NB2 **NORSAR Subarra** **38.97 331** P **P** **21 47 12.7 -0.5**
comp=Z,3.7nm,0.9s,mb4.2,baz=122,slow=8.6
NB2 **NORSAR Subarra** **38.97 331** P **P** **21 47 12.7 -0.5**
NB2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
NOA **NORSAR Array B** **38.97 331** P **P** **21 47 12.4 -0.8**
comp=Z,1.7nm,0.7s,mb4.0,baz=123,slow=8.5,SNR=3.7
TCF **Toulx Ste Croi** **39.48 306** *eP* **P** **21 47 17.5 -0.1**
comp=Z,8.9nm,1.1s,mb4.2
TCF **Toulx Ste Croi** **39.48 306** *eP* **P** **21 47 17.5 -0.1**
TCF pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
KEV **Kevo** **40.50 348** *ep* **P** **21 47 25.7 -0.1**
comp=Z,1.0nm,0.4s,mb4.0
KEV **Kevo** **40.50 348** *eP* **P** **21 47 25.7 -0.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
ARCES **ARCESS Array B** **40.59 347** P **P** **21 47 27.2 +0.6**
comp=Z,1.2nm,0.5s,mb4.0,baz=138,slow=9.7,SNR=18
LDF **La Druitiere** **41.27 309** *eP* **P** **21 47 31.5 -0.8**
comp=Z,7.2nm,0.6s,mb4.4
LDF **La Druitiere** **41.27 309** *eP* **P** **21 47 31.5 -0.8**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
FLN **La Foliniere** **41.52 310** *eP* **P** **21 47 33.8 -0.6**
comp=Z,7.0nm,0.5s,mb4.3
FLN **La Foliniere** **41.52 310** *eP* **P** **21 47 33.8 -0.6**
FLN pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
GRR **Gorron** **41.74 309** *eP* **P** **21 47 35.7 -0.5**
comp=Z,12nm,0.7s,mb4.5
GRR **Gorron** **41.74 309** *eP* **P** **21 47 35.7 -0.5**
GRR pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
SGMF **Saint Gilles** **42.86 309** *eP* **P** **21 47 44.9 -0.5**
comp=Z,5.9nm,0.4s,mb4.3
SGMF **Saint Gilles** **42.86 309** *eP* **P** **21 47 44.9 -0.5**
SGMF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
QUIF **Quistinic** **43.25 308** *eP* **P** **21 47 47.9 -0.7**
comp=Z,1.1nm,0.5s,mb4.4
QUIF **Quistinic** **43.25 308** *eP* **P** **21 47 47.9 -0.7**
QUIF pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
ESDC **Sonseca Array** **44.13 296** P **P** **21 47 56.3 +0.4**
comp=Z,0.7nm,0.7s,mb3.5,baz=81,slow=7.7,SNR=5.2
SONM **Songino Array** **45.35 52** P **P** **21 48 06.8 +1.3**
comp=Z,0.3nm,0.5s,mb3.3,baz=259,slow=8.0,SNR=3.8
DBIC **Dimbokro** **56.77 256** P **P** **21 49 30.5 -1.6**
comp=Z,2.3nm,0.7s,mb4.3,baz=45,slow=9.7,SNR=8.1
LIC **Lamto** **57.16 256** *eP* **P** **21 49 34.8 -0.1**
comp=Z,7.9nm,0.9s,mb4.8
BILL **Bilibino** **70.19 21** *eP* **P** **21 51 00.0 +0.6**
BILL pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
BILL **Bilibino** **70.19 21** *eP* **P** **21 51 00.0 +0.6**
comp=Z,1.0nm,0.7s,mb3.8
SCHQ **Schefferville** **78.47 328** P **P** **21 51 47.5 +0.2**
comp=Z,2.3nm,0.7s,mb4.0,baz=47,slow=5.7,SNR=3.1
INK **Inuvik** **80.52** 1 P **P** **21 51 57.2 -0.9**
comp=Z,1.2nm,1.1s,mb3.6,baz=333,slow=4.5,SNR=3.4
ILAR **Eielson Array** **83.19** 7 P **P** **21 52 12.9 +0.9**
comp=Z,0.4nm,0.8s,mb3.3,baz=288,slow=2.9,SNR=4.2
YKA **Yellowknife Ar** **85.58 353** P **P** **21 52 24.6 +0.8**
comp=Z,0.6nm,0.9s,mb3.5,baz=14,slow=4.8,SNR=6.3
YKA **Yellowknife Ar** **85.58 353** P **P** **21 52 24.7 +0.8**

ISC 25 21:43:36.1±1.1, 47.33N±0.05×15.07E±0.07, h10km, n6, σ0§23/9, 4C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ARSA	**Arzberg**	**0.32**	**104**	⇑*iPg*		**Pg**	**21 43 42.9**	**+0.2**
	comp=Z,11nm,0.1s							
ARSA				⇑*iSg*		**Sg**	**21 43 47.2**	**+0.1**
	comp=E,26nm,0.1s							
PERS	**Pernice**	**0.69**	**177**	⇓*iPg*		**Pg**	**21 43 50.1**	**0.0**
PERS				*i* Sg		**Sg**	**21 43 59.3**	**-0.1**
	comp=Z,3.0nm,0.1s							
MOA	**Molln**	**0.76**	**314**	⇑*iPg*		**Pg**	**21 43 51.1**	**-0.2**
	comp=Z,0.8nm,0.1s							
OBKA	**Obir**	**0.89**	**204**	⇑*iPg*		**Pg**	**21 43 54.0**	**0.0**
	comp=Z,0.5nm,0.1s							
OBKA	**Obir**	**0.89**	**204**	⇓*iSg*		**Sg**	**21 44 06.3**	**+0.3**
	comp=Z,2.7nm,0.2s							
GROS	**Grobnik**	**0.91**	**161**	*i* Pg		**Pg**	**21 43 54.7**	**+0.2**
GROS				*i* Sg		**Sg**	**21 44 06.2**	**-0.5**

comp=Z,2.0nm,0.1s

*NEIC **25** 21:55:33.0, 36.82S×177.71E, h141km, MG3.7(WEL), After WEL.*
WEL 25 21:55:32.0±0.4, 36.85S×177.80E, h152km±3km, ML3.7/14, Error ellipse: s-maj=4.6km s-min=4.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.82**	**151**	PN		P	21 55 55.7	-0.2
MXZ				SN		S	21 56 13.4	-0.7
MXZ	**Matakaoa Point**	**0.82**	**151**	P		P	21 55 55.8	-0.1
MXZ				S		S	21 56 13.5	-0.7
PUZ	**Puketiti**	**1.27**	**164**	*e*PN		P	21 55 59.8	+0.1
PUZ				SN		S	21 56 19.6	-1.5
PUZ	**Puketiti**	**1.27**	**164**	*e*P		P	21 56 00.2	+0.4
PUZ				S		S	21 56 19.7	-1.4
MWZ	**Matawai**	**1.50**	**188**	PN		P	21 56 01.9	-0.2
MWZ	**Matawai**	**1.50**	**188**	P		P	21 56 02.7	+0.6
URZ	**Urewera**	**1.51**	**201**	PN		P	21 56 01.9	-0.3
URZ				SN		S	21 56 25.3	-0.2
URZ	**Urewera**	**1.51**	**201**	P		P	21 56 02.0	-0.2
KNZ	**Kokohu**	**2.17**	**183**	PN		P	21 56 09.4	-0.3
KNZ	**Kokohu**	**2.17**	**183**	P		P	21 56 09.6	-0.1
BKZ	**Black Stump Fm**	**2.53**	**204**	PN		P	21 56 13.8	-0.5
BKZ	**Black Stump Fm**	**2.53**	**204**	P		P	21 56 14.1	-0.2
PXZ	**Pawanui**	**3.26**	**193**	PN		P	21 56 21.6	-1.9
TSZ	**Takapari Road**	**3.51**	**204**	PN		P	21 56 24.8	-2.1
WAZ	**Wanganui**	**3.65**	**217**	P		P	21 56 28.1	-0.5
BFZ	**Birch Farm**	**4.01**	**197**	PN		P	21 56 30.5	-2.8
BFZ	**Birch Farm**	**4.01**	**197**	*e*P		P	21 56 30.7	-2.7
MRZ	**Mangatainoka R**	**4.18**	**204**	PN		P	21 56 32.2	-3.4
MRZ	**Mangatainoka R**	**4.18**	**204**	*e*P		P	21 56 32.8	-2.8
KIW	**Kapiti Island**	**4.60**	**209**	PN		P	21 56 37.3	-3.8
MTW	**Mount Morrison**	**4.66**	**202**	*e*PN		P	21 56 37.5	-4.3
CAW	**Cannon Point**	**4.75**	**206**	PN		P	21 56 39.1	-4.0
CAW	**Cannon Point**	**4.75**	**206**	P		P	21 56 39.4	-3.7
TRWZ	**Traveller**	**4.83**	**199**	*e*PN		P	21 56 40.5	-3.6
PAWZ	**Paruwai Farm**	**4.89**	**201**	*e*PN		P	21 56 40.8	-4.0
SNZO	**South Karori**	**5.06**	**207**	*e*PN		P	21 56 42.8	-4.4
SNZO	**South Karori**	**5.06**	**207**	P		P	21 56 43.1	-4.1
TCW	**Tory Channel**	**5.15**	**211**	*e*PN		P	21 56 44.3	-4.0
TUWZ	**Tuamarina**	**5.47**	**212**	*e*PN		P	21 56 48.0	-4.6
THZ	**Tophouse**	**6.20**	**216**	*e*PN		P	21 56 56.9	-5.5
THZ	**Tophouse**	**6.20**	**216**	*e*P		P	21 56 58.8	-3.6
KHZ	**Kahutara**	**6.46**	**209**	*e*PN		P	21 57 00.9	-4.9
KHZ	**Kahutara**	**6.46**	**209**	*e*P		P	21 57 01.5	-4.3
MQZ	**McQueen's Vall**	**7.90**	**208**	SN		S	21 58 43.0	-10
ODZ	**Otahua Downs**	**9.81**	**211**	*e*PN		P	21 57 45.3	-5.0

*ATH **25** 22:04:29.5, 38.09N×26.44E, h37km±2km, MD3.1/3*
*ISK **25** 22:04:30.5, 38.27N×26.60E, h27km, MD2.9*
*NEIC **25** 22:04:30.5, 38.27N×26.60E, h27km, MD3.1(ATH), MD2.9(ISK), After ISK.*
*CSEM **25** 22:04:30.8±0.1, 38.19N×26.63E, h21km±1km, MD2.9, Error ellipse: s-maj=3.2km s-min=1.7km az=139.0*
ISC 25 22:04:29.0±1.0, 38.15N±0.03×26.49E±0.05, h0km±7km, n16, σ0§98/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URLA	**Izmir**	**0.23**	**21**	*i* P		**Pg**	**22 04 33.7**	**+0.2**
URLA				*i* S		**Sg**	**22 04 37.0**	**+0.5**
BLCB	**Balcova**	**0.49**	**61**	PG		**Pg**	**22 04 39.4**	**+0.5**
BLCB				SG		**Sg**	**22 04 45.4**	**-0.1**
SMG	**Samos**	**0.52**	**148**	*e*PB		**Pb**	**22 04 40.5**	**-0.1**
SMG				*e*SB		**Sb**	**22 04 48.5**	**+0.2**
IZM	**Izmir**	**0.66**	**67**	PG		**Pg**	**22 04 42.3**	**+0.2**
IZM				SG		**Sg**	**22 04 51.0**	**+0.1**
KDAG	**Bornova**	**0.66**	**67**	*i* P		**Pg**	**22 04 41.5**	**-0.7**
KDAG				*i* S		**Sg**	**22 04 49.5**	**-1.5**
PRK	**Paraskevi**	**1.11**	**351**	*e*PN		**Pn**	**22 04 51.0**	**-0.6**
PRK				*e*SN		**Sn**	**22 05 06.5**	**-1.3**
AYVA	**Ayvalik**	**1.17**	**8**	*i* P		**Pb**	**22 04 52.1**	**+0.4**
AYVA				*i* S		**Sb**	**22 05 09.1**	**+1.8**
AYDN	**Tasoluk**	**1.20**	**113**	*i* P		**Pb**	**22 04 52.6**	**+0.3**
AYDN				*i* S		**Sb**	**22 05 08.3**	**+0.1**
BODT	**Bodrum**	**1.27**	**149**	*e*PN		**Pn**	**22 04 53.8**	**0.0**
AKS	**Akhisar**	**1.27**	**54**	PN		**Pn**	**22 04 51.1**	**-2.8**
APE	**Apeiranthos**	**1.32**	**216**	*e*PN		**Pn**	**22 04 55.7**	**+1.1**
APE	**Apeiranthos**	**1.32**	**216**	*e*Pb		**Pb**	**22 04 52.3**	**-2.0**
APE				*e*Pn		**Pn**	**22 04 55.7**	**+1.1**
BDRM	**Kayabasi**	**1.32**	**145**	*i* P		**Pb**	**22 04 56.4**	**+2.1**
BDRM				*i* S		**Sb**	**22 05 11.3**	**-0.3**
MLSB	**Milas**	**1.33**	**129**	*e*PN		**Pn**	**22 04 54.0**	**-0.7**
DAT	**Datca**	**1.66**	**148**	*e*PN		**Pn**	**22 04 59.6**	**+0.1**
MANT	**Manisa**	**1.66**	**77**	*i* P		**Pn**	**22 05 01.1**	**+1.6**
MANT				*i* S		**Sb**	**22 05 21.4**	**-0.1**

*ISK **25** 22:20:30.6, 38.25N×26.50E, h18km, MD3.2*
*NEIC **25** 22:20:30.6, 38.25N×26.50E, h18km, MD3.2(ISK), MD3.0(ATH), After ISK.*
*ATH **25** 22:20:31.4, 38.15N×26.41E, h20km, MD3.0/4*
*CSEM **25** 22:20:32.6±0.1, 38.22N×26.65E, h20km, MD3.2, Error ellipse: s-maj=3.0km s-min=2.2km az=79.0*
ISC 25 22:20:30.6±1.0, 38.16N±0.03×26.50E±0.05, h3km±7km, n19, σ0§97/29, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URLA	**Izmir**	**0.21**	**20**	*i* P		**Pg**	**22 20 35.1**	**+0.2**
URLA				*i* S		**Sg**	**22 20 38.3**	**+0.5**
BLCB	**Balcova**	**0.48**	**62**	PG		**Pg**	**22 20 40.4**	**+0.2**
BLCB				SG		**Sg**	**22 20 46.5**	**-0.1**
SMG	**Samos**	**0.52**	**150**	*e*PN		**Pn**	**22 20 42.3**	**-2.3**
SMG				*e*SN		**Sn**	**22 20 50.4**	**-3.7**
IZM	**Izmir**	**0.64**	**68**	*i* PG		**Pg**	**22 20 43.8**	**+0.3**
IZM				*i* SG		**Sg**	**22 20 52.1**	**0.0**
KDAG	**Bornova**	**0.65**	**68**	*i* P		**Pg**	**22 20 42.7**	**-0.8**
KDAG				*i* S		**Sg**	**22 20 51.0**	**-1.3**
PRK	**Paraskevi**	**1.10**	**351**	*e*PN		**Pn**	**22 20 52.4**	**-0.5**
PRK				*e*SN		**Sn**	**22 21 07.6**	**-1.2**
AYVA	**Ayvalik**	**1.16**	**7**	*i* P		**Pb**	**22 20 53.7**	**+0.8**
AYVA				*i* S		**Sb**	**22 21 10.1**	**+1.9**
AYDN	**Tasoluk**	**1.20**	**114**	*i* P		**Pb**	**22 20 53.9**	**+0.3**
AYDN				*i* S		**Sb**	**22 21 09.1**	**-0.3**
AKS	**Akhisar**	**1.25**	**55**	PN		**Pn**	**22 20 53.5**	**-1.6**
BODT	**Bodrum**	**1.27**	**149**	PN		**Pn**	**22 20 55.2**	**-0.1**
BDRM	**Kayabasi**	**1.32**	**145**	*i* P		**Pb**	**22 20 58.3**	**+2.5**
BDRM				*i* S		**Sb**	**22 21 14.2**	**+1.2**
MLSB	**Milas**	**1.33**	**130**	*e*PN		**Pn**	**22 20 56.4**	**+0.3**
APE	**Apeiranthos**	**1.33**	**216**	PN		**Pn**	**22 20 55.1**	**-1.1**
APE	**Apeiranthos**	**1.33**	**216**	⇑*i*PN		**Pn**	**22 20 55.8**	**-0.4**
MANT	**Manisa**	**1.65**	**78**	*i* P		**Pn**	**22 21 02.1**	**+1.4**
MANT				*i* S		**Sb**	**22 21 22.5**	**-0.1**
DAT	**Datca**	**1.66**	**149**	*e*PN		**Pn**	**22 21 01.2**	**+0.3**
YER	**Yerkesik**	**1.74**	**125**	*e*PN		**Pn**	**22 21 02.2**	**+0.1**
LIA	**Limnos Island**	**2.02**	**330**	*e*PN		**Pn**	**22 21 06.2**	**+0.2**
RDO	**Rodhopi**	**3.08**	**346**	*e*PN		**Pn**	**22 21 20.7**	**-0.4**

*IDC **25** 22:27:24.4±1.5, 38.73N×72.05E, mb3.6/4, mb1 3.7/7, mb1mx3.5/21, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=25.9km s-min=17.2km az=47.0*
*NNC **25** 22:27:31.2±4.2, 39.47N×71.84E, mb4.3, mpv4.2, Error ellipse: s-maj=42.0km s-min=16.6km az=12.0*
ISC 25 22:27:33.7±1.8, 39.3N±0.1×71.9E±0.1, h83km±13km, n23, σ1§04/27, mb3.2/4, 5C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AML	**Almayashu**	**3.18**	**25**	P		**P**	**22 28 23.3**	**+0.6**
	SNR=288							
UCH	**Uchtor**	**3.57**	**33**	P		**P**	**22 28 27.9**	**-0.2**
	SNR=45							
EKS2	**Erkin-Say**	**3.69**	**22**	P		**P**	**22 28 30.6**	**+0.9**
	SNR=50							
KZA	**Kyzart**	**3.80**	**41**	P		**P**	**22 28 30.4**	**-0.9**
	SNR=23							
AAK	**Ala-Archa**	**3.90**	**30**	P		**P**	**22 28 33.0**	**+0.3**
	SNR=22							
KK31	**Karatay Array**	**3.98**	**345**	⇓Pn		**P**	**22 28 34.7**	**+1.0**
	7.4nm,0.5s,baz=166,slow=12,SNR=100							
KK31				⇓Sn		**S**	**22 29 25.7**	**+6.3**
	16nm,0.4s,baz=165,slow=20,SNR=7.1							
KBK	**Karagaybulak**	**4.11**	**33**	P		**P**	**22 28 36.4**	**+0.8**
	SNR=8.1							
CHMS	**Chumysh**	**4.31**	**29**	P		**P**	**22 28 38.8**	**+0.4**
	SNR=52							
ULHL	**Ulahol**	**4.45**	**47**	P		**P**	**22 28 39.5**	**-0.9**
	SNR=9.5							
USP	**Ospenovka**	**4.46**	**25**	P		**P**	**22 28 40.9**	**+0.5**
	SNR=24							
TKM2	**Tokmak 2**	**4.61**	**36**	P		**P**	**22 28 41.6**	**-0.9**
	SNR=7.6							
TKM2	**Tokmak 2**	**4.61**	**36**	⇑Pn		**P**	**22 28 41.5**	**-1.0**
	12nm,0.6s							
KNDC	**Almaty**	**5.50**	**42**	⇑Pg		**P**	**22 29 07.8**	**+13**
	267nm,0.7s							
KNDC				⇑Lg			22 30 20.5	
	399nm,0.8s							
MK31	**Makanchi Array**	**10.70**	**42**	⇓Pn		**P**	**22 30 05.6**	**-0.1**
	1.2nm,0.8s,baz=227,slow=15,SNR=16							
MKAR	**Makanchi Array**	**10.70**	**42**	Pn		**P**	**22 30 04.7**	**-1.0**
	0.2nm,0.3s,baz=224,slow=16,SNR=21							
AB31	**Akbulak array**	**13.14**	**323**	⇓Pn		**P**	**22 30 36.0**	**-2.1**
	2.1nm,0.5s,baz=133,slow=12,SNR=56							
AB31				⇑Sn		**S**	**22 33 00.0**	**-2.6**
	3.6nm,0.7s,baz=131,slow=24,SNR=8.5							
BVAR	**Borovoye Array**	**13.80**	**356**	Pn		**P**	**22 30 47.2**	**+0.6**
	0.1nm,0.3s,baz=164,slow=11,SNR=5.7							
BVAR				Sn		**S**	**22 33 18.0**	**-0.2**
	0.1nm,0.3s,baz=187,slow=25,SNR=4.7							
AKTO	**Aktyubinsk**	**14.86**	**323**	⇑Pn		**P**	**22 31 00.5**	**+0.1**
	0.7nm,0.6s							
AKTO	**Aktyubinsk**	**14.86**	**323**	Pn		**P**	**22 31 00.3**	**0.0**
	0.6nm,0.3s,baz=115,slow=15,SNR=9.3							
AKTO				Sn		**S**	**22 33 43.2**	**+0.1**
	0.1nm,0.3s,baz=142,slow=18,SNR=3.9							
SONM	**Songino Array**	**26.26**	**60**	P		**P**	**22 33 02.4**	**-0.2**
	0.4nm,0.9s,mb2.9,baz=253,slow=9.1,SNR=4.1							
FINES	**FINESS Array B**	**35.63**	**324**	P		**P**	**22 34 27.1**	**+2.2**
	1.4nm,0.8s,mb3.9,baz=135,slow=7.9,SNR=7.2							
YKA	**Yellowknife Ar**	**78.46**	**3**	P		**P**	**22 39 28.7**	**+2.3**
	0.1nm,0.5s,mb2.8,baz=351,slow=5.3,SNR=4.3							
WRA	**Warramunga Arr**	**82.87**	**123**	P		**P**	**22 39 49.3**	**-1.2**
	0.6nm,1.0s,mb3.4,baz=327,slow=5.0,SNR=3.9							

*ATH **25** 22:39:09.1, 38.14N×26.58E, h36km±3km, MD2.9/3*
*ISK **25** 22:39:09.6, 38.19N×26.60E, h12km, MD2.8*
*NEIC **25** 22:39:09.6, 38.19N×26.60E, h12km, MD2.9(ATH), MD2.8(ISK), After ISK.*
*CSEM **25** 22:39:09.4±0.1, 38.22N×26.58E, h10km, MD2.8, Error ellipse: s-maj=3.7km s-min=2.8km az=124.0*
ISC 25 22:39:08.4±1.8, 38.17N±0.04×26.50E±0.10, h6km±13km, n9, σ0§50/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.48**	**64**	PG		**Pg**	**22 39 18.4**	**+0.4**
BLCB				SG		**Sg**	**22 39 23.8**	**-0.6**
SMG	**Samos**	**0.54**	**150**	*e*PB		**Pb**	**22 39 19.8**	**0.0**
SMG				*e*SB		**Sb**	**22 39 27.6**	**+0.1**
SMG	**Samos**	**0.54**	**150**	*e*Pb		**Pb**	**22 39 19.8**	**0.0**
SMG				*e*Sb		**Sb**	**22 39 27.9**	**+0.4**
IZM	**Izmir**	**0.64**	**69**	PG		**Pg**	**22 39 20.9**	**-0.3**
IZM				SG		**Sg**	**22 39 29.8**	**0.0**
PRK	**Paraskevi**	**1.08**	**351**	*e*PN		**Pn**	**22 39 30.2**	**+0.2**
PRK				*e*SN		**Sn**	**22 39 45.6**	**+0.1**
PRK	**Paraskevi**	**1.08**	**351**	*e*Pn		**Pn**	**22 39 30.2**	**+0.2**
PRK				*e*Sn		**Sn**	**22 39 45.2**	**-0.3**
AKS	**Akhisar**	**1.25**	**55**	*e*PN		**Pn**	**22 39 32.8**	**+0.4**
APE	**Apeiranthos**	**1.34**	**215**	*e*PN		**Pn**	**22 39 33.4**	**-0.3**
APE				*e*SN		**Sn**	**22 39 51.3**	**-0.8**
APE	**Apeiranthos**	**1.34**	**215**	*e*Pn		**Pn**	**22 39 35.3**	**+1.6**

IDC 25 22:42:47.1±1.5, 0.02N×124.25E, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=179.3km s-min=26.3km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.16**	**154**	P		P	22 47 44.8	-1.7
	8.3nm,0.6s,baz=334,slow=10.0,SNR=91							
SONM	**Songino Array**	**50.09**	**344**	P		P	22 51 44.2	-1.7
	0.6nm,0.8s,baz=157,slow=7.6,SNR=5.1							
MKAR	**Makanchi Array**	**59.26**	**328**	P		P	22 52 50.4	-2.5
	0.6nm,0.5s,baz=127,slow=8.2,SNR=17							

GUC 25 22:52:28.1±0.8, 31.47S×71.68W, h29km±3km, MD3.8, ML3.1, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.43**	**160**	⇑*iP*		Pb	22 52 37.4	0.0
CHNG				*i* S		Sb	22 52 43.6	-0.2
CHNG				AMP			22 52 44.3	
	comp=E,2μm,0.4s							
CMCH	**Combarbala**	**0.65**	**63**	⇑*iP*		Pb	22 52 40.8	-0.1
CMCH				*i* S		Sb	22 52 49.9	+0.3
CMCH				AMP			22 52 54.9	
	comp=E,2μm,0.5s							
PACH	**Papudo**	**1.08**	**169**	*e*P		Pn	22 52 47.2	-0.2
PACH				*i* S		Sn	22 53 01.7	+0.1
JACH	**Jahuel**	**1.52**	**143**	⇓*iP*		Pn	22 52 54.8	+1.0
JACH				*i* S		Sn	22 53 14.5	+1.8
ROCH	**El Roble**	**1.60**	**160**	⇑*iP*		Pn	22 52 55.6	+0.7
ROCH				*i* S		Sn	22 53 16.6	+1.9
PEL	**Peldehue**	**1.86**	**154**	*e*P		Pn	22 52 59.2	+0.4
PEL				*i* S		Sn	22 53 23.7	+2.2
PEL				AMP			22 53 26.9	
	comp=E,474nm,0.3s							
RCDM	**Rinconada Maip**	**2.14**	**160**	*i* P		Pn	22 53 03

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.47**	**61**	PG	**Pg**	**23 04 53.7**	**+0.1**
SMG	**Samos**	**0.51**	**151**	*e*PB	**Pb**	**23 04 55.8**	**+0.2**
SMG				*e*Sb	**Sb**	**23 05 03.6**	**+0.5**
SMG	**Samos**	**0.51**	**151**	Pb	**Pb**	**23 04 55.8**	**+0.2**
SMG				*e*Sb	**Sb**	**23 05 03.9**	**+0.8**
IZM	**Izmir**	**0.63**	**67**	PG	**Pg**	**23 04 57.2**	**+0.3**
IZM				SG	**Sg**	**23 05 05.1**	**-0.2**
KDAG	**Bornova**	**0.64**	**67**	*i* P	**Pg**	**23 04 56.1**	**-0.8**
KDAG				*i* S	**Sg**	**23 05 04.6**	**-0.9**
PRK	**Paraskevi**	**1.11**	**350**	*e*PN	**Pn**	**23 05 06.1**	**-0.5**
PRK				*e*Sn	**Sn**	**23 05 21.5**	**-1.1**
PRK	**Paraskevi**	**1.11**	**350**	Pn	**Pn**	**23 05 06.1**	**-0.5**
PRK				*e*Sn	**Sn**	**23 05 21.1**	**-1.5**
AYVA	**Ayvalik**	**1.16**	**7**	*i* P	**Pb**	**23 05 07.4**	**+0.7**
AYVA				*i* S	**Sb**	**23 05 25.0**	**+3.1**
AYDN	**Tasoluk**	**1.18**	**114**	*i* P	**Pb**	**23 05 07.4**	**+0.4**
AYDN				*i* S	**Sb**	**23 05 22.6**	**-0.1**
AKS	**Akhisar**	**1.25**	**54**	PN	**Pn**	**23 05 07.4**	**-1.2**
BODT	**Bodrum**	**1.26**	**150**	*e*PN	**Pn**	**23 05 09.1**	**+0.3**
BDRM	**Kayabasi**	**1.31**	**146**	*i* P	**Pb**	**23 05 09.1**	**-0.2**
BDRM				*i* S	**Sb**	**23 05 25.9**	**-0.5**
APE	**Apeiranthos**	**1.34**	**216**	*e*PN	**Pn**	**23 05 10.0**	**+0.1**
MANT	**Manisa**	**1.64**	**78**	*i* P	**Pn**	**23 05 15.6**	**+1.5**
MANT				*i* S	**Sb**	**23 05 36.4**	**+0.6**
DAT	**Datca**	**1.65**	**149**	*e*PN	**Pn**	**23 05 14.2**	**-0.2**
EZN	**Ezine**	**1.68**	**355**	*e*PN	**Pn**	**23 05 14.7**	**0.0**
YER	**Yerkesik**	**1.73**	**126**	*e*PN	**Pn**	**23 05 15.0**	**-0.5**

CSEM ***25*** *23:17:35.9±0.1, 38.23N×26.55E, h2km, MD2.9, Error ellipse: s-maj=3.3km s-min=2.1km az=135.0*
ATH ***25*** *23:17:36.4, 38.13N×26.49E, h37km±9km, MD3.0/3*
ISK ***25*** *23:17:36.5, 38.23N×26.53E, h10km, MD2.9*
NEIC ***25*** *23:17:36.5, 38.23N×26.53E, h10km, MD3.0(ATH), MD2.9(ISK), After ISK.*

ISC 25 23:17:36.2±1.1, 38.19N±0.03×26.51E±0.06, h3km±7km, n14, σ0°89/24, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.19**	**22**	*i* P	**Pg**	**23 17 40.2**	**+0.2**
URLA				*i* S	**Sg**	**23 17 43.3**	**+0.8**
BLCB	**Balcova**	**0.47**	**64**	PG	**Pg**	**23 17 45.4**	**-0.1**
BLCB				SG	**Sg**	**23 17 51.9**	**+0.2**
SMG	**Samos**	**0.54**	**151**	*e*PB	**Pb**	**23 17 47.6**	**-0.4**
SMG				*e*SB	**Sb**	**23 17 55.5**	**-0.4**
IZM	**Izmir**	**0.63**	**70**	PG	**Pg**	**23 17 48.7**	**-0.1**
IZM				SG	**Sg**	**23 17 57.6**	**+0.4**
KDAG	**Bornova**	**0.64**	**70**	*i* P	**Pg**	**23 17 47.6**	**-1.3**
KDAG				*i* S	**Sg**	**23 17 55.8**	**-1.6**
PRK	**Paraskevi**	**1.08**	**350**	⇑*i* PN	**Pb**	**23 17 57.3**	**+0.2**
PRK				*e*SN	**Sn**	**23 18 12.8**	**-0.9**
PRK	**Paraskevi**	**1.08**	**350**	⇑*i* P	**Pb**	**23 17 57.3**	**+0.2**
PRK				*e*S	**Sb**	**23 18 10.3**	**-1.1**
AYVA	**Ayvalik**	**1.13**	**7**	*i* P	**Pb**	**23 17 59.9**	**+1.8**
AYVA				*i* S	**Sb**	**23 18 17.4**	**+4.3**
AYDN	**Tasoluk**	**1.21**	**115**	*i* P	**Pb**	**23 17 59.4**	**+0.1**
AYDN				*i* S	**Sb**	**23 18 15.2**	**+0.1**
AKS	**Akhisar**	**1.24**	**56**	*e*PN	**Pn**	**23 18 00.1**	**-0.3**
BODT	**Bodrum**	**1.29**	**150**	*e*PN	**Pn**	**23 18 02.2**	**+1.1**
APE	**Apeiranthos**	**1.36**	**215**	*e*PN	**Pn**	**23 18 02.8**	**+0.7**
APE	**Apeiranthos**	**1.36**	**215**	*e*PN	**Pn**	**23 17 59.9**	**-2.2**
MANT	**Manisa**	**1.64**	**79**	*i* P	**Pn**	**23 18 07.8**	**+1.6**
MANT				*i* S	**Sb**	**23 18 28.1**	**+0.2**

IDC ***25*** *23:39:10.9±0.5, 15.75S×172.74W, mb4.5/18, mb1 4.7/18, mb1mx4.7/23, mbtmp4.5/18, MS4.2/17, Ms1 4.2/17, ms1mx4.1/30, Error ellipse: s-maj=22.2km s-min=13.3km az=134.0*
BJI ***25*** *23:39:12.2, 15.80S×172.70W, h10km, mB5.6, mb5.1, Ms5.0, Msz4.4*
NEIC ***25*** *23:39:12.2±0.3, 15.80S×172.69W, h10km, mb4.9/16, MS4.7/1, Error ellipse: s-maj=15.7km s-min=6.7km az=146.0*
MOS ***25*** *23:39:14.3±1.9, 15.41S×172.00W, h10km, mb4.8/18, Error ellipse: s-maj=21.4km s-min=10.2km az=74.0*

ISC 25 23:39:14.1±0.3, 15.90S±0.09×172.67W±0.07, h33km, (h26km±6.4km:pP-P), n168, σ1°11/81, mb4.7/38, MS4.3/17, 5C-5D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**24**	Pn	**Pn**	**23 39 40.4**	**-8.2**
	36nm,0.3s,baz=11,slow=0.7,SNR=28						
AFI				Sn	**Sn**	**23 40 06.1**	**-8.5**
	430nm,0.3s,baz=323,slow=19,SNR=15						
AFI				LR	LR	23 40 19.5	
	comp=Z,2μm,19.6s,baz=217,slow=34						
AFI	**Afiamalu**	**2.16**	**24**	P	**P**	**23 39 40.4**	**-8.1**
AFI						23 40 06.1	
AFI				pmax	pmax		
	comp=Z,36nm,0.3s						
AFI				smax			
	comp=E,430nm,0.3s						
AFI				MLR	MLR		
	comp=Z,2μm,19.6s						
AFI	**Afiamalu**	**2.16**	**24**	*e*Pn	**Pn**	**23 39 40.4**	**-8.2**
RAR	**Rarotonga**	**13.32**	**115**	Pn	**P**	**23 42 13.4**	**-10**
	comp=Z,2.4nm,0.3s,baz=258,slow=8.2,SNR=7.3						
RAR				LR	LR	23 45 55.0	
	comp=Z,1μm,21.6s,baz=312,slow=30						
RAO	**Raoul Island**	**14.14**	**199**	LR	LR	23 46 59.4	
	comp=Z,489nm,19.6s,baz=307,slow=33						
DZM	**Mont Dzumac**	**20.67**	**250**	P	**P**	**23 43 53.6**	**-0.2**
	comp=Z,19nm,0.7s,baz=86,slow=18,SNR=8.9						
NOUC	**Port Laguerre**	**20.81**	**250**	*e*P	**P**	**23 43 54.1**	**-1.2**
NOUC	**Port Laguerre**	**20.81**	**250**	*e*P	**P**	**23 43 54.1**	**-1.2**
PPT	**Papeete**	**22.17**	**98**	*e*LR	LR	23 49 00.4	
	comp=Z,2μm,26.0s						
PPT	**Papeete**	**22.17**	**98**	LR	LR	23 51 26.8	
	comp=Z,594nm,18.8s,MS4.0,baz=240,slow=33						
TBI	**Tubuai**	**23.06**	**112**	*e*LQ		23 48 31.6	
TBI				*e*LR	LR	23 49 32.4	
	comp=Z,2μm,26.5s,baz=294						
URZ	**Urewera**	**24.02**	**200**	P	**P**	**23 44 27.6**	**+0.6**
	comp=Z,12nm,0.7s,mb4.4,baz=344,slow=3.4,SNR=12						
HNR	**Honiara**	**27.46**	**280**	LR	LR	23 54 27.7	
	comp=Z,1μm,18.2s,MS4.5,baz=124,slow=34						
RPZ	**Rata Peaks**	**30.99**	**203**	P	**P**	**23 45 32.5**	**+1.8**
	comp=Z,6.7nm,0.4s,mb4.9,baz=41,slow=18,SNR=2.0						
RPZ				LR	LR	23 55 18.6	
	comp=Z,190nm,21.6s,MS3.7,baz=189,slow=31						
TAOE	**Nuku Hiva Isla**	**32.49**	**81**	*e*LR	LR	23 53 41.0	
	comp=Z,2μm,28.0s						
RKT	**Rikitea**	**36.17**	**107**	*e*LR	LR	23 55 32.7	
	comp=Z,969nm,26.8s,baz=286						
PMG	**Port Moresby**	**39.67**	**274**	P	**P**	**23 46 43.0**	**-2.0**
	comp=Z,5.4nm,0.8s,mb4.3,baz=152,slow=9.9,SNR=1.9						
STKA	**Stephens Creek**	**44.40**	**241**	P	**P**	**23 47 22.2**	**-1.4**
	comp=Z,16nm,0.9s,mb4.8,baz=80,slow=8.0,SNR=18						
STKA	**Stephens Creek**	**44.40**	**241**	*e*P	**P**	**23 47 22.3**	**-1.3**
WRAB	**Tennant Creek**	**50.41**	**257**	*i* P	**P**	**23 48 08.6**	**-2.2**
WRAB	**Tennant Creek**	**50.41**	**257**	*e*P	**P**	**23 48 08.1**	**-2.6**
	comp=Z,148nm,1.9s,mb5.7						
WRA	**Warramunga Arr**	**50.42**	**257**	P	**P**	**23 48 08.9**	**-1.9**
	comp=Z,11nm,1.0s,mb4.9,baz=91,slow=7.0,SNR=62						
VNDA	**Vanda**	**62.95**	**186**	P	**P**	**23 49 41.4**	**+2.0**
	comp=Z,3.9nm,1.1s,mb4.5,baz=15,slow=7.7,SNR=6.2						
VNDA				LR	LR	00 14 07.6	
	comp=Z,125nm,18.0s,MS4.1,baz=347,slow=33						
VNDA	**Vanda**	**62.95**	**186**	P	**P**	**23 49 43.6**	**+4.2**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VNDA	**Vanda**	**62.95**	**186**	P	**P**	**23 49 43.6**	**+4.2**
	comp=Z,5.4nm,1.0s,mb4.6						
MBWA	**Marble Bar**	**63.90**	**254**	*e*P	**P**	**23 49 45.1**	**-1.3**
	comp=Z,50nm,1.4s,mb5.3						
MJAR	**Matsushiro Arr**	**69.78**	**320**	P	**P**	**23 50 22.4**	**-0.9**
	comp=Z,4.8nm,0.9s,mb4.4,baz=152,slow=6.6,SNR=6.3						
MJAR				LR	LR	00 15 26.2	
	comp=Z,160nm,20.1s,MS4.3,baz=90,slow=31						
YBH	**Yreka Blue Hor**	**73.58**	**37**	P	**P**	**23 50 46.0**	**+0.2**
	comp=Z,8.6nm,1.1s,mb4.6,baz=122,slow=6.0,SNR=3.0						
YBH				LR	LR	00 15 35.4	
	comp=Z,238nm,21.7s,MS4.4,baz=224,slow=30						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**23 50 49.5**	**-0.2**
	comp=Z,9.9nm,1.1s,mb4.7,baz=215,slow=5.7,SNR=16						
MNV	**Mina**	**74.33**	**42**	*e*P	**P**	**23 50 50.0**	**-0.3**
MNV				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
MNV	**Mina**	**74.33**	**42**	*e*P	**P**	**23 50 50.0**	**-0.3**
	comp=Z,23nm,1.2s,mb5.0						
TPNV	**Topopah Spring**	**74.73**	**44**	*e*P	**P**	**23 50 50.1**	**-2.6**
TPNV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
TPNV	**Topopah Spring**	**74.73**	**44**	*e*P	**P**	**23 50 50.0**	**-2.6**
	comp=Z,8.5nm,1.0s,mb4.6						
NEN	**Nelson**	**74.97**	**46**	*e*P	**P**	**23 50 53.8**	**-0.2**
TUC	**Tucson**	**76.17**	**50**	*e*P	**P**	**23 50 59.8**	**-1.2**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
TUC	**Tucson**	**76.17**	**50**	*e*P	**P**	**23 50 59.8**	**-1.2**
	comp=Z,9.5nm,1.3s,mb4.6						
ARUT	**Antelope Range**	**77.06**	**44**	*e*P	**P**	**23 51 05.4**	**-0.6**
KSM	**Kuching**	**77.93**	**275**	*e*P	**P**	**23 51 11.9**	**+0.6**
MSU	**Marysvale**	**78.29**	**44**	*e*P	**P**	**23 51 13.6**	**+0.9**
DUG	**Dugway**	**78.75**	**42**	*e*P	**P**	**23 51 13.5**	**-1.7**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
DUG	**Dugway**	**78.75**	**42**	*e*P	**P**	**23 51 13.4**	**-1.7**
	comp=Z,8.6nm,1.1s,mb4.6						
SSE	**Sheshan**	**78.82**	**307**	*e*P	**P**	**23 51 15.0**	**-0.8**
SSE				PCP	PcP	23 51 22.8	-2.0
SSE				AP	pP	23 51 24.5	-1.6
SSE				XP	sP	23 51 28.3	-1.5
SSE				PP	PP	23 54 11.3	-4.8
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,70nm,6.0s						
SSE				LR	LR		
	comp=N,10.0nm,24.0s,MS3.9						
SSE				LR	LR		
	comp=E,60nm,24.1s,MS3.9						
SSE				LR	LR		
	comp=Z,60nm,27.5s,MS3.8						
TMUT	**Trail Mountain**	**79.34**	**44**	*e*P	**P**	**23 51 18.9**	**+0.5**
DAU	**Daniels Canyon**	**79.88**	**43**	P	**P**	**23 51 21.2**	**-0.1**
MNTX	**Cornudas Mount**	**79.96**	**53**	*e*P	**P**	**23 51 21.7**	**-0.2**
	comp=Z,18nm,1.3s,mb4.8						
TCUT	**Toone Canyon**	**80.14**	**42**	*e*P	**P**	**23 51 19.1**	**-3.6**
LTX	**Lajitas**	**80.31**	**56**	*e*P	**P**	**23 51 23.9**	**+0.1**
LTX				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
LTX	**Lajitas**	**80.31**	**56**	*e*P	**P**	**23 51 23.9**	**+0.1**
	comp=Z,23nm,1.3s,mb4.9						
TXAR	**Lajitas Array**	**80.31**	**56**	P	**P**	**23 51 23.9**	**0.0**
	comp=Z,12nm,1.1s,mb4.7,baz=225,slow=5.3,SNR=25						
TXAR				LR	LR	00 18 19.7	
	comp=Z,149nm,19.1s,MS4.3,baz=230,slow=29						
PV10	**Paradox Valley**	**80.35**	**46**	*e*P	**P**	**23 51 23.8**	**-0.1**
PV01	**Paradox Valley**	**80.56**	**46**	*e*P	**P**	**23 51 25.2**	**+0.3**
ANMO	**Albuquerque**	**80.59**	**50**	P	**P**	**23 51 24.9**	**-0.3**
	comp=Z,4.2nm,1.1s,mb4.3,baz=189,slow=9.0,SNR=6.2						
ANMO	**Albuquerque**	**80.59**	**50**	*e*P	**P**	**23 51 25.0**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ANMO	**Albuquerque**	**80.59**	**50**	*e*P	**P**	**23 51 25.0**	**-0.2**
	comp=Z,5.8nm,1.1s,mb4.4						
NJ2	**Nanjing**	**81.03**	**307**	*e*P	**P**	**23 51 28.3**	**+0.7**
NJ2				AP	pP	23 51 40.0	+2.0
NJ2				PP	PP	23 54 36.5	+1.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,80nm,7.6s						
NJ2				LR	LR		
	comp=N,270nm,33.9s,MS4.8						
NJ2				LR	LR		
	comp=E,640nm,33.6s,MS4.8						
NJ2				LR	LR		
	comp=Z,240nm,26.0s						
AHID	**Auburn Hatcher**	**81.19**	**41**	*e*P	**P**	**23 51 26.8**	**-1.5**
	comp=Z,5.9nm,1.1s,mb4.4						
MCK	**McKinley**	**81.48**	**10**	*e*P	**P**	**23 51 28.3**	**-1.0**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MCK	**McKinley**	**81.48**	**10**	*e*P	**P**	**23 51 28.3**	**-1.0**
	comp=Z,9.0nm,1.0s,mb4.7						
DLBC	**Dease Lake**	**81.91**	**21**	P	**P**	**23 51 31.9**	**+0.3**
	comp=Z,2.1nm,1.0s,mb4.0,baz=190,slow=18,SNR=3.0						
CN2	**Changchun**	**81.92**	**320**	*e*P	**P**	**23 51 33.0**	**+1.0**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
QLMT	**Earthquake Lak**	**82.06**	**39**	*e*P	**P**	**23 51 33.4**	**+0.7**
SNY	**Shenyang**	**82.12**	**317**	⇓P	**P**	**23 51 34.8**	**+1.8**
SMCO	**Snowmass**	**82.15**	**46**	*e*P	**P**	**23 51 33.8**	**+0.5**
	comp=Z,20nm,1.2s,mb4.9						
PDAR	**Pinedale Array**	**82.17**	**42**	P	**P**	**23 51 33.1**	**-0.2**
	comp=Z,4.3nm,1.2s,mb4.2,baz=225,slow=2.1,SNR=13						
PDAR				LR	LR	00 20 15.8	
	comp=Z,125nm,19.2s,MS4.3,baz=246,slow=30						
COLA	**College**	**82.72**	**10**	*e*P	**P**	**23 51 34.8**	**-0.8**
COLA				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
COLA	**College**	**82.72**	**10**	*e*P	**P**	**23 51 34.8**	**-0.9**
	comp=Z,20nm,0.9s,mb5.1						
ILAR	**Eielson Array**	**82.80**	**11**	P	**P**	**23 51 35.5**	**-0.6**
	comp=Z,1.8nm,0.9s,mb4.1,baz=228,slow=6.0,SNR=14						
ILAR	**Eielson Array**	**82.80**	**11**	P	**P**	**23 51 35.5**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HRY	**Holter Researc**	**82.82**	**37**	*e*P	**P**	**23 51 36.6**	**+0.1**
SEY	**Seymchan**	**83.19**	**345**	*i* P	**P**	**23 51 38.1**	**+0.1**
GCMT	**Greycliff**	**83.62**	**39**	*e*P	**P**	**23 51 40.0**	**-0.6**
BILL	**Bilibino**	**85.10**	**352**	*i* P	**P**	**23 51 49.2**	**+1.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
EDM	**Edmonton**	**85.55**	**31**	*e*P	**P**	**23 51 49.8**	**-0.2**
MAW	**Mawson**	**87.54**	**198**	LR	LR	00 30 08.2	
	comp=Z,350nm,18.2s,MS4.8,baz=75,slow=35						
INK	**Inuvik**	**88.59**	**14**	*e*P	**P**	**23 52 06.2**	**+1.8**
INK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
INK	**Inuvik**	**88.59**	**14**	*e*P	**P**	**23 52 06.2**	**+1.8**
	comp=Z,7.6nm,1.1s,mb4.9						
PLCA	**Paso Flores**	**88.65**	**132**	P	**P**	**23 52 06.6**	**+1.2**
	comp=Z,2.5nm,1.0s,mb4.5,baz=147,slow=23,SNR=3.0						
PLCA	**Paso Flores**	**88.65**	**132**	P	**P**	**23 52 06.6**	**+1.2**
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**89.88**	**313**	*e*P	**P**	**23 52 13.0**	**+1.8**
HHC				AP	pP	23 52 17.8	-4.0
HHC				XP	sP	23 52 21.5	-3.7
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
HHC				AMB	AMB		
	comp=Z,170nm,4.8s						
HHC				LR	LR		
	comp=N,310nm,10.7s,MS5.0						
HHC				LR	LR		
	comp=E,290nm,15.5s,MS5.0						
HHC				LR	LR		
	comp=Z,130nm,11.9s,MS4.6						
YKA	**Yellowknife Ar**	**90.28**	**23**	P	**P**	**23 52 13.0**	**+0.5**
	comp=Z,1.5nm,1.0s,mb4.3,baz=231,slow=4.2,SNR=15						
YKA				LR	LR	00 28 35.7	
	comp=Z,100nm,20.4s,MS4.2,baz=215,slow=33						
YKW3	**Yellowknife Ar**	**90.31**	**23**	*e*P	**P**	**23 52 12.8**	**+0.1**
JTS	**JuntasAbangare**	**90.61**	**80**	*i* P	**P**	**23 52 14.4**	**-0.8**
JTS	**JuntasAbangare**	**90.61**	**80**	P	**P**	**23 52 13.9**	**-1.3**
	comp=Z,12nm,1.0s,mb5.2						
SNAA	**Sanae**	**92.37**	**177**	LR	LR	00 28 48.6	
	comp=Z,70nm,18.6s,MS4.1,baz=224,slow=32						
ULM	**Lac du Bonnet**	**93.88**	**39**	LR	LR	00 27 51.7	
	comp=Z,220nm,18.6s,MS4.7,baz=257,slow=31						
LZH	**Lanzhou**	**94.09**	**306**	*e*P	**P**	**23 52 32.5**	**+1.8**
LZH				AP	pP	23 52 43.5	+2.2
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,100nm,4.5s						
ULN	**Ulaanbaatar**	**95.28**	**318**	*i* P	**P**	**23 52 37.5**	**+1.7**
TIXI	**Tiksi**	**95.68**	**344**	*e*P	**P**	**23 52 43.3**	**+6.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
SONM	**Songino Array**	**95.69**	**318**	P	**P**	**23 52 39.7**	**+2.0**
	comp=Z,0.7nm,0.9s,mb4.1,baz=121,slow=8.4,SNR=3.6						
SONM				LR	LR	00 29 21.2	
	comp=Z,105nm,20.4s,MS4.3,baz=112,slow=32						
GTA	**Gaotai**	**98.04**	**309**	*e*P	**P**	**23 52 50.0**	**+1.4**
GTA				AP	pP	23 52 54.5	-4.7
GTA				XP	sP	23 52 57.5	-5.1
ROSC	**El Rosal**	**99.32**	**88**	LR	LR	00 27 51.4	
	comp=Z,91nm,19.3s,MS4.3,baz=214,slow=29						
MKAR	**Makanchi Array**	**111.68**	**314**	Pdiff	Pdif	23 53 51.5	+2.6
	comp=Z,0.2nm,0.7s,baz=101,slow=6.2,SNR=3.6						
MKAR				PKiKP		23 57 46.3	
	comp=Z,0.2nm,0.7s,baz=123,slow=1.2,SNR=3.5						
MKAR	**Makanchi Array**	**111.68**	**314**	P	Pdif	23 53 51.5	+2.6
MKAR				*i*		23 57 46.3	
ARU	**Arti**	**124.14**	**328**	*e*PKIKP	PKPdf	23 58 08.5	-0.8
ARCES	**ARCESS Array B**	**125.20**	**352**	PKP	PKPdf	23 58 11.5	+0.5
	comp=Z,1.3nm,0.8s,baz=51,slow=8.2,SNR=2.6						
ARCES	**ARCESS Array B**	**125.20**	**352**	PKIKP	PKPdf	23 58 11.5	+0.5
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
OBN	**Obninsk**	**134.85**	**337**	*e*PKIKP	PKPdf	23 58 30.6	+0.9
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OJC	**Ojcow**	**144.32**	**346**	*e*PKP	PKPdf	23 58 45.3	-1.4
CLL	**Collm**	**144.39**	**354**	P	PKPbc	23 58 52.0	+5.6
	comp=Z,logA/T=0.8						
CLL				*e*		23 59 05.0	
CLL	**Collm**	**144.39**	**354**	*e*P	PKPbc	23 58 52.0	+5.6
CLL				*e*		23 59 05.0	
KSP	**Ksiaz**	**144.41**	**350**	*e*PKIKP	PKPdf	23 58 49.6	+2.7
STHS	**Stebnicka Huta**	**144.71**	**344**	*e*PKP	PKPdf	23 58 48.7	+1.3
STHS				*e*		23 58 51.5	
BRG	**Berggiesshubel**	**144.72**	**353**	PKHKP		23 58 42.1	
MALT	**Malatya**	**144.72**	**315**	*e*PKIKP	PKPdf	23 58 49.8	+2.0
UPC	**Upice**	**144.78**	**350**	*e*PKP	PKPdf	23 58 49.9	+2.4
UPC				*ex*	x	23 58 58.9	
KOLS	**Kolonicke sedl**	**144.87**	**343**	*e*PKP	PKPdf	23 58 48.9	+1.2
DPC	**Dobruska-Polom**	**144.88**	**350**	*e*PKP	PKPdf	23 58 50.0	+2.3
DPC				*ex*	x	23 58 58.2	
NIE	**Niedzica**	**144.94**	**345**	*e*PKP	PKPdf	23 58 49.1	+1.2
PVCC	**Panska Ves**	**144.97**	**352**	*e*PKP	PKPdf	23 58 48.7	+0.8
PVCC				*ex*	x	23 58 59.5	
OKC	**Ostrava-Krasne**	**145.03**	**348**	*e*PKP	PKPdf	23 58 50.1	+2.1
BURAR	**Bucovina Array**	**145.09**	**339**	⇓P	PKPdf	23 58 50.2	+2.0
CRVS	**Cervenica-Dubn**	**145.12**	**344**	*e*PKP	PKPdf	23 58 51.0	+2.8
CRVS				*e*		23 59 06.6	
MOX	**Moxa**	**145.18**	**355**	*i* P	PKPdf	23 58 52.4	+4.2
	comp=Z,logA/T=1.0						
MOX	**Moxa**	**145.18**	**355**	*e*PKIKP	PKPdf	23 58 52.4	+4.2
PRU	**Pruhonice**	**145.50**	**352**	*e*PKP	PKPdf	23 58 48.9	+0.1
PRU				*ex*	x	23 58 59.6	
NKC	**Novy Kostel**	**145.51**	**354**	*e*PKP	PKPdf	23 58 55.1	+6.3
NKC				*ex*	x	23 59 00.3	
KECS	**Kecovo**	**145.76**	**344**	*e*PKP	PKPdf	23 58 53.0	+3.7
KECS				*e*		23 59 09.8	
GIVF	**Givet**	**145.83**	**3**	*e*PKIKP	PKPdf	23 58 54.7	+5.3
BAIF	**Baives**	**145.84**	**4**	*e*PKIKP	PKPdf	23 58 54.1	+4.7
	comp=Z,29nm,1.1s						
KMBO	**Kilima Mbogo**	**145.94**	**243**	PKPbc	PKPbc	23 58 54.5	+2.8
	comp=Z,3.0nm,0.8s,baz=63,slow=3.3,SNR=10						
KMBO	**Kilima Mbogo**	**145.94**	**243**	PKHKP		23 58 54.5	
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMBO	**Kilima Mbogo**	**145.94**	**243**	PKPbc	PKPbc	23 58 54.5	+2.8
CFR	**Carcaliu**	**145.97**	**333**	⇑P	PKPdf	23 58 52.3	+2.6
VRI	**Vrincioaia**	**146.00**	**335**	⇓P	PKPdf	23 58 55.7	+5.9
VRI	**Vrincioaia**	**146.00**	**335**	⇓P	PKPdf	23 58 55.7	+6.0
TREC	**Trest**	**146.04**	**350**	*e*PKP	PKPdf	23 58 55.1	+5.4
TREC				*ex*	x	23 59 01.5	
GRA1	**Grafenberg Arr**	**146.15**	**355**	*e*PKP	PKPdf	23 58 53.7	+3.8
GRF	**Grafenberg Arr**	**146.15**	**355**	*e*PKP2	PKPab	23 58 53.7	0.0
GRF	**Grafenberg Arr**	**146.15**	**355**	*e*PKP2	PKPab	23 58 53.7	0.0
VYHS	**Vyhne**	**146.15**	**346**	*e*PKP	PKPdf	23 58 55.1	+5.1
PSZ	**Piszkesteto**	**146.44**	**345**	*e*PKIKP	PKPdf	23 58 52.9	+2.4
SMOL	**Smolenice**	**146.44**	**348**	*e*PKP	PKPdf	23 58 56.5	+6.0
HARR	**Harsova**	**146.44**	**333**	⇑P	PKPdf	23 58 53.1	+2.5
KHC	**Kasperske Hory**	**146.47**	**353**	*e*PKP	PKPdf	23 58 53.0	+2.5
KHC				pPKP		23 58 57.1	
KHC

BDRM				*i* S		**Sb**	**00 07 37.7**	**-0.8**
APE	**Apeiranthos**	**1.36**	**216**	PN		**Pn**	**00 07 22.0**	**-0.4**
MANT	**Manisa**	**1.62**	**78**	*i* P		**Pn**	**00 07 27.5**	**+1.4**
MANT				*i* S		**Sb**	**00 07 47.6**	**+0.2**
DAT	**Datca**	**1.66**	**150**	*e*PN		**Pn**	**00 07 26.1**	**-0.6**
EZN	**Ezine**	**1.67**	**354**	*e*PN		**Pn**	**00 07 27.1**	**+0.3**
YER	**Yerkesik**	**1.73**	**126**	*e*PN		**Pn**	**00 07 27.2**	**-0.4**
LPK	**Lapseki**	**2.21**	**4**	*e*PN		**Pn**	**00 07 34.3**	**-0.3**
EDC	**Edincik**	**2.41**	**25**	*e*PN		**Pn**	**00 07 37.4**	**0.0**
ORLT	**Orhaneli**	**2.62**	**44**	*e*PN		**Pn**	**00 07 40.5**	**0.0**

*BJI **26** 00:13:55.4,31.40N×50.00E,h10km,mB4.8,mb4.6,Ms4.3, Msz4.0*
*NEIC **26** 00:13:57.4±1.3,31.43N×50.04E,h10km,mb4.2/13, ML4.0(TEH),Error ellipse: s-maj=23.4km s-min=9.2km az=168.0*
*CSEM **26** 00:14:00.8±0.1,31.55N×49.97E,h45km,mb4.2/12,Error ellipse: s-maj=2.1km s-min=1.7km az=74.0*
*THR **26** 00:14:01.1±1.3,31.56N×50.01E,h46km±7km,ML3.8*
*TEH **26** 00:14:02.3,31.66N×49.96E,h3km,Mn4.0*
*MOS **26** 00:14:03.6±1.1,32.13N×50.07E,h33km,mb4.4/12,Error ellipse: s-maj=12.2km s-min=7.7km az=112.6*
*IDC **26** 00:14:07.6±7.1,31.99N×49.96E,h71km±57km,mb3.6/11, mb1 3.7/13,mb1mx3.6/22,mbtmp3.9/13,ML3.3/2,MS3.2/2, Ms1 3.2/2,ms1mx2.5/25,Error ellipse: s-maj=60.0km s-min=20.0km az=177.0*

ISC 26 00:14:02.1±0.4,31.61N±0.03×50.12E±0.04,h55km±4km, n109,σ1§18/115,mb4.0/24,MS3.6/3,3C-3D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.23**	**294**	*e*Pg	**P**	**00 14 22.8**	**-0.5**
SHGR				*e*Sg	**S**	**00 14 39.6**	**+0.4**
IGAR	**Garneh**	**1.87**	**70**	Pn	**P**	**00 14 32.7**	**+0.4**
IKLH	**Kalahroud**	**2.10**	**35**	Pn	**P**	**00 14 36.6**	**+1.0**
IZEF	**Zefreh**	**2.27**	**55**	Pn	**P**	**00 14 39.0**	**+1.1**
NASN	**Na'in**	**2.56**	**62**	*e*Pn	**P**	**00 14 43.8**	**+1.6**
NASN				*e*Sg	**S**	**00 15 23.5**	**+11**
NASN	comp=N,282nm,0.6s			AML	AML	00 15 31.3	
UMR	**Umm Al-Rimmam**	**2.92**	**226**	*e*P	**P**	**00 14 48.0**	**+0.8**
ASAO	**Ashtian**	**2.93**	**358**	*e*Pn	**P**	**00 14 47.9**	**+0.5**
ASAO	comp=N,283nm,0.6s			AML	AML	00 15 43.3	
MIB	**Mutribah**	**3.00**	**234**	*e*P	**P**	**00 14 48.8**	**+0.4**
KBD	**Kabd**	**3.21**	**221**	*e*P	**P**	**00 14 52.1**	**+0.8**
NAY	**Al-Naaiem**	**3.43**	**227**	*e*P	**P**	**00 14 55.2**	**+0.8**
QRN	**Al-Qurain**	**3.44**	**214**	*e*P	**P**	**00 14 55.0**	**+0.5**
RDF	**Al-Radifah**	**3.48**	**220**	*e*P	**P**	**00 14 56.2**	**+1.1**
IVRN	**Varamin**	**3.63**	**21**	Pn	**P**	**00 14 57.2**	**-0.1**
IVRN				Lg		00 15 51.5	
IRAZ	**Razeghan**	**3.79**	**358**	Pn	**P**	**00 15 09.2**	**+10**
IMHD	**Mahdasht**	**4.09**	**6**	Pn	**P**	**00 15 03.0**	**-0.7**
IMHD				Sn	**S**	**00 15 48.6**	**-2.1**
SNGE	**Sanandaj**	**4.18**	**327**	*e*Pn	**P**	**00 15 03.2**	**-1.7**
SNGE				*e*Pg	**P**	**00 15 14.5**	**+10**
IDMV	**Damavand**	**4.26**	**21**	Pn	**P**	**00 15 05.9**	**-0.2**
DAMV	**Damavand**	**4.29**	**21**	*e*Pn	**P**	**00 15 05.9**	**-0.6**
DAMV	comp=N,98nm,0.8s			AML	AML	00 16 34.6	
CHTH	**Charan**	**4.37**	**11**	*e*Pn	**P**	**00 15 06.7**	**-0.9**
IFIR	**Firoozkooh**	**4.58**	**28**	Pn	**P**	**00 15 10.5**	**-0.1**
BHD	**Baghdad**	**5.13**	**290**	*ex*	x	00 15 37.0	
BHD				*ex*	x	00 16 03.0	
BHD				*ex*	x	00 16 42.0	
BHD				*i* x	x	00 16 56.5	
BHD				*i* x	x	00 17 17.0	
KRBR	**Kerman**	**5.94**	**104**	*e*Pn	**P**	**00 15 29.1**	**-0.3**
HASS	**Wahat al Ahsa'**	**6.41**	**183**	P	**P**	**00 15 35.5**	**-0.5**
MSL	**Mosul**	**7.48**	**311**	*ex*	x	00 15 40.0	
MSL				*ex*	x	00 17 06.0	
BANOM	**Banah** SNR=27	**7.84**	**135**	P	**P**	**00 15 54.7**	**-1.2**
ARSS	**Ar Rass**	**8.31**	**228**	P	**P**	**00 15 57.9**	**-4.5**
HILS	**Ha'il**	**8.39**	**242**	P	**P**	**00 15 58.7**	**-4.9**
ASHO	**Ashiyiah** SNR=12	**8.66**	**141**	⇓P	**P**	**00 16 07.6**	**+0.3**
MZLS	**Mizel**	**8.72**	**211**	P	**P**	**00 16 05.4**	**-2.6**
AFFS	**'Afif**	**9.92**	**221**	P	**P**	**00 16 20.7**	**-3.8**
BSY	**Bisya** SNR=17	**10.84**	**143**	P	**P**	**00 16 37.4**	**+0.3**
BSYO	**Bisya** SNR=17	**10.88**	**143**	P	**P**	**00 16 37.4**	**-0.2**
SMDO	**Samad** SNR=10	**11.05**	**138**	⇑P	**P**	**00 16 39.4**	**-0.5**
JMDO	**Jabal Madar** SNR=16	**11.63**	**140**	P	**P**	**00 16 47.5**	**-0.2**
MALT	**Malatya**	**11.69**	**308**	*e*P	**P**	**00 16 52.8**	**+4.3**
TBKS	**Tabuk**	**12.25**	**257**	P	**P**	**00 16 50.5**	**-5.5**
KAMS	**Al Khamasin**	**12.31**	**205**	P	**P**	**00 16 56.2**	**-0.6**
AYUS	**'Aynunah**	**13.33**	**259**	P	**P**	**00 17 05.7**	**-4.6**
KIV	**Kislovodsk**	**13.65**	**337**	*e*P	**P**	**00 17 15.4**	**+1.0**
KIV				*e*S	**S**	**00 19 40.6**	**-4.5**
KIV	comp=Z,10.0nm,1.2s			pmax	pmax		
KIV	comp=Z,60nm,13.0s			MLR	MLR		
KIV	**Kislovodsk**	**13.65**	**337**	*e*Pn	**P**	**00 17 15.6**	**+1.2**
KIV	**Kislovodsk** comp=Z,10.0nm,1.2s	**13.65**	**337**	*e*P	**P**	**00 17 15.4**	**+1.0**
WHFO	**Wadi Hawf** SNR=6.2	**14.03**	**166**	P	**P**	**00 17 18.6**	**-0.9**
CSS	**Prodhromos**	**14.44**	**288**	*e*Pn	**P**	**00 17 29.3**	**+4.5**
ABTO	**Aybut** SNR=9.2	**14.48**	**168**	P	**P**	**00 17 23.4**	**-2.1**
BR131	**Keskin Array S** comp=Z,1.1nm,0.6s	**15.64**	**306**	*e*Pn	**P**	**00 17 44.5**	**+4.2**
BR131	**Keskin Array S** comp=Z,1.1nm,0.6s	**15.64**	**306**	*e*Pn	**P**	**00 17 44.5**	**+4.3**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=132,slow=17,SNR=6.7	**15.64**	**306**	P	**P**	**00 17 40.5**	**+0.3**
BRTR	**Keskin Array B**	**15.64**	**306**	P	**P**	**00 17 40.5**	**+0.3**
ISP	**Isparta**	**17.27**	**296**	*i* P	**P**	**00 18 02.2**	**+1.4**
AKTK	**Aktyubinsk**	**19.70**	**15**	P	**P**	**00 18 26.6**	**-2.7**
AKTK				LR	LR	00 28 03.4	
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=6.4	**19.70**	**15**	P	**P**	**00 18 26.6**	**-2.7**
AKTO	comp=Z,73nm,19.5s,slow=43			LR	LR	00 28 03.4	
ATD	**Arta Tunnel** comp=Z,48nm,19.4s,baz=123,slow=37	**21.08**	**200**	LR	LR	00 27 14.5	
IDI	**Anoyia** comp=Z,16nm,0.8s,mb4.4,baz=93,slow=10,SNR=6.1	**21.36**	**287**	P	**P**	**00 18 45.6**	**-0.9**
AAK	**Ala-Archa**	**22.25**	**54**	⇓*e*P	**P**	**00 18 56.4**	**+1.0**
AAK	comp=Z,3.0nm,1.7s,mb3.5			pmax	pmax		
AAK	comp=Z,100nm,15.0s,MS3.4			MLR	MLR		
AAK	**Ala-Archa** comp=Z,16nm,1.8s,mb4.2	**22.25**	**54**	*e*P	**P**	**00 18 57.0**	**+1.6**
AAK	**Ala-Archa** comp=Z,16nm,1.8s,mb4.2	**22.25**	**54**	*e*P	**P**	**00 18 57.0**	**+1.6**
MLR	**Muntele Rosu** comp=Z,1.8nm,1.0s,mb3.5,baz=246,slow=10.0,SNR=2.0	**23.33**	**313**	P	**P**	**00 19 07.2**	**+1.4**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.7s,mb3.5,baz=138,slow=9.2,SNR=8.4	**24.58**	**327**	P	**P**	**00 19 16.8**	**-1.1**
OBN	**Obninsk**	**25.39**	**342**	*de*P	**P**	**00 19 25.6**	**0.0**
OBN	comp=Z,15nm,0.7s,mb4.6			pmax	pmax		
OBN	**Obninsk** comp=Z,15nm,0.6s,mb4.7	**25.39**	**342**	P	**P**	**00 19 24.6**	**-1.0**
OBN	**Obninsk** comp=Z,15nm,0.7s,mb4.6	**25.39**	**342**	*e*P	**P**	**00 19 25.6**	**0.0**
ARU	**Arti**	**25.50**	**11**	⇓*i* P	**P**	**00 19 26.9**	**+0.2**
ARU				*e*		00 20 00.3	
ARU				*e*PPP	PPP	00 20 15.8	-3.4
ARU				*e*S	**S**	**00 23 49.8**	**+2.2**
ARU				*e*SS	SS	00 24 50.1	-3.4
ARU	comp=Z,7.0nm,1.3s,mb4.0			pmax	pmax		
ARU	**Arti** comp=Z,5.3nm,0.8s,mb4.1	**25.50**	**11**	*e*P	**P**	**00 19 26.1**	**-0.6**
ARU	**Arti** comp=Z,7.0nm,1.3s,mb4.0	**25.50**	**11**	*i* P	**P**	**00 19 26.9**	**+0.2**
ARU				*e*S	**S**	**00 23 49.8**	**+2.2**
BRVK	**Borovoye** comp=Z,2.0nm,0.9s,mb3.6	**25.93**	**28**	*e*P	**P**	**00 19 31.3**	**+0.6**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,2.4nm,0.9s,mb3.7	**25.93**	**28**	*e*P	**P**	**00 19 31.3**	**+0.6**
BRVK	**Borovoye** comp=Z,4.4nm,0.9s,mb3.7	**25.93**	**28**	*e*P	**P**	**00 19 31.3**	**+0.6**
BVAR	**Borovoye Array** comp=Z,4.9nm,1.0s,mb4.0,baz=218,slow=7.9,SNR=23	**25.95**	**29**	P	**P**	**00 19 30.7**	**-0.1**
KWP	**Kalwaria**	**27.29**	**319**	P	**P**	**00 19 42.3**	**-0.9**
KWP	comp=Z,10.0nm,1.2s,mb4.2			pmax	pmax		
KWP	**Kalwaria** comp=Z,9.9nm,1.2s,mb4.2	**27.29**	**319**	P	**P**	**00 19 42.3**	**-0.8**
KWP	**Kalwaria** comp=Z,9.9nm,1.2s,mb4.2	**27.29**	**319**	P	**P**	**00 19 42.3**	**-0.9**
PSZ	**Piszkesteto**	**28.14**	**314**	*e*P	**P**	**00 19 49.2**	**-1.7**
KURK	**Kurchatov**	**28.44**	**40**	*e*P	**P**	**00 19 54.4**	**+0.8**
KURK	comp=Z,4.0nm,1.3s,mb3.9			pmax	pmax		
KURK	**Kurchatov** comp=Z,4.2nm,1.3s,mb3.9	**28.44**	**40**	*e*P	**P**	**00 19 54.4**	**+0.9**
KURK	**Kurchatov** comp=Z,4.2nm,1.3s,mb3.9	**28.44**	**40**	*e*P	**P**	**00 19 54.4**	**+0.8**
MKAR	**Makanchi Array** comp=Z,1.5nm,0.6s,mb3.9,baz=244,slow=9.7,SNR=27	**28.93**	**49**	P	**P**	**00 19 59.0**	**+1.1**
SUW	**Suwalki**	**29.55**	**327**	P	**P**	**00 20 00.8**	**-2.6**
KLMR	**Klimovskoe**	**30.08**	**350**	*e*P	**P**	**00 20 06.5**	**-1.5**
KLMR	comp=Z,20nm,1.9s,mb4.5			pmax	pmax		
FINES	**FINESS Array B** comp=Z,1.7nm,0.6s,mb4.1,baz=144,slow=8.1,SNR=14	**33.72**	**339**	P	**P**	**00 20 38.2**	**-1.6**
FINES	**FINESS Array B**	**33.72**	**339**	*i* P	**P**	**00 20 39.2**	**-0.6**
FINES	comp=Z,2.0nm,0.6s			pmax	pmax		
FINES	**FINESS Array B**	**33.72**	**339**	P	**P**	**00 20 38.2**	**-1.6**
FINES	**FINESS Array B** comp=Z,2.0nm,0.6s,mb4.2	**33.72**	**339**	*i* P	**P**	**00 20 39.2**	**-0.6**
RGN	**Rugen**	**34.72**	**322**	P	**P**	**00 20 48.0**	**-0.6**
RGN	**Rugen**	**34.72**	**322**	P	**P**	**00 20 48.0**	**-0.5**
STU	**Stuttgart**	**35.16**	**311**	P	**P**	**00 20 51.1**	**-1.2**
MBDF	**Montbardon** comp=Z,8.0nm,0.9s,mb4.3	**36.09**	**304**	*e*P	**P**	**00 21 01.8**	**+1.5**
MBDF	**Montbardon** comp=Z,4.0nm,0.9s,mb4.3	**36.09**	**304**	*e*P	**P**	**00 21 01.8**	**+1.5**
MBDF				pmax	pmax		
LPG	**La Plagne**	**36.20**	**305**	*e*P	**P**	**00 21 02.7**	**+1.5**
LPL	**La Plagne** comp=Z,7.2nm,0.9s,mb4.3	**36.22**	**305**	*e*P	**P**	**00 21 02.7**	**+1.4**
LPL	**La Plagne**	**36.22**	**305**	*e*P	**P**	**00 21 02.7**	**+1.4**
LPL	comp=Z,4.0nm,0.9s,mb4.3			pmax	pmax		
CABF	**La Chapelle** comp=Z,9.8nm,0.8s,mb4.4	**36.81**	**307**	*e*P	**P**	**00 21 07.7**	**+1.4**
CABF	**La Chapelle**	**36.81**	**307**	*e*P	**P**	**00 21 07.7**	**+1.4**
CABF	comp=Z,5.0nm,0.8s,mb4.4			pmax	pmax		
WLF	**Walferdange**	**37.30**	**312**	*e*P	**P**	**00 21 09.9**	**-0.5**
WLF	comp=Z,3.0nm,0.6s,mb4.3			pmax	pmax		
WLF	**Walferdange** comp=Z,2.9nm,0.6s,mb4.3	**37.30**	**312**	*e*P	**P**	**00 21 09.9**	**-0.5**
WLF	**Walferdange** comp=Z,2.9nm,0.6s,mb4.3	**37.30**	**312**	*e*P	**P**	**00 21 09.9**	**-0.5**
SMF	**Signal de Mont** comp=Z,6.1nm,0.9s,mb4.0	**38.35**	**307**	*e*P	**P**	**00 21 20.4**	**+1.3**
SMF	**Signal de Mont** comp=Z,3.0nm,0.9s,mb4.0	**38.35**	**307**	*e*P	**P**	**00 21 20.4**	**+1.3**
SMF				pmax	pmax		
NOA	**NORSAR Array B** comp=Z,1.4nm,0.8s,mb3.7,baz=122,slow=8.5,SNR=2.5	**38.85**	**331**	P	**P**	**00 21 22.3**	**-0.9**
KONO	**Kongsberg**	**38.86**	**328**	*e*P	**P**	**00 21 23.3**	**+0.1**
KONO	**Kongsberg** comp=Z,25nm,1.3s,mb4.8	**38.86**	**328**	*e*P	**P**	**00 21 22.2**	**-1.0**
KONO	**Kongsberg**	**38.86**	**328**	*e*P	**P**	**00 21 23.3**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,4.6nm,1.0s,mb4.2,baz=162,slow=7.7,SNR=4.6	**40.44**	**347**	P	**P**	**00 21 35.1**	**-1.2**
GTA	**Gaotai**	**40.76**	**65**	*e*P	**P**	**00 21 42.0**	**+2.8**
GTA				PP	PP	00 23 22.5	+5.6
GTA				S	**S**	**00 27 43.0**	**-2.6**
GTA	comp=Z,80nm,5.3s			AMB	AMB		
GTA	comp=N,110nm,14.1s,MS4.2			LR	LR		
GTA	comp=E,190nm,13.7s,MS4.2			LR	LR		
GTA	comp=Z,140nm,14.1s,MS4.0			LR	LR		
SONM	**Songino Array** comp=Z,0.3nm,0.7s,mb3.2,baz=269,slow=6.6,SNR=5.2	**45.20**	**52**	P	**P**	**00 22 16.4**	**+1.2**
ULN	**Ulaanbaatar**	**45.64**	**52**	*i* P	**P**	**00 22 20.4**	**+1.7**
SSE	**Sheshan**	**59.63**	**70**	P	**P**	**00 24 01.3**	**-1.5**
SSE				S	**S**	**00 32 06.8**	**-0.4**
SSE	comp=Z,40nm,0.7s			AMB	AMB		
SSE	comp=Z,120nm,5.0s			AMB	AMB		
SSE	comp=N,20nm,15.8s,MS3.4			LR	LR		
SSE	comp=E,10.0nm,15.9s,MS3.4			LR	LR		
SSE	comp=Z,30nm,16.5s,MS3.5			LR	LR		
BILL	**Bilibino**	**70.01**	**21**	P	**P**	**00 25 11.0**	**+1.7**
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,mb3.4,baz=332,slow=4.3,SNR=4.6	**85.02**	**353**	P	**P**	**00 26 23.0**	**+0.8**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.8s,mb3.7,baz=14,slow=5.2,SNR=11	**85.42**	**353**	P	**P**	**00 26 34.9**	**+0.8**

*NEIC **26** 00:23:41.4, 16.78N×100.19W,h11km,MD3.8(MEX),After MEX.*

MEX 26 00:23:41.4±0.7,16.78N×100.19W,h11km±4km,MD3.8,1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.27**	**71**	*i* P	Pg	00 23 46.5	-0.7
ACX				*i* S	Sg	00 23 50.5	-0.5
CAIG	**El Cayaco**	**0.28**	**344**	⇓*i* P	Pg	00 23 46.8	-0.5
CAIG				*i* S	Sg	00 23 50.5	-0.7
ZIIG	**Zihuatanejo**	**1.47**	**304**	*e*P	Pn	00 24 04.3	-3.7
ZIIG				*i* S	Sb	00 24 21.6	-5.4
PLIG	**Platanillo**	**1.73**	**22**	*i* P	Pn	00 24 08.7	-3.0
PLIG				*i* S	Sn	00 24 29.4	-4.6
PPM	**Popocatepetl**	**2.71**	**33**	*e*P	Pn	00 24 22.0	-3.8
PPM				*e*P		00 24 23.4	
PPM				*i* S	Sn	00 24 53.8	-5.1
VHO	**Vista Hermosa**	**3.32**	**84**	*e*P	Pn	00 24 34.9	+0.5
VHO				*i* S	Sn	00 25 06.7	-7.5
OXX	**Oaxaca**	**3.33**	**84**	*e*P	Pn	00 24 35.0	+0.5
OXX				*i* S	Sn	00 25 11.0	-3.4

CASC 26 00:36:51.1±2.7,12.87N×89.02W,h29km±17km,MD3.5, ML2.8,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.75**	**357**	*e*P	Pb	00 37 33.3	+28
LFRS				*e*S	Sb	00 37 43.5	+28
LCBS	**La Ceiba**	**0.78**	**3**	*e*P	Pb	00 37 33.6	+28
LCBS				*e*S	Sb	00 37 44.6	+28
SNET	**Serv Nac Est T**	**0.83**	**346**	*e*P	Pn	00 37 08.3	+1.3
SNET				*e*S	Sb	00 37 20.9	+3.0
LBRS	**Las Brisas**	**0.86**	**358**	*e*P	Pn	00 37 35.2	+28
LBRS				*e*S	Sb	00 37 46.3	+28
BOQS	**Boqueron**	**0.89**	**344**	*e*P	Pn	00 37 35.8	+28
BOQS				*e*S	Sb	00 37 48.3	+29
VSM	**San Miguel**	**0.91**	**53**	*e*P	Pn	00 37 35.4	+27
VSM				*e*S	Sb	00 37 50.3	+30
BLLM	**Bellamira**	**0.95**	**53**	*e*P	Pn	00 37 35.9	+27
BLLM				*e*S	Sb	00 37 50.1	+29
SBLS	**San Blas**	**1.13**	**329**	*e*P	Pn	00 37 39.0	+28
SBLS				*e*S	Sn	00 37 55.0	+29
SNJE	**San Jose**	**1.14**	**330**	*e*P	Pn	00 37 38.6	+27
SNJE				*e*S	Sn	00 37 54.4	+28
RTR	**El Retiro**	**1.19**	**329**	*e*P	Pn	00 37 39.4	+27
RTR				*e*S	Sn	00 37 54.7	+28
CNCH	**Conchagua**	**1.22**	**71**	*e*P	Pn	00 37 39.4	+27
CNCH				*e*S	Sn	00 37 56.7	+29
CRIN	**San Cristobal**	**1.93**	**95**	*e*P	Pn	00 37 23.2	+0.6
CRIN				*e*S	Sn	00 37 47.3	+1.3
LEON	**Leon**	**2.12**	**102**	*e*P	Pn	00 37 24.4	-0.9
LEON				*e*S	Sn	00 37 49.1	-1.9
TEL3	**Telica 3**	**2.14**	**98**	*e*P	Pn	00 37 25.5	-0.1
TEL3	comp=Z,81nm,0.2s			*i*		00 38 03.9	
TELN	**Telica**	**2.15**	**97**	*e*P	Pn	00 37 25.4	-0.3
TELN				*e*S	Sn	00 37 50.8	-0.9
MIRN	**Miramar**	**2.29**	**101**	*e*P	Pn	00 37 26.3	-1.5
CNGN	**Cerro Negro**	**2.29**	**99**	*e*P	Pn	00 37 27.3	-0.5
CNGN				*e*S	Sn	00 37 54.6	-0.8
COPN	**Copaltepe**	**2.47**	**106**	*e*P	Pn	00 37 29.4	-0.9
COPN				*e*S	Sn	00 37 57.0	-2.8
XAVN	**Gruta Xavier**	**2.73**	**105**	*e*P	Pn	00 37 34.2	+0.2
XAVN				*e*S	Sn	00 38 05.2	-1.1

*THR **26** 00:52:36.7±1.6,31.50N×49.94E,h46km±9km,ML3.0*
*CSEM **26** 00:52:36.8±0.3,31.83N×50.03E,h10km,ML3.0,Error ellipse: s-maj=9.1km s-min=3.0km az=175.0*
*TEH **26** 00:52:37.7,31.61N×50.03E,h10km,Mn3.6*

ISC 26 00:52:37.7±1.6,31.9N±0.1×50.04E±0.05,h5km±10km,n15, σ1§10/18,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.07**	**281**	*e*Pg	**Pg**	**00 52 58.1**	**-1.0**
SHGR				*e*Sg	**Sg**	**00 53 15.1**	**+1.7**
IGAR	**Garneh**	**1.86**	**79**	Pn	**Pn**	**00 53 09.5**	**-1.1**
IKLH	**Kalahroud**	**1.92**	**42**	Pn	**Pn**	**00 53 12.6**	**+1.3**
IZEF	**Zefreh**	**2.17**	**62**	Pn	**Pn**	**00 53 15.5**	**+0.5**
NASN	**Na'in**	**2.50**	**68**	*e*Pn	**Pn**	**00 53 20.0**	**+0.2**
NASN				*e*Sg	**Sg**	**00 54 01.6**	**+0.6**
NASN	**Na'in** SNR=54	**2.50**	**68**	*e*Pn	**Pn**	**00 53 20.0**	**+0.2**
NASN	SNR=97			*e*Sg	**Sg**	**00 54 01.6**	**+0.5**
ASAO	**Ashtian**	**2.63**	**360**	*e*Pn	**Pn**	**00 53 23.3**	**+1.6**
ASAO	comp=N,33nm,0.8s			AML	AML	00 54 01.2	
IQOM	**Qom**	**3.05**	**16**	Pn	**Pn**	**00 53 24.7**	**-2.9**
IVRN	**Varamin**	**3.39**	**24**	Pn	**Pn**	**00 53 32.7**	**+0.3**
IVRN	**Varamin**	**3.39**	**24**	Lg		00 54 29.1	
IRAZ	**Razeghan**	**3.49**	**358**	Pn	**Pg**	**00 53 46.2**	**-1.1**
IMHD	**Mahdasht**	**3.80**	**8**	Pn	**Pn**	**00 53 38.4**	**+0.1**
SNGE	**Sanandaj**	**3.89**	**325**	*e*Pn	**Pn**	**00 53 38.0**	**-1.5**
SNGE				*e*Pg	**Pg**	**00 53 50.5**	**-4.9**
SNGE	comp=N,29nm,0.8s			AML	AML	00 54 56.3	
IDMV	**Damavand**	**4.02**	**24**	Pn	**Pn**	**00 53 41.4**	**+0.1**
CHTH	**Charan**	**4.09**	**12**	*e*Pn	**Pn**	**00 53 42.5**	**+0.1**

*IDC **26** 00:54:50.7±0.7,13.80N×92.71E,h27km±4km,mb4.0/9, mb1 4.1/9,mb1mx3.8/18,mbtmp4.1/9,MS3.2/1,Ms1 3.2/1, ms1mx2.4/32,Error ellipse: s-maj=50.2km s-min=15.0km az=54.0*
*NEIC **26** 00:54:50.9±0.4,13.89N×92.67E,mb4.5/11,Error ellipse: s-maj=23.3km s-min=6.3km az=55.0*
*MOS **26** 00:54:50.0±1.5,14.05N×93.07E,h33km,mb4.5/3,Error ellipse: s-maj=26.0km s-min=9.3km az=121.6*

ISC 26 00:54:48.7±0.4,13.77N±0.08×92.66E±0.10,h28km, h28km±1.0km:pP-P,n58,σ0§95/50,mb4.3/15,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.10**	**178**	*e*P	Px	00 55 38.1	
PBA				*e*S	Sx	00 56 06.1	
VIS	**Vishakhapatnam**	**9.81**	**295**	*e*P	**P**	**00 57 11.8**	**+0.6**
VIS				*e*S	**Sn**	**00 58 53.0**	**-8.4**
VIS	comp=N,75nm,0.2s			AML	AML	00 58 59.8	
VIS	comp=E,66nm,0.2s			AML	AML	00 58 59.8	
KULM	**Kulim**	**11.53**	**136**	Pn	**P**	**00 57 35.8**	**+1.1**
SHL	**Shillong**	**11.76**	**357**	*e*P	**P**	**00 57 39.0**	**+1.2**
BOK	**Bokaro**	**11.86**	**328**	*e*P	**P**	**00 57 40.4**	**+1.3**
BOK	comp=Z,4.3nm,0.3s			AMb	AMB	00 57 44.4	
PSI	**Prapat** comp=Z,1.0nm,0.3s,baz=294,slow=8.0,SNR=5.7	**12.53**	**150**	Pn	**P**	**00 57 53.1**	**+5.0**
PSI	comp=Z,108nm,18.0s,baz=218,slow=41			LR	LR	01 03 23.1	
HYB	**Hyderabad**	**14.07**	**287**	*i* P	**P**	**00 58 10.0**	**+1.4**
HYB				*e*S	**S**	**01 00 51.0**	**+6.4**
HYB	**Hyderabad**	**14.07**	**287**	*e*P	**P**	**00 58 16.0**	**+7.4**
JIRN	**Jiri** comp=Z,4.8nm,0.4s	**15.09**	**337**	*e*P	**P**	**00 58 17.5**	**-4.3**
GUN	**Gumba** comp=Z,5.7nm,0.5s	**15.43**	**337**	*e*P	**P**	**00 58 22.1**	**-4.2**
LSA	**Lhasa**	**15.92**	**355**	*e*P	**P**	**00 58 32.8**	**+0.2**
GKN	**Gorkha** comp=Z,8.3nm,0.3s	**16.02**	**333**	*e*P	**P**	**00 58 31.0**	**-2.9**
KOLN	**Koldanda** comp=Z,17nm,1.0s	**16.30**	**330**	*e*P	**P**	**00 58 36.2**	**-1.2**
KOLN				*e*S	**S**	**01 01 22.7**	**-14**
BHPL	**Bhopal**	**17.24**	**305**	*e*P	**P**	**00 58 53.5**	**+4.2**
BHPL	comp=Z,13nm,0.6s			AMb	AMB	00 58 55.4	
KKM	**Kota Kinabalu**	**24.42**	**106**	P	**P**	**01 00 09.1**	**+2.7**
AAK	**Ala-Archa**	**32.77**	**335**	*e*P	**P**	**01 01 19.4**	**-2.2**
AAK	comp=Z,2.0nm,1.0s,mb4.0			pmax	pmax		
AAK	**Ala-Archa** comp=Z,1.7nm,1.0s,mb3.9	**32.77**	**335**	*e*P	**P**	**01 01 19.4**	**-2.2**
MKAR	**Makanchi Array** comp=Z,1.3nm,0.8s,mb3.9,baz=164,slow=8.8,SNR=7.7	**34.06**	**347**	P	**P**	**01 01 32.3**	**-0.4**
MKAR				*e*pP	pP	01 01 40.5	-0.4
SONM	**Songino Array** comp=Z,0.7nm,0.9s,baz=198,slow=8.8,SNR=4.8	**35.84**	**16**	pP	pP	01 01 55.9	-0.3
KURK	**Kurchatov**	**38.58**	**346**	*e*P	**P**	**01 02 10.7**	**-0.2**
KURK				*e**PP	pP	01 02 17.5	-1.7
KURK	comp=Z,4.0nm,0.8s,mb4.2			pmax	pmax		
KURK	**Kurchatov** comp=Z,3.7nm,0.8s,mb4.2	**38.58**	**346**	*e*P	**P**	**01 02 10.7**	**-0.3**
KURK				*e*pP	pP	01 02 17.5	-1.7
BVAR	**Borovoye Array** comp=Z,0.6nm,0.5s,baz=140,slow=9.4,SNR=5.1	**

```
ARCES ARCESS Array B  69.27 340  P          P          01 05 55.1 +0.1
      comp=Z,1.6nm,0.8s,mb4.0,baz=96,slow=8.2,SNR=3.8
ARCES                          pP         pP          01 06 03.7  0.0
      comp=Z,2.3nm,0.6s,baz=90,slow=6.5,SNR=3.7
GERES GERESS Array B  72.52 317  P          P          01 06 15.6 +0.6
      comp=Z,0.8nm,0.8s,mb3.7,baz=90,slow=5.3,SNR=8.5
GERES                          pP         pP          01 06 23.9 +0.2
      comp=Z,2.1nm,0.7s,baz=90,slow=5.3,SNR=14
HFS   Hagfors         72.68 329  pP         pP          01 06 24.8 +0.4
      comp=Z,4.7nm,0.6s,baz=127,slow=7.4,SNR=4.3
NB2   NORSAR Subarra 73.93 330  P          pP          01 06 30.9 -0.8
      comp=Z,2.2nm,0.6s,baz=91,slow=5.8
NOA   NORSAR Array B  73.93 330  pP         pP          01 06 32.2 +0.6
      comp=Z,2.2nm,0.6s,baz=89,slow=5.8,SNR=5.7
GRA1  Grafenberg Arr  74.11 318  eP         pP          01 06 34.7 +1.7
GRF   Grafenberg Arr  74.11 318  eP         pP          01 06 34.7 +1.7
LPG   La Plagne       77.48 314  eP         P           01 06 44.4 +1.0
      comp=Z,10nm,0.7s,mb4.5
LPG   La Plagne       77.48 314  eP         P           01 06 44.4 +1.0
LPG                            pmax       pmax
      comp=Z,5.0nm,0.7s,mb4.5
EKA   Eskdalemuir Ar  82.08 325  pP         pP          01 07 18.1 +1.4
      comp=Z,1.1nm,0.7s,baz=90,slow=5.0,SNR=3.0
ESDC  Sonseca Array   86.34 310  pP         pP          01 07 39.7 +1.0
      comp=Z,0.8nm,0.7s,baz=62,slow=4.5,SNR=5.2
IMA2  Indian Mountai  86.74  22  eP         P           01 07 32.4 +1.3
PDAR  Pinedale Array  120.16  19  pPKP                   01 13 46.6
      comp=Z,0.7nm,0.9s,baz=45,slow=4.2,SNR=3.1
```

GUC ***26*** *00:56:08.1±0.8,39.30S×72.44W,h44km±11km,ML5.5*
BJI ***26*** *00:56:09.7,38.36S×72.94W,h35km,mB5.2,Ms5.4, Msz5.2*
HRVD ***26*** *00:56:10.6±0.3,39.01S×73.74W,h41km±1km,MW5.1/51, Centroid moment Tensor Solution. LP body waves: s48,c70;Mantle waves: s51,c77; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.36±.27; Mθθ0.25±.19; Mϕϕ-5.61±.19; Mrθ-0.28±.16; Mθϕ-0.49±.15; Mϕr-2.74±.19; Best double couple: Mo6.156×10^16 NP1:ϕs4°,δ32°,λ89°. NP2:ϕs185°,δ58°,λ91°. Principal axes: T 6.011, Plg77°, Azm97°; N .294, Plg0°, Azm5°; P -6.302, Plg13°, Azm275°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***26*** *00:56:10.1±0.4,38.99S×73.22W,h27km±2km,mb4.6/12, mb1 4.7/15,mb1mx4.7/17,mbtmp4.7/15,ML4.3/2,MS4.5/15, Ms1 4.4/15,ms1mx4.4/20 Error ellipse: s-maj=15.8km s-min=9.9km az=69.0*
NEIC ***26*** *00:56:10.6±0.1,38.95S×73.19W,mb5.2/64,MS4.7/8, Error ellipse: s-maj=5.8km s-min=3.6km az=83.0*
NEIC Felt [III] at Temuco and Victoria; [II] at Curacautin, Lonquimay, Valdivia and Villarica.
MOS ***26*** *00:56:10.1±1.1,38.85S×73.30W,h33km,mb5.4/15, MS4.5/4, Error ellipse: s-maj=18.2km s-min=8.6km az=89.6*

ISC 26 00:56:09.1±0.2,38.96S±0.03×73.08W±0.06,h30km, h30km±.3km:pP-P,n243,σ0s99/168,mb5.0/75,MS4.6/23, 10C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
VLCH	Valdivia	0.85	188	eP		Px	00 56 07.2	
VLCH				*i* S		Sx	00 56 18.7	
VLCH				AMP			00 56 21.9	
	comp=E,211μm,0.6s							
AGCH	Angol	1.19	15	eP		Pn	00 56 33.5	+3.6
AGCH				*i* S		Sn	00 56 52.1	+6.9
AGCH				AMP			00 56 56.2	
	comp=E,160μm,0.5s							
CCHI	Chillan	2.49	19	eP		Pn	00 56 49.7	+1.2
CCHI				*i* S		Sn	00 57 21.1	+3.0
CCHI				AMP			00 57 46.0	
	comp=N,18μm,0.5s							
PMCH	Puerto Montt	2.53	177	eP		Pn	00 56 43.1	-6.1
PMCH				AMP			00 57 49.3	
	comp=E,43μm,0.8s							
PLCA	Paso Flores	2.63	133	Pn		Pn	00 56 53.6	+3.0
	comp=E,14nm,0.3s,baz=304,slow=14,SNR=99							
PLCA				Pg		Pn	00 56 58.7	+8.1
	baz=301,slow=16							
PLCA				Lg			00 57 35.8	
	comp=E,216nm,0.3s,baz=24,slow=19,SNR=4.7							
PLCA				LR		LR	00 58 14.2	
	comp=E,13μm,19.7s,baz=310,slow=46							
PLCA	Paso Flores	2.63	133	eP		Pn	00 56 54.1	+3.5
PLCA				eS		Sn	00 57 35.5	+14
COCH	Cobquecura	2.83	5	eP		Pn	00 56 54.7	+1.3
LNCH	Linares	3.32	21	eP		Pn	00 57 00.9	+0.5
TALC	Talca	3.74	18	*i* P		Pn	00 57 08.4	+2.1
TALC				*i* S		Sn	00 57 51.5	+1.6
NICH	Los Niches	4.22	21	eP		Pn	00 57 13.1	0.0
SFDO	San Fernando	4.64	22	eP		Pn	00 57 18.9	-0.3
CICH	Cipreses	5.10	26	eP		Pn	00 57 27.2	+1.6
CACH	El Canelo	5.23	23	eP		Pn	00 57 27.7	+0.3
ANTU	Antumapu	5.73	21	*i* P		Pn	00 57 34.2	-0.2
RCDM	Rinconada Maip	5.76	19	eP		Pn	00 57 34.2	-0.7
RCDM				*i* S		Sn	00 58 39.2	-1.6
FCH	Farellones	6.06	23	eP		Pn	00 57 38.5	-0.6
FCH				*i* S		Sn	00 58 48.4	+0.2
PEL	Peldehue	6.12	19	eP		Pn	00 57 38.8	-1.2
CFAA	Coronel Fontan	8.34	30	Pn		P	00 58 10.2	-0.8
	comp=E,1.8nm,0.3s,baz=208,slow=11,SNR=71							
CFAA				Sn		Sn	00 59 44.4	-0.8
	comp=E,1.1nm,0.3s,baz=294,slow=20,SNR=3.7							
CFAA				LR		LR	01 02 11.1	
	comp=E,323nm,21.1s,baz=214,slow=43							
LPA	La Plata	12.78	76	de	P	P	00 59 08.0	-3.6
LPA				es	P		00 59 22.0	
LPA				es	S		01 01 46.0	
USHA	Ushuaia	16.19	170	Pn		P	00 59 56.5	+0.7
	comp=E,1.0nm,0.3s,baz=317,slow=8.1,SNR=12							
USHA				LR		LR	01 06 33.3	
	comp=E,2μm,19.5s,baz=328,slow=38							
EFI	East Falkland	16.49	145	eP		P	01 00 00.6	+0.9
	comp=E,237nm,1.4s							
CPUP	Villa Florida	18.26	51	eP		P	01 00 22.1	0.0
CPUP				pmax		pmax		
	comp=Z,76nm,0.7s							
CPUP	Villa Florida	18.26	51	eP		P	01 00 22.1	0.0
	comp=Z,76nm,0.7s							
ARE	Arequipa	22.46	4	eP		P	01 01 09.0	+1.8
LPAZ	La Paz	23.00	12	P		P	01 01 14.9	+2.4
	comp=Z,34nm,1.1s,mb4.7,baz=162,slow=9.8,SNR=46							
LPAZ	La Paz	23.00	12	eP		P	01 01 14.6	+2.1
LPAZ				pmax		pmax		
	comp=Z,56nm,0.8s							
LPAZ				MLR		MLR		
	comp=Z,705nm,19.0s							
LPAZ	La Paz	23.00	12	eP		P	01 01 14.6	+2.0
	comp=Z,56nm,0.8s,mb5.0							
LPAZ				LR		LR		
	comp=Z,705nm,19.0s,MS4.1							
SIV	San Ignacio	25.19	28	P		P	01 01 33.8	+0.1
	comp=Z,48nm,0.9s,mb5.0,baz=210,slow=8.6,SNR=114							
SIV				pP		pP	01 01 42.2	-0.1
	comp=Z,39nm,0.8s,baz=214,slow=8.2,SNR=12							
NNA	Nana	27.07	352	eP		P	01 01 49.5	-1.6
	comp=Z,29nm,0.8s,mb4.9							
NNA				ep	P	pP	01 01 59.4	-0.3
BDFB	Brasilia	31.99	50	P		P	01 02 34.2	-0.7
	comp=Z,31nm,1.0s,mb5.1,baz=209,slow=4.9,SNR=28							
BDFB				LR		LR	01 17 38.7	
	comp=Z,1μm,18.6s,MS4.6,baz=222,slow=40							
BAO	Brasilia Array	32.01	50	P		P	01 02 34.0	-1.1
RPN	Rapa Nui	32.40	280	LR		LR	01 12 01.4	
	comp=Z,1μm,20.6s,MS4.5,baz=140,slow=30							
OTAV	Otavalo	39.32	352	eP		P	01 03 38.8	+1.4
	comp=Z,62nm,1.4s,mb5.2							
OTAV				ep	P	pP	01 03 48.4	+2.1
ROSC	El Rosal	43.61	358	LR		LR	01 22 05.1	
	comp=Z,566nm,19.3s,MS4.5,baz=187,slow=36							
VNA3	Neumayer Olymp	45.14	156	e		pP	01 04 32.2	-0.8
VNA3	Neumayer Olymp	45.14	156	e		sP	01 04 37.4	+0.7
VNA3	Neumayer Olymp	45.14	156	e		x	01 04 43.8	
VNA3	Neumayer Olymp	45.14	156	i	P	P	01 04 23.8	-0.4
VNA3				e		pP	01 04 32.2	-0.8
VNA3				e			01 04 37.4	
VNA3				e			01 04 43.8	
VNA3				e			01 06 05.1	
VNA3				e			01 06 13.8	
VNA1	Neumayer--Stat	45.49	155	e		pP	01 04 35.4	-0.5
VNA1	Neumayer--Stat	45.49	155	e		sP	01 04 40.6	+1.1
VNA1	Neumayer--Stat	45.49	155	e		x	01 04 47.5	
VNA1	Neumayer--Stat	45.49	155	i	P	P	01 04 27.6	+0.6
VNA1				e		pP	01 04 35.4	-0.5
VNA1				e			01 04 40.6	
VNA1				e			01 04 47.5	
VNA1				e			01 06 05.2	
VNA1				e			01 06 13.8	
VNA2	Neumayer--Watz	45.82	155	i	P	P	01 04 29.7	+0.1
VNA2				e		pP	01 04 39.7	+1.2
VNA2				e			01 04 43.3	
VNA2				e			01 04 50.4	
VNA2				e			01 06 06.0	
VNA2				e			01 06 18.5	
RCBR	Riachuelo	47.07	55	eP		P	01 04 40.2	0.0
	comp=Z,74nm,1.4s,mb5.4							
RCBR				e			01 04 52.0	
SNAA	Sanae	47.36	156	e		x	01 05 02.1	
SNAA	Sanae	47.36	156	P		P	01 04 41.9	+0.2
	comp=Z,26nm,0.9s,mb5.2,baz=277,slow=6.6,SNR=90							
SNAA				sP		sP	01 04 51.9	-2.4
	comp=Z,30nm,1.1s,baz=238,slow=7.5,SNR=12							
SNAA	Sanae	47.36	156	i	P	P	01 04 41.8	+0.1
SNAA				e			01 06 12.1	
SNAA	Sanae	47.36	156	i	P	P	01 04 41.8	+0.1
SNAA				e			01 05 02.1	
SNAA				e			01 06 12.1	
SDV	Santo Domingo	47.65	3	eP		P	01 04 43.5	-1.3
	comp=Z,40nm,0.9s,mb5.5							
SDV				ep	P	pP	01 04 52.8	-1.0
JTS	JuntasAbangare	50.23	345	eP		P	01 05 03.5	-1.2
JTS				e	P	pP	01 05 12.8	-0.9
JTS				pmax		pmax		
	comp=Z,34nm,1.0s							
JTS	JuntasAbangare	50.23	345	eP		P	01 05 03.5	-1.2
	comp=Z,34nm,1.0s,mb5.3							
JTS				ep	P	pP	01 05 12.8	-0.9
MAIT	Maitri	52.11	155	i	P	P	01 05 18.1	-0.1
MAIT				e	P	PcP	01 06 28.7	-1.2
MAIT				e	PP	PP	01 07 16.7	-0.4
MAIT	Maitri	52.11	155	eP		P	01 05 18.1	0.0
NVL	N'lazarevskaya	52.14	155	eP		P	01 05 16.5	-1.9
NVL				e	P	pP	01 05 28.7	+1.3
NVL				e			01 06 32.4	
NVL				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
NVL				MLR		MLR		
	comp=Z,44nm,17.8s,MS3.5							
RKT	Rikitea	54.36	268	eS		S	01 13 11.7	+1.8
RKT				eLR		LR	01 21 14.8	
	comp=Z,960nm,27.5s							
SJG	San Juan	57.14	8	eP		P	01 05 53.1	-2.5
SJG				e	P	pP	01 06 04.6	-0.1
SJG				pmax		pmax		
	comp=Z,41nm,1.1s							
SJG				MLR		MLR		
	comp=Z,279nm,20.0s							
SJG	San Juan	57.14	8	eP		P	01 05 53.1	-2.5
	comp=Z,41nm,1.1s,mb5.4							
SJG				ep	P	pP	01 06 04.6	-0.1
SJG				LR		LR		
	comp=Z,279nm,20.0s,MS4.4							
VNDA	Vanda	59.08	192	P		P	01 06 07.5	-0.9
	comp=Z,4.4nm,1.1s,mb4.4,baz=118,slow=5.8,SNR=5.3							
VNDA				pP		pP	01 06 15.4	-2.2
	comp=Z,3.7nm,1.0s,baz=142,slow=7.8,SNR=5.7							
VNDA				LR		LR	01 31 30.4	
	comp=Z,109nm,18.7s,MS4.0,baz=136,slow=36							
SYO	Syowa Base	61.59	158	i	P	P	01 06 19.3	-6.3
SYO	Syowa Base	61.59	158	e	P	P	01 06 19.3	-6.3
TBI	Tubuai	65.45	259	eS		S	01 15 34.7	+2.2
TBI				eLR		LR	01 26 12.0	
	comp=Z,841nm,26.0s							
TVO	Taravao	68.43	264	eP		P	01 07 19.0	+8.5
	comp=Z,71nm,1.0s,mb5.6							
MAW	Mawson	68.67	163	P		P	01 07 10.2	-1.0
	comp=Z,5.7nm,1.1s,mb4.4,baz=219,slow=9.6,SNR=9.7							
MAW				pP		pP	01 07 18.9	-1.5
	comp=Z,16nm,0.9s,baz=283,slow=3.1,SNR=10							
MAW				LR		LR	01 36 52.0	
	comp=Z,640nm,20.6s,MS4.8,baz=226,slow=36							
PAE	Paea	68.75	264	eP		P	01 07 20.7	+8.2
	comp=Z,76nm,1.0s,mb5.6							
PPT	Papeete	68.80	264	eP		P	01 07 21.5	+8.7
	comp=Z,49nm,0.9s,mb5.4							
PPT	Papeete	68.80	264	eS		S	01 16 14.8	+1.8
PPT				eLR		LR	01 27 44.8	
	comp=Z,379nm,28.0s							
PPT	Papeete	68.80	264	pP		pP	01 07 20.8	-1.2
	comp=Z,72nm,0.9s,baz=116,slow=7.5,SNR=6.9							
PPT				LR		LR	01 30 53.2	
	comp=Z,384nm,19.6s,MS4.6,baz=109,slow=30							
GOGA	Godfrey	72.65	351	eP		P	01 07 34.5	-1.3
GOGA				e	P	pP	01 07 44.4	-0.7
GOGA				e	P	sP	01 07 48.9	+0.6
GOGA				pmax		pmax		
	comp=Z,27nm,0.8s,mb5.2							
GOGA	Godfrey	72.65	351	eP		P	01 07 34.5	-1.3
	comp=Z,27nm,0.8s,mb5.2							
GOGA				ep	P	pP	01 07 44.4	-0.7
GOGA				es	P	sP	01 07 48.9	+0.6
LRAL	Lakeview Retre	72.79	348	eP		P	01 07 35.7	-0.9
	comp=Z,29nm,0.9s,mb5.2							
LRAL				ep	P	pP	01 07 45.5	-0.4
NATX	Nacogdoches	73.17	341	eP		P	01 07 38.0	-0.9
	comp=Z,21nm,0.8s,mb5.1							
NATX				ep	P	pP	01 07 48.4	+0.2
JSC	Jenkinsville	73.27	353	eP		P	01 07 38.5	-0.9
JSC				ep	P	pP	01 07 47.8	-0.8
JSC				es	P	sP	01 07 53.2	+1.3
JCT	Junction City	73.43	336	eP		P	01 07 39.8	-0.7
	comp=Z,42nm,1.1s,mb5.3							
JCT				ep	P	pP	01 07 48.1	-1.6
TXAR	Lajitas Array	73.69	332	P		P	01 07 41.3	-0.6
	comp=Z,1.9nm,0.8s,mb4.1,baz=157,slow=8.3,SNR=29							
TXAR				pP		pP	01 07 50.0	-1.2
	comp=Z,7.8nm,0.8s,baz=155,slow=6.9,SNR=34							
TXAR				LR		LR	01 34 48.6	
	comp=Z,428nm,18.8s,MS4.8,baz=175,slow=32							
LTX	Lajitas	73.69	332	eP		P	01 07 41.6	-0.3
LTX				e	P	pP	01 07 49.9	-1.3
LTX				pmax		pmax		
	comp=Z,42nm,1.5s,mb5.2							
LTX	Lajitas	73.69	332	eP		P	01 07 41.6	-0.3
	comp=Z,42nm,1.5s,mb5.2							
LTX				ep	P	pP	01 07 49.9	-1.4
SWET	Sewanee	74.76	349	eP		P	01 07 45.8	-2.2
SWET				ep	P	pP	01 07 55.1	-2.2
SWET				es	P	sP	01 08 00.9	+0.3
CPCT	Cooper Cave	74.79	350	eP		P	01 07 47.2	-1.0
CPCT				ep	P	pP	01 07 55.6	-1.9
CPCT				es	P	sP	01 08 01.9	+1.2
CASY	Casey	75.05	182	eP		P	01 07 48.8	-0.3
CASY				ep	P	pP	01 07 58.7	+0.3
CASY				LR		LR		
	comp=Z,605nm,20.0s,MS4.9							
WVT	Waverly	75.95	348	eP		P	01 07 53.3	-1.5
WVT				e	P	pP	01 08 02.3	-1.8
WVT				pmax		pmax		
	comp=Z,52nm,1.2s,mb5.3							
WVT	Waverly	75.95	348	eP		P	01 07 53.3	-1.5
	comp=Z,52nm,1.2s,mb5.3							
WVT				ep	P	pP	01 08 02.3	-1.8
UTMT	University of	76.33	347	P		P	01 07 56.1	-0.8
UTMT				ep	P	pP	01 08 05.9	-0.4
MNTX	Cornudas Mount	76.45	332	eP		P	01 07 55.8	-1.9
	comp=Z,4.7nm,0.8s,mb4.5							
MNTX				ep	P	pP	01 08 04.4	-2.6
MNTX				LR		LR		
	comp=Z,333nm,20.0s,MS4.7							
PARMO	Parma	76.81	346	eP		P	01 07 58.9	-0.7
PARMO				ep	P	pP	01 08 08.6	-0.3
PARMO				es	P	sP	01 08 12.5	+0.4
WMOK	Wichita Mounta	77.09	339	eP		P	01 07 59.8	-1.4
WMOK				e	P	pP	01 08 09.6	-1.0
WMOK				pmax		pmax		
	comp=Z,5.0nm,1.4s,mb4.2							
WMOK				MLR		MLR		
	comp=Z,295nm,22.0s,MS4.6							
WMOK	Wichita Mounta	77.09	339	eP		P	01 07 59.8	-1.4
	comp=Z,5.5nm,1.4s,mb4.3							
WMOK				ep	P	pP	01 08 09.6	-1.0
WMOK				LR		LR		
	comp=Z,295nm,22.0s,MS4.6							
DBIC	Dimbokro	77.58	71	P		P	01 08 05.2	+0.9
	comp=Z,30nm,0.8s,mb5.3,baz=204,slow=5.8,SNR=54							
DBIC				sP		sP	01 08 17.4	+0.5
	comp=Z,71nm,0.9s,baz=200,slow=5.6,SNR=17							
DBIC				LR		LR	01 38 29.6	
	comp=Z,349nm,19.7s,MS4.7,baz=199,slow=33							
DBIC	Dimbokro	77.58	71	eP		P	01 08 05.3	+1.0
DBIC				e	*S	sP	01 08 17.2	+0.3
DBIC				pmax		pmax		
	comp=Z,115nm,1.1s							
DBIC	Dimbokro	77.58	71	eP		P	01 08 05.3	+0.9
	comp=Z,115nm,1.1s,mb5.7							
DBIC				es	P	sP	01 08 17.2	+0.3
SIUC	Southern Illin	77.73	347	eP		P	01 08 03.5	-1.2
SIUC				e	PcP	PcP	01 08 13.3	-1.8
WCI	Wyandotte Cave	77.77	349	eP		P	01 08 03.8	-1.1
WCI				e		pP	01 08 13.2	-1.0
WCI				e	*SP	sP	01 08 17.7	+0.3
WCI				pmax		pmax		
	comp=Z,14nm,0.9s,mb4.9							
WCI	Wyandotte Cave	77.77	349	eP		P	01 08 03.8	-1.1
	comp=Z,14nm,0.9s,mb4.9							
WCI				e	PcP	PcP	01 08 13.2	-2.0
WCI				es	P	sP	01 08 17.6	+0.3
SDMD	Soldier's Deli	78.07	357	eP		P	01 08 00.6	-5.9
SDMD				ep	P	pP	01 08 09.4	-6.5
FVM	French Village	78.21	346	eP		P	01 08 06.4	-0.9
FVM				e		pP	01 08 15.6	-1.1
FVM				pmax		pmax		
	comp=Z,22nm,1.2s,mb5.0							
FVM	French Village	78.21	346	eP		P	01 08 06.4	-1.0
	comp=Z,22nm,1.2s,mb5.0							
FVM				e	PcP	PcP	01 08 15.6	-1.6
CCM	Cathedral Cave	78.44	345	eP		P	01 08 07.5	-1.1
CCM				e		pP	01 08 17.5	-0.4
CCM				pmax		pmax		
	comp=Z,51nm,0.9s,mb5.5							
CCM	Cathedral Cave	78.44	345	eP		P	01 08 07.5	-1.0
	comp=Z,51nm,0.9s,mb5.5							
CCM				e	PcP	PcP	01 08 17.5	-0.6
TSUM	Tsumeb	78.69	105	eP		P	01 08 11.3	+1.1
	comp=Z,8.9nm,0.9s,mb4.7							
TSUM				ep	P	pP	01 08 21.2	+1.5
BLO	Bloomington	78.73	349	eP		P	01 08 09.2	-0.9
BLO				e		pP	01 08 17.6	-1.9
BLO				e	*S	sP	01 08 23.1	+0.5
BLO				pmax		pmax		
	comp=Z,32nm,0.8s,mb5.3							
BLO	Bloomington	78.73	349	eP		P	01 08 09.2	-0.9
	comp=Z,32nm,0.8s,mb5.3							
BLO				e	PcP	PcP	01 08 17.6	-1.7
BLO				es	P	sP	01 08 23.1	+0.5
SLM	Saint Louis	78.81	346	eP		P	01 08 09.7	-0.9
SLM				e	*P	pP	01 08 19.5	-0.5
SLM				e	*S	sP	01 08 24.0	+0.9
SLM				pmax		pmax		
	comp=Z,19nm,0.6s,mb5.2							
SLM	Saint Louis	78.81	346	eP		P	01 08 09.7	-0.9
	comp=Z,19nm,0.6s,mb5.2							
SLM				ep	P	pP	01 08 19.5	-0.5
SLM				es	P	sP	01 08 24.0	+0.9
TUC	Tucson	79.09	328	eP		P	01 08 12.6	+0.4
TUC				e	*P	pP	01 08 21.2	-0.4
TUC				pmax		pmax		
	comp=Z,15nm,1.1s,mb4.8							
TUC	Tucson	79.09	328	eP		P	01 08 12.6	+0.4
	comp=Z,15nm,1.1s,mb4.8							
TUC				ep	P	pP	01 08 21.2	-0.4
ACSO	Alum Creek Sta	79.33	352	eP		P	01 08 12.6	-0.8
	comp=Z,46nm,0.9s,mb5.4							
ACSO				e	PcP	PcP	01 08 20.6	-1.3
ACSO				es	P	sP	01 08 27.1	+1.2
RPZ	Rata Peaks	79.36	222	LR		LR	01 36 26.4	
	comp=Z,305nm,19.7s,MS4.6,baz=206,slow=30							
ANMO	Albuquerque	79.76	333	P		P	01 08 15.8	0.0
	comp=Z,6.9nm,0.9s,mb4.6,baz=168,slow=8.2,SNR=4.1							
ANMO				pP		pP	01 08 25.2	0.0
	comp=Z,10nm,0.9s,baz=161,slow=8.2,SNR=5.8							
ANMO	Albuquerque	79.76	333	eP		P	01 08 16.0	+0.2
ANMO				e	*P	pP	01 08 25.3	+0.1
ANMO				pmax		pmax		
	comp=Z,23nm,1.1s							
ANMO	Albuquerque	79.76	333	eP		P	01 08 16.0	+0.2
	comp=Z,23nm,1.1s,mb5.0							
ANMO				ep	P	pP	01 08 25.2	0.0
ALLY	Alegheny Colle	80.49	355	eP		P	01 08 18.8	-0.8
ALLY				ep	P	pP	01 08 28.9	0.0
ALLY				es	P	sP	01 08 33.8	+1.8
KSU1	Kansas State U	80.63	342	eP		P	01 08 19.2	-1.1
QUA2	Belchertown	80.86	1	eP		P	01 08 21.9	+0.4
	comp=Z,19nm,0.8s,mb5.1							
ERPA	Erie	80.94	355	eP		P	01 08 21.4	-0.5
	comp=Z,28nm,0.9s,mb5.2							
ERPA				ep	P	pP	01 08 31.5	+0.1
ERPA				es	P	sP	01 08 35.7	+1.2
LBTB	Lobatse	80.99	115	eP		P	01 08 23.0	+0.4
	comp=Z,26nm,0.8s,mb5.2							
LBTB				ep	P	pP	01 08 34.3	+2.4
LBTB				LR		LR		
	comp=Z,456nm,21.0s,MS4.8							
CBKS	Cedar Bluff	81.17	339	eP		P	01 08 23.4	+0.2
	comp=Z,12nm,0.9s,mb4.8							
CBKS				ep	P	pP	01 08 33.0	+0.3
AAM	Ann Arbor	81.45	352	eP		P	01 08 23.4	-1.2
	comp=Z,11nm,0.6s,mb5.0							
AAM				ep	P	pP	01 08 33.5	-0.5
AAM				es	P	sP	01 08 38.2	+1.1
SDCO	Great Sand Dun	81.95	335	eP		P	01 08 27.2	0.0
	comp=Z,29nm,1.6s,mb5.0							
SDCO				ep	P	pP	01 08 37.0	+0.3
FFD	Franklin Falls	82.06	1	eP		P	01 08 28.8	+1.1
FFD				ep	P	pP	01 08 38.3	+1.2
WUAZ	Wupatki	82.12	329	eP		P	01 08 29.3	+1.1
	comp=Z,17nm,1.3s,mb4.8							
WUAZ				ep	P	pP	01 08 37.4	-0.3
RAO	Raoul Island	82.53	238	LR		LR	01 40 41.5	
	comp=Z,268nm,18.1s,MS4.7,baz=314,slow=32							
NCB	Newcomb	82.56	359	eP		P	01 08 30.2	0.0
	comp=Z,36nm,1.4s,mb5.2							
NCB				ep	P	pP	01 08 40.1	+0.4
NCB				es	P	sP	01 08 43.7	+0.9
MDV	Middlebury	82.58	360	eP		P	01 08 30.8	+0.4
MDV				ep	P	pP	01 08 40.8	+0.9
MDV				es	P	sP	01 08 44.3	+1.4
PFO	Pinyon Flat Ob	82.65

MVU ePP pP 01 08 54.9 +2.4
ISA Isabella 85.27 324 eP **P** **01 08 45.4 +1.2**
comp=Z,8,4nm,1.4s,mb4.7
ISA ePP pP 01 08 53.8 +0.1
TMUT Trail Mountain 85.36 331 eP **P** **01 08 45.4 +0.8**
TMUT ePP pP 01 08 54.3 +0.3
TPNV Topopah Spring 85.37 327 eP **P** **01 08 45.8 +1.2**
comp=Z,16nm,1.0s,mb5.1
TPNV ePP pP 01 08 54.8 +0.7
DAC Darwin (Calif) 85.39 325 eP **P** **01 08 45.7 +1.0**
comp=Z,17nm,1.1s,mb5.1
DAC ePP pP 01 08 54.1 -0.2
MPU Maple Canyon 86.15 331 eP **P** **01 08 48.8 +0.4**
comp=Z,34nm,1.1s,mb5.5
MPU ePP pP 01 08 57.8 -0.2
NLU North Lily Min 86.26 331 eP **P** **01 08 47.8 -1.2**
NLU ePP pP 01 08 59.4 +0.9
NLU eSP sP 01 09 04.2 +2.7
DAU Daniels Canyon 86.35 332 eP **P** **01 08 50.2 +0.8**
DAU ePP pP 01 09 00.5 +1.5
DUG Dugway 86.75 331 eP **P** **01 08 51.6 +0.2**
comp=Z,33nm,1.1s,mb5.5
DUG ePP pP 01 09 02.2 +1.4
DUG eSP sP 01 09 06.2 +2.3
TCUT Toone Canyon 87.03 332 eP **P** **01 08 52.9 +0.2**
TCUT ePP pP 01 09 02.2 0.0
RSSD Black Hills 87.30 338 eP **P** **01 08 53.5 -0.5**
RSSD e*PP pP 01 09 03.7 +0.3
RSSD pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
RSSD Black Hills 87.30 338 eP **P** **01 08 53.5 -0.5**
comp=Z,2.3nm,0.8s,mb4.5
RSSD ePP pP 01 09 03.7 +0.3
MNV Mina 87.43 326 eP **P** **01 08 55.2 +0.5**
comp=Z,14nm,1.5s,mb5.0
NVAR Mina Array Bea 87.50 326 P **P** **01 08 55.5 +0.4**
comp=Z,1.3nm,0.8s,mb4.2,baz=148,slow=6.5,SNR=9.6
NVAR pP pP 01 09 04.7 +0.1
comp=Z,4.5nm,1.0s,baz=145,slow=6.2,SNR=14
NVAR Mina Array Bea 87.50 326 P **P** **01 08 55.5 +0.4**
NVAR pP pP 01 09 04.7 +0.1
HWUT Hardware Ranch 87.51 332 eP **P** **01 08 55.0 -0.1**
comp=Z,35nm,0.9s,mb5.6
HWUT ePP pP 01 09 04.2 -0.3
HWUT eSP sP 01 09 09.9 +2.4
SPUT South Promonto 87.58 331 eP **P** **01 08 55.8 +0.4**
SPUT ePP pP 01 09 04.6 -0.2
BW06 Boulder Array 87.82 334 eP **P** **01 08 55.8 -0.7**
comp=Z,5.8nm,1.3s,mb4.7
BW06 ePP pP 01 09 04.4 -1.6
BW06 eSP sP 01 09 11.1 +2.1
BW06 LR LR
comp=Z,537nm,20.0s,MS5.0
PDAR Pinedale Array 87.82 334 P **P** **01 08 56.2 -0.3**
comp=Z,2.3nm,0.9s,mb4.4,baz=162,slow=4.7,SNR=17
PDAR pP pP 01 09 06.0 +0.1
comp=Z,6.8nm,1.0s,baz=146,slow=5.3,SNR=16
PDAR LR LR 01 43 25.9
comp=Z,372nm,19.3s,MS4.8,baz=180,slow=32
EYMN Ely 88.06 348 eP **P** **01 08 57.1 -0.4**
comp=Z,27nm,1.2s,mb5.3
EYMN ePP pP 01 09 05.3 -1.7
HVU Hansel Valley 88.11 331 eP **P** **01 08 58.0 +0.1**
comp=Z,24nm,1.0s,mb5.4
HVU ePP pP 01 09 08.0 +0.6
HVU eSP sP 01 09 12.5 +2.1
ELK Elko 88.17 329 eP **P** **01 08 58.2 +0.1**
comp=Z,18nm,0.9s,mb5.3
ELK ePP pP 01 09 08.8 +1.1
AHID Auburn Hatcher 88.36 333 eP **P** **01 08 58.9 -0.2**
comp=Z,2.2nm,0.8s,mb4.4
AHID ePP pP 01 09 08.9 +0.4
AHID eSP sP 01 09 13.1 +1.5
REDW Red Top Meadow 88.79 333 eP **P** **01 09 01.0 -0.1**
comp=Z,6.0nm,1.1s,mb4.8
REDW ePP pP 01 09 11.2 +0.6
SNOW Snow King Moun 88.85 334 eP **P** **01 09 01.6 +0.2**
comp=Z,12nm,1.0s,mb5.2
SNOW ePP pP 01 09 11.7 +0.8
SNOW eSP sP 01 09 16.6 +2.7
LOHW Long Hollow 88.93 334 eP **P** **01 09 01.5 -0.2**
comp=Z,8.1nm,0.9s,mb5.0
LOHW ePP pP 01 09 10.5 -0.7
TPAW Teton Pass 88.94 333 eP **P** **01 09 01.8 -0.1**
comp=Z,18nm,1.0s,mb5.3
TPAW ePP pP 01 09 12.2 +0.8
LSZ Lusaka 89.03 109 eP **P** **01 09 04.6 +1.7**
comp=Z,13nm,1.0s,mb5.2
IMW Indian Meadow 89.29 334 eP **P** **01 09 03.5 0.0**
comp=Z,24nm,1.1s,mb5.4
IMW ePP pP 01 09 12.3 -0.6
IMW eSP sP 01 09 18.2 +2.2
YFT Old Faithful 89.74 334 eP **P** **01 09 07.1 +1.5**
YFT ePP pP 01 09 17.0 +1.9
YMR Madison River 89.98 334 eP **P** **01 09 07.5 +0.8**
comp=Z,15nm,1.3s,mb5.2
YMR ePP pP 01 09 16.4 +0.3
YMR eSP sP 01 09 22.1 +2.9
HLID Hailey 90.25 331 eP **P** **01 09 08.7 +0.7**
comp=Z,19nm,1.2s,mb5.3
HLID ePP pP 01 09 17.8 +0.3
HLID LR LR
comp=Z,450nm,19.0s,MS4.9
QLMT Earthquake Lak 90.28 334 P **P** **01 09 09.4 +1.4**
QLMT ePP pP 01 09 19.0 +1.5
MCMT McKenzie Canyo 90.77 333 eP **P** **01 09 11.4 +1.1**
MCMT ePP pP 01 09 20.1 +0.3
ULM Lac du Bonnet 91.07 346 P **P** **01 09 10.5 -1.0**
comp=Z,1.0nm,0.6s,mb4.3,baz=224,slow=5.3,SNR=4.7
ULM pP pP 01 09 19.3 -1.7
comp=Z,3.6nm,0.8s,baz=221,slow=4.5,SNR=5.5
ULM Lac du Bonnet 91.07 346 P **P** **01 09 10.5 -1.0**
ULM pP pP 01 09 19.3 -1.7
DLMT Dillon 91.15 333 eP **P** **01 09 12.9 +0.8**
comp=Z,13nm,1.5s,mb5.0
DLMT ePP pP 01 09 22.8 +1.3
DGMT Dagmar 91.33 340 eP **P** **01 09 12.7 -0.1**
comp=Z,20nm,1.0s,mb5.4
DGMT ePP pP 01 09 21.7 -0.5
YBH Yreka Blue Hor 92.14 325 pP pP 01 09 25.6 -0.6
comp=Z,4.1nm,0.9s,baz=162,slow=0.9,SNR=4.1
MSO Missoula 92.89 333 eP **P** **01 09 20.5 +0.5**
comp=Z,4.6nm,1.2s,mb4.8
MSO ePP pP 01 09 29.9 +0.4
SCHQ Schefferville 93.58 4 LR LR 01 47 45.4
comp=Z,85nm,19.6s,MS4.2,baz=354,slow=33
EDM Edmonton 98.20 337 P **P** **01 09 44.0 0.0**
YKA Yellowknife Ar 106.47 341 Pdiff Pdif 01 10 19.6 -1.0
comp=Z,0.3nm,0.9s,baz=136,slow=5.4,SNR=4.1
YKA pPdiff 01 10 29.8
comp=Z,0.5nm,0.8s,baz=141,slow=4.6,SNR=5.9
YKA PKiKP 01 14 34.8
comp=Z,0.2nm,0.9s,baz=144,slow=2.7,SNR=3.6
YKA pPKiKP 01 14 43.8
comp=Z,0.6nm,0.9s,baz=140,slow=2.1,SNR=7.7
YKA Yellowknife Ar 106.47 341 Pdif Pdif 01 10 19.6 -1.1
YKA PKPdif 01 14 34.8
GRA1 Grafenberg Arr 115.21 46 ePKP PKPdf 01 14 49.0 -3.2
GRF Grafenberg Arr 115.21 46 ePKIKP PKPdf 01 14 49.0 -3.2
GRF Grafenberg Arr 115.21 46 ePKIKP PKPdf 01 14 49.0 -3.2
INK Inuvik 116.00 339 PKP PKPdf 01 14 48.4 -5.0
comp=Z,1.1nm,1.1s,baz=135,slow=1.4,SNR=2.6
WRA Warramunga Arr 116.02 209 PKKPbc 01 25 21.1
comp=Z,0.9nm,1.0s,baz=340,slow=3.9,SNR=4.7
GERES GERESS Array B 116.18 47 PKP PKPdf 01 14 50.2 -4.0
comp=Z,2.2nm,0.7s,baz=208,slow=1.8,SNR=26
GERES pPKP 01 14 59.4
comp=Z,2.0nm,0.7s,baz=198,slow=1.5,SNR=11
KHC Kasperske Hory 116.25 47 ePKP PKPdf 01 14 50.2 -4.1
CLL Collm 117.01 45 ePKIKP PKPdf 01 14 52.0 -3.7
comp=Z,logA/T=0.8
BRG Berggiesshubel 117.31 45 PKIKP PKPdf 01 14 52.0 -4.3
BRG MLR MLR
comp=Z,170nm,16.7s,MS4.7
TREC Trest 117.43 48 ePKP PKPdf 01 14 52.4 -4.1
TREC epPKP 01 15 01.2
PVCC Panska Ves 117.50 46 ePKP PKPdf 01 14 52.8 -3.8
PVCC epPKP 01 15 01.9
VRAC Vranov 118.07 48 PKP PKPdf 01 14 53.6 -4.2
comp=Z,0.8nm,0.3s,baz=284,slow=8.1,SNR=4.1
VRAC pPKP 01 15 03.0
comp=Z,1.0nm,0.4s,baz=99,slow=18,SNR=3.4
ILAR Eielson Array 118.20 332 PKP PKPdf 01 14 52.9 -4.8
comp=Z,0.8nm,0.7s,baz=158,slow=2.8,SNR=9.5
ILAR pPKP 01 15 02.3
comp=Z,1.3nm,0.9s,baz=150,slow=1.6,SNR=8.1
UPC Upice 118.30 46 ePKP PKPdf 01 14 54.0 -4.2
UPC epPKP 01 15 04.2
DPC Dobruska-Polom 118.40 47 ePKP PKPdf 01 14 54.1 -4.3
DPC epPKP 01 15 04.6
VYHS Vyhne 119.01 49 ePKP PKPdf 01 14 56.2 -3.5
VYHS e 01 15 05.5
OKC Ostrava-Krasne 119.21 48 ePKP PKPdf 01 14 55.3 -4.7
OKC epPKP 01 15 03.0
KECS Kecovo 119.99 50 ePKP PKPdf 01 15 01.0 -0.5
NOA NORSAR Array B 120.62 34 pPKP 01 15 07.8
comp=Z,3.4nm,1.0s,baz=250,slow=2.1,SNR=3.9
CRVS Cervenica-Dubn 120.75 50 e PKPdf 01 15 08.9 +5.8
STHS Stebnicka Huta 120.84 49 ePKP PKPdf 01 15 01.6 -1.6
KOLS Kolonicke sedl 121.25 50 ePKP PKPdf 01 14 58.7 -5.3
KOLS e 01 15 09.7
IMA2 Indian Mountai 121.32 332 ePKPdf PKPdf 01 14 59.5 -4.3
IMA2 epPKPdf 01 15 09.9
HFS Hagfors 121.35 36 PKP PKPdf 01 14 58.4 -5.5
comp=Z,2.7nm,0.7s,SNR=4.3
HFS pPKP 01 15 08.9
comp=Z,1.6nm,0.7s,baz=135,slow=2.1,SNR=1.5
BRTR Keskin Array B 124.86 64 PKP PKPdf 01 15 07.1 -4.1
comp=Z,1.8nm,0.7s,baz=174,slow=3.1,SNR=11
BRTR pPKP 01 15 16.1
comp=Z,2.2nm,0.7s,baz=207,slow=2.8,SNR=7.0
AKASG Malin Array Be 126.08 50 PKP PKPdf 01 15 08.2 -5.0
comp=Z,1.7nm,0.6s,baz=265,slow=2.7,SNR=19
AKASG pPKP 01 15 17.6
comp=Z,3.3nm,0.7s,baz=265,slow=2.7,SNR=9.6
FINES FINESS Array B 127.50 37 PKP PKPdf 01 15 12.0 -3.7
comp=Z,1.1nm,0.9s,baz=166,slow=0.7,SNR=3.3
FINES pPKP 01 15 20.8
comp=Z,4.1nm,1.0s,baz=243,slow=4.3,SNR=3.7
MALT Malatya 127.70 68 ePKIKP PKPdf 01 15 13.7 -3.0
MALT e 01 15 22.6
ARCES ARCESS Array B 128.84 27 PKP PKPdf 01 15 13.8 -4.3
comp=Z,1.6nm,0.8s,baz=248,slow=4.9,SNR=3.8
OBN Obninsk 131.54 46 i/ePKIKP PKPdf 01 15 20.2 -3.3
OBN i 01 15 29.3
OBN pmax pmax
comp=Z,17nm,1.7s
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.9
BILL Bilibino 136.86 332 i PKIKP PKPdf 01 15 28.0 -5.0
BILL e 01 15 40.0
BILL pmax pmax
comp=Z,6.0nm,1.3s
PSI Prapat 143.28 167 PKhKP 01 15 35.4
comp=Z,4.2nm,0.7s,baz=207,slow=1.7,SNR=3.9
SEY Seymchan 143.80 326 ePKIKP PKPdf 01 15 39.4 -5.9
SEY e 01 15 53.4
ARU Arti 143.95 45 ePKIKP PKPdf 01 15 40.4 -5.4
ARU e 01 15 49.4
ARU Arti 143.95 45 ePKPdf PKPdf 01 15 40.2 -5.6
ARU epPKPdf 01 15 49.6
AKTK Aktyubinsk 144.02 55 PKP PKPdf 01 15 41.1 -5.0
AKTK pPKP 01 15 51.1
AKTO Aktyubinsk 144.02 55 PKP PKPdf 01 15 41.1 -5.0
comp=Z,27nm,0.7s,baz=243,slow=2.2,SNR=143
AKTO pPKP 01 15 51.1
comp=Z,27nm,1.0s,baz=204,slow=3.0,SNR=9.3
AB31 Akbulak array 145.25 57 i PKIKP PKPdf 01 15 44.7 -3.6
AB31 pmax pmax
comp=Z,113nm,0.9s
TIXI Tiksi 145.39 348 ePKP2 PKPab 01 15 41.8 -3.2
TIXI pmax pmax
comp=Z,24nm,0.8s
TIXI pmax pmax
comp=Z,37nm,0.9s
HYB Hyderabad 147.28 123 i PKP PKPdf 01 15 51.0 -1.7
comp=Z,70nm,1.0s
HYB e 01 16 01.0
HYB Hyderabad 147.28 123 ePKP2 PKPab 01 15 51.0 -2.9
BRVK Borovoye 151.27 49 ePKIKP PKPdf 01 15 54.9 -3.0
BVA0 Borovoye Array 151.34 49 i PKIKP PKPdf 01 16 00.8 +2.8
BVA0 pmax pmax
comp=Z,6.0nm,1.1s
BVAR Borovoye Array 151.34 49 PKP PKPdf 01 15 55.1 -2.9
comp=Z,1.9nm,0.8s,baz=315,slow=4.2,SNR=14
BVAR PKPbc PKPdf 01 16 01.3 +3.3
comp=Z,13nm,0.7s,baz=288,slow=4.6,SNR=71
BVAR PKPab PKPab 01 16 08.8 -0.6
comp=Z,14nm,0.6s,baz=270,slow=4.3,SNR=16
VOSK Vostochnaya 151.77 49 PKIKP PKPdf 01 15 58.5 -0.1
VOSK pmax pmax
comp=Z,26nm,1.1s
KKAR Karatay Array 152.37 70 i PKIKP PKPdf 01 16 02.7 +2.9
KKAR pmax pmax
comp=Z,14nm,1.0s
YAK Yakutsk 153.02 336 i PKIKP PKPdf 01 15 54.7 -5.4
MJAR Matsushiro Arr 155.20 274 PKPab PKPab 01 16 24.0 -2.2
comp=Z,2.3nm,0.9s,baz=127,slow=4.0,SNR=3.0
AAK Ala-Archa 155.27 71 ePKIKP PKPdf 01 16 00.0 -3.8
FRU Bishkek 155.37 71 ePKIKP PKPdf 01 16 01.0 -2.9
FRU e 01 16 10.0
FRU e 01 16 16.0
KURK Kurchatov 156.90 50 ePKIKP PKPdf 01 16 02.7 -3.0
NVS Novosibirsk 157.49 37 ePKIKP PKPdf 01 16 01.2 -5.2
NVS e 01 20 11.9
NVS pmax pmax
comp=Z,31nm,1.6s
NVS pmax pmax
comp=N,4.0nm,1.5s
NVS pmax pmax
comp=E,6.0nm,1.5s
MKAR Makanchi Array 160.38 59 PKP PKPdf 01 16 06.1 -3.9
comp=E,1.1nm,0.9s,baz=270,slow=1.4,SNR=6.9
MKAR pPKP 01 16 15.3
comp=E,2.6nm,1.0s,baz=304,slow=4.4,SNR=5.3
MKAR PKPab PKPab 01 16 48.0 -0.1
comp=E,8.1nm,0.8s,baz=293,slow=4.0,SNR=28
MKAR PP PP 01 20 30.7 -0.7
comp=E,2.0nm,0.8s,baz=288,slow=3.8,SNR=5.7
MDJ Mudanjiang 162.19 296 PKP PKPdf 01 16 05.8 -6.1
WMQ Urumqi 164.79 65 ePKP PKPdf 01 16 10.3 -4.2
WMQ APKP 01 16 21.0
WMQ XPKP 01 16 24.5
WMQ PKS PKS 01 19 41.8 +0.5
WMQ SKS SKS 01 23 09.3 -8.1
WMQ SS SS 01 41 24.0 +0.5
WMQ PP PP
comp=Z,80nm,5.0s
WMQ LR LR
comp=N,130nm,24.0s
WMQ LR LR
comp=E,170nm,24.0s
WMQ LR LR
comp=Z,160nm,24.0s
CN2 Changchun 165.28 295 ePKP PKPdf 01 16 12.8 -2.1
KMI Kunming 165.76 164 PKP PKPdf 01 16 14.0 -2.0
KMI PP PP 01 21 01.0 +0.4
KMI SS SS 01 41 35.8 +2.0
KMI LR LR
comp=Z,130nm,24.3s
NJ2 Nanjing 168.08 238 ePKP PKPdf 01 16 15.3 -2.0
NJ2 APKP 01 16 26.5
NJ2 XPKP 01 16 29.0
NJ2 PKP2 PKPab 01 17 24.5 +2.3
NJ2 PKS PKS 01 19 47.0 +3.2
NJ2 PP PP 01 21 15.0 +3.0
NJ2 PP PP
comp=Z,230nm,5.4s
NJ2 LR LR
comp=N,7μm,38.1s
NJ2 LR LR
comp=E,4μm,30.2s
NJ2 LR LR
comp=Z,1μm,39.7s
ULN Ulaanbaatar 171.10 359 i PKIKP PKPdf 01 16 14.2 -4.4
SONM Songino Array 171.12 2 PKP PKPdf 01 16 14.0 -4.6
comp=Z,2.2nm,1.0s,baz=300,slow=1.0,SNR=12
SONM pPKP 01 16 23.5
comp=Z,3.9nm,1.2s,baz=356,slow=2.1,SNR=7.0
SONM PKPab PKPab 01 17 35.4 +0.3
comp=Z,3.4nm,0.8s,baz=342,slow=4.9,SNR=12
SONM PP PP 01 21 24.2 -2.5
comp=Z,0.8nm,1.0s,baz=34,slow=5.2,SNR=3.5
CD2 Chengdu 171.56 161 ePKP PKPdf 01 16 15.8 -3.6
GTA Gaotai 174.46 83 PKP PKPdf 01 16 17.0 -3.4
GTA APKP 01 16 25.0
GTA XPKP 01 16 29.5
GTA PKP2 PKPab 01 17 51.5 +1.3
GTA PKS PKS 01 19 46.8 +0.3
GTA PP PP 01 21 43.3 -0.4
GTA SKS SKS 01 23 13.5 -8.7
GTA SKKS 01 28 27.3
GTA PP PP
comp=Z,80nm,5.3s
GTA LR LR
comp=N,90nm,15.2s
GTA LR LR
comp=E,160nm,16.3s
GTA LR LR
comp=Z,190nm,20.9s
HHC Hu-ho-hao-te 175.96 299 ePKP PKPdf 01 16 18.3 -2.5
HHC APKP 01 16 29.0
HHC XPKP 01 16 32.8
HHC PKS PKS 01 19 48.5 +1.7
HHC SKS SKS 01 23 14.5 -7.9
HHC PP PP
comp=Z,130nm,5.4s
HHC LR LR
comp=N,130nm,15.5s
HHC LR LR
comp=E,200nm,15.5s
HHC LR LR
comp=Z,190nm,14.3s
LZH Lanzhou 176.23 139 ePKP PKPdf 01 16 17.5 -3.5
LZH APKP 01 16 28.5
LZH XPKP 01 16 31.0
LZH PP PP 01 21 54.5 +2.1
LZH eSKS SKS 01 23 15.3 -7.3
LZH SKKS 01 28 35.3
LZH eSS SS 01 43 17.5 +2.5
LZH PP PP
comp=Z,130nm,4.5s
LZH LR LR
comp=N,350nm,19.6s
LZH LR LR
comp=Z,560nm,20.9s

JMA 26 00:58:48.0±0.1,38.16N×144.60E,h47km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.47**	**293**	P	P		00 59 27.2	+0.4
OFUJ				eS	S		00 59 56.7	+0.8
JIO	**Ouri**	**2.57**	**278**	P	P		00 59 28.5	+0.3
JIO				S	S		00 59 58.7	+0.2
MIYJ	**Miyakonagasawa**	**2.59**	**304**	P	P		00 59 28.7	+0.2
MIYJ				eS	S		00 59 58.9	0.0
JMK	**Ichinoseki**	**2.77**	**288**	P	P		00 59 31.1	+0.2
JMK				eS	S		01 00 03.9	+0.6
JOT	**Ohata**	**4.22**	**321**	eS	S		01 00 37.3	-2.9
JCH	**Churui**	**4.55**	**348**	P	P		00 59 54.1	-2.0
JCH				eS	S		01 00 43.5	-4.9
JRY	**Ryogami san**	**5.03**	**247**	P	P		01 00 02.0	-0.9
JRY				eS	S		01 00 57.4	-3.1
NEM2	**Nemuro 2**	**5.27**	**9**	eS	S		01 00 55.9	-11
JTKR	**Abashiri--Toko**	**5.83**	**355**	eS	S		01 01 13.9	-6.6

*IDC **26** 01:04:12.5±8.1,6.24S×129.98E,h78km±78km,mb3.9/5, mb1 4.0/6,mb1mx3.8/12,mbtmp4.2/6,ML4.2/1,Error ellipse: s-maj=83.4km s-min=20.3km az=69.0*
*NEIC **26** 01:04:15.9±2.3,6.14S×130.33E,h113km±24km,mb4.8/8, Error ellipse: s-maj=20.8km s-min=10.7km az=57.0*

ISC 26 01:04:17.5±2.2,6.32S±0.07×130.0E±0.1,h145km±23km, n24,σ1s19/29,mb4.4/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu** 28nm,0.2s	**6.78**	**160**	eP	Px		01 06 19.4	
KAKA				eS	Sx		01 07 32.2	
FITZ	**Fitzroy Crossi** 8.6nm,0.3s	**12.47**	**200**	eP	**P**		**01 07 13.5**	**+2.5**
FITZ				eS	**S**		**01 09 26.7**	**-0.5**
WRAB	**Tennant Creek** 33nm,0.6s	**14.17**	**163**	ePn	**P**		**01 07 32.6**	**-0.2**
WRAB				eSn	**S**		**01 10 00.8**	**-5.7**
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=335,slow=13,SNR=31	**14.17**	**163**	P	**P**		**01 07 31.0**	**-1.8**
WRA				S	**S**		**01 10 01.4**	**-5.3**
	4.1nm,0.3s,baz=346,slow=22,SNR=13							
WB2	**Warramunga Arr**	**14.18**	**163**	eP	**P**		**01 07 31.2**	**-1.7**
WB2				e			01 07 38.6	
WB2				eS	**S**		**01 10 01.7**	**-5.1**
ASPA	**Alice Springs**	**17.64**	**168**	eP	**P**		**01 08 17.7**	**+1.9**
ASPA				eS	**S**		**01 11 25.0**	**-0.1**
MBWA	**Marble Bar**	**17.81**	**213**	ePn	**P**		**01 08 22.3**	**+4.6**
MBWA				eSn	**S**		**01 11 39.3**	**+11**
KKM	**Kota Kinabalu**	**18.47**	**311**	ePn	**P**		**01 08 26.9**	**+2.0**
CTA	**Charters Tower** 2.2nm,1.0s	**20.86**	**133**	eP	**P**		**01 08 49.4**	**-0.1**
CTA	**Charters Tower** 2.8nm,1.0s,baz=294,slow=10.0,SNR=6.9	**20.86**	**133**	P	**P**		**01 08 49.0**	**-0.6**
CTAO	**Charters Tower**	**20.86**	**133**	eP	**P**		**01 08 49.6**	**0.0**
FORT	**Forrest** 5.4nm,0.5s,mb4.3	**24.40**	**184**	eP	**P**		**01 09 28.4**	**+4.5**
STKA	**Stephens Creek** 5.2nm,0.3s,mb4.7	**27.63**	**158**	eP	**P**		**01 09 54.1**	**+0.4**
STKA	**Stephens Creek** 5.9nm,0.3s,mb4.8,baz=337,slow=8.5,SNR=68	**27.63**	**158**	P	**P**		**01 09 54.1**	**+0.5**
NWAO	**Narrogin (SRO)** 7.5nm,0.9s,mb4.4	**29.03**	**203**	eP	**P**		**01 10 05.7**	**-0.5**
HNR	**Honiara** 17nm,0.5s,mb5.0	**29.78**	**98**	eP	**P**		**01 10 13.9**	**+0.9**
KULM	**Kulim**	**31.52**	**291**	eP	**P**		**01 10 25.8**	**-2.6**
TAU	**Tasmania Unive** 130nm,1.8s,mb5.3	**39.51**	**160**	eP	**P**		**01 11 35.9**	**+0.3**
ENH	**Enshi**	**41.38**	**333**	eP	**P**		**01 11 50.3**	**-0.7**
LSA	**Lhasa**	**51.73**	**316**	eP	**P**		**01 13 12.1**	**-0.3**
SONM	**Songino Array** 0.9nm,0.6s,mb3.8,baz=162,slow=7.1,SNR=16	**57.81**	**341**	P	**P**		**01 13 55.1**	**-0.9**
MKAR	**Makanchi Array** 4.5nm,0.4s,mb4.5,baz=126,slow=7.6,SNR=85	**67.68**	**327**	P	**P**		**01 15 01.1**	**-0.2**
VNDA	**Vanda** 0.7nm,0.8s,mb3.4,baz=338,slow=8.5,SNR=3.4	**73.11**	**173**	P	**P**		**01 15 34.4**	**+1.1**
VNDA	**Vanda**	**73.11**	**173**	P	**P**		**01 15 34.4**	**+1.1**

*ATH **26** 01:08:25.8,38.15N×26.59E,h30km±4km,MD2.9/3*
*CSEM **26** 01:08:25.7±0.1,38.20N×26.59E,h10km,MD3.1,Error ellipse: s-maj=3.2km s-min=2.4km az=96.0*
*ISK **26** 01:08:26.0,38.34N×26.61E,h28km,MD3.1*
*NEIC **26** 01:08:26.0,38.34N×26.61E,h28km,MD3.1(ISK), MD2.9(ATH),After ISK.*

ISC 26 01:08:25.8±0.8,38.19N±0.02×26.58E±0.05,h6km±5km, n19,σ1s00/31,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**5**	*i* P	**P**	**g**	**01 08 29.1**	**-0.4**
URLA				*i* S	**S**	**g**	**01 08 31.7**	**-0.2**
BLCB	**Balcova**	**0.42**	**61**	*i* PG	**P**	**g**	**01 08 34.1**	**-0.2**
BLCB				*i* SG	**S**	**g**	**01 08 40.4**	**+0.5**
SMG	**Samos**	**0.52**	**156**	ePB	**P**	**g**	**01 08 36.2**	**-0.1**
SMG				eSB	**S**	**b**	**01 08 43.8**	**-0.6**
SMG	**Samos**	**0.52**	**156**	eP	**P**	**g**	**01 08 36.2**	**-0.1**
SMG				eS	**S**	**g**	**01 08 45.5**	**+2.3**
IZM	**Izmir**	**0.58**	**68**	*i* PG	**P**	**g**	**01 08 37.2**	**-0.3**
IZM				*i* SG	**S**	**g**	**01 08 46.1**	**+0.8**
KDAG	**Bornova**	**0.59**	**68**	*i* P	**P**	**g**	**01 08 36.5**	**-1.1**
KDAG				*i* S	**S**	**g**	**01 08 44.6**	**-0.8**
PRK	**Paraskevi**	**1.08**	**347**	ePN	**P**	**n**	**01 08 47.1**	**-0.4**
PRK				eSN	**S**	**n**	**01 09 02.5**	**-0.4**
PRK	**Paraskevi**	**1.08**	**347**	eP	**P**	**n**	**01 08 47.1**	**-0.4**
PRK				eS	**S**	**b**	**01 09 01.3**	**+0.5**
AYVA	**Ayvalik**	**1.12**	**5**	*i* P	**P**	**b**	**01 08 48.4**	**+1.1**
AYVA				*i* S	**S**	**b**	**01 09 05.1**	**+3.1**
AYDN	**Tasoluk**	**1.16**	**117**	*i* P	**P**	**b**	**01 08 48.1**	**+0.3**
AYDN				*i* S	**S**	**b**	**01 09 03.3**	**+0.3**
AKS	**Akhisar**	**1.19**	**54**	PN	**P**	**n**	**01 08 45.7**	**-3.3**
BODT	**Bodrum**	**1.27**	**152**	PN	**P**	**n**	**01 08 49.9**	**-0.1**
MLSB	**Milas**	**1.30**	**133**	ePN	**P**	**n**	**01 08 50.6**	**0.0**
BDRM	**Kayabasi**	**1.31**	**148**	*i* P	**P**	**b**	**01 08 48.6**	**-1.9**
BDRM				*i* S	**S**	**b**	**01 09 07.1**	**-0.4**
APE	**Apeiranthos**	**1.39**	**217**	ePN	**P**	**n**	**01 08 53.0**	**+1.2**
MANT	**Manisa**	**1.59**	**78**	*i* P	**P**	**n**	**01 08 56.1**	**+1.4**
MANT				*i* S	**S**	**b**	**01 09 15.7**	**+0.2**
EZN	**Ezine**	**1.65**	**353**	ePN	**P**	**n**	**01 08 52.4**	**-3.1**
DAT	**Datca**	**1.66**	**151**	ePN	**P**	**n**	**01 08 55.9**	**+0.2**
YER	**Yerkesik**	**1.71**	**127**	ePN	**P**	**n**	**01 08 55.7**	**-0.8**

*ATH **26** 01:13:30.9, 38.19N×26.43E, h32km±5km, MD3.1/3*
*ISK **26** 01:13:31.3, 38.13N×26.68E, h21km, MD2.8*
*NEIC **26** 01:13:31.3, 38.13N×26.68E, h21km, MD3.1(ATH), MD2.8(ISK), After ISK.*
*CSEM **26** 01:13:31.9±0.1, 38.21N×26.79E, h40km, MD2.8, Error ellipse: s-maj=3.6km s-min=2.4km az=105.0*

ISC 26 01:13:30.2±0.9, 38.17N±0.03×26.54E±0.05, h10km±5km, n17, σ1§12/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.19**	**13**	*i* P	**Pg**	**01 13 33.5**	**-0.9**
URLA				*i* S	**Sg**	**01 13 38.0**	**+0.8**
BLCB	**Balcova**	**0.45**	**62**	PG	**Pg**	**01 13 39.6**	**+0.3**
SMG	**Samos**	**0.52**	**153**	*e*PN	**Pn**	**01 13 42.8**	**-0.6**
SMG				*e*SN	**Sn**	**01 13 52.0**	**-0.2**
SMG	**Samos**	**0.52**	**153**	*e*Pn	**Pn**	**01 13 42.8**	**-0.6**
SMG				*e*Sn	**Sn**	**01 13 50.3**	**-1.9**
IZM	**Izmir**	**0.61**	**68**	PG	**Pg**	**01 13 42.8**	**+0.3**
IZM				SG	**Sg**	**01 13 50.7**	**-0.1**
KDAG	**Bornova**	**0.62**	**68**	*i* P	**Pg**	**01 13 42.5**	**-0.1**
KDAG				*i* S	**Sg**	**01 13 49.2**	**-1.7**
PRK	**Paraskevi**	**1.09**	**349**	*e*PN	**Pn**	**01 13 51.1**	**-0.5**
PRK				*e*SN	**Sn**	**01 14 05.6**	**-1.2**
AYVA	**Ayvalik**	**1.14**	**6**	*i* P	**Pb**	**01 13 54.1**	**+2.4**
AYVA				*i* S	**Sb**	**01 14 12.4**	**+6.0**
AYDN	**Tasoluk**	**1.18**	**115**	*i* P	**Pb**	**01 13 53.0**	**+0.7**
AYDN				*i* S	**Sb**	**01 14 05.9**	**-1.4**
AKS	**Akhisar**	**1.22**	**54**	*e*PN	**Pn**	**01 13 53.4**	**0.0**
BODT	**Bodrum**	**1.27**	**151**	*e*PN	**Pn**	**01 13 52.7**	**-1.4**
BDRM	**Kayabasi**	**1.32**	**147**	*i* P	**Pb**	**01 13 56.6**	**+1.9**
BDRM				*i* S	**Sb**	**01 14 12.4**	**+1.0**
APE	**Apeiranthos**	**1.36**	**216**	*e*PN	**Pn**	**01 13 56.3**	**+0.9**
APE	**Apeiranthos**	**1.36**	**216**	*e*PN	**Pn**	**01 13 55.3**	**-0.1**
MANT	**Manisa**	**1.62**	**78**	*i* P	**Pn**	**01 14 01.7**	**+2.6**
MANT				*i* S	**Sn**	**01 14 21.4**	**+1.2**
DAT	**Datca**	**1.66**	**150**	*e*PN	**Pn**	**01 13 59.2**	**-0.5**
RDO	**Rodhopi**	**3.07**	**346**	*e*PN	**Pn**	**01 14 19.2**	**-0.6**

*NEIC **26** 01:13:52.1, 16.56N×98.44W, h18km, MD3.8(MEX), After MEX.*

MEX 26 01:13:51.7±0.6, 16.53N×98.47W, h20km±17km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**113**	*e*P	**Pb**	01 13 57.9	-1.3
PNIG				*i* S	**Sb**	01 14 03.4	-1.0
PNIG	**Pinotepa**	**0.35**	**113**	*i* P	**Pb**	01 13 58.2	-1.1
PNIG				*i* S	**Sb**	01 14 03.4	-1.0
ACX	**Acapulco**	**1.43**	**284**	*i* P	**Pn**	01 14 14.0	-2.8
ACX				*i* S	**Sn**	01 14 31.2	-4.0
VHO	**Vista Hermosa**	**1.74**	**72**	*e*P	**Pn**	01 14 17.2	-4.1
VHO				*i* S	**Sn**	01 14 38.1	-5.1
CAIG	**El Cayaco**	**1.80**	**287**	*i* P	**Pn**	01 14 20.2	-1.9
CAIG				*i* S	**Sn**	01 14 39.1	-5.5
CAIG	**El Cayaco**	**1.80**	**287**	*i* P	**Pn**	01 14 20.7	-1.4
CAIG				*i* S	**Sn**	01 14 38.7	-5.8
PLIG	**Platanillo**	**2.10**	**332**	*e*P	**Pn**	01 14 23.4	-3.0
PLIG				*i* S	**Sn**	01 14 37.3	-4.8
YAIG	**Yautepec**	**2.38**	**346**	*e*P	**Pn**	01 14 28.1	-2.4
YAIG				*i* S	**Sn**	01 14 55.6	-3.9
PPM	**Popocatepetl**	**2.52**	**357**	*e*P	**Pn**	01 14 30.5	-1.9
PPM				*i* S	**Sn**	01 15 05.9	+2.9

*ATH **26** 01:16:38.1, 39.37N×20.52E, h5km±4km, MD3.3/6*
*THE **26** 01:16:38.1, 39.32N×20.27E, h12km, ML2.9*
*NEIC **26** 01:16:38.1, 39.37N×20.52E, h5km, MD3.3(ATH), After ATH.*
*CSEM **26** 01:16:38.5±0.1, 39.36N×20.44E, h2km, ML2.9, Error ellipse: s-maj=3.1km s-min=2.1km az=51.0*

ISC 26 01:16:38.0±0.5, 39.36N±0.03×20.54E±0.05, h5km, n21, σ1§18/29, 2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**317**	*e*Pg	**Pg**	**01 16 42.5**	**-0.2**
IGT				*e*Sg	**Sg**	**01 16 48.4**	**+0.6**
JAN	**Janina**	**0.38**	**40**	⇓*i*PB	**Pb**	**01 16 44.9**	**-2.0**
JAN				*e*SB	**Sb**	**01 16 51.2**	**-1.5**
SRN	**Sarande**	**0.66**	**321**	*e*Pg	**Pg**	**01 16 50.1**	**-1.1**
SRN				*i* Sg	**Sg**	**01 17 01.3**	**+1.2**
LKD	**Levkas**	**0.66**	**172**	*e*Pg	**Pg**	**01 16 51.0**	**-0.3**
LKD				*e*Sg	**Sg**	**01 17 01.5**	**+1.4**
KEK	**Kerkira**	**0.67**	**302**	⇓*e*PB	**Pb**	**01 16 50.7**	**-1.1**
LSK	**Leskovik**	**0.79**	**4**	*i* Pg	**Pg**	**01 16 52.0**	**-1.8**
LSK				*i* Sg	**Sg**	**01 17 09.1**	**+4.9**
LSK	**Leskovik**	**0.79**	**4**	*e*Pn	**Pg**	**01 16 52.0**	**-1.8**
LSK				*i* Sn	**Sn**	**01 17 09.0**	**+1.3**
EVR	**Evrytania**	**1.09**	**114**	*e*PN	**Pn**	**01 16 59.2**	**-0.6**
VLS	**Valsamata**	**1.19**	**178**	*e*PB	**Pb**	**01 17 00.7**	**+0.1**
KZN	**Kozani**	**1.34**	**45**	*e*PG	**Pg**	**01 17 03.1**	**-1.7**
AGG	**Agios Georgios**	**1.44**	**103**	*e*Pb	**Pb**	**01 17 05.4**	**+0.5**
AGG				*e*Sb	**Sb**	**01 17 27.5**	**+4.1**
RLS	**Riolos of Patr**	**1.49**	**151**	*e*PG	**Pg**	**01 17 06.2**	**-1.7**
FNA	**Florina**	**1.56**	**24**	*e*Pn	**Pb**	**01 17 06.7**	**-0.3**
FNA				*e*Sb	**Sb**	**01 17 29.3**	**+2.4**
LIT	**Litokhoron**	**1.68**	**63**	*e*Pb	**Pb**	**01 17 09.2**	**+0.1**
NEO	**Neokhori**	**2.09**	**91**	*e*PN	**Pn**	**01 17 16.0**	**+1.9**
GRG	**Griva**	**2.14**	**41**	*e*Pn	**Pn**	**01 17 16.0**	**+1.1**
PAIG	**Paliouri**	**2.49**	**76**	*e*Pn	**Pn**	**01 17 20.5**	**+0.6**
KNT	**Kendrikon**	**2.55**	**44**	*e*Pn	**Pn**	**01 17 21.2**	**+0.5**
KNT	**Kendrikon**	**2.55**	**44**	*e*Pn	**Pn**	**01 17 21.2**	**+0.5**
OUR	**Ouranopolis**	**2.83**	**69**	*e*Pn	**Pn**	**01 17 25.1**	**+0.4**
OUR	**Ouranopolis**	**2.83**	**69**	*e*Pn	**Pn**	**01 17 25.0**	**+0.3**

*IDC **26** 01:30:02.3±1.7, 10.54S×161.77E, mb3.8/4, mb1 4.0/5, mb1mx3.9/14, mbtmp3.8/5, MS3.5/4, Ms1 3.5/4, ms1mx3.1/22, Error ellipse: s-maj=40.3km s-min=32.9km az=1.0*
*NEIC **26** 01:30:09.4±1.6, 10.42S×161.69E, h48km±13km, mb4.6/4, Error ellipse: s-maj=18.7km s-min=12.3km az=69.0*

ISC 26 01:30:08.5±1.9, 10.53S±0.09×161.7E±0.1, h54km±15km, n21, σ0§79/20, mb4.1/8, MS3.8/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.01**	**303**	Pn	**P**	**01 30 39.9**	**-0.8**
	168nm,0.3s,baz=173,slow=12,SNR=36						
HNR				Sn	**S**	**01 31 04.9**	**+0.4**
	537nm,0.3s,baz=199,slow=20,SNR=16						
HNR	**Honiara**	**2.01**	**303**	*e*Pn	**P**	**01 30 39.6**	**-1.1**
HNR				*e*Sn	**S**	**01 31 05.3**	**+0.8**
DZM	**Mont Dzumac**	**12.36**	**159**	Pn	**P**	**01 33 04.2**	**+0.2**
	0.3nm,0.3s,baz=309,slow=14,SNR=5.0						
PMG	**Port Moresby**	**14.33**	**273**	LR	LR	01 38 04.4	
	comp=Z,99nm,18.0s,baz=48,slow=33						
CTA	**Charters Tower**	**17.62**	**236**	P	**P**	**01 34 14.8**	**+2.9**
	0.2nm,0.3s,baz=66,slow=16,SNR=4.6						
CTA				LR	LR	01 40 04.8	
	comp=Z,72nm,19.0s,baz=233,slow=34						
CTAO	**Charters Tower**	**17.62**	**236**	*e*Pn	**P**	**01 34 12.6**	**+0.7**
	2.3nm,0.6s						
WRAB	**Tennant Creek**	**27.92**	**247**	*e*P	**P**	**01 35 55.5**	**-0.4**
	4.9nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**27.92**	**247**	*e*P	**P**	**01 35 55.6**	**-0.3**
WRA	**Warramunga Arr**	**27.93**	**247**	P	**P**	**01 35 55.5**	**-0.6**
	1.2nm,0.5s,mb3.8,baz=77,slow=8.8,SNR=19						
STKA	**Stephens Creek**	**28.20**	**218**	LR	LR	01 47 38.2	
	comp=Z,218nm,18.7s,MS3.8,baz=205,slow=37						
STKA	**Stephens Creek**	**28.20**	**218**	P	**P**	**01 36 00.2**	**+1.9**
RPZ	**Rata Peaks**	**34.05**	**168**	LR	LR	01 46 43.7	
	comp=Z,160nm,20.4s,MS3.7,baz=196,slow=29						
TAU	**Tasmania Unive**	**34.60**	**199**	*e*P	**P**	**01 36 53.1**	**-1.2**
	386nm,2.1s						
FITZ	**Fitzroy Crossi**	**35.65**	**254**	*e*P	**P**	**01 37 03.1**	**-0.4**
	5.2nm,0.9s,mb4.5						
MBWA	**Marble Bar**	**41.58**	**250**	*e*P	**P**	**01 37 53.4**	**+0.5**
	26nm,1.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.46**	**234**	*e*P	**P**	**01 38 31.2**	**-0.8**
	49nm,1.7s,mb5.2						
NACB	**Ninganchiao**	**52.16**	**312**	P	**P**	**01 39 15.9**	**-0.2**
SONM	**Songino Array**	**75.92**	**325**	P	**P**	**01 41 51.8**	**+0.6**
	0.3nm,0.7s,mb3.4,baz=143,slow=7.2,SNR=2.4						
MKAR	**Makanchi Array**	**90.42**	**318**	P	**P**	**01 43 05.3**	**-0.1**
	0.2nm,0.6s,mb3.6,baz=88,slow=5.9,SNR=4.3						
KURK	**Kurchatov**	**93.69**	**321**	P	**P**	**01 43 20.3**	**0.0**
YKA	**Yellowknife Ar**	**96.37**	**28**	P	**P**	**01 43 32.7**	**+0.5**
	0.2nm,0.8s,mb3.6,baz=262,slow=4.9,SNR=5.0						

*ATH **26** 01:58:17.7, 39.32N×23.24E, h20km±1km, MD3.5/12, ML3.3*
*CSEM **26** 01:58:18.4±0.1, 39.34N×23.21E, h10km, ML3.3, Error ellipse: s-maj=2.2km s-min=1.3km az=82.0*
*THE **26** 01:58:19.0, 39.33N×23.12E, h5km, ML3.3*
*NEIC **26** 01:58:19.0, 39.33N×23.12E, h6km, ML3.3(ATH), ML3.2(THE), After THE.*
*SOF **26** 01:58:20.7, 39.64N×23.38E, h2km, MD3.2*

ISC 26 01:58:17.7±0.5, 39.33N±0.02×23.19E±0.04, h7km±4km, n41, σ1§01/50, 2C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.03**	**127**	⇓*i*PB	**Pb**	**01 58 20.5**	**+0.1**
XOR	**Xorichti**	**0.04**	**360**	*e*Pg	**Pg**	**01 58 20.4**	**+1.3**
LKR	**Lokris**	**0.69**	**193**	⇑*i*PN	**Pn**	**01 58 31.4**	**-2.2**
PAIG	**Paliouri**	**0.71**	**32**	*e*Pg	**Pg**	**01 58 33.3**	**+1.4**
PAIG				*e*Sg	**Sg**	**01 58 44.0**	**+2.6**
AGG	**Agios Georgios**	**0.73**	**246**	*e*Pg	**Pg**	**01 58 31.6**	**-0.8**
AGG				*e*Sg	**Sg**	**01 58 42.3**	**0.0**
LIT	**Litokhoron**	**0.94**	**325**	*e*Pg	**Pg**	**01 58 35.8**	**-0.8**
LIT				*e*Sg	**Sg**	**01 58 49.4**	**+0.1**
LIT	**Litokhoron**	**0.94**	**325**	*e*Pg	**Pg**	**01 58 35.8**	**-0.8**
LIT				*e*Sg	**Sg**	**01 58 49.3**	**+0.1**
PLG	**Polygyros**	**1.07**	**10**	⇑*i*PN	**Pn**	**01 58 38.4**	**-0.6**
EVR	**Evrytania**	**1.15**	**250**	*e*PN	**Pn**	**01 58 39.5**	**-0.7**
EVR				*e*SN	**Sn**	**01 58 56.5**	**+0.2**
OUR	**Ouranopolis**	**1.18**	**31**	*e*Pg	**Pg**	**01 58 41.4**	**+0.2**
MPAR	**Parnis Oros**	**1.25**	**160**	*e*PN	**Pn**	**01 58 41.8**	**+0.2**
THE	**Thessaloniki**	**1.32**	**352**	*e*Pg	**Pg**	**01 58 42.8**	**-1.2**
MGER	**Gerania Oros**	**1.34**	**178**	*e*PN	**Pn**	**01 58 42.5**	**-0.4**
ATH	**Athens Observa**	**1.41**	**163**	⇓*i*PN	**Pn**	**01 58 44.6**	**+0.7**
ATH				*e*SN	**Sn**	**01 59 02.4**	**-0.6**
KZN	**Kozani**	**1.47**	**312**	*e*PN	**Pn**	**01 58 45.4**	**+0.6**
SOH	**Sokhos**	**1.50**	**5**	*e*Pg	**Pg**	**01 58 46.0**	**-1.7**
SOH				*e*Sg	**Sg**	**01 59 06.2**	**-1.5**
NAIG	**Nisos Aigina**	**1.58**	**171**	*e*PN	**Pn**	**01 58 47.0**	**+0.6**
LIA	**Limnos Island**	**1.64**	**69**	*e*PN	**Pn**	**01 58 47.0**	**-0.2**
GRG	**Griva**	**1.74**	**340**	*e*Pb	**Pb**	**01 58 48.4**	**-1.2**
JAN	**Janina**	**1.84**	**281**	*e*PN	**Pn**	**01 58 51.5**	**+1.4**
KNT	**Kendrikon**	**1.85**	**353**	*e*Pb	**Pb**	**01 58 51.1**	**-0.4**
KNT				*e*Sb	**Sb**	**01 59 14.8**	**0.0**
RLS	**Riolos of Patr**	**1.85**	**227**	*e*PN	**Pn**	**01 58 51.5**	**+1.3**
FNA	**Florina**	**2.02**	**317**	*e*Pb	**Pb**	**01 58 53.0**	**-1.3**
FNA	**Florina**	**2.02**	**317**	P	**Pn**	**01 58 53.0**	**+0.4**
VAY	**Valandovo**	**2.05**	**347**	P	**Pn**	**01 58 53.0**	**-0.1**
VAY	**Valandovo**	**2.05**	**347**	P	**Pn**	**01 58 53.0**	**-0.1**
LKD	**Levkas**	**2.07**	**253**	*e*Pn	**Pn**	**01 58 55.4**	**+1.9**
LKD	**Levkas**	**2.07**	**253**	*e*Pn	**Pn**	**01 58 55.3**	**+1.9**
NVR	**Nevrokopi**	**2.09**	**14**	*e*PN	**Pn**	**01 58 54.1**	**+0.5**
LSK	**Leskovik**	**2.16**	**293**	*e*Pn	**Pn**	**01 58 56.7**	**+2.0**
IGT	**Igoumenitsa**	**2.22**	**276**	*e*Pn	**Pn**	**01 58 59.2**	**+3.7**
MMB	**Musomiste**	**2.30**	**10**	*i* P	**Pn**	**01 58 56.7**	**+0.1**
ITM	**Ithomi**	**2.36**	**205**	*e*PB	**Pb**	**01 58 58.7**	**-1.6**
KKB	**Krupnik**	**2.54**	**358**	*i* P	**Pn**	**01 59 00.2**	**+0.1**
RDO	**Rodhopi**	**2.56**	**44**	*e*PN	**Pn**	**01 58 59.6**	**-0.7**
VLI	**Veliai**	**2.61**	**185**	*e*PN	**Pn**	**01 59 01.0**	**-0.1**
RZN	**Rozhen**	**2.63**	**26**	*i* P	**Pn**	**01 59 02.0**	**+0.6**
KDZ	**Kurdzhali**	**2.88**	**35**	*i* P	**Pn**	**01 59 04.0**	**-0.9**
APE	**Apeiranthos**	**2.91**	**140**	*e*PN	**Pn**	**01 59 05.3**	**-0.1**
VTS	**Vitosha**	**3.26**	**0**	*i* P	**Pn**	**01 59 11.5**	**+1.1**
VTS				*i* Pg	**Pg**	**01 59 19.0**	**-3.8**
PGB	**Panagyurishte**	**3.31**	**13**	*e*P	**Pn**	**01 59 11.0**	**0.0**

*IDC **26** 02:05:25.3±3.1, 52.76N×160.69E, mb3.7/3, mb1 3.9/4, mb1mx3.4/21, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=92.3km s-min=13.9km az=9.0*
*MOS **26** 02:05:25.6±1.6, 52.52N×160.88E, h17km, mb4.3/1, Error ellipse: s-maj=16.4km s-min=8.8km az=97.4*
*KRSC **26** 02:05:26.3±1.0, 52.45N×160.66E, h6km±3km, ML4.0*
*NEIC **26** 02:05:26.3±0.6, 52.71N×160.72E, h10km, mb4.6/2, Error ellipse: s-maj=13.1km s-min=8.1km az=112.0*

ISC 26 02:05:26.5±1.2, 52.38N±0.03×160.77E±0.05, h12km±8km, n60, σ1§14/80, mb4.8/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.85**	**328**	P	**Pb**	**02 05 42.3**	**-0.3**
SPN				S	**Sb**	**02 05 53.2**	**-0.5**
SPN	**Mys Shipunski**	**0.85**	**328**	*i* P	**Pb**	**02 05 42.2**	**-0.4**
SPN				*e*S	**Sb**	**02 05 54.2**	**+0.5**
NLC	**Nalytchevo**	**1.17**	**313**	P	**Pb**	**02 05 47.4**	**-0.8**
NLC				S	**Sb**	**02 06 02.9**	**-0.2**
NLC	**Nalytchevo**	**1.17**	**313**	*i* P	**Pb**	**02 05 47.4**	**-0.8**
NLC				*e*S	**Sb**	**02 06 03.1**	**0.0**
PET	**Petropavlovsk**	**1.44**	**297**	P	**Pn**	**02 05 51.8**	**-0.7**
PET				S	**Sb**	**02 06 10.2**	**-0.6**
PET	**Petropavlovsk**	**1.44**	**297**	*i* P	**Pn**	**02 05 51.9**	**-0.6**
PET				*e*S	**Sb**	**02 06 10.6**	**-0.2**
PET	**Petropavlovsk**	**1.44**	**297**	*e*Pn	**Pn**	**02 05 51.4**	**-1.1**
PET				*e*Sn	**Sn**	**02 06 03.7**	**-7.6**
UGLR	**Uglovaya**	**1.44**	**306**	*i* P	**Pn**	**02 05 52.2**	**-0.3**
SDLR	**Sedlovina**	**1.46**	**309**	*i* P	**Pn**	**02 05 52.1**	**-0.6**
SMAR	**Somma**	**1.49**	**307**	*e*P	**Pn**	**02 05 52.8**	**-0.3**
AVH	**Avacha**	**1.52**	**307**	*i* P	**Pn**	**02 05 53.3**	**-0.3**
AVH				*e*S	**Sb**	**02 06 13.1**	**0.0**
KOK	**Koryaka**	**1.58**	**306**	*e*P	**Pn**	**02 05 54.2**	**-0.3**
GRL	**Gorelyy**	**1.66**	**277**	*e*P	**Pn**	**02 05 55.6**	**0.0**
GRL				*e*S	**Sn**	**02 06 18.3**	**+1.4**
KRMR	**Karymshinskiy**	**1.67**	**287**	*i* P	**Pn**	**02 05 55.0**	**-0.8**
KRMR				*e*S	**Sn**	**02 06 15.7**	**-1.5**
KII	**Karymskiy**	**1.84**	**335**	P	**Pn**	**02 05 58.3**	**+0.1**
KII				S	**Sn**	**02 06 21.6**	**+0.1**
KII	**Karymskiy**	**1.84**	**335**	*e*P	**Pn**	**02 05 58.2**	**0.0**
KII				*e*S	**Sn**	**02 06 22.2**	**+0.7**
GNL	**Ganaly**	**2.16**	**309**	*i* P	**Pn**	**02 06 03.0**	**+0.3**
GNL				*e*S	**Sn**	**02 06 31.2**	**+1.7**
MKZ	**Mys Kozlova**	**2.25**	**14**	P	**Pn**	**02 06 02.7**	**-1.4**
MKZ				S	**Sn**	**02 06 29.0**	**-3.0**
MKZ	**Mys Kozlova**	**2.25**	**14**	*i* P	**Pn**	**02 06 02.9**	**-1.2**
MKZ				*i* S	**Sn**	**02 06 29.0**	**-3.0**
APC	**Apacha**	**2.27**	**285**	*i* P	**Pn**	**02 06 04.4**	**+0.1**
APC				*e*S	**Sn**	**02 06 31.4**	**-0.9**
APC				Smax			
	90nm,0.7s						
MIPR	**Malaya Ipel'ka**	**2.46**	**269**	*e*P	**Pn**	**02 06 07.5**	**+0.4**
TUMR	**Tumrok**	**2.93**	**353**	*e*P	**Pn**	**02 06 14.2**	**+0.4**
SKR	**Severo-Kuril's**	**3.37**	**242**	*e*P	**Pn**	**02 06 22.0**	**+2.1**
KMNR	**Kamenistaya**	**3.40**	**355**	*e*P	**Pn**	**02 06 21.4**	**+1.0**
KPT	**Kopyto**	**3.61**	**355**	P	**Pn**	**02 06 24.5**	**+1.1**
ZLN	**Zelenaya**	**3.64**	**0**	*e*P	**Pn**	**02 06 24.6**	**+0.7**
LGNR	**Loginova**	**3.71**	**359**	*e*P	**Pn**	**02 06 25.9**	**+1.1**
CIRR	**Tsirk**	**3.74**	**360**	*e*P	**Pn**	**02 06 26.2**	**+0.9**
ESO	**Esso**	**3.75**	**342**	*e*P	**Pn**	**02 06 25.2**	**-0.3**
ESO				Smax			
	10.0nm,0.9s						
KRSR	**Krestovskiy**	**3.85**	**358**	*e*P	**Pn**	**02 06 28.1**	**+1.3**
KRSR				*e*S	**Sn**	**02 07 12.7**	**+0.3**
KLY	**Klyuchi**	**3.94**	**359**	S	**Sn**	**02 07 15.4**	**+0.6**
SRDR	**Sredinnyy**	**3.99**	**352**	P	**Pn**	**02 06 30.1**	**+1.3**
KBTR	**Krutoberegovo**	**4.02**	**17**	P	**Pn**	**02 06 27.6**	**-1.6**
KBTR				S	**Sn**	**02 07 12.3**	**-4.4**
KBTR	**Krutoberegovo**	**4.02**	**17**	*e*P	**Pn**	**02 06 27.7**	**-1.5**
KBTR				*e*S	**Sn**	**02 07 14.1**	**-2.6**
BDR	**Baidarnaya**	**4.20**	**3**	P	**Pn**	**02 06 33.4**	**+1.5**
SMKR	**Semkarok**	**4.23**	**5**	*e*P	**Pn**	**02 06 32.2**	**0.0**
SRKR	**Sorokina**	**4.29**	**3**	*e*P	**Pn**	**02 06 33.2**	**+0.1**
FX1	**Attu Island--F**	**7.56**	**81**	Pn	**Pn**	**02 07 16.8**	**-2.4**
	5.1nm,0.3s,baz=309,slow=5.8,SNR=9.4						
FX1				Sn	**Sn**	**02 08 36.9**	**-8.7**
	5.3nm,0.3s,baz=60,slow=21,SNR=6.5						
YSS	**Yuzh-Sakhalins**	**12.86**	**252**	PN	**P**	**02 08 29.5**	**-2.2**
BILL	**Bilibino**	**15.93**	**8**	*e*P	**P**	**02 09 06.1**	**-5.6**
BILL	**Bilibino**	**15.93**	**8**	*e*Pn	**P**	**02 09 06.1**	**-5.6**
MDJ	**Mudanjiang**	**21.94**	**262**	*e*P	**P**	**02 10 19.6**	**-1.8**
MAJO	**Matsushiro**	**22.44**	**234**	*e*P	**P**	**02 10 27.8**	**+1.4**
KS15	**Wonju Array Si**	**27.37**	**250**	P	**P**	**02 11 12.0**	**-1.2**
INCN	**Inchon**	**28.07**	**252**	*e*P	**P**	**02 11 21.6**	**+2.1**
ULN	**Ulaanbaatar**	**34.07**	**284**	*e*P	**P**	**02 12 10.1**	**-2.2**
	106nm,3.4s						
YHNB	**Yeheng**	**40.63**	**242**	*e*P	**P**	**02 13 07.6**	**-0.2**
GUMO	**Guam**	**40.74**	**204**	*e*P	**P**	**02 13 08.7**	**0.0**
	271nm,1.4s,mb5.7						
NACB	**Ninganchiao**	**40.91**	**242**	P	**P**	**02 13 09.2**	**-0.8**
ENH	**Enshi**	**43.28**	**260**	*e*P	**P**	**02 13 31.6**	**+2.3**
	6.3nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**48.84**	**297**	P	**P**	**02 14 08.7**	**-4.5**
	0.3nm,0.5s,baz=49,slow=8.3,SNR=6.0						
QIZ	**Qiongzhong**	**51.57**	**250**	P	**P**	**02 14 34.2**	**-0.2**
ARCES	**ARCESS Array B**	**54.09**	**342**	P	**P**	**02 14 48.2**	**-4.3**
	3.6nm,1.0s,mb4.3,baz=34,slow=8.7,SNR=4.0						
JOF	**Joensuu**	**58.39**	**335**	*ep*	**P**	**02 15 19.0**	**-4.4**
KAF	**Kangasniemi**	**60.30**	**337**	*ep*	**P**	**02 15 32.0**	**-4.6**
FINES	**FINESS Array B**	**60.94**	**337**	P	**P**	**02 15 37.7**	**-3.2**
	baz=27,slow=8.5,SNR=8.4						
CTAO	**Charters Tower**	**73.26**	**194**	P	**P**	**02 17 00.0**	**+0.7**
WRAB	**Tennant Creek**	**75.60**	**206**	*e*P	**P**	**02 17 13.4**	**+0.6**
	18nm,1.6s,mb4.8						
STKA	**Stephens Creek**	**85.56**	**196**	P	**P**	**02 18 08.4**	**+3.0**
TAU	**Tasmania Unive**	**95.62**	**190**	P	**P**	**02 18 52.5**	**+0.2**
	172nm,1.8s						

CASC 26 02:10:39.0±2.4, 9.36N×84.67W, h1km±4km, MD3.8, ML3.1, 6C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO	**Cobano**	**0.55**	**308**	⇓*i*P	**Pg**	**02 10 50.2**	**+0.2**
CAO				*e*S	**Sg**	**02 10 58.9**	**+1.7**
EPA	**Esparza**	**0.63**	**6**	⇑*e*P	**Pg**	**02 10 51.4**	**-0.1**
EPA				*e*S	**Sg**	**02 11 00.5**	**+0.6**
PRS1	**Puriscal**	**0.71**	**29**	⇓*e*P	**Pg**	**02 10 51.1**	**-2.1**
PRS1				*e*S	**Sg**	**02 10 59.4**	**-3.4**
LAJ	**Bijagual**	**0.74**	**47**	⇑*i*P	**Pg**	**02 10 46.8**	**-6.9**
SJS	**Escuela Geolog**	**0.83**	**46**	*e*P	**Pg**	**02 10 55.4**	**-0.3**
SJS				*e*S	**Sg**	**02 11 09.6**	**+2.8**
OCM	**Ochomogo**	**0.88**	**53**	⇓*i*P	**Pg**	**02 10 56.0**	**-0.5**
OCM				*e*S	**Sg**	**02 11 10.3**	**+2.1**
POA2	**Poas 2**	**0.91**	**27**	*e*P	**Pg**	**02 10 57.6**	**+0.4**
BUS	**Buena Vista**	**0.92**	**78**	⇓*e*P	**Pg**	**02 10 57.3**	**0.0**
BUS				*e*S	**Sg**	**02 11 10.9**	**+1.4**
VPS2	**Volcan Poas 2**	**0.93**	**27**	*e*P	**Pg**	**02 10 57.0**	**-0.6**
VPS2				*e*S	**Sg**	**02 11 10.3**	**+0.4**
JTS	**JuntasAbangare**	**0.97**	**343**	⇑*e*P	**Pb**	**02 10 56.9**	**-1.4**
IRZ2	**Volcan Irazu 2**	**0.97**	**51**	⇓*i*P	**Pb**	**02 10 58.0**	**-0.3**
IRZ2				*e*S	**Sg**	**02 11 12.8**	**+1.4**
ICR	**Volcan Irazu**	**1.03**	**53**	⇑*e*P	**Pb**	**02 10 59.9**	**+0.6**
ICR				*e*S	**Sb**	**02 11 14.8**	**+1.7**
PICA	**Picada**	**1.09**	**53**	⇑*e*P	**Pb**	**02 11 00.8**	**+0.4**
FORC	**Fortuna**	**1.11**	**360**	*e*P	**Pb**	**02 10 59.9**	**-0.7**
FORC				*i* P		**02 10 59.9**	
FORC				*e*S	**Sb**	**02 11 15.8**	**+0.5**
FORC				*e*S	**Sb**	**02 11 16.5**	**+1.1**
VACR	**Volcan Arenal**	**1.11**	**359**	*e*P	**Pb**	**02 10 58.9**	**-1.8**
VACR				*e*S	**Sb**	**02 11 17.9**	**+2.5

LPG	**La Plagne**	**0.85**	**107**	*e*Pn	**Pn**	**02 44 57.0**	**+1.2**
LPG				*e*Sg	**Sg**	**02 45 05.8**	**-0.4**
	12nm,0.2s						
LPG				*e*Sn	**Sn**	**02 45 08.9**	**+0.3**
LPG	**La Plagne**	**0.85**	**107**	*e*Pg	**Pg**	**02 44 55.7**	**+0.9**
LPG				*e*Pn	**Pn**	**02 44 57.0**	**+1.2**
LPG				*e*Sg	**Sg**	**02 45 05.8**	**-0.4**
LPG				*e*Sn	**Sn**	**02 45 08.9**	**+0.3**
LPG	**La Plagne**	**0.85**	**107**	*e*Pn	**Pn**	**02 44 57.0**	**+1.2**
LPG				*e*Sg	**Sg**	**02 45 05.8**	**-0.4**
	5.8nm,0.2s						
LPG				*e*Sn	**Sn**	**02 45 08.9**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.85**	**166**	*e*Pn	**Pn**	**02 44 57.2**	**+1.4**
ORIF				*e*Sg	**Sg**	**02 45 06.3**	**+0.1**
ORIF				*e*Sn	**Sn**	**02 45 09.4**	**+0.8**
	42nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.85**	**166**	*e*Pg	**Pg**	**02 44 55.7**	**+0.9**
ORIF				*e*Pn	**Pn**	**02 44 57.2**	**+1.4**
ORIF				*e*Sg	**Sg**	**02 45 06.3**	**+0.1**
ORIF				*e*Sn	**Sn**	**02 45 09.4**	**+0.8**
ORIF	**Oris-en-Rattie**	**0.85**	**166**	*e*Pn	**Pn**	**02 44 57.2**	**+1.4**
ORIF				*e*Sg	**Sg**	**02 45 06.3**	**+0.1**
ORIF				*e*Sn	**Sn**	**02 45 09.4**	**+0.8**
	21nm,0.2s						
GIMEL	**Gimel**	**0.92**	**31**⇑	*i*Pg	**Pg**	**02 44 57.5**	**+1.5**
CABF	**La Chapelle**	**0.93**	**22**	*e*Pn	**Pn**	**02 44 58.4**	**+1.5**
CABF				*e*Sg	**Sg**	**02 45 09.2**	**+0.5**
CABF				*e*Sn	**Sn**	**02 45 11.4**	**+0.8**
	9.7nm,0.2s						
CABF	**La Chapelle**	**0.93**	**22**	*e*Pg	**Pg**	**02 44 58.0**	**+1.7**
CABF				*e*Pn	**Pn**	**02 44 58.4**	**+1.5**
CABF				*e*Sg	**Sg**	**02 45 09.2**	**+0.5**
CABF				*e*Sn	**Sn**	**02 45 11.4**	**+0.8**
CABF	**La Chapelle**	**0.93**	**22**	*e*Pn	**Pn**	**02 44 58.4**	**+1.5**
CABF				*e*Sg	**Sg**	**02 45 09.2**	**+0.5**
CABF				*e*Sn	**Sn**	**02 45 11.4**	**+0.8**
	4.8nm,0.2s						
EMV	**Vieux Emosson**	**0.97**	**71**⇑	*i*Pg	**Pg**	**02 44 57.7**	**+0.7**
EMV				*e*Sg	**Sg**	**02 45 09.8**	**-0.2**
BNI	**Bardonecchia**	**1.04**	**132**	*e*P	**Sg**	**02 45 13.3**	**+1.1**
SALAN	**Lac Salanfe**	**1.04**	**67**	*e*Pg	**Pg**	**02 44 59.1**	**+0.5**
SALAN				*e*Sg	**Sg**	**02 45 12.0**	**-0.5**
VIVF	**Saint-Julien-l**	**1.10**	**216**	*e*Pn	**Pn**	**02 45 01.1**	**+1.7**
VIVF				*e*Sg	**Sg**	**02 45 15.4**	**+1.0**
VIVF				*e*Sn	**Sn**	**02 45 16.2**	**+1.3**
	17nm,0.2s						
VIVF	**Saint-Julien-l**	**1.10**	**216**	*e*Pg	**Pg**	**02 45 00.9**	**+1.2**
VIVF				*e*Pn	**Pn**	**02 45 01.1**	**+1.7**
VIVF				*e*Sg	**Sg**	**02 45 15.4**	**+1.0**
VIVF				*e*Sn	**Sn**	**02 45 16.2**	**+1.3**
VIVF	**Saint-Julien-l**	**1.10**	**216**	*e*Pn	**Pn**	**02 45 01.1**	**+1.7**
VIVF				*e*Sg	**Sg**	**02 45 15.4**	**+1.0**
VIVF				*e*Sn	**Sn**	**02 45 16.2**	**+1.3**
	8.6nm,0.2s						
AIGLE	**Aigle**	**1.12**	**58**	Pg	**Pg**	**02 45 01.4**	**+1.3**
GRYON	**Gryon**	**1.18**	**64**	*e*Pg	**Pg**	**02 45 01.5**	**+0.3**
MBDF	**Montbardon**	**1.32**	**140**	*e*Pg	**Pg**	**02 45 04.0**	**0.0**
MBDF				*e*Sg	**Sg**	**02 45 19.9**	**-1.8**
MBDF				*e*Sn	**Sn**	**02 45 20.4**	**0.0**
	5.4nm,0.2s						
MBDF	**Montbardon**	**1.32**	**140**	*e*Pn	**Pn**	**02 45 03.2**	**+0.7**
MBDF				*e*Pg	**Pg**	**02 45 04.0**	**0.0**
MBDF				*e*Sg	**Sg**	**02 45 19.9**	**-1.8**
MBDF				*e*Sn	**Sn**	**02 45 20.4**	**0.0**
MBDF	**Montbardon**	**1.32**	**140**	*e*Pg	**Pg**	**02 45 04.0**	**0.0**
MBDF				*e*Sg	**Sg**	**02 45 19.9**	**-1.8**
MBDF				*e*Sn	**Sn**	**02 45 20.4**	**0.0**
	2.7nm,0.2s						
SENIN	**Lac Senin**	**1.34**	**62**	*e*Pg	**Pg**	**02 45 05.2**	**+0.7**
PLDF	**La Plantade**	**1.39**	**280**	Pg	**Pg**	**02 45 07.6**	**+2.1**
PLDF				Sg	**Sg**	**02 45 24.1**	**+0.1**
SMF	**Signal de Mont**	**1.51**	**307**	*e*Pg	**Pg**	**02 45 08.9**	**+1.1**
SMF				*e*Sn	**Sn**	**02 45 26.5**	**+1.3**
SMF				*e*Sg	**Sg**	**02 45 29.1**	**+1.2**
	12nm,0.2s						
SMF	**Signal de Mont**	**1.51**	**307**	*e*Pn	**Pn**	**02 45 07.2**	**+2.0**
SMF				*e*Pg	**Pg**	**02 45 08.9**	**+1.1**
SMF				*e*Sn	**Sn**	**02 45 26.5**	**+1.3**
SMF				*e*Sg	**Sg**	**02 45 29.1**	**+1.2**
SMF	**Signal de Mont**	**1.51**	**307**	*e*Pg	**Pg**	**02 45 08.9**	**+1.1**
SMF				*e*Sn	**Sn**	**02 45 26.5**	**+1.3**
SMF				*e*Sg	**Sg**	**02 45 29.1**	**+1.2**
	5.8nm,0.2s						
LBL	**Lubilhac**	**1.73**	**253**	Pg	**Pg**	**02 45 14.3**	**+2.2**
LBL				Sg	**Sg**	**02 45 36.0**	**+0.9**
AGO	**Saint Agoulin**	**1.74**	**281**	Pg	**Pg**	**02 45 14.2**	**+1.8**
AGO				Sg	**Sg**	**02 45 35.7**	**0.0**
SMRF	**Simiane la Rot**	**1.77**	**180**	*e*Pg	**Pg**	**02 45 12.3**	**-0.7**
SMRF				*e*Sn	**Sn**	**02 45 31.3**	**-0.6**
SMRF				*e*Sg	**Sg**	**02 45 35.2**	**-1.5**
	1.6nm,0.2s						
SMRF	**Simiane la Rot**	**1.77**	**180**	*e*Pn	**Pn**	**02 45 10.6**	**+1.6**
SMRF				*e*Pg	**Pg**	**02 45 12.3**	**-0.7**
SMRF				*e*Sn	**Sn**	**02 45 31.3**	**-0.6**
SMRF				*e*Sg	**Sg**	**02 45 35.2**	**-1.5**
SMRF	**Simiane la Rot**	**1.77**	**180**	*e*Pg	**Pg**	**02 45 12.3**	**-0.7**
SMRF				*e*Sn	**Sn**	**02 45 31.3**	**-0.6**
SMRF				*e*Sg	**Sg**	**02 45 35.2**	**-1.5**
	0.8nm,0.2s						
LOMF	**Lomont**	**1.82**	**28**	Pg	**Pg**	**02 45 14.7**	**+0.7**
LOMF				Sg	**Sg**	**02 45 37.9**	**-0.3**
AVF	**Avril sur Loir**	**1.87**	**305**	*e*Pg	**Pg**	**02 45 15.3**	**+0.3**
AVF				*e*Sn	**Sn**	**02 45 34.7**	**+0.3**
AVF				*e*Sg	**Sg**	**02 45 40.1**	**+0.2**
	3.8nm,0.2s						
AVF	**Avril sur Loir**	**1.87**	**305**	*e*Pn	**Pn**	**02 45 11.9**	**+1.6**
AVF				*e*Pg	**Pg**	**02 45 15.3**	**+0.3**
AVF				*e*Sn	**Sn**	**02 45 34.7**	**+0.3**
AVF				*e*Sg	**Sg**	**02 45 40.1**	**+0.2**
AVF	**Avril sur Loir**	**1.87**	**305**	*e*Pg	**Pg**	**02 45 15.3**	**+0.3**
AVF				*e*Sn	**Sn**	**02 45 34.7**	**+0.3**
AVF				*e*Sg	**Sg**	**02 45 40.1**	**+0.2**
	1.9nm,0.2s						
LOR	**Lormes**	**1.93**	**322**	*e*P	**Pn**	**02 45 14.8**	**+3.5**
LOR	**Lormes**	**1.93**	**322**	*e*Pg	**Pg**	**02 45 16.5**	**+0.2**
LOR				*e*Sn	**Sn**	**02 45 36.2**	**+0.2**
LOR				*e*Sg	**Sg**	**02 45 41.5**	**-0.6**
	6.6nm,0.2s						
LOR	**Lormes**	**1.93**	**322**	*e*Pn	**Pn**	**02 45 13.0**	**+1.7**
LOR				*e*P		02 45 14.8	
LOR				*e*Pg	**Pg**	**02 45 16.5**	**+0.2**
LOR				*e*Sn	**Sn**	**02 45 36.2**	**+0.2**
LOR				*e*Sg	**Sg**	**02 45 41.5**	**-0.6**
LOR	**Lormes**	**1.93**	**322**	*e*P	**Pn**	**02 45 14.8**	**+3.5**
LOR	**Lormes**	**1.93**	**322**	*e*Pg	**Pg**	**02 45 16.5**	**+0.2**
LOR				*e*Sn	**Sn**	**02 45 36.2**	**+0.2**
LOR				*e*Sg	**Sg**	**02 45 41.5**	**-0.6**
	3.3nm,0.2s						
SSF	**Saint Saulge**	**1.95**	**313**	*e*Pg	**Pg**	**02 45 16.8**	**+0.2**
SSF				*e*Sn	**Sn**	**02 45 36.9**	**+0.5**
SSF				*e*Sg	**Sg**	**02 45 42.3**	**-0.3**
	5.1nm,0.2s						
SSF	**Saint Saulge**	**1.95**	**313**	*e*Pn	**Pn**	**02 45 12.9**	**+1.4**
SSF				*e*Pg	**Pg**	**02 45 16.8**	**+0.2**
SSF				*e*Sn	**Sn**	**02 45 36.9**	**+0.5**
SSF				*e*Sg	**Sg**	**02 45 42.3**	**-0.3**
SSF	**Saint Saulge**	**1.95**	**313**	*e*Pg	**Pg**	**02 45 16.8**	**+0.2**
SSF				*e*Sn	**Sn**	**02 45 36.9**	**+0.5**
SSF				*e*Sg	**Sg**	**02 45 42.3**	**-0.3**
	2.5nm,0.2s						
BGF	**Bois d'Agland**	**2.07**	**294**	*e*Pg	**Pg**	**02 45 18.8**	**-0.2**
BGF				*e*Sn	**Sn**	**02 45 39.9**	**+0.4**
BGF				*e*Sg	**Sg**	**02 45 46.5**	**-0.1**
	12nm,0.4s						
BGF	**Bois d'Agland**	**2.07**	**294**	*e*Pn	**Pn**	**02 45 14.4**	**+1.2**
BGF				*e*Pg	**Pg**	**02 45 18.8**	**-0.2**
BGF				*e*Sn	**Sn**	**02 45 39.9**	**+0.4**
BGF				*e*Sg	**Sg**	**02 45 46.5**	**-0.1**
BGF	**Bois d'Agland**	**2.07**	**294**	*e*Pg	**Pg**	**02 45 18.8**	**-0.2**
BGF				*e*Sn	**Sn**	**02 45 39.9**	**+0.4**
BGF				*e*Sg	**Sg**	**02 45 46.5**	**-0.1**
	6.0nm,0.4s						
LASF	**Ste Croix**	**2.08**	**217**	*e*Pg	**Pg**	**02 45 18.9**	**-0.2**
LASF				*e*Sn	**Sn**	**02 45 39.4**	**-0.2**
LASF				*e*Sg	**Sg**	**02 45 46.1**	**-0.7**
	7.8nm,0.3s						
LASF	**Ste Croix**	**2.08**	**217**	*e*Pn	**Pn**	**02 45 14.4**	**+1.1**
LASF				*e*Pg	**Pg**	**02 45 18.9**	**-0.2**
LASF				*e*Sn	**Sn**	**02 45 39.4**	**-0.2**
LASF				*e*Sg	**Sg**	**02 45 46.1**	**-0.7**
LASF	**Ste Croix**	**2.08**	**217**	*e*Pg	**Pg**	**02 45 18.9**	**-0.2**
LASF				*e*Sn	**Sn**	**02 45 39.4**	**-0.2**
LASF				*e*Sg	**Sg**	**02 45 46.1**	**-0.7**
	3.9nm,0.3s						
BBS	**Basel-Blauen**	**2.17**	**37**	Pg	**Pg**	**02 45 20.9**	**-0.1**
HINF	**Hinteralfeld**	**2.25**	**22**	*e*Pg	**Pg**	**02 45 21.4**	**-1.1**
HINF				*e*Sn	**Sn**	**02 45 42.6**	**-1.4**
HINF				*e*Sg	**Sg**	**02 45 49.6**	**-2.8**
	3.9nm,0.2s						
HINF	**Hinteralfeld**	**2.25**	**22**	*e*Pn	**Pn**	**02 45 16.1**	**+0.4**
HINF				*e*Pg	**Pg**	**02 45 21.4**	**-1.1**
HINF				*e*Sn	**Sn**	**02 45 42.6**	**-1.4**
HINF				*e*Sg	**Sg**	**02 45 49.6**	**-2.8**
HINF	**Hinteralfeld**	**2.25**	**22**	*e*Pg	**Pg**	**02 45 21.4**	**-1.1**
HINF				*e*Sn	**Sn**	**02 45 42.6**	**-1.4**
HINF				*e*Sg	**Sg**	**02 45 49.6**	**-2.8**
	2.0nm,0.2s						
SBF	**Sospel**	**2.30**	**144**	*e*Pg	**Pg**	**02 45 21.6**	**-1.9**
SBF				*e*Sn	**Sn**	**02 45 43.3**	**-2.0**
SBF				*e*Sg	**Sg**	**02 45 50.2**	**-4.0**
	3.4nm,0.3s						
FRF	**La Foret Royal**	**2.31**	**161**	*e*Pg	**Pg**	**02 45 22.0**	**-1.9**
FRF				*e*Sn	**Sn**	**02 45 44.0**	**-1.7**
FRF				*e*Sg	**Sg**	**02 45 51.8**	**-2.9**
	4.6nm,0.2s						
FRF	**La Foret Royal**	**2.31**	**161**	*e*Pn	**Pn**	**02 45 17.7**	**+1.0**
FRF				*e*Pg	**Pg**	**02 45 22.0**	**-1.9**
FRF				*e*Sn	**Sn**	**02 45 44.0**	**-1.7**
FRF				*e*Sg	**Sg**	**02 45 51.8**	**-2.9**
FRF	**La Foret Royal**	**2.31**	**161**	*e*Pg	**Pg**	**02 45 22.0**	**-1.9**
FRF				*e*Sn	**Sn**	**02 45 44.0**	**-1.7**
FRF				*e*Sg	**Sg**	**02 45 51.8**	**-2.9**
	2.3nm,0.2s						
HAU	**Haudompre**	**2.32**	**13**	*e*Pg	**Pg**	**02 45 23.0**	**-0.9**
HAU				*e*Sn	**Sn**	**02 45 44.1**	**-1.7**
HAU				*e*Sg	**Sg**	**02 45 52.4**	**-2.5**
	7.7nm,0.2s						
HAU	**Haudompre**	**2.32**	**13**	*e*Pn	**Pn**	**02 45 17.9**	**+1.1**
HAU				*e*Pg	**Pg**	**02 45 23.0**	**-0.9**
HAU				*e*Sn	**Sn**	**02 45 44.1**	**-1.7**
HAU				*e*Sg	**Sg**	**02 45 52.4**	**-2.5**
HAU	**Haudompre**	**2.32**	**13**	*e*Pg	**Pg**	**02 45 23.0**	**-0.9**
HAU				*e*Sn	**Sn**	**02 45 44.1**	**-1.7**
HAU				*e*Sg	**Sg**	**02 45 52.4**	**-2.5**
	3.8nm,0.2s						
TCF	**Toulx Ste Croi**	**2.41**	**284**	*e*Pg	**Pg**	**02 45 25.9**	**0.0**
TCF				*e*Sn	**Sn**	**02 45 48.1**	**-0.2**
TCF				*e*Sg	**Sg**	**02 45 57.3**	**-0.8**
	6.1nm,0.5s						
TCF	**Toulx Ste Croi**	**2.41**	**284**	*e*Pn	**Pn**	**02 45 20.0**	**+1.8**
TCF				*e*Pg	**Pg**	**02 45 25.9**	**0.0**
TCF				*e*Sn	**Sn**	**02 45 48.1**	**-0.2**
TCF				*e*Sg	**Sg**	**02 45 57.3**	**-0.8**
TCF	**Toulx Ste Croi**	**2.41**	**284**	*e*Pg	**Pg**	**02 45 25.9**	**0.0**
TCF				*e*Sn	**Sn**	**02 45 48.1**	**-0.2**
TCF				*e*Sg	**Sg**	**02 45 57.3**	**-0.8**
	3.0nm,0.5s						
LMR	**La Mourre**	**2.50**	**164**	*e*Pg	**Pg**	**02 45 25.3**	**-2.3**
LMR				*e*Sn	**Sn**	**02 45 48.5**	**-2.0**
	3.0nm,0.2s						
LMR				*e*Sg	**Sg**	**02 45 57.0**	**-4.0**
	3.8nm,0.2s						
LMR	**La Mourre**	**2.50**	**164**	*e*Pn	**Pn**	**02 45 19.8**	**+0.4**
LMR				*e*Pg	**Pg**	**02 45 25.3**	**-2.3**
LMR				*e*Sn	**Sn**	**02 45 48.5**	**-2.0**
LMR				*e*Sg	**Sg**	**02 45 57.0**	**-4.0**
LMR	**La Mourre**	**2.50**	**164**	*e*Pg	**Pg**	**02 45 25.3**	**-2.3**
LMR				*e*Sn	**Sn**	**02 45 48.5**	**-2.0**
	1.5nm,0.2s						
LMR				*e*Sg	**Sg**	**02 45 57.0**	**-4.0**
	1.9nm,0.2s						
HYF	**Humbligny**	**2.54**	**308**	*e*Pg	**Pg**	**02 45 27.9**	**-0.5**
HYF				*e*Sg	**Sg**	**02 46 01.0**	**-1.3**
CAF	**Calviac**	**2.62**	**253**	*e*Pg	**Pg**	**02 45 29.4**	**-0.5**
CAF				*e*Sn	**Sn**	**02 45 52.6**	**-0.8**
CAF				*e*Sg	**Sg**	**02 46 03.5**	**-1.3**
	3.4nm,0.2s						
CAF	**Calviac**	**2.62**	**253**	*e*Pn	**Pn**	**02 45 22.4**	**+1.4**
CAF				*e*Pg	**Pg**	**02 45 29.4**	**-0.5**
CAF				*e*Sn	**Sn**	**02 45 52.6**	**-0.8**
CAF				*e*Sg	**Sg**	**02 46 03.5**	**-1.3**
CAF	**Calviac**	**2.62**	**253**	*e*Pg	**Pg**	**02 45 29.4**	**-0.5**
CAF				*e*Sn	**Sn**	**02 45 52.6**	**-0.8**
CAF				*e*Sg	**Sg**	**02 46 03.5**	**-1.3**
	1.7nm,0.2s						
ECH	**Echery**	**2.69**	**23**	Pg	**Pg**	**02 45 30.5**	**-0.9**
MEZF	**Maizieres J'vi**	**2.78**	**353**	*e*Pg	**Pg**	**02 45 32.1**	**-1.1**
MEZF				*e*Sn	**Sn**	**02 45 56.1**	**-1.4**
MEZF				*e*Sg	**Sg**	**02 46 07.6**	**-2.6**
	5.7nm,0.4s						
RJF	**Les Rejaudoux**	**2.90**	**263**	*e*Pg	**Pg**	**02 45 34.6**	**-0.9**
RJF				*e*Sn	**Sn**	**02 45 59.6**	**-0.9**
RJF				*e*Sg	**Sg**	**02 46 11.2**	**-2.9**
	3.5nm,0.2s						
CDF	**Champ du Feu**	**2.91**	**23**	*e*Pg	**Pg**	**02 45 33.6**	**-2.1**
CDF				*e*Sn	**Sn**	**02 45 58.5**	**-2.2**
CDF				*e*Sg	**Sg**	**02 46 10.2**	**-4.2**
	2.6nm,0.3s						
CDF	**Champ du Feu**	**2.91**	**23**	*e*Pn	**Pn**	**02 45 24.8**	**-0.4**
CDF				*e*Pg	**Pg**	**02 45 33.6**	**-2.1**
CDF				*e*Sn	**Sn**	**02 45 58.5**	**-2.2**
CDF				*e*Sg	**Sg**	**02 46 10.2**	**-4.2**
CDF	**Champ du Feu**	**2.91**	**23**	*e*Pg	**Pg**	**02 45 33.6**	**-2.1**
CDF				*e*Sn	**Sn**	**02 45 58.5**	**-2.2**
CDF				*e*Sg	**Sg**	**02 46 10.2**	**-4.2**
	1.3nm,0.3s						
MTLF	**Montolieu**	**3.41**	**226**	*e*Pg	**Pg**	**02 45 43.3**	**-2.3**
MTLF				*e*Sn	**Sn**	**02 46 11.3**	**-2.0**
MTLF				*e*Sg	**Sg**	**02 46 27.7**	**-3.3**
	2.7nm,0.3s						
MTLF	**Montolieu**	**3.41**	**226**	*e*Pn	**Pn**	**02 45 32.9**	**+0.6**
MTLF				*e*Pg	**Pg**	**02 45 43.3**	**-2.3**
MTLF				*e*Sn	**Sn**	**02 46 11.3**	**-2.0**
MTLF				*e*Sg	**Sg**	**02 46 27.7**	**-3.3**
LFF	**La Frestale**	**3.51**	**258**	*e*Sn	**Sn**	**02 46 14.4**	**-1.7**
LFF				*e*Sg	**Sg**	**02 46 31.3**	**-3.3**
	5.8nm,0.4s						
MFF	**Saint Martin d**	**4.07**	**284**	*e*Sn	**Sn**	**02 46 27.7**	**-2.6**
MFF				*e*Sg	**Sg**	**02 46 48.9**	**-4.4**
	1.2nm,0.3s						

CASC 26 02:59:43.9±1.8, 10.53N×86.53W, h32km±24km, MD3.6, ML2.7, 4C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.00**	**42**⇑	*e*P	Pn	03 00 01.2	-0.6
SSNN				*e*S	Sn	03 00 17.4	+2.4
LIM1	**Limonal**	**1.26**	**82**⇑	*i*P	Pn	03 00 05.2	-0.5
LIM1				*e*S	Sn	03 00 22.2	+0.6
MADN	**Villa Maderas**	**1.31**	**48**⇑	*e*P	Pn	03 00 05.8	-0.4
CONN	**Concepcion**	**1.35**	**41**	*e*P	Pn	03 00 06.2	-0.7
APON	**Apoyo**	**1.45**	**18**	*e*P	Pn	03 00 09.3	+1.1
TICN	**Ticuantepe**	**1.52**	**11**‖	*e*P	Pn	03 00 09.2	0.0
XAVN	**Gruta Xavier**	**1.62**	**7**	*e*P	Pn	03 00 10.2	-0.5
MGAN	**Managua**	**1.63**	**10**	*e*P	Pn	03 00 10.8	0.0
MGAN				*i*		03 00 41.3	
	comp=N,93nm,0.6s						
COPN	**Copaltepe**	**1.64**	**358**‖	*e*P	Pn	03 00 10.3	-0.6
MIRN	**Miramar**	**1.90**	**355**‖	*e*P	Pn	03 00 14.1	-0.7
LEON	**Leon**	**1.90**	**349**‖	*i*P	Pn	03 00 14.2	-0.6
CNGN	**Cerro Negro**	**1.96**	**355**	*e*P	Pn	03 00 14.5	-1.0
TEL3	**Telica 3**	**2.05**	**351**⇑	*e*P	Pn	03 00 16.1	-0.8
PRS1	**Puriscal**	**2.25**	**104**	*e*P	Pn	03 00 20.4	+0.7

*IDC **26** 03:03:14.3±0.7, 66.75N×130.27W, mb3.6/8, mb1 3.9/12, mb1mx3.7/23, mbtmp3.7/12, ML4.0/3, Error ellipse: s-maj=14.2km s-min=6.6km az=51.0*
*PGC **26** 03:03:15.5, 66.77N×130.28W, h10km, ML4.1/2, North of Mackenzie Mountains, Northwest Territories*
*NEIC **26** 03:03:15.5, 66.77N×130.28W, h10km, ML4.1(PGC), After PGC.*

ISC 26 03:03:12.7±0.4, 66.61N±0.03×130.43W±0.09, h10km, n37, σ1§34/59, mb3.5/8, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**2.08**	**327**	Pn	**Pn**	**03 03 48.9**	**+0.8**
	17nm,0.3s,baz=148,slow=15,SNR=391						
INK				Lg		03 04 17.0	
	62nm,0.3s,baz=208,slow=14,SNR=14						
INK				Rg		03 04 32.4	
	196nm,0.5s,baz=294,slow=24,SNR=5.2						
INK	**Inuvik**	**2.08**	**327**	Pn	**Pn**	**03 03 49.3**	**+1.1**
INK				Sg	**Sg**	**03 04 17.2**	**-4.9**
INK				Trac		03 04 27.8	
	comp=Z,578nm,0.6s						
INK				Trac		03 04 27.8	
	comp=Z,578nm,0.6s						
INK	**Inuvik**	**2.08**	**327**	*e*Pn	**Pn**	**03 03 49.0**	**+0.9**
INK				*e*Sn	**Sn**	**03 04 17.4**	**+3.1**
DAWY	**Dawson**	**4.54**	**240**	Pn	**Pn**	**03 04 24.9**	**+1.8**
DAWY				Sn	**Sn**	**03 05 15.5**	**-1.1**
DAWY				Trac		03 05 42.5	
	comp=Z,139nm,0.3s						
BM3	**Burnt Mountain**	**5.61**	**285**	P	**Pn**	**03 04 37.4**	**-0.9**
WHY	**Whitehorse**	**6.29**	**200**	Pn	**Pn**	**03 04 51.0**	**+3.1**
WHY				Sn	**Sn**	**03 06 01.0**	**+0.4**
WHY				Sg	**Sg**	**03 06 38.0**	**-4.1**
WHY				Trac		03 06 42.0	
	comp=Z,65nm,0.8s						
WHY	**Whitehorse**	**6.29**	**200**	Pn	**Pn**	**03 04 51.0**	**+3.1**
WHY				Sn	**Sn**	**03 06 01.0**	**+0.4**
WHY				*e*Sg	**Sg**	**03 06 38.0**	**-4.1**
HYT	**Haines Junctio**	**6.60**	**212**	Pn	**Pn**	**03 04 53.7**	**+1.5**
HYT				Sn	**Sn**	**03 06 08.8**	**+0.5**
HYT				Trac		03 06 51.6	
	comp=Z,59nm,0.6s						
ILAR	**Eielson Array**	**7.03**	**262**	Pn	**Pn**	**03 04 56.5**	**-1.8**
	0.8nm,0.3s,baz=66,slow=12,SNR=62						
ILAR				Sn	**Sn**	**03 06 12.3**	**-6.8**
	2.2nm,0.3s,baz=66,slow=28,SNR=5.7						
ILAR				Lg		03 06 59.9	
	4.2nm,0.3s,baz=64,slow=28,SNR=7.2						
PAX	**Paxson**	**7.38**	**247**	P	**Pn**	**03 05 03.6**	**+0.5**
COLA	**College**	**7.38**	**264**	P	**Pn**	**03 05 02.6**	**-0.6**
PLBC	**Pleasant Camp**	**7.66**	**203**	Pn	**Pn**	**03 05 08.7**	**+1.5**
PLBC				Sn	**Sn**	**03 06 34.7**	**-0.2**
PLBC				Sg	**Sg**	**03 07 18.6**	**-9.2**
YKW3	**Yellowknife Ar**	**7.91**	**113**	Pn	**Pn**	**03 05 08.9**	**-1.7**
YKW3				Pn	**Pn**	**03 05 09.2**	**-1.4**
YKW3				Sn	**Sn**	**03 06 32.7**	**-8.5**
YKW3				Sn	**Sn**	**03 06 33.3**	**-7.8**
YKW3				Trac		03 07 23.6	
	comp=Z,24nm,0.6s						
YKW3				Trac		03 07 23.6	
	comp=Z,24nm,0.6s						
YKW3				Trac		03 07 23.8	
	comp=Z,29nm,0.8s						
YKW3				Trac		03 07 23.8	
	comp=Z,29nm,0.8s						
YKW3	**Yellowknife Ar**	**7.91**	**113**	*e*Pn	**Pn**	**03 05 08.8**	**-1.8**
YKW3				*e*Sn	**Sn**	**03 06 35.2**	**-5.9**
YKA	**Yellowknife Ar**	**7.96**	**114**	Pn	**Pn**	**03 05 08.8**	**-2.5**
	1.9nm,0.3s,baz=308,slow=13,SNR=115						
YKA				Sn	**Sn**	**03 06 35.0**	**-7.2**
	2.7nm,0.3s,baz=306,slow=22,SNR=9.4						
YKA				Lg		03 07 23.6	
	1.4nm,0.3s,baz=35,slow=23,SNR=6.0						
DLBC	**Dease Lake**	**8.21**	**179**	Pn	**P**	**03 05 15.4**	**+0.7**
	0.6nm,0.3s,baz=358,slow=11,SNR=20						
DLBC				Lg		03 07 36.8	
	1.0nm,0.3s,baz=102,slow=22,SNR=7.1						
DLBC	**Dease Lake**	**8.21**	**179**	Pn	**P**	**03 05 14.8**	**+0.1**
DLBC				Pg	P	03 05 43.6	+29
DLBC				Sg	**Sg**	**03 07 35.4**	**-11**
DLBC				Trac		03 07 43.1	
	comp=Z,30nm,1.0s						
DLBC	**Dease Lake**	**8.21**	**179**	*e*Pn	**P**	**03 05 15.1**	**+0.4**
DLBC				*e*Sn	**Sn**	**03 06 48.5**	**+0.1**
MCK	**McKinley**	**8.29**	**258**	*e*Pn	**P**	**03 05 14.9**	**-1.0**
	4.5nm,0.7s						
MCK				*e*Sn	**Sn**	**03 06 44.6**	**-6.0**
FNBB	**Fort Nelson**	**8.46**	**153**	Pn	**P**	**03 05 17.4**	**-0.8**
FNBB				Sn	**Sn**	**03 06 50.6**	**-4.1**
FNBB				Trac		03 06 56.9	
	comp=Z,5.0nm,0.4s						
FNBB				Trac		03 06

CVP	**Callao Caves**	**2.27**	**2**	*eP*	**Pn**	**03 07 45.0**	**+0.5**
CVP				*eS*	**Sn**	**03 08 14.0**	**+2.1**
ABRA	**Dolores**	**2.42**	**337**	*eP*	**Pn**	**03 07 48.1**	**+1.5**
APYP	**Conner**	**2.47**	**349**	*eP*	**Pn**	**03 07 48.7**	**+1.3**
PVCP	**Virac**	**2.98**	**127**	*eP*	**Pn**	**03 07 56.1**	**+1.6**
SJMP	**San Jose**	**3.00**	**191**	*eP*	**Pn**	**03 07 56.5**	**+1.6**
SONM	**Songino Array**	**34.72**	**342**	P	**P**	**03 13 55.8**	**-2.0**
	0.3nm,0.5s,mb3.4,baz=160,slow=9.8,SNR=2.4						
WRAB	**Tennant Creek**	**37.26**	**160**	*eP*	**P**	**03 14 15.4**	**-4.1**
	4.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**37.27**	**160**	P	**P**	**03 14 15.3**	**-4.3**
	1.0nm,0.7s,mb3.8,baz=340,slow=9.3,SNR=12						
WB2	**Warramunga Arr**	**37.27**	**160**	*eP*	**P**	**03 14 15.5**	**-4.1**
ASPA	**Alice Springs**	**40.63**	**163**	*eP*	**P**	**03 14 44.5**	**-3.1**
MKAR	**Makanchi Array**	**45.26**	**322**	P	**P**	**03 15 24.1**	**-1.0**
	0.8nm,0.8s,mb3.6,baz=120,slow=8.4,SNR=8.7						
NWAO	**Narrogin (SRO)**	**48.26**	**185**	*eP*	**P**	**03 15 42.8**	**-6.0**
KURK	**Kurchatov**	**49.33**	**325**	*eP*	**P**	**03 15 55.8**	**-1.1**
	6.3nm,1.1s,mb4.6						
STKA	**Stephens Creek**	**50.74**	**158**	P	**P**	**03 16 03.8**	**-4.1**
	0.9nm,0.9s,mb3.7,baz=333,slow=16,SNR=2.6						
STKA	**Stephens Creek**	**50.74**	**158**	*eP*	**P**	**03 16 04.3**	**-3.6**
BRVK	**Borovoye**	**55.00**	**325**	P	**P**	**03 16 36.6**	**-2.7**
	0.6nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**55.67**	**324**	*eP*	**P**	**03 16 41.9**	**-2.3**
FINES	**FINESS Array B**	**79.27**	**331**	P	**P**	**03 19 10.7**	**-1.6**
	1.0nm,0.8s,mb3.8,baz=75,slow=5.1,SNR=7.7						

JMA 26 03:23:50.8±0.4,21.60N×121.71E,h111km,M3.7,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.09**	**23**	P	P	03 24 38.6	-0.4
HATJ	**Hateruma jima**	**3.12**	**38**	P	P	03 24 39.0	-0.4
HATJ				S	S	03 25 15.6	-0.5
IRIF	**Iriomote-Funau**	**3.30**	**34**	P	P	03 24 41.5	-0.3
IRIF				S	S	03 25 21.0	+0.5
JKRS	**Kuro-shima**	**3.37**	**38**	P	P	03 24 42.7	-0.1
JKRS				*eS*	S	03 25 22.2	-0.1
JIJ	**Ishigaki jima**	**3.55**	**39**	P	P	03 24 45.0	-0.2
JIJ				S	S	03 25 24.9	-1.7
JTJ	**Tarama**	**4.09**	**42**	P	P	03 24 52.0	-0.6
JTJ				*eS*	S	03 25 39.4	-0.4
JOGS	**Gusukube**	**4.63**	**47**	*eS*	S	03 25 54.1	+1.1

*LDG **26** 03:40:44.9±0.1,38.77N×7.94W,h2km,Md3.4/1,Ml2.7/3, Error ellipse: s-maj=2.0km s-min=1.2km az=118.0*
*IGIL **26** 03:40:44.9,38.80N×7.90W,h2km,ML3.2*
*CSEM **26** 03:40:44.4±0.1,38.85N×7.98W,h10km,ML2.7/15,Error ellipse: s-maj=1.8km s-min=1.6km az=113.0*
*INMG **26** 03:40:45.4±1.5,38.78N×7.94W,h13km±4km,ML2.9, Error ellipse: s-maj=2.3km s-min=1.6km az=78.0*
*MDD **26** 03:40:45.1±0.2,38.80N×7.95W,h8km±1km,mb3.5/13, mbLg2.5/35,Error ellipse: s-maj=2.3km s-min=2.1km az=123.0,PRXIMO*
*NEIC **26** 03:40:45.0,38.80N×7.90W,h11km,ML2.9(LIS), MN2.4(MDD),After LIS.*

ISC 26 03:40:42.6±0.3,38.85N±0.01×7.84W±0.02,h6km±2km, n102,σ1§22/180,1C,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVO	**Evora**	**0.34**	**203**	*ePg*	**Pg**	**03 40 50.8**	**+1.3**
EVO				*eSg*	**Sg**	**03 40 54.6**	**+0.5**
	2µm,0.2s						
MOE	**Montemor**	**0.51**	**231**	*ePg*	**Pg**	**03 40 52.9**	**0.0**
MOE				*eSg*	**Sg**	**03 40 58.2**	**-1.6**
ALMR	**Almeirim**	**0.65**	**299**	*eP*	**Pg**	**03 40 56.5**	**+0.9**
ALMR				*eS*	**Sg**	**03 41 04.8**	**+0.4**
ALMR				*eS*	**Sg**	**03 41 04.8**	**+0.5**
ALMR				AML	AML	03 41 06.5	
	comp=E,1µm,0.2s						
EBAD	**Badajoz**	**0.66**	**98**	⇑*Pg*	**Pg**	**03 40 59.2**	**+3.5**
	comp=E,157nm,0.1s,SNR=18						
EBAD				Lg		03 41 09.0	
	comp=E,446nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**0.66**	**98**	Pg	**Pg**	**03 40 59.2**	**+3.5**
	comp=E,157nm,0.1s,SNR=18						
PBEJ	**Beja**	**0.82**	**181**	*ePg*	**Pg**	**03 40 58.9**	**-0.1**
PBEJ				*eSg*	**Sg**	**03 41 08.9**	**-1.0**
	comp=E,232nm,0.1s						
PBEJ	**Beja**	**0.82**	**181**	*ePg*	**Pg**	**03 40 58.9**	**-0.1**
PBEJ				*eSg*	**Sg**	**03 41 08.9**	**-1.0**
	comp=E,232nm,0.1s						
PTOM	**Tomar**	**0.89**	**330**	*eP*	**Pb**	**03 41 02.1**	**+2.1**
PTOM				*eS*	**Sb**	**03 41 14.0**	**+2.1**
	comp=E,217nm,0.1s						
PTOM	**Tomar**	**0.89**	**330**	*eP*	**Pb**	**03 41 02.1**	**+2.1**
PTOM				*eS*	**Sb**	**03 41 14.0**	**+2.1**
	comp=E,217nm,0.1s						
PLOU	**Loures**	**1.02**	**273**	*eP*	**Pb**	**03 41 02.7**	**+0.4**
PLOU				*eS*	**Sb**	**03 41 15.7**	**-0.1**
	comp=E,252nm,0.2s						
PLOU	**Loures**	**1.02**	**273**	*eP*	**Pb**	**03 41 02.7**	**+0.4**
PLOU				*eS*	**Sb**	**03 41 15.7**	**-0.1**
	comp=E,252nm,0.2s						
LIS	**Lisbon**	**1.03**	**263**	*eP*	**Pb**	**03 41 02.5**	**0.0**
LIS				*eS*	**Sb**	**03 41 15.3**	**-0.7**
LIS				*eS*	**Sb**	**03 41 15.3**	**-0.7**
LIS				AML	AML	03 41 17.5	
	comp=E,398nm,0.4s						
PCBR	**Castelo Branco**	**1.03**	**16**	*eP*	**Pb**	**03 41 05.9**	**+3.4**
PCBR				*eS*	**Sb**	**03 41 19.9**	**+3.8**
	comp=E,163nm,0.2s						
PCBR	**Castelo Branco**	**1.03**	**16**	*eP*	**Pb**	**03 41 05.9**	**+3.4**
PCBR				*eS*	**Sb**	**03 41 19.9**	**+3.8**
	comp=E,163nm,0.2s						
EGRO	**El Granado**	**1.34**	**168**	Pn	**Pn**	**03 41 08.3**	**+0.4**
	comp=E,14nm,0.1s,SNR=7.9						
EGRO				Pg	**Pg**	**03 41 09.3**	**0.0**
	SNR=7.9						
EGRO				Lg		03 41 26.3	
	comp=E,38nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.34**	**168**	Pn	**Pn**	**03 41 08.3**	**+0.4**
	comp=E,14nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.34**	**168**	Pg	**Pg**	**03 41 09.4**	**0.0**
	SNR=7.9						
EMIN	**Mina Concepcio**	**1.42**	**139**	Pn	**Pn**	**03 41 10.0**	**+1.0**
	comp=E,2.9nm,0.1s,SNR=7.9						
EMIN				Pg	**Pg**	**03 41 11.1**	**+0.2**
	SNR=7.9						
EMIN				Sn	**Sn**	**03 41 29.8**	**+1.7**
	comp=E,21nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.42**	**139**	Pn	**Pn**	**03 41 10.0**	**+1.0**
	comp=E,2.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.42**	**139**	Pg	**Pg**	**03 41 11.1**	**+0.2**
	SNR=7.9						
EMIN				Sn	**Sn**	**03 41 29.8**	**+1.7**
	comp=E,21nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.47**	**208**	*ePn*	**Pn**	**03 41 09.1**	**-0.7**
PTEO	**Sao Teotonio**	**1.47**	**208**	*ePg*	**Pg**	**03 41 10.5**	**-1.5**
PTEO				*eSn*	**Sn**	**03 41 27.0**	**-2.5**
	comp=E,123nm,0.4s						
PTEO	**Sao Teotonio**	**1.47**	**208**	Pn	**Pn**	**03 41 09.1**	**-0.7**
PTEO				Pg	**Pg**	**03 41 10.5**	**-1.5**
PTEO				Sn	**Sn**	**03 41 27.0**	**-2.5**
	comp=E,62nm,0.4s						
PTEO	**Sao Teotonio**	**1.47**	**208**	*ePg*	**Pg**	**03 41 10.5**	**-1.5**
PTEO				*eSn*	**Sn**	**03 41 27.0**	**-2.5**
	comp=E,123nm,0.4s						
MTE	**Manteigas**	**1.57**	**8**	*ePn*	**Pn**	**03 41 12.6**	**+1.4**
MTE	**Manteigas**	**1.57**	**8**	*ePg*	**Pg**	**03 41 15.2**	**+1.2**
MTE				*eSg*	**Sg**	**03 41 35.8**	**+0.9**
	comp=E,85nm,0.2s						
MTE	**Manteigas**	**1.57**	**8**	Pn	**Pn**	**03 41 12.6**	**+1.4**
MTE				Pg	**Pg**	**03 41 15.2**	**+1.2**
MTE				Lg		03 41 35.8	
	comp=E,42nm,0.2s						
MTE	**Manteigas**	**1.57**	**8**	*ePn*	**Pn**	**03 41 15.2**	**+4.0**
MTE				*eSn*	**Sn**	**03 41 35.8**	**+3.8**
MTE	**Manteigas**	**1.57**	**8**	*ePg*	**Pg**	**03 41 15.2**	**+1.2**
MTE				*eSg*	**Sg**	**03 41 35.8**	**+0.9**
	comp=E,85nm,0.2s						
MORF	**Marmelete**	**1.66**	**203**	*eP*	**Pn**	**03 41 11.7**	**-0.8**
MORF				*eS*	**Sn**	**03 41 32.9**	**-1.5**
MORF				*eS*	**Sn**	**03 41 32.9**	**-1.4**
MORF				AML	AML	03 41 35.4	
	comp=N,196nm,0.2s						
PVIS	**Viseu**	**1.87**	**359**	*ePn*	**Pn**	**03 41 17.3**	**+1.9**
PVIS	**Viseu**	**1.87**	**359**	*ePg*	**Pg**	**03 41 19.8**	**-0.1**
PVIS				*eSn*	**Sn**	**03 41 40.3**	**+0.7**
PVIS				*eSg*	**Sg**	**03 41 44.8**	**-0.1**
	comp=N,98nm,0.2s						
PVIS	**Viseu**	**1.87**	**359**	Pn	**Pn**	**03 41 17.3**	**+1.9**
PVIS				Pg	**Pg**	**03 41 19.8**	**-0.1**
PVIS				Sn	**Sn**	**03 41 40.3**	**+0.7**
PVIS				Lg		03 41 44.8	
	comp=N,49nm,0.2s						
PVIS	**Viseu**	**1.87**	**359**	*ePg*	**Pg**	**03 41 19.8**	**-0.1**
PVIS				*eSg*	**Sg**	**03 41 44.8**	**-0.1**
	comp=N,98nm,0.2s						
PVRL	**Vila Real**	**2.43**	**2**	*ePn*	**Pn**	**03 41 24.7**	**+1.2**
PVRL				*eSn*	**Sn**	**03 41 54.2**	**+0.4**
PVRL				*eSg*	**Sg**	**03 42 00.7**	**-2.8**
	comp=N,38nm,0.2s						
ESPR	**Espera**	**2.52**	**141**	Pn	**Pn**	**03 41 26.1**	**+1.3**
	comp=N,1.5nm,0.1s,SNR=7.9						
ESPR				Pg	**Pg**	**03 41 32.1**	**-0.9**
	comp=N,2.6nm,0.1s,SNR=7.9						
ESPR				Lg		03 42 06.0	
	comp=N,5.2nm,0.1s,SNR=4.0						
ESPR	**Espera**	**2.52**	**141**	Pg	**Pg**	**03 41 32.1**	**-0.9**
	comp=N,2.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.65**	**104**	Pn	**Pn**	**03 41 27.8**	**+1.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**03 41 35.8**	**+0.3**
	comp=N,1.8nm,0.1s,SNR=7.9						
EADA				Lg		03 42 12.8	
	comp=N,9.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.65**	**104**	Pn	**Pn**	**03 41 27.8**	**+1.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.65**	**104**	Pg	**Pg**	**03 41 35.8**	**+0.3**
	comp=N,1.8nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**2.87**	**357**	*ePn*	**Pn**	**03 41 30.4**	**+0.7**
PCAB				*eSn*	**Sn**	**03 42 03.9**	**-1.0**
PCAB				*eSg*	**Sg**	**03 42 17.1**	**-0.9**
	comp=N,23nm,0.3s						
PCAB	**Cabril**	**2.87**	**357**	Pn	**Pn**	**03 41 30.4**	**+0.7**
PCAB				Sn	**Sn**	**03 42 03.9**	**-1.0**
PCAB				Lg		03 42 17.1	
	comp=N,12nm,0.3s						
ELOB	**Lobios**	**3.02**	**357**	Pn	**Pn**	**03 41 32.6**	**+0.7**
	comp=N,2.7nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**03 42 07.4**	**-1.5**
	comp=N,1.9nm,0.2s,SNR=7.9						
ELOB				Lg		03 42 21.2	
	comp=N,3.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**3.02**	**357**	Pn	**Pn**	**03 41 32.6**	**+0.7**
	comp=N,2.7nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**03 42 07.4**	**-1.5**
	comp=N,1.9nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**3.07**	**16**	*ePn*	**Pn**	**03 41 35.0**	**+2.3**
PBRG				*eSn*	**Sn**	**03 42 09.6**	**-0.6**
PBRG				*eSg*	**Sg**	**03 42 24.5**	**-0.5**
	comp=N,17nm,0.3s						
PBRG	**Braganca**	**3.07**	**16**	Pn	**Pn**	**03 41 35.0**	**+2.3**
PBRG				Sn	**Sn**	**03 42 09.6**	**-0.6**
PBRG				Lg		03 42 24.5	
	comp=N,8.6nm,0.3s						
ELUQ	**Luque**	**3.10**	**113**	Pn	**Pn**	**03 41 35.1**	**+2.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
ELUQ				Pg	**Pg**	**03 41 43.0**	**-1.4**
	comp=N,1.1nm,0.2s,SNR=7.9						
ELUQ				Lg		03 42 25.6	
	comp=N,6.0nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**3.10**	**113**	Pn	**Pn**	**03 41 35.0**	**+2.0**
ESDC	**Sonseca Array**	**3.12**	**73**	Pn	**Pn**	**03 41 34.5**	**+1.1**
	comp=N,0.9nm,0.2s,baz=256,slow=13,SNR=27						
ESDC				Pg	**Pg**	**03 41 43.4**	**-1.6**
	comp=N,1.3nm,0.2s,baz=254,slow=17,SNR=18						
ESDC				Sn	**Sn**	**03 42 10.4**	**-1.0**
	comp=N,2.5nm,0.1s,SNR=7.9						
ESDC				Lg		03 42 26.7	
	comp=N,8.4nm,0.1s,baz=264,slow=28,SNR=16						
ESDC	**Sonseca Array**	**3.12**	**73**	Pn	**Pn**	**03 41 34.5**	**+1.1**
	comp=N,0.9nm,0.2s,SNR=27						
ESDC	**Sonseca Array**	**3.12**	**73**	Pg	**Pg**	**03 41 43.4**	**-1.6**
	comp=N,1.3nm,0.2s,SNR=18						
ESDC				Sn	**Sn**	**03 42 10.4**	**-1.0**
	comp=N,2.5nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**3.21**	**15**	Pn	**Pn**	**03 41 36.1**	**+1.5**
	comp=N,1.2nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**03 42 13.0**	**-0.5**
	comp=N,0.9nm,0.2s,SNR=7.9						
ECAL				Lg		03 42 28.9	
	comp=N,2.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**3.21**	**15**	Pn	**Pn**	**03 41 36.1**	**+1.6**
	comp=N,1.2nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**03 42 13.0**	**-0.5**
	comp=N,0.9nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.25**	**101**	Pn	**Pn**	**03 41 36.7**	**+1.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAN				Pg	**Pg**	**03 41 45.9**	**-1.7**
	comp=N,1.4nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**03 42 15.4**	**+0.6**
	comp=N,2.1nm,0.1s,SNR=7.9						
EBAN				Lg		03 42 31.0	
	comp=N,14nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.25**	**101**	Pn	**Pn**	**03 41 36.7**	**+1.5**
EBAN				Pg	**Pg**	**03 41 45.9**	**-1.7**
EBAN				Sn	**Sn**	**03 42 15.3**	**+0.6**
EBAN				Lg		03 42 32.2	
EBAN	**Banos Encina**	**3.25**	**101**	Pg	**Pg**	**03 41 45.9**	**-1.7**
	comp=N,1.4nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**03 42 15.4**	**+0.6**
	comp=N,2.1nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**3.33**	**132**	Pn	**Pn**	**03 41 37.8**	**+1.5**
	SNR=7.9						
EMIJ				Sn	**Sn**	**03 42 18.2**	**+1.5**
	comp=N,0.6nm,0.2s,SNR=7.9						
EMIJ				Lg		03 42 34.4	
	comp=N,1.0nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**3.33**	**132**	Pn	**Pn**	**03 41 37.8**	**+1.5**
EMIJ				Sn	**Sn**	**03 42 18.2**	**+1.5**
EMIJ				Lg		03 42 34.4	
EZAM	**Zamans**	**3.36**	**349**	Pn	**Pn**	**03 41 37.5**	**+0.7**
	comp=N,11nm,0.1s,SNR=7.9						
EZAM				Sn	**Sn**	**03 42 14.5**	**-3.0**
	comp=N,0.5nm,0.1s,SNR=4.0						
EZAM				Lg		03 42 33.2	
	comp=N,1.8nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**3.36**	**349**	Pn	**Pn**	**03 41 37.5**	**+0.7**
EZAM				Sn	**Sn**	**03 42 13.7**	**-3.8**
EZAM				Lg		03 42 30.2	
EZAM	**Zamans**	**3.36**	**349**	Pn	**Pn**	**03 41 37.5**	**+0.7**
	comp=N,11nm,0.1s,SNR=7.9						
EZAM				Sn	**Sn**	**03 42 13.7**	**-3.8**
	comp=N,0.5nm,0.1s,SNR=4.0						
GUD	**Guadarrama**	**3.36**	**57**	Pn	**Pn**	**03 41 37.5**	**+0.8**
	comp=N,0.6nm,0.1s,SNR=7.9						
GUD				Pg	**Pg**	**03 41 47.3**	**-2.5**
	comp=N,1.9nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**03 42 16.9**	**-0.6**
	comp=N,0.9nm,0.2s,SNR=7.9						
GUD				Lg		03 42 34.0	
	comp=N,1.7nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**3.37**	**119**	Lg		03 42 34.6	
	comp=N,0.9nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**3.58**	**8**	Pn	**Pn**	**03 41 41.0**	**+1.1**
	SNR=4.0						
ERUA				Sn	**Sn**	**03 42 20.9**	**-2.2**
	comp=N,1.2nm,0.2s,SNR=7.9						
ERUA				Lg		03 42 41.1	
	comp=N,1.7nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**3.58**	**8**	Pn	**Pn**	**03 41 41.0**	**+1.1**
ERUA				Sn	**Sn**	**03 42 20.9**	**-2.2**
ERUA				Lg		03 42 39.1	
ECOG	**Cogollos-Vega**	**3.72**	**114**	Lg		03 42 47.5	
	comp=N,0.9nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.84**	**114**	Lg		03 42 49.1	
	comp=N,1.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.89**	**104**	Pn	**Pn**	**03 41 47.1**	**+2.8**
	comp=N,0.2nm,0.1s,SNR=5.0						
EQES				Sn	**Sn**	**03 42 30.6**	**-0.3**
	comp=N,1.3nm,0.2s,SNR=7.9						
EQES				Lg		03 42 50.2	
	comp=N,1.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.89**	**104**	Pn	**Pn**	**03 41 47.1**	**+2.8**
	comp=N,0.2nm,0.1s,SNR=5.0						
EQES				Sn	**Sn**	**03 42 30.6**	**-0.3**
	comp=N,1.3nm,0.2s,SNR=7.9						
STS	**Santiago**	**4.07**	**353**	Pn	**Pn**	**03 41 46.2**	**-0.6**
	comp=N,2.1nm,0.1s,SNR=4.0						
STS				Sn	**Sn**	**03 42 32.0**	**-3.4**
	comp=N,1.1nm,0.1s,SNR=7.9						
STS				Lg		03 42 54.8	
	comp=N,2.3nm,0.1s,SNR=7.9						
STS	**Santiago**	**4.07**	**353**	Pn	**Pn**	**03 41 46.2**	**-0.6**
STS				Lg		03 42 52.5	
EVIA	**Vianos**	**4.18**	**91**	Lg		03 43 00.6	
	comp=N,3.2nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**4.19**	**349**	Pn	**Pn**	**03 41 48.2**	**-0.3**
	comp=N,0.6nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**03 42 34.6**	**-3.8**
	comp=N,0.6nm,0.1s,SNR=7.9						
EMAZ				Lg		03 42 58.1	
	comp=N,1.5nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**4.19**	**349**	Pn	**Pn**	**03 41 48.2**	**-0.3**
EMAZ				Sn	**Sn**	**03 42 34.6**	**-3.8**
EMAZ				Lg		03 42 56.6	
EMAZ	**Mazaricos**	**4.19**	**349**	Pn	**Pn**	**03 41 48.2**	**-0.3**
	comp=N,0.6nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**03 42 34.6**	**-3.8**
	comp=N,0.6nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**4.25**	**102**	Lg		03 43 03.9	
	comp=N,1.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.38**	**115**	Sn	**Sn**	**03 42 41.5**	**-1.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
EBER				Lg		03 43 07.7	
	comp=N,1.1nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.51**	**6**	Pn	**Pn**	**03 41 53.1**	**0.0**
	comp=N,0.2nm,0.1s,SNR=7.9						
EPON				Lg		03 43 12.6	
	comp=N,0.6nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**4.51**	**6**	Pn	**Pn**	**03 41 53.1**	**0.0**
EPON				Lg		03 43 07.1	
EPON	**Pontenova**	**4.51**	**6**	Pn	**Pn**	**03 41 53.1**	**+0.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**4.88**	**23**	Pn	**Pn**	**03 41 57.8**	**-0.4**
	comp=N,0.1nm,0.3s,SNR=4.0						
EARI				Sn	**Sn**	**03 42 52.0**	**-3.7**
	comp=N,0.1nm,0.1s,SNR=7.9						
EARI				Lg		03 43 21.9	
	comp=N,0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**4.88**	**23**	Pn	**Pn**	**03 41 57.8**	**-0.5**
	comp=N,0.1nm,0.3s,SNR=4.0						
EARI				Sn	**Sn**	**03 42 52.0**	**-3.8**
	comp=N,0.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.93**	**90**	Pn	**Pn**	**03 41 58.1**	**-0.8**
	SNR=7.9						
ETOB				Lg		03 43 24.1	
	comp=N,1.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.93**	**90**	Pn	**Pn**	**03 41 58.1**	**-0.8**
ETOB				Lg		03 43 24.1	
ETOB	**Tobarra**	**4.93**	**90**	Pn	**Pn**	**03 41 58.1**	**-0.9**
	SNR=7.9						
EMUR	**La Murta**	**5.29**	**99**	Lg		03 43 37.4	
	comp=N,0.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**5.50**	**36**	Sn	**Sn**	**03 43 08.4**	**-3.2**
	comp=N,0.2nm,0.2s,SNR=7.9						
ELAN				Lg		03 43 42.9	
	comp=N,0.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**5.50**	**36**	Sn	**Sn**	**03 43 05.7**	**-5.9**
	comp=N,0.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.89**	**73**	Pn	**Pn**	**03 42 11.9**	**-0.7**
	SNR=7.9						
EMOS				Sn	**Sn**	**03 43 16.3**	**-4.9**
	comp=N,0.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.89**	**73**	Pn	**Pn**	**03 42 11.9**	**-0.7**
	SNR=7.9						
EMOS				Sn	**Sn**	**03 43 16.3**	**-5.0**
	comp=N,0.1nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**5.96**	**89**	Lg		03 43 57.4	
	comp=N,0.3nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**6.48**	**46**	Pn	**Pn**	**03 42 20.6**	**-0.3**
	SNR=7.9						
EALK				Sn	**Sn**	**03 43 29.8**	**-6.3**
	comp=N,0.2nm,0.3s,SNR=7.9						
EALK				Lg		03 44 16.4	
	comp=N,0.6nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**6.48**	**46**	Pn	**Pn**	**03 42 20.6**	**-0.3**
EALK				Sn	**Sn**	**03 43 29.8**	**-6.3**
EALK				Lg		03 44 11.2	
SJPF	**Ste Jean**	**6.58**	**47**	*ePn*	**Pn**	**03 42 22.1**	**-0.1**
SJPF				*eSn*	**Sn**	**03 43 34.2**	**-4.2**
SJPF				*eSg*	**Sg**	**03 44 13.9**	**-7.6**
	comp=N,2.2nm,0.4s						
ERTA	**Horta de San J**	**6.63**	**69**	Pn	**Pn**	**03 42 22.4**	**-0.6**
	SNR=7.9						
ERTA				Sn	**Sn**	**03 43 33.3**	**-6.4**
	comp=N,0.1nm,0.1s,SNR=7.9						
ERTA				Lg		03 44 18.6	
	comp=N,0.1nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**6.63**	**69**	Pn	**Pn**	**03 42 22.4**	**-0.6**
ETSF	**Etsaut**	**6.84**	**51**	*ePn*	**Pn**	**03 42 26.2**	**+0.2**
ETSF				*eSn*	**Sn**	**03 43 40.7**	**-4.4**
ETSF				*eSg*	**Sg**	**03 44 22.4**	**-8.1**
	comp=N,0.7nm,0

CAUP	**Cauayan**	**1.57**	**5**	*e*P		Pn	03 45 00.1	-1.6
GQP	**Guinayangan**	**1.63**	**153**	⇑P		Pn	03 45 02.2	-0.4
GQP				*i* S		Sb	03 45 25.2	+1.1
BOAC	**Boac**	**1.91**	**176**	*e*P		Pn	03 45 05.3	-1.2
LUBP	**Lubang**	**2.15**	**221**	*e*P		Pn	03 45 10.2	+0.2
CVP	**Callao Caves**	**2.32**	**3**	*e*P		Pn	03 45 12.0	-0.4
APYP	**Conner**	**2.51**	**350**	*e*P		Pn	03 45 17.8	+2.6
APYP				*e*S		Sn	03 45 48.2	+1.2

BJI ***26*** *04:00:03.0, 66.70N×130.40W, h8km, mB4.6, mb4.5, Ms4.7, Msz4.3*

IDC ***26*** *04:00:06.0±0.6, 66.75N×130.40W, mb3.8/10, mb1 4.0/14, mb1mx4.0/23, mbtmp3.8/14, ML4.2/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/38, Error ellipse: s-maj=12.0km s-min=6.1km az=57.0*

PGC ***26*** *04:00:08.7, 66.68N×130.35W, h15km, ML4.1/2, North of Mackenzie Mountains, Northwest Territories*

NEIC ***26*** *04:00:09.0, 66.68N×130.35W, h15km, mb4.2/12, ML4.1(PGC), After PGC.*

ISC 26 04:00:04.1±0.3, 66.59N±0.03×130.39W±0.08, h10km, (h15km±.5km:pP-P), n64, σ1§36/84, mb4.1/22, MS4.4/1, 4D, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
INK	**Inuvik**	**2.10**	**326**	Pn		**Pn**		**04 00 40.5**	**+0.7**
	54nm,0.3s,baz=138,slow=17,SNR=614								
INK				Pg		**Pg**		**04 00 42.4**	**-3.7**
	55nm,0.3s,baz=150,slow=11,SNR=624								
INK				Lg				04 01 07.4	
	85nm,0.3s,baz=224,slow=26,SNR=18								
INK				Rg				04 01 24.6	
	594nm,0.7s,baz=303,slow=24,SNR=4.4								
INK	**Inuvik**	**2.10**	**326**	Pn		**Pn**		**04 00 42.0**	**+2.2**
INK				Sn		**Sn**		**04 01 07.9**	**+1.6**
INK				Trac				04 01 17.6	
	comp=Z,569nm,0.3s								
INK				Trac				04 01 17.6	
	comp=Z,569nm,0.3s								
INK	**Inuvik**	**2.10**	**326**	*e*Pn		**Pn**		**04 00 40.5**	**+0.7**
INK				*e*Sn		**Sn**		**04 01 07.8**	**+1.6**
DAWY	**Dawson**	**4.54**	**240**	⇓Pn		**Pn**		**04 01 16.0**	**+1.4**
DAWY				Sn		**Sn**		**04 02 07.1**	**-1.0**
DAWY				Trac				04 02 12.5	
	comp=Z,152nm,0.2s								
DAWY	**Dawson**	**4.54**	**240**	P		**Pn**		**04 01 16.1**	**+1.5**
BM3	**Burnt Mountain**	**5.63**	**285**	P		**Pn**		**04 01 28.9**	**-1.0**
WHY	**Whitehorse**	**6.28**	**201**	Pn		**Pn**		**04 01 40.4**	**+1.3**
WHY				Sg		**Sg**		**04 03 26.8**	**-6.4**
WHY				Trac				04 03 41.1	
	comp=Z,118nm,0.7s								
HYT	**Haines Junctio**	**6.59**	**212**	⇓Pn		**Pn**		**04 01 44.4**	**+1.0**
HYT				Sn		**Sn**		**04 02 59.3**	**-0.1**
HYT				Trac				04 03 57.5	
	comp=Z,182nm,0.9s								
MENT	**Mentasta**	**6.77**	**243**	P		**Pn**		**04 01 45.8**	**-0.2**
IL1	**Eielson Array**	**7.05**	**263**	P		**Pn**		**04 01 49.0**	**-0.9**
ILAR	**Eielson Array**	**7.05**	**263**	Pn		**Pn**		**04 01 47.6**	**-2.2**
	1.1nm,0.3s,baz=89,slow=9.8,SNR=46								
ILAR				Pg		Pg		04 02 03.8	-21
	1.7nm,0.3s,baz=94,slow=11,SNR=16								
ILAR				Sn		**Sn**		**04 03 36.3**	**-4.5**
	3.0nm,0.3s,baz=74,slow=25,SNR=5.6								
ILAR				Lg				04 03 49.9	
	6.4nm,0.3s,baz=64,slow=30,SNR=8.2								
PAX	**Paxson**	**7.39**	**248**	P		**Pn**		**04 01 54.2**	**-0.4**
COLA	**College**	**7.39**	**265**	P		**Pn**		**04 01 54.0**	**-0.7**
PLBC	**Pleasant Camp**	**7.66**	**204**	Pn		**Pn**		**04 02 00.8**	**+2.4**
YKW3	**Yellowknife Ar**	**7.89**	**113**	Pn		**Pn**		**04 02 00.9**	**-0.7**
YKW3				Pn		**Pn**		**04 02 02.2**	**+0.5**
YKW3				Sn		**Sn**		**04 03 26.4**	**-5.6**
YKW3				Sn		**Sn**		**04 03 26.5**	**-5.4**
YKW3				Sg		**Sg**		**04 04 13.8**	**-13**
YKW3				Sg		**Sg**		**04 04 14.1**	**-13**
YKW3				Trac				04 04 15.9	
	comp=Z,65nm,0.7s								
YKW3				Trac				04 04 15.9	
	comp=Z,65nm,0.7s								
YKW3				Trac				04 04 16.1	
	comp=Z,43nm,0.6s								
YKW3				Trac				04 04 16.1	
	comp=Z,43nm,0.6s								
YKW3	**Yellowknife Ar**	**7.89**	**113**	*e*Pn		**Pn**		**04 02 00.2**	**-1.4**
YKW3				*e*Sn		**Sn**		**04 03 29.0**	**-2.9**
YKA	**Yellowknife Ar**	**7.94**	**114**	Pn		**Pn**		**04 02 00.5**	**-1.8**
	3.8nm,0.3s,baz=301,slow=12,SNR=233								
YKA				Sn		**Sn**		**04 03 27.6**	**-5.5**
	3.2nm,0.3s,baz=304,slow=23,SNR=6.2								
YKA				Lg				04 04 11.9	
	2.4nm,0.3s,baz=304,slow=30,SNR=6.5								
DLBC	**Dease Lake**	**8.19**	**179**	Pn		**P**		**04 02 06.0**	**+0.2**
	1.5nm,0.3s,baz=8.0,slow=12,SNR=60								
DLBC				Sn		**Sn**		**04 03 40.4**	**+1.0**
	1.0nm,0.3s,baz=163,slow=19,SNR=2.8								
DLBC				Lg				04 04 28.4	
	2.4nm,0.3s,baz=103,slow=24,SNR=7.8								
DLBC				LR		LR		04 04 58.7	
	comp=Z,51nm,18.3s,baz=271,slow=35								
DLBC	**Dease Lake**	**8.19**	**179**	⇓Pn		**P**		**04 02 06.3**	**+0.5**
DLBC				Sg		**Sg**		**04 04 26.7**	**-10**
DLBC				Trac				04 04 35.2	
	comp=Z,56nm,1.1s								
DLBC	**Dease Lake**	**8.19**	**179**	P		**P**		**04 02 06.2**	**+0.4**
MCK	**McKinley**	**8.30**	**258**	P		**P**		**04 02 06.9**	**-0.5**
FNBB	**Fort Nelson**	**8.43**	**153**	⇓Pn		**P**		**04 02 08.6**	**-0.6**
FNBB				Sn		**Sn**		**04 03 41.1**	**-4.4**
FNBB				Trac				04 04 10.2	
	comp=Z,17nm,0.7s								
FNBB				Trac				04 04 10.2	
	comp=Z,17nm,0.7s								
TRF	**Thorofare Moun**	**8.97**	**259**	P		**P**		**04 02 16.1**	**-0.6**
IMA2	**Indian Mountai**	**9.37**	**278**	*e*Pn		**P**		**04 02 21.1**	**-1.0**
IMA2				*e*Sn		**Sn**		**04 04 03.2**	**-5.4**
BMBC	**Bull Mountain**	**11.29**	**156**	Pn		**P**		**04 02 47.8**	**-0.5**
BMBC				Trac				04 05 01.5	
	comp=Z,14nm,0.7s								
BMBC				Trac				04 05 01.5	
	comp=Z,14nm,0.7s								
FSB	**Fort Saint Jam**	**12.51**	**163**	Pn		**P**		**04 03 05.9**	**+1.1**
FSB				Trac				04 07 22.1	
	comp=Z,5.0nm,0.9s								
RES	**Resolute Bay**	**14.02**	**40**	Pn		**P**		**04 03 19.2**	**-5.3**
RES				Sn		**S**		**04 05 48.0**	**-13**
RES				Sg				04 07 20.7	
RES				Trac				04 07 30.6	
	comp=Z,16nm,0.8s								
RES				Trac				04 07 30.6	
	comp=Z,16nm,0.8s								
RES	**Resolute Bay**	**14.02**	**40**	*e*Pn		**P**		**04 03 20.1**	**-4.4**
	14nm,1.3s								
RES				*e*Sn		**S**		**04 05 49.2**	**-12**
EDM	**Edmonton**	**15.81**	**140**	*e*Pn		**P**		**04 03 46.1**	**-1.9**
EDM				*e*Sn		**S**		**04 06 37.4**	**-6.2**
FFC	**Flin Flon**	**18.09**	**117**	*e*Pn		**P**		**04 04 14.5**	**-2.3**
	5.5nm,0.7s								
FCC	**Fort Churchill**	**18.16**	**98**	*e*Pn		**P**		**04 04 15.5**	**-2.1**
	1.2nm,0.5s								
NEW	**Newport**	**19.63**	**153**	P		**P**		**04 04 37.6**	**+2.3**
	0.1nm,0.3s,baz=354,slow=8.5,SNR=5.6								
NEW	**Newport**	**19.63**	**153**	*e*P		**P**		**04 04 35.3**	**0.0**
	23nm,1.8s								
MSO	**Missoula**	**21.63**	**148**	*e*P		**P**		**04 05 02.3**	**+6.1**
	31nm,1.7s,mb4.5								
HRY	**Holter Researc**	**22.21**	**145**	*e*P		**P**		**04 05 05.0**	**+3.1**
DGMT	**Dagmar**	**22.66**	**130**	P		**P**		**04 05 07.1**	**+1.0**
	4.7nm,0.6s,mb4.1								
BMO	**Blue Mountains**	**22.90**	**156**	*e*P		**P**		**04 05 11.3**	**+2.7**
	20nm,1.5s,mb4.3								
DLMT	**Dillon**	**23.32**	**147**	*e*P		**P**		**04 05 17.1**	**+4.5**
	12nm,1.3s,mb4.2								
MCMT	**McKenzie Canyo**	**23.77**	**148**	*e*P		**P**		**04 05 10.5**	**-6.5**
ULM	**Lac du Bonnet**	**23.91**	**116**	P		**P**		**04 05 21.9**	**+3.6**
	1.5nm,0.7s,mb3.5,baz=306,slow=7.2,SNR=5.4								
QLMT	**Earthquake Lak**	**24.08**	**145**	*e*P		**P**		**04 05 32.4**	**+12**
HLID	**Hailey**	**24.67**	**151**	P		**P**		**04 05 28.2**	**+2.4**
PDAR	**Pinedale Array**	**26.47**	**144**	P		**P**		**04 05 46.5**	**+3.9**
	0.9nm,0.9s,mb3.3,baz=3.2,slow=6.6,SNR=6.9								
RSSD	**Black Hills**	**26.64**	**135**	*e*P		**P**		**04 05 45.7**	**+1.5**
	1.7nm,0.8s,mb3.6								
TPNV	**Topopah Spring**	**30.79**	**158**	P		**P**		**04 06 18.5**	**-3.1**
TXAR	**Lajitas Array**	**40.68**	**143**	P		**P**		**04 07 49.0**	**+3.2**
	0.6nm,0.8s,mb3.3,baz=355,slow=7.9,SNR=8.7								

ARCES	**ARCESS Array B**	**43.12**	**12**	P		**P**		**04 08 06.3**	**+1.0**
	2.2nm,0.8s,mb3.9,slow=9.7,SNR=5.6								
NB2	**NORSAR Subarra**	**49.58**	**23**	P		**P**		**04 08 56.7**	**+0.3**
	0.2nm,0.7s,mb3.3,baz=342,slow=7.9								
NOA	**NORSAR Array B**	**49.58**	**23**	P		**P**		**04 08 57.1**	**+0.6**
	1.5nm,0.7s,mb4.1,baz=342,slow=7.8,SNR=6.6								
FINES	**FINESS Array B**	**51.10**	**14**	P		**P**		**04 09 08.2**	**+0.2**
	1.6nm,0.8s,mb4.0,baz=346,slow=7.9,SNR=11								
MDJ	**Mudanjiang**	**53.70**	**299**	P		**P**		**04 09 26.3**	**-1.4**
MDJ				AMB		AMB			
	comp=Z,10.0nm,1.8s,mb4.4								
MDJ				AMB		AMB			
	comp=Z,310nm,4.3s								
CN2	**Changchun**	**55.84**	**302**	*e*P		**P**		**04 09 44.0**	**+0.6**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
ARU	**Arti**	**57.11**	**354**	*e*P		**P**		**04 09 53.0**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.5								
SONM	**Songino Array**	**58.00**	**318**	P		**P**		**04 10 00.4**	**+1.7**
	comp=Z,0.4nm,0.7s,mb3.6,baz=22,slow=6.8,SNR=3.6								
CLL	**Collm**	**59.18**	**26**	*e**PP		pP		04 10 11.0	+1.0
BRVK	**Borovoye**	**59.65**	**346**	*e*P		**P**		**04 10 08.8**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.3								
ZRNK	**Zerenda**	**59.88**	**347**	*e*P		**P**		**04 10 12.4**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.4								
GERES	**GERESS Array B**	**61.68**	**26**	P		**P**		**04 10 25.5**	**+1.6**
	comp=Z,0.7nm,0.8s,mb3.9,baz=333,slow=3.0,SNR=6.6								
AKASG	**Malin Array Be**	**62.01**	**15**	P		**P**		**04 10 25.7**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.2,baz=352,slow=7.1,SNR=12								
MKAR	**Makanchi Array**	**64.21**	**336**	P		**P**		**04 10 41.1**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=37,slow=6.1,SNR=10								
WMQ	**Urumqi**	**66.12**	**331**	*e*P		**P**		**04 10 53.0**	**+0.1**
WMQ				AP		pP		04 10 57.8	+1.8
WMQ				XP		sP		04 11 00.0	+2.9
WMQ				AMB		AMB			
	comp=Z,10.0nm,4.2s								
GTA	**Gaotai**	**67.57**	**320**	*e*P		**P**		**04 11 00.3**	**-1.9**
GTA				AP		pP		04 11 04.5	-0.8
GTA				XP		sP		04 11 06.8	+0.3
GTA				PP		PP		04 13 31.0	-2.1
GTA				S		S		04 19 55.0	-2.4
GTA				SS		SS		04 24 16.0	-3.6
GTA				AMB		AMB			
	comp=Z,120nm,7.2s								
GTA				LR		LR			
	comp=N,150nm,15.6s,MS4.5								
GTA				LR		LR			
	comp=E,180nm,16.3s,MS4.5								
GTA				LR		LR			
	comp=Z,120nm,14.1s,MS4.3								
NJ2	**Nanjing**	**68.66**	**302**	*e*P		**P**		**04 11 13.3**	**+4.2**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.8								
LZH	**Lanzhou**	**69.61**	**315**	*e*P		**P**		**04 11 14.0**	**-0.9**
LZH				AP		pP		04 11 18.8	+0.8
LZH				XP		sP		04 11 21.3	+2.2
LZH				PP		PP		04 13 49.3	-1.6
LZH				AMB		AMB			
	comp=Z,20nm,1.6s,mb4.8								

IDC ***26*** *04:15:18.1±3.6, 31.73N×50.00E, mb3.9/7, mb1 3.9/9, mb1mx3.7/21, mbtmp3.8/9, MS3.1/1, Ms1 3.1/1, ms1mx2.4/28, Error ellipse: s-maj=71.5km s-min=23.6km az=178.0*

NEIC ***26*** *04:15:18.9±1.1, 31.58N×49.93E, h10km, mb3.7/5, MN3.9(TEH), Error ellipse: s-maj=20.8km s-min=7.2km az=183.0*

CSEM ***26*** *04:15:20.6±0.1, 31.71N×50.05E, h10km, ML3.9, Error ellipse: s-maj=3.8km s-min=1.4km az=131.0*

KISR ***26*** *04:15:21.3±0.9, 31.65N×50.11E, h36km±633km, ML3.9*

TEH ***26*** *04:15:23.0, 31.57N×49.92E, h4km, Mn3.9*

MOS ***26*** *04:15:23.4±1.0, 32.05N×50.01E, h33km, mb3.9/5, Error ellipse: s-maj=14.3km s-min=9.0km az=101.6*

THR ***26*** *04:15:27.9±1.1, 32.31N×50.32E, h15km, ML3.3*

ISC 26 04:15:23.3±0.3, 31.74N±0.03×50.04E±0.04, h58km±5km, n81, σ1§03/89, mb3.7/11, MS2.9/1, 6C-6D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
IGAR	**Garneh**	**1.90**	**74**	Pn		**P**		**04 15 54.3**	**+0.3**
IKLH	**Kalahroud**	**2.04**	**39**	Pn		**P**		**04 15 57.2**	**+1.2**
IZEF	**Zefreh**	**2.26**	**59**	Pn		**P**		**04 16 00.2**	**+1.1**
NASN	**Na'in**	**2.57**	**65**	*e*Pn		**P**		**04 16 05.0**	**+1.5**
NASN				*e*Sg		**S**		**04 16 36.0**	**+2.3**
NASN				AML		AML		04 16 52.5	
	comp=N,134nm,0.4s								
NASN	**Na'in**	**2.57**	**65**	*e*Pn		**P**		**04 16 05.0**	**+1.4**
	SNR=52								
NASN				*e*Sg		**S**		**04 16 36.0**	**+2.3**
	comp=N,134nm,0.4s,SNR=90								
ASAO	**Ashtian**	**2.80**	**360**	*e*Pg		**P**		**04 16 08.6**	**+1.8**
ASAO				*e*Sg		S		**04 16 38.4**	**-1.1**
ASAO				AML		AML		04 16 58.0	
	comp=N,285nm,0.5s								
ASAO	**Ashtian**	**2.80**	**360**	*e*Pg		**P**		**04 16 08.6**	**+1.8**
	SNR=90								
ASAO				*e*Sg		**S**		**04 16 38.4**	**-1.1**
	comp=N,285nm,0.5s,SNR=90								
UMR	**Umm Al-Rimmam**	**2.96**	**223**	*e*P		**P**		**04 16 08.7**	**-0.4**
UMR				*e*S		**S**		**04 16 44.3**	**+0.8**
UMR	**Umm Al-Rimmam**	**2.96**	**223**	*e*P		**P**		**04 16 08.6**	**-0.4**
UMR				*e*S		**S**		**04 16 44.3**	**+0.8**
MIB	**Mutribah**	**3.02**	**231**	*e*P		**P**		**04 16 09.7**	**-0.2**
MIB				*e*S		**S**		**04 16 46.1**	**+1.1**
MIB	**Mutribah**	**3.02**	**231**	*e*P		**P**		**04 16 09.6**	**-0.3**
MIB				*e*S		**S**		**04 16 46.1**	**+1.1**
IPAR	**Pars**	**3.21**	**125**	Pn		**P**		**04 16 17.1**	**+4.6**
IKOM	**Komasi**	**3.23**	**320**	Pn		**P**		**04 16 12.3**	**-0.5**
KBD	**Kabd**	**3.26**	**219**	*e*P		**P**		**04 16 13.0**	**-0.2**
KBD				*e*S		**S**		**04 16 51.1**	**0.0**
KBD				AML		AML		04 16 57.6	
	comp=Z,508nm,0.2s								
NAY	**Al-Naaiem**	**3.46**	**225**	*e*P		**P**		**04 16 15.8**	**-0.2**
NAY				*e*S		**S**		**04 16 56.1**	**0.0**
NAY				AML		AML		04 17 03.0	
	comp=Z,111nm,0.4s								
QRN	**Al-Qurain**	**3.50**	**212**	*e*P		**P**		**04 16 15.7**	**-0.9**
QRN				AML		AML		04 17 00.1	
	comp=Z,272nm,0.4s								
RDF	**Al-Radifah**	**3.53**	**218**	*e*P		**P**		**04 16 16.6**	**-0.5**
RDF				*e*S		**S**		**04 16 58.7**	**+0.7**
RDF				AML		AML		04 17 02.9	
	comp=Z,244nm,0.4s								
IMOK	**Mook**	**3.54**	**139**	Pn		**P**		**04 16 21.4**	**+4.2**
ISRV	**Sarvestan**	**3.54**	**131**	Pn		**P**		**04 16 21.8**	**+4.6**
IVRN	**Varamin**	**3.54**	**23**	Lg				04 17 10.8	
IVRN	**Varamin**	**3.54**	**23**	Pn		**P**		**04 16 17.8**	**+0.6**
IRAZ	**Razeghan**	**3.66**	**359**	Pn		**P**		**04 16 19.8**	**+1.0**
ICHK	**Chekchek**	**3.75**	**81**	Pn		**P**		**04 16 20.1**	**0.0**
IMEH	**Mehriz**	**3.92**	**94**	Pn		**P**		**04 16 21.8**	**-0.7**
IMHD	**Mahdasht**	**3.97**	**7**	Pn		**P**		**04 16 23.7**	**+0.5**
IDMV	**Damavand**	**4.17**	**23**	*e*P		**P**		**04 16 26.3**	**+0.2**
IDMV				Sn		**S**		**04 17 12.5**	**-1.6**
IDMV	**Damavand**	**4.17**	**23**	Pn		**P**		**04 16 26.3**	**+0.2**
IDMV				Sn		**S**		**04 17 12.5**	**-1.6**
DAMV	**Damavand**	**4.20**	**22**	*e*Pn		**P**		**04 16 26.2**	**-0.3**
DAMV				AML		AML		04 17 45.1	
	comp=N,51nm,0.6s								
THKV	**Tehran--Karaj**	**4.22**	**9**	*e*Pn		**P**		**04 16 25.5**	**-1.3**
IDHR	**Dehrash**	**4.25**	**315**	Pn		**P**		**04 16 25.9**	**-1.3**
CHTH	**Charan**	**4.25**	**12**	*e*Pn		**P**		**04 16 26.5**	**-0.7**
IFIR	**Firoozkooh**	**4.50**	**29**	Pn		**P**		**04 16 31.2**	**+0.5**
IFIR				Sn		**S**		**04 17 20.7**	**-1.6**
IBAF	**Bafgh**	**4.72**	**90**	Pn		**P**		**04 16 33.6**	**-0.1**
BHD	**Baghdad**	**5.02**	**289**	*ex*		x		04 16 56.0	
BHD				*ex*		x		04 18 06.0	
BANOM	**Banah**	**7.98**	**135**	P		**P**		**04 17 15.1**	**-4.0**
	SNR=25								
ASHO	**Ashiyiah**	**8.81**	**141**	P		**P**		**04 17 26.7**	**-3.7**
	SNR=13								
BSY	**Bisya**	**10.99**	**143**	⇓P		**P**		**04 17 57.3**	**-2.9**
SMDO	**Samad**	**11.19**	**139**	⇓P		**P**		**04 17 59.8**	**-3.2**
	SNR=9.9								
MALT	**Malatya**	**11.55**	**308**	P		**P**		**04 18 04.0**	**-3.8**
JMDO	**Jabal Madar**	**11.77**	**140**	⇑P		**P**		**04 18 07.7**	**-3.1**
	SNR=8.9								
WHFO	**Wadi Hawf**	**14.17**	**165**	⇓P		**P**		**04 18 38.0**	**-4.5**
	SNR=11								
CSS	**Prodhromos**	**14.33**	**287**	*e*Pn		**P**		**04 18 38.4**	**-6.1**
BR131	**Keskin Array S**	**15.50**	**305**	Pn		**P**		**04 19 01.3**	**+1.7**
	comp=N,1.5nm,0.7s								
BRTR	**Keskin Array B**	**15.50**	**305**	Pn		**P**		**04 19 00.0**	**+0.4**
	baz=117,slow=13,SNR=2.5								
AKTK	**Aktyubinsk**	**19.60**	**15**	P		**P**		**04 19 48.3**	**-1.0**
AKTK	**Aktyubinsk**	**19.60**	**15**	P		**P**		**04 19 48.3**	**-1.0**
AKTO	**Aktyubinsk**	**19.60**	**15**	P		**P**		**04 19 48.3**	**-1.0**
	comp=N,0.3nm,0.3s,baz=205,slow=12,SNR=4.4								
IDI	**Anoyia**	**21.25**	**286**	P		**P**		**04 20 05.8**	**-0.7**
	comp=N,15nm,0.5s,mb4.5,baz=83,slow=11,SNR=12								
HARR	**Harsova**	**21.57**	**313**	⇓P		**P**		**04 20 09.6**	**0.0**
CFR	**Carcaliu**	**21.69**	**314**	⇓P		**P**		**04 20 10.3**	**-0.5**
AAK	**Ala-Archa**	**22.24**	**54**	*e*P		**P**		**04 20 16.3**	**+0.1**
AAK				pmax		pmax			
	comp=Z,2.0nm,1.0s,mb3.5								
AAK	**Ala-Archa**	**22.24**	**54**	*e*P		**P**		**04 20 16.3**	**0.0**
	comp=Z,1.8nm,1.0s,mb3.5								
AAK	**Ala-Archa**	**22.24**	**54**	*e*P		**P**		**04 20 16.3**	**+0.1**
	comp=Z,1.8nm,1.0s,mb3.5								
MLR	**Muntele Rosu**	**23.19**	**313**	P				04 20 31.6	
	comp=Z,2.8nm,0.9s,baz=234,slow=14,SNR=7.9								
MLR				LR		LR		04 30 27.3	
	comp=Z,44nm,18.7s,MS2.9,baz=205,slow=39								
MLR	**Muntele Rosu**	**23.19**	**313**	⇑P				04 20 33.0	
MLR	**Muntele Rosu**	**23.19**	**313**	P				04 20 31.6	
MLR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
MLR				MLR		MLR			
	comp=Z,44nm,18.7s								
MLR	**Muntele Rosu**	**23.19**	**313**	⇑P				04 20 33.0	
VOIR		**23.73**	**312**	⇓P		**P**		**04 20 33.2**	**+2.6**
AKASG	**Malin Array Be**	**24.43**	**327**	P		**P**		**04 20 37.4**	**-0.1**
	comp=Z,0.6nm,0.3s,mb3.4,baz=135,slow=9.4,SNR=8.2								
BURAR	**Bucovina Array**	**24.67**	**317**	⇑P		**P**		**04 20 42.0**	**+2.1**
BURAR	**Bucovina Array**	**24.67**	**317**	⇑P		**P**		**04 20 42.0**	**+2.1**
ZRNK	**Zerenda**	**25.27**	**27**	*e*P		**P**		**04 20 46.2**	**+0.8**
ZRNK				pmax		pmax			
	comp=Z,4.0nm,1.2s,mb3.8								
ZRNK	**Zerenda**	**25.27**	**27**	*e*P		**P**		**04 20 46.2**	**+0.7**
	comp=Z,3.9nm,1.2s,mb3.8								
ZRNK	**Zerenda**	**25.27**	**27**	*e*P		**P**		**04 20 46.2**	**+0.8**
	comp=Z,3.9nm,1.2s,mb3.8								
ARU	**Arti**	**25.39**	**11**	P		**P**		**04 20 47.2**	**+0.6**
BRVK	**Borovoye**	**25.86**	**29**	*e*P		**P**		**04 20 50.8**	**-0.2**
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.7s,mb3.5								
BRVK	**Borovoye**	**25.86**	**29**	*e*P		**P**		**04 20 50.8**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.5								
BRVK	**Borovoye**	**25.86**	**29**	*e*P		**P**		**04 20 50.8**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.5								
BVAR	**Borovoye Array**	**25.88**	**29**	P		**P**		**04 20 51.9**	**+0.7**
	comp=Z,2.4nm,0.9s,mb3.7,baz=217,slow=7.4,SNR=11								
BZS	**Buzias**	**26.00**	**310**	⇑P		**P**		**04 20 48.0**	**-4.4**
KWP	**Kalwaria**	**27.14**	**319**	*e*P		**P**		**04 21 02.5**	**-0.3**
KWP				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb3.8								
KWP	**Kalwaria**	**27.14**	**319**	*e*P		**P**		**04 21 02.5**	**-0.4**
	comp=Z,2.1nm,0.6s,mb3.8								
KWP	**Kalwaria**	**27.14**	**319**	*e*P		**P**		**04 21 02.5**	**-0.3**
	comp=Z,2.1nm,0.6s,mb3.8								
KURK	**Kurchatov**	**28.39**	**40**	P		**P**		**04 21 13.6**	**-0.5**
MKAR	**Makanchi Array**	**28.90**	**49**	P		**P**		**04 21 18.7**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=245,slow=9.0,SNR=11								
JOF	**Joensuu**	**33.41**	**345**	*ep*		**P**		**04 21 57.5**	**-0.6**
FINES	**FINESS Array B**	**33.57**	**339**	P		**P**		**04 21 59.0**	**-0.5**
	comp=Z,2.5nm,0.9s,mb4.2,baz=137,slow=9.5,SNR=14								
KAF	**Kangasniemi**	**34.03**	**340**	*ep*		**P**		**04 22 03.1**	**-0.4**
KEV	**Kevo**	**40.21**	**348**	*ep*		**P**		**04 22 55.3**	**0.0**
ARCES	**

NACB	**Ninganchiao**	**22.20**	**305**	P	**P**	**04 34 28.8**	**+1.0**
YHNB	**Yeheng**	**22.61**	**306**	P	**P**	**04 34 32.4**	**+0.3**
TATO	**Taipei**	**22.68**	**307**	P	**P**	**04 34 33.3**	**+0.6**
JNU	**Nakatsue**	**22.95**	**337**	LR	LR	04 41 54.6	
	comp=Z,100nm,19.5s,MS3.3,baz=23,slow=32						
MAJO	**Matsushiro**	**24.44**	**354**	P	**P**	**04 34 50.2**	**+0.5**
KAKA	**Kakadu**	**26.23**	**200**	*e*P	Px	04 35 28.1	
	comp=Z,13nm,0.8s						
SSE	**Sheshan**	**26.48**	**319**	P	**P**	**04 35 06.0**	**-2.9**
SSE				S	**S**	**04 39 37.5**	**+0.8**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,130nm,4.9s						
SSE				LR	LR		
	comp=Z,90nm,27.7s,MS3.2						
NJ2	**Nanjing**	**28.62**	**317**	*e*P	**P**	**04 35 31.0**	**+2.7**
NJ2				AP	pP	04 35 45.3	+2.9
NJ2				XP	sP	04 35 50.5	+1.2
NJ2				PP	PP	04 36 23.5	+1.4
NJ2				S	**S**	**04 40 14.0**	**+2.8**
NJ2				XS		04 40 35.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,120nm,10.3s						
NJ2				LR	LR		
	comp=N,630nm,26.2s,MS4.3						
NJ2				LR	LR		
	comp=E,710nm,23.2s,MS4.3						
NJ2				LR	LR		
	comp=Z,580nm,30.0s						
QIZ	**Qiongzhong**	**31.05**	**287**	*e*P	**P**	**04 35 49.5**	**-0.5**
QIZ				S	**S**	**04 40 46.8**	**-3.0**
QIZ				LR	LR		
	comp=E,80nm,28.6s						
QIZ				LR	LR		
	comp=Z,110nm,24.8s,MS3.4						
CTA	**Charters Tower**	**32.41**	**171**	*e*P	**P**	**04 36 02.9**	**+1.0**
	comp=Z,13nm,0.7s,mb4.9						
CTA	**Charters Tower**	**32.41**	**171**	*e*P	**P**	**04 36 02.9**	**+1.0**
CTA				pmax	pmax		
	comp=Z,13nm,0.7s						
CTAO	**Charters Tower**	**32.41**	**171**	*e*P	**P**	**04 36 02.5**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**32.41**	**171**	*e*P	**P**	**04 36 02.5**	**+0.7**
	comp=Z,15nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**32.62**	**192**⇑	*e*P	**P**	**04 36 03.9**	**+0.2**
WRAB	**Tennant Creek**	**32.62**	**192**	*e*P	**P**	**04 36 03.5**	**-0.2**
	comp=Z,26nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**32.63**	**192**	*e*P	**P**	**04 36 03.5**	**-0.3**
WB2				*e*pP	pP	04 36 12.5	-5.7
WRA	**Warramunga Arr**	**32.63**	**192**	P	**P**	**04 36 03.5**	**-0.3**
	comp=Z,18nm,0.8s,mb5.0,baz=12,slow=9.5,SNR=72						
WRA				PcP	PcP	04 38 49.3	+0.4
	comp=Z,0.4nm,0.5s,baz=7.9,slow=3.1,SNR=4.9						
MDJ	**Mudanjiang**	**33.87**	**345**	P	**P**	**04 36 15.3**	**+1.0**
MDJ				AP	pP	04 36 30.0	+1.2
MDJ				XP	sP	04 36 37.5	+1.6
MDJ				PP	PP	04 37 27.8	-1.3
MDJ				PCP	PcP	04 38 52.0	-0.1
MDJ				S	**S**	**04 41 32.3**	**-1.3**
MDJ				SCS	ScS	04 46 32.5	+1.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.3s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,290nm,5.4s						
MDJ				LR	LR		
	comp=N,80nm,26.5s						
MDJ				LR	LR		
	comp=E,40nm,16.6s						
MDJ				LR	LR		
	comp=Z,100nm,29.3s,MS3.4						
ENH	**Enshi**	**34.55**	**306**	*e*P	**P**	**04 36 20.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**34.70**	**2**	P	**P**	**04 36 18.7**	**-2.7**
ASPA	**Alice Springs**	**36.34**	**192**	*e*P	**P**	**04 36 36.4**	**+0.9**
ASPA				*e*pP	pP	04 36 48.0	-2.1
HABR	**Khabarovsk**	**36.58**	**353**	*i* P	**P**	**04 36 37.6**	**+0.3**
KLR	**Kul'dur**	**37.80**	**350**	*e*P	**P**	**04 36 44.8**	**-2.7**
KMI	**Kunming**	**38.62**	**295**	P	**P**	**04 37 00.8**	**+6.2**
KMI				S	**S**	**04 42 48.5**	**+1.9**
KMI				LR	LR		
	comp=Z,70nm,26.4s,MS3.4						
CD2	**Chengdu**	**39.36**	**304**	*e*P	**P**	**04 37 01.5**	**+0.8**
CD2				AP	pP	04 37 17.0	+1.7
CD2				XP	sP	04 37 24.0	+1.8
CD2				PP	PP	04 38 37.3	+1.8
CD2				S	**S**	**04 42 58.5**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
CD2				AMB	AMB		
	comp=Z,150nm,5.4s						
CD2				LR	LR		
	comp=E,90nm,13.2s						
CD2				LR	LR		
	comp=Z,80nm,14.4s,MS3.7						
LZH	**Lanzhou**	**41.30**	**312**	*e*P	**P**	**04 37 18.0**	**+1.4**
LZH				AP	pP	04 37 33.5	+2.2
LZH				XP	sP	04 37 40.8	+2.7
LZH				PP	PP	04 38 57.8	+2.2
LZH				*e*S	**S**	**04 43 27.5**	**+1.0**
LZH				XS		04 43 54.0	
LZH				*e*SS	SS	04 46 28.5	+1.5
LZH				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.7						
LZH				AMB	AMB		
	comp=Z,120nm,4.6s						
LZH				LR	LR		
	comp=N,660nm,14.6s						
LZH				LR	LR		
	comp=Z,860nm,15.3s,MS4.7						
STKA	**Stephens Creek**	**43.78**	**180**	P	**P**	**04 37 37.2**	**+0.2**
	comp=Z,12nm,0.7s,mb4.7,baz=356,slow=8.1,SNR=32						
STKA	**Stephens Creek**	**43.78**	**180**	*e*P	**P**	**04 37 37.3**	**+0.2**
FORT	**Forrest**	**44.55**	**196**	*e*P	**P**	**04 37 44.0**	**+0.8**
	comp=Z,16nm,0.7s,mb5.0						
GTA	**Gaotai**	**45.60**	**314**	*e*P	**P**	**04 37 52.0**	**+0.5**
GTA				AP	pP	04 38 07.0	+0.7
GTA				XP	sP	04 38 15.5	+2.5
GTA				PP	PP	04 39 41.0	+1.7
GTA				S	**S**	**04 44 29.5**	**+0.4**
GTA				XS		04 44 56.0	
GTA				SS	SS	04 47 45.8	+0.5
GTA				AMB	AMB		
	comp=Z,120nm,7.2s						
GTA				LR	LR		
	comp=N,90nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=E,210nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=Z,110nm,16.0s,MS3.9						
ULN	**Ulaanbaatar**	**45.67**	**328**	*e*P	**P**	**04 37 52.1**	**+0.2**
ULN				*e**PP	pP	04 38 08.3	+1.6
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**45.67**	**328**	*e*P	**P**	**04 37 52.1**	**+0.3**
	comp=Z,4.6nm,0.8s,mb4.5						
ULN				*e*pP	pP	04 38 08.3	+1.7
SONM	**Songino Array**	**45.99**	**328**	P	**P**	**04 37 54.8**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=135,slow=7.2,SNR=10.0						
SONM				LR	LR	04 55 20.4	
	comp=Z,84nm,19.1s,MS3.7,baz=171,slow=34						
KLBR	**Kellerberrin**	**49.02**	**207**	*e*P	**P**	**04 38 17.5**	**-0.8**
	comp=Z,103nm,1.7s,mb5.6						
LSA	**Lhasa**	**49.61**	**299**	*e*P	**P**	**04 38 22.6**	**-0.3**
BOD	**Bodaibo**	**50.08**	**341**	*e*P	**P**	**04 38 25.1**	**-1.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
NWAO	**Narrogin (SRO)**	**50.39**	**206**	*e*P	**P**	**04 38 28.4**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,19nm,1.2s						
NWAO	**Narrogin (SRO)**	**50.39**	**206**	*e*P	**P**	**04 38 28.4**	**-0.4**
	comp=Z,19nm,1.2s,mb5.0						
YAK	**Yakutsk**	**50.50**	**353**	*e*P	**P**	**04 38 28.3**	**-0.9**
YAK				*e*		04 38 37.2	
YAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK	**Yakutsk**	**50.50**	**353**	*e*P	**P**	**04 38 29.0**	**-0.2**
	comp=N,42nm,0.6s,mb5.6						
SEY	**Seymchan**	**51.31**	**6**⇓	*e*P	**P**	**04 38 36.7**	**+1.4**
JIRN	**Jiri**	**53.67**	**295**	*e*P	**P**	**04 38 53.3**	**-0.2**
	comp=N,31nm,0.7s,mb5.4						
GUN	**Gumba**	**53.97**	**296**	*e*P	**P**	**04 38 55.5**	**-0.1**
	comp=N,75nm,0.8s,mb5.7						
PKI	**Pulchoki**	**54.35**	**295**	*e*P	**P**	**04 38 57.6**	**-0.9**
KKN	**Kakani**	**54.48**	**295**	*e*P	**P**	**04 38 58.7**	**-0.7**
	comp=N,35nm,0.8s,mb5.3						
KKN	**Kakani**	**54.48**	**295**	*e*P	**P**	**04 38 58.7**	**-0.7**
KKN				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
DMN	**Daman**	**54.62**	**295**	*e*P	**P**	**04 39 00.0**	**-0.4**
	comp=Z,30nm,0.7s,mb5.4						
GKN	**Gorkha**	**55.07**	**296**	*e*P	**P**	**04 39 02.8**	**-0.9**
TAU	**Tasmania Unive**	**55.07**	**175**	*e*P	**P**	**04 39 02.8**	**-0.7**
TAU				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.4						
TAU	**Tasmania Unive**	**55.07**	**175**	*e*P	**P**	**04 39 02.8**	**-0.7**
	comp=Z,53nm,1.4s,mb5.4						
WMQ	**Urumqi**	**55.66**	**315**	*e*P	**P**	**04 39 09.5**	**+1.8**
WMQ				AP	pP	04 39 25.5	+2.5
WMQ				XP	sP	04 39 32.5	+3.0
WMQ				PCP	PcP	04 40 08.0	+1.5
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,200nm,4.6s						
WMQ				LR	LR		
	comp=N,750nm,20.0s,MS4.9						
WMQ				LR	LR		
	comp=E,740nm,22.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,740nm,18.4s,MS4.8						
KOLN	**Koldanda**	**55.97**	**295**	*e*P	**P**	**04 39 09.4**	**-0.7**
	comp=Z,42nm,0.8s,mb5.5						
BILL	**Bilibino**	**58.17**	**11**⇑	*i* P	**P**	**04 39 25.1**	**-0.1**
BILL				*e**PP	pP	04 39 34.3	-6.2
BILL				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
BILL	**Bilibino**	**58.17**	**11**	*e*P	**P**	**04 39 24.5**	**-0.7**
	comp=Z,15nm,0.9s,mb5.0						
TIXI	**Tiksi**	**59.94**	**355**⇓	*e*P	**P**	**04 39 36.4**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**60.15**	**317**	P	**P**	**04 39 39.2**	**+0.1**
	comp=Z,6.0nm,0.8s,mb4.7,baz=98,slow=8.6,SNR=55						
MKAR				LR	LR	05 05 57.0	
	comp=Z,60nm,18.4s,MS3.8,baz=0.3,slow=36						
MKAR	**Makanchi Array**	**60.15**	**317**	P	**P**	**04 39 39.2**	**+0.1**
MKAR				LR	LR	05 05 57.0	
NVS	**Novosibirsk**	**61.99**	**326**	*e*P	**P**	**04 39 49.9**	**-1.5**
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
KURK	**Kurchatov**	**63.47**	**321**	*e*P	**P**	**04 40 01.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.5						
KURK	**Kurchatov**	**63.47**	**321**	*e*P	**P**	**04 40 01.0**	**-0.4**
	comp=Z,31nm,0.8s,mb5.5						
KZA	**Kyzart**	**64.22**	**311**	P	**P**	**04 40 07.6**	**+1.3**
	SNR=16						
KBK	**Karagaybulak**	**64.51**	**312**	P	**P**	**04 40 08.7**	**+0.5**
	SNR=5.6						
UCH	**Uchtor**	**64.78**	**311**	P	**P**	**04 40 11.0**	**+1.0**
	SNR=15						
AAK	**Ala-Archa**	**64.84**	**311**	*e*P	**P**	**04 40 09.3**	**-1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**64.84**	**311**	*e*P	**P**	**04 40 09.3**	**-1.1**
	comp=Z,2.9nm,0.9s,mb4.3						
USP	**Ospenovka**	**64.91**	**312**	P	**P**	**04 40 10.5**	**-0.3**
	SNR=6.9						
AML	**Almayashu**	**65.38**	**311**	P	**P**	**04 40 14.7**	**+0.8**
	SNR=9.9						
KKAR	**Karatay Array**	**67.80**	**312**	*i* P	**P**	**04 40 28.3**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
IMA2	**Indian Mountai**	**68.92**	**23**	*e*P	**P**	**04 40 35.5**	**-0.1**
BVA0	**Borovoye Array**	**68.92**	**322**	*i* P	**P**	**04 40 35.7**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**68.92**	**322**	P	**P**	**04 40 35.9**	**0.0**
	comp=Z,15nm,0.7s,mb5.0,baz=105,slow=7.9,SNR=94						
BRVK	**Borovoye**	**68.99**	**322**	*e*P	**P**	**04 40 36.4**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
BRVK	**Borovoye**	**68.99**	**322**	*e*P	**P**	**04 40 36.4**	**+0.1**
	comp=Z,18nm,1.1s,mb4.9						
ZRNK	**Zerenda**	**69.74**	**322**	*e*P	**P**	**04 40 40.5**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**69.74**	**322**	*e*P	**P**	**04 40 40.5**	**-0.5**
	comp=Z,16nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**71.33**	**25**	P	**P**	**04 40 49.6**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=264,slow=5.7,SNR=10						
PPT	**Papeete**	**74.33**	**112**	*e*LR	LR	05 03 22.2	
	comp=Z,112nm,26.2s						
PPT	**Papeete**	**74.33**	**112**	LR	LR	05 09 13.6	
	comp=Z,141nm,20.6s,MS4.2,baz=239,slow=32						
AB31	**Akbulak array**	**75.28**	**318**	*i* P	**P**	**04 41 13.0**	**-0.7**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARU	**Arti**	**75.97**	**325**⇓	*i* P	**P**	**04 41 17.0**	**-0.5**
ARU				*e*		04 44 06.8	
ARU				*e*PPP	PPP	04 45 53.9	-3.4
ARU				*e*S	S	04 50 59.3	+4.7
ARU				*e*SS	SS	04 55 54.3	+3.2
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ARU	**Arti**	**75.97**	**325**	*e*P	**P**	**04 41 17.2**	**-0.3**
	comp=Z,8.6nm,0.7s,mb4.8						
TBI	**Tubuai**	**76.32**	**118**	*e*LR	LR	05 04 17.0	
	comp=Z,87nm,30.0s						
AKTO	**Aktyubinsk**	**76.48**	**319**	P	**P**	**04 41 18.0**	**-2.5**
INK	**Inuvik**	**77.00**	**22**	P	**P**	**04 41 23.0**	**-0.1**
	comp=Z,2.0nm,0.9s,mb4.0,baz=274,slow=8.5,SNR=6.8						
TAOE	**Nuku Hiva Isla**	**80.78**	**101**	*e*LR	LR	05 06 22.7	
	comp=Z,1µm,35.3s						
YKA	**Yellowknife Ar**	**85.70**	**27**	P	**P**	**04 42 09.3**	**+0.7**
	comp=Z,9.8nm,0.5s,mb4.2,baz=289,slow=4.8,SNR=30						
YKA	**Yellowknife Ar**	**85.70**	**27**	P	**P**	**04 42 09.4**	**+0.8**
ARCES	**ARCESS Array B**	**87.36**	**342**	P	**P**	**04 42 16.5**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.3,baz=73,slow=6.3,SNR=7.2						
ARCES				LR	LR	05 22 33.6	
	comp=Z,76nm,18.1s,MS4.1,baz=264,slow=36						
NVAR	**Mina Array Bea**	**90.50**	**51**	P	**P**	**04 42 33.2**	**+1.0**
	comp=Z,0.4nm,0.6s,mb4.0,baz=256,slow=7.4,SNR=3.9						
NVAR	**Mina Array Bea**	**90.50**	**51**	P	**P**	**04 42 33.2**	**+1.0**
FINES	**FINESS Array B**	**90.97**	**334**	P	**P**	**04 42 33.0**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.6,baz=67,slow=4.4,SNR=22						
FINES				LR	LR	05 22 20.8	
	comp=Z,26nm,19.6s,MS3.7,baz=328,slow=35						
NOA	**NORSAR Array B**	**97.11**	**338**	LR	LR	05 25 52.2	
	comp=Z,32nm,20.8s,MS3.8,baz=40,slow=35						
CLL	**Collm**	**102.58**	**330**	*e*PDIF	Pdif	04 43 28.0	+1.3
PLCA	**Paso Flores**	**140.09**	**141**	PKP	PKPdf	04 49 00.2	+2.6
	comp=Z,1.5nm,0.7s,baz=26,slow=3.3,SNR=7.7						
LPAZ	**La Paz**	**151.17**	**102**	PKPbc	PKPdf	04 49 26.6	+10
	comp=Z,9.5nm,0.6s,baz=285,slow=2.4,SNR=39						
LPAZ	**La Paz**	**151.17**	**102**	*e*PKIKP	PKPdf	04 49 26.1	+9.3

NEIC ***26*** *04:40:00.9±0.9,31.40N×49.95E,h10km,mb3.6/7, MN3.7(TEH),Error ellipse: s-maj=14.5km s-min=9.0km az=5.0*

IDC ***26*** *04:40:04.0±5.0,32.14N×49.92E,mb3.7/4,mb1 3.8/4, mb1mx3.5/18,mbtmp3.7/4,Error ellipse: s-maj=103.8km s-min=34.8km az=176.0*

THR ***26*** *04:40:05.8±1.5,31.74N×50.07E,h31km±17km,ML3.7*

CSEM ***26*** *04:40:05.9±0.5,31.74N×50.01E,h30km±6km, ML4.6/2, Error ellipse: s-maj=9.3km s-min=6.3km az=29.0*

TEH ***26*** *04:40:06.0,31.67N×50.01E,h3km,Mn3.7*

ISC 26 04:40:07.2±0.8,31.75N±0.07×49.98E±0.05,h67km±6km, n42,σ0s89/47,mb3.7/11,1C-1D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.06**	**290**	*e*Pg	**P**	**04 40 26.2**	**-0.4**
SHGR				*e*Sg	**S**	**04 40 42.6**	**+1.5**
SHGR				AML	AML	04 40 45.1	
	comp=N,2µm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.06**	**290**	*e*Pg	**P**	**04 40 26.2**	**-0.4**
	SNR=98						
IGAR	**Garneh**	**1.95**	**75**	Pn	**P**	**04 40 37.8**	**-0.9**
IKLH	**Kalahroud**	**2.07**	**40**	Pn	**S**	**04 41 09.1**	**+4.2**
IZEF	**Zefreh**	**2.30**	**59**	Pn	**P**	**04 40 43.8**	**+0.2**
NASN	**Na'in**	**2.62**	**66**	*e*Pn	**P**	**04 40 47.8**	**-0.3**
ASAO	**Ashtian**	**2.79**	**1**	*e*Pn	**P**	**04 40 51.7**	**+1.1**
ASAO				*e*Sg	**S**	**04 41 31.4**	**+8.2**
ASAO				AML	AML	04 41 47.5	
	comp=N,218nm,0.6s						
ASAO	**Ashtian**	**2.79**	**1**	*e*Pn	**P**	**04 40 51.7**	**+1.1**
	SNR=54						
ASAO				*e*Sg	**S**	**04 41 31.5**	**+8.3**
	comp=N,218nm,0.6s,SNR=93						
IKOM	**Komasi**	**3.19**	**320**	Pn	**P**	**04 40 56.1**	**0.0**
ISFB	**Sefidab**	**3.22**	**35**	Pn	**P**	**04 40 55.5**	**-1.1**
IPAR	**Pars**	**3.25**	**125**	Pn	**P**	**04 40 57.7**	**+0.7**
IVRN	**Varamin**	**3.56**	**24**	Pn	**P**	**04 41 01.2**	**-0.1**
IVRN				Sn	**S**	**04 41 42.8**	**+0.5**
IMOK	**Mook**	**3.58**	**138**	Pn	**P**	**04 40 53.8**	**-7.8**
IRAZ	**Razeghan**	**3.65**	**359**	Pn	**P**	**04 41 03.4**	**+0.8**
SNGE	**Sanandaj**	**4.00**	**327**	*e*Pn	**P**	**04 41 07.4**	**-0.1**
SNGE				AML	AML	04 42 16.9	
	comp=N,85nm,0.6s						
IDMV	**Damavand**	**4.19**	**24**	Pn	**P**	**04 41 10.3**	**+0.2**
IDMV				Lg		04 42 16.9	
IDHR	**Dehrash**	**4.21**	**315**	Pn	**P**	**04 41 09.9**	**-0.6**
IDHR	**Dehrash**	**4.21**	**315**	Pn	**P**	**04 41 09.0**	**-1.5**
DAMV	**Damavand**	**4.21**	**23**	*e*Pn	**P**	**04 41 09.8**	**-0.7**
CHTH	**Charan**	**4.26**	**13**	*e*Pn	**P**	**04 41 10.3**	**-0.8**
KIV	**Kislovodsk**	**13.47**	**337**	P	**P**	**04 43 11.1**	**-5.6**
CSS	**Prodhromos**	**14.28**	**287**	Pn	**P**	**04 43 25.4**	**-1.8**
BR131	**Keskin Array S**	**15.46**	**306**	*e*Pn	**P**	**04 43 40.4**	**-2.0**
	comp=N,0.4nm,0.4s						
BRTR	**Keskin Array B**	**15.46**	**306**	Pn	**P**	**04 43 46.2**	**+3.8**
	comp=N,0.1nm,0.3s,baz=131,slow=15,SNR=4.3						
IDI	**Anoyia**	**21.20**	**286**	P	**P**	**04 44 49.6**	**+0.6**
	comp=N,4.2nm,0.5s,mb4.0,baz=95,slow=16,SNR=6.1						
AAK	**Ala-Archa**	**22.27**	**54**	*e*P	**P**	**04 45 00.7**	**+1.0**
	comp=N,0.5nm,0.4s,mb3.2						
AAK	**Ala-Archa**	**22.27**	**54**	*e*P	**P**	**04 45 00.6**	**+1.0**
	comp=N,0.5nm,0.4s,mb3.2						
MLR	**Muntele Rosu**	**23.15**	**313**	⇑P	**P**	**04 45 09.5**	**+1.4**
AKASG	**Malin Array Be**	**24.40**	**327**	P	**P**	**04 45 20.5**	**+0.4**
	comp=N,0.3nm,0.4s,mb3.0,baz=134,slow=9.5,SNR=5.8						
BURAR	**Bucovina Array**	**24.64**	**317**	⇓P	**P**	**04 45 17.4**	**-5.1**
OBN	**Obninsk**	**25.22**	**342**	P	**P**	**04 45 27.4**	**-0.5**
	comp=N,12nm,0.4s,mb4.7						
OBN	**Obninsk**	**25.22**	**342**	P	**P**	**04 45 27.4**	**-0.6**
	comp=N,12nm,0.4s,mb4.7						
ZRNK	**Zerenda**	**25.28**	**28**	*e*P	**P**	**04 45 27.7**	**-0.9**
	comp=N,0.3nm,0.3s,mb3.2						
ZRNK	**Zerenda**	**25.28**	**28**	*e*P	**P**	**04 45 27.7**	**-0.9**
	comp=N,0.3nm,0.3s,mb3.2						
KWP	**Kalwaria**	**27.10**	**319**	*e*P	**P**	**04 45 46.8**	**+1.3**
	comp=N,3.1nm,0.6s,mb4.0						
KWP	**Kalwaria**	**27.10**	**319**	*e*P	**P**	**04 45 46.8**	**+1.3**
	comp=N,3.0nm,0.6s,mb4.0						
PSZ	**Piszkesteto**	**27.95**	**314**	P	**P**	**04 45 52.1**	**-1.1**
	comp=N,0.7nm,0.4s,mb3.5						
KURK	**Kurchatov**	**28.42**	**40**	P	**P**	**04 45 57.4**	**+0.1**
	comp=N,0.8nm,0.6s,mb3.4						
KURK	**Kurchatov**	**28.42**	**40**	P	**P**	**04 45 57.4**	**+0.1**
	comp=N,0.8nm,0.6s,mb3.4						
MKAR	**Makanchi Array**	**28.94**	**49**	P	**P**	**04 46 02.9**	**+1.0**
	comp=N,0.2nm,0.6s,mb3.0,baz=252,slow=9.1,SNR=3.0						
SUW	**Suwalki**	**29.37**	**327**	*e*P	**P**	**04 46 05.6**	**-0.1**
	comp=N,4.1nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**33.55**	**339**	P	**P**	**04 46 41.9**	**-0.4**
	comp=N,3.2nm,0.9s,mb4.1,baz=146,slow=10.0,SNR=6.8						

GUC 26 04:40:21.2±0.5,29.50S×71.14W,h65km,MD3.8,ML3.4, 3C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.42**	**193**⇑	*i* P	P	04 40 35.2	+2.3
LSCH				*i* S	S	04 40 43.8	+2.3
LSCH				AMP		04 40 44.6	
	comp=N,4µm,0.5s						
CMCH	**Combarbala**	**1.67**	**176**⇓	*i* P	P	04 40 50.4	+1.6
CMCH				*i* S	S	04 41 11.5	+2.2
CMCH				AMP		04 41 13.9	
	comp=E,1µm,0.6s						
CPCH	**Copiapo**	**2.25**	**18**⇑	*i* P	P	04 40 56.5	-0.4
CPCH				*i* S	S	04 41 23.5	+0.1
CHNG	**Los Chungos**	**2.39**	**187**⇑	*i* P	P	04 40 58.7	-0.3
CHNG				*i* S	S	04 41 26.7	-0.5
CHNG				AMP		04 41 36.0	
	comp=E,129nm,0.7s						

NEIC ***26*** *04:42:57.6±1.1,30.93N×50.19E,h10km,mb3.6/5, MN3.6(TEH),Error ellipse: s-maj=16.9km s-min=10.3km az=191.0*

KISR ***26*** *04:43:05.9±0.6,31.62N×50.07E,h33km,ML3.3*

IDC ***26*** *04:43:06.3±12.0,32.26N×50.23E,mb3.6/4,mb1 3.7/5, mb1mx3.4/18,mbtmp3.6/5,ML3.0/1,Error ellipse: s-maj=238.2km s-min=34.5km az=6.0*

CSEM ***26*** *04:43:06.7±0.1,31.66N×50.09E,h25km,ML3.5,Error ellipse: s-maj=4.3km s-min=1.8km az=124.0*

THR ***26*** *04:43:06.2±0.5,31.53N×50.03E,h37km±8km,ML3.5*

TEH ***26*** *04:43:08.0,31.61N×50.02E,h26km,Mn3.6*

ISC 26 04:43:08.1±0.5,31.67N±0.04×50.07E±0.05,h74km±7km, n35,σ0s83/40,mb3.5/8,Northern and central Iran

| Code | Station Name |

KWP	**Kalwaria**	**27.21**	**319**	*eP*	**P**		**04 48 46.4**	**-0.3**
	comp=E,12nm,1.3s,mb4.2							
PSZ	**Piszkesteto**	**28.06**	**314**	*eP*	**P**		**04 48 56.9**	**+2.4**
	comp=E,0.8nm,0.4s,mb3.6							
KURK	**Kurchatov**	**28.43**	**40**	*eP*	**P**		**04 48 56.6**	**-1.1**
KURK	**Kurchatov**	**28.43**	**40**	*eP*	**P**		**04 48 56.6**	**-1.1**
MKAR	**Makanchi Array**	**28.93**	**49**	P	**P**		**04 49 03.0**	**+0.7**
	comp=E,0.5nm,0.8s,mb3.2,baz=244,slow=9.3,SNR=5.3							
FINES	**FINESS Array B**	**33.64**	**339**	P	**P**		**04 49 44.6**	**+1.2**
	comp=E,4.7nm,1.1s,mb4.2,baz=129,slow=8.9,SNR=4.9							

*IDC **26** 04:59:39.1±4.2,34.59N×73.12E,mb3.6/2,mb1 3.7/5, mb1mx3.4/20,mbtmp3.6/5,ML3.7/3,Error ellipse: s-maj=75.3km s-min=62.3km az=179.0*
*NNC **26** 04:59:48.7±0.4,35.11N×72.06E,mb3.5,mpv3.7,Error ellipse: s-maj=8.3km s-min=2.0km az=99.0*
ISC 26 04:59:42.5±0.9,34.99N±0.09×73.0E±0.2,h10km,n11, σ0=88/13,mb3.5/2,2C,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KLP	**Kalpa**	**5.56**	**127**	*eP*		**Pn**	**05 01 05.8**	**-1.6**
KLP				*ex*		**Sn**	05 02 12.1	**-0.1**
KHET	**Khetri**	**7.29**	**160**	*ex*		x	05 01 59.2	
SONA	**Sohna**	**7.55**	**152**	*ex*		**Pb**	**05 01 54.8**	**+1.2**
SONA				*ex*		**Sn**	**05 02 53.5**	**-8.5**
KK31	**Karatay Array**	**8.33**	**347**	P		**P**	**05 01 47.2**	**+0.9**
	1.9nm,0.5s,baz=169,slow=12,SNR=39							
KK31				⇑S		**Sn**	**05 03 20.5**	**-0.9**
	1.9nm,0.5s,baz=175,slow=25,SNR=7.0							
MKAR	**Makanchi Array**	**13.70**	**28**	Pn		**P**	**05 02 59.9**	**+0.8**
	0.1nm,0.3s,baz=218,slow=14,SNR=3.9							
AB31	**Akbulak array**	**17.21**	**330**	⇑P		**P**	**05 03 44.3**	**-0.1**
	baz=144,slow=12,SNR=9.5							
BVAR	**Borovoye Array**	**18.13**	**355**	P		**P**	**05 03 57.1**	**+1.2**
	0.4nm,0.3s,baz=163,slow=10,SNR=6.5							
AKTO	**Aktyubinsk**	**18.91**	**329**	P		**P**	**05 04 05.1**	**-0.4**
	0.3nm,0.5s							
AKTO	**Aktyubinsk**	**18.91**	**329**	P		**P**	**05 04 05.4**	**-0.1**
	0.5nm,0.3s,baz=133,slow=9.7,SNR=12							
ARCES	**ARCESS Array B**	**43.17**	**338**	P		**P**	**05 07 44.0**	**-0.6**
	1.1nm,0.6s,mb3.8,baz=118,slow=7.7,SNR=18							
YKA	**Yellowknife Ar**	**82.66**	**4**	P		**P**	**05 12 06.3**	**-0.6**
	0.1nm,0.5s,mb3.1,baz=348,slow=5.3,SNR=11							

*MOS **26** 05:01:09.5±1.0,3.75S×128.31E,h77km,mb4.6/8,Error ellipse: s-maj=24.0km s-min=10.1km az=117.5*
*IDC **26** 05:01:15.9±6.2,3.89S×128.44E,h121km±60km,mb4.1/8, mb1 4.2/10,mb1mx4.0/20,mbtmp4.5/10,Error ellipse: s-maj=34.1km s-min=15.2km az=42.0*
*NEIC **26** 05:01:16.9±0.3,3.91S×128.41E,mb4.5/15,Error ellipse: s-maj=11.0km s-min=5.9km az=58.0*
ISC 26 05:01:17.1±1.6,3.96S±0.06×128.46E±0.09,h153km±16km, n46,σ0=90/47,mb4.3/19,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCI	**Palu**	**9.13**	**289**	P		**P**	**05 03 26.9**	**+0.5**
	94nm,1.4s							
KAKA	**Kakadu**	**9.54**	**156**	*eP*		Px	05 03 53.8	
	27nm,0.6s							
KAKA				*eS*		Sx	05 05 35.7	
FITZ	**Fitzroy Crossi**	**14.32**	**191**	*eP*		**P**	**05 04 34.4**	**+0.4**
	61nm,0.6s							
WRAB	**Tennant Creek**	**16.88**	**161**	*eP*		**P**	**05 05 05.4**	**-0.3**
WRAB				*e*			05 08 07.2	
WRAB				pmax		pmax		
	comp=Z,62nm,0.7s							
WRAB	**Tennant Creek**	**16.88**	**161**	*eP*		**P**	**05 05 05.3**	**-0.4**
	comp=Z,62nm,0.7s							
WRAB				*epP*			05 05 30.4	
WRAB				*esP*			05 05 43.0	
WRAB				*eSn*		**S**	**05 08 07.2**	**+0.2**
WRA	**Warramunga Arr**	**16.89**	**161**	P		**P**	**05 05 04.9**	**-0.9**
	comp=Z,7.6nm,0.3s,baz=339,slow=11,SNR=350							
WRA				S		**S**	**05 08 05.1**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=330,slow=25,SNR=3.7							
WB2	**Warramunga Arr**	**16.89**	**161**	*eP*		**P**	**05 05 05.3**	**-0.6**
WB2				*eS*		**S**	**05 08 11.6**	**+4.5**
KSM	**Kuching**	**18.93**	**286**	*ePn*		**P**	**05 05 29.7**	**+1.0**
MBWA	**Marble Bar**	**19.08**	**206**	*eP*		**P**	**05 05 30.4**	**+0.1**
	comp=Z,142nm,2.2s							
MBWA				*epP*			05 05 49.2	
MBWA				*esP*			05 06 07.2	
PMG	**Port Moresby**	**19.34**	**107**	P		**P**	**05 05 33.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=308,slow=6.5,SNR=5.2							
ASPA	**Alice Springs**	**20.28**	**165**	*eP*		**P**	**05 05 43.2**	**+0.6**
ASPA				*eS*		**S**	**05 09 17.5**	**+1.2**
CTA	**Charters Tower**	**23.61**	**134**	*eP*		**P**	**05 06 17.1**	**+1.8**
	comp=Z,8.6nm,0.6s,mb4.5							
CTA	**Charters Tower**	**23.61**	**134**	P		**P**	**05 06 17.3**	**+2.0**
	comp=Z,10nm,0.7s,mb4.5,baz=315,slow=12,SNR=32							
CTA	**Charters Tower**	**23.61**	**134**	*eP*		**P**	**05 06 17.1**	**+1.8**
CTA				pmax		pmax		
	comp=Z,9.0nm,0.6s							
CTAO	**Charters Tower**	**23.61**	**134**	*eP*		**P**	**05 06 16.9**	**+1.6**
CTAO				pmax		pmax		
	comp=Z,14nm,0.8s,mb4.5							
CTAO	**Charters Tower**	**23.61**	**134**	*eP*		**P**	**05 06 16.9**	**+1.6**
	comp=Z,14nm,0.8s,mb4.5							
KLBR	**Kellerberrin**	**29.27**	**199**	*eP*		**P**	**05 07 07.4**	**+0.2**
	comp=Z,24nm,0.9s,mb4.9							
PSI	**Prapat**	**30.27**	**282**	P		**P**	**05 07 16.1**	**-0.1**
	comp=Z,13nm,0.7s,mb4.8,baz=104,slow=3.3,SNR=13							
STKA	**Stephens Creek**	**30.39**	**158**	P		**P**	**05 07 16.8**	**-0.3**
	comp=Z,11nm,0.8s,mb4.7,baz=334,slow=8.4,SNR=22							
STKA	**Stephens Creek**	**30.39**	**158**	*eP*		**P**	**05 07 16.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**30.67**	**199**	*eP*		**P**	**05 07 19.2**	**-0.3**
NWAO				pmax		pmax		
	comp=Z,5.0nm,0.7s							
NWAO	**Narrogin (SRO)**	**30.67**	**199**	*eP*		**P**	**05 07 19.2**	**-0.3**
	comp=Z,4.5nm,0.7s,mb4.3							
DZM	**Mont Dzumac**	**40.97**	**119**	P		**P**	**05 08 47.0**	**+0.5**
	comp=Z,5.2nm,0.9s,mb4.2,baz=316,slow=10,SNR=5.9							
JIRN	**Jiri**	**51.46**	**310**	*eP*		**P**	**05 10 09.1**	**+0.1**
	comp=Z,8.5nm,0.7s,mb4.5							
GUN	**Gumba**	**51.82**	**310**	*eP*		**P**	**05 10 11.8**	**+0.1**
	comp=Z,15nm,0.7s,mb4.8							
GKN	**Gorkha**	**52.81**	**310**	*eP*		**P**	**05 10 18.7**	**-0.4**
	comp=Z,12nm,0.7s,mb4.8							
KOLN	**Koldanda**	**53.50**	**309**	*eP*		**P**	**05 10 24.0**	**-0.2**
	comp=Z,22nm,0.8s,mb5.0							
SONM	**Songino Array**	**55.10**	**342**	P		**P**	**05 10 34.9**	**-0.6**
	comp=Z,1.6nm,1.0s,mb3.7,baz=169,slow=7.6,SNR=7.7							
SONM				pP		pP	05 11 06.2	-4.7
	comp=Z,1.5nm,1.0s,baz=169,slow=7.6,SNR=4.5							
CLNS	**Chul'man**	**60.67**	**358**	*eP*		**P**	**05 11 09.2**	**-5.0**
CLNS				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.7							
CLNS				pmax		pmax		
	comp=N,25nm,1.0s							
CLNS				pmax		pmax		
	comp=E,26nm,1.0s							
MKAR	**Makanchi Array**	**64.86**	**327**	P		**P**	**05 11 41.5**	**-0.6**
	comp=E,5.8nm,1.0s,mb4.4,baz=123,slow=8.1,SNR=34							
MKAR				pP		pP	05 12 13.2	-5.5
	comp=E,0.8nm,0.8s,baz=121,slow=7.1,SNR=2.8							
AAK	**Ala-Archa**	**67.25**	**320**	*eP*		**P**	**05 11 56.6**	**-0.7**
AAK				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.8							
AAK	**Ala-Archa**	**67.25**	**320**	*eP*		**P**	**05 11 56.6**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.7							
KURK	**Kurchatov**	**69.14**	**329**	*eP*		**P**	**05 12 06.9**	**-1.9**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.3							
KURK	**Kurchatov**	**69.14**	**329**	*eP*		**P**	**05 12 06.9**	**-1.9**
	comp=Z,4.2nm,0.7s,mb4.3							
BVAR	**Borovoye Array**	**74.69**	**328**	P		**P**	**05 12 41.7**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.6,baz=117,slow=6.6,SNR=5.6							
BRVK	**Borovoye**	**74.77**	**328**	*eP*		**P**	**05 12 41.9**	**0.0**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb3.8							
BRVK	**Borovoye**	**74.77**	**328**	*eP*		**P**	**05 12 41.9**	**-0.1**
	comp=Z,1.0nm,0.4s,mb3.8							
ZRNK	**Zerenda**	**75.40**	**327**	*eP*		**P**	**05 12 45.3**	**-0.2**
ZRNK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.0							
ZRNK	**Zerenda**	**75.40**	**327**	*eP*		**P**	**05 12 45.3**	**-0.2**
	comp=Z,3.6nm,1.1s,mb3.9							
POHA	**Pohakuloa**	**78.22**	**69**	*eP*		**P**	**05 13 05.1**	**+3.2**
AKTK	**Aktyubinsk**	**80.75**	**322**	P		**P**	**05 13 15.4**	**+0.6**
AKTO	**Aktyubinsk**	**80.75**	**322**	P		**P**	**05 13 15.4**	**+0.6**
	comp=Z,1.8nm,0.6s,mb3.9,baz=104,slow=7.1,SNR=9.5							
KMBO	**Kilima Mbogo**	**91.13**	**269**	*eP*		**P**	**05 14 09.1**	**+2.5**
MALT	**Malatya**	**92.45**	**308**	P		**P**	**05 14 10.4**	**-1.7**
TXAR	**Lajitas Array**	**124.63**	**57**	PKP		PKPdf	05 20 01.9	+2.8
	comp=Z,0.5nm,0.8s,baz=299,slow=0.6,SNR=5.5							
PLCA	**Paso Flores**	**132.23**	**160**	PKP		PKPdf	05 20 17.1	+3.7
	comp=Z,1.6nm,0.9s,baz=231,slow=1.6,SNR=3.9							

*CSEM **26** 05:01:19.5±0.9,38.77N×29.12W,ML2.4,Error ellipse: s-maj=11.7km s-min=3.3km az=72.0,After PDA*
*PDA **26** 05:01:19.5±0.9,38.77N×29.12W,MD3.2,ML2.4,Error ellipse: s-maj=11.7km s-min=3.3km az=72.0*
SVSA 26 05:01:19.5±0.9,38.77N×29.12W,MD3.2,ML2.4,Error ellipse: s-maj=11.7km s-min=3.3km az=72.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PTCA	**Ponta do Capel**	**0.31**	**126**	*eP*		Pg	05 01 26.3	+0.6
PTCA				*eS*		Sg	05 01 30.0	+0.2
	95nm,0.1s							
PTCA	**Ponta do Capel**	**0.31**	**126**	*eP*		Pg	05 01 26.3	+0.6
PTCA				*eS*		Sg	05 01 30.0	+0.2
	95nm,0.1s							
PCED	**Cedros**	**0.35**	**113**	*eP*		Pg	05 01 26.3	-0.3
PCED				*i* S		Sg	05 01 31.0	-0.3
	537nm,0.2s							
PCED	**Cedros**	**0.35**	**113**	*eP*		Pg	05 01 26.3	-0.3
PCED				*i* S		Sg	05 01 31.0	-0.3
	537nm,0.2s							
CALA	**Caldeira**	**0.38**	**120**	*eP*		Pg	05 01 26.4	-0.6
CALA				*i* S		Sg	05 01 31.5	-0.5
HOR	**Horta**	**0.45**	**122**	*eP*		Pg	05 01 27.6	-0.9
HOR				*eS*		Sg	05 01 34.1	-0.4
PCND	**Candelaria**	**0.59**	**120**	*eP*		Pg	05 01 30.2	-1.1
PCND				*eS*		Sg	05 01 38.1	-1.2
	98nm,0.1s							
PICO	**Pico**	**0.60**	**116**	*eP*		Pg	05 01 30.3	-1.3
PICO				*eS*		Sg	05 01 38.4	-1.2
PBOI	**Pico dos Bois**	**0.67**	**119**	*eP*		Pg	05 01 31.4	-1.5
PBOI				*eS*		Sg	05 01 40.0	-1.8
	39nm,0.1s							
ROSA	**Rosais**	**0.69**	**94**	*eP*		Pg	05 01 31.6	-1.6
PPNO	**Prainha do Nor**	**0.73**	**114**	*eP*		Pg	05 01 32.1	-2.0
PPNO				*eS*		Sg	05 01 41.8	-2.0
	141nm,0.2s							
PPNO	**Prainha do Nor**	**0.73**	**114**	*eP*		Pg	05 01 32.1	-2.0
PPNO				*eS*		Sg	05 01 41.8	-2.0
	141nm,0.2s							
PAMA	**Santo Amaro**	**0.74**	**96**	*eS*		Sg	05 01 42.2	-1.9
PMAN	**Manadas**	**0.82**	**99**	*eP*		Pg	05 01 33.4	-2.4
PMAN				*eS*		Sg	05 01 43.4	-3.3
	62nm,0.2s							
PMAN	**Manadas**	**0.82**	**99**	*eP*		Pg	05 01 33.4	-2.4
PMAN				*eS*		Sg	05 01 43.4	-3.3
	62nm,0.2s							
PGRA	**Graciosa**	**0.93**	**73**	*eP*		Pg	05 01 34.6	-3.4
PGRA				*eS*		Sg	05 01 46.0	-4.3
	41nm,0.3s							
PSBA	**Serra de Santa**	**1.40**	**89**	*eS*		Sb	05 01 57.9	-6.7
	55nm,0.3s							
ASBA	**Santa Barbara**	**1.40**	**91**	*eS*		Sb	05 01 58.4	-6.2
	17nm,0.3s							
PPAD	**Pico dos Padre**	**1.43**	**92**	*eS*		Sb	05 01 58.6	-6.9
	15nm,0.2s							
RIB2	**Ribeirinha**	**1.52**	**93**	*eS*		Sb	05 02 01.2	-7.0
	8.9nm,0.2s							
PVNV	**Vila Nova**	**1.53**	**90**	*erx*			05 02 04.1	
PFAV	**Pico das Favas**	**1.59**	**91**	*eS*		Sb	05 02 02.5	-7.6
	8.9nm,0.3s							

*IDC **26** 05:13:56.2±4.7,7.40S×128.16E,h118km±42km,mb3.9/9, mb1 4.0/10,mb1mx3.9/17,mbtmp4.3/10,Error ellipse: s-maj=30.9km s-min=14.7km az=54.0*
*NEIC **26** 05:13:56.8±1.3,7.49S×128.19E,h127km±13km,mb4.6/17, Error ellipse: s-maj=12.1km s-min=5.8km az=49.0*
ISC 26 05:13:56.2±1.9,7.50S±0.08×128.1E±0.1,h136km±19km, n48,σ0=85/43,mb4.3/22,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAKA	**Kakadu**	**6.70**	**141**	*eP*		Px	05 15 59.0	
	98nm,0.1s							
KAKA				*eS*		Sx	05 16 57.2	
FITZ	**Fitzroy Crossi**	**10.81**	**193**	*eP*		**P**	**05 16 27.8**	**-0.4**
	80nm,0.6s							
FITZ				*eS*		**S**	**05 18 18.8**	**-8.4**
WRAB	**Tennant Creek**	**13.76**	**155**	*ePn*		**P**	**05 17 05.8**	**-0.8**
	95nm,0.7s							
WRAB				*eSn*		**S**	**05 19 30.4**	**-5.9**
WRA	**Warramunga Arr**	**13.76**	**155**	P		**P**	**05 17 06.1**	**-0.6**
	3.5nm,0.3s,baz=328,slow=13,SNR=108							
WRA				S		**S**	**05 19 28.8**	**-7.7**
	12nm,0.3s,baz=327,slow=24,SNR=13							
WB2	**Warramunga Arr**	**13.77**	**155**	*eP*		**P**	**05 17 06.1**	**-0.6**
WB2				*e*			05 17 13.2	
WB2				*eS*		**S**	**05 19 29.8**	**-6.8**
MBWA	**Marble Bar**	**15.82**	**210**	*ePn*		**P**	**05 17 31.5**	**-1.1**
	12nm,0.6s							
ASPA	**Alice Springs**	**17.01**	**162**	*eP*		**P**	**05 17 49.2**	**+1.9**
ASPA				*eS*		**S**	**05 20 49.6**	**-0.7**
KKM	**Kota Kinabalu**	**17.95**	**318**	*ePn*		**P**	**05 17 59.9**	**+1.3**
KSM	**Kuching**	**19.88**	**296**	*ePn*		**P**	**05 18 21.4**	**+2.3**
CTA	**Charters Tower**	**21.57**	**127**	P		**P**	**05 18 36.5**	**+0.5**
	0.6nm,0.4s,mb3.4,baz=308,slow=16,SNR=4.2							
CTAO	**Charters Tower**	**21.57**	**127**	*eP*		**P**	**05 18 36.2**	**+0.2**
	1.5nm,0.7s,mb3.5							
FORT	**Forrest**	**23.16**	**180**	*eP*		**P**	**05 18 53.6**	**+2.1**
	24nm,0.8s,mb4.7							
KLBR	**Kellerberrin**	**25.85**	**201**	*eP*		**P**	**05 19 17.5**	**+0.6**
	34nm,1.0s,mb4.9							
NWAO	**Narrogin (SRO)**	**27.24**	**200**	P		**P**	**05 19 30.3**	**+0.6**
	5.4nm,0.7s,mb4.3,baz=10,slow=9.7,SNR=6.4							
NWAO	**Narrogin (SRO)**	**27.24**	**200**	*eP*		**P**	**05 19 30.4**	**+0.7**
	24nm,1.5s,mb4.6							
STKA	**Stephens Creek**	**27.31**	**154**	*eP*		**P**	**05 19 30.8**	**+0.5**
	4.3nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**27.31**	**154**	P		**P**	**05 19 30.8**	**+0.4**
	5.1nm,0.6s,mb4.3,baz=321,slow=7.2,SNR=14							
KULM	**Kulim**	**30.21**	**294**	*eP*		**P**	**05 19 56.0**	**-0.4**
PSI	**Prapat**	**30.88**	**288**	P		**P**	**05 20 02.1**	**-0.1**
	12nm,0.7s,mb4.7,baz=91,slow=5.4,SNR=10							
LSA	**Lhasa**	**51.29**	**318**	*eP*		**P**	**05 22 49.8**	**+1.2**
	6.3nm,0.6s,mb4.4							
JIRN	**Jiri**	**53.53**	**313**	*eP*		**P**	**05 23 05.1**	**-0.2**
	20nm,0.9s,mb4.8							
GUN	**Gumba**	**53.89**	**313**	*eP*		**P**	**05 23 07.8**	**-0.1**
	35nm,0.8s,mb5.1							
PKI	**Pulchoki**	**54.05**	**312**	*eP*		**P**	**05 23 08.4**	**-0.7**
KKN	**Kakani**	**54.27**	**312**	*eP*		**P**	**05 23 10.2**	**-0.5**
DMN	**Daman**	**54.29**	**312**	*eP*		**P**	**05 23 10.6**	**-0.3**
	6.4nm,0.3s,mb4.8							
GKN	**Gorkha**	**54.86**	**312**	*eP*		**P**	**05 23 14.1**	**-0.9**
	13nm,0.4s,mb5.0							
KOLN	**Koldanda**	**55.50**	**311**	*eP*		**P**	**05 23 19.0**	**-0.7**
	23nm,0.8s,mb5.1							
ULN	**Ulaanbatar**	**58.18**	**343**	*eP*		**P**	**05 23 37.3**	**-0.9**
	1.8nm,0.7s,mb4.0							
SONM	**Songino Array**	**58.34**	**343**	P		**P**	**05 23 38.8**	**-0.6**
	0.7nm,0.5s,mb3.8,baz=170,slow=6.1,SNR=8.3							
SONM				PcP		PcP	05 24 27.8	-0.7
	0.4nm,0.6s,baz=152,slow=4.5,SNR=3.8							
MKAR	**Makanchi Array**	**67.64**	**328**	P		**P**	**05 24 40.0**	**-0.6**
	1.6nm,0.4s,mb4.2,baz=116,slow=8.6,SNR=55							
MKAR				pP		pP	05 25 02.4	-11
	1.0nm,0.5s,baz=126,slow=7.7,SNR=4.6							
AAK	**Ala-Archa**	**69.73**	**321**	*eP*		**P**	**05 24 53.5**	**-0.1**
	0.9nm,0.5s,mb3.8							
KURK	**Kurchatov**	**71.98**	**329**	*eP*		**P**	**05 25 06.6**	**-0.3**
	2.8nm,0.6s,mb4.2							
BVAR	**Borovoye Array**	**77.50**	**328**	P		**P**	**05 25 38.2**	**-0.1**
	2.7nm,0.7s,mb4.0,baz=121,slow=8.6,SNR=11							
BRVK	**Borovoye**	**77.57**	**328**	*eP*		**P**	**05 25 38.7**	**+0.1**
	2.3nm,0.8s,mb3.9							
ZRNK	**Zerenda**	**78.19**	**328**	*eP*		**P**	**05 25 41.8**	**-0.2**
	5.9nm,0.9s,mb4.2							
SYO	**Syowa Base**	**82.52**	**201**	⇑PcP		PcP	05 26 10.1	+0.3
AKTK	**Aktyubinsk**	**83.33**	**323**	P		**P**	**05 26 08.9**	**-0.3**
AKTO	**Aktyubinsk**	**83.33**	**323**	P		**P**	**05 26 08.9**	**-0.3**
	2.3nm,0.7s,mb4.0,baz=105,slow=6.6,SNR=9.5							
ARU	**Arti**	**85.15**	**329**	P		**P**	**05 26 18.0**	**-0.1**
ILAR	**Eielson Array**	**94.59**	**25**	P		**P**	**05 27 04.2**	**+1.9**
	0.3nm,0.6s,mb3.7,baz=263,slow=4.4,SNR=4.3							
ARCES	**ARCESS Array B**	**101.39**	**340**	P		P	05 27 34.6	+1.6
	1.9nm,1.0s,baz=80,slow=7.4,SNR=5.9							
YKA	**Yellowknife Ar**	**109.02**	**26**	PKiKP			05 32 09.9	
	0.4nm,0.6s,baz=297,slow=1.7,SNR=19							
GERES	**GERESS Array B**	**111.60**	**320**	PKiKP			05 32 15.8	
	0.3nm,0.5s,baz=117,slow=3.0,SNR=5.7							
PDAR	**Pinedale Array**	**118.56**	**45**	PKP		PKPdf	05 32 29.7	+1.5
	0.5nm,0.6s,baz=27,slow=0.6,SNR=6.8							
TXAR	**Lajitas Array**	**126.78**	**59**	PKP		PKPdf	05 32 46.5	+2.0
	0.2nm,0.5s,baz=172,slow=3.0,SNR=11							
TXAR	**Lajitas Array**	**126.78**	**59**	PKP		PKPdf	05 32 46.5	+2.0
LPAZ	**La Paz**	**151.41**	**146**	PKPbc		PKPdf	05 33 37.8	+9.3
	1.5nm,0.4s,baz=45,slow=1.6,SNR=16							
LPAZ				PKPab		PKPab	05 33 47.4	+1.5
	1.8nm,0.6s,baz=221,slow=3.5,SNR=7.1							
LPAZ	**La Paz**	**151.41**	**146**	PKPbc		PKPdf	05 33 37.8	+9.3
LPAZ				PKPab		PKPab	05 33 47.4	+1.5

*CSEM **26** 05:24:08.7,17.29N×145.21E,h33km,mb5.6*
*BJI **26** 05:24:40.3,16.98N×145.82E,h362km,mB4.7,mb4.4*
*MOS **26** 05:24:41.6±0.8,16.96N×145.42E,h362km,mb4.7/27, Error ellipse: s-maj=12.3km s-min=6.2km az=101.1*
*NEIC **26** 05:24:42.6±0.2,16.97N×145.49E,mb4.7/47,Error ellipse: s-maj=5.5km s-min=4.4km az=98.0*
*IDC **26** 05:24:43.2±0.5,16.94N×145.45E,h362km±4km,mb4.3/34, mb1 4.4/38,mb1mx4.4/41,mbtmp5.0/38,Error ellipse: s-maj=10.0km s-min=6.0km az=88.0*
ISC 26 05:24:41.8±0.2,16.94N±0.03×145.49E±0.04,h359km, h359km±2.8km:pP-P,n195,σ0=98/196,mb4.5/90,6C-10D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SARN	**Sarigan**	**0.36**	**132**	*eP*		**P**	**05 25 29.2**	**+2.2**
SAPN	**Saipan**	**1.74**	**172**	⇓*iP*		**P**	**05 25 34.0**	**+1.4**
GUMO	**Guam**	**3.39**	**190**	P		**P**	**05 25 46.2**	**+0.5**
	236nm,0.3s,baz=143,slow=2.3,SNR=21							
GUMO				S		**S**	**05 26 38.0**	**+1.9**
	166nm,0.3s,baz=332,slow=21,SNR=8.6							
GUMO	**Guam**	**3.39**	**190**	*eP*		**P**	**05 25 46.3**	**+0.5**
GUMO				*eS*		**S**	**05 26 38.4**	**+2.4**
CBIJ	**Chichi jima**	**10.56**	**344**	P		**P**	**05 27 08.6**	**+1.1**
	36nm,0.3s,baz=282,slow=19,SNR=7.0							
JHJ	**Hachijo jima 2**	**16.91**	**343**	P		**P**	**05 28 16.3**	**-2.0**
	26nm,0.3s,baz=59,slow=19,SNR=3.4							
JOW	**Kunigami**	**18.74**	**305**	P		**P**	**05 28 38.1**	**+1.3**
	9.6nm,0.3s,baz=125,slow=13,SNR=14							
MJAR	**Matsushiro Arr**	**20.56**	**343**	P		**P**	**05 28 53.2**	**-1.4**
	18nm,0.7s,baz=166,slow=9.7,SNR=24							
MAJO	**Matsushiro**	**20.56**	**343**	*eP*		**P**	**05 28 52.2**	**-2.4**
MAJO				pmax		pmax		
	comp=Z,36nm,0.4s							
MAJO	**Matsushiro**	**20.56**	**343**	*eP*		**P**	**05 28 52.2**	**-2.4**
	comp=Z,36nm,0.4s							
MAT	**Matsushiro**	**20.56**	**343**	P		**P**	**05 28 53.5**	**-1.1**
MAT	**Matsushiro**	**20.56**	**343**	*eP*		**P**	**05 28 54.0**	**-0.6**
MAT				pmax		pmax		
	comp=Z,42nm,0.9s							
MAT	**Matsushiro**	**20.56**	**343**	*eP*		**P**	**05 28 54.0**	**-0.6**
	comp=Z,42nm,0.9s							
JNU	**Nakatsue**	**20.81**	**323**	P		**P**	**05 28 58.2**	**+1.2**
	comp=Z,118nm,0.8s,baz=102,slow=9.7,SNR=27							
YHNB	**Yeheng**	**23.79**	**293**	*eP*		**P**	**05 29 26.1**	**+1.0**
KS15	**Wonju Array Si**	**25.65**	**326**	*eP*		**P**	**05 29 40.9**	**-0.9**
SSE	**Sheshan**	**26.21**	**307**	P		**P**	**05 29 45.8**	**-1.2**
SSE				AP			05 30 55.3	
SSE				S		**S**	**05 33 49.5**	**-2.4**
SSE				AMB		AMB		
	comp=Z,30nm,0.7s,

LZH eS S 05 37 45.3 +0.5
LZH eSS SS 05 40 57.3 -0.4
LZH AMB AMB
comp=Z,30nm,1.6s,mb4.3
LZH AMB AMB
comp=Z,90nm,4.5s
LZH LR LR
comp=N,350nm,14.6s
LZH LR LR
comp=Z,520nm,15.8s
ASPA Alice Springs 41.92 196⇑ *iP* **P 05 31 59.9 -0.2**
ASPA eS S **05 37 50.9 -0.5**
FX1 Attu Island--F 41.92 25 P **P 05 32 01.2 +1.6**
comp=Z,35nm,0.5s,mb4.7,baz=90,slow=1.9,SNR=8.5
DZM Mont Dzumac 43.87 151 P **P 05 32 16.2 +0.6**
comp=Z,14nm,0.7s,mb4.2,baz=354,slow=10.0,SNR=17
ULN Ulaanbaatar 44.03 323*d iP* **P 05 32 17.4 +0.8**
ULN Ulaanbaatar 44.03 323 *eP* **P 05 32 17.1 +0.5**
comp=Z,34nm,0.6s,mb4.7
SONM Songino Array 44.40 323 P **P 05 32 20.2 +0.7**
comp=Z,26nm,0.6s,mb4.5,baz=132,slow=6.2,SNR=158
SONM ScP 05 37 10.6
comp=Z,0.9nm,0.6s,baz=134,slow=4.5,SNR=5.8
GTA Gaotai 45.48 309 *eP* **P 05 32 29.0 +0.9**
GTA AP pP 05 33 37.0 -3.6
GTA PCP PcP 05 34 01.0 +0.3
GTA XP sP 05 34 18.8 -1.5
GTA PP PP 05 34 21.5 +2.5
GTA SCP 05 37 16.8
GTA PCS 05 37 55.0
GTA S S **05 38 43.3 +1.4**
GTA SCS ScS 05 41 42.0 -0.7
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb3.9
GTA AMB AMB
comp=Z,80nm,7.2s
GTA LR LR
comp=N,110nm,14.8s
GTA LR LR
comp=E,170nm,14.4s
GTA LR LR
comp=Z,50nm,11.8s
MBWA Marble Bar 45.52 215 *eP* **P 05 32 28.1 -0.6**
comp=Z,36nm,0.8s,mb4.5
SEY Seymchan 46.19 4 *eP* **P 05 32 33.6 +0.2**
SEY *e* 05 39 12.0
SEY pmax pmax
comp=Z,6.0nm,0.5s,mb4.0
YAK Yakutsk 46.40 350 *eP* **P 05 32 34.0 -1.0**
YAK pmax pmax
comp=Z,70nm,0.8s,mb4.8
YAK Yakutsk 46.40 350 *eP* **P 05 32 34.0 -1.0**
comp=Z,70nm,0.8s,mb4.8
BOD Bodaibo 47.04 338 *eP* **P 05 32 38.4 -1.6**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb3.9
PSI Prapat 47.83 258 P **P 05 32 46.9 +0.2**
comp=Z,14nm,0.7s,mb4.3,baz=89,slow=6.6,SNR=7.7
STKA Stephens Creek 48.68 184 *eP* **P 05 32 52.0 -0.9**
comp=Z,16nm,1.0s,mb4.2
STKA Stephens Creek 48.68 184 P **P 05 32 52.2 -0.7**
comp=Z,20nm,0.8s,mb4.4,baz=355,slow=7.8,SNR=44
MOY Mondy 49.32 325 *eP* **P 05 32 57.4 0.0**
FORT Forrest 50.32 200 *eP* **P 05 33 04.5 -0.7**
comp=Z,33nm,0.7s,mb4.7
LSA Lhasa 51.08 295 *eP* **P 05 33 12.9 +2.1**
LSA pmax pmax
comp=Z,6.0nm,0.5s,mb4.1
LSA Lhasa 51.08 295 *eP* **P 05 33 12.9 +2.1**
comp=Z,6.4nm,0.5s,mb4.1
UNV Unalaska Valle 52.21 34 *eP* **P 05 33 18.0 -0.8**
comp=Z,89nm,0.6s,mb5.3
BILL Bilibino 52.77 10κ *iP* **P 05 33 22.0 -0.8**
BILL pmax pmax
comp=Z,47nm,0.6s,mb5.0
BILL MLR MLR
comp=Z,100nm,20.0s
BILL Bilibino 52.77 10 *eP* **P 05 33 21.5 -1.2**
comp=Z,56nm,0.6s,mb5.1
TOO Toolangi 54.22 180 *eP* **P 05 33 33.5 -0.1**
comp=Z,8.9nm,0.7s,mb4.2
TOO Toolangi 54.22 180 *eP* **P 05 33 33.5 -0.1**
TOO pmax pmax
comp=Z,9.0nm,0.7s,mb4.2
KLBR Kellerberrin 55.11 209⇑ *iP* **P 05 33 38.6 -1.4**
comp=Z,31nm,0.9s,mb4.6
WMQ Urumqi 55.32 312 *eP* **P 05 33 42.0 +0.7**
WMQ PCP PcP 05 34 38.0 +1.0
WMQ AP pP 05 34 56.5 -0.8
WMQ XP sP 05 35 34.0 -2.0
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.1
WMQ AMB AMB
comp=Z,100nm,4.8s
JIRN Jiri 55.45 292 *eP* **P 05 33 42.8 +0.4**
comp=Z,16nm,0.6s,mb4.5
TIXI Tiksi 55.58 354⇓ *eP* **P 05 33 40.6 -2.2**
TIXI pmax pmax
comp=Z,11nm,1.1s,mb4.1
GUN Gumba 55.71 292 *eP* **P 05 33 44.6 +0.3**
comp=Z,7.8nm,0.4s,mb4.4
PKI Pulchoki 56.14 292 *eP* **P 05 33 46.6 -0.7**
comp=Z,7.0nm,0.4s,mb4.3
PKI Pulchoki 56.14 292 *eP* **P 05 33 46.6 -0.7**
PKI pmax pmax
comp=Z,4.0nm,0.4s,mb4.1
DMN Daman 56.41 292 *eP* **P 05 33 48.9 -0.3**
comp=Z,10nm,0.4s,mb4.5
NWAO Narrogin (SRO) 56.47 209 P **P 05 33 48.6 -1.0**
comp=Z,48nm,0.7s,mb5.0,baz=42,slow=7.6,SNR=46
NWAO Narrogin (SRO) 56.47 209 *eP* **P 05 33 48.5 -1.0**
NWAO pmax pmax
comp=Z,32nm,0.7s
NWAO Narrogin (SRO) 56.47 209 *eP* **P 05 33 48.5 -1.0**
comp=Z,32nm,0.7s,mb4.8
GKN Gorkha 56.81 293 *eP* **P 05 33 51.7 -0.2**
comp=Z,12nm,0.5s,mb4.5
TNA Tin City 57.52 21 *eP* **P 05 33 55.6 -0.7**
comp=Z,8.4nm,0.9s,mb4.1
KOLN Koldanda 57.74 292 *eP* **P 05 33 57.9 -0.4**
comp=Z,8.7nm,0.7s,mb4.2
ZAL Zalesovo 59.30 323 P **P 05 34 07.9 -0.7**
comp=Z,20nm,0.4s,mb4.9,baz=8.6,slow=5.7,SNR=51
MKAR Makanchi Array 59.54 315 P **P 05 34 10.7 +0.3**
comp=Z,22nm,0.3s,mb5.0,baz=90,slow=8.5,SNR=563
MKAR ScP 05 38 17.0
comp=Z,2.4nm,0.9s,baz=100,slow=7.4,SNR=4.5
NVS Novosibirsk 60.40 324 *eP* **P 05 34 14.6 -1.3**
NVS *e* 05 34 52.5
NVS *eS* S **05 41 56.4 -4.9**
NVS pmax pmax
comp=N,12nm,0.8s
NVS pmax pmax
comp=E,36nm,0.8s
NVS pmax pmax
comp=Z,42nm,0.8s,mb4.9
NVS smax
comp=N,13nm,1.5s
NVS smax
comp=E,4.0nm,0.8s
KDAK Kodiak Island 60.93 33 P **P 05 34 19.3 -0.1**
comp=E,16nm,0.8s,mb4.5,baz=271,slow=12,SNR=9.7
KDAK Kodiak Island 60.93 33 P **P 05 34 19.3 -0.1**
URZ Urewera 62.42 152 P **P 05 34 28.5 -1.0**
comp=E,10nm,0.5s,mb4.6,baz=107,slow=2.7,SNR=15
KURK Kurchatov 62.45 319 *eP* **P 05 34 29.3 -0.2**
KURK *e* 05 35 05.2
KURK pmax pmax
comp=Z,103nm,0.8s,mb5.4
KURK Kurchatov 62.45 319 *eP* **P 05 34 29.3 -0.2**
comp=Z,103nm,0.8s,mb5.4
KURK *e*PcP PcP 05 35 05.2 -0.1
SLKM Skilak Lake 62.80 30 *eP* **P 05 34 31.1 -0.5**
ULHL Ulahol 63.53 309 P **P 05 34 37.5 +1.0**
SNR=7.8
PMR Palmer 63.57 29 *eP* **P 05 34 35.6 -0.9**
PMR pmax pmax
comp=Z,24nm,0.8s,mb4.9
PMR Palmer 63.57 29 *eP* **P 05 34 35.6 -0.9**
comp=Z,24nm,0.8s,mb4.9
SML Sawmill 63.99 29 *eP* **P 05 34 38.9 -0.3**
TKM2 Tokmak 2 64.01 310 P **P 05 34 40.7 +1.0**
SNR=14
TKM2 Tokmak 2 64.01 310 P **P 05 34 40.2 +0.5**
TKM2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.5

KZA Kyzart 64.26 309 P **P 05 34 43.2 +2.0**
SNR=38
KBK Karagaybulak 64.49 310 P **P 05 34 43.5 +0.8**
SNR=17
CHMS Chumysh 64.63 310 P **P 05 34 44.0 +0.4**
SNR=6.9
RPZ Rata Peaks 64.75 160 P **P 05 34 42.9 -1.5**
comp=Z,9.7nm,0.7s,mb4.5,baz=96,slow=6.7,SNR=3.8
UCH Uchtor 64.81 309 P **P 05 34 46.5 +1.7**
SNR=24
USP Ospenovka 64.82 310 P **P 05 34 45.1 +0.3**
SNR=20
AAK Ala-Archa 64.82 310 P **P 05 34 45.5 +0.6**
SNR=7.1
AAK Ala-Archa 64.82 310 *eP* **P 05 34 44.4 -0.5**
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
AAK Ala-Archa 64.82 310 *eP* **P 05 34 44.4 -0.4**
comp=Z,9.8nm,1.0s,mb4.4
COLA College 64.92 26 *eP* **P 05 34 44.3 -0.8**
COLA pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
COLA College 64.92 26 *eP* **P 05 34 44.3 -0.8**
comp=Z,10.0nm,0.8s,mb4.5
DIV Divide 65.06 30 *eP* **P 05 34 45.1 -0.9**
comp=Z,36nm,0.7s,mb5.1
ILAR Eielson Array 65.30 26 P **P 05 34 45.7 -1.8**
comp=Z,10nm,0.5s,mb4.8,baz=250,slow=5.9,SNR=273
ILAR pP pP 05 36 05.2 -1.7
comp=Z,4.2nm,0.9s,baz=259,slow=5.8,SNR=5.0
EKS2 Erkin-Say 65.35 310 P **P 05 34 49.0 +0.7**
SNR=8.6
AML Almayashu 65.42 309 P **P 05 34 50.1 +1.5**
SNR=28
VOSK Vostochnaya 67.33 321 P **P 05 34 59.6 -0.9**
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
BVA0 Borovoye Array 67.70 321 *i* P **P 05 35 02.5 -0.2**
BVA0 pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
BVAR Borovoye Array 67.70 321 P **P 05 35 02.7 0.0**
comp=Z,74nm,0.5s,baz=103,slow=7.5,SNR=405
KKAR Karatay Array 67.74 310 *i* P **P 05 35 03.2 +0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.4s,mb4.6
BRVK Borovoye 67.77 321 *eP* **P 05 35 02.9 -0.2**
BRVK pmax pmax
comp=Z,49nm,0.8s,mb5.3
BRVK Borovoye 67.77 321 *eP* **P 05 35 02.9 -0.2**
comp=Z,49nm,0.8s,mb5.3
DAWY Dawson 68.39 27 *eP* **P 05 35 07.0 +0.3**
ZRNK Zerenda 68.54 321 *eP* **P 05 35 07.6 -0.2**
ZRNK pmax pmax
comp=Z,37nm,0.6s,mb5.3
ZRNK Zerenda 68.54 321 *eP* **P 05 35 07.6 -0.2**
comp=Z,37nm,0.6s,mb5.3
INK Inuvik 71.06 23 P **P 05 35 22.0 -0.8**
comp=Z,17nm,0.8s,mb4.8,baz=273,slow=5.8,SNR=72
INK pP pP 05 36 41.8 -1.8
comp=Z,5.8nm,1.0s,baz=240,slow=8.0,SNR=2.5
INK Inuvik 71.06 23 *eP* **P 05 35 22.2 -0.6**
INK pmax pmax
comp=Z,19nm,0.8s
INK Inuvik 71.06 23 *eP* **P 05 35 22.1 -0.6**
comp=Z,19nm,0.8s,mb4.9
DLBC Dease Lake 72.86 33 P **P 05 35 34.4 +0.9**
comp=Z,13nm,0.6s,mb4.8,baz=284,slow=5.6,SNR=31
DLBC Dease Lake 72.86 33 *eP* **P 05 35 34.5 +1.0**
DLBC epP pP 05 36 55.0 +0.3
ARU Arti 74.38 325 *eP* **P 05 35 42.0 -0.3**
ARU pmax pmax
comp=Z,55nm,0.6s,mb5.5
ARU Arti 74.38 325 *eP* **P 05 35 42.0 -0.3**
comp=Z,55nm,0.6s,mb5.5
AB31 Akbulak array 74.49 317 *i* P **P 05 35 42.6 -0.5**
AB31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.6
AKTK Aktyubinsk 75.55 319 P **P 05 35 48.2 -0.8**
AKTO Aktyubinsk 75.55 319 P **P 05 35 48.2 -0.8**
comp=Z,13nm,0.5s,mb4.9,baz=96,slow=8.9,SNR=69
YKW3 Yellowknife Ar 79.60 28 *eP* **P 05 36 10.3 -0.4**
YKA Yellowknife Ar 79.63 28 P **P 05 36 10.5 -0.3**
comp=Z,9.6nm,0.4s,mb4.8,baz=287,slow=5.1,SNR=427
YKA pP pP 05 37 32.3 -1.0
comp=Z,3.1nm,0.7s,baz=289,slow=5.4,SNR=7.1
YKA Yellowknife Ar 79.63 28 P **P 05 36 10.5 -0.3**
YKA *PP pP 05 37 32.4 -0.9
YBH Yreka Blue Hor 80.24 49 P **P 05 36 15.9 +1.4**
comp=Z,8.5nm,0.7s,mb4.6,baz=332,slow=2.3,SNR=20
RES Resolute Bay 81.17 14 *eP* **P 05 36 18.4 -0.3**
comp=Z,30nm,0.6s,mb5.2
NEW Newport 82.34 42 P **P 05 36 25.3 +0.1**
comp=Z,5.1nm,0.7s,mb4.4,baz=279,slow=4.1,SNR=16
NEW pP pP 05 37 50.4 +2.2
comp=Z,3.2nm,0.8s,baz=275,slow=2.3,SNR=6.2
EDM Edmonton 83.11 36 *eP* **P 05 36 29.3 +0.3**
BMO Blue Mountains 83.21 45 *eP* **P 05 36 30.1 +0.4**
BMO pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
BMO Blue Mountains 83.21 45 *eP* **P 05 36 30.1 +0.4**
comp=Z,2.8nm,0.6s,mb4.3
KEV Kevo 83.53 342 *ep* **P 05 36 29.4 -1.3**
ARCES ARCESS Array B 84.10 342 P **P 05 36 33.0 -0.6**
comp=Z,9.8nm,0.6s,mb4.8,baz=74,slow=7.4,SNR=59
NVAR Mina Array Bea 84.38 52 P **P 05 36 36.5 +0.7**
comp=Z,6.4nm,0.6s,mb4.6,baz=260,slow=8.4,SNR=61
NVAR pP pP 05 38 00.2 +1.1
comp=Z,2.0nm,0.7s,baz=262,slow=8.4,SNR=5.4
JOF Joensuu 85.52 335 *ep* **P 05 36 38.7 -2.0**
HLID Hailey 85.59 46 *eP* **P 05 36 42.4 +1.0**
comp=Z,8.1nm,0.9s,mb4.5
ELK Elko 85.92 49 *eP* **P 05 36 44.3 +1.2**
ELK *e*PP pP 05 38 05.9 -0.9
ELK pmax pmax
comp=Z,11nm,0.9s
ELK Elko 85.92 49 *eP* **P 05 36 44.2 +1.1**
comp=Z,11nm,0.9s,mb4.7
ELK epP pP 05 38 05.9 -0.9
DAG Danmarks Havn 86.00 356⇓ *iP* **P 05 36 42.7 0.0**
comp=Z,13nm,0.9s,mb4.8
DAG Danmarks Havn 86.00 356⇓ *iP* **P 05 36 42.7 0.0**
DAG pmax pmax
comp=Z,13nm,0.9s,mb4.8
MCMT McKenzie Canyo 86.23 44 *eP* **P 05 36 45.0 +0.5**
MCMT epP pP 05 38 12.6 +4.4
HRY Holter Researc 86.24 42 *eP* **P 05 36 45.2 +0.8**
OBN Obninsk 86.63 327 P **P 05 36 45.0 -1.2**
OBN 05 40 14.0
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
VRSR Storozhevoye 86.78 323 *eP* **P 05 36 45.6 -1.4**
VRSR pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,1.0nm,0.9s
QLMT Earthquake Lak 87.17 44 *eP* **P 05 36 50.5 +1.5**
QLMT epP pP 05 38 13.1 +0.1
SPUT South Promonto 87.72 48 *eP* **P 05 36 52.6 +0.9**
DUG Dugway 87.85 49 *eP* **P 05 36 53.1 +0.7**
DUG pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
DUG Dugway 87.85 49 *eP* **P 05 36 53.1 +0.8**
comp=Z,10nm,0.6s,mb4.8
NEN Nelson 87.87 53 *eP* **P 05 36 53.7 +1.1**
KAF Kangasniemi 87.93 336 *ep* **P 05 36 50.5 -1.7**
ARUT Antelope Range 88.22 51 *eP* **P 05 36 55.7 +1.5**
ARUT *e* 05 40 28.9
FINES FINESS Array B 88.39 335 P **P 05 36 52.8 -1.6**
comp=Z,1.8nm,0.3s,mb4.4,baz=66,slow=4.5,SNR=46
FINES pP pP 05 38 20.3 +1.8
comp=Z,1.7nm,0.5s,baz=59,slow=5.4,SNR=1.7
FINES FINESS Array B 88.39 335 *i* P **P 05 36 53.5 -0.9**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES FINESS Array B 88.39 335 P **P 05 36 52.8 -1.6**
FINES pP pP 05 38 20.3 +1.7
FFC Flin Flon 88.67 32 *eP* **P 05 36 55.8 -0.1**
FFC pmax pmax
comp=Z,11nm,1.0s,mb4.6
FFC Flin Flon 88.67 32 *eP* **P 05 36 55.8 -0.1**
comp=Z,11nm,1.0s,mb4.6
DAU Daniels Canyon 88.88 48 *eP* **P 05 36 58.5 +1.3**
DAU *e*PP pP 05 38 20.8 -0.6
BW06 Boulder Array 89.19 45 *eP* **P 05 36 58.8 +0.3**
comp=Z,1.0nm,0.6s,mb3.8
PDAR Pinedale Array 89.19 45 P **P 05 36 58.9 +0.3**
comp=Z,1.1nm,0.6s,mb3.8,baz=231,slow=2.5,SNR=13
TMUT Trail Mountain 89.32 49 *eP* **P 05 37 00.5 +1.2**
SRU San Rafael 89.89 49 *eP* **P 05 37 02.4 +0.5**
SRU *e*PP pP 05 38 27.8 +1.5
SRU pmax pmax
comp=Z,11nm,0.7s,mb4.9
SRU San Rafael 89.89 49 *eP* **P 05 37 02.4 +0.5**
comp=Z,11nm,0.7s,mb4.9
SRU epP pP 05 38 27.8 +1.5
FCC Fort Churchill 90.31 27 *eP* **P 05 37 03.1 -0.3**
FCC *e*PP pP 05 38 27.1 -0.7
FCC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
FCC Fort Churchill 90.31 27 *eP* **P 05 37 03.1 -0.2**
comp=Z,4.7nm,0.9s,mb4.4
FCC epP pP 05 38 27.1 -0.7
PV10 Paradox Valley 91.24 49 *eP* **P 05 37 08.8 +0.6**
PV10 epP pP 05 38 36.5 +3.8
PV01 Paradox Valley 91.67 49 *eP* **P 05 37 10.6 +0.4**
AKASG Malin Array Be 92.63 325 P **P 05 37 12.3 -2.0**
comp=Z,0.4nm,0.5s,mb3.8,baz=56,slow=4.9,SNR=4.7
AKASG Malin Array Be 92.63 325 *i* P **P 05 37 13.1 -1.2**
HFS Hagfors 93.93 338 P **P 05 37 18.7 -1.3**
comp=Z,2.4nm,0.5s,mb4.5,baz=90,slow=4.4,SNR=12
SDCO Great Sand Dun 94.05 49 *eP* **P 05 37 22.2 +1.1**
comp=Z,1.8nm,0.9s,mb4.1
ULM Lac du Bonnet 94.15 34 P **P 05 37 20.6 -0.6**
comp=Z,0.8nm,0.5s,mb4.0,baz=229,slow=1.4,SNR=3.1
BRTR Keskin Array B 95.19 314 P **P 05 37 24.9 -1.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=87,slow=3.5,SNR=8.1
TXAR Lajitas Array 98.99 56 P **P 05 37 44.2 +0.4**
comp=Z,0.1nm,0.5s,baz=246,slow=3.0,SNR=5.8
GERES GERESS Array B 101.77 330 PP PP 05 42 09.7 -3.4
comp=Z,0.7nm,0.8s,baz=27,slow=6.0,SNR=5.5
SYO Syowa Base 111.39 202⇓ Pdiff Pdif 05 38 39.9 +2.4
SYO Syowa Base 111.39 202⇓ *eP* Pdif 05 38 39.9 +2.4
ESDC Sonseca Array 116.88 334 PP PP 05 43 57.3 -5.2
comp=Z,2.0nm,0.9s,baz=22,slow=7.4,SNR=8.3
PLCA Paso Flores 140.93 135 SKPbc 05 46 32.6
comp=Z,1.4nm,0.9s,baz=280,slow=2.9,SNR=6.0
DBIC Dimbokro 142.45 306 PKhKP 05 43 30.6
comp=Z,2.4nm,0.4s,baz=22,slow=3.6,SNR=15
LPAZ La Paz 147.80 94 PKPbc PKPdf 05 43 48.6 +6.7
comp=Z,1.3nm,0.7s,baz=280,slow=3.3,SNR=8.4
LPAZ La Paz 147.80 94 *e*PKIKP PKPdf 05 43 45.2 +3.3
LPAZ 05 43 48.6
BDFB Brasilia 166.97 86 PKPab PKPab 05 45 13.5 +0.5
comp=Z,1.2nm,0.6s,baz=203,slow=27,SNR=3.2

*MOS **26** 05:29:53.8±0.7, 12.16N×141.20E, h48km, mb4.8/5, Error ellipse: s-maj=17.7km s-min=11.7km az=107.5*
*NEIC **26** 05:29:54.4±0.3, 12.18N×141.18E, h35km, mb4.8/9, Error ellipse: s-maj=9.3km s-min=6.5km az=72.0*
*IDC **26** 05:29:56.4±4.0, 12.20N×141.25E, h54km±37km, mb3.9/10, mb1 4.0/11, mb1mx3.9/22, mbtmp4.2/11, ML4.2/1, MS4.2/1, Ms1 4.2/1, ms1mx3.0/27, Error ellipse: s-maj=29.7km s-min=16.1km az=82.0*
ISC 26 05:29:54.8±2.2, 12.15N±0.07×141.3E±0.1, h61km±22km, n41, σ0983/37, mb4.5/19, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.79**	**67**	P	**P**	**05 30 52.2**	**0.0**
	18nm,0.3s,baz=186,slow=9.6,SNR=4.8						
JHJ	**Hachijo jima 2**	**20.91**	**357**	LR	LR	05 41 07.1	
	comp=Z,662nm,20.8s,baz=22,slow=32						
NACB	**Ninganchiao**	**22.16**	**305**	P	**P**	**05 34 44.5**	**-2.4**
YHNB	**Yeheng**	**22.57**	**306**	*eP*	**P**	**05 34 53.4**	**+2.3**
CTA	**Charters Tower**	**32.41**	**171**	P	**P**	**05 36 22.5**	**+1.2**
	4.8nm,0.7s,mb4.4,baz=335,slow=7.6,SNR=9.4						
CTAO	**Charters Tower**	**32.41**	**171**	*eP*	**P**	**05 36 22.4**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
CTAO	**Charters Tower**	**32.41**	**171**	*eP*	**P**	**05 36 22.4**	**+1.1**
	comp=Z,4.2nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**32.60**	**192**	*eP*	**P**	**05 36 22.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**32.60**	**192**	*eP*	**P**	**05 36 22.8**	**-0.2**
	comp=Z,7.3nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**32.61**	**192**	P	**P**	**05 36 22.9**	**-0.2**
	comp=Z,5.6nm,0.8s,mb4.5,baz=11,slow=9.5,SNR=11						
MBWA	**Marble Bar**	**39.29**	**213**	*eP*	**P**	**05 37 20.0**	**+0.5**
	comp=Z,54nm,1.8s,mb5.0						
STKA	**Stephens Creek**	**43.78**	**180**	P	**P**	**05 37 56.6**	**+0.2**
	comp=Z,3.9nm,0.7s,mb4.2,baz=358,slow=8.8,SNR=5.5						
STKA	**Stephens Creek**	**43.78**	**180**	*eP*	**P**	**05 37 55.7**	**-0.7**
ULN	**Ulaanbaatar**	**45.64**	**328**	*eP*	**P**	**05 38 10.9**	**-0.2**
SONM	**Songino Array**	**45.97**	**328**	P	**P**	**05 38 14.6**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=108,slow=4.6,SNR=3.5						
NWAO	**Narrogin (SRO)**	**50.36**	**206**	*eP*	**P**	**05 38 44.7**	**-3.3**
NWAO				pmax	pmax		
	comp=Z,135nm,0.8s						
NWAO	**Narrogin (SRO)**	**50.36**	**206**	*eP*	**P**	**05 38 44.7**	**-3.2**
	comp=Z,135nm,0.8s						
JIRN	**Jiri**	**53.62**	**295**	*eP*	**P**	**05 39 12.8**	**+0.3**
	comp=Z,12nm,0.7s,mb4.9						
GUN	**Gumba**	**53.92**	**296**	*eP*	**P**	**05 39 14.9**	**+0.2**
	comp=Z,23nm,0.7s,mb5.2						
KKN	**Kakani**	**54.44**	**295**	*eP*	**P**	**05 39 18.3**	**-0.1**
	comp=Z,14nm,0.7s,mb5.0						
KKN	**Kakani**	**54.44**	**295**	*eP*	**P**	**05 39 18.3**	**-0.1**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
DMN	**Daman**	**54.58**	**295**	*eP*	**P**	**05 39 19.4**	**-0.1**
GKN	**Gorkha**	**55.02**	**296**	*eP*	**P**	**05 39 22.5**	**-0.2**
TAU	**Tasmania Unive**	**55.07**	**175**	*eP*	**P**	**05 39 22.5**	**-0.3**
KOLN	**Koldanda**	**55.92**	**295**	*eP*	**P**	**05 39 29.1**	**-0.1**
	comp=Z,16nm,0.9s,mb5.1						
TIXI	**Tiksi**	**59.94**	**355**	*eP*	**P**	**05 39 54.9**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**60.12**	**317**	P	**P**	**05 39 58.7**	**+0.4**
	comp=Z,3.1nm,1.0s,mb4.3,baz=108,slow=7.7,SNR=8.7						
KURK	**Kurchatov**	**63.45**	**321**	*eP*	**P**	**05 40 20.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1						
KURK	**Kurchatov**	**63.45**	**321**	*eP*	**P**	**05 40 20.6**	**+0.1**
	comp=Z,14nm,0.9s,mb5.1						
BVAR	**Borovoye Array**	**68.89**	**322**	P	**P**	**05 40 55.1**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.5,baz=106,slow=7.9,SNR=18						
BRVK	**Borovoye**	**68.96**	**322**	*eP*	**P**	**05 40 55.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**68.96**	**322**	*eP*	**P**	**05 40 55.8**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**69.71**	**322**	*eP*	**P**	**05 40 59.8**	**-0.3**
ILAR	**Eielson Array**	**71.36**	**25**	P	**P**	**05 41 10.1**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=243,slow=6.1,SNR=4.7						
AKTK	**Aktyubinsk**	**76.45**	**319**	P	**P**	**05 41 39.7**	**0.0**
AKTO	**Aktyubinsk**	**76.45**	**319**	P	**P**	**05 41 39.7**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=74,slow=8.0,SNR=5.3						
YKA	**Yellowknife Ar**	**85.73**	**27**	P	**P**	**05 42 28.9**	**+0.8**
	comp=Z,0.2nm,0.6s,mb3.5,baz=287,slow=4.9,SNR=6.0						
FINES	**FINESS Array B**	**90.95**	**334**	P	**P**	**05 42 52.5**	**-0.5**
	comp=Z,1.6nm,0.8s,mb4.4,baz=72,slow=6.0,SNR=5.1						
SJG	**San Juan**	**139.55**	**42**	*e*PKPdf	PKPdf	05 49 22.6	+6.2
DBIC	**Dimbokro**	**141.48**	**297**	PKPbc	PKPdf	05 49 23.0	+2.8
	comp=Z,3.8nm,1.0s,baz=154,slow=5.8,SNR=3.7						
LPAZ	**La Paz**	**151.22**	**102**	PKPbc	PKPdf	05 49 46.2	+10
	comp=Z,3.6nm,0.7s,baz=296,slow=3.9,SNR=15						

*IDC **26** 05:50:24.0±1.3, 13.53N×145.06E, h50km±10km, mb3.6/8, mb1 3.8/8, mb1mx3.7/19, mbtmp3.8/8, Error ellipse: s-maj=28.6km s-min=22.8km az=80.0*
*NEIC **26** 05:50:24.6±0.8, 13.48N×145.11E, h60km±6km, mb4.4/7, Error ellipse: s-maj=14.9km s-min=7.1km az=95.0*
ISC 26 05:50:23.7±0.7, 13.48N±0.06×145.0E±0.1, h64km±5km, n30, σ096/29, mb4.1/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.18**	**305**	P	**P**	**05 50 33.8**	**+0.3**
	854nm,0.3s,baz=118,slow=4.4,SNR=323						
GUMO				S	**S**	**05 50 40.4**	**-0.3**
	3µm,0.3s,baz=298,slow=22,SNR=298						
GUMO	**Guam**	**0.18**	**305**	*e*Pn	**P**	**05 50 34.0**	**+0.5**
GUMO				*e*Sn	**S**	**05 50 39.8**	**-0.9**
SAPN	**Saipan**	**1.86**	**22**	*eP*	**P**	**05 50 55.0**	**+1.1**
PMG	**Port Moresby**	**22.84**	**175**	*eP*	**P**	**05 55 21.4**	**-1.0**

PMG epP 05 55 37.5
YHNB Yeheng 24.92 300 *e*P **P** **05 55 43.4 +1.0**
YSS Yuzh-Sakhalins 33.42 357 *e*P **P** **05 56 56.3 -2.0**
58nm,1.1s,mb5.4
MDJ Mudanjiang 33.71 340 *e*P **P** **05 56 59.2 -1.6**
WRAB Tennant Creek 34.83 198 *e*P **P** **05 57 10.9 +0.3**
3.7nm,0.8s,mb4.4
WB2 Warramunga Arr 34.84 198 *e*P **P** **05 57 10.6 -0.1**
WRA Warramunga Arr 34.84 198 P **P** **05 57 10.7 0.0**
1.4nm,0.8s,mb3.9,baz=24,slow=9.5,SNR=14
FITZ Fitzroy Crossi 36.75 212 *e*P **P** **05 57 27.6 +0.7**
8.0nm,1.6s,mb4.3
ASPA Alice Springs 38.49 197 *e*P **P** **05 57 42.5 +1.1**
HIA Hailar 41.30 335 *e*P **P** **05 58 04.8 +0.5**
4.5nm,0.3s,mb4.6
MBWA Marble Bar 42.45 216 *e*P **P** **05 58 14.7 +0.5**
10nm,1.1s,mb4.4
STKA Stephens Creek 45.22 184 P **P** **05 58 36.2 -0.2**
SONM Songino Array 46.90 325 P **P** **05 58 50.6 +1.1**
0.3nm,0.5s,mb3.5,baz=132,slow=8.4,SNR=4.5
NWAO Narrogin (SRO) 53.24 209 *e*P **P** **05 59 36.5 -1.7**
MKAR Makanchi Array 61.67 316 P **P** **06 00 37.0 -0.2**
0.2nm,0.3s,mb3.7,baz=96,slow=8.1,SNR=11
KURK Kurchatov 64.76 320 *e*P **P** **06 00 56.9 -0.7**
0.7nm,0.4s,mb4.0
ILAR Eielson Array 68.60 25 P **P** **06 01 20.1 -1.4**
0.4nm,0.5s,mb3.6,baz=251,slow=5.8,SNR=11
BVAR Borovoye Array 70.10 322 P **P** **06 01 31.4 +0.4**
0.8nm,0.4s,mb4.0,baz=106,slow=7.3,SNR=5.0
ZRNK Zerenda 70.93 322 *e*P **P** **06 01 36.6 +0.6**
0.8nm,0.5s,mb3.9
YKA Yellowknife Ar 82.88 27 P **P** **06 02 42.5 +0.1**
0.3nm,0.5s,mb3.6,baz=286,slow=5.1,SNR=15
YKA Yellowknife Ar 82.88 27 P **P** **06 02 42.5 +0.1**
NVAR Mina Array Bea 86.87 51 P **P** **06 03 05.1 +2.3**
0.5nm,0.5s,mb4.0,baz=257,slow=7.2,SNR=10
NVAR Mina Array Bea 86.87 51 P **P** **06 03 05.1 +2.3**
FINES FINESS Array B 91.32 335 P **P** **06 03 22.8 -0.5**
1.4nm,0.9s,mb4.3,baz=135,slow=2.7,SNR=4.4
DBIC Dimbokro 144.01 302 PKP PKPdf 06 09 53.4 +0.5
1.8nm,0.5s,baz=20,slow=1.8,SNR=9.8
DBIC Dimbokro 144.01 302 PKP PKPdf 06 09 53.4 +0.5
LPAZ La Paz 147.86 99 PKPbc PKPdf 06 10 03.9 +4.6
1.4nm,1.1s,baz=165,slow=3.0,SNR=3.5

TIR ***26*** *05:53:27.1,41.19N×20.50E,h5km,Ml4.1*
PRU ***26*** *05:53:29.2,40.89N×19.94E,M4.1*
IDC ***26*** *05:53:29.4±0.7,41.08N×20.12E,mb4.0/16,mb1 4.1/27, mb1mx4.1/33,mbtmp4.0/27,ML3.8/10,MS3.3/11, Ms1 3.3/11,ms1mx3.1/33,Error ellipse: s-maj=10.9km s-min=9.6km az=159.0*
LDG ***26*** *05:53:30.5±0.1,41.14N×20.08E,h10km,Ml4.1/9,Error ellipse: s-maj=2.6km s-min=2.2km az=13.0*
BJI ***26*** *05:53:30.4,41.72N×20.03E,h4km,mB4.7,mb4.6,Ms5.2, Msz4.8*
CSEM ***26*** *05:53:30.8±0.1,41.13N×20.14E,h10km,ML4.2/5,Error ellipse: s-maj=1.9km s-min=1.1km az=50.0*
THE ***26*** *05:53:31.1,41.15N×20.26E,h10km,ML4.3*
MOS ***26*** *05:53:31.6±1.2,41.05N×19.93E,h33km,mb4.4/8,Error ellipse: s-maj=4.3km s-min=2.6km az=106.9*
PDG ***26*** *05:53:33.1±0.2,41.23N×20.10E,h10km±1km*
NEIC ***26*** *05:53:33.0,41.30N×20.00E,h2km,mb4.1/4,ML4.2(PDG), ML3.7(SKO),ML3.6(BUC),After PDG.*
ATH ***26*** *05:53:34.0,40.97N×20.33E,h30km±5km,MD4.2/13, ML4.4*

ISC 26 05:53:31.8±0.5,**41.08N**±0.01×**20.04E**±0.02,**h30**km±4km, **n260**,σ1**s33**/335,**mb4.4**/26,**MS3.3**/7,**35C-16D,Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LACI	**Lac**	**0.61**	**336**	*i* Pg	**Pb**	**05 53 42.5**	**-1.5**
LACI				*i* Sg	**Sb**	**05 53 53.1**	**+0.8**
LACI	**Lac**	**0.61**	**336**	*e*Pg	**Pb**	**05 53 42.5**	**-1.5**
LACI				*i* Sg	**Sb**	**05 53 53.1**	**+0.8**
VLO	**Vlora**	**0.74**	**215**	*e*Pg	**Pb**	**05 53 46.9**	**+0.9**
VLO				*i* Sg	**Sb**	**05 54 01.6**	**+5.8**
TPE	**Tepelena**	**0.78**	**182**	*e*Pg	**Pn**	**05 53 46.1**	**-0.6**
TPE				*i* Sg	**Sb**	**05 54 01.1**	**+4.0**
PUK	**Puka**	**0.97**	**353**	*i* pg?	**Pn**	**05 53 37.6**	**-12**
PUK	**Puka**	**0.97**	**353**	*e*Pg	**Pn**	**05 53 37.6**	**-12**
LSK	**Leskovik**	**1.02**	**155**	*i* Pg	**Pn**	**05 53 48.1**	**-2.0**
LSK				*i* Sg	**Sn**	**05 54 04.4**	**+0.9**
LSK	**Leskovik**	**1.02**	**155**	*e*Pn	**Pn**	**05 53 48.1**	**-2.0**
LSK				*i* Sn	**Sn**	**05 54 04.4**	**+0.9**
KKS	**Kukesi**	**1.03**	**15**	*e*Pg	**Pn**	**05 53 42.9**	**-7.5**
KKS				*i* Sg	**Sn**	**05 53 53.9**	**-10**
FNA	**Florina**	**1.05**	**106**	*e*Pg	**Pn**	**05 53 48.3**	**-2.3**
SDA	**Shkodra**	**1.06**	**337**	*e*Pn	**Pn**	**05 53 50.9**	**+0.2**
SDA				*i* Sg	**Sn**	**05 54 09.9**	**+5.5**
ULC	**Ulcinj**	**1.07**	**326**	⇑*i*Pg	**Pn**	**05 53 51.0**	**+0.2**
ULC				*e*Sg	**Sn**	**05 54 06.7**	**+1.9**
SRN	**Sarande**	**1.20**	**182**	*i* Pn	**Pn**	**05 53 55.1**	**+2.4**
SRN				*i* Sn	**Sn**	**05 54 25.6**	**+18**
SRN	**Sarande**	**1.20**	**182**	*e*Pn	**Pn**	**05 53 55.1**	**+2.4**
SRN				*i* Sn	**Sn**	**05 54 25.6**	**+18**
BCI	**Bajram Curri**	**1.29**	**1**	*i* pn?	**Pn**	**05 53 54.5**	**+0.5**
BCI				*i* Sn	**Sn**	**05 54 15.0**	**+4.7**
BCI	**Bajram Curri**	**1.29**	**1**	*e*Pn	**Pn**	**05 53 54.5**	**+0.5**
BCI				*i* Sn	**Sn**	**05 54 15.0**	**+4.7**
KEK	**Kerkira**	**1.38**	**188**	*e*PN	**Pn**	**05 53 58.7**	**+3.5**
KEK				*e*SN	**Sn**	**05 54 15.5**	**+3.0**
TTG	**Podgorica**	**1.47**	**337**	⇓*i*Pg	**Pn**	**05 53 58.0**	**+1.3**
TTG				*e*Sg	**Sn**	**05 54 19.3**	**+4.3**
BUM	**Brajici-Budva**	**1.49**	**325**	⇑*i*Pg	**Pn**	**05 53 59.0**	**+2.0**
BUM				*e*Sg	**Sn**	**05 54 20.9**	**+5.4**
PVY	**Plav**	**1.52**	**358**	⇑*i*Pg	**Pn**	**05 53 58.4**	**+1.1**
PVY				*e*Sg	**Sn**	**05 54 20.6**	**+4.5**
KZN	**Kozani**	**1.52**	**120**	*e*PN	**Pn**	**05 53 57.6**	**+0.3**
KZN				*e*SN	**Sn**	**05 54 15.1**	**-1.2**
JAN	**Janina**	**1.55**	**156**	*e*PN	**Pn**	**05 53 58.8**	**+1.1**
JAN				*e*SN	**Sn**	**05 54 17.3**	**+0.4**
IGT	**Igoumenitsa**	**1.56**	**172**	*e*Pg	**Pn**	**05 54 00.3**	**+2.4**
IGT				*e*Sg	**Sn**	**05 54 22.9**	**+5.7**
MEV	**Metsovon**	**1.58**	**145**	*e*Pg	**Pn**	**05 53 58.7**	**+0.6**
GRG	**Griva**	**1.79**	**93**	*e*Pb	**Pb**	**05 54 00.4**	**-3.3**
HCY	**Herceg Novi**	**1.79**	**320**	⇓*i*Pn	**Pn**	**05 54 03.7**	**+2.6**
HCY				*e*Sn	**Sn**	**05 54 30.8**	**+7.7**
IVA	**Berane**	**1.80**	**357**	⇑*i*Pn	**Pn**	**05 54 03.4**	**+2.2**
IVA				*e*Sn	**Sn**	**05 54 29.4**	**+6.2**
NKY	**Niksic**	**1.90**	**336**	⇑*i*Pn	**Pn**	**05 54 05.7**	**+2.9**
NKY				*e*Sn	**Sn**	**05 54 32.6**	**+6.7**
LIT	**Litokhoron**	**2.10**	**117**	*e*Pn	**Pn**	**05 54 05.1**	**-0.6**
BRY	**Bratogost**	**2.14**	**329**	⇓*i*Pn	**Pn**	**05 54 09.0**	**+2.8**
BRY				*e*Sn	**Sn**	**05 54 38.5**	**+6.5**
KNT	**Kendrikon**	**2.16**	**87**	*e*Pn	**Pn**	**05 54 05.4**	**-1.0**
THE	**Thessaloniki**	**2.26**	**100**	*e*Pn	**Pn**	**05 54 07.1**	**-0.8**
UPM	**Unac-Piva**	**2.29**	**339**	⇑*i*Pn	**Pn**	**05 54 11.5**	**+3.3**
UPM				*e*Sn	**Sn**	**05 54 41.7**	**+6.1**
PLE	**Pljevlja**	**2.30**	**348**	⇓*i*Pn	**Pn**	**05 54 11.6**	**+3.1**
PLE				*e*Sn	**Sn**	**05 54 41.6**	**+5.5**
BAI	**Bari**	**2.39**	**272**	⇑*i*Pn	**Pn**	**05 54 11.0**	**+1.2**
LKD	**Levkas**	**2.41**	**169**	*e*Pn	**Pn**	**05 54 12.1**	**+2.0**
STON	**Ston**	**2.50**	**317**	*i* Pn	**Pn**	**05 54 13.1**	**+1.8**
STON				*i* Sn	**Sn**	**05 54 48.1**	**+6.9**
SOH	**Sokhos**	**2.52**	**95**	*e*Pn	**Pn**	**05 54 11.1**	**-0.6**
SG1	**Sgolgore (BA)**	**2.56**	**266**	⇑*i*Pn	**Pn**	**05 54 13.1**	**+0.9**
PLG	**Polygyros**	**2.68**	**104**	*e*PN	**Pn**	**05 54 13.9**	**0.0**
AGG	**Agios Georgios**	**2.70**	**139**	*e*Pn	**Pn**	**05 54 14.9**	**+0.7**
AGG				*e*Sn	**Sn**	**05 54 48.4**	**+2.2**
VTS	**Vitosha**	**2.81**	**56**	*i* P	**Pn**	**05 54 15.5**	**-0.2**
MMB	**Musomiste**	**2.82**	**78**	*i* P	**Pn**	**05 54 15.0**	**-0.9**
BBLS	**Bajina Basta -**	**2.83**	**351**	*i* Pn	**Pn**	**05 54 20.1**	**+4.1**
CDT	**Castel del Mon**	**2.85**	**271**	⇑*i*Pn	**Pn**	**05 54 17.6**	**+1.3**
GRUS	**Gruza**	**2.85**	**10**	*e*Pn	**Pn**	**05 54 17.6**	**+1.2**
NVR	**Nevrokopi**	**2.89**	**83**	*e*PN	**Pn**	**05 54 17.5**	**+0.6**
VLS	**Valsamata**	**2.93**	**172**	⇓*i*PN	**Pn**	**05 54 17.8**	**+0.4**
XOR	**Xorichti**	**2.96**	**124**	*e*Pn	**Pn**	**05 54 17.2**	**-0.6**
PAIG	**Paliouri**	**3.00**	**111**	*e*Pn	**Pn**	**05 54 17.0**	**-1.4**
NEO	**Neokhori**	**3.01**	**125**	*e*PN	**Pn**	**05 54 17.8**	**-0.8**
DIVS	**Divcibare**	**3.02**	**359**	*e*Pn	**Pn**	**05 54 20.4**	**+1.7**
OUR	**Ouranopolis**	**3.08**	**103**	*e*Pn	**Pn**	**05 54 18.5**	**-1.1**
BOLS	**Boljevac**	**3.10**	**27**	⇓*i*Pn	**Pn**	**05 54 20.5**	**+0.7**
BOLS				*e*Sn	**Sn**	**05 54 58.2**	**+2.0**
MS1	**Monte Sant'Ang**	**3.15**	**283**	⇑*i*Pn	**Pn**	**05 54 21.4**	**+0.9**
TIP	**Timpagrande**	**3.15**	**234**	*e*Pn	**Pn**	**05 54 21.1**	**+0.6**
TIP				*e*Sn	**Sn**	**05 54 57.3**	**-0.3**
TIP	**Timpagrande**	**3.15**	**234**	*e*Pn	**Pn**	**05 54 21.1**	**+0.5**
TIP				*e*Sn	**Sn**	**05 54 57.3**	**-0.3**
RLS	**Riolos of Patr**	**3.21**	**160**	*e*PN	**Pn**	**05 54 22.4**	**+1.0**
LKR	**Lokris**	**3.32**	**136**	*e*PN	**Pn**	**05 54 22.8**	**-0.2**
SVIS	**Svilajnac**	**3.33**	**15**	⇓*i*Pn	**Pn**	**05 54 23.5**	**+0.4**
SVIS				*e*Sn	**Sn**	**05 55 04.0**	**+1.9**
PGB	**Panagyurishte**	**3.42**	**63**	P	**Pn**	**05 54 24.0**	**-0.3**
PGB	**Panagyurishte**	**3.42**	**63**	*i* P	**Pn**	**05 54 23.0**	**-1.3**
PGB				P		05 54 24.0	
RZN	**Rozhen**	**3.57**	**79**	*i* P	**Pn**	**05 54 26.0**	**-0.5**
PLD	**Plovdiv**	**3.64**	**72**	*i* P	**Pn**	**05 54 28.0**	**+0.4**
MGER	**Gerania Oros**	**3.96**	**140**	*e*PN	**Pn**	**05 54 33.0**	**+0.9**
DJES	**Djerdap**	**4.00**	**26**	*e*Pn	**Pn**	**05 54 33.4**	**+0.8**
LOS	**Limnos**	**4.01**	**105**	*e*Pn	**Pn**	**05 54 32.5**	**-0.2**
LOS	**Limnos**	**4.01**	**105**	*e*Pn	**Pn**	**05 54 32.5**	**-0.2**
MPAR	**Parnis Oros**	**4.08**	**135**	*e*PN	**Pn**	**05 54 33.0**	**-0.8**
KDZ	**Kurdzhali**	**4.08**	**80**	*i* P	**Pn**	**05 54 32.0**	**-1.8**
RDO	**Rodhopi**	**4.15**	**87**	⇓*i*PN	**Pn**	**05 54 35.6**	**+0.8**
ITM	**Ithomi**	**4.16**	**159**	*e*PN	**Pn**	**05 54 36.0**	**+1.1**
ATH	**Athens Observa**	**4.21**	**136**	⇑*i*PN	**Pn**	**05 54 36.0**	**+0.4**
PTL	**Penteli**	**4.23**	**134**	*e*PN	**Pn**	**05 54 36.0**	**+0.1**
PTL	**Penteli**	**4.23**	**134**	*e*Pn	**Pn**	**05 54 37.2**	**+1.3**
DIM	**Dimitrovgrad**	**4.23**	**75**	*i* P	**Pn**	**05 54 37.0**	**+1.1**
ALN	**Alexandroupoli**	**4.55**	**90**	*e*Pn	**Pn**	**05 54 39.8**	**-0.6**
BZS	**Buzias**	**4.68**	**14**	⇑P	**Pn**	**05 54 42.6**	**+0.3**
BZS	**Buzias**	**4.68**	**14**	P	**Pn**	**05 54 44.2**	**+1.9**
SZH	**Strazhica**	**4.89**	**62**	*i* P	**Pn**	**05 54 46.0**	**+0.7**
SZH	**Strazhica**	**4.89**	**62**	P	**Pn**	**05 54 45.0**	**-0.3**
SZH	**Strazhica**	**4.89**	**62**	P	**Pn**	**05 54 45.0**	**-0.3**
SZH				*i* P		05 54 46.0	
VLI	**Veliai**	**4.90**	**152**	*e*PN	**Pn**	**05 54 45.5**	**+0.1**
VLI	**Veliai**	**4.90**	**152**	*e*Pn	**Pn**	**05 54 44.8**	**-0.6**
RHK3	**Tenkes**	**4.98**	**345**	⇓*e*P	**Pn**	**05 54 46.7**	**+0.1**
AQU	**L'Aquila**	**5.13**	**287**	*e*P	**Pn**	**05 54 49.4**	**+0.7**
AQU				*e*		05 55 45.5	
AQU				pmax	pmax		
	comp=Z,108nm,0.8s						
AQU	**L'Aquila**	**5.13**	**287**	*e*Pn	**Pn**	**05 54 49.4**	**+0.8**
	comp=Z,108nm,0.8s						
AQU				*e*Sn	**Sn**	**05 55 45.5**	**-2.1**
AQU	**L'Aquila**	**5.13**	**287**	*e*Pn	**Pn**	**05 54 49.4**	**+0.7**
	comp=Z,108nm,0.8s						
AQU				*e*Sn	**Sn**	**05 55 45.5**	**-2.1**
RHK1	**Bakonya**	**5.22**	**345**	⇑*e*P	**Pn**	**05 54 50.0**	**+0.2**
RHK1				*e*S	**Sn**	**05 55 56.5**	**+6.8**
PKSM	**Moragy**	**5.23**	**349**	⇑*e*P	**Pn**	**05 54 49.9**	**-0.2**
PKSM				*e*S	**Sn**	**05 55 51.3**	**+1.2**
KYTH	**Kithira**	**5.33**	**153**	*e*PN	**Pn**	**05 54 52.0**	**+0.5**
KYTH	**Kithira**	**5.33**	**153**	*e*Pn	**Pn**	**05 54 52.8**	**+1.3**
BOJS	**Bojanci**	**5.64**	**323**	*i* Pn	**Pn**	**05 54 56.6**	**+0.8**
BOJS				*e*Sn	**Sn**	**05 56 01.9**	**+1.5**
VAE	**Valguarnera**	**5.66**	**232**	Pn	**Pn**	**05 54 57.6**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=336,slow=13,SNR=2.3						
VAE				*e*Sn	**Sn**	**05 56 02.6**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=7.6,slow=11,SNR=2.5						
VOIR		**5.69**	**38**	⇓P	**Pn**	**05 54 55.8**	**-0.7**
APE	**Apeiranthos**	**5.85**	**131**	*e*PN	**Pn**	**05 54 58.6**	**-0.2**
APE	**Apeiranthos**	**5.85**	**131**	*e*P	**Pn**	**05 54 59.2**	**+0.4**
PRD	**Provadia**	**5.87**	**66**	*i* P	**Pn**	**05 55 00.0**	**+1.0**
MLR	**Muntele Rosu**	**6.16**	**42**	Pn	**Pn**	**05 55 03.1**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=256,slow=14,SNR=22						
MLR				*e*Sn	**Sn**	**05 56 12.9**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=111,slow=17,SNR=1.9						
MLR				LR	LR	05 57 27.2	
	comp=Z,132nm,21.3s,baz=220,slow=39						
MLR	**Muntele Rosu**	**6.16**	**42**	Pn	**Pn**	**05 55 03.1**	**-0.2**
MLR				P		05 55 06.7	
MLR				*e*Sn	**Sn**	**05 56 12.9**	**-0.5**
MLR				LR	LR	05 57 27.2	
ISR	**Istrita**	**6.24**	**48**	⇑P	**Pn**	**05 55 05.8**	**+1.5**
LJU	**Ljubljana**	**6.38**	**323**	*e*Pn	**Pn**	**05 55 05.9**	**-0.3**
LJU				*e*Sn	**Sn**	**05 56 20.4**	**+1.6**
PKSG		**6.42**	**350**	⇑*e*P	**Pn**	**05 55 07.1**	**+0.2**
	comp=Z,1.4nm,0.4s						
PKSG				*e*S	**Sn**	**05 56 21.5**	**+1.6**
JAVS	**Javornik**	**6.49**	**320**	*e*Pn	**Pn**	**05 55 07.1**	**-0.7**
JAVS				*e*Sn	**Sn**	**05 56 22.2**	**+0.7**
PERS	**Pernice**	**6.60**	**329**	*e*Pn	**Pn**	**05 55 09.0**	**-0.3**
VOY	**Vojsko**	**6.67**	**320**	*e*Pn	**Pn**	**05 55 09.3**	**-1.0**
VOY				*e*Sn	**Sn**	**05 56 25.7**	**-0.3**
OBKA	**Obir**	**6.73**	**326**	⇑*i*Pn	**Pn**	**05 55 10.6**	**-0.5**
OBKA				Sn	**Sn**	**05 56 28.7**	**+1.2**
VRI	**Vrincioaia**	**6.82**	**43**	⇑P	**Pn**	**05 55 13.4**	**+0.9**
VRI	**Vrincioaia**	**6.82**	**43**	P	**Pn**	**05 55 13.7**	**+1.2**
HARR	**Harsova**	**6.83**	**55**	⇑P	**Pn**	**05 55 10.9**	**-1.6**
IDI	**Anoyia**	**6.92**	**145**	Pn	**Pn**	**05 55 11.2**	**-2.7**
	comp=Z,2.5nm,0.3s,baz=336,slow=12,SNR=7.6						
IDI				*e*Sn	**Sn**	**05 56 28.3**	**-4.2**
	comp=Z,2.3nm,0.3s,baz=108,slow=23,SNR=3.0						
ARSA	**Arzberg**	**6.97**	**334**	⇑*i*Pn	**Pn**	**05 55 14.0**	**-0.6**
SNR=11							
ARSA	**Arzberg**	**6.97**	**334**	⇑*i*Sn	**Sn**	**05 56 34.3**	**+0.7**
ARSA	**Arzberg**	**6.97**	**334**	⇑*i*Pn	**Pn**	**05 55 13.9**	**-0.7**
ARSA				*e*Sn	**Sn**	**05 56 34.3**	**+0.7**
TIRR	**Tirgusor**	**7.02**	**58**	⇓P	**Pn**	**05 55 15.9**	**+0.6**
CFR	**Carcaliu**	**7.20**	**53**	⇑P	**Pn**	**05 55 18.1**	**+0.3**
KECS	**Kecovo**	**7.41**	**2**	*e*PN	**Pn**	**05 55 21.7**	**+1.0**
KECS				*e*SN	**Sn**	**05 56 44.5**	**-0.2**
ZST	**Bratislava**	**7.42**	**345**	*e*PN	**Pn**	**05 55 22.6**	**+1.8**
ZST				*e*SN	**Sn**	**05 56 45.9**	**-1.0**
VYHS	**Vyhne**	**7.46**	**354**	*e*PN	**Pn**	**05 55 21.9**	**+0.4**
VYHS				*e*SN	**Sn**	**05 56 45.3**	**-0.7**
BURAR	**Bucovina Array**	**7.51**	**28**	⇑P	**Pn**	**05 55 23.6**	**+1.5**
SMOL	**Smolenice**	**7.66**	**347**	*e*PN	**Pn**	**05 55 26.6**	**+2.3**
KBA	**Koelnbreinsper**	**7.70**	**323**	⇑*i*Sn	**Sn**	**05 56 52.3**	**+0.6**
KBA	**Koelnbreinsper**	**7.70**	**323**	⇑*i*P	**Pn**	**05 55 24.1**	**-0.6**
KBA						05 56 52.3	
KBA	**Koelnbreinsper**	**7.70**	**323**	⇑*i*Pn	**Pn**	**05 55 24.1**	**-0.6**
KBA				Sn	**Sn**	**05 56 52.3**	**+0.6**
CRVS	**Cervenica-Dubn**	**7.89**	**7**	*e*PN	**Pn**	**05 55 28.2**	**+0.8**
MOA	**Molln**	**7.93**	**331**	⇑*i*Pn	**Pn**	**05 55 27.4**	**-0.6**
MOA				Sn	**Sn**	**05 56 58.3**	**+0.7**
KOLS	**Kolonicke sedl**	**8.01**	**11**	*e*PN	**P**	**05 55 30.4**	**+1.3**
NIE	**Niedzica**	**8.34**	**1**	*e*P	**P**	**05 55 35.4**	**+1.7**
NIE				*e*S	**Sn**	**05 57 09.7**	**+1.8**
PGF	**Pioggiola**	**8.38**	**284**	*e*Pn	**P**	**05 55 32.9**	**-1.3**
PGF				*e*Sn	**Sn**	**05 56 59.2**	**-1.0**
STHS	**Stebnicka Huta**	**8.38**	**5**	*e*	**P**	**05 55 37.0**	**+2.7**
VRAC	**Vranov**	**8.58**	**345**	Pn	**P**	**05 55 36.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=172,slow=11,SNR=11						
VRAC				Sn	**Sn**	**05 57 17.2**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=166,slow=11,SNR=2.1						
VRAC				LR	LR	05 59 05.6	
	comp=Z,222nm,19.5s,baz=170,slow=39						
VRAC	**Vranov**	**8.58**	**345**	⇓P	**P**	**05 55 37.3**	**+0.3**
ISP	**Isparta**	**8.71**	**108**	P	**P**	**05 55 40.3**	**+1.4**
ISP	**Isparta**	**8.71**	**108**	*e*Pn	**P**	**05 55 40.0**	**+1.1**
	comp=Z,26nm,0.8s						
WATA	**Walderalm**	**8.72**	**319**	⇓*i*Pn	**P**	**05 55 38.1**	**-0.8**
WATA				Sn	**Sn**	**05 57 17.6**	**+0.3**
KWP	**Kalwaria**	**8.76**	**11**	*e*P	**P**	**05 55 42.0**	**+2.6**
KWP				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KWP	**Kalwaria**	**8.76**	**11**	*e*Pn	**P**	**05 55 42.0**	**+2.5**
	comp=Z,8.3nm,0.6s						
TREC	**Trest**	**8.82**	**340**	*e*PN	**P**	**05 55 40.4**	**0.0**
TREC				AMS	AMS	05 59 20.0	
	comp=Z,1μm,12.0s						
SQTA	**Sankt Quirin**	**8.83**	**317**	⇓*i*Pn	**P**	**05 55 39.8**	**-0.6**
SQTA				Sn	**Sn**	**05 57 19.6**	**-0.3**
OKC	**Ostrava-Krasne**	**8.86**	**352**	*e*PN	**P**	**05 55 40.7**	**-0.2**
OKC				AMS	AMS	06 00 10.0	
	comp=Z,600nm,9.6s						
MORC	**Moravsky Berou**	**8.88**	**349**	⇑P	**P**	**05 55 41.8**	**+0.7**
MOTA	**Moosalm**	**8.97**	**317**	⇑*i*Pn	**P**	**05 55 41.3**	**-1.0**
MOTA				Sn	**Sn**	**05 57 23.2**	**-0.1**
GEC2	**GERESS Array S**	**8.97**	**332**	*e*P	**P**	**05 55 41.6**	**-0.8**
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GEC2	**GERESS Array S**	**8.97**	**332**	*e*Pn	**P**	**05 55 41.6**	**-0.8**
	comp=Z,5.0nm,0.8s						
GERES	**GERESS Array B**	**8.97**	**332**	Pn	**P**	**05 55 41.0**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=154,slow=14,SNR=34						
GERES				Sn	**Sn**	**05 57 22.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=150,slow=22,SNR=2.5						
GERES				LR	LR	05 59 48.2	
	comp=Z,423nm,18.3s,baz=142,slow=42						
GERES	**GERESS Array B**	**8.97**	**332**	Pn	**P**	**05 55 41.0**	**-1.4**
GERES				Sn	**Sn**	**05 57 22.6**	**-0.8**
GERES				LR	LR	05 59 48.2	
OJC	**Ojcow**	**9.14**	**359**	*e*P	**P**	**05 55 41.6**	**-3.2**
OJC				*e*S	**Sn**	**05 57 16.5**	**-11**
KHC	**Kasperske Hory**	**9.26**	**333**	*e*PN	**P**	**05 55 45.0**	**-1.3**
KHC				*e*SN	**Sn**	**05 57 30.6**	**+0.1**
KHC				AMS	AMS	05 59 50.0	
	comp=Z,600nm,10.2s						
DAVOX	**Davos**	**9.28**	**311**	Pn	**P**	**05 55 46.0**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=133,slow=16,SNR=28						
DAVOX				Sn	**Sn**	**05 57 31.7**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=183,slow=23,SNR=3.4						
DAVOX				LR	LR	05 59 56.1	
	comp=Z,185nm,20.3s,baz=264,slow=42						
DAVOX	**Davos**	**9.28**	**311**	Pn	**P**	**05 55 46.0**	**-0.7**
DAVOX				Sn	**Sn**	**05 57 31.7**	**+0.5**
DAVOX				LR	LR	05 59 56.1	
FUR	**Furstenfeldbru**	**9.44**	**322**	*e*P	**P**	**05 55 47.5**	**-1.4**
WET	**Wettzell**	**9.52**	**330**	*e*P	**P**	**05 55 48.5**	**-1.4**
WET				pmax	pmax		
	comp=Z,14nm,1.6s						
DAVA	**Damuels**	**9.58**	**314**	⇓*i*Sn	**Sn**	**05 57 38.0**	**-0.3**
DAVA				⇓*i*X		05 57 39.7	
DAVA	**Damuels**	**9.58**	**314**	⇑*i*Pn	**P**	**05 55 49.9**	**-0.9**
DAVA				Sn	**Sn**	**05 57 38.0**	**-0.3**
DAVA				*e*		05 57 39.7	
DPC	**Dobruska-Polom**	**9.63**	**346**	*e*PN	**P**	**05 55 51.7**	**+0.3**
DPC				AMS	AMS	06 00 00.0	
	comp=Z,900nm,10.6s						
PRU	**Pruhonice**	**9.71**	**338**	*e*PN	**P**	**05 55 52.5**	**0.0**
PRU				AMS	AMS	06 00 00.0	
	comp=Z,800nm,10.8s						
SBF	**Sospel**	**9.72**	**291**	*e*Pn	**P**	**05 55 48.9**	**-3.8**
UPC	**Upice**	**9.84**	**345**	*e*PN	**P**	**05 55 54.9**	**+0.6**
KSP	**Ksiaz**	**10.11**	**346**	*e*P	**P**	**05 55 58.5**	**+0.5**
FRF	**La Foret Royal**	**10.23**	**288**	*e*P	**P**	**05 56 00.7**	**+1.0**
LMR	**La Mourre**	**10.29**	**287**	*e*Pn	**P**	**05 55 55.7**	**-4.8**
MBDF	**Montbardon**	**10.40**	**295**	*e*Pn	**P**	**05 55 59.5**	**-2.5**
MBDF				*e*Sn	**S**	**05 57 47.1**	**-11**
	comp=Z,19nm,0.8s						
BR131	**Keskin Array S**	**10.46**	**93**	*e*Pn	**P**	**05 56 03.1**	**+0.2**
	comp=Z,1.3nm,0.4s						
BRTR	**Keskin Array B**	**10.46**	**93**	Pn	**P**	**05 56 01.1**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=266,slow=12,SNR=24						
GRA1	**Grafenberg Arr**	**10.61**	**327**	*e*Pn	**P**	**05 56 02.3**	**-2.5**
	comp=Z,7.0nm,1.0s						

MDT	**Midelt**	**21.31**	**255**	P		**P**	**05 58 18.6**	**+0.4**
	comp=Z,2.2nm,0.9s,mb3.5,baz=70,slow=12,SNR=3.6							
MDT				LR		LR	06 05 57.5	
	comp=Z,56nm,21.9s,MS2.9,baz=297,slow=35							
KAF	**Kangasniemi**	**21.40**	**8**	*e*p		**P**	**05 58 17.1**	**-1.8**
JOF	**Joensuu**	**22.88**	**13**	*e*p		**P**	**05 58 34.3**	**+0.8**
KLMR	**Klimovskoe**	**23.12**	**25**	*e*P		**P**	**05 58 38.0**	**+2.2**
KLMR				pmax	pmax			
	comp=Z,30nm,2.0s,mb4.4							
AKTK	**Aktyubinsk**	**27.83**	**57**	P		**P**	**05 59 19.1**	**-1.1**
AKTK				LR	LR		06 11 07.3	
AKTO	**Aktyubinsk**	**27.83**	**57**	P		**P**	**05 59 19.1**	**-1.1**
	comp=Z,1.8nm,0.5s,mb4.0,baz=256,slow=9.3,SNR=10							
AKTO				LR	LR		06 11 07.3	
	comp=Z,51nm,19.9s,MS3.1,slow=38							
ARCES	**ARCESS Array B**	**28.67**	**4**	P		**P**	**05 59 27.0**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.7,baz=188,slow=8.6,SNR=12							
ARCES				LR	LR		06 11 28.8	
	comp=Z,51nm,19.0s,MS3.1,baz=287,slow=38							
ARU	**Arti**	**29.21**	**45**	*e*P		**P**	**05 59 32.4**	**-0.2**
ARU				*e*PPP	PPP		06 00 32.7	-8.0
ARU				*e*S		**S**	**06 04 24.2**	**+2.4**
ARU				*e*SS	SS		06 05 53.4	+0.5
BRVK	**Borovoye**	**35.54**	**53**	*e*P		**P**	**06 00 27.8**	**0.0**
BRVK				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7							
BRVK	**Borovoye**	**35.54**	**53**	*e*P		**P**	**06 00 27.8**	**0.0**
	comp=Z,8.1nm,0.9s,mb4.7							
BVAR	**Borovoye Array**	**35.60**	**53**	P		**P**	**06 00 27.6**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.4,baz=270,slow=5.9,SNR=20							
AAK	**Ala-Archa**	**40.00**	**69**	*e*P		**P**	**06 01 06.3**	**+1.0**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb3.9							
DBIC	**Dimbokro**	**40.83**	**220**	P		**P**	**06 01 13.3**	**+0.9**
	comp=Z,4.4nm,0.8s,mb4.2,baz=3.7,slow=9.3,SNR=5.3							
KURK	**Kurchatov**	**40.90**	**56**	*e*P		**P**	**06 01 11.9**	**-0.7**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.2							
KURK	**Kurchatov**	**40.90**	**56**	*e*P		**P**	**06 01 11.8**	**-0.8**
	comp=Z,5.6nm,1.0s,mb4.2							
MKAR	**Makanchi Array**	**44.15**	**61**	P		**P**	**06 01 37.5**	**-1.6**
	comp=Z,1.9nm,0.6s,mb4.0,baz=284,slow=7.3,SNR=23							
MKAR				PcP	PcP		06 03 23.4	-0.9
	comp=Z,1.3nm,0.9s,baz=315,slow=3.4,SNR=4.4							
KMBO	**Kilima Mbogo**	**44.83**	**155**	LR	LR		06 21 29.6	
	comp=Z,45nm,18.9s,MS3.4,baz=73,slow=38							
WMQ	**Urumqi**	**48.72**	**63**	*e*P		**P**	**06 02 21.0**	**+5.7**
WMQ				AP	pP		06 02 25.8	+1.3
WMQ				XP	sP		06 02 28.0	-0.1
WMQ				AMB	AMB			
	comp=Z,20nm,4.8s							
KOLN	**Koldanda**	**53.01**	**83**	*e*P		**P**	**06 02 45.5**	**-2.5**
	comp=Z,9.6nm,0.5s,mb5.0							
GKN	**Gorkha**	**53.66**	**83**	*e*P		**P**	**06 02 50.5**	**-2.3**
	comp=Z,24nm,0.6s,mb5.3							
DMN	**Daman**	**54.23**	**83**	*e*P		**P**	**06 02 54.9**	**-2.0**
	comp=Z,50nm,1.0s,mb5.4							
KKN	**Kakani**	**54.26**	**82**	*e*P		**P**	**06 02 55.0**	**-2.2**
	comp=Z,17nm,0.6s,mb5.2							
GUN	**Gumba**	**54.64**	**82**	*e*P		**P**	**06 02 57.9**	**-2.1**
	comp=Z,29nm,0.7s,mb5.4							
JIRN	**Jiri**	**55.01**	**82**	*e*P		**P**	**06 03 00.7**	**-2.0**
	comp=Z,20nm,0.5s,mb5.4							
TIXI	**Tiksi**	**57.07**	**21**	*e*P		**P**	**06 03 14.6**	**-2.4**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.3s,mb4.0							
SONM	**Songino Array**	**58.93**	**52**	P		**P**	**06 03 29.7**	**-0.6**
	comp=Z,1.9nm,0.9s,mb4.1,baz=289,slow=8.5,SNR=13							
SONM	**Songino Array**	**58.93**	**52**	P		**P**	**06 03 29.7**	**-0.5**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ULN	**Ulaanbaatar**	**59.30**	**51**	*e*P		**P**	**06 03 32.4**	**-0.4**
BILL	**Bilibino**	**68.28**	**13**	*i* P		**P**	**06 04 30.9**	**-0.4**
YKA	**Yellowknife Ar**	**70.55**	**339**	P		**P**	**06 04 45.2**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=36,slow=5.4,SNR=12							
YKA	**Yellowknife Ar**	**70.55**	**339**	⇑*e*P		**P**	**06 04 45.2**	**-0.1**
CN2	**Changchun**	**72.18**	**47**	*e*P		**P**	**06 04 55.3**	**-0.1**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8							
ULM	**Lac du Bonnet**	**73.16**	**323**	P		**P**	**06 05 01.7**	**+0.8**
	comp=Z,3.5nm,1.0s,mb4.2,baz=28,slow=4.4,SNR=5.4							
MDJ	**Mudanjiang**	**73.89**	**44**	P		**P**	**06 05 07.8**	**+2.5**
MDJ				AMB	AMB			
	comp=Z,240nm,5.7s							
ILAR	**Eielson Array**	**73.99**	**354**	P		**P**	**06 05 07.5**	**+2.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=1.5,slow=4.3,SNR=5.5							
NJ2	**Nanjing**	**75.68**	**60**	*e*P		**P**	**06 05 16.5**	**+0.6**
NJ2				AP	pP		06 05 28.5	+3.1
NJ2				XP	sP		06 05 30.3	+1.6
NJ2				S	S		06 14 56.0	+2.2
NJ2				XS			06 15 10.0	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb5.0							
NJ2				AMB	AMB			
	comp=Z,70nm,8.0s							
NJ2				LR	LR			
	comp=Z,560nm,28.6s,MS4.7							
BDFB	**Brasilia**	**84.44**	**244**	P		**P**	**06 06 05.8**	**+2.8**
	comp=Z,4.3nm,1.1s,mb4.5,baz=39,slow=4.6,SNR=4.4							
BDFB	**Brasilia**	**84.44**	**244**	P		**P**	**06 06 05.8**	**+2.8**
BDFB				pmax	pmax			
	comp=Z,4.0nm,1.1s							
PDAR	**Pinedale Array**	**84.95**	**325**	P		**P**	**06 06 07.1**	**+2.1**
	comp=Z,0.4nm,0.7s,mb3.7,baz=45,slow=6.3,SNR=5.2							
TXAR	**Lajitas Array**	**92.71**	**313**	P		**P**	**06 06 44.9**	**+2.7**
	comp=Z,0.7nm,0.9s,mb4.1,baz=58,slow=4.0,SNR=5.4							
TXAR	**Lajitas Array**	**92.71**	**313**	P		**P**	**06 06 44.9**	**+2.7**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							

*IDC **26** 06:18:51.2±1.3, 1.73N×99.54E, h165km±8km, mb3.7/5, mb1 3.8/5, ms1mx3.4/16, mbtmp4.2/5, Error ellipse: s-maj=84.9km s-min=16.7km az=57.0*
*NEIC **26** 06:18:51.2±1.0, 1.67N×99.53E, h170km±8km, mb4.4/5, Error ellipse: s-maj=20.6km s-min=10.1km az=57.0*
ISC 26 06:18:49.4±1.0,**1.7N**±0.1×**99.5E**±0.2,**h168**km±8km,**n17,**
σ0s85/19,mb4.1/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**1.27**	**335**	P		**P**	**06 19 19.8**	**+1.2**
	6.0nm,0.3s,baz=131,slow=6.3,SNR=20							
PSI				S		**S**	**06 19 40.0**	**-1.1**
	14nm,0.3s,baz=345,slow=20,SNR=45							
PSI	**Prapat**	**1.27**	**335**	P		**P**	**06 19 19.8**	**+1.2**
PSI				S		**S**	**06 19 40.0**	**-1.1**
KULM	**Kulim**	**3.81**	**18**	*e*Pn		**P**	**06 19 48.9**	**+0.4**
QIZ	**Qiongzhong**	**20.04**	**30**	*e*P		**P**	**06 23 10.5**	**-0.8**
	7.0nm,0.6s							
WRA	**Warramunga Arr**	**40.37**	**124**	P		**P**	**06 26 12.5**	**0.0**
	8.8nm,0.4s,mb4.8,baz=303,slow=9.0,SNR=138							
WRA				PcP	PcP		06 28 12.2	-0.8
	0.3nm,0.5s,baz=319,slow=2.8,SNR=4.6							
WRAB	**Tennant Creek**	**40.38**	**124**	*e*P		**P**	**06 26 12.4**	**-0.1**
	15nm,0.4s,mb5.0							
WB2	**Warramunga Arr**	**40.38**	**124**	*e*P		**P**	**06 26 12.0**	**-0.6**
ASPA	**Alice Springs**	**41.88**	**129**	*e*P		**P**	**06 26 26.1**	**+1.2**
SONM	**Songino Array**	**46.40**	**6**	P		**P**	**06 27 00.9**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=190,slow=9.4,SNR=4.4							
SONM				PcP	PcP		06 28 32.1	-1.0
	0.5nm,0.5s,baz=202,slow=5.3,SNR=4.1							
AAK	**Ala-Archa**	**46.53**	**335**	P		**P**	**06 27 02.4**	**+0.6**
	0.5nm,0.3s,mb3.6							
MKAR	**Makanchi Array**	**47.40**	**344**	P		**P**	**06 27 08.6**	**+0.1**
	0.7nm,0.3s,mb3.8,baz=159,slow=8.1,SNR=25							
CTAO	**Charters Tower**	**50.69**	**118**	*e*P		**P**	**06 27 33.7**	**-0.3**
	1.2nm,0.6s,mb3.7							
STKA	**Stephens Creek**	**51.99**	**134**	P		**P**	**06 27 45.0**	**+1.3**
	1.5nm,0.8s,mb3.7,baz=326,slow=7.3,SNR=3.0							
STKA	**Stephens Creek**	**51.99**	**134**	*e*P		**P**	**06 27 45.1**	**+1.4**
TAU	**Tasmania Unive**	**61.74**	**142**	*e*P		**P**	**06 28 50.2**	**-2.1**
SANT	**Santorini**	**76.17**	**307**	P		**P**	**06 30 20.4**	**-0.5**
	31nm,0.8s,mb5.0							
ARCES	**ARCESS Array B**	**82.89**	**340**	P		**P**	**06 30 56.2**	**+0.1**
	1.9nm,0.9s,mb3.8,baz=90,slow=7.2,SNR=3.6							

*IDC **26** 06:51:11.9±3.7, 51.17N×178.71E, h15km±22km, mb3.9/15, mb1 4.2/17, mb1mx4.1/24, mbtmp4.1/17, ML4.5/2, MS3.9/2, Ms1 3.8/2, ms1mx3.0/30, Error ellipse: s-maj=26.2km s-min=10.6km az=8.0*
*MOS **26** 06:51:12.6±1.1, 51.22N×178.60E, h33km, mb4.6/11, Error ellipse: s-maj=12.1km s-min=8.1km az=110.1*

*BJI **26** 06:51:14.0, 51.60N×178.70E, h19km, mB4.7, mb4.6, Ms4.6, Msz4.1*
*NEIC **26** 06:51:14.4±0.6, 51.58N×178.70E, mb4.3/14, ML3.9(AEIC), Error ellipse: s-maj=15.2km s-min=5.1km az=191.0*
ISC 26 06:51:11.7±0.4,**51.36N**±0.09×**178.64E**±0.05,**h22**km,
h22km±2.1km**:pP-P,n90,**σ1s10/94,**mb4.2**/38,**MS4.3**/5,
3C-1D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SMY	**Shemya**	**3.12**	**298**	P		**Pn**	**06 52 03.1**	**+2.2**
FX1	**Attu Island--F**	**3.70**	**296**	Pn		**Pn**	**06 52 09.7**	**+0.6**
	77nm,0.3s,baz=189,slow=4.9,SNR=46							
FX1				Sn		**Sn**	**06 52 53.4**	**+0.7**
	baz=105,slow=22,SNR=2.2							
FX1	**Attu Island--F**	**3.70**	**296**	P		**Pn**	**06 52 09.7**	**+0.6**
FX1							06 52 53.4	
FX1				pmax	pmax			
	comp=Z,77nm,0.3s							
FX1	**Attu Island--F**	**3.70**	**296**	P		**Pn**	**06 52 11.2**	**+2.1**
ATKA	**Atka Island**	**4.53**	**76**	P		**Pn**	**06 52 22.7**	**+1.9**
PET	**Petropavlovsk**	**12.38**	**286**	*e*P		**P**	**06 54 11.6**	**+2.1**
PET				pmax	pmax			
	comp=Z,21nm,1.9s							
KDAK	**Kodiak Island**	**17.78**	**58**	P		**P**	**06 55 17.5**	**-1.8**
	comp=Z,5.5nm,0.3s,baz=278,slow=3.8,SNR=32							
KDAK	**Kodiak Island**	**17.78**	**58**	P		**P**	**06 55 17.5**	**-1.8**
BILL	**Bilibino**	**17.79**	**345**	*e*P		**P**	**06 55 21.9**	**+2.6**
BILL				pmax	pmax			
	comp=Z,27μm,1.6s							
BILL	**Bilibino**	**17.79**	**345**	P		**P**	**06 55 16.6**	**-2.8**
	comp=Z,14nm,1.0s							
SEY	**Seymchan**	**18.20**	**320**	*e*P		**P**	**06 55 24.6**	**+0.1**
IMA2	**Indian Mountai**	**20.32**	**33**	P		**P**	**06 55 46.5**	**-2.3**
COLA	**College**	**21.93**	**39**	*e*P		**P**	**06 56 06.4**	**+1.2**
ILAR	**Eielson Array**	**22.27**	**40**	P		**P**	**06 56 08.2**	**-0.5**
	comp=Z,1.2nm,0.6s,mb3.5,baz=243,slow=9.0,SNR=32							
YSS	**Yuzh-Sakhalins**	**23.72**	**273**	*e*P		**P**	**06 56 23.1**	**+0.3**
YSS				pmax	pmax			
	comp=Z,65nm,2.1s,mb4.7							
DAWY	**Dawson**	**25.22**	**44**	*e*P		**P**	**06 56 38.1**	**+1.0**
HABR	**Khabarovsk**	**27.91**	**281**	*e*P		**P**	**06 56 59.4**	**-2.6**
YAK	**Yakutsk**	**28.22**	**311**	*e*P		**P**	**06 57 04.4**	**-0.3**
YAK				pmax	pmax			
	comp=Z,5.0nm,0.4s,mb4.5							
INK	**Inuvik**	**28.40**	**35**	P		**P**	**06 57 07.0**	**+0.9**
	comp=Z,1.6nm,0.5s,mb3.9,baz=245,slow=10,SNR=31							
TIXI	**Tiksi**	**29.87**	**331**	*e*P		**P**	**06 57 21.8**	**+2.4**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.0s,mb3.5							
YKA	**Yellowknife Ar**	**36.40**	**46**	P		**P**	**06 58 15.9**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=284,slow=7.7,SNR=28							
YKA				PcP	PcP		07 00 39.8	-0.7
	comp=Z,0.3nm,0.6s,baz=290,slow=3.2,SNR=5.7							
YKA				ScP			07 04 26.0	
	comp=Z,0.5nm,0.8s,baz=294,slow=3.2,SNR=9.9							
YKA	**Yellowknife Ar**	**36.40**	**46**	P		**P**	**06 58 15.9**	**-0.1**
YKA				PcP	PcP		07 00 39.9	-0.7
YKA				ScP			07 04 26.0	
BOD	**Bodaibo**	**36.70**	**306**	*e*P		**P**	**06 58 16.4**	**-2.2**
BOD				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.2							
EDM	**Edmonton**	**40.22**	**60**	*e*P		**P**	**06 58 47.2**	**-0.8**
NEW	**Newport**	**40.39**	**68**	*e*P		**P**	**06 58 49.6**	**+0.1**
BMO	**Blue Mountains**	**42.04**	**73**	*e*P		**P**	**06 59 03.4**	**+0.5**
	comp=Z,1.5nm,0.8s,mb3.7							
WVOR	**Wild Horse Val**	**42.57**	**77**	*e*P		**P**	**06 59 09.0**	**+1.6**
WVOR				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1							
WVOR	**Wild Horse Val**	**42.57**	**77**	*e*P		**P**	**06 59 09.0**	**+1.6**
	comp=Z,3.3nm,0.8s,mb4.1							
HRY	**Holter Researc**	**44.26**	**67**	*e*P		**P**	**06 59 20.5**	**-0.6**
HLID	**Hailey**	**44.48**	**73**	*e*P		**P**	**06 59 22.4**	**-0.5**
	comp=Z,1.4nm,0.7s,mb3.8							
MCMT	**McKenzie Canyo**	**44.70**	**70**	*e*P		**P**	**06 59 24.5**	**-0.2**
ULN	**Ulaanbaatar**	**44.82**	**295**	*e*P		**P**	**06 59 25.8**	**+0.2**
NVAR	**Mina Array Bea**	**45.14**	**81**	P		**P**	**06 59 29.2**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.7,baz=307,slow=5.9,SNR=9.2							
SONM	**Songino Array**	**45.21**	**295**	P		**P**	**06 59 28.9**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=60,slow=5.9,SNR=12							
FFC	**Flin Flon**	**45.45**	**53**	P		**P**	**06 59 30.5**	**+0.1**
ELK	**Elko**	**45.63**	**76**	*e*P		**P**	**06 59 32.8**	**+0.8**
ELK				*e*PP	pP		06 59 38.7	+0.2
ELK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ELK	**Elko**	**45.63**	**76**	*e*P		**P**	**06 59 32.8**	**+0.8**
	comp=Z,2.3nm,0.9s,mb4.1							
ELK				*e*pP	pP		06 59 38.7	+0.2
FCC	**Fort Churchill**	**47.12**	**45**	*e*P		**P**	**06 59 42.8**	**-0.8**
NJ2	**Nanjing**	**47.21**	**270**	*e*P		**P**	**06 59 45.0**	**+0.3**
NJ2				AP	pP		06 59 55.5	+4.3
NJ2				XP	sP		07 00 02.5	+8.7
NJ2				PP	PP		07 01 34.0	-1.2
NJ2				S	S		**07 06 34.0**	**-1.4**
NJ2				XS			07 06 50.0	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,80nm,4.6s							
NJ2				LR	LR			
	comp=N,2μm,25.4s,MS5.0							
NJ2				LR	LR			
	comp=E,970nm,24.0s,MS5.0							
NJ2				LR	LR			
	comp=Z,230nm,21.1s,MS4.1							
TPNV	**Topopah Spring**	**47.34**	**81**	P		**P**	**06 59 46.3**	**+0.6**
DUG	**Dugway**	**47.43**	**75**	*e*P		**P**	**06 59 47.0**	**+0.7**
DUG				*e**PP	pP		06 59 53.3	+0.4
DUG				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
DUG	**Dugway**	**47.43**	**75**	*e*P		**P**	**06 59 47.0**	**+0.6**
	comp=Z,4.7nm,0.9s,mb4.4							
DUG				*e*pP	pP		06 59 53.2	+0.4
BW06	**Boulder Array**	**47.84**	**71**	*e*P		**P**	**06 59 49.2**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.3							
PDAR	**Pinedale Array**	**47.84**	**71**	P		**P**	**06 59 49.9**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=311,slow=3.6,SNR=17							
PV10	**Paradox Valley**	**50.85**	**75**	*e*P		**P**	**07 00 13.5**	**+0.8**
ULM	**Lac du Bonnet**	**51.02**	**55**	P		**P**	**07 00 14.8**	**+1.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=317,slow=9.2,SNR=3.7							
ULM	**Lac du Bonnet**	**51.02**	**55**	P		**P**	**07 00 14.8**	**+1.0**
PV01	**Paradox Valley**	**51.29**	**75**	P		**P**	**07 00 16.3**	**+0.3**
NVS	**Novosibirsk**	**53.04**	**314**	*e*P		**P**	**07 00 27.1**	**-1.8**
SDCO	**Great Sand Dun**	**53.39**	**73**	P		**P**	**07 00 32.1**	**+0.3**
	comp=Z,5.3nm,1.6s,mb4.2							
LZH	**Lanzhou**	**53.84**	**285**	*e*P		**P**	**07 00 37.0**	**+1.9**
LZH				AP	pP		07 00 43.3	+1.6
LZH				XP	sP		07 00 46.3	+2.1
LZH				PP	PP		07 02 39.5	+1.7
LZH				*e*S		**S**	**07 08 08.0**	**+0.9**
LZH				*e*SS	SS		07 11 48.3	+0.6
LZH				AMB	AMB			
	comp=Z,10.0nm,1.6s,mb4.5							
LZH				AMB	AMB			
	comp=Z,30nm,4.5s							
LZH				LR	LR			
	comp=N,300nm,14.6s							
LZH				LR	LR			
	comp=Z,560nm,15.8s,MS4.7							
GTA	**Gaotai**	**54.08**	**290**	*e*P		**P**	**07 00 36.3**	**-0.4**
GTA				PP	PP		07 02 39.3	-0.6
GTA				S	S		**07 08 10.5**	**+0.3**
GTA				SS	SS		07 11 50.5	-0.9
GTA				AMB	AMB			
	comp=Z,40nm,3.5s							
GTA				LR	LR			
	comp=N,110nm,12.2s,MS4.5							
GTA				LR	LR			
	comp=E,210nm,13.3s,MS4.5							
GTA				LR	LR			
	comp=Z,90nm,14.8s,MS4.0							
CD2	**Chengdu**	**57.40**	**280**	*e*P		**P**	**07 01 04.5**	**+3.6**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb5.0							
CD2				AMB	AMB			
	comp=Z,80nm,8.9s							
KEV	**Kevo**	**57.43**	**349**	*e*p		**P**	**07 00 53.8**	**-6.8**
MNTX	**Cornudas Mount**	**57.53**	**79**	*e*P		**P**	**07 01 01.5**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.1							
MNTX				*e*		pP	07 01 07.5	-1.0
ARCES	**ARCESS Array B**	**57.82**	**349**	P		**P**	**07 01 01.8**	**-1.5**
	comp=Z,4.3nm,0.9s,mb4.5,baz=30,slow=7.9,SNR=9.5							
ARCES				LR	LR		07 25 45.8	
	comp=Z,30nm,19.5s,MS3.4,baz=79,slow=36							
KURK	**Kurchatov**	**57.86**	**312**	*e*P		**P**	**07 01 02.8**	**-1.0**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.5							
KURK	**Kurchatov**	**57.86**	**312**	*e*P		**P**	**07 01 02.8**	**-1.0**
	comp=Z,2.3nm,0.4s,mb4.6							
WMQ	**Urumqi**	**57.99**	**301**	*e*P		**P**	**07 01 08.0**	**+3.2**
WMQ				AP	pP		07 01 14.0	+2.5
WMQ				XP	sP		07 01 17.0	+3.0
WMQ				AMB	AMB			
	comp=Z,50nm,4.6s							
MKAR	**Makanchi Array**	**58.78**	**307**	P		**P**	**07 01 08.8**	**-1.4**
	comp=Z,1.0nm,0.4s,mb4.2,baz=52,slow=8.0,SNR=7.9							
MKAR	**Makanchi Array**	**58.78**	**307**	⇑*e*P		**P**	**07 01 08.8**	**-1.5**
WMOK	**Wichita Mounta**	**59.43**	**72**	*e*P		**P**	**07 01 14.0**	**-1.0**
WMOK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2							
WMOK	**Wichita Mounta**	**59.43**	**72**	*e*P		**P**	**07 01 14.0**	**-1.0**
	comp=Z,1.1nm,0.4s,mb4.2							
BRVK	**Borovoye**	**59.87**	**319**	*e*P		**P**	**07 01 17.3**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
BRVK	**Borovoye**	**59.87**	**319**	*e*P		**P**	**07 01 17.3**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.4							
TXAR	**Lajitas Array**	**60.24**	**79**	P		**P**	**07 01 19.8**	**-0.8**
	comp=Z,0.1nm,0.3s,mb3.4,baz=299,slow=5.3,SNR=14							
ZRNK	**Zerenda**	**60.48**	**319**	*e*P		**P**	**07 01 21.3**	**-0.6**
ZRNK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**60.48**	**319**	*e*P		**P**	**07 01 21.3**	**-0.6**
	comp=Z,5.0nm,0.6s,mb4.7							
ARU	**Arti**	**61.76**	**327**	⇑*i*P		**P**	**07 01 30.9**	**+0.4**
ARU				*e*			07 03 47.7	
ARU				*e*S		**S**	**07 09 49.9**	**-0.6**
ARU				*e*SS	SS		07 13 53.6	-0.5
ARU				pmax	pmax			
	comp=Z,10.0nm,1.4s,mb4.8							
ARU	**Arti**	**61.76**	**327**	*e*P		**P**	**07 01 29.6**	**-0.9**
	comp=Z,7.2nm,0.3s,mb5.3							
JOF	**Joensuu**	**63.19**	**344**	*e*p		**P**	**07 01 38.1**	**-1.8**
KAF	**Kangasniemi**	**64.76**	**346**	*e*p		**P**	**07 01 48.9**	**-1.1**
FINES	**FINESS Array B**	**65.43**	**346**	P		**P**	**07 01 54.0**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=16,slow=7.3,SNR=16							
AAK	**Ala-Archa**	**65.63**	**308**	*e*P		**P**	**07 01 55.3**	**-0.7**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.2							
NB2	**NORSAR Subarra**	**67.50**	**353**	P		**P**	**07 02 07.8**	**+0.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=11,slow=6.5							
NOA	**NORSAR Array B**	**67.50**	**353**	P		**P**	**07 02 07.5**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=9.5,slow=6.3,SNR=6.2							
OBN	**Obninsk**	**69.30**	**338**	P		**P**	**07 02 18.0**	**-0.8**
GUN	**Gumba**	**70.36**	**290**	*e*P		**P**	**07 02 25.9**	**+0.1**
	comp=Z,7.0nm,0.4s,mb4.9							
JIRN	**Jiri**	**70.37**	**290**	*e*P		**P**	**07 02 25.8**	**0.0**
	comp=Z,8.4nm,0.6s,mb4.9							
GKN	**Gorkha**	**71.03**	**291**	*e*P		**P**	**07 02 29.4**	**-0.4**
DMN	**Daman**	**71.05**	**291**	*e*P		**P**	**07 02 29.5**	**-0.5**
KOLN	**Koldanda**	**71.81**	**292**	*e*P		**P**	**07 02 34.2**	**-0.3**
PPT	**Papeete**	**74.06**	**148**	LR	LR		07 33 24.1	
	comp=Z,204nm,18.4s,MS4.5,baz=131,slow=34							
AKASG	**Malin Array Be**	**75.05**	**340**	P		**P**	**07 02 53.0**	**+0.1**
	comp=Z,1.2nm,0.3s,mb4.3,baz=20,slow=6.1,SNR=9.6							
GOF	**Gofitskoye**	**76.58**	**329**	*e*P		**P**	**07 03 02.7**	**+1.0**
GOF				pmax	pmax			
	comp=Z,50nm,0.8s							
BURAR	**Bucovina Array**	**78.80**	**342**	⇓P		**P**	**07 03 14.7**	**+0.8**
MLR	**Muntele Rosu**	**80.69**	**341**	⇑P		**P**	**07 03 25.0**	**+0.9**
WRA	**Warramunga Arr**	**80.91**	**222**	P		**P**	**07 03 23.6**	**-2.2**
	comp=Z,0.5nm,0.8s,mb3.5,

ISC 26 07:56:31.9±3.0, 17.5N±0.2×145.9E±0.3, h105km±29km, n8, σ0§79/10, mb3.6/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.98**	**194**	P		**P**		**07 57 32.6**	**+0.5**
	9.8nm,0.3s,baz=73,slow=12,SNR=6.0								
GUMO				S		**S**		**07 58 18.7**	**+0.8**
	9.8nm,0.3s,baz=272,slow=23,SNR=3.3								
GUMO	**Guam**	**3.98**	**194**	*e*Pn		**P**		**07 57 32.1**	**0.0**
GUMO				*e*Sn		**S**		**07 58 16.8**	**-1.1**
WRAB	**Tennant Creek**	**38.85**	**197**	*e*P		**P**		**08 03 48.1**	**-0.4**
	4.2nm,0.9s,mb4.3								
WRA	**Warramunga Arr**	**38.86**	**197**	P		**P**		**08 03 48.7**	**+0.1**
	1.5nm,0.8s,mb3.9,baz=21,slow=9.4,SNR=8.9								
MKAR	**Makanchi Array**	**59.41**	**314**	P		**P**		**08 06 26.1**	**+0.4**
	0.2nm,0.5s,mb3.4,baz=79,slow=8.7,SNR=4.0								
ILAR	**Eielson Array**	**64.68**	**26**	P		**P**		**08 06 59.2**	**-1.3**
	0.5nm,0.8s,mb3.4,baz=255,slow=5.6,SNR=6.2								
YKA	**Yellowknife Ar**	**79.00**	**28**	P		**P**		**08 08 25.2**	**-0.2**
	0.3nm,0.7s,mb3.2,baz=287,slow=5.4,SNR=5.8								
NVAR	**Mina Array Bea**	**83.78**	**52**	P		**P**		**08 08 52.3**	**+1.4**
	0.5nm,0.8s,mb3.4,baz=254,slow=4.7,SNR=4.4								

NIED ***26*** *08:11:00, 38.20N×144.60E, h5km, Mw3.7 Best double couple: M₀3.66×10¹⁴ NP1:φ=222°, δ=66°, λ=-91°. NP2:φ=43°, δ=24°, λ=-89°.*

JMA 26 08:11:20.3±0.2, 38.17N×144.61E, h56km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.48**	**292**	P		P		08 11 59.5	+0.3
JIO	**Ouri**	**2.58**	**277**	P		P		08 12 00.9	+0.2
JIO				S		S		08 12 31.0	+0.1
MIYJ	**Miyakonagasawa**	**2.59**	**304**	P		P		08 12 00.8	0.0
MIYJ				*e*S		S		08 12 31.1	-0.1
JMK	**Ichinoseki**	**2.77**	**287**	P		P		08 12 03.8	+0.5
JCH	**Churui**	**4.54**	**348**	P		P		08 12 26.4	-1.9
JCH				*e*S		S		08 13 15.9	-4.4
JRY	**Ryogami san**	**5.04**	**247**	P		P		08 12 34.3	-1.0
JRY				*e*S		S		08 13 29.9	-3.0
MAT	**Matsushiro**	**5.35**	**254**	P		P		08 12 41.6	+2.1
MAT				S		S		08 13 41.3	+0.6

ATH ***26*** *08:12:16.9, 39.02N×23.38E, h22km±1km, MD2.9/5, ML3.0*
NEIC ***26*** *08:12:16.9, 39.02N×23.38E, h22km, ML2.9(ATH), After ATH.*
THE ***26*** *08:12:17.8, 38.99N×23.30E, h5km, ML2.6*
CSEM ***26*** *08:12:17.5±0.1, 38.97N×23.33E, h8km, ML2.6, Error ellipse: s-maj=3.3km s-min=1.8km az=68.0*

ISC 26 08:12:16.3±0.8, 39.00N±0.03×23.38E±0.06, h5km±6km, n17, σ0§67/24, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.33**	**339**	⇑*i*PB		**Pb**		**08 12 24.2**	**-0.1**
NEO				*e*SB		**Sb**		**08 12 28.8**	**-0.8**
XOR	**Xorichti**	**0.40**	**339**	*e*Pg		**Pg**		**08 12 25.3**	**+1.0**
XOR				*e*Sg		**Sg**		**08 12 30.6**	**+1.0**
LKR	**Lokris**	**0.45**	**221**	⇑*i*PB		**Pb**		**08 12 25.9**	**-0.4**
LKR				*e*SB		**Sb**		**08 12 33.7**	**+0.7**
LKR	**Lokris**	**0.45**	**221**	*e*Sb		**Sb**		**08 12 33.7**	**+0.7**
AGG	**Agios Georgios**	**0.81**	**272**	*e*Pg		**Pg**		**08 12 31.9**	**-0.7**
AGG				*e*Sg		**Sg**		**08 12 43.2**	**-0.3**
MPAR	**Parnis Oros**	**0.89**	**161**	*e*PN		**Pn**		**08 12 35.0**	**-0.2**
PAIG	**Paliouri**	**0.96**	**14**	*e*Pg		**Pg**		**08 12 36.4**	**+0.9**
ATH	**Athens Observa**	**1.06**	**165**	*e*PN		**Pn**		**08 12 38.2**	**+0.6**
ATH				*e*SN		**Sn**		**08 12 52.3**	**-0.5**
EVR	**Evrytania**	**1.22**	**267**	*e*PN		**Pn**		**08 12 40.5**	**+0.5**
LIT	**Litokhoron**	**1.30**	**328**	*e*Pg		**Pg**		**08 12 41.3**	**-1.0**
LIT				*e*Sg		**Sg**		**08 12 59.8**	**+0.3**
PLG	**Polygyros**	**1.38**	**2**	*e*PN		**Pn**		**08 12 42.1**	**-0.1**
OUR	**Ouranopolis**	**1.42**	**19**	*e*Pg		**Pg**		**08 12 43.3**	**-1.3**
THE	**Thessaloniki**	**1.67**	**349**	*e*Pb		**Pb**		**08 12 46.1**	**-1.0**
SOH	**Sokhos**	**1.82**	**360**	*e*Pb		**Pb**		**08 12 49.3**	**-0.5**
GRG	**Griva**	**2.10**	**339**	*e*Pn		**Pn**		**08 12 52.4**	**0.0**
KNT	**Kendrikon**	**2.19**	**351**	*e*Pn		**Pn**		**08 12 54.5**	**+0.6**
KNT				*e*Sn		**Sn**		**08 13 22.3**	**+0.6**
APE	**Apeiranthos**	**2.57**	**138**	*e*PN		**Pn**		**08 12 59.8**	**+0.6**

MAN 26 08:33:03.2, 11.57N×125.41E, h21km, mb3.8, ML2.6, MS2.2, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.04**	**38**	*e*P		Pb		08 33 07.4	+0.4
PLP	**Palo**	**0.58**	**227**	*i* P		Pb		08 33 15.7	+1.1
PLP				*i* S		Sb		08 33 25.7	+3.3
CNP	**Catarman**	**1.19**	**322**	*e*P		Pn		08 33 22.4	-2.4
MSLP	**Maasin**	**1.52**	**201**	*e*P		Pn		08 33 30.8	+1.2
MSLP				*e*S		Sn		08 33 56.0	+7.1
SCPH	**Surigao**	**1.77**	**178**	⇓*e*P		Pn		08 33 32.3	-0.9
PVCP	**Virac**	**2.36**	**329**	*e*P		Pn		08 33 42.3	+0.7

IDC ***26*** *08:55:55.9±0.8, 35.94N×69.33E, mb4.3/12, mb1 4.4/16, mb1mx4.3/21, mbtmp4.3/16, ML4.2/3, MS4.1/1, Ms1 4.1/1, ms1mx2.7/27, Error ellipse: s-maj=22.4km s-min=16.2km az=35.0*
MOS ***26*** *08:56:00.7±1.4, 36.12N×69.33E, h33km, mb4.8/46, Error ellipse: s-maj=7.2km s-min=4.4km az=119.1*
NEIC ***26*** *08:56:02.4±0.3, 36.17N×69.46E, h35km, mb4.7/53, MS4.0/2, Error ellipse: s-maj=9.6km s-min=4.8km az=209.0*
BJI ***26*** *08:56:03.0, 36.38N×69.11E, h46km, mB5.0, mb4.6, ML4.5, Ms4.4, Msz4.2*
NNC ***26*** *08:56:07.3±1.9, 36.67N×68.83E, h36km±24km, mb4.4, mpv4.6, Error ellipse: s-maj=28.3km s-min=15.8km az=174.0*

ISC 26 08:56:00.4±0.6, 36.05N±0.03×69.35E±0.04, h35km±6km, n222, σ1§25/251, mb4.5/64, MS3.7/7, 12C-13D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.06**	**136**	⇑P		**P**		**08 56 53.2**	**+5.6**
THW	**Thamme Wali**	**3.80**	**148**	⇓P		**P**		**08 57 02.0**	**+3.9**
SBDP	**Sheikh Budin**	**3.93**	**162**	P		**P**		**08 57 03.6**	**+3.6**
CHCP	**Chirah Chowk**	**4.01**	**125**	⇑P		**P**		**08 57 05.9**	**+4.9**
DRP	**Derazinda**	**4.36**	**170**	P		**P**		**08 57 10.7**	**+4.7**
SARP	**Sargodha**	**4.96**	**145**	P		**P**		**08 57 16.6**	**+2.1**
SARP				S		**S**		**08 58 16.0**	**+4.6**
KSH	**Kashi**	**6.28**	**55**	P		**P**		**08 57 37.5**	**+4.4**
KSH				S		**S**		**08 58 52.8**	**+8.2**
KSH				Smax					
	comp=N,160nm,0.4s								
KSH				Smax					
	comp=E,160nm,0.2s								
AML	**Almayashu**	**6.95**	**28**	P		**P**		**08 57 43.3**	**+0.8**
	SNR=242								
KK31	**Karatay Array**	**7.10**	**7**	⇑Pn		**P**		**08 57 43.9**	**-0.6**
	comp=E,21nm,0.5s,baz=197,slow=15,SNR=220								
KK31				⇓Sn		**S**		**08 58 59.8**	**-5.1**
	comp=E,32nm,0.6s								
KKAR	**Karatay Array**	**7.10**	**7**	*e*PN		**P**		**08 57 43.9**	**-0.7**
KKAR				pmax		pmax			
	comp=E,6.0nm,0.3s								
UCH	**Uchtor**	**7.36**	**31**	P		**P**		**08 57 49.3**	**+1.2**
	SNR=124								
EKS2	**Erkin-Say**	**7.44**	**26**	P		**P**		**08 57 49.6**	**+0.3**
	SNR=24								
KZA	**Kyzart**	**7.56**	**36**	P		**P**		**08 57 52.5**	**+1.4**
	SNR=24								
AAK	**Ala-Archa**	**7.68**	**30**	P		**P**		**08 57 53.7**	**+1.0**
	SNR=50								
AAK	**Ala-Archa**	**7.68**	**30**	*e*P		**P**		**08 57 52.7**	**0.0**
AAK				*e*				08 59 17.7	
AAK				pmax		pmax			
	comp=Z,59nm,0.4s								
AAK	**Ala-Archa**	**7.68**	**30**	*e*Pn		**P**		**08 57 52.6**	**-0.1**
	comp=Z,59nm,0.4s								
AAK				*e*Sn		**S**		**08 59 17.7**	**-1.8**
KBK	**Karagaybulak**	**7.89**	**32**	P		**P**		**08 57 57.3**	**+1.8**
	SNR=9.4								
FRU	**Bishkek**	**7.90**	**29**	*e*P		**P**		**08 57 56.0**	**+0.3**
FRU				*i* S		**S**		**08 59 27.0**	**+2.1**
FRU				pmax		pmax			
	comp=Z,90nm,1.3s								
FRU				smax					
	comp=N,360nm,1.0s								
CHMS	**Chumysh**	**8.09**	**29**	P		**P**		**08 57 58.7**	**+0.3**
	SNR=63								
ULHL	**Ulahol**	**8.18**	**39**	P		**P**		**08 58 00.8**	**+1.2**
	SNR=25								
USP	**Ospenovka**	**8.22**	**27**	P		**P**		**08 58 00.1**	**-0.1**
	SNR=26								
TKM2	**Tokmak 2**	**8.39**	**33**	P		**P**		**08 58 03.1**	**+0.6**
	SNR=12								
TKM2	**Tokmak 2**	**8.39**	**33**	⇑P		**P**		**08 58 02.0**	**-0.5**
	comp=N,36nm,1.0s								
TKM2				S		**S**		**08 59 34.8**	**-2.2**
TKM2	**Tokmak 2**	**8.39**	**33**	P		**P**		**08 58 02.9**	**+0.4**
TKM2				pmax		pmax			
	comp=Z,36nm,1.0s								
KLP	**Kalpa**	**8.67**	**119**	*e*P		**P**		**08 58 09.9**	**+3.5**
KLP				AMb		AMB		08 58 14.2	
	comp=Z,25nm,0.3s								
KHET	**Khetri**	**9.65**	**144**	*e*P		**P**		**08 58 19.3**	**-0.7**
KHET				AMb		AMB		08 58 24.6	
	comp=Z,15nm,0.3s								
KHET				*e*S		**S**		**09 00 02.0**	**-6.5**
KHET				*e*S		**S**		**09 00 03.9**	**-4.6**
AYAN	**Aya Nagar**	**10.01**	**137**	*e*P		**P**		**08 58 25.3**	**+0.3**
AYAN				AMb		AMB		08 58 26.3	
	comp=Z,40nm,0.5s								
AYAN				*e*S		**S**		**09 00 13.3**	**-3.9**
BISR	**Bishrakh**	**10.12**	**135**	*e*S		**S**		**09 00 19.2**	**-0.7**
SONA	**Sohna**	**10.17**	**138**	*e*P		**P**		**08 58 26.6**	**-0.5**
SONA				AMb		AMB		08 58 27.7	
	comp=Z,33nm,0.8s								
SONA				*e*S		**S**		**09 00 17.4**	**-3.7**
BHJ	**Bhuj**	**12.76**	**179**	*e*P		**P**		**08 59 00.1**	**-2.1**
BHJ				*e*S		**S**		**09 01 17.6**	**-6.2**
MK31	**Makanchi Array**	**14.45**	**38**	⇑P		**P**		**08 59 23.3**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=227,slow=14,SNR=35								
MKAR	**Makanchi Array**	**14.45**	**38**	Pn		**P**		**08 59 23.4**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=226,slow=15,SNR=21								
BHPL	**Bhopal**	**14.56**	**149**	*e*P		**P**		**08 59 24.2**	**-1.6**
BHPL				AMb		AMB		08 59 24.6	
	comp=Z,14nm,0.4s								
KOLN	**Koldanda**	**14.64**	**120**	*e*Pn		**P**		**08 59 26.9**	**0.0**
KOLN				*e*Sn		**S**		**09 02 00.6**	**-8.1**
	comp=Z,80nm,0.7s								
KOLN	**Koldanda**	**14.64**	**120**	*e*Pn		**P**		**08 59 26.9**	**0.0**
	comp=Z,40nm,0.7s								
KOLN				*e*Sn		**S**		**09 02 00.6**	**-8.1**
AB31	**Akbulak array**	**14.88**	**335**	⇓P		**P**		**08 59 25.2**	**-4.8**
	comp=Z,4.1nm,0.5s,baz=152,slow=12,SNR=86								
AB31				⇑S		**S**		**09 01 59.5**	**-15**
	comp=Z,2.8nm,0.6s,baz=153,slow=24,SNR=5.3								
AB31	**Akbulak array**	**14.88**	**335**	*e*P		**P**		**08 59 25.1**	**-4.8**
AB31				pmax		pmax			
	comp=Z,1.0nm,0.4s								
GKN	**Gorkha**	**15.23**	**117**	*e*Pn		**P**		**08 59 35.1**	**+0.5**
GKN				*e*Sn		**S**		**09 02 14.8**	**-7.9**
	comp=Z,117nm,0.6s								
GKN	**Gorkha**	**15.23**	**117**	*e*Pn		**P**		**08 59 35.1**	**+0.5**
	comp=Z,59nm,0.6s								
GKN				*e*Sn		**S**		**09 02 14.8**	**-7.9**
DMN	**Daman**	**15.80**	**118**	*e*Pn		**P**		**08 59 41.1**	**-0.8**
DMN				*e*Sn		**S**		**09 02 31.1**	**-4.8**
	comp=Z,98nm,0.9s								
DMN	**Daman**	**15.80**	**118**	*e*Pn		**P**		**08 59 41.1**	**-0.8**
	comp=Z,49nm,0.9s								
DMN				*e*Sn		**S**		**09 02 31.1**	**-4.8**
KKN	**Kakani**	**15.82**	**117**	*e*Pn		**P**		**08 59 41.2**	**-1.0**
KKN				*e*Sn		**S**		**09 02 31.6**	**-4.8**
	comp=Z,84nm,0.7s								
KKN	**Kakani**	**15.82**	**117**	*e*P		**P**		**08 59 41.2**	**-1.0**
KKN				*e*				09 02 31.6	
KKN				pmax		pmax			
	comp=Z,42nm,0.7s								
KKN	**Kakani**	**15.82**	**117**	*e*Pn		**P**		**08 59 41.2**	**-1.0**
	comp=Z,42nm,0.7s								
KKN				*e*Sn		**S**		**09 02 31.6**	**-4.8**
PKI	**Pulchoki**	**16.04**	**117**	*e*Pn		**P**		**08 59 43.9**	**-1.1**
PKI				*e*Sn		**S**		**09 02 36.2**	**-5.3**
	comp=Z,58nm,0.7s								
PKI	**Pulchoki**	**16.04**	**117**	*e*P		**P**		**08 59 43.9**	**-1.1**
PKI				*e*				09 02 36.2	
PKI				pmax		pmax			
	comp=Z,29nm,0.7s								
PKI	**Pulchoki**	**16.04**	**117**	*e*Pn		**P**		**08 59 43.9**	**-1.1**
	comp=Z,29nm,0.7s								
PKI				*e*Sn		**S**		**09 02 36.2**	**-5.3**
WMQ	**Urumqi**	**16.05**	**55**	*e*P		**P**		**08 59 47.8**	**+2.8**
WMQ				AP				08 59 55.5	
WMQ				XP				09 00 00.0	
WMQ				AMB		AMB			
	comp=Z,30nm,0.8s								
WMQ				AMB		AMB			
	comp=Z,250nm,3.8s								
WMQ				LR		LR			
	comp=N,850nm,14.6s								
WMQ				LR		LR			
	comp=E,800nm,16.0s								
WMQ				LR		LR			
	comp=Z,900nm,15.0s								
KURK	**Kurchatov**	**16.11**	**22**	*e*P		**P**		**08 59 45.0**	**-0.7**
KURK	**Kurchatov**	**16.11**	**22**	*e*Pn		**P**		**08 59 44.6**	**-1.1**
	comp=Z,15nm,0.8s								
GUN	**Gumba**	**16.19**	**115**	*e*Pn		**P**		**08 59 46.1**	**-0.8**
GUN				*e*Sn		**S**		**09 02 40.7**	**-4.2**
	comp=Z,67nm,0.7s								
GUN	**Gumba**	**16.19**	**115**	*e*Pn		**P**		**08 59 46.1**	**-0.8**
	comp=Z,34nm,0.7s								
GUN				*e*Sn		**S**		**09 02 40.7**	**-4.2**
AKTK	**Aktyubinsk**	**16.55**	**334**	Pn		**P**		**08 59 48.3**	**-2.9**
AKTO	**Aktyubinsk**	**16.55**	**334**	⇓P		**P**		**08 59 47.5**	**-3.8**
	comp=Z,2.4nm,0.7s								
AKTO				⇓S		**S**		**09 02 42.3**	**-11**
	comp=Z,0.9nm,0.7s								
AKTO	**Aktyubinsk**	**16.55**	**334**	Pn		**P**		**08 59 48.3**	**-2.9**
	comp=Z,1.7nm,0.3s,baz=141,slow=11,SNR=16								
JIRN	**Jiri**	**16.56**	**116**	*e*Pn		**P**		**08 59 51.3**	**-0.2**
JIRN				*e*Sn		**S**		**09 02 50.3**	**-3.1**
	comp=Z,139nm,0.7s								
JIRN	**Jiri**	**16.56**	**116**	*e*Pn		**P**		**08 59 51.3**	**-0.2**
	comp=Z,69nm,0.7s								
JIRN				*e*Sn		**S**		**09 02 50.3**	**-3.1**
VOSK	**Vostochnaya**	**16.71**	**3**	⇑P		**P**		**08 59 51.5**	**-1.8**
	comp=Z,6.9nm,0.7s								
VOSK	**Vostochnaya**	**16.71**	**3**	P		**P**		**08 59 51.4**	**-1.8**
VOSK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
ZRNK	**Zerenda**	**16.90**	**359**	⇓P		**P**		**08 59 52.7**	**-2.9**
	comp=Z,14nm,1.0s								
ZRNK	**Zerenda**	**16.90**	**359**	*e*P		**P**		**08 59 52.8**	**-2.8**
ZRNK				*e*				09 02 55.5	
ZRNK				pmax		pmax			
	comp=Z,15nm,0.8s								
ZRNK	**Zerenda**	**16.90**	**359**	*e*Pn		**P**		**08 59 52.8**	**-2.8**
	comp=Z,15nm,0.8s								
ZRNK				*e*Sn		**S**		**09 02 55.5**	**-5.6**
BVA0	**Borovoye Array**	**16.99**	**2**	⇓P		**P**		**08 59 53.3**	**-3.5**
	comp=Z,1.9nm,0.8s,baz=165,slow=10,SNR=11								
BVA0	**Borovoye Array**	**16.99**	**2**	*i* P		**P**		**08 59 55.0**	**-1.7**
BVA0				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**16.99**	**2**	P		**P**		**08 59 54.3**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=180,slow=12,SNR=20								
BRVK	**Borovoye**	**17.02**	**2**	*e*P		**P**		**08 59 57.1**	**0.0**
BRVK				pmax		pmax			
	comp=Z,6.0nm,0.6s								
BRVK	**Borovoye**	**17.02**	**2**	*e*Pn		**P**		**08 59 57.1**	**0.0**
	comp=Z,5.7nm,0.6s								
LSA	**Lhasa**	**19.36**	**103**	P		**P**		**09 00 29.5**	**+3.7**
LSA	**Lhasa**	**19.36**	**103**	*e*P		**P**		**09 00 29.5**	**+3.7**
LSA				pmax		pmax			
	comp=Z,27nm,0.8s								
LSA	**Lhasa**	**19.36**	**103**	*e*P		**P**		**09 00 29.5**	**+3.7**
	comp=Z,27nm,0.8s								
GNI	**Garni**	**19.77**	**289**	P		**P**		**09 00 27.1**	**-3.2**
	baz=252,slow=19,SNR=1.7								
GNI	**Garni**	**19.77**	**289**	*e*P		**P**		**09 00 32.7**	**+2.4**
	comp=Z,26nm,0.9s								
HYB	**Hyderabad**	**20.28**	**154**	*i* P		**P**		**09 00 37.5**	**+1.7**
HYB	**Hyderabad**	**20.28**	**154**	*e*P		**P**		**09 00 37.5**	**+1.7**
ARU	**Arti**	**21.66**	**344**	⇓*i*P		**P**		**09 00 50.8**	**+1.2**
ARU				*e*				09 01 05.6	
ARU				*e*S		**S**		**09 04 43.1**	**+0.8**
ARU				pmax		pmax			
	comp=Z,11nm,0.8s,mb4.3								
ARU	**Arti**	**21.66**	**344**	*e*P		**P**		**09 00 49.1**	**-0.5**
	comp=Z,15nm,0.8s,mb4.5								
KIV	**Kislovodsk**	**21.83**	**299**	*e*P		**P**		**09 00 54.0**	**+2.6**
KIV				*e*S		**S**		**09 04 50.4**	**+4.7**
KIV				pmax		pmax			
	comp=Z,16nm,0.8s,mb4.5								
KIV				MLR		MLR			
	comp=Z,40nm,16.0s,MS2.9								
KIV	**Kislovodsk**	**21.83**	**299**	P		**P**		**09 00 55.2**	**+3.8**
GOF	**Gofitskoye**	**21.85**	**302**	*e*P		**P**		**09 00 55.0**	**+3.4**
GTA	**Gaotai**	**24.27**	**73**	*e*P		**P**		**09 01 19.8**	**+4.4**
GTA				AP				09 01 30.5	
GTA				XP				09 01 35.5	
GTA				PP		PP		09 01 57.0	+6.2
GTA				S		**S**		**09 05 37.5**	**+8.5**
GTA				XS				09 05 53.3	
GTA				AMB		AMB			
	comp=Z,150nm,4.2s								
GTA				LR		LR			
	comp=N,80nm,12.9s,MS3.6								
GTA				LR		LR			
	comp=E,100nm,13.7s,MS3.6								
GTA				LR		LR			
	comp=Z,90nm,11.8s,MS3.5								
MALT	**Malatya**	**24.69**	**285**	*e*P		**P**		**09 01 21.4**	**+2.0**
MALT				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.1								
MALT	**Malatya**	**24.69**	**285**	*e*P		**P**		**09 01 21.4**	**+2.0**
	comp=Z,4.7nm,0.8s,mb4.1								
MOY	**Mondy**	**27.37**	**45**	*e*P		**P**		**09 01 47.2**	**+3.0**
LZH	**Lanzhou**	**27.80**	**80**	*e*P		**P**		**09 01 51.5**	**+3.2**
LZH				AP		pP		09 02 01.0	+2.8
LZH				XP		sP		09 02 05.0	+2.4
LZH				PP		PP		09 02 40.0	+2.3
LZH				AMB		AMB			
	comp=Z,20nm,1.6s,mb4.5								
BRTR	**Keskin Array B**	**28.31**	**288**	P		**P**		**09 01 52.5**	**-0.3**
	comp=Z,1.5nm,0.7s,mb3.8,baz=98,slow=8.7,SNR=6.0								
OBN	**Obninsk**	**29.43**	**321**	*e*P		**P**		**09 02 04.7**	**+2.1**
OBN				*e*				09 02 10.9	
OBN								09 03 04.0	
OBN				pmax		pmax			
	comp=Z,10.0nm,1.2s,mb4.4								
OBN				MLR		MLR			
	comp=Z,100nm,18.0s,MS3.5								
SONM	**Songino Array**	**29.68**	**55**	P		**P**		**09 02 07.1**	**+2.1**
	comp=Z,3.2nm,0.8s,mb4.1,baz=261,slow=9.5,SNR=16								
ULN	**Ulaanbaatar**	**30.13**	**55**	⇑*e*P		**P**		**09 02 11.3**	**+2.3**
ULN	**Ulaanbaatar**	**30.13**	**55**	*e*P		**P**		**09 02 08.7**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.2								
TIRR	**Tirgusor**	**32.08**	**298**	*e*P		**P**		**09 02 25.2**	**-1.0**
AKASG	**Malin Array Be**	**32.20**	**310**	P		**P**		**09 02 26.1**	**-1.1**
	comp=Z,5.0nm,0.5s,mb4.6,baz=86,slow=7.3,SNR=11								
MLR	**Muntele Rosu**	**33.84**	**300**	⇑P		**P**		**09 02 42.8**	**+1.3**
BURAR	**Bucovina Array**	**34.42**	**304**	⇑P		**P**		**09 02 46.0**	**-0.4**
BURAR	**Bucovina Array**	**34.42**	**304**	⇑P		**P**		**09 02 46.0**	**-0.4**
VOIR		**34.47**	**300**	⇓P		**P**		**09 02 49.1**	**+2.2**
JOF	**Joensuu**	**35.60**	**331**	*e*p		**P**		**09 02 55.4**	**-1.0**
KOLS	**Kolonicke sedl**	**36.45**	**306**	*e*P		**P**		**09 03 04.1**	**+0.4**
BOD	**Bodaibo**	**36.54**	**39**	*e*P		**P**		**09 03 02.3**	**-2.0**
BOD				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
BZS	**Buzias**	**36.88**	**300**	⇑P		**P**		**09 03 07.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**36.98**	**306**	*e*sP		sP		09 03 24.1	+1.4
FINES	**FINESS Array B**	**37.12**	**327**	P		**P**		**09 03 08.7**	**-0.5**
	comp=Z,2.7nm,0.5s,mb4.4,baz=114,slow=9.9,SNR=18								
STHS	**Stebnicka Huta**	**37.15**	**306**	*e*P		**P**		**09 03 10.4**	**+0.9**
KAF	**Kangasniemi**	**37.29**	**328**	*e*p		**P**		**09 03 09.1**	**-1.5**
	comp=Z,3.5nm,0.7s,mb4.3								
KAF	**Kangasniemi**	**37.29**	**328**	*e*P		**P**		**09 03 09.1**	**-1.5**
KAF				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.4								
KECS	**Kecovo**	**37.62**	**305**	*e*P		**P**		**09 03 16.5**	**+3.0**
KECS				*e*				09 18 55.0	
NIE	**Niedzica**	**37.75**	**306**	*e*P		**P**		**09 03 15.9**	**+1.3**
PSZ	**Piszkesteto**	**38.01**	**304**	*e*P		**P**		**09 03 19.9**	**+3.1**
PSZ				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.1								
PSZ	**Piszkesteto**	**38.01**	**304**	*e*P		**P**		**09 03 19.9**	**+3.0**
	comp=Z,3.2nm,0.8s,mb4.1								
OJC	**Ojcow**	**38.12**	**308**	*e*P		**P**		**09 03 17.6**	**-0.1**
VYHS	**Vyhne**	**38.72**	**305**	*e*P		**P**		**09 03 23.3**	**+0.7**
DPC	**Dobruska-Polom**	**40.35**	**308**	*e*P		**P**		**09 03 36.7**	**+0.5**
UPC	**Upice**	**40.55**	**308**	*e*P		**P**		**09 03 38.2**	**+0.4**
NJ2	**

comp=Z,13nm,0.7s,mb4.8,baz=99,slow=8.0,SNR=29
YAK Yakutsk 45.10 35 *e*P **P 09 04 16.2 +1.5**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
MDJ Mudanjiang 45.78 60 P **P 09 04 21.3 +0.9**
MDJ AMB AMB
comp=Z,150nm,5.6s
PGF Pioggiola 46.29 297 *e*P **P 09 04 23.8 -0.6**
comp=Z,23nm,0.8s,mb4.8
PGF Pioggiola 46.29 297 *e*P **P 09 04 23.8 -0.6**
PGF pmax pmax
comp=Z,12nm,0.8s,mb4.9
CDF Champ du Feu 46.39 306 *e*P **P 09 04 26.1 +1.0**
comp=Z,12nm,0.9s,mb4.5
CDF Champ du Feu 46.39 306 *e*P **P 09 04 26.1 +1.0**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TIXI Tiksi 46.69 22⇓*i*P **P 09 04 27.6 +0.5**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
HINF Hinteralfeld 46.76 305 *e*P **P 09 04 27.3 -0.7**
comp=Z,15nm,0.8s,mb4.7
HINF Hinteralfeld 46.76 305 *e*P **P 09 04 27.3 -0.7**
HINF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WLF Walferdange 46.94 307 *e*P **P 09 04 29.7 +0.4**
WLF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WLF Walferdange 46.94 307 *e*P **P 09 04 29.7 +0.3**
comp=Z,9.2nm,0.8s,mb4.8
HAU Haudompre 47.06 305 *e*P **P 09 04 29.9 -0.5**
comp=Z,21nm,0.8s,mb4.8
HAU Haudompre 47.06 305 *e*P **P 09 04 29.9 -0.5**
HAU pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LPG La Plagne 47.25 302 *e*P **P 09 04 32.0 +0.1**
comp=Z,18nm,0.8s,mb4.7
LPG La Plagne 47.25 302 *e*P **P 09 04 32.0 +0.1**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPL La Plagne 47.26 302 *e*P **P 09 04 32.0 0.0**
comp=Z,10nm,0.5s,mb4.7
LPL La Plagne 47.26 302 *e*P **P 09 04 32.0 0.0**
LPL pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
MBDF Montbardon 47.40 301 *e*P **P 09 04 33.6 +0.5**
comp=Z,20nm,0.6s,mb4.9
MBDF Montbardon 47.40 301 *e*P **P 09 04 33.6 +0.5**
MBDF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CABF La Chapelle 47.49 303 *e*P **P 09 04 33.6 -0.1**
comp=Z,19nm,0.9s,mb4.7
CABF La Chapelle 47.49 303 *e*P **P 09 04 33.6 -0.1**
CABF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GIVF Givet 47.73 308 *e*P **P 09 04 34.2 -1.4**
FRF La Foret Royal 47.74 299 *e*P **P 09 04 35.8 0.0**
comp=Z,21nm,0.9s,mb4.8
FRF La Foret Royal 47.74 299 *e*P **P 09 04 35.8 0.0**
FRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MEZF Maizieres J'vi 47.84 306 *e*P **P 09 04 36.4 -0.1**
comp=Z,24nm,0.7s,mb5.0
ORIF Oris-en-Rattie 47.97 301 *e*P **P 09 04 36.8 -0.8**
comp=Z,5.3nm,0.7s,mb4.4
BAIF Baives 48.12 308 *e*P **P 09 04 38.9 +0.2**
comp=Z,30nm,0.9s,mb5.0
BAIF Baives 48.12 308 *e*P **P 09 04 38.9 +0.2**
BAIF pmax pmax
comp=Z,15nm,0.9s,mb5.0
SMRF Simiane la Rot 48.40 300 *e*P **P 09 04 41.3 +0.4**
VIVF Saint-Julien-l 48.82 301 *e*P **P 09 04 44.0 -0.1**
comp=Z,24nm,1.0s,mb4.9
VIVF Saint-Julien-l 48.82 301 *e*P **P 09 04 44.0 -0.1**
VIVF pmax pmax
comp=Z,12nm,1.0s,mb4.9
SMF Signal de Mont 49.00 304 *e*P **P 09 04 44.9 -0.5**
comp=Z,32nm,0.7s,mb5.1
SMF Signal de Mont 49.00 304 *e*P **P 09 04 44.9 -0.5**
SMF pmax pmax
comp=Z,16nm,0.7s,mb5.2
SSF Saint Saulge 49.13 304 *e*P **P 09 04 45.7 -0.8**
comp=Z,4.7nm,0.6s,mb4.4
SSF Saint Saulge 49.13 304 *e*P **P 09 04 45.7 -0.8**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AVF Avril sur Loir 49.29 304 *e*P **P 09 04 47.2 -0.5**
comp=Z,30nm,0.8s,mb5.1
AVF Avril sur Loir 49.29 304 *e*P **P 09 04 47.2 -0.5**
AVF pmax pmax
comp=Z,15nm,0.8s,mb5.1
LASF Ste Croix 49.58 301 *e*P **P 09 04 49.8 -0.2**
comp=Z,13nm,0.8s,mb4.7
BGF Bois d'Agland 49.69 304 *e*P **P 09 04 50.1 -0.7**
TCF Toulx Ste Croi 50.17 304 *e*P **P 09 04 54.2 -0.3**
comp=Z,25nm,0.8s,mb5.0
TCF Toulx Ste Croi 50.17 304 *e*P **P 09 04 54.2 -0.3**
TCF pmax pmax
comp=Z,12nm,0.8s,mb5.0
CAF Calviac 50.61 302 *e*P **P 09 04 57.7 -0.1**
comp=Z,20nm,0.9s,mb4.8
CAF Calviac 50.61 302 *e*P **P 09 04 57.7 -0.1**
CAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
RJF Les Rejaudoux 50.88 303 *e*P **P 09 04 59.9 0.0**
comp=Z,7.0nm,0.8s,mb4.3
RJF Les Rejaudoux 50.88 303 *e*P **P 09 04 59.9 0.0**
RJF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MTLF Montolieu 50.92 300 *e*P **P 09 04 59.8 -0.4**
comp=Z,9.1nm,0.7s,mb4.5
MTLF Montolieu 50.92 300 *e*P **P 09 04 59.8 -0.4**
MTLF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LDF La Druitiere 51.19 307 *e*P **P 09 05 00.9 -1.2**
comp=Z,19nm,0.8s,mb4.8
LDF La Druitiere 51.19 307 *e*P **P 09 05 00.9 -1.2**
LDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FLN La Foliniere 51.38 307 *e*P **P 09 05 02.5 -1.1**
comp=Z,12nm,0.6s,mb4.7
FLN La Foliniere 51.38 307 *e*P **P 09 05 02.5 -1.1**
FLN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LFF La Frestale 51.51 302 *e*P **P 09 05 04.4 -0.2**
comp=Z,26nm,0.7s,mb5.0
LFF La Frestale 51.51 302 *e*P **P 09 05 04.4 -0.2**
LFF pmax pmax
comp=Z,13nm,0.7s,mb5.0
MFF Saint Martin d 51.68 305 *e*P **P 09 05 04.8 -1.1**
comp=Z,24nm,1.1s,mb4.7
MFF Saint Martin d 51.68 305 *e*P **P 09 05 04.8 -1.1**
MFF pmax pmax
comp=Z,12nm,1.1s,mb4.7
GRR Gorron 51.71 307 *e*P **P 09 05 06.0 -0.1**
comp=Z,8.9nm,0.6s,mb4.6
GRR Gorron 51.71 307 *e*P **P 09 05 06.0 -0.1**
GRR pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EPF Esparros 52.32 300 *e*P **P 09 05 09.8 -0.9**
comp=Z,6.1nm,0.6s,mb4.4
EPF Esparros 52.32 300 *e*P **P 09 05 09.8 -0.9**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SGMF Saint Gilles 52.84 307 *e*P **P 09 05 13.7 -0.9**
comp=Z,5.3nm,0.5s,mb4.5
SGMF Saint Gilles 52.84 307 *e*P **P 09 05 13.7 -0.9**
SGMF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ETSF Etsaut 52.99 300 *e*P **P 09 05 15.4 -0.4**
comp=Z,15nm,0.7s,mb4.8
ETSF Etsaut 52.99 300 *e*P **P 09 05 15.4 -0.4**
ETSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ROSF Rostrenen 53.28 307 *e*P **P 09 05 16.8 -1.0**
comp=Z,16nm,0.6s,mb4.8
ROSF Rostrenen 53.28 307 *e*P **P 09 05 16.8 -1.0**
ROSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
QUIF Quistinic 53.32 307 *e*P **P 09 05 16.9 -1.3**
comp=Z,20nm,0.7s,mb4.8
QUIF Quistinic 53.32 307 *e*P **P 09 05 16.9 -1.3**
QUIF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MJAR Matsushiro Arr 54.36 68 LR LR 09 31 43.2
comp=Z,166nm,18.7s,MS4.1,baz=110,slow=39

ESDC Sonseca Array 56.49 298 P **P 09 05 40.0 -1.3**
comp=Z,1.2nm,0.5s,mb4.2,baz=60,slow=8.0,SNR=14
BILL Bilibino 59.59 26 P **P 09 06 04.0 +1.3**
IMA2 Indian Mountai 72.94 17 *e*P **P 09 07 27.8 +0.4**
DBIC Dimbokro 73.34 266 P **P 09 07 29.1 -1.7**
comp=Z,3.0nm,0.8s,mb4.3,baz=68,slow=2.1,SNR=3.7
DBIC Dimbokro 73.34 266 P **P 09 07 29.1 -1.7**
DBIC pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 74.56 9 *e*P **P 09 07 37.4 +0.6**
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 74.56 9 *e*P **P 09 07 37.4 +0.7**
comp=Z,5.3nm,0.9s,mb4.5
ILAR Eielson Array 75.57 15 P **P 09 07 42.5 -0.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=301,slow=4.8,SNR=21
ILAR Eielson Array 75.57 15 P **P 09 07 42.6 0.0**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
FITZ Fitzroy Crossi 75.71 125 *e*P **P 09 07 45.2 +0.8**
comp=Z,10.0nm,1.0s,mb4.7
YKA Yellowknife Ar 81.75 2 P **P 09 08 16.5 +0.1**
comp=Z,1.5nm,1.0s,mb3.9,baz=349,slow=5.6,SNR=13
YKA Yellowknife Ar 81.75 2 P **P 09 08 16.5 +0.1**
YKA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 82.89 121 P **P 09 08 22.9 -0.2**
comp=Z,1.6nm,0.7s,mb4.2,baz=323,slow=4.9,SNR=21
WRA Warramunga Arr 82.89 121 P **P 09 08 22.9 -0.3**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 82.90 121 *e*P **P 09 08 23.5 +0.3**
WRAB pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
WRAB Tennant Creek 82.90 121 *e*P **P 09 08 23.5 +0.3**
comp=Z,3.6nm,0.7s,mb4.5
WB2 Warramunga Arr 82.90 121 *e*P **P 09 08 22.3 -0.9**
ASPA Alice Springs 85.10 124 *e*P **P 09 08 37.1 +2.8**
PLCA Paso Flores 148.42 249 PKPbc PKPdf 09 15 42.7 +3.2
comp=Z,3.7nm,1.1s,baz=51,slow=6.5,SNR=3.7
PLCA Paso Flores 148.42 249 PKIKP PKPdf 09 15 42.7 +3.2
PLCA pmax pmax
comp=Z,4.0nm,1.1s

FUNV ***26*** *09:07:06.9,6.72N×73.11W,h168km,MW2.7*
IDC ***26*** *09:07:07.1±0.9,6.77N×72.96W,h158km±15km,mb2.7/1, mb1 3.1/3,mb1mx2.9/21,mbtmp3.3/3,Error ellipse: s-maj=49.1km s-min=7.9km az=132.0*
ISC 26 09:07:07.0±0.8,6.89N±0.08×73.06W±0.10,h160km±12km, n11,σ0≤80/15,mb2.9/1,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**37**	⇑*i*P	**P**		**09 07 36.2**	**+1.3**
ROSC	**El Rosal**	**2.39**	**212**	P	**P**		**09 07 48.7**	**+0.9**
	6.3nm,0.3s,baz=275,slow=22,SNR=30							
ROSC				S	**S**		**09 08 17.9**	**-1.2**
	19nm,0.3s,baz=92,slow=18,SNR=13							
VIGV	**El Vigia**	**2.56**	**41**	*e*P	**P**		**09 07 50.8**	**+0.8**
VIGV				*e*S	**S**		**09 08 22.6**	**-0.3**
SOCV	**Socops**	**2.58**	**57**	*e*P	**P**		**09 07 51.1**	**+0.9**
SOCV				*e*S	**S**		**09 08 22.8**	**-0.6**
SDV	**Santo Domingo**	**3.11**	**50**	P	**P**		**09 07 57.9**	**+1.0**
	4.5nm,0.3s,baz=213,slow=2.5,SNR=93							
SDV				S	**S**		**09 08 34.9**	**-0.3**
	15nm,0.3s,baz=77,slow=22,SNR=41							
VIRV	**Villa del Rosa**	**3.65**	**10**	*e*P	**P**		**09 08 03.3**	**-0.5**
VIRV				*e*S	**S**		**09 08 46.7**	**-0.7**
SANV	**Sanarito**	**4.34**	**53**	*e*P	**P**		**09 08 12.8**	**0.0**
CURV	**Curarigua**	**4.36**	**44**	*e*P	**P**		**09 08 13.2**	**+0.2**
BAUV	**El Baul**	**5.37**	**67**	*e*P	**P**		**09 08 24.8**	**-1.5**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**		**09 13 58.4**	**0.0**
	0.2nm,0.6s,mb2.9,baz=127,slow=9.9,SNR=5.1							
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	PKPdf		09 26 40.5	+5.7
	0.2nm,0.7s,baz=109,slow=2.8,SNR=4.8							

IDC ***26*** *09:09:51.8±0.6,31.63N×40.93W,mb4.4/19,mb1 4.5/19, mb1mx4.4/24,mbtmp4.4/19,MS4.2/20,Ms1 4.2/20, ms1mx4.2/22,Error ellipse: s-maj=17.4km s-min=12.5km az=151.0*
MOS ***26*** *09:09:51.7±0.7,31.62N×40.91W,h10km,mb5.0/57, MS4.1/8,Error ellipse: s-maj=10.1km s-min=4.1km az=45.3*
BJI ***26*** *09:09:53.3,31.71N×41.19W,h28km,mB5.1,mb5.0,Ms5.2, Msz5.0*
NEIC ***26*** *09:09:53.5±0.2,31.62N×40.88W,h10km,mb4.8/72, MS4.0/4,Error ellipse: s-maj=5.6km s-min=2.3km az=170.0*
ISC 26 09:09:51.8±0.3,31.63N±0.07×40.91W±0.03,h10km,n225, σ0≤71/219,mb4.7/94,MS4.2/27,5C-4D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPD	**Cerro la Pandu**	**26.34**	**245**	*e*P	**P**		**09 15 30.3**	**+0.4**
SJG	**San Juan**	**26.48**	**245**	LR	LR		09 23 18.6	
	comp=Z,332nm,21.0s,MS3.9,baz=62,slow=30							
SCHQ	**Schefferville**	**29.59**	**329**	LR	LR		09 27 09.2	
	comp=Z,1μm,18.8s,MS4.5,baz=325,slow=35							
SCHQ	**Schefferville**	**29.59**	**329**	*e*P	**P**		**09 15 56.8**	**-2.2**
ESDC	**Sonseca Array**	**30.90**	**65**	P	**P**		**09 16 11.5**	**+0.8**
	0.1nm,0.3s,baz=253,slow=8.0,SNR=3.3							
MCWV	**Mont Chateau**	**32.44**	**295**	*e*P	**P**		**09 16 24.4**	**+0.1**
	38nm,1.5s,mb5.0							
QUIF	**Quistinic**	**32.87**	**49**	*e*P	**P**		**09 16 26.8**	**-1.0**
	196nm,1.7s,mb5.5							
QUIF	**Quistinic**	**32.87**	**49**	*e*P	**P**		**09 16 26.8**	**-1.0**
QUIF				pmax	pmax			
	comp=Z,98nm,1.7s,mb5.5							
ROSF	**Rostrenen**	**32.91**	**49**	*e*P	**P**		**09 16 26.9**	**-1.4**
	comp=Z,76nm,1.3s,mb5.2							
ROSF	**Rostrenen**	**32.91**	**49**	*e*P	**P**		**09 16 26.9**	**-1.4**
ROSF				pmax	pmax			
	comp=Z,38nm,1.3s,mb5.2							
SJPF	**Ste Jean**	**33.27**	**58**	*e*P	**P**		**09 16 32.0**	**+0.6**
	comp=Z,24nm,1.1s,mb4.7							
SJPF	**Ste Jean**	**33.27**	**58**	*e*P	**P**		**09 16 32.0**	**+0.6**
SJPF				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7							
SGMF	**Saint Gilles**	**33.35**	**49**	*e*P	**P**		**09 16 31.4**	**-0.7**
	comp=Z,164nm,1.6s,mb5.4							
SGMF	**Saint Gilles**	**33.35**	**49**	*e*P	**P**		**09 16 31.4**	**-0.7**
SGMF				pmax	pmax			
	comp=Z,82nm,1.6s,mb5.4							
ETSF	**Etsaut**	**33.73**	**59**	*e*P	**P**		**09 16 35.7**	**+0.3**
	comp=Z,35nm,1.4s,mb4.8							
ETSF	**Etsaut**	**33.73**	**59**	*e*P	**P**		**09 16 35.7**	**+0.3**
ETSF				pmax	pmax			
	comp=Z,17nm,1.4s,mb4.8							
EPF	**Esparros**	**34.40**	**59**	*e*P	**P**		**09 16 41.2**	**0.0**
	comp=Z,55nm,1.6s,mb4.9							
EPF	**Esparros**	**34.40**	**59**	*e*P	**P**		**09 16 41.2**	**0.0**
EPF				pmax	pmax			
	comp=Z,27nm,1.6s,mb4.9							
GRR	**Gorron**	**34.48**	**49**	*e*P	**P**		**09 16 41.3**	**-0.5**
	comp=Z,61nm,1.3s,mb5.1							
GRR	**Gorron**	**34.48**	**49**	*e*P	**P**		**09 16 41.3**	**-0.5**
GRR				pmax	pmax			
	comp=Z,30nm,1.3s,mb5.1							
MFF	**Saint Martin d**	**34.56**	**53**	*e*P	**P**		**09 16 42.2**	**-0.4**
	comp=Z,77nm,1.3s,mb5.2							
MFF	**Saint Martin d**	**34.56**	**53**	*e*P	**P**		**09 16 42.2**	**-0.4**
MFF				pmax	pmax			
	comp=Z,39nm,1.3s,mb5.2							
FLN	**La Foliniere**	**34.82**	**49**	*e*P	**P**		**09 16 44.0**	**-0.7**
FLN				*e*R				
	comp=Z,391nm,18.8s							
LFF	**La Frestale**	**34.90**	**56**	*e*P	**P**		**09 16 44.7**	**-0.8**
	comp=Z,52nm,1.2s,mb5.0							
LFF	**La Frestale**	**34.90**	**56**	*e*P	**P**		**09 16 44.7**	**-0.8**
LFF				pmax	pmax			
	comp=Z,26nm,1.2s,mb5.0							
LDF	**La Druitiere**	**35.01**	**49**	*e*P	**P**		**09 16 45.7**	**-0.6**
	comp=Z,39nm,1.0s,mb5.0							
LDF	**La Druitiere**	**35.01**	**49**	*e*P	**P**		**09 16 45.7**	**-0.6**
LDF				pmax	pmax			
	comp=Z,19nm,1.0s,mb5.0							
RJF	**Les Rejaudoux**	**35.50**	**55**	*e*P	**P**		**09 16 49.8**	**-0.8**
	comp=Z,59nm,1.4s,mb5.0							
RJF	**Les Rejaudoux**	**35.50**	**55**	*e*P	**P**		**09 16 49.8**	**-0.8**
RJF				pmax	pmax			
	comp=Z,30nm,1.4s,mb5.0							

SDV Santo Domingo 35.70 237 P **P 09 16 53.3 +0.7**
comp=Z,34nm,1.1s,mb5.2,baz=80,slow=5.6,SNR=26
SDV Santo Domingo 35.70 237 *e*P **P 09 16 53.2 +0.6**
comp=Z,34nm,1.0s,mb5.2
MTLF Montolieu 35.79 59 *e*P **P 09 16 53.4 +0.3**
comp=Z,53nm,1.5s,mb5.0
MTLF Montolieu 35.79 59 *e*P **P 09 16 53.4 +0.3**
MTLF pmax pmax
comp=Z,26nm,1.5s,mb4.9
CAF Calviac 35.84 56 *e*P **P 09 16 52.8 -0.6**
comp=Z,36nm,1.3s,mb4.8
CAF Calviac 35.84 56 *e*P **P 09 16 52.8 -0.6**
CAF pmax pmax
comp=Z,18nm,1.3s,mb4.8
TCF Toulx Ste Croi 36.12 54 *e*P **P 09 16 55.4 -0.4**
comp=Z,45nm,0.9s,mb5.1
TCF Toulx Ste Croi 36.12 54 *e*P **P 09 16 55.4 -0.4**
TCF pmax pmax
comp=Z,22nm,0.9s,mb5.1
BGF Bois d'Agland 36.59 53 *e*P **P 09 16 59.3 -0.5**
PYM Petit Puy Mans 36.59 55 *e*P **P 09 16 59.6 -0.2**
AGO Saint Agoulin 36.72 54 *e*P **P 09 17 02.1 +1.3**
AVF Avril sur Loir 36.97 53 *e*P **P 09 17 02.3 -0.6**
PLDF La Plantade 37.05 54 *e*P **P 09 17 04.3 +0.7**
SSF Saint Saulge 37.11 52 *e*P **P 09 17 03.6 -0.5**
comp=Z,38nm,1.3s,mb4.8
SSF Saint Saulge 37.11 52 *e*P **P 09 17 03.6 -0.5**
SSF pmax pmax
comp=Z,19nm,1.3s,mb4.8
SMF Signal de Mont 37.28 53 *e*P **P 09 17 05.4 -0.2**
comp=Z,88nm,1.2s,mb5.2
SMF Signal de Mont 37.28 53 *e*P **P 09 17 05.4 -0.2**
SMF pmax pmax
comp=Z,44nm,1.2s,mb5.2
LOR Lormes 37.38 52 *e*P **P 09 17 05.9 -0.5**
comp=Z,42nm,1.0s,mb4.9
LOR *e*R
comp=Z,138nm,20.2s
LOR Lormes 37.38 52 *e*P **P 09 17 05.9 -0.5**
LOR pmax pmax
comp=Z,21nm,1.0s,mb4.9
LOR MLR MLR
comp=Z,140nm,20.3s,MS3.8
VIVF Saint-Julien-l 37.67 56 *e*P **P 09 17 09.2 +0.3**
comp=Z,31nm,1.4s,mb4.5
VIVF Saint-Julien-l 37.67 56 *e*P **P 09 17 09.2 +0.3**
VIVF pmax pmax
comp=Z,16nm,1.4s,mb4.6
BAIF Baives 38.09 48 *e*P **P 09 17 11.6 -0.7**
comp=Z,22nm,1.0s,mb4.6
BAIF Baives 38.09 48 *e*P **P 09 17 11.6 -0.7**
BAIF pmax pmax
comp=Z,11nm,1.0s,mb4.5
SMRF Simiane la Rot 38.26 58 *e*P **P 09 17 14.9 +1.0**
comp=Z,68nm,1.5s,mb4.9
MEZF Maizieres J'vi 38.36 50 *e*P **P 09 17 14.3 -0.3**
comp=Z,64nm,0.8s,mb5.1
GIVF Givet 38.49 48 *e*P **P 09 17 14.9 -0.8**
comp=Z,22nm,0.8s,mb4.6
GIVF Givet 38.49 48 *e*P **P 09 17 14.9 -0.8**
GIVF pmax pmax
comp=Z,11nm,0.8s,mb4.6
ORIF Oris-en-Rattie 38.53 56 *e*P **P 09 17 17.0 +0.9**
comp=Z,25nm,1.2s,mb4.5
ORIF *e*R
comp=Z,218nm,19.5s
CABF La Chapelle 38.82 54 *e*P **P 09 17 18.6 +0.1**
comp=Z,35nm,1.0s,mb4.7
CABF La Chapelle 38.82 54 *e*P **P 09 17 18.6 +0.1**
CABF pmax pmax
comp=Z,18nm,1.0s,mb4.8
LMR La Mourre 38.92 59 *e*P **P 09 17 19.7 +0.3**
comp=Z,46nm,1.3s,mb4.8
LMR La Mourre 38.92 59 *e*P **P 09 17 19.7 +0.3**
LMR pmax pmax
comp=Z,23nm,1.3s,mb4.8
THEF They Montfort 38.94 51 *e*P **P 09 17 19.7 +0.2**
FRF La Foret Royal 39.02 58 *e*P **P 09 17 20.5 +0.3**
comp=Z,41nm,1.2s,mb4.7
FRF La Foret Royal 39.02 58 *e*P **P 09 17 20.5 +0.3**
FRF pmax pmax
comp=Z,21nm,1.2s,mb4.7
BNI Bardonecchia 39.11 56 *e*P **P 09 17 22.6 +1.7**
BNI pmax pmax
comp=Z,11nm,1.1s,mb4.5
BNI Bardonecchia 39.11 56 *e*P **P 09 17 22.6 +1.7**
comp=Z,11nm,1.1s,mb4.5
HAU Haudompre 39.15 51 *e*P **P 09 17 20.6 -0.6**
comp=Z,30nm,0.9s,mb4.7
HAU *e*R
comp=Z,190nm,20.2s
HAU Haudompre 39.15 51 *e*P **P 09 17 20.6 -0.6**
HAU pmax pmax
comp=Z,15nm,0.9s,mb4.7
HAU MLR MLR
comp=Z,190nm,20.3s,MS3.9
MBDF Montbardon 39.16 57 *e*P **P 09 17 21.4 +0.1**
LPL La Plagne 39.17 55 *e*P **P 09 17 22.3 +0.8**
comp=Z,24nm,1.1s,mb4.6
LPL La Plagne 39.17 55 *e*P **P 09 17 22.3 +0.8**
LPL pmax pmax
comp=Z,12nm,1.0s,mb4.6
LPG La Plagne 39.19 55 *e*P **P 09 17 22.5 +0.9**
comp=Z,20nm,1.0s,mb4.5
LPG La Plagne 39.19 55 *e*P **P 09 17 22.5 +0.9**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
LOMF Lomont 39.40 52 *e*P **P 09 17 24.0 +0.7**
MVIF Mont Vial 39.40 58 *e*P **P 09 17 13.3 -10**
HINF Hinteralfeld 39.46 52 *e*P **P 09 17 23.1 -0.7**
SBF Sospel 39.60 58 *e*P **P 09 17 25.3 +0.3**
CDF Champ du Feu 39.81 51 *e*P **P 09 17 26.3 -0.4**
comp=Z,36nm,1.0s,mb4.8
CDF Champ du Feu 39.81 51 *e*P **P 09 17 26.3 -0.4**
CDF pmax pmax
comp=Z,18nm,1.0s,mb4.8
RUP Ruppelstein 39.85 49 *e*P **P 09 17 27.5 +0.5**
WLS Welschbruch 39.87 51 *e*P **P 09 17 27.3 +0.1**
ABH Alteburg 40.19 49 *e*P **P 09 17 30.6 +0.8**
LANF Langenberg 40.23 50 *e*P **P 09 17 30.6 +0.4**
BFO Black Forest 40.50 51 *e*P **P 09 17 32.7 +0.3**
BFO pmax pmax
comp=Z,17nm,1.1s,mb4.6
BFO Black Forest 40.50 51 *e*P **P 09 17 32.7 +0.3**
comp=Z,17nm,1.1s,mb4.6
PGF Pioggiola 40.75 60 *e*P **P 09 17 34.8 +0.3**
FVM French Village 40.76 293 *e*P **P 09 17 35.1 +0.5**
FVM pmax pmax
comp=Z,16nm,1.3s,mb4.5
FVM French Village 40.76 293 *e*P **P 09 17 35.0 +0.4**
comp=Z,16nm,1.3s,mb4.5
SPAK Spaichingen 40.78 51 *e*P **P 09 17 35.2 +0.5**
TNS Taunus Mts 40.81 48 *e*P **P 09 17 35.7 +0.8**
TNS pmax pmax
comp=Z,14nm,1.2s,mb4.5
TNS Taunus Mts 40.81 48 *e*P **P 09 17 35.7 +0.8**
comp=Z,14nm,1.2s,mb4.5
TOD Tromm 40.96 49 *e*P **P 09 17 36.2 +0.1**
ROSC El Rosal 41.12 237 LR LR 09 33 30.4
comp=Z,146nm,20.5s,MS3.8,baz=16,slow=34
DAVOX Davos 41.43 54 P **P 09 17 41.0 +1.0**
comp=Z,5.9nm,0.8s,mb4.3,baz=285,slow=10.0,SNR=16
DBIC Dimbokro 41.82 119 P **P 09 17 43.3 -0.3**
comp=Z,6.4nm,1.1s,mb4.2,baz=295,slow=4.4,SNR=3.9
DBIC LR LR 09 33 34.3
comp=Z,547nm,18.4s,MS4.5,baz=16,slow=34
LIC Lamto 41.98 119 *e*P **P 09 17 43.0 -2.0**
comp=Z,25nm,1.1s,mb4.5
LIC *e*R
comp=Z,1μm,23.0s
CLZ Clausthal 42.24 46 *e*P **P 09 17 47.2 +0.6**
CLZ *e**PP pP 09 17 53.1 +3.5
CLZ pmax pmax
comp=Z,34nm,1.0s,mb4.9
CLZ Clausthal 42.24 46 *e*P **P 09 17 47.2 +0.6**
comp=Z,34nm,1.0s,mb4.9
CLZ *e*pP pP 09 17 53.1 +3.5
GRA1 Grafenberg Arr 42.53 49 *e*P **P 09 17 49.2 +0.2**
comp=Z,11nm,0.8s,mb4.6
GRF Grafenberg Arr 42.53 49 *e*P **P 09 17 49.2 +0.2**
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.6
GRF Grafenberg Arr 42.53 49 *e*P **P 09 17 49.2 +0.2**
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.6
GRF Grafenberg Arr 42.53 49 *e*P **P 09 17 49.2 +0.2**

comp=Z,11nm,0.8s,mb4.6
BSEG Bad Segeberg 42.54 43 *e*P **P 09 17 48.7 -0.3**
UALR University of 42.77 289 *e*P **P 09 17 51.4 +0.2**
comp=E,31nm,1.0s,mb5.0
MOX Moxa 42.87 48 *i* P **P 09 17 52.0 +0.3**
comp=Z,logA/T=1.1,mb4.6
MOX L 09 33 19.0
MOX Moxa 42.87 48 *e*P **P 09 17 52.0 +0.3**
MOX pmax pmax
comp=Z,17nm,1.3s,mb4.6
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.2
MOX Moxa 42.87 48 *e*P **P 09 17 52.0 +0.3**
comp=Z,17nm,1.3s,mb4.6
MOX LR LR
comp=Z,300nm,18.0s,MS4.2
NKC Novy Kostel 43.36 49 *e*P **P 09 17 56.9 +1.2**
NKC AMS AMS 09 33 50.0
comp=Z,400nm,17.7s
WET Wettzell 43.57 50 *e*P **P 09 17 57.6 +0.2**
WET pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
WET Wettzell 43.57 50 *e*P **P 09 17 57.6 +0.2**
comp=Z,8.0nm,1.2s,mb4.3
CLL Collm 43.81 47 P **P 09 17 59.4 +0.1**
comp=Z,logA/T=1.3,mb4.8
CLL *i* *SP sP 09 18 05.5 +1.9
CLL *e*PP PP 09 19 43.0 -0.2
CLL *e*S **S 09 24 37.0 +7.5**
CLL Collm 43.81 47 *i* P **P 09 17 59.4 +0.1**
CLL *e*S **S 09 24 37.0 +7.5**
CLL pmax pmax
comp=Z,19nm,1.0s,mb4.8
CLL Collm 43.81 47 *i* P **P 09 17 59.4 +0.1**
comp=Z,19nm,1.0s,mb4.8
CLL *e*S **S 09 24 37.0 +7.5**
KHC Kasperske Hory 44.03 50 *e*P **P 09 18 00.9 -0.2**
KHC Kasperske Hory 44.03 50 *e*P **P 09 18 01.4 +0.2**
GEC2 GERESS Array S 44.10 51 *e*P **P 09 18 01.4 -0.3**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
GEC2 GERESS Array S 44.10 51 *e*P **P 09 18 01.4 -0.3**
comp=Z,6.0nm,1.0s,mb4.3
GERES GERESS Array B 44.10 51 P **P 09 18 01.5 -0.2**
comp=Z,2.5nm,0.7s,mb4.1,baz=264,slow=7.7,SNR=26
GERES PcP PcP 09 19 45.8 -1.7
comp=Z,0.8nm,0.9s,baz=297,slow=4.4,SNR=3.7
GERES LR LR 09 33 28.2
comp=Z,111nm,18.0s,MS3.8,baz=312,slow=32
GERES GERESS Array B 44.10 51 P **P 09 18 01.5 -0.2**
GERES PcP PcP 09 19 45.8 -1.7
GERES LR LR 09 33 28.2
BRG Berggiesshubel 44.36 48 *i* P **P 09 18 04.0 +0.1**
BRG pmax pmax
comp=Z,12nm,1.1s,mb4.5
BRG MLR MLR
comp=Z,320nm,14.8s,MS4.4
BRG Berggiesshubel 44.36 48 *i* P **P 09 18 04.0 +0.1**
comp=Z,12nm,1.1s,mb4.5
BRG LR LR
comp=Z,320nm,14.8s,MS4.4
ULM Lac du Bonnet 44.40 311 P **P 09 18 03.3 -0.8**
comp=Z,5.3nm,0.8s,mb4.3,baz=87,slow=7.3,SNR=12
ULM LR LR 09 34 02.4
comp=Z,290nm,21.5s,MS4.2,baz=40,slow=33
PRU Pruhonice 44.69 49 *e*P **P 09 18 07.1 +0.6**
PRU AMS AMS 09 34 00.0
comp=Z,200nm,17.1s
NB2 NORSAR Subarra 44.70 33 P **P 09 18 06.3 -0.1**
comp=Z,9.2nm,1.0s,mb4.6,baz=253,slow=7.9
NB2 NORSAR Subarra 44.70 33 P **P 09 18 06.3 -0.1**
NB2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
NOA NORSAR Array B 44.70 33 P **P 09 18 06.6 +0.2**
comp=Z,4.3nm,0.8s,mb4.3,baz=254,slow=8.0,SNR=8.3
NOA LR LR 09 32 55.6
comp=Z,82nm,21.5s,MS3.6,baz=120,slow=31
PVCC Panska Ves 44.74 48 *e*P **P 09 18 06.7 -0.2**
TREC Trest 45.28 50 *e*P **P 09 18 11.6 +0.3**
UPC Upice 45.66 48 *e*P **P 09 18 14.6 +0.4**
DPC Dobruska-Polom 45.85 49 *e*P **P 09 18 16.0 +0.3**
ZST Bratislava 46.35 52 *e*P **P 09 18 19.4 -0.3**
SMOL Smolenice 46.56 51 *e*P **P 09 18 21.1 -0.3**
OKC Ostrava-Krasne 47.02 49 *e*P **P 09 18 23.1 -1.9**
OTAV Otavalo 47.27 236 *e*P **P 09 18 28.2 +0.7**
comp=Z,19nm,1.3s,mb4.9
BDFB Brasilia 47.50 189 P **P 09 18 29.6 +0.5**
comp=Z,2.8nm,0.6s,mb4.4,baz=22,slow=12,SNR=4.6
BDFB LR LR 09 35 48.5
comp=Z,184nm,18.8s,MS4.1,baz=192,slow=33
VYHS Vyhne 47.50 51 *e*P **P 09 18 28.4 -0.4**
WMOK Wichita Mounta 47.96 290 *e*P **P 09 18 32.4 -0.2**
WMOK *e* 09 20 00.2
WMOK pmax pmax
comp=Z,12nm,0.9s,mb4.9
WMOK Wichita Mounta 47.96 290 *e*P **P 09 18 32.4 -0.3**
comp=Z,12nm,0.9s,mb4.9
WMOK *e*PcP PcP 09 20 00.2 -1.1
OJC Ojcow 48.08 49 *e*P **P 09 18 32.7 -0.6**
FFC Flin Flon 48.36 317 *e*P **P 09 18 35.5 +0.1**
FFC pmax pmax
comp=Z,16nm,1.1s,mb5.0
FFC Flin Flon 48.36 317 *e*P **P 09 18 35.5 +0.2**
comp=Z,16nm,1.1s,mb5.0
NIE Niedzica 48.44 50 *e*P **P 09 18 37.0 +0.9**
STHS Stebnicka Huta 49.04 50 *i* P **P 09 18 41.7 +0.9**
STHS *e* 09 18 47.5
CRVS Cervenica-Dubn 49.22 51 *i* P **P 09 18 42.7 +0.6**
CRVS *e* 09 18 50.6
BZS Buzias 49.61 55 ⇓P **P 09 18 45.0 -0.2**
KOLS Kolonicke sedl 49.75 50 *i* P **P 09 18 46.5 +0.3**
KOLS *es*P sP 09 18 51.8 +1.4
JCT Junction City 49.92 285 *e*P **P 09 18 47.5 -0.3**
JCT pmax pmax
comp=Z,24nm,1.4s,mb5.0
JCT Junction City 49.92 285 *e*P **P 09 18 47.5 -0.3**
comp=Z,24nm,1.4s,mb5.0
RES Resolute Bay 50.47 344 *e*P **P 09 18 51.1 -0.3**
RES pmax pmax
comp=Z,18nm,1.1s,mb5.0
RES Resolute Bay 50.47 344 *e*P **P 09 18 51.1 -0.3**
comp=Z,18nm,1.1s,mb5.0
SIV San Ignacio 51.16 205 P **P 09 18 56.4 -0.9**
comp=Z,1.4nm,1.0s,mb3.8,baz=30,slow=7.5,SNR=5.2
FINES FINESS Array B 51.83 34 P **P 09 19 02.1 +0.2**
comp=Z,6.6nm,1.0s,mb4.5,baz=247,slow=11,SNR=7.2
FINES LR LR 09 38 35.5
comp=Z,70nm,19.2s,MS3.7,baz=318,slow=33
BURAR Bucovina Array 51.84 52 ⇑P **P 09 19 01.3 -0.8**
BURAR Bucovina Array 51.84 52 ⇑P **P 09 19 01.2 -0.8**
VOIR 52.02 55 ⇓P **P 09 19 02.0 -1.6**
ARCES ARCESS Array B 52.51 24 P **P 09 19 07.3 +0.5**
comp=Z,4.7nm,0.9s,mb4.4,baz=284,slow=7.4,SNR=3.9
ARCES LR LR 09 37 39.0
comp=Z,80nm,19.5s,MS3.8,baz=98,slow=32
MLR Muntele Rosu 52.64 54 ⇓P **P 09 19 07.1 -1.1**
TXAR Lajitas Array 53.47 285 P **P 09 19 14.1 -0.5**
comp=Z,2.6nm,1.0s,mb4.1,baz=96,slow=8.1,SNR=20
TXAR LR LR 09 39 46.3
comp=Z,208nm,18.7s,MS4.2,baz=30,slow=34
EGMT Eagleton 53.60 309 *e*P **P 09 19 14.9 -0.3**
comp=Z,31nm,1.1s,mb5.1
GCMT Greycliff 53.91 306 *e*P **P 09 19 17.4 0.0**
ANMO Albuquerque 54.01 292 *e*P **P 09 19 18.9 +0.5**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 54.01 292 *e*P **P 09 19 18.9 +0.5**
comp=Z,4.0nm,0.9s,mb4.3
AKASG Malin Array Be 54.05 48 P **P 09 19 17.2 -1.2**
comp=Z,7.4nm,0.7s,mb4.7,baz=272,slow=7.1,SNR=35
LPAZ La Paz 54.34 213 P **P 09 19 19.9 -1.2**
comp=Z,1.2nm,0.5s,mb4.0,baz=47,slow=7.1,SNR=9.3
LPAZ LR LR 09 41 15.0
comp=Z,165nm,18.1s,MS4.1,baz=71,slow=35
LPAZ La Paz 54.34 213 *e*P **P 09 19 20.3 -0.7**
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ La Paz 54.34 213 *e*P **P 09 19 20.3 -0.8**
comp=Z,3.4nm,0.9s,mb4.3
PDAR Pinedale Array 54.42 303 P **P 09 19 20.8 -0.5**
comp=Z,10nm,0.9s,mb4.8,baz=82,slow=7.5,SNR=66
PDAR LR LR 09 41 00.1
comp=Z,772nm,18.7s,MS4.8,baz=128,slow=34
LKWY Lake 54.65 305 *e*P **P 09 19 23.8 +0.9**
comp=Z,12nm,1.1s,mb4.8
LOHW Long Hollow 54.99 304 *e*P **P 09 19 25.2 -0.3**
comp=Z,9.5nm,1.2s,mb4.7
YKA Yellowknife Ar 55.01 327 P **P 09 19 24.2 -1.1**
comp=Z,2.5nm,0.9s,mb4.2,baz=87,slow=7.4,SNR=25
YKA PcP PcP 09 20 25.0 -1.9
comp=Z,1.0nm,0.9s,baz=94,slow=5.3,SNR=5.5
YKA LR LR 09 42 02.5
comp=Z,624nm,19.9s,MS4.7,baz=85,slow=35
YMR Madison River 55.02 305 *e*P **P 09 19 26.2 +0.5**
comp=Z,45nm,1.2s,mb5.4
EDM Edmonton 55.13 316 *e*P **P 09 19 25.5 -0.9**
IMW Indian Meadow 55.16 304 *e*P **P 09 19 26.8 0.0**
comp=Z,23nm,1.1s,mb5.1
HRY Holter Researc 55.21 308 *e*P **P 09 19 26.7 -0.4**
REDW Red Top Meadow 55.22 303 *e*P **P 09 19 26.9 -0.3**
comp=Z,20nm,1.3s,mb5.0
TPAW Teton Pass 55.26 304 *e*P **P 09 19 27.5 0.0**
comp=Z,23nm,1.3s,mb5.0
QLMT Earthquake Lak 55.31 305 *e*P **P 09 19 28.1 +0.3**
AHID Auburn Hatcher 55.53 303 *e*P **P 09 19 29.2 -0.2**
comp=Z,8.6nm,0.9s,mb4.8
DLMT Dillon 56.01 306 *e*P **P 09 19 32.8 0.0**
comp=Z,22nm,1.2s,mb5.1
HWUT Hardware Ranch 56.14 302 *e*P **P 09 19 33.0 -0.8**
comp=Z,8.0nm,1.0s,mb4.7
MCMT McKenzie Canyo 56.30 306 *e*P **P 09 19 36.3 +1.4**
MSU Marysvale 57.42 298 *e*P **P 09 19 43.7 +0.7**
DUG Dugway 57.42 300 *e*P **P 09 19 42.7 -0.3**
DUG pmax pmax
comp=Z,16nm,1.3s,mb4.9
DUG Dugway 57.42 300 *e*P **P 09 19 42.7 -0.3**
comp=Z,16nm,1.3s,mb4.9
WUAZ Wupatki 57.69 295 *e*P **P 09 19 45.7 +0.8**
comp=Z,22nm,1.2s,mb5.1
OBN Obninsk 57.76 42⇑ *e*P **P 09 19 44.6 -0.5**
OBN *i* 09 19 50.3
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.1
KLMR Klimovskoe 58.36 35 *e*P **P 09 19 47.3 -1.9**
KLMR pmax pmax
comp=Z,30nm,2.2s,mb4.9
NEW Newport 58.39 310 *e*P **P 09 19 48.8 -0.8**
NEW pmax pmax
comp=Z,18nm,1.0s
NEW Newport 58.39 310 *e*P **P 09 19 48.8 -0.8**
comp=Z,18nm,1.0s,mb5.0
ARUT Antelope Range 58.58 298 P **P 09 19 51.6 +0.5**
BRTR Keskin Array B 59.50 60 P **P 09 19 56.8 -0.7**
comp=Z,2.1nm,0.8s,mb4.2,baz=281,slow=6.3,SNR=6.5
NEN Nelson 60.33 296 *e*P **P 09 20 03.5 +0.3**
HAWA Hanford 60.45 309 *e*P **P 09 20 03.4 -0.5**
comp=Z,2.9nm,1.4s,mb4.1
INK Inuvik 61.96 335 *e*P **P 09 20 13.2 -0.7**
INK pmax pmax
comp=Z,29nm,1.3s
INK Inuvik 61.96 335 *e*P **P 09 20 13.2 -0.7**
comp=Z,29nm,1.3s,mb5.2
NVAR Mina Array Bea 62.01 300 P **P 09 20 14.1 -0.6**
comp=Z,2.6nm,0.9s,mb4.4,baz=77,slow=7.0,SNR=17
NVAR PcP PcP 09 20 54.4 -0.5
comp=Z,2.0nm,1.1s,baz=76,slow=3.7,SNR=3.7
NVAR Mina Array Bea 62.01 300 P **P 09 20 14.1 -0.6**
NVAR PcP PcP 09 20 54.4 -0.5
DAWY Dawson 65.58 331 *e*P **P 09 20 37.6 +0.1**
ILAR Eielson Array 68.23 334 P **P 09 20 54.5 +0.2**
comp=Z,7.9nm,1.0s,mb4.7,baz=56,slow=3.9,SNR=43
ILAR LR LR 09 48 33.4
comp=Z,286nm,21.2s,MS4.5,baz=261,slow=34
COLA College 68.54 334 *e*P **P 09 20 55.9 -0.3**
ARU Arti 69.14 36⇑ *i*P **P 09 20 59.8 -0.3**
ARU *e*S S 09 30 01.4 -2.8
ARU *e*SS SS 09 34 28.1 -4.2
ARU pmax pmax
comp=Z,14nm,1.3s,mb4.7
IMA2 Indian Mountai 70.01 336 *e*P **P 09 21 06.1 +0.9**
ZRNK Zerenda 76.13 36 *e*P **P 09 21 41.9 +0.6**
ZRNK pmax pmax
comp=Z,11nm,1.3s,mb4.6
ZRNK Zerenda 76.13 36 *e*P **P 09 21 41.9 +0.6**
comp=Z,11nm,1.3s,mb4.6
BRVK Borovoye 76.70 35 *e*P **P 09 21 45.5 +1.0**
BRVK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRVK Borovoye 76.70 35 *e*P **P 09 21 45.5 +1.0**
comp=Z,2.3nm,1.0s,mb4.1
TIXI Tiksi 76.75 3 *e*P **P 09 21 45.3 +0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
TIXI MLR MLR
comp=Z,100nm,21.0s,MS4.1
PLCA Paso Flores 77.05 203 LR LR 09 54 07.2
comp=Z,81nm,20.7s,MS4.0,baz=359,slow=34
BILL Bilibino 78.57 350 *e*P **P 09 21 55.3 +0.8**
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.7
BILL Bilibino 78.57 350 *e*P **P 09 21 55.3 +0.8**
comp=Z,11nm,1.2s,mb4.7
KMBO Kilima Mbogo 80.52 97 LR LR 09 57 12.1
comp=Z,432nm,20.1s,MS4.8,baz=276,slow=35
NVS Novosibirsk 81.44 29 *e*P **P 09 22 09.6 -0.5**
NVS pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
NVS pmax pmax
comp=N,4.0nm,0.8s
KURK Kurchatov 82.20 34 *d i*P **P 09 22 14.0 -0.2**
KURK Kurchatov 82.20 34 *e*P **P 09 22 14.8 +0.7**
comp=N,16nm,1.4s,mb4.8
SEY Seymchan 85.16 354 *e*P **P 09 22 30.4 +1.5**
AAK Ala-Archa 85.29 42 *e*P **P 09 22 30.3 +0.3**
AAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.4
AAK MLR MLR
comp=Z,100nm,18.0s,MS4.2
YAK Yakutsk 86.36 4 *c i*P **P 09 22 35.6 +0.7**
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.4
MKAR Makanchi Array 86.66 35 P **P 09 22 36.5 -0.2**
comp=Z,3.1nm,1.0s,mb4.5,baz=315,slow=5.1,SNR=16
MKAR LR LR 10 00 49.8
comp=Z,139nm,19.9s,MS4.4,baz=16,slow=35
BOD Bodaibo 88.43 13 *e*P **P 09 22 38.4 -6.5**
USHA Ushuaia 89.32 196 LR LR 09 59 50.2
comp=Z,142nm,18.9s,MS4.4,baz=359,slow=34
WMQ Urumqi 91.44 34 *e*P **P 09 23 01.3 +1.9**
WMQ AP pP 09 23 06.0 +3.4
WMQ XP sP 09 23 08.3 +4.7
WMQ PP PP 09 26 41.5 +1.8
WMQ AMB AMB
comp=Z,50nm,4.2s
WMQ LR LR
comp=N,460nm,22.0s,MS5.0
WMQ LR LR
comp=E,300nm,20.0s,MS5.0
WMQ LR LR
comp=Z,500nm,20.0s,MS5.0
SONM Songino Array 95.62 21 LR LR 10 04 42.0
comp=Z,76nm,21.4s,MS4.1,baz=323,slow=34
ULN Ulaanbaatar 95.80 21 *e*P **P 09 23 19.7 +0.4**
KMI Kunming 113.73 36 PKP PKPdf 09 28 34.5 +0.5
NJ2 Nanjing 113.83 19 *e*PKP PKPdf 09 28 33.0 -1.1

*GUC **26** 09:17:15.2±0.8,31.59S×68.37W,h150km,MD3.4,ML3.5*
*NEIC **26** 09:17:15.1,31.61S×68.47W,h168km,mb4.2/2,*
MD3.8(GUC),After GUC.
ISC 26 09:17:14.5±1.0,31.60S±0.08×68.3W±0.1,h151km±17km,
n18,σ0s99/26,mb4.1/2,5C-5D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MDZ	**Mendoza**	**1.35**	**199**	⇑*i*P		**P**	**09 17 41.6**	**-1.4**
MDZ				*i* S		**S**	**09 18 00.0**	**-5.0**
JACH	**Jahuel**	**2.21**	**240**	⇑*i*P		**P**	**09 17 53.4**	**+0.8**
CMCH	**Combarbala**	**2.33**	**280**	⇓*i*P		**P**	**09 17 54.5**	**+0.4**
CMCH				*i* S		**S**	**09 18 24.2**	**-0.3**
CMCH				AMP			09 18 27.5	
	comp=N,487nm,0.5s							
FCH	**Farellones**	**2.39**	**223**	⇑*i*P		**P**	**09 17 55.7**	**+0.7**
FCH				*i* S		**S**	**09 18 27.5**	**+1.6**
FCH				AMP			09 18 33.4	
	comp=E,82nm,0.2s							
PEL	**Peldehue**	**2.52**	**232**	⇓*i*P		**P**	**09 17 56.5**	**0.0**
PEL				*i* S		**S**	**09 18 28.2**	**-0.6**
PEL				AMP			09 18 29.1	
	comp=E,174nm,0.3s							
ROCH	**El Roble**	**2.66**	**238**	⇑*i*P		**P**	**09 17 58.7**	**+0.4**
CHNG	**Los Chungos**	**2.72**	**263**	⇓*i*P		**P**	**09 17 59.2**	**+0.1**
CHNG				*i* S		**S**	**09 18 31.6**	**-1.5**
CHNG				AMP			09 18 39.9	
	comp=E,58nm,0.4s							
PCH	**Pirque**	**2.73**	**222**	*e*P		**P**	**09 17 59.8**	**+0.6**
RCDM	**Rinconada Maip**	**2.82**	**227**	*e*P		**P**	**09 18 00.4**	**+0.1**
RCDM				*i* S		**S**	**09 18 35.5**	**+0.2**
RCDM				AMP			09 18 38.3	
	comp=E,252nm,0.1s							
TACH	**Talagante**	**3.01**	**226**	⇓*i*P		**P**	**09 18 02.5**	**-0.2**
TACH				*i* S		**S**	**09 18 39.2**	**-0.4**
CHCH	**Chadas Angostu**	**3.04**	**220**	*e*P		**P**	**09 18 03.4**	**+0.2**
CACH	**El Canelo**	**3.16**	**217**	*e*P		**P**	**09 18 05.3**	**+0.6**
CICH	**Cipreses**	**3.23**	**212**	⇑*i*P		**P**	**09 18 06.7**	**+1.0**
SFDO	**San Fernando**	**3.76**	**216**	⇓*i*P		**P**	**09 18 11.7**	**-0.8**
TRQA	**Tornquist**	**8.29**	**143**	*e*Pn		**P**	**09 19 13.2**	**+0.5**
TRQA				*e*Sn		**S**	**09 20 40.6**	**-4.3**
PLCA	**Paso Flores**	**9.29**	**191**	*e*Pn		**P**	**09 19 23.4**	**-2.5**
NNA	**Nana**	**21.04**	**336**	*e*P		**P**	**09 21 46.1**	**-1.6**
	comp=E,42nm,1.7s,mb4.5							
SDV	**Santo Domingo**	**40.32**	**356**	P		**P**	**09 24 40.1**	**+1.4**
	comp=E,1.6nm,0.8s,mb3.7							

JMA 26 09:17:36.6±0.2,29.07N×140.01E,h438km,M3.7,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.75**	**135**	*e*S		S	09 19 32.5	+0.1
JHHJ	**Haha-jima-NKT**	**3.10**	**141**	P		P	09 18 43.9	-0.1
JHHJ				*e*S		S	09 19 36.4	-0.7
JIE	**Ise**	**6.00**	**333**	P		P	09 19 11.7	+0.3
JRY	**Ryogami san**	**6.99**	**353**	P		P	09 19 22.0	+0.1
JAG	**Ashikaga**	**7.35**	**356**	P		P	09 19 24.4	-1.5
JAG				S		S	09 20 48.3	-4.0
JHO	**Hitachi**	**7.53**	**3**	P		P	09 19 28.4	+0.5
JFK	**Kawauchi**	**8.31**	**5**	P		P	09 19 36.9	+0.4

*NEIC **26** 09:29:24.0,38.29N×112.22W,h0km,ML3.0(SLC),After*
SLC.
NEIC Felt [III] at Kingston.
*IDC **26** 09:29:26.1±0.9,38.46N×112.13W,mb3.0/1,mb1 3.2/4,*
mb1mx3.1/22,mbtmp2.7/4,ML2.9/3,Error ellipse:
s-maj=12.2km s-min=9.8km az=172.0
ISC 26 09:29:24.2±0.4,38.29N±0.03×112.24W±0.05,h10km,n36,
σ0s98/39,mb2.8/1,1D,Utah

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MVU	**Marysvale**	**0.21**	**7**	⇓*e*P		**Pg**	**09 29 30.6**	**+1.7**
MSU	**Marysvale**	**0.23**	**13**	*e*P		**Pg**	**09 29 28.3**	**-0.8**
ARUT	**Antelope Range**	**1.07**	**242**	*e*P		**Pb**	**09 29 44.7**	**+0.3**
TMUT	**Trail Mountain**	**1.29**	**39**	*e*P		**Pb**	**09 29 47.8**	**-0.3**
SRU	**San Rafael**	**1.57**	**58**	*e*P		**Pn**	**09 29 52.6**	**+0.2**
NLU	**North Lily Min**	**1.67**	**4**	*e*P		**Pn**	**09 29 54.1**	**+0.3**
MPU	**Maple Canyon**	**1.79**	**15**	*e*P		**Pn**	**09 29 55.8**	**+0.3**
MPU				*e*S		**Sn**	**09 30 18.9**	**+0.5**
DUG	**Dugway**	**1.95**	**347**	*e*Pn		**Pn**	**09 29 57.2**	**-0.6**
DAU	**Daniels Canyon**	**2.25**	**20**	*e*Pn		**Pn**	**09 30 03.1**	**+1.0**
NOQ	**North Oquirrh**	**2.36**	**2**	*e*Pn		**Pn**	**09 30 03.9**	**+0.2**
PV10	**Paradox Valley**	**2.52**	**87**	*e*Pn		**Pn**	**09 30 07.3**	**+1.3**
BGU	**Big Grassy Mou**	**2.70**	**347**	*e*Pn		**Pn**	**09 30 07.9**	**-0.7**
WUAZ	**Wupatki**	**2.85**	**166**	Pn		**Pn**	**09 30 11.3**	**+0.6**
TCUT	**Toone Canyon**	**2.90**	**13**	*e*Pn		**Pn**	**09 30 11.7**	**+0.4**
PV01	**Paradox Valley**	**2.90**	**92**	*e*Pn		**Pn**	**09 30 12.5**	**+1.2**
SPUT	**South Promonto**	**3.02**	**357**	*e*Pn		**Pn**	**09 30 12.7**	**-0.4**
HWUT	**Hardware Ranch**	**3.35**	**9**	*e*Pn		**Pn**	**09 30 18.2**	**+0.4**
NEN	**Nelson**	**3.36**	**219**	Pn		**Pn**	**09 30 18.1**	**+0.2**
ELK	**Elko**	**3.37**	**318**	*e*Pn		**Pn**	**09 30 17.6**	**-0.5**
TPNV	**Topopah Spring**	**3.45**	**248**	*e*Pn		**Pn**	**09 30 19.0**	**-0.2**
HVU	**Hansel Valley**	**3.51**	**353**	*e*Pn		**Pn**	**09 30 19.1**	**-0.9**
SMCO	**Snowmass**	**4.21**	**76**	*e*Pn		**Pn**	**09 30 31.1**	**+1.0**
AHID	**Auburn Hatcher**	**4.55**	**11**	Pn		**Pn**	**09 30 34.4**	**-0.5**
MNV	**Mina**	**4.65**	**274**	Pn		**Pn**	**09 30 35.7**	**-0.5**
NVAR	**Mina Array Bea**	**4.76**	**274**	Pn		**Pn**	**09 30 40.9**	**+3.0**
	0.2nm,0.3s,baz=80,slow=11,SNR=7.9							
NVAR				Pg		**Pg**	**09 30 52.3**	**-7.1**
	0.8nm,0.3s,baz=86,slow=15,SNR=14							
NVAR				Lg			09 31 55.4	
	2.2nm,0.3s,baz=15,slow=18,SNR=11							
PDAR	**Pinedale Array**	**4.92**	**24**	Pn		**Pn**	**09 30 40.9**	**+0.8**
	0.1nm,0.3s,baz=211,slow=10,SNR=9.6							
PDAR				Pg		**Pg**	**09 30 52.8**	**-10**
	0.2nm,0.3s,baz=208,slow=13,SNR=8.7							
PDAR				Lg			09 31 53.4	
	0.5nm,0.3s,baz=169,slow=19,SNR=4.4							
SDCO	**Great Sand Dun**	**5.35**	**94**	*e*Pn		**Pn**	**09 30 45.0**	**-1.1**
ISCO	**Idaho Springs**	**5.38**	**72**	Pn		**Pn**	**09 30 44.5**	**-2.0**
LOHW	**Long Hollow**	**5.46**	**13**	Pn		**Pn**	**09 30 44.9**	**-2.7**
HLID	**Hailey**	**5.52**	**343**	Pn		**Pn**	**09 30 48.5**	**0.0**
IMW	**Indian Meadow**	**5.69**	**10**	*e*Pn		**Pn**	**09 30 49.4**	**-1.4**
ANMO	**Albuquerque**	**5.72**	**124**	*e*Pn		**Pn**	**09 30 50.0**	**-1.1**
TUC	**Tucson**	**6.08**	**168**	Pn		**Pn**	**09 30 55.8**	**-0.7**
TXAR	**Lajitas Array**	**11.42**	**139**	Pn		**P**	**09 32 15.7**	**+5.2**
	0.0nm,0.3s,baz=318,slow=12,SNR=2.1							
TXAR				Lg			09 35 23.5	
	0.0nm,0.3s,baz=76,slow=23,SNR=3.1							
YKA	**Yellowknife Ar**	**24.28**	**357**	P		**P**	**09 34 44.0**	**+1.8**
	0.3nm,0.8s,mb2.8,baz=175,slow=10,SNR=11							
YKA	**Yellowknife Ar**	**24.28**	**357**	P		**P**	**09 34 44.0**	**+1.7**

*JMA **26** 09:42:21.9±0.1,40.69N×139.28E,h20km±1km,M3.8*
ISC 26 09:42:21.5±1.5,40.70N±0.05×139.28E±0.10,h27km±8km,
n7,σ0s47/14,2C-3D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JIW	**Iwasaki**	**0.56**	**100**	⇓P		**Pb**	**09 42 32.8**	**0.0**
JIW				S		**Sb**	**09 42 40.4**	**-0.1**
JOG2	**Oga 2**	**0.87**	**153**	⇑P		**Pb**	**09 42 38.1**	**+0.2**
JOG2				*e*S		**Sb**	**09 42 49.2**	**-0.1**
JSI2	**Shiura 2**	**0.93**	**67**	⇓P		**Pb**	**09 42 38.9**	**0.0**
JSI2				*e*S		**Sb**	**09 42 50.6**	**-0.3**
JAH	**Hinai**	**1.15**	**116**	⇓P		**Pn**	**09 42 42.6**	**+0.6**
JAH				S		**Sn**	**09 42 57.8**	**+0.8**
JSR	**Shiriuchi**	**1.20**	**46**	⇑P		**Pn**	**09 42 43.1**	**+0.4**
JSR				*e*S		**Sn**	**09 42 57.9**	**-0.2**
JTM	**Tenmabayashi**	**1.36**	**86**	P		**Pn**	**09 42 45.0**	**0.0**
JTM				*e*S		**Sn**	**09 43 01.5**	**-0.8**
MAT	**Matsushiro**	**4.23**	**192**	P		**Pn**	**09 43 26.3**	**+0.4**
MAT				S		**Sn**	**09 44 14.1**	**-0.9**

*ATH **26** 10:12:26.0,39.01N×23.28E,h23km±1km,MD2.7/4,ML2.9*
*THE **26** 10:12:26.4,38.96N×23.33E,h4km,ML2.4*
*NEIC **26** 10:12:26.0,39.01N×23.28E,h23km,MD2.7(ATH),After*
ATH.
*CSEM **26** 10:12:26.3±0.2,38.96N×23.34E,h8km,ML2.4,Error*
ellipse: s-maj=3.4km s-min=2.8km az=81.0
ISC 26 10:12:25.7±0.8,38.99N±0.03×23.35E±0.06,h8km±7km,
n14,σ0s77/20,3C,Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.34**	**343**	⇑*i*PB		**Pb**	**10 12 33.2**	**-0.3**
NEO				*e*SB		**Sb**	**10 12 37.9**	**-0.8**
XOR	**Xorichti**	**0.40**	**342**	*e*Pg		**Pg**	**10 12 34.3**	**+0.5**
XOR				*e*Sg		**Sg**	**10 12 40.6**	**+1.4**
LKR	**Lokris**	**0.43**	**219**	⇑*i*PB		**Pb**	**10 12 34.9**	**-0.2**
LKR				*e*SB		**Sb**	**10 12 41.5**	**0.0**
LKR	**Lokris**	**0.43**	**219**	*e*Sb		**Sb**	**10 12 41.5**	**0.0**
AOS	**Alonnisos**	**0.45**	**66**	*e*Pg		**Pg**	**10 12 35.4**	**+0.5**
AGG	**Agios Georgios**	**0.79**	**273**	*e*Pg		**Pg**	**10 12 40.8**	**-0.8**
AGG				*e*Sg		**Sg**	**10 12 52.5**	**+0.3**
PAIG	**Paliouri**	**0.97**	**15**	*e*Pg		**Pg**	**10 12 45.3**	**+0.1**
ATH	**Athens Observa**	**1.05**	**164**	*e*PN		**Pn**	**10 12 47.1**	**+0.4**
ATH				*e*SN		**Sn**	**10 13 01.7**	**+0.1**
LIT	**Litokhoron**	**1.30**	**330**	*e*Pg		**Pg**	**10 12 50.4**	**-1.3**
LIT				*e*Sg		**Sg**	**10 13 09.1**	**+0.2**
PLG	**Polygyros**	**1.39**	**3**	*e*PN		**Pn**	**10 12 51.2**	**-0.3**
OUR	**Ouranopol

Error ellipse: s-maj=11.3km s-min=5.7km az=51.0
*MOS **26** 10:22:12.7±1.5, 37.91N×72.30E, h97km, mb4.6/6, Error ellipse: s-maj=12.7km s-min=6.6km az=101.3*
*IDC **26** 10:22:16.1±10.0, 38.05N×72.32E, h101km±63km, mb3.6/6, mb1 3.8/9, mb1mx3.5/21, mbtmp4.0/9, ML4.2/3, Error ellipse: s-maj=102.9km s-min=23.5km az=6.0*
*NNC **26** 10:22:18.8±4.8, 38.19N×72.07E, h118km±54km, mb3.3, mpv3.8, Error ellipse: s-maj=42.9km s-min=24.6km az=17.0*

ISC 26 10:22:13.3±0.7, 37.83N±0.04×72.32E±0.06, h110km±8km, n84, σ1§14/105, mb4.2/11, 5C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.43**	**13**	P	**P**	**10 23 20.4**	**+0.8**
	SNR=73						
UCH	**Uchtor**	**4.71**	**20**	P	**P**	**10 23 24.4**	**+1.0**
	SNR=27						
KZA	**Kyzart**	**4.81**	**27**	P	**P**	**10 23 25.7**	**+0.9**
	SNR=16						
EKS2	**Erkin-Say**	**4.96**	**13**	P	**P**	**10 23 27.9**	**+1.1**
	SNR=22						
AAK	**Ala-Archa**	**5.08**	**18**	P	**P**	**10 23 29.8**	**+1.3**
	SNR=14						
AAK	**Ala-Archa**	**5.08**	**18**	*e*PN	**P**	**10 23 28.8**	**+0.3**
AAK				*e*		10 24 23.4	
AAK				pmax	pmax		
	comp=Z,53nm,0.4s						
AAK	**Ala-Archa**	**5.08**	**18**	*e*Pn	**P**	**10 23 28.8**	**+0.3**
	comp=Z,53nm,0.4s						
AAK				*e*Sn	**S**	**10 24 23.4**	**-3.0**
KBK	**Karagaybulak**	**5.23**	**22**	P	**P**	**10 23 33.5**	**+3.1**
	SNR=6.0						
ULHL	**Ulahol**	**5.34**	**33**	P	**P**	**10 23 34.0**	**+2.0**
	SNR=9.8						
KK31	**Karatay Array**	**5.45**	**346**	⇓P	**P**	**10 23 32.7**	**-0.7**
	comp=Z,7.8nm,0.3s,baz=166,slow=6.1,SNR=91						
KK31				⇑S	**S**	**10 24 30.0**	**-5.4**
	comp=Z,56nm,0.6s,baz=175,slow=24,SNR=16						
KKAR	**Karatay Array**	**5.45**	**346**	PN	**P**	**10 23 32.8**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.2s						
CHMS	**Chumysh**	**5.49**	**19**	P	**P**	**10 23 35.1**	**+1.2**
	SNR=7.8						
TKM2	**Tokmak 2**	**5.67**	**25**	⇓P	**P**	**10 23 37.7**	**+1.3**
	comp=Z,3.4nm,0.5s						
TKM2				⇑S	**S**	**10 24 39.5**	**-1.3**
	comp=Z,26nm,0.8s						
USP	**Ospenovka**	**5.68**	**16**	P	**P**	**10 23 36.9**	**+0.4**
	SNR=6.6						
KLP	**Kalpa**	**7.95**	**140**	*e*P	**P**	**10 24 08.5**	**+0.9**
KLP				*e*S	**S**	**10 25 31.2**	**-5.3**
KLP				AML	AML	10 25 35.6	
	comp=N,266nm,0.3s						
KLP				AML	AML	10 25 40.4	
	comp=E,409nm,0.6s						
AYAN	**Aya Nagar**	**10.15**	**155**	*e*S	**S**	**10 26 20.7**	**-8.8**
KHET	**Khetri**	**10.15**	**162**	*e*S	**S**	**10 26 20.2**	**-9.4**
SONA	**Sohna**	**10.35**	**156**	*e*P	**P**	**10 24 39.4**	**-0.3**
SONA				*e*S	**S**	**10 26 26.7**	**-7.6**
SONA				AML	AML	10 26 34.5	
	comp=N,22nm,0.4s						
SONA				AML	AML	10 26 35.9	
	comp=E,37nm,0.3s						
MK31	**Makanchi Array**	**11.60**	**36**	P	**P**	**10 24 56.4**	**0.0**
	comp=E,2.2nm,0.6s,baz=226,slow=15,SNR=27						
MKAR	**Makanchi Array**	**11.60**	**36**	P	**P**	**10 24 56.6**	**+0.3**
	comp=E,0.3nm,0.3s,baz=225,slow=13,SNR=40						
KURK	**Kurchatov**	**13.65**	**17**	P	**P**	**10 25 27.6**	**+4.6**
KURK	**Kurchatov**	**13.65**	**17**	*e*P	**P**	**10 25 20.3**	**-2.7**
KOLN	**Koldanda**	**13.79**	**133**	*e*Pn	**P**	**10 25 24.4**	**-0.6**
KOLN				*e*Sn	**S**	**10 27 47.1**	**-8.7**
	comp=E,32nm,0.4s						
KOLN	**Koldanda**	**13.79**	**133**	*e*Pn	**P**	**10 25 24.4**	**-0.6**
	comp=E,16nm,0.4s						
KOLN				*e*Sn	**S**	**10 27 47.1**	**-8.7**
GKN	**Gorkha**	**14.23**	**130**	*e*Pn	**P**	**10 25 29.9**	**-0.8**
GKN				*e*Sn	**S**	**10 27 57.6**	**-8.6**
	comp=E,63nm,0.3s						
GKN	**Gorkha**	**14.23**	**130**	*e*Pn	**P**	**10 25 29.9**	**-0.8**
	comp=E,32nm,0.3s						
GKN				*e*Sn	**S**	**10 27 57.6**	**-8.6**
AB31	**Akbulak array**	**14.50**	**326**	⇑P	**P**	**10 25 30.9**	**-3.2**
	comp=E,5.5nm,0.8s,baz=131,slow=13,SNR=52						
AB31				⇓S	**S**	**10 27 58.8**	**-13**
	comp=E,10.0nm,0.9s,baz=142,slow=22,SNR=15						
AB31	**Akbulak array**	**14.50**	**326**	*e*P	**P**	**10 25 31.1**	**-2.9**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KKN	**Kakani**	**14.78**	**129**	*e*Pn	**P**	**10 25 37.9**	**+0.2**
KKN				*e*Sn	**S**	**10 28 09.5**	**-9.4**
	comp=Z,24nm,0.5s						
KKN	**Kakani**	**14.78**	**129**	*e*Pn	**P**	**10 25 37.9**	**+0.2**
	comp=Z,12nm,0.5s						
KKN				*e*Sn	**S**	**10 28 09.5**	**-9.4**
DMN	**Daman**	**14.81**	**130**	*e*Pn	**P**	**10 25 37.2**	**-0.8**
DMN				*e*Sn	**S**	**10 28 10.6**	**-8.9**
	comp=Z,34nm,0.5s						
DMN	**Daman**	**14.81**	**130**	*e*Pn	**P**	**10 25 37.2**	**-0.8**
	comp=Z,17nm,0.5s						
DMN				*e*Sn	**S**	**10 28 10.6**	**-8.9**
VOSK	**Vostochnaya**	**14.93**	**357**	⇑P	**P**	**10 25 37.6**	**-1.8**
	comp=Z,2.8nm,0.6s						
PKI	**Pulchoki**	**15.02**	**129**	*e*Pn	**P**	**10 25 39.9**	**-0.9**
PKI				*e*Sn	**S**	**10 28 15.3**	**-9.1**
	comp=Z,13nm,0.3s						
PKI	**Pulchoki**	**15.02**	**129**	*e*Pn	**P**	**10 25 39.9**	**-0.9**
	comp=Z,6.5nm,0.3s						
PKI				*e*Sn	**S**	**10 28 15.3**	**-9.1**
GUN	**Gumba**	**15.07**	**127**	*e*Pn	**P**	**10 25 41.3**	**-0.1**
GUN				*e*Sn	**S**	**10 28 16.8**	**-8.8**
	comp=Z,12nm,0.4s						
GUN	**Gumba**	**15.07**	**127**	*e*Pn	**P**	**10 25 41.3**	**-0.1**
	comp=Z,5.9nm,0.4s						
GUN				*e*Sn	**S**	**10 28 16.8**	**-8.8**
BVA0	**Borovoye Array**	**15.26**	**356**	P	**P**	**10 25 42.0**	**-1.6**
	comp=Z,0.1nm,0.8s,baz=148,slow=10,SNR=44						
BVAR	**Borovoye Array**	**15.26**	**356**	P	**P**	**10 25 41.6**	**-2.0**
	comp=Z,3.9nm,0.3s,baz=162,slow=14,SNR=28						
BRVK	**Borovoye**	**15.30**	**355**	*e*P	**P**	**10 25 44.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRVK	**Borovoye**	**15.30**	**355**	*e*Pn	**P**	**10 25 44.5**	**+0.4**
	comp=Z,6.8nm,0.7s						
ZRNK	**Zerenda**	**15.30**	**352**	⇓P	**P**	**10 25 44.7**	**+0.6**
	comp=Z,7.8nm,0.5s						
ZRNK	**Zerenda**	**15.30**	**352**	*e*P	**P**	**10 25 42.2**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.6s						
ZRNK	**Zerenda**	**15.30**	**352**	*e*Pn	**P**	**10 25 42.2**	**-2.0**
	comp=Z,15nm,0.6s						
JIRN	**Jiri**	**15.44**	**127**	*e*Pn	**P**	**10 25 44.9**	**-1.2**
JIRN				*e*Sn	**S**	**10 28 25.5**	**-8.6**
	comp=Z,31nm,0.5s						
JIRN	**Jiri**	**15.44**	**127**	*e*Pn	**P**	**10 25 44.9**	**-1.2**
	comp=Z,15nm,0.5s						
JIRN				*e*Sn	**S**	**10 28 25.5**	**-8.6**
AKTK	**Aktyubinsk**	**16.22**	**326**	P	**P**	**10 25 54.8**	**-0.8**
AKTO	**Aktyubinsk**	**16.22**	**326**	⇑P	**P**	**10 25 55.5**	**-0.1**
	comp=Z,0.7nm,0.8s						
AKTO				⇓S	**S**	**10 28 42.6**	**-8.9**
	comp=Z,0.9nm,0.7s						
AKTO	**Aktyubinsk**	**16.22**	**326**	P	**P**	**10 25 54.8**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=124,slow=9.4,SNR=13						
NVS	**Novosibirsk**	**18.57**	**20**	*e*P	**P**	**10 26 21.7**	**-2.2**
GNI	**Garni**	**21.53**	**285**	*e*P	**P**	**10 26 54.9**	**+0.3**
KIV	**Kislovodsk**	**23.14**	**295**	*e*P	**P**	**10 27 12.3**	**+2.1**
KIV	**Kislovodsk**	**23.14**	**295**	*e*P	**P**	**10 27 12.3**	**+2.0**
ERZM	**Erzurum**	**24.13**	**285**	*i* P	**P**	**10 27 18.6**	**-1.2**
BNGL	**BINGOL**	**24.40**	**282**	*i* P	**P**	**10 27 22.4**	**+0.1**
SONM	**Songino Array**	**26.73**	**57**	P	**P**	**10 27 44.7**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=271,slow=7.8,SNR=3.7						
ULN	**Ulaanbaatar**	**27.17**	**57**	P	**P**	**10 27 48.0**	**-0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
ULN	**Ulaanbaatar**	**27.17**	**57**	P	**P**	**10 27 48.0**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.4						
BR131	**Keskin Array S**	**30.06**	**286**	*e*P	**P**	**10 28 15.3**	**+1.3**
JOF	**Joensuu**	**35.27**	**329**	*e*p	**P**	**10 28 58.5**	**-0.3**
HIA	**Hailar**	**35.67**	**56**	*e*P	**P**	**10 29 03.2**	**+0.8**
FINES	**FINESS Array B**	**36.99**	**325**	P	**P**	**10 29 13.9**	**+0.6**
	comp=Z,1.6nm,0.3s,mb4.4,baz=116,slow=9.4,SNR=28						
KAF	**Kangasniemi**	**37.10**	**326**	*e*p	**P**	**10 29 13.9**	**-0.3**
	comp=Z,0.7nm,0.3s,mb4.1						
KAF	**Kangasniemi**	**37.10**	**326**	*e*P	**P**	**10 29 13.9**	**-0.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
KEV	**Kevo**	**39.97**	**337**	*e*P	**P**	**10 29 37.9**	**-0.1**
KEV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
KEV	**Kevo**	**39.97**	**337**	*e*P	**P**	**10 29 37.9**	**-0.1**
	comp=Z,12nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**40.34**	**337**	P	**P**	**10 29 41.7**	**+0.7**
	comp=Z,1.9nm,0.4s,mb4.2,baz=111,slow=8.5,SNR=29						
YAK	**Yakutsk**	**42.28**	**36**	*e*P	**P**	**10 29 57.1**	**+0.2**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.8						
YAK	**Yakutsk**	**42.28**	**36**	*e*P	**P**	**10 29 57.0**	**+0.2**
	comp=Z,8.4nm,0.4s,mb4.8						
TIP	**Timpagrande**	**42.92**	**290**	*e*P	**P**	**10 30 02.2**	**-0.2**
GERES	**GERESS Array B**	**43.04**	**304**	P	**P**	**10 30 04.5**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.2,baz=76,slow=8.2,SNR=6.0						
YHNB	**Yeheng**	**43.48**	**93**	*e*P	**P**	**10 30 07.1**	**-0.1**
NACB	**Ninganchiao**	**43.90**	**93**	*e*P	**P**	**10 30 13.2**	**+2.6**
NB2	**NORSAR Subarra**	**43.97**	**322**	P	**P**	**10 30 10.8**	**+0.2**
	comp=Z,1.7nm,0.5s,mb4.0,baz=92,slow=7.9						
NB2	**NORSAR Subarra**	**43.97**	**322**	P	**P**	**10 30 10.8**	**+0.2**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**43.97**	**322**	P	**P**	**10 30 11.1**	**+0.5**
	comp=Z,1.5nm,0.5s,mb3.9,baz=93,slow=7.7,SNR=5.8						
MSEY	**Mahe Island**	**45.09**	**204**	*e*P	**P**	**10 30 24.8**	**+4.5**
WLF	**Walferdange**	**47.77**	**307**	*e*P	**P**	**10 30 40.9**	**+0.1**
YKA	**Yellowknife Ar**	**79.87**	**3**	P	**P**	**10 34 11.8**	**+1.2**
	comp=Z,0.8nm,0.4s,mb3.9,baz=350,slow=5.5,SNR=62						
WRAB	**Tennant Creek**	**81.81**	**123**	*e*P	**P**	**10 34 24.8**	**+3.2**
WRAB				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.5						
WRAB	**Tennant Creek**	**81.81**	**123**	*e*P	**P**	**10 34 24.8**	**+3.2**
	comp=Z,12nm,1.4s,mb4.5						
NWAO	**Narrogin (SRO)**	**81.88**	**143**	*e*P	**P**	**10 34 26.1**	**+4.3**
NWAO				pmax	pmax		
	comp=Z,16nm,1.2s						
NWAO	**Narrogin (SRO)**	**81.88**	**143**	*e*P	**P**	**10 34 26.1**	**+4.4**
	comp=Z,16nm,1.2s,mb4.7						
CTAO	**Charters Tower**	**90.15**	**115**	P	**P**	**10 35 00.8**	**-1.6**

*NNC **26** 10:25:12.2±1.9, 43.39N×77.12E, mb3.2, mpv3.7, Error ellipse: s-maj=18.6km s-min=6.9km az=101.0*
*KNET **26** 10:25:15.1, 43.41N×76.89E, h5km, ml2.1*

ISC 26 10:25:14.4±1.3, 43.3N±0.2×77.1E±0.1, h5km, n8, σ1§18/14, 8C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**0.15**	**236**	⇓P	**Pg**	**10 25 15.9**	**-1.7**
	3μm,0.3s						
KNDC				⇑S	**Sg**	**10 25 19.4**	**-0.3**
	15μm,0.5s						
TKM2	**Tokmak 2**	**1.19**	**252**	⇑P	**Pb**	**10 25 35.3**	**-1.8**
	18nm,0.3s,SNR=6.8						
TKM2				⇑S	**Sb**	**10 25 51.9**	**-0.8**
	12nm,0.2s						
TKM2	**Tokmak 2**	**1.19**	**252**	⇑P	**Pb**	**10 25 35.3**	**-1.8**
	7.5nm,0.3s						
TKM2				⇓S	**Sb**	**10 25 50.8**	**-1.9**
	10.0nm,0.5s						
KBK	**Karagaybulak**	**1.73**	**249**	⇓P	**Pn**	**10 25 45.3**	**-0.1**
	37nm,0.4s,SNR=6.0						
KBK				⇑S	**Sn**	**10 26 09.4**	**+1.3**
	28nm,0.3s						
USP	**Ospenovka**	**1.93**	**270**	⇓P	**Pn**	**10 25 48.2**	**0.0**
	14nm,0.3s,SNR=6.1						
USP				⇓S	**Sn**	**10 26 13.0**	**-0.1**
	20nm,0.4s						
AAK	**Ala-Archa**	**2.05**	**252**	⇑P	**Pn**	**10 25 50.5**	**+0.5**
	8.7nm,0.2s,SNR=9.2						
AAK				⇑S	**Sn**	**10 26 17.9**	**+1.6**
	11nm,0.4s						
UCH	**Uchtor**	**2.21**	**242**	⇑P	**Pn**	**10 25 54.7**	**+2.4**
	19nm,0.4s,SNR=7.4						
MK31	**Makanchi Array**	**5.05**	**44**	Pn	**Pn**	**10 26 32.6**	**-0.1**
	1.4nm,0.4s,baz=217,slow=14,SNR=12						
MK31				Lg		10 27 49.8	
	baz=238,slow=27						

*IDC **26** 10:35:33.9±1.7, 29.40N×101.95E, mb3.8/2, mb1 4.1/3, mb1mx3.6/17, mbtmp3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/18, Error ellipse: s-maj=81.3km s-min=26.6km az=65.0*
*BJI **26** 10:35:35.8, 29.68N×102.06E, h15km, ML3.5, Ms4.3, Msz3.7*
*NEIC **26** 10:35:40.7±0.7, 29.54N×102.12E, h55km, mb4.0/3, Error ellipse: s-maj=16.0km s-min=12.1km az=52.0*

ISC 26 10:35:38.7±0.7, 29.50N±0.09×102.0E±0.1, h55km, n13, σ1§23/13, mb4.3/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENH	**Enshi**	**6.54**	**81**	*e*Pn	**P**	**10 37 11.2**	**-3.4**
	14nm,0.8s						
XAN	**Xi'an**	**7.42**	**51**	P	**P**	**10 37 25.8**	**-1.0**
XAN				PG	P	10 37 48.0	+21
XAN				SG	S	10 39 24.8	+34
XAN				Smax			
	comp=N,40nm,1.0s						
XAN				Smax			
	comp=E,30nm,1.2s						
LSA	**Lhasa**	**9.46**	**274**	*e*Pn	**P**	**10 37 49.4**	**-5.5**
SONM	**Songino Array**	**18.62**	**9**	P	**P**	**10 39 53.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=192,slow=12,SNR=16						
SONM				LR	LR	10 47 39.3	
	comp=E,122nm,18.3s,baz=165,slow=39						
ULN	**Ulaanbaatar**	**18.75**	**11**	*e*P	**P**	**10 39 55.1**	**-0.4**
	comp=E,1.5nm,0.7s						
MKAR	**Makanchi Array**	**23.10**	**324**	P	**P**	**10 40 41.9**	**+1.5**
	comp=E,0.6nm,0.7s,mb3.1,baz=140,slow=9.5,SNR=4.0						
HIA	**Hailar**	**23.92**	**29**	*e*P	**P**	**10 40 49.8**	**+1.6**
	comp=E,1.6nm,0.3s,mb3.9						
AAK	**Ala-Archa**	**25.69**	**308**	*e*P	**P**	**10 41 05.9**	**+0.6**
KURK	**Kurchatov**	**27.52**	**327**	*e*P	**P**	**10 41 17.5**	**-4.6**
MALT	**Malatya**	**52.59**	**298**	*e*P	**P**	**10 44 48.1**	**-0.9**
WRAB	**Tennant Creek**	**58.20**	**144**	*e*P	**P**	**10 45 30.0**	**+0.2**
	comp=E,11nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**58.20**	**144**	P	**P**	**10 45 29.7**	**-0.1**
	comp=E,2.3nm,0.3s,mb4.6,baz=327,slow=8.7,SNR=80						
NWAO	**Narrogin (SRO)**	**63.74**	**166**	*e*P	**P**	**10 46 07.3**	**+0.2**
	comp=E,21nm,1.3s,mb5.0						

*IDC **26** 10:46:04.4±0.9, 17.14N×73.62E, mb3.9/10, mb1 4.1/10, mb1mx3.8/20, mbtmp3.9/10, MS3.7/2, Ms1 3.7/2, ms1mx3.1/18, Error ellipse: s-maj=27.8km s-min=19.6km az=57.0*
*MOS **26** 10:46:04.7±1.2, 17.22N×73.78E, h10km, mb4.2/6, Error ellipse: s-maj=15.8km s-min=10.4km az=61.7*
*NEIC **26** 10:46:07.0±0.8, 17.29N×73.88E, h10km, mb4.1/8, Error ellipse: s-maj=12.8km s-min=12.0km az=134.0*
*BJI **26** 10:46:07.4, 17.30N×73.90E, h15km, mB4.4, mb4.6, Ms4.8, Msz4.5*
*NDI **26** 10:46:07.4±2.8, 17.22N×73.86E, h15km, ML3.6, MW4.2*

ISC 26 10:46:09.1±0.6, 17.33N±0.05×74.05E±0.05, h33km, n45, σ1§25/51, mb4.0/17, MS3.7/2, Southern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAD	**Karad**	**0.13**	**100**	*e*P	**P**	**10 46 13.6**	**-1.6**
KAD				*e*S	**S**	**10 46 19.1**	**-0.2**
KAD				AML	AML	10 46 24.3	
	comp=N,4μm,0.2s						
KAD				AML	AML	10 46 28.4	
	comp=E,3μm,0.4s						
POO	**Poona**	**1.21**	**351**	*e*P	**P**	**10 46 30.1**	**+0.4**
POO				*e*S	**S**	**10 46 47.5**	**+2.3**
POO				AML	AML	10 46 49.6	
	comp=E,1μm,0.1s						
POO				AML	AML	10 46 49.6	
	comp=N,1μm,0.2s						
BOM	**Bombay**	**1.95**	**323**	*e*P	**P**	**10 46 40.6**	**+0.2**
BOM				*e*S	**S**	**10 47 04.6**	**+0.7**
HYB	**Hyderabad**	**4.30**	**88**	*i* Pn	**Pn**	**10 47 16.0**	**+1.9**
HYB				*e*Pg	**P**	**10 47 26.5**	**+12**
HYB				*e*Sn	**Sn**	**10 48 04.5**	**+0.6**
HYB				*e*Sg	S	10 48 25.0	+21
HYB	**Hyderabad**	**4.30**	**88**	*e*Pn	**Pn**	**10 47 16.0**	**+1.9**
HYB				*e*Sn	**Sn**	**10 48 04.5**	**+0.6**
BHPL	**Bhopal**	**6.68**	**28**	*e*P	**P**	**10 47 48.0**	**+0.6**
BHPL				*e*S	**S**	**10 49 00.8**	**-2.4**
BHPL				AML	AML	10 49 46.9	
	comp=N,129nm,0.7s						
AJM	**Ajmer**	**9.12**	**3**	*e*P	**S**	**10 50 04.0**	**0.0**
KOLN	**Koldanda**	**13.62**	**39**	*e*P	**P**	**10 49 19.3**	**-3.2**
	comp=N,5.5nm,0.3s						
GKN	**Gorkha**	**14.42**	**41**	*e*P	**P**	**10 49 31.5**	**-1.5**
	comp=N,35nm,0.8s						
GKN				*e*S	**S**	**10 52 06.8**	**-5.8**
DMN	**Daman**	**14.45**	**43**	*e*P	**P**	**10 49 33.1**	**-0.2**
DMN				*e*S	**S**	**10 52 10.7**	**-2.6**
PKI	**Pulchoki**	**14.62**	**44**	*e*P	**P**	**10 49 35.0**	**-0.6**
	comp=N,17nm,0.6s						
PKI	**Pulchoki**	**14.62**	**44**	*e*P	**P**	**10 49 35.0**	**-0.6**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KKN	**Kakani**	**14.69**	**43**	*e*P	**P**	**10 49 35.6**	**-0.8**
GUN	**Gumba**	**15.16**	**44**	*e*P	**P**	**10 49 42.8**	**+0.2**
JIRN	**Jiri**	**15.21**	**45**	*e*P	**P**	**10 49 44.7**	**+1.5**
	comp=Z,17nm,0.6s						
LSA	**Lhasa**	**19.91**	**49**	P	**P**	**10 50 44.3**	**+3.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**19.91**	**49**	P	**P**	**10 50 44.3**	**+3.5**
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**25.22**	**1**	*e*P	**P**	**10 51 34.4**	**+0.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.9						
AAK	**Ala-Archa**	**25.22**	**1**	*e*P	**P**	**10 51 34.4**	**+0.9**
	comp=Z,4.3nm,1.1s,mb3.9						
PSI	**Prapat**	**28.37**	**118**	P	**P**	**10 52 04.5**	**+1.7**
	comp=Z,1.7nm,0.5s,mb3.9,baz=272,slow=6.6,SNR=4.2						
MKAR	**Makanchi Array**	**30.16**	**11**	P	**P**	**10 52 17.9**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=206,slow=9.8,SNR=6.8						
KURK	**Kurchatov**	**33.51**	**5**	*e*P	**P**	**10 52 47.6**	**0.0**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KURK	**Kurchatov**	**33.51**	**5**	*e*P	**P**	**10 52 47.6**	**0.0**
	comp=Z,5.1nm,0.9s,mb4.5						
AKTK	**Aktyubinsk**	**35.44**	**342**	P	**P**	**10 53 03.1**	**-1.1**
AKTO	**Aktyubinsk**	**35.44**	**342**	P	**P**	**10 53 03.1**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=195,slow=12,SNR=3.7						
BVAR	**Borovoye Array**	**35.73**	**356**	P	**P**	**10 53 06.2**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=170,slow=9.0,SNR=4.5						
ZRNK	**Zerenda**	**35.76**	**355**	*e*P	**P**	**10 53 06.3**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**35.76**	**355**	*e*P	**P**	**10 53 06.3**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.0						
BRVK	**Borovoye**	**35.77**	**356**	*e*P	**P**	**10 53 08.1**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**35.77**	**356**	*e*P	**P**	**10 53 08.1**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.9						
SONM	**Songino Array**	**40.32**	**34**	P	**P**	**10 53 47.6**	**+2.5**
	comp=Z,1.9nm,0.8s,mb3.9,baz=224,slow=8.7,SNR=16						
KMBO	**Kilima Mbogo**	**40.63**	**247**	LR	LR	11 08 35.2	
	comp=Z,40nm,19.6s,MS3.3,baz=85,slow=34						
ULN	**Ulaanbaatar**	**40.69**	**34**	*e*P	**P**	**10 53 49.7**	**+1.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**40.69**	**34**	*e*P	**P**	**10 53 49.7**	**+1.6**
	comp=Z,1.9nm,0.8s,mb3.8						
CN2	**Changchun**	**50.53**	**47**	*e*P	**P**	**10 55 07.0**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
LSZ	**Lusaka**	**55.63**	**237**	P	**P**	**10 55 40.4**	**-4.1**
	comp=Z,0.8nm,0.4s,mb4.1,baz=46,slow=3.0,SNR=4.1						
GERES	**GERESS Array B**	**57.69**	**317**	P	**P**	**10 55 55.1**	**-3.7**
	comp=Z,0.5nm,0.9s,mb3.5,baz=113,slow=10,SNR=4.6						
MJAR	**Matsushiro Arr**	**59.29**	**57**	LR	LR	11 24 34.6	
	comp=Z,149nm,18.6s,MS4.2,baz=95,slow=39						
ARCES	**ARCESS Array B**	**60.03**	**342**	P	**P**	**10 56 13.8**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.3,baz=135,slow=6.9,SNR=7.8						
NOA	**NORSAR Array B**	**61.91**	**331**	P	**P**	**10 56 24.2**	**-3.3**
	comp=Z,0.9nm,0.8s,mb4.0,baz=105,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**69.82**	**119**	P	**P**	**10 57 18.1**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.2,baz=305,slow=5.8,SNR=31						
WRAB	**Tennant Creek**	**69.83**	**119**	*e*P	**P**	**10 57 18.5**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	**69.83**	**119**	*e*P	**P**	**10 57 18.4**	**-0.4**
	comp=Z,3.2nm,0.5s,mb4.5						
CTAO	**Charters Tower**	**80.03**	**115**	P	**P**	**10 58 17.5**	**0.0**
PDAR	**Pinedale Array**	**120.11**	**3**	PKP	PKPdf	11 04 57.5	+0.5
	comp=Z,0.4nm,0.6s,baz=121,slow=1.8,SNR=4.9						

*IDC **26** 11:14:48.5±0.9, 52.93N×107.18E, mb3.8/6, mb

comp=N,17μm,0.6s
HRMR Khuramsha 1.32 187 ⇑*i*Pg **Pg 11 15 15.3 -1.6**
HRMR *e*Sg **Sg 11 15 33.0 -1.6**
LSTR Listvyanka 1.81 235 ⇓*i*Pn **Pn 11 15 21.6 +0.1**
LSTR *e*Pg **Pg 11 15 23.4 -3.3**
LSTR *e* 11 15 27.6
LSTR max 11 15 32.0
comp=N,411nm,0.7s
LSTR *e*Sn **Sn 11 15 45.2 +0.9**
LSTR *e*Sg **Sg 11 15 46.0 -5.0**
LSTR Smax 11 15 48.4
comp=N,1μm,0.5s
LSTR Listvyanka 1.81 235 *e*PN **Pn 11 15 21.6 +0.1**
LSTR *e* 11 15 23.2
LSTR *e* 11 15 46.0
LSTR pmax pmax
comp=Z,429nm,0.9s
LSTR smax
comp=N,2μm,1.3s
SYVR Suvo 1.82 65 ⇓*i*Pn **Pn 11 15 22.8 +1.3**
SYVR *e*Pg **Pg 11 15 25.1 -1.7**
SYVR *e* 11 15 30.1
SYVR max 11 15 30.5
comp=N,259nm,0.6s
SYVR *e*Sn **Sn 11 15 46.0 +1.6**
SYVR *e*Sg **Sg 11 15 49.8 -1.3**
SYVR Smax 11 15 52.2
comp=N,808nm,0.6s
SYVR Suvo 1.82 65 *e*PN **Pn 11 15 22.7 +1.2**
SYVR *e*SG **Sn 11 15 45.3 +0.9**
IRK Irkutsk 1.93 250 *e*Pg **Pb 11 15 25.0 +0.1**
IRK *e* 11 15 32.4
IRK max 11 15 32.7
comp=N,632nm,0.5s
IRK *e*Sg **Sb 11 15 49.6 +0.9**
IRK Smax 11 15 50.8
comp=N,11μm,0.5s
IRK Irkutsk 1.93 250 *e*Pn **Pn 11 15 24.9 +1.7**
IRK *e* 11 15 49.5
IRK pmax pmax
comp=Z,377nm,0.2s
IRK smax
comp=N,1μm,0.2s
TLY Talaya 2.53 242 *e*Pn **Pn 11 15 31.4 -0.4**
TLY *e*Pg **Pb 11 15 35.7 +0.6**
TLY Pmax 11 15 45.3
comp=N,174nm,0.2s
TLY *e*Sg **Sb 11 16 07.8 +1.7**
TLY Smax 11 16 15.3
comp=N,786nm,0.6s
YLYR Ulyunkhan 3.04 49 ⇓*i*Pn **Pn 11 15 39.7 +0.8**
YLYR *e*Pg **Pb 11 15 45.1 +1.4**
YLYR Pmax 11 15 54.9
comp=N,109nm,1.0s
YLYR *e*Sn **Sn 11 16 14.7 -0.6**
YLYR *e*Sg **Sb 11 16 25.3 +4.5**
YLYR Smax 11 16 32.1
comp=N,645nm,1.0s
YLYR Ulyunkhan 3.04 49 *e*PN **Pn 11 15 39.7 +0.8**
YLYR *e* 11 15 44.8
ARS Arshan 3.11 253 *e*Pn **Pn 11 15 40.1 +0.1**
ARS *e*Pg **Pb 11 15 45.4 +0.4**
ARS Pmax 11 15 55.3
comp=N,180nm,0.4s
ARS *e*Sg **Sb 11 16 24.0 +1.1**
ARS Smax 11 16 30.5
comp=N,6μm,0.7s
ARS Arshan 3.11 253 *e*PN **Pn 11 15 46.0 +6.0**
NIZ Nizh Angarsk 3.15 25 ⇓*i*Pn **Pn 11 15 41.3 +0.7**
NIZ *e*Pg **Pb 11 15 48.9 +3.1**
NIZ Pmax 11 15 50.0
comp=N,403nm,0.6s
NIZ *e*Sn **Sn 11 16 18.2 -0.1**
NIZ *e*Sg **Sb 11 16 30.5 +6.3**
NIZ Smax 11 16 35.7
comp=N,1μm,0.5s
NIZ Nizh Angarsk 3.15 25 *e*PN **Pn 11 15 41.6 +1.0**
NIZ *e* 11 15 48.9
NIZ *e*S **Sn 11 16 18.1 -0.2**
NIZ *e* 11 16 30.5
NIZ pmax pmax
comp=Z,403nm,0.6s
NIZ smax
comp=E,1μm,0.5s
ZAK Zakamensk 3.54 225 ⇑*i*Pn **Pn 11 15 46.4 +0.2**
ZAK ⇑*i*Pg **Pb 11 15 54.9 +2.4**
ZAK Pmax 11 16 10.8
comp=E,112nm,1.8s
ZAK *e*Sg **Sb 11 16 41.8 +6.2**
ZAK Smax 11 16 51.1
comp=E,272nm,0.8s
ZAK Zakamensk 3.54 225 *e*PN **Pn 11 15 54.4 +8.2**
KMO Kumora 3.76 37 ⇑*i*Pn **Pn 11 15 49.9 +0.6**
KMO *e*Pg **Pb 11 15 59.1 +2.9**
KMO Pmax 11 16 09.2
comp=E,165nm,0.9s
KMO *e*Sn **Sn 11 16 34.2 +0.5**
KMO *e*Sg **Sb 11 16 47.6 +5.7**
KMO Smax 11 16 59.8
comp=E,731nm,1.3s
KMO Kumora 3.76 37 *e*PN **Pn 11 15 49.7 +0.4**
KMO *e* 11 15 58.9
KMO *e*S **Sn 11 16 33.9 +0.2**
KMO *e* 11 16 47.7
KMO pmax pmax
comp=Z,165nm,0.7s
KMO smax
comp=N,737nm,1.2s
CIT Chita 3.98 101 *e* **Pn 11 15 51.7 -0.6**
CIT *e*Pg **Pb 11 16 03.3 +3.5**
CIT Pmax 11 16 10.4
comp=N,130nm,1.0s
CIT *e*Sn **Sn 11 16 38.8 -0.3**
CIT *e*Sg **Sb 11 16 55.7 +7.6**
CIT Smax 11 16 59.6
comp=N,848nm,1.0s
CIT Chita 3.98 101 *e*PN **Pn 11 16 02.2 +10**
CIT *e* 11 16 56.9
CIT pmax pmax
comp=Z,77nm,0.5s
CIT smax
comp=N,846nm,1.0s
MOY Mondy 4.03 254 ⇑*i*Pn **Pn 11 15 54.1 +1.0**
MOY ⇑*i*Pg **Pb 11 16 02.4 +1.6**
MOY Pmax 11 16 13.9
comp=N,199nm,1.0s
MOY *e*Sn **Sn 11 16 39.2 -1.3**
MOY *e*Sg **Sb 11 16 55.0 +5.3**
MOY Smax 11 17 06.6
comp=N,783nm,1.2s
MOY Mondy 4.03 254 *e*PN **Pn 11 15 54.0 +0.9**
MOY *e* 11 16 02.4
MOY *e*S **Sn 11 16 40.5 0.0**
MOY *e* 11 16 51.6
MOY pmax pmax
comp=Z,198nm,0.9s
MOY smax
comp=N,751nm,0.7s
YOA Uoyan 4.14 37 *e*Pn **Pn 11 15 56.7 +2.1**
YOA *e*Pg **Pb 11 16 07.4 +4.7**
YOA Pmax 11 16 16.9
comp=N,193nm,0.3s
YOA *e*Sg **Sb 11 17 01.6 +8.8**
YOA Smax 11 17 25.3
comp=N,2μm,1.4s
ORL Orlik 4.52 268 *e*Pn **Pn 11 16 00.9 +0.8**
ORL max **Pb 11 16 02.0 -7.2**
comp=N,56nm,1.0s
ORL *e*Pg **Pg 11 16 11.2 -10**
ORL *e*Sn **Sn 11 16 50.9 -2.1**
ORL *e*Sg **Sb 11 17 10.0 +6.0**
ORL Smax 11 17 13.2
comp=N,710nm,1.3s
ORL Orlik 4.52 268 *e*PN **Pn 11 16 00.9 +0.8**
ORL *e* 11 16 12.7
UKT Uakit 4.55 53 *e*Pn **Pn 11 16 00.8 +0.4**
UKT *e*Pg **Pb 11 16 13.9 +4.3**
UKT *e* 11 16 23.5
UKT max 11 16 24.4
comp=N,116nm,1.0s
UKT *e*Sg **Sb 11 17 13.0 +8.3**
UKT Smax 11 17 18.7
comp=N,289nm,1.4s
UKT Uakit 4.55 53 *e*PN **Pn 11 16 12.5 +12**
UKT *e* 11 17 12.7
UKT pmax pmax
comp=Z,50nm,0.6s
UKT smax
comp=N,142nm,0.6s
KPC Khapcheranga 4.57 133 *e* **Pn 11 15 59.3 -1.5**
KPC *e*Pg **Pb 11 16 15.0 +4.9**
KPC *e* 11 16 18.9
KPC max 11 16 20.6
comp=N,98nm,0.9s
KPC *e*Sn **Sn 11 16 53.5 -0.7**
KPC *e*Sg **Sb 11 17 15.5 +10**
KPC Smax 11 17 21.8
comp=N,568nm,0.8s
KPC Khapcheranga 4.57 133 *e*PN **Pn 11 16 13.0 +12**
KPC *e* 11 17 15.4
KPC pmax pmax
comp=Z,89nm,0.7s
KPC smax
comp=N,565nm,0.8s
SVKR Severomuysk 4.88 47 *e*Pg **Pg 11 16 21.1 -6.7**
SVKR Pmax 11 16 28.8
comp=N,95nm,0.8s
SVKR *e*Sn **Sn 11 17 03.3 +1.4**
SVKR *e*Sg **Sg 11 17 25.5 -7.3**
SVKR Smax 11 17 36.0
comp=N,972nm,1.2s
ULN Ulaanbaatar 5.08 181 *e*PN **Pn 11 16 07.6 -0.3**
ULN *e* 11 17 06.8
ULN pmax pmax
comp=Z,38nm,0.6s
ULN Ulaanbaatar 5.08 181 *e*Pn **Pn 11 16 07.6 -0.3**
comp=Z,38nm,0.6s
ULN *e*Sn **Sn 11 17 06.8 -0.1**
SONM Songino Array 5.13 186 Pn **Pn 11 16 08.3 -0.4**
comp=Z,2.1nm,0.3s,baz=0.4,slow=16,SNR=75
SONM Pg **Pg 11 16 25.5 -7.4**
comp=Z,15nm,0.3s,baz=1.1,slow=16,SNR=40
SONM Lg 11 17 29.5
comp=Z,30nm,0.3s,baz=9.5,slow=27,SNR=13
NLYR Nelyaty 6.07 51 *e*Pn **Pn 11 16 21.6 -0.3**
NLYR *e*Pg **Pb 11 16 40.9 +5.2**
NLYR Pmax 11 16 52.7
comp=Z,40nm,1.0s
NLYR *e* 11 16 53.2
NLYR *e*Sn **Sn 11 17 31.1 -0.7**
NLYR *e*Sg **Sb 11 18 00.8 +12**
NLYR Smax 11 18 27.7
comp=Z,325nm,1.6s
NLYR Nelyaty 6.07 51 *e*PN **Pn 11 16 21.2 -0.7**
NLYR *e* 11 16 40.8
NLYR *e* 11 17 59.7
NLYR pmax pmax
comp=Z,44nm,1.1s
NLYR smax
comp=N,304nm,1.6s
NLYR Nelyaty 6.07 51 *e*Pn **Pn 11 16 21.2 -0.7**
comp=N,44nm,1.1s
NLYR *e* 11 16 40.8
NLYR *e* 11 17 59.7
BOD Bodaibo 6.24 36 *e*Pn **Pn 11 16 22.8 -1.4**
BOD *e*Pg **Pb 11 16 42.4 +3.9**
BOD *e* 11 16 53.1
BOD max 11 16 56.7
comp=N,24nm,0.7s
BOD *e*Sn **Sn 11 17 33.0 -3.0**
BOD *e*Sg **Sb 11 18 04.6 +11**
BOD Smax 11 18 12.1
comp=N,217nm,2.0s
TDJR Todzha 6.79 270 *e*Pn **Pn 11 16 31.7 -0.4**
TDJR *e*Pg **Pg 11 16 51.4 -15**
TDJR *e*Sg **Sg 11 18 20.4 -16**
CRS Chara 7.50 54 *e*Pn **Pn 11 16 42.5 +0.5**
CRS *e*Pg **Pg 11 17 09.3 -11**
CRS Pmax 11 17 23.2
comp=N,23nm,1.3s
CRS *e*Sg **Sg 11 18 45.4 -15**
CRS Smax 11 19 10.8
comp=N,225nm,2.3s
TUP Tupik 7.71 74 *e*Pn **Pn 11 16 43.2 -1.7**
TUP *e*Pg **Pb 11 17 10.4 +6.7**
TUP Pmax 11 17 17.3
comp=N,6.0nm,0.6s
TUP *e*Sn **Sn 11 18 09.7 -3.1**
TUP *e*Sg **Sb 11 18 50.6 +14**
TUP Smax 11 19 13.4
comp=N,291nm,1.4s
HIA Hailar 8.69 110 *e*PN **P 11 16 53.2 -5.4**
HIA *e* 11 18 32.5
HIA pmax pmax
comp=Z,7.0nm,0.6s
HIA Hailar 8.69 110 *e*Pn **P 11 16 53.2 -5.4**
comp=Z,7.1nm,0.6s
HIA *e*Sn **Sn 11 18 32.5 -4.8**
KRAR Krasnoyarsk 8.91 296 *e*PN **P 11 16 59.8 -1.8**
YAK Yakutsk 15.05 44 *e*P **P 11 18 19.0 -4.9**
YAK pmax pmax
comp=Z,11nm,0.4s
YAK Yakutsk 15.05 44 *e*P **P 11 18 19.0 -4.9**
comp=Z,11nm,0.4s
MKAR Makanchi Array 17.16 259 P **P 11 18 51.0 0.0**
comp=Z,0.2nm,0.3s,baz=66,slow=9.5,SNR=11
MKAR Lg 11 23 53.0
comp=Z,0.1nm,0.3s,baz=42,slow=24,SNR=3.8
KURK Kurchatov 17.77 274 *e*P **P 11 18 58.6 0.0**
TIXI Tiksi 21.06 19 *e*P **P 11 19 32.4 -3.5**
TIXI pmax pmax
comp=Z,9.0nm,0.7s,mb4.2
TIXI Tiksi 21.06 19 *e*P **P 11 19 32.4 -3.5**
comp=Z,9.0nm,0.7s,mb4.2
BVAR Borovoye Array 22.03 285 P **P 11 19 44.0 -1.8**
comp=Z,2.0nm,0.6s,mb3.7,baz=80,slow=12,SNR=12
BRVK Borovoye 22.08 285 *e*P **P 11 19 43.5 -2.8**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
BRVK Borovoye 22.08 285 *e*P **P 11 19 43.5 -2.8**
comp=Z,3.0nm,0.8s,mb3.8
ZRNK Zerenda 22.86 285 *e*P **P 11 19 52.6 -1.3**
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
AAK Ala-Archa 24.09 258 *e*P **P 11 20 06.2 +0.3**
AAK pmax pmax
comp=Z,4.0nm,2.1s,mb3.5
AAK Ala-Archa 24.09 258 *e*P **P 11 20 06.2 +0.3**
comp=Z,4.0nm,2.1s,mb3.5
MA2 Magadan 24.70 57 *e*P **P 11 20 14.1 +2.4**
MA2 pmax pmax
comp=Z,26nm,2.3s,mb4.3
MA2 Magadan 24.70 57 *e*P **P 11 20 14.1 +2.4**
comp=Z,26nm,2.3s,mb4.3
LSA Lhasa 26.05 213 P **P 11 20 25.2 +0.5**
LSA pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
LSA Lhasa 26.05 213 P **P 11 20 25.2 +0.5**
comp=Z,2.3nm,0.4s,mb4.1
ARCES ARCESS Array B 39.12 327 PcP PcP 11 24 25.8 -2.9
comp=Z,4.1nm,0.9s,baz=76,slow=5.0,SNR=5.6
FINES FINESS Array B 42.03 315 P **P 11 22 40.0 -2.2**
comp=Z,3.6nm,1.1s,mb3.9,baz=63,slow=9.3,SNR=2.8
FINES LR LR 11 41 58.5
comp=Z,59nm,18.7s,MS3.5,baz=9.6,slow=39
NOA NORSAR Array B 48.36 320 LR LR 11 45 40.9
comp=Z,42nm,19.3s,MS3.4,baz=65,slow=38
ILAR Eielson Array 49.60 33 P **P 11 23 42.0 -0.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=298,slow=5.9,SNR=16
INK Inuvik 51.03 25 P **P 11 23 51.1 -2.1**
comp=Z,0.8nm,1.1s,mb3.6,baz=308,slow=7.3,SNR=3.1
DAVOX Davos 58.33 307 LR LR 11 53 15.0
comp=Z,62nm,18.6s,MS3.8,baz=81,slow=40
YKA Yellowknife Ar 60.29 21 P **P 11 24 57.8 -2.3**
comp=Z,0.5nm,0.6s,mb3.7,baz=334,slow=6.8,SNR=16
WRAB Tennant Creek 76.28 154 *e*P **P 11 26 39.1 -1.1**
WRAB pmax pmax
comp=Z,22nm,1.7s,mb4.8
WRAB Tennant Creek 76.28 154 *e*P **P 11 26 39.0 -1.2**
comp=Z,15nm,1.7s,mb4.7
WRA Warramunga Arr 76.29 154 P **P 11 26 38.7 -1.6**
comp=Z,1.0nm,0.8s,mb3.8,baz=344,slow=6.2,SNR=6.7
CTAO Charters Tower 80.20 143 *e*P **P 11 27 03.1 +1.4**
CTAO pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CTAO Charters Tower 80.20 143 *e*P **P 11 27 03.1 +1.5**
comp=Z,10.0nm,1.3s,mb4.6
NWAO Narrogin (SRO) 85.94 172 *e*P **P 11 27 32.7 +1.9**
NWAO pmax pmax
comp=Z,10.0nm,0.9s
NWAO Narrogin (SRO) 85.94 172 *e*P **P 11 27 32.7 +1.8**
comp=Z,9.9nm,0.9s,mb5.0

*JMA **26** 11:35:18.3±0.4, 33.88N×142.63E, h79km, M2.9*
*IDC **26** 11:35:25.4±5.8, 33.88N×142.22E, h74km±57km, mb3.2/2, mb1 3.5/4, mb1mx3.1/20, mbtmp3.4/4, ML2.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/9, Error ellipse: s-maj=54.2km s-min=16.8km az=93.0*
ISC 26 11:35:18.9±1.5, 34.05N±0.08×142.74E±0.10, h57km±21km, n12, σ0°79/19, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.58**	**293**	P	**P**	**11 35 44.9**	**-0.3**
BSO1				*e*S	**S**	**11 36 04.6**	**0.0**
BSO3	**Boso 3**	**1.99**	**293**	P	**P**	**11 35 51.1**	**+0.2**
BSO3				S	**S**	**11 36 15.5**	**+0.9**
BSO4	**Boso 4**	**2.19**	**296**	S	**S**	**11 36 20.9**	**+1.2**
JHJ	**Hachijo jima 2**	**2.64**	**250**	P	**P**	**11 35 59.3**	**-0.8**
	11nm,0.3s,baz=40,slow=19,SNR=3.4						
JHJ				S	**S**	**11 36 25.4**	**-5.6**
	32nm,0.3s,baz=64,slow=23,SNR=3.7						
JHJ				LR	LR	11 36 37.8	
	comp=Z,1μm,21.7s,baz=303,slow=34						
JOD2	**Odawara 2**	**3.25**	**293**	*e*S	**S**	**11 36 45.0**	**-1.3**
JRY	**Ryogami san**	**3.71**	**303**	P	**P**	**11 36 15.2**	**0.0**
JRY				*e*S	**S**	**11 36 59.0**	**+0.9**
JMM	**Marumori**	**4.12**	**338**	P	**P**	**11 36 21.2**	**+0.2**
JMM				S	**S**	**11 37 07.9**	**-0.5**
MJAR	**Matsushiro Arr**	**4.46**	**305**	P	**P**	**11 36 25.8**	**0.0**
	0.6nm,0.3s,baz=156,slow=12,SNR=4.7						
MJAR				S	**S**	**11 37 15.2**	**-1.8**
	0.5nm,0.3s,baz=287,slow=34,SNR=3.5						
MAT	**Matsushiro**	**4.46**	**305**	P	**P**	**11 36 29.7**	**+3.9**
MAT				S	**S**	**11 37 17.3**	**+0.3**
JMK	**Ichinoseki**	**5.04**	**346**	P	**P**	**11 36 34.1**	**+0.2**
WRA	**Warramunga Arr**	**54.28**	**190**	P	**P**	**11 44 42.0**	**+0.2**
	0.4nm,0.5s,mb3.6,baz=6.1,slow=7.5,SNR=11						
TXAR	**Lajitas Array**	**91.06**	**53**	P	**P**	**11 48 24.4**	**+5.8**
	0.1nm,0.5s,mb3.4,baz=304,slow=3.3,SNR=4.3						

*BJI **26** 11:40:38.0, 11.36N×92.35E, h31km, mB4.3, mb4.4*
*MOS **26** 11:40:39.5±0.6, 11.49N×92.28E, h33km, mb4.4/3, Error ellipse: s-maj=25.1km s-min=9.6km az=115.4*
*IDC **26** 11:40:41.8±1.1, 11.51N×92.36E, h36km±6km, mb3.9/10, mb1 4.1/10, mb1mx3.9/18, mbtmp4.1/10, MS3.6/1, Ms1 3.6/1, ms1mx2.6/22, Error ellipse: s-maj=45.9km s-min=17.7km az=56.0*
*NEIC **26** 11:40:41.6±0.4, 11.55N×92.30E, mb4.3/5, Error ellipse: s-maj=14.0km s-min=5.4km az=55.0*
ISC 26 11:40:39.2±0.4, 11.45N±0.06×92.23E±0.07, h34km, h34km±1.8km:pP-P, n44, σ0°80/49, mb4.2/17, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.55**	**68**	*e*P	**P**	**11 40 56.5**	**+6.2**
PBA				*e*S	**S**	**11 41 04.0**	**+5.6**
VIS	**Vishakhapatnam**	**10.63**	**307**	*e*P	**P**	**11 43 10.8**	**-1.6**
VIS				AMb	AMB	11 43 21.4	
	comp=Z,66nm,1.0s						
VIS				*e*S	**S**	**11 44 57.2**	**-14**
PSI	**Prapat**	**10.86**	**142**	LR	LR	11 47 55.2	
	comp=Z,260nm,18.4s,baz=167,slow=40						
BOK	**Bokaro**	**13.68**	**335**	*e*P	**P**	**11 43 47.9**	**-5.4**
BOK				AMb	AMB	11 43 50.4	
	comp=Z,9.8nm,0.4s						
BOK				*e*S	**S**	**11 46 09.5**	**-16**
HYB	**Hyderabad**	**14.51**	**296**	*i*P	**P**	**11 44 04.5**	**+0.3**
HYB				*e*S	**S**	**11 46 45.0**	**+0.3**
HYB	**Hyderabad**	**14.51**	**296**	*e*P	**P**	**11 44 04.5**	**+0.3**
JIRN	**Jiri**	**17.10**	**341**	*e*P	**P**	**11 44 37.5**	**+0.3**
PKI	**Pulchoki**	**17.27**	**339**	*e*P	**P**	**11 44 39.8**	**+0.4**
GUN	**Gumba**	**17.43**	**341**	*e*P	**P**	**11 44 41.0**	**-0.4**
KKN	**Kakani**	**17.52**	**339**	*e*P	**P**	**11 44 41.5**	**-1.0**
GKN	**Gorkha**	**17.94**	**338**	*e*P	**P**	**11 44 48.1**	**+0.3**
GKN				*e*S	**S**	**11 47 52.4**	**-12**
KOLN	**Koldanda**	**18.14**	**335**	*e*P	**P**	**11 44 48.9**	**-1.5**
KOLN				*e*S	**S**	**11 47 57.2**	**-11**
LSA	**Lhasa**	**18.19**	**357**	P	**P**	**11 44 52.0**	**+1.1**
LSA	**Lhasa**	**18.19**	**357**	*e*P	**P**	**11 44 51.5**	**+0.6**
LSA				*e*		11 48 10.9	
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LSA	**Lhasa**	**18.19**	**357**	*e*Pn	**P**	**11 44 51.5**	**+0.6**
	comp=Z,7.5nm,0.6s						
LSA				*e*Sn	**S**	**11 48 10.9**	**+1.4**
BHPL	**Bhopal**	**18.34**	**312**	*e*P	**P**	**11 44 49.3**	**-3.6**
BHPL				AMb	AMB	11 44 53.1	
	comp=Z,5.0nm,0.7s						
BHPL				*e*S	**S**	**11 48 19.7**	**+6.7**
CD2	**Chengdu**	**22.12**	**27**	*e*P	**P**	**11 45 32.5**	**-0.8**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
CD2				AMB	AMB		
	comp=Z,130nm,8.8s						
ENH	**Enshi**	**24.65**	**38**	*e*P	**P**	**11 45 57.7**	**-0.5**
	comp=Z,15nm,0.8s,mb4.6						
GTA	**Gaotai**	**28.65**	**12**	*e*P	**P**	**11 46 35.0**	**0.0**
GTA				AP	pP	11 46 43.0	-1.6
GTA				XP	sP	11 46 47.3	-1.7
AAK	**Ala-Archa**	**34.70**	**337**	*e*P	**P**	**11 47 27.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**34.70**	**337**	*e*P	**P**	**11 47 27.1**	**-0.8**
	comp=Z,1.5nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**36.22**	**348**	P	**P**	**11 47 40.9**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.5,baz=167,slow=8.5,SNR=54						
MKAR				pP	pP	11 47 52.0	+1.4
	comp=Z,1.6nm,0.7s,baz=162,slow=7.4,SNR=6.9						
SONM	**Songino Array**	**38.17**	**15**	P	**P**	**11 47 57.4**	**+0.2**
	comp=Z,1.6nm,0.6s,mb3.9,baz=205,slow=7.4,SNR=18						
CN2	**Changchun**	**43.13**	**35**	*e*P	**P**	**11 48 37.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**44.15**	**131**	*e*P	**P**	**11 48 46.6**	**-0.2**
	comp=Z,3.8nm,0.4s,mb4.5						
BVAR	**Borovoye Array**	**45.02**	**341**	P	**P**	**11 48 53.4**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.0,baz=135,slow=8.4,SNR=9.2						
ZRNK	**Zerenda**	**45.40**	**340**	*e*P	**P**	**11 48 56.4**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**45.40**	**340**	*e*P	**P**	**11 48 56.4**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.2						
AKTK	**Aktyubinsk**	**47.93**	**331**	P	**P**	**11 49 17.0**	**+0.7**
AKTO	**Aktyubinsk**	**47.93**	**331**	P	**P**	**11 49 17.0**	**+0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=164,slow=5.9,SNR=4.8						
NWAO	**Narrogin (SRO)**	**50.17**	**152**	P	**P**	**11 49 34.6**	**+0.9**
WRA	**Warramunga Arr**	**51.88**	**127**	P	**P**	**11 49 46.5**	**-0.3**
	comp=Z,3.8nm,0.4s,mb4.7,baz=301,slow=10,SNR=155						
WRAB	**Tennant Creek**	**51.88**	**127**	*e*P	**P**	**11 49 47.2**	**+0.3**
	comp=Z,7.6nm,0.4s,mb5.0						
WRAB				*e*pP	pP	11 49 57.2	+0.3
WB2	**Warramunga Arr**	**51.89**	**127**	⇑*i*P	**P**	**11 49 46.5**	**-0.4**
ASPA	**Alice Springs**	**53.65**	**131**	*e*P	**P**	**11 50 00.0**	**0.0**
BRTR	**Keskin Array B**	**58.70**	**310**	pP	pP	11 50 47.4	+1.1
	comp=Z,1.4nm,0.8s,baz=112,slow=6.7,SNR=5.2						
CTAO	**Charters Tower**	**61.71**	**120**	*e*P	**P**	**11 50 56.6**	**-0.2**
STKA	**Stephens Creek**	**63.92**	**134**	P	**P**	**11 51 11.7**	**+0.3**
	comp=Z,2.9nm,0.9s,mb4.3,baz=257,slow=2.5,SNR=4.5						
TIXI	**Tiksi**	**64.14**	**12**	*e*P	**P**	**11 51 08.8**	**-3.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
FINES	**FINESS Array B**	**68.69**	**332**	P	**P**	**11 51 41.5**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=124,slow=6.9,SNR=8.9						
FINES				pP	pP	11 51 52.7	+1.1
	comp=Z,1.8nm,0.8s,baz=124,slow=6.9,SNR=1.7						
ARCES	**ARCESS Array B**	**71.29**	**340**	P	**P**	**11 51 57.4**	**+0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=76,slow=5.0,SNR=6.4						
ARCES				pP	pP	11 52 07.3	0.0
	comp=Z,4.4nm,1.0s,baz=106,slow=8.8,SNR=1.3						
GERES	**GERESS Array B**	**73.93**	**318**	P	**P**	**11 52 14.3**	**+1.5**
	comp=Z,0.1nm,0.3s,mb3.2,baz=90,slow=6.9,SNR=5.1						
GERES				pP	pP	11 52 24.8	+1.6
	comp=Z,0.3nm,0.6s,baz=63,slow=6.0,SNR=2.7						
ILAR	**Eielson Array**	**92.15**	**22**	P	**P**	**11 53 46.4**	**+0.2**
	comp=Z,0.6nm,0.7s,mb4.0,baz=303,slow=4.2,SNR=8.0						
PDAR	**Pinedale Array**	**122.48**	**19**	PKP	PKPdf	11 59 32.2	+0.8
	comp=Z,0.8nm,1.1s,baz=349,slow=4.6,SNR=3.9						

*IDC **26** 11:49:43.4±2.2, 9.32S×120.39E, mb3.8/2, mb1 4.0/3,*

mb1mx3.7/12, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=231.1km s-min=28.9km az=53.0

NEIC ***26*** *11:49:48.6±0.6, 9.32S×120.43E, h35km, mb4.2/3, Error ellipse: s-maj=32.3km s-min=10.0km az=50.0*

ISC 26 11:49:53.8±3.1, 9.3S±0.2×120.7E±0.2, h105km±31km, n10, σ0§88/13, mb3.8/5, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.89**	**130**	P		**P**	**11 53 43.9**	**-1.1**
	0.5nm,0.3s,baz=304,slow=14,SNR=18							
WRA				S		**S**	**11 56 39.0**	**-9.0**
	0.1nm,0.3s,baz=303,slow=26,SNR=4.9							
WRAB	**Tennant Creek**	**16.89**	**130**	*e*Pn		**P**	**11 53 45.7**	**+0.6**
WB2	**Warramunga Arr**	**16.89**	**130**	*e*P		**P**	**11 53 45.3**	**+0.1**
WB2				*e*S		**S**	**11 56 38.9**	**-9.3**
ASPA	**Alice Springs**	**19.05**	**140**	*e*P		**P**	**11 54 11.1**	**+0.7**
ASPA				*e*S		**S**	**11 57 34.9**	**-0.7**
NWAO	**Narrogin (SRO)**	**23.75**	**187**	*e*P		**P**	**11 54 57.2**	**-0.1**
	14nm,1.1s,mb4.2							
STKA	**Stephens Creek**	**29.66**	**142**	P		**P**	**11 55 52.7**	**+0.9**
	2.0nm,0.4s,mb4.1,baz=320,slow=9.2,SNR=9.9							
LSA	**Lhasa**	**48.10**	**325**	*e*P		**P**	**11 58 23.9**	**-1.1**
	4.7nm,1.6s,mb4.1							
MKAR	**Makanchi Array**	**65.50**	**332**	P		**P**	**12 00 27.6**	**-0.5**
	0.1nm,0.4s,mb3.0,baz=146,slow=5.2,SNR=4.0							
BRVK	**Borovoye**	**75.43**	**331**	*e*P		**P**	**12 01 29.8**	**+2.0**
	0.6nm,0.5s,mb3.6							
ZRNK	**Zerenda**	**75.98**	**331**	*e*P		**P**	**12 01 30.5**	**-0.4**

NEIC ***26*** *11:54:33.8±0.9, 17.13S×70.67W, h125km±7km, mb4.4/4, Error ellipse: s-maj=17.5km s-min=10.7km az=199.0*

IDC ***26*** *11:54:36.2±2.3, 17.10S×70.43W, h146km±19km, mb3.5/5, mb1 3.7/6, mb1mx3.4/17, mbtmp3.9/6, Error ellipse: s-maj=26.2km s-min=22.5km az=73.0*

ISC 26 11:54:33.5±0.8, 17.0S±0.1×70.68W±0.06, h138km±6km, n16, σ1§01/18, mb3.8/7, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.95**	**305**	⇓*i*P		**P**	**11 54 57.2**	**+0.3**
ARE				*i* S		**S**	**11 55 15.2**	**+0.3**
LPAZ	**La Paz**	**2.55**	**74**	P		**P**	**11 55 16.4**	**+1.1**
	29nm,0.3s,baz=258,slow=10,SNR=388							
LPAZ				S		**S**	**11 55 46.8**	**-0.3**
	9.0nm,0.3s,baz=163,slow=24,SNR=9.3							
LPAZ	**La Paz**	**2.55**	**74**	*e*Pn		**P**	**11 55 16.2**	**+1.0**
LPAZ				*e*Sn		**S**	**11 55 46.3**	**-0.8**
NNA	**Nana**	**7.78**	**309**	*e*Pn		**P**	**11 56 24.5**	**-0.7**
	25nm,0.3s							
NNA				*e*Sn		**S**	**11 57 49.2**	**-2.9**
SIV	**San Ignacio**	**9.27**	**85**	P		**P**	**11 56 40.5**	**-4.4**
	9.3nm,0.3s,baz=277,slow=10,SNR=114							
BDFB	**Brasilia**	**21.79**	**90**	P		**P**	**11 59 14.3**	**-1.0**
	1.9nm,0.4s,mb3.9,baz=237,slow=5.4,SNR=3.9							
PLCA	**Paso Flores**	**23.64**	**180**	P		**P**	**11 59 33.2**	**+0.2**
	3.5nm,0.5s,mb4.2,baz=354,slow=10,SNR=12							
PLCA	**Paso Flores**	**23.64**	**180**	*e*P		**P**	**11 59 32.9**	**-0.1**
	8.7nm,1.0s,mb4.2							
SDV	**Santo Domingo**	**25.73**	**0**	*e*P		**P**	**11 59 54.3**	**+1.3**
	2.6nm,0.9s,mb3.9							
RCBR	**Riachuelo**	**35.78**	**76**	*e*P		**P**	**12 01 21.5**	**+0.2**
	12nm,1.2s,mb4.4							
TXAR	**Lajitas Array**	**56.01**	**325**	P		**P**	**12 04 01.0**	**+0.7**
	0.1nm,0.5s,mb2.9,baz=149,slow=8.7,SNR=7.2							
DBIC	**Dimbolo**	**69.16**	**76**	P		**P**	**12 05 25.9**	**-1.6**
	3.1nm,0.5s,mb4.3,baz=234,slow=5.2,SNR=10							
YKA	**Yellowknife Ar**	**86.42**	**341**	P		**P**	**12 07 02.3**	**+1.2**
	0.1nm,0.3s,mb3.0,baz=134,slow=5.0,SNR=11							
YKA				pP		pP	12 07 34.7	-1.6
	0.2nm,0.6s,baz=136,slow=4.9,SNR=6.2							
YKA	**Yellowknife Ar**	**86.42**	**341**	P		**P**	**12 07 02.4**	**+1.2**
YKA				pP		pP	12 07 34.7	-1.6
WRA	**Warramunga Array**	**135.82**	**215**	PKP		PKPdf	12 13 40.6	+2.0
	0.4nm,0.4s,baz=147,slow=1.8,SNR=9.9							
SONM	**Songino Array**	**149.17**	**4**	PKPbc		PKPdf	12 14 08.5	+7.4
	0.9nm,0.4s,baz=312,slow=1.6,SNR=10							
SONM				pPKPbc			12 14 43.5	
	0.6nm,0.8s,baz=309,slow=1.2,SNR=3.4							

NNC ***26*** *12:12:24.4±1.4, 40.91N×73.29E, mb3.0, mpv2.6, Error ellipse: s-maj=13.8km s-min=7.0km az=157.0*

KNET ***26*** *12:12:26.1, 40.92N×73.45E, h2km, ml2.4*

ISC 26 12:12:24.7±1.6, 40.79N±0.10×73.2E±0.1, h2km, n9, σ1§05/15, 10C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.39**	**16**	⇑P		**Pb**	**12 12 49.8**	**-1.3**
AML	17nm,0.2s,SNR=14			⇑S		**Sb**	**12 13 07.9**	**-1.3**
	110nm,0.4s							
UCH	**Uchtor**	**1.75**	**35**	⇑P		**Pn**	**12 12 56.1**	**-0.2**
	5.8nm,0.3s,SNR=10							
UCH				⇑S		**Sn**	**12 13 18.5**	**-0.9**
	33nm,0.2s							
KZA	**Kyzart**	**2.02**	**50**	⇑P		**Pn**	**12 13 00.3**	**+0.1**
	6.5nm,0.3s,SNR=11							
KZA				⇓S		**Sn**	**12 13 26.3**	**0.0**
	8.6nm,0.2s							
AAK	**Ala-Archa**	**2.09**	**28**	⇑P		**Pn**	**12 13 01.9**	**+0.8**
	9.0nm,0.3s,SNR=8.0							
AAK				⇓S		**Sn**	**12 13 28.9**	**+0.9**
	30nm,0.3s							
CHMS	**Chumysh**	**2.50**	**28**	⇑P		**Pn**	**12 13 07.9**	**+0.9**
	3.0nm,0.2s,SNR=8.9							
CHMS				⇑S		**Sn**	**12 13 40.7**	**+2.3**
	26nm,0.4s							
USP	**Ospenovka**	**2.66**	**21**	⇓P		**Pn**	**12 13 10.1**	**+0.7**
	2.2nm,0.2s,SNR=6.5							
ULHL	**Ulahol**	**2.72**	**57**	⇑P		**Pn**	**12 13 09.6**	**-0.6**
	2.2nm,0.2s,SNR=5.9							
ULHL				⇓S		**Sn**	**12 13 44.5**	**+0.4**
	5.3nm,0.2s							
TKM2	**Tokmak 2**	**2.79**	**40**	⇓Pn		**Pn**	**12 13 08.7**	**-2.5**
	6.5nm,1.2s							
TKM2				⇓Lg			12 13 48.6	
	7.8nm,0.6s							
KK31	**Karatay Array**	**3.05**	**320**	⇓Pn		**Pn**	**12 13 15.1**	**+0.3**
	0.8nm,0.4s,baz=126,slow=15,SNR=4.5							
KK31				⇑Lg			12 13 59.4	
	2.1nm,0.3s,baz=140,slow=31,SNR=13							

IDC ***26*** *12:36:17.6±0.8, 0.04N×125.02E, mb4.1/9, mb1 4.3/9, mb1mx4.1/17, mbtmp4.2/9, Error ellipse: s-maj=57.9km s-min=17.3km az=65.0*

MOS ***26*** *12:36:20.1±0.9, 0.01S×125.02E, h33km, mb4.7/6, Error ellipse: s-maj=33.9km s-min=12.1km az=113.4*

NEIC ***26*** *12:36:22.6±0.4, 0.01S×124.99E, h35km, mb4.4/9, Error ellipse: s-maj=21.8km s-min=6.6km az=71.0*

ISC 26 12:36:20.5±0.5, 0.05N±0.08×125.1E±0.2, h33km, n33, σ0§79/32, mb4.4/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.64**	**150**	*e*P		Px	12 40 10.0	
	15nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.04**	**178**	*e*P		**P**	**12 40 31.3**	**+0.8**
	6.6nm,1.4s							
WRA	**Warramunga Arr**	**21.85**	**156**	P		**P**	**12 41 11.6**	**-0.5**
	3.2nm,0.8s,mb3.8,baz=334,slow=11,SNR=34							
WRA				PcP		PcP	12 45 10.5	-1.3
	0.8nm,1.2s,baz=329,slow=2.0,SNR=3.3							
WB2	**Warramunga Arr**	**21.85**	**156**	*e*P		**P**	**12 41 11.1**	**-1.1**
ASPA	**Alice Springs**	**25.09**	**161**	*e*P		**P**	**12 41 44.6**	**+0.8**
NWAO	**Narrogin (SRO)**	**33.62**	**192**	*e*P		**P**	**12 42 58.0**	**-2.1**
NWAO				pmax		pmax		
	comp=Z,35nm,1.6s							
NWAO	**Narrogin (SRO)**	**33.62**	**192**	*e*P		**P**	**12 42 58.0**	**-2.1**
	comp=Z,35nm,1.6s,mb5.0							
STKA	**Stephens Creek**	**35.40**	**155**	P		**P**	**12 43 16.1**	**+0.7**
	comp=Z,3.7nm,0.5s,mb4.6,baz=319,slow=7.3,SNR=18							
LSA	**Lhasa**	**43.74**	**315**	*e*P		**P**	**12 44 25.1**	**+0.4**
ULN	**Ulaanbaatar**	**50.13**	**344**	*e*P		**P**	**12 45 14.4**	**-0.3**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.0							
ULN	**Ulaanbaatar**	**50.13**	**344**	*e*P		**P**	**12 45 14.4**	**-0.3**
	comp=Z,1.1nm,0.7s,mb4.0							
SONM	**Songino Array**	**50.29**	**344**	P		**P**	**12 45 15.7**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=160,slow=9.3,SNR=9.3							
SONM				PcP		PcP	12 46 35.4	+0.8
	comp=Z,0.3nm,0.7s,baz=160,slow=6.6,SNR=3.5							
BOD	**Bodaibo**	**58.27**	**353**	*e*P		**P**	**12 46 13.1**	**-1.0**
MKAR	**Makanchi Array**	**59.67**	**327**	P		**P**	**12 46 23.2**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.5,baz=120,slow=8.9,SNR=51							
MKAR				PcP		PcP	12 47 10.6	0.0
	comp=Z,1.1nm,0.7s,baz=112,slow=7.0,SNR=6.1							
YAK	**Yakutsk**	**61.92**	**2**	*e*P		**P**	**12 46 39.3**	**+0.2**
YAK				pmax		pmax		
	comp=Z,15nm,0.6s,mb5.3							
YAK	**Yakutsk**	**61.92**	**2**	*e*P		**P**	**12 46 39.2**	**+0.2**
	comp=Z,15nm,0.6s,mb5.3							
AAK	**Ala-Archa**	**62.01**	**320**	*e*P		**P**	**12 46 39.8**	**-0.1**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
AAK	**Ala-Archa**	**62.01**	**320**	*e*P		**P**	**12 46 39.8**	**-0.1**
	comp=Z,1.7nm,0.9s,mb4.2							
ZAL	**Zalesovo**	**63.13**	**335**	P		**P**	**12 46 47.7**	**+0.4**
	comp=Z,1.1nm,0.4s,mb4.3,baz=334,slow=9.6,SNR=6.2							
KURK	**Kurchatov**	**63.98**	**329**	*e*P		**P**	**12 46 51.5**	**-1.3**
KURK				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.8							
KURK	**Kurchatov**	**63.98**	**329**	*e*P		**P**	**12 46 51.5**	**-1.3**
	comp=Z,5.3nm,0.5s,mb4.8							
BVAR	**Borovoye Array**	**69.51**	**328**	P		**P**	**12 47 28.2**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=138,slow=8.8,SNR=9.9							
BRVK	**Borovoye**	**69.58**	**328**	*e*P		**P**	**12 47 28.3**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
BRVK	**Borovoye**	**69.58**	**328**	*e*P		**P**	**12 47 28.3**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.1							
ZRNK	**Zerenda**	**70.21**	**328**	*e*P		**P**	**12 47 31.3**	**-0.7**
ZRNK				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
ZRNK	**Zerenda**	**70.21**	**328**	*e*P		**P**	**12 47 31.2**	**-0.7**
	comp=Z,4.1nm,0.7s,mb4.5							
AKTK	**Aktyubinsk**	**75.52**	**323**	P		**P**	**12 48 03.7**	**+0.3**
AKTO	**Aktyubinsk**	**75.52**	**323**	P		**P**	**12 48 03.7**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.4,baz=114,slow=7.2,SNR=16							
MALT	**Malatya**	**87.32**	**308**	*e*P		**P**	**12 49 05.5**	**0.0**
MALT				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.4							
MALT	**Malatya**	**87.32**	**308**	*e*P		**P**	**12 49 05.5**	**-0.1**
	comp=Z,0.7nm,0.4s,mb4.2							
KMBO	**Kilima Mbogo**	**87.81**	**269**	P		**P**	**12 49 09.7**	**+1.3**
	comp=Z,2.0nm,0.8s,mb4.4,baz=60,slow=8.1,SNR=6.5							
OBN	**Obninsk**	**89.09**	**325**	P		**P**	**12 49 14.5**	**+0.9**
ILAR	**Eielson Array**	**89.12**	**25**	P		**P**	**12 49 14.6**	**+1.0**
	comp=Z,0.6nm,1.1s,mb3.9,baz=259,slow=4.6,SNR=4.0							

JMA ***26*** *12:37:24.4±0.2, 43.17N×147.26E, h40km, M3.5*

IDC ***26*** *12:37:27.2±7.7, 43.13N×147.28E, h66km±52km, mb2.9/3, mb1 3.2/4, mb1mx3.1/21, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=145.3km s-min=39.5km az=174.0*

ISC 26 12:37:25.4±1.5, 43.2N±0.1×147.2E±0.1, h63km±15km, n15, σ0§54/22, mb3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.08**	**282**	P		**P**	**12 37 44.3**	**-0.6**
NEM2				*e*S		**S**	**12 37 58.9**	**-0.3**
JRA	**Rausu**	**1.69**	**298**	P		**P**	**12 37 52.9**	**-0.4**
JRA				*e*S		**S**	**12 38 13.8**	**-0.2**
JAK	**Akkeshi**	**1.83**	**266**	P		**P**	**12 37 55.2**	**-0.1**
JAK				*e*S		**S**	**12 38 17.5**	**+0.2**
JOB	**Onbets**	**2.47**	**265**	P		**P**	**12 38 04.3**	**0.0**
JOB				*e*S		**S**	**12 38 33.3**	**0.0**
JAR	**Ashorobuto**	**2.50**	**274**	P		**P**	**12 38 04.4**	**-0.3**
JAR				*e*S		**S**	**12 38 34.3**	**+0.2**
JTKR	**Abashiri--Toko**	**2.52**	**290**	P		**P**	**12 38 05.2**	**+0.3**
JCH	**Churui**	**2.86**	**260**	P		**P**	**12 38 09.7**	**-0.1**
JCH				*e*S		**S**	**12 38 42.3**	**-0.9**
JMP	**Maruseppu**	**2.91**	**288**	P		**P**	**12 38 10.8**	**+0.4**
JFR	**Furan**	**3.36**	**272**	P		**P**	**12 38 17.4**	**+0.6**
JNBK	**Urakawa-nobuka**	**3.38**	**256**	P		**P**	**12 38 17.3**	**+0.2**
JNBK				*e*S		**S**	**12 38 56.1**	**-0.2**
ASAJ	**Asahikawa**	**3.47**	**288**	P		**P**	**12 38 19.8**	**+1.5**
	1.1nm,0.3s,baz=70,slow=28,SNR=7.4							
JBT2	**Biratori 2**	**3.56**	**266**	P		**P**	**12 38 19.9**	**+0.3**
MKAR	**Makanchi Array**	**44.89**	**298**	P		**P**	**12 45 35.2**	**+0.2**
	0.2nm,0.5s,mb3.2,baz=77,slow=7.8,SNR=5.3							
YKA	**Yellowknife Ar**	**56.28**	**34**	P		**P**	**12 46 59.9**	**-1.3**
	0.2nm,0.6s,mb3.3,baz=296,slow=6.6,SNR=6.0							
TXAR	**Lajitas Array**	**82.96**	**56**	P		**P**	**12 49 45.4**	**+0.6**
	0.1nm,0.4s,mb3.2,baz=311,slow=3.7,SNR=4.9							

NIED ***26*** *12:59:00, 43.50N×147.30E, h56km, Mw4.1 Best double couple: M0 1.52×10^15 NP1:φs191°, δ52°, λ53°. NP2:φs62°, δ51°, λ128°.*

IDC ***26*** *12:59:25.3±0.7, 43.68N×147.31E, h58km±5km, mb4.0/17, mb1 4.1/19, mb1mx4.0/26, mbtmp4.2/19, Error ellipse: s-maj=17.5km s-min=13.0km az=157.0*

JMA ***26*** *12:59:25.1±0.2, 43.50N×147.25E, h40km±5km, M4.7*

MOS ***26*** *12:59:25.2±0.9, 43.64N×147.21E, h73km, mb4.4/8, Error ellipse: s-maj=14.2km s-min=9.5km az=99.6*

NEIC ***26*** *12:59:25.8±0.4, 43.69N×147.31E, mb4.4/9, Error ellipse: s-maj=10.0km s-min=7.2km az=131.0*

SKHL ***26*** *12:59:26.4±2.1, 43.61N×147.24E, h48km±13km, mb5.0/3*

ISC 26 12:59:24.2±0.8, 43.63N±0.05×147.32E±0.07, h60km±6km, h58km±.4km:pP-P, n85, σ0§96/94, mb4.3/27, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.13**	**291**	⇓*i*P		**P**	**12 59 44.0**	**-0.3**
YUK				AMB	AMB		12 59 44.1	
	430nm,0.2s							
YUK				AMB	AMB		12 59 44.1	
	300nm,0.2s							
YUK				AMB	AMB		12 59 44.1	
	5μm,0.2s							
YUK				AMB	AMB		12 59 44.3	
	5μm,0.3s							
YUK				*i* S		**S**	**12 59 57.2**	**-2.0**
YUK				A			13 00 02.0	
	16μm,1.0s							
YUK				A			13 00 03.4	
	13μm,0.3s							
YUK				A			13 00 03.4	
	4μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.13**	**291**	⇓*i*PN		**P**	**12 59 44.0**	**-0.3**
YUK				*i* S		**S**	**12 59 57.2**	**-2.0**
YUK				pmax	pmax			
	comp=Z,5μm,0.3s							
YUK				pmax	pmax			
	comp=N,430nm,0.2s							
YUK				pmax	pmax			
	comp=E,300nm,0.2s							
YUK				pmax	pmax			
	comp=Z,5μm,0.3s							
YUK				smax				
	comp=E,16μm,1.0s							
YUK				smax				
	comp=N,13μm,0.4s							
YUK				smax				
	comp=E,4μm,0.3s							
NEM2	**Nemuro 2**	**1.18**	**258**	P		**P**	**12 59 44.7**	**-0.2**
NEM2				*e*S		**S**	**12 59 58.7**	**-1.6**
JRA	**Rausu**	**1.62**	**282**	P		**P**	**12 59 51.6**	**+0.5**
JRA				*e*S		**S**	**13 00 11.5**	**+0.5**
JNK	**Nakash**	**1.89**	**270**	P		**P**	**12 59 55.1**	**+0.3**
JNK				*e*S		**S**	**13 00 17.7**	**+0.3**
JAK	**Akkeshi**	**2.02**	**253**	P		**P**	**12 59 56.3**	**-0.3**
JAK				*e*S		**S**	**13 00 18.7**	**-1.9**
JTKR	**Abashiri--Toko**	**2.50**	**279**	P		**P**	**13 00 04.2**	**+0.8**
JAR	**Ashorobuto**	**2.61**	**264**	P		**P**	**13 00 05.3**	**+0.3**
JAR				*e*S		**S**	**13 00 35.2**	**-0.3**
JOB	**Onbets**	**2.65**	**255**	P		**P**	**13 00 05.6**	**+0.1**
JOB				*e*S		**S**	**13 00 36.2**	**-0.3**
JMP	**Maruseppu**	**2.89**	**279**	P		**P**	**13 00 09.9**	**+0.9**
JCH	**Churui**	**3.07**	**252**	P		**P**	**13 00 11.4**	**-0.1**
JCH				*e*S		**S**	**13 00 46.0**	**-1.2**
JKK2	**Kamakawa 2**	**3.32**	**276**	P		**P**	**13 00 16.2**	**+1.2**
ASAJ	**Asahikawa**	**3.45**	**280**	P		**P**	**13 00 18.1**	**+1.2**
ASAJ	comp=E,5.4nm,0.3s,baz=89,slow=14,SNR=34			S		**S**	**13 01 04.8**	**+8.0**
	comp=E,11nm,0.3s,baz=59,slow=30,SNR=5.6							
ASAJ	**Asahikawa**	**3.45**	**280**	P		**P**	**13 00 18.2**	**+1.4**
JEM	**Erimo**	**3.46**	**244**	P		**P**	**13 00 18.4**	**+1.4**
JFR	**Furan**	**3.48**	**264**	P		**P**	**13 00 17.5**	**+0.3**
JFR				*e*S		**S**	**13 00 58.1**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.62**	**250**	P		**P**	**13 00 18.9**	**-0.2**
JSE	**Soyaes**	**3.65**	**293**	P		**P**	**13 00 20.4**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.63**	**317**	⇑*e*P		**P**	**13 00 34.0**	**+0.7**
YSS				AMB	AMB		13 00 35.0	
	comp=E,30nm,0.4s							
YSS				AMB	AMB		13 00 35.0	
	comp=E,40nm,0.4s							
YSS	**Yuzh-Sakhalins**	**4.63**	**317**	⇑*e*PN		**P**	**13 00 34.0**	**+0.7**
YSS				*e*			13 01 26.3	
YSS				pmax	pmax			
	comp=E,30nm,0.4s							
YSS				pmax	pmax			
	comp=E,40nm,0.4s							
YSS	**Yuzh-Sakhalins**	**4.63**	**317**	*e*Pn		**P**	**13 00 32.9**	**-0.4**
MAJO	**Matsushiro**	**9.94**	**228**	*e*PN		**P**	**13 01 42.7**	**-4.0**
MJAR	**Matsushiro Arr**	**9.94**	**228**	P		**P**	**13 01 46.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=23,slow=14,SNR=3.2							
EKMR	**Ekimchan**	**13.41**	**320**	*e*P		**P**	**13 02 28.9**	**-4.3**
EKMR				AMB	AMB		13 02 29.4	
	comp=Z,4.0nm,0.6s							
KS15	**Wonju Array Si**	**16.00**	**254**	*e*Pn		**P**	**13 03 05.9**	**-0.8**
MA2	**Magadan**	**16.11**	**6**	*e*P		**P**	**13 03 10.0**	**+2.2**
BILL	**Bilibino**	**26.44**	**16**	*e*P		**P**	**13 05 02.2**	**+5.4**
BILL	**Bilibino**	**26.44**	**16**	*e*P		**P**	**13 05 02.2**	**+5.5**
ULN	**Ulaanbaatar**	**28.19**	**293**	*e*P		**P**	**13 05 12.5**	**-0.4**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.7							
ULN	**Ulaanbaatar**	**28.19**	**293**	*e*P		**P**	**13 05 12.4**	**-0.4**
	comp=Z,1.3nm,0.5s,mb3.8							
SONM	**Songino Array**	**28.63**	**293**	P		**P**	**13 05 16.8**	**0.0**
	comp=Z,1.8nm,0.6s,mb4.0,baz=82,slow=8.5,SNR=20							
GUMO	**Guam**	**30.01**	**185**	*e*P		**P**	**13 05 29.4**	**0.0**
GUMO				pmax	pmax			
	comp=Z,61nm,0.9s,mb5.3							
GUMO	**Guam**	**30.01**	**185**	*e*P		**P**	**13 05 29.4**	**0.0**
	comp=Z,60nm,0.9s,mb5.3							
IMA2	**Indian Mountai**	**38.71**	**34**	*e*P		**P**	**13 06 43.8**	**+0.4**
KDAK	**Kodiak Island**	**39.24**	**47**	P		**P**	**13 06 46.9**	**-1.0**
	comp=Z,12nm,0.9s,mb4.6,baz=92,slow=23,SNR=6.7							
COLA	**College**	**41.09**	**36**	*e*P		**P**	**13 07 03.6**	**+0.4**
COLA				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.2							
COLA	**College**	**41.09**	**36**	*e*P		**P**	**13 07 03.6**	**+0.4**
	comp=Z,4.7nm,0.7s,mb4.2							
ILAR	**Eielson Array**	**41.51**	**36**	P		**P**	**13 07 06.3**	**-0.2**
	comp=Z,2.5nm,0.5s,mb4.1,baz=269,slow=8.7,SNR=50							
MKAR	**Makanchi Array**	**44.75**	**298**	P		**P**	**13 07 33.0**	**0.0**
	comp=Z,3.2nm,0.6s,mb4.4,baz=80,slow=8.9,SNR=39							
KURK	**Kurchatov**	**45.70**	**304**	*e*P		**P**	**13 07 39.4**	**-1.1**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
KURK	**Kurchatov**	**45.70**	**304**	*e*P		**P**	**13 07 39.4**	**-1.2**
	comp=Z,1.7nm,0.5s,mb4.2							
INK	**Inuvik**	**46.44**	**30**	P		**P**	**13 07 46.3**	**+0.1**
	comp=Z,4.6nm,0.5s,mb4.7,baz=295,slow=6.5,SNR=92							
INK	**Inuvik**	**46.44**	**30**	P		**P**	**13 07 46.3**	**+0.1**
INK				pmax	pmax			
	comp=Z,5.0nm,0.5s							
INK	**Inuvik**	**46.44**	**30**	*e*P		**P**	**13 07 46.1**	**-0.1**
	comp=Z,8.4nm,0.8s,mb4.7							
ZRNK	**Zerenda**	**50.48**	**310**	*e*P		**P**	**13 08 16.5**	**-1.2**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2							
ZRNK	**Zerenda**	**50.48**	**310**	*e*P		**P**	**13 08 16.5**	**-1.2**
	comp=Z,0.8nm,0.4s,mb4.1							
ULHL	**Ulahol**	**50.55**	**295**	P		**P**	**13 08 18.9**	**+0.6**
	SNR=7.1							
TKM2	**Tokmak 2**	**50.67**	**296**	P		**P**	**13 08 20.0**	**+0.7**
	SNR=6.4							
JIRN	**Jiri**	**51.06**	**273**	*e*P		**P**	**13 08 23.7**	**+1.2**
GUN	**Gumba**	**51.15**	**273**	*e*P		**P**	**13 08 24.5**	**+1.4**
KBK	**Karagaybulak**	**51.22**	**296**	P		**P**	**13 08 24.0**	**+0.6**
	SNR=6.2							
USP	**Ospenovka**	**51.23**	**296**	P		**P**	**13 08 23.5**	**+0.1**
	SNR=9.1							
KZA	**Kyzart**	**51.28**	**295**	P		**P**	**13 08 25.4**	**+1.5**
	SNR=9.5							
DMN	**Daman**	**51.88**	**274**	*e*P		**P**	**13 08 29.9**	**+1.3**
	comp=Z,4.3nm,0.5s,mb4.7							
EKS2	**Erkin-Say**	**51.98**	**296**	P		**P**	**13 08 29.1**	**0.0**
	SNR=7.7							
GKN	**Gorkha**	**51.99**	**274**	*e*P		**P**	**13 08 30.4**	**+1.0**
	comp=Z,5.4nm,0.4s,mb4.8							
AML	**Almayashu**	**52.28**	**296**	P		**P**	**13 08 32.4**	**+1.0**
	SNR=5.6		

GERES	**GERESS Array B**	**30.68**	**77**	LR	LR	13 20 28.6		
	comp=Z,52nm,18.5s,baz=334,slow=36							
INK	**Inuvik**	**45.15**	**329**	P	P	13 10 14.0	-1.1	
	1.0nm,1.0s,baz=18,slow=5.1,SNR=3.3							
BRTR	**Keskin Array B**	**47.57**	**77**	P	P	13 10 33.9	-0.8	
	1.0nm,0.9s,baz=323,slow=7.2,SNR=3.9							
MKAR	**Makanchi Array**	**67.37**	**41**	P	P	13 12 51.7	-2.6	
	0.3nm,0.7s,baz=313,slow=4.8,SNR=3.9							
WRA	**Warramunga Arr**	**146.20**	**18**	PKPbc	PKPbc	13 21 36.3	-1.5	
	0.9nm,0.9s,baz=338,slow=3.1,SNR=6.4							

ISC 26 13:11:55.1±1.2,**40.82N**±0.06×**39.93E**±0.08,**h8**km±9km,**n7,**
σ0**82/10,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACK	**Trabzon**	**0.17**	**315**	*i* P	**Pg**	**13 11 59.2**	**+0.4**
GUMT	**Gumushane**	**0.50**	**224**	PG	**Pg**	**13 12 05.6**	**+0.5**
GUMT				SG	**Sg**	**13 12 11.7**	**0.0**
KELT	**Kelkit**	**0.84**	**218**	*i* P	**Pb**	**13 12 11.5**	**0.0**
KELT				*i* S	**Sb**	**13 12 22.8**	**-0.1**
GRSN	**GIRESUNGRSN**	**1.27**	**275**	*i* P	**Pb**	**13 12 17.5**	**-1.3**
GRSN				*i* S	**Sb**	**13 12 35.3**	**+0.4**
EZM	**Erzurum**	**1.43**	**129**	*e*PG	**Pg**	**13 12 22.8**	**-0.8**
ERZM	**Erzurum**	**1.43**	**129**	*i* P	**Pn**	**13 12 24.6**	**+3.2**
PTK	**Pertek**	**1.97**	**192**	*e*PG	**Pg**	**13 12 29.6**	**-4.8**

NIED ***26*** *13:48:00,26.80N×140.90E,h32km,Mw5.4 Best double couple: M0 1.26×10^17 NP1:φs176°,δ69°,λ-92°. NP2:φs2°, δ21°,λ-85°.*

IDC ***26*** *13:48:00.3±0.4,26.85N×140.78E,mb5.1/31,mb1 5.1/33, mb1mx5.1/34,mbtmp5.1/33,ML4.0/2,MS5.1/21,Ms1 5.1/21, ms1mx4.9/35,Error ellipse: s-maj=13.4km s-min=11.6km az=70.0*

JMA ***26*** *13:48:00.2±0.2,26.80N×140.90E,M5.6*

JMA Felt I J1.

HRVD ***26*** *13:48:01.8±0.2,26.77N×140.73E,h12km,MW5.6/83, Centroid moment Tensor Solution. LP body waves: s66,c129;Mantle waves: s83,c229; Half duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr-2.48±.03; Mθθ 0.37±.03; Mφφ 2.11±.03; Mrθ 0.05±.10; Mθφ-1.12±.03; Mφr 0.88±.10; Best double couple: M0 2.718×10^17 NP1: φs324°,δ38°,λ-106°. NP2:φs164°,δ54°,λ-78°. Principal axes: T 2.771, Plg8°, Azm245°; N -.108, Plg10°, Azm337°; P -2.666, Plg77°, Azm114°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***26*** *13:48:01.8±0.2,26.82N×140.65E,mb5.8/127,MS5.3/131, MW5.7,MW5.3(NIED) Error ellipse: s-maj=5.9km s-min=4.9km az=164.0,Moment Tensor Solution. s17 Moment tensor: Scale 10^17Nm; Mrr-4.17; Mθθ 0.48; Mφφ 3.69; Mrθ-1.20; Mθφ-1.21; Mφr 0.43; Best double couple: M0 4.3×10^17 NP1:φs353°,δ41°,λ-71°. NP2:φs149°, δ52°,λ-106°. Principal axes: T 4.17, Plg6°, Azm250°; N .29, Plg12°, Azm159°; P -4.47, Plg77°, Azm4°;*

MOS ***26*** *13:48:02.0±1.0,26.79N×140.54E,h21km,mb5.8/85, MS5.3/50 Error ellipse: s-maj=8.5km s-min=4.0km az=107.7*

BJI ***26*** *13:48:06.6,26.97N×141.02E,h65km,mB5.9,mb5.3, Ms5.4,Msz5.2*

ISC 26 13:48:01.2±0.1,**26.88N**±0.02×**140.82E**±0.02,**h10**km,
(h58km±5.8km**;pP-P),n600,**σ1s**29**/550,**mb5.6**/196,
MS5.2/179,**71C-44D,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.24**	**80**	Pn	**Pn**	**13 48 23.4**	**-1.2**
	2μm,0.3s,baz=194,slow=2.8,SNR=157						
CBIJ				Sn	**Sn**	**13 48 38.9**	**-2.6**
	4μm,0.3s,baz=253,slow=22,SNR=37						
CBIJ	**Chichi jima**	**1.24**	**80**	P	**Pb**	**13 48 23.1**	**-1.1**
CBIJ				S	**Sb**	**13 48 39.3**	**-0.8**
JHHJ	**Haha-jima-NKT**	**1.24**	**101**	P	**Pb**	**13 48 22.6**	**-1.7**
JHHJ				S	**Sb**	**13 48 38.1**	**-2.1**
JHJ	**Hachijo jima 2**	**6.28**	**352**	LR	LR	13 51 58.6	
	comp=Z,13μm,18.1s,baz=201,slow=38						
TK01	**Tokai 1**	**7.40**	**339**	P	**Pn**	**13 49 58.9**	**+6.9**
BSO1	**Boso 1**	**7.75**	**1**	P	**Pn**	**13 49 57.0**	**+0.2**
BSO3	**Boso 3**	**7.90**	**358**	P	**Pn**	**13 49 58.8**	**-0.1**
JWZ	**Kozaga**	**7.96**	**328**	P	**Pn**	**13 50 08.3**	**+8.5**
BSO4	**Boso 4**	**8.09**	**357**	P	**P**	**13 50 03.7**	**+2.1**
BSO4				*e*S	**Sn**	**13 51 36.3**	**+2.2**
JIE	**Ise**	**8.28**	**336**	P	**P**	**13 50 08.2**	**+4.0**
JKN2	**Miekihoku**	**8.31**	**333**	P	**P**	**13 50 09.8**	**+5.1**
JWM	**Minabe**	**8.39**	**327**	P	**P**	**13 50 15.0**	**+9.2**
JOD2	**Odawara 2**	**8.48**	**350**	P	**P**	**13 50 10.7**	**+3.6**
JNY	**Yasuok**	**8.82**	**344**	P	**P**	**13 50 15.8**	**+4.1**
JHU	**Hanno**	**9.04**	**352**	P	**P**	**13 50 15.7**	**+1.0**
JEG	**Eigenji**	**9.06**	**336**	P	**P**	**13 50 20.6**	**+5.6**
JRY	**Ryogami san**	**9.25**	**350**	P	**P**	**13 50 19.2**	**+1.5**
JAG	**Ashikaga**	**9.58**	**353**	P	**P**	**13 50 21.6**	**-0.7**
JHO	**Hitachi**	**9.70**	**359**	P	**P**	**13 50 19.3**	**-4.6**
MJAR	**Matsushiro Arr**	**9.88**	**348**	Pn	**P**	**13 50 27.4**	**+0.9**
	1.4nm,0.3s,baz=160,slow=11,SNR=15						
MAJO	**Matsushiro**	**9.88**	**348**	*e*P	**P**	**13 50 30.6**	**+4.2**
MAJO				pmax	pmax		
	comp=Z,590nm,1.6s						
MAJO	**Matsushiro**	**9.88**	**348**	Pn	**P**	**13 50 26.9**	**+0.5**
	comp=Z,587nm,1.6s						
MAT	**Matsushiro**	**9.88**	**348**	P	**P**	**13 50 27.9**	**+1.5**
MAT				S	**Sn**	**13 52 17.4**	**-1.1**
MAT	**Matsushiro**	**9.88**	**348**	*e*P	**P**	**13 50 28.0**	**+1.6**
MAT				*e*S	**Sn**	**13 52 17.0**	**-1.5**
MAT				pmax	pmax		
	comp=Z,186nm,1.5s						
MAT	**Matsushiro**	**9.88**	**348**	*e*P	**P**	**13 50 28.0**	**+1.6**
	comp=Z,186nm,1.5s						
MAT				*e*S	**Sn**	**13 52 17.0**	**-1.5**
JJG	**Jouge**	**10.16**	**321**	P	**P**	**13 50 41.0**	**+11**
JNU	**Nakatsue**	**10.62**	**308**	Pn	**P**	**13 50 40.0**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=123,slow=15,SNR=8.0						
JNU				LR	LR	13 53 59.4	
	comp=Z,7μm,21.7s,baz=115,slow=34						
JOW	**Kunigami**	**11.20**	**273**	Pn	**P**	**13 50 42.5**	**-2.0**
	comp=Z,2.7nm,0.3s,baz=116,slow=12,SNR=5.7						
JOW				Sn	**S**	**13 52 40.1**	**-11**
	comp=Z,1.7nm,0.3s,baz=28,slow=30,SNR=7.9						
JOW				LR	LR	13 54 12.2	
	comp=Z,18μm,21.4s,baz=118,slow=33						
GUMO	**Guam**	**13.76**	**163**	LR	LR	13 55 57.7	
	comp=Z,8μm,18.5s,baz=154,slow=35						
KS15	**Wonju Array Si**	**15.18**	**317**	*e*P	**P**	**13 51 42.4**	**+5.1**
KS15				*e*S	S	13 54 47.4	+21
INCN	**Inchon**	**15.98**	**315**	*e*P	**P**	**13 51 52.6**	**+4.9**
	comp=Z,1μm,1.5s						
ASAJ	**Asahikawa**	**17.26**	**4**	P	**P**	**13 52 04.3**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=163,slow=22,SNR=6.6						
ASAJ				LR	LR	13 58 39.9	
	comp=Z,10μm,21.7s,baz=187,slow=37						
NACB	**Ninganchiao**	**17.56**	**265**	*e*Pn	**P**	**13 52 06.4**	**-1.3**
YHNB	**Yeheng**	**17.65**	**267**	*e*P	**P**	**13 52 10.9**	**+2.1**
SSE	**Sheshan**	**17.68**	**288**	P	**P**	**13 52 09.8**	**+0.6**
SSE				AP		13 52 26.0	
SSE				XP		13 52 36.5	
SSE				S	**S**	**13 55 24.0**	**0.0**
SSE				XS		13 55 54.0	
SSE				AMB	AMB		
	comp=Z,60nm,1.0s						
SSE				AMB	AMB		
	comp=Z,4μm,6.9s						
SSE				LR	LR		
	comp=N,6μm,15.4s						
SSE				LR	LR		
	comp=E,4μm,15.3s						
SSE				LR	LR		
	comp=Z,4μm,18.0s						
VLA	**Vladivostok**	**17.75**	**338**	*e*P	**P**	**13 52 09.7**	**-0.3**
VLA				pmax	pmax		
	comp=Z,303nm,1.7s						
VLA				MLR	MLR		
	comp=Z,4μm,16.2s						
CVP	**Callao Caves**	**19.79**	**246**	⇓*e*P	**P**	**13 52 27.0**	**-7.6**
	comp=Z,17μm,1.5s						
NJ2	**Nanjing**	**19.79**	**290**	*e*P	**P**	**13 52 37.0**	**+2.4**
NJ2				AP		13 52 54.0	
NJ2				PP	PP	13 53 01.0	+7.8
NJ2				S	**S**	**13 56 11.0**	**-0.7**
NJ2				XS		13 56 34.0	
NJ2					AMB	AMB	
	comp=Z,390nm,1.1s						
NJ2					AMB	AMB	
	comp=Z,4μm,5.1s						
NJ2					LR	LR	
	comp=N,6μm,15.3s						
NJ2					LR	LR	
	comp=E,9μm,20.8s						
NJ2					LR	LR	
	comp=Z,3μm,20.3s						
MDJ	**Mudanjiang**	**19.87**	**336**		P	**P**	**13 52 36.3**	**+1.0**
MDJ					AP		13 52 52.3	
MDJ					XP		13 53 02.5	
MDJ					S	**S**	**13 56 18.0**	**+4.8**
MDJ					PCP	PcP	13 56 48.8	-3.5
MDJ					SCP		14 00 16.3	
MDJ					PCS		14 00 26.8	
MDJ					SCS	ScS	14 03 59.5	-8.8
MDJ					AMB	AMB		
	comp=Z,30nm,1.5s							
MDJ					AMB	AMB		
	comp=Z,880nm,8.2s							
MDJ					LR	LR		
	comp=N,4μm,16.6s							
MDJ					LR	LR		
	comp=E,5μm,14.0s							
MDJ					LR	LR		
	comp=Z,4μm,19.3s							
DL2	**Dalian**	**20.04**	**312**	*i* PR			13 52 38.0	
DL2				AP			13 52 54.0	
DL2				S		**S**	**13 56 22.5**	**+5.7**
DL2				AMB	AMB			
	comp=Z,230nm,1.0s							
DL2				AMB	AMB			
	comp=Z,920nm,4.4s							
DL2				LR	LR			
	comp=N,3μm,12.6s,MS5.0							
DL2				LR	LR			
	comp=E,2μm,10.2s,MS5.0							
DL2				LR	LR			
	comp=Z,4μm,14.2s,MS5.0							
QZH	**Quanzhou**	**20.08**	**269**	⇑*i*P		**P**	**13 52 39.5**	**+1.7**
QZH				S		**S**	**13 56 19.0**	**+1.2**
QZH				AMB	AMB			
	comp=Z,110nm,1.0s							
QZH				LR	LR			
	comp=N,9μm,16.1s							
QZH				LR	LR			
	comp=E,4μm,11.1s							
QZH				LR	LR			
	comp=Z,10μm,14.5s,MS5.3							
YSS	**Yuzh-Sakhalins**	**20.09**	**4**	*b*P		**P**	**13 52 38.0**	**+0.3**
YSS				*e*			13 53 10.0	
YSS				*i* S		**S**	**13 56 24.0**	**+6.1**
YSS				pmax	pmax			
	comp=N,610nm,1.5s							
YSS				pmax	pmax			
	comp=Z,560nm,1.5s							
YSS				pmax	pmax			
	comp=E,460nm,1.7s							
YSS				pmax	pmax			
	comp=Z,4μm,9.0s							
YSS				pmax	pmax			
	comp=N,3μm,10.0s							
YSS				pmax	pmax			
	comp=N,3μm,6.0s							
YSS				pmax	pmax			
	comp=Z,3μm,6.0s							
YSS				smax				
	comp=N,3μm,4.0s							
YSS				MLR	MLR			
	comp=N,8μm,15.0s,MS5.2							
YSS				MLR	MLR			
	comp=Z,8μm,15.0s,MS5.2							
YSS				MLR	MLR			
	comp=E,5μm,16.0s,MS5.2							
YSS	**Yuzh-Sakhalins**	**20.09**	**4**	*e*P		**P**	**13 52 38.7**	**+1.0**
	comp=E,520nm,1.4s							
YSS				LR	LR			
	comp=Z,9μm,20.0s,MS5.1							
APYP	**Conner**	**20.18**	**248**	*e*P		**P**	**13 52 39.6**	**+0.7**
CAUP	**Cauayan**	**20.18**	**245**	*e*P		**P**	**13 52 40.1**	**+1.2**
PVCP	**Virac**	**20.44**	**233**	*e*P		**P**	**13 52 43.4**	**+1.8**
PIP	**Pasuquin**	**20.48**	**250**	⇓*e*P		**P**	**13 52 45.0**	**+3.0**
SNY	**Shenyang**	**20.55**	**321**	⇓P		**P**	**13 52 42.8**	**+0.2**
SNY				AMB	AMB			
	comp=Z,380nm,1.2s							
SNY				AMB	AMB			
	comp=Z,2μm,6.3s							
SNY				LR	LR			
	comp=N,8μm,11.8s							
SNY				LR	LR			
	comp=Z,4μm,15.7s,MS4.9							
CN2	**Changchun**	**20.97**	**328**	*e*P		**P**	**13 52 47.0**	**+0.2**
CN2				*e*XP			13 53 11.8	
CN2				*e*S		**S**	**13 56 33.8**	**-1.7**
CN2				AMB	AMB			
	comp=Z,50nm,1.5s							
CN2				LR	LR			
	comp=N,6μm,15.0s,MS5.3							
CN2				LR	LR			
	comp=E,7μm,15.0s,MS5.3							
CN2				LR	LR			
	comp=Z,4μm,13.0s,MS5.0							
HABR	**Khabarovsk**	**22.02**	**350**	*i* P		**P**	**13 52 58.3**	**+0.9**
HABR				pmax	pmax			
	comp=Z,1μm,1.6s,mb6.0							
BOLP	**Bolinao**	**22.03**	**246**	*e*P		**P**	**13 52 54.0**	**-3.7**
TIA	**Tai'an**	**22.18**	**301**	⇓P		**P**	**13 53 00.5**	**+1.4**
TIA				*e*S		**S**	**13 57 03.0**	**+4.6**
TIA				XS			13 57 22.0	
TIA				AMB	AMB			
	comp=Z,310nm,0.8s,mb5.8							
TIA				AMB	AMB			
	comp=Z,3μm,7.0s							
TIA				LR	LR			
	comp=N,6μm,12.0s,MS5.3							
TIA				LR	LR			
	comp=E,3μm,13.0s,MS5.3							
TGY	**Tagaytay City**	**22.51**	**240**	P		**P**	**13 53 04.3**	**+1.8**
	comp=E,370nm,0.9s,mb5.8,baz=134,slow=3.0,SNR=8.9							
TGY				LR	LR		14 00 59.0	
	comp=E,44nm,20.8s,baz=5.7,slow=35							
LUBP	**Lubang**	**23.26**	**240**	*e*P		**P**	**13 53 12.0**	**+2.1**
KLR	**Kul'dur**	**23.39**	**345**	*e*P		**P**	**13 53 06.5**	**-4.4**
KLR				*e*PPP	PPP		13 53 50.5	-1.9
KLR				*e*S		**S**	**13 57 19.5**	**-0.4**
KLR				*e*SS	SS		13 58 17.5	+11
KLR				pmax	pmax			
	comp=E,140nm,3.0s							
KLR				pmax	pmax			
	comp=Z,430nm,3.0s							
KLR				pmax	pmax			
	comp=N,2μm,10.0s							
KLR				pmax	pmax			
	comp=Z,3μm,10.0s							
KLR				MLR	MLR			
	comp=N,4μm,13.5s							
KLR				MLR	MLR			
	comp=Z,16μm,13.5s,MS5.7							
SJMP	**San Jose**	**23.40**	**236**	*e*P		**P**	**13 53 13.0**	**+1.8**
TBP	**Tagbilaran**	**23.43**	**226**	*e*P		**P**	**13 53 11.7**	**+0.1**
WHN	**Wuhan**	**23.48**	**285**	⇓P		**P**	**13 53 14.5**	**+2.6**
WHN				AMB	AMB			
	comp=Z,690nm,1.5s,mb5.9							
WHN				AMB	AMB			
	comp=Z,6μm,11.1s							
WHN				LR	LR			
	comp=N,12μm,14.3s							
WHN				LR	LR			
	comp=E,12μm,20.4s							
WHN				LR	LR			
	comp=Z,13μm,21.0s							
DAV	**Davao City (W)**	**24.45**	**219**	PFAKE			13 53 30.0	+8.4
DAV				LR	LR			
	comp=Z,4μm,22.0s,MS4.9							
HKC	**Hong Kong**	**24.63**	**265**	⇑*i*P		**P**	**13 53 24.0**	**+0.8**
HKC				*e*S		**S**	**13 57 44.0**	**+2.5**
WAKE	**Wake Island**	**24.91**	**102**	PFAKE			13 53 40.0	+14
WAKE				LR	LR			
	comp=Z,7μm,19.0s,MS5.2							
GZH	**Guangzhou**	**25.17**	**267**	P		**P**	**13 53 26.3**	**-2.0**
GZH				S		**S**	**13 57 43.0**	**-7.5**
GZH				LR	LR			
	comp=N,3μm,18.0s,MS5.1							
GZH				LR	LR			
	comp=E,4μm,17.7s,MS5.1							
GZH				LR	LR			
	comp=Z,7μm,18.3s,MS5.2							
TIY	**Taiyuan**	**26.21**	**301**	⇑P		**P**	**13 53 40.0**	**+2.1**
TIY				LR	LR			
	comp=N,4μm,10.0s							
HIA	**Hailar**	**27.66**	**330**	*e*P		**P**	**13 53 50.5**	**-0.5**
HIA				pmax	pmax			
	comp=Z,98nm,1.3s							
HIA				MLR	MLR			
	comp=Z,4μm,20.0s							
HIA	**Hailar**	**27.66**	**330**	*e*P		**P**	**13 53 50.5**	**-0.5**
	comp=Z,98nm,1.3s,mb5.3							
HIA				LR	LR			
	comp=Z,4μm,20.0s,MS5.0							
ENH	**Enshi**	**27.68**	**284**	*e*P		**P**	**13 53 51.9**	**+0.5**
	comp=Z,178nm,1.5s,mb5.5							
ENH				LR	LR			
	comp=Z,7μm,20.0s,MS5.3							
HHC	**Hu-ho-hao-te**	**27.85**	**307**	⇓P		**P**	**13 53 53.5**	**+0.6**
HHC				AP	pP		13 54 11.0	+15
HHC				XP	sP		13 54 20.3	+23
HHC				PP	PP		13 54 44.0	+1.9
HHC				PCP	PcP		13 57 11.0	+1.9
HHC				S	**S**		**13 58 27.0**	**-7.4**
HHC				XS			13 58 56.8	
HHC				SCP			14 00 42.8	
HHC				PCS			14 00 52.3	
HHC				SCS	ScS		14 04 33.5	-6.0
HHC				AMB	AMB			
	comp=Z,150nm,1.0s,mb5.6							
HHC				AMB	AMB			
	comp=Z,1μm,5.5s							
HHC				LR	LR			
	comp=N,3μm,13.1s,MS5.3							
HHC				LR	LR			
	comp=E,5μm,15.4s,MS5.3							
HHC				LR	LR			
	comp=Z,6μm,16.6s,MS5.2							
BATP	**Bataraza**	**28.25**	**235**	*e*P		**P**	**13 53 57.7**	**+1.0**
XAN	**Xi'an**	**28.32**	**292**	P		**P**	**13 53 56.8**	**-0.4**
XAN				S		**S**	**13 58 41.0**	**-1.1**
XAN				AMB	AMB			
	comp=Z,90nm,1.5s,mb5.2							
XAN				AMB	AMB			
	comp=Z,1μm,9.5s							
XAN				LR	LR			
	comp=N,4μm,14.0s,MS5.3							
XAN				LR	LR			
	comp=E,4μm,14.7s,MS5.3							
XAN				LR	LR			
	comp=Z,5μm,15.3s,MS5.3							
BTO	**Baotou**	**28.87**	**306**	*e*P		**P**	**13 54 02.8**	**+0.7**
PET	**Petropavlovsk**	**29.31**	**22**	⇓*i*P		**P**	**13 54 06.7**	**+0.8**
PET				*e*			13 54 59.1	
PET				*e*S		**S**	**13 58 55.6**	**-2.0**
PET				*e*SS	SS		14 00 24.5	-4.1
PET				pmax	pmax			
	comp=Z,129nm,1.5s,mb5.4							
PET				pmax	pmax			
	comp=Z,800nm,7.9s							
PET				smax				
	comp=N,700nm,16.5s							
PET				MLR	MLR			
	comp=Z,4μm,18.0s,MS5.1							
PET				MLR	MLR			
	comp=Z,4μm,18.0s							
PET	**Petropavlovsk**	**29.31**	**22**	⇓*e*P		**P**	**13 54 05.7**	**-0.2**
	comp=Z,349nm,1.7s,mb5.8							
PET				LR	LR			
	comp=Z,4μm,19.0s,MS5.0							
QIZ	**Qiongzhong**	**29.52**	**261**	P		**P**	**13 54 09.5**	**+1.4**
QIZ				PP	PP		13 55 08.3	+4.4
QIZ				S	**S**		**13 58 52.3**	**-9.0**
QIZ				XS			13 59 26.5	
QIZ				SS	SS		14 00 37.0	+3.0
QIZ				AMB	AMB			
	comp=Z,40nm,1.5s,mb4.9							
QIZ				AMB	AMB			
	comp=Z,850nm,10.6s							
QIZ				LR	LR			
	comp=N,3μm,19.8s,MS5.1							
QIZ				LR	LR			
	comp=E,4μm,21.5s,MS5.1							
QIZ				LR	LR			
	comp=Z,5μm,20.5s,MS5.2							
QIZ	**Qiongzhong**	**29.52**	**261**	PFAKE			13 54 20.0	+12
QIZ				LR	LR			
	comp=Z,6μm,21.0s,MS5.2							
TSM	**Tawau**	**31.39**	**228**	P		**P**	**13 54 27.5**	**+2.8**
CLNS	**Chul'man**	**32.03**	**343**	*e*P		**P**	**13 54 29.1**	**-0.8**
CLNS				*e*PPP	PPP		13 55 33.6	-18
CLNS				*e*			13 57 19.9	
CLNS				*e*S		**S**	**13 59 36.6**	**-3.9**
CLNS				pmax	pmax			
	comp=N,15nm,1.0s							
CLNS				pmax	pmax			
	comp=E,4.0nm,1.0s							
CLNS				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.7							
CLNS				pmax	pmax			
	comp=Z,16nm,1.1s,mb4.8							
CLNS				pmax	pmax			
	comp=N,8.0nm,1.0s							
CLNS				pmax	pmax			
	comp=E,12nm,1.1s							
CLNS				smax				
	comp=N,174nm,10.8s							
CLNS				smax				
	comp=Z,518nm,11.5s							
CLNS				smax				
	comp=E,212nm,11.0s							
CLNS				MLR	MLR			
	comp=Z,3μm,15.0s,MS5.1							
CLNS				MLR	MLR			
	comp=N,800nm,16.0s,MS5.2							
CLNS				MLR	MLR			
	comp=E,4μm,13.0s,MS5.2							
CIT	**Chita**	**32.41**	**328**	*e*P		**P**	**13 54 32.8**	**-0.5**
CIT				pmax	pmax			
	comp=Z,194nm,2.7s,mb5.5							
CD2	**Chengdu**	**32.60**	**286**	P		**P**	**13 54 35.0**	**-0.1**
CD2				AP	pP		13 54 55.5	+17
CD2				XP	sP		13 55 02.3	+23
CD2				PP	PP		13 55 45.3	+1.4
CD2				S	**S**		**13 59 43.0**	**-6.6**
CD2				XS			14 00 14.0	
CD2				SS	SS		14 01 42.5	-3.7
CD2				AMB	AMB			
	comp=Z,60nm,1.6s,mb5.3							
CD2				AMB	AMB			
	comp=Z,550nm,8.8s							
CD2				LR	LR			
	comp=N,5μm,13.2s							
CD2				LR	LR			
	comp=Z,4μm,16.8s,MS5.2							
LZH	**Lanzhou**	**32.68**	**296**	*e*P		**P**	**13 54 36.5**	**+0.8**
LZH				AP	pP		13 54 54.3	+16
LZH				PP	PP		13 55 50.0	+5.1
LZH				PCP	PcP		13 57 21.0	-0.7
LZH				S	**S**		**13 59 45.0**	**-5.8**
LZH				XS			14 00 17.0	
LZH				SCP			14 00 57.0	
LZH				PCS			14 01 05.0	
LZH				*e*SS	SS		14 01 48.0	0.0
LZH				SCS	ScS		14 04 55.0	-7.8
LZH				AMB	AMB			
	comp=Z,380nm,1.0s,mb6.3							
LZH				AMB	AMB			
	comp=Z,2μm,4.6s							
LZH				LR	LR			
	comp=E,10μm,16.9s							
LZH				LR	LR			
	comp=Z,18μm,17.2s,MS5.8							
MA2	**Magadan**	**33.40**	**9**	P		**P**	**13 54 41.7**	**-0.1**
MA2				pmax	pmax			
	comp=Z,480nm,1.7s,mb6.2							
MA2	**Magadan**	**33.40**	**9**	⇓*i*P		**P**	**13 54 41.1**	**-0.6**
	comp=Z,100nm,1.0s,mb5.7							
MA2				LR	LR			
	comp=Z,2μm,20.0s,MS4.8							
ULN	**Ulaanbaatar**	**33.65**	**318**	*d* P		**P**	**13 54 44.2**	**+0.1**
ULN	**Ulaanbaatar**	**33.65**	**318**	*e*P		**P**	**13 54 44.5**	**+0.4**
	comp=Z,336nm,1.4s,mb6.1							
ULN				LR	LR			
	comp=Z,3μm,20.0s,MS5.0							

SONM Songino Array 34.03 317 P **P** **13 54 47.7 +0.3**
comp=Z,60nm,1.1s,mb5.5,baz=124,slow=7.2,SNR=160
KMI Kunming 34.19 276 PR 13 54 50.0
KMI AP pP 13 55 07.5 +16
KMI XP sP 13 55 18.0 +25
KMI PP PP 13 56 08.3 +4.7
KMI PCP PcP 13 57 27.3 +1.3
KMI S **S** **14 00 07.3 -7.0**
KMI XS 14 00 42.3
KMI PCS 14 01 10.0
KMI SS SS 14 02 20.0 -2.8
KMI AMB AMB
comp=Z,760nm,5.5s
KMI LR LR
comp=N,3μm,17.3s,MS5.2
KMI LR LR
comp=E,3μm,20.3s,MS5.2
KMI LR LR
comp=Z,4μm,21.6s,MS5.1
FX1 Attu Island--F 35.41 34 *e*P **P** **13 55 01.0 +1.8**
SMY Shemya 35.80 35 PFAKE 13 55 10.0 +7.6
SMY LR LR
comp=Z,9μm,22.0s,MS5.5
YAK Yakutsk 35.93 351 *e*P **P** **13 54 59.1 -4.3**
YAK *e*S **S** **14 00 38.7 -2.2**
YAK pmax pmax
comp=Z,27nm,1.3s,mb5.0
YAK pmax pmax
comp=N,19nm,1.5s
YAK smax
comp=N,324nm,11.1s
YAK smax
comp=E,213nm,13.1s
YAK MLR MLR
comp=Z,1μm,16.0s,MS4.8
YAK MLR MLR
comp=N,1μm,15.0s,MS5.0
YAK MLR MLR
comp=E,1μm,13.0s,MS5.0
YAK Yakutsk 35.93 351⇓ *i*P **P** **13 55 00.7 -2.7**
comp=E,62nm,0.9s,mb5.5
YAK *e*PP PP 13 56 23.1 -1.8
YAK LR LR
comp=Z,3μm,19.0s,MS5.0
GTA Gaotai 36.24 301⇓ *i*P **P** **13 55 06.5 +0.2**
GTA AP pP 13 55 26.8 +18
GTA XP sP 13 55 35.0 +24
GTA PP PP 13 56 32.5 +3.4
GTA PCP PcP 13 57 31.8 0.0
GTA S **S** **14 00 40.0 -5.9**
GTA XS 14 01 11.0
GTA PCS 14 01 18.5
GTA SS SS 14 03 06.5 -3.1
GTA SCS ScS 14 05 13.5 -8.1
GTA AMB AMB
comp=Z,120nm,1.0s,mb5.8
GTA AMB AMB
comp=Z,2μm,8.0s
GTA LR LR
comp=N,4μm,15.6s,MS5.4
GTA LR LR
comp=E,4μm,19.4s,MS5.4
GTA LR LR
comp=Z,5μm,17.9s,MS5.3
BOD Bodaibo 36.24 336 *e*P **P** **13 55 03.3 -2.8**
BOD pmax pmax
comp=Z,18nm,1.5s,mb4.8
PMG Port Moresby 36.59 169 P **P** **13 55 07.8 -1.7**
comp=Z,33nm,1.1s,mb5.1,baz=343,slow=6.4,SNR=5.6
PMG Port Moresby 36.59 169 *e*P **P** **13 55 07.2 -2.3**
PMG pmax pmax
comp=Z,46nm,1.1s
PMG MLR MLR
comp=Z,2μm,19.0s
PMG Port Moresby 36.59 169 *e*P **P** **13 55 07.2 -2.3**
comp=Z,46nm,1.1s,mb5.2
PMG LR LR
comp=Z,2μm,19.0s,MS4.8
KKTK Khon Kaen 36.72 261⇑ P **P** **13 55 10.6 0.0**
comp=Z,309nm,1.0s,mb6.1
SEY Seymchan 36.85 9⇑ *e*P **P** **13 55 12.2 +1.0**
MIDW Midway 36.97 78 PFAKE 13 55 20.0 +7.5
MIDW LR LR
comp=Z,5μm,21.0s,MS5.3
IRK Irkutsk 37.26 323 *e*P **P** **13 55 13.8 -1.0**
IRK *e* 13 56 44.3
IRK pmax pmax
comp=Z,224nm,2.1s,mb5.6
CHRT Chiangrai 38.18 268⇓ P **P** **13 55 24.0 +1.2**
comp=Z,342nm,0.9s,mb6.1
KSM Kuching 38.67 234 *e*P **P** **13 55 27.1 +0.1**
MOY Mondy 38.82 320 *e*P **P** **13 55 27.3 -0.6**
MOY pmax pmax
comp=Z,222nm,3.2s
CHG Chiang Mai 39.27 267⇓ P **P** **13 55 32.9 +0.9**
comp=Z,69nm,0.9s,mb5.4
NST Nakhon Sawan 39.36 262 P **P** **13 55 33.3 +0.6**
HNR Honiara 40.59 150 PFAKE 13 55 50.0 +7.1
HNR LR LR
comp=Z,2μm,19.0s,MS5.0
NNT Nongplab 41.01 258 P **P** **13 55 47.2 +0.9**
SNG Songkhla 42.88 250 P **P** **13 56 03.0 +1.2**
LSA Lhasa 43.56 286 P **P** **13 56 09.0 +1.9**
LSA AP pP 13 56 21.0 +11
LSA PP PP 13 57 54.0 +3.5
LSA S **S** **14 02 36.5 +0.8**
LSA LR LR
comp=N,2μm,17.0s,MS5.3
LSA LR LR
comp=E,2μm,19.0s,MS5.3
LSA LR LR
comp=Z,3μm,19.0s,MS5.3
LSA Lhasa 43.56 286 *e*P **P** **13 56 10.0 +2.9**
LSA *e* 13 57 51.5
LSA pmax pmax
comp=Z,95nm,1.3s,mb5.4
LSA MLR MLR
comp=Z,9μm,22.0s,MS5.6
LSA Lhasa 43.56 286 *e*P **P** **13 56 10.0 +3.0**
comp=Z,95nm,1.3s,mb5.4
LSA *e*PP PP 13 57 51.5 +1.0
LSA LR LR
comp=Z,9μm,22.0s,MS5.6
KGM Kluang 43.62 242 P **P** **13 56 08.8 +1.0**
SHL Shillong 43.70 280 *e*P **P** **13 56 09.0 +0.8**
SHL *e*S **S** **14 02 35.0 -2.8**
KULM Kulim 43.88 248⇓ *e*P **P** **13 56 10.3 +0.5**
KULM *e*S **S** **14 02 47.1 +6.6**
BILL Bilibino 43.94 13κ *i*P **P** **13 56 10.0 +0.4**
BILL *e* 13 57 55.8
BILL *i* S **S** **14 02 41.0 +0.3**
BILL *e* 14 02 48.6
BILL *e*SS SS 14 05 58.1 +8.6
BILL *e*SSS SSS 14 06 40.9 -1.8
BILL pmax pmax
comp=Z,282nm,1.7s,mb5.7
BILL MLR MLR
comp=Z,2μm,15.0s,MS5.1
BILL Bilibino 43.94 13⇓ *i*P **P** **13 56 09.6 -0.1**
comp=Z,341nm,1.5s,mb5.9
BILL LR LR
comp=Z,2μm,19.0s,MS5.0
IPM Ipoh 44.02 247 P **P** **13 56 11.9 +0.9**
KRAR Krasnoyarsk 44.92 324 *e*P **P** **13 56 16.5 -1.2**
TIXI Tiksi 45.30 355 *i* P **P** **13 56 19.7 -0.9**
WMQ Urumqi 45.71 306 P **P** **13 56 25.0 +0.9**
WMQ AP pP 13 56 45.8 +19
WMQ PCP PcP 13 58 02.5 -0.1
WMQ PP PP 13 58 13.3 +1.5
WMQ S **S** **14 03 01.5 -5.0**
WMQ SCS ScS 14 06 11.0 -7.1
WMQ AMB AMB
comp=Z,240nm,1.2s,mb6.0
WMQ AMB AMB
comp=Z,1μm,4.2s
WMQ LR LR
comp=N,3μm,18.6s,MS5.3
WMQ LR LR
comp=E,3μm,22.0s,MS5.3
WMQ LR LR
comp=Z,4μm,22.0s,MS5.3
PSI Prapat 46.69 246 P **P** **13 56 32.3 0.0**
comp=Z,48nm,0.9s,mb5.4,baz=43,slow=3.8,SNR=34
PSI LR LR 14 13 29.6
comp=Z,2μm,20.9s,MS5.2,baz=230,slow=33

UNV Unalaska Valle 46.91 40 PFAKE 13 56 50.0 +17
UNV LR LR
comp=Z,18μm,22.0s,MS6.0
WRAB Tennant Creek 46.96 188*d* P **P** **13 56 31.7 -2.6**
WRAB Tennant Creek 46.96 188 *e*P **P** **13 56 32.5 -1.8**
comp=Z,56nm,0.6s,mb5.7
WRAB LR LR
comp=Z,417nm,20.0s,MS4.4
WB2 Warramunga Arr 46.97 188 *e*P **P** **13 56 32.4 -2.0**
WRA Warramunga Arr 46.97 188 P **P** **13 56 32.4 -2.0**
comp=Z,32nm,0.6s,mb5.5,baz=9.6,slow=8.5,SNR=155
CTA Charters Tower 46.99 173 *e*P **P** **13 56 32.9 -1.6**
comp=Z,19nm,0.8s,mb5.1
CTA Charters Tower 46.99 173 P **P** **13 56 33.0 -1.6**
comp=Z,13nm,0.8s,mb4.9,baz=356,slow=7.7,SNR=25
CTA LR LR 14 12 29.5
comp=Z,1μm,19.9s,MS4.9,baz=355,slow=31
CTA Charters Tower 46.99 173 *e*P **P** **13 56 32.9 -1.6**
CTA pmax pmax
comp=Z,19nm,0.8s
CTAO Charters Tower 46.99 173 *e*P **P** **13 56 33.0 -1.5**
CTAO pmax pmax
comp=Z,34nm,0.9s,mb5.3
CTAO MLR MLR
comp=Z,1μm,20.0s,MS4.8
CTAO Charters Tower 46.99 173 *e*P **P** **13 56 33.0 -1.5**
comp=Z,34nm,0.9s,mb5.3
CTAO LR LR
comp=Z,1μm,20.0s,MS4.8
FITZ Fitzroy Crossi 47.08 200 *e*P **P** **13 56 34.1 -1.2**
comp=Z,60nm,1.2s,mb5.4
JIRN Jiri 48.22 284 *e*P **P** **13 56 45.1 +1.0**
comp=Z,583nm,1.0s,mb6.6
GUN Gumba 48.43 284 *e*P **P** **13 56 46.9 +1.1**
comp=Z,507nm,1.1s,mb6.5
ZAL Zalesovo 48.86 319 P **P** **13 56 49.0 +0.2**
comp=Z,11nm,1.0s,mb4.8,baz=12,slow=8.1,SNR=57
ZAL PcP PcP 13 58 11.9 -1.8
comp=Z,6.0nm,1.0s,baz=346,slow=5.4,SNR=4.3
ZAL LR LR 14 19 23.9
comp=Z,1μm,19.3s,MS4.9,baz=6.4,slow=38
PKI Pulchoki 48.91 284 *e*P **P** **13 56 50.2 +0.7**
comp=Z,283nm,1.3s,mb6.1
PKI Pulchoki 48.91 284 *e*P **P** **13 56 50.2 +0.7**
PKI pmax pmax
comp=Z,141nm,1.3s,mb5.8
KKN Kakani 48.98 284 *e*P **P** **13 56 50.4 +0.4**
comp=Z,287nm,1.2s,mb6.2
KKN Kakani 48.98 284 *e*P **P** **13 56 50.4 +0.4**
KKN pmax pmax
comp=Z,143nm,1.2s,mb5.9
DMN Daman 49.17 284 *e*P **P** **13 56 52.2 +0.8**
comp=Z,321nm,1.3s,mb6.2
BOK Bokaro 49.42 279⇓ *i*P **P** **13 56 54.3 +0.8**
BOK AMb AMB 13 56 57.4
comp=Z,213nm,1.0s,mb6.1
GKN Gorkha 49.49 285 *e*P **P** **13 56 54.1 +0.2**
comp=Z,474nm,1.2s,mb6.4
MK31 Makanchi Array 49.67 310 *i* P **P** **13 56 55.8 +0.7**
MKAR Makanchi Array 49.67 310 P **P** **13 56 54.9 -0.2**
comp=Z,69nm,0.8s,mb5.7,baz=92,slow=6.7,SNR=461
MKAR PcP PcP 13 58 14.8 -1.9
comp=Z,11nm,0.9s,baz=56,slow=5.2,SNR=3.6
MKAR LR LR 14 19 37.0
comp=Z,1μm,18.3s,MS5.0,baz=98,slow=38
MKAR Makanchi Array 49.67 310 P **P** **13 56 54.9 -0.2**
MKAR PcP PcP 13 58 14.8 -1.9
MKAR LR LR 14 19 37.0
NVS Novosibirsk 49.92 320 *i* P **P** **13 56 53.6 -3.3**
NVS *i* 13 58 50.6
NVS *i* 13 59 53.3
NVS *i* S **S** **14 04 09.2 +3.4**
NVS pmax pmax
comp=N,41nm,1.7s
NVS pmax pmax
comp=E,202nm,1.7s
NVS pmax pmax
comp=Z,126nm,1.7s,mb5.7
NVS smax
comp=N,16nm,1.6s
NVS smax
comp=E,4.0nm,1.3s
TNA Tin City 50.10 25 *e*P **P** **13 56 59.1 +1.1**
comp=E,23nm,1.0s,mb5.2
TNA LR LR
comp=Z,604nm,19.0s,MS4.6
KOLN Koldanda 50.43 285 *e*P **P** **13 57 01.8 +0.7**
comp=Z,366nm,1.1s,mb6.3
ASPA Alice Springs 50.69 188 *e*P **P** **13 57 00.8 -2.4**
FUNA Funafuti 51.22 128 PFAKE 13 57 20.0 +13
FUNA LR LR
comp=Z,6μm,19.0s,MS5.6
KURK Kurchatov 52.27 315 *e*P **P** **13 57 13.0 -1.7**
comp=Z,283nm,1.1s,mb6.1
KURK *e*pP pP 13 57 15.1 -2.7
KURK *e*PP PP 13 59 11.4 -2.8
KURK LR LR
comp=Z,707nm,20.0s,MS4.7
BLSP Bilaspur 53.21 278 *e*P **P** **13 57 22.3 +0.1**
BLSP AMb AMB 13 57 23.8
comp=Z,124nm,1.3s,mb5.7
AAA Alma-Ata 53.52 305 *i* P **P** **13 57 25.2 +1.0**
AAA *i* S **S** **14 04 57.7 +2.3**
AAA pmax pmax
comp=Z,2μm,3.1s
AAA smax
comp=E,700nm,6.0s
AAA MLR MLR
comp=Z,2μm,15.9s,MS5.3
VIS Vishakhapatnam 53.59 273⇓ *i*P **P** **13 57 25.4 +0.5**
VIS AMb AMB 13 57 27.3
comp=Z,124nm,1.3s,mb5.7
SVW2 Sparrevohn 54.13 32 *e*P **P** **13 57 30.2 +1.9**
ULHL Ulahol 54.13 304 P **P** **13 57 30.3 +1.7**
SNR=52
TKM2 Tokmak 2 54.54 305 P **P** **13 57 32.9 +1.3**
SNR=54
DZM Mont Dzumac 54.62 151 P **P** **13 57 31.5 -0.9**
comp=Z,11nm,0.7s,mb5.0,baz=353,slow=7.4,SNR=6.3
KSH Kashi 54.64 301 *i* PR 13 57 34.3
KSH PCP PcP 13 58 35.8 +0.5
KSH PP PP 13 59 39.5 +3.0
KSH *e*SCP 14 02 23.0
KSH *e*PCS 14 02 34.3
KSH S **S** **14 05 05.3 -5.2**
KSH SCS ScS 14 07 10.0 -8.4
KSH SS SS 14 08 50.3 -2.8
KSH LR LR
comp=N,2μm,11.7s,MS5.5
KSH LR LR
comp=E,2μm,12.5s,MS5.5
KZA Kyzart 54.88 304 P **P** **13 57 36.3 +2.1**
SNR=181
KBK Karagaybulak 55.04 305 P **P** **13 57 36.3 +1.0**
SNR=146
CHMS Chumysh 55.15 305 P **P** **13 57 37.1 +1.0**
SNR=88
FRU Bishkek 55.27 305⇑ *i*P **P** **13 57 36.0 -0.9**
FRU *e*S **S** **14 05 23.0 +4.2**
FRU pmax pmax
comp=Z,760nm,2.0s,mb6.4
FRU pmax pmax
comp=Z,2μm,4.0s
FRU MLR MLR
comp=E,2μm,16.0s
FRU MLR MLR
comp=Z,2μm,16.0s,MS5.3
KDAK Kodiak Island 55.27 37 P **P** **13 57 36.6 -0.1**
comp=Z,33nm,0.6s,mb5.5,baz=260,slow=3.3,SNR=31
USP Ospenovka 55.30 306 P **P** **13 57 38.2 +1.0**
SNR=40
AAK Ala-Archa 55.38 305 P **P** **13 57 38.4 +0.7**
SNR=82
AAK Ala-Archa 55.38 305 *e*P **P** **13 57 37.1 -0.6**
comp=Z,258nm,1.4s,mb6.1
AAK *e*S **S** **14 05 18.1 -2.2**
AAK LR LR
comp=Z,475nm,20.0s,MS4.6
UCH Uchtor 55.41 304 P **P** **13 57 39.8 +1.9**
SNR=281
KIP Kipapa 55.62 81 PFAKE 13 57 50.0 +10
KIP LR LR
comp=Z,5μm,21.0s,MS5.6
IMA2 Indian Mountai 55.83 27 *e*P **P** **13 57 40.7 +0.1**
IMA2 *e*pP pP 13 58 01.2 +18
EKS2 Erkin-Say 55.90 305 P **P** **13 57 42.1 +0.6**
SNR=96
AML Almayashu 56.02 304 P **P** **13 57 44.0 +1.6**
SNR=283
SLKM Skilak Lake 56.67 34 P **P** **13 57 48.0 +1.2**
SLKM Skilak Lake 56.67 34 *e*P **P** **13 57 46.7 -0.1**
FIB Fire Island 56.74 33 PFAKE 13 58 00.0 +13
FIB LR LR
comp=Z,2μm,20.0s,MS5.1
VOSK Vostochnaya 57.03 317 P **P** **13 57 46.9 -2.6**
VOSK pmax pmax
comp=Z,175nm,1.5s,mb5.9
PMR Palmer 57.27 32 P **P** **13 57 49.5 -1.5**
PMR pmax pmax
comp=Z,50nm,1.1s,mb5.5
PMR Palmer 57.27 32 *e*P **P** **13 57 49.0 -2.0**
comp=Z,133nm,1.6s,mb5.7
PMR LR LR
comp=Z,2μm,23.0s,MS5.0
BVA0 Borovoye Array 57.38 317 *i* P **P** **13 57 49.7 -2.2**
BVA0 pmax pmax
comp=Z,24nm,1.3s,mb5.1
BVAR Borovoye Array 57.38 317 P **P** **13 57 50.6 -1.3**
comp=Z,32nm,0.8s,mb5.4,baz=90,slow=5.9,SNR=170
BRVK Borovoye 57.44 318 *e*P **P** **13 57 50.5 -1.8**
comp=Z,43nm,0.9s,mb5.5
BRVK LR LR
comp=Z,313nm,19.0s,MS4.4
MCK McKinley 57.52 30 *e*P **P** **13 57 52.8 +0.1**
comp=Z,103nm,1.5s,mb5.6
MCK LR LR
comp=Z,868nm,21.0s,MS4.8
SML Sawmill 57.66 32 P **P** **13 57 54.6 +0.8**
SML Sawmill 57.66 32 *e*P **P** **13 57 54.0 +0.2**
COCO West Island 57.72 233 PFAKE 13 58 00.0 +5.2
COCO LR LR
comp=Z,464nm,21.0s,MS4.6
HYB Hyderabad 57.95 274 *i* P **P** **13 57 56.0 -0.4**
comp=Z,90nm,1.0s,mb5.8
HYB *e*PcP PcP 13 58 49.0 +0.6
HYB *e*PP PP 14 00 08.0 +1.4
HYB *e* 14 00 36.0
HYB *e*S **S** **14 05 56.0 +1.3**
HYB *e*ScS ScS 14 07 38.0 -4.5
HYB *e*SS SS 14 09 48.0 +0.7
HYB Hyderabad 57.95 274 *e*P **P** **13 57 56.0 -0.4**
HYB *e*S **S** **14 05 58.0 +3.3**
HYB pmax pmax
comp=Z,90nm,1.0s,mb5.8
HYB Hyderabad 57.95 274 *e*P **P** **13 57 56.0 -0.4**
comp=Z,90nm,1.0s,mb5.8
HYB *e*S **S** **14 05 58.0 +3.3**
COLA College 58.08 28 *e*P **P** **13 57 57.3 +0.6**
COLA pmax pmax
comp=Z,26nm,1.0s,mb5.2
COLA MLR MLR
comp=Z,1μm,19.0s,MS5.1
COLA College 58.08 28 *e*P **P** **13 57 57.3 +0.6**
comp=Z,26nm,1.0s,mb5.2
COLA LR LR
comp=Z,1μm,19.0s,MS5.1
ZRNK Zerenda 58.21 317 *e*P **P** **13 57 55.7 -2.1**
ZRNK *e**PP pP 13 57 58.2 -2.7
ZRNK *e* 14 00 06.7
ZRNK pmax pmax
comp=Z,189nm,1.5s,mb5.9
ZRNK Zerenda 58.21 317 *e*P **P** **13 57 55.7 -2.1**
comp=Z,189nm,1.5s,mb5.9
ZRNK *e*pP pP 13 57 58.2 -2.7
ZRNK *e*PP PP 14 00 06.7 -1.8
KK31 Karatay Array 58.22 306 *i* P **P** **13 57 57.9 0.0**
KKAR Karatay Array 58.22 306 *i* P **P** **13 57 57.8 -0.1**
KKAR pmax pmax
comp=Z,239nm,0.9s,mb6.2
POHA Pohakuloa 58.37 82 PFAKE 13 58 10.0 +11
POHA LR LR
comp=Z,4μm,19.0s,MS5.5
STKA Stephens Creek 58.44 179 *e*P **P** **13 57 57.2 -2.4**
comp=Z,5.4nm,0.9s,mb4.6
STKA Stephens Creek 58.44 179 P **P** **13 57 57.3 -2.3**
comp=Z,5.0nm,0.7s,mb4.7,baz=344,slow=8.5,SNR=13
STKA LR LR 14 22 01.7
comp=Z,1μm,18.9s,MS5.1,baz=358,slow=35
ILAR Eielson Array 58.48 29 P **P** **13 57 58.7 -0.8**
comp=Z,24nm,1.1s,mb5.1,baz=267,slow=5.0,SNR=47
ILAR LR LR 14 23 19.4
comp=Z,1μm,18.4s,MS5.0,baz=278,slow=36
DIV Divide 58.87 33 *e*P **P** **13 58 01.4 -0.9**
comp=Z,184nm,1.4s,mb5.9
DIV LR LR
comp=Z,7μm,20.0s,MS5.8
MENT Mentasta 59.84 31 *e*P **P** **13 58 10.1 +1.2**
PALK Pallekele 60.13 263 *e*P **P** **13 58 12.0 +0.4**
comp=Z,93nm,1.3s,mb5.7
PALK LR LR
comp=Z,321nm,22.0s,MS4.4
POO Poona 61.73 278⇓ *i*P **P** **13 58 21.0 -1.4**
POO AMb AMB 13 58 22.9
comp=Z,189nm,1.3s,mb6.1
DAWY Dawson 61.74 29 *e*P **P** **13 58 22.1 +0.3**
KAD Karad 61.88 276⇓ *i*P **P** **13 58 21.7 -1.7**
KLBR Kellerberrin 62.17 202 *e*P **P** **13 58 23.7 -1.5**
comp=Z,44nm,1.0s,mb5.5
BOM Bombay 62.52 278 *e*S Sx 13 06 58.5
BOM *e*P 13 58 26.8
NWAO Narrogin (SRO) 63.57 202 *e*P **P** **13 58 32.3 -2.1**
NWAO pmax pmax
comp=Z,16nm,0.8s
NWAO MLR MLR
comp=Z,752nm,21.0s
NWAO Narrogin (SRO) 63.57 202 *e*P **P** **13 58 32.3 -2.1**
comp=Z,16nm,0.8s,mb5.1
NWAO LR LR
comp=Z,752nm,21.0s,MS4.8
INK Inuvik 63.73 24 P **P** **13 58 34.3 -0.6**
comp=Z,9.2nm,0.5s,mb5.1,baz=302,slow=4.7,SNR=89
INK Inuvik 63.73 24 P **P** **13 58 34.3 -0.6**
INK pmax pmax
comp=Z,40nm,1.2s
INK Inuvik 63.73 24 *e*P **P** **13 58 34.2 -0.7**
comp=Z,40nm,1.2s,mb5.3
BHJ Bhuj 63.78 284 *e*P **P** **13 58 36.6 +0.6**
BHJ AMb AMB 13 58 39.7
comp=Z,260nm,1.6s,mb6.0
ARU Arti 63.84 322⇓ *i*P **P** **13 58 33.5 -2.3**
ARU *e* 13 59 07.9
ARU *e* 14 00 53.4
ARU *e*PPP PPP 14 02 24.1 -5.8
ARU *e*S **S** **14 07 03.5 -5.9**
ARU *e* 14 08 21.4
ARU *e*SS SS 14 11 13.8 -5.4
ARU pmax pmax
comp=Z,58nm,1.0s,mb5.6
ARU MLR MLR
comp=N,700nm,16.0s,MS5.2
ARU MLR MLR
comp=E,900nm,16.0s,MS5.2
ARU MLR MLR
comp=Z,1μm,16.0s,MS5.2
ARU Arti 63.84 322 *e*P **P** **13 58 34.0 -1.8**
comp=Z,108nm,1.4s,mb5.7
ARU LR LR
comp=Z,414nm,20.0s,MS4.6
SOKR Solikamsk 64.25 326⇑ *i*P **P** **13 58 37.1 -1.3**
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.4
SOKR MLR MLR
comp=Z,2μm,16.0s,MS5.3
AB31 Akbulak array 64.37 314⇑ *e*P **P** **13 58 37.6 -1.8**
SIT Sitka 64.60 37 PFAKE 13 58 50.0 +9.2
SIT LR LR
comp=Z,4μm,20.0s,MS5.6
RAO Raoul Island 68.40 142 PFAKE 13 59 20.0 +15
RAO LR LR
comp=Z,1μm,22.0s,MS5.0
TAU Tasmania Unive 69.70 175 *e*P **P** **13 59 12.0 -1.2**
KBS Kingsbay 70.56 351 *e*P **P** **13 59 17.2 -0.7**
KBS AMS AMS 14 32 24.3
comp=Z,398nm,20.5s,MS4.7
LVZ Lovozero 71.20 337 *i* P **P** **13 59 11.4 -10**
LVZ *i* S S 14 08 30.0 -7.6
LVZ MLR MLR
comp=Z,1μm,16.0s,MS5.3
LVZ MLR MLR
comp=N,446nm,14.0s,MS5.2
LVZ MLR MLR
comp=E,745nm,14.0s,MS5.2

PECR Pechory 71.63 324 *e*P P **13 59 22.0 -2.6**
PECR pmax pmax
comp=Z,800nm,1.6s,mb6.4
PECR pmax pmax
comp=Z,300nm,9.0s
PECR MLR MLR
comp=Z,1µm,18.0s,MS5.2
PECR MLR MLR
comp=N,2µm,16.0s,MS5.5
PECR MLR MLR
comp=E,1µm,16.0s,MS5.5
PECR MLR MLR
comp=N,2µm,16.0s
PECR MLR MLR
comp=Z,1µm,16.0s
PECR MLR MLR
comp=E,1µm,17.0s
APA Apatity 71.78 337⇓ *i*P P **13 59 24.5 -0.8**
APA *e*PS PS 14 09 24.0 +8.6
APA pmax pmax
comp=Z,70nm,1.4s,mb5.4
APA pmax pmax
comp=Z,1µm,9.0s
APA MLR MLR
comp=Z,2µm,15.0s,MS5.5
KLMR Klimovskoe 72.15 330*d i*P P **13 59 25.5 -2.2**
KLMR *e* 14 02 05.8
KLMR *e*S S 14 08 49.0 +0.4
KLMR pmax pmax
comp=Z,80nm,1.5s,mb5.4
KLMR smax
comp=E,300nm,3.3s
KLMR MLR MLR
comp=Z,1µm,17.0s,MS5.3
RES Resolute Bay 72.55 13 P P **13 59 29.8 +0.1**
RES pmax pmax
comp=Z,140nm,1.3s,mb5.7
RES Resolute Bay 72.55 13 *e*P P **13 59 29.0 -0.7**
comp=Z,137nm,1.4s,mb5.7
KEV Kevo 72.78 341 PFAKE 13 59 40.0 +8.9
KEV LR LR
comp=Z,2µm,21.0s,MS5.3
YKW3 Yellowknife Ar 72.87 28 *e*P P **13 59 31.2 -0.6**
YKA Yellowknife Ar 72.91 28 P P **13 59 31.1 -0.9**
comp=Z,11nm,0.5s,mb5.0,baz=296,slow=6.2,SNR=282
YKA LR LR 14 32 38.8
comp=Z,968nm,20.6s,MS5.1,baz=280,slow=37
YKA Yellowknife Ar 72.91 28 P P **13 59 31.1 -0.9**
YKA LR LR 14 32 38.8
WBK Wadi Bani Khal 73.20 287 P P **13 59 35.6 +1.1**
SNR=37
ARCES ARCESS Array B 73.34 341 P P **13 59 33.5 -0.9**
comp=Z,16nm,0.8s,mb5.0,baz=66,slow=8.2,SNR=31
ARCES LR LR 14 36 47.5
comp=Z,1µm,20.1s,MS5.3,baz=64,slow=40
ARE0 ARCESS Array S 73.34 341 *e*P P **13 59 33.3 -1.1**
BIDO Bidbid 73.57 288 P P **13 59 37.9 +1.2**
SNR=25
OCWA Octopus Mounta 73.78 44 PFAKE 13 59 50.0 +13
OCWA LR LR
comp=Z,3µm,22.0s,MS5.6
SMDO Samad 73.82 288 P P **13 59 38.9 +0.8**
SNR=21
BANOM Banah 74.19 291 P P **13 59 42.3 +2.0**
SNR=6.6
HOQ Hoqain 74.24 289 P P **13 59 41.9 +1.3**
SNR=55
DGAR Diego Garcia 74.40 253 PFAKE 13 59 50.0 +8.4
DGAR LR LR
comp=Z,272nm,22.0s,MS4.5
MAK Makhachkala 74.48 310 *e*P P **13 59 39.0 -2.6**
BSY Bisya 74.66 288 P P **13 59 43.4 +0.4**
SNR=72
JOF Joensuu 74.73 333 *e*p P **13 59 39.7 -2.9**
SNZO South Karori 74.76 154 PFAKE 13 59 50.0 +6.8
SNZO LR LR
comp=Z,663nm,19.0s,MS5.0
ASHO Ashiyiah 74.87 290 P P **13 59 45.1 +0.9**
SNR=25
VRHR Novokhopersk 74.98 320 *e*P P **13 59 41.9 -2.4**
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
ARQ Araqi 75.00 289 P P **13 59 46.1 +1.1**
SNR=41
TRO Tromso 75.16 342 *e*P P **13 59 42.8 -2.1**
TRO AMS AMS 14 38 41.1
comp=Z,2µm,19.6s,MS5.3
MOS Moscow 75.19 325 *e*P P **13 59 42.2 -3.2**
MOS *e* 13 59 56.3
MOS *e* 14 02 29.4
MOS *e*PPP PPP 14 04 13.5 -7.8
MOS *e*S S 14 09 14.3 -8.5
MOS pmax pmax
comp=Z,151nm,1.4s,mb5.7
MOS pmax pmax
comp=N,72nm,0.9s
MOS pmax pmax
comp=E,79nm,0.9s
MOS MLR MLR
comp=Z,3µm,16.0s,MS5.7
DAG Danmarks Havn 75.82 355⇑ *i*P P **13 59 47.2 -1.4**
comp=Z,26nm,1.2s,mb5.0
DAG Danmarks Havn 75.82 355⇑ *e*P P **13 59 47.2 -1.4**
DAG pmax pmax
comp=Z,27nm,1.2s,mb5.0
DAG Danmarks Havn 75.82 355⇑ *e*P P **13 59 47.2 -1.4**
comp=Z,27nm,1.2s,mb5.0
OBN Obninsk 76.01 325ĸ *i*P P **13 59 48.8 -1.2**
OBN 13 59 57.9
OBN 14 02 34.0
OBN *e* 14 04 30.6
OBN *e* 14 09 55.6
OBN pmax pmax
comp=Z,141nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,3µm,19.0s,MS5.6
OBN Obninsk 76.01 325 *e*P P **13 59 48.9 -1.2**
comp=Z,24nm,0.8s,mb5.2
OBN LR LR
comp=Z,435nm,20.0s,MS4.8
NAC Naches 76.28 44 P P **13 59 54.5 +2.7**
VRSR Storozhevoye 76.33 321*d i*P P **13 59 50.2 -1.7**
VRSR *e* 14 02 44.6
VRSR *e*S S 14 09 26.4 -8.9
VRSR pmax pmax
comp=N,5.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=E,8.0nm,1.0s
VRSR smax
comp=N,2.0nm,0.9s
VRSR smax
comp=E,1.0nm,1.0s
VRSR MLR MLR
comp=Z,190nm,17.0s,MS4.5
VRSR MLR MLR
comp=N,80nm,18.0s,MS4.3
VRSR MLR MLR
comp=E,120nm,17.0s,MS4.3
EBG Ellensburg 76.37 44 P P **13 59 53.5 +1.2**
FRIS Frissel Point 76.51 47 P P **13 59 54.1 +1.1**
PUL Pulkovo 76.73 331 *i*P P **13 59 48.9 -5.1**
PUL MLR MLR
comp=Z,1µm,15.0s,MS5.3
PUL MLR MLR
comp=N,381nm,14.0s,MS5.4
PUL MLR MLR
comp=E,1µm,14.0s,MS5.4
PUL MLR MLR
comp=Z,283nm,18.0s
PUL MLR MLR
comp=Z,805nm,14.0s
PUL MLR MLR
comp=N,664nm,13.0s
PUL MLR MLR
comp=E,1µm,16.0s
KAF Kangasniemi 77.13 334 *e*p P **13 59 53.2 -3.0**
HAWA Hanford 77.23 44 *e*P P **13 59 58.1 +1.0**
comp=E,13nm,1.7s,mb4.6
HAWA LR LR
comp=Z,168nm,22.0s,MS4.3

KIV Kislovodsk 77.30 313 *e*P P **13 59 57.0 -0.5**
KIV *e* 14 00 08.7
KIV *e* 14 02 55.7
KIV *e*PPP PPP 14 04 38.0 -3.7
KIV *e*S S 14 09 43.7 -2.4
KIV pmax pmax
comp=Z,66nm,1.1s,mb5.5
KIV MLR MLR
comp=Z,1µm,20.0s,MS5.3
KIV Kislovodsk 77.30 313 *e*P P **13 59 57.8 +0.3**
comp=Z,53nm,0.9s,mb5.5
KIV LR LR
comp=Z,1µm,20.0s,MS5.3
VIPM Ingram Point 77.35 46 P P **13 59 58.9 +1.1**
ONI Oni 77.37 311 P P **13 59 56.9 -1.0**
GNI Garni 77.50 309 P P **14 00 00.0 +1.3**
comp=Z,17nm,0.9s,mb5.0,baz=168,slow=15
GNI Garni 77.50 309*d i*P P **13 59 59.2 +0.5**
GNI pmax pmax
comp=Z,65nm,1.7s
GNI Garni 77.50 309 *e*P P **13 59 59.6 +0.9**
comp=Z,53nm,1.1s,mb5.4
GNI LR LR
comp=Z,737nm,20.0s,MS5.0
FINES FINESS Array B 77.60 333 P P **13 59 57.2 -1.5**
comp=Z,21nm,1.1s,mb5.0,baz=56,slow=6.9,SNR=20
FINES LR LR 14 37 43.5
comp=Z,824nm,19.1s,MS5.1,baz=168,slow=38
FINES FINESS Array B 77.60 333 P P **13 59 57.2 -1.5**
FINES LR LR 14 37 43.5
EDM Edmonton 77.71 36 *e*P P **13 59 59.5 -0.1**
NEW Newport 77.88 42 *e*P P **14 00 01.3 +0.7**
NEW pmax pmax
comp=Z,187nm,1.7s
NEW MLR MLR
comp=Z,1µm,20.0s
NEW Newport 77.88 42 *e*P P **14 00 01.3 +0.7**
comp=Z,187nm,1.7s,mb5.7
NEW LR LR
comp=Z,1µm,20.0s,MS5.2
SHAO Shalim 77.91 284 P P **14 00 02.8 +1.5**
SNR=7.4
VSU Vasula 78.99 331 *i*P P **14 00 05.2 -1.3**
VSU Vasula 78.99 331 *i*Pr 14 00 05.2
BMO Blue Mountains 79.32 45 *e*P P **14 00 09.3 +0.8**
BMO pmax pmax
comp=Z,269nm,1.8s,mb5.9
BMO MLR MLR
comp=Z,2µm,22.0s,MS5.4
BMO Blue Mountains 79.32 45 *e*P P **14 00 09.3 +0.8**
comp=Z,269nm,1.8s,mb5.9
BMO LR LR
comp=Z,2µm,22.0s,MS5.4
RBK Rabkut 79.35 284 P P **14 00 09.9 +0.6**
SNR=22
SOC Sochi 79.40 313*d i*P P **14 00 07.7 -1.3**
SOC *e* 14 00 20.2
SOC *i*S S 14 10 03.8 -4.7
SOC *e**SS 14 10 51.2
SOC pmax pmax
comp=Z,51nm,1.0s,mb5.4
SOC MLR MLR
comp=Z,1µm,19.0s,MS5.3
WHFO Wadi Hawf 79.55 285 P P **14 00 10.6 +0.2**
SNR=38
WVOR Wild Horse Val 79.55 48 *e*P P **14 00 11.1 +1.2**
WVOR pmax pmax
comp=Z,280nm,1.9s,mb5.9
WVOR Wild Horse Val 79.55 48 *e*P P **14 00 11.0 +1.1**
comp=Z,283nm,1.9s,mb5.9
WVOR LR LR
comp=Z,3µm,20.0s,MS5.6
UMR Umm Al-Rimmam 79.71 298 *e*P P **14 00 11.5 +0.5**
UMR AMb AMB 14 00 13.2
comp=Z,213nm,1.3s,mb5.9
KBD Kabd 79.89 298 *e*P P **14 00 11.7 -0.3**
KBD AMb AMB 14 00 14.2
comp=Z,670nm,1.3s,mb6.4
QRN Al-Qurain 79.89 297 *e*P P **14 00 12.4 +0.4**
QRN AMb AMB 14 00 14.0
comp=Z,202nm,1.0s,mb6.0
MIB Mutribah 79.90 298 *e*P P **14 00 12.0 0.0**
MIB AMb AMB 14 00 14.0
comp=Z,156nm,0.8s,mb6.0
HASS Wahat al Ahsa' 79.95 293 P P **14 00 12.1 -0.2**
RDF Al-Radifah 80.11 297 *e*P P **14 00 13.6 +0.5**
RDF AMb AMB 14 00 15.2
comp=Z,264nm,1.3s,mb6.0
ABTO Aybut 80.20 284 P P **14 00 14.6 +0.8**
SNR=35
NAY Al-Naaiem 80.22 298 *e*P P **14 00 14.2 +0.5**
NAY AMb AMB 14 00 15.9
comp=Z,219nm,1.1s,mb6.0
ANN Anapa 80.29 315 *e*P P **14 00 12.6 -1.2**
ANN *e*S S 14 10 13.0 -4.9
ANN pmax pmax
comp=Z,238nm,1.2s,mb6.0
MSL Mosul 80.33 306 *e*x x 14 00 13.5
MSL *e*x x 14 03 16.0
MSL *e*x x 14 10 15.0
MSO Missoula 80.46 42 *e*P P **14 00 15.2 +0.5**
comp=Z,67nm,1.8s,mb5.3
MSO LR LR
comp=Z,672nm,21.0s,MS5.0
NSS Namsos 80.60 340 AMS AMS 14 44 49.2
comp=Z,1µm,15.4s,MS5.4
PPT Papeete 80.68 115 *e*LQ 14 21 20.5
PPT *e*LR LR 14 24 45.2
comp=Z,1µm,22.8s
PPT Papeete 80.68 115 LR LR 14 31 14.7
comp=Z,860nm,18.0s,MS5.1,baz=277,slow=32
MNK Minsk 80.68 327⇑ *e*P P **14 00 12.0 -3.6**
MNK pmax pmax
comp=Z,320nm,1.0s,mb6.2
BHD Baghdad 80.70 302 *e*x x 14 00 17.5
BHD *e*x x 14 03 24.0
BHD *e*x x 14 10 26.0
SUMG Summit 80.81 360 *e*P P **14 00 16.3 +0.3**
comp=Z,497nm,2.3s,mb6.0
NVAR Mina Array Bea 81.61 51 P P **14 00 21.7 +0.9**
comp=Z,14nm,0.9s,mb4.9,baz=285,slow=6.7,SNR=43
MNV Mina 81.71 51 *e*P P **14 00 22.2 +0.8**
MNV pmax pmax
comp=Z,119nm,1.8s,mb5.5
MNV MLR MLR
comp=Z,1µm,22.0s,MS5.3
MNV Mina 81.71 51 *e*P P **14 00 22.2 +0.9**
comp=Z,119nm,1.8s,mb5.5
MNV LR LR
comp=Z,1µm,22.0s,MS5.3
HLID Hailey 81.76 45 *e*P P **14 00 22.5 +1.0**
comp=Z,63nm,1.4s,mb5.3
HLID LR LR
comp=Z,2µm,21.0s,MS5.5
HRY Holter Researc 81.78 42 *e*P P **14 00 22.6 +1.1**
DLMT Dillon 82.00 43 *e*P P **14 00 24.1 +1.4**
comp=Z,229nm,1.8s,mb5.8
AKASG Malin Array Be 82.06 323 P P **14 00 21.3 -1.6**
comp=Z,15nm,0.9s,mb4.9,baz=46,slow=5.5,SNR=83
AKASG Malin Array Be 82.06 323 *i*P P **14 00 21.7 -1.2**
AKASG pmax pmax
comp=Z,15nm,0.9s
AKASG Malin Array Be 82.06 323 P P **14 00 21.3 -1.6**
MCMT McKenzie Canyo 82.11 44 *e*P P **14 00 24.2 +0.9**
SCO Scoresbysund 82.13 354 *i*P P **14 00 23.0 +0.1**
comp=Z,8.6nm,1.0s,mb4.6
SIM Simferopol' 82.28 317*d i*P P **14 00 23.5 -0.6**
SIM *e*S S 14 10 41.0 +2.7
SIM *e*PS PS 14 11 43.0 +13
SIM pmax pmax
comp=Z,44nm,0.8s,mb5.4
SIM pmax pmax
comp=Z,90nm,8.2s
EGMT Eagleton 82.31 40 *e*P P **14 00 25.4 +1.1**
comp=Z,211nm,1.7s,mb5.8
EGMT LR LR
comp=Z,962nm,20.0s,MS5.2
BOZ Bozeman (W) 82.44 42 *e*P P **14 00 26.2 +1.2**
BOZ pmax pmax
comp=Z,282nm,2.2s,mb5.8
BOZ MLR MLR
comp=Z,874nm,21.0s,MS5.1
BOZ Bozeman (W) 82.44 42 *e*P P **14 00 26.2 +1.2**
comp=Z,282nm,2.2s,mb5.8
BOZ LR LR
comp=Z,874nm,21.0s,MS5.1

TPH Tonopah 82.53 51 PFAKE 14 00 40.0 +14
TPH LR LR
comp=Z,1µm,20.0s,MS5.2
ELK Elko 82.60 48 *e*P P **14 00 27.3 +1.4**
ELK pmax pmax
comp=Z,323nm,2.0s
ELK MLR MLR
comp=Z,2µm,19.0s
ELK Elko 82.60 48 *e*P P **14 00 27.3 +1.4**
comp=Z,323nm,2.0s,mb6.0
ELK LR LR
comp=Z,2µm,19.0s,MS5.6
MALT Malatya 82.71 309 P P **14 00 27.1 +0.6**
MALT pmax pmax
comp=Z,67nm,1.2s,mb5.5
MALT Malatya 82.71 309 *e*P P **14 00 27.0 +0.4**
comp=Z,67nm,1.2s,mb5.5
ISA Isabella 82.77 54 PFAKE 14 00 40.0 +13
ISA LR LR
comp=Z,340nm,19.0s,MS4.7
RYDS Riyadh 82.89 293 P P **14 00 28.0 +0.2**
QLMT Earthquake Lak 82.98 43 *e*P P **14 00 29.8 +2.0**
DAC Darwin (Calif) 83.11 53 *e*P P **14 00 29.5 +0.8**
DAC pmax pmax
comp=Z,13nm,1.2s,mb4.8
DAC MLR MLR
comp=Z,2µm,22.0s,MS5.4
DAC Darwin (Calif) 83.11 53 *e*P P **14 00 29.5 +0.9**
comp=Z,13nm,1.2s,mb4.8
DAC LR LR
comp=Z,2µm,22.0s,MS5.4
HFS Hagfors 83.13 336 P P **14 00 26.4 -1.8**
comp=Z,7.4nm,0.6s,mb4.9,baz=90,slow=3.0,SNR=23
SUW Suwalki 83.19 328 *e*P P **14 00 24.2 -4.5**
SUW *e*PcP PcP 14 00 26.9 -6.9
SUW MLR MLR 14 45 01.2
comp=Z,2µm,18.0s,MS5.4
SUW Suwalki 83.19 328 *e*P P **14 00 27.5 -1.2**
comp=Z,94nm,0.9s,mb5.8
FCC Fort Churchill 83.33 25 *e*P P **14 00 28.8 -0.5**
FCC pmax pmax
comp=Z,198nm,1.6s,mb5.9
FCC Fort Churchill 83.33 25 *e*P P **14 00 28.8 -0.5**
comp=Z,198nm,1.6s,mb5.9
YMR Madison River 83.35 43 *e*P P **14 00 32.1 +2.4**
comp=Z,338nm,1.8s,mb6.1
YMR *e*pP pP 14 00 49.4 +17
YMR LR LR
comp=Z,874nm,20.0s,MS5.1
NB2 NORSAR Subarra 83.35 338 P P **14 00 28.2 -1.2**
comp=Z,92nm,1.4s,mb5.6,baz=47,slow=5.0
NB2 NORSAR Subarra 83.35 338 P P **14 00 28.2 -1.2**
baz=47,slow=5.1
NB2 NORSAR Subarra 83.35 338 P P **14 00 28.2 -1.2**
NB2 pmax pmax
comp=Z,92nm,1.4s,mb5.6
NOA NORSAR Array B 83.35 338 P P **14 00 27.7 -1.7**
comp=Z,14nm,0.8s,mb5.0,baz=46,slow=4.9,SNR=23
NOA LR LR 14 40 33.9
comp=Z,1µm,20.7s,MS5.3,baz=30,slow=38
NOA NORSAR Array B 83.35 338 P P **14 00 27.7 -1.7**
NOA LR LR 14 40 33.9
GCMT Greycliff 83.54 42 *e*P P **14 00 32.2 +1.6**
YFT Old Faithful 83.54 43 *e*P P **14 00 34.5 +3.8**
NAO01 NORSAR Array S 83.61 338 PFAKE 14 00 40.0 +9.4
NAO01 LR LR
comp=Z,2µm,19.0s,MS5.5
HVU Hansel Valley 83.70 46 *e*P P **14 00 33.3 +1.8**
HVU pmax pmax
comp=Z,428nm,2.0s,mb6.2
HVU Hansel Valley 83.70 46 *e*P P **14 00 33.3 +1.8**
comp=Z,428nm,2.0s,mb6.2
TPNV Topopah Spring 83.74 52 *e*P P **14 00 33.1 +1.2**
TPNV pmax pmax
comp=Z,342nm,1.9s,mb6.2
TPNV MLR MLR
comp=Z,2µm,21.0s,MS5.4
TPNV Topopah Spring 83.74 52 *e*P P **14 00 33.1 +1.2**
comp=Z,342nm,1.9s,mb6.2
TPNV LR LR
comp=Z,2µm,21.0s,MS5.4
MWC Mount Wilson 83.74 55 *e*P P **14 00 32.2 +0.2**
LKWY Lake 83.75 43 *e*P P **14 00 35.2 +3.5**
LKWY pmax pmax
comp=Z,416nm,1.8s,mb6.3
LKWY MLR MLR
comp=Z,1µm,20.0s,MS5.2
LKWY Lake 83.75 43 *e*P P **14 00 35.2 +3.5**
comp=Z,416nm,1.8s,mb6.3
LKWY LR LR
comp=Z,1µm,20.0s,MS5.2
IMW Indian Meadow 83.77 44 *e*P P **14 00 34.1 +2.3**
comp=Z,77nm,1.2s,mb5.7
TBI Tubuai 83.84 120 *e*LQ 14 22 40.3
TBI *e*LR LR 14 26 12.6
comp=Z,1µm,27.2s,baz=302
BGU Big Grassy Mou 83.96 47 *e*P P **14 00 34.5 +1.6**
TPAW Teton Pass 83.97 44⇓ *i*P P **14 00 34.3 +1.4**
comp=Z,112nm,1.3s,mb5.8
REDW Red Top Meadow 84.10 44 *e*P P **14 00 35.5 +2.0**
comp=Z,267nm,1.7s,mb6.1
SNOW Snow King Moun 84.11 44 *e*P P **14 00 34.5 +0.9**
comp=Z,48nm,1.2s,mb5.5
LOHW Long Hollow 84.12 44 *e*P P **14 00 35.2 +1.6**
comp=Z,119nm,1.6s,mb5.8
MZLS Mizel 84.13 294 P P **14 00 35.1 +0.9**
SPUT South Promonto 84.15 46 *e*P P **14 00 35.3 +1.5**
AHID Auburn Hatcher 84.25 45 *e*P P **14 00 36.2 +1.9**
comp=Z,214nm,1.6s,mb6.0
AHID LR LR
comp=Z,2µm,22.0s,MS5.5
TAOE Nuku Hiva Isla 84.31 103 *e*LR LR 14 26 26.1
comp=Z,6µm,33.4s
KIS Kishinev 84.33 320 *e*P P **14 00 32.0 -2.6**
KIS *e* 14 00 42.0
KIS *e* 14 03 50.0
KIS *e*S S 14 11 00.0 +1.1
KIS *e*PS PS 14 12 00.0 +5.2
DUG Dugway 84.47 48 P P **14 00 37.2 +1.7**
DUG pmax pmax
comp=Z,150nm,1.5s,mb5.9
DUG Dugway 84.47 48 *e*P P **14 00 37.1 +1.6**
comp=Z,145nm,1.6s,mb5.9
DUG LR LR
comp=Z,2µm,20.0s,MS5.5
HWUT Hardware Ranch 84.56 46 *e*P P **14 00 37.7 +1.8**
comp=Z,420nm,1.9s,mb6.2
HWUT LR LR
comp=Z,2µm,22.0s,MS5.3
NOQ North Oquirrh 84.70 47 *e*P P **14 00 38.2 +1.6**
comp=Z,412nm,1.8s,mb6.3
ARSS Ar Rass 84.89 296 P P **14 00 38.4 +0.5**
TCUT Toone Canyon 84.92 46 *e*P P **14 00 38.9 +1.2**
KONO Kongsberg 84.92 337 *e*P P **14 00 34.1 -3.1**
KONO LR LR
comp=Z,1µm,19.0s,MS5.3
LAO LASA Array 85.05 40 *e*P P **14 00 39.8 +1.6**
comp=Z,688nm,2.1s,mb6.4
LAO LR LR
comp=Z,1µm,21.0s,MS5.2
NLU North Lily Min 85.08 48 *e*P P **14 00 39.6 +1.1**
DGMT Dagmar 85.15 37 *e*P P **14 00 39.4 +0.8**
comp=Z,403nm,1.9s,mb6.2
DGMT LR LR
comp=Z,1µm,20.0s,MS5.3
PFO Pinyon Flat Ob 85.21 55 P P **14 00 39.2 -0.1**
PFO pmax pmax
comp=Z,43nm,1.0s,mb5.5
PFO Pinyon Flat Ob 85.21 55 *e*P P **14 00 39.4 +0.1**
comp=Z,43nm,1.0s,mb5.5
PFO LR LR
comp=Z,426nm,21.0s,MS4.8
BW06 Boulder Array 85.22 44 PFAKE 14 00 50.0 +11
BW06 LR LR
comp=Z,2µm,21.0s,MS5.5
PDAR Pinedale Array 85.22 44 P P **14 00 39.9 +0.7**
comp=Z,15nm,1.0s,mb5.1,baz=243,slow=2.0,SNR=59
PDAR LR LR 14 35 03.2
comp=Z,1µm,19.8s,MS5.3,baz=317,slow=33
BR131 Keskin Array S 85.25 312 *e*P P **14 00 38.4 -1.0**
comp=Z,6.4nm,0.7s,mb4.9
BR131 LR LR
comp=Z,490nm,20.0s,MS4.9
BRTR Keskin Array B 85.25 312 P P **14 00 38.3 -1.1**
comp=Z,14nm,1.0s,mb5.0,baz=104,slow=3.8,SNR=26
BRTR PP PP 14 03 58.9 +0.1

comp=Z,4.7nm,1.0s,baz=80,slow=6.4,SNR=6.1
ARUT Antelope Range 85.27 50 *e*P **P 14 00 41.2 +1.7**
WAR Warsaw 85.31 328 *e*P **P 14 00 35.3 -4.0**
MPU Maple Canyon 85.34 47 *e*P **P 14 00 41.4 +1.5**
comp=Z,246nm,1.9s,mb6.0
MPU LR LR
comp=Z,3µm,20.0s,MS5.7
NEN Nelson 85.37 52 *e*P **P 14 00 41.2 +1.1**
DAU Daniels Canyon 85.38 47 *e*P **P 14 00 35.0 -5.0**
BAR Barrett 85.50 56 *e*P **P 14 00 41.8 +1.0**
MVU Marysvale 85.74 49 *e*P **P 14 00 46.0 +4.2**
comp=Z,122nm,1.7s,mb5.8
MVU LR LR
comp=Z,2µm,21.0s,MS5.4
BER Bergen 85.76 340 *e* **P 14 00 42.5 +1.1**
BER AMS AMS 14 45 28.0
comp=Z,1µm,16.2s,MS5.4
MSU Marysvale 85.76 49 *e*P **P 14 00 43.9 +1.9**
AFFS 'Afif 85.97 295 P **P 14 00 44.3 +0.9**
TIRR Tirgusor 85.98 318 ⇑P **P 14 00 42.8 -0.1**
BURAR Bucovina Array 85.98 320 ⇓P **P 14 00 42.8 0.0**
BURAR Bucovina Array 85.98 322 ⇓P **P 14 00 42.8 -0.1**
TMUT Trail Mountain 86.00 48 *e*P **P 14 00 44.5 +1.3**
SFJD Kangerlussuaq 86.02 4 *e*S S 14 11 23.2 +8.3
comp=Z,780nm,22.0s
SFJD Kangerlussuaq 86.02 4⇓*i*P **P 14 00 42.6 0.0**
SFJD *e*S S 14 11 23.2 +8.3
SFJD pmax pmax
comp=Z,79nm,0.9s,mb5.9
SFJD MLR MLR
comp=Z,790nm,22.0s,MS5.1
SFJD Kangerlussuaq 86.02 4⇓*i*P **P 14 00 42.6 0.0**
comp=Z,79nm,0.9s,mb5.9
SFJD *i* 14 01 13.9
SFJD *e*S S 14 11 23.2 +8.3
SFJD LR LR
comp=Z,790nm,22.0s,MS5.1
KWP Kalwaria 86.10 325 *e*P **P 14 00 40.7 -2.7**
KWP *e*PcP PcP 14 00 42.9 -3.6
KWP MLR MLR 14 41 58.6
comp=Z,2µm,19.2s,MS5.5
BSD Bornholm Skovb 86.15 332 *i*P **P 14 00 34.7 -8.8**
BSD *i* 14 04 03.1
BSD *i* 14 12 29.3
comp=Z,820nm,18.0s
KAMS Al Khamasin 86.33 291 P **P 14 00 46.3 +1.1**
SRU San Rafael 86.55 48 P **P 14 00 46.9 +1.1**
SRU pmax pmax
comp=Z,160nm,1.6s,mb6.0
SRU San Rafael 86.55 48 *e*P **P 14 00 46.8 +1.0**
comp=Z,155nm,1.6s,mb6.0
KOLS Kolonicke sedl 86.75 325 *e*P **P 14 00 45.9 -0.7**
KOLS *e* pP 14 00 51.1 +1.3
MLR Muntele Rosu 86.82 320 P **P 14 00 46.0 -1.0**
comp=Z,3.0nm,0.8s,mb4.5,baz=95,slow=11,SNR=3.8
MLR Muntele Rosu 86.82 320 ⇑P **P 14 00 44.0 -3.0**
STHS Stebnicka Huta 86.98 325 *e*P **P 14 00 48.0 +0.3**
STHS *e* 14 00 56.4
CRVS Cervenica-Dubn 87.19 325 *i*P **P 14 00 47.9 -0.8**
CRVS *e* 14 01 11.9
OJC Ojcow 87.19 327⇓*e*P **P 14 00 47.3 -1.4**
OJC *e*S S 14 10 58.1 -28
OJC MLR MLR 14 42 47.2
comp=Z,2µm,18.4s,MS5.5
OJC Ojcow 87.19 327⇓*e*P **P 14 00 47.3 -1.4**
OJC MLR MLR
comp=Z,2µm,18.4s,MS5.5
RWWY Rawlins 87.27 44 *e*P **P 14 00 50.7 +1.4**
comp=Z,360nm,2.0s,mb6.2
NIE Niedzica 87.45 326 *e*P **P 14 00 49.5 -0.4**
TATS Tathlith 87.60 291 P **P 14 00 53.0 +1.7**
BORG Borgarnes 87.62 352 *e*P **P 14 00 49.8 -0.6**
RSSD Black Hills 87.79 41 *e*P **P 14 00 52.2 +0.5**
RSSD pmax pmax
comp=Z,165nm,1.7s,mb6.0
RSSD Black Hills 87.79 41 *e*P **P 14 00 52.1 +0.5**
comp=Z,165nm,1.7s,mb6.0
WUAZ Wupatki 87.87 51 *e*P **P 14 00 53.7 +1.4**
comp=Z,151nm,1.8s,mb5.9
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.3
PV10 Paradox Valley 87.92 48 *e*P **P 14 00 54.2 +1.7**
CSS Prodhromos 87.93 308 *e*P **P 14 00 51.8 -0.8**
comp=Z,28nm,1.1s,mb5.4
MSEY Mahe Island 87.94 264 PFAKE 14 01 00.0 +6.9
MSEY LR LR
comp=Z,194nm,19.0s,MS4.5
KECS Kecovo 87.96 325 *e*P **P 14 00 50.9 -1.5**
KECS *e* 14 00 57.9
KECS *e*PP PP 14 04 14.0 -7.2
KBRS Khaybar 88.09 298 P **P 14 00 54.0 +0.5**
OKC Ostrava-Krasne 88.25 327⇑*e*P **P 14 00 52.1 -1.7**
OKC AMS AMS 14 47 00.0
comp=Z,1µm,13.3s
ULM Lac du Bonnet 88.28 32 P **P 14 00 54.2 +0.3**
comp=Z,16nm,1.2s,mb5.1,baz=300,slow=5.5,SNR=21
ULM LR LR 14 38 00.3
comp=Z,1µm,21.3s,MS5.3,baz=299,slow=34
PV01 Paradox Valley 88.36 48 *e*P **P 14 00 55.4 +0.8**
DJNS Zahran al Janu 88.39 289 P **P 14 00 56.0 +0.9**
KSP Ksiaz 88.46 328 *e*P **P 14 00 52.1 -2.7**
KSP *e*PcP PcP 14 00 53.8 -3.0
KSP MLR MLR 14 48 22.6
comp=Z,2µm,17.5s,MS5.6
KSP Ksiaz 88.46 328 *e*P **P 14 00 53.2 -1.5**
KSP MLR MLR
comp=Z,2µm,18.8s,MS5.6
PHWY Pilot Hill 88.57 44 *e*P **P 14 00 57.1 +1.6**
PSZ Piszkesteto 88.62 325⇑*e* **P 14 00 54.9 -0.7**
PSZ Piszkesteto 88.62 325 P **P 14 00 54.1 -1.5**
PSZ pmax pmax
comp=Z,44nm,1.5s,mb5.6
DPC Dobruska-Polom 88.78 328⇑*i*P **P 14 00 55.5 -0.8**
VYHS Vyhne 88.79 326 *i*P **P 14 00 55.6 -0.8**
VYHS *e*PP PP 14 04 25.0 -2.9
UPC Upice 88.82 328⇑*i*P **P 14 00 55.5 -1.0**
SMCO Snowmass 88.82 46 *e*P **P 14 00 58.4 +1.6**
comp=Z,216nm,2.0s,mb6.1
BSEG Bad Segeberg 88.87 333 *e*P **P 14 00 53.2 -3.4**
BLJS Baljurashi 89.00 292 P **P 14 00 59.5 +1.4**
BZS Buzias 89.17 322 ⇓P **P 14 00 56.5 -1.8**
JMQS Jabal Moqyreh 89.19 302 P **P 14 00 58.7 0.0**
ISCO Idaho Springs 89.34 45 *e*P **P 14 01 00.6 +1.4**
ISCO pmax pmax
comp=Z,171nm,2.1s,mb6.0
ISCO MLR MLR
comp=Z,3µm,22.0s,MS5.7
ISCO Idaho Springs 89.34 45 *e*P **P 14 01 00.6 +1.4**
comp=Z,171nm,2.1s,mb6.0
ISCO LR LR
comp=Z,3µm,22.0s,MS5.7
VRAC Vranov 89.36 327 P **P 14 00 57.4 -1.6**
comp=Z,8.9nm,1.0s,mb5.0,baz=65,slow=4.1,SNR=16
PVCC Panska Ves 89.48 329⇑*e*P **P 14 00 58.5 -1.1**
SMOL Smolenice 89.48 326 *e*P **P 14 00 59.2 -0.5**
BRG Berggiesshubel 89.52 330 *i*P **P 14 00 58.4 -1.4**
BRG pmax pmax
comp=Z,22nm,1.4s,mb5.3
BRG MLR MLR
comp=Z,2µm,15.9s,MS5.7
BRG Berggiesshubel 89.52 330 *i*P **P 14 00 58.4 -1.4**
comp=Z,22nm,1.4s,mb5.3
BRG LR LR
comp=Z,2µm,15.9s,MS5.7
CLL Collm 89.64 330 ⇑P **P 14 00 58.2 -2.1**
comp=Z,logA/T=1.4,mb5.5
CLL *i* *SP sP 14 01 33.2 +29
CLL *e*PP PP 14 04 32.0 -2.5
CLL Collm 89.64 330⇑*i*P **P 14 00 58.2 -2.1**
CLL pmax pmax
comp=Z,27nm,1.2s,mb5.5
CLL Collm 89.64 330⇑*i*P **P 14 00 58.2 -2.1**
comp=Z,27nm,1.2s,mb5.5
CLL *i* sP sP 14 01 33.2 +29
YNBS Yanbu' al Bahr 89.80 297 P **P 14 01 02.8 +1.0**
ZST Bratislava 89.85 326 *e*P **P 14 01 00.6 -0.8**
PRU Pruhonice 89.86 329⇑*i*P **P 14 00 58.9 -2.5**
PRU AMS AMS 14 46 40.0
comp=Z,1µm,14.9s
TREC Trest 89.90 328⇑*e*P **P 14 01 00.3 -1.3**
TREC AMS AMS 14 46 00.0
comp=Z,1µm,15.9s
UMJS Umm Lajj 89.90 298 P **P 14 01 03.2 +1.0**
TUC Tucson 89.97 53 *e*P **P 14 01 03.7 +1.3**
TUC pmax pmax
comp=Z,121nm,2.1s,mb5.9
TUC MLR MLR
comp=Z,1µm,20.0s,MS5.2
TUC Tucson 89.97 53 *e*P **P 14 01 03.7 +1.3**
comp=Z,121nm,2.1s,mb5.9
TUC LR LR
comp=Z,1µm,20.0s,MS5.2
CLZ Clausthal 90.39 332 *e*P **P 14 01 02.0 -1.8**
CLZ pmax pmax
comp=Z,25nm,1.3s,mb5.4
CLZ Clausthal 90.39 332 *e*P **P 14 01 02.0 -1.8**
comp=Z,25nm,1.3s,mb5.4
SDCO Great Sand Dun 90.59 47 *e*P **P 14 01 06.5 +1.5**
comp=Z,195nm,2.1s,mb6.1
SDCO LR LR
comp=Z,2µm,20.0s,MS5.5
NKC Novy Kostel 90.65 330⇑*e*P **P 14 01 04.6 -0.4**
NKC AMS AMS 14 45 40.0
comp=Z,2µm,17.7s
MOX Moxa 90.72 330 *i*P **P 14 01 04.1 -1.3**
comp=Z,logA/T=1.3,mb5.4
MOX PP PP 14 04 40.0 -3.3
MOX L 14 45 46.0
MOX Moxa 90.72 330 *e*P **P 14 01 04.1 -1.3**
MOX *e* 14 04 39.9
MOX pmax pmax
comp=Z,34nm,1.8s,mb5.4
MOX MLR MLR
comp=Z,1µm,18.0s,MS5.3
MOX Moxa 90.72 330 *e*P **P 14 01 04.1 -1.3**
comp=Z,34nm,1.8s,mb5.4
MOX *e*PP PP 14 04 39.9 -3.4
MOX LR LR
comp=Z,1µm,18.0s,MS5.3
KHC Kasperske Hory 90.91 328⇑*i*P **P 14 01 05.0 -1.3**
KHC AMS AMS 14 46 50.0
comp=Z,2µm,15.3s
KHC Kasperske Hory 90.91 328 *e*P **P 14 01 05.2 -1.1**
GEC2 GERESS Array S 91.06 328 *e*P **P 14 01 05.6 -1.3**
GEC2 pmax pmax
comp=Z,28nm,1.4s,mb5.4
GEC2 GERESS Array S 91.06 328 *e*P **P 14 01 05.6 -1.3**
comp=Z,28nm,1.4s,mb5.4
GERES GERESS Array B 91.06 328 P **P 14 01 05.6 -1.3**
comp=Z,3.6nm,0.9s,mb4.7,baz=45,slow=3.8,SNR=28
GERES PP PP 14 04 40.8 -5.2
comp=Z,0.4nm,0.8s,baz=117,slow=2.2,SNR=2.8
GERES LR LR 14 47 40.3
comp=Z,2µm,18.8s,MS5.5,baz=34,slow=39
WET Wettzell 91.23 329 *e*P **P 14 01 06.7 -1.0**
WET pmax pmax
comp=Z,50nm,1.9s,mb5.5
WET Wettzell 91.23 329 *e*P **P 14 01 06.7 -1.0**
comp=Z,50nm,1.9s,mb5.5
ARSA Arzberg 91.28 326⇑*i*P **P 14 01 07.3 -0.7**
comp=Z,31nm,1.6s,mb5.4
ARSA Arzberg 91.28 326 ⇑P **P 14 01 07.3 -0.7**
comp=Z,31nm,1.5s,mb5.4
MOA Molln 91.48 327⇑*i*P **P 14 01 08.0 -1.0**
comp=Z,26nm,1.4s,mb5.4
ANMO Albuquerque 91.54 49*d i*P **P 14 01 10.3 +0.8**
ANMO Albuquerque 91.54 49 *e*P **P 14 01 11.1 +1.5**
comp=Z,28nm,1.2s,mb5.5
ANMO LR LR
comp=Z,1µm,19.0s,MS5.3
GRA1 Grafenberg Arr 91.59 330 *e*P **P 14 01 08.1 -1.3**
comp=Z,68nm,1.4s,mb5.8
GRA1 LR LR
comp=Z,1µm,18.2s,MS5.4
GRF Grafenberg Arr 91.59 330 *e*P **P 14 01 08.1 -1.3**
GRF pmax pmax
comp=Z,68nm,1.4s,mb5.8
GRF MLR MLR
comp=Z,1µm,18.2s,MS5.4
GRF Grafenberg Arr 91.59 330 *e*P **P 14 01 08.1 -1.3**
comp=Z,68nm,1.4s,mb5.8
GRF LR LR
comp=Z,1µm,18.2s,MS5.4
WTSB Winterswijk 91.76 334 *e*P **P 14 01 12.4 +2.3**
comp=Z,2.0nm,1.7s
PERS Pernice 91.90 326 *e*P **P 14 01 08.7 -2.2**
EYMN Ely 91.96 32 *e*P **P 14 01 11.6 +0.5**
comp=Z,62nm,1.4s,mb5.7
EYMN LR LR
comp=Z,2µm,22.0s,MS5.5
TNS Taunus Mts 92.41 332 *e*P **P 14 01 11.7 -1.4**
TNS pmax pmax
comp=Z,14nm,1.4s,mb5.1
TNS Taunus Mts 92.41 332 *e*P **P 14 01 11.7 -1.4**
comp=Z,14nm,1.4s,mb5.1
EKA Eskdalemuir Ar 92.50 340 P **P 14 01 12.1 -1.4**
comp=Z,6.2nm,1.1s,mb4.9,baz=63,slow=1.9,SNR=6.2
ESK Eskdalemuir 92.53 340 PFAKE 14 01 20.0 +6.4
ESK LR LR
comp=Z,315nm,19.0s,MS4.8
BOJS Bojanci 92.61 325 *e*P **P 14 01 13.3 -0.9**
FUR Furstenfeldbru 92.67 329 *e*P **P 14 01 13.4 -1.0**
FUR pmax pmax
comp=Z,79nm,1.3s,mb6.0
FUR Furstenfeldbru 92.67 329 *e*P **P 14 01 13.4 -1.0**
comp=Z,79nm,1.3s,mb6.0
JAVS Javornik 92.94 326 *e*P **P 14 01 14.4 -1.3**
HGN Heimansgroeve 93.03 333 *e*P **P 14 01 14.4 -1.6**
comp=Z,27nm,1.1s,mb5.6
STU Stuttgart 93.17 330 *e*P **P 14 01 15.7 -0.9**
STU pmax pmax
comp=Z,8.0nm,0.6s,mb5.3
STU Stuttgart 93.17 330 *e*P **P 14 01 15.7 -0.9**
comp=Z,8.4nm,0.6s,mb5.3
MOTA Moosalm 93.35 328⇑*i*P **P 14 01 16.3 -1.2**
comp=Z,16nm,1.3s,mb5.3
MOTA Moosalm 93.35 328 ⇑P **P 14 01 16.3 -1.2**
MOTA pmax pmax
comp=Z,16nm,1.3s,mb5.3
MOTA Moosalm 93.35 328 ⇑P **P 14 01 16.3 -1.3**
comp=Z,16nm,1.3s,mb5.3
CBKS Cedar Bluff 93.57 43 *e*P **P 14 01 19.0 +0.2**
CBKS pmax pmax
comp=Z,34nm,1.2s,mb5.7
CBKS MLR MLR
comp=Z,2µm,21.0s,MS5.4
CBKS Cedar Bluff 93.57 43 *e*P **P 14 01 19.0 +0.2**
comp=Z,34nm,1.2s,mb5.7
CBKS LR LR
comp=Z,2µm,21.0s,MS5.4
WLF Walferdange 93.79 332 *e*P **P 14 01 18.7 -0.8**
WLF pmax pmax
comp=Z,86nm,1.7s,mb5.9
WLF Walferdange 93.79 332 *e*P **P 14 01 18.7 -0.8**
comp=Z,86nm,1.7s,mb5.9
BFO Black Forest 93.88 330 *e*P **P 14 01 18.5 -1.4**
BFO pmax pmax
comp=Z,40nm,1.3s,mb5.7
BFO Black Forest 93.88 330 *e*P **P 14 01 18.5 -1.4**
comp=Z,40nm,1.3s,mb5.7
DAVA Damuels 93.96 329⇑*i*P **P 14 01 19.4 -0.9**
comp=Z,27nm,1.1s,mb5.6
DAVA Damuels 93.96 329 ⇑P **P 14 01 19.4 -0.9**
comp=Z,27nm,1.1s,mb5.6
GIVF Givet 93.99 333 *e*P **P 14 01 19.1 -1.3**
MNTX Cornudas Mount 94.13 51⇓*i*P **P 14 01 22.2 +0.7**
comp=Z,101nm,1.9s,mb5.9
MNTX LR LR
comp=Z,960nm,19.0s,MS5.3
BAIF Baives 94.27 334⇑*i*P **P 14 01 20.5 -1.2**
comp=Z,30nm,1.4s,mb5.2
BAIF Baives 94.27 334⇑*i*P **P 14 01 20.5 -1.2**
BAIF pmax pmax
comp=Z,15nm,1.4s,mb5.2
CDF Champ du Feu 94.28 331⇑*i*P **P 14 01 20.6 -1.2**
comp=Z,92nm,1.5s,mb5.7
CDF Champ du Feu 94.28 331⇑*i*P **P 14 01 20.6 -1.2**
CDF pmax pmax
comp=Z,46nm,1.5s,mb5.7
DAVOX Davos 94.33 329 P **P 14 01 20.8 -1.3**
comp=Z,5.9nm,1.0s,mb5.0,baz=15,slow=4.8
HINF Hinteralfeld 94.91 331⇑*i*P **P 14 01 23.1 -1.6**
HAU Haudompre 94.99 331⇑*i*P **P 14 01 23.5 -1.5**
HAU *e*R
comp=Z,1µm,17.8s
MEZF Maizieres J'vi 95.15 332⇑*i*P **P 14 01 24.9 -0.9**
comp=Z,84nm,1.3s,mb5.7
SCHQ Schefferville 95.22 16 P **P 14 01 27.0 +1.1**
comp=Z,7.2nm,0.9s,mb5.1,baz=307,slow=4.2,SNR=5.5
SCHQ LR LR 14 46 02.4
comp=Z,749nm,18.6s,MS5.2,baz=129,slow=37
SCHQ Schefferville 95.22 16 *e*P **P 14 01 25.8 -0.2**
comp=Z,75nm,1.8s,mb5.8
SCHQ LR LR
comp=Z,1µm,20.0s,MS5.4
KSU1 Kansas State U 95.26 41 *e*P **P 14 01 27.0 +0.5**
RKT Rikitea 95.31 113 *e*LQ 14 27 29.8
RKT *e*LR LR 14 31 31.8
comp=Z,1µm,29.2s,baz=310
CASY Casey 95.70 192 PFAKE 14 01 40.0 +12
CASY LR LR
comp=Z,703nm,20.0s,MS5.1
CABF La Chapelle 96.17 330⇑*i*P **P 14 01 29.3 -1.2**
LOR Lormes 96.62 332⇑*i*P **P 14 01 31.1 -1.4**
comp=Z,59nm,1.4s,mb5.5
LOR Lormes 96.62 332⇑*i*P **P 14 01 31.1 -1.4**
LOR pmax pmax
comp=Z,30nm,1.4s,mb5.5
LTX Lajitas 96.70 53 *e*P **P 14 01 34.6 +1.2**
LTX pmax pmax
comp=Z,41nm,1.6s,mb5.6
LTX MLR MLR
comp=Z,958nm,20.0s,MS5.3
LTX Lajitas 96.70 53 *e*P **P 14 01 34.5 +1.2**
comp=Z,41nm,1.6s,mb5.6
LTX LR LR
comp=Z,958nm,20.0s,MS5.3
TXAR Lajitas Array 96.70 53 P **P 14 01 34.7 +1.4**
comp=Z,5.2nm,0.9s,mb4.9,baz=315,slow=2.5,SNR=27
TXAR LR LR 14 43 37.6
comp=Z,780nm,20.4s,MS5.2,baz=315,slow=34
TXAR Lajitas Array 96.70 53 P **P 14 01 34.7 +1.4**
TXAR LR LR 14 43 37.6
LPL La Plagne 96.72 329⇑*i*P **P 14 01 32.0 -1.0**
WMOK Wichita Mounta 96.73 46 *e*P **P 14 01 33.9 +0.6**
WMOK pmax pmax
comp=Z,67nm,1.9s,mb5.8
WMOK MLR MLR
comp=Z,2µm,22.0s,MS5.5
WMOK Wichita Mounta 96.73 46 *e*P **P 14 01 33.9 +0.5**
comp=Z,67nm,1.9s,mb5.8
WMOK LR LR
comp=Z,2µm,22.0s,MS5.5
LPG La Plagne 96.73 329⇑*i*P **P 14 01 32.0 -1.1**
SSF Saint Saulge 96.93 332⇑*i*P **P 14 01 32.5 -1.4**
comp=Z,29nm,1.3s,mb5.2
SSF Saint Saulge 96.93 332⇑*i*P **P 14 01 32.5 -1.4**
SSF pmax pmax
comp=Z,15nm,1.3s,mb5.3
SMF Signal de Mont 97.12 332⇑*i*P **P 14 01 33.3 -1.5**
comp=Z,47nm,1.4s,mb5.4
SMF Signal de Mont 97.12 332⇑*i*P **P 14 01 33.3 -1.5**
SMF pmax pmax
comp=Z,23nm,1.4s,mb5.4
FLN La Foliniere 97.12 335⇑*i*P **P 14 01 34.7 0.0**
comp=Z,91nm,1.6s,mb5.6
FLN *e*R
comp=Z,1µm,22.5s
FLN La Foliniere 97.12 335⇑*i*P **P 14 01 34.7 0.0**
FLN pmax pmax
comp=Z,46nm,1.6s,mb5.7
FLN MLR MLR
comp=Z,1µm,22.5s,MS5.3
LDF La Druitiere 97.13 335⇑*i*P **P 14 01 34.6 -0.2**
comp=Z,41nm,1.3s,mb5.4
LDF La Druitiere 97.13 335⇑*i*P **P 14 01 34.6 -0.2**
LDF pmax pmax
comp=Z,21nm,1.3s,mb5.4
AVF Avril sur Loir 97.21 332⇑*i*P **P 14 01 33.8 -1.4**
comp=Z,76nm,1.5s,mb5.6
AVF Avril sur Loir 97.21 332⇑*i*P **P 14 01 33.8 -1.4**
AVF pmax pmax
comp=Z,38nm,1.5s,mb5.6
MBDF Montbardon 97.31 329⇑*i*P **P 14 01 33.5 -2.2**
comp=Z,30nm,1.4s,mb5.2
MBDF Montbardon 97.31 329⇑*i*P **P 14 01 33.5 -2.2**
MBDF pmax pmax
comp=Z,15nm,1.4s,mb5.2
BGF Bois d'Agland 97.60 332⇑*i*P **P 14 01 36.0 -1.0**
SBF Sospel 97.65 328⇑*i*P **P 14 01 34.9 -2.4**
comp=Z,46nm,1.1s,mb5.6
SBF Sospel 97.65 328⇑*i*P **P 14 01 34.9 -2.4**
SBF pmax pmax
comp=Z,23nm,1.1s,mb5.6
PGF Pioggiola 97.88 326⇑*i*P **P 14 01 35.2 -3.1**
TCF Toulx Ste Croi 98.08 332⇑*i*P **P 14 01 38.0 -1.1**
comp=Z,14nm,1.1s,mb5.1
TCF Toulx Ste Croi 98.08 332⇑*i*P **P 14 01 38.0 -1.1**
TCF pmax pmax
comp=Z,7.0nm,1.1s,mb5.1
VIVF Saint-Julien-l 98.16 330⇑*i*P **P 14 01 38.0 -1.5**
comp=Z,23nm,1.3s,mb5.2
VIVF Saint-Julien-l 98.16 330⇑*i*P **P 14 01 38.0 -1.5**
VIVF pmax pmax
comp=Z,12nm,1.3s,mb5.3
LMR La Mourre 98.49 328⇑*i*P **P 14 01 39.0 -2.0**
comp=Z,62nm,1.4s,mb5.7
LMR La Mourre 98.49 328⇑*i*P **P 14 01 39.0 -2.0**
LMR pmax pmax
comp=Z,31nm,1.4s,mb5.7
JCT Junction City 98.70 50 *e*P **P 14 01 43.1 +0.8**
JCT pmax pmax
comp=Z,15nm,1.4s,mb5.3
JCT MLR MLR
comp=Z,841nm,19.0s,MS5.3
JCT Junction City 98.70 50 *e*P **P 14 01 43.1 +0.8**
comp=Z,15nm,1.4s,mb5.3
JCT LR LR
comp=Z,841nm,19.0s,MS5.3
CCM Cathedral Cave 99.06 39 PFAKE 14 02 00.0 +16
CCM LR LR
comp=Z,1µm,22.0s,MS5.3
LASF Ste Croix 99.14 330⇑*i*P **P 14 01 42.8 -1.1**
comp=Z,90nm,1.7s,mb5.7
RJF Les Rejaudoux 99.16 332⇑*i*P **P 14 01 43.2 -0.8**
comp=Z,24nm,1.3s,mb5.3
RJF Les Rejaudoux 99.16 332⇑*i*P **P 14 01 43.2 -0.8**
RJF pmax pmax
comp=Z,12nm,1.3s,mb5.3
CAF Calviac 99.24 332⇑*i*P **P 14 01 43.7 -0.7**
AAM Ann Arbor 99.86 32 PFAKE 14 02 00.0 +13
AAM LR LR
comp=Z,1µm,22.0s,MS5.4
MIAR Mount Ida 100.10 43 PFAKE 14 02 00.0 +11
MIAR LR LR
comp=Z,606nm,21.0s,MS5.1
NATX Nacogdoches 101.28 46 PFAKE 14 02 10.0 +16
NATX LR LR
comp=Z,2µm,21.0s,MS5.7
WCI Wyandotte Cave 101.63 36 PFAKE 14 02 10.0 +15
WCI LR LR
comp=Z,1µm,21.0s,MS5.4
ERPA Erie 101.68 30 PFAKE 14 02 10.0 +14
ERPA LR LR
comp=Z,2µm,22.0s,MS5.5
ACSO Alum Creek Sta 101.78 33 PFAKE 14 02 10.0 +14
ACSO LR LR
comp=Z,622nm,22.0s,MS5.1
WVT Waverly 102.34 38 PFAKE 14 02 10.0 +11
WVT LR LR
comp=Z,840nm,20.0s,MS5.3
NCB Newcomb 102.52 25 PFAKE 14 02 10.0 +11
NCB LR LR
comp=Z,1µm,21.0s,MS5.4
KMBO Kilima Mbogo 102.61 275 PFAKE 14 02 10.0 +10
KMBO LR LR
comp=Z,357nm,22.0s,MS4.8
OXF Oxford 102.61 41 PFAKE 14 02 10.0 +10
OXF LR LR
comp=Z,975nm,21.0s,MS5.3
LBNH Lisbon 103.14 24 PFAKE 14 02 10.0 +8.0
LBNH LR LR
comp=Z,1µm,19.0s,MS5.5
MCWV Mont Chateau 103.72 31 PFAKE 14 02 20.0 +15
MCWV LR LR
comp=Z,1µm,20.0s,MS5.4
VNDA Vanda 104.93 175 PFAKE 14 02 20.0 +11
VNDA LR LR
comp=Z,668nm,21.0s,MS5.2
WES Weston 104.97 24 PFAKE 14 06 40.0
WES LR LR
comp=Z,1µm,22.0s,MS5.3

LRAL	**Lakeview Retre**	**105.06**	**40**	PFAKE			14 06 40.0		
LRAL				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
BLA	**Blacksburg**	**105.39**	**33**	PFAKE			14 06 40.0		
BLA				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
CBN	**Corbin**	**106.03**	**30**	PFAKE			14 06 40.0		
CBN				LR	LR				
	comp=Z,1μm,20.0s,MS5.5								
ESLA	**Sonseca Array**	**106.09**	**332**	PFAKE			14 06 40.0		
ESLA				LR	LR				
	comp=Z,6μm,20.0s,MS6.2								
GOGA	**Godfrey**	**106.76**	**38**	PFAKE			14 06 40.0		
GOGA				LR	LR				
	comp=Z,1μm,22.0s,MS5.3								
NHSC	**New Hope**	**108.74**	**36**	PFAKE			14 06 40.0		
NHSC				LR	LR				
	comp=Z,1μm,19.0s,MS5.4								
DWPF	**Disney**	**111.92**	**40**	PFAKE			14 06 50.0	+10	
DWPF				LR	LR				
	comp=Z,1μm,21.0s,MS5.5								
BBSR	**BB Station**	**116.26**	**24**	PFAKE			14 07 00.0	+12	
BBSR				LR	LR				
	comp=Z,644nm,22.0s,MS5.2								
QSPA	**South Pole Qui**	**116.65**	**180**	PFAKE			14 07 00.0	+12	
QSPA				LR	LR				
	comp=Z,824nm,22.0s,MS5.3								
LSZ	**Lusaka**	**116.71**	**266**	PFAKE			14 07 00.0	+11	
LSZ				LR	LR				
	comp=Z,1μm,22.0s,MS5.5								
JTS	**JuntasAbangare**	**122.23**	**56**	PFAKE			14 07 10.0	+10	
JTS				LR	LR				
	comp=Z,179nm,21.0s,MS4.7								
LBTB	**Lobatse**	**122.30**	**256**	PFAKE			14 07 10.0	+10	
LBTB				LR	LR				
	comp=Z,1μm,21.0s,MS5.5								
TSUM	**Tsumeb**	**127.56**	**266**	PFAKE			14 07 20.0	+10	
TSUM				LR	LR				
	comp=Z,607nm,22.0s,MS5.2								
SJG	**San Juan**	**128.18**	**33**	PFAKE			14 07 20.0	+8.3	
SJG				LR	LR				
	comp=Z,363nm,19.0s,MS5.1								
SNAA	**Sanae**	**130.86**	**194**	*d* iPKIKP		PKPdf	14 07 11.9	-3.5	
SNAA	**Sanae**	**130.86**	**194**	*e*P		PKPdf	14 07 18.4	+3.0	
SNAA				*e*			14 07 37.0		
SNAA				*e*			14 07 46.2		
SNAA				*e*			14 07 57.0		
VNA2	**Neumayer--Watz**	**132.40**	**194**	*e*		PKPdf	14 07 31.4	+13	
VNA2	**Neumayer--Watz**	**132.40**	**194**	*e*P		PKPdf	14 07 22.2	+3.8	
VNA2				*e*			14 07 31.4		
VNA1	**Neumayer--Stat**	**132.80**	**193**	*e*P		PKPdf	14 07 21.1	+2.0	
VNA1				*e*			14 07 31.7		
DBIC	**Dimbokro**	**132.91**	**310**	PKP		PKPdf	14 07 17.8	-3.0	
	comp=Z,2.6nm,0.8s,baz=149,slow=0.6,SNR=5.4								
DBIC	**Dimbokro**	**132.91**	**310**	PKP		PKPdf	14 07 17.8	-3.0	
DBIC				LR	LR				
	comp=Z,867nm,20.0s,MS5.5								
SDV	**Santo Domingo**	**133.15**	**45**	*e*PKPdf		PKPdf	14 07 19.0	-2.2	
SDV				LR	LR				
	comp=Z,308nm,22.0s,MS5.0								
LIC	**Lamto**	**133.34**	**310**	*e*PKIKP		PKPdf	14 07 11.8	-10	
	comp=Z,39nm,1.2s								
LIC				*e*R					
	comp=Z,1μm,20.5s								
OTAV	**Otavalo**	**133.60**	**61**	*e*PKPdf		PKPdf	14 07 20.9	-1.1	
OTAV				LR	LR				
	comp=Z,649nm,22.0s,MS5.3								
ROSC	**El Rosal**	**133.62**	**52**	PKP		PKPdf	14 07 21.0	-1.0	
	comp=Z,3.4nm,0.4s,baz=293,slow=8.4,SNR=10								
NNA	**Nana**	**141.69**	**75**	PFAKE			14 07 50.0	+13	
NNA				LR	LR				
	comp=Z,161nm,22.0s,MS4.7								
ARE	**Arequipa**	**148.32**	**78**	*e*P		PKPdf	14 07 50.0	+2.0	
PLCA	**Paso Flores**	**150.68**	**126**	PKPbc		PKPdf	14 07 54.4	+3.4	
	comp=Z,12nm,0.9s,baz=229,slow=3.7,SNR=34								
PLCA	**Paso Flores**	**150.68**	**126**	PKIKP		PKPdf	14 07 54.6	+3.6	
PLCA	**Paso Flores**	**150.68**	**126**	*e*PKPbc		PKPdf	14 07 54.4	+3.4	
PLCA				LR	LR				
	comp=Z,433nm,19.0s,MS5.3								
LPAZ	**La Paz**	**151.16**	**74**	PKP		PKPdf	14 07 50.5	-1.8	
	comp=Z,1.9nm,0.7s,baz=7.0,slow=2.7,SNR=15								
LPAZ				PKPbc		PKPdf	14 07 57.5	+5.1	
	comp=Z,16nm,0.7s,baz=328,slow=2.1,SNR=43								
LPAZ	**La Paz**	**151.16**	**74**	PKIKP		PKPdf	14 07 51.7	-0.7	
LPAZ	**La Paz**	**151.16**	**74**	*e*PKPdf		PKPdf	14 07 51.4	-1.0	
LPAZ				LR	LR				
	comp=Z,433nm,20.0s,MS5.2								
EFI	**East Falkland**	**151.42**	**155**	PFAKE			14 08 00.0	+8.2	
EFI				LR	LR				
	comp=Z,149nm,20.0s,MS4.8								
TRQA	**Tornquist**	**157.83**	**126**	PFAKE			14 08 10.0	+9.1	
TRQA				LR	LR				
	comp=Z,3μm,21.0s,MS6.0								
RCBR	**Riachuelo**	**158.83**	**351**	PFAKE			14 08 10.0	+7.1	
RCBR				LR	LR				
	comp=Z,500nm,19.0s,MS5.4								
BDFB	**Brasilia**	**166.12**	**38**	PKPab		PKPab	14 09 08.1	-1.6	
	comp=Z,4.5nm,0.9s,baz=344,slow=6.8,SNR=4.2								

MAN 26 13:49:39.0, 8.95N×126.77E, h1km, mb4.5, ML3.3, MS3.2, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BIPH	**Bislig**	**0.86**	**208**	⇓*i*P		Pg	13 49 55.7	-0.6
BIPH				*i* S		Sg	13 50 05.5	-2.3
BUTP	**Butuan**	**1.14**	**271**	*e*P		Pn	13 50 00.8	-0.2
SCPH	**Surigao**	**1.51**	**303**	⇑*e*P		Pn	13 50 07.0	-0.2
BUKP	**Musuan**	**2.00**	**238**	*e*P		Pn	13 50 15.3	+1.1
BUKP				*e*S		Sn	13 50 41.0	+0.7
MATI	**Mati**	**2.06**	**194**	*e*P		Pn	13 50 15.5	+0.4
CGP	**Cagayan de Oro**	**2.11**	**257**	*e*P		Pn	13 50 16.3	+0.4
CGP				*e*S		Sn	13 50 42.5	-0.6
DAV	**Davao City (W)**	**2.21**	**212**	*i* P		Pn	13 50 21.0	+3.7
MSLP	**Maasin**	**2.22**	**302**	*e*P		Pn	13 50 18.3	+0.9
MSLP				*e*S		Sn	13 50 51.8	+5.9
MSLP	**Maasin**	**2.22**	**302**	*e*P		Pn	13 50 18.3	+0.9
MSLP				*e*S		Sn	13 50 51.8	+5.9
KCP	**Kidapawan**	**2.55**	**221**	⇓*e*P		Pn	13 50 25.4	+3.2
TBP	**Tagbilaran**	**2.96**	**285**	*e*P		Pn	13 50 28.5	+0.4
TBP				*e*S		Sn	13 51 04.2	-0.6
PAGZ	**Pagadian**	**3.53**	**252**	*e*P		Pn	13 50 37.0	+0.9

*IDC **26** 13:55:43.7±0.6, 26.83N×140.97E, mb4.2/18, mb1 4.4/18, mb1mx4.3/24, mbtmp4.2/18, Error ellipse: s-maj=16.6km s-min=14.7km az=154.0*
*JMA **26** 13:55:46.5±0.5, 26.84N×141.06E*
*NEIC **26** 13:55:49.2±0.3, 26.82N×141.05E, h35km, mb4.3/7, Error ellipse: s-maj=11.2km s-min=6.2km az=79.0*
ISC 26 13:55:45.4±1.3, 26.81N±0.05×140.93E±0.06, h21km±9km, n42, σ0°94/42, mb4.2/24, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.13**	**99**	P		**Pb**	**13 56 06.2**	**+0.1**
JHHJ				S		**Sb**	**13 56 20.7**	**+0.3**
CBIJ	**Chichi jima**	**1.16**	**75**	Pn		**Pn**	**13 56 06.8**	**+0.3**
	387nm,0.3s,baz=209,slow=0.9,SNR=26							
CBIJ				Sn		**Sn**	**13 56 22.6**	**+0.8**
	362nm,0.3s,baz=250,slow=22,SNR=11							
CBIJ	**Chichi jima**	**1.16**	**75**	P		**Pb**	**13 56 06.7**	**+0.2**
CBIJ				S		**Sb**	**13 56 20.3**	**-0.8**
MAJO	**Matsushiro**	**9.98**	**347**	*e*Pn		**P**	**13 58 10.2**	**-0.6**
GUMO	**Guam**	**13.66**	**164**	*e*Pn		**P**	**13 59 00.8**	**+0.2**
	100nm,1.0s							
KS15	**Wonju Array Si**	**15.30**	**317**	Pn		**P**	**13 59 23.6**	**+1.7**
YHNB	**Yeheng**	**17.75**	**267**	*e*Pn		**P**	**13 59 56.5**	**+3.5**
MDJ	**Mudanjiang**	**19.98**	**336**	*e*P		**P**	**14 00 18.4**	**-0.9**
MA2	**Magadan**	**33.45**	**9**	*e*P		**P**	**14 02 25.9**	**+1.0**
SONM	**Songino Array**	**34.15**	**317**	P		**P**	**14 02 31.9**	**+0.8**
	1.3nm,0.7s,mb4.0,baz=121,slow=8.4,SNR=3.4							
BILL	**Bilibino**	**43.99**	**13**	P		**P**	**14 03 52.6**	**0.0**
	2.4nm,0.5s,mb4.2							
PSI	**Prapat**	**46.76**	**247**	P		**P**	**14 04 15.8**	**+0.4**
	4.2nm,0.8s,mb4.4,baz=356,slow=15,SNR=2.8							
WRAB	**Tennant Creek**	**46.90**	**188**	*e*P		**P**	**14 04 16.1**	**-0.4**
	6.2nm,0.6s,mb4.7							
CTA	**Charters Tower**	**46.90**	**173**	P		**P**	**14 04 15.8**	**-0.7**
	3.4nm,0.9s,mb4.3,baz=43,slow=6.2,SNR=3.7							
CTAO	**Charters Tower**	**46.90**	**173**	*e*P		**P**	**14 04 16.7**	**+0.2**
	3.5nm,0.8s,mb4.3							
WB2	**Warramunga Arr**	**46.91**	**188**	*e*P		**P**	**14 04 15.9**	**-0.7**
WRA	**Warramunga Arr**	**46.91**	**189**	P		**P**	**14 04 15.9**	**-0.6**
	4.3nm,0.6s,mb4.6,baz=8.9,slow=8.6,SNR=19							
MKAR	**Makanchi Array**	**49.79**	**310**	P		**P**	**14 04 38.5**	**-0.1**
	2.0nm,0.7s,mb4.3,baz=91,slow=9.6,SNR=9.2							
KURK	**Kurchatov**	**52.39**	**315**	*e*P		**P**	**14 04 57.3**	**-1.0**
	2.7nm,0.7s,mb4.3							
KDAK	**Kodiak Island**	**55.26**	**37**	P		**P**	**14 05 17.0**	**-2.3**
	8.3nm,0.7s,mb4.9,baz=306,slow=17,SNR=5.5							
KDAK	**Kodiak Island**	**55.26**	**37**	P		**P**	**14 05 17.0**	**-2.3**
BVAR	**Borovoye Array**	**57.49**	**318**	P		**P**	**14 05 34.4**	**-0.9**
	0.9nm,0.5s,mb4.0,baz=91,slow=7.4,SNR=6.5							
BRVK	**Borovoye**	**57.56**	**318**	*e*P		**P**	**14 05 37.1**	**+1.3**
	0.8nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**58.34**	**317**	*e*P		**P**	**14 05 40.3**	**-0.9**
	2.0nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**58.36**	**179**	P		**P**	**14 05 40.4**	**-1.3**
	3.1nm,1.1s,mb4.2,baz=342,slow=9.6,SNR=3.2							
STKA	**Stephens Creek**	**58.36**	**179**	*e*P		**P**	**14 05 40.3**	**-1.4**
ILAR	**Eielson Array**	**58.50**	**29**	P		**P**	**14 05 41.3**	**-0.9**
	1.9nm,0.9s,mb4.1,baz=261,slow=5.8,SNR=11							
NWAO	**Narrogin (SRO)**	**63.54**	**202**	P		**P**	**14 06 18.2**	**+1.4**
INK	**Inuvik**	**63.75**	**24**	P		**P**	**14 06 17.2**	**-0.4**
	0.7nm,0.4s,mb4.0,baz=318,slow=2.2,SNR=20							
TAU	**Tasmania Unive**	**69.62**	**175**	P		**P**	**14 06 55.3**	**+0.1**
YKA	**Yellowknife Ar**	**72.92**	**28**	P		**P**	**14 07 14.3**	**-0.4**
	2.4nm,0.6s,mb4.3,baz=295,slow=6.2,SNR=37							
ARCES	**ARCESS Array B**	**73.44**	**341**	P		**P**	**14 07 16.6**	**-1.0**
	12nm,1.3s,mb4.7,baz=53,slow=6.1,SNR=3.8							
FINES	**FINESS Array B**	**77.70**	**333**	P		**P**	**14 07 40.1**	**-1.8**
	1.0nm,0.6s,mb3.9,baz=63,slow=4.3,SNR=7.4							
NVAR	**Mina Array Bea**	**81.57**	**51**	P		**P**	**14 08 04.0**	**+0.8**
	0.8nm,0.7s,mb3.7,baz=260,slow=3.7,SNR=3.7							
AKASG	**Malin Array Be**	**82.18**	**323**	P		**P**	**14 08 07.2**	**+1.2**
	1.6nm,0.6s,mb4.2,baz=47,slow=5.5,SNR=9.1							
HWUT	**Hardware Ranch**	**84.54**	**46**	*e*P		**P**	**14 08 19.7**	**+1.4**
	4.9nm,1.0s,mb4.6							
PDAR	**Pinedale Array**	**85.20**	**44**	P		**P**	**14 08 22.6**	**+1.0**
	3.0nm,1.1s,mb4.3,baz=271,slow=2.1,SNR=10							
GERES	**GERESS Array B**	**91.17**	**328**	P		**P**	**14 08 51.1**	**+1.1**
	0.1nm,0.4s,mb3.5,baz=37,slow=4.9,SNR=2.4							
TXAR	**Lajitas Array**	**96.67**	**53**	P		**P**	**14 09 16.1**	**+0.3**
	1.0nm,0.9s,mb4.2,baz=258,slow=0.8,SNR=6.5							
PLCA	**Paso Flores**	**150.55**	**126**	PKPbc		PKPdf	14 15 37.4	+2.9
	1.6nm,0.6s,baz=189,slow=2.0,SNR=8.6							
LPAZ	**La Paz**	**151.08**	**75**	PKPbc		PKPdf	14 15 40.8	+4.9
	3.9nm,0.7s,baz=305,slow=3.3,SNR=17							
LPAZ	**La Paz**	**151.08**	**75**	*e*PKPdf		PKPdf	14 15 40.6	+4.7

*IDC **26** 13:57:22.3±1.6, 7.03S×150.40E, mb3.9/6, mb1 4.1/7, mb1mx4.0/14, mbtmp3.9/7, ML2.2/1, Error ellipse: s-maj=61.1km s-min=24.0km az=132.0*
*NEIC **26** 13:57:28.0±0.7, 6.99S×150.21E, h35km, mb4.3/3, Error ellipse: s-maj=21.9km s-min=8.9km az=117.0*
ISC 26 13:57:28.6±3.6, 7.1S±0.1×150.2E±0.2, h61km±29km, n21, σ0°95/20, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.81**	**233**	Pn		**P**	**13 58 25.8**	**-0.5**
	1.3nm,0.3s,baz=21,slow=6.5,SNR=6.2							
PMG				Sn		**S**	**13 59 11.8**	**+1.6**
	4.1nm,0.3s,baz=360,slow=6.8,SNR=4.0							
PMG	**Port Moresby**	**3.81**	**233**	Pn		**P**	**13 58 25.8**	**-0.5**
PMG				Sn		**S**	**13 59 11.8**	**+1.6**
WRAB	**Tennant Creek**	**20.01**	**229**	*e*P		**P**	**14 01 58.0**	**-1.1**
	7.7nm,0.5s							
WB2	**Warramunga Arr**	**20.01**	**229**	*e*P		**P**	**14 01 58.0**	**-1.1**
WRA	**Warramunga Arr**	**20.02**	**229**	P		**P**	**14 01 57.8**	**-1.4**
	1.6nm,0.5s,baz=48,slow=10,SNR=8.2							
ASPA	**Alice Springs**	**22.75**	**222**	*e*P		**P**	**14 02 26.5**	**-0.2**
STKA	**Stephens Creek**	**25.95**	**197**	*e*P		**P**	**14 02 58.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**26.34**	**243**	*e*P		**P**	**14 03 00.9**	**-0.1**
	7.6nm,0.7s,mb4.3							
NACB	**Ninganchiao**	**41.78**	**319**	*e*P		**P**	**14 05 13.9**	**-0.1**
YHNB	**Yeheng**	**42.27**	**319**	*e*P		**P**	**14 05 17.1**	**-0.9**
SONM	**Songino Array**	**66.93**	**330**	P		**P**	**14 08 17.4**	**+0.6**
	0.7nm,0.8s,mb3.7,baz=127,slow=7.2,SNR=3.8							
MKAR	**Makanchi Array**	**80.38**	**320**	P		**P**	**14 09 36.2**	**+1.0**
	0.5nm,0.7s,mb3.5,baz=117,slow=5.4,SNR=5.4							
ZAL	**Zalesovo**	**81.65**	**327**	P		**P**	**14 09 42.1**	**+0.4**
	0.7nm,0.5s,mb3.9,baz=16,slow=6.4,SNR=3.1							
ILAR	**Eielson Array**	**85.23**	**23**	P		**P**	**14 09 58.5**	**-1.0**
	1.6nm,0.8s,mb4.2,baz=248,slow=4.9,SNR=10							
BRVK	**Borovoye**	**89.61**	**324**	P		**P**	**14 10 22.1**	**+1.2**
ZRNK	**Zerenda**	**90.34**	**323**	*e*P		**P**	**14 10 23.7**	**-0.7**
	1.0nm,0.8s,mb4.2							
INK	**Inuvik**	**91.50**	**21**	P		**P**	**14 10 30.4**	**+1.1**
	0.5nm,0.8s,mb3.9,baz=270,slow=5.1,SNR=4.4							
INK	**Inuvik**	**91.50**	**21**	P		**P**	**14 10 30.4**	**+1.1**
SCHQ	**Schefferville**	**123.93**	**25**	PKP		PKPdf	14 16 22.9	+2.9
	4.1nm,0.7s,baz=320,slow=1.8,SNR=7.3							
SCHQ	**Schefferville**	**123.93**	**25**	PKP		PKPdf	14 16 22.9	+2.9
GERES	**GERESS Array B**	**124.59**	**326**	PKP		PKPdf	14 16 24.1	+2.6
	0.1nm,0.4s,baz=90,slow=1.0,SNR=3.5							

*IDC **26** 14:17:32.6±1.4, 5.35N×73.70W, h156km±7km, mb3.4/1, mb1 3.6/2, mb1mx3.0/20, mbtmp3.9/2, Error ellipse: s-maj=60.2km s-min=12.5km az=135.0*
*NEIC **26** 14:17:32.3±0.9, 5.29N×73.67W, h157km±10km, mb4.0/4, Error ellipse: s-maj=28.1km s-min=14.9km az=104.0*
ISC 26 14:17:31.6±0.8, 5.3N±0.1×73.7W±0.2, h167km±8km, n9, σ0°62/11, mb3.8/4, Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**0.79**	**232**	P		**P**	**14 17 57.1**	**+0.3**
	101nm,0.3s,baz=79,slow=23,SNR=149							
ROSC				S		**S**	**14 18 16.2**	**0.0**
	78nm,0.3s,baz=74,slow=20,SNR=35							
SDV	**Santo Domingo**	**4.66**	**41**	P		**P**	**14 18 42.4**	**+0.8**
	3.5nm,0.3s,baz=247,slow=9.4,SNR=28							
SDV				S		**S**	**14 19 35.5**	**-0.3**
	5.8nm,0.3s,baz=252,slow=23,SNR=17							
SDV	**Santo Domingo**	**4.66**	**41**	*e*Pn		**P**	**14 18 41.4**	**-0.3**
SDV				*e*Sn		**S**	**14 19 35.3**	**-0.5**
NNA	**Nana**	**17.49**	**190**	Pn		**P**	**14 21 25.6**	**-1.2**
	2.4nm,0.3s							
LPAZ	**La Paz**	**22.19**	**166**	P		**P**	**14 22 14.3**	**-0.5**
	0.8nm,0.8s,mb3.2							
CPUP	**Villa Florida**	**35.26**	**154**	*e*P		**P**	**14 24 13.2**	**+0.9**
	3.3nm,0.6s,mb4.1							
TRQA	**Tornquist**	**44.53**	**167**	P		**P**	**14 25 29.0**	**+0.6**
	5.5nm,1.2s,mb4.1							
YKA	**Yellowknife Ar**	**64.45**	**340**	P		**P**	**14 27 52.1**	**0.0**
	0.5nm,0.5s,mb3.6,baz=136,slow=6.2,SNR=34							
WRA	**Warramunga Arr**	**149.10**	**239**	PKPbc		PKPdf	14 37 02.6	+6.1
	0.2nm,0.5s,baz=108,slow=3.0,SNR=5.7							

*MOS **26** 14:18:47.5±0.9, 12.17N×141.14E, h33km, mb5.0/7, Error ellipse: s-maj=16.1km s-min=11.4km az=110.0*
*IDC **26** 14:18:52.6±3.6, 12.22N×141.31E, h64km±33km, mb3.9/12, mb1 4.1/13, mb1mx4.0/22, mbtmp4.3/13, ML4.4/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/41, Error ellipse: s-maj=25.6km s-min=14.2km az=74.0*
*NEIC **26** 14:18:52.2±1.3, 12.20N×141.28E, h61km±12km, mb4.7/13, Error ellipse: s-maj=9.9km s-min=6.6km az=69.0*
ISC 26 14:18:50.6±2.2, 12.17N±0.07×141.3E±0.1, h64km±22km, n49, σ0°67/41, mb4.6/25, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**3.77**	**68**	P		**P**	**14 19 47.4**	**-0.4**
	32nm,0.3s,baz=330,slow=1.3,SNR=11							
GUMO	**Guam**	**3.77**	**68**	*e*P		**P**	**14 19 47.4**	**-0.4**
JOW	**Kunigami**	**19.03**	**322**	LR		LR	14 29 31.4	
	comp=Z,417nm,21.9s,baz=113,slow=34							
YHNB	**Yeheng**	**22.57**	**306**	*e*P		**P**	**14 23 47.9**	**+1.3**
MJAR	**Matsushiro Arr**	**24.42**	**354**	LR		LR	14 33 06.2	
	comp=Z,21nm,19.1s,baz=205,slow=35							
HNR	**Honiara**	**28.37**	**138**	LR		LR	14 33 26.2	
	comp=Z,298nm,19.3s,baz=310,slow=31							
CTAO	**Charters Tower**	**32.43**	**171**	*e*P		**P**	**14 25 17.6**	**+0.7**
CTAO				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.5							
CTAO	**Charters Tower**	**32.43**	**171**	*e*P		**P**	**14 25 17.6**	**+0.7**
	comp=Z,8.1nm,1.0s,mb4.5							
WRAB	**Tennant Creek**	**32.62**	**192**	*e*P		**P**	**14 25 18.2**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,17nm,1.0s,mb4.9							
WRAB	**Tennant Creek**	**32.62**	**192**	*e*P		**P**	**14 25 18.1**	**-0.5**
	comp=Z,17nm,1.0s,mb4.9							
WRA	**Warramunga Arr**	**32.63**	**192**	P		**P**	**14 25 18.0**	**-0.7**
	comp=Z,5.4nm,0.7s,mb4.6,baz=12,slow=9.6,SNR=39							
WRA				PcP		PcP	14 28 04.1	+0.5
	comp=Z,0.5nm,0.7s,baz=10,slow=3.2,SNR=4.9							
DZM	**Mont Dzumac**	**42.04**	**144**	P		**P**	**14 26 39.5**	**+1.8**
	comp=Z,3.3nm,0.5s,mb4.2,baz=285,slow=6.0,SNR=11							
STKA	**Stephens Creek**	**43.80**	**180**	P		**P**	**14 26 52.0**	**0.0**
	comp=Z,2.2nm,0.4s,mb4.2,baz=354,slow=9.1,SNR=17							
STKA	**Stephens Creek**	**43.80**	**180**	*e*P		**P**	**14 26 51.8**	**-0.2**
ULN	**Ulaanbaatar**	**45.63**	**328**	*e*P		**P**	**14 27 07.2**	**+0.8**
SONM	**Songino Array**	**45.95**	**328**	P		**P**	**14 27 10.9**	**+1.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=149,slow=6.5,SNR=6.3							
SONM				PcP		PcP	14 28 45.1	-0.3
	comp=Z,0.4nm,0.7s,baz=137,slow=3.7,SNR=2.2							
SONM				LR		LR	14 47 49.8	
	comp=Z,323nm,19.9s,baz=109,slow=38							
FX1	**Attu Island--F**	**47.95**	**26**	LR		LR	14 46 09.5	
	comp=Z,21nm,20.0s,baz=63,slow=34							
NWAO	**Narrogin (SRO)**	**50.38**	**206**	*e*P		**P**	**14 27 43.4**	**-0.2**
NWAO				pmax		pmax		
	comp=Z,22nm,1.2s							
NWAO	**Narrogin (SRO)**	**50.38**	**206**	*e*P		**P**	**14 27 43.4**	**-0.3**
	comp=Z,22nm,1.2s,mb5.1							
JIRN	**Jiri**	**53.62**	**295**	*e*P		**P**	**14 28 08.2**	**+0.2**
	comp=Z,15nm,0.7s,mb5.0							
GUN	**Gumba**	**53.92**	**296**	*e*P		**P**	**14 28 10.1**	**0.0**
	comp=Z,22nm,0.6s,mb5.3							
PKI	**Pulchoki**	**54.30**	**295**	*e*P		**P**	**14 28 12.4**	**-0.5**
KKN	**Kakani**	**54.44**	**295**	*e*P		**P**	**14 28 13.8**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9							
KKN	**Kakani**	**54.44**	**295**	*e*P		**P**	**14 28 13.8**	**-0.1**
KKN				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
DMN	**Daman**	**54.58**	**295**	*e*P		**P**	**14 28 14.8**	**-0.1**
	comp=Z,20nm,0.9s,mb5.1							
GKN	**Gorkha**	**55.02**	**296**	*e*P		**P**	**14 28 17.7**	**-0.5**
	comp=Z,20nm,0.9s,mb5.1							
KOLN	**Koldanda**	**55.92**	**295**	*e*P		**P**	**14 28 24.0**	**-0.6**
	comp=Z,7.6nm,0.6s,mb4.9							
BILL	**Bilibino**	**58.16**	**11**	P		**P**	**14 28 40.0**	**0.0**
BILL	**Bilibino**	**58.16**	**11**	*e*P		**P**	**14 28 39.4**	**-0.6**
	comp=Z,4.4nm,0.9s,mb4.5							
MKAR	**Makanchi Array**	**60.11**	**317**	P		**P**	**14 28 54.0**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=96,slow=8.7,SNR=16							
ZAL	**Zalesovo**	**60.78**	**326**	P		**P**	**14 28 58.0**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.2,baz=8.0,slow=7.5,SNR=5.9							
NVS	**Novosibirsk**	**61.95**	**326**	*e*P		**P**	**14 29 06.0**	**0.0**
KURK	**Kurchatov**	**63.44**	**321**	*e*P		**P**	**14 29 15.7**	**-0.2**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.5s,mb5.1							
KURK	**Kurchatov**	**63.44**	**321**	*e*P		**P**	**14 29 15.7**	**-0.3**
	comp=Z,7.6nm,0.5s,mb5.1							
BVAR	**Borovoye Array**	**68.88**	**322**	P		**P**	**14 29 50.5**	**0.0**
	comp=Z,5.5nm,0.6s,mb4.7,baz=105,slow=8.1,SNR=50							
BRVK	**Borovoye**	**68.95**	**322**	*e*P		**P**	**14 29 51.0**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
BRVK	**Borovoye**	**68.95**	**322**	*e*P		**P**	**14 29 51.0**	**+0.1**
	comp=Z,3.7n

comp=Z,0.6nm,0.8s,mb3.6,baz=79,slow=6.8,SNR=5.0
GERES pP pP 14 43 40.4 +0.7
comp=Z,0.7nm,0.7s,baz=76,slow=5.5,SNR=5.0
ILAR Eielson Array 91.90 22 P **P** **14 45 04.6 +0.9**
comp=Z,0.4nm,0.7s,mb3.9,baz=313,slow=3.6,SNR=4.6

MOS ***26*** *14:39:55.9±1.1, 12.15N×140.91E, h33km, mb5.4/27, Error ellipse: s-maj=12.0km s-min=6.3km az=109.6*
BJI ***26*** *14:39:58.8, 12.47N×140.94E, h40km, mB5.4, mb4.9, Ms5.0, Msz4.6*
HRVD ***26*** *14:39:59.6±0.2, 12.16N×140.71E, h12km, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s40,c60;Mantle waves: s63,c115; Half duration: 1s1 Moment tensor: Scale 10^16Nm; Mrr=4.47±.24; Mθθ4.33±.16; Mϕϕ0.14±.17; Mrθ 3.34±.47; Mrϕ 1.27±.13; Mθϕ 3.11±.56; Best double couple: M◎6.461×10^16 NP1: ϕs91°, δ26°, λ-58°. NP2:ϕs236°, δ68°, λ-105°. Principal axes: T 6.311, Plg22°, Azm337°; N .301, Plg13°, Azm242°; P -6.612, Plg64°, Azm122°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***26*** *14:39:59.9±3.0, 12.17N×141.04E, h53km±27km, mb4.5/22, mb1 4.6/23, mb1mx4.5/28, mbtmp4.8/23, ML4.7/1, MS4.4/23, Ms1 4.4/23, ms1mx4.2/33 Error ellipse: s-maj=19.0km s-min=10.1km az=76.0*
NEIC ***26*** *14:39:59.6±1.4, 12.15N×140.95E, h53km±12km, mb5.3/33, MS4.3/1, Error ellipse: s-maj=7.7km s-min=5.2km az=76.0*
ISC 26 14:39:56.3±0.2, 12.10N±0.04×140.96E±0.05, h36km, h36km±1.7km:pP-P,n179,σ1§03/174, mb5.1/77, MS4.5/36, 10C-6D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.09**	**68**	P		**P**	**14 40 59.5**	**+1.5**
	47nm,0.3s,baz=201,slow=8.6,SNR=15							
GUMO				LR		LR	14 42 34.0	
	comp=Z,4μm,18.1s,baz=232,slow=39							
GUMO	**Guam**	**4.09**	**68**	*e*P		**P**	**14 40 59.3**	**+1.3**
CBIJ	**Chichi jima**	**14.96**	**4**	LR		LR	14 48 35.8	
	comp=Z,617nm,20.5s,baz=317,slow=35							
JOW	**Kunigami**	**18.89**	**323**	LR		LR	14 49 49.2	
	comp=Z,841nm,21.3s,baz=106,slow=31							
TGY	**Tagaytay City**	**19.60**	**278**	P		**P**	**14 44 29.7**	**+5.3**
	15nm,0.3s,baz=289,slow=5.7,SNR=5.3							
JHJ	**Hachijo jima 2**	**20.95**	**357**	LR		LR	14 50 56.0	
	comp=Z,2μm,18.9s,MS4.4,baz=214,slow=31							
PMG	**Port Moresby**	**22.24**	**164**	P		**P**	**14 44 51.8**	**+0.2**
	108nm,1.0s,mb5.2,baz=2.8,slow=6.1,SNR=18							
PMG				LR		LR	14 53 36.5	
	comp=Z,1μm,18.5s,MS4.3,baz=268,slow=37							
PMG	**Port Moresby**	**22.24**	**164**	*e*P		**P**	**14 44 51.5**	**-0.1**
PMG				*e**PP			14 45 00.6	
PMG				pmax		pmax		
	comp=Z,177nm,1.0s							
PMG	**Port Moresby**	**22.24**	**164**	*e*P		**P**	**14 44 51.5**	**0.0**
	comp=Z,177nm,1.0s,mb5.5							
PMG				*e*pP			14 45 00.6	
YHNB	**Yeheng**	**22.36**	**307**	*e*P		**P**	**14 44 50.6**	**-2.0**
JNU	**Nakatsue**	**22.87**	**338**	P		**P**	**14 44 58.3**	**+0.6**
	comp=Z,46nm,1.1s,mb4.8,baz=151,slow=10.0,SNR=6.0							
JNU				LR		LR	14 52 57.2	
	comp=Z,636nm,21.0s,MS4.0,baz=226,slow=34							
MJAR	**Matsushiro Arr**	**24.46**	**355**	P		**P**	**14 45 12.3**	**-0.8**
	comp=Z,4.4nm,0.9s,mb3.9,baz=175,slow=9.9,SNR=5.5							
MAT	**Matsushiro**	**24.46**	**355**	P		**P**	**14 45 12.9**	**-0.3**
MAT				S		**S**	**14 49 31.4**	**+3.3**
MAT	**Matsushiro**	**24.46**	**355**	*e*P		**P**	**14 45 13.0**	**-0.2**
MAT				*e*S		**S**	**14 49 31.0**	**+2.9**
KAKA	**Kakadu**	**26.06**	**199**	*e*P		Px	14 45 51.0	
	comp=Z,64nm,0.7s							
SSE	**Sheshan**	**26.28**	**319**	P		**P**	**14 45 27.8**	**-2.6**
SSE				AP		pP	14 45 36.5	-3.9
SSE				XP		sP	14 45 40.3	-4.3
SSE				S		**S**	**14 49 59.0**	**+0.5**
SSE				XS			14 50 14.3	
SSE				PCS			14 52 34.5	
SSE				AMB		AMB		
	comp=Z,30nm,0.8s,mb4.9							
SSE				LR		LR		
	comp=N,230nm,18.3s,MS4.0							
SSE				LR		LR		
	comp=E,290nm,18.3s,MS4.0							
SSE				LR		LR		
	comp=Z,450nm,22.5s,MS4.0							
NJ2	**Nanjing**	**28.42**	**318**	*e*P		**P**	**14 45 49.5**	**-0.3**
NJ2				AP		pP	14 46 04.0	+4.1
NJ2				PP		PP	14 46 43.0	+1.2
NJ2				S		**S**	**14 50 30.0**	**-3.0**
NJ2				XS			14 50 53.0	
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.6							
NJ2				AMB		AMB		
	comp=Z,230nm,5.8s							
NJ2				LR		LR		
	comp=N,2μm,29.2s,MS4.7							
NJ2				LR		LR		
	comp=E,2μm,26.0s,MS4.7							
NJ2				LR		LR		
	comp=Z,940nm,31.2s							
HNR	**Honiara**	**28.53**	**138**	LR		LR	14 54 53.3	
	comp=Z,464nm,19.2s,MS4.1,baz=154,slow=31							
QIZ	**Qiongzhong**	**30.72**	**287**	*e*P		**P**	**14 46 10.5**	**0.0**
QIZ				S		**S**	**14 51 04.0**	**-5.6**
QIZ				LR		LR		
	comp=N,650nm,17.7s							
QIZ				LR		LR		
	comp=Z,460nm,20.2s,MS4.1							
ASAJ	**Asahikawa**	**31.93**	**2**	LR		LR	14 57 09.3	
	comp=Z,821nm,19.9s,MS4.4,baz=360,slow=32							
KSM	**Kuching**	**32.17**	**253**	*e*P		**P**	**14 46 20.4**	**-2.9**
CTA	**Charters Tower**	**32.41**	**171**	*e*P		**P**	**14 46 26.1**	**+0.8**
	comp=Z,33nm,0.9s,mb5.2							
CTA				*e*		pP	14 46 35.9	+0.4
CTA	**Charters Tower**	**32.41**	**171**	P		**P**	**14 46 26.2**	**+0.9**
	comp=Z,53nm,1.0s,mb5.3,baz=344,slow=9.9,SNR=37							
CTA				LR		LR	14 57 36.5	
	comp=Z,658nm,21.2s,MS4.3,baz=0.7,slow=32							
CTA	**Charters Tower**	**32.41**	**171**	*e*P		**P**	**14 46 26.1**	**+0.8**
CTA				*e*		pP	14 46 35.9	+0.4
CTA				pmax		pmax		
	comp=Z,33nm,0.9s							
CTAO	**Charters Tower**	**32.41**	**171**	*e*P		**P**	**14 46 25.7**	**+0.4**
CTAO				pmax		pmax		
	comp=Z,40nm,0.8s,mb5.3							
CTAO				MLR		MLR		
	comp=Z,601nm,20.0s,MS4.3							
CTAO	**Charters Tower**	**32.41**	**171**	*e*P		**P**	**14 46 25.7**	**+0.4**
	comp=Z,40nm,0.8s,mb5.3							
CTAO				LR		LR		
	comp=Z,601nm,20.0s,MS4.3							
WRAB	**Tennant Creek**	**32.49**	**192**	*d i*P		**P**	**14 46 25.4**	**-0.6**
WRAB	**Tennant Creek**	**32.49**	**192**	*e*P		**P**	**14 46 24.7**	**-1.4**
	comp=Z,117nm,0.7s,mb5.8							
WB2	**Warramunga Arr**	**32.50**	**192**	*e*P		**P**	**14 46 25.6**	**-0.5**
WB2				*e*		pP	14 46 35.1	-1.2
WRA	**Warramunga Arr**	**32.50**	**192**	P		**P**	**14 46 26.0**	**-0.1**
	comp=Z,72nm,0.7s,mb5.7,baz=10,slow=10.0,SNR=488							
FITZ	**Fitzroy Crossi**	**33.61**	**207**	*e*P		**P**	**14 46 34.1**	**-1.6**
	comp=Z,20nm,0.9s,mb5.0							
FITZ				*e*		pP	14 46 43.4	-2.5
MDJ	**Mudanjiang**	**33.84**	**345**	P		**P**	**14 46 37.0**	**-0.4**
MDJ				AP		pP	14 46 48.3	+0.7
MDJ				XP		sP	14 46 53.3	+1.1
MDJ				PP		PP	14 47 50.0	-1.2
MDJ				PCP		PcP	14 49 14.3	-1.7
MDJ				S		**S**	**14 52 00.5**	**+2.5**
MDJ				SCP			14 52 53.8	
MDJ				PCS			14 53 02.5	
MDJ				SCS		ScS	14 56 57.3	+0.4
MDJ				AMB		AMB		
	comp=Z,230nm,8.4s							
MDJ				LR		LR		
	comp=N,510nm,29.0s,MS4.1							
MDJ				LR		LR		
	comp=E,240nm,30.9s,MS4.1							
MDJ				LR		LR		
	comp=Z,690nm,26.2s,MS4.3							
ENH	**Enshi**	**34.29**	**307**	*e*P		**P**	**14 46 41.6**	**+0.1**
	comp=Z,36nm,1.1s,mb5.2							
CN2	**Changchun**	**34.30**	**340**	*e*P		**P**	**14 46 43.5**	**+2.1**
CN2				*e*AP		pP	14 46 52.0	+0.4
CN2				*e*S		**S**	**14 52 06.8**	**+1.5**
CN2				AMB		AMB		
	comp=Z,20nm,1.5s,mb4.8							
CN2				AMB		AMB		
	comp=Z,200nm,6.0s							
CN2				LR		LR		
	comp=N,1μm,15.0s,MS4.9							
CN2				LR		LR		
	comp=E,1μm,15.0s,MS4.9							
CN2				LR		LR		
	comp=Z,1μm,17.0s,MS4.7							
GYA	**Guiyang**	**35.25**	**299**	*i*P		**P**	**14 46 50.3**	**+0.6**
GYA				AP		pP	14 47 02.8	+2.9
GYA				XP		sP	14 47 08.3	+3.8
GYA				PP		PP	14 48 13.8	+4.5
GYA				S		**S**	**14 52 26.8**	**+6.7**
GYA				SCS		ScS	14 57 01.0	-3.6
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
GYA				AMB		AMB		
	comp=Z,350nm,4.8s							
GYA				LR		LR		
	comp=N,870nm,16.2s,MS4.8							
GYA				LR		LR		
	comp=E,910nm,15.8s,MS4.8							
GYA				LR		LR		
	comp=Z,950nm,16.0s,MS4.6							
ASPA	**Alice Springs**	**36.21**	**191**	*e*P		**P**	**14 46 58.0**	**+0.1**
ASPA				*e*		pP	14 47 08.2	0.0
XAN	**Xi'an**	**36.43**	**312**	P		**P**	**14 46 59.5**	**-0.1**
XAN				AP		pP	14 47 09.0	-0.9
KLR	**Kul'dur**	**37.79**	**350**	*e*P		**P**	**14 47 08.0**	**-2.9**
KMI	**Kunming**	**38.32**	**295**	P		**P**	**14 47 18.5**	**+2.9**
KMI				AP		pP	14 47 27.8	+1.9
KMI				XP		sP	14 47 32.0	+1.6
KMI				PP		PP	14 48 48.8	+1.8
KMI				PCP		PcP	14 49 30.0	+0.5
KMI				S		**S**	**14 53 06.3**	**-0.9**
KMI				PCS			14 53 19.5	
KMI				XS			14 53 25.8	
KMI				SS		SS	14 55 42.5	-4.9
KMI				SCS		ScS	14 57 21.3	-0.4
KMI				AMB		AMB		
	comp=Z,380nm,6.8s							
KMI				LR		LR		
	comp=N,510nm,16.4s,MS4.5							
KMI				LR		LR		
	comp=E,340nm,14.6s,MS4.5							
KMI				LR		LR		
	comp=Z,420nm,24.1s							
HHC	**Hu-ho-hao-te**	**38.54**	**323**	*e*P		**P**	**14 47 17.3**	**+0.1**
HHC				AP		pP	14 47 29.8	+2.3
HHC				XP		sP	14 47 34.3	+2.3
HHC				PP		PP	14 48 49.8	+0.4
HHC				PCP		PcP	14 49 28.3	-1.7
HHC				S		**S**	**14 53 10.0**	**-0.3**
HHC				SCP			14 53 12.5	
HHC				PCS			14 53 17.3	
HHC				XS			14 53 30.3	
HHC				SCS		ScS	14 57 21.3	-1.5
HHC				AMB		AMB		
	comp=Z,10.0nm,1.6s,mb4.3							
HHC				AMB		AMB		
	comp=Z,290nm,9.5s							
HHC				LR		LR		
	comp=N,520nm,14.3s,MS4.6							
HHC				LR		LR		
	comp=E,360nm,15.5s,MS4.6							
HHC				LR		LR		
	comp=Z,360nm,15.5s,MS4.3							
CD2	**Chengdu**	**39.10**	**305**	P		**P**	**14 47 21.8**	**-0.1**
CD2				AP		pP	14 47 34.0	+1.7
CD2				PP		PP	14 48 56.0	+0.2
CD2				S		**S**	**14 53 17.3**	**-1.6**
CD2				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.1							
CD2				AMB		AMB		
	comp=Z,250nm,9.6s							
CD2				LR		LR		
	comp=E,220nm,9.0s							
CD2				LR		LR		
	comp=Z,250nm,16.2s,MS4.1							
BTO	**Baotou**	**39.30**	**322**	*e*P		**P**	**14 47 23.5**	**0.0**
SNG	**Songkhla**	**40.04**	**267**	P		**P**	**14 47 30.0**	**+0.1**
NNT	**Nongplab**	**40.25**	**275**	P		**P**	**14 47 32.8**	**+1.2**
CHRT	**Chiangrai**	**40.25**	**286**	⇑P		**P**	**14 47 34.0**	**+2.4**
	comp=Z,105nm,1.1s,mb5.5							
KULM	**Kulim**	**40.38**	**264**	*e*P		**P**	**14 47 32.4**	**-0.3**
CHG	**Chiang Mai**	**40.97**	**285**	⇑P		**P**	**14 47 39.2**	**+1.7**
	comp=Z,11nm,1.2s,mb4.4							
HIA	**Hailar**	**41.00**	**339**	P		**P**	**14 47 38.3**	**+0.8**
HIA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
HIA	**Hailar**	**41.00**	**339**	P		**P**	**14 47 38.3**	**+0.7**
	comp=Z,9.4nm,1.0s,mb4.4							
LZH	**Lanzhou**	**41.07**	**312**	*e*P		**P**	**14 47 40.0**	**+1.8**
LZH				AP		pP	14 47 52.5	+3.9
LZH				XP		sP	14 47 58.0	+4.9
LZH				PP		PP	14 49 20.0	+4.0
LZH				*e*S		**S**	**14 53 52.5**	**+4.2**
LZH				AMB		AMB		
	comp=Z,40nm,1.2s,mb4.9							
LZH				AMB		AMB		
	comp=Z,280nm,5.6s							
LZH				LR		LR		
	comp=E,1μm,15.6s							
LZH				LR		LR		
	comp=Z,1μm,16.2s,MS4.9							
NOUC	**Port Laguerre**	**42.11**	**144**	*e*P		**P**	**14 47 48.8**	**+1.8**
NOUC	**Port Laguerre**	**42.11**	**144**	*e*P		**P**	**14 47 48.8**	**+1.8**
DZM	**Mont Dzumac**	**42.17**	**144**	P		**P**	**14 47 47.6**	**+0.1**
	comp=Z,24nm,0.8s,mb4.9,baz=357,slow=8.1,SNR=18							
STKA	**Stephens Creek**	**43.73**	**179**	*e*P		**P**	**14 47 59.9**	**-0.2**
	comp=Z,26nm,0.6s,mb5.1							
STKA				*e*		pP	14 48 09.5	-1.1
STKA	**Stephens Creek**	**43.73**	**179**	P		**P**	**14 48 00.6**	**+0.5**
	comp=Z,39nm,0.8s,mb5.2,baz=351,slow=8.0,SNR=99							
STKA				LR		LR	15 07 08.1	
	comp=Z,535nm,18.9s,MS4.5,baz=267,slow=37							
FORT	**Forrest**	**44.40**	**196**	*e*P		**P**	**14 48 06.7**	**+1.2**
	comp=Z,66nm,0.7s,mb5.5							
FORT				*e*		pP	14 48 15.7	-0.3
GTA	**Gaotai**	**45.39**	**314**	*e*P		**P**	**14 48 13.8**	**+0.5**
GTA				AP		pP	14 48 25.3	+1.6
GTA				XP		sP	14 48 31.0	+2.9
GTA				PCP		PcP	14 49 52.3	-0.4
GTA				PP		PP	14 50 02.3	+2.2
GTA				S		**S**	**14 54 53.3**	**+2.1**
GTA				XS			14 55 13.0	
GTA				SS		SS	14 58 08.3	+2.3
GTA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.6							
GTA				AMB		AMB		
	comp=Z,290nm,6.1s							
GTA				LR		LR		
	comp=N,300nm,14.1s,MS4.5							
GTA				LR		LR		
	comp=E,270nm,13.3s,MS4.5							
GTA				LR		LR		
	comp=Z,360nm,13.3s,MS4.5							
ULN	**Ulaanbaatar**	**45.52**	**328**	*e*P		**P**	**14 48 14.3**	**0.0**
ULN				pmax		pmax		
	comp=Z,26nm,1.2s,mb5.0							
ULN	**Ulaanbaatar**	**45.52**	**328**	*e*P		**P**	**14 48 14.3**	**+0.1**
	comp=Z,26nm,1.2s,mb5.0							
CIT	**Chita**	**45.55**	**337**	*e*P		**P**	**14 48 15.6**	**+1.2**
CIT				pmax		pmax		
	comp=Z,49nm,1.2s,mb5.3							
SONM	**Songino Array**	**45.84**	**328**	P		**P**	**14 48 17.7**	**+0.8**
	comp=Z,4.1nm,0.7s,mb4.5,baz=140,slow=7.7,SNR=24							
SONM				PcP		PcP	14 49 53.8	-0.3
	comp=Z,2.2nm,0.7s,baz=141,slow=4.6,SNR=5.0							
SONM				LR		LR	15 07 50.5	
	comp=Z,506nm,18.1s,MS4.5,baz=276,slow=36							
CLNS	**Chul'man**	**46.32**	**348**	*e*P		**P**	**14 48 24.6**	**+4.2**
CLNS				pmax		pmax		
	comp=Z,15nm,1.0s,mb4.9							
CLNS				pmax		pmax		
	comp=N,14nm,0.8s							
CLNS				pmax		pmax		
	comp=E,8.0nm,0.8s							
CNB	**Canberra Magne**	**47.83**	**171**	*e*P		**P**	**14 48 33.5**	**+0.9**
	comp=E,17nm,0.9s,mb5.1							
MA2	**Magadan**	**47.95**	**7**	*e*P		**P**	**14 48 33.6**	**+0.5**
KLBR	**Kellerberrin**	**48.81**	**207**	*e*P		**P**	**14 48 40.0**	**-0.2**
	comp=E,208nm,1.9s,mb5.8							
KLBR				*e*		pP	14 48 49.2	-1.5
LSA	**Lhasa**	**49.32**	**299**	P		**P**	**14 48 46.3**	**+2.1**
LSA	**Lhasa**	**49.32**	**299**	*e*P		**P**	**14 48 46.6**	**+2.4**
LSA				*e**PP		pP	14 48 55.6	+1.0
LSA				pmax		pmax		
	comp=Z,39nm,1.3s,mb5.3							
LSA	**Lhasa**	**49.32**	**299**	*e*P		**P**	**14 48 46.6**	**+2.4**
	comp=Z,39nm,1.3s,mb5.3							
LSA				*e*pP		pP	14 48 55.6	+1.0
TOO	**Toolangi**	**49.59**	**175**	*e*P		**P**	**14 48 47.9**	**+1.7**
	comp=Z,26nm,1.5s,mb5.0							
TOO	**Toolangi**	**49.59**	**175**	*e*P		**P**	**14 48 47.9**	**+1.7**
TOO				pmax		pmax		
	comp=Z,27nm,1.5s,mb5.1							
BOD	**Bodaibo**	**50.02**	**342**	*e*P		**P**	**14 48 47.0**	**-2.1**
BOD				pmax		pmax		
	comp=Z,9.0nm,1.6s,mb4.5							
NWAO	**Narrogin (SRO)**	**50.18**	**206**	P		**P**	**14 48 50.5**	**-0.3**
	comp=Z,5.9nm,0.6s,mb4.8,baz=30,slow=5.4,SNR=8.1							
YAK	**Yakutsk**	**50.51**	**353**	*e*P		**P**	**14 48 52.9**	**+0.1**
YAK				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.9							
YAK				pmax		pmax		
	comp=N,14nm,1.1s							
YAK	**Yakutsk**	**50.51**	**353**	*e*P		**P**	**14 48 51.8**	**-1.0**
	comp=N,55nm,0.8s,mb5.5							
MOY	**Mondy**	**50.96**	**329**	*e*P		**P**	**14 48 57.7**	**+1.3**
MOY				pmax		pmax		
	comp=Z,57nm,3.1s							
SEY	**Seymchan**	**51.40**	**7⇑**	*e*P		**P**	**14 49 00.9**	**+1.3**
JIRN	**Jiri**	**53.37**	**295**	*e*P		**P**	**14 49 14.9**	**+0.1**
	comp=Z,253nm,1.6s,mb5.9							
BOK	**Bokaro**	**53.38**	**291**	*e*P		**P**	**14 49 15.5**	**+0.6**
BOK				AMb		AMB	14 49 17.2	
	comp=Z,55nm,1.1s,mb5.4							
AFI	**Afiamalu**	**53.51**	**117**	LR		LR	15 09 56.8	
	comp=Z,251nm,18.3s,MS4.3,baz=281,slow=34							
GUN	**Gumba**	**53.67**	**296**	*e*P		**P**	**14 49 17.1**	**+0.1**
	comp=Z,257nm,1.2s,mb6.0							
PKI	**Pulchoki**	**54.05**	**295**	*e*P		**P**	**14 49 19.0**	**-0.8**
KKN	**Kakani**	**54.18**	**296**	*e*P		**P**	**14 49 20.1**	**-0.7**
	comp=Z,158nm,1.4s,mb5.7							
KKN	**Kakani**	**54.18**	**296**	*e*P		**P**	**14 49 20.1**	**-0.7**
KKN				pmax		pmax		
	comp=Z,79nm,1.4s,mb5.5							
DMN	**Daman**	**54.32**	**295**	*e*P		**P**	**14 49 22.0**	**+0.2**
	comp=Z,172nm,1.4s,mb5.8							
GKN	**Gorkha**	**54.77**	**296**	*e*P		**P**	**14 49 24.5**	**-0.5**
	comp=Z,211nm,1.4s,mb6.0							
WMQ	**Urumqi**	**55.45**	**315**	P		**P**	**14 49 31.0**	**+1.3**
WMQ				AP		pP	14 49 43.8	+3.4
WMQ				XP		sP	14 49 49.0	+4.4
WMQ				PCP		PcP	14 50 30.8	+1.3
WMQ				PP		PP	14 51 36.5	+1.4
WMQ				*e*S		**S**	**14 57 10.5**	**+0.2**
WMQ				SCS		ScS	14 59 12.8	+0.4
WMQ				SS		SS	15 00 55.3	+0.2
WMQ				AMB		AMB		
	comp=Z,50nm,1.0s,mb5.5							
WMQ				AMB		AMB		
	comp=Z,280nm,4.2s							
WMQ				LR		LR		
	comp=N,2μm,22.0s,MS5.4							
WMQ				LR		LR		
	comp=E,3μm,21.0s,MS5.4							
WMQ				LR		LR		
	comp=Z,3μm,22.0s,MS5.3							
KOLN	**Koldanda**	**55.67**	**295**	*e*P		**P**	**14 49 31.1**	**-0.4**
	comp=Z,119nm,1.2s,mb5.8							
BLSP	**Bilaspur**	**56.81**	**289**	*e*P		**P**	**14 49 39.3**	**-0.5**
BLSP				AMb		AMB	14 49 41.5	
	comp=Z,56nm,2.1s,mb5.2							
BILL	**Bilibino**	**58.29**	**11κ**	*e*P		**P**	**14 49 48.6**	**-1.0**
BILL				*e**PP		pP	14 49 57.8	-2.5
BILL				*e**SP		sP	14 50 00.5	-4.0
BILL				pmax		pmax		
	comp=Z,100nm,1.7s,mb5.6							
BILL				MLR		MLR		
	comp=Z,200nm,17.0s,MS4.3							
BILL	**Bilibino**	**58.29**	**11**	*e*P		**P**	**14 49 47.9**	**-1.7**
	comp=Z,119nm,1.5s,mb5.7							
MK31	**Makanchi Array**	**59.95**	**317**	*i* P		**P**	**14 50 02.1**	**+0.7**
MKAR	**Makanchi Array**	**59.95**	**317**	P		**P**	**14 50 01.6**	**+0.2**
	comp=Z,15nm,0.9s,mb5.0,baz=99,slow=8.2,SNR=100							
MKAR						PKP2bc	15 19 35.9	
	comp=Z,0.1nm,0.4s,baz=333,slow=3.2,SNR=3.8							
MKAR	**Makanchi Array**	**59.95**	**317**	P		**P**	**14 50 01.6**	**+0.2**
MKAR				⇑*e*			15 19 35.9	
HYB	**Hyderabad**	**60.36**	**283**	*i* P		**P**	**14 50 05.0**	**+0.4**
	comp=Z,50nm,1.0s,mb5.5							
HYB				*e*sP		sP	14 50 26.5	+7.0
HYB	**Hyderabad**	**60.36**	**283**	*e*P		**P**	**14 50 05.0**	**+0.4**
HYB				pmax		pmax		
	comp=Z,50nm,1.0s,mb5.5							
HYB	**Hyderabad**	**60.36**	**283**	*e*P		**P**	**14 50 05.0**	**+0.4**
	comp=Z,50nm,1.0s,mb5.5							
URZ	**Urewera**	**60.45**	**148**	P		**P**	**14 50 04.9**	**0.0**
	comp=Z,4.5nm,0.5s,mb4.7,baz=188,slow=17,SNR=7.0							
URZ				LR		LR	15 14 28.5	
	comp=Z,269nm,18.6s,MS4.4,baz=9.5,slow=34							
ZAL	**Zalesovo**	**60.66**	**326**	P		**P**	**14 50 06.6**	**+0.5**
	comp=Z,5.8nm,0.6s,mb4.9,baz=6.0,slow=6.5,SNR=36							
ZAL				LR		LR	15 17 27.0	
	comp=Z,434nm,18.1s,MS4.6,baz=347,slow=37							
ZAL	**Zalesovo**	**60.66**	**326**	P		**P**	**14 50 06.6**	**+0.5**
ZAL				LR		LR	15 17 27.0	
BHPL	**Bhopal**	**61.14**	**290**	*e*P		**P**	**14 50 08.9**	**-0.9**
BHPL				AMb		AMB	14 50 10.9	
	comp=Z,32nm,1.4s,mb5.3							
NVS	**Novosibirsk**	**61.83**	**326**	*e*P		**P**	**14 50 12.7**	**-1.3**
NVS				*e*S		**S**	**14 58 32.7**	**-0.6**
NVS				pmax		pmax		
	comp=Z,32nm,1.1s,mb5.4							
NVS				pmax		pmax		
	comp=N,17nm,1.5s							
NVS				pmax		pmax		
	comp=E,28nm,1.5s							
NVS				smax				
	comp=N,11nm,1.9s							
NVS				smax				
	comp=E,16nm,2.2s							
RPZ	**Rata Peaks**	**61.96**	**156**	P		**P**	**14 50 13.8**	**-1.2**
	comp=E,25nm,1.0s,mb5.3,baz=170,slow=3.3,SNR=7.0							
RPZ				LR		LR	15 14 00.6	
	comp=E,318nm,19.9s,MS4.5,baz=6.2,slow=33							
KSH	**Kashi**	**63.13**	**308**	P		**P**	**14 50 24.3**	**+1.4**
KSH				AP		pP	14 50 36.5	+2.8
KSH				XP		sP	14 50 42.3	+4.5
KSH				PCP

UCH	**Uchtor**	**64.55**	**311**	P		**P**		**14 50 33.6**	**+1.6**
	SNR=41								
AAK	**Ala-Archa**	**64.61**	**312**	*P*		**P**		**14 50 32.9**	**+0.4**
	SNR=7.2								
AAK	**Ala-Archa**	**64.61**	**312**	*d iP*		**P**		**14 50 31.4**	**-1.1**
AAK					pmax		pmax		
	comp=Z,16nm,1.3s,mb4.9								
AAK	**Ala-Archa**	**64.61**	**312**	*eP*		**P**		**14 50 31.2**	**-1.3**
	comp=Z,23nm,1.4s,mb5.0								
USP	**Ospenovka**	**64.68**	**312**	P		**P**		**14 50 33.2**	**+0.2**
	SNR=10								
EKS2	**Erkin-Say**	**65.14**	**311**	P		**P**		**14 50 36.5**	**+0.6**
	SNR=16								
AML	**Almayashu**	**65.14**	**311**	P		**P**		**14 50 37.2**	**+1.3**
	SNR=28								
RAR	**Rarotonga**	**66.96**	**119**	LR		LR		15 14 03.1	
	comp=Z,205nm,19.1s,MS4.4,baz=262,slow=30								
KK31	**Karatay Array**	**67.57**	**312**	*i P*		**P**		**14 50 51.4**	**+0.1**
KKAR	**Karatay Array**	**67.57**	**312**	*i P*		**P**		**14 50 51.4**	**+0.1**
KKAR					pmax		pmax		
	comp=Z,14nm,0.9s,mb5.0								
VOSK	**Vostochnaya**	**68.34**	**322**	P		**P**		**14 50 55.2**	**-0.8**
VOSK					pmax		pmax		
	comp=Z,47nm,1.6s,mb5.3								
BVA0	**Borovoye Array**	**68.74**	**322**	*i P*		**P**		**14 50 58.3**	**-0.2**
BVA0					pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5								
BRVK	**Borovoye**	**68.81**	**322**	*eP*		**P**		**14 50 57.8**	**-1.1**
BRVK					pmax		pmax		
	comp=Z,21nm,0.6s,mb5.2								
BRVK	**Borovoye**	**68.81**	**322**	*eP*		**P**		**14 50 57.8**	**-1.1**
	comp=Z,21nm,0.6s,mb5.2								
IMA2	**Indian Mountai**	**69.11**	**23**	*eP*		**P**		**14 50 59.7**	**-0.8**
ZRNK	**Zerenda**	**69.56**	**322**	P		**P**		**14 51 03.1**	**-0.4**
ZRNK					pmax		pmax		
	comp=Z,48nm,1.1s,mb5.3								
ZRNK	**Zerenda**	**69.56**	**322**	*eP*		**P**		**14 51 02.7**	**-0.8**
	comp=Z,92nm,1.3s,mb5.5								
ILAR	**Eielson Array**	**71.54**	**25**	P		**P**		**14 51 13.2**	**-2.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=248,slow=6.2,SNR=28								
ILAR					LR		LR	15 20 58.9	
	comp=Z,86nm,20.6s,MS4.0,baz=344,slow=34								
PPT	**Papeete**	**74.65**	**112**	*eLR*		LR		15 13 56.1	
	comp=Z,468nm,30.2s								
PPT	**Papeete**	**74.65**	**112**	LR		LR		15 19 40.4	
	comp=Z,235nm,18.7s,MS4.5,baz=259,slow=32								
AB31	**Akbulak array**	**75.08**	**318**	*i P*		**P**		**14 51 35.9**	**-0.4**
ARU	**Arti**	**75.81**	**325**	*i P*		**P**		**14 51 39.6**	**-0.7**
ARU				*e*		pP		14 51 50.4	-0.8
ARU				*e*				14 54 29.2	
ARU				*e*	PPP		PPP	14 56 17.6	-1.4
ARU				*eS*		S		15 01 19.2	+0.7
ARU				*eSS*		SS		15 06 07.2	-6.5
ARU					pmax		pmax		
	comp=Z,18nm,0.7s,mb5.1								
ARU					MLR		MLR		
	comp=Z,300nm,18.0s,MS4.6								
ARU					MLR		MLR		
	comp=N,200nm,19.0s,MS4.7								
ARU					MLR		MLR		
	comp=E,300nm,18.0s,MS4.7								
ARU	**Arti**	**75.81**	**325**	*eP*		**P**		**14 51 39.2**	**-1.1**
	comp=E,13nm,0.6s,mb5.0								
AKTK	**Aktyubinsk**	**76.29**	**319**	P		**P**		**14 51 43.2**	**+0.1**
AKTK					LR		LR	15 27 31.4	
AKTO	**Aktyubinsk**	**76.29**	**319**	P		**P**		**14 51 43.2**	**+0.1**
	comp=E,8.4nm,0.6s,mb4.9,baz=96,slow=8.8,SNR=46								
AKTO					LR		LR	15 27 31.4	
	comp=E,183nm,19.3s,MS4.4,baz=281,slow=37								
SOKR	**Solikamsk**	**76.71**	**329**	*i P*		**P**		**14 51 45.1**	**-0.2**
SOKR					pmax		pmax		
	comp=Z,30nm,1.0s,mb5.2								
KLMR	**Klimovskoe**	**85.03**	**331**	*eP*		**P**		**14 52 28.1**	**-1.1**
KLMR					pmax		pmax		
	comp=Z,50nm,2.2s,mb5.3								
APA	**Apatity**	**85.46**	**338**	*iP*		**P**		**14 52 36.2**	**+5.0**
APA				*eS*		S		15 02 53.0	-5.3
APA					pmax		pmax		
	comp=Z,34nm,1.3s,mb5.3								
APA					MLR		MLR		
	comp=Z,500nm,15.0s,MS5.0								
YKW3	**Yellowknife Ar**	**85.89**	**27**	*eP*		**P**		**14 52 33.2**	**-0.2**
YKA	**Yellowknife Ar**	**85.91**	**27**	P		**P**		**14 52 33.5**	**+0.1**
	comp=Z,0.9nm,0.6s,mb4.2,baz=290,slow=4.9,SNR=32								
YKA					PKKPbc			15 10 33.4	
	comp=Z,0.2nm,0.7s,baz=124,slow=2.2,SNR=4.7								
YKA					LR		LR	15 32 30.7	
	comp=Z,202nm,18.6s,MS4.5,baz=270,slow=37								
YKA	**Yellowknife Ar**	**85.91**	**27**	P		**P**		**14 52 33.5**	**+0.1**
YKA					PKKPbc			15 10 33.4	
YKA					LR		LR	15 32 30.7	
YBH	**Yreka Blue Hor**	**86.71**	**48**	P		**P**		**14 52 38.4**	**+0.5**
	comp=Z,3.3nm,0.7s,mb4.7,baz=290,slow=4.7,SNR=5.1								
RES	**Resolute Bay**	**86.85**	**13**	*eP*		**P**		**14 52 38.0**	**+0.2**
RES					pmax		pmax		
	comp=Z,8.0nm,0.8s,mb5.0								
RES	**Resolute Bay**	**86.85**	**13**	*eP*		**P**		**14 52 38.0**	**+0.1**
	comp=Z,8.6nm,0.7s,mb5.1,baz=64,slow=7.0,SNR=60								
ARCES	**ARCESS Array B**	**87.30**	**341**	P		**P**		**14 52 40.2**	**+0.1**
ARCES					LR		LR	15 35 02.6	
	comp=Z,258nm,18.2s,MS4.7,baz=66,slow=38								
ARE0	**ARCESS Array S**	**87.30**	**341**	*eP*		**P**		**14 52 39.8**	**-0.3**
MOS	**Moscow**	**87.46**	**327**	*eP*		**P**		**14 52 39.2**	**-2.0**
KIV	**Kislovodsk**	**87.57**	**314**	*eP*		**P**		**14 52 41.7**	**-0.3**
JOF	**Joensuu**	**88.01**	**334**	*ep*		**P**		**14 52 41.3**	**-2.3**
OBN	**Obninsk**	**88.23**	**326**	*eP*		**P**		**14 52 44.3**	**-0.6**
OBN				*e*				14 52 50.1	
OBN					pmax		pmax		
	comp=Z,42nm,1.7s,mb5.4								
OBN					MLR		MLR		
	comp=Z,200nm,16.0s,MS4.6								
OBN	**Obninsk**	**88.23**	**326**	*iP*		**P**		**14 52 44.0**	**-0.9**
OBN					LR		LR		
	comp=Z,200nm,16.0s,MS4.6								
NEW	**Newport**	**88.85**	**41**	P		**P**		**14 52 47.6**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.6,baz=179,slow=3.5,SNR=5.0								
NEW	**Newport**	**88.85**	**41**	*eP*		**P**		**14 52 47.8**	**-0.2**
NEW					pmax		pmax		
	comp=Z,2.0nm,0.6s								
NEW	**Newport**	**88.85**	**41**	*eP*		**P**		**14 52 47.8**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.6								
RKT	**Rikitea**	**89.33**	**114**	*eLR*		LR		15 20 44.2	
	comp=Z,224nm,30.0s								
EDM	**Edmonton**	**89.58**	**35**	*eP*		**P**		**14 52 50.4**	**-0.9**
BMO	**Blue Mountains**	**89.72**	**44**	*eP*		**P**		**14 52 52.1**	**-0.1**
	comp=Z,2.8nm,1.0s,mb4.5								
KAF	**Kangasniemi**	**90.46**	**335**	*ep*		**P**		**14 52 52.7**	**-2.5**
	comp=Z,13nm,0.6s,mb5.4								
KAF	**Kangasniemi**	**90.46**	**335**	*eP*		**P**		**14 52 52.7**	**-2.5**
KAF					pmax		pmax		
	comp=Z,13nm,0.6s,mb5.4								
NVAR	**Mina Array Bea**	**90.81**	**51**	P		**P**		**14 52 58.2**	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.7,baz=264,slow=6.9,SNR=14								
FINES	**FINESS Array B**	**90.86**	**334**	P		**P**		**14 52 55.9**	**-1.3**
	comp=Z,14nm,0.5s,mb5.5,baz=70,slow=5.3,SNR=142								
FINES					LR		LR	15 35 18.2	
	comp=Z,169nm,19.7s,MS4.5,baz=162,slow=36								
ELK	**Elko**	**92.40**	**48**	P		**P**		**14 53 05.0**	**+0.2**
	comp=Z,1.9nm,0.9s,mb4.4,baz=279,slow=3.7,SNR=10								
AKASG	**Malin Array Be**	**93.99**	**324**	P		**P**		**14 53 10.1**	**-1.6**
	comp=Z,1.8nm,0.9s,mb4.5,baz=53,slow=3.6,SNR=6.1								
AKASG					PP		PP	14 57 00.8	-0.1
	comp=Z,0.1nm,0.3s,baz=59,slow=7.5,SNR=4.2								
LAO	**LASA Array**	**96.31**	**40**	*eP*		**P**		**14 53 22.9**	**+0.5**
NB2	**NORSAR Subarra**	**97.03**	**338**	P		**P**		**14 53 24.8**	**-0.6**
	comp=Z,0.7nm,0.6s,mb4.3,baz=48,slow=5.0								
NB2	**NORSAR Subarra**	**97.03**	**338**	P		**P**		**14 53 24.8**	**-0.6**
NB2					pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.4								
NOA	**NORSAR Array B**	**97.03**	**338**	P		**P**		**14 53 24.1**	**-1.2**
	comp=Z,1.0nm,0.8s,mb4.3,baz=53,slow=4.4,SNR=3.7								
NOA					LR		LR	15 39 55.7	
	comp=Z,146nm,18.3s,MS4.5,baz=55,slow=37								
CLL	**Collm**	**102.44**	**330**	*ePP*		PP		14 58 04.0	-1.5
GERES	**GERESS Array B**	**103.58**	**327**	Pdiff		Pdif		14 53 54.2	-0.9
GERES					PKKPbc			15 09 47.1	
	comp=Z,0.4nm,0.6s,baz=243,slow=2.2,SNR=6.0								
SYO	**Syowa Base**	**105.30**	**201**	*i*Pdiff		Pdif		14 54 00.9	-1.3
SYO	**Syowa Base**	**105.30**	**201**	*e*Pdif		Pdif		14 54 00.9	-1.3
VNA2	**Neumayer--Watz**	**118.07**	**191**			PKPdf		14 58 40.3	+1.2
PLCA	**Paso Flores**	**140.27**	**142**	PKP		PKPdf		14 59 23.7	+1.8
	comp=Z,1.7nm,0.7s,baz=234,slow=6.7,SNR=4.9								
TRQA	**Tornquist**	**147.03**	**146**	*e*PKPbc		PKPdf		14 59 36.9	+3.2
ARE	**Arequipa**	**148.28**	**102**	*e*PKP2		PKPab		14 59 41.0	-3.8
LPAZ	**La Paz**	**151.51**	**102**	PKP		PKPdf		14 59 44.2	+3.0
	comp=Z,5.1nm,1.2s,baz=149,slow=1.3,SNR=8.2								
LPAZ				PKPbc		PKPdf		14 59 50.8	+10
	comp=Z,18nm,0.8s,baz=292,slow=2.3,SNR=63								
LPAZ	**La Paz**	**151.51**	**102**	*e*PKIKP		PKPdf		14 59 44.0	+2.8
LPAZ				*e*				14 59 49.9	

*IDC **26** 14:51:23.5±1.3,26.82N×141.03E,mb3.4/3,mb1 3.7/3, mb1mx3.4/19,mbtmp3.4/3,Error ellipse: s-maj=33.2km s-min=21.0km az=159.0*
*NEIC **26** 14:51:30.3±1.9,26.75N×140.65E,h50km±20km,mb4.3/5, Error ellipse: s-maj=15.8km s-min=10.6km az=59.0*
ISC 26 14:51:22.3±4.8,26.75N±0.09×140.86E±0.07,h8km±32km, n16,σ1s09/17,mb3.9/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.23**	**73**	Pn		**Pn**		**14 51 45.2**	**-0.6**
	39nm,0.3s,baz=274,slow=19,SNR=4.6								
CBIJ				Sn		**Sn**		14 52 02.4	-0.5
	61nm,0.3s,baz=255,slow=23,SNR=7.7								
GUMO	**Guam**	**13.62**	**163**	*e*Pn		**P**		**14 54 42.0**	**+3.6**
TATO	**Taipei**	**17.53**	**269**	*e*Pn		**P**		**14 55 27.8**	**-1.0**
NACB	**Ninganchiao**	**17.59**	**266**	*e*Pn		**P**		**14 55 31.3**	**+1.7**
YHNB	**Yeheng**	**17.68**	**268**	Pn		**P**		**14 55 29.0**	**-1.8**
MDJ	**Mudanjiang**	**20.01**	**336**	*e*Pn		**P**		**14 55 59.5**	**+1.2**
QIZ	**Qiongzhong**	**29.54**	**261**	P		**P**		**14 57 28.4**	**-1.4**
	18nm,1.1s,mb4.7								
ULN	**Ulaanbaatar**	**33.77**	**318**	*eP*		**P**		**14 58 07.5**	**+0.8**
BILL	**Bilibino**	**44.06**	**13**	P		**P**		**14 59 32.8**	**+0.7**
	1.1nm,0.4s,mb3.9								
WRAB	**Tennant Creek**	**46.83**	**188**	*eP*		**P**		**14 59 54.4**	**-0.4**
	5.7nm,1.0s,mb4.5								
WRA	**Warramunga Arr**	**46.84**	**188**	P		**P**		**14 59 56.0**	**+1.1**
	0.4nm,0.6s,mb3.5,baz=9.0,slow=8.6,SNR=9.0								
CTAO	**Charters Tower**	**46.85**	**173**	*eP*		**P**		**14 59 55.1**	**+0.2**
	5.8nm,1.1s,mb4.4								
MKAR	**Makanchi Array**	**49.79**	**310**	P		**P**		**15 00 18.1**	**+0.6**
	0.2nm,0.6s,mb3.3,baz=78,slow=9.3,SNR=3.7								
BRVK	**Borovoye**	**57.56**	**318**	*eP*		**P**		**15 01 13.3**	**-1.5**
	0.9nm,0.8s,mb3.9								
YKA	**Yellowknife Ar**	**73.01**	**28**	P		**P**		**15 02 54.2**	**+0.1**
	0.2nm,0.6s,mb3.2,baz=294,slow=6.2,SNR=6.5								
YKA	**Yellowknife Ar**	**73.01**	**28**	P		**P**		**15 02 54.2**	**+0.1**

*NNC **26** 15:47:06.2±2.4,42.20N×76.50E,mb3.6,mpv3.4,Error ellipse: s-maj=16.6km s-min=8.2km az=168.0*
*KNET **26** 15:47:07.3,42.19N×76.44E,h21km,ml2.8*
ISC 26 15:47:06.2±1.5,42.14N±0.07×76.58E±0.07,h11km±6km, n18,σ0s79/24,15C-12D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.28**	**294**	⇑P		**Pg**		**15 47 11.9**	**-0.1**
	603nm,0.1s,SNR=236								
ULHL				⇓S		**Sg**		**15 47 16.5**	**+0.6**
	3μm,0.1s								
KZA	**Kyzart**	**0.99**	**267**	P		**Pb**		**15 47 24.0**	**-1.0**
	31nm,0.2s,SNR=105								
KZA				⇑S		**Sb**		**15 47 37.5**	**-0.4**
	321nm,0.2s								
TKM2	**Tokmak 2**	**1.07**	**317**	⇓P		**Pb**		**15 47 25.1**	**-1.1**
	21nm,0.1s,SNR=88								
TKM2				⇓S		**Sb**		**15 47 39.5**	**-0.5**
	242nm,0.1s								
TKM2	**Tokmak 2**	**1.07**	**317**	⇑P		**Pb**		**15 47 24.8**	**-1.4**
	11nm,0.3s								
TKM2				⇑S		**Sb**		**15 47 39.5**	**-0.6**
	51nm,0.2s								
KNDC	**Almaty**	**1.12**	**15**	⇑P		**Pb**		**15 47 26.7**	**-0.4**
	351nm,0.3s								
KNDC				⇓S		**Sb**		**15 47 42.0**	**+0.6**
	13μm,0.3s								
KBK	**Karagaybulak**	**1.32**	**294**	⇑P		**Pb**		**15 47 29.8**	**-0.7**
	13nm,0.1s,SNR=16								
KBK				⇑S		**Sb**		**15 47 47.4**	**+0.2**
	200nm,0.2s								
UCH	**Uchtor**	**1.54**	**274**	⇓P		**Pn**		**15 47 33.5**	**-0.3**
	5.1nm,0.1s,SNR=22								
UCH				⇓S		**Sb**		**15 47 54.0**	**+0.3**
	85nm,0.4s								
CHMS	**Chumysh**	**1.60**	**303**	⇑P		**Pn**		**15 47 34.2**	**-0.5**
	23nm,0.3s,SNR=17								
CHMS				⇑S		**Sn**		**15 47 55.2**	**-0.3**
	47nm,0.1s								
AAK	**Ala-Archa**	**1.62**	**289**	P		**Pn**		**15 47 34.7**	**-0.3**
	9.2nm,0.1s,SNR=20								
AAK				⇑S		**Sn**		**15 47 55.7**	**-0.4**
	95nm,0.2s								
USP	**Ospenovka**	**1.91**	**307**	⇓P		**Pn**		**15 47 39.2**	**+0.2**
	11nm,0.1s,SNR=24								
USP				⇓S		**Sn**		**15 48 04.4**	**+1.2**
	66nm,0.2s								
EKS2	**Erkin-Say**	**2.14**	**285**	⇑P		**Pn**		**15 47 44.1**	**+1.7**
	7.3nm,0.2s,SNR=22								
AML	**Almayashu**	**2.15**	**271**	⇓P		**Pn**		**15 47 44.4**	**+1.9**
	9.9nm,0.2s,SNR=28								
KK31	**Karatay Array**	**4.58**	**284**	⇓Pg		**Pg**		**15 48 29.6**	**-8.1**
	0.7nm,0.3s,baz=93,slow=15,SNR=17								
KK31				⇑Lg				15 49 26.6	
	5.6nm,0.5s,baz=105,slow=28								
MK31	**Makanchi Array**	**6.19**	**39**	Pn		**Pn**		**15 48 45.1**	**+5.3**
	0.3nm,0.3s,baz=218,slow=15,SNR=9.8								
MK31				⇓Lg				15 50 17.6	
	1.6nm,0.5s								
KURK	**Kurchatov**	**8.70**	**9**	⇑Lg				15 51 36.2	
	6.7nm,1.1s								
VOSK	**Vostochnaya**	**11.25**	**342**	⇓Lg				15 52 54.5	
	4.0nm,1.1s								
BVA0	**Borovoye Array**	**11.66**	**341**	⇑Lg				15 53 09.8	
	1.0nm,0.9s								
ZRNK	**Zerenda**	**11.96**	**337**	⇑Lg				15 53 17.4	
	6.8nm,1.7s								

*ATH **26** 16:01:43.8,38.14N×26.51E,h31km±8km,MD3.0/3*
*CSEM **26** 16:01:43.8±0.1,38.23N×26.55E,h5km,MD2.8,Error ellipse: s-maj=2.7km s-min=1.8km az=83.0*
*ISK **26** 16:01:44.9,38.24N×26.59E,h15km,MD2.8*
*NEIC **26** 16:01:44.9,38.24N×26.59E,h15km,MD3.0(ATH), MD2.8(ISK),After ISK.*
ISC 26 16:01:44.1±0.8,38.21N±0.03×26.55E±0.06,h7km±5km, n15,σ0s86/22,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.16**	**12**	*i* P		**Pg**		**16 01 47.3**	**-0.2**
URLA				*i* S		**Sg**		**16 01 50.6**	**+0.9**
BLCB	**Balcova**	**0.42**	**65**	PG		**Pg**		**16 01 52.7**	**+0.1**
BLCB				SG		**Sg**		**16 01 58.9**	**+0.5**
SMG	**Samos**	**0.55**	**156**	*e*PN		**Pg**		**16 01 54.7**	**-0.4**
SMG				*e*SN		**Sg**		**16 02 02.5**	**+0.1**
IZM	**Izmir**	**0.59**	**71**	PG		**Pg**		**16 01 56.2**	**+0.3**
IZM				SG		**Sg**		**16 02 04.6**	**+0.8**
KDAG	**Bornova**	**0.59**	**71**	*i* P		**Pg**		**16 01 53.8**	**-2.2**
KDAG				*i* S		**Sg**		**16 02 02.5**	**-1.5**
PRK	**Paraskevi**	**1.06**	**348**	*e*PN		**Pn**		**16 02 05.0**	**-0.2**
PRK				*e*SN		**Sn**		**16 02 20.0**	**-0.3**
AYDN	**Tasoluk**	**1.18**	**117**	*i* P		**Pb**		**16 02 06.0**	**-0.4**
AYDN				*i* S		**Sb**		**16 02 20.9**	**-0.9**
AKS	**Akhisar**	**1.19**	**55**	*e*PN		**Pn**		**16 02 07.1**	**0.0**
BODT	**Bodrum**	**1.29**	**152**	*e*PN		**Pn**		**16 02 09.1**	**+0.6**
MLSB	**Milas**	**1.33**	**133**	*e*PN		**Pn**		**16 02 10.0**	**+0.9**
BDRM	**Kayabasi**	**1.34**	**148**	*i* P		**Pn**		**16 02 10.0**	**+0.8**
APE	**Apeiranthos**	**1.40**	**216**	*e*PN		**Pn**		**16 02 08.1**	**-1.9**
EZN	**Ezine**	**1.63**	**354**	*e*PN		**Pn**		**16 02 13.8**	**+0.5**
DAT	**Datca**	**1.69**	**151**	*e*PN		**Pn**		**16 02 15.2**	**+1.0**
DALT	**Dalyan (Mudla)**	**2.19**	**130**	*e*PN		**Pn**		**16 02 22.3**	**+0.9**

*ATH **26** 16:10:39.5,38.57N×23.64E,h17km±1km,MD3.2/9,ML3.2*
*NEIC **26** 16:10:39.5,38.57N×23.64E,h17km,ML3.1(ATH),After ATH.*
*CSEM **26** 16:10:39.8±0.1,38.58N×23.71E,h5km,ML3.1,Error ellipse: s-maj=3.1km s-min=1.6km az=80.0*
*THE **26** 16:10:42.4,38.60N×23.79E,h20km,ML2.9*
ISC 26 16:10:38.5±0.7,38.55N±0.02×23.87E±0.07,h16km±7km, n32,σ0s99/44,3C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.41**	**195**	*e*PB		**Pb**		**16 10 47.5**	**+0.6**
PTL	**Penteli**	**0.50**	**180**	*e*PN		**Pn**		**16 10 50.0**	**-0.7**
ATH	**Athens Observa**	**0.59**	**192**	*i*PN		**Pn**		**16 10 51.3**	**-0.6**
ATH				*e*SN		**Sn**		**16 11 00.2**	**-0.9**
LKR	**Lokris**	**0.69**	**279**	*i*PN		**Pn**		**16 10 49.2**	**-4.1**
LKR				*e*SN		**Sn**		**16 10 57.2**	**-6.4**
MGER	**Gerania Oros**	**0.74**	**220**	*e*PB		**Pb**		**16 10 52.0**	**-0.5**
NAIG	**Nisos Aigina**	**0.85**	**201**	*e*PN		**Pn**		**16 10 55.0**	**-0.6**
NEO	**Neokhori**	**0.91**	**327**	*e*PB		**Pb**		**16 10 54.5**	**-0.8**
NEO				*e*SN		**Sn**		**16 11 06.6**	**-2.5**
XOR	**Xorichti**	**0.97**	**327**	*e*Pg		**Pb**		**16 10 57.7**	**+1.3**
XOR				*e*Sg		**Sb**		**16 11 10.2**	**+1.5**
XOR	**Xorichti**	**0.97**	**327**	*e*Pg		**Pb**		**16 10 57.7**	**+1.3**
XOR				*e*Sg		**Sb**		**16 11 10.2**	**+1.5**
AGG	**Agios Georgios**	**1.29**	**292**	*e*Pg		**Pb**		**16 11 01.8**	**-0.1**
AGG				*e*Sg		**Sb**		**16 11 18.5**	**+0.5**
PAIG	**Paliouri**	**1.38**	**354**	*e*Pg		**Pn**		**16 11 04.0**	**+0.7**
EVR	**Evrytania**	**1.65**	**283**	*i*PN		**Pn**		**16 11 07.4**	**+0.3**
LOS	**Limnos**	**1.67**	**34**	*e*Pb		**Pb**		**16 11 09.3**	**+0.9**
LIA	**Limnos Island**	**1.69**	**37**	*e*PN		**Pn**		**16 11 11.8**	**+4.2**
OUR	**Ouranopolis**	**1.78**	**3**	*e*Pb		**Pb**		**16 11 09.6**	**-0.7**
PLG	**Polygyros**	**1.85**	**350**	*i*PB		**Pb**		**16 11 10.7**	**-0.7**
PLG	**Polygyros**	**1.85**	**350**	*i*Pb		**Pb**		**16 11 10.2**	**-1.2**
LIT	**Litokhoron**	**1.88**	**326**	*e*Pb		**Pb**		**16 11 10.7**	**-1.3**
LIT				*e*Sb		**Sb**		**16 11 32.8**	**-2.3**
LIT	**Litokhoron**	**1.88**	**326**	*e*Pb		**Pb**		**16 11 10.6**	**-1.3**
RLS	**Riolos of Patr**	**1.95**	**256**	*e*PN		**Pn**		**16 11 11.7**	**+0.3**
VLI	**Veliai**	**1.97**	**202**	*e*PB		**Pb**		**16 11 13.1**	**-0.4**
APE	**Apeiranthos**	**1.98**	**138**	*e*PN		**Pn**		**16 11 17.3**	**+5.5**
ITM	**Ithomi**	**2.06**	**229**	*e*PN		**Pn**		**16 11 14.8**	**+1.9**
THE	**Thessaloniki**	**2.19**	**342**	*e*Pn		**Pn**		**16 11 15.4**	**+0.6**
THE				*e*Sn		**Sn**		**16 11 41.5**	**-0.3**
THE	**Thessaloniki**	**2.19**	**342**	*e*Pn		**Pn**		**16 11 15.4**	**+0.6**
THE				*e*Sn		**Sn**		**16 11 41.5**	**-0.3**
SOH	**Sokhos**	**2.30**	**350**	*e*Pn		**Pn**		**16 11 17.2**	**+0.8**
SOH				*e*Sn		**Sn**		**16 11 44.7**	**+0.1**
SOH	**Sokhos**	**2.30**	**350**	*e*Pn		**Pn**		**16 11 17.2**	**+0.8**
SOH				*e*Sn		**Sn**		**16 11 44.7**	**+0.1**
MEV	**Metsovon**	**2.39**	**302**	*e*Pn		**Pn**		**16 11 17.9**	**+0.2**
GRG	**Griva**	**2.65**	**335**	*e*Pn		**Pn**		**16 11 21.9**	**+0.4**
KNT	**Kendrikon**	**2.71**	**344**	*e*Pn		**Pn**		**16 11 22.8**	**+0.5**
KNT				*e*Sn		**Sn**		**16 11 54.2**	**-0.9**
IGT	**Igoumenitsa**	**2.92**	**291**	*e*Pn		**Pn**		**16 11 27.0**	**+1.7**
FNA	**Florina**	**2.94**	**320**	*e*Pn		**Pn**		**16 11 26.0**	**+0.4**

IDC 26 16:29:57.7±2.9,21.79S×68.90W,h82km±27km,mb3.5/1, mb1 4.0/3,mb1mx3.5/15,mbtmp4.1/3,Error ellipse: s-maj=64.1km s-min=20.5km az=96.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.52**	**8**	P		P		16 31 19.2	+0.3
	4.0nm,0.3s,baz=191,slow=6.8,SNR=87								
SIV	**San Ignacio**	**9.39**	**53**	P		P		16 32 08.8	-3.3
	2.8nm,0.3s,baz=245,slow=12,SNR=87								
CFAA	**Coronel Fontan**	**9.80**	**177**	P		P		16 32 16.9	-0.7
	0.0nm,0.3s,baz=5.2,slow=11,SNR=5.9								
CFAA				S		S		16 34 02.6	-4.1
	0.1nm,0.3s,baz=239,slow=15,SNR=2.6								
YKA	**Yellowknife Ar**	**91.46**	**341**	P

2C-1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.27**	**77**	Pn	**Pn**	**17 21 44.0**	**-0.4**
	148nm,0.3s,baz=279,slow=23,SNR=6.4						
CBIJ				Sn	**Sn**	**17 22 00.8**	**-1.0**
	287nm,0.3s,baz=254,slow=20,SNR=18						
MAJO	**Matsushiro**	**9.95**	**348**	*e*P	**P**	**17 23 44.0**	**-2.8**
JOW	**Kunigami**	**11.19**	**273**	LR	LR	17 27 59.1	
	comp=Z,157nm,18.9s,baz=167,slow=36						
GUMO	**Guam**	**13.70**	**163**	*e*P	**P**	**17 24 36.9**	**-0.7**
KS15	**Wonju Array Si**	**15.21**	**317**	*e*Pn	**P**	**17 25 06.1**	**+8.8**
TATO	**Taipei**	**17.47**	**268**	*e*Pn	**P**	**17 25 30.5**	**+4.3**
NACB	**Ninganchiao**	**17.54**	**266**	*e*Pn	**P**	**17 25 21.8**	**-5.2**
SSE	**Sheshan**	**17.68**	**289**	P	**P**	**17 25 27.3**	**-1.5**
SSE				AP		17 25 35.8	
SSE				XP		17 25 40.0	
SSE				S	**S**	**17 28 44.3**	**+0.3**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s						
SSE				AMB	AMB		
	comp=Z,130nm,5.3s						
NJ2	**Nanjing**	**19.80**	**290**	*e*P	**P**	**17 25 54.0**	**-0.3**
NJ2				AP		17 26 06.0	
NJ2				XP		17 26 08.0	
NJ2				PP	PP	17 26 13.3	+0.5
NJ2				S	**S**	**17 29 30.0**	**-1.7**
NJ2				AMB	AMB		
	comp=Z,130nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,310nm,5.4s						
NJ2				LR	LR		
	comp=N,590nm,24.8s						
NJ2				LR	LR		
	comp=E,670nm,32.0s						
NJ2				LR	LR		
	comp=Z,570nm,27.0s						
HABR	**Khabarovsk**	**22.08**	**350**	*e*P	**P**	**17 26 17.0**	**-0.6**
LZH	**Lanzhou**	**32.69**	**296**	*e*P	**P**	**17 27 57.5**	**+2.0**
LZH				AP	pP	17 28 07.5	+10
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
MA2	**Magadan**	**33.47**	**9**	*e*P	**P**	**17 28 02.5**	**+0.5**
MA2				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**33.69**	**318**	*e*P	**P**	**17 28 05.6**	**+1.6**
ULN	**Ulaanbaatar**	**33.69**	**318**	*e*P	**P**	**17 28 04.1**	**+0.1**
	comp=Z,7.8nm,1.4s,mb4.5						
SONM	**Songino Array**	**34.07**	**317**	P	**P**	**17 28 07.6**	**+0.3**
	comp=Z,1.3nm,0.9s,mb3.8,baz=131,slow=6.7,SNR=7.3						
YAK	**Yakutsk**	**35.99**	**351**	*e*P	**P**	**17 28 22.7**	**-0.9**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
GTA	**Gaotai**	**36.26**	**301**	*e*P	**P**	**17 28 27.3**	**+1.2**
GTA				AP	pP	17 28 34.8	+6.6
GTA				XP	sP	17 28 39.0	+10
GTA				PP	PP	17 29 51.0	+2.1
GTA				S	**S**	**17 34 05.8**	**-0.3**
GTA				XS		17 34 21.0	
GTA				SS	SS	17 36 32.0	+2.2
GTA				AMB	AMB		
	comp=Z,70nm,6.1s						
GTA				LR	LR		
	comp=N,150nm,18.3s,MS4.0						
GTA				LR	LR		
	comp=E,160nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=Z,110nm,12.6s,MS3.8						
PMG	**Port Moresby**	**36.53**	**169**	*e*P	**P**	**17 28 28.5**	**-0.1**
PMG	**Port Moresby**	**36.53**	**169**	*e*P	**P**	**17 28 28.3**	**-0.3**
	comp=Z,7.5nm,0.8s,mb4.6						
SEY	**Seymchan**	**36.92**	**9**	*e*P	**P**	**17 28 31.5**	**+0.1**
LSA	**Lhasa**	**43.56**	**286**	*e*P	**P**	**17 29 28.2**	**+1.5**
BILL	**Bilibino**	**44.01**	**13⇑**	*e*P	**P**	**17 29 30.3**	**+0.5**
BILL				*e*		17 29 49.2	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
BILL	**Bilibino**	**44.01**	**13**	*e*P	**P**	**17 29 30.1**	**+0.3**
	comp=Z,15nm,1.4s,mb4.5						
KRAR	**Krasnoyarsk**	**44.96**	**324**	*e*P	**P**	**17 29 37.3**	**-0.3**
WMQ	**Urumqi**	**45.74**	**306**	*e*P	**P**	**17 29 44.5**	**+0.5**
WMQ				AP	pP	17 29 49.5	+3.3
WMQ				XP	sP	17 29 51.5	+4.4
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,70nm,4.6s						
WRAB	**Tennant Creek**	**46.89**	**188**	*e*P	**P**	**17 29 53.6**	**+0.3**
WRAB	**Tennant Creek**	**46.89**	**188**	*e*P	**P**	**17 29 52.9**	**-0.4**
	comp=Z,12nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**46.90**	**188**	*e*P	**P**	**17 29 53.1**	**-0.3**
WRA	**Warramunga Arr**	**46.90**	**188**	P	**P**	**17 29 53.1**	**-0.3**
	comp=Z,4.6nm,0.7s,mb4.5,baz=8.8,slow=8.5,SNR=24						
CTA	**Charters Tower**	**46.92**	**173**	P	**P**	**17 29 53.0**	**-0.6**
	comp=Z,3.1nm,0.7s,mb4.3,baz=21,slow=13,SNR=3.3						
CTAO	**Charters Tower**	**46.92**	**173**	*e*P	**P**	**17 29 53.8**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CTAO	**Charters Tower**	**46.92**	**173**	*e*P	**P**	**17 29 53.8**	**+0.2**
	comp=Z,6.3nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**49.70**	**310**	P	**P**	**17 30 15.1**	**+0.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=92,slow=9.5,SNR=16						
MKAR	**Makanchi Array**	**49.70**	**310⇑**	*e*P	**P**	**17 30 15.6**	**+0.7**
KURK	**Kurchatov**	**52.30**	**315**	*e*P	**P**	**17 30 35.0**	**+0.4**
KURK	**Kurchatov**	**52.30**	**315**	*e*P	**P**	**17 30 34.3**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**55.40**	**305**	*e*P	**P**	**17 30 57.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
IMA2	**Indian Mountai**	**55.89**	**27**	*e*P	**P**	**17 31 01.4**	**+0.7**
BVAR	**Borovoye Array**	**57.41**	**318**	P	**P**	**17 31 10.6**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=101,slow=7.6,SNR=8.3						
BRVK	**Borovoye**	**57.48**	**318**	*e*P	**P**	**17 31 12.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**57.48**	**318**	*e*P	**P**	**17 31 12.1**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.1						
COLA	**College**	**58.15**	**28**	*e*P	**P**	**17 31 17.3**	**+0.6**
ZRNK	**Zerenda**	**58.25**	**317**	*e*P	**P**	**17 31 17.1**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**58.25**	**317**	*e*P	**P**	**17 31 17.1**	**-0.5**
	comp=Z,1.5nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**58.37**	**179**	P	**P**	**17 31 17.4**	**-1.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=72,slow=13,SNR=2.9						
STKA	**Stephens Creek**	**58.37**	**179**	*e*P	**P**	**17 31 18.4**	**-0.4**
ILAR	**Eielson Array**	**58.55**	**29**	P	**P**	**17 31 18.9**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.2,baz=255,slow=5.9,SNR=15						
YKA	**Yellowknife Ar**	**72.97**	**28**	P	**P**	**17 32 51.2**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.3,baz=294,slow=6.3,SNR=49						
YKA	**Yellowknife Ar**	**72.97**	**28**	*i* P	**P**	**17 32 51.7**	**-0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**72.97**	**28**	P	**P**	**17 32 51.2**	**-0.8**
MAK	**Makhachkala**	**74.52**	**310**	*e*P	**P**	**17 33 03.2**	**+1.8**
OBN	**Obninsk**	**76.06**	**325**	P	**P**	**17 33 08.0**	**-1.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
GNI	**Garni**	**77.53**	**309**	*e*P	**P**	**17 33 22.0**	**+3.5**
GNI				pmax	pmax		
	comp=Z,32nm,1.3s						
FINES	**FINESS Array B**	**77.65**	**333**	P	**P**	**17 33 16.9**	**-1.8**
	comp=Z,3.1nm,1.1s,mb4.2,baz=104,slow=7.9,SNR=4.0						
FINES	**FINESS Array B**	**77.65**	**333**	*i* P	**P**	**17 33 18.7**	**0.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	**FINESS Array B**	**77.65**	**333**	P	**P**	**17 33 16.9**	**-1.8**
ANN	**Anapa**	**80.33**	**315**	*e*P	**P**	**17 33 37.8**	**+4.2**
ANN				pmax	pmax		
	comp=Z,85nm,0.9s,mb5.7						
NVAR	**Mina Array Bea**	**81.66**	**51**	P	**P**	**17 33 41.7**	**+1.0**
	comp=Z,1.0nm,0.8s,mb3.8,baz=264,slow=10,SNR=4.5						
NVAR	**Mina Array Bea**	**81.66**	**51**	P	**P**	**17 33 41.7**	**+1.0**
NOA	**NORSAR Array B**	**83.41**	**338**	P	**P**	**17 33 48.0**	**-1.3**
	comp=Z,2.3nm,1.1s,mb4.1,baz=55,slow=9.8,SNR=2.4						
PDAR	**Pinedale Array**	**85.28**	**44**	P	**P**	**17 34 00.2**	**+1.2**
	comp=Z,3.0nm,1.1s,mb4.3,baz=283,slow=2.2,SNR=11						
ANMO	**Albuquerque**	**91.60**	**49**	*i* P	**P**	**17 34 31.7**	**+2.3**
TXAR	**Lajitas Array**	**96.76**	**53**	P	**P**	**17 34 54.8**	**+1.6**
	comp=Z,1.0nm,0.9s,mb4.2,baz=304,slow=4.5,SNR=6.8						
DBIC	**Dimbokro**	**132.94**	**310**	PKP	PKPdf	17 40 38.0	-2.1
	comp=Z,2.0nm,0.9s,baz=163,slow=6.5,SNR=3.7						
PLCA	**Paso Flores**	**150.65**	**126**	PKPbc	PKPdf	17 41 14.6	+4.3
	comp=Z,2.3nm,0.7s,baz=238,slow=2.9,SNR=9.6						
LPAZ	**La Paz**	**151.19**	**75**	PKPbc	PKPdf	17 41 17.7	+6.0
	comp=Z,3.9nm,0.8s,baz=299,slow=2.4,SNR=22						
LPAZ	**La Paz**	**151.19**	**75**	*e*PKIKP	PKPdf	17 41 17.5	+5.8

*ATH **26** 17:29:10.4,38.15N×26.53E,h35km±2km, MD2.8/3*
*ISK **26** 17:29:10.9,38.19N×26.57E,h9km, MD2.7*
*NEIC **26** 17:29:10.9,38.19N×26.57E,h9km, MD2.8(ATH), MD2.7(ISK), After ISK.*
*CSEM **26** 17:29:10.4±0.1,38.25N×26.54E,h5km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.5km az=99.0*

ISC 26 17:29:09.8±1.7, 38.22N±0.05×26.47E±0.09, h1km±12km, n7, σ0°45/11, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.59**	**150**	*e*PN	**Pg**	**17 29 21.8**	**+0.2**
SMG				*e*SN	**Sg**	**17 29 29.3**	**-0.2**
IZM	**Izmir**	**0.65**	**74**	PG	**Pg**	**17 29 22.6**	**-0.2**
IZM				SG	**Sg**	**17 29 31.3**	**-0.2**
PRK	**Paraskevi**	**1.03**	**352⇑**	*i* PN	**Pn**	**17 29 31.5**	**+0.3**
PRK				*e*SN	**Sn**	**17 29 46.1**	**-0.4**
AKS	**Akhisar**	**1.24**	**58**	*e*PN	**Pn**	**17 29 34.9**	**+0.7**
AKS				*e*SN	**Sn**	**17 29 51.7**	**-0.1**
BODT	**Bodrum**	**1.34**	**150**	*e*PN	**Pn**	**17 29 35.7**	**+0.1**
APE	**Apeiranthos**	**1.37**	**213**	*e*PN	**Pn**	**17 29 36.8**	**+0.8**
APE	**Apeiranthos**	**1.37**	**213**	*e*PN	**Pn**	**17 29 34.7**	**-1.3**

*IDC **26** 17:51:01.7±1.5,34.71N×73.10E,mb3.7/6,mb1 3.9/9, mb1mx3.6/21,mbtmp3.7/9,ML3.9/3, Error ellipse: s-maj=42.2km s-min=25.5km az=54.0*
*NDI **26** 17:51:03.8±3.2,34.89N×72.76E,h10km, MD3.8,ML3.4*
*NEIC **26** 17:51:03.1±0.6,34.69N×73.09E,h10km,mb4.3/3,Error ellipse: s-maj=15.3km s-min=9.0km az=69.0*
*NNC **26** 17:51:14.0±11.0,35.02N×72.17E,h57km±106km,mb3.2, mpv3.9,Error ellipse: s-maj=131.6km s-min=73.5km az=64.0*

ISC 26 17:51:02.1±0.5, 34.76N±0.06×72.97E±0.10, h10km, n30, σ1°815/39, mb3.9/7, 3C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.27**	**135**	*e*P	**Pb**	**17 51 58.8**	**-1.0**
THN				*e*S	**Sb**	**17 52 41.6**	**+1.8**
DLH	**Dalhousie**	**3.34**	**131**	*e*P	**Pb**	**17 52 01.0**	**-0.1**
DLH				*e*S	**Sb**	**17 52 40.0**	**-2.0**
PONG	**Pong**	**3.75**	**138**	*e*P	**Pb**	**17 52 07.0**	**-1.2**
SDNR	**Sundarnagar**	**4.67**	**133**	*e*P	**Pn**	**17 52 17.0**	**+2.5**
SDNR				*e*S	**Sn**	**17 53 10.2**	**+0.7**
SMLA	**Simla**	**5.06**	**135**	*e*P	**Pn**	**17 52 20.1**	**+0.2**
SMLA				*e*S	**Sn**	**17 53 21.2**	**+2.1**
	194nm,0.3s						
KLP	**Kalpa**	**5.48**	**125**	*e*P	**Pn**	**17 52 26.8**	**+1.0**
KLP				*e*S	**Sn**	**17 53 29.3**	**-0.3**
KLP				AML	AML	17 53 31.3	
	comp=E,73nm,0.4s						
DDI	**Dehra Dun**	**6.17**	**134**	*ex*	**Pb**	**17 52 50.2**	**+0.7**
KHET	**Khetri**	**7.10**	**159**	*e*P	**Pn**	**17 52 49.5**	**+0.8**
KHET				*e*S	**Sn**	**17 54 06.5**	**-3.6**
KHET				AML	AML	17 54 09.9	
	comp=E,21nm,0.5s						
KUDL	**Kundal**	**7.25**	**155**	*e*P	**Pn**	**17 52 52.0**	**+1.2**
KUDL				*e*S	**Sn**	**17 54 10.7**	**-3.3**
KUDL				AML	AML	17 54 13.2	
	comp=Z,10.0nm,0.4s						
AAK	**Ala-Archa**	**7.95**	**8**	*e*Pn	**Pn**	**17 53 00.0**	**-0.5**
KK31	**Karatay Array**	**8.54**	**348**	⇑P	**P**	**17 53 09.4**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=154,slow=11,SNR=124						
KK31				S	**Sn**	**17 54 42.9**	**-3.4**
	comp=Z,4.5nm,0.5s,baz=175,slow=23,SNR=13						
MKAR	**Makanchi Array**	**13.92**	**28**	Pn	**P**	**17 54 20.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=207,slow=13,SNR=3.2						
AB31	**Akbulak array**	**17.38**	**330**	⇑P	**P**	**17 55 06.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=151,slow=11,SNR=14						
AB31				⇓S	**S**	**17 58 10.5**	**-7.5**
	comp=Z,1.1nm,0.8s,baz=156,slow=23,SNR=2.9						
BVA0	**Borovoye Array**	**18.35**	**355**	P	**P**	**17 55 19.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=167,slow=10,SNR=7.3						
BVAR	**Borovoye Array**	**18.35**	**355**	P	**P**	**17 55 19.2**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=168,slow=11,SNR=9.7						
BRVK	**Borovoye**	**18.39**	**355**	*e*Pn	**P**	**17 55 19.2**	**+0.4**
ZRNK	**Zerenda**	**18.40**	**352**	P	**P**	**17 55 19.4**	**+0.5**
ZRNK	**Zerenda**	**18.40**	**352**	*e*P	**P**	**17 55 19.5**	**+0.6**
	comp=Z,2.6nm,0.6s						
AKTK	**Aktyubinsk**	**19.08**	**330**	P	**P**	**17 55 27.4**	**+0.2**
AKTO	**Aktyubinsk**	**19.08**	**330**	⇑P	**P**	**17 55 27.4**	**+0.2**
	comp=Z,0.4nm,0.6s						
AKTO	**Aktyubinsk**	**19.08**	**330**	P	**P**	**17 55 27.4**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=140,slow=8.9,SNR=20						
ZAL	**Zalesovo**	**20.90**	**20**	P	**P**	**17 55 45.1**	**-1.8**
	comp=Z,3.1nm,0.5s,baz=246,slow=8.4,SNR=15						
FINES	**FINESS Array B**	**39.81**	**327**	P	**P**	**17 58 36.1**	**-0.8**
	comp=Z,1.6nm,0.8s,mb3.8,baz=146,slow=6.9,SNR=4.0						
ARCES	**ARCESS Array B**	**43.36**	**338**	P	**P**	**17 59 06.4**	**+0.7**
	comp=Z,4.9nm,1.1s,mb4.2,baz=117,slow=8.5,SNR=13						
NOA	**NORSAR Array B**	**46.73**	**324**	P	**P**	**17 59 32.5**	**-0.2**
	comp=Z,1.0nm,0.9s,mb3.7,baz=101,slow=7.0,SNR=2.5						
WRA	**Warramunga Arr**	**79.71**	**123**	P	**P**	**18 03 11.0**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.4,baz=323,slow=5.0,SNR=6.5						
WRAB	**Tennant Creek**	**79.71**	**123**	*e*P	**P**	**18 03 10.9**	**-1.1**
	comp=Z,5.8nm,1.2s,mb4.4						
YKA	**Yellowknife Ar**	**82.89**	**4**	P	**P**	**18 03 28.2**	**+0.5**
	comp=Z,0.2nm,0.5s,mb3.4,baz=345,slow=4.9,SNR=5.2						
YKA	**Yellowknife Ar**	**82.89**	**4**	P	**P**	**18 03 28.2**	**+0.5**
CTAO	**Charters Tower**	**88.35**	**116**	*e*P	**P**	**18 03 54.7**	**-1.0**
	comp=Z,2.5nm,0.7s,mb4.5						

*TIF **26** 18:04:41.8,43.02N×47.73E,h15km±2km*
MOS 26 18:04:39.7±1.1, 43.13N×47.87E, h13km, mb3.9/1, 2D, Error ellipse: s-maj=25.5km s-min=13.5km az=57.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUJR	**Buynaksk**	**0.64**	**242**	*e*PG	Pg	18 04 53.8	+1.2
BUJR				*i* S	Sb	18 05 03.5	+2.8
KRNR	**Karanay**	**0.77**	**247**	⇓*i* PG	Pg	18 04 55.0	-0.2
KRNR				*i* S	Sb	18 05 05.3	+0.8
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
DBC	**Dubki**	**0.77**	**262**	*i* PG	Pg	18 04 55.0	-0.2
DBC				*i* S	Sb	18 05 05.5	+1.0
UNCR	**Uncukul**	**0.89**	**243**	*i* PG	Pg	18 04 57.0	-0.7
UNCR				*i* S	Sb	18 05 07.5	-0.6
UNCR				pmax	pmax		
	comp=Z,21nm,0.2s						
URKR	**Urkarakh**	**0.98**	**190**	*i* PG	Pg	18 04 56.5	-2.9
URKR				pmax	pmax		
	comp=Z,95nm,0.1s						
KMKR	**Kumukh**	**1.15**	**210**	⇓*i* PG	Pg	18 05 01.0	-1.8
KMKR				*e*S	Sb	18 05 16.0	+0.4
KMKR				pmax	pmax		
	comp=Z,44nm,0.2s						
KSMR	**Kasumkent**	**1.54**	**173**	*e*PG	Pg	18 05 09.0	-1.5
KSMR				*e*S	Sb	18 05 28.5	+1.7

*ATH **26** 18:29:06.9,39.01N×23.18E,h23km±1km, MD2.7/5, ML2.9*
*NEIC **26** 18:29:06.8,39.01N×23.18E,h23km, ML2.9(ATH), After ATH.*
*THE **26** 18:29:07.2,39.00N×23.36E,h3km, ML2.6*
*CSEM **26** 18:29:07.4±0.2,38.99N×23.36E,h2km, ML2.6, Error ellipse: s-maj=6.5km s-min=3.4km az=77.0*

ISC 26 18:29:06.0±0.9, 38.99N±0.02×23.38E±0.06, h3km±6km, n15, σ0°887/25, 3C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.34**	**339**	⇑*i* PB	**Pb**	**18 29 14.0**	**-0.2**
NEO				*e*SB	**Sb**	**18 29 18.6**	**-1.1**
XOR	**Xorichti**	**0.40**	**339**	*e*Pg	**Pg**	**18 29 15.2**	**+1.1**
XOR				*e*Sg	**Sg**	**18 29 20.4**	**+1.0**
LKR	**Lokris**	**0.45**	**221**	⇑*i* PB	**Pb**	**18 29 15.6**	**-0.5**
LKR				*e*SB	**Sb**	**18 29 21.2**	**-1.7**
LKR	**Lokris**	**0.45**	**221**	*e*Sb	**Sb**	**18 29 21.2**	**-1.7**
AGG	**Agios Georgios**	**0.82**	**273**	*e*Pg	**Pg**	**18 29 21.8**	**-0.5**
AGG				*e*Sg	**Sg**	**18 29 34.4**	**+1.2**
MPAR	**Parnis Oros**	**0.88**	**161**	*e*PN	**Pn**	**18 29 25.0**	**0.0**
PTL	**Penteli**	**1.01**	**158**	*e*PN	**Pn**	**18 29 27.8**	**+0.9**
ATH	**Athens Observa**	**1.05**	**165**	*e*PN	**Pn**	**18 29 28.5**	**+1.1**
ATH				*e*SN	**Sn**	**18 29 43.4**	**+0.8**
LIT	**Litokhoron**	**1.31**	**329**	*e*Pg	**Pg**	**18 29 30.7**	**-1.3**
LIT				*e*Sg	**Sg**	**18 29 50.0**	**+0.6**
PLG	**Polygyros**	**1.38**	**2⇑**	*i* PN	**Pn**	**18 29 31.9**	**-0.3**
OUR	**Ouranopolis**	**1.42**	**19**	*e*Pg	**Pg**	**18 29 33.0**	**-1.3**
SOH	**Sokhos**	**1.83**	**359**	*e*Pb	**Pb**	**18 29 38.3**	**-1.4**
SOH				*e*Sb	**Sb**	**18 30 03.5**	**+0.5**
GRG	**Griva**	**2.10**	**339**	*e*Pn	**Pn**	**18 29 42.1**	**-0.3**
GRG				*e*Sn	**Sn**	**18 30 10.2**	**+0.8**
SRS	**Serrai**	**2.13**	**4**	*e*Pn	**Pn**	**18 29 42.4**	**-0.4**
SRS				*e*Sn	**Sn**	**18 30 10.4**	**+0.2**
KNT	**Kendrikon**	**2.20**	**351**	*e*Pn	**Pn**	**18 29 44.3**	**+0.5**
KNT				*e*Sn	**Sn**	**18 30 12.1**	**+0.2**

*NEIC **26** 18:38:18.1, 19.49N×68.87W, h14km, MD3.7(RSPR), After RSPR.*

RSPR 26 18:38:18.1, 19.49N×68.87W, h14km±32km, MD3.7/6, MD3.7/6, 8C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**2.14**	**127⇑**	*e*P	Pn	18 38 51.6	-2.4
LSP				*e*S	Sn	18 39 15.7	-4.9
CRPR	**Cabo Rojo, PR**	**2.23**	**131⇑**	*e*P	Pn	18 38 49.6	-5.7
CRPR	**Cabo Rojo, PR**	**2.23**	**131**	*e*S	Sn	18 39 18.2	-4.7
LRS	**Lares**	**2.26**	**122⇑**	*e*P	Pn	18 38 51.7	-4.0
LRS				*e*S	Sn	18 39 19.6	-4.0
AOPR	**Arecibo Observ**	**2.31**	**119⇑**	*e*P	Pn	18 38 53.3	-3.2
AOPR				*e*S	Sn	18 39 21.1	-3.8
CELP	**Cerrillos**	**2.59**	**123⇑**	*e*P	Pn	18 38 57.8	-2.7
CELP				*e*S	Sn	18 39 27.4	-4.6
CBYP	**Canovanas**	**3.10**	**113⇑**	*e*P	Pn	18 39 04.0	-3.7
CBYP				*e*S	Sn	18 39 40.6	-4.4
HUMP	**Col San Antoni**	**3.16**	**115⇑**	*e*P	Pn	18 39 05.3	-3.3
HUMP				*e*S	Sn	18 39 41.9	-4.6
MTP	**Monte Pirata**	**3.44**	**113⇑**	*e*P	Pn	18 39 08.4	-4.1
MTP				*e*S	Sn	18 39 48.5	-4.9

KRSC 26 18:46:41.0±1.2, 50.49N×157.36E, h15km±9km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.82**	**284**	*i* P	Pb	18 46 56.3	0.0
SKR				*i* S	Sb	18 47 07.7	+0.8
ALID	**Alaid**	**1.21**	**289**	*i* P	Pb	18 47 05.8	+2.7
ALID				*e*S	Sb	18 47 22.3	+3.9
MIPR	**Malaya Ipel'ka**	**1.83**	**348**	*e*P	Pn	18 47 14.1	+1.9
RUS	**Russkaya**	**2.08**	**20**	P	Pn	18 47 15.0	-0.8
RUS				S	Sn	18 47 38.8	-2.7
RUS	**Russkaya**	**2.08**	**20**	*i* P	Pn	18 47 15.0	-0.8
RUS				*e*S	Sn	18 47 39.3	-2.2
GRL	**Gorelyy**	**2.11**	**12**	*e*P	Pn	18 47 16.9	+0.6
GRL				*e*S	Sn	18 47 42.1	-0.4
KRMR	**Karymshinskiy**	**2.39**	**11**	*e*P	Pn	18 47 21.1	+0.8
KRMR				*e*S	Sn	18 47 51.7	+2.1
APC	**Apacha**	**2.44**	**357**	*e*P	Pn	18 47 22.3	+1.3
APC				Smax			
	30nm,0.7s						
PET	**Petropavlovsk**	**2.66**	**17**	P	Pn	18 47 24.5	+0.3
PET				S	Sn	18 47 54.9	-1.5
PET	**Petropavlovsk**	**2.66**	**17**	*e*P	Pn	18 47 24.5	+0.3
PET				*e*S	Sn	18 47 55.0	-1.4
UGLR	**Uglovaya**	**2.87**	**18**	*e*P	Pn	18 47 27.8	+0.6
UGLR				*e*S	Sn	18 48 02.7	+1.0
AVH	**Avacha**	**2.91**	**17**	*e*P	Pn	18 47 28.8	+1.1
AVH				*e*S	Sn	18 48 03.6	+1.0
KOK	**Koryaka**	**2.92**	**15**	*i* P	Pn	18 47 29.3	+1.5
KOK				*e*S	Sn	18 48 04.9	+2.1
SMAR	**Somma**	**2.92**	**17**	*e*P	Pn	18 47 28.6	+0.8
SDLR	**Sedlovina**	**2.95**	**18**	*e*P	Pn	18 47 28.3	0.0
SDLR				*e*S	Sn	18 48 03.9	+0.2
NLC	**Nalytchevo**	**2.95**	**24**	P	Pn	18 47 27.3	-1.0
NLC				*e*S	Sn	18 48 00.7	-3.1
SPN	**Mys Shipunski**	**3.09**	**31**	P	Pn	18 47 29.6	-0.7
SPN				S	Sn	18 48 05.7	-1.6
SPN	**Mys Shipunski**	**3.09**	**31**	*e*P	Pn	18 47 29.7	-0.6
SPN				*e*S	Sn	18 48 05.9	-1.4
GNL	**Ganaly**	**3.23**	**6**	*e*P	Pn	18 47 33.4	+1.1
MKZ	**Mys Kozlova**	**4.87**	**32**	*e*S	Sn	18 48 47.6	-4.6
KMNR	**Kamenistaya**	**5.55**	**17**

CRPR					*e*S	S	19 10 24.1	-0.2
LRS	**Lares**	**2.20**	**109**	*e*P	P	19 09 56.0	-0.2
LRS				*e*S	S	19 10 26.9	+0.4
AOPR	**Arecibo Observ**	**2.27**	**107**	⇑*e*P	P	19 09 57.1	+0.1
AOPR				*e*S	S	19 10 27.5	-0.4
CELP	**Cerrillos**	**2.52**	**112**	⇑*e*P	P	19 10 00.4	+0.5
CELP				*e*S	S	19 10 33.5	+0.5
SJG	**San Juan**	**2.89**	**108**	⇑*e*P	P	19 10 04.3	-0.1
CBYP	**Canovanas**	**3.11**	**104**	⇓*e*P	P	19 10 06.5	-0.7
CBYP				*e*S	S	19 10 46.7	+0.8
HUMP	**Col San Antoni**	**3.15**	**106**	⇑*e*P	P	19 10 07.3	-0.4
HUMP				*e*S	S	19 10 46.9	+0.1
MTP	**Monte Pirata**	**3.43**	**105**	⇑*e*P	P	19 10 11.2	0.0

NEIC ***26*** *19:23:43.3, 17.33N×101.30W, h8km, MD3.6(MEX), After MEX.*

MEX 26 19:23:43.3±1.2, 17.33N×101.30W, h8km±101km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.32**	**330**	*i* P	Pg	19 23 49.1	-0.7
ZIIG				*i* S	Sg	19 23 53.8	-0.3
ZIIG	**Zihuatanejo**	**0.32**	**330**	*e*P	Pg	19 23 49.1	-0.7
ZIIG				*e* S	Sg	19 23 53.8	-0.3
CAIG	**El Cayaco**	**1.02**	**106**	*i* P	Pb	19 23 59.2	-3.6
CAIG				*i* S	Sb	19 24 12.4	-3.8
ACX	**Acapulco**	**1.40**	**109**	*i* P	Pn	19 24 07.0	-2.2
ACX				*i* S	Sb	19 24 25.0	-2.1
PLIG	**Platanillo**	**2.01**	**58**	*i* P	Pn	19 24 15.1	-2.8
PLIG				*i* S	Sn	19 24 37.7	-5.8
PLIG	**Platanillo**	**2.01**	**58**	*i* P	Pn	19 24 15.3	-2.7
PLIG				*i* S	Sn	19 24 37.7	-5.8

NEIC ***26*** *19:23:53.9±2.8, 37.85N×72.33E, h198km±21km, mb3.7/5, Error ellipse: s-maj=29.8km s-min=17.3km az=49.0*
NNC ***26*** *19:23:54.4±47.0, 38.00N×71.74E, mb3.3, mpv2.9, Error ellipse: s-maj=1207.6km s-min=429.5km az=80.0*
IDC ***26*** *19:23:57.6±21.0, 37.97N×72.43E, h231km±133km, mb3.2/2, mb1 3.4/4, mb1mx2.9/20, mbtmp3.8/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/18, Error ellipse: s-maj=200.7km s-min=60.3km az=11.0*

ISC 26 19:23:52.4±2.6, 37.8N±0.2×72.2E±0.2, h204km±21km, n16, σ0$88/17, mb3.7/5, 1C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.11**	**19**	*e*Pn	**P**	**19 25 08.6**	**-0.4**
	1.5nm,0.6s						
AAK				*e*S	**S**	**19 26 09.2**	**+0.8**
KK31	**Karatay Array**	**5.43**	**347**	P	**P**	**19 25 13.2**	**0.0**
	0.4nm,0.2s,baz=157,slow=11,SNR=41						
KK31				⇑S	**S**	**19 26 14.8**	**-1.1**
	4.8nm,0.3s,baz=172,slow=23,SNR=29						
MKAR	**Makanchi Array**	**11.64**	**36**	P	**P**	**19 26 34.3**	**+0.8**
	0.0nm,0.3s,baz=225,slow=10,SNR=2.9						
KURK	**Kurchatov**	**13.67**	**17**	*e*Pn	**P**	**19 26 58.2**	**-0.6**
BVAR	**Borovoye Array**	**15.26**	**356**	P	**P**	**19 27 18.3**	**-0.2**
	0.1nm,0.3s,baz=164,slow=11,SNR=4.8						
BRVK	**Borovoye**	**15.30**	**356**	Pn	**P**	**19 27 20.4**	**+1.4**
	0.3nm,0.5s						
ZAL	**Zalesovo**	**18.29**	**24**	P	**P**	**19 27 52.7**	**-0.4**
	0.9nm,0.3s,baz=246,slow=6.3,SNR=8.0						
ZAL	**Zalesovo**	**18.29**	**24**	P	**P**	**19 27 52.7**	**-0.5**
ULN	**Ulaanbaatar**	**27.23**	**57**	*e*P	**P**	**19 29 18.3**	**-0.9**
	1.3nm,0.9s,mb3.6						
MLR	**Muntele Rosu**	**35.02**	**298**	LR	LR	19 45 55.2	
	comp=Z,60nm,19.5s,baz=209,slow=38						
ARCES	**ARCESS Array B**	**40.31**	**337**	P	**P**	**19 31 11.8**	**+0.9**
	4.9nm,1.1s,mb3.9,baz=108,slow=8.6,SNR=3.1						
YKA	**Yellowknife Ar**	**79.88**	**3**	P	**P**	**19 35 38.9**	**-0.1**
	0.1nm,0.5s,mb2.7,baz=353,slow=6.2,SNR=5.6						
YKA	**Yellowknife Ar**	**79.88**	**3**	P	**P**	**19 35 38.9**	**-0.1**
WRAB	**Tennant Creek**	**81.87**	**123**	*e*P	**P**	**19 35 51.0**	**+0.6**
	7.8nm,1.2s,mb4.2						
NWAO	**Narrogin (SRO)**	**81.92**	**143**	*e*P	**P**	**19 35 51.2**	**+0.9**
CTAO	**Charters Tower**	**90.21**	**115**	*e*P	**P**	**19 36 29.0**	**-2.0**
	6.0nm,1.1s,mb4.3						

IDC ***26*** *19:26:16.8±4.3, 24.82N×109.11W, mb4.1/3, mb1 4.3/7, mb1mx3.9/21, mbtmp3.9/7, ML3.4/4, MS3.5/7, Ms1 3.5/7, ms1mx3.1/29, Error ellipse: s-maj=65.5km s-min=22.8km az=161.0*
NEIC ***26*** *19:26:19.8±0.7, 24.85N×109.08W, h10km, mb3.9/5, Error ellipse: s-maj=13.5km s-min=8.1km az=55.0*

ISC 26 19:26:18.3±1.5, 24.88N±0.05×109.02W±0.07, h10km±10km, n45, σ1$02/48, mb4.0/5, MS3.5/5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.41**	**237**	*i* P	**Pn**	**19 26 37.8**	**-6.3**
LPIG				*i* S	**Sn**	**19 26 52.0**	**-11**
MAIG	**Mazatlaan**	**2.91**	**125**	*i* P	**Pg**	**19 27 15.6**	**-0.8**
MAIG				*i* S	**Sg**	**19 28 01.0**	**+5.8**
TXAR	**Lajitas Array**	**6.51**	**46**	Pn	**Pn**	**19 27 56.0**	**-0.6**
	0.2nm,0.3s,baz=226,slow=14,SNR=18						
TXAR				Sn	**Sn**	**19 29 10.0**	**-1.7**
	1.3nm,0.3s,baz=243,slow=16,SNR=5.0						
TXAR				Lg		19 29 46.3	
	0.3nm,0.3s,baz=220,slow=35,SNR=2.4						
TXAR	**Lajitas Array**	**6.51**	**46**	Pn	**Pn**	**19 27 56.0**	**-0.6**
TXAR				Sn	**Sn**	**19 29 10.0**	**-1.7**
TXAR				Lg		19 29 46.3	
LTX	**Lajitas**	**6.51**	**46**	*e*Pn	**Pn**	**19 27 57.5**	**+1.0**
	41nm,1.0s						
LTX				*e*Pg	**Pg**	**19 28 21.2**	**-7.1**
LTX				*e*Sg	**Sg**	**19 29 49.9**	**-5.3**
SFJM	**Santa Fe**	**7.04**	**127**	*e*P	**Pn**	**19 28 10.5**	**+6.5**
MNTX	**Cornudas Mount**	**7.51**	**24**	*e*P	**Pn**	**19 28 01.6**	**-9.0**
TUC	**Tucson**	**7.56**	**349**	*e*Pn	**Pn**	**19 28 08.3**	**-3.0**
	6.0nm,1.2s						
TUC				*e*Sn	**Sn**	**19 29 37.9**	**-0.1**
JCT	**Junction City**	**9.89**	**54**	*e*Pn	**P**	**19 28 44.8**	**+1.1**
BAR	**Barrett**	**10.27**	**321**	*e*P	**P**	**19 28 47.2**	**-1.6**
ANMO	**Albuquerque**	**10.28**	**12**	Pn	**P**	**19 28 49.8**	**+0.9**
	baz=204,slow=13,SNR=13						
ANMO				Lg		19 31 46.4	
	baz=348,slow=19,SNR=2.8						
ANMO				LR	LR	19 33 06.4	
	comp=Z,325nm,19.3s,baz=76,slow=40						
ANMO	**Albuquerque**	**10.28**	**12**	*e*P	**P**	**19 28 49.6**	**+0.6**
PFO	**Pinyon Flat Ob**	**10.85**	**325**	*e*P	**P**	**19 28 56.1**	**-0.7**
SDCO	**Great Sand Dun**	**13.17**	**12**	P	**P**	**19 29 27.5**	**-0.5**
WMOK	**Wichita Mounta**	**13.24**	**40**	P	**P**	**19 29 25.6**	**-3.4**
SMCO	**Snowmass**	**14.36**	**6**	P	**P**	**19 29 45.3**	**+1.6**
	18nm,1.3s						
NVAR	**Mina Array Bea**	**15.64**	**332**	Pn	**P**	**19 30 01.1**	**+0.8**
	0.1nm,0.3s,baz=145,slow=13,SNR=16						
BGU	**Big Grassy Mou**	**16.35**	**349**	*e*P	**P**	**19 30 11.0**	**+1.6**
ELK	**Elko**	**16.65**	**343**	Pn	**P**	**19 30 14.2**	**+0.9**
	0.1nm,0.3s,baz=181,slow=9.2,SNR=7.6						
ELK				LR	LR	19 35 57.2	
	comp=Z,215nm,18.8s,baz=255,slow=35						
BW06	**Boulder Array**	**17.85**	**359**	*e*P	**P**	**19 30 28.0**	**-0.2**
	12nm,1.6s						
PDAR	**Pinedale Array**	**17.85**	**359**	P	**P**	**19 30 28.1**	**-0.2**
	0.0nm,0.3s,baz=164,slow=11,SNR=10.0						
AHID	**Auburn Hatcher**	**17.92**	**355**	*e*P	**P**	**19 30 29.4**	**+0.2**
HLID	**Hailey**	**19.15**	**348**	*e*P	**P**	**19 30 43.5**	**-0.7**
	10nm,1.4s						
QLMT	**Earthquake Lak**	**20.00**	**355**	*e*P	**P**	**19 30 55.3**	**+1.5**
MCMT	**McKenzie Canyo**	**20.14**	**352**	*e*P	**P**	**19 30 55.6**	**+0.3**
DLMT	**Dillon**	**20.64**	**353**	*e*P	**P**	**19 31 02.0**	**+1.5**
	8.9nm,1.1s						
LRAL	**Lakeview Retre**	**20.89**	**62**	P	**P**	**19 31 03.3**	**+0.2**
LAO	**LASA Array**	**21.88**	**5**	P	**P**	**19 31 13.5**	**+0.4**
HRY	**Holter Researc**	**21.90**	**355**	*e*P	**P**	**19 31 13.9**	**+0.6**
CHMT	**Chamberlain Mo**	**22.25**	**352**	*e*P	**P**	**19 31 17.0**	**+0.2**
NEW	**Newport**	**24.20**	**347**	P	**P**	**19 31 35.7**	**-0.1**
	13nm,1.0s,mb4.3,baz=150,slow=9.3,SNR=13						
NEW	**Newport**	**24.20**	**347**	P	**P**	**19 31 35.7**	**-0.1**
EDM	**Edmonton**	**28.49**	**355**	*e*P	**P**	**19 32 13.9**	**-1.6**
SADO	**Sadowa**	**31.28**	**43**	LR	LR	19 44 35.9	
	comp=Z,46nm,19.7s,MS3.1,baz=67,slow=35						
YKA	**Yellowknife Ar**	**37.79**	**356**	P	**P**	**19 33 34.7**	**-1.4**
	1.3nm,1.0s,mb3.6,baz=169,slow=8.3,SNR=16						
YKA				LR	LR	19 48 33.5	
	comp=Z,54nm,19.8s,MS3.4,baz=245,slow=35						
YKA	**Yellowknife Ar**	**37.79**	**356**	P	**P**	**19 33 34.7**	**-1.4**
YKA				LR	LR	19 48 33.5	
OTAV	**Otavalo**	**38.39**	**125**	*e*P	**P**	**19 33 42.1**	**+0.3**
	1.8nm,0.8s,mb3.9						
ROSC	**El Rosal**	**38.80**	**115**	LR	LR	19 51 15.4	
	comp=Z,53nm,18.2s,MS3.4,baz=213,slow=39						
SDV	**Santo Domingo**	**39.85**	**107**	LR	LR	19 52 01.8	
	comp=Z,68nm,18.7s,MS3.5,baz=63,slow=39						
SDV	**Santo Domingo**	**39.85**	**107**	P	**P**	**19 33 54.5**	**+0.6**
	3.9nm,1.0s,mb4.1						
ILAR	**Eielson Array**	**46.74**	**339**	P	**P**	**19 34 47.6**	**-1.4**
	2.8nm,1.0s,mb4.1,baz=153,slow=6.6,SNR=13						
LPAZ	**La Paz**	**57.12**	**132**	P	**P**	**19 36 08.4**	**+0.7**
CPUP	**Villa Florida**	**71.29**	**132**	P	**P**	**19 37 39.5**	**-0.7**
BDFB	**Brasilia**	**71.82**	**118**	LR	LR	20 11 10.9	
	comp=Z,65nm,20.1s,MS3.9,baz=295,slow=38						
PLCA	**Paso Flores**	**74.43**	**151**	P	**P**	**19 37 58.5**	**+0.1**

IDC ***26*** *19:39:55.5±1.3, 13.09N×143.96E, h139km±10km, mb3.5/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=36.0km s-min=20.0km az=111.0*
NEIC ***26*** *19:39:55.9±0.9, 13.05N×144.04E, h145km±9km, mb4.6/4, Error ellipse: s-maj=17.7km s-min=10.1km az=96.0*

ISC 26 19:39:54.5±0.9, 13.02N±0.08×144.0E±0.2, h146km±10km, n17, σ1$02/19, mb3.9/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.02**	**56**	P	**P**	**19 40 20.0**	**+0.8**
	114nm,0.3s,baz=20,slow=2.1,SNR=165						
GUMO				S	**S**	**19 40 37.6**	**-0.5**
	259nm,0.3s,baz=9.6,slow=23,SNR=30						
GUMO	**Guam**	**1.02**	**56**	*e*Pn	**P**	**19 40 20.1**	**+0.9**
GUMO				*e*Sn	**S**	**19 40 37.8**	**-0.4**
CTAO	**Charters Tower**	**32.97**	**176**	*e*P	**P**	**19 46 16.9**	**-0.8**
	1.7nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**34.09**	**196**	*e*P	**P**	**19 46 27.6**	**+0.4**
	3.6nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**34.10**	**196**	*e*P	**P**	**19 46 26.3**	**-1.0**
WRA	**Warramunga Arr**	**34.10**	**196**	P	**P**	**19 46 27.2**	**-0.2**
	2.4nm,0.7s,mb4.1,baz=16,slow=9.2,SNR=39						
ENH	**Enshi**	**36.19**	**304**	*e*P	**P**	**19 46 45.0**	**+0.1**
ASPA	**Alice Springs**	**37.77**	**195**	*e*P	**P**	**19 46 58.4**	**+0.2**
SONM	**Songino Array**	**46.71**	**326**	P	**P**	**19 48 10.0**	**-0.4**
	0.3nm,0.6s,mb3.1,baz=145,slow=8.7,SNR=3.6						
MA2	**Magadan**	**46.75**	**5**	*e*P	**P**	**19 48 09.2**	**-1.3**
	36nm,1.5s,mb4.8						
LSA	**Lhasa**	**51.50**	**298**	P	**P**	**19 48 49.5**	**+2.0**
NWAO	**Narrogin (SRO)**	**52.35**	**209**	*e*P	**P**	**19 48 54.2**	**+0.4**
	24nm,1.3s,mb4.7						
ILAR	**Eielson Array**	**69.44**	**25**	P	**P**	**19 50 46.8**	**-1.8**
	0.3nm,0.5s,mb3.3,baz=256,slow=5.8,SNR=5.4						
ZRNK	**Zerenda**	**70.68**	**322**	P	**P**	**19 50 55.0**	**-1.2**
YKA	**Yellowknife Ar**	**83.75**	**27**	P	**P**	**19 52 08.7**	**+0.5**
	0.5nm,0.4s,mb3.6,baz=285,slow=5.1,SNR=20						
NVAR	**Mina Array Bea**	**87.94**	**51**	P	**P**	**19 52 31.2**	**+2.0**
	1.2nm,0.5s,mb4.0,baz=259,slow=8.0,SNR=8.3						
PDAR	**Pinedale Array**	**92.97**	**45**	P	**P**	**19 52 53.6**	**+1.1**
	0.3nm,0.7s,mb3.6,baz=315,slow=2.6,SNR=3.1						

IDC ***26*** *19:40:15.4±1.3, 6.26S×103.36E, mb4.3/9, mb1 4.3/9, mb1mx4.2/17, mbtmp4.3/9, Error ellipse: s-maj=58.5km s-min=19.0km az=43.0*
BJI ***26*** *19:40:16.9, 6.30S×103.40E, h25km, mb4.7*
NEIC ***26*** *19:40:20.6±0.4, 6.27S×103.36E, h35km, mb4.5/10, Error ellipse: s-maj=11.6km s-min=6.3km az=49.0*

ISC 26 19:40:16.7±6.1, 6.3S±0.1×103.4E±0.1, h21km±42km, n31, σ0$79/27, mb4.4/19, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**10.35**	**42**	*e*Pn	**P**	**19 42 48.4**	**+1.1**
KULM	**Kulim**	**11.80**	**347**	*e*Pn	**P**	**19 43 05.5**	**-1.5**
KKM	**Kota Kinabalu**	**17.72**	**47**	*e*Pn	**P**	**19 44 24.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**29.50**	**156**	*e*P	**P**	**19 46 21.4**	**-0.5**
	32nm,1.4s,mb4.9						
WRA	**Warramunga Arr**	**33.00**	**117**	P	**P**	**19 46 52.8**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=283,slow=7.7,SNR=6.4						
WRA				PcP	PcP	19 49 37.2	+0.7
	0.3nm,0.5s,baz=301,slow=2.3,SNR=3.8						
WRAB	**Tennant Creek**	**33.01**	**117**	*e*P	**P**	**19 46 53.5**	**+0.6**
	7.6nm,1.1s,mb4.5						
ENH	**Enshi**	**36.80**	**9**	*e*P	**P**	**19 47 23.7**	**-1.5**
JIRN	**Jiri**	**37.59**	**335**	*e*P	**P**	**19 47 32.9**	**+1.0**
	19nm,0.7s,mb4.9						
LSA	**Lhasa**	**37.64**	**342**	*e*P	**P**	**19 47 33.1**	**+0.9**
	1.7nm,0.5s,mb4.0						
GUN	**Gumba**	**37.95**	**334**	*e*P	**P**	**19 47 35.8**	**+1.0**
	15nm,0.5s,mb5.0						
KKN	**Kakani**	**38.10**	**334**	*e*P	**P**	**19 47 36.6**	**+0.5**
GKN	**Gorkha**	**38.57**	**333**	*e*P	**P**	**19 47 40.6**	**+0.5**
	5.5nm,0.3s,mb4.7						
KOLN	**Koldanda**	**38.86**	**331**	*e*P	**P**	**19 47 43.0**	**+0.5**
	17nm,0.9s,mb4.8						
PMG	**Port Moresby**	**43.47**	**97**	P	**P**	**19 48 20.3**	**-0.3**
	8.7nm,0.7s,mb4.6,baz=262,slow=7.1,SNR=4.0						
CTA	**Charters Tower**	**43.81**	**112**	P	**P**	**19 48 22.3**	**-0.9**
	1.0nm,0.4s,mb3.9,baz=238,slow=9.5,SNR=3.3						
CTAO	**Charters Tower**	**43.81**	**112**	P	**P**	**19 48 23.3**	**+0.1**
GTA	**Gaotai**	**45.57**	**356**	*e*P	**P**	**19 48 37.5**	**+0.4**
GTA				AP	pP	19 48 41.3	-2.2
GTA				XP	sP	19 48 44.0	-2.2
SONM	**Songino Array**	**53.93**	**3**	P	**P**	**19 49 41.0**	**-0.1**
	6.1nm,0.7s,mb4.7,baz=180,slow=8.7,SNR=59						
ULN	**Ulaanbaatar**	**54.00**	**3**	*e*P	**P**	**19 49 41.4**	**-0.1**
	1.5nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**56.05**	**343**	P	**P**	**19 49 55.5**	**-1.0**
	1.6nm,0.4s,mb4.4,baz=151,slow=9.0,SNR=74						
ZAL	**Zalesovo**	**61.98**	**348**	P	**P**	**19 50 37.0**	**-0.6**
	4.3nm,0.4s,mb4.9,baz=340,slow=1.8,SNR=15						
BRVK	**Borovoye**	**65.40**	**339**	*e*P	**P**	**19 50 58.9**	**-1.1**
CHKZ	**Chkalovo**	**65.78**	**339**	*e*P	**P**	**19 51 01.7**	**-0.7**
	2.3nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**65.78**	**338**	*e*P	**P**	**19 51 01.5**	**-1.0**
	1.3nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**78.66**	**312**	P	**P**	**19 52 19.5**	**+0.4**
	0.6nm,0.8s,mb3.6,baz=135,slow=8.2,SNR=3.4						
AKASG	**Malin Array Be**	**84.89**	**322**	P	**P**	**19 52 51.7**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=93,slow=4.4,SNR=5.4						
FINES	**FINESS Array B**	**89.43**	**332**	P	**P**	**19 53 14.4**	**+1.2**
	6.9nm,1.1s,mb4.9,baz=135,slow=2.7,SNR=7.3						
YKA	**Yellowknife Ar**	**117.38**	**19**	PKP	PKPdf	19 59 01.6	-3.2
	0.1nm,0.5s,baz=352,slow=1.7,SNR=5.0						
YKA	**Yellowknife Ar**	**117.38**	**19**	PKP	PKPdf	19 59 01.6	-3.2
PDAR	**Pinedale Array**	**133.46**	**33**	PKP	PKPdf	19 59 34.9	-1.4
	0.3nm,0.6s,baz=62,slow=2.1,SNR=3.8						
TXAR	**Lajitas Array**	**145.69**	**45**	PKPbc	PKPbc	19 59 57.5	+2.4
	4.2nm,0.5s,baz=301,slow=1.1,SNR=82						

BJI ***26*** *20:14:00.4, 36.04N×137.60E, h259km, mB4.7, mb4.5*
NIED ***26*** *20:14:00, 36.20N×137.20E, h270km, Mw4.4 Best double couple: M0 4.14×10^15 NP1:φs222°, δ74°, λ-157°. NP2: φs126°, δ68°, λ-17°.*
IDC ***26*** *20:14:06.7±0.5, 36.12N×137.08E, h264km±4km, mb3.6/16, mb1 3.8/18, mb1mx3.7/23, mbtmp4.2/18, Error ellipse: s-maj=12.1km s-min=9.0km az=72.0*
MOS ***26*** *20:14:06.0±1.0, 36.21N×137.10E, h272km, mb3.9/11, Error ellipse: s-maj=15.1km s-min=7.7km az=103.9*
JMA ***26*** *20:14:06.9±0.1, 36.16N×137.21E, h268km±1km, M3.9 Broadband fault plane solution: P waves. NP1:φs116°, δ71°, λ-18°. NP2:φs212°, δ73°, λ-160°. Principal axes: T Plg1°, Azm344°; N Plg64°, Azm252°; P Plg26°, Azm74°;*
NEIC ***26*** *20:14:07.0±0.4, 36.21N×137.17E, h270km±4km, mb4.3/9 Error ellipse: s-maj=8.4km s-min=6.9km az=71.0*

ISC 26 20:14:06.1±0.2, 36.18N±0.03×137.15E±0.05, h272km±2km, n92, σ0$79/110, mb3.9/29, 5C-9D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.14**	**72**	⇓P	**P**	**20 14 41.3**	**+0.2**
JGN				S	**S**	**20 15 08.0**	**-0.3**
JGM	**Miyama**	**0.60**	**216**	⇓P	**P**	**20 14 42.0**	**-0.1**
JGM				S	**S**	**20 15 09.2**	**-0.9**
JKG	**Kaga**	**0.67**	**278**	⇓P	**P**	**20 14 42.8**	**+0.5**
JKG				S	**S**	**20 15 10.6**	**0.0**
MAJO	**Matsushiro**	**0.93**	**67**	*e*P	**P**	**20 14 43.7**	**+0.4**
MAJO				*e*S	**S**	**20 15 08.6**	**-3.8**
MAT	**Matsushiro**	**0.93**	**67**	P	**P**	**20 14 43.6**	**+0.3**
MAT				S	**S**	**20 15 12.9**	**+0.5**
MAT	**Matsushiro**	**0.93**	**67**	P	**P**	**20 14 43.6**	**+0.3**
MAT				S	**S**	**20 15 12.5**	**+0.1**
MAT	**Matsushiro**	**0.93**	**67**	*e*P	**P**	**20 14 44.0**	**+0.7**
MAT				*e*S	**S**	**20 15 13.0**	**+0.6**
MJAR	**Matsushiro Arr**	**0.93**	**67**	P	**P**	**20 14 43.8**	**+0.5**
	19nm,0.3s,baz=247,slow=6.7,SNR=194						
MJAR				S	**S**	**20 15 12.5**	**+0.1**
	5.9nm,0.3s,baz=248,slow=42,SNR=6.3						
JSZ	**Suzu**	**1.28**	**8**	S	**S**	**20 15 15.8**	**-0.1**
JYN	**Shimob**	**1.32**	**121**	⇑P	**P**	**20 14 45.2**	**-0.4**
JRY	**Ryogami san**	**1.43**	**96**	P	**P**	**20 14 46.4**	**+0.1**
JHG	**Hegura jima**	**1.68**	**354**	*e*S	**S**	**20 15 21.8**	**+1.0**
JWT	**Wachi**	**1.68**	**238**	⇓P	**P**	**20 14 48.3**	**+0.1**
JWT				S	**S**	**20 15 20.1**	**-0.8**
JIE	**Ise**	**1.82**	**192**	⇓P	**P**	**20 14 49.8**	**+0.6**
JIE				S	**S**	**20 15 22.8**	**0.0**
JOD2	**Odawara 2**	**1.82**	**120**	⇑P	**P**	**20 14 49.4**	**+0.2**
JOD2				S	**S**	**20 15 23.2**	**+0.4**
JAG	**Ashikaga**	**1.87**	**82**	P	**P**	**20 14 49.1**	**-0.5**
JSD	**Sado**	**2.05**	**25**	⇑P	**P**	**20 14 51.5**	**+0.3**
JSD				S	**S**	**20 15 25.4**	**-0.8**
JWY	**Kouya**	**2.34**	**214**	P	**P**	**20 14 54.4**	**+0.6**
JWY				S	**S**	**20 15 30.7**	**-0.2**
JIM2	**Oshima 3**	**2.36**	**127**	⇓P	**P**	**20 14 54.1**	**+0.1**
JNS	**Sasagawa**	**2.38**	**46**	P	**P**	**20 14 54.4**	**+0.2**
JNS				S	**S**	**20 15 30.4**	**-1.2**
TK01	**Tokai 1**	**2.44**	**171**	P	**P**	**20 14 55.2**	**+0.5**
JWZ	**Kozaga**	**2.90**	**205**	⇓P	**P**	**20 14 59.3**	**0.0**
JWZ				S	**S**	**20 15 40.3**	**-0.4**
SAI	**Saigo**	**3.09**	**272**	P	**P**	**20 15 01.6**	**+0.3**
JHJ	**Hachijo jima 2**	**3.75**	**144**	P	**P**	**20 15 08.9**	**+0.4**
	48nm,0.3s,baz=68,slow=22,SNR=6.5						
JHJ				S	**S**	**20 15 57.0**	**-0.1**
	43nm,0.3s,baz=59,slow=19,SNR=5.8						
JNU	**Nakatsue**	**6.00**	**241**	P	**P**	**20 15 36.0**	**+0.7**
	5.2nm,0.3s,baz=56,slow=6.0,SNR=40						
KS15	**Wonju Array Si**	**7.54**	**282**	*e*Pn	**P**	**20 15 55.7**	**+1.2**
VLA	**Vladivostok**	**8.03**	**331**	⇑*i* P	**P**	**20 16 01.2**	**+0.6**
VLA				pmax	pmax		
	comp=Z,145nm,1.0s						
ASAJ	**Asahikawa**	**8.95**	**26**	P	**P**	**20 16 09.9**	**-2.2**
	comp=Z,13nm,0.3s,baz=228,slow=13,SNR=34						
ASAJ				S	**S**	**20 17 44.9**	**-6.3**
	comp=Z,5.0nm,0.3s,baz=45,slow=27,SNR=8.3						
ASAJ	**Asahikawa**	**8.95**	**26**	P	**P**	**20 16 10.0**	**-2.2**
ASAJ				S	**S**	**20 17 44.9**	**-6.3**
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
CBIJ	**Chichi jima**	**10.02**	**153**	S	**S**	**20 18 05.2**	**-10**
	comp=N,42nm,0.3s,baz=256,slow=22,SNR=5.8						
MDJ	**Mudanjiang**	**10.21**	**328**	P	**P**	**20 16 28.3**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,110nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,240nm,4.9s						
MDJ	**Mudanjiang**	**10.21**	**328**	*e*Pn	**P**	**20 16 28.5**	**+0.7**
	comp=Z,84nm,0.8s						
YSS	**Yuzh-Sakhalins**	**11.55**	**20**	⇓*i* P	**P**	**20 16 43.0**	**-1.5**
YSS				*e*S	**S**	**20 18 44.0**	**-5.7**
YSS				pmax	pmax		
	comp=Z,160nm,0.6s						
YSS				smax			
	comp=E,110nm,1.1s						
YSS	**Yuzh-Sakhalins**	**11.55**	**20**	*e*Pn	**P**	**20 16 42.1**	**-2.4**
	comp=E,128nm,0.6s						
CN2	**Changchun**	**11.76**	**314**	*e*P	**P**	**20 16 47.5**	**+0.3**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
KLR	**Kul'dur**	**13.63**	**345**	*e*P	**P**	**20 17 04.8**	**-5.2**
KLR				pmax	pmax		
	comp=E,20nm,0.8s						
KLR				pmax	pmax		
	comp=Z,32nm,0.8s						
NJ2	**Nanjing**	**15.70**	**260**	*e*P	**P**	**20 17 30.

YBH	**Yreka Blue Hor**	**73.55**	**50**	P	**P**		**20 25 12.3**	**+1.4**
YBH				pmax	pmax				
	comp=Z,2.0nm,0.8s								
NB2	**NORSAR Subarra**	**73.60**	**336**	P	**P**		**20 25 10.6**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.6,baz=41,slow=6.2								
NOA	**NORSAR Array B**	**73.60**	**336**	P	**P**		**20 25 10.8**	**0.0**
	comp=Z,1.9nm,0.8s,mb3.8,baz=42,slow=5.9,SNR=7.0								
NOA	**NORSAR Array B**	**73.60**	**336**	P	**P**		**20 25 10.8**	**0.0**
NOA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
BRTR	**Keskin Array B**	**76.80**	**310**	P	**P**		**20 25 30.1**	**+0.8**
	comp=Z,1.7nm,1.0s,mb3.7,baz=112,slow=6.7,SNR=6.0								
BRTR	**Keskin Array B**	**76.80**	**310**	P	**P**		**20 25 30.1**	**+0.8**
BRTR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
OJC	**Ojcow**	**77.78**	**324**	*e*P	**P**		**20 25 35.1**	**+0.7**
NVAR	**Mina Array Bea**	**78.22**	**51**	P	**P**		**20 25 38.8**	**+1.7**
	comp=Z,1.8nm,0.6s,mb4.0,baz=283,slow=6.4,SNR=12								
PDAR	**Pinedale Array**	**80.67**	**43**	P	**P**		**20 25 51.4**	**+1.4**
	comp=Z,2.3nm,0.8s,mb4.0,baz=321,slow=2.2,SNR=20								
GERES	**GERESS Array B**	**81.57**	**326**	P	**P**		**20 25 54.9**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.3,baz=45,slow=7.5,SNR=5.1								
ULM	**Lac du Bonnet**	**82.05**	**31**	P	**P**		**20 25 57.5**	**+0.6**
	comp=Z,1.9nm,1.0s,mb3.8,baz=333,slow=10.0,SNR=3.7								
TXAR	**Lajitas Array**	**93.32**	**50**	P	**P**		**20 26 52.7**	**+1.3**
	comp=Z,3.2nm,0.7s,mb4.4,baz=293,slow=3.1,SNR=41								
TXAR	**Lajitas Array**	**93.32**	**50**	P	**P**		**20 26 52.7**	**+1.3**
TXAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
VNA2	**Neumayer--Watz**	**140.51**	**197**	P	Pdif		20 30 12.1	-6.8
VNA2				*e*			20 31 01.1		
LPAZ	**La Paz**	**150.04**	**55**	PKPbc	PKPdf		20 33 26.4	+7.1
	comp=Z,2.6nm,0.9s,baz=32,slow=6.8,SNR=7.2								
LPAZ	**La Paz**	**150.04**	**55**	*e*PKIKP	PKPdf		20 33 27.0	+7.6

IDC ***26*** *20:40:08.7±1.2,13.79S×122.67E,mb4.0/4,mb1 4.1/5, mb1mx3.9/12,mbtmp4.1/5,ML4.9/1,MS3.4/1,Ms1 3.4/1, ms1mx2.6/22,Error ellipse: s-maj=34.8km s-min=22.8km az=51.0*

NEIC ***26*** *20:40:12.9±0.5,13.87S×122.67E,h35km,mb4.5/9,Error ellipse: s-maj=16.0km s-min=8.3km az=220.0*

ISC 26 20:40:07.3±0.4,13.83S±0.07×122.76E±0.08,h10km,n30, σ1§23/40,mb4.6/11,MS3.3/1,Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**5.07**	**147**	*e*P	**Pn**	**20 41 28.1**	**+2.9**
	571nm,0.6s						
FITZ				*e*S	**Sn**	**20 42 23.8**	**-0.7**
WRA	**Warramunga Arr**	**12.63**	**120**	Pn	**P**	**20 43 09.2**	**-0.8**
	7.6nm,0.3s,baz=294,slow=14,SNR=332						
WRA				Sn	**S**	**20 45 21.0**	**-11**
	16nm,0.3s,baz=293,slow=24,SNR=14						
WRA				Lg		20 46 58.8	
	2.6nm,0.3s,baz=294,slow=30,SNR=4.6						
WRAB	**Tennant Creek**	**12.64**	**120**	*e*Pn	**P**	**20 43 08.6**	**-1.4**
	39nm,0.4s						
WRAB				*e*Sn	**S**	**20 45 21.1**	**-11**
WB2	**Warramunga Arr**	**12.64**	**120**	*e*P	**P**	**20 43 08.6**	**-1.5**
WB2				*e*S	**S**	**20 45 20.1**	**-12**
ASPA	**Alice Springs**	**14.38**	**134**	*e*P	**P**	**20 43 32.8**	**-0.3**
ASPA				*e*S	**S**	**20 46 03.1**	**-10**
QIS	**Mount Isa**	**17.42**	**115**	*e*P	**P**	**20 44 12.1**	**-0.1**
	7.8nm,0.9s						
QIS				*e*S	**S**	**20 47 13.5**	**-11**
KLBR	**Kellerberrin**	**18.26**	**194**	*e*P	**P**	**20 44 22.5**	**-0.2**
	14nm,0.5s						
KLBR				*e*S	**S**	**20 47 25.7**	**-18**
NWAO	**Narrogin (SRO)**	**19.66**	**194**	P	**P**	**20 44 39.6**	**+0.2**
	2.2nm,0.3s,baz=26,slow=12,SNR=14						
NWAO				S	**S**	**20 48 01.2**	**-14**
	4.6nm,0.3s,baz=282,slow=23,SNR=5.5						
NWAO	**Narrogin (SRO)**	**19.66**	**194**	*e*Pn	**P**	**20 44 40.6**	**+1.2**
	9.9nm,0.4s						
NWAO				*e*Sn	**S**	**20 48 01.7**	**-13**
KKM	**Kota Kinabalu**	**20.79**	**341**	*e*P	**P**	**20 44 51.8**	**+0.4**
CTA	**Charters Tower**	**23.30**	**109**	P	**P**	**20 45 20.3**	**+3.8**
	1.4nm,0.5s,mb3.7,baz=270,slow=8.1,SNR=4.0						
CTAO	**Charters Tower**	**23.30**	**109**	*e*P	**P**	**20 45 20.2**	**+3.7**
CTAO				*e*S	**S**	**20 49 34.0**	**+9.2**
PMG	**Port Moresby**	**24.29**	**82**	P	**P**	**20 45 30.5**	**+4.3**
STKA	**Stephens Creek**	**24.90**	**139**	*e*P	**P**	**20 45 34.8**	**+2.9**
	10.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**24.90**	**139**	P	**P**	**20 45 34.4**	**+2.4**
	6.0nm,0.7s,mb4.2,baz=306,slow=7.1,SNR=18						
STKA				S	**S**	**20 50 07.8**	**+16**
	3.5nm,0.6s,baz=310,slow=16,SNR=3.6						
PSI	**Prapat**	**28.85**	**303**	LR	LR	21 00 11.1	
	comp=Z,72nm,18.2s,MS3.3,baz=119,slow=42						
HNR	**Honiara**	**36.66**	**87**	P	**P**	**20 47 18.1**	**+1.8**
	28nm,0.4s,mb5.5,baz=249,slow=8.6,SNR=2.3						
PALK	**Pallekele**	**46.72**	**294**	*e*P	**P**	**20 48 38.1**	**-0.6**
	8.7nm,0.9s,mb4.7						
DGAR	**Diego Garcia**	**49.78**	**272**	*e*P	**P**	**20 49 02.7**	**+0.1**
	51nm,0.7s,mb5.7						
LSA	**Lhasa**	**52.94**	**325**	*e*P	**P**	**20 49 26.7**	**+0.3**
	1.6nm,0.6s,mb4.1						
JIRN	**Jiri**	**54.39**	**319**	*e*P	**P**	**20 49 36.5**	**-0.5**
	6.6nm,0.6s,mb4.7						
GUN	**Gumba**	**54.76**	**319**	*e*P	**P**	**20 49 38.3**	**-1.4**
	13nm,0.8s,mb5.0						
KKN	**Kakani**	**55.06**	**319**	*e*P	**P**	**20 49 41.1**	**-0.8**
GKN	**Gorkha**	**55.62**	**319**	*e*P	**P**	**20 49 43.2**	**-2.8**
KOLN	**Koldanda**	**56.13**	**318**	*e*P	**P**	**20 49 48.7**	**-0.9**
SONM	**Songino Array**	**63.10**	**348**	P	**P**	**20 50 37.4**	**0.0**
	0.3nm,0.4s,mb3.8,baz=172,slow=6.3,SNR=4.1						
AFI	**Afiamalu**	**63.35**	**99**	*e*P	**P**	**20 50 41.9**	**+2.4**
	28nm,0.8s,mb5.5						
AKTK	**Aktyubinsk**	**85.28**	**325**	P	**P**	**20 52 47.1**	**+1.6**
AKTO	**Aktyubinsk**	**85.28**	**325**	P	**P**	**20 52 47.1**	**+1.6**
	1.0nm,0.7s,mb4.0,baz=83,slow=8.1,SNR=4.3						
SNAA	**Sanae**	**87.34**	**195**	*e*P	**P**	**20 52 55.9**	**+0.7**

IDC ***26*** *20:43:02.1±7.0,51.50N×175.96W,mb3.2/3,mb1 3.8/4, mb1mx3.5/22,mbtmp3.5/4,ML4.2/1,MS3.5/1,Ms1 3.5/1, ms1mx2.9/14,Error ellipse: s-maj=117.9km s-min=80.3km az=89.0*

NEIC 26 20:43:13.4,51.84N×176.00W,h73km,MG3.1(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.17**	**71**	P	P	20 43 33.1	-1.4
ATKA				S	S	20 43 49.2	-1.1
KDAK	**Kodiak Island**	**14.71**	**57**	Pn	P	20 46 35.0	-3.5
	1.0nm,0.3s,baz=226,slow=4.9,SNR=8.2						
SLKM	**Skilak Lake**	**16.67**	**49**	*e*P	P	20 47 02.1	-1.2
ILAR	**Eielson Array**	**19.80**	**38**	P	P	20 47 35.7	-4.3
	0.5nm,0.4s,baz=227,slow=11,SNR=15						
ASAJ	**Asahikawa**	**28.45**	**271**	LR	LR	20 59 31.0	
	comp=Z,95nm,18.3s,baz=329,slow=35						
YKA	**Yellowknife Ar**	**33.64**	**47**	P	P	20 49 45.4	-3.2
	0.1nm,0.4s,baz=280,slow=9.1,SNR=7.6						
PDAR	**Pinedale Array**	**44.51**	**74**	P	P	20 51 16.1	-2.9
	0.3nm,0.5s,baz=313,slow=3.6,SNR=5.5						

IDC ***26*** *20:43:33.2±2.6,40.20N×83.18E,mb3.9/2,mb1 3.7/5, mb1mx3.5/21,mbtmp3.7/5,ML3.4/3,Error ellipse: s-maj=38.2km s-min=29.4km az=109.0*

NEIC ***26*** *20:43:34.5±0.7,40.16N×83.12E,h10km,mb4.2/4,Error ellipse: s-maj=13.0km s-min=9.2km az=211.0*

NNC ***26*** *20:43:37.4±5.0,40.42N×83.09E,h14km±27km,mb4.2, mpv4.5,Error ellipse: s-maj=42.4km s-min=22.0km az=175.0*

ISC 26 20:43:32.9±0.8,40.18N±0.07×83.12E±0.07,h10km,n21, σ1§09/24,mb4.2/4,8C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**5.51**	**305**	⇓Pn	**Pn**	**20 44 59.1**	**+2.0**
	334nm,0.6s						
KNDC				⇑Sn	**Sn**	**20 45 59.4**	**-1.9**
	1μm,0.9s						
KNDC				⇓Lg		20 46 27.7	
	1μm,0.7s						
TKM2	**Tokmak 2**	**6.27**	**298**	⇑Pn	**Pn**	**20 45 08.2**	**+0.4**
	7.1nm,0.5s						
TKM2				⇑Lg		20 46 51.4	
	50nm,0.5s						
MK31	**Makanchi Array**	**6.63**	**355**	Pn	**Pn**	**20 45 12.9**	**-0.1**
	7.7nm,0.6s,baz=181,slow=12,SNR=152						
MK31				⇑Lg		20 47 05.7	
	20nm,0.7s,baz=157,slow=26,SNR=4.1						
MKAR	**Makanchi Array**	**6.63**	**355**	Pn	**Pn**	**20 45 12.8**	**-0.1**
	1.3nm,0.3s,baz=181,slow=12,SNR=37						
MKAR				Pg	**Pg**	**20 45 36.6**	**-8.8**
	2.8nm,0.3s,baz=177,slow=16,SNR=13						
MKAR				Sn	**Sn**	**20 46 30.1**	**+0.6**
	1.7nm,0.3s,baz=176,slow=20,SNR=3.6						
MKAR				Lg		20 47 06.3	
	3.3nm,0.3s,baz=170,slow=25,SNR=5.2						
AAK	**Ala-Archa**	**6.93**	**293**	*e*Pn	**Pn**	**20 45 16.1**	**-0.9**
	9.8nm,0.6s						
AAK				*e*Sn	**Sn**	**20 46 37.1**	**+0.4**
KK31	**Karatay Array**	**9.88**	**291**	⇑Pg	Px	20 46 30.9	
	1.7nm,0.8s,baz=114,slow=12,SNR=6.1						
KK31				⇑Lg		20 48 49.5	
	3.7nm,0.6s,baz=84,slow=28,SNR=4.7						
KURK	**Kurchatov**	**10.99**	**345**	*e*P	**P**	**20 46 12.9**	**-0.3**
	3.5nm,0.8s						
VOSK	**Vostochnaya**	**15.05**	**330**	⇑P	**P**	**20 47 10.0**	**+2.8**
	7.9nm,2.4s						
BVA0	**Borovoye Array**	**15.51**	**330**	⇓P	**P**	**20 47 14.0**	**+0.9**
	0.9nm,1.1s,baz=147,slow=12,SNR=18						
BVAR	**Borovoye Array**	**15.51**	**330**	Pn	**P**	**20 47 10.3**	**-2.8**
	0.1nm,0.3s,baz=148,slow=14,SNR=8.1						
BRVK	**Borovoye**	**15.57**	**330**	*e*P	**P**	**20 47 18.3**	**+4.3**
	4.0nm,0.7s						
CHKZ	**Chkalovo**	**15.94**	**332**	⇑P	**P**	**20 47 17.2**	**-1.4**
	5.9nm,2.2s						
CHKZ	**Chkalovo**	**15.94**	**332**	*e*Pn	**P**	**20 47 17.7**	**-0.9**
ZRNK	**Zerenda**	**16.00**	**328**	⇓P	**P**	**20 47 18.6**	**-0.9**
	4.6nm,0.7s						
ZRNK	**Zerenda**	**16.00**	**328**	*e*Pn	**P**	**20 47 19.5**	**0.0**
	6.1nm,0.7s						
SONM	**Songino Array**	**18.36**	**58**	P	**P**	**20 47 49.1**	**-0.2**
	0.1nm,0.3s,baz=250,slow=13,SNR=5.7						
ULN	**Ulaanbaatar**	**18.80**	**58**	*e*P	**P**	**20 47 54.2**	**-0.3**
	0.9nm,0.8s						
BRTR	**Keskin Array B**	**37.53**	**286**	P	**P**	**20 50 49.5**	**+0.8**
	0.6nm,0.8s,mb3.4,baz=59,slow=8.4,SNR=2.7						
ARCES	**ARCESS Array B**	**41.76**	**334**	P	**P**	**20 51 24.2**	**+0.8**
	5.8nm,1.1s,mb4.1,baz=90,slow=7.2,SNR=4.8						
WRAB	**Tennant Creek**	**76.50**	**131**	*e*P	**P**	**20 55 25.5**	**+0.5**
	5.3nm,1.0s,mb4.4						
NWAO	**Narrogin (SRO)**	**79.30**	**151**	*e*P	**P**	**20 55 39.1**	**-1.0**
	8.2nm,0.9s,mb4.7						

IDC 26 21:12:31.0±1.2,26.27N×142.76E,mb3.8/2,mb1 4.2/2, mb1mx3.5/18,mbtmp3.8/2,Error ellipse: s-maj=40.7km s-min=19.1km az=69.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.97**	**328**	Pn	Pn	21 12 52.1	+0.4
	29nm,0.3s,baz=278,slow=22,SNR=7.1						
CBIJ				Sn	Sn	21 13 07.8	+1.4
	69nm,0.3s,baz=285,slow=23,SNR=16						
WRA	**Warramunga Arr**	**46.66**	**191**	P	P	21 21 01.0	-2.3
	0.9nm,0.6s,baz=10,slow=8.6,SNR=15						
YKA	**Yellowknife Ar**	**72.62**	**28**	P	P	21 23 59.3	-2.5
	0.6nm,0.7s,baz=293,slow=6.1,SNR=14						
LPAZ	**La Paz**	**149.62**	**77**	PKPbc	PKPdf	21 32 25.3	+4.9
	0.8nm,0.7s,baz=270,slow=8.1,SNR=5.5						

NNC 26 21:17:40.0±5.0,40.64N×77.14E,mb3.5,mpv3.1,2C-5D, Error ellipse: s-maj=52.9km s-min=23.3km az=104.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**2.55**	**334**	⇓Pn	Pn	21 18 21.4	-1.9
	2.0nm,0.3s						
TKM2				⇑Lg		21 18 60.0	
	12nm,0.7s						
KNDC	**Almaty**	**2.58**	**357**	⇓Pn	Pn	21 18 23.4	-0.2
	109nm,0.6s						
KNDC				⇓Lg		21 19 02.6	
	441nm,0.5s						
KK31	**Karatay Array**	**5.52**	**299**	⇑Pn	Pn	21 19 10.3	+4.9
	0.5nm,0.7s						
KK31				⇓Pg	Pg	21 19 21.0	-9.2
	0.7nm,0.6s,baz=125,slow=16,SNR=5.7						
KK31				⇓Lg		21 20 27.3	
	0.7nm,0.5s,baz=113,slow=28,SNR=4.3						

NIED ***26*** *21:29:00,37.10N×142.00E,h23km,Mw3.8 Best double couple: M0 5.4×10^14 NP1:φs 301°,δ71°,λ-104°. NP2: φs 157°,δ23°,λ-56°.*

JMA ***26*** *21:29:00.8±0.2,37.07N×142.01E,h46km,M3.7*

NEIC ***26*** *21:29:00.8,37.07N×142.01E,h46km,MG3.7(JMA),After JMA.*

IDC ***26*** *21:29:03.0±4.1,37.02N×142.06E,h39km±38km,mb3.3/6, mb1 3.6/8,mb1mx3.4/23,mbtmp3.6/8,ML3.8/2,MS3.0/1, Ms1 3.0/1,ms1mx2.3/14,Error ellipse: s-maj=30.8km s-min=19.9km az=98.0*

ISC 26 21:29:00.5±1.4,37.02N±0.05×142.1E±0.1,h37km±14km, n19,σ1§06/24,mb3.5/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.00**	**291**	P	**P**	**21 29 17.9**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.00**	**275**	P	**P**	**21 29 17.9**	**-0.4**
JHO	**Hitachi**	**1.26**	**251**	P	**P**	**21 29 21.6**	**-0.2**
JHO				*e*S	**S**	**21 29 37.3**	**-0.5**
JMM	**Marumori**	**1.31**	**311**	P	**P**	**21 29 22.3**	**-0.4**
JMM				*e*S	**S**	**21 29 37.9**	**-1.3**
JFT	**Otama**	**1.45**	**291**	P	**P**	**21 29 25.5**	**+0.8**
JIO	**Ouri**	**1.54**	**339**	P	**P**	**21 29 25.1**	**-0.8**
JOU	**Okura**	**1.74**	**321**	P	**P**	**21 29 29.4**	**+0.7**
MJAR	**Matsushiro Arr**	**3.12**	**262**	Pn	**P**	**21 29 49.9**	**+1.4**
	6.6nm,0.3s,baz=91,slow=16,SNR=33						
MJAR				Sn	**S**	**21 30 28.6**	**+3.7**
	4.5nm,0.3s,baz=92,slow=28,SNR=5.3						
MAJO	**Matsushiro**	**3.12**	**262**	*e*Pn	**P**	**21 29 51.7**	**+3.2**
MAT	**Matsushiro**	**3.12**	**262**	P	**P**	**21 29 51.7**	**+3.2**
MAT				S	**S**	**21 30 21.2**	**-3.8**
MAT	**Matsushiro**	**3.12**	**262**	*e*P	**P**	**21 29 52.0**	**+3.5**
MAT				*e*S	**S**	**21 30 21.0**	**-4.0**
JHJ	**Hachijo jima 2**	**4.31**	**206**	Pn	**P**	**21 30 06.2**	**+0.8**
	28nm,0.3s,baz=73,slow=19,SNR=4.0						
JHJ				Sn	**S**	**21 30 53.5**	**-1.6**
	26nm,0.3s,baz=59,slow=23,SNR=3.3						
ASAJ	**Asahikawa**	**7.10**	**3**	LR	LR	21 34 20.1	
	comp=Z,107nm,18.3s,baz=29,slow=45						
SONM	**Songino Array**	**28.22**	**304**	P	**P**	**21 34 51.3**	**-0.4**
	0.2nm,0.4s,mb3.1,baz=102,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**44.56**	**302**	P	**P**	**21 37 11.2**	**+0.9**
	0.4nm,0.6s,mb3.4,baz=87,slow=9.8,SNR=6.8						
ILAR	**Eielson Array**	**49.23**	**32**	P	**P**	**21 37 45.4**	**-1.4**
	0.4nm,0.8s,mb3.5,baz=273,slow=4.8,SNR=4.4						
INK	**Inuvik**	**54.17**	**27**	P	**P**	**21 38 24.4**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=328,slow=3.3,SNR=5.3						
WRA	**Warramunga Arr**	**57.12**	**189**	P	**P**	**21 38 45.4**	**-0.4**
	1.3nm,0.6s,mb4.1,baz=8.5,slow=7.2,SNR=18						
WRA				PcP	PcP	21 39 40.1	0.0
	0.2nm,0.4s,slow=4.8,SNR=5.5						
YKA	**Yellowknife Ar**	**63.56**	**30**	P	**P**	**21 39 29.7**	**+0.6**
	0.1nm,0.7s,mb3.0,baz=293,slow=6.2,SNR=3.9						

NNC ***26*** *22:16:30.8±0.3,37.20N×70.01E,mb3.6,mpv3.5,Error ellipse: s-maj=39.5km s-min=2.5km az=93.0*

IDC ***26*** *22:16:36.3±16.0,36.86N×72.02E,h291km±124km, mb2.8/2,mb1 2.9/4,mb1mx2.6/19,mbtmp3.4/4,Error ellipse: s-maj=185.5km s-min=37.2km az=59.0*

ISC 26 22:16:30.3±1.8,36.9N±0.1×71.4E±0.2,h242km±18km,n20, σ0§94/21,mb2.9/2,1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.54**	**18**	P	**P**	**22 17 52.4**	**-0.7**
	SNR=156						
UCH	**Uchtor**	**5.86**	**24**	P	**P**	**22 17 57.2**	**0.0**
	SNR=58						
KZA	**Kyzart**	**6.00**	**29**	P	**P**	**22 17 58.5**	**-0.4**
	SNR=9.8						
EKS2	**Erkin-Say**	**6.06**	**17**	P	**P**	**22 17 59.5**	**-0.2**
	SNR=14						
AAK	**Ala-Archa**	**6.23**	**22**	P	**P**	**22 18 01.8**	**+0.1**
	SNR=28						
KK31	**Karatay Array**	**6.24**	**354**	⇓P	**P**	**22 17 59.6**	**-2.3**
	1.9nm,0.4s,baz=189,slow=15,SNR=70						
KK31				S	**S**	**22 19 09.2**	**-4.3**
	8.1nm,0.5s,baz=186,slow=19,SNR=18						
KBK	**Karagaybulak**	**6.39**	**25**	P	**P**	**22 18 04.2**	**+0.4**
	SNR=15						
CHMS	**Chumysh**	**6.64**	**22**	P	**P**	**22 18 07.2**	**+0.3**
	SNR=5.3						
TKM2	**Tokmak 2**	**6.85**	**27**	P	**P**	**22 18 09.9**	**+0.3**
	SNR=20						
MKAR	**Makanchi Array**	**12.81**	**36**	P	**P**	**22 19 25.6**	**+0.6**
	0.1nm,0.3s,baz=212,slow=13,SNR=6.9						
KOLN	**Koldanda**	**13.77**	**128**	*e*P	**P**	**22 19 39.0**	**+2.0**
GKN	**Gorkha**	**14.29**	**125**	*e*P	**P**	**22 19 43.5**	**+0.2**
	7.7nm,0.4s						
KKN	**Kakani**	**14.85**	**124**	*e*P	**P**	**22 19 50.2**	**-0.1**
	16nm,0.6s						
AB31	**Akbulak array**	**14.88**	**330**	P	**P**	**22 19 51.7**	**+1.2**
	0.2nm,0.3s,baz=128,slow=8.8,SNR=6.2						
PKI	**Pulchoki**	**15.08**	**124**	*e*P	**P**	**22 19 53.0**	**-0.1**
	5.7nm,0.5s						
GUN	**Gumba**	**15.18**	**122**	*e*P	**P**	**22 19 53.3**	**-0.9**
	5.5nm,0.4s						
JIRN	**Jiri**	**15.55**	**122**	*e*P	**P**	**22 19 58.6**	**0.0**
	5.5nm,0.4s						
BVAR	**Borovoye Array**	**16.15**	**358**	P	**P**	**22 20 06.6**	**+1.2**
	0.2nm,0.3s,baz=180,slow=11,SNR=6.4						
YKA	**Yellowknife Ar**	**80.84**	**3**	P	**P**	**22 28 17.7**	**-0.1**
	0.1nm,0.4s,mb2.8,baz=351,slow=5.4,SNR=10.0						
WRA	**Warramunga Arr**	**81.96**	**122**	P	**P**	**22 28 21.6**	**-2.8**
	0.2nm,0.5s,mb3.0,baz=325,slow=4.9,SNR=4.5						

MOS ***26*** *22:31:07.4±1.6,48.99N×115.06E,h13km,mb4.4/1,Error ellipse: s-maj=48.9km s-min=19.8km az=105.2*

BYKL 26 22:31:09.5±1.0,49.03N×114.97E,h34km±37km,2C, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPC	**Khapcheranga**	**1.82**	**293**	⇑*i*Pn	P	22 31 38.6	-0.4
KPC				⇑*i*Pg	P	22 31 40.4	+1.4
KPC				Pmax		22 31 42.8	
	242nm,0.7s						
KPC				*e*Sn	S	22 32 03.1	+2.0
KPC				*e*Sg	S	22 32 05.1	+4.0
KPC				Smax		22 32 05.4	
	2μm,0.6s						
KPC	**Khapcheranga**	**1.82**	**293**	*e*PN	P	22 31 40.4	+1.4
KPC				*e*		22 32 04.7	
KPC				pmax	pmax		
	comp=Z,224nm,0.4s						
KPC				smax			
	comp=N,336nm,0.4s						
CIT	**Chita**	**3.13**	**344**	*e*Pn	P	22 31 57.1	-0.5
CIT				*e*Pg	P	22 32 05.3	+7.7
CIT				Pmax		22 32 08.0	
	comp=N,126nm,0.2s						
CIT				*e*Sg	S	22 32 45.8	+12
CIT				Smax		22 32 50.5	
	comp=N,497nm,0.6s						
CIT	**Chita**	**3.13**	**344**	*e*PN	P	22 32 05.1	+7.5
CIT				*e*		22 32 45.0	
CIT				pmax	pmax		
	comp=Z,128nm,0.3s						
CIT				smax			
	comp=E,499nm,0.5s						
SYVR	**Suvo**	**5.58**	**328**	*e*Pn	P	22 32 30.2	-2.1
SYVR				*e*Pg	P	22 32 50.3	+18
SYVR				Pmax		22 32 52.2	
	comp=E,22nm,0.7s						
SYVR				*e*Sg	S	22 34 01.7	+25
SYVR				Smax		22 34 11.0	
	comp=E,225nm,1.7s						
SYVR	**Suvo**	**5.58**	**328**	*e*PN	P	22 32 48.6	+16
SYVR				*e*		22 34 00.2	
SYVR				pmax	pmax		
	comp=Z,19nm,0.3s						
SYVR				smax			
	comp=E,175nm,0.6s						
KAB	**Kabansk**	**6.10**	**303**	*e*Pg	P	22 32 59.7	+20
KAB				Pmax		22 33 12.1	
	comp=E,77nm,1.1s						
KAB				*e*Sg	S	22 34 18.9	+30
KAB				Smax		22 34 37.3	
	comp=E,1μm,1.3s						
KAB	**Kabansk**	**6.10**	**303**	*e*PN	P	22 32 56.9	+17
KAB				*e*		22 34 17.7	
KAB				pmax	pmax		
	comp=Z,61nm,0.9s						
KAB				smax			
	comp=E,2μm,1.0s						
TUP	**Tupik**	**6.23**	**28**	*e*Pn	P	22 32 38.9	-2.5
TUP				*e*Pg	P	22 33 01.5	+20
TUP				Pmax		22 33 07.9	
	comp=E,12nm,0.4s						
TUP				*e*Sn	S	22 33 47.9	-4.4
TUP				*e*Sg	S	22 34 21.8	+30
TUP				Smax		22 34 26.8	
	comp=E,249nm,1.5s						
TUP	**Tupik**	**6.23**	**28**	*e*PN	P	22 32 58.6	+17
TUP				*e*		22 34 20.5	
TUP				pmax	pmax		
	comp=Z,12nm,0.3s						
TUP				smax			
	comp=E,241nm,0.8s						
YLYR	**Ulyunkhan**	**6.31**	**340**	*e*Pn	P	22 32 39.8	-2.8
YLYR				*e*		22 32 51.4	
YLYR				*e*Pg	P	22 33 02.9	+20
YLYR				Pmax		22 33 05.8	
	comp=E,10.0nm,0.4s						
YLYR				*e*Sn	S	22 33 54.3	-0.1
YLYR				*e*Sg	S	22 34 23.8

comp=Z,8.0nm,0.5s
KMO smax
comp=N,242nm,1.2s
YOA Uoyan 7.38 346 *e*Sg S 22 34 59.0 +38
YOA Smax 22 35 25.6
comp=N,530nm,1.8s
NLYR Nelyaty 7.49 3 *e*Pn P 22 32 56.0 -3.1
NLYR *e*Pg P 22 33 24.7 +26
NLYR Pmax 22 33 35.9
comp=N,5.0nm,0.5s
NLYR *e*Sn S 22 34 21.2 -2.5
NLYR *e*Sg S 22 35 02.5 +39
NLYR Smax 22 35 18.0
comp=N,413nm,1.1s
NLYR Nelyaty 7.49 3 *e*PG P 22 33 23.1 +24
NLYR *e* 22 35 02.1
NLYR pmax pmax
comp=Z,16nm,0.8s
NLYR smax
comp=N,413nm,1.1s
IRK Irkutsk 7.53 299 *e*PG P 22 33 23.4 +24
IRK *e* 22 35 02.7
IRK pmax pmax
comp=Z,186nm,0.1s
IRK smax
comp=N,263nm,1.2s
NIZ Nizh Angarsk 7.53 336 *e*Pn P 22 32 57.4 -2.2
NIZ *e*Pg P 22 33 25.3 +26
NIZ Pmax 22 33 27.2
comp=N,6.0nm,0.5s
NIZ *e*Sg S 22 35 03.6 +39
NIZ Smax 22 35 15.7
comp=N,66nm,1.5s
NIZ Nizh Angarsk 7.53 336 *e*PN P 22 32 57.8 -1.8
NIZ *e* 22 33 24.0
NIZ *e* 22 35 03.7
NIZ pmax pmax
comp=Z,6.0nm,0.8s
NIZ smax
comp=N,41nm,0.6s
ZAK Zakamensk 7.70 285 *e*Pn P 22 33 02.4 +0.4
ZAK *e*Pg P 22 33 28.3 +26
ZAK Pmax 22 33 35.2
comp=N,2.0nm,0.3s
ZAK *e*Sg S 22 35 07.6 +39
ZAK Smax 22 35 20.4
comp=N,117nm,1.8s
ZAK Zakamensk 7.70 285 *e*PG P 22 33 29.2 +27
ZAK pmax pmax
comp=Z,7.0nm,0.4s
TLY Talaya 7.72 294 *e*Pn P 22 33 03.1 +0.9
TLY max 22 33 10.5
comp=Z,4.0nm,0.2s
TLY *e*Sn S 22 34 26.3 -3.1
TLY *e*Sg S 22 35 08.4 +39
TLY Smax 22 35 12.1
comp=Z,80nm,1.3s
CRS Chara 8.13 13 *e*Pg P 22 33 36.9 +29
CRS *e*Sg S 22 35 22.7 +43
CRS Smax 22 35 45.6
comp=Z,154nm,1.2s
ARS Arshan 8.51 295 *e*Pn P 22 33 13.3 0.0
ARS max 22 33 33.5
comp=Z,4.0nm,0.5s
ARS *e*Sg S 22 35 32.2 +43
ARS Smax 22 35 50.3
comp=Z,142nm,1.0s
BOD Bodaibo 8.82 357 *e*Sg S 22 35 43.8 +47
BOD Smax 22 35 52.9
comp=Z,105nm,1.0s
BOD Bodaibo 8.82 357 *e*PN P 22 33 18.0 +0.4
BOD *e* 22 33 47.6
BOD *e* 22 35 43.2
BOD pmax pmax
comp=Z,5.0nm,0.3s
BOD smax
comp=E,104nm,1.0s
MOY Mondy 9.32 292 *e*Pn P 22 33 26.2 +1.7
MOY *e*Pg P 22 33 58.3 +34
MOY *e*Sg S 22 35 58.2 +49
MOY Smax 22 36 10.4
comp=E,128nm,1.4s
ORL Orlik 10.22 296 *e*Pn P 22 33 37.8 +1.0
ORL *e*Pg P 22 34 14.3 +38
ORL *e*Sg S 22 36 25.1 +54
ORL Smax 22 36 44.1
comp=E,46nm,1.4s
TDJR Todzha 12.42 293 *e*Sg 22 37 35.2

IDC ***26*** *22:49:57.5±1.3,31.38S×179.38W,mb4.0/3,mb1 4.4/5, mb1mx4.2/13,mbtmp4.1/5,ML4.0/1,MS3.7/10,Ms1 3.7/10, ms1mx3.6/19,Error ellipse: s-maj=46.9km s-min=23.4km az=130.0*
NEIC ***26*** *22:50:02.1±1.0,31.02S×179.47W,h25km,mb4.5/3,Error ellipse: s-maj=36.3km s-min=13.5km az=140.0*
ISC 26 22:49:58.6±0.9,31.56S±0.09×179.0W±0.2,h33km,n19, σ1§05/13,mb4.2/5,MS3.5/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.49**	**23**	Pn	**Pn**	**22 50 37.4**	**-0.3**
	43nm,0.3s,baz=261,slow=17,SNR=7.7						
RAO				Sn	**Sn**	**22 51 07.3**	**0.0**
	74nm,0.3s,baz=73,slow=19,SNR=3.7						
RAO				LR	LR	22 51 35.1	
	comp=Z,2μm,20.1s,baz=238,slow=40						
RAO	**Raoul Island**	**2.49**	**23**	*e*Pn	**Pn**	**22 50 37.3**	**-0.4**
RAO				*e*Sn	**Sn**	**22 51 07.9**	**+0.6**
RAO				LR	LR	22 51 35.1	
URZ	**Urewera**	**7.40**	**204**	Pn	**Pn**	**22 51 46.4**	**-0.8**
	2.3nm,0.3s,baz=48,slow=3.9,SNR=16						
URZ				Sn	**Sn**	**22 53 10.7**	**-0.2**
	2.0nm,0.3s,baz=121,slow=19,SNR=3.4						
URZ				LR	LR	22 54 17.8	
	comp=Z,676nm,21.2s,baz=328,slow=35						
RPZ	**Rata Peaks**	**14.45**	**210**	LR	LR	22 59 19.9	
	comp=Z,462nm,18.4s,baz=56,slow=39						
DZM	**Mont Dzumac**	**16.05**	**303**	LR	LR	22 58 34.3	
	comp=Z,716nm,18.3s,baz=46,slow=33						
AFI	**Afiamalu**	**18.78**	**22**	LR	LR	23 00 25.7	
	comp=Z,158nm,21.1s,baz=31,slow=34						
AFI	**Afiamalu**	**18.78**	**22**	*e*Pn	**P**	**22 54 14.4**	**-3.2**
	26nm,0.9s						
RAR	**Rarotonga**	**20.05**	**64**	LR	LR	22 59 58.3	
	comp=Z,146nm,21.2s,MS3.3,baz=260,slow=30						
HNR	**Honiara**	**29.44**	**314**	LR	LR	23 05 19.4	
	comp=Z,87nm,19.1s,MS3.4,baz=306,slow=32						
CTA	**Charters Tower**	**33.15**	**282**	LR	LR	23 05 55.4	
	comp=Z,70nm,20.8s,MS3.4,baz=78,slow=29						
STKA	**Stephens Creek**	**33.39**	**259**	LR	LR	23 08 35.8	
	comp=Z,202nm,18.1s,MS3.9,baz=25,slow=34						
STKA	**Stephens Creek**	**33.39**	**259**	*e*P	**P**	**22 56 36.0**	**-0.1**
WRAB	**Tennant Creek**	**43.29**	**274**	*e*P	**P**	**22 57 58.8**	**-0.2**
	7.0nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**43.29**	**274**	P	**P**	**22 57 59.3**	**+0.2**
	2.5nm,0.8s,mb4.0,baz=113,slow=7.9,SNR=8.9						
VNDA	**Vanda**	**46.86**	**186**	LR	LR	23 13 53.0	
	comp=Z,80nm,19.9s,MS3.7,baz=358,slow=30						
CASY	**Casey**	**53.71**	**208**	*e*P	**P**	**22 59 22.1**	**+3.0**
	13nm,0.9s,mb4.9						
NVAR	**Mina Array Bea**	**89.68**	**43**	P	**P**	**23 02 59.2**	**+4.7**
	0.5nm,0.8s,mb3.9,baz=217,slow=4.5,SNR=3.6						
TXAR	**Lajitas Array**	**93.74**	**58**	P	**P**	**23 03 18.3**	**+4.9**
	0.4nm,0.9s,mb3.9,baz=221,slow=8.3,SNR=3.9						
FINES	**FINESS Array B**	**145.92**	**339**	PKPbc	PKPbc	23 09 34.4	+0.3
	0.9nm,0.8s,baz=45,slow=5.4,SNR=4.7						

KRSC 26 22:56:12.8±1.9,55.64N×166.22E,h18km±29km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.46**	**198**	*i* P	Pb	22 56 23.0	+0.9
BKI				*i* S	Sb	22 56 29.2	+0.8
KBTR	**Krutoberegovo**	**2.00**	**288**	*i* P	Pn	22 56 43.1	-3.1
KBTR				*e*S	Sn	22 57 08.2	-2.7
MKZ	**Mys Kozlova**	**2.80**	**249**	*e*P	Pn	22 56 57.9	+0.2
MKZ				*e*S	Sn	22 57 29.7	-1.6
SMKR	**Semkarok**	**2.82**	**291**	*e*P	Pn	22 56 57.9	-0.1
BDR	**Baidarnaya**	**2.96**	**290**	*i* P	Pn	22 57 00.3	+0.4
BDR				*e*S	Sn	22 57 35.6	+0.3
SRKR	**Sorokina**	**3.00**	**292**	*i* P	Pn	22 57 00.7	+0.1
ZLN	**Zelenaya**	**3.08**	**279**	*e*P	Pn	22 57 01.9	+0.2
ZLN				*e*S	Sn	22 57 38.9	+0.5
CIRR	**Tsirk**	**3.12**	**281**	*i* P	Pn	22 57 02.5	+0.3
LGNR	**Loginova**	**3.15**	**280**	*e*P	Pn	22 57 02.4	-0.2
LGNR				*e*S	Sn	22 57 40.9	+0.8
KLY	**Klyuchi**	**3.20**	**284**	S	Sn	22 57 37.7	-3.8
KMNR	**Kamenistaya**	**3.39**	**274**	*i* P	Pn	22 57 06.6	+0.6
KMNR				*e*S	Sn	22 57 45.8	-0.4
KPT	**Kopyto**	**3.40**	**278**	*e*P	Pn	22 57 06.8	+0.6
KPT				*e*S	Sn	22 57 46.8	+0.3
TUMR	**Tumrok**	**3.48**	**267**	*e*P	Pn	22 57 09.0	+1.7
TUMR				*e*S	Sn	22 57 48.9	+0.4
KOZ	**Kozyrevsk**	**3.60**	**279**	*e*S	Sn	22 57 52.5	+0.9
SRDR	**Sredinnyy**	**3.72**	**283**	*e*P	Pn	22 57 10.8	+0.1
SRDR				*e*S	Sn	22 57 53.6	-0.9
SPN	**Mys Shipunski**	**4.43**	**237**	*e*P	Pn	22 57 19.1	-1.7
SPN				*e*S	Sn	22 58 07.9	-4.7
NLC	**Nalytchevo**	**4.72**	**241**	P	Pn	22 57 23.9	-1.0
NLC				*e*S	Sn	22 58 15.2	-4.6
SDLR	**Sedlovina**	**4.89**	**244**	*e*P	Pn	22 57 27.2	-0.2
SDLR				*e*S	Sn	22 58 21.9	-2.3
SMAR	**Somma**	**4.94**	**244**	*i* P	Pn	22 57 28.2	+0.1
UGLR	**Uglovaya**	**4.96**	**244**	*i* P	Pn	22 57 28.6	+0.3
AVH	**Avacha**	**4.97**	**244**	*e*P	Pn	22 57 28.8	+0.3
AVH				*e*S	Sn	22 58 23.4	-2.9
KOK	**Koryaka**	**5.01**	**245**	*e*P	Pn	22 57 29.4	+0.3
GNL	**Ganaly**	**5.18**	**251**	*e*P	Pn	22 57 31.7	+0.2
KRMR	**Karymshinskiy**	**5.52**	**243**	P	Pn	22 57 37.3	+1.1

NEIC ***26*** *22:58:47.8,45.48N×26.57E,h134km,MD3.9(BUC),After BUC.*
BUC ***26*** *22:58:48.5±1.6,45.54N×26.46E,h148km±14km,MD4.0/4, Error ellipse: s-maj=12.2km s-min=8.1km az=106.0*
CSEM 26 22:58:48.5±1.6,45.54N×26.46E,h148km±14km,MD3.9/4, 11C-12D,Error ellipse: s-maj=12.2km s-min=8.1km az=106.0,After BUC,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.37**	**262**	⇑*i*	P	22 59 09.2	-0.3
MLR				*i*	S	22 59 24.5	-1.1
VRI	**Vrincioaia**	**0.37**	**30**	⇑*i*	P	22 59 09.4	-0.1
VRI				*i*	S	22 59 25.0	-0.6
VRI	**Vrincioaia**	**0.37**	**30**	⇑*i*	P	22 59 09.4	-0.1
VRI				*i*	S	22 59 25.0	-0.6
ISR	**Istrita**	**0.43**	**172**	⇓*i*	P	22 59 09.0	-0.7
ISR				*i*	S	22 59 23.7	-2.4
SNX	**Sinaia**	**0.69**	**255**	⇓*i*	P	22 59 10.3	-0.8
SNX				*i*	S	22 59 27.4	-1.1
SNX	**Sinaia**	**0.69**	**255**	⇓*i*	P	22 59 10.3	-0.8
SNX				*i*	S	22 59 27.4	-1.1
VOIR		**1.00**	**264**	⇓*i*	P	22 59 12.5	-0.7
VOIR		**1.00**	**264**	⇓*i*	P	22 59 12.5	-0.7
MTUR	**Matau**	**1.04**	**253**	⇑*i*	P	22 59 13.7	+0.2
MTUR	**Matau**	**1.04**	**253**	⇑*i*	P	22 59 13.7	+0.2
BUC1	**Bucharest**	**1.23**	**195**	⇓*i*	P	22 59 15.5	0.0
BUC1				*i*	S	22 59 35.5	-0.8
BUC1	**Bucharest**	**1.23**	**195**	⇓*i*	P	22 59 15.5	0.0
BUC1				*i*	S	22 59 35.5	-0.7
CFR	**Carcaliu**	**1.23**	**107**	⇑*i*	P	22 59 15.1	-0.4
CFR				*i*	S	22 59 35.8	-0.5
CFR	**Carcaliu**	**1.23**	**107**	⇑*i*	P	22 59 15.1	-0.4
CFR				*i*	S	22 59 35.8	-0.5
HARR	**Harsova**	**1.34**	**129**	⇑*i*	P	22 59 16.3	-0.3
HARR				*i*	S	22 59 37.1	-1.2
HARR	**Harsova**	**1.34**	**129**	⇑*i*	P	22 59 16.3	-0.3
HARR				*i*	S	22 59 37.1	-1.1
TIRR	**Tirgusor**	**1.76**	**127**	⇓*i*	P	22 59 21.7	+0.7
TIRR				*i*	S	22 59 45.6	-0.5
TIRR	**Tirgusor**	**1.76**	**127**	⇓*i*	P	22 59 21.7	+0.7
TIRR				*i*	S	22 59 45.6	-0.5
IAS	**Iasi**	**1.82**	**24**	⇑*i*	P	22 59 21.6	-0.1
IAS				*i*	S	22 59 45.6	-1.7
IAS	**Iasi**	**1.82**	**24**	⇑*i*	P	22 59 21.6	-0.1
IAS				*i*	S	22 59 45.6	-1.7
ZIMR		**2.04**	**203**	⇓	P	22 59 23.5	-0.8
ZIMR					S	22 59 49.7	-2.1
BURAR	**Bucovina Array**	**2.24**	**338**	⇓*i*	P	22 59 26.8	-0.1
BURAR				*i*	S	22 59 56.1	-0.1
BURAR	**Bucovina Array**	**2.24**	**338**	⇓*i*	P	22 59 26.8	-0.1
BURAR				*i*	S	22 59 56.1	-0.1

BJI ***26*** *23:15:42.8,32.08N×48.39E,h10km,mB5.2,mb4.9,Ms5.2, Msz4.9*
CRAAG ***26*** *23:15:48.0,32.23N×49.24E,Mb5.1*
CSEM ***26*** *23:15:48.0,32.24N×49.24E,h10km,mb5.1*
DHMR ***26*** *23:15:49.1±2.6,32.02N×49.19E,h10km,mb5.3*
MOS ***26*** *23:15:49.8±1.0,32.23N×49.15E,h21km,mb5.3/78, MS4.3/23,Error ellipse: s-maj=5.7km s-min=2.7km az=129.7*
SNSN ***26*** *23:15:50.0,32.25N×49.19E,h10km*
NEIC ***26*** *23:15:50.0,32.10N×49.20E,h18km,mb5.1/139, ML5.2(THR),MN5.1(TEH),After THR.*
HRVD ***26*** *23:15:50.0±0.8,32.33N×49.12E,h12km,MW5.0/37, Centroid moment Tensor Solution. LP body waves: s32,c35;Mantle waves: s37,c49; Half duration: 1§4 Moment tensor: Scale 10¹⁶Nm; Mrr0.80±.15; Mθθ-0.14±.14; Mφφ-0.65±.14; Mrθ-2.77±.39; Mθφ0.23±.13; Mφr3.69±.36; Best double couple: M₀4.678×10¹⁶ NP1: φs169°,δ55°,λ115°. NP2:φs323°,δ85°,λ88°. Principal axes: T 4.729, Plg50°, Azm231°; N -.102, Plg2°, Azm324°; P -4.627, Plg40°, Azm55°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
THR ***26*** *23:15:51.1±0.7,32.11N×49.15E,h33km±4km,ML5.2*
TEH ***26*** *23:15:52.0,32.20N×49.23E,h10km,Mn5.1*
IDC ***26*** *23:15:53.6±1.4,32.28N×49.07E,h30km±8km,mb4.6/22, mb1 4.7/25,mb1mx4.7/25,mbtmp4.7/25,ML4.0/2,MS4.4/18, Ms1 4.5/18,ms1mx4.2/31,Error ellipse: s-maj=10.5km s-min=9.6km az=164.0*
ISC 26 23:15:50.7±0.1,32.02N±0.02×49.13E±0.01,h33km, (h5km±3.8km:pP-P),n791,σ1§24/852,mb5.0/203,MS4.5/55, 32C-25D,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.29**	**287**	*e*PG	**P**	**23 15 58.6**	**+0.3**
SHGR				AML	AML	23 16 11.8	
	comp=N,277μm,0.8s						
SHGR	**Shooshtar-Gavs**	**0.29**	**287**	*e*Pg	**P**	**23 15 58.6**	**+0.3**
	comp=N,277μm,0.8s,SNR=132						
IPIR	**Pirpir**	**1.63**	**66**	Pn	**Pn**	**23 16 18.2**	**+0.6**
IKLH	**Kalahroud**	**2.44**	**57**	Pn	**Pn**	**23 16 30.1**	**+0.9**
IKOM	**Komasi**	**2.54**	**328**	Pn	**Pn**	**23 16 32.7**	**+2.1**
IGAR	**Garneh**	**2.62**	**84**	Pn	**Pn**	**23 16 31.2**	**-0.5**
ASAO	**Ashtian**	**2.63**	**16**	*e*PN	**Pn**	**23 16 32.5**	**+0.7**
ASAO				*e*SG	**S**	**23 17 09.3**	**+6.5**
ASAO				AML	AML	23 17 20.4	
	comp=N,7μm,0.8s						
ASAO	**Ashtian**	**2.63**	**16**	*e*Pn	**Pn**	**23 16 32.5**	**+0.6**
	SNR=54						
ASAO				*e*Sg	**S**	**23 17 09.3**	**+6.6**
	comp=N,7μm,0.8s,SNR=94						
MIB	**Mutribah**	**2.69**	**215**	*e*P	**P**	**23 16 38.5**	**+5.8**
MIB				AMb	AMB	23 16 39.5	
	comp=Z,2μm,0.4s						
MIB				AML	AML	23 17 34.0	
	comp=Z,3μm,0.6s						
UMR	**Umm Al-Rimmam**	**2.75**	**207**	*e*P	**P**	**23 16 39.0**	**+5.6**
UMR				AML	AML	23 17 27.0	
	comp=Z,2μm,0.4s						
IZEF	**Zefreh**	**2.84**	**71**	Pn	**Pn**	**23 16 35.9**	**+1.0**
KBD	**Kabd**	**3.10**	**204**	*e*P	**P**	**23 16 44.1**	**+5.7**
KBD				AMb	AMB	23 16 47.0	
	comp=Z,5μm,0.4s						
KBD				AML	AML	23 17 34.5	
	comp=Z,3μm,0.4s						
KBD	**Kabd**	**3.10**	**204**	*e*P	**P**	**23 16 44.1**	**+5.7**
KBD				*e*S	**S**	**23 17 24.8**	**+10**
IGHG	**Ghaleghazi**	**3.14**	**318**	Pn	**Pn**	**23 16 40.3**	**+1.1**
NAY	**Al-Naaiem**	**3.21**	**211**	*e*P	**P**	**23 16 45.6**	**+5.6**
NAY				AMb	AMB	23 16 47.0	
	comp=Z,787nm,0.4s						
NAY				AML	AML	23 17 30.9	
	comp=Z,1μm,0.6s						
NASN	**Na'in**	**3.21**	**75**	*e*PN	**Pn**	**23 16 41.5**	**+1.4**
RDF	**Al-Radifah**	**3.37**	**204**	*e*P	**P**	**23 16 48.1**	**+5.8**
RDF				AMb	AMB	23 16 49.4	
	comp=Z,5μm,0.4s						
RDF				AML	AML	23 17 34.9	
	comp=Z,2μm,0.5s						
RDF	**Al-Radifah**	**3.37**	**204**	*e*P	**P**	**23 16 48.1**	**+5.8**
RDF				*e*S	**S**	**23 17 31.4**	**+10**
SNGE	**Sanandaj**	**3.40**	**335**	*e*PN	**Pn**	**23 16 43.4**	**+0.6**
SNGE				AML	AML	23 17 43.2	
	comp=E,7μm,0.6s						
ILIN	**Laeen**	**3.41**	**329**	Pn	**Pn**	**23 16 44.4**	**+1.5**
QRN	**Al-Qurain**	**3.43**	**198**	*e*P	**P**	**23 16 48.7**	**+5.6**
QRN				AML	AML	23 17 34.5	
	comp=Z,1μm,0.3s						
IRAZ	**Razeghan**	**3.44**	**11**	Pn	**Pn**	**23 16 54.9**	**+12**
ISFB	**Sefidab**	**3.49**	**47**	Pn	**Pn**	**23 16 44.1**	**0.0**
ISFB				Lg		23 17 36.4	
IDHR	**Dehrash**	**3.52**	**320**	Pn	**Pn**	**23 16 45.5**	**+1.0**
IVRN	**Varamin**	**3.68**	**36**	Pn	**Pn**	**23 16 46.8**	**+0.1**
IVRN				Sn	**Sn**	**23 17 26.9**	**-2.6**
IMHD	**Mahdasht**	**3.87**	**19**	Pn	**Pn**	**23 16 49.3**	**-0.2**
THKV	**Tehran--Karaj**	**4.15**	**20**	*e*PN	**Pn**	**23 16 53.2**	**-0.2**
BHD	**Baghdad**	**4.19**	**289**	*ex*	x	23 16 55.0	
BHD				*i* x	x	23 17 03.0	
BHD				*i* x	x	23 17 12.0	
BHD				*i* x	x	23 17 45.0	
BHD				*i* x	x	23 17 57.0	
BHD				*i* x	x	23 18 06.0	
BHD	**Baghdad**	**4.19**	**289**	*i* Pg	x	23 17 12.0	
BHD				*i* Sn	x	23 17 45.0	
BHD				*i* Sg	x	23 18 06.0	
CHTH	**Charan**	**4.21**	**23**	*e*PN	**Pn**	**23 16 53.9**	**-0.5**
IDMV	**Damavand**	**4.29**	**34**	Pn	**Pn**	**23 16 55.1**	**-0.4**
IDMV				Sn	**Sn**	**23 17 41.5**	**-3.6**
DAMV	**Damavand**	**4.31**	**33**	*e*PN	**Pn**	**23 16 55.1**	**-0.6**
ICHK	**Chekchek**	**4.49**	**86**	Pn	**Pn**	**23 16 58.9**	**+0.6**
IFIR	**Firoozkooh**	**4.70**	**39**	Pn	**Pn**	**23 17 00.9**	**-0.4**
IFIR				Sn	**Sn**	**23 17 51.3**	**-4.2**
IMEH	**Mehriz**	**4.72**	**96**	Pn	**Pn**	**23 17 02.6**	**+1.1**
GHIR	**Ghir-Karzin**	**5.00**	**137**	*e*PN	**Pn**	**23 17 07.3**	**+1.7**
IBAF	**Bafgh**	**5.50**	**93**	Pn	**Pn**	**23 17 13.2**	**+0.6**
MSL	**Mosul**	**6.57**	**312**	*i* x	x	23 17 25.5	
MSL				*i* x	x	23 17 54.0	
MSL				*i* x	x	23 18 33.5	
MSL				*i* x	x	23 19 17.6	
MSL				*i* x	x	23 19 36.0	
HASS	**Wahat al Ahsa'**	**6.83**	**176**	P	**P**	**23 17 32.8**	**+1.7**
KRBR	**Kerman**	**6.86**	**105**	*e*Pn	**Pn**	**23 17 31.7**	**-0.1**
HKR	**Hakkari**	**7.09**	**323**	P	**P**	**23 17 33.1**	**-1.6**
HAKT	**HAKKARI**	**7.09**	**323**	*i* P	**P**	**23 17 31.1**	**-3.8**
HILS	**Ha'il**	**7.88**	**236**	P	**P**	**23 17 45.6**	**-0.1**
VANT	**Van**	**7.94**	**325**	P	**P**	**23 17 45.9**	**-0.7**
TVAN	**Van**	**8.00**	**326**	*i* P	**P**	**23 17 45.1**	**-2.2**
VANB	**Van**	**8.06**	**326**	P	**P**	**23 17 46.4**	**-1.9**
MAKU	**Maku**	**8.16**	**335**	*e*PN	**P**	**23 17 49.1**	**-0.5**
CLDR	**Caldiran**	**8.27**	**331**	P	**P**	**23 17 49.4**	**-1.8**
MARD	**Mardin**	**8.66**	**310**	*i* P	**P**	**23 17 52.1**	**-4.6**
MZLS	**Mizel**	**8.69**	**204**	P	**P**	**23 17 56.6**	**-0.4**
BEST	**Besiri**	**8.71**	**314**	*i* P	**P**	**23 17 55.0**	**-2.3**
BANOM	**Banah**	**8.74**	**132**	P	**P**	**23 17 56.2**	**-1.5**
	SNR=95						
BANOM	**Banah**	**8.74**	**132**	P	**P**	**23 17 56.2**	**-1.5**
	SNR=95						
BANOM				P		23 17 56.2	
	SNR=95						
BANOM				P		23 17 56.2	
	SNR=95						
BANOM				P		23 17 56.2	
	SNR=95						
BANOM				P		23 17 56.2	
	SNR=95						
BANOM				P		23 17 56.2	
	SNR=95						
BANOM				P		23 17 56.2	
	SNR=95						
BANOM				P		23 17 56.2	
	SNR=95						
BANOM				P		23 17 56.2	
	SNR=95						
BANOM				P		23 17 56.2	
	SNR=95						
BTMT	**Batman**	**8.77**	**317**	P	**P**	**23 17 55.0**	**-3.2**
GNI	**Garni**	**8.85**	**338**	P	**P**	**23 17 58.4**	**-0.9**
GNI	**Garni**	**8.85**	**338**	Pn	**P**	**23 18 00.1**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=148,slow=3.7,SNR=17						
GNI				Lg		23 20 30.9	
	baz=288,slow=20,SNR=1.8						
GNI				LR	LR	23 21 45.4	
	comp=Z,4μm,19.6s,baz=157,slow=41						
DIY	**Diyarbakir**	**9.36**	**311**	P	**P**	**23 18 03.0**	**-3.2**
VAN	**Vannovskaya**	**9.44**	**49**	*e*P	**P**	**23 18 05.8**	**-1.6**
BNGL	**BINGOL**	**9.49**	**319**	*i* P	**P**	**23 18 05.3**	**-2.7**
ASHO	**Ashiyiah**	**9.52**	**138**	P	**P**	**23 18 07.9**	**-0.7**
	SNR=53						
ASHO	**Ashiyiah**	**9.52**	**138**	P	**P**	**23 18 07.9**	**-0.7**
	SNR=53						
ASHO				P		23 18 07.9	
	SNR=53						
ASHO				P		23 18 07.9	
	SNR=53						
ASHO				P		23 18 07.9	
	SNR=53						
ASHO				P		23 18 07.9	
	SNR=53						
ASHO				P		23 18 07.9	
	SNR=53						
ASHO				P		23 18 07.9	
	SNR=53						
ASHO				P		23 18 07.9	
	SNR=53						
ASHO				P		23 18 07.9	
	SNR=53						
ASHO				P		23 18 07.9	
	SNR=53						
AFFS	**'Afif**	**9.71**	**215**	P	**P**	**23 18 09.4**	**-1.8**
DGRG	**David-gareji**	**9.88**	**343**	P	**P**	**23 18 13.2**	**-0.2**
DGRG				S	Sx	23 21 14.5	
URFA	**Urfa**	**10.05**	**305**	P	**P**	**23 18 11.2**	**-4.6**
ERZM	**Erzurum**	**10.06**	**324**	*i* P	**P**	**23 18 15.5**	**-0.5**
EZM	**Erzurum**	**10.07**	**324**	P	**P**	**23 18 13.1**	**-2.9**
SAMG	**Sameba**	**10.25**	**342**	P	**P**	**23 18 20.7**	**+2.1**
MTA	**Mtatsminda**	**10.26**	**341**	P	**P**	**23 18 19.7**	**+1.1**
TI2	**Plekhanov**	**10.30**	**341**	⇓*i*	P	**23 18 23.0**	**+3.7**
TI2				MLR	MLR		
	comp=E,11μm,10.0s						
TI2				MLR	MLR		
	comp=Z,13μm,10.0s						
TBLG	**Delisi**	**10.30**	**341**	P	**P**	**23 18 22.3**	**+3.0**
TBLG				S	Sx	23 21 29.7	
AKH	**Akhalkalaki**	**10.40**	**336**	P	**P**	**23 18 23.0**	**+2.4**
AKH				S	Sx	23 21 32.9	
ATAB	**Bozova**	**10.43**	**304**	*i* P	**P**	**23 18 32.8**	**+12**
PTK	**Pertek**	**10.48**	**314**	P	**P**	**23 18 17.8**	**-4.0**
ELZG	**Elazig**	**10.51**	**311**	*i* P	**P**	**23 18 17.2**	**-4.9**
KBRS	**Khaybar**	**10.64**	**237**	P	**P**	**23 18 23.2**	**-0.8**
MALT	**Malatya**	**10.77**	**309**	P	**P**	**23 18 20.8**	**-4.8**
MYA	**Malataya**	**10.78**	**309**	P	**P**	**23 18 22.2**	**-3.6**
EZC	**Erzincan**	**10.79**	**318**	*e*P	**P**	**23 18 29.2**	**+3.4**
ARTV	**Artvin**	**10.81**	**330**	*i* P	**P**	**23 18 30.2**	**+3.9**
ARQ	**Araqi**	**10.85**	**141**	P	**P**	**23 18 26.1**	**-0.7**
	SNR=12						
ARQ	**Araqi**	**10.85**	**141**	P	**P**	**23 18 26.1**	**-0.7**
	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
ARQ				P		23 18 26.1	

	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
ARQ				P		23 18 26.1	
	SNR=12						
FKH	**Fakeheh**	**10.89 285**	*e*Pn	**P**		**23 18 24.9**	**-2.5**
GZT	**Gaziantep**	**10.90 302**	*i* P	**P**		**23 18 22.5**	**-4.9**
MAK	**Makhachkala**	**10.99 354**	*e*P	**P**		**23 18 26.8**	**-1.9**
MAK			pmax	pmax			
	comp=Z,550nm,1.4s						
MAK			MLR	MLR			
	comp=Z,2μm,9.0s						
MAK			MLR	MLR			
	comp=N,2μm,8.0s						
MAK			MLR	MLR			
	comp=E,3μm,10.0s						
GAZ	**Gaziantep**	**11.08 301**	P	**P**		**23 18 25.1**	**-4.8**
HOQ	**Hoqain**	**11.10 137**	P	**P**		**23 18 29.3**	**-0.8**
	SNR=9.5						
HOQ	**Hoqain**	**11.10 137**	P	**P**		**23 18 29.3**	**-0.8**
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HOQ			P			23 18 29.3	
	SNR=9.5						
HWQ	**Hawqa**	**11.27 285**	*e*Pn	**P**		**23 18 31.7**	**-0.8**
HRI	**Mount Hermon**	**11.36 280**	P	**P**		**23 18 31.8**	**-1.9**
KELT	**Kelkit**	**11.37 318**	*i* P	**P**		**23 18 30.3**	**-3.5**
GUMT	**Gumushane**	**11.46 320**	P	**P**		**23 18 31.8**	**-3.2**
ONI	**Oni**	**11.46 338**	P	**P**		**23 18 40.4**	**+5.3**
ONI			S	Sx		23 22 05.3	
BHL	**Bhannes**	**11.47 283**	*e*Pn	**P**		**23 18 35.0**	**-0.2**
HTY	**Hatay**	**11.52 294**	P	**P**		**23 18 31.8**	**-4.0**
TBKS	**Tabuk**	**11.53 254**	P	**P**		**23 18 33.8**	**-2.1**
COBT	**Iskenderun**	**11.55 296**	*i* P	**P**		**23 18 31.2**	**-5.1**
BIDO	**Bidbid**	**11.62 135**	P	**P**		**23 18 35.6**	**-1.7**
	SNR=23						
BIDO	**Bidbid**	**11.62 135**	P	**P**		**23 18 35.6**	**-1.7**
	SNR=23						
BIDO			P			23 18 35.6	
	SNR=23						
BIDO			P			23 18 35.6	
	SNR=23						
BIDO			P			23 18 35.6	
	SNR=23						
BIDO			P			23 18 35.6	
	SNR=23						
BIDO			P			23 18 35.6	
	SNR=23						
BIDO			P			23 18 35.6	
	SNR=23						
BIDO			P			23 18 35.6	
	SNR=23						
BIDO			P			23 18 35.6	
	SNR=23						
BIDO			P			23 18 35.6	
	SNR=23						
MACK	**Trabzon**	**11.65 322**	*i* P	**P**		**23 18 29.2**	**-8.4**
BSY	**Bisya**	**11.69 140**	P	**P**		**23 18 37.8**	**-0.5**
	SNR=17						
BSY	**Bisya**	**11.69 140**	P	**P**		**23 18 37.8**	**-0.5**
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSY			P			23 18 37.8	
	SNR=17						
BSYO	**Bisya**	**11.73 140**	P	**P**		**23 18 37.8**	**-0.9**
	SNR=17						
HNTI	**Hanita**	**11.82 279**	P	**P**		**23 18 40.5**	**+0.6**
SMDO	**Samad**	**11.93 136**	P	**P**		**23 18 40.4**	**-1.0**
	SNR=60						
SMDO	**Samad**	**11.93 136**	P	**P**		**23 18 40.4**	**-1.0**
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SMDO			P			23 18 40.4	
	SNR=60						
SLTI	**Sal'it**	**11.95 275**	P	**P**		**23 18 42.0**	**+0.4**
ZFRI	**Zfri**	**12.02 267**	P	**P**		**23 18 41.4**	**-1.2**
CEYT	**Ceyhan**	**12.10 298**	P	**P**		**23 18 40.5**	**-3.2**
PRNI	**Paran**	**12.21 266**	P	**P**		**23 18 43.8**	**-1.3**
KOZT	**Kozan**	**12.21 300**	P	**P**		**23 18 42.1**	**-3.1**
KAMS	**Al Khamasin**	**12.36 200**	P	**P**		**23 18 46.3**	**-0.9**
UMJS	**Umm Lajj**	**12.38 240**	P	**P**		**23 18 47.2**	**-0.3**
ALWS	**Ilw as Safayha**	**12.40 261**	P	**P**		**23 18 46.8**	**-1.0**
MBH	**Mount Berech**	**12.41 263**	P	**P**		**23 18 46.8**	**-1.0**
JMOS	**Jabal al Moall**	**12.41 260**	P	**P**		**23 18 46.8**	**-1.0**
YNBS	**Yanbu' al Bahr**	**12.45 235**	P	**P**		**23 18 48.7**	**+0.3**
GRSN	**GIRESUNGRSN**	**12.45 319**	*i* P	**P**		**23 18 46.5**	**-1.9**
JMDO	**Jabal Madar**	**12.49 138**	P	**P**		**23 18 48.2**	**-0.8**
	SNR=31						
JMDO	**Jabal Madar**	**12.49 138**	P	**P**		**23 18 48.2**	**-0.8**
	SNR=31						
JMDO			P			23 18 48.2	
	SNR=31						
JMDO			P			23 18 48.2	
	SNR=31						
JMDO			P			23 18 48.2	
	SNR=31						
JMDO			P			23 18 48.2	
	SNR=31						
JMDO			P			23 18 48.2	
	SNR=31						
JMDO			P			23 18 48.2	
	SNR=31						
JMDO			P			23 18 48.2	
	SNR=31						
JMDO			P			23 18 48.2	
	SNR=31						
JMDO			P			23 18 48.2	
	SNR=31						
KMTI	**Karmit**	**12.50 265**	P	**P**		**23 18 48.3**	**-0.7**
SVST	**Sivas**	**12.53 311**	*i* P	**P**		**23 18 48.6**	**-0.8**
SVSK	**Karacayir**	**12.58 312**	P	**P**		**23 18 47.7**	**-2.4**
HAQS	**Haql**	**12.59 260**	P	**P**		**23 18 49.1**	**-1.2**
AYUS	**'Aynunah**	**12.59 256**	P	**P**		**23 18 48.9**	**-1.4**
KARA	**Karaisali**	**12.71 298**	P	**P**		**23 18 47.1**	**-4.7**
BNN	**Bunyan**	**12.79 306**	P	**P**		**23 18 51.3**	**-1.5**
TAYS	**Tayyib Ism**	**12.79 258**	P	**P**		**23 18 51.2**	**-1.8**
WBK	**Wadi Bani Khal**	**12.82 135**	P	**P**		**23 18 51.4**	**-1.9**
	SNR=14						
WBK	**Wadi Bani Khal**	**12.82 135**	P	**P**		**23 18 51.4**	**-1.9**
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
WBK			P			23 18 51.4	
	SNR=14						
KIV	**Kislovodsk**	**12.94 339**	*e*P	**P**		**23 18 57.1**	**+2.2**
KIV			*e*S	**S**		**23 21 20.9**	**+2.2**
KIV			pmax	pmax			
	comp=Z,69nm,1.1s						
KIV			MLR	MLR			
	comp=Z,3μm,10.0s						
KIV	**Kislovodsk**	**12.94 339**	*e*Pn	**P**		**23 18 56.6**	**+1.7**
	comp=Z,72nm,1.1s						
MERS	**Mersin**	**12.98 296**	*e*P	**P**		**23 18 53.5**	**-2.0**
TATS	**Tathlith**	**13.43 204**	P	**P**		**23 19 00.9**	**-0.5**
IKL	**Isikli**	**13.46 292**	*e*P	**P**		**23 18 58.1**	**-3.7**
CSS	**Prodhromos**	**13.51 287**	*e*Pn	**P**		**23 19 03.5**	**+1.1**
	comp=Z,57nm,0.9s						
SOC	**Sochi**	**13.72 330**	*e*P	**P**		**23 19 09.5**	**+4.4**
SOC			pmax	pmax			
	comp=Z,113nm,1.3s						
SOC			MLR	MLR			
	comp=Z,2μm,10.0s						
BLJS	**Baljurashi**	**13.85 211**	P	**P**		**23 19 06.4**	**-0.6**
KVT	**Kavak**	**13.85 314**	*e*P	**P**		**23 19 05.6**	**-1.2**
GOF	**Gofitskoye**	**13.85 342**	*e*P	**P**		**23 19 09.3**	**+2.5**
GOF			pmax	pmax			
	comp=Z,110nm,1.3s						
LTHS	**Al Lith**	**14.07 216**	P	**P**		**23 19 09.2**	**-0.6**
CDAG	**Cicekdag**	**14.16 306**	*i* P	**P**		**23 19 09.3**	**-1.6**
ERMK	**Ermenek**	**14.16 293**	*i* P	**P**		**23 19 08.4**	**-2.6**
CORM	**Corum**	**14.25 309**	*e*P	**P**		**23 19 08.8**	**-3.4**
CTKT	**Corum**	**14.38 311**	*i* P	**P**		**23 19 13.7**	**-0.1**
KAMT	**Kaman**	**14.50 305**	*e*P	**P**		**23 19 17.6**	**+2.2**
WHFO	**Wadi Hawf**	**14.66 162**	P	**P**		**23 19 16.8**	**-0.8**
	SNR=87						
WHFO	**Wadi Hawf**	**14.66 162**	P	**P**		**23 19 16.8**	**-0.8**
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
WHFO			P			23 19 16.8	
	SNR=87						
BR131	**Keskin Array S**	**14.71 306**	*e*Pn	**P**		**23 19 17.7**	**-0.4**
	comp=Z,29nm,0.5s						
BRTR	**Keskin Array B**	**14.71 306**	Pn	**P**		**23 19 17.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=25						
BRTR			ScP			23 28 01.7	
	comp=Z,0.1nm,0.3s,baz=142,slow=4.1,SNR=9.7						
BYBT	**Boyabat**	**14.86 313**	*e*P	**P**		**23 19 17.8**	**-2.3**
KONT	**Konya--Tatoy**	**14.95 298**	*e*P	**P**		**23 19 18.2**	**-3.0**
ABTO	**Aybut**	**15.09 165**	P	**P**		**23 19 22.2**	**-0.9**
	SNR=21						
ABTO	**Aybut**	**15.09 165**	P	**P**		**23 19 22.2**	**-0.9**
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
ABTO			P			23 19 22.2	
	SNR=21						
TOS	**Tosya**	**15.09 311**	*e*P	**P**		**23 19 21.4**	**-1.7**
SHAO	**Shalim**	**15.13 156**	P	**P**		**23 19 22.3**	**-1.4**
	SNR=51						
SHAO	**Shalim**	**15.13 156**	P	**P**		**23 19 22.3**	**-1.4**
	SNR=51						
SHAO			P			23 19 22.3	
	SNR=51						
SHAO			P			23 19 22.3	
	SNR=51						
SHAO			P			23 19 22.3	
	SNR=51						
SHAO			P			23 19 22.3	
	SNR=51						
SHAO			P			23 19 22.3	
	SNR=51						
SHAO			P			23 19 22.3	
	SNR=51						
SHAO			P			23 19 22.3	
	SNR=51						
CANT	**Cankiri**	**15.14 309**	*e*P	**P**		**23 19 20.9**	**-2.7**
RBK	**Rabkut**	**15.17 161**	P	**P**		**23 19 23.1**	**-1.2**
	SNR=74						
RBK	**Rabkut**	**15.17 161**	P	**P**		**23 19 23.1**	**-1.2**
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
RBK			P			23 19 23.1	
	SNR=74						
ELDT	**Eldivan**	**15.21 308**	*i* P	**P**		**23 19 25.1**	**+0.5**
LOD	**Lodumlu**	**15.38 305**	*e*P	**P**		**23 19 24.8**	**-2.1**
KIZT	**Kizilcal**	**15.62 301**	*e*P	**P**		**23 19 27.2**	**-2.8**
ANN	**Anapa**	**15.68 328**	*e*P	**P**		**23 19 35.0**	**+4.3**
ANN			*e*S	**S**		**23 22 33.4**	**+10**
ANN			pmax	pmax			
	comp=Z,202nm,1.7s						
ANN			MLR	MLR			
	comp=Z,3μm,15.0s						
SAFT	**Safranbolu**	**16.06 310**	*e*P	**P**		**23 19 33.6**	**-2.0**
ISP	**Isparta**	**16.32 296**	*e*P	**P**		**23 19 41.9**	**+3.0**
ISP			pmax	pmax			
	comp=Z,99nm,0.9s						
ISP	**Isparta**	**16.32 296**	*e*P	**P**		**23 19 41.9**	**+3.0**
	comp=Z,98nm,0.9s						
TKTP	**Tekketepe**	**16.52 296**	*i* P	**P**		**23 19 40.7**	**-0.7**
ELL	**Elmali**	**16.54 292**	*e*P	**P**		**23 19 39.2**	**-2.5**
ESKT	**Eskisehir**	**16.59 302**	*e*P	**P**		**23 19 40.5**	**-1.8**
ESKT	**Eskisehir**	**16.59 302**	*i* P	**P**		**23 19 43.5**	**+1.2**
AKAS	**Kas**	**16.70 290**	*i* P	**P**		**23 19 42.3**	**-1.3**
MDU	**Mudurnu**	**16.70 305**	*e*P	**P**		**23 19 41.9**	**-1.8**
GOLH	**Golhisar**	**16.91 293**	*i* P	**P**		**23 19 47.2**	**+0.9**
ALT	**Altintas**	**16.98 300**	*e*P	**P**		**23 19 45.2**	**-1.9**
BORA	**Eskisehir**	**17.01 303**	*i* P	**P**		**23 19 49.0**	**+1.4**
HENT	**Hendek**	**17.07 306**	*i* P	**P**		**23 19 46.6**	**-1.7**
FETY	**Fethiye**	**17.18 291**	*e*P	**P**		**23 19 47.7**	**-1.9**
KHL	**Karahalli**	**17.20 297**	*e*P	**P**		**23 19 48.5**	**-1.4**
GPA	**Golpazari**	**17.27 304**	*e*P	**P**		**23 19 52.1**	**+1.3**
SIM	**Simferopol'**	**17.42 322**	*d*P	**P**		**23 19 53.7**	**+1.1**
SIM			*e*S	**S**		**23 23 10.2**	**+6.8**
SIM			pmax	pmax			
	comp=Z,22nm,1.0s						
GDZ	**Gediz**	**17.45 299**	*i* P	**P**		**23 19 51.6**	**-1.5**
MUKL	**Al Mukalla**	**17.47 180‖**	*e*P	**P**		**23 19 52.1**	**-1.4**
MUKL			*i* S	**S**		**23 23 08.6**	**+3.8**
YER	**Yerkesik**	**17.90 292**	*e*P	**P**		**23 19 57.7**	**-0.9**
DHBB	**Dhamar BB**	**17.90 195‖**	*e*P	**P**		**23 19 58.9**	**0.0**
HRT	**Hereke**	**17.93 305**	*e*P	**P**		**23 19 58.2**	**-0.7**
YLV	**Yalova**	**18.03 304**	*e*P	**P**		**23 19 59.7**	**-0.7**
BDHA	**Al Bayda'**	**18.26 191⇑**	*e*P	**P**		**23 20 03.5**	**+0.2**
BDHA			AMb	AMB		23 20 06.7	
	comp=Z,204nm,1.4s						
BDHA	**Al Bayda'**	**18.26 191⇑**	*e*P	**P**		**23 20 03.5**	**+0.1**
	comp=Z,102nm,1.4s						
MLSB	**Milas**	**18.32 293**	*e*P	**P**		**23 20 03.9**	**-0.1**
SBDP	**Sheikh Budin**	**18.36 83**	P	**P**		**23 20 04.4**	**-0.1**
LBOS		**18.41 192‖**	*e*P	**P**		**23 20 04.8**	**-0.5**
LBOS			*i* S	**S**		**23 23 31.5**	**+5.3**
KARP	**Karpathos**	**18.59 287**	*e*P	**P**		**23 20 08.5**	**+1.2**
AKS	**Akhisar**	**18.64 297**	*e*P	**P**		**23 20 07.9**	**-0.1**
KDAG	**Bornova**	**18.94 296**	*i* P	**P**		**23 20 09.6**	**-2.0**
IZM	**Izmir**	**18.94 296**	*e*P	**P**		**23 20 10.8**	**-0.8**
BNT	**Bandirma**	**19.00 302**	*e*P	**P**		**23 20 12.8**	**+0.7**
THW	**Thamme Wali**	**19.11 82**	P	**P**		**23 20 11.9**	**-1.6**
CEP	**Cherat**	**19.21 78**	P	**P**		**23 20 13.2**	**-1.4**
MRMT	**Marmara Adasi**	**19.31 302**	*e*P	**P**		**23 20 15.8**	**+0.1**
AKTK	**Aktyubinsk**	**19.55 17**	P	**P**		**23 20 15.4**	**-2.8**
AKTK			S	**S**		**23 23 51.3**	**-0.2**
AKTK			ScP			23 28 10.0	
AKTO	**Aktyubinsk**	**19.55 17**	P	**P**		**23 20 15.4**	**-2.8**
	comp=Z,2.0nm,0.3s,baz=204,slow=11,SNR=45						
AKTO			S	**S**		**23 23 51.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=300,slow=20,SNR=1.9						
AKTO			ScP			23 28 10.0	
	comp=Z,0.2nm,0.3s,baz=154,slow=4.2,SNR=4.3						
MFT	**Murefte**	**19.60 303**	*e*P	**P**		**23 20 16.8**	**-2.1**
JASL	**Jaisalmer**	**19.62 99**	*e*P	**P**		**23 20 16.9**	**-2.3**
JASL			AMb	AMB		23 20 28.3	
	comp=Z,84nm,1.4s						
XRY	**Khrisi**	**19.75 285**	*e*P	**P**		**23 20 26.0**	**+5.5**
NPS	**Neapolis**	**19.83 286**	*e*P	**P**		**23 20 22.4**	**+1.0**
VRHR	**Novokhopersk**	**19.84 346**	*e*P	**P**		**23 20 19.4**	**-2.0**
VRHR			*e*S	**S**		**23 23 59.0**	**+1.0**
VRHR			pmax	pmax			
	comp=Z,110nm,0.6s						
VRHR			pmax	pmax			
	comp=N,70nm,0.9s						
VRHR			pmax	pmax			
	comp=E,50nm,0.8s						
VRHR			smax				
	comp=E,660nm,1.3s						
VRHR			smax				
	comp=Z,170nm,1.4s						
VRHR			smax				
	comp=N,340nm,0.9s						
VRHR			MLR	MLR			
	comp=N,1μm,14.0s						
VRHR			MLR	MLR			
	comp=Z,1μm,14.0s						
VRHR			MLR	MLR			
	comp=E,730nm,26.0s						
PRK	**Paraskevi**	**19.89 298**	*e*P	**P**		**23 20 15.2**	**-6.9**
SANT	**Santorini**	**20.04 289**	*e*P	**P**		**23 20 23.4**	**-0.2**
	comp=E,152nm,0.8s						
THR1	**Thera Island**	**20.04 289**	*e*P	**P**		**23 20 24.1**	**+0.5**
APE	**Apeiranthos**	**20.06 291**	*e*P	**P**		**23 20 23.9**	**+0.1**
APE	**Apeiranthos**	**20.06 291**	*e*P	**P**		**23 20 24.0**	**+0.2**
APE	**Apeiranthos**	**20.06 291**	*e*P	**P**		**23 20 24.3**	**+0.5**
BHJ	**Bhuj**	**20.15 111**	*e*P	**P**		**23 20 24.3**	**-0.6**
PSN	**Preselentsi**	**20.16 311**	*e*P	**P**		**23 20 24.0**	**-0.9**
CHCP	**Chirah Chowk**	**20.34 79**	P	**P**		**23 20 25.2**	**-1.6**
EDRB	**Edirne**	**20.35 305**	*e*P	**P**		**23 20 25.7**	**-1.2**
TIRR	**Tirgusor**	**20.40 313**	⇑P	**P**		**23 20 26.6**	**-0.7**
IDI	**Anoyia**	**20.42 286**	P	**P**		**23 20 28.4**	**+0.8**
	comp=E,67nm,0.7s,baz=78,slow=11,SNR=41						
IDI			S	**S**		**23 24 12.5**	**+2.9**
	comp=E,6.8nm,0.8s,baz=226,slow=17,SNR=2.0						
ALN	**Alexandroupoli**	**20.52 302**	*e*P	**P**		**23 20 29.0**	**+0.3**
VRSR	**Storozhevoye**	**20.53 342**	*e*P	**P**		**23 20 26.1**	**-2.6**
VRSR			*e**PP			23 20 35.3	
VRSR			*e*			23 20 47.7	
VRSR			*e*S	**S**		**23 24 13.0**	**+1.5**
VRSR			*e**SS			23 24 25.3	
VRSR			pmax	pmax			
	comp=Z,6.0nm,0.5s						
VRSR			pmax	pmax			
	comp=N,4.0nm,0.9s						
VRSR			pmax	pmax			
	comp=E,2.0nm,0.7s						
VRSR			smax				
	comp=N,70nm,2.3s						

VRSR smax
comp=Z,4.0nm,0.6s
VRSR smax
comp=E,20nm,0.9s
VRSR MLR MLR
comp=Z,110nm,20.0s
VRSR MLR MLR
comp=N,60nm,18.0s
VRSR MLR MLR
comp=E,50nm,25.0s
RDO Rodhopi 20.96 302 *e*P **P 23 20 33.1 -0.1**
VAM Vamos 20.99 286 *e*P **P 23 20 34.0 +0.4**
GVD Gavdhos 21.07 284 *e*P **P 23 20 33.6 -0.7**
comp=E,124nm,0.8s,mb5.3
ATD Arta Tunnel 21.20 197 P **P 23 20 39.3 +3.5**
comp=E,29nm,0.8s,mb4.7,baz=6.7,slow=5.7,SNR=11
ATD S **S 23 24 43.8 +19**
comp=E,3.1nm,0.7s,baz=306,slow=19,SNR=2.7
ATD LR LR 23 29 35.6
comp=E,2µm,18.5s,MS4.5,baz=180,slow=38
KDZ Kurdzhali 21.21 304 *e*P **P 23 20 36.0 +0.3**
SZH Strazhica 21.45 308 *e*P **P 23 20 38.0 -0.1**
PTL Penteli 21.51 293 *e*P **P 23 20 40.0 +1.3**
KIS Kishinev 21.57 320 *e*P **P 23 20 39.0 -0.2**
KIS *e* 23 21 02.0
KIS *e* 23 21 14.0
KIS *e*S **S 23 24 30.0 -1.3**
KIS *i* 23 24 43.0
KIS MLR MLR
comp=Z,600nm,13.0s,MS4.2
KIS MLR MLR
comp=E,1µm,15.0s
KIS MLR MLR
comp=Z,500nm,12.0s
ATH Athens Observa 21.61 293 *e*P **P 23 20 38.2 -1.5**
MPAR Parnis Oros 21.62 293 *e*P **P 23 20 41.0 +1.1**
RZN Rozhen 21.72 303 *e*P **P 23 20 40.0 -0.8**
OUR Ouranopolis 21.87 299 *e*P **P 23 20 42.3 -0.1**
AML Almayashu 21.98 56 P **P 23 20 43.7 +0.3**
SNR=58
KYTH Kithira 21.98 288 *e*P **P 23 20 44.0 +0.6**
PAIG Paliouri 22.00 298 *e*P **P 23 20 44.2 +0.6**
VLI Veliai 22.09 289 *e*P **P 23 20 43.1 -1.4**
VRI Vrinicioaia 22.14 315 ⇑P **P 23 20 45.5 +0.5**
EKS2 Erkin-Say 22.21 54 P **P 23 20 46.1 +0.4**
SNR=22
NEO Neokhori 22.22 296 *e*P **P 23 20 46.4 +0.6**
NVR Nevrokopi 22.23 302 *e*P **P 23 20 46.2 +0.3**
XOR Xorichti 22.25 296 *e*P **P 23 20 47.3 +1.2**
LKR Lokris 22.27 295 *e*P **P 23 20 47.0 +0.7**
PLG Polygyros 22.28 299 *e*P **P 23 20 46.9 +0.5**
SRS Serrai 22.36 301 *e*P **P 23 20 47.8 +0.6**
IAS Iasi 22.38 319 ⇑P **P 23 20 47.0 -0.3**
MMB Musomiste 22.40 302 *e*P **P 23 20 47.0 -0.5**
MLR Muntele Rosu 22.43 313 P **P 23 20 49.7 +1.8**
comp=Z,64nm,0.7s,mb5.2,baz=3.2,slow=6.0,SNR=49
MLR S **S 23 24 54.7 +7.5**
comp=Z,7.1nm,0.8s,baz=108,slow=19,SNR=4.0
MLR LR LR 23 31 55.6
comp=Z,705nm,18.7s,MS4.1,baz=328,slow=43
MLR Muntele Rosu 22.43 313 P **P 23 20 49.7 +1.9**
MLR S **S 23 24 54.7 +7.5**
MLR pmax pmax
comp=Z,64nm,0.7s
MLR smax
comp=N,7.0nm,0.8s
MLR MLR MLR
comp=Z,705nm,18.7s
MLR Muntele Rosu 22.43 313 ⇓P **P 23 20 50.1 +2.3**
MLR Muntele Rosu 22.43 313 ⇓P **P 23 20 50.1 +2.3**
SOH Sokhos 22.46 300 *e*P **P 23 20 49.2 +1.0**
UCH Uchtor 22.58 56 P **P 23 20 50.0 +0.6**
SNR=37
THE Thessaloniki 22.70 300 *e*P **P 23 20 51.6 +1.1**
AAK Ala-Archa 22.70 55 P **P 23 20 51.5 +0.9**
SNR=11
AAK Ala-Archa 22.70 55 *e*P **P 23 20 50.3 -0.2**
AAK pmax pmax
comp=Z,26nm,0.9s,mb4.7
AAK Ala-Archa 22.70 55 *e*P **P 23 20 50.3 -0.3**
comp=Z,26nm,0.9s,mb4.7
AGG Agios Georgios 22.85 295 *e*P **P 23 20 53.3 +1.3**
FRU Bishkek 22.85 55 *e*P **P 23 20 53.0 +1.0**
FRU pmax pmax
comp=Z,70nm,2.0s,mb4.7
FRU MLR MLR
comp=E,10µm,16.0s
FRU MLR MLR
comp=Z,9µm,16.0s,MS5.3
MTUR Matau 22.86 312 ⇑P **P 23 20 52.8 +0.8**
MTUR Matau 22.86 312 ⇑P **P 23 20 52.9 +0.9**
KNT Kendrikon 22.88 301 *e*P **P 23 20 52.7 +0.4**
AJM Ajmer 22.91 97 *ex* x 23 21 11.0
USP Ospenovka 22.92 53 P **P 23 20 53.0 +0.3**
SNR=40
LIT Litokhoron 22.93 298 *e*P **P 23 20 53.8 +1.0**
ITM Ithomi 22.93 290 *e*P **P 23 20 53.3 +0.4**
ITM Ithomi 22.93 290 P **P 23 20 54.5 +1.6**
KSH Kashi 22.98 64 P **P 23 20 54.8 +1.6**
KSH AP 23 20 59.3
KSH XP 23 21 02.0
KSH PP PP 23 21 23.3 0.0
KSH PCP PcP 23 24 45.0 +0.9
KSH S **S 23 24 59.3 +2.3**
KSH *e*SCP 23 28 21.5
KSH *e*PCS 23 28 23.5
KSH *e*SCS ScS 23 32 05.0 +2.6
KSH AMB AMB
comp=Z,230nm,2.3s,mb5.2
KSH LR LR
comp=N,2µm,10.0s
KSH LR LR
comp=E,4µm,9.9s
CHMS Chumysh 23.00 54 P **P 23 20 54.4 +0.9**
SNR=17
KBK Karagaybulak 23.03 55 P **P 23 20 56.6 +2.9**
SNR=30
KZA Kyzart 23.06 57 P **P 23 20 55.4 +1.4**
SNR=32
VTS Vitosha 23.07 305 *e*P **P 23 20 56.0 +1.8**
GRG Griva 23.19 300 *e*P **P 23 20 56.7 +1.4**
EVR Evrytania 23.23 295 *e*P **P 23 20 56.5 +0.7**
RLS Riolos of Patr 23.39 293 *e*P **P 23 20 57.8 +0.5**
KHET Khetri 23.41 93 *e*P **P 23 20 58.3 +0.8**
KHET AMb AMB 23 21 05.8
comp=Z,51nm,1.7s,mb4.7
KZN Kozani 23.51 298 *e*P **P 23 21 00.2 +1.7**
TKM2 Tokmak 2 23.56 55 P **P 23 20 59.7 +0.7**
SNR=40
AKASG Malin Array Be 23.77 328 P **P 23 21 00.0 -0.8**
comp=Z,95nm,0.9s,mb5.2,baz=130,slow=9.8,SNR=172
AKASG PcP PcP 23 24 45.9 +0.3
comp=Z,4.9nm,0.9s,baz=90,slow=2.3,SNR=4.6
AKASG S **S 23 25 13.0 +2.1**
comp=Z,3.3nm,0.9s,baz=135,slow=16,SNR=5.0
AKASG ScP 23 28 21.2
comp=Z,2.6nm,0.6s,baz=102,slow=2.6,SNR=9.5
KMPD K-Podol'skiy 23.77 321 P **P 23 21 00.0 -0.9**
KMPD S **S 23 25 13.0 +2.0**
ULHL Ulahol 23.81 57 P **P 23 21 03.2 +1.9**
SNR=6.3
MEV Metsovon 23.82 297 *e*P **P 23 21 02.9 +1.4**
FNA Florina 23.91 299 *e*P **P 23 21 03.8 +1.5**
JAN Janina 24.09 296 *e*P **P 23 21 05.5 +1.5**
VLS Valsamata 24.09 293 *e*P **P 23 21 04.3 +0.2**
LKD Levkas 24.10 294 *e*P **P 23 21 05.0 +0.8**
LKD Levkas 24.10 294 *e*P **P 23 21 04.9 +0.7**
SKO Skopje 24.15 302 P **P 23 21 07.0 +2.4**
DJES Djerdap 24.25 309 *e*P **P 23 21 06.8 +1.2**
DJES S **S 23 25 27.0 +7.7**
BOLS Boljevac 24.34 307 ⇓*i*P **P 23 21 08.2 +1.7**
AYAN Aya Nagar 24.41 91 *e*P **P 23 21 05.0 -2.4**
AYAN AMb AMB 23 21 17.9
comp=Z,148nm,1.2s,mb5.3
SONA Sohna 24.44 92 *e*P **P 23 21 07.5 -0.2**
SONA AMb AMB 23 21 18.0
comp=Z,76nm,1.1s,mb5.0
IGT Igoumenitsa 24.46 296 *e*P **P 23 21 08.2 +0.4**
IGT Igoumenitsa 24.46 296 *e*P **P 23 21 08.1 +0.4**
PECR Pechory 24.54 353 *e*P **P 23 21 05.6 -2.7**
PECR *e*S **S 23 25 23.0 -1.1**
PECR pmax pmax
comp=Z,1µm,1.8s,mb6.0
PECR MLR MLR
comp=Z,800nm,18.0s,MS4.3
BISR Bishrakh 24.66 91 *e*P **P 23 21 09.3 -0.5**
BISR AMb AMB 23 21 17.3
comp=Z,8.4nm,0.9s,mb4.3
OBN Obninsk 24.73 343k*e*P **P 23 21 09.4 -0.8**
OBN *e* 23 21 14.4
OBN *e* 23 21 20.4
OBN *e* 23 21 52.3
OBN *e*S **S 23 25 31.6 +4.3**
OBN SS SS 23 26 21.0 -3.8
OBN pmax pmax
comp=Z,57nm,0.6s,mb5.3
OBN MLR MLR
comp=Z,2µm,18.0s,MS4.5
OBN Obninsk 24.73 343 *e*P **P 23 21 09.5 -0.7**
comp=Z,80nm,0.6s,mb5.4
KLP Kalpa 24.73 83 *e*P **P 23 21 10.4 -0.1**
KLP AMb AMB 23 21 19.6
comp=Z,178nm,1.0s,mb5.6
KEK Kerkira 24.90 296 *e*P **P 23 21 11.8 -0.1**
SVIS Svilajnac 25.00 307 ⇓*i*P **P 23 21 12.8 0.0**
MOS Moscow 25.05 345 *e*P **P 23 21 13.2 0.0**
MOS *e* 23 21 44.8
MOS *e* 23 22 07.3
MOS *e*S **S 23 25 35.0 +2.4**
MOS pmax pmax
comp=Z,349nm,1.7s,mb5.6
MOS pmax pmax
comp=N,257nm,1.6s
MOS pmax pmax
comp=Z,209nm,1.5s,mb5.4
MOS pmax pmax
comp=N,134nm,1.2s
MOS MLR MLR
comp=Z,1µm,18.0s,MS4.4
GRUS Gruza 25.21 306 *e*P **P 23 21 14.9 0.0**
BZS Buzias 25.22 310 ⇑P **P 23 21 16.2 +1.3**
ARU Arti 25.27 12 ⇑*i*P **P 23 21 14.8 -0.5**
ARU *e*PPP PPP 23 21 55.3 -10
ARU *e*S **S 23 25 38.9 +2.6**
ARU *e*SS SS 23 26 30.2 -7.9
ARU *e* 23 32 07.0
ARU pmax pmax
comp=Z,80nm,1.1s,mb5.2
ARU MLR MLR
comp=Z,900nm,16.5s,MS4.4
ARU MLR MLR
comp=N,800nm,17.0s,MS4.3
ARU MLR MLR
comp=E,200nm,16.0s,MS4.3
ARU Arti 25.27 12 *e*P **P 23 21 14.4 -0.9**
comp=E,77nm,1.0s,mb5.2
ZRNK Zerenda 25.38 29 *e*P **P 23 21 15.4 -0.9**
ZRNK pmax pmax
comp=Z,53nm,0.6s,mb5.2
ZRNK Zerenda 25.38 29 *e*P **P 23 21 15.4 -1.0**
comp=Z,53nm,0.6s,mb5.2
AGRA Agra 25.46 93 *e*P **P 23 21 17.2 -0.2**
AGRA AMb AMB 23 21 24.4
comp=Z,109nm,0.8s,mb5.5
KALG Kalgarh 25.55 88 *e*P **P 23 21 12.8 -5.4**
KALG AMb AMB 23 21 20.6
comp=Z,255nm,0.8s,mb5.8
DIVS Divcibare 25.77 306 *e*P **P 23 21 21.3 +1.2**
DIVS S **S 23 25 57.2 +12**
BRVK Borovoye 25.99 30 *e*P **P 23 21 21.2 -0.8**
BRVK pmax pmax
comp=Z,18nm,0.9s,mb4.6
BRVK Borovoye 25.99 30 *e*P **P 23 21 21.2 -0.8**
comp=Z,18nm,0.9s,mb4.6
POO Poona 26.00 115 *e*P **P 23 21 25.9 +3.4**
POO AMb AMB 23 21 30.8
comp=Z,44nm,1.0s,mb5.0
BVAR Borovoye Array 26.01 30 P **P 23 21 21.3 -0.9**
comp=Z,14nm,0.6s,mb4.7,baz=227,slow=8.1,SNR=81
BVAR S **S 23 25 55.2 +6.7**
comp=Z,0.6nm,0.7s,baz=276,slow=14,SNR=2.0
BVAR ScP 23 28 26.6
comp=Z,2.5nm,0.5s,baz=216,slow=2.5,SNR=9.8
BBLS Bajina Basta - **26.11 305** *e*P **P 23 21 24.4 +1.1**
LCI Lecce 26.27 297 P **P 23 21 26.3 +1.5**
KOLS Kolonicke sedl 26.30 318 *e*P **P 23 21 26.1 +1.1**
KOLS *e*pP pP 23 21 30.1 -4.3
KWP Kalwaria 26.42 319 *e*P **P 23 21 26.0 0.0**
KWP *e*S **S 23 25 59.0 +3.7**
KWP MLR MLR 23 36 11.7
comp=Z,600nm,17.3s,MS4.2
BHPL Bhopal 26.49 102 *e*P **P 23 21 27.3 +0.3**
BHPL AMb AMB 23 21 33.4
comp=Z,28nm,0.9s,mb4.8
CHKZ Chkalovo 26.57 29 *e*P **P 23 21 26.1 -1.3**
CHKZ pmax pmax
comp=Z,13nm,0.7s,mb4.6
CHKZ Chkalovo 26.57 29 *e*P **P 23 21 26.1 -1.3**
comp=Z,13nm,0.7s,mb4.6
CRVS Cervenica-Dubn 26.75 317 *e*P **P 23 21 29.3 +0.1**
CRVS *e* 23 21 33.1
CRVS *e*S **S 23 26 17.9 +17**
KAD Karad 26.99 117 *e*P **P 23 21 34.6 +3.0**
BRT Bari-Castellan 27.04 298 P **P 23 21 34.8 +3.0**
MNK Minsk 27.09 332 *e*P **P 23 21 33.0 +0.8**
STHS Stebnicka Huta 27.13 318 *e*P **P 23 21 34.0 +1.4**
STHS *e* 23 21 38.7
KECS Kecovo 27.13 316 *e*P **P 23 21 32.9 +0.3**
KECS *e* 23 21 36.7
TIP Timpagrande 27.17 294 *e*P **P 23 21 33.5 +0.5**
PSZ Piszkesteto 27.24 314 *e*PP pP 23 21 34.9 -8.2
PKSM Moragy 27.37 310 ⇓*e*P **P 23 21 35.3 +0.5**
GRI Girifalco 27.40 293 P **P 23 21 36.0 +0.8**
ORI Oriolo Calabro 27.50 296 P **P 23 21 36.4 +0.4**
TDS Terranova Siba 27.54 295 P **P 23 21 38.9 +2.5**
BUD Budapest 27.60 313 P **P 23 21 38.3 +1.4**
SOI Samo 27.64 292 P **P 23 21 39.4 +2.0**
NIE Niedzica 27.66 317 *e*P **P 23 21 40.7 +3.2**
RHK1 Bakonya 27.70 309 ⇑*e*P **P 23 21 37.8 -0.1**
CEL Celeste 27.78 292 P **P 23 21 39.6 +1.0**
NE53 Naroch' 27.80 332 *e*PcP PcP 23 24 53.3 -1.3
NE53 *e*S **S 23 26 15.2 -2.4**
SRO2 Moca 28.10 313 *e* **P 23 21 44.0 +2.6**
VYHS Vyhne 28.12 315 *e*P **P 23 21 42.0 +0.4**
VYHS *e* 23 21 45.3
VYHS *e*S **S 23 26 24.9 +2.0**
VYHS *e*L 23 34 20.1
SRO Srobarova 28.17 313 *e* **P 23 21 45.5 +3.5**
LIKS Likavka 28.20 316 *e* **P 23 21 45.6 +3.3**
OJC Ojcow 28.34 318 ⇑*i*P **P 23 21 42.9 -0.6**
OJC *e*S PcP 23 24 56.7 +0.7
OJC LR LR
comp=Z,600nm,17.8s,MS4.2
SGO Sicignano 28.42 297 P **P 23 21 45.9 +1.6**
KURK Kurchatov 28.67 41 *e*P **P 23 21 46.1 -0.4**
KURK pmax pmax
comp=Z,31nm,0.9s,mb5.0
KURK Kurchatov 28.67 41 *e*P **P 23 21 46.1 -0.4**
comp=Z,31nm,0.9s,mb5.0
KURK *e*ScP 23 28 34.4
SUW Suwalki 28.74 328 *e*P **P 23 21 46.3 -0.7**
SUW *e*S **S 23 26 31.8 -0.9**
SUW MLR MLR 23 38 26.8
comp=Z,400nm,18.1s,MS4.1
VAE Valguarnera 28.93 291 P **P 23 21 51.1 +2.2**
comp=Z,13nm,0.7s,mb4.8,baz=141,slow=5.1,SNR=5.2
JAVC Velka Javorina 28.98 315 P **P 23 21 50.9 +1.7**
SMOL Smolenice 28.99 314 *e* **P 23 21 51.9 +2.5**
KOGS Kog 29.01 309 P **P 23 21 50.0 +0.5**
ZST Bratislava 29.07 313 *e* **P 23 21 52.5 +2.5**
ZST *e*L 23 35 32.5
OKC Ostrava-Krasne 29.11 317 *e*P **P 23 21 48.7 -1.7**
OKC AMS AMS 23 35 40.0
comp=Z,500nm,14.1s
RAC Raciborz 29.19 317 *e*P **P 23 21 50.9 -0.2**
SOP Sopron 29.22 312 ⇓*e*PP pP 23 21 54.6 -6.4
SOP Sopron 29.22 312 P **P 23 21 51.2 -0.2**
SOP ⇓*e*P 23 21 54.3
MKAR Makanchi Array 29.31 50 P **P 23 21 51.8 -0.4**
comp=Z,13nm,0.6s,mb4.8,baz=243,slow=8.6,SNR=118
MKAR ScP 23 28 36.6
comp=Z,3.8nm,0.9s,baz=225,slow=1.7,SNR=8.4
MKAR LR LR 23 35 42.8
comp=Z,514nm,21.4s,MS4.1,baz=188,slow=41
MKAR Makanchi Array 29.31 50 P **P 23 21 51.8 -0.4**
MKAR ScP 23 28 36.6
MKAR LR LR 23 35 42.8
BOJS Bojanci 29.41 307 *e*P **P 23 21 53.3 +0.2**
MORC Moravsky Berou 29.44 316 P **P 23 21 52.9 -0.4**
MORC Moravsky Berou 29.44 316 *e*P **P 23 21 52.5 -0.8**
KLMR Klimovskoe 29.52 350*c**i*P **P 23 21 51.6 -2.3**
KLMR *e*S **S 23 26 40.7 -4.4**
KLMR pmax pmax
comp=Z,50nm,1.4s,mb5.0
KLMR smax
comp=E,660nm,3.2s
KLMR MLR MLR
comp=Z,1µm,17.0s,MS4.6
ARSA Arzberg 29.74 311 *i*P **P 23 21 56.1 +0.1**
comp=Z,23nm,1.1s,mb4.8,SNR=13
ARSA Arzberg 29.74 311 *i*P **P 23 21 56.1 +0.1**
comp=Z,23nm,1.1s,mb4.8
VRAC Vranov 29.81 315 P **P 23 21 56.7 +0.1**
comp=Z,25nm,1.0s,mb4.9,baz=105,slow=8.5,SNR=24
VRAC Vranov 29.81 315 P **P 23 21 56.7 +0.1**
VRAC pmax pmax
comp=Z,25nm,1.0s
VRAC Vranov 29.81 315 P **P 23 21 56.5 -0.1**
VRAC Vranov 29.81 315 *e*P **P 23 21 56.2 -0.4**
PERS Pernice 29.82 309 *e*P **P 23 21 57.1 +0.4**
KRUC Moravsky 29.83 314 P **P 23 21 56.8 0.0**
PTQR Pietraquaria 30.03 300 P **P 23 22 00.0 +1.4**
AQU L'Aquila 30.07 300 *e*P **P 23 21 58.8 -0.2**
AQU pmax pmax
comp=Z,46nm,1.0s,mb5.2
AQU L'Aquila 30.07 300 *e*P **P 23 21 58.8 -0.2**
comp=Z,46nm,1.0s,mb5.2
KOLN Koldanda 30.11 89 *e*P **P 23 21 59.1 -0.4**
OBKA Obir 30.16 309 P **P 23 22 02.0 +2.3**
HYB Hyderabad 30.31 112 *i*P **P 23 22 06.0 +4.7**
comp=Z,40nm,1.0s,mb5.1
HYB *e*S **S 23 27 00.0 +2.1**
HYB Hyderabad 30.31 112 *e*P **P 23 22 06.0 +4.7**
HYB *e*S **S 23 27 08.0 +10**
HYB pmax pmax
comp=Z,40nm,1.0s,mb5.1
HYB Hyderabad 30.31 112 *e*P **P 23 22 06.0 +4.7**
comp=Z,40nm,1.0s,mb5.1
HYB *e*S **S 23 27 08.0 +10**
CING Cingoli 30.38 302 P **P 23 22 01.9 +0.1**
DPC Dobruska-Polom 30.39 317 *e*P **P 23 22 01.0 -0.8**
DPC *ex* x 23 27 32.9
DPC AMS AMS 23 35 50.0
comp=Z,600nm,17.3s
DPC Dobruska-Polom 30.39 317 *e*P **P 23 22 01.0 -0.8**
DPC MLR MLR
comp=Z,600nm,17.3s,MS4.3
VOY Vojsko 30.46 308 *e*P **P 23 22 02.5 0.0**
VOY *e* 23 22 05.8
VOY *e* 23 22 16.7
VOY *e* 23 22 29.7
TREC Trest 30.47 314 *e*P **P 23 22 02.5 0.0**
TREC *e*S **S 23 27 02.8 +2.6**
TREC AMS AMS 23 37 00.0
comp=Z,700nm,16.9s
VSU Vasula 30.49 337*d**i*P **P 23 22 01.0 -1.5**
KSP Ksiaz 30.62 318 *e*P **P 23 22 05.9 +2.2**
KSP MLR MLR 23 34 51.0
comp=Z,700nm,26.1s,MS4.2
KSP Ksiaz 30.62 318 *e*P **P 23 22 02.9 -0.9**
KSP *e*pP pP 23 22 06.2 -7.2
KSP *e*S **S 23 27 03.5 +1.1**
UPC Upice 30.64 317 *e*P **P 23 22 03.2 -0.8**
MOA Molln 30.74 311 *i*P **P 23 22 04.6 -0.3**
comp=Z,55nm,1.1s,mb5.3,NSR=32
MOA Molln 30.74 311 *i*P **P 23 22 04.6 -0.3**
comp=Z,55nm,1.1s,mb5.3
ROBS Robic 30.78 308 *e*P **P 23 22 04.7 -0.5**
BLSP Bilaspur 30.89 100 *e*P **P 23 22 06.7 +0.2**
BLSP AMb AMB 23 22 11.6
comp=Z,31nm,1.4s,mb4.9
GKN Gorkha 30.92 88 *e*P **P 23 22 06.7 0.0**
comp=Z,136nm,0.9s,mb5.8
KBA Koelnbreinsper 31.11 309 *i*P **P 23 22 08.2 0.0**
comp=Z,115nm,1.0s,mb5.7,SNR=60
KBA Koelnbreinsper 31.11 309 *i*P **P 23 22 08.2 0.0**
KBA pmax pmax
comp=Z,115nm,1.0s,mb5.7
PRU Pruhonice 31.30 315 *e*P **P 23 22 10.7 +0.9**
PRU *e*S **S 23 27 17.6 +4.4**
PRU AMS AMS 23 37 40.0
comp=Z,500nm,16.2s
GERES GERESS Array B 31.41 313 P **P 23 22 09.9 -0.9**
comp=Z,3.8nm,0.6s,mb4.4,baz=112,slow=7.2,SNR=25
GERES PcP PcP 23 25 04.4 +0.5
comp=Z,6.6nm,1.1s,baz=135,slow=1.9,SNR=6.8
GERES ScP 23 28 45.4
comp=Z,1.5nm,0.9s,baz=131,slow=3.2,SNR=5.3
DMN Daman 31.43 89 *e*P **P 23 22 11.6 +0.4**
PVCC Panska Ves 31.49 316 *e*P **P 23 22 10.7 -0.8**
PVCC AMS AMS 23 36 30.0
comp=Z,600nm,17.4s
KKN Kakani 31.53 88 *e*P **P 23 22 12.3 +0.2**
comp=Z,176nm,0.9s,mb5.9
KKN Kakani 31.53 88 *e*P **P 23 22 12.3 +0.2**
KKN pmax pmax
comp=Z,88nm,0.9s,mb5.6
KHC Kasperske Hory 31.59 313 *e*P **P 23 22 11.6 -0.8**
KHC pP pP 23 22 14.5 -7.5
KHC *ex* x 23 22 28.0
KHC *e*S **S 23 27 18.8 +1.1**
KHC AMS AMS 23 38 10.0
comp=Z,600nm,15.3s
KHC Kasperske Hory 31.59 313 *e*P **P 23 22 11.6 -0.8**
KHC *e* 23 22 14.5
KHC *e*S **S 23 27 18.8 +1.1**
KHC MLR MLR
comp=Z,600nm,15.3s,MS4.4
KHC Kasperske Hory 31.59 313 *e*P **P 23 22 11.6 -0.8**
KHC *e* 23 22 14.5
KHC *e* 23 22 28.0
KHC *e*S **S 23 27 18.8 +1.1**
KHC LR LR
comp=Z,600nm,15.3s,MS4.4
KHC Kasperske Hory 31.59 313 *e*P **P 23 22 11.6 -0.8**
KHC *e*S **S 23 27 18.8 +1.1**
PKI Pulchoki 31.70 89 *e*P **P 23 22 13.8 +0.2**
comp=Z,244nm,1.2s,mb5.9
PKI Pulchoki 31.70 89 *e*P **P 23 22 13.8 +0.2**
PKI pmax pmax
comp=Z,122nm,1.2s,mb5.6
BRG Berggiesshubel 31.99 316 *e*P **P 23 22 15.2 -0.7**
BRG pmax pmax
comp=Z,19nm,1.0s,mb4.9
BRG MLR MLR
comp=Z,670nm,14.2s,MS4.5
BRG Berggiesshubel 31.99 316 *e*P **P 23 22 15.2 -0.7**
comp=Z,18nm,1.0s,mb4.9
BRG LR LR
comp=Z,670nm,14.2s,MS4.5
GUN Gumba 32.00 88 *e*P **P 23 22 16.7 +0.5**
comp=Z,345nm,1.1s,mb6.1
WET Wettzell 32.02 313 *e*P **P 23 22 14.9 -1.3**
WET pmax pmax
comp=Z,37nm,1.0s,mb5.2
WET Wettzell 32.02 313 *e*P **P 23 22 14.9 -1.3**
comp=Z,37nm,1.0s,mb5.2
JIRN Jiri 32.34 88 *e*P **P 23 22 19.7 +0.5**
comp=Z,173nm,0.9s,mb5.9
WATA Walderalm 32.34 309 ⇑*i*P **P 23 22 18.0 -1.0**
comp=Z,89nm,1.0s,mb5.5,SNR=54
WATA Walderalm 32.34 309 ⇑*i*P **P 23 22 18.0 -1.0**
WATA pmax pmax
comp=Z,89nm,1.0s,mb5.5
WATA Walderalm 32.34 309 ⇑*i*P **P 23 22 18.0 -1.0**
comp=Z,89nm,1.0s,mb5.5
WMQ Urumqi 32.35 58 P **P 23 22 18.8 -0.3**
WMQ AP pP 23 22 23.0 -5.7
WMQ XP sP 23 22 25.8 -7.3
WMQ PP PP 23 23 25.8 -1.4
WMQ PCP PcP 23 25 07.3 +0.8
WMQ S **S 23 27 30.8 +1.1**
WMQ SCS ScS 23 32 47.5 +3.4
WMQ AMB AMB
comp=Z,50nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,350nm,4.6s
WMQ LR LR
comp=N,660nm,17.6s,MS4.7
WMQ LR LR
comp=E,1µm,15.6s,MS4.7
WMQ LR LR

comp=Z,1µm,16.3s,MS4.7
VLC Villacollemand 32.52 303 *e*P **P** **23 22 20.4 -0.2**
comp=Z,76nm,0.9s,mb5.6
SQTA Sankt Quirin 32.55 309 *i* P **P** **23 22 20.1 -0.7**
comp=Z,54nm,1.0s,mb5.4,SNR=98
SQTA Sankt Quirin 32.55 309 *i* P **P** **23 22 20.1 -0.7**
SQTA pmax pmax
comp=Z,54nm,1.0s,mb5.4
NKC Novy Kostel 32.65 315 *e*P **P** **23 22 21.8 +0.2**
NKC *e*S **S** **23 27 43.2 +8.9**
NKC AMS AMS 23 37 30.0
comp=Z,400nm,17.9s
NKC Novy Kostel 32.65 315 *e*P **P** **23 22 21.8 +0.2**
NKC *e*S **S** **23 27 43.2 +8.9**
MOTA Moosalm 32.65 309⇑ *i*P **P** **23 22 20.6 -1.1**
comp=Z,62nm,0.9s,mb5.5,SNR=70
MOTA Moosalm 32.65 309⇑ *i*P **P** **23 22 20.6 -1.1**
MOTA pmax pmax
comp=Z,62nm,0.9s,mb5.5
CLL Collm 32.70 317 P **P** **23 22 21.5 -0.6**
comp=Z,logA/T=1.6,mb5.3
CLL *e* 23 22 24.0
CLL *e*S **S** **23 27 40.0 +4.8**
CLL *e*SS SS 23 29 54.0 +20
CLL Collm 32.70 317 *i* P **P** **23 22 21.5 -0.6**
CLL *e*S **S** **23 27 40.0 +4.8**
CLL pmax pmax
comp=Z,38nm,0.9s,mb5.3
CLL Collm 32.70 317 *i* P **P** **23 22 21.5 -0.6**
comp=Z,38nm,0.9s,mb5.3
CLL *e*S **S** **23 27 40.0 +4.8**
RUE Ruedersdorf 32.73 319 *e*P **P** **23 22 23.7 +1.4**
comp=Z,59nm,0.9s,mb5.5
FUR Furstenfeldbru 32.75 311 *e*P **P** **23 22 21.6 -0.9**
FUR pmax pmax
comp=Z,161nm,1.1s,mb5.9
FUR Furstenfeldbru 32.75 311 *e*P **P** **23 22 21.6 -0.9**
comp=Z,161nm,1.1s,mb5.9
VSL Villasalto 32.90 294 *e*P **P** **23 22 25.4 +1.5**
comp=Z,30nm,0.8s,mb5.3
JOF Joensuu 32.93 345 *e*p **P** **23 22 21.6 -2.4**
FINES FINESS Array B 33.03 340 P **P** **23 22 23.4 -1.5**
comp=Z,8.9nm,0.5s,mb5.0,baz=149,slow=9.2,SNR=60
FINES S **S** **23 27 38.2 -2.0**
comp=Z,11nm,1.0s,baz=148,slow=18,SNR=6.3
FINES LR LR 23 37 20.2
comp=Z,798nm,19.5s,MS4.4,baz=349,slow=39
NVS Novosibirsk 33.15 36 *e*P **P** **23 22 23.9 -2.0**
NVS *i* 23 23 44.5
NVS *e*S **S** **23 27 42.3 +0.3**
NVS pmax pmax
comp=Z,55nm,1.5s,mb5.3
NVS pmax pmax
comp=N,25nm,1.4s
NVS pmax pmax
comp=E,14nm,1.1s
NVS smax
comp=N,32nm,1.6s
NVS smax
comp=E,13nm,1.0s
CORF Corte 33.20 299 *e*P **P** **23 22 30.1 +3.6**
GRA1 Grafenberg Arr 33.22 313 *e*P **P** **23 22 25.7 -0.9**
comp=E,82nm,1.1s,mb5.6
GRA1 *e*S **S** **23 27 51.7 +8.5**
GRA1 LR LR
comp=Z,200nm,19.3s,MS3.8
GRF Grafenberg Arr 33.22 313 *e*P **P** **23 22 25.7 -0.9**
GRF *e*S **S** **23 27 51.7 +8.5**
GRF pmax pmax
comp=Z,82nm,1.1s,mb5.6
GRF MLR MLR
comp=Z,200nm,19.3s,MS3.8
GRF Grafenberg Arr 33.22 313 *e*P **P** **23 22 25.7 -0.9**
GRF *e*S **S** **23 27 51.7 +8.5**
GRF pmax pmax
comp=Z,82nm,1.1s,mb5.6
GRF MLR MLR
comp=Z,200nm,19.3s,MS3.8
GRF Grafenberg Arr 33.22 313 *e*P **P** **23 22 25.7 -0.9**
comp=Z,82nm,1.1s,mb5.6
GRF *e*S **S** **23 27 51.7 +8.5**
GRF LR LR
comp=Z,200nm,19.3s,MS3.8
MOX Moxa 33.29 315 *i* P **P** **23 22 29.6 +2.4**
comp=Z,logA/T=1.2,mb4.9
MOX L 23 39 05.0
MOX Moxa 33.29 315 *e*P **P** **23 22 29.6 +2.4**
MOX pmax pmax
comp=Z,22nm,1.4s,mb4.9
MOX MLR MLR
comp=Z,500nm,17.0s,MS4.3
MOX Moxa 33.29 315 *e*P **P** **23 22 29.6 +2.4**
comp=Z,22nm,1.4s,mb4.9
MOX LR LR
comp=Z,500nm,17.0s,MS4.3
BSD Bornholm Skovb 33.33 324 *i* P **P** **23 22 26.3 -1.2**
comp=Z,83nm,0.7s,mb5.8
comp=Z,310nm,17.0s
PGF Pioggiola 33.33 300 *e*P **P** **23 22 27.8 +0.2**
comp=Z,171nm,1.4s,mb5.5
PGF Pioggiola 33.33 300 *e*P **P** **23 22 27.8 +0.2**
PGF pmax pmax
comp=Z,86nm,1.4s,mb5.5
DAVOX Davos 33.34 308 S **S** **23 27 45.4 +0.3**
comp=Z,7.6nm,0.9s,baz=314,slow=23,SNR=16
DAVOX LR LR 23 37 15.7
comp=Z,274nm,19.2s,MS4.0,baz=97,slow=39
BOK Bokaro 33.38 95 *e*P **P** **23 22 27.9 -0.3**
BOK AMb AMB 23 22 35.5
comp=Z,58nm,1.3s,mb5.4
UBR Uberruh 33.39 309 P **P** **23 22 27.2 -0.9**
DAVA Damuels 33.45 309 *i* P **P** **23 22 27.8 -0.7**
comp=Z,101nm,0.5s,mb6.0,SNR=104
DAVA Damuels 33.45 309 *i* P **P** **23 22 27.8 -0.7**
comp=Z,101nm,0.5s,mb6.0
KAF Kangasniemi 33.50 341 *e*p **P** **23 22 27.2 -1.7**
comp=Z,5.7nm,0.5s,mb4.8
KAF Kangasniemi 33.50 341 *e*P **P** **23 22 27.2 -1.7**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
LLS Linth-Limmern 33.94 308⇑P **P** **23 22 32.1 -0.7**
VIS Vishakhapatnam 33.98 107 *e*P **P** **23 22 34.3 +0.9**
VIS AMb AMB 23 22 39.5
comp=Z,46nm,1.1s,mb5.3
BUCH Bad Urach 34.06 310 P **P** **23 22 35.6 +1.7**
WILA Wila 34.12 309⇑P **P** **23 22 33.7 -0.7**
GUT Gutenstein 34.13 310 P **P** **23 22 33.4 -1.0**
SIND Sindeldorf 34.13 312 P **P** **23 22 36.7 +2.3**
SISB Singen-Sch Ber 34.14 309 P **P** **23 22 34.3 -0.2**
MUO Muotathal 34.21 308⇑P **P** **23 22 34.5 -0.7**
STU Stuttgart 34.25 311 P **P** **23 22 36.8 +1.4**
ZUR Zurich 34.33 308⇑P **P** **23 22 35.6 -0.6**
CLZ Clausthal 34.43 317 *e*P **P** **23 22 37.1 +0.1**
CLZ pmax pmax
comp=Z,75nm,1.0s,mb5.6
CLZ Clausthal 34.43 317 *e*P **P** **23 22 37.1 +0.1**
comp=Z,75nm,1.0s,mb5.6
SLE Schleitheim 34.47 309⇓P **P** **23 22 36.5 -0.9**
LBG Lerchenberg 34.48 311 P **P** **23 22 36.2 -1.2**
SBF Sospel 34.59 302 *e*P **P** **23 22 38.4 -0.1**
comp=Z,48nm,0.6s,mb5.3
SBF Sospel 34.59 302 *e*P **P** **23 22 38.4 -0.1**
SBF pmax pmax
comp=Z,24nm,0.6s,mb5.3
AUTN L'Aution 34.61 302 *e*P **P** **23 22 39.3 +0.7**
SULZ Sulz-Cheisache 34.67 309⇓P **P** **23 22 38.4 -0.7**
BFO Black Forest 34.70 310 *e*P **P** **23 22 37.5 -1.8**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BFO Black Forest 34.70 310 *e*P **P** **23 22 37.5 -1.8**
comp=Z,10.0nm,1.0s,mb4.7
LKBD Leukerbad 34.79 307⇑P **P** **23 22 39.2 -0.9**
KMBO Kilima Mbogo 34.84 201 P **P** **23 22 44.5 +3.6**
comp=Z,1.4nm,0.8s,mb3.9,baz=349,slow=8.6,SNR=5.3
KMBO LR LR 23 37 38.1
comp=Z,659nm,18.6s,MS4.4,baz=195,slow=37
COP Copenhagen 34.85 324⇓ *i*P **P** **23 22 43.8 +3.3**
comp=Z,107nm,1.1s,mb5.7
COP *i* S **S** **23 28 08.7 +0.3**
comp=Z,260nm,19.0s
COP Copenhagen 34.85 324⇓ *e*P **P** **23 22 43.8 +3.3**
COP *i* S **S** **23 28 08.7 +0.3**
COP pmax pmax
comp=Z,107nm,1.1s,mb5.7
COP MLR MLR
comp=Z,270nm,19.0s,MS4.0
COP Copenhagen 34.85 324⇓ *e*P **P** **23 22 43.8 +3.3**
comp=Z,107nm,1.1s,mb5.7
COP *i* S **S** **23 28 08.7 +0.3**
COP LR LR
comp=Z,270nm,19.0s,MS4.0
KIZ Kirchzarten 34.89 309 P **P** **23 22 42.8 +1.8**
DIX Grande Dixence 34.89 306⇑P **P** **23 22 40.6 -0.4**
BBS Basel-Blauen 35.06 308 *e*P **P** **23 22 41.8 -0.6**
TNS Taunus Mts 35.09 313 *e*P **P** **23 22 42.3 -0.4**
TNS pmax pmax
comp=Z,43nm,1.2s,mb5.2
TNS Taunus Mts 35.09 313 *e*P **P** **23 22 42.3 -0.4**
comp=Z,43nm,1.2s,mb5.2
SURF Saint Ours 35.10 303 *e*P **P** **23 22 46.0 +3.2**
FRF La Foret Royal 35.14 301 *e*P **P** **23 22 43.2 +0.1**
comp=Z,24nm,0.9s,mb4.8
FRF La Foret Royal 35.14 301 *e*P **P** **23 22 43.2 +0.1**
FRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
MBDF Montbardon 35.16 303 *e*P **P** **23 22 43.0 -0.3**
comp=Z,55nm,0.6s,mb5.4
MBDF Montbardon 35.16 303 *e*P **P** **23 22 43.0 -0.3**
MBDF pmax pmax
comp=Z,27nm,0.6s,mb5.3
LANF Langenberg 35.19 311 P **P** **23 22 45.7 +2.2**
BSEG Bad Segeberg 35.22 320 *e*P **P** **23 22 43.4 -0.3**
LMR La Mourre 35.22 301 *e*P **P** **23 22 43.5 -0.3**
comp=Z,10nm,0.7s,mb4.6
LMR La Mourre 35.22 301 *e*P **P** **23 22 43.5 -0.3**
LMR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
EMV Vieux Emosson 35.24 306⇓P **P** **23 22 46.8 +2.8**
BNI Bardonecchia 35.26 304 *e*P **P** **23 22 43.8 -0.4**
BNI pmax pmax
comp=Z,127nm,1.0s,mb5.8
BNI Bardonecchia 35.26 304 *e*P **P** **23 22 43.8 -0.4**
comp=Z,127nm,1.0s,mb5.8
LPG La Plagne 35.27 305 *e*P **P** **23 22 43.9 -0.3**
comp=Z,93nm,0.8s,mb5.4
LPG La Plagne 35.27 305 *e*P **P** **23 22 43.9 -0.3**
LPG pmax pmax
comp=Z,46nm,0.8s,mb5.5
LPL La Plagne 35.28 305 *e*P **P** **23 22 43.9 -0.4**
comp=Z,164nm,1.0s,mb5.6
LPL La Plagne 35.28 305 *e*P **P** **23 22 43.9 -0.4**
LPL pmax pmax
comp=Z,82nm,1.0s,mb5.6
RSL Roselend 35.38 305 *e*P **P** **23 22 44.6 -0.6**
MOF Molkenrain 35.39 309 P **P** **23 22 45.2 0.0**
CDF Champ du Feu 35.40 310 *e*P **P** **23 22 43.6 -1.7**
comp=Z,29nm,0.9s,mb4.9
CDF Champ du Feu 35.40 310 *e*P **P** **23 22 43.6 -1.7**
CDF pmax pmax
comp=Z,14nm,0.9s,mb4.9
ECH Echery 35.44 310 P **P** **23 22 48.3 +2.6**
LOMF Lomont 35.50 308 P **P** **23 22 46.1 -0.1**
HINF Hinteralfeld 35.56 309 *e*P **P** **23 22 45.4 -1.3**
comp=Z,21nm,0.8s,mb4.8
HINF Hinteralfeld 35.56 309 *e*P **P** **23 22 45.4 -1.3**
HINF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
DFRA Djebel Bou Aff 35.80 289 P **P** **23 22 53.0 +4.2**
ORIF Oris-en-Rattie 35.81 304 *e*P **P** **23 22 48.5 -0.3**
comp=Z,22nm,0.9s,mb4.8
ORIF *e*R
comp=Z,301nm,21.5s
RUP Ruppelstein 35.83 312 *e*P **P** **23 22 48.0 -0.9**
CABF La Chapelle 35.88 307 *e*P **P** **23 22 49.2 -0.2**
comp=Z,236nm,0.9s,mb5.8
CABF La Chapelle 35.88 307 *e*P **P** **23 22 49.2 -0.2**
CABF pmax pmax
comp=Z,118nm,0.9s,mb5.8
HAU Haudompre 35.93 309 *e*P **P** **23 22 48.5 -1.3**
comp=Z,37nm,0.8s,mb5.0
HAU *e*R
comp=Z,302nm,21.8s
HAU Haudompre 35.93 309 *e*P **P** **23 22 48.5 -1.3**
HAU pmax pmax
comp=Z,18nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,300nm,21.8s,MS4.0
SMRF Simiane la Rot 35.94 302 *e*P **P** **23 22 50.0 0.0**
LSA Lhasa 35.99 82 P **P** **23 22 52.0 +1.5**
LSA Lhasa 35.99 82 *e*P **P** **23 22 51.8 +1.3**
LSA pmax pmax
comp=Z,48nm,1.3s,mb5.3
LSA Lhasa 35.99 82 *e*P **P** **23 22 51.8 +1.3**
comp=Z,48nm,1.3s,mb5.3
SET Setif 36.22 289 P **P** **23 22 50.0 -2.3**
WLF Walferdange 36.39 312 *e*P **P** **23 22 53.4 -0.3**
WLF pmax pmax
comp=Z,42nm,0.9s,mb5.4
WLF Walferdange 36.39 312 *e*P **P** **23 22 53.4 -0.3**
comp=Z,42nm,0.9s,mb5.4
HFS Hagfors 36.56 331 S **S** **23 28 30.2 -4.5**
comp=Z,7.5nm,0.9s,baz=125,slow=18,SNR=3.5
HFA0 Hagfors New Ar 36.57 331 P **P** **23 22 53.7 -1.3**
VIVF Saint-Julien-l 36.66 303 *e*P **P** **23 22 55.1 -0.9**
comp=Z,21nm,0.9s,mb4.7
VIVF Saint-Julien-l 36.66 303 *e*P **P** **23 22 55.1 -0.9**
VIVF pmax pmax
comp=Z,11nm,0.9s,mb4.7
APA Apatity 36.77 350⇓ *e*P **P** **23 22 58.6 +2.0**
APA *i* pP 23 23 09.6 +3.2
APA *i* S **S** **23 28 38.0 +0.2**
APA *e*SS SS 23 31 39.0 +33
APA MLR MLR
comp=Z,2µm,14.0s,MS5.0
MUD Monsted U'grnd 36.83 324⇓ *i*P **P** **23 23 00.9 +3.6**
comp=Z,67nm,1.2s,mb5.3
MUD *i* PcP 23 25 03.3 -16
MUD *e*S rx 23 30 27.3
MUD *i* S rx 23 30 29.3
comp=Z,290nm,17.0s
MUD Monsted U'grnd 36.83 324⇓ *i*P **P** **23 23 00.9 +3.6**
MUD pmax pmax
comp=Z,67nm,1.2s,mb5.3
MEZF Maizieres J'vi 36.88 310 *e*P **P** **23 22 57.1 -0.6**
comp=Z,110nm,0.9s,mb5.4
LASF Ste Croix 37.19 302 *e*P **P** **23 22 59.6 -0.8**
comp=Z,40nm,0.9s,mb4.9
GIVF Givet 37.33 312 *e*P **P** **23 23 01.3 -0.2**
comp=Z,60nm,1.0s,mb5.1
GIVF Givet 37.33 312 *e*P **P** **23 23 01.3 -0.2**
GIVF pmax pmax
comp=Z,30nm,1.0s,mb5.1
SMF Signal de Mont 37.42 306 *e*P **P** **23 23 01.6 -0.7**
comp=Z,151nm,0.9s,mb5.5
SMF Signal de Mont 37.42 306 *e*P **P** **23 23 01.6 -0.7**
SMF pmax pmax
comp=Z,76nm,0.9s,mb5.5
LOR Lormes 37.48 307 *e*P **P** **23 23 01.8 -1.1**
comp=Z,68nm,1.0s,mb5.1
LOR Lormes 37.48 307 *e*P **P** **23 23 01.8 -1.1**
LOR pmax pmax
comp=Z,34nm,1.0s,mb5.1
PLDF La Plantade 37.50 305 *e*P **P** **23 23 02.7 -0.3**
SSF Saint Saulge 37.70 307 *e*P **P** **23 23 03.9 -0.8**
SSF pmax pmax
comp=Z,37nm,0.9s,mb5.1
SSF Saint Saulge 37.70 307 *e*P **P** **23 23 03.9 -0.8**
comp=Z,37nm,0.9s,mb5.1
LBL Lubilhac 37.70 304 *e*P **P** **23 23 03.6 -1.1**
OSL Oslo 37.71 329 *e*P **P** **23 23 04.9 +0.2**
OSL AMb AMB 23 23 08.3
comp=Z,122nm,1.2s,mb5.5
OSL Oslo 37.71 329 *e*P **P** **23 23 04.9 +0.2**
comp=Z,122nm,1.2s,mb5.5
OSL Oslo 37.71 329 *e*P **P** **23 23 04.9 +0.2**
comp=Z,122nm,1.2s,mb5.5,SNR=27
AVF Avril sur Loir 37.77 306 *e*P **P** **23 23 04.4 -0.9**
comp=Z,49nm,1.0s,mb4.9
AVF Avril sur Loir 37.77 306 *e*P **P** **23 23 04.4 -0.9**
AVF pmax pmax
comp=Z,25nm,1.0s,mb4.9
AGO Saint Agoulin 37.85 305 *e*P **P** **23 23 05.5 -0.4**
ETOS Mallorca 37.96 295 P **P** **23 23 08.5 +1.6**
comp=Z,2.2nm,0.4s,mb4.2
ETOS Mallorca 37.96 295 P **P** **23 23 08.5 +1.5**
comp=Z,2.2nm,0.4s,mb4.2,SNR=7.1
KONO Kongsberg 38.06 328 *e*P **P** **23 23 06.7 -0.9**
KONO pmax pmax
comp=Z,74nm,1.1s,mb5.3
KONO Kongsberg 38.06 328 *e*P **P** **23 23 06.7 -0.9**
comp=Z,74nm,1.1s,mb5.3
NB2 NORSAR Subarra 38.08 331 P **P** **23 23 06.1 -1.6**
comp=Z,17nm,0.6s,mb5.0,baz=123,slow=8.6
NB2 NORSAR Subarra 38.08 331 P **P** **23 23 06.1 -1.6**
baz=122,slow=8.6
NB2 NORSAR Subarra 38.08 331 P **P** **23 23 06.1 -1.6**
NB2 pmax pmax
comp=Z,17nm,0.6s,mb5.0
NOA NORSAR Array B 38.08 331 P **P** **23 23 06.6 -1.1**
comp=Z,18nm,0.8s,mb4.9,baz=123,slow=8.4,SNR=32
NOA S **S** **23 28 56.8 -1.1**
comp=Z,2.1nm,0.8s,baz=238,slow=13,SNR=4.4
NOA LR LR 23 40 51.1
comp=Z,541nm,18.5s,MS4.4,baz=115,slow=40
BGF Bois d'Agland 38.09 306 *e*P **P** **23 23 07.2 -0.8**
comp=Z,58nm,1.1s,mb4.9
BGF Bois d'Agland 38.09 306 *e*P **P** **23 23 07.2 -0.8**
BGF pmax pmax
comp=Z,29nm,1.1s,mb4.9
NAO01 NORSAR Array S 38.11 331 *e*P **P** **23 23 07.1 -0.9**
comp=Z,38nm,0.9s,mb5.1
EMHD Djebel Mahouad 38.18 289 P **P** **23 23 11.0 +2.2**
MTLF Montolieu 38.35 301 *e*P **P** **23 23 10.7 +0.6**
TCF Toulx Ste Croi 38.50 306 *e*P **P** **23 23 11.0 -0.4**
comp=Z,47nm,1.1s,mb4.8
TCF Toulx Ste Croi 38.50 306 *e*P **P** **23 23 11.0 -0.4**
TCF pmax pmax
comp=Z,23nm,1.1s,mb4.8
CAF Calviac 38.51 303 *e*P **P** **23 23 11.0 -0.5**
comp=Z,6.4nm,0.7s,mb4.2
CAF Calviac 38.51 303 *e*P **P** **23 23 11.0 -0.5**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
KRAR Krasnoyarsk 38.62 38 *i* P **P** **23 23 12.5 +0.2**
EMIR Miracle 38.86 299 P **P** **23 23 17.6 +3.2**
comp=Z,1.3nm,0.3s,mb4.2,SNR=5.7
RJF Les Rejaudoux 38.92 304 *e*P **P** **23 23 14.7 -0.2**
comp=Z,14nm,0.6s,mb4.6
RJF Les Rejaudoux 38.92 304 *e*P **P** **23 23 14.7 -0.2**
RJF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
EIBI Ibiza 39.15 294 P **P** **23 23 18.3 +1.4**
comp=Z,4.0nm,0.4s,mb4.5
EIBI Ibiza 39.15 294 P **P** **23 23 18.3 +1.5**
comp=Z,4.0nm,0.4s,mb4.5,SNR=6.1
EPOB Poblet 39.21 298 P **P** **23 23 17.8 +0.5**
comp=Z,1.6nm,0.4s,mb4.1
EPOB Poblet 39.21 298 P **P** **23 23 17.8 +0.5**
comp=Z,1.6nm,0.4s,mb4.1,SNR=7.5
BLS5 Blasjo 39.39 327 *e*P **P** **23 23 20.5 +1.9**
BLS5 AMb AMB 23 23 25.7
comp=Z,31nm,1.1s,mb4.9
BLS5 Blasjo 39.39 327 *e*P **P** **23 23 20.5 +1.9**
comp=Z,31nm,1.1s,mb5.0
BLS5 Blasjo 39.39 327 *e*P **P** **23 23 20.5 +1.9**
comp=Z,31nm,1.1s,mb4.9,SNR=27
LFF La Frestale 39.45 303 *e*P **P** **23 23 19.0 -0.3**
comp=Z,24nm,0.7s,mb4.8
LFF La Frestale 39.45 303 *e*P **P** **23 23 19.0 -0.3**
LFF pmax pmax
comp=Z,12nm,0.7s,mb4.7
DOMB Dombas 39.48 332 *e*P **P** **23 23 20.1 +0.7**
DOMB AMb AMB 23 23 25.0
comp=Z,56nm,1.2s,mb5.2
DOMB Dombas 39.48 332 *e*P **P** **23 23 20.1 +0.7**
comp=Z,56nm,1.3s,mb5.1
DOMB Dombas 39.48 332 *e*P **P** **23 23 20.1 +0.7**
comp=Z,56nm,1.2s,mb5.2,SNR=27
ETRT Tiaret 39.63 288 P **P** **23 23 22.0 +1.1**
EBR Ebro Roquetas 39.68 297 *e*P **P** **23 23 23.0 +1.8**
EANR Ain N'Sour 39.70 289 P **P** **23 23 21.0 -0.5**
EPF Esparros 39.72 300 *e*P **P** **23 23 21.7 +0.2**
comp=Z,4.1nm,0.5s,mb4.1
EPF Esparros 39.72 300 *e*P **P** **23 23 21.7 +0.2**
EPF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
EGRA Graus 39.75 299 P **P** **23 23 22.3 +0.5**
comp=Z,1.3nm,0.3s,mb4.1
EGRA Graus 39.75 299 P **P** **23 23 22.3 +0.5**
comp=Z,1.3nm,0.3s,mb4.1,SNR=4.5
KEV Kevo 39.77 348 *e*p **P** **23 23 19.1 -2.6**
NSS Namsos 39.78 336 *e*P **P** **23 23 20.6 -1.2**
NSS Namsos 39.78 336 *e*P **P** **23 23 20.5 -1.3**
SNR=27
ERTA Horta de San J 39.79 297 P **P** **23 23 23.3 +1.1**
comp=Z,7.5nm,0.6s,mb4.6
ERTA Horta de San J 39.79 297 P **P** **23 23 23.3 +1.2**
comp=Z,7.5nm,0.6s,mb4.6,SNR=36
ARCES ARCESS Array B 39.85 347 P **P** **23 23 21.0 -1.4**
comp=Z,5.9nm,0.7s,mb4.4,baz=162,slow=8.6,SNR=17
ARCES PP PP 23 24 52.7 -5.1
comp=Z,5.7nm,0.7s,baz=143,slow=9.0,SNR=3.6
ARCES ScP 23 29 12.8
comp=Z,4.3nm,0.6s,baz=180,slow=2.4,SNR=8.1
ARCES LR LR 23 41 16.2
comp=Z,567nm,19.9s,MS4.4,baz=151,slow=38
ARCES ARCESS Array B 39.85 347 P **P** **23 23 21.0 -1.4**
ARCES PP PP 23 24 52.7 -5.1
ARCES ScP 23 29 12.8
ARCES LR LR 23 41 16.2
EBIE Bielsa 39.87 300 P **P** **23 23 25.7 +2.9**
comp=Z,0.3nm,0.3s
EBIE Bielsa 39.87 300 P **P** **23 23 25.7 +2.9**
comp=Z,0.3nm,0.3s,SNR=6.8
MOR8 Moi Rana 40.01 339 *e*P **P** **23 23 23.3 -0.4**
MOR8 AMb AMB 23 23 28.1
comp=Z,29nm,2.0s,mb4.7
MOR8 Moi Rana 40.01 339 *e*P **P** **23 23 23.3 -0.4**
comp=Z,29nm,2.0s,mb4.7
MOR8 Moi Rana 40.01 339 *e*P **P** **23 23 23.3 -0.4**
comp=Z,29nm,2.0s,mb4.7,SNR=27
MFF Saint Martin d 40.15 306 *e*P **P** **23 23 24.0 -1.1**
comp=Z,29nm,0.8s,mb4.7
MFF Saint Martin d 40.15 306 *e*P **P** **23 23 24.0 -1.1**
MFF pmax pmax
comp=Z,14nm,0.8s,mb4.7
LDF La Druitiere 40.29 309 *e*P **P** **23 23 25.0 -1.2**
comp=Z,38nm,0.9s,mb4.8
LDF La Druitiere 40.29 309 *e*P **P** **23 23 25.0 -1.2**
LDF pmax pmax
comp=Z,19nm,0.9s,mb4.8
RUND Rundenannen 40.31 328 *e*P **P** **23 23 28.1 +1.9**
BER Bergen 40.31 328 *e*P **P** **23 23 27.4 +1.2**
BER AMb AMB 23 23 36.8
comp=Z,147nm,1.6s,mb5.5
BER Bergen 40.31 328 *e*P **P** **23 23 27.4 +1.2**
comp=Z,147nm,1.6s,mb5.5
BER Bergen 40.31 328 *e*P **P** **23 23 27.4 +1.2**
comp=Z,147nm,1.6s,mb5.5,SNR=27
EGD Espegrend 40.31 328 *e*P **P** **23 23 26.9 +0.7**
EGD AMb AMB 23 23 35.6
comp=Z,136nm,1.5s,mb5.5
EGD Espegrend 40.31 328 *e*P **P** **23 23 26.9 +0.7**
comp=Z,136nm,1.5s,mb5.5
EGD Espegrend 40.31 328 *e*P **P** **23 23 27.0 +0.7**
comp=Z,136nm,1.5s,mb5.5,SNR=27
ESAC San Caprasio 40.35 298 P **P** **23 23 28.6 +1.8**
comp=Z,11nm,0.4s,mb5.0
ESAC San Caprasio 40.35 298 P **P** **23 23 28.6 +1.8**
comp=Z,11nm,0.4s,mb5.0,SNR=10
MOL Molde 40.36 332 *e*P **P** **23 23 28.9 +2.2**
MOL AMb AMB 23 23 38.5
comp=Z,87nm,1.6s,mb5.2
MOL Molde 40.36 332 *e*P **P** **23 23 28.9 +2.2**
comp=Z,87nm,1.6s,mb5.2
MOL Molde 40.36 332 *e*P **P** **23 23 28.9 +2.2**
comp=Z,87nm,1.6s,mb5.2,SNR=27
ETSF Etsaut 40.38 300 *e*P **P** **23 23 28.1 +1.1**
comp=Z,23nm,1.0s,mb4.6
ETSF Etsaut 40.38 300 *e*P **P** **23 23 28.1 +1.1**
ETSF pmax pmax
comp=Z,12nm,1.0s,mb4.6
EBEN Beniarda 40.40 294 P **P** **23 23 28.9 +1.7**
comp=Z,4.1nm,0.5s,mb4.4
EBEN Beniarda 40.40 294 P **P** **23 23 28.9 +1.7**
comp=Z,4.1nm,0.5s,mb4.5,SNR=7.9
ASK Askoy 40.41 328 *e*P **P** **23 23 28.0 +0.9**
EMOS Mosqueruela 40.44 296 P **P** **23 23 29.8 +2.2**
comp=Z,6.9nm,0.6s,mb4.6
EMOS Mosqueruela 40.44 296 P **P** **23 23 29.7 +2.2**
comp=Z,6.9nm,0.6s,mb4.5,SNR=25
FLN La Foliniere 40.55 309 *e*P **P** **23 23 27.2 -1.1**
comp=Z,64nm,0.9s,mb4.9
FLN *e*R
comp=Z,294nm,17.5s
FLN La Foliniere 40.55 309 *e*P **P** **23 23 27.2 -1.1**
FLN pmax pmax
comp=Z,32nm,0.9s,mb5.0
FLN MLR MLR

comp=Z,290nm,17.5s,MS4.2
STOK Stokkvaagen 40.55 339 *e*P **P 23 23 27.6 -0.6**
STOK AMb AMB 23 23 38.9
comp=Z,104nm,1.4s,mb5.3
STOK Stokkvaagen 40.55 339 *e*P **P 23 23 27.6 -0.6**
comp=Z,104nm,1.4s,mb5.3,SNR=27
GRR Gorron 40.76 309 *e*P **P 23 23 29.1 -1.0**
comp=Z,41nm,0.7s,mb4.9
GRR Gorron 40.76 309 *e*P **P 23 23 29.1 -1.0**
GRR pmax pmax
comp=Z,21nm,0.7s,mb4.9
SJPF Ste Jean 40.86 300 *e*P **P 23 23 30.5 -0.5**
comp=Z,26nm,0.9s,mb4.5
SJPF Ste Jean 40.86 300 *e*P **P 23 23 30.5 -0.5**
SJPF pmax pmax
comp=Z,13nm,0.9s,mb4.6
FOO Floro 40.95 330 *e*P **P 23 23 31.6 0.0**
FOO AMb AMB 23 23 41.5
comp=Z,93nm,1.5s,mb5.2
FOO Floro 40.95 330 *e*P **P 23 23 31.6 0.0**
comp=Z,93nm,1.5s,mb5.2
FOO Floro 40.95 330 *e*P **P 23 23 31.6 0.0**
comp=Z,93nm,1.5s,mb5.2,SNR=26
IPRE Itoiz 40.97 300 P **P 23 23 32.8 +0.9**
comp=Z,4.7nm,0.5s,mb4.4,SNR=7.9
EARA Aranguren 41.13 300 P **P 23 23 36.4 +3.1**
comp=Z,3.4nm,0.3s,mb4.4,SNR=4.9
TRO Tromso 41.29 345 *e*P **P 23 23 32.4 -2.0**
TRO Tromso 41.29 345 *e*P **P 23 23 32.3 -2.0**
SNR=26
GTA Gaotai 41.36 65 *e*P **P 23 23 35.3 +0.2**
GTA AP pP 23 23 39.3 -5.7
GTA XP sP 23 23 41.5 -7.6
GTA PP PP 23 25 13.5 -0.1
GTA SCP 23 29 21.8
GTA PCS 23 29 27.0
GTA S **S 23 29 47.8 +0.5**
GTA SCS ScS 23 33 37.5 +3.2
GTA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
GTA AMB AMB
comp=Z,70nm,5.7s
GTA LR LR
comp=N,750nm,14.1s,MS4.9
GTA LR LR
comp=E,900nm,17.1s,MS4.9
GTA LR LR
comp=Z,1μm,15.2s,MS4.9
ETOB Tobarra 41.43 294 P **P 23 23 37.4 +1.7**
comp=Z,4.9nm,0.5s,mb4.4
ETOB Tobarra 41.43 294 P **P 23 23 37.4 +1.6**
comp=Z,4.9nm,0.5s,mb4.4,SNR=7.9
LOF Lofoten 41.58 341 *e*P **P 23 23 37.6 +1.1**
SGMF Saint Gilles 41.88 308 *e*P **P 23 23 38.5 -0.8**
comp=Z,28nm,0.6s,mb4.8
SGMF Saint Gilles 41.88 308 *e*P **P 23 23 38.5 -0.8**
SGMF pmax pmax
comp=Z,14nm,0.6s,mb4.8
EVIA Vianos 42.18 294 P **P 23 23 43.6 +1.7**
EVIA pmax pmax
comp=Z,26nm,0.7s,mb5.0
EVIA Vianos 42.18 294 P **P 23 23 43.6 +1.7**
comp=Z,26nm,0.7s,mb5.0
EVIA Vianos 42.18 294 P **P 23 23 43.6 +1.7**
comp=Z,26nm,0.7s,mb5.0,SNR=8.9
QUIF Quistinic 42.27 308 *e*P **P 23 23 41.4 -1.1**
comp=Z,44nm,0.7s,mb4.9
QUIF Quistinic 42.27 308 *e*P **P 23 23 41.4 -1.1**
QUIF pmax pmax
comp=Z,22nm,0.7s,mb4.9
MOY Mondy 42.31 47 *e*P **P 23 23 43.5 +0.7**
MOY pmax pmax
comp=Z,50nm,1.6s,mb4.9
EHUE Huescar 42.36 293 P **P 23 23 43.9 +0.5**
EHUE pmax pmax
comp=Z,1.0nm,0.2s,mb4.1
EHUE Huescar 42.36 293 P **P 23 23 43.9 +0.5**
comp=Z,0.7nm,0.2s,mb3.9
EHUE Huescar 42.36 293 P **P 23 23 43.9 +0.5**
comp=Z,0.7nm,0.2s,mb4.0,SNR=6.3
ROSF Rostrenen 42.37 308 *e*P **P 23 23 42.3 -1.0**
comp=Z,47nm,0.8s,mb4.8
ROSF Rostrenen 42.37 308 *e*P **P 23 23 42.3 -1.0**
ROSF pmax pmax
comp=Z,24nm,0.8s,mb4.9
ELAN Lanestosa 42.47 301 P **P 23 23 47.1 +2.8**
comp=Z,83nm,1.9s,mb5.0
ELAN Lanestosa 42.47 301 P **P 23 23 47.1 +2.9**
comp=Z,83nm,1.9s,mb5.0,SNR=7.9
EBER Berja 42.73 291 P **P 23 23 48.0 +1.6**
comp=Z,8.3nm,0.5s,mb4.7
EBER Berja 42.73 291 P **P 23 23 48.0 +1.6**
comp=Z,8.3nm,0.5s,mb4.8,SNR=5.8
EQES Quesada 42.73 293 P **P 23 23 47.5 +1.1**
comp=Z,4.0nm,0.5s,mb4.4
EQES Quesada 42.73 293 P **P 23 23 47.5 +1.0**
comp=Z,4.0nm,0.5s,mb4.4,SNR=10
EKA Eskdalemuir Ar 43.12 319 P **P 23 23 48.7 -0.6**
comp=Z,4.0nm,0.6s,mb4.3,baz=106,slow=7.7,SNR=4.2
PcP PcP
EKA 23 25 39.2 -0.1
comp=Z,4.2nm,0.9s,baz=104,slow=5.9,SNR=2.3
ESDC Sonseca Array 43.17 296 P **P 23 23 50.7 +0.7**
comp=Z,15nm,1.0s,mb4.7,baz=73,slow=8.9,SNR=18
ESLA Sonseca Array 43.17 296 *e*P **P 23 23 49.6 -0.4**
comp=Z,6.3nm,1.1s,mb4.3
GUD Guadarrama 43.21 297 P **P 23 23 51.2 +0.9**
GUD pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
GUD Guadarrama 43.21 297 P **P 23 23 51.2 +0.9**
comp=Z,2.3nm,0.5s,mb4.2
GUD Guadarrama 43.21 297 P **P 23 23 51.2 +0.9**
comp=Z,2.3nm,0.5s,mb4.2,SNR=7.9
EBAN Banos Encina 43.24 293 P **P 23 23 51.6 +1.0**
EBAN pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
EBAN Banos Encina 43.24 293 P **P 23 23 51.6 +1.0**
comp=Z,1.4nm,0.3s,mb4.2
EBAN Banos Encina 43.24 293 P **P 23 23 51.6 +1.0**
comp=Z,1.4nm,0.3s,mb4.1,SNR=7.7
ELOJ Sierra Loja 43.69 292 P **P 23 23 53.7 -0.5**
ELOJ pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
ELOJ Sierra Loja 43.69 292 P **P 23 23 53.7 -0.5**
comp=Z,4.9nm,0.6s,mb4.4,SNR=4.9
ELUQ Luque 43.71 293 P **P 23 23 54.1 -0.3**
ELUQ pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
ELUQ Luque 43.71 293 P **P 23 23 54.1 -0.3**
comp=Z,1.5nm,0.4s,mb4.1
ELUQ Luque 43.71 293 P **P 23 23 54.1 -0.3**
comp=Z,1.5nm,0.4s,mb4.1,SNR=8.2
EARI Arriondas 43.77 301 P **P 23 23 54.7 0.0**
comp=Z,2.6nm,0.5s,mb4.2
EARI Arriondas 43.77 301 P **P 23 23 54.7 0.0**
comp=Z,2.6nm,0.5s,mb4.2,SNR=7.9
EADA Adamuz 43.86 294 P **P 23 23 56.7 +1.1**
comp=Z,2.2nm,0.4s,mb4.2
EADA Adamuz 43.86 294 P **P 23 23 56.7 +1.1**
comp=Z,2.2nm,0.4s,mb4.2,SNR=7.5
EMIJ Mijas 44.28 291 P **P 23 23 58.7 -0.2**
comp=Z,5.1nm,0.4s,mb4.6
EMIJ Mijas 44.28 291 P **P 23 23 58.7 -0.3**
comp=Z,5.1nm,0.4s,mb4.6,SNR=4.6
EJIF Jimena Fronter 44.85 291 P **P 23 24 03.3 -0.2**
EJIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
EJIF Jimena Fronter 44.85 291 P **P 23 24 03.3 -0.3**
comp=Z,3.0nm,0.5s,mb4.4
EJIF Jimena Fronter 44.85 291 P **P 23 24 03.3 -0.2**
comp=Z,3.0nm,0.5s,mb4.4,SNR=7.9
ZFT Errachidia 44.94 285 *i* P **P 23 24 05.0 +0.7**
LZH Lanzhou 45.02 69 *e*P **P 23 24 09.8 +4.9**
LZH PP PP 23 25 55.0 +4.1
LZH S **S 23 30 41.0 +0.3**
LZH XS 23 30 59.0
LZH AMB AMB
comp=Z,30nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,250nm,5.6s
LZH LR LR
comp=E,2μm,17.0s
LZH LR LR
comp=Z,4μm,18.2s,MS5.4
PBRG Braganca 45.03 299 *e*P **P 23 24 06.3 +1.4**
comp=Z,36nm,1.8s,mb4.9
ESPR Espera 45.08 292 P **P 23 24 05.0 -0.3**
comp=Z,2.0nm,0.3s,mb4.4
ESPR Espera 45.08 292 P **P 23 24 05.0 -0.4**
comp=Z,2.0nm,0.3s,mb4.5,SNR=7.7
EPON Pontenova 45.17 301 P **P 23 24 09.0 +3.0**
comp=Z,2.8nm,0.4s,mb4.5
EPON Pontenova 45.17 301 P **P 23 24 09.0 +2.9**
comp=Z,2.8nm,0.4s,mb4.4,SNR=7.9
CZD Col de Zad 45.25 286 *i* P **P 23 24 09.0 +2.2**
EMIN Mina Concepcio 45.55 293 P **P 23 24 09.2 0.0**
comp=Z,0.8nm,0.4s,mb4.0
EMIN Mina Concepcio 45.55 293 P **P 23 24 09.2 0.0**
comp=Z,0.8nm,0.4s,mb4.0,SNR=6.5
SONM Songino Array 45.62 52 P **P 23 24 09.1 -0.4**
comp=Z,3.4nm,0.6s,mb4.4,baz=272,slow=8.8,SNR=26
SONM ScP 23 29 37.8
comp=Z,1.0nm,0.9s,baz=315,slow=2.1,SNR=3.9
SONM LR LR 23 45 41.4
comp=Z,489nm,19.8s,MS4.5,baz=163,slow=39
SONM Songino Array 45.62 52 P **P 23 24 09.1 -0.4**
SONM ScP 23 29 37.8
SONM LR LR 23 45 41.4
EBAD Badajoz 45.65 295 P **P 23 24 09.9 -0.1**
comp=Z,1.9nm,0.4s,mb4.4
EBAD Badajoz 45.65 295 P **P 23 24 09.9 0.0**
comp=Z,1.9nm,0.4s,mb4.4,SNR=11
MTE Manteigas 45.80 297 *e*P **P 23 24 12.3 +1.2**
comp=Z,59nm,1.3s,mb5.4
MTE *e*S **S 23 30 57.9 +6.0**
MTE Manteigas 45.80 297 *e*P **P 23 24 12.4 +1.3**
comp=Z,63nm,1.0s,mb5.5
PVRL Vila Real 45.82 298 *e*P **P 23 24 12.4 +1.2**
PVRL Vila Real 45.82 298 *e*P **P 23 24 12.1 +0.9**
PCBR Castelo Branco 45.84 296 *e*P **P 23 24 12.4 +1.0**
comp=Z,69nm,0.8s,mb5.6
ELOB Lobios 46.00 299 P **P 23 24 13.6 +1.0**
comp=Z,2.3nm,0.5s,mb4.4,SNR=5.8
PVIS Viseu 46.02 298 *e*P **P 23 24 13.9 +1.0**
comp=Z,58nm,2.0s,mb5.2
ULN Ulaanbaatar 46.06 52 *d i*P **P 23 24 13.0 -0.1**
ULN Ulaanbaatar 46.06 52 *e*P **P 23 24 12.9 -0.1**
comp=Z,31nm,1.1s,mb5.2
CD2 Chengdu 46.19 76 P **P 23 24 18.3 +4.0**
CD2 AP pP 23 24 22.8 -1.3
CD2 PP PP 23 26 06.5 +3.8
CD2 S **S 23 31 02.8 +5.3**
CD2 XS 23 31 09.8
CD2 SS SS 23 34 19.0 +4.0
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.9s
CD2 LR LR
comp=E,370nm,14.4s
CD2 LR LR
comp=Z,440nm,15.6s,MS4.5
EGRO El Granado 46.23 293 P **P 23 24 13.8 -0.7**
comp=Z,0.7nm,0.3s,mb4.1
EGRO El Granado 46.23 293 P **P 23 24 13.8 -0.7**
comp=Z,0.7nm,0.3s,mb4.1,SNR=7.9
PBEJ Beja 46.44 294 *e*P **P 23 24 16.8 +0.7**
comp=Z,27nm,1.5s,mb5.0
EVO Evora 46.46 295 *e*P **P 23 24 17.6 +1.3**
comp=Z,33nm,1.0s,mb4.9
EVO *e*R
comp=Z,220nm,20.2s
PTOM Tomar 46.58 296 *e*P **P 23 24 18.3 +1.1**
comp=Z,74nm,0.8s,mb5.7
TZC Tazercounte 46.66 286 *i* P **P 23 24 18.0 +0.1**
KMI Kunming 47.19 84 P **P 23 24 22.8 +0.6**
KMI AP pP 23 24 25.5 -6.6
KMI XP sP 23 24 27.5 -8.7
KMI S **S 23 31 09.3 -2.5**
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
KMI AMB AMB
comp=Z,60nm,3.3s
KMI LR LR
comp=N,400nm,15.7s,MS4.8
KMI LR LR
comp=E,620nm,14.6s,MS4.8
KMI LR LR
comp=Z,580nm,14.2s,MS4.7
PLOU Loures 47.27 295 *e*P **P 23 24 22.4 -0.3**
XAN Xi'an 49.54 71 P **P 23 24 38.8 -1.6**
XAN AP pP 23 24 44.5 -5.8
XAN LR LR
comp=N,410nm,14.1s,MS4.9
XAN LR LR
comp=E,840nm,18.6s,MS4.9
XAN LR LR
comp=Z,1μm,15.8s,MS5.0
GYA Guiyang 50.02 81 ⇑ *i*P **P 23 24 43.5 -0.6**
GYA AP pP 23 24 47.8 -6.2
GYA XP sP 23 24 50.3 -7.8
GYA S **S 23 31 54.0 +2.6**
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,180nm,5.0s
GYA LR LR
comp=N,630nm,15.6s,MS4.8
GYA LR LR
comp=E,500nm,15.6s,MS4.8
GYA LR LR
comp=Z,780nm,14.4s,MS4.8
HHC Hu-ho-hao-te 50.06 61 *e*P **P 23 24 45.0 +0.8**
HHC AP pP 23 24 49.5 -4.6
HHC XP sP 23 24 52.0 -6.2
HHC PCP PcP 23 26 05.3 +1.4
HHC PP PP 23 26 41.0 +0.8
HHC SCP 23 29 59.5
HHC PCS 23 30 01.5
HHC S **S 23 31 52.5 +0.7**
HHC SCS ScS 23 34 33.0 +3.2
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,280nm,5.1s
HHC LR LR
comp=N,580nm,14.3s,MS5.1
HHC LR LR
comp=E,1μm,11.9s,MS5.1
HHC LR LR
comp=Z,1μm,13.4s,MS5.1
CIT Chita 50.10 47 *e*P **P 23 24 44.2 -0.2**
CIT pmax pmax
comp=Z,137nm,1.4s,mb5.8
BOD Bodaibo 50.30 39 *e*P **P 23 24 44.1 -1.7**
BOD pmax pmax
comp=Z,35nm,1.1s,mb5.3
ENH Enshi 51.09 75 *e*P **P 23 24 56.3 +4.1**
comp=Z,7.9nm,0.7s,mb4.8
LSZ Lusaka 51.13 206 ⇑ *i*P **P 23 24 55.5 +2.8**
LSZ pmax pmax
comp=Z,11nm,0.8s,mb4.8
LSZ Lusaka 51.13 206 ⇑ *i*P **P 23 24 55.5 +2.8**
comp=Z,11nm,0.8s,mb4.8
SCO Scoresbysund 53.87 337 *i* P **P 23 25 12.8 +0.4**
comp=Z,8.5nm,0.7s,mb4.8
DAG Danmarks Havn 54.02 345 ⇑ *i*P **P 23 25 12.0 -1.5**
comp=Z,2.1nm,0.5s,mb4.3
DAG Danmarks Havn 54.02 345 ⇑ *e*P **P 23 25 12.0 -1.5**
DAG pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
DAG Danmarks Havn 54.02 345 ⇑ *e*P **P 23 25 12.0 -1.5**
comp=Z,2.1nm,0.5s,mb4.3
HIA Hailar 54.31 50 *e*P **P 23 25 15.2 -0.7**
HIA pmax pmax
comp=Z,34nm,1.3s
HIA Hailar 54.31 50 *e*P **P 23 25 15.2 -0.7**
comp=Z,34nm,1.3s,mb5.1
QIZ Qiongzhong 55.66 88 *e*P **P 23 25 25.0 -1.1**
QIZ S **S 23 33 11.3 +3.0**
QIZ LR LR
comp=Z,490nm,18.7s,MS4.6
DBIC Dimbokro 56.15 255 P **P 23 25 30.4 +0.7**
comp=Z,15nm,0.8s,mb5.1,baz=30,slow=9.7,SNR=26
DBIC LR LR 23 53 03.3
comp=Z,2μm,18.4s,MS5.1,baz=35,slow=40
DBIC Dimbokro 56.15 255 P **P 23 25 30.4 +0.7**
DBIC pmax pmax
comp=Z,15nm,0.8s
DBIC MLR MLR
comp=Z,2μm,18.4s
DBIC Dimbokro 56.15 255 ⇑ *i*P **P 23 25 30.0 +0.3**
comp=Z,33nm,1.1s,mb5.3
CLNS Chul'man 56.24 40 *e*P **P 23 25 32.0 +2.2**
CLNS *e**PP pP 23 25 36.7 -3.2
CLNS *e* 23 26 30.6
CLNS *e* 23 27 37.6
CLNS *e*SSS SSS 23 39 14.9 +2.8
CLNS pmax pmax
comp=Z,40nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,9.0nm,1.4s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=Z,13nm,1.7s,mb4.7
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS MLR MLR
comp=Z,900nm,14.0s,MS5.0
CLNS MLR MLR
comp=N,200nm,13.0s,MS5.0
CLNS MLR MLR
comp=E,700nm,12.0s,MS5.0
LIC Lamto 56.54 255 ⇑ *i*P **P 23 25 33.2 +0.7**
comp=E,82nm,0.9s,mb5.5
LIC *e*R
comp=E,1μm,21.2s
YAK Yakutsk 57.92 33 *e*P **P 23 25 39.6 -2.0**
YAK pmax pmax
comp=Z,41nm,1.0s,mb5.4
YAK MLR MLR
comp=Z,400nm,17.0s,MS4.6
DL2 Dalian 58.04 61 P **P 23 25 42.0 -0.8**
DL2 S **S 23 33 37.8 -1.6**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
DL2 LR LR
comp=N,270nm,14.1s,MS4.7
DL2 LR LR
comp=E,300nm,13.5s,MS4.7
DL2 LR LR
comp=Z,460nm,13.4s,MS4.8
NJ2 Nanjing 58.09 70 *e*P **P 23 25 43.3 +0.1**
NJ2 AP pP 23 25 54.5 +1.2
NJ2 XP sP 23 25 57.0 -0.2
NJ2 PP PP 23 27 54.0 +0.4
NJ2 S **S 23 33 41.0 +0.8**
NJ2 XS 23 33 59.0
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,160nm,8.2s
NJ2 LR LR
comp=N,1μm,18.0s,MS5.4
NJ2 LR LR
comp=E,2μm,16.9s,MS5.4
NJ2 LR LR
comp=Z,1μm,15.3s,MS5.1
SUMG Summit 59.07 339 *e*P **P 23 25 49.8 +0.2**
comp=Z,34nm,0.9s,mb5.4
TSUM Tsumeb 59.23 215 *e*P **P 23 25 53.5 +2.1**
comp=Z,12nm,1.1s,mb4.8
CN2 Changchun 59.38 55 *e*P **P 23 25 53.3 +1.3**
CN2 *e*XP sP 23 26 01.8 -4.2
CN2 *e*S **S 23 33 58.0 +1.2**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,900nm,16.0s,MS5.2
CN2 LR LR
comp=E,1μm,16.0s,MS5.2
CN2 LR LR
comp=Z,1μm,18.0s,MS5.1
SSE Sheshan 60.29 70 P **P 23 25 54.5 -4.0**
SSE S **S 23 34 08.5 -0.2**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,160nm,4.4s
SSE LR LR
comp=N,200nm,20.8s,MS4.5
SSE LR LR
comp=E,330nm,20.8s,MS4.5
SSE LR LR
comp=Z,510nm,20.6s,MS4.7
LBTB Lobatse 61.01 204 *e*P **P 23 26 06.0 +2.6**
LBTB pmax pmax
comp=Z,20nm,0.7s,mb5.4
LBTB Lobatse 61.01 204 *e*P **P 23 26 06.0 +2.5**
comp=Z,20nm,0.7s,mb5.4
KLR Kul'dur 61.97 47 *e*P **P 23 26 04.7 -4.8**
KLR MLR MLR
comp=E,1μm,13.0s
KLR MLR MLR
comp=Z,6μm,13.0s
MDJ Mudanjiang 61.98 53 P **P 23 26 07.0 -2.7**
MDJ AP pP 23 26 10.0 -10
MDJ PCP PcP 23 26 49.0 -0.8
MDJ PP PP 23 28 23.5 -4.9
MDJ SCP 23 30 49.5
MDJ PCS 23 30 53.0
MDJ S **S 23 34 27.5 -2.5**
MDJ SCS ScS 23 35 58.5 +3.4
MDJ SS SS 23 38 35.0 +0.8
MDJ AMB AMB
comp=Z,10.0nm,2.5s,mb4.5
MDJ AMB AMB
comp=Z,160nm,5.0s
MDJ LR LR
comp=N,390nm,21.2s,MS4.6
MDJ LR LR
comp=E,190nm,21.2s,MS4.6
MDJ LR LR
comp=Z,160nm,24.4s,MS4.1
KS15 Wonju Array Si 63.17 61 *e*P **P 23 26 16.5 -1.3**
HABR Khabarovsk 64.27 47 *e*P **P 23 26 22.6 -2.1**
HABR MLR MLR
comp=Z,1μm,13.0s,MS5.3
SFJD Kangerlussuaq 64.61 335 LR LR 23 55 32.8
comp=Z,325nm,18.7s,MS4.5,baz=308,slow=37
SEY Seymchan 67.66 29 ⇑ *i*P **P 23 26 46.0 0.0**
JOW Kunigami 67.68 72 LR LR 00 00 21.7
comp=Z,470nm,19.1s,MS4.7,baz=308,slow=39
MA2 Magadan 68.47 32 P **P 23 26 50.8 -0.3**
MA2 S S 23 35 48.6 -0.6
MA2 *e*PS PS 23 36 10.0 -8.6
MA2 *e* 23 36 50.5
MA2 *e*SS SS 23 40 21.5 +6.7
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
MA2 MLR MLR
comp=Z,900nm,26.0s,MS4.9
BILL Bilibino 69.93 21 *e*P **P 23 27 00.0 0.0**
BILL pmax pmax
comp=Z,21nm,0.9s,mb5.1
BILL Bilibino 69.93 21 *e*P **P 23 26 60.0 0.0**
comp=Z,21nm,0.9s,mb5.1
ASAJ Asahikawa 70.79 50 LR LR 00 00 41.4
comp=Z,492nm,18.7s,MS4.8,baz=181,slow=38
RES Resolute Bay 70.97 350 *e*P **P 23 27 06.4 +0.1**
RES pmax pmax
comp=Z,51nm,1.9s,mb5.1
RES Resolute Bay 70.97 350 *e*P **P 23 27 06.3 +0.1**
comp=Z,52nm,1.9s,mb5.1
MJAR Matsushiro Arr 71.11 58 P **P 23 27 10.2 +2.5**
comp=Z,2.4nm,0.9s,mb4.1,baz=297,slow=11,SNR=4.7
MJAR LR LR 00 01 15.6
comp=Z,446nm,18.0s,MS4.8,baz=285,slow=38
SCHQ Schefferville 77.57 328 P **P 23 27 44.7 0.0**
comp=Z,8.7nm,0.6s,mb4.9,baz=51,slow=8.1,SNR=14
SCHQ LR LR 00 02 01.6
comp=Z,126nm,18.7s,MS4.3,baz=326,slow=36
SCHQ Schefferville 77.57 328 *e*P **P 23 27 45.1 +0.4**
comp=Z,14nm,0.8s,mb5.0
TNA Tin City 78.59 15 *e*P **P 23 27 50.0 -0.1**
comp=Z,10nm,0.9s,mb4.8
INK Inuvik 79.96 1 *e*P **P 23 27 57.5 0.0**
INK pmax pmax
comp=Z,16nm,1.1s
INK Inuvik 79.96 1 *e*P **P 23 27 57.5 0.0**
comp=Z,16nm,1.1s,mb4.8
IMA2 Indian Mountai 80.65 9 *e*P **P 23 28 01.3 +0.1**
FX1 Attu Island--F 82.44 30 LR LR 00 13 42.3
comp=Z,23nm,18.8s,MS3.6,baz=162,slow=42
COLA College 82.51 7 *e*P **P 23 28 11.2 +0.3**

COLA					pmax		pmax		
	comp=Z,15nm,0.8s,mb5.1								
COLA	**College**	**82.51**	**7**	*eP*		**P**		**23 28 11.2**	**+0.3**
	comp=Z,15nm,0.8s,mb5.1								
ILAR	**Eielson Array**	**82.71**	**7**	P		**P**		**23 28 11.8**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.7,baz=313,slow=4.2,SNR=28								
ILAR				PP		PP		23 31 26.8	+2.9
	comp=Z,1.3nm,1.1s,baz=340,slow=7.5,SNR=4.1								
ILAR				PKKPbc				23 46 37.2	
	comp=Z,0.5nm,0.9s,baz=180,slow=6.3,SNR=4.6								
MCK	**McKinley**	**83.50**	**8**	*eP*		**P**		**23 28 16.1**	**+0.2**
MCK					pmax		pmax		
	comp=Z,15nm,1.0s,mb5.0								
MCK	**McKinley**	**83.50**	**8**	*eP*		**P**		**23 28 16.1**	**+0.1**
	comp=Z,15nm,1.0s,mb5.0								
DAWY	**Dawson**	**84.00**	**4**	*eP*		**P**		**23 28 19.7**	**+1.3**
FCC	**Fort Churchill**	**84.50**	**342**	*eP*		**P**		**23 28 22.2**	**+1.2**
FCC					pmax		pmax		
	comp=Z,15nm,1.0s,mb5.1								
FCC	**Fort Churchill**	**84.50**	**342**	*eP*		**P**		**23 28 22.2**	**+1.2**
	comp=Z,15nm,1.0s,mb5.1								
YKA	**Yellowknife Ar**	**84.91**	**352**	P		**P**		**23 28 22.8**	**-0.1**
	comp=Z,7.0nm,1.0s,mb4.8,baz=17,slow=5.6,SNR=37								
YKA				LR		LR		00 09 46.8	
	comp=Z,255nm,19.8s,MS4.6,baz=215,slow=38								
YKA	**Yellowknife Ar**	**84.91**	**352**	*i P*		**P**		**23 28 23.1**	**+0.1**
YKA					pmax		pmax		
	comp=Z,7.0nm,1.0s								
YKA	**Yellowknife Ar**	**84.91**	**352**	P		**P**		**23 28 22.8**	**-0.1**
SML	**Sawmill**	**85.44**	**8**	*eP*		**P**		**23 28 26.3**	**+0.7**
PMR	**Palmer**	**85.55**	**9**	*eP*		**P**		**23 28 28.0**	**+1.9**
PMR					pmax		pmax		
	comp=Z,39nm,1.4s,mb5.4								
PMR	**Palmer**	**85.55**	**9**	*eP*		**P**		**23 28 28.0**	**+1.8**
	comp=Z,39nm,1.4s,mb5.5								
DIV	**Divide**	**86.39**	**7**	*eP*		**P**		**23 28 31.7**	**+1.4**
	comp=Z,180nm,1.2s								
SLKM	**Skilak Lake**	**86.45**	**9**	*eP*		**P**		**23 28 31.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**88.54**	**112**	*eP*		**P**		**23 28 43.5**	**+1.9**
	comp=Z,5.6nm,0.8s,mb5.0								
DLBC	**Dease Lake**	**89.88**	**360**	*eP*		**P**		**23 28 49.5**	**+2.4**
KAKA	**Kakadu**	**91.08**	**104**	*eP*		Px		23 29 16.9	
	comp=Z,4.7nm,0.6s								
ULM	**Lac du Bonnet**	**92.41**	**338**	P		**P**		**23 28 59.4**	**+0.4**
	comp=Z,4.9nm,1.0s,mb4.8,baz=41,slow=11,SNR=3.4								
WRA	**Warramunga Arr**	**96.44**	**109**	P		**P**		**23 29 18.3**	**+0.3**
	comp=Z,0.7nm,0.7s,mb4.2,baz=315,slow=4.0,SNR=7.4								
WRA	**Warramunga Arr**	**96.44**	**109**	*i* P		**P**		**23 29 19.7**	**+1.7**
WRA					pmax		pmax		
	comp=Z,1.0nm,0.7s								
WRAB	**Tennant Creek**	**96.45**	**109**	*i* P		**P**		**23 29 18.8**	**+0.7**
WB2	**Warramunga Arr**	**96.45**	**109**	*eP*		**P**		**23 29 18.0**	**-0.1**
TXAR	**Lajitas Array**	**113.73**	**334**	PKiKP				23 34 30.5	
	comp=Z,0.7nm,0.9s,baz=45,slow=1.8,SNR=4.8								
OTAV	**Otavalo**	**121.05**	**292**	*e*PKPdf		PKPdf		23 34 48.1	+7.4
LPAZ	**La Paz**	**121.38**	**270**	PKP		PKPdf		23 34 46.7	+5.5
	comp=Z,0.7nm,0.5s,baz=287,slow=1.2,SNR=5.2								
PLCA	**Paso Flores**	**131.50**	**242**	PKP		PKPdf		23 35 05.5	+5.4
	comp=Z,4.6nm,1.1s,baz=120,slow=9.7,SNR=3.4								
PLCA				SKPbc				23 38 28.3	
	comp=Z,1.5nm,0.9s,baz=150,slow=2.4,SNR=3.4								

*IDC **26** 23:32:44.9±23.0, 35.82N×71.10E, h149km±146km, mb3.3/3, mb1 3.4/6, mb1mx3.1/20, mbtmp3.8/6, ML3.8/3, Error ellipse: s-maj=207.5km s-min=44.4km az=4.0*
*NEIC **26** 23:32:57.7±1.5, 36.68N×71.18E, h226km±16km, mb4.0/11, Error ellipse: s-maj=20.9km s-min=5.4km az=58.0*
*NNC **26** 23:33:02.0±2.7, 37.11N×71.01E, h232km±24km, mb2.5, mpv3.6, Error ellipse: s-maj=25.6km s-min=15.1km az=6.0*
ISC 26 23:32:56.0±0.5, 36.67N±0.03×71.06E±0.08, h226km±7km, n45, σ0=92/50, mb3.3/3, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.92**	**166**	P		**P**		**23 33 47.0**	**+0.4**
CEP				S		**S**		**23 34 23.0**	**-2.8**
CHCP	**Chirah Chowk**	**3.50**	**148**	P		**P**		**23 33 55.0**	**+1.6**
THW	**Thamme Wali**	**3.90**	**172**	P		**P**		**23 33 58.3**	**+0.2**
SBDP	**Sheikh Budin**	**4.36**	**183**	P		**P**		**23 34 03.9**	**+0.2**
SARP	**Sargodha**	**4.92**	**164**	P		**P**		**23 34 10.2**	**-0.4**
AML	**Almayashu**	**5.83**	**20**	P		**P**		**23 34 22.9**	**+0.7**
	SNR=26								
UCH	**Uchtor**	**6.16**	**25**	P		**P**		**23 34 27.4**	**+0.9**
	SNR=10								
KZA	**Kyzart**	**6.30**	**30**	P		**P**		**23 34 28.8**	**+0.6**
	SNR=6.6								
EKS2	**Erkin-Say**	**6.34**	**18**	P		**P**		**23 34 29.6**	**+0.9**
	SNR=6.0								
KK31	**Karatay Array**	**6.44**	**356**	P		**P**		**23 34 30.0**	**0.0**
	0.9nm,0.2s,baz=186,slow=12,SNR=100								
KK31				⇑S		**S**		**23 35 40.0**	**-3.4**
	11nm,0.4s,baz=179,slow=17,SNR=29								
AAK	**Ala-Archa**	**6.52**	**23**	P		**P**		**23 34 32.1**	**+1.1**
	SNR=8.9								
AAK	**Ala-Archa**	**6.52**	**23**	*e*Pn		**P**		**23 34 30.8**	**-0.2**
	7.3nm,0.6s								
AAK				*e*Sn		**S**		**23 35 43.5**	**-1.6**
KBK	**Karagaybulak**	**6.69**	**25**	P		**P**		**23 34 34.9**	**+1.7**
	SNR=6.0								
ULHL	**Ulahol**	**6.86**	**34**	P		**P**		**23 34 35.7**	**+0.4**
	SNR=10								
TKM2	**Tokmak 2**	**7.16**	**28**	P		**P**		**23 34 40.0**	**+0.8**
	SNR=8.2								
TKM2	**Tokmak 2**	**7.16**	**28**	⇑P		**P**		**23 34 39.8**	**+0.7**
	3.8nm,0.5s								
TKM2				⇑S		**S**		**23 35 58.6**	**-1.1**
	13nm,0.8s								
KLP	**Kalpa**	**7.86**	**129**	*eP*		**P**		**23 34 47.5**	**-0.7**
KLP				AMb		AMB		23 34 49.6	
	comp=Z,10nm,0.3s								
KLP				*e*S		**S**		**23 36 11.9**	**-4.0**
MK31	**Makanchi Array**	**13.13**	**36**	⇑P		**P**		**23 35 55.4**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=221,slow=16,SNR=13								
MKAR	**Makanchi Array**	**13.13**	**36**	P		**P**		**23 35 54.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=217,slow=11,SNR=12								
MKAR	**Makanchi Array**	**13.13**	**36**	P		**P**		**23 35 54.2**	**-0.9**
KOLN	**Koldanda**	**13.82**	**126**	*eP*		**P**		**23 36 04.4**	**+0.7**
	comp=Z,4.1nm,0.3s								
GKN	**Gorkha**	**14.35**	**123**	*eP*		**P**		**23 36 10.6**	**+0.3**
	comp=Z,14nm,0.3s								
DMN	**Daman**	**14.92**	**123**	*eP*		**P**		**23 36 16.7**	**-0.6**
	comp=Z,8.6nm,0.4s								
KKN	**Kakani**	**14.93**	**122**	*eP*		**P**		**23 36 16.9**	**-0.4**
AB31	**Akbulak array**	**14.96**	**331**	⇓P		**P**		**23 36 16.3**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=146,slow=12,SNR=8.7								
KURK	**Kurchatov**	**15.06**	**19**	*e*Pn		**P**		**23 36 18.8**	**0.0**
	comp=Z,0.9nm,0.7s								
PKI	**Pulchoki**	**15.15**	**123**	*eP*		**P**		**23 36 20.1**	**0.0**
	comp=Z,5.6nm,0.3s								
GUN	**Gumba**	**15.26**	**121**	*eP*		**P**		**23 36 21.3**	**-0.1**
	comp=Z,9.7nm,0.4s								
JIRN	**Jiri**	**15.63**	**121**	*eP*		**P**		**23 36 26.4**	**+0.5**
	comp=Z,17nm,0.5s								
VOSK	**Vostochnaya**	**16.06**	**360**	P		**P**		**23 36 29.0**	**-1.8**
ZRNK	**Zerenda**	**16.35**	**356**	P		**P**		**23 36 33.9**	**-0.4**
ZRNK	**Zerenda**	**16.35**	**356**	*e*Pn		**P**		**23 36 34.5**	**+0.2**
	comp=Z,0.9nm,0.3s								
BVAR	**Borovoye Array**	**16.36**	**359**	P		**P**		**23 36 35.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=160,slow=10,SNR=12								
BRVK	**Borovoye**	**16.40**	**358**	*e*Pn		**P**		**23 36 35.7**	**+0.8**
	comp=Z,1.0nm,0.5s								
AKTK	**Aktyubinsk**	**16.66**	**330**	P		**P**		**23 36 37.9**	**0.0**
AKTO	**Aktyubinsk**	**16.66**	**330**	P		**P**		**23 36 36.7**	**-1.2**
AKTO	**Aktyubinsk**	**16.66**	**330**	P		**P**		**23 36 37.9**	**0.0**
	comp=Z,0.4nm,0.3s,baz=142,slow=11,SNR=11								
MALT	**Malatya**	**25.88**	**284**	*eP*		**P**		**23 38 03.0**	**-5.7**
FINES	**FINESS Array B**	**37.37**	**326**	P		**P**		**23 39 48.8**	**+0.5**
	comp=Z,1.7nm,1.0s,mb3.5,baz=100,slow=8.5,SNR=4.6								
NB2	**NORSAR Subarra**	**44.28**	**323**	P		**P**		**23 40 43.9**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.3,baz=95,slow=7.9								
NOA	**NORSAR Array B**	**44.28**	**323**	P		**P**		**23 40 44.2**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.2,baz=95,slow=7.9,SNR=3.4								
NOA	**NORSAR Array B**	**44.28**	**323**	P		**P**		**23 40 44.2**	**-0.2**
GUMO	**Guam**	**69.10**	**88**	*eP*		**P**		**23 43 38.3**	**-1.2**
	comp=Z,102nm,0.9s								
YKA	**Yellowknife Ar**	**81.08**	**3**	P		**P**		**23 44 47.5**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.0,baz=352,slow=5.3,SNR=14								
YKA	**Yellowknife Ar**	**81.08**	**3**	P		**P**		**23 44 47.5**	**+0.9**

*BJI **26** 23:37:30.0, 5.10N×75.90W, h120km, mB5.0*
*IDC **26** 23:37:30.7±1.1, 5.09N×75.91W, h129km±9km, mb4.0/20, mb1 4.2/21, mb1mx4.2/24, mbtmp4.4/21, MS2.8/1,*

Ms1 2.8/1, ms1mx2.6/18, Error ellipse: s-maj=15.7km s-min=9.0km az=63.0
*NEIC **26** 23:37:30.1±0.6, 5.08N×75.87W, h124km±5km, mb4.6/42, Error ellipse: s-maj=5.9km s-min=4.6km az=72.0*
NEIC Felt at Manizales and Pereira and in the Eje Cafetero.
ISC 26 23:37:29.8±0.6, 5.07N±0.04×75.91W±0.05, h135km±5km, n108, σ0=93/98, mb4.3/54, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.59**	**98**	P		**P**		**23 37 59.8**	**+0.2**
	466nm,0.3s,baz=312,slow=2.3,SNR=1618								
ROSC				S		**S**		**23 38 23.5**	**+1.1**
	154nm,0.3s,baz=111,slow=23,SNR=11								
ROSC				LR		LR		23 38 47.5	
	comp=Z,888nm,21.1s,baz=294,slow=48								
ROSC	**El Rosal**	**1.59**	**98**	P		**P**		**23 37 59.8**	**+0.2**
ROSC				S		**S**		**23 38 23.5**	**+1.1**
ROSC				LR		LR		23 38 47.5	
OTAV	**Otavalo**	**5.43**	**208**	*e*Pn		**P**		**23 38 50.1**	**+0.4**
	87nm,1.0s								
OTAV				*e*Sn		**S**		**23 39 51.4**	**-0.1**
SDV	**Santo Domingo**	**6.46**	**54**	P		**P**		**23 39 01.2**	**-2.5**
	23nm,0.3s,baz=248,slow=10,SNR=161								
SDV				S		**S**		**23 40 11.1**	**-5.5**
	52nm,0.3s,baz=72,slow=20,SNR=9.8								
SDV	**Santo Domingo**	**6.46**	**54**	*e*Pn		**P**		**23 39 01.2**	**-2.5**
	126nm,0.8s								
SDV				*e*Sn		**S**		**23 40 10.8**	**-5.8**
JTS	**JuntasAbangare**	**10.36**	**301**	*e*Pn		**P**		**23 39 56.7**	**+0.9**
	12nm,0.8s								
SJG	**San Juan**	**16.09**	**36**	P		**P**		**23 41 09.7**	**0.0**
	1.6nm,0.3s,baz=224,slow=12,SNR=4.2								
SJG				LR		LR		23 47 35.9	
	comp=Z,32nm,19.7s,baz=261,slow=38								
SJG	**San Juan**	**16.09**	**36**	*e*Pn		**P**		**23 41 07.5**	**-2.2**
	7.8nm,0.5s								
ARE	**Arequipa**	**21.83**	**169**	*eP*		**P**		**23 42 15.0**	**+2.8**
LPAZ	**La Paz**	**22.57**	**160**	P		**P**		**23 42 20.4**	**+0.9**
	8.0nm,0.4s,mb4.5,baz=337,slow=9.2,SNR=30								
LPAZ	**La Paz**	**22.57**	**160**	*eP*		**P**		**23 42 19.8**	**+0.3**
	9.4nm,0.6s,mb4.4								
SIV	**San Ignacio**	**25.56**	**145**	P		**P**		**23 42 46.9**	**-1.1**
	45nm,0.9s,mb5.1,baz=325,slow=9.9,SNR=162								
BDFB	**Brasilia**	**34.44**	**127**	P		**P**		**23 44 05.7**	**-0.9**
	17nm,0.5s,mb5.0,baz=298,slow=8.4,SNR=30								
BAO	**Brasilia Array**	**34.45**	**127**	P		**P**		**23 44 06.0**	**-0.7**
TXAR	**Lajitas Array**	**35.66**	**316**	P		**P**		**23 44 15.9**	**-0.9**
	1.3nm,0.5s,mb3.8,baz=131,slow=9.1,SNR=22								
TXAR				PcP		PcP		23 46 43.6	+1.0
	0.7nm,0.8s,baz=135,slow=7.1,SNR=4.5								
TXAR				ScP				23 50 18.6	
	0.2nm,0.7s,baz=148,slow=8.5,SNR=3.3								
CPUP	**Villa Florida**	**36.03**	**151**	*eP*		**P**		**23 44 17.0**	**-2.9**
	58nm,0.7s,mb5.3								
WMOK	**Wichita Mounta**	**36.33**	**327**	*eP*		**P**		**23 44 20.6**	**-1.8**
	3.1nm,0.7s,mb4.0								
CFAA	**Coronel Fontan**	**37.19**	**169**	P		**P**		**23 44 30.4**	**+0.8**
	2.0nm,0.6s,mb3.9,baz=345,slow=8.1,SNR=44								
CFAA	**Coronel Fontan**	**37.19**	**169**	P		**P**		**23 44 30.4**	**+0.8**
MNTX	**Cornudas Mount**	**38.27**	**317**	*eP*		**P**		**23 44 38.2**	**-0.4**
	6.6nm,0.9s,mb4.3								
ANMO	**Albuquerque**	**41.00**	**320**	P		**P**		**23 45 01.7**	**+0.6**
	1.0nm,0.5s,mb3.7,baz=151,slow=9.2,SNR=8.0								
RCBR	**Riachuelo**	**41.38**	**105**	*eP*		**P**		**23 45 03.2**	**-1.3**
	22nm,0.9s,mb4.8								
TUC	**Tucson**	**42.38**	**314**	*eP*		**P**		**23 45 13.0**	**+0.5**
	4.2nm,0.9s,mb4.1								
EYMN	**Ely**	**44.76**	**345**	*eP*		**P**		**23 45 30.4**	**-1.1**
	6.9nm,0.4s,mb4.6								
TRQA	**Tornquist**	**44.81**	**164**	*eP*		**P**		**23 45 31.6**	**-0.5**
	22nm,0.9s,mb4.8								
PLCA	**Paso Flores**	**45.84**	**174**	P		**P**		**23 45 40.4**	**+0.2**
	12nm,0.8s,mb4.6,baz=350,slow=8.3,SNR=17								
PLCA				PcP		PcP		23 47 15.3	-0.3
	2.0nm,0.6s,baz=336,slow=4.9,SNR=3.8								
PLCA	**Paso Flores**	**45.84**	**174**	*eP*		**P**		**23 45 40.5**	**+0.4**
	19nm,1.0s,mb4.7								
DAU	**Daniels Canyon**	**47.39**	**323**	*eP*		**P**		**23 45 52.6**	**+0.4**
TCUT	**Tonne Canyon**	**47.92**	**324**	*eP*		**P**		**23 45 56.2**	**-0.2**
PDAR	**Pinedale Array**	**47.93**	**327**	P		**P**		**23 45 55.9**	**-0.6**
	1.5nm,0.7s,mb3.7,baz=121,slow=7.9,SNR=12								
PDAR				ScP				23 51 06.8	
	0.7nm,1.1s,baz=90,slow=3.6,SNR=3.6								
ULM	**Lac du Bonnet**	**48.06**	**343**	P		**P**		**23 45 55.0**	**-2.3**
	1.7nm,0.7s,mb3.8,baz=165,slow=9.2,SNR=5.1								
SCHQ	**Schefferville**	**50.16**	**7**	P		**P**		**23 46 13.0**	**-0.3**
	4.1nm,0.9s,mb4.1,baz=245,slow=5.7,SNR=5.5								
NVAR	**Mina Array Bea**	**50.80**	**317**	P		**P**		**23 46 19.1**	**+0.6**
	2.9nm,0.8s,mb4.0,baz=118,slow=8.3,SNR=18								
NVAR				ScP				23 51 19.4	
	0.9nm,0.8s,baz=128,slow=5.2,SNR=5.2								
NVAR	**Mina Array Bea**	**50.80**	**317**	P		**P**		**23 46 19.1**	**+0.6**
NVAR				ScP				23 51 19.4	
EFI	**East Falkland**	**58.55**	**167**	P		**P**		**23 47 12.7**	**-1.7**
USHA	**Ushuaia**	**60.01**	**175**	P		**P**		**23 47 24.5**	**+0.1**
	13nm,0.8s,mb4.8,baz=25,slow=3.7,SNR=5.6								
YKA	**Yellowknife Ar**	**63.98**	**341**	P		**P**		**23 47 48.7**	**-2.0**
	0.6nm,0.6s,mb3.6,baz=133,slow=6.6,SNR=26								
YKA	**Yellowknife Ar**	**63.98**	**341**	P		**P**		**23 47 48.7**	**-2.0**
PMSA	**Palmer Station**	**70.21**	**175**	*eP*		**P**		**23 48 28.7**	**-1.1**
	20nm,0.7s,mb5.0								
LIC	**Lamto**	**70.50**	**85**	⇓*iP*		**P**		**23 48 31.1**	**-1.2**
	12nm,0.5s,mb4.6								
DBIC	**Dimbokro**	**70.64**	**85**	P		**P**		**23 48 32.0**	**-1.2**
	9.6nm,0.6s,mb4.7,baz=256,slow=6.7,SNR=39								
DBIC	**Dimbokro**	**70.64**	**85**	*eP*		**P**		**23 48 32.1**	**-1.1**
	7.7nm,0.7s,mb4.5								
ESDC	**Sonseca Array**	**72.90**	**50**	P		**P**		**23 48 46.3**	**+0.2**
	0.9nm,0.5s,mb3.8,baz=269,slow=5.6,SNR=17								
ESLA	**Sonseca Array**	**72.90**	**50**	*eP*		**P**		**23 48 45.7**	**-0.4**
	0.7nm,0.8s,mb3.4								
ROSF	**Rostrenen**	**74.71**	**41**	*eP*		**P**		**23 48 56.2**	**-0.2**
SJPF	**Ste Jean**	**75.38**	**47**	*eP*		**P**		**23 49 00.6**	**+0.3**
	22nm,0.9s,mb4.5								
ETSF	**Etsaut**	**75.84**	**47**	*eP*		**P**		**23 49 03.1**	**+0.2**
	5.6nm,0.8s,mb4.0								
GRR	**Gorron**	**76.31**	**42**	*eP*		**P**		**23 49 05.2**	**-0.2**
	9.9nm,0.5s,mb4.4								
EPF	**Esparros**	**76.51**	**47**	*eP*		**P**		**23 49 07.0**	**+0.3**
	11nm,0.6s,mb4.3								
MFF	**Saint Martin d**	**76.56**	**43**	*eP*		**P**		**23 49 06.8**	**-0.1**
	18nm,0.7s,mb4.5								
FLN	**La Foliniere**	**76.61**	**41**	*eP*		**P**		**23 49 07.0**	**-0.1**
	14nm,0.5s,mb4.5								
LDF	**La Druitiere**	**76.82**	**41**	*eP*		**P**		**23 49 08.0**	**-0.3**
	9.0nm,0.7s,mb4.2								
LFF	**La Frestale**	**76.99**	**45**	*eP*		**P**		**23 49 09.1**	**-0.2**
	18nm,0.7s,mb4.5								
ILAR	**Eielson Array**	**77.38**	**335**	P		**P**		**23 49 11.0**	**-0.1**
	0.3nm,0.7s,baz=141,slow=4.8,SNR=4.1								
RJF	**Les Rejaudoux**	**77.57**	**45**	*eP*		**P**		**23 49 12.3**	**-0.2**
	13nm,0.8s,mb4.3								
MTLF	**Montolieu**	**77.90**	**47**	*eP*		**P**		**23 49 14.2**	**-0.2**
	5.9nm,0.8s,mb4.0								
CAF	**Calviac**	**77.92**	**45**	*eP*		**P**		**23 49 14.3**	**-0.2**
TCF	**Toulx Ste Croi**	**78.14**	**44**	*eP*		**P**		**23 49 15.2**	**-0.4**
	3.7nm,0.7s,mb3.8								
HYF	**Humbligny**	**78.53**	**43**	*eP*		**P**		**23 49 17.5**	**-0.2**
BGF	**Bois d'Agland**	**78.61**	**44**	*eP*		**P**		**23 49 17.8**	**-0.3**
	16nm,0.8s,mb4.4								
AVF	**Avril sur Loir**	**78.97**	**43**	*eP*		**P**		**23 49 19.6**	**-0.5**
SMF	**Signal de Mont**	**79.30**	**44**	*eP*		**P**		**23 49 21.5**	**-0.4**
	7.6nm,0.8s,mb4.1								
LOR	**Lormes**	**79.35**	**43**	*eP*		**P**		**23 49 21.7**	**-0.5**
	3.8nm,0.5s,mb4.0								
VIVF	**Saint-Julien-l**	**79.77**	**45**	*eP*		**P**		**23 49 25.0**	**+0.5**
	2.8nm,0.5s,mb3.9								
GIVF	**Givet**	**80.19**	**40**	*eP*		**P**		**23 49 26.6**	**0.0**
MEZF	**Maizieres J'vi**	**80.23**	**42**	*eP*		**P**		**23 49 26.7**	**-0.2**
	9.2nm,0.4s,mb4.4								
ORIF	**Oris-en-Rattie**	**80.63**	**45**	*eP*		**P**		**23 49 30.0**	**+0.9**
	26nm,0.9s,mb4.5								
CABF	**La Chapelle**	**80.84**	**44**	*eP*		**P**		**23 49 31.1**	**+1.0**
LMR	**La Mourre**	**81.03**	**47**	*eP*		**P**		**23 49 31.3**	**+0.1**
HAU	**Haudompre**	**81.08**	**42**	*eP*		**P**		**23 49 30.8**	**-0.5**
FRF	**La Foret Royal**	**81.14**	**47**	*eP*		**P**		**23 49 31.8**	**0.0**
	17nm,1.0s,mb4.3								
HINF	**Hinteralfeld**	**81.41**	**43**	*eP*		**P**		**23 49 32.6**	**-0.5**
	3.9nm,0.7s,mb4.0								
CDF	**Champ du Feu**	**81.71**	**42**	*eP*		**P**		**23 49 34.4**	**-0.2**
	9.6nm,0.9s,mb4.1								
SBF	**Sospel**	**81.71**	**47**	*eP*		**P**		**23 49 34.9**	**+0.1**
	28nm,0.8s,mb4.6								
PGF	**Pioggiola**	**82.85**	**48**	*eP*		**P**		**23 49 41.2**	**+0.6**
	102nm,1.3s,mb5.1								
NB2	**NORSAR Subarra**	**84.20**	**29**	P		**P**		**23 49 48.1**	**+1.1**
	1.8nm,0.8s,mb3.9,baz=269,slow=5.0								
NOA	**NORSAR Array B**	**84.20**	**29**	P		**P**		**23 49 48.3**	**+1.4**
	1.6nm,0.7s,mb3.9,baz=272,slow=6.1,SNR=7.1								
NKC	**Novy Kostel**	**85.09**	**40**	*eP*		**P**		**23 49 53.5**	**+1.8**
CLL	**Collm**	**85.40**	**39**	P		**P**		**23 49 54.3**	**+1.1**
	logA/T=0.8,mb4.3								
CLL	**Collm**	**85.40**	**39**	*i* P		**P**		**23 49 54.3**	**+1.1**
	7.0nm,1.0s,mb4.3								
KHC	**Kasperske Hory**	**85.87**	**41**	*eP*		**P**		**23 49 56.9**	**+1.4**
GERES	**GERESS Array B**	**85.97**	**41**	P		**P**		**23 49 57.0**	**+1.0**
	3.1nm,0.8s,mb4.1,baz=252,slow=4.2,SNR=27								
BRG	**Berggiesshubel**	**86.01**	**39**	*i* P		**P**		**23 49 57.5**	**+1.3**
	3.7nm,0.8s,mb4.2								
PVCC	**Panska Ves**	**86.43**	**40**	*eP*		**P**		**23 49 59.6**	**+1.4**
PRU	**Pruhonice**	**86.45**	**40**	*eP*		**P**		**23 49 59.5**	**+1.2**
TREC	**Trest**	**87.11**	**41**	*eP*		**P**		**23 50 02.7**	**+1.2**
UPC	**Upice**	**87.35**	**40**	*eP*		**P**		**23 50 04.4**	**+1.8**
DPC	**Dobruska-Polom**	**87.56**	**40**	*eP*		**P**		**23 50 05.4**	**+1.8**
OKC	**Ostrava-Krasne**	**88.78**	**40**	*eP*		**P**		**23 50 09.8**	**+0.3**
ARCES	**ARCESS Array B**	**89.27**	**20**	P		**P**		**23 50 12.0**	**+0.7**
	8.0nm,1.1s,mb4.6,baz=342,slow=3.8,SNR=4.5								
SNAA	**Sanae**	**89.51**	**162**	P		**P**		**23 50 12.9**	**+0.5**
	2.1nm,0.5s,mb4.3,baz=267,slow=6.0,SNR=34								
SNAA	**Sanae**	**89.51**	**162**	*eP*		**P**		**23 50 13.0**	**+0.6**
	15nm,1.3s,mb4.8								
TSUM	**Tsumeb**	**94.93**	**109**	*eP*		**P**		**23 50 38.4**	**-0.1**
	18nm,1.7s,mb5.0								
SBA	**Scott Base**	**100.52**	**191**	Pdif		P		23 51 02.9	+0.3
VNDA	**Vanda**	**101.61**	**191**	*e*Pdif		P		23 51 08.1	+0.6
LBTB	**Lobatse**	**102.54**	**114**	*e*Pdif		Pdif		23 51 11.1	-1.7
MKAR	**Makanchi Array**	**124.87**	**18**	PKP		PKPdf		23 56 13.9	0.0
	0.4nm,0.5s,baz=313,slow=2.8,SNR=9.8								
MDJ	**Mudanjiang**	**125.50**	**338**	PKP		PKPdf		23 56 15.0	-0.2
SONM	**Songino Array**	**127.28**	**358**	PKP		PKPdf		23 56 19.8	+1.2
	0.5nm,0.8s,baz=72,

PPM				*i* S		Sn	23 52 52.1	-3.3

IDC **26** *23:51:04.0±4.5,6.18S×149.94E,h62km±39km,mb3.6/7, mb1 3.9/9,mb1mx3.9/14,mbtmp4.0/9,ML3.8/2,MS3.3/4, Ms1 3.3/4,ms1mx3.0/19,Error ellipse: s-maj=29.5km s-min=21.8km az=63.0*

NEIC **26** *23:51:03.3±1.8,6.14S×149.93E,h52km±18km,mb4.7/4, Error ellipse: s-maj=18.1km s-min=10.7km az=92.0*

ISC 26 23:51:03.2±2.4,6.17S±0.08×149.9E±0.1,h66km±22km, n28,σ0§86/23,mb3.9/8,6D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.20**	**220**	P	**P**	**23 52 06.2**	**-0.1**
	44nm,0.3s,baz=30,slow=5.9,SNR=83						
PMG				S	**S**	**23 52 54.4**	**0.0**
	36nm,0.3s,baz=316,slow=4.7,SNR=13						
PMG				LR	LR	23 53 45.4	
	comp=Z,350nm,21.4s,baz=15,slow=38						
PMG	**Port Moresby**	**4.20**	**220**	*e*Pn	**P**	**23 52 06.1**	**-0.2**
PMG				*e*Sn	**S**	**23 52 55.9**	**+1.4**
HNR	**Honiara**	**10.49**	**109**	LR	LR	23 56 25.6	
	comp=Z,103nm,21.4s,baz=143,slow=31						
CTA	**Charters Tower**	**14.28**	**194**	P	**P**	**23 54 23.9**	**+0.4**
	0.2nm,0.3s,baz=32,slow=15,SNR=3.6						
CTA				LR	LR	23 59 36.6	
	comp=Z,113nm,20.7s,baz=50,slow=36						
CTA	**Charters Tower**	**14.28**	**194**	P	**P**	**23 54 23.9**	**+0.4**
CTA				LR	LR	23 59 36.6	
CTAO	**Charters Tower**	**14.28**	**194**	*e*Pn	**P**	**23 54 30.9**	**+7.4**
KAKA	**Kakadu**	**18.38**	**248**	*e*P	Px	23 55 33.9	
	10nm,0.4s						
GUMO	**Guam**	**20.25**	**346**	*e*Pn	**P**	**23 55 35.4**	**-0.3**
	168nm,1.3s						
WRAB	**Tennant Creek**	**20.37**	**226**	*e*P	**P**	**23 55 36.4**	**-0.5**
	16nm,0.6s						
WB2	**Warramunga Arr**	**20.37**	**226**	*e*P	**P**	**23 55 36.2**	**-0.8**
WRA	**Warramunga Arr**	**20.38**	**226**	P	**P**	**23 55 36.3**	**-0.7**
	7.5nm,0.8s,baz=51,slow=10,SNR=41						
DZM	**Mont Dzumac**	**22.50**	**136**	P	**P**	**23 55 58.6**	**+0.3**
	3.3nm,0.6s,mb3.8,baz=333,slow=9.0,SNR=4.8						
DZM				LR	LR	00 03 15.3	
	comp=Z,124nm,19.3s,baz=353,slow=33						
ASPA	**Alice Springs**	**23.21**	**220**	*e*P	**P**	**23 56 06.1**	**+0.9**
STKA	**Stephens Creek**	**26.72**	**196**	P	**P**	**23 56 36.9**	**-1.6**
	2.6nm,0.8s,mb3.8,baz=45,slow=8.8,SNR=3.6						
MA2	**Magadan**	**65.54**	**0**	*e*P	**P**	**00 01 41.8**	**0.0**
	4.8nm,0.6s,mb4.5						
SONM	**Songino Array**	**65.97**	**329**	P	**P**	**00 01 44.8**	**0.0**
	0.4nm,0.4s,mb3.6,baz=150,slow=5.5,SNR=7.7						
VNDA	**Vanda**	**71.59**	**177**	P	**P**	**00 02 18.7**	**-0.2**
	1.5nm,0.7s,mb3.9,baz=335,slow=7.8,SNR=6.8						
BILL	**Bilibino**	**74.94**	**6**	P	**P**	**00 02 40.0**	**+1.5**
	16nm,2.0s,mb4.4						
MKAR	**Makanchi Array**	**79.46**	**320**	P	**P**	**00 03 04.6**	**+0.4**
	0.2nm,0.5s,mb3.2,baz=93,slow=8.5,SNR=6.8						
MKAR	**Makanchi Array**	**79.46**	**320**	P	**P**	**00 03 04.6**	**+0.4**
ILAR	**Eielson Array**	**84.52**	**23**	P	**P**	**00 03 28.6**	**-1.4**
	0.6nm,0.6s,mb3.7,baz=247,slow=5.0,SNR=6.4						
SYO	**Syowa Base**	**91.41**	**200**	⇓P	**P**	**00 04 04.5**	**+1.6**
SYO	**Syowa Base**	**91.41**	**200**	⇓PcP	PcP	00 04 08.9	+4.9
SYO	**Syowa Base**	**91.41**	**200**	⇓sP	sP	00 04 30.1	+1.6
SYO	**Syowa Base**	**91.41**	**200**	⇓*e*P	**P**	**00 04 04.5**	**+1.6**
SYO				⇓*e*PcP	PcP	00 04 08.9	+4.9
SYO				⇓*e*sP	sP	00 04 30.1	+1.6
GERES	**GERESS Array B**	**123.64**	**327**	PKP	PKPdf	00 09 54.2	+0.7
	0.6nm,0.6s,baz=45,slow=1.9,SNR=6.2						
LPAZ	**La Paz**	**136.27**	**121**	PKP	PKPdf	00 10 19.7	+1.4
	1.0nm,0.7s,baz=36,slow=6.2,SNR=6.0						
BDFB	**Brasilia**	**152.01**	**141**	PKPbc	PKPdf	00 10 53.0	+7.9
	4.0nm,0.5s,baz=241,slow=2.9,SNR=7.3						

NEIC **27** *00:01:02.8±7.7,34.25N×69.44E,h14km±51km,mb4.0/3, Error ellipse: s-maj=27.3km s-min=9.3km az=58.0*

NNC **27** *00:01:09.7±6.8,34.68N×69.28E,h39km±93km,mb3.6, mpv4.1,Error ellipse: s-maj=56.8km s-min=41.6km az=69.0*

IDC **27** *00:01:11.4±19.0,34.60N×69.54E,h70km±128km,mb3.3/2, mb1 3.4/5,mb1mx3.2/20,mbtmp3.6/5,ML3.4/3,Error ellipse: s-maj=154.0km s-min=47.8km az=176.0*

ISC 27 00:01:04.8±2.0,34.35N±0.07×69.7E±0.1,h43km±20km, n25,σ1§21/30,mb3.6/2,2C-4D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**8.39**	**21**	P	**P**	**00 03 06.3**	**-0.2**
	SNR=24						
UCH	**Uchtor**	**8.74**	**24**	P	**P**	**00 03 14.5**	**+3.2**
	SNR=8.3						
KK31	**Karatay Array**	**8.77**	**4**	⇓P	**P**	**00 03 09.6**	**-2.1**
	6.4nm,0.7s,baz=194,slow=14,SNR=80						
KK31				⇑S	**S**	**00 04 45.7**	**-4.7**
	11nm,1.1s,baz=190,slow=21,SNR=4.2						
AAK	**Ala-Archa**	**9.09**	**23**	P	**P**	**00 03 15.6**	**-0.7**
	SNR=6.2						
AAK	**Ala-Archa**	**9.09**	**23**	*e*Pn	**P**	**00 03 16.7**	**+0.4**
	5.5nm,0.7s						
AAK				*e*Sn	**S**	**00 04 58.3**	**-0.2**
CHMS	**Chumysh**	**9.51**	**23**	P	**P**	**00 03 23.8**	**+1.9**
	SNR=6.5						
USP	**Ospenovka**	**9.67**	**21**	P	**P**	**00 03 23.7**	**-0.5**
	SNR=7.5						
TKM2	**Tokmak 2**	**9.73**	**27**	P	**P**	**00 03 25.1**	**0.0**
KOLN	**Koldanda**	**13.62**	**115**	*e*P	**P**	**00 04 18.0**	**+0.6**
	5.7nm,0.5s						
KOLN				*e*S	**S**	**00 06 46.6**	**-1.6**
GKN	**Gorkha**	**14.28**	**112**	*e*P	**P**	**00 04 26.4**	**+0.3**
	14nm,0.6s						
KKN	**Kakani**	**14.88**	**112**	*e*P	**P**	**00 04 34.5**	**+0.6**
	16nm,0.6s						
PKI	**Pulchoki**	**15.09**	**112**	*e*P	**P**	**00 04 37.3**	**+0.7**
	13nm,0.6s						
JIRN	**Jiri**	**15.65**	**111**	*e*P	**P**	**00 04 44.0**	**+0.2**
	7.7nm,0.4s						
JIRN				*e*S	**S**	**00 07 34.3**	**-1.6**
MK31	**Makanchi Array**	**15.68**	**34**	⇓P	**P**	**00 04 45.4**	**+1.4**
	1.6nm,0.8s,baz=215,slow=7.1,SNR=13						
MKAR	**Makanchi Array**	**15.68**	**34**	P	**P**	**00 04 46.6**	**+2.6**
	0.1nm,0.3s,baz=210,slow=9.8,SNR=12						
AB31	**Akbulak array**	**16.54**	**337**	P	**P**	**00 04 51.5**	**-3.5**
	1.3nm,0.5s,baz=158,slow=15,SNR=55						
AB31				⇓S	**S**	**00 07 48.1**	**-8.4**
	2.5nm,1.1s						
AKTK	**Aktyubinsk**	**18.20**	**336**	P	**P**	**00 05 14.7**	**-1.0**
AKTO	**Aktyubinsk**	**18.20**	**336**	⇓P	**P**	**00 05 16.5**	**+0.8**
	0.4nm,0.8s						
AKTO	**Aktyubinsk**	**18.20**	**336**	P	**P**	**00 05 14.7**	**-1.0**
	0.1nm,0.3s,baz=145,slow=16,SNR=3.0						
ZRNK	**Zerenda**	**18.60**	**359**	⇑P	**P**	**00 05 19.2**	**-1.4**
	1.8nm,0.8s						
ZRNK	**Zerenda**	**18.60**	**359**	*e*P	**P**	**00 05 18.8**	**-1.8**
	1.7nm,0.7s						
BVAR	**Borovoye Array**	**18.68**	**1**	P	**P**	**00 05 21.0**	**-0.5**
	0.3nm,0.3s,baz=188,slow=10,SNR=5.3						
AKASG	**Malin Array Be**	**33.50**	**312**	P	**P**	**00 07 41.8**	**-0.2**
	0.5nm,0.6s,mb3.7,baz=90,slow=7.0,SNR=5.5						
SFJD	**Kangerlussuaq**	**69.36**	**339**	*e*P	**P**	**00 12 10.6**	**+1.2**
YKA	**Yellowknife Ar**	**83.44**	**2**	P	**P**	**00 13 29.5**	**+1.1**
	0.5nm,0.8s,mb3.6,baz=348,slow=5.1,SNR=14						

NEIC **27** *00:24:59.2, 16.06N×97.14W,h8km,MD3.7(MEX),After MEX.*

MEX 27 00:24:59.2±1.1,16.06N×97.14W,h8km±12km,MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.01**	**289**	*i* P	Pb	00 25 15.5	-2.9
PNIG				*i* S	Sb	00 25 28.5	-3.2
HUIG	**Huatulco**	**1.03**	**106**	*i* P	Pb	00 25 16.1	-2.7
HUIG				*i* S	Sb	00 25 29.7	-2.6
VHO	**Vista Hermosa**	**1.08**	**21**	*i* P	Pb	00 25 16.6	-3.0
VHO				*i* S	Sb	00 25 30.3	-3.5
PLIG	**Platanillo**	**3.24**	**316**	*i* S	Sn	00 26 27.1	-3.5
PPM	**Popocatepetl**	**3.31**	**335**	*i* P	Pn	00 25 50.9	-1.6
PPM				*i* S	Sn	00 26 29.6	-2.8

KRSC 27 00:32:35.8±0.3,49.15N×155.74E,h59km±39km,ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.55**	**9**	*e*P	P	00 33 01.5	-0.3
SKR				*e*S	S	00 33 17.3	-3.6
GRL	**Gorelyy**	**3.71**	**23**	*e*P	P	00 33 33.6	+1.5
GRL				*e*S	S	00 34 16.2	+1.2
UGLR	**Uglovaya**	**4.50**	**24**	*e*P	P	00 33 45.2	+2.0
AVH	**Avacha**	**4.53**	**23**	*e*P	P	00 33 44.8	+1.2
SMAR	**Somma**	**4.55**	**24**	*e*P	P	00 33 46.0	+2.2
SDLR	**Sedlovina**	**4.58**	**24**	*e*P	P	00 33 44.6	+0.3
NLC	**Nalytchevo**	**4.62**	**28**	P	P	00 33 44.0	-0.9
GNL	**Ganaly**	**4.75**	**16**	*e*P	P	00 33 47.4	+0.7
SPN	**Mys Shipunski**	**4.79**	**33**	*e*P	P	00 33 46.7	-0.5
SPN				*e*S	S	00 34 39.2	-2.7
KBTR	**Krutoberegovo**	**8.27**	**29**	P	P	00 34 35.3	-0.2
KBTR	**Krutoberegovo**	**8.27**	**29**	*e*P	P	00 34 35.6	+0.1

IDC **27** *00:38:09.3±0.7,80.90N×3.82W,mb3.6/14,mb1 3.8/14, mb1mx3.8/22,mbtmp3.7/14,ML4.8/1,MS3.5/5,Ms1 3.4/5, ms1mx2.9/35,Error ellipse: s-maj=25.7km s-min=13.1km az=41.0*

BER **27** *00:38:10.9±7.5,81.70N×2.95E,h15km±951km,MD2.6, ML2.7,ML2.6(NAO)*

NAO **27** *00:38:12.4±6.3,80.76N×0.20E,ML2.6*

NEIC **27** *00:38:12.9±0.5,80.75N×4.70W,h25km,mb4.1/4,Error ellipse: s-maj=11.9km s-min=8.2km az=35.0*

ISC 27 00:38:07.7±0.5,80.66N±0.06×3.5W±0.3,h10km,n38, σ1§49/42,mb3.7/15,MS3.5/3,1D,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.25**	**115**	Pn	**Pn**	**00 38 58.2**	**-1.5**
KBS				Sn	**Sn**	**00 39 32.0**	**-7.0**
KBS	**Kingsbay**	**3.25**	**115**	*e*P	**Pn**	**00 38 58.1**	**-1.7**
KBS				*e*S	**Sn**	**00 39 32.4**	**-6.6**
KBS				AML	AML	00 39 32.7	
	comp=Z,53nm,0.6s						
SPA0	**Spitsbergen Ar**	**4.41**	**114**	Pn	**Pn**	**00 39 13.6**	**-2.7**
	baz=345,slow=7.9						
SPA0				Sn	**Sn**	**00 40 00.3**	**-8.0**
	baz=0.2,slow=14						
DAG	**Danmarks Havn**	**4.89**	**225**	⇓*i*P	**Pn**	**00 39 24.3**	**+1.2**
	comp=Z,19nm,0.6s						
JMIC	**Jan Mayen**	**9.80**	**190**	Pn	**P**	**00 40 32.4**	**+0.9**
	comp=Z,9.1nm,0.3s,baz=198,slow=1.1,SNR=3.5						
SCO	**Scoresbysund**	**11.11**	**213**	*i* P	**P**	**00 40 48.6**	**-0.8**
SCO				*e*S	**S**	**00 42 55.0**	**+0.2**
SUMG	**Summit**	**11.17**	**243**	*e*Pn	**P**	**00 40 47.2**	**-3.0**
	comp=Z,31nm,0.6s						
SUMG				*e*Sn	**S**	**00 42 52.6**	**-3.6**
ARA0	**ARCESS Array S**	**13.15**	**131**	P	**P**	**00 41 13.4**	**-3.4**
	baz=359,slow=6.9						
ARCES	**ARCESS Array B**	**13.15**	**131**	Pn	**P**	**00 41 15.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=336,slow=16,SNR=4.2						
ARCES				LR	LR	00 46 03.2	
	comp=Z,76nm,21.9s,baz=170,slow=36						
APA0	**Apatity Array**	**15.94**	**124**	P	**P**	**00 41 51.9**	**-1.2**
SFJD	**Kangerlussuaq**	**18.04**	**248**	P	**P**	**00 42 17.7**	**-1.8**
	comp=Z,1.6nm,0.3s,baz=351,slow=14,SNR=5.9						
SFJD				LR	LR	00 49 11.5	
	comp=Z,207nm,18.2s,baz=257,slow=37						
RES	**Resolute Bay**	**18.19**	**302**	*e*P	**P**	**00 42 15.7**	**-5.7**
	comp=Z,9.1nm,1.0s						
RES				*e*S	**S**	**00 45 25.2**	**-16**
NB2	**NORSAR Subarra**	**20.16**	**159**	P	**P**	**00 42 48.2**	**+3.7**
	comp=Z,2.0nm,0.7s,baz=354,slow=10						
NB2	**NORSAR Subarra**	**20.16**	**159**	Pn	**P**	**00 42 47.4**	**+2.9**
NOA	**NORSAR Array B**	**20.16**	**159**	P	**P**	**00 42 47.7**	**+3.2**
	comp=Z,1.3nm,0.9s,baz=343,slow=8.9,SNR=2.4						
NOA	**NORSAR Array B**	**20.16**	**159**	P	**P**	**00 42 47.7**	**+3.2**
JOF	**Joensuu**	**20.20**	**131**	*ep*	**P**	**00 42 52.5**	**+7.7**
	comp=Z,5.9nm,1.0s						
KAF	**Kangasniemi**	**20.39**	**138**	*ep*	**P**	**00 42 58.0**	**+11**
	comp=Z,3.3nm,0.8s						
FIA0	**FINESS Array S**	**21.02**	**139**	P	**P**	**00 42 54.8**	**+1.4**
	baz=352,slow=14						
FINES	**FINESS Array B**	**21.02**	**139**	P	**P**	**00 42 55.1**	**+1.7**
	comp=Z,0.9nm,0.6s,mb3.3,baz=320,slow=15,SNR=6.0						
HFS	**Hagfors**	**21.22**	**156**	P	**P**	**00 42 57.2**	**+1.8**
	baz=27,slow=7.4						
HFS	**Hagfors**	**21.22**	**156**	P	**P**	**00 42 59.4**	**+4.0**
	comp=Z,14nm,0.8s,mb4.3,slow=10,SNR=14						
INK	**Inuvik**	**28.74**	**324**	P	**P**	**00 44 05.4**	**-1.1**
	comp=Z,0.7nm,0.8s,mb3.4,baz=353,slow=7.1,SNR=2.4						
AKASG	**Malin Array Be**	**31.93**	**139**	P	**P**	**00 44 37.8**	**+2.8**
	comp=Z,1.0nm,0.7s,mb3.7,baz=348,slow=9.3,SNR=4.7						
YKA	**Yellowknife Ar**	**32.17**	**306**	P	**P**	**00 44 36.6**	**-0.3**
	comp=Z,0.8nm,1.0s,mb3.5,baz=8.9,slow=8.6,SNR=12						
GERES	**GERESS Array B**	**32.47**	**159**	P	**P**	**00 44 43.7**	**+4.0**
	comp=Z,0.7nm,0.7s,mb3.6,slow=8.0,SNR=4.3						
FCC	**Fort Churchill**	**32.74**	**285**	*e*P	**P**	**00 44 40.6**	**-1.4**
	comp=Z,4.1nm,1.0s,mb4.3						
AKTO	**Aktyubinsk**	**36.08**	**107**	LR	LR	01 02 40.0	
	comp=Z,77nm,18.8s,MS3.5,slow=41						
ULM	**Lac du Bonnet**	**41.23**	**283**	P	**P**	**00 45 53.5**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.6,baz=7.1,slow=8.1,SNR=2.6						
BRTR	**Keskin Array B**	**43.25**	**137**	P	**P**	**00 46 13.9**	**+3.7**
	comp=Z,1.2nm,1.0s,mb3.6,baz=346,slow=5.1,SNR=4.4						
MKAR	**Makanchi Array**	**43.53**	**84**	P	**P**	**00 46 14.2**	**+1.8**
	comp=Z,0.7nm,0.7s,mb3.5,baz=349,slow=7.5,SNR=11						
MALT	**Malatya**	**45.20**	**132**	*e*P	**P**	**00 46 29.2**	**+3.2**
	comp=Z,5.2nm,0.9s,mb4.4						
SONM	**Songino Array**	**46.25**	**61**	P	**P**	**00 46 34.8**	**+0.7**
	comp=Z,0.6nm,1.0s,mb3.5,baz=333,slow=3.3,SNR=3.9						
SONM				LR	LR	01 06 34.5	
	comp=Z,161nm,19.3s,MS4.0,baz=8.5,slow=37						
FX1	**Attu Island--F**	**46.69**	**3**	LR	LR	01 03 22.4	
	comp=Z,18nm,20.5s,MS3.0,baz=235,slow=33						
PDAR	**Pinedale Array**	**50.64**	**294**	P	**P**	**00 47 09.0**	**+0.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=45,slow=6.3,SNR=3.5						
PV01	**Paradox Valley**	**55.02**	**292**	*e*P	**P**	**00 47 42.5**	**+1.4**
NVAR	**Mina Array Bea**	**56.16**	**301**	P	**P**	**00 47 49.8**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.7,baz=44,slow=6.6,SNR=4.2						
TXAR	**Lajitas Array**	**62.89**	**285**	P	**P**	**00 48 36.0**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.8,baz=36,slow=5.1,SNR=7.8						

IDC **27** *00:55:27.7±1.2,42.62N×75.97E,mb3.8/4,mb1 4.0/7, mb1mx3.7/22,mbtmp3.9/7,ML4.1/3,Error ellipse: s-maj=20.6km s-min=13.2km az=162.0*

KNET **27** *00:55:29.9,42.70N×75.89E,h21km,ml3.9*

BJI **27** *00:55:30.6,43.18N×75.71E,h29km,ML4.1,Ms3.8, Msz3.8*

NNC **27** *00:55:31.1±0.3,42.85N×75.85E,h18km±2km,mb4.3, mpv4.5,Error ellipse: s-maj=4.4km s-min=2.1km az=169.0*

NEIC **27** *00:55:31.5±1.4,42.77N×75.78E,h24km±9km,mb3.7/1, Error ellipse: s-maj=13.8km s-min=9.0km az=171.0*

NEIC Felt [II] at Almaty, Kazakhstan.

MOS **27** *00:55:31.2±0.9,43.10N×75.59E,h10km,mb4.2/1,Error ellipse: s-maj=11.9km s-min=6.8km az=94.5*

MOS Felt (II) at Alma-Ata.

ISC 27 00:55:30.3±0.4,42.75N±0.03×75.91E±0.03,h30km±3km, n43,σ1§40/62,mb3.6/6,MS3.7/1,16C-14D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.29**	**308**	⇑P	**Pb**	**00 55 37.4**	**-0.1**
	3μm,0.2s						
TKM2				⇑S	**Sb**	**00 55 42.6**	**+0.1**
	14μm,0.1s						
TKM2	**Tokmak 2**	**0.29**	**308**	⇓P	**Pb**	**00 55 37.6**	**+0.1**
	1μm,0.3s						
TKM2				⇑S	**Sb**	**00 55 42.4**	**-0.1**
	11μm,0.6s						
ULHL	**Ulahol**	**0.56**	**154**	P	**Pb**	**00 55 40.7**	**-0.9**
	7μm,0.2s						
ULHL				⇑S	**Sb**	**00 55 48.3**	**-1.1**
	3μm,0.2s						
KBK	**Karagaybulak**	**0.71**	**263**	P	**Pb**	**00 55 44.4**	**+0.2**
	1μm,0.1s,SNR=2240						
KBK				⇓S	**Sb**	**00 55 54.5**	**+0.8**
	4μm,0.2s						
KZA	**Kyzart**	**0.83**	**216**	P	**Pn**	**00 55 45.9**	**0.0**
	413nm,0.1s,SNR=752						
KZA				⇓S	**Sb**	**00 55 57.1**	**+0.3**
	2μm,0.3s						
CHMS	**Chumysh**	**0.89**	**287**	P	**Pn**	**00 55 47.0**	**+0.2**
	395nm,0.2s,SNR=294						
CHMS				⇓S	**Sb**	**00 55 58.9**	**+0.4**
	2μm,0.2s						
KNDC	**Almaty**	**0.91**	**58**	⇓P	**Pn**	**00 55 48.5**	**+1.4**
	4μm,0.4s						
KNDC				⇑S	**Sb**	**00 56 01.2**	**+2.1**
	20μm,0.4s						
AAA	**Alma-Ata**	**0.93**	**55**	*i* PG	**Pn**	**00 55 47.9**	**+0.5**
AAA				*i* S	**Sn**	**00 56 00.4**	**+0.7**
AAA				pmax	pmax		
	comp=Z,2.0nm,0.1s						
AAA				smax			
	comp=N,7.0nm,0.1s						
AAA	**Alma-Ata**	**0.93**	**55**	*e*P	**Pn**	**00 55 48.0**	**+0.6**
AAK	**Ala-Archa**	**1.05**	**264**	⇓P	**Pn**	**00 55 49.9**	**+0.8**
	comp=N,865nm,0.3s,SNR=690						
AAK				⇑S	**Sn**	**00 56 04.0**	**+1.2**
	comp=N,3μm,0.4s						
AAK	**Ala-Archa**	**1.05**	**264**	*e*PG	**Pn**	**00 55 48.9**	**-0.2**
UCH	**Uchtor**	**1.15**	**244**	P	**Pn**	**00 55 51.6**	**+1.0**
	comp=N,123nm,0.1s,SNR=363						
UCH				⇑S	**Sn**	**00 56 07.2**	**+1.7**
	comp=N,886nm,0.3s						
USP	**Ospenovka**	**1.16**	**297**	P	**Pn**	**00 55 51.9**	**+1.3**
	comp=N,2μm,0.3s,SNR=2777						
USP				⇑S	**Sn**	**00 56 07.6**	**+2.0**
	comp=N,3μm,0.2s						
KSH	**Kashi**	**3.23**	**179**	P	**Pn**	**00 56 26.5**	**+6.3**
KSH				S	**Sn**	**00 57 14.0**	**+16**
KSH				Smax			
	comp=N,280nm,0.8s						
KSH				Smax			
	comp=E,270nm,0.6s						
MK31	**Makanchi Array**	**6.08**	**46**	⇓Pn	**Pn**	**00 57 02.2**	**+1.5**
	comp=E,14nm,0.4s,baz=222,slow=14,SNR=469						
MK31				⇑Lg		00 58 40.5	
	comp=E,39nm,0.7s,baz=222,slow=27,SNR=3.9						
MK31	**Makanchi Array**	**6.08**	**46**	⇓Pn	**Pn**	**00 57 02.2**	**+1.5**
	comp=E,14nm,0.4s						
MK31				Lg		00 58 40.5	
MKAR	**Makanchi Array**	**6.08**	**46**	Pn	**Pn**	**00 57 02.1**	**+1.4**
	comp=E,9.1nm,0.3s,baz=222,slow=14,SNR=400						
MKAR				Sn	**Sn**	**00 58 11.7**	**+1.7**
	comp=E,3.8nm,0.3s,baz=236,slow=24,SNR=4.1						
MKAR				Lg		00 58 42.1	
	comp=E,7.6nm,0.3s,baz=231,slow=33,SNR=6.2						
KURK	**Kurchatov**	**8.19**	**12**	⇓Pn	**P**	**00 57 29.1**	**-1.0**
	comp=E,3.6nm,0.7s						
KURK				⇓Lg		00 59 49.4	
	comp=E,94nm,1.0s						
KURK	**Kurchatov**	**8.19**	**12**	Pn	**P**	**00 57 29.1**	**-1.0**
KURK				Lg		00 59 49.4	
VOSK	**Vostochnaya**	**10.52**	**343**	⇑Pn	**P**	**00 57 59.8**	**-2.3**
	comp=E,1.5nm,0.5s						
VOSK				⇓Lg		01 00 58.5	
	comp=E,63nm,1.1s						
BVA0	**Borovoye Array**	**10.93**	**342**	⇓Pn	**P**	**00 58 04.9**	**-2.9**
	comp=E,0.4nm,0.4s,baz=146,slow=12,SNR=44						
BVA0				⇓Lg		01 01 11.6	
	comp=E,21nm,1.1s						
BVAR	**Borovoye Array**	**10.93**	**342**	Pn	**P**	**00 58 05.0**	**-2.7**
	comp=E,1.4nm,0.3s,baz=148,slow=13,SNR=22						
BVAR				Sn	**S**	**01 00 12.2**	**+2.2**
	comp=E,1.1nm,0.3s,baz=166,slow=18,SNR=4.2						
BVAR				Lg		01 01 15.9	
	comp=E,2.4nm,0.3s,baz=173,slow=25,SNR=6.0						
BRVK	**Borovoye**	**10.98**	**342**	*e*P	**P**	**00 58 05.8**	**-2.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BRVK	**Borovoye**	**10.98**	**342**	*e*Pn	**P**	**00 58 05.8**	**-2.7**
	comp=Z,2.9nm,0.5s						
ZRNK	**Zerenda**	**11.21**	**338**	⇑Pn	**P**	**00 58 09.0**	**-2.6**
	comp=Z,5.1nm,0.5s						
ZRNK				⇑Lg		01 01 21.9	
	comp=Z,34nm,0.9s						
ZRNK	**Zerenda**	**11.21**	**338**	*e*P	**P**	**00 58 09.0**	**-2.6**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZRNK	**Zerenda**	**11.21**	**338**	*e*Pn	**P**	**00 58 09.0**	**-2.6**
	comp=Z,6.4nm,0.5s						
CHKZ	**Chkalovo**	**11.49**	**344**	⇓Pn	**P**	**00 58 12.3**	**-3.1**
	comp=Z,2.5nm,0.4s						
CHKZ				⇑Lg		01 01 32.6	
	comp=Z,23nm,0.8s						
AB31	**Akbulak array**	**12.86**	**306**	⇑Pn	**P**	**00 58 31.4**	**-2.3**
	comp=Z,2.2nm,0.6s,baz=112,slow=15,SNR=46						
AB31				⇑Sn	**S**	**01 00 53.0**	**-3.8**
	comp=Z,1.6nm,0.5s,baz=112,slow=25,SNR=4.6						
AB31	**Akbulak array**	**12.86**	**306**	P	**P**	**00 58 31.4**	**-2.3**
AB31						01 00 53.0	
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AB31	**Akbulak array**	**12.86**	**306**	Pn	**P**	**00 58 31.4**	**-2.3**
	comp=Z,2.2nm,0.6s						
AB31				Sn	**S**	**01 00 53.0**	**-3.8**
NVS	**Novosibirsk**	**13.02**	**19**	*e*P	**P**	**00 58 35.0**	**-0.9**
NVS				*e*		01 00 55.2	
AKTK	**Aktyubinsk**	**14.48**	**308**	Pn	**P**	**00 58 53.7**	**-1.3**
**

*IDC **27** 01:00:10.1±1.9, 1.90N×96.65E, mb3.9/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, MS3.6/2, Ms1 3.6/2, ms1mx3.1/23, Error ellipse: s-maj=53.4km s-min=25.2km az=46.0*

*NEIC **27** 01:00:15.1±0.7, 1.94N×96.74E, h30km, mb4.4/4, Error ellipse: s-maj=16.0km s-min=8.4km az=211.0*

ISC 27 01:00:15.5±6.7, 2.0N±0.3×96.8E±0.4, h47km±52km, n16, σ0§62/15, mb4.2/8, MS3.6/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.24**	**70**	Pn	**P**	**01 00 51.2**	**+0.3**
	1.1nm,0.3s,baz=245,slow=8.1,SNR=7.3						
KULM	**Kulim**	**5.02**	**50**	*e*Pn	**P**	**01 01 29.8**	**-0.3**
JIRN	**Jiri**	**27.45**	**339**	*e*P	**P**	**01 06 00.2**	**+0.9**
PKI	**Pulchoki**	**27.65**	**338**	*e*P	**P**	**01 06 01.9**	**+0.8**
GUN	**Gumba**	**27.79**	**339**	*e*P	**P**	**01 06 02.5**	**+0.1**
GKN	**Gorkha**	**28.34**	**337**	*e*P	**P**	**01 06 06.0**	**-1.3**
	26nm,1.0s,mb4.8						
KOLN	**Koldanda**	**28.56**	**335**	*e*P	**P**	**01 06 08.7**	**-0.5**
WRA	**Warramunga Arr**	**42.79**	**122**	P	**P**	**01 08 10.4**	**-0.2**
	0.7nm,0.6s,mb3.6,baz=301,slow=9.2,SNR=9.2						
WRAB	**Tennant Creek**	**42.80**	**122**	*e*P	**P**	**01 08 10.9**	**+0.2**
	12nm,1.2s,mb4.5						
AAK	**Ala-Archa**	**45.10**	**337**	*e*P	**P**	**01 08 29.9**	**+0.9**
	2.4nm,1.1s,mb3.9						
MKAR	**Makanchi Array**	**46.36**	**346**	P	**P**	**01 08 38.7**	**-0.1**
	3.4nm,0.9s,mb4.3,baz=158,slow=7.9,SNR=16						
MKAR				LR	LR	01 31 59.1	
	comp=Z,61nm,19.7s,MS3.6,baz=127,slow=41						
MKAR	**Makanchi Array**	**46.36**	**346**	P	**P**	**01 08 38.7**	**-0.1**
MKAR				LR	LR	01 31 59.1	
SONM	**Songino Array**	**46.38**	**9**	P	**P**	**01 08 39.2**	**+0.2**
	0.8nm,0.4s,mb4.0,baz=190,slow=9.6,SNR=10						
SONM				PcP	PcP	01 10 13.8	0.0
	0.7nm,0.7s,baz=222,slow=1.7,SNR=5.1						
KURK	**Kurchatov**	**50.91**	**345**	*e*P	**P**	**01 09 13.9**	**0.0**
	4.2nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**55.35**	**341**	P	**P**	**01 09 46.0**	**-0.9**
	0.7nm,0.5s,mb3.9,baz=129,slow=7.7,SNR=4.0						
KMBO	**Kilima Mbogo**	**59.64**	**268**	LR	LR	01 32 46.1	
	comp=Z,58nm,18.4s,MS3.8,baz=84,slow=33						

*BJI **27** 01:54:33.8, 2.86N×95.80E, h7km, mb4.7*

*NEIC **27** 01:54:37.1±0.6, 2.55N×95.78E, h30km, mb4.5/9, Error ellipse: s-maj=14.3km s-min=6.8km az=213.0*

*IDC **27** 01:54:39.0±7.0, 2.64N×95.86E, h44km±60km, mb3.9/7, mb1 4.0/8, mb1mx3.7/17, mbtmp4.1/8, ML3.6/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/24, Error ellipse: s-maj=58.8km s-min=19.4km az=56.0*

ISC 27 01:54:35.7±0.9, 2.6N±0.1×95.79E±0.07, h33km, n20, σ0§59/22, mb4.4/16, MS3.7/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.14**	**86**	P	**P**	**01 55 25.1**	**+1.1**
	7.9nm,0.3s,baz=292,slow=6.4,SNR=24						
PSI				S	**S**	**01 56 00.8**	**0.0**
	5.8nm,0.3s,baz=155,slow=14,SNR=3.6						
PSI				LR	LR	01 56 59.8	
	comp=Z,348nm,18.1s,baz=264,slow=46						
PSI	**Prapat**	**3.14**	**86**	P	**P**	**01 55 25.1**	**+1.1**
PSI				S	**S**	**01 56 00.8**	**0.0**
PSI				LR	LR	01 56 59.8	
KULM	**Kulim**	**5.55**	**61**	*e*Pn	**Pn**	**01 55 57.7**	**-0.6**
JIRN	**Jiri**	**26.59**	**341**	*e*P	**P**	**02 00 13.7**	**+0.7**
	44nm,0.7s,mb5.1						
PKI	**Pulchoki**	**26.77**	**339**	*e*P	**P**	**02 00 15.1**	**+0.4**
	5.8nm,0.4s,mb4.4						
GUN	**Gumba**	**26.92**	**340**	*e*P	**P**	**02 00 16.8**	**+0.7**
	28nm,0.7s,mb4.9						
KKN	**Kakani**	**27.02**	**339**	*e*P	**P**	**02 00 17.0**	**0.0**
	24nm,0.9s,mb4.7						
GKN	**Gorkha**	**27.45**	**338**	*e*P	**P**	**02 00 21.4**	**+0.5**
	28nm,0.9s,mb4.8						
KOLN	**Koldanda**	**27.64**	**336**	*e*P	**P**	**02 00 22.8**	**+0.2**
	11nm,0.7s,mb4.6						
GTA	**Gaotai**	**36.85**	**5**	*e*P	**P**	**02 01 42.3**	**-0.6**
GTA				AP	pP	02 01 47.5	-5.1
GTA				XP	sP	02 01 51.0	-5.9
WRA	**Warramunga Arr**	**43.95**	**122**	P	**P**	**02 02 41.6**	**-0.3**
	1.2nm,0.5s,mb3.9,baz=298,slow=9.5,SNR=12						
AAK	**Ala-Archa**	**44.20**	**337**	*e*P	**P**	**02 02 44.1**	**+0.6**
	1.2nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**45.59**	**347**	P	**P**	**02 02 54.5**	**-0.1**
	2.6nm,0.5s,mb4.4,baz=153,slow=8.9,SNR=45						
SONM	**Songino Array**	**46.02**	**10**	P	**P**	**02 02 57.6**	**-0.4**
	2.1nm,0.6s,mb4.2,baz=192,slow=9.0,SNR=22						
ZRNK	**Zerenda**	**54.90**	**341**	*e*P	**P**	**02 04 04.1**	**-1.3**
	1.9nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**54.99**	**342**	*e*P	**P**	**02 04 05.1**	**-1.0**
	3.8nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**55.31**	**132**	P	**P**	**02 04 08.7**	**-0.1**
	3.0nm,1.0s,mb4.3,baz=298,slow=16,SNR=2.3						
FINES	**FINESS Array B**	**78.14**	**333**	P	**P**	**02 06 32.6**	**-0.5**
	5.2nm,1.2s,mb4.3,baz=68,slow=7.5,SNR=2.9						
FINES				LR	LR	02 42 27.0	
	comp=Z,36nm,19.9s,MS3.7,baz=43,slow=37						
ARCES	**ARCESS Array B**	**80.78**	**340**	P	**P**	**02 06 47.1**	**-0.1**
	4.5nm,1.0s,mb4.4,baz=79,slow=6.2,SNR=6.7						
GERES	**GERESS Array B**	**82.86**	**319**	P	**P**	**02 06 59.0**	**+0.6**
	0.6nm,1.1s,mb3.5,baz=90,slow=5.3,SNR=4.6						

*LDG **27** 03:16:52.1±0.1, 45.69N×6.40E, h2km, Md3.0/2, Ml2.6/21, Error ellipse: s-maj=0.9km s-min=0.8km az=99.0*

*STR **27** 03:16:52.3±0.3, 45.56N×6.59E, h10km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*ZUR **27** 03:16:52.5, 45.71N×6.43E, h10km, ML1.8/10*

*NEIC **27** 03:16:52.1, 45.69N×6.40E, h2km, ML2.6(LDG), ML2.6(STR), After LDG.*

*CSEM **27** 03:16:52.1±0.1, 45.68N×6.40E, h5km, ML2.6/19, Error ellipse: s-maj=0.9km s-min=0.8km az=147.0*

ISC 27 03:16:50.1±0.3, 45.71N±0.01×6.26E±0.02, h3km±2km, n77, σ1§18/184, 10C-2D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPL	**La Plagne**	**0.39**	**121**	*e*Pg	**Pg**	**03 16 58.4**	**+0.5**
LPL				*e*Sg	**Sg**	**03 17 02.0**	**-1.0**
	27nm,0.3s						
LPG	**La Plagne**	**0.41**	**122**	*e*Pg	**Pg**	**03 16 58.9**	**+0.6**
LPG				*e*Sg	**Sg**	**03 17 02.6**	**-1.1**
	33nm,0.3s						
GDM	**Grand'Maison**	**0.52**	**191**	Pg	**Pg**	**03 17 01.5**	**+1.0**
GDM				Sg	**Sg**	**03 17 08.9**	**+1.4**
EMV	**Vieux Emosson**	**0.57**	**52**	⇑*i*Pg	**Pg**	**03 17 02.3**	**+0.8**
EMV				*i* Sg	**Sg**	**03 17 09.1**	**+0.1**
GRN	**Grenoble**	**0.59**	**218**	Pg	**Pg**	**03 17 05.5**	**+3.5**
SALAN	**Lac Salanfe**	**0.66**	**49**	⇑*i*Pg	**Pg**	**03 17 04.0**	**+0.7**
SALAN				*e*Sg	**Sg**	**03 17 11.9**	**-0.2**
BNI	**Bardonecchia**	**0.72**	**156**	*e*Pn	**Pn**	**03 17 13.6**	**+6.7**
AIGLE	**Aigle**	**0.79**	**37**	*e*Pg	**Pg**	**03 17 06.8**	**+0.8**
GRYON	**Gryon**	**0.80**	**48**	*e*Pg	**Pg**	**03 17 06.6**	**+0.5**
GIMEL	**Gimel**	**0.82**	**0**	*e*Pg	**Pg**	**03 17 08.6**	**+2.1**
ORIF	**Oris-en-Rattie**	**0.84**	**199**	*e*Pg	**Pg**	**03 17 07.2**	**+0.3**
ORIF				*e*Sg	**Sg**	**03 17 18.9**	**+0.8**
	10nm,0.2s						
DIX	**Grande Dixence**	**0.88**	**65**	*e*Pg	**Pg**	**03 17 07.8**	**0.0**
DIX	**Grande Dixence**	**0.88**	**65**	*e*P	**Pg**	**03 17 07.9**	**+0.1**
CABF	**La Chapelle**	**0.91**	**353**	*e*Pn	**Pn**	**03 17 11.3**	**+1.8**
CABF				*e*Sg	**Sg**	**03 17 22.1**	**+1.8**
CABF				*e*Sn	**Sn**	**03 17 24.4**	**+1.2**
	35nm,0.2s						
CABF	**La Chapelle**	**0.91**	**353**	*e*Pg	**Pg**	**03 17 10.1**	**+1.9**
CABF				*e*Pn	**Pn**	**03 17 11.3**	**+1.8**
CABF				*e*Sg	**Sg**	**03 17 22.1**	**+1.8**
CABF				*e*Sn	**Sn**	**03 17 24.4**	**+1.2**
CABF	**La Chapelle**	**0.91**	**353**	*e*Pn	**Pn**	**03 17 11.3**	**+1.8**
CABF				*e*Sg	**Sg**	**03 17 22.1**	**+1.8**
CABF				*e*Sn	**Sn**	**03 17 24.4**	**+1.2**
	17nm,0.2s						
SENIN	**Lac Senin**	**0.97**	**48**	⇑*i*Pg	**Pg**	**03 17 09.7**	**+0.1**
MBDF	**Montbardon**	**1.05**	**160**	*e*Pn	**Pn**	**03 17 10.8**	**-0.8**
MBDF				*e*Sg	**Sg**	**03 17 23.7**	**-1.5**
	17nm,0.5s						
MBDF				*e*Sn	**Sn**	**03 17 25.3**	**-1.7**
LKBD	**Leukerbad**	**1.17**	**54**	*e*Pg	**Pg**	**03 17 13.4**	**0.0**
MMK	**Mattmark**	**1.24**	**74**	*e*Pg	**Pg**	**03 17 13.9**	**-1.0**
VIVF	**Saint-Julien-l**	**1.41**	**233**	*e*Pg	**Pg**	**03 17 19.5**	**+1.2**
VIVF				*e*Sn	**Sn**	**03 17 36.8**	**+0.7**
VIVF				*e*Sg	**Sg**	**03 17 38.8**	**+1.7**
	40nm,0.2s						
VIVF	**Saint-Julien-l**	**1.41**	**233**	*e*Pn	**Pn**	**03 17 18.2**	**+1.4**
VIVF				*e*Pg	**Pg**	**03 17 19.5**	**+1.2**
VIVF				*e*Sn	**Sn**	**03 17 36.8**	**+0.7**
VIVF				*e*Sg	**Sg**	**03 17 38.8**	**+1.7**
VIVF	**Saint-Julien-l**	**1.41**	**233**	*e*Pg	**Pg**	**03 17 19.5**	**+1.2**
VIVF				*e*Sn	**Sn**	**03 17 36.8**	**+0.7**
VIVF				*e*Sg	**Sg**	**03 17 38.8**	**+1.7**
	20nm,0.2s						
LOMF	**Lomont**	**1.68**	**13**	Pn	**Pn**	**03 17 21.5**	**+0.8**
SMRF	**Simiane la Rot**	**1.81**	**196**	*e*Pg	**Pg**	**03 17 25.4**	**-0.8**
SMRF				*e*Sg	**Sg**	**03 17 49.0**	**-1.2**
	1.5nm,0.3s						
PLDF	**La Plantade**	**1.86**	**279**	Pn	**Pn**	**03 17 26.2**	**+3.0**
SMF	**Signal de Mont**	**1.92**	**300**	*e*Pg	**Pg**	**03 17 29.6**	**+1.1**
SMF				*e*Sg	**Sg**	**03 17 54.5**	**+0.4**
	10nm,0.2s						
SMF	**Signal de Mont**	**1.92**	**300**	*e*Pn	**Pn**	**03 17 25.5**	**+1.4**
SMF				*e*Pg	**Pg**	**03 17 29.6**	**+1.1**
SMF				*e*Sg	**Sg**	**03 17 54.5**	**+0.4**
SMF	**Signal de Mont**	**1.92**	**300**	*e*Pg	**Pg**	**03 17 29.6**	**+1.1**
SMF				*e*Sg	**Sg**	**03 17 54.5**	**+0.4**
	5.2nm,0.2s						
BBS	**Basel-Blauen**	**1.95**	**26**	Pn	**Pn**	**03 17 25.3**	**+0.8**
HINF	**Hinteralfeld**	**2.14**	**11**	*e*Pg	**Pg**	**03 17 32.0**	**-0.9**
HINF				*e*Sn	**Sn**	**03 17 52.6**	**-2.1**
HINF				*e*Sg	**Sg**	**03 17 58.0**	**-3.5**
	4.6nm,0.2s						
HINF	**Hinteralfeld**	**2.14**	**11**	*e*Pn	**Pn**	**03 17 27.2**	**0.0**
HINF				*e*Pg	**Pg**	**03 17 32.0**	**-0.9**
HINF				*e*Sn	**Sn**	**03 17 52.6**	**-2.1**
HINF				*e*Sg	**Sg**	**03 17 58.0**	**-3.5**
HINF	**Hinteralfeld**	**2.14**	**11**	*e*Pg	**Pg**	**03 17 32.0**	**-0.9**
HINF				*e*Sn	**Sn**	**03 17 52.6**	**-2.1**
HINF				*e*Sg	**Sg**	**03 17 58.0**	**-3.5**
	2.3nm,0.2s						
FRF	**La Foret Royal**	**2.17**	**173**	*e*Pg	**Pg**	**03 17 31.7**	**-1.8**
FRF				*e*Sg	**Sg**	**03 17 58.2**	**-4.2**
	6.2nm,0.6s						
LBL	**Lubilhac**	**2.17**	**258**	Pn	**Pn**	**03 17 30.2**	**+2.5**
AGO	**Saint Agoulin**	**2.21**	**280**	Pn	**Pn**	**03 17 30.9**	**+2.7**
LOR	**Lormes**	**2.27**	**314**	*e*Pg	**Pg**	**03 17 35.6**	**+0.1**
LOR				*e*Sn	**Sn**	**03 17 58.0**	**0.0**
LOR				*e*Sg	**Sg**	**03 18 04.9**	**-0.9**
	16nm,0.4s						
LOR	**Lormes**	**2.27**	**314**	*e*Pn	**Pn**	**03 17 30.3**	**+1.2**
LOR				*e*Pg	**Pg**	**03 17 35.6**	**+0.1**
LOR				*e*Sn	**Sn**	**03 17 58.0**	**0.0**
LOR				*e*Sg	**Sg**	**03 18 04.9**	**-0.9**
LOR	**Lormes**	**2.27**	**314**	*e*Pg	**Pg**	**03 17 35.6**	**+0.1**
LOR				*e*Sn	**Sn**	**03 17 58.0**	**0.0**
LOR				*e*Sg	**Sg**	**03 18 04.9**	**-0.9**
	7.8nm,0.4s						
AVF	**Avril sur Loir**	**2.29**	**299**	*e*Pg	**Pg**	**03 17 36.1**	**+0.3**
AVF				*e*Sn	**Sn**	**03 17 58.4**	**+0.1**
AVF				*e*Sg	**Sg**	**03 18 06.2**	**0.0**
	13nm,0.4s						
AVF	**Avril sur Loir**	**2.29**	**299**	*e*Pn	**Pn**	**03 17 30.9**	**+1.6**
AVF				*e*Pg	**Pg**	**03 17 36.1**	**+0.3**
AVF				*e*Sn	**Sn**	**03 17 58.4**	**+0.1**
AVF				*e*Sg	**Sg**	**03 18 06.2**	**0.0**
AVF	**Avril sur Loir**	**2.29**	**299**	*e*Pg	**Pg**	**03 17 36.1**	**+0.3**
AVF				*e*Sn	**Sn**	**03 17 58.4**	**+0.1**
AVF				*e*Sg	**Sg**	**03 18 06.2**	**0.0**
	6.4nm,0.4s						
HAU	**Haudompre**	**2.29**	**2**	*e*Pg	**Pg**	**03 17 35.2**	**-0.7**
HAU				*e*Sn	**Sn**	**03 17 56.7**	**-1.8**
HAU				*e*Sg	**Sg**	**03 18 05.1**	**-1.4**
	11nm,0.2s						
HAU	**Haudompre**	**2.29**	**2**	*e*Pn	**Pn**	**03 17 29.7**	**+0.3**
HAU				*e*Pg	**Pg**	**03 17 35.2**	**-0.7**
HAU				*e*Sn	**Sn**	**03 17 56.7**	**-1.8**
HAU				*e*Sg	**Sg**	**03 18 05.1**	**-1.4**
HAU	**Haudompre**	**2.29**	**2**	*e*Pg	**Pg**	**03 17 35.2**	**-0.7**
HAU				*e*Sn	**Sn**	**03 17 56.7**	**-1.8**
HAU				*e*Sg	**Sg**	**03 18 05.1**	**-1.4**
	5.4nm,0.2s						
SSF	**Saint Saulge**	**2.33**	**306**	*e*Pg	**Pg**	**03 17 37.1**	**+0.4**
SSF				*e*Sn	**Sn**	**03 18 00.0**	**+0.5**
SSF				*e*Sg	**Sg**	**03 18 07.6**	**-0.2**
	3.8nm,0.2s						
SSF	**Saint Saulge**	**2.33**	**306**	*e*Pn	**Pn**	**03 17 31.4**	**+1.4**
SSF				*e*Pg	**Pg**	**03 17 37.1**	**+0.4**
SSF				*e*Sn	**Sn**	**03 18 00.0**	**+0.5**
SSF				*e*Sg	**Sg**	**03 18 07.6**	**-0.2**
SSF	**Saint Saulge**	**2.33**	**306**	*e*Pg	**Pg**	**03 17 37.1**	**+0.4**
SSF				*e*Sn	**Sn**	**03 18 00.0**	**+0.5**
SSF				*e*Sg	**Sg**	**03 18 07.6**	**-0.2**
	1.9nm,0.2s						
LASF	**Ste Croix**	**2.37**	**227**	*e*Pg	**Pg**	**03 17 36.9**	**-0.5**
LASF				*e*Sn	**Sn**	**03 17 59.2**	**-1.1**
LASF				*e*Sg	**Sg**	**03 18 07.6**	**-1.3**
	6.5nm,0.5s						
LASF	**Ste Croix**	**2.37**	**227**	*e*Pn	**Pn**	**03 17 31.4**	**+1.0**
LASF				*e*Pg	**Pg**	**03 17 36.9**	**-0.5**
LASF				*e*Sn	**Sn**	**03 17 59.2**	**-1.1**
LASF				*e*Sg	**Sg**	**03 18 07.6**	**-1.3**
LASF	**Ste Croix**	**2.37**	**227**	*e*Pg	**Pg**	**03 17 36.9**	**-0.5**
LASF				*e*Sn	**Sn**	**03 17 59.2**	**-1.1**
LASF				*e*Sg	**Sg**	**03 18 07.6**	**-1.3**
	3.2nm,0.5s						
BGF	**Bois d'Agland**	**2.52**	**291**	*e*Pg	**Pg**	**03 17 41.0**	**+0.6**
BGF				*e*Sn	**Sn**	**03 18 04.0**	**-0.2**
BGF				*e*Sg	**Sg**	**03 18 13.9**	**-0.1**
	16nm,0.4s						
BGF	**Bois d'Agland**	**2.52**	**291**	*e*Pn	**Pn**	**03 17 34.0**	**+1.4**
BGF				*e*Pg	**Pg**	**03 17 41.0**	**+0.6**
BGF				*e*Sn	**Sn**	**03 18 04.0**	**-0.2**
BGF				*e*Sg	**Sg**	**03 18 13.9**	**-0.1**
BGF	**Bois d'Agland**	**2.52**	**291**	*e*Pg	**Pg**	**03 17 41.0**	**+0.6**
BGF				*e*Sn	**Sn**	**03 18 04.0**	**-0.2**
BGF				*e*Sg	**Sg**	**03 18 13.9**	**-0.1**
	7.8nm,0.4s						
CDF	**Champ du Feu**	**2.79**	**14**	*e*Pg	**Pg**	**03 17 43.9**	**-1.9**
CDF				*e*Sn	**Sn**	**03 18 08.3**	**-2.8**
CDF				*e*Sg	**Sg**	**03 18 19.7**	**-3.2**
	4.5nm,0.3s						
CDF	**Champ du Feu**	**2.79**	**14**	*e*Pn	**Pn**	**03 17 35.7**	**-0.8**
CDF				*e*Pg	**Pg**	**03 17 43.9**	**-1.9**
CDF				*e*Sn	**Sn**	**03 18 08.3**	**-2.8**
CDF				*e*Sg	**Sg**	**03 18 19.7**	**-3.2**
CDF	**Champ du Feu**	**2.79**	**14**	*e*Pg	**Pg**	**03 17 43.9**	**-1.9**
CDF				*e*Sn	**Sn**	**03 18 08.3**	**-2.8**
CDF				*e*Sg	**Sg**	**03 18 19.7**	**-3.2**
	2.2nm,0.3s						
TCF	**Toulx Ste Croi**	**2.88**	**283**	*e*Pg	**Pg**	**03 17 47.5**	**-0.1**
TCF				*e*Sn	**Sn**	**03 18 12.8**	**-0.6**
TCF				*e*Sg	**Sg**	**03 18 25.6**	**-0.4**
	2.2nm,0.3s						
TCF	**Toulx Ste Croi**	**2.88**	**283**	*e*Pn	**Pn**	**03 17 38.9**	**+1.1**
TCF				*e*Pg	**Pg**	**03 17 47.5**	**-0.1**
TCF				*e*Sn	**Sn**	**03 18 12.8**	**-0.6**
TCF				*e*Sg	**Sg**	**03 18 25.6**	**-0.4**
TCF	**Toulx Ste Croi**	**2.88**	**283**	*e*Pg	**Pg**	**03 17 47.5**	**-0.1**
TCF				*e*Sn	**Sn**	**03 18 12.8**	**-0.6**
TCF				*e*Sg	**Sg**	**03 18 25.6**	**-0.4**
	1.1nm,0.3s						
MEZF	**Maizieres J'vi**	**2.91**	**344**	*e*Pg	**Pg**	**03 17 46.9**	**-1.3**
MEZF				*e*Sn	**Sn**	**03 18 11.8**	**-2.3**
MEZF				*e*Sg	**Sg**	**03 18 25.2**	**-1.8**
	7.6nm,0.4s						
HYF	**Humbligny**	**2.94**	**303**	*e*Pg	**Pg**	**03 17 48.5**	**-0.4**
HYF				*e*Sn	**Sn**	**03 18 14.3**	**-0.7**
HYF				*e*Sg	**Sg**	**03 18 28.2**	**+0.1**
DAVA	**Damuels**	**2.96**	**57**	⇑*i*Pn	**Pn**	**03 17 43.4**	**+4.6**
DAVA	**Damuels**	**2.96**	**57**	⇓*i*Sn	**Sn**	**03 18 21.1**	**+5.8**
DAVA	**Damuels**	**2.96**	**57**	⇑Pn	**Pn**	**03 17 43.4**	**+4.6**
DAVA				Sn	**Sn**	**03 18 21.1**	**+5.8**
CAF	**Calviac**	**3.06**	**257**	*e*Pg	**Pg**	**03 17 49.5**	**-1.8**
CAF				*e*Sn	**Sn**	**03 18 16.7**	**-1.3**
	3.3nm,0.4s						
CAF				*e*Sg	**Sg**	**03 18 31.2**	**-0.9**
	2.4nm,0.3s						
CAF	**Calviac**	**3.06**	**257**	*e*Pn	**Pn**	**03 17 39.9**	**-0.5**
CAF				*e*Pg	**Pg**	**03 17 49.5**	**-1.8**
CAF				*e*Sn	**Sn**	**03 18 16.7**	**-1.3**
CAF				*e*Sg	**Sg**	**03 18 31.2**	**-0.9**
RJF	**Les Rejaudoux**	**3.36**	**265**	*e*Pg	**Pg**	**03 17 56.2**	**-1.0**
RJF				*e*Sn	**Sn**	**03 18 23.6**	**-1.9**
RJF				*e*Sg	**Sg**	**03 18 40.3**	**-1.7**
	1.5nm,0.3s						
MOTA	**Moosalm**	**3.72**	**62**	⇑*i*Pn	**Pn**	**03 17 50.5**	**+0.8**
MOTA	**Moosalm**	**3.72**	**62**	⇑*i*Sn	**Sn**	**03 18 35.8**	**+1.1**
MOTA	**Moosalm**	**3.72**	**62**	⇑Pn	**Pn**	**03 17 50.5**	**+0.8**
MOTA				Sn	**Sn**	**03 18 35.8**	**+1.1**
MOTA	**Moosalm**	**3.72**	**62**	Pn	**Pn**	**03 17 50.5**	**+0.8**
MOTA				Sn	**Sn**	**03 18 35.8**	**+1.1**
SQTA	**Sankt Quirin**	**3.74**	**64**	⇑*i*Pn	**Pn**	**03 17 51.2**	**+1.3**
SQTA	**Sankt Quirin**	**3.74**	**64**	⇓*i*Sn	**Sn**	**03 18 35.5**	**+0.4**
SQTA	**Sankt Quirin**	**3.74**	**64**	⇑Pn	**Pn**	**03 17 51.2**	**+1.3**
SQTA				Sn	**Sn**	**03 18 35.5**	**+0.4**
SQTA	**Sankt Quirin**	**3.74**	**64**	Pn	**Pn**	**03 17 51.2**	**+1.2**
SQTA				Sn	**Sn**	**03 18 35.5**	**+0.4**
GRR	**Gorron**	**5.55**	**301**	*e*Pn	**Pn**	**03 18 14.2**	**-1.4**

IDC 27 03:32:02.4±0.8, 6.78N×72.95W, h164km±12km, mb3.4/4, mb1 3.8/6, mb1mx3.4/20, mbtmp4.0/6, Error ellipse: s-maj=35.7km s-min=7.7km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.36**	**216**	P	P	03 32 43.3	+0.3
	66nm,0.3s,baz=93,slow=18,SNR=135						
ROSC				S	S	03 33 14.7	+0.5
	219nm,0.3s,baz=90,slow=19,SNR=24						
SDV	**Santo Domingo**	**3.10**	**48**	P	P	03 32 52.7	+0.5
	76nm,0.3s,baz=231,slow=5.5,SNR=1073						
SDV				S	S	03 33 30.3	-0.2
	22nm,0.3s,baz=17,slow=11,SNR=10.0						
LPAZ	**La Paz**		**23.41**	**168**	pP	03 37 31.0	
	1.3nm,0.7s,baz=339,slow=13,SNR=6.2						
SIV	**San Ignacio**		**25.50**	**153**	pP	03 37 48.9	-1.8
	1.3nm,0.8s,baz=332,slow=7.3,SNR=7.7						
TXAR	**Lajitas Array**	**36.61**	**312**	P	P	03 38 53.4	-1.2
	0.4nm,0.4s,baz=126,slow=9.3,SNR=11						
ULM	**Lac du Bonnet**	**47.38**	**340**	P	P	03 40 18.8	-2.8
	1.4nm,0.4s,baz=144,slow=6.3,SNR=7.2						
PDAR	**Pinedale Array**	**48.21**	**324**	P	P	03 40 26.6	-1.6
	0.6nm,0.6s,baz=128,slow=10,SNR=6.2						
YKA	**Yellowknife Ar**	**63.36**	**340**	P	P	03 42 13.9	-2.2
	1.1nm,0.5s,baz=133,slow=6.6,SNR=71						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPdf	03 51 35.2	+5.5
	0.3nm,0.4s,baz=108,slow=2.6,SNR=14						

*KISR **27** 03:36:26.9±0.4, 32.23N×49.17E, h20km±267km, ML2.8*

*TEH **27** 03:36:27.1, 32.04N×49.09E, h8km, Mn3.0*

*THR **27** 03:36:27.9±1.1, 32.28N×49.17E, h14km±10km, ML2.8*

*CSEM **27** 03:36:28.1±0.1, 32.28N×49.16E, h16km, ML2.8, Error ellipse: s-maj=2.2km s-min=1.2km az=118.0*

ISC 27 03:36:28.0±1.0, 32.24N±0.04×49.18E±0.05, h9km±7km, n20, σ0§66/27, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.35**	**247**	*e*Pg	**Pg**	**03 36 34.6**	**-0.5**
SHGR				*e*Sg	**Sg**	**03 36 41.1**	**+1.2**
IPIR	**Pirpir**	**1.51**	**73**	Pn	**Pn**	**03 36 55.5**	**+0.1**
IKLH	**Kalahroud**	**2.29**	**61**	Pn	**Pn**	**03 37 06.8**	**+0.3**
IKOM	**Komasi**	**2.38**	**325**	Pn	**Pn**	**03 37 08.0**	**+0.2**
ASAO	**Ashtian**	**2.41**	**17**	*e*Pn	**Pn**	**03 37 08.9**	**+0.7**
ASAO				*e*Sg	**Sg**	**03 37 42.7**	**-5.5**
ASAO				AML	AML	03 37 51.2	
	comp=N,55nm,0.5s						
IGAR	**Garneh**	**2.56**	**89**	Pn	**Pn**	**03 37 08.3**	**-2.1**
IZEF	**Zefreh**	**2.74**	**75**	Pn	**Pn**	**03 37 12.7**	**-0.3**
MIB	**Mutribah**	**2.90**	**213**	*e*P	**Pn**	**03 37 15.1**	**-0.1**
MIB				*e*

MKAR	**Makanchi Array**	**42.61**	**298**	P		**P**	**04 05 16.6**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=84,slow=10,SNR=24							
KURK	**Kurchatov**	**43.93**	**304**	*e*P		**P**	**04 05 26.5**	**-0.9**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb3.9							
KURK	**Kurchatov**	**43.93**	**304**	*e*P		**P**	**04 05 26.4**	**-1.0**
	comp=Z,2.4nm,0.8s,mb4.0							
ILAR	**Eielson Array**	**44.98**	**35**	P		**P**	**04 05 35.1**	**-0.5**
	comp=Z,1.0nm,1.1s,mb3.5,baz=257,slow=5.5,SNR=7.3							
JIRN	**Jiri**	**47.74**	**272**	*e*P		**P**	**04 05 59.5**	**+1.6**
GUN	**Gumba**	**47.84**	**272**	*e*P		**P**	**04 05 59.2**	**+0.5**
	comp=Z,21nm,0.4s							
CHKZ	**Chkalovo**	**47.90**	**310**	*e*P		**P**	**04 05 57.8**	**-1.0**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.0							
CHKZ	**Chkalovo**	**47.90**	**310**	*e*P		**P**	**04 05 57.8**	**-1.0**
	comp=Z,0.9nm,0.4s,mb4.0							
BVAR	**Borovoye Array**	**48.22**	**309**	P		**P**	**04 06 01.0**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.0,baz=79,slow=9.9,SNR=7.8							
KKN	**Kakani**	**48.35**	**272**	*e*P		**P**	**04 06 02.4**	**-0.3**
DMN	**Daman**	**48.58**	**272**	*e*P		**P**	**04 06 04.8**	**+0.4**
KOLN	**Koldanda**	**49.62**	**273**	*e*P		**P**	**04 06 12.6**	**+0.2**
	comp=Z,5.4nm,0.4s,mb4.8							
INK	**Inuvik**	**49.72**	**29**	P		**P**	**04 06 12.3**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=249,slow=4.7,SNR=6.1							
DLBC	**Dease Lake**	**54.31**	**40**	*e*P		**P**	**04 06 49.5**	**+2.3**
FINES	**FINESS Array B**	**65.09**	**332**	P		**P**	**04 08 00.2**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.0,baz=56,slow=7.2,SNR=12							
AKASG	**Malin Array Be**	**71.17**	**322**	P		**P**	**04 08 38.2**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.8,baz=44,slow=6.0,SNR=7.6							

MAN 27 05:24:39.1, 12.87N×123.18E, h16km, mb4.0, ML2.7, MS2.4, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.67**	**313**	*e*P	Pb	05 24 52.1	+0.2
PVCP	**Virac**	**1.20**	**52**	*e*P	Pb	05 24 59.7	-1.2
PVCP				*e*S	Sb	05 25 17.9	+1.9
OTRP	**Odiongan**	**1.23**	**246**	*e*P	Pb	05 24 58.4	-3.2
GQP	**Guinayangan**	**1.25**	**326**	↑*i*P	Pb	05 25 01.8	-0.2
GQP				*i* S	Sb	05 25 21.1	+3.4
RCP	**Roxas**	**1.36**	**198**	↑*e*P	Pn	05 25 02.9	-0.7
BOAC	**Boac**	**1.43**	**295**	*e*P	Pn	05 25 03.3	-1.3
BOAC				*e*S	Sb	05 25 23.2	+0.5
GUIM	**Jordan**	**2.30**	**195**	*e*P	Pn	05 25 16.7	-0.3

*NIED **27** 05:25:00, 23.50N×122.10E, h35km, Mw4.0 Best double couple: M0 1.25×10^15 NP1:φs 204°, δ73°, λ125°. NP2: φs 317°, δ39°, λ28°.*
*IDC **27** 05:25:14.4±1.1, 23.39N×122.10E, mb3.6/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML4.0/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/22, Error ellipse: s-maj=35.2km s-min=25.3km az=68.0*
*NEIC **27** 05:25:19.2±1.9, 23.43N×122.20E, h36km±20km, MG4.3(JMA), Error ellipse: s-maj=27.7km s-min=14.2km az=209.0*
*JMA **27** 05:25:20.1±0.3, 23.49N×122.12E, h75km, M4.3*
ISC 27 05:25:19.2±1.1, 23.44N±0.09×122.08E±0.04, h48km±10km, n23, σ1s01/35, mb3.5/5, MS3.2/1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.86**	**329**	*e*Pn	**P**	**05 25 34.7**	**-0.3**
NACB				*e*Sn	**S**	**05 25 45.5**	**-1.2**
YOJ	**Yonaguni jima**	**1.32**	**40**	P	**P**	**05 25 42.5**	**+0.8**
YOJ				S	**S**	**05 25 58.9**	**+0.4**
YHNB	**Yeheng**	**1.39**	**332**	*e*Pn	**P**	**05 25 43.3**	**+0.8**
YHNB				*e*Sn	**S**	**05 25 59.6**	**-0.3**
TATO	**Taipei**	**1.62**	**341**	*e*Pn	**P**	**05 25 47.1**	**+1.3**
TATO				*e*Sn	**S**	**05 26 06.1**	**+0.4**
HATJ	**Hateruma jima**	**1.69**	**68**	P	**P**	**05 25 47.4**	**+0.5**
HATJ				S	**S**	**05 26 07.8**	**+0.4**
IRIF	**Iriomote-Funau**	**1.75**	**59**	P	**P**	**05 25 48.4**	**+0.7**
IRIF				*e*S	**S**	**05 26 09.6**	**+0.7**
JKRS	**Kuro-shima**	**1.93**	**65**	P	**P**	**05 25 51.1**	**+0.9**
JKRS				S	**S**	**05 26 15.0**	**+1.6**
JIJ	**Ishigaki jima**	**2.10**	**64**	P	**P**	**05 25 52.3**	**-0.3**
JIJ				S	**S**	**05 26 16.8**	**-0.7**
JTJ	**Tarama**	**2.68**	**63**	P	**P**	**05 26 00.8**	**0.0**
JTJ				*e*S	**S**	**05 26 32.3**	**+0.1**
JMJ	**Miyako jima 2**	**3.24**	**64**	P	**P**	**05 26 08.7**	**-0.1**
JMJ				S	**S**	**05 26 45.7**	**-0.7**
JOGS	**Gusukube**	**3.31**	**66**	P	**P**	**05 26 09.9**	**+0.1**
JOGS				*e*S	**S**	**05 26 48.6**	**+0.3**
JKE	**Kume jima 2**	**5.15**	**55**	P	**P**	**05 26 33.8**	**-1.9**
JIH	**Iheya**	**6.42**	**55**	P	**P**	**05 26 51.3**	**-2.2**
JIH				*e*S	**S**	**05 28 03.0**	**-3.3**
JOW	**Kunigami**	**6.55**	**58**	Pn	**P**	**05 26 51.7**	**-3.6**
	6.4nm,0.3s,baz=218,slow=12,SNR=16						
JOW				Sn	**S**	**05 28 05.0**	**-4.5**
	3.9nm,0.3s,baz=115,slow=24,SNR=3.1						
JOW	**Kunigami**	**6.55**	**58**	P	**P**	**05 26 52.5**	**-2.8**
JTK	**Tokunoshima**	**7.56**	**58**	P	**P**	**05 27 05.7**	**-3.7**
CBIJ	**Chichi jima**	**18.54**	**74**	LR	LR	05 34 35.1	
	comp=Z,29nm,21.2s,baz=64,slow=30						
SONM	**Songino Array**	**27.37**	**337**	P	**P**	**05 31 01.2**	**-0.7**
	0.4nm,0.5s,mb3.2,baz=156,slow=8.5,SNR=4.4						
SONM				LR	LR	05 42 08.4	
	comp=Z,59nm,19.8s,MS3.2,baz=195,slow=37						
MKAR	**Makanchi Array**	**39.44**	**316**	P	**P**	**05 32 46.7**	**+0.5**
	0.3nm,0.6s,mb3.2,baz=101,slow=7.3,SNR=2.9						
MKAR				PcP	PcP	05 34 54.2	0.0
	0.5nm,0.8s,baz=106,slow=2.9,SNR=4.0						
MKAR	**Makanchi Array**	**39.44**	**316**	P	**P**	**05 32 46.7**	**+0.5**
MKAR				PcP	PcP	05 34 54.2	0.0
WRA	**Warramunga Arr**	**44.74**	**164**	P	**P**	**05 33 29.1**	**-0.8**
	0.8nm,0.6s,mb3.7,baz=345,slow=8.7,SNR=9.4						
ILAR	**Eielson Array**	**69.50**	**27**	P	**P**	**05 36 25.2**	**+0.9**
	0.3nm,0.8s,mb3.3,baz=284,slow=7.4,SNR=4.5						
YKA	**Yellowknife Ar**	**83.33**	**23**	P	**P**	**05 37 43.2**	**+1.2**
	0.8nm,0.7s,mb3.9,baz=310,slow=4.9,SNR=29						

*GUC **27** 05:58:48.6±0.9, 32.44S×71.54W, h66km±6km, ML5.0*
*IDC **27** 05:58:48.2±0.7, 32.40S×71.68W, h62km±6km, mb4.1/10, mb1 4.4/14, mb1mx4.2/18, mbtmp4.5/14, MS3.6/3, Ms1 3.5/3, ms1mx3.2/18, Error ellipse: s-maj=14.1km s-min=11.3km az=143.0*
*NEIC **27** 05:58:48.4±0.3, 32.41S×71.61W, mb4.6/7, Error ellipse: s-maj=8.2km s-min=3.4km az=77.0*
NEIC Felt [IV] at Cachagua, La Ligua, Los Andes and San Felipe; [III] at Illapel, Los Vilos, Salamanca, Santiago, Valparaiso and Vina del Mar.
ISC 27 05:58:47.0±0.3, 32.45S±0.02×71.76W±0.05, h62km, h62km±1.9km:pP-P, n73, σ1s07/77, mb4.4/16, 12C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.28**	**107**	*e*P	**P**	**05 58 58.9**	**+1.7**
CHNG	**Los Chungos**	**0.61**	**21**	↑*i*P	**P**	**05 59 02.0**	**+1.6**
CHNG				*i* S	**S**	**05 59 11.6**	**+1.3**
CHNG				AMP		05 59 13.2	
	comp=N,59μm,0.6s						
ROCH	**El Roble**	**0.81**	**130**	↑*i*P	**P**	**05 59 03.5**	**+0.6**
ILCH	**Illapel**	**0.95**	**32**	*e*P	**P**	**05 59 05.9**	**+1.2**
ILCH				*i* S	**S**	**05 59 18.8**	**+0.8**
ILCH				AMP		05 59 19.3	
	comp=N,225μm,0.2s						
JACH	**Jahuel**	**1.01**	**103**	↑*i*P	**P**	**05 59 05.5**	**+0.1**
LCCH	**Las Cruces**	**1.03**	**171**	↓*i*P	**P**	**05 59 07.3**	**+1.5**
PEL	**Peldehue**	**1.13**	**128**	↑*i*P	**P**	**05 59 07.7**	**+0.5**
PEL				*i* S	**S**	**05 59 21.5**	**-0.6**
PEL				AMP		05 59 22.8	
	comp=E,85μm,0.3s						
RCDM	**Rinconada Maip**	**1.30**	**143**	*e*P	**P**	**05 59 10.0**	**+0.3**
RCDM				*i* S	**S**	**05 59 25.6**	**-0.8**
RCDM				AMP		05 59 27.1	
	comp=N,36μm,0.1s						
SAN	**Santiago**	**1.36**	**138**	↑*i*P	**P**	**05 59 10.7**	**+0.3**
SAN				*i* S	**S**	**05 59 26.8**	**-0.9**
TACH	**Talagante**	**1.38**	**150**	*e*P	**P**	**05 59 11.5**	**+0.8**
CLCH	**Cerro Calan**	**1.39**	**133**	↓*i*P	**P**	**05 59 12.0**	**+1.1**
CLCH				*i* S	**S**	**05 59 28.8**	**+0.3**
CLCH				AMP		05 59 29.5	
	comp=N,74μm,0.5s						
CMCH	**Combarbala**	**1.43**	**27**	↓*i*P	**S**	**05 59 11.8**	**+0.5**
CMCH				*i* S	**S**	**05 59 29.3**	**0.0**
CMCH				AMP		05 59 33.2	
	comp=E,155μm,0.6s						
ANTU	**Antumapu**	**1.46**	**140**	*e*P	**P**	**05 59 12.1**	**+0.3**
ANTU				*i* S	**S**	**05 59 29.7**	**-0.3**
ANTU				AMP		05 59 30.4	
	comp=E,29μm,0.5s						
FCH	**Farellones**	**1.51**	**126**	↓*i*P	**P**	**05 59 12.6**	**+0.2**
FCH				*i* S	**S**	**05 59 30.7**	**-0.5**
FCH				AMP		05 59 31.8	
	comp=E,19μm,0.3s						
PCH	**Pirque**	**1.56**	**138**	*e*P	**P**	**05 59 13.5**	**+0.3**
SJCH	**San Jose de Ma**	**1.67**	**136**	*e*P	**P**	**05 59 14.1**	**-0.5**
SJCH				*i* S	**S**	**05 59 33.8**	**-1.2**
SJCH				AMP		05 59 34.5	
	comp=E,10μm,0.3s						
CHCH	**Chadas Angostu**	**1.74**	**148**	↓*i*P	**P**	**05 59 16.4**	**+0.7**
LMEL	**Las Melosas**	**1.91**	**137**	*e*P	**P**	**05 59 18.5**	**+0.7**
LMEL				*i* S	**S**	**05 59 41.0**	**+0.4**
LMEL				AMP		05 59 42.2	
	comp=N,24μm,0.2s						
CACH	**El Canelo**	**1.92**	**150**	↑*i*P	**P**	**05 59 19.3**	**+1.3**
CICH	**Cipreses**	**2.17**	**149**	↓*i*P	**P**	**05 59 22.5**	**+0.9**
SFDO	**San Fernando**	**2.24**	**164**	↓*i*P	**P**	**05 59 23.2**	**+0.6**
LSCH	**La Serena**	**2.58**	**10**	↑*i*P	**P**	**05 59 27.4**	**+0.1**
LSCH				*i* S	**S**	**05 59 56.7**	**-0.8**
LSCH				AMP		06 00 17.5	
	comp=E,4μm,0.3s						
CFAA	**Coronel Fontan**	**3.11**	**75**	P	**P**	**05 59 35.2**	**+0.4**
	comp=E,8.1nm,0.3s,baz=250,slow=12,SNR=885						
CFAA				S	**S**	**06 00 10.6**	**-0.3**
	comp=E,27nm,0.3s,baz=278,slow=12,SNR=8.3						
CFAA	**Coronel Fontan**	**3.11**	**75**	P	**P**	**05 59 35.2**	**+0.4**
CFAA				S	**S**	**06 00 10.6**	**-0.3**
CPCH	**Copiapo**	**5.22**	**14**	*e*P	**P**	**06 00 01.5**	**-2.9**
CDCH	**Caldera**	**5.42**	**9**	*e*P	**P**	**06 00 03.8**	**-3.3**
PLCA	**Paso Flores**	**8.32**	**174**	P	**P**	**06 00 46.2**	**-1.2**
	comp=E,4.4nm,0.3s,baz=339,slow=13,SNR=68						
PLCA				LR	LR	06 03 55.7	
	comp=E,161nm,19.7s,baz=229,slow=37						
PLCA	**Paso Flores**	**8.32**	**174**	*e*Pn	**P**	**06 00 46.1**	**-1.3**
	comp=E,25nm,0.6s						
TRQA	**Tornquist**	**9.75**	**128**	*e*Pn	**P**	**06 01 03.7**	**-3.3**
	comp=E,19nm,0.7s						
CPUP	**Villa Florida**	**13.97**	**68**	*e*Pn	**P**	**06 01 57.3**	**-6.2**
	comp=E,40nm,0.6s						
ARE	**Arequipa**	**15.92**	**1**	*e*P	**P**	**06 02 30.0**	**+1.4**
LPAZ	**La Paz**	**16.43**	**12**	P	**P**	**06 02 35.8**	**+0.9**
	comp=E,2.5nm,0.3s,baz=187,slow=7.9,SNR=102						
LPAZ	**La Paz**	**16.43**	**12**	*e*P	**P**	**06 02 35.2**	**+0.3**
	comp=E,35nm,0.7s						
SIV	**San Ignacio**	**19.04**	**33**	P	**P**	**06 03 03.8**	**-3.1**
	comp=E,1.5nm,0.3s,baz=223,slow=12,SNR=79						
EFI	**East Falkland**	**21.66**	**156**	*e*P	**P**	**06 03 33.2**	**-0.7**
	comp=E,32nm,0.8s,mb4.8						
USHA	**Ushuaia**	**22.49**	**175**	P	**P**	**06 03 44.2**	**+2.1**
	comp=E,22nm,0.6s,mb4.7,baz=352,slow=9.7,SNR=20						
BDFB	**Brasilia**	**27.29**	**58**	P	**P**	**06 04 24.4**	**-3.5**
	comp=E,9.1nm,0.5s,mb4.5,baz=237,slow=7.0,SNR=30						
BDFB				pP	pP	06 04 40.1	-2.7
	comp=E,11nm,0.7s,baz=266,slow=4.6,SNR=7.8						
BDFB				LR	LR	06 16 35.4	
	comp=E,173nm,19.0s,baz=253,slow=39						
BAO	**Brasilia Array**	**27.31**	**58**	P	**P**	**06 04 25.0**	**-3.1**
SDV	**Santo Domingo**	**41.12**	**2**	P	**P**	**06 06 27.1**	**+0.3**
VNA3	**Neumayer Olymp**	**50.70**	**158**	↓*i*	**P**	**06 07 41.4**	**-0.6**
VNA3	**Neumayer Olymp**	**50.70**	**158**	*e*	**P**	**06 07 50.0**	**+8.0**
VNA3	**Neumayer Olymp**	**50.70**	**158**	*e*	pP	06 07 56.7	-1.3
VNA2	**Neumayer--Watz**	**51.35**	**158**	↓*i*	**P**	**06 07 46.1**	**-0.8**
VNA2	**Neumayer--Watz**	**51.35**	**158**	*e*	**P**	**06 07 54.9**	**+8.0**
VNA2	**Neumayer--Watz**	**51.35**	**158**	*e*	pP	06 08 01.8	-1.1
SNAA	**Sanae**	**52.93**	**158**	↑*i*	**P**	**06 07 56.6**	**-2.1**
SNAA	**Sanae**	**52.93**	**158**	*e*	**P**	**06 08 04.8**	**+6.1**
SNAA	**Sanae**	**52.93**	**158**	P	**P**	**06 07 57.6**	**-1.1**
	comp=E,1.7nm,0.7s,mb4.1,baz=287,slow=7.8,SNR=25						
SNAA				pP	pP	06 08 13.8	-1.0
	comp=E,2.9nm,1.1s,baz=333,slow=11,SNR=4.0						
VNDA	**Vanda**	**65.66**	**191**	P	**P**	**06 09 25.8**	**-0.6**
	comp=E,1.8nm,1.0s,mb4.1,baz=280,slow=3.1,SNR=3.2						
VNDA	**Vanda**	**65.66**	**191**	P	**P**	**06 09 25.8**	**-0.6**
SYO	**Syowa Base**	**67.22**	**159**	↑P	**P**	**06 09 34.7**	**-1.6**
SYO	**Syowa Base**	**67.22**	**159**	↓pP	pP	06 09 50.3	-2.8
SYO	**Syowa Base**	**67.22**	**159**	↑sP	sP	06 09 57.5	-2.3
SYO	**Syowa Base**	**67.22**	**159**	↑*e*P	**P**	**06 09 34.7**	**-1.6**
SYO				↓*e*pP	pP	06 09 50.3	-2.8
SYO				↑*e*sP	sP	06 09 57.5	-2.3
TXAR	**Lajitas Array**	**68.51**	**330**	P	**P**	**06 09 45.1**	**+0.1**
	comp=E,1.9nm,0.6s,mb4.2,baz=156,slow=8.4,SNR=51						
SWET	**Sewanee**	**68.62**	**348**	*e*P	**P**	**06 09 43.5**	**-2.1**
OXF	**Oxford**	**68.65**	**344**	*e*P	**P**	**06 09 44.6**	**-1.2**
	comp=E,15nm,0.4s,mb5.3						
WVT	**Waverly**	**69.87**	**346**	*e*P	**P**	**06 09 52.2**	**-1.1**
	comp=E,14nm,0.8s,mb5.0						
DBIC	**Dimbokro**	**74.46**	**72**	P	**P**	**06 10 19.0**	**-2.0**
	comp=E,3.5nm,0.6s,mb4.4,baz=194,slow=7.6,SNR=10						
DBIC				pP	pP	06 10 36.4	-1.5
	comp=E,7.5nm,0.6s,baz=211,slow=6.1,SNR=9.9						
DBIC	**Dimbokro**	**74.46**	**72**	P	**P**	**06 10 19.0**	**-1.9**
DBIC				pP	pP	06 10 36.4	-1.5
ANMO	**Albuquerque**	**74.55**	**331**	*e*P	**P**	**06 10 21.3**	**+0.3**
	comp=E,1.7nm,0.9s,mb4.0						
MAW	**Mawson**	**74.59**	**164**	P	**P**	**06 10 20.4**	**-0.2**
	comp=E,2.6nm,0.4s,mb4.5,baz=210,slow=5.1,SNR=4.7						
SDCO	**Great Sand Dun**	**76.60**	**333**	*e*P	**P**	**06 10 33.7**	**+1.1**
	comp=E,3.9nm,0.8s,mb4.4						
TSUM	**Tsumeb**	**79.41**	**106**	LR	LR	06 40 19.5	
	comp=E,53nm,18.7s,baz=313,slow=31						
RSSD	**Black Hills**	**81.70**	**337**	*e*P	**P**	**06 11 00.1**	**0.0**
	comp=E,3.6nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**82.49**	**333**	P	**P**	**06 11 04.2**	**0.0**
	comp=E,0.5nm,0.6s,mb3.6,baz=141,slow=7.4,SNR=6.0						
NVAR	**Mina Array Bea**	**82.75**	**325**	P	**P**	**06 11 06.5**	**+0.9**
	comp=E,2.0nm,0.8s,mb4.2,baz=170,slow=5.9,SNR=16						
ULM	**Lac du Bonnet**	**85.07**	**345**	P	**P**	**06 11 16.1**	**-0.9**
	comp=E,2.3nm,0.7s,mb4.4,baz=112,slow=3.3,SNR=7.2						
YKA	**Yellowknife Ar**	**100.67**	**341**	P	P	06 12 27.6	-1.5
	comp=E,0.3nm,0.5s,baz=144,slow=4.6,SNR=18						
YKA				pP		06 12 45.9	
	comp=E,0.1nm,0.5s,baz=145,slow=4.5,SNR=2.5						
YKA	**Yellowknife Ar**	**100.67**	**341**	P	P	06 12 27.6	-1.5
YKA				pP		06 12 45.9	
WRA	**Warramunga Arr**	**122.22**	**209**	PKP	PKPdf	06 17 35.6	+0.2
	comp=E,1.5nm,0.6s,baz=166,slow=1.6,SNR=25						
WRA				pPKP		06 17 55.3	
	comp=E,0.6nm,0.5s,baz=154,slow=1.8,SNR=3.6						
AAK	**Ala-Archa**	**151.54**	**59**	*e*PKPbc	PKPdf	06 18 34.2	+6.6
MKAR	**Makanchi Array**	**155.55**	**47**	PKP	PKPdf	06 18 34.0	+1.0
	comp=E,0.2nm,0.8s,slow=1.2,SNR=3.5						
MKAR				PKPbc	PKPdf	06 18 43.4	+10
	comp=E,0.4nm,0.7s,baz=315,slow=1.7,SNR=4.7						
MKAR				PKPab	PKPab	06 19 00.2	-1.4
	comp=E,0.7nm,0.8s,baz=315,slow=1.7,SNR=5.3						
MKAR				pPKPab		06 19 18.0	
	comp=E,1.4nm,0.5s,baz=294,slow=2.9,SNR=18						

*THR **27** 06:02:08.7±0.8, 32.28N×49.18E, h14km±8km, ML2.5*
*CSEM **27** 06:02:08.3±0.2, 32.12N×49.20E, h20km, ML3.2/1, Error ellipse: s-maj=6.4km s-min=2.3km az=171.0*
*TEH **27** 06:02:09.7, 32.00N×49.18E, h21km, Mn3.1*
ISC 27 06:02:08.7±1.0, 32.1N±0.1×49.20E±0.08, h24km±16km, n16, σ0s94/21, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.34**	**280**	*e*Pg	**Pb**	**06 02 15.7**	**-0.6**
SHGR				*e*Sg	**Sb**	**06 02 21.8**	**+0.3**
IPIR	**Pirpir**	**1.56**	**66**	Pn	**Pn**	**06 02 35.5**	**0.0**
IKLH	**Kalahroud**	**2.37**	**57**	Pn	**Pn**	**06 02 47.5**	**+0.5**
IGAR	**Garneh**	**2.55**	**85**	Pn	**Pn**	**06 02 48.5**	**-1.1**
IKOM	**Komasi**	**2.55**	**327**	Pn	**Pn**	**06 02 49.9**	**+0.3**
ASAO	**Ashtian**	**2.58**	**15**	*e*Pn	**Pn**	**06 02 49.8**	**-0.3**
ASAO				*e*Sg	**Sn**	**06 03 23.3**	**+2.1**
ASAO				AML	AML	06 03 32.0	
	comp=N,23nm,0.6s						
ASAO	**Ashtian**	**2.58**	**15**	*e*Pn	**Pn**	**06 02 49.8**	**-0.3**
	SNR=52						
ASAO				*e*Sg	**Sn**	**06 03 23.3**	**+2.2**
	comp=N,23nm,0.6s,SNR=90						
IZEF	**Zefreh**	**2.77**	**71**	Pn	**Pn**	**06 02 53.1**	**+0.3**
NASN	**Na'in**	**3.14**	**75**	*e*Pn	**Pn**	**06 02 59.7**	**+1.8**
IRAZ	**Razeghan**	**3.40**	**10**	Pn	**Pn**	**06 03 05.1**	**+3.4**
SNGE	**Sanandaj**	**3.41**	**333**	*e*Pn	**Pn**	**06 03 00.8**	**-1.0**
SNGE				AML	AML	06 03 56.2	
	comp=N,15nm,0.5s						
ILIN	**Laeen**	**3.42**	**327**	Pn	**Pn**	**06 03 01.5**	**-0.4**
ISFB	**Sefidab**	**3.43**	**47**	Pn	**Pn**	**06 03 02.5**	**+0.4**
ISFB				Sn	**Sn**	**06 03 41.3**	**-1.1**
IDHR	**Dehrash**	**3.54**	**319**	Pn	**Pn**	**06 03 03.8**	**+0.1**
IVRN	**Varamin**	**3.62**	**35**	Pn	**Pn**	**06 03 05.1**	**+0.3**
IVRN				Sn	**Sn**	**06 03 45.8**	**-1.4**
IDMV	**Damavand**	**4.23**	**33**	Pn	**Pn**	**06 03 13.1**	**-0.4**

*CSEM **27** 06:02:50.7±0.9, 43.32N×13.60W, h2km, ML3.8/2, Error ellipse: s-maj=18.3km s-min=13.9km az=30.0*
MDD 27 06:02:48.2±3.0, 42.82N×14.12W, mbLg2.8/7, Error ellipse: s-maj=25.7km s-min=21.8km az=50.0, PRXIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.78**	**86**	P	Pn	06 03 46.5	-2.5
	SNR=4.0						
EMAZ				S	Sn	06 04 28.0	-6.9
	3.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**3.78**	**86**	P	Pn	06 03 46.5	-2.5
	0.8nm,0.1s,SNR=4.0						
EMAZ				S	Sn	06 04 28.0	-6.9
	3.5nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**4.07**	**98**	P	Pn	06 03 51.3	-1.8
	0.9nm,0.2s,SNR=7.9						
EZAM				S	Sn	06 04 35.8	-6.4
	2.5nm,0.2s,SNR=8.3						
STS	**Santiago**	**4.10**	**87**	P	Pn	06 03 51.3	-2.2
	4.9nm,0.1s,SNR=7.9						
STS				S	Sn	06 04 36.9	-6.0
	5.6nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**4.59**	**100**	P	Pn	06 03 58.5	-2.0
	0.1nm,0.2s,SNR=7.9						
ELOB				S	Sn	06 04 49.0	-6.5
	2.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**4.59**	**100**	P	Pn	06 03 58.5	-2.0
	0.1nm,0.2s,SNR=7.9						
ELOB				S	Sn	06 04 49.0	-6.4
	2.6nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**4.66**	**102**	*e*Sn	Sn	06 04 50.7	-6.4
	10.0nm,0.3s						
PCAB	**Cabril**	**4.66**	**102**	Sn	Sn	06 04 50.7	-6.4
	5.0nm,0.3s						
PVRL	**Vila Real**	**5.01**	**106**	*e*Sn	Sn	06 04 58.9	-7.2
	3.8nm,0.4s						
PVRL	**Vila Real**	**5.01**	**106**	*e*Sn	Sn	06 04 58.9	-7.2
	3.8nm,0.4s						
PVIS	**Viseu**	**5.11**	**112**	*e*Sn	Sn	06 05 01.4	-7.1
	3.2nm,0.1s						
PVIS	**Viseu**	**5.11**	**112**	*e*Sn	Sn	06 05 01.4	-7.1
	3.2nm,0.1s						
EPON	**Pontenova**	**5.13**	**82**	P	Pn	06 04 04.0	-4.2
	0.2nm,0.2s,SNR=112						
EPON				S	Sn	06 05 00.0	-9.0
	2.5nm,0.2s,SNR=9.4						
EPON	**Pontenova**	**5.13**	**82**	P	Pn	06 04 04.0	-4.2
	0.2nm,0.2s,SNR=112						
EPON				S	Sn	06 05 00.0	-9.0
	2.5nm,0.2s,SNR=9.4						
ERUA	**La Rua**	**5.17**	**92**	S	Sn	06 05 05.2	-4.8
	3.1nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**5.37**	**125**	*e*Sn	Sn	06 05 07.0	-7.9
	4.6nm,0.1s						
PTOM	**Tomar**	**5.37**	**125**	*e*Sn	Sn	06 05 07.0	-7.9
	4.6nm,0.1s						
MTE	**Manteigas**	**5.49**	**114**	*e*Sn	Sn	06 05 10.0	-8.1
ECAL	**Calabor**	**5.54**	**97**	S	Sn	06 05 12.4	-6.8
	3.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.54**	**97**	S	Sn	06 05 12.4	-6.9
	3.5nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**5.57**	**98**	*e*Sn	Sn	06 05 13.0	-6.9
PCBR	**Castelo Branco**	**5.82**	**119**	*e*Sn	Sn	06 05 18.7	-7.6
EARI	**Arriondas**

MMB	**Musomiste**	**4.85**	**30**	*i* P	**Pn**	**06 38 28.5**	**-1.8**
KKB	**Krupnik**	**4.87**	**23**	*i* P	**Pn**	**06 38 29.0**	**-1.5**
CDT	**Castel del Mon**	**4.93**	**319**	*e*Pn	**Pn**	**06 38 29.8**	**-1.6**
RZN	**Rozhen**	**5.36**	**36**	*i* P	**Pn**	**06 38 36.5**	**-0.9**
VTS	**Vitosha**	**5.57**	**21**	*i* P	**Pn**	**06 38 39.5**	**-0.9**

IDC 27 07:28:24.7±3.3, 26.77N×141.10E, h52km±33km, mb3.2/3, mb1 3.5/3, mb1mx3.2/18, mbtmp3.5/3, Error ellipse: s-maj=37.7km s-min=27.0km az=110.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.02**	**71**	P	P	07 28 43.8	+0.8
	35nm,0.3s,baz=203,slow=18,SNR=6.3						
CBIJ				S	S	07 28 56.1	-0.4
	40nm,0.3s,baz=261,slow=23,SNR=4.2						
WRA	**Warramunga Arr**	**46.90**	**189**	P	P	07 36 49.8	-2.2
	0.8nm,0.7s,baz=9.5,slow=8.6,SNR=9.1						
MKAR	**Makanchi Array**	**49.94**	**310**	P	P	07 37 12.7	-2.5
	0.1nm,0.3s,baz=95,slow=9.3,SNR=3.2						
YKA	**Yellowknife Ar**	**72.88**	**28**	P	P	07 39 48.3	-1.3
	0.3nm,0.7s,baz=296,slow=6.2,SNR=8.3						

NIED 27 08:28:00.24.50N×122.70E,h41km,Mw3.9 Best double couple: M0 8.32×10^14 NP1:φs 224°,δ74°,λ156°. NP2: φs 321°,δ67°,λ17°.
NEIC 27 08:28:30.2±1.0,24.39N×122.59E,h57km±11km, MG3.9(JMA),Error ellipse: s-maj=17.9km s-min=12.2km az=178.0
IDC 27 08:28:31.1±5.1,24.45N×122.61E,h66km±49km,mb3.2/4, mb1 3.5/5,mb1mx3.3/19,mbtmp3.6/5,ML3.9/1,Error ellipse: s-maj=34.3km s-min=22.8km az=66.0
JMA 27 08:28:31.3±0.2,24.48N×122.67E,h51km± 1km,M3.9
ISC 27 08:28:29.4±0.5, 24.38N±0.08×122.56E±0.03, h63km±6km, n16, σ0 91/27, mb3.4/4, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**78**	P	P	**08 28 40.6**	**-0.3**
YOJ				*e*S	S	08 28 47.1	-2.3
NACB	**Ninganchiao**	**0.91**	**257**	*i*Pn	P	**08 28 46.3**	**-0.3**
NACB				*e*Sn	S	**08 28 58.1**	**-1.3**
IRIF	**Iriomote-Funau**	**1.06**	**92**	P	P	**08 28 48.7**	**0.0**
IRIF				S	S	**08 29 02.5**	**-0.5**
YHNB	**Yeheng**	**1.12**	**285**	*i*Pn	P	**08 28 50.7**	**+1.2**
TATO	**Taipei**	**1.15**	**302**	*i*Pn	P	**08 28 50.8**	**+1.0**
TATO				*e*Sn	S	**08 29 06.4**	**+1.4**
HATJ	**Hateruma jima**	**1.18**	**105**	P	P	**08 28 50.6**	**+0.4**
HATJ				S	S	**08 29 06.8**	**+1.1**
JKRS	**Kuro-shima**	**1.33**	**96**	P	P	**08 28 52.7**	**+0.3**
JKRS				*e*S	S	**08 29 09.7**	**+0.3**
JIJ	**Ishigaki jima**	**1.44**	**90**	P	P	**08 28 53.6**	**-0.4**
JIJ				*e*S	S	**08 29 11.3**	**-0.8**
JTJ	**Tarama**	**1.96**	**82**	P	P	**08 29 01.6**	**+0.5**
JTJ				*e*S	S	**08 29 25.0**	**+0.5**
JMJ	**Miyako jima 2**	**2.52**	**79**	P	P	**08 29 09.1**	**+0.1**
JMJ				*e*S	S	**08 29 39.4**	**+0.8**
JOGS	**Gusukube**	**2.62**	**81**	P	P	**08 29 10.9**	**+0.5**
JOGS				*e*S	S	**08 29 42.8**	**+1.8**
JOW	**Kunigami**	**5.71**	**63**	P	P	**08 29 51.9**	**-1.6**
	6.9nm,0.3s,baz=233,slow=13,SNR=14						
JOW				S	S	**08 30 57.1**	**-1.3**
	0.9nm,0.3s,baz=221,slow=19,SNR=1.9						
SONM	**Songino Array**	**26.70**	**335**	P	P	**08 34 03.6**	**-0.9**
	0.4nm,0.7s,mb3.1,baz=145,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**39.08**	**315**	P	P	**08 35 51.8**	**0.0**
	0.2nm,0.5s,mb3.1,baz=99,slow=9.9,SNR=4.4						
WRA	**Warramunga Arr**	**45.52**	**164**	P	P	**08 36 44.8**	**+0.1**
	2.2nm,0.6s,mb4.2,baz=346,slow=8.7,SNR=14						
YKA	**Yellowknife Ar**	**82.30**	**23**	P	P	**08 40 44.7**	**-0.5**
	0.1nm,0.3s,mb3.2,baz=307,slow=4.9,SNR=7.3						

TEH 27 08:37:18.0,33.53N×59.91E,h17km,Mn4.1
NEIC 27 08:37:18.0,33.53N×59.91E,h17km,mb4.0/4, ML4.1(TEH),After TEH.
CSEM 27 08:37:18.4±0.1,33.44N×60.07E,h40km,mb4.0/5,Error ellipse: s-maj=3.2km s-min=1.9km az=141.0
MOS 27 08:37:18.6±2.0,33.41N×60.37E,h33km,mb4.0/5,Error ellipse: s-maj=15.8km s-min=7.6km az=73.6
IDC 27 08:37:19.7±8.6,33.27N×60.05E,h39km±70km,mb3.4/8, mb1 3.7/9,mb1mx3.6/18,mbtmp3.7/9,ML3.7/1,Error ellipse: s-maj=49.4km s-min=23.5km az=178.0
ISC 27 08:37:13.1±3.3, 33.34N±0.07×60.19E±0.09, h1km±21km, n53, σ1 9 30/56, mb3.9/15, 1C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOG	**Moghan**	**2.85**	**346**	P	Pn	**08 38 00.9**	**+0.2**
IMYA	**Miamay**	**3.00**	**359**	Pn	Pn	**08 38 03.3**	**+0.5**
MHI	**Mashhad**	**3.02**	**349**	Pn	Pn	**08 38 03.9**	**+0.8**
IPAY	**Payeh**	**3.26**	**343**	Pn	Pn	**08 38 04.9**	**-1.5**
IKRD	**Kardeh**	**3.69**	**339**	Pn	Pn	**08 38 10.0**	**-2.6**
ISFR	**Esfarayen**	**4.11**	**335**	Pn	Pn	**08 38 19.6**	**+1.1**
IEMG	**Emamqoli**	**4.25**	**343**	Pn	Pn	**08 38 20.7**	**+0.1**
IBAF	**Bafgh**	**4.28**	**247**	Pn	Pn	**08 38 21.8**	**+0.9**
ICHK	**Chekchek**	**4.99**	**259**	Pn	Pn	**08 38 30.6**	**-0.4**
IMEH	**Mehriz**	**5.10**	**249**	Pn	Pn	**08 38 34.0**	**+1.4**
ISAD	**Sadrabad**	**5.67**	**257**	Pn	Pn	**08 38 39.9**	**-0.7**
IFIR	**Firoozkooh**	**6.55**	**293**	Pn	Pn	**08 38 51.9**	**-1.2**
IFIR				Sn	Sn	**08 40 01.9**	**-7.6**
IDMV	**Damavand**	**7.10**	**291**	Pn	Pn	**08 38 59.7**	**-1.1**
IVRN	**Varamin**	**7.21**	**286**	Pn	Pn	**08 39 01.3**	**-1.0**
KK31	**Karatay Array**	**12.68**	**37**	*i* P	P	**08 40 14.6**	**-2.8**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KKAR	**Karatay Array**	**12.68**	**37**	*e*P	P	**08 40 14.6**	**-2.8**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK	**Ala-Archa**	**14.59**	**46**	*e*P	P	**08 40 39.5**	**-3.2**
AAK				*e*		08 43 24.7	
AAK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AAK	**Ala-Archa**	**14.59**	**46**	*e*Pn	P	**08 40 39.5**	**-3.2**
	comp=Z,6.1nm,0.5s						
AAK				*e*Sn	S	**08 43 24.7**	**-1.5**
AAK	**Ala-Archa**	**14.59**	**46**	*e*Pn	P	**08 40 39.5**	**-3.2**
	comp=Z,6.1nm,0.5s						
AAK				*e*S	S	**08 43 24.7**	**-1.5**
TKM2	**Tokmak 2**	**15.42**	**47**	P	P	**08 40 50.8**	**-2.8**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AB31	**Akbulak array**	**15.91**	**359**	*e*P	P	**08 40 54.5**	**-5.3**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTK	**Aktyubinsk**	**17.16**	**355**	P	P	**08 41 17.9**	**+2.2**
AKTK	**Aktyubinsk**	**17.16**	**355**	P	P	**08 41 17.9**	**+2.2**
AKTO	**Aktyubinsk**	**17.16**	**355**	P	P	**08 41 17.9**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=169,slow=10,SNR=3.6						
VOSK	**Vostochnaya**	**20.88**	**19**	P	P	**08 41 58.9**	**-0.2**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VOSK	**Vostochnaya**	**20.88**	**19**	P	P	**08 41 58.9**	**-0.2**
	comp=Z,3.0nm,0.7s						
BVA0	**Borovoye Array**	**21.00**	**17**	*i* P	P	**08 42 00.0**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BVA0	**Borovoye Array**	**21.00**	**17**	*i* P	P	**08 42 00.0**	**-0.3**
	comp=Z,1.0nm,1.2s						
BVAR	**Borovoye Array**	**21.00**	**17**	P	P	**08 41 60.0**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=192,slow=9.6,SNR=12						
MK31	**Makanchi Array**	**21.51**	**45**	*i* P	P	**08 42 06.1**	**+0.5**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
MK31	**Makanchi Array**	**21.51**	**45**	*i* P	P	**08 42 06.1**	**+0.5**
	comp=Z,3.0nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	**21.51**	**45**	P	P	**08 42 06.0**	**+0.5**
	comp=Z,2.5nm,0.8s,mb3.7,baz=228,slow=9.4,SNR=12						
CHKZ	**Chkalovo**	**21.65**	**17**	*e*P	P	**08 42 09.8**	**+2.9**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**21.65**	**17**	*e*P	P	**08 42 09.8**	**+2.8**
	comp=Z,5.5nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**21.65**	**17**	*e*P	P	**08 42 09.8**	**+2.9**
	comp=Z,5.5nm,0.9s,mb4.0						
KURK	**Kurchatov**	**22.01**	**32**	*e*P	P	**08 42 13.6**	**+3.0**
KURK	**Kurchatov**	**22.01**	**32**	*e*P	P	**08 42 06.5**	**-4.1**
	comp=Z,5.3nm,1.0s,mb3.9						

BR131	**Keskin Array S**	**22.22**	**294**	P	P	**08 42 11.1**	**-1.6**
	comp=Z,4.1nm,1.0s,mb3.8							
BR131	**Keskin Array S**	**22.22**	**294**	P	P	**08 42 11.1**	**-1.6**
	comp=Z,4.1nm,1.0s,mb3.8							
BRTR	**Keskin Array B**	**22.22**	**294**	P	P	**08 42 11.9**	**-0.8**
	comp=Z,1.9nm,0.8s,mb3.6,baz=90,slow=9.9,SNR=7.2							
CSS	**Prodhromos**	**22.27**	**282**	*e*P	P	**08 42 12.7**	**-0.5**
	comp=Z,31nm,1.3s,mb4.6							
ARU	**Arti**	**23.12**	**358**	*i* P	P	**08 42 22.6**	**+1.2**
ARU				*e*PPP	PPP	08 42 56.5	-5.0
ARU				*e*S	S	**08 46 32.9**	**+3.6**
ARU				*e*SS	SS	08 47 08.9	-4.8
ARU				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.1							
ARU	**Arti**	**23.12**	**358**	*i* P	P	**08 42 22.6**	**+1.2**
	comp=Z,8.0nm,1.3s,mb4.1							
OBN	**Obninsk**	**27.33**	**330**	*i* P	P	**08 43 03.2**	**+1.9**
OBN				*e*SS	SS	08 48 54.8	-1.0
OBN				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.5							
AKASG	**Malin Array Be**	**28.52**	**317**	P	P	**08 43 15.0**	**+2.9**
	comp=Z,0.2nm,0.3s,mb3.5,baz=132,slow=8.4,SNR=4.0							
SONM	**Songino Array**	**37.39**	**53**	P	P	**08 44 30.7**	**+1.5**
	comp=Z,1.1nm,1.1s,mb3.5,baz=270,slow=8.9,SNR=4.3							
GERES	**GERESS Array B**	**37.68**	**308**	P	P	**08 44 31.2**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.3,baz=104,slow=11,SNR=4.4							
BILL	**Bilibino**	**65.19**	**23**	*e*P	P	**08 47 57.4**	**-0.4**
BILL				*e*		08 48 25.7		
BILL				*e*S	S	08 56 38.8	-1.5	
BILL				pmax	pmax			
	comp=Z,1.0nm,1.4s,mb3.9							
BILL	**Bilibino**	**65.19**	**23**	*e*P	P	**08 47 57.4**	**-0.4**
	comp=Z,1.0nm,1.4s,mb3.9							
BILL	**Bilibino**	**65.19**	**23**	*e*PcP	PcP	08 48 25.7	-4.5	
ILAR	**Eielson Array**	**79.94**	**11**	P	P	**08 49 24.7**	**-0.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=322,slow=4.7,SNR=4.8							
YKA	**Yellowknife Ar**	**84.41**	**358**	P	P	**08 49 47.7**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.9,baz=357,slow=5.0,SNR=6.7							
WRA	**Warramunga Arr**	**88.30**	**115**	P	P	**08 50 07.6**	**-0.5**
	comp=Z,0.9nm,1.0s,mb4.1,baz=317,slow=4.6,SNR=7.2							

IDC 27 08:50:30.8±7.4, 14.01S×166.72E, h80km±73km, mb3.6/5, mb1 3.7/6, mb1mx3.6/14, mbtmp3.9/6, ML3.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/21, Error ellipse: s-maj=55.3km s-min=34.9km az=146.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.03**	**182**	P	P	08 52 25.7	-1.0
	0.2nm,0.3s,baz=345,slow=19,SNR=6.4						
DZM				S	S	08 53 53.4	-3.2
	baz=329,slow=19,SNR=1.7						
HNR	**Honiara**	**8.04**	**304**	LR	LR	08 55 13.0	
	comp=Z,130nm,19.9s,baz=57,slow=35						
RAO	**Raoul Island**	**20.80**	**139**	LR	LR	09 01 40.7	
	comp=Z,95nm,18.2s,baz=79,slow=32						
STKA	**Stephens Creek**	**29.07**	**228**	P	P	08 56 24.9	-1.1
	2.2nm,0.7s,baz=49,slow=8.6,SNR=5.2						
WRA	**Warramunga Arr**	**31.50**	**255**	P	P	08 56 44.2	-3.2
	0.8nm,1.1s,baz=84,slow=9.0,SNR=7.9						
SONM	**Songino Array**	**81.60**	**324**	P	P	09 02 40.4	-1.1
	0.5nm,0.8s,baz=133,slow=5.4,SNR=4.3						
ILAR	**Eielson Array**	**86.01**	**18**	P	P	09 03 01.4	-1.8
	0.6nm,0.9s,baz=230,slow=5.9,SNR=4.8						
MKAR	**Makanchi Array**	**96.32**	**317**	P	P	09 03 51.2	-0.5
	0.6nm,0.7s,baz=99,slow=6.8,SNR=8.6						
ARCES	**ARCESS Array B**	**119.42**	**345**	PKP	PKPdf	09 09 10.3	-0.4
	2.4nm,0.7s,baz=48,slow=2.3,SNR=6.8						

IDC 27 08:55:39.6±3.5,0.22N×123.61E,h197km±32km,mb3.7/11, mb1 3.9/11,mb1mx3.7/17,mbtmp4.2/11,Error ellipse: s-maj=26.5km s-min=10.3km az=67.0
NEIC 27 08:55:39.7±0.5,0.13N×123.59E,h200km,mb4.5/6,Error ellipse: s-maj=15.0km s-min=8.7km az=60.0
ISC 27 08:55:42.1±2.0, 0.04N±0.09×123.4E±0.1, h239km±20km, n28, σ0 81/26, mb4.1/16, 2C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.34**	**310**	*i*Pn	P	**08 57 53.1**	**-0.1**
KSM	**Kuching**	**13.17**	**276**	Pn	P	**08 58 42.2**	**+0.6**
KAKA	**Kakadu**	**15.51**	**145**	*i*P	Px	08 59 29.4	
	26nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.16**	**173**	*e*P	P	**08 59 37.5**	**-1.8**
	16nm,1.0s						
WRAB	**Tennant Creek**	**22.56**	**152**	*e*P	P	**09 00 22.9**	**-0.2**
	14nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**22.56**	**152**	P	P	**09 00 23.3**	**+0.1**
	8.0nm,0.4s,mb4.6,baz=335,slow=10.0,SNR=144						
WRA				S	S	**09 04 16.5**	**+7.0**
	1.0nm,0.6s,baz=334,slow=16,SNR=4.1						
WB2	**Warramunga Arr**	**22.56**	**152**	*e*P	P	**09 00 23.0**	**-0.2**
KULM	**Kulim**	**23.32**	**283**	P	P	**09 00 30.6**	**+0.2**
PSI	**Prapat**	**24.63**	**277**	P	P	**09 00 42.1**	**-0.4**
	4.3nm,0.4s,mb4.4,baz=185,slow=4.4,SNR=3.7						
ASPA	**Alice Springs**	**25.67**	**157**	*e*P	P	**09 00 52.0**	**-0.1**
COCO	**West Island**	**29.03**	**244**	*e*P	P	**09 01 22.4**	**0.0**
	26nm,0.6s,mb5.0						
ENH	**Enshi**	**32.86**	**337**	P	P	**09 01 56.8**	**+1.2**
	4.6nm,0.5s,mb4.3						
NWAO	**Narrogin (SRO)**	**33.30**	**189**	P	P	**09 01 59.4**	**+0.1**
	5.1nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**36.10**	**153**	P	P	**09 02 24.0**	**+1.0**
	4.6nm,0.5s,mb4.3,baz=321,slow=8.7,SNR=15						
STKA	**Stephens Creek**	**36.10**	**153**	P	P	**09 02 24.0**	**+1.0**
MJAR	**Matsushiro Arr**	**38.83**	**19**	P	P	**09 02 41.8**	**-3.9**
	3.0nm,0.8s,mb3.9,baz=185,slow=9.9,SNR=7.1						
SONM	**Songino Array**	**49.85**	**345**	P	P	**09 04 13.0**	**+0.1**
	2.9nm,0.7s,mb3.7,baz=161,slow=8.5,SNR=26						
SONM				PcP	PcP	09 05 30.7	+0.6
	0.6nm,0.7s,baz=168,slow=4.1,SNR=3.8						
MKAR	**Makanchi Array**	**58.80**	**328**	P	P	**09 05 17.2**	**-0.2**
	2.4nm,0.5s,mb4.0,baz=123,slow=8.4,SNR=30						
MKAR				PcP	PcP	09 06 04.7	+0.4
	1.2nm,0.6s,baz=166,slow=3.1,SNR=8.8						
KURK	**Kurchatov**	**63.15**	**330**	*e*P	P	**09 05 46.4**	**-0.1**
	5.9nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**68.66**	**329**	P	P	**09 06 20.3**	**-1.0**
	0.2nm,0.3s,mb3.2,baz=135,slow=6.1,SNR=3.5						
BVAR	**Borovoye Array**	**68.66**	**329**	P	P	**09 06 20.3**	**-1.0**
AKTK	**Aktyubinsk**	**74.53**	**323**	P	P	**09 06 55.5**	**-0.7**
AKTO	**Aktyubinsk**	**74.53**	**323**	P	P	**09 06 55.5**	**-0.7**
	2.7nm,0.6s,mb3.5,baz=264,slow=3.6,SNR=3.8						
VNDA	**Vanda**	**80.22**	**172**	P	P	**09 07 29.6**	**+2.7**
	0.8nm,0.8s,mb3.4,baz=330,slow=8.1,SNR=3.2						
ILAR	**Eielson Array**	**89.84**	**25**	P	P	**09 08 14.5**	**0.0**
	0.5nm,0.6s,mb3.5,baz=248,slow=5.0,SNR=12						
ARCES	**ARCESS Array B**	**92.74**	**340**	P	P	**09 08 28.5**	**+0.6**
	3.4nm,0.9s,mb4.4,baz=61,slow=9.3,SNR=2.8						
ULM	**Lac du Bonnet**	**119.77**	**28**	PKP	PKPdf	09 14 06.7	+3.0
	0.8nm,0.5s,baz=340,slow=1.1,SNR=4.5						
ULM	**Lac du Bonnet**	**119.77**	**28**	PKP	PKPdf	09 14 06.7	+3.0

NEIC 27 09:00:22.9±1.5,31.67S×178.76W,h49km±15km,mb4.8/5, Error ellipse: s-maj=24.9km s-min=13.9km az=117.0
IDC 27 09:00:23.0±1.7,31.57S×178.97W,h45km±15km,mb4.0/3, mb1 4.4/5,mb1mx4.0/14,mbtmp4.4/5,ML4.1/1,MS3.6/3, Ms1 3.6/3,ms1mx3.0/27,Error ellipse: s-maj=41.1km s-min=11.3km az=118.0
ISC 27 09:00:20.9±1.3, 31.64S±0.08×179.0W±0.2, h35km±17km, n18, σ0 78/17, mb4.6/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.54**	**21**	P	P	**09 01 00.1**	**-0.7**
	197nm,0.3s,baz=233,slow=15,SNR=8.3						
RAO				S	S	**09 01 30.9**	**0.0**
	165nm,0.3s,baz=253,slow=19,SNR=2.5						
RAO	**Raoul Island**	**2.54**	**21**	*e*Pn	P	**09 01 01.2**	**+0.5**
RAO				S	S	**09 01 30.9**	**0.0**
URZ	**Urewera**	**7.35**	**205**	P	P	**09 02 08.1**	**-0.4**
	3.1nm,0.3s,baz=47,slow=18,SNR=10						
URZ				S	S	**09 03 32.3**	**+0.7**
	1.0nm,0.3s,baz=209,slow=19,SNR=3.6						
DZM	**Mont Dzumac**	**16.11**	**303**	LR	LR	09 08 55.6	
	comp=Z,134nm,21.5s,baz=26,slow=32						
HNR	**Honiara**	**29.52**	**314**	*e*Pn	P	**09 06 24.1**	**-0.2**
	36nm,0.5s,mb5.4						
CTA	**Charters Tower**	**33.20**	**282**	P	P	**09 07 03.1**	**+6.4**
	6.7nm,0.6s,mb4.7,baz=112,slow=12,SNR=14						
CTA				LR	LR	09 17 08.9	

	comp=Z,97nm,20.2s,baz=48,slow=30							
CTAO	**Charters Tower**	**33.20**	**282**	P	P	**09 06 59.1**	**+2.4**
	6.1nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**33.41**	**259**	P	P	**09 06 57.3**	**-1.1**
	6.9nm,1.1s,mb4.5,baz=113,slow=7.7,SNR=4.4							
STKA	**Stephens Creek**	**33.41**	**259**	*e*P	P	**09 06 58.8**	**+0.4**
PMG	**Port Moresby**	**38.41**	**298**	P	P	**09 07 42.0**	**+1.1**
	16nm,0.9s,mb4.7							
WRAB	**Tennant Creek**	**43.33**	**274**	*e*P	P	**09 08 20.6**	**-0.9**
	6.1nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**43.33**	**274**	P	P	**09 08 20.9**	**-0.6**
	4.6nm,0.8s,mb4.2,baz=114,slow=7.8,SNR=22							
CASY	**Casey**	**53.66**	**208**	P	P	**09 09 40.1**	**-0.8**
	11nm,0.6s,mb5.0							
USHA	**Ushuaia**	**75.37**	**146**	LR	LR	09 38 17.3		
	comp=Z,57nm,18.2s,baz=348,slow=30							
NVAR	**Mina Array Bea**	**89.71**	**43**	P	P	**09 13 17.3**	**+0.6**
	1.0nm,1.0s,mb4.1,baz=219,slow=9.5,SNR=4.4							
NVAR	**Mina Array Bea**	**89.71**	**43**	P	P	**09 13 17.3**	**+0.6**
FINES	**FINESS Array B**	**146.00**	**339**	PKPbc	PKPbc	09 19 54.9	-1.6	
	3.8nm,0.8s,baz=56,slow=3.9,SNR=9.2							
NOA	**NORSAR Array B**	**149.84**	**350**	PKPbc	PKPdf	09 20 06.5	+4.8	
	0.9nm,0.8s,baz=18,slow=4.2,SNR=3.1							
NOA				PKPab	PKPab	09 20 13.2	-1.0	
	1.7nm,0.9s,baz=22,slow=3.8,SNR=3.6							

IDC 27 09:26:49.4±3.1,31.58S×178.82W,h39km±29km,mb3.6/2, mb1 4.2/4,mb1mx3.9/14,mbtmp4.1/4,ML4.0/1,MS3.3/1, Ms1 3.3/1,ms1mx2.7/17,Error ellipse: s-maj=49.7km s-min=23.4km az=127.0
NEIC 27 09:26:49.4±1.5,31.64S×178.68W,h44km±16km,mb4.4/2, Error ellipse: s-maj=30.8km s-min=13.8km az=122.0
ISC 27 09:26:48.6±1.3, 31.7S±0.1×178.8W±0.2, h48km±17km, n11, σ1 9 01/12, mb4.1/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.53**	**18**	Pn	P	**09 27 27.3**	**-0.8**
	159nm,0.3s,baz=268,slow=23,SNR=7.8						
RAO				Sn	S	**09 28 01.6**	**+3.8**
	69nm,0.3s,baz=113,slow=21,SNR=2.2						
RAO	**Raoul Island**	**2.53**	**18**	*e*Pn	P	**09 27 27.0**	**-1.1**
RAO				*e*Sn	S	**09 28 00.1**	**+2.2**
URZ	**Urewera**	**7.38**	**206**	Pn	P	**09 28 35.6**	**-0.7**
	2.3nm,0.3s,baz=156,slow=32,SNR=16						
URZ				Sn	S	**09 30 00.4**	**+0.9**
	1.2nm,0.3s,baz=140,slow=16,SNR=4.0						
DZM	**Mont Dzumac**	**16.26**	**302**	LR	LR	09 35 20.9	
	comp=Z,114nm,19.9s,baz=206,slow=32						
CTA	**Charters Tower**	**33.36**	**282**	P	P	**09 33 31.0**	**+6.7**
	3.9nm,0.6s,mb4.5,baz=115,slow=14,SNR=11						
CTAO	**Charters Tower**	**33.36**	**282**	P	P	**09 33 26.0**	**+1.6**
	4.3nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**33.55**	**259**	*e*P	P	**09 33 26.6**	**+0.7**
WRAB	**Tennant Creek**	**43.48**	**274**	*e*P	P	**09 34 47.8**	**-1.1**
	4.8nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**43.48**	**274**	P	P	**09 34 48.4**	**-0.6**
	2.7nm,0.8s,mb4.0,baz=114,slow=7.4,SNR=16						
NVAR	**Mina Array Bea**	**89.63**	**43**	P	P	**09 39 42.5**	**+0.1**
	0.3nm,0.8s,mb3.7,baz=291,slow=7.7,SNR=3.1						
FINES	**FINESS Array B**	**146.09**	**339**	PKPbc	PKPbc	09 46 23.8	+1.2
	3.2nm,0.8s,baz=72,slow=4.4,SNR=7.4						

NEIC 27 09:32:05.0,24.86S×112.76E,ML3.5(AUST),After AUST.
AUST 27 09:32:06.0, 24.86S×112.76E, ML3.5, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRL	**Giralia**	**3.41**	**49**	*e*P	Pn	09 32 47.9	-14
MORW	**Morawa**	**5.11**	**146**	*e*P	Pn	09 33 21.5	-4.1
MORW				*e*S	Sn	09 34 17.9	-8.4
MEEK	**Meekatharra**	**5.57**	**110**	*e*P	Pn	09 33 28.3	-3.8
MEEK				*e*S	Sn	09 34 28.6	-9.2
KLBR	**Kellerberrin**	**8.02**	**148**	*e*P	P	09 34 00.8	-5.8
KLBR				*e*S	Sn	09 35 24.0	-15
	33nm,0.9s						
KLBR	**Kellerberrin**	**8.02**	**148**	*e*P	P	09 34 00.8	-5.8
	33nm,0.9s						
KLBR				*e*S	Sn	09 35 24.0	-15
KMBL	**Kambalda**	**10.34**	**131**	*e*P	P	09 34 31.2	-7.4
KMBL				*e*S	S	09 36 17.5	-19
	14nm,0.2s						
KMBL	**Kambalda**	**10.34**	**131**	*e*

SSE LR LR
comp=E,100nm,26.0s
SSE LR LR
comp=Z,220nm,20.0s
NJ2 Nanjing 27.71 304 *e*P **P** **09 39 55.5 +0.3**
NJ2 AP pP 09 40 19.5 0.0
NJ2 XP sP 09 40 32.3 -0.3
NJ2 PP PP 09 40 47.3 -0.7
NJ2 S **S** **09 44 26.0 -1.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
NJ2 AMB AMB
comp=Z,250nm,4.0s
NJ2 LR LR
comp=N,3μm,14.4s
NJ2 LR LR
comp=E,1μm,20.8s
NJ2 LR LR
comp=Z,290nm,17.5s
PMG Port Moresby 28.09 178 P **P** **09 39 57.7 -1.1**
comp=Z,30nm,0.9s,mb4.8,baz=14,slow=12,SNR=5.4
PMG Port Moresby 28.09 178 *e*P **P** **09 39 57.3 -1.5**
PMG *e**PP pP 09 40 20.0 -3.2
PMG pmax pmax
comp=Z,54nm,0.9s
PMG Port Moresby 28.09 178 *e*P **P** **09 39 57.3 -1.5**
comp=Z,54nm,0.9s,mb5.1
PMG *e*pP pP 09 40 20.0 -3.2
MDJ Mudanjiang 29.12 336 P **P** **09 40 08.8 +1.2**
MDJ AP pP 09 40 32.0 -0.2
MDJ S **S** **09 44 52.5 +2.6**
MDJ AMB AMB
comp=Z,20nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,280nm,3.5s
MDJ LR LR
comp=N,110nm,24.7s
MDJ LR LR
comp=E,150nm,24.7s
MDJ LR LR
comp=Z,240nm,25.8s
HNR Honiara 31.29 153 LR LR 09 51 38.8
comp=Z,371nm,21.4s,baz=169,slow=33
KLR Kul'dur 32.41 343 *e*P **P** **09 40 31.8 -4.7**
KLR pmax pmax
comp=Z,34nm,1.2s,mb5.0
QIZ Qiongzhong 34.15 276 *e*P **P** **09 40 56.3 +4.6**
QIZ S **S** **09 46 11.3 +2.7**
QIZ XS 09 46 53.5
QIZ LR LR
comp=E,100nm,32.0s
QIZ LR LR
comp=Z,100nm,30.3s
HHC Hu-ho-hao-te 36.69 314 *e*P **P** **09 41 12.5 -0.5**
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,130nm,6.7s
HHC LR LR
comp=N,200nm,11.4s
HHC LR LR
comp=E,170nm,13.7s
HHC LR LR
comp=Z,220nm,17.1s
HIA Hailar 36.96 331 *e*P **P** **09 41 15.6 +0.4**
HIA pmax pmax
comp=Z,13nm,1.1s
HIA Hailar 36.96 331 *e*P **P** **09 41 15.6 +0.3**
comp=Z,13nm,1.1s,mb4.8
CTA Charters Tower 38.69 180 *e*P pP 09 41 52.0 -3.6
comp=Z,13nm,1.0s
CTA Charters Tower 38.69 180 P **P** **09 41 29.9 0.0**
comp=Z,4.0nm,0.6s,mb4.4,baz=2.3,slow=9.2,SNR=6.0
CTAO Charters Tower 38.69 180 *e*P **P** **09 41 30.3 +0.4**
CTAO *e**PP pP 09 41 53.8 -1.8
CTAO pmax pmax
comp=Z,24nm,1.3s,mb4.9
CTAO Charters Tower 38.69 180 *e*P **P** **09 41 30.3 +0.4**
comp=Z,24nm,1.3s,mb4.9
CTAO *e*pP pP 09 41 53.8 -1.8
CD2 Chengdu 39.92 296 P **P** **09 41 41.5 +1.5**
CD2 AP pP 09 42 07.0 +1.2
CD2 XP sP 09 42 20.0 +1.0
CD2 PP PP 09 43 19.0 +1.8
CD2 S **S** **09 47 38.3 +1.9**
CD2 XS 09 48 22.0
CD2 SS SS 09 50 33.0 +1.3
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
CD2 AMB AMB
comp=Z,60nm,8.3s
CD2 LR LR
comp=N,150nm,9.6s
CD2 LR LR
comp=Z,100nm,13.2s
WRAB Tennant Creek 40.19 197 *e*P **P** **09 41 42.2 -0.1**
WRAB *PP pP 09 42 09.0 +0.9
WRAB pmax pmax
comp=Z,35nm,0.8s,mb5.2
WRAB Tennant Creek 40.19 197 *e*P **P** **09 41 42.2 0.0**
comp=Z,35nm,0.8s,mb5.2
WRAB pP pP 09 42 09.0 +1.0
WB2 Warramunga Arr 40.20 197 *e*P **P** **09 41 41.9 -0.4**
WB2 *e*S **S** **09 47 41.1 +0.6**
WRA Warramunga Arr 40.20 197 P **P** **09 41 42.3 -0.1**
comp=Z,18nm,0.8s,mb5.0,baz=20,slow=8.9,SNR=28
WRA PcP PcP 09 43 44.3 -0.8
comp=Z,1.7nm,0.4s,baz=17,slow=3.8,SNR=5.2
WRA ScP 09 47 23.1
comp=Z,2.0nm,0.9s,baz=17,slow=4.2,SNR=5.7
WRA S **S** **09 47 41.8 +1.2**
comp=Z,2.6nm,1.1s,baz=18,slow=14,SNR=4.8
WRA Warramunga Arr 40.20 197 P **P** **09 41 42.3 -0.1**
WRA 09 43 44.3
WRA S **S** **09 47 41.8 +1.2**
KMI Kunming 40.45 287 P **P** **09 41 47.0 +2.6**
KMI S **S** **09 47 47.5 +3.2**
KMI LR LR
comp=Z,60nm,34.6s
LZH Lanzhou 40.79 304 *e*P **P** **09 41 48.0 +1.0**
LZH AP pP 09 42 13.5 +0.6
LZH XP sP 09 42 26.5 +0.5
LZH PP PP 09 43 27.0 +1.2
LZH *e*S **S** **09 47 51.3 +2.2**
LZH XS 09 48 34.0
LZH *e*SS SS 09 50 50.0 +0.4
LZH AMB AMB
comp=Z,50nm,1.6s,mb5.1
LZH AMB AMB
comp=Z,190nm,4.5s
LZH LR LR
comp=N,350nm,14.6s
LZH LR LR
comp=Z,650nm,15.8s
MA2 Magadan 40.83 4⇑ *e*P **P** **09 41 47.3 +0.2**
MA2 pmax pmax
comp=Z,23nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,100nm,12.0s
CLNS Chul'man 41.07 342 *e*P **P** **09 41 48.2 -1.0**
CLNS pmax pmax
comp=Z,29nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,27nm,1.3s
CLNS pmax pmax
comp=E,8.0nm,1.0s
FITZ Fitzroy Crossi 41.80 210⇓ *i* P **P** **09 41 56.2 +0.6**
comp=E,24nm,1.1s,mb4.8
FITZ *e*S **S** **09 48 04.8 +0.4**
ULN Ulaanbaatar 42.82 322 *i* P **P** **09 42 04.2 +0.6**
ULN Ulaanbaatar 42.82 322 *e*P **P** **09 42 03.8 +0.2**
comp=E,32nm,1.8s,mb4.8
SONM Songino Array 43.20 321 P **P** **09 42 06.3 -0.3**
comp=E,1.3nm,0.3s,mb4.1,baz=136,slow=6.4,SNR=20
SONM ScP 09 47 34.9
comp=E,2.1nm,1.2s,baz=118,slow=3.8,SNR=4.4
SONM LR LR 09 59 44.2
comp=E,152nm,18.2s,baz=90,slow=35
ASPA Alice Springs 43.87 196 *e*P **P** **09 42 12.6 +0.3**
SEY Seymchan 44.27 4⇑ *e*P **P** **09 42 15.4 +0.3**
YAK Yakutsk 44.63 349 *d i*P **P** **09 42 16.9 -1.0**
YAK pmax pmax
comp=Z,63nm,1.4s,mb5.2
YAK MLR MLR
comp=Z,100nm,14.0s

GTA Gaotai 44.67 307 *e*P **P** **09 42 21.0 +2.4**
GTA AP pP 09 42 45.5 +0.8
GTA XP sP 09 42 56.0 -1.6
GTA PP PP 09 44 10.0 +4.3
GTA S **S** **09 48 52.3 +6.5**
GTA XS 09 49 31.5
GTA AMB AMB
comp=Z,120nm,5.7s
GTA LR LR
comp=N,220nm,14.1s
GTA LR LR
comp=E,160nm,14.5s
GTA LR LR
comp=Z,150nm,15.2s
DZM Mont Dzumac 45.32 153 *e*P **P** **09 42 23.4 -0.6**
DZM Mont Dzumac 45.32 153 P **P** **09 42 23.9 -0.1**
comp=Z,24nm,0.9s,mb4.9,baz=358,slow=10,SNR=19
BOD Bodaibo 45.48 337 *e*P **P** **09 42 23.6 -1.2**
BOD pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
PSI Prapat 48.70 257 LR LR 10 06 04.2
comp=Z,86nm,18.0s,baz=249,slow=39
UNV Unalaska Valle 50.39 35 P **P** **09 43 00.6 -2.3**
comp=Z,58nm,0.9s,mb5.5
STKA Stephens Creek 50.60 185 *e*P **P** **09 43 03.2 -1.7**
comp=Z,2.4nm,0.6s,mb4.4
STKA Stephens Creek 50.60 185 P **P** **09 43 03.4 -1.5**
comp=Z,2.8nm,0.5s,mb4.5,baz=0.4,slow=5.8,SNR=6.7
STKA LR LR 10 06 02.8
comp=Z,123nm,18.4s,baz=23,slow=38
BILL Bilibino 50.83 10 *e*P **P** **09 43 04.0 -2.1**
BILL *e**SP pP 09 43 32.8 +0.1
BILL *e* 09 44 21.0
BILL pmax pmax
comp=Z,27nm,1.0s,mb5.2
KIP Kipapa 52.41 77⇑ *e*P **P** **09 43 17.9 -0.7**
TIXI Tiksi 53.76 353 *e*P **P** **09 43 23.7 -4.2**
CNB Canberra Magne 53.95 177 *e*P pP 09 43 53.0 -3.7
comp=Z,23nm,1.1s
WMQ Urumqi 54.42 311 *e*P **P** **09 43 33.8 +0.8**
WMQ AP pP 09 44 00.3 +0.3
WMQ XP sP 09 44 12.8 +0.4
WMQ PCP PcP 09 44 36.0 +0.8
WMQ AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,80nm,4.8s
WMQ LR LR
comp=N,1μm,20.0s
WMQ LR LR
comp=E,1μm,21.2s
WMQ LR LR
comp=Z,1μm,22.0s
KLBR Kellerberrin 56.99 209 *e*P **P** **09 43 51.0 -0.7**
comp=Z,140nm,1.8s,mb5.7
NWAO Narrogin (SRO) 58.35 208 P **P** **09 44 00.7 -0.5**
comp=Z,9.2nm,0.6s,mb5.0,baz=18,slow=3.7,SNR=9.1
MK31 Makanchi Array 58.55 314 *i* P **P** **09 44 01.7 -0.7**
MK31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.5
MKAR Makanchi Array 58.55 314 P **P** **09 44 02.1 -0.3**
comp=Z,1.4nm,0.3s,mb4.5,baz=88,slow=10,SNR=66
MKAR LR LR 10 08 58.0
comp=Z,65nm,21.7s,baz=275,slow=36
KDAK Kodiak Island 59.09 33 P **P** **09 44 04.1 -1.8**
comp=Z,17nm,0.9s,mb5.1,baz=188,slow=5.8,SNR=13
NVS Novosibirsk 59.15 323 *e*P **P** **09 44 01.3 -5.1**
NVS pmax pmax
comp=E,15nm,1.7s
NVS pmax pmax
comp=Z,18nm,1.7s,mb4.8
IMA2 Indian Mountai 61.03 24 *e*P **P** **09 44 18.2 -0.9**
KURK Kurchatov 61.34 318 *c i*P **P** **09 44 21.2 -0.2**
KURK Kurchatov 61.34 318 *e*P **P** **09 44 20.3 -1.1**
comp=Z,4.7nm,0.6s,mb4.7
PMR Palmer 61.70 29 *e*P **P** **09 44 21.4 -2.2**
PMR *e* 09 45 02.9
PMR pmax pmax
comp=Z,16nm,0.9s,mb5.0
PMR Palmer 61.70 29 *e*P **P** **09 44 21.4 -2.2**
comp=Z,16nm,0.9s,mb5.0
PMR *e*PcP PcP 09 45 02.9 -0.6
SML Sawmill 62.11 29 *e*P **P** **09 44 24.8 -1.6**
SML *PP pP 09 44 53.2 -0.8
COLA College 63.02 26⇓ *e*P **P** **09 44 30.9 -1.5**
TKM2 Tokmak 2 63.17 309 P **P** **09 44 33.6 -0.1**
TKM2 pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
ILAR Eielson Array 63.40 26 P **P** **09 44 31.8 -3.1**
comp=Z,13nm,0.9s,mb4.8,baz=259,slow=5.1,SNR=71
ILAR LR LR 10 11 48.8
comp=Z,123nm,19.4s,baz=170,slow=36
AAK Ala-Archa 63.99 309 *i* P **P** **09 44 38.2 -0.8**
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
VOSK Vostochnaya 66.18 320 P **P** **09 44 51.9 -1.0**
VOSK pmax pmax
comp=Z,12nm,1.5s,mb4.5
RPZ Rata Peaks 66.36 160 P **P** **09 44 51.1 -3.2**
comp=Z,19nm,0.8s,mb5.0,baz=97,slow=5.9,SNR=6.5
CHKZ Chkalovo 66.40 321 *e*P **P** **09 44 53.3 -1.0**
CHKZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
CHKZ Chkalovo 66.40 321 *e*P **P** **09 44 53.3 -1.0**
comp=Z,2.9nm,0.7s,mb4.2
DAWY Dawson 66.50 28 *e*P **P** **09 44 54.0 -0.8**
DAWY *e*pP pP 09 45 23.6 +0.9
BVA0 Borovoye Array 66.53 320 *i* P **P** **09 44 54.4 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRVK Borovoye 66.60 320 *e*P **P** **09 44 55.7 +0.1**
BRVK *e* pP 09 45 27.5 +4.0
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
BRVK Borovoye 66.60 320 *e*P **P** **09 44 55.7 +0.1**
comp=Z,4.7nm,0.8s,mb4.4
BRVK *e*PcP PcP 09 45 27.5 +3.6
KK31 Karatay Array 66.88 310 *i* P **P** **09 44 57.6 0.0**
KK31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.3
KKAR Karatay Array 66.88 310 *i* P **P** **09 44 57.6 0.0**
INK Inuvik 69.14 23 P **P** **09 45 09.5 -1.5**
comp=Z,16nm,0.8s,mb4.9,baz=265,slow=7.6,SNR=64
INK Inuvik 69.14 23 *e*P **P** **09 45 10.0 -1.1**
INK *e* 09 45 32.8
INK pmax pmax
comp=Z,18nm,0.9s
INK Inuvik 69.14 23 *e*P **P** **09 45 10.0 -1.1**
comp=Z,18nm,0.9s,mb4.9
INK *e*PcP PcP 09 45 32.8 -1.5
DLBC Dease Lake 71.02 34 P **P** **09 45 22.2 -0.5**
comp=Z,15nm,0.9s,mb4.8,baz=264,slow=7.8,SNR=16
DLBC Dease Lake 71.02 34 P **P** **09 45 22.2 -0.5**
PPT Papeete 72.94 116 LR LR 10 16 35.0
comp=Z,116nm,18.0s,baz=264,slow=35
ARU Arti 73.10 325⇓ *i*P **P** **09 45 34.6 -0.3**
ARU *e* 09 48 17.3
ARU *e*PPP PPP 09 50 01.7 -3.0
ARU *e*S S 09 54 58.3 +6.5
ARU *e*SS SS 09 59 36.9 -0.8
ARU pmax pmax
comp=Z,16nm,1.0s,mb4.8
ARU Arti 73.10 325 *e*P **P** **09 45 34.8 -0.1**
comp=Z,9.3nm,0.8s,mb4.7
AB31 Akbulak array 73.42 317 P **P** **09 45 36.1 -0.8**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
AKTO Aktyubinsk 74.44 318 P **P** **09 45 41.9 -0.9**
AKTO pmax pmax
comp=Z,5.0nm,2.6s,mb3.8
JCW Jim Creek 77.56 43 P **P** **09 46 00.8 +0.5**
YKW3 Yellowknife Ar 77.71 28 *e*P **P** **09 46 00.4 -0.5**
YKA Yellowknife Ar 77.74 28 P **P** **09 46 00.1 -1.0**
comp=Z,13nm,0.8s,mb4.7,baz=288,slow=5.5,SNR=163
YKA LR LR 10 18 02.0
comp=Z,193nm,19.1s,baz=275,slow=34
YKA Yellowknife Ar 77.74 28 P **P** **09 46 00.1 -1.0**
YKA LR LR 10 18 02.0
WRW Wenatchee Ridg 78.32 43 P **P** **09 46 04.9 +0.3**
TBM Table Mountain 78.69 44 P **P** **09 46 06.6 0.0**
ETW Entiat 78.75 44 P **P** **09 46 07.0 +0.1**
EBG Ellensburg 78.78 44 P **P** **09 46 07.6 +0.6**
RES Resolute Bay 79.22 14 *e*P **P** **09 46 09.0 0.0**
RES pmax pmax
comp=Z,31nm,1.0s,mb5.1

RES Resolute Bay 79.22 14 *e*P **P** **09 46 09.0 +0.1**
comp=Z,31nm,1.0s,mb5.1
MDW Midway 79.39 44 P **P** **09 46 10.8 +0.3**
VIPM Ingram Point 79.39 47 P **P** **09 46 10.9 +0.4**
GBL Gable Mountain 79.59 44 P **P** **09 46 11.9 +0.3**
H2OWA Water 79.68 45 P **P** **09 46 12.3 +0.3**
EDM Edmonton 81.31 37 *e*P **P** **09 46 20.6 +0.1**
KLMR Klimovskoe 81.46 332 *d i*P **P** **09 46 20.3 -0.8**
KLMR pmax pmax
comp=Z,60nm,1.7s,mb5.2
KEV Kevo 81.88 342 *e*p **P** **09 46 22.8 -0.3**
comp=Z,5.9nm,0.5s,mb4.7
KEV Kevo 81.88 342 *e*P **P** **09 46 22.8 -0.3**
KEV pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
ARCES ARCESS Array B 82.44 342 P **P** **09 46 25.9 -0.2**
comp=Z,31nm,0.9s,mb5.1,baz=77,slow=8.0,SNR=30
ARCES LR LR 10 23 30.7
comp=Z,72nm,21.9s,baz=232,slow=36
ARCES ARCESS Array B 82.44 342 P **P** **09 46 25.9 -0.2**
ARCES LR LR 10 23 30.7
ARE0 ARCESS Array S 82.44 342 *e*P **P** **09 46 26.0 0.0**
NVAR Mina Array Bea 82.84 52 P **P** **09 46 29.3 +0.6**
comp=Z,10nm,0.8s,mb4.7,baz=263,slow=6.4,SNR=73
HLID Hailey 83.94 46 *e*P **P** **09 46 34.5 +0.4**
comp=Z,3.3nm,0.9s,mb4.2
JOF Joensuu 84.00 335 *e*p **P** **09 46 33.1 -0.8**
comp=Z,9.2nm,0.3s,mb5.1
HRY Holter Researc 84.53 43 *e*P **P** **09 46 37.7 +0.7**
MCMT McKenzie Canyo 84.55 45 *e*P **P** **09 46 37.5 +0.4**
BOZ Bozeman (W) 85.05 43 *e*P **P** **09 46 40.0 +0.4**
BOZ pmax pmax
comp=Z,25nm,1.4s,mb5.0
BOZ Bozeman (W) 85.05 43 *e*P **P** **09 46 40.0 +0.4**
comp=Z,25nm,1.4s,mb5.0
OBN Obninsk 85.30 327⇓ *e*P **P** **09 46 41.3 +0.7**
OBN pmax pmax
comp=Z,16nm,1.0s,mb4.9
EGMT Eagleton 85.34 41 *e*P **P** **09 46 41.2 +0.2**
comp=Z,34nm,1.3s,mb5.1
QLMT Earthquake Lak 85.49 44 *e*P **P** **09 46 43.2 +1.4**
HVU Hansel Valley 85.70 47 *e*P **P** **09 46 43.9 +1.0**
comp=Z,46nm,1.6s,mb5.2
YMR Madison River 85.86 44 *e*P **P** **09 46 45.3 +1.8**
comp=Z,68nm,1.2s,mb5.5
YMR *e*pP pP 09 47 13.8 +1.0
YFT Old Faithful 86.02 44 *e*P **P** **09 46 47.4 +3.0**
IMW Indian Meadow 86.17 45 *e*P **P** **09 46 46.6 +1.5**
comp=Z,32nm,1.3s,mb5.1
DUG Dugway 86.25 49 *e*P **P** **09 46 46.1 +0.5**
DUG pmax pmax
comp=Z,30nm,1.4s,mb5.0
DUG Dugway 86.25 49 *e*P **P** **09 46 46.1 +0.5**
comp=Z,30nm,1.4s,mb5.0
LKWY Lake 86.27 44 *e*P **P** **09 46 48.5 +2.9**
comp=Z,69nm,1.6s,mb5.3
TPAW Teton Pass 86.31 45 *e*P **P** **09 46 46.9 +1.0**
comp=Z,46nm,1.6s,mb5.2
NEN Nelson 86.37 54 *e*P **P** **09 46 46.9 +0.5**
KAF Kangasniemi 86.39 336 *e*p **P** **09 46 44.4 -1.4**
comp=Z,2.2nm,0.4s,mb4.4
KAF Kangasniemi 86.39 336 *e*P **P** **09 46 44.4 -1.4**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
AHID Auburn Hatcher 86.49 46 *e*P **P** **09 46 47.4 +0.7**
comp=Z,32nm,1.2s,mb5.1
ARUT Antelope Range 86.67 51 *e*P **P** **09 46 48.6 +0.9**
FFC Flin Flon 86.83 33 *e*P **P** **09 46 48.4 +0.4**
FFC pmax pmax
comp=Z,58nm,1.1s,mb5.4
FFC Flin Flon 86.83 33 *e*P **P** **09 46 48.4 +0.4**
comp=Z,58nm,1.1s,mb5.4
FINES FINESS Array B 86.87 335 P **P** **09 46 47.1 -0.9**
comp=Z,2.4nm,0.4s,mb4.5,baz=71,slow=5.6,SNR=32
FINES LR LR 10 26 24.9
comp=Z,87nm,19.7s,baz=339,slow=36
MPU Maple Canyon 87.16 49 *e*P **P** **09 46 50.5 +0.5**
comp=Z,44nm,1.7s,mb5.1
DAU Daniels Canyon 87.27 48 *e*P **P** **09 46 51.5 +0.9**
MSU Marysvale 87.33 50 *e*P **P** **09 46 52.0 +1.1**
PDAR Pinedale Array 87.53 46 P **P** **09 46 52.0 +0.2**
comp=Z,2.5nm,0.7s,mb4.3,baz=270,slow=1.6,SNR=26
PDAR LR LR 10 26 32.5
comp=Z,162nm,18.9s,baz=297,slow=36
LAO LASA Array 88.08 41 *e*P **P** **09 46 54.5 +0.2**
comp=Z,48nm,1.1s,mb5.4
WUAZ Wupatki 89.05 53 *e*P **P** **09 47 00.2 +1.1**
comp=Z,37nm,1.3s,mb5.2
PV10 Paradox Valley 89.65 49 *e*P **P** **09 47 02.7 +0.8**
PV01 Paradox Valley 90.09 49 *e*P **P** **09 47 04.3 +0.4**
RSSD Black Hills 90.59 43 *e*P **P** **09 47 06.3 +0.1**
RSSD pmax pmax
comp=Z,32nm,1.6s,mb5.2
RSSD Black Hills 90.59 43 *e*P **P** **09 47 06.3 +0.1**
comp=Z,32nm,1.6s,mb5.2
SMCO Snowmass 90.79 48 *e*P **P** **09 47 08.2 +1.0**
comp=Z,29nm,1.2s,mb5.3
ISCO Idaho Springs 91.47 47 *e*P **P** **09 47 11.2 +0.8**
ISCO pmax pmax
comp=Z,16nm,1.1s,mb5.1
ISCO Idaho Springs 91.47 47 *e*P **P** **09 47 11.2 +0.8**
comp=Z,16nm,1.1s,mb5.1
ULM Lac du Bonnet 92.33 35 P **P** **09 47 13.8 -0.2**
comp=Z,15nm,0.9s,mb5.2,baz=308,slow=5.7,SNR=29
SDCO Great Sand Dun 92.45 49 *e*P **P** **09 47 15.8 +0.9**
comp=Z,16nm,1.3s,mb5.1
NB2 NORSAR Subarra 92.53 340 P **P** **09 47 13.5 -1.2**
comp=Z,4.3nm,0.9s,mb4.8,baz=41,slow=5.0
NB2 NORSAR Subarra 92.53 340 P **P** **09 47 13.5 -1.2**
NB2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
NOA NORSAR Array B 92.53 340 P **P** **09 47 12.8 -1.8**
comp=Z,2.9nm,0.9s,mb4.6,baz=45,slow=4.4,SNR=4.4
NOA LR LR 10 30 13.4
comp=Z,53nm,19.5s,slow=36
ANMO Albuquerque 92.96 52 *d i*P **P** **09 47 17.8 +0.5**
VNDA Vanda 96.61 177 LR LR 10 24 24.6
comp=Z,64nm,21.2s,baz=336,slow=31
TXAR Lajitas Array 97.54 56 P **P** **09 47 37.6 -0.7**
comp=Z,1.1nm,1.0s,mb4.3,baz=315,slow=3.5,SNR=8.4
CLL Collm 98.94 332 *e*PP PP 09 51 43.0 -6.1
SYO Syowa Base 113.31 202⇑ P Pdif 09 48 39.6 -7.6
SYO Syowa Base 113.31 202⇓ Pdiff Pdif 09 48 49.3 +2.1
SYO Syowa Base 113.31 202⇑ pPdiff 09 49 17.3
SYO Syowa Base 113.31 202⇓ *e*P Pdif 09 48 49.4 +2.1
LSZ Lusaka 120.68 263 *e*PKIKP PKPdf 09 52 56.4 +1.6
VNA2 Neumayer--Watz 125.56 190 PKPdf PKPdf 09 53 04.2 +1.4
VNA2 *e* 09 53 18.7
VNA3 Neumayer Olymp 125.66 189 PKPdf PKPdf 09 53 05.0 +2.0
VNA3 *e* 09 53 19.8
SDV Santo Domingo 134.58 56 *e*PKPdf PKPdf 09 53 22.9 +1.4
DBIC Dimbokro 141.67 309 PKhKP 09 53 32.6
comp=Z,0.7nm,0.3s,baz=340,slow=5.3,SNR=4.6
DBIC PKP PKPdf 09 53 35.5 +1.1
comp=Z,1.5nm,0.5s,baz=285,slow=3.9,SNR=3.9
PLCA Paso Flores 141.91 133 PKhKP 09 53 31.4
comp=Z,3.2nm,0.8s,baz=197,slow=4.8,SNR=5.7
PLCA PKP PKPdf 09 53 36.0 +1.9
comp=Z,3.2nm,0.8s,baz=194,slow=4.7,SNR=5.9
FCH Farellones 144.57 121⇑ *i*P PKPbc 09 53 40.8 +2.0
LPAZ La Paz 147.41 91 PKPbc PKPdf 09 53 47.2 +3.0
comp=Z,11nm,0.8s,baz=336,slow=3.4,SNR=30
LPAZ La Paz 147.41 91 *e*PKP2 PKPab 09 53 46.9 -4.3
TRQA Tornquist 149.03 134 *e*PKPdf PKPdf 09 53 50.5 +4.3

MDD 27 10:04:17.0±4.4, 35.13N×10.75W, mb3.7/2, Error ellipse: s-maj=100.0km s-min=34.9km az=135.0, PRXIMO SIN SOLUCIN, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado** 0.9nm,0.1s,SNR=7.9	**3.56**	**47**	P	Pn	10 05 12.2	-2.5
EGRO	2.1nm,0.1s,SNR=7.9			S	Sn	10 05 53.1	-5.0
EGRO	**El Granado** 0.9nm,0.1s,SNR=7.9	**3.56**	**47**	P	Pn	10 05 12.2	-2.5
EGRO	2.1nm,0.1s,SNR=7.9			S	Sn	10 05 53.1	-5.0
EMIN	**Mina Concepcio** 0.6nm,0.1s,SNR=7.9	**4.21**	**50**	P	Pn	10 05 21.3	-2.5
EMIN	0.5nm,0.1s,SNR=7.9			S	Sn	10 06 08.8	-5.7
EMIN	**Mina Concepcio** 0.6nm,0.1s,SNR=7.9	**4.21**	**50**	P	Pn	10 05 21.3	-2.5

EMIN					S		Sn	10 06 08.8 -5.7
	0.5nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**4.69**	**39**	S			Sn	10 06 20.2 -6.5
	1.3nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**4.69**	**39**	S			Sn	10 06 20.2 -6.5
	1.3nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.20**	**54**	P			Pn	10 05 34.5 -3.4
	0.6nm,0.1s,SNR=7.1							
ECAB					S		Sn	10 06 30.5 -8.9
	0.2nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.20**	**54**	P			Pn	10 05 34.5 -3.4
	0.6nm,0.1s,SNR=7.1							
ECAB					S		Sn	10 06 30.5 -8.9
	0.2nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**5.81**	**57**	P			Pn	10 05 43.7 -2.9
	1.1nm,0.2s,SNR=7.9							
EADA					S		Sn	10 06 47.7 -7.2
	0.6nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**5.81**	**57**	P			Pn	10 05 43.7 -2.8
	1.1nm,0.2s,SNR=7.9							
EADA					S		Sn	10 06 47.7 -7.2
	0.6nm,0.1s,SNR=7.9							

NEIC ***27*** *10:29:24.4±1.1,8.43S×80.43W,h35km,mb3.7/1,Error ellipse: s-maj=29.5km s-min=13.6km az=68.0*
IDC ***27*** *10:29:35.7±6.4,8.12S×79.85W,h131km±59km,mb3.5/5, mb1 3.6/7,mb1mx3.5/18,mbtmp3.9/7,MS3.0/2,Ms1 3.0/2, ms1mx2.6/19,Error ellipse: s-maj=40.3km s-min=21.6km az=66.0*
ISC 27 10:29:21.0±1.1,8.6S±0.1×80.1W±0.2,h33km,n15, σ1§32/15,mb3.8/6,Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NNA	**Nana**	**4.67**	**137**	*e*Pn			**Pn**	**10 30 31.2**	**0.0**
NNA				*e*Sn			**Sn**	**10 31 22.1**	**-2.9**
OTAV	**Otavalo**	**8.88**	**11**	*e*Pn			**P**	**10 31 31.7**	**+1.7**
	8.8nm,0.9s								
LPAZ	**La Paz**	**13.97**	**125**	P			**P**	**10 32 48.2**	**+9.2**
	0.3nm,0.3s,baz=293,slow=11,SNR=6.3								
LPAZ	**La Paz**	**13.97**	**125**	*e*Pn			**P**	**10 32 45.5**	**+6.5**
	1.7nm,0.6s								
ROSC	**El Rosal**	**14.51**	**24**	LR			LR	10 38 24.9	
	comp=Z,45nm,20.1s,baz=207,slow=38								
SDV	**Santo Domingo**	**19.72**	**29**	P			**P**	**10 33 50.7**	**-0.1**
	0.1nm,0.3s,baz=197,slow=11,SNR=5.0								
SDV				LR			LR	10 41 59.8	
	comp=Z,68nm,21.1s,baz=129,slow=39								
SIV	**San Ignacio**	**19.98**	**114**	P			**P**	**10 33 52.7**	**-0.9**
	0.2nm,0.3s,baz=280,slow=11,SNR=9.5								
PLCA	**Paso Flores**	**33.15**	**167**	P			**P**	**10 36 03.2**	**+6.7**
	0.5nm,0.6s,mb3.6,baz=337,slow=7.9,SNR=3.0								
PLCA	**Paso Flores**	**33.15**	**167**	P			**P**	**10 36 03.2**	**+6.7**
TRQA	**Tornquist**	**33.61**	**154**	P			**P**	**10 36 04.2**	**+3.7**
	0.6nm,0.5s,mb3.8								
PDAR	**Pinedale Array**	**57.72**	**335**	P			**P**	**10 39 11.1**	**+0.1**
	0.2nm,0.4s,mb3.5,baz=143,slow=9.0,SNR=3.1								
ULM	**Lac du Bonnet**	**60.15**	**348**	P			**P**	**10 39 26.1**	**-1.7**
	2.2nm,0.8s,mb4.2,baz=156,slow=6.4,SNR=4.1								
YKA	**Yellowknife Ar**	**75.67**	**344**	P			**P**	**10 41 04.0**	**-0.5**
	0.4nm,0.7s,mb3.4,baz=141,slow=6.1,SNR=14								
YKA	**Yellowknife Ar**	**75.67**	**344**	P			**P**	**10 41 04.0**	**-0.5**
DBIC	**Dimbokro**	**76.50**	**81**	P			**P**	**10 41 10.3**	**+0.1**
	2.9nm,0.6s,mb4.4,baz=241,slow=5.4,SNR=8.9								

NIED ***27*** *10:33:00,36.90N×135.90E,h320km,Mw4.5 Best double couple: M0 6.78×10^15 NP1:φs315°,δ81°,λ-35°. NP2:φs52°, δ55°,λ-169°.*
BJI ***27*** *10:33:42.1,36.89N×135.86E,h350km,mB4.7,mb4.9*
MOS ***27*** *10:33:42.5±0.9,37.05N×135.70E,h329km,mb4.3/26, Error ellipse: s-maj=9.9km s-min=6.2km az=105.3*
IDC ***27*** *10:33:43.3±0.6,37.00N×135.73E,h322km±6km,mb3.8/19, mb1 4.0/24,mb1mx4.0/27,mbtmp4.6/24,Error ellipse: s-maj=10.6km s-min=9.1km az=154.0*
JMA ***27*** *10:33:43.4±0.2,36.91N×135.92E,h335km±2km,M4.5*
NEIC ***27*** *10:33:44.0±0.3,36.97N×135.76E,h331km±3km,mb4.6/28, MW4.5(NIED),Error ellipse: s-maj=5.6km s-min=4.6km az=159.0*
ISC 27 10:33:42.8±0.2,36.95N±0.03×135.81E±0.03,h335km±2km, n167,σ1§01/205,mb4.3/65,11C-23D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JJH	**Hakui**	**0.78**	**91**	⇓P			**P**	**10 34 26.8**	**+0.5**
JJH				S			**S**	**10 35 00.3**	**-0.1**
JKG	**Kaga**	**0.79**	**147**	⇓P			**P**	**10 34 26.5**	**+0.2**
JKG				S			**S**	**10 34 59.7**	**-0.7**
JHG	**Hegura jima**	**1.27**	**44**	⇓P			**P**	**10 34 29.0**	**+0.6**
JHG				S			**S**	**10 35 04.8**	**+0.7**
JSZ	**Suzu**	**1.34**	**68**	⇓P			**P**	**10 34 29.1**	**+0.3**
JSZ				S			**S**	**10 35 04.7**	**-0.1**
JGM	**Miyama**	**1.45**	**149**	⇓P			**P**	**10 34 29.5**	**+0.1**
JGM				S			**S**	**10 35 05.1**	**-0.8**
JWT	**Wachi**	**1.69**	**191**	⇑P			**P**	**10 34 31.3**	**+0.4**
JWT				S			**S**	**10 35 07.9**	**-0.6**
MAJO	**Matsushiro**	**1.97**	**101**	⇓*i*P			**P**	**10 34 32.8**	**+0.1**
MAJO				*e*S			**S**	**10 35 12.7**	**+0.8**
MAT	**Matsushiro**	**1.97**	**101**	P			**P**	**10 34 32.7**	**0.0**
MAT				S			**S**	**10 35 11.6**	**-0.3**
MAT	**Matsushiro**	**1.97**	**101**	P			**P**	**10 34 32.7**	**0.0**
MAT				S			**S**	**10 35 11.7**	**-0.2**
MAT	**Matsushiro**	**1.97**	**101**	*e*P			**P**	**10 34 33.0**	**+0.3**
MAT				*e*S			**S**	**10 35 12.0**	**+0.1**
MJAR	**Matsushiro Arr**	**1.97**	**101**	P			**P**	**10 34 33.1**	**+0.3**
	172nm,0.3s,baz=277,slow=8.1,SNR=1703								
MJAR				S			**S**	**10 35 12.0**	**+0.1**
	baz=117,slow=18,SNR=6.0								
JSD	**Sado**	**2.24**	**60**	⇓P			**P**	**10 34 34.8**	**0.0**
JYN	**Shimob**	**2.64**	**122**	⇓P			**P**	**10 34 37.5**	**-0.7**
JIE	**Ise**	**2.65**	**164**	⇑P			**P**	**10 34 38.8**	**+0.6**
JIE				S			**S**	**10 35 21.6**	**-0.1**
JRY	**Ryogami san**	**2.66**	**109**	⇓P			**P**	**10 34 37.5**	**-0.8**
JRY				S			**S**	**10 35 21.4**	**-0.4**
JWY	**Kouya**	**2.73**	**184**	P			**P**	**10 34 39.4**	**+0.5**
JWY				S			**S**	**10 35 22.4**	**-0.4**
JHS	**Saijyo**	**2.92**	**229**	⇑P			**P**	**10 34 41.4**	**+0.8**
JNS	**Sasagawa**	**2.93**	**72**	⇓P			**P**	**10 34 40.2**	**-0.5**
JNS				S			**S**	**10 35 25.2**	**-0.9**
JAG	**Ashikaga**	**2.98**	**99**	⇓P			**P**	**10 34 39.5**	**-1.6**
JAG				S			**S**	**10 35 24.0**	**-2.8**
JAW	**Awa shima**	**3.12**	**60**	P			**P**	**10 34 42.4**	**-0.1**
JOD2	**Odawara 2**	**3.14**	**121**	⇓P			**P**	**10 34 42.4**	**-0.3**
JOD2				S			**S**	**10 35 29.3**	**-0.4**
JWZ	**Kozaga**	**3.41**	**181**	⇑P			**P**	**10 34 45.3**	**0.0**
JHJ	**Hachijo jima 2**	**5.02**	**138**	P			**P**	**10 35 04.2**	**+1.8**
	50nm,0.3s,baz=240,slow=17,SNR=9.4								
JHJ				S			**S**	**10 36 07.0**	**+2.1**
	144nm,0.3s,baz=75,slow=20,SNR=5.1								
JNU	**Nakatsue**	**5.56**	**228**	P			**P**	**10 35 09.9**	**+1.4**
	8.4nm,0.3s,baz=46,slow=8.3,SNR=71								
JNU				S			**S**	**10 36 16.6**	**+0.6**
	1.1nm,0.3s,baz=299,slow=36,SNR=5.2								
KS15	**Wonju Array Si**	**6.34**	**277**	⇓*i*Pn			**P**	**10 35 19.2**	**+1.5**
INCN	**Inchon**	**7.34**	**277**	⇓*e*Pn			**P**	**10 35 31.2**	**+1.7**
	246nm,0.9s								
ASAJ	**Asahikawa**	**8.83**	**34**	P			**P**	**10 35 45.5**	**-2.0**
	58nm,0.3s,baz=228,slow=14,SNR=166								
ASAJ				S			**S**	**10 37 19.1**	**-6.6**
	36nm,0.3s,baz=29,slow=30,SNR=19								
ASAJ	**Asahikawa**	**8.83**	**34**	P			**P**	**10 35 45.5**	**-1.9**
ASAJ				S			**S**	**10 37 19.2**	**-6.6**
ASAJ				pmax		pmax			
	comp=Z,58nm,0.3s								
ASAJ				smax					
	comp=N,36nm,0.3s								
MDJ	**Mudanjiang**	**8.99**	**330**	P			**P**	**10 35 50.8**	**+1.4**
MDJ				S			**S**	**10 37 33.0**	**+3.7**
MDJ				AMB		AMB			
	comp=Z,160nm,0.7s								
MDJ				AMB		AMB			
	comp=Z,150nm,3.1s								
MDJ	**Mudanjiang**	**8.99**	**330**	⇑*i*Pn			**P**	**10 35 50.4**	**+1.0**
	comp=Z,122nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**10.43**	**44**	*e*P			**P**	**10 36 05.6**	**-1.1**
YUK				*e*S			**S**	**10 37 52.5**	**-8.0**
YUK				pmax		pmax			
	comp=N,340nm,0.5s								
YUK				pmax		pmax			
	comp=Z,340nm,0.5s								
YUK				smax					
	comp=N,5μm,0.8s								
YUK				smax					
	comp=E,3μm,0.7s								
YUK				smax					
	comp=N,3μm,0.6s								
YUK				smax					
	comp=E,2μm,0.5s								
CN2	**Changchun**	**10.45**	**314**	*e*P			**P**	**10 36 08.8**	**+1.8**
CN2				*e*XP				10 37 20.8	
CN2				*e*S			**S**	**10 38 03.3**	**+2.2**
CN2				AMB		AMB			
	comp=Z,30nm,0.9s								
SNY	**Shenyang**	**10.64**	**301**	⇓P			**P**	**10 36 11.0**	**+1.7**
SNY				S			**S**	**10 38 09.8**	**+4.5**
SNY				AMB		AMB			
	comp=Z,40nm,0.7s								
CBIJ	**Chichi jima**	**11.21**	**149**	P			**P**	**10 36 11.2**	**-5.1**
	comp=Z,82nm,0.3s,baz=325,slow=20,SNR=25								
CBIJ				S			**S**	**10 38 06.7**	**-11**
	comp=Z,87nm,0.3s,baz=281,slow=23,SNR=12								
YSS	**Yuzh-Sakhalins**	**11.25**	**25**	⇓*i*P			**P**	**10 36 15.9**	**-0.8**
YSS				*e*S			**S**	**10 38 13.0**	**-5.6**
YSS				pmax		pmax			
	comp=N,170nm,0.8s								
YSS				pmax		pmax			
	comp=Z,220nm,0.8s								
YSS				smax					
	comp=N,140nm,0.9s								
YSS				smax					
	comp=E,110nm,0.9s								
YSS	**Yuzh-Sakhalins**	**11.25**	**25**	*e*Pn			**P**	**10 36 15.4**	**-1.3**
	comp=E,195nm,0.8s								
DL2	**Dalian**	**11.37**	**284**	⇓*i*P			**P**	**10 36 20.0**	**+1.9**
DL2				XP				10 37 35.0	
DL2				S			**S**	**10 38 29.8**	**+8.7**
DL2				AMB		AMB			
	comp=Z,100nm,0.6s								
HABR	**Khabarovsk**	**11.54**	**357**	*i*P			**P**	**10 36 20.2**	**+0.1**
HABR				*e*S			**S**	**10 38 31.7**	**+7.0**
HABR				pmax		pmax			
	comp=Z,418nm,0.9s								
HABR				MLR		MLR			
	comp=Z,96nm,4.3s								
JOW	**Kunigami**	**11.94**	**214**	P			**P**	**10 36 24.5**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=101,slow=9.8,SNR=5.9								
KLR	**Kul'dur**	**12.63**	**348**	*e*P			**P**	**10 36 27.4**	**-5.9**
KLR				*e*S			**S**	**10 38 45.8**	**-2.7**
KLR				pmax		pmax			
	comp=E,36nm,1.0s								
KLR				pmax		pmax			
	comp=Z,80nm,1.0s								
SSE	**Sheshan**	**13.45**	**249**	P			**P**	**10 36 38.3**	**-4.9**
SSE				S			**S**	**10 39 06.3**	**-0.4**
SSE				AMB		AMB			
	comp=Z,110nm,0.8s								
SSE				AMB		AMB			
	comp=Z,160nm,4.5s								
SSE				LR		LR			
	comp=N,20nm,12.6s								
SSE				LR		LR			
	comp=E,20nm,12.6s								
SSE				LR		LR			
	comp=Z,40nm,18.2s								
NJ2	**Nanjing**	**14.80**	**256**	*e*P			**P**	**10 36 57.8**	**-0.6**
NJ2				XP				10 38 20.3	
NJ2				AMB		AMB			
	comp=Z,70nm,0.8s								
NJ2				AMB		AMB			
	comp=Z,200nm,5.4s								
NJ2				LR		LR			
	comp=N,1μm,25.3s								
NJ2				LR		LR			
	comp=E,650nm,20.6s								
NJ2				LR		LR			
	comp=Z,370nm,20.0s								
TIA	**Tai'an**	**15.03**	**273**	⇓P			**P**	**10 36 59.5**	**-1.3**
TIA				AMB		AMB			
	comp=Z,70nm,1.0s								
HIA	**Hailar**	**16.96**	**322**	*e*P			**P**	**10 37 20.3**	**-0.9**
HIA				pmax		pmax			
	comp=E,19nm,0.6s								
HIA	**Hailar**	**16.96**	**322**	*e*P			**P**	**10 37 20.3**	**-0.9**
	comp=Z,19nm,0.6s								
WHN	**Wuhan**	**18.93**	**257**	*e*P			**P**	**10 37 40.5**	**-0.7**
HHC	**Hu-ho-hao-te**	**19.25**	**289**	⇑P			**P**	**10 37 43.0**	**-1.3**
HHC				XP				10 39 17.5	
HHC				S			**S**	**10 40 55.8**	**-3.7**
HHC				PCP		PcP		10 41 52.3	-0.3
HHC				SCP				10 44 53.0	
HHC				PCS				10 45 28.0	
HHC				SCS		ScS		10 48 34.0	-2.0
HHC				AMB		AMB			
	comp=Z,30nm,0.9s								
HHC				AMB		AMB			
	comp=Z,150nm,4.3s								
BTO	**Baotou**	**20.41**	**288**	*e*P			**P**	**10 37 53.3**	**-2.3**
CLNS	**Chul'man**	**21.20**	**343**	*e*P			**P**	**10 38 00.2**	**-3.0**
CLNS				pmax		pmax			
	comp=Z,23nm,0.6s,mb4.6								
CLNS				pmax		pmax			
	comp=N,14nm,0.8s								
CLNS				pmax		pmax			
	comp=E,5.0nm,0.7s								
XAN	**Xi'an**	**22.06**	**270**	P			**P**	**10 38 10.5**	**-1.0**
XAN				AMB		AMB			
	comp=Z,70nm,0.5s,mb5.2								
ENH	**Enshi**	**22.87**	**261**	⇓*e*P			**P**	**10 38 18.3**	**-0.8**
	comp=Z,127nm,0.5s,mb5.4								
ULN	**Ulaanbaatar**	**23.74**	**306**	⇑*e*P			**P**	**10 38 26.9**	**-0.1**
ULN	**Ulaanbaatar**	**23.74**	**306**	*e*P			**P**	**10 38 26.4**	**-0.6**
	comp=Z,5.4nm,0.6s,mb4.0								
SONM	**Songino Array**	**24.15**	**306**	P			**P**	**10 38 30.2**	**-0.6**
	comp=Z,5.2nm,0.5s,mb4.0,baz=106,slow=8.9,SNR=39								
SONM				ScP				10 45 07.7	
	comp=Z,0.7nm,0.6s,baz=114,slow=3.5,SNR=5.6								
MA2	**Magadan**	**24.62**	**18**	*e*P			**P**	**10 38 34.7**	**-0.2**
MA2				pmax		pmax			
	comp=Z,23nm,0.8s,mb4.5								
MA2	**Magadan**	**24.62**	**18**	*e*P			**P**	**10 38 34.7**	**-0.2**
	comp=Z,23nm,0.8s,mb4.5								
GUMO	**Guam**	**24.63**	**158**	P			**P**	**10 38 37.8**	**+2.3**
	comp=Z,143nm,0.5s,baz=336,slow=2.7,SNR=8.2								
GUMO	**Guam**	**24.63**	**158**	*e*P			**P**	**10 38 38.0**	**+2.6**
GUMO				pmax		pmax			
	comp=Z,903nm,1.8s								
GUMO	**Guam**	**24.63**	**158**	*e*P			**P**	**10 38 38.0**	**+2.6**
	comp=Z,903nm,1.8s								
BOD	**Bodaibo**	**25.36**	**332**	*e*P			**P**	**10 38 39.3**	**-2.3**
BOD				pmax		pmax			
	comp=Z,5.0nm,1.3s,mb3.6								
YAK	**Yakutsk**	**25.40**	**353**	*e*P			**P**	**10 38 40.3**	**-1.7**
YAK				*e*S			**S**	**10 42 47.1**	**+4.3**
YAK				pmax		pmax			
	comp=Z,19nm,0.9s,mb4.3								
YAK				smax					
	comp=E,21nm,1.2s								
YAK				smax					
	comp=Z,15nm,1.0s								
YAK				smax					
	comp=N,9.0nm,0.9s								
YAK	**Yakutsk**	**25.40**	**353**	*e*P			**P**	**10 38 39.7**	**-2.3**
	comp=N,48nm,0.6s,mb4.9								
LZH	**Lanzhou**	**25.64**	**278**	*e*P			**P**	**10 38 43.5**	**-0.9**
LZH				AP				10 39 46.0	
LZH				XP			sP	10 40 28.5	+3.8
LZH				*e*S			**S**	**10 42 46.8**	**-0.1**
LZH				SCS		ScS		10 49 01.5	+1.3
LZH				AMB		AMB			
	comp=Z,60nm,1.2s,mb4.7								
LZH				AMB		AMB			
	comp=Z,220nm,4.5s								
GYA	**Guiyang**	**26.81**	**255**	⇓*i*P			**P**	**10 38 53.5**	**-1.6**
GYA				AP				10 39 54.3	
GYA				PCP		PcP		10 42 03.8	-4.6
GYA				S			**S**	**10 43 11.0**	**+5.3**
GYA				XS				10 45 02.5	
GYA				SCP				10 45 13.5	
GYA				SCS		ScS		10 48 59.5	-5.9
GYA				AMB		AMB			
	comp=Z,40nm,0.8s,mb4.7								
GYA				AMB		AMB			
	comp=Z,90nm,2.8s,mb4.5								
CD2	**Chengdu**	**27.18**	**267**	P			**P**	**10 38 56.3**	**-2.1**
CD2				S			**S**	**10 43 09.8**	**-1.7**
CD2				AMB		AMB			
	comp=Z,40nm,0.6s,mb4.8								
CD2				AMB		AMB			
	comp=Z,70nm,5.4s								
CD2				LR		LR			
	comp=E,130nm,10.3s								
CD2				LR		LR			
	comp=Z,90nm,13.2s								
SEY	**Seymchan**	**27.94**	**16**	⇑*e*P			**P**	**10 39 04.4**	**-0.4**
GTA	**Gaotai**	**28.29**	**286**	*e*P			**P**	**10 39 06.8**	**-1.3**
GTA				AP				10 40 10.3	
GTA				S			**S**	**10 43 28.5**	**-0.3**
GTA				SCP				10 45 21.0	
GTA				PCS				10 45 53.8	
GTA				AMB		AMB			
	comp=Z,120nm,5.7s								
GTA				LR		LR			
	comp=N,130nm,12.2s								
GTA				LR		LR			
	comp=E,180nm,10.6s								
GTA				LR		LR			
	comp=Z,120nm,10.3s								
KMI	**Kunming**	**30.54**	**257**	P			**P**	**10 39 27.0**	**-0.9**
KMI				AP		pP		10 40 38.0	+6.3
KMI				AMB		AMB			
	comp=Z,20nm,0.9s,mb4.3								
TIXI	**Tiksi**	**34.96**	**356**	*e*P			**P**	**10 40 03.2**	**-1.9**
BILL	**Bilibino**	**35.49**	**19**	⇑*e*P			**P**	**10 40 09.7**	**+0.1**
BILL				*e*S			**S**	**10 45 20.8**	**+0.7**
BILL				pmax		pmax			
	comp=Z,30nm,0.9s,mb4.5								
BILL	**Bilibino**	**35.49**	**19**	*e*P			**P**	**10 40 09.5**	**0.0**
	comp=Z,22nm,0.6s,mb4.6								
BILL				*e*pP		pP		10 41 12.2	-3.1
WMQ	**Urumqi**	**36.86**	**296**	*e*P			**P**	**10 40 22.5**	**+1.3**
WMQ				AP		sP		10 41 28.0	+0.7
WMQ				XP		sP		10 42 05.5	+0.5
WMQ				AMB		AMB			
	comp=Z,60nm,4.0s								
LSA	**Lhasa**	**37.73**	**272**	*e*P			**P**	**10 40 29.8**	**+1.1**
LSA				pmax		pmax			
	comp=Z,11nm,0.6s,mb4.3								
LSA	**Lhasa**	**37.73**	**272**	*e*P			**P**	**10 40 29.8**	**+1.1**
	comp=Z,11nm,0.6s,mb4.3								
NVS	**Novosibirsk**	**39.66**	**314**	*e*P			**P**	**10 40 42.9**	**-1.3**
MK31	**Makanchi Array**	**40.35**	**301**	*i*P			**P**	**10 40 49.7**	**-0.2**
MK31				pmax		pmax			
	comp=Z,2.0nm,0.3s,mb3.8								
MKAR	**Makanchi Array**	**40.35**	**301**	P			**P**	**10 40 49.7**	**-0.2**
	comp=Z,5.2nm,0.6s,mb3.9,baz=89,slow=10,SNR=78								
MKAR				ScP				10 46 02.5	
	comp=Z,1.9nm,0.6s,baz=76,slow=5.4,SNR=12								
MKAR	**Makanchi Array**	**40.35**	**301**	P			**P**	**10 40 49.7**	**-0.2**
MKAR				ScP				10 46 02.5	
KURK	**Kurchatov**	**42.44**	**308**	⇑*e*P			**P**	**10 41 06.5**	**-0.2**
KURK				pmax		pmax			
	comp=Z,16nm,0.6s,mb4.3								
KURK	**Kurchatov**	**42.44**	**308**	⇑*e*P			**P**	**10 41 06.5**	**-0.3**
	comp=Z,16nm,0.6s,mb4.3								
JIRN	**Jiri**	**42.54**	**272**	*e*P			**P**	**10 41 08.7**	**+0.8**
	comp=Z,33nm,0.2s,mb5.0								
GUN	**Gumba**	**42.69**	**273**	*e*P			**P**	**10 41 09.5**	**+0.5**
	comp=Z,67nm,0.4s,mb5.1								
PKI	**Pulchoki**	**43.21**	**273**	*e*P			**P**	**10 41 13.4**	**+0.2**
KKN	**Kakani**	**43.22**	**273**	*e*P			**P**	**10 41 13.6**	**+0.3**
	comp=Z,32nm,0.4s,mb4.8								
DMN	**Daman**	**43.43**	**273**	*e*P			**P**	**10 41 15.1**	**+0.1**
	comp=Z,16nm,0.4s,mb4.5								
GKN	**Gorkha**	**43.64**	**274**	*e*P			**P**	**10 41 16.8**	**+0.1**
	comp=Z,110nm,0.6s,mb5.2								
KOLN	**Koldanda**	**44.57**	**274**	*e*P			**P**	**10 41 24.2**	**+0.2**
	comp=Z,27nm,0.3s,mb4.8								
ULHL	**Ulahol**	**45.40**	**296**	P			**P**	**10 41 30.9**	**+0.6**
	SNR=15								
TKM2	**Tokmak 2**	**45.70**	**297**	P			**P**	**10 41 33.8**	**+1.1**
	SNR=46								
TKM2	**Tokmak 2**	**45.70**	**297**	P			**P**	**10 41 33.6**	**+0.9**
TKM2				pmax		pmax			
	comp=Z,10.0nm,0.5s,mb4.2								
KZA	**Kyzart**	**46.15**	**296**	P			**P**	**10 41 38.1**	**+1.8**
	SNR=16								
KBK	**Karagaybulak**	**46.22**	**297**	P			**P**	**10 41 37.7**	**+1.0**
	SNR=20								
CHMS	**Chumysh**	**46.28**	**297**	P			**P**	**10 41 37.5**	**+0.3**
	SNR=6.7								
USP	**Ospenovka**	**46.39**	**298**	P			**P**	**10 41 38.4**	**+0.3**
	SNR=24								
FRU	**Bishkek**	**46.42**	**297**	⇓*e*P			**P**	**10 41 39.0**	**+0.7**
FRU				pmax		pmax			
	comp=Z,39nm,1.6s,mb4.3								
AAK	**Ala-Archa**	**46.55**	**297**	P			**P**	**10 41 39.8**	**+0.5**
	SNR=17								
AAK	**Ala-Archa**	**46.55**	**297**	*e*P			**P**	**10 41 38.5**	**-0.8**
AAK				pmax		pmax			
	comp=Z,18nm,0.8s,mb4.3								
AAK	**Ala-Archa**	**46.55**	**297**	*e*P			**P**	**10 41 38.5**	**-0.8**
	comp=Z,18nm,0.8s,mb4.3								
UCH	**Uchtor**	**46.64**	**296**	P			**P**	**10 41 41.4**	**+1.4**
	SNR=19								
VOSK	**Vostochnaya**	**46.98**	**311**	P			**P**	**10 41 41.8**	**-0.6**
VOSK				pmax		pmax			
	comp=Z,26nm,1.0s,mb4.4								
EKS2	**Erkin-Say**	**47.06**	**297**	P			**P**	**10 41 43.5**	**+0.3**
	SNR=15								
CHKZ	**Chkalovo**	**47.08**	**312**	P			**P**	**10 41 42.5**	**-0.7**
CHKZ				pmax		pmax			
	comp=Z,14nm,0.8s,mb4.2								
CHKZ	**Chkalovo**	**47.08**	**312**	⇓*e*P			**P**	**10 41 42.4**	**-0.8**
	comp=Z,21nm,0.7s,mb4.5								
AML	**Almayashu**	**47.26**	**296**	P			**P**	**10 41 46.1**	**+1.4**
	SNR=104								
BVA0	**Borovoye Array**	**47.29**	**312**	*i*P			**P**	**10 41 44.1**	**-0.8**
BVA0				pmax		pmax			
	com

WRA	**Warramunga Arr**	**56.59**	**182**	P		**P**		**10 42 52.5**	**-1.0**
	comp=Z,3.9nm,0.3s,mb4.2,baz=359,slow=7.6,SNR=146								
ASPA	**Alice Springs**	**60.31**	**182**	*e*P		**P**		**10 43 18.0**	**-0.9**
KEV	**Kevo**	**61.89**	**338**	*e*p		**P**		**10 43 28.1**	**-0.6**
	comp=Z,16nm,0.9s,mb4.5								
KEV	**Kevo**	**61.89**	**338**	*e*P		**P**		**10 43 28.1**	**-0.6**
KEV				pmax	pmax				
	comp=Z,16nm,0.9s,mb4.5								
ARCES	**ARCESS Array B**	**62.45**	**338**	P		**P**		**10 43 32.2**	**-0.2**
	comp=Z,5.4nm,0.8s,mb4.1,baz=63,slow=8.1,SNR=11								
RES	**Resolute Bay**	**63.76**	**13**	*e*P		**P**		**10 43 40.4**	**-0.2**
RES				pmax	pmax				
	comp=Z,17nm,0.9s,mb4.7								
RES	**Resolute Bay**	**63.76**	**13**	*e*P		**P**		**10 43 40.4**	**-0.2**
	comp=Z,17nm,0.9s,mb4.7								
JOF	**Joensuu**	**63.88**	**330**	*e*p		**P**		**10 43 40.8**	**-0.7**
	comp=Z,1.2nm,0.4s,mb3.9								
OBN	**Obninsk**	**65.42**	**321**	*e*P		**P**		**10 43 50.2**	**-1.3**
OBN				*e*				10 44 19.6	
OBN				*e*SP		sP		10 45 34.5	-6.7
OBN				*e*S		S		10 52 09.7	+1.6
OBN				*e*SS		SS		10 56 31.6	+1.3
OBN				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb3.9								
YKA	**Yellowknife Ar**	**66.09**	**29**	P		**P**		**10 43 55.7**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.1,baz=304,slow=6.6,SNR=135								
KAF	**Kangasniemi**	**66.27**	**331**	*e*p		**P**		**10 43 56.3**	**-0.4**
	comp=Z,2.0nm,0.4s,mb4.2								
KAF	**Kangasniemi**	**66.27**	**331**	*e*P		**P**		**10 43 56.3**	**-0.4**
KAF				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.2								
FINES	**FINESS Array B**	**66.74**	**331**	P		**P**		**10 43 59.5**	**-0.1**
	comp=Z,1.5nm,0.4s,mb4.0,baz=73,slow=6.5,SNR=25								
KIV	**Kislovodsk**	**67.52**	**309**	*e*P		**P**		**10 44 03.3**	**-1.5**
KIV				pmax	pmax				
	comp=Z,10.0nm,0.7s,mb4.7								
STKA	**Stephens Creek**	**68.68**	**175**	P		**P**		**10 44 18.2**	**+6.1**
	comp=Z,2.0nm,0.5s,mb4.1,baz=329,slow=7.2,SNR=4.5								
SUMG	**Summit**	**70.70**	**358**	*e*P		**P**		**10 44 25.2**	**+1.4**
	comp=Z,20nm,0.9s,mb4.8								
AKASG	**Malin Array Be**	**71.55**	**320**	P		**P**		**10 44 28.8**	**-0.3**
	comp=Z,5.3nm,0.6s,mb4.5,baz=51,slow=6.2,SNR=29								
AKASG	**Malin Array Be**	**71.55**	**320**	P		**P**		**10 44 28.8**	**-0.3**
EDM	**Edmonton**	**72.14**	**36**	*e*P		**P**		**10 44 33.1**	**+0.6**
NB2	**NORSAR Subarra**	**72.46**	**335**	P		**P**		**10 44 34.0**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.8,baz=43,slow=5.6								
NB2	**NORSAR Subarra**	**72.46**	**335**	P		**P**		**10 44 34.0**	**-0.3**
NB2				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.7								
NOA	**NORSAR Array B**	**72.46**	**335**	P		**P**		**10 44 34.1**	**-0.2**
	comp=Z,1.7nm,0.8s,mb3.9,baz=42,slow=5.9,SNR=5.8								
NEW	**Newport**	**73.26**	**42**	P		**P**		**10 44 40.1**	**+1.0**
	comp=Z,3.0nm,0.6s,mb4.2,baz=335,slow=3.6,SNR=6.9								
BR131	**Keskin Array S**	**75.48**	**309**	*e*P		**P**		**10 44 53.0**	**+1.0**
	comp=Z,0.8nm,0.4s,mb3.8								
BRTR	**Keskin Array B**	**75.48**	**309**	P		**P**		**10 44 52.6**	**+0.5**
	comp=Z,2.7nm,0.5s,mb4.3,baz=127,slow=5.1,SNR=14								
OJC	**Ojcow**	**76.53**	**324**	*e*P		**P**		**10 44 57.3**	**-0.4**
HRY	**Holter Researc**	**77.03**	**41**	*e*P		**P**		**10 45 01.6**	**+1.1**
EGMT	**Eagleton**	**77.23**	**39**	*e*P		**P**		**10 45 02.6**	**+1.1**
	comp=Z,8.1nm,0.7s,mb4.6								
DLMT	**Dillon**	**77.50**	**42**	*e*P		**P**		**10 45 04.6**	**+1.5**
	comp=Z,15nm,0.7s,mb4.8								
MCMT	**McKenzie Canyo**	**77.70**	**43**	P		**P**		**10 45 05.1**	**+0.9**
BOZ	**Bozeman (W)**	**77.83**	**42**	*e*P		**P**		**10 45 06.1**	**+1.3**
BOZ				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.4								
BOZ	**Bozeman (W)**	**77.83**	**42**	*e*P		**P**		**10 45 06.1**	**+1.3**
	comp=Z,5.3nm,0.6s,mb4.5								
NVAR	**Mina Array Bea**	**78.57**	**50**	P		**P**		**10 45 10.9**	**+1.9**
	comp=Z,2.9nm,0.6s,mb4.2,baz=294,slow=5.1,SNR=30								
CLL	**Collm**	**78.85**	**327**	P		**P**		**10 45 11.0**	**+0.9**
ELK	**Elko**	**78.97**	**47**	P		**P**		**10 45 12.6**	**+1.6**
	comp=Z,0.3nm,0.4s,mb3.4,baz=354,slow=8.8,SNR=4.2								
GERES	**GERESS Array B**	**80.33**	**325**	P		**P**		**10 45 18.6**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.7,baz=37,slow=6.7,SNR=7.6								
PDAR	**Pinedale Array**	**80.85**	**43**	P		**P**		**10 45 21.9**	**+1.0**
	comp=Z,3.1nm,0.7s,mb4.2,baz=306,slow=2.2,SNR=31								
ULM	**Lac du Bonnet**	**81.96**	**31**	P		**P**		**10 45 26.9**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.5,baz=314,slow=5.2,SNR=18								
SCHQ	**Schefferville**	**86.54**		P		**P**		**10 45 49.9**	**+1.0**
	comp=Z,3.9nm,1.0s,mb4.2,baz=200,slow=5.0,SNR=4.4								
TXAR	**Lajitas Array**	**93.65**	**49**	P		**P**		**10 46 24.1**	**+1.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=290,slow=3.3,SNR=13								

*NEIC **27** 10:39:35.9±1.0, 1.16S×79.71W, h50km, mb3.5/2, Error ellipse: s-maj=22.6km s-min=13.9km az=81.0*
*IGQ **27** 10:39:39.6, 0.94S×79.21W, h114km±3km, mb4.3, Error ellipse: s-maj=2.0km s-min=1.4km az=156.5*
*IDC **27** 10:39:54.4±6.4, 0.78S×78.79W, h234km±67km, mb3.1/6, mb1 3.3/8, mb1mx3.1/21, mbtmp3.7/8, Error ellipse: s-maj=58.8km s-min=18.7km az=62.0*

ISC 27 10:39:40.0±0.8, 0.96S±0.06×79.3W±0.1, h108km±7km, n31, σ0§77/36, mb3.5/6, 2C-14D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAMI	**Rancho Maria**	**0.83**	**70**	⇓P	**P**	**10 39 60.0**	**+0.4**
NAS1	**Nasa**	**0.87**	**68**	⇓P	**P**	**10 40 00.4**	**+0.4**
PISA	**Pisayambo**	**0.91**	**96**	⇓P	**P**	**10 40 00.4**	**+0.1**
CUSU	**Cusua**	**0.94**	**121**	⇓P	**P**	**10 40 00.9**	**+0.3**
VC1	**Cotopaxi 1**	**0.94**	**70**	⇓P	**P**	**10 40 00.9**	**+0.2**
VC1				S	**S**	**10 40 16.4**	**+0.3**
JUIV	**Juive**	**0.94**	**119**	⇓P	**P**	**10 40 00.5**	**-0.2**
JUIV				S	**S**	**10 40 15.3**	**-0.9**
TAMB	**Tambo**	**0.96**	**74**	⇓P	**P**	**10 40 01.0**	**+0.2**
ULBA	**Ulba**	**1.00**	**119**	⇓P	**P**	**10 40 01.2**	**-0.1**
ULBA				S	**S**	**10 40 16.5**	**-0.8**
MAG1	**Magdalena**	**1.01**	**331**	⇑P	**P**	**10 40 01.7**	**+0.3**
TERV	**Terraza Guagua**	**1.04**	**41**	⇓P	**P**	**10 40 01.9**	**+0.2**
PINO	**Pino**	**1.05**	**40**	⇓P	**P**	**10 40 01.9**	**+0.1**
YANA	**Yana**	**1.10**	**40**	⇓P	**P**	**10 40 02.2**	**-0.2**
ANTI	**Antisana**	**1.23**	**66**	⇓P	**P**	**10 40 03.9**	**-0.1**
OTAV	**Otavalo**	**1.46**	**35**	*e*Pn	**P**	**10 40 06.2**	**-0.3**
OTAV				*e*Sn	**S**	**10 40 26.2**	**-0.3**
COTA	**Cotacachi**	**1.60**	**36**	⇓P	**P**	**10 40 08.4**	**+0.1**
ANGU	**Angureal**	**1.62**	**52**	⇓P	**P**	**10 40 08.8**	**+0.2**
CAYA	**Cayambe**	**1.65**	**52**	⇑P	**P**	**10 40 08.9**	**0.0**
LAV3	**Lava3-Reventad**	**1.86**	**63**	P	**P**	**10 40 11.6**	**0.0**
NNA	**Nana**	**11.22**	**168**	P	**P**	**10 42 13.4**	**-4.8**
	12nm,0.6s						
NNA				*e*Sn	**S**	**10 44 15.1**	**-6.8**
SDV	**Santo Domingo**	**13.04**	**41**	P	**P**	**10 42 46.7**	**+4.4**
	0.4nm,0.3s,baz=252,slow=9.6,SNR=7.7						
SDV	**Santo Domingo**	**13.04**	**41**	*e*Pn	**P**	**10 42 45.3**	**+3.1**
	5.0nm,0.8s						
LPAZ	**La Paz**	**18.78**	**145**	P	**P**	**10 43 54.8**	**+1.3**
	0.1nm,0.3s,baz=326,slow=11,SNR=4.9						
LPAZ	**La Paz**	**18.78**	**145**	*e*P	**P**	**10 43 53.2**	**-0.3**
	1.0nm,0.7s						
SIV	**San Ignacio**	**23.36**	**131**	P	**P**	**10 44 40.6**	**+0.9**
	1.0nm,0.5s,mb3.4,baz=309,slow=7.7,SNR=5.8						
ANMO	**Albuquerque**	**43.85**	**327**	P	**P**	**10 47 39.0**	**+1.7**
	1.2nm,0.5s,mb3.9,baz=150,slow=9.0,SNR=5.6						
ANMO	**Albuquerque**	**43.85**	**327**	*e*P	**P**	**10 47 36.8**	**-0.5**
	1.3nm,0.6s,mb3.8						
ULM	**Lac du Bonnet**	**52.96**	**347**	P	**P**	**10 48 44.9**	**-2.7**
	0.7nm,0.5s,mb3.9,baz=168,slow=8.6,SNR=3.9						
NVAR	**Mina Array Bea**	**53.14**	**322**	P	**P**	**10 48 50.3**	**+1.2**
	0.7nm,0.7s,mb3.8,baz=144,slow=8.2,SNR=7.0						
YKA	**Yellowknife Ar**	**68.65**	**343**	P	**P**	**10 50 31.6**	**-1.9**
	0.1nm,0.6s,mb2.8,baz=141,slow=6.1,SNR=5.7						
YKA	**Yellowknife Ar**	**68.65**	**343**	P	**P**	**10 50 31.6**	**-1.9**
ILAR	**Eielson Array**	**81.48**	**336**	P	**P**	**10 51 46.0**	**-0.5**
	0.3nm,0.8s,mb3.2,baz=138,slow=4.4,SNR=6.8						

*NNC **27** 10:45:26.9±2.7, 40.60N×73.21E, mb4.6, mpv4.9, Error ellipse: s-maj=28.3km s-min=13.3km az=177.0*
*IDC **27** 10:45:27.7±0.9, 40.61N×73.29E, mb4.1/13, mb1 4.2/16, mb1mx4.2/21, mbtmp4.0/16, ML3.5/3, MS3.7/7, Ms1 3.7/7, ms1mx3.3/33, Error ellipse: s-maj=18.8km s-min=13.1km az=169.0*
*BJI **27** 10:45:32.7, 41.15N×73.39E, h31km, mB4.8, mb4.2, ML4.6, Ms4.4, Msz3.9*
*NEIC **27** 10:45:32.4±0.4, 40.59N×73.35E, h35km, mb4.2/19, Error ellipse: s-maj=8.9km s-min=6.5km az=53.0*
*MOS **27** 10:45:32.3±1.2, 40.79N×73.16E, h33km, mb4.5/7, Error ellipse: s-maj=8.1km s-min=5.4km az=92.4*

ISC 27 10:45:32.7±0.7, 40.72N±0.04×73.21E±0.05, h42km±6km, h19km±4.6km:pP-P, n101, σ1§25/113, mb4.2/27, MS3.6/8,

21C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**1.46**	**14**	P	**P**	**10 45 55.3**	**-1.7**
	SNR=822						
UCH	**Uchtor**	**1.80**	**33**	P	**P**	**10 46 00.9**	**-1.0**
	SNR=1746						
EKS2	**Erkin-Say**	**1.98**	**12**	P	**P**	**10 46 05.0**	**+0.5**
	SNR=801						
KZA	**Kyzart**	**2.05**	**48**	P	**P**	**10 46 05.3**	**-0.1**
	SNR=730						
AAK	**Ala-Archa**	**2.14**	**26**	P	**P**	**10 46 07.6**	**+0.8**
	SNR=1497						
AAK	**Ala-Archa**	**2.14**	**26**	*e*Pn	**P**	**10 46 06.9**	**+0.2**
AAK				*e*Sn	**S**	**10 46 36.1**	**+3.9**
KBK	**Karagaybulak**	**2.33**	**33**	P	**P**	**10 46 10.8**	**+1.3**
	SNR=523						
FRU	**Bishkek**	**2.36**	**26**	α *i*PN	**P**	**10 46 11.9**	**+2.0**
FRU				*i*		10 46 37.0	
FRU				*i* S	**S**	**10 46 44.0**	**+6.2**
FRU				pmax	pmax		
	comp=Z,2μm,1.9s						
FRU				pmax	pmax		
	comp=Z,2μm,1.4s						
FRU				smax			
	comp=N,2100μm,1.3s						
FRU				smax			
	comp=E,6μm,2.0s						
KSH	**Kashi**	**2.44**	**119**	⇑*i*P	**P**	**10 46 12.5**	**+1.5**
KSH				S	**S**	**10 46 47.5**	**+7.7**
KSH				Smax			
	comp=N,2μm,0.8s						
KSH				Smax			
	comp=E,2μm,0.7s						
CHMS	**Chumysh**	**2.55**	**26**	P	**P**	**10 46 14.1**	**+1.4**
	SNR=475						
USP	**Ospenovka**	**2.72**	**20**	P	**P**	**10 46 15.9**	**+0.9**
	SNR=356						
ULHL	**Ulahol**	**2.74**	**55**	P	**P**	**10 46 16.2**	**+0.9**
	SNR=50						
TKM2	**Tokmak 2**	**2.83**	**38**	P	**P**	**10 46 17.4**	**+0.8**
	SNR=290						
TKM2	**Tokmak 2**	**2.83**	**38**	⇑Pn	**P**	**10 46 17.4**	**+0.8**
	comp=E,246nm,0.7s						
TKM2				⇑Lg		10 46 56.4	
	comp=E,791nm,0.8s						
TAS	**Tashkent**	**3.02**	**283**	*e*PN	**P**	**10 46 19.0**	**-0.3**
TAS				*e*PG	**P**	**10 46 29.0**	**+10**
TAS				*e*S	**S**	**10 47 08.0**	**+13**
TAS				pmax	pmax		
	comp=Z,100μm,1.5s						
KK31	**Karatay Array**	**3.12**	**321**	Pn	**P**	**10 46 21.4**	**+0.7**
	comp=Z,24nm,0.4s,baz=134,slow=13,SNR=388						
KK31				Lg		10 47 09.1	
	comp=Z,434nm,0.7s,baz=142,slow=26,SNR=8.0						
KKAR	**Karatay Array**	**3.12**	**321**	*e*PN	**P**	**10 46 21.3**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KNDC	**Almaty**	**3.75**	**47**	⇑Pn	**P**	**10 46 26.9**	**-2.8**
	comp=Z,2μm,0.7s						
KNDC				⇑Lg		10 47 26.7	
	comp=Z,12μm,1.1s						
AAA	**Alma-Ata**	**3.78**	**46**	*i* PN	**P**	**10 46 29.6**	**-0.4**
AAA				*i* S	**S**	**10 47 25.3**	**+12**
AAA				pmax	pmax		
	comp=Z,700nm,0.7s						
AAA				smax			
	comp=E,6μm,1.3s						
AAA				MLR	MLR		
	comp=Z,3μm,1.9s						
MK31	**Makanchi Array**	**8.94**	**44**	Pn	**P**	**10 47 39.6**	**-2.6**
	comp=Z,8.3nm,0.7s,baz=222,slow=14,SNR=46						
MK31				⇑Sn	**S**	**10 49 29.7**	**+6.9**
	comp=Z,42nm,1.0s,baz=241,slow=24,SNR=3.8						
MK31	**Makanchi Array**	**8.94**	**44**	P	**P**	**10 47 39.6**	**-2.6**
MK31						10 49 29.7	
MK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MK31	**Makanchi Array**	**8.94**	**44**	Pn	**P**	**10 47 39.6**	**-2.6**
	comp=Z,8.3nm,0.6s						
MK31				Sn	**S**	**10 49 29.7**	**+6.9**
MKAR	**Makanchi Array**	**8.94**	**44**	Pn	**P**	**10 47 39.9**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=230,slow=14,SNR=34						
MKAR				Lg		10 50 11.7	
	comp=Z,0.8nm,0.3s,baz=229,slow=27,SNR=5.2						
KURK	**Kurchatov**	**10.68**	**19**	⇑*e*P	**P**	**10 48 03.4**	**-2.7**
VOSK	**Vostochnaya**	**12.10**	**354**	⇑Pn	**P**	**10 48 24.6**	**-0.6**
	comp=Z,8.7nm,1.2s						
VOSK				⇑Sn	**S**	**10 50 40.0**	**+0.2**
	comp=Z,298nm,1.1s						
VOSK	**Vostochnaya**	**12.10**	**354**	⇑P	**P**	**10 48 24.6**	**-0.6**
VOSK						10 50 40.0	
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BVA0	**Borovoye Array**	**12.46**	**352**	⇑Pn	**P**	**10 48 26.8**	**-3.2**
	comp=Z,2.4nm,1.9s,baz=123,slow=21,SNR=3.8						
BVA0				⇑Sn	**S**	**10 50 48.3**	**0.0**
	comp=Z,14nm,1.0s,baz=170,slow=31,SNR=3.6						
BVA0	**Borovoye Array**	**12.46**	**352**	⇑P	**P**	**10 48 26.8**	**-3.2**
BVA0						10 50 48.3	
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.9s						
BVA0	**Borovoye Array**	**12.46**	**352**	⇑Pn	**P**	**10 48 26.8**	**-3.2**
	comp=Z,2.4nm,1.9s						
BVA0				Sn	**S**	**10 50 48.3**	**0.0**
BVAR	**Borovoye Array**	**12.46**	**352**	Pn	**P**	**10 48 25.6**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=162,slow=14,SNR=7.0						
BVAR				Lg		10 52 07.3	
	comp=Z,2.2nm,0.3s,baz=159,slow=29,SNR=8.6						
BRVK	**Borovoye**	**12.50**	**352**	*e*P	**P**	**10 48 27.0**	**-3.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**12.50**	**352**	*e*Pn	**P**	**10 48 27.0**	**-3.6**
	comp=Z,3.6nm,0.6s						
BRVK				*e*pPn		10 48 35.0	
AB31	**Akbulak array**	**12.67**	**317**	⇑Pn	**P**	**10 48 28.1**	**-4.8**
	comp=Z,6.3nm,0.7s,baz=130,slow=11,SNR=46						
AB31	**Akbulak array**	**12.67**	**317**	⇑P	**P**	**10 48 28.1**	**-4.8**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AB31	**Akbulak array**	**12.67**	**317**	⇑Pn	**P**	**10 48 28.1**	**-4.8**
	comp=Z,6.3nm,0.7s						
CHKZ	**Chkalovo**	**13.08**	**353**	Sn	**S**	**10 51 03.3**	**0.0**
CHKZ	**Chkalovo**	**13.08**	**353**	*e*P	**P**	**10 48 36.1**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHKZ	**Chkalovo**	**13.08**	**353**	*e*Pn	**P**	**10 48 36.1**	**-2.1**
	comp=Z,3.2nm,0.8s						
CHKZ				*e*pPn		10 48 45.0	
AKTK	**Aktyubinsk**	**14.38**	**318**	Pn	**P**	**10 48 51.7**	**-3.6**
AKTO	**Aktyubinsk**	**14.38**	**318**	⇑Pn	**P**	**10 48 51.7**	**-3.5**
	comp=Z,2.4nm,1.2s						
AKTO	**Aktyubinsk**	**14.38**	**318**	Pn	**P**	**10 48 52.5**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=126,slow=14,SNR=8.8						
AKTO				LR	LR	10 54 45.5	
	comp=Z,357nm,18.1s,slow=38						
KOLN	**Koldanda**	**15.50**	**143**	*e*P	**P**	**10 49 04.2**	**-5.7**
	comp=Z,22nm,0.7s						
KOLN				*e*S	**S**	**10 51 51.3**	**-9.2**
NVS	**Novosibirsk**	**15.63**	**22**	*e*P	**P**	**10 49 13.3**	**+1.9**
NVS				*e*		10 52 04.6	
GKN	**Gorkha**	**15.79**	**140**	*e*P	**P**	**10 49 07.8**	**-5.9**
	comp=Z,21nm,0.6s						
DMN	**Daman**	**16.35**	**139**	*e*P	**P**	**10 49 15.4**	**-5.3**
GUN	**Gumba**	**16.49**	**137**	*e*P	**P**	**10 49 20.3**	**-2.2**
	comp=Z,24nm,0.6s						
JIRN	**Jiri**	**16.86**	**137**	*e*P	**P**	**10 49 21.6**	**-5.5**
	comp=Z,20nm,0.6s						
LSA	**Lhasa**	**18.29**	**121**	P	**P**	**10 49 46.7**	**+1.7**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	**Lhasa**	**18.29**	**121**	P	**P**	**10 49 46.7**	**+1.7**
	comp=Z,4.6nm,0.6s						
ARU	**Arti**	**18.40**	**334**	⇓*i*P	**P**	**10 49 44.7**	**-1.5**
ARU				*e*S	**S**	**10 53 07.8**	**+1.1**
ARU				pmax	pmax		
	comp=Z,17nm,1.6s						
ARU				MLR	MLR		
	comp=Z,200nm,15.0s						
ARU				MLR	MLR		
	comp=N,100nm,17.0s						
ARU				MLR	MLR		
	comp=E,100nm,20.0s						
ARU	**Arti**	**18.40**	**334**	*e*P	**P**	**10 49 44.6**	**-1.6**
	comp=E,24nm,1.4s						
ARU				*e*pP		10 49 54.3	

KRAR	**Krasnoyarsk**	**20.01**	**34**	*i* P		**P**		**10 50 04.5**	**+0.2**
GTA	**Gaotai**	**20.38**	**85**	*e*P		**P**		**10 50 07.0**	**-1.4**
GTA				AP				10 50 18.0	
GTA				XP				10 50 22.5	
GTA				S		**S**		**10 53 51.5**	**+2.1**
GTA				LR	LR				
	comp=N,170nm,6.5s								
GTA				LR	LR				
	comp=E,150nm,5.8s								
GTA				LR	LR				
	comp=Z,90nm,8.4s								
GNI	**Garni**	**21.64**	**278**	P		**P**		**10 50 21.0**	**-0.2**
GNI				pmax	pmax				
	comp=Z,16nm,0.8s								
GNI	**Garni**	**21.64**	**278**	P		**P**		**10 50 21.0**	**-0.2**
	comp=Z,16nm,0.8s,mb4.5								
MOY	**Mondy**	**21.99**	**51**	*e*P		**P**		**10 50 25.7**	**+1.1**
GOF	**Gofitskoye**	**22.46**	**291**	*e*P		**P**		**10 50 28.6**	**-0.7**
KIV	**Kislovodsk**	**22.73**	**288**	*e*P		**P**		**10 50 33.7**	**+1.8**
KIV				*e*S		**S**		**10 54 36.0**	**+3.0**
KIV				pmax	pmax				
	comp=Z,5.0nm,0.5s,mb4.2								
KIV				MLR	MLR				
	comp=Z,103nm,14.0s,MS3.4								
HYB	**Hyderabad**	**23.68**	**167**	*i* P		**P**		**10 50 42.5**	**+1.2**
HYB	**Hyderabad**	**23.68**	**167**	*e*P		**P**		**10 50 42.5**	**+1.2**
SONM	**Songino Array**	**24.66**	**62**	P		**P**		**10 50 50.8**	**+0.2**
	comp=Z,1.9nm,0.8s,mb3.7,baz=270,slow=9.3,SNR=16								
ULN	**Ulaanbaatar**	**25.11**	**62**	⇓*e*P		**P**		**10 50 55.3**	**+0.4**
ULN	**Ulaanbaatar**	**25.11**	**62**	*e*P		**P**		**10 50 55.2**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.0								
ANN	**Anapa**	**26.44**	**291**	*e*P		**P**		**10 51 07.9**	**+0.5**
ANN				pmax	pmax				
	comp=Z,119nm,1.1s,mb5.3								
MALT	**Malatya**	**26.84**	**276**	P		**P**		**10 51 11.4**	**+0.3**
MALT				pmax	pmax				
	comp=Z,4.0nm,1.1s,mb3.9								
MALT	**Malatya**	**26.84**	**276**	P		**P**		**10 51 11.4**	**+0.4**
	comp=Z,4.4nm,1.1s,mb3.9								
OBN	**Obninsk**	**28.08**	**313**	*e*P		**P**		**10 51 22.2**	**0.0**
OBN				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.0								
BR131	**Keskin Array S**	**30.06**	**281**	*e*P		**P**		**10 51 42.1**	**+2.2**
	comp=Z,1.6nm,0.6s,mb3.9								
BRTR	**Keskin Array B**	**30.06**	**281**	P		**P**		**10 51 39.7**	**-0.3**
	comp=Z,1.6nm,0.6s,mb3.9,baz=95,slow=8.4,SNR=8.5								
BOD	**Bodaibo**	**31.03**	**43**	*e*P		**P**		**10 51 47.5**	**-0.9**
BOD				pmax	pmax				
	comp=Z,8.0nm,1.3s,mb4.4								
ENH	**Enshi**	**31.13**	**98**	P		**P**		**10 51 50.9**	**+1.4**
	comp=Z,8.2nm,1.2s,mb4.4								
CSS	**Prodhromos**	**31.81**	**273**	*e*P		**P**		**10 51 54.8**	**-0.7**
	comp=Z,29nm,1.1s,mb5.0								
AKASG	**Malin Array Be**	**31.86**	**303**	P		**P**		**10 51 55.2**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.5,baz=82,slow=7.6,SNR=4.9								
AKASG	**Malin Array Be**	**31.86**	**303**	P		**P**		**10 51 55.2**	**-0.6**
MLR	**Muntele Rosu**	**34.44**	**294**	LR	LR			11 08 42.2	
	comp=Z,106nm,19.7s,MS3.6,baz=126,slow=40								
FINES	**FINESS Array B**	**35.08**	**322**	P		**P**		**10 52 23.2**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.2,baz=102,slow=9.3,SNR=12								
FINES				LR	LR			11 07 12.5	
	comp=Z,133nm,19.4s,MS3.7,baz=8.6,slow=37								
KWP	**Kalwaria**	**36.09**	**302**	P		**P**		**10 52 27.4**	**-4.8**
KWP				pmax	pmax				
	comp=Z,41nm,1.8s,mb5.1								
KWP	**Kalwaria**	**36.09**	**302**	P		**P**		**10 52 27.4**	**-4.8**
	comp=Z,41nm,1.8s,mb5.1								
ARCES	**ARCESS Array B**	**37.98**	**335**	P		**P**		**10 52 47.6**	**-0.2**
	comp=Z,3.4nm,0.8s,mb4.1,baz=97,slow=9.8,SNR=7.5								
ARCES				LR	LR			11 08 56.6	
	comp=Z,175nm,18.3s,MS3.9,baz=282,slow=37								
YAK	**Yakutsk**	**39.55**	**38**	⇓*e*P		**P**		**10 53 00.8**	**-0.1**
YAK				pmax	pmax				
	comp=Z,28nm,1.0s,mb5.0								
YAK				MLR	MLR				
	comp=Z,100

*TEH **27** 11:01:12.2, 30.93N×56.72E, h10km, Mn4.1*
*THR **27** 11:01:12.9±1.5, 30.95N×56.77E, h46km±12km, ML3.9*
*NEIC **27** 11:01:12.2, 30.93N×56.72E, h10km, mb3.5/2, ML4.1(TEH), After TEH.*

ISC 27 11:01:10.5±0.5, 30.92N±0.05×56.68E±0.06, h10km, n28, σ1©20/34, mb3.4/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**1.16**	**305**	Pg	**Pg**	**11 01 32.9**	**-0.9**
IMEH	**Mehriz**	**1.83**	**285**	Pn	**Pn**	**11 01 43.6**	**+1.2**
ICHK	**Chekchek**	**2.34**	**305**	Pn	**Pn**	**11 01 51.0**	**+1.3**
ISAD	**Sadrabad**	**2.74**	**292**	Pn	**Pn**	**11 01 57.5**	**+2.1**
ISRV	**Sarvestan**	**3.45**	**244**	Pn	**Pn**	**11 02 05.0**	**-0.4**
BNDS	**Bandar-Abbas**	**3.54**	**187**	*e*Pn	**Pn**	**11 02 05.7**	**-1.0**
BNDS				AML	AML	11 02 59.2	
	comp=N,326nm,0.5s						
ZHSF	**Zahedan**	**3.78**	**109**	*e*Pn	**Pn**	**11 02 08.1**	**-2.0**
ZHSF				*e*Pg	**Pg**	**11 02 18.9**	**-7.0**
ZHSF				AML	AML	11 02 55.0	
	comp=N,161nm,0.8s						
NASN	**Na'in**	**3.79**	**301**	*e*Pn	**Pn**	**11 02 11.3**	**+1.0**
NASN				*e*Pg	**Pg**	**11 02 20.0**	**-6.2**
NASN				AML	AML	11 03 20.7	
	comp=N,185nm,0.6s						
SHI	**Shiraz**	**3.82**	**252**	Pn	**Pn**	**11 02 11.2**	**+0.5**
IMOK	**Mook**	**3.91**	**242**	Pn	**Pn**	**11 02 11.8**	**-0.3**
GHIR	**Ghir-Karzin**	**4.15**	**232**	*e*Pn	**Pn**	**11 02 15.7**	**+0.3**
GHIR				*e*Sg	**Sg**	**11 03 21.5**	**-7.2**
IFIR	**Firoozkooh**	**5.74**	**326**	Pn	**Pn**	**11 02 37.6**	**-0.3**
IFIR				Sn	**Sn**	**11 03 41.5**	**-3.2**
IVRN	**Varamin**	**5.82**	**316**	Pn	**Pn**	**11 02 38.6**	**-0.4**
IVRN				Sn	**Sn**	**11 03 42.8**	**-3.7**
IDMV	**Damavand**	**6.06**	**321**	Pn	**Pn**	**11 02 44.3**	**+1.9**
IDMV				Sn	**Sn**	**11 03 49.0**	**-3.6**
ASAO	**Ashtian**	**6.67**	**305**	*e*Pn	**Pn**	**11 02 49.5**	**-1.6**
CHTH	**Charan**	**6.80**	**318**	*e*Pn	**Pn**	**11 02 51.6**	**-1.3**
AAK	**Ala-Archa**	**18.41**	**46**	*e*P	**P**	**11 05 29.2**	**+1.7**
	comp=N,4.3nm,1.2s						
AAK	**Ala-Archa**	**18.41**	**46**	*e*P	**P**	**11 05 29.2**	**+1.7**
	comp=N,4.3nm,1.2s						
AKTK	**Aktyubinsk**	**19.52**	**3**	P	**P**	**11 05 40.9**	**+0.2**
AKTK	**Aktyubinsk**	**19.52**	**3**	P	**P**	**11 05 40.9**	**+0.2**
AKTO	**Aktyubinsk**	**19.52**	**3**	P	**P**	**11 05 40.9**	**+0.2**
	comp=N,0.1nm,0.3s,baz=190,slow=11,SNR=2.8						
BR131	**Keskin Array S**	**20.71**	**301**	*e*P	**P**	**11 05 53.6**	**+0.1**
	comp=N,1.3nm,0.6s						
BR131	**Keskin Array S**	**20.71**	**301**	*e*P	**P**	**11 05 53.6**	**+0.1**
	comp=N,1.3nm,0.6s						
BRTR	**Keskin Array B**	**20.71**	**301**	P	**P**	**11 05 53.0**	**-0.5**
	comp=N,1.0nm,0.6s,baz=119,slow=15,SNR=4.0						
BVAR	**Borovoye Array**	**24.24**	**20**	P	**P**	**11 06 29.0**	**+0.6**
	comp=N,1.4nm,0.7s,mb3.5,baz=217,slow=7.2,SNR=9.3						
MKAR	**Makanchi Array**	**25.32**	**44**	P	**P**	**11 06 38.3**	**-0.5**
	comp=N,0.5nm,0.5s,mb3.3,baz=229,slow=10.0,SNR=9.9						
SONM	**Songino Array**	**41.22**	**51**	P	**P**	**11 08 56.7**	**-0.3**
	comp=N,0.6nm,0.9s,mb3.2,baz=270,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**86.65**	**356**	P	**P**	**11 13 56.4**	**+1.4**
	comp=N,0.2nm,0.7s,mb3.5,baz=0.1,slow=5.1,SNR=7.9						

*CSEM **27** 11:06:22.9, 33.53N×59.88E, h7km, ML3.7, After TEH*

TEH 27 11:06:22.9, 33.53N×59.88E, h7km, Mn3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOG	**Moghan**	**2.61**	**350**	Pn	Pn	11 07 06.1	-0.1
MHI	**Mashhad**	**2.79**	**353**	Pn	Pn	11 07 08.9	+0.1
IMYA	**Miamay**	**2.81**	**4**	Pn	Pn	11 07 08.2	-0.9
IPAY	**Payeh**	**3.00**	**346**	Pn	Pn	11 07 12.2	+0.4
IQHU	**Quchan**	**3.69**	**343**	Pn	Pn	11 07 23.1	+1.4
ISFR	**Esferayen**	**3.83**	**337**	Pn	Pn	11 07 25.0	+1.4
IBAF	**Bafgh**	**4.12**	**243**	Pn	Pn	11 07 26.7	-1.1
ICHK	**Chekchek**	**4.78**	**256**	Pn	Pn	11 07 35.6	-1.5
ISAD	**Sadrabad**	**5.46**	**255**	Pn	Pn	11 07 44.8	-1.9
IFIR	**Firoozkooh**	**6.24**	**292**	Pn	Pn	11 07 56.6	-1.1
IFIR				Sn	Sn	11 09 05.2	-5.0
IDMV	**Damavand**	**6.79**	**290**	Pn	Pn	11 08 04.0	-1.4
IVRN	**Varamin**	**6.91**	**284**	Pn	Pn	11 08 05.3	-1.8

*NEIC **27** 11:51:45.1, 17.03N×94.54W, h135km, MD3.9(MEX), After MEX.*

MEX 27 11:51:45.0±1.4, 17.04N×94.55W, h136km±23km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.00**	**7**	*i* P	P	11 52 06.8	-1.9
TUIG				*i* S	S	11 52 24.1	-2.7
HUIG	**Huatulco**	**1.96**	**230**	*i* P	P	11 52 16.1	-3.1
HUIG				*i* S	S	11 52 43.5	-1.8
VHO	**Vista Hermosa**	**2.09**	**271**	*i* P	P	11 52 20.4	-0.5
VHO				*i* S	S	11 52 46.9	-1.3
CCIG	**Comitan**	**2.43**	**108**	*i* P	P	11 52 24.3	-0.9
CCIG				*i* S	S	11 52 53.7	-2.1
PPM	**Popocatepetl**	**4.38**	**298**	*i* P	P	11 52 52.0	+1.2
PPM				*i* S	S	11 53 38.6	-2.8
PPM	**Popocatepetl**	**4.38**	**298**	*i* P	P	11 52 52.0	+1.2
PPM				*i* S	S	11 53 32.0	-9.5

*IDC **27** 12:06:01.1±1.3, 12.14N×92.86E, mb3.9/6, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, Error ellipse: s-maj=59.5km s-min=23.5km az=57.0*
*NEIC **27** 12:06:05.6±0.9, 12.16N×92.91E, h30km, mb4.1/2, Error ellipse: s-maj=38.3km s-min=16.2km az=55.0*

ISC 27 12:06:04.1±1.3, 12.2N±0.2×92.9E±0.3, h33km, n8, σ0©39/8, mb3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**35.68**	**347**	P	**P**	**12 13 01.2**	**-0.1**
	0.5nm,0.4s,mb3.6,baz=164,slow=8.7,SNR=7.7						
SONM	**Songino Array**	**37.32**	**15**	P	**P**	**12 13 15.5**	**+0.4**
	0.5nm,0.4s,mb3.7,baz=202,slow=9.1,SNR=7.6						
BRVK	**Borovoye**	**44.64**	**341**	P	**P**	**12 14 14.7**	**-0.6**
	1.2nm,1.1s,mb3.6						
CHKZ	**Chkalovo**	**45.06**	**341**	*e*P	**P**	**12 14 18.6**	**0.0**
	3.4nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**51.76**	**128**	P	**P**	**12 15 10.8**	**-0.1**
	0.3nm,0.6s,mb3.4,baz=301,slow=10.0,SNR=7.1						
WRA				PcP	PcP	12 16 24.7	+0.6
	0.3nm,0.4s,baz=322,slow=3.2,SNR=11						
FINES	**FINESS Array B**	**68.40**	**332**	P	**P**	**12 17 04.0**	**-0.3**
	1.6nm,0.7s,mb4.2,baz=90,slow=5.7,SNR=6.2						
ARCES	**ARCESS Array B**	**70.86**	**340**	P	**P**	**12 17 19.3**	**0.0**
	1.6nm,0.8s,mb4.0,baz=99,slow=7.4,SNR=6.9						
GERES	**GERESS Array B**	**73.87**	**318**	P	**P**	**12 17 38.2**	**+0.7**
	0.3nm,0.4s,mb3.5,baz=79,slow=6.8,SNR=4.3						

*NEIC **27** 12:16:22.1, 35.93S×71.70W, h91km, MD3.4(GUC), After GUC.*

GUC 27 12:16:22.1±0.4, 35.93S×71.70W, h91km±2km, MD3.4, ML3.5, 2C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.11**	**44**	*i* P	P	12 16 34.9	-0.1
LNCH				*i* S	S	12 16 44.9	+0.1
LNCH				AMP		12 16 45.5	
	comp=N,3μm,0.2s						
TALC	**Talca**	**0.53**	**5**	*i* P	P	12 16 37.0	-0.4
TALC				*i* S	S	12 16 48.8	0.0
TALC				AMP		12 16 49.8	
	comp=E,14μm,0.1s						
CCHI	**Chillan**	**0.74**	**204**	*i* P	P	12 16 39.3	-0.1
CCHI				*i* S	S	12 16 52.4	+0.2
CCHI				AMP		12 16 53.3	
	comp=E,1μm,0.2s						
SFDO	**San Fernando**	**1.42**	**23**	*i* P	P	12 16 47.3	-0.1
SFDO				*i* S	S	12 17 06.7	+0.6
LNV	**Longovilo**	**1.98**	**7**	*i* P	P	12 16 54.4	-0.2
LNV				*i* S	S	12 17 19.0	+0.4
FCH	**Farellones**	**2.84**	**24**	AMP		12 17 47.7	
	comp=N,53nm,0.2s						
TRQA	**Tornquist**	**8.06**	**108**	*e*Pn	P	12 18 14.3	-3.9
	comp=N,1.5nm,0.4s						

KRSC 27 12:22:33.0±4.6, 50.32N×157.52E, h9km±15km, ML4.2,

Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.97**	**293**	*i* P	Pb	12 22 50.5	-1.0
SKR				*i* S	Sb	12 23 09.4	+5.3
ALID	**Alaid**	**1.37**	**294**	*e*P	Pn	12 23 00.0	+1.6
ALID				*i* S	Sb	12 23 17.3	+1.4
MIPR	**Malaya Ipel'ka**	**2.02**	**347**	*i* P	Pn	12 23 08.6	+1.0
RUS	**Russkaya**	**2.21**	**16**	P	Pn	12 23 09.9	-0.4
RUS				S	Sn	12 23 34.1	-3.9
RUS	**Russkaya**	**2.21**	**16**	*e*P	Pn	12 23 09.8	-0.5
GRL	**Gorelyy**	**2.26**	**9**	*i* P	Pn	12 23 11.6	+0.5
GRL				*e*S	Sn	12 23 38.5	-0.9
KRMR	**Karymshinskiy**	**2.54**	**8**	*e*P	Pn	12 23 15.8	+0.6
KRMR				*e*S	Sn	12 23 45.8	-0.7
APC	**Apacha**	**2.62**	**355**	*e*P	Pn	12 23 17.0	+0.8
APC				*e*S	Sn	12 23 47.2	-1.3
APC				Smax			
	70nm,0.8s						
PET	**Petropavlovsk**	**2.80**	**14**	P	Pn	12 23 19.0	+0.2
PET				S	Sn	12 23 49.9	-3.1
PET	**Petropavlovsk**	**2.80**	**14**	*e*P	Pn	12 23 18.9	+0.1
PET				*e*S	Sn	12 23 49.9	-3.1
UGLR	**Uglovaya**	**3.00**	**15**	*e*P	Pn	12 23 22.7	+1.0
UGLR				*e*S	Sn	12 23 59.5	+1.2
AVH	**Avacha**	**3.04**	**14**	*e*P	Pn	12 23 23.5	+1.2
AVH				*e*S	Sn	12 24 00.2	+0.9
SMAR	**Somma**	**3.05**	**15**	*e*P	Pn	12 23 23.9	+1.5
SMAR				*e*S	Sn	12 23 59.8	+0.3
KOK	**Koryaka**	**3.06**	**13**	*e*P	Pn	12 23 23.9	+1.4
KOK				*e*S	Sn	12 23 59.3	-0.3
SDLR	**Sedlovina**	**3.08**	**15**	*e*P	Pn	12 23 22.8	0.0
SDLR				*e*S	Sn	12 24 00.1	-0.1
SPN	**Mys Shipunski**	**3.19**	**28**	P	Pn	12 23 25.5	+1.2
SPN				S	Sn	12 24 01.1	-1.8
SPN	**Mys Shipunski**	**3.19**	**28**	*e*P	Pn	12 23 25.4	+1.1
SPN				*e*S	Sn	12 24 01.1	-1.8
GNL	**Ganaly**	**3.39**	**4**	*e*P	Pn	12 23 28.1	+0.9
GNL				*e*S	Sn	12 24 09.0	+1.0
KMNR	**Kamenistaya**	**5.69**	**16**	*e*P	Pn	12 24 02.3	+2.5
KBTR	**Krutoberegovo**	**6.70**	**26**	P	Pn	12 24 14.4	+0.4
KBTR	**Krutoberegovo**	**6.70**	**26**	*e*P	Pn	12 24 12.9	-1.1

*LDG **27** 13:34:18.8±0.1, 42.70N×0.72E, h5km, Md2.6/2, Ml2.4/5, Error ellipse: s-maj=1.1km s-min=0.8km az=22.0*
*STR **27** 13:34:18.4±0.2, 42.70N×0.73E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 27 13:34:19.0±0.3, 42.70N×0.72E, h9km±5km, mbLg1.8/19, Error ellipse: s-maj=1.9km s-min=1.4km az=18.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.17**	**9**	Pg	Pg	13 34 22.8	0.0
MELF				Sg	Sg	13 34 25.1	-0.2
MELF	**Melles**	**0.17**	**9**	P	Pg	13 34 22.9	+0.1
MELF				S	Sg	13 34 25.6	+0.2
RESF	**Ens**	**0.30**	**290**	Pg	Pg	13 34 24.7	-0.5
RESF				Sg	Sg	13 34 28.9	-0.5
RESF	**Ens**	**0.30**	**290**	P	Pg	13 34 24.8	-0.4
RESF				S	Sg	13 34 29.0	-0.3
SALF	**Salau**	**0.35**	**81**	Pg	Pg	13 34 25.4	-0.8
SALF				Sg	Sg	13 34 30.0	-1.0
SALF	**Salau**	**0.35**	**81**	P	Pg	13 34 25.4	-0.8
SALF				S	Sg	13 34 30.1	-0.8
MLS	**Moulis**	**0.38**	**47**	Pg	Pg	13 34 26.1	-0.6
MLS				Sg	Sg	13 34 31.0	-0.8
MLS	**Moulis**	**0.38**	**47**	P	Pg	13 34 26.1	-0.5
MLS				S	Sg	13 34 31.1	-0.7
EBIE	**Bielsa**	**0.43**	**268**	Pg	Pg	13 34 26.9	-0.8
	1.9nm,0.1s,SNR=33						
EBIE				Lg		13 34 32.4	
	12nm,0.1s,SNR=6.9						
EPF	**Esparros**	**0.43**	**320**	*e*Pg	Pg	13 34 27.2	-0.6
EPF				*e*Sg	Sg	13 34 32.9	-0.7
	33nm,0.2s						
CSOR	**Sort**	**0.45**	**137**	Pg	Pg	13 34 27.2	-0.9
CSOR				Lg		13 34 33.4	
	2.7nm,0.1s						
VIEF	**Viey**	**0.54**	**290**	Pg	Pg	13 34 28.9	-1.1
VIEF				Sg	Sg	13 34 36.3	-1.0
VIEF	**Viey**	**0.54**	**290**	P	Pg	13 34 29.1	-0.9
VIEF				S	Sg	13 34 36.5	-0.9
LABF	**Labassere**	**0.59**	**306**	P	Pg	13 34 29.5	-1.3
LABF				S	Sg	13 34 38.1	-0.7
EGRA	**Graus**	**0.59**	**211**	Pg	Pg	13 34 30.2	-0.7
	1.7nm,0.1s,SNR=7.9						
EGRA				Lg		13 34 38.8	
	4.7nm,0.1s,SNR=9.7						
GRBF	**Gourbit**	**0.62**	**77**	Pg	Pg	13 34 30.4	-1.0
GRBF				Lg		13 34 38.5	
CORG	**Organya**	**0.65**	**137**	Pg	Pg	13 34 31.1	-0.9
CORG				Lg		13 34 39.6	
	0.9nm,0.0s						
CAVN	**Les Avellanes**	**0.82**	**178**	Pg	Pg	13 34 34.5	-1.0
CAVN				Lg		13 34 45.5	
	7.5nm,0.1s						
CLLI	**Llivia**	**0.95**	**103**	Pg	Pg	13 34 36.6	-1.5
ETSF	**Etsaut**	**0.96**	**282**	*e*Pg	Pg	13 34 36.4	-1.9
ETSF				*e*Sg	Sg	13 34 49.1	-2.1
	11nm,0.2s						
EMIR	**Miracle**	**0.99**	**143**	Pg	Pg	13 34 37.5	-1.3
	0.3nm,0.0s,SNR=5.6						
EMIR				Lg		13 34 52.2	
	3.3nm,0.1s,SNR=12						
MTLF	**Montolieu**	**1.27**	**59**	*e*Pg	Pg	13 34 42.8	-1.6
MTLF				*e*Sg	Sg	13 34 59.6	-1.8
	8.6nm,0.2s						
ESAC	**San Caprasio**	**1.32**	**222**	Pg	Pg	13 34 44.2	-1.2
	3.4nm,0.1s,SNR=6.1						
ESAC				Lg		13 35 02.1	
	18nm,0.1s,SNR=15						
EPOB	**Poblet**	**1.38**	**169**	Pg	Pg	13 34 44.0	-2.5
	1.4nm,0.1s,SNR=7.9						
EPOB				Lg		13 35 01.9	
	6.6nm,0.2s,SNR=7.0						
SJPF	**Ste Jean**	**1.49**	**287**	*e*Pn	Pn	13 34 44.3	-1.8
SJPF	**Ste Jean**	**1.49**	**287**	*e*Pg	Pg	13 34 46.5	-2.3
SJPF				*e*Sg	Sg	13 35 06.4	-2.2
	4.4nm,0.3s						
SJPF	**Ste Jean**	**1.49**	**287**	Pn	Pn	13 34 44.3	-1.8
SJPF				Pg	Pg	13 34 46.5	-2.3
SJPF				Lg		13 35 06.4	
	2.2nm,0.3s						
CFON	**Fontmartina**	**1.58**	**126**	Pg	Pg	13 34 48.6	-2.1
CFON				Lg		13 35 08.7	
	5.6nm,0.1s						
EJON	**La Jonquera**	**1.62**	**98**	Pg	Pg	13 34 49.5	-2.0
	0.2nm,0.1s,SNR=7.9						
EJON				Lg		13 35 10.2	
	2.1nm,0.1s,SNR=7.9						
IUNC	**Uncitti**	**1.64**	**273**	Lg		13 35 12.2	
	4.5nm,0.2s,SNR=4.0						
IUSE	**Utxeti**	**1.69**	**279**	Lg		13 35 15.1	
	1.0nm,0.1s,SNR=4.0						
EALK	**Alkurruntz**	**1.71**	**288**	Pg	Pg	13 34 51.2	-2.1
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		13 35 15.0	
	3.2nm,0.2s,SNR=9.2						
ERTA	**Horta de San J**	**1.77**	**190**	Pg	Pg	13 34 51.3	-3.1
	1.8nm,0.1s,SNR=7.9						
ERTA				Lg		13 35 14.0	
	3.7nm,0.2s,SNR=7.5						
LFF	**La Frestale**	**2.23**	**0**	*e*Pg	Pg	13 34 59.9	-3.8
CAF	**Calviac**	**2.42**	**23**	*e*Pn	Pn	13 34 57.8	-1.7
CAF				*e*Sg	Sg	13 35 35.1	-4.7
	2.2nm,0.2s						
EMOS	**Mosqueruela**	**2.50**	**201**	Lg		13 35 38.7	
	SNR=4.0						
LASF	**Ste Croix**	**2.67**	**58**	*e*Pg	Pg	13 35 08.3	-4.0
LASF				*e*Sg	Sg	13 35 42.7	-5.1
	4.2nm,0.3s						

*IDC **27** 13:54:49.9±7.8, 53.39N×160.36E, h155km±161km, mb3.0/4, mb1 3.3/5, mb1mx3.0/22, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=253.4km s-min=27.8km az=165.0*
*MOS **27** 13:54:50.3±0.9, 53.29N×160.27E, h190km, mb4.0/1, Error ellipse: s-maj=56.8km s-min=33.5km az=136.4*
*NEIC **27** 13:54:52.2±0.9, 54.01N×160.02E, h150km, Error ellipse: s-maj=38.4km s-min=14.5km az=140.0*

ISC 27 13:54:50.1±1.3, 53.3N±0.6×160.5E±0.1, h183km±21km, n8, σ0©99/12, mb3.2/4, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**1.14**	**259**	*i* PN	**P**	**13 55 19.5**	**+0.1**
PET				*i* S	**S**	**13 55 41.7**	**-0.3**
PET				pmax	pmax		
	comp=Z,221nm,0.4s						
PET				smax			
	comp=N,501nm,0.7s						
PET				smax			
	comp=E,386nm,0.6s						
PET	**Petropavlovsk**	**1.14**	**259**	*e*Pn	**P**	**13 55 19.4**	**0.0**
PET				*e*Sn	**S**	**13 55 42.0**	**0.0**
FX1	**Attu Island--F**	**7.64**	**88**	P	**P**	**13 56 41.3**	**+1.8**
	comp=E,3.4nm,0.3s,baz=305,slow=19,SNR=5.4						
FX1				S	**S**	**13 58 03.5**	**-1.4**
	comp=E,3.6nm,0.3s,baz=130,slow=23,SNR=7.0						
FX1	**Attu Island--F**	**7.64**	**88**	PN	**P**	**13 56 41.3**	**+1.7**
FX1				S	**S**	**13 58 03.5**	**-1.5**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1				smax			
	comp=N,4.0nm,0.3s						
ILAR	**Eielson Array**	**28.53**	**45**	P	**P**	**14 00 30.1**	**-0.1**
	comp=N,0.4nm,0.7s,mb3.2,baz=270,slow=11,SNR=8.0						
INK	**Inuvik**	**33.60**	**38**	P	**P**	**14 01 13.7**	**-0.7**
	comp=N,0.8nm,1.0s,mb3.4,baz=256,slow=4.2,SNR=4.2						
YKA	**Yellowknife Ar**	**42.88**	**43**	P	**P**	**14 02 32.7**	**+1.4**
	comp=N,0.2nm,0.6s,mb2.9,baz=300,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**48.31**	**296**	P	**P**	**14 03 13.5**	**-0.8**
	comp=N,0.3nm,0.5s,mb3.1,baz=61,slow=8.2,SNR=4.4						

*IDC **27** 14:14:06.0±1.5, 1.49N×96.76E, mb4.1/6, mb1 4.1/7, mb1mx4.0/17, mbtmp4.1/7, ML3.2/1, Error ellipse: s-maj=43.1km s-min=25.5km az=38.0*
*MOS **27** 14:14:09.4±0.7, 1.53N×96.81E, h33km, mb4.4/6, Error ellipse: s-maj=20.3km s-min=13.4km az=106.2*
*NEIC **27** 14:14:11.5±0.7, 1.59N×96.98E, h30km, mb4.3/9, Error ellipse: s-maj=16.8km s-min=10.4km az=219.0*

ISC 27 14:14:10.0±0.7, 1.6N±0.1×96.97E±0.09, h33km, n29, σ0©99/29, mb4.2/15, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**58**	Pn	**Pn**	**14 14 47.4**	**+1.0**
	5.2nm,0.3s,baz=244,slow=9.2,SNR=13						
KULM	**Kulim**	**5.19**	**45**	*e*P	**P**	**14 15 27.2**	**-0.2**
JIRN	**Jiri**	**27.90**	**339**	*e*P	**P**	**14 20 00.0**	**+0.7**
	9.1nm,0.7s,mb4.5						
GUN	**Gumba**	**28.24**	**339**	*e*P	**P**	**14 20 03.1**	**+0.8**
	8.8nm,0.5s,mb4.7						
DMN	**Daman**	**28.25**	**337**	*e*P	**P**	**14 20 03.9**	**+1.4**
KKN	**Kakani**	**28.35**	**338**	*e*P	**P**	**14 20 04.2**	**+0.9**
LSA	**Lhasa**	**28.49**	**349**	*e*P	**P**	**14 20 02.7**	**-1.9**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
LSA	**Lhasa**	**28.49**	**349**	*e*P	**P**	**14 20 02.7**	**-1.9**
	comp=Z,2.1nm,0.4s,mb4.1						
GKN	**Gorkha**	**28.79**	**337**	*e*P	**P**	**14 20 08.2**	**+1.0**
KOLN	**Koldanda**	**29.00**	**335**	*e*P	**P**	**14 20 11.5**	**+2.3**
ENH	**Enshi**	**30.89**	**21**	*e*P	**P**	**14 20 24.2**	**-1.8**
	comp=Z,5.1nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**42.44**	**122**	P	**P**	**14 22 04.0**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.5,baz=302,slow=9.2,SNR=4.5						
WRAB	**Tennant Creek**	**42.44**	**122**	*e*P	**P**	**14 22 03.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**42.44**	**122**	*e*P	**P**	**14 22 03.8**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**45.55**	**337**	*e*P	**P**	**14 22 27.6**	**-1.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
AAK	**Ala-Archa**	**45.55**	**337**	*e*P	**P**	**14 22 27.6**	**-1.1**
	comp=Z,1.3nm,0.8s,mb3.9						
SONM	**Songino Array**	**46.78**	**9**	P	**P**	**14 22 38.3**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.3,baz=191,slow=9.1,SNR=25						
MKAR	**Makanchi Array**	**46.80**	**346**	P	**P**	**14 22 38.5**	**0.0**
	comp=Z,5.0nm,0.7s,mb4.5,baz=163,slow=7.8,SNR=62						
ULN	**Ulaanbaatar**	**46.91**	**9**	*e*P	**P**	**14 22 39.3**	**+0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**46.91**	**9**	*e*P	**P**	**14 22 39.3**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.2						
KURK	**Kurchatov**	**51.35**	**345**	*e*P	**P**	**14 23 13.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**51.35**	**345**	*e*P	**P**	**14 23 13.1**	**-0.4**
	comp=Z,2.9nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**53.79**	**132**	*e*P	**P**	**14 23 32.3**	**+0.4**
NVS	**Novosibirsk**	**54.25**	**350**	*e*P	**P**	**14 23 31.4**	**-3.6**
CHKZ	**Chkalovo**	**56.28**	**341**	*e*P	**P**	**14 23 48.8**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**56.28**	**341**	*e*P	**P**	**14 23 48.8**	**-0.9**
	comp=Z,3.1nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**74.81**	**322**	P	**P**	**14 25 47.8**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=94,slow=4.8,SNR=5.2						
FINES	**FINESS Array B**	**79.54**	**333**	P	**P**	**14 26 14.5**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.0,baz=117,slow=4.3,SNR=4.0						
**ARCES

comp=Z,2.8nm,0.3s,baz=35,slow=12,SNR=51
WRA S S 14 32 04.5 +0.1
comp=Z,0.4nm,0.3s,baz=26,slow=22,SNR=5.4
ASPA Alice Springs 21.68 208 *e*P P 14 29 20.9 -0.3
FITZ Fitzroy Crossi 23.01 233 *e*P P 14 29 34.3 -0.1
comp=Z,88nm,0.6s,mb5.3
ARMA Armidale 26.54 167 *e*P P 14 30 09.7 +1.9
DZM Mont Dzumac 27.32 132 P P 14 30 17.3 +2.3
comp=Z,6.7nm,0.9s,mb4.2,baz=16,slow=9.0,SNR=5.9
STKA Stephens Creek 27.34 186 *e*P P 14 30 15.0 -0.1
comp=Z,2.9nm,0.7s,mb3.9
STKA Stephens Creek 27.34 186 P P 14 30 14.6 -0.5
comp=Z,3.2nm,0.7s,mb4.0,baz=318,slow=11,SNR=7.4
STKA LR LR 14 41 60.0
comp=Z,110nm,18.6s,baz=30,slow=38
YHNB Yeheng 36.87 323 *e*P P 14 31 37.9 -0.3
KLBR Kellerberrin 36.93 220 *e*P P 14 31 37.7 -0.9
NWAO Narrogin (SRO) 38.14 219 P P 14 31 48.4 -0.3
comp=Z,5.7nm,0.8s,mb4.5,baz=66,slow=13,SNR=5.6
MJAR Matsushiro Arr 41.34 352 P P 14 32 15.6 +0.5
comp=Z,0.8nm,0.5s,mb3.8,baz=179,slow=7.2,SNR=4.9
MAJO Matsushiro 41.34 352 *e*P P 14 32 14.3 -0.8
MAJO pmax pmax
comp=Z,22nm,1.1s,mb4.9
MAJO Matsushiro 41.34 352 *e*P P 14 32 14.3 -0.8
comp=Z,22nm,1.1s,mb4.9
NJ2 Nanjing 43.94 328 *e*P P 14 32 38.5 +2.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
RPZ Rata Peaks 45.40 153 P P 14 32 49.5 +1.6
comp=Z,11nm,0.8s,mb4.7,baz=78,slow=1.7,SNR=7.2
MDJ Mudanjiang 50.80 346 P P 14 33 30.0 +0.1
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,110nm,3.8s
HHC Hu-ho-hao-te 54.43 329 *e*P P 14 33 57.0 +0.1
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,160nm,5.2s
LZH Lanzhou 55.65 320 *e*P P 14 34 06.5 +0.7
LZH AP pP 14 34 25.8 -0.3
LZH XP sP 14 34 34.5 -0.6
LZH PP PP 14 36 13.5 +1.3
LZH *e*S S 14 41 46.0 +2.2
LZH AMB AMB
comp=Z,10.0nm,1.6s,mb4.6
LZH AMB AMB
comp=Z,30nm,4.5s
LZH LR LR
comp=N,250nm,15.6s
LZH LR LR
comp=Z,560nm,16.8s
GTA Gaotai 60.19 321 *e*P P 14 34 38.0 +0.4
ULN Ulaanbaatar 61.77 332 *c i*P P 14 34 48.6 +0.5
ULN Ulaanbaatar 61.77 332 *e*P P 14 34 46.9 -1.1
comp=Z,4.1nm,0.9s,mb4.5
SONM Songino Array 62.06 332 P P 14 34 50.4 +0.4
comp=Z,1.8nm,0.7s,mb4.2,baz=158,slow=5.9,SNR=18
SONM LR LR 15 02 26.0
comp=Z,54nm,19.3s,baz=124,slow=37
MA2 Magadan 64.11 3 P P 14 35 00.6 -2.8
MA2 pmax pmax
comp=Z,30nm,1.3s,mb5.0
MA2 Magadan 64.11 3 P P 14 35 00.6 -2.8
comp=Z,30nm,1.3s,mb5.0
JIRN Jiri 64.84 303 *e*P P 14 35 08.7 0.0
comp=Z,3.4nm,0.4s,mb4.6
GUN Gumba 65.18 303 *e*P P 14 35 10.9 0.0
comp=Z,8.0nm,0.3s,mb5.0
PKI Pulchoki 65.46 303 *e*P P 14 35 12.5 -0.2
comp=Z,2.9nm,0.4s,mb4.5
PKI Pulchoki 65.46 303 *e*P P 14 35 12.5 -0.2
PKI pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
KKN Kakani 65.64 303 *e*P P 14 35 13.3 -0.5
comp=Z,11nm,0.7s,mb4.8
KKN Kakani 65.64 303 *e*P P 14 35 13.3 -0.5
KKN pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
DMN Daman 65.72 303 *e*P P 14 35 14.4 0.0
comp=Z,11nm,0.6s,mb4.9
GKN Gorkha 66.25 303 *e*P P 14 35 17.3 -0.4
comp=Z,11nm,0.6s,mb4.8
KOLN Koldanda 67.04 303 *e*P P 14 35 22.3 -0.4
WMQ Urumqi 70.23 320 *e*P P 14 35 43.0 +1.0
WMQ AP pP 14 36 04.3 +1.2
WMQ XP sP 14 36 14.5 +2.9
WMQ AMB AMB
comp=Z,50nm,4.8s
WMQ LR LR
comp=N,410nm,20.0s
WMQ LR LR
comp=E,300nm,20.0s
WMQ LR LR
comp=Z,500nm,20.0s
VNDA Vanda 73.48 176 P P 14 36 00.9 +0.2
comp=Z,2.9nm,0.7s,mb4.2,baz=323,slow=5.8,SNR=14
VNDA Vanda 73.48 176 *e*P P 14 36 00.7 -0.1
VNDA *e**PP pP 14 36 21.7 -0.3
VNDA pmax pmax
comp=Z,8.0nm,1.2s
VNDA Vanda 73.48 176 *e*P P 14 36 00.7 -0.1
comp=Z,7.6nm,1.2s,mb4.4
VNDA *e*pP pP 14 36 21.7 -0.3
BILL Bilibino 74.00 8 *e*P P 14 36 03.7 -0.2
BILL pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
SBA Scott Base 74.17 175 P P 14 36 06.8 +2.0
SBA pmax pmax
comp=Z,19nm,1.3s,mb4.7
SBA Scott Base 74.17 175 P P 14 36 06.8 +2.0
comp=Z,19nm,1.3s,mb4.7
MKAR Makanchi Array 74.95 321 P P 14 36 10.2 +0.4
comp=Z,4.4nm,0.7s,mb4.3,baz=103,slow=7.2,SNR=57
NVS Novosibirsk 77.82 329 *e*P P 14 36 24.4 -1.4
KURK Kurchatov 78.70 324 *e*P P 14 36 30.5 -0.2
KURK *e**PP pP 14 36 53.1 +1.0
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
KURK Kurchatov 78.70 324 *e*P P 14 36 30.5 -0.2
comp=Z,2.3nm,0.8s,mb4.1
KURK *e*pP pP 14 36 53.1 +0.9
AAK Ala-Archa 78.72 315 *e*P P 14 36 30.4 -0.5
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
AAK Ala-Archa 78.72 315 *e*P P 14 36 30.4 -0.5
comp=Z,2.4nm,0.9s,mb4.0
MAW Mawson 82.70 202 P P 14 36 51.8 +0.3
comp=Z,3.9nm,0.6s,mb4.4,baz=91,slow=4.9,SNR=6.6
MCK McKinley 83.84 24 *e*P P 14 36 56.0 -1.3
MCK *e**PP pP 14 37 18.2 -0.7
BVA0 Borovoye Array 84.28 324 *i*P P 14 36 59.6 -0.1
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
CHKZ Chkalovo 84.32 325 *e*P P 14 36 59.9 0.0
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
CHKZ Chkalovo 84.32 325 *e*P P 14 36 59.9 0.0
comp=Z,3.0nm,0.6s,mb4.3
BRVK Borovoye 84.34 324 *e*P P 14 37 00.3 +0.3
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
BRVK Borovoye 84.34 324 *e*P P 14 37 00.3 +0.2
comp=Z,3.7nm,0.8s,mb4.3
COLA College 84.72 23 P P 14 37 01.3 -0.3
COLA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
COLA College 84.72 23 P P 14 37 01.3 -0.4
comp=Z,5.7nm,0.6s,mb4.7
ILAR Eielson Array 85.07 24 P P 14 37 02.4 -1.0
comp=Z,5.1nm,0.8s,mb4.5,baz=256,slow=4.9,SNR=68
ZRNK Zerenda 85.07 324 *e*P P 14 37 03.8 +0.2
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ZRNK Zerenda 85.07 324 *e*P P 14 37 03.8 +0.1
comp=Z,4.1nm,0.6s,mb4.5
QSPA South Pole Qui 85.40 180 *e*P P 14 37 05.1 +0.4
comp=Z,20nm,0.7s,mb5.1
DAWY Dawson 87.94 25 *e*P P 14 37 18.4 +1.1
SYO Syowa Base 91.15 200 ⇓P P 14 37 32.4 0.0
SYO Syowa Base 91.15 200 ⇓*e*PcP PcP 14 37 34.8 +1.3
SYO Syowa Base 91.15 200 ⇓*e*pP pP 14 37 53.7 -0.7
SYO Syowa Base 91.15 200 ⇓*e*P P 14 37 32.4 0.0
SYO *e**PP pP 14 37 53.7 -0.7
INK Inuvik 91.16 22 P P 14 37 32.3 -0.1
comp=Z,1.6nm,0.6s,mb4.3,baz=275,slow=5.2
YKA Yellowknife Ar 98.95 28 P P 14 38 07.4 -0.6
comp=Z,0.2nm,0.6s,mb3.8,baz=277,slow=5.0,SNR=6.7
YKA Yellowknife Ar 98.95 28 *i*P P 14 38 07.9 -0.2
OBN Obninsk 104.06 326 *e*P Pdif 14 38 31.0 0.0
OBN pmax pmax
comp=Z,1.0nm,0.4s
PLCA Paso Flores 124.56 148 PKP PKPdf 14 43 29.3 +3.1
comp=Z,0.7nm,0.6s,baz=239,slow=4.3,SNR=3.6
DBIC Dimbokro 149.65 275 PKPbc PKPdf 14 44 19.1 +6.8
comp=Z,1.5nm,0.5s,baz=21,slow=1.2,SNR=6.5
DBIC Dimbokro 149.65 275 PKHKP 14 44 17.1

*ATH **27** 14:35:44.1, 38.79N×20.97E, h13km±3km, MD3.3/4*
*NEIC **27** 14:35:44.0, 38.77N×20.96E, h3km, MD3.3(ATH), After ATH.*
*THE **27** 14:35:45.4, 38.80N×20.97E, h10km, ML3.1*
*CSEM **27** 14:35:45.1±0.1, 38.75N×20.93E, h2km, ML3.1, Error ellipse: s-maj=2.5km s-min=2.1km az=130.0*
ISC 27 14:35:44.2±0.5, 38.77N±0.03×20.98E±0.03, h2km, n17, σ0§86/26, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.26**	**256**	*e*Pg	**Pg**	**14 35 49.6**	**+0.2**
LKD				*e*Sg	**Sg**	**14 35 55.1**	**+2.2**
VLS	**Valsamata**	**0.66**	**207**	*e*PG	**Pg**	**14 35 57.1**	**-0.4**
VLS				*e*SB	**Sb**	**14 36 07.3**	**-0.3**
VLS	**Valsamata**	**0.66**	**207**	*e*Pg	**Pg**	**14 35 56.8**	**-0.7**
EVR	**Evrytania**	**0.67**	**77**	*e*PG	**Pg**	**14 35 56.8**	**-0.7**
RLS	**Riolos of Patr**	**0.81**	**151**	*e*PB	**Pb**	**14 36 00.5**	**-0.1**
JAN	**Janina**	**0.89**	**354**	⇓*i*PB	**Pb**	**14 36 00.7**	**-1.4**
IGT	**Igoumenitsa**	**0.91**	**327**	*e*Pg	**Pg**	**14 36 00.9**	**-1.5**
IGT				*e*Sg	**Sg**	**14 36 15.4**	**+0.8**
MEV	**Metsovon**	**1.03**	**11**	*e*Pg	**Pg**	**14 36 03.5**	**-1.3**
MEV				*e*Sg	**Sg**	**14 36 18.4**	**-0.2**
AGG	**Agios Georgios**	**1.09**	**76**	*e*Pg	**Pg**	**14 36 05.3**	**-0.6**
AGG				*e*Sg	**Sg**	**14 36 21.8**	**+1.3**
KEK	**Kerkira**	**1.31**	**316**	*e*PB	**Pb**	**14 36 08.6**	**-0.7**
LKR	**Lokris**	**1.59**	**94**	*e*PB	**Pb**	**14 36 14.0**	**0.0**
LIT	**Litokhoron**	**1.77**	**41**	*e*Pb	**Pb**	**14 36 17.0**	**-0.2**
LIT				*e*Sb	**Sb**	**14 36 39.8**	**0.0**
XOR	**Xorichti**	**1.83**	**70**	*e*Pb	**Pb**	**14 36 17.6**	**-0.4**
XOR				*e*Sb	**Sb**	**14 36 42.6**	**+1.2**
FNA	**Florina**	**2.04**	**9**	*e*Pn	**Pn**	**14 36 20.3**	**+0.4**
FNA				*e*Sn	**Sn**	**14 36 47.2**	**+0.9**
PAIG	**Paliouri**	**2.40**	**60**	*e*Pn	**Pn**	**14 36 24.8**	**-0.2**
PAIG				*e*Sn	**Sn**	**14 36 55.2**	**-0.2**
GRG	**Griva**	**2.44**	**26**	*e*Pn	**Pn**	**14 36 27.2**	**+1.4**
KNT	**Kendrikon**	**2.81**	**31**	*e*Pn	**Pn**	**14 36 31.2**	**+0.3**

IDC 27 14:55:37.8±1.9, 10.69S×66.20E, mb3.7/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=73.5km s-min=40.2km az=57.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**59.01**	**13**	P	P	15 05 38.6	-3.2
	0.3nm,0.8s,baz=193,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**66.00**	**107**	P	P	15 06 26.5	-2.2
	1.2nm,0.8s,baz=276,slow=5.9,SNR=8.6						
SONM	**Songino Array**	**68.31**	**28**	P	P	15 06 41.6	-1.3
	0.7nm,0.8s,baz=214,slow=6.0,SNR=6.9						
YKA	**Yellowknife Ar**	**128.28**	**0**	PKP	PKPdf	15 14 46.5	-1.5
	0.3nm,0.9s,baz=24,slow=0.6,SNR=5.5						
PDAR	**Pinedale Array**	**147.83**	**354**	PKPbc	PKPdf	15 15 23.1	-0.8
	0.8nm,1.0s,baz=90,slow=1.5,SNR=4.5						
NVAR	**Mina Array Bea**	**152.09**	**8**	PKPbc	PKPdf	15 15 36.4	+5.8
	0.7nm,0.6s,baz=341,slow=1.3,SNR=8.4						

*NIED **27** 15:21:00, 38.50N×142.10E, h130km, Mw4.3 Best double couple: M0 3.23×10^15 NP1:φs 126°, δ76°, λ30°. NP2:φs 29°, δ61°, λ164°.*
JMA 27 15:21:30.6±0.1, 38.48N×142.12E, h40km±1km, M3.6, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.61**	**268**	⇓P	P	15 21 42.7	-0.1
JIO				S	S	15 21 51.1	-0.5
OFUJ	**Ofunato**	**0.69**	**330**	⇓P	P	15 21 44.0	0.0
OFUJ				S	S	15 21 53.6	-0.2
JMK	**Ichinoseki**	**0.85**	**304**	⇓P	P	15 21 46.3	+0.2
JMK				S	S	15 21 56.9	-0.7
JOU	**Okura**	**1.15**	**265**	⇓P	P	15 21 50.6	+0.2
JOU				S	S	15 22 05.1	-0.1
JOM	**Ohasama**	**1.18**	**327**	⇓P	P	15 21 51.3	+0.4
JOM				S	S	15 22 06.4	+0.3
JMM	**Marumori**	**1.21**	**240**	⇓P	P	15 21 50.6	-0.7
JMM				S	S	15 22 06.0	-0.8
JYK	**Kaneyama**	**1.45**	**288**	⇓P	P	15 21 55.0	+0.3
JFK	**Kawauchi**	**1.48**	**222**	P	P	15 21 54.4	-0.9
JYS	**Shirataka**	**1.64**	**262**	P	P	15 21 57.4	0.0

*IDC **27** 15:22:13.6±4.1, 11.72S×166.24E, h67km±34km, mb3.6/5, mb1 3.8/7, mb1mx3.7/15, mbtmp4.0/7, ML4.2/2, MS3.4/3, Ms1 3.4/3, ms1mx3.0/23, Error ellipse: s-maj=40.2km s-min=24.2km az=70.0*
*NEIC **27** 15:22:13.7±1.7, 11.70S×166.22E, h69km±13km, mb4.1/3, Error ellipse: s-maj=21.6km s-min=11.2km az=62.0*
ISC 27 15:22:12.1±2.9, 11.8S±0.1×166.2E±0.2, h68km±23km, n13, σ0§53/11, mb4.0/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.54**	**290**	P	P	**15 23 47.3**	**-0.4**
	20nm,0.3s,baz=136,slow=8.2,SNR=13						
HNR				LR	LR	15 26 05.4	
	comp=Z,214nm,19.4s,baz=310,slow=35						
DZM	**Mont Dzumac**	**10.26**	**179**	P	P	**15 24 39.4**	**+0.6**
	0.5nm,0.3s,baz=2.1,slow=20,SNR=7.1						
CTA	**Charters Tower**	**20.85**	**244**	LR	LR	15 32 32.4	
	comp=Z,74nm,18.6s,baz=55,slow=30						
WRAB	**Tennant Creek**	**31.63**	**251**	*e*P	P	**15 28 31.5**	**+0.4**
	9.5nm,1.3s,mb4.4						
WRA	**Warramunga Arr**	**31.64**	**251**	P	P	**15 28 31.1**	**0.0**
	0.9nm,0.6s,mb3.7,baz=84,slow=9.0,SNR=14						
GUMO	**Guam**	**32.87**	**319**	LR	LR	15 39 28.5	
	comp=Z,137nm,18.8s,baz=102,slow=32						
VNDA	**Vanda**	**65.80**	**181**	P	P	**15 32 51.3**	**-0.6**
	0.7nm,0.7s,mb3.6,baz=340,slow=8.4,SNR=2.3						
VNDA	**Vanda**	**65.80**	**181**	P	P	**15 32 51.7**	**-0.2**
	0.8nm,0.7s,mb3.7						
CASY	**Casey**	**65.87**	**201**	*e*P	P	**15 32 51.5**	**-1.0**
	16nm,0.4s,mb5.2						
QSPA	**South Pole Qui**	**78.25**	**180**	*e*P	P	**15 34 05.6**	**0.0**
	2.3nm,0.8s,mb4.0						
SONM	**Songino Array**	**79.48**	**324**	P	P	**15 34 13.4**	**+0.5**
	0.2nm,0.6s,mb3.1,baz=138,slow=5.1,SNR=4.6						
ILAR	**Eielson Array**	**84.05**	**18**	P	P	**15 34 35.8**	**-0.5**
	0.2nm,0.6s,mb3.1,baz=270,slow=5.4,SNR=4.2						
MKAR	**Makanchi Array**	**94.32**	**317**	P	P	**15 35 26.1**	**+0.8**
	1.8nm,0.7s,mb4.5,baz=96,slow=6.0,SNR=18						

*NEIC **27** 15:37:07.7±0.7, 54.98N×161.70W, h54km±9km, mb3.7/2, ML3.5(AEIC), Error ellipse: s-maj=22.9km s-min=7.4km az=162.0*
*IDC **27** 15:37:08.3±5.9, 55.33N×161.68W, h41km±44km, mb3.7/7, mb1 3.7/10, mb1mx3.5/24, mbtmp3.8/10, ML3.5/3, Error ellipse: s-maj=66.1km s-min=28.7km az=169.0*
ISC 27 15:37:06.0±0.6, 55.1N±0.1×161.7W±0.1, h54km, n20, σ1§24/25, mb3.9/9, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.74**	**71**	P	P	**15 37 24.1**	**+3.5**
SDPT				S	S	**15 37 37.3**	**+6.0**
AKUT	**Akutan**	**2.56**	**249**	P	P	**15 37 46.8**	**+0.8**
AKUT				S	S	**15 38 17.2**	**+1.2**
AKLV	**Akutan Long Va**	**2.65**	**251**	P	P	**15 37 47.8**	**+0.6**
UNV	**Unalaska Valle**	**3.07**	**248**	P	P	**15 37 52.6**	**-0.7**
UNV				S	S	**15 38 26.4**	**-2.6**
NIKO	**Nikolski**	**4.72**	**246**	*e*P	P	**15 38 14.5**	**-2.0**
KDAK	**Kodiak Island**	**5.72**	**58**	P	P	**15 38 29.1**	**-1.3**
	2.9nm,0.3s,baz=203,slow=6.0,SNR=33						
KDAK				S	S	**15 39 31.1**	**-4.6**
	4.4nm,0.3s,baz=157,slow=22,SNR=13						
KDAK	**Kodiak Island**	**5.72**	**58**	P	P	**15 38 29.1**	**-1.4**
ILAR	**Eielson Array**	**12.17**	**31**	P	P	**15 39 57.3**	**-1.4**
	0.0nm,0.3s,baz=219,slow=13,SNR=3.2						
ILAR				S	S	**15 42 09.1**	**-4.6**
	0.1nm,0.3s,baz=214,slow=30,SNR=5.0						
INK	**Inuvik**	**18.55**	**34**	P	P	**15 41 19.4**	**-0.8**
	0.2nm,0.3s,baz=235,slow=9.4,SNR=14						
YKA	**Yellowknife Ar**	**24.98**	**54**	P	P	**15 42 27.1**	**+1.7**
	0.3nm,0.3s,mb3.3,baz=275,slow=9.2,SNR=8.1						
YKA	**Yellowknife Ar**	**24.98**	**54**	P	P	**15 42 27.1**	**+1.6**
BMO	**Blue Mountains**	**29.86**	**91**	*e*P	P	**15 43 08.5**	**-1.5**
	0.6nm,0.4s,mb3.7						
HLID	**Hailey**	**32.29**	**91**	P	P	**15 43 32.5**	**+1.1**
	0.6nm,0.5s,mb3.7						
SONM	**Songino Array**	**53.70**	**303**	P	P	**15 46 24.6**	**+0.4**
	0.7nm,0.8s,mb3.6,baz=50,slow=5.8,SNR=4.2						
FINES	**FINESS Array B**	**63.63**	**356**	P	P	**15 47 32.9**	**+0.1**
	2.6nm,0.9s,mb4.3,baz=20,slow=7.4,SNR=12						
BVAR	**Borovoye Array**	**63.96**	**328**	P	P	**15 47 36.1**	**+1.0**
	3.9nm,0.6s,mb4.6,baz=38,slow=6.4,SNR=31						
NOA	**NORSAR Array B**	**64.06**	**4**	P	P	**15 47 36.4**	**+0.8**
	1.8nm,0.9s,mb4.1,baz=354,slow=6.6,SNR=4.3						
NOA	**NORSAR Array B**	**64.06**	**4**	P	P	**15 47 36.4**	**+0.8**
MKAR	**Makanchi Array**	**65.07**	**317**	P	P	**15 47 42.4**	**0.0**
	0.2nm,0.4s,mb3.5,baz=39,slow=6.9,SNR=4.5						
AKASG	**Malin Array Be**	**74.17**	**353**	P	P	**15 48 38.1**	**+0.3**
	1.7nm,0.5s,mb4.3,baz=8.2,slow=5.9,SNR=7.6						

*IDC **27** 16:13:47.4±4.6, 29.82N×57.81E, mb3.5/6, mb1 3.6/6, mb1mx3.4/20, mbtmp3.5/6, Error ellipse: s-maj=88.9km s-min=34.8km az=175.0*
*THR **27** 16:13:47.6±0.4, 30.08N×57.76E, h14km±4km, ML4.0*
*CSEM **27** 16:13:49.2±0.1, 29.87N×57.73E, h20km, ML4.1, Error ellipse: s-maj=3.9km s-min=3.2km az=42.0*
*TEH **27** 16:13:52.0, 29.93N×57.79E, h10km, Mn4.1*
*NEIC **27** 16:13:52.0, 29.93N×57.79E, h10km, ML4.1(TEH), After TEH.*
ISC 27 16:13:49.8±1.7, 29.96N±0.04×57.71E±0.07, h23km±15km, n30, σ1§15/33, mb3.4/5, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**0.82**	**272**	*e*PG	**Pb**	**16 14 04.2**	**-1.2**
IBAF	**Bafgh**	**2.46**	**312**	Pn	**Pn**	**16 14 31.1**	**+1.6**
ZHSF	**Zahedan**	**2.69**	**97**	*e*PN	**Pn**	**16 14 32.2**	**-0.5**
ZHSF				*e*SG	**Sn**	**16 15 11.0**	**+6.1**
BNDS	**Bandar-Abbas**	**2.88**	**208**	*e*PN	**Pn**	**16 14 37.0**	**+1.5**
BNDS				AML	AML	16 15 25.8	
	comp=N,602nm,0.5s						
IMEH	**Mehriz**	**3.03**	**299**	Pn	**Pn**	**16 14 39.4**	**+1.8**
ICHK	**Chekchek**	**3.64**	**310**	Pn	**Pn**	**16 14 47.4**	**+1.2**
ISAD	**Sadrabad**	**3.97**	**300**	Pn	**Pn**	**16 14 52.3**	**+1.4**
ISRV	**Sarvestan**	**4.04**	**263**	Pn	**Pn**	**16 14 51.2**	**-0.8**
BANOM	**Banah**	**4.21**	**198**	P	**Pn**	**16 14 54.3**	**-0.1**
	SNR=33						
IMOK	**Mook**	**4.45**	**259**	Pn	**Pn**	**16 14 56.3**	**-1.5**
GHIR	**Ghir-Karzin**	**4.46**	**249**	*e*PN	**Pn**	**16 14 58.3**	**+0.5**
GHIR				AML	AML	16 16 01.0	
	comp=N,89nm,0.4s						
SHI	**Shiraz**	**4.53**	**267**	Pn	**Pn**	**16 14 58.4**	**-0.5**
ASHO	**Ashiyiah**	**5.45**	**196**	P	**Pn**	**16 15 12.0**	**+0.1**
	SNR=22						
HOQ	**Hoqain**	**6.36**	**183**	⇑P	**Pn**	**16 15 23.1**	**-1.6**
ARQ	**Araqi**	**6.68**	**189**	P	**Pn**	**16 15 28.9**	**-0.3**
	SNR=9.0						
IFIR	**Firoozkooh**	**7.04**	**325**	Pn	**Pn**	**16 15 34.3**	**0.0**
IVRN	**Varamin**	**7.13**	**316**	Pn	**Pn**	**16 15 35.4**	**-0.1**
IVRN				Sn	**Sn**	**16 16 54.0**	**-2.6**
BSY	**Bisya**	**7.20**	**184**	P	**Pn**	**16 15 36.8**	**+0.2**
	SNR=11						
BSYO	**Bisya**	**7.21**	**183**	P	**Pn**	**16 15 36.8**	**+0.1**
	SNR=11						
IDMV	**Damavand**	**7.37**	**321**	Pn	**Pn**	**16 15 39.2**	**+0.3**
IDMV				Sn	**Sn**	**16 17 00.2**	**-2.4**
IRAZ	**Razeghan**	**8.51**	**312**	Pn	**P**	**16 15 57.5**	**+2.6**
AKTK	**Aktyubinsk**	**20.46**	**1**	P	**P**	**16 18 27.4**	**-1.1**
AKTK	**Aktyubinsk**	**20.46**	**1**	P	**P**	**16 18 27.4**	**-1.1**
AKTO	**Aktyubinsk**	**20.46**	**1**	P	**P**	**16 18 27.4**	**-1.1**
	comp=N,1.0nm,0.5s,baz=204,slow=10.0,SNR=4.8						
BRTR	**Keskin Array B**	**21.97**	**303**	P	**P**	**16 18 43.3**	**-0.6**
	comp=N,0.3nm,0.3s,mb3.2,baz=104,slow=10,SNR=3.7						
BVAR	**Borovoye Array**	**24.85**	**18**	P	**P**	**16 19 12.5**	**+0.6**
	comp=N,1.1nm,0.6s,mb3.6,baz=192,slow=8.1,SNR=9.6						
MKAR	**Makanchi Array**	**25.41**	**42**	P	**P**	**16 19 16.4**	**-0.8**
	comp=N,0.4nm,0.5s,mb3.2,baz=227,slow=8.8,SNR=8.6						
FINES	**FINESS Array B**	**37.74**	**336**	P	**P**	**16 21 06.8**	**+1.3**
	comp=N,0.7nm,0.5s,mb3.6,baz=146,slow=10.0,SNR=5.9						
FINES	**FINESS Array B**	**37.74**	**336**	P	**P**	**16 21 06.8**	**+1.3**
YKA	**Yellowknife Ar**	**87.67**	**356**	P	**P**	**16 26 38.6**	**+1.3**
	comp=N,0.1nm,0.7s,mb3.2,baz=359,slow=5.0,SNR=4.4						

*LDG **27** 16:19:08.6±0.2, 24.72N×93.79E, h33km, Mb4.9/26, Error ellipse: s-maj=10.5km s-min=5.2km az=167.0*
*MOS **27** 16:19:10.3±0.8, 24.80N×93.93E, h50km, mb5.0/38, Error ellipse: s-maj=13.2km s-min=4.8km az=124.4*
*BJI **27** 16:19:12.7, 24.92N×93.93E, h76km, mB4.7, mb4.6, Ms4.1, Msz3.8*
*NEIC **27** 16:19:15.8±0.2, 24.78N×93.99E, mb4.7/50, Error ellipse: s-maj=7.7km s-min=3.9km az=58.0*
*IDC **27** 16:19:17.3±3.4, 24.77N×93.85E, h96km±31km, mb4.0/18, mb1 4.1/18, mb1mx4.1/22, mbtmp4.3/18, Error ellipse: s-maj=22.9km s-min=11.8km az=55.0*
ISC 27 16:19:14.3±0.3, 24.81N±0.04×93.95E±0.03, h88km, h88km±2.8km:pP-P, n243, σ1§07/275, mb4.5/75, 13C-3D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.02**	**292**	*e*P	**P**	**16 19 46.0**	**-1.1**
SHL				*e*S	**S**	**16 20 08.0**	**-3.5**
AGT	**Agartala**	**2.62**	**250**	*e*P	**P**	**16 19 55.0**	**-0.7**
AGT				*e*S	**S**	**16 20 24.0**	**-2.6**
LSA	**Lhasa**	**5.47**	**334**	P	**P**	**16 20 33.0**	**-1.8**
LSA				S	**S**	**16 21 31.3**	**-5.8**
LSA				Smax			
	comp=N,100nm,0.9s						
LSA				Smax			
	comp=E,100nm,0.9s						
LSA	**Lhasa**	**5.47**	**334**	*e*P	**P**	**16 20 32.9**	**-1.9**
LSA				pmax	pmax		
	comp=Z,84nm,0.5s						
LSA	**Lhasa**	**5.47**	**334**	*e*Pn	**P**	**16 20 32.9**	**-1.9**
	comp=Z,84nm,0.5s						
BOK	**Bokaro**	**7.42**	**264**	*e*P	**P**	**16 20 57.5**	**-4.4**
BOK				*e*S	**S**	**16 22 14.8**	**-10**
JIRN	**Jiri**	**7.52**	**294**	*e*Pn	**P**	**16 20 59.4**	**-3.7**
JIRN				*e*Sn	**S**	**16 22 17.8**	**-10**
	comp=Z,800nm,0.7s						
JIRN	**Jiri**	**7.52**	**294**	*e*Pn	**P**	**16 20 59.4**	**-3.7**
	comp=Z,400nm,0.7s						
JIRN				*e*Sn	**S**	**16 22 17.8**	**-10**
GUN	**Gumba**	**7.87**	**295**	*e*Pn	**P**	**16 21 04.1**	**-3.8**
GUN				*e*Sn	**S**	**16 22 27.6**	**-8.4**
	comp=Z,733nm,0.6s						
GUN	**Gumba**	**7.87**	**295**	*e*Pn	**P**	**16 21 04.1**	**-3.8**
	comp=Z,367nm,0.6s						
GUN				*e*Sn	**S**	**16 22 27.6**	**-8.4**
KMI	**Kunming**	**

DMN eSn S 16 22 38.8 -11
comp=Z,237nm,0.5s
DMN Daman 8.41 291 ePn P 16 21 10.2 -5.1
comp=Z,119nm,0.5s
DMN eSn S 16 22 38.8 -11
GKN Gorkha 8.93 293 ePn P 16 21 17.6 -4.7
GKN eSn S 16 22 50.4 -12
comp=Z,421nm,0.3s
GKN Gorkha 8.93 293 ePn P 16 21 17.6 -4.7
comp=Z,211nm,0.3s
GKN eSn S 16 22 50.4 -12
KOLN Koldanda 9.74 290 ePn P 16 21 27.6 -5.7
KOLN eSn S 16 23 08.9 -13
comp=Z,186nm,0.4s
KOLN Koldanda 9.74 290 ePn P 16 21 27.6 -5.7
comp=Z,93nm,0.4s
KOLN eSn S 16 23 08.9 -13
CD2 Chengdu 10.60 53 P P 16 21 42.5 -2.3
CD2 PP PP 16 21 53.5 -0.2
CD2 XP 16 22 09.0
CD2 S S 16 23 37.8 -4.5
CD2 AMB AMB
comp=Z,10.0nm,0.8s
CD2 AMB AMB
comp=Z,80nm,8.8s
CD2 LR LR
comp=N,200nm,9.6s
CD2 LR LR
comp=Z,120nm,12.0s
ALBI Allahabad 11.02 275 ex x 16 21 40.0
BLSP Bilaspur 11.17 259 eP P 16 21 48.3 -4.2
BLSP AMb AMB 16 21 50.3
comp=Z,22nm,0.5s
BLSP eS S 16 23 41.8 -14
VIS Vishakhapatnam 12.15 237 eS S 16 24 02.9 -17
LZH Lanzhou 14.10 35 eP P 16 22 28.0 -3.1
LZH AP 16 22 40.0
LZH PP PP 16 22 44.0 +0.7
LZH XP 16 22 57.5
LZH eS S 16 25 00.5 -5.3
LZH eSS SS 16 25 19.3 -5.7
LZH AMB AMB
comp=Z,50nm,1.0s
LZH AMB AMB
comp=Z,160nm,4.5s
LZH LR LR
comp=N,640nm,13.6s
LZH LR LR
comp=Z,860nm,14.5s
ENH Enshi 14.82 65 ePn P 16 22 38.5 -2.0
comp=Z,17nm,0.8s
BHPL Bhopal 15.18 268 eP P 16 22 40.4 -4.6
BHPL AMb AMB 16 22 41.8
comp=Z,65nm,0.6s
BHPL eS S 16 25 15.0 -16
GTA Gaotai 15.38 17 eP P 16 22 45.5 -2.0
GTA AP 16 22 59.5
GTA XP 16 23 11.3
GTA S S 16 25 32.0 -3.5
GTA XS 16 25 53.3
GTA AMB AMB
comp=Z,90nm,6.5s
GTA LR LR
comp=N,70nm,12.9s
GTA LR LR
comp=E,110nm,11.4s
GTA LR LR
comp=Z,50nm,11.4s
NDI New Delhi 15.43 288 eP P 16 22 42.0 -6.3
NDI eS S 16 25 20.5 -16
QIZ Qiongzhong 15.83 108 eP P 16 22 49.5 -3.8
QIZ S S 16 25 37.0 -8.9
XAN Xi'an 15.95 51 P P 16 22 51.5 -3.2
HYB Hyderabad 16.13 246 *i* P P 16 22 57.5 +0.5
HYB *e* 16 25 40.0
HYB eS S 16 25 52.0 -0.7
HYB Hyderabad 16.13 246 eP P 16 22 57.5 +0.5
AJM Ajmer 17.48 280 eP P 16 23 10.9 -3.1
AJM AMb AMB 16 23 16.8
comp=Z,47nm,1.8s
AJM eS S 16 26 06.0 -17
WMQ Urumqi 19.64 346 eP P 16 23 38.0 -0.4
WMQ AP 16 23 56.0
WMQ eS S 16 27 08.8 -1.2
WMQ SS SS 16 27 41.5 -0.4
WMQ PCP PcP 16 27 54.0 -0.4
WMQ AMB AMB
comp=Z,60nm,0.8s
WMQ AMB AMB
comp=Z,490nm,4.8s
WMQ LR LR
comp=N,1μm,14.0s
WMQ LR LR
comp=E,1μm,14.0s
WMQ LR LR
comp=Z,1μm,16.0s
POO Poona 19.68 255 eP P 16 23 36.8 -2.2
POO AMb AMB 16 23 39.0
comp=Z,19nm,0.8s
POO eS S 16 27 01.4 -10
KAD Karad 19.88 252 eP P 16 23 44.2 +3.2
KAD eS S 16 27 07.2 -7.8
CHCP Chirah Chowk 20.06 301 P P 16 23 41.4 -1.4
KULM Kulim 20.45 161 eP P 16 23 45.8 -1.2
BOM Bombay 20.47 257 ex x 16 24 24.6
BOM eS S 16 27 13.6 -13
BTO Baotou 20.71 37 eP P 16 23 46.8 -2.6
THW Thamme Wali 20.99 297 P P 16 23 50.6 -1.8
CEP Cherat 21.18 300 P P 16 23 52.4 -1.8
SBDP Sheikh Budin 21.62 295 P P 16 23 57.8 -0.9
HHC Hu-ho-hao-te 21.73 38 eP P 16 23 59.5 -0.1
HHC AP 16 24 16.3
HHC XP 16 24 25.8
HHC PP PP 16 24 27.5 +0.3
HHC S S 16 27 49.0 -0.5
HHC PCP PcP 16 27 59.5 +1.2
HHC XS 16 28 16.0
HHC SS SS 16 28 30.3 -2.4
HHC SCP 16 31 28.5
HHC PCS 16 31 37.0
HHC SCS ScS 16 35 12.0 +2.8
HHC AMB AMB
comp=Z,30nm,0.7s,mb4.7
HHC AMB AMB
comp=Z,160nm,4.2s
HHC LR LR
comp=N,140nm,8.9s
HHC LR LR
comp=E,230nm,10.9s
HHC LR LR
comp=Z,160nm,9.9s
PSI Prapat 22.40 167 P P 16 24 08.0 +1.6
comp=Z,12nm,0.9s,mb4.2,baz=347,slow=9.5,SNR=6.6
NJ2 Nanjing 23.03 66 eP P 16 24 10.3 -2.1
NJ2 AP 16 24 30.5
NJ2 PP PP 16 24 43.3 -2.0
NJ2 S S 16 28 08.0 -4.7
NJ2 XS 16 28 40.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
NJ2 AMB AMB
comp=Z,190nm,10.2s
NJ2 LR LR
comp=N,1μm,15.3s
NJ2 LR LR
comp=E,590nm,20.1s
NJ2 LR LR
comp=Z,400nm,20.1s
KZA Kyzart 23.15 323 P P 16 24 16.5 +3.1
SNR=6.2
TKM2 Tokmak 2 23.54 325 P P 16 24 18.9 +1.7
SNR=20
UCH Uchtor 23.66 322 P P 16 24 20.6 +2.2
SNR=15
KBK Karagaybulak 23.71 323 P P 16 24 22.4 +3.6
SNR=17
MKAR Makanchi Array 23.84 340 P P 16 24 20.9 +0.9
comp=Z,4.0nm,0.5s,mb4.0,baz=149,slow=11,SNR=99
MKAR PcP PcP 16 28 03.2 +0.6
comp=Z,0.6nm,0.7s,baz=146,slow=1.8,SNR=4.6
AAK Ala-Archa 23.94 323 P P 16 24 23.4 +2.4
SNR=14
CHMS Chumysh 24.05 324 P P 16 24 23.9 +1.8
SNR=6.4
AML Almayashu 24.06 321 P P 16 24 25.1 +2.9
SNR=20
EKS2 Erkin-Say 24.36 322 P P 16 24 27.4 +2.3
SNR=55
USP Ospenovka 24.36 324 P P 16 24 26.6 +1.5
SNR=7.9
SSE Sheshan 24.83 69 P P 16 24 28.5 -1.3
SSE AP 16 24 41.3
SSE S S 16 28 48.5 +5.2
SSE XS 16 29 10.3
SSE AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
SSE AMB AMB
comp=Z,170nm,5.8s
SSE LR LR
comp=N,40nm,24.6s
SSE LR LR
comp=E,20nm,24.6s
SSE LR LR
comp=Z,30nm,22.3s
SONM Songino Array 25.01 20 P P 16 24 32.9 +1.5
comp=Z,3.5nm,0.7s,mb3.9,baz=202,slow=11,SNR=26
ULN Ulaanbaatar 25.25 21⇑ eP P 16 24 35.3 +1.7
ULN Ulaanbaatar 25.25 21 P P 16 24 32.1 -1.5
KSM Kuching 28.07 143 eP P 16 24 57.5 -2.4
KURK Kurchatov 28.44 339 P P 16 25 02.2 -0.6
KURK pmax pmax
comp=Z,1.0nm,0.6s,mb3.5
KURK Kurchatov 28.44 339 eP P 16 25 01.9 -0.9
comp=Z,3.7nm,0.6s,mb4.1
NVS Novosibirsk 31.03 348 eP P 16 25 24.0 -1.7
CN2 Changchun 31.91 46 eP P 16 25 32.0 -1.5
VOSK Vostochnaya 32.84 334 P P 16 25 41.3 -0.2
VOSK pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
BVAR Borovoye Array 33.31 334 P P 16 25 45.1 -0.4
comp=Z,3.2nm,0.5s,mb4.4,baz=140,slow=12,SNR=28
BVAR PcP PcP 16 28 27.3 +1.5
comp=Z,0.6nm,0.6s,baz=153,slow=6.4,SNR=3.5
BVAR S S 16 30 58.5 +0.1
comp=Z,1.2nm,0.8s,baz=141,slow=19,SNR=5.5
BRVK Borovoye 33.37 334 eP P 16 25 45.1 -1.0
BRVK e*PP pP 16 26 05.9 -0.8
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
BRVK Borovoye 33.37 334 eP P 16 25 45.1 -0.9
comp=Z,2.4nm,0.6s,mb4.2
BRVK epP pP 16 26 05.9 -0.7
CHKZ Chkalovo 33.71 335 P P 16 25 48.8 -0.2
CHKZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
CHKZ Chkalovo 33.71 335 eP P 16 25 48.5 -0.5
comp=Z,9.7nm,0.8s,mb4.7
ZRNK Zerenda 33.82 333 P P 16 25 49.5 -0.4
ZRNK pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
ZRNK Zerenda 33.82 333 eP P 16 25 49.2 -0.7
comp=Z,8.8nm,0.5s,mb4.8
AB31 Akbulak array 36.02 321 eP P 16 26 09.1 +0.5
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
AKTK Aktyubinsk 37.68 322 P P 16 26 23.3 +0.7
AKTO Aktyubinsk 37.68 322 P P 16 26 23.3 +0.7
comp=Z,3.8nm,0.7s,mb4.4,baz=116,slow=8.6,SNR=19
HASS Wahat al Ahsa' 39.97 280 P P 16 26 42.2 +0.3
ARU Arti 40.66 330⇑ *i* P P 16 26 47.4 +0.2
ARU *e* 16 28 21.0
ARU ePPP PPP 16 28 47.9 -7.1
ARU eS S 16 32 55.9 +5.6
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ARU Arti 40.66 330 eP P 16 26 47.2 +0.1
comp=Z,5.6nm,0.6s,mb4.6
RDF Al-Radifah 41.39 286 eP P 16 26 54.0 +0.6
RDF AMb AMB 16 26 55.0
comp=Z,121nm,0.5s
MIB Mutribah 41.50 288 eP P 16 26 55.0 +0.7
MIB AMb AMB 16 26 55.4
comp=Z,38nm,0.5s,mb5.5
NAY Al-Naaiem 41.63 287 eP P 16 26 55.9 +0.4
NAY AMb AMB 16 26 56.8
comp=Z,21nm,0.4s,mb5.2
RYDS Riyadh 42.88 279 P P 16 27 06.2 +0.4
GOF Gofitskoye 45.53 310 eP P 16 27 26.0 -0.8
ARSS Ar Rass 45.61 283 P P 16 27 28.3 +0.7
KAMS Al Khamasin 45.62 275 P P 16 27 27.9 +0.1
KIV Kislovodsk 45.62 308 *d i* P P 16 27 29.3 +1.8
KIV pmax pmax
comp=Z,29nm,1.2s,mb4.9
KIV Kislovodsk 45.62 308 eP P 16 27 28.4 +0.9
comp=Z,9.6nm,0.6s,mb4.7
AFFS 'Afif 46.19 280 P P 16 27 33.3 +1.0
HILS Ha'il 46.63 285 P P 16 27 36.8 +1.1
TATS Tathlith 46.82 274 P P 16 27 37.6 +0.3
DJNS Zahran al Janu 47.29 272 P P 16 27 42.0 +1.0
BLJS Baljurashi 48.43 275 P P 16 27 51.1 +1.2
LTHS Al Lith 49.40 276 P P 16 27 58.4 +1.1
QURS Qurayyt al Mil 49.92 291 P P 16 28 02.3 +1.1
OBN Obninsk 51.46 322 *i* P P 16 28 12.7 +0.2
OBN e*PP pP 16 28 32.4 -1.8
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BR131 Keskin Array S 52.21 302 eP P 16 28 18.2 -0.2
comp=Z,2.0nm,0.7s,mb4.3
BR131 epP pP 16 28 42.4 +2.3
BRTR Keskin Array B 52.21 302 P P 16 28 17.6 -0.7
comp=Z,1.8nm,0.6s,mb4.3,baz=119,slow=8.3,SNR=11
TAYS Tayyib Ism 52.46 288 P P 16 28 20.7 +0.3
AKASG Malin Array Be 55.33 316 P P 16 28 40.1 -1.0
comp=Z,8.1nm,0.5s,mb5.0,baz=82,slow=6.5,SNR=50
JOF Joasu 55.79 331 ep P 16 28 43.9 -0.4
comp=Z,2.1nm,0.3s,mb4.7
VRI Vrincioaia 57.02 310⇓ P P 16 28 54.3 +1.1
MLR Muntele Rosu 57.59 309 P P 16 28 58.1 +0.9
comp=Z,20nm,0.8s,mb5.2,baz=149,slow=5.9
MLR Muntele Rosu 57.59 309⇑ P P 16 28 58.5 +1.3
FINES FINESS Array B 57.96 328 P P 16 28 59.4 -0.3
comp=Z,3.7nm,0.6s,mb4.6,baz=104,slow=7.2,SNR=16
BURAR Bucovina Array 57.97 312⇓ P P 16 29 00.0 +0.1
SANT Santorini 58.98 299 eP P 16 29 06.0 -1.0
comp=Z,35nm,0.5s
KEV Kevo 59.00 338 ep P 16 29 06.5 -0.2
SUW Suwalki 59.10 320 eP P 16 29 06.8 -0.8
WRA Warramunga Arr 59.36 135 P P 16 29 10.0 +0.1
comp=Z,2.6nm,0.6s,mb4.4,baz=324,slow=7.4,SNR=44
WRAB Tennant Creek 59.36 135 eP P 16 29 07.8 -2.0
WRAB pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
WRAB Tennant Creek 59.36 135 eP P 16 29 07.8 -2.1
comp=Z,3.8nm,0.6s,mb4.6
WB2 Warramunga Arr 59.37 135 eP P 16 29 09.9 0.0
ARCES ARCESS Array B 59.47 338 P P 16 29 10.4 +0.5
comp=Z,3.9nm,0.7s,mb4.6,baz=96,slow=5.6,SNR=13
KWP Kalwaria 59.53 314 eP P 16 29 10.8 +0.2
IDI Anoyia 59.62 298 P P 16 29 10.5 -1.0
comp=Z,8.5nm,0.6s,mb5.0,baz=10,slow=11,SNR=13
KOLS Kolonicke sedl 59.86 314 eP P 16 29 12.2 -0.7
STHS Stebnicka Huta 60.50 314 eP P 16 29 16.7 -0.6
STHS epP pP 16 29 40.0 +0.4
BILL Bilibino 60.63 24 eP P 16 29 18.5 +0.6
BILL pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
KECS Kecovo 61.08 313 eP P 16 29 20.9 -0.3
NWAO Narrogin (SRO) 61.56 158 P P 16 29 23.4 -1.3
NWAO pmax pmax
comp=Z,20nm,1.3s
NWAO Narrogin (SRO) 61.56 158 P P 16 29 23.4 -1.3
comp=Z,20nm,1.3s,mb5.0
OKC Ostrava-Krasne 62.46 315 eP P 16 29 29.7 -0.8
KSP Ksiaz 63.52 316 eP P 16 29 38.1 +0.6
DPC Dobruska-Polom 63.56 316 eP P 16 29 38.2 +0.5
UPC Upice 63.74 316 eP P 16 29 39.1 +0.2
TREC Trest 64.25 315 eP P 16 29 42.5 +0.3
PVCC Panska Ves 64.65 316 eP P 16 29 45.2 +0.4
PRU Pruhonice 64.75 315 eP P 16 29 45.7 +0.3
PERS Pernice 64.93 312 *i* P P 16 29 46.8 +0.1
BRG Berggiesshubel 64.99 316 eP P 16 29 47.3 +0.3
BRG pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
BRG Berggiesshubel 64.99 316 eP P 16 29 47.3 +0.3
comp=Z,0.8nm,0.4s,mb3.9
NB2 NORSAR Subarra 65.14 328 P P 16 29 46.9 -0.8
comp=Z,5.8nm,0.7s,mb4.5,baz=83,slow=6.2
NB2 NORSAR Subarra 65.14 328 P P 16 29 46.9 -0.8
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
NOA NORSAR Array B 65.14 328 P P 16 29 47.2 -0.5
comp=Z,5.3nm,0.7s,mb4.5,baz=84,slow=6.5,SNR=18
MOA Molln 65.29 313⇑ *i* P P 16 29 48.8 -0.1
comp=Z,14nm,1.1s,mb4.7
GEC2 GERESS Array S 65.48 314 eP P 16 29 50.5 +0.3
GEC2 pmax pmax
comp=Z,11nm,0.8s,mb4.7
GEC2 GERESS Array S 65.48 314 eP P 16 29 50.5 +0.3
comp=Z,11nm,0.8s,mb4.7
GERES GERESS Array B 65.48 314 P P 16 29 50.5 +0.4
comp=Z,7.6nm,0.6s,mb4.7,baz=76,slow=6.0,SNR=46
CLL Collm 65.50 317 P P 16 29 49.9 -0.4
comp=Z,logA/T=0.9,mb4.5
CLL Collm 65.50 317 *i* P P 16 29 49.9 -0.4
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
CLL Collm 65.50 317 *i* P P 16 29 49.9 -0.4
comp=Z,9.0nm,1.1s,mb4.5
KHC Kasperske Hory 65.51 315 eP P 16 29 50.4 0.0
CEY Cerknica 65.57 311 *i* P P 16 29 50.8 0.0
CADS Cadrg 65.94 311 *i* P P 16 29 52.6 -0.6
WET Wettzell 65.96 315 eP P 16 29 53.4 +0.2
WET pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
WET Wettzell 65.96 315 eP P 16 29 53.4 +0.2
comp=Z,6.0nm,0.8s,mb4.5
NKC Novy Kostel 66.04 316 eP P 16 29 54.4 +0.7
MOX Moxa 66.48 317 *i* P P 16 29 56.5 0.0
MOX Moxa 66.48 317 eP P 16 29 56.5 0.0
BSEG Bad Segeberg 66.66 320 eP P 16 29 58.4 +0.8
GRA1 Grafenberg Arr 66.92 316 eP P 16 30 00.0 +0.8
comp=Z,10.0nm,1.0s,mb4.6
GRF Grafenberg Arr 66.92 316 eP P 16 30 00.0 +0.8
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
GRF Grafenberg Arr 66.92 316 eP P 16 30 00.0 +0.8
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
GRF Grafenberg Arr 66.92 316 eP P 16 30 00.0 +0.8
comp=Z,10.0nm,1.0s,mb4.6
CLZ Clausthal 67.02 318 eP P 16 30 00.4 +0.5
CLZ pmax pmax
comp=Z,12nm,0.7s,mb4.8
CLZ Clausthal 67.02 318 eP P 16 30 00.4 +0.5
comp=Z,12nm,0.7s,mb4.8
WATA Walderalm 67.17 313⇑ *i* P P 16 30 00.2 -0.6
comp=Z,2.4nm,0.8s,mb4.1
WATA Walderalm 67.17 313⇑ P P 16 30 00.2 -0.7
WATA pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
WATA Walderalm 67.17 313⇑ P P 16 30 00.2 -0.6
comp=Z,2.4nm,0.8s,mb4.1
SQTA Sankt Quirin 67.44 313⇑ *i* P P 16 30 02.1 -0.5
comp=Z,2.5nm,0.6s,mb4.2
SQTA Sankt Quirin 67.44 313⇑ P P 16 30 02.1 -0.5
SQTA pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
MOTA Moosalm 67.48 313⇑ *i* P P 16 30 02.1 -0.7
comp=Z,7.0nm,0.9s,mb4.5
MOTA Moosalm 67.48 313⇑ P P 16 30 02.1 -0.7
MOTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
DAVA Damuels 68.31 313⇑ *i* P P 16 30 07.7 -0.2
comp=Z,9.9nm,0.9s,mb4.6
DAVA Damuels 68.31 313⇑ P P 16 30 07.7 -0.2
comp=Z,9.9nm,0.9s,mb4.6
STU Stuttgart 68.41 315 eP P 16 30 07.5 -1.0
STU pmax pmax
comp=Z,13nm,0.7s,mb4.9
STU Stuttgart 68.41 315 eP P 16 30 07.5 -1.0
comp=Z,13nm,0.7s,mb4.9
TNS Taunus Mts 68.55 317 eP P 16 30 09.8 +0.4
TNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
TNS Taunus Mts 68.55 317 eP P 16 30 09.8 +0.4
comp=Z,7.0nm,0.8s,mb4.5
BFO Black Forest 69.08 315 eP P 16 30 12.8 +0.1
BFO pmax pmax
comp=Z,17nm,1.7s,mb4.6
BFO Black Forest 69.08 315 eP P 16 30 12.8 +0.1
comp=Z,17nm,1.7s,mb4.6
CDF Champ du Feu 69.74 315 eP P 16 30 16.8 +0.1
comp=Z,11nm,0.7s,mb4.5
CDF Champ du Feu 69.74 315 eP P 16 30 16.8 +0.1
CDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
PGF Pioggiola 70.11 308 eP P 16 30 19.1 +0.1
comp=Z,28nm,0.8s,mb4.9
PGF Pioggiola 70.11 308 eP P 16 30 19.1 +0.1
PGF pmax pmax
comp=Z,14nm,0.8s,mb4.8
WLF Walferdange 70.13 316 eP P 16 30 18.2 -0.8
WLF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
WLF Walferdange 70.13 316 eP P 16 30 18.2 -0.9
comp=Z,7.1nm,0.6s,mb4.7
HINF Hinteralfeld 70.16 314 eP P 16 30 19.0 -0.3
HAU Haudompre 70.44 315 eP P 16 30 21.1 +0.1
GIVF Givet 70.84 317 eP P 16 30 23.8 +0.5
SBF Sospel 70.84 310 eP P 16 30 23.7 +0.2
comp=Z,29nm,0.9s,mb4.8
SBF Sospel 70.84 310 eP P 16 30 23.7 +0.2
SBF pmax pmax
comp=Z,15nm,0.9s,mb4.8
LPG La Plagne 70.86 312 eP P 16 30 24.2 +0.7
comp=Z,20nm,0.8s,mb4.7
LPG La Plagne 70.86 312 eP P 16 30 24.2 +0.7
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
LPL La Plagne 70.87 312 eP P 16 30 24.2 +0.6
comp=Z,20nm,0.5s,mb4.9
LPL La Plagne 70.87 312 eP P 16 30 24.2 +0.6
LPL pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
CABF La Chapelle 70.99 313 eP P 16 30 24.5 +0.2
comp=Z,11nm,0.7s,mb4.5
CABF La Chapelle 70.99 313 eP P 16 30 24.5 +0.2
CABF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
MBDF Montbardon 71.06 311 eP P 16 30 24.7 0.0
comp=Z,9.9nm,0.6s,mb4.5
MBDF Montbardon 71.06 311 eP P 16 30 24.7 0.0
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
MEZF Maizieres J'vi 71.14 315 eP P 16 30 25.6 +0.5
comp=Z,24nm,0.6s,mb4.9
FRF La Foret Royal 71.48 310 eP P 16 30 27.3 0.0
ORIF Oris-en-Rattie 71.61 312 eP P 16 30 28.7 +0.7
comp=Z,17nm,1.0s,mb4.5
LMR La Mourre 71.64 310 eP P 16 30 28.6 +0.4
comp=Z,24nm,1.1s,mb4.7
LMR La Mourre 71.64 310 eP P 16 30 28.6 +0.4
LMR pmax pmax
comp=Z,12nm,1.1s,mb4.6
SMRF Simiane la Rot 72.10 311 eP P 16 30 31.5 +0.5
LOR Lormes 72.27 314 eP P 16 30 31.7 -0.2
comp=Z,6.3nm,0.6s,mb4.3
LOR Lormes 72.27 314 eP P 16 30 31.7 -0.2
LOR pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
STKA Stephens Creek 72.45 139 P P 16 30 33.0 -0.3
comp=Z,1.3nm,0.6s,mb3.9,baz=309,slow=14,SNR=5.7
STKA Stephens Creek 72.45 139 eP P 16 30 31.5 -1.7
VIVF Saint-Julien-l 72.45 312 eP P 16 30 33.3 +0.3
SMF Signal de Mont 72.46 314 eP P 16 30 33.2 +0.1
comp=Z,13nm,0.5s,mb4.7
SMF Signal de Mont 72.46 314 eP P 16 30 33.2 +0.1
SMF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
SSF Saint Saulge 72.56 314 eP P 16 30 33.8 +0.2
comp=Z,23nm,0.8s,mb4.8
SSF Saint Saulge 72.56 314 eP P 16 30 33.8 +0.2
SSF pmax pmax
comp=Z,12nm,0.8s,mb4.8
AVF Avril sur Loir 72.74 314 eP P 16 30 34.8 +0.2
comp=Z,15nm,0.7s,mb4.6
AVF Avril sur Loir 72.74 314 eP P 16 30 34.8 +0.2
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
BGF Bois d'Agland 73.14 314 eP P 16 30 37.3 +0.3
LASF Ste Croix 73.25 311 eP P 16 30 38.3 +0.7
TCF Toulx Ste Croi 73.65 314 eP P 16 30 40.7 +0.8
comp=Z,19nm,0.8s,mb4.6
TCF Toulx Ste Croi 73.65 314 eP P 16 30 40.7 +0.8
TCF pmax pmax

comp=Z,10.0nm,0.8s,mb4.6
CAF Calviac 74.19 312 *e*P **P 16 30 44.0 +0.8**
LDF La Druitiere 74.38 317 *e*P **P 16 30 44.4 +0.2**
comp=Z,13nm,0.7s,mb4.5
LDF La Druitiere 74.38 317 *e*P **P 16 30 44.4 +0.2**
LDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
RJF Les Rejaudoux 74.43 313 *e*P **P 16 30 45.5 +1.0**
comp=Z,16nm,0.7s,mb4.6
RJF Les Rejaudoux 74.43 313 *e*P **P 16 30 45.5 +1.0**
RJF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
MTLF Montolieu 74.61 311 *e*P **P 16 30 46.2 +0.6**
comp=Z,15nm,0.8s,mb4.5
MTLF Montolieu 74.61 311 *e*P **P 16 30 46.2 +0.6**
MTLF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
GRR Gorron 74.91 317 *e*P **P 16 30 47.7 +0.5**
comp=Z,14nm,0.7s,mb4.5
GRR Gorron 74.91 317 *e*P **P 16 30 47.7 +0.5**
GRR pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
LFF La Frestale 75.07 313 *e*P **P 16 30 48.8 +0.6**
comp=Z,16nm,0.6s,mb4.6
LFF La Frestale 75.07 313 *e*P **P 16 30 48.8 +0.6**
LFF pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
MFF Saint Martin d 75.08 315 *e*P **P 16 30 48.7 +0.5**
LSZ Lusaka 75.47 245 *e*P **P 16 30 51.6 +0.6**
LSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
LSZ Lusaka 75.47 245 *e*P **P 16 30 51.5 +0.5**
comp=Z,7.6nm,1.0s,mb4.4
SGMF Saint Gilles 76.02 317 *e*P **P 16 30 54.3 +0.8**
comp=Z,18nm,0.7s,mb4.6
SGMF Saint Gilles 76.02 317 *e*P **P 16 30 54.3 +0.8**
SGMF pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
ROSF Rostrenen 76.43 317 *e*P **P 16 30 56.6 +0.8**
ETSF Etsaut 76.67 311 *e*P **P 16 30 58.2 +0.9**
comp=Z,13nm,0.6s,mb4.6
ETSF Etsaut 76.67 311 *e*P **P 16 30 58.2 +0.9**
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
SUMG Summit 77.69 347 *e*P **P 16 31 02.8 +0.5**
comp=Z,5.2nm,0.8s,mb4.3
ILAR Eielson Array 79.21 22 P **P 16 31 11.6 +0.8**
comp=Z,0.7nm,0.8s,mb3.5,baz=292,slow=4.5,SNR=11
ESDC Sonseca Array 80.28 309 P **P 16 31 17.2 +0.1**
comp=Z,0.3nm,0.4s,baz=63,slow=5.7,SNR=4.0
DIV Divide 81.81 25 *e*P **P 16 31 22.3 -2.3**
comp=Z,41nm,1.2s,mb5.1
YKA Yellowknife Ar 90.06 13 P **P 16 32 06.1 +1.1**
comp=Z,0.2nm,0.5s,mb3.5,baz=332,slow=4.7,SNR=7.5
DBIC Dimbokro 95.16 280 P **P 16 32 29.9 +0.3**
comp=Z,2.2nm,1.0s,mb4.5,baz=68,slow=3.8,SNR=3.5
DBIC Dimbokro 95.16 280 *e*P **P 16 32 30.1 +0.5**
DBIC *e*'PP pP 16 32 53.0 -0.6
FCC Fort Churchill 96.48 4 *e*P **P 16 32 34.7 +0.2**
FCC *e*'PP pP 16 32 58.3 -0.2
TXAR Lajitas Array 123.57 18 pPKP 16 38 24.7
comp=Z,0.4nm,0.6s,baz=4.0,slow=0.7,SNR=5.7
SDV Santo Domingo 143.29 334 PKP PKPdf 16 38 38.4 -0.7
comp=Z,4.1nm,0.6s,baz=2.1,slow=3.5,SNR=8.3

MAN 27 16:25:54.4,12.69N×123.18E,h2km,mb4.1,ML2.9,MS2.5, 2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.54**	**127**	⇑*iP*		Pg 16 26 05.0	-0.2
MMPH				*i* S		Sg 16 26 13.7	+1.2
AUQP	**San Andres**	**0.80**	**322**	*e*P		Pg 16 26 10.6	+0.2
AUQP				*e*S		Sg 16 26 27.4	+6.3
OTRP	**Odiongan**	**1.18**	**254**	*e*P		Pb 16 26 16.2	-1.0
OTRP				*e*S		Sb 16 26 31.7	-1.0
RCP	**Roxas**	**1.20**	**201**	⇑*e*P		Pb 16 26 17.0	-0.5
KALP	**Kalibo**	**1.30**	**220**	*e*P		Pb 16 26 35.8	+17
PVCP	**Virac**	**1.31**	**46**	*e*P		Pb 16 26 18.3	-1.0
GQP	**Guinayangan**	**1.41**	**329**	⇓*e*P		Pb 16 26 20.2	-0.8
GQP				*i* S		Sb 16 26 40.2	+0.9
CNP	**Catarman**	**1.46**	**97**	*e*P		Pn 16 26 21.3	-0.5
BOAC	**Boac**	**1.51**	**301**	*e*P		Pn 16 26 21.4	-1.1
BOAC				*e*S		Sb 16 26 42.8	+0.3
SJMP	**San Jose**	**2.03**	**264**	*e*P		Pn 16 26 29.9	-0.1
GUIM	**Jordan**	**2.13**	**196**	*e*P		Pn 16 26 31.9	+0.5
OCLP	**Ormoc**	**2.14**	**139**	*e*P		Pn 16 26 33.8	+2.2
POLP	**Polilio Island**	**2.36**	**329**	*e*P		Pn 16 26 35.1	+0.4

*NEIC **27** 16:30:51.2±1.0,20.17S×68.55W,h121km±9km, mb4.2/3, Error ellipse: s-maj=14.2km s-min=9.2km az=59.0*
*IDC **27** 16:30:53.1±2.1,20.17S×68.47W,h136km±18km,mb3.7/6, mb1 3.8/9,mb1mx3.7/18,mbtmp4.2/9,MS3.5/1,Ms1 3.5/1, ms1mx2.4/26,Error ellipse: s-maj=25.4km s-min=15.4km az=75.0*

ISC 27 16:30:49.7±1.3,20.17S±0.09×68.6W±0.1,h124km±14km, n19,σ0°82/18,mb3.9/6,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.88**	**6**	P	**P**		**16 31 52.6 +3.9**
	8.7nm,0.3s,baz=172,slow=5.8,SNR=108						
LPAZ				S	**S**		**16 32 38.8 +4.9**
	1.4nm,0.3s,baz=270,slow=21,SNR=3.8						
LPAZ	**La Paz**	**3.88**	**6**	*e*Pn	**P**		**16 31 52.0 +3.3**
LPAZ				S	**S**		**16 32 38.8 +4.9**
ARE	**Arequipa**	**4.62**	**322**	*e*P	**P**		**16 31 58.0 -0.7**
ARE				*e*S	**S**		**16 32 47.0 -4.8**
SIV	**San Ignacio**	**8.24**	**61**	P	**P**		**16 32 47.2 -0.4**
	9.0nm,0.3s,baz=252,slow=12,SNR=158						
CPUP	**Villa Florida**	**12.00**	**123**	*e*Pn	**P**		**16 33 38.1 +0.5**
	21nm,0.6s						
TRQA	**Tornquist**	**18.72**	**164**	*e*P	**P**		**16 35 00.6 -0.5**
	5.6nm,0.6s						
TRQA				*e*pP			16 35 22.9
BDFB	**Brasilia**	**20.05**	**80**	P	**P**		**16 35 14.5 -0.7**
	0.7nm,0.3s,baz=245,slow=10,SNR=4.3						
PLCA	**Paso Flores**	**20.57**	**184**	P	**P**		**16 35 20.5 +0.3**
	7.4nm,0.7s,baz=2.4,slow=11,SNR=13						
PLCA	**Paso Flores**	**20.57**	**184**	P	**P**		**16 35 20.5 +0.3**
USHA	**Ushuaia**	**34.60**	**180**	LR	LR		16 53 30.8
	comp=Z,70nm,18.7s,baz=184,slow=39						
TXAR	**Lajitas Array**	**59.74**	**324**	P	**P**		**16 40 43.1 -0.7**
	0.4nm,0.8s,mb3.5,baz=164,slow=9.1,SNR=3.4						
SNAA	**Sanae**	**63.42**	**161**	P	**P**		**16 41 08.3 +0.3**
	0.2nm,0.5s,mb3.3,baz=264,slow=9.1,SNR=8.9						
DBIC	**Dimbokro**	**68.04**	**74**	P	**P**		**16 41 38.1 -0.2**
	1.0nm,0.4s,mb4.0,baz=206,slow=7.2,SNR=7.8						
ULM	**Lac du Bonnet**	**74.16**	**342**	P	**P**		**16 42 13.5 -0.7**
	1.7nm,0.7s,mb3.9,baz=147,slow=7.6,SNR=5.0						
FCC	**Fort Churchill**	**81.42**	**347**	*e*P	**P**		**16 42 54.7 +0.8**
	2.7nm,0.8s,mb4.1						
YKA	**Yellowknife Ar**	**90.05**	**340**	P	**P**		**16 43 37.1 +1.0**
	2.7nm,0.7s,mb4.5,baz=132,slow=4.6,SNR=71						
WRA	**Warramunga Arr**	**134.26**	**211**	PKP	PKPdf		16 49 56.1 +2.5
	0.6nm,0.4s,baz=152,slow=1.7,SNR=23						
MKAR	**Makanchi Array**	**144.36**	**35**	PKP	PKPdf		16 50 11.6 +0.7
	0.3nm,0.4s,baz=333,slow=3.2,SNR=3.6						
SONM	**Songino Array**	**152.10**	**7**	PKPbc	PKPdf		16 50 33.3 +10
	0.4nm,0.4s,baz=320,slow=1.5,SNR=7.5						

*NEIC **27** 16:39:06.4±0.6, 16.50S×69.75W,h177km±6km,mb4.3/3, Error ellipse: s-maj=11.7km s-min=8.5km az=205.0*
*IDC **27** 16:39:08.1±1.1,16.45S×69.62W,h189km±8km,mb3.6/8, mb1 3.7/10,mb1mx3.6/20,mbtmp4.0/10,Error ellipse: s-maj=18.6km s-min=14.1km az=63.0*

ISC 27 16:39:05.7±0.5,16.47S±0.09×69.76W±0.05,h187km±5km, n20,σ0°93/22,mb3.8/8,1C,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.58**	**84**	P	**P**		**16 39 41.4 +2.0**
	128nm,0.3s,baz=271,slow=8.4,SNR=1399						
LPAZ				S	**S**		**16 40 06.5 +1.2**
	20nm,0.3s,baz=168,slow=24,SNR=6.6						
LPAZ	**La Paz**	**1.58**	**84**	P	**P**		**16 39 41.4 +2.0**
LPAZ				S	**S**		**16 40 06.5 +1.2**
ARE	**Arequipa**	**1.66**	**270**	⇑*iP*			**16 39 39.8 -0.3**
ARE				*e*S	**S**		**16 40 06.0 -0.7**
NNA	**Nana**	**8.18**	**302**	*e*Pn	**P**		**16 41 01.4 -0.7**
	20nm,0.5s						
SIV	**San Ignacio**	**8.36**	**88**	P	**P**		**16 41 03.1 -1.4**
	1.8nm,0.3s,baz=287,slow=9.4,SNR=27						
SIV				S	**S**		**16 42 35.8 -1.6**
	0.3nm,0.3s,baz=231,slow=4.1,SNR=7.1						
CFAA	**Coronel Fontan**	**15.13**	**175**	P	**P**		**16 42 30.7 -0.5**
	0.2nm,0.3s,baz=344,slow=12,SNR=8.5						
BDFB	**Brasilia**	**20.92**	**91**	P	**P**		**16 43 35.0 +0.3**
	8.0nm,0.5s,baz=272,slow=12,SNR=11						
BAO	**Brasilia Array**	**20.94**	**91**	P	**P**		**16 43 35.0 +0.1**
TRQA	**Tornquist**	**22.57**	**164**	*e*P	**P**		**16 43 51.0 +0.2**
	2.4nm,0.7s,mb3.7						
PLCA	**Paso Flores**	**24.19**	**181**	P	**P**		**16 44 06.8 +0.7**
	7.4nm,0.8s,mb4.3,baz=356,slow=12,SNR=13						
PLCA	**Paso Flores**	**24.19**	**181**	*e*P	**P**		**16 44 06.3 +0.2**
	7.6nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**56.08**	**324**	P	**P**		**16 48 27.9 +0.3**
	0.3nm,0.5s,mb3.3,baz=156,slow=11,SNR=3.2						
SNAA	**Sanae**	**67.28**	**162**	P	**P**		**16 49 42.2 +0.5**
	0.9nm,0.7s,mb3.7,baz=287,slow=7.0,SNR=10						
DBIC	**Dimbokro**	**68.18**	**76**	P	**P**		**16 49 47.4 -0.8**
	6.1nm,0.6s,mb4.5,baz=233,slow=7.6,SNR=21						
PDAR	**Pinedale Array**	**69.37**	**330**	P	**P**		**16 49 56.0 +1.0**
	0.3nm,0.4s,mb3.4,baz=127,slow=8.8,SNR=6.1						
ULM	**Lac du Bonnet**	**70.30**	**343**	P	**P**		**16 49 59.6 -0.9**
	1.2nm,0.5s,mb3.9,baz=165,slow=9.8,SNR=6.4						
YKA	**Yellowknife Ar**	**86.19**	**341**	P	**P**		**16 51 27.9 +1.3**
	0.7nm,0.5s,mb3.6,baz=135,slow=5.2,SNR=25						
YKA	**Yellowknife Ar**	**86.19**	**341**	P	**P**		**16 51 27.9 +1.3**
WRA	**Warramunga Arr**	**136.76**	**214**	PKP	PKPdf		16 58 09.2 +2.7
	0.5nm,0.3s,baz=135,slow=1.4,SNR=28						
SONM	**Songino Array**	**148.56**	**5**	PKPbc	PKPdf		16 58 33.9 +7.6
	1.5nm,0.4s,baz=319,slow=2.2,SNR=28						

IGQ 27 16:44:23.3,2.64S×79.45W,h12km±15km,mb4.0,1C, Error ellipse: s-maj=28.1km s-min=5.9km az=51.8,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUSU	**Cusua**	**1.54**	**39**	P	Pn	16 44 53.5	+2.8
ULBA	**Ulba**	**1.58**	**41**	P	Pn	16 44 51.9	+0.5
ULBA				S	Sb	16 45 14.3	+2.5
QIL1	**Quilotoa**	**1.86**	**16**	P	Pn	16 44 56.3	+0.9
CAMI	**Rancho Maria**	**2.17**	**26**	P	Pn	16 45 02.2	+2.4
NAS1	**Nasa**	**2.22**	**26**	P	Pn	16 45 02.9	+2.4
VC1	**Cotopaxi 1**	**2.25**	**28**	P	Pn	16 45 03.8	+2.9
ANTI	**Antisana**	**2.53**	**31**	⇑P	Pn	16 45 09.3	+4.3
TERV	**Terraza Guagua**	**2.59**	**19**	P	Pn	16 45 08.6	+2.8
GGP	**Refugio Guagua**	**2.60**	**19**	P	Pn	16 45 07.3	+1.4
PINO	**Pino**	**2.61**	**19**	P	Pn	16 45 08.5	+2.4
YANA	**Yana**	**2.66**	**19**	P	Pn	16 45 09.3	+2.6

*IDC **27** 16:56:11.6±0.9,36.35N×70.64E,h188km±7km, mb4.2/26, mb1 4.4/29,mb1mx4.4/30,mbtmp4.8/29,MS3.5/2, Ms1 3.5/2,ms1mx2.8/34,Error ellipse: s-maj=12.0km s-min=8.6km az=28.0*
*MOS **27** 16:56:11.8±0.9,36.49N×70.62E,h200km,mb4.3/33,Error ellipse: s-maj=6.8km s-min=3.7km az=118.6*
MOS Felt (II) at Tashkent.
*BJI **27** 16:56:12.7,36.74N×70.61E,h205km,mB5.0,mb4.6*
*NEIC **27** 16:56:13.5±0.1,36.47N×70.66E,mb4.7/69,Error ellipse: s-maj=4.7km s-min=3.0km az=214.0*
NEIC Felt [II] at Tashkent, Uzbekistan.
*NNC **27** 16:56:17.5±10.0,37.01N×70.41E,h187km±100km,mb4.6, mpv6.0,Error ellipse: s-maj=89.8km s-min=49.0km az=18.0*

ISC 27 16:56:11.8±0.1,36.47N±0.02×70.66E±0.02,h201km, h201km±2.0km:pP-P,n321,σ1°00/356,mb4.4/81,15C-40D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.83**	**158**	⇓P	**P**		**16 57 01.4 +1.4**
SBDP	**Sheikh Budin**	**4.16**	**178**	P	**P**		**16 57 16.7 +0.4**
DRP	**Derazinda**	**4.73**	**185**	⇓P	**P**		**16 57 24.0 +0.6**
SARP	**Sargodha**	**4.83**	**159**	⇓P	**P**		**16 57 25.0 +0.2**
KSH	**Kashi**	**5.18**	**52**	⇓*iP*	**P**		**16 57 31.0 +1.8**
KSH				S	**S**		**16 58 30.0 +0.6**
KSH				Smax			
	comp=N,1μm,1.1s						
KSH				Smax			
	comp=E,1μm,1.0s						
AML	**Almayashu**	**6.12**	**22**	P	**P**		**16 57 41.7 +0.3**
	SNR=385						
UCH	**Uchtor**	**6.48**	**26**	P	**P**		**16 57 46.5 +0.5**
	SNR=196						
KK31	**Karatay Array**	**6.63**	**359**	P	**P**		**16 57 47.4 -0.5**
	comp=E,339nm,0.8s,baz=174,slow=11,SNR=1732						
KK31				⇓S	**S**		**16 58 57.5 -5.3**
	comp=E,1μm,0.7s,baz=194,slow=23						
KKAR	**Karatay Array**	**6.63**	**359**	*e*Pn	**P**		**16 57 47.4 -0.5**
KKAR				pmax	pmax		
	comp=Z,20nm,0.3s						
EKS2	**Erkin-Say**	**6.63**	**20**	P	**P**		**16 57 48.3 +0.3**
	SNR=361						
KZA	**Kyzart**	**6.63**	**31**	P	**P**		**16 57 48.1 0.0**
	SNR=182						
AAK	**Ala-Archa**	**6.83**	**25**	P	**P**		**16 57 51.1 +0.5**
	SNR=181						
KBK	**Karagaybulak**	**7.01**	**27**	P	**P**		**16 57 53.4 +0.5**
	SNR=290						
ULHL	**Ulahol**	**7.21**	**35**	P	**P**		**16 57 55.6 +0.1**
	SNR=20						
CHMS	**Chumysh**	**7.24**	**25**	P	**P**		**16 57 55.8 -0.2**
	SNR=186						
USP	**Ospenovka**	**7.40**	**22**	P	**P**		**16 57 57.4 -0.7**
	SNR=35						
TKM2	**Tokmak 2**	**7.48**	**29**	P	**P**		**16 57 59.2 +0.2**
	SNR=425						
TKM2	**Tokmak 2**	**7.48**	**29**	⇓P	**P**		**16 57 59.2 +0.2**
	comp=Z,511nm,1.0s						
TKM2				⇑S	**S**		**16 59 16.9 -5.9**
	comp=Z,288nm,1.1s						
TKM2	**Tokmak 2**	**7.48**	**29**	⇓P	**P**		**16 57 59.2 +0.2**
	comp=Z,511nm,1.0s						
TKM2				S	**S**		**16 59 16.9 -6.0**
KNDC	**Almaty**	**8.30**	**34**	⇑P	**P**		**16 58 10.5 +0.7**
	comp=Z,5μm,1.1s						
KNDC				⇑S	**S**		**16 59 39.6 -2.3**
	comp=Z,2μm,1.3s						
AAA	**Alma-Ata**	**8.34**	**33**	*i* PN	**P**		**16 58 10.3 +0.1**
AAA				*i* S	**S**		**16 59 42.0 -0.8**
AAA				pmax	pmax		
	comp=Z,2μm,1.1s						
AAA				smax			
	comp=N,1μm,1.2s						
AAA				MLR	MLR		
	comp=Z,2μm,1.5s						
BHGR	**Bahadurgarh**	**9.39**	**144**	*e*P	**P**		**16 58 22.9 -1.1**
BHGR				AMb	AMB		16 58 25.0
	comp=Z,176nm,0.4s						
BHGR				*e*S	**S**		**17 00 01.4 -6.0**
JASL	**Jaisalmer**	**9.52**	**179**	*e*P	**P**		**16 58 23.6 -2.0**
JASL				*e*S	**S**		**17 00 03.6 -6.7**
NDI	**New Delhi**	**9.53**	**143**	*e*P	**P**		**16 58 25.0 -0.7**
NDI				*e*S	**S**		**17 00 03.0 -7.6**
AYAN	**Aya Nagar**	**9.65**	**144**	*e*P	**P**		**16 58 24.4 -3.0**
AYAN				AMb	AMB		16 58 28.4
	comp=Z,77nm,0.7s						
AYAN				*e*S	**S**		**17 00 06.3 -7.1**
BISR	**Bishrakh**	**9.73**	**142**	*e*S	**S**		**17 00 09.5 -5.8**
AJM	**Ajmer**	**10.52**	**160**	*e*P	**P**		**16 58 37.9 -0.7**
AJM				AMb	AMB		16 58 39.1
	comp=Z,78nm,1.2s						
AJM				*e*S	**S**		**17 00 29.3 -4.4**
AGRA	**Agra**	**11.10**	**144**	*e*P	**P**		**16 58 45.1 -0.8**
AGRA				*e*S	**S**		**17 00 40.9 -6.1**
BHJ	**Bhuj**	**13.20**	**184**	*e*P	**P**		**16 59 12.2 -0.4**
BHJ				AMb	AMB		16 59 14.6
	comp=Z,126nm,0.4s						
BHJ				*e*S	**S**		**17 01 29.6 -5.7**
MK31	**Makanchi Array**	**13.48**	**36**	P	**P**		**16 59 15.5 -0.5**
	comp=Z,148nm,0.8s,baz=223,slow=10,SNR=719						
MK31	**Makanchi Array**	**13.48**	**36**	P	**P**		**16 59 15.5 -0.5**
MK31				pmax	pmax		
	comp=Z,148nm,0.8s						
MK31	**Makanchi Array**	**13.48**	**36**	P	**P**		**16 59 15.5 -0.5**
	comp=Z,148nm,0.8s						
MKAR	**Makanchi Array**	**13.48**	**36**	P	**P**		**16 59 15.8 -0.1**
	comp=Z,2.0nm,0.3s,baz=216,slow=10,SNR=145						
MKAR				S	**S**		**17 01 52.1 +11**
	baz=231,slow=20,SNR=3.5						
KOLN	**Koldanda**	**13.97**	**125**	*e*P	**P**		**16 59 22.4 +0.2**
	comp=Z,213nm,1.1s						
KOLN				*e*S	**S**		**17 01 51.4 -1.3**
BHPL	**Bhopal**	**14.42**	**154**	*e*P	**P**		**16 59 28.8 +0.9**
BHPL				AMb	AMB		16 59 33.7
	comp=Z,234nm,1.3s						
GKN	**Gorkha**	**14.52**	**122**	*e*P	**P**		**16 59 29.3 +0.2**
	comp=Z,319nm,1.0s						
GKN				*e*S	**S**		**17 02 01.2 -3.9**
ALBI	**Allahabad**	**14.66**	**136**	*e*P	**P**		**16 59 29.0 -1.8**
AB31	**Akbulak array**	**14.98**	**332**	⇓P	**P**		**16 59 33.0 -1.6**
	comp=Z,81nm,0.8s						
AB31				⇑S	**S**		**17 02 12.7 -2.5**
	comp=Z,32nm,0.7s,baz=157,slow=22,SNR=6.1						
AB31	**Akbulak array**	**14.98**	**332**	⇓P	**P**		**16 59 33.0 -1.6**
AB31				S	**S**		**17 02 12.7 -2.5**
AB31				pmax	pmax		
	comp=Z,81nm,0.8s						
AB31	**Akbulak array**	**14.98**	**332**	⇓P	**P**		**16 59 33.0 -1.6**
	comp=Z,81nm,0.8s						
AB31				S	**S**		**17 02 12.7 -2.5**
DMN	**Daman**	**15.09**	**122**	*e*P	**P**		**16 59 36.7 +0.6**
DMN				*e*S	**S**		**17 02 15.2 -2.7**
KKN	**Kakani**	**15.10**	**121**	*e*P	**P**		**16 59 36.4 +0.2**
	comp=Z,357nm,1.0s						
KKN	**Kakani**	**15.10**	**121**	*e*P	**P**		**16 59 36.4 +0.2**
KKN				pmax	pmax		
	comp=Z,178nm,1.0s						
PKI	**Pulchoki**	**15.32**	**121**	*e*P	**P**		**16 59 39.8 +0.8**
	comp=Z,438nm,1.0s						
PKI				*e*S	**S**		**17 02 21.2 -1.9**
PKI	**Pulchoki**	**15.32**	**121**	*e*P	**P**		**16 59 39.8 +0.8**
PKI				*e*S	**S**		**17 02 21.2 -1.9**
PKI				pmax	pmax		
	comp=Z,219nm,1.0s						
KURK	**Kurchatov**	**15.35**	**19**	⇓P	**P**		**16 59 37.5 -1.7**
	comp=Z,43nm,0.9s						
GUN	**Gumba**	**15.44**	**119**	*e*P	**P**		**16 59 41.0 +0.5**
	comp=Z,296nm,1.0s						
JIRN	**Jiri**	**15.81**	**119**	*e*P	**P**		**16 59 45.9 +0.9**
	comp=Z,303nm,0.8s						
BANOM	**Banah**	**16.15**	**233**	⇓P	**P**		**16 59 49.2 +0.1**
	SNR=7.3						
VOSK	**Vostochnaya**	**16.25**	**1**	⇑P	**P**		**16 59 48.2 -2.0**
	comp=Z,73nm,0.7s						
VOSK	**Vostochnaya**	**16.25**	**1**	P	**P**		**16 59 48.5 -1.7**
VOSK				S	**S**		**17 02 42.2 -1.5**
VOSK				pmax	pmax		
	comp=Z,206nm,1.4s						
VOSK				smax			
	comp=Z,142nm,1.7s						
ZRNK	**Zerenda**	**16.52**	**356**	⇓P	**P**		**16 59 52.6 -0.8**
	comp=Z,112nm,0.8s						
ZRNK	**Zerenda**	**16.52**	**356**	*e*P	**P**		**16 59 52.2 -1.2**
ZRNK				*e*S	**S**		**17 02 54.6 +4.9**
ZRNK				pmax	pmax		
	comp=Z,130nm,0.8s						
ZRNK	**Zerenda**	**16.52**	**356**	*e*P	**P**		**16 59 52.2 -1.2**
	comp=Z,130nm,0.8s						
ZRNK				*e*S	**S**		**17 02 54.6 +4.9**
BVA0	**Borovoye Array**	**16.55**	**359**	⇓P	**P**		**16 59 52.8 -1.0**
	comp=Z,12nm,0.8s						
BVA0	**Borovoye Array**	**16.55**	**359**	⇓P	**P**		**16 59 52.8 -1.0**
BVA0				pmax	pmax		
	comp=Z,12nm,0.8s						
BVA0	**Borovoye Array**	**16.55**	**359**	⇓P	**P**		**16 59 52.8 -1.0**
	comp=Z,12nm,0.8s						
BVAR	**Borovoye Array**	**16.55**	**359**	P	**P**		**16 59 52.8 -1.0**
	comp=Z,11nm,0.3s,baz=161,slow=11,SNR=172						
BVAR				S	**S**		**17 02 52.5 +2.0**
	comp=Z,0.4nm,0.3s,baz=183,slow=24,SNR=3.3						
BRVK	**Borovoye**	**16.59**	**359**	*e*P	**P**		**16 59 53.3 -0.9**
BRVK				*e*S	**S**		**17 02 54.8 +3.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**16.59**	**359**	*e*P	**P**		**16 59 53.3 -0.9**
	comp=Z,1.5nm,0.6s						
BRVK				*e*S	**S**		**17 02 54.8 +3.6**
AKTK	**Aktyubinsk**	**16.67**	**331**	P	**P**		**16 59 54.6 -0.5**
AKTK				S	**S**		**17 02 53.7 +0.7**
AKTO	**Aktyubinsk**	**16.67**	**331**	⇓P	**P**		**16 59 54.6 -0.5**
	comp=Z,65nm,0.8s						
AKTO				⇓S	**S**		**17 02 53.7 +0.7**
	comp=Z,32nm,1.8s						
AKTO	**Aktyubinsk**	**16.67**	**331**	P	**P**		**16 59 54.6 -0.5**
	comp=Z,14nm,0.3s,baz=142,slow=11,SNR=514						
AKTO				S	**S**		**17 02 55.2 +2.2**
	comp=Z,0.7nm,0.3s,baz=246,slow=20,SNR=5.9						
ASHO	**Ashiyiah**	**17.18**	**231**	P	**P**		**17 00 01.0 -0.2**
	SNR=24						
CHKZ	**Chkalovo**	**17.21**	**360**	⇓*iP*	**P**		**17 00 00.2 -1.0**
CHKZ				*e*S	**S**		**17 03 09.3 +4.8**
CHKZ				pmax	pmax		
	comp=Z,39nm,0.6s						
CHKZ	**Chkalovo**	**17.21**	**360**	⇓*iP*	**P**		**17 00 00.2 -1.0**
	comp=Z,39nm,0.6s						
CHKZ				*e*S	**S**		**17 03 09.3 +4.8**
BLSP	**Bilaspur**	**17.42**	**142**	*e*P	**P**		**17 00 03.9 +0.1**
BLSP				AMb	AMB		17 00 07.4
	comp=Z,67nm,1.4s						
BLSP				*e*S	**S**		**17 03 10.3 +1.1**
ARQ	**Araqi**	**17.90**	**227**	⇓P	**P**		**17 00 09.5 +0.6**
	SNR=9.7						
BSY	**Bisya**	**17.97**	**224**	⇑P	**P**		**17 00 09.7 0.0**
	SNR=14						
BOK	**Bokaro**	**18.22**	**130**	*e*P	**P**		**17 00 13.3 +1.2**
LSA	**Lhasa**	**18.43**	**106**	P	**P**		**17 00 17.5 +3.1**
LSA	**Lhasa**	**18.43**	**106**	⇑*e*P	**P**		**17 00 17.3 +2.9**
LSA				*e*S	**S**		**17 03 40.3 +11**
LSA				pmax	pmax		
	comp=Z,40nm,0.8s						
LSA	**Lhasa**	**18.43**	**106**	⇑*e*P	**P**		**17 00 17.3 +2.9**
	comp=Z,40nm,0.8s						
LSA				*e*S	**S**		**17 03 40.3 +11**
HYB	**Hyderabad**	**20.22**	**158**	*i* P	**P**		**17 00 34.0 +1.2**
	comp=Z,150nm,1.0s						
HYB				*e*S	**S**		**17 04 09.0 +5.8**

KIV *e**SP 17 01 56.4
KIV *e*S **S** **17 04 49.0 +4.7**
KIV pmax pmax
comp=Z,16nm,0.9s,mb4.5
KIV Kislovodsk 22.56 298 P **P** **17 00 59.0 +3.6**
comp=Z,25nm,0.8s,mb4.8
GTA Gaotai 23.14 74 *e*P **P** **17 01 04.3 +3.3**
GTA AP 17 01 43.8
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
WHFO Wadi Hawf 23.75 223 P **P** **17 01 07.7 +0.6**
SNR=8.3
RBK Rabkut 23.85 222 P **P** **17 01 08.2 +0.2**
SNR=11
RYDS Riyadh 24.00 246 P **P** **17 01 07.1 -2.2**
ABTO Aybut 24.47 223 P **P** **17 01 16.6 +2.8**
SNR=21
SOC Sochi 24.64 296 *e*P **P** **17 01 20.9 +5.8**
SOC *e*S **S** **17 05 22.4 +3.2**
KRAR Krasnoyarsk 24.66 31 *e*P **P** **17 01 16.8 +1.6**
SOKR Solikamsk 24.80 343⇑ *i*P **P** **17 01 18.1 +1.6**
SOKR pmax pmax
comp=Z,50nm,1.4s,mb5.0
MZLS Mizel 25.16 248 P **P** **17 01 21.0 +0.8**
ARSS Ar Rass 25.65 253 P **P** **17 01 24.5 -0.2**
HILS Ha'il 26.04 258 P **P** **17 01 28.4 +0.1**
VRSR Storozhevoye 26.81 313 *e*P **P** **17 01 34.7 -0.3**
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,8.0nm,0.9s
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
AFFS 'Afif 26.87 250 P **P** **17 01 35.7 -0.2**
SONM Songino Array 28.58 55 P **P** **17 01 52.4 +1.4**
comp=Z,3.7nm,0.9s,mb4.0,baz=260,slow=10,SNR=29
ULN Ulaanbaatar 29.02 55⇑ *e*P **P** **17 01 56.2 +1.3**
BR131 Keskin Array S 29.18 288 *e*P **P** **17 01 56.7 +0.3**
comp=Z,1.5nm,0.6s,mb3.8
BR131 *e*pP pP 17 02 39.7 +2.5
BRTR Keskin Array B 29.18 288 P **P** **17 01 56.3 -0.1**
comp=Z,1.5nm,0.6s,mb3.8,baz=107,slow=8.4,SNR=7.4
BRTR pP pP 17 02 33.1 -4.1
comp=Z,1.7nm,0.7s,baz=98,slow=8.7,SNR=3.0
TATS Tathlith 29.19 242 P **P** **17 01 56.3 -0.4**
MOS Moscow 29.51 321 *e*P **P** **17 01 58.8 -0.4**
MOS pmax pmax
comp=Z,48nm,1.3s,mb5.0
OBN Obninsk 29.78 320 *d i*P **P** **17 02 01.3 -0.2**
OBN *e**PP pP 17 02 41.0 -1.5
OBN *e* 17 03 13.8
OBN *e*S **S** **17 06 42.3 +0.5**
OBN pmax pmax
comp=Z,26nm,0.4s,mb5.2
OBN Obninsk 29.78 320 *e*P **P** **17 02 01.5 0.0**
comp=Z,32nm,0.6s,mb5.1
OBN *e*pP pP 17 02 42.5 0.0
BLJS Baljurashi 30.32 245 P **P** **17 02 07.0 +0.4**
DJNS Zahran al Janu 30.36 239 P **P** **17 02 07.5 +0.4**
LTHS Al Lith 30.95 247 P **P** **17 02 12.8 +0.6**
XAN Xi'an 31.21 83 P **P** **17 02 14.5 +0.3**
KLMR Klimovskoe 31.37 331 *d i*P **P** **17 02 14.8 -0.6**
KLMR *e**PP pP 17 02 55.9 -0.9
KLMR pmax pmax
comp=Z,60nm,1.7s,mb5.0
HHC Hu-ho-hao-te 32.03 69 *e*P **P** **17 02 24.0 +2.7**
HHC AMB AMB
comp=Z,130nm,5.8s
AKASG Malin Array Be 32.75 309 P **P** **17 02 27.0 -0.4**
comp=Z,7.3nm,0.5s,mb4.5,baz=82,slow=7.2,SNR=73
AKASG PP PP 17 03 42.9 -1.5
comp=Z,6.3nm,0.7s,baz=84,slow=9.6,SNR=10
AKASG ScP 17 08 30.1
comp=Z,2.8nm,0.8s,baz=77,slow=3.7,SNR=10
ENH Enshi 32.85 89 *e*P **P** **17 02 30.0 +1.5**
comp=Z,16nm,1.2s,mb4.4
NST Nakhon Sawan 33.40 121 P **P** **17 02 34.6 +1.3**
MLR Muntele Rosu 34.55 299 P **P** **17 02 44.5 +1.7**
comp=Z,14nm,0.9s,mb4.5,baz=116,slow=4.2,SNR=14
MLR Muntele Rosu 34.55 299 ⇓P **P** **17 02 45.5 +2.7**
MLR Muntele Rosu 34.55 299 P **P** **17 02 44.5 +1.7**
MLR pmax pmax
comp=Z,14nm,0.9s
MLR Muntele Rosu 34.55 299 ⇓P **P** **17 02 45.5 +2.7**
BURAR Bucovina Array 35.07 303 ⇓P **P** **17 02 48.6 +1.4**
BURAR Bucovina Array 35.07 303 ⇓P **P** **17 02 48.6 +1.4**
BOD Bodaibo 35.55 39 *e*P **P** **17 02 50.9 -0.2**
BOD *e* pP 17 03 33.1 -0.2
BOD *e* 17 04 15.2
BOD pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.2
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
JOF Joensuu 35.76 330 *e*p **P** **17 02 52.8 0.0**
comp=Z,29nm,0.5s,mb5.1
VSU Vasula 36.04 322 *d i*P **P** **17 02 55.1 -0.1**
KWP Kalwaria 36.81 306 *e*P **P** **17 03 03.1 +1.3**
KWP Kalwaria 36.81 306 *e*P **P** **17 03 03.1 +1.4**
SUW Suwalki 36.94 314 *e*P **P** **17 03 02.9 +0.1**
SUW Suwalki 36.94 314 *e*P **P** **17 03 02.9 +0.1**
FINES FINESS Array B 37.35 326 P **P** **17 03 06.3 +0.1**
comp=Z,13nm,0.6s,mb4.6,baz=113,slow=9.9,SNR=42
FINES PP PP 17 04 30.9 -6.5
comp=Z,4.6nm,0.7s,baz=121,slow=11,SNR=4.7
FINES FINESS Array B 37.35 326 P **P** **17 03 06.3 +0.1**
FINES PP PP 17 04 30.9 -6.5
KAF Kangasniemi 37.50 327 *e*p **P** **17 03 07.5 +0.1**
comp=Z,9.0nm,0.7s,mb4.4
KAF Kangasniemi 37.50 327 *e*P **P** **17 03 07.5 +0.1**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.4
BZS Buzias 37.59 300 ⇓P **P** **17 03 09.4 +1.1**
BZS Buzias 37.59 300 ⇓P **P** **17 03 09.4 +1.1**
STHS Stebnicka Huta 37.75 306 *e*P **P** **17 03 09.8 +0.2**
STHS *e*PP PP 17 04 42.6 +0.8
KECS Kecovo 38.25 304 *e*P **P** **17 03 14.6 +0.8**
KECS *e*PP PP 17 04 49.0 +1.7
NIE Niedzica 38.36 306 *e*P **P** **17 03 16.8 +2.1**
OJC Ojcow 38.70 307 *e*P **P** **17 03 17.8 +0.3**
VYHS Vyhne 39.35 304 *e*P **P** **17 03 23.5 +0.6**
VYHS *e*PP PP 17 05 00.1 +0.6
NJ2 Nanjing 39.75 82 *e*P **P** **17 03 26.0 -0.4**
NJ2 AP pP 17 04 09.5 +0.2
NJ2 XP sP 17 04 31.5 -1.3
NJ2 PP PP 17 05 05.0 +1.0
NJ2 S **S** **17 09 15.0 +0.2**
NJ2 XS 17 10 33.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
NJ2 AMB AMB
comp=Z,200nm,10.0s
NJ2 LR LR
comp=N,1μm,23.9s
NJ2 LR LR
comp=E,950nm,27.5s
NJ2 LR LR
comp=Z,330nm,19.5s
SNG Songkhla 39.97 130 P **P** **17 03 30.0 +1.7**
KEV Kevo 40.73 338 *e*p **P** **17 03 34.0 0.0**
comp=Z,12nm,0.6s,mb4.5
KEV Kevo 40.73 338 *e*P **P** **17 03 34.0 0.0**
KEV pmax pmax
comp=Z,13nm,0.6s,mb4.5
VRAC Vranov 40.79 306 P **P** **17 03 35.5 +0.8**
comp=Z,9.2nm,0.9s,mb4.2,baz=94,slow=9.6,SNR=7.7
DPC Dobruska-Polom 40.93 307 *e*P **P** **17 03 37.0 +1.2**
DPC *e*pP pP 17 04 20.2 +1.3
DPC *e*PP PP 17 05 20.7 +5.1
ARCES ARCESS Array B 41.07 338 P **P** **17 03 37.5 +0.8**
comp=Z,26nm,0.6s,mb4.8,baz=112,slow=7.8,SNR=121
ARCES pP pP 17 04 21.0 +1.2
comp=Z,15nm,1.0s,baz=102,slow=11,SNR=3.2
ARCES LR LR 17 23 18.1
comp=Z,58nm,19.5s,baz=275,slow=40
ARE0 ARCESS Array S 41.07 338 *e*P **P** **17 03 37.4 +0.6**
ARE0 *e*pP pP 17 04 20.9 +1.1
UPC Upice 41.12 308 *e*P **P** **17 03 38.4 +1.0**
UPC *e*pP pP 17 04 17.8 -2.7
KULM Kulim 41.46 131 *e*P **P** **17 03 41.1 +0.5**
TREC Trest 41.52 306 *e*P **P** **17 03 41.3 +0.7**
TREC *e*pP pP 17 04 25.0 +1.3
KTK1 Kautokeino 41.53 336 *e*P **P** **17 03 40.7 +0.3**
KTK1 AMb AMB 17 03 45.8
comp=Z,56nm,1.6s,mb4.7
KTK1 Kautokeino 41.53 336 *e*P **P** **17 03 40.7 +0.3**
comp=Z,56nm,1.6s,mb4.8
GROS Grobnik 41.76 302 *e*P **P** **17 03 43.3 +0.7**
SSE Sheshan 41.95 82 P **P** **17 03 41.8 -2.5**
SSE AMB AMB
comp=Z,20nm,0.8s,mb4.6
SSE AMB AMB
comp=Z,210nm,4.9s
PVCC Panska Ves 42.05 308 *e*P **P** **17 03 45.7 +0.9**
PRU Pruhonice 42.09 307 *e*P **P** **17 03 46.0 +0.8**
PRU *e*pP pP 17 04 30.3 +1.9
BRG Berggiesshubel 42.43 308 *i* P **P** **17 03 48.6 +0.7**
BRG *e* pP 17 04 32.8 +1.6
BRG pmax pmax
comp=Z,14nm,0.9s,mb4.4
BRG Berggiesshubel 42.43 308 *i* P **P** **17 03 48.6 +0.7**
comp=Z,14nm,0.9s,mb4.4
BRG *e* pP 17 04 32.8 +1.6
MOA Molln 42.44 304⇑ *i*P **P** **17 03 48.3 +0.2**
comp=Z,9.2nm,0.9s,mb4.2
MOA Molln 42.44 304 ⇑P **P** **17 03 48.3 +0.2**
comp=Z,9.2nm,0.9s,mb4.2
PSI Prapat 42.45 136 P **P** **17 03 48.8 +0.2**
comp=Z,22nm,0.8s,mb4.6,baz=316,slow=8.4,SNR=15
PSI PP PP 17 05 36.6 +4.6
comp=Z,7.4nm,0.9s,baz=263,slow=8.1,SNR=3.6
GEC2 GERESS Array S 42.72 305 *e*P **P** **17 03 50.8 +0.4**
GEC2 pmax pmax
comp=Z,9.0nm,1.5s,mb4.0
GEC2 GERESS Array S 42.72 305 *e*P **P** **17 03 50.8 +0.4**
comp=Z,9.0nm,1.5s,mb4.0
GERES GERESS Array B 42.72 305 P **P** **17 03 51.3 +0.9**
comp=Z,1.3nm,0.7s,mb3.5,baz=90,slow=6.7,SNR=7.1
GERES PP PP 17 05 29.0 -5.2
comp=Z,1.2nm,0.8s,baz=108,slow=6.2,SNR=3.7
KHC Kasperske Hory 42.78 306 *e*P **P** **17 03 50.3 -0.5**
KHC *e*pP pP 17 04 34.6 +0.5
KHC *e*PP PP 17 05 32.7 -2.1
HFS Hagfors 42.92 322 P **P** **17 03 52.0 +0.2**
comp=Z,28nm,0.5s,mb4.9,baz=98,slow=10,SNR=143
HFS LR LR 17 23 01.2
comp=Z,65nm,19.0s,baz=248,slow=37
HFS Hagfors 42.92 322 P **P** **17 03 52.0 +0.2**
HFS LR LR 17 23 01.2
CLL Collm 43.00 309 P **P** **17 03 52.8 +0.3**
comp=Z,logA/T=1.0,mb4.2
CLL *i* 17 03 55.3
CLL Collm 43.00 309 *i* P **P** **17 03 52.8 +0.3**
CLL pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
CLL Collm 43.00 309 *i* P **P** **17 03 52.8 +0.3**
comp=Z,9.0nm,0.9s,mb4.2
ROBS Robic 43.15 302 *e*P **P** **17 03 54.3 +0.5**
TRO Tromso 43.19 336 *e*P **P** **17 03 52.4 -1.4**
NKC Novy Kostel 43.42 307 *e*P **P** **17 03 58.0 +2.1**
MOR8 Moi Rana 43.71 331 ⇓ *i*P **P** **17 03 57.7 -0.3**
MOR8 AMb AMB 17 03 58.8
comp=Z,48nm,0.5s,mb5.1
MOR8 Moi Rana 43.71 331 ⇓ *i*P **P** **17 03 57.7 -0.3**
comp=Z,48nm,0.5s,mb5.1
MOX Moxa 43.92 308 *i* P **P** **17 04 00.0 +0.1**
comp=Z,logA/T=1.1,mb4.2
MOX Moxa 43.92 308 *e*P **P** **17 04 00.0 +0.1**
MOX pmax pmax
comp=Z,20nm,1.5s,mb4.2
MOX Moxa 43.92 308 *e*P **P** **17 04 00.0 +0.1**
comp=Z,20nm,1.5s,mb4.2
YAK Yakutsk 44.15 35 *e*P **P** **17 04 01.1 -0.5**
YAK *e**PP pP 17 04 46.3 +1.2
YAK *e* 17 05 40.3
YAK *e* 17 05 46.7
YAK *e*S **S** **17 10 17.9 -0.7**
YAK *e* 17 13 29.0
YAK *e*SS SS 17 13 43.1 +8.5
YAK pmax pmax
comp=Z,11nm,0.7s,mb4.3
YAK pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
YAK smax
comp=N,8.0nm,1.2s
YAK smax
comp=E,13nm,1.5s
YAK Yakutsk 44.15 35 *e*P **P** **17 04 02.1 +0.5**
comp=E,35nm,0.7s,mb4.8
YAK *e*pP pP 17 04 46.2 +1.1
NB2 NORSAR Subarra 44.24 323 P **P** **17 04 02.2 -0.1**
comp=E,16nm,0.5s,mb4.6,baz=97,slow=7.9
NB2 NORSAR Subarra 44.24 323 P **P** **17 04 02.2 -0.1**
baz=97,slow=7.9
NB2 NORSAR Subarra 44.24 323 P **P** **17 04 02.2 -0.1**
NB2 pmax pmax
comp=Z,16nm,0.5s,mb4.6
NOA NORSAR Array B 44.24 323 P **P** **17 04 02.2 -0.1**
comp=Z,15nm,0.5s,mb4.6,baz=97,slow=7.8,SNR=66
NOA PP PP 17 05 46.2 -2.8
comp=Z,2.4nm,0.7s,baz=96,slow=9.7,SNR=3.7
GRA1 Grafenberg Arr 44.26 307 *e*P **P** **17 04 04.0 +1.4**
comp=Z,29nm,1.5s,mb4.4
GRA1 *e*pP pP 17 04 46.5 +0.3
GRF Grafenberg Arr 44.26 307 *e*P **P** **17 04 04.0 +1.4**
GRF *e**PP pP 17 04 46.5 +0.3
GRF pmax pmax
comp=Z,29nm,1.5s,mb4.4
GRF Grafenberg Arr 44.26 307 *e*P **P** **17 04 04.0 +1.4**
GRF *e**PP pP 17 04 46.5 +0.3
GRF pmax pmax
comp=Z,29nm,1.5s,mb4.4
GRF Grafenberg Arr 44.26 307 *e*P **P** **17 04 04.0 +1.4**
comp=Z,29nm,1.5s,mb4.4
GRF *e*pP pP 17 04 46.5 +0.3
NSS Namsos 44.38 328 *e*P **P** **17 04 02.9 -0.5**
BSEG Bad Segeberg 44.51 313 *e*P **P** **17 04 05.4 +0.8**
LOF Lofoten 44.55 333 *e*P **P** **17 04 06.5 +1.8**
LOF AMb AMB 17 04 09.1
comp=Z,73nm,1.6s,mb4.8
LOF Lofoten 44.55 333 *e*P **P** **17 04 06.5 +1.8**
comp=Z,73nm,1.6s,mb4.8
CLZ Clausthal 44.60 310 *e*P **P** **17 04 06.5 +1.2**
CLZ pmax pmax
comp=Z,22nm,1.2s,mb4.4
CLZ Clausthal 44.60 310 *e*P **P** **17 04 06.5 +1.2**
comp=Z,22nm,1.2s,mb4.4
MOTA Moosalm 44.63 303 ⇓ *i*P **P** **17 04 05.1 -0.5**
comp=Z,6.2nm,1.0s,mb3.9
MOTA Moosalm 44.63 303 ⇓P **P** **17 04 05.1 -0.5**
MOTA pmax pmax
comp=Z,6.0nm,1.0s,mb3.9
DAVA Damuels 45.46 304⇑ *i*P **P** **17 04 11.9 -0.3**
comp=Z,21nm,0.9s,mb4.5
DAVOX Davos 45.55 303 P **P** **17 04 12.7 -0.2**
comp=Z,7.8nm,0.8s,mb4.1,baz=105,slow=7.9,SNR=13
DAVOX ScP 17 09 20.3
comp=Z,2.7nm,0.7s,baz=294,slow=1.0,SNR=5.1
DAVOX Davos 45.55 303 P **P** **17 04 12.7 -0.2**
DAVOX ScP 17 09 20.3
MOL Molde 46.10 325 *e*P **P** **17 04 18.5 +1.5**
MOL AMb AMB 17 04 23.1
comp=Z,54nm,1.8s,mb4.6
CDF Champ du Feu 47.00 305 *e*P **P** **17 04 23.3 -0.9**
comp=Z,7.7nm,0.8s,mb3.8
CDF Champ du Feu 47.00 305 *e*P **P** **17 04 23.3 -0.9**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb3.8
PGF Pioggiola 47.04 297 *e*P **P** **17 04 23.2 -1.3**
comp=Z,30nm,1.0s,mb4.3
PGF Pioggiola 47.04 297 *e*P **P** **17 04 23.2 -1.3**
PGF pmax pmax
comp=Z,15nm,1.0s,mb4.3
HINF Hinteralfeld 47.39 305 *e*P **P** **17 04 26.6 -0.6**
comp=Z,12nm,0.9s,mb3.9
HINF Hinteralfeld 47.39 305 *e*P **P** **17 04 26.6 -0.6**
HINF pmax pmax
comp=Z,6.0nm,0.9s,mb3.9
WLF Walferdange 47.52 307 *e*P **P** **17 04 28.1 -0.1**
WLF *e**PP pP 17 05 12.6 +0.2
WLF pmax pmax
comp=Z,11nm,0.9s,mb4.2
WLF Walferdange 47.52 307 *e*P **P** **17 04 28.1 -0.1**
comp=Z,11nm,0.9s,mb4.2
WLF *e*pP pP 17 05 12.6 +0.2
HAU Haudompre 47.69 305 *e*P **P** **17 04 28.2 -1.4**
SBF Sospel 47.83 299 *e*P **P** **17 04 29.7 -1.0**
LPG La Plagne 47.93 302 *e*P **P** **17 04 30.8 -0.7**
comp=Z,15nm,0.9s,mb4.0
LPG La Plagne 47.93 302 *e*P **P** **17 04 30.8 -0.7**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
LPL La Plagne 47.94 302 *e*P **P** **17 04 30.9 -0.6**
MBDF Montbardon 48.09 301 *e*P **P** **17 04 31.9 -0.8**
comp=Z,17nm,0.9s,mb4.1
MBDF Montbardon 48.09 301 *e*P **P** **17 04 31.9 -0.8**
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
CABF La Chapelle 48.14 303 *e*P **P** **17 04 31.9 -1.2**
comp=Z,9.8nm,0.6s,mb4.0
CABF La Chapelle 48.14 303 *e*P **P** **17 04 31.9 -1.2**
CABF pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
GIVF Givet 48.30 308 *e*P **P** **17 04 33.6 -0.6**
MEZF Maizieres J'vi 48.44 306 *e*P **P** **17 04 34.7 -0.6**
FRF La Foret Royal 48.46 299 *e*P **P** **17 04 34.3 -1.2**
KMBO Kilima Mbogo 48.61 227 P **P** **17 04 37.8 +0.7**
comp=Z,15nm,0.6s,mb4.5,baz=34,slow=11,SNR=43
ORIF Oris-en-Rattie 48.66 301 *e*P **P** **17 04 36.3 -0.8**
SMRF Simiane la Rot 49.11 300 *e*P **P** **17 04 39.8 -0.7**
LOR Lormes 49.49 305 *e*P **P** **17 04 41.8 -1.5**
comp=Z,32nm,1.4s,mb4.2
LOR Lormes 49.49 305 *e*P **P** **17 04 41.8 -1.5**
LOR pmax pmax
comp=Z,16nm,1.4s,mb4.2
VIVF Saint-Julien-l 49.51 301 *e*P **P** **17 04 42.5 -1.0**
comp=Z,8.2nm,0.7s,mb3.9
VIVF *e*pP pP 17 05 28.2 +0.2
VIVF Saint-Julien-l 49.51 301 *e*P **P** **17 04 42.5 -1.0**
VIVF *e**PP pP 17 05 28.2 +0.2
VIVF pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
SMF Signal de Mont 49.64 304 *e*P **P** **17 04 43.3 -1.2**
comp=Z,24nm,0.9s,mb4.2
SMF *e*pP pP 17 05 28.8 -0.2
SMF Signal de Mont 49.64 304 *e*P **P** **17 04 43.3 -1.2**
SMF *e**PP pP 17 05 28.8 -0.2
SMF pmax pmax
comp=Z,12nm,0.9s,mb4.2
SSF Saint Saulge 49.77 304 *e*P **P** **17 04 44.2 -1.3**
AVF Avril sur Loir 49.93 304 *e*P **P** **17 04 45.9 -0.8**
comp=Z,25nm,0.9s,mb4.2
AVF Avril sur Loir 49.93 304 *e*P **P** **17 04 45.9 -0.8**
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.2
LASF Ste Croix 50.28 301 *e*P **P** **17 04 48.5 -0.8**
BGF Bois d'Agland 50.33 304 *e*P **P** **17 04 48.8 -0.9**
KSM Kuching 50.54 124 *e*P **P** **17 04 51.2 -0.5**
TCF Toulx Ste Croi 50.82 304 *e*P **P** **17 04 52.3 -1.1**
comp=Z,13nm,0.9s,mb4.1
TCF *e*pP pP 17 05 38.3 +0.1
TCF Toulx Ste Croi 50.82 304 *e*P **P** **17 04 52.3 -1.1**
TCF *e**PP pP 17 05 38.3 +0.1
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
CAF Calviac 51.28 302 *e*P **P** **17 04 56.0 -0.9**
KKM Kota Kinabalu 51.45 115 P **P** **17 04 59.9 +1.3**
RJF Les Rejaudoux 51.55 303 *e*P **P** **17 04 58.2 -0.7**
MTLF Montolieu 51.62 300 *e*P **P** **17 04 58.7 -0.7**
LDF La Druitiere 51.78 307 *e*P **P** **17 04 59.3 -1.2**
FLN La Foliniere 51.97 307 *e*P **P** **17 05 01.2 -0.7**
comp=Z,9.6nm,0.7s,mb4.0
FLN La Foliniere 51.97 307 *e*P **P** **17 05 01.2 -0.7**
FLN pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
EKA Eskdalemuir Ar 52.12 316 P **P** **17 05 02.7 -0.2**
comp=Z,6.6nm,0.8s,mb4.1,baz=98,slow=6.7,SNR=9.2
EKA pP pP 17 05 43.4 -4.5
comp=Z,6.5nm,1.0s,baz=85,slow=9.2,SNR=3.9
LFF La Frestale 52.18 302 *e*P **P** **17 05 02.9 -0.6**
comp=Z,11nm,0.6s,mb4.2
LFF La Frestale 52.18 302 *e*P **P** **17 05 02.9 -0.6**
LFF pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
GRR Gorron 52.30 307 *e*P **P** **17 05 03.6 -0.8**
GRR *e*pP pP 17 05 48.7 -0.7
MFF Saint Martin d 52.31 305 *e*P **P** **17 05 04.0 -0.5**
EPF Esparros 53.03 300 *e*P **P** **17 05 09.4 -0.4**
MJAR Matsushiro Arr 53.22 68 P **P** **17 05 11.8 +0.4**
comp=Z,5.7nm,1.1s,mb3.9,baz=309,slow=8.0,SNR=5.2
MJAR Matsushiro Arr 53.22 68 P **P** **17 05 11.8 +0.4**
SGMF Saint Gilles 53.43 307 *e*P **P** **17 05 11.8 -0.9**
ETSF Etsaut 53.69 300 *e*P **P** **17 05 14.3 -0.4**
comp=Z,14nm,0.8s,mb4.2
ETSF Etsaut 53.69 300 *e*P **P** **17 05 14.3 -0.4**
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
ROSF Rostrenen 53.87 307 *e*P **P** **17 05 14.7 -1.2**
SJPF Ste Jean 54.09 301 *e*P **P** **17 05 16.4 -1.2**
DAG Danmarks Havn 54.68 344 ⇓ *i*P **P** **17 05 22.1 +0.6**
comp=Z,5.9nm,0.9s,mb4.1
DAG Danmarks Havn 54.68 344⇓ *e*P **P** **17 05 22.1 +0.6**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
DAG Danmarks Havn 54.68 344⇓ *e*P **P** **17 05 22.1 +0.6**
comp=Z,5.9nm,0.9s,mb4.1
ESDC Sonseca Array 57.23 298 P **P** **17 05 39.3 -0.8**
comp=Z,1.3nm,0.5s,mb3.8,baz=53,slow=8.1,SNR=9.0
BILL Bilibino 58.76 26 *e*P **P** **17 05 51.0 +0.7**
BILL *e* 17 08 02.3
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
BILL Bilibino 58.76 26 *e*P **P** **17 05 51.0 +0.7**
comp=Z,4.6nm,0.6s,mb4.3
BILL *e*PP PP 17 08 02.3 -2.0
MDT Midelt 60.54 291 P **P** **17 06 00.6 -2.3**
comp=Z,2.1nm,0.8s,mb3.8,baz=61,slow=13,SNR=3.3
SUMG Summit 61.00 341 *e*P **P** **17 06 06.6 +1.1**
comp=Z,4.9nm,0.6s,mb4.3
LSZ Lusaka 65.23 226 *e*P **P** **17 06 33.5 -0.5**
LSZ pmax pmax
comp=Z,12nm,0.8s,mb4.6
LSZ Lusaka 65.23 226 *e*P **P** **17 06 33.5 -0.5**
comp=Z,12nm,0.8s,mb4.6
TNA Tin City 68.69 22 P **P** **17 06 55.8 +1.0**
comp=Z,2.1nm,0.7s,mb3.9
IMA2 Indian Mountai 72.23 17 *e*P **P** **17 07 16.2 +0.1**
IMA2 *e*pP pP 17 08 06.2 +2.1
INK Inuvik 73.98 9 *e*P **P** **17 07 27.1 +0.9**
INK pmax pmax
comp=Z,36nm,1.3s
INK Inuvik 73.98 9 *e*P **P** **17 07 27.1 +0.9**
comp=Z,36nm,1.3s,mb4.8
DBIC Dimbokro 74.42 267 P **P** **17 07 27.8 -2.0**
comp=Z,4.1nm,0.5s,mb4.3,baz=47,slow=7.7,SNR=12
DBIC Dimbokro 74.42 267 *e*P **P** **17 07 27.8 -2.0**
DBIC pmax pmax
comp=Z,4.0nm,0.5s
DBIC Dimbokro 74.42 267 *e*P **P** **17 07 27.8 -2.0**
comp=Z,3.7nm,0.5s,mb4.3
LBTB Lobatse 74.47 222 *e*P **P** **17 07 30.1 +0.2**
comp=Z,41nm,0.9s,mb5.1
COLA College 74.58 16 *c i*P **P** **17 07 30.3 +0.6**
COLA College 74.58 16 *e*P **P** **17 07 29.9 +0.2**
comp=Z,21nm,0.8s,mb4.8
TSUM Tsumeb 74.68 232 *e*P **P** **17 07 31.0 -0.1**
comp=Z,26nm,1.1s,mb4.8
LIC Lamto 74.82 267 *e*P **P** **17 07 29.9 -2.2**
comp=Z,10nm,0.6s,mb4.3
ILAR Eielson Array 74.88 16 P **P** **17 07 31.5 +0.1**
comp=Z,6.9nm,0.8s,mb4.3,baz=302,slow=5.0,SNR=58
FITZ Fitzroy Crossi 75.10 126 *e*P **P** **17 07 32.7 -0.8**
comp=Z,21nm,0.9s,mb4.8
KAKA Kakadu 75.96 118 *e*P Px 17 08 00.8
comp=Z,19nm,0.6s
DIV Divide 78.31 17 *e*P **P** **17 07 50.3 -0.1**
YKW3 Yellowknife Ar 81.22 2 *e*P **P** **17 08 06.5 +0.6**
YKA Yellowknife Ar 81.29 2 P **P** **17 08 06.9 +0.6**
comp=Z,7.1nm,0.6s,mb4.5,baz=350,slow=5.3,SNR=212
YKA pP pP 17 08 51.7 -3.5
comp=Z,1.0nm,0.6s,baz=348,slow=5.2,SNR=1.9
YKA PP PP 17 11 13.3 -3.2
comp=Z,0.7nm,0.9s,baz=354,slow=7.9,SNR=3.7
YKA PKKPbc 17 26 37.7
comp=Z,0.4nm,0.6s,baz=172,slow=2.3,SNR=15
YKA Yellowknife Ar 81.29 2 P **P** **17 08 06.9 +0.6**
YKA pP pP 17 08 51.7 -3.5
YKA PP PP 17 11 13.3 -3.2
YKA PKKPbc 17 26 37.7
NWAO Narrogin (SRO) 81.61 142 P **P** **17 08 07.5 -1.1**
comp=Z,13nm,1.0s,mb4.5,baz=333,slow=2.3,SNR=3.3
NWAO Narrogin (SRO) 81.61 142 P **P** **17 08 07.5 -1.1**
SCHQ Schefferville 82.02 337 P **P** **17 08 10.6 +0.5**

comp=Z,4.1nm,0.9s,mb4.0,slow=1.0,SNR=4.5
WRA Warramunga Arr 82.21 122 P **P 17 08 11.0 -0.9**
comp=Z,22nm,0.8s,mb4.8,baz=324,slow=5.0,SNR=182
WRAB Tennant Creek 82.21 122 *e*P **P 17 08 10.9 -0.9**
WRAB pmax pmax
comp=Z,49nm,0.9s,mb5.1
WRAB Tennant Creek 82.21 122 *e*P **P 17 08 10.8 -1.0**
comp=Z,49nm,0.9s,mb5.1
WB2 Warramunga Arr 82.22 122⇑*i*P **P 17 08 10.9 -1.0**
FCC Fort Churchill 84.27 352 *e*P **P 17 08 22.4 +1.0**
FCC pmax pmax
comp=Z,110nm,2.8s,mb5.1
FCC Fort Churchill 84.27 352 *e*P **P 17 08 22.4 +1.0**
comp=Z,110nm,2.8s,mb5.1
ASPA Alice Springs 84.46 125⇓*i*P **P 17 08 22.6 -0.6**
EDM Edmonton 90.61 2 *e*P **P 17 08 52.8 +1.0**
CTA Charters Tower 90.78 114 *e*P **P 17 08 52.7 -0.7**
comp=Z,8.3nm,0.7s,mb4.8
CTA Charters Tower 90.78 114 P **P 17 08 52.9 -0.5**
comp=Z,12nm,0.8s,mb4.9,baz=301,slow=7.7,SNR=13
CTA Charters Tower 90.78 114 P **P 17 08 52.9 -0.5**
CTA pmax pmax
comp=Z,12nm,0.8s
CTAO Charters Tower 90.78 114 *e*P **P 17 08 53.0 -0.4**
CTAO pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CTAO Charters Tower 90.78 114 *e*P **P 17 08 53.0 -0.4**
comp=Z,10nm,0.7s,mb4.9
ULM Lac du Bonnet 92.84 351 P **P 17 09 02.5 +0.2**
comp=Z,2.1nm,0.7s,mb4.3,baz=2.8,slow=4.0,SNR=4.6
ULM Lac du Bonnet 92.84 351 P **P 17 09 02.5 +0.2**
MSO Missoula 96.97 3 *e*P **P 17 09 22.3 +1.1**
VNA2 Neumayer--Watz 120.27 202 *e* Pdif 17 11 03.9 +0.3
VNA2 Neumayer--Watz 120.27 202 P PKPdf 17 14 39.0 +1.0
VNA3 Neumayer Olymp 121.08 202 P PKPdf 17 14 40.3 +0.7
VNDA Vanda 125.54 164 PKP PKPdf 17 14 48.4 +0.4
comp=Z,0.7nm,0.6s,baz=163,slow=2.1,SNR=4.3
VNDA Vanda 125.54 164 PKIKP PKPdf 17 14 48.4 +0.4
VNDA pmax pmax
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 126.27 180 *e*PKPdf PKPdf 17 14 50.1 +0.9
TRQA Tornquist 142.59 253 *e*PKPdf PKPdf 17 15 22.1 +1.6
CFAA Coronel Fontan 145.78 266 PKPbc PKPbc 17 15 27.7 +0.4
comp=Z,0.8nm,0.7s,baz=33,slow=1.8,SNR=16
PLCA Paso Flores 149.56 250 PKPbc PKPdf 17 15 38.5 +6.4
comp=Z,6.7nm,0.9s,baz=105,slow=4.7,SNR=11
PLCA Paso Flores 149.56 250 *e*PKPbc PKPdf 17 15 38.6 +6.6

*NEIC **27** 17:02:02.5, 18.73N×68.96W, h200km, MD4.3(RSPR), After RSPR.*
RSPR 27 17:02:02.5, 18.73N×68.96W, h200km±5km, MD4.3/13, MD4.3/13, 8C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSP	**Las Mesas**	**1.86**	**107**⇑	*e*P	P	17 02 39.4	-0.5
LSP				*e*S	S	17 03 09.4	+0.7
CRPR	**Cabo Rojo, PR**	**1.89**	**112**⇓	*e*P	P	17 02 39.6	-0.7
CRPR				*e*S	S	17 03 09.4	0.0
MGP	**Maguayo**	**1.91**	**112**⇓	*e*P	P	17 02 40.8	+0.3
LRS	**Lares**	**2.05**	**102**⇑	*e*P	P	17 02 41.7	-0.1
AOPR	**Arecibo Observ**	**2.13**	**100**⇑	*e*P	P	17 02 42.2	-0.5
AOPR				*e*S	S	17 03 14.8	+1.1
CELP	**Cerrillos**	**2.35**	**106**⇑	*e*P	P	17 02 45.4	+0.3
CELP				*e*S	S	17 03 19.0	+0.9
ICM	**Isla Caja Muer**	**2.46**	**109**⇓	*e*P	P	17 02 46.9	+0.5
ICM				*e*S	S	17 03 20.8	+0.6
SJG	**San Juan**	**2.73**	**102**⇓	*e*P	P	17 02 49.6	+0.1
SJG				*e*S	S	17 03 26.1	+0.2
CBYP	**Canovanas**	**2.98**	**98**⇑	*e*P	P	17 02 52.2	-0.1
CBYP				*e*S	S	17 03 31.5	+0.6
HUMP	**Col San Antoni**	**3.01**	**101**⇑	*e*P	P	17 02 53.0	+0.3
HUMP				*e*S	S	17 03 32.1	+0.7
MTP	**Monte Pirata**	**3.29**	**100**⇑	*e*P	P	17 02 56.8	+0.7
MTP				*e*S	S	17 03 39.3	+1.8
STVI	**Saint Thomas**	**3.81**	**95**⇓	*e*P	P	17 03 03.7	+1.2
STVI				*e*S	S	17 03 49.9	+1.0
TBVI	**Tortola**	**4.13**	**94**⇑	*e*P	P	17 03 08.0	+1.4
TBVI				*e*S	S	17 03 57.8	+1.6

*BJI **27** 17:02:29.4, 12.20S×76.80W, h96km, mB5.0*
*NEIC **27** 17:02:29.5±0.8, 12.22S×76.77W, h97km±7km, mb4.5/10, Error ellipse: s-maj=16.0km s-min=7.7km az=58.0*
NEIC Felt [III] at Lima. Also felt at Chosica and Ricardo Palma.
*IDC **27** 17:02:35.2±4.8, 11.92S×76.53W, h134km±48km, mb4.0/8, mb1 4.1/10, mb1mx3.9/20, mbtmp4.4/10, MS3.2/3, Ms1 3.2/3, ms1mx2.9/32, Error ellipse: s-maj=44.2km s-min=18.3km az=79.0*
ISC 27 17:02:27.9±0.7, 12.28S±0.08×76.9W±0.1, h102km±5km, n53, σ1°07/43, mb4.4/17, 1C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.30**	**7**⇓	*i*P	P	**17 02 43.9**	**+1.0**
NNA				*e*S	S	**17 02 53.2**	**-0.8**
LPAZ	**La Paz**	**9.37**	**116**	P	P	**17 04 44.6**	**+3.1**
LPAZ				LR	LR	17 07 53.3	
comp=Z,71nm,20.2s,baz=154,slow=34							
LPAZ	**La Paz**	**9.37**	**116**	P	P	**17 04 40.9**	**-0.5**
5.0nm,0.8s							
LPAZ				LR	LR	17 07 53.3	
OTAV	**Otavalo**	**12.54**	**353**	*e*P	P	**17 05 23.4**	**-0.4**
24nm,1.1s							
SIV	**San Ignacio**	**15.76**	**105**	P	P	**17 06 06.2**	**+0.8**
0.1nm,0.3s,baz=285,slow=14,SNR=8.2							
ROSC	**El Rosal**	**17.21**	**9**	P	P	**17 06 24.7**	**+1.2**
0.9nm,0.3s,baz=272,slow=23,SNR=4.0							
ROSC				LR	LR	17 13 51.1	
comp=Z,117nm,20.7s,baz=214,slow=40							
CFAA	**Coronel Fontan**	**20.81**	**159**	P	P	**17 07 09.1**	**+6.0**
0.8nm,0.8s,baz=332,slow=10,SNR=12							
CFAA	**Coronel Fontan**	**20.81**	**159**	P	P	**17 07 09.1**	**+6.0**
SDV	**Santo Domingo**	**21.93**	**17**	P	P	**17 07 13.9**	**-0.3**
12nm,0.8s,mb4.3,baz=196,slow=9.7,SNR=17							
SDV	**Santo Domingo**	**21.93**	**17**	*e*P	P	**17 07 13.8**	**-0.4**
13nm,0.8s,mb4.3							
BDFB	**Brasilia**	**28.20**	**100**	LR	LR	17 20 19.4	
comp=Z,84nm,19.8s,baz=37,slow=38							
PLCA	**Paso Flores**	**28.88**	**170**	P	P	**17 08 17.9**	**-1.3**
TRQA	**Tornquist**	**28.91**	**155**	P	P	**17 08 18.3**	**-1.2**
SJG	**San Juan**	**32.00**	**20**	P	P	**17 08 45.6**	**-1.3**
6.7nm,0.3s,mb4.8,baz=193,slow=5.3,SNR=3.6							
LRAL	**Lakeview Retre**	**46.09**	**348**	*e*P	P	**17 10 42.5**	**-1.1**
9.4nm,0.9s,mb4.5							
SWET	**Sewanee**	**48.01**	**350**	*e*P	P	**17 10 56.0**	**-2.7**
CPCT	**Cooper Cave**	**48.02**	**352**	*e*P	P	**17 10 56.9**	**-1.8**
TXAR	**Lajitas Array**	**48.79**	**328**	P	P	**17 11 05.7**	**+0.9**
1.9nm,0.6s,mb4.2,baz=149,slow=9.0,SNR=32							
TXAR				PcP	PcP	17 12 29.6	+1.2
1.3nm,0.8s,baz=135,slow=5.5,SNR=5.1							
MIAR	**Mount Ida**	**49.20**	**342**	*e*P	P	**17 11 07.4**	**-0.4**
6.4nm,0.8s,mb4.6							
WVT	**Waverly**	**49.25**	**348**	*e*P	P	**17 11 06.1**	**-2.2**
WMOK	**Wichita Mounta**	**51.17**	**337**	*e*P	P	**17 11 22.2**	**-0.7**
MNTX	**Cornudas Mount**	**51.57**	**329**	*e*P	P	**17 11 25.7**	**-0.2**
2.5nm,0.8s,mb4.3							
ANMO	**Albuquerque**	**54.71**	**330**	*e*P	P	**17 11 49.2**	**+0.1**
9.4nm,1.2s,mb4.7							
SDCO	**Great Sand Dun**	**56.55**	**333**	*e*P	P	**17 12 02.5**	**+0.3**
10nm,0.9s,mb4.9							
PV01	**Paradox Valley**	**58.27**	**331**	*e*P	P	**17 12 14.8**	**+0.5**
NEN	**Nelson**	**59.67**	**325**	*e*P	P	**17 12 24.3**	**+0.3**
MSU	**Marysvale**	**60.35**	**329**	*e*P	P	**17 12 29.4**	**+0.7**
ARUT	**Antelope Range**	**60.46**	**327**	*e*P	P	**17 12 30.9**	**+1.5**
TPNV	**Topopah Spring**	**61.39**	**325**	*e*P	P	**17 12 36.6**	**+0.9**
3.6nm,0.8s,mb4.5							
DUG	**Dugway**	**61.95**	**329**	*e*P	P	**17 12 40.0**	**+0.7**
24nm,1.3s,mb5.1							
PDAR	**Pinedale Array**	**62.43**	**333**	P	P	**17 12 42.3**	**-0.3**
1.3nm,0.7s,mb4.1,baz=134,slow=8.7,SNR=11							
BW06	**Boulder Array**	**62.43**	**333**	*e*P	P	**17 12 41.6**	**-0.9**
ELK	**Elko**	**63.59**	**328**	*e*P	P	**17 12 50.6**	**+0.3**
3.8nm,0.8s,mb4.3							
NVAR	**Mina Array Bea**	**63.59**	**325**	P	P	**17 12 52.0**	**+1.7**
3.2nm,0.8s,mb4.2,baz=137,slow=6.8,SNR=25							
ULM	**Lac du Bonnet**	**64.45**	**347**	P	P	**17 12 54.8**	**-0.9**
11nm,0.8s,mb4.8,baz=159,slow=6.9,SNR=24							
HLID	**Hailey**	**65.28**	**331**	*e*P	P	**17 13 01.9**	**+0.8**
2.3nm,0.9s,mb4.0							
MCMT	**McKenzie Canyo**	**65.52**	**333**	*e*P	P	**17 13 03.5**	**+0.8**
SNAA	**Sanae**	**73.41**	**161**	P	P	**17 13 51.6**	**+1.3**
DBIC	**Dimbokro**	**74.02**	**79**	P	P	**17 13 56.3**	**+1.3**
YKA	**Yellowknife Ar**	**80.11**	**343**	P	P	**17 14 28.3**	**+0.4**
2.5nm,0.8s,mb4.1,baz=138,slow=5.8,SNR=34							
VNDA	**Vanda**	**84.49**	**191**	P	P	**17 14 48.0**	**-2.1**
SYO	**Syowa Base**	**87.70**	**161**	⇑P	P	**17 15 06.0**	**+0.1**
ILAR	**Eielson Array**	**92.74**	**336**	P	P	**17 15 30.6**	**+1.1**
0.8nm,0.8s,mb4.1,baz=146,slow=3.3,SNR=9.2							
WB2	**Warramunga Arr**	**135.61**	**224**	*e*P	PKPdf	17 21 42.4	+5.2
WRA	**Warramunga Arr**	**135.62**	**224**	PKP	PKPdf	17 21 42.0	+4.7
1.2nm,0.4s,baz=130,slow=2.0,SNR=24							
MKAR	**Makanchi Array**	**141.37**	**23**	PKP	PKPdf	17 21 48.7	+1.7
0.6nm,0.7s,baz=315,slow=1.7,SNR=5.0							
CN2	**Changchun**	**143.17**	**333**	*e*PKP	PKPdf	17 21 51.5	+1.4
ULN	**Ulaanbaatar**	**144.38**	**355**	*e*PKP	PKPdf	17 21 54.3	+2.2
SONM	**Songino Array**	**144.46**	**356**	PKP	PKPdf	17 21 54.7	+2.4
2.7nm,0.7s,baz=327,slow=2.5,SNR=24							
WMQ	**Urumqi**	**145.88**	**20**	*e*PKP	PKPdf	17 21 56.3	+1.5
WMQ				LR	LR		
comp=N,100nm,22.6s							
WMQ				LR	LR		
comp=E,100nm,24.0s							
WMQ				LR	LR		
comp=Z,110nm,22.0s							
HHC	**Hu-ho-hao-te**	**150.59**	**347**	*e*PKP	PKPdf	17 22 02.3	-0.2
HHC				PKP2	PKPab	17 22 15.0	-2.5
HHC				APKP		17 22 29.3	
HHC				XPKP		17 22 39.5	
HHC				PKS	PKS	17 25 35.0	-1.3
HHC				SKS	SKS	17 28 58.5	+0.3
HHC				SKKS		17 32 22.3	
HHC				PP	PP		
comp=Z,140nm,5.2s							
HHC				LR	LR		
comp=N,120nm,17.8s							
HHC				LR	LR		
comp=E,160nm,14.3s							
HHC				LR	LR		
comp=Z,120nm,15.5s							
NJ2	**Nanjing**	**155.58**	**326**	*e*PKP	PKPdf	17 22 11.5	+1.7
LZH	**Lanzhou**	**156.29**	**359**	*e*PKP	PKPdf	17 22 11.8	+1.2
LZH				APKP		17 22 38.5	
LZH				XPKP		17 22 49.3	

*IDC **27** 17:04:23.8±3.4, 1.37N×126.92E, h62km±29km, mb4.1/8, mb1 4.2/8, mb1mx3.9/17, mbtmp4.3/8, MS3.4/1, Ms1 3.3/1, ms1mx2.5/26, Error ellipse: s-maj=63.5km s-min=14.6km az=70.0*
*NEIC **27** 17:04:26.4±2.4, 1.38N×127.02E, h91km±22km, mb4.2/6, Error ellipse: s-maj=31.8km s-min=6.7km az=63.0*
ISC 27 17:04:27.2±4.1, 1.3N±0.1×126.9E±0.3, h113km±37km, n21, σ0°54/20, mb4.2/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**11.65**	**294**	*e*Pn	P	**17 07 11.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.36**	**184**	*e*P	P	**17 08 45.9**	**-0.6**
5.1nm,0.6s							
WRAB	**Tennant Creek**	**22.37**	**161**	*e*P	P	**17 09 16.5**	**-0.2**
WRA	**Warramunga Arr**	**22.37**	**161**	P	P	**17 09 16.5**	**-0.3**
13nm,0.6s,mb4.5,baz=340,slow=11,SNR=56							
WRA				ScP		17 16 42.3	
0.8nm,0.8s,baz=342,slow=3.2,SNR=7.4							
WB2	**Warramunga Arr**	**22.38**	**161**	*e*P	P	**17 09 16.6**	**-0.2**
ASPA	**Alice Springs**	**25.77**	**165**	*e*P	P	**17 09 48.9**	**-0.4**
NWAO	**Narrogin (SRO)**	**35.29**	**194**	P	P	**17 11 13.7**	**+0.5**
14nm,1.0s,mb4.7,baz=11,slow=5.2,SNR=4.1							
STKA	**Stephens Creek**	**35.85**	**158**	*e*P	P	**17 11 17.5**	**-0.4**
2.3nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**35.85**	**158**	P	P	**17 11 17.9**	**0.0**
2.4nm,0.5s,mb4.4,baz=326,slow=11,SNR=12							
STKA				LR	LR	17 26 03.7	
comp=Z,53nm,19.2s,baz=25,slow=36							
ARMA	**Armidale**	**39.40**	**145**	*e*P	P	**17 11 49.0**	**+1.5**
LSA	**Lhasa**	**44.17**	**313**	*e*P	P	**17 12 27.1**	**+0.6**
1.6nm,0.6s,mb3.9							
ULN	**Ulaanbaatar**	**49.43**	**342**	*e*P	P	**17 13 07.1**	**-0.4**
2.2nm,0.6s,mb4.3							
SONM	**Songino Array**	**49.60**	**342**	P	P	**17 13 09.4**	**+0.5**
1.9nm,0.7s,mb4.1,baz=154,slow=8.0,SNR=18							
MKAR	**Makanchi Array**	**59.61**	**326**	P	P	**17 14 21.6**	**0.0**
3.3nm,0.4s,mb4.7,baz=118,slow=7.8,SNR=43							
KURK	**Kurchatov**	**63.84**	**328**	*e*P	P	**17 14 49.5**	**-0.3**
9.8nm,0.8s,mb4.7							
BVAR	**Borovoye Array**	**69.41**	**327**	P	P	**17 15 24.0**	**-0.8**
0.9nm,0.7s,mb3.7,baz=140,slow=12,SNR=4.5							
ZRNK	**Zerenda**	**70.13**	**327**	*e*P	P	**17 15 28.4**	**-0.8**
2.2nm,0.9s,mb4.0							
AKTK	**Aktyubinsk**	**75.63**	**322**	P	P	**17 16 01.7**	**+0.3**
AKTO	**Aktyubinsk**	**75.63**	**322**	P	P	**17 16 01.7**	**+0.3**
1.7nm,0.8s,mb3.9,baz=86,slow=11,SNR=6.3							
VNDA	**Vanda**	**81.05**	**173**	P	P	**17 16 31.1**	**+0.4**
1.5nm,0.8s,mb3.9,baz=307,slow=7.9,SNR=5.1							
CFAA	**Coronel Fontan**	**146.67**	**156**	PKPbc	PKPbc	17 23 58.8	+2.7
0.2nm,0.6s,baz=192,slow=5.2,SNR=4.8							

*PRU **27** 17:13:34.9, 50.28N×18.75E*
WAR 27 17:13:34.3, 50.26N×18.90E, h1km, MW2.8, Mw2.5, 1C-4D, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.58**	**94**⇓	*i*PG	Pg	17 13 45.5	-0.4
OJC				⇓*e*SG	Sg	17 13 54.5	+0.9
OJC	**Ojcow**	**0.58**	**94**	*i* Pg	Pg	17 13 45.5	-0.4
OJC				*e*Sg	Sg	17 13 54.0	+0.4
OKC	**Ostrava-Krasne**	**0.64**	**229**	*e*PG	Pg	17 13 45.6	-1.6
LIKS	**Likavka**	**1.22**	**174**	*e*PN	Pn	17 13 57.2	-1.3
LIKS				*e*SN	Sn	17 14 14.5	-1.3
LIKS				*e*LG		17 14 20.0	
NIE	**Niedzica**	**1.25**	**132**	*e*PG	Pg	17 13 58.0	-1.2
NIE				*e*SG	Sg	17 14 14.0	-1.8
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*PG	Pg	17 14 03.3	-4.0
DPC				*e*SG	Sg	17 14 24.7	-4.7
34nm,0.6s							
STHS	**Stebnicka Huta**	**1.74**	**118**	*e*PN	Pn	17 14 07.3	+1.4
STHS				*e*SN	Sn	17 14 33.3	+4.3
STHS				*e*LG		17 14 40.0	
KSP	**Ksiaz**	**1.76**	**290**	*e*Pn	Pn	17 14 06.9	+0.7
KSP				*e*Pg	Pg	17 14 09.4	-0.1
KSP				*e*Sn	Sn	17 14 29.0	-0.5
KSP				*e*Sg	Sg	17 14 32.4	-0.5
VYHS	**Vyhne**	**1.77**	**181**	*e*PN	Pn	17 14 04.9	-1.4
VYHS				*e*SN	Sn	17 14 28.3	-1.5
VYHS				*e*LG		17 14 40.0	
UPC	**Upice**	**1.86**	**279**	*e*SG	Sg	17 14 30.7	-5.6
UPC	**Upice**	**1.86**	**279**	*e*Sg	Sg	17 14 30.7	-5.6
KECS	**Kecovo**	**2.06**	**149**	*e*PN	Pn	17 14 11.8	+1.3
KECS				*e*SN	Sn	17 14 38.2	+1.0
KECS				*e*LG		17 14 50.0	
KOLS	**Kolonicke sedl**	**2.57**	**120**	*e*PN	Pn	17 14 18.9	+1.2
PRU	**Pruhonice**	**2.82**	**266**	*e*SG	Sg	17 15 00.0	-8.1
PRU	**Pruhonice**	**2.82**	**266**	*e*Sg	Sg	17 15 00.0	-8.1
KHC	**Kasperske Hory**	**3.63**	**254**	*e*PN	Pn	17 14 30.5	-2.4
KHC				*e*PG	Pg	17 14 40.0	-6.9
KHC				*e*SG	Sg	17 15 25.1	-10
12nm,0.6s							
CLL	**Collm**	**3.88**	**288**	*e*SG	Sg	17 15 38.0	-5.6
MOA	**Molln**	**3.89**	**233**⇓	*i*Pn	Pn	17 14 34.6	-1.9
MOA				⇓*i*Sg	Sg	17 15 34.9	-8.8
comp=E,6.6nm,0.7s							
BURAR	**Bucovina Array**	**4.94**	**120**	⇓P	Pn	17 14 49.3	-2.1

*PRU **27** 17:30:22.7, 51.39N×16.18E, Felt In Harrachov*
WAR 27 17:30:22.6, 51.45N×16.17E, h1km, 2C-2D, Location given by Lubin mine, origin time based upon KSP, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.61**	**173**⇓	*i*PG	Pg	17 30 33.7	-1.2
KSP				⇓*e*SG	Sg	17 30 42.7	-0.3
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	Pg	17 30 33.8	-1.0
KSP				*e*Sg	Sg	17 30 42.1	-0.9
UPC	**Upice**	**0.95**	**186**	*e*PG	Pg	17 30 39.7	-1.9
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	Pg	17 30 42.5	-2.2
DPC				*e*SG	Sg	17 30 56.7	-2.7
28nm,0.8s							
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	Pg	17 30 48.0	-2.0
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	Pg	17 30 54.6	-3.8
PRU				*e*SG	Sg	17 31 17.8	-4.6
12nm,0.3s							
CLL	**Collm**	**1.99**	**267**	*i* PG	Pg	17 30 58.4	-4.0
CLL				*e*		17 31 00.0	
CLL				*e*SG	Sg	17 31 25.0	-4.0
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*PG	Pg	17 31 00.1	-3.4
OKC				*e*SG	Sg	17 31 23.6	-7.2
16nm,0.6s							
TREC	**Trest**	**2.20**	**192**	*e*PG	Pg	17 31 02.6	-4.0
OJC	**Ojcow**	**2.61**	**117**	*e*PG	Pg	17 31 11.0	-3.7
OJC				*e*SG	Sg	17 31 45.0	-4.5
NKC	**Novy Kostel**	**2.66**	**244**	*e*PN	Pn	17 31 06.5	-0.8
NKC				*e*SG	Sg	17 31 47.1	-4.0
12nm,0.3s							
KHC	**Kasperske Hory**	**2.86**	**217**	*e*PN	Pn	17 31 09.3	-0.9
KHC				*e*PG	Pg	17 31 14.0	-5.7
KHC				*ex*	x	17 31 42.5	
KHC				*e*SG	Sg	17 31 51.0	-6.7
MOA	**Molln**	**3.81**	**200**⇑	*i*Pn	Pn	17 31 19.5	-4.3
MOA				⇑*i*Sg	Sg	17 32 23.1	-6.4
comp=E,3.4nm,0.5s							

IDC 27 18:03:47.2±2.2, 5.64S×127.10E, mb3.6/2, mb1 3.6/3, mb1mx3.5/13, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=125.3km s-min=42.3km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.86**	**154**	Pn	P	18 07 32.4	-1.3
0.1nm,0.3s,baz=335,slow=12,SNR=11							
WRA				Sn	S	18 10 41.1	+10
0.2nm,0.3s,baz=333,slow=22,SNR=3.1							
ASPA	**Alice Springs**	**19.08**	**161**	*e*P	P	18 08 06.1	-7.8
SONM	**Songino Array**	**56.29**	**343**	P	P	18 13 31.5	-0.5
0.2nm,0.6s,baz=169,slow=7.5,SNR=5.6							
MKAR	**Makanchi Array**	**65.53**	**328**	P	P	18 14 30.9	-3.9
0.7nm,0.9s,baz=116,slow=7.6,SNR=5.2							

*IDC **27** 18:09:45.9±3.3, 27.93N×139.51E, h443km±38km, mb2.7/5, mb1 2.9/6, mb1mx2.8/19, mbtmp3.5/6, Error ellipse: s-maj=37.5km s-min=19.0km az=78.0*
*JMA **27** 18:09:45.2±0.1, 28.18N×140.49E, h468km, M3.8*
*NEIC **27** 18:09:45.2, 28.18N×140.49E, h468km, MG3.8(JMA), After JMA.*
ISC 27 18:09:44.3±0.7, 28.1N±0.1×140.3E±0.4, h473km±13km, n16, σ0°63/18, mb2.9/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.91**	**120**	S	S	**18 11 35.6**	**-0.9**
42nm,0.3s,baz=298,slow=22,SNR=8.6							
CBIJ	**Chichi jima**	**1.91**	**120**	P	P	**18 10 46.7**	**-0.2**
CBIJ				*e*S	S	**18 11 35.7**	**-0.8**
JHHJ	**Haha-jima-NKT**	**2.18**	**131**	P	P	**18 10 48.8**	**+0.4**
JHHJ				S	S	**18 11 39.5**	**+0.4**
JIE	**Ise**	**7.03**	**335**	P	P	**18 11 31.6**	**+0.6**
JKN2	**Miekihoku**	**7.07**	**332**	P	P	**18 11 32.3**	**+0.9**
HMMJ	**Hamamatsu 2**	**7.12**	**342**	P	P	**18 11 32.1**	**+0.1**
JRY	**Ryogami san**	**8.02**	**352**	P	P	**18 11 41.4**	**-0.1**
JHO	**Hitachi**	**8.52**	**1**	P	P	**18 11 47.1**	**+0.1**
MJAR	**Matsushiro Ant**	**8.64**	**349**	P	P	**18 11 47.6**	**-0.7**
0.6nm,0.3s,baz=195,slow=9.3,SNR=5.0							
SONM	**Songino Array**	**32.88**	**316**	P	P	**18 15 38.8**	**-0.1**
0.3nm,0.4s,mb3.1,baz=125,slow=8.8,SNR=6.5							
WRA	**Warramunga Arr**	**48.08**	**188**	P	P	**18 17 41.9**	**+0.3**
0.2nm,0.3s,mb2.9,baz=4.5,slow=7.5,SNR=11							
MKAR	**Makanchi Array**	**48.59**	**309**	P	P	**18 17 43.7**	**-1.3**
0.2nm,0.6s,mb2.6,baz=81,slow=8.8,SNR=5.7							
MKAR	**Makanchi Array**	**48.59**	**309**	P	P	**18 17 43.7**	**-1.3**
KURK	**Kurchatov**	**51.13**	**314**	*e*P	P	**18 18 03.4**	**-0.6**
FINES	**FINESS Array B**	**76.35**	**333**	P	P	**18 20 45.6**	**+1.1**
0.5nm,0.4s,mb3.4,baz=72,slow=6.0,SNR=6.2							
PDAR	**Pinedale Array**	**84.67**	**44**	P	P	**18 21 35.7**	**+7.7**
0.1nm,0.5s,mb2.7,SNR=2.3							

SKHL 27 18:25:31.4±0.1, 48.80N×141.80E, h10km, mb3.7/2, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**0.33**	**32**	*e*Pg	Pg	18 25 37.5	-0.7
UGL				AMB	AMB	18 25 39.0	
83nm,0.2s							
UGL				⇓pP		18 25 39.5	
UGL				sP		18 25 41.5	
UGL				*i* Sg	Sg	18 25 41.8	-1.0
UGL				A		18 25 43.0	
2µm,0.3s							
UGL				A		18 25 43.0	
3µm,0.3s							
UGL				A		18 25 43.0	
2µm,0.3s							
YSS	**Yuzh-Sakhalins**	**1.96**	**160**	*e*Pn	Pn	18 26 07.5	+2.5
YSS				*e*Pg	Pg	18 26 10.9	+0.4
YSS				*e*Sg	Sg	18 26 38.8	+2.2
YSS				A		18 26 41.0	
49nm,0.3s							
TYV	**Tymovskoe**	**2.14**	**15**	*e*Pn	Pn	18 26 03.8	-3.9
TYV				*e*Pg	Pg	18 26 12.7

FKH	**Fakeheh**	**1.56**	**326**	*e*Pn	Pn	18 32 12.2	-1.3
FKH				Sn	Sn	18 32 36.6	+1.9
MMLI	**Mount Malkishu**	**1.78**	**254**	Pn	Pn	18 32 14.3	-2.3
MMLI				Sn	Sn	18 32 38.9	-1.3
BHL	**Bhannes**	**1.78**	**303**	*e*Pn	Pn	18 32 15.1	-1.5
BHL				Sn	Sn	18 32 42.3	+1.9
HWQ	**Hawqa**	**1.83**	**317**	*e*Pn	Pn	18 32 15.3	-2.1
HWQ				Sn	Sn	18 32 43.6	+2.1
HNTI	**Hanita**	**1.91**	**275**	Sn	Sn	18 32 42.1	-1.6
SLTI	**Sal'it**	**2.15**	**252**	Sn	Sn	18 32 49.2	-0.4
DSI	**Dead Sea**	**2.22**	**233**	Sn	Sn	18 32 50.6	-0.8
PRNI	**Paran**	**3.31**	**220**	Pn	Pn	18 32 37.6	-0.9
PRNI				Sn	Sn	18 33 19.2	-0.1
HRFI	**Mount Harif**	**3.55**	**216**	Pn	Pn	18 32 40.6	-1.2
HRFI				Sn	Sn	18 33 25.7	+0.5
HRFI	**Mount Harif**	**3.55**	**216**	Pn	Pn	18 32 40.6	-1.3
HRFI				Sn	Sn	18 33 25.7	+0.5

IDC 27 18:45:54.2±2.5, 15.28S×173.71W, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, 1D, Error ellipse: s-maj=62.0km s-min=47.6km az=49.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.84**	**240**	P	P	18 54 02.0	-2.0
	3.3nm,0.9s,baz=84,slow=12,SNR=4.3						
WB2	**Warramunga Arr**	**49.57**	**257**	*e*P	P	18 54 47.1	-2.2
WRA	**Warramunga Arr**	**49.59**	**257**	P	P	18 54 47.6	-1.8
	1.4nm,0.5s,baz=92,slow=6.9,SNR=58						
ASPA	**Alice Springs**	**49.87**	**252**	*i*P	P	18 54 49.3	-2.3
VNDA	**Vanda**	**63.47**	**186**	P	P	18 56 25.5	-2.4
	1.0nm,1.0s,baz=44,slow=5.7,SNR=2.5						
BRTR	**Keskin Array B**	**145.88**	**321**	PKPbc	PKPbc	19 05 35.4	-0.7
	0.6nm,0.6s,baz=42,slow=4.7,SNR=3.9						

WEL 27 19:24:48.9±0.4, 37.83S×176.21E, h192km±3km, ML3.5/14, 2C, Error ellipse: s-maj=4.6km s-min=4.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.83**	**121**	⇑PN	P	19 25 16.9	-0.2
URZ				SN	S	19 25 38.2	-0.6
MWZ	**Matawai**	**1.16**	**116**	PN	P	19 25 19.0	-0.3
MWZ				SN	S	19 25 43.2	+0.3
BKZ	**Black Stump Fm**	**1.35**	**171**	PN	P	19 25 20.8	-0.2
BKZ				SN	S	19 25 44.7	-1.1
CNZ	**Chateau**	**1.46**	**201**	PN	P	19 25 22.1	+0.1
TUVZ	**Tukino**	**1.50**	**197**	PN	P	19 25 22.4	+0.1
MOVZ	**Moawhango**	**1.61**	**193**	PN	P	19 25 22.9	-0.5
MOVZ				*e*SN	S	19 25 48.8	-1.2
PUZ	**Puketiti**	**1.64**	**99**	PN	P	19 25 22.9	-0.7
KNZ	**Kokohu**	**1.66**	**136**	⇑PN	P	19 25 23.7	-0.1
MXZ	**Matakaoa Point**	**1.69**	**82**	PN	P	19 25 23.6	-0.5
TSZ	**Takapari Road**	**2.23**	**185**	PN	P	19 25 28.6	-1.2
BFZ	**Birch Farm**	**2.85**	**179**	PN	P	19 25 35.0	-1.9
BFZ				SN	S	19 26 10.5	-3.4
MRZ	**Mangatainoka R**	**2.87**	**190**	PN	P	19 25 34.7	-2.4
MRZ				SN	S	19 26 10.2	-4.2
KIW	**Kapiti Island**	**3.19**	**198**	PN	P	19 25 37.9	-3.1
MTW	**Mount Morrison**	**3.37**	**189**	PN	P	19 25 39.9	-3.4
CAW	**Cannon Point**	**3.39**	**195**	PN	P	19 25 40.3	-3.2
MQZ	**McQueen's Vall**	**6.46**	**204**	*e*SN	S	19 27 25.6	-10

IDC 27 19:52:29.8±2.1, 21.61N×143.26E, h272km±20km, mb3.2/5, mb1 3.4/7, mb1mx3.2/21, mbtmp4.0/7, Error ellipse: s-maj=34.5km s-min=15.6km az=90.0
NEIC 27 19:52:30.8±3.3, 21.58N×143.20E, h287km±33km, mb3.6/3, Error ellipse: s-maj=28.6km s-min=11.6km az=86.0

ISC 27 19:52:29.1±1.6, 21.6N±0.1×143.3E±0.3, h288km±15km, n14, σ0§67/13, mb3.5/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.56**	**350**	P	P	19 53 54.2	**+0.9**
	14nm,0.3s,baz=150,slow=20,SNR=4.1						
CBIJ				S	**S**	**19 54 58.8**	**-0.6**
	18nm,0.3s,baz=300,slow=23,SNR=7.2						
MJAR	**Matsushiro Arr**	**15.53**	**345**	P	**P**	**19 55 54.8**	**-0.4**
	0.4nm,0.3s,baz=166,slow=9.1,SNR=5.3						
YSS	**Yuzh-Sakhalins**	**25.30**	**359**	*e*P	**P**	**19 57 31.0**	**-0.3**
	66nm,1.4s						
WRAB	**Tennant Creek**	**42.19**	**193**	*e*P	**P**	**19 59 55.5**	**-0.3**
	7.0nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**42.20**	**193**	P	**P**	**19 59 56.6**	**+0.7**
	2.2nm,0.8s,mb3.4,baz=12,slow=8.9,SNR=17						
STKA	**Stephens Creek**	**53.19**	**182**	P	**P**	**20 01 19.0**	**-1.0**
	1.7nm,0.9s,mb3.4,baz=338,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**54.82**	**313**	P	**P**	**20 01 32.4**	**+0.9**
	0.4nm,0.7s,mb3.0,baz=98,slow=8.6,SNR=4.9						
MKAR				PcP	PcP	20 02 30.8	+0.7
	0.4nm,0.7s,baz=81,slow=8.4,SNR=4.6						
KURK	**Kurchatov**	**57.60**	**317**	*e*P	**P**	**20 01 51.4**	**+0.4**
	1.3nm,0.8s,mb3.4						
ZRNK	**Zerenda**	**63.63**	**319**	*e*P	**P**	**20 02 30.2**	**-1.1**
	0.8nm,0.8s,mb3.4						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**20 03 49.3**	**+0.6**
	0.2nm,0.5s,mb3.1,baz=291,slow=5.8,SNR=7.3						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**20 03 49.3**	**+0.6**
FINES	**FINESS Array B**	**83.30**	**335**	P	**P**	**20 04 24.8**	**+0.2**
	2.6nm,1.0s,mb4.0,baz=63,slow=4.3,SNR=7.4						
PLCA	**Paso Flores**	**145.63**	**131**	PKPbc	PKPbc	20 11 37.0	+2.9
	2.8nm,0.9s,baz=276,slow=1.7,SNR=6.5						
LPAZ	**La Paz**	**149.87**	**85**	PKPbc	PKPdf	20 11 49.3	+8.7
	0.9nm,0.6s,baz=10,slow=1.8,SNR=5.4						

NEIC 27 20:22:31.4±10.0, 24.37S×179.88W, h557km±28km, mb4.4/2, Error ellipse: s-maj=207.3km s-min=23.1km az=55.0
IDC 27 20:22:38.9±4.6, 24.95S×179.10E, h542km±44km, mb3.4/2, mb1 3.5/4, mb1mx3.2/14, mbtmp4.3/4, Error ellipse: s-maj=50.2km s-min=36.0km az=55.0

ISC 27 20:22:35.9±5.2, 24.7S±0.3×179.6E±0.7, h581km±40km, n8, σ0§51/8, mb4.3/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.36**	**280**	P	**P**	**20 25 18.2**	**-0.1**
	0.5nm,0.3s,baz=78,slow=18,SNR=5.4						
URZ	**Urewera**	**13.67**	**188**	P	**P**	**20 25 31.3**	**+0.1**
	1.8nm,0.3s,baz=7.8,slow=4.3,SNR=11						
URZ				S	**S**	**20 27 52.0**	**-0.2**
	0.3nm,0.3s,baz=109,slow=10,SNR=4.3						
CTAO	**Charters Tower**	**31.12**	**272**	*e*P	**P**	**20 28 09.8**	**+0.2**
	4.6nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**34.08**	**249**	P	**P**	**20 28 35.0**	**+0.7**
	1.6nm,0.4s,mb4.0,baz=101,slow=13,SNR=6.7						
STKA	**Stephens Creek**	**34.08**	**249**	P	**P**	**20 28 35.0**	**+0.7**
WRAB	**Tennant Creek**	**41.98**	**267**	*e*P	**P**	**20 29 38.0**	**-0.6**
	5.1nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**41.99**	**267**	P	**P**	**20 29 38.6**	**-0.1**
	4.4nm,0.5s,mb4.3,baz=99,slow=8.2,SNR=16						
AKASG	**Malin Array Be**	**145.45**	**326**	PKPbc	PKPbc	20 41 15.7	+6.7
	0.6nm,0.4s,baz=47,slow=4.3,SNR=6.8						

MAN 27 20:37:05.3, 15.36N×121.69E, h1km, mb4.2, ML3.0, MS2.7, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	**0.39**	**344**	*e*P	Pg	20 37 12.8	-0.4
PCPH	**Palayan**	**0.60**	**289**	⇑*e*P	Pg	20 37 17.4	0.0
PCPH				*e*S	Sg	20 37 27.1	+1.7
POLP	**Polilio Island**	**0.68**	**159**	*e*P	Pg	20 37 18.3	-0.6
POLP				*e*S	Sg	20 37 30.9	+3.1
GQP	**Guinayangan**	**1.62**	**153**	⇑*i*P	Pn	20 37 34.8	-0.5
GQP				*i* S	Sb	20 37 58.0	+1.2
BOAC	**Boac**	**1.90**	**175**	*e*P	Pn	20 37 39.1	-0.1
BOLP	**Bolinao**	**1.98**	**301**	*e*P	Pn	20 37 40.8	+0.4
LUBP	**Lubang**	**2.14**	**221**	*e*P	Pn	20 37 42.4	-0.2
APYP	**Conner**	**2.52**	**350**	*e*P	Pn	20 37 48.2	+0.1

IGIL 27 20:57:12.7, 37.30N×15.93W, h2km, ML3.2
MDD 27 20:57:15.8±2.0, 37.42N×15.62W, mb4.4/11, Error ellipse: s-maj=17.2km s-min=16.0km az=61.0, PRXIMO
NEIC 27 20:57:15.6, 37.43N×15.65W, ML4.1(CSEM), After MDD.
INMG 27 20:57:16.8±2.1, 37.10N×15.95W, ML3.1, Error ellipse: s-maj=11.4km s-min=8.7km az=140.0
CSEM 27 20:57:19.9±0.3, 37.59N×15.33W, h2km, ML4.1/15, Error ellipse: s-maj=6.3km s-min=4.5km az=43.0

ISC 27 20:57:20.3±0.9, 37.67N±0.04×15.02W±0.06, h10km, n63, σ1§13/114, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOU	**Loures**	**4.77**	**73**	*e*Sn	**Sn**	**20 59 35.1**	**+5.0**
	23nm,0.3s						
PLOU	**Loures**	**4.77**	**73**	*e*Sn	**Sn**	**20 59 33.0**	**+2.9**
PLOU	**Loures**	**4.77**	**73**	Sn	**Sn**	**20 59 33.0**	**+2.9**
PTEO	**Sao Teotonio**	**5.00**	**89**	*e*Pn	**Pn**	**20 58 37.7**	**+0.5**
PTEO				*e*Sn	**Sn**	**20 59 37.1**	**+1.3**
	7.0nm,0.3s						
PTEO	**Sao Teotonio**	**5.00**	**89**	Pn	**Pn**	**20 58 37.1**	**-0.1**
PTEO				Sn	**Sn**	**20 59 35.5**	**-0.3**
MORF	**Marmelete**	**5.08**	**92**	*e*P	**Pn**	**20 58 37.6**	**-0.7**
MORF				*e*S	**Sn**	**20 59 37.8**	**+0.1**
MORF				*e*Sn	**Sn**	**20 59 38.0**	**+0.2**
MORF				AML	AML	20 59 41.0	
	comp=E,17nm,0.1s						
MORF	**Marmelete**	**5.08**	**92**	P	**Pn**	**20 58 37.6**	**-0.7**
MORF				S	**Sn**	**20 59 37.8**	**+0.1**
MORF	**Marmelete**	**5.08**	**92**	*e*P	**Pn**	**20 58 37.6**	**-0.7**
MORF				*e*S	**Sn**	**20 59 38.0**	**+0.2**
ALMR	**Almeirim**	**5.27**	**72**	*e*P	**Pn**	**20 58 42.3**	**+1.2**
ALMR				*e*S	**Sn**	**20 59 46.3**	**+3.6**
ALMR				*e*Sn	**Sn**	**20 59 46.3**	**+3.6**
ALMR				AML	AML	20 59 50.7	
	comp=N,51nm,0.4s						
MOE	**Montemor**	**5.33**	**79**	*e*Pn	**Pn**	**20 58 42.1**	**+0.2**
MOE				*e*Sn	**Sn**	**20 59 46.5**	**+2.4**
MOE	**Montemor**	**5.33**	**79**	Pn	**Pn**	**20 58 42.1**	**+0.2**
MOE				Sn	**Sn**	**20 59 46.4**	**+2.3**
PTOM	**Tomar**	**5.53**	**67**	*e*Pn	**Pn**	**20 58 46.9**	**+2.2**
PTOM	**Tomar**	**5.53**	**67**	Pn	**Pn**	**20 58 44.9**	**+0.2**
PTOM				Sn	**Sn**	**20 59 50.1**	**+1.0**
PBEJ	**Beja**	**5.67**	**84**	*e*Pn	**Pn**	**20 58 46.7**	**0.0**
PBEJ				*e*Sn	**Sn**	**20 59 54.8**	**+2.1**
	comp=N,7.6nm,0.2s						
PBEJ	**Beja**	**5.67**	**84**	Pn	**Pn**	**20 58 46.7**	**0.0**
PBEJ				Sn	**Sn**	**20 59 53.2**	**+0.5**
EGRO	**El Granado**	**5.99**	**89**	Pn	**Pn**	**20 58 50.3**	**-0.8**
	comp=N,1.0nm,0.1s,SNR=16						
EGRO				Sn	**Sn**	**21 00 01.2**	**+0.7**
	comp=N,7.1nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**5.99**	**89**	Pn	**Pn**	**20 58 50.3**	**-0.8**
	comp=N,1.0nm,0.1s,SNR=16						
EGRO				Sn	**Sn**	**21 00 01.2**	**+0.7**
	comp=N,7.1nm,0.1s,SNR=5.0						
PCBR	**Castelo Branco**	**6.28**	**67**	*e*Pn	**Pn**	**20 58 56.7**	**+1.4**
PCBR				*e*Sn	**Sn**	**21 00 10.6**	**+2.7**
	comp=N,4.9nm,0.1s						
PCBR	**Castelo Branco**	**6.28**	**67**	Pn	**Pn**	**20 58 56.1**	**+0.8**
PCBR				Sn	**Sn**	**21 00 09.9**	**+2.0**
PVIS	**Viseu**	**6.32**	**59**	*e*Sn	**Sn**	**21 00 10.9**	**+2.1**
	comp=N,11nm,0.1s						
PVIS	**Viseu**	**6.32**	**59**	Pn	**Pn**	**20 58 55.0**	**-0.8**
PVIS				Sn	**Sn**	**21 00 09.5**	**+0.7**
EBAD	**Badajoz**	**6.40**	**78**	Pn	**Pn**	**20 58 57.3**	**+0.3**
	comp=N,1.3nm,0.1s,SNR=13						
EBAD				Sn	**Sn**	**21 00 11.9**	**+1.1**
	comp=N,21nm,0.2s,SNR=11						
EBAD	**Badajoz**	**6.40**	**78**	Pn	**Pn**	**20 58 57.3**	**+0.3**
	comp=N,1.3nm,0.1s,SNR=13						
EBAD				Sn	**Sn**	**21 00 11.9**	**+1.1**
	comp=N,21nm,0.2s,SNR=11						
MTE	**Manteigas**	**6.43**	**63**	*e*Sn	**Sn**	**21 00 13.4**	**+1.8**
	comp=N,8.1nm,0.5s						
EZAM	**Zamans**	**6.61**	**45**	Pn	**Pn**	**20 58 59.8**	**-0.2**
	comp=N,0.9nm,0.1s,SNR=7.9						
EZAM				Sn	**Sn**	**21 00 14.9**	**-1.2**
	comp=N,3.5nm,0.1s,SNR=7.2						
EMIN	**Mina Concepcio**	**6.62**	**87**	Pn	**Pn**	**20 58 59.0**	**-1.0**
	comp=N,0.7nm,0.1s,SNR=9.4						
EMIN				Sn	**Sn**	**21 00 16.4**	**+0.1**
	comp=N,2.2nm,0.1s,SNR=7.8						
EMIN	**Mina Concepcio**	**6.62**	**87**	Pn	**Pn**	**20 58 59.0**	**-1.0**
EMIN				Sn	**Sn**	**21 00 16.4**	**+0.1**
EMIN	**Mina Concepcio**	**6.62**	**87**	Pn	**Pn**	**20 58 59.0**	**-1.1**
	comp=N,0.7nm,0.1s,SNR=9.4						
EMIN				Sn	**Sn**	**21 00 16.4**	**+0.1**
	comp=N,2.2nm,0.1s,SNR=7.8						
PVRL	**Vila Real**	**6.70**	**55**	*e*Pn	**Pn**	**20 59 02.8**	**+1.6**
PVRL				*e*Sn	**Sn**	**21 00 20.5**	**+2.1**
	comp=N,13nm,0.1s						
PVRL	**Vila Real**	**6.70**	**55**	Pn	**Pn**	**20 59 01.7**	**+0.5**
PVRL				Sn	**Sn**	**21 00 18.4**	**0.0**
PCAB	**Cabril**	**6.74**	**51**	*e*Sn	**Sn**	**21 00 19.9**	**+0.6**
	comp=N,12nm,0.2s						
PCAB	**Cabril**	**6.74**	**51**	Pn	**Pn**	**20 59 00.8**	**-0.9**
PCAB				Sn	**Sn**	**21 00 18.0**	**-1.3**
ELOB	**Lobios**	**6.80**	**50**	Pn	**Pn**	**20 59 03.1**	**+0.3**
	comp=N,1.4nm,0.1s,SNR=8.0						
ELOB				Sn	**Sn**	**21 00 20.8**	**-0.3**
	comp=N,8.5nm,0.1s,SNR=10.0						
ELOB	**Lobios**	**6.80**	**50**	Pn	**Pn**	**20 59 03.1**	**+0.4**
	comp=N,1.4nm,0.1s,SNR=8.0						
ELOB				Sn	**Sn**	**21 00 20.8**	**-0.2**
	comp=N,8.5nm,0.1s,SNR=10.0						
EMAZ	**Mazaricos**	**7.01**	**39**	Pn	**Pn**	**20 59 06.0**	**+0.4**
	comp=N,2.3nm,0.1s,SNR=4.8						
EMAZ				Sn	**Sn**	**21 00 25.0**	**-1.2**
	comp=N,6.9nm,0.1s,SNR=5.0						
EMAZ	**Mazaricos**	**7.01**	**39**	Pn	**Pn**	**20 59 06.0**	**+0.4**
	comp=N,2.3nm,0.1s,SNR=4.8						
EMAZ				Sn	**Sn**	**21 00 25.0**	**-1.2**
	comp=N,6.9nm,0.1s,SNR=5.0						
STS	**Santiago**	**7.18**	**41**	Pn	**Pn**	**20 59 07.5**	**-0.6**
	comp=N,3.3nm,0.1s,SNR=7.9						
STS				Sn	**Sn**	**21 00 29.7**	**-0.9**
	comp=N,4.9nm,0.2s,SNR=7.9						
ESPR	**Espera**	**7.35**	**93**	Pn	**Pn**	**20 59 10.6**	**+0.3**
	comp=N,0.8nm,0.1s,SNR=8.7						
ESPR				Sn	**Sn**	**21 00 35.3**	**+0.6**
	comp=N,6.5nm,0.2s,SNR=5.0						
ESPR	**Espera**	**7.35**	**93**	Pn	**Pn**	**20 59 10.6**	**+0.3**
	comp=N,0.8nm,0.1s,SNR=8.7						
ESPR				Sn	**Sn**	**21 00 35.3**	**+0.6**
	comp=N,6.5nm,0.2s,SNR=5.0						
ERUA	**La Rua**	**7.67**	**50**	Pn	**Pn**	**20 59 16.2**	**+1.4**
	comp=N,1.7nm,0.2s,SNR=7.9						
ERUA				Sn	**Sn**	**21 00 43.2**	**+0.6**
	comp=N,2.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.67**	**54**	Pn	**Pn**	**20 59 15.9**	**+1.1**
	comp=N,1.6nm,0.2s,SNR=4.5						
ECAL				Sn	**Sn**	**21 00 42.1**	**-0.6**
	comp=N,5.4nm,0.2s,SNR=6.7						
ECAL	**Calabor**	**7.67**	**54**	Pn	**Pn**	**20 59 15.9**	**+1.1**
	comp=N,1.6nm,0.2s,SNR=4.5						
ECAL				Sn	**Sn**	**21 00 42.1**	**-0.6**
	comp=N,5.4nm,0.2s,SNR=6.7						
EJIF	**Jimena Fronter**	**7.73**	**96**	Pn	**Pn**	**20 59 15.1**	**-0.6**
	comp=N,4.2nm,0.8s,SNR=7.9						
EPON	**Pontenova**	**8.24**	**44**	Pn	**P**	**20 59 23.0**	**+0.3**
	comp=N,0.3nm,0.1s,SNR=5.6						
EPON				Sn	**Sn**	**21 00 53.3**	**-3.6**
	comp=N,2.9nm,0.2s,SNR=8.4						
EPON	**Pontenova**	**8.24**	**44**	Pn	**P**	**20 59 23.0**	**+0.2**
	comp=N,0.3nm,0.1s,SNR=5.6						
EPON				Sn	**Sn**	**21 00 53.3**	**-3.6**
	comp=N,2.9nm,0.2s,SNR=8.4						
EMIJ	**Mijas**	**8.26**	**95**	Sn	**Sn**	**21 00 55.6**	**-1.8**
	comp=N,0.6nm,1.4s,SNR=7.9						
EADA	**Adamuz**	**8.27**	**83**	Pn	**P**	**20 59 22.8**	**-0.4**
	comp=N,0.5nm,0.1s,SNR=5.6						
EADA				Sn	**Sn**	**21 00 57.0**	**-0.6**
	comp=N,3.6nm,0.1s,SNR=6.1						
EADA	**Adamuz**	**8.27**	**83**	Pn	**P**	**20 59 22.8**	**-0.4**
EADA				Sn	**Sn**	**21 00 57.0**	**-0.6**
EADA	**Adamuz**	**8.27**	**83**	Pn	**P**	**20 59 22.8**	**-0.4**
	comp=N,0.5nm,0.1s,SNR=5.6						
EADA				Sn	**Sn**	**21 00 57.0**	**-0.6**
	comp=N,3.6nm,0.1s,SNR=6.1						
ELUQ	**Luque**	**8.53**	**87**	Sn	**Sn**	**21 01 03.2**	**-1.0**
	comp=N,0.5nm,0.7s,SNR=7.9						
ESDC	**Sonseca Array**	**8.88**	**74**	Pn	**P**	**20 59 31.1**	**-0.6**
	comp=N,0.8nm,0.1s,baz=256,slow=13,SNR=7.8						
ESDC				Sn	**Sn**	**21 01 11.5**	**-1.2**
	comp=N,0.6nm,0.1s,baz=261,slow=24,SNR=7.3						
ESDC	**Sonseca Array**	**8.88**	**74**	Pn	**P**	**20 59 31.1**	**-0.5**
	comp=N,0.8nm,0.1s,SNR=7.8						
ESDC				Sn	**Sn**	**21 01 11.5**	**-1.2**
	comp=N,0.6nm,0.1s,SNR=7.3						
EBAN	**Banos Encina**	**8.89**	**83**	Pn	**P**	**20 59 30.6**	**-1.2**
	comp=N,1.0nm,0.3s,SNR=7.9						
EBAN				Sn	**Sn**	**21 01 12.4**	**-0.7**
	comp=N,1.4nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**9.04**	**174**	Pn	**P**	**20 59 15.4**	**-18**
	comp=N,1.6nm,0.1s,SNR=7.9						
CFUE				Sn	Sn	21 00 42.4	-34
	comp=N,6.7nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**9.35**	**50**	Pn	**P**	**20 59 39.4**	**+1.2**
	comp=N,94nm,1.6s,SNR=7.6						
EARI				Sn	**Sn**	**21 01 23.8**	**-0.7**
	comp=N,0.9nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**9.35**	**50**	Pn	**P**	**20 59 39.4**	**+1.2**
	comp=N,94nm,1.6s,SNR=7.6						
EARI				Sn	**Sn**	**21 01 23.8**	**-0.7**
	comp=N,0.9nm,0.3s,SNR=7.9						
EQES	**Quesada**	**9.47**	**86**	Pn	**P**	**20 59 38.8**	**-1.0**
	comp=N,1.2nm,0.6s,SNR=7.9						
EQES				Sn	**Sn**	**21 01 26.7**	**-0.7**
	SNR=7.9						
EQES	**Quesada**	**9.47**	**86**	Pn	**P**	**20 59 38.8**	**-1.0**
	comp=N,1.2nm,0.6s,SNR=7.9						
EQES				Sn	**Sn**	**21 01 26.7**	**-0.6**
	SNR=7.9						
ELAN	**Lanestosa**	**10.43**	**54**	Pn	**P**	**20 59 53.6**	**+0.7**
	comp=N,5.8nm,1.1s,SNR=7.9						
ELAN				Sn	**S**	**21 01 49.1**	**-1.9**
	comp=N,22nm,0.9s,SNR=4.0						
ELAN	**Lanestosa**	**10.43**	**54**	Pn	**P**	**20 59 53.6**	**+0.6**
	comp=N,5.8nm,1.1s,SNR=7.9						
ELAN				Sn	**S**	**21 01 49.1**	**-1.8**
ETOB	**Tobarra**	**10.65**	**81**	Sn	**S**	**21 01 53.9**	**-2.6**
	comp=N,36nm,1.4s,SNR=7.9						
EMOS	**Mosqueruela**	**11.63**	**72**	Sn	**S**	**21 02 17.2**	**-3.2**
	comp=N,0.6nm,0.7s,SNR=7.9						
EALK	**Alkurruntz**	**11.69**	**57**	Sn	**S**	**21 02 18.8**	**-3.0**
	SNR=7.9						

NIED 27 21:17:00.25.50N×128.30E, h11km, Mw3.9 Best double couple: M0 9.09×10^14 NP1:φs202°, δ82°, λ-99°. NP2:φs73°, δ12°, λ-40°.
IDC 27 21:17:02.3±1.4, 25.46N×128.24E, mb3.8/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=48.4km s-min=22.5km az=84.0
JMA 27 21:17:05.4±0.3, 25.47N×128.31E, h61km±5km, M3.6
NEIC 27 21:17:06.8±1.1, 25.50N×128.22E, h35km, MG3.6(JMA), Error ellipse: s-maj=21.5km s-min=12.5km az=125.0

ISC 27 21:17:04.2±0.7, 25.44N±0.04×128.34E±0.04, h61km, n26, σ1§18/42, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.88**	**323**	P	**P**	**21 17 21.5**	**+0.7**
JJT2				S	**S**	**21 17 33.8**	**+0.6**
NAH1	**Naha**	**0.96**	**323**	P	**P**	**21 17 22.5**	**+0.5**
NAH1				S	**S**	**21 17 35.0**	**-0.2**
JOW	**Kunigami**	**1.39**	**358**	Pn	**P**	**21 17 28.6**	**+0.6**
	37nm,0.3s,baz=152,slow=20,SNR=5.49						
JOW				Sn	**S**	**21 17 43.5**	**-2.0**
	135nm,0.3s,baz=106,slow=28,SNR=25						
JOW	**Kunigami**	**1.39**	**358**	P	**P**	**21 17 28.5**	**+0.5**
JOW				S	**S**	**21 17 44.1**	**-1.4**
JAGN	**Aguni-jima**	**1.51**	**320**	P	**P**	**21 17 30.5**	**+0.9**
JAGN				S	**S**	**21 17 48.7**	**+0.3**
JIH	**Iheya**	**1.62**	**348**	P	**P**	**21 17 32.3**	**+1.2**
JIH				S	**S**	**21 17 50.8**	**-0.3**
JKE	**Kume jima 2**	**1.65**	**303**	P	**P**	**21 17 32.0**	**+0.4**
JKE				S	**S**	**21 17 50.8**	**-1.0**
JTK	**Tokunoshima**	**2.40**	**13**	P	**P**	**21 17 42.8**	**+0.8**
JTK				*e*S	**S**	**21 18 08.9**	**-1.4**
JMZ	**Minamidaito 2**	**2.63**	**81**	P	**P**	**21 17 44.4**	**-0.9**
JMZ				S	**S**	**21 18 13.0**	**-3.0**
JOGS	**Gusukube**	**2.74**	**256**	P	**P**	**21 17 44.7**	**+0.9**
JOGS				*e*S	**S**	**21 18 18.0**	**-0.9**
JMJ	**Miyako jima 2**	**2.83**	**258**	P	**P**	**21 17 48.6**	**+0.5**
JMJ				*e*S	**S**	**21 18 22.9**	**+1.8**
JAM	**Amami Oshima**	**3.17**	**21**	P	**P**	**21 17 54.1**	**+1.2**
JAM				S	**S**	**21 18 26.9**	**-2.8**
JZK	**Kikaishima**	**3.21**	**27**	P	**P**	**21 17 54.9**	**+1.4**
JZK				*e*S	**S**	**21 18 30.6**	**-0.2**
**JT

EMIR	**Miracle**	**0.50**	**178**	Pg	**Pg**	**21 33 30.8**	**-0.7**
	190nm,0.3s,SNR=18						
CBRU	**Bruguera**	**0.52**	**105**	Pg	**Pg**	**21 33 33.1**	**+1.3**
CBRU				Lg		21 33 41.0	
	212nm,0.4s						
CBRU	**Bruguera**	**0.52**	**105**	Pg	**Pg**	**21 33 33.1**	**+1.3**
CBRU				Sg	**Sg**	**21 33 41.0**	**+2.1**
CARF	**Carcanieres**	**0.54**	**56**	Pg	**Pg**	**21 33 34.4**	**+2.3**
CARF				Sg	**Sg**	**21 33 43.0**	**+3.6**
CARF	**Carcanieres**	**0.54**	**56**	P	**Pb**	**21 33 34.5**	**+2.6**
CARF				S	**Sg**	**21 33 43.2**	**+3.7**
LPEF	**Le Peyrat**	**0.61**	**29**	P	**Pb**	**21 33 36.4**	**+3.3**
LPEF				S	**Sb**	**21 33 46.8**	**+5.5**
MLS	**Moulis**	**0.62**	**331**	Pg	**Pg**	**21 33 35.2**	**+1.6**
MLS	**Moulis**	**0.62**	**331**	P	**Pb**	**21 33 35.0**	**+1.7**
MLS				S	**Sb**	**21 33 44.5**	**+3.0**
MELF	**Melles**	**0.71**	**310**	Pg	**Pg**	**21 33 36.4**	**+0.9**
MELF	**Melles**	**0.71**	**310**	P	**Pb**	**21 33 36.4**	**+1.5**
MELF				S	**Sb**	**21 33 46.9**	**+2.6**
FILF	**Fillols**	**0.80**	**79**	Pg	**Pg**	**21 33 37.1**	**-0.1**
FILF				Sg	**Sg**	**21 33 47.9**	**0.0**
FILF	**Fillols**	**0.80**	**79**	P	**Pb**	**21 33 36.9**	**+0.5**
FILF				S	**Sb**	**21 33 47.5**	**+0.6**
EGRA	**Graus**	**0.91**	**256**	⇑Pg	**Pg**	**21 33 38.8**	**-0.5**
	64nm,0.2s,SNR=18						
EGRA				Lg		21 33 51.9	
	94nm,0.2s,SNR=22						
LRDF	**Laroque-de-Fa**	**0.93**	**56**	Pg	**Pg**	**21 33 42.6**	**+2.9**
LRDF	**Laroque-de-Fa**	**0.93**	**56**	P	**Pb**	**21 33 42.2**	**+3.7**
LRDF				S	**Sb**	**21 33 56.6**	**+6.1**
RESF	**Ens**	**0.94**	**295**	Pg	**Pg**	**21 33 40.1**	**0.0**
RESF				Sg	**Sg**	**21 33 52.9**	**+0.2**
RESF	**Ens**	**0.94**	**295**	P	**Pb**	**21 33 40.2**	**+1.4**
RESF				S	**Sb**	**21 33 52.8**	**+1.8**
CFON	**Fontmartina**	**0.96**	**133**	Pg	**Pg**	**21 33 40.2**	**-0.2**
CFON				Lg		21 33 53.0	
	81nm,0.2s						
CFON	**Fontmartina**	**0.96**	**133**	Pg	**Pg**	**21 33 40.3**	**-0.1**
CFON				Sg	**Sg**	**21 33 53.1**	**-0.1**
CFON	**Fontmartina**	**0.96**	**133**	Pg	**Pg**	**21 33 40.3**	**-0.1**
CFON				Sg	**Sg**	**21 33 53.1**	**-0.1**
SJAF	**Saint Jean de**	**1.02**	**86**	P	**Pb**	**21 33 42.8**	**+2.5**
SJAF				S	**Sb**	**21 33 58.2**	**+4.8**
EJON	**La Jonquera**	**1.03**	**88**	⇑Pg	**Pg**	**21 33 42.7**	**+0.9**
	66nm,0.4s,SNR=18						
EJON				Lg		21 33 58.4	
	505nm,0.3s,SNR=19						
EJON	**La Jonquera**	**1.03**	**88**	Pg	**Pg**	**21 33 42.7**	**+0.9**
	66nm,0.4s,SNR=18						
EBIE	**Bielsa**	**1.04**	**285**	Pg	**Pg**	**21 33 41.8**	**-0.2**
	48nm,0.2s,SNR=115						
EBIE				Lg		21 33 55.6	
	161nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.04**	**285**	Pg	**Pg**	**21 33 41.8**	**-0.2**
	48nm,0.2s,SNR=115						
EPF	**Esparros**	**1.05**	**306**	*e*Pn	**Pn**	**21 33 42.6**	**+1.1**
EPF				*e*Sg	**Sg**	**21 33 57.1**	**+0.8**
	632nm,0.3s						
EPF	**Esparros**	**1.05**	**306**	Pg	**Pg**	**21 33 42.3**	**+0.1**
EPF				Lg		21 33 57.1	
	316nm,0.3s						
EPF	**Esparros**	**1.05**	**306**	*e*Pg	**Pg**	**21 33 42.3**	**+0.1**
EPF				*e*Pn	**Pn**	**21 33 42.6**	**+1.1**
EPF				*e*Sg	**Sg**	**21 33 57.1**	**+0.8**
EPF	**Esparros**	**1.05**	**306**	*e*Pn	**Pn**	**21 33 42.6**	**+1.1**
EPF				*e*Sg	**Sg**	**21 33 57.1**	**+0.8**
	316nm,0.3s						
MTLF	**Montolieu**	**1.06**	**30**	*e*Pg	**Pg**	**21 33 45.0**	**+2.5**
MTLF				*e*Sg	**Sg**	**21 33 59.4**	**+2.7**
	865nm,0.2s						
MTLF	**Montolieu**	**1.06**	**30**	Pn	**Pn**	**21 33 44.4**	**+2.7**
MTLF				Pg	**Pg**	**21 33 45.0**	**+2.5**
MTLF				Lg		21 33 59.4	
	433nm,0.2s						
MTLF	**Montolieu**	**1.06**	**30**	*e*Pn	**Pn**	**21 33 44.4**	**+2.7**
MTLF				*e*Pg	**Pg**	**21 33 45.0**	**+2.5**
MTLF				*e*Sg	**Sg**	**21 33 59.4**	**+2.7**
MTLF	**Montolieu**	**1.06**	**30**	*e*Pg	**Pg**	**21 33 45.0**	**+2.5**
MTLF				*e*Sg	**Sg**	**21 33 59.4**	**+2.7**
	433nm,0.2s						
EPOB	**Poblet**	**1.11**	**197**	Pg	**Pg**	**21 33 41.9**	**-1.5**
	28nm,0.3s,SNR=197						
EPOB				Lg		21 33 55.7	
	402nm,0.2s,SNR=28						
EPOB	**Poblet**	**1.11**	**197**	Pg	**Pg**	**21 33 41.9**	**-1.5**
	28nm,0.3s,SNR=197						
CGAR	**Garraf**	**1.16**	**194**	Pg	**Pg**	**21 33 43.4**	**-0.9**
VIEF	**Viey**	**1.18**	**294**	P	**Pb**	**21 33 44.4**	**+1.4**
VIEF				S	**Sb**	**21 34 00.8**	**+2.8**
LABF	**Labassere**	**1.22**	**301**	P	**Pb**	**21 33 45.6**	**+1.9**
LABF				S	**Sb**	**21 34 02.2**	**+3.0**
REYF	**Montagne du Re**	**1.54**	**296**	P	**Pn**	**21 33 51.2**	**+2.7**
REYF				S	**Sb**	**21 34 14.6**	**+6.3**
FDAF	**Les Forges d'A**	**1.58**	**285**	P	**Pn**	**21 33 52.2**	**+3.2**
FDAF				S	**Sb**	**21 34 13.7**	**+4.3**
ETSF	**Etsaut**	**1.59**	**288**	*e*Pg	**Pg**	**21 33 52.7**	**-0.3**
ETSF				*e*Sn	**Sn**	**21 34 09.7**	**-0.1**
ETSF				*e*Sg	**Sg**	**21 34 13.1**	**-1.2**
	645nm,0.4s						
ETSF	**Etsaut**	**1.59**	**288**	Pn	**Pn**	**21 33 50.1**	**+0.8**
ETSF				Pg	**Pg**	**21 33 52.7**	**-0.3**
ETSF				Sn	**Sn**	**21 34 09.7**	**-0.1**
ETSF				Lg		21 34 13.1	
	323nm,0.4s						
ETSF	**Etsaut**	**1.59**	**288**	*e*Pn	**Pn**	**21 33 50.1**	**+0.8**
ETSF				*e*Pg	**Pg**	**21 33 52.7**	**-0.3**
ETSF				*e*Sn	**Sn**	**21 34 09.7**	**-0.1**
ETSF				*e*Sg	**Sg**	**21 34 13.1**	**-1.2**
ETSF	**Etsaut**	**1.59**	**288**	*e*Pg	**Pg**	**21 33 52.7**	**-0.3**
ETSF				*e*Sn	**Sn**	**21 34 09.7**	**-0.1**
ETSF				*e*Sg	**Sg**	**21 34 13.1**	**-1.2**
	323nm,0.4s						
ESAC	**San Caprasio**	**1.62**	**245**	⇑Pg	**Pg**	**21 33 51.3**	**-2.3**
	585nm,0.4s,SNR=18						
ESAC				Lg		21 34 13.6	
	936nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.62**	**245**	Pg	**Pg**	**21 33 51.3**	**-2.3**
	585nm,0.4s,SNR=18						
ERTA	**Horta de San J**	**1.70**	**211**	⇑Pn	**Pn**	**21 33 51.9**	**+1.0**
	109nm,0.4s,SNR=18						
ERTA				Pg	**Pg**	**21 33 53.1**	**-2.1**
	SNR=7.9						
ERTA				Lg		21 34 13.3	
	44nm,0.2s,SNR=21						
ERTA	**Horta de San J**	**1.70**	**211**	Pn	**Pn**	**21 33 51.9**	**+1.1**
	109nm,0.4s,SNR=18						
ERTA	**Horta de San J**	**1.70**	**211**	Pg	**Pg**	**21 33 53.1**	**-2.1**
	SNR=7.9						
ATE	**Arette**	**1.75**	**293**	Pg	**Pg**	**21 33 56.4**	**+0.2**
ATE				Sg	**Sg**	**21 34 19.2**	**-0.4**
ATE	**Arette**	**1.75**	**293**	P	**Pn**	**21 33 54.9**	**+3.4**
ATE				S	**Sn**	**21 34 18.9**	**+5.1**
EBR	**Ebro Roquetas**	**1.77**	**206**	*e*PN	**Pn**	**21 33 54.0**	**+2.2**
EBR				*i* SN	**Sn**	**21 34 16.5**	**+2.3**
LARF	**Larrau**	**1.93**	**290**	Pg	**Pg**	**21 33 59.6**	**-0.2**
LARF				Sg	**Sg**	**21 34 26.7**	**+1.1**
LARF	**Larrau**	**1.93**	**290**	P	**Pn**	**21 33 58.3**	**+4.2**
LARF				S	**Sn**	**21 34 25.0**	**+6.5**
ORDF	**Ordiarp**	**1.96**	**295**	Pg	**Pg**	**21 33 59.4**	**-0.9**
ORDF				Sg	**Sg**	**21 34 26.8**	**+0.3**
ORDF	**Ordiarp**	**1.96**	**295**	P	**Pn**	**21 33 59.3**	**+4.7**
ORDF				S	**Sn**	**21 34 25.5**	**+6.3**
SJPF	**Ste Jean**	**2.12**	**290**	*e*Pg	**Pg**	**21 34 02.0**	**-1.6**
SJPF				*e*Sn	**Sn**	**21 34 22.6**	**-0.7**
SJPF				*e*Sg	**Sg**	**21 34 29.5**	**-2.4**
	344nm,0.5s						
SJPF	**Ste Jean**	**2.12**	**290**	Pn	**Pn**	**21 33 57.3**	**+0.4**
SJPF				Pg	**Pg**	**21 34 02.0**	**-1.6**
SJPF				Sn	**Sn**	**21 34 22.6**	**-0.7**
SJPF				Lg		21 34 29.5	
	172nm,0.5s						
SJPF	**Ste Jean**	**2.12**	**290**	*e*Pn	**Pn**	**21 33 57.3**	**+0.4**
SJPF				*e*Pg	**Pg**	**21 34 02.0**	**-1.6**
SJPF				*e*Sn	**Sn**	**21 34 22.6**	**-0.7**
SJPF				*e*Sg	**Sg**	**21 34 29.5**	**-2.4**
SJPF	**Ste Jean**	**2.12**	**290**	*e*Pg	**Pg**	**21 34 02.0**	**-1.6**
SJPF				*e*Sn	**Sn**	**21 34 22.6**	**-0.7**
SJPF				*e*Sg	**Sg**	**21 34 29.5**	**-2.4**
	172nm,0.5s						
IPRE	**Itoiz**	**2.14**	**281**	Pg	**Pg**	**21 34 03.1**	**-0.9**
	15nm,0.4s,SNR=15						
IPRE				Lg		21 34 32.0	
	14nm,0.2s,SNR=14						
IPRE	**Itoiz**	**2.14**	**281**	Pg	**Pg**	**21 34 03.1**	**-0.9**
	15nm,0.4s,SNR=15						
OSSF	**Osses**	**2.20**	**293**	Pg	**Pg**	**21 34 03.2**	**-1.8**
OSSF	**Osses**	**2.20**	**293**	P	**Pn**	**21 34 02.0**	**+4.1**
OSSF				S	**Sn**	**21 34 30.1**	**+5.0**
IUNC	**Unciti**	**2.24**	**280**	Pg	**Pg**	**21 34 04.5**	**-1.4**
	SNR=7.9						
IUNC				Lg		21 34 35.1	
	144nm,0.4s,SNR=7.9						
IUNC	**Unciti**	**2.24**	**280**	Pg	**Pg**	**21 34 04.5**	**-1.4**
	SNR=7.9						
EARA	**Aranguren**	**2.30**	**280**	Pg	**Pg**	**21 34 05.1**	**-2.0**
	SNR=7.9						
EARA				Lg		21 34 38.2	
	449nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**2.31**	**284**	Pg	**Pg**	**21 34 05.6**	**-1.7**
	SNR=7.9						
IUSE				Lg		21 34 38.1	
	26nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.35**	**291**	Pn	**Pn**	**21 34 03.9**	**+3.8**
	44nm,0.4s,SNR=56						
EALK				Lg		21 34 38.1	
	432nm,0.4s,SNR=14						
EALK	**Alkurruntz**	**2.35**	**291**	Pn	**Pn**	**21 34 03.7**	**+3.6**
EALK				Lg		21 34 38.1	
EALK	**Alkurruntz**	**2.35**	**291**	Pn	**Pn**	**21 34 03.7**	**+3.5**
	44nm,0.4s,SNR=56						
LASF	**Ste Croix**	**2.39**	**45**	*e*Pg	**Pg**	**21 34 08.8**	**-0.1**
LASF				*e*Sn	**Sn**	**21 34 30.9**	**+0.8**
LASF				*e*Sg	**Sg**	**21 34 40.5**	**-0.3**
	200nm,0.4s						
LASF	**Ste Croix**	**2.39**	**45**	Pn	**Pn**	**21 34 03.2**	**+2.5**
LASF				Pg	**Pg**	**21 34 08.8**	**-0.1**
LASF				Sn	**Sn**	**21 34 30.9**	**+0.8**
LASF				Lg		21 34 40.5	
	100nm,0.4s						
LASF	**Ste Croix**	**2.39**	**45**	*e*Pn	**Pn**	**21 34 03.2**	**+2.5**
LASF				*e*Pg	**Pg**	**21 34 08.8**	**-0.1**
LASF				*e*Sn	**Sn**	**21 34 30.9**	**+0.8**
LASF				*e*Sg	**Sg**	**21 34 40.5**	**-0.3**
LASF	**Ste Croix**	**2.39**	**45**	*e*Pg	**Pg**	**21 34 08.8**	**-0.1**
LASF				*e*Sn	**Sn**	**21 34 30.9**	**+0.8**
LASF				*e*Sg	**Sg**	**21 34 40.5**	**-0.3**
	100nm,0.4s						
EMOS	**Mosqueruela**	**2.53**	**217**	Pn	**Pn**	**21 34 04.2**	**+1.5**
	12nm,0.7s,SNR=21						
EMOS				Lg		21 34 39.9	
	100nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**2.53**	**217**	Pn	**Pn**	**21 34 04.2**	**+1.5**
	12nm,0.7s,SNR=21						
CAF	**Calviac**	**2.54**	**9**	*e*Pn	**Pn**	**21 34 04.1**	**+1.3**
CAF	**Calviac**	**2.54**	**9**	*e*P	**Pn**	**21 34 06.9**	**+4.1**
CAF	**Calviac**	**2.54**	**9**	*e*Pg	**Pg**	**21 34 11.7**	**-0.2**
CAF				*e*Sn	**Sn**	**21 34 34.8**	**+0.9**
CAF				*e*Sg	**Sg**	**21 34 45.9**	**+0.1**
	143nm,0.2s						
CAF	**Calviac**	**2.54**	**9**	Pn	**Pn**	**21 34 04.1**	**+1.3**
CAF				P		21 34 06.9	
CAF				Pg	**Pg**	**21 34 11.7**	**-0.2**
CAF				Sn	**Sn**	**21 34 34.8**	**+0.9**
CAF				Lg		21 34 45.9	
	72nm,0.2s						
CAF	**Calviac**	**2.54**	**9**	*e*P	**Pn**	**21 34 06.9**	**+4.1**
CAF				*e*Pg	**Pg**	**21 34 11.7**	**-0.2**
CAF				*e*Sn	**Sn**	**21 34 34.8**	**+0.9**
CAF				*e*Sg	**Sg**	**21 34 45.9**	**+0.1**
CAF	**Calviac**	**2.54**	**9**	*e*P	**Pn**	**21 34 06.9**	**+4.1**
CAF	**Calviac**	**2.54**	**9**	*e*Pg	**Pg**	**21 34 11.7**	**-0.2**
CAF				*e*Sn	**Sn**	**21 34 34.8**	**+0.9**
CAF				*e*Sg	**Sg**	**21 34 45.9**	**+0.1**
	72nm,0.2s						
LFF	**La Frestale**	**2.58**	**348**	*e*Pn	**Pn**	**21 34 04.8**	**+1.4**
LFF	**La Frestale**	**2.58**	**348**	*e*P	**Pn**	**21 34 07.3**	**+3.9**
LFF				*e*Sn	**Sn**	**21 34 35.4**	**+0.5**
LFF				*e*Sg	**Sg**	**21 34 46.9**	**-0.2**
	191nm,0.3s						
LFF	**La Frestale**	**2.58**	**348**	Pn	**Pn**	**21 34 04.8**	**+1.4**
LFF				P		21 34 07.3	
LFF				Sn	**Sn**	**21 34 35.4**	**+0.5**
LFF				Lg		21 34 46.9	
	96nm,0.3s						
LFF	**La Frestale**	**2.58**	**348**	*e*P	**Pn**	**21 34 07.3**	**+3.9**
LFF				*e*Sn	**Sn**	**21 34 35.4**	**+0.5**
LFF				*e*Sg	**Sg**	**21 34 46.9**	**-0.2**
	96nm,0.3s						
ETOS	**Mallorca**	**2.83**	**159**	Pn	**Pn**	**21 34 07.5**	**+0.5**
	12nm,0.8s,SNR=11						
ETOS				Sn	**Sn**	**21 34 39.8**	**-1.5**
	SNR=7.9						
ETOS	**Mallorca**	**2.83**	**159**	Pn	**Pn**	**21 34 07.5**	**+0.5**
	12nm,0.8s,SNR=11						
ETOS				Sn	**Sn**	**21 34 39.8**	**-1.4**
	SNR=7.9						
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*Pn	**Pn**	**21 34 08.8**	**+1.0**
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*P	**Pn**	**21 34 11.4**	**+3.6**
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*Pg	**Pg**	**21 34 17.8**	**-1.0**
RJF				*e*Sn	**Sn**	**21 34 42.5**	**-0.1**
RJF				*e*Sg	**Sg**	**21 34 56.9**	**-0.4**
	128nm,0.3s						
RJF	**Les Rejaudoux**	**2.88**	**0**	Pn	**Pn**	**21 34 08.8**	**+1.0**
RJF				P		21 34 11.4	
RJF				Pg	**Pg**	**21 34 17.8**	**-1.0**
RJF				Sn	**Sn**	**21 34 42.5**	**-0.1**
RJF				Lg		21 34 56.9	
	64nm,0.3s						
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*P	**Pn**	**21 34 11.4**	**+3.6**
RJF				*e*Pg	**Pg**	**21 34 17.8**	**-1.0**
RJF				*e*Sn	**Sn**	**21 34 42.5**	**-0.1**
RJF				*e*Sg	**Sg**	**21 34 56.9**	**-0.4**
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*P	**Pn**	**21 34 11.4**	**+3.6**
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*Pg	**Pg**	**21 34 17.8**	**-1.0**
RJF				*e*Sn	**Sn**	**21 34 42.5**	**-0.1**
RJF				*e*Sg	**Sg**	**21 34 56.9**	**-0.4**
	64nm,0.3s						
LBL	**Lubilhac**	**3.08**	**24**	Pn	**Pn**	**21 34 12.7**	**+2.1**
LBL				Sg	**Sg**	**21 35 03.5**	**-0.4**
VIVF	**Saint-Julien-l**	**3.35**	**42**	*e*Pg	**Pg**	**21 34 26.7**	**-1.4**
VIVF				*e*Sn	**Sn**	**21 34 54.1**	**-0.4**
VIVF				*e*Sg	**Sg**	**21 35 10.0**	**-2.8**
	76nm,0.4s						
VIVF	**Saint-Julien-l**	**3.35**	**42**	Pn	**Pn**	**21 34 15.3**	**+0.9**
VIVF				Pg	**Pg**	**21 34 26.7**	**-1.4**
VIVF				Sn	**Sn**	**21 34 54.1**	**-0.4**
VIVF				Lg		21 35 10.0	
	38nm,0.4s						
VIVF	**Saint-Julien-l**	**3.35**	**42**	*e*Pn	**Pn**	**21 34 15.3**	**+0.9**
VIVF				*e*Pg	**Pg**	**21 34 26.7**	**-1.4**
VIVF				*e*Sn	**Sn**	**21 34 54.1**	**-0.4**
VIVF				*e*Sg	**Sg**	**21 35 10.0**	**-2.8**
SMRF	**Simiane la Rot**	**3.36**	**61**	*e*Pg	**Pg**	**21 34 26.5**	**-1.8**
SMRF				*e*Sn	**Sn**	**21 34 53.7**	**-1.0**
SMRF				*e*Sg	**Sg**	**21 35 10.6**	**-2.5**
	34nm,0.6s						
SMRF	**Simiane la Rot**	**3.36**	**61**	Pn	**Pn**	**21 34 15.1**	**+0.6**
SMRF				Pg	**Pg**	**21 34 26.5**	**-1.8**
SMRF				Sn	**Sn**	**21 34 53.7**	**-1.0**
SMRF				Lg		21 35 10.6	
	34nm,0.6s						
SMRF	**Simiane la Rot**	**3.36**	**61**	*e*Pn	**Pn**	**21 34 15.1**	**+0.6**
SMRF				*e*Pg	**Pg**	**21 34 26.5**	**-1.8**
SMRF				*e*Sn	**Sn**	**21 34 53.7**	**-1.0**
SMRF				*e*Sg	**Sg**	**21 35 10.6**	**-2.5**
ELAN	**Lanestosa**	**3.72**	**284**	Pn	**Pn**	**21 34 22.0**	**+2.4**
	2.1nm,0.3s,SNR=12						
ELAN				Sn	**Sn**	**21 35 00.9**	**-2.8**
	SNR=7.9						
ELAN	**Lanestosa**	**3.72**	**284**	Pn	**Pn**	**21 34 22.0**	**+2.4**
	2.1nm,0.3s,SNR=12						
ELAN				Sn	**Sn**	**21 35 00.9**	**-2.8**
	SNR=7.9						
LMR	**La Mourre**	**3.79**	**74**	*e*Pn	**Pn**	**21 34 22.4**	**+1.7**
LMR				*e*Sn	**Sn**	**21 35 04.0**	**-1.6**
	29nm,0.3s						
TCF	**Toulx Ste Croi**	**3.90**	**7**	*e*Pn	**Pn**	**21 34 22.8**	**+0.6**
TCF	**Toulx Ste Croi**	**3.90**	**7**	*e*P	**Pn**	**21 34 25.8**	**+3.6**
TCF	**Toulx Ste Croi**	**3.90**	**7**	*e*Pg	**Pg**	**21 34 36.9**	**-2.2**
TCF				*e*Sn	**Sn**	**21 35 07.2**	**-1.2**
TCF				*e*Sg	**Sg**	**21 35 27.5**	**-3.6**
	56nm,0.3s						
TCF	**Toulx Ste Croi**	**3.90**	**7**	Pn	**Pn**	**21 34 22.8**	**+0.6**
TCF				P		21 34 25.8	
TCF				Pg	**Pg**	**21 34 36.9**	**-2.2**
TCF				Sn	**Sn**	**21 35 07.2**	**-1.2**
TCF				Lg		21 35 27.5	
	28nm,0.3s						
TCF	**Toulx Ste Croi**	**3.90**	**7**	*e*P	**Pn**	**21 34 25.8**	**+3.6**
TCF				*e*Pg	**Pg**	**21 34 36.9**	**-2.2**
TCF				*e*Sn	**Sn**	**21 35 07.2**	**-1.2**
TCF				*e*Sg	**Sg**	**21 35 27.5**	**-3.6**
TCF	**Toulx Ste Croi**	**3.90**	**7**	*e*P	**Pn**	**21 34 25.8**	**+3.6**
FRF	**La Foret Royal**	**3.94**	**71**	*e*Pn	**Pn**	**21 34 23.6**	**+0.8**
FRF	**La Foret Royal**	**3.94**	**71**	*e*P	**Pn**	**21 34 26.1**	**+3.3**
FRF				*e*Sn	**Sn**	**21 35 07.0**	**-2.5**
	19nm,0.4s						
FRF	**La Foret Royal**	**3.94**	**71**	Pn	**Pn**	**21 34 23.6**	**+0.8**
FRF				P		21 34 26.1	
FRF				Sn	**Sn**	**21 35 07.0**	**-2.5**
	9.6nm,0.4s						
FRF	**La Foret Royal**	**3.94**	**71**	*e*P	**Pn**	**21 34 26.1**	**+3.3**
FRF				*e*Sn	**Sn**	**21 35 07.0**	**-2.5**
	9.6nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.04**	**50**	*e*Pn	**Pn**	**21 34 24.8**	**+0.6**
ORIF	**Oris-en-Rattie**	**4.04**	**50**	*e*P	**Pn**	**21 34 27.9**	**+3.7**
ORIF				*e*Sn	**Sn**	**21 35 09.9**	**-2.0**
ORIF				*e*Sg	**Sg**	**21 35 32.3**	**-3.5**
	17nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.04**	**50**	Pn	**Pn**	**21 34 24.8**	**+0.6**
ORIF				P		21 34 27.9	
ORIF				Sn	**Sn**	**21 35 09.9**	**-2.0**
ORIF				Lg		21 35 32.3	
	8.7nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.04**	**50**	*e*P	**Pn**	**21 34 27.9**	**+3.7**
ORIF				*e*Sn	**Sn**	**21 35 09.9**	**-2.0**
ORIF				*e*Sg	**Sg**	**21 35 32.3**	**-3.5**
	8.7nm,0.5s						
BGF	**Bois d'Agland**	**4.25**	**13**	*e*Pg	**Pg**	**21 34 43.4**	**-2.6**
BGF				*e*Sg	**Sg**	**21 35 38.6**	**-4.0**
	266nm,0.4s						
BGF	**Bois d'Agland**	**4.25**	**13**	Pn	**Pn**	**21 34 27.8**	**+0.7**
BGF				Pg	**Pg**	**21 34 43.4**	**-2.6**
BGF				Lg		21 35 38.6	
	0.1nm,0.4s						
BGF	**Bois d'Agland**	**4.25**	**13**	*e*Pn	**Pn**	**21 34 27.8**	**+0.7**
BGF				*e*Pg	**Pg**	**21 34 43.4**	**-2.6**
BGF				*e*Sg	**Sg**	**21 35 38.6**	**-4.0**
MFF	**Saint Martin d**	**4.34**	**345**	*e*Pn	**Pn**	**21 34 28.7**	**+0.2**
MFF	**Saint Martin d**	**4.34**	**345**	*e*P	**Pn**	**21 34 31.6**	**+3.1**
MFF				*e*Sn	**Sn**	**21 35 17.4**	**-2.2**
MFF				*e*Sg	**Sg**	**21 35 41.4**	**-4.4**
	27nm,0.3s						
MFF	**Saint Martin d**	**4.34**	**345**	Pn	**Pn**	**21 34 28.7**	**+0.2**
MFF				P		21 34 31.6	
MFF				Sn	**Sn**	**21 35 17.4**	**-2.2**
MFF				Lg		21 35 41.4	
	13nm,0.3s						
MFF	**Saint Martin d**	**4.34**	**345**	*e*P	**Pn**	**21 34 31.6**	**+3.1**
MFF				*e*Sn	**Sn**	**21 35 17.4**	**-2.2**
MFF				*e*Sg	**Sg**	**21 35 41.4**	**-4.4**
	13nm,0.3s						
ETOB	**Tobarra**	**4.43**	**213**	Pn	**Pn**	**21 34 29.8**	**+0.2**
	4.2nm,0.7s,SNR=14						
ETOB				Lg		21 35 44.1	
	SNR=7.9						
ETOB	**Tobarra**	**4.43**	**213**	Pn	**Pn**	**21 34 29.8**	**+0.1**
	4.2nm,0.7s,SNR=14						
MBDF	**Montbardon**	**4.47**	**57**	*e*Pn	**Pn**	**21 34 30.5**	**+0.2**
MBDF	**Montbardon**	**4.47**	**57**	*e*P	**Pn**	**21 34 33.9**	**+3.6**
MBDF				*e*Sn	**Sn**	**21 35 20.7**	**-2.1**
	21nm,0.6s						
MBDF	**Montbardon**	**4.47**	**57**	Pn	**Pn**	**21 34 30.5**	**+0.2**
MBDF				P		21 34 33.9	
MBDF				Sn	**Sn**	**21 35 20.7**	**-2.1**
	11nm,0.6s						
MBDF	**Montbardon**	**4.47**	**57**	*e*P	**Pn**	**21 34 33.9**	**+3.6**
MBDF				*e*Sn	**Sn**	**21 35 20.7**	**-2.1**
	11nm,0.6s						
SMF	**Signal de Mont**	**4.54**	**21**	*e*Pg	**Pg**	**21 34 49.4**	**-2.5**
SMF				*e*Sn	**Sn**	**21 35 23.0**	**-1.7**
SMF				*e*Sg	**Sg**	**21 35 48.1**	**-4.4**
	32nm,0.3s						
SMF	**Signal de Mont**	**4.54**	**21**	Pn	**Pn**	**21 34 32.9**	**+1.6**
SMF				Pg	**Pg**	**21 34 49.4**	**-2.5**
SMF				Sn	**Sn**	**21 35 23.0**	**-1.7**
SMF				Lg		21 35 48.1	
	16nm,0.3s						
SMF	**Signal de Mont**	**4.54**	**21**	*e*Pn	**Pn**	**21 34 32.9**	**+1.6**
SMF				*e*Pg	**Pg**	**21 34 49.4**	**-2.5**
SMF				*e*Sn	**Sn**

LOR	**Lormes**	**5.13**	**18**	Pn		**Pn**	**21 34 40.6**	**+1.0**
LOR				Pg		**Pg**	**21 34 59.8**	**-3.8**
LOR				Sn		**Sn**	**21 35 37.0**	**-2.4**
LOR				Lg			21 36 06.7	
	8.9nm,0.2s							
LOR	**Lormes**	**5.13**	**18**	*e*Pn		**Pn**	**21 34 40.6**	**+1.0**
LOR				*e*Pg		**Pg**	**21 34 59.8**	**-3.8**
LOR				*e*Sn		**Sn**	**21 35 37.0**	**-2.4**
LOR				*e*Sg		**Sg**	**21 36 06.7**	**-5.3**
CABF	**La Chapelle**	**5.32**	**36**	*e*Pg		**Pg**	**21 35 03.7**	**-3.7**
CABF				*e*Sn		**Sn**	**21 35 41.7**	**-2.5**
	12nm,0.5s							
CABF				*e*Sg		**Sg**	**21 36 12.6**	**-5.8**
	86nm,0.7s							
CABF	**La Chapelle**	**5.32**	**36**	Pn		**Pn**	**21 34 44.3**	**+2.0**
CABF				Pg		**Pg**	**21 35 03.7**	**-3.7**
CABF				Sn		**Sn**	**21 35 41.7**	**-2.5**
	5.8nm,0.5s							
CABF				Lg			21 36 12.6	
	43nm,0.7s							
CABF	**La Chapelle**	**5.32**	**36**	*e*Pn		**Pn**	**21 34 44.3**	**+2.0**
CABF				*e*Pg		**Pg**	**21 35 03.7**	**-3.7**
CABF				*e*Sn		**Sn**	**21 35 41.7**	**-2.5**
CABF				*e*Sg		**Sg**	**21 36 12.6**	**-5.8**
PGF	**Pioggiola**	**5.55**	**86**	*e*Pn		**Pn**	**21 34 45.6**	**+0.1**
PGF				*e*Sn		**Sn**	**21 35 45.6**	**-4.3**
	28nm,0.3s							
CORF	**Corte**	**5.67**	**89**	Pn		**Pn**	**21 34 47.2**	**-0.1**
EQES	**Quesada**	**5.79**	**219**	Pn		**Pn**	**21 34 49.2**	**+0.3**
	2.7nm,0.3s,SNR=10							
EQES				Lg			21 36 28.0	
	SNR=7.9							
EQES	**Quesada**	**5.79**	**219**	Pn		**Pn**	**21 34 49.2**	**+0.3**
	2.7nm,0.3s,SNR=10							
ECAL	**Calabor**	**6.14**	**268**	Pn		**Pn**	**21 34 53.4**	**-0.5**
	2.1nm,0.3s,SNR=6.0							
ECAL				Sn		**Sn**	**21 36 02.2**	**-2.5**
	SNR=7.9							
ECAL	**Calabor**	**6.14**	**268**	Pn		**Pn**	**21 34 53.4**	**-0.4**
	2.1nm,0.3s,SNR=6.0							
ECAL				Sn		**Sn**	**21 36 02.2**	**-2.5**
	SNR=7.9							
GRR	**Gorron**	**6.20**	**345**	*e*Pn		**Pn**	**21 34 55.3**	**+0.6**
GRR				*e*Sn		**Sn**	**21 36 01.5**	**-4.6**
	11nm,0.3s							
GRR				*e*Sg		**Sg**	**21 36 39.3**	**-8.1**
	14nm,0.4s							
LDF	**La Druitiere**	**6.28**	**350**	*e*Pn		**Pn**	**21 34 56.6**	**+0.8**
LDF				*e*Sn		**Sn**	**21 36 04.2**	**-4.0**
	15nm,0.4s							
EADA	**Adamuz**	**6.29**	**230**	Pn		**Pn**	**21 34 54.4**	**-1.6**
EADA				Sn		**Sn**	**21 36 03.6**	**-4.9**
EADA	**Adamuz**	**6.29**	**230**	Pn		**Pn**	**21 34 54.4**	**-1.6**
	SNR=7.9							
EADA				Sn		**Sn**	**21 36 03.6**	**-4.9**
SFTF	**Sexfontaines**	**6.30**	**22**	*e*Pn		**Pn**	**21 34 56.7**	**+0.6**
SFTF				*e*Sg		**Sg**	**21 36 43.1**	**-7.8**
	47nm,0.7s							
QUIF	**Quistinic**	**6.41**	**331**	*e*Pn		**Pn**	**21 34 58.4**	**+0.7**
QUIF				*e*Sn		**Sn**	**21 36 06.1**	**-5.4**
	8.2nm,0.2s							
EPON	**Pontenova**	**6.42**	**281**	Pn		**Pn**	**21 34 57.8**	**0.0**
	25nm,1.1s,SNR=9.8							
EPON	**Pontenova**	**6.42**	**281**	Pn		**Pn**	**21 34 57.8**	**0.0**
FLN	**La Foliniere**	**6.50**	**348**	*e*Pn		**Pn**	**21 34 59.2**	**+0.3**
FLN				*e*Sn		**Sn**	**21 36 07.9**	**-5.7**
	11nm,0.3s							
SGMF	**Saint Gilles**	**6.50**	**335**	*e*Pn		**Pn**	**21 34 59.7**	**+0.8**
SGMF				*e*Sn		**Sn**	**21 36 08.6**	**-5.0**
	17nm,0.5s							
HAU	**Haudompre**	**6.55**	**30**	*e*Sg		**Sg**	**21 36 50.7**	**-8.6**
	31nm,0.6s							
MEZF	**Maizieres J'vi**	**6.58**	**21**	*e*Pn		**Pn**	**21 35 00.9**	**+0.9**
MEZF				*e*Sg		**Sg**	**21 36 50.9**	**-9.2**
	36nm,0.5s							
HINF	**Hinteralfeld**	**6.59**	**33**	*e*Pn		**Pn**	**21 34 59.8**	**-0.4**
HINF				*e*Sg		**Sg**	**21 36 51.7**	**-8.9**
	15nm,0.6s							
ROSF	**Rostrenen**	**6.80**	**332**	*e*Pn		**Pn**	**21 35 03.6**	**+0.4**
ROSF				*e*Sn		**Sn**	**21 36 16.1**	**-5.2**
	7.6nm,0.3s							
RFYF	**Reffroy**	**6.81**	**23**	*e*Pn		**Pn**	**21 35 03.0**	**-0.3**
PVRL	**Vila Real**	**6.98**	**264**	*e*Pn		**Pn**	**21 35 04.6**	**-1.0**
CDF	**Champ du Feu**	**7.24**	**32**	*e*Sg		**Sg**	**21 37 12.3**	**-10**
	25nm,0.8s							
PVIS	**Viseu**	**7.25**	**260**	*e*Pn		**Pn**	**21 35 07.7**	**-1.7**
	3.7nm,0.5s							
PVIS	**Viseu**	**7.25**	**260**	*e*Pn		**Pn**	**21 35 07.7**	**-1.7**
	3.7nm,0.5s							
PCBR	**Castelo Branco**	**7.25**	**252**	*e*Pn		**Pn**	**21 35 07.2**	**-2.3**
EBAD	**Badajoz**	**7.44**	**243**	Pn		**Pn**	**21 35 09.4**	**-2.7**
EBAD				Sn		**Sn**	**21 36 28.9**	**-8.3**
KHC	**Kasperske Hory**	**10.77**	**47**	*e*P		**P**	**21 35 59.0**	**+0.9**

IDC ***27*** *21:48:23.1±4.3, 1.15N×97.44E, mb3.7/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=161.1km s-min=28.4km az=57.0*

NEIC 27 21:48:27.8±3.9, 1.04N×97.29E, h38km±35km, Error ellipse: s-maj=36.0km s-min=21.5km az=47.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.40**	**38**	*e*Pn	P	21 49 45.8	-2.1
WRA	**Warramunga Arr**	**41.87**	**122**	P	P	21 56 14.7	-1.7
	0.5nm,0.6s,baz=300,slow=8.9,SNR=9.3						
SONM	**Songino Array**	**47.28**	**8**	P	P	21 56 57.4	-1.9
	0.9nm,0.8s,baz=186,slow=9.4,SNR=7.3						
MKAR	**Makanchi Array**	**47.42**	**346**	P	P	21 56 58.6	-1.8
	1.3nm,0.8s,baz=158,slow=7.9,SNR=13						

BJI ***27*** *21:53:12.6, 28.19N×55.80E, h25km, mB5.2, mb5.0, Ms4.8, Msz4.4*

HRVD ***27*** *21:53:14.9±0.9, 28.01N×56.18E, h18km±2km, MW4.8/35, Centroid moment Tensor Solution. LP body waves: s15,c19;Mantle waves: s35,c55; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.61±.23; $M_{\theta\theta}$-1.84±.15; $M_{\phi\phi}$0.22±.15; $M_{r\theta}$0.89±.31; $M_{r\phi}$-0.13±.12; $M_{\theta r}$-0.18±.48; Best double couple: $M_0$1.958×10^{16} NP1:ϕ_s257°, δ32°, λ76°. NP2:ϕ_s94°, δ59°, λ99°. Principal axes: T 1.855, Plg74°, Azm28°; N .205, Plg8°, Azm270°; P -2.061, Plg14°, Azm178°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***27*** *21:53:14.9, 28.12N×56.07E, h14km, mb4.9/111, ML5.2(THR), ML5.0(TEH), After THR.*

THR ***27*** *21:53:15.0±0.8, 28.12N×56.12E, h15km±6km, ML5.1*

CSEM ***27*** *21:53:15.3±0.0, 28.11N×56.06E, h30km, mb4.9/99, Ms3.6, Error ellipse: s-maj=1.7km s-min=1.3km az=31.0*

MOS ***27*** *21:53:15.9±0.9, 28.16N×55.99E, h33km, mb5.1/96, Error ellipse: s-maj=6.6km s-min=3.2km az=124.5*

DHMR ***27*** *21:53:16.4±2.8, 28.01N×56.02E, h44km±122km, mb5.1*

IDC ***27*** *21:53:17.3±2.2, 28.13N×56.14E, h29km±14km, mb4.7/27, mb1 4.8/28, mb1mx4.8/28, mbtmp4.9/28, ML2.3/1, MS3.9/13, Ms1 3.9/13, ms1mx3.7/30, Error ellipse: s-maj=11.5km s-min=8.7km az=116.0*

TEH ***27*** *21:53:20.0, 28.09N×55.90E, h10km, Mn5.0*

ISC 27 21:53:15.4±0.1, 28.05N±0.02×56.02E±0.02, h33km, (h37km±6.1km: pP-P), n646, σ1§16/643, mb4.9/177, MS3.9/26, 34C-20D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.66**	**168**	*e*Pg	**P**	**21 53 28.5**	**+0.2**
BNDS				*e*Sg	**S**	**21 53 39.4**	**+1.8**
BNDS				AML	AML	21 53 46.1	
	comp=N,62μm,0.5s						
BNDS	**Bandar-Abbas**	**0.66**	**168**	*e*Pg	**P**	**21 53 28.7**	**+0.4**
KRBR	**Kerman**	**2.03**	**18**	*e*Pg	**P**	**21 53 50.4**	**+2.6**
KRBR				AML	AML	21 54 22.1	
	comp=N,24μm,0.6s						
KRBR	**Kerman**	**2.03**	**18**	*e*Pg	**P**	**21 53 50.6**	**+2.7**
KRBR				*e*Sg	**S**	**21 54 16.5**	**+4.1**
BANOM	**Banah**	**2.13**	**173**	P	**P**	**21 53 52.4**	**+3.1**
	SNR=129						
GHIR	**Ghir-Karzin**	**2.69**	**276**	*e*Pn	**Pn**	**21 54 00.5**	**+3.0**
ISRV	**Sarvestan**	**2.88**	**298**	Pn	**Pn**	**21 54 03.3**	**+3.2**
IMOK	**Mook**	**3.07**	**290**	Pn	**Pn**	**21 54 05.7**	**+2.8**
ASHO	**Ashiyiah**	**3.35**	**179**	P	**P**	**21 54 09.7**	**+2.9**
	SNR=98						
ASHO				P		21 54 09.9	
	SNR=320						
SHI	**Shiraz**	**3.46**	**298**	Pn	**Pn**	**21 54 11.1**	**+2.7**
IMEH	**Mehriz**	**3.55**	**340**	Pn	**Pn**	**21 54 12.5**	**+2.9**
IBAF	**Bafgh**	**3.55**	**354**	Pn	**Pn**	**21 54 11.8**	**+2.1**
ISAD	**Sadrabad**	**4.35**	**333**	Pn	**Pn**	**21 54 24.6**	**+3.5**
ICHK	**Chekchek**	**4.41**	**342**	Pn	**Pn**	**21 54 23.8**	**+1.9**
ZHSF	**Zahedan**	**4.45**	**68**	*e*Pn	**Pn**	**21 54 22.8**	**+0.3**
ZHSF	**Zahedan**	**4.45**	**68**	*e*Pn	**Pn**	**21 54 23.9**	**+1.4**
HOQ	**Hoqain**	**4.60**	**165**	P	**P**	**21 54 24.9**	**+0.5**
	SNR=26						
ARQ	**Araqi**	**4.71**	**174**	P	**P**	**21 54 28.7**	**+2.6**
	SNR=35						
BIDO	**Bidbid**	**4.89**	**157**	P	**P**	**21 54 28.2**	**-0.4**
	SNR=55						
SMDO	**Samad**	**5.30**	**159**	P	**P**	**21 54 34.4**	**+0.2**
	SNR=113						
SMDO				P		21 54 35.0	
	SNR=41						
SMDO	**Samad**	**5.30**	**159**	P	**P**	**21 54 35.0**	**+0.7**
	SNR=41						
BSY	**Bisya**	**5.39**	**168**	P	**P**	**21 54 37.2**	**+1.6**
	SNR=96						
BSYO	**Bisya**	**5.41**	**168**	P	**P**	**21 54 37.2**	**+1.4**
	SNR=96						
NASN	**Na'in**	**5.49**	**330**	*e*Pn	**Pn**	**21 54 38.9**	**+1.8**
NASN	**Na'in**	**5.49**	**330**	*e*Pn	**Pn**	**21 54 38.4**	**+1.4**
NASN	**Na'in**	**5.49**	**330**	*e*Pn	**Pn**	**21 54 38.8**	**+1.7**
	SNR=42						
JMDO	**Jabal Madar**	**5.96**	**161**	P	**P**	**21 54 44.7**	**+1.1**
	SNR=56						
WBK	**Wadi Bani Khal**	**6.04**	**153**	P	**P**	**21 54 44.1**	**-0.6**
	SNR=21						
WBK				P		21 54 44.5	
	SNR=27						
HASS	**Wahat al Ahsa'**	**6.34**	**245**	P	**P**	**21 54 50.0**	**+1.1**
QRN	**Al-Qurain**	**7.17**	**277**	*e*P	**P**	**21 55 00.4**	**-0.2**
QRN				AML	AML	21 56 20.7	
	comp=Z,169nm,0.4s						
KBD	**Kabd**	**7.41**	**281**	*e*P	**P**	**21 55 04.0**	**+0.2**
KBD				AML	AML	21 56 26.0	
	comp=Z,323nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.44**	**284**	*e*P	**P**	**21 55 04.3**	**0.0**
UMR				AML	AML	21 56 29.4	
	comp=Z,122nm,0.3s						
SHGR	**Shooshtar-Gavs**	**7.45**	**305**	*e*Pn	**Pn**	**21 55 04.9**	**+0.2**
RDF	**Al-Radifah**	**7.51**	**279**	*e*P	**P**	**21 55 04.3**	**-0.9**
RDF				AML	AML	21 56 28.4	
	comp=Z,132nm,0.4s						
RDF	**Al-Radifah**	**7.51**	**279**	*e*P	**P**	**21 55 04.3**	**-1.0**
NAY	**Al-Naaiem**	**7.81**	**281**	*e*P	**P**	**21 55 09.0**	**-0.4**
MIB	**Mutribah**	**7.81**	**285**	*e*P	**P**	**21 55 09.1**	**-0.4**
IVRN	**Varamin**	**7.83**	**333**	Pn	**Pn**	**21 55 11.2**	**+1.2**
IVRN				Sn	**Sn**	**21 56 33.0**	**-5.5**
IFIR	**Firoozkooh**	**8.06**	**341**	Pn	**Pn**	**21 55 13.9**	**+0.9**
IFIR				Sn	**Sn**	**21 56 38.5**	**-5.7**
IDMV	**Damavand**	**8.23**	**337**	Pn	**P**	**21 55 16.5**	**+1.1**
IDMV				Sn	**Sn**	**21 56 42.5**	**-6.0**
ASAO	**Ashtian**	**8.26**	**323**	*e*Pn	**P**	**21 55 16.2**	**+0.5**
ASAO	**Ashtian**	**8.26**	**323**	*e*Pn	**P**	**21 55 16.1**	**+0.4**
CHTH	**Charan**	**8.87**	**333**	*e*Pn	**P**	**21 55 25.3**	**+1.1**
IMHD	**Mahdasht**	**8.87**	**330**	Pn	**P**	**21 55 25.3**	**+1.1**
IRAZ	**Razeghan**	**8.98**	**326**	Pn	**P**	**21 55 35.9**	**+10**
SHAO	**Shalim**	**9.99**	**182**	P	**P**	**21 55 39.2**	**-0.6**
	SNR=5.9						
WHFO	**Wadi Hawf**	**10.29**	**192**	P	**P**	**21 55 43.2**	**-0.8**
	SNR=71						
MZLS	**Mizel**	**10.52**	**250**	P	**P**	**21 55 44.8**	**-2.2**
RBK	**Rabkut**	**10.63**	**189**	P	**P**	**21 55 46.8**	**-1.8**
	SNR=45						
RBK				P		21 55 48.0	
	SNR=40						
ABTO	**Aybut**	**10.94**	**194**	P	**P**	**21 55 51.4**	**-1.3**
	SNR=145						
BHD	**Baghdad**	**11.29**	**300**	*ex*	x	21 55 56.0	
BHD				*ex*	x	21 58 03.0	
BHD				*ex*	x	22 00 12.5	
ARSS	**Ar Rass**	**11.61**	**262**	P	**P**	**21 55 58.9**	**-2.9**
AFFS	**'Afif**	**12.41**	**254**	P	**P**	**21 56 10.9**	**-1.7**
HILS	**Ha'il**	**12.62**	**270**	P	**P**	**21 56 12.2**	**-3.2**
KAMS	**Al Khamasin**	**12.97**	**236**	P	**P**	**21 56 16.9**	**-3.2**
MSL	**Mosul**	**13.68**	**310**	*ex*	x	21 56 26.5	
MSL				*ex*	x	21 58 53.5	
MSL				*ex*	x	22 01 11.5	
HKR	**Hakkari**	**14.02**	**316**	*e*P	**P**	**21 56 30.6**	**-3.2**
HAKT	**HAKKARI**	**14.03**	**316**	*i* P	**P**	**21 56 31.1**	**-2.8**
TATS	**Tathlith**	**14.26**	**236**	P	**P**	**21 56 34.0**	**-3.0**
VANB	**Van**	**14.89**	**318**	*e*P	**P**	**21 56 44.0**	**-1.1**
CLDR	**Caldiran**	**14.95**	**321**	*e*P	**P**	**21 56 46.8**	**+0.7**
MUKL	**Al Mukalla**	**14.99**	**207**	*e*P	**P**	**21 56 45.0**	**-1.6**
GNI	**Garni**	**15.24**	**325**	Pn	**P**	**21 56 54.4**	**+4.6**
	comp=Z,3.0nm,0.3s,baz=132,slow=1.8,SNR=19						
GNI				LR	LR	22 03 16.4	
	comp=Z,492nm,18.2s,baz=138,slow=39						
GNI	**Garni**	**15.24**	**325**	*e*P	**P**	**21 56 54.2**	**+4.4**
BEST	**Besiri**	**15.78**	**312**	*i* P	**P**	**21 56 54.6**	**-2.1**
MARD	**Mardin**	**15.79**	**310**	*i* P	**P**	**21 56 52.9**	**-4.0**
BTMT	**Batman**	**15.81**	**313**	*e*P	**P**	**21 56 54.9**	**-2.3**
DIGO	**Kars**	**16.15**	**323**	*i* P	**P**	**21 57 02.0**	**+0.6**
MAK	**Makhachkala**	**16.40**	**337**	*e*P	**P**	**21 57 06.1**	**+1.6**
TI2	**Plekhanov**	**16.46**	**329**	*i* P	**P**	**21 57 07.6**	**+2.2**
TBLG	**Delisi**	**16.47**	**329**	P	**P**	**21 57 07.6**	**+2.2**
DIY	**Diyarbakir**	**16.47**	**311**	*e*P	**P**	**21 57 02.0**	**-3.5**
AJM	**Ajmer**	**16.63**	**91**	*e*P	**P**	**21 57 10.7**	**+3.1**
AJM				*e*S	**S**	**22 00 16.6**	**+6.2**
HAJJ	**Hajjah**	**16.83**	**226**	⇓*e*P	**P**	**21 57 08.2**	**-2.0**
HAJJ				AMb	AMb	21 57 08.6	
	comp=Z,192nm,1.1s						
HAJJ				*i* S	**S**	**22 00 15.2**	**+0.2**
HAJJ	**Hajjah**	**16.83**	**226**	⇓*e*P	**P**	**21 57 08.2**	**-2.0**
	comp=Z,96nm,1.1s						
HAJJ				*i* S	**S**	**22 00 15.2**	**+0.1**
ERZM	**Erzurum**	**16.93**	**318**	*i* P	**P**	**21 57 13.1**	**+1.9**
EZM	**Erzurum**	**16.93**	**318**	*e*P	**P**	**21 57 11.1**	**-0.2**
BDHA	**Al Bayda'**	**17.05**	**217**	⇓*e*P	**P**	**21 57 11.3**	**-1.6**
BDHA				AMb	AMb	21 57 14.2	
	comp=Z,44nm,2.1s						
BDHA	**Al Bayda'**	**17.05**	**217**	⇓*e*P	**P**	**21 57 11.3**	**-1.7**
	comp=Z,22nm,2.1s						
URFA	**Urfa**	**17.21**	**307**	*e*P	**P**	**21 57 11.3**	**-3.6**
DHBB	**Dhamar BB**	**17.23**	**221**	⇓*e*P	**P**	**21 57 13.9**	**-1.2**
DHBB				AMb	AMb	21 57 14.7	
	comp=Z,105nm,0.9s						
DHBB				*i* S	**S**	**22 00 25.4**	**+1.4**
DHBB	**Dhamar BB**	**17.23**	**221**	⇓*e*P	**P**	**21 57 13.9**	**-1.2**
	comp=Z,52nm,0.9s						
DHBB				*i* S	**S**	**22 00 25.4**	**+1.4**
LBOS		**17.31**	**218**	⇑*e*P	**P**	**21 57 14.5**	**-1.7**
LBOS				*i* S	**S**	**22 00 25.9**	**-0.1**
ARTV	**Artvin**	**17.47**	**322**	*i* P	**P**	**21 57 19.3**	**+1.3**
PTK	**Pertek**	**17.56**	**312**	*e*P	**P**	**21 57 17.1**	**-2.1**
ELZG	**Elazig**	**17.62**	**311**	*i* P	**P**	**21 57 18.8**	**-1.2**
FKH	**Fakeheh**	**17.88**	**295**	*e*Pn	**P**	**21 57 25.3**	**+2.1**
MALT	**Malatya**	**17.91**	**309**	*e*P	**P**	**21 57 21.0**	**-2.5**
GZT	**Gaziantep**	**18.07**	**306**	*i* P	**P**	**21 57 24.5**	**-1.1**
KSHT	**Keshet**	**18.09**	**291**	P	**P**	**21 57 27.4**	**+1.6**
DSI	**Dead Sea**	**18.25**	**286**	P	**P**	**21 57 29.1**	**+1.2**
HWQ	**Hawqa**	**18.25**	**295**	*e*Pn	**P**	**21 57 30.2**	**+2.3**
MMLI	**Mount Malkishu**	**18.32**	**289**	P	**P**	**21 57 29.2**	**+0.4**
ZFRI	**Zfri**	**18.35**	**283**	P	**P**	**21 57 30.6**	**+1.5**
KELT	**Kelkit**	**18.36**	**315**	*i* P	**P**	**21 57 31.1**	**+1.9**
BHL	**Bhannes**	**18.40**	**294**	*e*Pn	**P**	**21 57 31.3**	**+1.5**
HRFI	**Mount Harif**	**18.45**	**281**	P	**P**	**21 57 31.3**	**+0.8**
TRBA	**At Turbah**	**18.46**	**219**	⇑*e*P	**P**	**21 57 28.6**	**-2.0**
PRNI	**Paran**	**18.49**	**282**	P	**P**	**21 57 32.7**	**+1.8**
HTY	**Hatay**	**18.65**	**301**	*e*P	**P**	**21 57 31.6**	**-1.2**
COBT	**Iskenderun**	**18.70**	**302**	*i* P	**P**	**21 57 31.7**	**-1.7**
KMTI	**Karmit**	**18.73**	**281**	P	**P**	**21 57 35.0**	**+1.2**
KKAR	**Karatay Array**	**19.05**	**34**	P	**P**	**21 57 35.4**	**-2.1**
KKAR				pmax	pmax		
	comp=Z,34nm,0.9s						
KIV	**Kislovodsk**	**19.15**	**329**	*e*P	**P**	**21 57 39.7**	**+1.1**
KIV				*e*S	**S**	**22 01 00.8**	**-6.6**
KIV				pmax	pmax		
	comp=Z,32nm,1.0s						
KIV				MLR	MLR		
	comp=Z,104nm,10.0s						
KIV	**Kislovodsk**	**19.15**	**329**	*e*P	**P**	**21 57 36.1**	**-2.5**
	comp=Z,41nm,0.9s						
KIV	**Kislovodsk**	**19.15**	**329**	*e*P	**P**	**21 57 36.1**	**-2.5**
	comp=Z,41nm,0.9s						
KOZT	**Kozan**	**19.38**	**304**	*e*P	**P**	**21 57 40.2**	**-1.0**
GRSN	**GIRESUNGRSN**	**19.42**	**316**	*i* P	**P**	**21 57 39.6**	**-2.0**
SVSK	**Karacayir**	**19.68**	**312**	*e*P	**P**	**21 57 44.8**	**+0.3**
KAD	**Karad**	**19.85**	**119**	*e*P	**P**	**21 57 45.8**	**-0.7**
KARA	**Karaisali**	**19.87**	**303**	*e*P	**P**	**21 57 47.2**	**+0.7**
BHPL	**Bhopal**	**19.87**	**99**	*e*P	**P**	**21 57 47.2**	**+0.5**
BHPL				AMb	AMB	21 57 51.5	
	comp=Z,41nm,0.8s						
GOF	**Gofitskoye**	**19.88**	**332**	*e*P	**P**	**21 57 45.9**	**-0.7**
BNN	**Bunyan**	**19.94**	**308**	*e*P	**P**	**21 57 48.0**	**+0.6**
KSH	**Kashi**	**20.10**	**50**	*e*P	**P**	**21 57 47.0**	**-2.0**
KSH				AMB	AMB		
	comp=Z,90nm,3.3s						
KSH				LR	LR		
	comp=N,970nm,7.9s						
KSH				LR	LR		
	comp=E,830nm,10.0s						
AML	**Almayashu**	**20.11**	**41**	P	**P**	**21 57 47.8**	**-1.3**
	SNR=40						
MERS	**Mersin**	**20.13**	**301**	*e*P	**P**	**21 57 50.9**	**+1.6**
SOC	**Sochi**	**20.32**	**324**	*e*P	**P**	**21 57 51.7**	**+0.5**
SOC				*e*		21 58 02.2	
SOC				*e*		21 58 16.6	
SOC				*e*S	**S**	**22 01 27.3**	**-4.9**
SOC				pmax	pmax		
	comp=Z,85nm,1.0s						
SOC				pmax	pmax		
	comp=Z,58nm,0.8s						
SOC				MLR	MLR		
	comp=Z,220nm,11.0s,MS3.8						
EKS2	**Erkin-Say**	**20.49**	**40**	P	**P**	**21 57 52.5**	**-0.6**
	SNR=64						
CSS	**Prodhromos**	**20.51**	**295**	*e*P	**P**	**21 57 53.9**	**+0.5**
	comp=Z,28nm,0.9s						
CSS	**Prodhromos**	**20.51**	**295**	*e*P	**P**	**21 57 53.9**	**+0.5**
	comp=Z,28nm,0.9s						
ATD	**Arta Tunnel**	**20.55**	**220**	P	**P**	**21 57 56.0**	**+2.1**
	comp=Z,70nm,1.0s,baz=10,slow=10,SNR=20						
ATD				S	**S**	**22 01 45.3**	**+8.2**
	comp=Z,2.9nm,0.6s,baz=115,slow=22,SNR=1.9						
ATD				LR	LR	22 05 58.0	
	comp=Z,162nm,20.5s,MS3.4,baz=38,slow=37						
ATD	**Arta Tunnel**	**20.55**	**220**	P	**P**	**21 57 56.0**	**+2.1**
ATD				LR	LR	22 05 58.0	
IKL	**Isikli**	**20.57**	**299**	*e*P	**P**	**21 57 57.0**	**+3.1**
UCH	**Uchtor**	**20.64**	**42**	P	**P**	**21 57 53.8**	**-0.9**
	SNR=19						
AAK	**Ala-Archa**	**20.88**	**41**	P	**P**	**21 57 56.7**	**-0.4**
	SNR=29						
KVT	**Kavak**	**20.90**	**314**	*e*P	**P**	**21 57 56.4**	**-1.0**
KVT	**Kavak**	**20.90**	**314**	*e*P	**P**	**21 57 56.3**	**-1.0**
KZA	**Kyzart**	**21.00**	**43**	P	**P**	**21 57 57.8**	**-0.4**
	SNR=23						
KBK	**Karagaybulak**	**21.16**	**42**	P	**P**	**21 57 59.9**	**0.0**
	SNR=19						
CHMS	**Chumysh**	**21.26**	**41**	P	**P**	**21 58 03.9**	**+3.0**
	SNR=6.9						
USP	**Ospenovka**	**21.28**	**40**	P	**P**	**21 57 59.9**	**-1.2**
	SNR=23						
CDAG	**Cicekdag**	**21.31**	**308**	*i* P	**P**	**21 58 00.8**	**-0.7**
CORM	**Corum**	**21.39**	**310**	*e*P	**P**	**21 57 59.9**	**-2.3**
AB31	**Akbulak array**	**21.39**	**7**	*i* P	**P**	**21 58 01.7**	**-0.5**
AB31				pmax	pmax		
	comp=Z,75nm,0.8s,mb5.1						
AB31	**Akbulak array**	**21.39**	**7**	*i* P	**P**	**21 58 01.7**	**-0.5**
	comp=Z,75nm,0.8s,mb5.1						
CTKT	**Corum**	**21.49**	**311**	*i* P	**P**	**21 58 04.1**	**+0.8**
KAMT	**Kaman**	**21.66**	**307**	*e*P	**P**	**21 58 05.8**	**+0.8**
TKM2	**Tokmak 2**	**21.70**	**42**	P	**P**	**21 58 05.0**	**-0.4**
	SNR=13						
TKM2	**Tokmak 2**	**21.70**	**42**	P	**P**	**21 58 04.8**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,28nm,0.9s,mb4.7						
BOYT	**Boyabat**	**21.82**	**313**	*i* P	**P**	**21 58 06.3**	**-0.2**
BR131	**Keskin Array S**	**21.86**	**308**	*e*P	**P**	**21 58 08.2**	**+1.2**
	comp=Z,23nm,0.5s,mb4.9						
BR131	**Keskin Array S**	**21.86**	**308**	*e*P	**P**	**21 58 08.2**	**+1.2**
	comp=Z,23nm,0.5s,mb4.9						
BRTR	**Keskin Array B**	**21.86**	**308**	P	**P**	**21 58 08.7**	**+1.7**
	comp=Z,59nm,0.8s,mb5.1,baz=128,slow=13,SNR=98						
BRTR				PcP	PcP	22 02 05.2	-1.4
	comp=Z,2.2nm,0.8s,baz=121,slow=3.7,SNR=4.6						
BRTR				S	**S**	**22 02 11.1**	**+9.5**
	comp=Z,0.4

VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
DMN Daman 25.70 84 *e*P **P 21 58 44.9 +0.5**
comp=E,97nm,1.0s,mb5.3
AKS Akhisar 25.80 302 *e*P **P 21 58 42.6 -2.5**
KKN Kakani 25.83 84 *e*P **P 21 58 46.0 +0.4**
comp=E,102nm,0.7s,mb5.5
KKN Kakani 25.83 84 *e*P **P 21 58 46.0 +0.4**
KKN pmax pmax
comp=E,51nm,0.7s,mb5.2
PKI Pulchoki 25.97 84 *e*P **P 21 58 47.1 +0.2**
comp=E,106nm,0.8s,mb5.4
PKI Pulchoki 25.97 84 *e*P **P 21 58 47.1 +0.2**
PKI pmax pmax
comp=E,53nm,0.8s,mb5.1
IZM Izmir 26.08 301 *e*P **P 21 58 44.5 -3.3**
BNT Bandirma 26.17 305 *e*P **P 21 58 44.1 -4.5**
BLCB Balcova 26.25 301 *e*P **P 21 58 47.9 -1.4**
GUN Gumba 26.34 83 *e*P **P 21 58 50.8 +0.5**
comp=E,239nm,0.8s,mb5.8
VRSR Storozhevoye 26.39 336 *e*P **P 21 58 50.3 -0.3**
VRSR pmax pmax
comp=E,3.0nm,0.9s,mb3.8
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,3.0nm,0.6s
JIRN Jiri 26.65 84 *e*P **P 21 58 53.2 +0.1**
comp=E,60nm,0.7s,mb5.3
ZRNK Zerenda 26.68 18 *e*P **P 21 58 52.7 -0.4**
ZRNK pmax pmax
comp=E,22nm,0.8s,mb4.7
ZRNK Zerenda 26.68 18 *e*P **P 21 58 52.7 -0.4**
comp=E,22nm,0.8s,mb4.7
VOR Voronezh 26.81 336 *e*P **P 21 58 51.0 -3.4**
VOR pmax pmax
comp=E,80nm,1.0s,mb5.2
VOR pmax pmax
comp=N,90nm,1.2s
VOR pmax pmax
comp=E,70nm,1.2s
VOSK Vostochnaya 27.04 20 P **P 21 58 55.6 -0.9**
VOSK pmax pmax
comp=E,27nm,0.8s,mb4.8
THR1 Thera Island 27.07 296 *e*P **P 21 58 57.5 +0.6**
BRVK Borovoye 27.13 19⇑ *e*P **P 21 58 56.9 -0.4**
BRVK pmax pmax
comp=E,26nm,0.8s,mb4.8
BRVK Borovoye 27.13 19⇑ *e*P **P 21 58 56.9 -0.4**
comp=E,26nm,0.8s,mb4.8
BRVK Borovoye 27.13 19⇑ *e*P **P 21 58 56.9 -0.4**
comp=E,26nm,0.8s,mb4.8
BVA0 Borovoye Array 27.13 19 *i* P **P 21 58 56.5 -0.8**
BVA0 pmax pmax
comp=E,8.0nm,0.8s,mb4.3
BVAR Borovoye Array 27.13 19 P **P 21 58 56.9 -0.4**
comp=E,50nm,0.7s,mb5.2,baz=203,slow=8.5,SNR=263
BVAR PcP PcP 22 02 17.5 -0.2
comp=Z,4.4nm,0.5s,baz=211,slow=2.6,SNR=11
BVAR S **S 22 03 32.5 +0.9**
comp=Z,1.1nm,0.8s,baz=210,slow=24,SNR=2.2
BVAR ScP 22 05 55.9
comp=Z,0.9nm,0.7s,baz=207,slow=3.3,SNR=4.0
BVAR Borovoye Array 27.13 19 P **P 21 58 56.9 -0.4**
BVAR 22 02 17.5
BVAR S **S 22 03 32.5 +0.9**
BVAR pmax pmax
comp=Z,51nm,0.7s
BVAR pmax pmax
comp=Z,4.0nm,0.5s
BVAR smax
comp=E,1.0nm,0.9s
BVAR pmax pmax
comp=E,1.0nm,0.7s
BVAR Borovoye Array 27.13 19 PcP PcP 22 02 17.5 -0.3
BOK Bokaro 27.16 92 *e*P **P 21 58 58.0 +0.1**
IDI Anoyia 27.38 293 P **P 21 59 00.6 +0.8**
comp=E,14nm,0.6s,mb4.7,baz=122,slow=12,SNR=8.9
IDI PcP PcP 22 02 19.6 +1.0
comp=E,8.4nm,0.7s,baz=155,slow=4.5,SNR=4.8
IDI Anoyia 27.38 293 PcP PcP 22 02 19.5 +0.9
EDRB Edirne 27.51 308 *e*P **P 21 58 57.9 -3.0**
MKAR Makanchi Array 27.82 41 P **P 21 59 03.1 -0.6**
comp=E,5.4nm,0.5s,mb4.4,baz=222,slow=7.8,SNR=64
MKAR Makanchi Array 27.82 41 P **P 21 59 03.1 -0.5**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
CFR Carcaliu 27.96 315 ⇓P **P 21 59 04.2 -0.8**
KURK Kurchatov 28.38 31 *e*P **P 21 59 08.2 -0.4**
KURK pmax pmax
comp=Z,11nm,0.8s,mb4.5
KURK Kurchatov 28.38 31 *e*P **P 21 59 08.2 -0.4**
comp=Z,10nm,0.8s,mb4.5
KURK Kurchatov 28.38 31 *e*P **P 21 59 08.2 -0.4**
comp=Z,10nm,0.8s,mb4.5
ARU Arti 28.42 3⇑ *i*P **P 21 59 08.0 -0.9**
ARU *e* 22 00 03.0
ARU *e*PPP PPP 22 00 15.8 +2.7
ARU Arti 28.42 3 *e*P **P 21 59 07.7 -1.2**
comp=Z,14nm,0.8s,mb4.6
PAIG Paliouri 29.16 302 *e*P **P 21 59 13.7 -2.0**
VRI Vrincioaia 29.16 315 ⇓P **P 21 59 17.5 +1.9**
VRI Vrincioaia 29.16 315 ⇓P **P 21 59 17.5 +1.9**
MLR Muntele Rosu 29.48 314 P **P 21 59 19.6 +1.1**
comp=Z,8.0nm,0.7s,mb4.6,baz=64,slow=9.2,SNR=14
MLR PcP PcP 22 02 23.7 0.0
comp=Z,2.2nm,0.6s,baz=168,slow=13,SNR=3.6
MLR LR LR 22 14 03.1
comp=Z,269nm,18.5s,MS3.9,baz=133,slow=42
MLR Muntele Rosu 29.48 314 P **P 21 59 19.6 +1.1**
MLR 22 02 23.7
MLR pmax pmax
comp=Z,8.0nm,0.7s
MLR pmax pmax
comp=Z,2.0nm,0.6s
MLR MLR MLR
comp=Z,269nm,18.5s
MLR Muntele Rosu 29.48 314 ⇓P **P 21 59 19.8 +1.3**
MLR Muntele Rosu 29.48 314 ⇓P **P 21 59 19.8 +1.3**
SRS Serrai 29.53 305 *e*P **P 21 59 19.7 +0.8**
WMQ Urumqi 29.86 50⇑ *i*P **P 21 59 22.0 +0.1**
WMQ PP PP 22 00 20.8 +1.2
WMQ PCP PcP 22 02 24.5 -0.2
WMQ *e*S S **22 04 12.3 -3.1**
WMQ SS SS 22 05 50.0 -2.1
WMQ SCS ScS 22 09 54.0 -2.7
WMQ AMB AMB
comp=Z,20nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,210nm,4.6s
WMQ LR LR
comp=N,3μm,24.0s,MS5.1
WMQ LR LR
comp=E,4μm,22.0s,MS5.1
WMQ LR LR
comp=Z,5μm,20.0s,MS5.1
AGG Agios Georgios 29.98 300 *e*P **P 21 59 22.9 -0.1**
VOIR 30.03 314⇑P **P 21 59 24.0 +0.6**
VOIR 30.03 314⇑P **P 21 59 24.0 +0.7**
KNT Kendrikon 30.05 305 *e*P **P 21 59 23.9 +0.4**
GRG Griva 30.36 304 *e*P **P 21 59 26.8 +0.5**
AKASG Malin Array Be 30.38 325 P **P 21 59 25.7 -0.7**
comp=Z,18nm,0.7s,mb4.9,baz=131,slow=7.7,SNR=85
AKASG PcP PcP 22 02 25.2 -0.7
comp=Z,2.0nm,0.3s,baz=103,slow=3.1,SNR=9.3
AKASG Malin Array Be 30.38 325 P **P 21 59 25.7 -0.7**
AKASG 22 02 25.2
AKASG pmax pmax
comp=Z,18nm,0.7s
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 30.38 325 PcP PcP 22 02 25.2 -0.7
OBN Obninsk 30.49 338*c* *i*P **P 21 59 27.4 0.0**
OBN *e* 21 59 44.4
OBN *e* 22 02 25.2
OBN pmax pmax
comp=Z,57nm,0.9s,mb5.3
OBN MLR MLR
comp=Z,100nm,12.0s,MS3.7
OBN Obninsk 30.49 338 *e*P **P 21 59 27.1 -0.3**
comp=Z,72nm,1.1s,mb5.3
OBN Obninsk 30.49 338 *i* P **P 21 59 27.4 0.0**
comp=Z,57nm,0.9s,mb5.3

MOS Moscow 30.67 340 *e*P **P 21 59 28.5 -0.5**
MOS pmax pmax
comp=Z,86nm,1.3s,mb5.4
LSA Lhasa 30.74 78 *e*P **P 21 59 30.0 +0.2**
LSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
LSA Lhasa 30.74 78 *e*P **P 21 59 30.0 +0.2**
comp=Z,6.9nm,0.7s,mb4.6
LSA Lhasa 30.74 78 *e*P **P 21 59 30.0 +0.2**
comp=Z,6.9nm,0.7s,mb4.6
BURAR Bucovina Array 30.90 318⇑P **P 21 59 31.0 0.0**
BURAR Bucovina Array 30.90 318⇑P **P 21 59 31.0 0.0**
MEV Metsovon 30.97 301 *e*P **P 21 59 34.7 +3.0**
FNA Florina 31.07 303 *e*P **P 21 59 33.2 +0.5**
SOKR Solikamsk 31.52 1⇓ *i*P **P 21 59 36.9 +0.5**
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.2
SOKR MLR MLR
comp=Z,350nm,20.0s,MS4.0
IGT Igoumenitsa 31.60 301 *e*P **P 21 59 37.2 -0.1**
BZS Buzias 32.33 312⇑P **P 21 59 43.9 +0.3**
KOLS Kolonicke sedl 32.35 318 *i* P **P 21 59 52.3 +0.7**
KOLS *e* pP 22 00 03.3 +2.0
NVS Novosibirsk 33.25 29⇑ *i*P **P 21 59 50.0 -1.6**
NVS *e* 22 01 02.8
NVS *e* 22 02 31.8
NVS *e*S **S 22 05 08.1 -0.3**
NVS pmax pmax
comp=Z,32nm,1.2s,mb5.1
NVS pmax pmax
comp=N,20nm,1.3s
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS smax
comp=N,17nm,1.7s
KWP Kalwaria 33.32 319 *e*P **P 21 59 51.7 -0.5**
KWP pmax pmax
comp=Z,48nm,1.1s,mb5.3
KWP Kalwaria 33.32 319 *e*P **P 21 59 51.7 -0.5**
comp=Z,48nm,1.1s,mb5.3
KWP Kalwaria 33.32 319 *e*P **P 21 59 51.7 -0.5**
comp=Z,48nm,1.1s,mb5.3
STHS Stebnicka Huta 34.07 318 *e*P **P 21 59 57.0 -1.6**
STHS *e*sP pP 22 00 03.4 -4.9
KECS Kecovo 34.13 316 *e*P **P 21 59 58.6 -0.6**
KMBO Kilima Mbogo 34.15 215 P **P 22 00 02.4 +2.7**
comp=Z,2.6nm,0.7s,mb4.3,baz=28,slow=13,SNR=9.8
KMBO Kilima Mbogo 34.15 215 P **P 22 00 02.4 +2.7**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 34.15 215 P **P 22 00 02.4 +2.7**
PSZ Piszkesteto 34.27 315 *e*P **P 22 00 00.4 0.0**
PSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
PSZ Piszkesteto 34.27 315 *e*P **P 22 00 00.4 0.0**
comp=Z,6.6nm,0.8s,mb4.6
PSZ Piszkesteto 34.27 315 *e*P **P 22 00 00.4 0.0**
comp=Z,6.6nm,0.8s,mb4.6
TIP Timpagrande 34.29 299 *e*P **P 22 00 01.2 +0.6**
TIP Timpagrande 34.29 299 *e*P **P 22 00 01.2 +0.6**
PKSM Moragy 34.48 312⇓ *e*P **P 22 00 02.6 +0.4**
KLMR Klimovskoe 34.64 346 *e*P **P 22 00 01.8 -1.6**
KLMR *e* 22 01 22.0
KLMR pmax pmax
comp=Z,20nm,1.3s,mb4.9
VYHS Vyhne 35.15 316 *e*P **P 22 00 08.0 +0.1**
OJC Ojcow 35.26 319 *e*P **P 22 00 08.9 0.0**
SUW Suwalki 35.32 326 *e*P **P 22 00 09.0 -0.4**
SUW pmax pmax
comp=Z,157nm,1.0s,mb5.9
SUW Suwalki 35.32 326 *e*P **P 22 00 09.0 -0.4**
comp=Z,156nm,1.0s,mb5.9
OKC Ostrava-Krasne 36.08 318 *e*P **P 22 00 14.4 -1.4**
ZST Bratislava 36.12 315 *e*P **P 22 00 16.6 +0.4**
ZST *e*L 22 18 18.0
KOGS Kog 36.13 311 *i* P **P 22 00 16.6 +0.4**
KOGS *i* PcP PcP 22 02 42.6 +0.7
CRES Cresnjev 36.49 310 *i* P **P 22 00 19.9 +0.6**
BOJS Bojanci 36.55 310 *e*P **P 22 00 20.4 +0.6**
VSU Vasula 36.57 334*c* *i*P **P 22 00 19.9 +0.1**
VSU Vasula 36.57 334 *i* P **P 22 00 19.9 +0.1**
ARSA Arzberg 36.84 312 *i* P **P 22 00 22.7 +0.5**
comp=Z,28nm,1.2s,mb5.0,SNR=14
CEY Cerknica 37.17 310 *i* P **P 22 00 25.8 +0.8**
AQU L'Aquila 37.24 304 *e*P **P 22 00 26.4 +0.7**
AQU pmax pmax
comp=Z,48nm,0.9s,mb5.3
AQU L'Aquila 37.24 304 *e*P **P 22 00 26.4 +0.8**
comp=Z,48nm,0.9s,mb5.3
AQU L'Aquila 37.24 304 *e*P **P 22 00 26.4 +0.7**
comp=Z,48nm,0.9s,mb5.3
DPC Dobruska-Polom 37.36 318 *e*P **P 22 00 26.2 -0.4**
TREC Trest 37.50 316 *e*P **P 22 00 28.4 +0.7**
KSP Ksiaz 37.56 318 *e*P **P 22 00 28.6 +0.4**
UPC Upice 37.60 318 *e*P **P 22 00 28.7 +0.1**
UPC *ex* x 22 00 57.6
GTA Gaotai 37.81 61⇑ *i*P **P 22 00 31.0 +0.5**
GTA PP PP 22 02 03.5 +3.3
GTA PCS 22 06 34.5
GTA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GTA AMB AMB
comp=Z,100nm,6.1s
GTA LR LR
comp=N,150nm,12.2s,MS4.2
GTA LR LR
comp=E,190nm,14.5s,MS4.2
GTA LR LR
comp=Z,250nm,14.5s,MS4.2
MOA Molln 37.83 313 *i* P **P 22 00 30.9 +0.3**
comp=Z,84nm,1.6s,mb5.2,SNR=34
MOA Molln 37.83 313 *i* P **P 22 00 30.9 +0.3**
comp=Z,84nm,1.5s,mb5.2
KBA Koelnbreinsper 38.23 312 *i* P **P 22 00 34.4 +0.5**
comp=Z,42nm,1.2s,mb5.0,SNR=22
KBA Koelnbreinsper 38.23 312 *i* P **P 22 00 34.4 +0.6**
KBA pmax pmax
comp=Z,42nm,1.2s,mb5.0
PRU Pruhonice 38.31 316 *e*P **P 22 00 34.4 -0.1**
KRAR Krasnoyarsk 38.35 33 *i* P **P 22 00 34.8 0.0**
JOF Joensuu 38.43 342 *e*p **P 22 00 35.5 +0.2**
comp=Z,5.0nm,0.3s,mb4.7
PVCC Panska Ves 38.47 317 *e*P **P 22 00 35.7 -0.1**
GEC2 GERESS Array S 38.47 314 *e*P **P 22 00 36.0 +0.1**
GEC2 pmax pmax
comp=Z,17nm,0.9s,mb4.8
GEC2 GERESS Array S 38.47 314 *e*P **P 22 00 36.0 +0.1**
comp=Z,17nm,0.9s,mb4.8
GERES GERESS Array B 38.47 314 P **P 22 00 36.0 +0.1**
comp=Z,6.3nm,0.6s,mb4.5,baz=112,slow=7.2,SNR=40
GERES PcP PcP 22 02 49.3 +0.2
comp=Z,4.5nm,0.8s,baz=153,slow=3.0,SNR=9.1
GERES LR LR 22 19 27.1
comp=Z,99nm,18.1s,MS3.7,baz=298,slow=41
GERES GERESS Array B 38.47 314 P **P 22 00 36.0 +0.1**
GERES 22 02 49.3
GERES pmax pmax
comp=Z,6.0nm,0.6s
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES MLR MLR
comp=Z,99nm,18.2s
GERES GERESS Array B 38.47 314 P **P 22 00 36.0 +0.1**
GERES PcP PcP 22 02 49.3 +0.2
GERES LR LR 22 19 27.1
GERES GERESS Array B 38.47 314 PcP PcP 22 02 49.3 +0.2
KHC Kasperske Hory 38.63 315 *e*P **P 22 00 37.3 +0.1**
KHC x x 22 00 44.0
KHC Kasperske Hory 38.63 315 *e*P **P 22 00 37.3 +0.1**
KHC *e* 22 00 44.0
FINES FINESS Array B 38.90 338 P **P 22 00 39.5 +0.3**
comp=Z,15nm,0.7s,mb4.8,baz=139,slow=10,SNR=74
FINES PcP PcP 22 02 49.4 -0.9
comp=Z,1.1nm,0.4s,baz=146,slow=5.0,SNR=3.4
FINES FINESS Array B 38.90 338 P **P 22 00 39.6 +0.3**
FINES 22 02 49.4
FINES pmax pmax
comp=Z,15nm,0.7s
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 38.90 338 P **P 22 00 39.5 +0.2**

FINES FINESS Array B 38.90 338 PcP PcP 22 02 49.4 -0.9
BRG Berggiesshubel 38.96 318 *e*P **P 22 00 40.0 +0.1**
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.5
BRG Berggiesshubel 38.96 318 *e*P **P 22 00 40.0 +0.1**
comp=Z,11nm,1.0s,mb4.5
BRG Berggiesshubel 38.96 318 *e*P **P 22 00 40.0 +0.1**
comp=Z,11nm,1.0s,mb4.5
WET Wettzell 39.08 315 *e*P **P 22 00 40.5 -0.4**
WET pmax pmax
comp=Z,14nm,1.1s,mb4.6
WET Wettzell 39.08 315 *e*P **P 22 00 40.5 -0.4**
comp=Z,14nm,1.1s,mb4.6
KAF Kangasniemi 39.31 338 *e*p **P 22 00 42.8 +0.2**
comp=Z,3.1nm,0.4s,mb4.4
KAF Kangasniemi 39.31 338 *e*P **P 22 00 42.8 +0.2**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
WATA Walderalm 39.46 311⇑ *i*P **P 22 00 43.8 -0.2**
comp=Z,29nm,1.0s,mb5.0,SNR=9.8
WATA Walderalm 39.46 311⇑ *i*P **P 22 00 43.8 -0.3**
WATA pmax pmax
comp=Z,29nm,1.0s,mb5.0
NKC Novy Kostel 39.66 316 *e*P **P 22 00 46.6 +0.9**
CLL Collm 39.67 318⇑P **P 22 00 46.2 +0.5**
comp=Z,logA/T=1.2,mb4.7
CLL *i* 22 00 50.3
CLL *e*PP PP 22 02 23.0 +2.2
CLL Collm 39.67 318⇑ *i*P **P 22 00 46.2 +0.5**
CLL pmax pmax
comp=Z,16nm,1.1s,mb4.7
CLL Collm 39.67 318⇑ *i*P **P 22 00 46.2 +0.5**
comp=Z,16nm,1.1s,mb4.7
CLL *i* pP pP 22 01 18.6 +23
SQTA Sankt Quirin 39.68 311 *i* P **P 22 00 45.8 -0.1**
comp=Z,18nm,1.0s,mb4.8,SNR=36
SQTA Sankt Quirin 39.68 311 *i* P **P 22 00 45.8 -0.1**
SQTA pmax pmax
comp=Z,19nm,1.0s,mb4.8
VLC Villacollemand 39.69 306 *e*P **P 22 00 46.9 +0.9**
comp=Z,34nm,0.9s,mb5.1
MOTA Moosalm 39.77 311⇑ *i*P **P 22 00 46.2 -0.4**
comp=Z,29nm,1.1s,mb4.9,SNR=30
MOTA Moosalm 39.77 311⇑ *i*P **P 22 00 46.2 -0.5**
MOTA pmax pmax
comp=Z,29nm,1.1s,mb4.9
FUR Furstenfeldbru 39.85 313 *e*P **P 22 00 47.6 +0.3**
FUR pmax pmax
comp=Z,17nm,0.9s,mb4.8
FUR Furstenfeldbru 39.85 313 *e*P **P 22 00 47.6 +0.3**
comp=Z,17nm,0.9s,mb4.8
VSL Villasalto 40.02 299 *e*P **P 22 00 50.3 +1.5**
comp=Z,53nm,0.9s,mb5.3
VSL Villasalto 40.02 299 *e*P **P 22 00 50.3 +1.5**
comp=Z,53nm,0.9s,mb5.3
BSD Bornholm Skovb 40.05 324⇑ *i*P **P 22 00 47.9 -1.0**
comp=Z,73nm,0.8s,mb5.5
BSD *i* 22 00 52.0
BSD Bornholm Skovb 40.05 324⇑ *i*P **P 22 00 47.9 -1.0**
BSD pmax pmax
comp=Z,73nm,0.8s,mb5.5
GRA1 Grafenberg Arr 40.27 315 *e*P **P 22 00 51.2 +0.4**
comp=Z,52nm,1.1s,mb5.2
GRA1 *e*PcP PcP 22 02 55.3 +0.5
GRF Grafenberg Arr 40.27 315 *e*P **P 22 00 51.2 +0.4**
GRF *e* 22 02 55.3
GRF pmax pmax
comp=Z,52nm,1.1s,mb5.2
GRF Grafenberg Arr 40.27 315 *e*P **P 22 00 51.2 +0.4**
GRF *e* 22 02 55.3
GRF pmax pmax
comp=Z,52nm,1.1s,mb5.2
GRF Grafenberg Arr 40.27 315 *e*P **P 22 00 51.2 +0.4**
comp=Z,52nm,1.1s,mb5.2
GRF *e*PcP PcP 22 02 55.3 +0.5
MOX Moxa 40.29 316 *i* P **P 22 00 51.2 +0.2**
MOX Moxa 40.29 316 *e*P **P 22 00 51.2 +0.2**
PGF Pioggiola 40.50 304 *e*P **P 22 00 51.4 -1.4**
DAVA Damuels 40.58 311 *i* P **P 22 00 53.2 -0.1**
comp=Z,56nm,1.1s,mb5.1,SNR=62
DAVA Damuels 40.58 311 *i* P **P 22 00 53.2 -0.1**
comp=Z,56nm,1.1s,mb5.1
MOY Mondy 40.94 42 *e*P **P 22 00 56.9 +0.6**
MOY pmax pmax
comp=Z,28nm,1.8s,mb4.6
LZH Lanzhou 40.98 66 *e*P **P 22 00 56.5 -0.3**
LZH PP PP 22 02 36.0 +1.8
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,90nm,4.5s
LZH LR LR
comp=N,350nm,14.6s
LZH LR LR
comp=Z,420nm,15.3s,MS4.4
STU Stuttgart 41.34 313 *e*P **P 22 00 59.1 -0.5**
STU pmax pmax
comp=Z,15nm,1.1s,mb4.5
STU Stuttgart 41.34 313 *e*P **P 22 00 59.1 -0.5**
comp=Z,15nm,1.1s,mb4.5
STU Stuttgart 41.34 313 *e*P **P 22 00 59.1 -0.5**
comp=Z,15nm,1.1s,mb4.5
CLZ Clausthal 41.39 318 *e*P **P 22 01 01.0 +1.0**
CLZ pmax pmax
comp=Z,42nm,1.2s,mb4.9
CLZ Clausthal 41.39 318 *e*P **P 22 01 01.0 +1.0**
comp=Z,42nm,1.2s,mb4.9
CD2 Chengdu 41.41 74 P **P 22 01 00.3 -0.1**
CD2 PP PP 22 02 41.0 +2.0
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,100nm,5.3s
CD2 LR LR
comp=N,150nm,9.0s
CD2 LR LR
comp=Z,90nm,14.4s,MS3.8
COP Copenhagen 41.58 324 *i* P **P 22 01 02.7 +1.3**
COP Copenhagen 41.58 324 *e*P **P 22 01 02.7 +1.3**
KMI Kunming 41.69 83 P **P 22 01 03.5 +0.7**
KMI AMB AMB
comp=Z,20nm,0.8s,mb4.8
SBF Sospel 41.76 305 *e*P **P 22 01 02.2 -1.0**
comp=Z,73nm,0.9s,mb5.0
SBF Sospel 41.76 305 *e*P **P 22 01 02.2 -1.0**
SBF pmax pmax
comp=Z,37nm,0.9s,mb5.0
TOD Tromm 41.77 314 *e*P **P 22 01 01.8 -1.3**
BFO Black Forest 41.81 312 *e*P **P 22 01 04.1 +0.7**
BFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BFO Black Forest 41.81 312 *e*P **P 22 01 04.1 +0.7**
comp=Z,7.0nm,1.0s,mb4.2
TNS Taunus Mts 42.14 315 *e*P **P 22 01 06.6 +0.5**
TNS pmax pmax
comp=Z,33nm,1.2s,mb4.8
TNS Taunus Mts 42.14 315 *e*P **P 22 01 06.6 +0.5**
comp=Z,33nm,1.2s,mb4.8
LANF Langenberg 42.28 313 *e*P **P 22 01 08.1 +0.8**
FRF La Foret Royal 42.30 305 *e*P **P 22 01 06.4 -1.2**
MBDF Montbardon 42.33 307 *e*P **P 22 01 06.8 -1.0**
comp=Z,25nm,0.8s,mb4.6
MBDF Montbardon 42.33 307 *e*P **P 22 01 06.8 -1.0**
MBDF pmax pmax
comp=Z,12nm,0.8s,mb4.6
LMR La Mourre 42.39 305 *e*P **P 22 01 07.1 -1.2**
comp=Z,31nm,1.1s,mb4.5
LMR La Mourre 42.39 305 *e*P **P 22 01 07.1 -1.2**
LMR pmax pmax
comp=Z,15nm,1.1s,mb4.5
BNI Bardonecchia 42.43 307 *e*P **P 22 01 07.9 -0.7**
BNI pmax pmax
comp=Z,39nm,1.2s,mb4.9
BNI Bardonecchia 42.43 307 *e*P **P 22 01 07.9 -0.7**
comp=Z,39nm,1.2s,mb4.9
BNI Bardonecchia 42.43 307 *e*P **P 22 01 07.9 -0.7**
comp=Z,39nm,1.2s,mb4.9
LPG La Plagne 42.43 308 *e*P **P 22 01 07.7 -0.9**
comp=Z,37nm,0.8s,mb4.8
LPG La Plagne 42.43 308 *e*P **P 22 01 07.7 -0.9**
LPG pmax pmax
comp=Z,18nm,0.8s,mb4.8
LPL La Plagne 42.44 308 *e*P **P 22 01 07.6 -1.1**
comp=Z,31nm,0.7s,mb4.8
LPL La Plagne 42.44 308 *e*P **P 22 01 07.6 -1.1**
LPL pmax pmax

comp=Z,16nm,0.7s,mb4.8
CDF Champ du Feu 42.51 312 *e*P **P 22 01 08.1 -1.1**
NST Nakhon Sawan 42.53 97 P **P 22 01 10.6 +0.8**
comp=Z,53nm,0.7s,mb5.4
ECH Echery 42.55 312 *e*P **P 22 01 08.8 -0.8**
LOMF Lomont 42.63 311 *e*P **P 22 01 10.4 +0.2**
HINF Hinteralfeld 42.69 311 *e*P **P 22 01 09.1 -1.6**
comp=Z,19nm,0.8s,mb4.5
HINF Hinteralfeld 42.69 311 *e*P **P 22 01 09.1 -1.6**
HINF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 42.98 307 *e*P **P 22 01 11.9 -1.2**
ORIF *e*R
comp=Z,140nm,18.8s
CABF La Chapelle 43.02 309 *e*P **P 22 01 12.3 -1.2**
comp=Z,50nm,1.0s,mb4.9
CABF La Chapelle 43.02 309 *e*P **P 22 01 12.3 -1.2**
CABF pmax pmax
comp=Z,25nm,1.0s,mb4.9
HAU Haudompre 43.05 311 *e*P **P 22 01 12.1 -1.6**
comp=Z,11nm,0.6s,mb4.5
HAU *e*R
comp=Z,134nm,20.8s
HAU Haudompre 43.05 311 *e*P **P 22 01 12.1 -1.6**
HAU pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
HAU MLR MLR
comp=Z,130nm,20.8s,MS3.8
SMRF Simiane la Rot 43.11 305 *e*P **P 22 01 13.2 -1.0**
THEF They Montfort 43.33 312 *e*P **P 22 01 15.1 -0.8**
WLF Walferdange 43.47 314 *e*P **P 22 01 16.8 -0.2**
WLF pmax pmax
comp=Z,12nm,0.8s,mb4.7
WLF Walferdange 43.47 314 *e*P **P 22 01 16.8 -0.3**
comp=Z,12nm,0.8s,mb4.7
SONM Songino Array 43.49 49 P **P 22 01 17.6 +0.4**
comp=Z,18nm,0.8s,mb4.8,baz=257,slow=8.6,SNR=126
SONM LR LR 22 19 16.2
comp=Z,102nm,19.3s,MS3.7,baz=238,slow=36
SONM Songino Array 43.49 49 P **P 22 01 17.6 +0.4**
SONM pmax pmax
comp=Z,18nm,0.8s
SONM MLR MLR
comp=Z,102nm,19.3s
NNT Nongplab 43.53 102 P **P 22 01 20.5 +2.5**
MUD Monsted U'grnd 43.56 324⇑ *i*P **P 22 01 18.5 +0.9**
comp=Z,52nm,1.0s,mb5.2
MUD Monsted U'grnd 43.56 324 *i*P **P 22 01 18.5 +0.9**
MUD pmax pmax
comp=Z,52nm,1.0s,mb5.2
WTSB Winterswijk 43.56 317 *e*P **P 22 01 17.9 +0.2**
comp=Z,33nm,1.3s,mb4.9
HGN Heimansgroeve 43.82 315⇑ *e*P **P 22 01 20.7 +0.8**
comp=Z,26nm,1.3s,mb4.8
VIVF Saint-Julien-l 43.83 307 *e*P **P 22 01 18.7 -1.3**
ULN Ulaanbaatar 43.94 49 *e*P **P 22 01 21.1 +0.3**
ULN pmax pmax
comp=Z,31nm,0.8s,mb5.1
ULN Ulaanbaatar 43.94 49 *e*P **P 22 01 21.1 +0.3**
comp=Z,31nm,0.8s,mb5.1
ULN Ulaanbaatar 43.94 49 *e*P **P 22 01 21.1 +0.3**
comp=Z,31nm,0.8s,mb5.1
MEZF Maizieres J'vi 43.99 312 *e*P **P 22 01 20.2 -1.0**
comp=Z,21nm,0.6s,mb4.7
LASF Ste Croix 44.35 305 *e*P **P 22 01 23.1 -1.1**
GIVF Givet 44.40 314 *e*P **P 22 01 24.5 0.0**
NB2 NORSAR Subarra 44.45 331 P **P 22 01 24.3 -0.5**
comp=Z,33nm,0.9s,mb5.1,baz=115,slow=7.9
NB2 NORSAR Subarra 44.45 331 P **P 22 01 24.3 -0.5**
baz=115,slow=7.9
NB2 NORSAR Subarra 44.45 331 P **P 22 01 24.3 -0.5**
NB2 pmax pmax
comp=Z,33nm,0.9s,mb5.1
NOA NORSAR Array B 44.45 331 P **P 22 01 24.3 -0.5**
comp=Z,25nm,0.9s,mb4.9,baz=117,slow=8.0,SNR=46
NOA PcP PcP 22 03 07.5 -1.0
comp=Z,2.1nm,0.8s,baz=107,slow=3.7,SNR=2.1
NOA LR LR 22 21 53.2
comp=Z,96nm,20.8s,MS3.7,baz=100,slow=39
NOA NORSAR Array B 44.45 331 P **P 22 01 24.3 -0.5**
NOA 22 03 07.5
NOA pmax pmax
comp=Z,25nm,0.9s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,96nm,20.8s
NOA NORSAR Array B 44.45 331 P **P 22 01 24.3 -0.5**
NOA PcP PcP 22 03 07.5 -1.0
NOA LR LR 22 21 53.2
NOA NORSAR Array B 44.45 331 PcP PcP 22 03 07.5 -1.0
NAO01 NORSAR Array S 44.51 330 *e*P **P 22 01 24.4 -0.8**
comp=Z,35nm,0.9s,mb5.2
NAO01 NORSAR Array S 44.51 330 *e*P **P 22 01 24.4 -0.8**
comp=Z,35nm,0.9s,mb5.2
SMF Signal de Mont 44.57 309 *e*P **P 22 01 24.9 -1.0**
comp=Z,102nm,1.2s,mb5.2
SMF Signal de Mont 44.57 309 *e*P **P 22 01 24.9 -1.0**
SMF pmax pmax
comp=Z,51nm,1.2s,mb5.2
KONO Kongsberg 44.57 328 *e*P **P 22 01 25.2 -0.6**
LOR Lormes 44.62 310 *e*P **P 22 01 25.0 -1.3**
comp=Z,16nm,0.7s,mb4.7
LOR *e*R
comp=Z,140nm,19.1s
LOR Lormes 44.62 310 *e*P **P 22 01 25.0 -1.3**
LOR pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
LOR MLR MLR
comp=Z,140nm,19.1s,MS3.9
KKTK Khon Kaen 44.63 95 P **P 22 01 26.0 -0.8**
comp=Z,432nm,0.5s
GYA Guiyang 44.79 80 P **P 22 01 27.8 -0.1**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
SSF Saint Saulge 44.84 310 *e*P **P 22 01 27.0 -1.0**
SSF pmax pmax
comp=Z,20nm,0.8s,mb5.0
SSF Saint Saulge 44.84 310 *e*P **P 22 01 27.0 -1.0**
comp=Z,20nm,0.8s,mb5.0
AVF Avril sur Loir 44.92 309 *e*P **P 22 01 27.6 -1.1**
comp=Z,24nm,0.9s,mb4.7
AVF Avril sur Loir 44.92 309 *e*P **P 22 01 27.6 -1.1**
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.7
KEV Kevo 44.96 346 *e*p **P 22 01 29.2 +0.5**
comp=Z,8.7nm,0.5s,mb4.8
KEV Kevo 44.96 346 *e*P **P 22 01 29.2 +0.5**
KEV pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
ETOS Mallorca 45.09 299 P **P 22 01 31.1 +0.9**
comp=Z,2.3nm,0.6s,mb4.2
ETOS Mallorca 45.09 299 P **P 22 01 31.1 +0.9**
comp=Z,2.3nm,0.6s,mb4.2,SNR=7.9
ARCES ARCESS Array B 45.11 345 P **P 22 01 30.6 +0.6**
comp=Z,5.4nm,0.6s,mb4.6,baz=137,slow=8.6,SNR=43
ARCES PcP PcP 22 03 09.5 -1.2
comp=Z,3.0nm,0.6s,baz=117,slow=2.7,SNR=3.5
ARCES LR LR 22 21 30.6
comp=Z,87nm,20.9s,MS3.7,baz=137,slow=38
ARCES ARCESS Array B 45.11 345 P **P 22 01 30.6 +0.6**
ARCES 22 03 09.5
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES MLR MLR
comp=Z,87nm,20.9s
ARCES ARCESS Array B 45.11 345 PcP PcP 22 03 09.5 -1.2
SNART Snartemo 45.22 326 *e*P **P 22 01 31.5 +0.6**
BGF Bois d'Agland 45.24 309 *e*P **P 22 01 30.2 -1.1**
comp=Z,52nm,1.0s,mb5.0
BGF Bois d'Agland 45.24 309 *e*P **P 22 01 30.2 -1.1**
BGF pmax pmax
comp=Z,26nm,1.0s,mb5.0
KTK1 Kautokeino 45.24 344 *e*P **P 22 01 31.5 +0.4**
XAN Xi'an 45.30 69 P **P 22 01 30.8 -1.2**
XAN AP pP 22 01 39.0 -2.9
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
HYF Humbligny 45.45 310 *e*P **P 22 01 31.9 -1.0**
MTLF Montolieu 45.52 304 *e*P **P 22 01 32.3 -1.2**
comp=Z,101nm,1.5s,mb5.2
MTLF Montolieu 45.52 304 *e*P **P 22 01 32.3 -1.2**
MTLF pmax pmax
comp=Z,50nm,1.5s,mb5.2

TCF Toulx Ste Croi 45.66 309 *e*P **P 22 01 33.8 -0.9**
comp=Z,22nm,0.7s,mb4.9
TCF Toulx Ste Croi 45.66 309 *e*P **P 22 01 33.8 -0.9**
TCF pmax pmax
comp=Z,11nm,0.7s,mb4.9
BTO Baotou 45.67 59 *e*P **P 22 01 33.8 -1.0**
CAF Calviac 45.68 307 *e*P **P 22 01 34.3 -0.5**
comp=Z,36nm,1.0s,mb5.0
CAF Calviac 45.68 307 *e*P **P 22 01 34.3 -0.5**
CAF pmax pmax
comp=Z,18nm,1.0s,mb5.0
DOMB Dombas 45.82 331 *e*P **P 22 01 35.9 +0.2**
DOMB AMb AMB 22 01 37.9
comp=Z,26nm,1.1s,mb5.1
DOMB Dombas 45.82 331 *e*P **P 22 01 35.9 +0.2**
comp=Z,26nm,1.1s,mb5.1,SNR=26
NSS Namsos 45.86 335 *e*P **P 22 01 35.2 -0.7**
MOR8 Moi Rana 45.89 338 *e*P **P 22 01 36.0 -0.2**
MOR8 AMb AMB 22 01 37.8
comp=Z,42nm,1.4s,mb5.2
MOR8 Moi Rana 45.89 338 *e*P **P 22 01 36.0 -0.2**
comp=Z,42nm,1.4s,mb5.2
MOR8 Moi Rana 45.89 338 *e*P **P 22 01 36.0 -0.2**
comp=Z,42nm,1.4s,mb5.2,SNR=26
BLS5 Blasjo 45.97 327 *e*P **P 22 01 38.9 +2.0**
EMIR Miracle 46.02 302 P **P 22 01 39.1 +1.6**
comp=Z,1.1nm,0.2s,mb4.4
EMIR Miracle 46.02 302 P **P 22 01 39.1 +1.5**
comp=Z,1.1nm,0.2s,mb4.4,SNR=5.4
ODD1 Odda 46.06 328 *e*P **P 22 01 37.7 +0.1**
ODD1 AMb AMB 22 01 41.1
comp=Z,82nm,0.8s,mb5.7
ODD1 Odda 46.06 328 *e*P **P 22 01 37.7 +0.1**
comp=Z,82nm,0.8s,mb5.7,SNR=26
RJF Les Rejaudoux 46.09 307 *e*P **P 22 01 37.1 -0.9**
comp=Z,50nm,1.0s,mb5.1
RJF Les Rejaudoux 46.09 307 *e*P **P 22 01 37.1 -0.9**
RJF pmax pmax
comp=Z,25nm,1.0s,mb5.1
EPOB Poblet 46.36 302 P **P 22 01 40.7 +0.4**
comp=Z,1.8nm,0.3s,mb4.5
EPOB Poblet 46.36 302 P **P 22 01 40.7 +0.5**
comp=Z,1.8nm,0.3s,mb4.5,SNR=6.7
STOK Stokkvaagen 46.46 338 *e*P **P 22 01 40.6 0.0**
STOK AMb AMB 22 01 43.4
comp=Z,144nm,0.9s,mb5.9
STOK Stokkvaagen 46.46 338 *e*P **P 22 01 40.6 0.0**
comp=Z,144nm,0.9s,mb5.9
STOK Stokkvaagen 46.46 338 *e*P **P 22 01 40.6 0.0**
comp=Z,144nm,0.9s,mb5.9,SNR=25
KMY Karmoy 46.48 327 *e*P **P 22 01 40.9 +0.1**
LFF La Frestale 46.62 307 *e*P **P 22 01 41.5 -0.7**
comp=Z,28nm,0.7s,mb5.0
LFF La Frestale 46.62 307 *e*P **P 22 01 41.5 -0.7**
LFF pmax pmax
comp=Z,14nm,0.7s,mb5.0
MOL Molde 46.69 332 *e*P **P 22 01 46.2 +3.7**
HYA Hoyanger 46.73 329 *e*P **P 22 01 44.3 +1.5**
HYA AMb AMB 22 01 48.4
comp=Z,55nm,0.7s,mb5.6
HYA Hoyanger 46.73 329 *e*P **P 22 01 44.3 +1.5**
comp=Z,55nm,0.7s,mb5.6
HYA Hoyanger 46.73 329 *e*P **P 22 01 44.3 +1.5**
comp=Z,55nm,0.7s,mb5.6,SNR=25
TRO Tromso 46.76 343 *e*P **P 22 01 42.5 -0.6**
HHC Hu-ho-hao-te 46.83 59 *e*P **P 22 01 44.8 +0.9**
HHC PCP PcP 22 03 16.8 -0.3
HHC PP PP 22 03 34.8 +1.0
HHC S **S** **22 08 28.5 -2.8**
HHC SCS ScS 22 11 30.8 -2.4
HHC AMB AMB
comp=Z,20nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,140nm,4.0s
HHC LR LR
comp=N,190nm,16.6s,MS4.4
HHC LR LR
comp=E,250nm,13.1s,MS4.4
HHC LR LR
comp=Z,190nm,13.1s,MS4.2
BER Bergen 46.83 328 *e*P **P 22 01 44.4 +0.8**
BER AMb AMB 22 01 46.1
comp=Z,63nm,1.2s,mb5.4
BER Bergen 46.83 328 *e*P **P 22 01 44.4 +0.8**
comp=Z,63nm,1.2s,mb5.4,SNR=25
EGD Espegrend 46.84 328 *e*P **P 22 01 44.6 +0.8**
EPF Esparros 46.89 304 *e*P **P 22 01 43.3 -1.0**
EGRA Graus 46.91 303 P **P 22 01 45.5 +0.9**
comp=Z,3.1nm,0.6s,mb4.4
EGRA Graus 46.91 303 P **P 22 01 45.5 +1.0**
comp=Z,3.1nm,0.6s,mb4.4,SNR=4.5
ASK Askoy 46.93 328 *e*P **P 22 01 45.0 +0.6**
ASK AMb AMB 22 01 48.7
comp=Z,94nm,1.6s,mb5.5
ASK Askoy 46.93 328 *e*P **P 22 01 45.0 +0.6**
comp=Z,94nm,1.5s,mb5.5
ASK Askoy 46.93 328 *e*P **P 22 01 45.0 +0.6**
comp=Z,94nm,1.6s,mb5.5,SNR=25
ERTA Horta de San J 46.94 301 P **P 22 01 45.3 +0.5**
comp=Z,1.2nm,0.4s,mb4.2
ERTA Horta de San J 46.94 301 P **P 22 01 45.3 +0.6**
comp=Z,1.2nm,0.4s,mb4.1,SNR=5.6
EBIE Bielsa 47.03 303 P **P 22 01 46.4 +0.9**
comp=Z,1.1nm,0.4s,mb4.1
EBIE Bielsa 47.03 303 P **P 22 01 46.4 +0.9**
comp=Z,1.1nm,0.4s,mb4.1,SNR=7.1
MFF Saint Martin d 47.30 309 *e*P **P 22 01 46.2 -1.4**
comp=Z,22nm,1.1s,mb4.7
MFF Saint Martin d 47.30 309 *e*P **P 22 01 46.2 -1.4**
MFF pmax pmax
comp=Z,11nm,1.1s,mb4.7
LDF La Druitiere 47.41 312 *e*P **P 22 01 47.3 -1.1**
comp=Z,28nm,0.7s,mb5.0
LDF La Druitiere 47.41 312 *e*P **P 22 01 47.3 -1.1**
LDF pmax pmax
comp=Z,14nm,0.7s,mb5.0
ETSF Etsaut 47.55 304 *e*P **P 22 01 48.5 -1.1**
comp=Z,25nm,0.9s,mb5.0
ETSF Etsaut 47.55 304 *e*P **P 22 01 48.5 -1.1**
ETSF pmax pmax
comp=Z,12nm,0.9s,mb4.9
EMOS Mosqueruela 47.58 300 P **P 22 01 51.3 +1.4**
comp=Z,1.7nm,0.4s,mb4.4
EMOS Mosqueruela 47.58 300 P **P 22 01 51.3 +1.5**
comp=Z,1.7nm,0.4s,mb4.5,SNR=5.5
FLN La Foliniere 47.66 312 *e*P **P 22 01 49.0 -1.4**
FLN *e*R
comp=Z,104nm,18.5s
GRR Gorron 47.89 311 *e*P **P 22 01 50.8 -1.3**
SJPF Ste Jean 48.03 304 *e*P **P 22 01 52.4 -0.9**
comp=Z,11nm,0.6s,mb4.8
SJPF Ste Jean 48.03 304 *e*P **P 22 01 52.4 -0.9**
SJPF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
IPRE Itoiz 48.14 304 P **P 22 01 55.8 +1.6**
comp=Z,2.1nm,0.3s,mb4.6,SNR=7.9
SGMF Saint Gilles 49.01 311 *e*P **P 22 01 59.8 -1.0**
comp=Z,28nm,0.7s,mb5.1
SGMF Saint Gilles 49.01 311 *e*P **P 22 01 59.8 -1.0**
SGMF pmax pmax
comp=Z,14nm,0.7s,mb5.1
EVIA Vianos 49.28 298 P **P 22 02 04.2 +1.1**
EVIA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
EVIA Vianos 49.28 298 P **P 22 02 04.2 +1.1**
comp=Z,5.8nm,0.6s,mb4.8,SNR=8.0
QUIF Quistinic 49.41 310 *e*P **P 22 02 02.7 -1.2**
comp=Z,57nm,1.0s,mb5.2
QUIF Quistinic 49.41 310 *e*P **P 22 02 02.7 -1.2**
QUIF pmax pmax
comp=Z,29nm,1.0s,mb5.3
ROSF Rostrenen 49.49 311 *e*P **P 22 02 03.4 -1.1**
comp=Z,67nm,1.2s,mb5.2
ROSF Rostrenen 49.49 311 *e*P **P 22 02 03.4 -1.1**
ROSF pmax pmax
comp=Z,34nm,1.2s,mb5.2
ELAN Lanestosa 49.64 304 P **P 22 02 06.1 +0.3**
comp=Z,0.5nm,0.3s,mb4.1,SNR=7.9
BOD Bodaibo 49.77 36 *e*P **P 22 02 05.0 -1.5**
BOD pmax pmax
comp=Z,33nm,1.0s,mb5.3
EBER Berja 49.80 296 P **P 22 02 07.7 +0.6**
comp=Z,5.6nm,0.7s,mb4.7
EBER Berja 49.80 296 P **P 22 02 07.7 +0.7**
comp=Z,5.6nm,0.7s,mb4.7,SNR=5.1
EQES Quesada 49.82 297 P **P 22 02 07.3 +0.1**

comp=Z,4.4nm,0.4s,mb4.8,SNR=10
ESK Eskdalemuir 50.03 320 *e*P **P 22 02 07.4 -1.2**
ESK Eskdalemuir 50.03 320 *e*P **P 22 02 07.4 -1.2**
ECOG Cogollos-Vega 50.28 297 P **P 22 02 10.6 -0.1**
comp=Z,2.6nm,0.3s,mb4.8,SNR=7.9
ESDC Sonseca Array 50.31 300 P **P 22 02 11.0 +0.1**
comp=Z,0.9nm,0.3s,mb4.2,baz=74,slow=7.4,SNR=23
ESDC PcP PcP 22 03 29.9 +0.3
comp=Z,0.4nm,0.4s,baz=51,slow=4.2,SNR=5.0
ESDC Sonseca Array 50.31 300 P **P 22 02 11.1 +0.2**
comp=Z,1.7nm,0.3s,mb4.5,SNR=7.9
ESLA Sonseca Array 50.31 300 *e*P **P 22 02 11.1 +0.2**
comp=Z,0.2nm,0.5s
ESLA Sonseca Array 50.31 300 *e*P **P 22 02 11.1 +0.2**
comp=Z,0.2nm,0.5s
EBAN Banos Encina 50.34 298 P **P 22 02 11.4 +0.2**
EBAN pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
EBAN Banos Encina 50.34 298 P **P 22 02 11.4 +0.3**
comp=Z,7.4nm,0.7s,mb4.8
EBAN Banos Encina 50.34 298 P **P 22 02 11.4 +0.2**
comp=Z,7.4nm,0.7s,mb4.8,SNR=13
GUD Guadarrama 50.36 301 P **P 22 02 11.8 +0.5**
comp=Z,0.8nm,0.4s,mb4.1,SNR=4.9
ERON Agron 50.51 296 P **P 22 02 13.3 +0.9**
comp=Z,16nm,0.9s,mb5.0
ERON Agron 50.51 296 P **P 22 02 13.3 +0.8**
comp=Z,16nm,0.9s,mb5.0,SNR=7.8
ELUQ Luque 50.80 297 P **P 22 02 13.8 -0.8**
ELUQ pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ELUQ Luque 50.80 297 P **P 22 02 13.8 -0.8**
comp=Z,2.4nm,0.4s,mb4.5
ELUQ Luque 50.80 297 P **P 22 02 13.8 -0.8**
comp=Z,2.4nm,0.4s,mb4.5,SNR=6.3
LSZ Lusaka 50.81 216 LR LR 22 24 13.4
comp=Z,96nm,20.3s,MS3.8,baz=73,slow=36
LSZ Lusaka 50.81 216 *e*P **P 22 02 16.3 +1.3**
LSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LSZ MLR MLR
comp=Z,163nm,21.0s,MS4.0
LSZ Lusaka 50.81 216 *e*P **P 22 02 16.3 +1.3**
comp=Z,5.0nm,1.0s,mb4.4
LSZ LR LR
comp=Z,163nm,21.0s,MS4.0
LSZ Lusaka 50.81 216 *e*P **P 22 02 16.3 +1.3**
comp=Z,5.0nm,1.0s,mb4.4
EADA Adamuz 50.96 298 P **P 22 02 16.0 +0.1**
comp=Z,1.0nm,0.4s,mb4.1
EADA Adamuz 50.96 298 P **P 22 02 16.0 +0.1**
comp=Z,1.0nm,0.4s,mb4.1,SNR=9.4
EMIJ Mijas 51.34 296 P **P 22 02 18.2 -0.6**
comp=Z,3.2nm,0.3s,mb4.7
EMIJ Mijas 51.34 296 P **P 22 02 18.2 -0.6**
comp=Z,3.2nm,0.3s,mb4.7,SNR=6.7
TIA Tai'an 51.64 65 P **P 22 02 20.5 -0.5**
TIA AMB AMB
comp=Z,40nm,0.8s,mb5.4
DLF Lyons Farm 51.78 317 *e*P **P 22 02 15.7 -6.1**
EJIF Jimena Fronter 51.91 296 P **P 22 02 22.3 -0.8**
EJIF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
EJIF Jimena Fronter 51.91 296 P **P 22 02 22.3 -0.8**
comp=Z,1.0nm,0.3s,mb4.2
EJIF Jimena Fronter 51.91 296 P **P 22 02 22.3 -0.8**
comp=Z,1.0nm,0.3s,mb4.2,SNR=7.9
ESPR Espera 52.15 296 P **P 22 02 23.9 -1.0**
comp=Z,3.0nm,0.4s,mb4.6
ESPR Espera 52.15 296 P **P 22 02 23.9 -0.9**
comp=Z,3.0nm,0.4s,mb4.6,SNR=11
DCN Croghan 52.23 317 *e*P **P 22 02 21.4 -3.8**
EPON Pontenova 52.34 305 P **P 22 02 26.5 +0.4**
comp=Z,1.0nm,0.5s,mb4.0
EPON Pontenova 52.34 305 P **P 22 02 26.5 +0.3**
comp=Z,1.0nm,0.5s,mb4.0,SNR=7.9
EMIN Mina Concepcio 52.66 298 P **P 22 02 28.2 -0.4**
comp=Z,0.6nm,0.4s,mb3.9
EMIN Mina Concepcio 52.66 298 P **P 22 02 28.2 -0.4**
comp=Z,0.6nm,0.4s,mb3.9,SNR=7.1
EBAD Badajoz 52.77 299 P **P 22 02 29.1 -0.4**
comp=Z,1.8nm,0.7s,mb4.1
EBAD Badajoz 52.77 299 P **P 22 02 29.1 -0.4**
comp=Z,1.8nm,0.7s,mb4.1,SNR=5.6
PVRL Vila Real 52.97 302 *e*P **P 22 02 31.4 +0.5**
PCBR Castelo Branco 52.98 300 *e*P **P 22 02 31.2 +0.2**
comp=Z,40nm,1.2s,mb5.2
ELOB Lobios 53.16 303 P **P 22 02 33.1 +0.8**
comp=Z,0.6nm,0.2s,mb4.1,SNR=7.9
PVIS Viseu 53.18 301 *e*P **P 22 02 33.7 +1.2**
EGRO El Granado 53.33 297 P **P 22 02 32.9 -0.8**
comp=Z,0.7nm,0.3s,mb4.1
EGRO El Granado 53.33 297 P **P 22 02 32.8 -0.8**
comp=Z,0.7nm,0.3s,mb4.1,SNR=7.9
PBEJ Beja 53.55 298 *e*P **P 22 02 34.0 -1.2**
EVO Evora 53.58 299⇑ *i*P **P 22 02 36.0 +0.5**
comp=Z,25nm,0.8s,mb4.9
EVO *e*R
comp=Z,97nm,19.2s
PTOM Tomar 53.72 300 *e*P **P 22 02 36.9 +0.4**
NJ2 Nanjing 53.86 69 *e*P **P 22 02 40.0 +2.3**
NJ2 PCP PcP 22 03 43.5 +0.6
NJ2 S **S** **22 10 01.0 -7.8**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,180nm,6.0s
NJ2 LR LR
comp=N,1μm,23.1s,MS5.0
NJ2 LR LR
comp=E,570nm,25.0s,MS5.0
NJ2 LR LR
comp=Z,300nm,28.8s,MS4.2
DL2 Dalian 54.73 60 P **P 22 02 42.8 -1.1**
DL2 AMB AMB
comp=Z,30nm,1.3s,mb5.2
SNY Shenyang 55.74 57⇓ *i*P **P 22 02 52.3 +1.1**
SNY AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
SSE Sheshan 56.02 70 P **P 22 02 51.3 -2.1**
SSE PP PP 22 04 57.3 -2.5
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,190nm,4.8s
SSE LR LR
comp=Z,40nm,22.7s,MS3.5
CN2 Changchun 56.80 54 *e*P **P 22 02 57.0 -1.8**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
YAK Yakutsk 58.01 32 *e*P **P 22 03 03.9 -3.1**
YAK pmax pmax
comp=Z,22nm,1.1s,mb5.1
YAK Yakutsk 58.01 32 *e*P **P 22 03 03.9 -3.1**
comp=Z,22nm,1.1s,mb5.1
YAK Yakutsk 58.01 32 *e*P **P 22 03 03.9 -3.1**
comp=Z,22nm,1.1s,mb5.1
YHNB Yeheng 58.03 77 P **P 22 03 05.8 -1.9**
TIXI Tiksi 58.25 21 *e*P **P 22 03 05.9 -2.7**
DAG Danmarks Havn 59.40 345⇓ *i*P **P 22 03 16.2 -0.4**
comp=Z,9.7nm,0.8s,mb4.9
DAG Danmarks Havn 59.40 345⇓ *e*P **P 22 03 16.2 -0.4**
DAG pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
DAG Danmarks Havn 59.40 345⇓ *e*P **P 22 03 16.2 -0.4**
comp=Z,9.7nm,0.8s,mb4.9
MDJ Mudanjiang 59.60 53 P **P 22 03 17.5 -0.9**
MDJ AP pP 22 03 30.5 +2.0
MDJ PP PP 22 05 27.5 -4.3
MDJ S **S** **22 11 21.0 -3.5**
MDJ AMB AMB
comp=Z,150nm,3.5s
MDJ LR LR
comp=N,80nm,23.9s,MS3.8
MDJ LR LR
comp=E,30nm,22.2s,MS3.8
MDJ LR LR
comp=Z,60nm,17.3s,MS3.8
SCO Scoresbysund 59.84 338 *i* P **P 22 03 20.7 +1.1**
comp=Z,7.2nm,0.8s,mb4.8
KS15 Wonju Array Si 59.86 61 *e*P **P 22 03 18.6 -1.6**
TSUM Tsumeb 59.91 223 LR LR 22 32 05.9
comp=Z,250nm,18.3s,MS4.4,baz=199,slow=39
KLR Kul'dur 60.26 47 *e*P **P 22 03 20.0 -2.8**
LBTB Lobatse 60.34 212 LR LR 22 29 39.7
comp=Z,131nm,18.8s,MS4.1,baz=285,slow=36
DBIC Dimbokro 61.23 262 P **P 22 03 29.6 -0.3**

comp=Z,12nm,0.8s,mb5.1,baz=44,slow=8.2,SNR=20
DBIC Dimbokro 61.23 262 P **P** **22 03 29.6 -0.3**
DBIC pmax pmax
comp=Z,12nm,0.8s
LIC Lamto 61.59 262 ⇑*i*P **P** **22 03 32.0 -0.3**
comp=Z,33nm,0.9s,mb5.2
LIC *e*R
comp=Z,108nm,22.0s
SUMG Summit 64.83 341 *e*P **P** **22 03 53.7 +0.9**
comp=Z,48nm,0.8s,mb5.6
SUMG Summit 64.83 341 *e*P **P** **22 03 53.7 +1.0**
comp=Z,48nm,0.8s,mb5.6
YSS Yuzh-Sakhalins 67.96 48 *e*P **P** **22 04 12.0 -1.0**
YSS *e* 22 04 27.0
MJAR Matsushiro Arr 68.03 59 P **P** **22 04 12.4 -1.2**
comp=Z,3.5nm,0.9s,mb4.4,baz=296,slow=5.7,SNR=7.2
MJAR Matsushiro Arr 68.03 59 P **P** **22 04 12.4 -1.2**
MJAR pmax pmax
comp=Z,4.0nm,0.9s
SEY Seymchan 68.21 29⇓*e*P **P** **22 04 14.5 +0.2**
SFJ Sondre 70.69 336 *i*P **P** **22 04 29.3 -0.1**
comp=Z,37nm,1.4s,mb5.1
SFJD Kangerlussuaq 70.69 336 *i*P **P** **22 04 29.3 -0.1**
comp=Z,37nm,1.4s,mb5.1
BILL Bilibino 71.44 22⇑*e*P **P** **22 04 34.0 +0.1**
BILL *e* 22 07 08.4
BILL pmax pmax
comp=Z,33nm,1.3s,mb5.1
BILL MLR MLR
comp=N,300nm,18.0s
BILL Bilibino 71.44 22 *e*P **P** **22 04 33.0 -0.9**
BILL Bilibino 71.44 22 *e*P **P** **22 04 33.0 -0.9**
RES Resolute Bay 75.78 352 *e*P **P** **22 04 58.5 -0.5**
RES Resolute Bay 75.78 352 *e*P **P** **22 04 58.5 -0.5**
FITZ Fitzroy Crossi 81.47 116 *e*P **P** **22 05 31.9 +0.7**
comp=N,9.5nm,0.7s,mb4.8
IMA2 Indian Mountai 83.46 12⇑*e*P **P** **22 05 41.1 +0.7**
IMA2 Indian Mountai 83.46 12⇑*e*P **P** **22 05 41.1 +0.6**
INK Inuvik 83.67 4 P **P** **22 05 42.0 +0.6**
comp=N,2.3nm,0.5s,mb4.5,baz=19,slow=7.6,SNR=18
INK Inuvik 83.67 4 P **P** **22 05 42.0 +0.6**
INK pmax pmax
comp=Z,2.0nm,0.5s
NWAO Narrogin (SRO) 83.98 132 *e*P **P** **22 05 43.9 +0.1**
NWAO PcP PcP 22 05 47.7 -0.5
NWAO Narrogin (SRO) 83.98 132 *e*P **P** **22 05 43.9 +0.1**
NWAO Narrogin (SRO) 83.98 132 PcP PcP 22 05 47.7 -0.5
SCHQ Schefferville 84.02 331 P **P** **22 05 44.6 +1.1**
comp=Z,10nm,0.9s,mb5.0,baz=42,slow=5.6,SNR=21
SCHQ Schefferville 84.02 331 *e*P **P** **22 05 44.2 +0.7**
comp=Z,26nm,1.2s,mb5.2
SCHQ Schefferville 84.02 331 *e*P **P** **22 05 44.2 +0.7**
comp=Z,26nm,1.2s,mb5.2
KAKA Kakadu 84.25 108 *e*P Px 22 06 09.8
comp=Z,22nm,0.8s
COLA College 85.53 10 *e*P **P** **22 05 49.8 -1.0**
COLA College 85.53 10 *e*P **P** **22 05 49.8 -1.0**
ILAR Eielson Array 85.77 10 P **P** **22 05 52.1 +0.1**
comp=Z,3.7nm,0.6s,mb4.8,baz=320,slow=4.6,SNR=48
ILAR PKKPbc 22 23 54.6
comp=Z,0.8nm,0.7s,baz=198,slow=2.2,SNR=8.7
ILAR Eielson Array 85.77 10 P **P** **22 05 52.1 +0.1**
ILAR pmax pmax
comp=Z,4.0nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
DAWY Dawson 87.39 7 *e*P **P** **22 06 00.8 +0.9**
DAWY Dawson 87.39 7 *e*P **P** **22 06 00.8 +0.9**
SML Sawmill 88.32 11 *e*P **P** **22 06 04.7 +0.3**
SML Sawmill 88.32 11 *e*P **P** **22 06 04.7 +0.3**
PMR Palmer 88.38 12 *e*P **P** **22 05 59.8 -4.8**
PMR Palmer 88.38 12 *e*P **P** **22 05 59.8 -4.9**
WRA Warramunga Arr 89.44 113 P **P** **22 06 11.6 +0.9**
comp=Z,3.9nm,0.8s,mb4.8,baz=315,slow=4.0,SNR=25
WRA PKKPbc 22 23 46.7
comp=Z,1.6nm,0.9s,baz=117,slow=2.4,SNR=13
WRA Warramunga Arr 89.44 113 P **P** **22 06 11.6 +0.9**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRAB Tennant Creek 89.44 113 *e*P **P** **22 06 10.6 -0.1**
WRAB pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
WRAB Tennant Creek 89.44 113 *e*P **P** **22 06 10.6 -0.1**
comp=Z,9.3nm,0.8s,mb5.2
WRAB Tennant Creek 89.44 113 *e*P **P** **22 06 10.6 -0.1**
comp=Z,9.3nm,0.8s,mb5.2
WB2 Warramunga Arr 89.45 113 *e*P **P** **22 06 10.7 0.0**
YKA Yellowknife Ar 89.46 356 P **P** **22 06 10.9 +1.2**
comp=Z,6.0nm,0.7s,mb5.0,baz=1.4,slow=4.9,SNR=152
YKA PP PP 22 09 40.7 -2.9
comp=Z,0.5nm,0.7s,baz=2.3,slow=8.0,SNR=5.6
YKA PKKPbc 22 23 45.2
comp=Z,0.2nm,0.3s,baz=176,slow=2.1,SNR=5.2
YKA Yellowknife Ar 89.46 356 P **P** **22 06 10.9 +1.1**
YKA 22 09 40.7
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 89.46 356 P **P** **22 06 10.9 +1.1**
YKA PP PP 22 09 40.7 -2.9
YKA PKKPbc 22 23 45.2
YKA Yellowknife Ar 89.46 356 PP PP 22 09 40.7 -2.9
KDAK Kodiak Island 91.19 15 P **P** **22 06 19.1 +1.1**
comp=Z,14nm,0.6s,mb5.5,baz=17,slow=16,SNR=9.3
DLBC Dease Lake 93.70 3 P **P** **22 06 31.5 +2.0**
comp=Z,3.7nm,1.1s,mb4.7,baz=21,slow=9.9,SNR=3.0
PMG Port Moresby 95.35 98 P **P** **22 06 40.6 +2.6**
comp=Z,7.3nm,0.9s,mb5.1,baz=82,slow=18,SNR=2.8
PMG Port Moresby 95.35 98 P **P** **22 06 40.6 +2.6**
PMG pmax pmax
comp=Z,7.0nm,1.0s
MAW Mawson 95.50 177 P **P** **22 06 39.8 +2.4**
comp=Z,2.8nm,0.8s,mb4.7,baz=17,slow=7.3,SNR=4.0
MAW LR LR 22 41 27.9
comp=Z,54nm,19.7s,MS4.0,baz=60,slow=30
MAW Mawson 95.50 177 P **P** **22 06 39.8 +2.3**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW MLR MLR
comp=Z,54nm,19.7s
SYO Syowa Base 97.52 186 ⇓X **P** **22 06 45.5 -1.1**
SYO Syowa Base 97.52 186 ⇓sP sP 22 07 11.0 +10
ULM Lac du Bonnet 98.16 342 P **P** **22 06 50.9 +1.0**
comp=Z,1.6nm,0.7s,mb4.7,baz=346,slow=4.2,SNR=4.3
ULM LR LR 22 56 27.0
comp=Z,117nm,20.5s,MS4.4,baz=280,slow=39
EDM Edmonton 98.55 354 *e*P **P** **22 06 52.5 +0.9**
EDM Edmonton 98.55 354 *e*P **P** **22 06 52.5 +0.9**
VNA2 Neumayer--Watz 108.16 198 *e*PKPdf 22 11 40.5
VNA2 *e* 22 11 56.8
VNA2 *e* 22 12 07.4
PDAR Pinedale Array 108.29 349 PKiKP 22 11 41.3
comp=Z,0.5nm,0.6s,baz=90,slow=3.6,SNR=4.3
PDAR PKKP PKKP 22 23 05.8 +6.3
comp=Z,0.4nm,0.6s,baz=167,slow=5.5,SNR=4.0
VNA3 Neumayer Olymp 108.96 198 *e*PKPdf 22 11 40.6
VNA3 *e* 22 11 56.3
VNA3 *e* 22 12 12.8
NVAR Mina Array Bea 113.66 355 PKiKP 22 11 53.8
comp=Z,1.2nm,0.6s,baz=281,slow=1.7,SNR=9.5
TXAR Lajitas Array 119.72 340 PKP PKPdf 22 12 04.5 +2.0
comp=Z,1.0nm,0.6s,baz=149,slow=1.2,SNR=10
TXAR Lajitas Array 119.72 340 PKIKP PKPdf 22 12 04.6 +2.0
TXAR pmax pmax
comp=Z,1.0nm,0.6s
SIV San Ignacio 121.01 268 PKP PKPdf 22 12 07.0 +1.7
comp=Z,1.7nm,0.7s,baz=93,slow=4.7,SNR=13
SIV PKKPbc 22 22 09.9
comp=Z,1.4nm,0.8s,baz=267,slow=3.7,SNR=8.0
LPAZ La Paz 127.37 270 PKP PKPdf 22 12 20.1 +2.4
comp=Z,2.5nm,0.8s,baz=52,slow=1.9,SNR=7.7
LPAZ La Paz 127.37 270 PKIKP PKPdf 22 12 20.1 +2.5
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
TRQA Tornquist 127.93 242 *e*PKPdf PKPdf 22 12 20.7 +2.5
CFAA Coronel Fontan 131.95 251 PKP PKPdf 22 12 29.1 +3.0
comp=Z,0.5nm,0.6s,baz=44,slow=0.9,SNR=8.5
PLCA Paso Flores 134.77 239 PKP PKPdf 22 12 33.2 +2.2
comp=Z,3.1nm,1.0s,baz=208,slow=11,SNR=3.7
PLCA Paso Flores 134.77 239 PKIKP PKPdf 22 12 33.2 +2.2
PLCA pmax pmax
comp=Z,3.0nm,1.0s

LDG ***27*** *22:03:28.8±0.1,42.33N×1.45E,h4km,Md2.8/1,Ml2.9/14, Error ellipse: s-maj=1.1km s-min=0.9km az=11.0*
STR ***27*** *22:03:28.6±0.2,42.34N×1.45E,h10km±1km,Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***27*** *22:03:28.8,42.33N×1.45E,h4km,ML2.9(LDG), ML2.6(STR),After LDG.*
MDD ***27*** *22:03:29.3±0.2,42.34N×1.44E,h3km±3km,mbLg2.1/28, Error ellipse: s-maj=1.5km s-min=1.4km az=141.0, PRXIMO*
CSEM ***27*** *22:03:29.2±0.1,42.35N×1.45E,h5km,ML2.7/17, Error ellipse: s-maj=1.2km s-min=0.9km az=132.0*

ISC 27 22:03:27.6±0.3,42.35N±0.02×1.45E±0.02,h9km±2km,n98,σ1ᵍ34/167,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CORG	**Organya**	**0.15**	**219**	Pg	**Pg**	**22 03 31.5**	**+0.4**
CORG				Lg		22 03 34.0	
	50nm,0.0s						
PAND	**Andorre**	**0.19**	**23**	P	**Pg**	**22 03 33.0**	**+1.2**
PAND				S	**Sg**	**22 03 35.9**	**+1.4**
CSOR	**Sort**	**0.23**	**277**	Pg	**Pg**	**22 03 33.4**	**+0.8**
CSOR				Lg		22 03 37.2	
	244nm,0.2s						
CLLI	**Llivia**	**0.41**	**71**	Pg	**Pg**	**22 03 36.7**	**+0.7**
CLLI				Lg		22 03 42.6	
	6.2nm,0.1s						
VALF	**Valcebollere**	**0.43**	**83**	P	**Pg**	**22 03 37.0**	**+0.7**
VALF				S	**Sg**	**22 03 43.1**	**+1.0**
EMIR	**Miracle**	**0.44**	**172**	Pg	**Pg**	**22 03 37.2**	**+0.6**
	14nm,0.4s,SNR=86						
EMIR				Lg		22 03 43.7	
	49nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**0.44**	**172**	Pg	**Pg**	**22 03 37.2**	**+0.6**
	14nm,0.4s,SNR=86						
SALF	**Salau**	**0.45**	**335**	Pg	**Pg**	**22 03 37.5**	**+0.7**
SALF				Sg	**Sg**	**22 03 44.2**	**+1.3**
SALF	**Salau**	**0.45**	**335**	P	**Pg**	**22 03 37.5**	**+0.7**
SALF				S	**Sg**	**22 03 44.1**	**+1.2**
GRBF	**Gourbit**	**0.50**	**8**	Pg	**Pg**	**22 03 38.6**	**+0.9**
GRBF				P		22 03 38.8	
GRBF				Lg		22 03 45.8	
GRBF				S	**Sg**	**22 03 45.9**	**+1.5**
CBRU	**Bruguera**	**0.55**	**96**	Pg	**Pg**	**22 03 39.1**	**+0.4**
CBRU				Lg		22 03 47.6	
	21nm,0.1s						
CARF	**Carcanieres**	**0.61**	**53**	Pg	**Pg**	**22 03 40.4**	**+0.5**
CARF				Sg	**Sg**	**22 03 49.1**	**+1.0**
CARF	**Carcanieres**	**0.61**	**53**	P	**Pg**	**22 03 40.5**	**+0.6**
CARF				S	**Sg**	**22 03 49.1**	**+1.0**
MLS	**Moulis**	**0.66**	**337**	Pg	**Pg**	**22 03 41.6**	**+0.7**
MLS				Sg	**Sg**	**22 03 51.0**	**+1.2**
MLS	**Moulis**	**0.66**	**337**	P	**Pb**	**22 03 41.7**	**+0.8**
MLS				S	**Sg**	**22 03 50.1**	**+0.3**
MELF	**Melles**	**0.73**	**316**	Pg	**Pg**	**22 03 42.8**	**+0.5**
MELF				Sg	**Sg**	**22 03 52.8**	**+0.7**
MELF	**Melles**	**0.73**	**316**	P	**Pb**	**22 03 42.5**	**+0.5**
MELF				S	**Sb**	**22 03 52.7**	**+0.9**
FILF	**Fillols**	**0.85**	**75**	Pg	**Pg**	**22 03 43.0**	**-1.7**
FILF	**Fillols**	**0.85**	**75**	P	**Pb**	**22 03 43.3**	**-0.8**
FILF				S	**Sb**	**22 03 53.6**	**-1.8**
EGRA	**Graus**	**0.85**	**260**	Pg	**Pg**	**22 03 45.4**	**+0.6**
	3.4nm,0.3s,SNR=17						
EGRA				Lg		22 03 57.3	
	5.7nm,0.1s,SNR=5.1						
RESF	**Ens**	**0.94**	**300**	S	**Sb**	**22 03 59.4**	**+1.5**
CFON	**Fontmartina**	**0.94**	**128**	Pg	**Pg**	**22 03 46.2**	**-0.3**
CFON				Lg		22 03 59.2	
	79nm,0.2s						
EBIE	**Bielsa**	**1.02**	**290**	Pg	**Pg**	**22 03 48.0**	**-0.1**
	3.0nm,0.3s,SNR=31						
EBIE				Lg		22 04 01.9	
	5.4nm,0.2s,SNR=19						
EBIE	**Bielsa**	**1.02**	**290**	Pg	**Pg**	**22 03 48.0**	**-0.1**
	3.0nm,0.3s,SNR=31						
EPOB	**Poblet**	**1.03**	**196**	Pg	**Pg**	**22 03 48.3**	**0.0**
	4.4nm,0.3s,SNR=24						
EPOB				Lg		22 04 01.7	
	1.2nm,0.2s,SNR=12						
EPOB	**Poblet**	**1.03**	**196**	Pg	**Pg**	**22 03 48.3**	**0.0**
	4.4nm,0.3s,SNR=24						
EPF	**Esparros**	**1.06**	**310**	*e*Pn	**Pn**	**22 03 48.7**	**+0.1**
EPF				*e*Sg	**Sg**	**22 04 03.3**	**+0.2**
	25nm,0.2s						
EPF	**Esparros**	**1.06**	**310**	Pg	**Pg**	**22 03 48.4**	**-0.5**
EPF				Pn	**Pn**	**22 03 48.7**	**+0.1**
EPF				Lg		22 04 03.3	
	12nm,0.2s						
EPF	**Esparros**	**1.06**	**310**	*e*Pg	**Pg**	**22 03 48.4**	**-0.5**
EPF				*e*Pn	**Pn**	**22 03 48.7**	**+0.1**
EPF				*e*Sg	**Sg**	**22 04 03.3**	**+0.2**
EPF	**Esparros**	**1.06**	**310**	*e*Pn	**Pn**	**22 03 48.7**	**+0.1**
EPF				*e*Sg	**Sg**	**22 04 03.3**	**+0.2**
	12nm,0.2s						
SJAF	**Saint Jean de**	**1.07**	**82**	S	**Sb**	**22 04 04.2**	**+2.5**
EJON	**La Jonquera**	**1.07**	**84**	Pg	**Pg**	**22 03 49.8**	**+0.7**
	3.8nm,0.3s,SNR=29						
EJON				Lg		22 04 04.6	
	3.7nm,0.2s,SNR=14						
EJON	**La Jonquera**	**1.07**	**84**	Pg	**Pg**	**22 03 49.8**	**+0.7**
	3.8nm,0.3s,SNR=29						
MTLF	**Montolieu**	**1.14**	**29**	*e*Pg	**Pg**	**22 03 51.0**	**+0.5**
MTLF				*e*Sg	**Sg**	**22 04 05.5**	**-0.2**
	51nm,0.2s						
MTLF	**Montolieu**	**1.14**	**29**	Pn	**Pn**	**22 03 50.4**	**+0.7**
MTLF				Pg	**Pg**	**22 03 51.0**	**+0.5**
MTLF				Lg		22 04 05.5	
	26nm,0.2s						
MTLF	**Montolieu**	**1.14**	**29**	*e*Pn	**Pn**	**22 03 50.4**	**+0.7**
MTLF				*e*Pg	**Pg**	**22 03 51.0**	**+0.5**
MTLF				*e*Sg	**Sg**	**22 04 05.5**	**-0.2**
MTLF	**Montolieu**	**1.14**	**29**	*e*Pg	**Pg**	**22 03 51.0**	**+0.5**
MTLF				*e*Sg	**Sg**	**22 04 05.5**	**-0.2**
	26nm,0.2s						
VIEF	**Viey**	**1.18**	**297**	P	**Pb**	**22 03 50.9**	**+1.2**
VIEF				S	**Sb**	**22 04 06.8**	**+1.9**
LABF	**Labassere**	**1.23**	**305**	S	**Sb**	**22 04 07.7**	**+1.3**
ESAC	**San Caprasio**	**1.56**	**247**	Pg	**Pg**	**22 03 57.5**	**-1.3**
	17nm,0.1s,SNR=6.6						
ESAC				Lg		22 04 20.0	
	63nm,0.2s,SNR=12						
ESAC	**San Caprasio**	**1.56**	**247**	Pg	**Pg**	**22 03 57.5**	**-1.3**
	17nm,0.1s,SNR=6.6						
ETSF	**Etsaut**	**1.58**	**291**	*e*Pg	**Pg**	**22 03 58.9**	**-0.3**
ETSF				*e*Sg	**Sg**	**22 04 19.0**	**-1.3**
	29nm,0.3s						
ETSF	**Etsaut**	**1.58**	**291**	Pn	**Pn**	**22 03 56.4**	**+0.4**
ETSF				Pg	**Pg**	**22 03 58.9**	**-0.3**
ETSF				Lg		22 04 19.0	
	15nm,0.3s						
ETSF	**Etsaut**	**1.58**	**291**	*e*Pn	**Pn**	**22 03 56.4**	**+0.4**
ETSF				*e*Pg	**Pg**	**22 03 58.9**	**-0.3**
ETSF				*e*Sg	**Sg**	**22 04 19.0**	**-1.3**
ETSF	**Etsaut**	**1.58**	**291**	*e*Pg	**Pg**	**22 03 58.9**	**-0.3**
ETSF				*e*Sg	**Sg**	**22 04 19.0**	**-1.3**
	15nm,0.3s						
ERTA	**Horta de San J**	**1.62**	**211**	Pg	**Pg**	**22 03 59.2**	**-0.9**
	1.6nm,0.2s,SNR=7.9						
ERTA				Lg		22 04 20.7	
	9.5nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**1.62**	**211**	Pg	**Pg**	**22 03 59.2**	**-0.9**
	1.6nm,0.2s,SNR=7.9						
ATE	**Arette**	**1.75**	**296**	S	**Sn**	**22 04 25.2**	**+4.4**
SJPF	**Ste Jean**	**2.11**	**292**	*e*Pg	**Pg**	**22 04 08.1**	**-1.7**
SJPF				*e*Sg	**Sg**	**22 04 35.5**	**-2.5**
	12nm,0.3s						
SJPF	**Ste Jean**	**2.11**	**292**	Pn	**Pn**	**22 04 03.4**	**-0.2**
SJPF				Pg	**Pg**	**22 04 08.1**	**-1.7**
SJPF				Lg		22 04 35.5	
	5.8nm,0.3s						
SJPF	**Ste Jean**	**2.11**	**292**	*e*Pn	**Pn**	**22 04 03.4**	**-0.2**
SJPF				*e*Pg	**Pg**	**22 04 08.1**	**-1.7**
SJPF				*e*Sg	**Sg**	**22 04 35.5**	**-2.5**
SJPF	**Ste Jean**	**2.11**	**292**	*e*Pg	**Pg**	**22 04 08.1**	**-1.7**
SJPF				*e*Sg	**Sg**	**22 04 35.5**	**-2.5**
	5.8nm,0.3s						
IUNC	**Unciti**	**2.21**	**282**	Pg	**Pg**	**22 04 12.1**	**+0.3**
	0.6nm,0.1s,SNR=7.9						
IUNC				Lg		22 04 41.3	
	3.3nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**2.21**	**282**	Pg	**Pg**	**22 04 12.1**	**+0.2**
	0.6nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**2.28**	**282**	Lg		22 04 43.6	
	1.8nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**2.29**	**286**	Lg		22 04 43.8	
	2.9nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.34**	**293**	Pg	**Pg**	**22 04 12.7**	**-1.8**
	1.0nm,0.1s,SNR=7.9						
EALK				Lg		22 04 44.3	
	4.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.45**	**217**	Pg	**Pg**	**22 04 13.2**	**-3.5**
	0.4nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**22 04 39.3**	**+0.5**
	0.9nm,0.2s,SNR=7.9						
EMOS				Lg		22 04 47.3	
	0.7nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.45**	**217**	Pg	**Pg**	**22 04 13.2**	**-3.5**
	0.4nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**22 04 39.3**	**+0.4**
	0.9nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.47**	**45**	*e*Pg	**Pg**	**22 04 14.9**	**-2.0**
LASF				*e*Sg	**Sg**	**22 04 46.7**	**-3.1**
	6.0nm,0.2s						
LASF	**Ste Croix**	**2.47**	**45**	Pn	**Pn**	**22 04 08.6**	**-0.1**
LASF				Pg	**Pg**	**22 04 14.9**	**-2.0**
LASF				Lg		22 04 46.7	
	3.0nm,0.2s						
LASF	**Ste Croix**	**2.47**	**45**	*e*Pn	**Pn**	**22 04 08.6**	**-0.1**
LASF				*e*Pg	**Pg**	**22 04 14.9**	**-2.0**
LASF				*e*Sg	**Sg**	**22 04 46.7**	**-3.1**
LASF	**Ste Croix**	**2.47**	**45**	*e*Pg	**Pg**	**22 04 14.9**	**-2.0**
LASF				*e*Sg	**Sg**	**22 04 46.7**	**-3.1**
	3.0nm,0.2s						
CAF	**Calviac**	**2.61**	**10**	*e*Pn	**Pn**	**22 04 10.2**	**-0.6**
CAF	**Calviac**	**2.61**	**10**	*e*P	**Pn**	**22 04 12.9**	**+2.1**
CAF	**Calviac**	**2.61**	**10**	*e*Pg	**Pg**	**22 04 17.5**	**-2.3**
CAF				*e*Sg	**Sg**	**22 04 51.8**	**-2.9**
	9.8nm,0.2s						
CAF	**Calviac**	**2.61**	**10**	Pn	**Pn**	**22 04 10.2**	**-0.6**
CAF				P		22 04 12.9	
CAF				Pg	**Pg**	**22 04 17.5**	**-2.3**
CAF				Lg		22 04 51.8	
	4.9nm,0.2s						
CAF	**Calviac**	**2.61**	**10**	*e*P	**Pn**	**22 04 12.9**	**+2.1**
CAF				*e*Pg	**Pg**	**22 04 17.5**	**-2.3**
CAF				*e*Sg	**Sg**	**22 04 51.8**	**-2.9**
CAF	**Calviac**	**2.61**	**10**	*e*P	**Pn**	**22 04 12.9**	**+2.1**
CAF	**Calviac**	**2.61**	**10**	*e*Pg	**Pg**	**22 04 17.5**	**-2.3**
CAF				*e*Sg	**Sg**	**22 04 51.8**	**-2.9**
	4.9nm,0.2s						
LFF	**La Frestale**	**2.64**	**349**	*e*Pn	**Pn**	**22 04 10.8**	**-0.3**
LFF	**La Frestale**	**2.64**	**349**	*e*P	**Pn**	**22 04 13.6**	**+2.5**
LFF				*e*Sn	**Sn**	**22 04 41.5**	**-2.1**
LFF				*e*Sg	**Sg**	**22 04 53.0**	**-2.5**
	14nm,0.3s						
LFF	**La Frestale**	**2.64**	**349**	Pn	**Pn**	**22 04 10.8**	**-0.3**
LFF				P		22 04 13.6	
LFF				Sn	**Sn**	**22 04 41.5**	**-2.1**
LFF				Lg		22 04 53.0	
	7.2nm,0.3s						
LFF	**La Frestale**	**2.64**	**349**	*e*P	**Pn**	**22 04 13.6**	**+2.5**
LFF				*e*Sn	**Sn**	**22 04 41.5**	**-2.1**
LFF				*e*Sg	**Sg**	**22 04 53.0**	**-2.5**
	7.2nm,0.3s						
ETOS	**Mallorca**	**2.78**	**158**	Sn	**Sn**	**22 04 44.7**	**-2.4**
	0.3nm,0.1s,SNR=4.0						
ETOS	**Mallorca**	**2.78**	**158**	Sn	**Sn**	**22 04 44.7**	**-2.4**
	0.3nm,0.1s,SNR=4.0						
RJF	**Les Rejaudoux**	**2.95**	**1**	*e*Pg	**Pg**	**22 04 24.0**	**-2.6**
RJF				*e*Sg	**Sg**	**22 05 02.7**	**-3.3**
	8.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.95**	**1**	P	**Pn**	**22 04 17.4**	**+1.8**
RJF				Pg	**Pg**	**22 04 24.0**	**-2.6**
RJF				Lg		22 05 02.7	
	4.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.95**	**1**	*e*P	**Pn**	**22 04 17.4**	**+1.8**
RJF				*e*Pg	**Pg**	**22 04 24.0**	**-2.6**
RJF				*e*Sg	**Sg**	**22 05 02.7**	**-3.3**
RJF	**Les Rejaudoux**	**2.95**	**1**	*e*Pg	**Pg**	**22 04 24.0**	**-2.6**
RJF				*e*Sg	**Sg**	**22 05 02.7**	**-3.3**
	4.1nm,0.2s						
VIVF	**Saint-Julien-l**	**3.43**	**42**	*e*Pg	**Pg**	**22 04 32.7**	**-3.4**
VIVF				*e*Sg	**Sg**	**22 05 17.1**	**-4.8**
	4.6nm,0.4s						
VIVF	**Saint-Julien-l**	**3.43**	**42**	Pn	**Pn**	**22 04 21.5**	**-0.9**
VIVF				Pg	**Pg**	**22 04 32.7**	**-3.4**
VIVF				Lg		22 05 17.1	
	2.3nm,0.4s						
VIVF	**Saint-Julien-l**	**3.43**	**42**	*e*Pn	**Pn**	**22 04 21.5**	**-0.9**
VIVF				*e*Pg	**Pg**	**22 04 32.7**	**-3.4**
VIVF				*e*Sg	**Sg**	**22 05 17.1**	**-4.8**
ELAN	**Lanestosa**	**3.70**	**285**	Pn	**Pn**	**22 04 27.0**	**+0.8**
	0.2nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**22 05 08.7**	**-1.7**
	0.4nm,0.2s,SNR=7.9						
ELAN				Lg		22 05 26.7	
	1.3nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**3.70**	**285**	Pn	**Pn**	**22 04 27.0**	**+0.8**
	0.2nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**22 05 08.7**	**-1.7**
	0.4nm,0.2s,SNR=7.9						
TCF	**Toulx Ste Croi**	**3.98**	**8**	*e*Pn	**Pn**	**22 04 28.8**	**-1.3**
TCF	**Toulx Ste Croi**	**3.98**	**8**	*e*P	**Pn**	**22 04 32.0**	**+1.9**
TCF				*e*Sg	**Sg**	**22 05 33.5**	**-6.5**
	3.5nm,0.3s						
TCF	**Toulx Ste Croi**	**3.98**	**8**	Pn	**Pn**	**22 04 28.8**	**-1.3**
TCF				P		22 04 32.0	
TCF				Lg		22 05 33.5	
	1.8nm,0.3s						
TCF	**Toulx Ste Croi**	**3.98**	**8**	*e*P	**Pn**	**22 04 32.0**	**+1.9**
TCF				*e*Sg	**Sg**	**22 05 33.5**	**-6.5**
	1.8nm,0.3s						
FRF	**La Foret Royal**	**4.00**	**71**	*e*P	**Pn**	**22 04 32.1**	**+1.6**
BGF	**Bois d'Agland**	**4.33**	**13**	*e*Pg	**Pg**	**22 04 49.4**	**-4.6**
BGF				*e*Sg	**Sg**	**22 05 44.5**	**-7.2**
	16nm,0.4s						
MFF	**Saint Martin d**	**4.40**	**346**	*e*Pn	**Pn**	**22 04 34.8**	**-1.4**
MFF	**Saint Martin d**	**4.40**	**346**	*e*P	**Pn**	**22 04 37.6**	**+1.4**
MFF				*e*Sn	**Sn**	**22 05 23.4**	**-4.8**
MFF				*e*Sg	**Sg**	**22 05 47.6**	**-6.6**
	1.5nm,0.3s						
MFF	**Saint Martin d**	**4.40**	**346**	Pn	**Pn**	**22 04 34.8**	**-1.4**
MFF				P		22 04 37.6	
MFF				Sn	**Sn**	**22 05 23.4**	**-4.8**
MFF				Lg		22 05 47.6	
	0.8nm,0.3s						
MFF	**Saint Martin d**	**4.40**	**346**	*e*P	**Pn**	**22 04 37.6**	**+1.4**
MFF				*e*Sn	**Sn**	**22 05 23.4**	**-4.8**
MFF				*e*Sg	**Sg**	**22 05 47.6**	**-6.6**
	0.8nm,0.3s						
SMF	**Signal de Mont**	**4.62**	**21**	*e*Sg	**Sg**	**22 05 54.2

Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORG	**Organya**	**0.15**	**218**	Pg	Pg	22 05 13.3	-1.0
CORG				Lg		22 05 15.8	
	32nm,0.0s						
CSOR	**Sort**	**0.23**	**277**	Pg	Pg	22 05 15.2	-0.7
CSOR				Lg		22 05 19.0	
	70nm,0.1s						
CLLI	**Llivia**	**0.41**	**71**	Pg	Pg	22 05 18.5	-1.1
CLLI				Lg		22 05 24.8	
	2.0nm,0.1s						
EMIR	**Miracle**	**0.44**	**172**	Pg	Pg	22 05 19.7	-0.4
	3.9nm,0.1s,SNR=7.9						
EMIR				Lg		22 05 25.8	
	13nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**0.44**	**172**	Pg	Pg	22 05 19.7	-0.4
	3.9nm,0.1s,SNR=7.9						
CBRU	**Bruguera**	**0.55**	**96**	Pg	Pg	22 05 21.1	-1.2
EGRA	**Graus**	**0.85**	**260**	Pg	Pg	22 05 27.9	-0.4
	1.3nm,0.1s,SNR=7.9						
EGRA				Lg		22 05 39.8	
	2.3nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**0.94**	**128**	Lg		22 05 41.0	
	19nm,0.2s						
EBIE	**Bielsa**	**1.02**	**290**	Pg	Pg	22 05 29.7	-1.9
	5.9nm,0.3s,SNR=7.5						
EBIE				Lg		22 05 43.6	
	2.9nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.02**	**290**	Pg	Pg	22 05 29.7	-2.0
	5.9nm,0.3s,SNR=7.5						
EPOB	**Poblet**	**1.03**	**195**	Pg	Pg	22 05 30.3	-1.6
	0.9nm,0.1s,SNR=8.8						
EPOB				Lg		22 05 43.5	
	3.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.03**	**195**	Pg	Pg	22 05 30.3	-1.6
	0.9nm,0.1s,SNR=8.8						
EPF	**Esparros**	**1.06**	**310**	*e*Pg	Pg	22 05 30.2	-2.3
EPF				*e*Sg	Sg	22 05 45.0	-1.6
	12nm,0.3s						
EJON	**La Jonquera**	**1.07**	**84**	Pg	Pg	22 05 31.8	-0.9
	1.1nm,0.1s,SNR=6.0						
EJON				Lg		22 05 46.6	
	2.2nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.07**	**84**	Pg	Pg	22 05 31.8	-1.0
	1.1nm,0.1s,SNR=6.0						
MTLF	**Montolieu**	**1.14**	**30**	*e*Pg	Pg	22 05 32.9	-1.2
MTLF				*e*Sg	Sg	22 05 47.3	-2.1
	17nm,0.2s						
ESAC	**San Caprasio**	**1.56**	**247**	Pg	Pg	22 05 40.4	-2.0
	4.7nm,0.1s,SNR=7.9						
ESAC				Lg		22 06 01.7	
	15nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.56**	**247**	Pg	Pg	22 05 40.4	-2.0
	4.7nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.58**	**291**	*e*Pn	Pn	22 05 38.0	-2.7
ETSF	**Etsaut**	**1.58**	**291**	*e*Pg	Pg	22 05 40.6	-2.2
ETSF				*e*Sg	Sg	22 06 01.2	-2.6
	14nm,0.3s						
ETSF	**Etsaut**	**1.58**	**291**	Pn	Pn	22 05 38.0	-2.7
ETSF				Pg	Pg	22 05 40.6	-2.2
ETSF				Lg		22 06 01.2	
	7.2nm,0.3s						
ETSF	**Etsaut**	**1.58**	**291**	*e*Pg	Pg	22 05 40.6	-2.2
ETSF				*e*Sg	Sg	22 06 01.2	-2.6
	7.2nm,0.3s						
ERTA	**Horta de San J**	**1.62**	**211**	Pg	Pg	22 05 41.2	-2.4
	0.6nm,0.3s,SNR=7.9						
ERTA				Lg		22 06 02.5	
	2.5nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.62**	**211**	Pg	Pg	22 05 41.2	-2.5
	0.6nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**2.11**	**292**	*e*Pg	Pg	22 05 49.9	-3.5
SJPF				*e*Sg	Sg	22 06 17.4	-4.1
	6.2nm,0.4s						
EALK	**Alkurruntz**	**2.34**	**293**	Pg	Pg	22 05 56.0	-2.1
	0.5nm,0.2s,SNR=7.9						
EALK				Lg		22 06 26.7	
	1.1nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.47**	**45**	*e*Pg	Pg	22 05 56.8	-3.8
LASF				*e*Sg	Sg	22 06 28.5	-5.0
	2.9nm,0.3s						
CAF	**Calviac**	**2.62**	**10**	*e*Pn	Pn	22 05 52.0	-3.5
CAF	**Calviac**	**2.62**	**10**	*e*Pg	Pg	22 05 59.7	-3.8
CAF				*e*Sg	Sg	22 06 33.9	-4.5
	2.8nm,0.2s						
CAF	**Calviac**	**2.62**	**10**	Pn	Pn	22 05 52.0	-3.5
CAF				Pg	Pg	22 05 59.7	-3.8
CAF				Lg		22 06 33.9	
	1.4nm,0.2s						
CAF	**Calviac**	**2.62**	**10**	*e*Pg	Pg	22 05 59.7	-3.8
CAF				*e*Sg	Sg	22 06 33.9	-4.5
	1.4nm,0.2s						
LFF	**La Frestale**	**2.64**	**349**	*e*P	Pn	22 05 55.1	-0.8
LFF				*e*Sg	Sg	22 06 34.7	-4.5
	2.6nm,0.3s						
RJF	**Les Rejaudoux**	**2.96**	**1**	*e*Sg	Sg	22 06 44.9	-4.8
	2.0nm,0.3s						
VIVF	**Saint-Julien-l**	**3.43**	**42**	*e*Pg	Pg	22 06 14.4	-5.4
VIVF				*e*Sg	Sg	22 06 58.9	-6.7
	1.5nm,0.3s						

*NEIC **27** 22:13:16.5±1.3,21.17S×68.87W,h96km±14km,mb4.4/2, Error ellipse: s-maj=19.3km s-min=13.7km az=99.0*
*IDC **27** 22:13:17.2±2.7,21.16S×68.73W,h102km±25km,mb3.2/3, mb1 3.5/6,mb1mx3.4/16,mbtmp3.7/6,Error ellipse: s-maj=30.0km s-min=24.8km az=118.0*
ISC 27 22:13:13.1±2.1,21.03S±0.09×68.9W±0.1,h76km±21km, n11,σ1§00/13,mb3.8/4,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.76**	**8**	P	**P**	**22 14 30.3**	**+6.3**
	1.2nm,0.3s,baz=205,slow=8.0,SNR=23						
LPAZ				S	**S**	**22 15 13.0**	**-5.4**
	0.4nm,0.3s,baz=342,slow=5.1,SNR=3.8						
LPAZ	**La Paz**	**4.76**	**8**	*e*Pn	**P**	**22 14 29.4**	**+5.3**
LPAZ				*e*Sn	**S**	**22 15 18.8**	**+0.4**
SIV	**San Ignacio**	**8.92**	**57**	P	**P**	**22 15 22.5**	**+1.2**
	1.1nm,0.3s,baz=241,slow=11,SNR=6.4						
SIV				S	**S**	**22 16 59.4**	**-1.6**
	baz=300,slow=22,SNR=2.3						
CFAA	**Coronel Fontan**	**10.55**	**177**	P	**P**	**22 15 42.9**	**-0.6**
	0.1nm,0.3s,baz=334,slow=11,SNR=6.2						
BDFB	**Brasilia**	**20.49**	**78**	P	**P**	**22 17 47.8**	**+0.6**
	2.0nm,0.4s,baz=273,slow=10,SNR=5.7						
RCBR	**Riachuelo**	**35.33**	**69**	*e*P	**P**	**22 20 04.3**	**+1.1**
	9.8nm,0.8s,mb4.7						
WMOK	**Wichita Mounta**	**62.32**	**332**	P	**P**	**22 23 28.8**	**-1.1**
	1.1nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**73.72**	**330**	P	**P**	**22 24 41.5**	**+0.8**
	0.2nm,0.6s,mb3.0,baz=157,slow=6.9,SNR=2.4						
YKA	**Yellowknife Ar**	**90.76**	**341**	P	**P**	**22 26 07.8**	**-0.7**
	0.2nm,0.6s,mb3.4,baz=135,slow=4.9,SNR=7.0						
YKA	**Yellowknife Ar**	**90.76**	**341**	P	**P**	**22 26 07.8**	**-0.7**
MKAR	**Makanchi Array**	**145.22**	**36**	PKPbc	PKPbc	22 32 42.8	+0.4
	0.5nm,0.6s,baz=320,slow=3.6,SNR=6.5						
MKAR				pPKPbc		22 33 13.9	
	0.7nm,0.9s,baz=297,slow=2.7,SNR=4.3						

*IDC **27** 22:36:34.7±1.0,0.09N×125.04E,mb4.3/5,mb1 4.4/5, mb1mx4.1/14,mbtmp4.3/5,MS3.3/1,Ms1 3.3/1, ms1mx2.9/17,Error ellipse: s-maj=72.3km s-min=19.6km az=65.0*
*NEIC **27** 22:36:36.7±0.5,0.12N×125.20E,h15km,mb4.7/6,Error ellipse: s-maj=33.2km s-min=6.5km az=58.0*
ISC 27 22:36:37.2±0.8,0.2N±0.2×125.4E±0.3,h33km,n20, σ0§61/20,mb4.5/10,MS3.1/1,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.63**	**152**	*e*P	Px	22 40 27.9	
	21nm,0.6s						
WRAB	**Tennant Creek**	**21.87**	**157**	*e*P	**P**	**22 41 28.8**	**-0.3**
	7.5nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**21.87**	**157**	P	**P**	**22 41 28.3**	**-0.8**
	4.8nm,0.7s,mb4.1,baz=334,slow=10,SNR=22						
WRA				S	**S**	**22 45 28.2**	**+4.4**
	2.6nm,1.1s,baz=342,slow=16,SNR=4.8						
WRA	**Warramunga Arr**	**21.87**	**157**	P	**P**	**22 41 28.3**	**-0.8**
WRA				S	**S**	**22 45 28.2**	**+4.4**
WB2	**Warramunga Arr**	**21.88**	**157**	*e*P	**P**	**22 41 28.9**	**-0.2**
PMG	**Port Moresby**	**23.70**	**114**	LR	LR	22 52 26.0	
	comp=Z,69nm,20.1s,MS3.1,baz=85,slow=40						
STKA	**Stephens Creek**	**35.42**	**156**	*e*P	**P**	**22 43 33.6**	**+1.3**
	5.1nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**35.42**	**156**	P	**P**	**22 43 33.6**	**+1.3**
	8.5nm,0.7s,mb4.8,baz=339,slow=8.5,SNR=20						
JIRN	**Jiri**	**46.43**	**309**	*e*P	**P**	**22 45 03.2**	**+0.3**
GUN	**Gumba**	**46.79**	**309**	*e*P	**P**	**22 45 06.4**	**+0.6**
PKI	**Pulchoki**	**46.99**	**309**	*e*P	**P**	**22 45 07.3**	**0.0**
KKN	**Kakani**	**47.20**	**309**	*e*P	**P**	**22 45 08.9**	**-0.1**
DMN	**Daman**	**47.25**	**309**	*e*P	**P**	**22 45 09.5**	**+0.1**
GKN	**Gorkha**	**47.80**	**309**	*e*P	**P**	**22 45 13.3**	**-0.4**
	18nm,1.0s,mb5.0						
KOLN	**Koldanda**	**48.51**	**308**	*e*P	**P**	**22 45 18.9**	**-0.3**
	15nm,0.9s,mb5.0						
SONM	**Songino Array**	**50.22**	**343**	P	**P**	**22 45 33.1**	**+1.0**
	1.6nm,0.8s,mb4.1,baz=155,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**59.70**	**327**	P	**P**	**22 46 40.0**	**-1.0**
	2.3nm,0.6s,mb4.4,baz=124,slow=8.2,SNR=47			PcP			
MKAR				PcP	PcP	22 47 27.6	+0.2
	1.5nm,0.9s,baz=117,slow=5.4,SNR=4.4						
KURK	**Kurchatov**	**64.00**	**329**	*e*P	**P**	**22 47 08.9**	**-0.7**
	9.2nm,0.8s,mb4.9						
ZRNK	**Zerenda**	**70.24**	**328**	*e*P	**P**	**22 47 48.8**	**-0.1**
	4.7nm,0.8s,mb4.5						
KMBO	**Kilima Mbogo**	**88.12**	**269**	P	**P**	**22 49 27.2**	**+0.5**
	3.3nm,0.9s,mb4.6,baz=33,slow=5.5,SNR=7.3						

IDC 27 22:41:12.1±1.7,0.68N×126.19E,mb3.8/3,mb1 3.9/3, mb1mx3.6/14,mbtmp3.8/3,Error ellipse: s-maj=186.7km s-min=24.8km az=63.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.99**	**159**	P	P	22 46 06.6	-3.1
	0.5nm,0.3s,baz=338,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**35.51**	**157**	P	P	22 48 11.9	-0.9
	1.3nm,0.8s,baz=333,slow=9.0,SNR=4.2						
MKAR	**Makanchi Array**	**59.77**	**327**	P	P	22 51 18.9	-2.5
	0.9nm,0.4s,baz=125,slow=8.6,SNR=29						

*LDG **27** 22:46:29.6±0.1,42.33N×1.44E,h4km,Md2.7/1,Ml2.3/14, Error ellipse: s-maj=1.1km s-min=0.9km az=159.0*
*STR **27** 22:46:29.6±0.2,42.34N×1.44E,h10km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 27 22:46:30.2±0.2,42.35N×1.44E,h7km±3km,mbLg1.8/22, Error ellipse: s-maj=1.7km s-min=1.5km az=130.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORG	**Organya**	**0.15**	**217**	Pg	Pg	22 46 32.3	-1.1
CORG				Lg		22 46 35.1	
	25nm,0.1s						
PAND	**Andorre**	**0.19**	**25**	P	Pg	22 46 33.9	-0.4
PAND				S	Sg	22 46 36.9	-0.1
CSOR	**Sort**	**0.23**	**277**	Pg	Pg	22 46 34.2	-0.7
CSOR				Lg		22 46 37.9	
	51nm,0.1s						
CLLI	**Llivia**	**0.42**	**72**	Pg	Pg	22 46 37.5	-1.1
CLLI				Lg		22 46 43.4	
	2.6nm,0.1s						
VALF	**Valcebollere**	**0.43**	**83**	P	Pg	22 46 37.9	-1.0
VALF				S	Sg	22 46 44.0	-0.8
EMIR	**Miracle**	**0.44**	**171**	Pg	Pg	22 46 38.5	-0.6
	4.6nm,0.1s,SNR=16						
EMIR				Lg		22 46 45.0	
	10nm,0.1s,SNR=7.9						
SALF	**Salau**	**0.45**	**336**	Pg	Pg	22 46 38.5	-0.8
SALF				Sg	Sg	22 46 45.2	-0.1
SALF	**Salau**	**0.45**	**336**	P	Pg	22 46 38.4	-0.9
SALF				S	Sg	22 46 45.0	-0.4
GRBF	**Gourbit**	**0.50**	**8**	Pg	Pg	22 46 39.6	-0.6
GRBF				P		22 46 39.6	
GRBF				S	Sg	22 46 46.0	-0.9
GRBF				Lg		22 46 46.5	
CBRU	**Bruguera**	**0.55**	**96**	Pg	Pg	22 46 40.4	-0.9
CBRU				Lg		22 46 48.4	
	3.8nm,0.1s						
CARF	**Carcanieres**	**0.61**	**53**	Pg	Pg	22 46 41.3	-1.3
CARF				Sg	Sg	22 46 50.2	-0.6
CARF	**Carcanieres**	**0.61**	**53**	P	Pg	22 46 41.4	-1.1
CARF				S	Sg	22 46 50.2	-0.6
MLS	**Moulis**	**0.66**	**338**	Pg	Pg	22 46 42.6	-0.8
MLS				Sg	Sg	22 46 51.6	-0.7
MLS	**Moulis**	**0.66**	**338**	P	Pg	22 46 42.7	-0.7
MLS				S	Sg	22 46 51.1	-1.1
CAVN	**Les Avellanes**	**0.69**	**228**	Pg	Pg	22 46 42.9	-1.2
CAVN				Lg		22 46 51.9	
	7.0nm,0.1s						
MELF	**Melles**	**0.72**	**316**	Pg	Pg	22 46 43.4	-1.3
MELF				Sg	Sg	22 46 54.0	-0.4
MELF	**Melles**	**0.72**	**316**	P	Pb	22 46 43.6	-1.1
MELF				S	Sg	22 46 53.6	-0.8
EGRA	**Graus**	**0.85**	**260**	Pg	Pg	22 46 46.7	-0.4
	0.7nm,0.1s,SNR=7.1						
EGRA				Lg		22 46 59.3	
	2.9nm,0.1s,SNR=4.0						
EBIE	**Bielsa**	**1.01**	**290**	Pg	Pg	22 46 48.7	-1.8
	1.4nm,0.1s,SNR=11						
EBIE				Lg		22 47 03.5	
	3.6nm,0.1s,SNR=9.9						
EPOB	**Poblet**	**1.03**	**195**	Pg	Pg	22 46 49.3	-1.5
	1.2nm,0.1s,SNR=9.6						
EPOB				Lg		22 47 02.6	
	6.2nm,0.1s,SNR=10.0						
EPF	**Esparros**	**1.06**	**310**	*e*Pg	Pg	22 46 49.2	-2.2
EPF	**Esparros**	**1.06**	**310**	*e*Pn	Pn	22 46 49.5	-1.8
EPF				*e*Sg	Sg	22 47 04.2	-1.3
	7.7nm,0.2s						
EPF	**Esparros**	**1.06**	**310**	Pg	Pg	22 46 49.2	-2.2
EPF				Pn	Pn	22 46 49.5	-1.8
EPF				Lg		22 47 04.2	
	3.8nm,0.2s						
EJON	**La Jonquera**	**1.08**	**84**	Pg	Pg	22 46 51.1	-0.7
	1.2nm,0.1s,SNR=11						
EJON				Lg		22 47 05.2	
	2.0nm,0.1s,SNR=9.2						
MTLF	**Montolieu**	**1.15**	**30**	*e*Pg	Pg	22 46 51.6	-1.5
MTLF				*e*Sg	Sg	22 47 06.3	-2.1
	12nm,0.2s						
ESAC	**San Caprasio**	**1.55**	**247**	Lg		22 47 21.0	
	20nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.57**	**291**	*e*Pg	Pg	22 46 59.5	-2.1
ETSF				*e*Sn	Sn	22 47 16.6	-2.9
ETSF				*e*Sg	Sg	22 47 20.0	-2.6
	6.1nm,0.3s						
ERTA	**Horta de San J**	**1.62**	**211**	Pg	Pg	22 46 59.8	-2.8
	0.6nm,0.1s,SNR=7.9						
ERTA				Lg		22 47 21.7	
	2.2nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**2.11**	**292**	*e*Pg	Pg	22 47 08.6	-3.7
SJPF				*e*Sg	Sg	22 47 36.5	-3.8
	2.2nm,0.2s						
EALK	**Alkurruntz**	**2.34**	**293**	Pg	Pg	22 47 13.9	-3.0
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		22 47 45.1	
	1.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.45**	**217**	Lg		22 47 48.0	
	0.4nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.47**	**45**	*e*Pn	Pn	22 47 09.9	-1.7
LASF	**Ste Croix**	**2.47**	**45**	*e*Pg	Pg	22 47 15.7	-3.9
LASF				*e*Sg	Sg	22 47 47.4	-5.1
	1.5nm,0.2s						
LASF	**Ste Croix**	**2.47**	**45**	Pn	Pn	22 47 09.9	-1.7
LASF				Pg	Pg	22 47 15.7	-3.9
LASF				Lg		22 47 47.4	
	0.8nm,0.2s						
CAF	**Calviac**	**2.62**	**10**	*e*Pn	Pn	22 47 10.9	-2.7
CAF	**Calviac**	**2.62**	**10**	*e*P	Pn	22 47 13.6	0.0
CAF	**Calviac**	**2.62**	**10**	*e*Pg	Pg	22 47 18.5	-3.9
CAF				*e*Sn	Sn	22 47 41.7	-4.3
CAF				*e*Sg	Sg	22 47 52.8	-4.5
	3.7nm,0.2s						
CAF	**Calviac**	**2.62**	**10**	Pn	Pn	22 47 10.9	-2.7
CAF				P		22 47 13.6	
CAF				Pg	Pg	22 47 18.5	-3.9
CAF				Sn	Sn	22 47 41.7	-4.3
CAF				Lg		22 47 52.8	
	1.9nm,0.2s						
LFF	**La Frestale**	**2.64**	**349**	*e*P	Pn	22 47 14.2	+0.2
LFF				*e*Sn	Sn	22 47 42.2	-4.4
LFF				*e*Sg	Sg	22 47 53.8	-4.3
	4.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.96**	**1**	*e*Pn	Pn	22 47 15.6	-2.9
RJF	**Les Rejaudoux**	**2.96**	**1**	*e*Pg	Pg	22 47 24.4	-4.8
RJF				*e*Sn	Sn	22 47 49.4	-5.2
RJF				*e*Sg	Sg	22 48 03.7	-4.9
	2.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.96**	**1**	Pn	Pn	22 47 15.6	-2.9
RJF				Pg	Pg	22 47 24.4	-4.8
RJF				Sn	Sn	22 47 49.4	-5.2
RJF				Lg		22 48 03.7	
	1.1nm,0.2s						
VIVF	**Saint-Julien-l**	**3.44**	**42**	*e*Sg	Sg	22 48 17.9	-6.7
	0.9nm,0.3s						
SMRF	**Simiane la Rot**	**3.44**	**60**	*e*Sn	Sn	22 48 00.5	-6.3
SMRF				*e*Sg	Sg	22 48 17.3	-7.3
	1.3nm,0.3s						
TCF	**Toulx Ste Croi**	**3.98**	**8**	*e*Pg	Pg	22 47 43.6	-6.0
TCF				*e*Sn	Sn	22 48 14.0	-6.5
TCF				*e*Sg	Sg	22 48 34.3	-8.3
	1.0nm,0.3s						
BGF	**Bois d'Agland**	**4.33**	**13**	*e*Sg	Sg	22 48 45.5	-8.8
	4.8nm,0.4s						
MFF	**Saint Martin d**	**4.40**	**346**	*e*Sn	Sn	22 48 24.3	-6.9
MFF				*e*Sg	Sg	22 48 48.1	-8.6
	0.5nm,0.3s						

*ISK **27** 23:20:30.5,38.33N×38.81E,h5km,MD3.5*
*NEIC **27** 23:20:30.5,38.33N×38.81E,h5km,MD3.5(ISK),After ISK.*
*CSEM **27** 23:20:30.5,38.33N×38.81E,h5km,MD3.5,After ISK*
ISC 27 23:20:31.8±0.4,38.34N±0.03×38.81E±0.04,h5km,n23, σ0§87/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.21**	**41**	*i* P	**Pg**	**23 20 36.4**	**+0.3**
ELZG				*i* S	**Sg**	**23 20 39.5**	**+0.5**
MALT	**Malatya**	**0.30**	**265**	*i* PG	**Pg**	**23 20 36.9**	**-1.0**
MYA	**Malataya**	**0.30**	**268**	*i* PG	**Pg**	**23 20 37.9**	**0.0**
PTK	**Pertek**	**0.72**	**40**	PG	**Pg**	**23 20 45.1**	**-1.1**
PTK				SG	**Sg**	**23 20 56.3**	**+0.5**
URFA	**Urfa**	**0.90**	**179**	PG	**Pg**	**23 20 48.0**	**-1.7**
ATAB	**Bozova**	**0.96**	**205**	*i* P	**Pb**	**23 20 49.6**	**-0.9**
ATAB				*i* S	**Sb**	**23 21 04.1**	**+0.8**
DIY	**Diyarbakir**	**1.20**	**111**	PN	**Pn**	**23 20 54.9**	**-0.4**
GZT	**Gaziantep**	**1.39**	**225**	*i* P	**Pb**	**23 20 57.2**	**-0.7**
GZT				*i* S	**Sb**	**23 21 17.7**	**+1.8**
EZC	**Erzincan**	**1.61**	**29**	*e*PN	**Pn**	**23 20 59.5**	**-1.6**
GAZ	**Gaziantep**	**1.72**	**228**	PN	**Pn**	**23 21 02.6**	**0.0**
MARD	**Mardin**	**1.87**	**123**	*i* P	**Pn**	**23 21 04.2**	**-0.6**
MARD				*i* S	**Sn**	**23 21 30.8**	**+1.8**
BEST	**Besiri**	**1.99**	**102**	*i* P	**Pn**	**23 21 06.9**	**+0.3**
BEST				*i* S	**Sn**	**23 21 32.8**	**+0.6**
SVSK	**Karacayir**	**2.11**	**319**	PN	**Pn**	**23 21 09.0**	**+0.7**
BTMT	**Batman**	**2.12**	**93**	PN	**Pn**	**23 21 07.0**	**-1.3**
GUMT	**Gumushane**	**2.18**	**14**	*e*PN	**Pn**	**23 21 09.6**	**+0.3**
BNN	**Bunyan**	**2.38**	**283**	*e*PN	**Pn**	**23 21 12.2**	**+0.2**
KOZT	**Kozan**	**2.51**	**251**	*e*PN	**Pn**	**23 21 14.5**	**+0.6**
EZM	**Erzurum**	**2.53**	**51**	PN	**Pn**	**23 21 15.3**	**+1.1**
COBT	**Iskenderun**	**2.72**	**229**	*i* P	**Pn**	**23 21 23.4**	**+6.4**
COBT				*i* S	**Sn**	**23 21 57.2**	**+6.4**
HTY	**Hatay**	**3.07**	**225**	*e*PN	**Pn**	**23 21 21.7**	**-0.3**
CORM	**Corum**	**3.73**	**301**	*e*PN	**Pn**	**23 21 31.3**	**0.0**
HKR	**Hakkari**	**3.97**	**100**	*e*PN	**Pn**	**23 21 34.4**	**-0.4**
KAMT	**Kaman**	**4.11**	**286**	*e*PN	**Pn**	**23 21 37.2**	**+0.5**

IDC 27 23:53:45.4±39.0,48.36N×151.79E,mb3.7/4,mb1 3.8/4, mb1mx3.4/20,mbtmp3.7/4,Error ellipse: s-maj=888.5km s-min=71.4km az=151.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.42**	**295**	P	P	00 02 05.6	-1.7
	0.1nm,0.5s,baz=62,slow=5.5,SNR=3.0						
FINES	**FINESS Array B**	**62.20**	**334**	P	P	00 04 08.4	-2.0
	0.6nm,0.4s,baz=27,slow=8.5,SNR=9.4						
NOA	**NORSAR Array B**	**66.42**	**340**	P	P	00 04 36.0	-1.8
	0.3nm,0.5s,baz=37,slow=6.7,SNR=2.6						
HFS	**Hagfors**	**66.64**	**339**	P	P	00 04 36.8	-2.4
	1.4nm,0.5s,baz=59,slow=8.4,SNR=6.9						

*NDI **28** 00:01:38.0±1.7,34.99N×73.83E,h37km±999km,MD3.5, ML3.5*
*NNC **28** 00:01:49.6±161.0,34.23N×72.19E,mb3.9,mpv3.6,Error ellipse: s-maj=1834.9km s-min=1472.8km az=82.0*
ISC 28 00:01:49.1±0.8,34.79N±0.07×75.2E±0.1,h33km,n11, σ0§70/18,1C,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.33**	**165**	*e*P	**P**	**00 02 24.0**	**-1.7**
DLH				*e*S	**P**	**00 02 24.0**	**-1.7**
THN	**Thein Dam**	**2.39**	**170**	*e*P	**P**	**00 02 22.5**	**-4.1**
THN				*e*S	**S**	**00 02 55.7**	**+0.7**
SDNR	**Sundarnagar**	**3.59**	**156**	*e*P	**P**	**00 02 48.0**	**+4.3**
SDNR				*e*S	**S**	**00 03 35.0**	**+9.5**
KLP	**Kalpa**	**4.12**	**141**	*e*P	**P**	**00 02 51.5**	**+0.4**
KLP				*e*S	**S**	**00 03 44.3**	**+5.5**
KLP				AML	AML	00 04 09.9	
	comp=E,102nm,0.9s						
KLP				AML	AML	00 04 11.7	
	comp=N,91nm,0.5s						
KK31	**Karatay Array**	**9.08**	**337**	P	**P**	**00 04 00.2**	**-0.5**
	comp=N,0.8nm,0.3s,baz=161,slow=12,SNR=30						
KK31				⇑S	**S**	**00 05 43.1**	**+0.2**
	comp=N,0.9nm,0.4s,baz=174,slow=23						
KOLN

MCK pmax pmax
comp=Z,148nm,1.7s
MCK McKinley 13.16 32 *e*P **P 00 06 07.7 -2.7**
comp=Z,148nm,1.7s
FX1 Attu Island--F 13.43 277 Pn **P 00 06 13.7 -0.3**
comp=Z,8.0nm,0.3s,baz=33,slow=15,SNR=9.9
FX1 LR LR 00 10 49.6
comp=Z,125nm,20.7s,baz=328,slow=35
FX1 Attu Island--F 13.43 277 P **P 00 06 13.7 -0.2**
FX1 pmax pmax
comp=Z,8.0nm,0.3s
FX1 MLR MLR
comp=Z,125nm,20.7s
IMA2 Indian Mountai 13.85 19 *e*P **P 00 06 19.0 -0.2**
COLA College 14.31 30⇑*e*P **P 00 06 21.8 -3.5**
ILAR Eielson Array 14.53 31 Pn **P 00 06 23.1 -5.1**
comp=Z,0.4nm,0.3s,baz=229,slow=12,SNR=27
ILAR LR LR 00 12 31.5
comp=Z,5µm,18.6s,baz=247,slow=39
DAWY Dawson 16.76 40 *e*P **P 00 06 53.6 -3.2**
DLBC Dease Lake 19.83 61 P **P 00 07 34.0 +0.3**
comp=Z,0.6nm,0.3s,baz=278,slow=9.6,SNR=27
DLBC LR LR 00 15 21.1
comp=Z,2µm,18.1s,baz=62,slow=37
DLBC Dease Lake 19.83 61 *e*P **P 00 07 33.3 -0.4**
BILL Bilibino 20.23 328 *de*P **P 00 07 36.6 -1.3**
BILL *e* 00 07 47.6
BILL *e* 00 07 54.4
BILL *e*S **S 00 11 20.5 +2.5**
BILL pmax pmax
comp=Z,65nm,1.3s
BILL MLR MLR
comp=Z,5µm,15.0s,MS5.0
BILL Bilibino 20.23 328 *e*P **P 00 07 35.8 -2.1**
comp=Z,54nm,1.0s
INK Inuvik 20.92 32 P **P 00 07 42.0 -3.0**
comp=Z,32nm,1.0s,baz=237,slow=11,SNR=52
INK LR LR 00 15 59.4
comp=Z,2µm,18.0s,MS4.6,baz=237,slow=37
INK Inuvik 20.92 32 P **P 00 07 42.0 -3.1**
INK pmax pmax
comp=Z,32nm,1.0s
INK MLR MLR
comp=Z,2µm,18.0s
INK Inuvik 20.92 32 *e*P **P 00 07 40.6 -4.5**
comp=Z,82nm,0.6s
BBB Bella Bella 21.89 78 P **P 00 07 54.0 -0.8**
comp=Z,30nm,1.0s,mb4.7,baz=288,slow=12,SNR=2.7
BBB LR LR 00 14 24.4
comp=Z,1µm,19.1s,MS4.3,baz=292,slow=31
PET Petropavlovsk 21.94 284 *i* P **P 00 07 56.6 +1.2**
PET Petropavlovsk 21.94 284 *i* P **P 00 07 56.7 +1.3**
SEY Seymchan 24.25 310⇑*e*P **P 00 08 19.8 +2.1**
MA2 Magadan 25.09 302 *e*P **P 00 08 26.0 +0.1**
MA2 *e* 00 09 13.8
MA2 *e* 00 13 50.6
MA2 pmax pmax
comp=Z,20nm,1.0s,mb4.6
MA2 smax
comp=E,10.0nm,0.7s
MA2 Magadan 25.09 302⇓*e*P **P 00 08 25.6 -0.3**
YKW3 Yellowknife Ar 27.35 50 *e*P **P 00 08 44.9 -1.8**
YKA Yellowknife Ar 27.36 51 P **P 00 08 46.0 -0.8**
comp=E,14nm,0.9s,mb4.5,baz=272,slow=7.9,SNR=139
YKA LR LR 00 20 42.1
comp=E,2µm,18.2s,MS4.8,baz=250,slow=39
YKA Yellowknife Ar 27.36 51 P **P 00 08 46.0 -0.8**
YKA pmax pmax
comp=Z,14nm,0.9s
YKA MLR MLR
comp=Z,2µm,18.2s
YKA Yellowknife Ar 27.36 51 P **P 00 08 46.0 -0.8**
YKA LR LR 00 20 42.1
HAWA Hanford 29.39 85 *e*P **P 00 09 04.3 -0.9**
comp=Z,1.9nm,0.9s
NEW Newport 29.91 80 P **P 00 09 08.8 -1.1**
comp=Z,2.4nm,0.6s,mb4.1,baz=296,slow=7.0,SNR=5.0
NEW LR LR 00 18 40.4
comp=Z,897nm,21.7s,MS4.4,baz=286,slow=31
EDM Edmonton 30.04 69 *e*P **P 00 09 10.5 -0.4**
YBH Yreka Blue Hor 30.07 96 P **P 00 09 12.5 +1.1**
comp=Z,7.4nm,0.9s,mb4.4,baz=283,slow=5.0,SNR=7.9
YBH LR LR 00 20 19.3
comp=Z,939nm,18.2s,MS4.5,baz=311,slow=34
YBH Yreka Blue Hor 30.07 96 P **P 00 09 12.5 +1.2**
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH MLR MLR
comp=Z,939nm,18.2s
YBH Yreka Blue Hor 30.07 96 P **P 00 09 12.5 +1.1**
YBH LR LR 00 20 19.3
WVOR Wild Horse Val 32.09 91 *e*P **P 00 09 29.9 +0.7**
WVOR pmax pmax
comp=Z,28nm,1.1s,mb5.0
WVOR Wild Horse Val 32.09 91 *e*P **P 00 09 29.9 +0.7**
comp=Z,28nm,1.1s,mb5.0
TIXI Tiksi 33.45 328 *i* P **P 00 09 41.7 +1.0**
YSS Yuzh-Sakhalins 33.74 281⇑*e*P **P 00 09 43.2 -0.2**
YSS Yuzh-Sakhalins 33.74 281⇓*e*P **P 00 09 42.4 -1.0**
HLID Hailey 33.97 86 *e*P **P 00 09 45.6 +0.2**
comp=Z,38nm,1.6s,mb5.1
MCMT McKenzie Canyo 34.20 83 *e*P **P 00 09 47.3 -0.1**
RES Resolute Bay 34.20 26 *e*P **P 00 09 45.4 -1.7**
RES pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
RES Resolute Bay 34.20 26 *e*P **P 00 09 45.4 -1.8**
comp=Z,5.2nm,0.5s,mb4.7
EGMT Eagleton 34.35 76 *e*P **P 00 09 47.8 -0.9**
comp=Z,15nm,1.1s,mb4.8
LRV Little Rabbit 34.50 102 P **P 00 09 49.4 -0.7**
YAK Yakutsk 34.77 311 *e*P **P 00 09 48.6 -3.5**
YAK *e**PP pP 00 09 58.0 -4.5
YAK *e* 00 12 24.4
YAK *e**SS 00 15 12.9
YAK pmax pmax
comp=Z,18nm,1.0s,mb5.0
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK MLR MLR
comp=Z,1µm,17.0s,MS4.8
YAK MLR MLR
comp=N,436nm,14.0s,MS4.8
YAK MLR MLR
comp=E,1µm,16.0s,MS4.8
YAK Yakutsk 34.77 311⇑*e*P **P 00 09 50.3 -1.8**
NVAR Mina Array Bea 34.77 96 P **P 00 09 53.7 +1.3**
comp=E,8.9nm,0.7s,mb4.8,baz=294,slow=8.8,SNR=59
NVAR ScP 00 16 08.4
comp=E,0.6nm,0.8s,baz=249,slow=8.3,SNR=4.6
NVAR Mina Array Bea 34.77 96 P **P 00 09 53.7 +1.3**
NVAR ScP 00 16 08.4
QLMT Earthquake Lak 35.04 82 P **P 00 09 53.6 -1.0**
ASAJ Asahikawa 35.36 277 P **P 00 09 56.9 -0.5**
comp=E,54nm,0.9s,mb5.5,baz=314,slow=2.5,SNR=10
ASAJ Asahikawa 35.36 277 P **P 00 09 56.9 -0.4**
ASAJ pmax pmax
comp=Z,54nm,0.9s
PTRM Twissleman Ran 35.50 102 P **P 00 09 58.1 -0.5**
BGU Big Grassy Mou 36.35 89 *e*P **P 00 10 06.8 +1.0**
DAC Darwin (Calif) 36.62 99 *e*P **P 00 10 08.4 +0.3**
DAC pmax pmax
comp=Z,12nm,0.8s,mb4.8
DAC Darwin (Calif) 36.62 99 *e*P **P 00 10 08.4 +0.3**
comp=Z,12nm,0.8s,mb4.8
DUG Dugway 36.94 89 *e*P **P 00 10 10.9 +0.2**
DUG pmax pmax
comp=Z,42nm,1.4s,mb5.1
DUG Dugway 36.94 89 *e*P **P 00 10 10.9 +0.2**
comp=Z,42nm,1.4s,mb5.1
TPNV Topopah Spring 36.97 97 *e*P **P 00 10 11.7 +0.7**
TPNV pmax pmax
comp=Z,29nm,1.0s,mb5.1
TPNV Topopah Spring 36.97 97 *e*P **P 00 10 11.7 +0.7**
comp=Z,29nm,1.0s,mb5.1
BW06 Boulder Array 37.33 84 *e*P **P 00 10 14.0 0.0**
comp=Z,22nm,1.5s,mb4.8
PDAR Pinedale Array 37.33 84 P **P 00 10 14.3 +0.4**
comp=Z,1.6nm,0.5s,mb4.1,baz=298,slow=3.7,SNR=20
PDAR LR LR 00 24 12.8
comp=Z,172nm,21.9s,MS3.8,baz=66,slow=34
DGMT Dagmar 37.34 72 *e*P **P 00 10 13.2 -0.7**
comp=Z,23nm,0.9s,mb5.0
HABR Khabarovsk 37.44 288 *e*P **P 00 10 22.0 +7.2**
HABR pmax pmax
comp=Z,58nm,0.7s,mb5.5
HABR MLR MLR
comp=Z,407nm,10.6s,MS4.5
DAU Daniels Canyon 37.73 88 *e*P **P 00 10 18.3 +0.9**
MWC Mount Wilson 37.77 101 P **P 00 10 18.3 +0.6**
FCC Fort Churchill 38.02 53 *e*P **P 00 10 18.7 -0.8**
FCC pmax pmax
comp=Z,70nm,1.3s,mb5.2
FCC Fort Churchill 38.02 53 *e*P **P 00 10 18.7 -0.8**
comp=Z,70nm,1.3s,mb5.2
ARUT Antelope Range 38.09 93 *e*P **P 00 10 21.3 +0.9**
MSU Marysvale 38.38 91 *e*P **P 00 10 23.7 +0.9**
NEN Nelson 38.68 97 *e*P **P 00 10 26.3 +1.0**
KLR Kul'dur 38.91 291 *e*P **P 00 10 21.6 -5.5**
KLR MLR MLR
comp=E,1µm,18.0s
SRU San Rafael 38.99 89 *e*P **P 00 10 28.4 +0.6**
SRU pmax pmax
comp=Z,54nm,1.4s,mb5.1
SRU San Rafael 38.99 89 *e*P **P 00 10 28.4 +0.5**
comp=Z,54nm,1.4s,mb5.1
BAR Barrett 39.68 102 *e*P **P 00 10 34.1 +0.5**
RSSD Black Hills 39.81 78 *e*P **P 00 10 33.7 -0.9**
RSSD pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
RSSD Black Hills 39.81 78 *e*P **P 00 10 33.7 -0.9**
comp=Z,8.2nm,0.8s,mb4.5
PV10 Paradox Valley 40.35 89 *e*P **P 00 10 39.6 +0.5**
PV01 Paradox Valley 40.79 89 *e*P **P 00 10 42.9 +0.1**
WUAZ Wupatki 40.84 94 *e*P **P 00 10 44.4 +1.1**
comp=Z,27nm,0.7s,mb5.0
ULM Lac du Bonnet 41.06 66 P **P 00 10 44.6 -0.3**
comp=Z,11nm,0.8s,mb4.5,baz=291,slow=8.7,SNR=25
ULM LR LR 00 27 33.9
comp=Z,651nm,18.9s,MS4.5,baz=181,slow=36
MAJO Matsushiro 42.67 271 *e*P **P 00 10 58.0 -0.2**
MAJO pmax pmax
comp=Z,40nm,0.9s,mb5.2
MAJO Matsushiro 42.67 271 *e*P **P 00 10 58.0 -0.2**
comp=Z,40nm,0.9s,mb5.2
MAT Matsushiro 42.67 271 P **P 00 10 57.6 -0.6**
MAT *S* **S 00 17 36.6 +18**
MAT Matsushiro 42.67 271 *e*P **P 00 10 58.0 -0.2**
MAT pmax pmax
comp=Z,38nm,1.1s,mb5.0
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.6
MAT Matsushiro 42.67 271 *e*P **P 00 10 58.0 -0.2**
comp=Z,38nm,1.1s,mb5.0
MAT *e*S **S 00 17 33.0 +14**
MAT LR LR
comp=Z,710nm,20.0s,MS4.6
MJAR Matsushiro Arr 42.67 271 P **P 00 10 57.5 -0.7**
comp=Z,17nm,1.2s,mb4.7,baz=34,slow=6.8,SNR=12
MJAR LR LR 00 27 00.7
comp=Z,771nm,21.0s,MS4.6,baz=65,slow=34
MDJ Mudanjiang 42.71 286 P **P 00 10 57.0 -1.3**
MDJ AP pP 00 11 06.0 -2.9
MDJ XP sP 00 11 09.0 -4.4
MDJ PP PP 00 12 35.8 -4.2
MDJ PCP PcP 00 12 49.5 -0.7
MDJ SCP 00 16 38.0
MDJ S **S 00 17 17.5 -1.5**
MDJ AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,80nm,5.0s
MDJ LR LR
comp=N,830nm,24.4s,MS4.6
MDJ LR LR
comp=E,460nm,26.1s,MS4.6
MDJ LR LR
comp=Z,910nm,22.4s,MS4.6
SDCO Great Sand Dun 42.88 87 *e*P **P 00 11 00.2 +0.3**
comp=Z,31nm,1.4s,mb4.8
TUC Tucson 43.42 97 *e*P **P 00 11 05.3 +0.9**
TUC pmax pmax
comp=Z,25nm,1.3s,mb4.8
TUC Tucson 43.42 97 *e*P **P 00 11 05.3 +0.9**
comp=Z,25nm,1.3s,mb4.8
BOD Bodaibo 43.67 310 *e*P **P 00 11 04.3 -1.7**
BOD pmax pmax
comp=Z,27nm,1.0s,mb4.9
ANMO Albuquerque 44.17 91 P **P 00 11 11.2 +0.8**
comp=Z,3.2nm,0.7s,mb4.2,baz=333,slow=9.7,SNR=7.3
ANMO Albuquerque 44.17 91⇓*e*P **P 00 11 11.4 +1.0**
EYMN Ely 44.74 66 *e*P **P 00 11 13.0 -1.7**
comp=Z,18nm,0.9s,mb4.9
HIA Hailar 45.48 297 *e*P **P 00 11 18.8 -1.8**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 45.48 297 *e*P **P 00 11 18.8 -1.8**
comp=Z,5.6nm,0.6s,mb4.6
CN2 Changchun 45.58 288 *e*P **P 00 11 19.8 -1.7**
CN2 *e*XP sP 00 11 32.3 -4.3
CN2 *e*S **S 00 17 59.5 -1.0**
CN2 LR LR
comp=N,700nm,19.0s,MS4.8
CN2 LR LR
comp=E,800nm,19.0s,MS4.8
CN2 LR LR
comp=Z,800nm,22.0s,MS4.6
CIT Chita 47.08 303 *e*P **P 00 11 32.8 -0.4**
CIT *e* pP 00 11 45.3 +1.5
CIT pmax pmax
comp=Z,53nm,1.1s,mb5.4
MNTX Cornudas Mount 47.08 93 *e*P **P 00 11 33.8 +0.3**
comp=Z,19nm,1.0s,mb5.0
SNY Shenyang 47.88 287 ⇑P **P 00 11 39.0 -0.7**
SNY AMB AMB
comp=Z,20nm,1.7s,mb4.9
SNY LR LR
comp=N,630nm,21.0s
SNY LR LR
comp=Z,860nm,20.9s,MS4.7
KS15 Wonju Array Si 48.23 279 *e*P **P 00 11 42.0 -0.5**
DAG Danmarks Havn 48.36 10⇓*i*P **P 00 11 41.7 -1.2**
comp=Z,16nm,0.7s,mb5.2
DAG Danmarks Havn 48.36 10⇓*e*P **P 00 11 41.7 -1.2**
DAG pmax pmax
comp=Z,16nm,0.7s,mb5.2
DAG Danmarks Havn 48.36 10⇓*e*P **P 00 11 41.7 -1.2**
comp=Z,16nm,0.7s,mb5.2
WMOK Wichita Mounta 48.92 85 *e*P **P 00 11 46.8 -1.0**
WMOK pmax pmax
comp=Z,19nm,0.9s,mb5.1
WMOK Wichita Mounta 48.92 85 *e*P **P 00 11 46.8 -1.0**
comp=Z,20nm,0.9s,mb5.1
SUMG Summit 48.95 19 *e*P **P 00 11 47.3 -0.2**
comp=Z,98nm,1.0s,mb5.8
LTX Lajitas 49.81 94 *e*P **P 00 11 54.5 -0.2**
LTX pmax pmax
comp=Z,48nm,1.2s,mb5.4
LTX Lajitas 49.81 94 *e*P **P 00 11 54.5 -0.2**
comp=Z,48nm,1.2s,mb5.4
TXAR Lajitas Array 49.81 94 P **P 00 11 55.0 +0.3**
comp=Z,11nm,0.7s,mb5.0,baz=301,slow=5.3,SNR=136
TXAR LR LR 00 31 38.3
comp=Z,350nm,18.4s,MS4.4,baz=15,slow=34
SFJD Kangerlussuaq 50.17 28 *i* P **P 00 11 56.3 -0.7**
comp=Z,53nm,1.0s,mb5.5
SFJD Kangerlussuaq 50.17 28 *e*P **P 00 11 56.2 -0.7**
SFJ Sondre 50.17 28 *i* P **P 00 11 56.3 -0.7**
comp=Z,53nm,1.0s,mb5.5
CCM Cathedral Cave 51.12 76 *e*P **P 00 12 01.6 -2.9**
CCM pmax pmax
comp=Z,16nm,0.9s,mb5.0
CCM Cathedral Cave 51.12 76 *e*P **P 00 12 01.6 -3.0**
comp=Z,16nm,0.9s,mb5.0
JCT Junction City 51.30 89 *e*P **P 00 12 04.8 -1.2**
JCT pmax pmax
comp=Z,59nm,1.0s,mb5.5
JCT Junction City 51.30 89 *e*P **P 00 12 04.8 -1.2**
comp=Z,59nm,1.0s,mb5.5
FVM French Village 51.64 76 *e*P **P 00 12 05.8 -2.7**
FVM pmax pmax
comp=Z,87nm,1.6s,mb5.4
FVM French Village 51.64 76 *e*P **P 00 12 05.8 -2.7**
comp=Z,87nm,1.6s,mb5.4
SCHQ Schefferville 52.66 46 P **P 00 12 14.7 -1.1**
comp=Z,17nm,0.9s,mb5.0,baz=310,slow=8.3,SNR=13
SCHQ Schefferville 52.66 46 *e*P **P 00 12 14.3 -1.5**
comp=Z,51nm,1.2s,mb5.3
ULN Ulaanbaatar 52.95 303⇑*i*P **P 00 12 17.2 -1.0**
ULN Ulaanbaatar 52.95 303 *e*P **P 00 12 16.9 -1.3**
comp=Z,41nm,0.9s,mb5.4
BLO Bloomington 53.08 72 *e*P **P 00 12 17.2 -2.1**
BLO pmax pmax
comp=Z,40nm,0.9s,mb5.3
BLO Bloomington 53.08 72 *e*P **P 00 12 17.2 -2.0**
comp=Z,40nm,0.9s,mb5.3
SONM Songino Array 53.31 303 P **P 00 12 19.8 -1.0**
comp=Z,29nm,1.0s,mb5.2,baz=38,slow=8.7,SNR=115
SONM PcP PcP 00 13 28.3 +0.3
comp=Z,5.6nm,0.9s,baz=56,slow=0.4,SNR=4.3
SONM LR LR 00 36 35.1
comp=Z,790nm,19.6s,MS4.8,baz=235,slow=38
SONM Songino Array 53.31 303 P **P 00 12 19.8 -1.0**
SONM 00 13 28.3
SONM pmax pmax
comp=Z,29nm,1.0s
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM MLR MLR
comp=Z,790nm,19.6s
MOY Mondy 53.37 309 *e*P **P 00 12 20.3 -0.9**
MOY pmax pmax
comp=Z,34nm,1.6s,mb5.0
SADO Sadowa 53.39 62 P **P 00 12 19.8 -1.7**
comp=Z,3.7nm,0.7s,mb4.4,baz=334,slow=11,SNR=4.1
SCO Scoresbysund 53.58 15 *i* P **P 00 12 22.4 -0.1**
KRAR Krasnoyarsk 53.96 317 *e*P **P 00 12 24.2 -1.3**
WVT Waverly 54.42 76 *e*P **P 00 12 27.2 -2.0**
WVT pmax pmax
comp=Z,42nm,0.9s,mb5.4
WVT Waverly 54.42 76 *e*P **P 00 12 27.2 -2.0**
comp=Z,42nm,0.9s,mb5.4
OXF Oxford 54.63 78 *e*P **P 00 12 28.7 -2.0**
OXF pmax pmax
comp=Z,84nm,0.9s,mb5.8
OXF Oxford 54.63 78 *e*P **P 00 12 28.7 -2.0**
comp=Z,84nm,0.9s,mb5.8
ALLY Alegheny Colle 54.96 66 *e*P **P 00 12 30.4 -2.6**
TIA Tai'an 55.37 286 *e*P **P 00 12 35.0 -1.1**
TIA AMB AMB
comp=Z,20nm,1.1s,mb5.1
BTO Baotou 56.31 294 *e*P **P 00 12 40.8 -2.0**
MCWV Mont Chateau 56.50 67 *e*P **P 00 12 41.9 -2.2**
comp=Z,16nm,0.8s,mb5.1
TZTN Tazewell 56.60 72 *e*P **P 00 12 42.6 -2.2**
SSE Sheshan 56.62 278 P **P 00 12 45.0 -0.1**
SSE AP pP 00 12 56.5 +0.5
SSE PCP PcP 00 13 40.8 -0.2
SSE PP PP 00 14 47.0 -5.7
SSE S **S 00 20 31.3 -1.5**
SSE SCS ScS 00 22 30.3 +2.6
SSE SS SS 00 24 20.0 -1.3
SSE AMB AMB
comp=Z,20nm,1.2s,mb5.0
SSE AMB AMB
comp=Z,170nm,4.9s
SSE LR LR
comp=N,160nm,25.9s,MS4.2
SSE LR LR
comp=E,170nm,25.9s,MS4.2
SSE LR LR
comp=Z,260nm,24.3s,MS4.2
KEV Kevo 56.93 355 *ep* **P 00 12 44.7 -2.1**
comp=Z,24nm,0.9s,mb5.2
KEV Kevo 56.93 355 *e*P **P 00 12 44.7 -2.1**
KEV pmax pmax
comp=Z,24nm,0.9s,mb5.2
KEV Kevo 56.93 355 *e*P **P 00 12 44.9 -1.9**
comp=Z,26nm,0.8s,mb5.3
LRAL Lakeview Retre 57.09 78 *e*P **P 00 12 45.2 -3.2**
comp=Z,8.7nm,0.8s,mb4.8
ARCES ARCESS Array B 57.22 356 P **P 00 12 47.3 -1.6**
comp=Z,11nm,0.7s,mb5.0,baz=13,slow=8.0,SNR=31
ARCES LR LR 00 39 26.7
comp=Z,738nm,19.1s,MS4.8,baz=5.6,slow=38
ARCES ARCESS Array B 57.22 356 P **P 00 12 47.3 -1.6**
ARCES pmax pmax
comp=Z,11nm,0.7s
ARCES MLR MLR
comp=Z,738nm,19.1s
NJ2 Nanjing 57.31 281 *e*P **P 00 12 49.0 -1.0**
NJ2 AP pP 00 12 59.0 -1.9
NJ2 XP sP 00 13 03.0 -2.2
NJ2 PP PP 00 14 57.8 -1.1
NJ2 S **S 00 20 40.0 -1.9**
NJ2 XS 00 20 57.0
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,150nm,4.0s
NJ2 LR LR
comp=N,660nm,24.4s,MS5.2
NJ2 LR LR
comp=E,2µm,25.6s,MS5.2
NJ2 LR LR
comp=Z,560nm,29.9s,MS4.5
BLA Blacksburg 57.90 70 *e*P **P 00 12 51.7 -2.4**
BLA pmax pmax
comp=Z,27nm,0.8s,mb5.3
BLA Blacksburg 57.90 70 *e*P **P 00 12 51.7 -2.3**
comp=Z,28nm,0.8s,mb5.3
NVS Novosibirsk 58.58 321 *i* P **P 00 12 56.0 -2.6**
APA Apatity 58.67 352⇓*i*P **P 00 12 49.0 -10**
APA *i* 00 13 47.2
JSC Jenkinsville 59.52 73 *e*P **P 00 13 02.9 -2.5**
WHN Wuhan 61.05 283 P **P 00 13 14.8 -1.0**
XAN Xi'an 61.61 290 P **P 00 13 18.3 -1.3**
XAN AP pP 00 13 27.0 -3.5
XAN AMB AMB
comp=Z,10.0nm,1.4s,mb4.8
XAN LR LR
comp=N,320nm,21.8s,MS4.7
XAN LR LR
comp=E,450nm,19.8s,MS4.7
XAN LR LR
comp=Z,590nm,20.9s,MS4.7
GTA Gaotai 62.62 300 *e*P **P 00 13 24.8 -1.5**
GTA AP pP 00 13 33.8 -3.4
GTA XP sP 00 13 38.0 -3.5
GTA PCP PcP 00 14 01.8 -2.9
GTA PP PP 00 15 45.5 -0.5
GTA SCP 00 18 02.0
GTA S **S 00 21 52.3 +2.2**
GTA XS 00 22 05.5
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,240nm,7.6s
GTA LR LR
comp=N,890nm,15.6s,MS5.2
GTA LR LR
comp=E,1µm,17.5s,MS5.2
GTA LR LR
comp=Z,2µm,16.7s,MS5.3
SOKR Solikamsk 62.65 338⇓*i*P **P 00 13 24.8 -1.4**
SOKR pmax pmax
comp=Z,70nm,1.0s,mb5.8
SOKR MLR MLR
comp=Z,800nm,16.0s,MS5.0
LZH Lanzhou 62.93 295 *e*P **P 00 13 27.5 -0.9**
LZH AP pP 00 13 40.0 +0.6
LZH AMB AMB
comp=Z,40nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,160nm,4.5s
JOF Joensuu 63.42 352 *ep* **P 00 13 29.4 -1.9**
comp=Z,14nm,0.8s,mb5.2
KURK Kurchatov 63.56 321 P **P 00 13 31.0 -1.2**
KURK pmax pmax
comp=Z,20nm,1.1s,mb5.1
KURK Kurchatov 63.56 321 *e*P **P 00 13 30.6 -1.5**
comp=Z,35nm,1.1s,mb5.3
ENH Enshi 64.07 286 *e*P **P 00 13 34.8 -1.1**
comp=Z,55nm,1.1s,mb5.5
KLMR Klimovskoe 64.56 347*c* *i*P **P 00 13 36.9 -1.6**
KLMR pmax pmax
comp=Z,80nm,1.5s,mb5.5
KLMR MLR MLR
comp=Z,920nm,20.0s,MS5.0
BVA0 Borovoye Array 64.58 327 *i* P **P 00 13 38.1 -0.6**
BVA0 pmax pmax

comp=Z,6.0nm,0.9s,mb4.6
BVAR Borovoye Array 64.58 327 P **P 00 13 38.0 -0.7**
comp=Z,30nm,0.8s,mb5.4,baz=44,slow=6.8,SNR=129
BVAR Borovoye Array 64.58 327 P **P 00 13 38.0 -0.7**
BVAR pmax pmax
comp=Z,30nm,0.8s
KAF Kangasniemi 64.58 354 *ep* **P 00 13 37.4 -1.2**
comp=Z,9.5nm,0.6s,mb5.0
KAF Kangasniemi 64.58 354 *eP* **P 00 13 37.4 -1.2**
KAF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
BRVK Borovoye 64.58 327 *eP* **P 00 13 38.0 -0.8**
BRVK pmax pmax
comp=Z,23nm,0.9s,mb5.2
BRVK Borovoye 64.58 327 *eP* **P 00 13 38.0 -0.8**
comp=Z,23nm,0.9s,mb5.2
VOSK Vostochnaya 64.63 326 P **P 00 13 37.7 -1.4**
VOSK pmax pmax
comp=Z,18nm,1.1s,mb5.0
ARU Arti 65.04 335⇑ *i*P **P 00 13 40.6 -1.1**
ARU *e* 00 14 12.9
ARU *e*S S 00 22 20.2 +0.5
ARU *e*SS SS 00 26 35.8 +1.8
ARU pmax pmax
comp=Z,45nm,0.9s,mb5.5
ARU Arti 65.04 335 *eP* **P 00 13 40.2 -1.5**
comp=Z,46nm,0.9s,mb5.5
ZRNK Zerenda 65.09 328 P **P 00 13 41.2 -0.8**
ZRNK pmax pmax
comp=Z,48nm,0.9s,mb5.5
ZRNK Zerenda 65.09 328 *eP* **P 00 13 40.9 -1.1**
comp=Z,70nm,0.8s,mb5.7
WMQ Urumqi 65.21 311 P **P 00 13 42.3 -0.7**
WMQ AP pP 00 13 52.3 -1.8
WMQ XP sP 00 13 56.3 -1.9
WMQ PCP PcP 00 14 14.5 -0.7
WMQ PP PP 00 16 07.5 -1.2
WMQ S S 00 22 21.0 -1.0
WMQ SCS ScS 00 23 30.8 -0.6
WMQ SS SS 00 26 35.0 -1.7
WMQ AMB AMB
comp=Z,30nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,210nm,5.0s
WMQ LR LR
comp=N,830nm,20.0s,MS5.1
WMQ LR LR
comp=E,800nm,19.0s,MS5.1
WMQ LR LR
comp=Z,790nm,18.0s,MS5.0
MKAR Makanchi Array 65.23 316 P **P 00 13 41.5 -1.6**
comp=Z,13nm,0.7s,mb5.1,baz=46,slow=5.8,SNR=170
MKAR LR LR 00 43 35.8
comp=Z,1μm,19.1s,MS5.0,baz=3.4,slow=37
MKAR Makanchi Array 65.23 316 P **P 00 13 41.5 -1.6**
MKAR pmax pmax
comp=Z,13nm,0.7s
MKAR MLR MLR
comp=Z,1μm,19.1s
FINES FINESS Array B 65.26 354 P **P 00 13 42.0 -1.0**
comp=Z,8.0nm,0.6s,mb4.9,baz=25,slow=7.4,SNR=37
FINES pP pP 00 13 52.5 -1.6
comp=Z,12nm,0.9s,baz=22,slow=10,SNR=5.9
FINES LR LR 00 46 24.4
comp=Z,393nm,18.5s,MS4.6,baz=160,slow=40
FINES FINESS Array B 65.26 354 P **P 00 13 42.0 -1.0**
FINES *PP pP 00 13 52.5 -1.6
FINES pmax pmax
comp=Z,8.0nm,0.6s
FINES pmax pmax
comp=Z,12nm,0.9s
FINES MLR MLR
comp=Z,393nm,18.5s
NB2 NORSAR Subarra 65.92 2 P **P 00 13 46.7 -0.5**
comp=Z,15nm,1.0s,mb5.0,baz=359,slow=6.5
NB2 NORSAR Subarra 65.92 2 P **P 00 13 46.7 -0.5**
NB2 pmax pmax
comp=Z,15nm,1.0s,mb5.0
NOA NORSAR Array B 65.92 2 P **P 00 13 46.5 -0.7**
comp=Z,7.4nm,0.8s,mb4.7,baz=359,slow=6.6,SNR=18
NOA pP pP 00 13 57.4 -1.0
comp=Z,9.9nm,0.9s,baz=358,slow=6.5,SNR=10.0
NOA LR LR 00 44 08.0
comp=Z,314nm,18.8s,MS4.5,slow=37
NOA NORSAR Array B 65.92 2 P **P 00 13 46.6 -0.6**
NOA *PP pP 00 13 57.4 -0.9
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA pmax pmax
comp=Z,10.0nm,0.9s
NOA MLR MLR
comp=Z,314nm,18.8s
PUL Pulkovo 66.62 352⇑ *eP* **P 00 13 52.1 +0.4**
HFS Hagfors 66.87 1 P **P 00 13 52.8 -0.5**
comp=Z,8.3nm,0.5s,mb5.1,baz=27,slow=3.3,SNR=61
HFS Hagfors 66.87 1 P **P 00 13 52.8 -0.4**
HFS pmax pmax
comp=Z,8.0nm,0.5s
VSU Vasula 68.19 354⇑ *eP* **P 00 14 02.1 +0.6**
GYA Guiyang 68.57 286⇑ *i*P **P 00 14 03.8 -0.7**
GYA AP pP 00 14 11.0 -4.6
GYA S S 00 23 08.5 +5.7
GYA AMB AMB
comp=Z,50nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,180nm,3.3s
GYA LR LR
comp=N,450nm,17.2s,MS4.9
GYA LR LR
comp=E,370nm,16.8s,MS4.9
GYA LR LR
comp=Z,480nm,17.0s,MS4.8
TGY Tagaytay City 69.61 266 P **P 00 14 11.5 +0.5**
comp=Z,109nm,0.3s,mb6.2,baz=203,slow=4.2,SNR=4.6
TGY Tagaytay City 69.61 266 P **P 00 14 11.5 +0.5**
TGY pmax pmax
comp=Z,109nm,0.3s
OBN Obninsk 70.52 347 *c i*P **P 00 14 14.8 -1.1**
OBN *e* pP 00 14 25.6 -1.4
OBN *e*S S 00 23 28.2 +2.9
OBN pmax pmax
comp=Z,73nm,1.5s,mb5.4
OBN MLR MLR
comp=Z,900nm,22.0s,MS5.0
OBN Obninsk 70.52 347 *eP* **P 00 14 14.3 -1.6**
comp=Z,117nm,1.4s,mb5.6
AKTK Aktyubinsk 70.58 333 P **P 00 14 16.3 0.0**
AKTK LR LR 00 50 34.3
AKTO Aktyubinsk 70.58 333 P **P 00 14 16.3 0.0**
comp=Z,76nm,0.8s,mb5.7,baz=41,slow=6.1,SNR=199
AKTO LR LR 00 50 34.3
comp=Z,591nm,18.1s,MS4.9,slow=40
AKTO Aktyubinsk 70.58 333 P **P 00 14 16.3 -0.1**
AKTO pmax pmax
comp=Z,77nm,0.8s,mb5.7
AKTO MLR MLR
comp=Z,591nm,18.1s,MS4.9
AB31 Akbulak array 71.10 331 *i* P **P 00 14 19.3 -0.2**
TKM2 Tokmak 2 71.14 318 P **P 00 14 20.5 +0.6**
SNR=26
TKM2 Tokmak 2 71.14 318 *i* P **P 00 14 19.4 -0.5**
USP Ospenovka 71.29 319 P **P 00 14 21.2 +0.4**
SNR=49
CHMS Chumysh 71.41 318 P **P 00 14 21.9 +0.4**
SNR=22
KBK Karagaybulak 71.62 318 P **P 00 14 23.5 +0.7**
SNR=26
PPT Papeete 71.78 165 *e*LR LR 00 35 38.2
comp=Z,876nm,31.8s,baz=339
PPT Papeete 71.78 165 LR LR 00 38 40.2
comp=Z,398nm,19.1s,MS4.7,baz=244,slow=30
AAK Ala-Archa 71.82 318 P **P 00 14 24.4 +0.4**
SNR=46
KMI Kunming 71.85 288 P **P 00 14 23.5 -0.9**
KMI AP pP 00 14 33.3 -2.2
KMI XP sP 00 14 37.0 -2.5
KMI PP PP 00 17 05.0 -0.9
KMI S S 00 23 40.3 -0.9
KMI XS 00 23 56.0
KMI SKS SKS 00 24 20.3 -0.5
KMI SS SS 00 28 18.5 -1.1
KMI AMB AMB
comp=Z,10.0nm,1.5s,mb4.5
KMI AMB AMB
comp=Z,300nm,5.4s
KMI LR LR
comp=N,360nm,16.1s,MS5.0
KMI LR LR
comp=E,490nm,15.1s,MS5.0
KMI LR LR
comp=Z,370nm,19.7s,MS4.7
KZA Kyzart 71.99 317 P **P 00 14 26.0 +1.1**
SNR=13
DCN Croghan 72.00 14 *eP* **P 00 14 24.4 -0.4**
MNK Minsk 72.05 352 *eP* **P 00 14 23.0 -2.0**
EKS2 Erkin-Say 72.08 319 P **P 00 14 26.0 +0.5**
SNR=50
UCH Uchtor 72.16 318 P **P 00 14 26.8 +0.9**
SNR=18
DLF Lyons Farm 72.16 14 *eP* **P 00 14 22.2 -3.5**
AML Almayashu 72.56 319 P **P 00 14 29.3 +1.1**
SNR=45
SUW Suwalki 72.83 355 *eP* **P 00 14 28.3 -1.3**
SUW *e* pP 00 14 40.1 -0.6
SUW MLR MLR 00 45 33.0
comp=Z,400nm,22.4s,MS4.6
SUW Suwalki 72.83 355 *eP* **P 00 14 28.3 -1.3**
SUW *e* pP 00 14 40.1 -0.6
KK31 Karatay Array 72.97 321 *i* P **P 00 14 30.4 -0.3**
KKAR Karatay Array 72.97 321 *i* P **P 00 14 30.4 -0.3**
KKAR pmax pmax
comp=Z,40nm,0.9s,mb5.3
BSEG Bad Segeberg 73.01 3 *eP* **P 00 14 31.0 +0.3**
VOR Voronezh 73.44 345 P **P 00 14 29.5 -3.7**
VOR *e* pP 00 14 42.0 -2.3
VOR pmax pmax
comp=Z,50nm,1.3s,mb5.3
KSH Kashi 73.83 316 P **P 00 14 37.0 +1.2**
KSH *e*AP pP 00 14 48.3 +1.4
KSH *e*XP sP 00 14 51.8 +0.8
KSH PCP PcP 00 14 54.0 +2.5
KSH PP PP 00 17 22.0 -0.5
KSH *e*S S 00 24 02.0 -1.4
KSH XS 00 24 18.0
KSH *e*SKS SKS 00 24 35.5 +0.4
KSH *e*SCS ScS 00 24 39.8 +0.7
KSH SS SS 00 28 46.8 -3.2
KSH AMB AMB
comp=Z,190nm,6.7s
KSH LR LR
comp=N,2μm,16.6s,MS5.6
KSH LR LR
comp=E,2μm,16.8s,MS5.6
VRSR Storozhevoye 73.94 345 *eP* **P 00 14 35.2 -0.9**
VRSR pmax pmax
comp=N,6.0nm,1.0s
VRSR pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
VRSR pmax pmax
comp=E,1.0nm,0.8s
LSA Lhasa 74.63 299 P **P 00 14 42.3 +1.7**
LSA Lhasa 74.63 299 *eP* **P 00 14 41.3 +0.7**
LSA pmax pmax
comp=Z,21nm,0.8s,mb5.1
LSA Lhasa 74.63 299 *eP* **P 00 14 41.3 +0.7**
comp=Z,21nm,0.8s,mb5.1
PMG Port Moresby 74.74 230 P **P 00 14 40.8 -0.7**
comp=Z,26nm,0.8s,mb5.2,baz=23,slow=3.8,SNR=8.3
PMG Port Moresby 74.74 230 P **P 00 14 40.8 -0.7**
PMG pmax pmax
comp=Z,26nm,0.8s
WTSB Winterswijk 74.81 6 *eP* **P 00 14 36.8 -4.3**
CLZ Clausthal 75.10 3 *eP* **P 00 14 43.4 +0.5**
CLZ pmax pmax
comp=Z,142nm,2.0s,mb5.5
CLZ Clausthal 75.10 3 *eP* **P 00 14 43.4 +0.5**
comp=Z,142nm,2.0s,mb5.5
AKASG Malin Array Be 75.69 351 P **P 00 14 45.1 -1.1**
comp=Z,11nm,0.6s,mb5.0,baz=7.3,slow=5.6,SNR=40
AKASG Malin Array Be 75.69 351 P **P 00 14 45.2 -1.0**
AKASG pmax pmax
comp=Z,11nm,0.6s
CLL Collm 75.71 2 P **P 00 14 46.0 -0.3**
comp=Z,logA/T=1.0,mb4.7
CLL *e**PP pP 00 14 56.0 -1.4
CLL *e*PS PS 00 25 04.0 -1.9
CLL *e*SS SS 00 29 18.0 -0.5
CLL Collm 75.71 2 *eP* **P 00 14 46.0 -0.3**
CLL *e**PP pP 00 14 56.0 -1.4
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CLL Collm 75.71 2 *eP* **P 00 14 46.0 -0.3**
comp=Z,9.0nm,1.0s,mb4.7
CLL *ep*P pP 00 14 56.0 -1.4
HGN Heimansgroeve 75.96 6 *eP* **P 00 14 48.7 +0.9**
comp=Z,26nm,0.6s,mb5.4
BRG Berggiesshubel 76.16 1 P **P 00 14 48.6 -0.3**
BRG *i* pP 00 15 01.5 +1.5
BRG pmax pmax
comp=Z,13nm,1.3s,mb4.7
BRG MLR MLR
comp=Z,290nm,18.5s,MS4.6
BRG Berggiesshubel 76.16 1 P **P 00 14 48.6 -0.2**
comp=Z,13nm,1.3s,mb4.7
BRG *i* pP 00 15 01.5 +1.5
BRG LR LR
comp=Z,290nm,18.5s,MS4.6
KSP Ksiaz 76.19 359 *eP* **P 00 14 52.8 +3.7**
KSP *e* 00 15 00.6
KSP MLR MLR 00 56 15.6
comp=Z,600nm,18.8s,MS4.9
KSP Ksiaz 76.19 359 *eP* **P 00 14 46.6 -2.5**
KSP *e*PcP PcP 00 14 58.9 -2.5
MOX Moxa 76.34 3 *i* P **P 00 14 50.3 +0.4**
MOX pP pP 00 15 02.0 +0.9
MOX Moxa 76.34 3 *eP* **P 00 14 50.3 +0.4**
MOX *e**PP pP 00 15 01.5 +0.4
MOX pmax pmax
comp=Z,88nm,1.8s,mb5.4
MOX Moxa 76.34 3 *eP* **P 00 14 50.3 +0.4**
comp=Z,88nm,1.8s,mb5.4
MOX *ep*P pP 00 15 01.5 +0.4
PVCC Panska Ves 76.50 1 *eP* **P 00 14 51.2 +0.3**
PVCC *ep*P pP 00 15 03.0 +1.0
UPC Upice 76.53 360 *eP* **P 00 14 51.7 +0.7**
UPC *ep*P pP 00 15 02.3 +0.2
GIVF Givet 76.54 7 *eP* **P 00 14 51.2 +0.1**
TNS Taunus Mts 76.64 5 *eP* **P 00 14 52.0 +0.4**
TNS pmax pmax
comp=Z,35nm,1.6s,mb5.0
TNS Taunus Mts 76.64 5 *eP* **P 00 14 52.0 +0.4**
comp=Z,35nm,1.6s,mb5.0
DPC Dobruska-Polom 76.68 359 *eP* **P 00 14 52.2 +0.3**
DPC *ep*P pP 00 15 02.2 -0.8
DPC AMS AMS 00 58 50.0
comp=Z,500nm,17.6s
OJC Ojcow 76.75 357 *eP* pP 00 15 03.0 -0.4
NKC Novy Kostel 76.77 2 *eP* **P 00 14 53.4 +1.0**
NKC *ep*P pP 00 15 03.2 -0.3
ABH Alteburg 76.94 5 *eP* **P 00 14 54.3 +1.0**
PRU Pruhonice 77.05 1 *eP* **P 00 14 54.3 +0.4**
PRU *ep*P pP 00 15 04.7 -0.4
PRU AMS AMS 00 59 10.0
comp=Z,500nm,14.3s
WLF Walferdange 77.07 6 *eP* **P 00 14 54.1 0.0**
WLF pmax pmax
comp=Z,61nm,1.4s,mb5.3
WLF Walferdange 77.07 6 *eP* **P 00 14 54.1 +0.1**
comp=Z,62nm,1.4s,mb5.3
OKC Ostrava-Krasne 77.18 358 *eP* **P 00 14 53.9 -0.8**
OKC *ep*P pP 00 15 06.5 +0.7
OKC AMS AMS 00 59 50.0
comp=Z,400nm,16.1s
KWP Kalwaria 77.23 355 *eP* **P 00 14 55.7 +0.8**
KWP *e* pP 00 15 05.4 -0.7
KWP MLR MLR 00 47 36.2
comp=Z,600nm,22.7s,MS4.9
KWP Kalwaria 77.23 355 *eP* **P 00 14 55.7 +0.7**
KWP *e* pP 00 15 05.4 -0.7
MORC Moravsky Berou 77.25 359 ⇓P **P 00 14 56.1 +1.0**
MORC Moravsky Berou 77.25 359 *eP* **P 00 14 54.9 -0.2**
comp=Z,54nm,1.8s,mb5.2
TOD Tromm 77.28 4 *eP* **P 00 14 56.4 +1.2**
GRA1 Grafenberg Arr 77.28 3 *eP* **P 00 14 56.1 +0.8**
comp=Z,76nm,1.5s,mb5.4
GRA1 *ep*P pP 00 15 06.1 -0.3
GRA1 LR LR
comp=Z,200nm,20.7s,MS4.4
GRF Grafenberg Arr 77.28 3 *eP* **P 00 14 56.1 +0.8**
GRF *e**PP pP 00 15 06.1 -0.3
GRF pmax pmax
GRF MLR MLR
comp=Z,76nm,1.5s,mb5.4
GRF MLR MLR
comp=Z,200nm,20.7s,MS4.4
GRF Grafenberg Arr 77.28 3 *eP* **P 00 14 56.1 +0.8**
comp=Z,76nm,1.5s,mb5.4
GRF *ep*P pP 00 15 06.1 -0.3
GRF LR LR
comp=Z,200nm,20.7s,MS4.4
FLN La Foliniere 77.38 11 *eP* **P 00 14 55.7 -0.1**
comp=Z,83nm,1.3s,mb5.2
FLN *e*R
comp=Z,413nm,18.5s
FLN La Foliniere 77.38 11 *eP* **P 00 14 55.7 -0.1**
FLN pmax pmax
comp=Z,42nm,1.3s,mb5.2
FLN MLR MLR
comp=Z,410nm,18.5s,MS4.8
ROSF Rostrenen 77.45 13 *eP* **P 00 14 56.4 +0.2**
TBI Tubuai 77.47 166 *e*LR LR 00 38 16.4
comp=Z,534nm,31.5s,baz=345
STHS Stebnicka Huta 77.51 356 *i* P **P 00 14 57.3 +0.8**
STHS *e* 00 15 02.3
NIE Niedzica 77.54 357 *eP* pP 00 15 07.8 -0.1
LDF La Druitiere 77.58 11 *eP* **P 00 14 56.7 -0.2**
comp=Z,39nm,1.0s,mb5.0
LDF La Druitiere 77.58 11 *eP* **P 00 14 56.7 -0.2**
LDF pmax pmax
comp=Z,19nm,1.0s,mb5.0
SGMF Saint Gilles 77.63 12 *eP* **P 00 14 57.2 0.0**
comp=Z,28nm,0.9s,mb4.9
SGMF Saint Gilles 77.63 12 *eP* **P 00 14 57.2 0.0**
SGMF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GRR Gorron 77.70 11 *eP* **P 00 14 57.6 0.0**
comp=Z,62nm,1.3s,mb5.1
GRR Gorron 77.70 11 *eP* **P 00 14 57.6 0.0**
GRR pmax pmax
comp=Z,31nm,1.3s,mb5.1
VRAC Vranov 77.73 359⇑ P **P 00 14 59.0 +1.3**
TREC Trest 77.74 0 *eP* **P 00 14 57.7 -0.1**
TREC *ep*P pP 00 15 07.9 -1.1
TREC AMS AMS 01 00 40.0
comp=Z,500nm,17.8s
WET Wettzell 77.87 2 *eP* **P 00 14 58.7 +0.2**
WET pmax pmax
comp=Z,57nm,1.8s,mb5.2
WET Wettzell 77.87 2 *eP* **P 00 14 58.7 +0.2**
comp=Z,57nm,1.8s,mb5.2
QUIF Quistinic 77.88 13 *eP* **P 00 14 58.8 +0.2**
KHC Kasperske Hory 77.89 1 *eP* **P 00 14 59.1 +0.5**
KHC *ep*P pP 00 15 09.2 -0.6
KHC AMS AMS 01 00 10.0
comp=Z,300nm,15.3s
KOLS Kolonicke sedl 77.94 355 *eP* **P 00 14 59.1 +0.2**
KOLS *e* 00 15 03.4
MEZF Maizieres J'vi 78.15 7 *eP* **P 00 15 00.0 0.0**
GEC2 GERESS Array S 78.18 1 *eP* **P 00 15 00.8 +0.6**
GEC2 pmax pmax
comp=Z,26nm,1.4s,mb5.0
GEC2 GERESS Array S 78.18 1 *eP* **P 00 15 00.8 +0.6**
comp=Z,26nm,1.4s,mb5.0
GERES GERESS Array B 78.18 1 P **P 00 15 00.4 +0.2**
comp=Z,2.2nm,0.7s,mb4.2,slow=4.0,SNR=26
GERES pP pP 00 15 13.0 +1.6
comp=Z,4.7nm,0.8s,slow=4.0,SNR=9.0
GERES GERESS Array B 78.18 1 P **P 00 15 00.4 +0.2**
GERES *PP pP 00 15 13.0 +1.6
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,5.0nm,0.8s
CDF Champ du Feu 78.39 6 *eP* **P 00 15 01.4 +0.1**
comp=Z,42nm,1.4s,mb4.9
CDF Champ du Feu 78.39 6 *eP* **P 00 15 01.4 +0.1**
CDF pmax pmax
comp=Z,21nm,1.4s,mb4.9
WLS Welschbruch 78.39 6 *eP* **P 00 15 02.4 +1.0**
KECS Kecovo 78.47 357 *i* P **P 00 15 02.4 +0.6**
KECS *ep*P pP 00 15 14.8 +1.8
THEF They Montfort 78.49 6 *eP* **P 00 15 01.7 -0.2**
VYHS Vyhne 78.51 358 *i* P **P 00 15 03.0 +1.0**
VYHS *ep*P pP 00 15 14.4 +1.2
SMOL Smolenice 78.51 359 *eP* **P 00 15 03.1 +1.1**
SMOL *ep*P pP 00 15 15.5 +2.3
BFO Black Forest 78.53 5 *eP* **P 00 15 01.6 -0.5**
BFO pmax pmax
comp=Z,40nm,1.6s,mb5.1
BFO Black Forest 78.53 5 *eP* **P 00 15 01.6 -0.5**
comp=Z,40nm,1.6s,mb5.1
ECH Echery 78.57 6 *eP* **P 00 15 02.9 +0.5**
HAU Haudompre 78.73 6 *eP* **P 00 15 03.5 +0.2**
comp=Z,30nm,1.0s,mb4.9
HAU *e*R
comp=Z,275nm,19.0s
HAU Haudompre 78.73 6 *eP* **P 00 15 03.5 +0.2**
HAU pmax pmax
comp=Z,15nm,1.0s,mb4.9
HAU MLR MLR
comp=Z,280nm,19.0s,MS4.6
GUN Gumba 78.80 302 *eP* **P 00 15 04.3 +0.2**
comp=Z,71nm,0.8s,mb5.7
FUR Furstenfeldbru 78.81 3 *eP* **P 00 15 04.4 +0.7**
FUR pmax pmax
comp=Z,91nm,1.6s,mb5.5
FUR Furstenfeldbru 78.81 3 *eP* **P 00 15 04.4 +0.7**
comp=Z,91nm,1.6s,mb5.5
ZST Bratislava 78.83 359 *eP* **P 00 15 04.3 +0.5**
ZST *ep*P pP 00 15 17.2 +2.2
JIRN Jiri 78.84 301 *eP* **P 00 15 04.7 +0.4**
comp=Z,111nm,0.7s,mb5.9
MOF Molkenrain 78.94 6 *eP* **P 00 15 05.0 +0.6**
HINF Hinteralfeld 78.95 6 *eP* **P 00 15 04.5 0.0**
comp=Z,37nm,1.1s,mb4.9
HINF Hinteralfeld 78.95 6 *eP* **P 00 15 04.5 0.0**
HINF pmax pmax
comp=Z,19nm,1.1s,mb4.9
PSZ Piszkesteto 79.05 357⇑ *i*P **P 00 15 06.2 +1.2**
PSZ *i* pP pP 00 15 18.4 +2.2
BURAR Bucovina Array 79.09 353 ⇓P **P 00 15 06.0 +0.8**
HYF Humbligny 79.17 9 *eP* **P 00 15 06.0 +0.3**
GOF Gofitskoye 79.19 341 *eP* **P 00 15 05.0 -0.8**
GOF pmax pmax
comp=Z,110nm,1.3s,mb5.6
SRO Srobarova 79.20 358 *eP* **P 00 15 07.5 +1.7**
KKN Kakani 79.20 302 *eP* **P 00 15 06.4 +0.1**
comp=Z,157nm,1.4s,mb5.8
DZM Mont Dzumac 79.21 207 P **P 00 15 06.8 +0.4**
comp=Z,7.0nm,0.9s,mb4.6,baz=28,slow=12,SNR=3.7
LOR Lormes 79.28 8 *eP* **P 00 15 06.5 +0.2**
comp=Z,32nm,0.9s,mb4.9
LOR *e*R
comp=Z,430nm,21.0s
LOR Lormes 79.28 8 *eP* **P 00 15 06.5 +0.2**
LOR pmax pmax
comp=Z,16nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,430nm,21.0s,MS4.8
PKI Pulchoki 79.31 302 *eP* **P 00 15 07.0 +0.1**
comp=Z,182nm,1.3s,mb5.8
IAS Iasi 79.32 352 ⇓P **P 00 15 06.5 0.0**
IAS Iasi 79.32 352 ⇓P **P 00 15 06.5 0.0**
GKN Gorkha 79.35 303 *eP* **P 00 15 07.2 +0.1**
comp=Z,222nm,1.2s,mb6.0
LOMF Lomont 79.42 6 *eP* **P 00 15 07.6 +0.6**
DMN Daman 79.44 302 *eP* **P 00 15 08.0 +0.5**
comp=Z,133nm,1.1s,mb5.8
SSF Saint Saulge 79.46 8 *eP* **P 00 15 07.5 +0.3**
SSF pmax pmax
comp=Z,16nm,0.8s,mb5.0
SSF Saint Saulge 79.46 8 *eP* **P 00 15 07.5 +0.3**
comp=Z,16nm,0.8s,mb5.0
MFF Saint Martin d 79.54 11 *eP* **P 00 15 08.0 +0.3**
comp=Z,50nm,0.9s,mb5.1
MFF Saint Martin d 79.54 11 *eP* **P 00 15 08.0 +0.3**
MFF pmax pmax
comp=Z,25nm,0.9s,mb5.1
MOTA Moosalm 79.62 3⇑ *i*P **P 00 15 08.9 +0.8**
comp=Z,64nm,1.7s,mb5.3,SNR=7.3

MOTA Moosalm 79.62 3⇑*i*P P 00 15 08.9 +0.8
MOTA pmax pmax
comp=Z,64nm,1.7s,mb5.3
DAVA Damuels 79.64 4⇑*i*P P 00 15 05.4 -2.8
comp=Z,26nm,1.3s,mb5.0
DAVA Damuels 79.64 4 ⇑P P 00 15 05.4 -2.8
comp=Z,26nm,1.3s,mb5.0
WATA Walderalm 79.65 3⇑*i*P P 00 15 09.1 +0.8
comp=Z,87nm,1.8s,mb5.4
WATA Walderalm 79.65 3 ⇑P P 00 15 09.1 +0.8
WATA pmax pmax
comp=Z,87nm,1.8s,mb5.4
AVF Avril sur Loir 79.71 8 *e*P P 00 15 08.0 -0.6
comp=Z,36nm,0.9s,mb5.0
AVF Avril sur Loir 79.71 8 *e*P P 00 15 08.0 -0.6
AVF pmax pmax
comp=Z,18nm,0.9s,mb5.0
SQTA Sankt Quirin 79.75 3⇑*i*P P 00 15 10.0 +1.2
comp=Z,154nm,2.0s,mb5.6,SNR=12
SQTA Sankt Quirin 79.75 3⇑*i*P P 00 15 10.0 +1.2
SQTA pmax pmax
comp=Z,155nm,2.0s,mb5.6
SQTA Sankt Quirin 79.75 3⇑*i*P P 00 15 10.0 +1.2
comp=Z,154nm,2.0s,mb5.6
ARSA Arzberg 79.79 360⇓*i*P P 00 15 10.1 +1.1
comp=Z,34nm,1.8s,mb5.0
BGF Bois d'Agland 79.90 9 *e*P P 00 15 09.7 +0.1
comp=Z,50nm,1.1s,mb5.1
BGF Bois d'Agland 79.90 9 *e*P P 00 15 09.7 +0.1
BGF pmax pmax
comp=Z,25nm,1.1s,mb5.1
SMF Signal de Mont 79.90 8 *e*P P 00 15 09.7 +0.1
comp=Z,49nm,0.9s,mb5.1
SMF Signal de Mont 79.90 8 *e*P P 00 15 09.7 +0.1
SMF pmax pmax
comp=Z,24nm,0.9s,mb5.1
KBA Koelnbreinsper 79.94 2⇑*i*P P 00 15 11.2 +1.4
comp=Z,101nm,1.9s,mb5.4,SNR=5.9
KBA Koelnbreinsper 79.94 2⇑*i*P P 00 15 11.2 +1.3
KBA pmax pmax
comp=Z,101nm,1.9s,mb5.4
DRGR 80.06 355 ⇑P P 00 15 10.7 +0.2
DRGR 80.06 355 ⇑P P 00 15 10.7 +0.2
KOLN Koldanda 80.06 303 *e*P P 00 15 11.0 +0.1
comp=Z,145nm,1.3s,mb5.8
TCF Toulx Ste Croi 80.10 9 *e*P P 00 15 10.6 -0.1
comp=Z,77nm,1.5s,mb5.1
TCF Toulx Ste Croi 80.10 9 *e*P P 00 15 10.6 -0.1
TCF pmax pmax
comp=Z,39nm,1.5s,mb5.1
CABF La Chapelle 80.10 7 *e*P P 00 15 11.1 +0.4
comp=Z,34nm,0.8s,mb5.0
CABF La Chapelle 80.10 7 *e*P P 00 15 11.1 +0.4
CABF pmax pmax
comp=Z,17nm,0.8s,mb5.0
KIV Kislovodsk 80.32 340 *e*P P 00 15 12.4 +0.5
KIV pmax pmax
comp=Z,55nm,1.1s,mb5.4
KIV Kislovodsk 80.32 340 *e*P P 00 15 12.4 +0.4
comp=Z,54nm,1.1s,mb5.4
RKT Rikitea 80.33 153 *e*LR LR 00 39 36.7
comp=Z,558nm,33.8s,baz=333
PERS Pernice 80.40 0 *e*P P 00 15 13.2 +0.8
PERS *e* pP 00 15 25.1 +1.5
AGO Saint Agoulin 80.42 9 *e*P P 00 15 13.7 +1.3
OBKA Obir 80.53 1⇑*i*P P 00 15 13.9 +0.9
comp=Z,206nm,2.2s,mb5.7,SNR=6.4
PLDF La Plantade 80.55 8 *e*P P 00 15 14.4 +1.3
OG05 Jujurieux 80.63 7 *e*P P 00 15 14.4 +0.9
VRI Vrincioaia 80.71 352 ⇓P P 00 15 17.1 +3.1
VRI Vrincioaia 80.71 352 ⇓P P 00 15 17.1 +3.1
CPD Cerro la Pandu 80.72 72 *e*P P 00 15 12.8 -1.7
ROBS Robic 80.78 1 *e*P P 00 15 14.6 +0.2
ROBS *e* pP 00 15 25.8 +0.2
CADS Cadrg 80.80 1 *i*P P 00 15 14.6 +0.2
SIM Simferopol' 80.80 347 P P 00 15 23.3 +8.8
SIM S S 00 25 27.0 +8.6
SIM pmax pmax
comp=Z,22nm,1.2s,mb5.0
RHK1 Bakonya 80.92 358⇑*i*P P 00 15 16.3 +1.2
RJF Les Rejaudoux 81.01 10 *e*P P 00 15 15.6 +0.1
comp=Z,31nm,1.1s,mb4.8
RJF Les Rejaudoux 81.01 10 *e*P P 00 15 15.6 +0.1
RJF pmax pmax
comp=Z,16nm,1.1s,mb4.9
MLR Muntele Rosu 81.14 353 ⇓P P 00 15 17.8 +1.5
MLR Muntele Rosu 81.14 353 ⇓P P 00 15 17.8 +1.5
LPL La Plagne 81.24 6 *e*P P 00 15 17.0 +0.3
comp=Z,13nm,0.9s,mb4.6
LPL La Plagne 81.24 6 *e*P P 00 15 17.0 +0.3
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
SOC Sochi 81.24 342 *e*P P 00 15 17.1 +0.3
SOC *e**PP pP 00 15 30.6 +2.5
SOC *e* 00 18 21.0
SOC *e*S S 00 25 21.3 -1.7
SOC *e*SS SS 00 30 45.9 +3.9
SOC pmax pmax
comp=Z,41nm,0.8s,mb5.4
LBL Lubilhac 81.25 9 *e*P P 00 15 18.2 +1.4
LPG La Plagne 81.26 6 *e*P P 00 15 17.2 +0.4
VOIR 81.27 353 ⇓P P 00 15 18.0 +1.1
VOIR 81.27 353 ⇓P P 00 15 18.0 +1.1
CFR Carcaliu 81.27 351 ⇓P P 00 15 17.1 +0.2
CFR Carcaliu 81.27 351 ⇓P P 00 15 17.1 +0.2
BZS Buzias 81.28 356 ⇑P P 00 15 17.4 +0.4
BZS Buzias 81.28 356 ⇑P P 00 15 17.4 +0.4
LFF La Frestale 81.28 11 *e*P P 00 15 16.9 -0.1
comp=Z,18nm,0.6s,mb4.9
LFF La Frestale 81.28 11 *e*P P 00 15 16.9 -0.1
LFF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CAF Calviac 81.44 10 *e*P P 00 15 18.1 +0.3
comp=Z,39nm,1.1s,mb5.0
CAF Calviac 81.44 10 *e*P P 00 15 18.1 +0.3
CAF pmax pmax
comp=Z,19nm,1.1s,mb4.9
GRN Grenoble 81.44 7 *e*P P 00 15 19.2 +1.4
ONI Oni 81.48 340 P pP 00 15 31.6 +2.2
BOJS Bojanci 81.54 0 *e*P P 00 15 19.5 +1.2
BOJS *e* pP 00 15 30.3 +0.7
BNI Bardonecchia 81.70 6 *e*P P 00 15 20.9 +1.8
BNI pmax pmax
comp=Z,112nm,1.5s,mb5.6
BNI Bardonecchia 81.70 6 *e*P P 00 15 20.9 +1.8
comp=Z,112nm,1.5s,mb5.6
VIVF Saint-Julien-l 81.74 8 *e*P P 00 15 19.5 +0.1
comp=Z,33nm,0.9s,mb5.0
VIVF Saint-Julien-l 81.74 8 *e*P P 00 15 19.5 +0.1
VIVF pmax pmax
comp=Z,16nm,0.9s,mb5.0
ORIF Oris-en-Rattie 81.77 7 *e*P P 00 15 20.4 +0.9
comp=Z,64nm,1.3s,mb5.1
ORIF *e*R
comp=Z,381nm,21.0s
TIRR Tirgusor 81.96 351 ⇓P P 00 15 21.4 +0.9
TIRR Tirgusor 81.96 351 ⇓P P 00 15 21.4 +0.9
TI2 Plekhanov 82.01 338⇑*i*P P 00 15 22.0 +1.2
TI2 *i* pP 00 15 33.6 +1.5
TI2 pmax pmax
comp=Z,80nm,0.8s,mb5.7
TBLG Delisi 82.01 338 P P 00 15 22.2 +1.3
MBDF Montbardon 82.03 6 *e*P P 00 15 21.3 +0.5
comp=Z,58nm,0.9s,mb5.2
MBDF Montbardon 82.03 6 *e*P P 00 15 21.3 +0.5
MBDF pmax pmax
comp=Z,29nm,0.9s,mb5.2
MTA Mtatsminda 82.04 338 P P 00 15 22.3 +1.3
DGRG David-gareji 82.14 338 P P 00 15 22.2 +0.7
BOK Bokaro 82.15 299 *e*P P 00 15 21.4 -0.5
BOK AMb AMB 00 15 23.5
comp=Z,32nm,0.7s,mb5.4
SURF Saint Ours 82.27 6 *e*P P 00 15 24.7 +2.6
NDI New Delhi 82.40 309 *e*P P 00 15 21.0 -2.1
LASF Ste Croix 82.45 8 *e*P P 00 15 23.3 +0.3
comp=Z,44nm,1.1s,mb5.0
SMRF Simiane la Rot 82.69 7 *e*P P 00 15 24.5 +0.3
comp=Z,39nm,1.1s,mb5.1
TOUF Mont Tournerai 82.77 6 *e*P P 00 15 25.9 +1.3
SJPF Ste Jean 82.85 12 *e*P P 00 15 25.3 +0.2
SBF Sospel 82.93 6 *e*P P 00 15 25.6 +0.1
ZIMR 83.01 353 ⇓P P 00 15 26.5 +0.6
ZIMR 83.01 353 ⇓P P 00 15 26.5 +0.6
MTLF Montolieu 83.02 10 *e*P P 00 15 26.1 +0.1
comp=Z,36nm,1.0s,mb5.1
MTLF Montolieu 83.02 10 *e*P P 00 15 26.1 +0.1
MTLF pmax pmax
comp=Z,18nm,1.0s,mb5.1
EPF Esparros 83.12 11 *e*P P 00 15 26.6 +0.1
comp=Z,37nm,1.3s,mb5.0
EPF Esparros 83.12 11 *e*P P 00 15 26.6 +0.1
EPF pmax pmax
comp=Z,19nm,1.3s,mb5.0
ARTV Artvin 83.13 340 *i*P P 00 15 27.2 +0.6
ETSF Etsut 83.15 12 *e*P P 00 15 26.9 +0.3
FRF La Foret Royal 83.18 6 *e*P P 00 15 27.0 +0.3
comp=Z,23nm,0.9s,mb4.9
FRF La Foret Royal 83.18 6 *e*P P 00 15 27.0 +0.3
FRF pmax pmax
comp=Z,12nm,0.9s,mb4.9
LMR La Mourre 83.39 7 *e*P P 00 15 27.6 -0.3
comp=Z,83nm,1.3s,mb5.3
LMR La Mourre 83.39 7 *e*P P 00 15 27.6 -0.3
LMR pmax pmax
comp=Z,41nm,1.3s,mb5.3
GNI Garni 83.52 338 P P 00 15 30.4 +2.0
comp=Z,13nm,0.8s,mb5.1,baz=21,slow=6.8,SNR=9.6
GNI Garni 83.52 338*c i*P P 00 15 30.9 +2.4
GNI pmax pmax
comp=Z,32nm,1.3s
GNI Garni 83.52 338 *e*P P 00 15 30.8 +2.3
comp=Z,147nm,1.6s,mb5.9
DIGO Kars 83.57 339 *i*P P 00 15 29.4 +0.7
PVRL Vila Real 83.65 17 *e*P P 00 15 31.1 +2.0
comp=Z,82nm,1.9s,mb5.5
MACK Trabzon 83.79 342 *i*P P 00 15 31.3 +1.5
GRSN GIRESUNGRSN 84.08 343 *i*P P 00 15 30.8 -0.5
BOYT Boyabat 84.15 345 *i*P P 00 15 32.4 +0.7
PVIS Viseu 84.17 18 *e*P P 00 15 33.7 +2.0
VTS Vitosha 84.22 354 *e*P P 00 15 32.0 0.0
VTS ⇓P 00 15 36.3
BALT Daday 84.25 347 *i*P P 00 15 32.3 +0.2
PGF Pioggiola 84.33 5 *e*P P 00 15 32.3 -0.2
ERZM Erzurum 84.48 340 *i*P P 00 15 34.7 +1.4
CTA Charters Tower 84.57 226 P P 00 15 34.3 +0.1
comp=Z,6.5nm,1.1s,mb4.7,baz=14,slow=7.7,SNR=4.7
CTA Charters Tower 84.57 226 P P 00 15 34.3 +0.1
CTA pmax pmax
comp=Z,7.0nm,1.1s
KELT Kelkit 84.65 342 *i*P P 00 15 35.1 +0.9
KAKA Kakadu 84.84 241 *e*P Px 00 15 58.7
comp=Z,34nm,1.2s
CTKT Corum 84.94 345 *i*P P 00 15 36.2 +0.5
KKB Krupnik 84.95 354 *e*P P 00 15 37.0 +1.4
MMB Musomiste 85.18 354 *e*P P 00 15 38.0 +1.2
SDV Santo Domingo 85.24 82 P P 00 15 37.5 -0.2
comp=Z,3.2nm,0.3s,mb4.9
ELDT Eldivan 85.27 346 *i*P P 00 15 38.3 +1.1
AJM Ajmer 85.47 309 *e*P P 00 15 37.2 -1.3
AJM AMb AMB 00 15 39.9
comp=Z,42nm,0.7s,mb5.7
BLSP Bilaspur 85.47 301 *e*P P 00 15 37.6 -1.0
BLSP AMb AMB 00 15 39.4
comp=Z,35nm,1.0s,mb5.5
KNT Kendrikon 85.66 354 *e*P P 00 15 40.8 +1.6
SRS Serrai 85.66 354 *e*P P 00 15 40.6 +1.5
ESDC Sonseca Array 85.84 15 P P 00 15 40.9 +0.8
comp=Z,3.0nm,0.8s,mb4.6,baz=343,slow=4.8,SNR=12
ESDC pP pP 00 15 53.2 +1.7
comp=Z,4.4nm,0.7s,baz=346,slow=5.0,SNR=12
ESLA Sonseca Array 85.84 15 *e*P P 00 15 40.3 +0.3
comp=Z,6.5nm,1.4s,mb4.7
GRG Griva 85.89 355 *e*P P 00 15 42.1 +1.8
KSM Kuching 85.96 267 *e*P P 00 15 41.9 +0.7
CDAG Cicekdag 85.99 346 *i*P P 00 15 40.6 -0.1
BR131 Keskin Array S 86.00 346 *e*P P 00 15 41.9 +1.1
comp=Z,20nm,0.9s,mb5.4
BR131 *e*pP pP 00 15 53.5 +1.3
BRTR Keskin Array B 86.00 346 P P 00 15 42.2 +1.4
comp=Z,24nm,0.9s,mb5.4,baz=66,slow=2.8,SNR=90
BRTR pP pP 00 15 54.6 +2.5
comp=Z,12nm,0.8s,baz=63,slow=2.8,SNR=9.0
BRTR Keskin Array B 86.00 346 P P 00 15 42.3 +1.5
BRTR *PP pP 00 15 54.7 +2.5
BRTR pmax pmax
comp=Z,24nm,0.9s
BRTR pmax pmax
comp=Z,12nm,0.8s
FNA Florina 86.12 356 *e*P P 00 15 42.5 +1.2
ULDT Uludag 86.15 350 *i*P P 00 15 41.7 +0.1
HAKT HAKKARI 86.23 338 *i*P P 00 15 42.9 +0.9
EVO Evora 86.26 18 *e*P P 00 15 42.8 +0.7
comp=Z,31nm,1.3s,mb5.1
EVO *e*R
comp=Z,434nm,19.2s
BORA Eskisehir 86.26 349 *i*P P 00 15 42.8 +0.7
ELZG Elazig 86.31 342 *i*P P 00 15 43.2 +0.9
MALT Malatya 86.59 342 *e*P P 00 15 45.4 +1.7
MALT *e*PP pP 00 15 57.0 +1.9
MALT pmax pmax
comp=Z,76nm,1.6s,mb5.7
MALT Malatya 86.59 342 *e*P P 00 15 45.4 +1.6
comp=Z,76nm,1.6s,mb5.7
MALT *e*pP pP 00 15 57.0 +1.8
LIT Litokhoron 86.74 355 *e*P P 00 15 45.5 +1.1
BHPL Bhopal 86.89 306 *e*P P 00 15 44.6 -0.9
BHPL AMb AMB 00 16 00.4
comp=Z,90nm,0.9s,mb6.0
MEV Metsovon 87.12 356 *e*P P 00 15 48.2 +1.9
IGT Igoumenitsa 87.41 356 *e*P P 00 15 49.2 +1.5
OTAV Otavalo 87.43 93 *e*P P 00 15 48.8 +0.3
comp=Z,74nm,2.0s,mb5.6
MSL Mosul 87.59 338 *e*x x 00 15 50.5
MSL *e*x x 00 16 03.0
GZT Gaziantep 87.67 343 *i*P P 00 15 50.5 +1.4
AGG Agios Georgios 87.82 355 *e*P P 00 15 49.8 +0.1
TIP Timpagrande 87.85 359 *e*P P 00 15 50.5 +0.7
WRAB Tennant Creek 89.95 236 P P 00 15 59.8 -0.4
WRAB pmax pmax
comp=Z,26nm,1.5s,mb5.3
WRAB Tennant Creek 89.95 236 P P 00 15 59.8 -0.4
comp=Z,26nm,1.5s,mb5.3
WRA Warramunga Arr 89.96 236 P P 00 15 58.9 -1.4
comp=Z,3.5nm,1.1s,mb4.6,baz=41,slow=5.8,SNR=13
WRA pP pP 00 16 12.3 +0.6
comp=Z,1.9nm,0.7s,baz=35,slow=5.5,SNR=7.4
WRA Warramunga Arr 89.96 236 P P 00 15 58.9 -1.4
WRA *PP pP 00 16 12.3 +0.6
WRA pmax pmax
comp=Z,4.0nm,1.1s
WRA pmax pmax
comp=Z,2.0nm,0.7s
BHD Baghdad 90.17 336 *e*x x 00 16 16.0
BHJ Bhuj 90.51 312 *e*x x 00 15 48.3
HYB Hyderabad 91.23 302 *i*P P 00 16 06.5 +0.2
comp=Z,60nm,1.0s,mb5.9
HYB *e*pP pP 00 16 17.0 -0.8
HYB *e*sP sP 00 16 20.0 -1.5
HYB Hyderabad 91.23 302 *e*P P 00 16 06.5 +0.2
HYB *e* pP 00 16 20.5 +2.7
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.9
HYB Hyderabad 91.23 302 *e*P P 00 16 06.5 +0.2
comp=Z,60nm,1.0s,mb5.9
HYB *e* pP 00 16 20.5 +2.7
ARMA Armidale 91.71 217 *e*P P 00 16 09.7 +1.5
PSI Prapat 91.71 277 P P 00 16 08.3 -0.3
comp=Z,4.4nm,0.6s,mb5.0,baz=185,slow=3.9,SNR=5.8
PSI Prapat 91.71 277 P P 00 16 08.3 -0.3
PSI pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
PSI Prapat 91.71 277 P P 00 16 08.3 -0.3
STKA Stephens Creek 96.90 224 P P 00 16 31.8 0.0
comp=Z,3.0nm,1.0s,mb4.7,baz=20,slow=12,SNR=2.7
STKA Stephens Creek 96.90 224 P P 00 16 32.0 +0.1
PLCA Paso Flores 123.46 115 PKP PKPdf 00 21 57.0 +0.3
comp=Z,2.4nm,0.8s,baz=29,slow=13,SNR=3.7
PLCA Paso Flores 123.46 115 PKIKP PKPdf 00 21 57.0 +0.3
PLCA pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 124.93 333 PKP PKPdf 00 22 02.2 +2.1
comp=Z,3.2nm,0.8s,baz=26,slow=4.4,SNR=9.0
KMBO Kilima Mbogo 124.93 333 PKIKP PKPdf 00 22 02.2 +2.1
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 124.93 333 PKP PKPdf 00 22 02.2 +2.1
TSUM Tsumeb 145.89 357 *e*PKP PKPdf 00 22 40.3 +2.0
LBTB Lobatse 150.71 341 *e*PKIKP PKPdf 00 22 53.8 +7.8
MAW Mawson 153.49 219 PKP PKPdf 00 22 48.5 -0.2
comp=Z,1.7nm,0.7s,baz=54,slow=21,SNR=4.2
MAW PKPbc PKPdf 00 22 57.5 +8.9
comp=Z,8.8nm,0.3s,baz=301,slow=6.0,SNR=46
MAW PKPab PKPab 00 23 10.7 -0.5
comp=Z,13nm,0.9s,baz=68,slow=3.1,SNR=11
MAW Mawson 153.49 219 PKIKP PKPdf 00 22 48.5 -0.2
MAW 00 22 57.5
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW pmax pmax
comp=Z,9.0nm,0.3s
MAW pmax pmax
comp=Z,13nm,0.9s
VNA3 Neumayer Olymp 158.87 158⇑*i*PKPdf PKPdf 00 22 55.4 -0.2
VNA3 *e* 00 23 32.2
VNA3 *e* 00 23 43.5
VNA3 *e* 00 23 47.1
VNA2 Neumayer--Watz 159.61 158⇑*i*PKPdf PKPdf 00 22 55.2 -1.3
VNA2 *e* 00 23 12.1
VNA2 *e* 00 23 35.5
VNA2 *e* 00 23 46.1
VNA2 *e* 00 23 51.1
VNA2 *e* 00 24 00.3
VNA2 *e* 00 24 05.9
SYO Syowa Base 160.69 206⇑pPKPdf 00 23 10.8

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*IDC **28** 00:03:13.7±0.9, 9.13S×156.65E, mb4.4/5, mb1 4.3/8, mb1mx4.2/15, mbtmp4.3/8, ML3.6/2, MS4.0/8, Ms1 4.0/8, ms1mx3.8/21, Error ellipse: s-maj=27.3km s-min=23.6km az=130.0*
*NEIC **28** 00:03:17.9±4.9, 9.13S×156.68E, h32km±36km, mb4.7/4, Error ellipse: s-maj=20.3km s-min=10.8km az=157.0*
ISC 28 00:03:17.2±0.5, 9.11S±0.09×156.54E±0.06, h33km, n26, σ1§06/20, mb4.5/9, MS3.9/5, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.38**	**96**	Pn	**Pn**	**00 04 05.3**	**-3.8**
	11nm,0.3s,baz=195,slow=12,SNR=13						
HNR				Sn	**Sn**	**00 04 49.6**	**+1.1**
	14nm,0.3s,baz=297,slow=17,SNR=5.7						
HNR				LR	LR	00 05 18.2	
	comp=Z,2μm,20.1s,baz=113,slow=38						
HNR	**Honiara**	**3.38**	**96**	Pn	**Pn**	**00 04 05.3**	**-3.8**
HNR				Sn	**Sn**	**00 04 49.6**	**+1.1**
HNR				LR	LR	00 05 18.2	
PMG	**Port Moresby**	**9.26**	**267**	LR	LR	00 08 58.3	
	comp=Z,2μm,20.4s,baz=118,slow=37						
CTA	**Charters Tower**	**14.76**	**221**	Pn	**P**	**00 06 45.6**	**0.0**
	0.1nm,0.3s,baz=55,slow=16,SNR=2.1						
CTAO	**Charters Tower**	**14.76**	**221**	*e*P	**P**	**00 06 47.1**	**+1.5**
DZM	**Mont Dzumac**	**16.02**	**145**	Pn	**P**	**00 07 01.3**	**-0.6**
	baz=321,slow=18,SNR=3.6						
DZM				LR	LR	00 12 04.6	
	comp=Z,247nm,21.7s,baz=21,slow=33						
WRAB	**Tennant Creek**	**23.99**	**241**	*e*P	**P**	**00 08 30.2**	**+0.2**
	32nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**24.00**	**241**	*e*P	**P**	**00 08 30.5**	**+0.5**
WRA	**Warramunga Arr**	**24.01**	**241**	P	**P**	**00 08 30.7**	**+0.5**
	8.3nm,0.7s,mb4.2,baz=65,slow=9.8,SNR=83						
GUMO	**Guam**	**25.35**	**333**	LR	LR	00 16 19.4	
	comp=Z,209nm,21.8s,MS3.6,baz=92,slow=31						
STKA	**Stephens Creek**	**26.57**	**209**	*e*P	**P**	**00 08 52.0**	**-2.3**
	4.8nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**26.57**	**209**	P	**P**	**00 08 53.4**	**-0.9**
	5.4nm,0.8s,mb4.1,baz=33,slow=14,SNR=7.0						
STKA				LR	LR	00 19 11.2	
	comp=Z,346nm,19.6s,MS3.9,baz=23,slow=36						
AFI	**Afiamalu**	**31.39**	**102**	LR	LR	00 19 27.2	
	comp=Z,16nm,21.8s,MS4.1,baz=43,slow=31						
URZ	**Urewera**	**34.43**	**151**	LR	LR	00 20 21.9	
	comp=Z,163nm,19.8s,MS3.8,baz=0.4,slow=30						
PPT	**Papeete**	**52.95**	**105**	*e*LR	LR	00 27 43.1	
	211nm,23.2s						
ENH	**Enshi**	**59.79**	**313**	P	**P**	**00 13 20.2**	**-1.6**
	3.9nm,0.4s,mb4.8						
CD2	**Chengdu**	**64.34**	**311⇑*i*P**		**P**	**00 13 53.5**	**+1.2**
CD2				PP	PP	00 16 22.3	+6.6
CD2				S	**S**	**00 22 41.0**	**+14**
CD2				SS	SS	00 27 00.0	+22
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
CD2				AMB	AMB		
	comp=Z,70nm,8.4s						
CD2				LR	LR		
	comp=E,410nm,14.4s						
CD2				LR	LR		
	comp=Z,340nm,21.6s						
HIA	**Hailar**	**66.47**	**335**	*e*P	**P**	**00 14 05.1**	**-0.5**
	comp=Z,2.1nm,0.3s,mb4.7						
RKT	**Rikitea**	**66.75**	**111**	*e*LR	LR	00 34 06.3	
	comp=Z,133nm,32.0s						
VNDA	**Vanda**	**68.44**	**179**	LR	LR	00 38 14.0	
	comp=Z,115nm,18.4s,MS4.1,baz=322,slow=31						
SONM	**Songino Array**	**71.93**	**327**	P	**P**	**00 14 40.8**	**+1.7**
	comp=Z,6.9nm,1.1s,mb4.5,baz=135,slow=4.1,SNR=1.9						
BILL	**Bilibino**	**77.27**	**4**	*e*P	**P**	**00 15 09.1**	**-0.5**
ILAR	**Eielson Array**	**84.77**	**21**	P	**P**	**00 15 48.5**	**-0.7**
	comp=Z,12nm,0.9s,mb4.0,baz=259,slow=5.2,SNR=4.5						
MKAR	**Makanchi Array**	**85.99**	**318**	P	**P**	**00 15 55.6**	**+0.1**
	comp=Z,5.5nm,1.1s,mb4.7,baz=90,slow=8.6,SNR=3.9						
ESDC	**Sonseca Array**	**144.93**	**333**	PKPbc	PKPbc	00 22 51.8	+0.3
	comp=Z,0.3nm,0.5s,baz=67,slow=3.1,SNR=3.4						
BDFB	**Brasilia**	**145.41**	**135**	PKPbc	PKPbc	00 22 54.6	+1.2
	comp=Z,5.4nm,0.9s,baz=151,slow=3.3,SNR=8.1						

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*KRSC **28** 00:50:31.6±0.7, 51.70N×160.66E, h41km±56km, ML4.4*
*MOS **28** 00:50:33.7±1.5, 51.77N×160.27E, h40km, mb4.5/2, Error ellipse: s-maj=18.3km s-min=9.5km az=98.5*
*NEIC **28** 00:50:35.7±4.3, 51.99N×160.18E, h28km±30km, mb4.6/4, Error ellipse: s-maj=15.4km s-min=9.4km az=162.0*
*IDC **28** 00:50:36.6±1.0, 51.86N×160.25E, h40km±4km, mb3.6/15, mb1 3.8/15, mb1mx3.8/21, mbtmp3.8/15, MS3.8/2, Ms1 3.8/2, ms1mx3.1/23, Error ellipse: s-maj=29.0km s-min=11.1km az=1.0*
ISC 28 00:50:34.2±0.5, 51.82N±0.05×160.52E±0.06, h40km, h40km±1.1km:pP-P, n66, σ1§07/71, mb4.0/19, MS4.0/1, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.31**	**347**	*i*P	**P**	**00 50 55.5**	**-1.0**
RUS	**Russkaya**	**1.38**	**297**	*i*P	**P**	**00 50 56.6**	**-0.8**
RUS				*i*S	**S**	**00 51 15.4**	**+0.7**
NLC	**Nalytchevo**	**1.53**	**332**	*e*P	**P**	**00 50 59.4**	**-0.2**
NLC				*e*S	**S**	**00 51 19.2**	**+0.8**
PET	**Petropavlovsk**	**1.66**	**317**	P	**P**	**00 51 00.6**	**-0.8**
PET	**Petropavlovsk**	**1.66**	**317⇑*i*PN**		**P**	**00 51 01.2**	**-0.2**
PET				*e*S	**S**	**00 51 23.0**	**+1.4**
PET				pmax	pmax		
	comp=E,180nm,0.7s						
PET				pmax	pmax		
	comp=Z,404nm,0.6s						
PET				pmax	pmax		
	comp=N,174nm,0.7s						
PET				smax			
	comp=N,1μm,0.4s						
PET	**Petropavlovsk**	**1.66**	**317**	*e*P	**P**	**00 50 59.8**	**-1.6**
GRL	**Gorelyy**	**1.67**	**297**	*i*P	**P**	**00 51 01.8**	**+0.2**
UGLR	**Uglovaya**	**1.73**	**324**	*i*P	**P**	**00 51 02.6**	**+0.2**
SDLR	**Sedlovina**	**1.77**	**326**	*i*P	**P**	**00 51 02.8**	**-0.1**
KRMR	**Karymshinskiy**	**1.78**	**305**	*i*P	**P**	**00 51 02.6**	**-0.5**
KRMR				*e*S	**S**	**00 51 25.4**	**+0.7**
SMAR	**Somma**	**1.78**	**325**	*i*P	**P**	**00 51 03.0**	**-0.2**
AVH	**Avacha**	**1.81**	**324**	*i*P	**P**	**00 51 03.8**	**+0.3**
KOJK	**Koryaka**	**1.87**	**323**	*i*P	**P**	**00 51 04.4**	**+0.1**
APC	**Apacha**	**2.34**	**300**	*i*P	**P**	**00 51 11.5**	**+0.4**
APC				*e*S	**S**	**00 51 40.0**	**+1.2**
APC				Smax			
	comp=N,290nm,0.9s						
PAU	**Pauzhetka**	**2.34**	**263**	*e*P	**P**	**00 51 10.2**	**-0.8**
PAU				Smax			
	comp=N,860nm,1.0s						
MIPR	**Malaya Ipel'ka**	**2.37**	**283**	*e*P	**P**	**00 51 11.8**	**+0.3**
GNL	**Ganaly**	**2.44**	**321**	*i*P	**P**	**00 51 13.2**	**+0.6**
TUMR	**Tumrok**	**3.47**	**356**	*i*P	**P**	**00 51 27.3**	**+0.1**
KMNR	**Kamenistaya**	**3.94**	**358**	*e*P	**P**	**00 51 34.2**	**+0.3**
KPT	**Kopyto**	**4.16**	**358**	*e*P	**P**	**00 51 36.9**	**0.0**
ZLN	**Zelenaya**	**4.21**	**2**	*e*P	**P**	**00 51 37.5**	**-0.1**
ESO	**Esso**	**4.25**	**346**	*e*P	**P**	**00 51 38.0**	**-0.2**

KOZ	Kozyrevsk	4.26	355	*e*P		P		00 51 37.5	-0.9
LGNR	Loginova	4.27	1	*i* P		P		00 51 39.2	+0.7
CIRR	Tsirk	4.30	2	*e*P		P		00 51 38.2	-0.8
SRDR	Sredinnyy	4.53	354	*e*P		P		00 51 41.8	-0.4
KBTR	Krutoberegovo	4.60	16	*e*P		P		00 51 41.7	-1.5
BDR	Baidarnaya	4.77	5	*e*P		P		00 51 44.6	-1.0
SRKR	Sorokina	4.86	4	*e*P		P		00 51 46.6	-0.2
FX1	Attu Island--F	7.82	77	Pn		P		00 52 27.2	-1.0
	comp=N,11nm,0.3s,baz=250,slow=1.4,SNR=15								
FX1				Sn		S		00 53 48.5	-7.9
	comp=N,13nm,0.3s,baz=64,slow=22,SNR=13								
FX1	Attu Island--F	7.82	77	*e*P		P		00 52 27.0	-1.2
ASAJ	Asahikawa	14.24	244	LR		LR		01 00 05.8	
	comp=N,204nm,20.6s,baz=17,slow=40								
BILL	Bilibino	16.51	8	*e*P		P		00 54 27.5	+3.6
BILL				pmax	pmax				
	comp=Z,10.0nm,0.9s								
YAK	Yakutsk	19.49	314	*e*P		P		00 54 56.6	-3.6
YAK				pmax	pmax				
	comp=Z,26nm,0.6s								
MJAR	Matsushiro Arr	21.99	235	P		P		00 55 26.1	-0.1
	comp=Z,2.5nm,0.5s,mb3.9,baz=26,slow=11,SNR=5.9								
TIXI	Tiksi	24.35	336	*e*P		P		00 55 47.7	-1.2
ILAR	Eielson Array	29.54	44	P		P		00 56 38.0	+1.4
	comp=Z,0.5nm,0.8s,mb3.3,baz=250,slow=7.9,SNR=4.3								
SONM	Songino Array	34.47	285	P		P		00 57 19.0	-0.9
	comp=Z,0.2nm,0.3s,mb3.5,baz=67,slow=6.9,SNR=3.0								
SONM				LR		LR		01 13 05.2	
	comp=Z,263nm,18.5s,MS4.0,baz=153,slow=39								
INK	Inuvik	34.73	37	P		P		00 57 22.1	+0.2
	comp=Z,0.2nm,0.3s,mb3.6,baz=233,slow=5.1,SNR=1.9								
ENH	Enshi	43.03	260	*e*P		P		00 58 33.3	+1.8
	comp=Z,11nm,0.8s,mb4.6								
YKA	Yellowknife Ar	43.93	42	P		P		00 58 39.5	+1.2
	comp=Z,0.3nm,0.7s,mb3.2,baz=297,slow=7.9,SNR=6.6								
YKA				pP	pP			00 58 50.7	+1.0
	comp=Z,0.4nm,0.8s,baz=296,slow=7.7,SNR=3.8								
YKA	Yellowknife Ar	43.93	42	P		P		00 58 39.5	+1.2
YKA				pP	pP			00 58 50.7	+1.1
NVS	Novosibirsk	44.06	306	*i* P		P		00 58 36.4	-3.0
RES	Resolute Bay	44.41	22	*e*P		P		00 58 43.2	+1.2
KURK	Kurchatov	48.64	303	*i* P		P		00 59 13.5	-2.1
KURK	Kurchatov	48.64	303	*e*P		P		00 59 13.2	-2.4
	comp=Z,3.5nm,0.6s,mb4.6								
MKAR	Makanchi Array	48.95	297	P		P		00 59 15.8	-2.2
	comp=Z,0.6nm,0.5s,mb3.9,baz=60,slow=7.1,SNR=17								
MKAR				pP	pP			00 59 28.3	-1.2
	comp=Z,0.8nm,0.5s,baz=59,slow=6.3,SNR=7.8								
ARCES	ARCESS Array B	54.58	342	P		P		00 59 59.4	-0.6
	comp=Z,10nm,1.0s,mb4.8,baz=29,slow=8.4,SNR=14								
ARCES	ARCESS Array B	54.58	342	P		P		00 59 59.4	-0.6
NVAR	Mina Array Bea	55.94	70	P		P		01 00 12.7	+2.4
	comp=Z,0.3nm,0.6s,mb3.5,baz=277,slow=10,SNR=5.7								
NVAR				pP	pP			01 00 24.0	+2.0
	comp=Z,1.1nm,0.7s,baz=295,slow=6.6,SNR=5.2								
NVAR	Mina Array Bea	55.94	70	P		P		01 00 12.7	+2.4
NVAR				pP	pP			01 00 24.0	+2.0
PDAR	Pinedale Array	57.92	60	P		P		01 00 26.1	+1.8
	comp=Z,0.6nm,0.8s,mb3.7,baz=319,slow=1.9,SNR=5.1								
PDAR				pP	pP			01 00 38.1	+2.0
	comp=Z,1.0nm,0.8s,baz=297,slow=3.3,SNR=6.0								
JOF	Joensuu	58.83	336	*e*p		P		01 00 28.8	-1.6
	comp=Z,3.8nm,0.7s,mb4.5								
KAF	Kangasniemi	60.76	337	*e*p		P		01 00 41.8	-1.8
	comp=Z,4.3nm,0.8s,mb4.6								
KAF	Kangasniemi	60.76	337	*e*P		P		01 00 41.8	-1.8
KAF				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.6								
FINES	FINESS Array B	61.39	337	P		P		01 00 47.6	-0.3
	comp=Z,2.4nm,0.6s,mb4.5,baz=42,slow=8.1,SNR=12								
FINES				pP	pP			01 00 59.9	+0.1
	comp=Z,1.6nm,0.5s,baz=45,slow=8.1,SNR=3.6								
NB2	NORSAR Subarra	64.84	344	P		P		01 01 10.3	-0.2
	comp=Z,0.8nm,0.5s,mb4.0,baz=22,slow=6.5								
NB2	NORSAR Subarra	64.84	344	P		P		01 01 10.3	-0.2
NB2				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.1								
NOA	NORSAR Array B	64.84	344	P		P		01 01 10.6	+0.1
	comp=Z,2.0nm,0.9s,mb4.2,baz=21,slow=6.8,SNR=4.7								
NOA	NORSAR Array B	64.84	344	P		P		01 01 10.6	+0.1
AKASG	Malin Array Be	69.84	329	P		P		01 01 41.6	-0.4
	comp=Z,1.5nm,0.4s,mb4.3,baz=30,slow=6.2,SNR=15								
AKASG				pP	pP			01 01 53.1	-0.9
	comp=Z,0.8nm,0.4s,baz=29,slow=6.1,SNR=6.3								
TXAR	Lajitas Array	70.90	67	P		P		01 01 50.8	+1.9
	comp=Z,0.4nm,0.8s,mb3.4,baz=297,slow=2.8,SNR=4.6								
TXAR				pP	pP			01 02 01.8	+0.9
	comp=Z,0.5nm,0.7s,baz=299,slow=5.3,SNR=5.6								
GRA1	Grafenberg Arr	75.54	340	PKP		P		01 02 17.3	+1.7
GRF	Grafenberg Arr	75.54	340	P		P		01 02 17.3	+1.7
GERES	GERESS Array B	75.79	338	P		P		01 02 17.9	+0.9
	comp=Z,0.2nm,0.5s,mb3.3,slow=8.0,SNR=4.5								
GERES				pP	pP			01 02 30.5	+1.4
	comp=Z,0.6nm,0.8s,baz=346,slow=5.5,SNR=2.9								
BRTR	Keskin Array B	77.77	321	P		P		01 02 29.4	+1.1
	comp=Z,1.0nm,0.9s,mb3.8,baz=104,slow=10,SNR=4.8								

IDC ***28*** *01:09:08.8±2.5, 32.24N×68.41E, mb3.3/4, mb1 3.5/5, mb1mx3.4/20, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=68.3km s-min=36.4km az=80.0*

ISC 28 01:09:14.6±2.0, 32.2N±0.2×69.3E±0.2, h33km, n10, σ0s95/10, mb3.3/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOLN	Koldanda	13.19	106	*e*P		P	01 12 22.5	+0.3
	17nm,0.9s							
KKN	Kakani	14.56	104	*e*P		P	01 12 38.8	-1.4
PKI	Pulchoki	14.75	104	*e*P		P	01 12 42.1	-0.5
GUN	Gumba	15.01	102	*e*P		P	01 12 46.5	+0.4
	21nm,0.5s							
JIRN	Jiri	15.36	103	*e*P		P	01 12 50.8	+0.2
	12nm,0.5s							
MKAR	Makanchi Array	17.65	31	P		P	01 13 19.2	-0.1
	0.2nm,0.3s,baz=210,slow=12,SNR=13							
BVAR	Borovoye Array	20.80	2	P		P	01 13 50.9	-4.5
	1.0nm,0.7s,baz=196,slow=10,SNR=3.4							
SONM	Songino Array	32.07	50	P		P	01 15 43.3	+2.8
	0.3nm,0.7s,mb3.2,baz=261,slow=8.8,SNR=5.3							
WRA	Warramunga Arr	81.02	120	P		P	01 21 28.7	+0.8
	0.4nm,0.7s,mb3.5,baz=322,slow=4.9,SNR=5.4							
YKA	Yellowknife Ar	85.56	2	P		P	01 21 49.2	-0.9
	0.1nm,0.6s,mb3.2,baz=349,slow=4.5,SNR=4.1							

BJI ***28*** *01:49:26.5, 53.60N×165.29W, h12km, mB5.0, mb4.7, Ms4.7, Ms2.4*

MOS ***28*** *01:49:27.0±1.0, 53.46N×164.49W, h33km, mb4.8/22, Error ellipse: s-maj=12.4km s-min=8.0km az=85.2*

NEIC ***28*** *01:49:28.9±1.0, 53.39N×164.56W, h37km±9km, mb4.7/39, Error ellipse: s-maj=8.2km s-min=4.1km az=192.0*

IDC ***28*** *01:49:30.0±0.8, 53.57N×164.61W, h39km±5km, mb4.1/21, mb1 4.2/25, mb1mx4.2/28, mbtmp4.3/25, ML4.2/4, MS4.0/10, Ms1 4.0/10, ms1mx3.6/33, Error ellipse: s-maj=18.3km s-min=10.3km az=179.0*

ISC 28 01:49:27.9±0.3, 53.42N±0.06×164.53W±0.05, h41km, h41km±1.4km: pP-P, n176, σ1s05/173, mb4.6/65, MS4.2/12, 5C, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKO	Nikolski	2.64	262	*e*P		P	01 50 08.2	-0.9
KDAK	Kodiak Island	8.05	52	Pn		P	01 51 21.9	-3.2
	22nm,0.3s,baz=330,slow=11,SNR=32							
KDAK				Sn		S	01 52 46.8	-9.0
	1.1nm,0.3s,baz=27,slow=19,SNR=5.2							
SLKM	Skilak Lake	10.54	42	P		P	01 52 05.3	+6.1
MCK	McKinley	13.11	32	P		P	01 52 35.5	+1.7
MCK				pmax	pmax			
	comp=Z,10.0nm,1.1s							
MCK	McKinley	13.11	32	P		P	01 52 35.5	+1.7
	comp=Z,9.7nm,1.1s							
FX1	Attu Island--F	13.39	277	Pn		P	01 52 38.8	+1.3
	comp=Z,4.3nm,0.3s,baz=230,slow=21,SNR=7.7							
IMA2	Indian Mountai	13.78	19	*e*P		P	01 52 46.3	+3.9
ILAR	Eielson Array	14.48	31	Pn		P	01 52 47.2	-4.3
	comp=Z,0.1nm,0.3s,baz=230,slow=12,SNR=12							
ILAR				LR		LR	01 58 46.0	
	comp=Z,388nm,20.8s,baz=249,slow=39							
DAWY	Dawson	16.72	40	P		P	01 53 19.0	-1.2
DLBC	Dease Lake	19.82	61	P		P	01 53 57.6	+0.2
	comp=Z,0.4nm,0.3s,baz=285,slow=14,SNR=11							
DLBC				LR		LR	02 01 43.8	
	comp=Z,255nm,19.9s,baz=257,slow=37							
BILL	Bilibino	20.15	328	*e*P		P	01 54 04.0	+3.1
BILL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BILL	Bilibino	20.15	328	P		P	01 54 00.5	-0.5
	comp=Z,5.0nm,0.4s							
INK	Inuvik	20.87	33	P		P	01 54 05.3	-3.0
	comp=Z,11nm,0.5s,baz=246,slow=10,SNR=41							
INK				LR		LR	02 03 18.4	
	comp=Z,864nm,18.2s,MS4.2,baz=247,slow=40							
INK	Inuvik	20.87	33	*e*P		P	01 54 04.6	-3.8
INK				pmax	pmax			
	comp=Z,23nm,0.5s							
INK	Inuvik	20.87	33	*e*P		P	01 54 04.6	-3.8
	comp=Z,23nm,0.5s							
YKW3	Yellowknife Ar	27.32	51	P		P	01 55 11.3	+1.0
YKA	Yellowknife Ar	27.33	51	P		P	01 55 10.4	0.0
	comp=Z,0.8nm,0.6s,baz=271,slow=8.8,SNR=33							
YKA				LR		LR	02 05 22.7	
	comp=Z,12nm,19.0s,baz=265,slow=35							
HAWA	Hanford	29.41	85	*e*P		P	01 55 29.2	+0.1
	comp=Z,0.2nm,0.5s							
NEW	Newport	29.93	80	LR		LR	02 06 12.4	
	comp=Z,322nm,20.4s,MS4.0,baz=227,slow=34							
NEW	Newport	29.93	80	P		P	01 55 33.1	-0.7
EDM	Edmonton	30.04	69	*e*P		P	01 55 34.6	-0.1
YBH	Yreka Blue Hor	30.10	96	P		P	01 55 36.9	+1.5
	comp=Z,2.6nm,0.8s,mb4.0,baz=250,slow=2.5,SNR=5.5							
WVOR	Wild Horse Val	32.12	91	P		P	01 55 53.6	+0.4
HLID	Hailey	33.99	86	*e*P		P	01 56 09.8	+0.4
	comp=Z,0.7nm,0.5s,mb3.9							
RES	Resolute Bay	34.14	26	*e*P		P	01 56 09.4	-1.0
RES				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
RES	Resolute Bay	34.14	26	*e*P		P	01 56 09.4	-1.0
	comp=Z,2.1nm,0.6s,mb4.2							
MCMT	McKenzie Canyo	34.22	83	*e*P		P	01 56 11.6	+0.3
EGMT	Eagleton	34.36	76	P		P	01 56 12.6	+0.1
NVAR	Mina Array Bea	34.81	97	P		P	01 56 17.9	+1.5
	comp=Z,3.2nm,0.6s,mb4.4,baz=298,slow=8.6,SNR=17							
NVAR				LR		LR	02 07 54.9	
	comp=Z,149nm,19.4s,MS3.7,baz=170,slow=32							
ELK	Elko	35.17	91	P		P	01 56 20.7	+1.2
	comp=Z,2.6nm,0.6s,mb4.3,baz=302,slow=10,SNR=17							
ASAJ	Asahikawa	35.32	277	P		P	01 56 21.4	+0.7
	comp=Z,38nm,1.1s,mb5.2,baz=86,slow=7.6,SNR=4.6							
DUG	Dugway	36.96	90	*e*P		P	01 56 35.0	+0.3
DUG				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
DUG	Dugway	36.96	90	*e*P		P	01 56 35.0	+0.4
	comp=Z,6.6nm,1.0s,mb4.4							
TPNV	Topopah Spring	37.01	97	*e*P		P	01 56 35.7	+0.6
TPNV				pmax	pmax			
	comp=Z,18nm,1.2s,mb4.8							
TPNV	Topopah Spring	37.01	97	*e*P		P	01 56 35.7	+0.7
	comp=Z,18nm,1.2s,mb4.8							
BW06	Boulder Array	37.35	84	*e*P		P	01 56 38.5	+0.6
PDAR	Pinedale Array	37.35	84	P		P	01 56 38.9	+1.0
	comp=Z,0.7nm,0.5s,mb3.8,baz=306,slow=3.4,SNR=8.3							
FCC	Fort Churchill	37.99	53	*e*P		P	01 56 42.9	-0.2
FCC				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.3							
FCC	Fort Churchill	37.99	53	*e*P		P	01 56 42.9	-0.2
	comp=Z,5.0nm,0.7s,mb4.3							
MSU	Marysvale	38.41	91	*e*P		P	01 56 47.9	+1.1
NEN	Nelson	38.72	97	P		P	01 56 49.9	+0.5
RWWY	Rawlins	39.39	83	P		P	01 56 56.4	+1.5
	comp=Z,31nm,0.5s,mb5.3							
RSSD	Black Hills	39.82	78	P		P	01 56 58.3	-0.1
RSSD				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.0							
RSSD	Black Hills	39.82	78	P		P	01 56 58.3	-0.2
	comp=Z,1.7nm,0.6s,mb4.0							
PV10	Paradox Valley	40.38	89	P		P	01 57 04.4	+1.3
PV01	Paradox Valley	40.81	89	P		P	01 57 07.2	+0.5
WUAZ	Wupatki	40.88	94	*e*P		P	01 57 07.9	+0.7
	comp=Z,8.4nm,0.7s,mb4.5							
ULM	Lac du Bonnet	41.06	66	P		P	01 57 08.6	0.0
	comp=Z,2.0nm,0.9s,mb3.7,baz=301,slow=5.5,SNR=4.4							
ULM				LR		LR	02 14 33.9	
	comp=Z,237nm,18.7s,MS4.1,baz=281,slow=37							
MJAR	Matsushiro Arr	42.64	271	P		P	01 57 22.2	+0.5
	comp=Z,1.4nm,0.5s,mb4.0,baz=38,slow=7.2,SNR=4.3							
MJAR				LR		LR	02 12 43.4	
	comp=Z,214nm,20.6s,MS4.0,baz=70,slow=33							
MDJ	Mudanjiang	42.66	286	P		P	01 57 18.0	-3.7
MDJ				AP		pP	01 57 31.3	-2.0
MDJ				PP		PP	01 58 56.8	-6.6
MDJ				PCP		PcP	01 59 11.0	-2.7
MDJ				PCS			02 03 02.8	
MDJ				S		S	02 03 35.0	-6.6
MDJ				AMB		AMB		
	comp=Z,10.0nm,2.9s,mb4.0							
MDJ				AMB		AMB		
	comp=Z,300nm,4.8s							
MDJ				LR		LR		
	comp=N,100nm,23.9s,MS3.9							
MDJ				LR		LR		
	comp=E,140nm,23.9s,MS3.9							
MDJ				LR		LR		
	comp=Z,220nm,20.7s,MS4.0							
SDCO	Great Sand Dun	42.90	87	*e*P		P	01 57 22.7	-1.1
	comp=Z,1.6nm,0.9s,mb3.8							
BOD	Bodaibo	43.60	310	*e*P		P	01 57 27.8	-1.4
BOD				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.3							
ANMO	Albuquerque	44.20	91	*e*P		P	01 57 33.6	-0.8
ANMO				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ANMO	Albuquerque	44.20	91	*e*P		P	01 57 33.6	-0.7
	comp=Z,0.7nm,0.5s,mb3.6							
EYMN	Ely	44.73	66	*e*P		P	01 57 37.5	-0.9
CN2	Changchun	45.53	288	*e*P		P	01 57 43.8	-1.0
CN2				*e*S		S	02 04 21.0	-2.2
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
CN2				LR		LR		
	comp=N,400nm,20.0s,MS4.6							
CN2				LR		LR		
	comp=E,500nm,20.0s,MS4.6							
MNTX	Cornudas Mount	47.12	93	*e*P		P	01 57 57.8	+0.3
	comp=E,2.8nm,0.7s,mb4.3							
KS15	Wonju Array Si	48.20	279	P		P	01 58 05.3	-0.6
DAG	Danmarks Havn	48.29	10	*i* P		P	01 58 05.0	-1.1
	comp=E,2.8nm,0.5s,mb4.5							
DAG	Danmarks Havn	48.29	10	*e*P		P	01 58 05.0	-1.1
DAG				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6							
DAG	Danmarks Havn	48.29	10	*e*P		P	01 58 05.0	-1.1
	comp=Z,2.8nm,0.5s,mb4.5							
SUMG	Summit	48.88	19	*e*P		P	01 58 11.0	+0.3
	comp=Z,12nm,0.6s,mb5.1							
WMOK	Wichita Mounta	48.94	85	*e*P		P	01 58 10.9	-0.8
WMOK				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6							
WMOK	Wichita Mounta	48.94	85	*e*P		P	01 58 10.9	-0.8
	comp=Z,3.6nm,0.6s,mb4.6							
LTX	Lajitas	49.84	94	*e*P		P	01 58 18.3	-0.4
LTX				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
LTX	Lajitas	49.84	94	*e*P		P	01 58 18.3	-0.4
	comp=Z,3.4nm,0.6s,mb4.5							
TXAR	Lajitas Array	49.84	94	P		P	01 58 18.9	+0.2
	comp=Z,2.0nm,0.5s,mb4.4,baz=301,slow=5.5,SNR=51							
TXAR				LR		LR	02 19 08.9	
	comp=Z,98nm,18.4s,MS3.9,baz=345,slow=36							
TXAR	Lajitas Array	49.84	94	P		P	01 58 18.9	+0.2
TXAR				LR		LR	02 19 08.9	
SFJD	Kangerlussuaq	50.12	28	P		P	01 58 20.8	+0.5
CCM	Cathedral Cave	51.12	76	P		P	01 58 26.2	-2.1
JCT	Junction City	51.32	89	*e*P		P	01 58 28.8	-1.1
JCT				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.9							
JCT	Junction City	51.32	89	*e*P		P	01 58 28.8	-1.2
	comp=Z,10.0nm,0.6s,mb4.9							
FVM	French Village	51.65	76	*e*P		P	01 58 30.3	-2.0
SCHQ	Schefferville	52.63	46	P		P	01 58 38.5	-0.9
	comp=Z,4.8nm,0.9s,mb4.4,baz=268,slow=6.6,SNR=6.5							
SCHQ	Schefferville	52.63	46	*e*P		P	01 58 38.5	-0.8
ULN	Ulaanbaatar	52.89	302	*e*P		P	01 58 40.1	-1.3
BLO	Bloomington	53.09	72	P		P	01 58 41.0	-2.0
SONM	Songino Array	53.24	303	P		P	01 58 43.6	-0.4
	comp=Z,4.6nm,0.9s,mb4.4,baz=34,slow=8.0,SNR=10							
SCO	Scoresbysund	53.51	15	*i* P		P	01 58 46.1	+0.4
	comp=Z,3.3nm,0.8s,mb4.3							
SCO				*i* S		pP	01 58 58.4	+0.8
WVT	Waverly	54.43	76	*e*P		P	01 58 51.0	-1.9
WVT				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9							
WVT	Waverly	54.43	76	*e*P		P	01 58 51.0	-1.9
	comp=Z,9.2nm,0.6s,mb4.9							
OXF	Oxford	54.64	78	*e*P		P	01 58 51.6	-2.9
ALLY	Alegheny Colle	54.95	66	*e*P		P	01 58 55.3	-1.4
SSE	Sheshan	56.58	278	P		P	01 59 06.5	-2.1
SSE				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,70nm,8.0s							
TZTN	Tazewell	56.60	72	*e*P		P	01 59 06.7	-2.0
KEV	Kevo	56.85	355	*e*p		P	01 59 07.8	-2.2
	comp=Z,8.2nm,0.7s,mb4.9							
KEV	Kevo	56.85	355	P		P	01 59 07.8	-2.2
LRAL	Lakeview Retre	57.10	78	*e*P		P	01 59 09.5	-2.8
ARCES	ARCESS Array B	57.14	356	P		P	01 59 10.7	-1.3
	comp=Z,3.8nm,0.6s,mb4.6,baz=11,slow=7.2,SNR=17							
ARCES				pP	pP		01 59 23.3	-0.7
	comp=Z,4.1nm,0.8s,baz=17,slow=5.7,SNR=2.1							
NJ2	Nanjing	57.27	281	*e*P		P	01 59 14.0	+0.5
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb5.0							
NJ2				AMB		AMB		
	comp=Z,130nm,11.2s							
NJ2				LR		LR		
	comp=N,2μm,23.1s,MS5.3							
NJ2				LR		LR		
	comp=E,2μm,25.8s,MS5.3							
NJ2				LR		LR		
	comp=Z,220nm,10.6s							
BLA	Blacksburg	57.90	70	*e*P		P	01 59 15.5	-2.3
BLA				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
BLA	Blacksburg	57.90	70	*e*P		P	01 59 15.5	-2.3
	comp=Z,5.1nm,0.6s,mb4.7							
ENH	Enshi	64.02	286	P		P	01 59 57.7	-1.6
KAF	Kangasniemi	64.50	354	*e*p		P	02 00 00.5	-1.3
	comp=Z,1.8nm,0.6s,mb4.3							
KAF	Kangasniemi	64.50	354	*e*P		P	02 00 00.5	-1.3
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
ARU	Arti	64.96	335	*e*P		P	02 00 04.0	-0.9
WMQ	Urumqi	65.14	311	*e*P		P	02 00 06.3	0.0
WMQ				PCP		PcP	02 00 38.0	-0.6
WMQ				AMB		AMB		
	comp=Z,60nm,5.0s							
WMQ				LR		LR		
	comp=N,420nm,22.0s,MS4.7							
WMQ				LR		LR		
	comp=E,390nm,21.0s,MS4.7							
WMQ				LR		LR		
	comp=Z,450nm,20.0s,MS4.7							
MKAR	Makanchi Array	65.16	316	P		P	02 00 06.0	-0.3
	comp=Z,5.5nm,0.6s,mb4.8,baz=46,slow=6.3,SNR=2.6							
MKAR				LR		LR	02 29 58.3	
	comp=Z,210nm,18.6s,MS4.4,baz=180,slow=37							
MKAR	Makanchi Array	65.16	316	P		P	02 00 06.0	-0.3
MKAR				LR		LR	02 29 58.3	
FINES	FINESS Array B	65.18	354	P		P	02 00 05.2	-1.0
	comp=Z,3.2nm,0.8s,mb4.4,baz=18,slow=6.0,SNR=9.5							
FINES				pP	pP		02 00 16.9	-1.5
	comp=Z,1.5nm,0.4s,baz=20,slow=7.9,SNR=3.2							
NOA	NORSAR Array B	65.84	2	P		P	02 00 10.2	-0.3
	comp=Z,1.6nm,0.7s,mb4.1,baz=358,slow=6.7,SNR=4.7							
CD2	Chengdu	66.79	291	*e*P		P	02 00 15.0	-2.0
CD2				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.2							
AKTK	Aktyubinsk	70.50	333	P		P	02 00 40.1	+0.5
AKTK				LR		LR	02 33 26.4	
AKTO	Aktyubinsk	70.50	333	P		P	02 00 40.1	+0.5
	comp=Z,23nm,0.7s,mb5.2,baz=3.6,slow=4.7,SNR=7.4							
AKTO				LR		LR	02 33 26.4	
	comp=Z,83nm,18.6s,MS4.0,baz=54,slow=38							
DCN	Croghan	71.94	14	*e*P		P	02 00 48.1	0.0
DLF	Lyons Farm	72.09	14	*e*P		P	02 00 48.3	-0.7
LSA	Lhasa	74.57	299	P		P	02 01 06.0	+2.0
LSA	Lhasa	74.57	299	*e*P		P	02 01 04.9	+0.9
LSA				pmax	pmax			
	comp=Z,8.0nm,0.7

	comp=Z,6.0nm,0.8s,mb4.6							
SBF	**Sospel**	**82.85**	**6**	*e*P		**P**	**02 01 48.9**	**+0.1**
	comp=Z,54nm,0.9s,mb5.3							
SBF	**Sospel**	**82.85**	**6**	*e*P		**P**	**02 01 48.9**	**+0.1**
SBF				pmax	pmax			
	comp=Z,27nm,0.9s,mb5.3							
MTLF	**Montolieu**	**82.95**	**10**	*e*P		**P**	**02 01 49.6**	**+0.3**
FRF	**La Foret Royal**	**83.10**	**6**	*e*P		**P**	**02 01 51.2**	**+1.1**
PGF	**Pioggiola**	**84.25**	**5**	*e*P		**P**	**02 01 56.5**	**+0.7**
	comp=Z,58nm,1.2s,mb5.3							
PGF	**Pioggiola**	**84.25**	**5**	*e*P		**P**	**02 01 56.5**	**+0.7**
PGF				pmax	pmax			
	comp=Z,29nm,1.2s,mb5.3							
ESDC	**Sonseca Array**	**85.77**	**15**	P		**P**	**02 02 04.5**	**+1.1**
	comp=Z,0.9nm,0.6s,mb4.2,baz=342,slow=4.3,SNR=10							
ESDC				pP	pP		02 02 17.1	+1.1
	comp=Z,1.0nm,0.5s,baz=346,slow=4.7,SNR=6.0							
BR131	**Keskin Array S**	**85.91**	**346**	*e*P		**P**	**02 02 06.0**	**+1.9**
	comp=Z,5.4nm,0.8s,mb4.8							
BRTR	**Keskin Array B**	**85.91**	**346**	P		**P**	**02 02 06.3**	**+2.2**
	comp=Z,4.4nm,0.7s,mb4.8,baz=61,slow=3.0,SNR=22							
BRTR				pP	pP		02 02 18.1	+1.4
	comp=Z,4.7nm,0.8s,baz=63,slow=2.8,SNR=9.0							
KSM	**Kuching**	**85.93**	**267**	P		**P**	**02 02 01.2**	**-3.6**
EVO	**Evora**	**86.19**	**18**	*e*P		**P**	**02 02 05.4**	**-0.1**
	comp=Z,82nm,1.5s,mb5.4							
MALT	**Malatya**	**86.50**	**342**	P		**P**	**02 02 06.7**	**-0.3**
MALT				pmax	pmax			
	comp=Z,12nm,1.5s,mb4.9							
MALT	**Malatya**	**86.50**	**342**	P		**P**	**02 02 06.7**	**-0.3**
	comp=Z,12nm,1.5s,mb4.9							
WRA	**Warramunga Arr**	**89.98**	**235**	P		**P**	**02 02 23.8**	**-0.3**
	comp=Z,1.3nm,0.9s,mb4.3,baz=34,slow=5.8,SNR=8.3							
TSUM	**Tsumeb**	**145.81**	**356**	*e*PKP		PKPdf	02 09 02.0	+0.1
LBTB	**Lobatse**	**150.63**	**341**	*e*PKIKP		PKPdf	02 09 16.2	+6.7
MAW	**Mawson**	**153.53**	**219**	PKPbc		PKPdf	02 09 21.3	+9.0
	comp=Z,2.4nm,0.6s,baz=95,slow=4.2,SNR=7.3							
VNA3	**Neumayer Olymp**	**158.95**	**158**	⇑*i*PKPdf		PKPdf	02 09 19.5	+0.1
VNA3				*e*			02 09 36.2	
VNA3				*e*			02 09 56.3	
VNA3				*e*			02 10 12.0	
VNA3				*e*			02 10 18.0	
VNA2	**Neumayer--Watz**	**159.70**	**158**	⇑*i*PKPdf		PKPdf	02 09 20.6	+0.4
VNA2				*e*			02 09 37.4	
VNA2				*e*			02 09 59.8	
VNA2				*e*			02 10 14.3	
VNA2				*e*			02 10 21.3	

*KNET **28** 01:52:47.4, 42.68N×75.40E, h16km, ml4.0*
*NNC **28** 01:52:49.0±0.5, 42.74N×75.38E, h3km±2km, mb5.0, mpv5.1, Error ellipse: s-maj=7.4km s-min=2.9km az=162.0*
*IDC **28** 01:52:49.5±0.9, 42.79N×75.42E, mb3.9/12, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML4.5/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/36, Error ellipse: s-maj=15.4km s-min=10.4km az=175.0*
*MOS **28** 01:52:49.3±1.8, 42.85N×75.32E, h11km, mb4.3/5, Error ellipse: s-maj=8.1km s-min=6.1km az=110.0*
MOS Felt (IV) at Bordunskii.
*NEIC **28** 01:52:49.0, 42.74N×75.38E, h3km, mb4.1/8, After NNC.*
NEIC Felt [IV] at Bordunskiy.
*BJI **28** 01:52:52.3, 42.82N×75.75E, h17km, mb4.6, ML4.6*

ISC 28 01:52:48.4±0.4, 42.71N±0.02×75.39E±0.02, h7km±3km, n83, σ1°26/117, mb4.1/19, MS3.3/3, 18C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.26**	**35**	⇑P		**Pg**	**01 52 54.0**	**+0.3**
	16μm,0.2s							
TKM2				⇑S		**Sg**	**01 52 58.2**	**+0.9**
	20μm,0.2s							
TKM2	**Tokmak 2**	**0.26**	**35**	⇓P		**Pg**	**01 52 54.2**	**+0.5**
	11μm,0.2s							
TKM2				⇑S		**Sg**	**01 52 58.2**	**+0.9**
	16μm,0.2s							
TKM2	**Tokmak 2**	**0.26**	**35**	⇓P		**Pg**	**01 52 54.2**	**+0.5**
TKM2				S		**Sg**	**01 52 58.2**	**+0.9**
KBK	**Karagaybulak**	**0.33**	**261**	⇑P		**Pg**	**01 52 55.5**	**+0.3**
	6μm,0.4s,SNR=229							
KBK				⇓S		**Sg**	**01 53 00.6**	**+1.0**
	18μm,0.5s							
CHMS	**Chumysh**	**0.55**	**302**	P		**Pg**	**01 52 59.4**	**-0.1**
	2μm,0.5s,SNR=675							
CHMS				⇑S		**Sg**	**01 53 07.3**	**+0.3**
	2μm,0.2s							
FRU	**Bishkek**	**0.58**	**282**	*e*PG		**Pg**	**01 53 00.0**	**-0.1**
FRU				*i* S		**Sg**	**01 53 09.0**	**+1.1**
FRU				pmax	pmax			
	comp=Z,2μm,1.2s							
FRU				pmax	pmax			
	comp=Z,3μm,1.7s							
FRU				smax				
	comp=N,18μm,8.0s							
KZA	**Kyzart**	**0.64**	**190**	P		**Pg**	**01 53 00.6**	**-0.7**
	comp=N,1μm,0.2s,SNR=2263							
KZA				⇓S		**Sg**	**01 53 09.0**	**-0.8**
	comp=N,8μm,0.4s							
AAK	**Ala-Archa**	**0.67**	**264**	P		**Pg**	**01 53 01.2**	**-0.5**
	comp=N,400nm,0.2s,SNR=530							
AAK				⇑S		**Sg**	**01 53 10.5**	**-0.2**
	comp=N,4μm,0.5s							
ULHL	**Ulahol**	**0.78**	**126**	P		**Pb**	**01 53 02.8**	**-1.1**
	comp=N,1μm,0.2s,SNR=3150							
ULHL				⇓S		**Sb**	**01 53 13.1**	**-1.4**
	comp=N,9μm,0.5s							
UCH	**Uchtor**	**0.81**	**234**	P		**Pb**	**01 53 03.6**	**-0.8**
	comp=N,608nm,0.2s,SNR=1487							
UCH				⇓S		**Sb**	**01 53 14.4**	**-0.9**
	comp=N,2μm,0.3s							
USP	**Ospenovka**	**0.86**	**311**	P		**Pb**	**01 53 04.8**	**-0.4**
	comp=N,269nm,0.1s,SNR=1397							
USP				⇓S		**Sb**	**01 53 17.1**	**+0.4**
	comp=N,1μm,0.2s							
EKS2	**Erkin-Say**	**1.19**	**268**	P		**Pb**	**01 53 11.3**	**+0.4**
	comp=N,819nm,0.6s,SNR=619							
EKS2				⇑S		**Sb**	**01 53 27.7**	**+1.4**
	comp=N,646nm,0.2s							
KNDC	**Almaty**	**1.26**	**66**	⇓P		**Pb**	**01 53 12.9**	**+0.8**
	comp=N,25μm,0.2s							
KNDC				⇑S		**Sb**	**01 53 30.0**	**+1.5**
	comp=N,58μm,0.2s							
AAA	**Alma-Ata**	**1.27**	**63**	*d i*PG		**Pg**	**01 53 12.1**	**-1.7**
AAA				*i* S		**Sb**	**01 53 28.6**	**-0.1**
AAA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AAA				smax				
	comp=N,8.0nm,0.7s							
AML	**Almayashu**	**1.38**	**246**	P		**Pn**	**01 53 14.3**	**+0.1**
	comp=N,396nm,0.3s,SNR=545							
KSH	**Kashi**	**3.22**	**172**	⇑*i*P		**Pn**	**01 53 45.0**	**+4.6**
KSH				S		**Sn**	**01 54 33.0**	**+13**
KSH				Smax				
	comp=N,1μm,0.6s							
KSH				Smax				
	comp=E,1μm,0.7s							
KK31	**Karatay Array**	**3.61**	**278**	⇑Pn		**Pn**	**01 53 46.4**	**+0.5**
	comp=E,3.7nm,0.5s,baz=95,slow=13,SNR=2660							
KK31				⇓Pg		**Pg**	**01 53 55.9**	**-4.5**
	comp=E,233nm,0.5s,baz=87,slow=17,SNR=296							
KK31				⇑Lg			01 54 42.5	
	comp=E,336nm,0.5s							
KK31	**Karatay Array**	**3.61**	**278**	⇑Pn		**Pn**	**01 53 46.4**	**+0.5**
KK31				Pg		**Pg**	**01 53 55.9**	**-4.5**
KK31				Lg			01 54 42.5	
KKAR	**Karatay Array**	**3.61**	**278**	PN		**Pn**	**01 53 46.4**	**+0.5**
KKAR				PG		**Pg**	**01 53 55.8**	**-4.6**
KKAR				*e*SN		**Sn**	**01 54 39.2**	**+10**
KKAR				pmax	pmax			
	comp=Z,700nm,0.3s							
MK31	**Makanchi Array**	**6.39**	**48**	Pn		**Pn**	**01 54 25.2**	**0.0**
	comp=Z,85nm,0.6s,baz=222,slow=12,SNR=930							
MK31				⇑Sn		**Sn**	**01 55 37.3**	**-2.0**
	comp=Z,42nm,0.5s							
MK31				⇑Lg			01 56 11.5	
	comp=Z,404nm,1.1s							
MK31	**Makanchi Array**	**6.39**	**48**	Pn		**Pn**	**01 54 25.2**	**0.0**
	comp=Z,85nm,0.6s							
MK31				Sn		**Sn**	**01 55 37.3**	**-2.0**
MK31				Lg			01 56 11.5	
MKAR	**Makanchi Array**	**6.39**	**48**	Pn		**Pn**	**01 54 25.3**	**+0.1**
	comp=Z,14nm,0.3s,baz=227,slow=14,SNR=583							
MKAR				Sn		**Sn**	**01 55 39.5**	**+0.2**
	comp=Z,27nm,0.3s,baz=224,slow=24,SNR=11							
MKAR				Lg			01 56 08.4	
	comp=Z,16nm,0.3s,baz=229,slow=26,SNR=5.5							
MKAR	**Makanchi Array**	**6.39**	**48**	Pn		**Pn**	**01 54 25.3**	**+0.1**
MKAR				Sn		**Sn**	**01 55 39.5**	**+0.2**
MKAR				Lg			01 56 08.4	
KURK	**Kurchatov**	**8.31**	**14**	⇑Pn		**P**	**01 54 51.7**	**-0.5**
	comp=Z,23nm,0.8s							
KURK				⇓Lg			01 57 12.1	
	comp=Z,430nm,1.0s							
KURK	**Kurchatov**	**8.31**	**14**	⇑Pn		**P**	**01 54 51.7**	**-0.5**
KURK				Lg			01 57 12.1	
WMQ	**Urumqi**	**9.05**	**79**	*e*P		**P**	**01 55 03.0**	**+0.6**
WMQ				S		**Sn**	**01 56 48.5**	**+2.8**
WMQ				Smax				
	comp=N,100nm,1.0s							
WMQ				Smax				
	comp=E,80nm,1.0s							
VOSK	**Vostochnaya**	**10.45**	**345**	⇓Pn		**P**	**01 55 18.6**	**-3.0**
	comp=E,8.2nm,0.6s							
VOSK				⇑Lg			01 58 20.4	
	comp=E,184nm,0.9s							
BVA0	**Borovoye Array**	**10.85**	**344**	Pn		**P**	**01 55 22.8**	**-4.3**
	comp=E,1.4nm,0.5s,baz=152,slow=14,SNR=93							
BVA0				⇓Sn		**S**	**01 57 26.6**	**-3.4**
	comp=E,6.0nm,0.9s,baz=148,slow=22,SNR=5.5							
BVA0				⇓Lg			01 58 32.0	
	comp=E,26nm,1.1s,baz=161,slow=29,SNR=8.1							
BVA0	**Borovoye Array**	**10.85**	**344**	Pn		**P**	**01 55 22.8**	**-4.3**
	comp=E,1.4nm,0.5s							
BVA0				Sn		**S**	**01 57 26.6**	**-3.4**
BVA0				Lg			01 58 32.0	
BVAR	**Borovoye Array**	**10.85**	**344**	Pn		**P**	**01 55 22.8**	**-4.3**
	comp=E,3.7nm,0.3s,baz=154,slow=13,SNR=69							
BVAR				Sn		**S**	**01 57 21.0**	**-9.0**
	comp=E,1.8nm,0.3s,baz=146,slow=16,SNR=3.5							
BVAR				Lg			01 58 31.1	
	comp=E,4.9nm,0.3s,baz=162,slow=28,SNR=4.4							
BRVK	**Borovoye**	**10.90**	**343**	*e*P		**P**	**01 55 23.7**	**-4.2**
BRVK				pmax	pmax			
	comp=Z,9.0nm,1.4s							
BRVK	**Borovoye**	**10.90**	**343**	*e*P		**P**	**01 55 23.7**	**-4.2**
	comp=Z,9.1nm,1.4s							
ZRNK	**Zerenda**	**11.10**	**340**	⇑Pn		**P**	**01 55 27.4**	**-3.2**
	comp=Z,17nm,0.5s							
ZRNK				⇓Lg			01 58 41.0	
	comp=Z,139nm,1.2s							
AB31	**Akbulak array**	**12.57**	**307**	Pn		**P**	**01 55 46.2**	**-4.2**
	comp=Z,10nm,0.6s,baz=115,slow=13,SNR=175							
AB31				⇓Sn		**S**	**01 58 09.6**	**-2.3**
	comp=Z,9.4nm,0.6s,baz=124,slow=24,SNR=4.4							
AB31	**Akbulak array**	**12.57**	**307**	P		**P**	**01 55 46.2**	**-4.3**
AB31							01 58 09.6	
AB31				pmax	pmax			
	comp=Z,10.0nm,0.6s							
AB31	**Akbulak array**	**12.57**	**307**	Pn		**P**	**01 55 46.2**	**-4.2**
	comp=Z,10nm,0.6s							
AB31				Sn		**S**	**01 58 09.6**	**-2.3**
NVS	**Novosibirsk**	**13.18**	**20**	*i* P		**P**	**01 55 56.2**	**-2.4**
NVS				*e*S		**S**	**01 58 16.3**	**-10**
AKTK	**Aktyubinsk**	**14.21**	**309**	Pn		**P**	**01 56 08.8**	**-3.2**
AKTK				Sn		**S**	**01 58 41.4**	**-10**
AKTK				LR		LR	02 01 56.9	
AKTO	**Aktyubinsk**	**14.21**	**309**	Pn		**P**	**01 56 08.8**	**-3.2**
	comp=Z,1.8nm,0.3s,baz=112,slow=13,SNR=32							
AKTO				Sn		**S**	**01 58 41.4**	**-10**
	comp=Z,0.7nm,0.3s,baz=65,slow=12,SNR=2.9							
AKTO				LR		LR	02 01 56.9	
	comp=Z,186nm,18.5s,slow=39							
KOLN	**Koldanda**	**16.33**	**153**	*e*P		**P**	**01 56 40.6**	**+0.9**
	comp=Z,22nm,0.5s							
GKN	**Gorkha**	**16.48**	**150**	*e*P		**P**	**01 56 42.7**	**+1.1**
	comp=Z,12nm,0.4s							
KKN	**Kakani**	**16.91**	**148**	*e*P		**P**	**01 56 47.0**	**-0.1**
	comp=Z,22nm,0.7s							
KKN	**Kakani**	**16.91**	**148**	*e*P		**P**	**01 56 47.0**	**-0.1**
KKN				pmax	pmax			
	comp=Z,11nm,0.7s							
DMN	**Daman**	**17.01**	**149**	*e*P		**P**	**01 56 47.3**	**-1.1**
GUN	**Gumba**	**17.04**	**147**	*e*P		**P**	**01 56 48.9**	**+0.1**
	comp=Z,12nm,0.4s							
PKI	**Pulchoki**	**17.16**	**148**	*e*P		**P**	**01 56 49.6**	**-0.6**
	comp=Z,15nm,0.6s							
PKI	**Pulchoki**	**17.16**	**148**	*e*P		**P**	**01 56 49.6**	**-0.6**
PKI				pmax	pmax			
	comp=Z,8.0nm,0.6s							
JIRN	**Jiri**	**17.39**	**146**	*e*P		**P**	**01 56 52.1**	**-1.0**
	comp=Z,47nm,1.0s							
ARU	**Arti**	**17.47**	**328**	⇓*i*P		**P**	**01 56 50.7**	**-3.2**
ARU				*e*S		**S**	**02 00 00.5**	**-6.5**
ARU				pmax	pmax			
	comp=Z,12nm,0.7s							
ARU				MLR	MLR			
	comp=Z,100nm,16.0s							
ARU				MLR	MLR			
	comp=N,100nm,19.0s							
ARU				MLR	MLR			
	comp=E,100nm,16.5s							
ARU	**Arti**	**17.47**	**328**	*e*P		**P**	**01 56 50.4**	**-3.5**
	comp=E,14nm,0.7s							
LSA	**Lhasa**	**18.13**	**131**	P		**P**	**01 57 03.5**	**+1.1**
LSA	**Lhasa**	**18.13**	**131**	*e*P		**P**	**01 57 04.6**	**+2.2**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
LSA	**Lhasa**	**18.13**	**131**	*e*P		**P**	**01 57 04.6**	**+2.2**
	comp=Z,4.4nm,0.6s							
GTA	**Gaotai**	**18.69**	**92**	*e*P		**P**	**01 57 08.0**	**-1.2**
GTA				AP			01 57 12.8	
GTA				XP			01 57 15.8	
MOY	**Mondy**	**19.49**	**54**	*e*P		**P**	**01 57 21.6**	**+3.1**
SONM	**Songino Array**	**22.32**	**66**	P		**P**	**01 57 48.9**	**+1.0**
	comp=Z,4.3nm,0.9s,mb3.9,baz=265,slow=9.6,SNR=16							
SONM				LR		LR	02 07 47.4	
	comp=Z,65nm,20.8s,MS3.0,baz=36,slow=40							
ULN	**Ulaanbaatar**	**22.77**	**66**	*e*P		**P**	**01 57 54.2**	**+1.9**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb3.9							
ULN	**Ulaanbaatar**	**22.77**	**66**	*e*P		**P**	**01 57 54.2**	**+1.9**
	comp=Z,4.9nm,1.0s,mb3.9							
GNI	**Garni**	**23.06**	**274**	P		**P**	**01 58 00.8**	**+5.6**
	comp=Z,6.2nm,0.6s,mb4.2,baz=347,slow=2.4,SNR=5.8							
GNI	**Garni**	**23.06**	**274**	P		**P**	**01 58 00.8**	**+5.5**
GNI				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KIV	**Kislovodsk**	**23.74**	**284**	*e*P		**P**	**01 57 56.9**	**-4.9**
KIV				pmax	pmax			
	comp=Z,12nm,1.2s,mb4.2							
SOC	**Sochi**	**25.93**	**284**	*e*P		**P**	**01 58 21.6**	**-1.1**
SOC				*e*			01 58 59.9	
SOC				*e*S		**S**	**02 02 52.7**	**+1.9**
SOC				*e*SS		SS	02 03 52.2	-4.0
SOC				pmax	pmax			
	comp=Z,38nm,0.7s,mb5.0							
SOC				MLR	MLR			
	comp=Z,121nm,18.0s,MS3.5							
OBN	**Obninsk**	**27.99**	**310**	*e*P		**P**	**01 58 41.9**	**+0.5**
OBN				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.1							
OBN				MLR	MLR			
	comp=Z,100nm,17.0s,MS3.5							
BRTR	**Keskin Array B**	**31.32**	**279**	P		**P**	**01 59 11.7**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=98,slow=8.5,SNR=5.2							
AKASG	**Malin Array Be**	**32.20**	**301**	P		**P**	**01 59 18.7**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.7,baz=76,slow=8.7,SNR=4.3							
FINES	**FINESS Array B**	**34.56**	**320**	P		**P**	**01 59 39.6**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=135,slow=8.1,SNR=5.7							
NJ2	**Nanjing**	**35.79**	**93**	*e*P		**P**	**01 59 53.0**	**+2.9**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.0							
KWP	**Kalwaria**	**36.49**	**300**	*e*P		**P**	**01 59 58.1**	**+2.3**
ARCES	**ARCESS Array B**	**36.90**	**333**	P		**P**	**02 00 00.8**	**+1.7**
	comp=Z,2.2nm,0.6s,mb4.2,baz=106,slow=8.8,SNR=6.4							
SSE	**Sheshan**	**37.99**	**92**	P		**P**	**02 00 10.8**	**+2.2**
SSE				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.0							
SSE				AMB		AMB		
	comp=Z,50nm,3.1s							
NB2	**NORSAR Subarra**	**41.70**	**319**	P		**P**	**02 00 40.0**	**+1.1**
	comp=Z,4.4nm,1.1s,mb4.0,baz=84,slow=7.9							
NB2	**NORSAR Subarra**	**41.70**	**319**	P		**P**	**02 00 40.0**	**+1.1**
NB2				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.0							
NOA	**NORSAR Array B**	**41.70**	**319**	P		**P**	**02 00 39.5**	**+0.6**
	comp=Z,2.7nm,0.9s,mb3.9,baz=87,slow=8.3,SNR=4.6							
GERES	**GERESS Array B**	**42.42**	**300**	P		**P**	**02 00 46.6**	**+1.6**
	comp=Z,0.5nm,0.7s,mb3.3,baz=59,slow=7.8,SNR=4.0							
KHC	**Kasperske Hory**	**42.42**	**301**	*i* P		**P**	**02 00 45.0**	**0.0**
GRA1	**Grafenberg Arr**	**43.74**	**302**	*e*P		**P**	**02 00 57.5**	**+1.8**
GRF	**Grafenberg Arr**	**43.74**	**302**	*e*P		**P**	**02 00 57.5**	**+1.8**
ESDC	**Sonseca Array**	**57.67**	**296**	P		**P**	**02 02 42.2**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.8,baz=59,slow=6.5,SNR=4.1							
IMA2	**Indian Mountai**	**65.16**	**20**	*e*P		**P**	**02 03 30.4**	**-1.2**
INK	**Inuvik**	**67.20**	**11**	P		**P**	**02 03 44.5**	**-0.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=355,slow=10,SNR=9.2							
ILAR	**Eielson Array**	**67.86**	**18**	P		**P**	**02 03 48.9**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.2,baz=317,slow=5.1,SNR=20							
YKA	**Yellowknife Ar**	**74.84**	**5**	P		**P**	**02 04 30.2**	**-0.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=349,slow=5.9,SNR=44							
WRA	**Warramunga Arr**	**82.61**	**126**	P		**P**	**02 05 12.9**	**-0.9**
	comp=Z,0.8nm,0.9s,mb3.7,baz=326,slow=4.7,SNR=7.6							

*NEIC **28** 01:53:04.0, 39.45S×174.44E, h269km, MG4.6(WEL), After WEL.*

WEL 28 01:53:04.7±0.4, 39.44S×174.49E, h263km±3km, ML4.6/21, Error ellipse: s-maj=3.2km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAEZ	**Rainy Point**	**0.17**	**334**	PN		P	01 53 38.0	-0.8
RAEZ	**Rainy Point**	**0.17**	**334**	P		P	01 53 38.0	-0.8
DFE	**Dawson Falls**	**0.32**	**291**	PN		P	01 53 38.8	-0.2
DFE	**Dawson Falls**	**0.32**	**291**	P		P	01 53 38.8	-0.2
NEZ	**North Egmont**	**0.35**	**299**	PN		P	01 53 38.8	-0.3
NEZ				SN		S	01 54 04.9	-0.9
NEZ	**North Egmont**	**0.35**	**299**	P		P	01 53 38.8	-0.3
VRZ	**Vera Road**	**0.38**	**34**	PN		P	01 53 38.1	-1.1
VRZ				SN		S	01 54 04.3	-1.7
VRZ	**Vera Road**	**0.38**	**34**	P		P	01 53 38.1	-1.0
NRZ	**Ngariki Road**	**0.44**	**284**	PN		P	01 53 38.6	-0.7
NRZ	**Ngariki Road**	**0.44**	**284**	P		P	01 53 38.6	-0.7
PKE	**Pukeiti**	**0.46**	**302**	PN		P	01 53 38.6	-0.7
PKE				SN		S	01 54 05.4	-0.8
PKE	**Pukeiti**	**0.46**	**302**	P		P	01 53 38.6	-0.7
WAZ	**Wanganui**	**0.50**	**129**	PN		P	01 53 39.5	+0.1
WAZ				SN		S	01 54 05.5	-1.0
WAZ	**Wanganui**	**0.50**	**129**	P		P	01 53 39.5	+0.1
WAZ				S		S	01 54 05.5	-1.0
NWEZ	**Newall Road**	**0.51**	**289**	PN		P	01 53 38.8	-0.7
MTVZ	**Mangateitei**	**0.76**	**86**	PN		P	01 53 40.0	-0.3
MTVZ				SN		S	01 54 06.3	-1.8
TWVZ	**Taurewa**	**0.82**	**64**	PN		P	01 53 40.1	-0.5
TWVZ				SN		S	01 54 06.5	-2.0
TWVZ	**Taurewa**	**0.82**	**64**	P		P	01 53 40.1	-0.5
TRVZ	**Turoa**	**0.83**	**81**	PN		P	01 53 40.6	0.0
FWVZ	**Far West T-bar**	**0.84**	**78**	PN		P	01 53 40.5	-0.1
FWVZ	**Far West T-bar**	**0.84**	**78**	P		P	01 53 40.5	-0.1
DRZ	**Dome Shelter**	**0.85**	**79**	PN		P	01 53 40.6	-0.1
DRZ	**Dome Shelter**	**0.85**	**79**	P		P	01 53 40.9	+0.2
WPVZ	**Whakapapa**	**0.85**	**74**	PN		P	01 53 40.5	-0.2
WPVZ	**Whakapapa**	**0.85**	**74**	P		P	01 53 40.5	-0.2
CNZ	**Chateau**	**0.86**	**74**	PN		P	01 53 40.5	-0.2
CNZ	**Chateau**	**0.86**	**74**	P		P	01 53 40.5	-0.2
WNVZ	**Wahianoa**	**0.87**	**83**	P		P	01 53 40.7	0.0
NGZ	**Ngauruhoe**	**0.90**	**73**	PN		P	01 53 40.7	-0.2
NGZ	**Ngauruhoe**	**0.90**	**73**	P		P	01 53 40.7	-0.2
WTVZ	**West Tongariro**	**0.91**	**70**	P		P	01 53 40.2	-0.8
TUVZ	**Tukino**	**0.92**	**80**	PN		P	01 53 41.0	0.0
TUVZ	**Tukino**	**0.92**	**80**	P		P	01 53 41.0	0.0
OTVZ	**Oturere**	**0.95**	**73**	PN		P	01 53 41.2	+0.1
HIZ	**Hauiti**	**0.97**	**17**	PN		P	01 53 40.2	-1.0
HIZ	**Hauiti**	**0.97**	**17**	P		P	01 53 40.2	-1.0
MOVZ	**Moawhango**	**0.98**	**88**	PN		P	01 53 40.8	-0.4
MOVZ	**Moawhango**	**0.98**	**88**	P		P	01 53 40.8	-0.5
KATZ	**Kakaramea**	**1.05**	**64**	PN		P	01 53 41.2	-0.4
KATZ	**Kakaramea**	**1.05**	**64**	P		P	01 53 41.2	-0.4
RATZ	**Rangitukua**	**1.15**	**61**	P		P	01 53 41.7	-0.6
RITZ	**Rihia Road**	**1.16**	**67**	PN		P	01 53 42.1	-0.2
RITZ	**Rihia Road**	**1.16**	**67**	P		P	01 53 42.1	-0.2
WATZ	**Wairara**	**1.21**	**53**	P		P	01 53 42.4	-0.3
TSZ	**Takapari Road**	**1.29**	**119**	P		P	01 53 43.2	0.0
HATZ	**Hinemaiaia**	**1.36**	**67**	PN		P	01 53 42.8	-0.9
HATZ	**Hinemaiaia**	**1.36**	**67**	P		P	01 53 42.8	-0.9
WHTZ	**Whakaora**	**1.38**	**56**	PN		P	01 53 43.4	-0.4
KIW	**Kapiti Island**	**1.46**	**167**	PN		P

BALT *i* S **Sg** **02 11 41.8 +0.7**
BZK **Bozkurt** **1.10 28** *i* PN **Pn** **02 11 43.5 -0.6**
BZK *i* SN **Sn** **02 12 00.0 +0.6**
LOD **Lodumlu** **1.18 201** *i* PN **Pn** **02 11 44.3 -0.8**
CTKT **Corum** **1.19 108** *i* P **Pb** **02 11 44.1 -0.7**
CTKT *i* S **Sb** **02 11 59.5 -0.5**
BYBT **Boyabat** **1.20 66** *i* PN **Pn** **02 11 45.1 -0.4**
BOYT **Boyabat** **1.28 70** *i* P **Pb** **02 11 45.4 -1.0**
BOYT *i* S **Sb** **02 11 58.4 -4.3**
BR131 **Keskin Array S** **1.29 169** *eP* **Pb** **02 11 46.4 -0.2**
BR131 **Keskin Array S** **1.29 169** *eP* **Pb** **02 11 46.4 -0.2**
BRTR **Keskin Array B** **1.29 169** Pg **Pg** **02 11 46.4 -2.1**
213nm,0.3s,baz=348,slow=13,SNR=1080
BRTR Lg 02 12 05.5
129nm,0.3s,baz=349,slow=22,SNR=16
BRTR **Keskin Array B** **1.29 169** Pg **Pg** **02 11 46.3 -2.2**
BRTR S **Sb** **02 12 05.5 +2.5**
CORM **Corum** **1.29 128** *i* PN **Pn** **02 11 46.2 -0.6**
CDAG **Cicekdag** **1.59 149** *i* P **Pn** **02 11 50.1 -0.9**
CDAG *i* S **Sb** **02 12 12.8 +1.0**
KAMT **Kaman** **1.65 169** *i* PN **Pn** **02 11 52.1 +0.2**
MDU **Mudurnu** **1.67 252** *i* PN **Pn** **02 11 52.8 +0.5**
HENT **Hendek** **1.83 266** *i* P **Pn** **02 11 54.6 +0.1**
HENT *i* S **Sn** **02 12 24.4 +6.5**
KVT **Kavak** **2.08 87** PN **Pn** **02 11 57.9 -0.1**
KIZT **Kizilcal** **2.38 208** PN **Pn** **02 12 01.8 -0.5**
ESKT **Eskisehir** **2.38 233** PN **Pn** **02 12 01.8 -0.6**
GPA **Golpazari** **2.39 254** PN **Pn** **02 12 02.3 -0.1**
HRT **Hereke** **2.76 268** PN **Pn** **02 12 07.2 -0.6**
BNN **Bunyan** **2.90 137** PN **Pn** **02 12 09.7 0.0**
SVSK **Karacayir** **3.01 110** *e*PN **Pn** **02 12 11.9 +0.5**
YLV **Yalova** **3.02 263** *e*PN **Pn** **02 12 10.9 -0.5**
NIG **Nigde** **3.05 160** *e*PN **Pn** **02 12 12.4 +0.5**
ALT **Altintas** **3.12 233** *e*PN **Pn** **02 12 12.9 -0.1**
KONT **Konya--Tatoy** **3.13 194** *e*PN **Pn** **02 12 12.9 -0.1**
BADT **Buyukada** **3.18 269** *e*PN **Pn** **02 12 13.5 -0.2**
ORLT **Orhaneli** **3.49 256** *e*PN **Pn** **02 12 18.1 -0.1**
CTT **Catalca** **3.69 274** *e*PN **Pn** **02 12 20.3 -0.7**
ISP **Isparta** **3.82 215** *e*PN **Pn** **02 12 22.0 -0.8**
KHL **Karahalli** **3.95 229** *e*PN **Pn** **02 12 24.7 0.0**
KARA **Karaisali** **3.96 159** *e*PN **Pn** **02 12 25.3 +0.4**
SIM **Simferopol'** **4.00 8***d* *i*P **Pn** **02 12 26.3 +0.9**
SIM *e*S **Sn** **02 13 13.3 +0.4**
SIM pmax pmax
comp=Z,76nm,1.0s
SIM **Simferopol'** **4.00 8** *i* P **Pn** **02 12 26.3 +0.9**
comp=Z,76nm,1.0s
SIM *e*S **Sn** **02 13 13.3 +0.4**
KOZT **Kozan** **4.01 150** *e*PN **Pn** **02 12 25.8 +0.2**
BCK **Bucak** **4.11 212** *e*PN **Pn** **02 12 26.7 -0.3**
BNT **Bandirma** **4.14 263** *e*PN **Pn** **02 12 27.4 -0.1**
MERS **Mersin** **4.22 167** *e*PN **Pn** **02 12 28.6 0.0**
MRMT **Marmara Adasi** **4.35 267** *e*PN **Pn** **02 12 30.2 -0.2**
BALB **Balikesir** **4.36 254** *e*PN **Pn** **02 12 30.5 -0.1**
CEYT **Ceyhan** **4.41 154** *e*PN **Pn** **02 12 31.4 +0.2**
MFT **Murefte** **4.57 269** *e*PN **Pn** **02 12 33.1 -0.4**
PSN **Preselentsi** **4.65 307** *e*P **Pn** **02 12 34.0 -0.7**
AKS **Akhisar** **4.72 245** *e*PN **Pn** **02 12 35.4 -0.2**
GUMT **Gumushane** **4.72 94** *e*PN **Pn** **02 12 36.1 +0.4**
IKL **Isikli** **4.75 176** *e*PN **Pn** **02 12 36.4 +0.3**
MYA **Malatya** **4.76 122** *e*PN **Pn** **02 12 36.1 -0.2**
MALT **Malatya** **4.77 122** *e*PN **Pn** **02 12 35.7 -0.7**
GAZ **Gaziantep** **4.88 140** *e*PN **Pn** **02 12 38.2 +0.4**
PRD **Provadia** **4.92 299** *e*P **Pn** **02 12 38.0 -0.4**
ELL **Elmali** **5.00 213** *e*PN **Pn** **02 12 39.2 -0.4**
TIRR **Tirgusor** **5.00 315** ⇓P **Pn** **02 12 39.5 -0.1**
TIRR **Tirgusor** **5.00 315** P **Pn** **02 12 39.9 +0.3**
TIRR **Tirgusor** **5.00 315** ⇓P **Pn** **02 12 39.5 0.0**
EDRB **Edirne** **5.01 282** *e*PN **Pn** **02 12 39.1 -0.6**
PTK **Pertek** **5.13 112** *e*PN **Pn** **02 12 41.8 +0.4**
HARR **Harsova** **5.41 315** ⇓P **Pn** **02 12 44.7 -0.7**
HARR **Harsova** **5.41 315** ⇓P **Pn** **02 12 44.7 -0.7**
SOC **Sochi** **5.42 59** *e*P **Pn** **02 12 49.3 +3.9**
SOC *e* 02 13 50.2
SOC pmax pmax
comp=Z,91nm,1.0s
SOC MLR MLR
comp=Z,216nm,11.0s
SOC **Sochi** **5.42 59** *e*S **Sn** **02 13 50.2 +1.6**
comp=Z,216nm,11.0s
EZN **Ezine** **5.45 260** *e*PN **Pn** **02 12 45.7 -0.3**
FETY **Fethiye** **5.46 219** *e*PN **Pn** **02 12 46.0 0.0**
YER **Yerkesik** **5.49 227** *e*PN **Pn** **02 12 46.8 +0.3**
BLCB **Balcova** **5.49 244** *e*PN **Pn** **02 12 46.9 +0.4**
URFA **Urfa** **5.56 128** *e*PN **Pn** **02 12 48.1 +0.6**
CFR **Carcaliu** **5.64 320** ⇑P **Pn** **02 12 47.2 -1.5**
CFR **Carcaliu** **5.64 320** ⇑P **Pn** **02 12 47.2 -1.5**
KDZ **Kurdzhali** **5.98 279** *e*P **Pn** **02 12 53.0 -0.4**
EZM **Erzurum** **6.24 97** *e*PN **Pn** **02 12 57.9 +0.8**
ISR **Istrita** **6.45 312** ⇓P **Pn** **02 13 00.3 +0.3**
ISR **Istrita** **6.45 312** ⇓P **Pn** **02 13 00.3 +0.4**
ZIMR **6.46 297** ⇓P **Pn** **02 12 59.1 -1.1**
ZIMR **6.46 297** ⇓P **Pn** **02 12 59.1 -1.1**
RZN **Rozhen** **6.50 279** *e*P **Pn** **02 13 00.0 -0.8**
VRI **Vrincioaia** **6.83 318** ⇓P **Pn** **02 13 07.6 +2.2**
VRI **Vrincioaia** **6.83 318** ⇓P **Pn** **02 13 07.6 +2.2**
BTMT **Batman** **6.91 111** *e*PN **Pn** **02 13 05.9 -0.6**
MLR **Muntele Rosu** **7.01 312** Pn **Pn** **02 13 07.7 -0.2**
comp=Z,1.7nm,0.3s,baz=124,slow=6.9,SNR=8.1
MLR Sn **Sn** **02 14 32.1 +3.7**
comp=Z,1.9nm,0.3s,baz=112,slow=19,SNR=2.8
MLR LR LR 02 16 35.8
comp=Z,441nm,19.3s,baz=164,slow=45
MLR **Muntele Rosu** **7.01 312** ⇑P **Pn** **02 13 10.9 +3.0**
MLR **Muntele Rosu** **7.01 312** Pn **Pn** **02 13 07.7 -0.2**
MLR P 02 13 10.9
MLR Sn **Sn** **02 14 32.1 +3.7**
MLR LR LR 02 16 35.8
MMB **Musomiste** **7.24 278** *e*P **Pn** **02 13 23.0 +12**
IAS **Iasi** **7.45 328** ⇓P **Pn** **02 13 13.1 -1.0**
IAS **Iasi** **7.45 328** ⇓P **Pn** **02 13 13.1 -1.0**
VOIR **7.49 309** ⇓P **Pn** **02 13 14.8 +0.1**
KIV **Kislovodsk** **7.54 64** *e*P **Pn** **02 13 17.5 +2.1**
KIV *e*S **Sn** **02 14 43.7 +1.9**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV MLR MLR
comp=Z,226nm,13.0s
KIV **Kislovodsk** **7.54 64** *e*P **Pn** **02 13 17.8 +2.4**
comp=Z,36nm,0.8s
KIV **Kislovodsk** **7.54 64** *e*P **Pn** **02 13 17.5 +2.1**
comp=Z,38nm,1.1s
KIV *e*S **Sn** **02 14 43.7 +1.9**
comp=Z,226nm,13.0s
VTS **Vitosha** **7.71 285** *e*P **Pn** **02 13 29.0 +11**
ONI **Oni** **7.75 75** P **Pn** **02 13 16.6 -1.6**
GOF **Gofitskoye** **8.20 57** *e*P **P** **02 13 31.0 +6.4**
IDI **Anoyia** **8.74 232** LR LR 02 17 29.8
comp=Z,134nm,19.7s,baz=95,slow=42
GNI **Garni** **8.75 92** LR LR 02 16 51.9
comp=Z,110nm,20.0s,baz=288,slow=38
BURAR **Bucovina Array** **8.80 322** ⇓P **P** **02 13 31.3 -1.6**
BURAR **Bucovina Array** **8.80 322** ⇓P **P** **02 13 31.3 -1.6**
MSL **Mosul** **8.98 118** *ex* x 02 13 28.0
MSL *ex* x 02 15 44.0
BZS **Buzias** **9.69 302** ⇑P **P** **02 13 42.9 -2.3**
AKASG **Malin Array Be** **10.12 345** Pn **P** **02 13 46.5 -4.5**
comp=Z,4.5nm,0.3s,baz=158,slow=13,SNR=24
AKASG Sn **S** **02 15 37.1 -8.6**
comp=Z,2.1nm,0.3s,baz=156,slow=24,SNR=4.1
KOLS **Kolonicke sedl** **11.13 319** *e*PN **P** **02 14 01.0 -3.9**
KWP **Kalwaria** **11.40 323** *e*P **P** **02 14 05.2 -3.4**
KWP pmax pmax
comp=Z,34nm,1.3s
KWP **Kalwaria** **11.40 323** *e*P **P** **02 14 05.2 -3.5**
comp=Z,34nm,1.3s
BHD **Baghdad** **11.72 128** *ex* x 02 14 14.0
BHD *ex* x 02 17 29.0
KECS **Kecovo** **11.79 314** *e*PN **P** **02 14 11.6 -2.2**
PSZ **Piszkesteto** **11.81 310** P **P** **02 14 13.8 -0.4**
PSZ pmax pmax
comp=Z,41nm,1.9s
PSZ **Piszkesteto** **11.81 310** P **P** **02 14 13.8 -0.4**
comp=Z,41nm,1.9s
PSZ **Piszkesteto** **11.81 310** P **P** **02 14 13.8 -0.4**
comp=Z,41nm,1.9s
STHS **Stebnicka Huta** **11.96 319** *e*PN **P** **02 14 13.7 -2.4**
NIE **Niedzica** **12.43 317** *e*P **P** **02 14 20.6 -1.9**
OBN **Obninsk** **14.30 8** *i* P **P** **02 14 51.0 +4.0**
OBN *e*S **S** **02 17 20.9 -5.7**
OBN pmax pmax
comp=Z,12nm,0.8s
OBN MLR MLR
comp=Z,100nm,15.0s
SUW **Suwalki** **14.69 336** *e*P **P** **02 14 47.8 -4.4**
SUW pmax pmax
comp=Z,37nm,1.0s
SUW **Suwalki** **14.69 336** *e*P **P** **02 14 47.8 -4.5**
comp=Z,37nm,1.0s
GERES **GERESS Array B** **15.92 306** Pn **P** **02 15 07.6 -0.7**
comp=Z,0.1nm,0.3s,baz=153,slow=15,SNR=4.2
GERES LR LR 02 21 51.9
comp=Z,124nm,18.9s,baz=252,slow=40
DAVOX **Davos** **17.82 297** LR LR 02 22 38.5
comp=Z,99nm,19.0s,baz=83,slow=38
SBF **Sospel** **19.29 287** *e*P **P** **02 15 51.9 +1.8**
AKTK **Aktyubinsk** **19.59 53** P **P** **02 15 51.8 -1.8**
AKTK **Aktyubinsk** **19.59 53** P **P** **02 15 51.8 -1.8**
AKTO **Aktyubinsk** **19.59 53** P **P** **02 15 51.8 -1.8**
comp=Z,0.2nm,0.3s,baz=252,slow=14,SNR=31
MBDF **Montbardon** **19.77 290** *e*P **P** **02 15 56.9 +1.2**
comp=Z,42nm,1.4s
MBDF **Montbardon** **19.77 290** *e*P **P** **02 15 56.9 +1.2**
MBDF pmax pmax
comp=Z,21nm,1.4s
LPG **La Plagne** **19.82 292** *e*P **P** **02 15 57.0 +0.8**
comp=Z,43nm,1.4s
LPG **La Plagne** **19.82 292** *e*P **P** **02 15 57.0 +0.8**
LPG pmax pmax
comp=Z,22nm,1.4s
LPL **La Plagne** **19.84 292** *e*P **P** **02 15 56.8 +0.4**
comp=Z,13nm,1.1s
LPL **La Plagne** **19.84 292** *e*P **P** **02 15 56.8 +0.4**
LPL pmax pmax
comp=Z,6.0nm,1.1s
CDF **Champ du Feu** **19.87 301** *e*P **P** **02 15 57.8 +1.1**
KLMR **Klimovskoe** **20.25 9***d* *i*P **P** **02 15 59.1 -1.6**
KLMR pmax pmax
comp=Z,50nm,1.4s
CABF **La Chapelle** **20.38 295** *e*P **P** **02 16 03.9 +1.8**
comp=Z,45nm,1.3s
CABF **La Chapelle** **20.38 295** *e*P **P** **02 16 03.9 +1.8**
CABF pmax pmax
comp=Z,22nm,1.3s
ORIF **Oris-en-Rattie** **20.41 290** *e*P **P** **02 16 02.8 +0.4**
comp=Z,22nm,1.1s
ORIF *e*R
comp=Z,110nm,18.2s
FINES **FINESS Array B** **20.95 350** P **P** **02 16 08.1 +0.2**
comp=Z,3.0nm,0.6s,baz=149,slow=11,SNR=10
FINES **FINESS Array B** **20.95 350** *i* P **P** **02 16 09.8 +1.9**
FINES pmax pmax
comp=Z,3.0nm,0.6s
VIVF **Saint-Julien-l** **21.27 290** *e*P **P** **02 16 13.3 +2.1**
MEZF **Maizieres J'vi** **21.34 300** *e*P **P** **02 16 13.5 +1.6**
KAF **Kangasniemi** **21.57 351** *e*p **P** **02 16 15.1 +0.9**
comp=Z,6.0nm,0.9s,mb4.0
KAF **Kangasniemi** **21.57 351** *e*P **P** **02 16 15.1 +0.9**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
GIVF **Givet** **21.82 304** *e*P **P** **02 16 17.0 +0.3**
SMF **Signal de Mont** **21.92 295** *e*P **P** **02 16 19.8 +2.0**
comp=Z,52nm,1.4s,mb4.5
SMF **Signal de Mont** **21.92 295** *e*P **P** **02 16 19.8 +2.0**
SMF pmax pmax
comp=Z,26nm,1.4s,mb4.5
LOR **Lormes** **21.97 296** *e*P **P** **02 16 19.8 +1.6**
comp=Z,77nm,1.7s,mb4.5
LOR *e*R
comp=Z,101nm,18.5s
LOR **Lormes** **21.97 296** *e*P **P** **02 16 19.8 +1.6**
LOR pmax pmax
comp=Z,38nm,1.7s,mb4.5
LOR MLR MLR
comp=Z,100nm,18.5s,MS3.3
JOF **Joensuu** **21.99 358** *ep* **P** **02 16 16.5 -1.9**
comp=Z,10nm,1.1s,mb4.2
SSF **Saint Saulge** **22.19 296** *e*P **P** **02 16 22.2 +1.8**
SSF pmax pmax
comp=Z,12nm,1.1s,mb4.2
SSF **Saint Saulge** **22.19 296** *e*P **P** **02 16 22.2 +1.8**
comp=Z,12nm,1.1s,mb4.2
AVF **Avril sur Loir** **22.27 295** *e*P **P** **02 16 23.0 +1.7**
comp=Z,71nm,1.4s,mb4.6
AVF **Avril sur Loir** **22.27 295** *e*P **P** **02 16 23.0 +1.7**
AVF pmax pmax
comp=Z,36nm,1.4s,mb4.6
ARU **Arti** **22.53 38***c* *i*P **P** **02 16 22.8 -0.9**
ARU pmax pmax
comp=Z,58nm,1.2s,mb4.9
ARU **Arti** **22.53 38** *e*P **P** **02 16 22.7 -1.0**
comp=Z,55nm,1.1s,mb4.9
ARU **Arti** **22.53 38** *i* P **P** **02 16 22.8 -0.9**
comp=Z,58nm,1.2s,mb4.9
HFS **Hagfors** **22.69 334** P **P** **02 16 24.1 -1.1**
comp=Z,6.5nm,0.9s,mb4.1,baz=157,slow=11,SNR=4.8
HFS LR LR 02 27 01.9
comp=Z,126nm,18.3s,MS3.4,baz=248,slow=41
TCF **Toulx Ste Croi** **23.03 294** *e*P **P** **02 16 30.5 +1.8**
comp=Z,40nm,1.4s,mb4.3
TCF **Toulx Ste Croi** **23.03 294** *e*P **P** **02 16 30.5 +1.8**
TCF pmax pmax
comp=Z,20nm,1.4s,mb4.3
SOKR **Solikamsk** **23.67 30** *e*P **P** **02 16 35.7 +0.9**
SOKR pmax pmax
comp=Z,20nm,1.3s,mb4.4
SOKR **Solikamsk** **23.67 30** *e*P **P** **02 16 35.7 +0.9**
comp=Z,20nm,1.3s,mb4.4
NB2 **NORSAR Subarra** **24.19 333** P **P** **02 16 40.1 +0.3**
comp=Z,12nm,1.4s,mb4.1,baz=136,slow=9.3
NB2 **NORSAR Subarra** **24.19 333** P **P** **02 16 40.1 +0.3**
NB2 pmax pmax
comp=Z,12nm,1.4s,mb4.1
NOA **NORSAR Array B** **24.19 333** P **P** **02 16 40.5 +0.6**
comp=Z,2.7nm,0.8s,mb3.7,baz=133,slow=8.7,SNR=5.3
NOA LR LR 02 27 21.4
comp=Z,74nm,20.0s,MS3.2,baz=130,slow=40
MFF **Saint Martin d** **24.67 294** *e*P **P** **02 16 45.7 +1.1**
comp=Z,36nm,1.3s,mb4.4
MFF **Saint Martin d** **24.67 294** *e*P **P** **02 16 45.7 +1.1**
MFF pmax pmax
comp=Z,18nm,1.3s,mb4.4
LDF **La Druitiere** **24.76 299** *e*P **P** **02 16 47.2 +1.7**
ETSF **Etsaut** **25.17 286** *e*P **P** **02 16 50.9 +1.5**
comp=Z,147nm,1.8s,mb4.9
ETSF **Etsaut** **25.17 286** *e*P **P** **02 16 50.9 +1.5**
ETSF pmax pmax
comp=Z,74nm,1.8s,mb4.9
SJPF **Ste Jean** **25.62 286** *e*P **P** **02 16 55.0 +1.3**
comp=Z,89nm,1.6s,mb4.7
SJPF **Ste Jean** **25.62 286** *e*P **P** **02 16 55.0 +1.3**
SJPF pmax pmax
comp=Z,44nm,1.6s,mb4.7
SGMF **Saint Gilles** **26.35 298** *e*P **P** **02 17 01.9 +1.5**
comp=Z,23nm,1.1s,mb4.3
SGMF **Saint Gilles** **26.35 298** *e*P **P** **02 17 01.9 +1.5**
SGMF pmax pmax
comp=Z,12nm,1.1s,mb4.3
QUIF **Quistinic** **26.75 297** *e*P **P** **02 17 05.2 +1.1**
comp=Z,49nm,1.2s,mb4.6
QUIF **Quistinic** **26.75 297** *e*P **P** **02 17 05.2 +1.1**
QUIF pmax pmax
comp=Z,25nm,1.2s,mb4.6
ZRNK **Zerenda** **26.85 51** *e*P **P** **02 17 05.3 +0.4**
ZRNK pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
ZRNK **Zerenda** **26.85 51** *e*P **P** **02 17 05.3 +0.4**
comp=Z,5.7nm,1.0s,mb4.1
ZRNK **Zerenda** **26.85 51** *e*P **P** **02 17 05.3 +0.4**
comp=Z,5.7nm,1.0s,mb4.1
BRVK **Borovoye** **27.63 52** *e*P **P** **02 17 15.5 +3.5**
BRVK pmax pmax
comp=Z,5.0nm,1.3s,mb4.0
BRVK **Borovoye** **27.63 52** *e*P **P** **02 17 15.5 +3.5**
comp=Z,5.0nm,1.3s,mb4.0
BRVK *e* 02 17 28.7
BVAR **Borovoye Array** **27.68 52** P **P** **02 17 12.3 -0.2**
comp=Z,0.2nm,0.5s,mb3.0,baz=239,slow=8.4,SNR=3.4
ESDC **Sonseca Array** **28.30 280** P **P** **02 17 17.6 -0.6**
comp=Z,0.9nm,0.7s,mb3.5,baz=70,slow=9.9,SNR=5.9
ARCES **ARCESS Array B** **28.90 354** P **P** **02 17 22.2 -1.1**
comp=Z,2.8nm,0.6s,mb4.2,baz=149,slow=7.1,SNR=9.8
ARCES LR LR 02 29 52.6
comp=Z,158nm,21.4s,MS3.6,baz=289,slow=38
KURK **Kurchatov** **32.56 57**‖ *eP* **P** **02 17 56.0 +0.1**
KURK **Kurchatov** **32.56 57** *eP* **P** **02 17 56.0 +0.1**
MKAR **Makanchi Array** **35.30 64** P **P** **02 18 19.4 -0.2**
comp=Z,1.9nm,1.0s,mb4.0,baz=277,slow=7.1,SNR=13
MKAR **Makanchi Array** **35.30 64** P **P** **02 18 19.4 -0.2**
NVS **Novosibirsk** **35.42 50** *i* P **P** **02 18 20.0 -0.6**
SONM **Songino Array** **50.86 56** P **P** **02 20 25.2 -0.1**
comp=Z,0.7nm,0.8s,mb3.6,baz=291,slow=9.1,SNR=5.6
YKA **Yellowknife Ar** **73.68 345** P **P** **02 22 57.3 -0.4**
comp=Z,0.6nm,0.7s,mb3.6,baz=27,slow=5.7,SNR=14
YKA **Yellowknife Ar** **73.68 345** P **P** **02 22 57.3 -0.4**
RPZ **Rata Peaks** **148.90 109** PKPbc PKPdf 02 31 12.0 +2.9
comp=Z,14nm,0.9s,baz=88,slow=2.1,SNR=6.7

IDC 28 02:15:59.3±5.0, 12.90S×168.04E, mb3.6/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.6/3, Error ellipse: s-maj=256.4km s-min=34.9km az=145.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.03**	**253**	P	P	02 22 36.7	-2.0
	0.3nm,0.8s,baz=85,slow=9.1,SNR=4.6						
ILAR	**Eielson Array**	**84.57**	**18**	P	P	02 28 34.5	-0.8
	1.0nm,0.6s,baz=240,slow=6.0,SNR=14						
YKA	**Yellowknife Ar**	**95.59**	**27**	P	P	02 29 25.3	-2.2
	0.1nm,0.6s,baz=257,slow=4.6,SNR=4.5						

WEL 28 02:16:33.4±0.3, 40.27S×176.90E, h12km, ML3.6/20, Error ellipse: s-maj=2.5km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PXZ	**Pawanui**	**0.24**	**353**	P*	Pb	02 16 38.4	-0.8
PXZ				S*	Sb	02 16 42.6	-0.3
BFZ	**Birch Farm**	**0.65**	**230**	P*	Pb	02 16 45.6	-0.5
BFZ				S*	Sb	02 16 54.9	+0.1
TSZ	**Takapari Road**	**0.75**	**286**	P*	Pb	02 16 46.7	-1.2
TSZ				S*	Sb	02 16 57.5	-0.3
MRZ	**Mangatainoka R**	**1.08**	**248**	P*	Pb	02 16 51.7	-1.9
MRZ				S*	Sb	02 17 07.0	-0.4
BKZ	**Black Stump Fm**	**1.14**	**344**	P*	Pb	02 16 53.8	-0.8
BKZ				S*	Sb	02 17 09.5	+0.3
MOVZ	**Moawhango**	**1.23**	**314**	P*	Pb	02 16 55.7	-0.5
WNVZ	**Wahianoa**	**1.37**	**313**	PN	Pn	02 16 58.5	0.0
WNVZ				SN	Sn	02 17 16.9	+0.3
MTVZ	**Mangateitei**	**1.41**	**308**	PN	Pn	02 16 58.8	-0.2
FWVZ	**Far West T-bar**	**1.45**	**314**	PN	Pn	02 16 59.5	-0.1
NGZ	**Ngauruhoe**	**1.48**	**317**	PN	Pn	02 16 59.1	-0.9
WPVZ	**Whakapapa**	**1.49**	**315**	PN	Pn	02 16 59.5	-0.6

*NIED **28** 02:18:00, 34.60N×136.20E, h65km, Mw3.6 Best double couple: M0 3.29×10^14 NP1:φs323°, δ86°, λ66°. NP2:φs224°, δ24°, λ170°.*
*IDC **28** 02:18:42.7±0.8, 34.44N×136.45E, h50km±7km, mb3.2/4, mb1 3.6/7, mb1mx3.3/23, mbtmp3.6/7, Error ellipse: s-maj=21.6km s-min=10.2km az=121.0*
*NEIC **28** 02:18:42.4±1.1, 34.37N×136.45E, h49km±11km, mb4.4/1, Error ellipse: s-maj=23.0km s-min=9.7km az=142.0*
*JMA **28** 02:18:43.0, 34.61N×136.17E, h51km±1km, M3.7 Broadband fault plane solution: P waves. NP1:φs203°, δ28°, λ135°. NP2:φs335°, δ71°, λ70°. Principal axes: T Plg59°, Azm216°; N Plg19°, Azm341°; P Plg23°, Azm80°; JMA Felt III J1.*

ISC 28 02:18:42.6±0.3, 34.62N±0.03×136.16E±0.03, h49km, h49km±3.0km: pP-P, n24, σ0s85/39, mb3.5/4, 3C-7D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSUJ	**Tsu 2**	**0.23**	**68**	⇑P	P	02 18 51.5	+0.4
TSUJ				S	S	02 18 57.8	+0.6
JHE	**Heguri**	**0.39**	**275**	⇓P	P	02 18 53.3	+0.6
JHE				S	S	02 19 00.7	+0.9
JKN2	**Miekihoku**	**0.39**	**166**	⇓P	P	02 18 52.9	+0.2
JKN2				S	S	02 19 00.1	+0.3
JIE	**Ise**	**0.51**	**117**	⇑P	P	02 18 54.5	+0.6
JIE				S	S	02 19 02.6	+0.5
JWY	**Kouya**	**0.62**	**230**	⇓P	P	02 18 55.8	+0.5
JWY				S	S	02 19 04.9	+0.3
JWT	**Wachi**	**0.91**	**317**	⇓P	P	02 18 59.8	+0.6
JWT				S	S	02 19 11.8	+0.2
JWM	**Minabe**	**1.02**	**221**	⇓P	P	02 19 00.3	-0.5
JWM				S	S	02 19 12.9	-1.4
JAJ2	**Tsuna**	**1.07**	**260**	⇓P	P	02 19 01.8	+0.2
JAJ2				S	S	02 19 15.6	0.0
JKS	**Kasai**	**1.14**	**289**	⇓P	P	02 19 02.8	+0.3
JKS				S	S	02 19 17.2	-0.1
JWZ	**Kozaga**	**1.15**	**199**	P	P	02 19 02.4	-0.2
JWZ				S	S	02 19 17.9	+0.4
JGM	**Miyama**	**1.17**	**23**	⇑P	P	02 19 03.3	+0.4
JGM				S	S	02 19 17.8	-0.2
MAJO	**Matsushiro**	**2.54**	**40**	*e*P	P	02 19 21.9	-0.5
MAT	**Matsushiro**	**2.54**	**40**	P	P	02 19 21.9	-0.5
MAT				S	S	02 19 52.0	0.0
MAT	**Matsushiro**	**2.54**	**40**	P	P	02 19 22.0	-0.4
MAT				*e*S	S	02 19 52.0	-0.3
MJAR	**Matsushiro Arr**	**2.54**	**40**	P	P	02 19 22.4	0.0
	2.6nm,0.3s,baz=217,slow=16,SNR=6.6						
MJAR				S	S	02 19 51.9	-0.4
	11nm,0.3s,baz=225,slow=25,SNR=6.4						
JNU	**Nakatsue**	**4.64**	**253**	P	P	02 19 51.9	-0.2
	4.0nm,0.3s,baz=69,slow=9.2,SNR=10						
JNU				S	S	02 20 42.3	-3.0
	1.3nm,0.3s,baz=184,slow=14,SNR=3.5						
JNU	**Nakatsue**	**4.64**	**253**	P	P	02 19 51.9	-0.2
JNU				S	S	02 20 42.3	-3.0
CBIJ	**Chichi jima**	**9.11**	**144**	P	P	02 20 46.9	-7.4
	4.8nm,0.3s,baz=294,slow=20,SNR=2.8						
SONM	**Songino Array**	**25.81**	**310**	P	P	02 24 12.8	+2.0
	0.4nm,0.8s,mb3.0,baz=113,slow=8.8,SNR=3.0						
SONM				pP	pP	02 24 23.7	+0.5
	0.6nm,0.8s,baz=119,slow=8.0,SNR=3.2						
MKAR	**Makanchi Array**	**41.84**	**304**	pP	pP	02 26 42.0	-0.4
	0.2nm,0.6s,baz=67,slow=11,SNR=2.2						
ILAR	**Eielson Array**	**53.79**	**31**	P	P	**02 27 59.6**	**-2.4**
	0.5nm,0.9s,mb3.4,baz=252,slow=5.7,SNR=3.2						
ILAR				pP	pP	02 28 13.9	-1.6
	0.6nm,1.1s,baz=269,slow=8.3,SNR=4.3						
WRA	**Warramunga Arr**	**54.29**	**182**	P	P	**02 28 02.4**	**-3.9**
	0.3nm,0.6s,mb3.4,baz=356,slow=7.6,SNR=6.6						
WRA				pP	pP	02 28 16.5	-3.3
	0.2nm,0.5s,baz=359,slow=7.6,SNR=4.6						
WRA				sP	sP	02 28 22.5	-3.0
	0.4nm,0.4s,baz=359,slow=7.7,SNR=8.5						
INK	**Inuvik**	**58.45**	**26**	P	P	**02 28 33.5**	**-1.9**
	0.6nm,0.9s,mb3.6,baz=309,slow=6.8,SNR=4.9						
INK	**Inuvik**	**58.45**	**26**	*e*P	P	**02 28 33.4**	**-1.9**
	4.5nm,1.3s,mb4.3						

*ISK **28** 03:09:42.5, 40.99N×33.29E, h5km, MD3.4*
*NEIC **28** 03:09:42.5, 40.99N×33.29E, h5km, MD3.4(ISK), After ISK.*
*CSEM **28** 03:09:42.2±0.8, 41.00N×33.32E, MD3.4, Error ellipse: s-maj=3.3km s-min=1.8km az=10.0*

ISC 28 03:09:43.3±0.4, 41.01N±0.03×33.30E±0.04, h5km, n27, σ0s77/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CANT	**Cankiri**	**0.47**	**149**	*i* PG	Pg	**03 09 52.5**	**-0.2**
CANT				*i* SG	Sg	**03 09 59.6**	**+0.6**
SAFT	**Safranbolu**	**0.52**	**296**	*i* PG	Pg	**03 09 53.5**	**-0.1**
BALT	**Daday**	**0.53**	**7**	*i* P	Pg	**03 09 53.6**	**-0.2**
BALT				*i* S	Sg	**03 09 59.6**	**-1.3**
ELDT	**Eldivan**	**0.53**	**170**	*i* P	Pg	**03 09 52.3**	**-1.6**
ELDT				*i* S	Sg	**03 10 00.1**	**-0.9**
TOS	**Tosya**	**0.55**	**87**	*i* PG	Pg	**03 09 54.0**	**-0.2**
BZK	**Bozkurt**	**1.09**	**29**	PN	Pn	**03 10 04.8**	**-0.2**
LOD	**Lodumlu**	**1.19**	**200**	PN	Pn	**03 10 05.7**	**-0.9**
**

KAMT	Kaman	1.67	169	PN	Pn	Pn	03 10 13.1	-0.3
MDU	Mudurnu	1.68	252	*e*PN	Pn	Pn	03 10 13.9	+0.4
KVT	Kavak	2.08	87	PN	Pn	Pn	03 10 20.1	+0.9
GPA	Golpazari	2.39	253	*e*PN	Pn	Pn	03 10 24.5	+0.8
KIZT	Kizilcal	2.39	208	*e*PN	Pn	Pn	03 10 23.5	-0.2
ESKT	Eskisehir	2.39	232	*e*PN	Pn	Pn	03 10 24.5	+0.7
BNN	Bunyan	2.91	137	*e*PN	Pn	Pn	03 10 31.8	+0.7
SVSK	Karacayir	3.02	110	*e*PN	Pn	Pn	03 10 33.2	+0.4
NIG	Nigde	3.07	160	*e*PN	Pn	Pn	03 10 34.2	+0.8
ALT	Altintas	3.13	232	*e*PN	Pn	Pn	03 10 35.2	+0.9
KONT	Konya--Tatoy	3.15	194	*e*PN	Pn	Pn	03 10 35.5	+1.0
KARA	Karaisali	3.98	159	*e*PN	Pn	Pn	03 10 46.8	+0.4
KOZT	Kozan	4.03	150	*e*PN	Pn	Pn	03 10 47.2	+0.1

LDG ***28*** *03:14:48.6±0.1, 42.34N×1.44E, h4km, Md2.9/2, Ml2.9/19, Error ellipse: s-maj=1.6km s-min=1.4km az=172.0*
STR ***28*** *03:14:48.8±0.5, 42.37N×1.45E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***28*** *03:14:48.9±0.2, 42.35N×1.45E, h3km±3km, mbLg2.2/31, Error ellipse: s-maj=1.7km s-min=1.4km az=161.0, PRXIMO*
CSEM ***28*** *03:14:48.6±0.1, 42.35N×1.44E, h5km, ML2.8/21, Error ellipse: s-maj=1.2km s-min=0.9km az=136.0*

ISC 28 03:14:47.1±0.3, 42.35N±0.02×1.44E±0.02, h12km±2km, n95, σ1$35/142, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CORG	**Organya**	**0.15**	**217**	Pg	**Pg**	**Pg**	**03 14 51.1**	**+0.3**
CORG				Lg			03 14 53.7	
	78nm,0.0s							
PAND	**Andorre**	**0.19**	**25**	P	**Pg**	**Pg**	**03 14 52.5**	**+1.0**
PAND				S	**Sg**	**Sg**	**03 14 55.4**	**+1.1**
CSOR	**Sort**	**0.23**	**276**	Pg	**Pg**	**Pg**	**03 14 52.8**	**+0.7**
CSOR				Lg			03 14 56.7	
	256nm,0.2s							
CLLI	**Llivia**	**0.41**	**72**	Pg	**Pg**	**Pg**	**03 14 56.2**	**+0.5**
CLLI				Lg			03 15 02.1	
	11nm,0.1s							
VALF	**Valcebollere**	**0.43**	**83**	P	**Pg**	**Pg**	**03 14 56.5**	**+0.5**
VALF				S	**Sg**	**Sg**	**03 15 02.7**	**+0.8**
EMIR	**Miracle**	**0.44**	**172**	Pg	**Pg**	**Pg**	**03 14 56.6**	**+0.4**
	18nm,0.1s,SNR=7.9							
EMIR				Lg			03 15 03.6	
	81nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**0.44**	**172**	Pg	**Pg**	**Pg**	**03 14 56.6**	**+0.4**
	18nm,0.1s,SNR=7.9							
SALF	**Salau**	**0.45**	**336**	P	**Pg**	**Pg**	**03 14 57.3**	**+1.0**
SALF				S	**Sg**	**Sg**	**03 15 03.6**	**+1.2**
GRBF	**Gourbit**	**0.49**	**8**	P	**Pg**	**Pg**	**03 14 58.3**	**+1.1**
GRBF				S	**Sg**	**Sg**	**03 15 05.2**	**+1.2**
CBRU	**Bruguera**	**0.55**	**97**	Pg	**Pg**	**Pg**	**03 14 58.7**	**+0.3**
CBRU				Lg			03 15 07.0	
	34nm,0.2s							
CARF	**Carcanieres**	**0.61**	**53**	Pg	**Pg**	**Pg**	**03 15 00.0**	**+0.5**
CARF				Sg	**Sg**	**Sg**	**03 15 08.7**	**+0.9**
CARF	**Carcanieres**	**0.61**	**53**	P	**Pb**	**Pb**	**03 15 00.1**	**+0.8**
CARF				S	**Sb**	**Sb**	**03 15 08.3**	**+0.8**
MLS	**Moulis**	**0.66**	**337**	Pg	**Pg**	**Pg**	**03 15 01.6**	**+1.2**
MLS				Sg	**Sg**	**Sg**	**03 15 09.9**	**+0.6**
MLS	**Moulis**	**0.66**	**337**	P	**Pb**	**Pb**	**03 15 01.4**	**+1.3**
MLS				S	**Sb**	**Sb**	**03 15 09.7**	**+0.8**
MELF	**Melles**	**0.72**	**316**	Pg	**Pg**	**Pg**	**03 15 02.2**	**+0.5**
MELF				Sg	**Sg**	**Sg**	**03 15 12.4**	**+0.9**
MELF	**Melles**	**0.72**	**316**	P	**Pb**	**Pb**	**03 15 01.9**	**+0.7**
MELF				S	**Sb**	**Sb**	**03 15 12.1**	**+1.3**
EGRA	**Graus**	**0.85**	**260**	Pg	**Pg**	**Pg**	**03 15 04.6**	**+0.4**
	0.8nm,0.2s,SNR=7.9							
EGRA				Lg			03 15 17.7	
	6.7nm,0.2s,SNR=7.9							
FILF	**Fillols**	**0.85**	**76**	P	**Pb**	**Pb**	**03 15 02.8**	**-0.6**
FILF				S	**Sb**	**Sb**	**03 15 13.1**	**-1.5**
RESF	**Ens**	**0.93**	**300**	S	**Sb**	**Sb**	**03 15 19.1**	**+2.2**
CFON	**Fontmartina**	**0.95**	**128**	Pg	**Pg**	**Pg**	**03 15 05.8**	**-0.4**
EBIE	**Bielsa**	**1.01**	**290**	Pg	**Pg**	**Pg**	**03 15 07.4**	**-0.1**
	0.8nm,0.3s,SNR=7.9							
EBIE				Lg			03 15 21.3	
	11nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**1.01**	**290**	Pg	**Pg**	**Pg**	**03 15 07.4**	**-0.1**
	0.8nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**1.03**	**195**	Pg	**Pg**	**Pg**	**03 15 07.9**	**0.0**
	3.3nm,0.1s,SNR=7.9							
EPOB				Lg			03 15 20.9	
	18nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**1.03**	**195**	Pg	**Pg**	**Pg**	**03 15 07.9**	**0.0**
	3.3nm,0.1s,SNR=7.9							
EPF	**Esparros**	**1.06**	**310**	*e*Pg	**Pg**	**Pg**	**03 15 08.1**	**-0.2**
EPF				*e*Sg	**Sg**	**Sg**	**03 15 22.7**	**+0.2**
	29nm,0.2s							
SJAF	**Saint Jean de**	**1.08**	**83**	S	**Sb**	**Sb**	**03 15 23.8**	**+2.7**
EJON	**La Jonquera**	**1.08**	**84**	Pg	**Pg**	**Pg**	**03 15 08.5**	**-0.3**
	3.8nm,0.1s,SNR=7.9							
EJON				Lg			03 15 23.6	
	9.9nm,0.1s,SNR=7.9							
EJON	**La Jonquera**	**1.08**	**84**	Pg	**Pg**	**Pg**	**03 15 08.5**	**-0.2**
	3.8nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**1.14**	**30**	*e*Pg	**Pg**	**Pg**	**03 15 10.3**	**+0.3**
MTLF				*e*Sg	**Sg**	**Sg**	**03 15 25.2**	**-0.1**
	44nm,0.2s							
VIEF	**Viey**	**1.17**	**297**	S	**Sb**	**Sb**	**03 15 26.4**	**+2.5**
LABF	**Labassere**	**1.22**	**305**	S	**Sb**	**Sb**	**03 15 28.4**	**+3.0**
ESAC	**San Caprasio**	**1.56**	**247**	Pg	**Pg**	**Pg**	**03 15 17.0**	**-1.2**
	23nm,0.2s,SNR=7.9							
ESAC				Lg			03 15 39.2	
	73nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**1.56**	**247**	Pg	**Pg**	**Pg**	**03 15 17.0**	**-1.3**
	23nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**1.57**	**291**	*e*Pn	**Pn**	**Pn**	**03 15 15.8**	**+0.7**
ETSF	**Etsaut**	**1.57**	**291**	*e*Pg	**Pg**	**Pg**	**03 15 18.2**	**-0.4**
ETSF				*e*Sg	**Sg**	**Sg**	**03 15 38.8**	**-0.8**
	42nm,0.3s							
ETSF	**Etsaut**	**1.57**	**291**	Pn	**Pn**	**Pn**	**03 15 15.8**	**+0.7**
ETSF				Pg	**Pg**	**Pg**	**03 15 18.2**	**-0.4**
ETSF				Lg			03 15 38.8	
	21nm,0.3s							
ETSF	**Etsaut**	**1.57**	**291**	*e*Pg	**Pg**	**Pg**	**03 15 18.2**	**-0.4**
ETSF				*e*Sg	**Sg**	**Sg**	**03 15 38.8**	**-0.8**
	21nm,0.3s							
ERTA	**Horta de San J**	**1.62**	**211**	Pg	**Pg**	**Pg**	**03 15 19.0**	**-0.6**
	0.8nm,0.2s,SNR=7.9							
ERTA				Lg			03 15 40.8	
	11nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**1.62**	**211**	Pg	**Pg**	**Pg**	**03 15 19.0**	**-0.6**
	0.8nm,0.2s,SNR=7.9							
EBR	**Ebro Roquetas**	**1.69**	**205**	*e*SN	**Sn**	**Sn**	**03 15 42.5**	**+4.1**
ATE	**Arette**	**1.74**	**296**	S	**Sb**	**Sb**	**03 15 45.5**	**+5.8**
SJPF	**Ste Jean**	**2.10**	**292**	*e*Pg	**Pg**	**Pg**	**03 15 27.7**	**-1.5**
SJPF				*e*Sg	**Sg**	**Sg**	**03 15 55.5**	**-1.8**
	13nm,0.3s							
IUNC	**Unciti**	**2.21**	**281**	Pg	**Pg**	**Pg**	**03 15 31.4**	**+0.1**
	0.4nm,0.2s,SNR=4.0							
IUNC				Lg			03 16 00.8	
	2.0nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**2.21**	**281**	Pg	**Pg**	**Pg**	**03 15 31.4**	**+0.1**
	0.4nm,0.2s,SNR=4.0							
EARA	**Aranguren**	**2.27**	**282**	Pg	**Pg**	**Pg**	**03 15 31.9**	**-0.6**
	1.1nm,0.1s,SNR=4.0							
EARA				Lg			03 16 02.8	
	2.0nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**2.28**	**286**	Lg			03 16 03.3	
	1.5nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**2.34**	**293**	Pg	**Pg**	**Pg**	**03 15 31.8**	**-2.0**
	1.4nm,0.1s,SNR=7.9							
EALK				Lg			03 16 03.8	
	3.9nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**2.45**	**217**	Pn	**Pn**	**Pn**	**03 15 29.3**	**+1.5**
	0.1nm,0.2s,SNR=4.0							
EMOS				Sn	**Sn**	**Sn**	**03 15 59.4**	**+1.5**
	0.7nm,0.1s,SNR=7.9							
EMOS				Lg			03 16 07.7	
	SNR=7.9							
EMOS	**Mosqueruela**	**2.45**	**217**	Pn	**Pn**	**Pn**	**03 15 29.3**	**+1.6**
	0.1nm,0.2s,SNR=4.0							
EMOS				Sn	**Sn**	**Sn**	**03 15 59.4**	**+1.5**
	0.7nm,0.1s,SNR=7.9							
LASF	**Ste Croix**	**2.47**	**45**	*e*Pn	**Pn**	**Pn**	**03 15 29.4**	**+1.5**
LASF	**Ste Croix**	**2.47**	**45**	*e*Pg	**Pg**	**Pg**	**03 15 35.0**	**-1.4**
LASF				*e*Sg	**Sg**	**Sg**	**03 16 06.2**	**-3.2**
	12nm,0.4s							
LASF	**Ste Croix**	**2.47**	**45**	Pn	**Pn**	**Pn**	**03 15 29.4**	**+1.5**
LASF				Pg	**Pg**	**Pg**	**03 15 35.0**	**-1.4**
LASF				Lg			03 16 06.2	
	6.0nm,0.4s							
LASF	**Ste Croix**	**2.47**	**45**	*e*Pg	**Pg**	**Pg**	**03 15 35.0**	**-1.4**
LASF				*e*Sg	**Sg**	**Sg**	**03 16 06.2**	**-3.2**
	6.0nm,0.4s							
CAF	**Calviac**	**2.61**	**10**	*e*Pn	**Pn**	**Pn**	**03 15 29.7**	**-0.3**
CAF	**Calviac**	**2.61**	**10**	*e*P	**Pn**	**Pn**	**03 15 32.6**	**+2.6**
CAF	**Calviac**	**2.61**	**10**	*e*Pg	**Pg**	**Pg**	**03 15 37.3**	**-2.0**
CAF				*e*Sg	**Sg**	**Sg**	**03 16 11.6**	**-2.5**
	9.0nm,0.2s							
CAF	**Calviac**	**2.61**	**10**	Pn	**Pn**	**Pn**	**03 15 29.7**	**-0.3**
CAF				Pg	**Pg**	**Pg**	**03 15 37.3**	**-2.0**
CAF				Lg			03 16 11.6	
	4.5nm,0.2s							
CAF	**Calviac**	**2.61**	**10**	*e*P	**Pn**	**Pn**	**03 15 32.6**	**+2.6**
CAF	**Calviac**	**2.61**	**10**	*e*Pg	**Pg**	**Pg**	**03 15 37.3**	**-2.0**
CAF				*e*Sg	**Sg**	**Sg**	**03 16 11.6**	**-2.5**
	4.5nm,0.2s							
LFF	**La Frestale**	**2.63**	**349**	*e*Pn	**Pn**	**Pn**	**03 15 30.4**	**+0.1**
LFF	**La Frestale**	**2.63**	**349**	*e*P	**Pn**	**Pn**	**03 15 33.0**	**+2.7**
LFF				*e*Sg	**Sg**	**Sg**	**03 16 13.0**	**-1.9**
	17nm,0.3s							
LFF	**La Frestale**	**2.63**	**349**	Pn	**Pn**	**Pn**	**03 15 30.4**	**+0.1**
LFF				Lg			03 16 13.0	
	8.4nm,0.3s							
LFF	**La Frestale**	**2.63**	**349**	*e*P	**Pn**	**Pn**	**03 15 33.0**	**+2.7**
LFF				*e*Sg	**Sg**	**Sg**	**03 16 13.0**	**-1.9**
	8.4nm,0.3s							
ETOS	**Mallorca**	**2.78**	**158**	Pn	**Pn**	**Pn**	**03 15 32.4**	**-0.1**
	0.4nm,0.1s,SNR=7.9							
ETOS				Sn	**Sn**	**Sn**	**03 16 05.8**	**-0.5**
	0.4nm,0.1s,SNR=7.9							
ETOS	**Mallorca**	**2.78**	**158**	Pn	**Pn**	**Pn**	**03 15 32.4**	**0.0**
	0.4nm,0.1s,SNR=7.9							
ETOS				Sn	**Sn**	**Sn**	**03 16 05.8**	**-0.5**
	0.4nm,0.1s,SNR=7.9							
RJF	**Les Rejaudoux**	**2.95**	**1**	*e*P	**Pn**	**Pn**	**03 15 36.9**	**+2.1**
RJF	**Les Rejaudoux**	**2.95**	**1**	*e*Pg	**Pg**	**Pg**	**03 15 43.4**	**-2.7**
RJF				*e*Sg	**Sg**	**Sg**	**03 16 22.8**	**-2.6**
	9.2nm,0.2s							
RJF	**Les Rejaudoux**	**2.95**	**1**	*e*Pg	**Pg**	**Pg**	**03 15 43.4**	**-2.7**
RJF				*e*Sg	**Sg**	**Sg**	**03 16 22.8**	**-2.6**
	4.6nm,0.2s							
VIVF	**Saint-Julien-l**	**3.43**	**42**	*e*Pn	**Pn**	**Pn**	**03 15 43.1**	**+1.5**
VIVF	**Saint-Julien-l**	**3.43**	**42**	*e*Pg	**Pg**	**Pg**	**03 15 52.4**	**-3.3**
VIVF				*e*Sg	**Sg**	**Sg**	**03 16 36.7**	**-4.7**
	6.4nm,0.4s							
VIVF	**Saint-Julien-l**	**3.43**	**42**	Pn	**Pn**	**Pn**	**03 15 43.1**	**+1.5**
VIVF				Pg	**Pg**	**Pg**	**03 15 52.4**	**-3.3**
VIVF				Lg			03 16 36.7	
	3.2nm,0.4s							
VIVF	**Saint-Julien-l**	**3.43**	**42**	*e*Pg	**Pg**	**Pg**	**03 15 52.4**	**-3.3**
VIVF				*e*Sg	**Sg**	**Sg**	**03 16 36.7**	**-4.7**
	3.2nm,0.4s							
ELAN	**Lanestosa**	**3.69**	**285**	Pg	**Pg**	**Pg**	**03 15 57.6**	**-3.3**
	1.0nm,0.3s,SNR=7.9							
ELAN				Sn	**Sn**	**Sn**	**03 16 28.0**	**-1.3**
	0.2nm,0.2s,SNR=4.0							
ELAN				Lg			03 16 44.8	
	1.6nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**3.69**	**285**	Pg	**Pg**	**Pg**	**03 15 57.6**	**-3.3**
	1.0nm,0.3s,SNR=7.9							
ELAN				Sn	**Sn**	**Sn**	**03 16 28.0**	**-1.3**
	0.2nm,0.2s,SNR=4.0							
LMR	**La Mourre**	**3.85**	**74**	*e*Pn	**Pn**	**Pn**	**03 15 47.8**	**+0.2**
LMR				*e*Sn	**Sn**	**Sn**	**03 16 29.7**	**-3.7**
	3.7nm,0.3s							
TCF	**Toulx Ste Croi**	**3.97**	**8**	*e*Pn	**Pn**	**Pn**	**03 15 48.3**	**-1.0**
TCF	**Toulx Ste Croi**	**3.97**	**8**	*e*P	**Pn**	**Pn**	**03 15 51.4**	**+2.1**
TCF				*e*Sg	**Sg**	**Sg**	**03 16 53.3**	**-6.1**
	4.4nm,0.3s							
TCF	**Toulx Ste Croi**	**3.97**	**8**	Pn	**Pn**	**Pn**	**03 15 48.3**	**-1.0**
TCF				Lg			03 16 53.3	
	2.2nm,0.3s							
TCF	**Toulx Ste Croi**	**3.97**	**8**	*e*P	**Pn**	**Pn**	**03 15 51.4**	**+2.1**
TCF				*e*Sg	**Sg**	**Sg**	**03 16 53.3**	**-6.1**
	2.2nm,0.3s							
FRF	**La Foret Royal**	**4.01**	**71**	*e*Pn	**Pn**	**Pn**	**03 15 49.2**	**-0.6**
FRF				*e*Sn	**Sn**	**Sn**	**03 16 34.0**	**-3.3**
	1.3nm,0.3s							
BGF	**Bois d'Agland**	**4.32**	**13**	*e*Pn	**Pn**	**Pn**	**03 15 53.3**	**-1.0**
BGF	**Bois d'Agland**	**4.32**	**13**	*e*Pg	**Pg**	**Pg**	**03 16 09.1**	**-4.4**
BGF				*e*Sg	**Sg**	**Sg**	**03 17 04.5**	**-6.6**
	20nm,0.4s							
BGF	**Bois d'Agland**	**4.32**	**13**	Pn	**Pn**	**Pn**	**03 15 53.3**	**-1.0**
BGF				Pg	**Pg**	**Pg**	**03 16 09.1**	**-4.4**
BGF				Lg			03 17 04.5	
	9.9nm,0.4s							
MFF	**Saint Martin d**	**4.40**	**346**	*e*Pn	**Pn**	**Pn**	**03 15 54.3**	**-1.1**
MFF				*e*Sn	**Sn**	**Sn**	**03 16 45.5**	**-1.6**
MFF				*e*Sg	**Sg**	**Sg**	**03 17 07.4**	**-6.2**
	3.2nm,0.4s							
GUD	**Guadarrama**	**4.54**	**250**	Pn	**Pn**	**Pn**	**03 15 57.0**	**-0.3**
	0.3nm,0.2s,SNR=7.9							
GUD				Sn	**Sn**	**Sn**	**03 16 49.1**	**-1.6**
	0.6nm,0.2s,SNR=7.9							
GUD				Lg			03 17 13.6	
	0.3nm,0.2s,SNR=4.0							
SMF	**Signal de Mont**	**4.62**	**21**	*e*Sg	**Sg**	**Sg**	**03 17 13.9**	**-7.2**
	4.2nm,0.5s							
AVF	**Avril sur Loir**	**4.64**	**16**	*e*Sg	**Sg**	**Sg**	**03 17 14.2**	**-7.5**
	3.5nm,0.4s							
ESDC	**Sonseca Array**	**4.88**	**239**	Pn	**Pn**	**Pn**	**03 16 01.4**	**-0.9**
	baz=52,slow=14,SNR=7.9							
ESDC				Sn	**Sn**	**Sn**	**03 16 57.3**	**-2.1**
	baz=54,slow=24,SNR=7.9							
ESDC				Lg			03 17 25.4	
	baz=54,slow=29,SNR=7.9							
ESDC	**Sonseca Array**	**4.88**	**239**	Pn	**Pn**	**Pn**	**03 16 01.4**	**-0.9**
	SNR=7.9							
ESDC				Sn	**Sn**	**Sn**	**03 16 57.3**	**-2.2**
	SNR=7.9							
SSF	**Saint Saulge**	**4.93**	**17**	*e*Sg	**Sg**	**Sg**	**03 17 22.3**	**-9.1**
	0.9nm,0.3s							
LPG	**La Plagne**	**4.96**	**49**	*e*Pn	**Pn**	**Pn**	**03 16 05.5**	**+2.2**
EARI	**Arriondas**	**4.98**	**283**	Pn	**Pn**	**Pn**	**03 16 05.1**	**+1.5**
	0.2nm,0.1s,SNR=7.9							
EARI				Sn	**Sn**	**Sn**	**03 16 58.7**	**-3.2**
	0.1nm,0.2s,SNR=7.9							
LOR	**Lormes**	**5.21**	**18**	*e*Sg	**Sg**	**Sg**	**03 17 32.5**	**-8.0**
	6.4nm,0.6s							
CABF	**La Chapelle**	**5.40**	**36**	*e*Pn	**Pn**	**Pn**	**03 16 09.8**	**+0.3**
ROSF	**Rostrenen**	**6.84**	**333**	*e*Pn	**Pn**	**Pn**	**03 16 29.4**	**-0.5**

CSEM ***28*** *03:15:44.7±0.1, 38.12N×26.61E, h5km, MD3.5, Error ellipse: s-maj=2.8km s-min=1.5km az=65.0*
ATH ***28*** *03:15:45.5, 38.15N×26.76E, h38km, MD3.5/3*
ISK ***28*** *03:15:45.5, 38.15N×26.72E, h5km, MD3.5*
NEIC ***28*** *03:15:45.5, 38.15N×26.72E, h5km, MD3.5(ISK), MD3.5(ATH), After ISK.*

ISC 28 03:15:45.0±0.9, 38.15N±0.02×26.64E±0.04, h1km±6km, n44, σ0$77/54, 1C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URLA	**Izmir**	**0.21**	**350**	*i* P		**Pg**	**03 15 49.6**	**+0.5**
URLA				*i* S		**Sg**	**03 15 53.2**	**+1.2**
BLCB	**Balcova**	**0.39**	**54**	*i* PG		**Pg**	**03 15 52.8**	**0.0**
BLCB				*i* SG		**Sg**	**03 15 57.5**	**-0.5**
SMG	**Samos**	**0.47**	**161**	⇑*i* PB		**Pb**	**03 15 56.0**	**+0.3**
SMG				*e*SB		**Sb**	**03 16 03.4**	**+0.5**
IZM	**Izmir**	**0.55**	**63**	*i* PG		**Pg**	**03 15 56.0**	**+0.1**
KDAG	**Bornova**	**0.55**	**63**	*i* P		**Pg**	**03 15 55.0**	**-1.0**
KDAG				*i* S		**Sg**	**03 16 02.1**	**-1.2**
AYDN	**Tasoluk**	**1.10**	**116**	*i* P		**Pb**	**03 16 06.5**	**+0.1**
AYDN				*i* S		**Sb**	**03 16 20.9**	**-0.1**
PRK	**Paraskevi**	**1.13**	**345**	⇓*i* PN		**Pn**	**03 16 06.9**	**-0.9**
PRK				*e*SN		**Sn**	**03 16 22.2**	**-1.9**
PRK	**Paraskevi**	**1.13**	**345**	⇓*i* Pn		**Pn**	**03 16 06.9**	**-0.9**
PRK				*e*Sn		**Sn**	**03 16 22.8**	**-1.3**
AYVA	**Ayvalik**	**1.15**	**2**	*i* P		**Pb**	**03 16 07.5**	**+0.1**
AYVA				*i* S		**Sb**	**03 16 24.4**	**+1.7**
AKS	**Akhisar**	**1.17**	**51**	*i* PN		**Pn**	**03 16 06.7**	**-1.7**
BODT	**Bodrum**	**1.21**	**154**	PN		**Pn**	**03 16 08.9**	**-0.1**
MLSB	**Milas**	**1.24**	**133**	PN		**Pn**	**03 16 08.9**	**-0.5**
BDRM	**Kayabasi**	**1.26**	**149**	*i* P		**Pb**	**03 16 09.7**	**+0.5**
BDRM				*i* S		**Sb**	**03 16 26.0**	**+0.2**
APE	**Apeiranthos**	**1.40**	**219**	PN		**Pn**	**03 16 12.4**	**+0.8**
APE	**Apeiranthos**	**1.40**	**219**	*e*PN		**Pn**	**03 16 11.2**	**-0.4**
MANT	**Manisa**	**1.54**	**77**	*i* P		**Pn**	**03 16 13.8**	**+0.1**
MANT				*i* S		**Sb**	**03 16 33.5**	**-0.5**
DAT	**Datca**	**1.61**	**152**	PN		**Pn**	**03 16 14.2**	**-0.4**
YER	**Yerkesik**	**1.65**	**127**	PN		**Pn**	**03 16 15.0**	**-0.3**
EZN	**Ezine**	**1.69**	**352**	PN		**Pn**	**03 16 16.0**	**+0.2**
BALB	**Balikesir**	**1.77**	**33**	PN		**Pn**	**03 16 17.7**	**+0.8**
DENT	**Denizli**	**1.93**	**101**	PN		**Pn**	**03 16 18.8**	**-0.5**
DALT	**Dalyan (Mudla)**	**2.11**	**130**	*e*PN		**Pn**	**03 16 21.6**	**-0.1**
LPK	**Lapseki**	**2.22**	**2**	*e*PN		**Pn**	**03 16 23.6**	**+0.3**
KHL	**Karahalli**	**2.27**	**85**	*e*PN		**Pn**	**03 16 24.7**	**+0.5**
EDC	**Edincik**	**2.39**	**23**	*e*PN		**Pn**	**03 16 26.6**	**+0.8**
BNT	**Bandirma**	**2.41**	**24**	*e*PN		**Pn**	**03 16 26.9**	**+0.8**
KCT	**Karacabey**	**2.49**	**32**	*e*PN		**Pn**	**03 16 27.5**	**+0.2**
MRMT	**Marmara Adasi**	**2.56**	**17**	*e*PN		**Pn**	**03 16 28.3**	**+0.1**
ORLT	**Orhaneli**	**2.58**	**42**	*e*PN		**Pn**	**03 16 29.0**	**+0.5**
MFT	**Murefte**	**2.67**	**10**	*e*PN		**Pn**	**03 16 30.2**	**+0.3**
ALT	**Altintas**	**2.86**	**71**	*e*PN		**Pn**	**03 16 33.0**	**+0.4**
YLV	**Yalova**	**3.21**	**40**	*e*PN		**Pn**	**03 16 37.0**	**-0.5**
BADT	**Buyukada**	**3.31**	**35**	*e*PN		**Pn**	**03 16 39.4**	**+0.5**
HRT	**Hereke**	**3.55**	**40**	*e*PN		**Pn**	**03 16 43.0**	**+0.7**
ESKT	**Eskisehir**	**3.56**	**66**	*e*PN		**Pn**	**03 16 43.1**	**+0.6**
GPA	**Golpazari**	**3.56**	**52**	*e*PN		**Pn**	**03 16 43.0**	**+0.6**
KDZ	**Kurdzhali**	**3.62**	**345**	*i* P		**Pn**	**03 16 41.0**	**-2.3**
EDRB	**Edirne**	**3.69**	**1**	*e*PN		**Pn**	**03 16 45.1**	**+0.8**
RZN	**Rozhen**	**3.83**	**338**	*i* P		**Pn**	**03 16 44.0**	**-2.3**
MMB	**Musomiste**	**4.10**	**328**	*i* P		**Pn**	**03 16 50.0**	**-0.1**
KIZT	**Kizilcal**	**4.17**	**78**	*e*PN		**Pn**	**03 16 52.0**	**+0.8**
KONT	**Konya--Tatoy**	**4.52**	**91**	*e*PN		**Pn**	**03 16 56.0**	**-0.1**
KKB	**Krupnik**	**4.61**	**325**	*i* P		**Pn**	**03 16 57.0**	**-0.3**
VTS	**Vitosha**	**5.15**	**330**	*i* P		**Pn**	**03 17 04.0**	**-1.0**

KNET ***28*** *03:40:29.9, 42.68N×75.40E, h13km, Ml2.2*
NNC ***28*** *03:40:31.0±1.1, 42.68N×75.41E, mb3.4, mpv3.3, Error ellipse: s-maj=26.0km s-min=5.5km az=124.0*

ISC 28 03:40:30.9±0.7, 42.69N±0.04×75.42E±0.04, h13km±5km, n12, σ0$56/22, 9C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TKM2	**Tokmak 2**	**0.26**	**30**	⇓P		**Pg**	**03 40 36.7**	**+0.1**
	511nm,0.2s,SNR=41							
TKM2				⇓S		**Sg**	**03 40 40.8**	**+0.3**
	719nm,0.1s							
TKM2	**Tokmak 2**	**0.26**	**30**	⇓P		**Pg**	**03 40 36.7**	**+0.1**
	90nm,0.2s							
TKM2				⇓S		**Sg**	**03 40 40.7**	**+0.3**
	336nm,0.3s							
KBK	**Karagaybulak**	**0.35**	**264**	⇑P		**Pg**	**03 40 38.0**	**-0.2**
	56nm,0.1s,SNR=37							
KBK				⇓S		**Sg**	**03 40 43.2**	**+0.1**
	283nm,0.2s							
CHMS	**Chumys

3.7nm,0.7s,mb4.2,baz=300,slow=8.4,SNR=8.2
ENH Enshi 39.72 2 *e*P **P** 04 24 50.0 +0.3
4.4nm,0.5s,mb4.4
LSA Lhasa 42.48 338 *e*P **P** 04 25 13.7 +1.0
LSA pmax pmax
comp=E,6.0nm,0.7s,mb4.3
LSA Lhasa 42.48 338 *e*P **P** 04 25 13.7 +1.0
comp=Z,6.0nm,0.7s,mb4.3
JIRN Jiri 42.84 331 *e*P **P** 04 25 16.2 +0.6
comp=Z,41nm,0.8s,mb5.2
PKI Pulchoki 43.15 330 *e*P **P** 04 25 18.5 +0.3
GUN Gumba 43.20 330 *e*P **P** 04 25 19.2 +0.6
comp=Z,44nm,0.7s,mb5.3
DMN Daman 43.34 329 *e*P **P** 04 25 20.2 +0.5
comp=Z,48nm,1.0s,mb5.2
KKN Kakani 43.40 330 *e*P **P** 04 25 20.1 -0.1
comp=Z,29nm,0.9s,mb5.0
KKN Kakani 43.40 330 *e*P **P** 04 25 20.1 -0.1
KKN pmax pmax
comp=Z,14nm,0.9s,mb4.7
XAN Xi'an 43.46 1 P **P** 04 25 20.5 -0.1
XAN AP pP 04 25 28.8 -1.7
XAN AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GKN Gorkha 43.90 329 *e*P **P** 04 25 24.2 0.0
KOLN Koldanda 44.24 328 *e*P **P** 04 25 27.1 +0.2
comp=Z,15nm,0.6s,mb4.9
GTA Gaotai 49.46 351 *e*P **P** 04 26 09.0 +1.2
GTA AP pP 04 26 17.0 -0.7
GTA XP sP 04 26 21.3 -0.5
HHC Hu-ho-hao-te 50.35 3 *e*P **P** 04 26 11.0 -3.6
HHC AP pP 04 26 17.3 -7.2
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
HHC AMB AMB
comp=Z,90nm,5.0s
MJAR Matsushiro Arr 53.88 30 P **P** 04 26 38.8 -2.3
comp=Z,1.1nm,0.3s,mb4.2,baz=210,slow=8.2,SNR=4.5
CN2 Changchun 55.45 15 *e*P **P** 04 26 51.0 -1.4
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
SONM Songino Array 57.27 358 P **P** 04 27 05.4 0.0
comp=Z,2.0nm,0.5s,mb4.4,baz=177,slow=8.1,SNR=18
ULN Ulaanbaatar 57.28 359 *e*P **P** 04 27 05.2 -0.3
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ULN Ulaanbaatar 57.28 359 *e*P **P** 04 27 05.2 -0.3
comp=Z,3.9nm,0.8s,mb4.5
MKAR Makanchi Array 60.81 340 P **P** 04 27 29.6 -0.4
comp=Z,5.2nm,0.7s,mb4.8,baz=145,slow=7.8,SNR=62
KURK Kurchatov 65.43 340 *e*P **P** 04 27 59.8 -0.6
KURK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
KURK Kurchatov 65.43 340 *e*P **P** 04 27 59.8 -0.5
comp=Z,5.6nm,0.9s,mb4.6
BOD Bodaibo 67.41 3 *e*P **P** 04 28 11.4 -1.3
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
ZRNK Zerenda 70.80 336 *e*P **P** 04 28 33.5 -0.2
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ZRNK Zerenda 70.80 336 *e*P **P** 04 28 33.5 -0.3
comp=Z,3.1nm,0.7s,mb4.3
YAK Yakutsk 73.39 10⇓ *e*P **P** 04 28 48.7 -0.3
YAK pmax pmax
comp=Z,22nm,0.8s,mb5.1
YAK MLR MLR
comp=Z,100nm,19.0s,MS4.1
ARU Arti 77.57 334⇑ *e*P **P** 04 29 13.0 +0.1
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ARU Arti 77.57 334 *e*P **P** 04 29 12.7 -0.3
comp=Z,3.2nm,0.3s,mb4.7
MBAR Mbarara 77.65 272⇑ *e*P **P** 04 29 13.8 -0.4
BRTR Keskin Array B 84.56 312 P **P** 04 29 50.9 +0.8
comp=Z,0.7nm,0.6s,mb4.0,baz=140,slow=9.4,SNR=4.8
YKA Yellowknife Ar 118.88 21 PKP PKPdf 04 36 05.1 +1.6
comp=Z,0.2nm,0.5s,baz=323,slow=1.5,SNR=12
YKA Yellowknife Ar 118.88 21 PKP PKPdf 04 36 05.1 +1.5
TXAR Lajitas Array 144.25 52 PKP PKPdf 04 36 53.7 +1.8
comp=Z,0.5nm,0.8s,baz=270,slow=2.5,SNR=5.2
TXAR Lajitas Array 144.25 52 PKP PKPdf 04 36 53.7 +1.8
JCT Junction City 146.61 48 *e*PKP2 PKPab 04 37 00.2 -0.5
WVT Waverly 149.85 27 *e*PKP2 PKPab 04 37 08.2 -5.3

*IDC **28** 04:52:42.1±1.4,11.62N×92.41E,mb3.9/8,mb1 4.1/8, mb1mx3.9/17,mbtmp3.9/8,Error ellipse: s-maj=55.0km s-min=27.4km az=52.0*
ISC 28 04:52:48.0±1.0,11.6N±0.2×92.09E±0.08,h53km±12km, n12,σ1⁰⁄04/14,mb3.9/8,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.64**	**87**	*e*P	**P**	**04 53 02.8**	**+1.6**
PBA				*e*S	**S**	**04 53 10.2**	**-0.7**
VIS	**Vishakhapatnam**	**10.42**	**307**	*e*P	**P**	**04 55 16.5**	**-1.0**
VIS				AMb	AMB	04 55 17.1	
	comp=Z,9.6nm,0.3s						
VIS				*e*S	**S**	**04 57 01.9**	**-12**
BOK	**Bokaro**	**13.47**	**335**	*e*S	**S**	**04 58 10.9**	**-16**
TRD	**Trivandrum**	**15.22**	**260**	*e*S	**S**	**04 59 08.4**	**-0.2**
MKAR	**Makanchi Array**	**36.02**	**349**	P	**P**	**04 59 45.7**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=167,slow=8.4,SNR=22						
SONM	**Songino Array**	**38.04**	**16**	P	**P**	**05 00 02.0**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.6,baz=194,slow=7.4,SNR=7.4						
WRA	**Warramunga Arr**	**52.09**	**127**	P	**P**	**05 01 52.6**	**-2.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=304,slow=8.5,SNR=5.7						
FINES	**FINESS Array B**	**68.47**	**332**	P	**P**	**05 03 47.0**	**+0.6**
	comp=Z,2.1nm,0.9s,mb4.2,baz=117,slow=4.3,SNR=3.8						
ARCES	**ARCESS Array B**	**71.08**	**340**	P	**P**	**05 04 03.0**	**+0.7**
	comp=Z,5.0nm,0.9s,mb4.5,baz=86,slow=14,SNR=3.5						
GERES	**GERESS Array B**	**73.71**	**318**	P	**P**	**05 04 19.9**	**+1.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=90,slow=6.7,SNR=5.5						
NOA	**NORSAR Array B**	**75.50**	**330**	P	**P**	**05 04 28.5**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=250,slow=5.5,SNR=2.9						
ILAR	**Eielson Array**	**92.04**	**22**	P	**P**	**05 05 51.5**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.7,baz=294,slow=5.0,SNR=5.1						

*CSEM **28** 05:10:33.3±0.2,32.10N×49.17E,h25km,ML3.1,Error ellipse: s-maj=6.5km s-min=2.9km az=165.0*
*THR **28** 05:10:34.2±0.6,32.15N×49.03E,h34km±3km,ML3.1*
*TEH **28** 05:10:35.5,32.20N×49.15E,h10km,Mn3.1*
ISC 28 05:10:34.0±2.0,32.2N±0.1×49.17E±0.09,h16km±32km, n16,σ0⁰81/17,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.32**	**260**	*e*Pg	**Pb**	**05 10 40.9**	**0.0**
SHGR				AML	AML	05 10 52.2	
	comp=N,4μm,0.5s						
IPIR	**Pirpir**	**1.54**	**70**	Pn	**Pn**	**05 11 00.6**	**-0.5**
IKLH	**Kalahroud**	**2.33**	**60**	Pn	**Pn**	**05 11 12.6**	**+0.2**
IKOM	**Komasi**	**2.44**	**326**	Pn	**Pn**	**05 11 14.7**	**+0.7**
ASAO	**Ashtian**	**2.48**	**17**	*e*Pn	**Pn**	**05 11 14.9**	**+0.3**
ASAO				*e*Sg	**Sn**	**05 11 52.0**	**+7.3**
ASAO				AML	AML	05 11 57.4	
	comp=N,61nm,0.6s						
IGAR	**Garneh**	**2.57**	**87**	Pn	**Pn**	**05 11 13.2**	**-2.6**
NASN	**Na'in**	**3.14**	**77**	*e*Pn	**Pn**	**05 11 25.5**	**+1.6**
IRAZ	**Razeghan**	**3.29**	**11**	Pn	**Pn**	**05 11 30.4**	**+4.3**
SNGE	**Sanandaj**	**3.29**	**333**	*e*Pn	**Pn**	**05 11 25.3**	**-0.8**
SNGE				AML	AML	05 12 18.6	
	comp=N,34nm,0.5s						
ILIN	**Laeen**	**3.31**	**327**	Pn	**Pn**	**05 11 26.4**	**+0.1**
ISFB	**Sefidab**	**3.37**	**49**	Pn	**Pn**	**05 11 27.7**	**+0.5**
IDHR	**Dehrash**	**3.44**	**318**	Pn	**Pn**	**05 11 27.8**	**-0.3**
IVRN	**Varamin**	**3.54**	**36**	Pn	**Pn**	**05 11 29.8**	**+0.2**
IDMV	**Damavand**	**4.15**	**34**	Pn	**Pn**	**05 11 38.1**	**-0.2**
ISRV	**Sarvestan**	**4.38**	**128**	Pn	**Pn**	**05 11 42.0**	**+0.4**
IFIR	**Firoozkooh**	**4.57**	**40**	Pn	**Pn**	**05 11 43.7**	**-0.5**

*ISK **28** 05:27:53.6,38.18N×26.63E,h5km,MD3.3*
*NEIC **28** 05:27:53.6,38.18N×26.63E,h5km,MD3.3(ISK), MD3.2(ATH),After ISK.*
*ATH **28** 05:27:54.8,38.18N×26.61E,h38km±8km,MD3.2/3*
*CSEM **28** 05:27:55.1±0.1,38.17N×26.65E,h10km,MD3.3,Error ellipse: s-maj=2.2km s-min=1.3km az=83.0*
ISC 28 05:27:54.4±0.8,38.23N±0.03×26.57E±0.05,h1km±6km, n23,σ0⁰73/31,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.13**	**8**	*i* P	**Pg**	**05 27 56.7**	**-0.3**
URLA				*i* S	**Sg**	**05 27 58.9**	**0.0**
BLCB	**Balcova**	**0.40**	**67**	PG	**Pg**	**05 28 02.2**	**-0.2**
SMG	**Samos**	**0.56**	**158**⇑	*i*PN	**Pg**	**05 28 05.6**	**+0.1**
SMG				*e*SN	**Sg**	**05 28 14.4**	**+1.4**
IZM	**Izmir**	**0.57**	**72**	PG	**Pg**	**05 28 05.3**	**-0.4**
IZM				SG	**Sg**	**05 28 14.2**	**+0.9**
KDAG	**Bornova**	**0.57**	**72**	*i* P	**Pg**	**05 28 04.6**	**-1.3**
KDAG				*i* S	**Sg**	**05 28 13.0**	**-0.5**
PRK	**Paraskevi**	**1.04**	**347**	*e*PB	**Pb**	**05 28 14.8**	**-0.1**
PRK				*e*SN	**Sn**	**05 28 30.6**	**-0.8**
AKS	**Akhisar**	**1.17**	**56**	PN	**Pn**	**05 28 16.4**	**-1.4**
AYDN	**Tasoluk**	**1.18**	**118**	*i* P	**Pb**	**05 28 17.4**	**+0.1**
AYDN				*i* S	**Sb**	**05 28 32.6**	**-0.2**
BODT	**Bodrum**	**1.30**	**153**	*e*PN	**Pn**	**05 28 18.6**	**-1.1**
MLSB	**Milas**	**1.33**	**134**	*e*PN	**Pn**	**05 28 19.2**	**-0.9**
BDRM	**Kayabasi**	**1.35**	**149**	*i* P	**Pb**	**05 28 20.7**	**+0.5**
BDRM				*i* S	**Sb**	**05 28 38.5**	**+0.7**
APE	**Apeiranthos**	**1.42**	**216**	*e*PN	**Pn**	**05 28 21.0**	**-0.4**
MANT	**Manisa**	**1.58**	**80**	*i* P	**Pn**	**05 28 24.1**	**+0.5**
MANT				*i* S	**Sb**	**05 28 44.9**	**+0.3**
EZN	**Ezine**	**1.61**	**353**	*e*PN	**Pn**	**05 28 25.5**	**+1.5**
DAT	**Datca**	**1.70**	**152**	*e*PN	**Pn**	**05 28 24.8**	**-0.5**
BALB	**Balikesir**	**1.74**	**35**	*e*PN	**Pn**	**05 28 26.8**	**+0.9**
YER	**Yerkesik**	**1.74**	**128**	*e*PN	**Pn**	**05 28 25.0**	**-1.0**
KHL	**Karahalli**	**2.33**	**87**	*e*PN	**Pn**	**05 28 34.1**	**-0.2**
EDC	**Edincik**	**2.34**	**25**	*e*PN	**Pn**	**05 28 35.3**	**+0.8**
BNT	**Bandirma**	**2.37**	**26**	*e*PN	**Pn**	**05 28 35.6**	**+0.7**
FETY	**Fethiye**	**2.55**	**128**	*e*PN	**Pn**	**05 28 37.5**	**-0.1**
ORLT	**Orhaneli**	**2.56**	**44**	*e*PN	**Pn**	**05 28 38.0**	**+0.3**
MFT	**Murefte**	**2.61**	**12**	*e*PN	**Pn**	**05 28 39.3**	**+0.9**

WEL 28 05:49:40.1±0.2,37.51S×176.45E,h219km±2km,ML3.5/10, Error ellipse: s-maj=3.9km s-min=3.8km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.91**	**146**	PN	P	05 50 11.1	-0.3
URZ				SN	S	05 50 35.5	-0.2
MWZ	**Matawai**	**1.18**	**135**	PN	P	05 50 13.0	-0.2
MWZ				SN	S	05 50 38.5	-0.5
MXZ	**Matakaoa Point**	**1.47**	**93**	PN	P	05 50 15.4	-0.2
MXZ				SN	S	05 50 42.6	-0.4
PUZ	**Puketiti**	**1.54**	**112**	PN	P	05 50 15.8	-0.3
PUZ				SN	S	05 50 42.5	-1.4
BKZ	**Black Stump Fm**	**1.66**	**179**	PN	P	05 50 16.9	-0.3
KNZ	**Kokohu**	**1.79**	**148**	PN	P	05 50 18.3	0.0
TUVZ	**Tukino**	**1.87**	**199**	PN	P	05 50 19.1	0.0
PXZ	**Pawanui**	**2.54**	**173**	PN	P	05 50 25.6	-0.4
MRZ	**Mangatainoka R**	**3.22**	**192**	PN	P	05 50 31.8	-2.0

*NIED **28** 05:52:00,35.20N×136.70E,h20km,Mw3.6 Best double couple: M₀2.45×10¹⁴ NP1:φ₁9°,δ71°,λ88°. NP2:φ₂194°, δ19°,λ95°.*
*JMA **28** 05:52:15.8,35.18N×136.71E,h13km±1km,M3.8 Broadband fault plane solution: P waves. NP1:φ₁210°, δ25°,λ112°. NP2:φ₂6°,δ67°,λ80°. Principal axes: T Plg67°, Azm258°; N Plg9°, Azm10°; P Plg21°, Azm104°; JMA Felt II J1.*
ISC 28 05:52:15.2±1.2,35.14N±0.06×136.8E±0.1,h5km±15km,n6, σ0⁰43/8,3D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEG	**Eigenji**	**0.30**	**269**	⇓P	**Pg**	**05 52 21.3**	**0.0**
JEG				S	**Sg**	**05 52 25.3**	**0.0**
TSUJ	**Tsu 2**	**0.51**	**213**	P	**Pg**	**05 52 25.9**	**+0.4**
JGM	**Miyama**	**0.56**	**357**	⇓P	**Pg**	**05 52 26.3**	**0.0**
JIE	**Ise**	**0.75**	**183**	⇓P	**Pg**	**05 52 30.2**	**0.0**
JKN2	**Miekihoku**	**0.99**	**204**	P	**Pb**	**05 52 34.2**	**-0.2**
MAT	**Matsushiro**	**1.83**	**40**	P	**Pn**	**05 52 47.0**	**-0.6**
MAT				*e*S	**Sn**	**05 53 11.8**	**+0.5**

IDC 28 05:53:32.7±1.2,6.90N×73.06W,h155km±44km,mb2.6/2, mb1 3.1/4,mb1mx2.9/21,mbtmp3.3/4,Error ellipse: s-maj=106.8km s-min=7.7km az=133.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.39**	**212**	P	P	05 54 13.4	+0.1
	8.5nm,0.3s,baz=95,slow=20,SNR=37						
ROSC				S	S	05 54 45.0	+0.5
	18nm,0.3s,baz=88,slow=23,SNR=23						
SDV	**Santo Domingo**	**3.11**	**50**	P	P	05 54 22.6	+0.3
	8.2nm,0.3s,baz=250,slow=12,SNR=130						
SDV				S	S	05 55 00.1	-0.3
	4.3nm,0.3s,baz=49,slow=14,SNR=14						
TXAR	**Lajitas Array**	**36.45**	**312**	P	P	06 00 23.0	-1.5
	0.2nm,0.6s,baz=120,slow=12,SNR=2.6						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	P	06 03 43.9	-2.5
	0.1nm,0.6s,baz=133,slow=6.7,SNR=6.9						

IDC 28 06:32:46.9±3.1,2.25S×100.83E,mb3.9/4,mb1 4.0/4, mb1mx3.7/14,mbtmp3.9/4,Error ellipse: s-maj=143.4km s-min=24.6km az=57.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.15**	**121**	P	P	06 39 59.2	-2.3
	1.2nm,0.7s,baz=299,slow=9.4,SNR=5.8						
WB2	**Warramunga Ar**	**37.16**	**121**	*e*P	P	06 39 59.2	-2.4
STKA	**Stephens Creek**	**48.36**	**132**	P	P	06 41 31.4	-1.2
	1.7nm,0.6s,baz=319,slow=11,SNR=3.8						
SONM	**Songino Array**	**50.12**	**5**	P	P	06 41 44.5	-1.4
	0.3nm,0.6s,baz=183,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**51.50**	**344**	P	P	06 41 54.2	-2.2
	2.1nm,0.6s,baz=149,slow=8.1,SNR=28						
TXAR	**Lajitas Array**	**144.39**	**38**	PKP	PKPdf	06 52 23.9	-3.7
	0.7nm,0.7s,baz=326,slow=0.6,SNR=12						

*CSEM **28** 06:37:50.8±0.8,33.70N×7.20W,h25km,MD3.1,Error ellipse: s-maj=25.4km s-min=9.7km az=66.0*
*CNRM **28** 06:37:50.3,33.75N×7.47W,h30km,MD3.1*
MDD 28 06:37:51.9±2.1,33.64N×7.29W,h18km±10km,mb4.0/1, Error ellipse: s-maj=16.9km s-min=8.2km az=69.0, PRXIMO,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTC	**Rabat Centre**	**0.50**	**46**	*e*P	Pb	06 38 01.5	-0.4
RTC				*i* S	Sb	06 38 08.0	-0.6
KIB	**El Ksiba**	**1.50**	**135**	*i* P	Pn	06 38 15.5	-2.7
KIB				*i* S	Sn	06 38 35.0	-2.4
CZD	**Col de Zad**	**1.98**	**107**	*e*P	Pn	06 38 25.0	-0.1
CZD				*i* S	Sn	06 38 49.0	-0.6
EGRO	**El Granado**	**3.89**	**358**	P	Pn	06 38 50.9	-1.4
	0.8nm,0.1s,SNR=9.2						
EGRO				S	Sn	06 39 32.1	-5.8
	1.0nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.89**	**358**	P	Pn	06 38 50.9	-1.3
	0.8nm,0.1s,SNR=9.2						
EGRO				S	Sn	06 39 32.1	-5.8
	1.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.15**	**7**	P	Pn	06 38 53.9	-2.1
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	06 39 37.2	-7.4
	0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.15**	**7**	P	Pn	06 38 53.9	-2.1
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	06 39 37.2	-7.4
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.02**	**25**	P	Pn	06 39 05.0	-3.4
	0.4nm,0.1s,SNR=5.6						
EADA				S	Sn	06 39 58.5	-8.2
	0.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.02**	**25**	P	Pn	06 39 05.0	-3.4
	0.4nm,0.1s,SNR=5.6						
EADA				S	Sn	06 39 58.5	-8.2
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.11**	**2**	P	Pn	06 39 07.0	-2.6
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.11**	**2**	P	Pn	06 39 07.0	-2.6
	0.4nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**5.33**	**31**	P	Pn	06 39 09.3	-3.5
	1.0nm,0.1s,SNR=4.0						

*IDC **28** 07:11:04.1±8.8,7.68S×128.02E,h62km±88km,mb3.8/2, mb1 3.9/3,mb1mx3.6/11,mbtmp4.1/3,ML4.2/1,Error ellipse: s-maj=146.8km s-min=34.6km az=61.0*
ISC 28 07:11:09.3±3.0,7.5S±0.1×128.4E±0.2,h131km±32km,n7, σ1⁰41/10,mb3.8/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.53**	**143**	*e*P	Px	07 13 08.9	
	47nm,0.3s						
KAKA				*e*S	Sx	07 14 17.1	
FITZ	**Fitzroy Crossi**	**10.85**	**194**	*e*P	**P**	**07 13 44.3**	**+2.3**
	20nm,1.8s						
FITZ				*e*S	**S**	**07 15 40.1**	**-1.4**
WRA	**Warramunga Arr**	**13.64**	**156**	P	**P**	**07 14 16.2**	**-2.2**
	1.4nm,0.3s,baz=331,slow=14,SNR=19						
WRA				S	**S**	**07 16 40.6**	**-6.4**
	2.6nm,0.3s,baz=329,slow=22,SNR=14						
WB2	**Warramunga Ar**	**13.64**	**155**	*e*P	**P**	**07 14 17.9**	**-0.6**
WB2				*e*S	**S**	**07 16 40.2**	**-7.0**
ASPA	**Alice Springs**	**16.91**	**162**	*e*P	**P**	**07 15 01.5**	**+2.0**
ASPA				*e*S	**S**	**07 18 02.5**	**+0.8**
STKA	**Stephens Creek**	**27.19**	**155**	P	**P**	**07 16 42.6**	**-0.2**
	1.0nm,0.6s,mb3.6,baz=350,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**67.78**	**328**	P	**P**	**07 21 54.9**	**-0.3**
	1.4nm,0.4s,mb4.0,baz=116,slow=8.3,SNR=33						

IDC 28 07:25:29.6±6.8,5.95S×151.23E,h70km±62km,mb3.5/5, mb1 3.8/6,mb1mx3.6/12,mbtmp3.8/6,ML3.2/1,Error ellipse: s-maj=55.2km s-min=33.6km az=102.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.30**	**229**	P	P	07 26 46.6	-1.3
	4.8nm,0.3s,baz=47,slow=9.0,SNR=11						
PMG				S	S	07 27 46.4	-1.9
	15nm,0.3s,baz=166,slow=21,SNR=15						
WB2	**Warramunga Arr**	**21.51**	**228**	*e*P	P	07 30 12.3	-2.2
WRA	**Warramunga Ar**	**21.52**	**228**	P	P	07 30 13.8	-0.8
	1.3nm,0.8s,baz=53,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**27.32**	**198**	P	P	07 31 07.3	-2.8
	0.6nm,0.4s,baz=355,slow=11,SNR=2.9						
FITZ	**Fitzroy Crossi**	**27.74**	**242**	*e*P	P	07 31 18.1	+4.2
	4.5nm,0.4s						
SONM	**Songino Array**	**66.47**	**329**	P	P	07 36 12.0	-1.9
	0.2nm,0.4s,baz=139,slow=5.2,SNR=5.7						
ILAR	**Eielson Array**	**83.81**	**22**	P	P	07 37 50.1	-2.2
	1.1nm,0.9s,baz=257,slow=4.5,SNR=6.8						
YKA	**Yellowknife Ar**	**97.16**	**28**	P	P	07 38 55.0	-0.2
	0.2nm,0.5s,baz=269,slow=4.7,SNR=9.3						

IDC 28 07:40:18.1±3.0,63.45S×170.84E,mb3.8/1,mb1 4.4/2, mb1mx4.1/8,mbtmp4.1/2,ML4.1/1,MS4.1/9,Ms1 4.1/9, ms1mx4.0/10,Error ellipse: s-maj=109.4km s-min=43.0km az=77.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.42**	**188**	Pn	P	07 43 41.3	-3.7
	0.8nm,0.3s,baz=13,slow=12,SNR=38						
VNDA				LR	LR	07 48 00.1	
	comp=Z,2μm,21.2s,baz=21,slow=32						
RPZ	**Rata Peaks**	**19.77**	**0**	LR	LR	07 50 55.2	
	comp=Z,1μm,21.8s,baz=342,slow=32						
URZ	**Urewera**	**25.51**	**12**	LR	LR	07 54 00.6	
	comp=Z,736nm,21.5s,baz=35,slow=32						
RAO	**Raoul Island**	**34.97**	**17**	LR	LR	07 56 39.1	
	comp=Z,100nm,21.3s,baz=258,slow=28						
STKA	**Stephens Creek**	**36.58**	**316**	LR	LR	07 59 14.0	
	comp=Z,301nm,19.3s,baz=358,slow=31						
MAW	**Mawson**	**39.46**	**215**	LR	LR	08 03 38.8	
	comp=Z,293nm,20.8s,baz=114,slow=36						
WRA	**Warramunga Arr**	**50.00**	**313**	P	P	07 49 13.1	-2.8
	1.5nm,0.8s,baz=164,slow=6.3,SNR=6.9						
PPT	**Papeete**	**53.25**	**49**	LR	LR	08 05 37.5	
	comp=Z,189nm,20.7s,baz=236,slow=28						
LPAZ	**La Paz**	**88.48**	**125**	LR	LR	08 22 59.9	
	comp=Z,58nm,18.4s,baz=96,slow=29						
BDFB	**Brasilia**	**95.61**	**143**	LR	LR	08 33 44.6	
	comp=Z,78nm,19.0s,baz=20,slow=34						
YKA	**Yellowknife Ar**	**137.36**	**41**	PKP	PKPdf	07 59 40.5	-3.4
	0.2nm,0.8s,baz=216,slow=2.2,SNR=4.8						
BRTR	**Keskin Array B**	**145.38**	**247**	PKPbc	PKPbc	07 59 56.9	-0.4
	0.6nm,0.3s,baz=180,slow=7.2,SNR=2.6						
AKASG	**Malin Array Be**	**155.98**	**256**	PKPab	PKPab	08 00 40.6	-1.5
	0.2nm,0.3s,baz=98,slow=3.2,SNR=3.4						

*ATH **28** 08:00:28.7,38.21N×27.09E,h47km±2km,MD3.0/3*
*ISK **28** 08:00:28.0,38.24N×26.53E,h22km,MD3.0*
*NEIC **28** 08:00:28.0,38.24N×26.53E,h22km,MD3.0(ISK), MD3.0(ATH),After ISK.*
*CSEM **28** 08:00:29.8±0.3,38.18N×26.70E,h22km±2km,MD3.0, Error ellipse: s-maj=7.2km s-min=3.9km az=89.0*
ISC 28 08:00:29.8±0.8,38.22N±0.03×26.59E±0.05,h2km±6km, n16,σ1⁰20/25,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.14**	**2**	*i* P	**Pg**	**08 00 32.0**	**-0.5**
URLA				*i* S	**Sg**	**08 00 34.8**	**+0.3**
BLCB	**Balcova**	**0.39**	**65**	PG	**Pg**	**08 00 37.5**	**-0.1**
BLCB				SG	**Sg**	**08 00 43.1**	**+0.2**
SMG	**Samos**	**0.55**	**159**⇑	*i*P	**Pg**	**08 00 40.9**	**+0.2**
SMG				*e*S	**Sg**	**08 00 49.7**	**+1.7**
IZM	**Izmir**	**0.56**	**71**	PG	**Pg**	**08 00 40.7**	**-0.2**
IZM				SG	**Sg**	**08 00 49.5**	**+1.1**
KDAG	**Bornova**	**0.56**	**71**	*i* P	**Pg**	**08 00 39.9**	**-1.1**
KDAG				*i* S	**Sg**	**08 00 47.9**	**-0.7**
PRK	**Paraskevi**	**1.05**	**347**	*e*P	**Pb**	**08 00 50.4**	**0.0**
PRK				*e*S	**Sb**	**08 01 06.3**	**+1.8**
AKS	**Akhisar**	**1.16**	**55**	*e*PN	**Pn**	**08 00 50.3**	**-2.7**
AYDN	**Tasoluk**	**1.16**	**118**	*i* P	**Pb**	**08 00 52.2**	**-0.1**
AYDN				*i* S	**Sb**	**08 01 07.8**	**+0.1**
BODT	**Bodrum**	**1.29**	**153**	*e*PN	**Pn**	**08 00 51.6**	**-3.2**
MLSB	**Milas**	**1.32**	**134

BVAR **Borovoye Array 16.59 0** P **P** 08 04 24.8 -0.3
0.2nm,0.3s,baz=188,slow=10,SNR=5.1
NOA **NORSAR Array B 44.06 323** P **P** 08 08 32.4 +0.6
0.6nm,0.8s,mb3.0,baz=98,slow=7.6,SNR=2.1
YKA **Yellowknife Ar 81.34 2** P **P** 08 12 38.3 +0.8
0.1nm,0.4s,mb2.8,baz=349,slow=5.4,SNR=6.4
WRA **Warramunga Arr 82.48 121** P **P** 08 12 42.5 -1.7
0.4nm,0.6s,mb3.2,baz=320,slow=5.0,SNR=5.3

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*NNC **28** 08:34:04.8±54.0, 35.18N×73.95E, mb4.0, mpv3.7, Error ellipse: s-maj=583.9km s-min=500.8km az=72.0*

ISC 28 08:33:51.6±3.1, 34.4N±0.2×72.8E±0.4, h10km, n4, σ0§49/8, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
THN	**Thein Dam**	**3.13**	**129**	*e*P		**Pn**	**08 34 41.1**	**-0.8**
THN				*e*S		**Sn**	**08 35 19.9**	**+0.2**
DLH	**Dalhousie**	**3.23**	**125**	*e*P		**Pn**	**08 34 44.0**	**+0.7**
DLH				*e*S		**Sn**	**08 35 22.0**	**-0.2**
SDNR	**Sundarnagar**	**4.54**	**129**	*e*P		**Pn**	**08 35 02.2**	**+0.2**
SDNR				*e*S		**Sn**	**08 35 46.8**	**-8.7**
KK31	**Karatay Array**	**8.85**	**349**	⇑P		**P**	**08 36 07.0**	**+4.5**
	1.1nm,0.3s,baz=157,slow=12,SNR=22							
KK31				⇑S		**Sn**	**08 37 43.3**	**0.0**
	1.2nm,0.3s,baz=161,slow=23							

ISC 28 08:36:44.0±0.8, 38.30N±0.05×29.63E±0.06, h10km, n6, σ0§73/11, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
KHL	**Karahalli**	**0.09**	**283**		PG	**Pg**	**08 36 47.8**	**+1.3**
KHL					SG	**Sg**	**08 36 53.8**	**+5.6**
TKTP	**Tekketepe**	**0.60**	**116**	*i* P		**Pb**	**08 36 55.4**	**-0.8**
TKTP				*i* S		**Sg**	**08 37 09.8**	**+5.4**
ALT	**Altintas**	**0.84**	**26**	*e*PG		**Pg**	**08 37 01.2**	**+0.3**
MANT	**Manisa**	**0.86**	**283**	*i* P		**Pb**	**08 37 00.8**	**+0.1**
MANT				*i* S		**Sb**	**08 37 11.8**	**-0.2**
GOLH	**Golhisar**	**1.07**	**183**	*i* P		**Pb**	**08 37 03.8**	**-0.4**
GOLH				*i* S		**Sb**	**08 37 19.0**	**+1.1**
AYDN	**Tasoluk**	**1.52**	**246**	*i* P		**Pn**	**08 37 10.6**	**-0.9**
AYDN				*i* S		**Sb**	**08 37 30.8**	**-0.4**

IDC 28 09:01:54.0±1.1, 52.43N×35.49E, mb3.3/2, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML3.7/6, Error ellipse: s-maj=14.1km s-min=10.3km az=142.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
AKASG	**Malin Array Be**	**4.28**	**249**	Pn		Pn	09 02 58.0	-3.8
	1.4nm,0.3s,baz=54,slow=11,SNR=6.5							
AKASG					Pg	Pg	09 03 08.5	-11
	3.3nm,0.3s,baz=57,slow=16,SNR=11							
AKASG					Sn	Sn	09 03 48.8	-4.3
	4.7nm,0.3s,baz=62,slow=21,SNR=4.6							
AKASG					Lg		09 04 07.0	
	6.3nm,0.3s,baz=24,slow=36,SNR=7.5							
FINES	**FINESS Array B**	**10.39**	**334**	Pn		P	09 04 20.4	-6.8
	0.4nm,0.3s,baz=144,slow=16,SNR=9.9							
FINES					Sn	S	09 06 10.0	-15
	0.2nm,0.3s,baz=148,slow=21,SNR=3.1							
FINES					Lg		09 07 16.0	
	0.3nm,0.3s,baz=155,slow=29,SNR=2.6							
JOF	**Joensuu**	**10.75**	**350**	*e*p		P	09 04 27.2	-4.9
	1.0nm,0.4s							
AKTO	**Aktyubinsk**	**14.18**	**89**	Pn		P	09 05 11.5	-6.5
	0.3nm,0.3s,baz=291,slow=14,SNR=5.0							
HFS	**Hagfors**	**14.30**	**311**	Pn		P	09 05 10.9	-8.6
	0.1nm,0.3s,baz=114,slow=14,SNR=5.2							
NOA	**NORSAR Array B**	**15.78**	**313**	Pn		P	09 05 30.1	-8.8
	0.2nm,0.3s,baz=120,slow=9.8,SNR=3.3							
ARCES	**ARCESS Array B**	**17.79**	**348**	P		P	09 06 02.3	-1.9
	0.9nm,0.3s,baz=167,slow=12,SNR=27							
BVAR	**Borovoye Array**	**21.02**	**74**	P		P	09 06 37.8	-3.6
	0.4nm,0.5s,baz=281,slow=7.3,SNR=2.8							
YKA	**Yellowknife Ar**	**63.02**	**345**	P		P	09 12 20.7	-3.6
	0.4nm,0.4s,baz=13,slow=6.6,SNR=22							

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*BJI **28** 09:45:58.8, 35.99N×140.68E, h57km, mB4.9, mb4.8, Ms4.2, Ms2.3.8*

*NIED **28** 09:46:00, 36.20N×140.00E, h56km, Mw4.7 Best double couple: M0 1.41×10^16 NP1:φ=51°, δ=66°, λ=78°. NP2:φ=259°, δ=27°, λ=115°.*

*IDC **28** 09:46:05.9±1.1, 36.23N×139.88E, h49km±11km, mb4.4/24, mb1 4.5/26, mb1mx4.5/28, mbtmp4.7/26, ML4.3/2, MS3.8/12, Ms1 3.8/12, ms1mx3.6/26, Error ellipse: s-maj=12.0km s-min=7.8km az=56.0*

*MOS **28** 09:46:05.7±0.9, 36.26N×139.91E, h62km, mb5.0/28, MS4.1/7, Error ellipse: s-maj=10.1km s-min=5.4km az=111.3*

*JMA **28** 09:46:06.4±0.1, 36.18N×140.03E, h53km±1km, M4.8 Broadband fault plane solution: P waves. NP1:φ=215°, δ=39°, λ=71°. NP2:φ=60°, δ=53°, λ=105°. Principal axes: T Plg76°, Azm19°; N Plg12°, Azm230°; P Plg7°, Azm139°; JMA Felt IV J1.*

*NEIC **28** 09:46:07.7±0.7, 36.22N×139.91E, h68km±5km, mb4.8/33, MW4.7(NIED) Error ellipse: s-maj=6.4km s-min=5.3km az=148.0*

NEIC Felt at Kashiwa, Kasukabe, Musashino, Otawara, Tokyo, Ujiie, Utsunomiya, Yamato and in Aizu-Wakamatsu-shi, Ayase-shi and Tsuchiura-shi. Recorded [4 JMA] in Tochigi; [3 JMA] in Chiba, Fukushima, Ibaraki and Saitama; [2 JMA] in Miyagi and Tokyo; [1 JMA] in Kanagawa, Nagano, Shizuoka and Yamanashi Prefectures.

ISC 28 09:46:06.1±0.2, 36.16N±0.03×139.96E±0.03, h69km, h69km±2.7km: pP-P, n214, σ0§93/226, mb4.6/67, 6C-11D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
JYT	**Yasato**	**0.20**	**71**	⇑P		**P**	**09 46 14.9**	**-1.6**
JYT					S	**S**	**09 46 20.7**	**-3.7**
JAG	**Ashikaga**	**0.48**	**303**	⇓P		**P**	**09 46 18.3**	**-0.4**
JKT	**Katashina**	**0.83**	**317**	⇓P		**P**	**09 46 22.4**	**-0.2**
JRY	**Ryogami san**	**0.87**	**261**	⇓P		**P**	**09 46 23.4**	**+0.3**
JRY					S	**S**	**09 46 35.5**	**-0.2**
JOD2	**Odawara 2**	**1.14**	**219**	P		**P**	**09 46 27.2**	**+0.6**
JOD2					S	**S**	**09 46 42.4**	**+0.4**
JFY	**Yanaizu**	**1.26**	**351**	⇓P		**P**	**09 46 28.1**	**-0.1**
JFY					S	**S**	**09 46 44.5**	**-0.2**
JHK	**Hiroka**	**1.32**	**325**	⇓P		**P**	**09 46 29.2**	**0.0**
JYN	**Shimob**	**1.33**	**240**	P		**P**	**09 46 30.9**	**+1.6**
JFT	**Otama**	**1.39**	**13**	⇓P		**P**	**09 46 29.5**	**-0.5**
JFK	**Kawauchi**	**1.41**	**31**	⇓P		**P**	**09 46 29.2**	**-1.1**
BSO3	**Boso 3**	**1.43**	**161**	P		**P**	**09 46 29.9**	**-0.7**
MJAR	**Matsushiro Arr**	**1.46**	**286**	P		**P**	**09 46 29.9**	**-1.1**
	623nm,0.3s,baz=86,slow=9.8,SNR=4431							
MJAR					S	**S**	**09 46 44.8**	**-4.7**
	297nm,0.3s,baz=94,slow=16,SNR=22							
MAJO	**Matsushiro**	**1.46**	**286**	*e*P		**P**	**09 46 30.9**	**-0.2**
MAT	**Matsushiro**	**1.46**	**286**	P		**P**	**09 46 30.5**	**-0.6**
MAT				*e*S		**S**	**09 46 51.6**	**+2.1**
MAT	**Matsushiro**	**1.46**	**286**	*e*P		**P**	**09 46 31.0**	**-0.1**
MAT					S	**S**	**09 46 52.0**	**+2.5**
JHJ	**Hachijo jima 2**	**3.04**	**183**	P		**P**	**09 46 52.1**	**-0.9**
	298nm,0.3s,baz=190,slow=2.8,SNR=38							
JHJ					S	**S**	**09 47 28.9**	**+0.6**
	298nm,0.3s,baz=76,slow=22,SNR=6.3							
JHJ					LR	LR	09 47 43.4	
	comp=Z,1μm,18.6s,baz=279,slow=31							
JNU	**Nakatsue**	**8.07**	**251**	P		**P**	**09 48 02.4**	**-0.5**
	1.3nm,0.3s,baz=76,slow=21,SNR=3.6							
ASAJ	**Asahikawa**	**8.20**	**13**	P		**P**	**09 48 01.4**	**-3.2**
	2.9nm,0.3s,baz=209,slow=8.6,SNR=33							
ASAJ					S	**S**	**09 49 33.0**	**-3.5**
	2.7nm,0.3s,baz=78,slow=19,SNR=2.2							
ASAJ					LR	LR	09 51 21.0	
	comp=Z,357nm,21.9s,baz=208,slow=39							
ASAJ	**Asahikawa**	**8.20**	**13**	P		**P**	**09 48 01.4**	**-3.1**
ASAJ					S	**S**	**09 49 33.0**	**-3.5**
ASAJ					pmax	pmax		
	comp=Z,3.0nm,0.3s							
ASAJ					smax			
	comp=N,3.0nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,357nm,21.9s							
CBIJ	**Chichi jima 9.24 168**			P		**P**	**09 48 14.8**	**-3.9**
	comp=Z,29nm,0.3s,baz=82,slow=21,SNR=8.8							
CBIJ					S	**S**	**09 49 51.4**	**-11**
	comp=Z,9.1nm,0.3s,baz=254,slow=20,SNR=2.2							
KS15	**Wonju Array Si 9.77 281**			*e*P		**P**	**09 48 25.8**	**-0.2**
YSS	**Yuzh-Sakhalins 10.98 10**			⇑*e*P		**P**	**09 48 40.3**	**-2.1**
YSS				MLR		MLR		
	comp=Z,600nm,19.0s							
MDJ	**Mudanjiang 11.56 320**			P		**P**	**09 48 51.3**	**+1.2**
MDJ				S		**S**	**09 50 59.5**	**+1.3**
MDJ				PCP		PcP	09 54 35.8	-0.9
MDJ				AMB		AMB		
	comp=Z,40nm,1.2s							
MDJ				AMB		AMB		
	comp=Z,70nm,3.2s							
MDJ				LR		LR		
	comp=N,390nm,28.5s							
MDJ				LR		LR		
	comp=E,360nm,27.2s							
MDJ				LR		LR		
	comp=Z,680nm,27.6s							
MDJ	**Mudanjiang 11.56 320**			*e*P		**P**	**09 48 50.1**	**0.0**
	comp=Z,69nm,1.3s							
HABR	**Khabarovsk 12.82 345**			*e*P		**P**	**09 49 12.5**	**+5.5**
HABR				*e*S		**S**	**09 51 29.4**	**+0.9**
HABR				pmax		pmax		
	comp=Z,62nm,1.6s							
CN2	**Changchun 13.48 309**			*e*P		**P**	**09 49 21.0**	**+5.4**
CN2				*e*S		**S**	**09 51 49.3**	**+5.2**
CN2				AMB		AMB		
	comp=Z,20nm,1.2s							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=Z,400nm,21.0s							
JOW	**Kunigami 13.62 230**			LR		LR	09 54 21.4	
	comp=Z,155nm,18.3s,baz=154,slow=36							
SNY	**Shenyang 13.93 299**			⇑P		**P**	**09 49 22.8**	**+1.4**
SNY				AMB		AMB		
	comp=Z,20nm,1.4s							
SNY				LR		LR		
	comp=N,430nm,13.2s							
SNY				LR		LR		
	comp=E,380nm,14.4s							
SNY				LR		LR		
	comp=Z,510nm,15.6s							
KLR	**Kul'dur 14.37 338**			*e*P		**P**	**09 49 28.2**	**+1.1**
DL2	**Dalian 14.80 286**			P		**P**	**09 49 38.3**	**+5.5**
DL2				S		**S**	**09 52 25.5**	**+10**
DL2				AMB		AMB		
	comp=Z,20nm,0.6s							
DL2				LR		LR		
	comp=N,160nm,11.4s							
DL2				LR		LR		
	comp=E,240nm,14.5s							
DL2				LR		LR		
	comp=Z,360nm,12.5s							
SSE	**Sheshan 16.43 257**			P		**P**	**09 49 53.0**	**-0.4**
SSE				AP			09 50 09.5	
SSE				S		**S**	**09 52 50.8**	**-2.1**
SSE				AMB		AMB		
	comp=Z,30nm,0.7s							
SSE				AMB		AMB		
	comp=Z,110nm,4.5s							
SSE				LR		LR		
	comp=N,70nm,22.5s							
SSE				LR		LR		
	comp=E,80nm,22.5s							
SSE				LR		LR		
	comp=Z,130nm,23.6s							
NJ2	**Nanjing 17.95 263**			*e*P		**P**	**09 50 13.5**	**+1.1**
NJ2				AP			09 50 26.8	
NJ2				PP		PP	09 50 30.8	+2.9
NJ2				S		**S**	**09 53 28.0**	**+1.0**
NJ2				XS			09 53 51.0	
NJ2				AMB		AMB		
	comp=Z,20nm,1.2s							
NJ2				AMB		AMB		
	comp=Z,160nm,6.2s							
NJ2				LR		LR		
	comp=N,910nm,14.0s							
NJ2				LR		LR		
	comp=E,330nm,19.9s							
NJ2				LR		LR		
	comp=Z,170nm,13.2s							
TIA	**Tai'an 18.43 277**			*e*P		**P**	**09 50 16.5**	**-1.7**
HHC	**Hu-ho-hao-te 22.66 291**			*e*P		**P**	**09 51 00.0**	**-2.1**
HHC				AP			09 51 14.3	
HHC				XP			09 51 21.3	
HHC				AMB		AMB		
	comp=Z,120nm,4.2s							
HHC				LR		LR		
	comp=N,110nm,14.3s							
HHC				LR		LR		
	comp=E,280nm,9.9s							
HHC				LR		LR		
	comp=Z,220nm,16.7s							
MA2	**Magadan 24.46 13**			*e*P		**P**	**09 51 20.3**	**+0.9**
MA2				*e*			09 52 01.0	
MA2				*e*S		**S**	**09 55 35.8**	**+4.1**
MA2				pmax		pmax		
	comp=Z,20nm,1.1s,mb4.4							
MA2				MLR		MLR		
	comp=Z,200nm,18.0s							
MA2				smax				
	comp=N,30nm,0.8s							
MA2				smax				
	comp=E,20nm,0.8s							
MA2				pmax		pmax		
	comp=Z,10.0nm,1.5s,mb3.9							
MA2	**Magadan 24.46 13**			*e*P		**P**	**09 51 19.2**	**-0.2**
	comp=Z,32nm,0.6s,mb4.8							
XAN	**Xi'an 25.43 274**			P		**P**	**09 51 28.0**	**-0.9**
ENH	**Enshi 26.10 266**			*e*P		**P**	**09 51 34.1**	**-1.0**
	comp=Z,15nm,0.6s,mb4.6							
YAK	**Yakutsk 26.68 349**			*e*P		**P**	**09 51 37.9**	**-2.3**
YAK				*e*		pP	09 51 57.2	+0.7
YAK				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.3							
YAK				pmax		pmax		
	comp=N,8.0nm,1.5s							
YAK				pmax		pmax		
	comp=N,9.0nm,1.1s							
YAK	**Yakutsk 26.68 349**			*e*P		**P**	**09 51 38.6**	**-1.5**
	comp=N,18nm,0.4s,mb5.0							
ULN	**Ulaanbaatar 26.90 306**			*e*P		**P**	**09 51 41.4**	**-0.9**
ULN	**Ulaanbaatar 26.90 306**			*e*P		**P**	**09 51 40.0**	**-2.3**
	comp=N,5.9nm,0.6s,mb4.3							
SONM	**Songino Array 27.32 306**			P		**P**	**09 51 44.9**	**-1.2**
	comp=N,8.0nm,0.6s,mb4.4,baz=104,slow=9.0,SNR=22							
SONM					PcP	PcP	09 55 04.2	-0.1
	comp=N,1.0nm,0.5s,baz=133,slow=2.5,SNR=7.7							
SONM					LR	LR	10 03 15.9	
	comp=N,170nm,18.1s,baz=17,slow=38							
BOD	**Bodaibo 27.67 330**			*e*P		**P**	**09 51 47.9**	**-1.3**
BOD				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.4							
SEY	**Seymchan 27.88 12**			*e*P		**P**	**09 51 50.8**	**-0.3**
FX1	**Attu Island--F 28.64 44**			LR		LR	10 04 31.8	
	comp=Z,13nm,18.1s,baz=118,slow=39							
LZH	**Lanzhou 29.07 281**			*e*P		**P**	**09 52 02.5**	**+0.5**
LZH				AP		pP	09 52 18.8	+0.3
LZH				XP		sP	09 52 25.8	-0.9
LZH				PP		PP	09 52 57.5	-0.7
LZH				*e*S		**S**	**09 56 47.0**	**-0.1**
LZH				XS			09 57 15.5	
LZH				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.0							
LZH				AMB		AMB		
	comp=Z,150nm,4.1s							
LZH				LR		LR		
	comp=E,560nm,12.4s							
LZH				LR		LR		
	comp=Z,990nm,14.3s							
GYA	**Guiyang 29.92 261**			⇑*i* P		**P**	**09 52 07.8**	**-1.9**
GYA				AP		pP	09 52 22.5	-3.8
GYA				XP		sP	09 52 30.0	-4.5
GYA				PP		PP	09 53 05.5	-3.9
GYA				PCP		PcP	09 55 11.3	+0.3
GYA				S		**S**	**09 56 56.3**	**-4.5**
GYA				XS			09 57 23.8	
GYA				AMB		AMB		
	comp=Z,20nm,0.6s,mb4.9							
GYA				AMB		AMB		
	comp=Z,90nm,3.0s							
GYA				LR		LR		
	comp=N,480nm,15.4s							
GYA				LR		LR		
	comp=E,430nm,15.0s							
GYA				LR		LR		
	comp=Z,510nm,16.0s							
CD2	**Chengdu 30.51 271**			*e*P		**P**	**09 52 15.3**	**+0.5**
CD2				AP		pP	09 52 33.0	+1.5
CD2				PP		PP	09 53 17.3	+0.4
CD2				S		**S**	**09 57 09.0**	**-0.9**
CD2				XS			09 57 40.0	
CD2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
CD2				AMB		AMB		
	comp=Z,60nm,4.1s							
CD2				LR		LR		
	comp=E,240nm,15.6s							
CD2				LR		LR		
	comp=Z,220nm,21.6s							
GTA	**Gaotai 31.71 288**			*e*P		**P**	**09 52 24.0**	**-1.3**
GTA				AP		pP	09 52 39.5	-2.5
GTA				XP		sP	09 52 46.8	-3.6
GTA				PP		PP	09 53 31.3	-0.8
GTA				PCP		PcP	09 55 15.8	+0.2
GTA				S		**S**	**09 57 29.0**	**+0.2**
GTA				XS			09 57 54.8	
GTA				SCP			09 58 51.0	
GTA				PCS			09 58 58.5	
GTA				SCS		ScS	10 02 46.3	-1.9
GTA				AMB		AMB		
	comp=Z,110nm,5.7s							
GTA				LR		LR		
	comp=N,140nm,17.5s							
GTA				LR		LR		
	comp=E,160nm,15.6s							
GTA				LR		LR		
	comp=Z,140nm,16.4s							
KMI	**Kunming 33.67 261**			P		**P**	**09 52 41.3**	**-1.2**
KMI				S		**S**	**09 57 58.0**	**-1.4**
KMI				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.6							
KMI				LR		LR		
	comp=Z,190nm,16.9s							
BILL	**Bilibino 35.20 17**			*e*P		**P**	**09 52 54.5**	**-0.5**
BILL				*e*		pP	09 53 13.3	+1.3
BILL				pmax		pmax		
	comp=Z,12nm,1.6s,mb4.5							
BILL				MLR		MLR		
	comp=Z,100nm,17.0s							
BILL	**Bilibino 35.20 17**			*e*P		**P**	**09 52 53.8**	**-1.2**
	comp=Z,12nm,1.3s,mb4.5							
TIXI	**Tiksi 36.02 354**			*e*P		**P**	**09 52 57.9**	**-4.1**
TIXI				pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.7							
WMQ	**Urumqi 40.20 298**			*e*P		**P**	**09 53 38.5**	**+1.4**
WMQ				AP		pP	09 53 55.0	+0.7
WMQ				XP		sP	09 54 01.8	-0.6
WMQ				PP		PP	09 55 15.5	+1.4
WMQ				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.2							
WMQ				AMB		AMB		
	comp=Z,260nm,5.2s							
WMQ				LR		LR		
	comp=N,1μm,22.0s							
WMQ				LR		LR		
	comp=E,880nm,23.6s							
WMQ				LR		LR		
	comp=Z,990nm,24.0s							
LSA	**Lhasa 41.12 275**			*e*P		**P**	**09 53 46.7**	**+1.9**
LSA				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.8							
LSA	**Lhasa 41.12 275**			*e*P		**P**	**09 53 46.7**	**+1.8**
	comp=Z,12nm,0.8s,mb4.8							
NVS	**Novosibirsk 42.60 314**			*e*P		**P**	**09 53 55.6**	**-1.0**
NVS				*i*			09 54 20.4	
NVS				pmax		pmax		
	comp=Z,10.0nm,0.5s,mb4.8							
NVS				pmax		pmax		
	comp=N,2.0nm,0.5s							
NVS				pmax		pmax		
	comp=E,15nm,0.9s							
MKAR	**Makanchi Array 43.60 303**			P		**P**	**09 54 05.1**	**+0.3**
	comp=E,11nm,0.8s,mb4.6,baz=91,slow=10.0,SNR=60							
MKAR					PcP	PcP	09 55 51.3	-0.6
	comp=E,2.7nm,0.7s,baz=76,slow=5.0,SNR=4.2							
MKAR					LR	LR	10 12 53.1	
	comp=E,134nm,18.2s,baz=49,slow=37							
KURK	**Kurchatov 45.55 309**			*ce*P		**P**	**09 54 20.2**	**-0.3**
KURK	**Kurchatov 45.55 309**			*e*P		**P**	**09 54 19.4**	**-1.0**
	comp=E,12nm,1.2s,mb4.5							
JIRN	**Jiri 45.93 275**			*e*P		**P**	**09 54 24.8**	**+1.0**
	comp=E,60nm,0.7s,mb5.4							
GUN	**Gumba 46.08 276**			*e*P		**P**	**09 54 25.6**	**+0.7**
	comp=E,17nm,0.4s,mb5.2							
PKI	**Pulchoki 46.60 276**			*e*P		**P**	**09 54 29.2**	**+0.2**
KKN	**Kakani 46.61 276**			*e*P		**P**	**09 54 29.8**	**+0.7**
DMN	**Daman 46.83 276**			*e*P		**P**	**09 54 30.9**	**+0.1**
GKN	**Gorkha 47.04 276**			*e*P		**P**	**09 54 32.8**	**+0.3**
	comp=E,238nm,1.1s							
KOLN	**Koldanda 47.97 277**			*e*P		**P**	**09 54 40.2**	**+0.4**
	comp=E,117nm,1.3s,mb5.6							
IMA2	**Indian Mountai 48.03 30**			*e*P		**P**	**09 54 39.6**	**-0.1**
KDAK	**Kodiak Island 48.53 41**			P		**P**	**09 54 42.9**	**-0.8**
	comp=E,14nm,0.6s,mb5.0,baz=331,slow=5.6,SNR=5.7							
KAKA	**Kakadu 49.12 190**			*e*P		Px	09 55 12.0	
	comp=E,9.0nm,0.5s							
KSH	**Kashi 49.69 294**			*e*P		**P**	**09 54 55.0**	**+2.1**
KSH				*e*AP		pP	09 55 10.0	-0.5
KSH				*e*XP		sP	09 55 18.5	+0.2
KSH				AMB		AMB		
	comp=Z,70nm,2.8s,mb5.1							
BVAR	**Borovoye Array 50.30 313**			P		**P**	**09 54 57.4**	**+0.1**
	comp=Z,5.2nm,0.4s,mb4.8,baz=78,slow=7.2,SNR=20							
BVAR					PcP	PcP	09 56 15.3	-0.2
	comp=Z,3.7nm,0.6s,baz=68,slow=3.5,SNR=5.8							
COLA	**College 50.44 32**			*d*P		**P**	**09 54 59.1**	**+0.8**
ILAR	**Eielson Array 50.85 32**			P		**P**	**09 55 01.1**	**-0.3**
	comp=Z,7.0nm,0.6s,mb4.8,baz=269,slow=5.6,SNR=112							
FITZ	**Fitzroy Crossi 55.64 197**			*e*P		**P**	**09 55 37.2**	**-0.2**
	comp=Z,20nm,0.8s,mb5.2							
INK	**Inuvik 55.69 27**			*e*P		**P**	**09 55 36.9**	**-0.2**
INK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
INK	**Inuvik 55.69 27**			*e*P		**P**	**09 55 36.9**	**-0.2**
	comp=Z,5.3nm,0.7s,mb4.7							
WRAB	**Tennant Creek 56.04 186**			*e*P		**P**	**09 55 39.5**	**-0.8**
WRAB	**Tennant Creek 56.04 186**			*e*P		**P**	**09 55 38.9**	**-1.4**
	comp=Z,18nm,0.8s,mb5.2							
WB2	**Warramunga Arr 56.05 186**			⇓*i*P		**P**	**09 55 39.4**	**-0.9**
WRA	**Warramunga Arr 56.05 186**			P		**P**	**09 55 39.5**	**-0.9**
	comp=Z,6.8nm,0.4s,mb5.0,baz=2.4,slow=7.6,SNR=39							
WRA					PcP	PcP	09 56 37.5	-0.1
	comp=Z,2.7nm,0.5s,baz=358,slow=4.4,SNR=3.5							
ARU	**Arti 56.24 319**			⇓*i*P		**P**	**09 55 40.1**	**-1.1**
ARU				*e*			09 56 33.9	
ARU				*e*			09 57 41.2	
ARU				*e*S		**S**	**10 03 29.3**	**+5.5**
ARU				*e*SS		SS	10 07 15.2	+3.6
ARU				pmax		pmax		
	comp=Z,17nm,0.7s,mb5.2							
ARU	**Arti 56.24 319**			*e*P		**P**	**09 55 40.3**	**-0.9**
	comp=Z,16nm,0.6s,mb5.2							
HYB	**Hyderabad 57.01 268**			*i* P		**P**	**09 55 47.0**	**-0.2**
HYB				*e*PcP		PcP	09 56 42.5	+1.1
HYB	**Hyderabad 57.01 268**			*e*P		**P**	**09 55 47.0**	**-0.2**
AKTK	**Aktyubinsk 58.39 312**			P		**P**	**09 55 55.6**	**-0.7**
AKTO	**Aktyubinsk 58.39 312**			P		**P**	**09 55 55.6**	**-0.7**
	comp=Z,4

JOF	**Joensuu**	**66.18**	**332**	*ep*	**P**	**09 56 46.8**	**-1.2**
	comp=Z,3.7nm,0.5s,mb4.5							
STKA	**Stephens Creek**	**67.70**	**178**	P	**P**	**09 56 57.9**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.2,baz=326,slow=11,SNR=5.3							
STKA				LR	LR	10 27 25.5		
	comp=Z,85nm,21.1s,baz=24,slow=37							
OBN	**Obninsk**	**68.09**	**323**	*eP*	**P**	**09 56 59.4**	**-0.7**
OBN				*e*	pP	09 57 22.6	+4.0
OBN				pmax	pmax			
	comp=Z,16nm,1.0s,mb4.8							
OBN				MLR	MLR			
	comp=Z,100nm,15.0s							
KAF	**Kangasniemi**	**68.54**	**332**	*ep*	**P**	**09 57 01.6**	**-1.2**
	comp=Z,3.7nm,0.4s,mb4.6							
KAF	**Kangasniemi**	**68.54**	**332**	*eP*	**P**	**09 57 01.6**	**-1.2**
KAF				pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.6							
VRSR	**Storozhevoye**	**68.80**	**318**	*eP*	**P**	**09 57 03.9**	**-0.7**
VRSR				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.2							
VRSR				pmax	pmax			
	comp=N,2.0nm,0.8s							
VRSR				pmax	pmax			
	comp=E,1.0nm,0.8s							
FINES	**FINESS Array B**	**69.03**	**332**	P	**P**	**09 57 05.1**	**-0.8**
	comp=E,2.8nm,0.5s,mb4.4,baz=66,slow=6.8,SNR=16							
FINES				LR	LR	10 26 42.7		
	comp=E,77nm,19.7s,baz=351,slow=35							
FINES	**FINESS Array B**	**69.03**	**332**	*i* P	**P**	**09 57 05.9**	**0.0**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.5s							
FINES	**FINESS Array B**	**69.03**	**332**	P	**P**	**09 57 05.1**	**-0.8**
FINES				LR	LR	10 26 42.7		
KIV	**Kislovodsk**	**70.59**	**311**	*eP*	**P**	**09 57 15.9**	**+0.3**
KIV				*e*	pP	09 57 37.1	+2.8
KIV				*e*		09 59 52.4		
KIV				*e*S	S	10 06 26.1	+3.6
KIV				pmax	pmax			
	comp=Z,27nm,1.1s,mb5.0							
KIV				MLR	MLR			
	comp=Z,75nm,15.0s							
KIV	**Kislovodsk**	**70.59**	**311**	*eP*	**P**	**09 57 16.3**	**+0.7**
	comp=Z,13nm,0.6s,mb5.0							
SUMG	**Summit**	**71.55**	**359**	*eP*	**P**	**09 57 21.2**	**+0.2**
	comp=Z,16nm,0.8s,mb4.9							
BMO	**Blue Mountains**	**73.38**	**46**	*eP*	**P**	**09 57 32.0**	**-0.1**
	comp=Z,5.7nm,0.7s,mb4.5							
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**09 57 36.5**	**-0.6**
	comp=Z,1.4nm,0.3s,mb4.2,baz=47,slow=5.9,SNR=34							
AKASG	**Malin Array Be**	**74.26**	**322**	*i* P	**P**	**09 57 36.7**	**-0.4**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
HFS	**Hagfors**	**74.39**	**335**	P	**P**	**09 57 37.6**	**-0.1**
	comp=Z,2.2nm,0.3s,mb4.3,baz=38,slow=5.5,SNR=23							
NB2	**NORSAR Subarra**	**74.53**	**337**	P	**P**	**09 57 38.1**	**-0.4**
	comp=Z,11nm,0.8s,mb4.7,baz=42,slow=5.8							
NB2	**NORSAR Subarra**	**74.53**	**337**	P	**P**	**09 57 38.1**	**-0.4**
NB2				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.6							
NOA	**NORSAR Array B**	**74.53**	**337**	P	**P**	**09 57 38.4**	**0.0**
	comp=Z,7.0nm,0.7s,mb4.5,baz=40,slow=5.9,SNR=30							
NOA				PP	PP	10 00 24.9	-2.7	
	comp=Z,1.4nm,0.7s,baz=42,slow=8.8,SNR=3.8							
NOA				LR	LR	10 33 32.1		
	comp=Z,89nm,19.7s,baz=155,slow=38							
NOA	**NORSAR Array B**	**74.53**	**337**	P	**P**	**09 57 38.4**	**0.0**
NOA				PP	PP	10 00 24.9	-2.7	
NOA				LR	LR	10 33 32.0		
BHD	**Baghdad**	**75.23**	**300**	*ex*	x	09 56 40.0		
HRY	**Holter Researc**	**75.39**	**42**	*eP*	**P**	**09 57 44.6**	**+1.0**
DLMT	**Dillon**	**75.78**	**44**	*eP*	**P**	**09 57 47.1**	**+1.2**
	comp=Z,9.5nm,0.6s,mb4.7							
NVAR	**Mina Array Bea**	**76.45**	**52**	P	**P**	**09 57 50.8**	**+0.9**
	comp=Z,5.7nm,0.7s,mb4.4,baz=283,slow=5.8,SNR=40							
KWP	**Kalwaria**	**78.15**	**324**	*eP*	**P**	**09 57 59.3**	**+0.3**
BR131	**Keskin Array S**	**78.55**	**311**	*eP*	**P**	**09 58 02.4**	**+1.0**
	comp=Z,2.6nm,0.7s,mb4.2							
BRTR	**Keskin Array B**	**78.55**	**311**	P	**P**	**09 58 01.9**	**+0.5**
	comp=Z,2.9nm,0.7s,mb4.2,baz=90,slow=4.3,SNR=11							
BRTR	**Keskin Array B**	**78.55**	**311**	*i* P	**P**	**09 58 06.5**	**+5.1**
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
DUG	**Dugway**	**78.81**	**48**	*eP*	**P**	**09 58 02.1**	**-0.8**
DUG				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.3							
DUG	**Dugway**	**78.81**	**48**	*eP*	**P**	**09 58 02.1**	**-0.8**
	comp=Z,5.4nm,0.9s,mb4.4							
KOLS	**Kolonicke sedl**	**78.83**	**323**	*eP*	**P**	**09 58 03.3**	**+0.5**
KOLS				*e*	pP	09 58 19.0	-2.7	
STHS	**Stebnicka Huta**	**78.99**	**324**	*eP*	**P**	**09 58 04.9**	**+1.2**
STHS				*e*pP	pP	09 58 24.0	+1.4	
OJC	**Ojcow**	**79.10**	**326**	*eP*	**P**	**09 58 05.5**	**+1.2**
PDAR	**Pinedale Array**	**79.11**	**45**	P	**P**	**09 58 05.3**	**+0.8**
	comp=Z,2.7nm,0.6s,mb4.2,baz=292,slow=0.3,SNR=38							
MZLS	**Mizel**	**79.83**	**292**	P	**P**	**09 58 09.4**	**+0.6**
ARUT	**Antelope Range**	**79.91**	**50**	*eP*	**P**	**09 58 10.3**	**+1.4**
KECS	**Kecovo**	**80.00**	**324**	*eP*	**P**	**09 58 09.7**	**+0.6**
KECS				*e*pP	pP	09 58 27.8	-0.3	
OKC	**Ostrava-Krasne**	**80.12**	**326**	*eP*	**P**	**09 58 10.1**	**+0.3**
KSP	**Ksiaz**	**80.22**	**328**	*eP*	**P**	**09 58 11.1**	**+0.9**
KSP	**Ksiaz**	**80.22**	**328**↑	*eP*	**P**	**09 58 11.0**	**+0.7**
MSU	**Marysvale**	**80.24**	**49**	*eP*	**P**	**09 58 12.6**	**+2.0**
MORC	**Moravsky Berou**	**80.44**	**326**	*eP*	**P**	**09 58 10.7**	**-0.8**
MORC				pmax	pmax			
	comp=Z,24nm,1.6s,mb4.8							
MORC	**Moravsky Berou**	**80.44**	**326**	*eP*	**P**	**09 58 10.7**	**-0.8**
	comp=Z,24nm,1.6s,mb4.8							
DPC	**Dobruska-Polom**	**80.56**	**327**	*eP*	**P**	**09 58 13.0**	**+0.9**
UPC	**Upice**	**80.58**	**328**	*eP*	**P**	**09 58 13.0**	**+0.8**
VYHS	**Vyhne**	**80.77**	**325**	*eP*	**P**	**09 58 14.0**	**+0.8**
SRU	**San Rafael**	**80.87**	**48**	*eP*	**P**	**09 58 15.3**	**+1.3**
SRU				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.6							
SRU	**San Rafael**	**80.87**	**48**	*eP*	**P**	**09 58 15.3**	**+1.3**
	comp=Z,7.5nm,0.8s,mb4.6							
ULM	**Lac du Bonnet**	**80.87**	**33**	P	**P**	**09 58 13.6**	**-0.1**
	comp=Z,9.9nm,0.7s,mb4.2,baz=313,slow=5.9,SNR=7.0							
PVCC	**Panska Ves**	**81.19**	**328**	*eP*	**P**	**09 58 16.2**	**+0.8**
BRG	**Berggiesshubel**	**81.20**	**329**	*eP*	**P**	**09 58 15.6**	**+0.2**
BRG				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.5							
BRG	**Berggiesshubel**	**81.20**	**329**	*eP*	**P**	**09 58 15.6**	**+0.1**
	comp=Z,8.7nm,1.0s,mb4.5							
VRAC	**Vranov**	**81.21**	**326**	P	**P**	**09 58 15.9**	**+0.4**
	comp=Z,3.7nm,0.7s,mb4.3,baz=20,slow=5.5,SNR=6.7							
CLL	**Collm**	**81.26**	**330**	P	**P**	**09 58 16.0**	**+0.2**
	comp=Z,logA/T=1.2,mb4.8							
CLL				*e**PP	pP	09 58 35.0	+0.3	
CLL	**Collm**	**81.26**	**330**	*i* P	**P**	**09 58 16.0**	**+0.2**
CLL				*e**PP	pP	09 58 35.0	+0.3	
CLL				pmax	pmax			
	comp=Z,21nm,1.3s,mb4.8							
CLL	**Collm**	**81.26**	**330**	*i* P	**P**	**09 58 16.0**	**+0.2**
	comp=Z,21nm,1.3s,mb4.8							
CLL				*e*pP	pP	09 58 35.0	+0.3	
SMOL	**Smolenice**	**81.41**	**325**	*eP*	**P**	**09 58 17.4**	**+0.8**
PRU	**Pruhonice**	**81.61**	**328**	*eP*	**P**	**09 58 18.4**	**+0.8**
TREC	**Trest**	**81.71**	**327**	*eP*	**P**	**09 58 18.7**	**+0.6**
PV10	**Paradox Valley**	**82.23**	**48**	*eP*	**P**	**09 58 23.1**	**+2.0**
NKC	**Novy Kostel**	**82.31**	**329**	*eP*	**P**	**09 58 21.1**	**-0.1**
MOX	**Moxa**	**82.33**	**330**	*eP*	**P**	**09 58 22.0**	**+0.7**
KHC	**Kasperske Hory**	**82.66**	**328**	*eP*	**P**	**09 58 23.7**	**+0.7**
KHC	**Kasperske Hory**	**82.66**	**328**	*eP*	**P**	**09 58 24.0**	**+1.0**
PV01	**Paradox Valley**	**82.67**	**48**	*eP*	**P**	**09 58 24.6**	**+1.3**
GERES	**GERESS Array B**	**82.83**	**328**	P	**P**	**09 58 24.4**	**+0.6**
	comp=Z,1.1nm,0.5s,mb4.0,baz=34,slow=4.8,SNR=16							
GERES				LR	LR	10 35 39.3		
	comp=Z,109nm,19.3s,baz=206,slow=36							
GRA1	**Grafenberg Arr**	**83.23**	**329**	*eP*	**P**	**09 58 27.0**	**+1.1**
	comp=Z,13nm,1.0s,mb4.7							
GRA1				LR	LR			
	comp=Z,100nm,21.1s							
GRF	**Grafenberg Arr**	**83.23**	**329**	*eP*	**P**	**09 58 27.0**	**+1.1**
GRF				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.7							
GRF				MLR	MLR			
	comp=Z,100nm,21.1s							
GRF	**Grafenberg Arr**	**83.23**	**329**	*eP*	**P**	**09 58 27.0**	**+1.1**
GRF				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.7							
GRF				MLR	MLR			
	comp=Z,100nm,21.1s							
GRF	**Grafenberg Arr**	**83.23**	**329**	*eP*	**P**	**09 58 27.0**	**+1.1**
	comp=Z,13nm,1.0s,mb4.7							
GRF				LR	LR			
	comp=Z,100nm,21.1s							
EKA	**Eskdalemuir Ar**	**83.55**	**340**	P	**P**	**09 58 27.7**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.2,baz=34,slow=4.2,SNR=10							
JMQS	**Jabal Moqyreh**	**83.70**	**301**	P	**P**	**09 58 29.0**	**+0.2**
TAYS	**Tayyib Ism**	**84.61**	**301**	P	**P**	**09 58 32.4**	**-0.8**
DJNS	**Zahran al Janu**	**84.76**	**288**	P	**P**	**09 58 36.2**	**+2.0**
PPT	**Papeete**	**85.30**	**116**	LR	LR	10 36 24.3		
	comp=Z,21nm,18.2s,baz=234,slow=35							
GIVF	**Givet**	**85.41**	**333**	*eP*	**P**	**09 58 36.3**	**-0.4**
CDF	**Champ du Feu**	**85.84**	**331**	*eP*	**P**	**09 58 39.0**	**+0.2**
ANMO	**Albuquerque**	**86.04**	**49**	⇓*iP*	**P**	**09 58 42.5**	**+2.3**
DAVOX	**Davos**	**86.06**	**328**	P	**P**	**09 58 41.2**	**+1.2**
	comp=Z,2.1nm,0.5s,mb4.3,baz=18,slow=13,SNR=3.2							
DAVOX				LR	LR	10 40 53.2		
	comp=Z,94nm,18.1s,baz=88,slow=38							
HINF	**Hinteralfeld**	**86.49**	**330**	*eP*	**P**	**09 58 41.6**	**-0.4**
SCHQ	**Schefferville**	**86.49**	**15**	P	**P**	**09 58 43.1**	**+1.2**
	comp=Z,3.2nm,0.7s,mb4.4,baz=12,slow=6.9,SNR=8.5							
HAU	**Haudompre**	**86.53**	**331**	*eP*	**P**	**09 58 41.9**	**-0.4**
	comp=Z,18nm,0.9s,mb4.7							
HAU				*e*R				
	comp=Z,86nm,17.5s							
HAU	**Haudompre**	**86.53**	**331**	*eP*	**P**	**09 58 41.9**	**-0.4**
HAU				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
HAU				MLR	MLR			
	comp=Z,90nm,17.5s							
MEZF	**Maizieres J'vi**	**86.63**	**332**	*eP*	**P**	**09 58 42.2**	**-0.5**
CABF	**La Chapelle**	**87.77**	**330**	*eP*	**P**	**09 58 48.2**	**-0.1**
	comp=Z,9.6nm,0.9s,mb4.5							
CABF	**La Chapelle**	**87.77**	**330**	*eP*	**P**	**09 58 48.2**	**-0.1**
CABF				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.5							
LOR	**Lormes**	**88.10**	**332**	*eP*	**P**	**09 58 49.8**	**-0.1**
LPL	**La Plagne**	**88.39**	**329**	*eP*	**P**	**09 58 51.3**	**0.0**
LPG	**La Plagne**	**88.40**	**329**	*eP*	**P**	**09 58 51.6**	**+0.3**
SSF	**Saint Saulge**	**88.41**	**332**	*eP*	**P**	**09 58 51.6**	**+0.3**
FLN	**La Foliniere**	**88.42**	**335**	*eP*	**P**	**09 58 51.1**	**-0.2**
FLN				*e*R				
	comp=Z,168nm,18.8s							
LDF	**La Druitiere**	**88.44**	**335**	*eP*	**P**	**09 58 50.7**	**-0.7**
SMF	**Signal de Mont**	**88.63**	**331**	*eP*	**P**	**09 58 53.0**	**+0.6**
AVF	**Avril sur Loir**	**88.69**	**332**	*eP*	**P**	**09 58 52.9**	**+0.2**
	comp=Z,14nm,0.9s,mb4.7							
AVF	**Avril sur Loir**	**88.69**	**332**	*eP*	**P**	**09 58 52.9**	**+0.2**
AVF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
GRR	**Gorron**	**88.86**	**335**	*eP*	**P**	**09 58 53.3**	**-0.1**
MBDF	**Montbardon**	**89.01**	**329**	*eP*	**P**	**09 58 53.6**	**-0.6**
ORIF	**Oris-en-Rattie**	**89.23**	**329**	*eP*	**P**	**09 58 54.8**	**-0.4**
ORIF				*e*R				
	comp=Z,71nm,18.7s							
TCF	**Toulx Ste Croi**	**89.55**	**332**	*eP*	**P**	**09 58 57.2**	**+0.5**
ROSF	**Rostrenen**	**89.71**	**336**	*eP*	**P**	**09 58 56.9**	**-0.5**
VIVF	**Saint-Julien-l**	**89.77**	**330**	*eP*	**P**	**09 58 57.4**	**-0.4**
PGF	**Pioggiola**	**89.78**	**326**	*eP*	**P**	**09 58 57.3**	**-0.6**
	comp=Z,538nm,1.8s							
PGF	**Pioggiola**	**89.78**	**326**	*eP*	**P**	**09 58 57.3**	**-0.6**
PGF				pmax	pmax			
	comp=Z,269nm,1.8s							
QUIF	**Quistinic**	**90.04**	**336**	*eP*	**P**	**09 58 57.9**	**-1.1**
SMRF	**Simiane la Rot**	**90.12**	**329**	*eP*	**P**	**09 58 59.4**	**-0.1**
MFF	**Saint Martin d**	**90.15**	**334**	*eP*	**P**	**09 58 59.0**	**-0.5**
	comp=Z,13nm,0.9s,mb4.8							
MFF	**Saint Martin d**	**90.15**	**334**	*eP*	**P**	**09 58 59.0**	**-0.5**
MFF				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.7							
RJF	**Les Rejaudoux**	**90.64**	**332**	*eP*	**P**	**09 59 01.7**	**-0.2**
LASF	**Ste Croix**	**90.75**	**330**	*eP*	**P**	**09 59 02.2**	**-0.2**
TXAR	**Lajitas Array**	**91.58**	**51**	P	**P**	**09 59 07.9**	**+1.3**
	comp=Z,2.5nm,0.7s,mb4.6,baz=302,slow=3.0,SNR=37							
EPF	**Esparros**	**93.01**	**332**	*eP*	**P**	**09 59 12.4**	**-0.5**
ETSF	**Etsaut**	**93.47**	**332**	*eP*	**P**	**09 59 13.8**	**-1.1**
DBIC	**Dimbokro**	**126.10**	**315**	PKP	PKPdf	10 05 02.7	+1.6
	comp=Z,2.9nm,0.6s,baz=52,slow=5.1,SNR=9.2							
DBIC	**Dimbokro**	**126.10**	**315**	PKP	PKPdf	10 05 02.7	+1.6
SDV	**Santo Domingo**	**126.74**	**39**	PKP	PKPdf	10 05 04.2	+1.9
	comp=Z,4.1nm,0.7s,baz=314,slow=2.6,SNR=6.2							
LPAZ	**La Paz**	**148.14**	**59**	PKPbc	PKPdf	10 05 47.7	+6.7
	comp=Z,3.8nm,0.7s,baz=265,slow=2.8,SNR=17							
LPAZ	**La Paz**	**148.14**	**59**	*e*PKPdf	PKPdf	10 05 44.1	+3.1
LPAZ				*e*PKPbc	PKPdf	10 05 47.4	+6.4
SIV	**San Ignacio**	**152.54**	**48**	PKPbc	PKPdf	10 05 57.0	+9.3
	comp=Z,4.3nm,0.6s,baz=272,slow=0.9,SNR=19							
CFAA	**Coronel Fontan**	**156.19**	**87**	PKPab	PKPab	10 06 23.6	+0.7
	baz=282,slow=3.9							

*TRN **28** 09:55:11.6, 11.00N×62.25W, h115km, MD3.0*
*FUNV **28** 09:55:12.9, 11.14N×62.26W, h102km, MW1.9*
ISC 28 09:55:11.6±1.1, 11.06N±0.06×62.28W±0.05, h108km±10km, n9, σ0.78/17, 2C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.41**	**173**	*i* P	**P**	**09 55 28.5**	**+0.7**
GUIV				*e*S	**S**	**09 55 40.1**	**+0.1**
ITEV	**Isla Los Testi**	**0.89**	**290**	*e*P	**P**	**09 55 30.9**	**-0.9**
ITEV				*e*S	**S**	**09 55 45.8**	**-1.2**
TRN	**Trinidad (W)**	**0.95**	**115**	↑*i* P	**P**	**09 55 32.9**	**+0.5**
TRN				*e*S	**S**	**09 55 47.2**	**-0.8**
CRUV	**Carupano**	**1.02**	**248**	⇓*i* P	**P**	**09 55 33.8**	**+0.7**
CRUV				*e*S	**S**	**09 55 49.7**	**+0.4**
GUNV	**Guanoco**	**1.10**	**217**	*e*P	**P**	**09 55 35.7**	**+1.6**
GUNV				*e*S	**S**	**09 55 50.8**	**-0.2**
GRW	**Mount Saint Ca**	**1.25**	**29**	*e*P	**P**	**09 55 36.2**	**+0.5**
GRW				*e*S	**S**	**09 55 54.8**	**+0.8**
TPR	**Prospect**	**1.48**	**85**	*e*P	**P**	**09 55 38.0**	**-0.5**
TPR				*e*S	**S**	**09 55 58.1**	**-0.5**
CUPV	**Cœpira**	**3.59**	**254**	*e*P	**P**	**09 56 06.8**	**+0.2**
CAOV	**Caicara del Or**	**5.45**	**227**	*e*P	**P**	**09 56 30.4**	**-1.3**
CAOV				*e*S	**S**	**09 57 28.1**	**-5.6**

*HEL **28** 09:59:42.5±0.3, 64.70N×30.76E, ML2.0, Explosion*
*IDC **28** 09:59:45.2±1.9, 64.72N×30.06E, mb1 3.1/4, mb1mx3.0/20, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=28.0km s-min=7.8km az=99.0*
ISC 28 09:59:40.7±1.0, 64.72N±0.05×30.8E±0.1, n10, σ1.16/15, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KJN	**Kajaani**	**1.47**	**245**	*eP*	**Pn**	**10 00 08.2**	**-0.3**
KJN				*e*S	**Sb**	**10 00 27.0**	**-0.7**
KU4	**Liikasenvaara**	**1.72**	**344**	*eP*	**Pn**	**10 00 13.7**	**+1.6**
JOF	**Joensuu**	**1.83**	**172**	*eP*	**Pn**	**10 00 13.4**	**-0.3**
JOF				*e*S	**Sn**	**10 00 38.2**	**+0.4**
OUL	**Oulu**	**2.10**	**282**	*eP*	**Pn**	**10 00 19.1**	**+1.5**
OUL				*e*S	**Sn**	**10 00 45.6**	**+0.9**
SUF	**Sumiainen**	**2.87**	**228**	*e*SB	**Sb**	**10 01 08.4**	**0.0**
SUF				MSG		10 01 09.8		
	comp=Z,4.1nm,0.2s							
FIA0	**FINESS Array S**	**3.92**	**215**	*e*SG	**Sg**	**10 01 43.5**	**-7.7**
FINES	**FINESS Array B**	**3.92**	**215**	Pn	**Pn**	**10 00 43.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=40,slow=14,SNR=5.7							
FINES				Pg	**Pg**	**10 00 51.2**	**-7.7**
	comp=Z,0.3nm,0.3s,baz=31,slow=16,SNR=9.6							
FINES				Lg		10 01 40.7		
	comp=Z,0.8nm,0.3s,baz=25,slow=27,SNR=5.8							
ARCES	**ARCESS Array B**	**5.25**	**339**	Pn	**Pn**	**10 01 01.4**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=154,slow=13,SNR=33							
ARCES				Sn	**Sn**	**10 02 00.5**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=157,slow=23,SNR=3.7							
ARCES				Lg		10 02 22.7		
	comp=Z,0.8nm,0.3s,baz=161,slow=30,SNR=7.1							
HFS	**Hagfors**	**9.13**	**248**	Pn	**P**	**10 01 52.6**	**-4.2**
	comp=Z,0.0nm,0.3s,baz=59,slow=17,SNR=3.6							
HFS				Lg		10 04 21.9		
	comp=Z,0.0nm,0.3s,baz=80,slow=40,SNR=3.6							
NOA	**NORSAR Array B**	**9.64**	**256**	Pn	**P**	**10 01 59.0**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=354,slow=18,SNR=2.8							

*NIED **28** 10:25:00, 26.80N×141.00E, h83km, Mw4.6 Best double couple: M0 8.48×10^15 NP1:φs167°, δ88°, λ-75°. NP2: φs264°, δ15°, λ-172°.*
*IDC **28** 10:25:13.4±0.9, 26.83N×141.01E, mb3.9/8, mb1 4.3/8, mb1mx4.1/17, mbtmp3.9/8, MS3.4/4, Ms1 3.4/4, ms1mx3.1/37, Error ellipse: s-maj=25.9km s-min=18.0km az=172.0*
*BJI **28** 10:25:16.4, 26.80N×141.10E, h30km, mB4.9, mb4.5, Ms4.3*
*NEIC **28** 10:25:18.4±0.6, 26.76N×141.06E, h35km, mb4.8/7, MW4.6(NIED), Error ellipse: s-maj=16.5km s-min=14.2km az=189.0*
ISC 28 10:25:13.3±5.3, 26.8N±0.1×140.99E±0.06, h9km±33km, n32, σ1.37/26, mb4.4/17, MS3.6/2, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.11**	**73**	Pn	**Pn**	**10 25 35.5**	**+0.4**
	105nm,0.3s,baz=199,slow=9.7,SNR=47							
CBIJ				Sn	**Sn**	**10 25 50.5**	**-0.2**
	546nm,0.3s,baz=270,slow=20,SNR=46							
JOW	**Kunigami**	**11.36**	**273**	LR	LR	10 31 13.7		
	comp=Z,306nm,21.8s,baz=235,slow=32							
GUMO	**Guam**	**13.61**	**164**	LR	LR	10 32 54.6		
	comp=Z,140nm,20.3s,baz=359,slow=34							
KS15	**Wonju Array Si**	**15.37**	**317**	*eP*	**P**	**10 28 58.0**	**+6.0**
ASAJ	**Asahikawa**	**17.36**	**4**	LR	LR	10 36 45.9		
	comp=Z,56nm,18.0s,baz=178,slow=40							
HHC	**Hu-ho-hao-te**	**28.04**	**308**	*eP*	**P**	**10 31 09.5**	**+2.6**
HHC				AP	pP	10 31 16.5	+7.0	
HHC				XP	sP	10 31 20.5	+10	
HHC				AMB	AMB			
	comp=Z,100nm,4.6s							
ULN	**Ulaanbaatar**	**33.84**	**318**	*eP*	**P**	**10 31 57.2**	**-0.8**
	comp=Z,6.1nm,1.2s,mb4.4							
SONM	**Songino Array**	**34.22**	**317**	P	**P**	**10 32 00.5**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=135,slow=10,SNR=4.3							
GTA	**Gaotai**	**36.43**	**301**	*eP*	**P**	**10 32 18.5**	**-1.7**
WMQ	**Urumqi**	**45.90**	**306**	*eP*	**P**	**10 33 37.8**	**-0.2**
WMQ				AMB	AMB			
	comp=Z,10.0nm,1.4s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,70nm,5.0s							
WMQ				LR	LR			
	comp=N,40nm,20.0s,MS3.5							
WMQ				LR	LR			
	comp=E,30nm,20.0s,MS3.5							
WRAB	**Tennant Creek**	**46.87**	**189**	*eP*	**P**	**10 33 44.5**	**-1.4**
	comp=E,16nm,0.7s,mb5.1							
WRA	**Warramunga Arr**	**46.88**	**189**	P	**P**	**10 33 44.5**	**-1.5**
	comp=E,5.8nm,1.0s,mb4.5,baz=9.0,slow=8.5,SNR=8.4							
JIRN	**Jiri**	**48.40**	**284**	*eP*	**P**	**10 33 57.9**	**+0.1**
	comp=E,50nm,1.3s,mb5.4							
GUN	**Gumba**	**48.61**	**285**	*eP*	**P**	**10 33 59.4**	**-0.1**
	comp=E,16nm,0.8s,mb5.1							
KKN	**Kakani**	**49.16**	**285**	*eP*	**P**	**10 34 04.6**	**+0.9**
DMN	**Daman**	**49.35**	**284**	*eP*	**P**	**10 34 07.4**	**+2.3**
GKN	**Gorkha**	**49.67**	**285**	*eP*	**P**	**10 34 09.7**	**+2.1**
MKAR	**Makanchi Array**	**49.86**	**310**	P	**P**	**10 34 07.8**	**-1.1**
	comp=E,1.0nm,0.6s,mb4.0,baz=92,slow=9.4,SNR=14							
KOLN	**Koldanda**	**50.61**	**285**	*eP*	**P**	**10 34 19.4**	**+4.6**
	comp=E,20nm,1.0s,mb5.0							
KURK	**Kurchatov**	**52.46**	**315**	*eP*	**P**	**10 34 26.4**	**-2.0**
	comp=E,8.3nm,1.0s,mb4.6							
STKA	**Stephens Creek**	**58.32**	**179**	P	**P**	**10 35 14.3**	**+3.2**
	comp=E,1.9nm,0.6s,mb4.3,baz=311,slow=11,SNR=3.5							
ILAR	**Eielson Array**	**58.51**	**29**	P	**P**	**10 35 09.8**	**-2.2**
	comp=E,2.2nm,1.2s,mb4.1,baz=253,slow=5.2,SNR=5.4							
BBB	**Bella Bella**	**69.86**	**41**	LR	LR	11 04 23.8		
	comp=E,50nm,18.4s,MS3.8,baz=339,slow=34							
RES	**Resolute Bay**	**72.63**	**13**	P	**P**	**10 36 44.4**	**+1.9**
	comp=E,9.8nm,1.5s,mb4.5							
YKA	**Yellowknife Ar**	**72.93**	**28**	P	**P**	**10 36 43.5**	**-0.9**
	comp=E,0.7nm,0.5s,mb3.8

BPBC	**Brooks Peninsu**	**4.26**	**148**	P		**Pn**	**10 41 21.1**	**+0.3**
WOSB	**Woss**	**4.68**	**139**	P		**Pn**	**10 41 26.0**	**-0.7**
WOSB				Pg		**Pg**	**10 41 40.0**	**-7.8**
WOSB				Sg		**Sg**	**10 42 39.9**	**-10**
WOSB				Trac			10 42 46.5	
	comp=Z,57nm,0.4s							
DLBC	**Dease Lake**	**4.69**	**8**	Pn		**Pn**	**10 41 28.0**	**+1.1**
	3.3nm,0.3s,baz=201,slow=12,SNR=72							
DLBC				Pg		**Pg**	**10 41 39.6**	**-8.3**
	8.0nm,0.3s,baz=191,slow=15,SNR=24							
DLBC				Sn		**Sn**	**10 42 22.6**	**+0.6**
	7.0nm,0.3s,baz=114,slow=18,SNR=3.5							
DLBC				Lg			10 42 42.0	
	7.6nm,0.3s,baz=267,slow=15,SNR=3.6							
DLBC				LR		LR	10 43 24.2	
	comp=Z,300nm,20.1s,baz=303,slow=40							
DLBC	**Dease Lake**	**4.69**	**8**	P		**Pn**	**10 41 27.9**	**+1.0**
DLBC				Pg		**Pg**	**10 41 40.4**	**-7.6**
DLBC				Sg		**Sg**	**10 42 41.5**	**-8.9**
DLBC				Trac			10 42 50.0	
	comp=Z,171nm,0.7s							
DLBC	**Dease Lake**	**4.69**	**8**	*e*P		**Pn**	**10 41 27.8**	**+0.9**
NCRB	**Newcastle Ridg**	**4.70**	**134**	P		**Pn**	**10 41 27.3**	**+0.3**
NCRB				Sg		**Sg**	**10 42 38.5**	**-12**
NCRB				Trac			10 42 50.9	
	comp=Z,106nm,0.7s							
EDB	**Eliza Dome**	**4.72**	**145**	P		**Pn**	**10 41 27.4**	**+0.1**
EDB				Trac			10 42 57.0	
	comp=Z,58nm,0.6s							
CBB	**Campbell River**	**5.28**	**133**	Pg		**Pg**	**10 41 46.8**	**-13**
CBB				Sg		**Sg**	**10 42 56.6**	**-13**
CBB				Trac			10 43 07.7	
	comp=Z,58nm,0.6s							
BTB	**Buttle Lake**	**5.65**	**138**	P		**Pn**	**10 41 40.5**	**+0.2**
BTB				Pg		**Pg**	**10 41 51.3**	**-16**
BTB				Sg		**Sg**	**10 43 07.7**	**-15**
BTB				Trac			10 43 21.0	
	comp=Z,48nm,0.4s							
BMBC	**Bull Mountain**	**5.74**	**63**	P		**Pn**	**10 41 42.3**	**+0.6**
BMBC				Sg		**Sg**	**10 43 15.9**	**-10**
BMBC				Trac			10 43 49.9	
	comp=Z,123nm,0.8s							
TXB	**Texada**	**5.93**	**131**	P		**Pn**	**10 41 45.0**	**+0.7**
TXB				Sg		**Sg**	**10 43 18.9**	**-13**
TXB				Trac			10 43 32.0	
	comp=Z,102nm,0.8s							
ALB	**Alberni**	**6.08**	**136**	Pg		**Pg**	**10 42 05.6**	**-10**
ALB				Sg		**Sg**	**10 43 23.6**	**-13**
ALB				Trac			10 43 26.8	
	comp=Z,51nm,0.8s							
SHB	**Sechelt**	**6.25**	**129**	Trac			10 43 32.1	
	comp=Z,65nm,0.6s							
SHB	**Sechelt**	**6.25**	**129**	Sg		**Sg**	**10 43 27.7**	**-15**
PLBC	**Pleasant Camp**	**6.31**	**336**	P		**Pn**	**10 41 48.7**	**-0.9**
PLBC				S		**Sn**	**10 42 57.6**	**-5.0**
PLBC				Sg		**Sg**	**10 43 29.5**	**-15**
MGB	**Mount Grey**	**6.35**	**137**	P		**Pn**	**10 41 52.3**	**+2.0**
MGB				S		Sn	10 43 29.6	+26
MGB				Sg		Sg	10 44 05.8	+20
MGB				Trac			10 44 08.2	
	comp=Z,3.0nm,0.1s							
NLLB	**Nanaimo Lost L**	**6.47**	**132**	Trac			10 43 42.7	
	comp=Z,32nm,0.7s							
NLLB	**Nanaimo Lost L**	**6.47**	**132**	Sg		**Sg**	**10 43 32.9**	**-17**
WPB	**Watts Point**	**6.53**	**126**	Sg		**Sg**	**10 43 35.2**	**-16**
WPB				Trac			10 43 50.0	
	comp=Z,35nm,0.7s							
LLLB	**Lillooet**	**6.62**	**115**	P		**Pn**	**10 41 55.5**	**+1.4**
LLLB				Sg		**Sg**	**10 43 39.5**	**-15**
LLLB				Trac			10 43 51.1	
	comp=Z,37nm,0.6s							
BIB	**Bowen Island**	**6.65**	**128**	Sg		**Sg**	**10 43 44.4**	**-11**
BIB				Trac			10 43 48.9	
	comp=Z,20nm,0.6s							
FNBB	**Fort Nelson**	**6.86**	**39**	P		**Pn**	**10 42 00.9**	**+3.4**
FNBB				Pg		**Pg**	**10 42 21.5**	**-10**
FNBB				Trac			10 44 08.7	
	comp=Z,28nm,0.8s							
LZB	**Mount Lazard**	**7.01**	**135**	Trac			10 43 58.2	
	comp=Z,7.9nm,0.7s							
LZB	**Mount Lazard**	**7.01**	**135**	Sg		**Sg**	**10 43 51.3**	**-16**
HNB	**Haney**	**7.09**	**126**	Trac			10 44 01.3	
	comp=Z,17nm,0.6s							
WHY	**Whitehorse**	**7.13**	**346**	⇑P		**Pn**	**10 42 00.9**	**-0.4**
WHY				S		**Sn**	**10 43 18.6**	**-4.6**
WHY				Sg		**Sg**	**10 43 54.7**	**-17**
WHY				Trac			10 44 07.5	
	comp=Z,23nm,0.6s							
PGC	**Sidney**	**7.14**	**133**	Trac			10 43 58.7	
	comp=Z,39nm,1.2s							
PGC	**Sidney**	**7.14**	**133**	Pg		**Pg**	**10 42 36.6**	**-0.2**
PGC				Sg		**Sg**	**10 43 55.8**	**-16**
PGC	**Sidney**	**7.14**	**133**	P		**Pn**	**10 42 00.9**	**-0.5**
HOPB	**Hope**	**7.58**	**122**	Pg		**Pg**	**10 42 44.6**	**-1.1**
HOPB				Sg		**Sg**	**10 44 12.1**	**-15**
HOPB				Trac			10 44 32.9	
	comp=Z,22nm,0.6s							
HYT	**Haines Junctio**	**7.79**	**337**	P		**Pn**	**10 42 09.1**	**-1.3**
HYT				Sg		**Sg**	**10 44 23.7**	**-10**
HYT				Trac			10 44 33.8	
	comp=Z,45nm,1.0s							
MNB	**Mounoet Dainar**	**7.96**	**96**	P		**Pn**	**10 42 13.3**	**+0.4**
MNB				Sg		**Sg**	**10 44 31.3**	**-8.0**
DOWB	**Downie Slide**	**8.11**	**101**	P		**P**	**10 42 15.2**	**+0.3**
DOWB				Sg		**Sg**	**10 44 28.9**	**-15**
DOWB				Trac			10 44 44.0	
	comp=Z,359nm,0.8s							
SLEB	**Sale Mountain**	**8.46**	**103**	P		**P**	**10 42 20.4**	**+0.6**
SLEB				Sg		**Sg**	**10 44 42.6**	**-13**
SLEB				Trac			10 44 55.8	
	comp=Z,60nm,1.1s							
PNT	**Penticton**	**8.56**	**117**	Trac			10 44 49.7	
	comp=Z,40nm,0.8s							
PNT	**Penticton**	**8.56**	**117**	Sg		**Sg**	**10 44 41.2**	**-18**
NEW	**Newport**	**10.51**	**116**	Pn		**P**	**10 42 52.5**	**+4.5**
	0.1nm,0.3s,baz=317,slow=7.0,SNR=5.3							
NEW				Lg			10 45 43.1	
	0.1nm,0.3s,baz=53,slow=10,SNR=6.4							
NEW	**Newport**	**10.51**	**116**	P		**P**	**10 42 48.6**	**+0.6**
EDM	**Edmonton**	**10.71**	**86**	Trac			10 46 06.1	
	comp=Z,6.0nm,0.4s							
EDM	**Edmonton**	**10.71**	**86**	Sg		Sx	10 45 54.2	
DAWY	**Dawson**	**11.09**	**341**	P		**P**	**10 42 55.2**	**-0.6**
DAWY				Sg		Sx	10 46 04.1	
DAWY				Trac			10 46 29.8	
	comp=Z,13nm,0.9s							
WALA	**Waterton Lakes**	**11.84**	**107**	Trac			10 46 48.1	
	comp=Z,5.0nm,0.8s							
WALA	**Waterton Lakes**	**11.84**	**107**	Sg		Sx	10 46 29.7	
YKA	**Yellowknife Ar**	**12.35**	**39**	Pn		**P**	**10 43 10.1**	**-2.7**
	0.1nm,0.3s,baz=232,slow=12,SNR=16							
YKA				Lg			10 46 40.7	
	0.0nm,0.3s,baz=230,slow=29,SNR=3.0							
YKW3	**Yellowknife Ar**	**12.39**	**38**	P		**P**	**10 43 10.9**	**-2.5**
YKW3				Sg		Sx	10 46 49.5	
YKW3				Trac			10 47 08.1	
	comp=Z,45nm,1.5s							
YKW3	**Yellowknife Ar**	**12.39**	**38**	P		**P**	**10 43 10.9**	**-2.5**
ILAR	**Eielson Array**	**13.52**	**330**	Pn		**P**	**10 43 28.9**	**+0.6**
	0.0nm,0.3s,baz=148,slow=13,SNR=4.7							
HRY	**Holter Researc**	**14.31**	**112**	P		**P**	**10 43 39.8**	**+1.0**
INK	**Inuvik**	**14.58**	**357**	Pn		**P**	**10 43 43.0**	**+0.8**
	0.1nm,0.3s,baz=188,slow=8.9,SNR=7.8							
INK				Lg			10 47 58.5	
	0.0nm,0.3s,baz=36,slow=8.7,SNR=3.8							
INK				LR		LR	10 50 04.8	
	comp=Z,96nm,20.8s,baz=100,slow=40							
INK	**Inuvik**	**14.58**	**357**	P		**P**	**10 43 44.0**	**+1.8**
INK				Sg		Sx	10 48 00.7	
INK				Trac			10 48 10.9	
	comp=Z,5.0nm,1.1s							
INK	**Inuvik**	**14.58**	**357**	P		**P**	**10 43 41.3**	**-0.9**
HLID	**Hailey**	**15.11**	**126**	P		**P**	**10 43 52.0**	**+2.7**
	1.2nm,0.7s							
QLMT	**Earthquake Lak**	**15.72**	**117**	P		**P**	**10 44 00.1**	**+2.9**
IMA2	**Indian Mountai**	**16.50**	**327**	P		**P**	**10 44 06.7**	**-0.3**
ELK	**Elko**	**16.97**	**134**	Pn		**P**	**10 44 17.2**	**+4.2**
	0.0nm,0.3s,baz=309,slow=14,SNR=2.0							
ELK	**Elko**	**16.97**	**134**	P		**P**	**10 44 15.4**	**+2.3**
LAO	**LASA Array**	**17.49**	**104**	P		**P**	**10 44 20.8**	**+1.2**
	4.7nm,0.8s							
NVAR	**Mina Array Bea**	**17.78**	**145**	Pn		**P**	**10 44 27.2**	**+3.8**
	0.1nm,0.3s,baz=332,slow=11,SNR=7.1							
BW06	**Boulder Array**	**18.13**	**119**	*e*P		**P**	**10 44 29.9**	**+2.3**
	5.1nm,1.0s							
PDAR	**Pinedale Array**	**18.13**	**119**	Pn		**P**	**10 44 33.0**	**+5.4**
	0.1nm,0.3s,baz=333,slow=9.9,SNR=19							
TPNV	**Topopah Spring**	**19.83**	**142**	P		**P**	**10 44 50.5**	**+2.7**
	9.4nm,1.3s							
MSU	**Marysvale**	**20.14**	**132**	P		**P**	**10 44 52.6**	**+1.5**
ARUT	**Antelope Range**	**20.20**	**135**	P		**P**	**10 44 51.4**	**-0.4**
FCC	**Fort Churchill**	**21.04**	**61**	P		**P**	**10 44 59.7**	**-0.7**
FCC				Trac			10 51 24.9	
	comp=Z,3.0nm,0.9s							
NEN	**Nelson**	**21.50**	**141**	P		**P**	**10 45 06.1**	**+0.9**
ULM	**Lac du Bonnet**	**21.94**	**85**	P		**P**	**10 45 09.8**	**+0.4**
	1.2nm,0.6s,mb3.5,baz=315,slow=11,SNR=2.9							
PV01	**Paradox Valley**	**22.11**	**126**	P		**P**	**10 45 13.0**	**+1.7**
SDCO	**Great Sand Dun**	**23.93**	**122**	P		**P**	**10 45 31.5**	**+2.5**
WMOK	**Wichita Mounta**	**29.71**	**117**	P		**P**	**10 46 23.3**	**+0.8**
TXAR	**Lajitas Array**	**31.66**	**129**	P		**P**	**10 46 41.8**	**+2.1**
	0.6nm,0.7s,mb3.5,baz=324,slow=7.6,SNR=10							
TXAR				PcP		PcP	10 49 32.4	+0.6
	0.1nm,0.5s,baz=18,slow=1.8,SNR=4.0							
CN2	**Changchun**	**62.81**	**308**	*e*P		**P**	**10 50 41.0**	**-0.9**
GERES	**GERESS Array B**	**73.53**	**23**	LR		LR	11 24 30.0	
	comp=Z,34nm,19.0s,MS3.6,baz=315,slow=36							
AKASG	**Malin Array Be**	**74.58**	**13**	P		**P**	**10 51 55.0**	**+0.5**
	0.3nm,0.4s,mb3.5,baz=350,slow=6.2,SNR=5.7							
SSE	**Sheshan**	**74.89**	**302**	P		**P**	**10 51 54.3**	**-2.3**
SSE				AMB		AMB		
	comp=Z,60nm,5.8s							
NJ2	**Nanjing**	**75.27**	**304**	*e*P		**P**	**10 51 59.3**	**+0.5**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.0							
MKAR	**Makanchi Array**	**75.78**	**337**	P		**P**	**10 52 02.1**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.0,baz=34,slow=5.1,SNR=18							
AKTK	**Aktyubinsk**	**75.83**	**354**	P		**P**	**10 52 02.5**	**+0.9**
AKTO	**Aktyubinsk**	**75.83**	**354**	P		**P**	**10 52 02.5**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.8,baz=6.2,slow=5.9,SNR=6.5							
WMQ	**Urumqi**	**77.18**	**332**	*e*P		**P**	**10 52 10.0**	**+0.7**
WMQ				AP		pP	10 52 17.0	+4.5
WMQ				XP		sP	10 52 20.0	+6.5
WMQ				AMB		AMB		
	comp=Z,10.0nm,4.6s							
VNA3	**Neumayer Olymp**	**149.60**	**147**	*e*		PKPdf	11 00 06.9	+6.2
VNA3	**Neumayer Olymp**	**149.60**	**147**	*e*		PKPdf	11 00 09.1	+8.4
VNA3	**Neumayer Olymp**	**149.60**	**147**	*e*		PKPdf	11 00 15.6	+15
VNA3	**Neumayer Olymp**	**149.60**	**147**	⇑*i*PKPdf		PKPdf	11 00 04.6	+3.9
VNA3				*e*			11 00 06.9	
VNA3				*e*			11 00 09.1	
VNA3				*e*			11 00 15.6	
VNA2	**Neumayer--Watz**	**150.37**	**147**	*e*		PKPdf	11 00 08.8	+7.0
VNA2	**Neumayer--Watz**	**150.37**	**147**	*e*		PKPdf	11 00 10.7	+8.9
VNA2	**Neumayer--Watz**	**150.37**	**147**	*e*		PKPdf	11 00 17.4	+16
VNA2	**Neumayer--Watz**	**150.37**	**147**	⇑*i*PKPdf		PKPdf	11 00 06.5	+4.7
VNA2				*e*			11 00 08.8	
VNA2				*e*			11 00 10.7	
VNA2				*e*			11 00 17.4	

*BJI **28** 10:46:32.8,20.40S×177.60W,h486km,mB4.4,mb4.8*
*NEIC **28** 10:46:33.5±0.8,20.36S×177.58W,h486km±9km,mb4.9/8,*
Error ellipse: s-maj=12.3km s-min=7.3km az=129.0
*IDC **28** 10:46:35.6±0.7,20.44S×177.64W,h511km±8km,mb3.8/10,*
mb1 4.0/12,mb1mx3.7/18,mbtmp4.6/12,Error ellipse:
s-maj=16.2km s-min=10.0km az=127.0

ISC 28 10:46:32.5±1.0,20.35S±0.05×177.69W±0.08,
h483km±12km,h504km±1.9km:pP-P,n61,σ1s03/53,
mb4.5/16,8D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**8.54**	**42**	P		**P**	**10 48 33.3**	**-2.3**
	22nm,0.3s,baz=38,slow=1.7,SNR=35							
AFI				S		**S**	**10 50 06.7**	**-6.5**
	7.8nm,0.3s,baz=28,slow=21,SNR=8.3							
AFI	**Afiamalu**	**8.54**	**42**	P		**P**	**10 48 33.3**	**-2.3**
AFI				S		**S**	**10 50 06.7**	**-6.5**
FUNA	**Funafuti**	**12.14**	**345**	*e*P		**P**	**10 49 16.0**	**+2.1**
DZM	**Mont Dzumac**	**14.90**	**261**	P		**P**	**10 49 43.6**	**+1.0**
	2.0nm,0.3s,baz=78,slow=18,SNR=17							
PUZ	**Puketiti**	**18.00**	**190**	PN		**P**	**10 50 14.1**	**+0.6**
PUZ				SN		**S**	**10 53 12.9**	**+1.1**
MWZ	**Matawai**	**18.39**	**192**	PN		**P**	**10 50 17.5**	**+0.2**
URZ	**Urewera**	**18.41**	**193**	P		**P**	**10 50 18.1**	**+0.7**
	3.6nm,0.3s,baz=337,slow=3.0,SNR=19							
URZ				S		**S**	**10 53 19.0**	**+0.2**
	1.0nm,0.3s,baz=321,slow=19,SNR=5.8							
QRZ	**Quartz Range**	**22.05**	**200**	PN		**P**	**10 50 51.6**	**-0.1**
NNZ	**Nelson**	**22.14**	**198**	PN		**P**	**10 50 51.5**	**-1.0**
THZ	**Tophouse**	**22.79**	**198**	PN		**P**	**10 50 57.7**	**-0.7**
KHZ	**Kahutara**	**23.21**	**197**	PN		**P**	**10 51 00.9**	**-1.3**
LTZ	**Lake Taylor**	**23.91**	**198**	PN		**P**	**10 51 06.7**	**-1.8**
RPZ	**Rata Peaks**	**25.13**	**199**	P		**P**	**10 51 20.0**	**+0.6**
	5.4nm,0.4s,mb4.3,baz=1.9,slow=4.8,SNR=11							
CNB	**Canberra Magne**	**32.55**	**236**	*e*P		**P**	**10 52 25.0**	**+1.0**
	63nm,0.7s,mb5.2							
CTA	**Charters Tower**	**33.80**	**264**	*e*P		**P**	**10 52 35.4**	**+0.8**
	24nm,0.4s,mb5.0							
CTA	**Charters Tower**	**33.80**	**264**	P		**P**	**10 52 35.5**	**+0.9**
	28nm,0.4s,mb5.0,baz=90,slow=11,SNR=140							
CTAO	**Charters Tower**	**33.80**	**264**	*e*P		**P**	**10 52 35.3**	**+0.7**
	29nm,0.4s,mb5.1							
TOO	**Toolangi**	**36.22**	**234**	*e*P		**P**	**10 52 55.5**	**+0.8**
	14nm,0.7s,mb4.5							
STKA	**Stephens Creek**	**38.12**	**244**	⇓*i*P		**P**	**10 53 11.2**	**+0.9**
	18nm,0.5s,mb4.7							
STKA	**Stephens Creek**	**38.12**	**244**	P		**P**	**10 53 11.3**	**+0.9**
	22nm,0.5s,mb4.8,baz=90,slow=9.7,SNR=97							
ASPA	**Alice Springs**	**44.84**	**257**	⇓*i*P		**P**	**10 54 04.3**	**0.0**
ASPA				*e*S		**S**	**11 00 03.7**	**-2.3**
WB2	**Warramunga Arr**	**44.90**	**262**	⇓*i*P		**P**	**10 54 04.2**	**-0.6**
WB2				*e*S		**S**	**11 00 04.5**	**-2.4**
WRAB	**Tennant Creek**	**44.91**	**262**	*e*P		**P**	**10 54 03.9**	**-0.9**
	73nm,1.0s,mb5.1							
WRA	**Warramunga Arr**	**44.91**	**262**	P		**P**	**10 54 04.2**	**-0.7**
	13nm,0.3s,mb4.9,baz=97,slow=7.0,SNR=119							
WRA				S		**S**	**11 00 05.6**	**-1.5**
	1.3nm,1.0s,baz=96,slow=14,SNR=5.0							
KAKA	**Kakadu**	**48.27**	**271**	⇓*i*P		Px	10 54 53.6	
	19nm,0.7s							
FITZ	**Fitzroy Crossi**	**53.34**	**262**	⇓*i*P		**P**	**10 55 07.4**	**-0.4**
	32nm,0.4s,mb5.0							
SBA	**Scott Base**	**58.04**	**184**	*e*P		**P**	**10 55 39.6**	**-0.1**
KLBR	**Kellerberrin**	**58.38**	**245**	⇓*i*P		**P**	**10 55 41.8**	**-0.9**
	54nm,1.1s,mb4.8							
NWAO	**Narrogin (SRO)**	**58.70**	**243**	*e*P		**P**	**10 55 44.1**	**-0.7**
MUN	**Mundaring**	**59.66**	**244**	*e*P		**P**	**10 55 50.9**	**-0.2**
MJAR	**Matsushiro Arr**	**70.27**	**323**	P		**P**	**10 56 57.7**	**-0.2**
	4.3nm,0.7s,mb4.1,baz=157,slow=5.9,SNR=8.9							
ASAJ	**Asahikawa**	**73.74**	**331**	P		**P**	**10 57 18.3**	**+0.4**
	12nm,0.7s,mb4.5,baz=180,slow=3.0,SNR=5.0							
MDJ	**Mudanjiang**	**80.57**	**325**	*e*P		**P**	**10 57 55.8**	**+1.1**
NVAR	**Mina Array Bea**	**80.72**	**43**	P		**P**	**10 57 56.8**	**+1.1**
	0.2nm,0.5s,baz=239,slow=10,SNR=3.1							
NVAR				pP		pP	10 59 46.8	+4.3
	0.8nm,0.8s,baz=225,slow=10,SNR=3.7							
ENH	**Enshi**	**86.20**	**304**	*e*P		**P**	**10 58 24.7**	**+1.5**
	30nm,1.5s,mb4.7							
TXAR	**Lajitas Array**	**86.73**	**57**	P		**P**	**10 58 25.8**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=216,slow=6.7,SNR=7.4							
TXAR				pP		pP	11 00 17.7	+3.6
	1.1nm,1.1s,baz=207,slow=5.6,SNR=4.3							
MCK	**McKinley**	**86.77**	**12**	*e*P		**P**	**10 58 25.6**	**+0.6**
COLA	**College**	**88.00**	**12**	*e*P		**P**	**10 58 30.4**	**-0.4**
ILAR	**Eielson Array**	**88.11**	**13**	P		**P**	**10 58 29.7**	**-1.6**
	1.3nm,0.9s,mb3.7,baz=217,slow=5.9,SNR=14							
ILAR				pP		pP	11 00 23.5	+3.5
	0.5nm,0.9s,baz=234,slow=6.5,SNR=3.4							
VNA3	**Neumayer Olymp**	**88.27**	**176**	*e*		P	**10 58 34.9**	**+2.9**
VNA3	**Neumayer Olymp**	**88.27**	**176**	PKPdf		**P**	**10 58 31.6**	**-0.4**
VNA3				*e*			10 58 34.9	
XAN	**Xi'an**	**88.28**	**307**	P		**P**	**10 58 34.0**	**+1.1**
XAN				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.7							
VNA2	**Neumayer--Watz**	**88.71**	**177**	*e*		**P**	**10 58 37.0**	**+2.9**
VNA2	**Neumayer--Watz**	**88.71**	**177**	PKPdf		**P**	**10 58 34.0**	**-0.1**
VNA2				*e*			10 58 37.0	
INK	**Inuvik**	**94.06**	**15**	P		**P**	**10 58 57.6**	**-1.1**
	comp=Z,1.2nm,1.0s,mb3.9,baz=223,slow=3.1,SNR=3.1							
YKA	**Yellowknife Ar**	**96.26**	**25**	P		**P**	**10 59 08.9**	**+0.2**
	comp=Z,0.2nm,1.0s,baz=236,slow=4.5,SNR=3.2							
YKA				pP		pP	11 01 02.6	+4.3
	comp=Z,0.1nm,0.8s,baz=240,slow=5.0,SNR=1.9							
YKA	**Yellowknife Ar**	**96.26**	**25**	P		**P**	**10 59 08.9**	**+0.2**
YKA				pP		pP	11 01 02.6	+4.3
MKAR	**Makanchi Array**	**111.31**	**313**	PKiKP			11 04 10.6	
	comp=Z,0.4nm,0.5s,baz=114,slow=3.2,SNR=7.3							
MKAR	**Makanchi Array**	**111.31**	**313**	PKPdf		PKPdf	11 04 10.6	+0.1
BVAR	**Borovoye Array**	**119.16**	**320**	PKP		PKPdf	11 04 25.9	+0.3
	comp=Z,1.3nm,0.5s,baz=104,slow=5.9,SNR=4.9							
AKTK	**Aktyubinsk**	**127.15**	**318**	PKP		PKPdf	11 04 41.2	+0.2
AKTO	**Aktyubinsk**	**127.15**	**318**	PKP		PKPdf	11 04 41.2	+0.2
	comp=Z,1.3nm,0.8s,baz=101,slow=5.2,SNR=3.7							
ARCES	**ARCESS Array B**	**128.83**	**350**	PKP		PKPdf	11 04 44.6	+0.8
	comp=Z,5.0nm,1.0s,slow=1.2,SNR=3.6							
AKASG	**Malin Array Be**	**143.03**	**331**	PKP		PKPdf	11 05 08.2	-1.9
	comp=Z,2.7nm,0.5s,baz=42,slow=4.3,SNR=20							
BR131	**Keskin Array S**	**146.96**	**313**	*e*P		PKPdf	11 05 21.2	+4.1
BRTR	**Keskin Array B**	**146.96**	**313**	PKPbc		PKPbc	11 05 20.9	+1.5
	comp=Z,1.7nm,0.6s,baz=130,slow=6.4,SNR=8.3							
CLL	**Collm**	**147.99**	**347**	⇓P		PKPdf	11 05 23.6	+5.2
	comp=Z,logA/T=1.1							
CLL				*i*			11 05 39.6	
CLL	**Collm**	**147.99**	**347**	⇓*i*P		PKPdf	11 05 23.6	+5.2
CLL				*i*			11 05 39.6	
BRG	**Berggiesshubel**	**148.19**	**346**	*e*P		PKPdf	11 05 24.3	+5.5
KHC	**Kasperske Hory**	**149.90**	**345**	*e*PKPbc		PKPdf	11 05 28.5	+6.9
GERES	**GERESS Array B**	**150.14**	**345**	PKPbc		PKPdf	11 05 28.7	+6.7
	comp=Z,1.0nm,0.7s,baz=45,slow=1.9,SNR=9.8							

*SOF **28** 10:53:19.7,45.61N×26.23E,h13km,MD3.3*
*BUC **28** 10:53:20.6±2.2,45.54N×26.35E,h152km±21km,MD4.5/4,*
Error ellipse: s-maj=15.2km s-min=13.2km az=319.0
*CSEM **28** 10:53:20.0±0.1,45.59N×26.35E,h150km,MD4.5/4*
*IDC **28** 10:53:21.0±0.5,45.62N×26.26E,h146km±3km,mb3.2/8,*
mb1 3.3/15,mb1mx3.2/25,mbtmp3.6/15,MS2.6/1,
Ms1 2.6/1,ms1mx2.2/16,Error ellipse: s-maj=12.7km
s-min=11.0km az=138.0
*NEIC **28** 10:53:21.5,45.54N×26.36E,h143km,MD3.3(SOF),After*
BUC.

ISC 28 10:53:20.2±0.3,45.58N±0.03×26.34E±0.04,h152km±3km,
h149km±2.7km:pP-P,n70,σ0s93/101,mb3.5/8,16C-13D,
Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.29**	**252**	P		**P**	**10 53 42.2**	**+0.8**
	145nm,0.3s,baz=316,slow=6.4,SNR=1059							
MLR				S		**S**	**10 53 57.6**	**0.0**
	260nm,0.3s,baz=114,slow=19,SNR=42							
MLR	**Muntele Rosu**	**0.29**	**252**	⇑*i*P		**P**	**10 53 42.3**	**+0.9**
MLR				*i* S		**S**	**10 53 57.9**	**+0.3**
VRI	**Vrincioaia**	**0.40**	**43**	⇑*i*P		**P**	**10 53 42.4**	**+0.6**
VRI				*i* S		**S**	**10 53 58.3**	**-0.1**
VRI	**Vrincioaia**	**0.40**	**43**	⇑*i*P		**P**	**10 53 42.4**	**+0.6**
VRI				*i* S		**S**	**10 53 58.3**	**0.0**
ISR	**Istrita**	**0.48**	**163**	*i* S		**S**	**10 53 59.3**	**+0.3**
BRD	**Bordesti**	**0.49**	**93**	P		**P**	**10 53 42.0**	**-0.2**
SNX	**Sinaia**	**0.62**	**249**	⇑*i*P		**P**	**10 53 43.0**	**+0.1**
SNX				*i* S		**S**	**10 54 00.3**	**0.0**
SNX	**Sinaia**	**0.62**	**249**	⇑*i*P		**P**	**10 53 43.0**	**+0.1**
SNX				*i* S		**S**	**10 54 00.3**	**0.0**
VOIR		**0.92**	**262**	⇓*i*P		**P**	**10 53 45.2**	**+0.5**
VOIR				*i* S		**S**	**10 54 03.2**	**-0.4**
VOIR		**0.92**	**262**	⇓*i*P		**P**	**10 53 45.2**	**+0.5**
VOIR			

SONM	**Songino Array**	**52.57**	**57**	P		**P**		**11 02 19.7**	**-0.1**
	0.2nm,0.4s,mb3.2,baz=307,slow=7.2,SNR=2.6								
SONM				pP		pP		11 02 54.2	-0.7
	1.0nm,1.0s,baz=301,slow=8.6,SNR=4.8								
INK	**Inuvik**	**65.44**	**352**	P		**P**		**11 03 46.9**	**-1.1**
	0.3nm,0.3s,mb3.5,baz=31,slow=5.9,SNR=7.0								
YKA	**Yellowknife Ar**	**67.84**	**342**	P		**P**		**11 04 01.9**	**-1.2**
	0.4nm,0.6s,mb3.3,baz=32,slow=5.9,SNR=15								
YKA				pP		pP		11 04 38.7	-1.3
	0.1nm,0.7s,baz=30,slow=4.9,SNR=1.4								

IDC 28 11:08:18.5±1.2, 14.80S×74.21W, mb3.4/3, mb1 3.8/5, mb1mx3.6/17, mbtmp3.5/5, ML4.2/1, MS2.9/1, Ms1 3.0/1, ms1mx2.4/9, Error ellipse: s-maj=44.1km s-min=23.6km az=55.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.04**	**105**	Pn	Pn	11 09 50.1	-1.2
	3.4nm,0.3s,baz=278,slow=9.4,SNR=57						
LPAZ				Sn	Sn	11 10 59.3	-2.9
	baz=178,slow=25,SNR=2.0						
LPAZ				LR	LR	11 12 13.6	
	comp=Z,110nm,21.4s,baz=269,slow=39						
SIV	**San Ignacio**	**12.73**	**97**	Pn	P	11 11 16.2	-7.4
	0.6nm,0.3s,baz=277,slow=13,SNR=9.7						
CFAA	**Coronel Fontan**	**17.60**	**163**	P	P	11 12 25.0	-1.8
	0.1nm,0.3s,baz=343,slow=10,SNR=3.3						
PLCA	**Paso Flores**	**26.04**	**174**	P	P	11 13 53.6	-1.5
	1.3nm,0.7s,baz=3.0,slow=11,SNR=3.4						
TXAR	**Lajitas Array**	**52.29**	**327**	P	P	11 17 30.5	-3.6
	0.2nm,0.7s,baz=134,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**83.27**	**342**	P	P	11 20 47.8	-0.2
	0.2nm,0.9s,baz=140,slow=5.7,SNR=7.1						
SONM	**Songino Array**	**147.06**	**359**	PKPbc	PKPdf	11 28 02.5	-0.6
	0.4nm,0.7s,baz=342,slow=4.6,SNR=3.8						

*IDC **28** 11:09:17.9±3.6, 12.18N×141.13E, h54km±33km, mb3.6/8, mb1 3.8/9, mb1mx3.6/20, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=29.2km s-min=18.2km az=81.0*
*NEIC **28** 11:09:18.4±2.1, 12.17N×141.18E, h60km±21km, mb4.2/1, Error ellipse: s-maj=21.7km s-min=13.1km az=80.0*
ISC 28 11:09:17.3±3.3, 12.1N±0.1×141.2E±0.2, h69km±33km, n12, σ0§57/11, mb3.8/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.85**	**67**	P	**P**	**11 10 15.3**	**-0.3**
	20nm,0.3s,baz=247,slow=13,SNR=8.5						
GUMO	**Guam**	**3.85**	**67**	*eP*	**P**	**11 10 15.4**	**-0.1**
JNU	**Nakatsue**	**22.95**	**337**	P	**P**	**11 14 17.4**	**+1.0**
	3.5nm,0.3s,mb4.2,baz=195,slow=16,SNR=4.4						
WRA	**Warramunga Arr**	**32.57**	**192**	P	**P**	**11 15 44.5**	**+0.1**
	2.2nm,0.8s,mb4.1,baz=11,slow=9.3,SNR=8.5						
STKA	**Stephens Creek**	**43.75**	**180**	P	**P**	**11 17 18.0**	**+0.2**
	1.1nm,0.4s,mb3.9,baz=7.2,slow=8.7,SNR=7.6						
MKAR	**Makanchi Array**	**60.10**	**317**	P	**P**	**11 19 19.7**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=101,slow=7.3,SNR=2.6						
KURK	**Kurchatov**	**63.44**	**321**	*eP*	**P**	**11 19 41.5**	**-0.6**
	1.2nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**68.88**	**322**	P	**P**	**11 20 16.6**	**0.0**
	0.9nm,0.6s,mb3.8,baz=113,slow=7.9,SNR=4.6						
ILAR	**Eielson Array**	**71.42**	**25**	P	**P**	**11 20 31.6**	**-0.2**
	0.3nm,0.8s,mb3.2,baz=255,slow=5.8,SNR=4.1						
YKA	**Yellowknife Ar**	**85.78**	**27**	P	**P**	**11 21 50.8**	**+0.9**
	0.2nm,0.6s,mb3.2,baz=288,slow=5.0,SNR=6.6						
FINES	**FINESS Array B**	**90.95**	**334**	P	**P**	**11 22 13.7**	**-1.0**
	1.9nm,0.9s,mb4.2,baz=45,slow=2.7,SNR=6.1						
LPAZ	**La Paz**	**151.27**	**102**	PKPbc	PKPdf	11 29 08.2	+10
	1.0nm,0.6s,baz=63,slow=2.3,SNR=4.5						
LPAZ				PKPab	PKPab	11 29 16.2	+2.0
	0.9nm,0.7s,baz=328,slow=5.2,SNR=4.0						

JMA 28 11:22:50.1±0.4, 44.26N×148.43E, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.14**	**246**	P	Pn	11 23 27.8	+0.3
NEM2				*eS*	Sn	11 23 55.7	+0.5
JRA	**Rausu**	**2.41**	**263**	P	Pn	11 23 31.6	+0.3
JNK	**Nakash**	**2.77**	**257**	P	Pn	11 23 36.9	+0.5
JNK				*eS*	Sn	11 24 10.9	-0.1
JAK	**Akkeshi**	**2.99**	**246**	P	Pn	11 23 39.8	+0.1
JAK				*eS*	Sn	11 24 16.1	-0.7
JAR	**Ashorobuto**	**3.51**	**256**	P	Pn	11 23 47.8	+0.8
JAR				*eS*	Sn	11 24 30.4	+0.5
JCH	**Churui**	**4.04**	**248**	P	Pn	11 23 54.6	0.0
JCH				*eS*	Sn	11 24 42.3	-1.0
JNBK	**Urakawa-nobuka**	**4.59**	**246**	P	Pn	11 24 02.2	-0.2
JKB	**Kayabe**	**5.91**	**249**	P	Pn	11 24 20.0	-1.1
JKB				*eS*	Sn	11 25 27.7	-2.8
JOT	**Ohata**	**6.14**	**245**	P	Pn	11 24 23.1	-1.2
JOT				*eS*	Sn	11 25 33.0	-3.3
JANG	**Nango**	**6.43**	**235**	P	Pn	11 24 26.8	-1.6
JANG				*eS*	Sn	11 25 38.7	-4.7

*CSEM **28** 11:24:38.6±0.9, 38.51N×28.64W, h14km±6km, ML1.4, Error ellipse: s-maj=5.6km s-min=3.7km az=22.0*
*PDA **28** 11:24:38.6±0.9, 38.51N×28.64W, h14km±6km, MD3.1, ML1.4, Error ellipse: s-maj=5.6km s-min=3.7km az=22.0*
SVSA 28 11:24:38.6±0.9, 38.51N×28.64W, h14km±6km, MD3.1, ML1.4, Error ellipse: s-maj=5.6km s-min=3.7km az=22.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOR	**Horta**	**0.02**	**15**	*erx*	Pb	11 24 40.3	-0.1
HOR	**Horta**	**0.02**	**15**	*e-*	Pb	11 24 40.3	-0.1
CALA	**Caldeira**	**0.09**	**326**	*eP*	Pb	11 24 41.6	0.0
CALA				*eS*	Sb	11 24 43.5	-0.1
PCED	**Cedros**	**0.13**	**337**	*eP*	Pg	11 24 41.7	-0.6
PCED				*eS*	Sg	11 24 44.1	-0.6
	61nm,0.1s						
PCED	**Cedros**	**0.13**	**337**	*eP*	Pg	11 24 41.7	-0.6
PCED				*eS*	Sg	11 24 44.1	-0.6
	61nm,0.1s						
PCND	**Candelaria**	**0.14**	**105**	*eP*	Pg	11 24 42.0	-0.4
PCND				*eS*	Sg	11 24 44.7	-0.2
	30nm,0.1s						
PTCA	**Ponta do Capel**	**0.15**	**302**	*eS*	Sg	11 24 46.0	+0.9
	15nm,0.1s						
PTCA	**Ponta do Capel**	**0.15**	**302**	*eS*	Sg	11 24 46.0	+0.9
	15nm,0.1s						
PICO	**Pico**	**0.17**	**92**	*eP*	Pg	11 24 41.9	-0.9
PICO				*eS*	Sg	11 24 44.9	-0.7
PBOI	**Pico dos Bois**	**0.22**	**109**	*eP*	Pg	11 24 43.0	-0.6
PBOI				*eS*	Sg	11 24 46.2	-0.8
	20nm,0.1s						
PPNO	**Prainha do Nor**	**0.29**	**97**	*eP*	Pg	11 24 44.2	-0.8
PPNO				*eS*	Sg	11 24 48.1	-1.2
	31nm,0.2s						
ROSA	**Rosais**	**0.38**	**55**	*eP*	Pb	11 24 45.3	-1.2
ROSA				*eS*	Sg	11 24 49.7	-2.1
PAMA	**Santo Amaro**	**0.40**	**64**	*eP*	Pb	11 24 46.5	-0.4
PAMA				*eS*	Sb	11 24 51.7	-0.8

*IDC **28** 11:33:57.8±3.3, 12.25N×141.19E, h65km±29km, mb3.8/10, mb1 4.1/11, mb1mx3.9/19, mbtmp4.2/11, ML4.5/1, Error ellipse: s-maj=24.9km s-min=16.5km az=82.0*
*NEIC **28** 11:33:58.0±1.6, 12.19N×141.24E, h69km±16km, mb4.4/2, Error ellipse: s-maj=16.4km s-min=9.1km az=89.0*
ISC 28 11:33:56.1±2.6, 12.16N±0.08×141.2E±0.2, h66km±26km, n20, σ0§84/18, mb4.0/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.84**	**68**	P	**P**	**11 34 54.0**	**-0.2**
	38nm,0.3s,baz=208,slow=15,SNR=14						
GUMO	**Guam**	**3.84**	**68**	P	**P**	**11 34 54.0**	**-0.2**
JNU	**Nakatsue**	**22.90**	**337**	P	**P**	**11 38 56.8**	**+1.8**
	14nm,0.7s,mb4.4,baz=117,slow=4.5,SNR=5.8						
WRAB	**Tennant Creek**	**32.60**	**192**	*eP*	**P**	**11 40 23.4**	**-0.3**
	5.2nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**32.61**	**192**	*eP*	**P**	**11 40 23.1**	**-0.7**
WRA	**Warramunga Arr**	**32.61**	**192**	P	**P**	**11 40 23.8**	**0.0**
	4.3nm,0.8s,mb4.3,baz=10,slow=9.5,SNR=21						
ASPA	**Alice Springs**	**36.32**	**191**	*eP*	**P**	**11 40 56.5**	**+1.0**
STKA	**Stephens Creek**	**43.79**	**180**	P	**P**	**11 41 57.5**	**+0.3**
	2.5nm,0.5s,mb4.2,baz=350,slow=10,SNR=9.4						
STKA	**Stephens Creek**	**43.79**	**180**	*eP*	**P**	**11 41 57.5**	**+0.3**
SONM	**Songino Array**	**45.92**	**328**	P	**P**	**11 42 14.1**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=146,slow=7.4,SNR=4.3						
SONM				PcP	PcP	11 43 49.7	-0.8
	0.2nm,0.4s,baz=144,slow=4.7,SNR=4.6						
MKAR	**Makanchi Array**	**60.07**	**317**	P	**P**	**11 43 58.1**	**-0.5**
	1.0nm,0.7s,mb4.0,baz=90,slow=8.5,SNR=11						
KURK	**Kurchatov**	**63.40**	**321**	*eP*	**P**	**11 44 20.3**	**-0.6**
	2.8nm,0.6s,mb4.4						
BRVK	**Borovoye**	**68.91**	**322**	*eP*	**P**	**11 44 55.9**	**0.0**
ILAR	**Eielson Array**	**71.38**	**25**	P	**P**	**11 45 08.8**	**-1.8**
	0.5nm,0.6s,mb3.5,baz=248,slow=5.9,SNR=12						
YKA	**Yellowknife Ar**	**85.75**	**27**	P	**P**	**11 46 29.6**	**+0.8**
	0.4nm,0.6s,mb3.5,baz=289,slow=4.9,SNR=14						
ARCES	**ARCESS Array B**	**87.32**	**342**	P	**P**	**11 46 36.1**	**-0.3**
	4.0nm,0.9s,mb4.4,baz=59,slow=7.1,SNR=9.5						
NVAR	**Mina Array Bea**	**90.59**	**51**	P	**P**	**11 46 54.0**	**+1.4**
	0.3nm,0.5s,mb3.7,baz=278,slow=6.4,SNR=3.2						
FINES	**FINESS Array B**	**90.91**	**334**	P	**P**	**11 46 52.8**	**-0.8**
	1.8nm,0.6s,mb4.4,baz=78,slow=4.8,SNR=11						
LPAZ	**La Paz**	**151.28**	**102**	PKPbc	PKPdf	11 53 46.4	+10
	2.3nm,0.7s,baz=327,slow=4.0,SNR=10						
LPAZ				PKPab	PKPab	11 53 55.4	+2.0
	1.5nm,0.6s,baz=81,slow=2.3,SNR=6.1						
LPAZ	**La Paz**	**151.28**	**102**	PKPbc	PKPdf	11 53 46.4	+10
LPAZ				PKPab	PKPab	11 53 55.4	+2.0

IDC 28 11:46:28.5±2.0, 2.52N×128.18E, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=160.4km s-min=25.9km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.12**	**165**	P	P	11 51 36.5	-1.0
	1.5nm,0.5s,baz=344,slow=10,SNR=6.5						
WB2	**Warramunga Arr**	**23.13**	**165**	*eP*	P	11 51 37.4	-0.1
STKA	**Stephens Creek**	**36.50**	**161**	P	P	11 53 35.1	-2.4
	0.7nm,0.3s,baz=331,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**59.37**	**325**	P	P	11 56 33.0	-2.0
	0.1nm,0.4s,baz=121,slow=8.0,SNR=6.1						

*FUNV **28** 11:53:16.9, 6.73N×73.13W, h169km, MW3.3*
*IDC **28** 11:53:17.3±0.7, 6.84N×73.06W, h157km±11km, mb3.4/7, mb1 3.6/9, mb1mx3.4/22, mbtmp3.8/9, Error ellipse: s-maj=26.3km s-min=8.3km az=130.0*
ISC 28 11:53:16.9±0.6, 6.88N±0.06×72.96W±0.07, h172km±6km, n17, σ1§07/27, mb3.6/7, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.17**	**33**	*iP*	**P**	**11 53 46.5**	**+1.1**
CAPV				*eS*	**S**	**11 54 08.1**	**+0.6**
ROSC	**El Rosal**	**2.43**	**214**	P	**P**	**11 53 58.5**	**-0.3**
	59nm,0.3s,baz=88,slow=9.5,SNR=52						
ROSC				S	**S**	**11 54 28.4**	**-2.7**
	103nm,0.3s,baz=106,slow=20,SNR=19						
SOCV	**Socops**	**2.51**	**56**	*eP*	**P**	**11 54 01.4**	**+1.5**
SOCV				*eS*	**S**	**11 54 33.3**	**+0.5**
SDV	**Santo Domingo**	**3.05**	**49**	P	**P**	**11 54 07.9**	**+1.6**
	10nm,0.3s,baz=245,slow=5.6,SNR=69						
SDV				S	**S**	**11 54 45.5**	**+1.1**
	14nm,0.3s,baz=205,slow=14,SNR=5.1						
VIRV	**Villa del Rosa**	**3.64**	**9**	*eP*	**P**	**11 54 13.3**	**-0.5**
VIRV				*eS*	**S**	**11 54 56.8**	**-0.9**
QARV	**Quebrada Arrib**	**4.09**	**36**	*iP*	**P**	**11 54 20.9**	**+1.2**
QARV				*eS*	**S**	**11 55 07.2**	**-0.8**
SANV	**Sanarito**	**4.27**	**52**	*eP*	**P**	**11 54 22.9**	**+0.9**
SANV				*eS*	**S**	**11 55 11.6**	**-0.7**
TEPV	**Terepaima**	**4.83**	**50**	*iP*	**P**	**11 54 30.2**	**+1.0**
TEPV				*eS*	**S**	**11 55 23.6**	**-1.5**
SIQV	**Siquisique**	**4.87**	**40**	*eP*	**P**	**11 54 30.3**	**+0.5**
SIQV				*eS*	**S**	**11 55 24.3**	**-1.9**
BAUV	**El Baul**	**5.29**	**67**	*iP*	**P**	**11 54 34.6**	**-0.6**
BAUV				*eS*	**S**	**11 55 33.7**	**-2.3**
LPAZ	**La Paz**	**23.51**	**168**	P	**P**	**11 58 12.9**	**+0.3**
	1.0nm,0.8s,mb3.4,baz=308,slow=19,SNR=2.8						
TXAR	**Lajitas Array**	**36.54**	**312**	P	**P**	**12 00 07.5**	**-0.3**
	0.7nm,0.6s,mb3.5,baz=127,slow=9.3,SNR=13						
TXAR				PcP	PcP	12 02 29.1	+1.2
	0.5nm,0.9s,baz=169,slow=4.6,SNR=3.8						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**12 01 33.8**	**-0.8**
	1.6nm,0.5s,mb3.9,baz=154,slow=10.0,SNR=7.1						
SCHQ	**Schefferville**	**48.06**	**5**	P	**P**	**12 01 41.7**	**+1.1**
	2.2nm,0.8s,mb3.8,baz=222,slow=16,SNR=3.2						
PDAR	**Piedras Array**	**48.12**	**324**	P	**P**	**12 01 41.5**	**+0.3**
	0.3nm,0.5s,mb3.2,baz=124,slow=9.5,SNR=5.8						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**12 03 28.6**	**-0.5**
	1.2nm,0.6s,mb3.9,baz=134,slow=6.6,SNR=63						
INK	**Inuvik**	**73.02**	**340**	P	**P**	**12 04 29.8**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=94,slow=2.2,SNR=7.1						

*IDC **28** 11:58:24.8±1.6, 31.74S×177.78W, mb4.3/3, mb1 4.4/5, mb1mx4.1/15, mbtmp4.3/5, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=48.1km s-min=26.1km az=129.0*
*NEIC **28** 11:58:40.3±1.6, 30.70S×178.37W, h99km±15km, mb4.7/2, Error ellipse: s-maj=22.0km s-min=17.2km az=190.0*
ISC 28 11:58:34.2±0.8, 31.16S±0.08×178.8W±0.1, h33km, n18, σ0§64/14, mb4.4/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.04**	**22**	Pn	**Pn**	**11 59 06.3**	**-0.7**
	54nm,0.3s,baz=219,slow=14,SNR=3.3						
RAO				Sn	**Sn**	**11 59 32.0**	**+0.4**
	225nm,0.3s,baz=95,slow=18,SNR=4.6						
URZ	**Urewera**	**7.85**	**204**	Pn	**Pn**	**12 00 18.6**	**-10**
	1.3nm,0.3s,baz=211,slow=12,SNR=7.5						
URZ				Sn	**Sn**	**12 01 41.3**	**-16**
	3.3nm,0.3s,baz=148,slow=20,SNR=10						
AFI	**Afiamalu**	**18.34**	**22**	LR	LR	12 08 24.1	
	comp=Z,152nm,21.8s,baz=95,slow=32						
CTA	**Charters Tower**	**33.27**	**281**	P	**P**	**12 05 12.7**	**+1.9**
	3.8nm,0.7s,mb4.4,baz=114,slow=10.0,SNR=5.5						
CTAO	**Charters Tower**	**33.27**	**281**	*eP*	**P**	**12 05 12.3**	**+1.5**
STKA	**Stephens Creek**	**33.66**	**258**	P	**P**	**12 05 14.2**	**+0.2**
	1.0nm,0.5s,mb4.0,baz=105,slow=8.6,SNR=3.7						
ASPA	**Alice Springs**	**42.41**	**268**	*eP*	**P**	**12 06 26.7**	**-0.7**
WB2	**Warramunga Arr**	**43.46**	**273**	*eP*	**P**	**12 06 35.7**	**-0.3**
WRAB	**Tennant Creek**	**43.46**	**273**	*eP*	**P**	**12 06 35.3**	**-0.7**
	22nm,1.4s,mb4.7						
WRA	**Warramunga Arr**	**43.47**	**273**	P	**P**	**12 06 36.1**	**0.0**
	1.9nm,0.4s,mb4.2,baz=111,slow=8.0,SNR=9.0						
QSPA	**South Pole Qui**	**58.95**	**180**	*eP*	**P**	**12 08 32.2**	**+0.1**
	3.7nm,0.7s,mb4.5						
VNA3	**Neumayer Olymp**	**77.59**	**176**		**P**	**12 10 28.1**	**+0.1**
VNA2	**Neumayer--Watz**	**78.02**	**177**		**P**	**12 10 30.4**	**+0.1**
KAF	**Kangasniemi**	**145.04**	**340**	*ep*	PKPdf	12 18 03.7	-3.6
	1.7nm,0.5s						
FINES	**FINESS Array B**	**145.62**	**339**	PKPbc	PKPbc	12 18 06.1	-2.9
	2.0nm,0.5s,baz=45,slow=3.6,SNR=17						
NB2	**NORSAR Subarra**	**149.40**	**350**	PKPabc	PKPdf	12 18 16.8	+2.3
	12nm,1.7s,baz=15,slow=4.1						
NOA	**NORSAR Array B**	**149.40**	**350**	PKPbc	PKPdf	12 18 16.5	+2.0
	0.4nm,0.5s,baz=16,slow=4.1,SNR=2.6						
NOA				PKPab	PKPab	12 18 22.9	-3.0
	0.7nm,0.8s,baz=21,slow=3.8,SNR=3.3						
AKASG	**Malin Array Be**	**151.49**	**321**	PKPbc	PKPdf	12 18 21.6	+3.5
	0.3nm,0.3s,baz=65,slow=2.3,SNR=5.8						
AKASG				PKPab	PKPab	12 18 33.3	-1.6
	0.4nm,0.4s,baz=49,slow=3.0,SNR=2.6						

*MOS **28** 12:21:55.8±1.1, 19.76S×68.94W, h87km, mb4.9/21, Error ellipse: s-maj=18.1km s-min=6.8km az=114.0*
*BJI **28** 12:21:58.7, 19.90S×68.90W, h101km, mB5.2*
*HRVD **28** 12:21:58.7±0.5, 20.05S×69.11W, h128km±4km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s22,c24;Mantle waves: s47,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.71±.18; $M_{\theta\theta}$-0.32±.18; $M_{\phi\phi}$3.03±.20; $M_{r\theta}$1.55±.13; $M_{\theta\phi}$0.74±.22; $M_{\phi r}$-0.57±.19; Best double couple: $M_0$3.388×10^{16} NP1:ϕ_s217°, δ49°, λ-52°. NP2:ϕ_s347°, δ54°, λ-125°. Principal axes: T 3.198, Plg3°, Azm101°; N .384, Plg28°, Azm9°; P -3.578, Plg62°, Azm196°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **28** 12:21:59.0±0.6, 19.86S×68.98W, h104km±4km, mb4.4/13, mb1 4.6/14, mb1mx4.5/16, mbtmp4.8/14, MS3.8/6, Ms1 3.8/6, ms1mx3.6/21 Error ellipse: s-maj=14.8km s-min=12.3km az=81.0*
*NEIC **28** 12:21:58.7±0.2, 19.86S×68.92W, mb5.0/39, Error ellipse: s-maj=8.0km s-min=4.4km az=61.0*
NEIC Felt [IV] at Cerro Colorado, Huara, Pica and Pozo Almonte; [III] at Iquique and Pisagua; [II] at Arica and Tocopilla.
ISC 28 12:21:57.1±0.2, 19.84S±0.03×68.97W±0.05, h103km, h103km±.8km: pP-P, n185, σ1§11/138, mb4.9/47, 7C-7D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**3.14**	**167**	*eP*	**P**	**12 22 47.3**	**+1.5**
SPCH				*i S*	**S**	**12 23 33.0**	**+10**
LPAZ	**La Paz**	**3.62**	**13**	P	**P**	**12 22 57.9**	**+5.6**
	54nm,0.3s,baz=191,slow=8.2,SNR=489						
LPAZ				S	**S**	**12 23 38.8**	**+4.5**
	17nm,0.3s,baz=252,slow=20,SNR=4.7						
LPAZ	**La Paz**	**3.62**	**13**	P	**P**	**12 22 57.9**	**+5.6**
LPAZ				S	**S**	**12 23 38.8**	**+4.5**
LPAZ				pmax	pmax		
	comp=Z,55nm,0.3s						
LPAZ				smax			
	comp=E,17nm,0.3s						
LPAZ	**La Paz**	**3.62**	**13**	*eP*	**P**	**12 22 57.8**	**+5.5**
CEN1	**Los Morros**	**3.72**	**198**	*eP*	**P**	**12 22 52.9**	**-0.8**
CEN1				*i S*	**S**	**12 23 44.5**	**+7.8**
ANCH	**Antofagasta**	**4.05**	**199**	*eP*	**P**	**12 22 54.5**	**-3.7**
ARE	**Arequipa**	**4.12**	**324**	*iP*	**P**	**12 22 58.3**	**-0.9**
ARE				*eS*	**S**	**12 23 45.0**	**-1.7**
CDCH	**Caldera**	**7.40**	**193**	*eP*	**P**	**12 23 37.2**	**-6.9**
SIV	**San Ignacio**	**8.43**	**64**	P	**P**	**12 23 58.5**	**+0.5**
	comp=E,37nm,0.3s,baz=256,slow=11,SNR=1447						
SIV				S	**S**	**12 25 32.2**	**0.0**
	baz=339,slow=23,SNR=3.2						
NNA	**Nana**	**10.87**	**315**	*eP*	**P**	**12 24 27.8**	**-3.1**
	comp=E,36nm,0.6s						
CFAA	**Coronel Fontan**	**11.74**	**177**	P	**P**	**12 24 37.1**	**-5.2**
	comp=E,0.3nm,0.3s,baz=357,slow=11,SNR=14						
CFAA				S	**S**	**12 26 40.7**	**-11**
	comp=E,0.4nm,0.3s,baz=238,slow=16,SNR=3.6						
CFAA	**Coronel Fontan**	**11.74**	**177**	P	**P**	**12 24 37.1**	**-5.2**
CFAA				S	**S**	**12 26 40.7**	**-11**
CPUP	**Villa Florida**	**12.51**	**123**	*eP*	**P**	**12 24 50.8**	**-1.7**
CPUP				pmax	pmax		
	comp=Z,439nm,0.9s						
CPUP	**Villa Florida**	**12.51**	**123**	*eP*	**P**	**12 24 50.8**	**-1.7**
	comp=Z,439nm,0.9s						
FCH	**Farellones**	**13.49**	**185**	*eP*	**P**	**12 25 04.3**	**-0.9**
TRQA	**Tornquist**	**19.14**	**163**	*eP*	**P**	**12 26 11.9**	**-2.7**
	comp=Z,202nm,1.6s						
BDFB	**Brasilia**	**20.39**	**82**	P	**P**	**12 26 28.3**	**+0.5**
	comp=Z,21nm,0.6s,baz=264,slow=9.4,SNR=22						
BDFB				LR	LR	12 35 42.6	
	comp=Z,393nm,18.8s,baz=258,slow=40						
BDFB	**Brasilia**	**20.39**	**82**	P	**P**	**12 26 28.3**	**+0.6**
BDFB				pmax	pmax		
	comp=Z,21nm,0.6s						
BDFB				MLR	MLR		
	comp=Z,393nm,18.8s						
BAO	**Brasilia Array**	**20.41**	**82**	P	**P**	**12 26 28.0**	**0.0**
PLCA	**Paso Flores**	**20.87**	**183**	P	**P**	**12 26 31.2**	**-1.3**
	comp=Z,62nm,0.7s,baz=5.1,slow=12,SNR=106						
PLCA				PcP	PcP	12 30 37.3	-0.2
	comp=Z,3.2nm,0.7s,baz=353,slow=4.5,SNR=3.4						
PLCA	**Paso Flores**	**20.87**	**183**	P	**P**	**12 26 31.2**	**-1.3**
PLCA						12 30 37.3	
PLCA				pmax	pmax		
	comp=Z,63nm,0.7s						
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PLCA	**Paso Flores**	**20.87**	**183**	*eP*	**P**	**12 26 31.1**	**-1.5**
	comp=Z,72nm,0.8s						
OTAV	**Otavalo**	**22.01**	**334**	*eP*	**P**	**12 26 46.7**	**+2.7**
	comp=Z,21nm,0.9s,mb4.5						
ROSC	**El Rosal**	**25.10**	**347**	LR	LR	12 38 06.1	
	comp=Z,182nm,20.9s,baz=18,slow=38						
SDV	**Santo Domingo**	**28.59**	**357**	P	**P**	**12 27 44.6**	**-1.2**
	comp=Z,2.3nm,0.4s,mb4.2,baz=229,slow=3.3,SNR=3.7						
SDV				LR	LR	12 40 08.6	
	comp=Z,159nm,19.4s,baz=215,slow=38						
SDV	**Santo Domingo**	**28.59**	**357**	*eP*	**P**	**12 27 44.5**	**-1.3**
	comp=Z,17nm,0.9s,mb4.7						
JTS	**JuntasAbangare**	**33.82**	**331**	*eP*	**P**	**12 28 30.0**	**-1.6**
USHA	**Ushuaia**	**34.94**	**179**	P	**P**	**12 28 39.7**	**-1.0**

VNA3 e 12 39 39.6
VNA3 eS S **12 40 18.6 +0.2**
VNA3 e 12 40 48.6
VNA1 Neumayer--Stat 61.86 161 ⇓*i*P P **12 32 07.4 +0.1**
VNA1 e 12 32 23.2
VNA1 e 12 32 26.8
VNA1 e 12 32 43.3
VNA1 e 12 32 47.9
ALLY Alegheny Colle 62.04 351 *e*P P **12 32 08.3 -0.6**
ALLY epP pP 12 32 34.1 -0.6
VNA2 Neumayer--Watz 62.23 161 ⇓*i*P P **12 32 09.2 -0.6**
VNA2 e 12 32 24.5
VNA2 e 12 32 27.1
VNA2 e 12 32 45.1
VNA2 e 12 32 48.3
VNA2 e 12 33 08.8
VNA2 e 12 34 23.8
VNA2 e 12 36 09.9
VNA2 e 12 36 51.6
VNA2 e 12 39 30.0
VNA2 e 12 39 40.4
VNA2 eS S **12 40 27.7 +2.1**
VNA2 e 12 40 39.8
ERPA Erie 62.48 351 *e*P P **12 32 11.1 -0.7**
comp=Z,100nm,0.6s,mb6.0
ERPA epP pP 12 32 37.3 -0.2
SNAA Sanae 63.86 161 ⇓*i*P P **12 32 19.8 -0.7**
SNAA e 12 32 54.4
SNAA e 12 32 57.4
SNAA e 12 33 39.6
SNAA Sanae 63.86 161 ⇓*i*P P **12 32 19.8 -0.7**
SNAA e 12 32 54.4
SNAA e 12 32 57.4
SNAA e 12 33 07.5
SNAA e 12 33 34.3
SNAA e 12 34 03.6
SNAA e 12 34 39.6
SNAA e 12 39 41.2
KSU1 Kansas State U 64.08 336 *e*P P **12 32 21.2 -1.2**
ANMO Albuquerque 65.09 327 *e*P P **12 32 27.2 -1.8**
SDCO Great Sand Dun 66.80 329 *e*P P **12 32 39.5 -0.4**
comp=Z,18nm,1.0s,mb4.8
SDCO epP pP 12 33 04.9 -1.0
WUAZ Wupatki 68.16 324 *e*P P **12 32 49.1 +0.7**
comp=Z,22nm,0.9s,mb5.0
DBIC Dimbokro 68.32 74 P P **12 32 49.3 -0.4**
comp=Z,24nm,0.7s,mb5.1,baz=221,slow=6.4,SNR=46
DBIC pP pP 12 33 15.8 0.0
comp=Z,26nm,0.7s,baz=228,slow=6.6,SNR=6.7
DBIC LR LR 13 00 14.3
comp=Z,73nm,18.5s,baz=216,slow=34
DBIC Dimbokro 68.32 74 P P **12 32 49.3 -0.4**
DBIC *PP pP 12 33 15.9 +0.1
DBIC pmax pmax
comp=Z,24nm,0.7s
DBIC pmax pmax
comp=Z,26nm,0.7s
DBIC Dimbokro 68.32 74 *e*P P **12 32 48.9 -0.8**
comp=Z,17nm,0.6s,mb5.0
DBIC epP pP 12 33 15.7 -0.1
MAIT Maitri 68.37 159 ⇓*i*P P **12 32 49.2 +0.2**
NVL N'lazarevskaya 68.40 159 ⇓*i*P P **12 32 49.2 0.0**
NVL e pP 12 33 13.3 -2.1
NVL e*PP pP 12 33 25.8 +10
NVL e 12 35 25.0
NVL ePPP PPP 12 37 05.4 +4.2
NVL eS S 12 41 43.8 +2.9
NVL pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
NEN Nelson 70.24 322 *e*P P **12 33 01.4 +0.3**
QSPA South Pole Qui 70.35 180 *e*P P **12 33 00.9 -0.1**
comp=Z,53nm,1.0s,mb5.3
SRU San Rafael 70.36 327 *e*P P **12 33 02.0 +0.3**
SRU pmax pmax
comp=Z,15nm,0.9s,mb4.8
SRU San Rafael 70.36 327 *e*P P **12 33 02.0 +0.3**
comp=Z,15nm,0.9s,mb4.8
EYMN Ely 70.43 344 *e*P P **12 33 00.9 -1.1**
MSU Marysvale 70.78 325 *e*P P **12 33 05.4 +1.1**
MVU Marysvale 70.80 325 *e*P P **12 33 07.2 +2.8**
comp=Z,18nm,1.0s,mb4.9
ARUT Antelope Range 70.95 324 *e*P P **12 33 06.8 +1.5**
MWC Mount Wilson 71.22 319 *e*P P **12 33 07.7 +0.7**
RSSD Black Hills 71.28 334 *e*P P **12 33 07.5 +0.3**
RSSD pmax pmax
comp=Z,14nm,0.9s,mb4.8
RSSD Black Hills 71.28 334 *e*P P **12 33 07.5 +0.4**
comp=Z,14nm,0.9s,mb4.8
DAU Daniels Canyon 71.70 327 *e*P P **12 33 10.8 +1.0**
TPNV Topopah Spring 71.96 322 *e*P P **12 33 12.6 +1.3**
TPNV pmax pmax
comp=Z,19nm,0.8s,mb5.0
TPNV Topopah Spring 71.96 322 *e*P P **12 33 12.6 +1.2**
comp=Z,19nm,0.8s,mb5.0
DAC Darwin (Calif) 72.30 320 *e*P P **12 33 14.2 +0.9**
DAC pmax pmax
comp=Z,12nm,0.8s,mb4.8
DAC Darwin (Calif) 72.30 320 *e*P P **12 33 14.2 +0.9**
comp=Z,12nm,0.8s,mb4.8
DUG Dugway 72.35 326 *e*P P **12 33 14.0 +0.4**
DUG pmax pmax
comp=Z,22nm,1.3s,mb4.8
DUG Dugway 72.35 326 *e*P P **12 33 14.0 +0.5**
comp=Z,22nm,1.3s,mb4.8
ISA Isabella 72.42 319 *e*P P **12 33 14.8 +0.7**
ISA pmax pmax
comp=Z,22nm,1.1s,mb4.9
ISA Isabella 72.42 319 *e*P P **12 33 14.8 +0.8**
comp=Z,22nm,1.1s,mb4.9
PDAR Pinedale Array 72.65 330 P P **12 33 15.4 +0.2**
comp=Z,2.7nm,0.9s,mb4.1,baz=131,slow=6.5,SNR=14
BW06 Boulder Array 72.65 330 *e*P P **12 33 15.1 -0.2**
comp=Z,6.5nm,1.2s,mb4.3
HWUT Hardware Ranch 72.75 328 *e*P P **12 33 15.9 0.0**
comp=Z,12nm,0.8s,mb4.8
REDW Red Top Meadow 73.72 330 *e*P P **12 33 22.0 +0.5**
comp=Z,9.4nm,0.9s,mb4.5
ULM Lac du Bonnet 73.72 342 P P **12 33 20.8 -0.6**
comp=Z,16nm,0.7s,mb4.8,baz=153,slow=5.5,SNR=46
ULM Lac du Bonnet 73.72 342 P P **12 33 20.8 -0.6**
NVAR Mina Array Bea 74.16 322 P P **12 33 25.5 +1.3**
comp=Z,6.8nm,0.8s,mb4.4,baz=167,slow=6.6,SNR=41
NVAR pP pP 12 33 51.5 +0.7
comp=Z,1.7nm,0.8s,baz=153,slow=6.0,SNR=2.4
LAO LASA Array 74.27 334 *e*P P **12 33 24.7 0.0**
comp=Z,30nm,1.2s,mb4.9
LAO epP pP 12 33 51.3 +0.1
SCHQ Schefferville 74.39 1 P P **12 33 25.4 +0.2**
comp=Z,11nm,0.9s,mb4.6,baz=158,slow=3.3,SNR=13
SCHQ LR LR 13 08 08.0
comp=Z,66nm,18.2s,baz=258,slow=37
SCHQ Schefferville 74.39 1 P P **12 33 25.4 +0.2**
SCHQ LR LR 13 08 08.0
LKWY Lake 74.42 331 *e*P P **12 33 27.1 +1.5**
LKWY pmax pmax
comp=Z,15nm,0.9s,mb4.7
LKWY Lake 74.42 331 *e*P P **12 33 27.1 +1.5**
comp=Z,15nm,0.9s,mb4.7
LRV Little Rabbit 74.48 319 *e*P P **12 33 27.5 +1.4**
DGMT Dagmar 74.93 337 *e*P P **12 33 28.9 +0.5**
comp=Z,32nm,0.9s,mb5.0
DGMT epP pP 12 33 55.3 +0.3
GCMT Greycliff 75.03 332 *e*P P **12 33 29.1 +0.1**
QLMT Earthquake Lak 75.10 330 *e*P P **12 33 30.8 +1.4**
HLID Hailey 75.61 328 *e*P P **12 33 33.3 +0.9**
comp=Z,18nm,1.0s,mb4.8
HLID epP pP 12 33 59.7 +0.7
MCMT McKenzie Canyo 75.77 329 *e*P P **12 33 34.5 +1.2**
BOZ Bozeman (W) 75.81 331 *e*P P **12 33 33.5 +0.1**
BOZ e*PP pP 12 34 00.9 +0.8
BOZ pmax pmax
comp=Z,26nm,1.6s,mb4.7
BOZ Bozeman (W) 75.81 331 *e*P P **12 33 33.5 0.0**
comp=Z,26nm,1.6s,mb4.7
BOZ epP pP 12 34 00.9 +0.8
EGMT Eagleton 76.79 333 *e*P P **12 33 39.2 +0.3**
comp=Z,18nm,1.0s,mb4.8
SYO Syowa Base 78.07 160 ⇑P P **12 33 45.8 +0.2**
SYO Syowa Base 78.07 160 ⇑PcP PcP 12 33 50.7 -4.4
SYO Syowa Base 78.07 160 ⇑*i*P P **12 33 45.8 +0.2**
SYO ⇑*i*PcP PcP 12 33 50.7 -4.4
SYO eS S 12 43 27.7 -1.8
VNDA Vanda 78.47 190 P P **12 33 49.0 +1.4**
comp=Z,5.4nm,0.8s,mb4.3,baz=108,slow=4.3,SNR=15
VNDA Vanda 78.47 190 P P **12 33 49.0 +1.4**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
CROR Criterion Ridg 80.01 325 P P **12 33 58.7 +2.2**
OD2 Odessa Site #2 80.45 328 P P **12 34 00.4 +1.5**
TSUM Tsumeb 80.57 107 *e*P P **12 33 59.8 -0.3**
comp=Z,7.8nm,0.9s,mb4.5
TSUM epP pP 12 34 28.3 +1.4
EBG Ellensburg 81.06 327 P P **12 34 04.2 +2.1**
TBM Table Mountain 81.25 327 P P **12 34 04.9 +1.8**
WTV Waterville 81.28 328 P P **12 34 04.7 +1.5**
EDM Edmonton 82.24 335 *e*P P **12 34 07.6 -0.5**
VDB Vedder Mountai 83.23 328 P P **12 34 14.0 +0.8**
ESDC Sonseca Array 84.69 45 P P **12 34 22.2 +1.5**
comp=Z,5.5nm,1.1s,mb4.4,baz=258,slow=6.4,SNR=4.6
ESDC pP pP 12 34 48.9 +1.0
comp=Z,2.9nm,0.8s,baz=240,slow=5.2,SNR=4.9
MAW Mawson 85.93 163 P P **12 34 27.1 +0.9**
comp=Z,11nm,0.8s,mb4.8,baz=216,slow=6.1,SNR=21
MAW LR LR 13 10 07.3
comp=Z,51nm,20.3s,baz=66,slow=34
YKA Yellowknife Ar 89.61 341 P P **12 34 44.6 +0.7**
comp=Z,32nm,0.7s,mb5.6,baz=134,slow=4.7,SNR=824
YKA pP pP 12 35 11.7 +0.4
comp=Z,2.5nm,0.5s,baz=136,slow=4.9,SNR=2.8
YKA Yellowknife Ar 89.61 341 P P **12 34 44.6 +0.8**
YKA *PP pP 12 35 11.7 +0.4
YKA pmax pmax
comp=Z,32nm,0.7s
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKA Yellowknife Ar 89.61 341 P P **12 34 44.6 +0.8**
YKA pP pP 12 35 11.7 +0.4
YKW3 Yellowknife Ar 89.66 341 *e*P P **12 34 44.5 +0.4**
ILAR Eielson Array 102.73 335 P Pdif 12 35 43.5 0.0
comp=Z,0.2nm,0.8s,baz=151,slow=1.8,SNR=4.3
OJC Ojcow 104.21 41 *e*P Pdif 12 35 41.5 -8.8
BRTR Keskin Array B 111.91 54 PKiKP
comp=Z,1.1nm,0.8s,baz=190,slow=1.7,SNR=5.6
BRTR Keskin Array B 111.91 54 *i* PKIKP PKPdf 12 40 21.7 +1.7
BRTR pmax pmax
comp=Z,1.0nm,0.8s
KIV Kislovodsk 118.96 50 *i* PKIKP PKPdf 12 40 34.3 +0.7
KIV *e* 12 47 21.8
KIV eSP SP 12 51 31.0 -0.4
KIV eSS SS 12 58 09.9 +3.5
KIV pmax pmax
comp=Z,12nm,0.8s
STKA Stephens Creek 120.82 210 *e*P PKPdf 12 40 38.9 +1.3
comp=Z,2.4nm,0.6s
STKA Stephens Creek 120.82 210 PKP PKPdf 12 40 39.0 +1.5
comp=Z,3.0nm,0.7s,baz=143,slow=4.9,SNR=8.6
BILL Bilibino 120.96 339 *i* PKIKP PKPdf 12 40 39.0 +2.0
BILL pmax pmax
comp=Z,3.0nm,1.4s
ARU Arti 126.80 33 *i* PKIKP PKPdf 12 40 50.4 +2.0
ARU *e* 12 42 46.8
ARU *e* 12 47 47.5
ARU eSS SS 12 59 46.5 +0.5
CTA Charters Tower 127.42 223 *e*P PKPdf 12 40 52.2 +1.6
comp=Z,4.4nm,0.8s
AKTK Aktyubinsk 128.43 41 PKP PKPdf 12 40 53.9 +2.2
AKTO Aktyubinsk 128.43 41 PKP PKPdf 12 40 53.9 +2.2
comp=Z,2.9nm,0.8s,baz=66,slow=0.6,SNR=12
AKTO Aktyubinsk 128.43 41 PKIKP PKPdf 12 40 53.9 +2.2
AKTO pmax pmax
comp=Z,3.0nm,0.8s
ASPA Alice Springs 131.35 208 ⇑*i*P PKPdf 12 40 59.0 +1.0
WB2 Warramunga Arr 134.34 211 *e*P PKPdf 12 41 04.9 +1.2
WRA Warramunga Arr 134.35 211 PKP PKPdf 12 41 05.0 +1.3
comp=Z,6.6nm,0.6s,baz=159,slow=1.7,SNR=29
WRA Warramunga Arr 134.35 211 PKIKP PKPdf 12 41 05.0 +1.3
WRA pmax pmax
comp=Z,7.0nm,0.6s
WRAB Tennant Creek 134.35 211 *i* PKIKP PKPdf 12 41 05.3 +1.6
NVS Novosibirsk 139.19 24 *i* PKIKP PKPdf 12 41 13.4 +1.8
KURK Kurchatov 139.96 32 *e*PKIKP PKPdf 12 41 14.9 +1.7
KURK Kurchatov 139.96 32 *e*PKP PKPdf 12 41 14.2 +1.0
CLNS Chul'man 141.64 348 *e*PKIKP PKPdf 12 41 24.1 +8.2
CLNS pmax pmax
comp=N,41nm,0.7s
CLNS pmax pmax
comp=E,51nm,0.7s
CLNS pmax pmax
comp=Z,48nm,0.7s
BOD Bodaibo 142.01 357 *e*PKHKP 12 41 12.6
BOD pmax pmax
comp=Z,10.0nm,0.9s
KSH Kashi 144.08 49 *e*PKP PKPdf 12 41 22.0 +1.4
KSH *e*XPKP 12 42 00.0
KSH *e*PKS PKS 12 44 55.3 0.0
KSH *e*SKS SKS 12 48 21.0 +3.2
KSH PP PP
comp=Z,100nm,7.8s
KSH LR LR
comp=N,110nm,4.4s
KSH LR LR
comp=E,200nm,4.7s
ASAJ Asahikawa 144.26 320 PKP PKPdf 12 41 21.5 +0.7
comp=E,15nm,0.7s,baz=122,slow=4.0,SNR=8.0
ASAJ Asahikawa 144.26 320 PKIKP PKPdf 12 41 21.5 +0.7
ASAJ pmax pmax
comp=Z,15nm,0.7s
MKAR Makanchi Array 144.31 34 PKP PKPdf 12 41 21.6 +0.7
comp=Z,4.8nm,0.7s,baz=300,slow=3.0,SNR=49
MKAR pPKP 12 41 49.9
comp=Z,3.8nm,0.8s,baz=333,slow=2.7,SNR=3.6
MKAR sPKP 12 42 01.8
comp=Z,3.8nm,0.8s,baz=297,slow=2.7,SNR=5.3
MKAR Makanchi Array 144.31 34 PKIKP PKPdf 12 41 21.6 +0.8
MKAR 12 41 49.9
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR pmax pmax
comp=Z,4.0nm,0.8s
KLR Kul'dur 146.30 335 *e*PKHKP 12 41 23.2
KHET Khetri 146.87 69 *e*P PKPdf 12 41 27.4 +1.6
GUMO Guam 147.04 264 PKPbc PKPdf 12 41 28.7 +2.3
comp=Z,146nm,0.8s,baz=192,slow=4.6,SNR=6.2
GUMO Guam 147.04 264 PKIKP PKPdf 12 41 28.7 +2.3
GUMO pmax pmax
comp=Z,146nm,0.8s
MOY Mondy 147.27 12 *e*PKP2 PKPab 12 41 31.1 -1.3
MOY pmax pmax
comp=Z,31nm,1.8s
KUDL Kundal 147.46 69 *ex* x 12 41 28.6
CIT Chita 147.82 357 *e*PKIKP PKPdf 12 41 29.4 +2.8
AYAN Aya Nagar 147.97 68 *ex* x 12 41 29.3
KLP Kalpa 148.36 62 *ex* x 12 41 30.9
WMQ Urumqi 149.14 34 *e*PKP PKPdf 12 41 30.5 +1.5
WMQ LR LR
comp=N,250nm,22.0s
WMQ LR LR
comp=E,360nm,21.0s
WMQ LR LR
comp=Z,330nm,20.0s
HYB Hyderabad 149.15 89 *i* PKP PKPdf 12 41 36.0 +6.2
HYB *e* 12 42 05.0
HYB Hyderabad 149.15 89 *e*P PKPdf 12 41 36.0 +6.2
KALG Kalgarh 149.22 65 *e*P PKPdf 12 41 29.7 +0.1
HIA Hailar 149.82 349 *e*PKP2 PKPab 12 41 36.8 -6.0
MDJ Mudanjiang 150.86 332 PKP PKPdf 12 41 30.5 -1.1
MJAR Matsushiro Arr 150.97 311 PKPbc PKPdf 12 41 39.8 +7.8
comp=Z,16nm,0.8s,baz=84,slow=1.6,SNR=43
MJAR pPKPbc 12 42 08.1
comp=Z,3.6nm,0.8s,baz=127,slow=0.9,SNR=2.4
MJAR Matsushiro Arr 150.97 311 PKIKP PKPdf 12 41 39.8 +7.8
MJAR 12 42 08.1
MJAR pmax pmax
comp=Z,16nm,0.8s
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MAJO Matsushiro 150.98 311 *e*PKIKP PKPdf 12 41 39.7 +7.7
MAT Matsushiro 150.98 311 PKP PKPdf 12 41 36.6 +4.6
SONM Songino Array 151.82 7 PKP PKPdf 12 41 36.2 +3.2
comp=Z,3.8nm,0.8s,baz=331,slow=1.8,SNR=29
SONM PKPbc PKPdf 12 41 42.4 +9.5
comp=Z,21nm,0.7s,baz=303,slow=1.3,SNR=122
SONM pPKPbc 12 42 10.1
comp=Z,2.4nm,0.5s,baz=316,slow=1.2,SNR=2.4
SONM Songino Array 151.82 7 PKIKP PKPdf 12 41 36.2 +3.3
SONM 12 42 10.1
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM pmax pmax
comp=Z,21nm,0.7s
SONM pmax pmax
comp=Z,2.0nm,0.5s
GTA Gaotai 158.23 24 PKP PKPdf 12 41 45.0 +3.2
GTA APKP 12 42 12.3
GTA XPKP 12 42 23.0
GTA PP PP 12 46 04.8 +5.1
GTA SKS SKS 12 48 38.0 +2.8
GTA PP PP
comp=Z,30nm,6.1s
GTA LR LR
comp=N,90nm,13.3s
GTA LR LR
comp=E,110nm,13.7s
GTA LR LR
comp=Z,60nm,15.2s
HHC Hu-ho-hao-te 159.05 359 *e*PKP PKPdf 12 41 42.8 +0.1
HHC APKP 12 42 09.3
HHC PKP2 PKPab 12 42 19.0 -3.2
HHC PKS PKS 12 45 14.8 -0.5
HHC SKS SKS 12 48 37.0 +1.0
HHC PP PP
comp=Z,100nm,5.0s
HHC LR LR
comp=N,130nm,16.6s
HHC LR LR
comp=E,200nm,13.1s
HHC LR LR
comp=Z,130nm,14.3s
LZH Lanzhou 162.62 20 *e*PKP PKPdf 12 41 50.8 +4.3
LZH APKP 12 42 19.3
LZH XPKP 12 42 30.8
LZH PKP2 PKPab 12 42 41.0 +3.2
LZH PP PP 12 46 27.0 +4.2
LZH SKKS 12 53 03.5
LZH SS SS 13 06 38.0 +3.7
LZH PP PP
comp=Z,330nm,6.0s
LZH LR LR
comp=E,170nm,19.6s
LZH LR LR
comp=Z,230nm,21.0s
NJ2 Nanjing 165.96 332 *e*PKP PKPdf 12 41 52.0 +2.1
NJ2 APKP 12 42 19.0
NJ2 XPKP 12 42 29.5
NJ2 PKP2 PKPab 12 42 55.3 +2.8
NJ2 PKS PKS 12 45 23.0 +1.4
NJ2 PP PP 12 46 43.0 +2.4
NJ2 SKS SKS 12 48 44.0 +2.3
NJ2 PP PP
comp=Z,220nm,5.4s
NJ2 LR LR
comp=N,360nm,19.3s
NJ2 LR LR
comp=E,380nm,13.8s
NJ2 LR LR
comp=Z,330nm,22.0s
CD2 Chengdu 167.17 29 *e*PKP PKPdf 12 41 52.0 +1.2
GYA Guiyang 172.28 31 PKP PKPdf 12 41 55.3 +1.4
GYA XPKP 12 42 32.8
GYA PKP2 PKPab 12 43 23.8 +3.3
GYA PP PP 12 47 16.0 +3.6
GYA PP PP
comp=Z,120nm,7.8s

MOS ***28*** *12:36:36.3±0.8,59.84N×141.74E,h3km,mb4.0/1,Error ellipse: s-maj=69.9km s-min=42.3km az=50.0*

NERS 28 12:36:36.3,59.84N×141.74E,h3km,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OCHR	**Omchak**	**3.52**	**56**	*e*P		Pn		12 37 32.9	-0.1
OCHR				*e*				12 37 40.1	
OCHR				*e*Pg		Pg		12 37 41.1	-5.5
OCHR				Pgmax				12 37 41.9	
	60nm,0.3s								
OCHR				Pgmax				12 37 41.9	
	20nm,0.3s								
OCHR				Pgmax				12 37 41.9	
	60nm,0.3s								
OCHR				*e*S		Sn		12 38 11.8	-4.0
OCHR				*e*Sg		Sg		12 38 26.3	-7.2
OCHR				Sgmax				12 38 28.4	
	50nm,0.3s								
OCHR				Sgmax				12 38 28.4	
	400nm,0.3s								
OCHR	**Omchak**	**3.52**	**56**	*e*P		Pn		12 37 32.9	-0.1
OCHR				*e*S		Sn		12 38 11.8	-4.0
OCHR				pmax		pmax			
	comp=N,60nm,0.3s								
OCHR				pmax		pmax			
	comp=E,20nm,0.3s								
OCHR				pmax		pmax			
	comp=Z,60nm,0.3s								
OCHR				smax					
	comp=N,50nm,0.3s								
OCHR				smax					
	comp=E,400nm,0.3s								
SUUS	**Susuman**	**4.28**	**44**	*e*P		Pn		12 37 44.8	+1.0
SUUS				*e*Pg		Pg		12 37 54.4	-7.3
SUUS				Pgmax				12 37 56.8	
	comp=E,190nm,0.3s								
SUUS				*e*Sg		Sg		12 38 47.8	-11
SUUS				Sgmax				12 38 51.5	
	comp=E,350nm,0.3s								
SUUS				Sgmax				12 38 51.5	
	comp=E,260nm,0.4s								
SUUS	**Susuman**	**4.28**	**44**	*e*P		Pn		12 37 44.8	+1.0
SUUS				pmax		pmax			
	comp=Z,190nm,0.3s								
MGD	**Magadan 1**	**4.53**	**84**	*e*P		Pn		12 37 47.0	-0.4
MGD				*e*Pg		Pg		12 37 59.4	-7.3
MGD				*e*S		Sn		12 38 37.2	-4.1
MGD				*e*Sg		Sg		12 38 56.0	-11
MGD				Sgmax				12 39 02.6	
	comp=Z,260nm,0.3s								
MGD				Sgmax				12 39 02.6	
	comp=Z,70nm,0.3s								
MGD	**Magadan 1**	**4.53**	**84**	*e*P		Pn		12 37 47.0	-0.4
MGD				*e*S		Sn		12 38 37.2	-4.1
MGD				smax					
	comp=N,260nm,0.3s								
MGD				smax					
	comp=E,70nm,0.3s								
MA2	**Magadan**	**4.58**	**89**	*e*Pg		Pg		12 38 01.4	-6.4
MA2				*e*S		Sn		12 38 39.6	-3.0
MA2				*e*Sg		Sg		12 38 59.3	-10
MA2				Sgmax				12 39 03.1	
	comp=E,90nm,0.7s								
MA2				Sgmax				12 39 03.1	
	comp=E,50nm,0.7s								
MA2	**Magadan**	**4.58**	**89**	*e*P		Pn		12 38 01.4	+13
MA2				*e*S		Sn		12 38 39.6	-3.0
MA2				smax					
	comp=N,90nm,0.7s								
MA2				smax					
	comp=E,50nm,0.7s								
SEY	**Seymchan**	**5.98**	**54**	*e*P		Pn		12 38 06.6	-1.3
SEY				*e*				12 38 10.2	
SEY				*e*Pg		Pg		12 38 27.6	-8.1
SEY				Pgmax				12 38 28.9	
	comp=E,10.0nm,0.3s								
SEY				*e*S		Sn		12 39 10.8	-7.0
SEY				*e*Sg		Sg		12 39 43.4	-12
SEY				Sgmax				12 39 48.2	
	comp=E,150nm,0.9s								
SEY				Sgmax				12 39 48.2	
	comp=E,60nm,0.6s								
SEY	**Seymchan**	**5.98**	**54**	*e*P		Pn		12 38 06.6	-1.3
SEY				*e*S		Sn		12 39 10.8	-7.0
SEY				pmax		pmax			
	comp=Z,10.0nm,0.3s								
SEY				smax					
	comp=N,150nm,0.9s								
SEY				smax					
	comp=E,60nm,0.6s								
YAK	**Yakutsk**	**6.27**	**296**	*e*P		Pn		12 38 26.0	+14
YAK				*e*				12 39 30.6	
YAK				pmax		pmax			
	comp=Z,6.0nm,0.9s								
YAK				smax					

	comp=E,14nm,1.0s						
YAK			smax				
	comp=Z,9.0nm,1.0s						
YAK			smax				
	comp=N,10.0nm,0.8s						
YAK			smax				
	comp=E,28nm,0.8s						
YAK			smax				
	comp=Z,26nm,0.9s						
YAK			smax				
	comp=N,89nm,1.4s						
YAK			MLR	MLR			
	comp=Z,38nm,7.0s						
OMS	**Omsukchan**	**7.29**	**62**	*e*	Pn	12 38 55.0	+29
OMS				*e*S	Sn	12 39 42.0	-8.7
OMS				*e*Sg	Sg	12 40 25.0	-14
OMS				Sgmax		12 40 35.0	
	comp=Z,80nm,1.2s						
OMS				Sgmax		12 40 35.0	
	comp=Z,20nm,0.6s						

*KNET **28** 12:40:33.4, 43.15N×75.27E, h18km, ml2.0*
*NNC **28** 12:40:50.2±50.0, 42.99N×74.49E, mb3.0, mpv2.7, Error ellipse: s-maj=503.4km s-min=322.9km az=93.0*
ISC 28 12:40:33.3±1.4**, 43.23N**±0.07×**75.33E**±0.06**, h18**km**, n9, σ0‡74/17, 6C-11D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TKM2	**Tokmak 2**	**0.37**	**147**	⇑P		**Pb**	**12 40 41.0**	**-0.1**
	18nm,0.1s,SNR=234							
TKM2				⇓S		**Sb**	**12 40 45.9**	**-0.3**
	306nm,0.1s							
CHMS	**Chumysh**	**0.48**	**242**	⇑P		**Pb**	**12 40 42.4**	**-0.5**
	22nm,0.1s,SNR=86							
CHMS				⇓S		**Sb**	**12 40 48.3**	**-1.2**
	347nm,0.1s							
USP	**Ospenovka**	**0.60**	**274**	P		**Pb**	**12 40 44.8**	**-0.2**
	28nm,0.1s,SNR=15							
USP				⇓S		**Sb**	**12 40 52.6**	**-0.4**
	56nm,0.2s							
KBK	**Karagaybulak**	**0.64**	**206**	⇓P		**Pb**	**12 40 45.4**	**-0.2**
	31nm,0.1s,SNR=48							
KBK				⇓S		**Sb**	**12 40 53.7**	**-0.3**
	77nm,0.2s							
AAK	**Ala-Archa**	**0.85**	**226**	⇓P		**Pb**	**12 40 49.0**	**-0.4**
	5.7nm,0.2s,SNR=7.6							
AAK				⇓S		**Sb**	**12 40 59.6**	**-0.6**
	40nm,0.3s							
UCH	**Uchtor**	**1.17**	**211**	⇓P		**Pb**	**12 40 54.6**	**-0.1**
	2.9nm,0.1s,SNR=27							
UCH				⇑S		**Sb**	**12 41 09.4**	**+0.1**
	13nm,0.2s							
EKS2	**Erkin-Say**	**1.27**	**244**	⇑P		**Pn**	**12 40 56.7**	**+0.3**
	5.8nm,0.2s,SNR=8.3							
EKS2				⇑S		**Sb**	**12 41 13.2**	**+0.8**
	6.9nm,0.1s							
AML	**Almayashu**	**1.63**	**228**	⇓P		**Pn**	**12 41 03.1**	**+1.6**
	2.8nm,0.1s,SNR=17							
AML				⇑S		**Sn**	**12 41 23.9**	**+1.8**
	18nm,0.3s							
KK31	**Karatay Array**	**3.52**	**270**	⇓Pn		**Pn**	**12 41 37.9**	**+9.4**
	2.0nm,0.6s,baz=86,slow=15,SNR=11							
KK31				⇓Lg			12 42 23.0	
	0.7nm,0.3s,baz=93,slow=27							

*IDC **28** 12:48:04.8±0.8, 68.25N×160.65W, mb4.0/11, mb1 4.1/15, mb1mx4.0/24, mbtmp3.9/15, ML3.9/4, Error ellipse: s-maj=28.1km s-min=11.6km az=29.0*
*NEIC **28** 12:48:05.2±0.4, 68.12N×160.57W, h10km, mb3.7/1, Error ellipse: s-maj=10.7km s-min=5.7km az=207.0*
ISC 28 12:48:03.4±0.5**, 68.09N**±0.07×**160.3W**±0.1**, h10**km**, n28, σ1‡07/34, mb4.0/13, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IMA2	**Indian Mountai**	**3.30**	**125**	*e*Pn		**Pn**	**12 48 56.5**	**+0.3**
IMA2				*e*Pg		**Pg**	**12 49 07.1**	**-2.2**
IMA2				*e*Sg		**Sg**	**12 49 51.5**	**-1.7**
TNA	**Tin City**	**3.93**	**233**	*e*Pn		**Pn**	**12 49 04.4**	**-0.8**
TNA				*e*Pg		**Pg**	**12 49 16.2**	**-5.6**
COLA	**College**	**5.94**	**117**	*e*Pn		**Pn**	**12 49 33.2**	**-0.5**
ILAR	**Eielson Array**	**6.33**	**115**	Pn		**Pn**	**12 49 38.8**	**-0.4**
	1.0nm,0.3s,baz=310,slow=14,SNR=31							
ILAR				Sn		**Sn**	**12 50 52.4**	**+0.1**
	baz=311,slow=15,SNR=2.5							
ILAR				Lg			12 51 28.3	
	0.8nm,0.3s,baz=312,slow=16,SNR=5.3							
MCK	**McKinley**	**6.39**	**128**	*e*Pn		**Pn**	**12 49 40.3**	**+0.3**
PMR	**Palmer**	**8.07**	**139**	*e*P		**P**	**12 50 04.8**	**+1.3**
DAWY	**Dawson**	**9.39**	**105**	*e*P		**P**	**12 50 21.4**	**-0.3**
INK	**Inuvik**	**9.94**	**76**	Pn		**P**	**12 50 27.8**	**-1.4**
	0.9nm,0.3s,baz=296,slow=10,SNR=58							
INK				Sn		**Sn**	**12 52 16.5**	**-5.4**
	2.3nm,0.3s,baz=140,slow=22,SNR=12							
INK	**Inuvik**	**9.94**	**76**	Pn		**P**	**12 50 27.8**	**-1.4**
INK				Sn		**Sn**	**12 52 16.5**	**-5.4**
BILL	**Bilibino**	**12.40**	**285**	*e*P		**P**	**12 50 58.2**	**-4.4**
	7.6nm,0.9s							
DLBC	**Dease Lake**	**16.51**	**111**	Pn		**P**	**12 52 00.6**	**+4.3**
	0.2nm,0.3s,baz=5.7,slow=27,SNR=5.7							
YKA	**Yellowknife Ar**	**19.51**	**84**	P		**P**	**12 52 33.1**	**0.0**
	0.2nm,0.3s,baz=304,slow=10,SNR=34							
FCC	**Fort Churchill**	**29.56**	**75**	*e*P		**P**	**12 54 10.2**	**+0.4**
HLID	**Hailey**	**34.28**	**112**	P		**P**	**12 54 52.3**	**+1.0**
BW06	**Boulder Array**	**36.69**	**107**	*e*P		**P**	**12 55 13.3**	**+1.4**
	1.0nm,0.7s,mb3.8							
PDAR	**Pinedale Array**	**36.69**	**107**	P		**P**	**12 55 14.4**	**+2.5**
	1.0nm,0.5s,mb3.9,baz=344,slow=6.5,SNR=9.8							
NVAR	**Mina Array Bea**	**37.56**	**120**	P		**P**	**12 55 22.6**	**+3.4**
	1.9nm,0.9s,mb3.8,baz=305,slow=8.4,SNR=7.5							
SDCO	**Great Sand Dun**	**42.58**	**107**	*e*P		**P**	**12 56 02.2**	**+1.6**
ARCES	**ARCESS Array B**	**42.58**	**357**	P		**P**	**12 56 00.7**	**+0.5**
	3.9nm,0.8s,mb4.2,baz=4.8,slow=11,SNR=2.4							
ARCES				PcP		PcP	12 57 52.6	-0.6
	5.2nm,0.9s,baz=356,slow=3.5,SNR=8.6							
SONM	**Songino Array**	**47.90**	**295**	P		**P**	**12 56 43.6**	**+0.6**
	0.9nm,0.8s,mb3.8,baz=26,slow=6.1,SNR=5.2							
JOF	**Joensuu**	**49.02**	**353**	*e*p		**P**	**12 56 50.5**	**-0.9**
	3.1nm,0.7s,mb4.5							
FINES	**FINESS Array B**	**50.68**	**356**	P		**P**	**12 57 03.9**	**-0.3**
	1.1nm,0.4s,mb4.2,baz=13,slow=9.1,SNR=12							
TXAR	**Lajitas Array**	**50.81**	**110**	P		**P**	**12 57 06.9**	**+1.2**
	0.5nm,0.6s,mb3.6,baz=333,slow=5.0,SNR=7.8							
NOA	**NORSAR Array B**	**51.02**	**5**	P		**P**	**12 57 06.4**	**-0.4**
	0.7nm,0.7s,mb3.7,baz=355,slow=7.7,SNR=2.7							
JNU	**Nakatsue**	**51.83**	**264**	P		**P**	**12 57 12.8**	**-0.5**
	3.7nm,0.3s,mb4.7,baz=62,slow=8.1,SNR=4.8							
BVAR	**Borovoye Array**	**53.48**	**324**	P		**P**	**12 57 24.9**	**-0.4**
	1.1nm,0.6s,mb4.0,baz=31,slow=6.7,SNR=6.8							
MKAR	**Makanchi Array**	**56.30**	**313**	P		**P**	**12 57 44.4**	**-1.6**
	1.1nm,0.8s,mb3.9,baz=47,slow=6.2,SNR=16							
AKASG	**Malin Array Be**	**61.32**	**353**	P		**P**	**12 58 20.6**	**-0.2**
	1.3nm,0.3s,mb4.5,baz=2.4,slow=6.8,SNR=4.2							

MEX 28 12:49:37.5±1.4**, 17.32N**×**101.13W, h22**km±702km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CAIG	**El Cayaco**	**0.86**	**108**	*i* P		Pb	12 49 50.3	-3.5
CAIG				*i* S		Sb	12 50 02.3	-2.6
ACX	**Acapulco**	**1.24**	**111**	*i* P		Pn	12 49 58.0	-1.8
ACX				*i* S		Sb	12 50 11.0	-4.7
PLIG	**Platanillo**	**1.88**	**55**	*i* P		Pn	12 50 06.5	-2.4
PLIG				*i* S		Sn	12 50 27.1	-5.1
PPM	**Popocatepetl**	**2.94**	**53**	*e*P		Pn	12 50 21.7	-2.4
PPM				*i* S		Sn	12 50 54.7	-4.5

IDC 28 12:52:27.4±1.9**, 17.13S**×**177.50W, mb3.8**/4**, mb1 4.1**/4**, mb1mx3.8**/14**, mbtmp3.8**/4**, Error ellipse: s-maj=108.8km s-min=28.4km az=148.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**39.76**	**241**	P		P	13 00 02.0	-1.7
	0.7nm,0.5s,baz=115,slow=14,SNR=3.3							
WB2	**Warramunga Arr**	**45.62**	**259**	*e*P		P	13 00 49.8	-1.7
WRA	**Warramunga Arr**	**45.63**	**259**	P		P	13 00 49.9	-1.7
	1.8nm,0.4s,baz=97,slow=7.1,SNR=59							
ASPA	**Alice Springs**	**45.84**	**253**	*e*P		P	13 00 50.9	-2.4
TXAR	**Lajitas Array**	**84.85**	**57**	P		P	13 05 05.1	-0.5
	0.3nm,0.7s,baz=225,slow=5.3,SNR=4.8							
ILAR	**Eielson Array**	**84.94**	**13**	P		P	13 05 03.2	-2.0
	0.2nm,0.5s,baz=223,slow=4.2,SNR=6.6							

*ISK **28** 13:28:11.3, 35.22N×27.42E, h32km, MD3.7*
*ATH **28** 13:28:13.6, 35.47N×27.84E, h11km±3km, MD3.7/9*
*NEIC **28** 13:28:13.9, 35.48N×27.83E, h13km, MD3.7(ATH), MD3.7(ISK), After ATH.*
*IDC **28** 13:28:14.2±1.8, 35.45N×27.82E, mb3.6/7, mb1 3.8/12, mb1mx3.7/23, mbtmp3.6/12, ML3.7/5, MS2.9/2, Ms1 2.9/2, ms1mx2.4/37, Error ellipse: s-maj=35.6km s-min=19.1km az=169.0*
*CSEM **28** 13:28:14.2±0.1, 35.45N×27.75E, h20km, MD3.7, Error ellipse: s-maj=2.0km s-min=1.5km az=95.0*
*HLW **28** 13:28:18.8, 35.35N×27.83E, h33km, Mb3.5*
ISC 28 13:28:12.5±1.1**, 35.43N**±0.03×**27.82E**±0.03**, h0**km±9km**, n62, σ1‡01/70, mb3.6/7, MS3.1/1, 2C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARP	**Karpathos**	**0.55**	**282**	⇑*i*PB		**Pb**	**13 28 23.8**	**-0.8**
KARP				*e*SB		**Sb**	**13 28 32.3**	**-0.4**
ARG	**Arkhangelos**	**0.82**	**18**	*e*PB		**Pb**	**13 28 28.6**	**-0.7**
ARG				*e*SB		**Sb**	**13 28 39.5**	**-1.1**
NISR	**Nisiros**	**1.30**	**335**	*e*PB		**Pb**	**13 28 38.5**	**+1.0**
DAT	**Datca**	**1.31**	**352**	PN		**Pn**	**13 28 36.2**	**-1.7**
DAT				SN		**Sn**	**13 28 54.8**	**-1.5**
DALT	**Dalyan (Mudla)**	**1.49**	**26**	PN		**Pn**	**13 28 40.5**	**0.0**
DALT				SN		**Sn**	**13 29 03.4**	**+2.5**
BODT	**Bodrum**	**1.68**	**346**	PN		**Pn**	**13 28 41.6**	**-1.6**
YER	**Yerkesik**	**1.74**	**12**	PN		**Pn**	**13 28 44.7**	**+0.6**
NPS	**Neapolis**	**1.81**	**265**	*e*PN		**Pn**	**13 28 46.9**	**+1.8**
XRY	**Khrisi**	**1.83**	**253**	*e*PG		**Pg**	**13 28 48.0**	**-1.0**
MLSB	**Milas**	**1.86**	**359**	PN		**Pn**	**13 28 45.6**	**-0.2**
SANT	**Santorini**	**2.13**	**297**	*e*P		**Pn**	**13 28 49.7**	**0.0**
SANT	**Santorini**	**2.13**	**297**	*e*P		**Pn**	**13 28 49.7**	**0.0**
ELL	**Elmali**	**2.14**	**52**	PN		**Pn**	**13 28 51.5**	**+1.6**
IDI	**Anoyia**	**2.40**	**267**	Pn		**Pn**	**13 28 54.4**	**+0.8**
	16nm,0.3s,baz=65,slow=15,SNR=64							
IDI				Sn		**Sn**	**13 29 24.7**	**+0.7**
	26nm,0.3s,baz=309,slow=16,SNR=4.5							
IDI	**Anoyia**	**2.40**	**267**	Pn		**Pn**	**13 28 54.3**	**+0.8**
IDI				Sn		**Sn**	**13 29 24.7**	**+0.7**
SMG	**Samos**	**2.40**	**341**	*e*PN		**Pn**	**13 28 54.8**	**+1.2**
APE	**Apeiranthos**	**2.47**	**312**	*e*PB		**Pb**	**13 28 55.6**	**-1.8**
APE	**Apeiranthos**	**2.47**	**312**	*e*Pn		**Pn**	**13 28 48.7**	**-5.8**
APE				*e*Pb		**Pb**	**13 28 54.5**	**-2.9**
DENT	**Denizli**	**2.51**	**23**	*e*PN		**Pn**	**13 28 56.3**	**+1.1**
VAM	**Vamos**	**2.96**	**271**	*e*PN		**Pn**	**13 29 03.3**	**+1.8**
IZM	**Izmir**	**2.99**	**352**	*e*PN		**Pn**	**13 29 00.8**	**-1.2**
BCK	**Bucak**	**3.01**	**47**	*e*PN		**Pn**	**13 29 03.3**	**+1.0**
KHL	**Karahalli**	**3.19**	**25**	*e*PN		**Pn**	**13 29 05.0**	**+0.1**
ISP	**Isparta**	**3.24**	**41**	*e*PN		**Pn**	**13 29 05.9**	**+0.4**
AKS	**Akhisar**	**3.44**	**360**	*e*PN		**Pn**	**13 29 08.1**	**-0.3**
ALT	**Altintas**	**4.05**	**26**	*e*PN		**Pn**	**13 29 18.3**	**+1.2**
VLI	**Veliai**	**4.16**	**289**	*e*PN		**Pn**	**13 29 19.7**	**+1.1**
VLI	**Veliai**	**4.16**	**289**	*e*Pn		**Pn**	**13 29 18.7**	**+0.1**
DST	**Dursunbey**	**4.21**	**9**	*e*PN		**Pn**	**13 29 19.1**	**-0.3**
KONT	**Konya--Tatoy**	**4.43**	**54**	*e*PN		**Pn**	**13 29 24.1**	**+1.7**
SLUM		**4.49**	**210**	P		**Pn**	**13 29 23.7**	**+0.3**
SLUM				S		**Sn**	**13 30 11.2**	**-5.9**
KIZT	**Kizilcal**	**4.73**	**42**	*e*PN		**Pn**	**13 29 27.3**	**+0.6**
IKL	**Isikli**	**4.83**	**79**	*e*PN		**Pn**	**13 29 29.0**	**+0.8**
BNT	**Bandirma**	**4.92**	**1**	*e*PN		**Pn**	**13 29 28.6**	**-0.7**
MERS	**Mersin**	**5.61**	**73**	*e*PN		**Pn**	**13 29 40.2**	**+1.0**
KARA	**Karaisali**	**6.12**	**71**	*e*PN		**Pn**	**13 29 47.7**	**+1.4**
BR131	**Keskin Array S**	**6.30**	**45**	P		**Pn**	**13 29 47.9**	**-1.0**
	3.6nm,0.6s							
BRTR	**Keskin Array B**	**6.30**	**45**	Pn		**Pn**	**13 29 47.6**	**-1.3**
	0.2nm,0.3s,baz=210,slow=15,SNR=6.6							
BRTR				Sn		**Sn**	**13 31 00.1**	**-2.4**
	0.1nm,0.3s,baz=210,slow=26,SNR=4.6							
SWA1		**6.41**	**197**	P		**Pn**	**13 29 50.1**	**-0.2**
SWA2		**6.49**	**199**	P		**Pn**	**13 29 51.3**	**-0.2**
AMAG	**Maghara**	**6.58**	**135**	P		**Pn**	**13 29 53.0**	**+0.2**
KOZT	**Kozan**	**6.77**	**70**	*e*PN		**Pn**	**13 29 56.5**	**+1.0**
SUZ		**7.00**	**141**	P		**Pn**	**13 29 58.8**	**+0.1**
HNKL	**Nakhl**	**7.55**	**135**	P		**Pn**	**13 30 06.8**	**+0.2**
ALWS	**Ilw as Safayha**	**8.65**	**133**	P		**P**	**13 30 20.9**	**-0.9**
HKAT	**Jabal Katrina**	**8.66**	**141**	⇑P		**P**	**13 30 20.8**	**-1.1**
HAQS	**Haql**	**8.76**	**135**	P		**P**	**13 30 22.1**	**-1.2**
JMOS	**Jabal al Moall**	**8.78**	**133**	P		**P**	**13 30 22.3**	**-1.2**
AYUS	**'Aynunah**	**9.61**	**137**	P		**P**	**13 30 33.6**	**-1.5**
MLR	**Muntele Rosu**	**10.15**	**353**	Pn		**P**	**13 30 42.1**	**-0.3**
	0.2nm,0.3s,baz=176,slow=12,SNR=3.9							
MLR				LR		LR	13 34 58.7	
	comp=Z,44nm,18.9s,baz=210,slow=40							
AKASG	**Malin Array Be**	**15.29**	**3**	Pn		**P**	**13 31 51.3**	**+0.1**
	0.5nm,0.3s,baz=189,slow=10,SNR=3.5							
GERES	**GERESS Array B**	**16.97**	**326**	Pn		**P**	**13 32 13.2**	**+0.5**
	0.1nm,0.3s,baz=144,slow=12,SNR=7.2							
HFS	**Hagfors**	**26.36**	**344**	P		**P**	**13 33 51.4**	**-0.2**
	1.5nm,0.6s,mb3.8,baz=120,slow=12,SNR=4.2							
AKTK	**Aktyubinsk**	**26.48**	**46**	P		**P**	**13 33 52.0**	**-0.9**
AKTO	**Aktyubinsk**	**26.48**	**46**	P		**P**	**13 33 52.0**	**-0.9**
	0.7nm,0.5s,mb3.5,baz=239,slow=12,SNR=4.4							
ARCES	**ARCESS Array B**	**34.18**	**359**	P		**P**	**13 35 01.3**	**+0.1**
	3.1nm,1.0s,mb4.2,baz=180,slow=9.0,SNR=3.2							
KMBO	**Kilima Mbogo**	**37.42**	**164**	LR		LR	13 54 04.1	
	comp=Z,27nm,18.4s,MS3.1,baz=86,slow=41							
MKAR	**Makanchi Array**	**41.81**	**57**	P		**P**	**13 36 04.6**	**-0.6**
	0.4nm,0.6s,mb3.4,baz=272,slow=8.6,SNR=5.9							
MKAR	**Makanchi Array**	**41.81**	**57**	P		**P**	**13 36 04.6**	**-0.6**
SONM	**Songino Array**	**57.62**	**51**	P		**P**	**13 38 07.2**	**+0.8**
	0.5nm,0.7s,mb3.7,baz=296,slow=6.7,SNR=3.5							
YKA	**Yellowknife Ar**	**77.84**	**343**	P		**P**	**13 40 13.1**	**+0.4**
	0.2nm,0.8s,mb3.3,baz=42,slow=5.4,SNR=4.6							
ILAR	**Eielson Array**	**80.04**	**358**	P		**P**	**13 40 25.5**	**+0.8**
	0.8nm,1.1s,mb3.6,baz=11,slow=4.6,SNR=4.3							

*NIED **28** 13:35:00, 35.60N×140.20E, h62km, Mw4.2 Best double couple: M0 2.05×10^15 NP1:φs349°, δ66°, λ76°. NP2:φs200°, δ28°, λ118°.*
*JMA **28** 13:35:35.0±0.2, 35.67N×140.19E, h66km±2km, M4.1*
JMA Felt I J1.
*NEIC **28** 13:35:36.0±1.0, 35.55N×140.16E, h70km±7km, mb4.7/4, MW4.1(NIED), Error ellipse: s-maj=10.2km s-min=7.8km az=97.0*
NEIC Recorded [1 JMA] in Chiba, Ibaraki, Kanagawa, Saitama, Shizuoka, Tochigi and Tokyo Prefectures.
*IDC **28** 13:35:37.3±1.4, 35.50N×140.10E, h82km±13km, mb3.6/13, mb1 3.8/15, mb1mx3.7/23, mbtmp4.0/15, MS3.2/1, Ms1 3.2/1, ms1mx2.4/29, Error ellipse: s-maj=20.8km s-min=6.9km az=68.0*
ISC 28 13:35:34.4±0.4**, 35.59N**±0.03×**140.22E**±0.05**, h72**km±3km**, n45, σ0‡86/58, mb4.0/17, 3C-8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCN	**Nagara**	**0.17**	**184**	⇑P		**P**	**13 35 45.9**	**+0.8**
JCN				⇓S		**S**	**13 35 54.8**	**+1.7**
TOK	**Tokyo**	**0.39**	**285**	⇓P		**P**	**13 35 46.8**	**+0.3**
JYT	**Yasato**	**0.64**	**358**	⇑P		**P**	**13 35 48.1**	**-0.8**
JYT				S		**S**	**13 35 57.8**	**-1.9**
BSO3	**Boso 3**	**0.82**	**163**	⇓P		**P**	**13 35 51.6**	**+0.6**
JOD2	**Odawara 2**	**0.98**	**251**	⇓P		**P**	**13 35 53.1**	**+0.2**
JOD2				S		**S**	**13 36 06.0**	**-0.8**
JAG	**Ashikaga**	**1.04**	**324**	⇓P		**P**	**13 35 53.4**	**-0.3**
JAG				S		**S**	**13 36 06.8**	**-1.3**
JIM2	**Oshima 3**	**1.08**	**217**	P		**P**	**13 35 53.9**	**-0.4**
JIM2				*e*S		**S**	**13 36 08.5**	**-0.6**
BSO1	**Boso 1**	**1.12**	**146**	P		**P**	**13 35 54.7**	**-0.1**
JRY	**Ryogami san**	**1.15**	**292**	⇓P		**P**	**13 35 55.6**	**+0.4**
JYN	**Shimob**	**1.37**	**267**	⇓P		**P**	**13 35 58.3**	**+0.1**
JIZS	**Izushimoda**	**1.40**	**232**	⇓P		**P**	**13 35 58.6**	**0.0**
JIZS				S		**S**	**13 36 15.9**	**-0.6**
JKT	**Katashina**	**1.41**	**327**	⇓P		**P**	**13 35 58.3**	**-0.5**
JKT				S		**S**	**13 36 16.2**	**-0.6**
MJAR	**Matsushiro Arr**	**1.89**	**301**	P		**P**	**13 36 05.4**	**+0.3**
	72nm,0.3s,baz=111,slow=13,SNR=352							
MJAR				S		**S**	**13 36 29.9**	**+2.1**
	68nm,0.3s,baz=92,slow=30,SNR=9.8							
MAJO	**Matsushiro**	**1.89**	**301**	*e*P		**P**	**13 36 05.7**	**+0.6**
MAT	**Matsushiro**	**1.89**	**301**	P		**P**	**13 36 05.5**	**+0.4**
MAT				S		**S**	**13 36 27.6**	**-0.2**
MAT	**Matsushiro**	**1.89**	**301**	*e*P		**P**	**13 36 06.0**	**+0.9**
MAT				*e*S		**S**	**13 36 29.0**	**+1.2**
JHJ	**Hachijo jima 2**	**2.49**	**188**	P		**P**	**13 36 14.1**	**+0.5**
	315nm,0.3s,baz=211,slow=11,SNR=48							
JHJ				S		**S**	**13 36 43.5**	**+0.6**
	163nm,0.3s,baz=80,slow=22,SNR=7.9							
JNU	**Nakatsue**	**8.10**	**255**	P		**P**	**13 37 31.1**	**-0.4**
	1.2nm,0.3s,baz=54,slow=16,SNR=8.2							
CBIJ	**Chichi jima**	**8.63**	**168**	P		**P**	**13 37 34.1**	**-4.6**
	59nm,0.3s,baz=323,slow=10,SNR=17							
CBIJ				S		**S**	**13 39 05.7**	**-10**
	6.5nm,0.3s,baz=101,slow=23,SNR=3.3							
ASAJ	**Asahikawa**	**8.71**	**11**	P		**P**	**13 37 35.5**	**-4.3**
	0.9nm,0.3s,baz=205,slow=10,SNR=9.6							
ASAJ				S		**S**	**13 39 09.6**	**-7.8**
	baz=269,slow=33,SNR=2.5							
ENH	**Enshi**	**26.27**	**267**	*e*P		**P**	**13 41 04.0**	**-0.7**
SONM	**Songino Array**	**27.83**	**307**	P		**P**	**13 41 17.9**	**-0.9**
	1.0nm,0.8s,mb3.4,baz=110,slow=9.7,SNR=7.0							
SONM				LR		LR	13 50 56.9	
	comp=Z,47nm,21.0s,baz=70,slow=33							
MKAR	**Makanchi Array**	**44.08**	**303**	P		**P**	**13 43 37.3**	**+0.5**
	1.3nm,0.6s,mb3.9,baz=88,slow=9.6,SNR=16							
KURK	**Kurchatov**	**46.08**	**309**	*e*P		**P**	**13 43 52.4**	**-0.2**
	5.1nm,0.6s,mb4.4							
JIRN	**Jiri**	**46.20**	**276**	*e*P		**P**	**13 43 54.7**	**+0.9**
	12nm,0.8s,mb4.7							
GUN	**Gumba**	**46.35**	**276**	*e*P		**P**	**13 43 55.7**	**+0.7**
DMN	**Daman**	**47.09**	**276**	*e*P		**P**	**13 44 01.2**	**+0.3**
GKN	**Gorkha**	**47.31**	**277**	*e*P		**P**	**13 44 02.8**	**+0.1**
KOLN	**Koldanda**	**48.25**	**277**	*e*P		**P**	**13 44 11.3**	**+1.4**
BVAR	**Borovoye Array**	**50.84**	**313**	P		**P**	**13 44 28.0**	**-1.5**
	0.5nm,0.5s,mb3.8,baz=5.8,SNR=4.6							
ILAR	**Eielson Array**	**51.23**	**32**	P		**P**	**13 44 32.5**	**+0.3**
	0.6nm,0.8s,mb3.6,baz=255,slow=6.2,SNR=6.1							
FITZ	**Fitzroy Crossi**	**55.16**	**197**	⇑*i*P		**P**	**13 45 01.5**	**-0.4**
	10nm,0.6s,mb5.0							
WRAB	**Tennant Creek**	**55.49**	**187**	*e*P		**P**	**13 45 03.0**	**-1.3**
	4.7nm,0.4s,mb4.9							
WB2	**Warramunga Arr**	**55.50**	**187**	*e*P		**P**	**13 45 03.0**	**-1.4**
WRA	**Warramunga Arr**	**55.51**	**187**	P		**P**	**13 45 03.1**	**-1.3**
	4.7nm,0.6s,mb4.7,baz=1.0,slow=7.5,SNR=83							
INK	**Inuvik**	**56.11**	**27**	P		**P**	**13 45 09.8**	**+1.7**
	1.0nm,0.8s,mb3.9,baz=263,slow=8.1,SNR=3.1							
INK	**Inuvik**	**56.11**	**27**	P		**P**	**13 45 09.8**	**+1.7**
ASPA	**Alice Springs**	**59.23**	**187**	*e*P		**P**	**13 45 29.3**	**-1.3**
YKA	**Yellowknife Ar**	**65.54**	**29**	P		**P**	**13 46 11.9**	**0.0**
	0.2nm,0.7s,mb3.0,baz=304,slow=7.2,SNR=4.1							
STKA	**Stephens Creek**	**67.12**	**179**	P		**P**	**13 46 21.9**	**-0.5**
	2.6nm,0.9s,mb4.1,baz=16,slow=7.4,SNR=4.2							
FINES	**FINESS Array B**	**69.64**	**332**	P		**P**	**13 46 38.1**	**+0.6**
	3.1nm,1.0s,mb4.1,baz=34,slow=10.0,SNR=3.5							
AKASG	**Malin Array Be**	**74.84**	**322**	P		**P**	**13 47 08.6**	**+0.1**
	0.9nm,0.4s,mb3.9,baz=48,slow=5.5,SNR=8.7							
NOA	**NORSAR Array B**	**75.14**	**337**	P		**P**	**13 47 10.4**	**+0.5**
	1.0nm,0.8s,mb3.6,baz=39,slow=5.8,SNR=3.7							
BRTR	**Keskin Array B**	**79.08**	**311**	P		**P**	**13 47 33.0**	**+0.7**
	0.8nm,0.7s,mb3.6,baz=90,slow=4.9,SNR=3.9							
PDAR	**Pinedale Array**	**79.37**	**45**	P		**P**	**13 47 34.9**	**+1.1**
	0.4nm,0.6s,mb3.5,baz=282,slow=2.2,SNR=4.6							

JMA 28 14:03:03.3±0.1**, 35

comp=Z,5.0nm,1.2s,mb3.9
LZH Lanzhou 29.38 282 *e*P **P 14 09 35.5 +1.5**
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA Guiyang 30.04 262⇑ *i*P **P 14 09 38.8 -1.2**
GYA AMB AMB
comp=Z,20nm,0.6s,mb4.9
GTA Gaotai 32.09 289 *e*P **P 14 09 58.3 +0.5**
WMQ Urumqi 40.64 298 *e*P **P 14 11 11.5 +1.5**
WMQ AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,70nm,4.8s
WMQ LR LR
comp=N,190nm,22.0s
WMQ LR LR
comp=E,180nm,20.0s
WMQ LR LR
comp=Z,230nm,20.0s
LSA Lhasa 41.39 276 P **P 14 11 12.0 -4.2**
LSA Lhasa 41.39 276 *e*P **P 14 11 17.5 +1.3**
LSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
LSA Lhasa 41.39 276 *e*P **P 14 11 17.5 +1.2**
comp=Z,3.7nm,0.7s,mb4.3
NVS Novosibirsk 43.15 315 *e*P **P 14 11 29.9 -0.5**
NVS pmax pmax
comp=E,8.0nm,1.1s
NVS pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
MKAR Makanchi Array 44.08 303 P **P 14 11 38.4 +0.4**
comp=Z,5.9nm,0.6s,mb4.5,baz=88,slow=9.8,SNR=88
MKAR PcP PcP 14 13 22.5 -0.2
comp=Z,1.3nm,0.7s,baz=72,slow=4.6,SNR=4.5
MKAR ScP 14 17 08.4
comp=Z,0.7nm,0.7s,baz=90,slow=3.6,SNR=3.9
KURK Kurchatov 46.07 309 *e*P **P 14 11 53.1 -0.7**
KURK pmax pmax
comp=Z,12nm,0.6s,mb4.8
KURK Kurchatov 46.07 309 *e*P **P 14 11 53.1 -0.7**
comp=Z,12nm,0.6s,mb4.8
JIRN Jiri 46.19 276 *e*P **P 14 11 55.7 +0.6**
comp=Z,39nm,0.7s,mb5.2
GUN Gumba 46.34 276 *e*P **P 14 11 56.7 +0.4**
comp=Z,28nm,0.9s,mb5.0
PKI Pulchoki 46.86 276 *e*P **P 14 12 00.3 0.0**
KKN Kakani 46.88 277 *e*P **P 14 12 00.6 +0.1**
comp=Z,14nm,0.6s,mb4.8
KKN Kakani 46.88 277 *e*P **P 14 12 00.6 +0.1**
KKN pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
DMN Daman 47.09 276 *e*P **P 14 12 02.2 0.0**
GKN Gorkha 47.31 277 *e*P **P 14 12 03.9 0.0**
comp=Z,33nm,0.7s,mb5.2
KOLN Koldanda 48.24 277 *e*P **P 14 12 11.3 +0.2**
comp=Z,12nm,0.7s,mb4.8
KAKA Kakadu 48.60 190 *e*P Px 14 12 36.7
comp=Z,22nm,1.0s
PSI Prapat 50.22 239 P **P 14 12 25.3 -1.3**
comp=Z,4.1nm,0.4s,mb4.7,baz=90,slow=5.3,SNR=6.1
PSI Prapat 50.22 239 P **P 14 12 25.3 -1.3**
AAK Ala-Archa 50.33 299 *e*P **P 14 12 25.1 -1.9**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AAK Ala-Archa 50.33 299 *e*P **P 14 12 25.1 -1.9**
comp=Z,3.0nm,0.6s,mb4.4
BVAR Borovoye Array 50.84 313 P **P 14 12 30.4 -0.3**
comp=Z,2.3nm,0.6s,mb4.4,baz=83,slow=7.5,SNR=11
BVAR PcP PcP 14 13 46.6 0.0
comp=Z,1.6nm,0.5s,baz=91,slow=3.8,SNR=3.3
BRVK Borovoye 50.89 313 *e*P **P 14 12 29.7 -1.4**
ILAR Eielson Array 51.23 32 P **P 14 12 34.0 +0.5**
comp=Z,0.7nm,0.6s,mb3.9,baz=270,slow=5.8,SNR=12
ILAR pP pP 14 12 51.1 -0.8
comp=Z,2.7nm,0.7s,baz=266,slow=5.6,SNR=9.6
FITZ Fitzroy Crossi 55.16 197⇑ *i*P **P 14 13 02.7 -0.5**
comp=Z,22nm,0.6s,mb5.4
WRAB Tennant Creek 55.50 187 *e*P **P 14 13 04.2 -1.4**
WRAB pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
WRAB Tennant Creek 55.50 187 *e*P **P 14 13 04.2 -1.4**
comp=Z,9.7nm,0.5s,mb5.1
WB2 Warramunga Arr 55.51 187⇑ *i*P **P 14 13 04.3 -1.4**
WRA Warramunga Arr 55.51 187 P **P 14 13 04.4 -1.3**
comp=Z,8.4nm,0.5s,mb5.0,baz=0.6,slow=7.6,SNR=153
WRA pP pP 14 13 22.1 -2.3
comp=Z,8.5nm,0.7s,baz=4.1,slow=7.6,SNR=7.2
CTA Charters Tower 55.67 173 LR LR 14 32 56.6
comp=Z,64nm,20.6s,baz=227,slow=32
INK Inuvik 56.11 27 P **P 14 13 10.2 +0.9**
comp=Z,1.2nm,0.8s,mb4.0,baz=313,slow=5.1,SNR=7.0
ARU Arti 56.80 319 *e*P **P 14 13 14.0 -0.4**
ARU pmax pmax
comp=Z,14nm,0.9s,mb5.0
ARU Arti 56.80 319 *e*P **P 14 13 13.9 -0.5**
comp=Z,14nm,0.9s,mb5.0
HYB Hyderabad 57.20 269 *i* P **P 14 13 17.0 -0.8**
HYB Hyderabad 57.20 269 *e*P **P 14 13 17.0 -0.8**
AKTK Aktyubinsk 58.92 312 P **P 14 13 28.8 -0.5**
AKTO Aktyubinsk 58.92 312 P **P 14 13 28.8 -0.5**
comp=Z,2.6nm,0.7s,mb4.4,baz=63,slow=11,SNR=4.3
ASPA Alice Springs 59.24 187 *e*P **P 14 13 30.8 -1.1**
ARCES ARCESS Array B 65.00 339 P **P 14 14 09.7 +0.1**
comp=Z,5.3nm,0.8s,mb4.4,baz=50,slow=7.1,SNR=13
YKA Yellowknife Ar 65.54 29 P **P 14 14 13.8 +0.6**
comp=Z,0.3nm,0.7s,mb3.2,baz=302,slow=6.3,SNR=7.9
JOF Joensuu 66.78 332 *e*p **P 14 14 20.1 -0.9**
comp=Z,4.2nm,0.7s,mb4.4
STKA Stephens Creek 67.13 179 *e*P **P 14 14 23.2 -0.5**
comp=Z,2.4nm,0.7s,mb4.1
STKA Stephens Creek 67.13 179 P **P 14 14 23.1 -0.6**
comp=Z,1.7nm,0.6s,mb4.1,baz=276,slow=8.7,SNR=6.6
FINES FINESS Array B 69.64 332 P **P 14 14 38.1 -0.6**
comp=Z,3.7nm,0.8s,mb4.3,baz=117,slow=4.3,SNR=6.9
KIV Kislovodsk 71.12 311 *e*P **P 14 14 48.7 +0.7**
KIV pmax pmax
comp=Z,18nm,1.0s,mb4.9
NWAO Narrogin (SRO) 71.48 200 *e*P **P 14 14 49.5 -0.9**
AKASG Malin Array Be 74.84 322 P **P 14 15 09.8 +0.2**
comp=Z,4.7nm,0.4s,mb4.5,baz=47,slow=5.8,SNR=25
AKASG pP pP 14 15 27.1 -2.2
comp=Z,1.4nm,0.5s,baz=49,slow=6.1,SNR=2.7
HFS Hagfors 75.00 335 P **P 14 15 10.5 +0.2**
comp=Z,4.4nm,0.8s,mb4.2,baz=90,slow=2.9,SNR=8.6
NB2 NORSAR Subarra 75.14 337 P **P 14 15 11.3 +0.2**
comp=Z,1.3nm,0.5s,mb3.9,baz=41,slow=5.8
NB2 NORSAR Subarra 75.14 337 P **P 14 15 11.3 +0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
NOA NORSAR Array B 75.14 337 P **P 14 15 11.6 +0.5**
comp=Z,2.9nm,0.8s,mb4.1,baz=40,slow=5.8,SNR=7.6
NVAR Mina Array Bea 76.63 52 P **P 14 15 21.8 +1.7**
comp=Z,0.3nm,0.4s,mb3.4,baz=292,slow=4.9,SNR=3.1
NVAR pP pP 14 15 39.9 +0.1
comp=Z,2.2nm,0.8s,baz=272,slow=6.0,SNR=6.3
NVAR Mina Array Bea 76.63 52 P **P 14 15 21.8 +1.7**
NVAR pP pP 14 15 39.9 +0.1
KWP Kalwaria 78.73 324 *e*P **P 14 15 33.0 +1.6**
KWP pmax pmax
comp=Z,14nm,0.9s,mb4.8
KWP Kalwaria 78.73 324 *e*P **P 14 15 33.0 +1.5**
comp=Z,14nm,0.9s,mb4.8
BRTR Keskin Array B 79.08 311 P **P 14 15 34.6 +1.0**
comp=Z,2.0nm,0.7s,mb4.0,baz=71,slow=4.4,SNR=5.5
PDAR Pinedale Array 79.37 45 P **P 14 15 37.2 +2.1**
comp=Z,0.6nm,0.6s,mb3.6,baz=275,slow=0.9,SNR=8.0
PDAR pP pP 14 15 53.9 -1.0
comp=Z,1.1nm,0.7s,baz=297,slow=1.5,SNR=5.6
OJC Ojcow 79.69 326 *e*P **P 14 15 37.9 +1.3**
VRAC Vranov 81.80 327 P **P 14 15 48.4 +0.7**
comp=Z,1.5nm,0.4s,mb4.2,baz=77,slow=5.4,SNR=3.7
PV10 Paradox Valley 82.46 48 *e*P **P 14 15 50.1 -1.3**
GERES GERESS Array B 83.42 328 P **P 14 15 57.1 +1.1**
comp=Z,0.5nm,0.4s,mb3.7,baz=34,slow=4.8,SNR=6.8
GRA1 Grafenberg Arr 83.83 329 *e*P **P 14 15 59.4 +1.4**
comp=Z,5.0nm,1.1s,mb4.3
GRF Grafenberg Arr 83.83 329 *e*P **P 14 15 59.4 +1.4**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
GRF Grafenberg Arr 83.83 329 *e*P **P 14 15 59.4 +1.4**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
GRF Grafenberg Arr 83.83 329 *e*P **P 14 15 59.4 +1.4**
comp=Z,5.0nm,1.1s,mb4.3
TXAR Lajitas Array 91.77 52 P **P 14 16 39.1 +2.4**
comp=Z,0.3nm,0.6s,mb3.7,baz=292,slow=4.9,SNR=3.6
TXAR pP pP 14 16 56.6 -0.4
comp=Z,0.9nm,0.8s,baz=296,slow=3.2,SNR=5.6
DBIC Dimbokro 126.65 315 PKP PKPdf 14 22 31.0 -0.3
comp=Z,1.3nm,0.6s,baz=330,slow=2.9,SNR=3.8
SDV Santo Domingo 127.05 39 PKP PKPdf 14 22 32.9 +0.8
comp=Z,2.2nm,0.8s,baz=333,slow=4.5,SNR=2.9
LPAZ La Paz 148.25 60 PKPbc PKPdf 14 23 17.4 +7.0
comp=Z,0.7nm,0.5s,baz=348,slow=2.1,SNR=4.2
LPAZ La Paz 148.25 60 PKP2 PKPab 14 23 17.4 -1.8
LPAZ pmax pmax
comp=Z,1.0nm,0.5s

ISK ***28*** *14:07:59.3,38.52N×39.31E,h5km,ML4.3*
BJI ***28*** *14:07:59.3,38.50N×39.30E,h7km,mB5.2,mb4.5,Ms4.8, Msz4.4*
NEIC ***28*** *14:07:59.3,38.52N×39.31E,h5km,mb4.1/3,ML4.3(ISK), After ISK.*
CSEM ***28*** *14:08:00.0,38.50N×39.31E,h5km,mb4.7*
IDC ***28*** *14:08:00.8±2.1,38.32N×39.46E,mb3.9/7,mb1 4.0/11, mb1mx3.8/22,mbtmp3.9/11,ML3.7/3,MS3.7/13,Ms1 3.7/13, ms1mx3.6/30,Error ellipse: s-maj=44.8km s-min=14.5km az=6.0*
MOS ***28*** *14:08:01.0±1.3,38.37N×39.35E,h10km,mb4.5/6,Error ellipse: s-maj=8.5km s-min=7.3km az=71.2*
ISC 28 14:08:00.4±0.2,38.47N±0.02×39.34E±0.02,h5km, (h21km±4.6km:pP-P),n126,σ1§01/134,mb4.2/14,MS3.7/11, 3C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.28**	**276**	*i* P		**Pg**	**14 08 05.2**	**-0.8**
ELZG				*i* S		**Sg**	**14 08 08.2**	**-1.5**
PTK	**Pertek**	**0.43**	**6**	*i* PG		**Pg**	**14 08 07.6**	**-1.3**
PTK				*i* SG		**Sg**	**14 08 13.9**	**-0.7**
MYA	**Malataya**	**0.73**	**259**	*i* PG		**Pg**	**14 08 14.4**	**-0.6**
MALT	**Malatya**	**0.73**	**258**	*i* PG		**Pg**	**14 08 13.7**	**-1.2**
MALT				*i* SG		**Sg**	**14 08 25.6**	**+0.9**
MALT	**Malatya**	**0.73**	**258**	*i* Pg		**Pg**	**14 08 13.7**	**-1.3**
MALT				*i* Sg		**Sg**	**14 08 25.6**	**+0.9**
DIY	**Diyarbakir**	**0.91**	**129**	PG		**Pg**	**14 08 18.4**	**-0.1**
URFA	**Urfa**	**1.10**	**202**	PN		**Pn**	**14 08 21.5**	**-0.9**
ATAB	**Bozova**	**1.29**	**220**	*i* P		**Pb**	**14 08 24.4**	**-0.4**
ATAB				*i* S		**Sb**	**14 08 42.4**	**+0.9**
EZC	**Erzincan**	**1.33**	**16**	PN		**Pn**	**14 08 23.9**	**-1.8**
BNGL	**BINGOL**	**1.50**	**71**	*i* P		**Pn**	**14 08 27.6**	**-0.5**
BNGL				*i* S		**Sb**	**14 08 51.9**	**+4.3**
MARD	**Mardin**	**1.62**	**135**	*i* P		**Pn**	**14 08 28.0**	**-1.8**
MARD				*i* S		**Sb**	**14 08 51.0**	**-0.1**
BEST	**Besiri**	**1.63**	**110**	*i* P		**Pn**	**14 08 30.4**	**+0.5**
BEST				*i* S		**Sb**	**14 08 52.8**	**+1.4**
KELT	**Kelkit**	**1.68**	**358**	*i* P		**Pn**	**14 08 29.7**	**-1.0**
KELT				*i* S		**Sn**	**14 08 51.8**	**-0.9**
BTMT	**Batman**	**1.72**	**99**	PN		**Pn**	**14 08 29.9**	**-1.2**
GZT	**Gaziantep**	**1.79**	**232**	*i* P		**Pn**	**14 08 31.6**	**-0.5**
GUMT	**Gumushane**	**1.99**	**3**	PN		**Pn**	**14 08 35.3**	**+0.2**
GAZ	**Gaziantep**	**2.12**	**233**	PN		**Pn**	**14 08 37.5**	**+0.6**
SVST	**Sivas**	**2.27**	**306**	*i* P		**Pn**	**14 08 41.0**	**+2.0**
SVST				*i* S		**Sn**	**14 09 11.6**	**+3.9**
SVSK	**Karacayir**	**2.32**	**309**	PN		**Pn**	**14 08 39.3**	**-0.5**
MACK	**Trabzon**	**2.50**	**8**	*i* P		**Pn**	**14 08 42.8**	**+0.5**
GRSN	**GIRESUNGRSN**	**2.59**	**342**	*i* P		**Pn**	**14 08 46.0**	**+2.4**
BNN	**Bunyan**	**2.76**	**279**	PN		**Pn**	**14 08 46.2**	**+0.2**
TOKT	**Tokat**	**2.84**	**311**	PN		**Pn**	**14 08 47.0**	**-0.3**
KOZT	**Kozan**	**2.94**	**252**	*e*PN		**Pn**	**14 08 48.7**	**0.0**
COBT	**Iskenderun**	**3.13**	**232**	*i* P		**Pn**	**14 08 49.6**	**-1.7**
VANB	**Van**	**3.18**	**86**	*e*PN		**Pn**	**14 08 53.3**	**+1.2**
VANT	**Van**	**3.18**	**89**	*e*PN		**Pn**	**14 08 51.7**	**-0.3**
TVAN	**Van**	**3.19**	**88**	*i* P		**Pn**	**14 08 57.3**	**+5.0**
CEYT	**Ceyhan**	**3.19**	**244**	*e*PN		**Pn**	**14 08 51.9**	**-0.4**
HTY	**Hatay**	**3.46**	**228**	*e*PN		**Pn**	**14 08 56.1**	**0.0**
HAKT	**HAKKARI**	**3.57**	**103**	*i* P		**Pn**	**14 08 55.0**	**-2.6**
HKR	**Hakkari**	**3.59**	**103**	*e*PN		**Pn**	**14 08 58.4**	**+0.5**
KARA	**Karaisali**	**3.60**	**252**	*e*PN		**Pn**	**14 08 58.9**	**+0.9**
KVT	**Kavak**	**3.64**	**317**	*e*PN		**Pn**	**14 08 58.2**	**-0.4**
CLDR	**Caldiran**	**3.64**	**78**	*e*PN		**Pn**	**14 08 59.6**	**+0.9**
KRTS	**Karatas**	**3.67**	**240**	*e*PN		**Pn**	**14 08 59.6**	**+0.5**
DIGO	**Kars**	**3.68**	**57**	*i* P		**Pn**	**14 08 58.8**	**-0.4**
MSL	**Mosul**	**3.70**	**125**	*ex*		x	14 08 58.5	
MSL				*i* x		x	14 09 09.0	
MSL				*i* x		x	14 09 55.5	
MSL				*i* x		x	14 10 14.5	
CORM	**Corum**	**4.03**	**297**	*e*PN		**Pn**	**14 09 04.3**	**+0.2**
CDAG	**Cicekdag**	**4.03**	**288**	*i* P		**Pn**	**14 09 02.2**	**-2.0**
CTKT	**Corum**	**4.12**	**303**	*i* P		**Pn**	**14 09 05.9**	**+0.5**
MERS	**Mersin**	**4.14**	**249**	*e*PN		**Pn**	**14 09 05.7**	**0.0**
AKH	**Akhalkalaki**	**4.34**	**46**	P		**Pg**	**14 09 20.9**	**-6.1**
AKH				S		**Sg**	**14 10 30.2**	**+5.3**
KAMT	**Kaman**	**4.48**	**283**	*e*PN		**Pn**	**14 09 11.0**	**+0.5**
GNI	**Garni**	**4.52**	**66**	Pn		**Pn**	**14 09 11.1**	**0.0**
	4.3nm,0.3s,baz=303,slow=2.8,SNR=9.2							
GNI	**Garni**	**4.52**	**66**	*e*P		**Pn**	**14 09 12.1**	**+1.0**
BR131	**Keskin Array S**	**4.61**	**288**	*e*P		**Pn**	**14 09 12.9**	**+0.6**
BR131	**Keskin Array S**	**4.61**	**288**	*e*P		**Pn**	**14 09 12.9**	**+0.6**
BRTR	**Keskin Array B**	**4.61**	**288**	Pn		**Pn**	**14 09 13.1**	**+0.8**
	3.2nm,0.3s,baz=114,slow=12,SNR=52							
BRTR				Sn		**Sb**	**14 10 22.9**	**+5.2**
	baz=111,slow=20,SNR=1.9							
BYBT	**Boyabat**	**4.62**	**312**	*e*PN		**Pn**	**14 09 12.1**	**-0.3**
TOS	**Tosya**	**4.83**	**304**	*e*PN		**Pn**	**14 09 14.9**	**-0.6**
FKH	**Fakeheh**	**4.84**	**210**	*e*Pn		**Pn**	**14 09 15.3**	**-0.4**
HWQ	**Hawqa**	**5.00**	**214**	*e*Pn		**Pn**	**14 09 17.4**	**-0.5**
ELDT	**Eldivan**	**5.00**	**296**	*i* P		**Pn**	**14 09 17.4**	**-0.4**
IKL	**Isikli**	**5.02**	**245**	*e*PN		**Pn**	**14 09 18.4**	**+0.2**
SOC	**Sochi**	**5.12**	**3**	*c i*P		**Pn**	**14 09 24.0**	**+4.4**
SOC				*e*			14 10 28.3	
SOC					pmax	pmax		
	comp=Z,137nm,1.3s							
SOC					MLR	MLR		
	comp=Z,458nm,13.0s							
ONI	**Oni**	**5.17**	**36**	P		**Pg**	**14 09 34.6**	**-8.9**
ONI				S		**Sg**	**14 10 42.3**	**-10**
TBLG	**Delisi**	**5.27**	**50**	P		**Pg**	**14 09 35.8**	**-10**
TBLG				S		**Sg**	**14 10 53.2**	**-2.6**
TI2	**Plekhanov**	**5.28**	**50**	*e*P		**Pn**	**14 09 22.0**	**+0.2**
TI2					pmax	pmax		
	comp=Z,30nm,0.4s							
TI2					MLR	MLR		
	comp=E,3μm,6.5s							
TI2					MLR	MLR		
	comp=Z,3μm,6.5s							
TI2	**Plekhanov**	**5.28**	**50**	*e*P		**Pn**	**14 09 22.0**	**+0.2**
	comp=Z,30nm,0.4s							
MTA	**Mtatsminda**	**5.28**	**51**	P		**Pg**	**14 09 39.6**	**-6.2**
MTA				S		**Sg**	**14 11 00.7**	**+4.5**
ERMK	**Ermenek**	**5.42**	**252**	*i* P		**Pn**	**14 09 06.8**	**-17**
BHL	**Bhannes**	**5.44**	**214**	*e*Pn		**Pn**	**14 09 24.2**	**+0.1**
BALT	**Daday**	**5.50**	**306**	*i* P		**Pn**	**14 09 20.7**	**-4.7**
DGRG	**David-gareji**	**5.51**	**55**	P		**Pn**	**14 09 24.7**	**-0.5**
DGRG				S		**Sg**	**14 11 07.3**	**+3.4**
KONT	**Konya--Tatoy**	**5.52**	**267**	*e*PN		**Pn**	**14 09 26.1**	**+0.9**
SAFT	**Safranbolu**	**5.82**	**301**	*e*PN		**Pn**	**14 09 29.6**	**+0.2**
KIZT	**Kizilcal**	**5.85**	**276**	*e*PN		**Pn**	**14 09 29.9**	**+0.1**
CSS	**Prodhromos**	**5.96**	**236**	*e*P		**Pn**	**14 09 31.4**	**0.0**
CSS	**Prodhromos**	**5.96**	**236**	*e*P		**Pn**	**14 09 31.4**	**0.0**
SGKT	**Sivrigoynuk**	**6.01**	**293**	*i* P		**Pn**	**14 09 30.1**	**-2.0**
KIV	**Kislovodsk**	**6.04**	**24**	*e*P		**Pn**	**14 09 39.4**	**+6.9**
KIV				*e*S		**Sn**	**14 10 54.4**	**+12**
KIV					pmax	pmax		
	comp=Z,18nm,0.8s							
KIV					MLR	MLR		
	comp=Z,452nm,12.0s							
KIV	**Kislovodsk**	**6.04**	**24**	P		**Pn**	**14 09 33.2**	**+0.7**
	comp=Z,9.7nm,0.6s							
BHD	**Baghdad**	**6.61**	**140**	*ex*		x	14 09 40.0	
BHD				*ex*		x	14 10 10.5	
BHD				*ex*		x	14 11 06.0	
BHD				*ex*		x	14 11 19.0	
BHD				*i* x		x	14 11 41.0	
BHD				*i* x		x	14 11 51.0	
MLR	**Muntele Rosu**	**12.18**	**309**	LR		LR	14 16 37.8	
	comp=Z,298nm,20.7s,baz=332,slow=42							
AKASG	**Malin Array Be**	**14.18**	**333**	Pn		**P**	**14 11 25.2**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=149,slow=11,SNR=3.5							
OBN	**Obninsk**	**16.76**	**354**	*e*P		**P**	**14 12 03.8**	**+6.6**
OBN					pmax	pmax		
	comp=Z,15nm,1.0s							
OBN					MLR	MLR		
	comp=Z,100nm,17.0s							
AKTK	**Aktyubinsk**	**17.86**	**42**	P		**P**	**14 12 10.7**	**-0.3**
AKTK					LR	LR	14 20 43.1	
AKTK	**Aktyubinsk**	**17.86**	**42**	P		**P**	**14 12 10.7**	**-0.3**
AKTO	**Aktyubinsk**	**17.86**	**42**	P		**P**	**14 12 10.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=245,slow=10,SNR=8.7							
AKTO					LR	LR	14 20 43.1	
	comp=Z,164nm,19.3s,slow=43							
VRAC	**Vranov**	**19.57**	**311**	LR		LR	14 21 25.5	
	comp=Z,147nm,19.1s,baz=7.9,slow=41							
UPC	**Upice**	**20.44**	**314**	*e*P		**P**	**14 12 44.5**	**+3.4**
PRU	**Pruhonice**	**21.07**	**311**	*e*P		**P**	**14 12 48.7**	**+1.1**
GERES	**GERESS Array B**	**21.15**	**308**	P		**P**	**14 12 48.4**	**0.0**
	comp=Z,2.3nm,0.9s,mb3.5,baz=121,slow=7.8,SNR=14							
GERES					LR	LR	14 21 45.5	
	comp=Z,86nm,19.4s,MS3.1,baz=113,slow=39							
KHC	**Kasperske Hory**	**21.33**	**308**	*e*P		**P**	**14 12 50.5**	**+0.2**
KHC				*ex*		x	14 15 51.0	
ARU	**Arti**	**22.05**	**29**	*i* P		**P**	**14 12 56.2**	**-1.2**
ARU				*e*PPP		PPP	14 13 24.4	-8.8
ARU				*e*S		**S**	**14 16 59.4**	**+3.4**
ARU					pmax	pmax		
	comp=Z,18nm,1.3s,mb4.3							
ARU	**Arti**	**22.05**	**29**	*i* P		**P**	**14 12 56.2**	**-1.2**
	comp=Z,18nm,1.3s,mb4.3							
KLMR	**Klimovskoe**	**22.41**	**0**	*d i*P		**P**	**14 13 02.4**	**+1.4**
KLMR					pmax	pmax		
	comp=Z,30nm,1.3s,mb4.6							
GRA1	**Grafenberg Arr**	**22.97**	**308**	*e*P		**P**	**14 13 08.8**	**+2.3**
	comp=Z,6.0nm,1.2s,mb3.9							
GRF	**Grafenberg Arr**	**22.97**	**308**	*e*P		**P**	**14 13 08.8**	**+2.3**
GRF					pmax	pmax		
	comp=Z,6.0nm,1.2s,mb3.9							
GRF	**Grafenberg Arr**	**22.97**	**308**	*e*P		**P**	**14 13 08.8**	**+2.3**
GRF					pmax	pmax		
	comp=Z,6.0nm,1.2s,mb3.9							
GRF	**Grafenberg Arr**	**22.97**	**308**	*e*P		**P**	**14 13 08.8**	**+2.3**
	comp=Z,6.0nm,1.2s,mb3.9							
DAVOX	**Davos**	**23.11**	**301**	P		**P**	**14 13 08.4**	**+0.5**
	comp=Z,4.6nm,1.0s,mb3.9,baz=127,slow=5.1,SNR=2.6							
FINES	**FINESS Array B**	**24.43**	**345**	P		**P**	**14 13 22.3**	**+1.6**
	comp=Z,1.3nm,0.6s,mb3.5,baz=141,slow=12,SNR=4.7							
FINES					LR	LR	14 24 32.1	
	comp=Z,116nm,20.0s,MS3.4,baz=168,slow=40							
BVAR	**Borovoye Array**	**25.85**	**46**	P		**P**	**14 13 34.8**	**+0.6**
	comp=Z,3.2nm,0.8s,mb3.9,baz=198,slow=4.7,SNR=7.6							
AAK	**Ala-Archa**	**26.92**	**70**⇑	*e*P		**P**	**14 13 45.5**	**+1.4**
AAK	**Ala-Archa**	**26.92**	**70**	*e*P		**P**	**14 13 45.5**	**+1.4**
ATD	**Arta Tunnel**	**27.01**	**172**	LR		LR	14 23 50.7	
	comp=Z,136nm,18.5s,MS3.5,baz=69,slow=35							
HFS	**Hagfors**	**27.06**	**332**	LR		LR	14 25 46.1	
	comp=Z,174nm,20.2s,MS3.6,baz=74,slow=39							
KURK	**Kurchatov**	**30.18**	**53**	*d i*P		**P**	**14 14 13.5**	**0.0**
KURK	**Kurchatov**	**30.18**	**53**	*e*P		**P**	**14 14 13.1**	**-0.3**
KURK	**Kurchatov**	**30.18**	**53**	*i* P		**P**	**14 14 13.5**	**0.0**
ARCES	**ARCESS Array B**	**32.00**	**351**	LR		LR	14 27 37.3	
	comp=Z,95nm,20.8s,MS3.5,baz=161,slow=37							
MKAR	**Makanchi Array**	**32.34**	**61**	P		**P**	**14 14 32.4**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.1,baz=281,slow=6.2,SNR=10							
MKAR					PcP	PcP	14 17 20.6	+0.1
	comp=Z,1.0nm,0.9s,baz=270,slow=3.6,SNR=3.7							
MKAR	**Makanchi Array**	**32.34**	**61**	P		**P**	**14 14 32.4**	**-0.1**
MKAR					PcP	PcP	14 17 20.6	+0.1
NVS	**Novosibirsk**	**33.64**	**46**	*e*P		**P**	**14 14 43.8**	**+0.1**
KRAR	**Krasnoyarsk**	**39.23**	**46**	*e*P		**P**	**14 15 32.4**	**+1.3**
KMBO	**Kilima Mbogo**	**39.45**	**183**	LR		LR	14 31 12.3	
	comp=Z,125nm,18.6s,MS3.8,baz=88,slow=35							
GTA	**Gaotai**	**46.26**	**69**	*e*P		**P**	**14 16 29.3**	**+1.0**
SONM	**Songino Array**	**48.40**	**56**	P		**P**	**14 16 44.7**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.3,baz=282,slow=7.9,SNR=16							
SONM					LR	LR	14 39 37.1	
	comp=Z,241nm,18.5s,MS4.2,baz=309,slow=39							
ULN	**Ulaanbaatar**	**48.82**	**56**	*e*P		**P**	**14 16 48.4**	**+0.1**
	comp=Z,8.1nm,0.9s,mb4.8							
ULN	**Ulaanbaatar**	**48.82**	**56**	*e*P		**P**	**14 16 48.8**	**+0.5**
LZH	**Lanzhou**	**50.44**	**72**	*e*P		**P**	**14 17 01.0**	**+0.1**
LZH					AP	pP	14 17 06.5	+4.1
LZH					XP	sP	14 17 08.5	+5.5
LZH					AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8							
LZH					AMB	AMB		
	comp=Z,70nm,5.0s							
BOD	**Bodaibo**	**50.62**	**42**	*e*P		**P**	**14 17 00.4**	**-1.6**
BOD					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
BOD	**Bodaibo**	**50.62**	**42**	*e*P		**P**	**14 17 00.4**	**-1.6**
	comp=Z,5.0nm,0.8s,mb4.5							
DBIC	**Dimbokro**	**50.91**	**243**	LR		LR	14 43 19.5	
	comp=Z,45nm,19.4s,MS3.5,baz=123,slow=42							
HHC	**Hu-ho-hao-te**	**54.17**	**63**	*e*P		**P**	**14 17 27.5**	**-1.2**
HHC					AP	pP	14 17 32.0	+1.8
HHC					XP	sP	14 17 35.5	+4.7
HHC					AMB	AMB		
	comp=Z,140nm,3.7s							
HHC					LR	LR		
	comp=N,90nm,13.1s,MS4.2							
HHC					LR	LR		
	comp=E,100nm,11.9s,MS4.2							
HHC					LR	LR		
	comp=Z,90nm,13.1s,MS4.0							
XAN	**Xi'an**	**55.07**	**72**	P		**P**	**14 17 34.5**	**-1.0**
NJ2	**Nanjing**	**63.36**	**69**	*e*P		**P**	**14 18 33.0**	**+0.2**
NJ2					AP	pP	14 18 43.0	+8.6
NJ2					PP	PP	14 20 57.0	+3.2

NAO ***28*** *15:09:01.0±6.0,61.67N×34.76E,ML2.6*
CSEM ***28*** *15:09:01.0±0.8,61.34N×34.60E,h2km,ML1.9, Error ellipse: s-maj=16.3km s-min=10.3km az=136.0,Mining explosion.*

HEL 28 15:08:59.2±1.0,61.40N×35.14E,ML1.9,ML2.6(NAO)**, Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOF	**Joensuu**	**2.35**	**312**	*eP*		Pn	15 09 39.9	+0.2
JOF				*eS*		Sn	15 10 08.1	-1.6
JOF	**Joensuu**	**2.35**	**312**	P		Pn	15 09 39.8	+0.1
JOF				S		Sn	15 10 08.0	-1.7
KAF	**Kangasniemi**	**4.26**	**283**	*eP*		Pn	15 10 05.0	-1.8
KAF				*eS*		Sn	15 10 53.8	-4.2
KAF				MSG			15 10 56.3	
	comp=Z,1.7nm,0.2s							
KAF	**Kangasniemi**	**4.26**	**283**	P		Pn	15 10 04.9	-1.9
KAF				S		Sn	15 10 53.8	-4.2
	comp=Z,1.7nm,0.2s							
KJN	**Kajaani**	**4.35**	**311**	*eP*		Pn	15 10 07.0	-1.1
FIA0	**FINESS Array S**	**4.36**	**274**	Pn		Pn	15 10 05.0	-3.1
	baz=103,slow=14							
FIA0				Sn		Sn	15 10 54.5	-5.9
	baz=89,slow=28							
FIA0				Lg			15 11 10.7	
	baz=83,slow=28							
FIA0	**FINESS Array S**	**4.36**	**274**	*eS*		Sn	15 10 54.5	-5.9
FIA0	**FINESS Array S**	**4.36**	**274**	Pn		Pn	15 10 05.0	-3.2
	SNR=50							
FIA0				S		Sn	15 10 54.4	-6.0
SUF	**Sumiainen**	**4.43**	**291**	*eP*		Pn	15 10 08.3	-1.0
SUF				*eS*		Sn	15 10 59.1	-3.2
SUF				MSG			15 11 18.1	
	comp=Z,1.7nm,0.2s							
SUF	**Sumiainen**	**4.43**	**291**	P		Pn	15 10 08.2	-1.0
SUF				S		Sn	15 10 59.1	-3.3
	comp=Z,1.7nm,0.2s							
PVF	**Pernaja**	**4.60**	**263**	*eS*		Sn	15 11 01.1	-5.6
PVF	**Pernaja**	**4.60**	**263**	S		Sn	15 11 01.0	-5.7
ARA0	**ARCESS Array S**	**9.08**	**338**	Pn		P	15 11 07.4	-7.1
	baz=152,slow=14							
ARA0				Sn		Sn	15 12 44.5	-14
	baz=159,slow=28							
ARA0				Lg			15 13 37.3	
	baz=141,slow=37							
ARA0	**ARCESS Array S**	**9.08**	**338**	*eP*		P	15 11 07.4	-7.1
ARA0				*eS*		Sn	15 12 44.5	-14
ARA0				*eSG*			15 13 37.3	
HFS	**Hagfors**	**10.56**	**273**	*eS*		S	15 13 24.3	-11
HFS				*eSG*			15 14 26.8	
HFS	**Hagfors**	**10.56**	**273**	Sn		S	15 13 24.3	-11
	baz=79,slow=37							
HFS				Lg			15 14 26.8	
	baz=79,slow=37							

IDC ***28*** *15:11:49.0±1.3,4.71S×131.03E,mb4.1/6,mb1 4.2/6, mb1mx4.1/12,mbtmp4.1/6,MS3.2/1,Ms1 3.2/1, ms1mx2.0/18,Error ellipse: s-maj=74.1km s-min=20.2km az=77.0*
NEIC ***28*** *15:11:50.0±0.5,4.77S×131.03E,h10km,mb4.3/5,Error ellipse: s-maj=19.4km s-min=7.4km az=69.0*

ISC 28 15:11:51.7±0.7,4.84S±0.08×131.0E±0.2,h33km,n23, σ1§18/26,mb4.2/9,MS3.1/1,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.18**	**201**	*eP*		**P**	**15 15 12.3**	**0.0**
	9.8nm,0.6s							
FITZ				*eS*		**S**	**15 17 42.3**	**-7.1**
WRAB	**Tennant Creek**	**15.35**	**168**	*eP*		**P**	**15 15 28.1**	**+0.4**
	15nm,0.8s							
WRAB				*eS*		**S**	**15 18 09.7**	**-7.4**
WRA	**Warramunga Arr**	**15.36**	**168**	Pn		**P**	**15 15 26.0**	**-1.8**
	0.7nm,0.3s,baz=348,slow=14,SNR=28							
WRA				Sn		**S**	**15 18 08.8**	**-8.4**
	1.4nm,0.3s,baz=345,slow=24,SNR=7.5							
WB2	**Warramunga Arr**	**15.36**	**168**	*eP*		**P**	**15 15 26.0**	**-1.8**
WB2				*eS*		**S**	**15 18 10.1**	**-7.2**
ASPA	**Alice Springs**	**18.93**	**172**	*eP*		**P**	**15 16 14.0**	**+1.5**
ASPA				*eS*		**S**	**15 19 36.3**	**-2.4**
CTAO	**Charters Tower**	**21.23**	**137**	*eP*		**P**	**15 16 37.4**	**+0.3**
	8.4nm,1.0s,mb4.0							
GUMO	**Guam**	**22.92**	**37**	LR		LR	15 23 32.7	
	comp=Z,71nm,21.1s,MS3.1,baz=94,slow=31							
STKA	**Stephens Creek**	**28.68**	**161**	*eP*		**P**	**15 17 48.7**	**+0.9**
	2.3nm,1.0s,mb3.9							
STKA	**Stephens Creek**	**28.68**	**161**	P		**P**	**15 17 48.9**	**+1.0**
	3.9nm,1.1s,mb4.0,baz=359,slow=7.7,SNR=6.7							
KLBR	**Kellerberrin**	**29.36**	**203**	*eP*		**P**	**15 17 54.7**	**+0.7**
	11nm,0.5s,mb4.8							
NWAO	**Narrogin (SRO)**	**30.75**	**203**	P		**P**	**15 18 07.1**	**+0.9**
	4.5nm,0.6s,mb4.5,baz=50,slow=11,SNR=6.6							
JIRN	**Jiri**	**53.95**	**309**	*eP*		**P**	**15 21 13.9**	**-0.9**
GUN	**Gumba**	**54.31**	**309**	*eP*		**P**	**15 21 17.3**	**-0.1**
KKN	**Kakani**	**54.71**	**309**	*eP*		**P**	**15 21 19.7**	**-0.7**
GKN	**Gorkha**	**55.31**	**309**	*eP*		**P**	**15 21 24.0**	**-0.7**
KOLN	**Koldanda**	**56.01**	**308**	*eP*		**P**	**15 21 29.3**	**-0.4**
	4.0nm,0.4s,mb4.8							
SONM	**Songino Array**	**56.73**	**340**	P		**P**	**15 21 33.5**	**-1.2**
	0.4nm,0.7s,mb3.6,baz=156,slow=6.8,SNR=2.8							
MKAR	**Makanchi Array**	**66.98**	**326**	P		**P**	**15 22 43.5**	**+0.2**
	2.8nm,1.0s,mb4.3,baz=123,slow=8.2,SNR=18							
MKAR	**Makanchi Array**	**66.98**	**326**	P		**P**	**15 22 43.5**	**+0.2**
VNDA	**Vanda**	**74.46**	**173**	P		**P**	**15 23 29.5**	**+1.5**
	1.2nm,0.6s,mb4.0,baz=344,slow=8.1,SNR=7.1							
MAW	**Mawson**	**77.30**	**201**	P		**P**	**15 23 46.0**	**+1.7**
	2.0nm,0.7s,mb4.1,baz=84,slow=9.5,SNR=3.6							
SYO	**Syowa Base**	**86.01**	**201**	§P		**P**	**15 24 31.4**	**+1.8**
HUIG	**Huatulco**	**132.52**	**73**	*eP*		PKPdf	15 31 05.5	+1.4

WEL 28 15:24:58.2±0.2,37.95S×178.06E,h74km±1km,ML4.1/5, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUZ	**Puketiti**	**0.20**	**128**	PN		P	15 25 09.1	-0.1
PUZ				SN		S	15 25 16.9	-0.5
MXZ	**Matakaoa Point**	**0.43**	**27**	PN		S	15 25 11.1	+0.2
MXZ				SN		S	15 25 20.2	-0.1
MWZ	**Matawai**	**0.57**	**227**	PN		P	15 25 12.0	-0.2
MWZ				SN		S	15 25 21.8	-0.7
WIZ	**White Island**	**0.81**	**301**	PN		P	15 25 13.7	-1.1
URZ	**Urewera**	**0.81**	**247**	PN		P	15 25 14.5	-0.4
URZ				SN		S	15 25 26.7	-0.5
EDRZ	**Edgecumbe**	**1.06**	**261**	PN		P	15 25 17.5	-0.4
KNZ	**Kokohu**	**1.11**	**196**	PN		P	15 25 17.9	-0.7
TAZ	**Tarawera**	**1.26**	**257**	PN		P	15 25 20.3	-0.2
TGRZ	**Tauranga**	**1.44**	**278**	PN		P	15 25 22.0	-1.1
PATZ	**Paeroa**	**1.48**	**253**	PN		P	15 25 23.2	-0.5
BKZ	**Black Stump Fm**	**1.73**	**225**	PN		P	15 25 26.2	-0.7
WHTZ	**Whakaora**	**1.80**	**246**	PN		P	15 25 27.7	-0.2
HATZ	**Hinemaiaia**	**1.81**	**238**	PN		P	15 25 27.2	-0.8
WATZ	**Wairara**	**1.98**	**247**	PN		P	15 25 30.1	-0.2
RITZ	**Rihia Road**	**2.01**	**239**	PN		P	15 25 30.3	-0.4
RATZ	**Rangitukua**	**2.02**	**242**	PN		P	15 25 30.5	-0.3
KATZ	**Kakaramea**	**2.12**	**240**	PN		P	15 25 31.7	-0.6
KRVZ	**Karewarewa**	**2.22**	**238**	PN		P	15 25 32.8	-0.8
OTVZ	**Oturere**	**2.24**	**236**	PN		P	15 25 33.0	-0.9
WTVZ	**West Tongariro**	**2.26**	**238**	PN		P	15 25 33.4	-0.8
NGZ	**Ngauruhoe**	**2.28**	**237**	PN		P	15 25 33.6	-0.9
TUVZ	**Tukino**	**2.30**	**234**	PN		P	15 25 33.8	-1.0
MOVZ	**Moawhango**	**2.32**	**230**	PN		P	15 25 33.5	-1.5
CNZ	**Chateau**	**2.33**	**237**	PN		P	15 25 34.4	-0.9
WPVZ	**Whakapapa**	**2.34**	**237**	PN		P	15 25 34.4	-0.9
TWVZ	**Taurewa**	**2.34**	**241**	PN		P	15 25 34.4	-1.0
FWVZ	**Far West T-bar**	**2.36**	**236**	PN		P	15 25 34.6	-1.1
TRVZ	**Turoa**	**2.38**	**235**	PN		P	15 25 34.9	-1.1
MTVZ	**Mangateitei**	**2.48**	**234**	PN		P	15 25 36.0	-1.3
PKVZ	**Pokaka**	**2.51**	**237**	PN		P	15 25 36.8	-1.0
HIZ	**Hauiti**	**2.59**	**256**	PN		P	15 25 38.6	-0.2
TSZ	**Takapari Road**	**2.67**	**217**	PN		P	15 25 36.9	-3.1
VRZ	**Vera Road**	**2.84**	**245**	PN		P	15 25 41.7	-0.8
WAZ	**Wanganui**	**3.00**	**232**	PN		P	15 25 43.4	-1.3
BFZ	**Birch Farm**	**3.07**	**207**	PN		P	15 25 41.9	-3.7
MRZ	**Mangatainoka R**	**3.32**	**215**	PN		P	15 25 44.8	-4.3

IDC ***28*** *15:27:50.0±2.9,9.90N×84.32W,h30km±20km,mb4.5/16, mb1 4.8/18,mb1mx4.7/20,mbtmp4.7/18,ML5.4/2,MS4.3/15, Ms1 4.3/15,ms1mx4.2/22,Error ellipse: s-maj=14.5km s-min=12.0km az=28.0*
CASC ***28*** *15:27:51.6±2.3,9.53N×84.35W,h23km±4km,MD4.6, ML5.3,MW5.7,mb5.2(NEIC)*
MOS ***28*** *15:27:51.7±1.0,9.84N×84.28W,h55km,mb5.4/41, MS4.7/6,Error ellipse: s-maj=9.0km s-min=6.1km az=95.7*
BJI ***28*** *15:27:54.6,9.80N×84.30W,h68km,mB5.4,Ms5.2,Msz4.9*
NEIC ***28*** *15:27:54.7±0.2,9.81N×84.31W,mb5.2/138,MD5.1(HDC), Error ellipse: s-maj=5.3km s-min=2.5km az=208.0*
NEIC Felt [V] at San Pedro and [IV] at Colon, Escazu, Quepos, San Jose and Santa Ana. Felt throughout Costa Rica.
HRVD ***28*** *15:27:54.7±0.2,9.77N×84.27W,h46km±1km,MW5.3/65, Centroid moment Tensor Solution. LP body waves: s56,c95;Mantle waves: s65,c111; Half duration: 1§1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.25±.02; Mθθ0.25±.02; Mφφ0.00±.03; Mrθ-0.09±.02; Mφθ0.85±.02; Mφr0.42±.02; Best double couple: M0.987×10¹⁷ NP1:φs91°, δ62°,λ-15°. NP2:φs188°,δ77°,λ-152°. Principal axes: T 1.025, Plg10°, Azm317°; N -.077, Plg59°, Azm211°; P -.948, Plg29°, Azm53°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 15:27:52.6±0.3,9.74N±0.04×84.28W±0.03,h68km±2km, h71km±4.1km:pP-P,n407,σ0:97/356,mb5.1/151,28C-28D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCM	**Ochomogo**	**0.35**	**64**	§*iP*		**P**	**15 28 01.7**	**-2.3**
EPA	**Esparza**	**0.40**	**308**	§*eP*		**P**	**15 28 02.1**	**-2.3**
POA2	**Poas 2**	**0.43**	**4**	§*eP*		**P**	**15 28 03.7**	**-1.1**
IRZ2	**Volcan Irazu 2**	**0.44**	**59**	§*iP*		**P**	**15 28 03.3**	**-1.6**
PICA	**Picada**	**0.56**	**60**	§*eP*		**P**	**15 28 05.2**	**-0.9**
VTU	**Volcan Turrial**	**0.58**	**62**	§*iP*		**P**	**15 28 05.7**	**-0.7**
CAO	**Cobano**	**0.81**	**267**	§*iP*		**P**	**15 28 06.3**	**-2.6**
FORC	**Fortuna**	**0.82**	**332**	*eP*		**P**	**15 28 08.9**	**-0.1**
FORC				*eS*		**S**	**15 28 23.0**	**+1.9**
VACR	**Volcan Arenal**	**0.83**	**332**	§*eP*		**P**	**15 28 08.9**	**-0.2**
JTS	**JuntasAbangare**	**0.86**	**310**	§*iP*		**P**	**15 28 08.6**	**-0.9**
JTS	**JuntasAbangare**	**0.86**	**310**	§*eP*		**P**	**15 28 08.7**	**-0.8**
JTS				*eS*		**S**	**15 28 21.0**	**-1.0**
LIM1	**Limonal**	**1.35**	**315**	§*eP*		**P**	**15 28 15.9**	**-0.2**
LIM1				*eS*		**S**	**15 28 35.9**	**+2.4**
RIN3	**Volcan Rincon**	**1.50**	**314**	§*eP*		**P**	**15 28 17.6**	**-0.5**
CTCR	**Cotoan**	**1.72**	**119**	§*iP*		**P**	**15 28 19.9**	**-1.1**
BRU2	**Volcan**	**1.83**	**121**	§*iP*		**P**	**15 28 21.4**	**-1.1**
BRU2				*eS*		**S**	**15 28 43.7**	**-0.8**
MADN	**Villa Maderas**	**2.06**	**323**	§*eP*		**P**	**15 28 26.7**	**+0.9**
SSNN	**San Juan del S**	**2.18**	**315**	§*eP*		**P**	**15 28 28.2**	**+0.9**
CONN	**Concepcion**	**2.24**	**324**	§*eP*		**P**	**15 28 28.7**	**+0.4**
APON	**Apoyo**	**2.79**	**321**	§*eP*		**P**	**15 28 36.7**	**+0.7**
TICN	**Ticuantepe**	**2.98**	**320**	*eP*		**P**	**15 28 40.0**	**+1.4**
WILN	**Americas 2**	**3.05**	**322**	§*eP*		**P**	**15 28 40.3**	**+0.6**
MGAN	**Managua**	**3.07**	**321**	§*eP*		**P**	**15 28 39.2**	**-0.8**
MGAN				*eP*			15 28 42.2	
XAVN	**Gruta Xavier**	**3.12**	**320**	§*eP*		**P**	**15 28 41.3**	**+0.6**
APYN	**Apoyeque**	**3.20**	**321**	*eP*		**P**	**15 28 42.3**	**+0.4**
COPN	**Copaltepe**	**3.32**	**317**	§*eP*		**P**	**15 28 44.4**	**+0.9**
MOMJ	**Momotombo**	**3.46**	**320**	§*eP*		**P**	**15 28 45.6**	**+0.3**
MIRN	**Miramar**	**3.59**	**319**	§*eP*		**P**	**15 28 48.4**	**+1.1**
MIRN				*eS*		**S**	**15 29 32.6**	**+4.0**
CNGN	**Cerro Negro**	**3.63**	**319**	§§*eP*		**P**	**15 28 48.5**	**+0.8**
CNGN				*eS*		**S**	**15 29 32.5**	**+2.9**
LEON	**Leon**	**3.69**	**316**	§*eP*		**P**	**15 28 49.8**	**+1.1**
TEL3	**Telica 3**	**3.77**	**318**	§*eP*		**P**	**15 28 50.6**	**+0.8**
TELN	**Telica**	**3.79**	**319**	*eP*		**P**	**15 28 51.1**	**+1.1**
CRIN	**San Cristobal**	**4.00**	**318**	*eP*		**P**	**15 28 54.3**	**+1.3**
CRIN				*eS*		**S**	**15 29 44.6**	**+5.6**
VSM	**San Miguel**	**5.36**	**313**	*eP*		Px	15 29 20.5	
VSM				*eS*		Sx	15 30 21.6	
LFRS	**El Faro**	**6.07**	**310**	§*eP*		Px	15 29 29.1	
LFRS				*eS*		Sx	15 30 37.7	
SBLS	**San Blas**	**6.63**	**308**	*eP*		Px	15 29 37.3	
SBLS				*eS*		Sx	15 30 51.4	
RTR	**El Retiro**	**6.68**	**309**	*eP*		Px	15 29 38.1	
RTR				*eS*		Sx	15 30 55.2	
MBJ	**Montego Bay**	**10.62**	**35**	§*eP*		**P**	**15 30 25.2**	**+1.0**
BBJ	**Bamboo Saint A**	**10.96**	**38**	§*eP*		**P**	**15 30 30.2**	**+1.5**
ROSC	**El Rosal**	**11.00**	**115**	Pn		**P**	**15 30 31.1**	**+1.7**
	2.1nm,0.3s,baz=83,slow=23,SNR=24							
ROSC				Sn		**S**	**15 32 43.5**	**+12**
	baz=84,slow=24,SNR=1.7							
ROSC				LR		LR	15 34 53.5	
	comp=Z,1μm,20.6s,baz=350,slow=38							
STH	**Stony Hill**	**11.01**	**40**	§*eP*		**P**	**15 30 30.2**	**+0.7**
GWJ	**Greenwich**	**11.06**	**41**	§*eP*		**P**	**15 30 31.1**	**+1.0**
OTAV	**Otavalo**	**11.08**	**148**	*eP*		**P**	**15 30 31.1**	**+0.7**
	157nm,1.3s							
LMGC	**Las Mercedes**	**12.44**	**34**	*eP*		**P**	**15 30 50.4**	**+1.8**
	baz=211							
	comp=E,1μm,18.0s							
TUIG	**Tuzandepetl**	**12.84**	**311**	*eP*		**P**	**15 31 02.6**	**+8.7**
SOR	**Soroa**	**13.03**	**5**	*eP*		**P**	**15 31 00.1**	**+3.6**
RCC	**Rio Carpintero**	**13.14**	**38**	*eP*		**P**	**15 31 01.6**	**+3.8**
SDV	**Santo Domingo**	**13.49**	**92**	Pn		**P**	**15 31 02.0**	**-0.5**
	comp=E,3.0nm,0.3s,baz=297,slow=8.5,SNR=54							
SDV				Sn		**S**	**15 33 27.3**	**-3.9**
	comp=E,3.9nm,0.3s,baz=8.9,slow=19,SNR=5.1							
SDV	**Santo Domingo**	**13.49**	**92**	*eP*		**P**	**15 31 02.0**	**-0.5**
	comp=E,103nm,0.8s							
HLGC	**Holguin**	**13.62**	**35**	*eP*		**P**	**15 31 05.3**	**+1.1**
MOAC	**Moa**	**14.09**	**39**	*eP*		**P**	**15 31 15.4**	**+5.1**
OXX	**Oaxaca**	**14.13**	**302**	*eP*		**P**	**15 31 11.0**	**+0.2**
VHO	**Vista Hermosa**	**14.13**	**302**	§*iP*		**P**	**15 31 11.2**	**+0.3**
MASC	**Masc**	**14.20**	**42**	*eP*		**P**	**15 31 14.6**	**+2.8**
PNIG	**Pinotepa**	**15.02**	**298**	§*iP*		**P**	**15 31 22.2**	**-0.1**
LVIG	**Laguna Verde**	**15.36**	**312**	§*iP*		**P**	**15 31 24.8**	**-2.0**
PPM	**Popocatepetl**	**16.69**	**305**	§*iP*		**P**	**15 31 45.4**	**+1.9**
ACX	**Acapulco**	**16.78**	**297**	*eP*		**P**	**15 31 45.0**	**+0.4**
YAIG	**Yautepec**	**16.94**	**304**	§*iP*		**P**	**15 31 48.3**	**+1.7**
PLIG	**Platanillo**	**17.08**	**302**	§*iP*		**P**	**15 31 50.4**	**+2.0**
CAIG	**El Cayaco**	**17.16**	**297**	§*iP*		**P**	**15 31 50.3**	**+0.9**
UNM	**Universidad Na**	**17.27**	**305**	*eP*		**P**	**15 31 50.0**	**-0.8**
MOIG	**Morelia**	**19.09**	**303**	*iP*		**P**	**15 32 14.7**	**+2.2**
SJG	**San Juan**	**19.45**	**63**	P		**P**	**15 32 15.3**	**-1.2**
	comp=E,1.3nm,0.3s,baz=360,slow=22,SNR=16							
SJG				S		**S**	**15 35 52.8**	**+5.7**
	comp=E,0.9nm,0.3s,baz=274,slow=19,SNR=2.3							
SJG				LR		LR	15 38 57.7	
	comp=E,1μm,19.8s,baz=272,slow=34							
SJG	**San Juan**	**19.45**	**63**	*eP*		**P**	**15 32 15.7**	**-0.8**
SJG				pmax		pmax		
	comp=Z,388nm,1.4s							
SJG	**San Juan**	**19.45**	**63**	*eP*		**P**	**15 32 15.7**	**-0.8**
	comp=Z,388nm,1.4s							
CPD	**Cerro la Pandu**	**19.63**	**63**	*eP*		**P**	**15 32 17.7**	**-0.6**
MTP	**Monte Pirata**	**19.96**	**63**	*eP*		**P**	**15 32 21.0**	**-0.9**
SFJM	**Santa Fe**	**21.00**	**303**	*eP*		**P**	**15 32 33.0**	**+0.4**
NNA	**Nana**	**22.82**	**161**	*eP*		**P**	**15 32 51.6**	**+0.9**
	comp=Z,73nm,1.2s,mb4.9							
LRAL	**Lakeview Retre**	**23.32**	**354**	*eP*		**P**	**15 32 57.2**	**+1.9**
	comp=Z,94nm,0.9s,mb5.1							
NHSC	**New Hope**	**23.56**	**9**	*eP*		**P**	**15 32 59.0**	**+1.4**
	comp=Z,111nm,0.8s,mb5.2							
NHSC				*e*			15 33 14.6	
GOGA	**Godfrey**	**23.57**	**2**	*eP*		**P**	**15 32 59.2**	**+1.5**
GOGA				pmax		pmax		
	comp=Z,58nm,0.8s,mb5.0							
GOGA	**Godfrey**	**23.57**	**2**	*eP*		**P**	**15 32 59.2**	**+1.4**
	comp=Z,58nm,0.8s,mb5.0							
JSC	**Jenkinsville**	**24.58**	**6**	*eP*		**P**	**15 33 08.5**	**+0.9**
MAIG	**Mazatlaan**	**25.04**	**305**	*eP*		**P**	**15 33 15.6**	**+3.4**
OXF	**Oxford**	**25.10**	**350**	*eP*		**P**	**15 33 11.5**	**-1.1**
OXF				pmax		pmax		
	comp=Z,121nm,1.0s,mb5.3							
OXF	**Oxford**	**25.10**	**350**	*eP*		**P**	**15 33 11.5**	**-1.1**
	comp=Z,121nm,1.0s,mb5.3							
JCT	**Junction City**	**25.20**	**327**	*eP*		**P**	**15 33 12.2**	**-1.4**
JCT				pmax		pmax		
	comp=Z,41nm,0.8s,mb4.9							
JCT	**Junction City**	**25.20**	**327**	*eP*		**P**	**15 33 12.2**	**-1.4**
	comp=Z,41nm,0.8s,mb4.9							
MYNC	**Murphy**	**25.22**	**0**	*eP*		**P**	**15 33 14.5**	**+0.8**
MYNC				pmax		pmax		
	comp=Z,99nm,0.6s,mb5.4							
MYNC	**Murphy**	**25.22**	**0**	*eP*		**P**	**15 33 14.5**	**+0.9**
	comp=Z,99nm,0.6s,mb5.4							
SWET	**Sewanee**	**25.40**	**357**	*eP*		**P**	**15 33 14.4**	**-1.0**
CPCT	**Cooper Cave**	**25.59**	**360**	*eP*		**P**	**15 33 17.4**	**+0.3**
UALR	**University of**	**25.99**	**345**	*eP*		**P**	**15 33 19.2**	**-1.7**
	comp=Z,50nm,1.0s,mb4.9							
UALR				*ep*	P	pP	15 33 37.3	+0.3
MIAR	**Mount Ida**	**26.11**	**342**	*eP*		**P**	**15 33 21.0**	**-1.0**
MIAR				pmax		pmax		
	comp=Z,56nm,0.8s,mb5.0							
MIAR	**Mount Ida**	**26.11**	**342**	*eP*		**P**	**15 33 21.0**	**-1.0**
	comp=Z,56nm,0.8s,mb5.0							
HBAR	**Harrisburg**	**26.34**	**348**	*eP*		**P**	**15 33 23.3**	**-0.8**
HALT	**Halls**	**26.45**	**351**	P		**P**	**15 33 24.2**	**-1.0**
WVT	**Waverly**	**26.47**	**354**	*eP*		**P**	**15 33 23.9**	**-1.4**
WVT				pmax		pmax		
	comp=Z,47nm,1.3s,mb4.8							
WVT	**Waverly**	**26.47**	**354**	*eP*		**P**	**15 33 23.9**	**-1.4**
	comp=Z,47nm,1.3s,mb4.8							
GNAR	**Gosnell**	**26.62**	**350**	*eP*		**P**	**15 33 26.0**	**-0.7**
LTX	**Lajitas**	**26.64**	**320**	*eP*		**P**	**15 33 26.0**	**-0.9**
LTX				*e*	*PP	pP	15 33 42.0	-1.0
LTX				pmax		pmax		
	comp=Z,52nm,1.0s,mb5.0							
LTX	**Lajitas**	**26.64**	**320**	*eP*		**P**	**15 33 25.9**	**-0.9**
	comp=Z,52nm,1.0s,mb5.0							
LTX				*ep*	P	pP	15 33 42.0	-1.0
TXAR	**Lajitas Array**	**26.64**	**320**	P		**P**	**15 33 25.9**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.3,baz=149,slow=7.3,SNR=22							
TXAR				PcP		PcP	15 36 50.2	+0.5
	comp=Z,4.2nm,0.7s,baz=149,slow=5.9,SNR=7.1							
TXAR				ScP			15 40 27.2	
	comp=Z,0.8nm,0.8s,baz=117,slow=2.8,SNR=5.0							
TZTN	**Tazewell**	**26.69**	**1**	*eP*		**P**	**15 33 26.9**	**-0.5**
UTMT	**University of**	**26.81**	**352**	P		**P**	**15 33 27.1**	**-1.3**
BLA	**Blacksburg**	**27.57**	**7**	*eP*		**P**	**15 33 35.6**	**+0.2**
BLA				pmax		pmax		
	comp=Z,28nm,0.9s,mb4.8							
BLA	**Blacksburg**	**27.57**	**7**	*eP*		**P**	**15 33 35.6**	**+0.3**
	comp=Z,28nm,0.9s,mb4.8							
WMOK	**Wichita Mounta**	**28.20**	**334**	*eP*		**P**	**15 33 39.3**	**-1.7**
WMOK				pmax		pmax		
	comp=Z,60nm,1.3s,mb5.0							
WMOK	**Wichita Mounta**	**28.20**	**334**	*eP*		**P**	**15 33 39.3**	**-1.7**
	comp=Z,60nm,1.3s,mb5.0							
WCI	**Wyandotte Cave**	**28.42**	**357**	*eP*		**P**	**15 33 42.4**	**-0.6**
	comp=Z,46nm,1.1s,mb4.9							
FVM	**French Village**	**28.86**	**350**	*eP*		**P**	**15 33 43.1**	**-2.0**
	comp=Z,9.3nm,0.6s,mb4.6							
ARE	**Arequipa**	**28.95**	**154**	*eP*		**P**	**15 33 51.0**	**+3.1**
MNTX	**Cornudas Mount**	**29.33**	**321**	*eP*		**P**	**15 33 49.4**	**-1.8**
	comp=Z,14nm,1.0s,mb4.6							
MNTX				*ep*	P	pP	15 34 06.2	-1.4
BLO	**Bloomington**	**29.38**	**356**	*eP*		**P**	**15 33 50.2**	**-1.3**
BLO				pmax		pmax		
	comp=Z,37nm,0.8s,mb5.1							
BLO	**Bloomington**	**29.38**	**356**	*eP*		**P**	**15 33 50.2**	**-1.3**
	comp=Z,37nm,0.8s,mb5.1							
MCWV	**Mont Chateau**	**30.05**	**7**	*eP*		**P**	**15 33 57.2**	**-0.3**
	comp=Z,57nm,1.2s,mb5.1							
ACSO	**Alum Creek Sta**	**30.39**	**2**	*eP*		**P**	**15 33 59.8**	**-0.7**
	comp=Z,56nm,1.1s,mb5.1							
LPAZ	**La Paz**	**30.40**	**148**	P		**P**	**15 34 02.2**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=355,slow=10.0,SNR=4.6							
LPAZ	**La Paz**	**30.40**	**148**	*eP*		**P**	**15 34 01.1**	**+0.3**
LPAZ				pmax		pmax		
	comp=Z,9.0nm,1.2s	

comp=Z,6,4nm,0.2s
DLBC Dease Lake 59.68 334 *e*P **P 15 37 50.9 -1.2**
RES Resolute Bay 65.19 357 P **P 15 38 26.7 -1.8**
RES pmax pmax
comp=Z,20nm,0.8s,mb5.0
RES Resolute Bay 65.19 357 P **P 15 38 26.7 -1.8**
comp=Z,20nm,0.8s,mb5.0
DAWY Dawson 66.49 337 *e*P **P 15 38 35.7 -1.2**
INK Inuvik 66.71 342 *e*P **P 15 38 36.7 -1.6**
INK pmax pmax
comp=Z,22nm,0.9s
INK Inuvik 66.71 342 *e*P **P 15 38 36.7 -1.5**
comp=Z,22nm,0.9s,mb5.0
SUMG Summit 68.45 13 *e*P **P 15 38 47.1 -1.9**
comp=Z,39nm,1.1s,mb5.2
ILAR Eielson Array 69.74 336 P **P 15 38 55.9 -1.2**
comp=Z,6.3nm,0.7s,mb4.5,baz=120,slow=4.4,SNR=24
ILAR LR LR 16 09 24.5
comp=Z,224nm,20.4s,baz=126,slow=36
PPT Papeete 69.97 247 *e*LR LR 16 00 15.0
comp=Z,410nm,26.8s
PPT Papeete 69.97 247 LR LR 16 00 57.8
comp=Z,272nm,18.9s,baz=54,slow=28
COLA College 70.16 336 *e*P **P 15 38 58.6 -1.0**
TBI Tubuai 71.70 241 *e*LR LR 16 01 04.7
comp=Z,325nm,30.2s
TBI Tubuai 71.70 241 *e*T 16 56 37.2
comp=Z,5.5nm,0.3s
EMAZ Mazaricos 72.68 48 P **P 15 39 14.3 -0.7**
comp=Z,52nm,0.9s,mb5.4
IMA2 Indian Mountai 72.85 336 *e*P **P 15 39 15.4 -0.2**
PTOM Tomar 72.98 52 *e*P **P 15 39 17.0 +0.1**
comp=Z,80nm,1.3s,mb5.4
EVO Evora 73.27 53 *e*P **P 15 39 17.9 -0.7**
comp=Z,92nm,0.9s,mb5.3
EVO *e*R
comp=Z,217nm,22.0s
ELOB Lobios 73.31 49 P **P 15 39 18.6 -0.2**
comp=Z,63nm,1.2s,mb5.3
PBEJ Beja 73.38 53 *e*P **P 15 39 19.7 +0.4**
PVIS Viseu 73.41 50 *e*P **P 15 39 19.8 +0.4**
comp=Z,77nm,1.0s,mb5.5
PVRL Vila Real 73.55 50 *e*P **P 15 39 20.6 +0.4**
comp=Z,55nm,1.3s,mb5.1
MTE Manteigas 73.67 51 *e*P **P 15 39 21.0 +0.1**
comp=Z,56nm,1.2s,mb5.2
MTE Manteigas 73.67 51 *e*P **P 15 39 20.4 -0.5**
comp=Z,46nm,1.1s,mb5.1
EGRO El Granado 73.68 54 P **P 15 39 21.5 +0.5**
comp=Z,68nm,1.0s,mb5.3
PCBR Castelo Branco 73.71 51 *e*P **P 15 39 21.3 +0.2**
comp=Z,53nm,1.1s,mb5.2
EPON Pontenova 74.03 48 P **P 15 39 22.0 -1.0**
comp=Z,119nm,2.1s,mb5.2
EBAD Badajoz 74.06 52 P **P 15 39 22.4 -0.8**
comp=Z,51nm,1.3s,mb5.1
ECAL Calabor 74.30 49 P **P 15 39 25.1 +0.5**
comp=Z,91nm,1.2s,mb5.4
EMIN Mina Concepcio 74.33 54 P **P 15 39 24.5 -0.3**
comp=Z,35nm,1.0s,mb5.0
ESPR Espera 74.99 54 P **P 15 39 29.0 +0.4**
comp=Z,61nm,0.8s,mb5.4
EJIF Jimena Fronter 75.31 55 P **P 15 39 32.1 +1.7**
comp=Z,36nm,0.9s,mb5.1
EARI Arriondas 75.44 48 P **P 15 39 31.8 +0.7**
comp=Z,99nm,1.2s,mb5.4
EMIJ Mijas 75.86 55 P **P 15 39 33.8 +0.2**
comp=Z,56nm,1.0s,mb5.2
EADA Adamuz 75.98 53 P **P 15 39 34.0 -0.3**
comp=Z,37nm,1.1s,mb5.0
MDT Midelt 76.14 59 LR LR 16 08 25.1
comp=Z,98nm,18.3s,baz=38,slow=32
GUD Guadarrama 76.25 51 P **P 15 39 36.9 +1.1**
comp=Z,49nm,0.9s,mb5.2
ELOJ Sierra Loja 76.34 54 P **P 15 39 37.4 +1.0**
comp=Z,44nm,0.9s,mb5.2
ESDC Sonseca Array 76.42 52 P **P 15 39 37.1 +0.4**
comp=Z,41nm,0.8s,mb5.2,baz=280,slow=5.7,SNR=152
ESDC Sonseca Array 76.42 52 P **P 15 39 37.0 +0.4**
comp=Z,41nm,0.6s,mb5.3
ESLA Sonseca Array 76.42 52 *e*P **P 15 39 36.9 +0.3**
comp=Z,14nm,0.9s,mb4.7
EBAN Banos Encina 76.60 53 P **P 15 39 38.5 +0.7**
comp=Z,33nm,0.9s,mb5.1
ERON Agron 76.62 54 P **P 15 39 39.1 +1.2**
comp=Z,4.3nm,0.7s,mb4.3
ELAN Lanestosa 76.74 48 P **P 15 39 38.3 -0.1**
comp=Z,118nm,1.6s,mb5.4
ECOG Cogollos-Vega 76.81 54 P **P 15 39 39.8 +0.9**
comp=Z,38nm,0.8s,mb5.2
ROSF Rostrenen 76.82 43 *e*P **P 15 39 37.8 -0.9**
comp=Z,52nm,0.9s,mb5.0
QUIF Quistinic 76.89 43 *e*P **P 15 39 38.7 -0.5**
comp=Z,68nm,0.8s,mb5.1
EQES Quesada 77.18 53 P **P 15 39 41.5 +0.5**
comp=Z,117nm,0.9s,mb5.6
SGMF Saint Gilles 77.30 43 *e*P **P 15 39 40.7 -0.7**
comp=Z,22nm,0.7s,mb4.7
EBER Berja 77.36 54 P **P 15 39 42.7 +0.7**
comp=Z,212nm,1.5s,mb5.7
EHUE Huescar 77.56 53 P **P 15 39 43.7 +0.6**
comp=Z,64nm,1.2s,mb5.2
EALK Alkurruntz 78.15 48 P **P 15 39 45.0 -1.2**
comp=Z,56nm,1.3s,mb5.1
ETOB Tobarra 78.33 52 P **P 15 39 48.1 +0.8**
comp=Z,435nm,2.5s,mb5.7
SJPF Ste Jean 78.36 48 *e*P **P 15 39 47.7 +0.3**
comp=Z,106nm,0.8s,mb5.3
LIC Lamto 78.41 86 *e*P **P 15 39 47.9 -0.3**
comp=Z,79nm,1.0s,mb5.1
LIC *e*R
comp=Z,129nm,21.5s
GRR Gorron 78.43 43 *e*P **P 15 39 47.1 -0.5**
comp=Z,97nm,0.8s,mb5.3
DBIC Dimbokro 78.52 85 P **P 15 39 48.8 0.0**
comp=Z,18nm,1.0s,mb4.9,baz=260,slow=5.3,SNR=21
DBIC Dimbokro 78.52 85 *e*P **P 15 39 48.4 -0.4**
DBIC pmax pmax
comp=Z,33nm,1.2s
DBIC Dimbokro 78.52 85 *e*P **P 15 39 48.4 -0.4**
comp=Z,33nm,1.2s,mb5.0
LARF Larrau 78.54 48 *e*P **P 15 39 49.0 +0.7**
EMUR La Murta 78.62 53 P **P 15 39 48.6 -0.3**
comp=Z,316nm,2.3s,mb5.7
FLN La Foliniere 78.67 42 *e*P **P 15 39 48.8 -0.1**
comp=Z,92nm,1.0s,mb5.3
FLN *e*R
comp=Z,566nm,22.5s
ECHE Chera 78.73 51 P **P 15 39 49.7 +0.2**
comp=Z,22nm,1.0s,mb5.0
ETSF Etsaut 78.86 48 *e*P **P 15 39 50.5 +0.4**
comp=Z,22nm,0.8s,mb4.7
LDF La Druitiere 78.91 42 *e*P **P 15 39 50.1 -0.2**
comp=Z,109nm,0.9s,mb5.4
MFF Saint Martin d 78.98 44 *e*P **P 15 39 50.3 -0.4**
comp=Z,78nm,0.9s,mb5.2
ESAC San Caprasio 78.99 49 P **P 15 39 51.6 +0.7**
comp=Z,127nm,0.7s,mb5.9
EMOS Mosqueruela 79.07 51 P **P 15 39 51.7 +0.4**
comp=Z,293nm,2.3s,mb5.7
VIEF Viey 79.29 48 *e*P **P 15 39 53.3 +0.8**
EBEN Beniarda 79.36 52 P **P 15 39 53.1 +0.1**
comp=Z,537nm,2.8s,mb5.9
EBIE Bielsa 79.39 48 P **P 15 39 53.8 +0.8**
comp=Z,121nm,1.9s,mb5.4
EPF Esparros 79.51 48 *e*P **P 15 39 54.0 +0.3**
comp=Z,104nm,1.0s,mb5.3
EGRA Graus 79.55 49 P **P 15 39 54.5 +0.6**
comp=Z,47nm,0.8s,mb5.4
ERTA Horta de San J 79.64 50 P **P 15 39 54.6 +0.2**
comp=Z,156nm,1.6s,mb5.6
LFF La Frestale 79.68 46 *e*P **P 15 39 54.3 -0.2**
comp=Z,78nm,0.7s,mb5.3
EBR Ebro Roquetas 79.77 50 *e*P **P 15 39 56.7 +1.6**
EPOB Poblet 80.17 50 P **P 15 39 56.0 -1.2**
comp=Z,199nm,2.4s,mb5.5
RJF Les Rejaudoux 80.21 46 *e*P **P 15 39 57.1 -0.2**
comp=Z,65nm,1.0s,mb5.1
EMIR Miracle 80.46 49 P **P 15 39 59.0 +0.2**
comp=Z,351nm,2.1s,mb5.8
TCF Toulx Ste Croi 80.62 45 *e*P **P 15 39 58.9 -0.6**
comp=Z,50nm,0.8s,mb5.1
CAF Calviac 80.62 46 *e*P **P 15 39 59.3 -0.3**
comp=Z,62nm,0.9s,mb5.1
HYF Humbligny 80.84 44 *e*P **P 15 40 00.5 -0.2**
VERF Verneugheol 80.85 45 *e*P **P 15 40 01.4 +0.6**
MTLF Montolieu 80.86 48 *e*P **P 15 40 00.8 0.0**
comp=Z,69nm,1.0s,mb5.2

BGF Bois d'Agland 81.04 44 *e*P **P 15 40 01.2 -0.5**
comp=Z,58nm,0.8s,mb5.2
BGF Bois d'Agland 81.04 44 *e*P **P 15 40 01.2 -0.5**
BGF pmax pmax
comp=Z,29nm,0.8s,mb5.2
AGO Saint Agoulin 81.28 45 *e*P **P 15 40 02.9 -0.1**
AVF Avril sur Loir 81.37 44 *e*P **P 15 40 02.6 -0.8**
comp=Z,30nm,0.8s,mb4.9
AVF Avril sur Loir 81.37 44 *e*P **P 15 40 02.6 -0.8**
AVF pmax pmax
comp=Z,15nm,0.8s,mb4.9
EJON La Jonquera 81.43 48 P **P 15 40 04.0 +0.1**
comp=Z,63nm,1.2s,mb5.3
LBL Lubilhac 81.43 46 *e*P **P 15 40 04.4 +0.6**
SSF Saint Saulge 81.45 44 *e*P **P 15 40 02.9 -0.9**
SSF pmax pmax
comp=Z,15nm,0.7s,mb4.9
SSF Saint Saulge 81.45 44 *e*P **P 15 40 02.9 -0.9**
comp=Z,15nm,0.7s,mb4.9
PLDF La Plantade 81.63 45 *e*P **P 15 40 03.9 -0.9**
LOR Lormes 81.67 43 *e*P **P 15 40 04.3 -0.7**
comp=Z,49nm,0.9s,mb5.0
LOR *e*R
comp=Z,522nm,23.0s
LOR Lormes 81.67 43 *e*P **P 15 40 04.3 -0.7**
LOR pmax pmax
comp=Z,25nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,520nm,23.0s
SMF Signal de Mont 81.72 44 *e*P **P 15 40 04.5 -0.7**
comp=Z,29nm,0.7s,mb4.9
SMF Signal de Mont 81.72 44 *e*P **P 15 40 04.5 -0.7**
SMF pmax pmax
comp=Z,15nm,0.7s,mb4.9
LASF Ste Croix 81.97 47 *e*P **P 15 40 07.1 +0.5**
comp=Z,124nm,1.3s,mb5.3
GIVF Givet 82.04 41 *e*P **P 15 40 06.6 -0.2**
comp=Z,38nm,1.0s,mb4.9
MEZF Maizieres J'vi 82.35 42 *e*P **P 15 40 08.1 -0.3**
comp=Z,74nm,1.1s,mb5.1
VIVF Saint-Julien-l 82.47 46 *e*P **P 15 40 09.8 +0.6**
comp=Z,96nm,1.0s,mb5.3
HGN Heimansgroeve 82.67 40 *e*P **P 15 40 09.9 -0.2**
comp=Z,23nm,1.0s,mb5.0
WLF Walferdange 82.94 41 *e*P **P 15 40 11.8 +0.4**
WLF pmax pmax
comp=Z,27nm,0.9s,mb5.1
WLF Walferdange 82.94 41 *e*P **P 15 40 11.8 +0.3**
comp=Z,27nm,0.9s,mb5.1
THEF They Montfort 83.00 42 *e*P **P 15 40 11.8 0.0**
WTSB Winterswijk 83.08 39 *e*P **P 15 40 12.6 +0.5**
SMRF Simiane la Rot 83.22 47 *e*P **P 15 40 12.9 -0.1**
CABF La Chapelle 83.26 44 *e*P **P 15 40 13.2 +0.1**
comp=Z,49nm,1.0s,mb5.0
HAU Haudompre 83.26 43 *e*P **P 15 40 12.8 -0.3**
comp=Z,34nm,0.9s,mb4.9
HAU *e*R
comp=Z,492nm,22.5s
HAU Haudompre 83.26 43 *e*P **P 15 40 12.8 -0.3**
HAU pmax pmax
comp=Z,17nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,490nm,22.5s
ORIF Oris-en-Rattie 83.32 46 *e*P **P 15 40 13.5 0.0**
ORIF *e*R
comp=Z,303nm,22.5s
RUP Ruppelstein 83.52 41 *e*P **P 15 40 14.6 +0.2**
HINF Hinteralfeld 83.62 43 *e*P **P 15 40 14.5 -0.5**
comp=Z,29nm,0.9s,mb4.8
ECH Echery 83.78 42 *e*P **P 15 40 15.7 0.0**
MOF Molkenrain 83.81 43 *e*P **P 15 40 15.9 0.0**
ABH Alteburg 83.81 41 *e*P **P 15 40 15.7 -0.1**
CDF Champ du Feu 83.83 42 *e*P **P 15 40 15.6 -0.4**
comp=Z,28nm,1.0s,mb4.8
LPL La Plagne 83.84 45 *e*P **P 15 40 16.3 +0.2**
comp=Z,33nm,1.1s,mb4.8
LPG La Plagne 83.86 45 *e*P **P 15 40 16.4 +0.2**
comp=Z,11nm,0.8s,mb4.5
WLS Welschbruch 83.88 42 *e*P **P 15 40 16.1 -0.1**
LMR La Mourre 83.97 47 *e*P **P 15 40 16.6 -0.2**
comp=Z,110nm,1.2s,mb5.3
FRF La Forest Royal 84.04 47 *e*P **P 15 40 17.0 -0.1**
comp=Z,65nm,0.9s,mb5.2
LIBD Limburg 84.08 42 *e*P **P 15 40 17.4 +0.2**
NAO01 NORSAR Array S 84.08 29 *e*P **P 15 40 17.4 +0.5**
comp=Z,17nm,0.9s,mb4.9
LANF Langenberg 84.10 41 *e*P **P 15 40 17.6 +0.3**
BBS Basel-Blauen 84.11 43 *e*P **P 15 40 16.3 -1.1**
NB2 NORSAR Subarra 84.21 29 P **P 15 40 17.8 +0.2**
comp=Z,14nm,0.8s,mb4.8,baz=280,slow=5.0
NB2 NORSAR Subarra 84.21 29 P **P 15 40 17.8 +0.2**
baz=280,slow=5.1
NB2 NORSAR Subarra 84.21 29 P **P 15 40 17.8 +0.2**
NB2 pmax pmax
comp=Z,14nm,0.8s,mb4.8
NOA NORSAR Array B 84.21 29 P **P 15 40 18.1 +0.5**
comp=Z,11nm,0.8s,mb4.7,baz=278,slow=5.0,SNR=28
NOA LR LR 16 14 02.3
comp=Z,73nm,19.7s,baz=170,slow=33
TNS Taunus Mts 84.34 40 *e*P **P 15 40 18.8 +0.3**
TNS pmax pmax
comp=Z,29nm,1.1s,mb5.0
TNS Taunus Mts 84.34 40 *e*P **P 15 40 18.8 +0.3**
comp=Z,29nm,1.1s,mb5.0
BFO Black Forest 84.53 42 *e*P **P 15 40 19.2 -0.3**
BFO pmax pmax
comp=Z,20nm,1.1s,mb5.0
BFO Black Forest 84.53 42 *e*P **P 15 40 19.2 -0.3**
comp=Z,20nm,1.1s,mb5.0
SBF Sospel 84.56 47 *e*P **P 15 40 19.4 -0.4**
comp=Z,111nm,1.1s,mb5.4
SBF Sospel 84.56 47 *e*P **P 15 40 19.4 -0.4**
SBF pmax pmax
comp=Z,56nm,1.1s,mb5.4
SPAK Spaichingen 84.87 42 *e*P **P 15 40 20.8 -0.4**
BSEG Bad Segeberg 84.90 36 *e*P **P 15 40 21.2 0.0**
STU Stuttgart 85.04 42 *e*P **P 15 40 21.3 -0.7**
STU pmax pmax
comp=Z,16nm,0.8s,mb5.0
STU Stuttgart 85.04 42 *e*P **P 15 40 21.3 -0.7**
comp=Z,16nm,0.8s,mb5.0
CLZ Clausthal 85.28 38 *e*P **P 15 40 23.8 +0.7**
CLZ pmax pmax
comp=Z,31nm,1.1s,mb5.2
CLZ Clausthal 85.28 38 *e*P **P 15 40 23.8 +0.7**
comp=Z,31nm,1.1s,mb5.2
HFS Hagfors 85.58 30 LR LR 16 18 01.0
comp=Z,120nm,19.4s,baz=253,slow=35
DAVA Damuels 85.73 43 ⇓*i*P **P 15 40 26.2 +0.7**
comp=Z,56nm,0.9s,mb5.5,SNR=12
DAVA Damuels 85.73 43 ⇓*i*P **P 15 40 26.1 +0.7**
comp=Z,56nm,0.9s,mb5.5
DAVOX Davos 85.82 43 LR LR 16 12 31.2
comp=Z,270nm,20.1s,baz=265,slow=31
PGF Pioggiola 85.90 48 *e*P **P 15 40 26.3 -0.1**
GRA1 Grafenberg Arr 86.19 40 *e*P **P 15 40 28.6 +1.0**
comp=Z,24nm,1.0s,mb5.1
GRA1 LR LR
comp=Z,300nm,21.2s
GRF Grafenberg Arr 86.19 40 *e*P **P 15 40 28.6 +1.0**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRF MLR MLR
comp=Z,300nm,21.2s
GRF Grafenberg Arr 86.19 40 *e*P **P 15 40 28.6 +1.0**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRF MLR MLR
comp=Z,300nm,21.2s
GRF Grafenberg Arr 86.19 40 *e*P **P 15 40 28.6 +1.0**
comp=Z,24nm,1.0s,mb5.1
GRF LR LR
comp=Z,300nm,21.2s
MOX Moxa 86.26 39 *i* P **P 15 40 28.3 +0.3**
comp=Z,logA/T=1.4,mb5.1
MOX Moxa 86.26 39 *e*P **P 15 40 28.3 +0.3**
MOX pmax pmax
comp=Z,34nm,1.4s,mb5.1
MOX Moxa 86.26 39 *e*P **P 15 40 28.3 +0.3**
comp=Z,34nm,1.4s,mb5.1
FUR Furstenfeldbru 86.50 42 *e*P **P 15 40 29.7 +0.5**
FUR pmax pmax
comp=Z,12nm,0.7s,mb4.9
FUR Furstenfeldbru 86.50 42 *e*P **P 15 40 29.7 +0.5**
comp=Z,12nm,0.7s,mb4.9
MOTA Moosalm 86.54 43 ⇑*i*P **P 15 40 29.9 +0.5**

comp=Z,17nm,1.1s,mb4.9
MOTA Moosalm 86.54 43 ⇑P **P 15 40 29.9 +0.5**
MOTA pmax pmax
comp=Z,17nm,1.1s,mb4.9
MOTA Moosalm 86.54 43 ⇑P **P 15 40 29.9 +0.5**
comp=Z,17nm,1.1s,mb4.9
SQTA Sankt Quirin 86.63 43 ⇓*i*P **P 15 40 30.5 +0.6**
comp=Z,18nm,1.1s,mb4.9
SQTA Sankt Quirin 86.63 43 ⇓P **P 15 40 30.5 +0.6**
SQTA pmax pmax
comp=Z,18nm,1.1s,mb4.9
VSL Villasalto 86.69 51 *e*P **P 15 40 30.8 +0.5**
comp=Z,96nm,1.4s,mb5.5
NKC Novy Kostel 86.87 40 *e*P **P 15 40 32.1 +1.2**
CLL Collm 87.00 39 ⇓P **P 15 40 32.0 +0.5**
comp=Z,logA/T=1.4,mb5.1
CLL *e**PP pP 15 40 51.0 +0.3
CLL *e*SS SS 15 56 54.0 +4.1
CLL Collm 87.00 39 ⇓*i*P **P 15 40 32.0 +0.5**
CLL pmax pmax
comp=Z,24nm,0.9s,mb5.1
CLL Collm 87.00 39 ⇓*i*P **P 15 40 32.0 +0.5**
comp=Z,24nm,0.9s,mb5.1
WET Wettzell 87.36 41 *e*P **P 15 40 34.2 +0.9**
WET pmax pmax
comp=Z,43nm,1.1s,mb5.3
WET Wettzell 87.36 41 *e*P **P 15 40 34.2 +0.9**
comp=Z,43nm,1.1s,mb5.3
BRG Berggiesshubel 87.67 39 *e*P **P 15 40 35.6 +0.8**
BRG pmax pmax
comp=Z,18nm,1.2s,mb5.0
BRG Berggiesshubel 87.67 39 *e*P **P 15 40 35.6 +0.8**
comp=Z,18nm,1.2s,mb5.0
ARCES ARCESS Array B 87.71 19 P **P 15 40 33.6 -0.9**
comp=Z,5.5nm,0.7s,mb4.7,baz=295,slow=3.7,SNR=17
ARCES LR LR 16 19 13.8
comp=Z,101nm,19.9s,baz=60,slow=35
KHC Kasperske Hory 87.81 41 *e*P **P 15 40 36.3 +0.8**
KHC AMS AMS 16 13 20.0
comp=Z,400nm,17.2s
KHC Kasperske Hory 87.81 41 *e*P **P 15 40 36.3 +0.8**
KHC LR LR
comp=Z,400nm,17.2s
GEC2 GERESS Array S 87.95 41 *e*P **P 15 40 36.1 -0.1**
GEC2 pmax pmax
comp=Z,41nm,1.5s,mb5.2
GEC2 GERESS Array S 87.95 41 *e*P **P 15 40 36.1 -0.1**
comp=Z,41nm,1.5s,mb5.2
GERES GERESS Array B 87.95 41 P **P 15 40 36.7 +0.6**
comp=Z,4.2nm,0.6s,mb4.6,baz=270,slow=2.7,SNR=35
GERES LR LR 16 14 12.5
comp=Z,345nm,21.6s,baz=277,slow=32
KBA Koelnbreinsper 88.09 43 ⇓*i*P **P 15 40 37.9 +1.0**
comp=Z,30nm,1.0s,mb5.3,SNR=6.4
KBA Koelnbreinsper 88.09 43 ⇓*i*P **P 15 40 37.9 +1.0**
KBA pmax pmax
comp=Z,31nm,1.0s,mb5.3
KBA Koelnbreinsper 88.09 43 ⇓*i*P **P 15 40 37.9 +1.0**
comp=Z,30nm,1.0s,mb5.3
PVCC Panska Ves 88.13 39 *e*P **P 15 40 37.9 +0.9**
BILL Bilibino 88.15 339 *e*P **P 15 40 38.5 +1.8**
BILL pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BILL Bilibino 88.15 339 P **P 15 40 34.9 -1.8**
comp=Z,110nm,1.6s,mb5.6
PRU Pruhonice 88.23 40 *e*P **P 15 40 38.2 +0.7**
ROBS Robic 88.38 43 *e*P **P 15 40 39.0 +0.7**
MOA Molln 88.53 42 ⇓*i*P **P 15 40 39.4 +0.4**
comp=Z,17nm,1.2s,mb5.0
MOA Molln 88.53 42 ⇓P **P 15 40 39.4 +0.4**
comp=Z,17nm,1.2s,mb5.0
TREC Trest 88.99 40 *e*P **P 15 40 41.6 +0.5**
TREC AMS AMS 16 14 10.0
comp=Z,400nm,16.6s
UPC Upice 89.03 39 *e*P **P 15 40 41.8 +0.5**
KSP Ksiaz 89.12 39 *e*P **P 15 40 42.7 +1.0**
DPC Dobruska-Polom 89.26 39 *e*P **P 15 40 42.5 +0.2**
PERS Pernice 89.38 43 *e*P **P 15 40 43.6 +0.6**
VISS Visnje 89.38 44 *e*P **P 15 40 46.6 +3.6**
BOJS Bojanci 89.73 44 *e*P sP 15 41 09.2 -1.8
ZST Bratislava 90.30 41 *e*P **P 15 40 47.5 +0.2**
VAE Valguarnera 90.95 52 LR LR 16 16 13.8
comp=Z,266nm,18.2s,baz=139,slow=32
FINES FINESS Array B 91.00 27 P **P 15 40 50.1 -0.1**
comp=Z,3.1nm,0.7s,mb4.5,baz=299,slow=2.0,SNR=13
FINES LR LR 16 18 47.8
comp=Z,74nm,18.4s,baz=344,slow=34
PSZ Piszkesteto 92.18 41 *e*P **P 15 40 56.3 +0.3**
comp=Z,8.9nm,0.9s,mb5.0
KECS Kecovo 92.39 40 *e*P **P 15 40 56.2 -0.7**
KECS *e* 15 41 09.5
KECS *e* 15 53 46.6
VSU Vasula 92.45 29 *e*P **P 15 40 56.7 -0.3**
STHS Stebnicka Huta 92.58 39 *e*P **P 15 41 00.2 +2.4**
STHS *e* 15 41 12.8
STHS *e*PP PP 15 44 39.4 -3.0
KOLS Kolonicke sedl 93.37 39 *e*P **P 15 41 02.8 +1.4**
KOLS *e* 15 41 16.9
VNA2 Neumayer--Watz 94.89 161 P **P 15 41 09.2 +1.4**
VNA2 *e* pP 15 41 26.1 -1.1
VNA2 *e* pP 15 41 31.3 +4.1
VNA2 *e* 15 41 44.9
IDI Anoyia 99.68 52 LR LR 16 20 20.7
comp=Z,70nm,21.5s,baz=310,slow=32
SYO Syowa Base 110.78 161 ⇑pPdiff 15 42 36.6
MDJ Mudanjiang 117.83 333 PKP PKPdf 15 46 32.8 +1.4
MDJ PP PP 15 47 47.0 -3.7
MDJ SS SS 16 03 53.5 -1.0
MDJ LR LR
comp=N,80nm,37.3s
MDJ LR LR
comp=E,110nm,35.0s
MDJ LR LR
comp=Z,100nm,29.6s
KURK Kurchatov 117.98 12 *i* PKIKP PKPdf 15 46 33.5 +2.0
CN2 Changchun 120.26 335 *e*PKP PKPdf 15 46 41.5 +5.3
CN2 PP PP 15 48 10.3 +3.6
CN2 SS SS 16 04 31.3 +5.4
CN2 LR LR
comp=N,300nm,21.0s
CN2 LR LR
comp=E,300nm,21.0s
CN2 LR LR
comp=Z,300nm,21.0s
ULN Ulaanbaatar 121.77 351 *i* PKIKP PKPdf 15 46 41.7 +2.7
SONM Songino Array 121.90 352 PKP PKPdf 15 46 41.3 +2.0
comp=Z,2.9nm,0.9s,baz=339,slow=1.4,SNR=16
MKAR Makanchi Array 122.46 11 PKP PKPdf 15 46 41.5 +1.1
comp=Z,1.5nm,0.7s,baz=359,slow=2.5,SNR=14
MKAR PP 15 48 11.9 -10
comp=Z,1.1nm,0.9s,slow=2.4,SNR=4.2
AAK Ala-Archa 124.38 19 *i* PKIKP PKPdf 15 46 46.4 +2.2
AAK Ala-Archa 124.38 19 *e*PKP PKPdf 15 46 45.7 +1.5
WMQ Urumqi 126.20 7 *e*PKP PKPdf 15 46 48.0 +0.3
WMQ LR LR
comp=N,260nm,22.0s
WMQ LR LR
comp=E,370nm,21.0s
WMQ LR LR
comp=Z,340nm,20.0s
HHC Hu-ho-hao-te 127.58 345 *e*PKP PKPdf 15 46 47.5 -3.0
HHC PP PP
comp=Z,80nm,5.4s
HHC LR LR
comp=N,120nm,19.0s
HHC LR LR
comp=E,190nm,13.1s
HHC LR LR
comp=Z,170nm,21.4s
KSH Kashi 127.67 19 *e*PKP PKPdf 15 46 55.3 +4.6
KSH *e*PKS PKS 15 50 30.3 +4.0
KSH PP PP
comp=Z,140nm,4.9s
KSH LR LR
comp=N,100nm,5.4s
KSH LR LR
comp=E,120nm,7.1s
GTA Gaotai 130.95 356 PKP PKPdf 15 46 59.3 +2.4
GTA XPKP 15 47 20.3
GTA PP PP
comp=Z,150nm,6.9s
GTA LR LR
comp=N,90nm,15.2s
GTA LR LR
comp=E,170nm,13.7s

GTA					LR	LR			
	comp=Z,110nm,13.7s								
STKA	**Stephens Creek**	**132.24**	**236**		PKhKP		15 46 55.0		
	comp=Z,6.6nm,1.3s,baz=186,slow=9.2,SNR=2.5								
STKA					PKP	PKPdf	15 47 05.4	+5.8	
	comp=Z,2.5nm,0.8s,baz=49,slow=4.8,SNR=4.0								
STKA	**Stephens Creek**	**132.24**	**236**		PKP	PKPdf	15 47 05.4	+5.8	
SSE	**Sheshan**	**132.62**	**330**		PKP	PKPdf	15 46 56.3	-4.0	
SSE					PP	PP	15 49 24.5	-4.4	
SSE					PP	PP			
	comp=Z,270nm,4.2s								
SSE					LR	LR			
	comp=N,50nm,27.4s								
SSE					LR	LR			
	comp=E,100nm,27.3s								
SSE					LR	LR			
	comp=Z,90nm,19.2s								
NJ2	**Nanjing**	**132.92**	**333**	*e*	PKP	PKPdf	15 47 03.0	+2.1	
NJ2					PP	PP	15 49 33.0	+2.3	
NJ2					PKS	PKS	15 50 38.0	+1.8	
NJ2					SKS	SKS	15 54 09.0	+5.9	
NJ2					PP	PP			
	comp=Z,170nm,10.2s								
NJ2					LR	LR			
	comp=N,2μm,24.0s								
NJ2					LR	LR			
	comp=E,600nm,21.7s								
NJ2					LR	LR			
	comp=Z,380nm,20.7s								
LZH	**Lanzhou**	**133.78**	**351**	*e*	PKP	PKPdf	15 47 07.0	+4.7	
LZH					XPKP		15 47 31.0		
LZH					PP	PP			
	comp=Z,170nm,7.4s								
LZH					LR	LR			
	comp=E,220nm,19.0s								
LZH					LR	LR			
	comp=Z,360nm,19.8s								
ENH	**Enshi**	**138.07**	**342**	*e*	PKP	PKPdf	15 47 12.0	+1.6	
CD2	**Chengdu**	**138.85**	**349**	*e*	PKP	PKPdf	15 47 15.5	+3.7	
LSA	**Lhasa**	**140.54**	**6**	*e*	PKIKP	PKPdf	15 47 16.9	+1.9	
KOLN	**Koldanda**	**140.91**	**17**	*e*	P	PKPdf	15 47 10.6	-5.1	
GKN	**Gorkha**	**140.98**	**16**	*e*	P	PKPdf	15 47 10.4	-5.4	
	comp=Z,34nm,0.8s								
KKN	**Kakani**	**141.35**	**15**	*e*	P	PKPdf	15 47 12.0	-4.4	
	comp=Z,23nm,1.0s								
GUN	**Gumba**	**141.38**	**14**	*e*	P	PKPdf	15 47 12.8	-3.7	
WB2	**Warramunga Arr**	**141.39**	**250**	*e*	PKP	PKPdf	15 47 14.4	-2.3	
WRAB	**Tennant Creek**	**141.40**	**250**	*e*	PKHKP		15 47 12.9		
WRA	**Warramunga Arr**	**141.40**	**250**		PKhKP		15 47 13.5		
	comp=Z,3.1nm,0.7s,baz=100,slow=2.2,SNR=41								
DMN	**Daman**	**141.47**	**15**	*e*	P	PKPdf	15 47 13.0	-3.6	
	comp=Z,11nm,0.8s								
PKI	**Pulchoki**	**141.59**	**15**	*e*	P	PKPdf	15 47 13.0	-3.8	
JIRN	**Jiri**	**141.69**	**14**	*e*	P	PKPdf	15 47 13.2	-3.8	
GYA	**Guiyang**	**142.48**	**344**		PKP	PKPdf	15 47 20.5	+2.1	
GYA					PP	PP			
	comp=Z,110nm,8.0s								
GYA					LR	LR			
	comp=N,160nm,20.7s								
GYA					LR	LR			
	comp=E,270nm,21.0s								
GYA					LR	LR			
	comp=Z,240nm,20.6s								
BHPL	**Bhopal**	**142.65**	**28**	*e*	P	PKPdf	15 47 16.7	-2.0	
BHPL					AMb	AMB	15 47 17.0		
	comp=Z,5.0nm,0.3s								
KAKA	**Kakadu**	**143.88**	**262**	*e*	PKP	PKPdf	15 47 44.9	+24	
	comp=Z,15nm,0.6s								
POO	**Poona**	**144.58**	**38**	*e*	P	PKPbc	15 47 21.4	-0.6	
POO					AMb	AMB	15 47 23.3		
	comp=Z,29nm,1.2s								
KMI	**Kunming**	**144.68**	**349**		PKP	PKPdf	15 47 24.0	+1.8	
KMI					APKP		15 47 39.3		
KMI					LR	LR			
	comp=Z,110nm,23.2s								
BOK	**Bokaro**	**145.31**	**16**	*e*	P	PKPdf	15 47 25.2	+1.8	
BOK					AMb	AMB	15 47 26.1		
	comp=Z,96nm,0.8s								
TGY	**Tagaytay City**	**145.55**	**313**		PKPbc	PKPbc	15 47 27.1	+2.4	
	comp=Z,64nm,0.4s,baz=226,slow=14,SNR=3.6								
BLSP	**Bilaspur**	**145.64**	**23**	*e*	P	PKPdf	15 47 25.6	+1.6	
BLSP					AMb	AMB	15 47 26.1		
	comp=Z,87nm,0.5s								
KAD	**Karad**	**145.72**	**39**	*e*	P	PKPdf	15 47 25.9	+1.7	
KAD					AMb	AMB	15 47 30.1		
	comp=Z,74nm,1.7s								
HYB	**Hyderabad**	**148.13**	**32**	*i*	PKP	PKPdf	15 47 30.0	+1.8	
	comp=Z,50nm,1.0s								
FITZ	**Fitzroy Crossi**	**149.83**	**251**	*e*	PKP	PKPdf	15 47 37.4	+6.5	
	comp=Z,13nm,0.6s								
VIS	**Vishakhapatnam**	**150.09**	**24**	*e*	P	PKPdf	15 47 34.2	+2.8	
VIS					AMb	AMB	15 47 39.4		
	comp=Z,34nm,1.2s								
KLBR	**Kellerberrin**	**150.16**	**220**	*e*	PKP	PKPdf	15 47 38.4	+7.3	
	comp=Z,104nm,1.5s								
MUN	**Mundaring**	**150.85**	**218**	*e*	PKP	PKPdf	15 47 40.3	+8.2	

NIED ***28*** *15:41:00,43.10N×145.60E,h44km,Mw4.5 Best double couple: M0 7.49×10^15 NP1:φs29°,δ66°,λ83°. NP2:φs226°, δ25°,λ106°.*
BJI ***28*** *15:41:50.7,43.12N×145.71E,h63km,mB4.9,mb4.7, Ms4.1,Msz3.8*
MOS ***28*** *15:41:50.0±0.9,42.96N×145.64E,h51km,mb4.7/13,Error ellipse: s-maj=10.2km s-min=6.7km az=101.5*
MOS Felt (II) at Yuzhno-Kuril'sk.
SKHL ***28*** *15:41:51.4±1.3,43.08N×145.75E,h65km±34km,mb4.6/9, Ms3.7/1,msh5.6/1*
SKHL Felt (II) at Yushno-Kurilsk.
JMA ***28*** *15:41:52.5±0.1,43.09N×145.55E,h48km±1km,M4.5*
JMA Felt II J1.
NEIC ***28*** *15:41:52.5±0.6,43.04N×145.59E,h54km±5km,mb4.6/17, MW4.5(NIED),Error ellipse: s-maj=5.9km s-min=4.5km az=137.0*
NEIC Felt [II] at Yuzhno-Kuril'sk, Kuril Islands. Recorded [2 JMA] in eastern Hokkaido.
IDC ***28*** *15:41:53.4±2.6,43.10N×145.54E,h59km±23km,mb4.1/21, mb1 4.2/23,mb1mx4.2/25,mbtmp4.4/23,ML4.4/2,MS3.6/9, Ms1 3.6/9,ms1mx3.5/25,Error ellipse: s-maj=15.6km s-min=13.9km az=136.0*
ISC 28 15:41:50.8±0.5, 43.06N±0.03×145.60E±0.04, h53km±3km, h54km±2.7km; pP-P, n179, σ0.84/172, mb4.6/58, MS3.7/14, 9C-14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.32**	**19**	⇑P		**P**	**15 42 01.4**	**+0.8**
NEM2				*e*S		**S**	**15 42 07.6**	**0.0**
JAK	**Akkeshi**	**0.66**	**265**	⇓P		**P**	**15 42 05.2**	**+0.9**
JAK				*e*S		**S**	**15 42 14.2**	**-0.1**
JNK	**Nakash**	**0.83**	**310**	⇓P		**P**	**15 42 07.1**	**+0.6**
JNK				*e*S		**S**	**15 42 17.1**	**-1.0**
JRA	**Rausu**	**0.94**	**339**	⇓P		**P**	**15 42 08.9**	**+0.8**
JRA				*e*S		**S**	**15 42 20.8**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.99**	**11**	⇓*i*P		**P**	**15 42 09.0**	**+0.2**
YUK				AMB	AMB	AMB	15 42 10.0	
	480nm,0.3s							
YUK				AMB	AMB	AMB	15 42 10.0	
	770nm,0.3s							
YUK				AMB	AMB	AMB	15 42 10.0	
	2μm,0.3s							
YUK				AMB	AMB	AMB	15 42 12.0	
	2μm,1.0s							
YUK				AMB	AMB	AMB	15 42 12.0	
	3μm,1.0s							
YUK				*i* S		**S**	**15 42 21.5**	**-0.6**
YUK				A			15 42 22.5	
	14μm,0.5s							
YUK				A			15 42 22.5	
	17μm,0.5s							
YUK				A			15 42 23.0	
	48μm,1.0s							
YUK				A			15 42 23.0	
	56μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**0.99**	**11**	*i* PN		**P**	**15 42 09.0**	**+0.2**
YUK				*i* S		**S**	**15 42 21.5**	**-0.6**
YUK				pmax	pmax			
	comp=Z,2μm,0.4s							
YUK				pmax	pmax			
	comp=N,3μm,1.0s							
YUK				pmax	pmax			
	comp=E,2μm,1.0s							
YUK				pmax	pmax			
	comp=Z,3μm,1.0s							
YUK				smax				
	comp=N,14μm,0.5s							
YUK				smax				
	comp=E,17μm,0.5s							
YUK				smax				
	comp=N,48μm,1.0s							
YUK				smax				
	comp=E,56μm,1.0s							
JOB	**Onbets**	**1.30**	**264**	⇓P		**P**	**15 42 13.9**	**+0.7**
JOB				*e*S		**S**	**15 42 29.5**	**-0.3**
JAR	**Ashorobuto**	**1.36**	**281**	⇓P		**P**	**15 42 14.8**	**+0.8**
JAR				*e*S		**S**	**15 42 31.1**	**0.0**
JTKR	**Abashiri--Toko**	**1.53**	**307**	⇓P		**P**	**15 42 17.6**	**+1.2**
ASAJ	**Asahikawa**	**2.42**	**297**	P		**P**	**15 42 30.6**	**+1.6**
	comp=E,67nm,0.3s,baz=116,slow=12,SNR=453							
ASAJ				LR		LR	15 43 42.6	
	comp=E,1μm,21.0s,baz=46,slow=46							
ASAJ	**Asahikawa**	**2.42**	**297**	PN		**P**	**15 42 30.6**	**+1.7**
ASAJ				pmax	pmax			
	comp=Z,67nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,1μm,21.0s							
KUR	**Kuril'sk**	**2.72**	**36**	*i* P		**P**	**15 42 32.0**	**-1.2**
KUR				A			15 43 10.0	
	comp=Z,8μm,2.0s							
KUR				A			15 43 10.0	
	comp=Z,5μm,2.0s							
KUR	**Kuril'sk**	**2.72**	**36**	⇓*i*PN		**P**	**15 42 32.0**	**-1.2**
KUR				*i* S		**S**	**15 43 03.0**	**-2.0**
KUR				pmax	pmax			
	comp=N,400nm,1.0s							
KUR				pmax	pmax			
	comp=E,570nm,1.0s							
KUR				pmax	pmax			
	comp=Z,2μm,1.0s							
KUR				smax				
	comp=N,1μm,0.7s							
KUR				smax				
	comp=E,600nm,0.7s							
KUR				smax				
	comp=N,8μm,2.0s							
KUR				smax				
	comp=E,5μm,2.0s							
YSS	**Yuzh-Sakhalins**	**4.38**	**334**	⇑*e*P		**P**	**15 42 58.0**	**+1.4**
YSS				AMB	AMB		15 42 59.0	
	comp=E,20nm,0.7s							
YSS				*i* S		**S**	**15 43 46.5**	**-0.5**
YSS				A			15 43 47.6	
	comp=E,90nm,0.8s							
YSS				AMS	AMS		15 44 42.0	
	comp=E,1μm,18.0s							
YSS	**Yuzh-Sakhalins**	**4.38**	**334**	⇑*e*PN		**P**	**15 42 58.0**	**+1.4**
YSS				*i* S		**S**	**15 43 46.5**	**-0.5**
YSS				pmax	pmax			
	comp=Z,20nm,0.7s							
YSS				smax				
	comp=E,90nm,0.8s							
YSS				MLR	MLR			
	comp=E,1μm,18.0s							
YSS				MLR	MLR			
	comp=Z,1μm,18.0s							
YSS	**Yuzh-Sakhalins**	**4.38**	**334**	*e*P		**P**	**15 42 56.2**	**-0.4**
UGL	**Uglegorsk**	**6.50**	**339**	*e*P		**P**	**15 43 26.0**	**-0.2**
UGL				AMB	AMB		15 43 31.5	
	comp=Z,100nm,0.7s							
TEY	**Ternei**	**6.78**	**290**	*e*P		**P**	**15 43 31.0**	**+0.9**
TEY				AMB	AMB		15 43 32.5	
	comp=Z,60nm,0.9s							
TYV	**Tymovskoe**	**8.06**	**347**	*e*P		**P**	**15 43 43.0**	**-4.8**
TYV				AMB	AMB		15 43 44.8	
	comp=Z,11nm,0.8s							
TYV				AMB	AMB		15 43 44.8	
	comp=Z,12nm,0.8s							
TYV				AMB	AMB		15 43 44.8	
	comp=Z,28nm,1.0s							
MAJO	**Matsushiro**	**8.64**	**224**	*e*PN		**P**	**15 43 54.1**	**-1.7**
MAJO				pmax	pmax			
	comp=Z,28nm,0.6s							
MAJO	**Matsushiro**	**8.64**	**224**	*e*P		**P**	**15 43 54.1**	**-1.7**
	comp=Z,28nm,0.6s							
MAT	**Matsushiro**	**8.64**	**224**	P		**P**	**15 43 54.3**	**-1.5**
MAT				*e*S		**S**	**15 45 32.4**	**-0.4**
MAT	**Matsushiro**	**8.64**	**224**	*e*PN		**P**	**15 43 54.0**	**-1.8**
MAT				S		**S**	**15 45 32.0**	**-0.8**
MAT				pmax	pmax			
	comp=Z,20nm,0.5s							
MAT	**Matsushiro**	**8.64**	**224**	*e*P		**P**	**15 43 54.0**	**-1.8**
	comp=Z,20nm,0.5s							
MAT				S		**S**	**15 45 32.0**	**-0.8**
MJAR	**Matsushiro Arr**	**8.64**	**224**	P		**P**	**15 43 54.7**	**-1.1**
	comp=Z,3.6nm,0.3s,baz=27,slow=14,SNR=22							
MJAR				LR		LR	15 48 08.3	
	comp=Z,362nm,18.0s,baz=75,slow=43							
HABR	**Khabarovsk**	**9.14**	**310**	*i* PN		**P**	**15 44 05.3**	**+2.6**
HABR				pmax	pmax			
	comp=Z,33nm,0.9s							
GRNR	**Gornyy**	**9.94**	**324**	*e*P		**P**	**15 44 10.2**	**-3.3**
GRNR				AMB	AMB		15 44 13.1	
	comp=Z,28nm,0.8s							
GRNR				AMB	AMB		15 44 13.1	
	comp=Z,45nm,0.8s							
KLR	**Kul'dur**	**11.41**	**308**	*e*PN		**P**	**15 44 33.8**	**+0.3**
MDJ	**Mudanjiang**	**11.67**	**283**	P		**P**	**15 44 35.5**	**-1.5**
MDJ				AMB	AMB			
	comp=Z,10.0nm,1.0s							
MDJ				AMB	AMB			
	comp=Z,120nm,5.4s							
MDJ				LR	LR			
	comp=N,120nm,17.7s							
MDJ				LR	LR			
	comp=E,230nm,24.0s							
MDJ				LR	LR			
	comp=Z,380nm,18.2s							
MDJ	**Mudanjiang**	**11.67**	**283**	*e*P		**P**	**15 44 37.4**	**+0.4**
	comp=Z,14nm,0.8s							
MDJ				*e*			15 44 48.2	
KS15	**Wonju Array Si**	**14.63**	**253**	*e*P		**P**	**15 45 16.5**	**+0.3**
CN2	**Changchun**	**14.66**	**280**	*e*P		**P**	**15 45 15.5**	**-0.9**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.9s							
CN2				AMB	AMB			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,300nm,13.0s							
CN2				LR	LR			
	comp=E,300nm,13.0s							
CN2				LR	LR			
	comp=Z,200nm,16.0s							
YASR	**Yasnyy**	**15.54**	**317**	*e*P		**P**	**15 45 26.0**	**-1.7**
YASR				AMB	AMB		15 45 42.5	
	comp=Z,3.0nm,0.9s							
YASR				AMB	AMB		15 45 42.5	
	comp=Z,10.0nm,0.9s							
YASR				AMB	AMB		15 45 42.5	
	comp=Z,16nm,0.9s							
ZEA	**Zeya**	**16.15**	**318**	*e*P		**P**	**15 45 35.4**	**-0.1**
ZEA				AMB	AMB		15 45 39.9	
	comp=Z,17nm,1.0s							
ZEA				AMS	AMS		15 52 23.0	
	comp=Z,300nm,13.0s							
CBIJ	**Chichi jima**	**16.17**	**191**	LR		LR	15 52 25.6	
	comp=Z,41nm,18.3s,baz=294,slow=39							
SNY	**Shenyang**	**16.30**	**273**	⇑P		**P**	**15 45 38.5**	**+1.1**
SNY				AMB	AMB			
	comp=Z,10.0nm,1.2s							
SNY				LR	LR			
	comp=Z,190nm,24.6s							
KROS	**Kirovskiy**	**16.68**	**319**	*e*P		**P**	**15 45 41.3**	**-0.8**
KROS				AMB	AMB		15 45 47.6	
	comp=Z,3.0nm,0.6s							
SEY	**Seymchan**	**20.30**	**9**	*e*P		**P**	**15 46 21.5**	**-3.0**
YAK	**Yakutsk**	**21.21**	**339**	*e*P		**P**	**15 46 29.7**	**-4.1**
YAK				pmax	pmax			
	comp=Z,100nm,5.0s							
JOW	**Kunigami**	**21.46**	**227**	P		**P**	**15 46 36.9**	**+0.3**
	comp=Z,42nm,0.9s,mb4.8,baz=5.9,slow=9.2,SNR=5.3							
JOW				LR		LR	15 55 20.7	
	comp=Z,265nm,22.0s,MS3.6,baz=166,slow=38							
JOW	**Kunigami**	**21.46**	**227**	P		**P**	**15 46 36.9**	**+0.3**
JOW				LR		LR	15 55 20.7	
SSE	**Sheshan**	**22.76**	**246**	P		**P**	**15 46 49.0**	**-0.3**
SSE				AMB	AMB			
	comp=Z,60nm,0.7s,mb5.1							
SSE				AMB	AMB			
	comp=Z,90nm,4.6s							
SSE				LR	LR			
	comp=N,40nm,21.5s,MS3.1							
SSE				LR	LR			
	comp=E,70nm,21.4s,MS3.1							
SSE				LR	LR			
	comp=Z,100nm,22.7s,MS3.2							
TIA	**Tai'an**	**22.90**	**262**	P		**P**	**15 46 50.3**	**-0.3**
TIA				AMB	AMB			
	comp=Z,40nm,0.9s,mb4.8							
NJ2	**Nanjing**	**23.78**	**251**	*e*P		**P**	**15 47 01.3**	**+2.1**
NJ2				AMB	AMB			
	comp=Z,30nm,1.0s,mb4.7							
NJ2				AMB	AMB			
	comp=Z,20nm,4.1s							
NJ2				LR	LR			
	comp=N,700nm,29.0s							
NJ2				LR	LR			
	comp=E,540nm,16.2s							
NJ2				LR	LR			
	comp=Z,750nm,27.0s,MS4.0							
HHC	**Hu-ho-hao-te**	**25.31**	**277**	⇑P		**P**	**15 47 14.3**	**+0.5**
HHC				AP	pP		15 47 28.5	+1.5
HHC				XP	sP		15 47 36.0	+2.5
HHC				PP	PP		15 47 54.8	+1.1
HHC				PCP	PcP		15 50 48.0	+1.5
HHC				S		**S**	**15 51 32.0**	**-1.5**
HHC				XS			15 51 58.0	
HHC				SS	SS		15 52 36.0	-1.8
HHC				SCP			15 54 20.8	
HHC				PCS			15 54 26.3	
HHC				AMB	AMB			
	comp=Z,20nm,0.9s,mb4.7							
HHC				AMB	AMB			
	comp=Z,100nm,4.9s							
HHC				LR	LR			
	comp=N,80nm,12.0s,MS3.8							
HHC				LR	LR			
	comp=E,150nm,12.0s,MS3.8							
HHC				LR	LR			
	comp=Z,90nm,15.3s,MS3.4							
BTO	**Baotou**	**26.50**	**277**	*e*P		**P**	**15 47 24.5**	**-0.4**
ULN	**Ulaanbaatar**	**27.26**	**294**	*e*P		**P**	**15 47 31.6**	**-0.2**
SONM	**Songino Array**	**27.70**	**294**	P		**P**	**15 47 36.0**	**+0.1**
	comp=Z,6.5nm,0.7s,mb4.4,baz=85,slow=8.3,SNR=37							
SONM				LR		LR	15 59 34.4	
	comp=Z,244nm,20.5s,MS3.8,baz=337,slow=38							
WHN	**Wuhan**	**27.80**	**254**	⇓P		**P**	**15 47 37.5**	**+0.6**
GUMO	**Guam**	**29.37**	**181**	LR		LR	15 56 43.0	
	comp=Z,98nm,21.1s,MS3.4,baz=147,slow=30							
XAN	**Xi'an**	**29.87**	**265**	P		**P**	**15 47 54.8**	**-0.5**
LZH	**Lanzhou**	**32.66**	**272**	*e*P		**P**	**15 48 20.0**	**+0.1**
LZH				AP	pP		15 48 35.0	+1.4
LZH				XP	sP		15 48 39.0	-1.3
LZH				AMB	AMB			
	comp=Z,10.0nm,1.2s,mb4.6							
LZH				AMB	AMB			
	comp=Z,100nm,5.0s							
GTA	**Gaotai**	**34.30**	**280**	*e*P		**P**	**15 48 33.5**	**-0.4**
GTA				AP	pP		15 48 50.3	+2.6
GTA				XP	sP		15 48 57.5	+3.1
GTA				PP	PP		15 49 52.0	+1.7
GTA				PCP	PcP		15 51 10.0	+0.6
GTA				S		**S**	**15 53 58.0**	**+1.7**
GTA				XS			15 54 23.0	
GTA				SS	SS		15 56 12.5	+4.0
GTA				AMB	AMB			
	comp=Z,110nm,5.7s							
GTA				LR	LR			
	comp=N,120nm,13.7s,MS3.9							
GTA				LR	LR			
	comp=E,90nm,13.3s,MS3.9							
GTA				LR	LR			
	comp=Z,160nm,13.3s,MS3.9							
CD2	**Chengdu**	**35.21**	**264**	⇑*i*P		**P**	**15 48 42.0**	**+0.2**
CD2				AP	pP		15 48 57.0	+1.3
CD2				XP	sP		15 49 04.3	+2.0
CD2				PP	PP		15 50 02.5	+0.5
CD2				S		**S**	**15 54 10.3**	**-0.2**
CD2				XS			15 54 36.0	
CD2				SS	SS		15 56 29.5	0.0
CD2				AMB	AMB			
	comp=Z,20nm,0.9s,mb5.0							
CD2				AMB	AMB			
	comp=Z,60nm,3.7s							
CD2				LR	LR			
	comp=E,140nm,7.2s							
CD2				LR	LR			
	comp=Z,130nm,18.0s,MS3.7							
GYA	**Guiyang**	**35.65**	**255**	⇑*i*P		**P**	**15 48 45.8**	**+0.2**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
KMI	**Kunming**	**39.26**	**257**	P		**P**	**15 49 17.0**	**+1.2**
KMI				AP	pP		15 49 31.0	+1.2
KMI				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.6							
KMI				LR	LR			
	comp=Z,40nm,25.3s,MS3.1							
IMA2	**Indian Mountai**	**39.88**	**34**	*e*P		**P**	**15 49 20.9**	**+0.4**
WMQ	**Urumqi**	**41.30**	**292**	*e*P		**P**	**15 49 33.0**	**+0.6**
WMQ				AP	pP		15 49 48.3	+1.8
WMQ				XP	sP		15 49 55.5	+2.6
WMQ				PP	PP		15 51 12.0	+0.7
WMQ				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.4							
WMQ				AMB	AMB			
	comp=Z,60nm,4.2s							
WMQ				LR	LR			
	comp=N,350nm,20.0s,MS4.4							
WMQ				LR	LR			
	comp=E,380nm,20.0s,MS4.4							
WMQ				LR	LR			
	comp=Z,420nm,20.0s,MS4.3							
COLA	**College**	**42.30**	**36**	*e*P		**P**	**15 49 41.2**	**+0.9**
ILAR	**Eielson Array**	**42.71**	**36**	P		**P**	**15 49 44.2**	**+0.5**
	comp=Z,1.5nm,0.5s,mb4.0,baz=253,slow=4.9,SNR=6.4							
MKAR	**Makanchi Array**	**43.90**	**298**	P		**P**	**15 49 53.5**	**-0.1**
	comp=Z,7.6nm,0.8s,mb4.5,baz=79,slow=8.9,SNR=40							
MKAR				PcP		PcP	15 51 39.4	-0.1
	comp=Z,1.5nm,0.7s,baz=65,slow=4.6,SNR=4.0							
MKAR				LR		LR	16 09 27.0	
	comp=Z,77nm,19.8s,MS3.6,baz=42,slow=38							
KURK	**Kurchatov**	**44.98**	**304**	*c* *i*P		**P**	**15 50 01.5**	**-0.7**
KURK	**Kurchatov**	**44.98**	**304**	*e*P		**P**	**15 50 01.4**	**-0.8**
	comp=Z,4.1nm,0.6s,mb4.4							
LSA	**Lhasa**	**45.08**	**271**	P		**P**	**15 50 05.0**	**+1.7**
LSA	**Lhasa**	**45.08**	**271**	*e*P		**P**	**15 50 04.2**	**+0.9**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.4							
LSA	**Lhasa**	**45.08**	**271**	*e*P		**P**	**15 50 04.2**	**+1.0**
	comp=Z,4.5nm,0.8s,mb4.3							
INK	**Inuvik**	**47.57**	**30**	P		**P**	**15 50 22.9**	**+0.4**
	comp=Z,3.5nm,0.5s,mb4.7,baz=298,slow=7.3,SNR=17							
INK	**Inuvik**	**47.57**	**30**	P		**P**	**15 50 22.9**	**+0.5**
INK				pmax	pmax			
	comp=Z,4.0nm,0.5s							
INK	**Inuvik**	**47.57**	**30**	*e*P		**P**	**15 50 22.3**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.6							
BVAR	**Borovoye Array**	**49.07**	**309**	P		**P**	**15 50 34.5**	**+0.3**
	comp=Z,1.6nm,0.4s,mb4.4,baz=78,slow=8.2,SNR=12							
BVAR				PcP		PcP	15 51 57.2	-0.4
	comp=Z,1.7nm,0.5s,baz=73,slow=4.4,SNR=4.3							
TKM2	**Tokmak 2**	**49.78**	**295**	P		**P**	**15 50 40.3**	**+0.5**
	SNR=15							
JIRN	**Jiri**	**49.83**	**272**	*e*P		**P**	**15 50 40.3**	**-0.2**
GUN	**Gumba**	**49.92**	**273**	*e*P		**P**	**15 50 41.3**	**+0.1**
	comp=Z,30nm,0.6s,mb5.5							
KBK	**Karagaybulak**	**50.32**	**295**	P		**P**	**15 50 44.4**	**+0.4**
	SNR=13							
USP	**Ospenovka**	**50.35**	**296**	P		**P**	**15 50 43.9**	**-0.3**
	SNR=7.6							
KKN	**Kakani**	**50.43**	**273**	*e*P		**P

KSH				*e*XP	sP	15 51 14.0	+3.9
KSH				*e*PCP	PcP	15 52 06.5	+1.4
KSH				*e*PP	PP	15 52 50.0	+2.7
KSH				*e*SCP		15 55 56.3	
KSH				*e*PCS		15 56 03.0	
KSH				AMB	AMB		
	comp=Z,110nm,6.6s						
EKS2	**Erkin-Say**	**51.10**	**296**	P	**P**	**15 50 50.0**	**+0.1**
	SNR=7.8						
AML	**Almayashu**	**51.39**	**295**	P	**P**	**15 50 52.1**	**0.0**
	SNR=5.7						
KOLN	**Koldanda**	**51.67**	**274**	*e*P	**P**	**15 50 54.7**	**+0.3**
	comp=Z,15nm,0.7s,mb5.0						
ARU	**Arti**	**54.08**	**317**	ǁ*i*P	**P**	**15 51 10.6**	**-1.3**
ARU				*e*		15 53 12.4	
ARU				*e*PPP	PPP	15 54 20.7	-5.3
ARU				*e*SSS	SSS	16 04 21.6	+0.4
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**57.00**	**33**	P	**P**	**15 51 32.6**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.2,baz=300,slow=6.7,SNR=37						
AKTK	**Aktyubinsk**	**57.13**	**310**	P	**P**	**15 51 32.9**	**-1.1**
AKTO	**Aktyubinsk**	**57.13**	**310**	P	**P**	**15 51 32.9**	**-1.1**
	comp=Z,1.8nm,0.8s,mb4.2,baz=74,slow=16,SNR=4.4						
BHPL	**Bhopal**	**58.83**	**274**	*e*P	**P**	**15 51 45.5**	**-0.7**
BHPL				AMb	AMB	15 51 46.1	
	comp=Z,15nm,0.6s,mb5.2						
AJM	**Ajmer**	**58.93**	**278**	*e*P	**P**	**15 51 44.8**	**-2.1**
AJM				AMb	AMB	15 51 48.0	
	comp=Z,18nm,0.9s,mb5.1						
ARCES	**ARCESS Array B**	**59.50**	**339**	P	**P**	**15 51 49.1**	**-1.1**
	comp=Z,3.9nm,0.9s,mb4.4,baz=18,slow=7.7,SNR=5.4						
HYB	**Hyderabad**	**61.62**	**268**	*i* P	**P**	**15 52 05.0**	**-0.3**
HYB	**Hyderabad**	**61.62**	**268**	*e*P	**P**	**15 52 05.0**	**-0.3**
JOF	**Joensuu**	**62.17**	**332**	*e*p	**P**	**15 52 06.7**	**-1.7**
	comp=Z,3.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**63.53**	**192**	*e*P	**P**	**15 52 16.3**	**-1.7**
WRA	**Warramunga Arr**	**63.54**	**192**	P	**P**	**15 52 17.0**	**-1.1**
	comp=Z,1.9nm,0.8s,mb4.2,baz=11,slow=6.9,SNR=11						
SUMG	**Summit**	**64.63**	**1**	*e*P	**P**	**15 52 24.3**	**-0.1**
	comp=Z,14nm,0.9s,mb5.0						
KAD	**Karad**	**64.89**	**271**	*e*P	**P**	**15 52 26.2**	**-0.7**
KAD				AMb	AMB	15 52 26.8	
	comp=Z,19nm,0.6s,mb5.3						
FINES	**FINESS Array B**	**64.97**	**333**	P	**P**	**15 52 25.7**	**-1.0**
	comp=Z,2.8nm,0.5s,mb4.6,baz=49,slow=8.4,SNR=34						
BMO	**Blue Mountains**	**65.56**	**51**	P	**P**	**15 52 30.3**	**-0.5**
NVAR	**Mina Array Bea**	**68.91**	**57**	P	**P**	**15 52 52.0**	**+0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=288,slow=5.9,SNR=12						
KIV	**Kislovodsk**	**69.37**	**311**	*e*P	**P**	**15 52 55.5**	**+0.9**
KIV				*e*SSS	SSS	16 09 30.5	+1.4
KIV				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
KIV				MLR	MLR		
	comp=Z,103nm,16.0s,MS4.2						
KIV	**Kislovodsk**	**69.37**	**311**	*e*P	**P**	**15 52 55.8**	**+1.1**
	comp=Z,20nm,0.8s,mb5.1						
NB2	**NORSAR Subarra**	**69.83**	**338**	P	**P**	**15 52 56.2**	**-0.9**
	comp=Z,10nm,0.8s,mb4.8,baz=34,slow=6.2						
NB2	**NORSAR Subarra**	**69.83**	**338**	P	**P**	**15 52 56.2**	**-0.9**
NB2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
NOA	**NORSAR Array B**	**69.83**	**338**	P	**P**	**15 52 56.5**	**-0.6**
	comp=Z,7.1nm,0.8s,mb4.7,baz=34,slow=6.1,SNR=26						
NOA				LR	LR	16 28 14.1	
	comp=Z,61nm,19.2s,MS3.9,baz=305,slow=40						
GNI	**Garni**	**70.66**	**307**	LR	LR	16 27 34.3	
	comp=Z,60nm,19.5s,MS3.9,baz=165,slow=39						
TPNV	**Topopah Spring**	**71.10**	**57**	*e*P	**P**	**15 53 05.7**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
TPNV	**Topopah Spring**	**71.10**	**57**	*e*P	**P**	**15 53 05.7**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.2						
BW06	**Boulder Array**	**71.22**	**49**	*e*P	**P**	**15 53 06.1**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**71.22**	**49**	P	**P**	**15 53 06.4**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.1,baz=272,slow=1.8,SNR=15						
AKASG	**Malin Array Be**	**71.46**	**323**	P	**P**	**15 53 06.6**	**-0.6**
	comp=Z,6.5nm,0.6s,mb4.7,baz=40,slow=5.8,SNR=29						
AKASG	**Malin Array Be**	**71.46**	**323**	P	**P**	**15 53 06.6**	**-0.6**
ULM	**Lac du Bonnet**	**72.73**	**36**	P	**P**	**15 53 14.2**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=324,slow=8.6,SNR=4.1						
PV10	**Paradox Valley**	**74.46**	**52**	P	**P**	**15 53 26.0**	**+1.1**
STKA	**Stephens Creek**	**74.66**	**184**	P	**P**	**15 53 26.7**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=307,slow=13,SNR=3.1						
KWP	**Kalwaria**	**75.05**	**326**	*e*P	**P**	**15 53 29.2**	**+1.2**
OJC	**Ojcow**	**75.76**	**327**	*e*P	**P**	**15 53 32.6**	**+0.5**
KOLS	**Kolonicke sedl**	**75.77**	**325**	*e*P	**P**	**15 53 31.8**	**-0.4**
KOLS				*e*		15 53 37.4	
STHS	**Stebnicka Huta**	**75.81**	**326**	*e*P	**P**	**15 53 33.8**	**+1.4**
STHS				*e*	pP	15 53 46.7	-0.9
SDCO	**Great Sand Dun**	**76.91**	**50**	P	**P**	**15 53 39.8**	**+0.9**
UPC	**Upice**	**76.98**	**330**	*e*P	**P**	**15 53 39.7**	**+0.7**
DPC	**Dobruska-Polom**	**76.99**	**329**	*e*P	**P**	**15 53 39.9**	**+0.8**
MORC	**Moravsky Berou**	**76.99**	**328**	*e*P	**P**	**15 53 38.8**	**-0.3**
MORC				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
MORC	**Moravsky Berou**	**76.99**	**328**	*e*P	**P**	**15 53 38.8**	**-0.3**
	comp=Z,6.0nm,1.1s,mb4.4						
BR131	**Keskin Array S**	**77.19**	**313**	*e*P	**P**	**15 53 40.3**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.0						
BRTR	**Keskin Array B**	**77.19**	**313**	P	**P**	**15 53 41.0**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=84,slow=4.6,SNR=7.2						
BRTR	**Keskin Array B**	**77.19**	**313**	P	**P**	**15 53 41.0**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CLL	**Collm**	**77.40**	**332**	P	**P**	**15 53 41.0**	**-0.3**
	comp=Z,logA/T=1.0,mb4.7						
CLL				*e**PP	pP	15 53 55.0	-1.5
CLL	**Collm**	**77.40**	**332**	*i* P	**P**	**15 53 41.0**	**-0.3**
CLL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
PRU	**Pruhonice**	**77.94**	**330**	*e*P	**P**	**15 53 45.1**	**+0.8**
SCHQ	**Schefferville**	**78.64**	**18**	P	**P**	**15 53 47.5**	**-0.5**
	comp=Z,3.4nm,0.8s,mb4.3,baz=30,slow=3.9,SNR=5.2						
KHC	**Kasperske Hory**	**79.01**	**330**	*e*P	**P**	**15 53 50.9**	**+0.7**
KHC				pP	pP	15 54 03.5	-2.0
KHC	**Kasperske Hory**	**79.01**	**330**	*e*P	**P**	**15 53 50.9**	**+0.7**
KHC				*e*	pP	15 54 03.5	-2.0
GERES	**GERESS Array B**	**79.20**	**330**	P	**P**	**15 53 50.9**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=34,slow=4.8,SNR=7.8						
MNTX	**Cornudas Mount**	**81.25**	**55**	*e*P	**P**	**15 54 03.6**	**+1.1**
	comp=Z,2.7nm,1.1s,mb4.1						
MNTX				*e*	pP	15 54 17.9	0.0
CDF	**Champ du Feu**	**81.80**	**333**	*e*P	**P**	**15 54 05.3**	**+0.2**
	comp=Z,6.5nm,0.7s,mb4.3						
WMOK	**Wichita Mounta**	**82.83**	**48**	P	**P**	**15 54 11.4**	**+0.8**
LOR	**Lormes**	**83.90**	**335**	*e*P	**P**	**15 54 15.6**	**-0.1**
TXAR	**Lajitas Array**	**83.97**	**55**	P	**P**	**15 54 17.7**	**+1.2**
	comp=Z,2.3nm,0.7s,mb4.4,baz=296,slow=3.6,SNR=30						
TXAR	**Lajitas Array**	**83.97**	**55**	P	**P**	**15 54 17.7**	**+1.2**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SSF	**Saint Saulge**	**84.20**	**335**	*e*P	**P**	**15 54 16.6**	**-0.6**
SMF	**Signal de Mont**	**84.46**	**335**	*e*P	**P**	**15 54 18.8**	**+0.3**
AVF	**Avril sur Loir**	**84.49**	**335**	*e*P	**P**	**15 54 19.0**	**+0.3**
	comp=Z,13nm,1.0s,mb4.7						
AVF	**Avril sur Loir**	**84.49**	**335**	*e*P	**P**	**15 54 19.0**	**+0.3**
AVF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
LPG	**La Plagne**	**84.52**	**332**	*e*P	**P**	**15 54 19.4**	**+0.5**
ROSF	**Rostrenen**	**84.95**	**340**	*e*P	**P**	**15 54 20.8**	**-0.1**
TCF	**Toulx Ste Croi**	**85.29**	**335**	*e*P	**P**	**15 54 22.8**	**+0.2**
	comp=Z,3.8nm,0.6s,mb4.4						
TCF	**Toulx Ste Croi**	**85.29**	**335**	*e*P	**P**	**15 54 22.8**	**+0.2**
TCF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
MFF	**Saint Martin d**	**85.70**	**337**	*e*P	**P**	**15 54 24.9**	**+0.3**
	comp=Z,3.9nm,0.5s,mb4.6						
SBF	**Sospel**	**85.71**	**331**	*e*P	**P**	**15 54 24.8**	**0.0**
	comp=Z,117nm,1.2s,mb5.7						
VIVF	**Saint-Julien-l**	**85.78**	**333**	*e*P	**P**	**15 54 25.5**	**+0.4**
	comp=Z,52nm,1.4s,mb5.2						
SMRF	**Simiane la Rot**	**86.26**	**332**	*e*P	**P**	**15 54 26.9**	**-0.6**
	comp=Z,75nm,1.4s,mb5.4						
RJF	**Les Rejaudoux**	**86.38**	**335**	*e*P	**P**	**15 54 28.2**	**+0.2**
LMR	**La Mourre**	**86.50**	**331**	*e*P	**P**	**15 54 28.5**	**-0.2**
	comp=Z,117nm,1.5s,mb5.6						
CAF	**Calviac**	**86.56**	**335**	*e*P	**P**	**15 54 29.4**	**+0.5**
MTLF	**Montolieu**	**87.93**	**334**	*e*P	**P**	**15 54 34.7**	**-0.9**
	comp=Z,32nm,1.3s,mb5.1						
LPAZ	**La Paz**	**140.81**	**58**	PKP	PKPdf	16 01 19.1	+4.0
	comp=Z,0.7nm,0.6s,baz=292,slow=2.3,SNR=6.0						
LPAZ	**La Paz**	**140.81**	**58**	PKIKP	PKPdf	16 01 19.1	+4.0
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**147.45**	**198**	ǁ*i*P	PKPdf	16 01 30.2	+5.4
SNAA	**Sanae**	**147.45**	**198**	*e*	PKPdf	16 01 44.2	+19
SNAA	**Sanae**	**147.45**	**198**	*e*	PKPdf	16 01 47.9	+23
SNAA	**Sanae**	**147.45**	**198**	PKPbc	PKPdf	16 01 29.9	+5.0
	comp=Z,1.9nm,0.8s,baz=167,slow=4.0,SNR=11						
SNAA	**Sanae**	**147.45**	**198**	*i* PKP2	PKPab	16 01 30.1	-1.5
VNA2	**Neumayer--Watz**	**149.00**	**197**	ǁ*i*P	PKPdf	16 01 34.8	+7.5
VNA2	**Neumayer--Watz**	**149.00**	**197**	*e*	PKPdf	16 01 49.0	+22
VNA2	**Neumayer--Watz**	**149.00**	**197**	*e*	PKPdf	16 01 52.4	+25
VNA2	**Neumayer--Watz**	**149.00**	**197**	*e*	PKPdf	16 01 55.4	+28
VNA2	**Neumayer--Watz**	**149.00**	**197**	*e*	PKPdf	16 01 58.0	+31
VNA3	**Neumayer Olymp**	**149.21**	**195**	ǁ*i*P	PKPdf	16 01 35.0	+7.3
VNA3	**Neumayer Olymp**	**149.21**	**195**	*e*	PKPdf	16 01 49.5	+22
VNA3	**Neumayer Olymp**	**149.21**	**195**	*e*	PKPdf	16 01 52.5	+25
VNA3	**Neumayer Olymp**	**149.21**	**195**	*e*	PKPdf	16 01 55.6	+28
VNA1	**Neumayer--Stat**	**149.40**	**197**	ǁ*i*P	PKPdf	16 01 36.0	+8.0
VNA1	**Neumayer--Stat**	**149.40**	**197**	*e*	PKPdf	16 01 50.4	+22
BDFB	**Brasilia**	**150.29**	**27**	PKPbc	PKPdf	16 01 38.2	+7.2
	comp=Z,2.9nm,0.6s,baz=202,slow=10.0,SNR=4.2						
BDFB	**Brasilia**	**150.29**	**27**	PKIKP	PKPdf	16 01 38.2	+7.2
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PLCA	**Paso Flores**	**153.12**	**97**	PKPbc	PKPdf	16 01 44.5	+10
	comp=Z,0.6nm,0.5s,baz=267,slow=11,SNR=3.7						

*NEIC **28** 16:05:06.4±0.5,51.51N×16.18E,h5km,ML3.0(SZGRF), Error ellipse: s-maj=6.1km s-min=5.6km az=217.0*
*IPEC **28** 16:05:06.2±0.3,51.54N×16.21E,ML2.4/3,Error ellipse: s-maj=1.9km s-min=1.5km az=41.0*
*WAR **28** 16:05:07.8,51.48N×16.10E,ML3.0,Mining Induced*
*IDC **28** 16:05:07.7±0.7,51.47N×15.99E,mb1 3.5/8, mb1mx3.4/23,mbtmp3.4/8,ML3.1/7,Error ellipse: s-maj=11.5km s-min=5.8km az=101.0*
*CSEM **28** 16:05:07.9±0.1,51.44N×16.07E,ML3.4/6,Error ellipse: s-maj=2.2km s-min=1.6km az=10.0*
*BGR **28** 16:05:09.7±0.6,51.41N×15.94E,h1km,ML3.0/14,Error ellipse: s-maj=5.6km s-min=4.4km az=160.0*
*VIE **28** 16:05:09.6±0.4,51.26N×16.19E,mb2.3/2,ML2.9/4,Error ellipse: s-maj=3.0km s-min=2.5km az=89.0,Suspected Mining induced.*

ISC 28 16:05:05.8±0.5,51.39N±0.03×16.08E±0.03,n63, σ1Ꝋ55/117,4C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.56**	**166**	*e*PG		**Pg**	**16 05 20.0**	**+3.0**
KSP				*i* SG		**Sg**	**16 05 28.2**	**+3.7**
KSP	**Ksiaz**	**0.56**	**166**	*e*Pg		**Pg**	**16 05 22.1**	**+5.1**
KSP				*e*Sg		**Sg**	**16 05 30.8**	**+6.2**
KSP	**Ksiaz**	**0.56**	**166**	*e*Pg		**Pg**	**16 05 19.6**	**+2.6**
KSP				*i* Sg		**Sg**	**16 05 28.2**	**+3.7**
KSP				*e*			16 05 33.0	
UPC	**Upice**	**0.88**	**183**	*e*Pg		**Pg**	**16 05 25.6**	**+2.2**
DPC	**Dobruska-Polom**	**1.05**	**171**	*e*Pg		**Pn**	**16 05 28.3**	**+0.7**
DPC				*e*Sg		**Sn**	**16 05 42.8**	**-0.4**
PVCC	**Panska Ves**	**1.28**	**228**	*e*Pg		**Pn**	**16 05 33.2**	**+2.2**
PVCC				*e*Sg		**Sn**	**16 05 51.5**	**+2.4**
BRG	**Berggiesshubel**	**1.44**	**250**	*e*Pg		**Pn**	**16 05 34.9**	**+1.7**
BRG				*e*Sg		**Sn**	**16 05 55.4**	**+2.3**
BRG	**Berggiesshubel**	**1.44**	**250**	Pn		**Pn**	**16 05 34.6**	**+1.5**
BRG				Pg		**Pg**	**16 05 35.0**	**+0.5**
BRG				Sg		**Sg**	**16 05 55.0**	**+1.3**
BRG	**Berggiesshubel**	**1.44**	**250**	Pn		**Pn**	**16 05 34.7**	**+1.5**
BRG	**Berggiesshubel**	**1.44**	**250**	Pg		**Pg**	**16 05 35.0**	**+0.5**
BRG				Sg		**Sn**	**16 05 55.4**	**+2.3**
PRU	**Pruhonice**	**1.71**	**215**	*e*Pg		**Pn**	**16 05 40.1**	**+3.1**
PRU				*e*Sg		**Sn**	**16 06 03.5**	**+3.6**
FBE	**Freiberg**	**1.78**	**256**	*e*Pn		**Pn**	**16 05 38.4**	**+0.4**
FBE				*e*Sg		**Sg**	**16 06 04.9**	**-0.1**
MORC	**Moravsky Berou**	**1.86**	**149**	*e*P		**Pn**	**16 05 40.0**	**+0.8**
MORC	**Moravsky Berou**	**1.86**	**149**	*e*Pn		**Pn**	**16 05 40.1**	**+0.9**
MORC				*e*Sg		**Sg**	**16 06 07.8**	**-0.1**
	36nm,0.4s							
CLL	**Collm**	**1.93**	**269**	*e*Pn		**Pn**	**16 05 40.3**	**+0.1**
CLL				*e*Sg		**Sg**	**16 06 08.3**	**-1.8**
CLL	**Collm**	**1.93**	**269**	*e*PN		**Pn**	**16 05 40.0**	**-0.2**
CLL				*i* PG		**Pg**	**16 05 43.4**	**-0.9**
CLL				*e*			16 05 48.0	
CLL				*e*SG		**Sg**	**16 06 09.0**	**-1.0**
CLL	**Collm**	**1.93**	**269**	*e*Pn		**Pn**	**16 05 40.0**	**-0.2**
CLL				*i* Pg		**Pg**	**16 05 43.4**	**-0.9**
CLL				*e*Sg		**Sg**	**16 06 09.0**	**-1.0**
CLL	**Collm**	**1.93**	**269**	*i* Pg		**Pg**	**16 05 43.4**	**-0.9**
CLL				Sg		**Sg**	**16 06 08.3**	**-1.7**
OKC	**Ostrava-Krasne**	**2.04**	**139**	*e*Pg		**Pg**	**16 05 43.7**	**-2.8**
OKC				*e*Sg		**Sg**	**16 06 11.2**	**-2.4**
VRAC	**Vranov**	**2.11**	**171**	Pn		**Pn**	**16 05 45.2**	**+2.4**
	2.5nm,0.3s,baz=332,slow=12,SNR=7.8							
VRAC				Pg		**Pg**	**16 05 48.0**	**+0.2**
	2.6nm,0.3s,baz=344,slow=17,SNR=8.0							
VRAC				Sn		**Sn**	**16 06 12.8**	**+2.8**
	1.6nm,0.3s,baz=233,slow=21,SNR=4.2							
VRAC				Lg			16 06 17.5	
	5.2nm,0.3s,baz=270,slow=20,SNR=12							
VRAC	**Vranov**	**2.11**	**171**	Pg		**Pg**	**16 05 48.0**	**+0.1**
VRAC				*e*Sg		**Sg**	**16 06 16.6**	**+0.6**
	15nm,0.2s							
KRUC	**Moravsky**	**2.34**	**175**	*e*Pn		**Pn**	**16 05 48.0**	**+2.0**
KRUC				*e*Sg		**Sg**	**16 06 24.0**	**+0.4**
	13nm,0.3s							
TANN	**Tannenbergstha**	**2.49**	**248**	*e*Pn		**Pn**	**16 05 49.0**	**+0.9**
TANN				*e*Sg		**Sg**	**16 06 27.2**	**-1.4**
WERD	**Werda**	**2.57**	**250**	*e*Pn		**Pn**	**16 05 50.2**	**+0.9**
WERD				*e*Sg		**Sg**	**16 06 29.7**	**-1.5**
NKC	**Novy Kostel**	**2.58**	**245**	*e*Pn		**Pn**	**16 05 51.1**	**+1.7**
NKC				*e*Pg		**Pg**	**16 05 57.6**	**+0.4**
NKC				*e*Sg		**Sg**	**16 06 31.6**	**0.0**
NKC	**Novy Kostel**	**2.58**	**245**	*e*Pg		**Pg**	**16 05 57.6**	**+0.4**
NKC				*e*Sg		**Sg**	**16 06 31.6**	**0.0**
	33nm,0.3s							
GUNZ	**Gunzen**	**2.58**	**248**	*e*Pn		**Pn**	**16 05 51.2**	**+1.6**
GUNZ				*e*Sg		**Sg**	**16 06 30.4**	**-1.4**
WERN	**Wernitzgruen**	**2.59**	**246**	*e*Pn		**Pn**	**16 05 51.3**	**+1.7**
WERN				*e*Sg		**Sg**	**16 06 30.3**	**-1.8**
OJC	**Ojcow**	**2.63**	**115**	*e*PG		**Pg**	**16 05 57.0**	**-1.4**
OJC				*e*SG		**Sg**	**16 06 32.0**	**-1.5**
NEUB	**Neuenburg**	**2.71**	**268**	*e*Pg		**Pg**	**16 05 59.0**	**-0.8**
NEUB				*e*Sg		**Sg**	**16 06 34.3**	**-1.6**
KHC	**Kasperske Hory**	**2.77**	**216**	*e*Pn		**Pn**	**16 05 53.7**	**+1.5**
KHC				*e*Pg		**Pg**	**16 05 59.5**	**-1.6**
KHC				*e*Sn		**Sn**	**16 06 28.0**	**+1.1**
KHC				*e*Sg		**Sg**	**16 06 37.5**	**-0.5**
KHC	**Kasperske Hory**	**2.77**	**216**	*e*Pg		**Pg**	**16 05 59.5**	**-1.6**
KHC				*e*Sn		**Sn**	**16 06 28.0**	**+1.1**
KHC				*e*Sg		**Sg**	**16 06 37.5**	**-0.5**
MOX	**Moxa**	**2.91**	**257**	*e*Pn		**Pn**	**16 05 55.4**	**+1.2**
MOX				*e*Sg		**Sg**	**16 06 40.8**	**-2.0**
MOX	**Moxa**	**2.91**	**257**	*i* P		**Pn**	**16 05 55.4**	**+1.1**
MOX				Sg		**Sg**	**16 06 41.0**	**-1.8**
MOX	**Moxa**	**2.91**	**257**	*e*Pn		**Pn**	**16 05 55.4**	**+1.1**
MOX				*e*Sg		**Sg**	**16 06 40.8**	**-2.0**
ROTZ	**Rotzenmuhle**	**2.95**	**238**	*e*Pn		**Pn**	**16 05 55.7**	**+0.8**
ROTZ				*e*Sg		**Sg**	**16 06 42.3**	**-1.8**
GEC2	**GERESS Array S**	**2.97**	**212**	*e*Pn		**Pn**	**16 05 57.1**	**+2.0**
GEC2				*e*Sg		**Sg**	**16 06 42.9**	**-1.7**
GEC2	**GERESS Array S**	**2.97**	**212**	*e*Pn		**Pn**	**16 05 57.1**	**+2.0**
GEC2				*e*Sg		**Sg**	**16 06 42.9**	**-1.8**
GERES	**GERESS Array B**	**2.97**	**212**	Pn		**Pn**	**16 05 56.4**	**+1.3**
	0.8nm,0.3s,baz=30,slow=12,SNR=28							
GERES				Pg		**Pg**	**16 06 03.4**	**-1.7**
	1.5nm,0.3s,baz=26,slow=17,SNR=24							
GERES				Sn		**Sn**	**16 06 33.3**	**+1.4**
	1.0nm,0.3s,baz=31,slow=23,SNR=6.2							
GERES				Lg			16 06 42.6	
	2.8nm,0.3s,baz=31,slow=27,SNR=12							
GERES	**GERESS Array B**	**2.97**	**212**	Pg		**Pg**	**16 06 03.4**	**-1.7**
NOTT	**Nottersdorf**	**2.97**	**239**	*e*Sg		**Sg**	**16 06 43.0**	**-1.8**
SMOL	**Smolenice**	**3.01**	**163**	*e*SG		**Sg**	**16 06 45.4**	**-0.5**
WET	**Wettzell**	**3.04**	**224**	*e*Pn		**Pn**	**16 05 57.2**	**+1.1**
WET				*e*Sg		**Sg**	**16 06 45.7**	**-1.4**
WET	**Wettzell**	**3.04**	**224**	*e*Pn		**Pn**	**16 05 57.2**	**+1.1**
WET				*e*Sg		**Sg**	**16 06 45.7**	**-1.4**
ZST	**Bratislava**	**3.26**	**168**	*e*SG		**Sg**	**16 06 53.5**	**-1.0**
ZST	**Bratislava**	**3.26**	**168**	*e*Sg		**Sg**	**16 06 53.5**	**-1.0**
NIE	**Niedzica**	**3.35**	**124**	*e*P		**Pg**	**16 06 11.0**	**-1.7**
NIE				*e*S		**Sg**	**16 06 56.0**	**-1.4**
GRA1	**Grafenberg Arr**	**3.53**	**243**	Sg		**Sg**	**16 07 00.8**	**-2.6**
GRF	**Grafenberg Arr**	**3.53**	**243**	*e*Sg		**Sg**	**16 07 00.8**	**-2.5**
GRF	**Grafenberg Arr**	**3.53**	**243**	*e*Sg		**Sg**	**16 07 00.8**	**-2.6**
MOA	**Molln**	**3.73**	**199**	⇑*i*Pn		**Pn**	**16 06 07.3**	**+1.4**
MOA	**Molln**	**3.73**	**199**	⇑Pn		**Pn**	**16 06 07.3**	**+1.4**
MOA				Sg		**Sg**	**16 07 10.0**	**-0.1**
MOA	**Molln**	**3.73**	**199**	Pn		**Pn**	**16 06 07.3**	**+1.4**
MOA				Sg		**Sg**	**16 07 10.0**	**-0.1**
	27nm,0.7s							
STHS	**Stebnicka Huta**	**3.85**	**119**	*e*PN		**Pn**	**16 06 11.1**	**+3.6**
STHS				*e*			16 06 22.9	
ARSA	**Arzberg**	**4.16**	**185**	⇑*i*Pn		**Pn**	**16 06 12.5**	**+0.6**
ARSA	**Arzberg**	**4.16**	**185**	⇑Pn		**Pn**	**16 06 12.5**	**+0.5**
ARSA				Sg		**Sg**	**16 07 23.1**	**-1.1**
ARSA	**Arzberg**	**4.16**	**185**	Pn		**Pn**	**16 06 12.5**	**+0.6**
ARSA				Sg		**Sg**	**16 07 23.1**	**-1.1**
	14nm,0.6s							
DAVOX	**Davos**	**6.15**	**224**	Pn		**Pn**	**16 06 39.6**	**-0.5**
	0.2nm,0.3s,baz=32,slow=18,SNR=3.0							
DAVOX				Lg			16 08 24.2	
	0.2nm,0.3s,baz=317,slow=19,SNR=3.0							
AKASG	**Malin Array Be**	**8.32**	**90**	Pn		**P**	**16 07 07.8**	**-2.7**
	0.4nm,0.3s,baz=281,slow=12,SNR=4.6							
HFS	**Hagfors**	**8.87**	**352**	Pn		**P**	**16 07 12.6**	**-5.6**
	0.0nm,0.3s,baz=153,slow=16,SNR=3.8							
HFS				Sn		**Sn**	**16 08 49.3**	**-11**
	0.0nm,0.3s,baz=172,slow=31,SNR=3.0							
NOA	**NORSAR Array B**	**10.04**	**346**	Pn		**P**	**16 07 29.4**	**-4.8**
	0.1nm,0.3s,baz=166,slow=12,SNR=2.5							
FINES	**FINESS Array B**	**11.48**	**25**	Pn		**P**	**16 07 47.1**	**-6.9**
	0.3nm,0.3s,baz=221,slow=13,SNR=4.5							
FINES				Sn		**S**	**16 09 51.2**	**-13**
	0.1nm,0.3s,baz=219,slow=18,SNR=3.1							
ARCES	**ARCESS Array B**	**18.75**	**10**	Pn		**P**	**16 09 20.9**	**-7.0**
	0.1nm,0.3s,baz=198,slow=12,SNR=4.6							

MAN 28 16:07:30.3,17.67N×121.35E,h34km,mb4.2,ML3.1, MS2.8,Luzon

IDC 28 16:46:22.1±5.2,30.84S×75.03E,mb3.6/2,mb1 3.8/2, mb1mx3.4/12,mbtmp3.6/2,Error ellipse: s-maj=187.3km s-min=46.9km az=38.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**54.13**	**93**	P		P	16 55 49.3	-2.0
	0.8nm,0.8s,baz=249

NEW	**Newport**	**3.88**	**289**	Pn	**Pn**	**17 14 30.5**	**-5.3**
BMO	**Blue Mountains**	**4.59**	**242**	*e*Pn	**Pn**	**17 14 42.6**	**-3.2**
DGMT	**Dagmar**	**5.17**	**73**	Pn	**Pn**	**17 14 51.1**	**-2.9**
PNT	**Penticton**	**5.77**	**295**	Trac		17 16 37.4	
	comp=Z,19nm,0.6s						
PNT	**Penticton**	**5.77**	**295**	Sg	**Sn**	**17 16 28.3**	**+20**
SLEB	**Sale Mountain**	**5.87**	**316**	Pg	**Pn**	**17 15 19.3**	**+15**
SLEB				Sg	**Sn**	**17 16 29.6**	**+18**
SLEB				Trac		17 16 37.1	
	comp=Z,7.0nm,0.3s						
RSSD	**Black Hills**	**6.12**	**117**	Pn	**Pn**	**17 15 07.2**	**-0.2**
EDM	**Edmonton**	**6.17**	**350**	Pg	**Pn**	**17 15 25.7**	**+18**
EDM				Sg	Sn	17 16 43.1	+24
EDM				Trac		17 16 49.8	
	comp=Z,10.0nm,0.5s						
EDM				Trac		17 16 49.8	
	comp=Z,10.0nm,0.5s						
EDM	**Edmonton**	**6.17**	**350**	*e*Pn	**Pn**	**17 15 02.1**	**-6.1**
DOWB	**Downie Slide**	**6.28**	**317**	Pn	**Pn**	**17 15 04.3**	**-5.4**
DOWB				Pn	**Pn**	**17 15 10.9**	**+1.3**
DOWB				Sg	Sn	17 16 44.2	+23
DOWB				Trac		17 16 58.8	
	comp=Z,109nm,0.9s						
MNB	**Mounoet Dainar**	**6.69**	**321**	Pn	**Pn**	**17 15 13.8**	**-1.7**
MNB				Pn	**Pn**	**17 15 17.3**	**+1.8**
MNB				Pg	**Pn**	**17 15 34.5**	**+19**
MNB				Sg	Sn	17 16 56.9	+25
LLLB	**Lillooet**	**7.60**	**301**	Trac		17 17 37.7	
	comp=Z,8.0nm,0.8s						
LLLB	**Lillooet**	**7.60**	**301**	Sg	Sx	17 17 26.4	
ULM	**Lac du Bonnet**	**10.85**	**68**	Trac		17 19 19.9	
	comp=Z,1.0nm,0.4s						
ULM				Trac		17 19 19.9	
	comp=Z,1.0nm,0.4s						
YKW3	**Yellowknife Ar**	**15.53**	**355**	Pn	**P**	**17 17 07.3**	**-7.7**
YKW3				Sn	S	17 19 48.0	-19
YKW3				Trac		17 20 12.3	
YKW3				Trac		17 20 12.3	

*CSEM **28** 17:17:16.2±0.1,43.18N×47.13E,h5km,mb3.8/1,ML2.7/1, Error ellipse: s-maj=2.7km s-min=1.5km az=110.0*
*MOS **28** 17:17:17.6±2.2,43.12N×47.11E,h8km,mb4.2/1,Error ellipse: s-maj=7.2km s-min=5.7km az=85.8*
*TIF **28** 17:17:19.4,43.17N×47.06E,h13km±3km*
*NEIC **28** 17:17:20.9±0.7,43.31N×47.11E,h10km,Error ellipse: s-maj=12.4km s-min=9.2km az=139.0*
*IDC **28** 17:17:22.2±5.0,43.21N×47.12E,h25km±38km,mb3.8/4, mb1 3.9/6,mb1mx3.5/19,mbtmp3.9/6,ML3.7/1,Error ellipse: s-maj=25.7km s-min=9.5km az=126.0*
*NNC **28** 17:17:30.3±5.6,43.51N×48.27E,mb3.5,Error ellipse: s-maj=73.7km s-min=45.1km az=132.0*

ISC 28 17:17:16.8±0.4,43.13N±0.02×47.10E±0.03,h8km,n49, σ1§36/80,mb3.7/5,2C-3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBC	**Dubki**	**0.23**	**241**	*e*PG	**Pg**	**17 17 22.0**	**+0.5**
BUJR	**Buynaksk**	**0.30**	**179**	*i* PG	**Pg**	**17 17 22.4**	**-0.6**
BUJR				*e*S	**Sg**	**17 17 27.7**	**+0.5**
BUJR				pmax	pmax		
	comp=Z,260nm,0.2s						
BUJR	**Buynaksk**	**0.30**	**179**	*i* Pg	**Pg**	**17 17 22.4**	**-0.6**
	comp=Z,260nm,0.2s						
BUJR				*e*Sg	**Sg**	**17 17 27.7**	**+0.5**
MAK	**Makhachkala**	**0.34**	**119**	*e*PG	**Pg**	**17 17 28.3**	**+4.6**
MAK				*i* S	**Sg**	**17 17 34.8**	**+6.5**
UNCR	**Uncukul**	**0.47**	**209**	⇓*i*PG	**Pg**	**17 17 25.4**	**-0.9**
UNCR				*e*S	**Sg**	**17 17 32.4**	**-0.3**
UNCR	**Uncukul**	**0.47**	**209**	*i* Pg	**Pg**	**17 17 25.4**	**-0.9**
UNCR				*e*Sg	**Sg**	**17 17 32.4**	**-0.3**
XNZR	**Khunzakh**	**0.66**	**207**	*e*PG	**Pg**	**17 17 29.5**	**-0.4**
XNZR				*e*S	**Sg**	**17 17 39.5**	**+0.8**
XNZR				pmax	pmax		
	comp=Z,234nm,0.3s						
XNZR	**Khunzakh**	**0.66**	**207**	*e*Pg	**Pg**	**17 17 29.5**	**-0.4**
	comp=Z,234nm,0.3s						
XNZR				*e*Sg	**Sg**	**17 17 39.5**	**+0.8**
GNBR	**Gunib**	**0.75**	**188**	*e*PG	**Pg**	**17 17 30.8**	**-0.9**
GNBR				*e*S	**Sg**	**17 17 42.8**	**+1.1**
GNBR				pmax	pmax		
	comp=Z,153nm,0.2s						
GNBR	**Gunib**	**0.75**	**188**	*e*Pg	**Pg**	**17 17 30.8**	**-0.9**
	comp=Z,153nm,0.2s						
GNBR				*e*Sg	**Sg**	**17 17 42.8**	**+1.1**
BTLR	**Botlikh**	**0.80**	**235**	*i* PG	**Pg**	**17 17 30.8**	**-1.9**
BTLR				*e*S	**Sb**	**17 17 43.8**	**+0.7**
KMKR	**Kumukh**	**1.00**	**180**	*e*PG	**Pg**	**17 17 36.0**	**-0.7**
KMKR				*i* S	**Sg**	**17 17 50.0**	**-0.1**
KMKR				pmax	pmax		
	comp=Z,126nm,0.2s						
KMKR	**Kumukh**	**1.00**	**180**	*e*Pg	**Pg**	**17 17 36.0**	**-0.7**
	comp=Z,126nm,0.2s						
KMKR				*i* Sg	**Sg**	**17 17 50.0**	**-0.1**
URKR	**Urkarakh**	**1.04**	**158**	*e*Pg	**Pg**	**17 17 36.5**	**-1.1**
URKR				*e*Sg	**Sg**	**17 17 51.5**	**0.0**
DRN	**Derbent**	**1.43**	**140**	*e*PG	**Pg**	**17 17 43.5**	**-1.7**
DRN				*i* S	**Sb**	**17 18 03.5**	**+2.1**
SNJR	**Sundja**	**1.68**	**269**	*e*PN	**Pg**	**17 17 51.5**	**+1.2**
SNJR				*i* S	**Sg**	**17 18 16.1**	**+3.4**
KSMR	**Kasumkent**	**1.71**	**153**	*i* PN	**Pn**	**17 17 51.0**	**+4.0**
KSMR				*i* S	**Sg**	**17 18 16.0**	**+2.4**
KSMR				pmax	pmax		
	comp=Z,488nm,0.3s						
VLKR	**Vladikavkaz**	**1.78**	**268**	*e*PN	**Pg**	**17 17 52.6**	**+0.3**
VLKR				*e*S	**Sg**	**17 18 17.7**	**+1.7**
ARNR	**Ardon**	**2.07**	**273**	*e*PN	**Pn**	**17 17 56.2**	**+4.0**
ARNR				*e*S	**Sg**	**17 18 24.3**	**-1.3**
LACR	**Lac**	**2.08**	**263**	*i* PN	**Pn**	**17 17 55.1**	**+2.7**
LACR				*e*S	**Sn**	**17 18 22.3**	**+3.5**
DGRG	**David-gareji**	**2.11**	**218**	P	**Pg**	**17 17 57.7**	**-1.3**
DGRG				S	**Sg**	**17 18 27.9**	**+0.8**
SAMG	**Sameba**	**2.22**	**231**	P	**Pn**	**17 17 58.3**	**+3.9**
SAMG				S	**Sg**	**17 18 29.6**	**-1.0**
TI2	**Plekhanov**	**2.23**	**232**	*i* PN	**Pn**	**17 18 00.0**	**+5.4**
TI2				*i* S	**Sg**	**17 18 30.8**	**-0.3**
TI2				pmax	pmax		
	comp=Z,20nm,0.4s						
TI2				smax			
	comp=N,40nm,0.6s						
MTA	**Mtatsminda**	**2.23**	**231**	P	**Pg**	**17 18 00.4**	**-0.9**
MTA				S	**Sg**	**17 18 31.0**	**-0.1**
TBLG	**Delisi**	**2.24**	**232**	P	**Pg**	**17 18 00.3**	**-1.2**
TBLG				S	**Sg**	**17 18 29.4**	**-2.0**
LSNR	**Lesken**	**2.41**	**275**	*i* PN	**Pn**	**17 18 00.3**	**+3.2**
LSNR				*e*S	**Sn**	**17 18 31.7**	**+4.6**
GOR	**Gori**	**2.49**	**244**	P	**Pg**	**17 18 03.3**	**-3.2**
GOR				S	**Sg**	**17 18 36.5**	**-3.2**
ONI	**Oni**	**2.74**	**260**	P	**Pn**	**17 18 06.2**	**+4.3**
ONI				S	**Sg**	**17 18 46.1**	**-1.9**
KUBR	**Kubataba**	**2.77**	**285**	*e*PN	**Pn**	**17 18 03.1**	**+0.8**
SHAR	**Shatzhatmas**	**3.29**	**282**	*d* PN	**Pn**	**17 18 10.9**	**+1.3**
KIV	**Kislovodsk**	**3.31**	**286**	*e*PN	**Pn**	**17 18 10.4**	**+0.4**
KIV	**Kislovodsk**	**3.31**	**286**	*e*P	**Pn**	**17 18 12.7**	**+2.7**
NAGR	**Nagutskaya**	**3.41**	**294**	*e*PN	**Pn**	**17 18 12.6**	**+1.3**
GNI	**Garni**	**3.46**	**211**	Pn	**Pn**	**17 18 17.3**	**+5.2**
	comp=N,3.3nm,0.3s,baz=17,slow=4.9,SNR=8.6						
GNI				Sn	**Sn**	**17 19 01.6**	**+7.8**
	comp=N,2.0nm,0.3s,baz=342,slow=19,SNR=3.4						
GNI	**Garni**	**3.46**	**211**	PN	**Pn**	**17 18 17.3**	**+5.2**
GNI						17 19 01.6	
GNI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GNI				smax			
	comp=N,2.0nm,0.3s						
GNI	**Garni**	**3.46**	**211**	*e*Pn	**Pn**	**17 18 17.1**	**+5.0**
GNI				Pn	**Pn**	**17 18 17.3**	**+5.2**
GNI				Sn	**Sn**	**17 19 01.6**	**+7.8**
SOC	**Sochi**	**5.40**	**277**	*e*PN	**Pn**	**17 18 37.5**	**-2.1**
SOC				*e*		17 19 37.6	
SOC				pmax	pmax		
	comp=Z,23nm,1.2s						
SOC				MLR	MLR		
	comp=Z,39nm,6.0s						
SOC	**Sochi**	**5.40**	**277**	*e*Pn	**Pn**	**17 18 37.5**	**-2.1**
	comp=Z,23nm,1.2s						
AKTK	**Aktyubinsk**	**10.45**	**42**	Pn	**P**	**17 19 49.0**	**-1.0**
AKTK				Sn	Sx	17 21 37.7	
AKTK	**Aktyubinsk**	**10.45**	**42**	P	**P**	**17 19 49.0**	**-0.9**
AKTO	**Aktyubinsk**	**10.45**	**42**	⇓P	**P**	**17 19 49.1**	**-0.8**
	comp=Z,0.5nm,0.9s						
AKTO				⇑S	Sx	17 21 38.7	
	comp=Z,0.8nm,0.5s						
AKTO	**Aktyubinsk**	**10.45**	**42**	Pn	**P**	**17 19 49.0**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=224,slow=8.9,SNR=12						
AKTO				Sn	Sx	17 21 37.7	
	comp=Z,0.9nm,0.3s,baz=5.9,slow=12,SNR=16						
AB31	**Akbulak array**	**10.80**	**51**	P	**P**	**17 19 54.3**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=237,slow=13,SNR=53						
AB31				⇑S	Sx	17 21 47.6	
	comp=Z,4.6nm,0.5s,baz=239,slow=20						
ARU	**Arti**	**15.20**	**25**	*e*P	**P**	**17 20 52.0**	**-1.2**
ARU				*e*S	**S**	**17 23 40.1**	**-2.4**
JOF	**Joensuu**	**21.86**	**340**	*ep*	**P**	**17 22 11.2**	**-0.2**
	comp=Z,3.5nm,0.9s,mb3.8						
FINES	**FINESS Array B**	**22.22**	**333**	P	**P**	**17 22 15.6**	**+0.6**
	comp=Z,1.5nm,0.6s,mb3.6,baz=135,slow=11,SNR=7.0						
MKAR	**Makanchi Array**	**25.04**	**69**	P	**P**	**17 22 44.5**	**+2.0**
	comp=Z,0.3nm,0.5s,mb3.1,baz=270,slow=11,SNR=3.9						
HFS	**Hagfors**	**26.41**	**322**	P	**P**	**17 22 56.2**	**+0.9**
	comp=Z,0.8nm,0.4s,mb3.6,baz=108,slow=9.1,SNR=1.6						
ARCES	**ARCESS Array B**	**28.71**	**344**	P	**P**	**17 23 16.3**	**+0.3**
	comp=Z,6.0nm,1.0s,mb4.3,baz=146,slow=9.8,SNR=5.6						

*IDC **28** 17:23:43.8±4.4,35.39N×71.44E,mb3.8/5,mb1 3.8/8, mb1mx3.6/21,mbtmp3.7/8,ML3.4/3,Error ellipse: s-maj=79.6km s-min=44.1km az=163.0*
*NEIC **28** 17:23:50.6±0.7,35.92N×70.99E,h10km,mb4.1/2,Error ellipse: s-maj=19.0km s-min=6.6km az=48.0*
*NNC **28** 17:24:05.9±13.0,36.61N×71.06E,h110km±174km,mb2.9, mpv3.9,Error ellipse: s-maj=117.9km s-min=104.2km az=83.0*

ISC 28 17:23:59.6±0.6,36.19N±0.05×71.72E±0.07,h115km±11km, n35,σ1§32/49,mb3.7/5,3C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.36**	**176**	P	**P**	**17 24 40.0**	**+1.9**
CHCP	**Chirah Chowk**	**2.82**	**153**	P	**P**	**17 24 47.8**	**+3.5**
THW	**Thamme Wali**	**3.38**	**180**	⇓P	**P**	**17 24 53.0**	**+1.2**
SBDP	**Sheikh Budin**	**3.95**	**191**	P	**P**	**17 24 59.4**	**-0.1**
SBDP				S	**S**	**17 25 44.0**	**-1.2**
SARP	**Sargodha**	**4.33**	**169**	P	**P**	**17 25 05.1**	**+0.5**
DRP	**Derazinda**	**4.61**	**196**	P	**P**	**17 25 08.7**	**+0.3**
AAK	**Ala-Archa**	**6.79**	**18**	*e*P	**P**	**17 25 37.8**	**-0.2**
	5.7nm,0.6s						
KK31	**Karatay Array**	**6.97**	**353**	⇑P	**P**	**17 25 39.0**	**-1.5**
	4.0nm,0.4s,baz=179,slow=13,SNR=153						
KK31				⇓S	**S**	**17 26 52.2**	**-6.6**
	3.1nm,0.3s,baz=174,slow=21						
KLP	**Kalpa**	**7.14**	**129**	*e*P	**P**	**17 25 43.5**	**+0.6**
KLP				*e*S	**S**	**17 27 01.2**	**-1.7**
KLP				AML	AML	17 27 11.7	
	comp=E,220nm,0.5s						
KLP				AML	AML	17 27 12.0	
	comp=N,195nm,0.6s						
KHET	**Khetri**	**8.80**	**156**	*e*P	**P**	**17 26 01.7**	**-3.4**
KHET				*e*S	**S**	**17 27 37.1**	**-6.0**
KHET				AML	AML	17 27 41.4	
	comp=N,16nm,0.1s						
KHET				AML	AML	17 27 41.9	
	comp=E,16nm,0.2s						
KUDL	**Kundal**	**8.98**	**152**	*e*P	**P**	**17 26 05.5**	**-2.0**
KUDL				*e*S	**S**	**17 27 42.3**	**-5.1**
KUDL				AML	AML	17 27 47.3	
	comp=Z,7.1nm,0.2s						
KOLN	**Koldanda**	**13.11**	**126**	*e*Pn	**P**	**17 27 03.2**	**+0.9**
KOLN				*e*Sn	**S**	**17 29 22.8**	**-2.9**
	comp=Z,15nm,0.5s						
KOLN	**Koldanda**	**13.11**	**126**	*e*Pn	**P**	**17 27 03.2**	**+0.9**
	comp=Z,7.7nm,0.5s						
KOLN				*e*Sn	**S**	**17 29 22.8**	**-2.9**
MKAR	**Makanchi Array**	**13.22**	**33**	Pn	**P**	**17 27 04.9**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=217,slow=14,SNR=2.3						
GKN	**Gorkha**	**13.64**	**123**	*e*Pn	**P**	**17 27 09.5**	**+0.3**
GKN				*e*Sn	**S**	**17 29 33.3**	**-5.0**
	comp=Z,20nm,0.4s						
GKN	**Gorkha**	**13.64**	**123**	*e*Pn	**P**	**17 27 09.5**	**+0.3**
	comp=Z,9.9nm,0.4s						
GKN				*e*Sn	**S**	**17 29 33.3**	**-5.0**
DMN	**Daman**	**14.21**	**123**	*e*Pn	**P**	**17 27 17.2**	**+0.7**
KKN	**Kakani**	**14.22**	**122**	*e*Pn	**P**	**17 27 17.3**	**+0.7**
KKN				*e*Sn	**S**	**17 29 46.6**	**-5.1**
	comp=Z,37nm,0.9s						
KKN	**Kakani**	**14.22**	**122**	*e*Pn	**P**	**17 27 17.3**	**+0.7**
	comp=Z,18nm,0.9s						
KKN				*e*Sn	**S**	**17 29 46.6**	**-5.1**
PKI	**Pulchoki**	**14.44**	**123**	*e*Pn	**P**	**17 27 20.8**	**+1.3**
GUN	**Gumba**	**14.55**	**121**	*e*Pn	**P**	**17 27 21.7**	**+0.8**
GUN				*e*Sn	**S**	**17 29 53.7**	**-5.9**
JIRN	**Jiri**	**14.93**	**121**	*e*Pn	**P**	**17 27 26.3**	**+0.6**
JIRN				*e*Sn	**S**	**17 30 03.5**	**-4.7**
	comp=Z,17nm,0.6s						
JIRN	**Jiri**	**14.93**	**121**	*e*Pn	**P**	**17 27 26.3**	**+0.6**
	comp=Z,8.4nm,0.6s						
JIRN				*e*Sn	**S**	**17 30 03.5**	**-4.7**
AB31	**Akbulak array**	**15.64**	**330**	⇑P	**P**	**17 27 30.9**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=160,slow=12,SNR=5.3						
BVAR	**Borovoye Array**	**16.86**	**357**	P	**P**	**17 27 49.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=165,slow=10,SNR=5.0						
AKTK	**Aktyubinsk**	**17.34**	**329**	P	**P**	**17 27 53.9**	**-1.8**
AKTO	**Aktyubinsk**	**17.34**	**329**	⇑P	**P**	**17 27 54.1**	**-1.6**
	comp=Z,0.5nm,0.8s						
AKTO	**Aktyubinsk**	**17.34**	**329**	P	**P**	**17 27 53.9**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=145,slow=11,SNR=8.7						
FINES	**FINESS Array B**	**38.07**	**326**	P	**P**	**17 31 08.1**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.0,baz=117,slow=4.3,SNR=3.9						
ARCES	**ARCESS Array B**	**41.66**	**338**	P	**P**	**17 31 38.8**	**+1.2**
	comp=Z,4.2nm,0.9s,mb4.2,baz=117,slow=8.1,SNR=5.6						
HFS	**Hagfors**	**43.67**	**322**	P	**P**	**17 31 54.1**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=117,slow=9.7,SNR=5.9						
NB2	**NORSAR Subarra**	**44.98**	**323**	P	**P**	**17 32 04.3**	**-0.3**
	comp=Z,1.0nm,0.6s,mb3.7,baz=100,slow=7.4						
NOA	**NORSAR Array B**	**44.98**	**323**	P	**P**	**17 32 04.4**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.4,baz=100,slow=7.7,SNR=3.3						
YKA	**Yellowknife Ar**	**81.53**	**3**	P	**P**	**17 36 06.6**	**+1.5**
	comp=Z,0.1nm,0.4s,mb3.0,baz=350,slow=5.6,SNR=4.3						
YKA	**Yellowknife Ar**	**81.53**	**3**	P	**P**	**17 36 06.6**	**+1.5**

*MDD **28** 18:25:37.6±2.1,35.01N×1.32W,h75km±18km,mb3.1/4, Error ellipse: s-maj=21.0km s-min=13.0km az=22.0, PRXIMO*
*CSEM **28** 18:25:37.3±0.5,35.29N×1.47W,h10km,ML3.2,Error ellipse: s-maj=18.4km s-min=8.1km az=31.0*
*CRAAG **28** 18:25:47.5,35.22N×1.16W,Ml3.2*

ISC 28 18:25:41.7±0.8,35.44N±0.06×1.69W±0.07,h10km,n14, σ1§39/23,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OLHC	**Oulhaca**	**0.29**	**131**	P	**Sg**	**18 25 53.0**	**+1.1**
ODZI	**Dzioua**	**0.41**	**112**	P	**Pg**	**18 25 49.0**	**-1.0**
USTO	**Oran**	**0.97**	**72**	P	**Pb**	**18 26 02.0**	**+1.8**
EBER	**Berja**	**1.75**	**327**	P	**Pn**	**18 26 10.6**	**-1.7**
	2.4nm,0.3s,SNR=6.3						
EBER				S	**Sn**	**18 26 37.0**	**+2.1**
	3.3nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.75**	**327**	P	**Pn**	**18 26 10.6**	**-1.8**
	2.4nm,0.3s,SNR=6.3						
EBER				S	**Sn**	**18 26 36.2**	**+1.4**
	3.3nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.26**	**322**	P	**Pn**	**18 26 19.5**	**-0.2**
	0.5nm,0.2s,SNR=5.8						
ERON	**Agron**	**2.32**	**313**	P	**Pn**	**18 26 20.5**	**-0.1**
	5.2nm,0.3s,SNR=4.0						
EHUE	**Huescar**	**2.48**	**343**	P	**Pn**	**18 26 22.6**	**-0.2**
	0.5nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**18 26 54.5**	**+1.1**
	0.3nm,0.1s,SNR=4.0						
EQES	**Quesada**	**2.60**	**335**	P	**Pn**	**18 26 25.4**	**+0.8**
	0.4nm,0.2s,SNR=5.2						
EQES				S	**Sn**	**18 26 59.5**	**+2.9**
	3.4nm,0.2s,SNR=8.4						
EQES	**Quesada**	**2.60**	**335**	P	**Pn**	**18 26 25.4**	**+0.8**
	0.4nm,0.2s,SNR=5.2						
EQES				S	**Sn**	**18 26 59.5**	**+2.9**
	3.4nm,0.2s,SNR=8.4						
EMIJ	**Mijas**	**2.74**	**295**	P	**Pn**	**18 26 24.5**	**-2.1**
	0.7nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**18 27 01.1**	**+1.0**
	1.3nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.20**	**2**	P	**Pn**	**18 26 30.8**	**-2.3**
	2.1nm,0.2s,SNR=13						
ETOB				S	**Sn**	**18 27 09.3**	**-2.4**
	3.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.20**	**2**	P	**Pn**	**18 26 30.8**	**-2.3**
	2.1nm,0.2s,SNR=13						
ETOB				S	**Sn**	**18 27 09.3**	**-2.4**
	3.0nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.25**	**349**	P	**Pn**	**18 26 33.7**	**-0.2**
	1.6nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**18 27 12.9**	**-0.2**
	3.0nm,0.4s,SNR=4.0						

*JMA **28** 18:26:39.2±0.5,32.73N×138.45E,h329km,M2.9*
*IDC **28** 18:26:42.7±4.6,32.74N×137.84E,h281km±110km, mb2.7/3,mb1 2.8/4,mb1mx2.7/21,mbtmp3.3/4,Error ellipse: s-maj=220.6km s-min=22.7km az=62.0*

ISC 28 18:26:41.8±1.0,32.9N±0.1×138.4E±0.1,h311km±9km,n16, σ0§62/19,mb2.8/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**2.03**	**318**	P	**P**	**18 27 30.4**	**+0.3**
JWZ	**Kozaga**	**2.30**	**287**	P	**P**	**18 27 31.9**	**-0.5**
JOD2	**Odawara 2**	**2.45**	**14**	P	**P**	**18 27 33.9**	**+0.2**
JOD2				S	**S**	**18 28 14.3**	**+0.1**
JYN	**Shimob**	**2.61**	**4**	P	**P**	**18 27 36.2**	**+1.1**
BSO1	**Boso 1**	**2.81**	**51**	P	**P**	**18 27 35.9**	**-1.1**
JRY	**Ryogami san**	**3.15**	**8**	P	**P**	**18 27 41.4**	**+1.1**
JRY				S	**S**	**18 28 26.0**	**0.0**
JAI	**Aioi**	**3.38**	**287**	P	**P**	**18 27 42.2**	**-0.4**
JWT	**Wachi**	**3.42**	**315**	P	**P**	**18 27 42.9**	**-0.1**
JAG	**Ashikaga**	**3.65**	**14**	P	**P**	**18 27 44.2**	**-1.1**
JAG				S	**S**	**18 28 31.0**	**-4.0**
MJAR	**Matsushiro Arr**	**3.65**	**358**	P	**P**	**18 27 45.5**	**+0.2**
	2.1nm,0.3s,baz=174,slow=11,SNR=20						
MAT	**Matsushiro**	**3.65**	**358**	P	**P**	**18 27 45.4**	**0.0**
MAT	**Matsushiro**	**3.65**	**358**	P	**P**	**18 27 45.5**	**+0.1**
JHS	**Saijyo**	**4.83**	**297**	P	**P**	**18 27 58.4**	**+0.1**
SONM	**Songino Array**	**28.31**	**311**	P	**P**	**18 32 09.2**	**-0.1**
	0.4nm,0.6s,mb3.0,baz=125,slow=9.9,SNR=4.2						
MKAR	**Makanchi Array**	**44.32**	**305**	P	**P**	**18 34 22.6**	**-0.3**
	0.3nm,0.4s,mb2.8,baz=87,slow=9.1,SNR=6.4						
WRA	**Warramunga Arr**	**52.67**	**185**	P	**P**	**18 35 27.3**	**+0.5**
	0.1nm,0.4s,mb2.5,baz=0.5,slow=7.6,SNR=7.0						

IDC 28 18:41:56.2±16.0,15.95N×93.32W,mb3.6/3,mb1 4.0/4, mb1mx3.6/20,mbtmp3.5/4,ML3.6/1,MS4.0/1,Ms1 4.0/1, ms1mx2.9/28,Error ellipse: s-maj=375.5km s-min=130.3km az=23.0,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**16.38**	**326**	Pn	P	18 45 49.0	-0.1
	0.1nm,0.3s,baz=151,slow=13,SNR=4.2						
PDAR	**Pinedale Array**	**30.13**	**336**	P	P	18 48 09.1	-0.8
	0.4nm,0.8s,baz=131,slow=8.3,SNR=2.6						
NEW	**Newport**	**37.69**	**334**	P	P	18 49 12.3	-2.7
	2.2nm,0.7s,baz=143,slow=3.9,SNR=3.9						
YKA	**Yellowknife Ar**	**48.85**	**347**	P	P	18 50 43.1	-2.0
	0.4nm,0.7s,baz=153,slow=7.4,SNR=9.1						
DLBC	**Dease Lake**	**50.36**	**336**	LR	LR	19 16 10.5	
	comp=Z,137nm,18.8s,baz=172,slow=41						

*IDC **28** 18:46:06.4±8.7,13.42S×166.76E,h191km±96km,mb3.5/3, mb1 3.5/4,mb1mx3.3/14,mbtmp3.8/4,Error ellipse: s-maj=84.3km s-min=52.3km az=133.0*

ISC 28 18:46:02.9±5.7,13.2S±0.2×166.4E±0.4,h158km±63km,n6, σ0§79/6,mb3.8/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.79**	**180**	P	**P**	**18 48 07.4**	**-0.2**
	0.1nm,0.3s,baz=317,slow=19,SNR=4.3						
DZM				S	**S**	**18 49 45.4**	**+0.3**
	0.2nm,0.3s,baz=108,slow=19,SNR=2.6						
STKA	**Stephens Creek**	**29.37**	**227**	P	**P**	**18 51 52.6**	**-0.8**
	2.1nm,0.6s,mb4.0,baz=52,slow=9.4,SNR=7.1						
WB2	**Warramunga Arr**	**31.41**	**253**	*e*P	pP	18 52 48.4	+3.4
WRA	**Warramunga Arr**	**31.42**	**253**	P	**P**	**18 52 12.3**	**+0.7**
	0.4nm,0.5s,mb3.4,baz=85,slow=9.2,SNR=8.6						
ASPA	**Alice Springs**	**32.47**	**247**	*e*P	**P**	**18 52 20.5**	**-0.1**
MKAR	**Makanchi Array**	**95.56**	**317**	P	**P**	**18 59 11.3**	**+0.2**
	0.3nm,0.6s,mb3.8,baz=90,slow=5.1,SNR=5.4						

IDC 28 18:53:23.6±17.0,17.38S×178.85W,h651km±172km, mb2.7/2,mb1 2.9/2,mb1mx2.7/14,mbtmp3.8/2,Error ellipse: s-maj=150.1km s-min=94.3km az=110.0,Fiji Islands region

| Code | Station Name | Δ° | AZ° | Ph

SKHL 28 19:30:39.3±0.5, 55.35N×130.64E, h10km±2km, mb3.8/6, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BMKR	**Bomnak**	**1.22**	**239**	*i* Pg	Pg	19 31 01.9	-1.8
BMKR	32nm,0.5s			AMB	AMB	19 31 02.5	
BMKR	76nm,0.5s			AMB	AMB	19 31 02.5	
BMKR	50nm,0.5s			AMB	AMB	19 31 02.5	
BMKR				pPg		19 31 05.0	
BMKR				sPg		19 31 06.4	
BMKR				*e*Sg	Sg	19 31 18.0	-1.9
BMKR	214nm,0.4s			A		19 31 19.6	
BMKR	105nm,0.4s			A		19 31 19.6	
KROS	**Kirovskiy**	**2.31**	**248**	*e*Pn	Pn	19 31 16.2	-1.8
KROS				pPn		19 31 19.0	
KROS				*i* Pg	Pg	19 31 20.7	-4.7
KROS	18nm,0.4s			AMB	AMB	19 31 21.1	
KROS	38nm,0.4s			AMB	AMB	19 31 21.1	
KROS	39nm,0.4s			AMB	AMB	19 31 21.1	
KROS				pPg		19 31 24.3	
KROS				*e*Sn	Sn	19 31 45.1	-1.6
KROS				*i* Sg	Sg	19 31 50.9	-5.4
KROS	170nm,0.4s			A		19 31 52.4	
KROS	99nm,0.4s			A		19 31 52.4	
ZEA	**Zeya**	**2.55**	**232**	*e*Pn	Pn	19 31 20.7	-0.8
ZEA				*e*Pg	Pg	19 31 24.4	-5.9
ZEA	29nm,0.4s			AMB	AMB	19 31 25.1	
ZEA				*e*Sn	Sn	19 31 53.6	+0.7
ZEA				*e*Sg	Sg	19 31 57.2	-7.1
ZEA	97nm,0.4s			A		19 32 01.8	
ZEA	60nm,0.4s			A		19 32 01.8	
YASR	**Yasnyy**	**2.59**	**218**	*e*Pn	Pn	19 31 22.5	+0.5
YASR				*e*Pg	Pg	19 31 26.3	-4.7
YASR	8.0nm,0.4s			AMB	AMB	19 31 27.7	
YASR	9.0nm,0.4s			AMB	AMB	19 31 27.7	
YASR				pPg		19 31 31.1	
YASR				sPg		19 31 33.5	
YASR				*e*Sg	Sg	19 32 01.0	-4.5
YASR	30nm,0.4s			A		19 32 04.2	
YASR	50nm,0.4s			A		19 32 04.2	
EKMR	**Ekimchan**	**2.66**	**148**	*e*Pg	Pg	19 31 27.0	-5.4
EKMR	3.0nm,0.4s			AMB	AMB	19 31 29.2	
EKMR	2.0nm,0.4s			AMB	AMB	19 31 29.2	
EKMR	7.0nm,0.4s			AMB	AMB	19 31 29.2	
EKMR				sPg		19 31 32.2	
EKMR				*e*Sg	Sg	19 32 02.3	-5.5
EKMR	59nm,0.4s			A		19 32 08.8	
EKMR	61nm,0.4s			A		19 32 08.8	
GRNR	**Gornyy**	**5.76**	**140**	*e*Sg	Sg	19 33 40.0	-11
TUP	**Tupik**	**6.24**	**266**	*e*Pn	Pn	19 32 13.4	-0.3
TUP				*e*Pg	Pg	19 32 32.3	-12
TUP	5.0nm,0.3s			AMB	AMB	19 32 37.7	
TUP				*e*Sg	Sg	19 33 52.3	-15

*CSEM **28** 19:54:40.3±0.1, 34.97N×4.18W, h20km, MD2.9, Error ellipse: s-maj=5.6km s-min=3.2km az=108.0*
*CNRM **28** 19:54:41.2, 35.18N×4.25W, h30km, MD2.9*
*MDD **28** 19:54:44.3±0.9, 35.18N×4.17W, h12km±7km, mbLg1.9/7, Error ellipse: s-maj=8.9km s-min=6.4km az=60.0, PRXIMO*
ISC 28 19:54:41.8±0.7, 35.10N±0.04×4.28W±0.04, h28km±6km, n20, σ1§49/37, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPAL	**Palemas**	**0.30**	**66**	P	**Pb**	**19 54 48.5**	**-0.7**
MPAL				S	**Sb**	**19 54 51.0**	**-3.1**
MPAL	**Palemas**	**0.30**	**66**	*i* P	**Pb**	**19 54 48.5**	**-0.7**
TOU	**Touzarine**	**0.45**	**108**	*i* P	**Pb**	**19 54 51.0**	**-0.4**
TOU				*i* S	**Sb**	**19 54 58.0**	**+0.1**
EMEL	**Melilla**	**1.10**	**79**	P	**Pn**	**19 55 03.8**	**+2.3**
EMEL	21nm,0.1s,SNR=7.9 SNR=7.9			S	**Sn**	**19 55 16.1**	**+0.3**
EMLI	**Melilla**	**1.10**	**79**	S	**Sn**	**19 55 16.1**	**+0.1**
EMIJ	**Mijas**	**1.52**	**345**	P	**Pn**	**19 55 08.3**	**+0.9**
EMIJ	1.5nm,0.2s,SNR=8.2 11nm,0.2s,SNR=6.3			S	**Sn**	**19 55 25.0**	**-1.4**
EBER	**Berja**	**2.12**	**32**	P	**Pn**	**19 55 17.0**	**+0.9**
EBER	0.3nm,0.1s,SNR=7.9 8.7nm,0.6s,SNR=7.9			S	**Sn**	**19 55 41.6**	**-0.1**
EBER	**Berja**	**2.12**	**32**	P	**Pn**	**19 55 17.0**	**+0.9**
EBER	0.3nm,0.1s,SNR=7.9 8.7nm,0.6s,SNR=7.9			S	**Sn**	**19 55 41.2**	**-0.5**
CZD	**Col de Zad**	**2.16**	**197**	*i* P	**Pn**	**19 55 15.0**	**-1.7**
CZD				*i* S	**Sn**	**19 55 40.0**	**-2.8**
EQUE	**Quentar**	**2.21**	**18**	P	**Pn**	**19 55 17.9**	**+0.6**
EQUE	0.4nm,0.2s,SNR=4.0 2.2nm,0.3s,SNR=4.0			S	**Sn**	**19 55 41.3**	**-2.7**
ELUQ	**Luque**	**2.45**	**0**	P	**Pn**	**19 55 22.4**	**+1.5**
ELUQ	SNR=7.9 2.2nm,0.2s,SNR=7.9			S	**Sn**	**19 55 48.9**	**-1.3**
EQES	**Quesada**	**2.87**	**19**	P	**Pn**	**19 55 28.9**	**+2.1**
EQES	0.9nm,0.1s,SNR=8.8 3.0nm,0.3s,SNR=7.9			S	**Sn**	**19 55 59.6**	**-1.1**
EQES	**Quesada**	**2.87**	**19**	P	**Pn**	**19 55 28.9**	**+2.1**
EQES	0.9nm,0.1s,SNR=8.8 3.0nm,0.3s,SNR=7.9			S	**Sn**	**19 55 59.6**	**-1.1**
EADA	**Adamuz**	**3.07**	**356**	P	**Pn**	**19 55 32.3**	**+2.6**
EADA	0.2nm,0.1s,SNR=7.9 1.6nm,0.3s,SNR=7.9			S	**Sn**	**19 56 04.5**	**-1.4**
EADA	**Adamuz**	**3.07**	**356**	P	**Pn**	**19 55 32.3**	**+2.6**
EADA	0.2nm,0.1s,SNR=7.9 1.6nm,0.3s,SNR=7.9			S	**Sn**	**19 56 04.5**	**-1.3**
EMIN	**Mina Concepcio**	**3.29**	**325**	P	**Pn**	**19 55 35.0**	**+2.3**
EMIN	0.1nm,0.1s,SNR=7.9 0.3nm,0.1s,SNR=7.9			S	**Sn**	**19 56 10.2**	**-1.2**
EMIN	**Mina Concepcio**	**3.29**	**325**	P	**Pn**	**19 55 35.0**	**+2.2**
EGRO	**El Granado**	**3.55**	**314**	P	**Pn**	**19 55 39.1**	**+2.7**
EGRO	0.7nm,0.4s,SNR=7.9 1.4nm,0.2s,SNR=7.9			S	**Sn**	**19 56 18.8**	**+0.8**
EGRO	**El Granado**	**3.55**	**314**	P	**Pn**	**19 55 39.1**	**+2.6**
EGRO	0.7nm,0.4s,SNR=7.9 1.4nm,0.2s,SNR=7.9			S	**Sn**	**19 56 18.8**	**+0.8**
EBAD	**Badajoz**	**4.25**	**330**	P	**Pn**	**19 55 47.8**	**+1.3**
EBAD	0.3nm,0.1s,SNR=4.0 1.5nm,0.2s,SNR=7.9			S	**Sn**	**19 56 34.2**	**-1.7**

*CSEM **28** 19:58:11.6±0.1, 35.29N×4.10W, h10km, MD3.3, Error ellipse: s-maj=2.9km s-min=1.9km az=62.0*
*MDD **28** 19:58:13.0±0.5, 35.30N×4.12W, mbLg2.1/15, Error ellipse: s-maj=6.4km s-min=3.0km az=49.0, PRXIMO*
*CNRM **28** 19:58:15.9, 35.17N×3.94W, h3km, MD3.3*
ISC 28 19:58:12.0±0.7, 35.31N±0.03×4.15W±0.03, h8km±5km, n34, σ0§95/64, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPAL	**Palemas**	**0.19**	**117**	P	**Pg**	**19 58 16.0**	**-0.1**
MPAL				S	**Sg**	**19 58 18.0**	**-0.8**
MPAL	**Palemas**	**0.19**	**117**	*i* P	**Pg**	**19 58 16.0**	**-0.1**
TOU	**Touzarine**	**0.47**	**137**	P	**Pg**	**19 58 21.0**	**-0.6**
TOU				S	**Sg**	**19 58 24.0**	**-4.0**
TOU	**Touzarine**	**0.47**	**137**	*i* P	**Pg**	**19 58 21.0**	**-0.6**
EMEL	**Melilla**	**0.97**	**90**	P	**Pb**	**19 58 31.0**	**+0.3**
EMEL	32nm,0.1s,SNR=4.8 59nm,0.3s,SNR=6.0			S	**Sb**	**19 58 43.4**	**-0.1**
EMLI	**Melilla**	**0.98**	**90**	P	**Pb**	**19 58 31.0**	**+0.2**
EMLI	32nm,0.1s,SNR=4.8 59nm,0.3s,SNR=6.0			S	**Sb**	**19 58 43.4**	**-0.2**
EMIJ	**Mijas**	**1.35**	**338**	P	**Pb**	**19 58 36.7**	**-0.4**
EMIJ	1.0nm,0.1s,SNR=9.5 17nm,0.1s,SNR=12			S	**Sb**	**19 58 54.2**	**-0.2**
EMIJ	**Mijas**	**1.35**	**338**	P	**Pb**	**19 58 36.7**	**-0.4**
EMIJ	1.0nm,0.1s,SNR=9.5 17nm,0.1s,SNR=12			S	**Sb**	**19 58 53.0**	**-1.4**
EJIF	**Jimena Fronter**	**1.56**	**317**	P	**Pn**	**19 58 40.9**	**+0.6**
EJIF	1.6nm,0.3s,SNR=7.9 4.1nm,0.3s,SNR=6.3			S	**Sb**	**19 59 01.3**	**+0.7**
ERON	**Agron**	**1.73**	**9**	P	**Pn**	**19 58 43.1**	**+0.5**
ERON	2.4nm,0.2s,SNR=4.0 5.8nm,0.2s,SNR=7.9			S	**Sn**	**19 59 05.0**	**0.0**
ELOJ	**Sierra Loja**	**1.83**	**360**	P	**Pn**	**19 58 44.1**	**-0.1**
ELOJ	0.6nm,0.2s,SNR=7.9 6.6nm,0.3s,SNR=7.9			S	**Sn**	**19 59 07.9**	**+0.3**
EBER	**Berja**	**1.88**	**32**	P	**Pn**	**19 58 43.4**	**-1.4**
EBER	1.8nm,0.3s,SNR=6.7 14nm,0.3s,SNR=5.9			S	**Sn**	**19 59 10.3**	**+1.4**
EBER	**Berja**	**1.88**	**32**	P	**Pn**	**19 58 43.4**	**-1.4**
EBER	1.8nm,0.3s,SNR=6.7 14nm,0.3s,SNR=5.9			S	**Sn**	**19 59 10.3**	**+1.4**
EQUE	**Quentar**	**1.98**	**17**	P	**Pn**	**19 58 46.3**	**+0.2**
EQUE	1.5nm,0.2s,SNR=4.8 4.4nm,0.2s,SNR=7.9			S	**Sn**	**19 59 10.5**	**-0.7**
ESPR	**Espera**	**2.08**	**319**	P	**Pn**	**19 58 49.0**	**+1.3**
ESPR	1.1nm,0.2s,SNR=4.0 2.7nm,0.2s,SNR=7.9			S	**Sn**	**19 59 15.0**	**+1.0**
ESPR	**Espera**	**2.08**	**319**	P	**Pn**	**19 58 49.0**	**+1.3**
ESPR	1.1nm,0.2s,SNR=4.0 2.7nm,0.2s,SNR=7.9			S	**Sn**	**19 59 15.0**	**+1.0**
ELUQ	**Luque**	**2.25**	**358**	P	**Pn**	**19 58 51.3**	**+1.3**
ELUQ	1.2nm,0.2s,SNR=7.9 4.4nm,0.2s,SNR=7.9			S	**Sn**	**19 59 18.2**	**0.0**
CZD	**Col de Zad**	**2.39**	**198**	*i* P	**Pn**	**19 58 54.0**	**+1.9**
CZD				*i* S	**Sn**	**19 59 21.0**	**-0.8**
EQES	**Quesada**	**2.63**	**19**	P	**Pn**	**19 58 57.2**	**+1.6**
EQES	2.4nm,0.1s,SNR=16 11nm,0.3s			S	**Sn**	**19 59 27.5**	**-0.6**
EQES	**Quesada**	**2.63**	**19**	P	**Pn**	**19 58 57.2**	**+1.6**
EQES	2.4nm,0.1s,SNR=16 11nm,0.3s			S	**Sn**	**19 59 27.5**	**-0.5**
EHUE	**Huescar**	**2.80**	**26**	P	**Pn**	**19 58 58.8**	**+1.0**
EHUE	0.6nm,0.2s,SNR=4.0 1.3nm,0.3s,SNR=7.9			S	**Sn**	**19 59 32.6**	**+0.4**
EADA	**Adamuz**	**2.87**	**353**	P	**Pn**	**19 58 59.3**	**+0.3**
EADA	0.5nm,0.2s,SNR=7.1 2.1nm,0.1s			S	**Sn**	**19 59 33.3**	**-0.8**
EADA	**Adamuz**	**2.87**	**353**	P	**Pn**	**19 58 59.3**	**+0.3**
EADA	0.5nm,0.2s,SNR=7.1 2.1nm,0.1s			S	**Sn**	**19 59 33.3**	**-0.8**
EMIN	**Mina Concepcio**	**3.19**	**321**	P	**Pn**	**19 59 03.5**	**+0.1**
EMIN	0.4nm,0.1s,SNR=8.0 0.9nm,0.1s			S	**Sn**	**19 59 38.8**	**-3.2**
EMIN	**Mina Concepcio**	**3.19**	**321**	P	**Pn**	**19 59 03.5**	**+0.1**
EMIN	0.4nm,0.1s,SNR=8.0 0.9nm,0.1s			S	**Sn**	**19 59 38.8**	**-3.2**
EGRO	**El Granado**	**3.49**	**311**	P	**Pn**	**19 59 07.1**	**-0.6**
EGRO	0.9nm,0.1s,SNR=9.4 5.6nm,0.4s			S	**Sn**	**19 59 47.0**	**-2.7**
EGRO	**El Granado**	**3.49**	**311**	P	**Pn**	**19 59 07.1**	**-0.6**
EGRO	0.9nm,0.1s,SNR=9.4 5.6nm,0.4s			S	**Sn**	**19 59 47.0**	**-2.6**
ETOB	**Tobarra**	**3.93**	**31**	P	**Pn**	**19 59 14.7**	**+0.7**
ETOB	0.9nm,0.3s,SNR=7.9 2.2nm,0.6s,SNR=4.0			S	**Sn**	**20 00 00.0**	**-0.7**
ETOB	**Tobarra**	**3.93**	**31**	P	**Pn**	**19 59 14.7**	**+0.8**
ETOB	0.9nm,0.3s,SNR=7.9 2.2nm,0.6s,SNR=4.0			S	**Sn**	**20 00 00.0**	**-0.7**
EBAD	**Badajoz**	**4.13**	**327**	P	**Pn**	**19 59 16.9**	**+0.1**
EBAD	0.9nm,0.1s,SNR=7.3 4.4nm,0.2s			S	**Sn**	**20 00 02.3**	**-3.7**
EBAD	**Badajoz**	**4.13**	**327**	P	**Pn**	**19 59 16.9**	**0.0**
EBAD	0.9nm,0.1s,SNR=7.3 4.4nm,0.2s			S	**Sn**	**20 00 02.3**	**-3.7**
ESDC	**Sonseca Array**	**4.36**	**2**	P	**Pn**	**19 59 20.1**	**0.0**
ESDC	1.5nm,0.3s,baz=181,slow=14,SNR=7.1 baz=182,slow=24,SNR=3.8			S	**Sn**	**20 00 07.1**	**-4.6**
ESDC	**Sonseca Array**	**4.36**	**2**	P	**Pn**	**19 59 20.1**	**0.0**
GUD	**Guadarrama**	**5.33**	**360**	P	**Pn**	**19 59 32.0**	**-1.7**
	1.5nm,0.3s,SNR=7.1 0.5nm,0.3s,SNR=4.0						

*IDC **28** 19:59:30.9±0.8, 30.38S×179.15W, h344km±9km, mb3.2/2, mb1 3.5/4, mb1mx3.2/14, mbtmp4.2/4, Error ellipse: s-maj=33.1km s-min=17.6km az=123.0*
*NEIC **28** 19:59:31.5±0.8, 30.39S×179.04W, h358km±8km, mb3.6/1, Error ellipse: s-maj=21.8km s-min=9.7km az=102.0*
ISC 28 19:59:28.4±1.3, 30.36S±0.07×178.7W±0.3, h379km±14km, n39, σ0§88/39, mb3.4/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.28**	**30**	P	**P**	**20 00 19.6**	**+0.9**
RAO	89nm,0.3s,baz=143,slow=20,SNR=5.2 116nm,0.3s,baz=108,slow=19,SNR=3.6			S	**S**	**20 00 57.3**	**-0.9**
MXZ	**Matakaoa Point**	**7.61**	**199**	PN	**P**	**20 01 19.7**	**+0.3**
MXZ				SN	**S**	**20 02 46.6**	**-0.2**
MXZ	**Matakaoa Point**	**7.61**	**199**	P	**P**	**20 01 19.7**	**+0.3**
PUZ	**Puketiti**	**8.11**	**198**	PN	**P**	**20 01 25.8**	**+0.8**
PUZ				SN	**S**	**20 02 57.8**	**+0.8**
PUZ	**Puketiti**	**8.11**	**198**	P	**P**	**20 01 25.8**	**+0.7**
PUZ				S	**S**	**20 02 57.8**	**+0.7**
MWZ	**Matawai**	**8.56**	**201**	PN	**P**	**20 01 30.6**	**+0.3**
MWZ	**Matawai**	**8.56**	**201**	P	**P**	**20 01 33.6**	**+3.2**
URZ	**Urewera**	**8.62**	**203**	P	**P**	**20 01 30.5**	**-0.6**
URZ	7.1nm,0.3s,baz=104,slow=12,SNR=69 4.0nm,0.3s,baz=308,slow=23,SNR=14			S	**S**	**20 03 07.6**	**-0.3**
URZ	**Urewera**	**8.62**	**203**	*e*PN	**P**	**20 01 30.4**	**-0.7**
URZ				SN	**S**	**20 03 07.1**	**-0.9**
URZ	**Urewera**	**8.62**	**203**	*e*P	**P**	**20 01 30.4**	**-0.7**
KNZ	**Kokohu**	**9.15**	**198**	PN	**P**	**20 01 37.5**	**+0.1**
KNZ	**Kokohu**	**9.15**	**198**	*e*P	**P**	**20 01 37.5**	**+0.2**
BKZ	**Black Stump Fm**	**9.65**	**203**	PN	**P**	**20 01 42.5**	**-0.6**
BKZ	**Black Stump Fm**	**9.65**	**203**	P	**P**	**20 01 42.5**	**-0.7**
TUVZ	**Tukino**	**10.04**	**206**	P	**P**	**20 01 48.8**	**+1.0**
WNVZ	**Wahianoa**	**10.11**	**206**	P	**P**	**20 01 49.5**	**+0.8**
MOVZ	**Moawhango**	**10.12**	**205**	P	**P**	**20 01 49.1**	**+0.3**
TSZ	**Takapari Road**	**10.63**	**203**	PN	**P**	**20 01 55.2**	**+0.4**
BFZ	**Birch Farm**	**11.10**	**201**	PN	**P**	**20 02 01.8**	**+1.4**
BFZ	**Birch Farm**	**11.10**	**201**	*e*P	**P**	**20 02 01.5**	**+1.1**
MRZ	**Mangatainoka R**	**11.30**	**203**	PN	**P**	**20 02 03.0**	**+0.4**
MRZ	**Mangatainoka R**	**11.30**	**203**	P	**P**	**20 02 02.1**	**-0.6**
KIW	**Kapiti Island**	**11.71**	**205**	P	**P**	**20 02 07.2**	**-0.3**
TCW	**Tory Channel**	**12.25**	**206**	PN	**P**	**20 02 14.0**	**+0.2**
TCW	**Tory Channel**	**12.25**	**206**	P	**P**	**20 02 12.5**	**-1.2**
QRZ	**Quartz Range**	**12.66**	**212**	*e*P	**P**	**20 02 16.6**	**-1.9**
THZ	**Tophouse**	**13.26**	**209**	*e*P	**P**	**20 02 23.6**	**-1.7**
KHZ	**Kahutara**	**13.57**	**205**	*e*P	**P**	**20 02 27.7**	**-1.0**
DZM	**Mont Dzumac**	**15.71**	**298**	P	**P**	**20 02 51.5**	**+0.1**
STKA	0.4nm,0.3s,baz=67,slow=23,SNR=4.6 **Stephens Creek**	**33.94**	**257**	P	**P**	**20 05 40.7**	**+1.8**
STKA	1.3nm,0.7s,mb3.3,baz=113,slow=15,SNR=3.0 **Stephens Creek**	**33.94**	**257**	P	**P**	**20 05 40.7**	**+1.7**
WRAB	**Tennant Creek** 2.7nm,0.6s,mb3.5	**43.53**	**272**	P	**P**	**20 06 57.7**	**0.0**
WRA	**Warramunga Arr** 1.3nm,0.6s,mb3.2,baz=113,slow=6.6,SNR=19	**43.54**	**272**	P	**P**	**20 06 57.2**	**-0.6**
KAF	**Kangasniemi** 1.5nm,0.4s	**144.33**	**340**	*e*p	PKPbc	20 18 23.1	+4.4
FINES	**FINESS Array B** 2.7nm,0.4s,baz=50,slow=3.6,SNR=40	**144.92**	**340**	PKP	PKPdf	20 18 25.9	+6.1
NB2	**NORSAR Subarra** 0.7nm,0.5s,baz=14,slow=2.6	**148.63**	**351**	PKPabc	PKPdf	20 18 36.9	+11
NOA	**NORSAR Array B** 0.7nm,0.4s,baz=12,slow=4.1,SNR=3.6	**148.63**	**351**	PKPbc	PKPdf	20 18 36.1	+10
AKASG	**Malin Array Be** 1.2nm,0.5s,baz=50,slow=2.8,SNR=5.9	**150.93**	**322**	PKPbc	PKPdf	20 18 42.4	+13
AKASG	**Malin Array Be**	**150.93**	**322**	PKPbc	PKPdf	20 18 42.4	+13

*NEIC **28** 20:06:52.0±0.7, 11.01S×166.39E, mb4.6/2, Error ellipse: s-maj=14.5km s-min=12.7km az=98.0*
*IDC **28** 20:06:52.0±1.0, 11.03S×166.38E, h108km±8km, mb3.7/8, mb1 3.9/10, mb1mx3.8/17, mbtmp4.1/10, MS4.6/1, Ms1 4.6/1, ms1mx2.9/29, Error ellipse: s-maj=18.4km s-min=16.2km az=112.0*
ISC 28 20:06:51.4±2.4, 11.12S±0.09×166.3E±0.1, h115km±20km, h108km±1.5km: pP-P, n17, σ0§92/17, mb4.0/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.47**	**284**	P	**P**	**20 08 25.7**	**+0.2**
HNR	25nm,0.3s,baz=183,slow=3.1,SNR=8.5 10nm,0.3s,baz=238,slow=11,SNR=2.5			S	**S**	**20 09 38.1**	**-0.4**
DZM	**Mont Dzumac** 1.8nm,0.3s,baz=188,slow=23,SNR=22	**10.89**	**179**	P	**P**	**20 09 25.8**	**+0.8**
DZM	0.4nm,0.3s,baz=93,slow=22,SNR=4.8			S	**S**	**20 11 24.2**	**-1.0**
CTA	**Charters Tower** 3.3nm,0.8s,mb3.7,baz=78,slow=11,SNR=3.0	**21.25**	**243**	P	**P**	**20 11 32.7**	**+2.9**
CTA	**Charters Tower**	**21.25**	**243**	P	**P**	**20 11 32.7**	**+2.9**
STKA	**Stephens Creek** 2.2nm,0.8s,mb3.9,baz=84,slow=21,SNR=4.5	**30.76**	**224**	P	**P**	**20 12 58.9**	**+0.7**
STKA	**Stephens Creek**	**30.76**	**224**	P	**P**	**20 12 58.9**	**+0.7**
WRAB	**Tennant Creek** 5.0nm,0.7s,mb4.3	**31.96**	**250**	*e*P	**P**	**20 13 07.8**	**-0.9**
WB2	**Warramunga Arr**	**31.96**	**250**	*e*P	**P**	**20 13 07.9**	**-0.8**
WRA	**Warramunga Arr** 4.0nm,0.7s,mb4.3,baz=83,slow=8.9,SNR=41	**31.97**	**250**	P	**P**	**20 13 08.1**	**-0.7**
WRA	0.8nm,0.8s,baz=84,slow=8.9,SNR=3.0			pP	pP	20 13 33.1	-1.3
RPZ	**Rata Peaks** 3.4nm,0.5s,mb4.4,baz=340,slow=3.5,SNR=4.5	**32.74**	**174**	P	**P**	**20 13 15.9**	**+0.6**
RAR	**Rarotonga** comp=Z,888nm,19.8s,baz=184,slow=30	**34.02**	**111**	LR	LR	20 24 06.7	
FITZ	**Fitzroy Crossi** 8.7nm,0.6s,mb4.8	**39.89**	**255**	*e*P	**P**	**20 14 16.0**	**+0.3**
SONM	**Songino Array** 0.3nm,0.6s,mb3.3,baz=122,slow=5.7,SNR=4.3	**79.05**	**324**	P	**P**	**20 18 45.7**	**+1.3**
ILAR	**Eielson Array** 0.6nm,0.6s,mb3.6,baz=237,slow=5.3,SNR=11	**83.41**	**18**	P	**P**	**20 19 06.3**	**-0.6**
ILAR	0.4nm,0.8s,baz=231,slow=4.6,SNR=2.0			pP	pP	20 19 34.6	-2.0
MKAR	**Makanchi Array** 0.7nm,0.6s,mb4.2,baz=86,slow=7.5,SNR=9.1	**93.95**	**317**	P	**P**	**20 19 57.5**	**+0.2**
MKAR	0.4nm,0.7s,baz=96,slow=6.2,SNR=3.1			pP	pP	20 20 25.7	-1.9
YKA	**Yellowknife Ar** 0.2nm,0.5s,mb3.8,baz=256,slow=4.4,SNR=4.7	**94.79**	**27**	P	**P**	**20 19 59.6**	**-1.2**
ARCES	**ARCESS Array B** 2.5nm,0.8s,baz=346,slow=5.0,SNR=3.6	**116.54**	**346**	PKP	PKPdf	20 25 21.8	+0.5

*IDC **28** 20:21:59.0±1.5, 34.74N×73.08E, mb3.9/6, mb1 4.0/9, mb1mx3.7/21, mbtmp3.9/9, ML3.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.1/26, Error ellipse: s-maj=50.4km s-min=24.5km az=50.0*
*NDI **28** 20:22:00.2±3.1, 34.87N×72.76E, h10km, ML4.2*
*NEIC **28** 20:22:00.3±0.5, 34.71N×73.11E, h10km, mb3.6/2, Error ellipse: s-maj=15.0km s-min=4.1km az=48.0*
*NNC **28** 20:22:06.7±10.0, 34.97N×73.51E, h75km±94km, mb3.2, mpv3.9, Error ellipse: s-maj=107.0km s-min=83.0km az=80.0*
ISC 28 20:22:01.6±0.3, 34.83N±0.03×73.43E±0.05, h33km, n42, σ1§30/60, mb3.8/6, 2C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**1.18**	**187**	⇑P	**P**	**20 22 23.4**	**+1.6**
CEP	**Cherat**	**1.61**	**232**	P	**P**	**20 22 26.5**	**-1.5**
THW	**Thamme Wali**	**2.47**	**215**	P	**P**	**20 22 41.1**	**+0.8**
SARP	**Sargodha**	**2.97**	**193**	P	**P**	**20 22 50.0**	**+2.5**
THN	**Thein Dam**	**3.06**	**141**	*e*P	**P**	**20 22 55.5**	**+6.8**
THN				*ex*	x	20 23 42.6	
DLH	**Dalhousie**	**3.11**	**136**	*e*P	**P**	**20 22 56.0**	**+6.5**
DLH				*e*S	**S**	**20 23 37.0**	**+11**
SBDP	**Sheikh Budin**	**3.34**	**222**	P	**P**	**20 22 52.7**	**-0.1**
DRP	**Derazinda**	**4.09**	**222**	P	**P**	**20 23 02.6**	**-0.9**
SDNR	**Sundarnagar**	**4.45**	**137**	*e*P	**P**	**20 23 14.0**	**+5.4**
SDNR				*ex*	x	20 24 26.4	
SMLA	**Simla**	**4.85**	**139**	*e*P	**P**	**20 23 18.0**	**+3.9**
SMLA	2μm,0.3s			*e*S	**S**	**20 24 17.1**	**+7.2**
KLP	**Kalpa**	**5.21**	**128**	*e*P	**P**	**20 23 24.9**	**+5.6**
KLP				*e*S	**S**	**20 24 23.3**	**+4.3**
KLP	comp=N,191nm,0.7s			AML	AML	20 24 59.9	
KLP	comp=E,285nm,0.4s			AML	AML	20 25 01.1	
KHET	**Khetri**	**7.03**	**163**	*e*P	**P**	**20 23 45.0**	**+0.1**
KHET				*e*S	**S**	**20 25 02.8**	**-1.7**
KUDL	**Kundal**	**7.16**	**158**	*e*P	**P**	**20 23 47.2**	**+0.6**
KUDL				*e*S	**S**	**20 25 07.0**	**-0.7**
KK31	**Karatay Array** comp=E,2.2nm,0.3s,baz=163,slow=12,SNR=145	**8.57**	**346**	⇓P	**P**	**20 24 06.4**	**+0.2**
KK31	comp=E,6.2nm,0.5s,baz=163,slow=24			⇓S	**S**	**20 25 40.7**	**-2.1**
KOLN	**Koldanda**	**11.18**	**126**	*e*Pn	**P**	**20 24 42.8**	**+0.6**
KOLN	comp=E,11nm,0.4s			*e*Sn	**S**	**20 26 45.4**	**-1.7**
KOLN	**Koldanda** comp=E,5.7nm,0.4s	**11.18**	**126**	*e*Pn	**P**	**20 24 42.8**	**+0.6**
KOLN				*e*Sn	**S**	**20 26 45.4**	**-1.7**
GKN	**Gorkha**	**11.74**	**122**	*e*Pn	**P**	**20 24 50.2**	**+0.5**
GKN	comp=E,45nm,0.6s			*e*Sn	**S**	**20 26 57.4**	**-3.2**
GKN	**Gorkha** comp=E,23nm,0.6s	**11.74**	**122**	*e*Pn	**P**	**20 24 50.2**	**+0.5**
GKN				*e*Sn	**S**	**20 26 57.4**	**-3.2**
DMN	**Daman**	**12.31**	**123**	*e*Pn	**P**	**20 24 58.0**	**+0.6**
KKN	**Kakani**	**12.32**	**121**	*e*Pn	**P**	**20 24 57.9**	**+0.3**
KKN	comp=E,24nm,0.7s			*e*Sn	**S**	**20 27 11.8**	**-2.9**
KKN	**Kakani** comp=E,12nm,0.7s	**12.32**	**121**	*e*Pn	**P**	**20 24 57.9**	**+0.3**
KKN				*e*Sn	**S**	**20 27 11.8**	**-2.9**
PKI	**Pulchoki**	**12.54**	**122**	*e*Pn	**P**	**20 25 01.6**	**+1.0**
PKI	comp=E,20nm,0.6s			*e*Sn	**S**	**20 27 17.2**	**-2.9**
PKI	**Pulchoki** comp=E,10nm,0.6s	**12.54**	**122**	*e*Pn	**P**

comp=E,13nm,0.4s
JIRN *e*Sn **S** **20 27 29.2 -2.8**
MKAR Makanchi Array 13.69 27 Pn **P** **20 25 17.7 +2.1**
comp=E,0.1nm,0.3s,baz=202,slow=15,SNR=5.7
MKAR LR LR 20 31 01.0
comp=E,43nm,20.9s,baz=231,slow=39
LSA Lhasa 15.83 104 *e*P **P** **20 25 51.6 +8.0**
comp=E,3.8nm,0.7s
AB31 Akbulak array 17.51 329 P **P** **20 26 03.1 -1.6**
comp=E,0.3nm,0.3s,baz=153,slow=12,SNR=22
BVAR Borovoye Array 18.32 354 P **P** **20 26 15.8 +1.0**
comp=E,0.5nm,0.3s,baz=154,slow=9.5,SNR=13
BRVK Borovoye 18.36 354 *e*P **P** **20 26 15.4 +0.2**
comp=E,3.0nm,0.9s
AKTK Aktyubinsk 19.22 329 P **P** **20 26 24.5 -1.0**
AKTO Aktyubinsk 19.22 329 ⇑P **P** **20 26 24.2 -1.3**
comp=E,0.6nm,0.7s
AKTO Aktyubinsk 19.22 329 P **P** **20 26 24.5 -1.0**
comp=E,1.1nm,0.3s,baz=134,slow=11,SNR=16
FINES FINESS Array B 39.97 327 P **P** **20 29 34.0 -0.2**
comp=E,1.6nm,1.0s,mb3.7,baz=332,slow=37,SNR=4.4
ARCES ARCESS Array B 43.44 338 P **P** **20 30 03.1 +0.5**
comp=E,1.5nm,0.7s,mb3.9,baz=115,slow=7.6,SNR=12
HFS Hagfors 45.59 323 P **P** **20 30 19.4 -0.7**
comp=E,2.8nm,0.7s,mb4.3,baz=100,slow=9.0,SNR=7.6
NOA NORSAR Array B 46.90 324 P **P** **20 30 29.7 -0.6**
comp=E,1.0nm,0.8s,mb3.8,baz=96,slow=7.7,SNR=3.3
WRA Warramunga Arr 79.42 123 P **P** **20 34 08.6 +2.1**
comp=E,0.4nm,0.7s,mb3.5,baz=318,slow=5.4,SNR=7.5
YKA Yellowknife Ar 82.80 4 P **P** **20 34 25.2 +1.9**
comp=E,0.4nm,0.3s,mb3.9,baz=346,slow=5.3,SNR=15
YKA Yellowknife Ar 82.80 4 P **P** **20 34 25.2 +1.9**

*AUST **28** 20:54:52.3, 28.19S×147.89E, ML4.1*
*NEIC **28** 20:54:52.0, 28.19S×147.89E, ML3.6(AUST), After AUST.*
*IDC **28** 20:54:54.8±1.8, 28.13S×147.52E, mb4.1/2, mb1 4.1/5, mb1mx4.0/9, mbtmp4.0/5, ML4.1/3, Error ellipse: s-maj=44.7km s-min=20.4km az=116.0*
ISC 28 20:54:51.3±0.5,**28.10S**±0.04×**147.72E**±0.04,**h10**km,**n25,** σ1§**32**/39,**mb4.0**/2,**1D, Queensland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
QLP	**Quilpie**	**3.45**	**295**	⇓*i*P		**Pb**	**20 55 50.9**	**-1.2**
QLP				*e*S		**Sb**	**20 56 33.2**	**-1.1**
CMSA	**Cobar Meteorol**	**3.86**	**207**	*e*P		**Pn**	**20 55 53.6**	**+1.6**
CMSA				*e*S		**Sn**	**20 56 40.3**	**+2.4**
	136nm,0.3s							
EIDS	**Eidsvold**	**4.05**	**49**	*e*P		**Pn**	**20 55 55.8**	**+1.0**
EIDS				*e*S		**Sn**	**20 56 42.8**	**0.0**
	27nm,0.4s							
ARMA	**Armidale**	**4.12**	**125**	*e*P		**Pn**	**20 55 54.9**	**-0.9**
ARMA				*e*S		**Sn**	**20 56 41.4**	**-3.3**
MGCD	**Mangrove Creek**	**5.87**	**151**	*e*P		**Pn**	**20 56 20.2**	**-0.3**
MGCD				*e*S		**Sn**	**20 57 25.1**	**-3.6**
	15nm,0.3s							
YNG	**Young**	**6.21**	**175**	*e*P		**Pn**	**20 56 24.7**	**-0.6**
YNG				*e*S		**Sn**	**20 57 32.8**	**-4.3**
	29nm,0.6s							
YNG	**Young**	**6.21**	**175**	*e*P		**Pn**	**20 56 24.7**	**-0.6**
	29nm,0.6s							
YNG				*e*S		**Sn**	**20 57 32.8**	**-4.3**
STKA	**Stephens Creek**	**6.51**	**233**	*e*P		**Pn**	**20 56 30.9**	**+1.3**
STKA				*e*S		**Sn**	**20 57 44.4**	**-0.3**
	46nm,0.6s							
STKA	**Stephens Creek**	**6.51**	**233**	Pn		**Pn**	**20 56 31.2**	**+1.7**
	3.4nm,0.3s,baz=57,slow=12,SNR=46							
STKA				Sn		**Sn**	**20 57 43.1**	**-1.6**
	7.1nm,0.3s,baz=315,slow=23,SNR=5.3							
STKA				Lg			20 58 17.2	
	9.1nm,0.3s,baz=339,slow=20,SNR=3.0							
STKA	**Stephens Creek**	**6.51**	**233**	*e*P		**Pn**	**20 56 30.9**	**+1.3**
	46nm,0.6s							
STKA				*e*S		**Sn**	**20 57 44.4**	**-0.3**
CNB	**Canberra Magne**	**7.33**	**169**	*e*P		**Pn**	**20 56 41.0**	**-0.1**
CNB				*e*S		**Sn**	**20 58 17.3**	**+12**
	7.7nm,0.3s							
CNB	**Canberra Magne**	**7.33**	**169**	*e*P		**Pn**	**20 56 41.0**	**-0.1**
	7.7nm,0.3s							
CNB				*e*S		**Sn**	**20 58 17.3**	**+12**
CTA	**Charters Tower**	**8.09**	**350**	*e*P		**P**	**20 56 54.4**	**+2.8**
CTA	**Charters Tower**	**8.09**	**350**	Pn		**P**	**20 56 54.6**	**+3.0**
	1.7nm,0.3s,baz=151,slow=15,SNR=17							
CTA				Lg			20 59 13.0	
	1.8nm,0.3s,baz=58,slow=22,SNR=7.7							
QIS	**Mount Isa**	**10.54**	**314**	*e*P		**P**	**20 57 26.4**	**+0.9**
QIS				*e*S		**S**	**20 59 23.1**	**-1.6**
	0.5nm,0.5s							
QIS	**Mount Isa**	**10.54**	**314**	*e*P		**P**	**20 57 26.4**	**+0.9**
	0.5nm,0.5s							
QIS				*e*S		**S**	**20 59 23.1**	**-1.6**
BBOO	**Buckleboo**	**11.11**	**242**	*e*P		**P**	**20 57 33.3**	**0.0**
ASPA	**Alice Springs**	**13.20**	**286**	*e*P		**P**	**20 58 01.4**	**0.0**
ASPA				*e*S		**S**	**21 00 25.3**	**-4.0**
WB2	**Warramunga Arr**	**14.66**	**301**	*e*P		**P**	**20 58 20.1**	**-0.6**
WRAB	**Tennant Creek**	**14.66**	**301**	*e*P		**P**	**20 58 21.2**	**+0.4**
	8.8nm,0.6s							
WRA	**Warramunga Arr**	**14.67**	**301**	Pn		**P**	**20 58 20.0**	**-0.9**
	0.5nm,0.3s,baz=126,slow=13,SNR=49							
WRA				Sn		**S**	**21 00 57.2**	**-7.2**
	0.7nm,0.3s,baz=129,slow=24,SNR=6.1							
SONM	**Songino Array**	**84.22**	**333**	P		**P**	**21 07 28.1**	**+4.1**
	0.6nm,0.5s,mb4.0,baz=153,slow=5.9,SNR=11							
MKAR	**Makanchi Array**	**95.05**	**321**	P		**P**	**21 08 17.4**	**+2.0**
	0.4nm,0.5s,mb4.1,baz=121,slow=4.2,SNR=6.9							
EKA	**Eskdalemuir Ar**	**145.64**	**330**	PKPbc		PKPbc	21 14 34.5	+4.3
	4.3nm,1.1s,baz=50,slow=3.5,SNR=5.7							
DBIC	**Dimbokro**	**146.41**	**236**	PKPbc		PKPbc	21 14 36.8	+3.5
	2.8nm,0.7s,baz=96,slow=3.2,SNR=6.1							

*MEX **28** 21:27:50.8±1.1, 16.60N×98.43W, h12km±9km, MD4.3*
*NEIC **28** 21:27:50.8, 16.58N×98.42W, h11km, MD4.3(MEX), After MEX.*
*IDC **28** 21:28:03.2±10.0, 17.77N×97.38W, h82km±65km, mb3.5/4, mb1 3.7/6, mb1mx3.4/21, mbtmp3.7/6, ML3.5/1, MS3.3/1, Ms1 3.4/1, ms1mx2.8/18, Error ellipse: s-maj=215.9km s-min=24.0km az=42.0*
ISC 28 21:27:47.2±0.5,**16.60N**±0.05×**98.39W**±0.03,**h12**km,**n33,** σ1§**34**/54,**mb3.7**/4,**MS3.3**/1,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.33**	**129**	*i*P		**Pg**	**21 27 57.4**	**+3.3**
PNIG				*i*S		**Sg**	**21 28 03.0**	**+4.4**
PNIG	**Pinotepa**	**0.33**	**129**	*i*P		**Pg**	**21 27 57.4**	**+3.3**
PNIG				*e*S		**Sg**	**21 28 03.0**	**+4.4**
ACX	**Acapulco**	**1.48**	**281**	*i*P		**Pn**	**21 28 13.0**	**-0.9**
ACX				*i*S		**Sb**	**21 28 31.0**	**-1.9**
VHO	**Vista Hermosa**	**1.66**	**73**	*i*P		**Pn**	**21 28 16.4**	**+0.1**
VHO				*e*S		**Sn**	**21 28 38.2**	**+0.6**
OXX	**Oaxaca**	**1.67**	**73**	*i*P		**Pn**	**21 28 17.0**	**+0.5**
OXX				*i*S		**Sn**	**21 28 37.0**	**-1.0**
CAIG	**El Cayaco**	**1.85**	**284**	*i*P		**Pn**	**21 28 18.7**	**-0.4**
CAIG				*e*S		**Sn**	**21 28 39.1**	**-3.5**
CAIG	**El Cayaco**	**1.85**	**284**	*i*P		**Pn**	**21 28 18.7**	**-0.4**
CAIG				*e*S		**Sn**	**21 28 39.8**	**-2.8**
PLIG	**Platanillo**	**2.08**	**329**	*i*P		**Pn**	**21 28 23.2**	**+0.9**
PLIG				*i*S		**Sn**	**21 28 46.9**	**-1.4**
PLIG	**Platanillo**	**2.08**	**329**	*i*P		**Pn**	**21 28 23.4**	**+1.1**
PLIG				*e*S		**Sn**	**21 28 49.7**	**+1.5**
YAIG	**Yautepec**	**2.34**	**344**	*i*P		**Pn**	**21 28 27.9**	**+1.8**
YAIG				*i*S		**Sn**	**21 28 54.1**	**-1.0**
YAIG	**Yautepec**	**2.34**	**344**	*i*P		**Pn**	**21 28 28.1**	**+2.0**
YAIG				*i*S		**Sn**	**21 28 56.0**	**+1.0**
HUIG	**Huatulco**	**2.34**	**110**	*e*P		**Pn**	**21 28 27.3**	**+1.1**
HUIG				*i*S		**Sn**	**21 28 54.2**	**-0.9**
PPM	**Popocatepetl**	**2.47**	**355**	*e*P		**Pn**	**21 28 27.0**	**-0.9**
UNM	**Universidad Na**	**2.82**	**345**	*e*P		**Pn**	**21 28 32.0**	**-0.9**
UNM				*e*P			21 28 35.0	
UNM				*i*S		**Sn**	**21 29 07.0**	**-0.1**
UNM				*i*S		**Sn**	**21 29 08.4**	**+1.3**
UNM	**Universidad Na**	**2.82**	**345**	*e*P		**Pn**	**21 28 34.9**	**+1.9**
UNM				*e*P			21 28 35.0	
UNM				*i*S		**Sn**	**21 29 07.0**	**-0.1**
UNM				*i*S		**Sn**	**21 29 11.8**	**+4.7**
ZIIG	**Zihuatanejo**	**3.10**	**289**	*e*P		**Pn**	**21 28 44.1**	**+7.1**
ZIIG				*i*S		**Sn**	**21 29 13.4**	**-0.9**
ZIIG	**Zihuatanejo**	**3.10**	**289**	*e*P		**Pn**	**21 28 44.1**	**+7.1**
ZIIG				*i*S		**Sn**	**21 29 13.7**	**-0.6**
LVIG	**Laguna Verde**	**3.63**	**31**	*e*P		**Pn**	**21 28 43.7**	**-0.7**
LVIG				*i*S		**Sn**	**21 29 24.6**	**-3.2**
MOIG	**Morelia**	**4.06**	**319**	*e*P		**Pn**	**21 28 57.6**	**+7.1**
MOIG				*i*S		**Sn**	**21 29 39.4**	**+0.9**
SFJM	**Santa Fe**	**5.86**	**312**	*e*P		**Pn**	**21 29 18.0**	**+1.9**
CCIG	**Comitan**	**6.01**	**92**	*i*S		**Sn**	**21 30 25.2**	**-2.5**
ZAIG	**Zacatecas**	**7.29**	**328**	*e*P		**Pn**	**21 29 37.9**	**+1.7**
ZAIG				*i*S		**Sn**	**21 31 04.9**	**+5.2**
ZAIG	**Zacatecas**	**7.29**	**328**	*e*P		**Pn**	**21 29 38.6**	**+2.4**
ZAIG				*i*S		**Sn**	**21 31 11.9**	**+12**
TXAR	**Lajitas Array**	**13.57**	**340**	P		**P**	**21 31 02.5**	**+0.4**
	baz=144,slow=12,SNR=3.5							
TXAR	**Lajitas Array**	**13.57**	**340**	P		**P**	**21 31 02.5**	**+0.4**
ANMO	**Albuquerque**	**19.65**	**340**	P		**P**	**21 32 17.9**	**-0.8**
	baz=158,slow=11,SNR=3.6							
CPCT	**Cooper Cave**	**22.49**	**31**	*e*P		**P**	**21 32 46.7**	**-1.2**
MSU	**Marysvale**	**24.96**	**334**	*e*P		**P**	**21 33 14.6**	**+2.7**
PDAR	**Pinedale Array**	**27.77**	**342**	P		**P**	**21 33 37.8**	**-0.1**
	1.2nm,0.7s,mb3.6,baz=137,slow=11,SNR=13							
SDV	**Santo Domingo**	**28.11**	**102**	P		**P**	**21 33 42.0**	**+0.8**
	3.1nm,0.8s,mb4.0,baz=359,slow=9.6,SNR=5.7							
LPAZ	**La Paz**	**44.25**	**136**	LR		LR	21 53 56.9	
	comp=Z,37nm,21.2s,MS3.3,baz=212,slow=35							
YKA	**Yellowknife Ar**	**47.24**	**350**	P		**P**	**21 36 20.2**	**-1.5**
	0.7nm,0.8s,mb3.6,baz=156,slow=7.2,SNR=13							
ILAR	**Eielson Array**	**58.07**	**338**	P		**P**	**21 37 41.9**	**-0.5**
	0.5nm,0.8s,mb3.6,baz=154,slow=4.3,SNR=4.7							

*ATH **28** 21:34:35.6, 38.14N×26.55E, h37km±9km, MD3.0/3*
*ISK **28** 21:34:35.2, 38.12N×26.61E, h22km, MD2.8*
*NEIC **28** 21:34:35.2, 38.12N×26.61E, h22km, MD3.0(ATH), MD2.8(ISK), After ISK.*
*CSEM **28** 21:34:35.7±0.7, 38.13N×26.79E, h48km±7km, MD2.8, Error ellipse: s-maj=9.8km s-min=5.5km az=102.0*
ISC 28 21:34:36.5±1.0,**38.14N**±0.05×**26.59E**±0.10,**h30**km±10km, **n7,** σ0§**67**/11,**1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMG	**Samos**	**0.48**	**156**	⇑*i*PB		**Pb**	**21 34 46.4**	**-0.2**
SMG				*e*SB		**Sb**	**21 34 54.7**	**+1.3**
IZM	**Izmir**	**0.59**	**64**	PG		**Pb**	**21 34 47.5**	**-0.8**
IZM				SG		**Sb**	**21 34 56.2**	**-0.2**
PRK	**Paraskevi**	**1.13**	**347**	*e*PN		**Pn**	**21 34 56.6**	**+0.1**
PRK				*e*SN		**Sn**	**21 35 11.7**	**+0.6**
AKS	**Akhisar**	**1.21**	**52**	*e*PN		**Pn**	**21 34 57.0**	**-0.7**
AKS				*e*SN		**Sn**	**21 35 14.1**	**+0.9**
BODT	**Bodrum**	**1.22**	**152**	*e*PN		**Pn**	**21 34 57.2**	**-0.7**
APE	**Apeiranthos**	**1.36**	**218**	*e*PN		**Pn**	**21 34 59.5**	**-0.4**
APE	**Apeiranthos**	**1.36**	**218**	*e*PN		**Pn**	**21 34 59.8**	**-0.1**

GUC 28 21:36:19.0±0.6,**32.66S**×**71.70W, h25**km±2km, **MD3.6, ML3.5,7C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IHA	**Instituto Hidr**	**0.37**	**172**	⇓*i*P		Pb	21 36 27.2	+0.1
IHA				*i*S		Sb	21 36 32.9	+0.2
ROCH	**El Roble**	**0.66**	**119**	⇑*i*P		Pb	21 36 31.6	-0.2
ROCH				*i*S		Sb	21 36 41.9	+1.3
JACH	**Jahuel**	**0.94**	**92**	⇑*i*P		Pb	21 36 35.6	-0.8
JACH				*i*S		Sb	21 36 48.8	+0.4
PEL	**Peldehue**	**0.98**	**120**	⇑*i*P		Pb	21 36 36.8	-0.5
PEL				*i*S		Sb	21 36 50.1	+0.3
PEL				AMP			21 36 52.3	
	comp=N,3μm,0.2s							
RCDM	**Rinconada Maip**	**1.12**	**138**	*i*P		Pn	21 36 38.7	-0.6
RCDM				*i*S		Sb	21 36 53.5	-0.3
RCDM				AMP			21 36 55.9	
	comp=E,1μm,0.1s							
SAN	**Santiago**	**1.18**	**133**	⇑*i*P		Pn	21 36 39.8	-0.4
SAN				*i*S		Sb	21 36 55.4	-0.2
TACH	**Talagante**	**1.18**	**147**	*i*P		Pn	21 36 39.6	-0.6
TACH				*i*S		Sb	21 36 55.3	-0.3
ANTU	**Antumapu**	**1.28**	**136**	⇓*i*P		Pn	21 36 41.5	-0.1
ANTU				*i*S		Sn	21 36 58.2	+0.2
ANTU				AMP			21 37 02.9	
	comp=N,920nm,0.5s							
FCH	**Farellones**	**1.36**	**120**	AMP			21 37 01.9	
	comp=E,1μm,0.2s							
PCH	**Pirque**	**1.39**	**134**	⇓*i*P		Pn	21 36 43.0	0.0
PCH				*i*S		Sn	21 37 01.6	+0.9
SJCH	**San Jose de Ma**	**1.50**	**131**	AMP			21 37 06.2	
	comp=E,463nm,0.2s							
CHCH	**Chadas Angostu**	**1.55**	**146**	⇓*i*P		Pn	21 36 45.7	+0.3
CHCH				*i*S		Sn	21 37 05.7	+0.8
CMCH	**Combarbala**	**1.59**	**22**	*i*P		Pn	21 36 46.5	+0.5
CMCH				*i*S		Sn	21 37 07.0	+1.1
CMCH				AMP			21 37 12.0	
	comp=N,5μm,0.6s							
CACH	**El Canelo**	**1.73**	**148**	⇑*i*P		Pn	21 36 48.9	+1.0
CACH				*i*S		Sn	21 37 12.1	+2.7
LMEL	**Las Melosas**	**1.73**	**134**	*i*P		Pn	21 36 49.0	+1.0
LMEL				*i*S		Sn	21 37 10.9	+1.5
LMEL				AMP			21 37 16.3	
	comp=N,1μm,0.2s							
CICH	**Cipreses**	**1.98**	**148**	⇑*i*P		Pn	21 36 52.0	+0.5
CICH				*i*S		Sn	21 37 18.0	+2.3
SFDO	**San Fernando**	**2.04**	**164**	⇑*i*P		Pn	21 36 53.0	+0.6
SFDO				*i*S		Sn	21 37 19.1	+1.8

*CSEM **28** 21:37:09.6±0.1, 39.44N×26.36E, h12km, MD3.3, Error ellipse: s-maj=3.1km s-min=2.0km az=106.0*
*ATH **28** 21:37:10.9, 39.13N×26.41E, h10km, MD3.3/3*
*ISK **28** 21:37:10.8, 39.42N×26.25E, h32km, MD3.3*
*NEIC **28** 21:37:10.8, 39.42N×26.25E, h32km, MD3.3(ISK), MD3.3(ATH), After ISK.*
ISC 28 21:37:09.9±0.9,**39.44N**±0.03×**26.32E**±0.06,**h11**km±8km, **n30,** σ0§**99**/38,**1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PRK	**Paraskevi**	**0.20**	**190**	⇑*i*PG		**Pg**	**21 37 14.4**	**+0.1**
LPK	**Lapseki**	**0.99**	**20**	PG		**Pg**	**21 37 29.0**	**-0.8**
URLA	**Izmir**	**1.10**	**168**	*i*P		**Pb**	**21 37 30.2**	**-0.2**
URLA				*i*S		**Sb**	**21 37 45.5**	**+0.9**
BLCB	**Balcova**	**1.20**	**152**	PN		**Pn**	**21 37 32.2**	**-0.3**
BLCB				SN		**Sn**	**21 37 46.7**	**-2.1**
BALB	**Balikesir**	**1.23**	**80**	PN		**Pn**	**21 37 32.9**	**-0.1**
BALB				SN		**Sn**	**21 37 49.1**	**-0.5**
KDAG	**Bornova**	**1.27**	**144**	*i*P		**Pb**	**21 37 32.1**	**-1.3**
KDAG				*i*S		**Sb**	**21 37 50.5**	**+0.9**
IZM	**Izmir**	**1.28**	**144**	PN		**Pn**	**21 37 33.5**	**-0.2**
AKS	**Akhisar**	**1.29**	**115**	PN		**Pn**	**21 37 33.5**	**-0.4**
SART	**Tekirdag**	**1.41**	**28**	*i*P		**Pn**	**21 37 34.2**	**-1.4**
SART				*i*S		**Sb**	**21 37 53.2**	**-0.4**
EDC	**Edincik**	**1.50**	**52**	PN		**Pn**	**21 37 36.8**	**0.0**
MRMT	**Marmara Adasi**	**1.52**	**40**	PN		**Pn**	**21 37 36.3**	**-0.9**
MFT	**Murefte**	**1.54**	**29**	PN		**Pn**	**21 37 37.4**	**0.0**
BNT	**Bandirma**	**1.54**	**53**	PN		**Pn**	**21 37 36.5**	**-0.9**
ORLT	**Orhaneli**	**2.08**	**72**	*e*PN		**Pn**	**21 37 45.3**	**+0.1**
ULDT	**Uludag**	**2.28**	**71**	*i*P		**Pn**	**21 37 50.0**	**+2.0**
ULDT				*i*S		**Sn**	**21 38 20.7**	**+4.2**
KDZ	**Kurdzhali**	**2.31**	**343**	P		**Pn**	**21 37 50.0**	**+1.5**
PLG	**Polygyros**	**2.40**	**294**	*e*PN		**Pn**	**21 37 55.0**	**+5.3**
EDRB	**Edirne**	**2.43**	**8**	*e*PN		**Pn**	**21 37 49.1**	**-1.0**
APE	**Apeiranthos**	**2.45**	**195**	*e*PN		**Pn**	**21 37 49.5**	**-0.9**
GDZ	**Gediz**	**2.48**	**97**	*e*P		**Pn**	**21 37 53.2**	**+2.3**
GDZ				*i*S		**Sn**	**21 38 32.4**	**+11**
RZN	**Rozhen**	**2.55**	**332**	P		**Pn**	**21 37 52.0**	**0.0**
BADT	**Buyukada**	**2.57**	**56**	*e*PN		**Pn**	**21 37 53.0**	**+0.8**
IZI	**Iznik**	**2.59**	**69**	*e*PN		**Pn**	**21 37 52.3**	**-0.2**
YLV	**Yalova**	**2.60**	**63**	*e*PN		**Pn**	**21 37 53.0**	**+0.3**
MMB	**Musomiste**	**2.92**	**318**	P		**Pn**	**21 37 56.5**	**-0.6**
TKTP	**Tekketepe**	**3.43**	**113**	*i*P		**Pn**	**21 38 05.6**	**+1.2**
KKB	**Krupnik**	**3.45**	**316**	*e*P		**Pn**	**21 38 12.0**	**+7.3**
ESKT	**Eskisehir**	**3.51**	**87**	*i*P		**Pn**	**21 38 06.0**	**+0.4**
ESKT				*i*S		**Sn**	**21 39 01.0**	**+13**
VTS	**Vitosha**	**3.93**	**324**	*e*P		**Pn**	**21 38 14.0**	**+2.5**
KIZT	**Kizilcal**	**4.36**	**96**	*e*PN		**Pn**	**21 38 17.5**	**-0.2**

*CSEM **28** 21:44:50.8±0.1, 38.22N×26.58E, h2km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.3km az=89.0*
*ATH **28** 21:44:51.2, 38.15N×26.58E, h37km±4km, MD3.2/3*
*ISK **28** 21:44:52.2, 38.18N×26.67E, h5km, MD3.2*
*NEIC **28** 21:44:52.2, 38.18N×26.67E, h5km, MD3.2(ISK), MD3.2(ATH), After ISK.*

ISC 28 21:44:50.9±1.2,**38.20N**±0.03×**26.50E**±0.08,**h1**km±9km, **n15,** σ0§**90**/20,**1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URLA	**Izmir**	**0.18**	**25**	*i*P		**Pg**	**21 44 54.8**	**+0.3**
URLA				*i*S		**Sg**	**21 44 58.0**	**+1.1**
BLCB	**Balcova**	**0.47**	**66**	*i*PG		**Pg**	**21 45 00.3**	**0.0**
BLCB				*i*SG		**Sg**	**21 45 06.5**	**0.0**
SMG	**Samos**	**0.56**	**151**	⇑*i*PB		**Pg**	**21 45 02.1**	**+0.1**
SMG				*e*SB		**Sg**	**21 45 10.1**	**+0.7**
IZM	**Izmir**	**0.64**	**71**	*i*PG		**Pg**	**21 45 03.0**	**-0.6**
IZM				*i*SG		**Sg**	**21 45 11.8**	**-0.3**
KDAG	**Bornova**	**0.64**	**71**	*i*P		**Pg**	**21 45 02.5**	**-1.2**
KDAG				*i*S		**Sg**	**21 45 10.9**	**-1.3**
PRK	**Paraskevi**	**1.06**	**351**	*e*PN		**Pn**	**21 45 12.1**	**-0.7**
PRK				*e*SN		**Sn**	**21 45 27.3**	**-1.1**
AKS	**Akhisar**	**1.24**	**56**	*i*PN		**Pn**	**21 45 14.8**	**-0.5**
BODT	**Bodrum**	**1.30**	**150**	PN		**Pn**	**21 45 16.8**	**+0.6**
MLSB	**Milas**	**1.35**	**131**	PN		**Pn**	**21 45 16.2**	**-0.8**
APE	**Apeiranthos**	**1.36**	**215**	*e*PN		**Pn**	**21 45 15.8**	**-1.3**
YER	**Yerkesik**	**1.77**	**126**	PN		**Pn**	**21 45 23.8**	**+0.9**
BALB	**Balikesir**	**1.80**	**36**	*e*PN		**Pn**	**21 45 24.7**	**+1.3**
BNT	**Bandirma**	**2.42**	**27**	*e*PN		**Pn**	**21 45 34.2**	**+1.9**
ORLT	**Orhaneli**	**2.63**	**45**	*e*PN		**Pn**	**21 45 36.0**	**+0.8**
TKTP	**Tekketepe**	**3.02**	**92**	*i*P		Px	21 45 47.8	
TKTP				*i*S		Sx	21 46 32.4	

*IDC **28** 22:02:31.6±6.6, 17.07S×179.09W, h515km±78km, mb3.0/5, mb1 3.3/6, mb1mx3.2/15, mbtmp3.9/6, Error ellipse: s-maj=86.1km s-min=32.3km az=153.0*
ISC 28 22:02:29.7±1.3,**16.9S**±0.6×**179.2W**±0.4,**h500**km,**n9,** σ0§**71**/8,**mb3.4**/5,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**14.53**	**247**	P		**P**	**22 05 37.1**	**+1.6**
	0.2nm,0.3s,baz=73,slow=19,SNR=2.9							
STKA	**Stephens Creek**	**38.52**	**240**	P		**P**	**22 09 09.1**	**-0.6**
	3.0nm,0.6s,mb3.9,baz=71,slow=7.7,SNR=7.3							
WB2	**Warramunga Arr**	**44.12**	**259**	*e*P		**P**	**22 09 54.3**	**-0.4**
WRA	**Warramunga Arr**	**44.13**	**259**	P		**P**	**22 09 54.2**	**-0.6**
	0.7nm,0.5s,mb3.3,baz=95,slow=7.2,SNR=25							
ASPA	**Alice Springs**	**44.40**	**253**	*e*P		**P**	**22 09 56.5**	**-0.3**
ILAR	**Eielson Array**	**85.06**	**13**	P		**P**	**22 14 13.0**	**+0.5**
	0.6nm,1.0s,mb3.2,baz=224,slow=4.8,SNR=5.2							
TXAR	**Lajitas Array**	**86.05**	**58**	P		**P**	**22 14 18.5**	**+0.4**
	0.5nm,0.8s,mb3.2,baz=233,slow=6.3,SNR=5.1							
PDAR	**Pinedale Array**	**87.10**	**44**	P		**P**	**22 14 22.1**	**-0.6**
	0.3nm,0.6s,mb3.2,baz=270,slow=4.5,SNR=3.5							
GERES	**GERESS Array B**	**146.45**	**345**	PKPbc		PKPbc	22 21 15.1	+1.7
	0.5nm,0.6s,baz=27,slow=2.2,SNR=4.9							

*NDI **28** 22:04:28.5±5.7, 34.88N×73.23E, h10km, mb5.3, ML4.9, MW4.8*
*MOS **28** 22:04:28.7±1.2, 34.63N×73.38E, h15km, mb5.1/66, MS4.4/21, Error ellipse: s-maj=6.3km s-min=3.5km az=121.2*
*IDC **28** 22:04:29.3±0.5, 34.73N×73.26E, mb4.8/21, mb1 4.9/24, mb1mx4.9/25, mbtmp4.8/24, ML5.6/2, MS4.4/18, Ms1 4.4/18, ms1mx4.2/28, Error ellipse: s-maj=12.9km s-min=11.3km az=78.0*
*NEIC **28** 22:04:30.0±0.2, 34.61N×73.35E, h10km, mb5.1/108, Error ellipse: s-maj=5.4km s-min=3.1km az=210.0*
NEIC Felt at Abbotabad and Islamabad. Also felt at Mansehra and Muzaffarabad, Kashmir.
*HRVD **28** 22:04:30.0±0.3, 34.84N×73.15E, h29km±1km, MW5.1/62, Centroid moment Tensor Solution. LP body waves: s35,c55;Mantle waves: s62,c119; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.57±.20; Mθθ1.90±.21; Mφφ-2.47±.20; Mrθ1.85±.37; Mθφ5.35±.17; Mφr-1.46±.34; Best double couple: M0 6.181×10^16 NP1:φs12°, δ71°, λ-174°. NP2:φs281°, δ84°, λ-19°. Principal axes: T 5.607, Plg9

SNR=23
KK31 Karatay Array 8.70 346 ⇓P **P 22 06 38.2 +0.4**
comp=E,408nm,0.3s,baz=160,slow=12
KK31 ⇑S **Sn 22 08 12.5 -3.9**
comp=E,224nm,0.5s,baz=162,slow=22
KK31 Karatay Array 8.70 346 ⇓P **P 22 06 38.2 +0.4**
KK31 S **Sn 22 08 12.5 -3.9**
KK31 pmax pmax
comp=Z,408nm,0.3s
KK31 Karatay Array 8.70 346 ⇓P **P 22 06 38.2 +0.4**
comp=Z,408nm,0.3s
KK31 S **Sn 22 08 12.5 -3.9**
KKAR Karatay Array 8.70 346 *e*P **P 22 06 38.1 +0.3**
KKAR S **Sn 22 08 11.1 -5.3**
KKAR pmax pmax
comp=Z,333nm,0.4s
KKAR smax
comp=Z,50nm,0.4s
AAA Alma-Ata 9.02 17 *i* P **P 22 06 43.0 +0.8**
AAA *i* S **Sn 22 08 20.4 -3.9**
AAA MLR MLR
comp=Z,6μm,1.3s
KOLN Koldanda 11.14 125 *e*Pn **P 22 07 07.9 -3.5**
KOLN *e*Sn **S 22 09 09.3 -7.1**
comp=Z,1μm,0.9s
KOLN Koldanda 11.14 125 *e*Pn **P 22 07 07.9 -3.5**
comp=Z,503nm,0.9s
KOLN *e*Sn **S 22 09 09.3 -7.1**
GKN Gorkha 11.70 122 *e*Pn **P 22 07 15.6 -3.4**
GKN *e*Sn **S 22 09 22.9 -7.3**
comp=Z,486nm,0.4s
GKN Gorkha 11.70 122 *e*Pn **P 22 07 15.6 -3.4**
comp=Z,243nm,0.4s
GKN *e*Sn **S 22 09 22.9 -7.3**
BHJ Bhuj 11.84 197 *e*P **P 22 07 17.9 -3.0**
BHJ *e*S **S 22 09 22.8 -11**
BHJ AML AML 22 09 29.8
comp=E,323nm,0.8s
BHJ AML AML 22 09 30.3
comp=N,269nm,0.6s
BHPL Bhopal 11.94 162 *e*P **P 22 07 20.0 -2.2**
BHPL AMb AMB 22 07 24.9
comp=Z,96nm,0.8s
BHPL *e*S **S 22 09 26.9 -8.9**
BHPL AML AML 22 10 56.6
comp=N,231nm,0.7s
BHPL AML AML 22 10 58.2
comp=E,346nm,0.6s
DMN Daman 12.27 122 *e*Pn **P 22 07 23.4 -3.3**
DMN *e*Sn **S 22 09 36.3 -7.7**
comp=E,2μm,1.1s
DMN Daman 12.27 122 *e*Pn **P 22 07 23.4 -3.3**
comp=E,779nm,1.1s
DMN *e*Sn **S 22 09 36.3 -7.7**
KKN Kakani 12.29 121 *e*Pn **P 22 07 23.3 -3.6**
KKN *e*Sn **S 22 09 36.6 -7.7**
comp=E,738nm,0.8s
KKN Kakani 12.29 121 *e*P **P 22 07 23.3 -3.6**
KKN *e* 22 09 36.6
KKN pmax pmax
comp=Z,369nm,0.8s
KKN Kakani 12.29 121 *e*Pn **P 22 07 23.3 -3.6**
comp=Z,369nm,0.8s
KKN *e*Sn **S 22 09 36.6 -7.7**
PKI Pulchoki 12.51 121 *e*Pn **P 22 07 26.3 -3.6**
PKI *e*Sn **S 22 09 42.6 -7.1**
comp=Z,919nm,0.8s
PKI Pulchoki 12.51 121 *e*P **P 22 07 26.3 -3.6**
PKI *e* 22 09 42.6
PKI pmax pmax
comp=Z,460nm,0.8s
PKI Pulchoki 12.51 121 *e*Pn **P 22 07 26.3 -3.6**
comp=Z,460nm,0.8s
PKI *e*Sn **S 22 09 42.6 -7.1**
GUN Gumba 12.64 119 *e*Pn **P 22 07 28.2 -3.5**
GUN *e*Sn **S 22 09 44.9 -8.1**
comp=Z,1μm,0.9s
GUN Gumba 12.64 119 *e*Pn **P 22 07 28.2 -3.5**
comp=Z,502nm,0.9s
GUN *e*Sn **S 22 09 44.9 -8.1**
JIRN Jiri 13.01 119 *e*Pn **P 22 07 33.3 -3.3**
JIRN *e*Sn **S 22 09 53.9 -7.9**
comp=Z,734nm,0.8s
JIRN Jiri 13.01 119 *e*Pn **P 22 07 33.3 -3.3**
comp=Z,367nm,0.8s
JIRN *e*Sn **S 22 09 53.9 -7.9**
MK31 Makanchi Array 13.85 26 P **P 22 07 46.9 -0.6**
comp=Z,9.1nm,0.6s,baz=205,slow=12,SNR=211
MK31 Makanchi Array 13.85 26 P **P 22 07 46.9 -0.6**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 13.85 26 Pn **P 22 07 47.4 -0.1**
comp=Z,0.6nm,0.3s,baz=212,slow=14,SNR=27
MKAR LR LR 22 12 39.4
comp=Z,728nm,18.7s,baz=212,slow=35
AKL Akola 14.29 166 *ex* x 22 09 37.3
WMQ Urumqi 14.35 46 P **P 22 07 52.5 -1.6**
WMQ AP 22 07 56.0
WMQ XP 22 07 59.5
WMQ PP PP 22 08 04.0 -1.5
WMQ S **S 22 10 32.0 -1.7**
WMQ AMB AMB
comp=Z,130nm,1.0s
WMQ AMB AMB
comp=Z,860nm,5.0s
WMQ LR LR
comp=N,4μm,18.7s
WMQ LR LR
comp=E,3μm,20.0s
WMQ LR LR
comp=Z,4μm,18.2s
BLSP Bilaspur 14.68 146 *e*P **P 22 07 56.0 -2.6**
BLSP *e*P 22 07 59.2
BLSP *es*P 22 08 08.2
BLSP AMb AMB 22 08 12.6
comp=Z,326nm,1.6s
BLSP *e*S **S 22 10 27.7 -14**
BLSP AML AML 22 11 03.4
comp=N,106nm,0.3s
BLSP AML AML 22 11 05.0
comp=E,150nm,0.4s
BOK Bokaro 15.38 132 *e*P **P 22 08 03.6 -4.0**
BOK AMb AMB 22 08 05.8
comp=Z,21nm,0.6s
BOK *e*S **S 22 10 45.0 -13**
BOK AML AML 22 10 56.5
comp=N,54nm,0.4s
BOK AML AML 22 10 56.7
comp=E,54nm,0.4s
LSA Lhasa 15.85 103 P **P 22 08 11.0 -2.7**
LSA AP 22 08 22.0
LSA XP 22 08 26.3
LSA S **S 22 11 09.5 +0.5**
LSA LR LR
comp=N,3μm,5.9s
LSA LR LR
comp=E,3μm,6.9s
LSA LR LR
comp=Z,4μm,7.0s
LSA Lhasa 15.85 103 *e*P **P 22 08 10.7 -3.0**
LSA pmax pmax
comp=Z,106nm,0.8s
LSA Lhasa 15.85 103 *e*P **P 22 08 10.7 -3.0**
comp=Z,106nm,0.8s
POO Poona 16.09 178 *e*P **P 22 08 15.3 -1.6**
POO AMb AMB 22 08 18.5
comp=Z,40nm,0.9s
POO *e*S **S 22 11 02.3 -12**
POO AML AML 22 11 55.1
comp=N,47nm,0.7s
POO AML AML 22 11 55.6
comp=E,49nm,0.6s
LATR Latur 16.45 169 *e*P **P 22 08 17.5 -3.9**
LATR *e*S **S 22 11 14.5 -8.4**
KURK Kurchatov 16.48 12 P **P 22 08 21.6 +0.1**
KURK pmax pmax
comp=Z,73nm,1.2s
KURK Kurchatov 16.48 12 *e*P **P 22 08 18.7 -2.9**
comp=Z,84nm,0.9s
BANOM Banah 17.11 244 P **P 22 08 32.1 +2.4**
SNR=9.0
BANOM P 22 08 33.5
SNR=24
KAD Karad 17.32 177 *e*P **P 22 08 30.9 -1.4**
KAD AMb AMB 22 08 34.3
comp=Z,71nm,0.3s
KAD *e*S **S 22 11 32.2 -11**
KAD AML AML 22 12 37.3
comp=N,30nm,0.6s
KAD AML AML 22 12 37.4
comp=E,48nm,0.7s
BIDO Bidbid 17.33 234 P **P 22 08 36.1 +3.6**
SNR=9.6
WBK Wadi Bani Khal 17.42 230 P **P 22 08 34.1 +0.4**
SNR=25
AB31 Akbulak array 17.61 330 ⇓P **P 22 08 33.0 -2.9**
comp=E,114nm,1.0s,baz=143,slow=12,SNR=417
AB31 ⇓S **S 22 11 43.6 -5.9**
comp=E,13nm,0.5s,baz=154,slow=22,SNR=7.0
AB31 Akbulak array 17.61 330 ⇓P **P 22 08 33.0 -2.9**
AB31 S **S 22 11 43.6 -5.8**
AB31 pmax pmax
comp=Z,114nm,1.0s
SMDO Samad 17.70 233 P **P 22 08 41.4 +4.3**
SNR=15
HYB Hyderabad 17.81 164 *i* P **P 22 08 34.5 -4.0**
comp=Z,110nm,1.0s
HYB *e* 22 08 39.0
HYB *e*S **S 22 11 51.0 -3.0**
HYB LR LR 22 15 30.0
comp=Z,6.8nm,10.0s
HYB Hyderabad 17.81 164 *e*P **P 22 08 34.5 -4.0**
HYB pmax pmax
comp=Z,110nm,1.0s
HYB Hyderabad 17.81 164 *e*P **P 22 08 34.5 -4.0**
comp=Z,110nm,1.0s
HYB *e*S **S 22 11 42.0 -12**
HOQ Hoqain 17.84 236 P **P 22 08 39.2 +0.4**
SNR=12
ASHO Ashiyiah 18.02 241 P **P 22 08 43.4 +2.3**
SNR=12
VOSK Vostochnaya 18.12 355 ⇓P **P 22 08 39.2 -3.0**
comp=Z,56nm,1.1s
VOSK Vostochnaya 18.12 355 ⇓P **P 22 08 39.2 -2.9**
VOSK pmax pmax
comp=Z,56nm,1.1s
JMDO Jabal Madar 18.15 231 P **P 22 08 44.2 +1.5**
SNR=20
BVA0 Borovoye Array 18.46 354 ⇓P **P 22 08 43.7 -2.6**
comp=Z,17nm,1.1s,baz=159,slow=13,SNR=528
BVA0 Borovoye Array 18.46 354 *i* P **P 22 08 44.4 -2.0**
BVA0 pmax pmax
comp=Z,5.0nm,0.5s
BVA0 Borovoye Array 18.46 354 ⇓P **P 22 08 43.7 -2.7**
comp=Z,17nm,1.0s
BVAR Borovoye Array 18.46 354 P **P 22 08 44.5 -1.9**
comp=Z,18nm,0.3s,baz=157,slow=13,SNR=154
BVAR S **S 22 12 12.1 +3.5**
comp=Z,0.5nm,0.3s,baz=138,slow=18,SNR=2.6
BSY Bisya 18.48 234 P **P 22 08 48.5 +1.7**
SNR=37
BRVK Borovoye 18.50 354 *e*P **P 22 08 44.5 -2.4**
BRVK pmax pmax
comp=Z,87nm,1.0s
BRVK Borovoye 18.50 354 *e*P **P 22 08 44.5 -2.4**
comp=Z,87nm,1.0s
ARQ Araqi 18.54 237 P **P 22 08 49.6 +2.0**
SNR=22
AGT Agartala 18.92 120 *e*P **P 22 09 00.0 +7.9**
AGT *ex* x 22 11 51.0
VIS Vishakhapatnam 19.09 150 *e*P **P 22 08 54.1 -0.1**
VIS AMb AMB 22 08 58.6
comp=Z,55nm,0.9s
VIS *e*S **S 22 12 10.5 -13**
VIS AML AML 22 12 58.4
comp=E,72nm,0.6s
VIS AML AML 22 12 58.5
comp=N,36nm,0.7s
AKTK Aktyubinsk 19.32 329 P **P 22 08 56.2 -0.5**
AKTK S **S 22 12 22.3 -5.8**
AKTK LR LR 22 17 48.4
AKTO Aktyubinsk 19.32 329 P **P 22 08 56.2 -0.5**
comp=N,20nm,0.3s,baz=132,slow=9.9,SNR=221
AKTO S **S 22 12 22.3 -5.8**
comp=N,0.6nm,0.3s,baz=322,slow=13,SNR=2.8
AKTO LR LR 22 17 48.4
comp=N,322nm,21.5s,slow=42
AKTO Aktyubinsk 19.32 329 P **P 22 08 55.5 -1.2**
AKTO S **S 22 12 23.3 -4.8**
AKTO pmax pmax
comp=Z,54nm,1.1s
AKTO smax
comp=Z,74nm,2.2s
NVS Novosibirsk 21.30 16 ⇑*i* P **P 22 09 15.5 -2.0**
NVS *i* S **S 22 13 07.5 -0.9**
NVS pmax pmax
comp=Z,125nm,1.2s,mb5.1
NVS pmax pmax
comp=N,170nm,1.6s
NVS pmax pmax
comp=E,20nm,0.8s
NVS smax
comp=N,313nm,1.9s
NVS smax
comp=E,108nm,1.9s
GTA Gaotai 21.60 70 *e*P **P 22 09 21.3 +0.6**
GTA AP 22 09 26.5
GTA XP 22 09 29.5
GTA AMB AMB
comp=Z,40nm,2.3s,mb4.4
GTA AMB AMB
comp=Z,190nm,4.2s
GTA LR LR
comp=N,2μm,17.9s
GTA LR LR
comp=E,1μm,12.2s
GTA LR LR
comp=Z,1μm,13.3s,MS4.5
MNGI Mangalore 21.68 176 *ex* P **22 09 18.8 -2.9**
MNGI *ex* x 22 13 26.9
UMR Umm Al-Rimmam 22.30 264 *e*P **P 22 09 28.0 +0.2**
UMR AMb AMB 22 09 31.8
comp=Z,374nm,0.7s,mb6.0
QRN Al-Qurain 22.42 262 *e*P **P 22 09 29.0 +0.1**
QRN AMb AMB 22 09 38.9
comp=Z,321nm,0.7s,mb5.9
KBD Kabd 22.45 263 *e*P **P 22 09 29.7 +0.5**
MIB Mutribah 22.52 265 *e*P **P 22 09 30.7 +0.7**
MIB AMb AMB 22 09 37.3
comp=Z,675nm,0.7s
RDF Al-Radifah 22.65 262 *e*P **P 22 09 31.8 +0.6**
RDF AMb AMB 22 09 40.8
comp=Z,451nm,0.8s,mb6.0
NAY Al-Naaiem 22.79 264 *e*P **P 22 09 33.2 +0.6**
NAY AMb AMB 22 09 43.7
comp=Z,335nm,1.0s,mb5.7
SHAO Shalim 22.92 228 P **P 22 09 36.3 +2.3**
SNR=18
DGRG David-gareji 22.99 295 P **P 22 09 36.3 +1.8**
DGRG S **S 22 13 55.0 +16**
GNI Garni 23.33 292 P **P 22 09 41.8 +4.1**
comp=Z,20nm,0.5s,mb4.8,baz=227,slow=1.2,SNR=16
GNI S **S 22 13 55.2 +10**
comp=Z,7.3nm,0.7s,baz=71,slow=18,SNR=2.4
GNI LR LR 22 20 42.2
comp=Z,910nm,18.0s,MS4.3,baz=273,slow=42
GNI Garni 23.33 292 P **P 22 09 41.8 +4.1**
GNI S **S 22 13 55.2 +10**
GNI pmax pmax
comp=Z,20nm,0.5s
GNI smax
comp=N,7.0nm,0.7s
GNI MLR MLR
comp=Z,910nm,18.0s
GNI Garni 23.33 292 *e*P **P 22 09 41.2 +3.5**
comp=Z,222nm,1.1s,mb5.5
SALM Salem 23.34 168 *ex* **P 22 09 46.0 +7.9**
SALM *ex* x 22 14 02.0
SAMG Sameba 23.44 296 P **P 22 09 41.9 +3.1**
MTA Mtatsminda 23.46 296 P **P 22 09 40.9 +1.9**
MTA S **S 22 13 58.6 +11**
TI2 Plekhanov 23.50 296 ⇓*i* P **P 22 09 41.0 +1.7**
TI2 *e* 22 09 41.0
TI2 *i* 22 09 48.0
TI2 pmax pmax
comp=Z,30nm,1.0s,mb4.7
TI2 pmax pmax
comp=Z,80nm,1.0s,mb5.1
TI2 MLR MLR
comp=E,300nm,10.0s
TI2 MLR MLR
comp=Z,1μm,10.0s,MS4.6
TBLG Delisi 23.50 296 P **P 22 09 42.9 +3.4**
ARU Arti 23.99 340 ⇓*i* P **P 22 09 44.7 +0.7**
ARU *e*PPP PPP 22 10 19.1 -9.2
ARU *e*S **S 22 14 00.0 +3.2**
ARU *e*SSS SSS 22 14 54.6 -10
ARU pmax pmax
comp=Z,37nm,0.8s,mb4.9
ARU MLR MLR
comp=Z,700nm,15.0s,MS4.3
ARU MLR MLR
comp=N,600nm,16.0s,MS4.2
ARU MLR MLR
comp=E,200nm,13.0s,MS4.2
ARU Arti 23.99 340 *e*P **P 22 09 44.8 +0.8**
comp=E,56nm,0.7s,mb5.1
ARU LR LR
comp=Z,325nm,21.0s,MS3.8
BHD Baghdad 24.05 275 *ex* x 22 09 45.0
BHD *ex* x 22 14 06.0
HAKT HAKKARI 24.09 285 *i* P **P 22 09 50.5 +5.3**
WHFO Wadi Hawf 24.16 231 P **P 22 09 47.9 +1.8**
SNR=30
RBK Rabkut 24.19 230 P **P 22 09 48.6 +2.2**
SNR=9.2
ONI Oni 24.57 298 P **P 22 09 53.4 +3.5**
ONI S **S 22 14 16.7 +10**
MSL Mosul 24.66 283 *ex* x 22 09 53.0
MSL *ex* x 22 14 30.5
LZH Lanzhou 24.84 78 ⇑P **P 22 09 55.0 +2.5**
LZH AP 22 09 58.0
LZH XP 22 10 00.0
LZH PP PP 22 10 31.0 +1.5
LZH S **S 22 14 14.5 +3.1**
LZH XS 22 14 20.3
LZH AMB AMB
comp=Z,30nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,190nm,4.1s
LZH LR LR
comp=N,3μm,13.1s
LZH LR LR
comp=Z,4μm,14.0s,MS5.1
ABTO Aybut 24.88 231 P **P 22 09 55.1 +2.1**
SNR=15
KRAR Krasnoyarsk 25.18 26 *e*P **P 22 09 56.0 +0.5**
GOF Gofitskoye 25.35 303 ⇑*i* P **P 22 09 58.0 +0.8**
GOF pmax pmax
comp=Z,54nm,1.2s,mb5.0
KIV Kislovodsk 25.36 301 *e*P **P 22 09 58.1 +0.8**
KIV *e*S **S 22 14 26.3 +6.3**
KIV pmax pmax
comp=Z,17nm,0.6s,mb4.8
KIV MLR MLR
comp=Z,596nm,19.0s,MS4.1
KIV Kislovodsk 25.36 301 *e*P **P 22 09 57.0 -0.3**
comp=Z,69nm,0.9s,mb5.2
KIV LR LR
comp=Z,595nm,20.0s,MS4.1
RYDS Riyadh 25.45 253 P **P 22 09 56.0 -2.3**
CD2 Chengdu 25.77 90 ⇑*i* P **P 22 10 02.8 +1.5**
CD2 PP PP 22 10 42.8 +1.1
CD2 S **S 22 14 28.5 +1.5**
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,70nm,4.7s
CD2 LR LR
comp=N,2μm,15.6s
CD2 LR LR
comp=Z,610nm,10.8s,MS4.4
ERZM Erzurum 25.91 291 *i* P **P 22 10 09.2 +6.8**
MOY Mondy 26.11 41 *e*P **P 22 10 09.9 +5.7**
MOY pmax pmax
comp=Z,61nm,2.4s,mb4.7
MARD Mardin 26.43 285 *i* P **P 22 10 09.5 +2.2**
KMI Kunming 27.10 103 P **P 22 10 14.8 +1.2**
KMI AP pP 22 10 17.5 -1.5
KMI S **S 22 14 56.0 +7.0**
KMI XS 22 15 01.0
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
KMI LR LR
comp=N,330nm,12.0s,MS4.4
KMI LR LR
comp=E,680nm,14.9s,MS4.4
KMI LR LR
comp=Z,690nm,17.1s,MS4.3
SOKR Solikamsk 27.18 341 ⇓*i* P **P 22 10 17.5 +3.6**
SOKR S **S 22 14 53.3 +3.5**
SOKR pmax pmax
comp=Z,60nm,1.2s,mb5.0
SOKR MLR MLR
comp=Z,1μm,14.0s,MS4.7
ARSS Ar Rass 27.38 260 P **P 22 10 15.9 -0.3**
SONM Songino Array 27.86 52 P **P 22 10 21.8 +1.5**
comp=Z,7.6nm,0.8s,mb4.4,baz=258,slow=9.2,SNR=43
SONM LR LR 22 22 48.9
comp=Z,1μm,19.1s,MS4.6,baz=43,slow=39
HILS Ha'il 27.94 264 P **P 22 10 21.5 +0.3**
VRHR Novokhopersk 28.17 315 *e*P **P 22 10 23.7 +0.7**
VRHR pmax pmax
comp=Z,4.0nm,0.3s,mb4.5
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,3.0nm,0.4s
IRK Irkutsk 28.18 42 *e*P **P 22 10 26.1 +3.1**
IRK pmax pmax
comp=Z,44nm,2.2s,mb4.7
MALT Malatya 28.22 288 *e*P **P 22 10 23.9 +0.3**
MALT pmax pmax
comp=Z,17nm,1.0s,mb4.6
MALT Malatya 28.22 288 *e*P **P 22 10 23.9 +0.2**
comp=Z,17nm,1.0s,mb4.6
ULN Ulaanbaatar 28.29 52 *e*P **P 22 10 24.1 0.0**
ULN pmax pmax
comp=Z,19nm,1.0s,mb4.7
ULN MLR MLR
comp=Z,394nm,20.0s,MS4.0
ULN Ulaanbaatar 28.29 52 *e*P **P 22 10 24.1 -0.1**
comp=Z,19nm,1.0s,mb4.7
ULN LR LR
comp=Z,394nm,20.0s,MS4.0
AFFS 'Afif 28.47 256 P **P 22 10 25.9 -0.1**
GZT Gaziantep 28.98 286 *i* P **P 22 10 29.7 -0.7**
XAN Xi'an 29.27 81 P **P 22 10 33.5 +0.4**
XAN AP pP 22 10 40.8 +2.3
BTO Baotou 29.47 67 *e*P **P 22 10 36.3 +1.5**
BTO LR LR
comp=N,170nm,4.5s
BTO LR LR
comp=E,640nm,11.0s
VRSR Storozhevoye 29.64 314 *e*P **P 22 10 39.3 +3.1**
VRSR pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=E,6.0nm,0.9s
GYA Guiyang 29.71 97 ⇑*i* P **P 22 10 40.5 +3.3**
GYA AP pP 22 10 44.8 +2.2
GYA XP sP 22 10 48.0 +2.9
GYA AMB AMB
comp=Z,30nm,0.6s,mb5.2
GYA AMB AMB
comp=Z,190nm,3.8s
GYA LR LR
comp=N,3μm,11.2s,MS5.1
GYA LR LR
comp=E,610nm,11.7s,MS5.1
GYA LR LR
comp=Z,910nm,12.0s,MS4.6
TATS Tathlith 30.44 248 P **P 22 10 44.3 +0.6**
KBRS Khaybar 30.65 263 P **P 22 10 46.8 +1.3**
BOYT Boyabat 30.84 294 *i* P **P 22 10 47.0 +0.1**
SIM Simferopol' 31.57 301 P **P 22 10 52.7 -0.7**
SIM S **S 22 15 56.0 -3.9**
BLJS Baljurashi 31.69 251 P **P 22 10 55.8 +1.1**
BR131 Keskin Array S 31.86 291 *e*P **P 22 10 56.0 +0.1**
comp=Z,8.4nm,0.8s,mb4.6
BRTR Keskin Array B 31.86 291 P **P 22 10 56.3 +0.4**
comp=Z,2.5nm,0.6s,mb4.2,baz=104,slow=8.8,SNR=18
ELDT Eldivan 31.98 292 *i* P **P 22 10 57.0 0.0**
MOS Moscow 32.28 322 *e*P **P 22 10 55.9 -3.5**

MOS pmax pmax
comp=Z,70nm,0.9s,mb5.5
MOS MLR MLR
comp=Z,900nm,18.0s,MS4.5
YNBS Yanbu' al Bahr 32.32 261 P **P** **22 11 01.4 +1.2**
UMJS Umm Lajj 32.48 263 P **P** **22 11 04.1 +2.6**
OBN Obninsk 32.57 320*d* *i*P **P** **22 11 01.8 -0.2**
OBN *e* 22 12 13.1
OBN *e* 22 13 46.3
OBN *i*SS SS 22 18 06.6 -5.8
OBN pmax pmax
comp=Z,104nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,900nm,24.0s,MS4.4
OBN Obninsk 32.57 320 *e*P **P** **22 11 01.4 -0.6**
comp=Z,32nm,0.4s,mb5.6
OBN LR LR
comp=Z,193nm,20.0s,MS3.8
AYUS 'Aynunah 33.01 269 P **P** **22 11 08.3 +2.3**
SGKT Sivrigoynuk 33.02 293 *i*P **P** **22 11 06.0 0.0**
TAYS Tayyib Ism 33.20 270 P **P** **22 11 09.1 +1.3**
CIT Chita 33.45 46 *e*P **P** **22 11 14.3 +4.7**
KLMR Klimovskoe 34.01 331*c* *i*P **P** **22 11 13.8 -0.6**
KLMR pmax pmax
comp=Z,110nm,1.5s,mb5.6
KLMR pmax pmax
comp=Z,40nm,4.9s
KLMR pmax pmax
comp=Z,40nm,4.9s
KLMR MLR MLR
comp=Z,770nm,11.0s,MS4.7
ESKT Eskisehir 34.02 291 *i*P **P** **22 11 13.9 -0.8**
WHN Wuhan 34.60 85 *e*P **P** **22 11 20.8 +1.0**
TIA Tai'an 35.45 75 *e*P **P** **22 11 28.5 +1.4**
AKASG Malin Array Be 35.59 310 P **P** **22 11 26.8 -1.3**
comp=Z,8.4nm,0.5s,mb5.0,baz=82,slow=7.2,SNR=54
AKASG Malin Array Be 35.59 310 P **P** **22 11 26.8 -1.3**
BOD Bodaibo 35.59 37 *e*P **P** **22 11 26.4 -1.6**
BOD pmax pmax
comp=Z,13nm,0.9s,mb4.9
CFR Carcaliu 35.82 301 ⇑P **P** **22 11 35.7 +5.7**
CFR Carcaliu 35.82 301 ⇑P **P** **22 11 35.7 +5.6**
QIZ Qiongzhong 35.85 106 *e*P **P** **22 11 34.0 +3.4**
QIZ S **S** **22 17 09.0 +2.3**
QIZ LR LR
comp=N,900nm,17.6s,MS4.8
QIZ LR LR
comp=E,1μm,16.1s,MS4.8
QIZ LR LR
comp=Z,1μm,15.4s,MS4.9
HARR Harsova 35.96 300 ⇑P **P** **22 11 35.1 +3.9**
ATD Arta Tunnel 36.07 238 P **P** **22 11 32.9 +0.4**
comp=Z,17nm,0.9s,mb5.0,baz=86,slow=3.9,SNR=6.1
VRI Vrincioaia 36.82 302 ⇑P **P** **22 11 46.8 +8.4**
VRI Vrincioaia 36.82 302 ⇑P **P** **22 11 46.8 +8.3**
HIA Hailar 36.83 52 *e*P **P** **22 11 40.5 +2.0**
HIA pmax pmax
comp=Z,11nm,0.9s
HIA MLR MLR
comp=Z,926nm,19.0s
HIA Hailar 36.83 52 *e*P **P** **22 11 40.5 +2.0**
comp=Z,11nm,0.9s,mb4.7
HIA LR LR
comp=Z,926nm,19.0s,MS4.6
MNK Minsk 37.17 316 *e*P **P** **22 11 46.0 +4.7**
MLR Muntele Rosu 37.36 301 ⇑P **P** **22 11 44.7 +1.7**
MLR Muntele Rosu 37.36 301 ⇑P **P** **22 11 44.7 +1.6**
NJ2 Nanjing 37.84 81 *e*P **P** **22 11 50.5 +3.4**
NJ2 AP pP 22 11 55.0 +2.3
NJ2 XP sP 22 11 57.5 +2.5
NJ2 PP PP 22 13 20.5 +3.8
NJ2 S **S** **22 17 37.0 +0.1**
NJ2 XS 22 17 45.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,170nm,3.5s
NJ2 LR LR
comp=N,4μm,13.5s,MS5.4
NJ2 LR LR
comp=E,2μm,15.9s,MS5.4
NJ2 LR LR
comp=Z,2μm,13.4s,MS5.1
BURAR Bucovina Array 37.90 305 ⇓P **P** **22 11 47.9 +0.4**
BURAR Bucovina Array 37.90 305 ⇓P **P** **22 11 47.9 +0.4**
VOIR 37.99 301 ⇓P **P** **22 11 47.2 -1.1**
VOIR 37.99 301 ⇓P **P** **22 11 47.2 -1.1**
JOF Joensuu 38.40 330 *e*p **P** **22 11 51.4 -0.2**
comp=Z,24nm,0.4s,mb5.3
RZN Rozhen 38.46 295 P **P** **22 11 53.0 +0.7**
KULM Kulim 38.62 133 *e*P **P** **22 11 57.2 +3.2**
VSU Vasula 38.80 322 *e*P **P** **22 11 55.1 +0.1**
MMB Musomiste 39.20 295 P **P** **22 11 57.0 -1.5**
IDI Anoyia 39.41 285 P **P** **22 11 58.8 -1.5**
comp=Z,6.3nm,0.7s,mb4.5,baz=317,slow=14,SNR=4.2
VTS Vitosha 39.48 297 ⇓P **P** **22 12 05.5 +4.7**
SNY Shenyang 39.60 64 ⇑P **P** **22 12 02.0 +0.2**
SNY S **S** **22 18 03.3 -0.2**
SNY LR LR
comp=N,1μm,17.1s
SNY LR LR
comp=Z,740nm,19.6s,MS4.5
DRGR 39.60 304 ⇑P **P** **22 12 01.6 -0.1**
DRGR 39.60 304 ⇑P **P** **22 12 01.6 -0.1**
PSI Prapat 39.63 138 P **P** **22 12 01.3 -1.1**
comp=Z,13nm,0.9s,mb4.6,baz=346,slow=5.1,SNR=6.9
PSI LR LR 22 30 36.9
comp=Z,574nm,18.6s,MS4.4,baz=300,slow=39
KWP Kalwaria 39.65 308 *e*P **P** **22 12 03.0 +0.9**
KWP MLR MLR 22 27 54.6
comp=Z,500nm,26.6s,MS4.2
KWP Kalwaria 39.65 308 *e*P **P** **22 12 03.0 +0.9**
KKB Krupnik 39.65 296 P **P** **22 12 03.0 +0.8**
SUW Suwalki 39.77 315 *e*P **P** **22 12 05.1 +2.0**
SUW MLR MLR 22 31 39.2
comp=Z,700nm,18.5s,MS4.5
SUW Suwalki 39.77 315 *e*P **P** **22 12 05.1 +2.1**
KOLS Kolonicke sedl 39.91 307 *e*P **P** **22 12 04.4 +0.2**
KOLS *e* 22 12 16.7
KOLS *e*PP PP 22 13 39.8 -0.1
KOLS Kolonicke sedl 39.91 307 *e*P **P** **22 12 04.4 +0.2**
KOLS *e* 22 13 39.8
SSE Sheshan 40.02 81 P **P** **22 12 05.3 -0.1**
SSE AP pP 22 12 08.3 -2.7
SSE PP PP 22 13 36.5 -4.8
SSE PCP PcP 22 14 11.3 +0.4
SSE S **S** **22 18 09.8 -0.1**
SSE XS 22 18 15.5
SSE SCS ScS 22 22 13.0 +3.5
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,80nm,4.3s
SSE LR LR
comp=N,810nm,24.1s,MS4.5
SSE LR LR
comp=E,170nm,24.0s,MS4.5
SSE LR LR
comp=Z,610nm,18.5s
FINES FINESS Array B 40.06 327 P **P** **22 12 05.7 +0.3**
comp=Z,9.2nm,0.6s,mb4.7,baz=118,slow=10.0,SNR=65
FINES LR LR 22 32 20.3
comp=Z,411nm,20.4s,MS4.3,baz=129,slow=42
KAF Kangasniemi 40.20 328 *e*p **P** **22 12 06.4 -0.1**
comp=Z,40nm,1.0s,mb5.1
KAF Kangasniemi 40.20 328 *e*P **P** **22 12 06.4 -0.1**
KAF pmax pmax
comp=Z,40nm,1.0s,mb5.1
BZS Buzias 40.40 302 ⇓P **P** **22 12 09.2 +0.9**
BZS Buzias 40.40 302 ⇓P **P** **22 12 09.2 +0.8**
STHS Stebnicka Huta 40.59 308 *e*P **P** **22 12 09.4 -0.5**
STHS *es*P sP 22 12 15.4 -2.4
STHS *e*PP PP 22 13 53.8 +7.0
KECS Kecovo 41.09 306 *e*P **P** **22 12 14.0 +0.1**
KECS *e* 22 12 31.3
KECS *e*PP PP 22 13 55.9 +4.0
KECS Kecovo 41.09 306 *e*P **P** **22 12 14.0 +0.1**
KECS *e* 22 13 55.9
NIE Niedzica 41.20 308 *e*P **P** **22 12 16.0 +1.2**
PSZ Piszkesteto 41.49 305 *e*P **P** **22 12 17.4 +0.1**
PSZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
PSZ Piszkesteto 41.49 305 *e*P **P** **22 12 17.4 +0.1**
comp=Z,9.2nm,0.8s,mb4.5

OJC Ojcow 41.54 309 *e*P **P** **22 12 18.3 +0.7**
VYHS Vyhne 42.18 306 *e* **P** **22 12 30.3 +7.4**
VYHS *e*PP PP 22 14 04.9 +1.2
OKC Ostrava-Krasne 42.61 308 *e*P **P** **22 12 27.1 +0.8**
OKC *ex* x 22 12 37.7
OKC AMS AMS 22 32 20.0
comp=Z,300nm,15.3s
MORC Moravsky Berou 43.00 308 ⇑P **P** **22 12 29.1 -0.5**
SMOL Smolenice 43.12 306 *e* **P** **22 12 37.2 +6.7**
KEV Kevo 43.20 338 *e*p **P** **22 12 28.8 -2.1**
comp=Z,15nm,0.6s,mb4.9
KEV Kevo 43.20 338 *e*P **P** **22 12 28.8 -2.1**
KEV pmax pmax
comp=Z,15nm,0.6s,mb4.9
ZST Bratislava 43.35 306 *e* pP 22 12 43.0 +5.0
ARCES ARCESS Array B 43.56 338 P **P** **22 12 34.6 +0.8**
comp=Z,26nm,0.5s,mb5.2,baz=113,slow=8.2,SNR=219
ARCES LR LR 22 32 10.4
comp=Z,907nm,21.4s,MS4.7,baz=124,slow=38
ARE0 ARCESS Array S 43.56 338 *e*P **P** **22 12 34.4 +0.6**
VRAC Vranov 43.63 307 ⇓P **P** **22 12 35.3 +0.6**
MDJ Mudanjiang 43.64 59 P **P** **22 12 33.0 -1.8**
MDJ PP PP 22 14 13.8 -4.5
MDJ SCP 22 18 13.0
MDJ PCS 22 18 14.3
MDJ S **S** **22 19 01.0 -2.0**
MDJ XS 22 19 06.5
MDJ AMB AMB
comp=Z,90nm,4.1s
MDJ LR LR
comp=N,740nm,17.4s,MS4.7
MDJ LR LR
comp=E,400nm,18.8s,MS4.7
MDJ LR LR
comp=Z,740nm,14.0s,MS4.8
MDJ Mudanjiang 43.64 59 *e*P **P** **22 12 36.3 +1.5**
comp=Z,31nm,1.0s,mb5.0
MDJ LR LR
comp=Z,629nm,19.0s,MS4.5
KS15 Wonju Array Si 43.64 70 P **P** **22 12 35.2 +0.3**
DPC Dobruska-Polom 43.77 309 *e*P **P** **22 12 36.1 +0.3**
DPC *e*PP PP 22 14 25.6 +6.0
DPC AMS AMS 22 31 50.0
comp=Z,400nm,20.2s
KSP Ksiaz 43.78 310 *e*P **P** **22 12 36.4 +0.6**
KSP MLR MLR 22 30 00.3
comp=Z,500nm,26.0s,MS4.3
KSP Ksiaz 43.78 310 *e*P **P** **22 12 36.2 +0.4**
KSP *e*PP PP 22 14 17.8 -1.8
UPC Upice 43.97 309 *e*P **P** **22 12 37.4 0.0**
UPC *e* pP 22 12 43.6 +0.6
KTK1 Kautokeino 44.05 337 *e*P **P** **22 12 38.8 +0.9**
YAK Yakutsk 44.35 34 *e*P **P** **22 12 43.9 +3.5**
YAK *e**PP pP 22 12 50.3 +4.3
YAK *e* 22 14 26.3
YAK *e*S **S** **22 19 12.3 -0.9**
YAK *e**SS 22 19 32.0
YAK *e*SS SS 22 22 24.1 +0.2
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,11nm,1.0s
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.6
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK smax
comp=N,6.0nm,1.2s
YAK smax
comp=Z,4.0nm,1.1s
YAK smax
comp=E,8.0nm,1.4s
YAK MLR MLR
comp=Z,298nm,17.0s,MS4.3
YAK MLR MLR
comp=N,192nm,14.0s,MS4.5
YAK MLR MLR
comp=E,387nm,19.0s,MS4.5
YAK Yakutsk 44.35 34 *e*P **P** **22 12 39.0 -1.3**
comp=E,40nm,0.6s,mb5.3
TREC Trest 44.36 308 *e*P **P** **22 12 41.2 +0.6**
TREC *e*pP pP 22 12 46.6 +0.4
GCIS Gornji Cirnik 44.56 303 *i*P **P** **22 12 43.2 +1.0**
KLR Kul'dur 44.69 53 *e*P **P** **22 12 41.3 -1.9**
KLR MLR MLR
comp=E,1μm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s,MS5.4
PERS Pernice 44.82 304 *e*P **P** **22 12 45.9 +1.5**
BOJS Bojanci 44.86 302 *e*P **P** **22 12 45.1 +0.4**
BOJS *e* pP 22 12 52.3 +2.0
PVCC Panska Ves 44.89 309 *e*P **P** **22 12 48.7 +3.9**
PRU Pruhonice 44.93 309 *e*P **P** **22 12 45.0 -0.2**
PRU *e*pP pP 22 12 50.8 0.0
PRU *e*PP PP 22 14 34.8 +3.6
VISS Visnje 45.11 303 *e*P **P** **22 12 47.4 +0.7**
BRG Berggiesshubel 45.27 310 *e*P **P** **22 12 47.7 -0.1**
BRG pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
BRG MLR MLR
comp=Z,540nm,16.6s,MS4.6
BRG Berggiesshubel 45.27 310 *e*P **P** **22 12 47.7 -0.2**
comp=Z,7.2nm,0.6s,mb4.7
BRG *e* 22 14 42.1
BRG LR LR
comp=Z,540nm,16.6s,MS4.6
GERES GERESS Array B 45.56 307 P **P** **22 12 49.6 -0.6**
comp=Z,1.2nm,0.4s,mb4.2,baz=71,slow=7.0,SNR=28
GERES LR LR 22 33 26.2
comp=Z,339nm,21.9s,MS4.2,baz=84,slow=38
KHC Kasperske Hory 45.62 307 *e*P **P** **22 12 50.9 +0.3**
KHC *e*pP pP 22 12 56.5 +0.3
KHC AMS AMS 22 33 00.0
comp=Z,500nm,21.9s
KHC Kasperske Hory 45.62 307 *e*P **P** **22 12 50.9 +0.3**
KHC *e* pP 22 12 56.5 +0.3
KHC LR LR
comp=Z,500nm,21.9s,MS4.4
TRO Tromso 45.70 337 *e*P **P** **22 12 50.4 -0.6**
TRO AMb AMB 22 13 01.1
comp=Z,58nm,1.7s,mb5.2
TRO AMS AMS 22 33 50.6
comp=Z,588nm,19.5s,MS4.5
TRO Tromso 45.70 337 *e*P **P** **22 12 50.4 -0.6**
comp=Z,58nm,1.7s,mb5.2
TRO Tromso 45.70 337 *e*P **P** **22 12 50.4 -0.6**
comp=Z,58nm,1.7s,mb5.2,SNR=28
CLL Collm 45.84 310 P **P** **22 12 57.0 +4.7**
comp=Z,logA/T=0.9,mb4.6
CLL *e* pP 22 13 03.0 +5.1
CLL *e* 22 13 19.0
CLL *e*SS SS 22 23 12.0 +21
ROBS Robic 45.97 303 *e*P **P** **22 12 53.4 -0.1**
NKC Novy Kostel 46.26 309 *e*P **P** **22 12 56.6 +0.9**
MOR8 Moi Rana 46.34 331 *e*P **P** **22 12 55.0 -1.1**
MOR8 AMb AMB 22 13 04.5
comp=Z,110nm,0.8s,mb5.8
MOR8 Moi Rana 46.34 331 *e*P **P** **22 12 55.0 -1.1**
comp=Z,110nm,0.8s,mb5.8
MOR8 Moi Rana 46.34 331 *e*P **P** **22 12 55.0 -1.1**
comp=Z,110nm,0.8s,mb5.8,SNR=28
TIXI Tiksi 46.76 21 *i*P **P** **22 12 59.9 +0.6**
MOX Moxa 46.76 310 *i*P **P** **22 12 59.7 +0.1**
comp=Z,logA/T=1.1,mb4.8
MOX L 22 35 20.0
MOX Moxa 46.76 310 *e*P **P** **22 12 59.7 +0.1**
MOX pmax pmax
comp=Z,14nm,1.1s,mb4.8
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.3
MOX Moxa 46.76 310 *e*P **P** **22 12 59.7 +0.1**
comp=Z,14nm,1.1s,mb4.8
MOX LR LR
comp=Z,300nm,18.0s,MS4.3
HABR Khabarovsk 46.92 53 *e*P **P** **22 13 04.1 +3.1**
HABR MLR MLR
comp=Z,1μm,14.4s,MS5.0
STOK Stokkvaagen 46.94 331 *e*P **P** **22 13 00.9 +0.1**
NB2 NORSAR Subarra 46.99 324 P **P** **22 13 00.6 -0.7**
comp=Z,38nm,0.9s,mb5.3,baz=97,slow=7.4
NB2 NORSAR Subarra 46.99 324 P **P** **22 13 00.6 -0.7**
baz=97,slow=7.9
NB2 NORSAR Subarra 46.99 324 P **P** **22 13 00.6 -0.7**
NB2 pmax pmax
comp=Z,38nm,0.9s,mb5.3
NB2 NORSAR Subarra 46.99 324 P **P** **22 13 00.6 -0.7**
baz=97,slow=7.6,SNR=28
NOA NORSAR Array B 46.99 324 P **P** **22 13 00.5 -0.8**
comp=Z,3.4nm,0.4s,mb4.6,baz=100,slow=7.7,SNR=26
NOA LR LR 22 35 27.7
comp=Z,382nm,19.9s,MS4.4,baz=105,slow=40
NSS Namsos 47.05 329 *e*P **P** **22 13 01.6 -0.2**
GRA1 Grafenberg Arr 47.10 308 *e*P **P** **22 13 03.7 +1.4**
comp=Z,15nm,0.9s,mb4.9
GRA1 *e*pP pP 22 13 09.9 +1.9
GRA1 LR LR
comp=Z,300nm,21.8s,MS4.2
GRF Grafenberg Arr 47.10 308 *e*P **P** **22 13 03.7 +1.4**
GRF *e**PP pP 22 13 09.9 +1.9
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF MLR MLR
comp=Z,300nm,21.8s,MS4.2
GRF Grafenberg Arr 47.10 308 *e*P **P** **22 13 03.7 +1.4**
GRF *e**PP pP 22 13 09.9 +1.9
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF MLR MLR
comp=Z,300nm,21.8s,MS4.2
GRF Grafenberg Arr 47.10 308 *e*P **P** **22 13 03.7 +1.4**
comp=Z,15nm,0.9s,mb4.9
GRF *e*pP pP 22 13 09.9 +1.9
GRF LR LR
comp=Z,300nm,21.8s,MS4.2
LOF Lofoten 47.13 334 *e*P **P** **22 13 03.6 +1.3**
LOF AMb AMB 22 13 10.1
comp=Z,64nm,1.2s,mb5.4
LOF Lofoten 47.13 334 *e*P **P** **22 13 03.6 +1.3**
comp=Z,64nm,1.2s,mb5.4,SNR=28
NAO01 NORSAR Array S 47.13 324 *e*P **P** **22 13 01.6 -0.8**
comp=Z,21nm,0.9s,mb5.1
JNU Nakatsue 47.19 75 P **P** **22 13 04.5 +1.2**
comp=Z,12nm,0.8s,mb4.9,baz=64,slow=9.6,SNR=2.1
SQTA Sankt Quirin 47.41 305⇑ *i*P **P** **22 13 03.6 -1.2**
comp=Z,16nm,1.2s,mb4.8
SQTA Sankt Quirin 47.41 305 ⇑P **P** **22 13 03.6 -1.2**
SQTA pmax pmax
comp=Z,17nm,1.2s,mb4.8
MOTA Moosalm 47.46 305⇑ *i*P **P** **22 13 04.3 -0.9**
comp=Z,9.1nm,0.9s,mb4.7
MOTA Moosalm 47.46 305 ⇑P **P** **22 13 04.3 -0.9**
MOTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MOTA Moosalm 47.46 305 ⇑P **P** **22 13 04.3 -0.9**
comp=Z,9.1nm,0.9s,mb4.7
KONO Kongsberg 47.71 322 *e*P **P** **22 13 05.4 -1.6**
KONO MLR MLR
comp=Z,672nm,20.0s,MS4.6
DOMB Dombas 48.09 325 *e*P **P** **22 13 11.7 +1.8**
DAVA Damuels 48.29 305⇑ *i*P **P** **22 13 10.9 -0.8**
comp=Z,50nm,0.9s,mb5.5
DAVA Damuels 48.29 305 ⇑P **P** **22 13 10.9 -0.9**
comp=Z,50nm,0.9s,mb5.5
STU Stuttgart 48.53 307 *e*P **P** **22 13 13.6 +0.1**
KKM Kota Kinabalu 48.69 116 *e*P **P** **22 13 16.1 +0.9**
MOL Molde 48.83 326 *e*P **P** **22 13 16.4 +0.8**
KMBO Kilima Mbogo 49.12 231 P **P** **22 13 19.9 +1.3**
comp=Z,9.8nm,0.8s,mb4.9,baz=36,slow=12,SNR=19
KMBO LR LR 22 35 00.2
comp=Z,293nm,18.6s,MS4.3,baz=350,slow=37
ODD1 Odda 49.21 322 *e*P **P** **22 13 17.9 -0.7**
ODD1 AMb AMB 22 13 29.1
comp=Z,66nm,1.8s,mb5.4
ODD1 Odda 49.21 322 *e*P **P** **22 13 17.9 -0.7**
comp=Z,66nm,1.8s,mb5.4
ODD1 Odda 49.21 322 *e*P **P** **22 13 17.9 -0.7**
comp=Z,66nm,1.8s,mb5.4,SNR=28
BLS5 Blasjo 49.31 322 *e*P **P** **22 13 20.4 +1.1**
PGF Pioggiola 49.83 299 *e*P **P** **22 13 22.6 -1.0**
CDF Champ du Feu 49.84 307 *e*P **P** **22 13 22.5 -1.1**
comp=Z,2.9nm,0.4s,mb4.4
CDF Champ du Feu 49.84 307 *e*P **P** **22 13 22.5 -1.1**
CDF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BER Bergen 49.86 323 AMS AMS 22 39 03.0
comp=Z,344nm,18.3s,MS4.4
EGD Espegrend 49.91 323 *e*P **P** **22 13 23.8 -0.2**
ASK Askoy 49.92 323 *e*P **P** **22 13 23.8 -0.3**
HINF Hinteralfeld 50.23 306 *e*P **P** **22 13 25.6 -1.0**
comp=Z,11nm,0.5s,mb4.8
HINF Hinteralfeld 50.23 306 *e*P **P** **22 13 25.6 -1.0**
HINF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
WLF Walferdange 50.36 309 *e*P **P** **22 13 28.0 +0.4**
WLF pmax pmax
comp=Z,22nm,1.0s,mb5.1
WLF Walferdange 50.36 309 *e*P **P** **22 13 28.0 +0.4**
comp=Z,22nm,1.0s,mb5.1
HAU Haudompre 50.52 307 *e*P **P** **22 13 27.9 -0.9**
comp=Z,12nm,0.4s,mb4.8
HAU *e*R
comp=Z,295nm,22.9s
HAU Haudompre 50.52 307 *e*P **P** **22 13 27.9 -0.9**
HAU pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
HAU MLR MLR
comp=Z,290nm,22.9s,MS4.2
SBF Sospel 50.64 301 *e*P **P** **22 13 28.7 -1.1**
comp=Z,62nm,0.8s,mb5.3
SBF Sospel 50.64 301 *e*P **P** **22 13 28.7 -1.1**
SBF pmax pmax
comp=Z,31nm,0.8s,mb5.3
LPG La Plagne 50.75 304 *e*P **P** **22 13 30.3 -0.3**
LPL La Plagne 50.76 304 *e*P **P** **22 13 30.0 -0.7**
comp=Z,15nm,0.6s,mb4.8
LPL La Plagne 50.76 304 *e*P **P** **22 13 30.0 -0.7**
LPL pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KBS Kingsbay 50.81 347 *e*P **P** **22 13 27.8 -2.8**
BNI Bardonecchia 50.90 303 *e*P **P** **22 13 30.9 -0.8**
BNI pmax pmax
comp=Z,35nm,1.2s,mb5.2
BNI Bardonecchia 50.90 303 *e*P **P** **22 13 30.9 -0.8**
comp=Z,35nm,1.2s,mb5.2
MBDF Montbardon 50.91 303 *e*P **P** **22 13 30.3 -1.5**
comp=Z,9.7nm,0.5s,mb4.7
MBDF Montbardon 50.91 303 *e*P **P** **22 13 30.3 -1.5**
MBDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
CABF La Chapelle 50.97 305 *e*P **P** **22 13 31.8 -0.4**
comp=Z,9.0nm,0.5s,mb4.7
CABF La Chapelle 50.97 305 *e*P **P** **22 13 31.8 -0.4**
CABF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
FRF La Foret Royal 51.27 301 *e*P **P** **22 13 33.9 -0.6**
comp=Z,74nm,1.3s,mb5.2
FRF La Foret Royal 51.27 301 *e*P **P** **22 13 33.9 -0.6**
FRF pmax pmax
comp=Z,37nm,1.3s,mb5.2
MEZF Maizieres J'vi 51.28 308 *e*P **P** **22 13 34.0 -0.6**
comp=Z,8.8nm,0.5s,mb4.7
ORIF Oris-en-Rattie 51.48 303 *e*P **P** **22 13 34.7 -1.4**
comp=Z,46nm,1.2s,mb5.0
ORIF *e*R
comp=Z,146nm,20.2s
MAJO Matsushiro 51.83 68 *e*P **P** **22 13 39.0 +0.1**
MAJO pmax pmax
comp=Z,25nm,0.8s,mb5.2
MAJO Matsushiro 51.83 68 *e*P **P** **22 13 39.0 0.0**
comp=Z,25nm,0.8s,mb5.2
MAT Matsushiro 51.83 68 P **P** **22 13 38.8 -0.1**
MAT *e*S **S** **22 21 04.2 +5.4**
MAT Matsushiro 51.83 68 *e*P **P** **22 13 39.0 +0.1**
MAT pmax pmax
comp=Z,42nm,1.5s,mb5.2
MAT Matsushiro 51.83 68 *e*P **P** **22 13 39.0 +0.1**
comp=Z,42nm,1.5s,mb5.1
MJAR Matsushiro Arr 51.83 68 P **P** **22 13 39.3 +0.3**
comp=Z,7.7nm,0.7s,mb4.7,baz=294,slow=9.0,SNR=11
MJAR LR LR 22 38 49.7
comp=Z,175nm,20.2s,MS4.1,baz=290,slow=40
SMRF Simiane la Rot 51.92 302 *e*P **P** **22 13 38.8 -0.7**
comp=Z,30nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 52.31 54⇑ *e*P **P** **22 13 51.8 +9.4**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
YSS MLR MLR

comp=E,800nm,13.0s
YSS MLR MLR

VIVF Saint-Julien-l 52.33 303 *e*P **P** 22 13 41.6 -1.0
SMF Signal de Mont 52.47 306 *e*P **P** 22 13 42.3 -1.3
comp=Z,31nm,0.7s,mb5.1
SMF Signal de Mont 52.47 306 *e*P **P** 22 13 42.3 -1.3
SMF pmax pmax
comp=Z,16nm,0.7s,mb5.1
SSF Saint Saulge 52.60 306 *e*P **P** 22 13 43.2 -1.4
SSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
SSF Saint Saulge 52.60 306 *e*P **P** 22 13 43.2 -1.4
comp=Z,4.8nm,0.6s,mb4.6
AVF Avril sur Loir 52.77 306 *e*P **P** 22 13 44.4 -1.4
comp=Z,30nm,0.7s,mb5.0
AVF Avril sur Loir 52.77 306 *e*P **P** 22 13 44.4 -1.4
AVF pmax pmax
comp=Z,15nm,0.7s,mb5.0
ASAJ Asahikawa 52.88 58 LR LR 22 38 14.1
comp=Z,564nm,18.1s,MS4.7,baz=57,slow=38
LASF Ste Croix 53.09 302 *e*P **P** 22 13 47.3 -1.0
HYF Humbligny 53.13 307 *e*P **P** 22 13 47.5 -1.0
BGF Bois d'Agland 53.16 306 *e*P **P** 22 13 47.3 -1.4
comp=Z,7.4nm,0.6s,mb4.5
BGF Bois d'Agland 53.16 306 *e*P **P** 22 13 47.3 -1.4
BGF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 53.66 305 *e*P **P** 22 13 51.4 -0.9
comp=Z,21nm,0.7s,mb4.9
TCF Toulx Ste Croi 53.66 305 *e*P **P** 22 13 51.4 -0.9
TCF pmax pmax
comp=Z,11nm,0.7s,mb4.9
CAF Calviac 54.10 304 *e*P **P** 22 13 54.8 -0.8
comp=Z,19nm,0.7s,mb4.8
CAF Calviac 54.10 304 *e*P **P** 22 13 54.8 -0.8
CAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
JHJ Hachijo jima 2 54.21 71 LR LR 22 39 20.8
comp=Z,234nm,19.1s,MS4.3,baz=222,slow=38
SET Setif 54.33 293 P **P** 22 13 58.0 +0.6
RJF Les Rejaudoux 54.38 304 *e*P **P** 22 13 57.0 -0.6
MTLF Montolieu 54.44 302 *e*P **P** 22 13 56.8 -1.3
comp=Z,9.8nm,0.7s,mb4.5
MTLF Montolieu 54.44 302 *e*P **P** 22 13 56.8 -1.3
MTLF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MA2 Magadan 54.61 38 P **P** 22 13 58.9 -0.3
MA2 pmax pmax
comp=Z,60nm,1.3s,mb5.5
MA2 Magadan 54.61 38 P **P** 22 13 58.9 -0.3
comp=Z,60nm,1.3s,mb5.5
LDF La Druitiere 54.62 309 *e*P **P** 22 13 57.7 -1.7
comp=Z,8.2nm,0.5s,mb4.7
LDF La Druitiere 54.62 309 *e*P **P** 22 13 57.7 -1.7
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
FLN La Foliniere 54.81 309 *e*P **P** 22 13 59.6 -1.2
comp=Z,5.2nm,0.5s,mb4.6
FLN *e*R
comp=Z,372nm,21.5s
FLN La Foliniere 54.81 309 *e*P **P** 22 13 59.6 -1.2
FLN pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
FLN MLR MLR
comp=Z,370nm,21.5s,MS4.4
SEY Seymchan 54.86 33 *e*P **P** 22 14 02.6 +1.6
LFF La Frestale 55.01 304 *e*P **P** 22 14 01.3 -1.0
comp=Z,24nm,0.5s,mb5.2
LFF La Frestale 55.01 304 *e*P **P** 22 14 01.3 -1.0
LFF pmax pmax
comp=Z,12nm,0.5s,mb5.2
ETOS Mallorca 55.09 298 P **P** 22 14 02.7 -0.2
comp=Z,202nm,1.7s,mb5.9
GRR Gorron 55.14 309 *e*P **P** 22 14 01.4 -1.8
comp=Z,17nm,0.8s,mb4.8
GRR Gorron 55.14 309 *e*P **P** 22 14 01.4 -1.8
GRR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MFF Saint Martin d 55.15 306 *e*P **P** 22 14 01.5 -1.8
comp=Z,4.5nm,0.5s,mb4.5
MFF Saint Martin d 55.15 306 *e*P **P** 22 14 01.5 -1.8
MFF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
EMIR Miracle 55.34 300 P **P** 22 14 04.7 -0.1
comp=Z,515nm,4.2s
EPOB Poblet 55.84 300 P **P** 22 14 08.0 -0.4
comp=Z,234nm,2.8s,mb5.7
EPF Esparros 55.84 302 *e*P **P** 22 14 07.1 -1.2
comp=Z,8.8nm,0.7s,mb4.6
EPF Esparros 55.84 302 *e*P **P** 22 14 07.1 -1.2
EPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
EBIE Bielsa 56.08 302 P **P** 22 14 10.1 0.0
comp=Z,282nm,4.6s
EGRA Graus 56.12 301 P **P** 22 14 09.5 -0.8
comp=Z,6.4nm,0.7s,mb4.8
EMHD Djebel Mahouad 56.19 293 P **P** 22 14 08.0 -2.9
SGMF Saint Gilles 56.27 309 *e*P **P** 22 14 09.7 -1.7
EBR Ebro Roquetas 56.43 299 *e*P **P** 22 14 16.5 +3.9
ETSF Etsaut 56.51 302 *e*P **P** 22 14 12.1 -1.0
comp=Z,55nm,0.5s,mb5.5
ETSF Etsaut 56.51 302 *e*P **P** 22 14 12.1 -1.0
ETSF pmax pmax
comp=Z,28nm,0.5s,mb5.5
ROSF Rostrenen 56.71 309 *e*P **P** 22 14 12.7 -1.8
comp=Z,9.6nm,0.6s,mb4.7
ROSF Rostrenen 56.71 309 *e*P **P** 22 14 12.7 -1.8
ROSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
QUIF Quistinic 56.76 309 *e*P **P** 22 14 13.1 -1.8
comp=Z,7.4nm,0.5s,mb4.7
QUIF Quistinic 56.76 309 *e*P **P** 22 14 13.1 -1.8
QUIF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
SJPF Ste Jean 56.90 303 *e*P **P** 22 14 14.8 -1.2
DAG Danmarks Havn 57.01 344⇓ *i*P **P** 22 14 15.7 -0.6
comp=Z,10nm,0.4s,mb5.2
DAG *i* 22 14 38.1
DAG Danmarks Havn 57.01 344⇓ *e*P **P** 22 14 15.7 -0.6
DAG pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
DAG Danmarks Havn 57.01 344⇓ *e*P **P** 22 14 15.7 -0.6
comp=Z,10nm,0.4s,mb5.2
DAG *i* 22 14 38.1
EALK Alkurruntz 57.07 303 P **P** 22 14 16.9 -0.3
comp=Z,7.2nm,0.5s,mb5.0
EBNR Beni Rached 57.23 294 P **P** 22 14 22.0 +3.6
EMOS Mosqueruela 57.27 299 P **P** 22 14 17.9 -0.7
comp=Z,105nm,1.8s,mb5.6
DLF Lyons Farm 57.33 315 *e*P **P** 22 14 16.3 -2.6
EBEN Beniarda 57.67 297 P **P** 22 14 21.9 +0.4
comp=Z,99nm,1.7s,mb5.6
EANR 'Ain N'Sour 57.68 294 P **P** 22 14 21.0 -0.5
ETRT Tiaret 57.73 293 P **P** 22 14 21.5 -0.4
DCN Croghan 57.75 316 *e*P **P** 22 14 19.5 -2.3
ELAN Lanestosa 58.39 303 P **P** 22 14 25.8 -0.6
comp=Z,83nm,1.4s,mb5.6
ETOB Tobarra 58.66 298 P **P** 22 14 28.8 +0.4
comp=Z,177nm,2.4s,mb5.7
EVIA Vianos 59.35 298 P **P** 22 14 32.5 -0.7
EVIA pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
EVIA Vianos 59.35 298 P **P** 22 14 32.5 -0.7
comp=Z,4.3nm,0.4s,mb4.8
BILL Bilibino 59.39 26 *e*P **P** 22 14 31.2 -1.9
BILL pmax pmax
comp=Z,10.0nm,2.1s,mb4.5
BILL MLR MLR
comp=Z,500nm,17.0s,MS4.7
BILL Bilibino 59.39 26 *e*P **P** 22 14 29.3 -3.8
comp=Z,14nm,0.9s,mb5.0
EARI Arriondas 59.59 304 P **P** 22 14 33.7 -1.0
comp=Z,115nm,2.0s,mb5.6
EHUE Huescar 59.73 297 P **P** 22 14 36.3 +0.5
EHUE pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
EHUE Huescar 59.73 297 P **P** 22 14 36.3 +0.5
comp=Z,5.7nm,0.8s,mb4.7
GUD Guadarrama 59.80 301 P **P** 22 14 35.9 -0.3
GUD pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
GUD Guadarrama 59.80 301 P **P** 22 14 35.9 -0.4
comp=Z,6.7nm,0.4s,mb5.0
ESDC Sonseca Array 60.02 300 P **P** 22 14 36.7 -1.1
comp=Z,4.9nm,0.5s,mb4.8,baz=54,slow=7.6,SNR=65
ESDC Sonseca Array 60.02 300 P **P** 22 14 37.2 -0.6
comp=Z,9.0nm,0.5s,mb5.1
ESLA Sonseca Array 60.02 300 *e*P **P** 22 14 37.1 -0.6
comp=Z,2.9nm,0.9s,mb4.3
EQES Quesada 60.08 297 P **P** 22 14 37.8 -0.4
comp=Z,9.7nm,0.5s,mb5.1
EBER Berja 60.30 296 P **P** 22 14 39.4 -0.3
comp=Z,6.3nm,0.4s,mb5.0
EBAN Banos Encina 60.47 298 P **P** 22 14 40.3 -0.5
EBAN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
EBAN Banos Encina 60.47 298 P **P** 22 14 40.3 -0.5
comp=Z,9.6nm,0.6s,mb5.0
ECOG Cogollos-Vega 60.65 297 P **P** 22 14 41.1 -1.0
ECOG pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
ECOG Cogollos-Vega 60.65 297 P **P** 22 14 41.1 -0.9
comp=Z,3.9nm,0.5s,mb4.8
EPON Pontenova 60.90 305 P **P** 22 14 43.4 -0.3
comp=Z,24nm,0.8s,mb5.4
ERON Agron 60.92 297 P **P** 22 14 42.3 -1.7
comp=Z,3.2nm,0.4s,mb4.8
EADA Adamuz 61.04 298 P **P** 22 14 44.3 -0.4
comp=Z,6.2nm,0.6s,mb4.9
ELUQ Luque 61.05 297 P **P** 22 14 43.4 -1.4
ELUQ pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
ELUQ Luque 61.05 297 P **P** 22 14 43.4 -1.4
comp=Z,4.8nm,0.7s,mb4.7
ERUA La Rua 61.24 304 P **P** 22 14 45.4 -0.6
ERUA pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
ERUA La Rua 61.24 304 P **P** 22 14 45.4 -0.6
comp=Z,4.1nm,0.5s,mb4.8
PVRL Vila Real 62.06 303 *e*P **P** 22 14 51.2 -0.4
ELOB Lobios 62.07 303 P **P** 22 14 51.6 0.0
comp=Z,21nm,0.6s,mb5.5
EMAZ Mazaricos 62.28 305 P **P** 22 14 51.6 -1.4
comp=Z,84nm,1.3s,mb5.7
MTE Manteigas 62.29 302 *e*P **P** 22 14 53.2 +0.1
comp=Z,44nm,1.5s,mb5.4
MTE Manteigas 62.29 302 *e*P **P** 22 14 52.0 -1.1
comp=Z,22nm,0.8s,mb5.3
PVIS Viseu 62.41 302 *e*P **P** 22 14 53.8 -0.1
comp=Z,28nm,1.1s,mb5.3
PCBR Castelo Branco 62.46 301 *e*P **P** 22 14 54.1 -0.2
ESPR Espera 62.49 297 P **P** 22 14 53.3 -1.2
comp=Z,122nm,2.8s,mb5.5
EBAD Badajoz 62.56 300 P **P** 22 14 54.6 -0.3
comp=Z,25nm,0.7s,mb5.5
EMIN Mina Concepcio 62.72 299 P **P** 22 14 56.1 +0.2
comp=Z,6.2nm,0.7s,mb4.8
PTOM Tomar 63.21 301 *e*P **P** 22 14 58.9 -0.3
comp=Z,44nm,2.1s,mb5.2
SUMG Summit 63.40 342 *e*P **P** 22 14 59.8 -0.2
comp=Z,38nm,1.0s,mb5.5
EGRO El Granado 63.40 299 P **P** 22 14 59.8 -0.7
PBEJ Beja 63.47 299 *e*P **P** 22 15 00.8 -0.1
comp=Z,24nm,1.6s,mb5.1
LSZ Lusaka 65.65 229 *e*P **P** 22 15 15.3 -0.1
LSZ pmax pmax
comp=Z,14nm,1.0s,mb5.0
LSZ Lusaka 65.65 229 *e*P **P** 22 15 15.3 -0.1
comp=Z,14nm,1.0s,mb4.9
FITZ Fitzroy Crossi 72.26 128 *e*P **P** 22 15 57.1 +0.9
comp=Z,17nm,1.1s,mb4.9
LBTB Lobatse 74.67 224 *e*P **P** 22 16 10.5 +0.3
LBTB pmax pmax
comp=Z,41nm,0.8s,mb5.4
LBTB Lobatse 74.67 224 *e*P **P** 22 16 10.5 +0.3
comp=Z,41nm,0.8s,mb5.4
TSUM Tsumeb 75.36 234 *e*P **P** 22 16 14.8 +0.5
comp=Z,15nm,0.9s,mb4.9
INK Inuvik 75.37 10 *e*P **P** 22 16 13.8 +0.4
INK pmax pmax
comp=Z,28nm,1.0s
INK Inuvik 75.37 10 *e*P **P** 22 16 13.8 +0.5
comp=Z,28nm,1.0s,mb5.2
ILAR Eielson Array 75.98 17 P **P** 22 16 19.1 +2.2
comp=Z,15nm,1.0s,mb4.9,baz=329,slow=5.3,SNR=2.6
DBIC Dimbokro 76.56 269 P **P** 22 16 21.0 -0.2
comp=Z,12nm,0.7s,mb4.9,baz=42,slow=6.9,SNR=59
DBIC LR LR 22 53 57.2
comp=Z,224nm,18.2s,MS4.5,baz=37,slow=39
DBIC Dimbokro 76.56 269 *e*P **P** 22 16 20.6 -0.6
DBIC pmax pmax
comp=Z,37nm,0.9s
DBIC Dimbokro 76.56 269 *e*P **P** 22 16 20.6 -0.6
comp=Z,37nm,0.9s,mb5.3
LIC Lamto 76.95 269 *e*P **P** 22 16 23.4 +0.1
comp=Z,79nm,0.9s,mb5.4
LIC *e*R
comp=Z,493nm,17.5s
MUN Mundaring 77.58 144 *e*P **P** 22 16 26.7 +0.2
KLBR Kellerberrin 78.03 142 *e*P **P** 22 16 28.7 -0.3
comp=Z,51nm,1.1s,mb5.4
WRA Warramunga Arr 79.39 123 P **P** 22 16 36.9 +0.3
comp=Z,9.0nm,0.5s,mb5.0,baz=323,slow=5.1,SNR=38
WRAB Tennant Creek 79.39 123 *e*P **P** 22 16 36.9 +0.3
WRAB pmax pmax
comp=Z,38nm,0.8s,mb5.4
WRAB Tennant Creek 79.39 123 *e*P **P** 22 16 36.9 +0.3
comp=Z,38nm,0.8s,mb5.4
WB2 Warramunga Arr 79.39 123⇑ *i*P **P** 22 16 37.0 +0.4
KDAK Kodiak Island 80.13 23 P **P** 22 16 42.1 +2.3
comp=Z,18nm,0.7s,mb5.1,baz=3.3,slow=7.6,SNR=2.5
ASPA Alice Springs 81.63 126 *e*P **P** 22 16 49.2 +0.8
YKW3 Yellowknife Ar 82.88 4 *e*P **P** 22 16 54.1 0.0
YKA Yellowknife Ar 82.95 4 P **P** 22 16 55.0 +0.6
comp=Z,2.5nm,0.6s,mb4.5,baz=348,slow=5.2,SNR=53
YKA PKKPbc 22 35 18.0
comp=Z,0.3nm,0.6s,baz=166,slow=2.4,SNR=9.6
YKA LR LR 22 58 09.7
comp=Z,292nm,18.9s,MS4.7,baz=330,slow=39
YKA Yellowknife Ar 82.95 4 P **P** 22 16 55.0 +0.6
YKA PKKPbc 22 35 18.1
YKA LR LR 22 58 09.7
SCHQ Schefferville 84.51 338 P **P** 22 17 03.1 +0.7
comp=Z,1.8nm,0.6s,mb4.4,baz=226,slow=9.7,SNR=9.8
SCHQ LR LR 22 54 10.4
comp=Z,295nm,19.1s,MS4.7,baz=70,slow=35
CTA Charters Tower 88.02 116 *e*P **P** 22 17 21.7 +1.2
comp=Z,10nm,0.9s,mb5.1
CTA Charters Tower 88.02 116 P **P** 22 17 21.9 +1.4
comp=Z,14nm,0.9s,mb5.2,baz=350,slow=4.6,SNR=8.8
CTA Charters Tower 88.02 116 P **P** 22 17 21.9 +1.4
CTA pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 88.02 116 *e*P **P** 22 17 21.6 +1.1
CTAO pmax pmax
comp=Z,17nm,1.0s,mb5.2
CTAO Charters Tower 88.02 116 *e*P **P** 22 17 21.6 +1.1
comp=Z,17nm,1.0s,mb5.2
STKA Stephens Creek 92.15 128 *e*P **P** 22 17 41.3 +1.8
comp=Z,7.5nm,1.5s,mb4.8
STKA Stephens Creek 92.15 128 P **P** 22 17 40.8 +1.2
comp=Z,3.1nm,0.7s,mb4.8,baz=322,slow=6.2,SNR=8.2
STKA LR LR 23 01 01.5
comp=Z,139nm,18.8s,MS4.4,baz=273,slow=37
EDM Edmonton 92.27 4 *e*P **P** 22 17 41.3 +1.8
ULM Lac du Bonnet 94.91 353 LR LR 23 02 51.8
comp=Z,268nm,21.5s,MS4.7,baz=1,6,slow=37
SYO Syowa Base 106.35 192⇑ PP PP 22 23 13.6 +3.5
TXAR Lajitas Array 116.27 357 PKKPbc 22 33 46.7
comp=Z,1.1nm,1.0s,baz=194,slow=5.2,SNR=5.6
VNA2 Neumayer--Watz 119.44 202 *e* PKPdf 22 23 22.7 +1.2
VNA2 Neumayer--Watz 119.44 202 *e* PKPdf 22 23 24.6 +3.1
VNA2 Neumayer--Watz 119.44 202 *e* tx 22 23 32.6
VNA2 Neumayer--Watz 119.44 202 *e* tx 22 23 35.8
VNA2 Neumayer--Watz 119.44 202 *e* tx 22 33 03.8
VNA2 Neumayer--Watz 119.44 202⇑ *i*PKPdf PKPdf 22 23 21.3 -0.2
VNA2 *e* 22 23 22.7
VNA2 *e* 22 23 24.6
VNA2 *e* 22 23 32.6
VNA2 *e* 22 23 35.8
VNA2 *e* 22 24 40.5
VNA2 *e* 22 24 46.6
VNA2 *e* 22 33 03.8
VNA1 Neumayer--Stat 119.61 202⇑ *i*P PKPdf 22 23 23.0 +1.2
VNA3 Neumayer Olymp 120.24 202 *e* PKPdf 22 23 23.9 +0.8
VNA3 Neumayer Olymp 120.24 202 *e* PKPdf 22 23 26.0 +2.9
VNA3 Neumayer Olymp 120.24 202 *e* tx 22 23 33.7
VNA3 Neumayer Olymp 120.24 202⇑ *i*PKPdf PKPdf 22 23 22.9 -0.2
VNA3 *e* 22 23 23.9
VNA3 *e* 22 23 26.0
VNA3 *e* 22 23 33.7

CPUP Villa Florida 137.07 267 PKIKP PKPdf 22 23 54.2 -1.9
LPAZ La Paz 141.01 288 PKP PKPdf 22 24 02.8 -0.8
comp=Z,0.6nm,0.4s,baz=296,slow=20,SNR=3.6
LPAZ La Paz 141.01 288 PKP PKPdf 22 24 02.8 -0.8
LPAZ LR LR
comp=Z,142nm,20.0s,MS4.7
TRQA Tornquist 144.15 251 *e*PKP PKPdf 22 24 06.9 -1.4
NNA Nana 144.76 303 *e*PKP PKPdf 22 24 08.3 -1.8
PLCA Paso Flores 150.97 247 PKPbc PKPdf 22 24 22.8 +3.4
comp=Z,6.5nm,0.9s,baz=149,slow=4.7,SNR=9.6
PLCA Paso Flores 150.97 247 PKIKP PKPdf 22 24 22.8 +3.4
PLCA pmax pmax
comp=Z,7.0nm,0.9s
PLCA Paso Flores 150.97 247 PKPbc PKPdf 22 24 24.0 +4.6

IDC ***28*** *22:08:17.2±0.9, 34.73N×73.41E, mb4.2/11, mb1 4.4/14, mb1mx4.3/20, mbtmp4.2/14, ML4.5/2, MS4.2/1, Ms1 4.2/1, ms1mx3.0/28, Error ellipse: s-maj=21.6km s-min=20.1km az=17.0*
NEIC ***28*** *22:08:18.9±0.6, 34.74N×73.39E, h10km, mb4.7/1, Error ellipse: s-maj=12.7km s-min=12.4km az=132.0*
ISC 28 22:08:20.5±7.7, 34.8N±0.2×73.4E±0.1, h32km±53km, n20, σ0°75/19, mb4.2/13, MS4.3/1, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.73**	**27**	Pn	**P**	**22 11 35.0**	**-0.1**
	baz=201,slow=12,SNR=2.1						
BVAR	**Borovoye Array**	**18.33**	**354**	P	**P**	**22 12 33.7**	**-0.3**
	1.1nm,0.3s,baz=145,slow=9.2,SNR=4.5						
AKTK	**Aktyubinsk**	**19.22**	**329**	P	**P**	**22 12 44.3**	**-0.2**
AKTO	**Aktyubinsk**	**19.22**	**329**	P	**P**	**22 12 44.3**	**-0.2**
	2.1nm,0.3s,baz=283,slow=19,SNR=5.6						
SONM	**Songino Array**	**27.77**	**52**	P	**P**	**22 14 09.3**	**+1.1**
	1.3nm,0.8s,mb3.6,baz=255,slow=8.9,SNR=3.1						
BRTR	**Keskin Array B**	**31.82**	**291**	P	**P**	**22 14 46.0**	**+1.6**
	1.3nm,0.8s,mb3.8,baz=90,slow=5.8,SNR=2.5						
JOF	**Joensuu**	**38.30**	**330**	*e*p	**P**	**22 15 38.4**	**-1.0**
	8.9nm,0.5s,mb4.8						
FINES	**FINESS Array B**	**39.96**	**327**	P	**P**	**22 15 52.9**	**-0.4**
	2.9nm,0.7s,mb4.1,baz=120,slow=11,SNR=5.5						
ARCES	**ARCESS Array B**	**43.44**	**338**	P	**P**	**22 16 22.7**	**+1.1**
	4.8nm,0.5s,mb4.5,baz=116,slow=8.4,SNR=13						
GERES	**GERESS Array B**	**45.49**	**307**	P	**P**	**22 16 39.0**	**+0.7**
	0.4nm,0.5s,mb3.5,baz=54,slow=8.4,SNR=4.7						
NOA	**NORSAR Array B**	**46.89**	**324**	P	**P**	**22 16 48.7**	**-0.6**
	0.7nm,0.5s,mb3.9,baz=103,slow=8.1,SNR=2.9						
NOA	**NORSAR Array B**	**46.89**	**324**	P	**P**	**22 16 48.7**	**-0.6**
KMBO	**Kilima Mbogo**	**49.21**	**231**	P	**P**	**22 17 08.4**	**+0.5**
	3.3nm,0.9s,mb4.4,baz=74,slow=15,SNR=5.1						
CBIJ	**Chichi jima**	**58.48**	**77**	LR	LR	22 43 04.9	
	comp=Z,228nm,20.2s,MS4.3,baz=36,slow=36						
ESDC	**Sonseca Array**	**59.97**	**300**	P	**P**	**22 18 25.1**	**-1.0**
	2.5nm,0.7s,mb4.3,baz=53,slow=7.6,SNR=6.1						
DBIC	**Dimbokro**	**76.58**	**269**	P	**P**	**22 20 09.2**	**-0.6**
	5.7nm,0.8s,mb4.5,baz=23,slow=6.8,SNR=8.2						
WRA	**Warramunga Arr**	**79.45**	**123**	P	**P**	**22 20 25.0**	**-0.5**
	2.0nm,0.5s,mb4.3,baz=322,slow=4.8,SNR=14						
WRAB	**Tennant Creek**	**79.45**	**123**	*e*P	**P**	**22 20 24.9**	**-0.6**
	5.2nm,0.6s,mb4.6						
YKA	**Yellowknife Ar**	**82.82**	**4**	P	**P**	**22 20 43.0**	**+0.6**
	0.7nm,0.5s,mb3.9,baz=348,slow=5.3,SNR=4.4						
YKA	**Yellowknife Ar**	**82.82**	**4**	P	**P**	**22 20 43.0**	**+0.6**

IDC ***28*** *22:11:26.3±3.7, 12.25N×141.33E, h91km±33km, mb3.9/9, mb1 4.1/10, mb1mx3.9/20, mbtmp4.3/10, MS3.8/2, Ms1 3.8/2, ms1mx3.3/22, Error ellipse: s-maj=31.4km s-min=22.5km az=57.0*
NEIC ***28*** *22:11:26.0±2.0, 12.24N×141.32E, h89km±18km, mb4.6/2, Error ellipse: s-maj=20.9km s-min=14.3km az=64.0*
ISC 28 22:11:21.7±3.6, 12.2N±0.2×141.0E±0.2, h61km±33km, n18, σ0°77/15, mb4.3/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.99**	**69**	P	**P**	**22 12 21.0**	**-0.9**
	69nm,0.3s,baz=220,slow=2.9,SNR=22						
GUMO				S	**S**	**22 13 11.2**	**+3.3**
	baz=8.1,slow=21,SNR=1.8						
GUMO				LR	LR	22 13 37.6	
	comp=Z,142nm,20.2s,baz=277,slow=36						
CBIJ	**Chichi jima**	**14.87**	**4**	LR	LR	22 19 20.4	
	comp=Z,57nm,20.3s,baz=29,slow=32						
JOW	**Kunigami**	**18.86**	**322**	LR	LR	22 23 14.3	
	comp=Z,641nm,18.8s,baz=274,slow=37						
CTA	**Charters Tower**	**32.48**	**171**	LR	LR	22 31 42.5	
	comp=Z,68nm,18.6s,baz=230,slow=37						
STKA	**Stephens Creek**	**43.82**	**179**	P	**P**	**22 19 24.0**	**+0.3**
	4.0nm,0.8s,mb4.2,baz=13,slow=8.8,SNR=4.4						
SONM	**Songino Array**	**45.81**	**328**	P	**P**	**22 19 40.1**	**+0.8**
	1.1nm,0.8s,mb3.9,baz=130,slow=8.7,SNR=3.2						
MKAR	**Makanchi Array**	**59.93**	**317**	P	**P**	**22 21 24.4**	**+0.5**
	2.2nm,0.8s,mb4.2,baz=93,slow=9.3,SNR=12						
KURK	**Kurchatov**	**63.27**	**321**	*e*P	**P**	**22 21 46.0**	**-0.3**
	8.8nm,0.7s,mb5.0						
BVAR	**Borovoye Array**	**68.72**	**322**	P	**P**	**22 22 21.2**	**+0.3**
	6.0nm,0.7s,mb4.6,baz=106,slow=7.2,SNR=38						
BRVK	**Borovoye**	**68.78**	**322**	*e*P	**P**	**22 22 21.3**	**-0.1**
	2.1nm,0.5s,mb4.3						
ILAR	**Eielson Array**	**71.43**	**25**	P	**P**	**22 22 35.5**	**-1.7**
	1.0nm,0.8s,mb3.8,baz=255,slow=5.6,SNR=7.3						
AKTK	**Aktyubinsk**	**76.27**	**319**	P	**P**	**22 23 05.7**	**+0.1**
AKTO	**Aktyubinsk**	**76.27**	**319**	P	**P**	**22 23 05.7**	**+0.1**
	1.4nm,0.6s,mb4.1,baz=94,slow=7.4,SNR=6.1						
YKA	**Yellowknife Ar**	**85.80**	**27**	P	**P**	**22 23 55.5**	**+0.1**
	0.4nm,0.5s,mb3.9,baz=289,slow=5.0,SNR=8.3						
YKA	**Yellowknife Ar**	**85.80**	**27**	P	**P**	**22 23 55.5**	**+0.1**
ARCES	**ARCESS Array B**	**87.24**	**341**	P	**P**	**22 24 02.6**	**+0.3**
	1.7nm,0.5s,mb4.5,baz=67,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**90.81**	**334**	P	**P**	**22 24 18.9**	**-0.5**
	3.0nm,0.5s,mb4.8,baz=67,slow=6.1,SNR=25						
LPAZ	**La Paz**	**151.46**	**102**	PKPbc	PKPdf	22 31 10.2	+6.8
	2.5nm,0.7s,baz=255,slow=3.2,SNR=9.6						

NIED ***28*** *22:17:00, 23.00N×121.20E, h11km, Mw4.5 Best double couple: M0 5.77×10^15 NP1:φ±215°, δ73°, λ74°. NP2:φ±80°, δ23°, λ133°.*
NEIC ***28*** *22:17:25.9±0.4, 22.88N×121.44E, h10km, mb4.7/6, ML5.0(TAP), Error ellipse: s-maj=10.7km s-min=7.7km az=83.0*
NEIC Recorded [4 TAP] in T'ai-tung; [2 TAP] in Kao-hsiung; [1 TAP] in Chia-i, Hua-lien, Nan-t'ou and Yun-lin Counties.
MOS ***28*** *22:17:27.1±1.0, 22.88N×121.54E, h33km, mb5.0/5, Error ellipse: s-maj=25.4km s-min=11.4km az=122.8*
JMA ***28*** *22:17:28.9±0.3, 22.99N×121.18E, h87km, M4.0*
IDC ***28*** *22:17:30.7±3.2, 22.88N×121.50E, h46km±31km, mb3.8/16, mb1 4.0/17, mb1mx3.9/23, mbtmp4.1/17, ML3.8/1, MS4.0/6, Ms1 4.0/6, ms1mx3.5/28, Error ellipse: s-maj=21.0km s-min=13.8km az=68.0*
BJI ***28*** *22:17:31.3, 23.23N×120.80E, h10km, mB4.7, mb4.3, ML4.6, Ms4.5, Msz4.2*
ISC 28 22:17:27.2±1.6, 22.87N±0.04×121.23E±0.03, h27km±11km, n62, σ1°24/71, mb4.2/22, MS4.2/6, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**1.34**	**14**	*e*P	**Pn**	**22 17 48.9**	**-1.6**
YHNB	**Yeheng**	**1.80**	**4**	*e*P	**Pn**	**22 17 57.5**	**+0.5**
TATO	**Taipei**	**2.11**	**6**	*e*P	**Pn**	**22 18 01.7**	**+0.2**
YOJ	**Yonaguni jima**	**2.28**	**45**	P	**Pn**	**22 18 04.5**	**+0.6**
YOJ				*e*S	**Sn**	**22 18 31.8**	**+0.5**
HATJ	**Hateruma jima**	**2.65**	**63**	P	**Pn**	**22 18 10.0**	**+0.9**
HATJ				*e*S	**Sn**	**22 18 40.9**	**+0.3**
IRIF	**Iriomote-Funau**	**2.72**	**57**	P	**Pn**	**22 18 11.2**	**+1.0**
IRIF				*e*S	**Sn**	**22 18 43.6**	**+1.1**
JKRS	**Kuro-shima**	**2.89**	**61**	P	**Pn**	**22 18 13.8**	**+1.2**
JKRS				*e*S	**Sn**	**22 18 47.6**	**+0.7**
JIJ	**Ishigaki jima**	**3.06**	**60**	P	**Pn**	**22 18 15.4**	**+0.4**
JIJ				*e*S	**Sn**	**22 18 49.6**	**-1.5**
QZH	**Quanzhou**	**3.18**	**311**⇓ *i*P		**Pn**	**22 18 15.5**	**-1.1**
QZH				S	**Sn**	**22 18 51.3**	**-2.8**
QZH				Smax			
	comp=N,2μm,0.8s						
QZH				Smax			
	comp=E,2μm,1.0s						
JTJ	**Tarama**	**3.64**	**60**	P	**Pn**	**22 18 23.7**	**+0.5**
JTJ				*e*S	**Sn**	**22 19 05.3**	**-0.5**
JMJ	**Miyako jima 2**	**4.20**	**62**	P	**Pn**	**22 18 31.6**	**+0.5**
JMJ				*e*S	**Sn**	**22 19 19.3**	**-0.6**

JOGS	**Gusukube**	**4.26**	**63**	P	**Pn**	**22 18 32.8**	**+0.7**
JOGS				*eS*	**Sn**	**22 19 20.7**	**-0.9**
JKE	**Kume jima 2**	**6.12**	**55**	P	**Pn**	**22 18 56.3**	**-2.0**
GZH	**Guangzhou**	**7.27**	**273**	P	**Pn**	**22 19 10.5**	**-4.0**
GZH				Smax			
	comp=N,250nm,1.1s						
GZH				Smax			
	comp=E,150nm,1.0s						
JOW	**Kunigami**	**7.52**	**57**	P	**Pn**	**22 19 15.1**	**-2.8**
	comp=E,3.2nm,0.3s,baz=252,slow=24,SNR=10.0						
JOW				S	**Sn**	**22 20 37.5**	**-5.6**
	comp=E,1.1nm,0.3s,baz=328,slow=29,SNR=2.3						
NJ2	**Nanjing**	**9.39**	**348**	*eP*	**P**	**22 19 42.3**	**-1.6**
NJ2				AP		22 19 46.5	
NJ2				XP		22 19 50.0	
NJ2				S	**Sn**	**22 21 27.5**	**-2.1**
NJ2				XS		22 21 34.5	
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,20nm,3.5s						
NJ2				Smax			
	comp=E,350nm,0.9s						
NJ2				LR	LR		
	comp=N,4μm,13.5s						
NJ2				LR	LR		
	comp=E,2μm,10.2s						
NJ2				LR	LR		
	comp=Z,2μm,13.4s						
WHN	**Wuhan**	**9.81**	**323**	⇑*P*	**P**	**22 19 47.5**	**-2.2**
WHN				S	**Sn**	**22 21 34.5**	**-5.5**
WHN				LR	LR		
	comp=N,5μm,18.6s						
WHN				LR	LR		
	comp=E,2μm,19.7s						
WHN				LR	LR		
	comp=Z,4μm,11.8s						
JNU	**Nakatsue**	**13.30**	**38**	LR	LR	22 26 38.1	
	comp=Z,149nm,19.0s,baz=234,slow=42						
XAN	**Xi'an**	**15.51**	**319**	P	**P**	**22 21 06.3**	**+0.5**
DL2	**Dalian**	**15.99**	**1**	*eP*	**P**	**22 21 13.0**	**+1.0**
DL2				S	**S**	**22 24 09.8**	**+1.4**
DL2				AMB	AMB		
	comp=Z,150nm,4.3s						
DL2				LR	LR		
	comp=N,410nm,15.4s						
DL2				LR	LR		
	comp=E,300nm,13.8s						
DL2				LR	LR		
	comp=Z,210nm,13.3s						
HHC	**Hu-ho-hao-te**	**19.70**	**338**	*eP*	**P**	**22 21 59.8**	**+2.4**
HHC				AP		22 22 04.3	
HHC				XP		22 22 06.8	
HHC				AMB	AMB		
	comp=Z,10.0nm,1.1s						
HHC				AMB	AMB		
	comp=Z,180nm,4.2s						
LZH	**Lanzhou**	**20.02**	**315**	*eP*	**P**	**22 22 03.0**	**+2.1**
LZH				AP		22 22 06.8	
LZH				XP		22 22 10.0	
LZH				AMB	AMB		
	comp=Z,40nm,1.5s						
LZH				AMB	AMB		
	comp=Z,180nm,4.7s						
LZH				LR	LR		
	comp=N,2μm,10.8s						
LZH				LR	LR		
	comp=Z,3μm,12.4s,MS4.8						
MJAR	**Matsushiro Arr**	**20.04**	**43**	P	**P**	**22 22 01.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=230,slow=8.6,SNR=17						
MDJ	**Mudanjiang**	**22.76**	**16**	P	**P**	**22 22 32.8**	**+4.3**
MDJ				AMB	AMB		
	comp=Z,110nm,5.0s						
GUMO	**Guam**	**24.25**	**108**	LR	LR	22 31 41.3	
	comp=Z,139nm,18.7s,MS3.5,baz=201,slow=35						
GTA	**Gaotai**	**24.56**	**317**	*eP*	**P**	**22 22 48.8**	**+2.7**
GTA				AP		22 22 55.8	
GTA				XP		22 22 59.5	
SONM	**Songino Array**	**27.60**	**338**	P	**P**	**22 23 14.3**	**+0.1**
	comp=Z,3.3nm,0.7s,mb4.0,baz=156,slow=9.0,SNR=16						
SONM				LR	LR	22 35 36.3	
	comp=Z,850nm,18.5s,MS4.4,baz=262,slow=39						
LSA	**Lhasa**	**27.76**	**291**	*eP*	**P**	**22 23 18.7**	**+2.8**
PSI	**Prapat**	**29.41**	**231**	P	**P**	**22 23 32.2**	**+1.3**
	comp=Z,10nm,1.0s,mb4.5,baz=50,slow=6.2,SNR=6.7						
MKAR	**Makanchi Array**	**39.32**	**317**	P	**P**	**22 24 57.0**	**+1.4**
	comp=Z,3.5nm,0.8s,mb4.2,baz=112,slow=9.7,SNR=24						
MKAR				PcP	PcP	22 27 03.5	-1.0
	comp=Z,0.5nm,0.6s,baz=180,slow=1.2,SNR=4.9						
MKAR				LR	LR	22 42 21.8	
	comp=Z,152nm,18.2s,MS3.9,baz=344,slow=38						
KURK	**Kurchatov**	**43.13**	**321**	*eP*	**P**	**22 25 26.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
KURK	**Kurchatov**	**43.13**	**321**	*eP*	**P**	**22 25 26.0**	**-0.9**
	comp=Z,7.6nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**44.43**	**162**	P	**P**	**22 25 36.0**	**-1.8**
	comp=Z,1.1nm,0.5s,mb3.8,baz=345,slow=8.7,SNR=20						
WB2	**Warramunga Arr**	**44.43**	**162**	*eP*	**P**	**22 25 37.2**	**-0.7**
BVAR	**Borovoye Array**	**48.72**	**321**	P	**P**	**22 26 12.1**	**+0.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=108,slow=9.7,SNR=10						
BVAR				PcP	PcP	22 27 35.5	-1.0
	comp=Z,1.0nm,0.7s,baz=90,slow=1.5,SNR=3.8						
BRVK	**Borovoye**	**48.79**	**321**	*eP*	**P**	**22 26 12.0**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
BRVK	**Borovoye**	**48.79**	**321**	*eP*	**P**	**22 26 12.0**	**+0.3**
	comp=Z,6.4nm,1.2s,mb4.5						
BILL	**Bilibino**	**52.91**	**19**	*eP*	**P**	**22 26 34.0**	**-8.8**
BILL				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
BILL	**Bilibino**	**52.91**	**19**	*eP*	**P**	**22 26 34.0**	**-8.9**
	comp=Z,14nm,0.6s,mb5.1						
AKTK	**Aktyubinsk**	**55.75**	**316**	P	**P**	**22 27 03.6**	**-0.2**
AKTK				LR	LR	22 52 45.4	
AKTO	**Aktyubinsk**	**55.75**	**316**	P	**P**	**22 27 03.6**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.2,baz=107,slow=16,SNR=3.7						
AKTO				LR	LR	22 52 45.4	
	comp=Z,187nm,19.2s,MS4.2,baz=45,slow=38						
STKA	**Stephens Creek**	**57.82**	**160**	P	**P**	**22 27 17.7**	**-1.1**
	comp=Z,3.6nm,0.7s,mb4.5,baz=338,slow=5.6,SNR=10.0						
KIV	**Kislovodsk**	**66.45**	**309**	*eP*	**P**	**22 28 16.3**	**0.0**
KIV				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
KIV	**Kislovodsk**	**66.45**	**309**	*eP*	**P**	**22 28 16.3**	**0.0**
	comp=Z,34nm,1.3s,mb5.2						
JOF	**Joensuu**	**69.87**	**331**	*ep*	**P**	**22 28 36.0**	**-1.3**
	comp=Z,1.6nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**70.36**	**27**	P	**P**	**22 28 38.0**	**-2.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=3.6,slow=14,SNR=5.8						
MALT	**Malatya**	**70.76**	**304**	*eP*	**P**	**22 28 45.1**	**+1.9**
MALT				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
MALT	**Malatya**	**70.76**	**304**	*eP*	**P**	**22 28 45.1**	**+1.9**
	comp=Z,11nm,1.2s,mb4.7						
ARCES	**ARCESS Array B**	**70.77**	**338**	P	**P**	**22 28 43.3**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=77,slow=6.3,SNR=5.5						
FINES	**FINESS Array B**	**72.60**	**330**	P	**P**	**22 28 53.2**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.0,baz=56,slow=6.9,SNR=5.9						
AKASG	**Malin Array Be**	**73.88**	**319**	P	**P**	**22 29 00.8**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=62,slow=5.6,SNR=7.3						
BR131	**Keskin Array S**	**73.99**	**307**	*eP*	**P**	**22 29 03.6**	**+1.4**
BRTR	**Keskin Array B**	**73.99**	**307**	P	**P**	**22 29 03.3**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=108,slow=7.8,SNR=8.2						
NB2	**NORSAR Subarra**	**79.41**	**332**	P	**P**	**22 29 31.3**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=85,slow=5.8						
NB2	**NORSAR Subarra**	**79.41**	**332**	P	**P**	**22 29 31.3**	**-0.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**79.41**	**332**	P	**P**	**22 29 31.8**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=60,slow=5.6,SNR=5.2						
RPZ	**Rata Peaks**	**80.48**	**146**	P	**P**	**22 29 37.2**	**-1.0**
	comp=Z,4.8nm,0.8s,mb4.5,baz=267,slow=6.8,SNR=2.7						
GERES	**GERESS Array B**	**83.88**	**321**	P	**P**	**22 29 57.1**	**+1.3**
	comp=Z,0.3nm,0.6s,mb3.6,baz=63,slow=6.0,SNR=5.3						
YKA	**Yellowknife Ar**	**84.16**	**23**	P	**P**	**22 29 56.7**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.9,baz=310,slow=4.6,SNR=15						
YKA	**Yellowknife Ar**	**84.16**	**23**	P	**P**	**22 29 56.7**	**-0.2**
YBH	**Yreka Blue Hor**	**92.70**	**42**	LR	LR	23 07 17.7	
	comp=Z,119nm,20.4s,MS4.3,baz=341,slow=32						
SDV	**Santo Domingo**	**146.37**	**22**	*eP*	PKPbc	22 37 05.8	-0.7

*NEIC **28** 22:28:08.2±3.6,2.44N×128.60E,h218km±36km, mb4.4/10, Error ellipse: s-maj=16.0km s-min=7.9km az=68.0*

*IDC **28** 22:28:10.3±2.3,2.44N×128.67E,h239km±22km, mb3.9/11, mb1 4.1/11,mb1mx3.9/17,mbtmp4.5/11, Error ellipse: s-maj=30.7km s-min=9.0km az=78.0*

ISC 28 22:28:06.0±3.4,2.46N±0.07×128.6E±0.1,h210km±33km, n31,σ0≥72/30,mb4.3/21,2C,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.64**	**188**	*eP*	**P**	**22 32 30.6**	**+0.1**
	8.2nm,0.6s						
WRAB	**Tennant Creek**	**22.96**	**166**	*eP*	**P**	**22 32 53.5**	**+0.2**
	68nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**22.97**	**166**	P	**P**	**22 32 53.7**	**+0.4**
	20nm,0.6s,mb4.8,baz=344,slow=10,SNR=143						
WRA				S	**S**	**22 36 45.3**	**+0.7**
	0.7nm,0.6s,baz=347,slow=17,SNR=3.4						
WRA				ScP		22 39 52.2	
	1.3nm,0.6s,baz=342,slow=3.0,SNR=12						
WB2	**Warramunga Arr**	**22.97**	**166**	*eP*	**P**	**22 32 53.7**	**+0.3**
ASPA	**Alice Springs**	**26.48**	**169**	⇑*iP*	**P**	**22 33 25.8**	**-0.2**
CTA	**Charters Tower**	**28.33**	**143**	P	**P**	**22 33 47.4**	**+4.6**
	3.0nm,0.6s,mb4.1,baz=319,slow=13,SNR=7.8						
MJAR	**Matsushiro Arr**	**35.06**	**14**	P	**P**	**22 34 39.6**	**-1.3**
	6.4nm,0.7s,mb4.3,baz=187,slow=9.6,SNR=16						
KLBR	**Kellerberrin**	**35.39**	**196**	*eP*	**P**	**22 34 43.2**	**-0.5**
	14nm,0.6s,mb4.7						
MUN	**Mundaring**	**36.21**	**198**	*eP*	**P**	**22 34 49.8**	**-0.8**
STKA	**Stephens Creek**	**36.31**	**161**	⇑*iP*	**P**	**22 34 51.5**	**0.0**
	13nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**36.31**	**161**	P	**P**	**22 34 51.6**	**+0.1**
	9.3nm,0.7s,mb4.5,baz=340,slow=8.3,SNR=23						
NWAO	**Narrogin (SRO)**	**36.80**	**196**	P	**P**	**22 34 54.9**	**-0.6**
	2.7nm,0.5s,mb4.0,baz=37,slow=10,SNR=4.6						
JIRN	**Jiri**	**47.61**	**306**	*eP*	**P**	**22 36 23.9**	**+1.0**
	10nm,0.4s,mb4.5						
GUN	**Gumba**	**47.97**	**306**	*eP*	**P**	**22 36 26.5**	**+0.9**
	14nm,0.7s,mb4.4						
KKN	**Kakani**	**48.40**	**306**	*eP*	**P**	**22 36 29.3**	**+0.3**
	6.1nm,0.6s,mb4.1						
DMN	**Daman**	**48.47**	**305**	*eP*	**P**	**22 36 30.0**	**+0.5**
	8.1nm,0.7s,mb4.2						
GKN	**Gorkha**	**49.01**	**306**	*eP*	**P**	**22 36 33.5**	**-0.1**
	10nm,1.0s,mb4.1						
SONM	**Songino Array**	**49.10**	**340**	P	**P**	**22 36 34.6**	**+0.6**
	2.3nm,0.8s,mb3.5,baz=151,slow=7.9,SNR=16						
SONM				PcP	PcP	22 37 54.0	-0.7
	0.5nm,0.7s,baz=167,slow=3.2,SNR=3.1						
KOLN	**Koldanda**	**49.77**	**305**	*eP*	**P**	**22 36 40.1**	**+0.7**
	22nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**59.65**	**325**	P	**P**	**22 37 50.0**	**-0.3**
	2.9nm,0.5s,mb4.2,baz=116,slow=8.2,SNR=84						
MKAR				PcP	PcP	22 38 34.5	-0.5
	0.6nm,0.7s,baz=117,slow=3.2,SNR=4.2						
MKAR	**Makanchi Array**	**59.65**	**325**	P	**P**	**22 37 50.0**	**-0.3**
MKAR				PcP	PcP	22 38 34.5	-0.5
KURK	**Kurchatov**	**63.80**	**327**	*eP*	**P**	**22 38 17.1**	**-0.8**
	11nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**69.39**	**327**	P	**P**	**22 38 52.3**	**-0.6**
	3.3nm,0.8s,mb4.0,baz=127,slow=7.4,SNR=9.3						
BRVK	**Borovoye**	**69.46**	**327**	*eP*	**P**	**22 38 52.9**	**-0.4**
VNDA	**Vanda**	**81.94**	**173**	P	**P**	**22 40 03.2**	**+0.2**
	2.9nm,0.7s,mb4.0,baz=329,slow=8.5,SNR=8.9						
IMA2	**Indian Mountai**	**82.79**	**24**	*eP*	**P**	**22 40 09.4**	**+1.8**
ILAR	**Eielson Array**	**85.45**	**25**	P	**P**	**22 40 21.6**	**+0.7**
	0.4nm,0.5s,mb3.5,baz=247,slow=5.1,SNR=9.8						
ARCES	**ARCESS Array B**	**92.27**	**340**	P	**P**	**22 40 51.8**	**-1.2**
	2.5nm,0.8s,mb4.2,baz=75,slow=6.4,SNR=8.3						
FINES	**FINESS Array B**	**93.82**	**332**	P	**P**	**22 40 59.1**	**-1.1**
	3.1nm,1.0s,mb4.3,baz=45,slow=5.4,SNR=3.7						
WCI	**Wyandotte Cave**	**128.26**	**35**	*eP*	Pdif	22 43 38.8	+5.4
WVT	**Waverly**	**128.75**	**38**	*eP*	Pdif	22 43 32.9	-2.7

*THE **28** 22:42:28.3,40.70N×20.37E,h10km, ML2.9*
*CSEM **28** 22:42:29.0±0.4,40.67N×20.42E,h1km±1km,ML2.9, Error ellipse: s-maj=7.6km s-min=2.3km az=140.0*
*ATH **28** 22:42:30.0,40.54N×20.51E,h5km±3km,MD3.2/4*

ISC 28 22:42:27.8±1.4,40.68N±0.06×20.39E±0.09,h10km,n15, σ1≥30/21,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.76**	**82**	*ePg*	**Pg**	**22 42 42.8**	**-0.2**
FNA				*eSg*	**Sg**	**22 42 54.1**	**+1.0**
KEK	**Kerkira**	**1.07**	**205**	*ePB*	**Pb**	**22 42 49.0**	**+1.0**
JAN	**Janina**	**1.08**	**161**	*ePG*	**Pg**	**22 42 47.0**	**-2.5**
JAN				*eSB*	**Sb**	**22 43 00.5**	**-1.7**
JAN	**Janina**	**1.08**	**161**	*ePb*	**Pb**	**22 42 47.5**	**-0.7**
MEV	**Metsovon**	**1.10**	**144**	*ePg*	**Pg**	**22 42 49.3**	**-0.6**
KZN	**Kozani**	**1.12**	**109**	*ePB*	**Pb**	**22 42 49.0**	**+0.2**
IGT	**Igoumenitsa**	**1.15**	**182**	*ePg*	**Pg**	**22 42 49.9**	**-0.9**
IGT				*eSg*	**Sg**	**22 43 07.1**	**+0.9**
GRG	**Griva**	**1.55**	**79**	*ePg*	**Pg**	**22 42 56.6**	**-2.3**
GRG				*eSg*	**Sg**	**22 43 18.5**	**-1.0**
LIT	**Litokhoron**	**1.70**	**109**	*ePb*	**Pb**	**22 42 58.9**	**+0.1**
LIT				*eSb*	**Sb**	**22 43 23.6**	**+3.4**
KNT	**Kendrikon**	**1.96**	**75**	*ePb*	**Pb**	**22 43 01.7**	**-1.6**
KNT				*eSb*	**Sb**	**22 43 28.1**	**+0.4**
EVR	**Evrytania**	**2.07**	**148**	*ePN*	**Pn**	**22 43 06.3**	**+3.1**
AGG	**Agios Georgios**	**2.23**	**137**	*ePn*	**Pn**	**22 43 07.5**	**+2.1**
SOH	**Sokhos**	**2.25**	**85**	*ePn*	**Pn**	**22 43 06.5**	**+0.7**
SRS	**Serrai**	**2.46**	**79**	*ePn*	**Pn**	**22 43 09.5**	**+0.8**
XOR	**Xorichti**	**2.52**	**120**	*ePn*	**Pn**	**22 43 10.4**	**+0.9**

WEL 28 23:08:02.3±0.2,37.82S×175.92E,h260km±2km,ML4.3/6, Error ellipse: s-maj=5.3km s-min=4.7km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.03**	**115**	PN	P	23 08 38.6	-0.3
URZ				SN	S	23 09 06.6	-0.7
TWVZ	**Taurewa**	**1.30**	**197**	PN	P	23 08 40.4	-0.2
TWVZ				SN	S	23 09 09.5	-0.8
WTVZ	**West Tongariro**	**1.32**	**191**	PN	P	23 08 40.5	-0.2
WTVZ				SN	S	23 09 10.4	-0.1
OTVZ	**Oturere**	**1.36**	**189**	PN	P	23 08 40.9	0.0
OTVZ				SN	S	23 09 10.9	0.0
MWZ	**Matawai**	**1.36**	**113**	PN	P	23 08 41.1	+0.1
NGZ	**Ngauruhoe**	**1.38**	**191**	PN	P	23 08 40.9	-0.1
CNZ	**Chateau**	**1.41**	**192**	PN	P	23 08 41.0	-0.2
WPVZ	**Whakapapa**	**1.41**	**192**	PN	P	23 08 41.0	-0.3
BKZ	**Black Stump Fm**	**1.42**	**162**	PN	P	23 08 41.1	-0.4
TUVZ	**Tukino**	**1.46**	**188**	PN	P	23 08 41.4	-0.2
FWVZ	**Far West T-bar**	**1.46**	**191**	PN	P	23 08 41.4	-0.2
TRVZ	**Turoa**	**1.50**	**191**	PN	P	23 08 42.0	0.0
MTVZ	**Mangateitei**	**1.60**	**193**	PN	P	23 08 42.6	-0.1
MXZ	**Matakaoa Point**	**1.91**	**83**	PN	P	23 08 45.2	0.0
WAZ	**Wanganui**	**2.07**	**201**	PN	P	23 08 45.9	-0.7
TSZ	**Takapari Road**	**2.23**	**179**	PN	P	23 08 47.0	-1.1
MRZ	**Mangatainoka R**	**2.85**	**185**	PN	P	23 08 52.0	-2.2
DUWZ	**D'Urville Isla**	**3.36**	**207**	PN	P	23 08 56.9	-2.9

IDC 29 00:12:24.5±1.5,6.93S×106.09E,mb3.8/6,mb1 3.8/6, mb1mx3.7/15,mbtmp3.8/6,Error ellipse: s-maj=81.1km s-min=20.5km az=49.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.31**	**118**	P	P	00 18 37.9	-2.2
	0.7nm,0.5s,baz=304,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**41.37**	**132**	P	P	00 20 12.6	-1.5
	1.6nm,1.0s,baz=323,slow=15,SNR=3.5						
SONM	**Songino Array**	**54.52**	**0**	P	P	00 21 54.4	-2.1
	0.4nm,0.7s,baz=162,slow=4.7,SNR=4.0						
SONM				PcP	PcP	00 22 57.5	-2.4
	1.0nm,0.6s,baz=180,slow=3.1,SNR=9.1						
MKAR	**Makanchi Array**	**57.51**	**341**	P	P	00 22 15.2	-2.9
	0.5nm,0.5s,baz=154,slow=8.4,SNR=6.2						
BVAR	**Borovoye Array**	**66.95**	**337**	P	P	00 23 19.3	-1.7
	1.1nm,0.6s,baz=150,slow=8.4,SNR=7.0						
BRTR	**Keskin Array B**	**81.10**	**312**	P	P	00 24 42.1	-1.2
	0.9nm,0.6s,baz=129,slow=7.9,SNR=6.1						
TXAR	**Lajitas Array**	**144.19**	**48**	PKP	PKPdf	00 32 01.9	-3.0
	0.5nm,0.7s,baz=351,slow=0.4,SNR=6.5						

IDC 29 00:38:43.6±13.0,2.21N×123.28E,h194km±138km, mb3.1/4,mb1 3.2/4,mb1mx3.1/15,mbtmp3.6/4,Error ellipse: s-maj=128.6km s-min=21.1km az=67.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.55**	**154**	P	P	00 43 45.8	-1.4
	0.9nm,0.3s,baz=334,slow=11,SNR=25						
STKA	**Stephens Creek**	**38.10**	**154**	P	P	00 45 43.6	-1.8
	1.4nm,0.7s,baz=6.3,slow=9.2,SNR=3.4						
SONM	**Songino Array**	**47.74**	**345**	P	P	00 47 01.3	-1.5
	0.3nm,0.9s,baz=166,slow=5.9,SNR=2.6						
MKAR	**Makanchi Array**	**56.90**	**327**	P	P	00 48 08.1	-2.5
	0.3nm,0.5s,baz=121,slow=7.5,SNR=10						
MKAR				PcP	PcP	00 49 01.6	-2.0
	0.7nm,0.7s,baz=132,slow=4.1,SNR=5.6						

IDC 29 00:39:13.9±1.2,2.08N×126.43E,mb3.9/5,mb1 4.0/5, mb1mx3.8/15,mbtmp3.9/5,Error ellipse: s-maj=138.4km s-min=19.7km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.22**	**161**	P	P	00 44 21.5	-2.4
	1.3nm,0.4s,baz=340,slow=11,SNR=7.5						
STKA	**Stephens Creek**	**36.71**	**158**	P	P	00 46 24.0	-0.7
	1.8nm,0.6s,baz=329,slow=7.9,SNR=5.8						
SONM	**Songino Array**	**48.76**	**342**	P	P	00 48 00.5	-2.0
	0.8nm,0.6s,baz=161,slow=8.5,SNR=8.0						
MKAR	**Makanchi Array**	**58.74**	**326**	P	P	00 49 13.8	-2.3
	0.6nm,0.3s,baz=122,slow=7.4,SNR=11						
BVAR	**Borovoye Array**	**68.54**	**327**	P	P	00 50 18.3	-2.1
	1.0nm,0.8s,baz=130,slow=11,SNR=5.1						

*IDC **29** 00:58:19.4±1.3,5.01S×145.29E,mb3.7/2,mb1 4.1/4, mb1mx3.8/12,mbtmp3.9/4,ML3.5/2,MS3.4/1,Ms1 3.4/1, ms1mx2.5/13,Error ellipse: s-maj=50.2km s-min=26.9km az=81.0*

ISC 29 00:58:24.6±5.1,5.2S±0.2×145.2E±0.1,h49km±51km,n9, σ1≥01/8,mb3.7/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.63**	**156**	Pn	**P**	**00 59 34.1**	**+0.4**
	5.7nm,0.3s,baz=7.7,slow=5.9,SNR=13						
PMG				Sn	**S**	**01 00 26.8**	**0.0**
	21nm,0.3s,baz=141,slow=21,SNR=15						
CTA	**Charters Tower**	**14.87**	**176**	LR	LR	01 07 37.5	
	comp=Z,119nm,18.1s,baz=52,slow=37						
WB2	**Warramunga Arr**	**18.11**	**215**	*eP*	**P**	**01 02 34.2**	**-0.2**
WRA	**Warramunga Arr**	**18.12**	**215**	P	**P**	**01 02 33.3**	**-1.1**
	0.3nm,0.3s,baz=40,slow=12,SNR=33						
ASPA	**Alice Springs**	**21.39**	**210**	*eP*	**P**	**01 03 14.3**	**+4.1**
FITZ	**Fitzroy Crossi**	**23.07**	**235**	*eP*	**P**	**01 03 27.9**	**+1.1**
	5.0nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**75.74**	**321**	P	**P**	**01 10 07.1**	**+0.2**
	0.1nm,0.4s,mb3.1,baz=131,slow=4.5,SNR=2.8						
ILAR	**Eielson Array**	**85.41**	**23**	P	**P**	**01 10 57.2**	**-0.5**
	0.9nm,0.8s,mb4.0,baz=250,slow=5.2,SNR=4.5						
DBIC	**Dimbokro**	**150.22**	**274**	PKPbc	PKPdf	01 18 13.5	+7.4
	0.6nm,0.5s,baz=105,slow=2.1,SNR=3.8						

*IDC **29** 01:09:42.5±1.9,34.85N×73.43E,mb3.9/4,mb1 4.0/6, mb1mx3.6/20,mbtmp3.8/6,ML3.9/2,MS4.4/1,Ms1 4.4/1, ms1mx2.9/29,Error ellipse: s-maj=97.0km s-min=25.8km az=53.0*
*NNC **29** 01:09:50.5±8.6,35.34N×72.87E,mb4.0,mpv4.4,Error ellipse: s-maj=169.8km s-min=74.4km az=91.0*

ISC 29 01:09:41.9±0.7,34.6N±0.1×72.8E±0.2,h10km,n16, σ1≥24/20,mb3.8/4,MS4.5/1,2C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.25**	**132**	*eP*	**Pn**	**01 10 35.3**	**+1.3**
THN				*eS*	**Sn**	**01 11 20.7**	**+7.5**
DLH	**Dalhousie**	**3.34**	**128**	*eP*	**Pn**	**01 10 37.0**	**+1.7**
DLH				*eS*	**Sn**	**01 11 24.0**	**+8.6**
SDNR	**Sundarnagar**	**4.67**	**131**	*eP*	**Pn**	**01 10 54.6**	**+0.5**
SDNR				*eS*	**Sn**	**01 12 04.4**	**+15**
KLP	**Kalpa**	**5.49**	**123**	*eP*	**Pn**	**01 11 04.1**	**-1.7**
KLP				AML	AML	01 12 38.7	
	comp=N,141nm,0.8s						
KLP				AML	AML	01 12 39.4	
	comp=E,119nm,0.7s						
DDI	**Dehra Dun**	**6.15**	**133**	*ex*	x	01 12 08.8	
KHET	**Khetri**	**7.01**	**158**	*eP*	**Pn**	**01 11 25.1**	**-2.1**
KHET				*eS*	**Sn**	**01 12 42.5**	**-5.3**
KHET				AML	AML	01 12 46.8	
	comp=N,10nm,0.4s						
KHET				AML	AML	01 12 46.9	
	comp=E,11nm,0.4s						
KUDL	**Kundal**	**

ISC 29 01:41:46.2±0.7, 35.24N±0.03×4.19W±0.03, h9km±5km, n31, σ1°13/58, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.20**	**93**	P	**Pg**	**01 41 51.0**	**+0.5**
MPAL				S	**Sg**	**01 41 53.0**	**-0.4**
MPAL	**Palemas**	**0.20**	**93**	*i* P	**Pg**	**01 41 51.0**	**+0.5**
TOU	**Touzarine**	**0.45**	**127**	P	**Pg**	**01 41 55.0**	**-0.3**
TOU				S	**Sg**	**01 42 00.0**	**-1.3**
TOU	**Touzarine**	**0.45**	**127**	*i* P	**Pg**	**01 41 55.0**	**-0.3**
EMEL	**Melilla**	**1.01**	**86**	P	**Pb**	**01 42 05.4**	**0.0**
	70nm,0.3s,SNR=6.6						
EMEL				S	**Sb**	**01 42 19.6**	**+1.1**
	13nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**1.01**	**86**	P	**Pb**	**01 42 05.4**	**0.0**
	70nm,0.3s,SNR=6.6						
EMLI				S	**Sb**	**01 42 19.6**	**+0.9**
	13nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.41**	**340**	P	**Pn**	**01 42 11.2**	**-0.9**
	8.6nm,0.6s,SNR=14						
EMIJ				S	**Sb**	**01 42 29.5**	**-0.6**
	12nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.60**	**320**	P	**Pn**	**01 42 15.7**	**+0.9**
	3.2nm,0.4s,SNR=8.4						
EJIF				S	**Sb**	**01 42 36.4**	**+0.7**
	1.2nm,0.2s,SNR=5.7						
ERON	**Agron**	**1.81**	**10**	S	**Sn**	**01 42 40.5**	**-0.5**
	3.5nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.91**	**1**	P	**Pn**	**01 42 21.8**	**+2.5**
	SNR=7.9						
ELOJ				S	**Sn**	**01 42 43.8**	**+0.2**
	1.7nm,0.2s,SNR=8.0						
EBER	**Berja**	**1.96**	**32**	P	**Pn**	**01 42 17.9**	**-2.1**
	SNR=7.9						
EBER				S	**Sn**	**01 42 45.8**	**+0.8**
	3.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.96**	**32**	P	**Pn**	**01 42 17.9**	**-2.1**
	SNR=7.9						
EBER				S	**Sn**	**01 42 45.8**	**+0.8**
	3.0nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.06**	**17**	P	**Pn**	**01 42 21.0**	**-0.4**
	1.9nm,0.3s,SNR=6.0						
EQUE				S	**Sn**	**01 42 46.5**	**-0.8**
	7.4nm,0.3s,SNR=4.0						
ECOG	**Cogollos-Vega**	**2.10**	**14**	P	**Pn**	**01 42 21.8**	**-0.2**
	SNR=7.9						
ECOG				S	**Sn**	**01 42 48.3**	**-0.1**
	3.7nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.12**	**321**	P	**Pn**	**01 42 24.8**	**+2.5**
	SNR=7.9						
ESPR				S	**Sn**	**01 42 51.5**	**+2.6**
	7.2nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.12**	**321**	P	**Pn**	**01 42 24.8**	**+2.5**
	SNR=7.9						
ESPR				S	**Sn**	**01 42 51.5**	**+2.6**
	7.2nm,0.3s,SNR=7.9						
CZD	**Col de Zad**	**2.31**	**198**	*i* P	**Pn**	**01 42 26.0**	**+1.0**
CZD				*i* S	**Sn**	**01 42 53.0**	**-0.8**
ELUQ	**Luque**	**2.32**	**358**	P	**Pn**	**01 42 26.9**	**+1.7**
	SNR=7.9						
ELUQ				S	**Sn**	**01 42 55.9**	**+1.8**
	2.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.71**	**19**	P	**Pn**	**01 42 31.6**	**+0.8**
	6.5nm,0.5s,SNR=35						
EQES				S	**Sn**	**01 43 04.0**	**-0.1**
	7.1nm,0.2s,SNR=4.8						
EQES	**Quesada**	**2.71**	**19**	P	**Pn**	**01 42 31.6**	**+0.8**
	6.5nm,0.5s,SNR=35						
EQES				S	**Sn**	**01 43 04.0**	**-0.1**
	7.1nm,0.2s,SNR=4.8						
EADA	**Adamuz**	**2.94**	**354**	P	**Pn**	**01 42 34.3**	**+0.3**
	11nm,1.2s,SNR=7.2						
EADA				S	**Sn**	**01 43 08.2**	**-1.7**
	1.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.94**	**354**	P	**Pn**	**01 42 34.3**	**+0.3**
	11nm,1.2s,SNR=7.2						
EADA				S	**Sn**	**01 43 08.2**	**-1.7**
	1.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.23**	**322**	P	**Pn**	**01 42 38.9**	**+0.9**
	1.7nm,0.6s,SNR=9.2						
EMIN				S	**Sn**	**01 43 14.3**	**-2.7**
	0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.23**	**322**	P	**Pn**	**01 42 38.9**	**+0.9**
	1.7nm,0.6s,SNR=9.2						
EMIN				S	**Sn**	**01 43 14.3**	**-2.7**
	0.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.51**	**312**	P	**Pn**	**01 42 42.0**	**-0.1**
	4.3nm,0.6s,SNR=7.8						
EGRO				S	**Sn**	**01 43 23.2**	**-1.1**
	0.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.51**	**312**	P	**Pn**	**01 42 42.0**	**-0.1**
	4.3nm,0.6s,SNR=7.8						
EGRO				S	**Sn**	**01 43 23.2**	**-1.1**
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.00**	**31**	P	**Pn**	**01 42 48.7**	**-0.4**
	3.9nm,0.8s,SNR=8.5						
ETOB				S	**Sn**	**01 43 35.8**	**-0.9**
	SNR=4.0						
ETOB	**Tobarra**	**4.00**	**31**	P	**Pn**	**01 42 48.7**	**-0.4**
	3.9nm,0.8s,SNR=8.5						
ETOB				S	**Sn**	**01 43 35.8**	**-0.9**
	SNR=4.0						
EBAD	**Badajoz**	**4.18**	**328**	P	**Pn**	**01 42 50.3**	**-1.3**
	1.2nm,0.4s,SNR=7.0						
EBAD				S	**Sn**	**01 43 37.7**	**-3.4**
	3.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.18**	**328**	P	**Pn**	**01 42 50.3**	**-1.3**
	1.2nm,0.4s,SNR=7.0						
ESDC	**Sonseca Array**	**4.43**	**2**	P	**Pn**	**01 42 54.6**	**-0.6**
	0.7nm,0.3s,baz=182,slow=14,SNR=13						
ESDC				S	**Sn**	**01 43 42.6**	**-5.1**
	baz=181,slow=24,SNR=7.9						

*IDC **29** 02:10:18.1±2.1,53.19N×164.63W,mb3.4/4,mb1 3.7/6, mb1mx3.5/23,mbtmp3.5/6,ML3.0/1,Error ellipse: s-maj=39.8km s-min=31.8km az=172.0*
*NEIC **29** 02:10:20.8,53.18N×164.37W,h10km,ML3.3(AEIC),After AEIC.*

ISC 29 02:10:17.4±3.5, 53.15N±0.09×164.33W±0.08, h5km±26km, n13, σ0°78/16, mb3.3/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.30**	**320**	P	**Pb**	**02 10 42.1**	**+0.1**
AKUT				S	**Sb**	**02 10 59.4**	**+0.4**
AKLV	**Akutan Long Va**	**1.40**	**317**	P	**Pn**	**02 10 43.8**	**+0.1**
UNV	**Unalaska Valle**	**1.47**	**299**	P	**Pn**	**02 10 44.7**	**0.0**
UNV				S	**Sb**	**02 11 03.6**	**-0.1**
OKCD	**Okmok Cone D**	**2.29**	**278**	P	**Pn**	**02 10 56.1**	**-0.3**
OKCE	**Okmok Cone E**	**2.32**	**278**	P	**Pn**	**02 10 56.7**	**-0.1**
NIKO	**Nikolski**	**2.73**	**268**	P	**Pn**	**02 11 03.0**	**+0.3**
SDPT	**Sand Point**	**3.16**	**44**	P	**Pn**	**02 11 09.0**	**+0.3**
KDAK	**Kodiak Island**	**8.12**	**51**	Pn	**P**	**02 12 17.3**	**-1.5**
	0.7nm,0.3s,baz=129,slow=21,SNR=3.6						
KDAK				Sn	**Sn**	**02 13 41.4**	**-11**
	baz=156,slow=14,SNR=2.9						
ILAR	**Eielson Array**	**14.64**	**31**	Pn	**P**	**02 13 47.6**	**+0.8**
	0.0nm,0.3s,baz=230,slow=14,SNR=2.9						
INK	**Inuvik**	**21.03**	**32**	P	**P**	**02 15 03.0**	**-1.1**
	1.6nm,0.5s,mb3.6,baz=248,slow=7.7,SNR=28						
YKA	**Yellowknife Ar**	**27.40**	**50**	P	**P**	**02 16 06.2**	**+1.0**
	0.1nm,0.3s,mb2.8,baz=272,slow=8.8,SNR=7.0						
TXAR	**Lajitas Array**	**49.71**	**94**	P	**P**	**02 19 13.4**	**+1.2**
	0.3nm,0.5s,mb3.5,baz=301,slow=5.5,SNR=8.7						
MKAR	**Makanchi Array**	**65.43**	**316**	P	**P**	**02 21 01.3**	**-1.5**
	0.3nm,0.7s,mb3.4,baz=45,slow=5.1,SNR=4.0						

*ATH **29** 02:57:08.2,38.14N×26.56E,h35km±9km,MD3.0/3*
*ISK **29** 02:57:08.2,38.15N×26.63E,h22km,MD3.0*
*NEIC **29** 02:57:08.2,38.15N×26.63E,h22km,MD3.0(ISK), MD3.0(ATH),After ISK.*
*CSEM **29** 02:57:09.1±0.2,38.15N×26.78E,h40km,MD3.0,Error ellipse: s-maj=8.0km s-min=4.6km az=94.0*

ISC 29 02:57:07.5±0.9, 38.19N±0.03×26.50E±0.06, h6km±6km, n15, σ0°85/24, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.19**	**23**	*i* P	**Pg**	**02 57 11.6**	**+0.2**
URLA				*i* S	**Sg**	**02 57 14.7**	**+0.6**
BLCB	**Balcova**	**0.47**	**65**	PG	**Pg**	**02 57 17.0**	**+0.1**
SMG	**Samos**	**0.55**	**151⇑**	*i*PB	**Pg**	**02 57 19.0**	**+0.5**
SMG				*e*SB	**Sg**	**02 57 26.9**	**+1.1**
SMG	**Samos**	**0.55**	**151⇑**	*i*Pb	**Pg**	**02 57 19.0**	**+0.5**
SMG				*e*Sb	**Sg**	**02 57 27.0**	**+1.2**
IZM	**Izmir**	**0.63**	**71**	PG	**Pg**	**02 57 20.0**	**-0.2**
IZM				SG	**Sg**	**02 57 28.5**	**-0.2**
KDAG	**Bornova**	**0.64**	**70**	*i* P	**Pg**	**02 57 19.1**	**-1.2**
KDAG				*i* S	**Sg**	**02 57 27.8**	**-1.0**
PRK	**Paraskevi**	**1.07**	**350**	*e*PN	**Pn**	**02 57 29.3**	**+0.4**
PRK				*e*SN	**Sn**	**02 57 44.7**	**+0.5**
PRK	**Paraskevi**	**1.07**	**350**	*e*Pn	**Pn**	**02 57 29.3**	**+0.4**
PRK				*e*Sn	**Sn**	**02 57 44.3**	**+0.1**
AYVA	**Ayvalik**	**1.13**	**7**	*i* P	**Pb**	**02 57 45.7**	**+17**
AYVA				*i* S	**Sb**	**02 57 56.1**	**+12**
AKS	**Akhisar**	**1.24**	**56**	*e*PN	**Pn**	**02 57 30.7**	**-0.6**
BODT	**Bodrum**	**1.29**	**150**	*e*PN	**Pn**	**02 57 30.3**	**-1.8**
APE	**Apeiranthos**	**1.36**	**215**	*e*PN	**Pn**	**02 57 32.6**	**-0.4**
EZN	**Ezine**	**1.64**	**355**	*e*PN	**Pn**	**02 57 37.3**	**+0.2**
MANT	**Manisa**	**1.64**	**79**	*e*P	**Pn**	**02 57 38.9**	**+1.8**
MANT				*i* S	**Sb**	**02 57 59.8**	**+1.1**
BALB	**Balikesir**	**1.80**	**36**	*e*PN	**Pn**	**02 57 38.6**	**-0.8**

IDC 29 03:24:24.6±20.0, 22.53N×44.33W, mb3.6/3, mb1 4.1/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=506.5km s-min=87.5km az=152.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**53.32**	**291**	P	P	03 33 45.9	-2.1
	0.6nm,0.9s,baz=99,slow=8.0,SNR=4.5						
PDAR	**Pinedale Array**	**57.12**	**307**	P	P	03 34 13.2	-2.1
	0.8nm,0.9s,baz=90,slow=7.4,SNR=5.3						
ILAR	**Eielson Array**	**75.05**	**334**	P	P	03 36 08.0	-1.5
	1.1nm,0.9s,baz=68,slow=3.5,SNR=8.2						

*IDC **29** 03:34:08.1±1.3,24.35N×141.22E,h202km±11km, mb3.6/11,mb1 3.7/12,mb1mx3.5/22,mbtmp4.1/12,Error ellipse: s-maj=19.1km s-min=13.1km az=93.0*
*JMA **29** 03:34:11.3±0.1,24.72N×140.81E,h204km,M4.8*
*NEIC **29** 03:34:18.7±1.6,24.26N×141.12E,h312km±15km,mb3.9/8, Error ellipse: s-maj=12.6km s-min=8.4km az=88.0*

ISC 29 03:34:08.0±0.8, 24.47N±0.05×141.1E±0.1, h217km±7km, n36, σ1°08/44, mb3.9/18, 1C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.35**	**23**	P	**P**	**03 34 53.0**	**+1.3**
JHHJ				*e*S	**S**	**03 35 25.4**	**-0.2**
CBIJ	**Chichi jima**	**2.78**	**20**	P	**P**	**03 34 58.0**	**+1.5**
	46nm,0.3s,baz=279,slow=17,SNR=40						
CBIJ				S	**S**	**03 35 34.1**	**+0.1**
	157nm,0.3s,baz=264,slow=23,SNR=28						
CBIJ	**Chichi jima**	**2.78**	**20**	P	**P**	**03 34 57.8**	**+1.3**
CBIJ				*e*S	**S**	**03 35 33.4**	**-0.6**
BSO1	**Boso 1**	**10.15**	**359**	P	**P**	**03 36 29.4**	**-0.3**
BSO1				*e*S	**S**	**03 38 18.9**	**-1.9**
BSO3	**Boso 3**	**10.31**	**357**	P	**P**	**03 36 30.4**	**-1.4**
BSO3				*e*S	**S**	**03 38 24.8**	**+0.2**
BSO4	**Boso 4**	**10.51**	**356**	P	**P**	**03 36 36.6**	**+2.3**
BSO4				*e*S	**S**	**03 38 27.9**	**-1.2**
JOD2	**Odawara 2**	**10.90**	**351**	*e*S	**S**	**03 38 38.1**	**-0.2**
JTO	**Tosashimizu**	**11.11**	**321**	P	**P**	**03 36 46.8**	**+4.8**
JHU	**Hanno**	**11.46**	**352**	P	**P**	**03 36 46.8**	**+0.4**
JHU				*e*S	**S**	**03 38 47.3**	**-3.7**
JOW	**Kunigami**	**11.85**	**284**	P	**P**	**03 36 59.6**	**+8.3**
	1.8nm,0.3s,baz=108,slow=17,SNR=4.8						
JAG	**Ashikaga**	**12.01**	**353**	P	**P**	**03 36 51.7**	**-1.6**
JAG				*e*S	**S**	**03 38 58.2**	**-5.3**
JNU	**Nakatsue**	**12.46**	**316**	P	**P**	**03 37 07.5**	**+8.5**
	0.5nm,0.3s,baz=132,slow=9.5,SNR=5.5						
JHS	**Saijyo**	**12.59**	**328**	P	**P**	**03 37 08.8**	**+8.1**
KS15	**Wonju Array Si**	**17.20**	**322**	*e*P	**P**	**03 38 01.7**	**+5.3**
ENH	**Enshi**	**28.64**	**289**	P	**P**	**03 39 47.3**	**+0.7**
	18nm,1.6s,mb4.5						
SONM	**Songino Array**	**36.02**	**319**	P	**P**	**03 40 51.5**	**+1.5**
	0.4nm,0.4s,mb3.3,baz=143,slow=7.6,SNR=6.6						
YAK	**Yakutsk**	**38.35**	**351**	*e*P	**P**	**03 41 06.3**	**-2.9**
	20nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**44.62**	**189**	*e*P	**P**	**03 41 59.7**	**-1.0**
	5.4nm,0.4s,mb4.2						
WB2	**Warramunga Arr**	**44.63**	**189⇑**	*i*P	**P**	**03 41 59.7**	**-1.1**
WRA	**Warramunga Ar**	**44.64**	**189**	P	**P**	**03 41 59.9**	**-0.9**
	2.5nm,0.3s,mb4.0,baz=8.0,slow=8.6,SNR=67						
MKAR	**Makanchi Array**	**51.46**	**311**	P	**P**	**03 42 54.0**	**+1.1**
	1.0nm,0.4s,mb3.6,baz=86,slow=9.3,SNR=36						
MKAR	**Makanchi Array**	**51.46**	**311**	P	**P**	**03 42 54.0**	**+1.1**
KURK	**Kurchatov**	**54.18**	**316**	*e*P	**P**	**03 43 12.5**	**-0.3**
	3.2nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**56.03**	**180**	P	**P**	**03 43 24.5**	**-1.8**
	1.5nm,0.7s,mb3.6,baz=345,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**56.03**	**180**	*e*P	**P**	**03 43 23.8**	**-2.5**
KDAK	**Kodiak Island**	**57.03**	**36**	P	**P**	**03 43 33.6**	**+0.6**
	8.1nm,0.6s,mb4.5,baz=280,slow=6.1,SNR=4.5						
BVAR	**Borovoye Array**	**59.36**	**318**	P	**P**	**03 43 49.7**	**+0.5**
	2.7nm,0.5s,mb4.2,baz=91,slow=7.8,SNR=22						
BRVK	**Borovoye**	**59.42**	**319**	*e*P	**P**	**03 43 50.1**	**+0.4**
	1.4nm,0.7s,mb3.7						
MCK	**McKinley**	**59.47**	**29**	*e*P	**P**	**03 43 50.4**	**+0.6**
	3.8nm,1.0s,mb4.0						
ILAR	**Eielson Array**	**60.46**	**28**	P	**P**	**03 43 56.8**	**+0.2**
	1.0nm,0.8s,mb3.5,baz=256,slow=5.8,SNR=5.8						
INK	**Inuvik**	**65.80**	**24**	P	**P**	**03 44 32.1**	**+0.8**
	0.5nm,0.5s,mb3.4,baz=287,slow=7.7,SNR=9.1						
INK	**Inuvik**	**65.80**	**24**	*e*P	**P**	**03 44 31.9**	**+0.6**
	0.8nm,0.6s,mb3.5						
YKA	**Yellowknife Ar**	**74.89**	**28**	P	**P**	**03 45 26.5**	**+0.4**
	0.3nm,0.5s,mb3.2,baz=293,slow=5.6,SNR=18						
ARCES	**ARCESS Array B**	**75.71**	**341**	P	**P**	**03 45 31.3**	**+0.7**
	0.8nm,0.7s,mb3.5,baz=81,slow=8.1,SNR=6.9						
FINES	**FINESS Array B**	**79.88**	**334**	P	**P**	**03 45 53.9**	**+0.4**
	2.1nm,0.9s,mb3.8,baz=88,slow=5.8,SNR=7.0						
BMO	**Blue Mountains**	**80.81**	**45**	*e*P	**P**	**03 45 58.8**	**+0.1**
	2.4nm,0.9s,mb3.8						

*NEIC **29** 03:47:56.8,38.24S×177.68E,h62km,mb4.6/2, ML4.2(WEL),After WEL.*

WEL 29 03:47:56.8±0.1, 38.24S×177.68E, h62km±1km, ML4.1/10, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.15**	**231**	PN	P	03 48 06.1	-0.2
MWZ				SN	S	03 48 13.1	-0.2
MWZ	**Matawai**	**0.15**	**231**	P	P	03 48 06.1	-0.2
MWZ				S	S	03 48 13.2	-0.1
URZ	**Urewera**	**0.45**	**267**	PN	P	03 48 08.2	-0.3
URZ				SN	S	03 48 17.0	-0.2
URZ	**Urewera**	**0.45**	**267**	P	P	03 48 08.2	-0.3
PUZ	**Puketiti**	**0.49**	**70**	PN	S	03 48 08.8	-0.2
PUZ				SN	S	03 48 17.7	-0.1
PUZ	**Puketiti**	**0.49**	**70**	P	S	03 48 08.8	-0.1
PUZ				S	S	03 48 17.7	-0.1
EDRZ	**Edgecumbe**	**0.75**	**280**	PN	P	03 48 11.7	-0.3
EDRZ	**Edgecumbe**	**0.75**	**280**	P	P	03 48 11.7	-0.3
KNZ	**Kokohu**	**0.78**	**180**	PN	P	03 48 11.8	-0.5
KNZ				SN	S	03 48 23.8	0.0
WIZ	**White Island**	**0.81**	**331**	PN	P	03 48 11.7	-1.0
WIZ	**White Island**	**0.81**	**331**	P	P	03 48 11.7	-1.0
MARZ	**Manawahe**	**0.83**	**287**	PN	P	03 48 11.9	-1.1
MARZ	**Manawahe**	**0.83**	**287**	P	P	03 48 11.9	-1.0
MXZ	**Matakaoa Point**	**0.84**	**37**	PN	P	03 48 13.1	+0.1
MXZ				SN	S	03 48 25.0	-0.1
MXZ	**Matakaoa Point**	**0.84**	**37**	P	P	03 48 13.1	+0.1
TAZ	**Tarawera**	**0.92**	**270**	PN	P	03 48 14.0	-0.1
TAZ	**Tarawera**	**0.92**	**270**	P	P	03 48 14.0	-0.1
MKRZ	**Makatiti**	**0.96**	**276**	PN	P	03 48 14.5	-0.1
MKRZ	**Makatiti**	**0.96**	**276**	P	P	03 48 14.5	-0.2
PATZ	**Paeroa**	**1.13**	**262**	PN	P	03 48 16.5	-0.4
PATZ	**Paeroa**	**1.13**	**262**	P	P	03 48 16.6	-0.3
UTU	**Utuhina**	**1.17**	**273**	PN	P	03 48 17.0	-0.5
UTU	**Utuhina**	**1.17**	**273**	P	P	03 48 17.0	-0.5
BKZ	**Black Stump Fm**	**1.31**	**225**	PN	P	03 48 18.9	-0.7
BKZ				SN	S	03 48 35.8	-0.6
BKZ	**Black Stump Fm**	**1.31**	**225**	P	P	03 48 18.9	-0.7
HATZ	**Hinemaiaia**	**1.40**	**242**	PN	P	03 48 19.8	-1.0
HATZ	**Hinemaiaia**	**1.40**	**242**	P	P	03 48 19.8	-1.0
WHTZ	**Whakaora**	**1.42**	**252**	PN	P	03 48 20.5	-0.5
WHTZ	**Whakaora**	**1.42**	**252**	P	P	03 48 20.6	-0.4
MYRZ	**Mayor Island**	**1.49**	**310**	PN	P	03 48 20.4	-1.5
WATZ	**Wairara**	**1.60**	**252**	PN	P	03 48 22.6	-0.8
WATZ	**Wairara**	**1.60**	**252**	P	P	03 48 22.7	-0.7
RITZ	**Rihia Road**	**1.61**	**242**	PN	P	03 48 23.0	-0.6
RITZ	**Rihia Road**	**1.61**	**242**	P	P	03 48 23.0	-0.6
RATZ	**Rangitukua**	**1.62**	**247**	PN	P	03 48 23.2	-0.6
RATZ	**Rangitukua**	**1.62**	**247**	P	P	03 48 23.2	-0.6
KATZ	**Kakaramea**	**1.72**	**244**	PN	P	03 48 24.4	-0.7
TOZ	**Tahuroa Road**	**1.79**	**286**	PN	P	03 48 24.8	-1.3
TOZ	**Tahuroa Road**	**1.79**	**286**	P	P	03 48 25.0	-1.1
KRVZ	**Karewarewa**	**1.81**	**241**	PN	P	03 48 25.5	-0.9
OTVZ	**Oturere**	**1.83**	**239**	PN	P	03 48 25.7	-0.8
WTVZ	**West Tongariro**	**1.85**	**241**	PN	P	03 48 26.1	-0.9
WTVZ	**West Tongariro**	**1.85**	**241**	P	P	03 48 26.1	-0.9
NGZ	**Ngauruhoe**	**1.88**	**239**	PN	P	03 48 26.3	-0.9
NGZ				SN	S	03 48 48.1	-1.6
NGZ	**Ngauruhoe**	**1.88**	**239**	P	P	03 48 26.3	-0.9
TUVZ	**Tukino**	**1.89**	**236**	PN	P	03 48 26.5	-0.9
TUVZ	**Tukino**	**1.89**	**236**	P	P	03 48 26.5	-0.9
PXZ	**Pawanui**	**1.90**	**199**	PN	P	03 48 25.0	-2.6
PXZ				SN	S	03 48 48.3	-2.0
MOVZ	**Moawhango**	**1.90**	**232**	PN	P	03 48 26.3	-1.4
MOVZ				SN	S	03 48 48.6	-1.9
MOVZ	**Moawhango**	**1.90**	**232**	P	P	03 48 26.3	-1.3
CNZ	**Chateau**	**1.92**	**239**	PN	P	03 48 27.0	-0.9
CNZ	**Chateau**	**1.92**	**239**	P	P	03 48 27.1	-0.8
WPVZ	**Whakapapa**	**1.93**	**239**	PN	P	03 48 27.1	-0.9
WPVZ	**Whakapapa**	**1.93**	**239**	P	P	03 48 27.2	-0.8
TWVZ	**Taurewa**	**1.94**	**244**	PN	P	03 48 27.0	-1.1
TWVZ	**Taurewa**	**1.94**	**244**	P	P	03 48 27.0	-1.2
FWVZ	**Far West T-bar**	**1.95**	**238**	PN	P	03 48 27.2	-1.0
FWVZ	**Far West T-bar**	**1.95**	**238**	P	P	03 48 27.3	-0.9
DRZ	**Dome Shelter**	**1.95**	**237**	PN	P	03 48 27.3	-0.7
WNVZ	**Wahianoa**	**1.96**	**236**	PN	P	03 48 27.3	-1.0
WNVZ				SN	S	03 48 51.1	-0.6
WNVZ	**Wahianoa**	**1.96**	**236**	P	P	03 48 27.4	-1.0
TRVZ	**Turoa**	**1.97**	**237**	PN	P	03 48 27.6	-1.0
MTVZ	**Mangateitei**	**2.07**	**236**	PN	P	03 48 28.7	-1.2
PKVZ	**Pokaka**	**2.10**	**239**	PN	P	03 48 29.4	-1.1
HIZ	**Hauiti**	**2.23**	**262**	PN	P	03 48 32.0	-0.3
HIZ	**Hauiti**	**2.23**	**262**	P	P	03 48 32.1	-0.2
TSZ	**Takapari Road**	**2.26**	**216**	PN	P	03 48 29.7	-2.9
TSZ	**Takapari Road**	**2.26**	**216**	P	P	03 48 29.7	-2.9
MKAZ	**Moumakai**	**2.29**	**299**	PN	P	03 48 31.8	-1.3
MKAZ	**Moumakai**	**2.29**	**299**	P	P	03 48 31.8	-1.3
WAZ	**Wanganui**	**2.59**	**233**	PN	P	03 48 36.1	-1.2
WAZ	**Wanganui**	**2.59**	**233**	P	P	03 48 36.2	-1.1
MTAZ	**Motutapu**	**2.63**	**303**	PN	P	03 48 37.1	-0.9
MTAZ	**Motutapu**	**2.63**	**303**	P	P	03 48 37.1	-0.9
BFZ	**Birch Farm**	**2.68**	**204**	PN	P	03 48 34.9	-3.8
BFZ	**Birch Farm**	**2.68**	**204**	P	P	03 48 34.9	-3.7
KAAZ	**Kauri Point**	**2.75**	**300**	PN	P	03 48 38.7	-1.0
KAAZ	**Kauri Point**	**2.75**	**300**	P	P	03 48 38.7	-1.0
RAEZ	**Rainy Point**	**2.77**	**247**	PN	P	03 48 39.7	-0.3
RAEZ	**Rainy Point**	**2.77**	**247**	P	P	03 48 39.7	-0.2
NEZ	**North Egmont**	**2.98**	**249**	PN	P	03 48 42.8	-0.1
NEZ	**North Egmont**	**2.98**	**249**	P	P	03 48 43.1	+0.2
PKE	**Pukeiti**	**3.04**	**251**	PN	P	03 48 43.0	-0.7
PKE	**Pukeiti**	**3.04**	**251**	P	P	03 48 43.3	-0.4
NRZ	**Ngariki Road**	**3.12**	**248**	PN	P	03 48 44.3	-0.6
NWEZ	**Newall Road**	**3.15**	**250**	PN	P	03 48 44.7	-0.6
NWEZ	**Newall Road**	**3.15**	**250**	P	P	03 48 44.7	-0.6
KIW	**Kapiti Island**	**3.38**	**218**	PN	P	03 48 44.0	-4.5
KIW	**Kapiti Island**	**3.38**	**218**	P	P	03 48 44.1	-4.4
CAW	**Cannon Point**	**3.50**	**214**	PN	P	03 48 44.8	-5.4
CAW	**Cannon Point**	**3.50**	**214**	P	P	03 48 44.8	-5.4
TRWZ	**Traveller**	**3.51**	**205**	PN	P	03 48 45.1	-5.2
WCZ	**Waipu Caves**	**3.52**	**310**	PN	P	03 48 49.0	-1.4
WCZ	**Waipu Caves**	**3.52**	**310**	P	P	03 48 49.0	-1.4
PAWZ	**Paruwai Farm**	**3.59**	**

2.1nm,0.3s,slow=17,SNR=9.8
ENH Enshi 26.47 263 P P 03 57 41.2 +3.8
5.3nm,0.7s,mb4.1
SONM Songino Array 26.59 303 P P 03 57 38.4 0.0
0.5nm,0.4s,mb3.4,baz=107,slow=9.4,SNR=7.8
KURK Kurchatov 44.74 307 P P 04 00 11.5 -0.9
2.7nm,0.9s,mb4.0
ILAR Eielson Array 49.39 33 P P 04 00 48.5 -0.1
0.5nm,0.7s,mb3.5,baz=271,slow=6.2,SNR=6.4
INK Inuvik 54.17 27 P P 04 01 24.1 -0.3
0.9nm,0.5s,mb4.1,baz=294,slow=5.5,SNR=18
WRA Warramunga Arr 57.66 187 P P 04 01 48.4 -1.5
0.3nm,0.5s,mb3.6,baz=2.8,slow=7.2,SNR=6.2
YKA Yellowknife Ar 63.65 30 P P 04 02 29.3 -0.6
0.2nm,0.6s,mb3.1,baz=304,slow=6.5,SNR=7.5
FCC Fort Churchill 73.77 26 eP P 04 03 31.7 -0.3
4.3nm,1.1s,mb4.1
PDAR Pinedale Array 77.83 45 P P 04 03 56.6 +1.4
0.7nm,1.1s,mb3.3,baz=45,slow=2.1,SNR=3.6

IDC 29 04:15:52.3±28.0, 22.73N×143.77E, h278km±225km, mb3.0/6, mb1 3.2/6, mb1mx3.1/19, mbtmp3.6/6, MS3.6/1, Ms1 3.6/1, ms1mx2.6/12, Error ellipse: s-maj=181.0km s-min=36.2km az=177.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**10.93**	**342**	LR	LR	04 21 54.2	
	comp=Z,308nm,19.4s,baz=330,slow=33						
SONM	**Songino Array**	**38.90**	**319**	P	P	04 22 51.2	-1.5
	0.4nm,0.5s,baz=132,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**54.41**	**312**	P	P	04 24 51.1	-1.4
	0.2nm,0.6s,baz=86,slow=8.6,SNR=5.7						
MKAR				PcP	PcP	04 25 50.9	-1.9
	0.2nm,0.4s,baz=80,slow=2.5,SNR=4.9						
BVAR	**Borovoye Array**	**62.24**	**319**	P	P	04 25 44.6	-1.9
	0.6nm,0.4s,baz=100,slow=8.6,SNR=5.1						
YKA	**Yellowknife Ar**	**75.29**	**28**	P	P	04 27 04.9	-1.2
	0.2nm,0.6s,baz=292,slow=5.6,SNR=5.9						
NVAR	**Mina Array Bea**	**82.08**	**52**	P	P	04 27 42.1	-0.9
	0.6nm,0.6s,baz=280,slow=6.4,SNR=4.3						
NOA	**NORSAR Array B**	**88.18**	**339**	P	P	04 28 11.0	-1.4
	1.0nm,0.8s,baz=10,slow=5.0,SNR=3.4						

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*BJI **29** 04:25:43.0,38.80N×8.20W,h14km,mB5.1,mb4.3,Ms4.6, Msz4.2*
*INMG **29** 04:25:44.6±1.2,38.87N×8.21W,h5km±2km,ML4.2, Error ellipse: s-maj=1.5km s-min=1.4km az=69.0*
*LDG **29** 04:25:44.3±0.1,38.89N×8.29W,h2km,Md4.1/1,Ml4.0/19, Error ellipse: s-maj=3.1km s-min=2.2km az=81.0*
*MDD **29** 04:25:44.3±0.3,38.87N×8.23W,h2km±3km,mbLg4.0/22, Error ellipse: s-maj=2.4km s-min=1.9km az=72.0,PRXIMO II PUEBLA DE LA CALZADA*
MDD EMS: II BADAJOZ OLIVENZA VALENCIA DE NTARA.
*NEIC **29** 04:25:44.0,38.80N×8.20W,h4km,mb4.4/1,ML4.4(LIS), MN4.0(MDD),After LIS.*
NEIC Felt [III] at Barreiro and [II] at Lisbon. Also felt at Amora, Cascais, Charneca, Coimbra, Leiria, Montemor-o-Novo and Parede. Felt [II] at Badajoz, Olivenza and Valencia de Alcantara, Spain.
*SFS **29** 04:25:44.0,38.80N×8.20W,ML4.0*
*CSEM **29** 04:25:44.5±0.1,38.86N×8.25W,h10km,ML4.1/28,Error ellipse: s-maj=1.4km s-min=1.1km az=76.0*
*IGIL **29** 04:25:44.5,38.86N×8.21W,h2km,ML4.0*
*CNRM **29** 04:25:48.1,38.37N×8.99W,h30km,MD4.2*
*STR **29** 04:25:57.9±0.3,39.45N×7.20W,h10km±1km,Ml4.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 29 04:25:42.4±0.3, 38.93N±0.01×8.14W±0.02, h8km±2km, n175,σ1$33/304, mb4.9/1, MS4.4/1, 13C-10D, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVO	**Evora**	**0.41**	**166**	*e*Pg	**Pg**	**04 25 51.3**	**+0.7**
EVO				*e*Sg	**Sg**	**04 25 55.3**	**-0.8**
	17μm,0.3s						
ALMR	**Almeirim**	**0.41**	**304**	*e*P	**Pg**	**04 25 51.9**	**+1.2**
ALMR				*e*S	**Sg**	**04 25 57.1**	**+0.9**
ALMR				*e*S	**Sg**	**04 25 57.2**	**+0.9**
ALMR				AML	AML	04 25 58.1	
	comp=E,8μm,0.3s						
ALMR	**Almeirim**	**0.41**	**304**	*e*P	**Pg**	**04 25 51.9**	**+1.2**
ALMR				*e*S	**Sg**	**04 25 57.2**	**+0.9**
MOE	**Montemor**	**0.43**	**202**	*i* Pg	**Pg**	**04 25 50.3**	**-0.9**
MOE				*e*Sg	**Sg**	**04 25 55.0**	**-2.0**
MOE	**Montemor**	**0.43**	**202**	⇑Pg	**Pg**	**04 25 50.3**	**-0.9**
MOE				Lg		04 25 55.0	
MOE	**Montemor**	**0.43**	**202**	*e*Sg	**Sg**	**04 25 55.0**	**-2.0**
PTOM	**Tomar**	**0.72**	**343**	*e*Pg	**Pg**	**04 25 58.9**	**+2.0**
PTOM				*e*Sg	**Sg**	**04 26 09.1**	**+2.5**
PTOM	**Tomar**	**0.72**	**343**	P	**Pb**	**04 25 59.0**	**+2.2**
PTOM				S	**Sb**	**04 26 09.2**	**+2.6**
INMG	**Instituto de M**	**0.78**	**259**	*e*Pg	**Pg**	**04 25 57.1**	**-1.0**
INMG				*e*Sg	**Sg**	**04 26 07.2**	**-1.4**
PLOU	**Loures**	**0.79**	**267**	*e*Pg	**Pg**	**04 25 58.4**	**+0.2**
PLOU				*e*Sg	**Sg**	**04 26 08.0**	**-0.8**
PLOU	**Loures**	**0.79**	**267**	P	**Pb**	**04 25 58.3**	**+0.4**
PLOU				S	**Sb**	**04 26 07.9**	**-0.6**
LIS	**Lisbon**	**0.81**	**255**	*e*P	**Pb**	**04 25 57.4**	**-0.9**
LIS				*e*S	**Sb**	**04 26 08.2**	**-1.1**
LIS				*e*S	**Sb**	**04 26 08.2**	**-1.1**
LIS				AML	AML	04 26 09.5	
	comp=N,4μm,0.4s						
EBAD	**Badajoz**	**0.90**	**101**	⇑Pg	**Pg**	**04 26 02.8**	**+2.4**
	comp=N,311nm,0.2s,SNR=18						
EBAD				Lg		04 26 15.3	
	comp=N,18μm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**0.90**	**101**	Pg	**Pg**	**04 26 02.8**	**+2.5**
	comp=N,311nm,0.2s,SNR=18						
PBEJ	**Beja**	**0.92**	**166**	*e*P	**Pb**	**04 26 00.7**	**+0.5**
PBEJ				*e*S	**Sb**	**04 26 12.6**	**+0.2**
	comp=N,3μm,0.3s						
PBEJ	**Beja**	**0.92**	**166**	P	**Pb**	**04 26 00.6**	**+0.4**
PBEJ				S	**Sb**	**04 26 12.5**	**+0.1**
PBEJ	**Beja**	**0.92**	**166**	*e*P	**Pb**	**04 26 00.7**	**+0.5**
PBEJ				S	**Sb**	**04 26 12.5**	**+0.1**
PCBR	**Castelo Branco**	**1.05**	**29**	*e*P	**Pb**	**04 26 05.6**	**+3.2**
PCBR				*e*S	**Sb**	**04 26 20.6**	**+4.6**
	comp=N,4μm,0.3s						
PCBR	**Castelo Branco**	**1.05**	**29**	P	**Pb**	**04 26 05.9**	**+3.5**
PCBR				S	**Sb**	**04 26 20.6**	**+4.6**
PTEO	**Sao Teotonio**	**1.45**	**199**	*e*P	**Pn**	**04 26 09.8**	**+0.8**
PTEO				S	**Sb**	**04 26 27.6**	**-0.2**
	comp=N,5μm,0.3s						
PTEO	**Sao Teotonio**	**1.45**	**199**	P	**Pn**	**04 26 10.1**	**+1.1**
PTEO				S	**Sb**	**04 26 27.7**	**-0.1**
PTEO	**Sao Teotonio**	**1.45**	**199**	*e*P	**Pn**	**04 26 09.8**	**+0.8**
PTEO				S	**Sb**	**04 26 27.7**	**-0.1**
EGRO	**El Granado**	**1.48**	**159**	⇓Pn	**Pn**	**04 26 10.2**	**+0.8**
	comp=N,242nm,0.3s,SNR=18						
EGRO				Pg	**Pg**	**04 26 11.4**	**-0.7**
	SNR=7.9						
EGRO				Lg		04 26 30.1	
	comp=N,1μm,0.2s,SNR=39						
EGRO	**El Granado**	**1.48**	**159**	Pn	**Pn**	**04 26 10.2**	**+0.7**
	comp=N,242nm,0.3s,SNR=18						
EGRO	**El Granado**	**1.48**	**159**	Pg	**Pg**	**04 26 11.4**	**-0.6**
	SNR=7.9						
MTE	**Manteigas**	**1.54**	**17**	*e*Pg	**Pg**	**04 26 14.3**	**+1.1**
MTE				*e*Sn	**Sn**	**04 26 33.2**	**+2.5**
MTE				*e*Sg	**Sg**	**04 26 34.8**	**+1.0**
	comp=N,3μm,0.3s						
MTE	**Manteigas**	**1.54**	**17**	Pn	**Pn**	**04 26 12.1**	**+1.8**
MTE				Pg	**Pg**	**04 26 14.3**	**+1.1**
MTE				Sn	**Sn**	**04 26 33.2**	**+2.5**
MTE				Lg		04 26 34.8	
	comp=N,1μm,0.3s						
MTE	**Manteigas**	**1.54**	**17**	*e*Pn	**Pn**	**04 26 12.1**	**+1.8**
MTE				*e*Pg	**Pg**	**04 26 14.3**	**+1.1**
MTE				*e*Sn	**Sn**	**04 26 31.4**	**+0.7**
MTE				*e*Sg	**Sg**	**04 26 34.9**	**+1.0**
MTE	**Manteigas**	**1.54**	**17**	*e*Pg	**Pg**	**04 26 14.3**	**+1.1**
MTE				*e*Sn	**Sn**	**04 26 33.2**	**+2.5**
MTE				*e*Sg	**Sg**	**04 26 34.8**	**+1.0**
	comp=N,3μm,0.3s						
EMIN	**Mina Concepcio**	**1.63**	**135**	⇓Pn	**Pn**	**04 26 13.0**	**+1.3**
	comp=N,153nm,0.3s,SNR=18						
EMIN				Pg	**Pg**	**04 26 14.0**	**-1.1**
	SNR=7.9						
EMIN				Lg		04 26 36.2	
	comp=N,536nm,0.2s,SNR=17						
EMIN	**Mina Concepcio**	**1.63**	**135**	Pn	**Pn**	**04 26 13.0**	**+1.4**
	comp=N,153nm,0.3s,SNR=18						
EMIN	**Mina Concepcio**	**1.63**	**135**	Pg	**Pg**	**04 26 14.0**	**-1.0**
	SNR=7.9						
MORF	**Marmelete**	**1.67**	**194**	*e*P	**Pn**	**04 26 11.8**	**-0.3**
MORF				*e*S	**Sn**	**04 26 31.6**	**-2.3**
MORF				*e*S	**Sn**	**04 26 31.6**	**-2.2**
MORF				AML	AML	04 26 35.6	
	comp=N,3μm,0.2s						
ERIP	**Rio Piedras**	**1.70**	**155**	⇓Pg	**Pg**	**04 26 13.3**	**-3.0**
	SNR=18						
ERIP				Pg	**Pg**	**04 26 15.2**	**-1.1**
	comp=N,161nm,0.1s,SNR=7.9						
ERIP				Lg		04 26 36.4	
	comp=N,1μm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**1.70**	**155**	Pg	**Pg**	**04 26 15.2**	**-1.2**
	comp=N,161nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**1.80**	**6**	*e*Pn	**Pn**	**04 26 15.8**	**+1.8**
PVIS				*e*Sg	**Sg**	**04 26 43.0**	**+0.7**
	comp=N,2μm,0.3s						
PVIS	**Viseu**	**1.80**	**6**	P	**Pn**	**04 26 15.8**	**+1.8**
PVIS				S	**Sn**	**04 26 42.5**	**+5.3**
PVIS	**Viseu**	**1.80**	**6**	*e*Pn	**Pn**	**04 26 15.8**	**+1.8**
PVIS				*e*Sg	**Sg**	**04 26 43.0**	**+0.7**
	comp=N,2μm,0.3s						
PVRL	**Vila Real**	**2.37**	**8**	*e*Pn	**Pn**	**04 26 24.0**	**+1.8**
PVRL	**Vila Real**	**2.37**	**8**	*e*Pg	**Pg**	**04 26 29.2**	**-0.5**
PVRL				*e*Sn	**Sn**	**04 26 53.2**	**+1.5**
	comp=N,933nm,0.4s						
PVRL	**Vila Real**	**2.37**	**8**	P	**Pn**	**04 26 23.5**	**+1.3**
PVRL				Sn	**Sn**	**04 26 53.2**	**+1.5**
	comp=N,466nm,0.4s						
GIBL	**Gibalbin**	**2.71**	**140**	*e*S	**Sn**	**04 27 00.0**	**-0.3**
ESPR	**Espera**	**2.73**	**138**	⇓Pn	**Pn**	**04 26 28.7**	**+1.3**
	comp=N,20nm,0.3s,SNR=18						
ESPR				Pg	**Pg**	**04 26 36.0**	**-1.0**
	SNR=7.9						
ESPR				Sn	**Sn**	**04 27 02.6**	**+1.6**
	comp=N,124nm,0.3s,SNR=6.1						
ESPR	**Espera**	**2.73**	**138**	Pn	**Pn**	**04 26 28.7**	**+1.3**
	comp=N,20nm,0.3s,SNR=18						
ESPR	**Espera**	**2.73**	**138**	Pg	**Pg**	**04 26 36.0**	**-1.0**
	SNR=7.9						
ESPR				Sn	**Sn**	**04 27 02.6**	**+1.6**
	comp=N,124nm,0.3s,SNR=6.1						
PCAB	**Cabril**	**2.78**	**2**	*e*Pn	**Pn**	**04 26 29.5**	**+1.4**
PCAB				*e*Sn	**Sn**	**04 27 02.5**	**+0.3**
	comp=N,931nm,0.2s						
PCAB	**Cabril**	**2.78**	**2**	Pn	**Pn**	**04 26 29.5**	**+1.4**
PCAB				Sn	**Sn**	**04 27 02.5**	**+0.3**
	comp=N,465nm,0.2s						
EADA	**Adamuz**	**2.89**	**104**	⇑Pn	**Pn**	**04 26 30.3**	**+0.6**
	comp=N,4.2nm,0.3s,SNR=18						
EADA				Pg	**Pg**	**04 26 38.2**	**-2.0**
	SNR=7.9						
EADA				Sn	**Sn**	**04 27 06.9**	**+1.8**
	SNR=7.9						
EADA				Lg		04 27 17.9	
	comp=N,326nm,0.2s,SNR=31						
EADA	**Adamuz**	**2.89**	**104**	Pn	**Pn**	**04 26 30.3**	**+0.6**
	comp=N,4.2nm,0.3s,SNR=18						
EADA	**Adamuz**	**2.89**	**104**	Pg	**Pg**	**04 26 38.2**	**-2.0**
	SNR=7.9						
EADA				Sn	**Sn**	**04 27 06.9**	**+1.9**
	SNR=7.9						
SFS	**San Fernando**	**2.90**	**147**	*e*P	**Pn**	**04 26 32.9**	**+3.2**
ELOB	**Lobios**	**2.94**	**1**	Pn	**Pn**	**04 26 31.4**	**+1.1**
	comp=N,18nm,0.2s,SNR=80						
ELOB				Sn	**Sn**	**04 27 05.5**	**-0.6**
	comp=N,136nm,0.2s,SNR=7.9						
ELOB				Lg		04 27 17.6	
	comp=N,609nm,0.4s,SNR=15						
ELOB	**Lobios**	**2.94**	**1**	Pn	**Pn**	**04 26 31.4**	**+1.1**
	comp=N,18nm,0.2s,SNR=80						
ELOB				Sn	**Sn**	**04 27 05.5**	**-0.7**
	comp=N,136nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**2.96**	**132**	*i* P	**Pn**	**04 26 31.0**	**+0.4**
LIJA				*e*S	**Sn**	**04 27 06.0**	**-0.6**
CNIL	**Conil**	**3.04**	**146**	*e*P	**Pn**	**04 26 32.5**	**+0.7**
ECAL	**Calabor**	**3.20**	**19**	⇓Pn	**Pn**	**04 26 35.2**	**+1.2**
	comp=N,67nm,0.4s,SNR=18						
ECAL				Sn	**Sn**	**04 27 13.8**	**+1.1**
	SNR=7.9						
ECAL				Lg		04 27 28.1	
	comp=N,1μm,0.3s,SNR=10.0						
ECAL	**Calabor**	**3.20**	**19**	Pn	**Pn**	**04 26 35.2**	**+1.2**
	comp=N,67nm,0.4s,SNR=18						
ECAL				Sn	**Sn**	**04 27 13.8**	**+1.1**
	SNR=7.9						
MOMI	**Momias**	**3.23**	**143**	*e*S	**Sn**	**04 27 15.5**	**+2.1**
EZAM	**Zamans**	**3.25**	**353**	⇑Pn	**Pn**	**04 26 35.4**	**+0.7**
	comp=N,20nm,0.2s,SNR=18						
EZAM				Lg		04 27 28.0	
	comp=N,167nm,0.2s,SNR=27						
EZAM	**Zamans**	**3.25**	**353**	⇑Pn	**Pn**	**04 26 35.3**	**+0.6**
EJIF	**Jimena Fronter**	**3.25**	**139**	⇑Pn	**Pn**	**04 26 35.8**	**+1.0**
	comp=N,4.1nm,0.3s,SNR=18						
EJIF				Lg		04 27 30.1	
	comp=N,49nm,0.4s,SNR=7.1						
ESDC	**Sonseca Array**	**3.33**	**76**	Pn	**Pn**	**04 26 36.8**	**+1.0**
	comp=N,192nm,0.2s,baz=258,slow=14,SNR=2432						
ESDC				Sn	**Sn**	**04 27 16.9**	**+1.0**
	baz=258,slow=24,SNR=7.9						
ESDC				Lg		04 27 32.8	
	baz=258,slow=32,SNR=7.9						
ESDC	**Sonseca Array**	**3.33**	**76**	Pn	**Pn**	**04 26 36.8**	**+1.0**
ESDC				Sn	**Sn**	**04 27 16.9**	**+1.0**
ESDC				Lg		04 27 32.8	
ESDC	**Sonseca Array**	**3.33**	**76**	Pn	**Pn**	**04 26 36.8**	**+1.0**
	comp=N,192nm,0.2s,SNR=1000						
ESDC				Sn	**Sn**	**04 27 16.9**	**+0.9**
	SNR=7.9						
ESLA	**Sonseca Array**	**3.33**	**76**	*e*Pn	**Pn**	**04 26 36.5**	**+0.7**
ESLA				*e*Pg	**Pg**	**04 26 47.5**	**-1.3**
ESLA				*e*Sn	**Sn**	**04 27 14.1**	**-1.9**
ESLA				*e*Sg	**Sg**	**04 27 27.0**	**-6.1**
ELUQ	**Luque**	**3.34**	**113**	Pn	**Pn**	**04 26 36.8**	**+0.8**
	SNR=7.9						
ELUQ				Lg		04 27 34.5	
	comp=N,58nm,0.2s,SNR=10						
REAL	**Reales**	**3.37**	**135**	*e*P	**Pn**	**04 26 39.0**	**+2.6**
EBAN	**Banos Encina**	**3.50**	**101**	⇑Pn	**Pn**	**04 26 38.5**	**+0.2**
	comp=N,5.4nm,0.3s,SNR=18						
EBAN				Sn	**Sn**	**04 27 20.1**	**-0.2**
	comp=N,119nm,0.4s,SNR=15						
EBAN				Lg		04 27 37.4	
	comp=N,211nm,0.2s,SNR=23						
GUD	**Guadarrama**	**3.52**	**60**	⇑Pn	**Pn**	**04 26 39.4**	**+0.9**
	comp=N,19nm,0.2s,SNR=18						
GUD				Pg	**Pg**	**04 26 49.4**	**-3.2**
	SNR=7.9						
GUD				Lg		04 27 41.8	
	comp=N,258nm,0.5s,SNR=14						
GUD	**Guadarrama**	**3.52**	**60**	⇑Pn	**Pn**	**04 26 39.4**	**+0.9**
GUD				Pg	**Pg**	**04 26 49.4**	**-3.2**
GUD				Lg		04 27 41.8	
ERUA	**La Rua**	**3.55**	**12**	Pn	**Pn**	**04 26 39.5**	**+0.6**
	comp=N,26nm,0.2s,SNR=51						
ERUA				Sn	**Sn**	**04 27 21.5**	**0.0**
	comp=N,54nm,0.5s,SNR=7.6						
ERUA				Lg		04 27 37.2	
	comp=N,127nm,0.4s,SNR=20						
EMIJ	**Mijas**	**3.56**	**130**	Pn	**Pn**	**04 26 40.4**	**+1.3**
	comp=N,22nm,0.3s,SNR=56						
EMIJ				Sn	**Sn**	**04 27 21.9**	**0.0**
	comp=N,32nm,0.2s,SNR=7.9						
EMIJ				Lg		04 27 40.8	
	comp=N,33nm,0.3s,SNR=6.7						
EMIJ	**Mijas**	**3.56**	**130**	Pn	**Pn**	**04 26 40.4**	**+1.3**
EMIJ				Sn	**Sn**	**04 27 21.9**	**0.0**
EMIJ				Lg		04 27 41.8	
ELOJ	**Sierra Loja**	**3.61**	**118**	Pn	**Pn**	**04 26 42.5**	**+2.6**
	SNR=7.9						
ELOJ				Sn	**Sn**	**04 27 24.8**	**+1.6**
	SNR=4.0						
ELOJ				Lg		04 27 42.5	
	comp=N,31nm,0.2s,SNR=19						
EMAL	**Malaga-Limoner**	**3.65**	**125**	Pn	**Pn**	**04 26 42.2**	**+1.9**
	SNR=4.0						
EMAL				Sn	**Sn**	**04 27 23.9**	**-0.2**
	SNR=4.0						
ERON	**Agron**	**3.92**	**118**	Pn	**Pn**	**04 26 45.6**	**+1.4**
	SNR=4.0						
ERON				Sn	**Sn**	**04 27 31.8**	**+0.9**
	comp=N,36nm,0.4s,SNR=8.5						
ERON				Lg		04 27 52.4	
	comp=N,32nm,0.3s,SNR=7.2						
ERON	**Agron**	**3.92**	**118**	Pn	**Pn**	**04 26 45.6**	**+1.4**
ERON				Sn	**Sn**	**04 27 31.8**	**+0.9**
ERON				Lg		04 27 52.4	
ECOG	**Cogollos-Vega**	**3.96**	**113**	⇓Pn	**Pn**	**04 26 46.9**	**+2.0**
	comp=N,2.6nm,0.2s,SNR=18						
ECOG				Sn	**Sn**	**04 27 33.0**	**+0.8**
	comp=N,37nm,0.2s,SNR=11						
ECOG				Lg		04 27 52.9	
	comp=N,60nm,0.2s,SNR=10.0						
STS	**Santiago**	**3.97**	**356**	Pn	**Pn**	**04 26 45.4**	**+0.5**
	comp=N,13nm,0.3s,SNR=21						
STS				Sn	**Sn**	**04 27 29.9**	**-2.3**
	SNR=7.9						
STS				Lg		04 27 51.0	
	comp=N,50nm,0.3s,SNR=9.9						
EMAZ	**Mazaricos**	**4.07**	**351**	Pn	**Pn**	**04 26 46.7**	**+0.3**
	comp=N,13nm,0.3s,SNR=20						
EMAZ				Sn	**Sn**	**04 27 32.7**	**-2.1**
	SNR=7.9						
EMAZ				Lg		04 27 56.1	
	comp=N,29nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**4.07**	**351**	Pn	**Pn**	**04 26 46.7**	**+0.3**
	comp=N,13nm,0.3s,SNR=20						
EMAZ				Sn	**Sn**	**04 27 32.7**	**-2.1**
	SNR=7.9						
EQUE	**Quentar**	**4.09**	**113**	Pn	**Pn**	**04 26 48.4**	**+1.8**
	comp=N,12nm,0.3s,SNR=32						
EQUE				Sn	**Sn**	**04 27 36.0**	**+0.8**
	comp=N,48nm,0.3s,SNR=6.9						
EQUE				Lg		04 27 56.7	
	comp=N,87nm,0.3s,SNR=11						
EQES	**Quesada**	**4.14**	**104**	⇓Pn	**Pn**	**04 26 47.2**	**-0.2**
	comp=N,2.2nm,0.3s,SNR=18						
EQES				Sn	**Sn**	**04 27 36.3**	**-0.2**
	SNR=7.9						
EQES				Lg		04 27 56.7	
	comp=N,59nm,0.2s,SNR=11						
EQES	**Quesada**	**4.14**	**104**	Pn	**Pn**	**04 26 47.2**	**-0.2**
	comp=N,2.2nm,0.3s,SNR=18						
EQES				Sn	**Sn**	**04 27 36.3**	**-0.2**
	SNR=7.9						
EVIA	**Vianos**	**4.42**	**92**	Pn	**Pn**	**04 26 51.4**	**+0.2**
	comp=N,14nm,0.5s,SNR=7.1						
EVIA				Lg		04 28 07.9	
	comp=N,208nm,0.4s,SNR=21						
EPON	**Pontenova**	**4.46**	**9**	Pn	**Pn**	**04 26 52.5**	**+0.6**
	comp=N,6.2nm,0.3s,SNR=23						
EPON				Lg		04 28 06.7	
	comp=N,89nm,0.3s,SNR=13						
EPON	**Pontenova**	**4.46**	**9**	Pn	**Pn**	**04 26 52.5**	**+0.6**
	comp=N,6.2nm,0.3s,SNR=23						
EHUE	**Huescar**	**4.50**	**103**	Pn	**Pn**	**04 26 53.2**	**+0.7**
	comp=N,1.8nm,0.2s,SNR=4.0						
EHUE				Lg		04 28 09.2	
	comp=N,100nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.62**	**114**	Pn	**Pn**	**04 26 56.4**	**+2.3**
	comp=N,13nm,0.3s,SNR=58						
EBER				Sn	**Sn**	**04 27 44.7**	**-4.0**
	comp=N,92nm,0.6s,SNR=8.7						
EBER				Lg		04 28 12.4	
	comp=N,90nm,0.4s,SNR=11						
EBER	**Berja**	**4.62**	**114**	Pn	**Pn**	**04 26 56.4**	**+2.2**
	comp=N,13nm,0.3s,SNR=58						
EBER				Sn	**Sn**	**04 27 44.7**	**-4.0**
	comp=N,92nm,0.6s,SNR=8.7						
EARI	**Arriondas**	**4.90**	**26**	Pn	**Pn**	**04 26 59.5**	**+1.4**
	comp=N,5.5nm,0.3s,SNR=60						
EARI				Sn	**Sn**	**04 27 55.8**	**0.0**
	SNR=7.9						
EARI				Lg		04 28 23.1	
	comp=N,16nm,0.3s,SNR=9.0						
EARI	**Arriondas**	**4.90**	**26**	Pn	**Pn**	**04 26 59.5**	**+1.4**
	comp=N,5.5nm,0.3s,SNR=60						
EARI				Sn	**Sn**	**04 27 55.8**	**0.0**
	SNR=7.9						
ETOB	**Tobarra**	**5.16**	**91**	Pn	**Pn**	**04 27 01.6**	**-0.2**
	comp=N,3.1nm,0.3s,SNR=33						
ETOB				Sn	**Sn**	**04 28 01.3**	**-1.0**
	comp=N,27nm,0.4s,SNR=4.8						
ETOB				Lg		04 28 31.9	
	comp=N,186nm,0.4s,SNR=12						
ETOB	**Tobarra**	**5.16**	**91**	Pn	**Pn**	**04 27 01.6**	**-0.2**
	comp=N,3.1nm,0.3s,SNR=33						
ETOB				Sn	**Sn**	**04 28 01.3**	**-1.0**
	comp=N,27nm,0.4s,SNR=4.8						
EMEL	**Melilla**	**5.50**	**130**	Pn	**Pn**	**04 27 08.5**	**+1.9**
	comp=N,182nm,0.9s,SNR=4.9						
EMUR	**La Murta**	**5.53**	**99**	Pn	**Pn**	**04 27 07.0**	**0.0**
	comp=N,4.0nm,0.3s,SNR=12						
EMUR				Sn	**Sn**	**04 28 10.0**	**-1.6**
	comp=N,38nm,0.5s,SNR=5.5						
EMUR				Lg		04 28 43.1	
	comp=N,64nm,0.4s,SNR=8.3						
EMUR	**La Murta**	**5.53**	**99**	Pn	**Pn**	**04 27 07.0**	**0.0**
	comp=N,4.0nm,0.3s,SNR=12						
EMUR				Sn	**Sn**	**04 28 10.0**	**-1.6**
	comp=N,38nm,0.5s,SNR=5.5						
EMOS	**Mosqueruela**	**6.09**	**74**	⇑Pn	**Pn**	**04 27 15.5**	**+0.6**
	comp=N,27nm,0.3s,SNR=18						
EMOS				Sn	**Sn**	**04 28 24.4**	**-1.2**
	SNR=7.9						
EMOS				Lg		04 29 02.9	
	comp=N,118nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**6.09**	**74**	⇑Pn	**Pn**	**04 27 15.5**	**+0.6**
EMOS				Sn	**Sn**	**04 28 24.4**	**-1.2**
EMOS				Lg		04 29 02.9	
EMOS	**Mosqueruela**	**6.09**	**74**	Pn	**Pn**	**04 27 15.5**	**+0.6**
	comp=N,27nm,0.3s,SNR=18						
EMOS			

SJPF					*e*Sg		**Sg**	**04 29 17.3**	**-8.0**
	comp=N,95nm,0.8s								
SJPF	**Ste Jean**	**6.70**	**49**	*e*Pn			**Pn**	**04 27 23.8**	**+0.3**
SJPF					*e*Sg		**Sg**	**04 29 17.3**	**-8.0**
	comp=N,48nm,0.8s								
OSSF	**Osses**	**6.76**	**48**	P			**Pn**	**04 27 24.2**	**-0.2**
OSSF				S			**Sn**	**04 28 37.3**	**-5.1**
LARF	**Larrau**	**6.79**	**51**	P			**Pn**	**04 27 25.1**	**+0.2**
ERTA	**Horta de San J**	**6.82**	**70**	⇑Pn			**Pn**	**04 27 24.5**	**-0.7**
	comp=N,10.0nm,0.4s,SNR=18								
ERTA				Sn			**Sn**	**04 28 39.9**	**-3.9**
	SNR=7.9								
ERTA				Lg				04 29 22.3	
	comp=N,6.9nm,0.2s,SNR=5.8								
ERTA	**Horta de San J**	**6.82**	**70**	Pn			**Pn**	**04 27 24.5**	**-0.7**
	comp=N,10.0nm,0.4s,SNR=18								
ERTA				Sn			**Sn**	**04 28 40.0**	**-3.9**
TZC	**Tazercounte**	**6.89**	**168**	*i* P			**Pn**	**04 27 21.0**	**-5.3**
TZC				*i* S			**Sn**	**04 28 31.0**	**-15**
EBR	**Ebro Roquetas**	**6.91**	**71**	*e*PN			**Pn**	**04 27 25.8**	**-0.6**
EBR				*e*SN			**Sn**	**04 28 49.7**	**+3.7**
EBR				*e*Rs				04 29 29.5	
ETSF	**Etsaut**	**6.98**	**53**	*e*Pn			**Pn**	**04 27 27.5**	**0.0**
ETSF				*e*Sn			**Sn**	**04 28 43.1**	**-4.8**
ETSF				*e*Sg			**Sg**	**04 29 26.1**	**-8.6**
	comp=N,93nm,0.8s								
ETSF	**Etsaut**	**6.98**	**53**	*e*Pn			**Pn**	**04 27 27.5**	**0.0**
ETSF				*e*Sg			**Sg**	**04 29 26.1**	**-8.6**
	comp=N,46nm,0.8s								
EGRA	**Graus**	**7.22**	**60**	⇑Pn			**Pn**	**04 27 30.3**	**-0.6**
	comp=N,13nm,0.7s,SNR=18								
EGRA				Lg				04 29 37.1	
	comp=N,16nm,0.5s,SNR=4.6								
EBIE	**Bielsa**	**7.32**	**56**	⇓Pn			**Pn**	**04 27 32.3**	**+0.1**
	comp=N,17nm,0.3s,SNR=18								
EBIE				Sn			**Sn**	**04 28 51.1**	**-5.3**
	SNR=7.9								
EBIE	**Bielsa**	**7.32**	**56**	⇓Pn			**Pn**	**04 27 32.3**	**+0.1**
EBIE				Sn			**Sn**	**04 28 51.1**	**-5.3**
EBIE	**Bielsa**	**7.32**	**56**	⇓Pn			**Pn**	**04 27 32.3**	**+0.1**
LABF	**Labassere**	**7.45**	**54**	P			**Pn**	**04 27 34.3**	**+0.2**
EPOB	**Poblet**	**7.47**	**68**	Pn			**Pn**	**04 27 32.6**	**-1.7**
	comp=N,8.6nm,0.3s,SNR=37								
EPOB				Lg				04 29 47.3	
	SNR=7.9								
EPOB	**Poblet**	**7.47**	**68**	Pn			**Pn**	**04 27 32.7**	**-1.6**
RESF	**Ens**	**7.50**	**56**	P			**Pn**	**04 27 34.7**	**-0.1**
ZFT	**Errachidia**	**7.54**	**155**	*i* P			**Pn**	**04 27 32.0**	**-3.3**
ZFT				*i* S			**Sn**	**04 28 51.0**	**-11**
EPF	**Esparros**	**7.61**	**55**	*e*Pn			**Pn**	**04 27 36.3**	**-0.1**
EPF				*e*Sn			**Sn**	**04 28 58.8**	**-4.9**
EPF				*e*Sg			**Sg**	**04 29 46.2**	**-10**
	comp=N,32nm,0.5s								
MELF	**Melles**	**7.81**	**57**	P			**Pn**	**04 27 39.0**	**-0.1**
EMIR	**Miracle**	**7.96**	**65**	Pn			**Pn**	**04 27 40.0**	**-1.2**
	comp=N,19nm,0.4s,SNR=27								
EMIR				Sn			**Sn**	**04 29 05.3**	**-6.9**
	SNR=7.9								
EMIR				Lg				04 29 58.2	
	comp=N,32nm,0.5s,SNR=4.9								
EMIR	**Miracle**	**7.96**	**65**	Pn			**Pn**	**04 27 40.0**	**-1.1**
SALF	**Salau**	**8.04**	**59**	P			**P**	**04 27 42.2**	**-0.1**
CARF	**Carcanieres**	**8.64**	**61**	P			**P**	**04 27 50.8**	**+0.1**
CARF				S			**Sn**	**04 29 24.6**	**-4.8**
LFF	**La Frestale**	**8.94**	**45**	*e*Pn			**P**	**04 27 53.0**	**-1.8**
LFF				*e*Sn			**Sn**	**04 29 29.0**	**-7.7**
	comp=N,8.4nm,0.5s								
MTLF	**Montolieu**	**8.97**	**57**	*e*Pn			**P**	**04 27 54.1**	**-1.2**
MTLF				*e*Sn			**Sn**	**04 29 30.9**	**-6.7**
MTLF				*e*Sg			**Sg**	**04 30 28.8**	**-12**
	comp=N,41nm,1.1s								
EJON	**La Jonquera**	**9.09**	**64**	Pn			**P**	**04 27 55.3**	**-1.5**
	comp=N,8.4nm,0.9s,SNR=4.9								
RJF	**Les Rejaudoux**	**9.59**	**45**	*e*Pn			**P**	**04 28 01.6**	**-2.2**
RJF				*e*Sn			**Sn**	**04 29 46.1**	**-6.8**
	comp=N,3.8nm,0.2s								
MFF	**Saint Martin d**	**9.66**	**35**	*e*Pn			**P**	**04 28 02.3**	**-2.4**
MFF				*e*Sn			**Sn**	**04 29 45.8**	**-8.7**
	comp=N,5.3nm,0.5s								
CAF	**Calviac**	**9.68**	**48**	*e*Pn			**P**	**04 28 03.1**	**-1.9**
CAF				*e*Sn			**Sn**	**04 29 46.4**	**-8.6**
	comp=N,5.9nm,0.4s								
QUIF	**Quistinic**	**9.69**	**20**	*e*Pn			**P**	**04 28 02.9**	**-2.2**
QUIF				*e*Sn			**Sn**	**04 29 47.2**	**-8.0**
	comp=N,3.9nm,0.4s								
ROSF	**Rostrenen**	**10.04**	**19**	*e*Pn			**P**	**04 28 08.3**	**-1.7**
SGMF	**Saint Gilles**	**10.16**	**22**	*e*Pn			**P**	**04 28 09.1**	**-2.5**
SGMF				*e*Sn			**S**	**04 29 57.6**	**-9.3**
	comp=N,1.6nm,0.3s								
LASF	**Ste Croix**	**10.36**	**56**	*e*Pn			**P**	**04 28 12.9**	**-1.5**
LASF				*e*Sn			**S**	**04 30 03.5**	**-8.3**
	comp=N,4.6nm,0.5s								
TCF	**Toulx Ste Croi**	**10.59**	**43**	*e*Pn			**P**	**04 28 14.8**	**-2.7**
TCF				*e*Sn			**S**	**04 30 08.0**	**-9.4**
	comp=N,4.5nm,0.3s								
GRR	**Gorron**	**10.82**	**27**	*e*Pn			**P**	**04 28 18.2**	**-2.5**
BGF	**Bois d'Agland**	**11.10**	**43**	*e*Pn			**P**	**04 28 21.3**	**-3.2**
BGF				*e*Sn			**S**	**04 30 22.3**	**-7.6**
	comp=N,21nm,0.4s								
FLN	**La Foliniere**	**11.27**	**27**	*e*Pn			**P**	**04 28 24.9**	**-1.9**
FLN				*e*Sn			**S**	**04 30 24.8**	**-9.3**
	comp=N,1.1nm,0.2s								
HYF	**Humbligny**	**11.46**	**40**	*e*Pn			**P**	**04 28 28.3**	**-1.1**
HYF				*e*Sn			**S**	**04 30 30.5**	**-8.2**
	comp=N,28nm,0.4s								
AVF	**Avril sur Loir**	**11.52**	**43**	*e*Pn			**P**	**04 28 27.7**	**-2.5**
AVF				*e*Sn			**S**	**04 30 30.8**	**-9.3**
	comp=N,3.0nm,0.5s								
SMF	**Signal de Mont**	**11.70**	**45**	*e*Pn			**P**	**04 28 29.8**	**-2.7**
SMF				*e*Sn			**S**	**04 30 35.3**	**-9.1**
	comp=N,1.0nm,0.2s								
SMF	**Signal de Mont**	**11.70**	**45**	Sn			**S**	**04 30 35.3**	**-9.1**
	comp=N,0.0nm,0.2s								
SSF	**Saint Saulge**	**11.77**	**43**	*e*Pn			**P**	**04 28 30.8**	**-2.8**
SSF				*e*Sn			**S**	**04 30 36.1**	**-10**
	comp=N,3.5nm,0.7s								
LMR	**La Mourre**	**11.89**	**64**	*e*Pn			**P**	**04 28 33.8**	**-1.4**
FRF	**La Foret Royal**	**12.05**	**63**	*e*Pn			**P**	**04 28 36.1**	**-1.3**
BNI	**Bardonecchia**	**12.60**	**56**	Pn			**P**	**04 28 45.7**	**+0.9**
LPL	**La Plagne**	**12.83**	**54**	*e*Pn			**P**	**04 28 47.4**	**-0.4**
VSL	**Villasalto**	**13.60**	**82**	Pn			**P**	**04 28 58.6**	**+0.7**
VSL	**Villasalto**	**13.60**	**82**	Pn			**P**	**04 28 58.7**	**+0.7**
WLF	**Walferdange**	**14.80**	**39**	*e*Pn			**P**	**04 29 13.5**	**-0.2**
	comp=N,10nm,0.9s								
WLF	**Walferdange**	**14.80**	**39**	*e*Pn			**P**	**04 29 13.5**	**-0.2**
	comp=N,10nm,0.9s								
CLL	**Collm**	**19.30**	**43**	*e*P			**P**	**04 30 12.0**	**+1.7**
RUE	**Ruedersdorf**	**20.34**	**41**	*e*P			**P**	**04 30 21.1**	**-0.6**
	comp=N,10nm,0.6s								
WMQ	**Urumqi**	**68.02**	**51**	*e*P			**P**	**04 36 47.8**	**+3.7**
WMQ				PCP			PcP	04 37 13.8	+3.5
WMQ				AMB			AMB		
	comp=Z,30nm,5.0s								
WMQ				LR			LR		
	comp=N,230nm,22.2s,MS4.6								
WMQ				LR			LR		
	comp=E,290nm,22.0s,MS4.6								
WMQ				LR			LR		
	comp=Z,200nm,22.0s,MS4.3								
LZH	**Lanzhou**	**82.51**	**49**	*e*P			**P**	**04 38 05.5**	**-1.3**
LZH				PP			PP	04 41 16.5	-1.6
CD2	**Chengdu**	**86.00**	**53**	*e*P			**P**	**04 38 27.0**	**+2.4**
CD2				AMB			AMB		
	comp=Z,10.0nm,1.2s,mb4.9								
CN2	**Changchun**	**87.58**	**32**	*e*P			**P**	**04 38 34.3**	**+2.3**
MDJ	**Mudanjiang**	**88.53**	**29**	P			**P**	**04 38 37.5**	**+1.1**
MDJ				AMB			AMB		
	comp=Z,110nm,4.8s								
NJ2	**Nanjing**	**93.91**	**43**	*e*P			**P**	**04 39 02.8**	**+1.1**
SSE	**Sheshan**	**95.88**	**42**	P			**P**	**04 39 11.0**	**+0.2**
SSE				AMB			AMB		
	comp=Z,80nm,4.4s								

*CRAAG **29** 05:01:01.7,38.90N×8.26W,Mb4.2*
*LDG **29** 05:01:01.9±0.1,38.88N×8.31W,h2km,Md4.2/1,Ml4.1/13, Error ellipse: s-maj=3.1km s-min=2.1km az=83.0*
*IDC **29** 05:01:01.2±2.6,38.92N×8.10W,mb4.2/1,mb1 4.3/4, mb1mx3.5/24,mbtmp4.2/4,ML4.5/2,Error ellipse: s-maj=29.3km s-min=28.3km az=85.0*
*SFS **29** 05:01:01.0,38.89N×8.29W,h3km,ML4.4*
*CSEM **29** 05:01:01.9±0.1,38.83N×8.27W,h10km,mb4.6/1, ML4.2/18,Error ellipse: s-maj=1.3km s-min=1.1km az=88.0*
*IGIL **29** 05:01:02.8,38.87N×8.22W,h2km,ML4.1*
*BJI **29** 05:01:02.4,39.22N×8.01W,h9km,mB4.2,mb4.0,Ms4.1, Msz3.9*
*NEIC **29** 05:01:02.0,38.80N×8.20W,h8km,mb4.0/2,ML4.5(LIS), MN4.0(MDD),After LIS.*
NEIC Felt at Amora, Barreiro and Lisbon. Felt [III] at Badajoz and [II] at Almendralejo, Ciudad Real, Montijo, Olivenza, Puebla de la Calzada, San Vicente de Alcantara, Valencia de Alcantara and Villar del Rey, Spain.
*MDD **29** 05:01:02.2±0.3,38.87N×8.23W,h4km±3km,mbLg4.4/24, Error ellipse: s-maj=2.4km s-min=1.9km az=75.0,PRXIMO II ALMENDRALEJO CIUDAD REAL II MONTIJO OLIVENZA PUEBLA DE LA CALZADA II SAN VICENTE DE NTARA VALENCIA DE NTARA II VILLAR DEL REY I ALBURQUERQUE LA CODOSERA ALCONCHEL CHELES*
MDD EMS: II-III BADAJOZ.
*INMG **29** 05:01:03.0±1.2,38.89N×8.23W,ML4.4,Error ellipse: s-maj=2.0km s-min=1.6km az=30.0*
*CNRM **29** 05:01:05.1,38.13N×9.54W,h32km,MD4.3*
*STR **29** 05:01:15.3±0.6,39.26N×7.08W,h10km±1km,Ml4.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 29 05:01:00.5±0.3,38.93N±0.01×8.13W±0.02,h11km±2km, n199,σ1⇕38/324,mb4.0/3,16C-12D,Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALMR	**Almeirim**	**0.41**	**303**	*e*P	**Pg**	**05 01 09.8**	**+0.9**
ALMR				*e*S	**Sg**	**05 01 15.2**	**+0.6**
ALMR				*e*S	**Sg**	**05 01 15.2**	**+0.7**
ALMR				AML	AML	05 01 15.5	
	comp=E,9μm,0.4s						
EVO	**Evora**	**0.41**	**167**	*e*Pg	**Pg**	**05 01 08.9**	**0.0**
EVO				*e*Sg	**Sg**	**05 01 13.3**	**-1.3**
	comp=E,23μm,0.3s						
MOE	**Montemor**	**0.45**	**203**	*i* Pg	**Pg**	**05 01 08.2**	**-1.4**
MOE				*e*Sg	**Sg**	**05 01 13.0**	**-2.7**
MOE	**Montemor**	**0.45**	**203**	⇑Pg	**Pg**	**05 01 08.2**	**-1.4**
MOE				Lg		05 01 13.0	
MOE	**Montemor**	**0.45**	**203**	*e*Sg	**Sg**	**05 01 13.0**	**-2.7**
PTOM	**Tomar**	**0.72**	**342**	*e*Pg	**Pg**	**05 01 16.7**	**+1.8**
PTOM				*e*Sg	**Sg**	**05 01 26.9**	**+2.4**
PTOM	**Tomar**	**0.72**	**342**	P	**Pb**	**05 01 16.9**	**+2.4**
PTOM				S	**Sb**	**05 01 26.8**	**+2.8**
INMG	**Instituto de M**	**0.79**	**259**	*e*Pg	**Pg**	**05 01 15.2**	**-1.2**
INMG				*e*Sg	**Sg**	**05 01 25.1**	**-2.0**
PLOU	**Loures**	**0.80**	**267**	*e*Pg	**Pg**	**05 01 16.3**	**-0.2**
PLOU				*e*Sg	**Sg**	**05 01 25.9**	**-1.3**
PLOU	**Loures**	**0.80**	**267**	P	**Pb**	**05 01 16.2**	**+0.3**
PLOU				S	**Sb**	**05 01 25.8**	**-0.6**
PLOU	**Loures**	**0.80**	**267**	P	**Pb**	**05 01 16.2**	**+0.3**
PLOU				*e*Sg	**Sg**	**05 01 25.9**	**-1.3**
LIS	**Lisbon**	**0.82**	**255**	*e*P	**Pb**	**05 01 16.5**	**+0.2**
LIS				*e*S	**Sb**	**05 01 26.0**	**-1.1**
LIS				*e*S	**Sb**	**05 01 26.1**	**-1.0**
LIS				AML	AML	05 01 27.4	
	comp=N,4μm,0.5s						
LIS	**Lisbon**	**0.82**	**255**	*e*P	**Pb**	**05 01 16.5**	**+0.2**
LIS				*e*S	**Sb**	**05 01 26.1**	**-1.1**
LIS	**Lisbon**	**0.82**	**255**	P	**Pb**	**05 01 16.5**	**+0.2**
LIS				S	**Sb**	**05 01 26.0**	**-1.1**
EBAD	**Badajoz**	**0.89**	**101**	⇓Pg	**Pg**	**05 01 20.6**	**+2.3**
	comp=N,528nm,0.3s,SNR=18						
EBAD				Lg		05 01 33.1	
	comp=N,6μm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**0.89**	**101**	Pg	**Pg**	**05 01 20.6**	**+2.2**
	comp=N,528nm,0.3s,SNR=18						
PBEJ	**Beja**	**0.93**	**167**	*e*P	**Pb**	**05 01 18.6**	**+0.5**
PBEJ				*e*S	**Sb**	**05 01 30.5**	**+0.3**
	comp=N,5μm,0.3s						
PBEJ	**Beja**	**0.93**	**167**	P	**Pb**	**05 01 18.5**	**+0.4**
PBEJ				S	**Sb**	**05 01 30.4**	**+0.2**
PBEJ	**Beja**	**0.93**	**167**	*e*P	**Pb**	**05 01 18.6**	**+0.5**
PBEJ				S	**Sb**	**05 01 30.4**	**+0.2**
PCBR	**Castelo Branco**	**1.04**	**29**	*e*P	**Pb**	**05 01 23.5**	**+3.6**
PCBR				*e*S	**Sb**	**05 01 38.6**	**+5.3**
	comp=N,6μm,0.2s						
PTEO	**Sao Teotonio**	**1.46**	**199**	*e*P	**Pn**	**05 01 28.0**	**+1.1**
PTEO				*e*S	**Sb**	**05 01 45.3**	**-0.4**
	comp=N,7μm,0.4s						
PTEO	**Sao Teotonio**	**1.46**	**199**	P	**Pn**	**05 01 27.1**	**+0.2**
PTEO				S	**Sb**	**05 01 45.1**	**-0.6**
EGRO	**El Granado**	**1.49**	**160**	⇓Pn	**Pn**	**05 01 28.1**	**+0.9**
	comp=N,354nm,0.3s,SNR=18						
EGRO				Lg		05 01 47.9	
	comp=N,4μm,0.3s,SNR=7.9						
EGRO	**El Granado**	**1.49**	**160**	⇓Pn	**Pn**	**05 01 28.1**	**+0.9**
EGRO				Lg		05 01 48.8	
EGRO	**El Granado**	**1.49**	**160**	Pn	**Pn**	**05 01 28.1**	**+0.8**
	comp=N,354nm,0.3s,SNR=18						
MTE	**Manteigas**	**1.53**	**17**	*e*Pn	**Pn**	**05 01 30.0**	**+2.1**
MTE	**Manteigas**	**1.53**	**17**	*e*Pg	**Pg**	**05 01 32.2**	**+1.1**
MTE				*e*Sn	**Sn**	**05 01 52.4**	**+4.5**
	comp=N,4μm,0.6s						
MTE	**Manteigas**	**1.53**	**17**	Pn	**Pn**	**05 01 30.0**	**+2.1**
MTE				Pg	**Pg**	**05 01 32.2**	**+1.1**
MTE				Sn	**Sn**	**05 01 52.4**	**+4.5**
	comp=N,2μm,0.6s						
MTE	**Manteigas**	**1.53**	**17**	*e*Pn	**Pn**	**05 01 30.1**	**+2.2**
MTE				*e*Pg	**Pg**	**05 01 32.3**	**+1.2**
MTE				*e*Sn	**Sn**	**05 01 48.4**	**+0.5**
MTE				*e*Sg	**Sg**	**05 01 52.6**	**+1.0**
MTE	**Manteigas**	**1.53**	**17**	*e*Pg	**Pg**	**05 01 32.3**	**+1.2**
MTE				*e*Sn	**Sn**	**05 01 52.4**	**+4.5**
	comp=N,4μm,0.6s						
EMIN	**Mina Concepcio**	**1.64**	**135**	⇓Pn	**Pn**	**05 01 30.9**	**+1.5**
	comp=N,253nm,0.3s,SNR=18						
EMIN				Lg		05 01 54.3	
	comp=N,834nm,0.2s,SNR=16						
EMIN	**Mina Concepcio**	**1.64**	**135**	Pn	**Pn**	**05 01 30.9**	**+1.5**
	comp=N,253nm,0.3s,SNR=18						
MORF	**Marmelete**	**1.68**	**194**	*e*P	**Pn**	**05 01 30.0**	**0.0**
MORF				*e*S	**Sn**	**05 01 49.8**	**-1.7**
MORF				*e*S	**Sn**	**05 01 49.9**	**-1.7**
MORF				AML	AML	05 01 54.4	
	comp=N,5μm,0.3s						
MORF	**Marmelete**	**1.68**	**194**	P	**Pn**	**05 01 30.0**	**0.0**
MORF				S	**Sn**	**05 01 49.8**	**-1.7**
MORF	**Marmelete**	**1.68**	**194**	*e*P	**Pn**	**05 01 30.0**	**0.0**
MORF				*e*S	**Sn**	**05 01 49.9**	**-1.7**
ERIP	**Rio Piedras**	**1.71**	**156**	⇓Pg	**Pg**	**05 01 31.2**	**-3.3**
	SNR=18						
ERIP				Pg	**Pg**	**05 01 33.0**	**-1.5**
	comp=N,234nm,0.1s,SNR=7.9						
ERIP				Lg		05 01 55.2	
	comp=N,2μm,0.3s,SNR=7.9						
ERIP	**Rio Piedras**	**1.71**	**156**	Pg	**Pg**	**05 01 33.0**	**-1.6**
	comp=N,234nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**1.79**	**6**	*e*Pn	**Pn**	**05 01 33.5**	**+1.9**
PVIS	**Viseu**	**1.79**	**6**	*e*Pg	**Pg**	**05 01 36.6**	**+0.4**
PVIS				*e*Sg	**Sg**	**05 02 00.3**	**+0.2**
	comp=N,3μm,0.3s						
PVIS	**Viseu**	**1.79**	**6**	P	**Pn**	**05 01 33.4**	**+1.8**
PVIS				Pn	**Pn**	**05 01 33.5**	**+1.9**
PVIS				Pg	**Pg**	**05 01 36.6**	**+0.4**
PVIS				Lg		05 02 00.3	
	comp=N,1μm,0.3s						
PVIS	**Viseu**	**1.79**	**6**	*e*Pg	**Pg**	**05 01 36.6**	**+0.4**
PVIS				*e*Sg	**Sg**	**05 02 00.3**	**+0.2**
	comp=N,3μm,0.3s						
PVRL	**Vila Real**	**2.36**	**8**	*e*Pn	**Pn**	**05 01 41.3**	**+1.5**
PVRL				*e*Sg	**Sg**	**05 02 17.6**	**-1.5**
	comp=N,1μm,0.2s						
PVRL	**Vila Real**	**2.36**	**8**	P	**Pn**	**05 01 41.1**	**+1.3**
PVRL				Lg		05 02 17.6	
	comp=N,692nm,0.2s						
ESPR	**Espera**	**2.74**	**138**	⇓Pn	**Pn**	**05 01 46.6**	**+1.4**
	comp=N,26nm,0.3s,SNR=18						
ESPR				Pg	**Pg**	**05 01 53.9**	**-1.2**
	SNR=7.9						
ESPR				Sn	**Sn**	**05 02 20.3**	**+1.8**
	comp=N,157nm,0.3s,SNR=6.6						
ESPR				Lg		05 02 31.8	
	comp=N,590nm,0.3s,SNR=4.0						
ESPR	**Espera**	**2.74**	**138**	⇓Pn	**Pn**	**05 01 46.6**	**+1.4**
ESPR				Sn	**Sn**	**05 02 20.3**	**+1.8**
ESPR				Lg		05 02 31.8	
ESPR	**Espera**	**2.74**	**138**	Pn	**Pn**	**05 01 46.6**	**+1.5**
	comp=N,26nm,0.3s,SNR=18						
ESPR	**Espera**	**2.74**	**138**	Pg	**Pg**	**05 01 53.9**	**-1.2**
	SNR=7.9						
PCAB	**Cabril**	**2.77**	**2**	*e*Pn	**Pn**	**05 01 47.0**	**+1.3**
PCAB				*e*Sn	**Sn**	**05 02 20.3**	**+0.8**
PCAB				*e*Sg	**Sg**	**05 02 30.3**	**-2.6**
	comp=N,1μm,0.3s						
EADA	**Adamuz**	**2.89**	**104**	⇑Pn	**Pn**	**05 01 48.2**	**+0.9**
	comp=N,10nm,0.2s,SNR=18						
EADA				Pg	**Pg**	**05 01 56.0**	**-2.2**
	SNR=7.9						
EADA				Sn	**Sn**	**05 02 24.9**	**+2.5**
	SNR=7.9						
EADA				Lg		05 02 35.8	
	comp=N,719nm,0.2s,SNR=18						
EADA	**Adamuz**	**2.89**	**104**	⇑Pn	**Pn**	**05 01 48.2**	**+0.9**
EADA				Sn	**Sn**	**05 02 24.9**	**+2.5**
EADA				Lg		05 02 37.1	
EADA	**Adamuz**	**2.89**	**104**	Pn	**Pn**	**05 01 48.2**	**+0.9**
	comp=N,10nm,0.2s,SNR=18						
EADA	**Adamuz**	**2.89**	**104**	Pg	**Pg**	**05 01 56.0**	**-2.2**
	SNR=7.9						
EADA				Sn	**Sn**	**05 02 24.9**	**+2.5**
	SNR=7.9						
SFS	**San Fernando**	**2.90**	**148**	*e*P	**Pn**	**05 01 50.8**	**+3.3**
ELOB	**Lobios**	**2.93**	**1**	⇑Pn	**Pn**	**05 01 49.1**	**+1.2**
	comp=N,29nm,0.3s,SNR=18						
ELOB				Sn	**Sn**	**05 02 23.5**	**0.0**
	SNR=7.9						
ELOB				Lg		05 02 36.3	
	comp=N,946nm,0.3s,SNR=16						
ELOB	**Lobios**	**2.93**	**1**	⇑Pn	**Pn**	**05 01 49.1**	**+1.2**
ELOB				Sn	**Sn**	**05 02 23.5**	**0.0**
ELOB				Lg		05 02 34.5	
ELOB	**Lobios**	**2.93**	**1**	Pn	**Pn**	**05 01 49.1**	**+1.2**
	comp=N,29nm,0.3s,SNR=18						
ELOB				Sn	**Sn**	**05 02 23.5**	**+0.1**
	SNR=7.9						
LIJA	**Lijar**	**2.96**	**132**	*i* P	**Pn**	**05 01 48.5**	**+0.2**
LIJA				*e*S	**Sn**	**05 02 23.5**	**-0.6**
CNIL	**Conil**	**3.04**	**147**	*e*P	**Pn**	**05 01 50.5**	**+1.0**
ECAL	**Calabor**	**3.19**	**19**	⇓Pn	**Pn**	**05 01 53.0**	**+1.4**
	comp=N,130nm,0.4s,SNR=18						
ECAL				Sn	**Sn**	**05 02 31.5**	**+1.6**
	SNR=7.9						
ECAL				Lg		05 02 45.8	
	comp=N,2μm,0.3s,SNR=19						
ECAL	**Calabor**	**3.19**	**19**	⇓Pn	**Pn**	**05 01 53.0**	**+1.4**
ECAL				Sn	**Sn**	**05 02 31.5**	**+1.6**
ECAL				Lg		05 02 47.0	
ECAL	**Calabor**	**3.19**	**19**	Pn	**Pn**	**05 01 53.0**	**+1.5**
	comp=N,130nm,0.4s,SNR=18						
ECAL				Sn	**Sn**	**05 02 31.5**	**+1.6**
	SNR=7.9						
MOMI	**Momias**	**3.23**	**143**	*e*S	**Sn**	**05 02 32.5**	**+1.5**
EZAM	**Zamans**	**3.24**	**353**	⇑Pn	**Pn**	**05 01 53.4**	**+1.1**
	comp=N,24nm,0.2s,SNR=18						
EZAM				Lg		05 02 45.9	
	comp=N,557nm,0.5s,SNR=15						
EJIF	**Jimena Fronter**	**3.26**	**139**	⇓Pn	**Pn**	**05 01 53.6**	**+1.1**
	comp=N,7.4nm,0.2s,SNR=18						
EJIF				Lg		05 02 47.2	
	comp=N,20nm,0.2s,SNR=7.3						
ESDC	**Sonseca Array**	**3.32**	**76**	Pn	**Pn**	**05 01 54.2**	**+0.8**
	comp=N,286nm,0.3s,baz=259,slow=13,SNR=1754						
ESDC				Lg		05 02 45.4	
	comp=N,259nm,0.3s,baz=261,slow=28,SNR=17						
ESDC	**Sonseca Array**	**3.32**	**76**	Pn	**Pn**	**05 01 54.2**	**+0.8**
	comp=N,226nm,0.2s,baz=258,slow=14,SNR=160						
ESDC				Lg		05 02 49.2	
	baz=258,slow=32,SNR=7.9						
ESLA	**Sonseca Array**	**3.32**	**76**	*e*Pn	**Pn**	**05 01 54.8**	**+1.4**
ESLA				*e*Sn	**Sn**	**05 02 32.3**	**-0.9**
ESLA				*e*Sg	**Sg**	**05 02 44.8**	**-6.2**
ESLA	**Sonseca Array**	**3.32**	**76**	*e*Pn	**Pn**	**05 01 54.8**	**+1.4**
ESLA				*e*Sn	**Sn**	**05 02 32.3**	**-0.9**
ELUQ	**Luque**	**3.34**	**113**	Pn	**Pn**	**05 01 54.7**	**+1.0**
	SNR=7.9						
ELUQ				Lg		05 02 52.4	
	comp=N,174nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**3.34**	**113**	Pn	**Pn**	**05 01 54.7**	**+1.0**
ELUQ				Lg		05 02 53.3	
REAL	**Reales**	**3.37**	**136**	*e*P	**Pn**	**05 01 55.0**	**+0.9**
REAL				*e*S	**Sn**	**05 02 32.0**	**-2.5**
EBAN	**Banos Encina**	**3.49**	**101**	⇑Pn	**Pn**	**05 01 56.4**	**+0.5**
	comp=N,11nm,0.2s,SNR=18						
EBAN				Sn	**Sn**	**05 02

EPON	**Pontenova**	**4.45**	**9**	Pn		**Pn**	**05 02 09.8**	**+0.3**	
	comp=N,9.9nm,0.3s,SNR=56								
EPON				Lg			05 03 27.0		
	comp=N,214nm,0.3s,SNR=15								
EPON	**Pontenova**	**4.45**	**9**	Pn		**Pn**	**05 02 09.8**	**+0.3**	
EPON				Lg			05 03 26.5		
EPON	**Pontenova**	**4.45**	**9**	Pn		**Pn**	**05 02 09.9**	**+0.4**	
EHUE	**Huescar**	**4.49**	**103**	Pn		**Pn**	**05 02 10.4**	**+0.3**	
	comp=N,3.8nm,0.2s,SNR=7.7								
EHUE				Sn		**Sn**	**05 03 02.5**	**-0.5**	
	comp=N,21nm,0.2s,SNR=6.2								
EHUE				Lg			05 03 27.1		
	comp=N,27nm,0.2s,SNR=12								
EBER	**Berja**	**4.62**	**115**	Pn		**Pn**	**05 02 13.4**	**+1.6**	
	comp=N,20nm,0.3s,SNR=117								
EBER				Sn		**Sn**	**05 03 04.3**	**-1.8**	
	SNR=7.9								
EBER				Lg			05 03 31.9		
	comp=N,606nm,0.7s,SNR=11								
EBER	**Berja**	**4.62**	**115**	Pn		**Pn**	**05 02 13.4**	**+1.6**	
EBER				Sn		**Sn**	**05 03 04.3**	**-1.8**	
EBER				Lg			05 03 33.7		
EBER	**Berja**	**4.62**	**115**	Pn		**Pn**	**05 02 13.4**	**+1.5**	
	comp=N,20nm,0.3s,SNR=117								
EBER				Sn		**Sn**	**05 03 04.3**	**-1.8**	
	SNR=7.9								
EARI	**Arriondas**	**4.89**	**26**	Pn		**Pn**	**05 02 17.3**	**+1.5**	
	comp=N,10nm,0.3s,SNR=101								
EARI				Sn		**Sn**	**05 03 13.9**	**+1.0**	
	SNR=7.9								
EARI				Lg			05 03 40.1		
	comp=N,313nm,0.8s,SNR=11								
EARI	**Arriondas**	**4.89**	**26**	Pn		**Pn**	**05 02 17.3**	**+1.6**	
	comp=N,10nm,0.3s,SNR=101								
EARI				Sn		**Sn**	**05 03 13.9**	**+0.9**	
	SNR=7.9								
ETOB	**Tobarra**	**5.15**	**91**	Pn		**Pn**	**05 02 19.2**	**-0.2**	
	comp=N,6.8nm,0.2s,SNR=43								
ETOB				Sn		**Sn**	**05 03 19.4**	**-0.2**	
	comp=N,29nm,0.4s,SNR=5.5								
ETOB				Lg			05 03 47.9		
	comp=N,926nm,0.7s,SNR=14								
ETOB	**Tobarra**	**5.15**	**91**	Pn		**Pn**	**05 02 19.2**	**-0.2**	
ETOB				Sn		**Sn**	**05 03 19.4**	**-0.2**	
ETOB				Lg			05 03 49.4		
ETOB	**Tobarra**	**5.15**	**91**	Pn		**Pn**	**05 02 19.2**	**-0.2**	
	comp=N,6.8nm,0.2s,SNR=43								
ETOB				Sn		**Sn**	**05 03 19.4**	**-0.2**	
	comp=N,29nm,0.4s,SNR=5.5								
EMEL	**Melilla**	**5.50**	**130**	Pn		**Pn**	**05 02 26.4**	**+2.1**	
	comp=N,58nm,0.4s,SNR=6.9								
EMUR	**La Murta**	**5.52**	**99**	Pn		**Pn**	**05 02 24.4**	**-0.3**	
	comp=N,5.8nm,0.3s,SNR=22								
EMUR				Sn		**Sn**	**05 03 27.4**	**-1.5**	
	comp=N,56nm,0.5s,SNR=5.5								
EMUR				Lg			05 03 59.7		
	comp=N,842nm,0.8s,SNR=7.9								
EMUR	**La Murta**	**5.52**	**99**	Pn		**Pn**	**05 02 24.4**	**-0.3**	
EMUR				Sn		**Sn**	**05 03 27.4**	**-1.5**	
EMUR				Lg			05 04 03.5		
EMUR	**La Murta**	**5.52**	**99**	Pn		**Pn**	**05 02 24.4**	**-0.2**	
	comp=N,5.8nm,0.3s,SNR=22								
EMUR				Sn		**Sn**	**05 03 27.4**	**-1.5**	
	comp=N,56nm,0.5s,SNR=5.5								
EMOS	**Mosqueruela**	**6.08**	**74**	⇑Pn		**Pn**	**05 02 33.4**	**+0.8**	
	comp=N,39nm,0.3s,SNR=18								
EMOS				Sn		**Sn**	**05 03 41.2**	**-1.7**	
	SNR=7.9								
EMOS				Lg			05 04 17.5		
	comp=N,211nm,0.7s,SNR=5.4								
EMOS	**Mosqueruela**	**6.08**	**74**	⇑Pn		**Pn**	**05 02 33.4**	**+0.8**	
EMOS				Sn		**Sn**	**05 03 41.2**	**-1.7**	
EMOS				Lg			05 04 22.1		
EMOS	**Mosqueruela**	**6.08**	**74**	Pn		**Pn**	**05 02 33.4**	**+0.9**	
	comp=N,39nm,0.3s,SNR=18								
EMOS				Sn		**Sn**	**05 03 41.2**	**-1.7**	
	SNR=7.9								
EBEN	**Beniarda**	**6.18**	**90**	Pn		**Pn**	**05 02 34.3**	**+0.4**	
	comp=N,11nm,0.8s,SNR=13								
EBEN				Sn		**Sn**	**05 03 41.9**	**-3.4**	
	SNR=7.9								
EBEN				Lg			05 04 22.0		
	comp=N,155nm,0.5s,SNR=7.5								
EBEN	**Beniarda**	**6.18**	**90**	Pn		**Pn**	**05 02 34.3**	**+0.4**	
EBEN				Sn		**Sn**	**05 03 41.9**	**-3.4**	
EBEN				Lg			05 04 23.1		
EBEN	**Beniarda**	**6.18**	**90**	Pn		**Pn**	**05 02 34.3**	**+0.4**	
	comp=N,11nm,0.8s,SNR=13								
EBEN				Sn		**Sn**	**05 03 41.9**	**-3.4**	
	SNR=7.9								
EARA	**Aranguren**	**6.27**	**50**	Pn		**Pn**	**05 02 36.4**	**+1.1**	
	comp=N,18nm,0.8s,SNR=6.6								
EARA				Lg			05 04 25.0		
	comp=N,710nm,0.6s,SNR=7.9								
IUNC	**Unciti**	**6.31**	**51**	Pn		**Pn**	**05 02 36.7**	**+0.9**	
	SNR=7.9								
IUNC	**Unciti**	**6.31**	**51**	Pn		**Pn**	**05 02 36.7**	**+0.9**	
	SNR=7.9								
IUSE	**Utxeti**	**6.39**	**49**	Pn		**Pn**	**05 02 38.9**	**+1.9**	
	SNR=7.9								
IUSE				Lg			05 04 31.3		
	SNR=7.9								
IUSE	**Utxeti**	**6.39**	**49**	Pn		**Pn**	**05 02 38.9**	**+1.9**	
	SNR=7.9								
CZD	**Col de Zad**	**6.40**	**156**	*i* P		**Pn**	**05 02 35.0**	**-2.0**	
CZD				*i* S		**Sn**	**05 03 41.0**	**-10**	
IPRE	**Itoiz**	**6.43**	**51**	Pn		**Pn**	**05 02 38.8**	**+1.4**	
	comp=N,3.9nm,0.3s,SNR=6.6								
IPRE				Lg			05 04 32.9		
	SNR=7.9								
IPRE	**Itoiz**	**6.43**	**51**	Pn		**Pn**	**05 02 38.8**	**+1.4**	
	comp=N,3.9nm,0.3s,SNR=6.6								
ESAC	**San Caprasio**	**6.48**	**62**	Pn		**Pn**	**05 02 38.0**	**-0.2**	
	SNR=7.9								
ESAC				Sn		**Sn**	**05 03 49.5**	**-3.4**	
	SNR=7.9								
ESAC				Lg			05 04 31.1		
	comp=N,443nm,0.3s,SNR=9.2								
ESAC	**San Caprasio**	**6.48**	**62**	Pn		**Pn**	**05 02 38.0**	**-0.2**	
ESAC				Sn		**Sn**	**05 03 49.5**	**-3.4**	
ESAC				Lg			05 04 34.9		
ESAC	**San Caprasio**	**6.48**	**62**	Pn		**Pn**	**05 02 38.0**	**-0.2**	
	SNR=7.9								
ESAC				Sn		**Sn**	**05 03 49.5**	**-3.4**	
	SNR=7.9								
KIB	**El Ksiba**	**6.57**	**164**	*i* P		**Pn**	**05 02 36.0**	**-3.4**	
KIB				*i* S		**Sn**	**05 03 42.0**	**-13**	
EALK	**Alkurruntz**	**6.58**	**47**	Pn		**Pn**	**05 02 39.7**	**+0.1**	
	comp=N,16nm,0.6s,SNR=42								
EALK				Sn		**Sn**	**05 03 53.9**	**-1.6**	
	SNR=7.9								
EALK				Lg			05 04 36.5		
	comp=N,84nm,0.6s,SNR=7.9								
EALK	**Alkurruntz**	**6.58**	**47**	Pn		**Pn**	**05 02 39.8**	**+0.1**	
EALK				Sn		**Sn**	**05 03 53.9**	**-1.6**	
EALK				Lg			05 04 36.0		
EALK	**Alkurruntz**	**6.58**	**47**	Pn		**Pn**	**05 02 39.8**	**+0.2**	
EALK				Sn		**Sn**	**05 03 53.9**	**-1.6**	
	SNR=7.9								
SJPF	**Ste Jean**	**6.68**	**49**	*e*Pn		**Pn**	**05 02 41.6**	**+0.6**	
SJPF				*e*Sn		**Sn**	**05 03 53.8**	**-4.2**	
SJPF				*e*Sg		**Sg**	**05 04 35.8**	**-7.2**	
	comp=N,149nm,0.8s								
SJPF	**Ste Jean**	**6.68**	**49**	*e*Pn		**Pn**	**05 02 41.6**	**+0.6**	
SJPF				*e*Sg		**Sg**	**05 04 35.8**	**-7.2**	
	comp=N,74nm,0.8s								
MDT	**Midelt**	**6.74**	**154**	Pn		**Pn**	**05 02 40.1**	**-1.7**	
	comp=N,12nm,0.3s,baz=336,slow=14,SNR=1063								
MDT				Sn		**Sn**	**05 03 51.3**	**-8.0**	
	comp=N,11nm,0.3s,baz=145,slow=16,SNR=5.0								
OSSF	**Osses**	**6.75**	**48**	P		**Pn**	**05 02 42.1**	**+0.2**	
LARF	**Larrau**	**6.78**	**51**	P		**Pn**	**05 02 43.2**	**+0.8**	
ERTA	**Horta de San J**	**6.81**	**70**	Pn		**Pn**	**05 02 42.4**	**-0.4**	
	comp=N,14nm,0.4s,SNR=49								
ERTA				Lg			05 04 41.7		
	SNR=7.9								
ERTA	**Horta de San J**	**6.81**	**70**	Pn		**Pn**	**05 02 42.4**	**-0.4**	
ERTA				Lg			05 04 42.4		
ERTA	**Horta de San J**	**6.81**	**70**	Pn		**Pn**	**05 02 42.4**	**-0.4**	
EBR	**Ebro Roquetas**	**6.90**	**71**	*e*PN		**Pn**	**05 02 43.5**	**-0.5**	
EBR				*e*Rs			05 03 57.3		
EBR				*e*Rs			05 04 29.0		
EBR	**Ebro Roquetas**	**6.90**	**71**	*e*SG		**Sg**	**05 04 50.0**	**-0.1**	
TZC	**Tazercounte**	**6.90**	**168**	*i* P		**Pn**	**05 02 37.0**	**-7.1**	
TZC				*i* S		**Sn**	**05 03 46.0**	**-17**	
ORDF	**Ordiarp**	**6.92**	**50**	P		**Pn**	**05 02 45.1**	**+0.8**	
ORDF				S		**Sn**	**05 04 00.8**	**-2.9**	
ETSF	**Etsaut**	**6.97**	**53**	*e*Pn		**Pn**	**05 02 45.4**	**+0.4**	
ETSF				*e*Sn		**Sn**	**05 04 00.7**	**-4.3**	
ETSF				*e*Sg		**Sg**	**05 04 44.4**	**-8.1**	
	comp=N,130nm,0.9s								
ATE	**Arette**	**6.98**	**51**	P		**Pn**	**05 02 45.7**	**+0.5**	
ATE				S		**Sn**	**05 04 03.7**	**-1.7**	
EGRA	**Graus**	**7.21**	**60**	⇓Pn		**Pn**	**05 02 48.1**	**-0.3**	
	comp=N,7.9nm,0.2s,SNR=18								
EGRA				Lg			05 04 57.9		
	comp=N,66nm,0.8s,SNR=5.9								
EBIE	**Bielsa**	**7.31**	**57**	Pn		**Pn**	**05 02 50.1**	**+0.3**	
	comp=N,29nm,0.3s,SNR=244								
EBIE				Sn		**Sn**	**05 04 09.0**	**-4.6**	
	SNR=7.9								
EBIE	**Bielsa**	**7.31**	**57**	Pn		**Pn**	**05 02 50.1**	**+0.3**	
EBIE				Sn		**Sn**	**05 04 12.0**	**-1.6**	
EBIE	**Bielsa**	**7.31**	**57**	Pn		**Pn**	**05 02 50.1**	**+0.3**	
EBIE				Sn		**Sn**	**05 04 12.0**	**-1.6**	
LABF	**Labassere**	**7.44**	**54**	P		**Pn**	**05 02 52.1**	**+0.4**	
EPOB	**Poblet**	**7.46**	**68**	⇑Pn		**Pn**	**05 02 50.6**	**-1.3**	
	comp=N,17nm,0.2s,SNR=18								
EPOB				Lg			05 05 04.8		
	comp=N,26nm,0.5s,SNR=6.2								
EPOB	**Poblet**	**7.46**	**68**	⇑Pn		**Pn**	**05 02 50.6**	**-1.3**	
RESF	**Ens**	**7.49**	**56**	P		**Pn**	**05 02 52.5**	**+0.1**	
ZFT	**Errachidia**	**7.54**	**155**	*i* P		**Pn**	**05 02 51.0**	**-2.1**	
ZFT				*i* S		**Sn**	**05 04 10.0**	**-9.4**	
EPF	**Esparros**	**7.60**	**55**	*e*Pn		**Pn**	**05 02 54.2**	**+0.3**	
EPF				*e*Sn		**Sn**	**05 04 16.1**	**-4.8**	
EPF				*e*Sg		**Sg**	**05 05 05.3**	**-8.3**	
	comp=N,125nm,1.0s								
EPF	**Esparros**	**7.60**	**55**	*e*Pn		**Pn**	**05 02 54.2**	**+0.3**	
EPF				*e*Sg		**Sg**	**05 05 05.3**	**-8.3**	
	comp=N,62nm,1.0s								
MELF	**Melles**	**7.80**	**57**	P		**Pn**	**05 02 56.8**	**+0.2**	
MELF				S		**Sn**	**05 04 20.8**	**-5.0**	
EANR	**'Ain N'Sour**	**7.92**	**109**	P		**Sb**	**05 04 59.3**	**+6.0**	
EMIR	**Miracle**	**7.95**	**65**	⇑Pn		**Pn**	**05 02 57.8**	**-0.9**	
	comp=N,30nm,0.4s,SNR=18								
EMIR				Lg			05 05 19.5		
	comp=N,55nm,0.4s,SNR=72								
EMIR	**Miracle**	**7.95**	**65**	⇑Pn		**Pn**	**05 02 57.8**	**-0.9**	
SALF	**Salau**	**8.03**	**59**	P		**Pn**	**05 03 00.0**	**+0.1**	
ECHA	**Ech Chlef**	**8.04**	**107**	P		**Sb**	**05 05 06.0**	**+9.4**	
EBNR	**Beni Rached**	**8.11**	**106**	P		**Sb**	**05 05 09.0**	**+10**	
ETRT	**Tiaret**	**8.32**	**112**	P		**Sb**	**05 05 02.0**	**-2.7**	
ETOS	**Mallorca**	**8.52**	**81**	Pn		**P**	**05 03 05.4**	**-1.4**	
	comp=N,7.4nm,0.5s,SNR=4.6								
ETOS	**Mallorca**	**8.52**	**81**	Pn		**P**	**05 03 05.4**	**-1.3**	
CARF	**Carcanieres**	**8.63**	**61**	P		**P**	**05 03 08.7**	**+0.5**	
LFF	**La Frestale**	**8.92**	**45**	*e*Pn		**P**	**05 03 10.8**	**-1.5**	
LFF				*e*Sn		**Sn**	**05 04 47.6**	**-6.3**	
	comp=N,14nm,0.5s								
MTLF	**Montolieu**	**8.96**	**57**	*e*Pn		**P**	**05 03 11.7**	**-1.1**	
MTLF				*e*Sn		**Sn**	**05 04 48.8**	**-6.0**	
MTLF				*e*Sg		**Sg**	**05 05 47.1**	**-12**	
	comp=N,22nm,0.7s								
EJON	**La Jonquera**	**9.08**	**64**	Pn		**P**	**05 03 13.1**	**-1.3**	
	comp=N,9.0nm,0.9s,SNR=7.3								
EJON				Lg			05 05 57.3		
	SNR=7.9								
RJF	**Les Rejaudoux**	**9.58**	**45**	*e*Pn		**P**	**05 03 19.6**	**-1.7**	
RJF				*e*Sn		**Sn**	**05 05 02.7**	**-7.4**	
	comp=N,6.4nm,0.2s								
MFF	**Saint Martin d**	**9.65**	**35**	*e*Pn		**P**	**05 03 20.1**	**-2.2**	
CAF	**Calviac**	**9.67**	**48**	*e*Pn		**P**	**05 03 21.1**	**-1.4**	
CAF				*e*Sn		**Sn**	**05 05 05.1**	**-7.1**	
QUIF	**Quistinic**	**9.68**	**20**	*e*Pn		**P**	**05 03 20.1**	**-2.5**	
QUIF				*e*Sn		**Sn**	**05 05 04.3**	**-8.1**	
	comp=N,5.3nm,0.3s								
ROSF	**Rostrenen**	**10.03**	**19**	*e*Pn		**P**	**05 03 26.2**	**-1.3**	
SGMF	**Saint Gilles**	**10.15**	**22**	*e*Pn		**P**	**05 03 26.8**	**-2.4**	
LASF	**Ste Croix**	**10.35**	**56**	*e*Pn		**P**	**05 03 30.2**	**-1.7**	
LASF				*e*Sn		**S**	**05 05 22.2**	**-6.8**	
TCF	**Toulx Ste Croi**	**10.58**	**43**	*e*Pn		**P**	**05 03 32.8**	**-2.2**	
TCF				*e*Sn		**S**	**05 05 25.9**	**-8.7**	
	comp=N,10nm,0.5s								
GRR	**Gorron**	**10.81**	**27**	*e*Pn		**P**	**05 03 36.3**	**-1.9**	
BGF	**Bois d'Agland**	**11.09**	**43**	*e*Pn		**P**	**05 03 40.1**	**-1.9**	
BGF				*e*Sn		**S**	**05 05 38.7**	**-8.4**	
	comp=N,26nm,0.4s								
VIVF	**Saint-Julien-l**	**11.22**	**54**	*e*Pn		**P**	**05 03 42.2**	**-1.6**	
FLN	**La Foliniere**	**11.26**	**27**	*e*Pn		**P**	**05 03 42.9**	**-1.5**	
HYF	**Humbligny**	**11.45**	**40**	*e*Pn		**P**	**05 03 45.7**	**-1.2**	
HYF				*e*Sn		**S**	**05 05 48.3**	**-7.6**	
AVF	**Avril sur Loir**	**11.51**	**43**	*e*Pn		**P**	**05 03 45.7**	**-2.0**	
AVF				*e*Sn		**S**	**05 05 48.9**	**-8.4**	
	comp=N,4.2nm,0.5s								
SMF	**Signal de Mont**	**11.68**	**45**	*e*Pn		**P**	**05 03 48.2**	**-1.9**	
SSF	**Saint Saulge**	**11.76**	**43**	*e*Pn		**P**	**05 03 48.8**	**-2.3**	
SSF				*e*Sn		**S**	**05 05 54.6**	**-8.8**	
	comp=N,1.0nm,0.3s								
LMR	**La Mourre**	**11.88**	**64**	*e*Pn		**P**	**05 03 51.6**	**-1.2**	
ORIF	**Oris-en-Rattie**	**12.02**	**56**	*e*Pn		**P**	**05 03 54.2**	**-0.5**	
FRF	**La Foret Royal**	**12.04**	**63**	*e*Pn		**P**	**05 03 53.6**	**-1.4**	
LOR	**Lormes**	**12.08**	**43**	*e*Pn		**P**	**05 03 53.1**	**-2.3**	
LOR				*e*Sn		**S**	**05 06 02.5**	**-8.6**	
	comp=N,2.5nm,0.3s								
SBF	**Sospel**	**12.68**	**62**	*e*Pn		**P**	**05 04 03.0**	**-0.5**	
VSL	**Villasalto**	**13.59**	**82**	Pn		**P**	**05 04 16.2**	**+0.6**	
VSL	**Villasalto**	**13.59**	**82**	Pn		**P**	**05 04 16.2**	**+0.6**	
WLF	**Walferdange**	**14.79**	**39**	*e*P		**P**	**05 04 31.1**	**-0.1**	
	comp=N,15nm,0.8s								
WLF				*e*			05 04 39.0		
GERES	**GERESS Array B**	**18.54**	**51**	P		**P**	**05 05 20.4**	**+1.7**	
	comp=N,0.1nm,0.3s,baz=240,slow=7.9,SNR=4.2								
MORC	**Moravsky Berou**	**21.21**	**51**	P		**P**	**05 05 48.1**	**-0.2**	
	comp=N,2.0nm,0.9s,mb3.5								
NAO01	**NORSAR Array S**	**24.94**	**22**	P		**P**	**05 06 25.9**	**+1.2**	
	comp=N,12nm,1.0s,mb4.4								
NAO01	**NORSAR Array S**	**24.94**	**22**	P		**P**	**05 06 25.9**	**+1.2**	
	comp=N,12nm,1.0s,mb4.4								
ARCES	**ARCESS Array B**	**35.49**	**20**	P		**P**	**05 07 59.0**	**+0.4**	
	comp=N,3.4nm,0.9s,mb4.3,baz=222,slow=11,SNR=3.5								
WMQ	**Urumqi**	**68.00**	**51**	*e*P		**P**	**05 12 03.3**	**+1.7**	
LZH	**Lanzhou**	**82.50**	**49**	*e*P		**P**	**05 13 26.8**	**+2.5**	
LZH					AP	pP	05 13 29.5	+1.6	
LZH					XP	sP	05 13 31.8	+2.8	
LZH					PP	PP	05 16 37.5	+1.9	
CN2	**Changchun**	**87.57**	**32**	*e*P		**P**	**05 13 52.3**	**+2.8**	
SSE	**Sheshan**	**95.87**	**42**	P		**P**	**05 14 29.8**	**+1.5**	
SSE					AMB	AMB			
	comp=Z,50nm,3.4s								

IDC ***29*** *05:10:08.0±2.9, 15.81S×174.00W, h49km±28km, mb3.8/10, mb1 4.1/11, mb1mx4.0/17, mbtmp4.1/11, MS4.6/1, Ms1 4.6/1, ms1mx3.2/25, Error ellipse: s-maj=36.9km s-min=15.9km az=131.0*

NEIC ***29*** *05:10:08.1±1.4, 15.82S×173.99W, h51km±12km, mb4.4/7, Error ellipse: s-maj=20.2km s-min=8.5km az=135.0*

ISC 29 05:10:07.2±1.9, 15.8S±0.1×174.1W±0.1, h60km±17km, n46, σ0°38/27, mb4.2/16, MS4.5/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.88**	**50**	P	**P**	**05 10 52.0**	**+0.1**
	196nm,0.3s,baz=357,slow=1.7,SNR=140						
AFI				S	**S**	**05 11 21.0**	**-4.6**
	307nm,0.3s,baz=222,slow=23,SNR=22						
AFI	**Afiamalu**	**2.88**	**50**	*e*Pn	**P**	**05 10 51.8**	**-0.1**
AFI				*e*Sn	**S**	**05 11 20.1**	**-5.4**
URZ	**Urewera**	**23.70**	**198**	P	**P**	**05 15 14.5**	**+0.1**
	3.9nm,0.3s,mb4.3,baz=12,slow=6.7,SNR=8.4						
HNR	**Honiara**	**26.14**	**281**	LR	LR	05 24 32.8	
	comp=Z,1μm,18.1s,MS4.5,baz=284,slow=33						
STKA	**Stephens Creek**	**43.30**	**240**	*e*P	**P**	**05 18 05.4**	**+0.3**
	1.9nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**43.30**	**240**	P	**P**	**05 18 04.9**	**-0.2**
	2.9nm,0.7s,mb4.1,baz=88,slow=9.1,SNR=4.9						
STKA	**Stephens Creek**	**43.30**	**240**	*e*P	**P**	**05 18 05.1**	**0.0**
WB2	**Warramunga Arr**	**49.14**	**257**	*e*P	**P**	**05 18 51.6**	**+0.3**
WRAB	**Tennant Creek**	**49.14**	**257**	*e*P	**P**	**05 18 51.5**	**+0.2**
	4.9nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**49.15**	**257**	P	**P**	**05 18 51.2**	**-0.2**
	2.5nm,0.7s,mb4.4,baz=92,slow=7.8,SNR=21						
ASPA	**Alice Springs**	**49.40**	**252**	*e*P	**P**	**05 18 52.9**	**-0.4**
VNDA	**Vanda**	**62.93**	**186**	P	**P**	**05 20 29.7**	**+0.3**
	1.2nm,0.8s,mb4.1,baz=0.9,slow=7.1,SNR=3.7						
VNDA	**Vanda**	**62.93**	**186**	*e*P	**P**	**05 20 29.2**	**-0.2**
	2.0nm,1.0s,mb4.2						
CASY	**Casey**	**69.80**	**205**	*e*P	**P**	**05 21 09.1**	**-3.8**
	6.1nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**75.03**	**42**	P	**P**	**05 21 44.5**	**0.0**
	0.5nm,0.6s,mb3.6,baz=232,slow=11,SNR=3.7						
TXAR	**Lajitas Array**	**81.35**	**56**	P	**P**	**05 22 19.5**	**+0.2**
	0.7nm,0.7s,mb3.7,baz=221,slow=7.7,SNR=9.0						
TXAR	**Lajitas Array**	**81.35**	**56**	P	**P**	**05 22 19.5**	**+0.2**
ANMO	**Albuquerque**	**81.53**	**50**	*e*P	**P**	**05 22 20.5**	**+0.3**
	0.9nm,0.6s,mb3.9						
MCK	**McKinley**	**81.62**	**11**	*e*P	**P**	**05 22 19.7**	**-0.3**
	7.9nm,0.9s,mb4.6						
COLA	**College**	**82.86**	**11**	*e*P	**P**	**05 22 26.6**	**+0.3**
	10nm,0.9s,mb4.9						
ILAR	**Eielson Array**	**82.95**	**11**	P	**P**	**05 22 26.8**	**0.0**
	1.6nm,0.6s,mb4.2,baz=232,slow=6.2,SNR=44						
PDAR	**Pinedale Array**	**82.97**	**42**	P	**P**	**05 22 27.6**	**+0.2**
	2.3nm,0.7s,mb4.3,baz=232,slow=2.3,SNR=23						
SDCO	**Great Sand Dun**	**83.44**	**48**	P	**P**	**05 22 29.1**	**-0.7**
	2.4nm,1.1s,mb4.1						
INK	**Inuvik**	**88.79**	**14**	P	**P**	**05 22 55.3**	**0.0**
	1.0nm,1.0s,mb4.1,baz=103,slow=6.5,SNR=5.3						
INK	**Inuvik**	**88.79**	**14**	P	**P**	**05 22 55.4**	**0.0**
YKA	**Yellowknife Ar**	**90.70**	**24**	P	**P**	**05 23 04.4**	**0.0**
	0.4nm,0.8s,mb3.8,baz=243,slow=4.7,SNR=8.9						
UPC	**Upice**	**144.43**	**349**	*e*PKP	PKPdf	05 29 36.2	-0.4
DPC	**Dobruska-Polom**	**144.52**	**349**	*e*PKP	PKPdf	05 29 37.6	+0.8
OKC	**Ostrava-Krasne**	**144.62**	**346**	*e*PKP	PKPdf	05 29 36.7	-0.3
PRU	**Pruhonice**	**145.18**	**350**	*e*PKP	PKPdf	05 29 39.4	+1.4
KECS	**Kecovo**	**145.28**	**343**	*e*	PKPdf	05 29 30.1	-8.1
KECS				*e*		05 29 40.4	
VRAC	**Vranov**	**145.46**	**348**	PKPbc	PKPbc	05 29 41.3	+2.2
	2.2nm,0.5s,baz=52,slow=4.4,SNR=4.3						
TNS	**Taunus Mts**	**145.60**	**357**	*e*PKPbc	PKPbc	05 29 42.8	+3.4
GRA1	**Grafenberg Arr**	**145.92**	**354**	*e*PKPbc	PKPbc	05 29 42.1	+1.9
BR131	**Keskin Array S**	**146.06**	**320**	*e*PKPdf	PKPdf	05 29 42.9	+3.0
BRTR	**Keskin Array B**	**146.06**	**320**	PKPbc	PKPbc	05 29 43.0	+2.1
	4.2nm,0.8s,baz=104,slow=3.2,SNR=20						
KHC	**Kasperske Hory**	**146.17**	**351**	*e*PKP	PKPdf	05 29 43.0	+3.3
GERES	**GERESS Array B**	**146.43**	**351**	PKPbc	PKPbc	05 29 43.6	+2.1
	1.4nm,0.7s,baz=45,slow=1.9,SNR=12						
FLN	**La Foliniere**	**146.70**	**8**	*e*PKP1	PKPbc	05 29 45.0	+2.9
	7.0nm,0.6s						
SGMF	**Saint Gilles**	**146.88**	**10**	*e*PKP1	PKPbc	05 29 45.7	+3.2
GRR	**Gorron**	**147.01**	**8**	*e*PKP1	PKPdf	05 29 45.0	+3.8
MEZF	**Maizieres J'vi**	**147.37**	**1**	*e*PKP1	PKPdf	05 29 48.6	+6.9
FUR	**Furstenfeldbru**	**147.42**	**353**	*e*PKPbc	PKPdf	05 29 43.9	+2.1
LOR	**Lormes**	**148.56**	**3**	*e*PKP1	PKPdf	05 29 49.0	+5.3
SSF	**Saint Saulge**	**148.75**	**3**	*e*PKP1	PKPdf	05 29 49.6	+5.6
DAVOX	**Davos**	**148.93**	**355**	PKPbc	PKPdf	05 29 51.0	+6.7
	2.9nm,0.8s,baz=317,slow=8.6,SNR=4.4						

**IDC 29 05:15:06.6±1.2, 12.18N×141.09E, mb4.1/5, mb1 4.3/5, mb1

NWAO LR LR 05 45 37.2
comp=Z,522nm,20.5s,MS4.4,baz=294,slow=39
NWAO Narrogin (SRO) 41.71 226 *eP* **P 05 26 21.9 +0.4**
NWAO pmax pmax
comp=Z,36nm,1.3s
NWAO Narrogin (SRO) 41.71 226 *eP* **P 05 26 21.9 +0.4**
comp=Z,36nm,1.3s,mb4.8
MUN Mundaring 41.96 227 *eP* **P 05 26 23.7 +0.1**
JNU Nakatsue 43.65 334 P P **05 26 37.0 -0.4**
comp=Z,13nm,1.0s,mb4.6,baz=116,slow=7.5,SNR=4.4
MJAR Matsushiro Arr 44.19 344 PcP PcP 05 28 25.8 -1.1
comp=Z,5.7nm,0.9s,baz=176,slow=3.8,SNR=6.5
MJAR LR LR 05 43 41.6
comp=Z,572nm,18.0s,MS4.5,baz=180,slow=34
SSE Sheshan 47.02 324 P **P 05 27 05.5 +1.2**
SSE AP pP 05 27 12.0 +1.9
SSE PCP PcP 05 28 37.8 +1.0
SSE PP PP 05 28 54.8 +0.2
SSE S **S 05 33 55.8 +1.7**
SSE XS 05 34 05.0
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,190nm,5.2s
SSE LR LR
comp=N,270nm,22.9s,MS4.4
SSE LR LR
comp=E,390nm,22.8s,MS4.4
SSE LR LR
comp=Z,280nm,23.3s,MS4.2
QIZ Qiongzhong 48.13 302 P **P 05 27 17.3 +4.2**
QIZ S **S 05 34 10.5 +0.7**
QIZ LR LR
comp=Z,670nm,17.1s,MS4.7
NJ2 Nanjing 49.10 323 *eP* **P 05 27 20.3 -0.1**
NJ2 AP pP 05 27 26.3 0.0
NJ2 XP sP 05 27 29.3 +0.7
NJ2 PP PP 05 29 14.0 -0.4
NJ2 S **S 05 34 23.0 -0.3**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,360nm,4.1s
NJ2 LR LR
comp=N,860nm,13.6s,MS5.1
NJ2 LR LR
comp=E,900nm,12.6s,MS5.1
NJ2 LR LR
comp=Z,460nm,17.5s,MS4.5
KULM Kulim 52.15 281 *eP* **P 05 27 43.8 -0.1**
ENH Enshi 54.17 314 *eP* **P 05 27 59.7 +1.1**
comp=Z,28nm,1.1s,mb5.1
MDJ Mudanjiang 54.18 341 P **P 05 27 59.5 +1.0**
MDJ AP pP 05 28 02.5 -1.9
MDJ XP sP 05 28 04.0 -2.7
MDJ PCP PcP 05 29 03.0 +0.1
MDJ PP PP 05 30 01.5 -0.3
MDJ PCS 05 33 02.8
MDJ S **S 05 35 36.0 +3.1**
MDJ AMB AMB
comp=Z,150nm,7.1s
MDJ LR LR
comp=N,290nm,25.1s,MS4.6
MDJ LR LR
comp=E,530nm,25.1s,MS4.6
MDJ LR LR
comp=Z,470nm,27.3s,MS4.4
GYA Guiyang 54.25 309 P **P 05 27 59.0 -0.2**
GYA AP pP 05 28 04.3 -0.8
GYA XP sP 05 28 06.8 -0.6
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,140nm,6.2s
GYA LR LR
comp=N,490nm,18.4s,MS4.8
GYA LR LR
comp=E,510nm,18.7s,MS4.8
GYA LR LR
comp=Z,570nm,18.0s,MS4.7
XAN Xi'an 56.74 318 P **P 05 28 15.5 -1.7**
XAN AP pP 05 28 24.0 +0.8
KMI Kunming 56.74 305 P **P 05 28 18.3 +1.0**
KMI AP pP 05 28 25.3 +2.0
KMI XP sP 05 28 27.3 +1.8
KMI PP PP 05 30 28.3 +3.2
KMI S **S 05 36 08.3 +1.0**
KMI XS 05 36 21.0
KMI SS SS 05 39 55.3 -1.0
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
KMI AMB AMB
comp=Z,200nm,8.4s
KMI LR LR
comp=N,460nm,16.2s,MS4.8
KMI LR LR
comp=E,400nm,17.0s,MS4.8
KMI LR LR
comp=Z,390nm,18.0s,MS4.5
KLR Kul'dur 57.71 345 *eP* **P 05 28 27.3 +3.5**
CD2 Chengdu 58.69 312 P **P 05 28 31.3 +0.4**
CD2 PP PP 05 30 42.8 +0.3
CD2 S **S 05 36 33.3 +0.6**
CD2 SS SS 05 40 27.8 +0.2
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CD2 AMB AMB
comp=Z,130nm,8.3s
CD2 LR LR
comp=N,410nm,18.0s
CD2 LR LR
comp=Z,230nm,18.0s,MS4.3
PET Petropavlovsk 59.13 5 *eP* **P 05 28 35.4 +1.7**
PET *eS* **S 05 36 38.7 +0.5**
PET pmax pmax
comp=Z,100nm,13.1s
PET smax
comp=N,200nm,12.3s
PET MLR MLR
comp=Z,300nm,18.0s,MS4.5
HHC Hu-ho-hao-te 59.39 325 *eP* **P 05 28 34.8 -0.9**
HHC AP pP 05 28 40.8 -0.9
HHC XP sP 05 28 43.5 -0.4
HHC PCP PcP 05 29 23.3 +0.1
HHC PP PP 05 30 47.0 -1.8
HHC SCP 05 33 18.5
HHC PCS 05 33 21.3
HHC S **S 05 36 45.5 +3.7**
HHC XS 05 36 55.0
HHC SCS ScS 05 38 19.3 -1.9
HHC SS SS 05 40 42.0 +3.6
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,200nm,5.1s
HHC LR LR
comp=N,450nm,16.6s,MS4.7
HHC LR LR
comp=E,230nm,16.6s,MS4.7
HHC LR LR
comp=Z,550nm,16.6s,MS4.8
LZH Lanzhou 61.33 317 *eP* **P 05 28 52.0 +3.0**
LZH AP pP 05 28 56.5 +1.5
LZH XP sP 05 29 00.3 +3.2
LZH PP PP 05 31 08.0 +1.7
LZH *eS* **S 05 37 08.0 +1.4**
LZH SS SS 05 41 14.0 +5.2
LZH AMB AMB
comp=Z,20nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,120nm,4.7s
LZH LR LR
comp=N,770nm,15.4s
LZH LR LR
comp=Z,990nm,16.7s,MS5.0
HIA Hailar 61.70 337 *eP* **P 05 28 49.7 -1.6**
HIA pmax pmax
comp=Z,5.0nm,0.7s
HIA Hailar 61.70 337 *eP* **P 05 28 49.7 -1.6**
comp=Z,5.4nm,0.7s,mb4.8
MA2 Magadan 65.40 360 *eP* **P 05 29 11.1 -4.3**
MA2 *eS* S 05 37 51.4 -5.7
MA2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
MA2 Magadan 65.40 360 *eP* **P 05 29 10.9 -4.5**
comp=Z,14nm,1.0s,mb5.0
GTA Gaotai 65.79 318 P **P 05 29 17.8 -0.5**
GTA AP pP 05 29 23.3 -1.0
GTA XP sP 05 29 25.5 -1.0
GTA PP PP 05 31 45.8 +0.3
GTA S S 05 38 06.3 +4.0
GTA XS 05 38 14.8
GTA SS SS 05 42 23.3 +4.8
GTA AMB AMB
comp=Z,40nm,2.0s,mb5.1
GTA AMB AMB
comp=Z,170nm,5.7s
GTA LR LR
comp=N,290nm,17.9s,MS4.8
GTA LR LR
comp=E,370nm,16.0s,MS4.8
GTA LR LR
comp=Z,350nm,17.1s,MS4.6
ULN Ulaanbaatar 66.45 329 *eP* **P 05 29 21.9 -0.4**
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ULN Ulaanbaatar 66.45 329 *eP* **P 05 29 21.9 -0.4**
comp=Z,5.5nm,0.9s,mb4.6
CASY Casey 66.51 197 *eP* **P 05 29 21.9 -0.5**
SONM Songino Array 66.77 329 P **P 05 29 23.7 -0.6**
comp=Z,5.3nm,0.8s,mb4.7,baz=141,slow=4.2,SNR=30
SONM LR LR 05 55 58.4
comp=Z,384nm,19.0s,MS4.6,baz=132,slow=34
LSA Lhasa 68.00 305 P **P 05 29 33.0 +0.5**
LSA Lhasa 68.00 305 *eP* **P 05 29 32.2 -0.3**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LSA Lhasa 68.00 305 *eP* **P 05 29 32.2 -0.3**
comp=Z,8.7nm,0.8s,mb4.8
SEY Seymchan 68.77 0 *eP* **P 05 29 37.3 +0.6**
UNV Unalaska Valle 69.21 25 *eP* **P 05 29 37.7 -1.8**
comp=Z,72nm,1.0s,mb5.6
YAK Yakutsk 69.96 349 *eP* **P 05 29 42.2 -1.7**
YAK pmax pmax
comp=Z,27nm,1.3s,mb5.0
YAK Yakutsk 69.96 349 P **P 05 29 40.7 -3.2**
BOD Bodaibo 70.54 340 *eP* **P 05 29 44.8 -2.7**
BOD pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
JIRN Jiri 71.45 302 *eP* **P 05 29 53.0 -0.6**
comp=Z,14nm,0.7s,mb5.0
VNDA Vanda 71.65 178 P **P 05 29 54.4 +0.4**
comp=Z,14nm,0.9s,mb4.9,baz=332,slow=6.8,SNR=36
VNDA LR LR 05 59 14.4
comp=Z,258nm,18.4s,MS4.5,baz=0.7,slow=34
VNDA Vanda 71.65 178 *eP* **P 05 29 54.1 +0.1**
VNDA *e* 05 30 03.4
VNDA pmax pmax
comp=Z,24nm,1.0s
VNDA Vanda 71.65 178 *eP* **P 05 29 54.1 +0.1**
comp=Z,24nm,1.0s,mb5.1
VNDA *e* 05 30 03.4
GUN Gumba 71.79 302 *eP* **P 05 29 55.2 -0.4**
comp=Z,25nm,0.6s,mb5.3
MOY Mondy 71.88 330 *eP* **P 05 29 55.7 -0.1**
DMN Daman 72.36 301 *eP* **P 05 29 58.4 -0.6**
GKN Gorkha 72.87 302 *eP* **P 05 30 01.3 -0.8**
KOLN Koldanda 73.68 301 *eP* **P 05 30 06.2 -0.6**
comp=Z,17nm,0.7s,mb5.1
BILL Bilibino 74.62 6 *eP* **P 05 30 08.9 -2.5**
BILL *e* 05 30 25.0
BILL *e* 05 32 56.6
BILL pmax pmax
comp=Z,27nm,1.4s,mb5.0
BILL Bilibino 74.62 6 P **P 05 30 05.2 -6.2**
comp=Z,26nm,1.1s,mb5.1
HYB Hyderabad 75.82 290 *i* P **P 05 30 20.0 +0.7**
HYB Hyderabad 75.82 290 *eP* **P 05 30 20.0 +0.7**
WMQ Urumqi 75.88 318 *eP* **P 05 30 19.5 +0.4**
WMQ AP pP 05 30 25.5 +0.3
WMQ XP sP 05 30 28.5 +1.2
WMQ PCP PcP 05 30 32.3 +0.3
WMQ PP PP 05 33 11.5 +0.2
WMQ S S 05 39 59.3 +0.1
WMQ SCS ScS 05 40 29.0 0.0
WMQ SS SS 05 44 54.0 -0.6
WMQ AMB AMB
comp=Z,30nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,240nm,4.6s
WMQ LR LR
comp=N,880nm,18.6s,MS5.2
WMQ LR LR
comp=E,850nm,19.0s,MS5.2
WMQ LR LR
comp=Z,870nm,18.4s,MS5.1
KDAK Kodiak Island 77.78 27 P **P 05 30 30.2 +0.8**
comp=Z,30nm,0.9s,mb5.2,baz=143,slow=7.4,SNR=3.7
KDAK Kodiak Island 77.78 27 P **P 05 30 30.2 +0.7**
SVW2 Sparrevohn 78.40 23 *eP* **P 05 30 33.4 +0.7**
SLKM Skilak Lake 80.26 25 *eP* **P 05 30 42.6 -0.2**
MKAR Makanchi Array 80.50 319 P **P 05 30 43.7 -0.7**
comp=Z,1.3nm,0.5s,mb4.2,baz=92,slow=8.4,SNR=19
MKAR Makanchi Array 80.50 319 P **P 05 30 43.7 -0.7**
PMR Palmer 81.27 25 *eP* **P 05 30 48.8 +0.7**
PMR pmax pmax
comp=Z,59nm,1.5s,mb5.3
PMR MLR MLR
comp=Z,300nm,17.0s,MS4.7
PMR Palmer 81.27 25 *eP* **P 05 30 48.8 +0.7**
comp=Z,59nm,1.5s,mb5.3
PMR LR LR
comp=Z,300nm,17.0s,MS4.7
SML Sawmill 81.71 25 *eP* **P 05 30 50.4 0.0**
IMA2 Indian Mountai 81.99 20 *eP* **P 05 30 52.3 +0.5**
MCK McKinley 82.43 23 *eP* **P 05 30 53.7 -0.4**
MCK pmax pmax
comp=Z,36nm,1.0s,mb5.3
MCK McKinley 82.43 23 *eP* **P 05 30 53.7 -0.4**
comp=Z,36nm,1.0s,mb5.3
NVS Novosibirsk 82.74 327 *eP* **P 05 30 52.6 -3.3**
NVS pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
NVS pmax pmax
comp=E,11nm,1.5s
KSH Kashi 82.87 311 *eP* **P 05 30 57.0 +0.1**
KSH AP pP 05 31 04.3 +1.2
KSH XP sP 05 31 07.5 +2.4
KSH PP PP 05 34 07.5 -1.8
KSH S S 05 41 11.0 -2.0
KSH SKS SKS 05 41 13.3 -6.7
KSH AMB AMB
comp=Z,100nm,4.4s
KSH LR LR
comp=N,160nm,4.9s
KSH LR LR
comp=E,160nm,7.0s
COLA College 83.41 22 *eP* **P 05 30 58.6 -0.6**
COLA pmax pmax
comp=Z,38nm,0.9s,mb5.4
COLA College 83.41 22 *eP* **P 05 30 58.6 -0.6**
comp=Z,38nm,0.9s,mb5.4
ILAR Eielson Array 83.72 22 P **P 05 30 59.9 -0.9**
comp=Z,27nm,0.9s,mb5.4,baz=254,slow=5.0,SNR=119
ILAR LR LR 06 09 05.1
comp=Z,218nm,18.1s,MS4.6,baz=187,slow=36
MAW Mawson 84.00 203 *eP* **P 05 31 00.5 -1.5**
comp=Z,9.4nm,1.0s,mb4.9
MAW Mawson 84.00 203 P **P 05 31 00.6 -1.4**
comp=Z,9.0nm,0.9s,mb4.9,baz=86,slow=5.8,SNR=7.2
MAW LR LR 06 05 48.9
comp=Z,413nm,21.0s,MS4.8,baz=66,slow=34
MAW Mawson 84.00 203 *eP* **P 05 31 00.5 -1.5**
MAW pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 84.04 322 *eP* **P 05 31 01.9 -0.7**
KURK pmax pmax
comp=Z,22nm,1.3s,mb5.1
KURK Kurchatov 84.04 322 *eP* **P 05 31 01.9 -0.8**
comp=Z,22nm,1.3s,mb5.1
AAK Ala-Archa 84.69 314 *d* *i* P **P 05 31 06.2 +0.1**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
AAK Ala-Archa 84.69 314 *eP* **P 05 31 05.7 -0.4**
comp=Z,22nm,1.3s,mb5.1
DAWY Dawson 86.37 24 *eP* **P 05 31 14.9 +1.0**
DLBC Dease Lake 89.02 31 P **P 05 31 28.0 +1.1**
comp=Z,16nm,1.1s,mb5.3,baz=251,slow=8.2,SNR=8.2
BRVK Borovoye 89.61 323 *eP* **P 05 31 29.7 0.0**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
BRVK Borovoye 89.61 323 *eP* **P 05 31 29.7 0.0**
comp=Z,4.6nm,1.0s,mb4.8
INK Inuvik 90.01 21 P **P 05 31 31.2 0.0**
comp=Z,36nm,1.1s,mb5.6,baz=239,slow=5.2,SNR=26
INK Inuvik 90.01 21 *eP* **P 05 31 30.8 -0.5**
INK pmax pmax
comp=Z,39nm,1.2s
INK Inuvik 90.01 21 *eP* **P 05 31 30.8 -0.4**
comp=Z,39nm,1.2s,mb5.6
ZRNK Zerenda 90.35 323 *eP* **P 05 31 31.3 -1.9**
ZRNK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
ZRNK Zerenda 90.35 323 *eP* **P 05 31 31.3 -1.9**
comp=Z,4.2nm,0.9s,mb4.8
SYO Syowa Base 92.13 200 ⇓P **P 05 31 41.4 +0.4**
SYO Syowa Base 92.13 200 ⇓PcP PcP 05 31 42.2 +0.1
SYO Syowa Base 92.13 200 ⇓*eP* **P 05 31 41.4 +0.4**
SYO ⇓*e*PcP PcP 05 31 42.2 +0.1
NVAR Mina Array Bea 93.74 52 P **P 05 31 50.3 +1.1**
comp=Z,3.9nm,0.9s,mb4.8,baz=262,slow=4.2,SNR=17
NVAR LR LR 06 08 13.4
comp=Z,219nm,18.6s,MS4.7,baz=265,slow=32
TPNV Topopah Spring 95.26 54 *eP* **P 05 31 57.8 +1.6**
TPNV pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
TPNV Topopah Spring 95.26 54 *eP* **P 05 31 57.8 +1.7**
comp=Z,8.9nm,1.1s,mb5.1
YKA Yellowknife Ar 97.04 28 P **P 05 32 03.8 +0.2**
comp=Z,1.1nm,0.6s,mb4.5,baz=271,slow=4.9,SNR=42
YKA PKKPbc 05 48 43.0
comp=Z,0.4nm,0.8s,baz=90,slow=2.6,SNR=6.0
YKA LR LR 06 14 15.7
comp=Z,335nm,19.0s,MS4.8,baz=280,slow=34
YKA Yellowknife Ar 97.04 28 P **P 05 32 03.9 +0.2**
YKA PKKPbc 05 48 43.0
YKA LR LR 06 14 15.7
TMUT Trail Mountain 99.31 51 *eP* **P 05 32 16.8 +2.4**
PDAR Pinedale Array 100.52 48 P P 05 32 19.9 0.0
comp=Z,1.2nm,0.9s,baz=297,slow=3.3,SNR=9.0
RES Resolute Bay 101.88 14 *eP* P 05 32 24.8 -0.5
RES pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 101.88 14 *e*Pdif P 05 32 24.8 -0.5
comp=Z,4.9nm,1.0s
AKASG Malin Array Be 114.82 324 PKP PKPdf 05 37 12.1 -3.4
comp=Z,0.2nm,0.3s,baz=56,slow=1.4,SNR=4.6
BRTR Keskin Array B 115.26 311 PKP PKPdf 05 37 13.8 -2.8
comp=Z,0.5nm,0.7s,baz=90,slow=2.5,SNR=3.9
CLL Ceilm 123.36 330 *e*SS SS 05 56 00.0 +4.3
GERES GERESS Array B 124.49 328 PKP PKPdf 05 37 31.6 -2.7
comp=Z,1.7nm,0.8s,baz=117,slow=3.0,SNR=5.8
EKA Eskdalemuir Ar 126.87 342 PKP PKPdf 05 37 36.0 -2.6
comp=Z,4.0nm,1.1s,baz=348,slow=2.1,SNR=3.6
TSUM Tsumeb 128.29 240 *e*PKPdf PKPdf 05 37 40.5 -1.9
SDV Santo Domingo 137.99 83 *e*PKPdf PKPdf 05 37 58.7 -2.0
MDT Midelt 145.38 323 PKPbc PKPbc 05 38 11.3 +1.5
comp=Z,10nm,1.0s,baz=59,slow=3.2,SNR=12
BDFB Brasilia 150.96 138 PKPbc PKPdf 05 38 26.1 +3.3
comp=Z,7.3nm,0.9s,baz=216,slow=3.8,SNR=7.8
DBIC Dimbokro 156.65 273 PKPab PKPab 05 38 57.5 -0.9
comp=Z,8.9nm,0.8s,baz=73,slow=5.7,SNR=12
DBIC Dimbokro 156.65 273 PKPdf PKPdf 05 38 26.7 -4.0
DBIC *e*PKPab PKPab 05 38 57.0 -1.4

IDC 29 05:24:37.1±4.6, 68.14N×167.32W, mb3.3/2, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=108.4km s-min=26.7km az=26.0, Chukchi Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**8.82**	**103**	Pn	P	05 26 41.8	-7.1
	0.2nm,0.3s,baz=296,slow=14,SNR=17						
ILAR				Sn	Sn	05 28 14.0	-16
	0.1nm,0.3s,baz=297,slow=22,SNR=4.5						
INK	**Inuvik**	**12.46**	**74**	Pn	P	05 27 32.5	-5.9
	0.2nm,0.3s,baz=290,slow=12,SNR=13						
INK				Sn	S	05 29 42.9	-16
	0.1nm,0.3s,baz=252,slow=13,SNR=3.2						
YKA	**Yellowknife Ar**	**22.09**	**79**	P	P	05 29 33.0	-2.1
	0.9nm,1.0s,baz=306,slow=11,SNR=9.0						
AKASG	**Malin Array Be**	**60.84**	**348**	P	P	05 34 50.5	-2.4
	0.6nm,0.6s,baz=15,slow=7.2,SNR=4.8						

*IDC **29** 05:36:44.7±1.3, 11.26S×117.45E, mb3.9/3, mb1 4.1/4, mb1mx3.8/12, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=60.3km s-min=24.8km az=70.0*
*NEIC **29** 05:36:49.7±2.8, 11.24S×117.66E, h39km±28km, mb4.5/5, Error ellipse: s-maj=18.2km s-min=13.2km az=88.0*
ISC 29 05:36:48.3±2.6, 11.26S±0.08×117.94E±0.09, h46km±25km, n18, σ0.891/25, mb4.3/6, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.08**	**133**	*e*P	P	05 39 13.4	-0.1
	14nm,0.4s						
FITZ				*e*S	S	05 41 00.9	-5.3
WRA	**Warramunga Arr**	**17.98**	**121**	P	P	05 41 01.2	+4.4
	1.1nm,0.3s,baz=286,slow=15,SNR=23						
WRA				S	S	05 44 11.1	-1.6
	0.7nm,0.3s,baz=287,slow=25,SNR=6.6						
WRAB	**Tennant Creek**	**17.99**	**121**	*e*P	P	05 41 01.1	+4.3
	8.2nm,0.4s						
WB2	**Warramunga Arr**	**17.99**	**121**	*e*P	P	05 41 01.5	+4.6
ASPA	**Alice Springs**	**19.57**	**131**	*e*P	P	05 41 22.5	+7.2
ASPA				*e*S	S	05 44 49.2	+1.0
KLBR	**Kellerberrin**	**20.23**	**180**	*e*P	P	05 41 21.2	-1.1
	156nm,1.9s						
KLBR				*e*S	S	05 44 41.6	-20
MUN	**Mundaring**	**20.68**	**184**	*e*P	P	05 41 27.7	+0.8
MUN				*e*S	S	05 44 53.0	-17
NWAO	**Narrogin (SRO)**	**21.57**	**182**	P	P	05 41 36.1	+0.2
	5.0nm,0.3s,mb4.4,baz=5.1,slow=12,SNR=12						
NWAO				S	S	05 45 14.8	-12
	17nm,0.5s,baz=269,slow=11,SNR=9.7						
NWAO	**Narrogin (SRO)**	**21.57**	**182**	P	P	05 41 36.1	+0.2
NWAO				*e*P		05 41 36.7	
NWAO				S	S	05 45 14.8	-12
KULM	**Kulim**	**23.80**	**313**	*e*P	P	05 41 57.9	-0.2
STKA	**Stephens Creek**	**29.95**	**137**	*e*P	P	05 42 54.3	-0.2
GUMO	**Guam**	**36.37**	**48**	P	P	05 43 50.7	+0.4
MAJO	**Matsushiro**	**51.24**	**21**	P	P	05 45 51.2	+1.5
	4.8nm,0.7s,mb4.5						
SONM	**Songino Array**	**59.72**	**351**	P	P	05 46 50.5	-0.2
	0.8nm,0.7s,mb3.9,baz=167,slow=8.1,SNR=5.9						
MKAR	**Makanchi Array**	**66.00**	**334**	P	P	05 47 31.7	-0.6
	0.5nm,0.5s,mb3.6,baz=148,slow=6.5,SNR=18						
VNDA	**Vanda**	**69.93**	**171**	*e*P	P	05 47 56.5	+0.2
	4.3nm,1.0s,mb4.3						
YAK	**Yakutsk**	**73.64**	**6**	P	P	05 48 17.4	-1.2
SNAA	**Sanae**	**88.56**	**196**	*e*P	P	05 49 37.2	+0.3
	2.8nm,0.9s,mb4.6						

*IDC **29** 06:08:53.1±1.5, 2.61N×95.75E, mb4.1/6, mb1 4.1/7, mb1mx3.9/17, mbtmp4.1/7, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/18, Error ellipse: s-maj=47.0km s-min=21.4km az=34.0*
*NEIC **29** 06:08:57.8±0.8, 2.60N×95.84E, h30km, mb4.5/9, Error ellipse: s-maj=20.1km s-min=9.0km az=207.0*
ISC 29 06:08:52.6±4.0, 2.5N±0.1×95.72E±0.06, h10km±25km, n22, σ1803/23, mb4.4/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.22**	**84**	Pn	Pn	06 09 45.5	+1.2
	5.3nm,0.3s,baz=303,slow=5.6,SNR=17						
PSI				Sn	Sn	06 10 22.5	-0.6
	6.9nm,0.3s,baz=119,slow=22,SNR=5.0						
PSI				LR	LR	06 11 06.6	
	comp=Z,197nm,18.3s,baz=250,slow=42						
KULM	**Kulim**	**5.65**	**60**	*e*Pn	Pn	06 10 17.4	-1.3
KULM				*e*Sn	Sn	06 11 26.7	+2.2
JIRN	**Jiri**	**26.63**	**341**	*e*P	P	06 14 34.5	+1.0
	25nm,0.6s,mb4.9						
PKI	**Pulchoki**	**26.82**	**339**	*e*P	P	06 14 35.7	+0.5
DMN	**Daman**	**26.96**	**339**	*e*P	P	06 14 37.7	+1.2
GUN	**Gumba**	**26.97**	**341**	*e*P	P	06 14 37.4	+0.9
	15nm,0.5s,mb4.8						
KKN	**Kakani**	**27.06**	**339**	*e*P	P	06 14 37.8	+0.4
	19nm,0.7s,mb4.8						
LSA	**Lhasa**	**27.40**	**351**	P	P	06 14 39.1	-1.4

5.5nm,0.6s,mb4.3
GKN Gorkha 27.49 338 *e*P **P 06 14 41.6 +0.3**
28nm,0.8s,mb4.8
KOLN Koldanda 27.68 336 *e*P **P 06 14 44.4 +1.4**
10nm,0.6s,mb4.7
WRA Warramunga Arr 43.97 122 P **P 06 17 02.6 +0.5**
0.4nm,0.3s,mb3.6,baz=302,slow=9.2,SNR=3.0
MKAR Makanchi Array 45.65 347 P **P 06 17 14.9 -0.4**
2.5nm,0.4s,mb4.5,baz=157,slow=8.8,SNR=110
SONM Songino Array 46.10 10 P **P 06 17 17.8 -1.0**
3.1nm,0.7s,mb4.4,baz=189,slow=8.9,SNR=28
SONM PcP PcP 06 18 55.0 -0.5
0.6nm,0.6s,baz=191,slow=3.3,SNR=3.9
ULN Ulaanbaatar 46.25 11 *e*P **P 06 17 18.3 -1.6**
2.1nm,0.6s,mb4.2
KURK Kurchatov 50.18 346 *e*P **P 06 17 49.2 -1.3**
2.0nm,0.5s,mb4.4
ZRNK Zerenda 54.94 341 *e*P **P 06 18 24.9 -1.1**
1.5nm,0.9s,mb4.0
CASY Casey 69.44 174 *e*P **P 06 20 11.9 +9.1**
40nm,0.9s,mb5.3
AKASG Malin Array Be 73.34 323 P **P 06 20 25.8 -0.7**
0.2nm,0.5s,mb3.3,baz=92,slow=5.6,SNR=4.2
FINES FINESS Array B 78.18 333 P **P 06 20 54.0 +0.3**
4.9nm,1.1s,mb4.3,baz=117,slow=4.3,SNR=5.3
ARCES ARCESS Array B 80.83 340 P **P 06 21 08.3 +0.4**
2.8nm,0.9s,mb4.2,baz=104,slow=5.0,SNR=8.2
ARCES ARCESS Array B 80.83 340 P **P 06 21 08.3 +0.4**
TXAR Lajitas Array 143.31 29 PKP PKPdf 06 28 28.7 -2.3
0.2nm,0.7s,baz=208,slow=0.6,SNR=4.6

MAN 29 06:29:58.3, 12.71N×123.25E, h7km, mb3.6, ML2.3, MS1.8, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.83**	**317**	*e*P		Pb	06 30 14.4 -0.2
PVCP	**Virac**	**1.24**	**45**	*e*P		Pb	06 30 21.0 -0.6
RCP	**Roxas**	**1.25**	**203**	*e*P		Pb	06 30 21.0 -0.8
OTRP	**Odiongan**	**1.25**	**254**	*e*P		Pb	06 30 21.3 -0.6
GQP	**Guinayangan**	**1.42**	**327**	*e*P		Pn	06 30 24.1 -0.5
GQP				*e*S		Sb	06 30 30.9 -12
BOAC	**Boac**	**1.56**	**298**	*e*P		Pn	06 30 26.2 -0.4
BOAC				*e*S		Sb	06 30 47.2 +0.2

*NEIC **29** 06:38:34.3, 31.95S×70.29W, h119km, MD3.5(GUC), After GUC.*
GUC 29 06:38:34.3±0.5, 31.95S×70.29W, h119km±3km, MD3.5, ML3.6, 7C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**0.78**	**199**	↑*i*P		P	06 38 54.7 +0.4
JACH				*i* S		S	06 39 09.8 +0.3
CMCH	**Combarbala**	**0.98**	**322**	↑*i*P		P	06 38 56.3 0.0
CMCH				*i* S		S	06 39 13.2 +0.5
CMCH				AMP			06 39 14.8
	comp=E,3μm,0.8s						
ROCH	**El Roble**	**1.19**	**210**	↓*i*P		P	06 38 58.9 +0.3
ROCH				*i* S		S	06 39 17.4 +0.6
PEL	**Peldehue**	**1.24**	**195**	↓*i*P		P	06 38 59.1 -0.1
PEL				*i* S		S	06 39 17.9 +0.3
PEL				AMP			06 39 19.8
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.38**	**180**	↑*i*P		P	06 39 01.2 +0.5
FCH				*i* S		S	06 39 21.8 +1.1
FCH				AMP			06 39 23.5
	comp=E,698nm,0.2s						
RCDM	**Rinconada Maip**	**1.60**	**196**	↑*i*P		P	06 39 03.4 +0.1
RCDM				*i* S		S	06 39 25.4 +0.2
RCDM				AMP			06 39 27.4
	comp=E,640nm,0.1s						
ANTU	**Antumapu**	**1.65**	**190**	↓*i*P		P	06 39 04.0 +0.2
ANTU				*i* S		S	06 39 26.3 +0.2
ANTU				AMP			06 39 27.6
	comp=N,517nm,0.4s						
PCH	**Pirque**	**1.68**	**186**	*i* P		P	06 39 04.4 +0.2
PCH				*i* S		S	06 39 27.1 +0.3
TACH	**Talagante**	**1.79**	**198**	↑*i*P		P	06 39 05.5 0.0
TACH				*i* S		S	06 39 29.1 0.0
LCCH	**Las Cruces**	**1.87**	**215**	↓*i*P		P	06 39 06.6 +0.1
LCCH				*i* S		S	06 39 30.9 +0.1
CHCH	**Chadas Angostu**	**2.01**	**189**	↓*i*P		P	06 39 08.2 0.0
CHCH				*i* S		S	06 39 34.1 +0.3
CACH	**El Canelo**	**2.18**	**187**	↓*i*P		P	06 39 11.2 +0.6
CACH				*i* S		S	06 39 39.0 +1.1
LNV	**Longovilo**	**2.21**	**205**	↑*i*P		P	06 39 10.3 -0.7
LNV				*i* S		S	06 39 38.2 -0.5
CICH	**Cipreses**	**2.37**	**183**	↓*i*P		P	06 39 13.0 -0.1
CICH				*i* S		S	06 39 42.6 +0.3
SFDO	**San Fernando**	**2.73**	**193**	↑*i*P		P	06 39 17.2 -0.6
SFDO				*i* S		S	06 39 50.6 -0.1

*IDC **29** 06:48:52.0±2.6, 23.70S×179.99E, h553km±34km, mb3.5/4, mb1 3.7/6, mb1mx3.3/15, mbtmp4.5/6, Error ellipse: s-maj=50.5km s-min=20.4km az=179.0*
*NEIC **29** 06:48:52.7±1.1, 23.88S×179.96E, h569km±12km, mb4.3/3, Error ellipse: s-maj=23.3km s-min=12.3km az=198.0*
ISC 29 06:48:51.8±1.7, 23.8S±0.2×180.0E±0.2, h572km±19km, n18, σ0s72/15, mb4.0/6, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.75**	**161**	P		**P**	**06 50 29.2 -0.6**
	92nm,0.3s,baz=32,slow=19,SNR=4.5						
DZM	**Mont Dzumac**	**12.58**	**275**	P		**P**	**06 51 36.8 +0.4**
	0.4nm,0.3s,baz=133,slow=19,SNR=4.4						
URZ	**Urewera**	**14.62**	**189**	P		**P**	**06 51 57.6 +1.0**
	1.9nm,0.3s,baz=355,slow=3.8,SNR=11						
CTA	**Charters Tower**	**31.45**	**270**	↓*i*P		**P**	**06 54 29.3 +0.5**
	8.3nm,0.3s,mb4.7						
CTA	**Charters Tower**	**31.45**	**270**	P		**P**	**06 54 29.4 +0.7**
	10nm,0.3s,mb4.8,baz=96,slow=11,SNR=44						
CTAO	**Charters Tower**	**31.45**	**270**	*e*P		**P**	**06 54 29.1 +0.3**
	12nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**34.73**	**248**	*e*P		**P**	**06 54 57.3 +1.1**
	1.8nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**34.73**	**248**	P		**P**	**06 54 57.0 +0.9**
	3.5nm,0.6s,mb4.1,baz=87,slow=6.2,SNR=13						
STKA	**Stephens Creek**	**34.73**	**248**	*e*P		**P**	**06 54 56.4 +0.2**
ASPA	**Alice Springs**	**42.02**	**261**	*e*P		**P**	**06 55 55.7 +0.3**
WB2	**Warramunga Arr**	**42.37**	**266**	↓*i*P		**P**	**06 55 57.8 -0.4**
WRAB	**Tennant Creek**	**42.38**	**266**	*e*P		**P**	**06 55 56.9 -1.3**
	5.2nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**42.38**	**266**	P		**P**	**06 55 57.9 -0.4**
	3.1nm,0.3s,mb4.3,baz=103,slow=8.2,SNR=20						
SNAA	**Sanae**	**84.77**	**179**	*e*P		**P**	**07 00 25.8 -0.7**
	1.2nm,0.8s,mb3.5						
SNAA				*e*			07 00 46.7
TXAR	**Lajitas Array**	**90.40**	**58**	P		**P**	**07 00 54.7 +0.6**
	0.4nm,0.6s,mb3.4,baz=214,slow=6.6,SNR=8.0						
ARCES	**ARCESS Array B**	**131.78**	**348**	PKP		PKPdf	07 07 01.5 +1.8
	5.6nm,1.0s,baz=90,slow=1.8,SNR=3.7						
ARCES	**ARCESS Array B**	**131.78**	**348**	PKP		PKPdf	07 07 01.5 +1.8
AKASG	**Malin Array Be**	**144.87**	**327**	PKP		PKPdf	07 07 25.2 +1.7
	0.8nm,0.3s,baz=47,slow=4.5,SNR=8.7						

*NEIC **29** 07:00:04.7±1.3, 24.13S×179.53W, h556km±24km, mb3.9/1, Error ellipse: s-maj=23.0km s-min=16.5km az=136.0*
*IDC **29** 07:00:08.3±4.7, 24.36S×180.00E, h549km±51km, mb3.2/6, mb1 3.4/7, mb1mx3.2/15, mbtmp4.1/7, Error ellipse: s-maj=35.2km s-min=30.3km az=36.0*
ISC 29 07:00:01.5±2.3, 24.1S±0.2×180.0E±0.2, h478km±32km, n16, σ0s96/13, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.62**	**276**	P		**P**	**07 02 54.5 +6.5**
	1.0nm,0.3s,baz=353,slow=22,SNR=12						
AFI	**Afiamalu**	**12.76**	**39**	*e*Pn		**P**	**07 02 48.8 -0.7**
AFI				*e*Sn		**S**	**07 05 05.2 +0.7**
RPZ	**Rata Peaks**	**20.92**	**198**	P		**P**	**07 04 09.7 -0.6**
	3.8nm,0.4s,slow=1.5,SNR=4.4						
CTA	**Charters Tower**	**31.46**	**271**	P		**P**	**07 05 46.0 +1.8**
	1.9nm,0.3s,mb4.0,baz=82,slow=10,SNR=4.2						
CTA	**Charters Tower**	**31.46**	**271**	P		**P**	**07 05 46.0 +1.8**
STKA	**Stephens Creek**	**34.64**	**248**	P		**P**	**07 06 11.8 +1.0**
	0.9nm,0.3s,mb3.6,baz=62,slow=10.0,SNR=6.8						
STKA	**Stephens Creek**	**34.64**	**248**	*e*P		**P**	**07 06 11.3 +0.5**
WRAB	**Tennant Creek**	**42.37**	**266**	*e*P		**P**	**07 07 14.0 -0.1**
	1.9nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**42.38**	**266**	P		**P**	**07 07 13.7 -0.5**
	1.3nm,0.5s,mb3.6,baz=104,slow=8.1,SNR=5.4						
GUMO	**Guam**	**50.78**	**314**	P		**P**	**07 08 17.4 -1.3**
TXAR	**Lajitas Array**	**90.54**	**58**	P		**P**	**07 12 13.9 +1.1**
	0.3nm,1.1s,mb3.2,baz=194,slow=5.2,SNR=3.5						
ILAR	**Eielson Array**	**92.21**	**14**	P		**P**	**07 12 18.6 -1.0**
	0.4nm,0.7s,mb3.5,baz=217,slow=5.4,SNR=4.3						
ARCES	**ARCESS Array B**	**132.06**	**348**	PKP		PKPdf	07 18 19.5 +0.2
	2.1nm,0.8s,baz=84,slow=1.9,SNR=8.6						
FINES	**FINESS Array B**	**138.61**	**341**	PKhKP			07 18 23.6
	2.0nm,0.9s,slow=1.9,SNR=4.8						
FINES				PKP		PKPdf	07 18 32.5 +1.1
	0.8nm,0.7s,baz=117,slow=4.3,SNR=5.8						
AKASG	**Malin Array Be**	**145.11**	**327**	PKPbc		PKPbc	07 18 43.9 0.0
	1.1nm,0.4s,baz=40,slow=3.8,SNR=9.3						
BRTR	**Keskin Array B**	**147.67**	**307**	PKPbc		PKPdf	07 18 51.4 +3.8
	1.1nm,0.7s,baz=143,slow=6.2,SNR=4.3						
BRTR				PKPab		PKPab	07 18 56.9 -0.6
	1.2nm,0.7s,baz=115,slow=5.2,SNR=5.6						

*IDC **29** 07:02:29.2±4.7, 27.61N×57.56E, mb3.5/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, Error ellipse: s-maj=91.0km s-min=36.5km az=174.0*
*THR **29** 07:02:32.5±0.9, 28.15N×57.65E, h14km±11km, ML3.6*
*CSEM **29** 07:02:32.5, 28.15N×57.65E, h14km, ML3.6, After THR*
ISC 29 07:02:32.4±0.6, 28.02N±0.07×57.65E±0.07, h10km, n15, σ0s98/17, mb3.3/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.45**	**245**	*e*Pg	**Pg**	**07 02 59.9**	**-1.4**
BNDS				*e*Sg	**Sg**	**07 03 20.9**	**+0.3**
BNDS				AML	AML	07 03 27.0	
	comp=N,993nm,0.5s						
BNDS	**Bandar-Abbas**	**1.45**	**245**	*e*Pg	**Pg**	**07 02 59.9**	**-1.4**
	SNR=90						
BNDS				*e*Sg	**Sg**	**07 03 20.9**	**+0.3**
	comp=N,993nm,0.5s,SNR=90						
KRBR	**Kerman**	**2.11**	**339**	*e*Pg	**Pg**	**07 03 08.8**	**-5.8**
KRBR				AML	AML	07 03 49.3	
	comp=N,335nm,0.4s						
BANOM	**Banah**	**2.41**	**210**	P	**Pn**	**07 03 14.2**	**+1.7**
	SNR=20						
ZHSF	**Zahedan**	**3.17**	**59**	*e*Pn	**Pn**	**07 03 23.4**	**0.0**
ASHO	**Ashiyiah**	**3.61**	**204**	P	**Pn**	**07 03 30.4**	**+0.8**
	SNR=31						
GHIR	**Ghir-Karzin**	**4.13**	**275**	*e*Pn	**Pn**	**07 03 37.6**	**+0.6**
HOQ	**Hoqain**	**4.42**	**184**	P	**Pn**	**07 03 38.0**	**-3.2**
	SNR=11						
ARQ	**Araqi**	**4.77**	**193**	P	**Pn**	**07 03 45.6**	**-0.5**
	SNR=13						
AKTO	**Aktyubinsk**	**22.39**	**1**	P	**P**	**07 07 33.4**	**+1.2**
	comp=N,0.9nm,0.6s,mb3.4,baz=175,slow=10,SNR=3.6						
BRTR	**Keskin Array B**	**23.03**	**307**	P	**P**	**07 07 37.3**	**-1.3**
	comp=N,1.2nm,0.8s,mb3.4,baz=127,slow=12,SNR=5.6						
BVAR	**Borovoye Array**	**26.71**	**17**	P	**P**	**07 08 13.2**	**-0.3**
	comp=N,0.5nm,0.6s,mb3.2,baz=198,slow=4.6,SNR=2.9						
MKAR	**Makanchi Array**	**26.92**	**39**	P	**P**	**07 08 15.5**	**0.0**
	comp=N,0.3nm,0.7s,mb2.9,baz=220,slow=8.2,SNR=3.1						
FINES	**FINESS Array B**	**39.49**	**337**	P	**P**	**07 10 05.0**	**+0.5**
	comp=N,1.8nm,0.9s,mb3.8,baz=143,slow=9.5,SNR=3.9						
YKA	**Yellowknife Ar**	**89.59**	**356**	P	**P**	**07 15 30.4**	**-0.6**
	comp=N,0.1nm,0.7s,mb3.3,baz=2.9,slow=5.3,SNR=5.4						

*LDG **29** 07:20:52.8±0.4, 24.71N×96.08E, h10km, Mb4.8/27, Ms4.2/7, Error ellipse: s-maj=19.7km s-min=9.9km az=156.0*
*BJI **29** 07:20:55.6, 25.10N×96.12E, h12km, mB4.9, mb4.6, ML4.8, Ms5.0, Msz4.7*
*HRVD **29** 07:20:55.7±0.2, 24.74N×96.29E, h18km±1km, MW5.1/67, Centroid moment Tensor Solution. LP body waves: s29,c39;Mantle waves: s67,c121; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.53±.14; $M_{\theta\theta}$2.01±.12; $M_{\phi\phi}$-2.55±.14; $M_{r\theta}$0.03±.27; $M_{r\phi}$4.04±.12; $M_{\theta\phi}$1.59±.31; Best double couple: $M_0$4.89×10^{16} NP1:ϕ_s104°,δ72°,λ-1°. NP2:ϕ_s195°,δ89°,λ-162°. Principal axes: T 4.547, Plg12°, Azm328°; N .678, Plg72°, Azm197°; P -5.234, Plg13°, Azm61°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 07:20:55.7±0.2, 25.01N×96.20E, mb4.9/68, MS4.4/3 Error ellipse: s-maj=5.6km s-min=4.2km az=202.0*
*MOS **29** 07:20:57.1±1.1, 24.98N×96.16E, h33km, mb5.1/65, MS4.4/9, Error ellipse: s-maj=8.5km s-min=4.1km az=126.6*
*IDC **29** 07:21:03.7±5.1, 25.04N×96.18E, h71km±47km, mb4.4/23, mb1 4.5/23, mb1mx4.4/26, mbtmp4.7/23, MS4.4/23, Ms1 4.4/23, ms1mx4.3/27, Error ellipse: s-maj=17.4km s-min=11.1km az=41.0*
ISC 29 07:20:54.3±0.2, 24.95N±0.03×96.11E±0.02, h13km, h13km±1.3km:pP-P, n320, σt1s15/354, mb4.8/106, MS4.5/42, 64C-19D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**3.88**	**280**	*e*P	**Pn**	**07 21 58.0**	**+3.0**
SHL				*e*S	**Sn**	**07 22 45.0**	**+4.2**
AGT	**Agartala**	**4.56**	**258**	*e*P	**Pn**	**07 22 09.0**	**+4.4**
AGT				*e*S	**Sn**	**07 22 59.0**	**+0.9**
KMI	**Kunming**	**6.01**	**87**	P	**Pn**	**07 22 28.8**	**+3.6**
KMI				SG	**Sb**	**07 23 59.3**	**+8.0**
KMI				Smax			
	comp=N,420nm,1.4s						
KMI				Smax			
	comp=E,280nm,1.4s						
KMI				LR	LR		
	comp=N,42μm,9.5s						
KMI				LR	LR		
	comp=E,13μm,6.9s						
CHRT	**Chiangrai**	**6.09**	**145**	↓PN	**Pn**	**07 22 22.0**	**-4.2**
CHRT				PG	**Pg**	**07 22 47.5**	**-8.4**
CHRT				SG	**Sb**	**07 23 58.0**	**+4.5**
LSA	**Lhasa**	**6.47**	**318**	*e*P	**Pn**	**07 22 35.2**	**+3.6**
LSA				*e*		07 23 44.7	
LSA				pmax	pmax		
	comp=Z,140nm,0.8s						
LSA	**Lhasa**	**6.47**	**318**	*e*Pn	**Pn**	**07 22 35.2**	**+3.6**
	comp=Z,140nm,0.8s						
LSA				*e*Sn	**Sn**	**07 23 44.7**	**-1.3**
CHG	**Chiang Mai**	**6.65**	**156**	PN	**Pn**	**07 22 29.5**	**-4.6**
CHG				PG	**Pg**	**07 22 56.0**	**-11**
CHG				SG	**Sg**	**07 24 29.2**	**-6.5**
CAL	**Calcutta**	**7.52**	**253**	*ex*	x	07 23 11.0	
CAL				*e*S	**Sn**	**07 24 11.0**	**-1.3**
CD2	**Chengdu**	**8.99**	**47**	P	**P**	**07 23 08.5**	**+1.6**
CD2				S	**Sn**	**07 24 48.5**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.3s						
CD2				AMB	AMB		
	comp=Z,160nm,7.4s						
CD2				LR	LR		
	comp=N,6μm,9.4s						
CD2				LR	LR		
	comp=Z,3μm,12.0s						
JIRN	**Jiri**	**9.30**	**289**	*e*Pn	**P**	**07 23 11.1**	**0.0**
JIRN				*e*Sn	**Sn**	**07 24 57.2**	**+0.5**
	comp=Z,290nm,0.6s						
JIRN	**Jiri**	**9.30**	**289**	*e*Pn	**P**	**07 23 11.1**	**0.0**
	comp=Z,145nm,0.6s						
JIRN				*e*Sn	**Sn**	**07 24 57.2**	**+0.5**
BOK	**Bokaro**	**9.39**	**265**	*e*P	**P**	**07 23 11.7**	**-0.7**
BOK				*e*S	**Sn**	**07 24 55.5**	**-3.5**
BOK	**Bokaro**	**9.39**	**265**	*e*P	**P**	**07 23 11.7**	**-0.7**
BOK				AMb	AMB	07 23 16.4	
	comp=Z,64nm,0.8s						
BOK				*e*S	**Sn**	**07 24 53.3**	**-5.6**
GYA	**Guiyang**	**9.63**	**79**	↑*i*P	**P**	**07 23 15.0**	**-0.7**
GYA				S	**Sn**	**07 25 11.0**	**+6.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,220nm,4.9s						
GYA				LR	LR		
	comp=N,20μm,12.6s						
GYA				LR	LR		
	comp=E,4μm,10.2s						
GYA				LR	LR		
	comp=Z,7μm,12.3s						
GUN	**Gumba**	**9.63**	**290**	*e*Pn	**P**	**07 23 15.7**	**-0.1**
GUN				*e*Sn	**Sn**	**07 25 05.8**	**+0.9**
	comp=Z,516nm,0.7s						
GUN	**Gumba**	**9.63**	**290**	*e*Pn	**P**	**07 23 15.7**	**-0.1**
	comp=Z,258nm,0.7s						
GUN				*e*Sn	**Sn**	**07 25 05.8**	**+0.9**
PKI	**Pulchoki**	**9.96**	**288**	*e*Pn	**P**	**07 23 19.4**	**-0.8**
PKI				*e*Sn	**Sn**	**07 25 12.6**	**-0.2**
	comp=Z,194nm,0.7s						
PKI	**Pulchoki**	**9.96**	**288**	*e*P	**P**	**07 23 19.4**	**-0.8**
PKI				*e*		07 25 12.6	
PKI				pmax	pmax		
	comp=Z,97nm,0.7s						
PKI	**Pulchoki**	**9.96**	**288**	*e*Pn	**P**	**07 23 19.4**	**-0.8**
	comp=Z,97nm,0.7s						
PKI				*e*Sn	**Sn**	**07 25 12.6**	**-0.2**
NST	**Nakhon Sawan**	**9.97**	**157**	P	**P**	**07 23 18.0**	**-2.4**
KKN	**Kakani**	**10.12**	**289**	*e*Pn	**P**	**07 23 21.8**	**-0.6**
KKN				*e*Sn	**S**	**07 25 16.9**	**+0.1**
	comp=Z,260nm,0.8s						
KKN	**Kakani**	**10.12**	**289**	*e*P	**P**	**07 23 21.8**	**-0.6**
KKN				*e*		07 25 16.9	
KKN				pmax	pmax		
	comp=Z,130nm,0.8s						
KKN	**Kakani**	**10.12**	**289**	*e*Pn	**P**	**07 23 21.8**	**-0.6**
	comp=Z,130nm,0.8s						
KKN				*e*Sn	**S**	**07 25 16.9**	**+0.1**
DMN	**Daman**	**10.23**	**287**	*e*Pn	**P**	**07 23 22.0**	**-1.9**
DMN				*e*Sn	**S**	**07 25 17.8**	**-1.6**
	comp=Z,267nm,0.7s						
DMN	**Daman**	**10.23**	**287**	*e*Pn	**P**	**07 23 22.0**	**-1.9**
	comp=Z,134nm,0.7s						
DMN				*e*Sn	**S**	**07 25 17.8**	**-1.6**
GKN	**Gorkha**	**10.72**	**289**	*e*Pn	**P**	**07 23 29.9**	**-0.8**
GKN				*e*Sn	**S**	**07 25 30.3**	**-1.2**
	comp=Z,284nm,0.9s						
GKN	**Gorkha**	**10.72**	**289**	*e*Pn	**P**	**07 23 29.9**	**-0.8**
	comp=Z,142nm,0.9s						
GKN				*e*Sn	**S**	**07 25 30.3**	**-1.2**
KOLN	**Koldanda**	**11.57**	**287**	*e*Pn	**P**	**07 23 40.5**	**-1.7**
KOLN				*e*Sn	**S**	**07 25 48.2**	**-4.0**
	comp=Z,129nm,0.6s						
KOLN	**Koldanda**	**11.57**	**287**	*e*Pn	**P**	**07 23 40.5**	**-1.7**
	comp=Z,65nm,0.6s						
KOLN				*e*Sn	**S**	**07 25 48.2**	**-4.0**
LZH	**Lanzhou**	**12.94**	**29**	*e*P	**P**	**07 24 01.3**	**+0.7**
LZH				AP		07 24 10.0	
LZH				PP	PP	07 24 13.0	+2.1
LZH				*e*S	**S**	**07 26 21.0**	**-4.4**
LZH				XS		07 26 37.0	
LZH				SS	SS	07 26 40.0	-0.7
LZH				AMB	AMB		
	comp=Z,50nm,1.0s						
LZH				AMB	AMB		
	comp=Z,290nm,4.0s						
LZH				LR	LR		
	comp=E,11μm,11.1s						
LZH				LR	LR		
	comp=Z,14μm,13.0s						
ENH	**Enshi**	**12.98**	**63**	*e*Pn	**P**	**07 23 59.6**	**-1.7**
	comp=Z,48nm,0.9s						
BLSP	**Bilaspur**	**13.13**	**261**	*e*P	**P**	**07 24 01.6**	**-1.6**
BLSP				AMb	AMB	07 24 08.8	
	comp=Z,26nm,1.1s						
BLSP				*e*S	**S**	**07 26 21.7**	**-8.3**
VIS	**Vishakhapatnam**	**13.91**	**241**	*e*P	**P**	**07 24 13.8**	**+0.2**
VIS				AMb	AMB	07 24 31.2	
	comp=Z,29nm,1.1s						
VIS				*ex*	x	07 26 36.0	
QIZ	**Qiongzhong**	**14.03**	**112**	*e*P	**P**	**07 24 18.3**	**+3.2**
QIZ				S	**S**	**07 26 50.8**	**-0.7**
QIZ				LR	LR		
	comp=N,6μm,13.8s						
QIZ				LR	LR		
	comp=Z,3μm,13.8s						
XAN	**Xi'an**	**14.36**	**48**	P	**P**	**07 24 17.0**	**-2.3**
XAN				AP		07 24 26.5	
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s						
XAN				LR	LR		
	comp=N,2μm,7.5s						
XAN				LR	LR		
	comp=E,2μm,8.5s						
XAN				LR	LR		
	comp=Z,4μm,14.4s						
GTA	**Gaotai**	**14.75**	**11**	*e*P	**P**	**07 24 22.0**	**-2.4**
GTA				AP		07 24 26.5	
GTA				XP		07 24 29.0	
GZH	**Guangzhou**	**15.85**	**93**	P	**P**	**07 24 41.5**	**+2.6**
GZH				S	**S**	**07 27 40.3**	**+5.7**
GZH				LR	LR		
	comp=N,2μm,7.1s						
GZH				LR	LR		
	comp=E,3μm,8.9s						
GZH				LR	LR		
	comp=Z,3μm,10.8s						
WHN	**Wuhan**	**17.07**	**67**	P	**P**	**07 24 55.8**	**+1.5**
WHN				LR	LR		
	comp=N,3μm,6.3s						
WHN				LR	LR		
	comp=E,4μm,7.9s						
WHN				LR	LR		
	comp=Z,6μm,19.5s						
BHPL	**Bhopal**	**17.15**	**268**	*e*P	**P**	**07 24 55.5**	**+0.2**
BHPL				AMb	AMB	07 25 03.0	
	comp=Z,72nm,0.6s						
BHPL				*ex*	x	07 27 55.6	
NDI	**New Delhi**	**17.27**	**287**	*e*P	**P**	**07 24 56.0**	**-0.8**
NDI				*ex*	x	07 27 00.0	
HYB	**Hyderabad**	**18.00**	**249**	*i* P	**P**	**07 25 08.5**	**+2.6**
HYB				*e*S	**S**	**07 28 25.0**	**+1.2**
BTO	**Baotou**	**19.46**	**33**	*e*P	**P**	**07 25 22.5**	**-1.0**
BTO				S	**S**	**07 28 49.5**	**-7.3**
BTO				LR	LR		
	comp=N,1μm,5.8s						
BTO				LR	LR		
	comp=E,3μm,11.6s						
KULM	**Kulim**	**20.03**	**167**	*e*P	**P**	**07 25 30.1**	**+0.2**
WMQ	**Urumqi**	**20.04**	**342**	P	**P**	**07 25 31.0**	**+1.1**
WMQ				PP	PP	07 25 51.8	+2.5
WMQ				S	**S**	**07 29 08.5**	**-0.7**
WMQ				SS	SS	07 29 38.5	+0.6
WMQ				PCP	PcP	07 29 45.0	-0.2
WMQ				AMB	AMB		
	comp=Z,60nm,1.2s						
WMQ				AMB	AMB		
	comp=Z,390nm,4.6s						
WMQ				LR	LR		
	comp=N,2μm,10.0s,MS4.8						
WMQ				LR	LR		
	comp=E,2μm,12.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,10.0s,MS4.7						
HHC	**Hu-ho-hao-te**	**20.43**	**35**	*e*P	**P**	**07 25 36.0**	**+2.0**
HHC				PP	PP	07 25 59.5	+4.7
HHC				S	**S**	**07 29 18.8**	**+1.5**
HHC	

PSI Prapat 22.19 173 P **P** **07 25 55.5 +3.5**
comp=E,4.8nm,0.5s,mb4.2,baz=326,slow=8.3,SNR=5.3
PSI LR LR 07 36 21.1
comp=E,1μm,19.6s,MS4.3,baz=336,slow=41
THW Thamme Wali 22.69 296 P **P** **07 25 57.9 +1.0**
PALK Pallekele 22.94 223 *e*P **P** **07 26 01.8 +2.3**
comp=E,23nm,1.1s,mb4.5
SSE Sheshan 22.94 69 P **P** **07 25 58.5 -0.8**
SSE AP 07 26 11.8
SSE S **S** **07 29 58.8 -5.6**
SSE XS 07 30 20.3
SSE AMB AMB
comp=Z,30nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,60nm,5.8s
SSE LR LR
comp=N,2μm,22.5s,MS4.5
SSE LR LR
comp=E,270nm,22.6s,MS4.5
SSE LR LR
comp=Z,1μm,23.7s,MS4.2
SONM Songino Array 24.25 17 P **P** **07 26 13.2 +1.3**
comp=Z,12nm,0.8s,mb4.3,baz=201,slow=10,SNR=40
SONM LR LR 07 37 44.0
comp=Z,709nm,20.9s,MS4.1,baz=20,slow=41
MK31 Makanchi Array 24.43 337 *i* P **P** **07 26 15.8 +2.1**
MK31 pmax pmax
comp=Z,67nm,0.7s,mb5.2
MKAR Makanchi Array 24.43 337 P **P** **07 26 15.8 +2.2**
comp=Z,45nm,0.7s,mb5.0,baz=147,slow=9.3,SNR=349
MKAR LR LR 07 37 06.6
comp=Z,764nm,21.6s,MS4.2,baz=179,slow=40
MKAR Makanchi Array 24.43 337 P **P** **07 26 15.8 +2.2**
MKAR LR LR 07 37 06.6
ULN Ulaanbaatar 24.45 18 *i* P **P** **07 26 14.2 +0.3**
ULN Ulaanbaatar 24.45 18 *e*P **P** **07 26 14.8 +0.9**
comp=Z,21nm,1.0s,mb4.5
TKM2 Tokmak 2 24.61 322 P **P** **07 26 18.1 +2.7**
SNR=6.8
UCH Uchtor 24.80 319 P **P** **07 26 18.1 +0.8**
SNR=7.9
KBK Karagaybulak 24.81 321 P **P** **07 26 20.0 +2.6**
SNR=8.1
AAK Ala-Archa 25.06 320 P **P** **07 26 23.2 +3.5**
SNR=11
FRU Bishkek 25.11 321 *e*P **P** **07 26 23.2 +3.0**
FRU *e* 07 26 57.6
FRU *e* 07 31 35.0
CHMS Chumysh 25.14 321 P **P** **07 26 22.7 +2.2**
SNR=7.8
AML Almayashu 25.23 318 P **P** **07 26 24.8 +3.4**
SNR=12
USP Ospenovka 25.45 321 P **P** **07 26 25.2 +1.8**
SNR=29
EKS2 Erkin-Say 25.50 319 P **P** **07 26 26.6 +2.7**
SNR=12
DL2 Dalian 25.63 51 *e*P **P** **07 26 29.3 +4.1**
DL2 S **S** **07 30 56.0 +5.6**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb4.8
DL2 AMB AMB
comp=Z,120nm,4.2s
DL2 LR LR
comp=N,870nm,16.0s,MS4.5
DL2 LR LR
comp=E,690nm,15.4s,MS4.5
DL2 LR LR
comp=Z,1μm,17.0s,MS4.5
KKM Kota Kinabalu 26.92 131 *e*P **P** **07 26 40.0 +2.8**
MOY Mondy 26.93 7 *e*P **P** **07 26 41.8 +4.8**
KK31 Karatay Array 27.72 317 *i* P **P** **07 26 45.1 +0.8**
KK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
JOW Kunigami 28.95 79 LR LR 07 39 16.6
comp=Z,2μm,18.4s,MS4.7,baz=262,slow=38
KURK Kurchatov 29.05 337 *e*P **P** **07 26 55.6 -0.6**
KURK pmax pmax
comp=Z,28nm,0.6s,mb5.2
KURK Kurchatov 29.05 337 *e*P **P** **07 26 55.5 -0.6**
comp=Z,28nm,0.6s,mb5.2
CN2 Changchun 30.42 44 *e*P **P** **07 27 10.8 +2.3**
CN2 *e*S **S** **07 32 06.3 -1.3**
CN2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.3
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,15.0s,MS4.8
CN2 LR LR
comp=E,1μm,15.0s,MS4.8
CN2 LR LR
comp=Z,900nm,16.0s,MS4.5
HIA Hailar 30.49 31 *e*P **P** **07 27 07.8 -1.2**
HIA pmax pmax
comp=Z,12nm,1.0s
HIA Hailar 30.49 31 *e*P **P** **07 27 07.8 -1.3**
comp=Z,12nm,1.0s,mb4.6
KRAR Krasnoyarsk 31.12 356 *i* P **P** **07 27 14.2 -0.3**
NVS Novosibirsk 31.34 346 *i* P **P** **07 27 16.3 -0.2**
NVS pmax pmax
comp=Z,48nm,1.4s,mb5.1
NVS pmax pmax
comp=N,28nm,1.6s
NVS pmax pmax
comp=E,22nm,1.3s
JNU Nakatsue 31.36 67 P **P** **07 27 18.0 +1.1**
comp=E,3.4nm,0.5s,mb4.4,baz=89,slow=2.4,SNR=3.6
JNU LR LR 07 40 56.8
comp=E,1μm,21.0s,MS4.6,baz=263,slow=38
MDJ Mudanjiang 33.45 46 P **P** **07 27 34.5 -0.5**
MDJ PP PP 07 28 49.5 +2.4
MDJ S **S** **07 32 52.3 -2.6**
MDJ SCP 07 33 55.0
MDJ AMB AMB
comp=Z,160nm,6.2s
MDJ LR LR
comp=N,380nm,16.0s,MS4.6
MDJ LR LR
comp=E,910nm,15.2s,MS4.6
MDJ LR LR
comp=Z,1μm,15.6s,MS4.7
BVAR Borovoye Array 34.08 332 P **P** **07 27 41.1 +0.8**
comp=Z,18nm,0.5s,mb5.3,baz=135,slow=9.6,SNR=93
BRVK Borovoye 34.14 332 *e*P **P** **07 27 41.6 +0.7**
BRVK pmax pmax
comp=Z,13nm,0.6s,mb5.0
BRVK Borovoye 34.14 332 *e*P **P** **07 27 41.6 +0.7**
comp=Z,13nm,0.6s,mb5.0
ZRNK Zerenda 34.62 331 *e*P **P** **07 27 45.1 +0.1**
ZRNK pmax pmax
comp=Z,134nm,1.5s,mb5.7
ZRNK Zerenda 34.62 331 *e*P **P** **07 27 45.1 +0.1**
comp=Z,134nm,1.5s,mb5.7
BOD Bodaibo 35.24 17 *e*P **P** **07 27 50.2 -0.1**
BOD pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MAJO Matsushiro 37.70 62 *e*P **P** **07 28 13.1 +1.8**
MAJO pmax pmax
comp=Z,15nm,0.9s,mb4.7
MAJO Matsushiro 37.70 62 *e*P **P** **07 28 13.1 +1.8**
comp=Z,15nm,0.9s,mb4.7
MAT Matsushiro 37.70 62 P **P** **07 28 09.8 -1.5**
MAT S **S** **07 33 58.8 -1.9**
MAT Matsushiro 37.70 62 P **P** **07 28 10.0 -1.3**
MAT *e*S **S** **07 33 59.0 -1.7**
MJAR Matsushiro Arr 37.71 62 P **P** **07 28 10.8 -0.5**
comp=Z,2.3nm,0.6s,mb4.1,baz=275,slow=9.7,SNR=8.1
MJAR LR LR 07 45 11.1
comp=Z,469nm,20.4s,MS4.3,baz=280,slow=38
CLNS Chul'man 38.02 25 *e*P **P** **07 28 10.8 -2.9**
CLNS *e**PP pP 07 28 21.1 +3.4
CLNS *e*PPP PP 07 29 45.2 +1.4
CLNS *e* 07 30 28.6
CLNS *e*S **S** **07 33 54.9 -10**
CLNS *e* 07 37 16.6
CLNS pmax pmax
comp=Z,12nm,1.1s,mb4.5
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CLNS pmax pmax
comp=N,2.0nm,0.6s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS smax
comp=N,112nm,11.2s
CLNS smax
comp=Z,41nm,12.7s
CLNS smax
comp=E,340nm,14.2s
CLNS MLR MLR
comp=Z,500nm,11.0s,MS4.6
CLNS MLR MLR
comp=N,400nm,10.0s,MS4.8
CLNS MLR MLR
comp=E,800nm,12.0s,MS4.8
HABR Khabarovsk 38.46 42 *i* P **P** **07 28 13.0 -4.5**
HABR *e*S **S** **07 33 59.4 -13**
AKTK Aktyubinsk 38.80 321 P **P** **07 28 21.3 +1.0**
AKTK LR LR 07 47 18.6
AKTO Aktyubinsk 38.80 321 P **P** **07 28 21.3 +1.0**
comp=E,5.6nm,0.5s,mb4.6,baz=112,slow=8.0,SNR=19
AKTO LR LR 07 47 18.6
comp=E,282nm,18.3s,MS4.1,slow=41
JHJ Hachijo jima 2 38.82 68 LR LR 07 44 27.8
comp=E,576nm,18.6s,MS4.4,baz=296,slow=36
CBIJ Chichi jima 41.28 77 LR LR 07 46 58.6
comp=E,456nm,19.7s,MS4.3,baz=284,slow=38
ARU Arti 41.53 329 ⇓*i*P **P** **07 28 43.5 +0.8**
ARU *e* 07 30 17.0
ARU *e* 07 30 35.8
ARU *e*PPP PPP 07 30 53.6 +1.2
ARU *e*S **S** **07 34 50.3 -7.5**
ARU pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
ARU MLR MLR
comp=Z,400nm,17.0s,MS4.4
ARU MLR MLR
comp=N,200nm,16.0s,MS4.2
ARU MLR MLR
comp=E,200nm,17.0s,MS4.2
ASAJ Asahikawa 42.16 51 LR LR 07 47 20.5
comp=E,349nm,19.5s,MS4.2,baz=86,slow=38
YSS Yuzh-Sakhalins 42.90 47 P **P** **07 28 57.8 +3.7**
YSS *e* 07 29 05.6
YSS MLR MLR
comp=Z,1μm,20.0s,MS4.8
YSS MLR MLR
comp=E,1μm,16.0s
YAK Yakutsk 43.40 22 *i* P **P** **07 28 57.8 -0.1**
YAK pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
YAK MLR MLR
comp=Z,500nm,21.0s,MS4.4
GNI Garni 45.27 303 P **P** **07 29 15.7 +2.4**
comp=Z,24nm,0.8s,mb5.1,baz=313,slow=4.3,SNR=8.4
GNI Garni 45.27 303 *e*P **P** **07 29 15.1 +1.8**
GNI pmax pmax
comp=Z,77nm,1.4s
GNI Garni 45.27 303 *e*P **P** **07 29 15.1 +1.8**
comp=Z,77nm,1.4s,mb5.3
TI2 Plekhanov 45.38 305 *e*P **P** **07 29 05.8 -8.4**
MZLS Mizel 46.11 280 P **P** **07 29 21.5 +1.3**
GOF Gofitskoye 46.97 309 *e*P **P** **07 29 27.2 +0.5**
GOF *i* 07 29 41.6
GOF pmax pmax
comp=Z,33nm,0.6s,mb5.4
KIV Kislovodsk 47.09 308 *e*P **P** **07 29 28.7 +1.0**
KIV *e*S **S** **07 36 12.5 -6.0**
KIV *e*SSS SSS 07 40 51.8 +1.7
KIV pmax pmax
comp=Z,38nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,324nm,19.0s,MS4.3
KIV Kislovodsk 47.09 308 *e*P **P** **07 29 29.2 +1.5**
comp=Z,23nm,0.8s,mb5.2
KAMS Al Khamasin 47.57 275 P **P** **07 29 23.7 -8.1**
AFFS 'Afif 48.10 281 P **P** **07 29 36.5 +0.6**
TATS Tathlith 48.77 275 P **P** **07 29 39.6 -1.5**
VRHR Novokhopersk 48.85 317 *e*P **P** **07 29 41.2 0.0**
VRHR pmax pmax
comp=Z,30nm,0.4s,mb5.7
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.6s
SOC Sochi 49.21 307 *e*P **P** **07 29 43.9 -0.3**
SOC *e* 07 31 12.2
SOC *e* 07 31 44.7
SOC *e*S **S** **07 36 43.5 -4.8**
SOC pmax pmax
comp=Z,24nm,0.7s,mb5.3
SOC MLR MLR
comp=Z,297nm,22.0s,MS4.2
MALT Malatya 50.16 300 *e*P **P** **07 29 52.7 +1.2**
MALT pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MALT Malatya 50.16 300 *e*P **P** **07 29 52.7 +1.2**
comp=Z,9.1nm,0.8s,mb4.9
TIXI Tiksi 50.23 13 *e*P **P** **07 29 51.6 0.0**
BLJS Baljurashi 50.38 276 P **P** **07 29 53.9 +0.5**
VRSR Storozhevoye 50.38 317 *e*P **P** **07 29 52.4 -0.6**
VRSR pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
VRSR pmax pmax
comp=N,1.0nm,0.9s
VRSR pmax pmax
comp=E,1.0nm,0.8s
MOS Moscow 52.10 322 *e*P **P** **07 30 04.0 -2.0**
KLMR Klimovskoe 52.38 329 *e*P **P** **07 30 08.3 +0.3**
KLMR *e*S **S** **07 37 28.2 -3.6**
KLMR pmax pmax
comp=Z,60nm,1.7s,mb5.2
KLMR smax
comp=E,610nm,4.3s
OBN Obninsk 52.58 321 *i* P **P** **07 30 09.3 -0.3**
OBN pmax pmax
comp=Z,29nm,1.4s,mb5.0
OBN Obninsk 52.58 321 P **P** **07 30 09.3 -0.3**
BR131 Keskin Array S 53.80 302 *e*P **P** **07 30 18.8 -0.1**
comp=Z,5.5nm,0.6s,mb4.7
BRTR Keskin Array B 53.80 302 P **P** **07 30 18.8 -0.1**
comp=Z,6.2nm,0.6s,mb4.7,baz=118,slow=8.3,SNR=37
AKASG Malin Array Be 56.61 316 P **P** **07 30 37.7 -1.4**
comp=Z,20nm,0.6s,mb5.3,baz=79,slow=6.4,SNR=89
AKASG Malin Array Be 56.61 316 P **P** **07 30 37.7 -1.4**
JOF Joensuu 56.64 330 *ep* **P** **07 30 36.6 -2.6**
comp=Z,9.3nm,0.7s,mb4.9
HARR Harsova 57.68 308 ⇑P **P** **07 30 45.6 -1.2**
HARR Harsova 57.68 308 ⇑P **P** **07 30 45.6 -1.1**
WRA Warramunga Arr 58.09 137 P **P** **07 30 49.0 -1.0**
comp=Z,6.1nm,1.0s,mb4.6,baz=326,slow=7.5,SNR=16
WRA Warramunga Arr 58.09 137 *i* P **P** **07 30 51.4 +1.5**
WRA pmax pmax
comp=Z,6.0nm,1.0s
WRAB Tennant Creek 58.09 137 *e*P **P** **07 30 49.0 -0.9**
WRAB pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WRAB Tennant Creek 58.09 137 *e*P **P** **07 30 49.0 -0.9**
comp=Z,10nm,0.9s,mb4.9
VSU Vasula 58.34 325 *i* P **P** **07 30 51.5 +0.4**
VRI Vrincioaia 58.44 310 ⇓P **P** **07 30 52.6 +0.6**
VRI Vrincioaia 58.44 310 ⇓P **P** **07 30 52.6 +0.6**
KAF Kangasniemi 58.83 329 *ep* **P** **07 30 52.0 -2.6**
comp=Z,7.3nm,0.8s,mb4.8
KAF Kangasniemi 58.83 329 *e*P **P** **07 30 52.0 -2.6**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
FINES FINESS Array B 58.88 328 P **P** **07 30 54.4 -0.5**
comp=Z,8.1nm,0.5s,mb5.0,baz=99,slow=7.3,SNR=41
FINES LR LR 07 59 25.8
comp=Z,202nm,18.1s,MS4.3,baz=26,slow=39
MLR Muntele Rosu 59.02 309 P **P** **07 30 56.6 +0.5**
comp=Z,17nm,0.6s,mb5.3,baz=92,slow=3.1,SNR=17
MLR Muntele Rosu 59.02 309 ⇓P **P** **07 30 56.7 +0.6**
MLR Muntele Rosu 59.02 309 ⇓P **P** **07 30 56.7 +0.6**
BURAR Bucovina Array 59.34 312 ⇓P **P** **07 30 57.9 -0.4**
BURAR Bucovina Array 59.34 312 ⇓P **P** **07 30 57.9 -0.4**
KEV Kevo 59.60 338 *ep* **P** **07 30 57.6 -2.2**
comp=Z,14nm,0.8s,mb5.0
KEV Kevo 59.60 338 *e*P **P** **07 30 57.6 -2.2**
KEV pmax pmax
comp=Z,14nm,0.8s,mb5.0
VOIR 59.65 309 ⇓P **P** **07 31 00.4 -0.1**
VOIR 59.65 309 ⇓P **P** **07 31 00.4 0.0**
BILL Bilibino 59.70 24 *e*P **P** **07 30 59.1 -1.4**
BILL pmax pmax
comp=Z,14nm,1.2s,mb4.9
ARCES ARCESS Array B 60.09 337 P **P** **07 31 02.7 -0.5**
comp=Z,5.2nm,0.6s,mb4.8,baz=80,slow=7.4,SNR=28
ARCES LR LR 08 00 04.3
comp=Z,228nm,18.4s,MS4.3,baz=98,slow=39
ARCES ARCESS Array B 60.09 337 P **P** **07 31 02.7 -0.5**
ARCES LR LR 08 00 04.3
SUW Suwalki 60.27 319 *e*P **P** **07 31 04.2 -0.4**
SUW MLR MLR 07 56 23.0
comp=Z,300nm,29.8s,MS4.3
SUW Suwalki 60.27 319 *e*P **P** **07 31 03.9 -0.7**
SUW pmax pmax
comp=Z,47nm,0.8s,mb5.6
SUW Suwalki 60.27 319 *e*P **P** **07 31 03.9 -0.7**
comp=Z,47nm,0.8s,mb5.6
PMG Port Moresby 60.33 118 P **P** **07 31 05.5 0.0**
comp=Z,12nm,0.7s,mb5.0,baz=133,slow=1.9,SNR=4.0
PMG Port Moresby 60.33 118 *e*P **P** **07 31 04.3 -1.2**
PMG pmax pmax
comp=Z,11nm,0.7s
PMG Port Moresby 60.33 118 *e*P **P** **07 31 04.3 -1.2**
comp=Z,11nm,0.7s,mb5.0
KWP Kalwaria 60.84 314 *e*P **P** **07 31 08.4 -0.1**
KWP MLR MLR 07 59 52.5
comp=Z,400nm,23.1s,MS4.5
KWP Kalwaria 60.84 314 *e*P **P** **07 31 08.0 -0.5**
KWP pmax pmax
comp=Z,38nm,0.8s,mb5.6
KWP Kalwaria 60.84 314 *e*P **P** **07 31 08.0 -0.5**
comp=Z,38nm,0.8s,mb5.6
NWAO Narrogin (SRO) 60.97 160 LR LR 07 57 32.1
comp=Z,352nm,19.0s,MS4.5,baz=145,slow=36
NWAO Narrogin (SRO) 60.97 160 *e*P **P** **07 31 08.6 -1.1**
NWAO pmax pmax
comp=Z,20nm,1.1s
NWAO Narrogin (SRO) 60.97 160 *e*P **P** **07 31 08.6 -1.1**
comp=Z,20nm,1.1s,mb5.2
KOLS Kolonicke sedl 61.19 314 *e*P **P** **07 31 09.1 -1.8**
KOLS *ep*P pP 07 31 14.6 -0.4
KOLS *e* 07 33 13.4
IDI Anoyia 61.30 298 P **P** **07 31 11.3 -0.5**
comp=Z,12nm,0.9s,mb5.0,baz=6.5,slow=6.2,SNR=6.1
VTS Vitosha 61.32 306 ⇓P **P** **07 31 15.5 +3.6**
STHS Stebnicka Huta 61.81 314 *e*P **P** **07 31 14.6 -0.5**
BZS Buzias 62.02 310 ⇓P **P** **07 31 16.1 -0.5**
NIE Niedzica 62.41 314 *e*P **P** **07 31 20.0 +0.9**
KECS Kecovo 62.41 313 *e*P **P** **07 31 16.5 -2.7**
KECS *ep*P pP 07 31 20.7 -2.6
KMBO Kilima Mbogo 62.54 255 P **P** **07 31 22.7 +2.2**
comp=Z,1.3nm,0.5s,mb4.3,baz=54,slow=17,SNR=3.4
KMBO LR LR 07 58 41.1
comp=Z,132nm,20.9s,MS4.1,baz=95,slow=36
OJC Ojcow 62.65 315 *e*P **P** **07 31 18.4 -2.3**
PSZ Piszkesteto 62.88 313 *e*P **P** **07 31 21.7 -0.5**
PSZ pmax pmax
comp=Z,20nm,1.3s,mb5.1
PSZ Piszkesteto 62.88 313 *e*P **P** **07 31 21.7 -0.5**
comp=Z,20nm,1.3s,mb5.1
LIKS Likavka 63.24 314 *e*P **P** **07 31 22.7 -1.9**
LIKS *e* 07 31 37.9
VYHS Vyhne 63.50 314 *ep*P pP 07 31 28.7 -1.8
OKC Ostrava-Krasne 63.75 315 *e*P **P** **07 31 26.4 -1.5**
SRO Srobarova 63.95 313 *e*P **P** **07 31 26.4 -2.9**
MORC Moravsky Berou 64.15 315 *e*P **P** **07 31 30.5 0.0**
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MORC Moravsky Berou 64.15 315 *e*P **P** **07 31 30.5 0.0**
comp=Z,6.8nm,0.8s,mb4.7
KSP Ksiaz 64.78 316 *e*P **P** **07 31 34.3 -0.3**
KSP MLR MLR 08 00 29.4
comp=Z,600nm,27.6s,MS4.6
KSP Ksiaz 64.78 316 *e*P **P** **07 31 34.1 -0.5**
KSP *ep*P pP 07 31 38.1 -0.7
VRAC Vranov 64.83 315 ⇑P **P** **07 31 35.2 +0.2**
DPC Dobruska-Polom 64.84 316 *e*P **P** **07 31 35.3 +0.3**
UPC Upice 65.01 316 *e*P **P** **07 31 36.2 +0.1**
TREC Trest 65.55 315 *e*P **P** **07 31 39.3 -0.3**
ARSA Arzberg 65.91 313 ⇑*i*P **P** **07 31 41.7 -0.2**
comp=Z,3.6nm,0.8s,mb4.5
ARSA Arzberg 65.91 313 ⇑P **P** **07 31 41.7 -0.2**
comp=Z,3.6nm,0.8s,mb4.5
PVCC Panska Ves 65.91 316 *e*P **P** **07 31 42.4 +0.5**
PRU Pruhonice 66.03 316 *e*P **P** **07 31 43.0 +0.4**
PRU AMS AMS 08 03 00.0
comp=Z,300nm,15.3s
NB2 NORSAR Subarra 66.06 328 P **P** **07 31 41.7 -1.0**
comp=Z,10nm,0.7s,mb5.0,baz=82,slow=6.5
NB2 NORSAR Subarra 66.06 328 P **P** **07 31 41.7 -1.0**
NB2 pmax pmax
comp=Z,11nm,0.7s,mb5.0
NOA NORSAR Array B 66.06 328 P **P** **07 31 41.4 -1.3**
comp=Z,9.5nm,0.6s,mb5.0,baz=82,slow=6.4,SNR=32
NOA LR LR 08 03 14.8
comp=Z,364nm,18.1s,MS4.6,baz=75,slow=38
BRG Berggiesshubel 66.24 317 *i* P **P** **07 31 43.5 -0.5**
BRG *e* 07 32 01.2
BRG pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
BRG MLR MLR
comp=N,469nm,27.8s
BRG MLR MLR
comp=E,240nm,20.5s
BRG MLR MLR
comp=Z,393nm,16.4s
BRG Berggiesshubel 66.24 317 *i* P **P** **07 31 43.5 -0.4**
comp=Z,8.2nm,0.6s,mb4.9
BRG *i* pP 07 31 47.2 -0.9
BRG *e* 07 32 01.2
BRG LR LR
comp=Z,390nm,16.4s,MS4.7
NAO01 NORSAR Array S 66.25 328 *e*P **P** **07 31 42.9 -1.0**
comp=Z,9.0nm,0.8s,mb4.8
LEGS Legarje 66.31 311 *e*P **P** **07 31 45.0 +0.5**
MOA Moln 66.62 313 ⇓*i*P **P** **07 31 46.3 -0.2**
comp=Z,7.7nm,0.8s,mb4.8
VISS Visnje 66.67 311 *e*P **P** **07 31 47.3 +0.5**
OBKA Obir 66.71 312 ⇑*i*P **P** **07 31 47.0 -0.1**
comp=Z,7.6nm,0.8s,mb4.8
CLL Collm 66.74 317 P **P** **07 31 46.4 -0.8**
comp=Z,logA/T=0.9,mb4.7
CLL *e**PP sP 07 32 03.0 +10
CLL *e*S S 07 40 36.0 -1.2
CLL *e*PS PS 07 41 04.0 +2.7
CLL Collm 66.74 317 *i* P **P** **07 31 46.4 -0.8**
CLL *e*S S 07 40 36.0 -1.2
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
CLL Collm 66.74 317 *i* P **P** **07 31 46.4 -0.8**
comp=Z,9.0nm,1.1s,mb4.7
CLL *e*S S 07 40 36.0 -1.2
GEC2 GERESS Array S 66.79 315 *e*P **P** **07 31 47.6 +0.1**
GEC2 pmax pmax
comp=Z,16nm,1.1s,mb5.0
GEC2 GERESS Array S 66.79 315 *e*P **P** **07 31 47.6 +0.1**
comp=Z,16nm,1.1s,mb5.0
GERES GERESS Array B 66.79 315 P **P** **07 31 47.1 -0.4**
comp=Z,7.3nm,0.7s,mb4.8,baz=71,slow=6.1,SNR=42
GERES LR LR 08 04 01.3
comp=Z,314nm,20.7s,MS4.5,baz=87,slow=39
KHC Kasperske Hory 66.81 315 *e*P **P** **07 31 47.3 -0.4**
CEY Cerknica 66.96 311 *i* P **P** **07 31 49.0 +0.3**
WET Wettzell 67.26 315 *e*P **P** **07 31 50.6 +0.1**
WET pmax pmax
comp=Z,11nm,1.0s,mb4.8
WET Wettzell 67.26 315 *e*P **P** **07 31 50.6 +0.1**
comp=Z,11nm,1.0s,mb4.8
NKC Novy Kostel 67.30 316 *e*P **P** **07 31 51.1 +0.3**
KBA Koelnbreinsper 67.40 313 ⇑*i*P **P** **07 31 50.9 -0.5**
comp=Z,7.0nm,0.7s,mb4.8
KBA Koelnbreinsper 67.40 313 ⇑P **P** **07 31 50.9 -0.5**
KBA pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
KBA Koelnbreinsper 67.40 313 ⇑P **P** **07 31 50.9 -0.5**
comp=Z,7.0nm,0.7s,mb4.8
MOX Moxa 67.73 317 *i* P **P** **07 31 56.9 +3.4**
comp=Z,logA/T=1.1,mb4.9
MOX L 08 06 23.0
MOX Moxa 67.73 317 *e*P **P** **07 31 56.9 +3.4**
MOX pmax pmax
comp=Z,16nm,1.4s,mb4.9
MOX Moxa 67.73 317 *e*P **P** **07 31 56.9 +3.4**
comp=Z,16nm,1.4s,mb4.9
BSEG Bad Segeberg 67.81 320 *e*P **P** **07 31 54.2 +0.3**
GRA1 Grafenberg Arr 68.19 316 *e*P **P** **07 31 56.8 +0.4**
comp=Z,40nm,1.5s,mb5.2
GRA1 *ep*P pP 07 32 00.4 -0.1

GRA1 LR LR
comp=Z,200nm,20.9s,MS4.3
GRF Grafenberg Arr 68.19 316 *e*P **P 07 31 56.8 +0.4**
GRF pmax pmax
comp=Z,40nm,1.5s,mb5.2
GRF MLR MLR
comp=Z,200nm,20.9s,MS4.3
GRF Grafenberg Arr 68.19 316 *e*P **P 07 31 56.8 +0.4**
GRF pmax pmax
comp=Z,40nm,1.5s,mb5.2
GRF MLR MLR
comp=Z,200nm,20.9s,MS4.3
GRF Grafenberg Arr 68.19 316 *e*P **P 07 31 56.8 +0.4**
comp=Z,40nm,1.5s,mb5.2
GRF *e*pP pP 07 32 00.4 -0.1
GRF LR LR
comp=Z,200nm,20.9s,MS4.3
CLZ Clausthal 68.23 318 *e*P **P 07 31 56.9 +0.3**
CLZ pmax pmax
comp=Z,22nm,0.9s,mb5.2
CLZ Clausthal 68.23 318 *e*P **P 07 31 56.9 +0.3**
comp=Z,22nm,0.9s,mb5.2
WATA Walderalm 68.51 313⇑*i*P **P 07 31 58.4 0.0**
comp=Z,4.2nm,0.8s,mb4.4
WATA Walderalm 68.51 313 ⇑P **P 07 31 58.4 0.0**
WATA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SQTA Sankt Quirin 68.78 313⇓*i*P **P 07 31 58.8 -1.2**
comp=Z,5.4nm,1.0s,mb4.4
SQTA Sankt Quirin 68.78 313 ⇓P **P 07 31 58.8 -1.3**
SQTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MOTA Moosalm 68.82 313⇑*i*P **P 07 31 59.7 -0.6**
comp=Z,2.9nm,0.7s,mb4.3
MOTA Moosalm 68.82 313 ⇑P **P 07 31 59.7 -0.6**
MOTA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MOTA Moosalm 68.82 313 ⇑P **P 07 31 59.7 -0.6**
comp=Z,2.9nm,0.7s,mb4.3
DAVA Damuels 69.64 314⇓*i*P **P 07 32 05.1 -0.2**
comp=Z,10nm,0.7s,mb4.9
DAVA Damuels 69.64 314 ⇓P **P 07 32 05.1 -0.2**
comp=Z,10nm,0.6s,mb4.9
TNS Taunus Mts 69.80 317 *e*P **P 07 32 06.4 +0.2**
TNS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TNS Taunus Mts 69.80 317 *e*P **P 07 32 06.4 +0.2**
comp=Z,9.0nm,1.0s,mb4.7
HNR Honiara 70.93 110 LR LR 07 59 19.8
comp=Z,111nm,20.4s,MS4.1,baz=190,slow=32
HNR Honiara 70.93 110 *e*P **P 07 32 11.6 -2.1**
HNR pmax pmax
comp=Z,33nm,0.6s,mb5.4
HNR Honiara 70.93 110 *e*P **P 07 32 11.6 -2.2**
comp=Z,33nm,0.6s,mb5.5
CDF Champ du Feu 71.03 315⇑*i*P **P 07 32 13.7 0.0**
comp=Z,10.0nm,0.6s,mb4.6
CDF Champ du Feu 71.03 315⇑*i*P **P 07 32 13.7 0.0**
CDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
STKA Stephens Creek 71.28 140 P **P 07 32 17.4 +1.8**
comp=Z,3.6nm,0.8s,mb4.4,baz=348,slow=7.2,SNR=9.3
STKA LR LR 08 04 53.3
comp=Z,410nm,21.2s,MS4.7,baz=114,slow=37
STKA Stephens Creek 71.28 140 *e*P **P 07 32 14.5 -1.1**
DAG Danmarks Havn 71.30 347⇓*i*P **P 07 32 17.3 +2.4**
comp=Z,5.9nm,0.9s,mb4.5
DAG Danmarks Havn 71.30 347⇓*i*P **P 07 32 17.3 +2.4**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WLF Walferdange 71.38 317 *e*P **P 07 32 16.6 +0.8**
WLF pmax pmax
comp=Z,36nm,1.0s,mb5.3
WLF Walferdange 71.38 317 *e*P **P 07 32 16.6 +0.8**
comp=Z,36nm,1.0s,mb5.2
HINF Hinteralfeld 71.47 315⇑*i*P **P 07 32 16.0 -0.4**
PGF Pioggiola 71.55 309⇑*i*P **P 07 32 17.3 +0.3**
comp=Z,43nm,0.8s,mb5.1
PGF Pioggiola 71.55 309⇑*i*P **P 07 32 17.3 +0.3**
PGF pmax pmax
comp=Z,21nm,0.8s,mb5.1
HAU Haudompre 71.74 315⇑*i*P **P 07 32 17.9 -0.1**
HAU *e*R
comp=Z,271nm,21.2s
GIVF Givet 72.07 317⇑*i*P **P 07 32 19.5 -0.5**
LPG La Plagne 72.22 312⇑*i*P **P 07 32 20.6 -0.3**
comp=Z,18nm,0.6s,mb4.9
LPG La Plagne 72.22 312⇑*i*P **P 07 32 20.6 -0.3**
LPG pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LPL La Plagne 72.23 312⇑*i*P **P 07 32 20.5 -0.5**
comp=Z,23nm,0.5s,mb5.0
LPL La Plagne 72.23 312⇑*i*P **P 07 32 20.5 -0.5**
LPL pmax pmax
comp=Z,12nm,0.5s,mb5.1
CABF La Chapelle 72.33 314⇑*i*P **P 07 32 21.0 -0.5**
MEZF Maizieres J'vi 72.42 316⇑*i*P **P 07 32 22.3 +0.3**
comp=Z,22nm,0.6s,mb5.0
MBDF Montbardon 72.44 312⇑*i*P **P 07 32 22.0 -0.3**
comp=Z,22nm,0.6s,mb4.9
MBDF Montbardon 72.44 312⇑*i*P **P 07 32 22.0 -0.3**
MBDF pmax pmax
comp=Z,11nm,0.6s,mb5.0
ORIF Oris-en-Rattie 72.99 312⇑*i*P **P 07 32 25.2 -0.3**
comp=Z,12nm,0.7s,mb4.7
ORIF *e*R
comp=Z,329nm,23.0s
LOR Lormes 73.57 315⇑*i*P **P 07 32 28.4 -0.4**
comp=Z,6.7nm,0.6s,mb4.5
LOR Lormes 73.57 315⇑*i*P **P 07 32 28.4 -0.4**
LOR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SMF Signal de Mont 73.78 314⇑*i*P **P 07 32 30.0 0.0**
comp=Z,13nm,0.6s,mb4.8
SMF Signal de Mont 73.78 314⇑*i*P **P 07 32 30.0 0.0**
SMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
VIVF Saint-Julien-l 73.82 312⇑*i*P **P 07 32 30.3 0.0**
comp=Z,7.6nm,0.6s,mb4.5
VIVF Saint-Julien-l 73.82 312⇑*i*P **P 07 32 30.3 0.0**
VIVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SSF Saint Saulge 73.86 315⇑*i*P **P 07 32 30.5 0.0**
SSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SSF Saint Saulge 73.86 315⇑*i*P **P 07 32 30.5 0.0**
comp=Z,7.1nm,0.6s,mb4.8
AVF Avril sur Loir 74.05 314⇑*i*P **P 07 32 31.5 -0.1**
comp=Z,16nm,0.8s,mb4.7
AVF Avril sur Loir 74.05 314⇑*i*P **P 07 32 31.5 -0.1**
AVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
HYF Humbligny 74.35 315⇑*i*P **P 07 32 33.9 +0.6**
BGF Bois d'Agland 74.46 314⇑*i*P **P 07 32 33.9 -0.1**
comp=Z,7.2nm,0.6s,mb4.5
BGF Bois d'Agland 74.46 314⇑*i*P **P 07 32 33.9 -0.1**
BGF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LASF Ste Croix 74.63 312⇑*i*P **P 07 32 35.3 +0.3**
comp=Z,14nm,0.7s,mb4.7
TCF Toulx Ste Croi 74.97 314⇑*i*P **P 07 32 37.3 +0.4**
comp=Z,14nm,0.6s,mb4.8
TCF Toulx Ste Croi 74.97 314⇑*i*P **P 07 32 37.3 +0.4**
TCF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
CAF Calviac 75.54 313⇑*i*P **P 07 32 40.8 +0.6**
comp=Z,8.6nm,0.6s,mb4.5
CAF Calviac 75.54 313⇑*i*P **P 07 32 40.8 +0.6**
CAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
RJF Les Rejaudoux 75.77 313⇑*i*P **P 07 32 42.2 +0.7**
comp=Z,14nm,0.7s,mb4.7
RJF Les Rejaudoux 75.77 313⇑*i*P **P 07 32 42.2 +0.7**
RJF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MTLF Montolieu 76.00 311⇑*i*P **P 07 32 43.0 +0.1**
comp=Z,23nm,0.9s,mb4.8
MTLF Montolieu 76.00 311⇑*i*P **P 07 32 43.0 +0.1**
MTLF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRR Gorron 76.16 317⇑*i*P **P 07 32 43.8 +0.2**
comp=Z,17nm,0.9s,mb4.7
GRR Gorron 76.16 317⇑*i*P **P 07 32 43.8 +0.2**
GRR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LFF La Frestale 76.41 313⇑*i*P **P 07 32 45.8 +0.7**

SGMF Saint Gilles 77.26 317⇑*i*P **P 07 32 50.4 +0.6**
comp=Z,9.1nm,0.7s,mb4.5
SGMF Saint Gilles 77.26 317⇑*i*P **P 07 32 50.4 +0.6**
SGMF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LSZ Lusaka 77.33 246 *e*P **P 07 32 50.1 -0.7**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LSZ Lusaka 77.33 246 *e*P **P 07 32 50.1 -0.7**
comp=Z,1.9nm,0.6s,mb4.2
ROSF Rostrenen 77.66 318⇑*i*P **P 07 32 52.7 +0.7**
comp=Z,9.7nm,0.6s,mb4.6
ROSF Rostrenen 77.66 318⇑*i*P **P 07 32 52.7 +0.7**
ROSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
COLA College 77.92 23 P **P 07 32 52.6 -0.5**
COLA pmax pmax
comp=Z,11nm,1.2s,mb4.7
COLA College 77.92 23 P **P 07 32 52.5 -0.5**
comp=Z,11nm,1.2s,mb4.7
ETSF Etsaut 78.05 312⇑*i*P **P 07 32 55.0 +0.8**
comp=Z,19nm,0.6s,mb4.9
ETSF Etsaut 78.05 312⇑*i*P **P 07 32 55.0 +0.8**
ETSF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
MCK McKinley 78.15 24 P **P 07 32 53.5 -0.9**
MCK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MCK McKinley 78.15 24 P **P 07 32 53.5 -0.9**
comp=Z,5.1nm,1.1s,mb4.4
ILAR Eielson Array 78.32 23 P **P 07 32 55.8 +0.5**
comp=Z,2.2nm,1.1s,mb4.0,baz=305,slow=4.5,SNR=12
ILAR PP PP 07 35 54.0 -0.5
comp=Z,1.0nm,0.8s,baz=302,slow=6.3,SNR=6.4
ILAR LR LR 08 10 52.3
comp=Z,366nm,18.1s,MS4.8,baz=158,slow=38
SJPF Ste Jean 78.42 312⇑*i*P **P 07 32 57.2 +0.9**
comp=Z,8.7nm,0.6s,mb4.5
SJPF Ste Jean 78.42 312⇑*i*P **P 07 32 57.2 +0.9**
SJPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
INK Inuvik 80.16 17 P **P 07 33 05.3 +0.1**
comp=Z,1.2nm,0.5s,mb4.1,baz=302,slow=4.3,SNR=17
ESDC Sonseca Array 81.71 310 P **P 07 33 14.7 +0.8**
comp=Z,0.7nm,0.5s,mb3.9,baz=64,slow=6.2,SNR=5.0
LBTB Lobatse 84.36 239 *e*P **P 07 33 27.0 -0.9**
LBTB pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
LBTB Lobatse 84.36 239 *e*P **P 07 33 27.0 -0.9**
comp=Z,6.7nm,1.0s,mb4.7
YKA Yellowknife Ar 89.47 14 P **P 07 33 52.3 +0.5**
comp=Z,0.1nm,0.5s,baz=336,slow=4.7,SNR=5.9
YKA PP PP 07 37 17.3 -8.3
comp=Z,0.2nm,0.6s,baz=339,slow=6.9,SNR=3.8
YKA LR LR 08 17 33.3
comp=Z,196nm,19.7s,MS4.5,slow=38
YKA Yellowknife Ar 89.47 14 *i* P **P 07 33 52.2 +0.3**
YKA Yellowknife Ar 89.47 14 P **P 07 33 52.4 +0.5**
YKA PP PP 07 37 17.3 -8.3
YKA LR LR 08 17 33.3
MAW Mawson 95.54 192 LR LR 08 11 46.4
comp=Z,112nm,21.0s,MS4.3,baz=236,slow=32
DBIC Dimbokro 97.08 281 LR LR 08 20 30.7
comp=Z,148nm,21.3s,MS4.4,baz=52,slow=37
DBIC Dimbokro 97.08 281 P **P 07 34 25.7 -2.2**
DBIC pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 97.08 281 P **P 07 34 25.7 -2.3**
comp=Z,1.9nm,0.8s,mb4.6
SCHQ Scheffer ville 99.20 350 LR LR 08 23 54.2
comp=Z,143nm,19.9s,MS4.5,baz=18,slow=38
TXAR Lajitas Array 122.78 21 PKP PKPdf 07 39 50.9 -3.0
comp=Z,0.2nm,0.5s,baz=39,slow=1.6,SNR=5.8
JCT Junction City 122.81 16 *e*PKIKP PKPdf 07 39 51.3 -2.6
SDV Santo Domingo 143.97 337 *e*PKPdf PKPdf 07 40 28.2 -5.5
ROSC El Rosal 148.95 341 PKPbc PKPdf 07 40 44.7 +2.6
comp=Z,9.4nm,0.7s,baz=267,slow=0.8,SNR=14

CSEM ***29*** *07:39:23.5±0.8,39.13N×28.58W,h5km,ML2.0,Error ellipse: s-maj=24.3km s-min=7.6km az=142.0,After PDA*
PDA ***29*** *07:39:23.5±0.6,39.13N×28.58W,h5km,MD3.2, ML2.0, Error ellipse: s-maj=4.2km s-min=1.9km az=131.0*
SVSA 29 07:39:23.5±0.6,39.13N×28.58W,h5km,MD3.2,ML2.0, Error ellipse: s-maj=4.2km s-min=1.9km az=131.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STGR	**Santa Cruz**	**0.45**	**96**	*e*S		Sg 07 39 38.5	-0.1
	15nm,0.1s						
PGRA	**Graciosa**	**0.47**	**102**	*e*P		Pg 07 39 32.0	-1.0
PGRA				*e*S		Sg 07 39 38.0	-1.4
	44nm,0.3s						
ROSA	**Rosais**	**0.49**	**147**	*e*P		Pg 07 39 32.0	-1.3
ROSA				*e*S		Sg 07 39 38.2	-1.6
PCED	**Cedros**	**0.51**	**191**	*e*P		Pg 07 39 32.3	-1.4
PCED				*e*S		Sg 07 39 39.0	-1.6
	46nm,0.2s						
CALA	**Caldeira**	**0.56**	**190**	*e*S		Sg 07 39 40.4	-1.7
HOR	**Horta**	**0.60**	**184**	*e*S		Sg 07 39 41.3	-2.4
PMAN	**Manadas**	**0.63**	**142**	*e*P		Pg 07 39 33.8	-2.2
PMAN				*e*S		Sg 07 39 42.0	-2.4
	19nm,0.1s						
PICO	**Pico**	**0.64**	**169**	*i* P		Pg 07 39 34.4	-1.9
PICO				*e*S		Sg 07 39 42.7	-2.1

BJI ***29*** *07:41:45.8,0.78S×125.08E,h86km,mB5.2,mb5.0,Ms4.6, Msz4.2*
MOS ***29*** *07:41:46.4±1.1,0.10S×124.83E,h45km,mb5.2/14, Error ellipse: s-maj=14.8km s-min=7.9km az=108.2*
IDC ***29*** *07:41:48.0±2.5,0.10S×124.83E,h43km±22km, mb4.6/14, mb1 4.6/14,mb1mx4.5/17,mbtmp4.8/14,MS3.9/3, Ms1 3.9/3,ms1mx3.3/19, Error ellipse: s-maj=24.9km s-min=11.1km az=67.0*
HRVD ***29*** *07:41:52.4±0.6,0.42S×124.85E,h55km±2km, MW4.9/45, Centroid moment Tensor Solution. LP body waves: s24,c30;Mantle waves: s45,c56; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.19±.27; Mθθ-1.73±.21; Mϕϕ-0.45±.29; Mrθ-0.07±.11; Mθϕ-1.60±.13; Mϕr1.50±.16; Best double couple: M0 2.969×10^16^ NP1:ϕ1261°, δ43°, λ133°. NP2:ϕ330°, δ60°, λ58°. Principal axes: T 2.99, Plg61°, Azm250°; N -.04, Plg27°, Azm47°; P -2.948, Plg10°, Azm142°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *07:41:52.4±1.1,0.15S×124.80E,h86km±10km, mb5.0/24 Error ellipse: s-maj=9.8km s-min=6.3km az=73.0*
ISC 29 07:41:51.3±1.0,0.11S±0.05×124.97E±0.06,h90km±9km, h92km±2.7km:pP-P,n112,σ1s19/111,mb4.9/51,6C-5D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**5.20**	**261**	P	**P**	**07 43 08.9**	**+0.8**
	753nm,1.1s						
DAV	**Davao City (W)**	**7.16**	**5**	*e*P	**P**	**07 43 38.0**	**+2.8**
DAV	**Davao City (W)**	**7.16**	**5**	*e*P	**P**	**07 43 36.6**	**+1.4**
KKM	**Kota Kinabalu**	**10.67**	**305**	*e*P	**P**	**07 44 21.2**	**-1.6**
KSM	**Kuching**	**14.75**	**276**	*e*P	**P**	**07 45 18.2**	**+1.6**
BJI	**Banjamegara**	**16.83**	**244**	P	**P**	**07 45 44.7**	**+2.0**
	95nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.89**	**178**	*e*P	**P**	**07 45 56.9**	**+1.0**
	12nm,0.8s						
LEM	**Lembang**	**18.55**	**249**	P	**P**	**07 46 04.8**	**+1.2**
	125nm,1.1s						
WRAB	**Tennant Creek**	**21.74**	**156**	*i* P	**P**	**07 46 36.3**	**-0.4**
WRAB	**Tennant Creek**	**21.74**	**156**	*e*P	**P**	**07 46 35.9**	**-0.9**
	16nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**21.74**	**156**	P	**P**	**07 46 36.1**	**-0.7**
	5.1nm,0.5s,mb4.1,baz=338,slow=10,SNR=24						
WRA				S	**S**	**07 50 35.0**	**+8.4**
	5.8nm,1.1s,baz=332,slow=16,SNR=7.7						
WRA				ScP		07 54 09.8	
	1.0nm,1.1s,baz=1.2,slow=3.7,SNR=4.6						
WB2	**Warramunga Arr**	**21.75**	**156**	*i*P	**P**	**07 46 36.0**	**-0.8**
PPI	**Padang Panjang**	**24.58**	**269**	P	**P**	**07 47 05.5**	**+1.0**
	37nm,1.0s,mb4.8						
KULM	**Kulim**	**24.87**	**283**	*e*P	**P**	**07 47 06.3**	**-1.0**
YHNB	**Yeheng**	**24.88**	**352**	P	**P**	**07 47 03.1**	**-4.2**
SNG	**Songkhla**	**25.35**	**287**	P	**P**	**07 47 12.0**	**+0.2**
PSI	**Prapat**	**26.20**	**277**	P	**P**	**07 47 17.6**	**-2.1**

21nm,1.2s,mb4.5,baz=62,slow=2.5,SNR=6.4
SSE Sheshan 31.24 354 P **P 07 48 07.0 +2.3**
SSE AMB AMB
comp=Z,20nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,120nm,5.1s
CHG Chiang Mai 31.73 308⇓*i*P **P 07 48 09.2 +0.2**
comp=Z,14nm,0.8s,mb4.8
GYA Guiyang 31.76 328⇑*i*P **P 07 48 10.8 +1.5**
GYA AP pP 07 48 33.0 +2.9
GYA XP sP 07 48 44.5 +3.7
GYA PP PP 07 49 20.8 +3.8
GYA S **S 07 53 13.8 +2.3**
GYA XS 07 53 52.5
GYA SCP 07 54 32.0
GYA SS SS 07 55 22.5 +15
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,3.0s
GYA LR LR
comp=N,570nm,17.2s
GYA LR LR
comp=E,610nm,17.9s
GYA LR LR
comp=Z,490nm,18.0s
NJ2 Nanjing 32.51 350 *e*P **P 07 48 16.3 +0.6**
NJ2 AP pP 07 48 38.5 +1.9
NJ2 XP sP 07 48 50.0 +2.6
NJ2 PP PP 07 49 28.5 +2.0
NJ2 S **S 07 53 24.0 +1.0**
NJ2 XS 07 54 03.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,190nm,4.3s
NJ2 LR LR
comp=N,430nm,15.6s
NJ2 LR LR
comp=E,380nm,20.9s
NJ2 LR LR
comp=Z,240nm,16.4s
KMI Kunming 33.04 321 P **P 07 48 21.3 +0.9**
KMI AP pP 07 48 42.0 +0.6
KMI PP PP 07 49 34.3 +0.8
KMI S **S 07 53 32.0 +0.7**
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
KMI AMB AMB
comp=Z,130nm,3.7s
KMI LR LR
comp=N,200nm,11.6s
KMI LR LR
comp=E,160nm,13.1s
KMI LR LR
comp=Z,190nm,20.2s
NWAO Narrogin (SRO) 33.45 192 *e*P **P 07 48 20.7 -3.1**
JNU Nakatsue 33.52 9 P **P 07 48 23.3 -1.2**
comp=Z,20nm,1.0s,mb4.9,baz=188,slow=5.5,SNR=6.6
ENH Enshi 33.62 335 *e*P **P 07 48 25.0 -0.3**
comp=Z,12nm,0.8s,mb4.8
STKA Stephens Creek 35.29 155⇓*i*P **P 07 48 40.7 +1.1**
comp=Z,6.6nm,0.5s,mb4.7
STKA Stephens Creek 35.29 155 P **P 07 48 40.9 +1.3**
comp=Z,7.2nm,0.5s,mb4.8,baz=328,slow=7.1,SNR=38
CD2 Chengdu 36.84 329 P **P 07 48 53.8 +1.1**
CD2 AP pP 07 49 16.3 +2.3
CD2 XP sP 07 49 28.0 +3.3
CD2 PP PP 07 50 23.0 +2.8
CD2 S **S 07 54 31.5 +1.7**
CD2 XS 07 55 10.5
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,150nm,5.8s
CD2 LR LR
comp=E,110nm,13.8s
CD2 LR LR
comp=Z,130nm,18.0s
XAN Xi'an 37.16 338 P **P 07 48 54.0 -1.3**
KS15 Wonju Array Si 37.46 4 *e*P **P 07 48 59.1 +1.3**
MJAR Matsushiro Arr 38.48 17 P **P 07 49 06.3 0.0**
comp=Z,9.0nm,0.8s,mb4.7,baz=192,slow=8.4,SNR=13
MAJO Matsushiro 38.48 17 *e*P **P 07 49 05.0 -1.2**
MAJO pmax pmax
comp=Z,14nm,0.9s,mb4.8
MAJO Matsushiro 38.48 17 *e*P **P 07 49 05.0 -1.3**
comp=Z,14nm,0.9s,mb4.8
MAT Matsushiro 38.48 17 P **P 07 49 05.9 -0.3**
MAT Matsushiro 38.48 17 *e*P **P 07 49 06.0 -0.2**
MAT pmax pmax
comp=Z,14nm,1.0s,mb4.8
MAT Matsushiro 38.48 17 *e*P **P 07 49 06.0 -0.2**
comp=Z,14nm,1.0s,mb4.8
LZH Lanzhou 41.02 334 *e*P **P 07 49 28.8 +1.5**
LZH AP pP 07 49 49.8 +1.1
LZH XP sP 07 49 58.0 -1.3
LZH PP PP 07 51 09.0 +2.7
LZH *e*S **S 07 55 32.0 -0.6**
LZH XS 07 56 09.0
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,140nm,5.0s
LZH LR LR
comp=E,470nm,14.0s
LZH LR LR
comp=Z,750nm,15.0s
CN2 Changchun 43.72 0 *e*P **P 07 49 53.3 +4.0**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CN2 AMB AMB
comp=Z,400nm,7.0s
CN2 LR LR
comp=N,500nm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=Z,400nm,17.0s
LSA Lhasa 43.79 316 P **P 07 49 50.5 +0.5**
LSA Lhasa 43.79 316 *e*P **P 07 49 50.6 +0.6**
LSA pmax pmax
comp=Z,19nm,0.9s,mb4.8
LSA Lhasa 43.79 316 *e*P **P 07 49 50.6 +0.5**
comp=Z,19nm,0.9s,mb4.8
MDJ Mudanjiang 44.72 5 P **P 07 49 58.0 +0.7**
MDJ XP sP 07 50 27.0 -2.3
MDJ PP PP 07 51 45.5 +1.3
MDJ S **S 07 56 29.0 +2.5**
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
MDJ AMB AMB
comp=Z,260nm,14.8s
MDJ LR LR
comp=N,80nm,22.8s
MDJ LR LR
comp=E,50nm,21.3s
MDJ LR LR
comp=Z,100nm,24.3s
MDJ Mudanjiang 44.72 5 *e*P **P 07 49 57.9 +0.6**
comp=Z,14nm,0.8s,mb4.8
GTA Gaotai 45.57 333 *e*P **P 07 50 04.0 -0.1**
GTA AP pP 07 50 24.0 -1.8
GTA XP sP 07 50 32.5 -3.6
GTA PCP PcP 07 51 43.0 +1.3
GTA PP PP 07 51 51.3 -1.4
GTA PCS 07 55 35.3
GTA S **S 07 56 40.8 +2.0**
GTA SS SS 07 59 58.5 +2.8
GTA AMB AMB
comp=Z,20nm,1.3s,mb4.7
GTA AMB AMB
comp=Z,190nm,6.8s
GTA LR LR
comp=N,100nm,16.3s
GTA LR LR
comp=E,120nm,17.5s
GTA LR LR
comp=Z,150nm,13.3s
JIRN Jiri 46.32 310 *e*P **P 07 50 09.5 -0.7**
comp=Z,62nm,0.9s,mb5.4
GUN Gumba 46.69 310 *e*P **P 07 50 12.4 -0.7**
comp=Z,94nm,0.9s,mb5.5
PKI Pulchoki 46.88 309 *e*P **P 07 50 13.5 -1.1**
comp=Z,36nm,0.9s,mb5.1

PKI **Pulchoki** 46.88 309 *e*P P 07 50 13.5 -1.1
PKI pmax pmax
comp=Z,18nm,0.9s,mb4.8
KKN **Kakani** 47.09 309 *e*P P 07 50 14.8 -1.5
comp=Z,51nm,0.9s,mb5.2
KKN **Kakani** 47.09 309 *e*P P 07 50 14.8 -1.5
KKN pmax pmax
comp=Z,26nm,0.9s,mb5.0
DMN **Daman** 47.14 309 *e*P P 07 50 14.8 -1.8
comp=Z,66nm,0.9s,mb5.3
GKN **Gorkha** 47.69 309 *e*P P 07 50 19.8 -1.2
comp=Z,93nm,1.0s,mb5.6
KOLN **Koldanda** 48.39 308 *e*P P 07 50 25.5 -0.9
comp=Z,81nm,0.9s,mb5.5
HYB **Hyderabad** 48.88 293 *i* P P 07 50 28.5 -1.8
HYB *e*pP pP 07 50 53.5 +1.3
HYB **Hyderabad** 48.88 293 *e*P P 07 50 28.5 -1.8
HIA **Hailar** 49.39 355 *e*P P 07 50 33.2 -0.6
HIA pmax pmax
comp=Z,17nm,0.8s
HIA **Hailar** 49.39 355 *e*P P 07 50 33.2 -0.6
comp=Z,17nm,0.8s,mb5.0
ULN **Ulaanbaatar** 50.26 344 *i* P P 07 50 40.2 -0.3
ULN **Ulaanbaatar** 50.26 344 *e*P P 07 50 39.0 -1.5
SONM **Songino Array** 50.41 344 P P 07 50 41.1 -0.6
comp=Z,11nm,0.9s,mb4.8,baz=152,slow=8.3,SNR=14
SONM PcP PcP 07 51 59.8 +0.8
comp=Z,3.4nm,0.8s,baz=163,slow=4.9,SNR=4.2
WMQ **Urumqi** 54.92 328 P P 07 51 16.0 +0.8
WMQ AP pP 07 51 37.5 -0.1
WMQ XP sP 07 51 47.5 -0.2
WMQ PCP PcP 07 52 17.3 +1.4
WMQ AMB AMB
comp=Z,20nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,140nm,4.6s
WMQ LR LR
comp=N,580nm,21.0s
WMQ LR LR
comp=E,640nm,20.0s
WMQ LR LR
comp=Z,700nm,18.0s
MOY **Mondy** 55.42 342 *e*P P 07 51 20.2 +1.5
CLNS **Chul'man** 56.77 360 *e*P P 07 51 27.2 -1.0
CLNS pmax pmax
comp=Z,17nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.0s
BOD **Bodaibo** 58.41 353 *e*P P 07 51 38.9 -0.8
BOD pmax pmax
comp=Z,17nm,1.2s,mb5.0
MKAR **Makanchi Array** 59.75 327 P P 07 51 47.6 -1.6
comp=Z,18nm,0.5s,mb5.3,baz=120,slow=8.7,SNR=127
MKAR PcP PcP 07 52 35.3 +0.5
comp=Z,4.3nm,0.5s,baz=166,slow=4.1,SNR=6.8
MKAR ScP 07 56 31.1
comp=Z,1.2nm,0.8s,baz=124,slow=4.4,SNR=4.2
MKAR LR LR 08 19 15.0
comp=Z,88nm,18.5s,baz=180,slow=38
YAK **Yakutsk** 62.08 3 *i* P P 07 52 05.1 +0.4
YAK **Yakutsk** 62.08 3 *e*P P 07 52 04.8 +0.1
comp=Z,58nm,0.7s,mb5.7
MA2 **Magadan** 62.83 14 *i* P P 07 52 11.2 +1.5
MA2 **Magadan** 62.83 14 *e*P P 07 52 10.5 +0.8
comp=Z,12nm,0.8s,mb4.9
KURK **Kurchatov** 64.06 329 *c i*P P 07 52 16.2 -1.7
KURK **Kurchatov** 64.06 329 *e*P P 07 52 16.1 -1.8
comp=Z,54nm,0.6s,mb5.6
NVS **Novosibirsk** 64.53 335 *i* P P 07 52 20.0 -0.8
NVS pmax pmax
comp=Z,19nm,0.8s,mb5.0
NVS pmax pmax
comp=N,13nm,0.8s
NVS pmax pmax
comp=E,12nm,0.8s
SEY **Seymchan** 66.14 13 *i* P P 07 52 32.5 +1.4
BRVK **Borovoye** 69.67 328 *e*P P 07 52 51.8 -1.4
BRVK pmax pmax
comp=Z,14nm,0.9s,mb4.8
BRVK **Borovoye** 69.67 328 *e*P P 07 52 51.8 -1.4
comp=Z,14nm,0.9s,mb4.8
ZRNK **Zerenda** 70.30 328 *e*P P 07 52 55.4 -1.6
ZRNK pmax pmax
comp=Z,576nm,0.6s
ZRNK **Zerenda** 70.30 328 *e*P P 07 52 55.4 -1.6
comp=Z,576nm,0.6s
TIXI **Tiksi** 71.69 1 *e*P P 07 53 03.2 -1.8
AKTK **Aktyubinsk** 75.59 323 P P 07 53 27.4 -0.6
AKTO **Aktyubinsk** 75.59 323 P P 07 53 27.4 -0.6
comp=Z,25nm,0.6s,mb5.1,baz=102,slow=6.1,SNR=42
ARU **Arti** 77.25 329 *e*P P 07 53 37.5 +0.3
ATD **Arta Tunnel** 82.30 282 LR LR 08 28 12.9
comp=Z,53nm,20.3s,baz=59,slow=34
GNI **Garni** 82.59 310 *i* P P 07 54 05.4 -0.7
IMA2 **Indian Mountai** 86.58 24 *e*P P 07 54 27.9 +2.6
MALT **Malatya** 87.35 308 *e*P P 07 54 30.6 +0.8
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MALT **Malatya** 87.35 308 *e*P P 07 54 30.6 +0.8
comp=Z,6.3nm,1.0s,mb4.5
KMBO **Kilima Mbogo** 87.72 269 P P 07 54 33.0 +0.8
comp=Z,16nm,0.9s,mb5.0,baz=62,slow=7.1,SNR=31
KMBO LR LR 08 28 50.4
comp=Z,58nm,20.7s,baz=89,slow=32
SYO **Syowa Base** 88.24 201 ||P P 07 54 35.2 +1.9
SYO **Syowa Base** 88.24 201 ||*e*P P 07 54 35.2 +1.9
MCK **McKinley** 88.36 26 P P 07 54 35.2 +1.2
MCK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
MCK **McKinley** 88.36 26 P P 07 54 35.1 +1.2
comp=Z,3.7nm,1.0s,mb4.4
OBN **Obninsk** 89.17 325 ||*e*P P 07 54 38.3 +0.3
OBN pmax pmax
comp=Z,12nm,0.8s,mb5.0
OBN **Obninsk** 89.17 325 P P 07 54 37.3 -0.6
comp=Z,12nm,0.7s,mb5.0
ILAR **Eielson Array** 89.30 25 P P 07 54 38.2 -0.2
comp=Z,0.9nm,0.7s,mb3.9,baz=243,slow=5.0,SNR=13
BRTR **Keskin Array B** 91.10 310 P P 07 54 46.9 -0.6
comp=Z,1.2nm,0.7s,mb4.2,baz=135,slow=7.0,SNR=6.3
BRTR **Keskin Array B** 91.10 310 ||*e*P P 07 54 48.5 +1.1
JOF **Joensuu** 91.77 333 *e*p P 07 54 49.2 -0.7
comp=Z,5.5nm,0.7s,mb4.9
ARCES **ARCESS Array B** 93.42 340 P P 07 54 57.5 +0.1
comp=Z,5.6nm,0.8s,mb4.9,baz=82,slow=6.5,SNR=9.4
AKASG **Malin Array Be** 93.73 321 P P 07 54 58.5 -0.7
comp=Z,3.6nm,0.8s,mb4.7,baz=71,slow=4.4,SNR=11
FINES **FINESS Array B** 94.36 332 P P 07 55 01.7 -0.1
comp=Z,2.4nm,0.7s,mb4.7,baz=63,slow=4.3,SNR=7.5
FINES **FINESS Array B** 94.36 332 ||*e*P P 07 55 03.0 +1.3
FINES **FINESS Array B** 94.36 332 P P 07 55 01.7 -0.1
LSZ **Lusaka** 96.52 255 *e*P P 07 55 13.8 +1.2
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
LSZ **Lusaka** 96.52 255 *e*P P 07 55 13.8 +1.1
comp=Z,2.4nm,0.6s,mb4.8
YKA **Yellowknife Ar** 103.70 24 Pdiff Pdif 07 55 45.6 +1.9
comp=Z,0.3nm,0.9s,baz=300,slow=4.7,SNR=4.2
YKA PKiKP 08 00 03.8
comp=Z,0.2nm,0.5s,baz=300,slow=1.8,SNR=13
PDAR **Pinedale Array** 115.38 42 PKKPbc 08 11 05.7
comp=Z,0.5nm,0.8s,baz=108,slow=4.7,SNR=3.9
ANMO **Albuquerque** 120.88 48 ||PKiKP PKPdf 08 00 39.7 +6.0
SCHQ **Schefferville** 124.60 8 PKP PKPdf 08 00 43.1 +2.8
comp=Z,1.8nm,0.6s,baz=41,slow=16,SNR=6.4
TXAR **Lajitas Array** 125.31 53 PKP PKPdf 08 00 46.4 +3.9
comp=Z,0.6nm,0.8s,baz=218,slow=0.6,SNR=9.4
DBIC **Dimbokro** 129.53 279 PKP PKPdf 08 00 54.4 +3.5
comp=Z,1.1nm,0.4s,baz=190,slow=5.7,SNR=5.1
DBIC **Dimbokro** 129.53 279 *e*PKPdf PKPdf 08 00 52.1 +1.2
JTS **JuntasAbangare** 148.57 70 *e*PKiKP PKPdf 08 01 28.5 +3.4
JTS *e* 08 01 32.5

IDC ***29*** *08:20:53.2±4.7, 34.35N×69.44E, mb3.8/3, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=93.2km s-min=51.5km az=160.0*
NNC ***29*** *08:21:01.7±2.8, 35.14N×69.00E, mb3.9, mpv3.7, Error ellipse: s-maj=41.5km s-min=20.3km az=75.0*
ISC 29 08:20:56.4±4.1, 34.7N±0.2×69.0E±0.2, h10km±31km, n9, σ0.94/10, mb3.7/3, 4C, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.44**	**7**	⇑Pn		P	P	08 23 02.1	+0.4
	1.7nm,0.4s,baz=189,slow=14,SNR=7.6								
KK31				⇑Sn			Sn	08 24 37.9	0.0
	1.1nm,0.3s,baz=192,slow=23,SNR=4.1								
MK31	**Makanchi Array**	**15.66**	**36**	⇑P		P	P	08 24 39.6	+0.8
	1.9nm,1.0s,baz=212,slow=9.1,SNR=6.7								
MKAR	**Makanchi Array**	**15.66**	**36**	Pn		P	P	08 24 38.0	-0.8
	0.1nm,0.3s,baz=216,slow=10,SNR=6.4								
AKTO	**Aktyubinsk**	**17.63**	**336**	P		P	P	08 25 02.4	-1.2
	0.1nm,0.3s,baz=163,slow=11,SNR=2.6								
VOSK	**Vostochnaya**	**18.04**	**4**	⇑P		P	P	08 25 09.9	+1.2
	4.5nm,1.8s								
BVAR	**Borovoye Array**	**18.31**	**3**	P		P	P	08 25 10.8	-1.3
	0.3nm,0.3s,baz=173,slow=12,SNR=6.6								
ARCES	**ARCESS Array B**	**42.18**	**339**	P		P	P	08 28 51.4	+0.9
	3.9nm,1.0s,mb4.0,baz=113,slow=9.2,SNR=6.6								
NOA	**NORSAR Array B**	**44.84**	**324**	P		P	P	08 29 13.1	+1.0
	0.5nm,0.6s,mb3.5,baz=100,slow=8.0,SNR=2.4								
YKA	**Yellowknife Ar**	**83.07**	**2**	P		P	P	08 33 21.8	-1.1
	0.4nm,0.8s,mb3.5,baz=350,slow=5.3,SNR=11								

ORF ***29*** *08:29:42.1, 26.10N×140.17E, h30km, mb5.7*
NIED ***29*** *08:30:00, 27.50N×140.40E, h480km, Mw5.2 Best double couple: M0 7.94×10^16 NP1:φs333°, δ65°, λ-67°. NP2: φs109°, δ33°, λ-129°.*
BJI ***29*** *08:30:34.6, 27.27N×140.05E, h501km, mB5.0, mb5.6*
HRVD ***29*** *08:30:34.5±0.4, 27.44N×139.82E, h478km±2km, MW5.3/56, Centroid moment Tensor Solution. LP body waves: s56,c94; Half duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-0.78±.04; Mθθ0.46±.05; Mφφ0.32±.06; Mrθ0.16±.07; Mθφ-0.51±.06; Mφr-0.72±.06; Best double couple: M0 1.12×10^17 NP1:φs110°, δ31°, λ-129°. NP2: φs334°, δ66°, λ-69°. Principal axes: T 1.102, Plg19°, Azm48°; N .036, Plg19°, Azm145°; P -1.138, Plg63°, Azm277°: nsta1 refers to body waves, cutoff=40s.*
MOS ***29*** *08:30:34.5±0.8, 27.35N×139.84E, h484km, mb5.4/64 Error ellipse: s-maj=10.0km s-min=4.3km az=109.4*
NEIC ***29*** *08:30:34.5±0.1, 27.37N×139.85E, mb5.2/114, MW5.2(NIED), Error ellipse: s-maj=4.3km s-min=3.8km az=126.0*
JMA ***29*** *08:30:35.8±0.1, 27.51N×140.36E, h490km, M5.2*
IDC ***29*** *08:30:36.0±0.5, 27.38N×139.85E, h485km±4km, mb4.6/23, mb1 4.7/27, mb1mx4.7/28, mbtmp5.4/27, Error ellipse: s-maj=9.0km s-min=7.4km az=85.0*
ISC 29 08:30:34.0±0.1, 27.31N±0.02×139.96E±0.03, h477km, h477km±2.9km: pP-P, n562, σ1s00/602, mb5.2/164, 16C-61D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.99**	**96**	P		P	P	08 31 38.8	+1.5
	1μm,0.3s,baz=311,slow=23,SNR=332								
CBIJ				S			S	08 32 28.1	+0.5
	2μm,0.3s,baz=295,slow=23,SNR=13								
CBIJ	**Chichi jima**	**1.99**	**96**	P		P	P	08 31 38.9	+1.6
CBIJ					eS		S	08 32 27.7	+0.2
JHHJ	**Haha-jima-NKT**	**2.09**	**109**	P		P	P	08 31 40.0	+2.1
JHHJ					eS		S	08 32 30.2	+1.7
JHJ2	**Mitsune**	**5.78**	**359**	P		P	P	08 32 08.8	+0.7
JHJ2					eS		S	08 33 21.0	-1.4
JHJ	**Hachijo jima 2**	**5.79**	**359**	P		P	P	08 32 09.2	+1.0
	286nm,0.3s,baz=207,slow=2.7,SNR=15								
JHJ				S			S	08 33 20.9	-1.6
	271nm,0.3s,baz=70,slow=23,SNR=12								
TK01	**Tokai 1**	**6.75**	**343**	P		P	P	08 32 18.4	+0.5
JWZ	**Kozaga**	**7.20**	**330**	P		P	P	08 32 25.6	+3.0
BSO1	**Boso 1**	**7.37**	**7**	P		P	P	08 32 24.7	+0.4
BSO1					eS		S	08 33 51.6	-0.3
JIM2	**Oshima 3**	**7.39**	**357**	P		P	P	08 32 25.2	+0.6
JIM2					eS		S	08 33 52.3	-0.1
JIE	**Ise**	**7.59**	**339**	P		P	P	08 32 29.3	+2.6
JIE					eS		S	08 33 59.8	+3.7
JOD2	**Odawara 2**	**7.96**	**355**	P		P	P	08 32 30.7	+0.1
JMZ	**Minamidaito 2**	**7.97**	**261**	P		P	P	08 32 31.8	+1.1
JMN	**Monobe**	**8.27**	**322**	P		P	P	08 32 37.0	+3.0
JTO	**Tosashimizu**	**8.31**	**313**	P		P	P	08 32 36.7	+2.3
JTO					eS		S	08 34 15.3	+5.4
JKU	**Kubokawa**	**8.44**	**317**	P		P	P	08 32 38.5	+2.7
JTN	**Tanegashima 3**	**8.54**	**295**	P		P	P	08 32 39.9	+3.0
JTN				S			S	08 34 19.5	+5.0
UWA2	**Uwa jima 2**	**8.65**	**315**	P		P	P	08 32 40.5	+2.4
JRY	**Ryogami san**	**8.72**	**354**	P		P	P	08 32 38.6	-0.3
JRY					eS		S	08 34 17.5	-0.5
JJS	**Sakaide**	**8.74**	**325**	P		P	P	08 32 41.1	+2.0
JTSN	**Tsuno**	**8.84**	**306**	P		P	P	08 32 42.6	+2.5
JNA	**Nagahama**	**8.97**	**316**	P		P	P	08 32 44.1	+2.6
JTZ	**Takazaki**	**8.97**	**303**	S		S	S	08 34 29.2	+6.3
JAD	**Aida**	**9.08**	**328**	P		P	P	08 32 44.8	+2.1
JKIT	**Kitakata**	**9.08**	**308**	P		P	P	08 32 45.5	+2.8
JUS	**Usuki**	**9.13**	**311**	P		P	P	08 32 45.9	+2.7
JAM	**Amami Oshima**	**9.23**	**279**	P		P	P	08 32 47.0	+2.6
JKY	**Yasaka**	**9.27**	**335**	P		P	P	08 32 46.5	+1.8
MJAR	**Matsushiro Arr**	**9.32**	**351**	P		P	P	08 32 44.7	-0.6
	11nm,0.3s,baz=177,slow=7.5,SNR=42								
MJAR				S			S	08 34 26.1	-3.5
	6.2nm,0.3s,baz=160,slow=10,SNR=5.1								
MJAR	**Matsushiro Arr**	**9.32**	**351**	P		P	P	08 32 44.7	-0.6
MJAR				S			S	08 34 26.1	-3.5
MAJO	**Matsushiro**	**9.32**	**351**	*e*P		P	P	08 32 44.4	-0.9
MAJO				pmax		pmax			
	comp=Z,60nm,0.5s								
MAJO	**Matsushiro**	**9.32**	**351**	*e*Pn		P	P	08 32 44.4	-0.9
	comp=Z,60nm,0.5s								
MAT	**Matsushiro**	**9.32**	**351**	P		P	P	08 32 44.7	-0.6
MAT				S			S	08 34 28.1	-1.5
MAT	**Matsushiro**	**9.32**	**351**	P		P	P	08 32 45.0	-0.3
MAT					eS		S	08 34 29.7	+0.1
MAT	**Matsushiro**	**9.32**	**351**	*e*P		P	P	08 32 45.0	-0.3
MAT				*e*S			S	08 34 28.0	-1.6
MAT				pmax		pmax			
	comp=Z,60nm,0.8s								
MAT	**Matsushiro**	**9.32**	**351**	*e*P		P	P	08 32 45.0	-0.3
	comp=Z,60nm,0.8s								
MAT					eS		S	08 34 28.0	-1.6
JHM	**Kurahashi**	**9.34**	**319**	P		P	P	08 32 47.7	+2.2
JZO	**Okuchi**	**9.45**	**303**	P		P	P	08 32 48.7	+2.0
JZO					S		S	08 34 37.5	+5.3
JHS	**Saijyo**	**9.64**	**324**	P		P	P	08 32 50.4	+1.6
JHS					eS		S	08 34 40.1	+4.1
JNU	**Nakatsue**	**9.76**	**309**	P		P	P	08 32 52.8	+2.7
	comp=Z,18nm,0.3s,baz=106,slow=10,SNR=173								
JNU				S			S	08 34 43.9	+5.6
	baz=220,slow=32,SNR=7.4								
JTK	**Tokunoshima**	**9.79**	**275**	P		P	P	08 32 53.3	+3.0
JTK				S			S	08 34 45.2	+6.4
JSJ	**Shimokoshiki**	**9.93**	**298**	P		P	P	08 32 53.6	+1.8
JHD	**Hondo**	**9.95**	**303**	S		S	S	08 34 47.5	+5.5
JOW	**Kunigami**	**10.43**	**270**	P		P	P	08 33 00.0	+2.8
	comp=Z,271nm,0.3s,baz=108,slow=12,SNR=520								
JOW				S			S	08 34 49.8	-1.7
	baz=93,slow=12,SNR=7.0								
JOW	**Kunigami**	**10.43**	**270**	P		P	P	08 32 59.4	+2.2
JTU	**Tsushima**	**11.57**	**311**	P		P	P	08 33 10.2	+0.9
JMK	**Ichinoseki**	**11.65**	**5**	P		P	P	08 33 10.8	+0.6
OFUJ	**Ofunato**	**11.82**	**6**	P		P	P	08 33 13.0	+1.0
KS15	**Wonju Array Si**	**14.34**	**318**	*e*Pn		P	P	08 33 38.0	-0.4
GUMO	**Guam**	**14.40**	**160**	P		P	P	08 33 40.2	+1.0
GUMO				pmax		pmax			
	comp=Z,99nm,0.9s								
GUMO	**Guam**	**14.40**	**160**	Pn		P	P	08 33 40.2	+1.0
	comp=Z,99nm,0.9s								
JNBK	**Urakawa-nobuka**	**15.10**	**8**	P		P	P	08 33 47.9	+1.8
INCN	**Inchon**	**15.13**	**315**	*e*P		P	P	08 33 45.8	-0.7
	comp=Z,202nm,0.7s								
SSE	**Sheshan**	**16.82**	**287**	P		P	P	08 34 03.8	+0.4
SSE				XP				08 35 58.5	
SSE				S			S	08 36 52.0	-0.9
SSE				AMB		AMB			
	comp=Z,90nm,0.8s								
SSE				AMB		AMB			
	comp=Z,220nm,4.6s								
NACB	**Ninganchiao**	**16.84**	**263**	*e*P		P	P	08 34 02.8	-0.9
ASAJ	**Asahikawa**	**16.90**	**7**	P		P	P	08 34 06.3	+2.2
	comp=Z,4.3nm,0.3s,baz=220,slow=15,SNR=25								
ASAJ				S			S	08 36 58.6	+4.4
	comp=Z,1.3nm,0.3s,baz=5.4,slow=30,SNR=6.0								
YHNB	**Yeheng**	**16.92**	**265**	*e*P		P	P	08 34 04.3	-0.2
NJ2	**Nanjing**	**18.93**	**290**	*e*P		P	P	08 34 24.3	+0.1
NJ2				S			S	08 37 30.0	+0.2
NJ2				PCP		PcP		08 38 29.0	+1.3
NJ2				SCP				08 41 17.0	
NJ2				AMB		AMB			
	comp=Z,110nm,0.8s								
NJ2				AMB		AMB			
	comp=Z,400nm,9.1s								
MDJ	**Mudanjiang**	**19.17**	**337**	P		P	P	08 34 28.0	+1.7
MDJ				S			S	08 37 37.0	+3.2
MDJ				PCP		PcP		08 38 27.5	-0.5
MDJ				SCP				08 41 16.0	
MDJ				PCS				08 42 04.0	
MDJ				SCS		ScS		08 44 58.8	0.0
MDJ				AMB		AMB			
	comp=Z,80nm,0.8s								
MDJ				AMB		AMB			
	comp=Z,260nm,6.8s								
MDJ	**Mudanjiang**	**19.17**	**337**	*e*P		P	P	08 34 27.6	+1.3
	comp=Z,69nm,0.8s								
DL2	**Dalian**	**19.18**	**312**	*i* PR				08 34 27.0	
DL2				S			S	08 37 34.5	+0.4
DL2				SCS		ScS		08 44 57.5	-1.4
DL2				AMB		AMB			
	comp=Z,140nm,0.8s								
DL2				AMB		AMB			
	comp=Z,350nm,4.1s								
QZH	**Quanzhou**	**19.33**	**268**	||P		P	P	08 34 29.0	+1.0
QZH				S			S	08 37 35.8	-0.9
QZH				AMB		AMB			
	comp=Z,320nm,0.8s								
QZH				AMB		AMB			
	comp=Z,2μm,2.0s								
APYP	**Conner**	**19.66**	**245**	*e*P		P	P	08 34 31.2	+0.1
YSS	**Yuzh-Sakhalins**	**19.73**	**6**	||*i*P		P	P	08 34 33.1	+1.5
YSS	**Yuzh-Sakhalins**	**19.73**	**6**	P		P	P	08 34 33.0	+1.4
	comp=Z,42nm,0.7s								
SNY	**Shenyang**	**19.74**	**321**	||P		P	P	08 34 32.3	+0.5
SNY				S			S	08 37 45.0	+1.5
CN2	**Changchun**	**20.20**	**328**	*e*P		P	P	08 34 36.5	+0.4
CN2				*e*XP				08 36 42.5	
CN2				*e*S			S	08 37 51.5	+0.2
CN2				PCP		PcP		08 38 26.3	-3.6
CN2				SCP				08 41 18.5	
CN2				AMB		AMB			
	comp=Z,90nm,0.8s								
CN2				AMB		AMB			
	comp=Z,200nm,5.0s								
TIA	**Tai'an**	**21.31**	**300**	⇑P		P	P	08 34 46.5	-0.1
TIA				AMB		AMB			
	comp=Z,620nm,0.8s,mb6.2								
HABR	**Khabarovsk**	**21.47**	**351**	*i* P		P	P	08 34 48.7	+0.7
HABR				*e*S			S	08 38 09.5	-2.9
HABR				pmax		pmax			
	comp=Z,41nm,0.9s,mb5.0								
TGY	**Tagaytay City**	**22.08**	**237**	P		P	P	08 34 54.8	+0.9
	comp=Z,326nm,0.7s,mb6.0,baz=128,slow=3.1,SNR=7.8								
WHN	**Wuhan**	**22.63**	**284**	||P		P	P	08 34 59.5	+0.7
WHN				XP				08 37 12.3	
WHN				S			S	08 38 30.0	-1.7
WHN				AMB		AMB			
	comp=Z,350nm,0.8s,mb5.8								
KLR	**Kul'dur**	**22.78**	**346**	*e*P		P	P	08 34 54.8	-5.2
KLR				*e*S			S	08 38 28.7	-5.3
KLR				pmax		pmax			
	comp=Z,34nm,1.2s,mb4.7								
KLR				smax					
	comp=E,43nm,1.2s								
GZH	**Guangzhou**	**24.43**	**266**	P		P	P	08 35 11.3	-3.8
GZH				S			S	08 38 57.0	-3.7
ENH	**Enshi**	**26.83**	**284**	*e*P		P	P	08 35 35.6	-0.9
	comp=E,258nm,1.0s,mb5.6								
ENH					eS		S	08 39 34.1	-4.6
HIA	**Hailar**	**26.90**	**330**	*e*P		P	P	08 35 36.1	-0.8
HIA				pmax		pmax			
	comp=Z,114nm,0.7s								
HIA	**Hailar**	**26.90**	**330**	*e*P		P	P	08 35 36.1	-0.8
	comp=Z,114nm,0.7s,mb5.4								
HIA				*e*ScP				08 41 36.8	
HHC	**Hu-ho-hao-te**	**26.98**	**307**	||P		P	P	08 35 37.5	-0.2
HHC				PCP		PcP		08 38 46.3	+1.8
HHC				S			S	08 39 36.5	-4.5
HHC				PCS				08 42 26.5	
HHC				SCS		ScS		08 45 31.5	+2.0
HHC				AMB		AMB			
	comp=Z,140nm,1.2s,mb5.3								
HHC				AMB		AMB			
	comp=Z,130nm,5.2s								
BTO	**Baotou**	**28.00**	**306**	*e*P		P	P	08 35 45.8	-0.8
QIZ	**Qiongzhong**	**28.84**	**260**	*e*P		P	P	08 35 54.9	+0.8
	comp=Z,188nm,1.4s,mb5.3								
PET	**Petropavlovsk**	**29.20**	**23**	*e*P		P	P	08 35 57.5	+0.5
PET				*e*S			S	08 40 14.9	-0.6
PET				pmax		pmax			
	comp=Z,89nm,1.3s,mb5.0								
PET				smax					
	comp=N,400nm,15.4s								
PET	**Petropavlovsk**	**29.20**	**23**	*e*P		P	P	08 35 57.1	+0.1
	comp=N,174nm,1.3s,mb5.3								
GYA	**Guiyang**	**29.66**	**276**	⇑*i*P		P	P	08 36 01.3	+0.1
GYA				S			S	08 40 20.8	-2.1
GYA				AMB		AMB			
	comp=Z,190nm,0.7s,mb5.6								
KKM	**Kota Kinabalu**	**30.94**	**231**	P		P	P	08 36 13.4	+1.1
KKM	**Kota Kinabalu**	**30.94**	**231**	*e*P		P	P	08 36 13.0	+0.6
TSM	**Tawau**	**31.12**	**227**	P		P	P	08 36 14.5	+0.7
CLNS	**Chul'man**	**31.40**	**344**	*e*P		P	P	08 36 15.6	-0.2
CLNS				pmax		pmax			
	comp=Z,98nm,1.0s,mb5.2								
CLNS				pmax		pmax			
	comp=N,48nm,0.9s								
CLNS				pmax		pmax			
	comp=E,20nm,0.9s								
CD2	**Chengdu**	**31.75**	**285**	P		P	P	08 36 19.3	+0.3
CD2				AP				08 37 43.8	
CD2				PP		PP		08 37 48.5	+5.1
CD2				XP		sP		08 38 38.0	+0.2
CD2				S		S		08 40 55.0	-0.1
CD2				XS				08 43 26.5	
CD2				SS		SS		08 43 35.5	-0.4
CD2				AMB		AMB			
	comp=Z,200nm,0.6s,mb5.7								
CD2				AMB		AMB			
	comp=Z,290nm,5.4s								
LZH	**Lanzhou**	**31.80**	**295**	||P		P	P	08 36 20.0	+0.5
LZH				PP		PP		08 37 49.3	+5.3
LZH				PCP		PcP		08 38 57.8	+0.7
LZH				*e*S		S		08 40 51.3	-4.6
LZH				SCP				08 41 51.8	
LZH				AMB		AMB			
	comp=Z,290nm,1.5s,mb5.5								
LZH				AMB		AMB			
	comp=Z,1μm,4.6s								
ULN	**Ulaanbaatar**	**32.81**	**318**	*e*P		P	P	08 36 27.7	-0.1
ULN				*e*				08 38 59.8	
ULN				pmax		pmax			
	comp=Z,104nm,0.9s,mb5.3								
ULN	**Ulaanbaatar**	**32.81**	**318**	*e*P		P	P	08 36 27.7	-0.1
	comp=Z,104nm,0.9s,mb5.3								
ULN				*e*PcP		PcP		08 38 59.8	0.0
ULN

SONM Songino Array 33.20 317 P **P** **08 36 31.3 +0.3**
comp=Z,34nm,0.6s,mb4.9,baz=124,slow=7.9,SNR=226
SONM PcP PcP 08 39 00.3 -0.5
comp=Z,11nm,0.8s,baz=139,slow=2.9,SNR=5.5
SONM ScP 08 41 58.2
comp=Z,7.1nm,0.6s,baz=148,slow=3.4,SNR=10
KMI Kunming 33.39 275 ⇓P **P** **08 36 34.0 +1.1**
KMI PP PP 08 38 06.0 +5.0
KMI PcP PcP 08 39 01.5 -0.1
KMI S **S** **08 41 18.8 -1.6**
KMI PCS 08 42 46.0
KMI SS SS 08 44 06.0 -1.5
KMI AMB AMB
comp=Z,120nm,1.0s,mb5.3
KMI AMB AMB
comp=Z,330nm,3.1s
GTA Gaotai 35.36 300 ⇓*i*P **P** **08 36 49.5 +0.2**
GTA AP pP 08 38 17.5 +1.5
GTA PP PP 08 38 25.0 +3.4
GTA PCP PcP 08 39 11.3 +4.1
GTA S **S** **08 41 46.5 -3.7**
GTA SCP 08 42 06.8
GTA PCS 08 42 53.5
GTA SS SS 08 44 39.0 -5.9
GTA SCS ScS 08 46 10.3 -1.4
GTA AMB AMB
comp=Z,140nm,1.1s,mb5.3
GTA AMB AMB
comp=Z,430nm,6.5s
YAK Yakutsk 35.39 352 ⇑*i*eP **P** **08 36 48.6 -0.6**
YAK Yakutsk 35.39 352 *e*P **P** **08 36 48.3 -1.0**
comp=Z,90nm,0.9s,mb5.2
FX1 Attu Island--F 35.48 35 P **P** **08 36 52.2 +2.0**
comp=Z,273nm,0.7s,mb5.8,baz=240,slow=2.9,SNR=39
FX1 Attu Island--F 35.48 35 *e*P **P** **08 36 52.3 +2.1**
BOD Bodaibo 35.54 336 ⇓*i*P **P** **08 36 50.2 -0.4**
BOD pmax pmax
comp=Z,88nm,0.9s,mb5.2
IRK Irkutsk 36.46 323 *e*P **P** **08 36 57.9 -0.4**
IRK *e* 08 39 05.0
IRK pmax pmax
comp=Z,102nm,1.9s,mb4.9
SEY Seymchan 36.55 10 ⇑*i*P **P** **08 36 59.9 +1.0**
CHRT Chiangrai 37.44 267 ⇓P **P** **08 37 08.0 +1.4**
comp=Z,684nm,0.8s,mb6.1
KSM Kuching 38.31 233 *e*P **P** **08 37 14.8 +0.9**
CHG Chiang Mai 38.54 266 ⇑P **P** **08 37 15.8 +0.1**
comp=Z,142nm,1.1s,mb5.3
NST Nakhon Sawan 38.67 261 ⇑P **P** **08 37 18.0 +1.2**
comp=Z,92nm,0.5s,mb5.5
LSA Lhasa 42.71 285 P **P** **08 37 51.0 +1.8**
LSA Lhasa 42.71 285 *e*P **P** **08 37 51.2 +2.0**
LSA pmax pmax
comp=Z,67nm,0.7s,mb5.2
LSA Lhasa 42.71 285 *e*P **P** **08 37 51.2 +1.9**
comp=Z,67nm,0.7s,mb5.2
SHL Shillong 42.88 279 *e*P **P** **08 37 51.5 +0.9**
KGM Kluang 43.16 241 P **P** **08 37 54.4 +1.4**
KULM Kulim 43.34 247 *e*P **P** **08 37 55.2 +0.7**
KULM *e*PcP PcP 08 39 32.7 -0.6
IPM Ipoh 43.44 246 P **P** **08 37 56.2 +1.0**
BILL Bilibino 43.70 14*c* *i*P **P** **08 37 57.2 +0.6**
BILL *i* S **S** **08 43 50.1 -1.4**
BILL pmax pmax
comp=Z,111nm,0.9s,mb5.3
BILL Bilibino 43.70 14 *e*P **P** **08 37 56.9 +0.3**
comp=Z,129nm,1.1s,mb5.3
BILL *e*pP pP 08 39 31.7 +4.9
BILL *e*ScP 08 42 36.9
TIXI Tiksi 44.81 355 *e*P **P** **08 38 02.5 -2.7**
WMQ Urumqi 44.84 306 P **P** **08 38 06.0 +0.2**
WMQ AP pP 08 39 34.3 -2.2
WMQ PCP PcP 08 39 39.3 +1.2
WMQ PP PP 08 39 59.0 +1.6
WMQ PCS 08 43 32.0
WMQ *e*S **S** **08 44 09.8 +1.9**
WMQ SS SS 08 47 35.0 +0.8
WMQ AMB AMB
comp=Z,50nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,460nm,3.6s
NIKO Nikolski 45.51 41 *e*P **P** **08 38 09.8 -1.0**
PSI Prapat 46.17 245 P **P** **08 38 17.0 +0.5**
comp=Z,115nm,0.7s,mb5.4,baz=39,slow=3.5,SNR=62
PSI PcP PcP 08 39 43.1 -0.1
comp=Z,53nm,0.9s,baz=48,slow=2.7,SNR=13
PSI ScP 08 42 49.1
comp=Z,14nm,0.9s,baz=111,slow=3.1,SNR=5.0
UNV Unalaska Valle 47.08 41 *e*P **P** **08 38 21.2 -1.6**
comp=Z,88nm,0.7s,mb5.3
FITZ Fitzroy Crossi 47.23 199 ⇓*i*P **P** **08 38 24.6 +0.1**
comp=Z,40nm,0.6s,mb5.0
FITZ *e*PCP PcP 08 39 47.1 +0.2
FITZ *e*SCP 08 42 52.5
WRAB Tennant Creek 47.28 187 *e*P **P** **08 38 24.2 -0.7**
WRAB *e* 08 39 46.3
WRAB *e**PP pP 08 40 01.0 +4.4
WRAB pmax pmax
comp=Z,115nm,0.9s,mb5.3
WRAB Tennant Creek 47.28 187 *e*P **P** **08 38 24.1 -0.7**
comp=Z,115nm,0.9s,mb5.3
WRAB *e*PcP PcP 08 39 46.2 -0.8
WRAB *e*pP pP 08 40 01.0 +4.4
WRAB *e*ScP 08 42 51.7
WB2 Warramunga Arr 47.29 187 ⇓*i*P **P** **08 38 24.3 -0.7**
WB2 *e*PCP PcP 08 39 46.3 -0.2
WB2 *e*SCP 08 42 51.4
WB2 *e*S **S** **08 44 38.3 -4.0**
WRA Warramunga Arr 47.29 187 P **P** **08 38 24.3 -0.7**
comp=Z,64nm,0.6s,mb5.2,baz=2.5,slow=7.6,SNR=393
WRA PcP PcP 08 39 46.9 -0.3
comp=Z,15nm,0.6s,baz=358,slow=3.8,SNR=14
WRA pP pP 08 39 57.0 +0.3
comp=Z,2.1nm,0.5s,baz=4.5,slow=8.5,SNR=1.2
WRA ScP 08 42 52.9
comp=Z,11nm,1.0s,baz=5.6,slow=4.8,SNR=10.0
WRA S **S** **08 44 37.2 -5.2**
comp=Z,6.8nm,1.1s,baz=5.8,slow=14,SNR=6.2
WRA Warramunga Arr 47.29 187 P **P** **08 38 24.3 -0.7**
WRA 08 39 46.9
WRA *PP pP 08 39 57.0 +0.3
WRA S **S** **08 44 37.2 -5.1**
JIRN Jiri 47.38 283 *e*P **P** **08 38 26.2 +0.7**
comp=Z,942nm,0.8s
CTA Charters Tower 47.51 172 *e*P **P** **08 38 26.6 -0.1**
comp=Z,18nm,0.9s,mb4.4
CTA Charters Tower 47.51 172 P **P** **08 38 26.8 +0.1**
comp=Z,20nm,0.9s,mb4.5,baz=356,slow=8.2,SNR=18
CTA Charters Tower 47.51 172 *e*P **P** **08 38 26.6 -0.1**
CTA pmax pmax
comp=Z,18nm,0.9s
CTAO Charters Tower 47.51 172 *e*P **P** **08 38 26.1 -0.6**
CTAO pmax pmax
comp=Z,24nm,0.9s,mb4.5
CTAO Charters Tower 47.51 172 *e*P **P** **08 38 26.1 -0.5**
comp=Z,24nm,0.9s,mb4.5
GUN Gumba 47.59 284 *e*P **P** **08 38 27.5 +0.4**
comp=Z,656nm,0.7s,mb6.1
PKI Pulchoki 48.07 284 *e*P **P** **08 38 30.6 -0.2**
comp=Z,450nm,1.1s,mb5.7
PKI Pulchoki 48.07 284 *e*P **P** **08 38 30.6 -0.2**
PKI pmax pmax
comp=Z,225nm,1.1s,mb5.4
KKN Kakani 48.13 284 *e*P **P** **08 38 31.4 +0.1**
comp=Z,454nm,0.9s,mb5.8
KKN Kakani 48.13 284 *e*P **P** **08 38 31.4 +0.1**
KKN pmax pmax
comp=Z,227nm,0.9s,mb5.5
DMN Daman 48.33 284 *e*P **P** **08 38 32.8 +0.1**
comp=Z,354nm,0.8s,mb5.7
BOK Bokaro 48.60 279 *e*P **P** **08 38 34.4 -0.4**
BOK AMb AMB 08 38 39.2
comp=Z,222nm,1.9s,mb5.2
GKN Gorkha 48.64 284 *e*P **P** **08 38 34.0 -1.1**
comp=Z,751nm,1.1s,mb5.9
MKAR Makanchi Array 48.81 310 P **P** **08 38 35.4 -0.7**
comp=Z,62nm,0.4s,mb5.3,baz=86,slow=10,SNR=772
MKAR PcP PcP 08 39 51.4 -1.0
comp=Z,29nm,0.7s,baz=79,slow=6.2,SNR=6.6
MKAR ScP 08 42 59.8
comp=Z,4.4nm,0.6s,baz=79,slow=6.2,SNR=4.3
MKAR S **S** **08 45 00.8 -2.1**
comp=Z,5.2nm,0.9s,baz=94,slow=17,SNR=6.8
MKAR Makanchi Array 48.81 310 P **P** **08 38 35.4 -0.7**
MKAR 08 39 51.4
MKAR S **S** **08 45 00.8 -2.1**
MKAR Makanchi Array 48.81 310 P **P** **08 38 35.4 -0.7**
MKAR PcP PcP 08 39 51.4 -1.0
MKAR ScP 08 42 59.8
MKAR S **S** **08 45 00.8 -2.1**
NVS Novosibirsk 49.10 320 *i* P **P** **08 38 37.8 -0.4**
NVS *i* *PP PcP 08 39 51.2 -2.1
NVS *i* S **S** **08 45 03.2 -3.6**
NVS *i* *SS 08 47 32.2
NVS pmax pmax
comp=Z,198nm,1.2s,mb5.3
NVS pmax pmax
comp=N,51nm,1.3s
NVS pmax pmax
comp=E,152nm,1.2s
NVS smax
comp=N,79nm,2.3s
NVS smax
comp=E,50nm,2.0s
KOLN Koldanda 49.59 284 *e*P **P** **08 38 42.3 +0.1**
comp=E,454nm,0.9s,mb5.8
TNA Tin City 50.03 25 *e*P **P** **08 38 45.3 +0.4**
SDPT Sand Point 50.79 39 *e*P **P** **08 38 49.5 -1.2**
comp=E,288nm,0.6s,mb5.8
ASPA Alice Springs 51.02 187 *e*P **P** **08 38 51.9 -0.9**
ASPA *e*S **S** **08 45 30.5 -2.6**
KURK Kurchatov 51.42 314 *e*P **P** **08 38 54.2 -1.2**
KURK *e*S **S** **08 45 33.9 -4.3**
KURK pmax pmax
comp=Z,308nm,0.6s,mb5.8
KURK Kurchatov 51.42 314 *e*P **P** **08 38 54.2 -1.2**
comp=Z,308nm,0.6s,mb5.8
KURK *e*S **S** **08 45 33.9 -4.3**
BLSP Bilaspur 52.40 278 *e*P **P** **08 39 02.0 -0.9**
BLSP AMb AMB 08 39 04.4
comp=Z,188nm,1.0s,mb5.4
VIS Vishakhapatnam 52.81 272 *e*P **P** **08 39 06.8 +0.9**
VIS AMb AMB 08 39 08.2
comp=Z,125nm,1.2s,mb5.1
ULHL Ulahol 53.26 304 P **P** **08 39 09.6 +0.8**
SNR=31
TKM2 Tokmak 2 53.67 305 P **P** **08 39 12.0 +0.3**
SNR=73
KZA Kyzart 54.01 304 P **P** **08 39 15.7 +1.6**
SNR=43
KBK Karagaybulak 54.17 304 P **P** **08 39 15.7 +0.5**
SNR=19
SVW2 Sparrevohn 54.17 33 *e*P **P** **08 39 15.2 +0.2**
CHMS Chumysh 54.28 305 P **P** **08 39 16.1 +0.1**
SNR=35
USP Ospenovka 54.44 305 P **P** **08 39 17.1 -0.1**
SNR=66
AAK Ala-Archa 54.51 304 P **P** **08 39 18.1 +0.5**
SNR=13
UCH Uchtor 54.53 304 P **P** **08 39 18.7 +0.8**
SNR=152
NDI New Delhi 54.84 287 *e*P **P** **08 39 18.0 -2.2**
NDI *ex* x 08 46 20.8
EKS2 Erkin-Say 55.03 305 P **P** **08 39 21.8 +0.5**
SNR=12
AML Almayashu 55.15 304 P **P** **08 39 23.4 +1.2**
SNR=30
KDAK Kodiak Island 55.38 37 P **P** **08 39 23.2 -0.4**
comp=Z,31nm,0.5s,mb4.9,baz=340,slow=1.4,SNR=26
IMA2 Indian Mountai 55.78 27 *e*P **P** **08 39 26.5 +0.2**
BHPL Bhopal 56.19 281 *e*P **P** **08 39 28.4 -1.3**
BHPL AMb AMB 08 39 30.7
comp=Z,102nm,1.0s,mb5.1
BVAR Borovoye Array 56.54 317 P **P** **08 39 30.7 -1.0**
comp=Z,286nm,0.5s,mb5.9,baz=89,slow=7.4,SNR=1086
BVAR PcP PcP 08 40 20.6 -1.0
comp=Z,42nm,0.8s,baz=104,slow=6.1,SNR=4.6
BVAR S **S** **08 46 42.3 -3.5**
comp=Z,5.0nm,0.9s,baz=90,slow=10,SNR=6.4
BRVK Borovoye 56.60 317 *e*P **P** **08 39 31.3 -0.8**
BRVK *e* 08 40 20.4
BRVK pmax pmax
comp=Z,189nm,0.8s,mb5.5
BRVK Borovoye 56.60 317 *e*P **P** **08 39 31.3 -0.9**
comp=Z,189nm,0.8s,mb5.5
BRVK *e*PcP PcP 08 40 20.4 -1.5
FIB Fire Island 56.79 33 *e*P **P** **08 39 33.1 -0.2**
HYB Hyderabad 57.16 274 *i* P **P** **08 39 35.5 -0.8**
comp=Z,120nm,1.0s,mb5.2
HYB *e*PcP PcP 08 40 23.5 -1.0
HYB *es*P sP 08 42 02.0 -1.6
HYB *e*S **S** **08 46 54.0 -0.2**
HYB Hyderabad 57.16 274 *e*P **P** **08 39 35.5 -0.8**
HYB *e* 08 40 23.5
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.2
HYB Hyderabad 57.16 274 *e*P **P** **08 39 35.5 -0.8**
comp=Z,120nm,1.0s,mb5.2
HYB *e* 08 40 23.5
PMR Palmer 57.31 32 *e*P **P** **08 39 36.0 -0.8**
PMR pmax pmax
comp=Z,154nm,1.5s,mb5.1
PMR Palmer 57.31 32 *e*P **P** **08 39 36.0 -0.8**
comp=Z,154nm,1.5s,mb5.1
MCK McKinley 57.52 30 *e*P **P** **08 39 37.4 -0.8**
comp=Z,56nm,1.0s,mb4.8
MCK *e*ScP 08 43 36.3
SML Sawmill 57.70 32 *e*P **P** **08 39 38.8 -0.6**
SML *e*ScP 08 43 37.8
COLA College 58.06 29 *e*P **P** **08 39 41.7 -0.2**
COLA *e**PP pP 08 41 21.4 +2.2
COLA pmax pmax
comp=Z,36nm,1.3s,mb4.5
COLA College 58.06 29 *e*P **P** **08 39 41.7 -0.2**
comp=Z,36nm,1.3s,mb4.5
COLA *e*pP pP 08 41 21.4 +2.3
ILAR Eielson Array 58.47 29 P **P** **08 39 43.4 -1.3**
comp=Z,22nm,0.9s,mb4.5,baz=264,slow=5.5,SNR=117
ILAR pP pP 08 41 20.6 -1.5
comp=Z,2.7nm,0.7s,baz=261,slow=5.6,SNR=2.9
ILAR S **S** **08 47 04.5 -5.9**
comp=Z,1.6nm,0.9s,baz=256,slow=10,SNR=9.9
ARMA Armidale 58.48 168 *e*P **P** **08 39 45.3 +0.1**
STKA Stephens Creek 58.88 178 ⇓*i*P **P** **08 39 47.1 -0.7**
comp=Z,15nm,0.9s,mb4.3
STKA Stephens Creek 58.88 178 P **P** **08 39 47.2 -0.6**
comp=Z,16nm,0.7s,mb4.4,baz=341,slow=7.5,SNR=50
DIV Divide 58.92 33 *e*P **P** **08 39 47.4 -0.3**
comp=Z,256nm,1.4s,mb5.4
DIV *e*pP pP 08 41 30.4 +4.9
PALK Pallekele 59.43 262 *e*P **P** **08 39 51.6 -0.1**
comp=Z,148nm,1.6s,mb5.1
MENT Mentasta 59.86 31 *e*P **P** **08 39 54.4 +0.5**
KAD Karad 61.08 276 *e*P **P** **08 40 01.2 -1.4**
DAWY Dawson 61.74 30 *e*P **P** **08 40 04.9 -1.4**
TRD Trivandrum 62.19 265 *e*P **P** **08 40 09.6 -0.4**
TRD AMb AMB 08 40 11.5
comp=Z,73nm,1.7s,mb4.8
KLBR Kellerberrin 62.29 201 *e*P **P** **08 40 09.4 -1.0**
comp=Z,25nm,0.7s,mb4.8
BHJ Bhuj 62.94 283 *e*P **P** **08 40 14.8 +0.1**
BHJ AMb AMB 08 40 16.9
comp=Z,160nm,1.2s,mb5.4
ARU Arti 63.04 322 ⇓*i*P **P** **08 40 14.0 -0.9**
ARU *e* 08 40 45.5
ARU *e* 08 42 35.6
ARU *e*S **S** **08 48 05.7 -1.6**
ARU *e*SS SS 08 52 19.6 -6.4
ARU pmax pmax
comp=Z,158nm,0.7s,mb5.7
MUN Mundaring 63.16 203 *e*P **P** **08 40 15.0 -1.0**
SOKR Solikamsk 63.47 326*d* *i*P **P** **08 40 16.9 -0.7**
SOKR pmax pmax
comp=Z,150nm,1.0s,mb5.5
INK Inuvik 63.65 24 P **P** **08 40 18.1 -0.5**
comp=Z,7.1nm,0.7s,mb4.3,baz=291,slow=6.2,SNR=60
INK S **S** **08 48 10.8 -3.8**
comp=Z,1.2nm,0.8s,baz=114,slow=28,SNR=9.6
INK PKPPKP 09 09 06.6
comp=Z,1.4nm,1.0s,baz=198,slow=3.2,SNR=5.1
INK Inuvik 63.65 24 *e*P **P** **08 40 17.7 -0.9**
INK *e**PP pP 08 42 00.3 +1.8
INK pmax pmax
comp=Z,14nm,1.0s
INK Inuvik 63.65 24 *e*P **P** **08 40 17.7 -0.9**
comp=Z,14nm,1.0s,mb4.5
INK *e*pP pP 08 42 00.3 +1.9
NWAO Narrogin (SRO) 63.69 201 *e*P **P** **08 40 18.6 -0.8**
NWAO *e* 08 40 49.3
NWAO pmax pmax
comp=Z,42nm,0.8s
NWAO Narrogin (SRO) 63.69 201 *e*P **P** **08 40 18.6 -0.8**
comp=Z,42nm,0.8s,mb5.0
NWAO *e*PcP PcP 08 40 49.3 -1.4
AKTK Aktyubinsk 64.49 315 P **P** **08 40 23.2 -1.0**
AKTK S **S** **08 48 22.6 -2.4**
AKTO Aktyubinsk 64.49 315 P **P** **08 40 23.2 -1.0**
comp=Z,68nm,0.7s,mb5.3,baz=88,slow=7.5,SNR=230
AKTO S **S** **08 48 22.6 -2.4**
comp=Z,2.0nm,0.8s,baz=24,slow=19,SNR=3.6
TOO Toolangi 64.75 175 ⇓*i*P **P** **08 40 26.5 +0.4**
comp=Z,19nm,0.8s,mb4.8
TOO Toolangi 64.75 175 ⇓*i*P **P** **08 40 26.5 +0.4**
TOO pmax pmax
comp=Z,19nm,0.8s,mb4.8
KBS Kingsbay 70.01 351 *e*P **P** **08 40 58.1 +0.6**
KBS AMb AMB 08 41 00.5
comp=Z,110nm,1.5s,mb5.2
KBS Kingsbay 70.01 351 *i* P **P** **08 40 58.2 +0.6**
KBS Kingsbay 70.01 351 *e*P **P** **08 40 58.1 +0.6**
comp=Z,110nm,1.5s,mb5.2
TAU Tasmania Unive 70.20 174 *e*P **P** **08 40 59.4 +0.2**
TAU pmax pmax
comp=Z,24nm,0.7s,mb4.8
TAU Tasmania Unive 70.20 174 *e*P **P** **08 40 59.4 +0.2**
comp=Z,24nm,0.7s,mb4.8
APA Apatity 71.08 337 ⇑*i*P **P** **08 41 04.0 0.0**
APA *i* pP 08 42 45.0 -1.5
APA pmax pmax
comp=Z,210nm,1.0s,mb5.6
KLMR Klimovskoe 71.39 329*d* *i*P **P** **08 41 05.2 -0.7**
KLMR pmax pmax
comp=Z,180nm,1.4s,mb5.4
KEV Kevo 72.12 340 *ep* **P** **08 41 08.0 -2.0**
comp=Z,61nm,0.8s,mb5.2
KEV Kevo 72.12 340 *e*P **P** **08 41 08.0 -2.0**
KEV pmax pmax
comp=Z,61nm,0.8s,mb5.2
RES Resolute Bay 72.31 13 *e*P **P** **08 41 11.2 +0.2**
RES pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
RES Resolute Bay 72.31 13 *e*P **P** **08 41 11.2 +0.1**
comp=Z,10nm,1.0s,mb4.3
WBK Wadi Bani Khal 72.35 287 P **P** **08 41 12.7 +0.6**
SNR=38
ARCES ARCESS Array B 72.68 340 P **P** **08 41 12.9 -0.2**
comp=Z,69nm,0.7s,mb5.3,baz=70,slow=8.2,SNR=270
ARE0 ARCESS Array S 72.68 340 *e*P **P** **08 41 13.0 -0.2**
BIDO Bidbid 72.72 288 P **P** **08 41 15.1 +0.8**
SNR=28
YKW3 Yellowknife Ar 72.85 28 *e*P **P** **08 41 13.9 -0.3**
YKA Yellowknife Ar 72.88 28 P **P** **08 41 14.4 0.0**
comp=Z,8.9nm,0.8s,mb4.4,baz=295,slow=6.1,SNR=32
YKA S S 08 49 57.3 -4.3
comp=Z,0.4nm,0.9s,baz=292,slow=10.0,SNR=4.0
YKA PKPPKP 09 08 51.6
comp=Z,0.3nm,0.8s,baz=121,slow=2.4,SNR=4.1
YKA Yellowknife Ar 72.88 28 P **P** **08 41 14.4 0.0**
YKA S S 08 49 57.3 -4.3
YKA P'P' 09 08 51.6
SMDO Samad 72.96 287 P **P** **08 41 16.2 +0.5**
SNR=16
JMDO Jabal Madar 73.18 287 P **P** **08 41 17.2 +0.2**
SNR=21
BANOM Banah 73.33 291 P **P** **08 41 18.4 +0.6**
SNR=10.0
BANOM P 08 41 18.6
SNR=13
HOQ Hoqain 73.38 288 P **P** **08 41 18.4 +0.2**
SNR=54
KTK1 Kautokeino 73.64 340 *e*P **P** **08 41 19.4 +0.7**
BSY Bisya 73.80 288 P **P** **08 41 21.1 +0.6**
SNR=71
JOF Joensuu 74.00 333 *ep* **P** **08 41 17.8 -3.0**
comp=Z,77nm,0.5s,mb5.5
ASHO Ashiyiah 74.01 290 P **P** **08 41 22.0 +0.3**
SNR=35
ASHO P 08 41 22.1
SNR=12
ARQ Araqi 74.14 288 P **P** **08 41 23.3 +0.9**
SNR=60
VRHR Novokhopersk 74.16 320 *e*P **P** **08 41 21.4 -0.6**
VRHR pmax pmax
comp=Z,120nm,0.5s,mb5.7
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,60nm,1.3s
MOS Moscow 74.40 325 ⇑*i*P **P** **08 41 22.1 -1.1**
MOS *i* 08 41 33.4
MOS *e* 08 44 12.4
MOS pmax pmax
comp=Z,400nm,1.6s,mb5.7
MOS pmax pmax
comp=Z,220nm,1.2s,mb5.6
TRO Tromso 74.52 342 *e*P **P** **08 41 22.7 -0.9**
OBN Obninsk 75.22 325*d* *i*P **P** **08 41 27.4 -0.4**
OBN *i* 08 41 37.4
OBN *i* S S 08 50 24.1 -3.1
OBN *i* 08 50 47.8
OBN pmax pmax
comp=Z,125nm,0.8s,mb5.5
OBN Obninsk 75.22 325 *e*P **P** **08 41 27.6 -0.2**
comp=Z,119nm,0.8s,mb5.5
VRSR Storozhevoye 75.51 320*d* *i*P **P** **08 41 28.9 -0.6**
VRSR *e*S S 08 50 26.5 -3.9
VRSR *e*SS SS 08 55 33.4 -3.4
VRSR pmax pmax
comp=Z,1.0nm,1.0s
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,30nm,0.9s
VRSR smax
comp=N,10.0nm,0.9s
VRSR smax
comp=E,10.0nm,1.0s
VRSR smax
comp=Z,1.0nm,1.0s
DGRG David-gareji 75.67 309 P **P** **08 41 30.2 -0.4**
GOF Gofitskoye 75.77 313 ⇑*i*P **P** **08 41 31.7 +0.7**
GOF pmax pmax
comp=Z,100nm,0.7s,mb5.5
MTA Mtatsminda 75.97 310 P **P** **08 41 32.4 +0.2**
KAF Kangasniemi 76.41 334 *ep* **P** **08 41 31.4 -2.8**
comp=Z,101nm,0.5s,mb5.6
KAF Kangasniemi 76.41 334 *e*P **P** **08 41 31.4 -2.8**
KAF pmax pmax
comp=Z,101nm,0.5s,mb5.6
KIV Kislovodsk 76.45 313 *e*P **P** **08 41 35.1 +0.3**
KIV *e* 08 41 44.2
KIV *e**PP pP 08 43 23.6 +4.5
KIV *e*PPP PPP 08 46 25.9 -0.4
KIV *e*S S 08 50 39.5 -1.1
KIV *e*SS SS 08 55 52.7 +1.3
KIV pmax pmax
comp=Z,133nm,1.0s,mb5.4
KIV Kislovodsk 76.45 313 *e*P **P** **08 41 35.7 +0.9**
comp=Z,379nm,1.5s,mb5.7
GNI Garni 76.64 308 P **P** **08 41 36.6 +0.7**
GNI Garni 76.64 308 P **P** **08 41 37.2 +1.3**
comp=Z,32nm,0.8s,mb4.9,baz=16,slow=1.2,SNR=32
GNI Garni 76.64 308*d* *i*P **P** **08 41 37.0 +1.1**
FINES FINESS Array B 76.87 333 P **P** **08 41 35.9 -0.8**
comp=Z,87nm,0.5s,mb5.6,baz=70,slow=5.8,SNR=441
AKH Akhalkalaki 76.98 310 P **P** **08 41 38.8 +1.0**
LOF Lofoten 76.98 342 *e*P **P** **08 41 39.0 +1.8**
CROR Criterion Ridg 77.16 46 P **P** **08 41 39.9 +1.2**
MDW Midway 77.22 44 P **P** **08 41 40.1 +1.2**
GBL Gable Mountain 77.41 44 P **P** **08 41 41.0 +1.1**
HAWA Hanford 77.46 44 *e*P **P** **08 41 40.7 +0.5**
comp=Z,1.0nm,1.0s
DIGO Kars 77.48 309 *i* P **P** **08 41 40.3 -0.2**
WRD Warden 77.52 44 P **P** **08 41 41.3 +0.8**
OT3 Othello 3 77.52 44 P **P** **08 41 41.9 +1.3**
VIPM Ingram Point 77.60 46 P **P** **08 41 42.5 +1.4**
CLDR Caldiran 77.64 308 P **P** **08 41 41.3 -0.1**
EDM Edmonton 77.81 36 *e*P **P** **08 41 42.2 +0.2**
EDM *e*pP pP 08 43 25.6 -1.2
MOR8 Moi Rana 78.05 340 *e*P **P** **08 41 41.2 -1.9**
MOR8 AMb AMB 08 41 43.0
comp=Z,135nm,1.2s,mb5.2
MOR8 Moi Rana 78.05 340 *e*P **P** **08 41 41.2 -1.9**
comp=Z,135nm,1.2s,mb5.2
ARTV Artvin 78.14 310 *i* P **P** **08 41 43.8 -0.2**

VSU Vasula 78.24 330 ⇓*i*P P **08 41 44.2 0.0**
TVAN Van 78.26 307 *i* P P **08 41 44.3 -0.4**
HAKT HAKKARI 78.46 306 *i* P P **08 41 44.9 -0.9**
SOC Sochi 78.55 313 *d* iP P **08 41 45.2 -0.9**
SOC *e* 08 41 50.0
SOC *e**PP pP 08 43 31.7 +0.6
SOC *e* 08 44 45.1
SOC *e*S S 08 50 58.4 -4.3
SOC *e*SS SS 08 56 15.5 -6.9
SOC *e*SSS SSS 08 59 37.6 -8.8
SOC pmax pmax
comp=Z,129nm,0.8s,mb5.5
SOC pmax pmax
comp=Z,78nm,0.6s,mb5.4
WHFO Wadi Hawf 78.71 284 P P **08 41 47.1 -0.3**
SNR=22
UMR Umm Al-Rimmam 78.84 297 *e*P P **08 41 47.9 -0.1**
UMR AMb AMB 08 41 48.8
comp=Z,299nm,0.5s,mb6.0
KBD Kabd 79.02 297 *e*P P **08 41 49.0 +0.1**
KBD AMb AMB 08 41 49.9
comp=Z,905nm,0.8s
QRN Al-Qurain 79.02 297 *e*P P **08 41 48.9 -0.1**
QRN AMb AMB 08 41 49.7
comp=Z,440nm,0.7s,mb6.1
HASS Wahat al Ahsa' 79.08 293 P P **08 41 49.2 -0.1**
ERZM Erzurum 79.09 309 *i* P P **08 41 49.3 +0.3**
EZM Erzurum 79.09 309 P P **08 41 50.3 +1.2**
RDF Al-Radifah 79.23 297 *e*P P **08 41 50.0 -0.1**
RDF AMb AMB 08 41 51.0
comp=Z,526nm,0.6s
NAY Al-Naaiem 79.34 297 *e*P P **08 41 50.5 -0.1**
NAY AMb AMB 08 41 52.3
comp=Z,453nm,0.7s,mb6.1
ABTO Aybut 79.36 284 P P **08 41 51.1 +0.3**
SNR=22
ANN Anapa 79.45 315 *e*P P **08 41 49.9 -0.9**
ANN *e* 08 44 58.9
ANN *e*S S 08 51 09.7 -2.2
ANN pmax pmax
comp=Z,210nm,0.7s,mb5.8
BMO Blue Mountains 79.55 45 *e*P P **08 41 52.2 +0.8**
comp=Z,23nm,1.1s,mb4.6
BMO *e*pP pP 08 43 34.1 -2.6
BSMT Bassoo Peak 79.64 41 P P **08 41 53.4 +1.6**
WVOR Wild Horse Val 79.83 48 *e*P P **08 41 53.5 +0.7**
comp=Z,17nm,1.4s,mb4.4
NSS Namsos 79.94 340 *e*P P **08 41 51.7 -1.3**
GUMT Gumushane 80.12 310 P P **08 41 55.6 +1.2**
SUMG Summit 80.37 360 *e*P P **08 41 55.9 +0.8**
comp=Z,55nm,1.0s,mb5.0
SUMG *e*pP pP 08 43 41.6 +1.0
KELT Kelkit 80.42 310 *i* P P **08 41 56.3 +0.3**
MARD Mardin 80.66 307 *i* P P **08 41 57.0 -0.3**
GRSN GIRESUNGRSN 80.72 311 *i* P P **08 41 56.1 -1.5**
PTK Pertek 80.91 309 P P **08 41 59.0 +0.5**
AKASG Malin Array Be 81.26 323 P P **08 41 59.4 -0.8**
comp=Z,102nm,0.7s,mb5.4,baz=51,slow=5.3,SNR=280
AKASG S 08 51 26.6 -3.6
comp=Z,1.3nm,0.7s,baz=46,slow=8.1,SNR=9.4
ELZG Elazig 81.37 309 *i* P P **08 42 01.5 +0.5**
MYA Malataya 81.84 309 *e*P P **08 42 05.2 +1.9**
MALT Malatya 81.85 309 P P **08 42 04.0 +0.6**
MALT Malatya 81.85 309 ⇓P P **08 42 05.2 +1.8**
NVAR Mina Array Bea 81.93 51 P P **08 42 05.2 +1.4**
comp=Z,4.3nm,0.6s,mb4.2,baz=293,slow=5.3,SNR=36
NVAR pP pP 08 43 50.6 +0.8
comp=Z,2.0nm,0.7s,baz=281,slow=4.7,SNR=2.8
HRY Holter Researc 81.96 41 *e*P P **08 42 04.6 +0.9**
HRY epP pP 08 43 52.9 +3.1
URFA Urfa 81.98 308 *e*P P **08 42 04.2 +0.1**
HLID Hailey 82.00 45 *e*P P **08 42 05.4 +1.4**
comp=Z,6.6nm,0.8s,mb4.2
HLID *e*pP pP 08 43 50.0 -0.1
RYDS Riyadh 82.02 293 P P **08 42 04.1 -0.4**
SVSK Karacayir 82.06 311 P P **08 42 05.7 +1.4**
KVT Kavak 82.12 312 P P **08 42 04.8 +0.1**
SVST Sivas 82.16 311 *i* P P **08 42 06.1 +1.2**
TOKT Tokat 82.17 311 P P **08 42 05.7 +0.8**
DLMT Dillon 82.20 43 *e*P P **08 42 05.5 +0.5**
comp=Z,28nm,1.2s,mb4.7
DLMT *e*pP pP 08 43 50.6 -0.5
ATAB Bozova 82.34 308 *i* P P **08 42 05.8 -0.1**
SUW Suwalki 82.42 328 ⇓*e*P P **08 42 05.5 -0.4**
SUW Suwalki 82.42 328 ⇓*e*P P **08 42 05.5 -0.4**
EGMT Eagleton 82.46 39 *e*P P **08 42 07.0 +0.8**
comp=Z,19nm,1.0s,mb4.6
DOMB Dombas 82.64 339 *e*P P **08 42 06.5 -0.4**
NB2 NORSAR Subarra 82.67 337 P P **08 42 06.4 -0.6**
comp=Z,80nm,0.7s,mb5.4,baz=49,slow=4.6
NB2 NORSAR Subarra 82.67 337 P P **08 42 06.4 -0.6**
baz=49,slow=4.6
NB2 NORSAR Subarra 82.67 337 P P **08 42 06.4 -0.6**
NB2 pmax pmax
comp=Z,80nm,0.7s,mb5.4
NOA NORSAR Array B 82.67 337 P P **08 42 06.0 -1.0**
comp=Z,80nm,0.7s,mb5.3,baz=47,slow=4.8,SNR=199
NOA pP pP 08 43 53.6 +0.4
comp=Z,7.0nm,0.9s,baz=42,slow=5.3,SNR=2.1
NOA PP PP 08 45 23.8 -1.9
comp=Z,8.3nm,0.9s,baz=47,slow=8.0,SNR=7.3
NOA S S 08 51 38.6 -5.3
comp=Z,3.4nm,1.0s,baz=49,slow=9.6,SNR=3.4
BOYT Boyabat 82.71 313 *i* P P **08 42 07.3 -0.3**
MOL Molde 82.73 340 *e*P P **08 42 07.6 +0.3**
MOL AMb AMB 08 42 10.1
comp=Z,170nm,1.4s,mb5.4
MOL Molde 82.73 340 *e*P P **08 42 07.6 +0.3**
comp=Z,170nm,1.4s,mb5.4
ELK Elko 82.87 48 *e*P P **08 42 09.6 +1.2**
ELK *e**PP pP 08 43 52.4 -2.3
ELK pmax pmax
comp=Z,8.0nm,0.9s
ELK Elko 82.87 48 *e*P P **08 42 09.6 +1.2**
comp=Z,7.6nm,0.9s,mb4.2
ELK *e*pP pP 08 43 52.4 -2.4
NAO01 NORSAR Array S 82.92 337 *e*P P **08 42 07.1 -1.2**
comp=Z,48nm,0.8s,mb5.1
CTKT Corum 83.18 312 *i* P P **08 42 09.9 -0.1**
QLMT Earthquake Lak 83.18 43 *e*P P **08 42 11.7 +1.8**
QLMT *e*pP pP 08 43 57.1 +0.8
GAZ Gaziantep 83.24 308 P P **08 42 11.2 +0.9**
MZLS Mizel 83.26 293 P P **08 42 11.6 +0.9**
FCC Fort Churchill 83.26 25 *e*P P **08 42 09.4 -0.6**
FCC *e**PP pP 08 43 59.9 +3.5
FCC pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
FCC Fort Churchill 83.26 25 *e*P P **08 42 09.3 -0.7**
comp=Z,4.1nm,0.7s,mb4.1
FCC *e*pP pP 08 43 59.9 +3.5
BNN Bunyan 83.36 310 P P **08 42 11.5 +0.6**
TOS Tosya 83.47 313 *e*P P **08 42 12.3 +0.9**
CORM Corum 83.51 312 P P **08 42 11.4 -0.2**
BALT Daday 83.63 314 *i* P P **08 42 11.7 -0.5**
CDAG Cicekdag 83.96 312 *i* P P **08 42 12.4 -1.6**
IMW Indian Meadow 83.98 43 *e*P P **08 42 15.6 +1.7**
comp=Z,13nm,1.0s,mb4.4
TPNV Topopah Spring 84.07 51 *e*P P **08 42 15.6 +1.1**
TPNV pmax pmax
comp=Z,12nm,1.0s,mb4.4
TPNV Topopah Spring 84.07 51 *e*P P **08 42 15.6 +1.0**
comp=Z,12nm,1.0s,mb4.4
TPNV *e*pP pP 08 43 55.4 -5.8
ELDT Eldivan 84.14 313 *i* P P **08 42 13.8 -1.0**
HYA Hoyanger 84.22 339 *e*P P **08 42 16.0 +1.4**
HYA AMb AMB 08 42 17.6
comp=Z,166nm,1.0s,mb5.5
HYA Hoyanger 84.22 339 *e*P P **08 42 16.0 +1.4**
comp=Z,166nm,1.0s,mb5.5
COBT Iskenderun 84.23 308 *i* P P **08 42 14.9 -0.4**
KONO Kongsberg 84.23 337 *e*P P **08 42 14.1 -0.7**
FOO Floro 84.23 340 *e*P P **08 42 14.8 +0.1**
FOO AMb AMB 08 42 16.0
comp=Z,68nm,0.8s,mb5.2
FOO Floro 84.23 340 *e*P P **08 42 14.8 +0.1**
comp=Z,68nm,0.8s,mb5.2
REDW Red Top Meadow 84.32 44 *e*P P **08 42 17.2 +1.6**
comp=Z,14nm,1.5s,mb4.3
BR131 Keskin Array S 84.39 312 *e*P P **08 42 15.4 -0.7**
comp=Z,21nm,0.7s,mb4.8
BRTR Keskin Array B 84.39 312 P P **08 42 15.8 -0.2**
comp=Z,26nm,0.8s,mb4.8,baz=102,slow=4.2,SNR=102
BRTR pP pP 08 44 04.8 +2.0
comp=Z,2.6nm,0.9s,baz=124,slow=6.2,SNR=2.0

HILS Ha'il 84.47 298 P P **08 42 17.5 +0.8**
DUG Dugway 84.74 47 *e*P P **08 42 19.1 +1.3**
DUG pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
DUG Dugway 84.74 47 *e*P P **08 42 19.1 +1.3**
comp=Z,5.9nm,0.8s,mb4.3
DUG *e*pP pP 08 44 01.4 -3.2
CFR Carcaliu 84.91 319 ⇑P P **08 42 17.4 -1.0**
CFR Carcaliu 84.91 319 ⇑P P **08 42 17.4 -1.0**
SGKT Sivrigoynuk 84.99 313 *i* P P **08 42 17.2 -1.7**
ASK Askoy 85.05 339 *e*P P **08 42 19.0 +0.2**
BER Bergen 85.09 339 *e*P P **08 42 19.4 +0.5**
BER AMb AMB 08 42 21.5
comp=Z,74nm,1.7s,mb5.0
BER Bergen 85.09 339 *e*P P **08 42 19.4 +0.5**
comp=Z,74nm,1.7s,mb5.0
AFFS 'Afif 85.10 294 P P **08 42 20.5 +0.6**
TIRR Tirgusor 85.15 318 ⇓P P **08 42 19.9 +0.3**
TIRR Tirgusor 85.15 318 ⇓P P **08 42 19.9 +0.3**
BURAR Bucovina Array 85.18 322 ⇓P P **08 42 19.7 0.0**
BURAR Bucovina Array 85.18 322 ⇓P P **08 42 19.7 +0.1**
EGD Espegrend 85.21 339 *e*P P **08 42 19.9 +0.4**
MERS Mersin 85.26 309 *e*P P **08 42 20.0 -0.4**
HARR Harsova 85.31 318 ⇓P P **08 42 19.8 -0.6**
KWP Kalwaria 85.31 325 ⇓*e*P P **08 42 20.5 +0.2**
KWP Kalwaria 85.31 325 *e*P P **08 42 20.1 -0.2**
comp=Z,119nm,0.9s,mb5.5
VRI Vrincioaia 85.34 320 ⇓P P **08 42 22.0 +1.5**
BSD Bornholm Skovb 85.41 332 *i* P P **08 42 19.3 -1.3**
comp=Z,55nm,1.0s,mb5.1
BSD Bornholm Skovb 85.41 332 ⇓*i*P P **08 42 21.7 +1.1**
BSD pmax pmax
comp=Z,22nm,0.7s,mb4.9
PDAR Pinedale Array 85.44 44 P P **08 42 22.3 +1.3**
comp=Z,2.5nm,0.9s,baz=241,slow=2.6,SNR=18
PDAR pP pP 08 44 09.1 +1.1
comp=Z,6.4nm,1.1s,baz=349,slow=1.4,SNR=3.9
PDAR PP PP 08 45 44.5 -3.4
comp=Z,1.9nm,1.0s,baz=304,slow=5.3,SNR=3.9
KAMS Al Khamasin 85.46 290 P P **08 42 21.6 -0.1**
PFO Pinyon Flat Ob 85.58 54 *e*P P **08 42 22.8 +0.8**
comp=Z,26nm,1.3s,mb4.7
PFO *e*pP pP 08 44 08.2 -0.8
MDU Mudurnu 85.59 314 *e*P P **08 42 20.9 -0.9**
SFJ Sondre 85.64 4 ⇓*i*P P **08 42 21.7 +0.2**
comp=Z,22nm,0.7s,mb4.9
SFJD Kangerlussuaq 85.64 4 ⇓*i*P P **08 42 21.7 +0.2**
comp=Z,22nm,0.7s,mb4.9
NEN Nelson 85.70 52 *e*P P **08 42 23.4 +0.9**
NEN *e*pP pP 08 44 09.9 +0.3
PSN Preselentsi 85.72 317 *i* P P **08 42 23.0 +0.6**
KOLS Kolonicke sedl 85.96 324 *e*P P **08 42 23.0 -0.4**
KOLS *e*PP PP 08 45 47.0 -4.9
MLR Muntele Rosu 86.00 320 P P **08 42 23.8 +0.1**
comp=Z,17nm,1.0s,mb4.7,baz=49,slow=3.6,SNR=11
MLR Muntele Rosu 86.00 320 ⇑P P **08 42 23.7 0.0**
MLR Muntele Rosu 86.00 320 ⇑P P **08 42 23.7 0.0**
SNART Snartemo 86.03 337 *e*P P **08 42 23.2 -0.2**
IKL Isikli 86.16 309 P P **08 42 24.2 -0.4**
STHS Stubnicka Huta 86.19 325 *e*P P **08 42 25.0 +0.5**
ESKT Eskisehir 86.33 313 P P **08 42 24.4 -1.1**
ESKT Eskisehir 86.33 313 *i* P P **08 42 23.2 -2.2**
OJC Ojcow 86.41 326 *e*P P **08 42 25.4 -0.1**
VOIR 86.55 320 ⇑P P **08 42 26.5 +0.2**
VOIR 86.55 320 ⇑P P **08 42 26.5 +0.2**
NIE Niedzica 86.66 325 *e*P P **08 42 27.6 +0.9**
TATS Tathlith 86.73 290 P P **08 42 28.0 +0.2**
MUD Monsted U'grnd 86.74 335 *i* P P **08 42 25.4 -1.5**
comp=Z,32nm,1.0s,mb5.0
MUD *i* 08 45 37.2
MUD Monsted U'grnd 86.74 335 *i* P P **08 42 25.4 -1.5**
MUD pmax pmax
comp=Z,32nm,1.0s,mb5.0
DRGR 87.04 322 P P **08 42 27.8 -0.8**
CSS Prodhromos 87.07 308 *e*P P **08 42 28.4 -0.7**
comp=Z,43nm,0.9s,mb5.2
ULDT Uludag 87.10 314 *i* P P **08 42 27.6 -1.5**
KECS Kecovo 87.17 325 *e*P P **08 42 28.4 -0.8**
KECS *e*PP PP 08 45 59.0 -3.4
KBRS Khaybar 87.22 298 P P **08 42 31.0 +1.0**
JMB Yambol 87.38 317 *i* P P **08 42 30.5 +0.2**
OKC Ostrava-Krasne 87.47 327 *e*P P **08 42 29.0 -1.6**
TKTP Tekketepe 87.48 312 *i* P P **08 42 27.9 -3.0**
KSP Ksiaz 87.69 328 ⇓*e*P P **08 42 31.6 0.0**
KSP Ksiaz 87.69 328 ⇓*i*P P **08 42 31.5 -0.1**
MORC Moravsky Berou 87.81 327 ⇓P P **08 42 31.9 -0.3**
MORC Moravsky Berou 87.81 327 *e*P P **08 42 31.4 -0.8**
comp=Z,28nm,0.8s,mb5.0
PSZ Piszkesteto 87.83 324 *e*P P **08 42 32.4 +0.1**
PSZ pmax pmax
comp=Z,66nm,1.0s,mb5.3
PSZ Piszkesteto 87.83 324 *e*P P **08 42 32.4 +0.1**
comp=Z,66nm,1.0s,mb5.3
VYHS Vyhne 88.00 325 *e*P P **08 42 33.1 0.0**
DPC Dobruska-Polom 88.01 328 *e*P P **08 42 33.2 +0.1**
UPC Upice 88.05 328 *e*P P **08 42 33.2 -0.1**
BSEG Bad Segeberg 88.14 333 *e*P P **08 42 33.1 -0.5**
DIM Dimitrovgrad 88.25 317 *i* P P **08 42 34.8 +0.4**
ULM Lac du Bonnet 88.33 32 P P **08 42 34.3 -0.3**
comp=Z,1.1nm,0.7s,baz=251,slow=4.8,SNR=4.1
BZS Buzias 88.36 322 ⇓P P **08 42 34.2 -0.7**
BZS Buzias 88.36 322 ⇓P P **08 42 34.2 -0.7**
VRAC Vranov 88.58 327 P P **08 42 36.0 +0.2**
PV01 Paradox Valley 88.63 47 *e*P P **08 42 37.0 +0.7**
PV01 *e*pP pP 08 44 22.4 -1.6
PV01 *e*PP PP 08 46 10.4 -3.9
SMOL Smolenice 88.70 326 *i* P P **08 42 36.5 +0.1**
PVCC Panska Ves 88.71 329 *e*P P **08 42 36.2 -0.2**
BRG Berggiesshubel 88.76 329 *i* P P **08 42 35.8 -0.8**
BRG *i* 08 46 13.2
BRG pmax pmax
comp=Z,47nm,1.3s,mb5.2
BRG Berggiesshubel 88.76 329 *i* P P **08 42 35.8 -0.8**
comp=Z,47nm,1.3s,mb5.2
BRG *i* 08 46 13.2
CLL Collm 88.88 330 ⇓P P **08 42 36.5 -0.7**
comp=Z,logA/T=1.7,mb5.3
CLL *e**PP pP 08 44 23.0 -1.9
CLL *e*PP PP 08 46 13.0 -2.9
CLL *e*S S 08 52 47.0 +4.5
CLL Collm 88.88 330 ⇓*i*P P **08 42 36.5 -0.7**
CLL *e*S S 08 52 47.0 +4.5
CLL pmax pmax
comp=Z,72nm,1.3s,mb5.3
CLL Collm 88.88 330 ⇓*i*P P **08 42 36.5 -0.7**
comp=Z,72nm,1.3s,mb5.3
CLL *e*S S 08 52 47.0 +4.5
RZN Rozhen 88.96 317 *i* P P **08 42 38.0 +0.2**
ZST Bratislava 89.07 326 *e*P P **08 42 38.3 +0.2**
PRU Pruhonice 89.10 328 *e*P P **08 42 37.9 -0.3**
TREC Trest 89.12 327 *e*P P **08 42 37.9 -0.4**
VTS Vitosha 89.31 319 ⇓P P **08 42 43.2 +3.8**
VTS Vitosha 89.31 319 *i* P P **08 42 39.5 +0.1**
VTS ⇓P 08 42 43.2
PKSM Moragy 89.58 324 P P **08 42 40.0 -0.6**
MMB Musomiste 89.61 318 *i* P P **08 42 40.0 -0.8**
CLZ Clausthal 89.65 331 *e*P P **08 42 40.3 -0.4**
CLZ pmax pmax
comp=Z,29nm,0.9s,mb5.1
CLZ Clausthal 89.65 331 *e*P P **08 42 40.3 -0.4**
comp=Z,29nm,0.9s,mb5.1
CLZ *e*pP pP 08 44 35.2 +6.6
KKB Krupnik 89.83 318 *i* P P **08 42 41.0 -0.8**
NKC Novy Kostel 89.89 329 *e*P P **08 42 42.1 +0.3**
RHK1 Bakonya 89.96 324 ⇓*i*P P **08 42 42.2 -0.1**
MOX Moxa 89.97 330 *i* P P **08 42 42.0 -0.2**
comp=Z,logA/T=1.5,mb5.1
MOX pP PP 08 46 22.0 -2.5
MOX Moxa 89.97 330 *e*P P **08 42 42.0 -0.2**
MOX *e**PP PP 08 46 21.9 -2.6
MOX pmax pmax
comp=Z,45nm,1.4s,mb5.1
MOX Moxa 89.97 330 *e*P P **08 42 42.0 -0.2**
comp=Z,45nm,1.4s,mb5.1
MOX *e*pP PP 08 46 21.9 -2.6
KHC Kasperske Hory 90.14 328 *e*P P **08 42 42.7 -0.3**
KHC *i* x x 08 42 51.5
KHC Kasperske Hory 90.14 328 *d* iP P **08 42 42.8 -0.2**
KHC Kasperske Hory 90.14 328 *e*P P **08 42 42.7 -0.3**
KHC *e* 08 42 51.5
GEC2 GERESS Array S 90.29 328 *e*P P **08 42 43.3 -0.4**
GEC2 pmax pmax
comp=Z,49nm,1.0s,mb5.3

GEC2 GERESS Array S 90.29 328 *e*P P **08 42 43.3 -0.4**
comp=Z,49nm,1.0s,mb5.3
GERES GERESS Array B 90.29 328 P P **08 42 43.2 -0.5**
comp=Z,25nm,0.8s,mb5.1,baz=45,slow=3.8,SNR=114
GERES PP PP 08 46 24.1 -2.9
comp=Z,3.2nm,0.8s,baz=45,slow=9.4,SNR=5.5
WET Wettzell 90.46 328 *e*P P **08 42 44.2 -0.3**
WET pmax pmax
comp=Z,24nm,1.1s,mb4.9
WET Wettzell 90.46 328 *e*P P **08 42 44.2 -0.3**
comp=Z,24nm,1.1s,mb4.9
ARSA Arzberg 90.50 326 *i* P P **08 42 44.7 0.0**
comp=Z,68nm,1.3s,mb5.3,SNR=14
ARSA Arzberg 90.50 326 *i* P P **08 42 44.7 0.0**
comp=Z,68nm,1.3s,mb5.3
MOA Molln 90.71 327 *i* P P **08 42 45.5 -0.2**
comp=Z,36nm,0.9s,mb5.3,SNR=24
MOA Molln 90.71 327 *i* P P **08 42 45.5 -0.2**
comp=Z,36nm,0.9s,mb5.3
GRA1 Grafenberg Arr 90.83 330 *e*P P **08 42 46.3 +0.1**
comp=Z,88nm,1.1s,mb5.6
GRF Grafenberg Arr 90.83 330 *e*P P **08 42 46.3 +0.1**
GRF pmax pmax
comp=Z,88nm,1.1s,mb5.6
GRF Grafenberg Arr 90.83 330 *e*P P **08 42 46.3 +0.1**
GRF pmax pmax
comp=Z,88nm,1.1s,mb5.6
GRF Grafenberg Arr 90.83 330 *e*P P **08 42 46.3 +0.1**
comp=Z,88nm,1.1s,mb5.6
PERS Pernice 91.12 326 *e*P P **08 42 47.1 -0.5**
OBKA Obir 91.49 326 ⇓*i*P P **08 42 48.7 -0.6**
comp=Z,23nm,0.7s,mb5.2
PDKS Podkum 91.57 325 *e*P P **08 42 49.1 -0.6**
TNS Taunus Mts 91.66 331 *e*P P **08 42 49.6 -0.4**
TNS pmax pmax
comp=Z,15nm,0.8s,mb5.0
TNS Taunus Mts 91.66 331 *e*P P **08 42 49.6 -0.4**
comp=Z,15nm,0.8s,mb5.0
KBA Koelnbreinsper 91.69 327 ⇓*i*P P **08 42 49.5 -0.7**
comp=Z,47nm,1.7s,mb5.1,SNR=9.0
KBA Koelnbreinsper 91.69 327 ⇓*i*P P **08 42 49.5 -0.7**
KBA pmax pmax
comp=Z,47nm,1.7s,mb5.1
KBA Koelnbreinsper 91.69 327 ⇓*i*P P **08 42 49.5 -0.7**
comp=Z,47nm,1.7s,mb5.1
LJU Ljubljana 91.82 325 *e*P P **08 42 50.0 -0.8**
BOJS Bojanci 91.82 325 *e*P P **08 42 50.5 -0.3**
ANMO Albuquerque 91.84 49 *i* P P **08 42 52.7 +1.5**
FUR Furstenfeldbru 91.91 328 *e*P P **08 42 51.4 +0.2**
FUR pmax pmax
comp=Z,162nm,0.9s,mb6.0
FUR Furstenfeldbru 91.91 328 *e*P P **08 42 51.4 +0.2**
comp=Z,162nm,0.9s,mb6.0
TOD Tromm 91.97 331 *e*P P **08 42 51.1 -0.3**
CEY Cerknica 92.08 325 *e*P P **08 42 51.4 -0.6**
VOY Vojsko 92.15 326 *e*P P **08 42 51.5 -0.8**
JAVS Javornik 92.16 326 *e*P P **08 42 51.4 -1.0**
WATA Walderalm 92.36 328 ⇓*i*P P **08 42 52.8 -0.5**
comp=Z,19nm,1.1s,mb4.9
WATA Walderalm 92.36 328 ⇓P P **08 42 52.8 -0.5**
WATA pmax pmax
comp=Z,19nm,1.1s,mb4.9
STU Stuttgart 92.41 330 *e*P P **08 42 53.1 -0.4**
STU pmax pmax
comp=Z,73nm,1.0s,mb5.6
STU Stuttgart 92.41 330 *e*P P **08 42 53.1 -0.4**
comp=Z,73nm,1.0s,mb5.6
MOTA Moosalm 92.58 328 ⇓*i*P P **08 42 53.7 -0.6**
comp=Z,24nm,1.1s,mb5.1,SNR=8.3
MOTA Moosalm 92.58 328 ⇓*i*P P **08 42 53.7 -0.6**
MOTA pmax pmax
comp=Z,24nm,1.1s,mb5.1
SQTA Sankt Quirin 92.62 328 ⇓*i*P P **08 42 53.8 -0.7**
comp=Z,15nm,1.0s,mb5.0
SQTA Sankt Quirin 92.62 328 ⇓P P **08 42 53.8 -0.7**
SQTA pmax pmax
comp=Z,15nm,1.0s,mb5.0
SQTA Sankt Quirin 92.62 328 ⇓P P **08 42 53.8 -0.7**
comp=Z,15nm,1.0s,mb5.0
LANF Langenberg 92.87 331 *e*P P **08 42 55.2 -0.4**
WLF Walferdange 93.06 332 *e*P P **08 42 56.3 -0.1**
WLF pmax pmax
comp=Z,36nm,1.1s,mb5.3
WLF Walferdange 93.06 332 *e*P P **08 42 56.3 -0.1**
comp=Z,36nm,1.1s,mb5.3
BFO Black Forest 93.13 330 *e*P P **08 42 56.3 -0.5**
BFO pmax pmax
comp=Z,56nm,1.1s,mb5.5
BFO Black Forest 93.13 330 *e*P P **08 42 56.3 -0.5**
comp=Z,56nm,1.1s,mb5.5
DAVA Damuels 93.19 329 *i* P P **08 42 56.8 -0.3**
comp=Z,67nm,1.2s,mb5.5,SNR=12
DAVA Damuels 93.19 329 *i* P P **08 42 56.8 -0.3**
comp=Z,67nm,1.2s,mb5.5
GIVF Givet 93.26 333 *e*P P **08 42 56.1 -1.3**
WLS Welschbruch 93.50 331 *e*P P **08 42 58.0 -0.5**
CDF Champ du Feu 93.53 331 *e*P P **08 42 57.6 -1.0**
comp=Z,68nm,1.1s,mb5.3
CDF Champ du Feu 93.53 331 *e*P P **08 42 57.6 -1.0**
CDF pmax pmax
comp=Z,34nm,1.1s,mb5.3
LIBD Limburg 93.58 330 *e*P P **08 42 58.5 -0.4**
ECH Echery 93.73 331 *e*P P **08 42 59.0 -0.5**
ECH Echery 93.73 331 *e*P P **08 42 58.8 -0.7**
MOF Molkenrain 94.02 330 *e*P P **08 43 00.2 -0.7**
BBS Basel-Blauen 94.14 330 *e*P P **08 42 56.1 -5.4**
HINF Hinteralfeld 94.17 330 *e*P P **08 43 00.0 -1.6**
comp=Z,42nm,1.1s,mb5.1
HINF Hinteralfeld 94.17 330 *e*P P **08 43 00.0 -1.6**
HINF pmax pmax
comp=Z,21nm,1.1s,mb5.1
THEF They Montfort 94.23 331 *e*P P **08 43 01.0 -0.8**
HAU Haudompre 94.24 331 *e*P P **08 43 00.6 -1.3**
comp=Z,19nm,0.8s,mb4.9
HAU Haudompre 94.24 331 *e*P P **08 43 00.6 -1.3**
HAU pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MEZF Maiziares J'vi 94.41 332 *e*P P **08 43 01.9 -0.8**
comp=Z,71nm,1.2s,mb5.3
LOMF Lomont 94.53 330 *e*P P **08 43 02.4 -0.8**
AQU L'Aquila 94.96 323 *e*P P **08 43 05.2 -0.1**
AQU pmax pmax
comp=Z,38nm,0.9s,mb5.4
AQU L'Aquila 94.96 323 *e*P P **08 43 05.2 -0.1**
comp=Z,38nm,0.9s,mb5.4
SCHQ Schefferville 95.00 15 P P **08 43 01.8 -3.4**
comp=Z,3.6nm,0.9s,mb4.4,baz=14,slow=4.2,SNR=7.5
SCHQ PKKP PKKP 08 59 57.0 +49
comp=Z,3.1nm,1.0s,baz=176,slow=6.8,SNR=3.4
SCHQ Schefferville 95.00 15 P P **08 43 01.8 -3.4**
SCHQ PKKP PKKP 08 59 57.0 +49
TIP Timpagrande 95.25 319 *e*P P **08 43 06.2 -0.5**
CABF La Chapelle 95.42 330 *e*P P **08 43 06.2 -1.0**
comp=Z,34nm,1.1s,mb5.0
CABF La Chapelle 95.42 330 *e*P P **08 43 06.2 -1.0**
CABF pmax pmax
comp=Z,17nm,1.1s,mb5.0
LOR Lormes 95.88 332 *e*P P **08 43 08.0 -1.3**
comp=Z,42nm,1.1s,mb5.2
LOR Lormes 95.88 332 *e*P P **08 43 08.0 -1.3**
LOR pmax pmax
comp=Z,21nm,1.1s,mb5.2
LPL La Plagne 95.97 329 *e*P P **08 43 08.6 -1.1**
comp=Z,42nm,0.7s,mb5.4
LPL La Plagne 95.97 329 *e*P P **08 43 08.6 -1.1**
LPL pmax pmax
comp=Z,21nm,0.7s,mb5.4
LPG La Plagne 95.97 329 *e*P P **08 43 09.0 -0.7**
comp=Z,45nm,0.7s,mb5.4
LPG La Plagne 95.97 329 *e*P P **08 43 09.0 -0.7**
LPG pmax pmax
comp=Z,23nm,0.7s,mb5.4
SSF Saint Saulge 96.19 332 *e*P P **08 43 09.4 -1.3**
SSF pmax pmax
comp=Z,21nm,1.2s,mb5.1
SSF Saint Saulge 96.19 332 *e*P P **08 43 09.4 -1.3**
comp=Z,21nm,1.2s,mb5.2
SMF Signal de Mont 96.38 331 *e*P P **08 43 10.2 -1.4**
comp=Z,80nm,1.5s,mb5.3
SMF Signal de Mont 96.38 331 *e*P P **08 43 10.2 -1.4**
SMF pmax pmax
comp=Z,40nm,1.5s,mb5.3
FLN La Foliniere 96.41 335 *e*P P **08 43 10.1 -1.6**
AVF Avril sur Loir 96.47 332 *e*P P **08 43 10.8 -1.2**
comp=Z,50nm,1.2s,mb5.2
AVF Avril sur Loir 96.47 332 *e*P P **08 43 10.8 -1.2**

AVF					pmax	pmax			
	comp=Z,25nm,1.2s,mb5.2								
MBDF	**Montbardon**	**96.55**	**328**	*eP*	**P**		**08 43 10.6**	**-1.8**	
	comp=Z,16nm,0.7s,mb5.1								
MBDF	**Montbardon**	**96.55**	**328**	*eP*	**P**		**08 43 10.6**	**-1.8**	
MBDF					pmax	pmax			
	comp=Z,8.0nm,0.7s,mb5.1								
ORIF	**Oris-en-Rattie**	**96.81**	**329**	*eP*	**P**		**08 43 12.4**	**-1.2**	
	comp=Z,9.3nm,0.7s,mb4.8								
GRR	**Gorron**	**96.86**	**335**	*eP*	**P**		**08 43 12.5**	**-1.3**	
BGF	**Bois d'Agland**	**96.87**	**332**	*eP*	**P**		**08 43 12.6**	**-1.2**	
	comp=Z,26nm,1.2s,mb5.0								
BGF	**Bois d'Agland**	**96.87**	**332**	*eP*	**P**		**08 43 12.6**	**-1.2**	
BGF					pmax	pmax			
	comp=Z,13nm,1.2s,mb5.0								
SBF	**Sospel**	**96.88**	**328**	*eP*	**P**		**08 43 12.0**	**-2.0**	
	comp=Z,41nm,0.7s,mb5.5								
SBF	**Sospel**	**96.88**	**328**	*eP*	**P**		**08 43 12.0**	**-2.0**	
SBF					pmax	pmax			
	comp=Z,21nm,0.7s,mb5.5								
PLDF	**La Plantade**	**97.00**	**331**	*eP*	**P**		**08 43 14.6**	**+0.1**	
PLDF	**La Plantade**	**97.00**	**331**	*eP*	**P**		**08 43 14.1**	**-0.4**	
TXAR	**Lajitas Array**	**97.04**	**52**	P	**P**		**08 43 16.3**	**+1.2**	
	comp=Z,0.7nm,0.6s,mb4.1,baz=267,slow=1.9,SNR=11								
TXAR					pP	pP			
	comp=Z,2.5nm,1.1s,baz=297,slow=2.8,SNR=4.7								
TXAR					PP	PP	08 47 17.6	-2.4	
	comp=Z,3.8nm,1.1s,baz=292,slow=6.7,SNR=5.5								
TXAR					PKKP	PKKP	08 59 52.5	+48	
	comp=Z,0.4nm,0.7s,baz=135,slow=5.3,SNR=4.9								
AGO	**Saint Agoulin**	**97.15**	**331**	*eP*	**P**		**08 43 14.8**	**-0.3**	
TCF	**Toulx Ste Croi**	**97.35**	**332**	*eP*	**P**		**08 43 14.9**	**-1.1**	
	comp=Z,7.5nm,0.8s,mb4.7								
TCF	**Toulx Ste Croi**	**97.35**	**332**	*eP*	**P**		**08 43 14.9**	**-1.1**	
TCF					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.7								
VIVF	**Saint-Julien-l**	**97.41**	**330**	*eP*	**P**		**08 43 15.0**	**-1.3**	
	comp=Z,32nm,1.0s,mb5.2								
VIVF	**Saint-Julien-l**	**97.41**	**330**	*eP*	**P**		**08 43 15.0**	**-1.3**	
VIVF					pmax	pmax			
	comp=Z,16nm,1.0s,mb5.2								
FRF	**La Foret Royal**	**97.49**	**328**	*eP*	**P**		**08 43 14.8**	**-1.9**	
	comp=Z,17nm,0.8s,mb5.0								
FRF	**La Foret Royal**	**97.49**	**328**	*eP*	**P**		**08 43 14.8**	**-1.9**	
FRF					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.0								
MFF	**Saint Martin d**	**98.06**	**333**	*eP*	**P**		**08 43 18.1**	**-1.1**	
RJF	**Les Rejaudoux**	**98.43**	**332**	*eP*	**P**		**08 43 19.9**	**-1.0**	
CAF	**Calviac**	**98.50**	**331**	*eP*	**P**		**08 43 19.8**	**-1.4**	
LFF	**La Frestale**	**99.05**	**332**	*eP*	**P**		**08 43 22.6**	**-1.1**	
ESDC	**Sonseca Array**	**105.36**	**332**	PP	PP		08 48 12.5	-9.4	
	comp=Z,3.1nm,0.8s,baz=26,slow=6.3,SNR=5.9								
LSZ	**Lusaka**	**115.98**	**266**	*e*PKPdf	PKPdf		08 48 23.2	+1.1	
SYO	**Syowa Base**	**118.91**	**204**	‖PKPdf	PKPdf		08 48 26.9	+0.3	
SYO	**Syowa Base**	**118.91**	**204**	‖*e*PKPdf	PKPdf		08 48 26.9	+0.3	
TSUM	**Tsumeb**	**126.84**	**266**	*e*PKPdf	PKPdf		08 48 44.8	+1.7	
SNAA	**Sanae**	**131.09**	**195**	PKP	PKPdf		08 48 50.8	+0.9	
	comp=Z,3.4nm,0.8s,baz=111,slow=0.5,SNR=13								
SNAA					PP	PP	08 51 12.3	-5.3	
	comp=Z,2.1nm,1.1s,baz=100,slow=7.4,SNR=3.8								
SNAA					SKPbc		08 51 28.4		
	comp=Z,4.0nm,1.1s,baz=168,slow=6.7,SNR=5.6								
SNAA	**Sanae**	**131.09**	**195**	*e*PKPdf	PKPdf		08 48 50.2	+0.2	
SNAA				*e*SKP			08 51 28.1		
DBIC	**Dimbokro**	**132.04**	**310**	PKhKP			08 48 46.5		
	comp=Z,1.4nm,0.5s,baz=223,slow=1.7,SNR=5.6								
DBIC					PKP	PKPdf	08 48 54.2	+0.9	
	comp=Z,16nm,0.8s,baz=37,slow=2.3,SNR=27								
DBIC					PP	PP	08 51 14.7	-10	
	comp=Z,6.8nm,0.9s,baz=22,slow=5.7,SNR=4.7								
DBIC					SKPbc		08 51 35.0		
	comp=Z,31nm,0.9s,baz=27,slow=5.5,SNR=16								
DBIC	**Dimbokro**	**132.04**	**310**	PKP	PKPdf		08 48 46.5	-6.8	
DBIC				*e*PKPdf	PKPdf		08 48 54.1	+0.8	
DBIC				*e*PP	PP		08 51 13.5	-11	
DBIC				*e*SKP			08 51 34.9		
LIC	**Lamto**	**132.48**	**309**	*e*PKIKP	PKPdf		08 48 55.1	+1.0	
	comp=Z,40nm,0.8s								
SDV	**Santo Domingo**	**133.38**	**44**	PKP	PKPdf		08 48 57.5	+1.8	
	baz=301,slow=2.2								
SDV					SKPbc		08 51 39.1		
	comp=Z,23nm,0.9s,baz=316,slow=2.1,SNR=17								
SDV	**Santo Domingo**	**133.38**	**44**	*e*PKPdf	PKPdf		08 48 56.7	+1.0	
SDV				*ep*PKPdf			08 50 52.2		
SDV				*e*SKP			08 51 38.4		
OTAV	**Otavalo**	**134.05**	**60**	*e*PKPdf	PKPdf		08 48 58.0	+1.0	
OTAV				*e*SKP			08 51 40.6		
PLCA	**Paso Flores**	**151.54**	**126**	PKP	PKPdf		08 49 28.4	+2.2	
	comp=Z,1.0nm,0.7s,baz=248,slow=7.1,SNR=4.2								
PLCA					PKPbc	PKPdf	08 49 35.1	+8.9	
	comp=Z,15nm,0.6s,baz=237,slow=2.5,SNR=67								
PLCA	**Paso Flores**	**151.54**	**126**	*e*PKPdf	PKPdf		08 49 27.8	+1.6	
PLCA				*e*PKPbc	PKPdf		08 49 34.9	+8.7	
PLCA				*ep*PKPdf			08 51 28.7		
LPAZ	**La Paz**	**151.77**	**73**	PKP	PKPdf		08 49 30.0	+2.9	
	comp=Z,2.0nm,0.9s,baz=294,slow=6.8,SNR=6.2								
LPAZ					PKPbc	PKPdf	08 49 37.0	+10	
	comp=Z,16nm,0.7s,baz=306,slow=2.7,SNR=50								
LPAZ					pPKPbc		08 51 32.9		
	comp=Z,2.6nm,0.8s,baz=300,slow=9.2,SNR=2.3								
LPAZ	**La Paz**	**151.77**	**73**	*e*PKPdf	PKPdf		08 49 30.0	+2.8	
LPAZ				*e*PKPbc	PKPdf		08 49 36.9	+10	
LPAZ				*ep*PKPdf			08 51 28.5		
LVC	**Limon Verde**	**153.44**	**86**	*e*PKPdf	PKPdf		08 49 32.4	+3.1	
LVC				*e*PKPbc	PKPdf		08 49 40.4	+11	
CFAA	**Coronel Fontan**	**155.11**	**107**	PKP	PKPdf		08 49 32.6	+1.3	
	comp=Z,0.1nm,0.3s,baz=263,slow=6.3								
SIV	**San Ignacio**	**157.47**	**64**	PKP	PKPdf		08 49 37.1	+2.3	
	comp=Z,3.6nm,0.9s,baz=240,slow=1.3,SNR=18								
SIV					PKPab	PKPab	08 50 11.2	-0.5	
	comp=Z,4.5nm,0.9s,baz=300,slow=5.2,SNR=8.4								
BDFB	**Brasilia**	**166.22**	**34**	PKP	PKPdf		08 49 46.4	+2.8	
	comp=Z,5.7nm,0.8s,baz=0.4,slow=5.2,SNR=7.2								

*IDC **29** 08:31:02.3±2.4,23.13S×68.02W,h103km±25km,mb3.8/3, mb1 3.7/7,mb1mx3.5/18,mbtmp4.1/7,Error ellipse: s-maj=43.5km s-min=21.1km az=109.0*

*GUC **29** 08:31:05.2±0.7,23.39S×68.23W,h108km±7km,MD3.9, ML4.1*

*NEIC **29** 08:31:05.2,23.39S×68.23W,h108km, mb4.3/5, MD3.9(GUC),After GUC.*

ISC 29 08:31:02.5±0.5,23.31S±0.05×68.13W±0.09,h128km±7km, n21,σ1§47/31,mb4.3/5,1C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
SPCH	**San Pedro de A**	**0.40**	**351**	‖*i*P		**P**	**08 31 22.3**	**+1.3**
SPCH				*i* S		**S**	**08 31 35.9**	**+1.0**
SPCH				AMP			08 31 36.8	
	comp=N,12μm,0.3s							
LVC	**Limon Verde**	**0.99**	**314**	*e*Pn		**P**	**08 31 24.8**	**-0.6**
LVC				*e*Sn		**S**	**08 31 41.0**	**-1.7**
CEN1	**Los Morros**	**1.90**	**267**	‖*i*P		**P**	**08 31 38.2**	**+2.7**
CEN1				*i* S		**S**	**08 32 03.1**	**+2.4**
CEN1				AMP			08 32 05.1	
	comp=N,1μm,0.8s							
ANCH	**Antofagasta**	**2.12**	**259**	⇑*i*P		**P**	**08 31 39.3**	**+1.0**
ANCH				*i* S		**S**	**08 32 04.8**	**-0.8**
CDCH	**Caldera**	**4.47**	**212**	*i* P		**P**	**08 32 09.5**	**0.0**
CDCH				*i* S		**S**	**08 32 59.3**	**-1.8**
CPCH	**Copiapo**	**4.51**	**206**	‖*i*P		**P**	**08 32 09.7**	**-0.3**
CPCH				*i* S		**S**	**08 33 00.5**	**-1.4**
LPAZ	**La Paz**	**6.98**	**0**	P		**P**	**08 32 41.4**	**-2.1**
	comp=N,2.4nm,0.3s,baz=193,slow=4.9,SNR=32							
LPAZ				S		**S**	**08 33 53.9**	**-7.9**
	baz=202,slow=5.4,SNR=2.2							
LPAZ	**La Paz**	**6.98**	**0**	*e*Pn		**P**	**08 32 40.9**	**-2.6**
LPAZ				S		**S**	**08 33 53.9**	**-7.9**
ARE	**Arequipa**	**7.50**	**335**	*e*P		**P**	**08 33 02.0**	**+12**
ARE				*e*S		**S**	**08 34 02.0**	**-12**
CFAA	**Coronel Fontan**	**8.27**	**181**	P		**P**	**08 33 01.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=353,slow=12,SNR=9.6							
CFAA				S		**S**	**08 34 30.6**	**-2.3**
	comp=N,0.2nm,0.3s,baz=244,slow=18,SNR=6.4							
SIV	**San Ignacio**	**9.86**	**44**	P		**P**	**08 33 16.7**	**-5.2**
	comp=N,10nm,0.3s,baz=232,slow=12,SNR=112							
SIV				S		**S**	**08 34 58.0**	**-13**
	comp=N,2.3nm,0.3s,baz=142,slow=21,SNR=12							
TRQA	**Tornquist**	**15.62**	**162**	*e*P		**P**	**08 34 40.9**	**+4.2**
	comp=N,14nm,1.0s							
PLCA	**Paso Flores**	**17.50**	**186**	P		**P**	**08 35 03.0**	**+3.3**
	comp=N,0.2nm,0.3s,baz=352,slow=11,SNR=6.6							
PLCA	**Paso Flores**	**17.50**	**186**	*e*P		**P**	**08 35 01.4**	**+1.6**
	comp=N,8.0nm,1.3s							
BDFB	**Brasilia**	**20.43**	**72**	P		**P**	**08 35 30.6**	**-0.9**
	comp=N,4.1nm,0.3s,baz=253,slow=11,SNR=11							
EFI	**East Falkland**	**29.37**	**167**	*e*P		**P**	**08 36 56.6**	**+1.2**
	comp=N,5.9nm,0.9s,mb4.3							
PMSA	**Palmer Station**	**41.55**	**177**	P		**P**	**08 38 37.9**	**-0.6**
	comp=N,30nm,1.1s,mb4.8							
SNAA	**Sanae**	**60.35**	**161**	P		**P**	**08 41 01.0**	**+1.2**
	comp=N,1.2nm,0.7s,mb3.8,baz=281,slow=10,SNR=8.1							
DBIC	**Dimbokro**	**68.58**	**72**	*e*P		**P**	**08 41 52.5**	**-1.4**
	comp=N,13nm,1.4s,mb4.5							
MAW	**Mawson**	**82.40**	**163**	P		**P**	**08 43 13.4**	**+2.3**
	comp=N,1.7nm,0.5s,mb4.0,baz=225,slow=8.6,SNR=3.8							
WRA	**Warramunga Arr**	**131.75**	**209**	PKP	PKPdf		08 50 03.4	+2.3
	comp=N,0.5nm,0.7s,baz=158,slow=1.7,SNR=7.2							

*KNET **29** 08:50:31.6,42.68N×75.40E,h21km,ml3.1*

*NNC **29** 08:50:34.0±1.0,42.87N×75.33E,h5km±3km,mb4.0, mpv4.1,Error ellipse: s-maj=14.8km s-min=4.3km az=179.0*

*NEIC **29** 08:50:34.9±1.6,42.93N×75.28E,h10km,Error ellipse: s-maj=24.1km s-min=12.0km az=188.0*

*BJI **29** 08:50:37.0,43.13N×75.60E,h9km,ML3.7*

ISC 29 08:50:32.7±0.5,42.72N±0.03×75.39E±0.04,h23km±5km, n28,σ1§21/45,16C-17D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
TKM2	**Tokmak 2**	**0.25**	**36**	⇑P		**Pb**	**08 50 38.3**	**-0.6**
	4μm,0.2s,SNR=3488							
TKM2				⇓S		**Sb**	**08 50 42.6**	**-0.5**
	3μm,0.2s							
TKM2	**Tokmak 2**	**0.25**	**36**	⇓P		**Pb**	**08 50 38.5**	**-0.4**
	897nm,0.2s							
TKM2				⇑S		**Sb**	**08 50 42.5**	**-0.6**
	2μm,0.3s							
TKM2	**Tokmak 2**	**0.25**	**36**	⇓P		**Pb**	**08 50 38.5**	**-0.4**
TKM2				S		**Sb**	**08 50 42.5**	**-0.6**
KBK	**Karagaybulak**	**0.34**	**259**	P		**Pb**	**08 50 39.7**	**-0.5**
	501nm,0.2s,SNR=483							
KBK				⇑S		**Sb**	**08 50 44.7**	**-0.5**
	2μm,0.2s							
CHMS	**Chumysh**	**0.55**	**301**	P		**Pb**	**08 50 43.6**	**-0.1**
	395nm,0.2s,SNR=346							
CHMS				⇑S		**Sb**	**08 50 51.5**	**+0.4**
	685nm,0.2s							
KZA	**Kyzart**	**0.65**	**189**	⇑P		**Pb**	**08 50 44.8**	**-0.5**
	222nm,0.1s,SNR=258							
KZA				⇑S		**Sb**	**08 50 53.4**	**-0.5**
	1μm,0.4s							
AAK	**Ala-Archa**	**0.67**	**263**	⇓P		**Pb**	**08 50 45.4**	**-0.2**
	29nm,0.2s,SNR=164							
AAK				⇓S		**Sb**	**08 50 54.8**	**+0.3**
	455nm,0.2s							
UCH	**Uchtor**	**0.82**	**233**	⇑P		**Pb**	**08 50 47.8**	**-0.4**
	163nm,0.2s,SNR=201							
UCH				⇓S		**Sb**	**08 50 58.5**	**-0.2**
	482nm,0.3s							
USP	**Ospenovka**	**0.85**	**310**	P		**Pb**	**08 50 49.1**	**+0.3**
	101nm,0.2s,SNR=307							
USP				⇑S		**Sb**	**08 51 01.3**	**+1.5**
	477nm,0.3s							
EKS2	**Erkin-Say**	**1.19**	**268**	⇓P		**Pn**	**08 50 55.4**	**+1.2**
	60nm,0.2s,SNR=159							
EKS2				⇑S		**Sb**	**08 51 11.9**	**+2.3**
	218nm,0.2s							
KNDC	**Almaty**	**1.26**	**66**	⇓P		**Pn**	**08 50 57.0**	**+1.9**
	3μm,0.5s							
KNDC				⇑S		**Sb**	**08 51 14.9**	**+3.5**
	5μm,0.3s							
AML	**Almayashu**	**1.39**	**246**	P		**Pn**	**08 50 58.4**	**+1.4**
	90nm,0.3s,SNR=194							
KSH	**Kashi**	**3.23**	**172**	P		**Pn**	**08 51 33.5**	**+10**
KSH				S		**Sn**	**08 52 12.0**	**+11**
KSH				Smax				
	comp=N,80nm,0.5s							
KSH				Smax				
	comp=E,110nm,0.7s							
KK31	**Karatay Array**	**3.61**	**278**	⇑Pn		**Pn**	**08 51 30.2**	**+1.5**
	comp=E,1.2nm,0.5s,baz=94,slow=14,SNR=410							
KK31				⇓Pg		**Pn**	**08 51 40.1**	**+11**
	comp=E,28nm,0.5s,baz=96,slow=18,SNR=229							
KK31				⇑Lg			08 52 24.9	
	comp=E,61nm,0.7s,baz=98,slow=29,SNR=7.5							
KK31	**Karatay Array**	**3.61**	**278**	⇑Pn		**Pn**	**08 51 30.2**	**+1.5**
KK31				Pg		**Pn**	**08 51 40.1**	**+11**
KK31				Lg			08 52 24.9	
MK31	**Makanchi Array**	**6.38**	**48**	Pn		**Pn**	**08 52 09.7**	**+1.8**
	comp=E,12nm,0.6s,baz=225,slow=14,SNR=143							
MK31				⇑Sn		**Sn**	**08 53 21.7**	**+1.0**
	comp=E,3.4nm,0.5s,baz=226,slow=25,SNR=4.3							
MK31				⇑Lg			08 53 51.0	
	comp=E,9.8nm,0.5s							
MK31	**Makanchi Array**	**6.38**	**48**	Pn		**Pn**	**08 52 09.7**	**+1.8**
	comp=E,12nm,0.6s							
MK31				Sn		**Sn**	**08 53 21.7**	**+1.0**
MK31				Lg			08 53 51.0	
KURK	**Kurchatov**	**8.30**	**14**	⇓Pn		**P**	**08 52 33.8**	**-0.9**
	comp=E,2.8nm,0.8s							
KURK				⇑Lg			08 54 56.6	
	comp=E,48nm,1.0s							
KURK	**Kurchatov**	**8.30**	**14**	*e*Pn		**P**	**08 52 33.3**	**-1.4**
KURK				⇓Pn		**P**	**08 52 33.8**	**-1.0**
KURK				Lg			08 54 56.5	
VOSK	**Vostochnaya**	**10.44**	**345**	⇓Pn		**P**	**08 53 01.9**	**-2.2**
	comp=E,1.5nm,0.6s							
VOSK				⇓Lg			08 56 03.2	
	comp=E,25nm,1.1s							
VOSK	**Vostochnaya**	**10.44**	**345**	⇓Pn		**P**	**08 53 01.9**	**-2.2**
	comp=E,1.5nm,0.6s							
VOSK				Lg			08 56 03.2	
BVA0	**Borovoye Array**	**10.84**	**344**	Pn		**P**	**08 53 07.7**	**-2.0**
	comp=E,0.3nm,0.5s,baz=146,slow=13,SNR=16							
BVA0				⇓Lg			08 56 12.0	
	comp=E,2.8nm,0.9s,baz=157,slow=29,SNR=5.5							
BVA0	**Borovoye Array**	**10.84**	**344**	Pn		**P**	**08 53 07.7**	**-2.0**
	comp=E,0.3nm,0.5s							
BVA0				Lg			08 56 12.0	
BRVK	**Borovoye**	**10.89**	**343**	*e*Pn		**P**	**08 53 04.2**	**-6.2**
	comp=E,2.2nm,0.6s							
AB31	**Akbulak array**	**12.57**	**307**	Pn		**P**	**08 53 30.8**	**-2.1**
	comp=E,0.9nm,0.4s,baz=109,slow=14,SNR=33							
AB31	**Akulak array**	**12.57**	**307**	Pn		**P**	**08 53 30.8**	**-2.1**
	comp=E,0.9nm,0.4s							
AKTK	**Aktyubinsk**	**14.20**	**309**	⇓Pn		**P**	**08 53 53.3**	**-1.2**
AKTO	**Aktyubinsk**	**14.20**	**309**	⇓Pn		**P**	**08 53 53.3**	**-1.2**
	comp=E,1.8nm,1.8s							

IDC 29 09:07:23.9±2.8,5.43S×104.32E,mb4.0/3,mb1 4.1/3, mb1mx3.7/14,mbtmp4.0/3,Error ellipse: s-maj=173.8km s-min=26.4km az=52.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**32.56**	**119**	P		P	09 13 57.5	-1.7
	0.8nm,0.8s,baz=294,slow=10,SNR=8.4							
WRA				PcP		PcP	09 16 42.7	-3.2
	0.3nm,0.4s,baz=308,slow=2.1,SNR=4.9							
WB2	**Warramunga Arr**	**32.57**	**119**	*e*P		P	09 13 57.7	-1.6
ASPA	**Alice Springs**	**33.76**	**125**	*e*P		P	09 14 08.2	-1.4
STKA	**Stephens Creek**	**43.66**	**132**	P		P	09 15 30.7	-1.5
	0.8nm,0.4s,baz=300,slow=7.7,SNR=3.6							
MKAR	**Makanchi Array**	**55.54**	**342**	P		P	09 17 01.2	-2.0
	2.1nm,0.5s,baz=149,slow=8.9,SNR=26							
TXAR	**Lajitas Array**	**144.43**	**45**	PKP		PKPdf	09 27 01.6	-3.1
	1.7nm,0.6s,baz=232,slow=1.1,SNR=28							

*KNET **29** 09:16:53.2,42.67N×75.38E,h16km,ml1.6*

*NNC **29** 09:16:54.5±3.5,42.73N×75.35E,mb3.0,mpv2.8,Error ellipse: s-maj=53.6km s-min=12.3km az=157.0*

ISC 29 09:16:53.9±0.7,42.69N±0.03×75.40E±0.05,h10km,n11, σ0§65/20,7C-13D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
TKM2	**Tokmak 2**	**0.28**	**31**	⇑P		**Pg**	**09 16 59.8**	**+0.1**
	117nm,0.2s,SNR=230							
TKM2				⇑S		**Sg**	**09 17 03.9**	**+0.3**
	277nm,0.1s							
TKM2	**Tokmak 2**	**0.28**	**31**	⇓P		**Pg**	**09 16 59.8**	**+0.1**
	26nm,0.2s							
TKM2				⇑S		**Sg**	**09 17 03.8**	**+0.2**
	108nm,0.3s							
KBK	**Karagaybulak**	**0.34**	**265**	⇓P		**Pg**	**09 17 00.9**	**+0.1**
	13nm,0.2s,SNR=25							
KBK				⇓S		**Sg**	**09 17 05.2**	**-0.2**
	68nm,0.2s							
CHMS	**Chumysh**	**0.57**	**304**	⇓P		**Pg**	**09 17 04.9**	**-0.5**
	14nm,0.3s,SNR=12							
CHMS				⇓S		**Sg**	**09 17 12.8**	**-0.3**
	33nm,0.2s							
KZA	**Kyzart**	**0.62**	**190**	⇓P		**Pb**	**09 17 05.9**	**-0.4**
	8.6nm,0.1s							
KZA				⇓S		**Sg**	**09 17 14.4**	**-0.2**
	67nm,0.4s							
AAK	**Ala-Archa**	**0.67**	**266**	⇓P		**Pb**	**09 17 07.0**	**-0.2**
	3.2nm,0.1s							
AAK				⇓S		**Sb**	**09 17 16.0**	**-0.2**
	15nm,0.2s							
UCH	**Uchtor**	**0.80**	**235**	P		**Pb**	**09 17 09.1**	**-0.3**
	3.1nm,0.2s,SNR=11							
UCH				⇓S		**Sb**	**09 17 19.6**	**-0.4**
	4.7nm,0.1s							
USP	**Ospenovka**	**0.88**	**312**	⇓P		**Pb**	**09 17 10.4**	**-0.4**
	4.4nm,0.1s,SNR=13							
USP				⇓S		**Sb**	**09 17 22.6**	**+0.3**
	11nm,0.1s							
EKS2	**Erkin-Say**	**1.20**	**269**	⇑P		**Pb**	**09 17 17.1**	**+0.9**
	1.9nm,0.1s,SNR=11							
AML	**Almayashu**	**1.38**	**247**	⇑P		**Pn**	**09 17 20.0**	**+0.8**
	2.2nm,0.2s,SNR=7.1							
AML				⇑S		**Sb**	**09 17 38.4**	**+1.5**
	8.9nm,0.3s							
KK31	**Karatay Array**	**3.62**	**278**	⇓Pg		**Pg**	**09 18 02.7**	**-3.4**
	0.9nm,0.5s,baz=91,slow=15,SNR=10							
KK31				⇑Lg			09 18 45.6	
	0.5nm,0.3s,baz=100,slow=29,SNR=4.1							

*IDC **29** 09:19:32.9±1.5,6.48S×29.75E,mb3.8/6,mb1 4.0/8, mb1mx3.9/18,mbtmp4.0/8,ML4.6/1,MS3.4/4,Ms1 3.5/4, ms1mx3.1/24,Error ellipse: s-maj=40.1km s-min=29.2km az=142.0*

*NEIC **29** 09:19:33.7±0.7,6.54S×29.70E,h10km,mb4.4/5,Error ellipse: s-maj=24.1km s-min=11.7km az=115.0*

ISC 29 09:19:29.8±0.7,6.82S±0.07×30.0E±0.1,h10km,n18, σ1§14/23,mb4.0/7,MS3.4/2,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
LSZ	**Lusaka**	**8.58**	**192**	*e*Pn		**P**	**09 21 41.8**	**+4.8**
	26nm,0.3s							
LSZ				*e*Sn		**Sn**	**09 23 14.7**	**-0.2**
KMBO	**Kilima Mbogo**	**9.21**	**52**	Pn		**P**	**09 21 44.9**	**-0.9**
	6.6nm,0.3s,baz=230,slow=21,SNR=66							
KMBO				Sn		**Sn**	**09 23 23.4**	**-7.2**
	11nm,0.3s,baz=163,slow=22,SNR=6.3							
KMBO				Lg			09 24 16.1	
	27nm,0.3s,baz=5.6,slow=20,SNR=11							
KMBO				LR		LR	09 25 22.0	
	comp=Z,238nm,20.1s,baz=232,slow=38							
KMBO	**Kilima Mbogo**	**9.21**	**52**	Pn		**P**	**09 21 44.9**	**-0.9**
KMBO				Sn		**Sn**	**09 23 23.4**	**-7.2**
KMBO				Lg			09 24 16.1	
KMBO				LR		LR	09 25 22.0	
TSUM	**Tsumeb**	**17.21**	**223**	Pn		**P**	**09 23 33.0**	**+0.8**
	0.7nm,0.3s,baz=24,slow=9.7,SNR=13							
TSUM				Sn		**S**	**09 26 33.9**	**-8.3**
	2.8nm,0.3s,baz=241,slow=4.5,SNR=7.7							
TSUM				Lg			09 28 33.9	
	0.3nm,0.3s,baz=299,slow=19,SNR=1.7							
TSUM				LR		LR	09 30 24.5	
	comp=Z,123nm,20.8s,baz=320,slow=38							
TSUM	**Tsumeb**	**17.21**	**223**	*e*Pn		**P**	**09 23 33.1**	**+1.0**
	30nm,0.8s							
TSUM				*e*Sn		**S**	**09 26 32.4**	**-10**
LBTB	**Lobatse**	**18.57**	**193**	Pn		**P**	**09 23 53.5**	**+4.5**
	2.0nm,0.3s,baz=24,slow=14,SNR=16							
LBTB				Sn		**S**	**09 27 12.8**	**-0.2**
	1.8nm,0.3s,baz=312,slow=8.6,SNR=5.8							
LBTB				Lg			09 29 18.9	
	0.6nm,0.3s,baz=217,slow=5.1,SNR=2.9							
LBTB	**Lobatse**	**18.57**	**193**	*e*P		**P**	**09 23

TK01 Tokai 1 2.53 181 P **P** 09 32 58.0 +0.4
JHJ Hachijo jima 2 3.63 150 S **S** 09 33 56.4 +0.6
66nm,0.3s,baz=215,slow=23,SNR=15
JNU Nakatsue 6.42 242 P **P** 09 33 45.1 +0.3
1.4nm,0.3s,baz=41,slow=11,SNR=8.8
ASAJ Asahikawa 8.67 24 P **P** 09 34 11.3 -2.5
9.4nm,0.3s,baz=227,slow=16,SNR=31
ASAJ Asahikawa 8.67 24 P **P** 09 34 11.4 -2.4
ASAJ pmax pmax
comp=Z,9.0nm,0.3s
CBIJ Chichi jima 9.96 156 S **S** 09 36 08.4 -11
comp=Z,9.4nm,0.3s,baz=251,slow=20,SNR=4.5
MDJ Mudanjiang 10.32 326 P **P** 09 34 35.5 +0.6
MDJ AMB AMB
comp=Z,110nm,5.2s
YSS Yuzh-Sakhalins 11.30 18 *eP* **P** 09 34 44.4 -3.0
YSS pmax pmax
comp=Z,20nm,0.4s
YSS Yuzh-Sakhalins 11.30 18 *ePn* **P** 09 34 44.4 -3.0
comp=Z,20nm,0.4s
CN2 Changchun 11.97 312 *eP* **P** 09 34 52.0 -3.8
JOW Kunigami 12.36 223 P **P** 09 35 00.8 +0.1
comp=Z,1.7nm,0.3s,baz=56,slow=9.3,SNR=4.0
NJ2 Nanjing 16.12 260 *eP* **P** 09 35 46.8 0.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s
SONM Songino Array 25.73 306 P **P** 09 37 23.4 +1.2
comp=Z,0.4nm,0.4s,mb3.5,baz=114,slow=9.9,SNR=6.1
SONM PcP PcP 09 40 46.0 -0.4
comp=Z,0.2nm,0.3s,baz=136,slow=1.9,SNR=3.5
LZH Lanzhou 27.21 280 *eP* **P** 09 37 41.5 +5.7
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
LZH AMB AMB
comp=Z,50nm,4.2s
WMQ Urumqi 38.47 297 *eP* **P** 09 39 12.3 -0.3
MKAR Makanchi Array 41.95 302 P **P** 09 39 41.1 +0.2
comp=Z,2.6nm,0.5s,mb3.9,baz=84,slow=9.6,SNR=25
KURK Kurchatov 44.01 308 *eP* **P** 09 39 57.2 -0.3
KURK pmax pmax
comp=Z,23nm,0.8s,mb4.6
KURK Kurchatov 44.01 308 *eP* **P** 09 39 57.2 -0.2
comp=Z,23nm,0.8s,mb4.5
BVAR Borovoye Array 48.82 312 P **P** 09 40 34.6 -0.4
comp=Z,1.2nm,0.4s,mb3.6,baz=105,slow=8.6,SNR=11
KDAK Kodiak Island 49.65 41 P **P** 09 40 41.5 +0.3
comp=Z,8.5nm,0.7s,mb4.2,baz=312,slow=14,SNR=5.9
MCK McKinley 50.91 33 P **P** 09 40 50.9 +0.3
MCK pmax pmax
comp=Z,3.0nm,1.0s,mb3.7
MCK McKinley 50.91 33 P **P** 09 40 50.9 +0.3
comp=Z,2.9nm,1.0s,mb3.7
COLA College 51.30 32 *eP* **P** 09 40 54.0 +0.6
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
COLA College 51.30 32 *eP* **P** 09 40 54.0 +0.5
comp=Z,4.4nm,0.8s,mb3.9
ILAR Eielson Array 51.72 32 P **P** 09 40 56.4 -0.2
comp=Z,1.8nm,0.8s,mb3.6,baz=269,slow=4.9,SNR=22
ILAR PcP PcP 09 42 04.7 -2.2
comp=Z,0.5nm,0.6s,baz=288,slow=3.5,SNR=5.1
WRAB Tennant Creek 56.02 184 *eP* **P** 09 41 26.8 -1.5
WRAB pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
WRAB Tennant Creek 56.02 184 *eP* **P** 09 41 26.8 -1.5
comp=Z,3.6nm,0.4s,mb4.2
WB2 Warramunga Arr 56.02 184 *eP* **P** 09 41 27.3 -1.1
WRA Warramunga Arr 56.03 184 P **P** 09 41 27.5 -0.9
comp=Z,2.0nm,0.5s,mb3.9,baz=0.4,slow=7.5,SNR=24
INK Inuvik 56.40 27 P **P** 09 41 31.0 +0.6
comp=Z,0.8nm,0.4s,mb3.6,baz=329,slow=4.6,SNR=13
INK Inuvik 56.40 27 P **P** 09 41 31.0 +0.6
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 56.40 27 *eP* **P** 09 41 30.4 0.0
comp=Z,1.3nm,0.5s,mb3.7
AKTK Aktyubinsk 56.90 311 P **P** 09 41 32.9 -1.2
AKTO Aktyubinsk 56.90 311 P **P** 09 41 32.9 -1.2
comp=Z,3.6nm,0.6s,mb4.2,baz=81,slow=6.3,SNR=14
ASPA Alice Springs 59.75 184 *eP* **P** 09 41 53.6 -0.6
DLBC Dease Lake 61.05 37 P **P** 09 42 04.3 +1.8
comp=Z,7.0nm,1.2s,mb4.2,baz=292,slow=6.1,SNR=3.1
ARCES ARCESS Array B 63.59 339 P **P** 09 42 18.9 -0.2
comp=Z,2.3nm,0.9s,mb3.8,baz=58,slow=7.5,SNR=12
RES Resolute Bay 64.04 14 *eP* **P** 09 42 21.1 -0.8
RES pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
RES Resolute Bay 64.04 14 *eP* **P** 09 42 21.1 -0.8
comp=Z,3.1nm,0.6s,mb4.1
JOF Joensuu 66.16 331 *ep* **P** 09 42 27.4 -1.8
comp=Z,2.1nm,0.4s,mb4.1
YKA Yellowknife Ar 65.94 29 P **P** 09 42 34.3 +0.1
comp=Z,0.4nm,0.8s,mb3.1,baz=308,slow=5.7,SNR=12
YKA Yellowknife Ar 65.94 29 P **P** 09 42 34.3 +0.1
KAF Kangasniemi 67.54 332 *ep* **P** 09 42 40.7 -3.6
comp=Z,2.6nm,0.5s,mb4.1
KAF Kangasniemi 67.54 332 *eP* **P** 09 42 40.7 -3.6
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
FINES FINESS Array B 68.02 331 P **P** 09 42 46.9 -0.3
comp=Z,2.4nm,0.4s,mb4.2,baz=70,slow=5.7,SNR=25
FINES FINESS Array B 68.02 331 P **P** 09 42 46.9 -0.3
AKASG Malin Array Be 72.99 321 P **P** 09 43 16.6 -0.6
comp=Z,1.2nm,0.4s,mb3.9,baz=47,slow=6.0,SNR=12
NB2 NORSAR Subarra 73.65 336 P **P** 09 43 20.7 -0.2
comp=Z,1.4nm,0.8s,mb3.6,baz=42,slow=5.8
NOA NORSAR Array B 73.65 336 P **P** 09 43 20.7 -0.2
comp=Z,1.7nm,0.7s,mb3.8,baz=41,slow=5.9,SNR=5.3
NOA NORSAR Array B 73.65 336 P **P** 09 43 20.7 -0.3
FCC Fort Churchill 75.97 25 *eP* **P** 09 43 34.2 +0.1
FCC pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
FCC Fort Churchill 75.97 25 *eP* **P** 09 43 34.1 0.0
comp=Z,2.2nm,0.7s,mb3.9
BRTR Keskin Array B 77.03 310 P **P** 09 43 41.1 +0.8
comp=Z,1.2nm,0.6s,mb3.7,baz=72,slow=3.9,SNR=5.8
NVAR Mina Array Bea 77.83 51 P **P** 09 43 46.4 +1.6
comp=Z,0.9nm,0.6s,mb3.6,baz=301,slow=3.5,SNR=7.8
PDAR Pinedale Array 80.31 44 P **P** 09 43 59.2 +1.3
comp=Z,1.0nm,0.7s,mb3.5,baz=315,slow=2.1,SNR=7.9
ULM Lac du Bonnet 81.74 31 P **P** 09 44 05.5 +0.2
comp=Z,1.1nm,0.8s,mb3.5,baz=340,slow=6.7,SNR=4.6
ULM Lac du Bonnet 81.74 31 P **P** 09 44 05.5 +0.2
SCHQ Schefferville 86.82 14 P **P** 09 44 32.2 +1.8
comp=Z,2.8nm,0.7s,mb4.1,baz=48,slow=16,SNR=6.6
SCHQ Schefferville 86.82 14 P **P** 09 44 32.2 +1.8
TXAR Lajitas Array 92.94 50 P **P** 09 45 01.2 +1.6
comp=Z,0.8nm,0.7s,mb3.9,baz=284,slow=3.4,SNR=12

BJI ***29*** *09:49:46.9,5.49S×140.17E,h10km,mB5.1,mb4.7,Ms4.7, Msz4.5*
MOS ***29*** *09:49:53.6±1.8,4.74S×139.47E,h10km,mb4.9/8,Error ellipse: s-maj=19.2km s-min=10.4km az=95.7*
IDC ***29*** *09:49:54.6±0.8,4.64S×139.71E,mb4.3/7,mb1 4.4/8, mb1mx4.3/11,mbtmp4.3/8,ML4.3/1,MS3.8/7,Ms1 3.8/7, ms1mx3.4/20,Error ellipse: s-maj=38.5km s-min=20.3km az=69.0*
NEIC ***29*** *09:49:54.8±0.5,4.73S×139.46E,h10km,mb4.8/16,Error ellipse: s-maj=16.0km s-min=9.5km az=93.0*
ISC 29 09:49:53.3±0.4,4.82S±0.05×139.59E±0.10,h10km,n62, σ1§38/54,mb4.6/19,MS4.1/7,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**15.87**	**198**	*eP*	**P**		**09 53 37.4**	**-1.1**
WRAB				pmax	pmax			
	comp=Z,176nm,0.9s							
WRAB	**Tennant Creek**	**15.87**	**198**	*ePn*	**P**		**09 53 37.4**	**-1.1**
	comp=Z,176nm,0.9s							
WB2	**Warramunga Arr**	**15.87**	**198**	*eP*	**P**		**09 53 36.7**	**-1.9**
WB2				*e*			09 53 45.9	
WRA	**Warramunga Arr**	**15.88**	**198**	Pn	**P**		**09 53 37.0**	**-1.6**
	comp=Z,2.4nm,0.3s,baz=20,slow=13,SNR=14							
WRA				Sn	**S**		**09 56 23.6**	**-11**
	comp=Z,0.4nm,0.3s,baz=15,slow=23,SNR=3.6							
CTA	**Charters Tower**	**16.50**	**157**	*eP*	**P**		**09 53 53.0**	**+6.4**
	comp=Z,8.4nm,0.8s							
CTA	**Charters Tower**	**16.50**	**157**	Pn	**P**		**09 53 50.1**	**+3.4**
	comp=Z,0.8nm,0.3s,baz=332,slow=13,SNR=9.7							
CTA				LR	LR		09 59 35.0	
	comp=Z,138nm,19.2s,baz=168,slow=35							
CTAO	**Charters Tower**	**16.50**	**157**	*eP*	**P**		**09 53 49.2**	**+2.6**
CTAO				pmax	pmax			
	comp=Z,16nm,1.0s							
CTAO				*eS*	**S**		**09 57 04.8**	**+15**
CTAO				*eLg*			09 58 37.9	
FITZ	**Fitzroy Crossi**	**18.98**	**225**	*eP*	**P**		**09 54 17.6**	**+0.1**
	comp=Z,37nm,0.5s							
FITZ				*eS*	**S**		**09 57 34.6**	**-11**
GUMO	**Guam**	**19.02**	**16**	LR	LR		10 00 03.8	
	comp=Z,242nm,21.1s,baz=60,slow=32							
ASPA	**Alice Springs**	**19.52**	**196**	*eP*	**P**		**09 54 24.6**	**+0.8**
HNR	**Honiara**	**20.70**	**104**	P	**P**		**09 54 36.0**	**-0.5**
	comp=Z,59nm,0.7s,baz=229,slow=20,SNR=4.5							
HNR	**Honiara**	**20.70**	**104**	*eP*	**P**		**09 54 36.0**	**-0.5**
HNR				pmax	pmax			
	comp=Z,88nm,1.0s							
HNR	**Honiara**	**20.70**	**104**	*eP*	**P**		**09 54 36.0**	**-0.4**
	comp=Z,88nm,1.0s							
STKA	**Stephens Creek**	**26.98**	**176**	*eP*	**P**		**09 55 39.8**	**+2.6**
	comp=Z,3.0nm,0.8s,mb3.9							
STKA	**Stephens Creek**	**26.98**	**176**	P	**P**		**09 55 40.1**	**+2.9**
	comp=Z,1.6nm,0.4s,mb3.9,baz=348,slow=9.2,SNR=6.1							
STKA				LR	LR		10 07 41.1	
	comp=Z,409nm,20.7s,MS4.0,baz=3.6,slow=39							
STKA	**Stephens Creek**	**26.98**	**176**	*eP*	**P**		**09 55 38.5**	**+1.3**
KLBR	**Kellerberrin**	**33.60**	**215**	*eP*	**P**		**09 56 37.0**	**+0.9**
	comp=Z,12nm,0.6s,mb5.0							
NWAO	**Narrogin (SRO)**	**34.89**	**214**	*eP*	**P**		**09 56 48.5**	**+1.4**
NWAO				pmax	pmax			
	comp=Z,13nm,1.1s							
NWAO	**Narrogin (SRO)**	**34.89**	**214**	*eP*	**P**		**09 56 48.5**	**+1.3**
	comp=Z,13nm,1.1s,mb4.8							
KULM	**Kulim**	**40.17**	**284**	P	**P**		**09 57 30.3**	**-1.3**
NJ2	**Nanjing**	**41.64**	**333**	*eP*	**P**		**09 57 43.0**	**-0.6**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb4.7							
KMI	**Kunming**	**46.56**	**312**	P	**P**		**09 58 25.3**	**+1.9**
XAN	**Xi'an**	**48.30**	**325**	P	**P**		**09 58 37.5**	**+0.6**
MDJ	**Mudanjiang**	**50.02**	**351**	P	**P**		**09 58 50.0**	**0.0**
MDJ				AMB	AMB			
	comp=Z,60nm,4.9s							
MDJ	**Mudanjiang**	**50.02**	**351**	*eP*	**P**		**09 58 48.0**	**-2.1**
	comp=Z,10nm,1.1s,mb4.8							
CN2	**Changchun**	**50.05**	**347**	*eP*	**P**		**09 58 51.5**	**+1.2**
GTA	**Gaotai**	**57.28**	**324**	*eP*	**P**		**09 59 46.5**	**+2.8**
GTA				AP	pP		09 59 53.0	+6.2
GTA				XP	sP		09 59 56.3	+8.4
GTA				PP	PP		10 01 57.0	+4.5
GTA				S	**S**		**10 07 46.5**	**+8.7**
GTA				XS			10 07 53.3	
GTA				AMB	AMB			
	comp=Z,80nm,5.7s							
GTA				LR	LR			
	comp=N,60nm,13.3s,MS4.0							
GTA				LR	LR			
	comp=E,60nm,12.9s,MS4.0							
GTA				LR	LR			
	comp=Z,70nm,13.3s,MS3.9							
ULN	**Ulaanbaatar**	**59.74**	**335**	*eP*	**P**		**09 59 58.3**	**-2.4**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
ULN	**Ulaanbaatar**	**59.74**	**335**	*eP*	**P**		**09 59 58.2**	**-2.4**
	comp=Z,1.7nm,0.6s,mb4.2							
SONM	**Songino Array**	**59.99**	**335**	P	**P**		**10 00 03.2**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.7,baz=150,slow=7.5,SNR=4.7							
SONM				LR	LR		10 26 42.8	
	comp=Z,50nm,18.5s,MS3.7,baz=113,slow=37							
CASY	**Casey**	**64.61**	**193**	P	**P**		**10 00 31.0**	**-2.0**
	comp=Z,22nm,0.6s,mb5.4							
MA2	**Magadan**	**64.81**	**6**	*eP*	**P**		**10 00 33.5**	**-0.8**
MA2				pmax	pmax			
	comp=Z,16nm,1.1s,mb5.0							
MA2	**Magadan**	**64.81**	**6**	*eP*	**P**		**10 00 33.5**	**-0.8**
	comp=Z,16nm,1.1s,mb5.0							
WMQ	**Urumqi**	**67.20**	**322**	*eP*	**P**		**10 00 49.0**	**-0.9**
WMQ				AP	pP		10 00 53.8	+0.8
WMQ				XP	sP		10 00 56.0	+1.8
WMQ				PCP	PcP		10 01 17.5	-0.4
WMQ				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,70nm,4.3s							
WMQ				LR	LR			
	comp=N,650nm,20.6s,MS5.0							
WMQ				LR	LR			
	comp=E,590nm,21.0s,MS5.0							
WMQ				LR	LR			
	comp=Z,700nm,20.0s,MS4.9							
MKAR	**Makanchi Array**	**71.99**	**323**	P	**P**		**10 01 19.9**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.1,baz=110,slow=7.4,SNR=12							
VNDA	**Vanda**	**73.61**	**175**	P	**P**		**10 01 29.4**	**+1.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=344,slow=6.6,SNR=5.1							
VNDA				LR	LR		10 32 23.9	
	comp=Z,70nm,20.1s,MS3.9,baz=348,slow=35							
VNDA	**Vanda**	**73.61**	**175**	P	**P**		**10 01 29.4**	**+1.2**
	comp=Z,1.4nm,1.1s,mb3.8							
VNDA				LR	LR		10 32 23.9	
KURK	**Kurchatov**	**75.94**	**325**	*eP*	**P**		**10 01 39.9**	**-2.2**
KURK				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5							
KURK	**Kurchatov**	**75.94**	**325**	*eP*	**P**		**10 01 39.9**	**-2.2**
	comp=Z,7.4nm,1.1s,mb4.5							
MAW	**Mawson**	**80.51**	**202**	LR	LR		10 35 24.5	
	comp=Z,90nm,18.1s,MS4.2,baz=246,slow=34							
BRVK	**Borovoye**	**81.61**	**325**	*eP*	**P**		**10 02 13.3**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
BRVK	**Borovoye**	**81.61**	**325**	*eP*	**P**		**10 02 13.3**	**+0.4**
	comp=Z,3.5nm,0.9s,mb4.3							
PMR	**Palmer**	**85.43**	**27**	P	**P**		**10 02 30.6**	**-1.5**
PMR				pmax	pmax			
	comp=Z,13nm,1.1s,mb5.0							
PMR	**Palmer**	**85.43**	**27**	P	**P**		**10 02 30.6**	**-1.6**
	comp=Z,13nm,1.1s,mb5.0							
COLA	**College**	**87.02**	**24**	*eP*	**P**		**10 02 39.1**	**-0.8**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.7							
COLA	**College**	**87.02**	**24**	*eP*	**P**		**10 02 39.1**	**-0.8**
	comp=Z,3.9nm,0.9s,mb4.6							
ILAR	**Eielson Array**	**87.38**	**24**	P	**P**		**10 02 41.6**	**0.0**
	comp=Z,4.6nm,0.9s,mb4.7,baz=261,slow=4.2,SNR=40							
ILAR				LR	LR		10 36 53.8	
	comp=Z,89nm,22.0s,MS4.1,baz=359,slow=32							
INK	**Inuvik**	**93.29**	**22**	P	**P**		**10 03 10.3**	**+1.1**
	comp=Z,1.5nm,1.0s,mb4.4,baz=242,slow=4.1,SNR=5.3							
INK	**Inuvik**	**93.29**	**22**	P	**P**		**10 03 10.3**	**+1.1**
GNI	**Garni**	**96.79**	**310**	P	**P**		**10 03 28.2**	**+2.4**
GNI				pmax	pmax			
	comp=Z,14nm,1.2s							
GNI	**Garni**	**96.79**	**310**	P	**P**		**10 03 28.1**	**+2.3**
	comp=Z,14nm,1.2s,mb5.3							
AYUS	**'Aynunah**	**104.88**	**298**	P	PP		10 08 26.2	+0.7
JMOS	**Jabal al Moall**	**104.98**	**299**	P	PP		10 08 11.5	-15
ALWS	**Ilw as Safayha**	**105.01**	**299**	P	PP		10 08 09.4	-17
HAQS	**Haql**	**105.14**	**299**	P	PP		10 08 14.0	-13
PLCA	**Paso Flores**	**126.91**	**151**	PKP	PKPdf		10 09 01.6	+0.7
	comp=Z,0.7nm,0.8s,baz=158,slow=1.1,SNR=3.1							
DBIC	**Dimbokro**	**144.59**	**275**	PKP	PKPdf		10 09 32.1	-2.1
	comp=Z,5.9nm,0.6s,baz=94,slow=4.9,SNR=14							
DBIC	**Dimbokro**	**144.59**	**275**	*e*PKPdf	PKPdf		10 09 31.7	-2.6
LPAZ	**La Paz**	**145.48**	**128**	PKPbc	PKPbc		10 09 37.2	+3.9
	comp=Z,10nm,0.8s,baz=247,slow=1.6,SNR=29							
LPAZ	**La Paz**	**145.48**	**128**	*e*PKPdf	PKPdf		10 09 36.9	+1.2
SDV	**Santo Domingo**	**149.73**	**81**	PKPbc	PKPdf		10 09 45.9	+3.1
	comp=Z,3.6nm,0.9s,baz=270,slow=4.0,SNR=4.9							

IDC ***29*** *10:02:20.5±0.9,56.74N×154.09W,mb3.9/12,mb1 4.0/13, mb1mx3.9/23,mbtmp3.9/13,ML3.9/1,Error ellipse: s-maj=19.2km s-min=15.8km az=165.0*
NEIC ***29*** *10:02:27.2±1.8,56.85N×153.74W,h43km±12km, ML3.9(PMR),ML3.6(AEIC),Error ellipse: s-maj=19.2km s-min=7.3km az=210.0*
ISC 29 10:02:19.7±1.8,56.69N±0.07×154.0W±0.1,h10km±11km, n37,σ1§03/39,mb3.9/11,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.35**	**35**	Pg	**Pg**		**10 02 46.8**	**+0.1**
	57nm,0.3s,baz=218,slow=7.7,SNR=408							
KDAK				Lg			10 03 03.6	
	72nm,0.3s,baz=310,slow=21,SNR=37							
KDAK	**Kodiak Island**	**1.35**	**35**	P	**Pb**		**10 02 46.9**	**+2.2**
KDAK				S	**Sb**		**10 03 03.6**	**+1.8**
SDPT	**Sand Point**	**3.86**	**252**	P	**Pn**		**10 03 22.0**	**+1.4**
SDPT				*eP*			10 03 30.0	

SEW Seward 4.19 33 P **Pn** 10 03 24.7 -0.4
SLKM Skilak Lake 4.32 26 *ePn* **Pn** 10 03 26.9 -0.1
SVW2 Sparrevohn 4.50 350 P **Pn** 10 03 31.6 +2.1
FIB Fire Island 4.91 22 *ePn* **Pn** 10 03 36.5 +1.0
RC01 Rabbit Creek A 4.94 25 P **Pn** 10 03 36.0 +0.2
PMR Palmer 5.52 25 P **Pn** 10 03 43.4 -0.7
EYAK Cordova Ski Ar 5.80 45 P **Pn** 10 03 46.5 -1.5
TT01 Tatalina 6.32 352 P **Pn** 10 03 56.7 +1.4
BMRM Bremner River 6.50 45 P **Pn** 10 03 56.3 -1.6
TRF Thorofare Moun 7.04 14 P **Pn** 10 04 05.2 -0.2
MCK McKinley 7.50 18 *ePn* **Pn** 10 04 11.6 -0.4
5.0nm,0.8s
PAX Paxson 7.63 31 P **Pn** 10 04 12.4 -1.3
UNV Unalaska Valle 7.67 253 *ePn* **Pn** 10 04 13.0 -1.4
COLA College 8.74 18 *ePn* **P** 10 04 28.5 -0.8
IL1 Eielson Array 8.82 20 P **P** 10 04 28.8 -1.6
ILAR Eielson Array 8.82 20 Pn **P** 10 04 28.8 -1.5
0.6nm,0.3s,baz=203,slow=13,SNR=33
ILAR Sn **Sn** 10 06 04.5 -6.4
0.2nm,0.3s,baz=208,slow=25,SNR=3.3
IM3 Indian Mountai 9.33 1 P **P** 10 04 36.9 -0.4
IMA2 Indian Mountai 9.41 1 Pn **P** 10 04 39.0 +0.5
INK Inuvik 14.90 30 Pn **P** 10 05 54.6 +2.8
0.3nm,0.3s,baz=233,slow=9.9,SNR=15
INK Inuvik 14.90 30 *eP* **P** 10 05 53.2 +1.4
3.2nm,0.9s
YKA Yellowknife Ar 20.52 57 P **P** 10 06 59.7 -0.6
1.4nm,0.7s,baz=270,slow=10,SNR=16
YKA Yellowknife Ar 20.52 57 P **P** 10 06 59.7 -0.6
NVAR Mina Array Bea 29.77 113 P **P** 10 08 28.9 +0.5
0.5nm,0.6s,mb3.5,baz=308,slow=8.0,SNR=4.7
PDAR Pinedale Array 31.33 97 P **P** 10 08 43.0 +0.9
0.5nm,0.6s,mb3.5,baz=307,slow=4.6,SNR=4.2
TXAR Lajitas Array 44.45 106 P **P** 10 10 33.8 +1.4
0.4nm,0.7s,mb3.3,baz=323,slow=6.3,SNR=5.8
ARCES ARCESS Array B 54.08 0 P **P** 10 11 45.5 -0.4
2.1nm,0.9s,mb4.0,baz=13,slow=7.2,SNR=8.0
SONM Songino Array 56.33 307 P **P** 10 12 03.3 +0.6
2.0nm,0.8s,mb4.2,baz=40,slow=7.1,SNR=12
NOA NORSAR Array B 62.04 8 P **P** 10 12 41.6 -0.4
1.3nm,0.8s,mb4.1,baz=334,slow=7.3,SNR=3.8
FINES FINESS Array B 62.21 360 P **P** 10 12 42.4 -0.7
1.1nm,0.6s,mb4.2,baz=353,slow=11,SNR=3.1
HFS Hagfors 63.12 7 P **P** 10 12 49.1 -0.1
1.7nm,0.6s,mb4.3,baz=51,slow=9.5,SNR=5.3
BVAR Borovoye Array 64.75 332 P **P** 10 12 59.8 0.0
2.1nm,0.6s,mb4.3,baz=26,slow=7.2,SNR=15
MKAR Makanchi Array 66.69 321 P **P** 10 13 12.1 -0.2
0.4nm,0.5s,mb3.7,baz=46,slow=6.7,SNR=6.2
AKTK Aktyubinsk 70.00 339 P **P** 10 13 32.6 -0.3
AKTO Aktyubinsk 70.00 339 P **P** 10 13 32.6 -0.3
0.5nm,0.5s,mb3.7,baz=35,slow=7.4,SNR=6.3

BJI ***29*** *10:08:19.8,6.33S×148.32E,h69km,mB5.1,mb4.7,Ms4.6, Msz4.4*
IDC ***29*** *10:08:20.3±0.8,6.04S×148.42E,h46km±7km,mb3.9/7, mb1 4.2/9,mb1mx4.1/12,mbtmp4.2/9,ML4.2/2,MS3.6/5, Ms1 3.6/5,ms1mx3.4/18,Error ellipse: s-maj=38.6km s-min=15.7km az=94.0*
NEIC ***29*** *10:08:21.1±2.1,6.04S×148.28E,h52km±19km,mb4.7/12, Error ellipse: s-maj=16.3km s-min=10.1km az=107.0*
ISC 29 10:08:14.7±2.7,6.03S±0.06×148.3E±0.1,h12km±17km, h42km±1.7km:pP-P,n45,σ1§08/42,mb4.5/20,MS3.8/5, 2C-1D,New British region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**12.06**	**107**	LR	LR		10 14 05.4	
	comp=Z,78nm,21.7s,baz=146,slow=29							
CTA	**Charters Tower**	**14.11**	**188**	*eP*	**P**		**10 11 38.5**	**+1.7**
	5.3nm,1.0s							
CTA	**Charters Tower**	**14.11**	**188**	P	**P**		**10 11 38.1**	**+1.3**
	0.5nm,0.3s,baz=348,slow=16,SNR=5.9							
CTAO	**Charters Tower**	**14.11**	**188**	*eP*	**P**		**10 11 38.3**	**+1.5**
	6.6nm,0.8s							
WRAB	**Tennant Creek**	**19.33**	**223**	*eP*	**P**		**10 12 42.1**	**-0.6**
	26nm,0.7s							
WRAB				*eS*	**S**		**10 16 07.1**	**-7.7**
WB2	**Warramunga Arr**	**19.34**	**223**	*eP*	**P**		**10 12 42.5**	**-0.3**
WB2				*eS*	**S**		**10 16 26.1**	**+11**
WRA	**Warramunga Arr**	**19.35**	**223**	P	**P**		**10 12 42.5**	**-0.4**
	1.2nm,0.3s,baz=48,slow=10,SNR=54							
WRA				PcP	PcP		10 17 04.0	-0.8
	0.1nm,0.3s,baz=32,slow=1.7,SNR=9.3							
GUMO	**Guam**	**19.78**	**350**	LR	LR		10 19 38.5	
	comp=Z,163nm,18.6s,baz=160,slow=34							
ASPA	**Alice Springs**	**22.32**	**217**	*ǁeP*	**P**		**10 13 14.6**	**+0.7**
ASPA				*eS*	**S**		**10 17 14.2**	**+0.1**
DZM	**Mont Dzumac**	**23.73**	**134**	LR	LR		10 21 23.9	
	comp=Z,201nm,21.8s,MS3.5,baz=15,slow=33							
FITZ	**Fitzroy Crossi**	**25.13**	**240**	*eP*	**P**		**10 13 42.0**	**+0.7**
	39nm,0.8s,mb5.0							
FITZ				*e*			10 13 55.7	
STKA	**Stephens Creek**	**26.46**	**193**	*eP*	**P**		**10 13 53.9**	**+0.3**
	7.3nm,0.7s,mb4.3							
STKA	**Stephens Creek**	**26.46**	**193**	P	**P**		**10 13 53.6**	**+0.1**
	7.7nm,0.6s,mb4.4,baz=353,slow=9.2,SNR=20							
STKA				LR	LR		10 25 39.5	
	comp=Z,240nm,19.0s,MS3.8,baz=295,slow=39							
STKA	**Stephens Creek**	**26.46**	**193**	*eP*	**P**		**10 13 53.7**	**+0.1**
KLBR	**Kellerberrin**	**38.22**	**224**	*eP*	**P**		**10 15 35.6**	**-0.8**
	130nm,1.7s,mb5.4							
NWAO	**Narrogin (SRO)**	**39.36**	**223**	*eP*	**P**		**10 15 46.0**	**+0.1**
	16nm,1.0s,mb4.7							
MJAR	**Matsushiro Ar**	**43.38**	**348**	P	**P**		**10 16 19.6**	**+0.7**
	4.0nm,0.9s,mb4.2,baz=174,slow=8.9,SNR=9.1							
MJAR				LR	LR		10 32 48.9	
	comp=Z,111nm,21.6s,MS3.7,baz=130,slow=34							
MAJO	**Matsushiro**	**43.38**	**348**	P	**P**		**10 16 15.6**	**-3.4**
	11nm,0.9s,mb4.6							
SSE	**Sheshan**	**45.09**	**327**	P	**P**		**10 16 33.3**	**+0.5**
SSE				AMB	AMB			
	comp=Z,40nm,0.8s,mb5.3							
SSE				AMB	AMB			
	comp=Z,55μm,3.0s							
NJ2	**Nanjing**	**47.11**	**325**	*eP*	**P**		**10 16 49.5**	**+0.8**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb5.0				

	comp=Z,6.6nm,0.9s,mb4.8								
ILAR	**Eielson Array**	**85.02**	**23**	P		**P**	**10 20 49.5**	**-1.5**	
	comp=Z,2.5nm,0.8s,mb4.4,baz=253,slow=5.1,SNR=24								
ILAR				pP		pP	10 21 04.0	+8.9	
	comp=Z,2.5nm,0.6s,baz=252,slow=4.8,SNR=10								
DAWY	**Dawson**	**87.77**	**25**	*e*P		**P**	**10 21 05.7**	**+1.1**	
SYO	**Syowa Base**	**91.00 200**		⇑P		**P**	**10 21 18.9**	**-0.8**	
SYO	**Syowa Base**	**91.00 200**		⇑*e*P		**P**	**10 21 18.9**	**-0.8**	
YKA	**Yellowknife Ar**	**98.61**	**28**	P		**P**	**10 21 54.7**	**+0.2**	
	comp=Z,0.2nm,0.9s,mb3.7,baz=272,slow=4.9,SNR=3.5								
YKA	**Yellowknife Ar**	**98.61**	**28**	P		**P**	**10 21 54.7**	**+0.2**	
PLCA	**Paso Flores**	**121.40**	**146**	PKP	PKPdf		10 27 08.1	-3.7	
	comp=Z,1.2nm,0.9s,baz=219,slow=6.5,SNR=3.1								
PLCA				pPKP			10 27 23.8		
	comp=Z,1.0nm,0.7s,baz=254,slow=5.8,SNR=2.0								
LPAZ	**La Paz**	**137.71**	**122**	PKP	PKPdf		10 27 41.4	-1.9	
	comp=Z,1.9nm,1.0s,baz=284,slow=4.2,SNR=3.9								
LPAZ	**La Paz**	**137.71**	**122**	*e*PKPdf	PKPdf		10 27 41.6	-1.7	
BDFB	**Brasilia**	**153.10**	**143**	PKPbc	PKPdf		10 28 12.5	+3.5	
	comp=Z,5.9nm,0.8s,baz=163,slow=2.8,SNR=6.1								

*NAO **29** 10:10:19.0±2.1,59.30N×27.02E,ML2.2*
*BER **29** 10:10:19.3±2.4,59.31N×27.19E,ML2.2(NAO),*
Suspected explosion
*IDC **29** 10:10:20.1±3.7,59.39N×27.30E,mb1 3.2/4,*
mb1mx3.0/20,mbtmp3.1/4,ML2.6/4,Error ellipse:
s-maj=42.2km s-min=17.0km az=124.0
HEL 29 10:10:19.1±0.1,59.31N×27.24E,ML1.7,ML2.2(NAO),
Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.89**	**197**	*i* P		Pg		10 10 35.0	-1.9
VSU				*i* S		Sg		10 10 46.4	-2.4
VJF	**Virojoki**	**1.24**	**7**	*e*P		Pb		10 10 41.6	-1.5
VJF				*e*S		Sb		10 10 56.6	-2.9
PVF	**Pernaja**	**1.42**	**331**	*e*P		Pb		10 10 44.5	-1.6
MEF	**Metsahovi**	**1.70**	**303**	*e*P		Pn		10 10 49.4	-0.9
MEF				*e*S		Sb		10 11 10.7	-2.1
FIA0	**FINESS Array S**	**2.21**	**345**	*e*P		Pn		10 10 56.6	-1.0
FIA0				*e*S		Sn		10 11 24.4	-1.7
FIA0				MSG				10 11 28.9	
	comp=Z,3.7nm,0.1s								
FIA0	**FINESS Array S**	**2.21**	**345**	Pn		Pn		10 10 56.8	-0.8
	baz=165,slow=18								
FIA0				Lg				10 11 27.8	
	baz=169,slow=28								
FINES	**FINESS Array B**	**2.21**	**345**	Pn		Pn		10 10 56.6	-0.9
	comp=Z,1.1nm,0.3s,baz=163,slow=15,SNR=28								
FINES				Sn		Sn		10 11 26.4	+0.4
	comp=Z,2.4nm,0.3s,baz=172,slow=27,SNR=21								
KAF	**Kangasniemi**	**2.85**	**351**	*e*SG		Sg		10 11 46.7	-7.2
KAF				MSG				10 11 48.0	
	comp=Z,1.6nm,0.2s								
RAF	**Rauma**	**3.23**	**304**	*e*P		Pn		10 11 11.5	-0.5
RAF				*e*S		Sn		10 11 48.5	-3.3
HFS	**Hagfors**	**6.90**	**283**	Pn		Pn		10 12 00.8	-3.1
	comp=Z,0.0nm,0.3s,baz=100,slow=18,SNR=2.7								
HFS				Lg				10 13 49.5	
	comp=Z,0.1nm,0.3s,baz=82,slow=29,SNR=5.2								
HFS	**Hagfors**	**6.90**	**283**	*e*S		Sn		10 13 14.3	-10
HFS				*e*SG				10 13 51.1	
HFS	**Hagfors**	**6.90**	**283**	Sn		Sn		10 13 14.3	-10
	baz=107,slow=28								
HFS				Lg				10 13 51.1	
	baz=93,slow=28								
NB2	**NORSAR Subarra**	**8.17**	**289**	*e*P		P		10 12 17.3	-4.5
NOA	**NORSAR Array B**	**8.17**	**289**	Pn		P		10 12 15.9	-5.8
	comp=Z,0.1nm,0.3s,baz=52,slow=7.3,SNR=2.6								
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn		P		10 12 45.8	-5.1
	baz=174,slow=14								
ARA0				Sn		S		10 14 35.2	-13
	baz=173,slow=28								
ARA0	**ARCESS Array S**	**10.29**	**357**	*e*P		P		10 12 45.8	-5.1
ARA0				*e*S		S		10 14 35.2	-13
ARCES	**ARCESS Array B**	**10.29**	**357**	Pn		P		10 12 45.5	-5.3
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=5.9								
ARCES				Sn		S		10 14 35.5	-13
	comp=Z,0.1nm,0.3s,baz=157,slow=36,SNR=3.3								

*FUNV **29** 10:17:03.9,6.66N×73.12W,h168km,MW3.2*
*IDC **29** 10:17:04.9±0.8,6.73N×72.91W,h166km±11km,mb3.4/2,*
mb1 3.5/4,mb1mx3.1/21,mbtmp3.9/4,Error ellipse:
s-maj=50.8km s-min=7.9km az=131.0
ISC 29 10:17:04.4±0.7,6.86N±0.08×72.99W±0.08,h171km±7km,
n12,σ0s94/18,mb3.6/2,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**34**	⇑*i* P			**P**	**10 17 34.1**	**+1.0**
CAPV				*e*S			**S**	**10 17 55.5**	**+0.3**
ROSC	**El Rosal**	**2.40**	**214**	P			**P**	**10 17 46.0**	**+0.1**
	16nm,0.3s,baz=96,slow=24,SNR=49								
ROSC				S			**S**	**10 18 16.8**	**-1.1**
	102nm,0.3s,baz=108,slow=18,SNR=20								
SOCV	**Socops**	**2.54**	**56**	*e*P			**P**	**10 17 48.9**	**+1.3**
SOCV				*e*S			**S**	**10 18 20.9**	**+0.1**
SDV	**Santo Domingo**	**3.08**	**49**	P			**P**	**10 17 55.6**	**+1.4**
	16nm,0.3s,baz=237,slow=2.3,SNR=114								
SDV				S			**S**	**10 18 32.9**	**+0.5**
	19nm,0.3s,baz=57,slow=23,SNR=33								
VIRV	**Villa del Rosa**	**3.66**	**9**	*e*P			**P**	**10 18 01.1**	**-0.5**
VIRV				*e*S			**S**	**10 18 44.7**	**-1.0**
SANV	**Sanarito**	**4.30**	**52**	*e*P			**P**	**10 18 10.3**	**+0.5**
SANV				*e*S			**S**	**10 18 59.7**	**-0.7**
TEPV	**Terepaima**	**4.86**	**50**	*e*P			**P**	**10 18 17.6**	**+0.6**
TEPV				*e*S			**S**	**10 19 11.6**	**-1.7**
BAUV	**El Baul**	**5.32**	**67**	*e*P			**P**	**10 18 22.1**	**-1.0**
BAUV				*e*S			**S**	**10 19 20.3**	**-3.8**
SCHQ	**Schefferville**	**48.09**	**5**	P			**P**	**10 25 29.6**	**+1.1**
	2.2nm,0.7s,mb3.9,baz=190,slow=11,SNR=4.6								
YKA	**Yellowknife Ar**	**63.27**	**340**	P			**P**	**10 27 16.2**	**-0.6**
	0.3nm,0.6s,mb3.3,baz=134,slow=6.6,SNR=20								
MKAR	**Makanchi Array**	**122.24**	**20**	PKP		PKPdf		10 35 40.1	+1.0
	0.1nm,0.4s,baz=289,slow=2.7,SNR=5.0								
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc		PKPdf		10 36 37.5	+6.6
	0.8nm,0.4s,baz=107,slow=2.5,SNR=4.3								

*BJI **29** 10:36:36.5,0.76N×97.27E,h36km,mB5.0,mb4.8,Ms4.7,*
Msz4.4
*IDC **29** 10:36:36.4±0.9,1.15N×96.92E,mb4.3/10,mb1 4.4/11,*
mb1mx4.3/17,mbtmp4.3/11,ML4.0/1,MS4.0/9,Ms1 4.0/9,
ms1mx3.7/26,Error ellipse: s-maj=31.3km s-min=18.6km
az=42.0
*MOS **29** 10:36:39.6±1.0,1.17N×97.14E,h33km,mb4.9/18,Error*
ellipse: s-maj=15.4km s-min=9.6km az=97.7
*NEIC **29** 10:36:40.9±0.4,1.16N×97.15E,h30km,mb4.7/23,Error*
ellipse: s-maj=10.1km s-min=7.8km az=213.0
ISC 29 10:36:39.5±0.4,1.19N±0.06×97.17E±0.05,h31km,
h31km±1.2km:pP-P,n93,σ0s99/93,mb4.7/41,MS4.3/16,5D,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.37**	**48**	Pn			**Pn**	**10 37 18.4**	**+1.3**
	30nm,0.3s,baz=229,slow=5.0,SNR=108								
PSI				LR		LR		10 38 09.1	
	comp=Z,2μm,20.4s,baz=304,slow=37								
PSI	**Prapat**	**2.37**	**48**	P			**Pn**	**10 37 18.4**	**+1.3**
PSI				pmax		pmax			
	comp=Z,30nm,0.3s								
PSI				MLR		MLR			
	comp=Z,2μm,20.5s								
PSI	**Prapat**	**2.37**	**48**	Pn			**Pn**	**10 37 18.4**	**+1.3**
PSI				LR		LR		10 38 09.1	
IPM	**Ipoh**	**5.11**	**49**	P			**Pn**	**10 37 56.7**	**+0.7**
KULM	**Kulim**	**5.35**	**40**	*e*Pn			**Pn**	**10 37 59.5**	**+0.1**
KGM	**Kluang**	**6.20**	**82**	P			**Pn**	**10 38 13.3**	**+1.9**
PALK	**Pallekele**	**17.50**	**291**	*e*P			**P**	**10 40 42.5**	**-0.5**
	comp=Z,30nm,1.4s								
KKM	**Kota Kinabalu**	**19.60**	**75**	P			**P**	**10 41 07.3**	**-1.1**
TSM	**Tawau**	**20.90**	**81**	P			**P**	**10 41 21.2**	**-0.8**
QIZ	**Qiongzhong**	**21.64**	**34**	*e*P			**P**	**10 41 29.0**	**-0.5**
QIZ				S			**S**	**10 45 21.5**	**-0.9**
QIZ				LR		LR			
	comp=E,260nm,20.0s								
QIZ	**Qiongzhong**	**21.64**	**34**	*e*P			**P**	**10 41 28.2**	**-1.3**
	comp=E,18nm,0.8s,mb4.5								
KMI	**Kunming**	**24.39**	**12**	⇓P			**P**	**10 41 59.0**	**+2.5**
KMI				AP				10 42 07.8	
KMI				XP				10 42 11.8	
KMI				PP		PP		10 42 35.5	+3.4
KMI				PCP		PcP		10 45 38.5	+2.0
KMI				S		**S**		**10 46 15.5**	**+4.4**
KMI				XS				10 46 30.0	
KMI				SS		SS		10 47 11.5	+5.6
KMI				PCS				10 49 17.0	
KMI				AMB		AMB			
	comp=Z,30nm,1.3s,mb4.6								
KMI				AMB		AMB			
	comp=Z,200nm,3.1s								
KMI				LR		LR			
	comp=N,2μm,15.4s,MS4.7								
KMI				LR		LR			
	comp=E,860nm,13.7s,MS4.7								
KMI				LR		LR			
	comp=Z,2μm,13.2s,MS4.7								
HYB	**Hyderabad**	**24.40**	**312**	*i* P			**P**	**10 41 58.0**	**+1.4**
HYB	**Hyderabad**	**24.40**	**312**	*e*P			**P**	**10 41 58.0**	**+1.4**
GYA	**Guiyang**	**26.73**	**19**	P			**P**	**10 42 18.5**	**+0.1**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.3								
JIRN	**Jiri**	**28.34**	**339**	*e*P			**P**	**10 42 33.9**	**+0.9**
	comp=Z,38nm,0.7s,mb5.2								
PKI	**Pulchoki**	**28.55**	**338**	*e*P			**P**	**10 42 36.3**	**+1.4**
	comp=Z,20nm,0.6s,mb5.0								
PKI	**Pulchoki**	**28.55**	**338**	*e*P			**P**	**10 42 36.3**	**+1.4**
PKI				pmax		pmax			
	comp=Z,10.0nm,0.6s,mb4.7								
GUN	**Gumba**	**28.68**	**339**	*e*P			**P**	**10 42 36.9**	**+0.8**
	comp=Z,59nm,0.5s,mb5.5								
DMN	**Daman**	**28.70**	**337**	*e*P			**P**	**10 42 37.4**	**+1.2**
	comp=Z,20nm,0.8s,mb4.9								
KKN	**Kakani**	**28.80**	**338**	*e*P			**P**	**10 42 37.5**	**+0.4**
	comp=Z,34nm,0.8s,mb5.2								
KKN	**Kakani**	**28.80**	**338**	*e*P			**P**	**10 42 37.5**	**+0.4**
KKN				pmax		pmax			
	comp=Z,17nm,0.8s,mb4.8								
LSA	**Lhasa**	**28.92**	**349**	P			**P**	**10 42 40.0**	**+1.8**
LSA	**Lhasa**	**28.92**	**349**	*e*P			**P**	**10 42 38.5**	**+0.3**
LSA				pmax		pmax			
	comp=Z,11nm,0.6s,mb4.8								
LSA	**Lhasa**	**28.92**	**349**	*e*P			**P**	**10 42 38.5**	**+0.2**
	comp=Z,11nm,0.6s,mb4.8								
GKN	**Gorkha**	**29.24**	**337**	*e*P			**P**	**10 42 41.3**	**+0.2**
	comp=Z,22nm,0.6s,mb5.1								
KOLN	**Koldanda**	**29.45**	**335**	*e*P			**P**	**10 42 43.5**	**+0.5**
	comp=Z,17nm,0.5s,mb5.0								
ENH	**Enshi**	**31.20**	**21**	*e*P			**P**	**10 42 56.5**	**-1.9**
	comp=Z,30nm,0.5s,mb5.4								
FITZ	**Fitzroy Crossi**	**33.95**	**126**	*e*P			**P**	**10 43 22.3**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.5								
XAN	**Xi'an**	**34.48**	**17**	P			**P**	**10 43 25.3**	**-1.6**
XAN				AP		pP		10 43 32.0	-4.1
XAN				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.9								
LZH	**Lanzhou**	**35.27**	**9**	*e*P			**P**	**10 43 33.0**	**-0.6**
LZH				AP		pP		10 43 42.3	-0.5
LZH				XP		sP		10 43 45.5	-1.2
LZH				AMB		AMB			
	comp=Z,10.0nm,1.2s,mb4.6								
NJ2	**Nanjing**	**36.88**	**32**	*e*P			**P**	**10 43 47.8**	**+0.5**
NJ2				AP		pP		10 43 57.5	+1.0
NJ2				XP		sP		10 44 01.5	+1.1
NJ2				PP		PP		10 45 14.5	+1.0
NJ2				S		**S**		**10 49 30.0**	**+0.6**
NJ2				XS				10 49 47.0	
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.7								
NJ2				AMB		AMB			
	comp=Z,70nm,5.4s								
NJ2				LR		LR			
	comp=N,1μm,15.9s,MS4.8								
NJ2				LR		LR			
	comp=E,530nm,15.0s,MS4.8								
NJ2				LR		LR			
	comp=Z,560nm,14.4s,MS4.5								
SSE	**Sheshan**	**37.43**	**35**	P			**P**	**10 43 51.3**	**-0.6**
SSE				AP		pP		10 44 00.3	-0.9
SSE				XP		sP		10 44 05.3	+0.3
SSE				S		**S**		**10 49 38.3**	**+0.4**
SSE				XS				10 49 53.0	
SSE				AMB		AMB			
	comp=Z,40nm,0.7s,mb5.4								
SSE				AMB		AMB			
	comp=Z,40nm,3.5s								
SSE				LR		LR			
	comp=N,140nm,21.2s,MS3.8								
SSE				LR		LR			
	comp=E,110nm,21.1s,MS3.8								
SSE				LR		LR			
	comp=Z,190nm,17.5s,MS4.0								
GTA	**Gaotai**	**38.11**	**3**	*e*P			**P**	**10 43 57.5**	**-0.1**
GTA				AP		pP		10 44 06.3	-0.5
GTA				XP		sP		10 44 11.5	+0.8
GTA				PP		PP		10 45 30.5	+2.3
GTA				S		**S**		**10 49 49.8**	**+1.7**
GTA				XS				10 50 06.0	
GTA				SS		SS		10 52 31.5	+5.0
GTA				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.5								
GTA				AMB		AMB			
	comp=Z,130nm,6.8s								
GTA				LR		LR			
	comp=N,400nm,14.1s,MS4.5								
GTA				LR		LR			
	comp=E,330nm,13.7s,MS4.5								
GTA				LR		LR			
	comp=Z,440nm,13.3s,MS4.4								
HHC	**Hu-ho-hao-te**	**41.57**	**17**	*e*P			**P**	**10 44 25.3**	**-0.9**
HHC				AP		pP		10 44 35.0	-0.5
HHC				XP		sP		10 44 39.0	-0.3
HHC				PP		PP		10 46 04.0	-1.3
HHC				PCP		PcP		10 46 23.0	-0.7
HHC				SCP				10 50 09.3	
HHC				PCS				10 50 13.3	
HHC				S		**S**		**10 50 38.8**	**-1.1**
HHC				SCS		ScS		10 54 24.5	-0.6
HHC				AMB		AMB			
	comp=Z,110nm,4.3s								
HHC				LR		LR			
	comp=N,490nm,14.3s,MS4.7								
HHC				LR		LR			
	comp=E,370nm,11.9s,MS4.7								
HHC				LR		LR			
	comp=Z,450nm,16.6s,MS4.4								
WRA	**Warramunga Arr**	**42.05**	**122**	P			**P**	**10 44 31.4**	**+1.0**
	comp=Z,4.1nm,0.5s,mb4.3,baz=303,slow=9.0,SNR=15								
WRA	**Warramunga Arr**	**42.05**	**122**	P			**P**	**10 44 31.4**	**+1.0**
WRA				pmax		pmax			
	comp=Z,4.0nm,0.5s								
WRAB	**Tennant Creek**	**42.06**	**122**	P			**P**	**10 44 29.2**	**-1.3**
WRAB				pmax		pmax			
	comp=Z,9.0nm,0.6s,mb4.6								
WRAB	**Tennant Creek**	**42.06**	**122**	P			**P**	**10 44 29.2**	**-1.2**
	comp=Z,8.9nm,0.6s,mb4.6								
WB2	**Warramunga Arr**	**42.06**	**122**	*e*P			**P**	**10 44 19.1**	**-11**
WMQ	**Urumqi**	**43.28**	**350**	*e*P			**P**	**10 44 40.5**	**+0.4**
WMQ				AP		pP		10 44 50.5	+1.1
WMQ				XP		sP		10 44 54.5	+1.3
WMQ				PCP		PcP		10 46 23.5	-5.8
WMQ				PP		PP		10 46 29.5	+6.8
WMQ				*e*S		**S**		**10 51 05.3**	**+0.4**
WMQ				SS		SS		10 54 11.5	-0.3
WMQ				SCS		ScS		10 54 35.5	+0.1
WMQ				AMB		AMB			
	comp=Z,20nm,1.2s,mb4.7								
WMQ				AMB		AMB			
	comp=Z,120nm,4.6s								
WMQ				LR		LR			
	comp=N,730nm,22.0s,MS4.7								
WMQ				LR		LR			
	comp=E,900nm,22.0s,MS4.7								
WMQ				LR		LR			
	comp=Z,700nm,22.0s,MS4.5								
ASPA	**Alice Springs**	**43.41**	**127**	*e*P			**P**	**10 44 42.7**	**+1.3**
ASPA				*e*				10 44 49.2	
KS15	**Wonju Array Si**	**45.84**	**35**	*e*P			**P**	**10 45 00.7**	**0.0**
AAK	**Ala-Archa**	**45.99**	**337**	*e*P			**P**	**10 45 02.2**	**+0.3**
AAK				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.4								
AAK	**Ala-Archa**	**45.99**	**337**	*e*P			**P**	**10 45 02.1**	**+0.2**
	comp=Z,5.5nm,1.0s,mb4.4								
SONM	**Songino Array**	**47.14**	**8**	P			**P**	**10 45 11.3**	**+0.4**
SONM				PcP		PcP		10 46 42.8	+0.1
	comp=Z,6.3nm,0.6s,mb4.7,baz=190,slow=8.9,SNR=66								
SONM				PcP		PcP		10 46 42.8	+0.1
	comp=Z,1.8nm,0.5s,baz=190,slow=4.1,SNR=8.1								
SONM	**Songino Array**	**47.14**	**8**	P			**P**	**10 45 11.3**	**+0.4**
SONM								10 46 42.8	
SONM				pmax		pmax			
	comp=Z,6.0nm,0.6s								
SONM				pmax		pmax			
	comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**47.24**	**346**	P			**P**	**10 45 11.8**	**+0.1**
	comp=Z,8.4nm,0.5s,mb4.9,baz=160,slow=8.4,SNR=84								
MKAR				LR		LR		11 08 02.6	
	comp=Z,102nm,19.5s,MS3.8,baz=179,slow=40								
MKAR	**Makanchi Array**	**47.24**	**346**	P			**P**	**10 45 11.9**	**+0.2**
MKAR				pmax		pmax			
	comp=Z,8.0nm,0.5s								
MKAR				MLR		MLR			
	comp=Z,102nm,19.5s								
ULN	**Ulaanbaatar**	**47.27**	**9**	*e*P			**P**	**10 45 10.9**	**-1.0**
ULN				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.5								
ULN	**Ulaanbaatar**	**47.27**	**9**	*e*P			**P**	**10 45 10.9**	**-1.1**
	comp=Z,3.1nm,0.5s,mb4.5								
CN2	**Changchun**	**49.32**	**27**	*e*P			**P**	**10 45 27.8**	**-0.1**
CN2				*e*AP		pP		10 45 38.8	+1.5
CN2				*e*S		**S**		**10 52 31.8**	**+0.7**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb5.0								
CN2				AMB		AMB			
	comp=Z,200nm,5.0s								
CN2				LR		LR			
	comp=N,400nm,16.0s,MS4.7								
CN2				LR		LR			
	comp=E,400nm,16.0s,MS4.7								
CN2				LR		LR			
	comp=Z,500nm,16.0s,MS4.6								
HIA	**Hailar**	**51.66**	**19**	*e*P			**P**	**10 45 44.9**	**-0.7**
HIA				pmax		pmax			
	comp=Z,6.0nm,0.6s								
HIA	**Hailar**	**51.66**	**19**	*e*P			**P**	**10 45 44.9**	**-0.7**
	comp=Z,6.3nm,0.6s,mb4.7								
MJAR	**Matsushiro Arr**	**51.71**	**42**	P			**P**	**10 45 46.5**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.0,baz=213,slow=7.7,SNR=5.6								
MJAR	**Matsushiro Arr**	**51.71**	**42**	P			**P**	**10 45 46.5**	**+0.3**
MJAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KURK	**Kurchatov**	**51.79**	**345**	*e*P			**P**	**10 45 46.1**	**-0.5**
KURK				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
KURK	**Kurchatov**	**51.79**	**345**	*e*P			**P**	**10 45 46.1**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.5								
MDJ	**Mudanjiang**	**51.89**	**29**	P			**P**	**10 45 47.0**	**-0.4**
MDJ				AP		pP		10 45 56.0	-0.9
MDJ				XP		sP		10 46 00.0	-0.5
MDJ				PCS				10 50 57.3	
MDJ				S		**S**		**10 53 09.8**	**+3.3**
MDJ				AMB		AMB			
	comp=Z,100nm,5.7s								
MDJ				LR		LR			
	comp=N,130nm,20.4s,MS4.1								
MDJ				LR		LR			
	comp=E,90nm,18.3s,MS4.1								
MDJ				LR		LR			
	comp=Z,170nm,17.2s,MS4.1								
MDJ	**Mudanjiang**	**51.89**	**29**	P			**P**	**10 45 45.9**	**-1.5**
	comp=Z,4.5nm,0.5s,mb4.7								
STKA	**Stephens Creek**	**53.37**	**132**	P			**P**	**10 45 59.7**	**+1.1**
	comp=Z,3.8nm,0.7s,mb4.4,baz=319,slow=10,SNR=9.4								
STKA	**Stephens Creek**	**53.37**	**132**	*e*P			**P**	**10 45 59.4**	**+0.7**
KLR	**Kul'dur**	**56.27**	**27**	*e*P			**P**	**10 46 16.2**	**-3.3**
BRVK	**Borovoye**	**56.31**	**341**	*e*P			**P**	**10 46 18.4**	**-1.3**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
BRVK	**Borovoye**	**56.31**	**341**	*e*P			**P**	**10 46 18.4**	**-1.3**
	comp=Z,3.3nm,0.5s,mb4.6								
BOD	**Bodaibo**	**58.02**	**11**	*e*P			**P**	**10 46 30.5**	**-1.3**
BOD				pmax		pmax			
	comp=Z,8.0nm,1.4s,mb4.6								
KMBO	**Kilima Mbogo**	**59.96**	**268**	LR		LR		11 10 52.3	
	comp=Z,89nm,18.5s,MS3.9,baz=91,slow=34								
YAK	**Yakutsk**	**65.43**	**16**	*e*P			**P**	**10 47 20.4**	**-1.1**
YAK				pmax		pmax			
	comp=Z,24nm,0.6s,mb5.4								
YAK	**Yakutsk**	**65.43**	**16**	*e*P			**P**	**10 47 20.4**	**-1.0**
	comp=Z,24nm,0.6s,mb5.4								
BR131	**Keskin Array S**	**69.10**	**312**	P			**P**	**10 47 42.4**	**-2.5**
	comp=Z,1.7nm,0.7s,mb4.1								
BRTR	**Keskin Array B**	**69.10**	**312**	P			**P**	**10 47 42.9**	**-2.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=128,slow=6.4,SNR=0.4								
BRTR	**Keskin Array B**	**69.10**	**312**	P			**P**	**10 47 42.9**	**-2.0**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MA2	**Magadan**	**71.35**	**26**	*e*P			**P**	**10 47 58.1**	**-0.2**
MA2				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb4.8								
MA2	**Magadan**	**71.35**	**26**	*e*P			**P**	**10 47 58.1**	**-0.1**
	comp=Z,9.8nm,0.7s,mb4.8								
PET	**Petropavlovsk**	**72.25**	**34**	*e*P			**P**	**10 48 03.6**	**-0.2**
PET				pmax		pmax			
	comp=Z,13nm,0.6s,mb5.0								
PET	**Petropavlovsk**	**72.25**	**34**	*e*P			**P**	**10 48 03.6**	**-0.2**
	comp=Z,13nm,0.6s,mb5.0								
**MAW

RFYF	**Reffroy**	**1.17**	**231**	*e*Pg		**Pg**	**11 05 13.2**	**+0.6**
	baz=54							
ECH	**Echery**	**1.18**	**170**	Pg		**Pg**	**11 05 13.5**	**+0.7**
ECH				Sg		**Sg**	**11 05 28.0**	**-0.5**
THEF	**They Montfort**	**1.28**	**207**	Pg		**Pg**	**11 05 15.1**	**+0.3**
THEF				Sg		**Sg**	**11 05 32.2**	**+0.2**
TOD	**Tromm**	**1.30**	**79**	Pg		**Pg**	**11 05 14.2**	**-0.9**
TOD				Sg		**Sg**	**11 05 31.8**	**-0.6**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg		**Pg**	**11 05 15.8**	**-0.2**
	SNR=3.0							
TNS				*e*Sg		**Sg**	**11 05 33.5**	**-0.3**
	SNR=5.3							
HAU	**Haudompre**	**1.41**	**194**	*e*Pg		**Pg**	**11 05 17.6**	**+0.2**
HAU				*e*Sg		**Sg**	**11 05 36.8**	**+0.6**
	9.5nm,0.3s							
BFO	**Black Forest**	**1.44**	**136**	*e*Pg		**Pg**	**11 05 18.1**	**+0.2**
	SNR=3.5							
BFO				*e*Sg		**Sg**	**11 05 36.4**	**-0.7**
	SNR=8.0							
GIVF	**Givet**	**1.50**	**300**	*e*Pg		**Pg**	**11 05 18.5**	**-0.6**
GIVF				*e*Sg		**Sg**	**11 05 37.8**	**-1.3**
	12nm,0.5s							
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg		**Pg**	**11 05 20.3**	**-0.1**
HINF				*e*Sg		**Sg**	**11 05 40.8**	**-0.4**
	15nm,0.3s							
SFTF	**Sexfontaines**	**1.67**	**226**	*e*Pg		**Pg**	**11 05 22.3**	**-0.3**
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn		**Pn**	**11 05 35.8**	**-0.5**
LOR	**Lormes**	**2.90**	**224**	*e*Pn		**Pn**	**11 05 36.8**	**-0.7**
	baz=50							
LOR				*e*Sn		**Sn**	**11 06 11.9**	**-1.7**
	4.2nm,0.5s							
SSF	**Saint Saulge**	**3.22**	**225**	*e*Pn		**Pn**	**11 05 40.9**	**-1.1**
GEC2	**GERESS Array S**	**4.54**	**94**	*e*Pn		**Pn**	**11 06 00.4**	**-0.4**
	SNR=3.7							

TIR ***29*** *11:12:57.3,42.62N×19.31E,h12km*
PDG ***29*** *11:12:58.5±0.2,42.62N×19.29E,h10km±1km*
NEIC ***29*** *11:12:58.5,42.62N×19.29E,h10km,ML2.7(PDG),After PDG.*

ISC 29 11:12:58.3±0.5**,42.62N**±0.02×**19.29E**±0.03**,h9**km±8km**,**
n17,σ1§**02**/32**,6C-2D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTG	**Podgorica**	**0.19**	**186**	⇑*i*Pg	**Pg**	**11 13 01.7**	**-0.7**
TTG				*e*Sg	**Sg**	**11 13 05.0**	**-0.2**
NKY	**Niksic**	**0.28**	**312**	⇓*i*Pg	**Pg**	**11 13 03.7**	**-0.4**
NKY				*e*Sg	**Sg**	**11 13 08.4**	**+0.2**
BUM	**Brajici-Budva**	**0.43**	**222**	⇑*i*Pg	**Pg**	**11 13 06.1**	**-0.9**
BUM				*e*Sg	**Sg**	**11 13 13.5**	**+0.7**
PVY	**Plav**	**0.51**	**93**	⇑*i*Pg	**Pg**	**11 13 07.7**	**-0.8**
PVY				*e*Sg	**Sg**	**11 13 15.3**	**-0.1**
IVA	**Berane**	**0.52**	**61**	⇓*i*Pg	**Pg**	**11 13 08.0**	**-0.7**
IVA				*e*Sg	**Sg**	**11 13 16.3**	**+0.7**
HCY	**Herceg Novi**	**0.61**	**254**	*e*Pg	**Pg**	**11 13 10.0**	**-0.5**
HCY				*e*Sg	**Sg**	**11 13 19.3**	**+0.6**
BRY	**Bratogost**	**0.61**	**297**	⇑*i*Pg	**Pg**	**11 13 09.3**	**-1.4**
BRY				*e*Sg	**Sg**	**11 13 19.0**	**+0.1**
BCI	**Bajram Curri**	**0.63**	**114**	*i* Pg	**Pg**	**11 13 09.3**	**-1.7**
BCI				*i* Sg	**Sg**	**11 13 21.3**	**+1.8**
UPM	**Unac-Piva**	**0.64**	**335**	⇑*i*Pg	**Pg**	**11 13 10.3**	**-0.9**
UPM				*e*Sg	**Sg**	**11 13 20.8**	**+1.0**
ULC	**Ulcinj**	**0.66**	**182**	*e*Pg	**Pg**	**11 13 11.0**	**-0.5**
ULC				*e*Sg	**Sg**	**11 13 21.4**	**+1.1**
PLE	**Pljevlja**	**0.71**	**6**	⇑*i*Pg	**Pg**	**11 13 12.2**	**-0.4**
PLE				*e*Sg	**Sg**	**11 13 22.7**	**+0.6**
PUK	**Puka**	**0.73**	**142**	*e*Pg	**Pg**	**11 13 12.3**	**-0.7**
PUK				*i* Sg	**Sg**	**11 13 25.0**	**+2.2**
LACI	**Lac**	**1.03**	**162**	*i* pg?	**Sg**	**11 13 37.4**	**+4.6**
STON	**Ston**	**1.20**	**283**	*i* Pn	**Pn**	**11 13 20.3**	**-0.9**
STON				*i* Sg	**Sg**	**11 13 39.6**	**+1.5**
BBLS	**Bajina Basta -**	**1.25**	**4**	*i* Pg	**Pg**	**11 13 23.2**	**0.0**
BBLS				Sg	**Sg**	**11 13 41.0**	**+1.1**
DIVS	**Divcibare**	**1.56**	**19**	*e*Pn	**Pn**	**11 13 28.0**	**+1.6**
DIVS				*e*Sg	**Sg**	**11 13 55.8**	**+5.5**
GRUS	**Gruza**	**1.64**	**39**	*e*Pg	**Pg**	**11 13 28.6**	**-2.4**

NIED ***29*** *11:23:00,39.80N×141.80E,h59km,Mw4.1 Best double couple: M0 1.41×10^15 NP1:φs21°,δs68°,λs91°. NP2:φs200°, δs22°,λs88°.*
BJI ***29*** *11:23:26.3,39.83N×142.42E,h77km,mB4.9,mb4.5, Ms3.9,Msz3.6*
JMA ***29*** *11:23:31.0±0.1,39.76N×141.83E,h58km±1km,M4.0 Broadband fault plane solution: P waves. NP1:φs175°, δs31°,λ71°. NP2:φs17°,δs61°,λ101°. Principal axes: T Plg72°, Azm313°; N Plg10°, Azm192°; P Plg15°, Azm99°; JMA Felt II J1.*
MOS ***29*** *11:23:31.1±1.0,39.97N×141.57E,h64km,mb4.5/8 Error ellipse: s-maj=13.7km s-min=8.3km az=86.0*
IDC ***29*** *11:23:32.5±2.2,39.76N×141.70E,h74km±19km,mb3.7/12, mb1 3.8/14,mb1mx3.7/23,mbtmp4.0/14,MS2.8/2, Ms1 2.8/2,ms1mx2.4/38,Error ellipse: s-maj=21.4km s-min=14.1km az=117.0*
NEIC ***29*** *11:23:33.5±0.9,39.80N×141.74E,h85km±7km,mb4.4/12, Error ellipse: s-maj=11.7km s-min=7.3km az=124.0*
NEIC Recorded [2 JMA] in Ibaraki and [1 JMA] in Aomori Prefectures.

ISC 29 11:23:29.8±0.5**,39.78N**±0.04×**141.90E**±0.07**,h67**km±2km**,**
n66,σ1§**03/75,mb4.2**/26**,2C-3D,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.16**	**352**	⇑P	**P**	**11 23 40.3**	**+0.5**
JTH				S	**S**	**11 23 46.8**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.21**	**196**	⇑P	**P**	**11 23 40.3**	**+0.2**
MIYJ				S	**S**	**11 23 46.7**	**-1.0**
JKZ	**Kuzumaki**	**0.48**	**296**	⇓P	**P**	**11 23 42.5**	**+0.3**
JKZ				S	**S**	**11 23 50.5**	**-0.9**
JMK	**Ichinoseki**	**0.97**	**213**	⇓P	**P**	**11 23 47.9**	**-0.2**
JMK				*e*S	**S**	**11 24 00.3**	**-1.3**
JAH	**Hinai**	**1.05**	**293**	S	**S**	**11 24 03.2**	**-0.1**
JTM	**Tenmabayashi**	**1.19**	**328**	⇓P	**P**	**11 23 51.2**	**+0.3**
JTM				*e*S	**S**	**11 24 06.4**	**-0.3**
MAJO	**Matsushiro**	**4.34**	**223**	*e*P	**P**	**11 24 35.3**	**+0.4**
MAT	**Matsushiro**	**4.34**	**223**	P	**P**	**11 24 36.5**	**+1.6**
MAT				*e*S	**S**	**11 25 27.5**	**+2.8**
MAT	**Matsushiro**	**4.34**	**223**	*e*P	**P**	**11 24 37.0**	**+2.1**
MJAR	**Matsushiro Arr**	**4.34**	**223**	P	**P**	**11 24 35.7**	**+0.8**
	2.6nm,0.3s,baz=30,slow=14,SNR=21						
MJAR				LR	LR	11 26 32.6	
	comp=Z,120nm,18.7s,baz=85,slow=43						
ASAJ	**Asahikawa**	**4.37**	**7**	P	**P**	**11 24 35.6**	**+0.4**
	5.1nm,0.3s,baz=213,slow=14,SNR=19						
ASAJ				S	**S**	**11 25 27.4**	**+2.0**
	3.7nm,0.3s,baz=196,slow=26,SNR=3.0						
ASAJ				LR	LR	11 26 34.7	
	comp=Z,94nm,21.1s,baz=354,slow=41						
ASAJ	**Asahikawa**	**4.37**	**7**	P	**P**	**11 24 35.7**	**+0.4**
ASAJ				S	**S**	**11 25 27.4**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,94nm,21.1s						
YUK	**Yuzh-Kuril'sk**	**5.18**	**34**	P	**P**	**11 24 53.4**	**+6.8**
YUK				*e*S	**S**	**11 25 42.0**	**-3.7**
YUK				smax			
	comp=N,420nm,0.5s						
YUK				smax			
	comp=E,210nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.20**	**5**	P	**P**	**11 25 15.1**	**+0.4**
MDJ	**Mudanjiang**	**10.33**	**302**	P	**P**	**11 25 59.0**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,110nm,4.6s						
MDJ	**Mudanjiang**	**10.33**	**302**	*e*P	**P**	**11 25 58.8**	**+1.5**
	comp=Z,18nm,1.0s						
KS15	**Wonju Array Si**	**11.21**	**262**	P	**P**	**11 26 10.3**	**+1.1**
CN2	**Changchun**	**12.91**	**293**	*e*P	**P**	**11 26 33.0**	**+1.0**
HIA	**Hailar**	**18.37**	**308**	*e*P	**P**	**11 27 38.3**	**-2.9**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
HIA	**Hailar**	**18.37**	**308**	*e*P	**P**	**11 27 38.2**	**-2.9**
	comp=Z,5.6nm,1.2s						
NJ2	**Nanjing**	**20.16**	**255**	*e*P	**P**	**11 28 03.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
MA2	**Magadan**	**20.60**	**13**	*e*P	**P**	**11 28 04.6**	**-0.8**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MA2	**Magadan**	**20.60**	**13**	*e*P	**P**	**11 28 04.6**	**-0.7**
	comp=Z,7.7nm,0.6s						
HHC	**Hu-ho-hao-te**	**23.10**	**282**	*e*P	**P**	**11 28 29.8**	**-0.5**
HHC				AP		11 28 47.0	
HHC				XP		11 28 55.8	
HHC				PP	PP	11 29 02.3	-0.2
HHC				AMB	AMB		
	comp=Z,90nm,5.4s						
HHC				LR	LR		
	comp=N,80nm,10.9s						
HHC				LR	LR		
	comp=E,100nm,9.9s						
HHC				LR	LR		
	comp=Z,80nm,11.9s						
YAK	**Yakutsk**	**23.50**	**346**	*e*P	**P**	**11 28 34.0**	**+0.2**
YAK				pmax	pmax		
	comp=Z,33nm,0.9s,mb4.7						
YAK	**Yakutsk**	**23.50**	**346**	*e*P	**P**	**11 28 34.0**	**+0.2**
	comp=Z,33nm,0.9s,mb4.7						
SONM	**Songino Array**	**26.67**	**299**	P	**P**	**11 29 03.2**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.5,baz=96,slow=8.6,SNR=8.9						
ENH	**Enshi**	**28.05**	**260**	*e*P	**P**	**11 29 14.0**	**-2.9**
	comp=Z,16nm,1.0s,mb4.5						
LZH	**Lanzhou**	**30.09**	**275**	*e*P	**P**	**11 29 34.5**	**-0.4**
LZH				AP	pP	11 29 56.0	+4.9
LZH				XP	sP	11 30 04.3	+5.2
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
WMQ	**Urumqi**	**40.01**	**294**	*e*P	**P**	**11 30 59.8**	**+0.4**
WMQ				AP	pP	11 31 20.3	+4.2
WMQ				XP	sP	11 31 30.8	+6.7
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,80nm,4.2s						
WMQ				LR	LR		
	comp=N,350nm,22.0s						
WMQ				LR	LR		
	comp=E,390nm,20.0s						
WMQ				LR	LR		
	comp=Z,400nm,22.0s						
LSA	**Lhasa**	**42.40**	**272**	*e*P	**P**	**11 31 20.3**	**+1.1**
LSA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
LSA	**Lhasa**	**42.40**	**272**	*e*P	**P**	**11 31 20.3**	**+1.0**
	comp=Z,7.9nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**43.04**	**300**	P	**P**	**11 31 23.9**	**-0.3**
	comp=Z,3.8nm,0.6s,mb4.3,baz=85,slow=9.8,SNR=38						
KURK	**Kurchatov**	**44.58**	**306**	*e*P	**P**	**11 31 35.9**	**-0.7**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**44.58**	**306**	*e*P	**P**	**11 31 35.9**	**-0.7**
	comp=Z,6.7nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**46.99**	**34**	P	**P**	**11 31 56.9**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=265,slow=5.9,SNR=7.9						
JIRN	**Jiri**	**47.20**	**273**	*e*P	**P**	**11 31 57.7**	**0.0**
	comp=Z,8.5nm,0.5s,mb4.8						
GUN	**Gumba**	**47.32**	**273**	*e*P	**P**	**11 31 58.6**	**0.0**
	comp=Z,25nm,0.6s,mb5.1						
KKN	**Kakani**	**47.84**	**274**	*e*P	**P**	**11 32 02.3**	**-0.3**
PKI	**Pulchoki**	**47.85**	**273**	*e*P	**P**	**11 32 02.8**	**+0.1**
DMN	**Daman**	**48.06**	**274**	*e*P	**P**	**11 32 05.0**	**+0.6**
	comp=Z,7.7nm,0.4s,mb4.8						
GKN	**Gorkha**	**48.23**	**274**	*e*P	**P**	**11 32 05.3**	**-0.3**
	comp=Z,5.3nm,0.3s,mb4.8						
BVAR	**Borovoye Array**	**49.04**	**311**	P	**P**	**11 32 11.1**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=69,slow=8.5,SNR=8.7						
KOLN	**Koldanda**	**49.14**	**275**	*e*P	**P**	**11 32 12.5**	**-0.2**
	comp=Z,4.3nm,0.4s,mb4.7						
AAK	**Ala-Archa**	**49.56**	**296**	P	**P**	**11 32 13.8**	**-2.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**49.56**	**296**	P	**P**	**11 32 13.8**	**-2.0**
	comp=Z,1.4nm,0.7s,mb4.0						
INK	**Inuvik**	**51.79**	**28**	P	**P**	**11 32 32.8**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=342,slow=4.5,SNR=3.2						
INK	**Inuvik**	**51.79**	**28**	*e*P	**P**	**11 32 33.1**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**51.79**	**28**	*e*P	**P**	**11 32 33.1**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**59.82**	**188**	P	**P**	**11 33 29.1**	**-1.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=5.2,slow=7.0,SNR=7.6						
RES	**Resolute Bay**	**59.86**	**15**	*e*P	**P**	**11 33 29.6**	**-0.6**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
RES	**Resolute Bay**	**59.86**	**15**	*e*P	**P**	**11 33 29.6**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.3						
RES				*e*		11 33 40.1	
YKA	**Yellowknife Ar**	**61.26**	**31**	P	**P**	**11 33 40.2**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.6,baz=299,slow=6.3,SNR=6.4						
YKA	**Yellowknife Ar**	**61.26**	**31**	P	**P**	**11 33 40.2**	**+0.4**
ARCES	**ARCESS Array B**	**61.57**	**339**	P	**P**	**11 33 41.1**	**-0.7**
	comp=Z,1.2nm,0.6s,mb4.1,baz=59,slow=7.1,SNR=8.5						
JOF	**Joensuu**	**63.73**	**331**	*e*p	**P**	**11 33 54.0**	**-2.1**
	comp=Z,1.7nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**66.57**	**332**	P	**P**	**11 34 14.0**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.3,baz=45,slow=8.1,SNR=9.3						
FINES	**FINESS Array B**	**66.57**	**332**	P	**P**	**11 34 14.0**	**-0.4**
KIV	**Kislovodsk**	**69.41**	**310**	P	**P**	**11 34 33.0**	**+0.7**
KIV	**Kislovodsk**	**69.41**	**310**	P	**P**	**11 34 33.0**	**+0.6**
NB2	**NORSAR Subarra**	**71.81**	**337**	P	**P**	**11 34 46.4**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.9,baz=39,slow=6.2						
NB2	**NORSAR Subarra**	**71.81**	**337**	P	**P**	**11 34 46.4**	**-0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	**NORSAR Array B**	**71.81**	**337**	P	**P**	**11 34 46.0**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.0,baz=39,slow=5.9,SNR=4.9						
AKASG	**Malin Array Be**	**72.37**	**322**	P	**P**	**11 34 49.6**	**-0.4**
	comp=Z,1.5nm,0.4s,mb4.2,baz=43,slow=5.5,SNR=13						
PDAR	**Pinedale Array**	**75.49**	**46**	P	**P**	**11 35 10.1**	**+1.9**
	comp=Z,0.6nm,0.7s,mb3.5,baz=315,slow=2.1,SNR=5.5						
CLL	**Collm**	**78.91**	**330**	P	**P**	**11 35 26.0**	**-1.1**

MAN 29 11:24:37.4,15.03N×119.85E,h20km,mb4.0,ML2.8, MS2.5,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.74**	**4**	*e*P	Pb	11 24 52.1	+0.6
SCZP				*e*S	Sb	11 25 02.3	+1.1
PCPH	**Palayan**	**1.31**	**66**	⇓*e*P	Pn	11 24 58.8	-2.1
PCPH				*e*S	Sb	11 25 14.8	-2.8
BOLP	**Bolinao**	**1.34**	**2**	*e*P	Pn	11 25 00.1	-1.2
LUBP	**Lubang**	**1.34**	**164**	*e*P	Pn	11 25 00.2	-1.1
LUBP				*e*S	Sb	11 25 18.1	-0.5
BALP	**Baler**	**1.81**	**67**	*e*P	Pn	11 25 07.1	-0.9
POLP	**Polilio Island**	**2.04**	**98**	*e*P	Pn	11 25 11.1	-0.2
SJMP	**San Jose**	**2.83**	**154**	*e*P	Pn	11 25 23.2	+0.6
BUSP	**Coron**	**3.03**	**174**	*e*P	Pn	11 25 25.4	0.0
APYP	**Conner**	**3.12**	**25**	*e*P	Pn	11 25 26.7	0.0
ENPP	**El Nido**	**3.83**	**186**	*e*P	Pn	11 25 35.0	-1.7

SNSN ***29*** *11:33:52.2,29.11N×34.64E,Ml2.9*
GII ***29*** *11:33:54.3±0.5,29.25N×34.86E,ML3.5/8,Mw3.4/5*
CSEM ***29*** *11:33:54.1±0.3,29.12N×34.82E,h2km,Mw3.4,Error ellipse: s-maj=7.9km s-min=2.5km az=63.0*

ISC 29 11:33:54.3±0.8**,29.18N**±0.04×**34.83E**±0.09**,h10**km**,n20,**
σ0§**96**/26**,Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAQS	**Haql**	**0.15**	**144**	P	**Pg**	**11 33 57.8**	**0.0**
JMOS	**Jabal al Moall**	**0.24**	**91**	P	**Pg**	**11 34 00.4**	**+1.0**
ALWS	**Ilw as Safayha**	**0.24**	**57**	P	**Pg**	**11 34 00.3**	**+0.8**
EIL	**Elat**	**0.50**	**12**	Pg	**Pg**	**11 34 03.7**	**-0.8**
EIL				Sg	**Sg**	**11 34 10.4**	**-1.0**
AQBJ	**Aqaba**	**0.58**	**19**	Pg	**Pg**	**11 34 05.4**	**-0.6**
AQBJ				Sg	**Sg**	**11 34 12.8**	**-1.2**
MBH	**Mount Berech**	**0.62**	**7**	Pg	**Pg**	**11 34 05.7**	**-1.1**
KMTI	**Karmit**	**0.93**	**354**	Pg	**Pg**	**11 34 10.8**	**-2.2**
JMQS	**Jabal Moqyreh**	**0.96**	**107**	P	**Pb**	**11 34 13.0**	**+0.4**
AYUS	**'Aynunah**	**1.05**	**158**	P	**Pb**	**11 34 12.9**	**-1.3**
PRNI	**Paran**	**1.18**	**7**	Pg	**Pg**	**11 34 15.9**	**-2.1**
ZFRI	**Zfri**	**1.41**	**12**	Pn	**Pn**	**11 34 20.0**	**-0.1**
ZFRI				Sn	**Sn**	**11 34 39.6**	**+0.8**
RMNI	**Mount Ramon**	**1.42**	**358**	Pn	**Pn**	**11 34 19.6**	**-0.6**
RMNI				Sn	**Sn**	**11 34 39.9**	**+0.8**
SVTA	**Shivta**	**1.76**	**354**	Pn	**Pn**	**11 34 25.4**	**+0.3**
SVTA				Sn	**Sn**	**11 34 49.3**	**+1.6**
KZIT	**Kziot**	**1.77**	**348**	Sn	**Sn**	**11 34 49.1**	**+1.2**
TBKS	**Tabuk**	**1.78**	**122**	P	**Pn**	**11 34 26.1**	**+0.7**
MASH	**Mash'abbe Sade**	**1.81**	**359**	Pn	**Pn**	**11 34 26.6**	**+0.6**
MASH				Sn	**Sn**	**11 34 50.5**	**+1.3**
RTMM	**Retamin**	**1.87**	**356**	Pn	**Pn**	**11 34 27.0**	**+0.2**
MZDA	**Masada**	**2.18**	**12**	Sn	**Sn**	**11 34 58.5**	**+0.1**
DSI	**Dead Sea**	**2.43**	**11**	Pn	**Pn**	**11 34 35.0**	**+0.2**
MKRJ	**Makawir**	**2.47**	**16**	Pn	**Pn**	**11 34 35.3**	**0.0**

IDC ***29*** *12:00:21.5±0.9,5.88S×151.62E,mb4.0/7,mb1 4.3/8, mb1mx4.2/12,mbtmp4.1/8,ML4.2/1,MS3.4/2,Ms1 3.4/2, ms1mx2.9/20,Error ellipse: s-maj=32.2km s-min=21.8km az=102.0*
NEIC ***29*** *12:00:26.7±4.1,5.93S×151.64E,h34km±30km,mb4.7/3, Error ellipse: s-maj=15.0km s-min=8.9km az=153.0*

ISC 29 12:00:21.3±9.1**,5.9S**±0.2×**151.7E**±0.1**,h9**km±58km**,n17,**
σ0§**46**/16**,mb4.1**/10**,MS3.5**/1**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.94**	**114**	Pn	**P**	**12 02 33.6**	**0.0**
	2.5nm,0.3s,baz=259,slow=8.2,SNR=6.2						
CTA	**Charters Tower**	**15.04**	**200**	LR	LR	12 08 55.9	
	comp=Z,113nm,18.6s,baz=224,slow=34						
WRAB	**Tennant Creek**	**21.84**	**229**	*e*P	**P**	**12 05 16.0**	**-0.2**
	8.9nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**21.85**	**229**	*e*P	**P**	**12 05 16.4**	**+0.1**
WRA	**Warramunga Arr**	**21.86**	**229**	P	**P**	**12 05 16.1**	**-0.2**
	4.5nm,0.5s,mb4.1,baz=54,slow=10,SNR=42						
ASPA	**Alice Springs**	**24.57**	**222**	*e*P	**P**	**12 05 44.0**	**+1.0**
STKA	**Stephens Creek**	**27.49**	**199**	*e*P	**P**	**12 06 09.7**	**-0.5**
	2.2nm,0.7s,mb3.8						
STKA	**Stephens Creek**	**27.49**	**199**	P	**P**	**12 06 09.9**	**-0.3**
	4.1nm,0.9s,mb3.9,baz=22,slow=10,SNR=6.4						
STKA				LR	LR	12 17 01.4	
	comp=Z,111nm,19.2s,MS3.5,baz=23,slow=36						
FITZ	**Fitzroy Crossi**	**28.13**	**242**	*e*P	**P**	**12 06 15.9**	**-0.1**
	13nm,0.6s,mb4.7						
SONM	**Songino Array**	**66.66**	**329**	P	**P**	**12 11 14.1**	**-0.6**
	0.5nm,0.6s,mb3.7,baz=154,slow=4.7,SNR=4.6						
VNDA	**Vanda**	**71.77**	**178**	P	**P**	**12 11 45.0**	**-0.7**
	1.0nm,0.8s,mb3.8,baz=13,slow=8.9,SNR=5.4						
MKAR	**Makanchi Array**	**80.41**	**319**	P	**P**	**12 12 35.2**	**+0.2**
	0.2nm,0.4s,mb3.4,baz=104,slow=2.9,SNR=4.5						
MKAR	**Makanchi Array**	**80.41**	**319**	P	**P**	**12 12 35.2**	**+0.2**
ILAR	**Eielson Array**	**83.61**	**22**	P	**P**	**12 12 51.0**	**-0.2**
	1.8nm,0.8s,mb4.3,baz=247,slow=5.3,SNR=30						
QSPA	**South Pole Qui**	**84.06**	**180**	*e*P	**P**	**12 12 53.6**	**+0.4**
	6.2nm,1.0s,mb4.7						
YKA	**Yellowknife Ar**	**96.93**	**28**	P	**P**	**12 13 54.8**	**+0.6**
	0.4nm,0.8s,mb3.9,baz=272,slow=4.8,SNR=10						
YKA	**Yellowknife Ar**	**96.93**	**28**	P	**P**	**12 13 54.8**	**+0.6**

IDC ***29*** *12:35:31.1±0.8,0.88N×27.40W,mb3.9/9,mb1 4.1/9, mb1mx3.9/21,mbtmp3.9/9,MS3.7/8,Ms1 3.7/8, ms1mx3.5/20,Error ellipse: s-maj=31.0km s-min=18.3km az=155.0*
NEIC ***29*** *12:35:32.1±0.5,0.79N×27.43W,h10km,mb4.3/5,Error ellipse: s-maj=20.9km s-min=9.7km az=148.0*

ISC 29 12:35:30.7±0.6**,0.9N**±0.2×**27.4W**±0.1**,h10**km**,n21,**
σ0§**84**/15**,mb4.0**/11**,MS3.7**/8**,Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.78**	**232**	*e*Pn	**P**	**12 38 04.3**	**-4.0**
	28nm,0.5s						
DBIC	**Dimbokro**	**23.22**	**75**	P	**P**	**12 40 39.1**	**0.0**
	1.8nm,0.5s,mb3.7,baz=260,slow=9.3,SNR=5.0						
DBIC				LR	LR	12 47 10.8	
	comp=Z,115nm,21.5s,MS3.3,baz=232,slow=30						
DBIC	**Dimbokro**	**23.22**	**75**	*e*P	**P**	**12 40 39.4**	**+0.2**
	8.6nm,1.0s,mb4.1						
DBIC				LR	LR	12 47 10.8	
BDFB	**Brasilia**	**26.15**	**230**	P	**P**	**12 41 07.3**	**+0.1**
	2.3nm,0.4s,mb4.0,baz=70,slow=9.1,SNR=5.4						
BDFB				LR	LR	12 50 23.9	
	comp=Z,295nm,18.9s,MS3.9,baz=236,slow=34						
SIV	**San Ignacio**	**37.22**	**242**	P	**P**	**12 42 45.4**	**+1.0**
	1.2nm,0.8s,mb3.8,baz=86,slow=10,SNR=5.6						
MDT	**Midelt**	**38.34**	**32**	PcP	PcP	12 45 06.2	-1.8
	3.6nm,0.7s,baz=252,slow=7.5,SNR=6.9						
LPAZ	**La Pa

GOLH	**Golhisar**	**0.93**	**39**	*i* P	**Pb**	**12 59 20.6**	**-1.2**
GOLH				*i* S	**Sb**	**12 59 34.3**	**+0.6**
DAT	**Datca**	**1.03**	**283**	PG	**Pb**	**12 59 24.5**	**+1.1**
MLSB	**Milas**	**1.15**	**313**	PN	**Pn**	**12 59 26.2**	**+0.6**
BDRM	**Kayabasi**	**1.24**	**297**	*i* P	**Pn**	**12 59 28.5**	**+1.6**
BDRM				*i* S	**Sb**	**12 59 44.2**	**+1.6**
DENT	**Denizli**	**1.25**	**7**	PN	**Pn**	**12 59 27.6**	**+0.6**
BODT	**Bodrum**	**1.34**	**295**	PN	**Pn**	**12 59 28.0**	**-0.3**
AYDN	**Tasoluk**	**1.38**	**327**	*i* P	**Pn**	**12 59 29.8**	**+0.9**
AYDN				*i* S	**Sb**	**12 59 47.1**	**+0.6**
KARP	**Karpathos**	**1.66**	**235**	*e*PB	**Pb**	**12 59 33.0**	**-1.1**
BCK	**Bucak**	**1.70**	**56**	*e*PN	**Pn**	**12 59 33.4**	**0.0**
ISP	**Isparta**	**1.89**	**45**	*e*PN	**Pn**	**12 59 35.3**	**-0.9**
KHL	**Karahalli**	**1.89**	**17**	*e*PN	**Pn**	**12 59 36.4**	**+0.2**
TKTP	**Tekketepe**	**1.94**	**37**	*i* P	**Pn**	**12 59 36.2**	**-0.6**
SMG	**Samos**	**1.99**	**308**	*e*PN	**Pn**	**12 59 38.0**	**+0.4**
IZM	**Izmir**	**2.26**	**327**	*e*PN	**Pn**	**12 59 40.9**	**-0.6**
BLCB	**Balcova**	**2.35**	**323**	*e*PN	**Pn**	**12 59 42.3**	**-0.5**
AKS	**Akhisar**	**2.50**	**341**	*e*PN	**Pn**	**12 59 43.8**	**-1.1**
APE	**Apeiranthos**	**2.71**	**283**	*e*PN	**Pn**	**12 59 47.7**	**-0.1**
KIZT	**Kizilcal**	**3.38**	**45**	*e*PN	**Pn**	**12 59 56.9**	**-0.6**

*JMA **29** 13:21:43.3±0.4,30.26N×138.91E,h444km,M3.5*
ISC 29 13:21:42.4±0.7,**30.25N**±0.08×**138.9E**±0.2,**h456**km±12km,
n20,σ**0**^{s}**71/25,mb4.4/4,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JWZ	**Kozaga**	**4.24**	**321**	P		**P**	**13 23 00.7**	**0.0**
CBIJ	**Chichi jima**	**4.27**	**137**	*e*S		**S**	**13 24 02.6**	**-0.4**
JIM2	**Oshima 3**	**4.47**	**6**	P		**P**	**13 23 04.1**	**+1.3**
JIM2				S		**S**	**13 24 06.4**	**+0.1**
HMMJ	**Hamamatsu 2**	**4.70**	**348**	P		**P**	**13 23 05.8**	**+0.9**
BSO1	**Boso 1**	**4.73**	**21**	P		**P**	**13 23 05.7**	**+0.5**
BSO1				*e*S		**S**	**13 24 10.2**	**-0.3**
BSO3	**Boso 3**	**4.74**	**16**	S		**S**	**13 24 09.5**	**-1.2**
BSO4	**Boso 4**	**4.88**	**14**	S		**S**	**13 24 14.5**	**+1.4**
JOD2	**Odawara 2**	**5.00**	**2**	P		**P**	**13 23 07.4**	**-0.4**
JOD2				*e*S		**S**	**13 24 14.7**	**-0.5**
JNY	**Yasuok**	**5.17**	**351**	P		**P**	**13 23 10.4**	**+1.0**
JAO	**Obara**	**5.19**	**345**	P		**P**	**13 23 10.7**	**+1.1**
JHU	**Hanno**	**5.59**	**3**	P		**P**	**13 23 12.9**	**-0.8**
JHU				S		**S**	**13 24 20.9**	**-4.8**
JRY	**Ryogami san**	**5.75**	**0**	P		**P**	**13 23 15.3**	**+0.1**
JRY				S		**S**	**13 24 27.4**	**-1.1**
JTO	**Tosashimizu**	**5.81**	**298**	P		**P**	**13 23 15.3**	**-0.6**
MAT	**Matsushiro**	**6.30**	**355**	P		**P**	**13 23 20.5**	**-0.4**
JHS	**Saijyo**	**6.79**	**316**	P		**P**	**13 23 26.0**	**-0.1**
JIRN	**Jiri**	**45.85**	**280**	*e*P		**P**	**13 29 24.2**	**+0.4**
	11nm,0.3s,mb4.8							
GUN	**Gumba**	**46.05**	**281**	*e*P		**P**	**13 29 25.7**	**+0.4**
	7.6nm,0.4s,mb4.5							
DMN	**Daman**	**46.79**	**281**	*e*P		**P**	**13 29 30.6**	**-0.4**
GKN	**Gorkha**	**47.08**	**281**	*e*P		**P**	**13 29 32.9**	**-0.3**
	3.7nm,0.3s,mb4.3							
KOLN	**Koldanda**	**48.02**	**281**	*e*P		**P**	**13 29 39.7**	**-0.7**
	3.7nm,0.4s,mb4.0							

*NIED **29** 13:28:00,33.40N×142.20E,h8km,Mw3.6 Best double couple: M₀2.57×10¹⁴ NP1:φs165°,δ62°,λ-76°. NP2: φs317°,δ31°,λ-115°.*
*JMA **29** 13:28:22.1±0.4,33.41N×142.22E,h10km,M3.6*
*IDC **29** 13:28:23.4±6.9,33.28N×142.45E,h36km±59km,mb3.2/5, mb1 3.5/7,mb1mx3.4/19,mbtmp3.4/7,ML3.2/2,MS3.1/1, Ms1 3.1/1,ms1mx2.1/13,Error ellipse: s-maj=40.5km s-min=26.2km az=110.0*
ISC 29 13:28:22.8±1.3,**33.40N**±0.06×**142.38E**±0.09,**h45**km±14km,
n18,σ**0**^{s}**97/23,mb3.4/5,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**1.71**	**317**	P		**P**	**13 28 51.1**	**+0.4**
BSO3	**Boso 3**	**2.09**	**313**	P		**P**	**13 28 56.7**	**+0.6**
JHJ2	**Mitsune**	**2.17**	**263**	P		**P**	**13 28 57.3**	**+0.1**
JHJ	**Hachijo jima 2**	**2.19**	**263**	Pn		**P**	**13 28 57.5**	**-0.1**
	29nm,0.3s,baz=78,slow=13,SNR=6.7							
JHJ				Sn		**S**	**13 29 24.3**	**+0.7**
	63nm,0.3s,baz=58,slow=22,SNR=7.3							
JHJ				LR		LR	13 29 27.7	
	comp=Z,400nm,20.9s,baz=230,slow=29							
BSO4	**Boso 4**	**2.32**	**314**	P		**P**	**13 29 00.5**	**+1.1**
JIM2	**Oshima 3**	**2.78**	**299**	P		**P**	**13 29 05.6**	**-0.3**
JIM2				*e*S		**S**	**13 29 37.5**	**-0.9**
JOD2	**Odawara 2**	**3.30**	**305**	*e*S		**S**	**13 29 49.8**	**-1.8**
JYN	**Shimob**	**3.80**	**305**	P		**P**	**13 29 19.4**	**-0.9**
JAG	**Ashikaga**	**3.86**	**322**	P		**P**	**13 29 21.1**	**-0.1**
JAG				*e*S		**S**	**13 30 05.3**	**-0.5**
JRY	**Ryogami san**	**3.87**	**313**	P		**P**	**13 29 22.6**	**+1.2**
JRY				*e*S		**S**	**13 30 07.2**	**+1.0**
JMM	**Marumori**	**4.64**	**344**	P		**P**	**13 29 29.8**	**-2.5**
MJAR	**Matsushiro Arr**	**4.64**	**314**	Pn		**P**	**13 29 32.8**	**+0.5**
	0.7nm,0.3s,baz=284,slow=41,SNR=10							
MJAR				Sn		**S**	**13 30 25.8**	**+0.3**
	2.1nm,0.3s,baz=187,slow=8.0,SNR=8.0							
MAT	**Matsushiro**	**4.64**	**314**	*e*S		**S**	**13 30 26.0**	**+0.4**
MKAR	**Makanchi Array**	**46.79**	**305**	P		**P**	**13 36 50.2**	**+0.7**
	0.3nm,0.9s,mb3.2,baz=92,slow=9.3,SNR=3.0							
ILAR	**Eielson Array**	**52.17**	**31**	P		**P**	**13 37 30.1**	**-0.4**
	0.3nm,0.7s,mb3.3,baz=265,slow=6.4,SNR=5.6							
WRA	**Warramunga Arr**	**53.59**	**189**	P		**P**	**13 37 39.9**	**-1.9**
	0.4nm,0.9s,mb3.3,baz=7.8,slow=7.4,SNR=4.3							
YKA	**Yellowknife Ar**	**66.56**	**30**	P		**P**	**13 39 09.8**	**0.0**
	0.3nm,0.8s,mb3.4,baz=297,slow=6.4,SNR=5.2							
TXAR	**Lajitas Array**	**91.69**	**53**	P		**P**	**13 41 28.5**	**+1.7**
	0.2nm,0.6s,mb3.6,baz=304,slow=3.3,SNR=4.2							

*NIED **29** 13:42:00,26.80N×141.30E,h23km,Mw3.9 Best double couple: M₀7.4×10¹⁴ NP1:φs353°,δ70°,λ-88°. NP2:φs168°, δ20°,λ-94°.*
*IDC **29** 13:42:55.5±0.8,26.85N×140.95E,mb3.9/8,mb1 4.3/8, mb1mx4.0/19,mbtmp3.9/8,Error ellipse: s-maj=25.0km s-min=18.3km az=168.0*
ISC 29 13:42:56.5±6.0,**26.8N**±0.1×**140.9E**±0.1,**h19**km±42km,**n12,**
σ**0**^{s}**70/11,mb3.9/8,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBIJ	**Chichi jima**	**1.22**	**76**	Pn		**Pn**	**13 43 18.9**	**+0.2**
	167nm,0.3s,baz=266,slow=1.5,SNR=40							
CBIJ				Sn		**Sn**	**13 43 34.5**	**-0.3**
	330nm,0.3s,baz=270,slow=23,SNR=22							
WB2	**Warramunga Arr**	**46.90**	**188**	*e*P		**P**	**13 51 27.5**	**-0.3**
WRA	**Warramunga Arr**	**46.90**	**188**	P		**P**	**13 51 27.8**	**0.0**
	2.4nm,0.6s,mb4.3,baz=10,slow=8.5,SNR=32							
MKAR	**Makanchi Array**	**49.74**	**310**	P		**P**	**13 51 50.0**	**+0.5**
	0.7nm,0.7s,mb3.8,baz=91,slow=9.0,SNR=9.5							
BVAR	**Borovoye Array**	**57.45**	**318**	P		**P**	**13 52 45.7**	**-0.7**
	0.7nm,0.7s,mb3.8,baz=83,slow=12,SNR=4.4							
ILAR	**Eielson Array**	**58.53**	**29**	P		**P**	**13 52 52.5**	**-1.2**
	0.8nm,0.7s,mb3.8,baz=268,slow=5.8,SNR=8.3							
YKA	**Yellowknife Ar**	**72.95**	**28**	P		**P**	**13 54 26.2**	**+0.1**
	1.5nm,0.7s,mb4.1,baz=292,slow=6.1,SNR=32							
NVAR	**Mina Array Bea**	**81.62**	**51**	P		**P**	**13 55 16.0**	**+1.2**
	0.8nm,0.9s,mb3.6,baz=286,slow=3.6,SNR=3.9							
PDAR	**Pinedale Array**	**85.25**	**44**	P		**P**	**13 55 34.2**	**+1.1**
	0.7nm,0.7s,mb3.9,baz=322,slow=1.2,SNR=5.7							
TXAR	**Lajitas Array**	**96.72**	**53**	P		**P**	**13 56 26.6**	**-0.7**
	0.7nm,0.9s,mb4.1,baz=315,slow=3.5,SNR=4.5							
PLCA	**Paso Flores**	**150.61**	**126**	PKPbc		PKPdf	14 02 49.2	+3.5
	1.1nm,0.6s,baz=199,slow=5.5,SNR=7.5							
LPAZ	**La Paz**	**151.15**	**75**	PKPbc		PKPdf	14 02 52.2	+5.1
	2.8nm,0.8s,baz=281,slow=4.3,SNR=13							

KRSC 29 14:21:18.5±1.8,**49.19N**×**156.56E,h61**km±33km,**ML3.9,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**1.52**	**349**	*e*P		P	14 21 44.7	+0.6
SKR				*e*S		S	14 22 01.4	-1.5
PAU	**Pauzhetka**	**2.29**	**4**	P		P	14 21 55.1	+0.4
PAU				*i* S		S	14 22 22.7	+1.1
PAU				Smax				
	400nm,0.2s							
RUS	**Russkaya**	**3.48**	**20**	*e*P		P	14 22 11.3	-0.2
RUS				*e*S		S	14 22 50.8	-0.9
GRL	**Gorelyy**	**3.50**	**15**	*e*P		P	14 22 13.1	+1.3
GRL				*e*S		S	14 22 52.6	+0.3
APC	**Apacha**	**3.76**	**6**	*e*P		P	14 22 16.2	+0.7
KRMR	**Karymshinskiy**	**3.78**	**15**	*e*P		P	14 22 15.7	0.0
PET	**Petropavlovsk**	**4.06**	**18**	*e*S		S	14 23 06.7	+0.4
UGLR	**Uglovaya**	**4.27**	**19**	*e*P		P	14 22 23.3	+0.7
AVH	**Avacha**	**4.30**	**18**	*e*P		P	14 22 24.7	+1.6
KOK	**Koryaka**	**4.31**	**17**	*e*P		P	14 22 24.6	+1.4
SMAR	**Somma**	**4.32**	**18**	*e*P		P	14 22 24.7	+1.4
SDLR	**Sedlovina**	**4.35**	**19**	*i* P		P	14 22 24.0	+0.3
NLC	**Nalytchevo**	**4.35**	**23**	*e*S		S	14 23 12.3	-1.5
SPN	**Mys Shipunski**	**4.48**	**28**	*e*P		P	14 22 24.9	-0.7
SPN				*e*S		S	14 23 14.2	-2.7
GNL	**Ganaly**	**4.59**	**10**	*e*P		P	14 22 27.4	+0.2
KBTR	**Krutoberegovo**	**7.99**	**26**	*e*P		P	14 23 14.0	-0.3

IDC 29 14:24:48.8±1.2,**26.79N**×**140.96E,mb3.3**/3,**mb1 3.6**/3,
mb1mx3.4/18,**mbtmp3.3**/3,**Error ellipse: s-maj=31.2km**
s-min=20.2km az=163.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.13**	**74**	Pn		Pn	14 25 12.4	+0.6
	23nm,0.3s,baz=256,slow=19,SNR=12							
CBIJ				Sn		Sn	14 25 28.8	+0.4
	88nm,0.3s,baz=273,slow=21,SNR=16							
WRA	**Warramunga Arr**	**46.90**	**189**	P		P	14 33 21.0	-2.0
	0.5nm,0.6s,baz=11,slow=8.7,SNR=8.2							
MKAR	**Makanchi Array**	**49.83**	**310**	P		P	14 33 43.5	-1.9
	0.1nm,0.6s,baz=90,slow=8.6,SNR=4.2							
YKA	**Yellowknife Ar**	**72.93**	**28**	P		P	14 36 19.4	-2.0
	0.2nm,0.7s,baz=290,slow=6.1,SNR=6.4							

*IDC **29** 14:27:23.8±1.1,6.53N×93.06E,mb3.9/8,mb1 4.0/8, mb1mx3.9/17,mbtmp3.9/8,Error ellipse: s-maj=53.2km s-min=22.3km az=48.0*
*NEIC **29** 14:27:27.9±0.8,6.51N×93.12E,h30km,mb4.1/3,Error ellipse: s-maj=22.3km s-min=11.3km az=207.0*
ISC 29 14:27:25.9±3.8,**6.4N**±0.1×**93.13E**±0.09,**h31**km±29km,**n19,**
σ**0**^{s}**93/21,mb4.0/15,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**7.55**	**98**	*e*Pn		**Pn**	**14 29 17.2**	**+0.4**
PALK	**Pallekele**	**12.38**	**275**	*e*Pn		**P**	**14 30 23.4**	**+0.3**
PALK				*e*Sn		**S**	**14 32 24.2**	**-17**
HYB	**Hyderabad**	**17.99**	**309**	*i* P		**P**	**14 31 32.0**	**-3.5**
HYB				*e*S		**S**	**14 34 53.0**	**+0.7**
HYB	**Hyderabad**	**17.99**	**309**	*e*P		**P**	**14 31 32.0**	**-3.5**
JIRN	**Jiri**	**22.18**	**344**	*e*P		**P**	**14 32 20.3**	**-0.9**
	9.8nm,0.9s,mb4.2							
GUN	**Gumba**	**22.51**	**343**	*e*P		**P**	**14 32 24.8**	**+0.3**
	7.1nm,0.4s,mb4.4							
GKN	**Gorkha**	**22.98**	**340**	*e*P		**P**	**14 32 29.9**	**+0.8**
	17nm,0.9s,mb4.5							
KOLN	**Koldanda**	**23.13**	**338**	*e*P		**P**	**14 32 31.0**	**+0.4**
	14nm,0.8s,mb4.5							
LSA	**Lhasa**	**23.29**	**356**	*e*P		**P**	**14 32 32.6**	**+0.5**
	4.3nm,0.7s,mb4.0							
AAK	**Ala-Archa**	**39.70**	**338**	*e*P		**P**	**14 34 58.0**	**+0.8**
	2.2nm,0.7s,mb4.0							
MKAR	**Makanchi Array**	**41.35**	**349**	P		**P**	**14 35 10.2**	**-0.5**
	0.8nm,0.6s,mb3.5,baz=168,slow=8.4,SNR=13							
SONM	**Songino Array**	**42.84**	**13**	P		**P**	**14 35 22.0**	**-0.9**
	0.4nm,0.5s,mb3.4,baz=207,slow=6.6,SNR=4.1							
WRA	**Warramunga Arr**	**48.23**	**124**	P		**P**	**14 36 07.6**	**+1.4**
	0.2nm,0.4s,mb3.5,baz=303,slow=9.7,SNR=14							
WRA				PcP		PcP	14 37 34.8	+1.4
	0.3nm,0.4s,baz=308,slow=2.7,SNR=6.0							
WRAB	**Tennant Creek**	**48.23**	**124**	*e*P		**P**	**14 36 05.1**	**-1.1**
	3.7nm,0.8s,mb4.5							
BRTR	**Keskin Array B**	**62.66**	**312**	P		**P**	**14 37 49.0**	**-1.1**
	1.4nm,0.8s,mb4.2,baz=121,slow=7.2,SNR=6.7							
AKASG	**Malin Array Be**	**68.72**	**322**	P		**P**	**14 38 27.2**	**-1.5**
	0.4nm,0.5s,mb3.6,baz=88,slow=5.5,SNR=4.5							
FINES	**FINESS Array B**	**73.57**	**333**	P		**P**	**14 38 57.6**	**-0.2**
	2.5nm,0.7s,mb4.3,baz=90,slow=5.7,SNR=5.8							
ARCES	**ARCESS Array B**	**76.34**	**340**	P		**P**	**14 39 13.9**	**+0.4**
	1.2nm,0.4s,mb4.2,baz=101,slow=5.6,SNR=16							
GERES	**GERESS Array B**	**78.28**	**318**	P		**P**	**14 39 25.6**	**+1.1**
	0.9nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=7.9							

*NEIC **29** 14:33:18.0,38.31N×112.24W,h1km,ML3.0(SLC),After SLC.*
NEIC Felt [IV] at Kingston.
*IDC **29** 14:33:19.9±1.5,38.45N×112.10W,mb2.8/1,mb1 3.1/5, mb1mx3.0/23,mbtmp2.8/5,ML2.8/3,Error ellipse: s-maj=15.3km s-min=10.1km az=161.0*
ISC 29 14:33:18.7±0.8,**38.28N**±0.04×**112.22W**±0.06,**h17**km±9km,
n32,σ**0**^{s}**91/37,mb2.8/1,Utah**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MVU	**Marysvale**	**0.22**	**1**	*e*P		**Pb**	**14 33 25.1**	**+1.0**
MSU	**Marysvale**	**0.23**	**8**	*e*P		**Pb**	**14 33 23.0**	**-1.2**
ARUT	**Antelope Range**	**1.08**	**243**	*e*P		**Pb**	**14 33 38.8**	**+0.2**
TMUT	**Trail Mountain**	**1.28**	**38**	*e*P		**Pn**	**14 33 41.9**	**-0.1**
SRU	**San Rafael**	**1.56**	**57**	*e*P		**Pn**	**14 33 47.1**	**+1.1**
NLU	**North Lily Min**	**1.68**	**4**	*e*P		**Pn**	**14 33 48.1**	**+0.5**
MPU	**Maple Canyon**	**1.79**	**15**	*e*P		**Pn**	**14 33 50.3**	**+1.0**
DUG	**Dugway**	**1.97**	**347**	*e*P		**Pn**	**14 33 51.8**	**+0.1**
DAU	**Daniels Canyon**	**2.25**	**19**	*e*Pn		**Pn**	**14 33 56.5**	**+0.6**
NOQ	**North Oquirrh**	**2.37**	**2**	Pn		**Pn**	**14 33 57.7**	**+0.1**
BGU	**Big Grassy Mou**	**2.71**	**347**	*e*Pn		**Pn**	**14 34 02.5**	**+0.1**
WUAZ	**Wupatki**	**2.84**	**166**	Pn		**Pn**	**14 34 05.3**	**+1.0**
PV01	**Paradox Valley**	**2.88**	**92**	Pn		**Pn**	**14 34 05.8**	**+1.1**
TCUT	**Toone Canyon**	**2.90**	**12**	*e*Pn		**Pn**	**14 34 04.3**	**-0.9**
HWUT	**Hardware Ranch**	**3.36**	**8**	Pn		**Pn**	**14 34 11.5**	**-0.1**
NEN	**Nelson**	**3.36**	**219**	Pn		**Pn**	**14 34 11.4**	**-0.2**
ELK	**Elko**	**3.39**	**317**	Pn		**Pn**	**14 34 14.5**	**+2.4**
	0.2nm,0.3s,baz=135,slow=11,SNR=4.8							
ELK				Pg		**Pn**	**14 34 19.8**	**+7.7**
	1.0nm,0.3s,baz=136,slow=13,SNR=20							
ELK				Lg			14 35 04.1	
	1.7nm,0.3s,baz=208,slow=18,SNR=7.1							
ELK	**Elko**	**3.39**	**317**	*e*Pn		**Pn**	**14 34 11.4**	**-0.7**
ELK				Pn		**Pn**	**14 34 14.5**	**+2.4**
ELK				Pg		**Pn**	**14 34 19.8**	**+7.7**
ELK				Lg			14 35 04.1	
TPNV	**Topopah Spring**	**3.47**	**249**	*e*Pn		**Pn**	**14 34 13.1**	**0.0**
HVU	**Hansel Valley**	**3.52**	**353**	*e*Pn		**Pn**	**14 34 12.2**	**-1.7**
TPH	**Tonopah**	**3.95**	**269**	Pn		**Pn**	**14 34 19.6**	**-0.3**
NVAR	**Mina Array Bea**	**4.79**	**274**	Pn		**Pn**	**14 34 35.1**	**+3.2**
	0.2nm,0.3s,baz=102,slow=12,SNR=7.1							
NVAR				Pg		**Pn**	**14 34 45.5**	**+14**
	2.7nm,0.3s,baz=93,slow=15,SNR=39							
NVAR				Lg			14 35 51.4	
	2.8nm,0.3s,baz=97,slow=30,SNR=6.5							
NVAR	**Mina Array Bea**	**4.79**	**274**	Pn		**Pn**	**14 34 35.1**	**+3.3**
NVAR				Pg		**Pn**	**14 34 45.5**	**+14**
NVAR				Lg			14 35 51.4	
PDAR	**Pinedale Array**	**4.92**	**24**	Pn		**Pn**	**14 34 34.7**	**+0.9**
	0.1nm,0.3s,baz=192,slow=13,SNR=7.0							
PDAR				Lg			14 35 49.0	
	0.6nm,0.3s,baz=200,slow=30,SNR=4.4							
SDCO	**Great Sand Dun**	**5.33**	**94**	Pn		**Pn**	**14 34 38.7**	**-0.9**
ISCO	**Idaho Springs**	**5.36**	**72**	Pn		**Pn**	**14 34 39.3**	**-0.7**
IMW	**Indian Meadow**	**5.69**	**9**	Pn		**Pn**	**14 34 42.8**	**-1.8**
ANMO	**Albuquerque**	**5.70**	**124**	Pn		**Pn**	**14 34 45.4**	**+0.6**
	baz=331,slow=10,SNR=2.6							
ANMO				Lg			14 36 15.2	
	baz=32,slow=23,SNR=3.4							
ANMO	**Albuquerque**	**5.70**	**124**	*e*Pn		**Pn**	**14 34 43.6**	**-1.2**
TUC	**Tucson**	**6.07**	**168**	Pn		**Pn**	**14 34 49.1**	**-1.0**
YKA	**Yellowknife Ar**	**24.29**	**357**	P		**P**	**14 38 36.0**	**+0.2**
	0.3nm,0.8s,mb2.8,baz=174,slow=10,SNR=9.7							
YKA	**Yellowknife Ar**	**24.29**	**357**	P		**P**	**14 38 36.0**	**+0.2**

*HEL **29** 14:44:40.4±0.3,60.93N×29.05E,ML1.4,Explosion*
*IDC **29** 14:44:41.5±1.8,60.97N×28.95E,mb1 3.4/3, mb1mx3.1/19,mbtmp3.3/3,ML2.6/3,Error ellipse: s-maj=15.6km s-min=11.2km az=158.0*
ISC 29 14:44:38.3±1.1,**60.93N**±0.06×**29.0E**±0.1,**n10,**σ**1**^{s}**24/18,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VJF	**Virojoki**	**0.83**	**242**	*e*P		**Pg**	**14 44 55.1**	**+0.2**
VJF				*e*S		**Sg**	**14 45 06.7**	**+0.7**
FIA0	**FINESS Array S**	**1.53**	**291**	*e*P		**Pn**	**14 45 07.1**	**+0.2**
FIA0				*e*S		**Sb**	**14 45 27.5**	**+0.5**
FINES	**FINESS Array B**	**1.53**	**291**	Pg		**Pg**	**14 45 06.8**	**-2.0**
	1.1nm,0.3s,baz=107,slow=16,SNR=32							
FINES				Lg			14 45 27.6	
	1.7nm,0.3s,baz=107,slow=29,SNR=22							
FINES				Rg			14 45 35.0	
	26nm,0.8s,baz=118,slow=36,SNR=26							
PVF	**Pernaja**	**1.61**	**258**	*e*P		**Pn**	**14 45 08.2**	**+0.1**
PVF				*e*S		**Sb**	**14 45 30.6**	**+1.2**
KAF	**Kangasniemi**	**1.77**	**313**	*e*P		**Pn**	**14 45 12.0**	**+1.5**
KAF				*e*S		**Sn**	**14 45 33.8**	**-0.2**
SUF	**Sumiainen**	**2.26**	**324**	*e*PB		**Pb**	**14 45 20.1**	**+0.4**
SUF				*e*SB		**Sb**	**14 45 48.6**	**+0.3**
SUF				MSG			14 45 52.8	
	comp=Z,1.8nm,0.1s							
JOF	**Joensuu**	**2.27**	**27**	*e*P		**Pn**	**14 45 19.4**	**+1.9**
JOF				*e*S		**Sn**	**14 45 46.9**	**+0.3**
JOF				MSG			14 45 50.0	
	comp=Z,1.3nm,0.1s							
HFS	**Hagfors**	**7.61**	**271**	Pn		**Pn**	**14 46 31.5**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=76,slow=12,SNR=2.4							
HFS				Sn		**Sn**	**14 47 56.3**	**-5.0**
	comp=Z,0.0nm,0.3s,baz=98,slow=20,SNR=2.9							
HFS				Lg			14 48 34.6	
	comp=Z,0.1nm,0.3s,baz=78,slow=27,SNR=3.9							
NOA	**NORSAR Array B**	**8.67**	**279**	Pn		**P**	**14 46 45.2**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=81,slow=13,SNR=2.6							
ARCES	**ARCESS Array B**	**8.77**	**352**	Pn		**P**	**14 46 46.4**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=169,slow=12,SNR=5.4							
ARCES				Sn		**Sn**	**14 48 22.3**	**-7.7**
	comp=Z,0.1nm,0.3s,baz=171,slow=23,SNR=2.2							

*IDC **29** 14:50:12.7±0.7,26.84N×140.91E,mb3.9/9,mb1 4.2/9, mb1mx4.0/19,mbtmp3.9/9,Error ellipse: s-maj=20.9km s-min=17.5km az=168.0*
ISC 29 14:50:15.7±0.7,**26.8N**±0.1×**140.85E**±0.08,**h33**km,**n12,**
σ**0**^{s}**90/11,mb3.9/9,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.23**	**76**	Pn		**Pn**	**14 50 36.4**	**-0.5**
	91nm,0.3s,baz=245,slow=4.1,SNR=27							
CBIJ				Sn		**Sn**	**14 50 52.1**	**-0.2**
	244nm,0.3s,baz=307,slow=20,SNR=24							
SONM	**Songino Array**	**34.12**	**317**	P		**P**	**14 56 59.3**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=127,slow=7.2,SNR=2.9							
WRA	**Warramunga Arr**	**46.89**	**188**	P		**P**	**14 58 45.1**	**+0.2**
	3.0nm,0.6s,mb4.4,baz=10,slow=8.6,SNR=46							
MKAR	**Makanchi Array**	**49.75**	**310**	P		**P**	**14 59 06.8**	**0.0**
	1.0nm,0.7s,mb4.0,baz=92,slow=9.6,SNR=12							
BVAR	**Borovoye Array**	**57.46**	**318**	P		**P**	**15 00 02.8**	**-0.8**
	0.7nm,0.8s,mb3.7,baz=63,slow=3.2,SNR=3.6							
STKA	**Stephens Creek**	**58.35**	**179**	P		**P**	**15 00 09.3**	**-0.8**
	0.7nm,0.6s,mb3.9,baz=335,slow=15,SNR=3.4							
ILAR	**Eielson Array**	**58.55**	**29**	P		**P**	**15 00 10.1**	**-1.0**
	0.5nm,0.7s,mb3.6,baz=268,slow=5.6,SNR=6.1							
YKA	**Yellowknife Ar**	**72.97**	**28**	P		**P**	**15 01 43

WRA	**Warramunga Arr**	**23.59**	**116**	P	**P**	**15 01 17.7**	**+0.4**
WRA						15 05 02.7	
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRAB	**Tennant Creek**	**23.60**	**116**	*e*P	**P**	**15 01 17.4**	**0.0**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**23.60**	**116**	*e*P	**P**	**15 01 17.4**	**0.0**
	comp=Z,9.5nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**23.60**	**116**	*e*P	**P**	**15 01 17.7**	**+0.3**
ASPA	**Alice Springs**	**24.75**	**125**	*e*P	**P**	**15 01 29.4**	**+0.8**
CTAO	**Charters Tower**	**34.43**	**110**	P	**P**	**15 02 52.1**	**-2.8**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
CTAO	**Charters Tower**	**34.43**	**110**	P	**P**	**15 02 52.1**	**-2.8**
	comp=Z,5.3nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**34.75**	**132**	P	**P**	**15 02 58.1**	**+0.6**
	comp=Z,4.8nm,0.7s,mb4.4,baz=289,slow=8.5,SNR=16						
STKA				LR	LR	15 18 43.0	
	comp=Z,81nm,19.9s,baz=214,slow=39						
STKA	**Stephens Creek**	**34.75**	**132**	*e*P	**P**	**15 02 57.4**	**-0.1**
KMI	**Kunming**	**36.47**	**346**	P	**P**	**15 03 12.5**	**+0.3**
GYA	**Guiyang**	**37.04**	**352**	⇑*i*P	**P**	**15 03 18.5**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
LSA	**Lhasa**	**44.65**	**334**	P	**P**	**15 04 20.5**	**+1.0**
LSA	**Lhasa**	**44.65**	**334**	*e*P	**P**	**15 04 20.1**	**+0.6**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**44.65**	**334**	*e*P	**P**	**15 04 20.1**	**+0.6**
	comp=Z,9.0nm,0.6s,mb4.7						
JIRN	**Jiri**	**45.34**	**327**	*e*P	**P**	**15 04 24.8**	**-0.3**
	comp=Z,30nm,0.8s,mb5.0						
GUN	**Gumba**	**45.71**	**327**	*e*P	**P**	**15 04 27.5**	**-0.4**
	comp=Z,26nm,0.8s,mb5.0						
KKN	**Kakani**	**45.94**	**326**	*e*P	**P**	**15 04 29.1**	**-0.6**
	comp=Z,24nm,1.0s,mb4.9						
KKN	**Kakani**	**45.94**	**326**	*e*P	**P**	**15 04 29.1**	**-0.6**
KKN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
GKN	**Gorkha**	**46.46**	**326**	*e*P	**P**	**15 04 32.9**	**-0.9**
	comp=Z,14nm,0.7s,mb4.8						
KOLN	**Koldanda**	**46.85**	**325**	*e*P	**P**	**15 04 36.2**	**-0.8**
	comp=Z,14nm,0.6s,mb4.9						
LZH	**Lanzhou**	**46.91**	**351**	*e*P	**P**	**15 04 38.3**	**+1.0**
LZH				AP	pP	15 04 57.5	-0.2
LZH				XP	sP	15 05 05.0	-2.2
LZH				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
LZH				AMB	AMB		
	comp=Z,50nm,4.5s						
HNR	**Honiara**	**47.30**	**93**	P	**P**	**15 04 37.4**	**-3.3**
GTA	**Gaotai**	**50.87**	**348**	*e*P	**P**	**15 05 08.8**	**+1.0**
MJAR	**Matsushiro Arr**	**52.90**	**27**	P	**P**	**15 05 20.4**	**-2.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=207,slow=8.3,SNR=6.0						
MJAR	**Matsushiro Arr**	**52.90**	**27**	P	**P**	**15 05 20.4**	**-2.7**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CN2	**Changchun**	**55.39**	**12**	*e*P	**P**	**15 05 44.3**	**+3.2**
MDJ	**Mudanjiang**	**57.11**	**15**	P	**P**	**15 05 53.3**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,80nm,5.4s						
ULN	**Ulaanbaatar**	**58.22**	**356**	*e*P	**P**	**15 06 00.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**58.22**	**356**	*e*P	**P**	**15 06 00.9**	**-0.3**
	comp=Z,4.5nm,0.9s,mb4.5						
SONM	**Songino Array**	**58.23**	**356**	P	**P**	**15 06 01.4**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.4,baz=178,slow=8.3,SNR=12						
SONM	**Songino Array**	**58.23**	**356**	P	**P**	**15 06 01.4**	**+0.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WMQ	**Urumqi**	**58.33**	**340**	*e*P	**P**	**15 06 03.3**	**+1.3**
WMQ				AP	pP	15 06 23.8	+0.6
WMQ				XP	sP	15 06 34.3	+1.6
WMQ				AMB	AMB		
	comp=Z,60nm,4.2s						
WMQ				LR	LR		
	comp=N,250nm,22.0s						
WMQ				LR	LR		
	comp=E,290nm,20.0s						
WMQ				LR	LR		
	comp=Z,300nm,22.0s						
MKAR	**Makanchi Array**	**62.83**	**338**	P	**P**	**15 06 31.9**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.4,baz=149,slow=7.7,SNR=87						
MKAR	**Makanchi Array**	**62.83**	**338**	P	**P**	**15 06 31.9**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURK	**Kurchatov**	**67.44**	**338**	*e*P	**P**	**15 07 01.1**	**-1.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
KURK	**Kurchatov**	**67.44**	**338**	*e*P	**P**	**15 07 01.1**	**-1.0**
	comp=Z,4.0nm,1.0s,mb4.2						
NVS	**Novosibirsk**	**69.38**	**343**	*e*P	**P**	**15 07 12.5**	**-1.5**
VNDA	**Vanda**	**71.72**	**170**	P	**P**	**15 07 27.3**	**-0.5**
	comp=Z,0.3nm,0.6s,mb3.3						
BVAR	**Borovoye Array**	**72.47**	**335**	P	**P**	**15 07 32.6**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.1,baz=144,slow=8.6,SNR=19						
BVAR	**Borovoye Array**	**72.47**	**335**	P	**P**	**15 07 32.6**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**72.54**	**335**	*e*P	**P**	**15 07 31.4**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
BRVK	**Borovoye**	**72.54**	**335**	*e*P	**P**	**15 07 31.4**	**-1.5**
	comp=Z,7.0nm,1.1s,mb4.4						
YAK	**Yakutsk**	**73.58**	**9**	*e*P	**P**	**15 07 39.2**	**+0.3**
YAK				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
YAK	**Yakutsk**	**73.58**	**9**	*e*P	**P**	**15 07 39.2**	**+0.4**
	comp=Z,20nm,0.8s,mb4.9						
SYO	**Syowa Base**	**73.98**	**201**	⇓sP	sP	15 08 13.7	+1.5
AKTK	**Aktyubinsk**	**76.58**	**328**	P	**P**	**15 07 56.5**	**+0.3**
AKTO	**Aktyubinsk**	**76.58**	**328**	P	**P**	**15 07 56.5**	**+0.3**
	comp=Z,2.0nm,0.8s,mb3.9,baz=130,slow=4.4,SNR=8.0						
AKTO	**Aktyubinsk**	**76.58**	**328**	P	**P**	**15 07 56.6**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
QSPA	**South Pole Qui**	**79.55**	**180**	P	**P**	**15 08 12.4**	**+0.3**
MALT	**Malatya**	**83.75**	**311**	*e*P	**P**	**15 08 35.4**	**+0.7**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
MALT	**Malatya**	**83.75**	**311**	*e*P	**P**	**15 08 35.4**	**+0.7**
	comp=Z,3.1nm,0.8s,mb4.2						
BR131	**Keskin Array S**	**87.73**	**311**	*e*P	**P**	**15 08 54.9**	**+0.6**
	comp=Z,3.8nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**87.73**	**311**	P	**P**	**15 08 55.4**	**+1.1**
	comp=Z,3.1nm,0.8s,mb4.4,baz=132,slow=6.8,SNR=16						
BRTR	**Keskin Array B**	**87.73**	**311**	P	**P**	**15 08 55.4**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**118.30**	**22**	PKP	PKPdf	15 14 53.6	+3.0
	comp=Z,0.4nm,0.8s,baz=304,slow=1.7,SNR=7.2						
TXAR	**Lajitas Array**	**141.86**	**55**	PKIKP		15 15 35.5	
	comp=Z,0.8nm,0.8s,baz=255,slow=3.7,SNR=7.5						
TXAR	**Lajitas Array**	**141.86**	**55**	PKIKP	PKPdf	15 15 35.5	-0.5
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
JCT	**Junction City**	**144.43**	**51**	*e*PKIKP	PKPdf	15 15 43.4	+3.0

ISC 29 15:01:44.4±2.4,34.6S±0.4×178.9W±0.7,h53km±56km,n9, σ0s40/12,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.77**	**216**	PN	**P**	**15 02 42.0**	**+0.5**
PUZ	**Puketiti**	**4.21**	**212**	PN	**P**	**15 02 48.0**	**+0.4**
PUZ				SN	**S**	**15 03 36.5**	**+0.5**
MWZ	**Matawai**	**4.76**	**216**	PN	**P**	**15 02 55.5**	**+0.1**
MWZ				SN	**S**	**15 03 49.7**	**-0.2**
URZ	**Urewera**	**4.92**	**220**	PN	**P**	**15 02 57.7**	**+0.1**
URZ				SN	**S**	**15 03 53.6**	**-0.2**
KNZ	**Kokohu**	**5.25**	**211**	PN	**P**	**15 03 01.7**	**-0.5**
BKZ	**Black Stump Fm**	**5.91**	**217**	PN	**P**	**15 03 10.6**	**-0.8**
TUWZ	**Tuamarina**	**8.90**	**217**	SN	**S**	**15 03 24.0**	**-8.8**
ASPA	**Alice Springs**	**42.32**	**272**	*e*P	**P**	**15 09 35.0**	**+0.3**
WB2	**Warramunga Arr**	**43.67**	**277**	*e*P	**P**	**15 09 45.6**	**-0.2**

*THE **29** 15:22:51.2,36.60N×27.18E,h10km*
*CSEM **29** 15:22:51.8±0.1,36.50N×27.14E,h12km,MD3.4, Error ellipse: s-maj=4.2km s-min=2.7km az=151.0*

*ATH **29** 15:22:52.3,36.49N×27.00E,h4km±1km,MD3.7/11,ML4.0*
*NEIC **29** 15:22:52.3,36.49N×27.00E,h4km,MD3.4(ISK), ML4.1(ATH),After ATH.*
*ISK **29** 15:22:53.4,36.57N×27.13E,h25km,MD3.4*
*IDC **29** 15:22:55.5±4.8,36.48N×26.97E,h35km±54km,mb3.3/2, mb1 3.4/4,mb1mx3.2/20,mbtmp3.3/4,ML2.8/2,Error ellipse: s-maj=70.0km s-min=23.0km az=160.0*

ISC 29 15:22:52.0±0.4,36.48N±0.02×27.07E±0.02,h8km±3km, n39,σ1s25/54,mb3.4/2,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.14**	**21**	*e*PG	**Pg**	**15 22 55.5**	**+0.3**
NISR				*e*SG	**Sg**	**15 22 58.0**	**+0.7**
DAT	**Datca**	**0.48**	**59**	*i* PG	**Pg**	**15 23 02.2**	**+0.5**
DAT				*i* SG	**Sg**	**15 23 09.1**	**+0.9**
BODT	**Bodrum**	**0.61**	**19**	*i* PG	**Pg**	**15 23 04.2**	**-0.1**
BODT				*i* SG	**Sg**	**15 23 12.5**	**-0.1**
BDRM	**Kayabasi**	**0.66**	**27**	*i* P	**Pg**	**15 23 05.5**	**+0.2**
BDRM				*i* S	**Sg**	**15 23 14.7**	**+0.7**
ARG	**Arkhangelos**	**0.90**	**107**	*e*PG	**Pg**	**15 23 10.5**	**+0.5**
ARG				*e*SG	**Sg**	**15 23 23.5**	**+1.5**
KARP	**Karpathos**	**0.93**	**175**	*e*PG	**Pg**	**15 23 10.0**	**-0.7**
KARP				*e*SG	**Sg**	**15 23 23.9**	**+0.7**
MLSB	**Milas**	**0.99**	**35**	PG	**Pg**	**15 23 10.4**	**-1.5**
YER	**Yerkesik**	**1.18**	**56**	PN	**Pn**	**15 23 13.6**	**-1.1**
SMG	**Samos**	**1.24**	**352**	*e*PG	**Pg**	**15 23 14.9**	**-1.9**
SMG				*e*SB	**Sb**	**15 23 32.4**	**+1.2**
DALT	**Dalyan (Mudla)**	**1.30**	**77**	PN	**Pn**	**15 23 15.9**	**-0.5**
SANT	**Santorini**	**1.30**	**266**	*e*Pg	**Pg**	**15 23 15.4**	**-2.6**
SANT	**Santorini**	**1.30**	**266**	*e*Pg	**Pg**	**15 23 15.4**	**-2.6**
THR1	**Thera Island**	**1.30**	**266**	*e*Pg	**Pg**	**15 23 16.3**	**-1.7**
THR1				*e*Sg	**Sg**	**15 23 36.1**	**+0.8**
THR3	**Thira Island,**	**1.34**	**267**	*e*Pg	**Pg**	**15 23 17.0**	**-1.9**
THR3				*e*Sg	**Sg**	**15 23 37.7**	**+0.9**
THR4	**Thira Island,**	**1.34**	**270**	*e*Pg	**Pg**	**15 23 17.0**	**-1.9**
THR4				*e*Sg	**Sg**	**15 23 38.3**	**+1.5**
AYDN	**Tasoluk**	**1.35**	**29**	*i* P	**Pb**	**15 23 18.2**	**+1.1**
AYDN				*i* S	**Sb**	**15 23 36.7**	**+2.4**
THR6	**Thira Island,**	**1.35**	**265**	*e*Pg	**Pg**	**15 23 17.4**	**-1.6**
THR6				*e*Sg	**Sg**	**15 23 38.6**	**+1.5**
APE	**Apeiranthos**	**1.36**	**296**	PN	**Pn**	**15 23 17.9**	**+0.5**
APE	**Apeiranthos**	**1.36**	**296**	*e*PN	**Pn**	**15 23 17.5**	**+0.1**
FETY	**Fethiye**	**1.63**	**84**	*e*PN	**Pn**	**15 23 20.0**	**-1.2**
NPS	**Neapolis**	**1.69**	**225**	*e*PN	**Pn**	**15 23 22.8**	**+0.7**
BLCB	**Balcova**	**1.90**	**359**	*e*PN	**Pn**	**15 23 23.4**	**-1.7**
URLA	**Izmir**	**1.91**	**349**	*i* P	**Pn**	**15 23 25.6**	**+0.4**
URLA				*i* S	**Sn**	**15 23 55.1**	**+5.4**
IZM	**Izmir**	**1.92**	**5**	*e*PN	**Pn**	**15 23 24.1**	**-1.2**
KDAG	**Bornova**	**1.93**	**5**	*i* P	**Pn**	**15 23 26.5**	**+1.1**
KDAG				*i* S	**Sn**	**15 23 57.7**	**+7.7**
XRY	**Khrisi**	**1.95**	**215**	*e*PN	**Pn**	**15 23 28.0**	**+2.2**
KSL	**Kastellorizon**	**2.06**	**98**	*e*PN	**Pn**	**15 23 31.0**	**+3.7**
IDI	**Anoyia**	**2.13**	**237**	Pn	**Pn**	**15 23 27.9**	**-0.4**
	6.0nm,0.3s,baz=57,slow=17,SNR=30						
ELL	**Elmali**	**2.30**	**82**	*e*PN	**Pn**	**15 23 29.6**	**-1.2**
MANT	**Manisa**	**2.33**	**30**	*i* P	**Pn**	**15 23 39.2**	**+8.0**
MANT				*i* S	**Sn**	**15 24 08.8**	**+8.5**
AKS	**Akhisar**	**2.47**	**14**	*e*PN	**Pn**	**15 23 32.3**	**-0.9**
VAM	**Vamos**	**2.56**	**246**	*e*PN	**Pn**	**15 23 36.3**	**+1.8**
PTL	**Penteli**	**3.00**	**302**	*e*PN	**Pn**	**15 23 41.0**	**+0.3**
ATH	**Athens Observa**	**3.06**	**300**	*e*PN	**Pn**	**15 23 42.6**	**+1.0**
VLI	**Veliai**	**3.33**	**275**	*e*PN	**Pn**	**15 23 46.9**	**+1.5**
BRTR	**Keskin Array B**	**6.11**	**56**	Pn	**Pn**	**15 24 24.1**	**-0.7**
	0.1nm,0.3s,baz=239,slow=14,SNR=6.3						
BRTR	**Keskin Array B**	**6.11**	**56**	Pn	**Pn**	**15 24 24.1**	**-0.7**
ESDC	**Sonseca Array**	**24.57**	**287**	P	**P**	**15 28 11.4**	**-2.0**
	1.1nm,0.6s,mb3.5,baz=80,slow=9.2,SNR=6.1						
MKAR	**Makanchi Array**	**41.76**	**58**	P	**P**	**15 30 41.8**	**-1.2**
	0.4nm,0.7s,mb3.2,baz=270,slow=7.3,SNR=4.2						

*IDC **29** 15:48:57.8±1.2,2.08N×125.77E,mb4.0/4,mb1 4.2/4, mb1mx3.8/16,mbtmp4.0/4,Error ellipse: s-maj=209.3km s-min=20.6km az=68.0*

ISC 29 15:49:00.6±1.1,2.6N±0.2×127.1E±0.6,h33km,n7,σ0s50/7, mb4.0/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.61**	**184**	*e*P	**P**	**15 53 40.1**	**+0.4**
	7.8nm,1.1s						
WRA	**Warramunga Arr**	**23.48**	**163**	P	**P**	**15 54 08.8**	**+0.3**
	2.4nm,0.5s,mb3.9,baz=336,slow=9.4,SNR=119						
WB2	**Warramunga Arr**	**23.49**	**163**	*e*P	**P**	**15 54 08.7**	**+0.2**
ASPA	**Alice Springs**	**26.92**	**166**	*e*P	**P**	**15 54 40.4**	**-0.6**
STKA	**Stephens Creek**	**36.93**	**159**	P	**P**	**15 56 08.3**	**-0.2**
	3.3nm,0.4s,mb4.5,baz=325,slow=7.8,SNR=15						
SONM	**Songino Array**	**48.50**	**341**	P	**P**	**15 57 43.0**	**+0.7**
	0.5nm,0.5s,mb3.8,baz=155,slow=7.6,SNR=2.9						
BVAR	**Borovoye Array**	**68.48**	**327**	P	**P**	**16 00 00.8**	**-0.8**
	0.4nm,0.4s,mb3.8,baz=135,slow=8.2,SNR=4.5						

*OMAN **29** 16:03:56.3,28.98N×58.17E,h30km, Error ellipse: s-maj=354.4km s-min=10.7km az=21.0*
*THR **29** 16:04:08.9±0.3,28.18N×57.51E,h15km±3km,ML3.4*
*CSEM **29** 16:04:08.2±0.2,28.13N×57.51E,h10km,ML3.4, Error ellipse: s-maj=7.5km s-min=3.6km az=152.0*

ISC 29 16:04:08.0±0.9,28.05N±0.08×57.5E±0.1,h10km,n9, σ0s77/9,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.35**	**241**	*e*PG	**Pg**	**16 04 35.0**	**0.0**
BNDS				AML	AML	16 05 02.1	
	comp=N,764nm,0.4s						
KRBR	**Kerman**	**2.03**	**342**	*e*PG	**Pg**	**16 04 43.9**	**-4.7**
KRBR				AML	AML	16 05 27.0	
	comp=N,239nm,0.5s						
BANOM	**Banah**	**2.38**	**207**	P	**Pn**	**16 04 48.1**	**+0.4**
	SNR=16						
ZHSF	**Zahedan**	**3.26**	**61**	*e*PN	**Pn**	**16 05 00.8**	**+0.5**
ASHO	**Ashiyiah**	**3.60**	**201**	P	**Pn**	**16 05 05.5**	**+0.4**
	SNR=12						
GHIR	**Ghir-Karzin**	**3.99**	**274**	*e*PN	**Pn**	**16 05 11.6**	**+0.9**
ARQ	**Araqi**	**4.78**	**191**	P	**Pn**	**16 05 20.6**	**-1.3**
	SNR=7.2						
NASN	**Na'in**	**6.23**	**321**	*e*PN	**Pn**	**16 05 41.5**	**-0.8**
NASN	**Na'in**	**6.23**	**321**	*e*Pn	**Pn**	**16 05 41.5**	**-0.8**
	SNR=52						

MDD 29 16:09:33.2±5.0,32.25N×7.70W,mb4.0/3,Error ellipse: s-maj=82.2km s-min=42.7km az=98.0,PRXIMO SIN SOLUCIN,Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGRO	**El Granado**	**5.27**	**2**	P	Pn	16 10 52.1	-3.0
	1.0nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 11 49.1	-8.5
	1.0nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**5.27**	**2**	P	Pn	16 10 52.1	-3.0
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 11 48.6	-9.0
	1.0nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**5.57**	**8**	P	Pn	16 10 55.8	-3.4
	1.0nm,0.2s,SNR=7.5						
EMIN				S	Sn	16 11 55.8	-9.1
	0.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.57**	**8**	P	Pn	16 10 55.8	-3.5
	0.8nm,0.1s,SNR=7.5						
EMIN				S	Sn	16 11 55.1	-10
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.43**	**23**	P	Pn	16 11 08.2	-3.2
	1.0nm,0.2s,SNR=6.0						
EADA				S	Sn	16 12 17.3	-9.2
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.43**	**23**	P	Pn	16 11 07.4	-4.1
	0.5nm,0.1s,SNR=6.0						
EADA				S	Sn	16 12 16.0	-11
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.51**	**5**	P	Pn	16 11 08.9	-3.7
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 12 22.0	-6.6
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.51**	**5**	P	Pn	16 11 08.2	-4.4
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 12 20.2	-8.4
	0.5nm,0.1s,SNR=7.9						

ISC 29 17:04:22.8±1.1,17.86N±0.07×120.24E±0.09,h79km±9km, n11,σ0s87/15,2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.50**	**114**	*e*P	**P**	**17 04 35.6**	**-0.9**
PIP	**Pasuquin**	**0.59**	**38**	⇑*i*P	**P**	**17 04 37.7**	**+0.3**
PIP				*e*S	**S**	**17 04 47.8**	**-0.4**
APYP	**Conner**	**0.96**	**89**	*e*P	**P**	**17 04 42.0**	**+0.5**
APYP				*e*S	**S**	**17 04 54.6**	**-1.0**
BOLP	**Bolinao**	**1.50**	**192**	*e*P	**P**	**17 04 48.7**	**+0.1**
BCPH	**Baguio City Da**	**1.50**	**167**	⇑*i*P	**P**	**17 04 48.4**	**-0.2**
BCPH				*i* S	**S**	**17 05 06.7**	**-1.0**
CVP	**Callao Caves**	**1.52**	**95**	⇓*i*P	**P**	**17 04 49.5**	**+0.7**
CVP				*i* S	**S**	**17 05 08.0**	**0.0**
CAUP	**Cauayan**	**1.77**	**121**	*e*P	**P**	**17 04 54.0**	**+1.9**
SCZP	**Santa Cruz**	**2.09**	**189**	*e*P	**P**	**17 04 57.0**	**+0.5**
BALP	**Baler**	**2.46**	**148**	*e*P	**P**	**17 05 03.1**	**+1.4**
WB2	**Warramunga Arr**	**40.04**	**159**	*e*P	**P**	**17 11 50.4**	**-1.5**
ASPA	**Alice Springs**	**43.37**	**162**	*e*P	**P**	**17 12 19.1**	**-0.2**

IDC 29 17:16:29.2±1.3,26.85N×140.94E,mb3.4/3,mb1 3.7/3, mb1mx3.4/18,mbtmp3.4/3,Error ellipse: s-maj=33.0km s-min=21.0km az=162.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.14**	**77**	Pn	Pn	17 16 52.7	+0.5
	35nm,0.3s,baz=276,slow=19,SNR=14						
CBIJ				Sn	Sn	17 17 08.2	-0.5
	28nm,0.3s,baz=96,slow=22,SNR=5.3						
WRA	**Warramunga Arr**	**46.95**	**189**	P	P	17 25 01.8	-2.0
	0.6nm,0.6s,baz=10,slow=8.6,SNR=8.9						
MKAR	**Makanchi Array**	**49.77**	**310**	P	P	17 25 22.9	-2.5
	0.3nm,0.8s,baz=90,slow=7.2,SNR=2.8						
YKA	**Yellowknife Ar**	**72.88**	**28**	P	P	17 27 59.9	-1.5
	0.2nm,0.6s,baz=292,slow=5.9,SNR=7.2						

*TIF **29** 17:29:21.6,43.08N×46.99E,h4km±1km*
*NNC **29** 17:29:32.9±4.0,44.02N×47.55E,mb3.3,Error ellipse: s-maj=119.8km s-min=34.1km az=133.0*

MOS 29 17:29:21.8±1.8,43.02N×47.01E,h10km,mb4.1/1,6C-4D, Error ellipse: s-maj=9.9km s-min=7.7km az=28.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBC	**Dubki**	**0.13**	**270**	⇑*i*PG	Pg	17 29 23.0	-1.9
DBC				pmax	pmax		
	comp=Z,2μm,0.1s						
BUJR	**Buynaksk**	**0.21**	**159**	*i* PG	Pg	17 29 26.0	-0.4
BUJR				*e*S	Sg	17 29 31.5	+2.1
BUJR				pmax	pmax		
	comp=Z,156nm,0.2s						
DLMR	**Dylym**	**0.28**	**280**	*i* PG	Pg	17 29 25.1	-2.6
DLMR				pmax	pmax		
	comp=Z,700nm,0.2s						
MAK	**Makhachkala**	**0.37**	**99**	⇑*i*PG	Pg	17 29 31.8	+2.4
MAK				*i* S	Sg	17 29 39.4	+4.9
XNZR	**Khunzakh**	**0.53**	**205**	*e*PG	Pg	17 29 35.0	+2.5
XNZR				*i* S	Sg	17 29 44.8	+5.2
XNZR				pmax	pmax		
	comp=Z,267nm,0.3s						
KMKR	**Kumukh**	**0.89**	**176**	*e*PG	Pg	17 29 39.7	0.0
KMKR				*e*S	Sb	17 29 54.0	+3.4
KMKR				pmax	pmax		
	comp=Z,51nm,0.2s						
URKR	**Urkarakh**	**0.97**	**151**	*e*PG	Pg	17 29 40.0	-1.3
URKR				*e*S	Sb	17 29 56.0	+3.0
SNJR	**Sundja**	**1.61**	**272**	*i* PG	Pg	17 29 52.4	-1.6
SNJR				*e*S	Sn	17 30 16.5	+5.1
KSMR	**Kasumkent**	**1.64**	**149**	*i* PN	Pn	17 29 50.5	-0.5
KSMR				*i* S	Sn	17 30 16.5	+4.2
VLKR	**Vladikavkaz**	**1.71**	**272**	⇓*i*PN	Pn	17 29 53.9	+2.0
VLKR				*e*S	Sn	17 30 19.3	+5.4
BTKR	**Batakoyurt**	**1.84**	**282**	⇑*i*PN	Pn	17 29 56.2	+2.5
BTKR				*i* S	Sn	17 30 22.9	+5.7
DGRG	**David-gareji**	**1.98**	**218**	P	Pn	17 29 59.7	+3.9
DGRG				S	Sn	17 30 28.3	+7.3
LACR	**Lac**	**2.00**	**265**	⇑*i*PN	Pn	17 29 56.5	+0.4
LACR				*e*S	Sn	17 30 25.5	+4.1
ARNR	**Ardon**	**2.00**	**276**	⇑*i*PN	Pn	17 29 57.4	+1.3
ARNR				*e*S	Sn	17 30 26.7	+5.2
KMSR	**Komsomolskaya**	**2.02**	**281**	*e*PN	Pn	17 29 58.2	+1.9
KMSR				*e*S	Sn	17 30 28.1	+6.4
TI2	**Plekhanov**	**2.11**	**233**	*e*PN	Pn	17 30 00.0	+2.4
TI2				*e*		17 30

ASPA				*e*S		**S**	17 48 07.1	**+14**
KKM	**Kota Kinabalu**	**24.87**	**293**	P		**P**	17 44 58.8	**-0.6**
MKAR	**Makanchi Array**	**70.79**	**322**	P		**P**	17 50 50.5	**-0.3**
	0.5nm,0.5s,mb3.5,baz=123,slow=6.0,SNR=6.3							
ILAR	**Eielson Array**	**86.45**	**24**	P		**P**	17 52 15.2	**+0.1**
	0.8nm,0.8s,mb3.5,baz=263,slow=4.5,SNR=6.2							
DBIC	**Dimbokro**	**144.07**	**276**	PKP	PKPdf		17 59 10.9	+3.6
	1.4nm,0.7s,baz=99,slow=1.4,SNR=3.5							

IDC 29 17:55:21.9±1.3, 1.22N×126.57E, mb3.9/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=138.5km s-min=21.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.37**	**160**	P	P	18 00 22.2	-1.2
	4.2nm,0.6s,baz=339,slow=11,SNR=42						
WB2	**Warramunga Arr**	**22.37**	**160**	*e*P	P	18 00 22.1	-1.3
ASPA	**Alice Springs**	**25.74**	**164**	*e*P	P	18 00 55.9	-0.2
STKA	**Stephens Creek**	**35.87**	**158**	P	P	18 02 23.3	-2.4
	0.8nm,0.6s,baz=339,slow=13,SNR=4.6						
SONM	**Songino Array**	**49.62**	**342**	P	P	18 04 15.1	-2.0
	0.5nm,0.6s,baz=148,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**59.52**	**326**	P	P	18 05 27.2	-2.3
	1.1nm,0.4s,baz=118,slow=8.0,SNR=38						

ISC 29 18:07:45.7±0.7, 38.11N±0.05×28.87E±0.04, h10km, n6, σ0§79/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.38**	**159**	*e*PG	**Pg**	**18 07 53.2**	**-0.3**
MANT	**Manisa**	**0.45**	**328**	*i* P	**Pg**	**18 07 55.3**	**+0.4**
MANT				*i* S	**Sg**	**18 08 01.0**	**0.0**
KHL	**Karahalli**	**0.56**	**68**	*e*PG	**Pg**	**18 07 56.6**	**-0.4**
KHL				*e*SG	**Sg**	**18 08 03.6**	**-1.0**
AYDN	**Tasoluk**	**0.90**	**240**	*i* P	**Pb**	**18 08 02.7**	**-0.3**
AYDN				*i* S	**Sb**	**18 08 15.2**	**+0.5**
YER	**Yerkesik**	**1.08**	**206**	*e*PG	**Pg**	**18 08 03.9**	**-3.5**
TKTP	**Tekketepe**	**1.15**	**93**	*i* P	**Pb**	**18 08 07.8**	**+0.5**
TKTP				*i* S	**Sb**	**18 08 23.3**	**+1.3**

*INMG **29** 18:25:11.6±1.0, 42.53N×8.47W, h5km, ML2.1, Error ellipse: s-maj=2.8km s-min=1.5km az=81.0*
*NEIC **29** 18:25:11.4, 42.54N×8.48W, h15km, MN2.6(MDD), After MDD.*

MDD 29 18:25:11.4±0.2, 42.54N×8.49W, h16km±4km, mbLg2.4/13, 6D, Error ellipse: s-maj=3.1km s-min=1.1km az=93.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STS	**Santiago**	**0.35**	**352**	⇓Pg	Pb	18 25 18.4	-0.4
	SNR=18						
STS				Lg		18 25 23.1	
	240nm,0.1s,SNR=49						
EZAM	**Zamans**	**0.42**	**202**	⇓Pg	Pb	18 25 19.4	-0.5
	56nm,0.1s,SNR=18						
EZAM				Lg		18 25 25.2	
	119nm,0.1s,SNR=195						
EZAM	**Zamans**	**0.42**	**202**	⇓Pg	Pb	18 25 19.4	-0.6
EZAM				Lg		18 25 25.2	
EMAZ	**Mazaricos**	**0.55**	**319**	⇓Pg	Pb	18 25 21.7	-0.4
	23nm,0.1s,SNR=18						
EMAZ				Lg		18 25 29.1	
	114nm,0.1s,SNR=24						
EMAZ	**Mazaricos**	**0.55**	**319**	⇓Pg	Pb	18 25 21.7	-0.4
EMAZ				Lg		18 25 29.3	
ELOB	**Lobios**	**0.74**	**155**	⇓Pg	Pb	18 25 24.7	-0.7
	25nm,0.1s,SNR=18						
ELOB				Lg		18 25 34.9	
	16nm,0.1s,SNR=13						
PCAB	**Cabril**	**0.89**	**157**	*e*P	Pb	18 25 27.5	-0.6
PCAB				*e*S	Sb	18 25 39.3	-0.2
	47nm,0.1s						
ERUA	**La Rua**	**1.00**	**98**	Pg	Pb	18 25 29.6	-0.4
	6.2nm,0.2s,SNR=7.1						
ERUA				Lg		18 25 43.0	
	90nm,0.2s,SNR=43						
ERUA	**La Rua**	**1.00**	**98**	Pg	Pb	18 25 29.6	-0.4
ERUA				Lg		18 25 43.1	
EPON	**Pontenova**	**1.26**	**51**	Pn	Pn	18 25 31.6	-2.8
	1.5nm,0.1s,SNR=19						
EPON				Pg	Pb	18 25 34.1	-0.2
	5.5nm,0.1s,SNR=7.9						
EPON				Lg		18 25 50.1	
	9.8nm,0.1s,SNR=13						
EPON	**Pontenova**	**1.26**	**51**	Pn	Pn	18 25 31.6	-2.8
EPON				Pg	Pb	18 25 34.1	-0.2
EPON				Sn	Sn	18 25 46.6	-4.5
EPON				Lg		18 25 50.1	
PVRL	**Vila Real**	**1.39**	**155**	*e*P	Pn	18 25 36.0	-0.2
PVRL				*e*S	Sb	18 25 54.4	+0.7
	32nm,0.1s						
PVRL	**Vila Real**	**1.39**	**155**	P	Pn	18 25 35.7	-0.5
PVRL				S	Sb	18 25 54.4	+0.7
ECAL	**Calabor**	**1.43**	**114**	Pn	Pn	18 25 34.8	-2.1
	0.5nm,0.3s,SNR=7.9						
ECAL				Pg	Pn	18 25 37.7	+0.8
	1.6nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	18 25 52.0	-3.4
	9.0nm,0.1s,SNR=7.9						
ECAL				Lg		18 25 55.3	
	41nm,0.2s,SNR=20						
ECAL	**Calabor**	**1.43**	**114**	Pg	Pn	18 25 37.8	+1.0
ECAL				Sn	Sn	18 25 52.0	-3.4
ECAL				Lg		18 25 55.5	
PVIS	**Viseu**	**1.87**	**166**	*e*Pg	Pn	18 25 46.6	+3.4
PVIS				*e*Sg	Sn	18 26 09.7	+3.0
	18nm,0.1s						
PVIS	**Viseu**	**1.87**	**166**	Pg	Pn	18 25 44.1	+0.9
PVIS				Lg		18 26 09.7	
	9.1nm,0.1s						
MTE	**Manteigas**	**2.25**	**161**	*e*Pg	Pn	18 25 52.1	+3.5
MTE				*e*Sg	Sn	18 26 21.7	+5.5
	10nm,0.1s						
MTE	**Manteigas**	**2.25**	**161**	Pg	Pn	18 25 52.1	+3.5
MTE				Lg		18 26 21.7	
	5.2nm,0.1s						
EARI	**Arriondas**	**2.52**	**71**	Pn	Pn	18 25 50.5	-2.0
	0.6nm,0.2s,SNR=4.0						
EARI				Pg	Pn	18 25 57.8	+5.2
	0.0nm,0.1s,SNR=4.0						
EARI				Sn	Sn	18 26 19.8	-3.4
	0.3nm,0.2s,SNR=4.0						
EARI				Lg		18 26 31.1	
	1.8nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**2.52**	**71**	Pn	Pn	18 25 50.5	-2.0
EARI				Pg	Pn	18 25 57.8	+5.2
EARI				Sn	Sn	18 26 19.8	-3.4
EARI				Lg		18 26 32.0	
PCBR	**Castelo Branco**	**2.80**	**164**	*e*Sg	Sn	18 26 37.1	+6.9
	4.6nm,0.3s						
PCBR	**Castelo Branco**	**2.80**	**164**	Lg		18 26 37.1	
	2.3nm,0.3s						
PTOM	**Tomar**	**2.92**	**179**	*e*Sg	Sn	18 26 43.2	+10
	9.6nm,0.5s						
PTOM	**Tomar**	**2.92**	**179**	Lg		18 26 43.2	
	4.8nm,0.5s						
GUD	**Guadarrama**	**3.76**	**119**	Lg		18 27 06.2	
	1.6nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**3.94**	**163**	Pn	Pn	18 26 09.5	-3.2
	0.4nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	18 26 53.0	-6.1
	0.5nm,0.1s,SNR=4.0						
EBAD				Lg		18 27 13.6	
	0.6nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**3.94**	**163**	Pn	Pn	18 26 09.5	-3.2
EBAD				Sn	Sn	18 26 53.0	-6.1
EBAD				Lg		18 27 13.3	

*IDC **29** 18:28:05.9±2.4, 2.60N×95.53E, mb3.9/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, ML3.0/1, MS2.8/1, Ms1 2.8/1, ms1mx1.8/17, Error ellipse: s-maj=71.6km s-min=26.7km az=49.0*
*NEIC **29** 18:28:09.2±1.0, 2.60N×95.47E, h30km, mb4.1/3, Error ellipse: s-maj=23.3km s-min=11.2km az=195.0*

ISC 29 18:28:07.7±1.2, 2.6N±0.2×95.47E±0.10, h33km, n11, σ1§01/10, mb3.9/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.46**	**87**	Pn	**Pn**	**18 29 00.9**	**+0.3**
	1.6nm,0.3s,baz=302,slow=12,SNR=9.3						
PSI				LR	LR	18 30 36.3	
	comp=Z,147nm,19.6s,baz=254,slow=44						
KULM	**Kulim**	**5.82**	**63**	*e*Pn	**Pn**	**18 29 31.9**	**-2.1**
PALK	**Pallekele**	**15.42**	**288**	P	**P**	**18 31 43.3**	**-1.3**
	28nm,1.4s						
KKM	**Kota Kinabalu**	**20.97**	**80**	P	**P**	**18 32 45.7**	**-4.8**
LSA	**Lhasa**	**27.26**	**352**	*e*P	**P**	**18 33 51.8**	**+0.6**
	4.6nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**44.24**	**122**	P	**P**	**18 36 16.6**	**+0.5**
	0.9nm,0.9s,mb3.5,baz=301,slow=9.1,SNR=6.8						
MKAR	**Makanchi Array**	**45.49**	**347**	P	**P**	**18 36 27.1**	**+1.5**
	2.9nm,0.6s,mb4.3,baz=157,slow=8.8,SNR=53						
SONM	**Songino Array**	**46.04**	**10**	P	**P**	**18 36 30.6**	**+0.6**
	1.2nm,0.8s,mb3.9,baz=192,slow=8.2,SNR=7.5						
SONM				PcP	PcP	18 38 08.2	+1.6
	0.6nm,0.7s,baz=192,slow=3.7,SNR=3.9						
KURK	**Kurchatov**	**50.01**	**346**	P	**P**	**18 37 01.1**	**+0.3**
BRVK	**Borovoye**	**54.44**	**342**	P	**P**	**18 37 33.2**	**-0.7**
	1.0nm,0.6s,mb3.9						
BRVK				*e*		18 37 45.4	
TZTN	**Tazewell**	**141.05**	**359**	*e*PKPdf	PKPdf	18 47 37.9	+2.7

IDC 29 18:53:10.2±18.0, 17.75S×178.41E, h347km±193km, mb3.0/2, mb1 3.5/2, mb1mx3.0/13, mbtmp3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/3, Error ellipse: s-maj=343.8km s-min=56.3km az=165.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.19**	**69**	LR	LR	18 59 04.1	
	comp=Z,45nm,18.4s,baz=297,slow=35						
WRA	**Warramunga Arr**	**41.68**	**260**	P	P	19 00 26.3	-1.4
	0.5nm,0.3s,baz=93,slow=8.4,SNR=45						
TXAR	**Lajitas Array**	**88.49**	**59**	P	P	19 05 24.4	-1.1
	0.3nm,0.7s,baz=206,slow=6.1,SNR=4.0						
AKASG	**Malin Array Be**	**138.96**	**330**	PKP	PKPdf	19 11 53.5	-2.2
	1.4nm,0.5s,baz=46,slow=4.3,SNR=10						
BRTR	**Keskin Array B**	**142.48**	**313**	PKP	PKPdf	19 12 02.5	+0.2
	0.5nm,0.5s,baz=34,slow=4.5,SNR=4.5						

IDC 29 19:57:05.2±5.8, 46.00N×153.24E, h71km±68km, mb3.6/4, mb1 3.8/5, mb1mx3.4/21, mbtmp3.9/5, ML3.3/1, MS2.6/1, Ms1 2.6/1, ms1mx1.9/24, Error ellipse: s-maj=78.4km s-min=43.6km az=179.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.77**	**260**	P	P	19 58 55.5	-2.3
	0.5nm,0.3s,baz=90,slow=14,SNR=4.2						
ASAJ				LR	LR	20 01 41.1	
	comp=Z,42nm,19.8s,baz=160,slow=36						
MJAR	**Matsushiro Arr**	**14.71**	**235**	P	P	20 00 35.4	+4.9
	0.2nm,0.3s,baz=39,slow=8.7,SNR=5.5						
INK	**Inuvik**	**42.24**	**32**	P	P	20 04 50.7	-1.5
	0.5nm,0.7s,baz=264,slow=4.7,SNR=6.5						
YKA	**Yellowknife Ar**	**51.47**	**36**	P	P	20 06 02.5	-2.3
	0.4nm,0.6s,baz=296,slow=7.3,SNR=8.9						
FINES	**FINESS Array B**	**64.75**	**335**	P	P	20 07 35.4	-2.2
	4.6nm,1.1s,baz=27,slow=8.5,SNR=5.2						
TXAR	**Lajitas Array**	**77.78**	**60**	P	P	20 08 55.0	-1.1
	0.4nm,0.5s,baz=270,slow=2.5,SNR=5.4						

IDC 29 20:01:57.0±1.1, 6.91S×154.78E, mb3.9/6, mb1 4.0/6, mb1mx3.9/12, mbtmp3.8/6, MS3.0/1, Ms1 3.0/1, ms1mx2.4/23, Error ellipse: s-maj=47.6km s-min=25.4km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.49**	**211**	LR	LR	20 09 50.1	
	comp=Z,54nm,18.5s,baz=206,slow=30						
WRA	**Warramunga Arr**	**23.69**	**235**	P	P	20 07 09.7	-1.9
	1.9nm,0.9s,baz=61,slow=9.6,SNR=8.7						
WRA				PcP	PcP	20 10 54.5	-3.1
	0.3nm,0.4s,baz=55,slow=2.4,SNR=6.9						
STKA	**Stephens Creek**	**27.72**	**205**	P	P	20 07 48.1	-1.2
	2.0nm,0.8s,baz=19,slow=13,SNR=4.3						
SONM	**Songino Array**	**69.15**	**327**	P	P	20 13 06.6	-0.8
	0.5nm,0.5s,baz=135,slow=4.1,SNR=4.1						
MKAR	**Makanchi Array**	**83.20**	**319**	P	P	20 14 25.6	-1.1
	0.4nm,0.6s,baz=106,slow=4.8,SNR=6.2						
ILAR	**Eielson Array**	**83.37**	**22**	P	P	20 14 24.8	-2.4
	0.2nm,0.4s,baz=244,slow=4.8,SNR=5.3						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	P	20 15 27.3	-1.4
	0.6nm,0.8s,baz=262,slow=4.7,SNR=9.8						
BDFB	**Brasilia**	**148.19**	**135**	PKPbc	PKPdf	20 21 46.4	+1.9
	2.1nm,0.7s,baz=135,slow=4.3,SNR=3.0						

IDC 29 20:10:02.5±1.3, 26.79N×141.02E, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=32.3km s-min=20.2km az=156.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.08**	**74**	Pn	Pn	20 10 25.6	+0.7
	32nm,0.3s,baz=250,slow=16,SNR=15						
CBIJ				Sn	Sn	20 10 40.4	-0.3
	64nm,0.3s,baz=266,slow=21,SNR=19						
WRA	**Warramunga Arr**	**46.91**	**189**	P	P	20 18 34.8	-2.0
	0.7nm,0.6s,baz=10,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**49.87**	**310**	P	P	20 18 57.2	-2.3
	0.2nm,0.7s,baz=84,slow=8.7,SNR=2.7						
YKA	**Yellowknife Ar**	**72.90**	**28**	P	P	20 21 33.2	-1.7
	0.3nm,0.6s,baz=289,slow=6.0,SNR=7.3						

NNC 29 20:21:29.5±2.9, 39.65N×73.67E, mb3.5, mpv3.1, 4C-1D, Error ellipse: s-maj=22.7km s-min=16.8km az=167.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.48**	**0**	P	Pn	20 22 13.2	+1.4
	SNR=9.9						
UCH	**Uchtor**	**2.66**	**14**	P	Pn	20 22 15.9	+1.6
	SNR=24						
KZA	**Kyzart**	**2.71**	**26**	P	Pn	20 22 16.5	+1.4
	SNR=6.5						
EKS2	**Erkin-Say**	**3.02**	**2**	P	Pn	20 22 20.9	+1.5
	SNR=6.7						
AAK	**Ala-Archa**	**3.05**	**12**	P	Pn	20 22 21.7	+1.9
	SNR=8.6						
KBK	**Karagaybulak**	**3.16**	**17**	P	Pn	20 22 24.5	+3.1
	SNR=6.8						
CHMS	**Chumysh**	**3.45**	**13**	P	Pn	20 22 27.9	+2.4
	SNR=7.6						
TKM2	**Tokmak 2**	**3.58**	**23**	⇑Pn	Pn	20 22 28.9	+1.5
	8.1nm,1.1s						
TKM2				⇑Lg		20 23 22.5	
	10nm,0.6s						
KK31	**Karatay Array**	**4.19**	**327**	⇑Pn	Pn	20 22 36.9	+0.8
	1.8nm,0.5s,baz=135,slow=12,SNR=24						
KK31				⇓Pg	Pg	20 22 45.9	-7.3
	3.3nm,0.8s,baz=141,slow=18,SNR=11						
KK31				⇑Lg		20 23 41.6	
	11nm,0.6s,baz=148,slow=31,SNR=5.9						

*IDC **29** 20:53:01.6±1.1, 2.29N×126.45E, mb3.8/5, mb1 4.0/5, mb1mx3.8/15, mbtmp3.8/5, Error ellipse: s-maj=65.0km s-min=19.7km az=73.0*
*NEIC **29** 20:53:07.1±3.6, 2.33N×126.62E, h43km±37km, mb4.2/3, Error ellipse: s-maj=38.9km s-min=10.0km az=70.0*

ISC 29 20:53:06.1±5.8, 2.4N±0.1×126.5E±0.3, h49km±57km, n12, σ0§51/12, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.88**	**290**	Pn	**P**	**20 55 41.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.34**	**182**	*e*P	**P**	**20 57 41.7**	**+0.7**
	4.9nm,0.8s						
WRAB	**Tennant Creek**	**23.45**	**161**	*e*P	**P**	**20 58 11.6**	**-0.5**
	6.5nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**23.45**	**161**	P	**P**	**20 58 12.4**	**+0.3**
	1.4nm,0.3s,mb3.8,baz=339,slow=11,SNR=36						
WB2	**Warramunga Arr**	**23.46**	**161**	*e*P	**P**	**20 58 12.3**	**+0.2**
MJAR	**Matsushiro Arr**	**35.70**	**16**	P	**P**	**21 00 02.1**	**+0.1**
	0.8nm,0.5s,mb3.9,baz=189,slow=9.8,SNR=5.0						
STKA	**Stephens Creek**	**36.94**	**158**	P	**P**	**21 00 12.5**	**+0.1**
	2.7nm,0.8s,mb4.1,baz=322,slow=5.8,SNR=5.6						
STKA	**Stephens Creek**	**36.94**	**158**	*e*P	**P**	**21 00 10.7**	**-1.7**
SONM	**Songino Array**	**48.52**	**342**	P	**P**	**21 01 46.6**	**+0.4**
	0.5nm,0.6s,mb3.7,baz=163,slow=9.4,SNR=4.7						
MKAR	**Makanchi Array**	**58.55**	**326**	P	**P**	**21 03 00.2**	**+0.1**
	0.6nm,0.7s,mb3.7,baz=120,slow=8.0,SNR=9.7						
MKAR	**Makanchi Array**	**58.55**	**326**	P	**P**	**21 03 00.2**	**+0.1**
KURK	**Kurchatov**	**62.77**	**328**	*e*P	**P**	**21 03 28.3**	**-0.4**
	3.3nm,0.8s,mb4.5						

*BJI **29** 20:57:42.2, 58.60N×137.20W, h10km, mB4.8, mb4.4, Ms4.5, Msz4.1*
*IDC **29** 20:57:44.4±0.7, 58.58N×137.39W, mb3.9/12, mb1 4.1/18, mb1mx4.0/25, mbtmp3.9/18, ML3.9/6, MS3.0/2, Ms1 3.0/2, ms1mx2.6/36, Error ellipse: s-maj=15.1km s-min=8.0km az=44.0*
*PGC **29** 20:57:47.2, 58.63N×137.18W, h10km, ML4.3/4, Glacier Bay, Alaska.*
*NEIC **29** 20:57:47.2, 58.63N×137.18W, h10km, mb4.2/11, ML4.3(PGC), ML4.3(PMR), ML4.1(AEIC), After PGC.*
NEIC Felt at Juneau.

ISC 29 20:57:44.8±0.2, 58.68N±0.03×137.35W±0.05, h10km, n98, σ1§19/116, mb4.2/26, MS4.2/1, 1D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.94**	**33**	⇓*i* P	**Pb**	**20 58 03.7**	**+1.1**
PLBC				*e*S	**Sb**	**20 58 16.9**	**+2.0**
BESE	**Bessie Mountai**	**1.31**	**93**	P	**Pb**	**20 58 08.3**	**-0.8**
PNL	**Peninsula**	**1.45**	**314**	P	**Pn**	**20 58 11.3**	**+0.1**
PNL				S	**Sb**	**20 58 32.3**	**+2.4**
YKU2	**Yakutat**	**1.46**	**306**	*e*P	**Pn**	**20 58 14.9**	**+3.5**
SIT	**Sitka**	**1.95**	**145**	P	**Pn**	**20 58 15.2**	**-3.1**
SIT				S	**Sn**	**20 58 41.0**	**-2.0**
HYT	**Haines Junctio**	**2.16**	**358**	Pn	**Pn**	**20 58 22.8**	**+1.5**
HYT				Pg	**Pg**	**20 58 25.5**	**-2.4**
HYT				Sg	**Sg**	**20 58 56.6**	**-0.1**
HYT				Trac		20 59 01.8	
	comp=Z,914nm,0.4s						
HYT	**Haines Junctio**	**2.16**	**358**	Pn	**Pn**	**20 58 22.8**	**+1.5**
HYT				*e*Pg	**Pg**	**20 58 25.5**	**-2.4**
HYT				*e*Sg	**Sg**	**20 58 56.6**	**-0.1**
WHY	**Whitehorse**	**2.35**	**31**	Pn	**Pn**	**20 58 25.3**	**+1.2**
WHY				Pg	**Pg**	**20 58 28.9**	**-2.9**
WHY				Sg	**Sg**	**20 59 01.1**	**-2.1**
WHY				Trac		20 59 01.8	
	comp=Z,4μm,0.5s						
WHY	**Whitehorse**	**2.35**	**31**	P	**Pn**	**20 58 25.2**	**+1.1**
DLBC	**Dease Lake**	**3.84**	**90**	Pn	**Pn**	**20 58 45.2**	**-0.1**
	8.0nm,0.3s,baz=272,slow=11,SNR=35						
DLBC				Pg	**Pg**	**20 58 53.9**	**-7.6**
	31nm,0.3s,baz=279,slow=12,SNR=37						
DLBC				Lg		20 59 42.1	
	57nm,0.3s,baz=157,slow=22,SNR=9.2						
DLBC	**Dease Lake**	**3.84**	**90**	Pn	**Pn**	**20 58 45.1**	**-0.2**
DLBC				Pg	**Pg**	**20 58 54.3**	**-7.2**
DLBC				Sg	**Sg**	**20 59 42.9**	**-10**
DLBC				Trac		20 59 50.8	
	comp=Z,360nm,0.5s						
DLBC	**Dease Lake**	**3.84**	**90**	P	**Pn**	**20 58 44.1**	**-1.3**
BMRM	**Bremner River**	**4.32**	**305**	P	**Pn**	**20 58 51.9**	**-0.2**
DIV	**Divide**	**4.90**	**304**	*e*P	**Pn**	**20 59 00.2**	**-0.1**
NDB	**Naden**	**5.33**	**151**	Pn	**Pn**	**20 59 06.0**	**-0.4**
NDB				Trac		21 00 48.1	
	comp=Z,36nm,0.4s						
NDB	**Naden**	**5.33**	**151**	*e*Pn	**Pn**	**20 59 06.0**	**-0.4**
DAWY	**Dawson**	**5.50**	**351**	Pn	**Pn**	**20 59 09.9**	**+1.2**
DAWY				Sn	**Sn**	**21 00 13.6**	**+0.8**
DAWY				Sg	**Sg**	**21 00 43.0**	**-4.9**
DAWY				Trac		21 00 56.5	
	comp=Z,100nm,0.5s						
DAWY	**Dawson**	**5.50**	**351**	P	**Pn**	**20 59 08.5**	**-0.3**
RUBB	**Prince Rupert**	**5.87**	**135**	Trac		21 00 55.6	
	comp=Z,220nm,0.7s						
RUBB	**Prince Rupert**	**5.87**	**135**	Sg	**Sb**	**21 00 47.7**	**+10**
VIB	**Van Inlet**	**6.07**	**152**	Trac		21 00 24.9	
	comp=Z,11nm,0.3s						
VIB	**Van Inlet**	**6.07**	**152**	Sn	**Sn**	**21 00 16.8**	**-10**
SML	**Sawmill**	**6.31**	**305**	*e*P	**Pn**	**20 59 19.5**	**-0.7**
SEW	**Seward**	**6.35**	**288**	P	**Pn**	**20 59 19.0**	**-1.7**
PMR	**Palmer**	**6.57**	**301**	*e*P	**Pn**	**20 59 23.8**	**-0.1**
SLKM	**Skilak Lake**	**6.79**	**291**	*e*P	**Pn**	**20 59 25.5**	**-1.5**
FNBB	**Fort Nelson**	**7.46**	**82**	Pn	**Pn**	**20 59 35.2**	**-1.1**
FNBB				Pg	**Pb**	**21 00 01.3**	**+7.1**
FNBB				Sg	**Sb**	**21 01 36.1**	**+12**
FNBB				Trac		21 01 53.7	
	comp=Z,49nm,0.9s						
FNBB	**Fort Nelson**	**7.46**	**82**	Pn	**Pn**	**20 59 35.2**	**-1.1**
FNBB				*e*Pg	**Pb**	**21 00 01.3**	**+7.1**
FNBB				*e*Sg	**Sb**	**21 01 36.1**	**+12**
MCK	**McKinley**	**7.54**	**317**	*e*P	**Pn**	**20 59 38.0**	**+0.4**
IL1	**Eielson Array**	**7.60**	**328**	P	**Pn**	**20 59 36.0**	**-2.4**
ILAR	**Eielson Array**	**7.60**	**328**	Pn	**Pn**	**20 59 37.0**	**-1.4**
	0.6nm,0.3s,baz=154,slow=13,SNR=27						
ILAR				Lg		21 01 46.0	
	0.5nm,0.3s,baz=122,slow=25,SNR=5.6						
KDAK	**Kodiak Island**	**8.09**	**270**	Pn	**P**	**20 59 41.0**	**-4.2**
	5.0nm,0.3s,baz=83,slow=11,SNR=22						
KDAK				Sn	**Sn**	**21 01 10.5**	**-7.2**
	0.5nm,0.3s,baz=109,slow=20,SNR=2.7						
KDAK	**Kodiak Island**	**8.09**	**270**	Pn	**P**	**20 59 41.0**	**-4.2**
KDAK				Sn	**Sn**	**21 01 10.5**	**-7.2**
FSB	**Fort Saint Jam**	**8.32**	**115**	Pn	**P**	**20 59 46.2**	**-2.2**
FSB				Sg	**Sb**	**21 02 05.7**	**+16**
FSB				Trac		21 02 34.8	
	comp=Z,15nm,0.7s						
BBB	**Bella Bella**	**8.35**	**137**	Pn	**P**	**20 59 45.0**	**-3.8**
	0.4nm,0.3s,baz=341,slow=16,SNR=3.2						
BBB				Sn	**Sn**	**21 01 18.5**	**-5.7**
	0.7nm,0.3s,baz=104,slow=17,SNR=3.4						
BMBC	**Bull Mountain**	**8.64**	**

FCC	**Fort Churchill**	**22.18**	**71**	Trac			21 02 46.8
	comp=Z,3.0nm,0.8s						
FCC	**Fort Churchill**	**22.18**	**71**	Sg	**P**		**21 02 42.7 +0.4**
FCC	**Fort Churchill**	**22.18**	**71**	*e*P	**P**		**21 02 42.1 -0.2**
	17nm,1.3s,mb4.3						
TPAW	**Teton Pass**	**22.28**	**121**	*e*P	**P**		**21 02 44.3 +0.9**
LOHW	**Long Hollow**	**22.34**	**121**	*e*P	**P**		**21 02 44.9 +0.9**
	2.0nm,0.7s,mb3.7						
RES	**Resolute Bay**	**22.41**	**28**	Pn	**P**		**21 02 47.1 +2.6**
RES	**Resolute Bay**	**22.41**	**28**	*e*P	**P**		**21 02 45.5 +1.0**
	5.8nm,0.8s,mb4.1						
ELK	**Elko**	**22.76**	**132**	P	**P**		**21 02 49.5 +1.4**
	3.8nm,0.8s,mb3.9,baz=318,slow=6.6,SNR=15						
ELK	**Elko**	**22.76**	**132**	P	**P**		**21 02 49.5 +1.4**
BW06	**Boulder Array**	**23.48**	**120**	*e*P	**P**		**21 02 57.0 +2.0**
PDAR	**Pinedale Array**	**23.48**	**120**	P	**P**		**21 02 56.2 +1.2**
	2.1nm,0.8s,mb3.6,baz=324,slow=7.1,SNR=17						
NVAR	**Mina Array Bea**	**23.70**	**140**	P	**P**		**21 02 58.9 +1.7**
	0.8nm,0.7s,mb3.3,baz=337,slow=7.5,SNR=7.1						
NVAR				PcP	PcP		21 06 40.2 -2.9
	0.5nm,0.7s,baz=270,slow=0.9,SNR=4.0						
DUG	**Dugway**	**24.19**	**129**	*e*P	**P**		**21 03 02.1 +0.1**
	13nm,1.1s,mb4.3						
ULM	**Lac du Bonnet**	**25.17**	**91**	P	**P**		**21 03 11.2 -0.1**
	1.8nm,0.8s,mb3.6,baz=254,slow=3.5,SNR=4.5						
TPNV	**Topopah Spring**	**25.73**	**138**	*e*P	**P**		**21 03 16.4 -0.4**
	5.7nm,0.9s,mb4.1						
MSU	**Marysvale**	**25.88**	**130**	*e*P	**P**		**21 03 18.7 +0.6**
ARUT	**Antelope Range**	**26.02**	**133**	*e*P	**P**		**21 03 19.3 -0.1**
MNTX	**Cornudo Mount**	**34.55**	**127**	P	**P**		**21 04 35.5 +0.2**
WMOK	**Wichita Mounta**	**34.91**	**116**	*e*P	**P**		**21 04 37.4 -0.9**
TXAR	**Lajitas Array**	**37.33**	**127**	P	**P**		**21 04 59.3 +0.5**
	0.2nm,0.4s,mb3.3,baz=315,slow=7.1,SNR=3.6						
SUMG	**Summit**	**37.94**	**29**	P	**P**		**21 05 03.5 0.0**
MDJ	**Mudanjiang**	**54.77**	**299**	P	**P**		**21 07 15.0 -1.4**
MDJ				AMB	AMB		
	comp=Z,100nm,4.5s						
CN2	**Changchun**	**57.27**	**301**	*e*P	**P**		**21 07 32.8 -1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
FINES	**FINESS Array B**	**59.52**	**9**	P	**P**		**21 07 48.8 -1.1**
	comp=Z,0.7nm,0.5s,mb3.9,slow=7.6,SNR=5.5						
SONM	**Songino Array**	**61.68**	**317**	P	**P**		**21 08 05.5 +0.7**
	comp=Z,2.1nm,0.9s,mb4.3,baz=29,slow=8.7,SNR=13						
BRVK	**Borovoye**	**66.39**	**342**	*e*P	**P**		**21 08 34.4 -1.0**
	comp=Z,1.7nm,0.6s,mb4.2						
NJ2	**Nanjing**	**69.85**	**299**	*e*P	**P**		**21 09 00.0 +2.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
MKAR	**Makanchi Array**	**69.93**	**332**	P	**P**		**21 08 56.5 -1.0**
	comp=Z,0.7nm,0.6s,mb3.7,baz=17,slow=5.2,SNR=15						
GERES	**GERESS Array B**	**70.24**	**20**	P	**P**		**21 08 59.5 +0.2**
	comp=Z,0.7nm,0.8s,mb3.6,slow=5.3,SNR=6.1						
AKASG	**Malin Array Be**	**70.43**	**9**	P	**P**		**21 08 59.3 -1.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=352,slow=5.9,SNR=29						
WMQ	**Urumqi**	**71.27**	**327**	*e*P	**P**		**21 09 07.0 +1.3**
WMQ				AP	pP		21 09 11.5 +2.7
WMQ				XP	sP		21 09 14.0 +4.0
WMQ				AMB	AMB		
	comp=Z,20nm,4.2s						
WMQ				LR	LR		
	comp=N,110nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=E,100nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,140nm,20.0s,MS4.2						
LZH	**Lanzhou**	**72.78**	**312**	*e*P	**P**		**21 09 14.8 +0.1**
LZH				AP	pP		21 09 18.0 +0.1
LZH				XP	sP		21 09 20.0 +1.0
ESDC	**Sonseca Array**	**74.62**	**36**	P	**P**		**21 09 25.3 0.0**
	comp=Z,2.0nm,0.9s,mb4.0,baz=327,slow=6.0,SNR=9.0						
CD2	**Chengdu**	**77.36**	**310**	*e*P	**P**		**21 09 40.5 -0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**81.67**	**7**	P	**P**		**21 10 04.8 +0.7**
	comp=Z,1.4nm,0.6s,mb4.0,baz=18,slow=4.6,SNR=5.4						
GUN	**Gumba**	**86.55**	**323**	*e*P	**P**		**21 10 30.1 +1.2**
	comp=Z,14nm,1.0s,mb5.2						
JIRN	**Jiri**	**86.69**	**322**	*e*P	**P**		**21 10 30.9 +1.3**
	comp=Z,19nm,0.9s,mb5.3						
KKN	**Kakani**	**86.85**	**323**	*e*P	**P**		**21 10 31.0 +0.6**
	comp=Z,11nm,0.9s,mb5.1						
GKN	**Gorkha**	**86.86**	**324**	*e*P	**P**		**21 10 31.0 +0.6**
DMN	**Daman**	**87.08**	**323**	*e*P	**P**		**21 10 32.3 +0.8**
KOLN	**Koldanda**	**87.39**	**324**	*e*P	**P**		**21 10 33.7 +0.7**
QSPA	**South Pole Qui**	**148.49**	**180**	PKPbc	PKPdf		21 17 30.7 +1.6

*ATH **29** 21:11:27.6,38.19N×26.72E,h35km±9km,MD3.2/3*
*ISK **29** 21:11:28.7,38.17N×26.78E,h14km,MD3.1*
*NEIC **29** 21:11:28.7,38.17N×26.78E,h14km,MD3.2(ATH), MD3.1(ISK),After ISK.*
*CSEM **29** 21:11:28.6±0.1,38.23N×26.77E,h20km,MD3.1,Error ellipse: s-maj=2.5km s-min=1.3km az=121.0*

ISC 29 21:11:28.4±0.6,38.22N±0.03×26.70E±0.04,h14km±4km, n17,σ0§74/27,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.16**	**331**	*i* P	**Pg**	**21 11 32.1**	**-0.3**
URLA				*i* S	**Sg**	**21 11 35.8**	**+0.6**
BLCB	**Balcova**	**0.32**	**59**	*i* PG	**Pg**	**21 11 35.3**	**0.0**
BLCB				*i* SG	**Sg**	**21 11 39.6**	**-0.2**
IZM	**Izmir**	**0.48**	**68**	*i* PG	**Pg**	**21 11 38.2**	**-0.1**
IZM				*i* SG	**Sg**	**21 11 44.7**	**-0.2**
KDAG	**Bornova**	**0.48**	**68**	*i* P	**Pb**	**21 11 37.3**	**-1.0**
KDAG				*i* S	**Sb**	**21 11 44.1**	**-0.8**
SMG	**Samos**	**0.52**	**168↑**	*i*PB	**Pb**	**21 11 38.6**	**-0.3**
SMG				*e*SB	**Sb**	**21 11 46.2**	**+0.2**
PRK	**Paraskevi**	**1.08**	**342**	*e*PN	**Pn**	**21 11 48.3**	**-0.8**
PRK				*e*SN	**Sn**	**21 12 03.8**	**0.0**
AYVA	**Ayvalik**	**1.09**	**360**	*i* P	**Pb**	**21 11 50.4**	**+1.9**
AYVA				*i* S	**Sb**	**21 12 01.2**	**-1.1**
AYDN	**Tasoluk**	**1.09**	**120**	*i* P	**Pb**	**21 11 48.5**	**-0.1**
AYDN				*i* S	**Sb**	**21 12 02.7**	**+0.2**
AKS	**Akhisar**	**1.09**	**53**	*i* PG	**Pg**	**21 11 50.3**	**-0.1**
BODT	**Bodrum**	**1.26**	**157**	PN	**Pn**	**21 11 51.4**	**-0.2**
MLSB	**Milas**	**1.26**	**137**	PN	**Pn**	**21 11 51.5**	**-0.2**
BDRM	**Kayabasi**	**1.30**	**153**	*i* P	**Pb**	**21 11 52.1**	**0.0**
BDRM				*i* S	**Sb**	**21 12 09.1**	**+0.6**
APE	**Apeiranthos**	**1.48**	**219**	*e*PN	**Pn**	**21 11 54.9**	**+0.1**
APE	**Apeiranthos**	**1.48**	**219**	*e*PN	**Pn**	**21 11 53.5**	**-1.3**
MANT	**Manisa**	**1.49**	**79**	*i* P	**Pn**	**21 11 56.5**	**+1.6**
MANT				*i* S	**Sb**	**21 12 14.7**	**+0.7**
YER	**Yerkesik**	**1.66**	**130**	*e*PN	**Pn**	**21 11 56.5**	**-0.9**
BALB	**Balikesir**	**1.69**	**33**	*e*PN	**Pn**	**21 11 59.3**	**+1.4**

*MOS **29** 22:02:03.7±1.2,51.92N×170.51W,h10km,mb4.3/11, Error ellipse: s-maj=23.0km s-min=14.3km az=89.1*
*BJI **29** 22:02:04.2,51.90N×170.50W,h10km,mB4.7,mb4.7*
*IDC **29** 22:02:04.8±1.4,51.95N×170.49W,mb4.0/14,mb1 4.2/16, mb1mx4.0/25,mbtmp4.0/16,ML3.4/1,MS3.6/4,Ms1 3.6/4, ms1mx3.1/27,Error ellipse: s-maj=38.7km s-min=14.7km az=1.0*
*NEIC **29** 22:02:06.3±0.7,51.93N×170.47W,h10km,mb4.1/1, ML3.5(AEIC),Error ellipse: s-maj=17.6km s-min=6.7km az=166.0*

ISC 29 22:02:08.6±1.4,51.9N±0.1×170.42W±0.08,h45km±9km, n44,σ1§04/44,mb4.0/17,MS3.9/5,1C,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.45**	**41**	P	**P**	**22 02 32.1**	**-0.7**
NIKO				S	**S**	**22 02 51.3**	**+0.6**
OKCE	**Okmok Cone E**	**2.06**	**41**	P	**P**	**22 02 41.4**	**0.0**
OKCE				S	**S**	**22 03 07.0**	**+1.0**
OKCD	**Okmok Cone D**	**2.08**	**41**	P	**P**	**22 02 41.8**	**+0.1**
ATKA	**Atka Island**	**2.35**	**279**	P	**P**	**22 02 45.9**	**+0.2**
ATKA				S	**S**	**22 03 14.5**	**+1.0**
UNV	**Unalaska Valle**	**3.08**	**49**	P	**P**	**22 02 56.1**	**+0.2**
FX1	**Attu Island--F**	**10.09**	**282**	Pn	**P**	**22 04 32.5**	**-1.1**
	1.0nm,0.3s,baz=45,slow=18,SNR=2.8						
FX1	**Attu Island--F**	**10.09**	**282**	P	**P**	**22 04 32.5**	**-1.1**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KDAK	**Kodiak Island**	**11.84**	**53**	Pn	**P**	**22 04 55.0**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=236,slow=10,SNR=3.8						
ILAR	**Eielson Array**	**17.71**	**34**	P	**P**	**22 06 12.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=231,slow=10,SNR=9.0						
DAWY	**Dawson**	**20.22**	**41**	P	**P**	**22 06 39.5**	**-2.5**
INK	**Inuvik**	**24.10**	**33**	P	**P**	**22 07 21.2**	**+0.8**
	comp=Z,3.5nm,0.5s,mb4.1,baz=244,slow=7.1,SNR=42						
INK				LR	LR	22 18 20.7	
	comp=Z,123nm,19.5s,MS3.4,baz=326,slow=40						
INK	**Inuvik**	**24.10**	**33**	P	**P**	**22 07 21.2**	**+0.8**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK				MLR	MLR		
	comp=Z,123nm,19.5s						
INK	**Inuvik**	**24.10**	**33**	P	**P**	**22 07 21.2**	**+0.8**
INK				LR	LR	22 18 20.7	
YKA	**Yellowknife Ar**	**31.04**	**48**	P	**P**	**22 08 24.9**	**+1.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=276,slow=7.3,SNR=25						
YKA	**Yellowknife Ar**	**31.04**	**48**	P	**P**	**22 08 24.9**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NEW	**Newport**	**33.76**	**75**	P	**P**	**22 08 47.7**	**0.0**
	comp=Z,1.9nm,0.3s,mb4.5,baz=218,slow=9.6,SNR=2.8						
NEW	**Newport**	**33.76**	**75**	P	**P**	**22 08 47.7**	**0.0**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NEW	**Newport**	**33.76**	**75**	P	**P**	**22 08 47.7**	**0.0**
MDJ	**Mudanjiang**	**39.58**	**284**	P	**P**	**22 09 38.3**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,50nm,4.4s						
PDAR	**Pinedale Array**	**41.13**	**78**	P	**P**	**22 09 51.0**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.3,baz=293,slow=3.9,SNR=3.8						
BOD	**Bodaibo**	**41.79**	**309**	*e*P	**P**	**22 09 52.5**	**-2.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
SONM	**Songino Array**	**50.99**	**301**	P	**P**	**22 11 07.8**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=53,slow=5.5,SNR=6.3						
SONM	**Songino Array**	**50.99**	**301**	P	**P**	**22 11 07.8**	**+0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**53.41**	**88**	P	**P**	**22 11 25.4**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=296,slow=5.8,SNR=9.5						
TXAR	**Lajitas Array**	**53.41**	**88**	P	**P**	**22 11 25.4**	**-0.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SCHQ	**Schefferville**	**56.23**	**43**	P	**P**	**22 11 47.3**	**+1.3**
	comp=Z,2.4nm,0.8s,mb4.3,baz=249,slow=18,SNR=6.3						
ARCES	**ARCESS Array B**	**58.33**	**353**	P	**P**	**22 11 59.8**	**-0.8**
	comp=Z,2.7nm,0.9s,mb4.3,baz=27,slow=8.1,SNR=4.4						
ARCES				LR	LR	22 39 57.7	
	comp=Z,66nm,18.2s,MS3.8,baz=202,slow=39						
ARCES	**ARCESS Array B**	**58.33**	**353**	P	**P**	**22 11 59.8**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,66nm,18.2s						
APA	**Apatity**	**59.52**	**350↑**	*e*P	**P**	**22 12 05.7**	**-3.3**
APA				*i*		22 12 11.3	
APA				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
APA				MLR	MLR		
	comp=Z,1μm,14.0s,MS5.2						
MKAR	**Makanchi Array**	**63.66**	**313**	P	**P**	**22 12 36.4**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=45,slow=5.1,SNR=9.1						
MKAR	**Makanchi Array**	**63.66**	**313**	P	**P**	**22 12 36.4**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**63.71**	**324**	P	**P**	**22 12 37.0**	**-0.2**
	comp=Z,1.9nm,0.4s,mb4.5,baz=54,slow=6.0,SNR=26						
BVAR	**Borovoye Array**	**63.71**	**324**	P	**P**	**22 12 37.0**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**63.73**	**324**	P	**P**	**22 12 36.9**	**-0.3**
	comp=Z,1.3nm,1.0s,mb3.9						
FINES	**FINESS Array B**	**66.25**	**351**	P	**P**	**22 12 52.9**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.1,baz=14,slow=7.9,SNR=6.4						
FINES				LR	LR	22 41 36.6	
	comp=Z,40nm,19.1s,MS3.6,baz=5.8,slow=36						
FINES	**FINESS Array B**	**66.25**	**351**	P	**P**	**22 12 52.9**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,40nm,19.1s						
NOA	**NORSAR Array B**	**67.41**	**359**	P	**P**	**22 13 01.1**	**+0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=1.8,slow=6.5,SNR=3.9						
NOA	**NORSAR Array B**	**67.41**	**359**	P	**P**	**22 13 01.2**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**70.10**	**329**	LR	LR	22 47 23.4	
	comp=Z,32nm,18.4s,MS3.6,slow=39						
AKASG	**Malin Array Be**	**76.44**	**347**	P	**P**	**22 13 54.7**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=10,slow=5.2,SNR=5.0						
AKASG	**Malin Array Be**	**76.44**	**347**	P	**P**	**22 13 54.7**	**+0.3**
GERES	**GERESS Array B**	**79.58**	**357**	P	**P**	**22 14 13.2**	**+1.4**
	comp=Z,0.3nm,0.7s,mb3.4,baz=18,slow=4.2,SNR=3.7						
LBTB	**Lobatse**	**150.51**	**329**	PKPbc	PKPdf	22 21 58.8	+9.2
	comp=Z,1.8nm,0.4s,baz=11,slow=3.7,SNR=15						
LBTB	**Lobatse**	**150.51**	**329**	PKIKP	PKPdf	22 21 58.8	+9.2
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.4s						

*ISK **29** 22:04:41.3,35.42N×27.48E,h34km,MD3.5*
*CSEM **29** 22:04:42.1±0.3,35.51N×27.48E,h25km,MD3.5, Error ellipse: s-maj=10.0km s-min=3.7km az=148.0*
*ATH **29** 22:04:43.0,35.73N×27.23E,h22km±2km,MD3.3/3*
*NEIC **29** 22:04:43.0,35.73N×27.23E,h22km,MD3.5(ISK), MD3.3(ATH),After ATH.*

ISC 29 22:04:42.2±1.2,35.52N±0.09×27.45E±0.10,h22km±12km, n13,σ0§65/18,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.24**	**277**	*e*PB	**Pb**	**22 04 48.1**	**0.0**
KARP				*e*SB	**Sb**	**22 04 52.1**	**+0.1**
ARG	**Arkhangelos**	**0.89**	**38**	*e*PN	**Pn**	**22 05 00.2**	**+0.7**
ARG				*e*SN	**Sn**	**22 05 12.3**	**+0.6**
DAT	**Datca**	**1.21**	**5**	PN	**Pn**	**22 05 03.3**	**-0.8**
DAT				SN	**Sn**	**22 05 20.3**	**+0.3**
NPS	**Neapolis**	**1.52**	**261**	*e*PN	**Pn**	**22 05 08.9**	**+0.3**
BDRM	**Kayabasi**	**1.54**	**360**	*i* P	**Pn**	**22 05 09.5**	**+0.6**
BDRM				*i* S	**Sn**	**22 05 27.6**	**-0.8**
BODT	**Bodrum**	**1.54**	**356**	PN	**Pn**	**22 05 08.9**	**0.0**
DALT	**Dalyan (Mudla)**	**1.57**	**37**	PN	**Pn**	**22 05 08.2**	**-1.1**
FETY	**Fethiye**	**1.73**	**49**	*e*PN	**Pn**	**22 05 10.8**	**-0.7**
YER	**Yerkesik**	**1.75**	**22**	*e*PN	**Pn**	**22 05 12.1**	**+0.3**
MLSB	**Milas**	**1.79**	**8**	*e*PN	**Pn**	**22 05 12.8**	**+0.4**
AYDN	**Tasoluk**	**2.17**	**9**	*i* P	**Pn**	**22 05 19.1**	**+1.3**
AYDN				*i* S	**Sn**	**22 05 44.5**	**+0.3**
SMG	**Samos**	**2.24**	**347**	*e*PN	**Pn**	**22 05 17.8**	**-1.1**
DENT	**Denizli**	**2.57**	**29**	*e*PN	**Pn**	**22 05 23.3**	**-0.2**

*NEIC **29** 22:38:59.2, 19.61N×65.34W,h38km±18km,MD3.5(RSPR), After RSPR.*

RSPR 29 22:38:59.2, 19.61N×65.34W,h38km±18km,MD3.5/11, MD3.5/11,12C,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.30**	**164↑**	*e*P	P	22 39 19.6	-1.7
STVI				*e*S	S	22 39 36.0	-1.7
TBVI	**Tortola**	**1.38**	**150↑**	*e*P	P	22 39 21.1	-1.3
TBVI				*e*S	S	22 39 37.5	-2.2
CBYP	**Canovanas**	**1.42**	**200↑**	*e*P	P	22 39 21.0	-2.0
CBYP				*e*S	S	22 39 38.7	-1.9
MTP	**Monte Pirata**	**1.52**	**188↑**	*e*P	P	22 39 22.9	-1.5
MTP				*e*S	S	22 39 41.4	-1.9
HUMP	**Col San Antoni**	**1.54**	**198↑**	*e*P	P	22 39 22.8	-1.9
HUMP				*e*S	S	22 39 41.7	-1.9
CPD	**Cerro la Pandu**	**1.66**	**199**	*e*P	P	22 39 24.1	-2.2
SJG	**San Juan**	**1.68**	**207↑**	*e*P	P	22 39 25.1	-1.5
SJG				*e*S	S	22 39 45.4	-1.7
SJG	**San Juan**	**1.68**	**207↑**	*e*P	P	22 39 24.8	-1.8
SJG				*e*S	S	22 39 45.4	-1.7
AOPR	**Arecibo Observ**	**1.83**	**227↑**	*e*P	P	22 39 27.0	-1.8
AOPR				*e*S	S	22 39 49.2	-1.9
CELP	**Cerrillos**	**1.93**	**218↑**	*e*P	P	22 39 28.7	-1.4
ICM	**Isla Caja Muer**	**2.04**	**213↑**	*e*P	P	22 39 30.5	-1.3
ICM				*e*S	S	22 39 54.4	-1.9
MGP	**Maguayo**	**2.30**	**226↑**	*e*P	P	22 39 34.2	-1.3
CRPR	**Cabo Rojo, PR**	**2.31**	**227↑**	*e*P	P	22 39 34.2	-1.5
CRPR				*e*S	S	22 40 00.7	-2.5

IGQ 29 23:19:39.7, 2.09S×77.78W,h195km±6km,mb4.0,4C-4D, Error ellipse: s-maj=7.2km s-min=4.3km az=32.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.90**	**315**	↓P	P	23 20 09.1	+0.6
IGUA	**Igualata**	**1.05**	**305**	P	P	23 20 10.4	+0.9
PISA	**Pisayambo**	**1.19**	**329**	↓P	P	23 20 11.3	+0.7
TAMB	**Tambo**	**1.51**	**337**	↑P	P	23 20 14.2	+0.8
VC1	**Cotopaxi 1**	**1.57**	**336**	↓P	P	23 20 14.6	+0.7
CAMI	**Rancho Maria**	**1.58**	**333**	↑P	P	23 20 15.1	+1.0
NAS1	**Nasa**	**1.61**	**334**	↓P	P	23 20 15.3	+1.0
ANTI	**Antisana**	**1.67**	**347**	P	P	23 20 15.6	+0.7
ANTI				S	S	23 20 43.1	+1.0
QIL1	**Quilotoa**	**1.69**	**317**	P	P	23 20 15.9	+0.8
CONE	**Cono NE Rev Vo**	**2.01**	**4**	↑P	P	23 20 19.4	+1.1
JUA2	**San Juan 2**	**2.04**	**336**	P	P	23 20 19.5	+0.9
GGP	**Refugio Guagua**	**2.07**	**337**	↑P	P	23 20 19.5	+0.6
TERV	**Terraza Guagua**	**2.07**	**336**	P	P	23 20 21.0	+2.0
PINO	**Pino**	**2.09**	**337**	P	P	23 20 19.8	+0.7
YANA	**Yana**	**2.11**	**338**	P	P	23 20 19.6	+0.2
ANGU	**Angureal**	**2.13**	**354**	P	P	23 20 21.1	+1.4
CAYA	**Cayambe**	**2.16**	**354**	P	P	23 20 21.8	+1.9
CAYA				S	S	23 20 49.3	-1.6
MAG1	**Magdalena**	**2.83**	**315**	P	P	23 20 28.2	+0.6
JAMA	**Jama**	**3.03**	**307**	P	P	23 20 30.3	+0.3

IDC 29 23:24:04.0±4.3,2.45S×101.79E,mb3.5/3,mb1 3.6/3, mb1mx3.4/14,mbtmp3.5/3,Error ellipse: s-maj=168.4km s-min=28.2km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.23**	**121**	P	P	23 31 08.9	-2.0
	0.2nm,0.4s,baz=301,slow=9.3,SNR=8.5						
SONM	**Songino Array**	**50.23**	**4**	P	P	23 33 02.4	-1.5
	0.2nm,0.4s,baz=186,slow=9.9,SNR=3.2						
MKAR	**Makanchi Array**	**51.95**	**343**	P	P	23 33 14.4	-2.6
	0.4nm,0.4s,baz=159,slow=9.2,SNR=14						

*CSEM **29** 23:35:39.2±1.2,39.15N×28.60W,h5km,ML2.1,Error ellipse: s-maj=30.9km s-min=10.1km az=154.0,After PDA*
*PDA **29** 23:35:39.2±0.7,39.15N×28.60W,h5km,MD3.1,ML2.1, Error ellipse: s-maj=5.3km s-min=2.4km az=140.0*

SVSA 29 23:35:39.2±0.7,39.15N×28.60W,h5km,MD3.1,ML2.1, Error ellipse: s-maj=5.3km s-min=2.4km az=140.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.47**	**98**	*e*S	Sg	23 35 53.9	-1.1
	17nm,0.1s						
PGRA	**Graciosa**	**0.50**	**103**	*e*S	Sg	23 35 54.2	-1.6
	52nm,0.1s						
ROSA	**Rosais**	**0.51**	**146**	*e*P	Pg	23 35 48.1	-1.4
ROSA				*e*S	Sg	23 35 54.6	-1.7
PCED	**Cedros**	**0.52**	**188**	*e*P	Pg	23 35 48.1	-1.6
PCED				*e*S	Sg	23 35 55.0	-1.7
	46nm,0.2s						
CALA	**Caldeira**	**0.57**	**188**	*e*P	Pg	23 35 49.0	-1.6
CALA				*e*S	Sg	23 35 56.7	-1.5
PMAN	**Manadas**	**0.65**	**142**	*e*P	Pg	23 35 49.9	-2.3
PMAN				*e*S	Sg	23 35 58.0	-2.9
	67nm,0.1s						
PICO	**Pico**	**0.66**	**168**	*e*P	Pg	23 35 50.4	-2.0
PICO				*e*S	Sg	23 35 58.6	-2.6

IDC 29 23:47:38.1±2.4,1.89N×96.53E,mb3.7/3,mb1 3.7/4, mb1mx3.5/17,mbtmp3.6/4,ML2.6/1,Error ellipse: s-maj=62.2km s-min=28.1km az=50.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.55**	**69**	Pn	Pn	23 48 20.9	-0.5
	1.3nm,0.3s,baz=234,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**42.96**	**122**	P	P	23 55 39.2	-1.8
	0.8nm,0.6s,baz=301,slow=9.2,SNR=6.9						
WRA				pP	pP	23 55 46.5	+5.6
	0.7nm,0.6s,baz=300,slow=9.1,SNR=5.8						
MKAR	**Makanchi Array**	**46.42**	**347**	P	P	23 56 06.7	-1.6
	1.2nm,0.6s,baz=157,slow=7.5,SNR=18						
MKAR				pP	pP	23 56 14.7	+6.4
	0.8nm,0.7s,baz=152,slow=9.6,SNR=5.0						
SONM	**Songino Array**	**46.55**	**9**	P	P	23 56 07.1	-2.3
	0.3nm,0.3s,baz=185,slow=9.4,SNR=7.0						

*ATH **29** 23:56:01.8,38.13N×26.49E,h9km±9km,MD3.2/3*
*ISK **29** 23:56:01.7,38.18N×26.71E,h18km,MD3.1*
*NEIC **29** 23:56:01.7,38.18N×26.71E,h18km,MD3.2(ATH), MD3.1(ISK),After ISK.*
*CSEM **29** 23:56:02

NASN					*e*SG	**Sg**	**00 02 33.0**	**-2.5**
NASN					AML	AML	00 02 39.6	
	comp=N,90nm,0.6s							
ISFB	**Sefidab**	**3.27**	**48**	Pn	**Pn**		**00 01 49.3**	**+2.0**
KBD	**Kabd**	**3.31**	**205**	*e*P	**Pn**		**00 01 48.2**	**+0.2**
KBD				*e*S	**Sn**		**00 02 28.9**	**+1.0**
KBD				AML	AML		00 02 32.2	
	comp=Z,190nm,0.5s							
SNGE	**Sanandaj**	**3.33**	**331**	*e*PN	**Pn**		**00 01 48.1**	**-0.1**
SNGE				*e*SG	**Sg**		**00 02 38.5**	**-7.4**
SNGE				AML	AML		00 02 50.8	
	comp=N,48nm,0.7s							
ILIN	**Laeen**	**3.36**	**325**	Pn	**Pn**		**00 01 47.9**	**-0.7**
NAY	**Al-Naaiem**	**3.43**	**212**	*e*P	**Pn**		**00 01 49.7**	**+0.1**
NAY				*e*S	**Sn**		**00 02 30.4**	**-0.5**
IVRN	**Varamin**	**3.45**	**35**	Pn	**Pn**		**00 01 51.9**	**+1.9**
IDHR	**Dehrash**	**3.50**	**316**	Pn	**Pn**		**00 01 49.6**	**-1.1**
RDF	**Al-Radifah**	**3.59**	**206**	*e*P	**Pn**		**00 01 52.4**	**+0.5**
RDF				*e*S	**Sn**		**00 02 34.6**	**-0.3**
RDF				AML	AML		00 02 38.7	
	comp=Z,65nm,0.5s							
IPAR	**Pars**	**3.97**	**125**	Pn	**Pn**		**00 01 56.8**	**-0.5**
DAMV	**Damavand**	**4.08**	**32**	*e*PN	**Pn**		**00 02 00.4**	**+1.4**
DAMV				AML	AML		00 03 11.9	
	comp=N,25nm,0.6s							
IMOK	**Mook**	**4.29**	**136**	Pn	**Pn**		**00 02 00.7**	**-1.2**
ISRV	**Sarvestan**	**4.30**	**130**	Pn	**Pn**		**00 02 01.3**	**-0.8**
IFIR	**Firoozkooh**	**4.48**	**39**	Pn	**Pn**		**00 02 05.6**	**+1.0**
GHIR	**Ghir-Karzin**	**5.02**	**140**	*e*PN	**Pn**		**00 02 12.3**	**0.0**
BRTR	**Keskin Array B**	**14.74**	**305**	Pn	**P**		**00 04 27.1**	**+1.7**
	comp=N,0.1nm,0.3s,baz=130,slow=13,SNR=3.0							
AKASG	**Malin Array Be**	**23.72**	**327**	P	**P**		**00 06 05.6**	**-2.2**
	comp=N,0.4nm,0.4s,mb3.2,baz=140,slow=8.9,SNR=5.7							
MKAR	**Makanchi Array**	**29.08**	**50**	P	**P**		**00 06 55.2**	**-2.5**
	comp=N,0.2nm,0.6s,mb3.0,baz=246,slow=8.0,SNR=3.7							
FINES	**FINESS Array B**	**32.93**	**340**	P	**P**		**00 07 26.9**	**-4.5**
	comp=N,1.2nm,0.8s,mb3.9,baz=135,slow=9.8,SNR=4.0							

IDC 30 00:12:41.8±8.9**, 19.43N**×**143.07E, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.5**/19**, mbtmp3.6**/4**, Error ellipse: s-maj=261.7km s-min=56.0km az=8.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.04**	**322**	P	P	00 20 26.7	-1.6
	0.2nm,0.5s,baz=129,slow=7.2,SNR=7.4						
BVAR	**Borovoye Array**	**64.33**	**320**	P	P	00 23 20.0	-1.3
	0.2nm,0.5s,baz=82,slow=7.1,SNR=4.1						
YKA	**Yellowknife Ar**	**78.51**	**28**	P	P	00 24 45.0	-1.1
	0.0nm,0.3s,baz=292,slow=5.9,SNR=4.6						
FINES	**FINESS Array B**	**85.18**	**335**	P	P	00 25 18.8	-2.1
	2.7nm,1.1s,baz=72,slow=4.4,SNR=6.3						

IDC 30 00:21:15.6±2.0**, 3.25N**×**128.02E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/16**, mbtmp3.6**/3**, Error ellipse: s-maj=143.2km s-min=26.8km az=66.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.87**	**165**	P	P	00 26 30.9	-0.9
	1.2nm,0.5s,baz=345,slow=10,SNR=17						
STKA	**Stephens Creek**	**37.24**	**161**	P	P	00 28 28.8	-2.1
	0.8nm,0.4s,baz=326,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**58.68**	**325**	P	P	00 31 15.2	-2.1
	0.1nm,0.3s,baz=115,slow=8.3,SNR=4.3						

*IDC **30** 00:22:15.8*±*3.0, 9.57S*×*74.41W, mb3.4/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=272.1km s-min=34.6km az=52.0*
*NEIC **30** 00:22:18.9*±*1.4, 11.40S*×*76.09W, h66*km*±*27*km*, Error ellipse: s-maj=41.8km s-min=13.9km az=179.0*

ISC 30 00:22:17.0±2.2**, 11.2S**×**76.09W**±0.07**, h57**km±35km**, n7**, σ0**98**/9**, mb3.4**/2**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.04**	**225**	*e*Pn	**P**	**00 22 36.4**	**+0.6**
NNA				*e*Sn	**S**	**00 22 48.8**	**-0.9**
ARE	**Arequipa**	**6.85**	**140**	*e*P	**P**	**00 23 59.0**	**+1.9**
LPAZ	**La Paz**	**9.22**	**124**	Pn	**P**	**00 24 28.4**	**-1.4**
	0.4nm,0.3s,baz=309,slow=11,SNR=7.5						
LPAZ	**La Paz**	**9.22**	**124**	*e*Pn	**P**	**00 24 28.8**	**-1.0**
SAML	**Samuel**	**12.91**	**81**	*e*Pn	**P**	**00 25 19.9**	**+0.1**
SAML				*e*Sn	**S**	**00 27 42.2**	**-0.4**
TXAR	**Lajitas Array**	**48.32**	**327**	P	**P**	**00 30 55.9**	**+1.0**
	0.2nm,0.3s,mb3.6,baz=156,slow=8.9,SNR=5.6						
YKA	**Yellowknife Ar**	**79.35**	**343**	P	**P**	**00 34 17.1**	**-0.9**
	0.2nm,0.5s,mb3.3,baz=139,slow=5.8,SNR=8.8						

*HLW **30** 00:26:56.8, 35.58N*×*27.27E, h33*km*, Mb3.2*
*CSEM **30** 00:26:56.4*±*0.1, 35.27N*×*27.37E, h5*km*, MD3.4, Error ellipse: s-maj=2.7km s-min=1.9km az=91.0*
*ISK **30** 00:26:57.7, 35.41N*×*27.17E, h13*km*, MD3.5*
*ATH **30** 00:26:58.3, 35.40N*×*27.28E, h21*km*±*1*km*, MD3.4/8*
*NEIC **30** 00:26:58.3, 35.40N*×*27.28E, h21*km*, MD3.5(ISK), MD3.4(ATH), After ATH.*

ISC 30 00:26:57.1±0.8**, 35.29N**±0.03**×27.33E**±0.04**, h11**km±6km**, n31**, σ1**09**/40**, 2C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.29**	**331**	*e*PB	**Pg**	**00 27 03.0**	**-0.3**
KARP				*e*SB	**Sg**	**00 27 06.9**	**-0.5**
ARG	**Arkhangelos**	**1.12**	**35**	*e*PN	**Pn**	**00 27 18.8**	**+0.1**
ARG				*e*SN	**Sn**	**00 27 34.0**	**-0.2**
NISR	**Nisiros**	**1.33**	**353**	*e*PN	**Pn**	**00 27 22.0**	**+0.4**
XRY	**Khrisi**	**1.41**	**253**	*e*PN	**Pn**	**00 27 24.3**	**+1.5**
NPS	**Neapolis**	**1.41**	**269**	*e*PN	**Pn**	**00 27 24.4**	**+1.6**
NPS				*e*SN	**Sn**	**00 27 42.5**	**+1.1**
DAT	**Datca**	**1.45**	**8**	PN	**Pn**	**00 27 22.4**	**-1.0**
DAT				SN	**Sn**	**00 27 41.1**	**-1.3**
BODT	**Bodrum**	**1.77**	**359**	PN	**Pn**	**00 27 28.0**	**+0.1**
BDRM	**Kayabasi**	**1.77**	**3**	*i* P	**Pn**	**00 27 29.1**	**+1.1**
BDRM				*i* S	**Sn**	**00 27 48.5**	**-2.1**
DALT	**Dalyan (Mudla)**	**1.81**	**35**	PN	**Pn**	**00 27 29.5**	**+0.9**
DALT				SN	**Sn**	**00 27 53.0**	**+1.3**
FETY	**Fethiye**	**1.95**	**46**	PN	**Pn**	**00 27 31.9**	**+1.3**
YER	**Yerkesik**	**1.99**	**22**	*e*PN	**Pn**	**00 27 31.8**	**+0.7**
MLSB	**Milas**	**2.03**	**10**	*e*PN	**Pn**	**00 27 31.3**	**-0.4**
AKAS	**Kas**	**2.07**	**62**	*i* P	**Pn**	**00 27 29.3**	**-3.0**
AKAS				*i* S	**Sn**	**00 27 59.0**	**+0.7**
APE	**Apeiranthos**	**2.29**	**321**	*e*PN	**Pn**	**00 27 33.9**	**-1.6**
APE	**Apeiranthos**	**2.29**	**321**	*e*PB	**Pb**	**00 27 35.0**	**-3.1**
AYDN	**Tasoluk**	**2.40**	**10**	*i* P	**Pn**	**00 27 38.0**	**+1.0**
AYDN				*i* S	**Sn**	**00 28 05.2**	**-1.5**
SMG	**Samos**	**2.44**	**351**	*e*PN	**Pn**	**00 27 37.4**	**-0.2**
ELL	**Elmali**	**2.54**	**54**	*e*PN	**Pn**	**00 27 40.2**	**+1.2**
VAM	**Vamos**	**2.56**	**273**	*e*PN	**Pn**	**00 27 40.5**	**+1.1**
DENT	**Denizli**	**2.81**	**29**	*e*PN	**Pn**	**00 27 43.3**	**+0.4**
BCK	**Bucak**	**3.40**	**50**	*e*PN	**Pn**	**00 27 51.9**	**+0.6**
AKS	**Akhisar**	**3.60**	**6**	*e*PN	**Pn**	**00 27 53.6**	**-0.5**
VLI	**Veliai**	**3.84**	**293**	*e*PN	**Pn**	**00 27 57.8**	**+0.3**
HMAT	**Matruh**	**4.19**	**183**	P	**Pn**	**00 28 02.4**	**-0.1**
KONT	**Konya--Tatoy**	**4.83**	**55**	*e*PN	**Pn**	**00 28 12.9**	**+1.3**
KIZT	**Kizilcal**	**5.10**	**44**	*e*PN	**Pn**	**00 28 15.8**	**+0.4**
SWA1		**6.17**	**193**	⇑P	**Pn**	**00 28 29.7**	**-0.7**
SWA1				S	**Sn**	**00 29 37.7**	**-4.0**
SWA2		**6.24**	**195**	P	**Pn**	**00 28 30.5**	**-0.9**
AMAG	**Maghara**	**6.77**	**132**	⇓P	**Pn**	**00 28 37.1**	**-1.8**
SUZ		**7.15**	**138**	⇑P	**Pn**	**00 28 44.0**	**-0.2**
HFRF	**Wahat Farafira**	**8.16**	**174**	⇓P	**P**	**00 28 56.9**	**-1.5**

*CSEM **30** 00:46:14.6, 19.94S*×*177.42W, h33*km*, mb5.5*
*MOS **30** 00:47:05.6*±*0.9, 20.04S*×*178.15W, h517*km*, mb4.7/15, Error ellipse: s-maj=15.3km s-min=11.5km az=138.3*
*BJI **30** 00:47:10.3, 19.99S*×*177.47W, h594*km*, mB4.9, mb4.6*
*IDC **30** 00:47:12.9*±*2.1, 20.18S*×*178.23W, h593*km*±*24*km*, mb3.9/18, mb1 4.1/19, mb1mx4.0/22, mbtmp4.8/19, Error ellipse: s-maj=16.5km s-min=11.1km az=154.0*
*NEIC **30** 00:47:13.2*±*1.2, 20.21S*×*178.26W, h598*km*±*13*km*, mb4.6/45, Error ellipse: s-maj=9.0km s-min=6.0km az=149.0*

ISC 30 00:47:05.2±1.3**, 20.18S**±0.06×**178.16W**±0.06**,**
h512km±14km**, n233**, σ0**81**/129**, mb4.5**/63**, 23C-15D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.73**	**45**	P	**P**	**00 49 10.5**	**0.0**
	12nm,0.3s,baz=48,slow=2.0,SNR=21						
AFI				S	**S**	**00 50 46.4**	**-3.8**
	15nm,0.3s,baz=1.2,slow=23,SNR=10						
AFI	**Afiamalu**	**8.73**	**45**	*e*P	**P**	**00 49 09.6**	**-0.9**
DZM	**Mont Dzumac**	**14.49**	**260**	*e*P	**P**	**00 50 16.7**	**+6.5**
DZM	**Mont Dzumac**	**14.49**	**260**	P	**P**	**00 50 17.5**	**+7.3**
	1.5nm,0.3s,baz=77,slow=17,SNR=17						
DZM	**Mont Dzumac**	**14.49**	**260**	*e*P	**P**	**00 50 16.7**	**+6.5**
URZ	**Urewera**	**18.47**	**192**	P	**P**	**00 50 48.6**	**-0.8**
	8.2nm,0.3s,baz=352,slow=3.5,SNR=23						
URZ				S	**S**	**00 53 49.2**	**-1.0**
	0.3nm,0.3s,baz=54,slow=19,SNR=3.1						
RPZ	**Rata Peaks**	**25.14**	**199**	P	**P**	**00 51 50.6**	**0.0**
	10nm,0.7s,mb4.6,baz=3.0,slow=0.9,SNR=7.0						
CTA	**Charters Tower**	**33.37**	**264**	*i*P	**P**	**00 53 03.3**	**+1.4**
	16nm,0.6s,mb4.7						
CTA	**Charters Tower**	**33.37**	**264**	P	**P**	**00 53 03.4**	**+1.5**
	20nm,0.7s,mb4.8,baz=94,slow=11,SNR=34						
CTA	**Charters Tower**	**33.37**	**264**	*i*P	**P**	**00 53 03.3**	**+1.4**
CTA				pmax	pmax		
	comp=Z,16nm,0.6s						
CTAO	**Charters Tower**	**33.37**	**264**	*e*P	**P**	**00 53 02.7**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**33.37**	**264**	*e*P	**P**	**00 53 02.7**	**+0.8**
	comp=Z,16nm,0.8s,mb4.6						
PMG	**Port Moresby**	**35.13**	**283**	P	**P**	**00 53 17.9**	**+1.3**
	comp=Z,21nm,0.8s,mb4.7,baz=86,slow=5.3,SNR=6.9						
STKA	**Stephens Creek**	**37.79**	**244**	*e*P	**P**	**00 53 41.3**	**+2.9**
	comp=Z,1.7nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**37.79**	**244**	P	**P**	**00 53 40.0**	**+1.7**
	comp=Z,2.7nm,0.7s,mb3.9,baz=340,slow=8.7,SNR=6.0						
ASPA	**Alice Springs**	**44.45**	**256**	*i*P	**P**	**00 54 32.2**	**+0.4**
ASPA				*e*S	**S**	**01 00 26.2**	**-3.2**
WB2	**Warramunga Arr**	**44.48**	**262**	*i*P	**P**	**00 54 31.9**	**-0.2**
WB2				*e*S	**S**	**01 00 25.6**	**-4.3**
WRAB	**Tennant Creek**	**44.49**	**262**	*d i*P	**P**	**00 54 31.8**	**-0.3**
WRAB	**Tennant Creek**	**44.49**	**262**	*e*P	**P**	**00 54 31.2**	**-0.9**
	comp=Z,35nm,0.9s,mb4.9						
WRA	**Warrunga Arr**	**44.50**	**262**	P	**P**	**00 54 32.0**	**-0.2**
	comp=Z,15nm,0.7s,mb4.7,baz=97,slow=7.9,SNR=218						
WRA				PcP	PcP	00 56 04.2	-0.9
	comp=Z,3.7nm,1.0s,baz=91,slow=4.5,SNR=6.4						
WRA				S	**S**	**01 00 26.1**	**-4.0**
	comp=Z,2.7nm,0.9s,baz=94,slow=13,SNR=14						
FITZ	**Fitzroy Crossi**	**52.92**	**262**	*e*P	**P**	**00 55 35.1**	**-0.2**
	comp=Z,8.4nm,0.8s,mb4.1						
VNDA	**Vanda**	**58.21**	**185**	P	**P**	**00 56 11.6**	**+0.3**
	comp=Z,3.2nm,0.9s,mb3.6,baz=359,slow=6.2,SNR=11						
VNDA	**Vanda**	**58.21**	**185**	*e*P	**P**	**00 56 11.1**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,14nm,1.4s						
VNDA	**Vanda**	**58.21**	**185**	*e*P	**P**	**00 56 11.1**	**-0.2**
	comp=Z,14nm,1.4s,mb4.0						
MJAR	**Matsushiro Arr**	**69.87**	**324**	P	**P**	**00 57 24.7**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.0,baz=155,slow=5.9,SNR=9.4						
MJAR	**Matsushiro Arr**	**69.87**	**324**	P	**P**	**00 57 24.7**	**-1.0**
MAJO	**Matsushiro**	**69.87**	**324**	P	**P**	**00 57 24.5**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
MAJO	**Matsushiro**	**69.87**	**324**	P	**P**	**00 57 24.5**	**-1.2**
	comp=Z,12nm,1.1s,mb4.4						
QSPA	**South Pole Qui**	**69.88**	**180**	*e*P	**P**	**00 57 25.3**	**+0.2**
	comp=Z,45nm,0.6s,mb5.2						
ASAJ	**Asahikawa**	**73.38**	**332**	P	**P**	**00 57 46.2**	**+0.3**
	comp=Z,6.5nm,0.8s,mb4.1,baz=222,slow=21,SNR=5.0						
YSS	**Yuzh-Sakhalins**	**75.55**	**334**	P	**P**	**00 57 58.2**	**+0.2**
SSE	**Sheshan**	**77.37**	**310**	*e*P	**P**	**00 58 08.5**	**+0.3**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,40nm,3.5s						
YBH	**Yreka Blue Hor**	**80.14**	**39**	P	**P**	**00 58 23.6**	**+0.9**
	comp=Z,20nm,0.8s,mb4.5,baz=180,slow=2.7,SNR=26						
MDJ	**Mudanjiang**	**80.17**	**325**	P	**P**	**00 58 23.5**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,40nm,3.9s						
MDJ	**Mudanjiang**	**80.17**	**325**	*e*P	**P**	**00 58 22.4**	**-0.3**
	comp=Z,13nm,1.0s,mb4.2						
GLA	**Glamis**	**80.34**	**50**	*e*P	**P**	**00 58 24.5**	**+0.6**
NVAR	**Mina Array Bea**	**80.90**	**43**	P	**P**	**00 58 27.2**	**+0.6**
	comp=Z,12nm,0.8s,mb4.4,baz=230,slow=11,SNR=74						
TPNV	**Topopah Spring**	**81.43**	**46**	*e*P	**P**	**00 58 29.9**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
TPNV	**Topopah Spring**	**81.43**	**46**	*e*P	**P**	**00 58 29.9**	**+0.5**
	comp=Z,16nm,1.0s,mb4.4						
CN2	**Changchun**	**81.96**	**322**	*e*P	**P**	**00 58 31.8**	**-0.1**
CN2				*e*S	S	01 08 01.8	-1.1
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
TUC	**Tucson**	**82.90**	**52**	*e*P	**P**	**00 58 37.7**	**+0.8**
TUC				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.6						
TUC	**Tucson**	**82.90**	**52**	*e*P	**P**	**00 58 37.7**	**+0.7**
	comp=Z,22nm,1.1s,mb4.6						
WVOR	**Wild Horse Val**	**82.98**	**40**	*e*P	**P**	**00 58 37.5**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.7						
WVOR	**Wild Horse Val**	**82.98**	**40**	*e*P	**P**	**00 58 37.5**	**+0.4**
	comp=Z,25nm,1.1s,mb4.7						
MA2	**Magadan**	**83.44**	**345**	P	**P**	**00 58 38.2**	**-0.8**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.4						
MA2	**Magadan**	**83.44**	**345**	P	**P**	**00 58 38.1**	**-0.9**
	comp=Z,5.1nm,0.4s,mb4.4						
KULM	**Kulim**	**83.58**	**278**	*e*P	**P**	**00 58 41.0**	**+0.2**
ARUT	**Antelope Range**	**83.77**	**46**	*e*P	**P**	**00 58 41.5**	**+0.3**
ELK	**Elko**	**84.15**	**43**	*e*P	**P**	**00 58 43.0**	**0.0**
ELK				pmax	pmax		
	comp=Z,14nm,1.3s						
ELK	**Elko**	**84.15**	**43**	*e*P	**P**	**00 58 43.0**	**+0.1**
	comp=Z,14nm,1.3s,mb4.3						
MSU	**Marysvale**	**85.00**	**46**	*e*P	**P**	**00 58 47.8**	**+0.7**
BMO	**Blue Mountains**	**85.16**	**39**	*e*P	**P**	**00 58 47.7**	**-0.1**
	comp=Z,6.4nm,0.8s,mb4.2						
DUG	**Dugway**	**85.43**	**44**	*e*P	**P**	**00 58 48.7**	**-0.5**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
DUG	**Dugway**	**85.43**	**44**	*e*P	**P**	**00 58 48.7**	**-0.5**
	comp=Z,1.9nm,0.7s,mb3.7						
ENH	**Enshi**	**85.74**	**304**	*e*P	**P**	**00 58 51.0**	**+0.1**
	comp=Z,37nm,1.2s,mb4.9						
TMUT	**Trail Mountain**	**86.04**	**46**	*e*P	**P**	**00 58 53.1**	**+1.0**
HLID	**Hailey**	**86.19**	**41**	*e*P	**P**	**00 58 53.3**	**+0.6**
	comp=Z,13nm,1.0s,mb4.5						
SRU	**San Rafael**	**86.41**	**46**	*e*P	**P**	**00 58 53.9**	**0.0**
	comp=Z,12nm,0.9s,mb4.5						
MNTX	**Cornudas Mount**	**86.69**	**55**	*e*P	**P**	**00 58 55.7**	**+0.3**
	comp=Z,22nm,1.1s,mb4.7						
MCK	**McKinley**	**86.70**	**13**	*e*P	**P**	**00 58 53.4**	**-1.3**
	comp=Z,14nm,0.9s,mb4.6						
TCUT	**Toone Canyon**	**86.82**	**44**	*e*P	**P**	**00 58 56.0**	**+0.2**
HWUT	**Hardware Ranch**	**86.97**	**44**	*e*P	**P**	**00 58 56.2**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.0						
SYO	**Syowa Base**	**87.00**	**193**	⇑P	**P**	**00 58 52.6**	**-3.4**
SYO	**Syowa Base**	**87.00**	**193**	⇑P	**P**	**00 58 52.6**	**-3.4**
LTX	**Lajitas**	**87.01**	**57**	*e*P	**P**	**00 58 57.7**	**+0.7**
LTX				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.7						
LTX	**Lajitas**	**87.01**	**57**	*e*P	**P**	**00 58 57.7**	**+0.7**
	comp=Z,27nm,1.3s,mb4.7						
TXAR	**Lajitas Array**	**87.01**	**57**	P	**P**	**00 58 57.6**	**+0.6**
	comp=Z,12nm,0.8s,mb4.5,baz=218,slow=6.8,SNR=124						
PV10	**Paradox Valley**	**87.07**	**47**	*e*P	**P**	**00 58 56.5**	**-0.5**
NEW	**Newport**	**87.20**	**36**	P	**P**	**00 58 57.4**	**0.0**
	comp=Z,4.8nm,1.0s,mb4.1,baz=205,slow=4.7,SNR=5.7						
NEW	**Newport**	**87.20**	**36**	*e*P	**P**	**00 58 56.9**	**-0.5**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**87.20**	**36**	*e*P	**P**	**00 58 56.9**	**-0.5**
	comp=Z,2.6nm,0.8s,mb3.9						
PV01	**Paradox Valley**	**87.28**	**48**	*e*P	**P**	**00 58 57.6**	**-0.5**
ANMO	**Albuquerque**	**87.32**	**51**	*e*P	**P**	**00 58 58.0**	**-0.3**
ANMO				pmax	pmax		
	comp=Z,14nm,1.3s						
ANMO	**Albuquerque**	**87.32**	**51**	*e*P	**P**	**00 58 58.0**	**-0.4**
	comp=Z,14nm,1.3s,mb4.4						
MCMT	**McKenzie Canyo**	**87.81**	**40**	*e*P	**P**	**00 59 01.1**	**+0.7**
DLBC	**Dease Lake**	**87.82**	**23**	P	**P**	**00 58 59.9**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.3,baz=206,slow=12,SNR=7.1						
XAN	**Xi'an**	**87.82**	**307**	P	**P**	**00 59 00.8**	**+0.1**
XAN				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
COLA	**College**	**87.93**	**12**	*e*P	**P**	**00 58 58.9**	**-1.5**
COLA				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
COLA	**College**	**87.93**	**12**	*e*P	**P**	**00 58 58.9**	**-1.6**
	comp=Z,28nm,0.8s,mb5.0						
IMA2	**Indian Mountai**	**87.96**	**10**	*e*P	**P**	**00 58 59.5**	**-1.0**
ILAR	**Eielson Array**	**88.04**	**13**	P	**P**	**00 58 59.2**	**-1.7**
	comp=Z,11nm,1.0s,mb4.6,baz=217,slow=5.5,SNR=50						
DLMT	**Dillon**	**88.24**	**40**	*e*P	**P**	**00 59 02.8**	**+0.4**
	comp=Z,33nm,1.2s,mb4.9						
REDW	**Red Top Meadow**	**88.30**	**42**	*e*P	**P**	**00 59 03.2**	**+0.5**
	comp=Z,34nm,1.1s,mb5.0						
TPAW	**Teton Pass**	**88.30**	**42**	*e*P	**P**	**00 59 03.2**	**+0.5**
	comp=Z,19nm,1.2s,mb4.7						
SNOW	**Snow King Moun**	**88.41**	**42**	*e*P	**P**	**00 59 03.8**	**+0.6**
	comp=Z,28nm,1.0s,mb5.0						
VNA3	**Neumayer Olymp**	**88.47**	**176**	*e*	**P**	**00 59 06.2**	**+3.4**
VNA3	**Neumayer Olymp**	**88.47**	**176**	*e*	**P**	**00 59 15.8**	**+13**
VNA3	**Neumayer Olymp**	**88.47**	**176**	*e*S	S	01 09 07.0	+3.2
VNA3	**Neumayer Olymp**	**88.47**	**176**	P	**P**	**00 59 03.0**	**+0.2**
VNA3				*e*		00 59 06.2	
VNA3				*e*		00 59 15.8	
VNA3				*e*S	S	01 09 07.0	+3.2
IMW	**Indian Meadow**	**88.51**	**42**	*e*P	**P**	**00 59 04.3**	**+0.6**
	comp=Z,29nm,1.1s,mb5.0						
MOOW	**Moose Ponds**	**88.56**	**42**	*e*P	**P**	**00 59 04.2**	**+0.3**
	comp=Z,3.6nm,0.9s,mb4.2						
LOHW	**Long Hollow**	**88.58**	**42**	*e*P	**P**	**00 59 04.3**	**+0.3**
	comp=Z,2.9nm,0.5s,mb4.4						
QLMT	**Earthquake Lak**	**88.68**	**41**	*e*P	**P**	**00 59 05.4**	**+1.0**
BILL	**Bilibino**	**88.71**	**354**	*e*P	**P**	**00 59 03.3**	**-0.7**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
BILL	**Bilibino**	**88.71**	**354**	*e*P	**P**	**00 59 03.2**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.4						
BW06	**Boulder Array**	**88.83**	**43**	*e*P	**P**	**00 59 04.7**	**-0.6**
	comp=Z,1.5nm,1.0s,mb4.8						
PDAR	**Pinedale Array**	**88.84**	**43**	P	**P**	**00 59 05.1**	**-0.1**
	comp=Z,10nm,0.9s,mb4.7,baz=212,slow=3.1,SNR=63						
SMCO	**Snowmass**	**88.87**	**47**	*e*P	**P**	**00 59 05.7**	**+0.2**
	comp=Z,8.3nm,0.9s,mb4.6						
YMR	**Madison River**	**88.88**	**41**	*e*P	**P**	**00 59 06.5**	**+1.1**
	comp=Z,60nm,1.5s,mb5.2						
VNA2	**Neumayer--Watz**	**88.91**	**177**	*e*	**P**	**00 59 08.0**	**+3.1**
VNA2	**Neumayer--Watz**	**88.91**	**177**	*e*	**P**	**00 59 18.7**	**+14**
VNA2	**Neumayer--Watz**	**88.91**	**177**	*e*S	S	01 09 09.3	+1.6
VNA2	**Neumayer--Watz**	**88.91**	**177**	P	**P**	**00 59 04.8**	**-0.1**
VNA2				*e*		00 59 08.0	
VNA2				*e*		00 59 18.7	
VNA2				*e*S	S	01 09 09.3	+1.6
BOZ	**Bozeman (W)**	**88.97**	**40**	*e*P	**P**	**00 59 05.9**	**+0.1**
	comp=Z,24nm,1.1s,mb5.0						
HHC	**Hu-ho-hao-te**	**89.03**	**314**	*e*P	**P**	**00 59 06.0**	**-0.1**
HHC				PP	PP	01 02 45.8	-0.7
HHC				SKS	SKS	01 08 34.0	-12
HHC				S	S	01 09 09.5	0.0
HHC				SS	SS	01 15 19.5	-2.0
HHC				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
HHC				AMB	A

OJC	**Ojcow**	**146.81**	**339**	*e*PKP	PKPdf	01 05 49.5	+3.2
KOLS	**Kolonicke sedl**	**146.96**	**335**	*e*PKP	PKPdf	01 05 50.6	+4.1
KOLS				*e*		01 05 53.9	
STHS	**Stebnicka Huta**	**146.97**	**337**	*e*PKP	PKPdf	01 05 50.7	+4.2
STHS				*e*		01 05 54.5	
VRI	**Vrincioaia**	**147.22**	**327**	⇑P	PKPdf	01 05 50.8	+3.8
VRI	**Vrincioaia**	**147.22**	**327**	⇑P	PKPdf	01 05 50.8	+3.7
TIRR	**Tirgusor**	**147.25**	**324**	⇓P	PKPdf	01 05 51.5	+4.4
TIRR	**Tirgusor**	**147.25**	**324**	⇓P	PKPdf	01 05 51.5	+4.4
NIE	**Niedzica**	**147.31**	**337**	*e*PKP	PKPdf	01 05 51.7	+4.6
KSP	**Ksiaz**	**147.35**	**343**	*e*PKP	PKPdf	01 05 51.9	+4.8
KSP	**Ksiaz**	**147.35**	**343**	*i* PKP2	PKPab	01 05 51.0	-5.4
KSP	**Ksiaz**	**147.35**	**343**	*e*PKPdf	PKPdf	01 05 51.0	+3.9
HARR	**Harsova**	**147.37**	**324**	⇓P	PKPdf	01 05 51.1	+3.8
HARR	**Harsova**	**147.37**	**324**	⇓P	PKPdf	01 05 51.1	+3.7
OKC	**Ostrava-Krasne**	**147.69**	**340**	⇑*e*PKPB	PKPdf	01 05 50.7	+3.0
OKC				*e*PKPAB	PKPab	01 05 55.0	-2.8
CLZ	**Clausthal**	**147.71**	**350**	*e*PKIKP	PKPdf	01 05 48.6	+1.0
CLZ				*e*		01 05 55.6	
CLZ	**Clausthal**	**147.71**	**350**	*e*PKPdf	PKPdf	01 05 48.6	+1.0
CLZ				*e*PKPbc	PKPdf	01 05 52.4	+4.8
CLZ				*e*PKPab	PKPab	01 05 55.6	-2.2
CLL	**Collm**	**147.72**	**347**	⇑*i*PKP1	PKPdf	01 05 52.2	+4.5
CLL				*i* PKP2	PKPab	01 05 56.0	-1.9
CLL	**Collm**	**147.72**	**347**	⇑*i*PKP2	PKPab	01 05 52.2	-5.7
CLL				pmax	pmax		
	comp=Z,57nm,1.0s						
CLL				pmax	pmax		
	comp=Z,23nm,0.9s						
CLL	**Collm**	**147.72**	**347**	⇑*i*PKP	PKPdf	01 05 52.2	+4.5
CLL				⇑*i*PKP	PKPdf	01 05 56.0	+8.3
UPC	**Upice**	**147.73**	**343**	⇑*e*PKPB	PKPdf	01 05 52.2	+4.5
UPC				*e*PKPAB	PKPab	01 05 56.2	-1.7
DPC	**Dobruska-Polom**	**147.78**	**343**	⇑*e*PKPB	PKPdf	01 05 52.5	+4.7
DPC				*e*PKPAB	PKPab	01 05 57.3	-0.8
BRG	**Berggiesshubel**	**147.92**	**346**	*e*PKIKP	PKPdf	01 05 47.4	-0.6
BRG				*i*		01 05 57.0	
BRG	**Berggiesshubel**	**147.92**	**346**	*e*PKP	PKPdf	01 05 47.4	-0.6
BRG				*i*		01 05 52.5	
BRG				*i*		01 05 57.0	
BRG				*e*pPKP		01 08 10.1	
BRG				*e*		01 15 51.7	
MORC	**Moravsky Berou**	**147.93**	**341**	*e*PKPbc	PKPdf	01 05 52.4	+4.4
KECS	**Kecovo**	**148.02**	**336**	*e*PKP	PKPdf	01 05 53.0	+4.8
KECS				*e*		01 05 58.2	
WTSB	**Winterswijk**	**148.04**	**354**	*e*P	PKPdf	01 05 52.6	+4.4
	comp=Z,49nm,1.0s						
PVCC	**Panska Ves**	**148.09**	**345**	⇑*e*PKPB	PKPdf	01 05 53.4	+5.1
VOIR		**148.37**	**328**	⇑P	PKPdf	01 05 54.7	+5.8
VOIR		**148.37**	**328**	⇑P	PKPdf	01 05 54.7	+5.8
AYUS	**'Aynunah**	**148.56**	**291**	P	PKPdf	01 05 55.0	+5.2
PRU	**Pruhonice**	**148.59**	**344**	⇑*e*PKPB	PKPdf	01 05 54.5	+5.4
PRU				*e*PKPAB	PKPab	01 05 59.4	-2.0
CSS	**Prodhromos**	**148.60**	**305**	*e*PKPdf	PKPdf	01 05 49.0	-0.6
CSS				*e*PKPbc	PKPdf	01 05 54.4	+4.8
MOX	**Moxa**	**148.63**	**348**	*i* P	PKPdf	01 05 49.5	+0.3
MOX				PP2		01 05 54.0	
MOX	**Moxa**	**148.63**	**348**	*e*PKPdf	PKPdf	01 05 49.5	+0.3
MOX				*e*PKP	PKPdf	01 05 54.4	+5.2
PSZ	**Piszkesteto**	**148.71**	**336**	⇓*e*PKP/p	PKPdf	01 05 54.1	+4.7
NKC	**Novy Kostel**	**148.85**	**347**	⇑*e*PKPB	PKPdf	01 05 55.6	+6.1
NKC				*e*PKPAB	PKPab	01 06 01.1	-1.4
TAYS	**Tayyib Ism**	**148.86**	**292**	P	PKPdf	01 05 56.1	+5.9
TREC	**Trest**	**148.97**	**343**	⇑*e*PKPB	PKPdf	01 05 54.8	+5.1
HGN	**Heimansgroeve**	**149.31**	**355**	*e*P	PKPdf	01 05 55.7	+5.4
	comp=Z,13nm,1.1s						
ZST	**Bratislava**	**149.46**	**340**	*e*PKP	PKPdf	01 05 56.6	+6.0
ZST				*e*		01 06 04.0	
TNS	**Taunus Mts**	**149.57**	**352**	*e*PKP2	PKPab	01 06 03.8	-1.6
TNS	**Taunus Mts**	**149.57**	**352**	*e*PKPbc	PKPdf	01 05 56.8	+6.1
TNS				*e*PKPab	PKPab	01 06 03.8	-1.6
GRA1	**Grafenberg Arr**	**149.62**	**348**	*e*PKPbc	PKPdf	01 05 56.8	+6.0
GRA1				*e*PKPab	PKPab	01 06 04.5	-1.1
GRF	**Grafenberg Arr**	**149.62**	**348**	*e*PKP2	PKPab	01 06 04.5	-1.1
GRF	**Grafenberg Arr**	**149.62**	**348**	*e*PKP	PKPdf	01 05 56.8	+6.0
GRF				*e*PKP	PKPab	01 06 04.5	-1.1
KHC	**Kasperske Hory**	**149.62**	**345**	*e*PKPDF	PKPdf	01 05 51.4	+0.6
KHC				⇑*e*PKPB	PKPdf	01 05 57.0	+6.2
KHC				*e*PKPAB	PKPab	01 06 04.2	-1.5
KHC	**Kasperske Hory**	**149.62**	**345**	*e*PKIKP	PKPdf	01 05 51.4	+0.6
KHC				*e*		01 06 04.2	
WET	**Wettzell**	**149.78**	**346**	*e*PKPdf	PKPdf	01 05 51.9	+0.8
WET				*e*PKPbc	PKPdf	01 05 56.9	+5.8
WET				*e*PKPab	PKPab	01 06 05.1	-1.2
BZS	**Buzias**	**149.85**	**332**	⇓P	PKPdf	01 05 57.2	+5.9
BZS	**Buzias**	**149.85**	**332**	⇓P	PKPdf	01 05 57.2	+5.9
GERES	**GERESS Array B**	**149.86**	**344**	PKP	PKPdf	01 05 51.2	0.0
	comp=Z,1.1nm,0.9s,baz=45,slow=1.9,SNR=8.4						
GERES				PKPbc	PKPdf	01 05 57.4	+6.2
	comp=Z,8.8nm,0.9s,baz=45,slow=1.9,SNR=62						
GIVF	**Givet**	**150.05**	**356**	*e*PKP1	PKPdf	01 05 57.6	+6.2
	comp=Z,97nm,1.1s						
WLF	**Walferdange**	**150.38**	**354**	*e*PKPbc	PKPdf	01 05 58.8	+6.8
MOA	**Molln**	**150.62**	**343**	⇑*i*P	PKPdf	01 05 59.1	+6.7
	comp=Z,11nm,1.0s						
STU	**Stuttgart**	**150.87**	**350**	*e*PKPdf	PKPdf	01 05 53.5	+0.7
STU				*e*PKPbc	PKPdf	01 05 59.5	+6.8
FUR	**Furstenfeldbru**	**151.06**	**347**	*e*PKPdf	PKPdf	01 05 53.7	+0.7
FUR				*e*PKPbc	PKPdf	01 06 00.2	+7.2
FUR				*e*PKPab	PKPab	01 06 10.4	-1.3
FLN	**La Foliniere**	**151.43**	**3**	*e*PKP1	PKPdf	01 06 00.2	+6.7
BFO	**Black Forest**	**151.44**	**351**	*e*PKPbc	PKPdf	01 06 00.7	+7.2
BFO				*e*PKPab	PKPab	01 06 11.2	-2.1
PERS	**Pernice**	**151.47**	**341**	*e*PKPbc	PKPdf	01 06 00.3	+6.6
CDF	**Champ du Feu**	**151.50**	**352**	*e*PKP1	PKPdf	01 06 00.7	+7.1
MEZF	**Maizieres J'vi**	**151.63**	**356**	*e*PKP1	PKPdf	01 06 01.3	+7.5
	comp=Z,16nm,0.8s						
SGMF	**Saint Gilles**	**151.77**	**6**	*e*PKP1	PKPdf	01 06 00.9	+6.9
GRR	**Gorron**	**151.78**	**4**	*e*PKP1	PKPdf	01 06 01.2	+7.2
	comp=Z,13nm,0.6s						
MOTA	**Moosalm**	**151.88**	**347**	⇑*i*P	PKPdf	01 06 01.6	+7.4
	comp=Z,6.9nm,1.1s						
MOTA	**Moosalm**	**151.88**	**347**	⇑P	PKPdf	01 06 01.6	+7.4
HAU	**Haudompre**	**152.01**	**354**	*e*PKP1	PKPdf	01 06 01.8	+7.5
	comp=Z,9.1nm,0.8s						
HINF	**Hinteralfeld**	**152.14**	**353**	*e*PKP1	PKPdf	01 06 01.9	+7.4
LJU	**Ljubljana**	**152.18**	**341**	*e*PKPbc	PKPdf	01 06 02.1	+7.5
LJU				*e*		01 06 58.3	
DAVA	**Damuels**	**152.18**	**348**	⇑*i*P	PKPdf	01 06 02.6	+8.0
	comp=Z,19nm,1.4s						
DAVA	**Damuels**	**152.18**	**348**	⇑P	PKPdf	01 06 02.6	+8.0
BOJS	**Bojanci**	**152.43**	**339**	*e*PKPbc	PKPdf	01 06 03.2	+8.2
LOR	**Lormes**	**152.93**	**357**	*e*PKP1	PKPdf	01 06 04.0	+8.3
SSF	**Saint Saulge**	**153.16**	**357**	*e*PKP1	PKPdf	01 06 04.5	+8.5
BNI	**Bardonecchia**	**154.88**	**352**	*e*PKPab	PKPab	01 06 26.7	-1.2
ESDC	**Sonseca Array**	**159.94**	**13**	PKPab	PKPab	01 06 47.6	-2.2
	comp=Z,1.8nm,0.8s,baz=347,slow=4.2,SNR=9.9						
LIC	**Lamto**	**164.60**	**153**	*e*PKIKP	PKPdf	01 06 09.9	-0.2
	comp=Z,34nm,1.2s						
DBIC	**Dimbokro**	**165.08**	**153**	PKP	PKPdf	01 06 10.2	-0.3
	comp=Z,3.3nm,0.9s,baz=126,slow=2.6,SNR=4.0						

*IDC **30** 00:47:09.1±1.5,63.16N×151.00W,h98km±15km,mb3.0/3, mb1 3.2/7,mb1mx3.1/21,mbtmp3.3/7,Error ellipse: s-maj=23.0km s-min=11.0km az=113.0*
*NEIC **30** 00:47:11.5,63.16N×150.53W,h124km,MG3.2(AEIC), After AEIC.*
ISC 30 00:47:10.3±0.5,**63.18N**±0.04×**150.60W**±0.10, **h127**km±4km,**n30**,σ0=**74**/36,**mb3.3**/3,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TRF	**Thorofare Moun**	**0.31**	**27**	P		**P**	**00 47 29.1**	**+1.0**
TRF				S		**S**	**00 47 42.0**	**+0.3**
KTH	**Kantishna Hill**	**0.41**	**339**	P		**P**	**00 47 29.3**	**+0.7**
KTH				S		**S**	**00 47 42.1**	**-0.4**
MCK	**McKinley**	**0.93**	**53**	P		**P**	**00 47 33.2**	**+0.7**
MCK				S		**S**	**00 47 48.8**	**-0.5**
GHO	**Glory Hole Cre**	**1.61**	**150**	P		**P**	**00 47 40.4**	**+0.5**
SML	**Sawmill**	**1.73**	**142**	P		**P**	**00 47 41.4**	**+0.2**
PMR	**Palmer**	**1.73**	**156**	P		**P**	**00 47 41.2**	**-0.1**
FIB	**Fire Island**	**2.03**	**174**	P		**P**	**00 47 46.1**	**+1.3**
COLA	**College**	**2.09**	**34**	P		**P**	**00 47 46.0**	**+0.4**
RC01	**Rabbit Creek A**	**2.13**	**169**	P		**P**	**00 47 46.2**	**0.0**
IL1	**Eielson Array**	**2.29**	**44**	P		**P**	**00 47 48.4**	**+0.1**
ILAR	**Eielson Array**	**2.29**	**44**	P		**P**	**00 47 48.3**	**0.0**
	5.7nm,0.3s,baz=225,slow=13,SNR=476							
ILAR				S		**S**	**00 48 16.6**	**-0.5**
	4.5nm,0.3s,baz=237,slow=15,SNR=16							
PAX	**Paxson**	**2.34**	**93**	P		**P**	**00 47 49.5**	**+0.5**
PAX				S		**S**	**00 48 18.0**	**-0.3**
TT01	**Tatalina**	**2.48**	**266**	P		**P**	**00 47 51.0**	**+0.1**
SLKM	**Skilak Lake**	**2.69**	**176**	*e*P		**P**	**00 47 53.6**	**+0.1**
DIV	**Divide**	**3.06**	**130**	P		**P**	**00 47 57.2**	**-1.2**
IM3	**Indian Mountai**	**3.13**	**336**	P		**P**	**00 47 59.4**	**0.0**
SEW	**Seward**	**3.13**	**169**	P		**P**	**00 47 58.8**	**-0.6**
SVW2	**Sparrevohn**	**3.13**	**230**	P		**P**	**00 47 59.3**	**-0.1**
MENT	**Mentasta**	**3.14**	**91**	*e*P		**P**	**00 47 59.6**	**+0.1**
IMA2	**Indian Mountai**	**3.19**	**337**	*e*P		**P**	**00 48 00.1**	**-0.1**
BMRM	**Bremner River**	**3.59**	**125**	P		**P**	**00 48 04.1**	**-1.4**
BM3	**Burnt Mountain**	**4.94**	**28**	P		**P**	**00 48 23.4**	**-0.3**
DAWY	**Dawson**	**5.08**	**75**	P		**P**	**00 48 25.1**	**-0.4**
KDAK	**Kodiak Island**	**5.50**	**191**	P		**P**	**00 48 29.6**	**-1.5**
	1.7nm,0.3s,baz=3.3,slow=14,SNR=13							
KDAK				S		**S**	**00 49 28.8**	**-4.9**
	1.8nm,0.3s,baz=147,slow=21,SNR=9.0							
INK	**Inuvik**	**8.69**	**46**	P		**P**	**00 49 13.7**	**-0.5**
	0.1nm,0.3s,baz=217,slow=12,SNR=3.4							
YKA	**Yellowknife Ar**	**16.32**	**76**	P		**P**	**00 50 52.7**	**-0.1**
	0.1nm,0.3s,baz=284,slow=9.4,SNR=8.6							
YKA	**Yellowknife Ar**	**16.32**	**76**	P		**P**	**00 50 52.7**	**-0.1**
PDAR	**Pinedale Array**	**31.25**	**111**	P		**P**	**00 53 21.3**	**+1.6**
	0.4nm,0.8s,mb3.2,baz=304,slow=5.3,SNR=3.7							
TXAR	**Lajitas Array**	**45.18**	**116**	P		**P**	**00 55 17.6**	**+1.9**
	0.3nm,0.6s,mb3.2,baz=318,slow=6.5,SNR=4.1							
MKAR	**Makanchi Array**	**62.65**	**322**	P		**P**	**00 57 21.6**	**-1.4**
	0.3nm,0.5s,mb3.5,baz=37,slow=6.5,SNR=7.6							

*KNET **30** 01:07:54.0,42.66N×75.39E,h11km,ml2.3*
*NNC **30** 01:07:56.0±1.2,43.06N×75.30E,mb3.4,mpv3.3,Error ellipse: s-maj=12.0km s-min=6.3km az=38.0*
ISC 30 01:07:54.8±0.5,**42.68N**±0.03×**75.40E**±0.03,**h4**km±5km, **n15**,σ0=**73**/28,**17C-12D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TKM2	**Tokmak 2**	**0.28**	**31**	⇑P		**Pg**	**01 08 00.8**	**+0.3**
	467nm,0.2s,SNR=190							
TKM2				⇓S		**Sg**	**01 08 04.8**	**+0.5**
	779nm,0.1s							
TKM2	**Tokmak 2**	**0.28**	**31**	⇑P		**Pg**	**01 08 00.6**	**+0.1**
	102nm,0.2s							
TKM2				⇓S		**Sg**	**01 08 05.0**	**+0.6**
	93nm,0.1s							
KBK	**Karagaybulak**	**0.33**	**267**	⇑P		**Pg**	**01 08 02.0**	**+0.5**
	75nm,0.1s,SNR=180							
KBK				⇓S		**Sg**	**01 08 06.6**	**+0.6**
	342nm,0.2s							
CHMS	**Chumysh**	**0.58**	**304**	⇓P		**Pg**	**01 08 06.0**	**-0.3**
	55nm,0.3s,SNR=32							
CHMS				⇓S		**Sg**	**01 08 13.9**	**-0.1**
	138nm,0.2s							
KZA	**Kyzart**	**0.61**	**191**	⇑P		**Pg**	**01 08 07.0**	**0.0**
	46nm,0.1s,SNR=128							
KZA				⇓S		**Sg**	**01 08 15.4**	**+0.3**
	255nm,0.4s							
AAK	**Ala-Archa**	**0.67**	**267**	⇑P		**Pg**	**01 08 07.7**	**-0.5**
	18nm,0.2s,SNR=33							
AAK				⇓S		**Sg**	**01 08 17.0**	**-0.1**
	94nm,0.2s							
ULHL	**Ulahol**	**0.76**	**124**	⇑P		**Pg**	**01 08 09.2**	**-0.7**
	15nm,0.1s,SNR=121							
ULHL				⇑S		**Sg**	**01 08 19.9**	**-0.1**
	68nm,0.2s							
UCH	**Uchtor**	**0.80**	**236**	⇑P		**Pb**	**01 08 10.0**	**-0.8**
	25nm,0.2s,SNR=95							
UCH				⇑S		**Sg**	**01 08 20.5**	**-0.7**
	67nm,0.2s							
USP	**Ospenovka**	**0.89**	**312**	⇓P		**Pb**	**01 08 11.5**	**-0.8**
	25nm,0.1s,SNR=26							
USP				⇓S		**Sb**	**01 08 23.7**	**-0.6**
	50nm,0.1s							
EKS2	**Erkin-Say**	**1.20**	**270**	⇑P		**Pb**	**01 08 17.8**	**+0.1**
	10nm,0.1s,SNR=64							
EKS2				⇑S		**Sb**	**01 08 34.7**	**+1.4**
	36nm,0.1s							
KNDC	**Almaty**	**1.27**	**64**	⇓P		**Pb**	**01 08 19.4**	**+0.5**
	305nm,0.5s							
KNDC				⇑S		**Sb**	**01 08 37.2**	**+1.8**
	766nm,0.4s							
AML	**Almayashu**	**1.38**	**247**	⇑P		**Pb**	**01 08 20.7**	**0.0**
	20nm,0.3s,SNR=41							
AML				⇑S		**Sb**	**01 08 39.3**	**+0.8**
	59nm,0.4s							
KK31	**Karatay Array**	**3.62**	**278**	⇑Pn		**Pn**	**01 08 57.1**	**+4.3**
	0.3nm,0.5s							
KK31				⇑Pg		**Pg**	**01 09 02.6**	**-4.4**
	2.8nm,0.4s,baz=90,slow=15,SNR=65							
KK31				⇑Lg			01 09 44.9	
	9.6nm,0.6s							
MK31	**Makanchi Array**	**6.40**	**48**	Pn		**Pn**	**01 09 31.9**	**-0.3**
	0.5nm,0.4s,baz=224,slow=13,SNR=26							
MK31				Sn		**Sn**	**01 10 45.1**	**-1.5**
	0.9nm,0.6s,baz=234,slow=18,SNR=7.0							
MK31				⇓Lg			01 11 13.5	
	2.5nm,0.6s							
VOSK	**Vostochnaya**	**10.48**	**345**	⇓Lg			01 13 11.7	
	6.5nm,2.2s							

*IDC **30** 01:11:41.0±1.3,12.44N×58.29E,mb3.6/6,mb1 3.7/6, mb1mx3.5/17,mbtmp3.6/6,MS3.2/1,Ms1 3.2/1, ms1mx2.7/18,Error ellipse: s-maj=34.2km s-min=28.7km az=125.0*
*OMAN **30** 01:12:13.0,14.61N×57.77E,h35km,Error ellipse: s-maj=14.1km s-min=2.7km az=336.0*
ISC 30 01:11:41.5±1.0,**12.64N**±0.09×**58.4E**±0.1,**h10**km,**n16**, σ1=**40**/16,**mb3.5**/6,**MS3.0**/1,**Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHAO	**Shalim**	**5.99**	**334**	P		**Pn**	**01 13 10.4**	**-2.1**
	SNR=36							
ABTO	**Aybut**	**6.81**	**314**	P		**Pn**	**01 13 26.9**	**+2.9**
	SNR=6.2							
JMDO	**Jalal Madar**	**9.68**	**358**	P		**P**	**01 14 03.2**	**-0.9**
	SNR=16							
WBK	**Wadi Bani Khal**	**9.93**	**3**	P		**P**	**01 14 08.1**	**+0.6**
	SNR=6.1							
BSY	**Bisya**	**10.12**	**354**	P		**P**	**01 14 09.3**	**-0.7**
	SNR=11							
SMDO	**Samad**	**10.37**	**358**	P		**P**	**01 14 12.2**	**-1.3**
	SNR=9.8							
ASHO	**Ashiyiah**	**12.19**	**350**	P		**P**	**01 14 37.6**	**-0.6**
	SNR=8.8							
DJNS	**Zahran al Janu**	**15.21**	**291**	P		**P**	**01 15 24.0**	**+5.8**
MZLS	**Mizel**	**16.88**	**314**	P		**P**	**01 15 42.1**	**+2.4**
LTHS	**Al Lith**	**18.85**	**296**	P		**P**	**01 15 58.2**	**-6.0**
KMBO	**Kilima Mbogo**	**25.06**	**238**	P		**P**	**01 17 06.7**	**-1.1**
	1.5nm,0.9s,mb3.5,baz=77,slow=16,SNR=2.9							
KMBO				LR		LR	01 27 36.4	
	comp=Z,50nm,18.7s,MS3.0,baz=85,slow=38							
BRTR	**Keskin Array B**	**34.73**	**325**	P		**P**	**01 18 32.6**	**-1.3**
	0.9nm,1.1s,mb3.6,baz=168,slow=11,SNR=3.8							
AKTO	**Aktyubinsk**	**37.69**	**360**	P		**P**	**01 18 59.7**	**+0.9**
	0.8nm,0.7s,mb3.5,baz=199,slow=8.7,SNR=3.8							
MKAR	**Makanchi Array**	**39.54**	**26**	P		**P**	**01 19 15.8**	**+1.5**
	0.5nm,0.8s,mb3.3,baz=199,slow=7.6,SNR=4.8							
SONM	**Songino Array**	**53.07**	**39**	P		**P**	**01 21 02.6**	**+1.4**
	0.7nm,0.7s,mb3.7,baz=239,slow=7.2,SNR=8.4							
WRA	**Warramunga Arr**	**81.39**	**113**	P		**P**	**01 23 59.9**	**-0.7**
	0.3nm,0.5s,mb3.4,baz=297,slow=4.4,SNR=6.5							

IDC 30 01:21:59.4±2.2,**13.77N**×**144.77E**,**h129**km±17km,**mb3.1**/3, **mb1 3.5**/3,**mb1mx3.1**/18,**mbtmp3.5**/3,**Error ellipse: s-maj=145.1km s-min=24.8km az=112.0**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**0.20**	**151**	P		P	01 22 18.4	+1.2
	439nm,0.3s,baz=136,slow=1.5,SNR=109							
GUMO				S			01 22 31.7	+1.0
	292nm,0.3s,baz=154,slow=24,SNR=20							
WRA	**Warramunga Arr**	**35.03**	**197**	P		P	01 28 39.6	-2.2
	0.4nm,0.6s,baz=14,slow=8.6,SNR=6.5							
ILAR	**Eielson Array**	**68.45**	**25**	P		P	01 32 46.9	-2.4
	0.4nm,0.4s,baz=251,slow=5.6,SNR=11							
YKA	**Yellowknife Ar**	**82.75**	**27**	P		P	01 34 08.8	-1.2
	0.1nm,0.4s,baz=284,slow=5.2,SNR=4.4							

*KNET **30** 03:06:56.4,42.66N×75.38E,ml1.6*

*NNC **30** 03:06:56.2±1.4,42.64N×75.39E,mpv3.0,Error ellipse: s-maj=44.2km s-min=7.4km az=120.0*
ISC 30 03:06:56.7±0.6,**42.68N**±0.03×**75.40E**±0.04,**h10**km,**n11**, σ0=**38**/20,**13C-7D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TKM2	**Tokmak 2**	**0.28**	**31**	⇓P		**Pg**	**03 07 02.9**	**+0.2**
	94nm,0.2s,SNR=45							
TKM2				⇓S		**Sg**	**03 07 07.0**	**+0.4**
	278nm,0.1s							
TKM2	**Tokmak 2**	**0.28**	**31**	⇑P		**Pg**	**03 07 02.5**	**-0.1**
	18nm,0.2s							
TKM2				⇑S		**Sg**	**03 07 07.0**	**+0.4**
	23nm,0.1s							
KBK	**Karagaybulak**	**0.33**	**266**	⇑P		**Pg**	**03 07 03.9**	**+0.3**
	11nm,0.1s,SNR=32							
KBK				⇑S		**Sg**	**03 07 08.8**	**+0.6**
	114nm,0.3s							
CHMS	**Chumysh**	**0.57**	**304**	⇓P		**Pg**	**03 07 07.9**	**-0.4**
	9.9nm,0.3s,SNR=10.0							
CHMS				⇓S		**Sg**	**03 07 15.9**	**-0.2**
	23nm,0.2s							
KZA	**Kyzart**	**0.61**	**190**	⇑P		**Pb**	**03 07 08.9**	**-0.1**
	8.5nm,0.1s,SNR=33							
KZA				⇑S		**Sg**	**03 07 17.3**	**0.0**
	30nm,0.3s							
AAK	**Ala-Archa**	**0.67**	**266**	⇑P		**Pb**	**03 07 09.9**	**-0.1**
	3.4nm,0.2s,SNR=8.5							
AAK				⇑S		**Sb**	**03 07 19.0**	**0.0**
	18nm,0.2s							
ULHL	**Ulahol**	**0.76**	**124**	⇑P		**Pb**	**03 07 11.2**	**-0.4**
	3.5nm,0.1s,SNR=24							
ULHL				⇑S		**Sb**	**03 07 21.8**	**+0.1**
	13nm,0.2s							
UCH	**Uchtor**	**0.79**	**236**	⇑P		**Pb**	**03 07 12.0**	**-0.2**
	4.3nm,0.2s,SNR=16							
UCH				⇑S		**Sb**	**03 07 22.5**	**-0.2**
	18nm,0.3s							
USP	**Ospenovka**	**0.88**	**312**	⇓P		**Pb**	**03 07 13.5**	**-0.2**
	3.8nm,0.1s,SNR=19							
USP				⇑S		**Sb**	**03 07 24.9**	**-0.4**
	9.2nm,0.1s							
AML	**Almayashu**	**1.38**	**247**	⇓P		**Pn**	**03 07 23.0**	**+0.9**
	1.8nm,0.1s,SNR=8.4							
KK31	**Karatay Array**	**3.62**	**278**	⇓Pg		**Pg**	**03 08 04.6**	**-4.3**
	baz=93,slow=15,SNR=17							
KK31				Lg			03 08 48.4	
	0.6nm,0.3s,baz=108,slow=28,SNR=6.2							

*IDC **30** 03:14:29.6±0.7,6.77N×72.96W,h160km±7km,mb3.6/10, mb1 3.9/13,mb1mx3.7/22,mbtmp4.2/13,Error ellipse: s-maj=19.8km s-min=7.5km az=133.0*
*NEIC **30** 03:14:29.8±0.5,6.78N×72.97W,h161km±6km,mb4.0/9, Error ellipse: s-maj=8.8km s-min=6.9km az=121.0*
ISC 30 03:14:29.0±0.6,**6.79N**±0.07×**72.96W**±0.08,**h169**km±7km, **n27**,σ0=**64**/28,**mb3.9**/17,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROSC	**El Rosal**	**2.36**	**215**	P		**P**	**03 15 10.3**	**+0.4**
	225nm,0.3s,baz=274,slow=23,SNR=449							
ROSC				S		**S**	**03 15 41.4**	**0.0**
	117nm,0.3s,baz=95,slow=20,SNR=9.8							
SDV	**Santo Domingo**	**3.10**	**48**	P		**P**	**03 15 20.0**	**+1.0**
SDV				S		**S**	**03 15 57.5**	**-0.1**
	135nm,0.3s,baz=352,slow=3.3,SNR=44							
SDV	**Santo Domingo**	**3.10**	**48**	*e*Pn		**P**	**03 15 19.6**	**+0.

comp=Z,72nm,18.2s,MS3.9,baz=256,slow=34
ILAR Eielson Array 69.01 333 P **P** 03 38 48.1 **+0.1**
0.8nm,0.7s,mb3.8,baz=104,slow=4.2,SNR=16
FINES FINESS Array B 73.85 30 LR LR 04 09 17.0
comp=Z,40nm,18.9s,MS3.7,baz=154,slow=34
STKA Stephens Creek 152.78 238 PKPbc PKPdf 03 47 41.0 +10
0.8nm,0.6s,baz=98,slow=7.1,SNR=4.1

*NEIC **30** 03:35:19.9, 15.96N×97.25W, h17km, MD3.6(MEX), After MEX.*
MEX 30 03:35:20.0±0.8, 15.96N×97.25W, h16km±141km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.95**	**297**	*i*	P		Pb	03 35 34.8	-2.8
PNIG				*i*	S		Sb	03 35 46.0	-3.6
HUIG	**Huatulco**	**1.11**	**99**	*i*	P		Pb	03 35 37.4	-3.0
HUIG				*i*	S		Sb	03 35 50.0	-4.5
VHO	**Vista Hermosa**	**1.22**	**24**	*i*	P		Pb	03 35 39.5	-2.7
VHO				*i*	S		Sb	03 35 52.6	-4.9
OXX	**Oaxaca**	**1.23**	**24**	*i*	P		Pb	03 35 39.0	-3.4
OXX				*i*	S		Sb	03 35 53.0	-4.8
PLIG	**Platanillo**	**3.24**	**319**	*e*	P		Pn	03 36 07.3	-4.0
PLIG				*i*	S		Sn	03 36 48.8	-1.1

*IDC **30** 03:58:55.4±1.6, 24.23S×66.89W, h164km±15km, mb3.6/7, mb1 3.8/12, mb1mx3.7/19, mbtmp4.0/12, Error ellipse: s-maj=21.9km s-min=11.7km az=86.0*
*NEIC **30** 03:58:56.6±0.7, 24.18S×66.86W, h177km±6km, mb4.1/14, Error ellipse: s-maj=10.8km s-min=7.0km az=82.0*
*GUC **30** 03:58:57.3±0.5, 24.20S×67.29W, h220km, ML4.7*
ISC 30 03:58:56.1±0.6, 24.22S±0.05×66.91W±0.07, h189km±5km, n40, σ1§22/46, mb4.0/18, 5C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.76**	**318**	⇑*i*	P		**P**	**03 59 34.1**	**+2.3**
SPCH				*i*	S		**S**	**04 00 02.2**	**+3.1**
LVC	**Limon Verde**	**2.43**	**311**	⇑*i*	P		**P**	**03 59 40.5**	**+1.4**
LVC				*i*	S		**S**	**04 00 12.9**	**+0.7**
LVC	**Limon Verde**	**2.43**	**311**	⇑*i*	Pn		**P**	**03 59 40.4**	**+1.4**
LVC				*e*	Sn		**S**	**04 00 12.5**	**+0.3**
CEN1	**Los Morros**	**3.12**	**285**	⇓*i*	P		**P**	**03 59 48.6**	**+1.4**
CEN1				*i*	S		**S**	**04 00 26.7**	**+0.1**
CEN1				AMP				04 00 28.7	
	comp=N,848nm,0.4s								
CPN1	**Cerro Paranal**	**3.21**	**262**	*e*	P		**P**	**03 59 48.5**	**+0.2**
CPN1				*i*	S		**S**	**04 00 26.6**	**-1.9**
CPN1				AMP				04 00 33.0	
	comp=E,1μm,0.5s								
ANCH	**Antofagasta**	**3.24**	**279**	⇑*i*	P		**P**	**03 59 49.0**	**+0.2**
ANCH				*i*	S		**S**	**04 00 27.4**	**-1.9**
ANCH				AMP				04 00 32.9	
	comp=N,1μm,0.5s								
CFAA	**Coronel Fontan**	**7.45**	**189**	P			**P**	**04 00 42.5**	**-0.5**
	comp=N,0.6nm,0.3s,baz=16,slow=14,SNR=39								
CFAA				S			**S**	**04 02 02.1**	**-4.4**
	comp=N,0.7nm,0.3s,baz=254,slow=18,SNR=9.5								
LPAZ	**La Paz**	**7.97**	**352**	P			**P**	**04 00 50.5**	**+0.7**
	comp=N,4.0nm,0.3s,baz=151,slow=8.4,SNR=65								
LPAZ				S			**S**	**04 02 17.5**	**-1.1**
	comp=N,0.2nm,0.3s,baz=352,slow=20,SNR=4.3								
LPAZ	**La Paz**	**7.97**	**352**	⇑*e*	Pn		**P**	**04 00 50.4**	**+0.6**
LPAZ				*e*	Sn		**S**	**04 02 17.4**	**-1.2**
LPAZ				S			**S**	**04 02 17.5**	**-1.1**
ARE	**Arequipa**	**8.83**	**330**	*e*	P		**P**	**04 00 59.0**	**-2.0**
SIV	**San Ignacio**	**9.85**	**35**	P			**P**	**04 01 13.1**	**-1.3**
	comp=N,1.0nm,0.3s,baz=216,slow=14,SNR=36								
TRQA	**Tornquist**	**14.43**	**164**	*e*	P		**P**	**04 02 12.4**	**-0.2**
	comp=N,14nm,0.7s								
SAML	**Samuel**	**15.60**	**14**	P			**P**	**04 02 26.4**	**-0.9**
	comp=N,1.6nm,0.8s								
PLCA	**Paso Flores**	**16.75**	**190**	P			**P**	**04 02 40.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=11,slow=14,SNR=3.7								
BDFB	**Brasilia**	**19.69**	**68**	P			**P**	**04 03 12.7**	**0.0**
	comp=N,1.0nm,0.3s,baz=248,slow=11,SNR=14								
BAO	**Brasilia Array**	**19.71**	**68**	P			**P**	**04 03 13.0**	**+0.1**
SDV	**Santo Domingo**	**33.10**	**353**	*e*	P		**P**	**04 05 14.5**	**-1.8**
	comp=N,3.3nm,0.9s,mb4.1								
SNAA	**Sanae**	**59.12**	**161**	P			**P**	**04 08 38.6**	**+0.1**
	comp=N,0.5nm,0.6s,mb3.5,baz=260,slow=11,SNR=4.3								
SNAA	**Sanae**	**59.12**	**161**	P			**P**	**04 08 38.3**	**-0.2**
	comp=N,1.1nm,0.6s,mb3.9								
JCT	**Junction City**	**62.87**	**328**	*e*	P		**P**	**04 09 03.8**	**-0.4**
	comp=N,4.4nm,0.7s,mb4.4								
WVT	**Waverly**	**63.19**	**341**	*e*	P		**P**	**04 09 04.1**	**-2.1**
	comp=N,6.8nm,0.6s,mb4.7								
TXAR	**Lajitas Array**	**63.90**	**324**	P			**P**	**04 09 11.0**	**0.0**
	comp=N,0.9nm,0.7s,mb3.7,baz=155,slow=8.5,SNR=12								
WCI	**Wyandotte Cave**	**64.72**	**343**	*e*	P		**P**	**04 09 13.9**	**-2.3**
	comp=N,5.5nm,0.5s,mb4.6								
WMOK	**Wichita Mounta**	**65.97**	**332**	*e*	P		**P**	**04 09 22.9**	**-1.3**
	comp=N,1.0nm,0.6s,mb3.8								
MNTX	**Cornudas Mount**	**66.67**	**325**	*e*	P		**P**	**04 09 27.6**	**-1.0**
	comp=N,3.2nm,0.9s,mb4.2								
ANMO	**Albuquerque**	**69.77**	**326**	P			**P**	**04 09 49.0**	**+1.3**
	comp=N,2.1nm,0.7s,mb4.0,baz=150,slow=6.3,SNR=11								
SDCO	**Great Sand Dun**	**71.51**	**329**	*e*	P		**P**	**04 09 59.0**	**+0.9**
	comp=N,2.2nm,0.8s,mb3.9								
SMCO	**Snowmass**	**73.35**	**329**	*e*	P		**P**	**04 10 10.2**	**+1.3**
	comp=N,2.6nm,0.5s,mb4.2								
PDAR	**Pinedale Array**	**77.37**	**329**	P			**P**	**04 10 32.2**	**+0.8**
	comp=N,0.6nm,0.6s,mb3.4,baz=134,slow=8.0,SNR=8.0								
ULM	**Lac du Bonnet**	**78.46**	**342**	P			**P**	**04 10 37.1**	**-0.1**
	comp=N,2.0nm,0.5s,mb4.0,baz=149,slow=5.2,SNR=8.9								
LOHW	**Long Hollow**	**78.51**	**329**	*e*	P		**P**	**04 10 38.9**	**+1.2**
	comp=N,2.0nm,0.6s,mb3.9								
MOOW	**Moose Ponds**	**78.68**	**329**	*e*	P		**P**	**04 10 39.6**	**+1.0**
	comp=N,0.9nm,0.6s,mb3.6								
NVAR	**Mina Array Bea**	**78.75**	**321**	P			**P**	**04 10 41.1**	**+2.0**
	comp=N,0.8nm,0.9s,mb3.4,baz=146,slow=6.4,SNR=6.4								
HLID	**Hailey**	**80.31**	**327**	*e*	P		**P**	**04 10 49.0**	**+1.7**
	comp=N,5.2nm,1.0s,mb4.1								
YKA	**Yellowknife Ar**	**94.35**	**340**	P			**P**	**04 11 55.3**	**+0.6**
	comp=N,1.0nm,0.5s,mb4.2,baz=133,slow=4.5,SNR=57								
YKA	**Yellowknife Ar**	**94.35**	**340**	P			**P**	**04 11 55.3**	**+0.6**
WRA	**Warramunga Arr**	**131.47**	**207**	PKP			PKPdf	04 17 48.7	+1.9
	comp=N,0.4nm,0.5s,baz=156,slow=1.7,SNR=10								
BVAR	**Borovoye Array**	**136.92**	**37**	PKP			PKPdf	04 17 58.6	+2.7
	comp=N,0.4nm,0.6s,baz=297,slow=3.3,SNR=3.6								
MKAR	**Makanchi Array**	**146.64**	**40**	PKPbc			PKPbc	04 18 15.7	+0.8
	comp=N,3.5nm,0.8s,baz=331,slow=1.4,SNR=36								
SONM	**Songino Array**	**155.84**	**11**	PKPab			PKPab	04 18 57.1	+0.2
	comp=N,0.4nm,0.7s,baz=327,slow=7.5,SNR=3.8								

*IDC **30** 04:04:39.6±0.8, 55.65S×123.51W, mb3.9/5, mb1 4.2/5, mb1mx4.0/13, mbtmp3.9/5, MS4.2/15, Ms1 4.1/15, ms1mx4.0/22, Error ellipse: s-maj=38.3km s-min=25.0km az=133.0*
*NEIC **30** 04:04:41.1±0.7, 55.75S×123.34W, h10km, mb4.3/1, Error ellipse: s-maj=26.6km s-min=18.3km az=105.0*
ISC 30 04:04:39.8±0.7, 55.70S±0.10×123.4W±0.2, h10km, n42, σ0§93/17, mb3.9/6, MS4.2/15, 2D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**30.63**	**112**	LR			LR	04 19 50.4	
	comp=Z,504nm,18.1s,MS4.2,baz=220,slow=30								
VNDA	**Vanda**	**33.18**	**203**	P			**P**	**04 11 19.2**	**+1.2**
	1.1nm,1.1s,mb3.7,baz=88,slow=9.2,SNR=2.6								
RKT	**Rikitea**	**33.66**	**341**	*e*S			**S**	**04 16 44.4**	**0.0**
RKT				*e*LR			LR	04 20 18.5	
	924nm,28.8s,baz=165								
PLCA	**Paso Flores**	**37.28**	**89**	LR			LR	04 23 55.2	
	comp=Z,147nm,20.8s,MS3.8,baz=226,slow=31								
TBI	**Tubuai**	**37.61**	**319**	*e*S			**S**	**04 17 45.4**	**0.0**
TBI				*e*LR			LR	04 21 57.2	
	707nm,30.5s,baz=160								
RPZ	**Rata Peaks**	**42.48**	**258**	LR			LR	04 25 33.5	
	comp=Z,380nm,21.9s,MS4.2,baz=309,slow=30								
URZ	**Urewera**	**42.74**	**268**	LR			LR	04 26 03.0	
	comp=Z,277nm,20.0s,MS4.2,baz=160,slow=30								
PPT	**Papeete**	**42.96**	**322**	*e*S			**S**	**04 19 05.2**	**-0.1**
PPT				*e*LQ				04 22 44.4	
PPT				*e*LR			LR	04 24 27.5	
	770nm,25.8s,baz=156								
PPT	**Papeete**	**42.96**	**322**	LR			LR	04 25 20.7	
	comp=Z,425nm,18.2s,MS4.4,baz=267,slow=29								
RAR	**Rarotonga**	**43.80**	**307**	LR			LR	04 26 44.5	
	comp=Z,135nm,21.9s,MS3.8,baz=109,slow=30								

VNA3	**Neumayer Olymp**	**45.06**	**155**	*e*			**P**	**04 12 58.4**	**+1.6**
VNA3	**Neumayer Olymp**	**45.06**	**155**	*e*			**P**	**04 13 04.2**	**+7.4**
VNA3	**Neumayer Olymp**	**45.06**	**155**	*e*			**P**	**04 13 10.9**	**+14**
VNA3	**Neumayer Olymp**	**45.06**	**155**	*e*			tx	04 13 23.5	
VNA3	**Neumayer Olymp**	**45.06**	**155**	⇓*i*	P		**P**	**04 12 55.3**	**-1.5**
VNA3				*e*			pP	04 12 58.4	-1.4
VNA3				*e*				04 13 04.2	
VNA3				*e*				04 13 10.9	
VNA3				*e*				04 13 23.5	
VNA2	**Neumayer--Watz**	**45.82**	**156**	*e*			**P**	**04 13 04.9**	**+2.1**
VNA2	**Neumayer--Watz**	**45.82**	**156**	*e*			**P**	**04 13 10.3**	**+7.5**
VNA2	**Neumayer--Watz**	**45.82**	**156**	*e*			**P**	**04 13 17.6**	**+15**
VNA2	**Neumayer--Watz**	**45.82**	**156**	*e*			tx	04 13 30.1	
VNA2	**Neumayer--Watz**	**45.82**	**156**	⇓*i*	P		**P**	**04 13 01.7**	**-1.1**
VNA2				*e*			pP	04 13 04.9	-0.9
VNA2				*e*				04 13 10.3	
VNA2				*e*				04 13 17.6	
VNA2				*e*				04 13 30.1	
SNAA	**Sanae**	**46.29**	**158**	P			**P**	**04 13 05.9**	**-0.7**
	0.9nm,0.7s,mb3.8,baz=235,slow=12,SNR=3.1								
TAOE	**Nuku Hiva Isla**	**48.57**	**338**	*e*	LR		LR	04 27 14.4	
	1μm,25.6s								
AFI	**Afiamalu**	**55.81**	**299**	LR			LR	04 30 50.4	
	comp=Z,160nm,20.6s,MS4.1,baz=264,slow=28								
MAW	**Mawson**	**56.92**	**183**	LR			LR	04 37 11.8	
	comp=Z,343nm,19.8s,MS4.5,baz=344,slow=34								
LPAZ	**La Paz**	**57.34**	**70**	P			**P**	**04 14 29.9**	**-0.5**
	3.2nm,0.9s,mb4.3,baz=208,slow=6.4,SNR=8.4								
LPAZ				LR			LR	04 33 25.3	
	comp=Z,133nm,21.1s,MS4.0,baz=259,slow=30								
DZM	**Mont Dzumac**	**60.92**	**273**	LR			LR	04 36 20.7	
	comp=Z,232nm,18.0s,MS4.4,baz=204,slow=31								
OTAV	**Otavalo**	**66.59**	**50**	*e*P			**P**	**04 15 32.4**	**+0.1**
	2.1nm,1.1s,mb4.1								
STKA	**Stephens Creek**	**66.98**	**247**	LR			LR	04 37 56.9	
	comp=Z,210nm,21.2s,MS4.3,baz=206,slow=30								
BDFB	**Brasilia**	**68.98**	**87**	LR			LR	04 42 10.6	
	comp=Z,222nm,20.6s,MS4.4,baz=39,slow=33								
CTA	**Charters Tower**	**73.85**	**258**	LR			LR	04 43 45.1	
	comp=Z,123nm,20.2s,MS4.2,baz=230,slow=32								
WRA	**Warramunga Arr**	**80.43**	**249**	P			**P**	**04 16 51.7**	**-1.3**
	2.2nm,0.7s,mb4.2,baz=144,slow=4.9,SNR=22								
TXAR	**Lajitas Array**	**86.36**	**17**	P			**P**	**04 17 24.1**	**+1.1**
	0.2nm,0.9s,mb3.3,baz=233,slow=4.5,SNR=2.8								
TXAR				LR			LR	04 44 47.0	
	comp=Z,55nm,21.6s,MS3.9,baz=315,slow=28								
PDAR	**Pinedale Array**	**98.80**	**10**	LR			LR	04 54 58.3	
	comp=Z,125nm,20.3s,MS4.4,baz=358,slow=31								
ILAR	**Eielson Array**	**121.49**	**348**	PKP			PKPdf	04 23 32.8	-2.8
	0.2nm,0.6s,baz=194,slow=2.7,SNR=4.2								
JIRN	**Jiri**	**144.82**	**229**	*e*P			PKPbc	04 24 16.5	-0.1
	8.3nm,0.6s								
PKI	**Pulchoki**	**145.08**	**228**	*e*P			PKPbc	04 24 16.1	-1.1
	18nm,0.7s								
GUN	**Gumba**	**145.17**	**229**	*e*P			PKPbc	04 24 17.9	+0.4
	17nm,0.7s								
DMN	**Daman**	**145.24**	**228**	*e*P			PKPbc	04 24 17.4	-0.3
	30nm,0.8s								
KOLN	**Koldanda**	**146.00**	**226**	*e*P			PKPbc	04 24 18.8	-0.8
EKA	**Eskdalemuir Ar**	**147.07**	**65**	PKPbc			PKPdf	04 24 24.9	+2.4
	2.4nm,0.8s,baz=214,slow=3.0,SNR=3.7								
SONM	**Songino Array**	**148.81**	**277**	PKPbc			PKPdf	04 24 27.6	+2.0
	0.6nm,0.9s,baz=90,slow=1.4,SNR=3.3								
GERES	**GERESS Array B**	**153.22**	**87**	PKPbc			PKPdf	04 24 36.8	+4.7
	0.5nm,0.7s,baz=225,slow=1.9,SNR=4.5								

*WAR **30** 04:16:03.4, 51.45N×16.12E, h1km, Location given by Lubin mine, origin time based upon KSP*
*IDC **30** 04:16:03.4±1.1, 51.48N×15.92E, mb1 3.4/5, mb1mx3.2/20, mbtmp3.2/5, ML2.8/5, Error ellipse: s-maj=20.0km s-min=10.6km az=108.0*
*NEIC **30** 04:16:03.1±0.9, 51.43N×16.11E, h5km, MG2.5(WAR), Error ellipse: s-maj=11.5km s-min=5.5km az=204.0*
*PRU **30** 04:16:04.1, 51.37N×16.11E, Felt In Harrachov*
ISC 30 04:16:01.2±0.6, 51.39N±0.03×16.12E±0.03, n28, σ1§32/58, 6C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.56**	**169**	⇓*i*	P		**Pg**	**04 16 14.6**	**+2.2**
KSP				⇓*e*	S		**Sg**	**04 16 22.6**	**+2.7**
KSP	**Ksiaz**	**0.56**	**169**	*e*	Pg		**Pg**	**04 16 14.7**	**+2.3**
KSP				*e*				04 16 16.0	
KSP				*e*	S		**Sg**	**04 16 22.4**	**+2.5**
KSP	**Ksiaz**	**0.56**	**169**	⇓*i*	Pg		**Pg**	**04 16 14.6**	**+2.2**
KSP				*i*				04 16 16.0	
KSP				*e*	S		**Sg**	**04 16 22.0**	**+2.1**
UPC	**Upice**	**0.89**	**185**	*e*	PG		**Pg**	**04 16 20.7**	**+1.8**
DPC	**Dobruska-Polom**	**1.05**	**173**	*e*	PG		**Pg**	**04 16 23.3**	**+1.1**
DPC				*e*	SG		**Sg**	**04 16 36.5**	**+0.3**
	25nm,0.2s								
PVCC	**Panska Ves**	**1.31**	**229**	*e*	PG		**Pg**	**04 16 27.9**	**+0.6**
PVCC				*e*	SG		**Sg**	**04 16 46.5**	**+1.7**
	84nm,0.2s								
BRG	**Berggiesshubel**	**1.47**	**250**	Pn			**Pn**	**04 16 29.4**	**+0.4**
BRG				Pg			**Pg**	**04 16 30.7**	**+0.2**
BRG				Sg			**Sg**	**04 16 50.4**	**+0.3**
PRU	**Pruhonice**	**1.73**	**216**	*e*	PN		**Pn**	**04 16 33.7**	**+1.0**
PRU				*e*	PG		**Pg**	**04 16 34.8**	**-0.9**
PRU				*e*	SG		**Sg**	**04 16 59.1**	**+0.3**
	12nm,0.3s								
MORC	**Moravsky Berou**	**1.85**	**150**	*e*	Pn		**Pn**	**04 16 35.5**	**+1.0**
MORC				*e*	Sn		**Sn**	**04 16 57.5**	**-1.5**
MORC				*e*	Sg		**Sg**	**04 17 02.7**	**-0.2**
CLL	**Collm**	**1.96**	**269**	*e*	PN		**Pn**	**04 16 36.0**	**0.0**
CLL				*e*	PG		**Pg**	**04 16 39.0**	**-1.3**
CLL				*e*	SG		**Sg**	**04 17 05.0**	**-1.4**
OKC	**Ostrava-Krasne**	**2.02**	**140**	*e*	PG		**Pg**	**04 16 38.9**	**-2.6**
OKC				*e*	SG		**Sg**	**04 17 06.2**	**-2.3**
VRAC	**Vranov**	**2.11**	**172**	Pn			**Pn**	**04 16 40.3**	**+2.1**
	1.2nm,0.3s,baz=333,slow=14,SNR=17								
VRAC				Sn			**Sn**	**04 17 10.8**	**+5.3**
	2.7nm,0.3s,baz=249,slow=23,SNR=7.1								
NKC	**Novy Kostel**	**2.60**	**245**	*e*	PN		**Pn**	**04 16 46.8**	**+1.6**
NKC				*e*	SG		**Sg**	**04 17 28.6**	**+0.7**
	15nm,0.3s								
OJC	**Ojcow**	**2.61**	**115**	*e*	PN		**Pn**	**04 16 44.0**	**-1.3**
OJC				*e*	PG		**Pg**	**04 16 53.0**	**-0.3**
OJC				*e*	SG		**Sg**	**04 17 28.0**	**-0.1**
KHC	**Kasperske Hory**	**2.79**	**217**	*e*	PN		**Pn**	**04 16 48.9**	**+1.0**
KHC				*e*	PG		**Pg**	**04 16 54.5**	**-2.4**
KHC				*e*	SN		**Sn**	**04 17 21.5**	**-1.3**
KHC				*e*	SG		**Sg**	**04 17 31.6**	**-2.5**
MOX	**Moxa**	**2.94**	**257**	*i*	P		**Pn**	**04 16 50.9**	**+0.8**
MOX				*e*	Pg		**Pg**	**04 16 58.0**	**-1.9**
MOX				*e*	Sg		**Sg**	**04 17 39.0**	**-0.2**
MOX	**Moxa**	**2.94**	**257**	*e*	Pn		**Pn**	**04 16 50.9**	**+0.8**
MOX				*e*	Pg		**Pg**	**04 16 58.4**	**-1.5**
MOX				*e*	Sg		**Sg**	**04 17 38.6**	**-0.6**
GERES	**GERESS Array B**	**2.99**	**212**	Pn			**Pn**	**04 16 51.9**	**+1.2**
	0.4nm,0.3s,baz=27,slow=13,SNR=20								
GERES				Pg			**Pg**	**04 16 58.3**	**-2.6**
	2.5nm,0.3s,baz=30,slow=17,SNR=52								
GERES				Lg				04 17 37.3	
	2.4nm,0.3s,baz=37,slow=27,SNR=11								
MOA	**Molln**	**3.75**	**200**	⇑*i*	Pn		**Pn**	**04 17 02.3**	**+0.8**
MOA	**Molln**	**3.75**	**200**	⇑*i*	Sg		**Sg**	**04 18 04.6**	**-1.3**
	comp=E,6.4nm,0.5s								
MOA	**Molln**	**3.75**	**200**	⇑	Pn		**Pn**	**04 17 02.3**	**+0.8**
MOA					Sg		**Sg**	**04 18 04.6**	**-1.3**
STHS	**Stebnicka Huta**	**3.83**	**119**	*e*	PN		**Pn**	**04 17 03.0**	**+0.4**
STHS				*e*	PG		**Pg**	**04 17 16.2**	**-1.4**
STHS				*e*	SG		**Sg**	**04 18 09.6**	**+1.0**
STHS				*e*	LG			04 18 30.0	
ARSA	**Arzberg**	**4.17**	**186**	⇑*i*	Pn		**Pn**	**04 17 07.5**	**+0.1**
ARSA	**Arzberg**	**4.17**	**186**	⇑*i*	Sg		**Sg**	**04 18 17.5**	**-2.3**
	comp=E,5.8nm,0.6s								
ARSA	**Arzberg**	**4.17**	**186**	⇑	Pn		**Pn**	**04 17 07.5**	**+0.1**
ARSA					Sg		**Sg**	**04 18 17.5**	**-2.3**
DAVOX	**Davos**	**6.17**	**224**		Pn		**Pn**	**04 17 36.5**	**+0.7**
	0.2nm,0.3s,baz=323,slow=5.1,SNR=4.5								
FINES	**FINESS Array B**	**11.46**	**25**	Pn			**P**	**04 18 44.1**	**-5.0**
	0.1nm,0.3s,baz=219,slow=12,SNR=3.6								
ARCES	**ARCESS Array B**	**18.74**	**10**	Pn			**P**	**04 20 16.8**	**-6.3**
	0.1nm,0.3s,baz=194,slow=10.0,SNR=4.7								

IDC 30 04:18:02.8±1.1, 26.20N×142.84E, mb3.7/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/28, Error ellipse: s-maj=35.0km s-min=12.2km az=57.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.06**	**327**	Pg			Pg	04 18 22.9	-1.1
	58nm,0.3s,baz=129,slow=23,SNR=20								
CBIJ				Lg				04 18 38.8	
	119nm,0.3s,baz=280,slow=22,SNR=18								
JHJ	**Hachijo jima 2**	**7.38**	**340**	LR			LR	04 21 50.1	
	comp=Z,255nm,20.6s,baz=272,slow=31								
WRA	**Warramunga Arr**	**46.61**	**191**	P			P	04 26 32.4	-2.3
	0.9nm,0.6s,baz=9.8,slow=8.5,SNR=9.8								
YKA	**Yellowknife Ar**	**72.65**	**28**	P			P	04 29 30.4	-3.3
	0.7nm,0.7s,baz=295,slow=6.3,SNR=17								
PDAR	**Pinedale Array**	**84.43**	**45**	P			P	04 30 39.1	+0.6
	0.6nm,0.9s,baz=333,slow=6.0,SNR=3.5								
LPAZ	**La Paz**	**149.57**	**77**	PKPbc			PKPdf	04 37 56.8	+4.7
	0.7nm,0.5s,baz=271,slow=5.0,SNR=4.8								

*NEIC **30** 04:22:05.2, 19.25N×65.41W, h103km, MD3.7(RSPR), After RSPR.*
RSPR 30 04:22:05.2, 19.25N×65.41W, h103km±7km, MD3.7/8, MD3.7/8, 6C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.06**	**204**	⇑*e*	P		P	04 22 25.8	-1.0
CBYP				*e*	S		S	04 22 42.6	-0.4
TBVI	**Tortola**	**1.12**	**138**	⇓*e*	P		P	04 22 26.8	-0.7
TBVI				*e*	S		S	04 22 43.5	-0.8
MTP	**Monte Pirata**	**1.15**	**187**	⇑*e*	P		P	04 22 27.1	-0.8
MTP				*e*	S		S	04 22 43.6	-1.4
HUMP	**Col San Antoni**	**1.17**	**201**	⇑*e*	P		P	04 22 27.3	-0.8
HUMP				*e*	S		S	04 22 45.1	-0.3
CPD	**Cerro la Pandu**	**1.29**	**202**	⇑*e*	P		P	04 22 28.1	-1.4
CPD				*e*	S		S	04 22 47.1	-0.7
AOPR	**Arecibo Observ**	**1.55**	**235**	⇑*e*	P		P	04 22 32.2	-0.5
AOPR				*e*	S		S	04 22 52.1	-1.1
CELP	**Cerrillos**	**1.61**	**224**	⇓*e*	P		P	04 22 33.2	-0.2
CELP				*e*	S		S	04 22 54.0	-0.3
CRPR	**Cabo Rojo, PR**	**2.03**	**233**	⇑*e*	P		P	04 22 37.6	-1.1
CRPR				*e*	S		S	04 23 03.8	+0.1

*NEIC **30** 04:29:22.0, 19.44N×65.34W, h52km, MD3.7(RSPR), After RSPR.*
RSPR 30 04:29:22.0, 19.44N×65.34W, h52km±12km, MD3.7/15, MD3.7/15, 12C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.14**	**161**	⇑*e*	P		P	04 29 40.7	-1.2
STVI				*e*	S		S	04 29 55.3	-1.5
TBVI	**Tortola**	**1.24**	**146**	⇑*e*	P		P	04 29 41.8	-1.6
TBVI				*e*	S		S	04 29 58.0	-1.2
CBYP	**Canovanas**	**1.26**	**203**	⇑*e*	P		P	04 29 42.1	-1.6
CBYP				*e*	S		S	04 29 58.5	-1.3
MTP	**Monte Pirata**	**1.35**	**189**	⇑*e*	P		P	04 29 43.5	-1.6
MTP				*e*	S		S	04 29 59.8	-2.4
HUMP	**Col San Antoni**	**1.38**	**200**	⇑*e*	P		P	04 29 43.5	-1.9
HUMP				*e*	S		S	04 30 01.7	-1.1
CPD	**Cerro la Pandu**	**1.50**	**201**	⇑*e*	P		P	04 29 45.4	-1.6
CPD				*e*

comp=Z,20nm,0.1s
GCIS Gornji Cirnik 0.44 331 *i* Pg **Pg 04 42 24.4 -0.1**
comp=Z,20nm,0.1s
BOJS Bojanci 0.48 273 *i* Pg **Pg 04 42 25.3 0.0**
comp=Z,12nm,0.1s
BOJS Bojanci 0.48 273 *i* Pg **Pg 04 42 25.3 0.0**
comp=Z,12nm,0.1s
CRES Cresnjev 0.48 316 *i* Pg **Pg 04 42 25.4 +0.2**
CRES *e*Sg **Sg 04 42 31.5 -0.2**
comp=Z,18nm,0.1s
CRES Cresnjev 0.48 316 *i* Pg **Pg 04 42 25.5 +0.2**
CRES *e*Sg **Sg 04 42 31.5 -0.2**
comp=Z,18nm,0.1s
LEGS Legarje 0.63 318 *i* Sg **Sg 04 42 37.6 +0.8**
DOBS Dobrina 0.74 334 *i* Pg **Pg 04 42 30.3 -0.2**
VISS Visnje 0.83 293 *i* Pg **Pg 04 42 31.9 -0.3**
VISS *e*Sg **Sg 04 42 42.4 -1.0**
comp=Z,18nm,0.3s
VISS Visnje 0.83 293 *i* Pg **Pg 04 42 32.0 -0.3**
VISS *e*Sg **Sg 04 42 42.4 -1.0**
comp=Z,18nm,0.3s
KOGS Kog 0.99 13 *e*Pg **Pg 04 42 35.6 +0.1**
KOGS *e*Sg **Sg 04 42 49.9 +1.2**
PERS Pernice 1.28 334 *e*Sg **Sg 04 42 57.7 -0.7**
comp=Z,11nm,0.3s
PERS Pernice 1.28 334 *e*Sg **Sg 04 42 57.7 -0.8**
comp=Z,11nm,0.3s
JAVS Javornik 1.37 288 *i* Pg **Pg 04 42 41.9 -1.2**
JAVS *e*Sg **Sg 04 42 59.9 -1.5**
OBKA Obir 1.41 317 ⇓*i* Pg **Pg 04 42 43.6 -0.2**
OBKA ⇑*i* Sg **Sg 04 43 02.1 -0.4**
comp=Z,47nm,0.6s
VOY Vojsko 1.53 292 *e*Pn **Pn 04 42 45.4 +1.9**
VOY *e*Sn **Sn 04 43 05.6 +1.8**
GORS Gorjuse 1.59 302 *i* Pn **Pn 04 42 46.2 +1.8**
RHK1 Bakonya 1.62 67 *e*S **Sb 04 43 03.7 -2.4**
comp=Z,0.9nm,0.2s

IDC 30 04:59:34.9±0.8, 6.79N×72.96W, h158km±12km, mb2.9/2, mb1 3.4/4, mb1mx3.1/21, mbtmp3.5/4, Error ellipse: s-maj=40.0km s-min=7.9km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.35**	**215**	P	P	05 00 16.8	+1.6
ROSC	22nm,0.3s,baz=255,slow=18,SNR=61			S	S	05 00 46.2	+0.1
SDV	**Santo Domingo**	**3.11**	**48**	P	P	05 00 25.5	+0.9
SDV	31nm,0.3s,baz=212,slow=2.5,SNR=425			S	S	05 01 02.3	-0.5
TXAR	**Lajitas Array**	**36.60**	**312**	P	P	05 06 26.2	-1.4
YKA	14nm,0.3s,baz=55,slow=14,SNR=13 **Yellowknife Ar**	**63.34**	**340**	P	P	05 09 46.7	-2.6
WRA	0.1nm,0.5s,baz=131,slow=8.3,SNR=3.7 0.4nm,0.5s,baz=132,slow=6.6,SNR=24 **Warramunga Arr**	**150.46**	**241**	PKPbc	PKPdf	05 19 08.5	+5.5
	0.3nm,0.4s,baz=108,slow=2.7,SNR=15						

IDC 30 05:19:21.8±2.4, 3.60N×124.33E, mb3.9/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=364.3km s-min=26.3km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.38**	**158**	P	P	05 24 51.1	-1.4
WB2	2.7nm,0.4s,baz=337,slow=9.8,SNR=26 **Warramunga Arr**	**25.38**	**158**	*e*P	P	05 24 51.2	-1.4
STKA	**Stephens Creek**	**38.91**	**156**	P	P	05 26 49.1	-2.0
MKAR	1.9nm,0.6s,baz=326,slow=8.2,SNR=5.9 **Makanchi Array**	**56.32**	**326**	P	P	05 29 04.5	-2.3
	0.2nm,0.5s,baz=107,slow=7.7,SNR=5.4						

IDC 30 05:24:37.1±1.2, 26.84N×140.89E, mb3.5/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/21, Error ellipse: s-maj=22.7km s-min=13.9km az=168.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.18**	**77**	Pg	Pg	05 25 00.2	-0.4
CBIJ	42nm,0.3s,baz=259,slow=23,SNR=15			Lg		05 25 15.2	
JHJ	69nm,0.3s,baz=260,slow=22,SNR=4.7 **Hachijo jima 2**	**6.33**	**352**	LR	LR	05 28 04.7	
PMG	comp=Z,51nm,18.2s,baz=72,slow=36 **Port Moresby**	**35.54**	**170**	LR	LR	05 46 38.3	
WRA	comp=Z,51nm,18.2s,baz=72,slow=36 **Warramunga Arr**	**46.93**	**188**	P	P	05 33 09.3	-2.3
MKAR	0.8nm,0.6s,baz=9.8,slow=8.6,SNR=12 **Makanchi Array**	**49.75**	**310**	P	P	05 33 31.4	-1.7
YKA	0.2nm,0.7s,baz=96,slow=9.3,SNR=2.7 **Yellowknife Ar**	**72.91**	**28**	P	P	05 36 07.7	-1.8
	0.4nm,0.6s,baz=295,slow=6.3,SNR=12						

LDG ***30*** *05:56:24.7±0.3, 44.78N×10.02E, h10km, Ml2.6/11, Error ellipse: s-maj=7.8km s-min=3.9km az=94.0*
ROM ***30*** *05:56:24.4±0.1, 44.79N×9.75E, h28km±1km, Md2.5/17, Ml2.4/7, Error ellipse: s-maj=2.1km s-min=1.4km az=121.0*
NEIC ***30*** *05:56:24.4, 44.79N×9.75E, h28km, ML2.6(LDG), ML2.4(ROM), After ROM.*
VIE ***30*** *05:56:24.9±0.4, 44.72N×9.62E, h10km, mb2.3/1, ML2.3/3, Error ellipse: s-maj=5.4km s-min=1.3km az=69.0*
CSEM ***30*** *05:56:26.9±0.1, 44.73N×9.89E, h30km, ML2.6/11, Error ellipse: s-maj=1.9km s-min=1.5km az=50.0*

ISC 30 05:56:26.1±0.4, 44.77N±0.02×9.68E±0.03, h27km±4km, n48, σ1$26/79, 7C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.17**	**269**	Pg	**Pb**	**05 56 30.9**	**-0.7**
BOB	416nm,0.2s			Sg	**Sb**	**05 56 35.9**	**+0.6**
ERBM	**Eremo**	**0.63**	**124**	Pg	**Pb**	**05 56 37.5**	**-0.9**
ERBM	120nm,0.9s			Sg	**Sb**	**05 56 47.8**	**+0.9**
GSCL	**Gusciola**	**0.77**	**123**	Pg	**Pb**	**05 56 40.6**	**-0.2**
GSCL	28nm,0.6s			Sg	**Sb**	**05 56 51.4**	**+0.5**
VLC	**Villacollemand**	**0.79**	**140**	Pg	**Pb**	**05 56 39.8**	**-1.4**
VLC				Sg	**Sb**	**05 56 52.1**	**+0.6**
BDI	**Bagni Di Lucca**	**0.96**	**137**	Pg	**Pn**	**05 56 42.9**	**-1.1**
BDI	58nm,0.5s			Sg	**Sb**	**05 56 58.0**	**+1.6**
MDI	**Monti di Nese**	**1.01**	**1**	Pg	**Pn**	**05 56 44.3**	**-0.3**
MDI	118nm,0.4s			Sg	**Sn**	**05 56 59.7**	**+1.7**
ZCCA	**Zocca**	**1.02**	**114**	Pg	**Pn**	**05 56 43.7**	**-1.0**
SAL	45nm,1.0s **Salo**	**1.03**	**35**	Pg	**Pn**	**05 56 44.5**	**-0.4**
SAL				Sg	**Sn**	**05 56 58.8**	**+0.3**
FIN	**Finale Ligure**	**1.19**	**243**	Pg	**Pn**	**05 56 48.2**	**+0.9**
PII	9.0nm,0.4s **Pisa**	**1.21**	**150**	Pg	**Pn**	**05 56 47.2**	**-0.3**
MUGIO	25nm,0.2s **Muggio**	**1.24**	**339**	Pg	**Pn**	**05 56 47.9**	**0.0**
SEI	**Scarperia**	**1.40**	**120**	Pg	**Pn**	**05 56 50.1**	**-0.1**
MABI	42nm,0.4s **Malga Bissina**	**1.41**	**24**	Pg	**Pn**	**05 56 49.5**	**-0.9**
MABI	27nm,0.4s			Sg	**Sn**	**05 57 09.3**	**+1.0**
IMI	**Imperia**	**1.55**	**237**	Pg	**Pn**	**05 56 52.5**	**+0.2**
TUE	**Stuetta**	**1.72**	**352**	Pg	**Pn**	**05 56 55.0**	**+0.2**
TUE				Sg	**Sn**	**05 57 16.6**	**+0.6**
SBF	**Sospel**	**1.85**	**241**	*e*Pn	**Pn**	**05 56 57.9**	**+1.3**
SBF	13nm,0.2s			*e*Sn	**Sn**	**05 57 21.5**	**+2.2**
CTI	**Castel Tesino**	**1.89**	**47**	Pg	**Pn**	**05 56 55.7**	**-1.5**
APPI	40nm,0.2s **Appiano**	**2.02**	**32**	Pg	**Pn**	**05 56 56.6**	**-2.6**
MBDF	310nm,2.2s **Montbardon**	**2.07**	**270**	*e*Pn	**Pn**	**05 57 00.6**	**+0.7**
LPG	**La Plagne**	**2.20**	**290**	*e*Pn	**Pn**	**05 57 01.3**	**-0.3**
LPL	**La Plagne**	**2.22**	**291**	*e*Pn	**Pn**	**05 57 03.9**	**+2.0**
PGF	**Pioggiola**	**2.27**	**193**	*e*Pn	**Pn**	**05 57 01.6**	**-1.1**
PGF	3.6nm,0.3s			*e*Sn	**Sn**	**05 57 28.8**	**-1.4**
FRF	**La Foret Royal**	**2.50**	**242**	*e*Pn	**Pn**	**05 57 06.1**	**+0.2**
FRF	3.4nm,0.3s			*e*Sn	**Sn**	**05 57 36.0**	**+0.2**
DAVA	**Damuels**	**2.52**	**3**	⇑*i* Pn	**Pn**	**05 57 06.7**	**+0.4**
DAVA	**Damuels**	**2.52**	**3**	⇑*i* Pg	**Pn**	**05 57 14.1**	**+7.8**
DAVA				⇓*i* Sn	**Sn**	**05 57 39.4**	**+2.9**
DAVA	**Damuels**	**2.52**	**3**	⇑Pn	**Pn**	**05 57 06.7**	**+0.4**
DAVA				Pg	**Pn**	**05 57 14.1**	**+7.8**
DAVA				Sn	**Sn**	**05 57 39.4**	**+2.9**
DAVA				Sg	**Sn**	**05 57 50.2**	**+14**
DAVA	**Damuels**	**2.52**	**3**	Pg	**Pn**	**05 57 14.1**	**+7.8**
DAVA				Sn	**Sn**	**05 57 39.4**	**+3.0**
DAVA				Sg	**Sn**	**05 57 50.3**	**+14**
	4.4nm,0.3s						
SQTA	**Sankt Quirin**	**2.67**	**23**	⇑*i* Pn	**Pn**	**05 57 09.3**	**+0.9**
SQTA	**Sankt Quirin**	**2.67**	**23**	⇓*i* Sn	**Sn**	**05 57 42.8**	**+2.6**
SQTA	**Sankt Quirin**	**2.67**	**23**	⇑Pn	**Pn**	**05 57 09.3**	**+0.9**
SQTA				Sn	**Sn**	**05 57 42.8**	**+2.6**
SQTA	**Sankt Quirin**	**2.67**	**23**	Pn	**Pn**	**05 57 09.3**	**+0.9**
SQTA				Sn	**Sn**	**05 57 42.8**	**+2.5**
LMR	**La Mourre**	**2.70**	**239**	*e*Pn	**Pn**	**05 57 08.1**	**-0.7**
LMR	3.5nm,0.4s			*e*Sn	**Sn**	**05 57 40.0**	**-0.9**
ORIF	**Oris-en-Rattie**	**2.71**	**274**	*e*Pn	**Pn**	**05 57 10.7**	**+1.8**
ORIF	3.1nm,0.4s			*e*Sn	**Sn**	**05 57 43.4**	**+2.2**
MOTA	**Moosalm**	**2.76**	**21**	⇑*i* Pn	**Pn**	**05 57 10.2**	**+0.5**
MOTA	**Moosalm**	**2.76**	**21**	⇓*i* Sn	**Sn**	**05 57 45.0**	**+2.6**
MOTA	**Moosalm**	**2.76**	**21**	⇑Pn	**Pn**	**05 57 10.2**	**+0.5**
MOTA				Sn	**Sn**	**05 57 45.0**	**+2.5**
MOTA	**Moosalm**	**2.76**	**21**	Pn	**Pn**	**05 57 10.2**	**+0.5**
MOTA				Sn	**Sn**	**05 57 45.0**	**+2.5**
SMRF	**Simiane la Rot**	**3.05**	**256**	*e*Pn	**Pn**	**05 57 15.1**	**+1.3**
SMRF	9.0nm,0.6s			*e*Sn	**Sn**	**05 57 52.6**	**+2.8**
CABF	**La Chapelle**	**3.12**	**307**	*e*Pn	**Pn**	**05 57 15.1**	**+0.3**
VIVF	**Saint-Julien-l**	**3.57**	**273**	*e*Pn	**Pn**	**05 57 22.1**	**+1.0**
VIVF				*e*Sn	**Sn**	**05 58 03.2**	**+0.4**
HINF	**Hinteralfeld**	**3.62**	**328**	*e*Pn	**Pn**	**05 57 20.3**	**-1.6**
HINF	2.8nm,0.3s			*e*Sn	**Sn**	**05 58 01.2**	**-3.1**
HAU	**Haudompre**	**3.98**	**326**	*e*Pn	**Pn**	**05 57 25.7**	**-1.2**
HAU	5.6nm,0.3s			*e*Sn	**Sn**	**05 58 10.6**	**-2.6**
CDF	**Champ du Feu**	**4.00**	**336**	*e*Pn	**Pn**	**05 57 25.4**	**-1.9**
CDF	3.7nm,0.3s			*e*Sn	**Sn**	**05 58 09.8**	**-4.2**
LASF	**Ste Croix**	**4.23**	**263**	*e*Pn	**Pn**	**05 57 30.2**	**-0.3**
SMF	**Signal de Mont**	**4.50**	**297**	*e*Pn	**Pn**	**05 57 33.1**	**-1.3**
SMF	2.4nm,0.3s			*e*Sn	**Sn**	**05 58 24.4**	**-2.1**
LOR	**Lormes**	**4.76**	**304**	*e*Pn	**Pn**	**05 57 37.6**	**-0.5**
LOR	2.6nm,0.3s			*e*Sn	**Sn**	**05 58 31.6**	**-1.6**
BGF	**Bois d'Agland**	**5.11**	**293**	*e*Pn	**Pn**	**05 57 42.0**	**-1.0**
SGMF	**Saint Gilles**	**9.13**	**297**	*e*Pn	**P**	**05 58 36.1**	**-3.1**

IDC ***30*** *06:03:29.0±3.3, 18.12S×69.54W, h112km±27km, mb3.3/2, mb1 3.4/4, mb1mx3.2/17, mbtmp3.8/4, Error ellipse: s-maj=39.4km s-min=25.5km az=88.0*
NEIC ***30*** *06:03:30.5±0.8, 18.11S×69.54W, h128km±13km, mb4.3/3, Error ellipse: s-maj=18.8km s-min=12.0km az=85.0*

ISC 30 06:03:29.6±0.6, 18.05S±0.05×69.49W±0.07, h137km±9km, n12, σ1$21/18, mb3.2/1, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.18**	**37**	P	**P**	**06 04 07.7**	**+1.1**
LPAZ	74nm,0.3s,baz=231,slow=7.3,SNR=1490			S	**S**	**06 04 34.7**	**-0.1**
LPAZ	baz=106,slow=20,SNR=2.8 **La Paz**	**2.18**	**37**	⇓*i* Pn	**P**	**06 04 07.7**	**+1.1**
LPAZ				S	**S**	**06 04 34.7**	**-0.1**
ARE	**Arequipa**	**2.48**	**309**	⇑*i* P	**P**	**06 04 10.9**	**+0.4**
ARE				*e*S	**S**	**06 04 42.0**	**+0.3**
LVC	**Limon Verde**	**4.57**	**173**	*e*Pn	**P**	**06 04 38.5**	**+0.4**
LVC				*e*Sn	**S**	**06 05 31.5**	**+0.7**
SIV	**San Ignacio**	**8.31**	**77**	P	**P**	**06 05 26.2**	**-2.0**
SIV	5.1nm,0.3s,baz=268,slow=9.5,SNR=74			S	**S**	**06 06 53.0**	**-7.8**
NNA	0.4nm,0.3s,baz=6.8,slow=22,SNR=9.9 **Nana**	**9.32**	**309**	*e*Pn	**P**	**06 05 39.0**	**-2.6**
SAML	12nm,0.4s **Samuel**	**10.93**	**35**	*e*Pn	**P**	**06 05 58.6**	**-4.4**
CFAA	2.6nm,0.4s **Coronel Fontan**	**13.54**	**175**	P	**P**	**06 06 35.0**	**-2.1**
CFAA	0.1nm,0.3s,baz=352,slow=14,SNR=8.7			S	**S**	**06 08 57.0**	**-7.7**
BDFB	0.1nm,0.3s,baz=263,slow=23,SNR=5.9 **Brasilia**	**20.69**	**87**	P	**P**	**06 08 01.7**	**+1.1**
TRQA	2.8nm,0.5s,baz=256,slow=8.0,SNR=10 **Tornquist**	**20.99**	**163**	*e*P	**P**	**06 08 03.7**	**+0.3**
YKA	2.9nm,0.6s **Yellowknife Ar**	**87.77**	**341**	P	**P**	**06 16 04.9**	**+1.0**
YKA	0.2nm,0.5s,mb3.2,baz=134,slow=4.8,SNR=6.2 **Yellowknife Ar**	**87.77**	**341**	P	**P**	**06 16 04.9**	**+1.0**

MAN 30 06:05:12.1, 9.31N×123.26E, h1km, mb4.1, ML2.9, MS2.7, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.73**	**172**	⇓*e*P	Pg	06 05 26.0	-0.6
DCPH				*i* S	Sg	06 05 36.7	+0.4
PAGZ	**Pagadian**	**1.46**	**175**	*e*P	Pn	06 05 39.2	-0.4
PAGZ				*e*S	Sb	06 05 59.0	+0.4
GUIM	**Jordan**	**1.47**	**333**	*e*P	Pn	06 05 39.3	-0.5
GUIM				*e*S	Sb	06 05 58.7	-0.2
IPIL	**Ipil**	**1.66**	**204**	*e*P	Pn	06 05 43.1	+0.6
IPIL				*e*S	Sb	06 06 05.0	+0.6

NDI ***30*** *06:14:35.4±2.3, 34.58N×72.72E, h33km, ML3.0*
NNC ***30*** *06:14:50.5±13.0, 34.85N×73.51E, mb4.0, mpv3.7, Error ellipse: s-maj=1588.0km s-min=169.7km az=75.0*

ISC 30 06:14:38.7±1.1, 34.07N±0.06×72.8E±0.1, h33km, n7, σ1$38/13, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.94**	**123**	*e*P	**P**	**06 15 25.6**	**+1.5**
THN				*e*S	**S**	**06 16 00.8**	**+2.2**
DLH	**Dalhousie**	**3.06**	**119**	*e*P	**P**	**06 15 25.0**	**-0.8**
DLH				*e*S	**S**	**06 16 02.0**	**+0.3**
SDNR	**Sundarnagar**	**4.35**	**125**	*e*P	**P**	**06 15 44.2**	**+0.1**
SDNR				*ex*	x	06 16 43.4	
KLP	**Kalpa**	**5.24**	**117**	*e*P	**P**	**06 15 54.5**	**-2.3**
KLP				*e*S	**S**	**06 16 55.9**	**-0.9**
KLP	comp=E,96nm,0.3s			AML	AML	06 17 11.1	
KLP	comp=N,56nm,0.2s			AML	AML	06 17 14.5	
KHET	**Khetri**	**6.51**	**156**	*e*P	**P**	**06 16 16.2**	**+1.7**
KHET				*e*S	**S**	**06 17 27.3**	**-1.2**
KHET	comp=N,2.5nm,0.1s			AML	AML	06 18 06.2	
KHET	comp=E,5.2nm,0.1s			AML	AML	06 18 14.9	
KUDL	**Kundal**	**6.70**	**151**	*e*P	**P**	**06 16 17.8**	**+0.5**
KUDL				*e*S	**S**	**06 17 32.3**	**-1.0**
KK31	**Karatay Array**	**9.20**	**349**	P	**P**	**06 16 55.8**	**+3.7**
KK31	comp=E,2.0nm,0.6s,baz=156,slow=11,SNR=27			⇑S	**S**	**06 18 34.3**	**-1.1**
	comp=E,0.8nm,0.5s,baz=166,slow=22,SNR=9.2						

IDC ***30*** *06:26:11.0±1.4, 57.12N×33.87W, mb3.7/11, mb1 3.9/12, mb1mx3.8/23, mbtmp3.7/12, ML2.7/1, MS3.6/8, Ms1 3.6/8, ms1mx3.2/35, Error ellipse: s-maj=44.9km s-min=15.7km az=177.0*
NEIC ***30*** *06:26:12.7±0.9, 57.15N×33.84W, h10km, mb4.2/2, Error ellipse: s-maj=28.9km s-min=9.7km az=179.0*
CSEM ***30*** *06:26:12.7±0.2, 57.15N×33.84W, h10km, mb4.2/2, Error ellipse: s-maj=10.7km s-min=4.1km az=178.0, After NEIC*

ISC 30 06:26:10.6±1.1, 57.1N±0.2×33.8W±0.2, h10km, n21, σ0$81/15, mb3.7/12, MS3.5/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.52**	**277**	P	**P**	**06 30 29.4**	**+0.7**
	0.3nm,0.3s,baz=50,slow=9.0,SNR=8.4						
HFS	**Hagfors**	**24.50**	**63**	LR	LR	06 40 51.8	
	comp=Z,31nm,18.9s,MS2.8,baz=282,slow=36						
ARCES	**ARCESS Array B**	**28.08**	**40**	P	**P**	**06 32 03.1**	**-0.6**
	2.3nm,0.9s,mb3.8,baz=286,slow=8.8,SNR=3.8						
DAVOX	**Davos**	**28.37**	**92**	LR	LR	06 43 09.1	
	comp=Z,85nm,18.1s,MS3.4,baz=254,slow=36						
FCC	**Fort Churchill**	**31.11**	**299**	*e*P	**P**	**06 32 31.3**	**+0.4**
	4.7nm,1.0s,mb4.3						
ULM	**Lac du Bonnet**	**36.24**	**286**	P	**P**	**06 33 13.4**	**-1.9**
	0.8nm,0.7s,mb3.8,baz=60,slow=7.0,SNR=3.0						
ULM				LR	LR	06 46 38.6	
	comp=Z,94nm,21.7s,MS3.5,baz=17,slow=34						
AKASG	**Malin Array Be**	**36.48**	**72**	P	**P**	**06 33 16.2**	**-1.1**
	0.8nm,0.4s,mb4.0,baz=311,slow=8.3,SNR=5.4						
YKA	**Yellowknife Ar**	**38.50**	**313**	P	**P**	**06 33 34.6**	**+0.5**
	0.4nm,0.9s,mb3.1,baz=63,slow=9.2,SNR=6.3						
YKA				LR	LR	06 48 50.5	
	comp=Z,106nm,18.7s,MS3.7,baz=50,slow=35						
INK	**Inuvik**	**41.96**	**327**	P	**P**	**06 34 03.0**	**+0.4**
	0.4nm,0.7s,mb3.1,baz=14,slow=4.2,SNR=4.0						
BR131	**Keskin Array S**	**45.99**	**82**	*e*P	**P**	**06 34 36.5**	**+1.1**
	0.7nm,0.5s,mb3.9						
BR131	**Keskin Array S**	**45.99**	**82**	*e*P	**P**	**06 34 36.5**	**+1.1**
	0.7nm,0.5s,mb3.9						
BRTR	**Keskin Array B**	**45.99**	**82**	P	**P**	**06 34 37.0**	**+1.5**
	1.8nm,0.7s,mb4.1,baz=314,slow=5.3,SNR=10						
DLBC	**Dease Lake**	**47.04**	**314**	LR	LR	06 54 30.2	
	comp=Z,160nm,20.7s,MS4.0,baz=88,slow=36						
NEW	**Newport**	**48.25**	**297**	LR	LR	06 53 46.8	
	comp=Z,148nm,21.0s,MS3.9,baz=330,slow=34						
PDAR	**Pinedale Array**	**48.26**	**287**	P	**P**	**06 34 52.3**	**-0.9**
	0.4nm,0.8s,mb3.5,baz=18,slow=2.9,SNR=3.4						
ILAR	**Eielson Array**	**48.29**	**328**	P	**P**	**06 34 53.1**	**0.0**
	0.9nm,0.9s,mb3.8,baz=53,slow=5.6,SNR=7.7						
TXAR	**Lajitas Array**	**55.07**	**271**	P	**P**	**06 35 45.2**	**+0.5**
	0.5nm,0.9s,mb3.5,baz=54,slow=6.1,SNR=4.5						
DBIC	**Dimbokro**	**55.17**	**144**	LR	LR	06 56 33.9	
	comp=Z,40nm,19.6s,MS3.5,baz=56,slow=33						
NVAR	**Mina Array Bea**	**55.96**	**289**	LR	LR	06 59 40.9	
	comp=Z,52nm,21.5s,MS3.6,baz=50,slow=36						
MKAR	**Makanchi Array**	**63.66**	**44**	P	**P**	**06 36 43.9**	**+0.2**
	1.1nm,0.9s,mb3.9,baz=329,slow=5.5,SNR=10						
SONM	**Songino Array**	**70.33**	**27**	P	**P**	**06 37 26.2**	**+0.4**
	1.0nm,1.2s,mb3.6,baz=338,slow=7.8,SNR=3.3						

WEL 30 06:58:49.3±0.2, 38.54S×177.90E, h24km±2km, ML3.5/6, 2C-1D, Error ellipse: s-maj=2.4km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.35**	**305**	⇑P*	Pb	06 58 56.2	-0.9
MWZ				S*	Sb	06 59 01.5	-0.9
KNZ	**Kokohu**	**0.51**	**200**	P*	Pb	06 58 59.3	-0.4
KNZ				S*	Sb	06 59 06.6	-0.1
PUZ	**Puketiti**	**0.54**	**32**	⇓P*	Pb	06 59 00.0	-0.2
PUZ				*e*S*	Sb	06 59 08.1	+0.5
URZ	**Urewera**	**0.68**	**294**	⇑P*	Pb	06 59 01.7	-0.7
URZ				S*	Sb	06 59 12.0	+0.6
EDRZ	**Edgecumbe**	**1.01**	**295**	PN	Pn	06 59 07.6	-0.4
MXZ	**Matakaoa Point**	**1.02**	**19**	PN	Pn	06 59 07.4	-0.9
TAZ	**Tarawera**	**1.13**	**285**	PN	Pn	06 59 09.6	-0.3
BKZ	**Black Stump Fm**	**1.26**	**240**	PN	Pn	06 59 10.4	-1.4
PATZ	**Paeroa**	**1.30**	**276**	PN	Pn	06 59 12.1	-0.1
TSZ	**Takapari Road**	**2.14**	**224**	PN	Pn	06 59 20.7	-3.5
MRZ	**Mangatainoka R**	**2.78**	**219**	*e*PN	Pn	06 59 28.7	-4.6
MRZ				*e*SN	Sn	07 00 00.9	-5.6
CAW	**Cannon Point**	**3.37**	**219**	*e*PN	Pn	06 59 35.3	-6.5

IDC ***30*** *07:24:28.9±2.3, 21.78S×68.17W, h106km±21km, mb3.6/3, mb1 3.6/5, mb1mx3.4/15, mbtmp3.9/5, Error ellipse: s-maj=33.0km s-min=19.9km az=98.0*
NEIC ***30*** *07:24:30.2±0.7, 21.73S×68.06W, h117km±9km, mb3.8/1, Error ellipse: s-maj=19.4km s-min=11.0km az=112.0*

ISC 30 07:24:28.9±0.8, 21.83S±0.07×68.0W±0.2, h123km±13km, n10, σ1$03/11, mb4.1/2, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.14**	**227**	⇑*i* Pn	**P**	**07 24 54.8**	**+1.9**
LVC				*e*Sn	**S**	**07 25 10.2**	**-0.8**
LPAZ	**La Paz**	**5.52**	**359**	P	**P**	**07 25 49.2**	**-0.7**
LPAZ	1.0nm,0.3s,baz=140,slow=7.3,SNR=17 **La Paz**	**5.52**	**359**	*e*Pn	**P**	**07 25 49.4**	**-0.5**
SIV	2.1nm,0.3s **San Ignacio**	**8.77**	**50**	P	**P**	**07 26 33.0**	**-0.8**
SIV	1.0nm,0.3s,baz=247,slow=11,SNR=27			S	**S**	**07 28 06.2**	**-5.2**
CFAA	0.2nm,0.3s,baz=297,slow=21,SNR=10 **Coronel Fontan**	**9.73**	**181**	P	**P**	**07 26 47.9**	**+1.0**
CFAA	0.0nm,0.3s,baz=0.3,slow=13,SNR=6.2			S	**S**	**07 28 33.3**	**-1.4**
BDFB	0.0nm,0.3s,baz=73,slow=19,SNR=2.9 **Brasilia**	**19.90**	**75**	P	**P**	**07 28 53.5**	**+0.6**
DBIC	0.7nm,0.4s,baz=245,slow=12,SNR=2.7 **Dimbokro**	**68.03**	**73**	P	**P**	**07 35 18.4**	**+0.9**
YKA	2.2nm,0.5s,mb4.2,baz=224,slow=8.7,SNR=5.8 **Yellowknife Ar**	**91.78**	**340**	P	**P**	**07 37 22.8**	**-0.6**
MKAR	0.4nm,0.4s,mb4.0,baz=136,slow=4.5,SNR=32 **Makanchi Array**	**145.40**	**37**	PKPbc	PKPbc	07 43 54.7	+2.0
MKAR	0.4nm,0.6s,baz=312,slow=3.8,SNR=5.9 **Makanchi Array**	**145.40**	**37**	PKPbc	PKPbc	07 43 54.7	+2.0

BJI ***30*** *07:41:12.9, 4.80S×152.34E, h115km, mB5.0, mb4.8*
MOS ***30*** *07:41:13.7±0.9, 4.55S×151.94E, h100km, mb4.7/14, Error ellipse: s-maj=12.7km s-min=9.2km az=75.1*
IDC ***30*** *07:41:15.1±0.6, 4.68S×151.93E, h104km±4km, mb4.3/10, mb1 4.4/14, mb1mx4.4/16, mbtmp4.7/14, MS3.5/3, Ms1 3.5/3, ms1mx3.0/27, Error ellipse: s-maj=15.5km s-min=10.3km az=114.0*
NEIC ***30*** *07:41:15.7±0.2, 4.64S×151.95E, mb4.7/33, Error ellipse: s-maj=5.9km s-min=4.8km az=125.0*

ISC 30 07:41:14.8±0.3, 4.68S±0.04×151.98E±0.05, h109km, h109km±1.4km: pP-P, n113, σ0$97/101, mb4.7/50, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.70**	**225**	P	**P**	**07 42 52.2**	**0.0**
	3.8nm,0.3s

WRA S **S** **07 50 10.9 +2.9**
comp=Z,3.5nm,0.9s,baz=40,slow=16,SNR=5.7
WRA ScP 07 53 25.1
comp=Z,1.7nm,1.0s,baz=49,slow=2.9,SNR=8.1
ASPA Alice Springs 25.70 221 *e*P **P** **07 46 37.6 +1.0**
ASPA *e*pP pP 07 47 01.2 +1.0
STKA Stephens Creek 28.76 199 *e*P **P** **07 47 03.1 -1.3**
comp=Z,4.3nm,1.5s,mb3.9
STKA Stephens Creek 28.76 199 P **P** **07 47 02.4 -2.0**
comp=Z,1.7nm,0.7s,mb3.8,baz=14,slow=13,SNR=6.8
STKA pP pP 07 47 24.6 -3.9
comp=Z,2.7nm,0.5s,baz=21,slow=9.8,SNR=3.0
FITZ Fitzroy Crossi 29.00 240 *e*P **P** **07 47 04.9 -1.8**
comp=Z,16nm,0.9s,mb4.7
FITZ *e*pP pP 07 47 28.6 -2.2
MJAR Matsushiro Arr 42.98 344 P **P** **07 49 02.8 -2.1**
comp=Z,1.7nm,0.5s,mb4.0,baz=97,slow=1.7,SNR=12
SSE Sheshan 46.14 322 *e*P **P** **07 49 30.3 +0.1**
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,160nm,3.8s
NJ2 Nanjing 48.23 322 *e*P **P** **07 49 48.3 +1.7**
NJ2 AP pP 07 50 15.5 +3.0
NJ2 XP sP 07 50 27.0 +2.3
NJ2 PP PP 07 51 41.5 +1.9
NJ2 S **S** **07 56 39.0 +2.6**
NJ2 XS 07 57 25.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,280nm,4.9s
NJ2 LR LR
comp=N,470nm,19.0s
NJ2 LR LR
comp=E,340nm,24.7s
NJ2 LR LR
comp=Z,300nm,21.6s
MDJ Mudanjiang 53.02 340 P **P** **07 50 22.8 +0.1**
MDJ AMB AMB
comp=Z,20nm,1.8s,mb4.8
MDJ AMB AMB
comp=Z,130nm,3.3s
ENH Enshi 53.47 313 *e*P **P** **07 50 26.2 0.0**
comp=Z,9.5nm,0.8s,mb4.9
ENH *e*pP pP 07 50 52.8 +0.3
CN2 Changchun 53.85 336 *e*P **P** **07 50 31.0 +2.2**
XAN Xi'an 55.97 317 P **P** **07 50 43.8 -0.5**
XAN AMB AMB
comp=Z,20nm,0.8s,mb5.2
KMI Kunming 56.24 304 P **P** **07 50 47.0 +0.6**
KMI S **S** **07 58 26.8 +1.3**
KMI AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
KMI LR LR
comp=Z,50nm,20.3s
HHC Hu-ho-hao-te 58.47 325 *e*P **P** **07 51 02.0 +0.2**
HHC AP pP 07 51 29.0 +0.5
HHC XP sP 07 51 41.5 +0.7
HHC PCP PcP 07 51 51.3 +0.4
HHC PP PP 07 53 14.5 +0.5
HHC S **S** **07 58 54.0 -0.6**
HHC XS 07 59 41.5
HHC SCS ScS 08 00 36.8 -0.2
HHC SS SS 08 02 49.3 -1.0
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,70nm,5.2s
HHC LR LR
comp=N,110nm,16.6s
HHC LR LR
comp=E,130nm,13.1s
HHC LR LR
comp=Z,70nm,13.1s
PPT Papeete 58.55 108 LR LR 08 13 42.1
comp=Z,184nm,18.1s,baz=82,slow=33
LZH Lanzhou 60.57 316 *e*P **P** **07 51 17.0 +0.7**
LZH AP pP 07 51 44.5 +1.3
LZH XP sP 07 51 56.5 +1.1
LZH PCP PcP 07 51 59.8 +0.5
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,110nm,4.5s
GTA Gaotai 65.01 318 *e*P **P** **07 51 46.3 +0.6**
GTA AP pP 07 52 13.5 +0.6
GTA XP sP 07 52 25.8 +0.9
GTA PP PP 07 54 12.3 +0.4
GTA S S 08 00 20.5 +3.3
GTA XS 08 01 07.5
GTA SS SS 08 04 37.3 +4.3
GTA AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
GTA AMB AMB
comp=Z,50nm,6.1s
GTA LR LR
comp=N,90nm,14.1s
GTA LR LR
comp=E,100nm,14.4s
GTA LR LR
comp=Z,60nm,12.2s
ULN Ulaanbaatar 65.46 328 *e*P **P** **07 51 48.3 -0.1**
ULN pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ULN Ulaanbaatar 65.46 328 *e*P **P** **07 51 48.3 -0.1**
comp=Z,5.3nm,0.7s,mb4.5
SONM Songino Array 65.78 328 P **P** **07 51 50.4 -0.1**
comp=Z,6.7nm,0.5s,mb4.7,baz=142,slow=5.4,SNR=56
SONM PcP PcP 07 52 20.2 -0.3
comp=Z,1.7nm,0.5s,baz=145,slow=3.7,SNR=8.0
SONM LR LR 08 20 36.2
comp=Z,34nm,19.1s,baz=104,slow=36
LSA Lhasa 67.49 305 *e*P **P** **07 52 02.0 +0.5**
LSA pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LSA Lhasa 67.49 305 *e*P **P** **07 52 02.0 +0.4**
comp=Z,6.8nm,0.5s,mb4.7
BOD Bodaibo 69.39 339 *e*P **P** **07 52 10.1 -2.6**
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
JIRN Jiri 71.02 301 *e*P **P** **07 52 22.1 -1.0**
comp=Z,9.9nm,0.6s,mb4.8
GUN Gumba 71.35 301 *e*P **P** **07 52 25.0 -0.1**
comp=Z,34nm,0.7s,mb5.3
PKI Pulchoki 71.66 301 *e*P **P** **07 52 26.4 -0.5**
comp=Z,12nm,0.6s,mb4.9
PKI Pulchoki 71.66 301 *e*P **P** **07 52 26.4 -0.5**
PKI pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
KKN Kakani 71.83 301 *e*P **P** **07 52 27.2 -0.7**
comp=Z,22nm,0.6s,mb5.1
KKN Kakani 71.83 301 *e*P **P** **07 52 27.2 -0.7**
KKN pmax pmax
comp=Z,11nm,0.6s,mb4.9
DMN Daman 71.93 301 *e*P **P** **07 52 28.4 -0.1**
comp=Z,31nm,0.8s,mb5.2
GKN Gorkha 72.44 301 *e*P **P** **07 52 31.2 -0.3**
comp=Z,28nm,0.8s,mb5.2
VNDA Vanda 72.98 178 P **P** **07 52 33.5 -0.3**
comp=Z,1.0nm,0.7s,mb3.8,baz=328,slow=5.0,SNR=5.8
VNDA pP pP 07 52 59.4 -2.3
comp=Z,2.4nm,0.9s,baz=316,slow=6.3,SNR=5.6
VNDA Vanda 72.98 178 *e*P **P** **07 52 33.2 -0.6**
VNDA *e**PP pP 07 53 00.8 -0.9
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 72.98 178 *e*P **P** **07 52 33.2 -0.6**
comp=Z,1.7nm,0.8s,mb3.9
VNDA *e*pP pP 07 53 00.8 -0.9
BILL Bilibino 73.25 6 *e*P **P** **07 52 36.7 +1.2**
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
KOLN Koldanda 73.26 301 *e*P **P** **07 52 35.5 -0.9**
comp=Z,23nm,0.8s,mb5.1
WMQ Urumqi 75.09 318 *e*P **P** **07 52 47.5 +0.9**
WMQ PCP PcP 07 53 01.0 +1.0
WMQ AP pP 07 53 15.8 +1.1
WMQ XP sP 07 53 28.0 +1.5
WMQ AMB AMB
comp=Z,60nm,5.0s
WMQ LR LR
comp=N,350nm,18.6s
WMQ LR LR
comp=E,460nm,19.0s
WMQ LR LR
comp=Z,440nm,18.0s
SLKM Skilak Lake 78.91 25 *e*P **P** **07 53 06.6 -0.9**
MKAR Makanchi Array 79.69 319 P **P** **07 53 11.7 -0.3**
comp=Z,4.7nm,0.8s,mb4.4,baz=108,slow=6.1,SNR=18
MCK McKinley 81.07 23 *e*P **P** **07 53 17.6 -1.4**
MCK pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
MCK McKinley 81.07 23 *e*P **P** **07 53 17.6 -1.4**
comp=Z,2.5nm,0.5s,mb4.3
NVS Novosibirsk 81.78 327 *e*P **P** **07 53 21.1 -1.8**
NVS pmax pmax
comp=Z,9.0nm,1.5s,mb4.4
NVS pmax pmax
comp=N,17nm,1.9s
NVS pmax pmax
comp=E,8.0nm,1.3s
COLA College 82.04 22 *e*P **P** **07 53 22.4 -1.6**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
COLA College 82.04 22 *e*P **P** **07 53 22.4 -1.6**
comp=Z,3.2nm,0.7s,mb4.3
ILAR Eielson Array 82.36 22 P **P** **07 53 23.5 -2.1**
comp=Z,1.2nm,0.4s,mb4.1,baz=254,slow=5.2,SNR=30
KURK Kurchatov 83.17 322 *e*P **P** **07 53 29.7 -0.3**
KURK *e**PP pP 07 53 58.2 -0.3
KURK pmax pmax
comp=Z,13nm,1.2s,mb4.6
KURK Kurchatov 83.17 322 *e*P **P** **07 53 29.7 -0.4**
comp=Z,13nm,1.2s,mb4.6
KURK *e*pP pP 07 53 58.2 -0.3
CHMS Chumysh 83.88 314 P **P** **07 53 33.8 0.0**
SNR=6.4
UCH Uchtor 83.89 313 P **P** **07 53 35.2 +1.4**
SNR=11
USP Ospenovka 84.11 314 P **P** **07 53 35.4 +0.4**
SNR=8.4
AML Almayashu 84.46 313 P **P** **07 53 38.3 +1.6**
SNR=23
EKS2 Erkin-Say 84.51 314 P **P** **07 53 38.2 +1.2**
SNR=5.8
INK Inuvik 88.64 21 *e*P **P** **07 53 55.5 -0.9**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 88.64 21 *e*P **P** **07 53 55.5 -0.9**
comp=Z,1.6nm,0.6s,mb4.2
BRVK Borovoye 88.72 323 *e*P **P** **07 53 56.1 -1.0**
BRVK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BRVK Borovoye 88.72 323 *e*P **P** **07 53 56.1 -1.0**
comp=Z,2.1nm,0.9s,mb4.2
ZRNK Zerenda 89.47 323 *e*P **P** **07 53 59.0 -1.6**
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ZRNK Zerenda 89.47 323 *e*P **P** **07 53 59.0 -1.6**
comp=Z,3.3nm,0.7s,mb4.5
NVAR Mina Array Bea 92.66 52 P **P** **07 54 16.8 +1.0**
comp=Z,8.5nm,0.8s,mb5.1,baz=248,slow=5.3,SNR=55
WVOR Wild Horse Val 92.67 48 *e*P **P** **07 54 16.2 +0.4**
WVOR pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
WVOR Wild Horse Val 92.67 48 *e*P **P** **07 54 16.2 +0.5**
comp=Z,7.0nm,1.0s,mb5.0
SYO Syowa Base 93.51 200 ⇑pP pP 07 54 47.7 -0.3
NEW Newport 94.06 42 *e*P **P** **07 54 22.0 +0.1**
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 94.06 42 *e*P **P** **07 54 22.0 0.0**
comp=Z,6.8nm,0.9s,mb5.0
ELK Elko 95.13 50 *e*P **P** **07 54 27.8 +0.7**
ELK pmax pmax
comp=Z,5.0nm,1.3s
ELK Elko 95.13 50 *e*P **P** **07 54 27.8 +0.8**
comp=Z,5.2nm,1.3s,mb4.8
NEN Nelson 95.28 55 *e*P **P** **07 54 28.8 +0.9**
YKW3 Yellowknife Ar 95.69 28 *e*P **P** **07 54 28.8 -0.3**
YKA Yellowknife Ar 95.70 28 P **P** **07 54 28.7 -0.4**
comp=Z,1.4nm,0.7s,mb4.5,baz=270,slow=4.8,SNR=45
YKA PKiKP 07 59 07.9
comp=Z,0.1nm,0.6s,baz=270,slow=1.4,SNR=5.8
YKA Yellowknife Ar 95.70 28 P **P** **07 54 28.7 -0.4**
HLID Hailey 95.81 47 *e*P **P** **07 54 30.5 +0.4**
comp=Z,3.2nm,0.8s,mb4.8
ARUT Antelope Range 96.46 53 P **P** **07 54 34.2 +1.1**
BOZ Bozeman (W) 97.79 45 *e*P **P** **07 54 39.3 +0.3**
comp=Z,2.2nm,0.7s,mb4.8
HWUT Hardware Ranch 97.91 49 *e*P **P** **07 54 39.7 +0.1**
comp=Z,2.8nm,0.8s,mb4.8
TMUT Trail Mountain 98.22 51 *e*P **P** **07 54 42.0 +0.9**
TPAW Teton Pass 98.33 47 *e*P **P** **07 54 42.2 +0.7**
comp=Z,4.3nm,1.0s,mb4.9
MOOW Moose Ponds 98.47 47 *e*P **P** **07 54 41.7 -0.4**
comp=Z,2.7nm,0.9s,mb4.8
LOHW Long Hollow 98.58 47 *e*P **P** **07 54 42.9 +0.3**
comp=Z,2.1nm,0.8s,mb4.7
BW06 Boulder Array 99.37 48 *e*Pdif **P** **07 54 45.8 -0.5**
comp=Z,4.0nm,0.8s,mb5.0
PDAR Pinedale Array 99.37 48 P **P** **07 54 46.0 -0.3**
comp=Z,4.2nm,0.7s,mb5.1,baz=259,slow=2.2,SNR=40
PV10 Paradox Valley 99.93 52 *e*Pdif **P** **07 54 49.3 +0.4**
SMCO Snowmass 101.50 51 *e*Pdif P 07 54 56.7 +0.8
SDCO Great Sand Dun 102.75 53 *e*Pdif Pdif 07 55 02.2 +0.7
RSSD Black Hills 103.28 46 *e*P Pdif 07 55 03.7 +0.1
BRTR Keskin Array B 114.61 312 PKP PKPdf 07 59 43.2 +0.7
comp=Z,0.6nm,0.6s,baz=122,slow=3.0,SNR=4.3
NB2 NORSAR Subarra116.52 340 PKPdf PKPdf 07 59 45.6 0.0
comp=Z,1.2nm,0.8s,baz=45,slow=1.9
NOA NORSAR Array B116.52 340 PKP PKPdf 07 59 45.8 +0.1
comp=Z,1.3nm,0.7s,baz=341,slow=1.5,SNR=6.1
NOA pPKP 08 00 13.6
comp=Z,1.0nm,0.8s,baz=65,slow=5.3,SNR=2.5
CLL Collm 122.34 331 *i* PKiKP PKPdf 07 59 58.1 +1.0
KHC Kasperske Hory 123.41 329 *e*P PKPdf 08 00 00.0 +0.7
GERES GERESS Array B 123.52 328 PKP PKPdf 08 00 00.3 +0.8
comp=Z,2.4nm,0.7s,baz=73,slow=1.3,SNR=19
GERES pPKP 08 00 28.2
comp=Z,0.5nm,0.5s,baz=108,slow=3.1,SNR=2.3
ROSC El Rosal 133.86 88 PKP PKPdf 08 00 22.7 +2.6
comp=Z,4.1nm,0.5s,baz=83,slow=21,SNR=4.6
ROSC pPKP 08 00 50.5
comp=Z,3.5nm,0.5s,baz=100,slow=19,SNR=2.5
LPAZ La Paz 135.20 119 PKP PKPdf 08 00 25.2 +2.7
comp=Z,2.4nm,0.6s,baz=283,slow=1.8,SNR=11
LPAZ pPKP 08 00 53.2
comp=Z,2.9nm,0.7s,baz=307,slow=5.6,SNR=4.8
LPAZ SKPbc 08 03 48.8
comp=Z,1.2nm,0.8s,baz=272,slow=4.4,SNR=3.9
LPAZ La Paz 135.20 119 *e*PKPdf PKPdf 08 00 24.6 +2.0
LPAZ *e* 08 00 52.9
SDV Santo Domingo 137.50 82 *e*PKPdf PKPdf 08 00 27.9 +1.0
SDV *e* 08 00 55.6
SAML Samuel 142.43 111 *e*PKPdf PKPdf 08 00 36.7 +0.9
SAML *e*pPKPdf 08 01 04.8
BDFB Brasilia 151.73 136 PKPbc PKPdf 08 00 58.8 +7.9
comp=Z,3.3nm,0.5s,baz=227,slow=2.0,SNR=11
BDFB pPKPbc 08 01 26.2
comp=Z,9.4nm,0.9s,baz=221,slow=4.2,SNR=6.2
DBIC Dimbokro 156.86 276 PKPab PKPab 08 01 28.1 -2.7
comp=Z,2.5nm,0.6s,baz=100,slow=6.3,SNR=5.8

*BJI **30** 08:01:50.2, 3.43N×97.22E, h30km, mB4.8, mb4.8, Ms4.1, Msz3.7*
*NEIC **30** 08:01:57.6±0.7, 4.32N×97.20E, h30km, mb4.3/6, Error ellipse: s-maj=22.3km s-min=10.1km az=52.0*
*IDC **30** 08:01:59.9±2.6, 4.37N×97.28E, h45km±24km, mb3.9/9, mb1 4.0/10, mb1mx3.8/19, mbtmp4.1/10, ML4.2/1, Error ellipse: s-maj=48.8km s-min=14.8km az=59.0*
ISC 30 08:01:55.8±0.6, **4.25N**±0.09×**97.1E**±0.1, **h30km, n24,**
σ1§**54**/25, **mb4.2**/18, **MS3.7**/2, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.36**	**127**	P	**Pn**	**08 02 34.8**	**+1.4**
	53nm,0.3s,baz=326,slow=14,SNR=190						
PSI				S	**Sn**	**08 03 04.2**	**+2.6**
	27nm,0.3s,baz=234,slow=24,SNR=14						
KULM	**Kulim**	**3.74**	**74**	*e*Pn	**Pn**	**08 02 50.8**	**-2.2**
GYA	**Guiyang**	**23.93**	**22**	P	**P**	**08 07 10.5**	**+2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**25.92**	**348**	P	**P**	**08 07 31.0**	**+3.6**
LSA	**Lhasa**	**25.92**	**348**	*e*P	**P**	**08 07 31.1**	**+3.7**
	comp=Z,15nm,0.8s,mb4.6						
ENH	**Enshi**	**28.43**	**23**	*e*P	**P**	**08 07 50.5**	**+0.3**
	comp=Z,5.8nm,0.7s,mb4.3						
XAN	**Xi'an**	**31.64**	**19**	P	**P**	**08 08 19.0**	**+0.3**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GTA	**Gaotai**	**35.09**	**4**	*e*P	**P**	**08 08 49.3**	**+0.7**
GTA				AP	pP	08 09 00.3	+2.8
GTA				XP	sP	08 09 04.8	+3.5
GTA				AMB	AMB		
	comp=Z,80nm,8.0s						
GTA				LR	LR		
	comp=N,80nm,13.3s,MS3.8						
GTA				LR	LR		
	comp=E,100nm,17.1s,MS3.8						
GTA				LR	LR		
	comp=Z,80nm,16.3s,MS3.6						
HHC	**Hu-ho-hao-te**	**38.71**	**18**	*e*P	**P**	**08 09 21.0**	**+2.0**
HHC				AP	pP	08 09 29.0	+1.0
HHC				XP	sP	08 09 32.8	+1.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,90nm,5.6s						
HHC				LR	LR		
	comp=N,110nm,8.7s						
HHC				LR	LR		
	comp=E,100nm,13.1s						
HHC				LR	LR		
	comp=Z,70nm,10.9s,MS3.7						
NWAO	**Narrogin (SRO)**	**41.63**	**154**	P	**P**	**08 09 44.7**	**+1.4**
	comp=Z,4.9nm,0.6s,mb4.3,baz=301,slow=5.9,SNR=4.4						
NWAO	**Narrogin (SRO)**	**41.63**	**154**	P	**P**	**08 09 44.7**	**+1.4**
WRA	**Warramunga Arr**	**43.83**	**125**	P	**P**	**08 09 59.8**	**-1.5**
	comp=Z,5.2nm,0.6s,mb4.4,baz=301,slow=9.2,SNR=60						
WRA				PcP	PcP	08 11 47.6	-0.4
	comp=Z,0.3nm,0.5s,baz=316,slow=2.7,SNR=6.4						
WRAB	**Tennant Creek**	**43.83**	**125**	*e*P	**P**	**08 10 00.1**	**-1.3**
	comp=Z,6.5nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**43.84**	**125**	*e*P	**P**	**08 09 59.8**	**-1.6**
SONM	**Songino Array**	**44.16**	**9**	P	**P**	**08 10 04.8**	**+1.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=190,slow=9.1,SNR=12						
SONM				PcP	PcP	08 11 47.9	-0.9
	comp=Z,0.4nm,0.6s,baz=189,slow=4.0,SNR=2.7						
MKAR	**Makanchi Array**	**44.27**	**345**	P	**P**	**08 10 04.4**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.0,baz=158,slow=8.2,SNR=26						
KURK	**Kurchatov**	**48.83**	**345**	*e*P	**P**	**08 10 40.0**	**-0.5**
	comp=Z,3.1nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**53.34**	**340**	P	**P**	**08 11 12.8**	**-1.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=140,slow=12,SNR=7.6						
BRVK	**Borovoye**	**53.41**	**340**	P	**P**	**08 11 12.8**	**-2.3**
	comp=Z,0.9nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**53.76**	**339**	*e*P	**P**	**08 11 15.8**	**-1.8**
	comp=Z,1.0nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**55.53**	**134**	P	**P**	**08 11 30.0**	**-0.9**
	comp=Z,3.4nm,0.7s,mb4.5,baz=296,slow=4.9,SNR=8.3						
BRTR	**Keskin Array B**	**66.98**	**311**	P	**P**	**08 12 50.6**	**+2.5**
	comp=Z,0.4nm,0.5s,mb3.7,baz=121,slow=7.3,SNR=4.0						
ARCES	**ARCESS Array B**	**79.64**	**340**	P	**P**	**08 14 00.2**	**-1.4**
	comp=Z,3.1nm,0.9s,mb4.2,baz=90,slow=6.1,SNR=6.2						
GERES	**GERESS Array B**	**82.44**	**319**	P	**P**	**08 14 18.1**	**+1.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=100,slow=6.0,SNR=3.0						

*THR **30** 08:32:04.7±0.3, 28.20N×58.37E, h14km±5km, ML3.1*
*CSEM **30** 08:32:04.7, 28.20N×58.37E, h14km, ML3.1, After THR*
*OMAN **30** 08:32:05.1±1.4, 28.34N×58.71E, h37km, Error ellipse: s-maj=48.8km s-min=34.4km az=350.0*
ISC 30 08:32:03.4±0.9, **28.19N**±0.05×**58.25E**±0.06, **h10km, n10,**
σ1§**25**/14, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**2.00**	**247**	*e*PG	**Pg**	**08 32 42.9**	**-0.5**
BNDS				*e*SG	**Sg**	**08 33 10.9**	**+0.7**
BNDS				AML	AML	08 33 13.7	
	comp=N,182nm,0.4s						
BNDS	**Bandar-Abbas**	**2.00**	**247**	*e*Pg	**Pg**	**08 32 42.9**	**-0.6**
	SNR=90						
BNDS				*e*Sg	**Sg**	**08 33 10.9**	**+0.7**
	comp=N,182nm,0.4s,SNR=90						
KRBR	**Kerman**	**2.22**	**324**	*e*PN	**Pn**	**08 32 44.1**	**+3.3**
KRBR				*e*SG	**Sg**	**08 33 16.1**	**-1.1**
KRBR				AML	AML	08 33 27.4	
	comp=N,99nm,0.6s						
KRBR	**Kerman**	**2.22**	**324**	*e*Pn	**Pn**	**08 32 44.1**	**+3.3**
	SNR=52						
KRBR				*e*Sg	**Sg**	**08 33 16.1**	**-1.1**
	comp=N,99nm,0.6s,SNR=90						
ZHSF	**Zahedan**	**2.63**	**57**	*e*PN	**Pn**	**08 32 47.5**	**+0.9**
BANOM	**Banah**	**2.85**	**218**	P	**Pn**	**08 32 53.2**	**+3.4**
	SNR=13						
ASHO	**Ashiyiah**	**4.00**	**210**	P	**Pn**	**08 33 11.2**	**+4.9**
	SNR=9.2						
BIDO	**Bidbid**	**4.65**	**181**	P	**Pn**	**08 33 14.6**	**-0.8**
	SNR=8.9						
SMDO	**Samad**	**5.11**	**182**	P	**Pn**	**08 33 21.9**	**0.0**
	SNR=11						
WBK	**Wadi Bani Khal**	**5.59**	**173**	P	**Pn**	**08 33 27.4**	**-1.2**
	SNR=8.0						
WBK				P		08 33 27.9	
	SNR=11						

*IDC **30** 08:43:53.9±1.4, 23.05S×175.25W, mb4.1/7, mb1 4.4/7, mb1mx4.2/14, mbtmp4.0/7, Error ellipse: s-maj=76.5km s-min=23.1km az=155.0*
*NEIC **30** 08:43:59.1±1.0, 23.09S×175.22W, h35km, mb4.6/3, Error ellipse: s-maj=51.3km s-min=12.1km az=157.0*
ISC 30 08:43:59.7±1.0, **22.0S**±0.2×**175.8W**±0.2, **h33km, n21,**
σ0§**94**/16, **mb4.1**/9, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.92**	**26**	Pn	**P**	**08 46 08.5**	**-0.7**
	11nm,0.3s,baz=202,slow=2.5,SNR=21						
AFI				Sn	**Sn**	**08 47 44.8**	**-4.9**
	1.8nm,0.3s,baz=110,slow=24,SNR=1.7						
AFI	**Afiamalu**	**8.92**	**26**	*e*Pn	**P**	**08 46 09.3**	**+0.2**
AFI				*e*Sn	**Sn**	**08 47 48.9**	**-0.8**
PAE	**Paea**	**24.98**	**85**	*e*T		09 14 47.4	
	16nm,0.2s						
PPT	**Papeete**	**25.01**	**84**	*e*LR	LR	08 55 07.6	
	110nm,21.0s						
CTA	**Charters Tower**	**35.45**	**266**	*e*P	**P**	**08 50 56.8**	**+1.7**
	2.9nm,0.3s,mb4.7						
CTAO	**Charters Tower**	**35.45**	**266**	*e*P	**P**	**08 50 56.7**	**+1.5**
	3.8nm,0.5s,mb4.6						
RKT	**Rikitea**	**37.59**	**100**	*e*LR	LR	09 00 50.8	
STKA	**Stephens Creek**	**39.05**	**246**	P	**P**	**08 51 23.6**	**-1.6**
	1.1nm,0.6s,mb3.8,baz=102,slow=12,SNR=6.2						
ASPA	**Alice Springs**	**46.23**	**258**	*e*P	**P**	**08 52 23.7**	**-0.1**
WB2	**Warramunga Arr**	**46.47**	**263**	*e*P	**P**	**08 52 25.5**	**-0.2**
WRAB	**Tennant Creek**	**46.47**	**263**	*e*P	**P**	**08 52 25.8**	**0.0**
	1.9nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**46.48**	**263**	P	**P**	**08 52 25.3**	**-0.5**
	3.8nm,0.6s,mb4.5,baz=96,slow=8.4,SNR=94						
MJAR	**Matsushiro Arr**	**72.68**	**323**	P	**P**	**08 55 30.1**	**+3.9**
	1.9nm,0.9s,mb4.0,baz=159,slow=5.9,SNR=4.5						
NVAR	**Mina Array Bea**	**80.72**	**42**	P	**P**	**08 56 12.4**	**+1.1**
	1.2nm,0.6s,mb4.0,baz=216,slow=7.7,SNR=11						
TXAR	**Lajitas Array**	**86.13**	**56**	P	**P**	**08 56 38.3**	**-0.7**
	0.7nm,0.9s,mb3.9,baz=219,slow=8.0,SNR=6.7						
PDAR	**Pinedale Array**	**88.65**	**42**	P	**P**	**08 56 50.5**	**-0.4**
	0.6nm,0.9s,mb3.9,baz=225,slow=4.2,SNR=3.9						
YKA	**Yellowknife Ar**	**97.03**	**24**	P	**P**	**08 57 30.2**	**+1.3**
	0.3nm,0.8s,mb3.8,baz=240,slow=4.5,SNR=6.7						
MKAR	**Makanchi Array**	**113.77**	**313**	PKP	PKPdf	09 02 34.1	-0.8
	0.2nm,0.6s,baz=90,slow=1.4,SNR=3.7						
AKASG	**Malin Array Be**	**145.35**	**332**	PKPbc	PKPbc	09 03 36.5	+2.0
	2.1nm,0.7s,baz=39,slow=3.9,SNR=8.9						
AKASG	**Malin Array Be**	**145.35**	**332**	PKPbc	PKPbc	09 03 36.5	+2.0
BRTR	**Keskin Array B**	**149.41**	**312**	PKPbc	PKPdf	09 03 48.1	+7.1
	1.1nm,0.6s,baz=146,slow=4.5,SNR=6.9						

*NAO **30** 08:48:01.2±1.9, 59.28N×26.89E, ML2.2*
*BER **30** 08:48:01.5±2.2, 59.30N×27.12E, ML2.2(NAO), Suspected explosion*
*IDC **30** 08:48:04.0±2.0, 59.47N×26.94E, mb1 3.3/4, mb1mx3.0/20, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=17.8km s-min=9.6km az=130.0*
HEL 30 08:48:01.6±0.1, **59.31N**×**27.00E, ML1.7, ML2.2**(NAO),
Explosion, Baltic States - Belarus - Northwestern Russia

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

VSU	**Vasula**	**0.86**	**190**	*i* P	Pg	08 48 16.8	-1.9
VSU				*i* S	Sg	08 48 28.4	-1.7
VJF	**Virojoki**	**1.27**	**12**	*e*P	Pb	08 48 24.0	-2.1
VJF				*e*S	Sb	08 48 40.9	-2.0
FIA0	**FINESS Array S**	**2.19**	**348**	*e*P	Pn	08 48 39.0	-0.8
FIA0				*e*SG	Sg	08 49 09.1	-5.6
FIA0	**FINESS Array S**	**2.19**	**348**	Pn	Pn	08 48 39.0	-0.8
	baz=163,slow=18						
FIA0				Lg		08 49 10.5	
	baz=170,slow=28						
FIA0				Rg		08 49 24.0	
	baz=165,slow=37						
FINES	**FINESS Array B**	**2.19**	**348**	Pn	Pn	08 48 39.0	-0.8
	1.9nm,0.3s,baz=165,slow=17,SNR=40						
FINES				Pg	Pg	08 48 40.3	-5.1
	1.9nm,0.3s,baz=167,slow=17,SNR=39						
FINES				Lg		08 49 07.6	
	2.1nm,0.3s,baz=171,slow=27,SNR=15						
KAF	**Kangasniemi**	**2.84**	**353**	*e*SG	Sg	08 49 28.9	-7.2
KAF				MSG		08 49 30.0	
	comp=Z,2.5nm,0.2s						
KEF	**Keuruu**	**3.06**	**341**	*e*SG	Sg	08 49 35.5	-7.8
KEF				MSG		08 49 44.4	
	comp=Z,1.6nm,0.2s						
SUF	**Sumiainen**	**3.45**	**353**	*e*SG	Sg	08 49 48.0	-8.5
HFS	**Hagfors**	**6.78**	**283**	Pn	Pn	08 49 41.7	-3.1
	comp=Z,0.0nm,0.3s,baz=84,slow=13,SNR=2.5						
HFS				Sn	Sn	08 50 55.7	-8.1
	comp=Z,0.1nm,0.3s,baz=96,slow=28,SNR=5.1						
HFS				Lg		08 51 32.8	
	comp=Z,0.1nm,0.3s,baz=90,slow=31,SNR=6.2						
HFS	**Hagfors**	**6.78**	**283**	*e*S	Sn	08 50 56.7	-7.1
HFS				*e*SG		08 51 31.5	
HFS	**Hagfors**	**6.78**	**283**	Sn	Sn	08 50 56.7	-7.1
	baz=93,slow=28						
HFS				Lg		08 51 31.5	
	baz=95,slow=37						
NB2	**NORSAR Subarra**	**8.06**	**289**	Pn	P	08 49 57.9	-4.9
	baz=85,slow=14						
NB2	**NORSAR Subarra**	**8.06**	**289**	*e*P	P	08 49 57.9	-4.9
NOA	**NORSAR Array B**	**8.06**	**289**	Pn	P	08 49 57.4	-5.4
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=2.7						
NOA				Sn	Sn	08 51 25.7	-10
	comp=Z,0.1nm,0.3s,baz=270,slow=5.3,SNR=3.5						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	P	08 50 27.9	-5.5
	baz=174,slow=14						
ARA0				Sn	S	08 52 17.4	-13
	baz=174,slow=28						
ARA0	**ARCESS Array S**	**10.29**	**357**	*e*P	P	08 50 27.9	-5.5
ARA0				*e*S	S	08 52 17.4	-13
ARCES	**ARCESS Array B**	**10.29**	**357**	Pn	P	08 50 27.9	-5.5
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=6.5						
ARCES				Sn	S	08 52 17.3	-14
	comp=Z,0.1nm,0.3s,baz=178,slow=21,SNR=2.2						

IDC 30 08:52:06.9±2.7, 20.16S×177.91W, h430km±39km, mb3.0/3, mb1 3.4/5, mb1mx3.2/15, mbtmp4.1/5, Error ellipse: s-maj=36.7km s-min=20.8km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.54**	**44**	P	P	08 54 08.7	-0.7
	10.0nm,0.3s,baz=254,slow=15,SNR=13						
AFI				S	S	08 55 41.3	-4.9
	1.9nm,0.3s,baz=205,slow=20,SNR=5.3						
URZ	**Urewera**	**18.55**	**192**	P	P	08 55 55.3	-0.5
	1.8nm,0.3s,baz=13,slow=12,SNR=13						
STKA	**Stephens Creek**	**38.01**	**244**	P	P	08 58 46.9	-0.7
	1.3nm,0.6s,baz=95,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**44.73**	**262**	P	P	08 59 40.1	-1.7
	0.6nm,0.3s,baz=96,slow=7.5,SNR=70						
TXAR	**Lajitas Array**	**86.80**	**57**	P	P	09 04 04.7	-0.9
	0.3nm,0.7s,baz=225,slow=3.5,SNR=5.0						

ISC 30 09:08:53.1±1.8, 48.46N×0.06×22.3E±0.1, h1km±16km, n5, σ0§68/9, 1C-1D, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOLS	**Kolonicke sedl**	**0.48**	**1**	*e*PG	**Pg**	**09 09 02.5**	**-0.1**
KOLS				*e*SG	**Sg**	**09 09 09.5**	**+0.5**
KOLS				*e*LG		09 09 20.0	
STHS	**Stebnicka Huta**	**1.17**	**325**	*e*PN	**Pn**	**09 09 16.8**	**+0.2**
STHS				*e*SN	**Sn**	**09 09 33.8**	**+0.4**
STHS				*e*LG		09 09 40.0	
KECS	**Kecovo**	**1.18**	**272**	*e*PN	**Pn**	**09 09 16.6**	**-0.2**
KECS				*e*SN	**Sn**	**09 09 33.3**	**-0.4**
KECS				*e*LG		09 09 40.0	
DRGR		**1.69**	**169**	⇑P	**Pn**	**09 09 23.3**	**-0.8**
DRGR				S	**Sb**	**09 09 48.1**	**+1.5**
BURAR	**Bucovina Array**	**2.16**	**112**	⇓P	**Pn**	**09 09 29.8**	**-0.9**

SKHL 30 09:09:55.6±0.1, 52.40N×142.60E, h7km±1km, mb3.9/4, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	**1.17**	**10**	⇓*i*Pg	Pg	09 10 20.0	+1.0
OKH				AMB	AMB	09 10 20.1	
	200nm,0.5s						
OKH				sP		09 10 24.4	
OKH				*i* Sg	Sg	09 10 37.2	+2.6
OKH				A		09 10 37.5	
	1μm,0.6s						
NKL	**Nikolayevsk**	**1.39**	**304**	*e*Pg	Pg	09 10 23.2	-0.1
NKL				AMB	AMB	09 10 23.5	
	10.0nm,0.4s						
NKL				AMB	AMB	09 10 23.5	
	40nm,0.4s						
NKL				sP		09 10 26.3	
NKL				*e*Sg	Sg	09 10 42.3	+0.5
NKL				A		09 10 51.5	
	360nm,0.4s						
TYV	**Tymovskoe**	**1.54**	**179**	*e*Pg	Pg	09 10 26.0	-0.4
TYV				AMB	AMB	09 10 29.0	
	18nm,0.3s						
TYV				AMB	AMB	09 10 29.0	
	20nm,0.3s						
TYV				*e*Sg	Sg	09 10 47.1	+0.2
TYV				A		09 10 49.7	
	140nm,0.7s						
TYV				A		09 10 49.7	
	138nm,0.7s						
GRNR	**Gornyy**	**4.18**	**249**	*e*Sg	Sg	09 12 15.3	+0.4
GRNR				A		09 12 21.5	
	51nm,0.6s						
EKMR	**Ekimchan**	**5.90**	**280**	*e*Pg	Pg	09 11 52.0	-1.4
EKMR				AMB	AMB	09 11 58.5	
	4.0nm,0.4s						
EKMR				*e*Sg	Sg	09 13 13.2	+1.1
EKMR				A		09 13 14.6	
	20nm,0.5s						
EKMR				A		09 13 14.6	
	8.0nm,0.5s						
EKMR				A		09 13 14.6	
	10.0nm,0.5s						
KLR	**Kul'dur**	**7.57**	**250**	*e*rx	rx	09 14 03.4	

HEL 30 09:26:01.0±0.1, 60.17N×28.74E, ML1.6, Explosion
IDC 30 09:26:04.9±1.9, 60.39N×28.51E, mb1 3.4/3, mb1mx3.0/19, mbtmp3.3/3, ML2.6/3, Error ellipse: s-maj=14.3km s-min=13.5km az=81.0

ISC 30 09:26:00.4±1.5, 60.14N±0.07×28.5E±0.2, n10, σ1§14/18, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.61**	**311**	*e*P	**Pg**	**09 26 13.6**	**+1.1**
VJF				*e*S	**Sg**	**09 26 21.2**	**+0.7**
PVF	**Pernaja**	**1.36**	**288**	*e*P	**Pb**	**09 26 27.5**	**+1.0**
PVF				*e*S	**Sb**	**09 26 48.1**	**+3.8**
FIA0	**FINESS Array S**	**1.76**	**319**	*e*P	**Pn**	**09 26 32.2**	**-0.1**
FIA0				*e*SG	**Sg**	**09 26 57.2**	**-1.6**
FINES	**FINESS Array B**	**1.76**	**319**	Pg	**Pg**	**09 26 32.1**	**-3.3**
	0.8nm,0.3s,baz=128,slow=16,SNR=40						
FINES				Lg		09 26 55.0	
	3.2nm,0.3s,baz=132,slow=29,SNR=30						
KAF	**Kangasniemi**	**2.24**	**333**	*e*P	**Pn**	**09 26 39.6**	**+0.4**
KAF				*e*S	**Sn**	**09 27 08.2**	**+0.3**
KAF				MSG		09 27 11.1	
	comp=Z,2.3nm,0.1s						
KEF	**Keuruu**	**2.68**	**321**	*e*P	**Pn**	**09 26 46.3**	**+0.8**
KEF				*e*SB	**Sb**	**09 27 23.4**	**+0.8**
SUF	**Sumiainen**	**2.82**	**338**	*e*P	**Pn**	**09 26 47.8**	**+0.4**
SUF				*e*S	**Sn**	**09 27 21.8**	**-0.8**
SUF				MSG		09 27 31.2	
	comp=Z,1.8nm,0.1s						
HFS	**Hagfors**	**7.38**	**276**	Pn	**Pn**	**09 27 51.8**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=84,slow=13,SNR=2.5						
HFS				Sn	**Sn**	**09 29 13.3**	**-4.2**
	comp=Z,0.0nm,0.3s,baz=180,slow=34,SNR=2.1						
HFS				Lg		09 29 52.8	
	comp=Z,0.0nm,0.3s,baz=79,slow=29,SNR=2.4						
NOA	**NORSAR Array B**	**8.54**	**284**	Pn	**P**	**09 28 05.9**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=70,slow=12,SNR=3.5						
NOA				Sn	**Sn**	**09 29 40.0**	**-6.5**
	comp=Z,0.0nm,0.3s,baz=215,slow=15,SNR=2.4						
ARCES	**ARCESS Array B**	**9.51**	**354**	Pn	**P**	**09 28 16.9**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=168,slow=12,SNR=5.3						

NDI 30 09:37:40.3±3.4, 34.49N×73.28E, h10km, MD3.4, ML2.8
NNC 30 09:37:49.2±27.0, 34.41N×72.88E, mb3.7, mpv3.5, Error ellipse: s-maj=338.9km s-min=258.6km az=130.0

ISC 30 09:37:42.1±1.0, 33.97N±0.08×73.1E±0.1, h10km, n8, σ1§25/13, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**2.68**	**124**	*e*PB	**Pb**	**09 38 30.7**	**+0.8**
THN				ex	**Sn**	**09 39 04.6**	**+5.6**
DLH	**Dalhousie**	**2.80**	**120**	*e*S	**Sn**	**09 39 03.0**	**+1.0**
SDNR	**Sundarnagar**	**4.09**	**126**	*e*P	**Pn**	**09 38 48.6**	**+2.4**
SDNR				*e*S	**Sn**	**09 39 33.4**	**-1.4**
KLP	**Kalpa**	**4.98**	**118**	*e*P	**Pn**	**09 38 55.9**	**-2.9**
KLP				*e*S	**Sn**	**09 39 52.5**	**-4.7**
KLP				AML	AML	09 40 19.3	
	comp=E,41nm,0.4s						
KLP				AML	AML	09 40 26.8	
	comp=N,34nm,0.4s						
KHET	**Khetri**	**6.33**	**158**	*e*S	**Sn**	**09 40 30.9**	**0.0**
KHET				AML	AML	09 40 35.7	
	comp=N,2.5nm,0.1s						
KHET				AML	AML	09 40 40.7	
	comp=E,3.5nm,0.1s						
KUDL	**Kundal**	**6.50**	**152**	*e*P	**Pn**	**09 39 20.3**	**+0.1**
KUDL				*e*S	**Sn**	**09 40 34.9**	**-0.3**
KK31	**Karatay Array**	**9.34**	**348**	P	**P**	**09 39 59.5**	**-0.2**
	comp=E,0.8nm,0.5s,baz=159,slow=12,SNR=9.8						
KK31				S	**Sn**	**09 41 39.9**	**-6.0**
	comp=E,0.6nm,0.2s,baz=169,slow=25,SNR=4.2						
AKTO	**Aktyubinsk**	**19.82**	**331**	P	**P**	**09 42 15.7**	**+0.1**

NEIC 30 10:02:26.7, 19.31N×65.30W, h99km, MD3.6(RSPR), After RSPR.

RSPR 30 10:02:26.7, 19.31N×65.30W, h99km±11km, MD3.6/5, MD3.6/5, 5C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.00**	**162**	⇑*e*P	P	10 02 46.7	-0.6
STVI				*e*S	S	10 03 02.0	-0.8
TBVI	**Tortola**	**1.11**	**144**	⇑*e*P	P	10 02 47.7	-0.8
TBVI				*e*S	S	10 03 04.2	-0.7
CBYP	**Canovanas**	**1.16**	**207**	⇑*e*P	P	10 02 47.7	-1.6
CBYP				*e*S	S	10 03 04.8	-1.3
MTP	**Monte Pirata**	**1.23**	**192**	⇑*e*P	P	10 02 49.7	-0.5
MTP				*e*S	S	10 03 06.8	-0.9
AOPR	**Arecibo Observ**	**1.68**	**235**	⇑*e*P	P	10 02 54.1	-1.4
AOPR				*e*S	S	10 03 17.4	+0.5
CRPR	**Cabo Rojo, PR**	**2.15**	**233**	⇓*e*P	P	10 03 01.1	-0.7
CRPR				*e*S	S	10 03 27.2	-0.6

WEL 30 10:08:37.9±0.3, 36.94S×176.83E, h253km±3km, ML3.8/12, 3C, Error ellipse: s-maj=6.1km s-min=3.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.33**	**118**	⇑PN	P	10 09 15.2	-0.3
MXZ				SN	S	10 09 43.1	-1.7
URZ	**Urewera**	**1.33**	**171**	PN	P	10 09 15.4	-0.1
URZ				SN	S	10 09 45.2	+0.3
MWZ	**Matawai**	**1.50**	**159**	PN	P	10 09 16.8	0.0
MWZ				*e*SN	S	10 09 46.6	-0.4
PUZ	**Puketiti**	**1.60**	**135**	⇑PN	P	10 09 17.5	-0.1
PUZ				SN	S	10 09 47.2	-1.1
KNZ	**Kokohu**	**2.18**	**163**	PN	P	10 09 22.3	-0.3
KNZ				SN	S	10 09 56.5	-0.7
BKZ	**Black Stump Fm**	**2.24**	**187**	⇑PN	P	10 09 23.0	-0.2
BKZ				SN	S	10 09 57.6	-0.7
MOVZ	**Moawhango**	**2.60**	**199**	PN	P	10 09 26.4	-0.4
PXZ	**Pawanui**	**3.09**	**180**	PN	P	10 09 30.9	-1.0
PXZ				SN	S	10 10 12.9	-1.0
TSZ	**Takapari Road**	**3.19**	**192**	PN	P	10 09 32.0	-1.1
TSZ				SN	S	10 10 14.5	-1.4
MRZ	**Mangatainoka R**	**3.84**	**194**	PN	P	10 09 38.7	-1.8
MRZ				*e*SN	S	10 10 27.2	-1.9
KIW	**Kapiti Island**	**4.19**	**200**	PN	P	10 09 42.4	-2.2
MTW	**Mount Morrison**	**4.34**	**193**	PN	P	10 09 44.3	-2.0
CAW	**Cannon Point**	**4.38**	**198**	*e*PN	P	10 09 44.1	-2.7
TCW	**Tory Channel**	**4.71**	**204**	PN	P	10 09 48.5	-2.3
TUWZ	**Tuamarina**	**5.01**	**206**	*e*PN	P	10 09 51.8	-2.7
NNZ	**Nelson**	**5.04**	**211**	*e*PN	P	10 09 52.6	-2.3
QRZ	**Quartz Range**	**5.13**	**220**	*e*PN	P	10 09 52.8	-3.1
THZ	**Tophouse**	**5.70**	**211**	PN	P	10 10 00.1	-2.8
KHZ	**Kahutara**	**6.03**	**204**	PN	P	10 10 04.4	-2.6
DSZ	**Denniston Nort**	**6.18**	**218**	*e*PN	P	10 10 06.4	-2.5

NNC 30 10:23:10.9±7.4, 39.39N×74.52E, mb3.1, mpv2.7, Error ellipse: s-maj=54.0km s-min=45.3km az=3.0

BJI 30 10:22:55.5, 38.05N×76.64E, h30km, ML3.2, 1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.55**	**341**	*e*PG	Pn	10 23 22.8	+1.2
KSH				SG	Sn	10 23 47.5	+6.6
KSH				Smax			
	comp=N,70nm,0.4s						
KSH				Smax			
	comp=E,70nm,0.3s						
TKM2	**Tokmak 2**	**4.93**	**351**	Pn	Pn	10 24 06.0	-3.6
TKM2				Lg		10 25 07.4	
KK31	**Karatay Array**	**6.87**	**319**	Pn	Pn	10 24 27.7	-9.2
	comp=E,0.3nm,0.2s,baz=126,slow=13,SNR=13						
KK31				⇓Lg		10 25 40.5	
	comp=E,1.8nm,0.6s,baz=138,slow=22,SNR=6.4						

IDC 30 10:29:15.4±1.4, 12.65N×124.49E, mb3.6/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=166.4km s-min=21.9km az=68.0
MAN 30 10:29:17.7, 12.99N×124.47E, h10km, mb4.8, ML3.7, MS3.7

ISC 30 10:29:18.9±0.7, 12.96N±0.04×124.50E±0.06, h23km±7km, n21, σ1§41/33, mb3.6/4, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.47**	**160**	*e*P	**Pb**	**10 29 28.0**	**-0.5**
CNP				*e*S	**Sb**	**10 29 34.8**	**-0.3**
PVCP	**Virac**	**0.72**	**332**	*e*P	**Pb**	**10 29 31.2**	**-1.4**
PVCP				*e*S	**Sb**	**10 29 42.5**	**+0.5**
BESP	**Borongan**	**1.63**	**146**	*e*P	**Pn**	**10 29 45.8**	**-0.9**
BESP				*e*S	**Sn**	**10 30 09.7**	**+2.5**
AUQP	**San Andres**	**1.81**	**282**	*e*P	**Pn**	**10 29 51.1**	**+1.8**
AUQP				*e*S	**Sn**	**10 30 22.2**	**+11**
RCP	**Roxas**	**2.21**	**231**	⇑*e*P	**Pn**	**10 29 55.7**	**+0.8**
GQP	**Guinayangan**	**2.21**	**295**	⇓*e*P	**Pn**	**10 29 57.9**	**+3.0**
GQP				*e*S	**Sn**	**10 30 29.9**	**+8.2**
OTRP	**Odiongan**	**2.49**	**257**	*e*P	**Pn**	**10 29 58.3**	**-0.6**
BOAC	**Boac**	**2.63**	**281**	*e*P	**Pn**	**10 30 01.8**	**+0.8**
BOAC				*e*S	**Sn**	**10 30 32.4**	**-0.1**
MSLP	**Maasin**	**2.83**	**173**	*e*P	**Pn**	**10 30 06.5**	**+2.7**
MSLP				*e*S	**Sn**	**10 30 48.4**	**+11**
GUIM	**Jordan**	**2.98**	**219**	*e*P	**Pn**	**10 30 06.1**	**+0.2**
GUIM				*e*S	**Sn**	**10 30 38.1**	**-3.1**

POLP	**Polilio Island**	**3.05**	**306**	*e*P	**Pn**	**10 30 08.8**	**+2.0**
POLP				*e*S	**Sn**	**10 30 48.5**	**+5.5**
SCPH	**Surigao**	**3.30**	**163**	⇓*e*P	**Pn**	**10 30 11.4**	**+0.9**
TBP	**Tagbilaran**	**3.31**	**191**	*e*P	**Pn**	**10 30 18.8**	**+8.2**
TBP				*e*S	**Sn**	**10 30 46.2**	**-3.4**
SJMP	**San Jose**	**3.33**	**262**	*e*P	**Pn**	**10 30 10.0**	**-1.0**
BALP	**Baler**	**3.96**	**315**	*e*P	**Pn**	**10 30 18.1**	**-1.7**
BALP				*e*S	**Sn**	**10 31 05.7**	**-0.5**
APYP	**Conner**	**5.80**	**328**	*e*P	**Pn**	**10 30 46.0**	**+0.2**
APYP				*e*S	**Sn**	**10 31 49.5**	**-3.0**
WRA	**Warramunga Arr**	**34.10**	**163**	P	**P**	**10 35 58.9**	**-5.4**
	0.3nm,0.6s,mb3.4,baz=345,slow=9.4,SNR=4.6						
ASPA	**Alice Springs**	**37.54**	**166**	*e*P	**P**	**10 36 31.3**	**-2.1**
SONM	**Songino Array**	**37.91**	**340**	P	**P**	**10 36 37.3**	**+1.1**
	0.6nm,1.0s,mb3.3,baz=149,slow=8.4,SNR=3.3						
STKA	**Stephens Creek**	**47.49**	**160**	P	**P**	**10 37 50.6**	**-3.8**
	2.2nm,0.8s,mb4.2,baz=334,slow=6.5,SNR=5.3						
MKAR	**Makanchi Array**	**48.85**	**322**	P	**P**	**10 38 04.0**	**-0.7**
	0.4nm,0.7s,mb3.6,baz=112,slow=8.9,SNR=4.4						

CASC 30 10:39:50.5±3.4, 13.60N×87.04W, h32km±43km, MD3.7, ML3.4, 3C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.84**	**248**	*e*P	Pn	10 40 30.8	+25
CNCH				*e*S	Sn	10 40 44.7	+27
CRIN	**San Cristobal**	**0.89**	**181**	*e*P	Pn	10 40 07.3	+0.4
TEL3	**Telica 3**	**1.04**	**170**	*e*P	Pn	10 40 09.1	+0.1
CNGN	**Cerro Negro**	**1.14**	**163**	*e*P	Pn	10 40 10.8	+0.4
BLLM	**Bellamira**	**1.18**	**263**	⇑*e*P	Pn	10 40 33.4	+22
BLLM				*e*S	Sn	10 40 50.7	+25
LEON	**Leon**	**1.18**	**173**	*e*P	Pn	10 40 07.9	-3.1
MIRN	**Miramar**	**1.20**	**165**	*e*P	Pn	10 40 10.7	-0.5
VSM	**San Miguel**	**1.21**	**262**	*e*P	Pn	10 40 34.1	+23
VSM				*e*S	Sn	10 40 50.3	+23
MOMJ	**Momotombo**	**1.28**	**158**	*e*P	Pn	10 40 13.1	+0.6
MOMJ				*e*S	Sn	10 40 29.7	+1.1
COPN	**Copaltepe**	**1.48**	**163**	*e*P	Pn	10 40 12.7	-2.5
XAVN	**Gruta Xavier**	**1.60**	**154**	*e*P	Pn	10 40 16.6	-0.4
MGAN	**Managua**	**1.64**	**152**	*e*P	Pn	10 40 17.2	-0.3
MGAN				*e*S	Sn	10 40 37.7	0.0
MGAN				*i*		10 40 39.5	
	comp=E,454nm,0.2s						
WILN	**Americas 2**	**1.65**	**150**	*e*S	Sn	10 40 39.3	+1.2
TICN	**Ticuantepe**	**1.74**	**153**	*e*P	Pn	10 40 18.1	-1.0
TICN				*e*S	Sn	10 40 39.3	-1.0
SNVI	**San Vicente**	**1.75**	**271**	*e*P	Pn	10 40 38.8	+20
SNVI				*e*S	Sn	10 40 59.8	+19
LCBS	**La Ceiba**	**1.89**	**272**	*e*P	Pn	10 40 41.1	+20
LCBS				*e*S	Sn	10 41 04.6	+21
LBRS	**Las Brisas**	**1.95**	**274**	*e*P	Pn	10 40 42.9	+21
LBRS				*e*S	Sn	10 41 07.4	+22
LFRS	**El Faro**	**1.97**	**271**	⇓*e*P	Pn	10 40 41.4	+19
LFRS				*e*S	Sn	10 41 04.4	+18
SNET	**Serv Nac Est T**	**2.13**	**273**	*e*P	Pn	10 40 25.5	+0.9
SNET				*e*S	Sn	10 40 50.0	-0.3
BOQS	**Boqueron**	**2.18**	**274**	⇓*e*P	Pn	10 40 45.0	+20
BOQS				*e*S	Sn	10 41 11.4	+20
SNJE	**San Jose**	**2.51**	**276**	*e*P	Pn	10 40 49.7	+20
SNJE				*e*S	Sn	10 41 19.2	+19
SSNN	**San Juan del S**	**2.57**	**153**	*e*P	Pn	10 40 27.0	-3.9

IDC 30 10:53:26.9±3.2, 30.93S×65.70W, h174km±26km, mb2.7/1, mb1 3.3/4, mb1mx3.1/15, mbtmp3.6/4, Error ellipse: s-maj=52.8km s-min=26.9km az=114.0
NEIC 30 10:53:26.6±1.0, 30.98S×65.52W, h174km±12km, mb3.8/3, Error ellipse: s-maj=22.9km s-min=11.4km az=83.0

ISC 30 10:53:25.8±1.1, 31.0S±0.1×65.6W±0.2, h176km±20km, n10, σ1§12/9, mb3.1/2, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**2.34**	**255**	P	**P**	**10 54 07.7**	**+0.9**
	2.2nm,0.3s,baz=70,slow=10,SNR=135						
CFAA				S	**S**	**10 54 37.7**	**-0.7**
	20nm,0.3s,baz=270,slow=20,SNR=142						
TRQA	**Tornquist**	**7.64**	**158**	*e*Pn	**P**	**10 55 15.2**	**+0.1**
LVC	**Limon Verde**	**8.87**	**340**	*e*P	**P**	**10 55 32.5**	**+1.2**
	2.2nm,0.5s						
LPAZ	**La Paz**	**14.84**	**350**	P	**P**	**10 56 47.5**	**-0.5**
	0.9nm,0.3s,baz=197,slow=9.3,SNR=14						
LPAZ	**La Paz**	**14.84**	**350**	*e*P	**P**	**10 56 47.3**	**-0.8**
	3.0nm,0.5s						
SIV	**San Ignacio**	**15.51**	**16**	P	**P**	**10 56 54.7**	**-1.8**
	0.5nm,0.3s,baz=201,slow=10,SNR=13						
SAML	**Samuel**	**22.06**	**6**	P	**P**	**10 58 08.8**	**+1.9**
	0.9nm,0.6s,mb3.4						
TXAR	**Lajitas Array**	**70.10**	**325**	P	**P**	**11 04 20.1**	**-0.7**
	0.1nm,0.5s,mb2.8,baz=145,slow=6.4,SNR=4.2						
WRA	**Warramunga Arr**	**125.84**	**203**	PKP	PKPdf	11 12 07.6	+0.4
	0.3nm,0.5s,baz=163,slow=1.6,SNR=11						
MKAR	**Makanchi Array**	**150.71**	**48**	PKPbc	PKPdf	11 12 58.3	+7.6
	0.8nm,0.8s,baz=303,slow=2.5,SNR=8.4						

BJI 30 11:13:43.9, 36.51N×71.08E, h196km, mB4.9, mb4.8
IDC 30 11:13:43.4±1.0, 36.45N×71.07E, h196km±7km, mb3.7/13, mb1 3.9/15, mb1mx3.6/24, mbtmp4.3/15, Error ellipse: s-maj=21.5km s-min=11.0km az=36.0
NEIC 30 11:13:43.5±0.4, 36.54N×71.06E, mb4.5/12, Error ellipse: s-maj=11.0km s-min=5.1km az=48.0
MOS 30 11:13:44.2±1.2, 36.64N×71.05E, h211km, mb4.0/6, Error ellipse: s-maj=12.0km s-min=6.4km az=94.8
NNC 30 11:13:48.5±1.9, 37.05N×70.84E, h194km±18km, mb3.4, mpv4.5, Error ellipse: s-maj=19.6km s-min=18.0km az=161.0

ISC 30 11:13:41.7±0.4, 36.50N±0.02×70.87E±0.06, h194km±5km, h196km±3.6km: pP-P, n95, σ0§98/125, mb4.0/17, 15C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.80**	**162**	⇓P	**P**	**11 14 30.2**	**+1.0**
CHCP	**Chirah Chowk**	**

TKM2 ⇑S **S** **11 16 45.7 -4.6**
comp=N,21nm,0.8s
TKM2 Tokmak 2 7.38 28 *i* PN **P** **11 15 27.4 -0.2**
TKM2 pmax pmax
comp=Z,23nm,0.5s
SMLA Simla 7.49 134 *e*P **P** **11 15 28.1 -1.1**
SMLA *e*S **S** **11 16 47.1 -5.9**
KLP Kalpa 7.88 127 *e*P **P** **11 15 34.0 -0.1**
KLP *e*S **S** **11 16 52.8 -9.2**
KHET Khetri 9.38 152 *e*P **P** **11 15 52.4 -1.3**
KHET *e*S **S** **11 17 30.6 -6.5**
NDI New Delhi 9.45 144 *e*P **P** **11 15 53.9 -0.8**
NDI *e*S **S** **11 17 31.3 -7.4**
NDI AML AML 11 17 39.3
comp=E,94nm,0.3s
NDI AML AML 11 17 39.8
comp=N,79nm,0.2s
AYAN Aya Nagar 9.58 145 *e*P **P** **11 15 54.8 -1.6**
AYAN *e*S **S** **11 17 33.5 -8.2**
KUDL Kundal 9.59 149 *e*P **P** **11 15 55.1 -1.4**
KUDL AMb AMB 11 15 56.2
comp=Z,8.7nm,0.2s
KUDL *e*S **S** **11 17 34.6 -7.3**
BHJ Bhuj 13.24 185 *ex* x 11 16 38.7
BHJ *e*S **S** **11 19 01.0 -5.4**
MK31 Makanchi Array 13.35 36 ⇓P **P** **11 16 44.8 +0.2**
comp=Z,3.7nm,0.9s,baz=214,slow=9.5,SNR=16
MK31 Makanchi Array 13.35 36 *i* P **P** **11 16 44.8 +0.2**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 13.35 36 P **P** **11 16 44.0 -0.6**
comp=Z,0.1nm,0.3s,baz=216,slow=13,SNR=10
MKAR sP 11 17 30.2
comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=2.2
KOLN Koldanda 13.85 125 *e*Pn **P** **11 16 50.4 -0.5**
KOLN *e*Sn **S** **11 19 15.1 -5.1**
comp=Z,44nm,0.8s
KOLN Koldanda 13.85 125 *e*Pn **P** **11 16 50.4 -0.5**
comp=Z,22nm,0.8s
KOLN *e*Sn **S** **11 19 15.1 -5.1**
BHPL Bhopal 14.38 155 *ex* x 11 17 01.6
BHPL AMb AMB 11 17 01.6
comp=Z,29nm,0.5s
BHPL *ex* x 11 19 25.6
GKN Gorkha 14.39 122 *e*Pn **P** **11 16 57.0 -0.6**
GKN *e*Sn **S** **11 19 26.0 -6.5**
comp=Z,39nm,0.4s
GKN Gorkha 14.39 122 *e*Pn **P** **11 16 57.0 -0.6**
comp=Z,20nm,0.4s
GKN *e*Sn **S** **11 19 26.0 -6.5**
DMN Daman 14.96 122 *e*Pn **P** **11 17 05.0 +0.3**
DMN *e*Sn **S** **11 19 40.2 -5.1**
comp=Z,51nm,0.7s
DMN Daman 14.96 122 *e*Pn **P** **11 17 05.0 +0.3**
comp=Z,26nm,0.7s
DMN *e*Sn **S** **11 19 40.2 -5.1**
KKN Kakani 14.96 121 *e*Pn **P** **11 17 04.8 0.0**
AB31 Akbulak array 15.04 331 P **P** **11 17 04.4 -1.1**
comp=Z,11nm,0.6s,baz=145,slow=12,SNR=150
AB31 ⇑S **S** **11 19 42.1 -4.8**
comp=Z,2.0nm,0.3s,baz=153,slow=23,SNR=12
PKI Pulchoki 15.19 122 *e*Pn **P** **11 17 08.4 +0.8**
PKI *e*Sn **S** **11 19 45.3 -5.2**
KURK Kurchatov 15.27 19 P **P** **11 17 04.8 -3.6**
KURK Kurchatov 15.27 19⇑ *e*P **P** **11 17 09.5 +1.2**
KURK Kurchatov 15.27 19 *e*P **P** **11 17 09.0 +0.7**
comp=Z,2.1nm,0.9s
GUN Gumba 15.31 120 *e*Pn **P** **11 17 09.7 +0.7**
GUN *e*Sn **S** **11 19 48.9 -4.2**
comp=Z,38nm,0.7s
GUN Gumba 15.31 120 *e*Pn **P** **11 17 09.7 +0.7**
comp=Z,19nm,0.7s
GUN *e*Sn **S** **11 19 48.9 -4.2**
JIRN Jiri 15.68 120 *e*Pn **P** **11 17 13.7 +0.1**
JIRN *e*Sn **S** **11 19 55.8 -5.6**
comp=Z,77nm,0.7s
JIRN Jiri 15.68 120 *e*Pn **P** **11 17 13.7 +0.1**
comp=Z,38nm,0.7s
JIRN *e*Sn **S** **11 19 55.8 -5.6**
VOSK Vostochnaya 16.22 0 ⇑P **P** **11 17 19.0 -1.1**
comp=Z,4.1nm,0.8s
VOSK ⇓S **S** **11 20 13.1 -0.4**
comp=Z,2.6nm,0.6s
ZRNK Zerenda 16.50 356 ⇑P **P** **11 17 23.1 -0.4**
comp=Z,5.9nm,0.6s
ZRNK ⇑S **S** **11 20 19.6 -0.2**
comp=Z,8.8nm,1.6s
ZRNK Zerenda 16.50 356 *e*P **P** **11 17 23.3 -0.2**
ZRNK pmax pmax
comp=Z,9.0nm,0.6s
ZRNK Zerenda 16.50 356 *e*P **P** **11 17 23.3 -0.2**
comp=Z,9.4nm,0.6s
BVA0 Borovoye Array 16.53 359 ⇑P **P** **11 17 23.1 -0.7**
comp=Z,1.4nm,1.0s,baz=280,slow=35,SNR=43
BVA0 ⇑S **S** **11 20 22.4 +2.1**
comp=Z,1.0nm,1.3s,baz=168,slow=25,SNR=6.6
BVAR Borovoye Array 16.53 359 P **P** **11 17 22.5 -1.2**
comp=Z,1.7nm,0.3s,baz=162,slow=12,SNR=39
BVAR S **S** **11 20 19.1 -1.2**
comp=Z,0.2nm,0.3s,baz=201,slow=13,SNR=2.6
BRVK Borovoye 16.56 359 *e*P **P** **11 17 23.5 -0.7**
BRVK pmax pmax
comp=Z,5.0nm,0.4s
BRVK Borovoye 16.56 359 *e*P **P** **11 17 23.5 -0.6**
comp=Z,5.0nm,0.4s
AKTK Aktyubinsk 16.73 330 P **P** **11 17 26.3 +0.1**
AKTK S **S** **11 20 24.1 -0.7**
AKTO Aktyubinsk 16.73 330 ⇑P **P** **11 17 25.6 -0.6**
comp=Z,7.9nm,1.0s
AKTO ⇓S **S** **11 20 24.9 +0.1**
comp=Z,1.5nm,0.8s
AKTO Aktyubinsk 16.73 330 P **P** **11 17 26.3 +0.1**
comp=Z,5.7nm,0.3s,baz=138,slow=11,SNR=136
AKTO S **S** **11 20 24.1 -0.7**
comp=Z,0.2nm,0.3s,baz=325,slow=23,SNR=2.9
NGP Nagpur 16.88 153 *ex* x 11 17 24.4
NGP *ex* x 11 20 26.6
BLSP Bilaspur 17.34 143 *e*P **P** **11 17 34.4 +1.2**
BLSP *ex* x 11 20 35.4
BOK Bokaro 18.11 130 *e*S **S** **11 20 55.9 +2.1**
LSA Lhasa 18.28 106 P **P** **11 17 45.0 +1.8**
LSA Lhasa 18.28 106 *e*P **P** **11 17 45.8 +2.6**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 18.28 106 *e*P **P** **11 17 45.8 +2.6**
comp=Z,7.5nm,0.7s
HYB Hyderabad 20.19 158 *i* P **P** **11 18 06.5 +3.7**
HYB Hyderabad 20.19 158 *e*P **P** **11 18 06.5 +3.7**
NVS Novosibirsk 20.22 21 *e*P **P** **11 18 01.9 -1.0**
NVS *e*S **S** **11 21 21.2 -13**
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,5.0nm,1.2s
NVS pmax pmax
comp=Z,7.0nm,1.2s
NVS smax
comp=N,7.0nm,1.5s
NVS smax
comp=E,5.0nm,1.5s
GNI Garni 20.79 288 P **P** **11 18 13.2 +4.5**
comp=E,4.2nm,0.6s,baz=216,slow=0.6,SNR=4.3
ARU Arti 21.60 341 ⇓*i*P **P** **11 18 17.6 +1.1**
ARU *e*S **S** **11 22 05.6 +7.0**
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.3
ARU Arti 21.60 341 *e*P **P** **11 18 17.7 +1.2**
comp=Z,12nm,1.0s,mb4.4
SONM Songino Array 28.42 55 P **P** **11 19 20.6 +0.5**
comp=Z,0.4nm,0.7s,mb3.1,baz=263,slow=9.4,SNR=5.1
SONM pP pP 11 19 58.5 -1.0
comp=Z,0.1nm,0.4s,baz=243,slow=9.7,SNR=1.5
OBN Obninsk 29.87 319 *e*P **P** **11 19 33.3 +0.4**
OBN pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
AKASG Malin Array Be 32.87 309 P **P** **11 19 58.7 -0.2**
comp=Z,2.1nm,0.5s,mb3.9,baz=82,slow=7.1,SNR=11
AKASG Malin Array Be 32.87 309 *i* P **P** **11 19 59.2 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
MLR Muntele Rosu 34.69 299 P **P** **11 20 17.6 +3.0**
comp=Z,4.1nm,0.8s,mb4.0,baz=166,slow=9.3,SNR=3.0
FINES FINESS Array B 37.43 326 P **P** **11 20 38.0 +0.6**
comp=Z,1.5nm,0.5s,mb3.8,baz=116,slow=8.9,SNR=14
NJ2 Nanjing 39.58 82 *e*P **P** **11 20 57.5 +2.0**

ARCES ARCESS Array B 41.11 338 P **P** **11 21 08.8 +1.1**
comp=Z,5.1nm,0.7s,mb4.1,baz=114,slow=8.3,SNR=23
SSE Sheshan 41.78 82 *e*P **P** **11 21 14.0 +0.5**
SSE AMB AMB
comp=Z,20nm,0.8s,mb4.6
SSE AMB AMB
comp=Z,130nm,3.5s
PSI Prapat 42.35 136 P **P** **11 21 18.1 -0.3**
comp=Z,4.0nm,0.5s,mb4.1,baz=318,slow=12,SNR=3.4
HFS Hagfors 43.00 322 P **P** **11 21 23.9 +0.8**
comp=Z,5.5nm,0.5s,mb4.2,baz=97,slow=12,SNR=21
NB2 NORSAR Subarra 44.32 323 P **P** **11 21 33.6 +0.1**
comp=Z,2.9nm,0.6s,mb3.8,baz=97,slow=7.9
NB2 NORSAR Subarra 44.32 323 P **P** **11 21 33.6 +0.1**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
NOA NORSAR Array B 44.32 323 P **P** **11 21 33.9 +0.3**
comp=Z,3.5nm,0.6s,mb3.9,baz=96,slow=7.8,SNR=14
NOA pP pP 11 22 16.1 +0.3
comp=Z,1.8nm,0.9s,baz=99,slow=8.2,SNR=3.6
HABR Khabarovsk 47.50 54 *i* P **P** **11 22 08.5 +10**
HABR pmax pmax
comp=Z,11nm,0.4s,mb4.5
BILL Bilibino 58.66 26 P **P** **11 23 19.2 -1.0**
BILL *e* pP 11 24 07.3 +2.4
BILL *e*SS SS 11 35 08.6 +3.2
BILL pmax pmax
comp=Z,2.0nm,1.3s,mb3.6
ILAR Eielson Array 74.81 16 P **P** **11 25 01.6 0.0**
comp=Z,0.2nm,0.5s,mb3.0,baz=308,slow=5.6,SNR=5.3
ILAR pP pP 11 25 48.4 0.0
comp=Z,0.1nm,0.6s,baz=101,slow=15,SNR=3.4
YKA Yellowknife Ar 81.25 3 P **P** **11 25 37.7 +1.0**
comp=Z,0.4nm,0.4s,mb3.4,baz=352,slow=5.4,SNR=31
YKA pP pP 11 26 25.3 +1.0
comp=Z,0.8nm,0.6s,baz=350,slow=5.6,SNR=9.8
YKA Yellowknife Ar 81.25 3 P **P** **11 25 37.7 +0.9**
YKA pP pP 11 26 25.3 +1.0
WRA Warramunga Arr 82.08 122 P **P** **11 25 40.9 -0.9**
comp=Z,3.4nm,0.5s,mb4.2,baz=324,slow=5.0,SNR=77
WB2 Warramunga Arr 82.09 122 *e*P **P** **11 25 41.0 -0.9**
ASPA Alice Springs 84.34 125 *e*P **P** **11 25 52.6 -0.7**
CTA Charters Tower 90.63 115 P **P** **11 26 22.0 -1.4**
comp=Z,3.9nm,0.8s,mb4.4,baz=350,slow=12,SNR=3.6

*IDC **30** 11:24:08.7±2.6, 12.24S×167.02E, h219km±24km, mb3.9/12, mb1 4.1/15, mb1mx4.0/17, mbtmp4.4/15, Error ellipse: s-maj=17.4km s-min=12.5km az=67.0*
*MOS **30** 11:24:09.1±0.9, 12.19S×166.94E, h233km, mb4.6/17, Error ellipse: s-maj=11.8km s-min=11.1km az=105.9*
*NEIC **30** 11:24:10.8±1.2, 12.29S×166.92E, h243km±10km, mb4.4/21, Error ellipse: s-maj=8.9km s-min=7.8km az=95.0*
*BJI **30** 11:24:13.3, 12.30S×166.90E, h277km, mB4.8, mb4.5*
ISC 30 11:24:09.9±1.3, 12.28S±0.05×166.88E±0.06, h242km±12km, h280km±3.0km: pP-P, n136, σ0.90/92, mb4.3/40, 12C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
HNR	**Honiara**	**7.38**	**292**	P	**P**	**11 25 55.0**	**-0.9**
	4.8nm,0.3s,baz=212,slow=4.0,SNR=3.9						
HNR	**Honiara**	**7.38**	**292**	P	**P**	**11 25 55.0**	**-1.0**
HNR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
DZM	**Mont Dzumac**	**9.74**	**182**	P	**P**	**11 26 26.3**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=39,slow=17,SNR=12						
DZM				S	**S**	**11 28 14.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=340,slow=22,SNR=1.7						
PMG	**Port Moresby**	**19.58**	**276**	P	**P**	**11 28 21.9**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=149,slow=6.7,SNR=4.5						
PMG	**Port Moresby**	**19.58**	**276**	P	**P**	**11 28 21.9**	**+0.5**
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTA	**Charters Tower**	**21.26**	**246**	P	**P**	**11 28 40.0**	**+2.0**
	comp=Z,14nm,0.8s,mb4.6,baz=82,slow=12,SNR=19						
CTA	**Charters Tower**	**21.26**	**246**	P	**P**	**11 28 40.0**	**+2.0**
CTA				pmax	pmax		
	comp=Z,14nm,0.8s						
CTAO	**Charters Tower**	**21.26**	**246**	*e*P	**P**	**11 28 39.7**	**+1.7**
URZ	**Urewera**	**27.43**	**162**	P	**P**	**11 29 33.3**	**-2.2**
	comp=Z,2.3nm,0.5s,mb4.1,baz=338,slow=8.4,SNR=3.3						
STKA	**Sthens Creek**	**30.35**	**226**	P	**P**	**11 30 02.3**	**+0.9**
	comp=Z,0.8nm,0.3s,mb3.8,baz=44,slow=11,SNR=3.7						
WB2	**Warramunga Arr**	**32.12**	**252**	*e*P	**P**	**11 30 16.1**	**-0.8**
WRA	**Warramunga Arr**	**32.13**	**252**	P	**P**	**11 30 16.1**	**-0.9**
	comp=Z,1.2nm,0.6s,mb3.6,baz=81,slow=8.9,SNR=19						
WRA				S	**S**	**11 35 09.6**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=81,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**32.13**	**252**	P	**P**	**11 30 16.1**	**-0.9**
WRA				S	**S**	**11 35 09.6**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA				smax			
	comp=E,1.0nm,0.8s						
ASPA	**Alice Springs**	**33.27**	**245**	*e*P	**P**	**11 30 25.3**	**-1.4**
MJAR	**Matsushiro Arr**	**55.57**	**332**	P	**P**	**11 33 21.4**	**-1.1**
	comp=E,6.4nm,0.7s,mb4.2,baz=168,slow=8.6,SNR=18						
MJAR	**Matsushiro Arr**	**55.57**	**332**	P	**P**	**11 33 21.4**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MJAR	**Matsushiro Arr**	**55.57**	**332**	P	**P**	**11 33 21.4**	**-1.1**
MAJO	**Matsushiro**	**55.58**	**332**	*e*P	**P**	**11 33 21.3**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.4						
MAJO	**Matsushiro**	**55.58**	**332**	*e*P	**P**	**11 33 21.3**	**-1.2**
	comp=Z,9.2nm,0.7s,mb4.4						
SSE	**Sheshan**	**61.51**	**316**	*e*P	**P**	**11 34 03.5**	**+0.1**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,180nm,4.4s						
NJ2	**Nanjing**	**63.67**	**315**	*e*P	**P**	**11 34 19.3**	**+1.6**
VNDA	**Vanda**	**65.28**	**181**	P	**P**	**11 34 27.4**	**+0.1**
	comp=Z,1.9nm,0.6s,mb3.9,baz=351,slow=7.8,SNR=16						
VNDA	**Vanda**	**65.28**	**181**	P	**P**	**11 34 27.5**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VNDA	**Vanda**	**65.28**	**181**	*e*P	**P**	**11 34 27.1**	**-0.3**
	comp=Z,1.9nm,0.6s,mb3.9						
CASY	**Casey**	**65.64**	**202**	*e*P	**P**	**11 34 29.2**	**-0.5**
	comp=Z,6.0nm,0.7s,mb4.3						
MDJ	**Mudanjiang**	**65.96**	**332**	P	**P**	**11 34 32.5**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,90nm,3.6s						
HABR	**Khabarovsk**	**66.74**	**338**	*i* P	**P**	**11 34 37.7**	**+0.7**
HABR				*e*S	S	11 43 31.8	+24
HABR				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
CN2	**Changchun**	**67.37**	**329**	*e*P	**P**	**11 34 41.3**	**+0.3**
CN2				*e*AP	pP	11 35 44.3	+7.0
CN2				*e*S	S	11 43 14.0	-1.7
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
KLR	**Kul'dur**	**68.63**	**336**	*e*P	**P**	**11 34 45.0**	**-3.7**
ENH	**Enshi**	**69.53**	**309**	P	**P**	**11 34 54.5**	**0.0**
	comp=Z,4.0nm,0.3s,mb4.5						
HHC	**Hu-ho-hao-te**	**73.49**	**319**	*e*P	**P**	**11 35 18.5**	**+0.5**
HHC				PCP	PcP	11 35 33.5	+0.5
HHC				AP	pP	11 36 24.8	+10
HHC				XP	sP	11 36 54.5	+14
HHC				PP	PP	11 38 07.8	+1.3
HHC				S	S	11 44 22.5	-3.7
HHC				SKS	SKS	11 44 51.8	-4.3
HHC				SCS	ScS	11 44 57.0	-3.3
HHC				XS		11 46 17.8	
HHC				SS	SS	11 49 14.0	-2.9
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,60nm,5.1s						
HHC				LR	LR		
	comp=N,120nm,15.5s						
HHC				LR	LR		
	comp=E,100nm,15.5s						
HHC				LR	LR		
	comp=Z,90nm,15.5s						
HIA	**Hailar**	**73.99**	**330**	*e*P	**P**	**11 35 20.8**	**+0.1**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HIA	**Hailar**	**73.99**	**330**	*e*P	**P**	**11 35 20.8**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.0						
SEY	**Seymchan**	**75.82**	**353**⇑	*e*P	**P**	**11 35 30.2**	**-0.6**
LZH	**Lanzhou**	**76.41**	**312**	*e*P	**P**	**11 35 36.5**	**+1.9**
LZH				AP	pP	11 36 42.5	+11
LZH				XP	sP	11 37 12.5	+15
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,100nm,4.0s						
QSPA	**South Pole Qui**	**77.73**	**180**	*e*P	**P**	**11 35 41.3**	**+0.3**
	comp=Z,4.8nm,0.7s,mb4.2						
CIT	**Chita**	**78.78**	**330**	*e*P	**P**	**11 35 47.4**	**+0.2**
YAK	**Yakutsk**	**79.59**	**343**⇑	*e*P	**P**	**11 35 51.3**	**0.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.7						
ULN	**Ulaanbaatar**	**79.95**	**324**	*e*P	**P**	**11 35 54.3**	**+0.8**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.2						
ULN	**Ulaanbaatar**	**79.95**	**324**	*e*P	**P**	**11 35 54.3**	**+0.8**
	comp=Z,9.1nm,1.3s,mb4.2						
BILL	**Bilibino**	**80.11**	**360**	*e*P	**P**	**11 35 53.6**	**-0.3**
BILL				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.7						
BILL	**Bilibino**	**80.11**	**360**	*e*P	**P**	**11 35 53.6**	**-0.3**
	comp=Z,16nm,0.8s,mb4.7						
SLKM	**Skilak Lake**	**80.18**	**20**	*e*P	**P**	**11 35 54.4**	**0.0**
SONM	**Songino Array**	**80.31**	**324**	P	**P**	**11 35 56.1**	**+0.7**
	comp=Z,0.9nm,0.3s,mb3.8,baz=139,slow=5.4,SNR=20						
SONM	**Songino Array**	**80.31**	**324**	P	**P**	**11 35 56.1**	**+0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GTA	**Gaotai**	**80.71**	**314**	*e*P	**P**	**11 35 59.3**	**+1.6**
GTA				PP	PP	11 39 13.0	+6.3
GTA				S	S	11 45 42.8	-0.6
GTA				SKS	SKS	11 45 45.8	-2.2
GTA				AMB	AMB		
	comp=Z,70nm,6.8s						
GTA				LR	LR		
	comp=N,90nm,11.8s						
GTA				LR	LR		
	comp=E,120nm,13.7s						
GTA				LR	LR		
	comp=Z,70nm,13.3s						
PMR	**Palmer**	**81.33**	**20**	*e*P	**P**	**11 35 59.7**	**-0.7**
PMR				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
PMR	**Palmer**	**81.33**	**20**	*e*P	**P**	**11 35 59.7**	**-0.7**
	comp=Z,8.7nm,0.6s,mb4.6						
MCK	**McKinley**	**82.96**	**18**	*e*P	**P**	**11 36 08.0**	**-0.8**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
MCK	**McKinley**	**82.96**	**18**	*e*P	**P**	**11 36 08.0**	**-0.8**
	comp=Z,3.6nm,0.7s,mb4.2						
IMA2	**Indian Mountai**	**83.40**	**15**	*e*P	**P**	**11 36 11.0**	**+0.1**
COLA	**College**	**84.11**	**18**	*e*P	**P**	**11 36 13.4**	**-1.1**
COLA				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
COLA	**College**	**84.11**	**18**	*e*P	**P**	**11 36 13.3**	**-1.1**
	comp=Z,20nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**84.33**	**18**	P	**P**	**11 36 14.8**	**-0.7**
	comp=Z,18nm,0.6s,mb5.0,baz=247,slow=5.1,SNR=346						
ILAR	**Eielson Array**	**84.33**	**18**	P	**P**	**11 36 14.9**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,18nm,0.6s						
NVAR	**Mina Array Bea**	**85.97**	**49**	P	**P**	**11 36 24.9**	**+0.6**
	comp=Z,3.8nm,0.8s,mb4.2,baz=236,slow=12,SNR=29						
NVAR	**Mina Array Bea**	**85.97**	**49**	P	**P**	**11 36 24.9**	**+0.6**
WVOR	**Wild Horse Val**	**87.05**	**46**	*e*P	**P**	**11 36 29.7**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
WVOR	**Wild Horse Val**	**87.05**	**46**	*e*P	**P**	**11 36 29.7**	**+0.3**
	comp=Z,7.3nm,1.1s,mb4.3						
TIXI	**Tiksi**	**87.51**	**349**	*e*P	**P**	**11 36 30.7**	**-0.2**
ELK	**Elko**	**88.94**	**48**	*e*P	**P**	**11 36 38.9**	**+0.6**
NEW	**Newport**	**89.95**	**40**	*e*P	**P**	**11 36 42.7**	**-0.2**
NEW				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NEW	**Newport**	**89.95**	**40**	*e*P	**P**	**11 36 42.7**	**-0.2**
	comp=Z,7.7nm,0.9s,mb4.5						
TUC	**Tucson**	**90.12**	**57**	*e*P	**P**	**11 36 44.6**	**+0.5**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.4						
TUC	**Tucson**	**90.12**	**57**	*e*P	**P**	**11 36 44.6**	**+0.5**
	comp=Z,10nm,1.7s,mb4.4						
HLID	**Hailey**	**90.34**	**45**	*e*P	**P**	**11 36 45.4**	**+0.6**
	comp=Z,8.0nm,1.1s,mb4.5						
DUG	**Dugway**	**90.56**	**49**	*e*P	**P**	**11 36 45.6**	**-0.3**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
DUG	**Dugway**	**90.56**	**49**	*e*P	**P**	**11 36 45.6**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.1						
MVU	**Marysvale**	**90.56**	**51**	*e*P	**P**	**11 36 49.1**	**+3.1**
	comp=Z,6.3nm,1.0s,mb4.5						
MSU	**Marysvale**	**90.59**	**51**	*e*P	**P**	**11 36 47.2**	**+1.1**
WMQ	**Urumqi**	**90.75**	**315**	*e*P	**P**	**11 36 44.0**	**-2.7**
SYO	**Syowa Base**	**90.93**	**197**	⇓P	**P**	**11 36 47.8**	**+0.9**
HWUT	**Hardware Ranch**	**91.84**	**48**	*e*P	**P**	**11 36 51.8**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.1						
PV10	**Paradox Valley**	**92.95**	**52**	*e*P	**P**	**11 36 57.1**	**+0.1**
PV01	**Paradox Valley**	**93.25**	**52**	*e*P	**P**	**11 36 58.1**	**-0.3**
BW06	**Boulder Array**	**93.57**	**47**	*e*P	**P**	**11 37 00.4**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**93.57**	**47**	P	**P**	**11 36 59.5**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=187,slow=2.1,SNR=6.0						
MNTX	**Cornudas Mount**	**94.45**	**59**	*e*P	**P**	**11 37 03.9**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**95.18**	**317**	P	**P**	**11 37 07.5**	**+0.6**
	comp=Z,6.5nm,0.8s,mb4.8,baz=95,slow=6.2,SNR=58						
MKAR				PKiKP		11 41 46.7	
	comp=Z,0.2nm,0.5s,baz=102,slow=0.4,SNR=6.3						
TXAR	**Lajitas Array**	**95.44**	**61**	P	**P**	**11 37 08.7**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.9,baz=221,slow=5.5,SNR=11						
TXAR	**Lajitas Array**	**95.44**	**61**	P	**P**	**11 37 08.7**	**+0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**95.56**	**27**	P	**P**	**11 37 06.9**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.5,baz=258,slow=4.8,SNR=70						
YKA				PKiKP		11 41 46.6	
	comp=Z,0.2nm,0.5s,baz=252,slow=1.5,SNR=11						
YKA	**Yellowknife Ar**	**95.56**	**27**	P	**P**	**11 37 06.9**	**-1.4**
SNAA	**Sanae**	**95.96**	**183**	*e*P	**P**	**11 37 09.4**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SNAA	**Sanae**	**95.96**	**183**	*e*P	**P**	**11 37 09.4**	**-0.5**
	comp=Z,1.8nm,0.7s,mb4.4						
VNA3	**Neumayer Olymp**	**96.64**	**181**	P	**P**	**11 37 11.8**	**-1.2**
VNA3				*e*		11 37 26.4	
VNA3				*e*		11 38 23.8	
VNA2	**Neumayer--Watz**	**96.90**	**182**	*e*	**P**	**11 37 18.9**	**+4.7**
VNA2	**Neumayer--Watz**	**96.90**	**182**	*e*	**P**	**11 37 27.6**	**+13**
VNA2	**Neumayer--Watz**	**96.90**	**182**	P	**P**	**11 37 13.2**	**-1.0**
VNA2				*e*		11 37 18.9	
VNA2				*e*		11 37 27.6	
VNA2				*e*		11 38 25.0	
KEV	**Kevo**	**117.28**	**345**	*e*PKIKP	PKPdf	11 42 27.2	+1.3
ARCES	**ARCESS Array B**	**117.80**	**346**	PKP	PKPdf	11 42 28.2	+1.3
	comp=Z,5.8nm,0.4s,baz=85,slow=2.3,SNR=80						
ARCES	**ARCESS Array B**	**117.80**	**346**	PKIKP	PKPdf	11 42 28.2	+1.3
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SCHQ	**Schefferville**	**120.47**	**33**	PKP	PKPdf	11 42 33.0	+0.5
	comp=Z,3.5nm,0.9s,baz=52,slow=4.3,SNR=9.0						
GNI	**Garni**	**122.29**	**310**⇑	*i*PKIKP	PKPdf	11 42 38.9	+2.5
OBN	**Obninsk**	**122.43**	**329**	*e*PKIKP	PKPdf	11 42 37.8	+1.6
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV	**Kislovodsk**	**122.88**	**315**	*e*PKIKP	PKPdf	11 42 35.9	-1.5
KIV				pmax	pmax		
	comp=Z

comp=Z,0.7nm,0.5s,baz=142,slow=3.7,SNR=5.5

BRTR	**Keskin Array B**	**130.61**	**312**	PKIKP	PKPdf	11 42 54.1	+1.7
BRTR				pmax				
	comp=Z,1.0nm,0.5s							
CLL	**Collm**	**135.68**	**337**	*e*PKIKP	PKPdf	11 43 05.0	+3.5
GERES	**GERESS Array B**	**137.30**	**334**	PKP	PKPdf	11 43 06.0	+1.5
	comp=Z,1.4nm,0.7s,slow=1.3,SNR=11							
GERES	**GERESS Array B**	**137.30**	**334**	PKIKP	PKPdf	11 43 06.0	+1.5
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CDF	**Champ du Feu**	**140.18**	**339**	*e*PKP1	PKPdf	11 43 10.3	+0.5
HINF	**Hinteralfeld**	**140.83**	**339**	*e*PKP1	PKPdf	11 43 11.1	+0.1
HAU	**Haudompre**	**140.85**	**339**	*e*PKP1	PKPdf	11 43 11.4	+0.4
SSF	**Saint Saulge**	**142.61**	**341**	⇑*i*PKP1	PKPdf	11 43 14.5	+0.5
LPL	**La Plagne**	**142.81**	**337**	*e*PKP1	PKPdf	11 43 14.3	-0.1
	comp=Z,9.1nm,0.7s							
LPG	**La Plagne**	**142.82**	**337**	*e*PKP1	PKPdf	11 43 14.9	+0.5
	comp=Z,8.8nm,0.5s							
SMF	**Signal de Mont**	**142.87**	**341**	*e*PKP1	PKPdf	11 43 13.2	-1.3
AVF	**Avril sur Loir**	**142.90**	**341**	*e*PKP1	PKPdf	11 43 13.2	-1.3
BNI	**Bardonecchia**	**143.22**	**336**	*e*PKIKP	PKPdf	11 43 14.8	-0.3
BGF	**Bois d'Agland**	**143.27**	**341**	*e*PKP1	PKPbc	11 43 15.3	+1.6
MBDF	**Montbardon**	**143.46**	**336**	⇑*i*PKP1	PKPbc	11 43 15.1	+0.8
	comp=Z,15nm,0.7s							
ORIF	**Oris-en-Rattie**	**143.64**	**337**	⇑*i*PKP1	PKPbc	11 43 16.3	+1.4
	comp=Z,47nm,0.7s							
TCF	**Toulx Ste Croi**	**143.70**	**342**	*e*PKP1	PKPbc	11 43 16.1	+1.1
	comp=Z,18nm,0.7s							
SBF	**Sospel**	**143.89**	**334**	*e*PKP1	PKPbc	11 43 16.4	+0.7
	comp=Z,98nm,0.7s							
MFF	**Saint Martin d**	**144.08**	**345**	*e*PKP1	PKPbc	11 43 17.2	+1.1
	comp=Z,16nm,0.5s							
VIVF	**Saint-Julien-l**	**144.15**	**338**	⇑*i*PKP1	PKPbc	11 43 17.8	+1.4
	comp=Z,39nm,1.0s							
PGF	**Pioggiola**	**144.25**	**332**	⇑*i*PKP1	PKPbc	11 43 17.9	+1.2
	comp=Z,65nm,0.7s							
FRF	**La Foret Royal**	**144.47**	**335**	⇑*i*PKP1	PKPbc	11 43 18.4	+1.1
	comp=Z,72nm,0.8s							
SMRF	**Simiane la Rot**	**144.55**	**336**	⇑*i*PKP1	PKPbc	11 43 19.3	+1.8
	comp=Z,22nm,0.7s							
LMR	**La Mourre**	**144.71**	**335**	⇑*i*PKP1	PKPbc	11 43 19.3	+1.3
	comp=Z,45nm,0.8s							
RJF	**Les Rejaudoux**	**144.80**	**342**	*e*PKP1	PKPbc	11 43 19.0	+0.8
	comp=Z,24nm,0.8s							
CAF	**Calviac**	**144.97**	**341**	*e*PKP1	PKPbc	11 43 20.6	+1.9
LASF	**Ste Croix**	**145.11**	**338**	*e*PKP1	PKPbc	11 43 21.0	+1.9
	comp=Z,16nm,0.8s							
LFF	**La Frestale**	**145.36**	**343**	*e*PKP1	PKPbc	11 43 21.4	+1.7
	comp=Z,23nm,0.5s							
MTLF	**Montolieu**	**146.33**	**340**	⇑*i*PKP1	PKPbc	11 43 24.5	+2.4
	comp=Z,17nm,0.6s							
SJPF	**Ste Jean**	**147.60**	**344**	*e*PKP1	PKPdf	11 43 28.1	+5.4
ETSF	**Etsaut**	**147.61**	**343**	*e*PKP1	PKPdf	11 43 28.2	+5.5
	comp=Z,19nm,0.7s							
ESDC	**Sonseca Array**	**151.54**	**345**	PKPbc	PKPdf	11 43 37.4	+8.5
	comp=Z,4.5nm,0.7s,baz=11,slow=2.9,SNR=17							
ESDC				PKPab	PKPab	11 43 47.4	+0.2	
	comp=Z,2.4nm,0.4s,baz=14,slow=4.1,SNR=13							

*IDC **30** 11:40:13.8±0.7, 10.33S×78.48W, mb4.4/12, mb1 4.5/15, mb1mx4.4/21, mbtmp4.4/15, ML3.2/2, MS3.9/7, Ms1 3.9/7, ms1mx3.4/26, Error ellipse: s-maj=19.8km s-min=13.2km az=78.0*

*NEIC **30** 11:40:21.6±0.3, 10.21S×78.22W, mb4.5/22, Error ellipse: s-maj=9.5km s-min=4.4km az=54.0*

NEIC Felt [IV] at Huarmey.

*BJI **30** 11:40:23.5, 10.20S×78.20W, h55km, mB5.0, Ms5.0, Msz4.5*

ISC 30 11:40:20.3±1.5, 10.18S±0.06×78.21W±0.10, h59km±14km, h55km±1.3km; pP-P, n66, σ0≠75/50, mb4.4/30, MS4.1/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NNA	**Nana**	**2.25**	**143**	*e*Pn		**P**	**11 40 56.0**	**+0.1**
ARE	**Arequipa**	**9.04**	**134**	*e*P		**P**	**11 42 37.0**	**+6.4**
OTAV	**Otavalo**	**10.35**	**359**	*e*Pn		**P**	**11 42 49.8**	**+1.3**
LPAZ	**La Paz**	**11.54**	**123**	Pn		**P**	**11 43 03.2**	**-1.4**
	0.2nm,0.3s,baz=309,slow=8.4,SNR=4.5							
LPAZ				LR		LR	11 47 57.8	
	comp=Z,566nm,21.9s,baz=299,slow=40							
LPAZ	**La Paz**	**11.54**	**123**	*e*Pn		**P**	**11 43 03.5**	**-1.2**
	10.0nm,1.1s							
SAML	**Samuel**	**14.87**	**87**	*e*P		**P**	**11 43 48.0**	**-0.6**
	24nm,1.8s							
SAML				*e*S		**S**	**11 46 28.0**	**-4.2**
LVC	**Limon Verde**	**15.24**	**145**	*e*P		**P**	**11 43 54.0**	**+0.6**
	26nm,0.7s							
ROSC	**El Rosal**	**15.42**	**15**	Pn		**P**	**11 43 53.9**	**-1.9**
	0.8nm,0.3s,baz=281,slow=23,SNR=2.9							
ROSC				Sn		**S**	**11 47 01.7**	**+17**
	1.7nm,0.3s,baz=98,slow=23,SNR=2.1							
SIV	**San Ignacio**	**17.66**	**111**	P		**P**	**11 44 24.8**	**+0.9**
	1.0nm,0.3s,baz=295,slow=9.9,SNR=41							
SDV	**Santo Domingo**	**20.38**	**22**	P		**P**	**11 44 55.8**	**+1.0**
	11nm,0.6s,baz=231,slow=7.0,SNR=18							
SDV				S		**S**	**11 48 49.3**	**+14**
	2.7nm,0.7s,baz=27,slow=20,SNR=2.2							
SDV				LR		LR	11 54 16.4	
	comp=Z,404nm,19.8s,MS3.8,baz=209,slow=41							
SDV	**Santo Domingo**	**20.38**	**22**	*e*P		**P**	**11 44 55.5**	**+0.7**
	27nm,0.8s							
JTS	**JuntasAbangare**	**21.41**	**342**	*e*P		**P**	**11 45 06.8**	**+1.5**
	15nm,1.0s,mb4.3							
CFAA	**Coronel Fontan**	**23.24**	**158**	P		**P**	**11 45 22.9**	**-0.3**
	2.4nm,0.5s,mb3.9,baz=332,slow=12,SNR=5.5							
CPUP	**Villa Florida**	**25.46**	**132**	*e*P		**P**	**11 45 44.9**	**+0.3**
	29nm,1.0s,mb4.8							
BDFB	**Brasilia**	**29.91**	**104**	P		**P**	**11 46 25.0**	**0.0**
	1.9nm,0.5s,mb4.0,baz=226,slow=5.6,SNR=3.8							
BDFB				LR		LR	11 59 08.5	
	comp=Z,348nm,20.0s,MS4.0,baz=278,slow=38							
BAO	**Brasilia Array**	**29.93**	**104**	P		**P**	**11 46 25.0**	**-0.2**
SJG	**San Juan**	**30.52**	**23**	P		**P**	**11 46 31.1**	**+0.6**
	10nm,0.3s,mb5.1,baz=324,slow=21,SNR=4.6							
PLCA	**Paso Flores**	**31.18**	**169**	P		**P**	**11 46 35.4**	**-0.7**
	1.7nm,0.7s,mb4.0,baz=333,slow=10,SNR=8.0							
PLCA	**Paso Flores**	**31.18**	**169**	*e*P		**P**	**11 46 35.3**	**-0.8**
	7.9nm,1.1s,mb4.5							
PLCA				*e*pP		pP	11 46 49.3	-1.4
TXAR	**Lajitas Array**	**46.32**	**329**	P		**P**	**11 48 42.7**	**+0.3**
	1.3nm,0.8s,mb3.9,baz=150,slow=9.7,SNR=15							
TXAR	**Lajitas Array**	**46.32**	**329**	P		**P**	**11 48 42.7**	**+0.3**
MNTX	**Cornudas Mount**	**49.10**	**329**	*e*P		**P**	**11 49 03.7**	**-0.3**
	8.2nm,1.4s,mb4.6							
MNTX				*e*pP		pP	11 49 18.6	-0.7
ANMO	**Albuquerque**	**52.25**	**331**	*e*P		**P**	**11 49 28.2**	**+0.3**
	9.4nm,1.4s,mb4.5							
ANMO				*e*pP		pP	11 49 43.3	0.0
TUC	**Tucson**	**52.47**	**325**	*e*P		**P**	**11 49 30.0**	**+0.3**
	1.4nm,0.7s,mb4.0							
TUC				*e*pP		pP	11 49 45.0	-0.1
SDCO	**Great Sand Dun**	**54.09**	**333**	*e*P		**P**	**11 49 41.4**	**-0.1**
	3.3nm,0.8s,mb4.3							
RKT	**Rikitea**	**55.58**	**249**	*e*LR		LR	12 05 43.5	
	116nm,33.0s							
RKT	**Rikitea**	**55.58**	**249**	*e*T			12 49 12.5	
	8.3nm,0.3s							
PV01	**Paradox Valley**	**55.81**	**331**	*e*P		**P**	**11 49 54.2**	**+0.2**
DUG	**Dugway**	**59.48**	**330**	*e*P		**P**	**11 50 20.0**	**+0.3**
	3.0nm,0.9s,mb4.3							
HWUT	**Hardware Ranch**	**59.96**	**332**	*e*P		**P**	**11 50 22.5**	**-0.6**
	5.1nm,0.8s,mb4.6							
BW06	**Boulder Array**	**59.97**	**334**	*e*P		**P**	**11 50 22.3**	**-0.8**
	3.0nm,1.2s,mb4.2							
PDAR	**Pinedale Array**	**59.97**	**334**	P		**P**	**11 50 22.1**	**-1.0**
	1.4nm,1.0s,mb3.9,baz=135,slow=6.3,SNR=6.0							
LOHW	**Long Hollow**	**61.11**	**334**	*e*P		**P**	**11 50 30.3**	**-0.5**
	1.5nm,0.7s,mb4.2							
ELK	**Elko**	**61.12**	**328**	*e*P		**P**	**11 50 30.9**	**0.0**
	1.6nm,0.9s,mb4.2							
NVAR	**Mina Array Bea**	**61.13**	**325**	P		**P**	**11 50 31.6**	**+0.6**
	2.1nm,0.9s,mb4.3,baz=139,slow=7.3,SNR=13							
ULM	**Lac du Bonnet**	**62.12**	**347**	P		**P**	**11 50 36.3**	**-1.1**
	5.2nm,0.6s,mb4.8,baz=166,slow=6.7,SNR=15							
HLID	**Hailey**	**62.81**	**331**	*e*P		**P**	**11 50 41.8**	**-0.4**
	1.5nm,0.7s,mb4.2							
SCHQ	**Schefferville**	**65.47**	**7**	P		**P**	**11 50 59.0**	**-0.3**
	3.5nm,0.9s,mb4.4,baz=124,slow=5.2,SNR=5.1							
NEW	**Newport**	**67.59**	**333**	*e*P		**P**	**11 51 12.6**	**-0.3**
	6.0nm,1.0s,mb4.6							
TBI	**Tubuai**	**68.90**	**249**	*e*LR		LR	12 11 53.9	
	106nm,30.5s							
TBI	**Tubuai**	**68.90**	**249**	*e*T			13 05 50.7	
	8.3nm,0.3s							

PPT	**Papeete**	**69.35**	**255**	*e*LR		LR	12 12 06.0	
	148nm,25.2s							
FCC	**Fort Churchill**	**69.90**	**351**	*e*P		**P**	**11 51 26.1**	**-0.8**
	14nm,1.2s,mb4.8							
DBIC	**Dimbokro**	**74.94**	**80**	P		**P**	**11 51 58.7**	**+1.2**
	5.2nm,0.5s,mb4.7,baz=238,slow=5.6,SNR=13							
DBIC				LR		LR	12 23 38.6	
	comp=Z,40nm,18.5s,MS3.8,baz=243,slow=35							
DBIC	**Dimbokro**	**74.94**	**80**	*e*P		**P**	**11 51 58.4**	**+0.9**
	30nm,1.5s,mb5.0							
DBIC				*e*pP		pP	11 52 13.0	-0.8
YKA	**Yellowknife Ar**	**77.73**	**344**	P		**P**	**11 52 11.9**	**-0.4**
	2.2nm,0.6s,mb4.3,baz=141,slow=5.7,SNR=102							
YKW3	**Yellowknife Ar**	**77.79**	**344**	*e*P		**P**	**11 52 12.0**	**-0.6**
QSPA	**South Pole Qui**	**79.94**	**180**	*e*P		**P**	**11 52 25.2**	**+1.1**
	3.6nm,0.8s,mb4.3							
QSPA				*e*pP		pP	11 52 39.5	-1.1
VNDA	**Vanda**	**86.31**	**191**	LR		LR	12 24 28.0	
	comp=Z,43nm,18.8s,MS3.9,baz=157,slow=31							
SUMG	**Summit**	**86.52**	**11**	*e*P		**P**	**11 52 59.3**	**+1.7**
	23nm,1.1s,mb5.3							
SUMG				*e*pP		pP	11 53 15.8	+1.5
INK	**Inuvik**	**87.40**	**342**	*e*P		**P**	**11 53 02.0**	**+0.1**
	15nm,1.2s,mb5.1							
ILAR	**Eielson Array**	**90.30**	**336**	P		**P**	**11 53 15.6**	**-0.2**
	1.4nm,0.9s,mb4.3,baz=166,slow=3.9,SNR=10							
COLA	**College**	**90.72**	**336**	*e*P		**P**	**11 53 17.9**	**+0.3**
	5.9nm,0.9s,mb4.9							
JMIC	**Jan Mayen**	**93.09**	**18**	LR		LR	12 30 37.0	
	comp=Z,74nm,21.7s,MS4.1,baz=264,slow=32							
DAVOX	**Davos**	**96.02**	**44**	LR		LR	12 32 01.0	
	comp=Z,58nm,19.2s,MS4.1,baz=82,slow=32							
ZRNK	**Zerenda**	**129.83**	**25**	*e*PKPdf		PKPdf	11 59 25.3	+2.0
KURK	**Kurchatov**	**135.30**	**21**	*e*PKPdf		PKPdf	11 59 35.5	+1.9
WRA	**Warramunga Arr**	**136.15**	**227**	PKP		PKPdf	11 59 36.7	+0.7
	0.9nm,0.8s,baz=120,slow=2.0,SNR=10.0							
MKAR	**Makanchi Array**	**139.92**	**21**	PKhKP			11 59 37.6	
	0.2nm,0.5s,baz=279,slow=3.1,SNR=3.2							
MKAR				PKP		PKPdf	11 59 43.8	+1.6
	0.5nm,0.5s,baz=293,slow=1.9,SNR=9.0							
CN2	**Changchun**	**140.71**	**333**	*e*PKP		PKPdf	11 59 48.3	+4.6
SONM	**Songino Array**	**142.26**	**355**	PKhKP			11 59 43.5	
	0.6nm,0.6s,baz=330,slow=3.3,SNR=7.1							
WMQ	**Urumqi**	**144.31**	**18**	*e*PKP		PKPdf	11 59 51.0	+1.1
WMQ				LR		LR		
	comp=N,100nm,24.0s,MS4.7							
WMQ				LR		LR		
	comp=E,110nm,22.0s,MS4.7							
WMQ				LR		LR		
	comp=Z,100nm,24.0s,MS4.5							
HHC	**Hu-ho-hao-te**	**148.25**	**346**	*e*PKP		PKPdf	12 00 01.5	+4.9
HHC				PKP2		PKPab	12 00 11.5	+6.2
HHC				PKS		PKS	12 03 34.8	+4.1
HHC				SKS		SKS	12 07 05.3	+8.2
HHC				PP		PP		
	comp=Z,100nm,6.2s							
HHC				LR		LR		
	comp=Z,100nm,13.1s,MS4.8							
GTA	**Gaotai**	**150.83**	**3**	PKP		PKPdf	12 00 08.5	+7.8
GTA				APKP			12 00 21.3	
GTA				XPKP			12 00 28.5	
SSE	**Sheshan**	**152.47**	**322**	*e*PKP		PKPdf	12 00 06.0	+2.6
LZH	**Lanzhou**	**154.14**	**356**	*e*PKP		PKPdf	12 00 06.5	+1.0
LZH				APKP			12 00 22.0	
LZH				XPKP			12 00 28.8	

IDC 30 12:02:34.8±3.1, 4.58N×82.62W, mb3.5/3, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, ML2.8/1, MS3.0/2, Ms1 3.0/2, ms1mx2.8/16, Error ellipse: s-maj=101.3km s-min=33.3km az=24.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROSC	**El Rosal**	**8.26**	**88**	Pn		P	12 04 37.6	-1.2
	2.6nm,0.3s,baz=97,slow=19,SNR=2.4							
ROSC				LR		LR	12 07 46.3	
	comp=Z,82nm,20.2s,baz=3.3,slow=38							
SDV	**Santo Domingo**	**12.65**	**70**	LR		LR	12 10 25.7	
	comp=Z,88nm,20.4s,baz=225,slow=37							
TXAR	**Lajitas Array**	**31.68**	**323**	P		P	12 08 59.5	-3.0
	0.2nm,0.9s,baz=122,slow=8.5,SNR=3.0							
NVAR	**Mina Array Bea**	**46.77**	**321**	P		P	12 11 08.0	0.0
	1.4nm,0.8s,baz=134,slow=8.5,SNR=11							
YKA	**Yellowknife Ar**	**62.44**	**344**	P		P	12 12 59.0	-2.9
	0.5nm,0.8s,baz=140,slow=6.5,SNR=11							
MKAR	**Makanchi Array**	**127.14**	**13**	PKP		PKPdf	12 21 40.4	-2.8
	0.6nm,1.0s,slow=2.9,SNR=3.7							
WRA	**Warramunga Arr**	**140.92**	**244**	PKP		PKPdf	12 22 07.4	-2.4
	0.6nm,0.8s,baz=106,slow=1.2,SNR=7.8							

*NEIC **30** 12:17:10.3, 32.08N×116.38W, h6km, MD3.9(ECX), ML3.8(PAS), After ECX.*

NEIC Felt at El Cajon, Jamul, La Mesa, Spring Valley and San Diego, California.

ECX 30 12:17:10.1±0.3, 32.08N×116.38W, h4km, MD3.8, ML3.9, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ENX	**Ensenada**	**0.32**	**231**	⇓*i*P		Pg	12 17 16.1	-0.4
ENX				*e*S		Sg	12 17 20.6	0.0
ENX				⇑*e*			12 17 21.8	
	comp=N,19μm,0.5s							
ENX				*e*			12 17 24.7	
	comp=E,17μm,0.7s							
CBX	**Cerro Bola**	**0.34**	**314**	⇑*i*P		Pg	12 17 16.5	-0.3
CBX				*e*S		Sg	12 17 21.4	0.0
RDX	**Rancho Dowling**	**0.39**	**112**	⇑*i*P		Pg	12 17 17.6	-0.3
RDX				*e*S		Sg	12 17 23.1	-0.1
PBX	**Punta Banda**	**0.45**	**221**	⇓*i*P		Pg	12 17 18.5	-0.6
PBX				*e*S		Sg	12 17 24.7	-0.4
ECNX	**Esteban Cantu**	**0.46**	**204**	⇓*i*P		Pg	12 17 18.7	-0.7
ECNX				⇓*i*P			12 17 16.2	
ECNX				*e*S		Sg	12 17 21.0	-4.6
ECNX				*e*S		Sg	12 17 24.9	-0.7
BAR	**Barrett**	**0.65**	**337**	⇑*e*P		Pg	12 17 21.5	-1.5
BAR	**Barrett**	**0.65**	**337**	*e*P		Pg	12 17 21.1	-1.9
BAR				*e*S		Sg	12 17 29.1	-2.6
PFO	**Pinyon Flat Ob**	**1.52**	**358**	*e*P		Pn	12 17 36.7	-1.6
PFO				*e*S		Sb	12 17 55.7	-2.5
GLA	**Glamis**	**1.63**	**53**	*e*P		Pn	12 17 37.5	-2.2
MWC	**Mount Wilson**	**2.56**	**327**	*e*Pn		Pn	12 17 50.9	-2.1
GSC	**Goldstone**	**3.23**	**354**	*e*Pn		Pn	12 17 59.7	-2.9
NEN	**Nelson**	**3.78**	**19**	*e*Pn		Pn	12 18 08.8	-1.6
ISA	**Isabella**	**3.98**	**335**	*e*Pn		Pn	12 18 08.5	-4.7
DAC	**Darwin (Calif)**	**4.30**	**347**	*e*Pn		Pn	12 18 14.3	-3.6
TUC	**Tucson**	**4.75**	**86**	*e*Pn		Pn	12 18 20.9	-3.3
WUAZ	**Wupatki**	**5.39**	**49**	*e*Pn		Pn	12 18 31.8	-1.4
MVU	**Marysvale**	**7.25**	**27**	Pn		Pn	12 18 54.5	-5.0
MSU	**Marysvale**	**7.28**	**27**	Pn		Pn	12 18 56.6	-3.2
SRU	**San Rafael**	**8.48**	**33**	Pn		P	12 19 11.1	-5.4
PV10	**Paradox Valley**	**8.68**	**42**	Pn		P	12 19 14.6	-4.9

*NEIC **30** 12:19:12.6, 16.03N×98.30W, h6km, MD4.0(MEX), After MEX.*

MEX 30 12:19:12.4±0.6, 16.03N×98.31W, h6km±5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.40**	**26**	*i* P		Pg	12 19 19.7	-0.8
PNIG				*i* S		Sg	12 19 25.8	-0.1
ACX	**Acapulco**	**1.75**	**299**	*i* P		Pn	12 19 40.0	-3.6
ACX				*i* S		Sn	12 19 59.5	-7.0
OXX	**Oaxaca**	**1.84**	**55**	*e*P		Pn	12 19 41.0	-3.9
OXX				*e*S		Sn	12 20 04.0	-4.8
HUIG	**Huatulco**	**2.13**	**97**	*e*P		Pn	12 19 45.9	-3.1
HUIG				*i* S		Sn	12 20 10.3	-5.8
HUIG	**Huatulco**	**2.13**	**97**	*e*P		Pn	12 19 45.9	-3.1
HUIG				*i* S		Sn	12 20 10.2	-5.9
CAIG	**El Cayaco**	**2.13**	**299**	*e*P		Pn	12 19 46.5	-2.6
CAIG				*i* S		Sn	12 20 10.3	-5.8
CAIG	**El Cayaco**	**2.13**	**299**	*e*P		Pn	12 19 47.0	-2.1
CAIG				*i* S		Sn	12 20 10.3	-5.8
PLIG	**Platanillo**	**2.61**	**334**	*e*P		Pn	12 19 53.3	-2.6
PLIG				*i* S		Sn	12 20 22.8	-5.5
PLIG	**Platanillo**	**2.61**	**334**	*i* P		Pn	12 19 54.3	-1.6
PLIG				*i* S		Sn	12 20 22.8	-5.5
YAIG	**Yautepec**	**2.91**	**346**	*e*P		Pn	12 19 55.6	-4.5
YAIG				*i* S		Sn	12 20 31.0	-4.8
PPM	**Popocatepetl**	**3.04**	**354**	*e*P		Pn	12 19 57.9	-4.0
PPM				*e*S		Sn	12 20 36.0	-3.0
PPM	**Popocatepetl**	**3.04**	**354**	*e*P		Pn	12 19 59.9	-2.1
PPM				*e*S		Sn	12 20 37.0	-2.0
LVIG	**Laguna Verde**	**4.09**	**26**	*e*P		Pn	12 20 24.5	+7.6
LVIG				*i* S		Sn	12 21 05.5	-0.2

*NEIC **30** 12:25:00.0, 41.18S×173.24E, h104km, MG4.2(WEL), After WEL.*

NEIC Felt at Marlborough, Nelson and Wanganui.

WEL 30 12:25:00.0±0.2, 41.18S×173.27E, h106km±2km, ML4.2/16, 2D, Error ellipse: s-maj=1.7km s-min=1.6km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TUWZ	**Tuamarina**	**0.57**	**116**	PN		P	12 25 17.1	+0.1
TUWZ				SN		S	12 25 29.0	-0.9
DUWZ	**D'Urville Isla**	**0.62**	**53**	PN		P	12 25 17.7	+0.1
DUWZ				SN		S	12 25 30.5	-0.2
THZ	**Tophouse**	**0.64**	**205**	PN		P	12 25 17.5	-0.2
THZ				SN		S	12 25 29.9	-1.0
THZ	**Tophouse**	**0.64**	**205**	P		P	12 25 17.5	-0.2
THZ				S		S	12 25 29.9	-1.1
QRZ	**Quartz Range**	**0.66**	**302**	PN		P	12 25 17.2	-0.6
QRZ				SN		S	12 25 29.3	-2.0
QRZ	**Quartz Range**	**0.66**	**302**	P		P	12 25 17.2	-0.6
QRZ				S		S	12 25 29.0	-2.3
BSWZ	**Blackbirch Sta**	**0.70**	**139**	PN		P	12 25 18.3	+0.1
BSWZ	**Blackbirch Sta**	**0.70**	**139**	P		P	12 25 18.3	+0.1
TCW	**Tory Channel**	**0.76**	**93**	PN		P	12 25 18.9	+0.1
TCW				SN		S	12 25 31.6	-1.2
TCW	**Tory Channel**	**0.76**	**93**	P		P	12 25 18.9	+0.1
CMWZ	**Cape Campbell**	**0.91**	**129**	PN		P	12 25 20.4	+0.1
CMWZ				SN		S	12 25 35.7	+0.2
CMWZ	**Cape Campbell**	**0.91**	**129**	P		P	12 25 20.4	+0.1
MRW	**Makara Radio**	**1.08**	**93**	PN		P	12 25 21.7	-0.4
MRW				*e*SN		S	12 25 36.9	-1.8
MRW	**Makara Radio**	**1.08**	**93**	P		P	12 25 21.7	-0.4
SNZO	**South Karori**	**1.09**	**97**	PN		P	12 25 21.7	-0.5
SNZO				SN		S	12 25 37.1	-1.8
WEL	**Wellington**	**1.14**	**96**	PN		P	12 25 22.2	-0.6
BHW	**Baring Head**	**1.23**	**101**	PN		P	12 25 23.0	-0.8
BHW				SN		S	12 25 39.6	-2.2
BHW	**Baring Head**	**1.23**	**101**	P		P	12 25 23.0	-0.8
DSZ	**Denniston Nort**	**1.24**	**242**	⇓PN		P	12 25 23.0	-0.9
DSZ	**Denniston Nort**	**1.24**	**242**	P		P	12 25 23.0	-0.9
KHZ	**Kahutara**	**1.25**	**171**	PN		P	12 25 23.9	-0.2
KHZ				SN		S	12 25 40.1	-2.1
KHZ	**Kahutara**	**1.25**	**171**	P		P	12 25 23.9	-0.2
KHZ				S		S	12 25 40.1	-2.1
KIW	**Kapiti Island**	**1.28**	**76**	PN		P	12 25 24.0	-0.5
KIW				SN		S	12 25 41.8	-1.0
KIW	**Kapiti Island**	**1.28**	**76**	P		P	12 25 24.0	-0.5
KIW				S		S	12 25 41.8	-1.1
CAW	**Cannon Point**	**1.36**	**87**	PN		P	12 25 24.5	-0.9
CAW	**Cannon Point**	**1.36**	**87**	P		P	12 25 24.5	-0.9
MSWZ	**Moikau Station**	**1.51**	**99**	PN		P	12 25 26.1	-1.1
PAWZ	**Paruwai Farm**	**1.64**	**98**	PN		P	12 25 27.6	-1.1
PAWZ				SN		S	12 25 47.4	-2.8
MTW	**Mount Morrison**	**1.69**	**90**	PN		P	12 25 28.0	-1.3
LTZ	**Lake Taylor**	**1.76**	**205**	PN		P	12 25 29.6	-0.7
LTZ	**Lake Taylor**	**1.76**	**205**	P		P	12 25 29.6	-0.7
MRZ	**Mangatainoka R**	**1.83**

FNBB	**Fort Nelson**	**7.15**	**331**	Pn	Pn	12 35 28.9	-2.2
FNBB				Trac		12 37 10.3	
	comp=Z,1.0nm,0.3s						
FNBB				Trac		12 37 10.3	
	comp=Z,1.0nm,0.3s						
YKW3	**Yellowknife Ar**	**9.80**	**5**	Pn	P	12 36 02.2	-5.5
YKW3				Sn	Sn	12 37 46.0	-14
YKW3				Trac		12 38 53.4	
	comp=Z,2.0nm,0.6s						
YKW3				Trac		12 38 53.4	
	comp=Z,2.0nm,0.6s						
FCC	**Fort Churchill**	**13.79**	**56**	Pn	P	12 36 51.8	-10

*BJI **30** 13:28:34.5,50.50N×164.50W,h29km,mB4.8,mb4.8, Ms4.4,Msz4.1*
*IDC **30** 13:28:43.3±1.1,53.54N×164.63W,mb4.0/13,mb1 4.2/16, mb1mx4.1/26,mbtmp4.1/16,ML3.8/3,MS3.7/8,Ms1 3.7/8, ms1mx3.4/28,Error ellipse: s-maj=27.8km s-min=11.9km az=172.0*
*MOS **30** 13:28:46.9±0.9,53.69N×164.52W,h33km,mb4.8/7,Error ellipse: s-maj=24.1km s-min=11.5km az=97.3*
*NEIC **30** 13:28:47.6±1.6,53.50N×164.55W,h30km±11km,mb4.6/9, ML3.8(AEIC),Error ellipse: s-maj=12.4km s-min=5.3km az=169.0*
ISC 30 13:28:46.4±1.1,53.4N±0.1×164.45W±0.07,h42km±7km, n50,σ1§09/53,mb4.3/21,MS3.8/8,1C,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.08**	**314**	P	P	P	13 29 06.2	+0.9
AKUT				S	S	S	13 29 22.8	+3.5
UNV	**Unalaska Valle**	**1.30**	**291**	P	P	P	13 29 08.8	+0.3
UNV				S	S	S	13 29 26.6	+1.6
NIKO	**Nikolski**	**2.68**	**263**	P	P	P	13 29 27.3	-0.8
SDPT	**Sand Point**	**3.04**	**48**	P	P	P	13 29 33.6	+0.3
SDPT				S	S	S	13 30 08.9	+0.2
ATKA	**Atka Island**	**6.03**	**263**	P	P	P	13 30 14.2	-1.1
KDAK	**Kodiak Island**	**8.03**	**52**	Pn	P	P	13 30 41.4	-1.8
	1.7nm,0.3s,baz=359,slow=20,SNR=7.3							
KDAK				Sn	S	S	13 32 07.0	-6.7
	baz=338,slow=19,SNR=4.1							
KDAK	**Kodiak Island**	**8.03**	**52**	Pn	P	P	13 30 41.4	-1.8
KDAK				Sn	S	S	13 32 07.0	-6.8
FX1	**Attu Island--F**	**13.44**	**277**	Pn	P	P	13 31 56.7	+0.2
	2.8nm,0.3s,baz=245,slow=18,SNR=8.2							
FX1				Sn	S	S	13 34 23.9	-1.5
	2.2nm,0.3s,baz=246,slow=19,SNR=4.6							
ILAR	**Eielson Array**	**14.48**	**31**	Pn	P	P	13 32 06.8	-3.1
	0.1nm,0.3s,baz=232,slow=13,SNR=6.3							
DLBC	**Dease Lake**	**19.79**	**61**	LR	LR	LR	13 40 22.3	
	comp=Z,255nm,19.4s,baz=268,slow=35							
INK	**Inuvik**	**20.87**	**32**	P	P	P	13 33 24.7	-2.0
	5.2nm,0.5s,baz=237,slow=11,SNR=19							
INK	**Inuvik**	**20.87**	**32**	*eP*	P	P	13 33 24.6	-2.1
INK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
INK	**Inuvik**	**20.87**	**32**	*eP*	P	P	13 33 24.6	-2.1
	comp=Z,9.0nm,0.8s							
YKA	**Yellowknife Ar**	**27.30**	**51**	P	P	P	13 34 29.9	+1.3
	comp=Z,0.6nm,0.7s,baz=274,slow=6.7,SNR=15							
YKA				LR	LR	LR	13 46 24.5	
	comp=Z,148nm,18.6s,MS3.6,baz=245,slow=39							
NEW	**Newport**	**29.88**	**80**	LR	LR	LR	13 47 16.7	
	comp=Z,136nm,18.7s,MS3.6,baz=81,slow=37							
NVAR	**Mina Array Bea**	**34.76**	**97**	P	P	P	13 35 36.6	+2.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=307,slow=10,SNR=4.4							
MJAR	**Matsushiro Arr**	**42.69**	**271**	P	P	P	13 36 41.0	+0.5
	comp=Z,0.8nm,0.6s,mb3.6,baz=38,slow=7.3,SNR=4.8							
BOD	**Bodaibo**	**43.65**	**310**	*eP*	P	P	13 36 46.4	-1.6
BOD				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.2							
TXAR	**Lajitas Array**	**49.79**	**94**	P	P	P	13 37 37.7	+1.0
	comp=Z,0.9nm,0.6s,mb4.0,baz=307,slow=4.9,SNR=9.1							
ULN	**Ulaanbaatar**	**52.94**	**302**	*eP*	P	P	13 37 59.7	-0.5
ULN				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
ULN	**Ulaanbaatar**	**52.94**	**302**	*eP*	P	P	13 37 59.7	-0.5
	comp=Z,3.9nm,0.8s,mb4.4							
SONM	**Songino Array**	**53.29**	**303**	P	P	P	13 38 03.2	+0.4
	comp=Z,3.0nm,0.9s,mb4.2,baz=43,slow=8.5,SNR=25							
SONM				PcP	PcP		13 39 11.0	+1.0
	comp=Z,0.4nm,0.6s,baz=52,slow=2.6,SNR=4.0							
MOY	**Mondy**	**53.35**	**309**	*eP*	P	P	13 38 03.7	+0.5
ARCES	**ARCESS Array B**	**57.17**	**356**	P	P	P	13 38 29.7	-0.9
	comp=Z,2.1nm,0.8s,mb4.2,baz=8.7,slow=7.1,SNR=8.6							
ZAL	**Zalesovo**	**58.64**	**320**	P	P	P	13 38 40.2	-0.9
	comp=Z,1.2nm,0.6s,mb4.1,baz=65,slow=7.8,SNR=7.8							
ZAL				LR	LR	LR	14 06 15.5	
	comp=Z,88nm,19.5s,MS3.9,baz=263,slow=38							
ZAL	**Zalesovo**	**58.64**	**320**	P	P	P	13 38 40.2	-0.9
ZAL				LR	LR	LR	14 06 15.5	
GTA	**Gaotai**	**62.61**	**300**	*eP*	P	P	13 39 08.3	0.0
GTA				AP	pP		13 39 13.5	-7.1
GTA				PP	PP		13 41 27.5	-0.6
GTA				S	S	S	13 47 33.3	+1.7
GTA				AMB	AMB			
	comp=Z,50nm,4.2s							
GTA				LR	LR			
	comp=N,90nm,12.2s,MS4.2							
GTA				LR	LR			
	comp=E,70nm,15.2s,MS4.2							
GTA				LR	LR			
	comp=Z,60nm,10.7s,MS4.0							
JOF	**Joensuu**	**63.37**	**352**	*ep*	P	P	13 39 12.5	-0.5
	comp=Z,5.2nm,1.1s,mb4.6							
KURK	**Kurchatov**	**63.53**	**321**	*eP*	P	P	13 39 13.7	-0.4
KURK	**Kurchatov**	**63.53**	**321**	*eP*	P	P	13 39 13.6	-0.5
	comp=Z,3.2nm,0.8s,mb4.4							
KAF	**Kangasniemi**	**64.53**	**354**	*ep*	P	P	13 39 19.8	-0.6
	comp=Z,7.2nm,1.0s,mb4.7							
KAF	**Kangasniemi**	**64.53**	**354**	*eP*	P	P	13 39 19.8	-0.6
KAF				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.7							
BVAR	**Borovoye Array**	**64.54**	**327**	P	P	P	13 39 21.1	+0.5
	comp=Z,5.2nm,0.7s,mb4.7,baz=52,slow=6.5,SNR=42							
BRVK	**Borovoye**	**64.55**	**327**	*eP*	P	P	13 39 20.6	-0.1
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4							
BRVK	**Borovoye**	**64.55**	**327**	*eP*	P	P	13 39 20.6	-0.1
	comp=Z,4.3nm,1.0s,mb4.4							
ARU	**Arti**	**65.00**	**335**	*eP*	P	P	13 39 23.5	0.0
ARU				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8							
ARU	**Arti**	**65.00**	**335**	*eP*	P	P	13 39 23.5	-0.1
	comp=Z,9.4nm,0.9s,mb4.8							
ZRNK	**Zerenda**	**65.05**	**328**	*eP*	P	P	13 39 24.1	+0.2
ZRNK				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.9							
ZRNK	**Zerenda**	**65.05**	**328**	*eP*	P	P	13 39 24.1	+0.2
	comp=Z,10nm,0.8s,mb4.9							
FINES	**FINESS Array B**	**65.21**	**354**	P	P	P	13 39 24.6	-0.2
	comp=Z,1.9nm,0.7s,mb4.2,baz=14,slow=7.9,SNR=7.0							
FINES				LR	LR	LR	14 08 09.4	
	comp=Z,31nm,18.9s,MS3.5,baz=336,slow=36							
MKAR	**Makanchi Array**	**65.21**	**316**	P	P	P	13 39 24.2	-0.9
	comp=Z,2.4nm,0.6s,mb4.4,baz=46,slow=6.1,SNR=31							
MKAR				LR	LR	LR	14 09 27.9	
	comp=Z,66nm,18.5s,MS3.9,baz=270,slow=38							
MKAR	**Makanchi Array**	**65.21**	**316**	P	P	P	13 39 24.2	-0.9
MKAR				LR	LR	LR	14 09 27.9	
GYA	**Guiyang**	**68.57**	**286**	P	P	P	13 39 46.5	-0.1
GYA				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8							
AKTO	**Aktyubinsk**	**70.54**	**333**	LR	LR	LR	14 16 07.1	
	comp=Z,32nm,18.3s,MS3.6,slow=40							
AAK	**Ala-Archa**	**71.80**	**318**	*eP*	P	P	13 40 06.1	+0.2
AAK				pmax	pmax			
	comp=Z,4.0nm,0.3s,mb4.8							
AAK	**Ala-Archa**	**71.80**	**318**	*eP*	P	P	13 40 06.1	+0.2
	comp=Z,3.9nm,0.3s,mb4.8							
PPT	**Papeete**	**71.82**	**165**	LR	LR	LR	14 05 09.3	
	comp=Z,120nm,19.9s,MS4.2,baz=72,slow=30							
GERES	**GERESS Array B**	**78.13**	**1**	P	P	P	13 40 43.6	+1.6
	comp=Z,0.4nm,0.5s,mb3.6,slow=5.3,SNR=3.6							
BR131	**Keskin Array S**	**85.95**	**346**	*eP*	P	P	13 41 25.1	+2.5
	comp=Z,1.6nm,0.7s,mb4.4							
BRTR	**Keskin Array B**	**85.95**	**346**	P	P	P	13 41 25.0	+2.4
	comp=Z,2.8nm,0.8s,mb4.5,baz=45,slow=3.5,SNR=11							

GUC 30 13:55:34.6±0.5,31.49S×69.69W,h156km±4km,ML4.0, 6C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.16**	**285**	*i*P	P	P	13 56 01.7	+0.1
CMCH				*i* S	S	S	13 56 22.3	-0.1
CMCH				AMP			13 56 24.6	
	comp=N,5μm,0.9s							
ILCH	**Illapel**	**1.27**	**263**	AMP			13 56 26.2	
	comp=N,986nm,0.2s							
JACH	**Jahuel**	**1.42**	**212**	*i*P	P	P	13 56 04.3	+0.2
JACH				*i* S	S	S	13 56 26.9	+0.1
CHNG	**Los Chungos**	**1.59**	**255**	*i*P	P	P	13 56 06.0	+0.1
CHNG				*i* S	S	S	13 56 29.4	-0.6
PEL	**Peldehue**	**1.85**	**207**	*i*P	P	P	13 56 08.8	+0.1
PEL				*i* S	S	S	13 56 34.7	-0.4
PEL				AMP			13 56 35.8	
	comp=N,1μm,0.4s							
FCH	**Farellones**	**1.91**	**195**	*i*P	P	P	13 56 10.1	+0.8
FCH				*i* S	S	S	13 56 37.5	+1.4
CLCH	**Cerro Calan**	**2.04**	**200**	*i*P	P	P	13 56 11.2	+0.4
CLCH				*i* S	S	S	13 56 38.8	+0.1
CLCH				AMP			13 56 42.8	
	comp=E,582nm,0.5s							
LSCH	**La Serena**	**2.06**	**319**	*e*P	P	P	13 56 11.2	+0.1
LSCH				*i* S	S	S	13 56 38.7	-0.6
LSCH				AMP			13 56 39.0	
	comp=E,2μm,0.4s							
RCDM	**Rinconada Maip**	**2.21**	**205**	*i*P	P	P	13 56 13.1	+0.1
RCDM				*i* S	S	S	13 56 42.5	0.0
RCDM				AMP			13 56 43.6	
	comp=E,477nm,0.8s							
PCH	**Pirque**	**2.24**	**198**	*i* P	P	P	13 56 13.6	+0.3
PCH				*i* S	S	S	13 56 42.9	-0.2
TACH	**Talagante**	**2.40**	**206**	*i*P	P	P	13 56 15.2	-0.2
TACH				*i* S	S	S	13 56 46.4	-0.2
LCCH	**Las Cruces**	**2.54**	**218**	*i*P	P	P	13 56 17.0	-0.1
LCCH				*i* S	S	S	13 56 49.1	-0.5
CHCH	**Chadas Angostu**	**2.57**	**198**	*i*P	P	P	13 56 17.4	-0.1
CHCH				*i* S	S	S	13 56 50.4	0.0
CACH	**El Canelo**	**2.73**	**196**	*i* P	P	P	13 56 19.9	+0.4
CACH				*i* S	S	S	13 56 54.5	+0.6

*BJI **30** 14:09:39.1,63.41N×150.44W,h124km,mB4.9,mb5.0*
*MOS **30** 14:09:41.8±0.9,63.32N×150.68W,h134km,mb4.7/22, Error ellipse: s-maj=15.1km s-min=6.2km az=97.6*
*NEIC **30** 14:09:43.2,63.23N×150.52W,h130km,mb4.7/37,After AEIC.*
NEIC Felt at Anchorage, Eagle River, Eielson AFB and Talkeetna.
*IDC **30** 14:09:44.2±0.9,63.45N×150.60W,h133km±7km,mb4.0/22, mb1 4.2/26,mb1mx4.2/28,mbtmp4.4/26,Error ellipse: s-maj=11.7km s-min=9.0km az=54.0*
ISC 30 14:09:41.7±0.2,63.27N±0.03×150.63W±0.05, h133km±2km,h128km±2.9km:pP-P,n168,σ0§96/182, mb4.5/71,8C,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.24**	**40**	P	P	P	14 10 01.6	+1.5
TRF				S	S	S	14 10 15.1	+0.9
KTH	**Kantishna Hill**	**0.31**	**335**	P	P	P	14 10 01.5	+1.2
KTH				S	S	S	14 10 15.2	+0.6
MCK	**McKinley**	**0.89**	**58**	P	P	P	14 10 05.3	+1.3
MCK				S	S	S	14 10 22.0	+0.9
GHO	**Glory Hole Cre**	**1.70**	**151**	P	P	P	14 10 13.1	+0.4
SML	**Sawmill**	**1.81**	**143**	P	P	P	14 10 13.9	-0.1
SML				S	S	S	14 10 38.2	-0.4
PMR	**Palmer**	**1.82**	**157**	P	P	P	14 10 13.9	-0.2
PMR				S	S	S	14 10 37.5	-1.3
COLA	**College**	**2.02**	**36**	P	P	P	14 10 17.4	+0.9
COLA				S	S	S	14 10 42.2	-0.8
FIB	**Fire Island**	**2.12**	**174**	P	P	P	14 10 18.8	+1.0
RC01	**Rabbit Creek A**	**2.23**	**169**	P	P	P	14 10 18.7	-0.4
RC01				S	S	S	14 10 46.3	-1.4
ILAR	**Eielson Array**	**2.23**	**46**	P	P	P	14 10 19.8	+0.5
	76nm,0.3s,baz=228,slow=12,SNR=6867							
ILAR				S	S	S	14 10 46.9	-1.0
	100nm,0.3s,baz=230,slow=20,SNR=27							
IL1	**Eielson Array**	**2.23**	**46**	P	P	P	14 10 19.7	+0.5
PAX	**Paxson**	**2.37**	**95**	P	P	P	14 10 21.5	+0.6
PAX				S	S	S	14 10 50.0	-0.8
TT01	**Tatalina**	**2.48**	**264**	P	P	P	14 10 22.7	+0.3
SLKM	**Skilak Lake**	**2.78**	**176**	*eP*	P	P	14 10 25.7	-0.6
IM04	**Indian Mountai**	**3.04**	**335**	P	P	P	14 10 30.4	+0.6
IMA2	**Indian Mountai**	**3.10**	**336**	*eP*	P	P	14 10 31.0	+0.4
GCSA	**Galena City Sc**	**3.12**	**301**	P	P	P	14 10 31.5	+0.6
DIV	**Divide**	**3.13**	**131**	P	P	P	14 10 29.6	-1.3
DIV				S	S	S	14 11 05.4	-3.0
MENT	**Mentasta**	**3.16**	**93**	P	P	P	14 10 31.6	+0.2
SVW2	**Sparrevohn**	**3.18**	**229**	P	P	P	14 10 31.4	-0.2
SEW	**Seward**	**3.23**	**169**	P	P	P	14 10 31.2	-1.0
SEW				S	S	S	14 11 06.7	-4.1
EYAK	**Cordova Ski Ar**	**3.58**	**138**	P	P	P	14 10 36.2	-0.6
BMRM	**Bremner River**	**3.65**	**126**	P	P	P	14 10 36.2	-1.7
AUL	**Augustine Lava**	**4.13**	**200**	P	P	P	14 10 45.5	+1.3
BM3	**Burnt Mountain**	**4.87**	**29**	P	P	P	14 10 54.4	+0.2
DAWY	**Dawson**	**5.07**	**76**	P	P	P	14 10 56.4	-0.4
KDAK	**Kodiak Island**	**5.59**	**191**	P	P	P	14 11 02.2	-1.5
	52nm,0.3s,baz=37,slow=9.3,SNR=284							
KDAK				S	S	S	14 12 02.2	-5.1
	34nm,0.3s,baz=250,slow=23,SNR=9.7							
KDAK	**Kodiak Island**	**5.59**	**191**	P	P	P	14 11 02.4	-1.3
PNL	**Peninsula**	**6.48**	**119**	P	P	P	14 11 15.0	-0.7
TNA	**Tin City**	**7.83**	**295**	P	P	P	14 11 35.4	+1.5
WHY	**Whitehorse**	**7.87**	**102**	P	P	P	14 11 34.1	-0.4
INK	**Inuvik**	**8.64**	**47**	P	P	P	14 11 43.5	-1.2
	2.0nm,0.3s,baz=241,slow=18,SNR=79							
INK	**Inuvik**	**8.64**	**47**	*eP*	P	P	14 11 42.9	-1.9
BESE	**Bessie Mountai**	**8.99**	**114**	P	P	P	14 11 48.5	-1.1
SIT	**Sitka**	**9.83**	**122**	P	P	P	14 12 00.3	-0.1
DLBC	**Dease Lake**	**11.13**	**106**	P	P	P	14 12 17.9	+0.4
	0.3nm,0.3s,baz=276,slow=11,SNR=8.9							
YKW3	**Yellowknife Ar**	**16.29**	**76**	*eP*	P	P	14 13 22.1	-1.4
YKA	**Yellowknife Ar**	**16.31**	**76**	P	P	P	14 13 22.9	-0.8
	2.1nm,0.3s,baz=283,slow=10,SNR=105							
YKA				ScP			14 21 30.4	
	0.0nm,0.3s,baz=296,slow=1.7,SNR=5.1							
YKA	**Yellowknife Ar**	**16.31**	**76**	P	P	P	14 13 22.9	-0.8
YKA				ScP			14 21 30.4	
BILL	**Bilibino**	**18.08**	**304**	*eP*	P	P	14 13 44.3	-0.8
BILL				pmax	pmax			
	comp=Z,15nm,0.9s							
BILL	**Bilibino**	**18.08**	**304**	*eP*	P	P	14 13 44.3	-0.8
	comp=Z,15nm,0.9s							
EDM	**Edmonton**	**21.72**	**100**	*eP*	P	P	14 14 23.8	+1.2
RES	**Resolute Bay**	**21.95**	**36**	*eP*	P	P	14 14 24.7	0.0
RES				pmax	pmax			
	comp=Z,14nm,0.6s,mb4.6							
RES	**Resolute Bay**	**21.95**	**36**	*eP*	P	P	14 14 24.7	-0.1
	comp=Z,14nm,0.6s,mb4.6							
NEW	**Newport**	**23.72**	**114**	P	P	P	14 14 44.2	+2.4
	comp=Z,8.0nm,0.8s,mb4.3,baz=329,slow=7.8,SNR=13							
NEW				pP			14 15 11.0	
	comp=Z,7.2nm,0.9s,baz=325,slow=7.2,SNR=4.1							
NEW	**Newport**	**23.72**	**114**	P	P	P	14 14 44.2	+2.3
NEW				pP			14 15 11.0	
SEY	**Seymchan**	**25.07**	**295**	*eP*	P	P	14 14 53.7	-0.8
FCC	**Fort Churchill**	**26.98**	**73**	*eP*	P	P	14 15 12.0	-0.2
FCC				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.6							
FCC	**Fort Churchill**	**26.98**	**73**	*eP*	P	P	14 15 12.0	-0.3
	comp=Z,13nm,0.9s,mb4.5							
EGMT	**Eagleton**	**27.05**	**105**	*eP*	P	P	14 15 13.0	0.0
	comp=Z,12nm,0.9s,mb4.5							
YBH	**Yreka Blue Hor**	**27.06**	**130**	P	P	P	14 15 14.8	+1.7
	comp=Z,3.1nm,0.7s,mb4.0,baz=18,slow=15,SNR=3.7							
YBH				pP	pP		14 15 43.6	+2.4
	comp=Z,7.0nm,1.0s,baz=16,slow=5.5,SNR=4.2							
HRY	**Holter Researc**	**27.17**	**109**	*eP*	P	P	14 15 14.8	+0.7
MA2	**Magadan**	**27.42**	**289**	*eP*	P	P	14 15 16.1	-0.1
MA2				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.5							
BOZ	**Bozeman (W)**	**28.09**	**110**	*eP*	P	P	14 15 23.9	+1.4
BOZ				pmax	pmax			
	comp=Z,14nm,0.7s,mb4.8							
BOZ	**Bozeman (W)**	**28.09**	**110**	*eP*	P	P	14 15 23.9	+1.4
	comp=Z,14nm,0.7s,mb4.8							
MCMT	**McKenzie Canyo**	**28.24**	**113**	*eP*	P	P	14 15 23.5	-0.2
GCMT	**Greycliff**	**28.82**	**108**	*eP*	P	P	14 15 29.9	+0.9
YMR	**Madison River**	**29.16**	**111**	*eP*	P	P	14 15 32.6	+0.7
	comp=Z,14nm,0.8s,mb4.8							
LKWY	**Lake**	**29.48**	**110**	P	P	P	14 15 35.5	+0.6
	comp=Z,7.5nm,0.8s,mb4.5							
TIXI	**Tiksi**	**29.59**	**321**	*i* P	P	P	14 15 34.5	-1.0
IMW	**Indian Meadow**	**29.80**	**112**	*e*P	P	P	14 15 38.0	+0.4
	comp=Z,10nm,0.8s,mb4.6							
PDAR	**Pinedale Array**	**31.30**	**111**	P	P	P	14 15 52.1	+1.2
	comp=Z,7.2nm,0.8s,mb4.5,baz=318,slow=5.7,SNR=62							
PDAR				pPRM	pP		14 16 21.0	+1.2
	comp=Z,4.6nm,1.1s,baz=315,slow=8.4,SNR=4.4							
NVAR	**Mina Array Bea**	**31.55**	**127**	P	P	P	14 15 54.9	+1.8
	comp=Z,3.6nm,0.7s,mb4.2,baz=328,slow=6.5,SNR=27							
NVAR				pP	pP		14 16 23.4	+1.4
	comp=Z,1.8nm,0.8s,baz=304,slow=8.9,SNR=4.4							
NVAR	**Mina Array Bea**	**31.55**	**127**	P	P	P	14 15 54.9	+1.8
NVAR				pP	pP		14 16 23.4	+1.4
ULM	**Lac du Bonnet**	**31.64**	**88**	P	P	P	14 15 54.0	+0.2
	comp=Z,6.9nm,0.7s,mb4.5,baz=312,slow=8.5,SNR=17							
RSSD	**Black Hills**	**32.59**	**104**	*e*P	P	P	14 16 02.3	+0.2
RSSD				pmax	pmax			
	comp=Z,12nm,0.7s,mb4.7							
RSSD	**Black Hills**	**32.59**	**104**	*e*P	P	P	14 16 02.3	+0.2
	comp=Z,12nm,0.7s,mb4.7							
MVU	**Marysvale**	**33.80**	**119**	*e*P	P	P	14 16 15.9	+3.4
	comp=Z,7.7nm,0.9s,mb4.4							
MSU	**Marysvale**	**33.81**	**119**	*e*P	P	P	14 16 14.1	+1.5
ARUT	**Antelope Range**	**33.94**	**121**	P	P	P	14 16 13.6	-0.1
SRU	**San Rafael**	**33.96**	**116**	*e*P	P	P	14 16 14.8	+1.0
SRU				pmax	pmax			
	comp=Z,11nm,0.7s,mb4.7							
SRU	**San Rafael**	**33.96**	**116**	*e*P	P	P	14 16 14.8	+1.0
	comp=Z,11nm,0.7s,mb4.7							
YAK	**Yakutsk**	**34.44**	**305**	*i* P	P	P	14 16 17.2	-0.5
YAK				pmax	pmax			
	comp=Z,23nm,0.7s,mb5.0							
YAK	**Yakutsk**	**34.44**	**305**	*e*P	P	P	14 16 15.8	-1.8
	comp=Z,21nm,0.6s,mb5.0							
PV01	**Paradox Valley**	**35.59**	**115**	*e*P	P	P	14 16 28.8	+1.1
PV01				*e*pP	pP		14 16 56.2	-1.0
WUAZ	**Wupatki**	**36.73**	**120**	*e*P	P	P	14 16 39.2	+2.0
	comp=Z,20nm,0.9s,mb4.7							
WUAZ				*e*pP	pP		14 17 05.9	-1.0
DAG	**Danmarks Havn**	**37.03**	**17**	*i*P	P	P	14 16 39.5	0.0
	comp=Z,16nm,0.5s,mb4.9							
DAG	**Danmarks Havn**	**37.03**	**17**	*e*P	P	P	14 16 39.5	0.0
DAG				pmax	pmax			
	comp=Z,16nm,0.5s,mb4.9							
DAG	**Danmarks Havn**	**37.03**	**17**	*e*P	P	P	14 16 39.5	0.0
	comp=Z,16nm,0.5s,mb4.9							
ANMO	**Albuquerque**	**39.19**	**115**	*i*P	P	P	14 16 59.2	+1.4
YSS	**Yuzh-Sakhalins**	**39.40**	**278**	P	P	P	14 17 00.0	+0.6
YSS				pmax	pmax			
	comp=Z,30nm,1.0s,mb4.9							
CLNS	**Chul'man**	**39.73**	**301**	*e*P	P	P	14 16 56.4	-5.6
CLNS				pmax	pmax			
	comp=Z,20nm,0.9s,mb4.8							
CLNS				pmax	pmax			
	comp=N,12nm,0.8s							
CLNS				pmax	pmax			
	comp=E,17nm,0.8s							
SCHQ	**Schefferville**	**40.91**	**61**	P	P	P	14 17 12.2	+0.5
	comp=E,6.0nm,0.9s,mb4.2,baz=28,slow=18,SNR=7.8							
HABR	**Khabarovsk**	**41.66**	**285**	*i* P	P	P	14 17 21.5	+3.7
BOD	**Bodaibo**	**43.05**	**309**	*e*P	P	P	14 17 27.7	-1.3
BOD				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.5							
FVM	**French Village**	**43.60**	**96**	*e*P	P	P	14 17 33.3	-0.4
	comp=Z,5.2nm,0.6s,mb4.3							
MIAR	**Mount Ida**	**45.05**	**102**	*e*P	P	P	14 17 45.4	0.0
MIAR				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.2							
MIAR	**Mount Ida**	**45.05**	**102**	*e*P	P	P	14 17 45.4	0.0
	comp=Z,5.5nm,0.8s,mb4.2							
ACSO	**Om Creek Sta**	**45.13**	**87**	*e*P	P	P	14 17 45.9	0.0
	comp=Z,9.1nm,0.6s,mb4.6							
TXAR	**Lajitas Array**	**45.24**	**116**	P	P	P	14 17 48.5	+1.6
	comp=Z,4.6nm,0.7s,mb4.2,baz=327,slow=6.2,SNR=56							
TXAR				ScP			14 23 05.7	
	comp=Z,0.4nm,0.8s,baz=243,slow=2.8,SNR=4.1							
LOZ	**Lake Ozonia**	**45.40**	**77**	*e*P	P	P	14 17 47.2	-0.8
JCT	**Junction City**	**45.84**	**111**	*e*P	P	P	14 17 52.4	+0.8
	comp=Z,17nm,0.7s,mb4.8							
MDV	**Middlebury**	**46.50

KURK pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
KURK Kurchatov 59.95 326 *eP* **P 14 19 33.9 -1.6**
comp=Z,5.4nm,0.5s,mb4.6
ZRNK Zerenda 60.04 334 *i P* **P 14 19 35.0 -1.1**
ZRNK pmax pmax
comp=Z,17nm,1.1s,mb4.8
ZRNK Zerenda 60.04 334 *eP* **P 14 19 34.6 -1.5**
comp=Z,16nm,0.9s,mb4.8
SSE Sheshan 61.92 284 *eP* **P 14 19 45.5 -3.6**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,150nm,3.7s
NJ2 Nanjing 62.12 286 *eP* **P 14 19 49.5 -0.9**
NJ2 AP pP 14 20 18.3 -4.3
NJ2 XP sP 14 20 33.8 -3.4
NJ2 PP PP 14 22 08.5 -2.2
NJ2 S **S** **14 28 10.0 +7.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,170nm,4.7s
NJ2 LR LR
comp=N,1μm,24.7s
NJ2 LR LR
comp=E,620nm,20.3s
NJ2 LR LR
comp=Z,510nm,29.8s
MK31 Makanchi Array 62.57 322 *i P* **P 14 19 51.7 -1.5**
MK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
MKAR Makanchi Array 62.57 322 P **P 14 19 51.6 -1.6**
comp=Z,6.5nm,0.5s,mb4.7,baz=38,slow=6.5,SNR=160
GTA Gaotai 63.47 305 P **P 14 19 59.5 +0.3**
GTA AP pP 14 20 31.3 -0.1
GTA PCP PcP 14 20 34.5 +0.1
GTA XP sP 14 20 45.0 -1.1
GTA PP PP 14 22 23.3 +1.5
GTA S **S** **14 28 22.0 +2.3**
GTA XS 14 29 14.5
GTA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,40nm,6.1s
GTA LR LR
comp=N,170nm,20.9s
GTA LR LR
comp=E,210nm,17.5s
GTA LR LR
comp=Z,360nm,21.7s
AKTK Aktyubinsk 64.41 340 P **P 14 20 04.5 -0.5**
AKTO Aktyubinsk 64.41 340 P **P 14 20 04.5 -0.5**
comp=Z,7.3nm,0.5s,mb4.8,baz=22,slow=7.0,SNR=43
LZH Lanzhou 64.85 300 *eP* **P 14 20 08.3 +0.2**
LZH AP pP 14 20 41.5 +1.0
LZH AMB AMB
comp=Z,20nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,70nm,4.1s
DPC Dobruska-Polom 66.26 9 *eP* **P 14 20 17.1 +0.2**
AKASG Malin Array Be 66.37 0 P **P 14 20 16.5 -1.1**
comp=Z,1.3nm,0.3s,mb4.2,baz=1.6,slow=6.3,SNR=16
KHC Kasperske Hory 67.25 11 *eP* **P 14 20 23.5 +0.4**
GERES GERESS Array B 67.55 11 P **P 14 20 24.4 -0.5**
comp=Z,0.5nm,0.7s,mb3.4,slow=4.0,SNR=3.6
ENH Enshi 67.65 293 *eP* **P 14 20 24.9 -1.1**
comp=Z,7.7nm,0.6s,mb4.6
TKM2 Tokmak 2 67.95 325 P **P 14 20 27.9 +0.3**
SNR=6.5
CHMS Chumysh 68.10 326 P **P 14 20 28.9 +0.4**
SNR=6.6
KBK Karagaybulak 68.37 325 P **P 14 20 30.5 +0.4**
SNR=9.7
AAK Ala-Archa 68.50 326 P **P 14 20 31.5 +0.6**
SNR=5.4
AAK Ala-Archa 68.50 326 *eP* **P 14 20 29.8 -1.2**
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
AAK Ala-Archa 68.50 326 *eP* **P 14 20 29.8 -1.2**
comp=Z,8.3nm,0.9s,mb4.5
EKS2 Erkin-Say 68.66 326 P **P 14 20 32.4 +0.5**
SNR=12
AML Almayashu 69.18 326 P **P 14 20 36.4 +1.2**
SNR=8.0
GYA Guiyang 72.18 293⇑ *i P* **P 14 20 53.3 0.0**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
KIV Kislovodsk 72.60 350 *eP* **P 14 20 56.1 +0.7**
KIV pmax pmax
comp=Z,11nm,0.9s,mb4.6
ESDC Sonseca Array 74.01 26 P **P 14 21 04.2 +0.5**
comp=Z,0.1nm,0.2s,mb3.1,baz=6.5,slow=7.7,SNR=4.6
BR131 Keskin Array S 77.29 357 *eP* **P 14 21 23.3 +1.1**
comp=Z,0.5nm,0.3s,mb3.6
BRTR Keskin Array B 77.29 357 P **P 14 21 23.0 +0.8**
comp=Z,1.4nm,0.6s,mb3.8,baz=342,slow=3.9,SNR=10
BRTR Keskin Array B 77.29 357 *i P* **P 14 21 23.7 +1.5**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
GUN Gumba 78.79 311 *eP* **P 14 21 31.8 +1.2**
comp=Z,36nm,1.3s,mb4.9
JIRN Jiri 78.91 311 *eP* **P 14 21 32.5 +1.2**
comp=Z,29nm,0.7s,mb5.0
KKN Kakani 79.10 312 *eP* **P 14 21 32.4 +0.1**
comp=Z,14nm,0.6s,mb4.8
KKN Kakani 79.10 312 *eP* **P 14 21 32.4 +0.1**
KKN pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
GKN Gorkha 79.12 312 *eP* **P 14 21 33.0 +0.6**
comp=Z,11nm,0.5s,mb4.8
PKI Pulchoki 79.26 311 *eP* **P 14 21 33.3 +0.1**
DMN Daman 79.33 312 *eP* **P 14 21 34.4 +0.9**
comp=Z,9.6nm,0.5s,mb4.7
KOLN Koldanda 79.68 313 *eP* **P 14 21 36.0 +0.5**
comp=Z,8.9nm,0.8s,mb4.5
VNDA Vanda 143.52 196 PKP PKPdf 14 28 59.8 +1.5
comp=Z,1.4nm,0.8s,baz=325,slow=1.3,SNR=8.2
BOSA Boshof 145.24 6 PKPbc PKPbc 14 29 05.1 +2.0
comp=Z,7.8nm,0.8s,baz=346,slow=7.3,SNR=10

BJI ***30*** *14:19:17.3, 11.27S×65.92E, h38km, mB5.1, mb4.7, Ms4.7, Msz4.4*
IDC ***30*** *14:19:18.8±0.5, 10.63S×66.45E, mb4.3/20, mb1 4.4/20, mb1mx4.4/23, mbtmp4.3/20, MS4.1/12, Ms1 4.1/12, ms1mx4.0/13, Error ellipse: s-maj=18.4km s-min=15.6km az=67.0*
MOS ***30*** *14:19:18.9±1.0, 10.60S×66.47E, h10km, mb5.2/12, Error ellipse: s-maj=16.1km s-min=9.0km az=104.6*
HRVD ***30*** *14:19:20.9±0.9, 11.09S×66.42E, h12km, MW4.8/53, Centroid moment Tensor Solution. LP body waves: s5,c7; Mantle waves: s53,c64; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.63±.11; $M_{\theta\theta}$-0.70±.11; $M_{\phi\phi}$-0.93±.10; $M_{r\theta}$1.18±.49; $M_{\theta\phi}$0.53±.10; $M_{\phi r}$0.14±.44; Best double couple: $M_0$1.846×10^{16} NP1:ϕ_s334°, δ35°, λ125°. NP2: ϕ_s114°, δ62°, λ68°. Principal axes: T 2.16, Plg66°, Azm345°; N -.631, Plg19°, Azm124°; P -1.533, Plg15°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *14:19:20.9±0.2, 10.65S×66.38E, h10km, mb4.9/15 Error ellipse: s-maj=8.3km s-min=7.6km az=85.0*
ISC 30 14:19:18.7±0.3, 10.62S±0.06×66.43E±0.06, h10km, (h31km±4.5km: pP-P), n125, σ0s89/82, mb4.6/42, MS4.2/15, 6C-2D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**20.21**	**245**	P	**P**	**14 23 55.7**	**-1.0**
	2.3nm,0.8s,baz=47,slow=4.7,SNR=4.7						
KMBO	**Kilima Mbogo**	**30.48**	**286**	P	**P**	**14 25 34.4**	**0.0**
	0.9nm,0.4s,mb3.9,baz=33,slow=21,SNR=5.6						
KMBO				LR	LR	14 36 56.5	
	comp=Z,230nm,18.3s,MS3.9,baz=91,slow=35						
KMBO	**Kilima Mbogo**	**30.48**	**286**	P	**P**	**14 25 34.4**	**0.0**
KMBO				LR	LR	14 36 56.5	
LSZ	**Lusaka**	**37.52**	**259**	*eP*	**P**	**14 26 35.1**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.9						
LSZ	**Lusaka**	**37.52**	**259**	*eP*	**P**	**14 26 35.1**	**+0.1**
	comp=Z,32nm,1.4s,mb4.9						
LBTB	**Lobatse**	**41.25**	**244**	P	**P**	**14 27 05.6**	**-0.2**
	comp=Z,6.5nm,1.1s,mb4.2,baz=155,slow=7.8,SNR=4.2						
BOSA Boshof 42.45 239 LR LR 14 43 11.0
comp=Z,205nm,19.1s,MS4.0,baz=262,slow=34
LSA Lhasa 46.63 30 P **P** **14 27 50.0 +0.7**
LSA Lhasa 46.63 30 *eP* **P** **14 27 52.7 +3.4**
LSA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LSA Lhasa 46.63 30 *eP* **P** **14 27 52.7 +3.4**
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 53.51 7 *eP* **P** **14 28 40.9 -0.8**
AAK pmax pmax
comp=Z,11nm,1.4s,mb4.6
AAK Ala-Archa 53.51 7 *eP* **P** **14 28 40.9 -0.9**
comp=Z,11nm,1.4s,mb4.6
GYA Guiyang 53.73 46⇑ *iP* **P** **14 28 44.8 +1.2**
GYA AMB AMB
comp=Z,10.0nm,1.5s,mb4.5
GNI Garni 54.37 340 P **P** **14 28 48.3 +0.3**
comp=Z,2.0nm,0.4s,mb4.4,baz=334,slow=21,SNR=6.5
GNI Garni 54.37 340⇑ *eP* **P** **14 28 49.3 +1.2**
GNI pmax pmax
comp=Z,34nm,1.4s
GNI Garni 54.37 340 *eP* **P** **14 28 48.9 +0.8**
comp=Z,15nm,1.1s,mb4.8
CD2 Chengdu 54.67 40 P **P** **14 28 51.3 +0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MAW Mawson 56.96 182 P **P** **14 29 05.2 -1.3**
comp=Z,11nm,0.9s,mb4.9,baz=35,slow=8.0,SNR=7.4
MAW LR LR 14 47 19.3
comp=Z,193nm,21.5s,MS4.2,baz=64,slow=30
ENH Enshi 58.02 44 *eP* **P** **14 29 14.3 -0.1**
comp=Z,6.5nm,0.7s,mb4.8
KIV Kislovodsk 58.45 340 *eP* **P** **14 29 17.8 +0.6**
KIV *e* 14 30 05.0
KIV *e* 14 31 29.0
KIV pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BRTR Keskin Array B 58.62 331 P **P** **14 29 17.9 -0.5**
comp=Z,0.8nm,0.6s,mb3.9,baz=135,slow=5.2,SNR=6.9
GTA Gaotai 58.66 30 *eP* **P** **14 29 18.5 -0.3**
GTA AP pP 14 29 29.0 +7.1
GTA XP sP 14 29 33.8 +11
GTA AMB AMB
comp=Z,10.0nm,1.6s,mb4.6
MKAR Makanchi Array 58.89 13 P **P** **14 29 19.0 -1.3**
comp=Z,1.5nm,0.7s,mb4.1,baz=196,slow=7.8,SNR=15
MKAR PcP PcP 14 30 09.8 +0.4
comp=Z,1.2nm,0.9s,baz=180,slow=2.4,SNR=4.1
MKAR LR LR 14 55 23.3
comp=Z,98nm,19.5s,MS3.9,baz=270,slow=37
XAN Xi'an 60.01 40 P **P** **14 29 25.8 -2.4**
AKTK Aktyubinsk 61.24 354 P **P** **14 29 35.8 -0.5**
AKTO Aktyubinsk 61.24 354 P **P** **14 29 35.8 -0.5**
comp=Z,4.1nm,1.0s,mb4.5,baz=244,slow=6.6,SNR=8.5
KURK Kurchatov 62.00 9 *eP* **P** **14 29 39.9 -1.6**
KURK pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
KURK Kurchatov 62.00 9 *eP* **P** **14 29 39.9 -1.6**
comp=Z,10.0nm,1.2s,mb4.8
ZRNK Zerenda 63.36 2 *eP* **P** **14 29 49.5 -0.9**
ZRNK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ZRNK Zerenda 63.36 2 *eP* **P** **14 29 49.5 -0.9**
comp=Z,8.5nm,0.9s,mb4.9
BVAR Borovoye Array 63.48 3 P **P** **14 29 50.4 -0.9**
comp=Z,3.0nm,1.0s,mb4.4,baz=166,slow=6.1,SNR=16
BRVK Borovoye 63.51 3 *eP* **P** **14 29 50.4 -1.0**
BRVK pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
BRVK Borovoye 63.51 3 *eP* **P** **14 29 50.4 -1.0**
comp=Z,4.8nm,1.3s,mb4.4
ASPA Alice Springs 65.26 111 *eP* **P** **14 30 03.2 -0.1**
NJ2 Nanjing 65.65 48 *eP* **P** **14 30 07.0 +1.3**
NJ2 AP pP 14 30 18.5 +10
NJ2 XP sP 14 30 21.3 +11
NJ2 PP PP 14 32 32.5 +0.1
NJ2 S S 14 38 50.0 +0.2
NJ2 XS 14 39 07.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,100nm,4.6s
NJ2 LR LR
comp=N,310nm,22.3s,MS4.7
NJ2 LR LR
comp=E,380nm,22.6s,MS4.7
NJ2 LR LR
comp=Z,330nm,26.1s,MS4.4
WRA Warramunga Arr 65.80 107 P **P** **14 30 06.5 -0.3**
comp=Z,16nm,1.0s,mb5.0,baz=274,slow=5.9,SNR=65
WRAB Tennant Creek 65.81 107⇓ *iP* **P** **14 30 06.1 -0.8**
WRAB Tennant Creek 65.81 107 *eP* **P** **14 30 07.2 +0.3**
comp=Z,46nm,1.3s,mb5.3
WB2 Warramunga Arr 65.81 107 *eP* **P** **14 30 07.3 +0.4**
HHC Hu-ho-hao-te 66.00 36 *eP* **P** **14 30 08.8 +1.1**
HHC AP pP 14 30 15.0 +4.1
HHC XP sP 14 30 18.3 +6.3
HHC AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,100nm,6.1s
HHC LR LR
comp=N,90nm,11.9s,MS4.5
HHC LR LR
comp=E,170nm,15.5s,MS4.5
HHC LR LR
comp=Z,100nm,14.3s,MS4.2
ZAL Zalesovo 66.18 12 LR LR 14 57 47.8
comp=Z,88nm,21.3s,MS3.9,baz=179,slow=35
SSE Sheshan 66.89 50 *eP* **P** **14 30 10.8 -2.8**
SSE PCP PcP 14 30 37.5 -4.8
SSE PP PP 14 32 39.8 -2.9
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,60nm,3.5s
SSE LR LR
comp=N,10.0nm,25.4s,MS3.8
SSE LR LR
comp=E,80nm,25.4s,MS3.8
SSE LR LR
comp=Z,90nm,26.1s,MS3.9
ARU Arti 67.13 355⇑ *eP* **P** **14 30 14.8 +0.1**
ARU pmax pmax
comp=Z,15nm,1.3s,mb4.9
ARU Arti 67.13 355 *eP* **P** **14 30 14.6 -0.1**
comp=Z,13nm,1.3s,mb4.8
SONM Songino Array 68.14 28 P **P** **14 30 20.2 -1.0**
comp=Z,1.3nm,0.4s,mb4.3,baz=222,slow=4.8,SNR=28
SONM LR LR 14 59 19.7
comp=Z,375nm,20.7s,MS4.6,baz=222,slow=35
ULN Ulaanbaatar 68.47 28 *eP* **P** **14 30 24.4 +1.2**
ULN pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
ULN Ulaanbaatar 68.47 28 *eP* **P** **14 30 24.4 +1.1**
comp=Z,4.4nm,1.0s,mb4.4
AKASG Malin Array Be 69.11 336 P **P** **14 30 26.1 -1.1**
comp=Z,0.4nm,0.3s,mb3.8,baz=139,slow=4.9,SNR=14
OBN Obninsk 70.13 342⇑ *iP* **P** **14 30 33.7 +0.4**
OBN *e* 14 33 07.8
OBN pmax pmax
comp=Z,25nm,1.6s,mb4.9
MOS Moscow 70.36 343 *eP* **P** **14 30 31.0 -3.6**
KOLS Kolonicke sedl 70.89 331 *eP* **P** **14 30 38.7 +0.7**
KECS Kecovo 71.45 330 *eP* **P** **14 30 41.4 0.0**
KECS *e* 14 30 50.8
KECS *e*PP PP 14 33 20.9 -1.0
KECS Kecovo 71.45 330 *eP* **P** **14 30 41.4 0.0**
KECS *e* 14 33 20.9
STKA Stephens Creek 71.92 120 P **P** **14 30 44.1 -0.4**
comp=Z,5.0nm,0.9s,mb4.4,baz=305,slow=7.0,SNR=6.7
STKA LR LR 14 58 23.5
comp=Z,172nm,18.8s,MS4.3,baz=206,slow=33
STKA Stephens Creek 71.92 120 *eP* **P** **14 30 44.7 +0.2**
DBIC Dimbokro 73.01 280 P **P** **14 30 51.8 +0.4**
comp=Z,6.9nm,1.1s,mb4.5,baz=92,slow=7.5,SNR=5.9
DBIC LR LR 15 01 23.3
comp=Z,265nm,19.7s,MS4.5,baz=89,slow=35
DBIC Dimbokro 73.01 280 *eP* **P** **14 30 51.6 +0.2**
DBIC pmax pmax
comp=Z,24nm,1.4s
DBIC Dimbokro 73.01 280 *eP* **P** **14 30 51.6 +0.2**
comp=Z,24nm,1.4s,mb4.9
KLMR Klimovskoe 74.37 347 *d iP* **P** **14 30 58.0 -0.3**
KLMR pmax pmax
comp=Z,50nm,1.6s,mb5.2
DPC Dobruska-Polom 74.73 329 *eP* **P** **14 31 00.4 -0.2**
VNA2 Neumayer--Watz 74.75 199 *e* **P** **14 31 06.2 +5.9**
VNA2 Neumayer--Watz 74.75 199 *e* **P** **14 31 12.8 +12**
VNA2 Neumayer--Watz 74.75 199 *eS* S 14 40 07.3 -28
VNA2 Neumayer--Watz 74.75 199 PKPdf **P** **14 31 00.2 -0.1**
VNA2 *e* 14 31 06.2
VNA2 *e* 14 31 12.8
VNA2 *e* 14 36 47.8
VNA2 *e* 14 37 50.9
VNA2 *eS* S 14 40 07.3 -28
UPC Upice 74.99 329 *eP* **P** **14 31 03.6 +1.5**
GERES GERESS Array B 75.18 327 P **P** **14 31 02.6 -0.6**
comp=Z,0.9nm,1.0s,mb3.7,baz=153,slow=3.0,SNR=5.0
KHC Kasperske Hory 75.41 327 *eP* **P** **14 31 04.2 -0.4**
KHC Kasperske Hory 75.41 327⇑ *eP* **P** **14 31 04.3 -0.3**
PRU Pruhonice 75.42 328 *eP* **P** **14 31 05.4 +0.8**
VNA3 Neumayer Olymp 75.54 199 *e* **P** **14 31 05.4 +0.6**
VNA3 Neumayer Olymp 75.54 199 *e* **P** **14 31 11.6 +6.8**
VNA3 Neumayer Olymp 75.54 199 *eS* S 14 40 30.5 -14
VNA3 Neumayer Olymp 75.54 199 PKPdf **P** **14 30 59.9 -4.9**
VNA3 *e* 14 31 05.4
VNA3 *e* 14 31 11.6
VNA3 *e* 14 36 48.7
VNA3 *e* 14 37 51.7
VNA3 *eS* S 14 40 30.5 -14
PVCC Panska Ves 75.73 329 *eP* **P** **14 31 06.9 +0.6**
DAVOX Davos 76.15 324 P **P** **14 31 09.3 +0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=153,slow=2.3,SNR=3.8
BRG Berggiesshubel 76.25 329 *eP* **P** **14 31 10.4 +1.1**
BRG pmax pmax
comp=Z,60nm,1.9s,mb5.2
BRG Berggiesshubel 76.25 329 *eP* **P** **14 31 10.4 +1.1**
comp=Z,60nm,1.9s,mb5.2
NKC Novy Kostel 76.65 328 *eP* **P** **14 31 11.5 0.0**
CTAO Charters Tower 76.95 108 *eP* **P** **14 31 14.8 +1.0**
CTAO pmax pmax
comp=Z,23nm,1.2s,mb5.0
CTAO Charters Tower 76.95 108 *eP* **P** **14 31 14.8 +1.0**
comp=Z,23nm,1.2s,mb5.0
FINES FINESS Array B 78.50 341 P **P** **14 31 21.8 +0.3**
comp=Z,4.5nm,1.1s,mb4.3,baz=129,slow=27,SNR=3.4
QSPA South Pole Qui 79.43 180 *eP* **P** **14 31 26.6 +0.4**
comp=Z,16nm,1.1s,mb4.8
VNDA Vanda 80.88 167 P **P** **14 31 34.3 +0.3**
comp=Z,2.0nm,1.1s,mb4.0,baz=262,slow=5.2,SNR=3.6
VNDA LR LR 15 03 22.8
comp=Z,121nm,18.4s,MS4.3,baz=308,slow=33
MJAR Matsushiro Arr 82.01 51 LR LR 15 06 43.8
comp=Z,133nm,18.7s,MS4.3,baz=225,slow=35
ESDC Sonseca Array 82.06 313 P **P** **14 31 41.5 +0.6**
comp=Z,3.8nm,0.9s,mb4.3,baz=109,slow=5.3,SNR=13
NOA NORSAR Array B 83.51 336 LR LR 15 08 11.5
comp=Z,42nm,19.1s,MS3.8,baz=345,slow=35
ARCES ARCESS Array B 84.85 347 P **P** **14 31 56.2 +1.8**
comp=Z,2.4nm,0.8s,mb4.4,baz=84,slow=8.2,SNR=3.9
ARCES LR LR 15 09 06.2
comp=Z,34nm,18.5s,MS3.8,baz=172,slow=35
YAK Yakutsk 87.30 25⇑ *eP* **P** **14 32 06.8 +0.1**
YAK pmax pmax
comp=Z,21nm,1.6s,mb5.1
INK Inuvik 120.90 9 *e*PKIKP PKPdf 14 38 12.9 -1.3
ILAR Eielson Array 121.17 16 PKP PKPdf 14 38 12.8 -2.0
comp=Z,1.0nm,1.0s,baz=284,slow=1.3,SNR=6.2
YKW3 Yellowknife Ar 128.15 1 *e*PKPdf PKPdf 14 38 26.7 -1.5
YKA Yellowknife Ar 128.21 1 PKP PKPdf 14 38 26.6 -1.8
comp=Z,1.9nm,0.9s,baz=352,slow=2.1,SNR=25
YKA PP PP 14 40 29.4 -4.1
comp=Z,0.6nm,1.1s,baz=357,slow=5.7,SNR=5.6
YKA Yellowknife Ar 128.21 1 PKP PKPdf 14 38 26.6 -1.8
YKA PP PP 14 40 29.4 -4.1
GCMT Greycliff 144.80 355 *e*PKPdf PKPdf 14 38 58.7 -0.4
BOZ Bozeman (W) 145.06 358 *e*PKIKP PKPdf 14 38 59.0 -0.6
DLMT Dillon 145.38 359 *e*PKPbc PKPbc 14 39 00.1 +2.4
RSSD Black Hills 145.62 348 *e*PKIKP PKPdf 14 38 59.3 -1.3
QLMT Earthquake Lak 145.87 357 *e*PKPbc PKPbc 14 39 01.6 +2.7
MCMT McKenzie Canyo 145.91 359 *e*PKPbc PKPbc 14 39 01.9 +2.9
LKWY Lake 146.07 356 *e*PKPbc PKPbc 14 39 03.9 +4.5
YFT Old Faithful 146.21 356 *e*PKPbc PKPbc 14 39 03.9 +4.2
MOOW Moose Ponds 146.91 356 *e*PKPbc PKPbc 14 39 05.4 +4.1
LRAL Lakeview Retre 146.92 316 *e*PKPbc PKPbc 14 39 03.4 +1.7
LOHW Long Hollow 147.03 356 *e*PKPdf PKPdf 14 39 03.6 +0.6
LOHW *e*PKPbc PKPdf 14 39 05.9 +2.9
HLID Hailey 147.18 1 *e*PKPbc PKPdf 14 39 05.9 +2.7
SNOW Snow King Moun 147.19 356 *e*PKPbc PKPdf 14 39 04.8 +1.5
REDW Red Top Meadow 147.30 356 *e*PKPdf PKPdf 14 39 03.6 +0.2
REDW *e*PKPbc PKPdf 14 39 06.7 +3.3
BW06 Boulder Array 147.79 354 *e*PKPdf PKPdf 14 39 03.7 -0.6
BW06 *e*PKPbc PKPdf 14 39 06.7 +2.5
PDAR Pinedale Array 147.79 354 PKPbc PKPdf 14 39 04.0 -0.2
comp=Z,4.9nm,1.0s,slow=1.5,SNR=22
WVOR Wild Horse Val 148.00 7 *e*PKPbc PKPdf 14 39 08.1 +3.5
HWUT Hardware Ranch 149.09 357 *e*PKPbc PKPdf 14 39 10.5 +4.1
TCUT Toone Canyon 149.57 357 *e*PKPbc PKPdf 14 39 12.2 +5.1
ELK Elko 149.96 3 *e*PKP2 PKPab 14 39 13.1 -4.5
DUG Dugway 150.54 359 *e*PKIKP PKPdf 14 39 13.2 +4.5
NLU North Lily Min 150.76 358 *e*PKPdf PKPdf 14 39 07.4 -1.6
SMCO Snowmass 150.96 349 *e*PKPbc PKPdf 14 39 15.5 +6.1
TMUT Trail Mountain 151.37 356 *e*PKPbc PKPdf 14 39 14.8 +4.8
NVAR Mina Array Bea 151.99 8 PKPbc PKPdf 14 39 18.5 +7.6
comp=Z,11nm,1.0s,baz=28,slow=3.1,SNR=8.5
SDCO Great Sand Dun 152.04 346 *e*PKPbc PKPdf 14 39 17.6 +6.5
PV10 Paradox Valley 152.07 352 *e*PKPbc PKPdf 14 39 18.1 +7.1
PV10 *e*PKPab PKPab 14 39 26.7 +0.2
MSU Marysvale 152.20 358 *e*PKIKP PKPdf 14 39 12.3 +1.1
MSU *e* 14 39 18.0
WMOK Wichita Mounta 152.46 333 *e*PKPbc PKPdf 14 39 18.2 +6.5
ANMO Albuquerque 154.93 346 *e*PKP2 PKPab 14 39 33.0 +0.7
MNTX Cornudas Mount 157.70 341 *e*PKPdf PKPdf 14 39 18.7 -0.2
MNTX *e*PKPab PKPab 14 39 51.1 +0.5
TXAR Lajitas Array 159.21 335 PKP PKPdf 14 39 21.4 +0.6
comp=Z,0.5nm,1.0s,SNR=3.8
TXAR PKPab PKPab 14 39 57.2 0.0
comp=Z,1.5nm,1.0s,baz=34,slow=4.5,SNR=7.3

MAN 30 14:59:51.2, 13.40N×121.52E, h36km, mb3.7, ML2.4, MS1.9, Mindoro

IDC ***30*** *15:08:43.2±2.3, 3.34N×95.72E, mb3.6/4, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, ML2.6/1, Error ellipse: s-maj=68.0km s-min=21.4km az=44.0*
NEIC ***30*** *15:08:48.3±0.9, 3.35N×95.75E, h30km, mb4.2/6, Error ellipse: s-maj=22.7km s-min=8.7km az=218.0*
ISC 30 15:08:46.4±1.2, 3.4N±0.2×95.7E±0.1, h30km, n12, σ0s77/13, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.25**	**100**	Pn	**Pn**	**15 09 37.6**	**+1.0**
	0.7nm,0.3s,baz=302,slow=9.5,SNR=5.1						
PSI				Sn	**Sn**	**15 10 14.9**	**+0.2**
	2.1nm,0.3s,baz=300,slow=23,SNR=5.8						
KULM	**Kulim**	**5.28**	**68**	*e*Pn	**Pn**	**15 10 04.9**	**-0.6**
JIRN	**Jiri**	**25.83**	**340**	*eP*	**P**	**15 14 18.1**	**+0.9**
	11nm,0.6s,mb4.6						
GUN	**Gumba**	**26.17**	**340**	*eP*	**P**	**15 14 20.3**	**0.0**
	10.0nm,0.7s,mb4.5						
GKN	**Gorkha**	**26.70**	**338**	*eP*	**P**	**15 14 25.6**	**+0.4**
	5.7nm,0.4s,mb4.5						
KOLN	**Koldanda**	**26.90**	**336**	*eP*	**P**	**15 14 28.5**	**+1.5**
	7.6nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**44.43**	**123**	P	**P**	**15 16 55.8**	**-1.1**
	0.4nm,0.6s,mb3.4,baz=302,slow=9.1,SNR=3.9						
WRAB	**Tennant Creek**	**44.43**	**123**	*eP*	**P**	**15 16 57.2**	**+0.3**
	3.4nm,1.0s,mb4.0						
MKAR	**Makanchi Array**	**44.82**	**347**	P	**P**	**15 16 59.1**	**-0.6**
	0.6nm,0.5s,mb3.7,baz=157,slow=8.9,SNR=17						
SONM	**Songino Array**	**45.27**	**10**	P	**P**	**15 17 02.3**	**-0.8**
	0.5nm,0.4s,mb3.7,baz=189,slow=9.1,SNR=8.6						
ULN	**Ulaanbaatar**	**45.41**	**11**	*eP*	**P**	**15 17 03.9**	**-0.4**
	0.7nm,0.6s,mb3.7						
BVAR	**Borovoye Array**	**53.75**	**341**	P	**P**	**15 18 07.3**	**-0.9**
	0.7nm,0.6s,mb3.8,baz=149,slow=9.3,SNR=7.4						

IDC ***30*** *15:18:09.2±7.2, 36.32N×70.97E, h192km±62km, mb3.3/6, mb1 3.4/9, mb1mx3.2/21, mbtmp3.8/9, Error ellipse: s-maj=46.7km s-min=18.2km az=28.0*
MOS ***30*** *15:18:11.4±1.0, 36.61N×70.95E, h216km, mb3.7/1, Error ellipse: s-maj=17.8km s-min=9.8km az=97.7*

*BJI **30** 15:18:13.8, 36.65N×71.16E, h218km, mb4.1*
*NEIC **30** 15:18:14.0±1.9, 36.66N×71.11E, h224km±18km, mb4.5/10, Error ellipse: s-maj=26.3km s-min=7.3km az=57.0*
*NNC **30** 15:18:23.9±9.9, 37.51N×71.37E, h230km±83km, mb2.6, mpv4.2, Error ellipse: s-maj=94.3km s-min=49.8km az=12.0*

ISC 30 15:18:12.7±1.1, 36.67N±0.07×71.0E±0.1, h227km±11km, n49, σ0°80/54, mb3.5/6, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**4.82**	**52**	⇓P	**P**	**15 19 27.3**	**+1.1**
KSH				S	**S**	**15 20 23.0**	**-0.4**
KSH				Smax			
	comp=N,240nm,0.6s						
KSH				Smax			
	comp=E,420nm,0.6s						
AML	**Almayashu**	**5.83**	**20**	P	**P**	**15 19 39.0**	**+0.1**
	SNR=355						
UCH	**Uchtor**	**6.17**	**25**	P	**P**	**15 19 43.7**	**+0.4**
	SNR=44						
KZA	**Kyzart**	**6.31**	**30**	P	**P**	**15 19 45.1**	**0.0**
	SNR=17						
EKS2	**Erkin-Say**	**6.35**	**19**	P	**P**	**15 19 45.3**	**-0.2**
	SNR=17						
KK31	**Karatay Array**	**6.44**	**357**	P	**P**	**15 19 46.3**	**-0.4**
	comp=E,3.5nm,0.3s,baz=168,slow=12,SNR=206						
KK31				⇑S	**S**	**15 20 55.6**	**-4.5**
	comp=E,8.6nm,0.4s,baz=181,slow=22,SNR=17						
AAK	**Ala-Archa**	**6.53**	**23**	P	**P**	**15 19 48.1**	**+0.3**
	SNR=34						
AAK	**Ala-Archa**	**6.53**	**23**	*e*PN	**P**	**15 19 46.6**	**-1.2**
AAK				pmax	pmax		
	comp=E,44nm,0.6s						
AAK	**Ala-Archa**	**6.53**	**23**	*e*Pn	**P**	**15 19 46.6**	**-1.2**
	comp=E,44nm,0.6s						
KBK	**Karagaybulak**	**6.70**	**26**	P	**P**	**15 19 50.6**	**+0.6**
	SNR=29						
ULHL	**Ulahol**	**6.88**	**34**	P	**P**	**15 19 52.0**	**-0.2**
	SNR=31						
CHMS	**Chumysh**	**6.94**	**23**	P	**P**	**15 19 53.4**	**+0.3**
	SNR=15						
USP	**Ospenovka**	**7.11**	**21**	P	**P**	**15 19 55.2**	**0.0**
	SNR=15						
TKM2	**Tokmak 2**	**7.17**	**28**	P	**P**	**15 19 56.1**	**+0.2**
	SNR=28						
TKM2	**Tokmak 2**	**7.17**	**28**	⇑P	**P**	**15 19 56.1**	**+0.1**
TKM2				⇑S	**S**	**15 21 05.9**	**-11**
	comp=Z,21nm,0.5s						
	comp=Z,16nm,0.8s						
MK31	**Makanchi Array**	**13.14**	**36**	⇑P	**P**	**15 21 11.4**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=215,slow=9.6,SNR=62						
MKAR	**Makanchi Array**	**13.14**	**36**	P	**P**	**15 21 11.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=214,slow=10.0,SNR=28						
KOLN	**Koldanda**	**13.84**	**126**	*e*P	**P**	**15 21 22.3**	**+1.7**
	comp=Z,7.3nm,0.3s						
GKN	**Gorkha**	**14.37**	**123**	*e*P	**P**	**15 21 27.1**	**-0.1**
	comp=Z,22nm,0.3s						
GKN				*e*S	**S**	**15 23 56.5**	**-4.6**
DMN	**Daman**	**14.94**	**123**	*e*P	**P**	**15 21 34.9**	**+0.7**
	comp=Z,12nm,0.3s						
KKN	**Kakani**	**14.94**	**122**	*e*P	**P**	**15 21 33.3**	**-0.9**
	comp=Z,20nm,0.5s						
KKN	**Kakani**	**14.94**	**122**	*e*P	**P**	**15 21 33.3**	**-0.9**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
AB31	**Akbulak array**	**14.95**	**331**	⇑P	**P**	**15 21 41.6**	**+7.4**
	comp=Z,0.8nm,0.6s,baz=153,slow=11,SNR=15						
AB31				⇑S	**S**	**15 24 14.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=154,slow=23,SNR=2.9						
PKI	**Pulchoki**	**15.17**	**123**	*e*P	**P**	**15 21 36.5**	**-0.5**
	comp=Z,10nm,0.3s						
PKI	**Pulchoki**	**15.17**	**123**	*e*P	**P**	**15 21 36.5**	**-0.5**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GUN	**Gumba**	**15.28**	**121**	*e*P	**P**	**15 21 37.6**	**-0.7**
	comp=Z,14nm,0.5s						
JIRN	**Jiri**	**15.65**	**121**	*e*P	**P**	**15 21 42.3**	**-0.5**
	comp=Z,28nm,0.4s						
VOSK	**Vostochnaya**	**16.06**	**360**	⇓P	**P**	**15 21 47.4**	**-0.1**
	comp=Z,1.1nm,0.6s						
ZRNK	**Zerenda**	**16.35**	**356**	⇑P	**P**	**15 21 50.3**	**-0.6**
	comp=Z,6.5nm,1.8s						
ZRNK	**Zerenda**	**16.35**	**356**	*e*P	**P**	**15 21 50.6**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**16.35**	**356**	*e*P	**P**	**15 21 50.5**	**-0.4**
	comp=Z,1.2nm,0.4s						
BVA0	**Borovoye Array**	**16.36**	**359**	P	**P**	**15 21 50.5**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=150,slow=9.2,SNR=14						
BVAR	**Borovoye Array**	**16.36**	**359**	P	**P**	**15 21 50.3**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=160,slow=9.4,SNR=12						
BRVK	**Borovoye**	**16.40**	**358**	P	**P**	**15 21 51.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	**Borovoye**	**16.40**	**358**	P	**P**	**15 21 51.1**	**-0.4**
	comp=Z,1.2nm,0.8s						
AKTK	**Aktyubinsk**	**16.65**	**330**	P	**P**	**15 21 54.6**	**+0.2**
AKTO	**Aktyubinsk**	**16.65**	**330**	⇑P	**P**	**15 21 54.1**	**-0.3**
	comp=Z,0.5nm,0.8s						
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**P**	**15 21 54.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=135,slow=12,SNR=6.8						
LSA	**Lhasa**	**18.20**	**107**	*e*P	**P**	**15 22 12.8**	**+1.8**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
LSA	**Lhasa**	**18.20**	**107**	*e*P	**P**	**15 22 12.8**	**+1.8**
	comp=Z,3.7nm,0.4s						
NVS	**Novosibirsk**	**20.02**	**21**	*e*P	**P**	**15 22 28.9**	**-0.4**
NVS				*e*		15 25 59.0	
NVS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GTA	**Gaotai**	**22.79**	**74**	*e*P	**P**	**15 22 58.8**	**+2.2**
SONM	**Songino Array**	**28.22**	**56**	P	**P**	**15 23 47.0**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.6,baz=265,slow=9.2,SNR=11						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**15 25 04.9**	**+0.2**
	comp=Z,3.5nm,1.2s,mb3.8,baz=117,slow=9.3,SNR=3.5						
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**15 25 35.6**	**+0.9**
	comp=Z,1.4nm,0.6s,mb3.6,baz=108,slow=7.7,SNR=7.4						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**15 26 01.3**	**+0.4**
	comp=Z,0.3nm,0.6s,mb2.8,baz=102,slow=8.2,SNR=3.1						
YKA	**Yellowknife Ar**	**81.08**	**3**	P	**P**	**15 30 03.8**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.4,baz=350,slow=5.4,SNR=19						
WRA	**Warramunga Arr**	**82.05**	**122**	P	**P**	**15 30 07.3**	**-1.7**
	comp=Z,0.5nm,0.3s,mb3.6,baz=325,slow=5.0,SNR=14						
WB2	**Warramunga Array**	**82.06**	**122**	*e*P	**P**	**15 30 07.4**	**-1.7**

*NEIC **30** 15:40:27.7±0.9, 79.35N×2.95E, h10km, mb3.8/1, Error ellipse: s-maj=21.6km s-min=9.3km az=196.0*
*IDC **30** 15:40:28.7±6.2, 79.16N×2.14E, mb3.5/1, mb1 3.8/4, mb1mx3.4/21, mbtmp3.7/4, ML3.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/20, Error ellipse: s-maj=102.1km s-min=43.3km az=98.0*
*CSEM **30** 15:40:28.9±0.5, 79.32N×2.39E, h32km±5km, ML3.3, Error ellipse: s-maj=19.3km s-min=10.3km az=40.0*
*BER **30** 15:40:31.0±3.3, 79.28N×3.86E, h10km, MD2.6, ML3.3, ML2.3(NAO)*
*NAO **30** 15:40:32.8±7.2, 79.56N×5.78E, h14km±51km, ML2.3*

ISC 30 15:40:25.2±0.9, 79.3N±0.1×3.2E±0.3, h10km, n16, σ1§18/22, mb3.3/1, MS3.2/1, 3C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.71**	**100**	Pn	**Pn**	**15 40 57.3**	**+1.9**
KBS				Lg		15 41 15.8	
KBS	**Kingsbay**	**1.71**	**100**	⇑*i*P	**Pn**	**15 40 57.3**	**+1.9**
KBS				*e*S	**Sn**	**15 41 15.9**	**-1.6**
KBS				AML	AML	15 41 21.8	
	comp=Z,260nm,1.2s						
KBS	**Kingsbay**	**1.71**	**100**	⇑*i*P	**Pn**	**15 40 57.3**	**+1.9**
KBS				Lg		15 41 15.8	
KBS				*e*S	**Sn**	**15 41 15.9**	**-1.6**
SPA0	**Spitsbergen Ar**	**2.83**	**108**	Pn	**Pn**	**15 41 12.2**	**+0.8**
	baz=304,slow=10						
SPA0				Sn	**Sn**	**15 41 43.9**	**-2.1**
HSP	**Hornsund**	**3.46**	**126**	P	**Pn**	**15 41 20.7**	**+0.4**
HSP				S	**Sn**	**15 41 56.4**	**-5.3**
HSP	**Hornsund**	**3.46**	**126**	*e*P	**Pn**	**15 41 20.7**	**+0.4**
HSP				*e*S	**Sn**	**15 41 56.4**	**-5.3**
DAG	**Danmarks Havn**	**5.19**	**251**	⇑*i*P	**Pn**	**15 41 43.9**	**-0.9**
	comp=Z,5.6nm,0.5s						
HOPEN	**Hopen**	**5.36**	**111**	*e*P	**Pn**	**15 41 47.4**	**+0.1**
HOPEN				*e*S	**Sn**	**15 42 44.4**	**-5.4**
HOPEN				AML	AML	15 42 45.8	
	comp=N,212nm,0.2s						
ARA0	**ARCESS Array S**	**11.39**	**137**	Pn	**P**	**15 43 10.6**	**-0.3**
	baz=341,slow=11						
ARA0				Sn	**S**	**15 45 09.6**	**-10**
	baz=2.2,slow=22						
ARCES	**ARCESS Array B**	**11.39**	**137**	Pn	**P**	**15 43 10.9**	**+0.1**
	comp=N,0.4nm,0.3s,baz=337,slow=12,SNR=12						
SUMG	**Summit**	**11.82**	**258**	*e*Pn	**P**	**15 43 14.9**	**-1.7**
	comp=N,23nm,0.6s						
FINES	**FINESS Array B**	**19.26**	**145**	P	**P**	**15 44 53.8**	**+1.8**
	comp=N,0.1nm,0.3s,baz=339,slow=12,SNR=2.6						
FINES				LR	LR	15 53 03.0	
	comp=N,22nm,19.2s,baz=185,slow=39						
HFS	**Hagfors**	**19.58**	**164**	P	**P**	**15 44 56.4**	**+0.7**
	comp=N,0.0nm,0.3s,baz=8.1,slow=10,SNR=5.4						
RES	**Resolute Bay**	**19.91**	**309**	*e*P	**P**	**15 44 59.9**	**+0.6**
	comp=N,3.8nm,0.8s						
SCHQ	**Schefferville**	**33.05**	**266**	LR	LR	16 01 50.6	
	comp=N,54nm,21.0s,MS3.2,baz=74,slow=39						
MKAR	**Makanchi Array**	**42.44**	**89**	P	**P**	**15 48 26.1**	**+5.1**
	comp=N,0.5nm,0.7s,mb3.3,baz=345,slow=7.2,SNR=6.8						

CASC 30 15:44:09.3±4.0, 15.65N×89.68W, MD3.7, ML3.4, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**0.58**	**181**	*e*P	Pg	15 44 21.6	+0.9
MRL				*e*S	Sg	15 44 29.1	+0.6
TP2	**Tecpan 2**	**1.55**	**237**	*e*P	Pn	15 44 38.3	0.0
TP2				*e*S	Sb	15 45 00.1	+1.3
TP2				AML	AML	15 45 09.1	
	comp=E,280nm,0.6s						
IXG	**Ixpaco**	**1.64**	**207**	*e*P	Pn	15 44 40.0	+0.4
IXG				*e*S	Sb	15 45 04.1	+2.7
IXG				AML	AML	15 45 10.8	
	comp=E,1μm,0.5s						
LCBS	**La Ceiba**	**2.09**	**161**	*e*P	Pn	15 45 14.1	+28
LCBS				*e*S	Sn	15 45 42.2	+29
LFRS	**El Faro**	**2.10**	**163**	*e*P	Pn	15 45 14.5	+28
LFRS				*e*S	Sn	15 45 44.6	+31

*IDC **30** 16:30:44.0±3.3, 26.93N×55.89E, mb3.7/8, mb1 3.8/8, mb1mx3.7/21, mbtmp3.7/8, Error ellipse: s-maj=70.4km s-min=26.4km az=173.0*
*CSEM **30** 16:30:45.5±0.4, 26.90N×55.83E, h25km, mb3.8/4, Error ellipse: s-maj=13.7km s-min=4.6km az=163.0*
*THR **30** 16:30:52.4±0.5, 27.48N×55.93E, h14km±7km, ML3.3*
*NEIC **30** 16:30:52.4, 27.48N×55.93E, h14km, mb3.6/4, ML3.3(THR), After THR.*

ISC 30 16:30:45.3±2.1, 26.9N±0.1×55.82E±0.10, h23km±12km, n25, σ0°81/27, mb3.6/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.62**	**30**	*e*PG	**Pb**	**16 30 57.6**	**+0.2**
BNDS	**Bandar-Abbas**	**0.62**	**30**	*e*Pg	**Pb**	**16 30 57.0**	**-0.5**
GHIR	**Ghir-Karzin**	**2.89**	**300**	*e*PN	**Pn**	**16 31 37.7**	**+6.5**
GHIR				AML	AML	16 32 40.0	
	comp=E,133nm,0.5s						
GHIR	**Ghir-Karzin**	**2.89**	**300**	*e*Pn	**Pn**	**16 31 37.0**	**+5.8**
KRBR	**Kerman**	**3.22**	**15**	*e*PN	**Pn**	**16 31 36.5**	**+0.7**
KRBR				*e*SG	**Sn**	**16 32 14.0**	**+0.1**
KRBR				AML	AML	16 32 28.9	
	comp=N,92nm,0.3s						
KRBR	**Kerman**	**3.22**	**15**	*e*Pn	**Pn**	**16 31 36.0**	**+0.2**
KRBR				*e*Sg	**Sn**	**16 32 14.0**	**+0.1**
NAY	**Al-Naaiem**	**7.95**	**289**	*e*P	**Pn**	**16 32 42.1**	**-0.4**
MIB	**Mutribah**	**8.03**	**293**	*e*P	**P**	**16 32 43.6**	**-0.1**
AAK	**Ala-Archa**	**21.90**	**39**	*e*P	**P**	**16 35 41.1**	**+2.3**
	comp=N,2.4nm,0.8s,mb3.7						
AAK	**Ala-Archa**	**21.90**	**39**	*e*P	**P**	**16 35 41.1**	**+2.3**
	comp=N,2.3nm,0.8s,mb3.7						
BRTR	**Keskin Array B**	**22.48**	**310**	P	**P**	**16 35 46.3**	**+1.8**
	comp=N,0.4nm,0.7s,mb3.0,baz=141,slow=9.2,SNR=4.1						
AKTK	**Aktyubinsk**	**23.60**	**4**	P	**P**	**16 35 55.6**	**+0.3**
AKTO	**Aktyubinsk**	**23.60**	**4**	P	**P**	**16 35 55.6**	**+0.3**
	comp=N,1.2nm,0.6s,mb3.5,baz=180,slow=13,SNR=4.5						
ZRNK	**Zerenda**	**27.86**	**17**	*e*P	**P**	**16 36 34.2**	**-1.0**
	comp=N,0.6nm,0.4s,mb3.6						
ZRNK	**Zerenda**	**27.86**	**17**	*e*P	**P**	**16 36 34.2**	**-1.0**
	comp=N,0.6nm,0.4s,mb3.6						
BRVK	**Borovoye**	**28.31**	**19**	*e*P	**P**	**16 36 38.4**	**-0.8**
	comp=N,0.6nm,0.4s,mb3.6						
BRVK	**Borovoye**	**28.31**	**19**	*e*P	**P**	**16 36 38.4**	**-0.9**
	comp=N,0.6nm,0.4s,mb3.6						
BVAR	**Borovoye Array**	**28.31**	**19**	P	**P**	**16 36 38.6**	**-0.7**
	comp=N,1.8nm,0.8s,mb3.8,baz=202,slow=7.8,SNR=16						
MKAR	**Makanchi Array**	**28.84**	**39**	P	**P**	**16 36 43.9**	**-0.3**
	comp=N,0.3nm,0.4s,mb3.4,baz=222,slow=8.2,SNR=12						
MORC	**Moravsky Berou**	**37.18**	**318**	P	**P**	**16 37 56.3**	**-0.2**
	comp=N,1.1nm,0.6s,mb3.9						
MORC	**Moravsky Berou**	**37.18**	**318**	P	**P**	**16 37 56.3**	**-0.2**
	comp=N,1.1nm,0.6s,mb3.9						
FINES	**FINESS Array B**	**39.94**	**338**	P	**P**	**16 38 18.2**	**-1.2**
	comp=N,2.5nm,1.1s,mb3.9,baz=135,slow=11,SNR=6.8						
SONM	**Songino Array**	**44.41**	**48**	P	**P**	**16 38 56.2**	**+0.2**
	comp=N,0.3nm,0.6s,mb3.2,baz=266,slow=7.5,SNR=4.4						
ESDC	**Sonseca Array**	**50.75**	**301**	P	**P**	**16 39 46.2**	**+0.5**
	comp=N,0.7nm,0.4s,mb4.0,baz=73,slow=9.4,SNR=11						
ILAR	**Eielson Array**	**86.97**	**10**	P	**P**	**16 43 29.2**	**-0.3**
	comp=N,0.4nm,0.7s,mb3.8,baz=320,slow=4.0,SNR=6.4						

MDD 30 16:31:43.8±5.6, 32.41N×7.77W, mb4.2/2, Error ellipse: s-maj=83.8km s-min=48.0km az=101.0, PRXIMO SIN SOLUCIN, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGRO	**El Granado**	**5.12**	**3**	P	Pn	16 33 00.9	-2.7
	1.0nm,0.1s,SNR=9.7						
EGRO				S	Sn	16 33 57.2	-7.0
	2.3nm,0.5s,SNR=5.2						
EGRO	**El Granado**	**5.12**	**3**	P	Pn	16 33 00.9	-2.7
	1.0nm,0.1s,SNR=9.7						
EGRO				S	Sn	16 33 57.2	-7.1
	2.3nm,0.5s,SNR=5.2						
EMIN	**Mina Concepcio**	**5.42**	**9**	P	Pn	16 33 04.4	-3.4
	0.4nm,0.1s,SNR=7.9						
EMIN				S	Sn	16 34 03.0	-8.8
	3.8nm,0.5s,SNR=8.1						
EMIN	**Mina Concepcio**	**5.42**	**9**	P	Pn	16 33 04.4	-3.4
	0.4nm,0.1s,SNR=7.9						
EMIN				S	Sn	16 34 03.0	-8.9
	3.8nm,0.5s,SNR=8.1						
EADA	**Adamuz**	**6.31**	**24**	P	Pn	16 33 16.7	-3.7
	1.3nm,0.1s,SNR=5.8						
EADA				S	Sn	16 34 26.2	-8.0
	SNR=7.9						
EADA	**Adamuz**	**6.31**	**24**	P	Pn	16 33 16.7	-3.7
	1.3nm,0.1s,SNR=5.8						
EADA				S	Sn	16 34 26.2	-7.9
	SNR=7.9						

*IDC **30** 16:33:58.3±5.7, 72.97N×8.16E, mb1 3.5/3, mb1mx3.1/21, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=65.0km s-min=30.6km az=160.0*
*NAO **30** 16:34:00.1±4.1, 73.63N×8.67E, h40km±59km, ML1.9*

ISC 30 16:33:52.0±1.0, 73.55N±0.05×8.7E±0.3, h10km, n10, σ1§57/14, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**5.01**	**18**	Pn	**Pn**	**16 35 11.5**	**+2.3**
	baz=199,slow=14						
SPA0				Sn	**Sn**	**16 36 06.5**	**-1.4**
	baz=157,slow=18						
KBS	**Kingsbay**	**5.46**	**7**	Pn	**Pn**	**16 35 17.4**	**+1.9**
KBS				Sn	**Sn**	**16 36 17.4**	**-1.7**
ARA0	**ARCESS Array S**	**6.67**	**119**	Pn	**Pn**	**16 35 35.1**	**+2.5**
	baz=314,slow=12						
ARA0				Sn	**Sn**	**16 36 47.8**	**-1.6**
	baz=322,slow=22						
ARCES	**ARCESS Array B**	**6.67**	**119**	Pn	**Pn**	**16 35 35.2**	**+2.7**
	0.6nm,0.3s,baz=318,slow=10,SNR=44						
ARCES				Sn	**Sn**	**16 36 49.3**	**-0.1**
	0.5nm,0.3s,baz=315,slow=19,SNR=3.3						
APA0	**Apatity Array**	**9.97**	**114**	Pn	**P**	**16 36 18.5**	**+0.3**
	baz=299,slow=6.9						
NB2	**NORSAR Subarra**	**12.61**	**174**	Pn	**P**	**16 36 52.9**	**-1.2**
NOA	**NORSAR Array B**	**12.61**	**174**	Pn	**P**	**16 36 53.2**	**-0.8**
	0.2nm,0.3s,baz=356,slow=13,SNR=2.4						
HFS	**Hagfors**	**13.61**	**169**	Pn	**P**	**16 37 05.7**	**-1.5**
	baz=25,slow=10						
FIA0	**FINESS Array S**	**13.76**	**143**	Pn	**P**	**16 37 09.3**	**+0.2**
	baz=340,slow=16						
FINES	**FINESS Array B**	**13.76**	**143**	Pn	**P**	**16 37 08.9**	**-0.3**
	0.2nm,0.3s,baz=333,slow=12,SNR=7.8						

*IDC **30** 16:48:23.5±1.1, 73.36N×7.96E, mb3.5/5, mb1 3.8/9, mb1mx3.6/22, mbtmp3.6/9, ML3.8/4, MS2.8/4, Ms1 2.9/4, ms1mx2.7/30, Error ellipse: s-maj=26.7km s-min=13.5km az=48.0*
*NEIC **30** 16:48:24.4±0.6, 73.42N×8.03E, h10km, mb3.8/1, Error ellipse: s-maj=11.2km s-min=6.1km az=81.0*
*CSEM **30** 16:48:24.4±0.4, 73.42N×8.03E, h10km±2km, mb3.8/1, Error ellipse: s-maj=10.2km s-min=4.9km az=76.0, After NEIC*
*NAO **30** 16:48:26.4±2.7, 73.63N×9.19E, ML2.3*
*BER **30** 16:48:27.0±3.9, 73.52N×8.91E, MD2.2, ML2.4, ML2.3(NAO)*

ISC 30 16:48:22.5±0.6, 73.43N±0.05×8.6E±0.2, h10km, n37, σ1§52/41, mb3.4/6, MS2.9/1, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRO	**Tromso**	**5.03**	**134**	*e*P	**Pn**	**16 49 41.2**	**+1.3**
TRO				*e*S	**Sn**	**16 50 37.1**	**-1.7**
TRO				AML	AML	16 50 40.4	
	comp=Z,11nm,0.5s						
TRO	**Tromso**	**5.03**	**134**	*e*P	**Pn**	**16 49 41.2**	**+1.3**
TRO				*e*S	**Sn**	**16 50 37.1**	**-1.7**
SPA0	**Spitsbergen Ar**	**5.14**	**18**	Pn	**Pn**	**16 49 40.7**	**-0.8**
	baz=199,slow=16						
SPA0				Sn	**Sn**	**16 50 37.8**	**-3.9**
	baz=188,slow=18						
LOF	**Lofoten**	**5.57**	**160**	*e*P	**Pn**	**16 49 48.5**	**+1.0**
LOF	**Lofoten**	**5.57**	**160**	*e*P	**Pn**	**16 49 48.9**	**+1.4**
LOF	**Lofoten**	**5.57**	**160**	*e*P	**Pn**	**16 49 48.8**	**+1.3**
KBS	**Kingsbay**	**5.59**	**7**	Pn	**Pn**	**16 49 46.7**	**-1.0**
KBS	**Kingsbay**	**5.59**	**7**	*e*P	**Pn**	**16 49 47.0**	**-0.8**
KTK1	**Kautokeino**	**6.47**	**126**	*e*P	**Pn**	**16 50 03.7**	**+3.5**
KTK1	**Kautokeino**	**6.47**	**126**	*e*P	**Pn**	**16 50 04.4**	**+4.1**
KTK1	**Kautokeino**	**6.47**	**126**	*e*P	**Pn**	**16 50 04.4**	**+4.2**
ARA0	**ARCESS Array S**	**6.64**	**118**	Pn	**Pn**	**16 50 04.0**	**+1.4**
	baz=312,slow=11						
ARA0				Sn	**Sn**	**16 51 13.5**	**-5.7**
	baz=320,slow=22						
ARCES	**ARCESS Array B**	**6.64**	**118**	Pn	**Pn**	**16 50 04.2**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=320,slow=10,SNR=78						
ARCES				Sn	**Sn**	**16 51 17.0**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=320,slow=24,SNR=3.3						
ARE0	**ARCESS Array S**	**6.64**	**118**	*e*Pn	**Pn**	**16 50 04.4**	**+1.7**
ARE0	**ARCESS Array S**	**6.64**	**118**	*e*Pn	**Pn**	**16 50 04.4**	**+1.8**
STOK	**Stokkvaagen**	**7.29**	**166**	*e*P	**Pn**	**16 50 11.5**	**-0.2**
MOR8	**Moi Rana**	**7.56**	**162**	*e*P	**Pn**	**16 50 13.9**	**-1.6**
NSS	**Namsos**	**9.02**	**171**	*e*P	**P**	**16 50 33.9**	**-1.9**
APA0	**Apatity Array**	**9.96**	**114**	Pn	**P**	**16 50 47.3**	**-1.2**
	baz=328,slow=18						
MOL	**Molde**	**10.91**	**182**	*e*P	**P**	**16 51 00.2**	**-1.4**
MOL	**Molde**	**10.91**	**182**	*e*P	**P**	**16 51 00.2**	**-1.4**
NB2	**NORSAR Subarra**	**12.48**	**174**	Pn	**P**	**16 51 21.6**	**-1.2**
	baz=353,slow=14						
NOA	**NORSAR Array B**	**12.48**	**174**	Pn	**P**	**16 51 21.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=356,slow=13,SNR=3.7						
NOA				LR	LR	16 55 30.5	
	comp=Z,40nm,19.1s,baz=350,slow=34						
HFS	**Hagfors**	**13.49**	**169**	Pn	**P**	**16 51 35.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=12						
HFS				LR	LR	16 55 37.1	
	comp=Z,35nm,21.5s,baz=99,slow=32						
HFS	**Hagfors**	**13.49**	**169**	P	**P**	**16 51 35.2**	**-1.1**
	baz=4.3,slow=12						
FIA0	**FINESS Array S**	**13.69**	**142**	Pn	**P**	**16 51 39.0**	**+0.4**
	baz=337,slow=12						
FINES	**FINESS Array B**	**13.69**	**142**	Pn	**P**	**16 51 39.1**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=343,slow=13,SNR=21						
FINES				LR	LR	16 56 41.6	
	comp=Z,47nm,20.4s,baz=3.1,slow=36						
VRAC	**Vranov**	**24.46**	**167**	LR	LR	17 03 07.7	
	comp=Z,38nm,19.8s,MS2.9,baz=36,slow=36						
AKASG	**Malin Array Be**	**24.48**	**147**	P	**P**	**16 53 44.1**	**+1.8**
	comp=Z,1.5nm,0.5s,mb3.6,baz=344,slow=10.0,SNR=4.1						
GERES	**GERESS Array B**	**24.77**	**172**	P	**P**	**16 53 47.6**	**+2.5**
	comp=Z,0.6nm,0.6s,mb3.3,slow=8.8,SNR=4.1						
ZRNK	**Zerenda**	**31.97**	**96**	*e*P	**P**	**16 54 53.3**	**+3.1**
	comp=Z,1.0nm,0.8s,mb3.7						
ZRNK	**Zerenda**	**31.97**	**96**	*e*P	**P**	**16 54 53.3**	**+3.1**
	comp=Z,1.0nm,0.8s,mb3.7						
BRTR	**Keskin Array B**	**35.88**	**146**	P	**P**	**16 55 25.9**	**+1.7**

APPI	**Appiano**	**0.98**	**100**		Pg	**Pg**	16 50 19.2	-0.5
APPI					Sg	**Sg**	16 50 33.2	+0.3
	132nm,0.4s							
BNALP	**Bannalp**	**0.98**	**283**	⇑*i*P		**Pb**	16 50 20.1	+1.5
WILA	**Wila**	**0.99**	**321**	⇑*i*P		**Pb**	16 50 21.2	+2.6
VAI	**Varese**	**1.07**	**223**		Pg	**Pg**	16 50 21.5	0.0
VAI					Sg	**Sg**	16 50 38.1	+2.2
SQTA	**Sankt Quirin**	**1.11**	**59**	⇑*i*Pg		**Pg**	16 50 21.2	-0.9
SQTA	**Sankt Quirin**	**1.11**	**59**	⇑Pg		**Pg**	16 50 21.2	-0.9
SQTA					Sg	**Sg**	16 50 35.8	-1.1
SQTA	**Sankt Quirin**	**1.11**	**59**		Pg	**Pg**	16 50 21.2	-0.9
SQTA					Sg	**Sg**	16 50 35.8	-1.1
	15nm,0.2s							
ZUR	**Zurich**	**1.11**	**311**	*e*P		**Pb**	16 50 23.5	+2.8
MOTA	**Moosalm**	**1.12**	**51**	⇑*i*Pg		**Pg**	16 50 21.4	-1.0
MOTA	**Moosalm**	**1.12**	**51**	⇑Pg		**Pg**	16 50 21.4	-1.0
MOTA					Sg	**Sg**	16 50 36.7	-0.6
MOTA	**Moosalm**	**1.12**	**51**		Pg	**Pg**	16 50 21.4	-1.0
MOTA					Sg	**Sg**	16 50 36.7	-0.6
	23nm,0.2s							
SALO	**Salr**	**1.14**	**155**		Pg	**Pg**	16 50 22.8	-0.1
HASLI	**Hasliberg**	**1.16**	**276**	⇑*i*P		**Pb**	16 50 23.1	+1.6
BRES	**Bressanone**	**1.32**	**87**		Pg	**Pg**	16 50 25.0	-1.3
BRES					Sg	**Sg**	16 50 44.2	+0.3
	50nm,0.4s							
WATA	**Walderalm**	**1.38**	**60**	⇑*i*Pn		**Pn**	16 50 25.3	+0.1
WATA				⇑*i*Pg		**Pg**	16 50 26.4	-1.2
WATA	**Walderalm**	**1.38**	**60**	⇓*i*Sg		**Sg**	16 50 45.0	-1.1
	comp=Z,8,4nm,0.2s							
WATA	**Walderalm**	**1.38**	**60**	⇑Pn		**Pn**	16 50 25.3	+0.1
WATA					Pg	**Pg**	16 50 26.4	-1.2
WATA					Sg	**Sg**	16 50 45.0	-1.1
WATA	**Walderalm**	**1.38**	**60**		Pg	**Pg**	16 50 26.4	-1.2
WATA					Sg	**Sg**	16 50 45.0	-1.1
	8.4nm,0.2s							
CTI	**Castel Tesino**	**1.40**	**115**		Pg	**Pg**	16 50 27.4	-0.6
	63nm,0.2s							
MMK	**Mattmark**	**1.42**	**246**	*e*P		**Pn**	16 50 27.1	+1.3
SLE	**Schleitheim**	**1.44**	**321**	*e*P		**Pn**	16 50 28.5	+2.5
MCGN	**Macugnaga**	**1.45**	**242**		Pg	**Pg**	16 50 27.1	-1.9
MCGN					Sg	**Sg**	16 50 48.4	0.0
	20nm,0.5s							
SULZ	**Sulz-Cheisache**	**1.46**	**307**	*e*P		**Pn**	16 50 29.3	+2.9
BALST	**Balsthal**	**1.61**	**296**	⇓*i*P		**Pn**	16 50 31.4	+2.9
ORO	**Oropa**	**1.64**	**232**		Pg	**Pg**	16 50 31.6	-1.2
SEST	**Monte Rota**	**1.65**	**86**		Pg	**Pg**	16 50 31.5	-1.5
SEST					Sg	**Sg**	16 50 54.6	-0.4
	50nm,0.3s							
FELD	**Feldberg**	**1.74**	**315**		Pg	**Pg**	16 50 35.3	+0.5
SENIN	**Lac Senin**	**1.77**	**261**	*e*P		**Pn**	16 50 34.0	+3.2
FUR	**Furstenfeldbru**	**1.81**	**33**	*e*Pg		**Pg**	16 50 35.4	-0.7
FUR				*e*Sg		**Sg**	16 51 00.6	+0.4
CAE	**Caneva**	**1.92**	**109**	⇑*i*Pg		**Pg**	16 50 37.2	-1.2
BFO	**Black Forest**	**1.96**	**329**	*e*Pn		**Pn**	16 50 35.5	+2.0
BFO				*e*Sg		**Sg**	16 51 04.7	-0.6
LOMF	**Lomont**	**2.17**	**290**		Pg	**Pg**	16 50 43.1	-0.2
LOMF					Sg	**Sg**	16 51 11.7	-0.4
MOF	**Molkenrain**	**2.19**	**304**		Pn	**Pn**	16 50 39.1	+2.3
HINF	**Hinteralfeld**	**2.33**	**301**	*e*P		**Pn**	16 50 40.9	+2.0
HINF	**Hinteralfeld**	**2.33**	**301**	*e*Pg		**Pg**	16 50 45.3	-1.3
HINF				*e*Sn		**Sn**	16 51 06.4	-1.4
HINF				*e*Sg		**Sg**	16 51 15.1	-2.7
	18nm,0.3s							
HINF	**Hinteralfeld**	**2.33**	**301**	*e*Pn		**Pn**	16 50 38.8	-0.1
HINF				*e*P			16 50 40.9	
HINF				*e*Pg		**Pg**	16 50 45.3	-1.3
HINF				*e*Sn		**Sn**	16 51 06.4	-1.4
HINF				*e*Sg		**Sg**	16 51 15.1	-2.7
	9.1nm,0.3s							
ECH	**Echery**	**2.39**	**312**		Pn	**Pn**	16 50 41.2	+1.5
WLS	**Welschbruch**	**2.43**	**317**		Pn	**Pn**	16 50 42.3	+2.0
LPG	**La Plagne**	**2.43**	**243**	*e*Pg		**Pg**	16 50 45.7	-2.8
LPG				*e*Sn		**Sn**	16 51 07.8	-2.5
LPG				*e*Sg		**Sg**	16 51 17.0	-4.0
	8.9nm,0.4s							
LPG	**La Plagne**	**2.43**	**243**	*e*Pn		**Pn**	16 50 39.7	-0.6
LPG				*e*Pg		**Pg**	16 50 45.7	-2.8
LPG				*e*Sn		**Sn**	16 51 07.8	-2.5
LPG				*e*Sg		**Sg**	16 51 17.0	-4.0
LPG	**La Plagne**	**2.43**	**243**	*e*Pg		**Pg**	16 50 45.7	-2.8
LPG				*e*Sn		**Sn**	16 51 07.8	-2.5
LPG				*e*Sg		**Sg**	16 51 17.0	-4.0
	4.4nm,0.4s							
LPL	**La Plagne**	**2.43**	**243**	*e*Pg		**Pg**	16 50 45.7	-2.9
LPL				*e*Sn		**Sn**	16 51 08.1	-2.2
LPL				*e*Sg		**Sg**	16 51 17.5	-3.5
	9.6nm,0.3s							
LPL	**La Plagne**	**2.43**	**243**	*e*Pn		**Pn**	16 50 39.7	-0.6
LPL				*e*Pg		**Pg**	16 50 45.7	-2.9
LPL				*e*Sn		**Sn**	16 51 08.1	-2.2
LPL				*e*Sg		**Sg**	16 51 17.5	-3.5
LPL	**La Plagne**	**2.43**	**243**	*e*Pg		**Pg**	16 50 45.7	-2.9
LPL				*e*Sn		**Sn**	16 51 08.1	-2.2
LPL				*e*Sg		**Sg**	16 51 17.5	-3.5
	4.8nm,0.3s							
KBA	**Koelnbreinsper**	**2.45**	**79**	⇑*i*Pg		**Pg**	16 50 45.4	-3.6
KBA	**Koelnbreinsper**	**2.45**	**79**	⇑Pg		**Pg**	16 50 45.4	-3.6
KBA					Sg	**Sg**	16 51 19.5	-2.2
KBA	**Koelnbreinsper**	**2.45**	**79**		Pg	**Pg**	16 50 45.4	-3.6
KBA					Sg	**Sg**	16 51 19.5	-2.2
	4.0nm,0.2s							
CDF	**Champ du Feu**	**2.46**	**316**	*e*P		**Pn**	16 50 42.6	+1.8
CDF	**Champ du Feu**	**2.46**	**316**	*e*Pg		**Pg**	16 50 47.4	-1.8
CDF				*e*Sn		**Sn**	16 51 09.5	-1.6
CDF				*e*Sg		**Sg**	16 51 19.5	-2.6
	18nm,0.4s							
CDF	**Champ du Feu**	**2.46**	**316**	*e*Pn		**Pn**	16 50 40.6	-0.2
CDF				*e*P			16 50 42.6	
CDF				*e*Pg		**Pg**	16 50 47.4	-1.8
CDF				*e*Sn		**Sn**	16 51 09.5	-1.6
CDF				*e*Sg		**Sg**	16 51 19.5	-2.6
CDF	**Champ du Feu**	**2.46**	**316**	*e*P		**Pn**	16 50 42.6	+1.8
CDF	**Champ du Feu**	**2.46**	**316**	*e*Pg		**Pg**	16 50 47.4	-1.8
CDF				*e*Sn		**Sn**	16 51 09.5	-1.6
CDF				*e*Sg		**Sg**	16 51 19.5	-2.6
	8.8nm,0.4s							
CABF	**La Chapelle**	**2.57**	**270**	*e*P		**Pn**	16 50 44.9	+2.6
CABF	**La Chapelle**	**2.57**	**270**	*e*Pg		**Pg**	16 50 49.0	-2.4
CABF				*e*Sn		**Sn**	16 51 11.8	-2.1
CABF				*e*Sg		**Sg**	16 51 22.1	-3.6
	6.9nm,0.3s							
CABF	**La Chapelle**	**2.57**	**270**	*e*Pn		**Pn**	16 50 41.8	-0.5
CABF				*e*P			16 50 44.9	
CABF				*e*Pg		**Pg**	16 50 49.0	-2.4
CABF				*e*Sn		**Sn**	16 51 11.8	-2.1
CABF				*e*Sg		**Sg**	16 51 22.1	-3.6
CABF	**La Chapelle**	**2.57**	**270**	*e*P		**Pn**	16 50 44.9	+2.6
CABF	**La Chapelle**	**2.57**	**270**	*e*Pg		**Pg**	16 50 49.0	-2.4
CABF				*e*Sn		**Sn**	16 51 11.8	-2.1
CABF				*e*Sg		**Sg**	16 51 22.1	-3.6
	3.5nm,0.3s							
HAU	**Haudompre**	**2.72**	**301**	*e*P		**Pn**	16 50 46.5	+2.0
HAU				*e*Sn		**Sn**	16 51 15.6	-2.1
HAU				*e*Sg		**Sg**	16 51 26.7	-4.0
	17nm,0.3s							
HAU	**Haudompre**	**2.72**	**301**	*e*Pn		**Pn**	16 50 43.7	-0.8
HAU				*e*P			16 50 46.5	
HAU				*e*Sn		**Sn**	16 51 15.6	-2.1
HAU				*e*Sg		**Sg**	16 51 26.7	-4.0
HAU	**Haudompre**	**2.72**	**301**	*e*P		**Pn**	16 50 46.5	+2.0
HAU				*e*Sn		**Sn**	16 51 15.6	-2.1
HAU				*e*Sg		**Sg**	16 51 26.7	-4.0
	8.4nm,0.3s							
MBDF	**Montbardon**	**2.88**	**229**	*e*P		**Pn**	16 50 48.4	+1.7
MBDF	**Montbardon**	**2.88**	**229**	*e*Pg		**Pg**	16 50 54.0	-3.5
MBDF				*e*Sn		**Sn**	16 51 18.1	-3.5
MBDF				*e*Sg		**Sg**	16 51 30.2	-5.7
	9.5nm,0.5s							
MBDF	**Montbardon**	**2.88**	**229**	*e*Pn		**Pn**	16 50 45.0	-1.7
MBDF				*e*P			16 50 48.4	
MBDF				*e*Pg		**Pg**	16 50 54.0	-3.5
MBDF				*e*Sn		**Sn**	16 51 18.1	-3.5
MBDF				*e*Sg		**Sg**	16 51 30.2	-5.7
MBDF	**Montbardon**	**2.88**	**229**	*e*P		**Pn**	16 50 48.4	+1.7
MBDF	**Montbardon**	**2.88**	**229**	*e*Pg		**Pg**	16 50 54.0	-3.5
MBDF				*e*Sn		**Sn**	16 51 18.1	-3.5
MBDF				*e*Sg		**Sg**	16 51 30.2	-5.7
	4.8nm,0.5s							

VOY	**Vojsko**	**2.89**	**101**		*e*Pn	**Pn**	16 50 50.2	+3.4
VOY					*e*Sn	**Sn**	16 51 30.3	+8.5
GRA1	**Grafenberg Arr**	**3.18**	**17**		*e*Pn	**Pn**	16 50 51.0	0.0
GRA1					*e*Sn	**Sn**	16 51 29.9	+0.6
GRF	**Grafenberg Arr**	**3.18**	**17**		*e*Pn	**Pn**	16 50 51.0	0.0
GRF					*e*Sn	**Sn**	16 51 29.9	+0.6
WET	**Wettzell**	**3.23**	**38**		*e*Pn	**Pn**	16 50 52.4	+0.7
WET					*e*Sn	**Sn**	16 51 30.6	+0.1
MOA	**Molln**	**3.25**	**67**	⇓*i*Pn		**Pn**	16 50 52.0	0.0
MOA				⇓*i*Pg		**Pg**	16 51 01.0	-4.0
MOA	**Molln**	**3.25**	**67**	⇓Pn		**Pn**	16 50 52.0	0.0
MOA					Pg	**Pg**	16 51 01.0	-4.0
MOA					Sn	**Sn**	16 51 30.2	-0.9
MOA					Sg	**Sg**	16 51 45.5	-2.9
MOA	**Molln**	**3.25**	**67**		Pg	**Pg**	16 51 01.0	-4.0
MOA					Sn	**Sn**	16 51 30.2	-0.9
MOA					Sg	**Sg**	16 51 45.5	-2.9
	3.9nm,0.3s							
ORIF	**Oris-en-Rattie**	**3.26**	**239**		*e*P	**Pn**	16 50 54.1	+2.0
ORIF					*e*Sg	**Sg**	16 51 43.0	-5.5
	9.3nm,0.5s							
SBF	**Sospel**	**3.26**	**212**		*e*P	**Pn**	16 50 53.8	+1.7
SBF					*e*Sn	**Sn**	16 51 27.5	-3.8
	15nm,0.5s							
SBF	**Sospel**	**3.26**	**212**		*e*Pn	**Pn**	16 50 50.7	-1.4
SBF					*e*P		16 50 53.8	
SBF					*e*Sn	**Sn**	16 51 27.5	-3.8
SBF	**Sospel**	**3.26**	**212**		*e*P	**Pn**	16 50 53.8	+1.7
SBF					*e*Sn	**Sn**	16 51 27.5	-3.8
	7.7nm,0.5s							
KHC	**Kasperske Hory**	**3.54**	**44**		*e*PN	**Pn**	16 50 57.0	+0.9
KHC					*e*PG	**Pg**	16 51 03.9	-6.8
KHC					*e*SN	**Sn**	16 51 38.9	+0.6
KHC					*e*SG	**Sg**	16 51 50.9	-7.0
	26nm,1.1s							
RFYF	**Reffroy**	**3.54**	**305**		*e*Pn	**Pn**	16 50 55.0	-1.1
SFTF	**Sexfontaines** baz=126	**3.60**	**297**		*e*Pn	**Pn**	16 50 55.8	-1.1
SFTF	**Sexfontaines** baz=128	**3.60**	**297**		*e*P	**Pn**	16 50 58.6	+1.7
SFTF					*e*Sn	**Sn**	16 51 37.0	-2.9
SFTF					*e*Sg	**Sg**	16 51 54.5	-5.4
	5.7nm,0.3s							
SFTF	**Sexfontaines**	**3.60**	**297**		*e*Pn	**Pn**	16 50 55.8	-1.1
SFTF					*e*P		16 50 58.6	
SFTF					*e*Sn	**Sn**	16 51 37.0	-2.9
SFTF					*e*Sg	**Sg**	16 51 54.5	-5.4
SFTF	**Sexfontaines**	**3.60**	**297**		*e*P	**Pn**	16 50 58.6	+1.7
SFTF					*e*Sn	**Sn**	16 51 37.0	-2.9
SFTF					*e*Sg	**Sg**	16 51 54.5	-5.4
	2.8nm,0.3s							
MEZF	**Maizieres J'vi**	**3.72**	**302**		*e*P	**Pn**	16 51 00.8	+2.2
MEZF					*e*Sn	**Sn**	16 51 39.5	-3.4
MEZF					*e*Sg	**Sg**	16 51 58.4	-5.5
	14nm,0.6s							
MEZF	**Maizieres J'vi**	**3.72**	**302**		*e*Pn	**Pn**	16 50 57.5	-1.1
MEZF					*e*Sn	**Sn**	16 51 39.5	-3.4
MEZF	**Maizieres J'vi**	**3.72**	**302**		*e*P	**Pn**	16 51 00.8	+2.2
MEZF					*e*Sn	**Sn**	16 51 39.5	-3.4
MEZF					*e*Sg	**Sg**	16 51 58.4	-5.5
	6.9nm,0.6s							
FRF	**La Foret Royal**	**3.82**	**217**		*e*P	**Pn**	16 51 01.9	+1.8
FRF					*e*Sn	**Sn**	16 51 40.7	-4.8
	4.8nm,0.2s							
NKC	**Novy Kostel**	**3.98**	**25**		*e*PN	**Pn**	16 51 03.8	+1.4
SMRF	**Simiane la Rot**	**4.02**	**230**		*e*Pn	**Pn**	16 51 01.0	-1.9
SMRF	**Simiane la Rot**	**4.02**	**230**		*e*P	**Pn**	16 51 04.8	+1.9
SMRF	**Simiane la Rot**	**4.02**	**230**		*e*P	**Pn**	16 51 04.8	+1.9
VIVF	**Saint-Julien-l**	**4.03**	**245**		*e*P	**Pn**	16 51 05.5	+2.5
VIVF					*e*Sn	**Sn**	16 51 46.3	-4.4
	5.7nm,0.6s							
LMR	**La Mourre**	**4.07**	**216**		*e*Pn	**Pn**	16 51 01.5	-2.1
LMR	**La Mourre**	**4.07**	**216**		*e*P	**Pn**	16 51 05.5	+1.9
LMR					*e*Sn	**Sn**	16 51 46.4	-5.3
	3.1nm,0.3s							
LMR	**La Mourre**	**4.07**	**216**		*e*P	**Pn**	16 51 05.5	+1.9
LMR					*e*Sn	**Sn**	16 51 46.4	-5.3
	1.5nm,0.3s							
SMF	**Signal de Mont**	**4.12**	**272**		*e*P	**Pn**	16 51 06.7	+2.4
SMF					*e*Sg	**Sg**	16 52 10.6	-6.6
	6.7nm,0.5s							
SMF	**Signal de Mont**	**4.12**	**272**		*e*Pn	**Pn**	16 51 02.7	-1.6
SMF					*e*P		16 51 06.7	
SMF					*e*Sg	**Sg**	16 52 10.6	-6.6
SMF	**Signal de Mont**	**4.12**	**272**		*e*P	**Pn**	16 51 06.7	+2.4
SMF					*e*Sg	**Sg**	16 52 10.6	-6.6
	3.3nm,0.5s							
LOR	**Lormes** baz=102	**4.13**	**281**		*e*Pn	**Pn**	16 51 02.9	-1.6
LOR	**Lormes** baz=103	**4.13**	**281**		*e*P	**Pn**	16 51 06.4	+1.9
LOR					*e*Sg	**Sg**	16 52 10.3	-7.2
	4.6nm,0.3s							
LOR	**Lormes**	**4.13**	**281**		*e*P	**Pn**	16 51 06.4	+1.9
LOR					*e*Sg	**Sg**	16 52 10.3	-7.2
	2.3nm,0.3s							
SSF	**Saint Saulge**	**4.35**	**278**		*e*P	**Pn**	16 51 09.3	+1.7
SSF					*e*Sg	**Sg**	16 52 17.7	-7.2
	6.3nm,0.5s							
SSF	**Saint Saulge**	**4.35**	**278**		*e*Pn	**Pn**	16 51 05.9	-1.7
SSF	**Saint Saulge**	**4.35**	**278**		*e*P	**Pn**	16 51 09.3	+1.7
SSF					*e*Sg	**Sg**	16 52 17.7	-7.2
	3.2nm,0.5s							
AVF	**Avril sur Loir**	**4.45**	**274**		*e*P	**Pn**	16 51 10.8	+1.8
AVF	**Avril sur Loir**	**4.45**	**274**		*e*Pn	**Pn**	16 51 07.6	-1.4
AVF					*e*P		16 51 10.8	
AVF	**Avril sur Loir**	**4.45**	**274**		*e*P	**Pn**	16 51 10.8	+1.8
GIVF	**Givet**	**4.80**	**318**		*e*P	**Pn**	16 51 15.7	+1.8
LASF	**Ste Croix**	**4.93**	**241**		*e*Pn	**Pn**	16 51 13.8	-2.0
LASF					*e*Sn	**Sn**	16 52 07.5	-6.0
	0.7nm,0.3s							
HYF	**Humbligny**	**4.96**	**280**		*e*P	**Pn**	16 51 18.2	+2.0
CAF	**Calviac**	**5.69**	**255**		*e*Pn	**Pn**	16 51 24.3	-2.3
CAF	**Calviac**	**5.69**	**255**		*e*P	**Pn**	16 51 28.1	+1.5
CAF	**Calviac**	**5.69**	**255**		*e*P	**Pn**	16 51 28.1	+1.5

*IDC **30** 17:14:59.9±1.0,43.20S×39.25E,mb4.1/6,mb1 4.2/7, mb1mx4.0/17,mbtmp4.1/7,ML4.2/1,MS3.4/7,Ms1 3.4/7, ms1mx3.3/17,Error ellipse: s-maj=70.5km s-min=21.9km az=41.0*
*NEIC **30** 17:15:01.2±0.7,43.31S×39.11E,h10km,mb4.3/4,Error ellipse: s-maj=43.8km s-min=14.0km az=45.0*
ISC 30 17:15:00.4±1.3,43.1S±0.4×39.3E±0.5,h10km,n20, σ0s61/12,mb4.1/7,MS3.4/6,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**18.35**	**317**	P		**P**	**17 19 17.6**	**+0.9**
	0.5nm,0.3s,baz=157,slow=13,SNR=10.0							
BOSA				LR		LR	17 25 13.2	
	comp=Z,105nm,21.1s,baz=320,slow=33							
BOSA	**Boshof**	**18.35**	**317**	*e*P		**P**	**17 19 17.3**	**+0.6**
	11nm,0.9s							
LBTB	**Lobatse**	**21.25**	**324**	P		**P**	**17 19 49.1**	**+0.2**
	11nm,0.8s,mb4.2,baz=167,slow=8.9,SNR=14							
LBTB				LR		LR	17 26 49.1	
	comp=Z,142nm,18.8s,MS3.4,baz=339,slow=33							
LBTB	**Lobatse**	**21.25**	**324**	*e*P		**P**	**17 19 49.2**	**+0.3**
	11nm,0.8s,mb4.2							
LBTB				LR		LR	17 26 49.1	
MAW	**Mawson**	**27.63**	**161**	LR		LR	17 28 26.9	
	comp=Z,85nm,20.2s,MS3.3,baz=245,slow=29							
LSZ	**Lusaka**	**29.30**	**338**	*e*P		**P**	**17 21 05.5**	**+0.3**
	7.5nm,0.9s,mb4.4							
TSUM	**Tsumeb**	**30.04**	**316**	P		**P**	**17 21 11.4**	**-0.3**
	4.3nm,1.0s,mb4.1,baz=136,slow=6.2,SNR=7.7							
TSUM				LR		LR	17 32 16.1	
	comp=Z,90nm,18.2s,MS3.4,baz=127,slow=34							
SNAA	**Sanae**	**35.17**	**202**	LR		LR	17 32 13.2	
	comp=Z,15nm,20.5s,MS2.7,baz=223,slow=30							
KMBO	**Kilima Mbogo**	**41.81**	**357**	LR		LR	17 38 00.5	
	comp=Z,86nm,18.6s,MS3.7,baz=93,slow=33							
VNDA	**Vanda**	**54.65**	**167**	LR		LR	17 44 54.9	
	comp=Z,76nm,19.2s,MS3.8,baz=323,slow=33							
DBIC	**Dimbokro**	**63.67**	**309**	P		**P**	**17 25 33.8**	**-0.5**
	2.0nm,0.7s,mb4.2,baz=115,slow=9.7,SNR=4.4							
DBIC	**Dimbokro**	**63.67**	**309**	P		**P**	**17 25 33.6**	**-0.7**
	1.9nm,0.7s,mb4.2							
STKA	**Stephens Creek**	**76.99**	**121**	P		**P**	**17 26 54.9**	**0.0**
	3.4nm,0.9s,mb4.3,baz=305,slow=11,SNR=3.8							
STKA	**Stephens Creek**	**76.99**	**121**	*e*P		**P**	**17 26 55.0**	**+0.1**

WRA	**Warramunga Arr**	**80.19**	**108**		P	**P**	**17 27 13.2**	**+0.7**
	0.4nm,0.7s,mb3.5,baz=222,slow=4.2,SNR=4.6							
BRTR	**Keskin Array B**	**82.58**	**356**		P	**P**	**17 27 23.5**	**-1.2**
	0.6nm,0.8s,mb3.7,baz=143,slow=6.2,SNR=4.4							
TXAR	**Lajitas Array**	**147.41**	**257**		PKPbc	PKPdf	17 34 44.1	-0.7
	0.7nm,0.7s,baz=136,slow=6.0,SNR=8.0							
ULM	**Lac du Bonnet**	**148.81**	**299**		PKPbc	PKPdf	17 34 47.2	+0.8
	1.1nm,0.5s,baz=164,slow=3.7,SNR=4.4							
ULM	**Lac du Bonnet**	**148.81**	**299**		PKPbc	PKPdf	17 34 47.2	+0.8
YKA	**Yellowknife Ar**	**155.27**	**331**		PKPab	PKPab	17 35 19.2	-0.8
	0.2nm,0.7s,baz=50,slow=4.7,SNR=4.0							

*IDC **30** 17:23:58.1±0.9,16.50N×93.15W,h120km±5km,mb3.9/10, mb1 4.1/11,mb1mx3.8/24,mbtmp4.2/11,Error ellipse: s-maj=49.4km s-min=11.9km az=52.0*
*NEIC **30** 17:23:59.7,16.13N×93.84W,h70km,mb3.9/5, MD4.4(MEX),After MEX.*
*MEX **30** 17:24:00.0±0.8,16.19N×93.85W,h60km±45km,MD4.4*
ISC 30 17:23:55.4±0.5,16.12N±0.06×93.78W±0.04,h114km±5km, n38,σ1s44/51,mb4.2/11,Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.58**	**84**	*e*P		**P**	**17 24 25.6**	**+1.8**
CCIG				*i*S		**S**	**17 24 45.0**	**-0.4**
TUIG	**Tuzandepetl**	**2.00**	**342**	*i*P		**P**	**17 24 28.6**	**-0.4**
TUIG				*i*S		**S**	**17 24 50.9**	**-3.3**
TUIG	**Tuzandepetl**	**2.00**	**342**	*i*P		**P**	**17 24 28.6**	**-0.4**
TUIG				*i*S		**S**	**17 24 52.8**	**-1.4**
HUIG	**Huatulco**	**2.27**	**261**	*i*P		**P**	**17 24 32.1**	**-0.5**
HUIG				*i*S		**S**	**17 24 59.1**	**-1.5**
EVV	**El Vigia**	**2.77**	**327**	*e*P		Px	17 24 53.0	
OXX	**Oaxaca**	**2.98**	**289**	*i*P		**P**	**17 24 44.0**	**+1.8**
OXX				*i*S		**S**	**17 25 16.3**	**-1.2**
OXX	**Oaxaca**	**2.98**	**289**	*i*P		**P**	**17 24 44.5**	**+2.3**
OXX				*i*S		**S**	**17 25 17.3**	**-0.2**
VHO	**Vista Hermosa**	**2.99**	**289**	*i*P		**P**	**17 24 43.6**	**+1.4**
VHO				*i*S		**S**	**17 25 16.7**	**-1.0**
VHO	**Vista Hermosa**	**2.99**	**289**	*i*P		**P**	**17 24 43.8**	**+1.6**
VHO				*i*S		**S**	**17 25 16.7**	**-1.0**
LVIG	**Laguna Verde**	**4.38**	**325**	*i*P		**P**	**17 24 59.3**	**-1.7**
LVIG				*i*S		**S**	**17 25 43.8**	**-7.5**
LVIG	**Laguna Verde**	**4.38**	**325**	*i*P		**P**	**17 24 59.2**	**-1.8**
LVIG				*i*S		**S**	**17 25 43.9**	**-7.5**
PPM	**Popocatepetl**	**5.47**	**303**	*i*P		**P**	**17 25 18.1**	**+2.3**
PPM				*i*S		**S**	**17 26 17.6**	**-0.4**
YAIG	**Yautepec**	**5.74**	**299**	*i*P		**P**	**17 25 21.3**	**+1.9**
YAIG				*i*S		**S**	**17 26 19.4**	**-5.1**
YAIG	**Yautepec**	**5.74**	**299**	*i*P		**P**	**17 25 21.6**	**+2.2**
YAIG				*i*S		**S**	**17 26 20.4**	**-4.1**
PLIG	**Platanillo**	**5.92**	**293**	*i*P		**P**	**17 25 23.9**	**+2.1**
PLIG				*i*S		**S**	**17 26 26.7**	**-2.2**
ACX	**Acapulco**	**5.94**	**278**	*i*P		**P**	**17 25 21.3**	**-0.8**
CAIG	**El Cayaco**	**6.29**	**279**	*i*P		**P**	**17 25 27.2**	**+0.2**
CAIG				*i*S		**S**	**17 26 40.9**	**+2.9**
JTS	**JuntasAbangare** 24nm,0.3s	**10.36**	**123**	*e*Pn		**P**	**17 26 22.5**	**+0.5**
JCT	**Junction City** 7.4nm,0.7s	**15.32**	**340**	*e*P		**P**

NEIC Felt [II] at Huarte, Spain.
*CSEM **30** 17:38:16.4±0.1,42.87N×1.56W,h2^{km},ML2.6/14,Error ellipse: s-maj=1.3km s-min=0.9km az=130.0*

MDD 30 17:38:16.5±0.2,42.85N×1.58W,h6^{km}±2^{km},mbLg2.2/16,1C-2D,Error ellipse: s-maj=1.7km s-min=1.0km az=88.0,PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARA	**Aranguren**	**0.08**	**181**	⇑Pg	Pg	17 38 18.1	-0.4
	159nm,0.1s,SNR=18						
EARA				Lg		17 38 19.6	
	4μm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.08**	**181**	Pg	Pg	17 38 18.0	-0.4
	159nm,0.1s,SNR=18						
EARA				Lg		17 38 19.6	
	4μm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**12**	⇓Pg	Pg	17 38 18.9	+0.1
	133nm,0.1s,SNR=18						
IUSE				Lg		17 38 20.8	
	478nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.10**	**12**	Pg	Pg	17 38 18.9	+0.1
	133nm,0.1s,SNR=18						
IUSE				Lg		17 38 20.8	
	478nm,0.2s,SNR=7.9						
IUNC	**Uncitti**	**0.11**	**148**	⇓Pg	Pg	17 38 19.0	+0.1
	69nm,0.1s,SNR=18						
IUNC				Lg		17 38 20.9	
	494nm,0.1s,SNR=7.9						
IUNC	**Uncitti**	**0.11**	**148**	Pg	Pg	17 38 19.0	0.0
	69nm,0.1s,SNR=18						
IUNC				Lg		17 38 20.9	
	494nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.17**	**105**	Pg	Pg	17 38 19.7	-0.4
	1.7nm,0.0s,SNR=37						
IPRE				Lg		17 38 22.5	
	26nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.17**	**105**	Pg	Pg	17 38 19.7	-0.4
	1.7nm,0.0s,SNR=37						
IPRE				Lg		17 38 22.5	
	26nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.37**	**44**	*e*Pg	Pg	17 38 23.0	-1.0
SJPF				*e*Sg	Sg	17 38 27.9	-1.1
	130nm,0.2s						
EALK	**Alkurruntz**	**0.37**	**8**	Pg	Pg	17 38 23.3	-0.8
	10.0nm,0.1s,SNR=60						
EALK				Lg		17 38 28.6	
	68nm,0.2s,SNR=5.0						
OSSF	**Osses**	**0.47**	**29**	Pg	Pg	17 38 24.6	-1.3
OSSF				Sg	Sg	17 38 31.3	-0.9
OSSF	**Osses**	**0.47**	**29**	P	Pg	17 38 24.6	-1.3
OSSF				S	Sg	17 38 31.4	-0.9
LARF	**Larrau**	**0.47**	**66**	Pg	Pg	17 38 25.0	-1.0
LARF				Sg	Sg	17 38 31.3	-1.1
LARF	**Larrau**	**0.47**	**66**	P	Pg	17 38 25.0	-1.0
LARF				S	Sg	17 38 31.1	-1.2
ORDF	**Ordiarp**	**0.59**	**52**	Pg	Pg	17 38 27.3	-1.1
ORDF				Sg	Sg	17 38 35.2	-1.2
ORDF	**Ordiarp**	**0.59**	**52**	P	Pg	17 38 27.3	-1.2
ORDF				S	Sg	17 38 35.1	-1.3
ATE	**Arette**	**0.69**	**69**	Pg	Pg	17 38 28.7	-1.6
ATE				Sg	Sg	17 38 37.9	-1.5
ATE	**Arette**	**0.69**	**69**	P	Pg	17 38 28.9	-1.4
ATE				S	Sg	17 38 38.0	-1.4
ETSF	**Etsaut**	**0.75**	**86**	*e*Pg	Pg	17 38 29.8	-1.7
ETSF				*e*Sg	Sg	17 38 39.7	-1.9
	32nm,0.5s						
VIEF	**Viey**	**1.18**	**88**	Pg	Pg	17 38 38.1	-1.9
VIEF	**Viey**	**1.18**	**88**	P	Pb	17 38 38.3	-0.6
VIEF				S	Sb	17 38 55.2	+1.0
EBIE	**Bielsa**	**1.28**	**97**	Pg	Pg	17 38 40.7	-1.4
	1.3nm,0.1s,SNR=21						
EBIE				Lg		17 38 58.8	
	6.6nm,0.2s,SNR=10						
EBIE	**Bielsa**	**1.28**	**97**	Pg	Pg	17 38 40.7	-1.3
	1.3nm,0.1s,SNR=21						
ESAC	**San Caprasio**	**1.39**	**143**	Pg	Pg	17 38 43.2	-1.2
	12nm,0.2s,SNR=19						
ESAC				Lg		17 39 01.2	
	52nm,0.2s,SNR=10.0						
ESAC	**San Caprasio**	**1.39**	**143**	Pg	Pg	17 38 43.2	-1.2
	12nm,0.2s,SNR=19						
ELAN	**Lanestosa**	**1.41**	**286**	Pg	Pg	17 38 43.0	-1.8
	2.6nm,0.2s,SNR=13						
ELAN				Lg		17 39 01.3	
	13nm,0.2s,SNR=9.7						
ELAN	**Lanestosa**	**1.41**	**286**	Pg	Pg	17 38 43.0	-1.8
	2.6nm,0.2s,SNR=13						
EPF	**Esparros**	**1.42**	**82**	*e*Pg	Pg	17 38 42.7	-2.2
EPF				*e*Sg	Sg	17 39 00.8	-3.0
	20nm,0.3s						
EGRA	**Graus**	**1.54**	**114**	Pg	Pg	17 38 46.0	-1.4
	5.1nm,0.4s,SNR=9.0						
EGRA				Lg		17 39 07.9	
	2.8nm,0.2s,SNR=5.6						
ERTA	**Horta de San J**	**2.37**	**142**	Pn	Pn	17 38 55.2	-1.2
	0.3nm,0.2s,SNR=7.9						
ERTA				Pg	Pg	17 39 00.5	-3.3
	0.4nm,0.1s,SNR=7.9						
ERTA				Lg		17 39 30.8	
	5.9nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.37**	**142**	Pn	Pn	17 38 55.2	-1.3
	0.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.37**	**142**	Pg	Pg	17 39 00.5	-3.3
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.48**	**126**	Pn	Pn	17 38 56.9	-1.1
	0.6nm,0.3s,SNR=7.9						
EPOB				Pg	Pg	17 39 01.4	-4.6
	0.3nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	17 39 26.5	-2.5
	0.9nm,0.2s,SNR=7.9						
EPOB				Lg		17 39 34.3	
	2.0nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.48**	**126**	Pn	Pn	17 38 56.9	-1.1
	0.6nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.48**	**126**	Pg	Pg	17 39 01.4	-4.6
	0.3nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	17 39 26.5	-2.4
	0.9nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.48**	**111**	Pn	Pn	17 38 56.0	-2.0
	1.1nm,0.3s,SNR=7.9						
EMIR				Pg	Pg	17 39 02.5	-3.6
	0.4nm,0.1s,SNR=7.9						
EMIR				Lg		17 39 36.5	
	1.6nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.48**	**111**	Pn	Pn	17 38 56.0	-2.1
	1.1nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.48**	**111**	Pg	Pg	17 39 02.5	-3.6
	0.4nm,0.1s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.55**	**142**	*e*SNSN		17 39 43.0	
EMOS	**Mosqueruela**	**2.62**	**161**	Pn	Pn	17 38 58.4	-1.6
	4.7nm,0.7s,SNR=7.9						
EMOS				Pg	Pg	17 39 04.9	-3.8
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg		17 39 38.5	
	0.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.62**	**161**	Pn	Pn	17 38 58.4	-1.6
	4.7nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**2.62**	**161**	Pg	Pg	17 39 04.9	-3.9
	0.1nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.68**	**38**	*e*Pn	Pn	17 38 59.1	-1.8
LFF				*e*Sg	Sg	17 39 39.9	-5.8
	12nm,0.4s						
EARI	**Arriondas**	**2.70**	**281**	Pn	Pn	17 38 59.5	-1.7
	3.7nm,0.9s,SNR=7.9						
EARI				Pg	Pg	17 39 05.7	-4.7
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	Sn	17 39 32.3	-2.3
	9.4nm,1.1s,SNR=7.9						
EARI				Lg		17 39 41.2	
	0.8nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**2.70**	**281**	Pg	Pg	17 39 05.7	-4.7
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	Sn	17 39 32.3	-2.3
	9.4nm,1.1s,SNR=7.9						
MTLF	**Montolieu**	**2.82**	**79**	*e*P	Pn	17 39 03.1	+0.1
MTLF	**Montolieu**	**2.82**	**79**	*e*Pg	Pg	17 39 08.2	-4.7
MTLF				*e*Sg	Sg	17 39 44.2	-6.3
	3.4nm,0.4s						
MTLF	**Montolieu**	**2.82**	**79**	Pn	Pn	17 39 00.2	-2.8
MTLF				Pg	Pg	17 39 08.2	-4.7
MTLF	**Montolieu**	**2.82**	**79**	*e*Pn	Pn	17 39 00.2	-2.8
MTLF				*e*P		17 39 03.1	
MTLF				*e*Pg	Pg	17 39 08.2	-4.7
MTLF				*e*Sg	Sg	17 39 44.2	-6.3
MTLF	**Montolieu**	**2.82**	**79**	*e*P	Pn	17 39 03.1	+0.1
MTLF	**Montolieu**	**2.82**	**79**	*e*Pg	Pg	17 39 08.2	-4.7
MTLF				*e*Sg	Sg	17 39 44.2	-6.3
	1.7nm,0.4s						
GUD	**Guadarrama**	**2.93**	**222**	Pn	Pn	17 39 02.5	-2.0
	0.4nm,0.3s,SNR=7.9						
GUD				Pg	Pg	17 39 10.7	-4.2
	0.3nm,0.2s,SNR=7.9						
GUD				Sn	Sn	17 39 37.4	-3.0
	1.1nm,0.4s,SNR=7.9						
GUD				Lg		17 39 49.1	
	1.0nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**2.93**	**222**	Pg	Pg	17 39 10.7	-4.3
	0.3nm,0.2s,SNR=7.9						
GUD				Sn	Sn	17 39 37.4	-2.9
	1.1nm,0.4s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.32**	**41**	*e*Pn	Pn	17 39 07.7	-2.3
RJF				*e*Sn	Sn	17 39 44.5	-5.7
	11nm,0.5s						
CAF	**Calviac**	**3.35**	**50**	*e*Pg	Pg	17 39 17.8	-5.7
CAF				*e*Sn	Sn	17 39 46.4	-4.7
	4.1nm,0.3s						
CAF	**Calviac**	**3.35**	**50**	Pn	Pn	17 39 08.0	-2.5
CAF				Pg	Pg	17 39 17.8	-5.7
CAF				Sn	Sn	17 39 46.4	-4.7
	2.0nm,0.3s						
CAF	**Calviac**	**3.35**	**50**	*e*Pn	Pn	17 39 08.0	-2.5
CAF				*e*Pg	Pg	17 39 17.8	-5.7
CAF				*e*Sn	Sn	17 39 46.4	-4.7
CAF	**Calviac**	**3.35**	**50**	*e*Pg	Pg	17 39 17.8	-5.7
CAF				*e*Sn	Sn	17 39 46.4	-4.7
	2.0nm,0.3s						
ESDC	**Sonseca Array**	**3.65**	**210**	Pg	Pg	17 39 23.7	-5.6
	0.1nm,0.1s,baz=35,slow=15,SNR=7.9						
ESDC				Sn	Sn	17 39 55.2	-3.3
	0.7nm,0.2s,baz=34,slow=23,SNR=7.9						
ESDC				Lg		17 40 11.5	
	0.8nm,0.3s,baz=32,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**3.65**	**210**	Pg	Pg	17 39 23.7	-5.6
	0.1nm,0.1s,SNR=7.9						
ESDC				Sn	Sn	17 39 55.2	-3.3
	0.7nm,0.2s,SNR=7.9						
MFF	**Saint Martin d**	**3.89**	**15**	*e*Pg	Pg	17 39 28.2	-6.0
ECAL	**Calabor**	**3.93**	**258**	Pn	Pn	17 39 15.9	-2.8
	3.0nm,0.6s,SNR=7.9						
ECAL				Sn	Sn	17 40 01.6	-4.1
	0.7nm,0.3s,SNR=4.0						
ECAL				Lg		17 40 20.7	
	1.4nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.93**	**258**	Pn	Pn	17 39 15.9	-2.8
	3.0nm,0.6s,SNR=7.9						
ECAL				Sn	Sn	17 40 01.6	-4.0
	0.7nm,0.3s,SNR=4.0						
LASF	**Ste Croix**	**4.14**	**71**	*e*Pn	Pn	17 39 18.1	-3.6
VIVF	**Saint-Julien-l**	**4.95**	**64**	*e*Pn	Pn	17 39 29.8	-3.3
AVF	**Avril sur Loir**	**5.28**	**40**	*e*Pn	Pn	17 39 34.0	-3.8
AVF				*e*Sn	Sn	17 40 31.2	-8.5
	0.6nm,0.2s						
HYF	**Humbligny**	**5.33**	**33**	*e*Pn	Pn	17 39 35.4	-3.2
SMF	**Signal de Mont**	**5.41**	**44**	*e*Pn	Pn	17 39 35.7	-4.0
SSF	**Saint Saulge**	**5.54**	**39**	*e*Pn	Pn	17 39 37.1	-4.5
SSF				*e*Sn	Sn	17 40 38.8	-7.6
	0.9nm,0.4s						
LOR	**Lormes**	**5.86**	**39**	*e*Pn	Pn	17 39 41.5	-4.5
LOR				*e*Sn	Sn	17 40 45.6	-8.7
	4.2nm,0.6s						

*IDC **30** 18:05:55.0±3.0,28.30S×177.63W,h66^{km}±24^{km},mb3.7/3,mb1 3.9/3,mb1mx3.6/12,mbtmp4.0/3,Error ellipse: s-maj=38.5km s-min=36.7km az=59.0*
*NEIC **30** 18:05:56.9±1.4,28.69S×177.45W,h96^{km}±11^{km},mb4.4/3,Error ellipse: s-maj=31.8km s-min=21.0km az=163.0*

ISC 30 18:05:57.2±5.8,28.5S±0.5×177.8W±0.6,h88^{km}±20^{km},n18,σ0^{s}93/14,mb4.2/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.75**	**188**	P	**P**	**18 06 14.2**	**-0.1**
	639nm,0.3s,baz=72,slow=13,SNR=35						
RAO				S	**S**	**18 06 26.9**	**-0.1**
	2μm,0.3s,baz=250,slow=23,SNR=32						
RAO	**Raoul Island**	**0.75**	**188**	*e*Pn	**P**	**18 06 13.9**	**-0.4**
RAO				*e*Sn	**S**	**18 06 27.2**	**+0.3**
CTA	**Charters Tower**	**33.72**	**276**	P	**P**	**18 12 35.0**	**+2.8**
	4.0nm,0.9s,mb4.3,baz=88,slow=9.0,SNR=5.9						
STKA	**Stephens Creek**	**35.12**	**254**	P	**P**	**18 12 44.2**	**+0.1**
	1.8nm,0.7s,mb4.0,baz=118,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**35.12**	**254**	P	**P**	**18 12 44.2**	**+0.1**
ASPA	**Alice Springs**	**43.43**	**265**	*e*P	**P**	**18 13 53.1**	**0.0**
WB2	**Warramunga Arr**	**44.23**	**270**	*e*P	**P**	**18 13 59.3**	**-0.3**
WRAB	**Tennant Creek**	**44.23**	**270**	*e*P	**P**	**18 13 58.5**	**-1.2**
	5.5nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**44.24**	**270**	P	**P**	**18 13 59.3**	**-0.4**
	1.6nm,0.6s,mb3.9,baz=109,slow=7.7,SNR=35						
WRA				PcP	PcP	18 15 42.0	-1.3
	0.3nm,0.7s,baz=108,slow=3.2,SNR=4.5						
VNDA	**Vanda**	**49.99**	**186**	P	**P**	**18 14 44.3**	**+0.3**
	0.7nm,0.5s,mb3.8,baz=24,slow=7.8,SNR=6.1						
VNDA	**Vanda**	**49.99**	**186**	P	**P**	**18 14 44.5**	**+0.5**
	0.9nm,0.6s,mb3.9						
CASY	**Casey**	**56.90**	**207**	*e*P	**P**	**18 15 31.0**	**-4.0**
	7.2nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**116.68**	**311**	PKP	PKPdf	18 24 30.7	-0.3
	0.5nm,0.7s,baz=62,slow=2.4,SNR=5.6						
MKAR	**Makanchi Array**	**116.68**	**311**	PKP	PKPdf	18 24 30.7	-0.3
FINES	**FINESS Array B**	**143.42**	**341**	PKP	PKPdf	18 25 19.3	-1.3
	2.8nm,1.0s,baz=315,slow=2.7,SNR=4.3						
NOA	**NORSAR Array B**	**146.91**	**352**	PKPbc	PKPbc	18 25 28.2	-0.1
	0.9nm,0.6s,baz=13,slow=4.4,SNR=3.2						
AKASG	**Malin Array Be**	**149.88**	**325**	PKPbc	PKPdf	18 25 36.6	+4.9
	1.3nm,0.5s,baz=47,slow=3.4,SNR=8.0						
BRTR	**Keskin Array B**	**151.81**	**302**	PKPbc	PKPdf	18 25 41.8	+6.8
	0.6nm,0.5s,baz=98,slow=5.1,SNR=4.1						

*IDC **30** 18:15:18.8±1.2,54.98N×165.73E,mb3.7/8,mb1 4.0/9,mb1mx3.8/22,mbtmp3.7/9,ML2.8/1,Error ellipse: s-maj=32.6km s-min=12.6km az=25.0*
*KRSC **30** 18:15:20.9±1.4,55.01N×165.76E,h27^{km}±4^{km},ML4.6*
*MOS **30** 18:15:20.4±1.4,54.90N×165.88E,h33^{km},mb4.4/4,Error ellipse: s-maj=13.7km s-min=12.3km az=162.0*
*NEIC **30** 18:15:23.6±0.7,55.01N×165.71E,h35^{km},mb4.2/4,Error ellipse: s-maj=20.4km s-min=10.2km az=175.0*

ISC 30 18:15:20.8±0.6,54.96N±0.04×165.74E±0.05,h28^{km}±5^{km},n62,σ1^{s}00/87,mb3.9/12,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.28**	**29**	*i* P	**Pb**	**18 15 27.5**	**-0.3**
BKI				*i* S	**Sb**	**18 15 31.7**	**-0.8**
KBTR	**Krutoberegovo**	**2.08**	**308**	P	**Pn**	**18 15 53.2**	**-1.3**
KBTR				S	**Sn**	**18 16 17.2**	**-2.5**
KBTR	**Krutoberegovo**	**2.08**	**308**	*i* P	**Pn**	**18 15 53.2**	**-1.3**
KBTR				*i* S	**Sn**	**18 16 18.1**	**-1.6**
MKZ	**Mys Kozlova**	**2.36**	**262**	P	**Pn**	**18 15 58.5**	**-0.1**
MKZ				S	**Sn**	**18 16 24.5**	**-2.4**
MKZ	**Mys Kozlova**	**2.36**	**262**	*i* P	**Pn**	**18 15 58.5**	**-0.1**
MKZ				*e*S	**Sn**	**18 16 26.0**	**-0.9**
ZLN	**Zelenaya**	**3.00**	**293**	*i* P	**Pn**	**18 16 08.5**	**+0.8**
ZLN				*e*S	**Sn**	**18 16 42.9**	**-0.2**
BDR	**Baidarnaya**	**3.02**	**304**	*i* P	**Pn**	**18 16 08.6**	**+0.6**
CIRR	**Tsirk**	**3.06**	**294**	*e*P	**Pn**	**18 16 09.2**	**+0.6**
CIRR				*e*S	**Sn**	**18 16 44.3**	**-0.4**
LGNR	**Loginova**	**3.08**	**293**	*i* P	**Pn**	**18 16 10.3**	**+1.4**
LGNR				*e*S	**Sn**	**18 16 45.3**	**+0.1**
SRKR	**Sorokina**	**3.09**	**305**	*i* P	**Pn**	**18 16 09.3**	**+0.4**
SRKR				*e*S	**Sn**	**18 16 45.2**	**-0.1**
KLY	**Klyuchi**	**3.19**	**297**	P	**Pn**	**18 16 09.6**	**-0.7**
KLY				S	**Sn**	**18 16 45.6**	**-2.2**
KLY	**Klyuchi**	**3.19**	**297**	*i* P	**Pn**	**18 16 09.4**	**-0.9**
KLY				*e*S	**Sn**	**18 16 45.6**	**-2.2**
TUMR	**Tumrok**	**3.23**	**278**	*i* P	**Pn**	**18 16 11.8**	**+0.8**
TUMR				*e*S	**Sn**	**18 16 48.9**	**0.0**
KMNR	**Kamenistaya**	**3.24**	**286**	*i* P	**Pn**	**18 16 12.0**	**+0.9**
KPT	**Kopyto**	**3.30**	**290**	*i* P	**Pn**	**18 16 13.4**	**+1.5**
KPT				*e*S	**Sn**	**18 16 50.4**	**-0.3**
KOZR	**Kozyr**	**3.50**	**291**	PN	**Pn**	**18 16 16.6**	**+1.8**
KOZR				S	**Sn**	**18 16 57.1**	**+1.3**
KOZ	**Kozyrevsk**	**3.51**	**291**	P	**Pn**	**18 16 16.6**	**+1.6**
KOZ				S	**Sn**	**18 16 57.1**	**+1.0**
KOZ	**Kozyrevsk**	**3.51**	**291**	*e*P	**Pn**	**18 16 16.6**	**+1.6**
KOZ				*e*S	**Sn**	**18 16 55.2**	**-0.9**
SRDR	**Sredinnyy**	**3.67**	**294**	*i* P	**Pn**	**18 16 18.3**	**+1.0**
SRDR				*e*S	**Sn**	**18 17 01.3**	**+1.1**
KII	**Karymskiy**	**3.78**	**258**	P	**Pn**	**18 16 19.5**	**+0.7**
KII				S	**Sn**	**18 17 01.6**	**-1.4**
KII	**Karymskiy**	**3.78**	**258**	*i* P	**Pn**	**18 16 19.4**	**+0.6**
SPN	**Mys Shipunski**	**3.85**	**243**	P	**Pn**	**18 16 19.0**	**-0.8**
SPN				S	**Sn**	**18 17 00.4**	**-4.4**
SPN	**Mys Shipunski**	**3.85**	**243**	*i* P	**Pn**	**18 16 19.0**	**-0.8**
ESO	**Esso**	**4.12**	**286**	*e*P	**Pn**	**18 16 24.0**	**+0.3**
ESO				Smax			
	20nm,0.9s						
NLC	**Nalytchevo**	**4.17**	**247**	P	**Pn**	**18 16 23.8**	**-0.6**
NLC				S	**Sn**	**18 17 08.8**	**-4.1**
NLC	**Nalytchevo**	**4.17**	**247**	*i* P	**Pn**	**18 16 23.8**	**-0.6**
SDLR	**Sedlovina**	**4.37**	**250**	*i* P	**Pn**	**18 16 27.1**	**-0.1**
AVH	**Avacha**	**4.46**	**250**	*i* P	**Pn**	**18 16 28.5**	**+0.1**
KOK	**Koryaka**	**4.50**	**251**	*e*P	**Pn**	**18 16 29.1**	**+0.1**
OSSR	**Ossora**	**4.54**	**342**	*i* P	**Pn**	**18 16 27.7**	**-1.9**
OSSR				*e*S	**Sn**	**18 17 16.4**	**-5.7**
PET	**Petropavlovsk**	**4.61**	**248**	P	**Pn**	**18 16 30.4**	**-0.2**
PET				S	**Sn**	**18 17 19.3**	**-4.6**
PET	**Petropavlovsk**	**4.61**	**248**	*i* P	**Pn**	**18 16 30.4**	**-0.2**
PET				*e*S	**Sn**	**18 17 20.5**	**-3.4**
PET	**Petropavlovsk**	**4.61**	**248**	*e*PN	**Pn**	**18 16 30.3**	**-0.3**
PET				pmax	pmax		
	comp=Z,60nm,0.3s						
PET				pmax	pmax		
	comp=Z,300nm,15.5s						
PET	**Petropavlovsk**	**4.61**	**248**	*e*Pn	**Pn**	**18 16 29.9**	**-0.8**
GNL	**Ganaly**	**4.74**	**258**	*i* P	**Pn**	**18 16 33.2**	**+0.8**
FX1	**Attu Island--F**	**4.86**	**112**	Pn	**Pn**	**18 16 30.8**	**-3.2**
	comp=Z,1.4nm,0.3s,baz=279,slow=13,SNR=2.9						
FX1				Sn	**Sn**	**18 17 26.0**	**-4.1**
	comp=Z,10nm,0.3s,baz=307,slow=20,SNR=8.7						
FX1	**Attu Island--F**	**4.86**	**112**	Pn	**Pn**	**18 16 34.3**	**+0.2**
KRMR	**Karymshinskiy**	**4.98**	**248**	*i* P	**Pn**	**18 16 35.3**	**-0.5**
RUS	**Russkaya**	**4.99**	**242**	P	**Pn**	**18 16 35.1**	**-0.8**
RUS				S	**Sn**	**18 17 28.0**	**-5.4**
RUS	**Russkaya**	**4.99**	**242**	*i* P	**Pn**	**18 16 35.2**	**-0.7**
GRL	**Gorelyy**	**5.15**	**245**	*i* P	**Pn**	**18 16 38.8**	**+0.6**
APC	**Apacha**	**5.46**	**252**	*e*P	**Pn**	**18 16 43.4**	**+0.8**
APC				Smax			
	comp=Z,30nm,0.9s						
MIPR	**Malaya Ipel'ka**	**5.98**	**247**	*i* P	**Pn**	**18 16 50.8**	**+0.8**
PAU	**Pauzhetka**	**6.40**	**241**	P	**Pn**	**18 16 55.0**	**-0.9**
KAMR	**Kamenskoye**	**7.52**	**2**	*i* P	**Pn**	**18 17 12.0**	**+0.5**
ILAR	**Eielson Array**	**25.11**	**48**	P	**P**	**18 20 44.5**	**+0.2**
	comp=Z,1.8nm,0.8s,mb3.7,baz=258,slow=8.1,SNR=18						
INK	**Inuvik**	**30.32**	**40**	*e*P	**P**	**18 21 28.1**	**-3.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**30.32**	**40**	*e*P	**P**	**18 21 28.1**	**-3.5**
	comp=Z,1.6nm,0.7s,mb3.9						
SONM	**Songino Array**	**36.70**	**284**	P	**P**	**18 22 28.6**	**+1.7**
	comp=Z,0.7nm,0.9s,mb3.5,baz=52,slow=8.8,SNR=4.7						
YKA	**Yellowknife Ar**	**39.50**	**46**	P	**P**	**18 22 50.8**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.3,baz=297,slow=8.0,SNR=7.4						
YKA				PcP	PcP	18 24 57.6	-0.5
	comp=Z,0.1nm,0.5s,baz=302,slow=2.9,SNR=3.7						
KURK	**Kurchatov**	**49.53**	**303**	*e*P	**P**	**18 24 10.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
KURK	**Kurchatov**	**49.53**	**303**	*e*P	**P**	**18 24 10.2**	**-0.3**
	comp=Z,1.5nm,0.4s,mb4.4						
FCC	**Fort Churchill**	**49.90**	**42**	*e*P	**P**	**18 24 13.3**	**0.0**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
FCC	**Fort Churchill**	**49.90**	**42**	*e*P	**P**	**18 24 13.3**	**+0.1**
	comp=Z,3.3nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**50.30**	**297**	P	**P**	**18 24 15.2**	**-1.3**
	comp=Z,0.3nm,0.6s,mb3.5,baz=55,slow=7.4,SNR=7.2						
NVAR	**Mina Array Bea**	**52.01**	**75**	P	**P**	**18 24 30.3**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=292,slow=8.5,SNR=6.8						
ZRNK	**Zerenda**	**52.45**	**311**	*e*P	**P**	**18 24 32.2**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**52.45**	**311**	*e*P	**P**	**18 24 32.2**	**-0.5**
	comp=Z,2.0nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**53.71**	**65**	P	**P**	**18 24 42.6**	**+0.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=315,slow=2.1,SNR=5.3						

13nm,0.3s,baz=100,slow=22,SNR=4.4
ROSC LR LR 18 31 37.4
comp=Z,46µm,20.5s,baz=309,slow=35
OCAC Ocana 8.90 86⇓ eP P 18 28 55.0 -0.8
LFRS El Faro 8.90 312 eP Px 18 29 21.6
LFRS eS Sx 18 31 06.4
LBRS Las Brisas 8.96 313⇑ eP Px 18 29 23.1
BARC Barichara 9.10 96⇑ eP P 18 28 57.3 -1.1
BOQS Boqueron 9.13 312⇑ eP Px 18 29 25.5
RUSC La Rusia 9.31 100⇑ eP P 18 29 00.9 -0.5
SBLS San Blas 9.46 311 eP Px 18 29 29.8
SBLS eS Sx 18 31 17.8
GUVC San Jose del G 10.89 117⇓ eP P 18 29 20.1 -3.1
PCJ Portland Cotta 11.18 26⇑ eP P 18 29 28.0 +0.8
CVJ Coleyville 11.46 23⇓ eP P 18 29 30.7 -0.2
MBJ Montego Bay 11.49 22⇓ eP P 18 29 31.5 +0.1
SDV Santo Domingo 11.60 83 Pn **P 18 29 30.5 -2.3**
2.5nm,0.3s,baz=278,slow=6.7,SNR=50
SDV Sn **S 18 31 37.4 -4.8**
6.9nm,0.3s,baz=306,slow=19,SNR=2.9
SDV Santo Domingo 11.60 83 ePn **P 18 29 30.3 -2.5**
207nm,0.8s
STH Stony Hill 11.63 27⇓ eP P 18 29 33.4 +0.1
GWJ Greenwich 11.66 27⇓ eP P 18 29 35.0 +1.3
BBJ Bamboo Saint A 11.71 24⇓ eP P 18 29 35.1 +0.9
CMJ Castle Mountai 11.88 28⇑ eP P 18 29 40.7 +4.1
HUIG Huatulco 15.73 302 *i* P **P 18 30 26.2 -1.3**
VHO Vista Hermosa 16.91 305 *i* P **P 18 30 41.1 -1.3**
PNIG Pinotepa 17.74 301 *i* P **P 18 30 50.8 -1.9**
LVIG Laguna Verde 18.20 313 *i* P **P 18 30 54.9 -3.5**
SJG San Juan 18.82 55 P **P 18 31 06.7 +0.7**
30nm,0.3s,baz=256,slow=6.3,SNR=119
SJG San Juan 18.82 55⇓ *i* P **P 18 31 05.0 -1.0**
SJG pmax pmax
comp=Z,617nm,0.9s
SJG San Juan 18.82 55⇓ *i* P **P 18 31 05.0 -1.0**
comp=Z,617nm,0.9s
MTP Monte Pirata 19.30 56⇓ *i* P **P 18 31 10.7 -0.9**
PPM Popocatepetl 19.49 307 *i* P **P 18 31 15.1 +1.3**
PPM *i* S **S 18 34 48.8 +2.3**
YAIG Yautepec 19.73 306 *i* P **P 18 31 16.7 +0.2**
PLIG Platanillo 19.85 304 *i* P **P 18 31 18.3 +0.6**
CAIG El Cayaco 19.86 300 *i* P **P 18 31 15.5 -2.4**
CHVM Chichinautzin 19.92 306 eP P 18 31 19.8 +1.3
IIZ Mezontepec 20.05 306 eP P 18 31 15.7 -4.1
UNM Universidad Na 20.07 307 *i* P **P 18 31 21.0 +0.9**
UNM *i* S **S 18 35 01.1 +2.4**
PTVM Pico Tres Padr 20.16 308 eP P 18 31 21.8 +0.8
SZVM Salazar 20.23 307 eP P 18 31 22.9 +1.2
MDVM Presa Madin 20.24 307 *i* P **P 18 31 23.5 +1.7**
NNA Nana 20.27 164⇑ *i* P **P 18 31 19.1 -3.1**
comp=Z,363nm,1.0s
NNA LR LR
comp=Z,3µm,20.0s,MS4.7
DWPF Disney 20.34 2 eP P 18 31 23.9 +1.1
comp=Z,230nm,0.9s
DWPF LR LR
comp=Z,10µm,19.0s,MS5.2
TPP Pointe-a-Pierr 20.74 81 eP P 18 31 27.0 -0.1
GRW Mount Saint Ca 20.79 76 eP P 18 31 28.2 +0.7
TRN Trinidad (W) 20.82 80 eP P 18 31 26.4 -1.5
ZIIG Zihuatanejo 21.13 300 *i* P **P 18 31 30.6 -0.4**
TBH Brigand Hill 21.14 81 eP P 18 31 30.4 -0.6
SKDB Saint Kitts 2 21.30 61 eP P 18 31 34.4 +1.7
SKI Saint Kitts 21.34 61 eP P 18 31 32.4 -0.7
SKTB Turtle Beach 21.39 62 eP P 18 31 33.6 -0.1
SVB Belmont 21.41 73 eP P 18 31 34.3 +0.5
TPR Prospect 21.50 79 eP P 18 31 32.8 -1.9
LZG Guadaloupe-1 21.74 65 eP P 18 31 36.9 -0.2
TBG Guadaloupe-3 21.76 66 eP P 18 31 37.2 -0.1
BBL Barber's Block 21.82 67 eP P 18 31 37.8 -0.1
MDN Morne-Daniel 21.82 68 eP P 18 31 34.5 -3.4
DOG Dongo Capester 21.85 66 eP P 18 31 38.2 0.0
MOIG Morelia 21.87 305 *i* P **P 18 31 40.0 +1.6**
FDF Fort de France 21.87 69⇑ iP P 18 31 37.9 -0.6
BPA Boggy Peak 22.00 63 eP P 18 31 39.1 -0.7
MGG Marie-Galante 22.08 66 eP P 18 31 41.7 +1.2
CRM Caravelle 22.10 70⇓ eP P 18 31 40.4 -0.3
CPB Codrington 22.26 62 eP P 18 31 41.4 -0.9
DEG La Desirade 22.45 66 eP P 18 31 44.5 +0.3
SAML Samuel 25.20 131 eP P 18 32 08.1 -2.9
comp=Z,0.4nm,0.3s
SAML LR LR
comp=Z,13µm,20.0s,MS5.4
NHSC New Hope 25.38 4 eP P 18 32 14.3 +1.8
comp=Z,319nm,1.1s,mb5.8
NHSC LR LR
comp=Z,12µm,20.0s,MS5.4
LRAL Lakeview Retre 25.61 351⇑ eP P 18 32 14.4 -0.2
comp=Z,191nm,1.1s,mb5.5
LRAL LR LR
comp=Z,6µm,19.0s,MS5.1
GOGA Godfrey 25.63 358 P **P 18 32 15.3 +0.5**
GOGA pmax pmax
comp=Z,170nm,1.0s,mb5.5
GOGA Godfrey 25.63 358 eP P 18 32 15.5 +0.6
comp=Z,168nm,1.0s,mb5.5
GOGA LR LR
comp=Z,7µm,19.0s,MS5.2
ARE Arequipa 26.26 156⇓ *i* P **P 18 32 20.9 +0.1**
JSC Jenkinsville 26.49 2 eP P 18 32 23.2 +0.4
JSC *e* 18 35 45.7
NATX Nacogdoches 26.59 336⇑ *i* P **P 18 32 22.7 -1.0**
comp=Z,153nm,0.9s,mb5.5
NATX LR LR
comp=Z,5µm,21.0s,MS5.0
OXF Oxford 27.50 347 eP P 18 32 30.5 -1.5
OXF *e* 18 35 49.0
OXF pmax pmax
comp=Z,176nm,1.1s,mb5.5
OXF MLR MLR
comp=Z,5µm,20.0s,MS5.1
OXF Oxford 27.50 347 eP P 18 32 30.4 -1.5
comp=Z,176nm,1.1s,mb5.5
OXF ePcP PcP 18 35 49.0 -1.2
OXF LR LR
comp=Z,5µm,20.0s,MS5.1
SWET Sewanee 27.61 354 eP P 18 32 31.4 -1.7
SWET ePcP PcP 18 35 48.2 -2.2
LPAZ La Paz 27.63 150 P **P 18 32 32.0 -1.3**
comp=Z,29nm,0.9s,mb4.9,baz=338,slow=12,SNR=87
LPAZ LR 18 44 48.7
comp=Z,17µm,19.2s,MS5.6,baz=316,slow=39
LPAZ La Paz 27.63 150 *i*P **P 18 32 31.3 -2.0**
LPAZ pmax pmax
comp=Z,91nm,1.2s
LPAZ MLR MLR
comp=Z,16µm,20.0s
LPAZ La Paz 27.63 150⇑ *i* P **P 18 32 31.3 -2.0**
comp=Z,91nm,1.2s,mb5.3
LPAZ LR LR
comp=Z,16µm,20.0s,MS5.6
CPCT Cooper Cave 27.71 356 eP P 18 32 33.8 -0.2
MAIG Mazatlaan 27.84 306 *i* P **P 18 32 36.9 +1.7**
JCT Junction City 28.00 326⇑ *i*P **P 18 32 35.5 -1.0**
JCT *e* 18 35 51.1
JCT pmax pmax
comp=Z,391nm,1.2s,mb5.9
JCT MLR MLR
comp=Z,6µm,22.0s,MS5.1
JCT Junction City 28.00 326⇑ *i* P **P 18 32 35.5 -1.0**
comp=Z,392nm,1.2s,mb5.9
JCT ePcP PcP 18 35 51.1 -0.3
JCT LR LR
comp=Z,6µm,22.0s,MS5.1
UALR University of 28.51 342⇑ *i*P **P 18 32 39.7 -1.4**
comp=Z,79nm,0.9s,mb5.4
MIAR Mount Ida 28.69 340 P **P 18 32 41.4 -1.3**
MIAR pmax pmax
comp=Z,150nm,1.4s,mb5.5
MIAR Mount Ida 28.69 340⇑ eP P 18 32 41.3 -1.5
comp=Z,152nm,1.4s,mb5.5
MIAR LR LR
comp=Z,6µm,21.0s,MS5.2
TZTN Tazewell 28.75 358 eP P 18 32 36.8 -6.5
WVT Waverly 28.77 351 P **P 18 32 41.0 -2.4**
WVT pmax pmax
comp=Z,77nm,0.8s,mb5.5
WVT Waverly 28.77 351 eP P 18 32 41.8 -1.6
comp=Z,77nm,0.8s,mb5.5
WVT ePcP PcP 18 35 51.7 -1.6
WVT LR LR
comp=Z,4µm,21.0s,MS5.0
HBAR Harrisburg 28.79 346 eP P 18 32 42.7 -0.9
HALT Halls 28.83 348 eP P 18 32 42.2 -1.8
GNAR Gosnell 29.03 347 eP P 18 32 44.7 -1.1
comp=Z,440nm,1.0s,mb6.1
UTMT University of 29.16 349 eP P 18 32 45.6 -1.3
comp=Z,289nm,1.1s,mb5.9
GLAT Glass 29.17 348 eP P 18 32 45.8 -1.3
BLA Blacksburg 29.45 3 eP P 18 32 49.6 +0.1
BLA pmax pmax
comp=Z,60nm,0.9s,mb5.3
BLA MLR MLR
comp=Z,9µm,20.0s,MS5.4
BLA Blacksburg 29.45 3 eP P 18 32 49.6 +0.1
comp=Z,60nm,0.9s,mb5.3
BLA LR LR
comp=Z,9µm,20.0s,MS5.4
LTX Lajitas 29.47 320⇑ *i*P **P 18 32 49.9 0.0**
LTX pmax pmax
comp=Z,141nm,1.0s,mb5.7
LTX MLR MLR
comp=Z,4µm,22.0s,MS5.0
LTX Lajitas 29.47 320⇑ *i*P **P 18 32 49.9 0.0**
comp=Z,141nm,1.0s,mb5.7
LTX LR LR
comp=Z,4µm,22.0s,MS5.0
TXAR Lajitas Array 29.47 320 P **P 18 32 49.6 -0.2**
comp=Z,63nm,0.8s,mb5.4,baz=131,slow=9.1,SNR=192
TXAR PcP PcP 18 35 56.0 +0.9
comp=Z,7.5nm,0.8s,baz=142,slow=6.5,SNR=6.7
TXAR LR LR 18 46 20.8
comp=Z,4µm,21.9s,MS5.0,baz=140,slow=40
BBSR BB Station 29.51 31 eP P 18 32 49.8 -0.4
comp=Z,109nm,0.8s,mb5.6
BBSR LR LR
comp=Z,8µm,21.0s,MS5.3
PARMO Parma 29.64 348 eP P 18 32 50.2 -1.1
WCI Wyandotte Cave 30.63 354 eP P 18 32 58.4 -1.6
WCI *e* 18 35 56.7
WCI pmax pmax
comp=Z,89nm,0.8s,mb5.7
WCI MLR MLR
comp=Z,3µm,22.0s,MS4.9
WCI Wyandotte Cave 30.63 354 eP P 18 32 58.4 -1.6
comp=Z,89nm,0.8s,mb5.7
WCI ePcP PcP 18 35 56.7 -1.2
WCI LR LR
comp=Z,3µm,22.0s,MS4.9
CBN Corbin 30.71 8 PFAKE 18 33 10.0 +9.3
CBN LR LR
comp=Z,11µm,19.0s,MS5.5
WMOK Wichita Mounta 30.91 333⇑ *i*P **P 18 33 00.1 -2.4**
WMOK pmax pmax
comp=Z,61nm,0.9s,mb5.4
WMOK MLR MLR
comp=Z,6µm,22.0s,MS5.2
WMOK Wichita Mounta 30.91 333⇑ *i*P **P 18 33 00.1 -2.4**
comp=Z,61nm,0.9s,mb5.4
WMOK LR LR
comp=Z,6µm,22.0s,MS5.2
FVM French Village 31.06 347⇑ eP P 18 33 02.5 -1.3
FVM *e* 18 35 58.0
FVM pmax pmax
comp=Z,66nm,0.9s,mb5.5
FVM French Village 31.06 347⇑ eP P 18 33 02.5 -1.3
comp=Z,66nm,0.9s,mb5.5
FVM ePcP PcP 18 35 58.0 -1.0
LPIG La Paz 31.41 305 *i* P **P 18 33 08.1 +1.1**
BLO Bloomington 31.59 354 eP P 18 33 06.7 -1.7
BLO pmax pmax
comp=Z,122nm,0.7s,mb5.8
BLO Bloomington 31.59 354 eP P 18 33 06.7 -1.8
comp=Z,122nm,0.7s,mb5.8
SLM Saint Louis 31.64 348 eP P 18 33 06.7 -2.2
SLM pmax pmax
comp=Z,146nm,0.8s,mb5.9
SLM Saint Louis 31.64 348 eP P 18 33 06.7 -2.2
comp=Z,146nm,0.8s,mb5.9
MCWV Mont Chateau 31.91 4 eP P 18 33 12.6 +1.3
comp=Z,51nm,0.9s,mb5.3
MCWV LR LR
comp=Z,10µm,19.0s,MS5.5
SDMD Soldier's Deli 31.97 8 eP P 18 33 09.4 -2.4
MNTX Cornudas Mount 32.16 321⇑ iP P 18 33 13.1 -0.5
comp=Z,159nm,0.9s,mb5.8
MNTX LR LR
comp=Z,3µm,21.0s,MS5.0
ACSO Alum Creek Sta 32.42 359 eP P 18 33 15.3 -0.4
comp=Z,66nm,0.8s,mb5.5
ACSO LR LR
comp=Z,4µm,19.0s,MS5.2
MVL Millersville 32.62 8 eP P 18 33 18.1 +0.7
MVL ePcP PcP 18 36 02.2 -1.1
LVC Limon Verde 32.83 157 eP P 18 33 18.1 -1.3
comp=Z,142nm,1.3s,mb5.7
LVC LR LR
comp=Z,12µm,21.0s,MS5.6
KSU1 Kansas State U 33.84 340⇑ *i*P **P 18 33 26.2 -1.8**
KSU1 ePcP PcP 18 36 05.3 -1.3
ALLY Alegheny Colle 33.88 3 eP P 18 33 27.3 -1.1
ERPA Erie 34.36 3 eP P 18 33 31.4 -1.1
comp=Z,104nm,1.3s,mb5.6
ERPA LR LR
comp=Z,6µm,21.0s,MS5.3
AAM Ann Arbor 34.50 358 PFAKE 18 33 50.0 +16
AAM LR LR
comp=Z,12µm,19.0s,MS5.7
CBKS Cedar Bluff 34.76 336 P **P 18 33 35.5 -0.5**
CBKS pmax pmax
comp=Z,58nm,0.8s,mb5.6
CBKS Cedar Bluff 34.76 336 eP P 18 33 35.0 -1.0
comp=Z,58nm,0.8s,mb5.6
CBKS LR LR
comp=Z,7µm,22.0s,MS5.4
ANMO Albuquerque 35.07 324⇓ *i*P **P 18 33 37.9 -0.7**
ANMO Albuquerque 35.07 324⇑ *i*P **P 18 33 39.0 +0.3**
comp=Z,204nm,1.0s,mb6.0
ANMO LR LR
comp=Z,5µm,21.0s,MS5.2
WES Weston 35.90 14 PFAKE 18 34 00.0 +14
WES LR LR
comp=Z,9µm,19.0s,MS5.5
TUC Tucson 36.08 317 P **P 18 33 48.2 +1.0**
TUC pmax pmax
comp=Z,320nm,1.0s,mb6.2
TUC Tucson 36.08 317⇑ *i*P **P 18 33 49.0 +1.7**
comp=Z,321nm,1.0s,mb6.2
TUC LR LR
comp=Z,8µm,20.0s,MS5.5
ACCN Adirondack Com 36.36 11 eP P 18 33 50.2 +0.8
SDCO Great Sand Dun 36.58 328⇑ *i*P **P 18 33 52.0 +0.6**
comp=Z,293nm,1.1s,mb6.0
SDCO ePcP PcP 18 36 15.2 +0.5
SDCO LR LR
comp=Z,3µm,20.0s,MS5.0
NCB Newcomb 36.83 10 eP P 18 33 54.3 +0.9
comp=Z,62nm,1.1s,mb5.3
NCB LR LR
comp=Z,7µm,21.0s,MS5.4
MDV Middlebury 37.04 11 eP P 18 33 56.0 +0.7
MIV Mineville/With 37.05 10 eP P 18 33 55.1 -0.2
LOZ Lake Ozonia 37.41 9 eP P 18 33 58.7 +0.5
LBNH Lisbon 37.52 12 PFAKE 18 34 10.0 +11
LBNH LR LR
comp=Z,9µm,21.0s,MS5.6
FRNY Flat Rock 37.78 10 eP P 18 34 02.9 +1.5
FRNY ePcP PcP 18 36 17.2 -1.0
ISCO Idaho Springs 38.20 330 P **P 18 34 05.6 +0.6**
ISCO pmax pmax
comp=Z,280nm,1.7s,mb5.7
ISCO Idaho Springs 38.20 330⇑ *i*P **P 18 34 05.4 +0.4**
comp=Z,282nm,1.8s,mb5.7
ISCO ePcP PcP 18 36 20.3 +0.7
ISCO LR LR
comp=Z,4µm,19.0s,MS5.2
SMCO Snowmass 38.42 329⇑ *i*P **P 18 34 07.8 +0.9**
comp=Z,108nm,1.0s,mb5.5
WUAZ Wupatki 38.43 320⇑ *i*P **P 18 34 09.0 +2.0**
comp=Z,394nm,1.3s,mb6.0
WUAZ LR LR
comp=Z,7µm,20.0s,MS5.5
PV01 Paradox Valley 38.52 326 eP P 18 34 08.4 +0.7
PV10 Paradox Valley 38.95 326 eP P 18 34 11.5 +0.2
PHWY Pilot Hill 39.30 332 eP P 18 34 14.5 +0.3
GLA Glamis 39.30 315⇑ *i*P **P 18 34 16.4 +2.1**
SRU San Rafael 40.29 325 P **P 18 34 23.0 +0.6**
SRU pmax pmax
comp=Z,320nm,0.9s,mb6.0
SRU San Rafael 40.29 325⇑ *i*P **P 18 34 23.2 +0.8**
comp=Z,322nm,0.9s,mb6.0
SRU ePcP PcP 18 36 26.3 0.0
RWWY Rawlins 40.43 331 eP P 18 34 24.0 +0.5
comp=Z,232nm,1.3s,mb5.8
BAR Barrett 40.43 313⇑ *i*P **P 18 34 25.3 +1.7**
PFO Pinyon Flat Ob 40.75 314 P **P 18 34 27.8 +1.6**
PFO pmax pmax
comp=Z,160nm,1.0s,mb5.6
PFO Pinyon Flat Ob 40.75 314⇑ *i*P **P 18 34 28.3 +2.1**
comp=Z,159nm,1.0s,mb5.6
PFO LR LR
comp=Z,1µm,20.0s,MS4.7
NEN Nelson 40.76 318 eP P 18 34 27.7 +1.4
TMUT Trail Mountain 40.81 325⇑ *i*P **P 18 34 27.5 +0.9**
TMUT ePcP PcP 18 36 28.3 +0.4
MSU Marysvale 40.85 323 P **P 18 34 28.2 +1.3**
MSU Marysvale 40.85 323 eP P 18 34 28.1 +1.2
MVU Marysvale 40.86 323⇑ *i*P **P 18 34 30.9 +3.9**
comp=Z,120nm,0.9s,mb5.5
MVU LR LR
comp=Z,5µm,20.0s,MS5.4
EYMN Ely 40.88 351 eP P 18 34 24.9 -2.2
comp=Z,41nm,0.9s,mb5.1
EYMN LR LR
comp=Z,6µm,21.0s,MS5.5
RSSD Black Hills 40.96 336 P **P 18 34 28.3 +0.5**
RSSD pmax pmax
comp=Z,91nm,1.2s,mb5.3
RSSD Black Hills 40.96 336⇑ *i*P **P 18 34 28.1 +0.3**
comp=Z,92nm,1.2s,mb5.3
RSSD ePcP PcP 18 36 28.1 -0.2
RSSD LR LR
comp=Z,4µm,22.0s,MS5.3
BDFB Brasilia 41.10 124 P **P 18 34 26.8 -2.4**
comp=Z,27nm,0.9s,mb4.9,baz=288,slow=9.4,SNR=29
BDFB LR LR 18 52 29.2
comp=Z,14µm,19.7s,MS5.8,baz=309,slow=38
BDFB Brasilia 41.10 124 P **P 18 34 26.8 -2.4**
BDFB LR LR 18 52 29.2
BAO Brasilia Array 41.12 124 eP P 18 34 27.5 -1.8
ARUT Antelope Range 41.15 321 P **P 18 34 31.4 +2.0**
ARUT Antelope Range 41.15 321 eP P 18 34 30.8 +1.4
MPU Maple Canyon 41.54 325⇑ *i*P **P 18 34 33.3 +0.7**
comp=Z,201nm,1.0s,mb5.7
MPU ePcP PcP 18 36 30.6 +0.3
MPU LR LR
comp=Z,6µm,22.0s,MS5.4
CPUP Villa Florida 41.59 145⇑ eP P 18 34 29.9 -3.3
comp=Z,94nm,0.9s,mb5.4
CPUP LR LR
comp=Z,1µm,19.0s,MS4.7
DAU Daniels Canyon 41.60 326 P **P 18 34 34.3 +1.2**
DAU Daniels Canyon 41.60 326 eP P 18 34 33.9 +0.8
DAU ePcP PcP 18 36 31.4 +0.9
NLU North Lily Min 41.74 325 eP P 18 34 34.2 -0.2
NLU ePcP PcP 18 36 30.9 -0.1
PEL Peldehue 42.07 165⇑ *i*P **P 18 34 33.1 -4.0**
TCUT Toone Canyon 42.17 327⇑ *i*P **P 18 34 38.5 +0.7**
TCUT ePcP PcP 18 36 33.0 +0.6
MWC Mount Wilson 42.21 314 P **P 18 34 39.7 +1.5**
MWC Mount Wilson 42.21 314⇑ *i*P **P 18 34 40.2 +1.9**
NOQ North Oquirrh 42.24 326⇑ *i*P **P 18 34 38.9 +0.5**
comp=Z,251nm,1.0s,mb5.8
DUG Dugway 42.33 325 P **P 18 34 39.9 +0.8**
DUG pmax pmax
comp=Z,59nm,1.0s,mb5.2
DUG Dugway 42.33 325⇑ *i*P **P 18 34 39.8 +0.7**
comp=Z,59nm,0.9s,mb5.2
DUG LR LR
comp=Z,5µm,20.0s,MS5.4
FCH Farellones 42.34 165⇑ *i*P **P 18 34 38.2 -1.1**
BW06 Boulder Array 42.39 330⇑ *i*P **P 18 34 39.4 -0.2**
comp=Z,124nm,1.3s,mb5.4
BW06 ePcP PcP 18 36 32.7 -0.4
BW06 LR LR
comp=Z,4µm,21.0s,MS5.2
PDAR Pinedale Array 42.39 330 P **P 18 34 39.1 -0.4**
comp=Z,53nm,1.2s,mb5.1,baz=141,slow=9.5,SNR=126
PDAR PcP PcP 18 36 32.5 -0.6
comp=Z,14nm,0.9s,baz=129,slow=6.2,SNR=8.2
PDAR LR LR 18 55 20.1
comp=Z,3µm,21.8s,MS5.1,baz=323,slow=40
HWUT Hardware Ranch 42.59 327 eP P 18 34 41.1 -0.2
comp=Z,285nm,1.1s,mb5.9
HWUT ePcP PcP 18 36 33.7 -0.1
HWUT LR LR
comp=Z,5µm,22.0s,MS5.4
SPUT South Promonto 42.87 326⇑ *i*P **P 18 34 44.1 +0.5**
SPUT ePcP PcP 18 36 34.5 -0.3
BGU Big Grassy Mou 42.94 325⇑ *i*P **P 18 34 45.5 +1.4**
BGU ePcP PcP 18 36 34.0 -0.9
DAC Darwin (Calif) 42.96 317 P **P 18 34 45.9 +1.5**
DAC pmax pmax
comp=Z,230nm,1.0s,mb5.9
DAC Darwin (Calif) 42.96 317⇑ *i*P **P 18 34 46.1 +1.8**
comp=Z,232nm,1.1s,mb5.8
AHID Auburn Hatcher 43.17 329⇑ *i*P **P 18 34 45.8 -0.1**
comp=Z,40nm,0.8s,mb5.2
AHID ePcP PcP 18 36 35.7 0.0
AHID LR LR
comp=Z,3µm,20.0s,MS5.2
ISA Isabella 43.24 315⇑ *i*P **P 18 34 48.5 +1.9**
comp=Z,452nm,1.6s,mb6.0
ISA LR LR
comp=Z,694nm,20.0s,MS4.6
HVU Hansel Valley 43.37 326 P **P 18 34 47.8 +0.2**
HVU pmax pmax
comp=Z,91nm,0.9s,mb5.5
HVU Hansel Valley 43.37 326 eP P 18 34 47.8 +0.2
comp=Z,90nm,0.9s,mb5.5
RPN Rapa Nui 43.40 216 PFAKE 18 35 00.0 +12
RPN LR LR
comp=Z,1µm,20.0s,MS4.9
REDW Red Top Meadow 43.47 330⇑ *i*P **P 18 34 48.6 +0.2**
comp=Z,173nm,1.1s,mb5.7
SNOW Snow King Moun 43.50 330⇑ *i*P **P 18 34 48.9 +0.3**
comp=Z,69nm,0.9s,mb5.4
LOHW Long Hollow 43.53 330⇑ *i*P **P 18 34 49.0 +0.1**
comp=Z,117nm,1.3s,mb5.5
MOOW Moose Ponds 43.70 330⇑ *i*P **P 18 34 50.3 +0.1**
comp=Z,62nm,1.0s,mb5.3
MOOW *e* 18 36 37.5
TPH Tonopah 43.72 319 P **P 18 34 52.2 +1.8**
TPH pmax pmax
comp=Z,850nm,1.1s,mb6.4
TPH Tonopah 43.72 319⇑ *i*P **P 18 34 52.4 +2.0**
comp=Z,848nm,1.1s,mb6.4
TPH LR LR
comp=Z,6µm,19.0s,MS5.5
IMW Indian Meadow 43.90 330⇑ *i*P **P 18 34 51.9 0.0**
comp=Z,64nm,0.9s,mb5.3
IMW *e* 18 36 38.4
ULM Lac du Bonnet 43.92 347 P **P 18 34 49.5 -2.4**
comp=Z,142nm,0.8s,mb5.8,baz=156,slow=7.9,SNR=209
ULM PcP PcP 18 36 37.0 -1.1
comp=Z,20nm,0.8s,baz=188,slow=3.1,SNR=3.4
LAO LASA Array 43.95 336⇑ *i*P **P 18 34 51.6 -0.7**
comp=Z,192nm,1.3s,mb5.7
LAO *e* 18 36 37.8
LAO LR LR
comp=Z,3µm,20.0s,MS5.2
LKWY Lake 44.13 331 *e*P **P 18 34 54.9 +1.2**
LKWY pmax pmax
comp=Z,34nm,0.8s,mb5.1
LKWY Lake 44.13 331 *e*P **P 18 34 54.5 +0.8**
comp=Z,34nm,0.8s,mb5.1
LKWY LR LR
comp=Z,7µm,21.0s,MS5.6
YFT Old Faithful 44.26 331⇑ *e*P **P 18 34 56.2 +1.4**
YFT *e* 18 36 40.5
YMR Madison River 44.48 331⇑ *i*P **P 18 34 57.1 +0.6**
comp=Z,92nm,0.9s,mb5.5
YMR LR LR
comp=Z,5µm,21.0s,MS5.4
NVAR Mina Array Bea 44.62 319 P **P 18 34 59.2 +1.4**
comp=Z,334nm,0.8s,mb6.2,baz=117,slow=8.8,SNR=1060
NVAR PcP PcP 18 36 41.6 +0.9
comp=Z,20nm,1.0s,baz=114,slow=6.4,SNR=3.6
NVAR Mina Array Bea 44.62 319 P **P 18 34 59.2 +1.4**
NVAR PcP PcP 18 36 41.6 +0.9
DGMT Dagmar 44.68 339⇑ *i*P **P 18 34 57.7 -0.4**
comp=Z,186nm,0.8s,mb6.0
DGMT LR LR
comp=Z,6µm,22.0s,MS5.4
GCMT Greycliff 44.71 333 eP P 18 34 58.0 -0.4

QLMT Earthquake Lak 44.83 331 *e*P P **18 35 00.2 +0.9**
CCHI Chillan 45.08 168⇑*i*P P **18 34 59.5 -1.9**
LRV Little Rabbit 45.41 315 *e*P P **18 35 05.0 +1.0**
HLID Hailey 45.47 327⇑*i*P P **18 35 04.6 +0.2**
comp=Z,93nm,0.8s,mb5.7
HLID LR LR
comp=Z,6μm,20.0s,MS5.5
BOZ Bozeman (W) 45.52 331⇑*i*P P **18 35 04.7 -0.1**
comp=Z,97nm,1.0s,mb5.7
BOZ LR LR
comp=Z,4μm,21.0s,MS5.3
MCMT McKenzie Canyo 45.53 330 *e*P P **18 35 05.8 +0.9**
DLMT Dillon 45.78 330⇑*i*P P **18 35 06.8 -0.1**
comp=Z,128nm,1.3s,mb5.7
HRY Holter Researc 46.40 332 *e*P P **18 35 11.5 -0.2**
EGMT Eagleton 46.47 335⇑*i*P P **18 35 11.8 -0.5**
comp=Z,107nm,1.3s,mb5.6
EGMT LR LR
comp=Z,3μm,22.0s,MS5.2
WVOR Wild Horse Val 47.14 323 *e*P P **18 35 18.1 +0.5**
comp=Z,2μm,1.4s
WVOR LR LR
comp=Z,7μm,20.0s,MS5.6
OHCM Honcut 47.20 318 *e*P P **18 35 19.0 +0.8**
CHMT Chamberlain Mo 47.21 331 *e*P P **18 35 17.3 -0.9**
MSO Missoula 47.48 331⇑*i*P P **18 35 19.9 -0.4**
comp=Z,30nm,0.8s,mb5.3
MSO *e*PcP PcP 18 36 51.0 +0.4
MSO LR LR
comp=Z,2μm,20.0s,MS5.2
NSHM Saint Helena R 47.54 317 *e*P P **18 35 21.9 +1.0**
BMO Blue Mountains 47.88 327 *e*P P **18 35 21.9 -1.6**
comp=Z,56nm,1.0s,mb5.5
RCBR Riachuelo 48.18 105 *e*P P **18 35 24.5 -1.7**
comp=Z,119nm,1.5s,mb5.7
RCBR LR LR
comp=Z,8μm,19.0s,MS5.7
LPA La Plata 48.20 153*de*P P **18 35 22.0 -4.1**
LPA *es*P sP 18 35 31.0 -7.6
LPA *eS* **S 18 42 24.0 +1.6**
LPA *es*S 18 42 32.0
comp=Z,8μm,19.0s
SCHQ Schefferville 48.62 12 P P **18 35 26.9 -2.2**
comp=Z,28nm,0.9s,mb5.3,baz=187,slow=7.4,SNR=24
SCHQ PcP PcP 18 36 53.2 -1.4
comp=Z,57nm,0.8s,baz=184,slow=1.6,SNR=12
SCHQ LR LR 18 57 50.7
comp=Z,5μm,19.7s,MS5.5,baz=201,slow=38
SCHQ Schefferville 48.62 12 *e*P P **18 35 27.3 -1.7**
comp=Z,52nm,1.0s,mb5.5
SCHQ *e*PcP PcP 18 36 52.8 -1.8
SCHQ LR LR
comp=Z,8μm,19.0s,MS5.7
LHEM Herd Peak 48.88 320 P P **18 35 31.8 +0.6**
HOG Hogback Mounta 48.89 321 P P **18 35 32.7 +1.4**
VSP Spence Mountai 49.10 321 P P **18 35 33.7 +0.8**
BUOR Burton Butte 49.25 321 P P **18 35 34.5 +0.5**
YBH Yreka Blue Hor 49.25 320 LR LR 19 00 58.1
comp=Z,4μm,20.1s,MS5.5,baz=144,slow=42
TRQA Tornquist 49.28 159 *e*P P **18 35 31.6 -2.8**
comp=Z,166nm,1.4s,mb5.9
TRQA LR LR
comp=Z,6μm,20.0s,MS5.6
PLCA Paso Flores 49.37 168 P P **18 35 32.3 -2.7**
comp=Z,23nm,0.9s,mb5.2,baz=342,slow=9.2,SNR=56
PLCA Paso Flores 49.37 168 *e*P P **18 35 32.3 -2.7**
PLCA pmax pmax
comp=Z,98nm,1.2s
PLCA MLR MLR
comp=Z,3μm,20.0s
PLCA Paso Flores 49.37 168 *e*P P **18 35 32.3 -2.7**
comp=Z,98nm,1.2s,mb5.7
PLCA LR LR
comp=Z,3μm,20.0s,MS5.3
NEW Newport 50.03 330 LR LR 18 59 30.6
comp=Z,3μm,19.2s,MS5.4,baz=135,slow=39
NEW Newport 50.03 330 *e*P P **18 35 38.7 -1.3**
NEW pmax pmax
comp=Z,40nm,1.0s
NEW MLR MLR
comp=Z,6μm,22.0s
NEW Newport 50.03 330 *e*P P **18 35 38.7 -1.3**
comp=Z,40nm,1.0s,mb5.4
NEW LR LR
comp=Z,6μm,22.0s,MS5.5
HAWA Hanford 50.06 327⇑*i*P P **18 35 39.3 -0.9**
comp=Z,11nm,1.2s,mb4.8
HAWA *e*PcP PcP 18 37 00.3 +0.4
HAWA LR LR
comp=Z,313nm,20.0s
WTV Waterville 51.11 328 P P **18 35 47.9 -0.2**
COR Corvallis 51.15 323 P P **18 35 49.0 +0.5**
COR pmax pmax
comp=Z,2.0nm,1.6s
COR Corvallis 51.15 323 *e*P P **18 35 48.6 +0.1**
comp=Z,2.1nm,1.6s
FCC Fort Churchill 51.76 352 *e*P P **18 35 51.2 -1.8**
FCC pmax pmax
comp=Z,240nm,1.6s,mb5.9
FCC Fort Churchill 51.76 352 *e*P P **18 35 51.2 -1.7**
comp=Z,240nm,1.6s,mb5.9
EDM Edmonton 51.93 337⇑*i*P P **18 35 52.9 -1.4**
OCWA Octopus Mounta 53.42 326 *e*P P **18 36 05.1 -0.4**
comp=Z,60nm,0.9s,mb5.5
OCWA LR LR
comp=Z,7μm,21.0s,MS5.7
PTCN Pitcairn Islan 56.79 233 PFAKE 18 36 40.0 +10
PTCN LR LR
comp=Z,4μm,19.0s,MS5.5
PTCA Ponta do Capel 57.00 49 *e*P P **18 36 31.5 -0.1**
comp=Z,49nm,0.5s,mb5.8
CALA Caldeira 57.07 49 *e*P P **18 36 33.4 +1.3**
PCED Cedros 57.09 49 *e*P P **18 36 33.5 +1.3**
comp=Z,236nm,1.2s,mb6.1
PCND Candelaria 57.22 49 *e* 18 36 33.7
PICO Pico 57.25 49 *e*P P **18 36 34.6 +1.2**
PBOI Pico dos Bois 57.27 49 *e*P P **18 36 35.0 +1.5**
comp=Z,110nm,1.1s,mb5.8
PPNO Prainha do Nor 57.36 49 *e*P P **18 36 35.3 +1.1**
comp=Z,248nm,1.3s,mb6.1
ROSA Rosais 57.46 49 *e*P P **18 36 35.6 +0.8**
PAMA Santo Amaro 57.49 49 *e*P P **18 36 36.4 +1.4**
comp=Z,152nm,1.1s,mb5.9
PMAN Manadas 57.54 49 *e*P P **18 36 36.1 +0.7**
comp=Z,500nm,1.1s,mb6.5
PGRA Graciosa 57.74 48 *e*P P **18 36 36.1 -0.7**
comp=Z,178nm,0.7s,mb6.2
BBB Bella Bella 58.01 329 LR LR 19 07 24.9
comp=Z,3μm,18.4s,MS5.4,baz=130,slow=42
ASBA Santa Barbara 58.14 49 *e*P P **18 36 36.9 -2.7**
comp=Z,212nm,1.0s,mb6.1
PSBA Serra de Santa 58.15 49 *e*P P **18 36 39.1 -0.6**
comp=Z,212nm,1.0s,mb6.1
PPAD Pico dos Padre 58.16 49 *e*P P **18 36 40.9 +1.2**
comp=Z,82nm,0.9s,mb5.8
PBIS Biscoitos 58.21 49 *e*P P **18 36 40.7 +0.7**
comp=Z,84nm,0.8s,mb5.8
RIB2 Ribeirinha 58.24 49 *e*P P **18 36 41.4 +1.1**
comp=Z,112nm,1.0s,mb5.8
PVNV Vila Nova 58.28 49 *e*P P **18 36 41.0 +0.5**
comp=Z,62nm,0.8s,mb5.7
PSCM Serra do Cume 58.29 49 *e*P P **18 36 41.6 +1.0**
comp=Z,159nm,1.2s,mb5.9
PFAV Pico das Favas 58.32 49 *e*P P **18 36 42.1 +1.3**
SET2 Ginetes 59.04 50 *e*P P **18 36 43.7 -2.2**
SET4 Mosteiros 59.05 50 *e*P P **18 36 47.3 +1.3**
PSET Sete Cidades 59.10 50 *e*P P **18 36 50.7 +4.4**
comp=Z,198nm,1.2s,mb6.0
PDA Ponta Delgada 59.12 50 *i* LR LR 18 54 38.0
CML Cha da Macela 59.22 50 *e*P P **18 36 47.5 +0.4**
PVER Pico Vermelho 59.25 50 *e*P P **18 36 47.5 +0.2**
comp=Z,68nm,0.6s,mb5.8
PRCH Ribeira Ch 59.26 51 *e*P P **18 36 48.6 +1.2**
comp=Z,88nm,0.6s,mb6.0
LFA Lagoa do Fogo 59.27 50 *e*P P **18 36 48.6 +1.1**
PMAT Coroa da Mata 59.29 50 *e*P P **18 36 49.4 +1.8**
comp=Z,105nm,0.8s,mb5.9
VIF Vila Franca 59.30 51 *e*P P **18 36 49.4 +1.8**
comp=Z,47nm,0.6s,mb5.7
MESC Monte Escuro 59.30 50 *e*P P **18 36 49.5 +1.8**
PCNG Congro 59.33 51 *e*P P **18 36 49.6 +1.7**
comp=Z,167nm,0.7s,mb6.2
FRA1 Furnas 59.36 51 *e*P P **18 36 49.5 +1.4**
PSMN Pico do Norte, 59.39 51 *e*P P **18 36 46.1 -2.2**
PFAD Fenais da Ajud 59.41 50 *e*P P **18 36 50.2 +1.8**
MIRA Miradouro 59.43 51 *e*P P **18 36 49.7 +1.1**

YKA Yellowknife Ar 59.57 343 P P **18 36 47.1 -2.0**
comp=Z,72nm,0.8s,mb5.7,baz=137,slow=7.0,SNR=650
YKA PKP2bc 19 06 17.9
comp=Z,0.4nm,1.1s,baz=329,slow=2.6,SNR=3.6
YKA Yellowknife Ar 59.57 343 P P **18 36 47.1 -2.0**
YKA ⇑*e* 19 06 17.9
YKW3 Yellowknife Ar 59.63 343⇑*i*P P **18 36 48.2 -1.3**
RKT Rikitea 59.91 238 *e*P P **18 36 53.9 +1.8**
comp=Z,165nm,1.2s,mb6.0
RKT Rikitea 59.91 238 *e*S S **18 45 04.3 +4.0**
RKT *e*SS SS 18 48 58.2 +0.2
RKT *e*LR LR 18 55 07.8
comp=Z,16μm,29.8s,baz=61
TAOE Nuku Hiva Isla 59.95 255 *e*S S **18 45 04.7 +3.8**
TAOE *e*SS SS 18 48 57.5 -1.1
TAOE *e*LQ 18 52 17.1
TAOE *e*LR LR 18 55 06.0
comp=Z,8μm,25.0s
DLBC Dease Lake 62.39 334⇑*i*P P **18 37 08.7 +0.4**
EFI East Falkland 62.68 163 PFAKE 18 37 20.0 +10
EFI LR LR
comp=Z,1μm,20.0s,MS5.1
SFJD Kangerlussuaq 63.02 13⇓*i*P P **18 37 09.6 -2.8**
comp=Z,32nm,0.7s,mb5.6
SFJD *i* 18 37 21.5
SFJD *i* S S **18 45 39.3 +0.1**
SFJD *i* 18 52 56.7
comp=Z,4μm,19.0s
SFJD Kangerlussuaq 63.02 13 *e*P P **18 37 09.4 -3.0**
SFJ Sondre 63.02 13⇓*i*P P **18 37 09.6 -2.8**
comp=Z,32nm,0.7s,mb5.6
SFJ *i* 18 37 21.5
SFJ *i* S S **18 45 39.3 +0.1**
SFJ *i* 18 52 56.7
SFJ LR LR
comp=Z,4μm,19.0s,MS5.6
CHIE El Hierro 63.76 63 P P **18 37 17.4 -0.5**
comp=Z,122nm,0.7s,mb6.0
SIT Sitka 64.10 331 PFAKE 18 37 30.0 +10
SIT LR LR
comp=Z,8μm,21.0s,MS5.9
EGOM La Gomera 64.46 63 P P **18 37 22.2 -0.2**
comp=Z,159nm,0.7s,mb6.2
CCAN Las Canadas 65.00 63 P P **18 37 26.4 +0.5**
comp=Z,50nm,0.8s,mb5.6
EBAJ Bajamar 65.25 62 P P **18 37 27.4 -0.2**
comp=Z,78nm,0.8s,mb5.8
CFTV Fuerteventura 67.23 63 P P **18 37 39.8 -0.4**
comp=Z,43nm,0.9s,mb5.5
RES Resolute Bay 67.36 356 *e*P P **18 37 37.9 -2.3**
RES pmax pmax
comp=Z,64nm,1.1s,mb5.6
RES Resolute Bay 67.36 356 *e*P P **18 37 37.9 -2.3**
comp=Z,64nm,1.1s,mb5.6
EFAM Famara 67.76 62 P P **18 37 43.1 -0.4**
comp=Z,469nm,1.6s,mb6.3
DAWY Dawson 69.15 337⇑*i*P P **18 37 51.3 -0.2**
INK Inuvik 69.27 342 P P **18 37 51.9 -0.3**
comp=Z,93nm,1.1s,mb5.6,baz=125,slow=7.4,SNR=98
INK Inuvik 69.27 342⇑*i*P P **18 37 52.1 -0.1**
INK pmax pmax
comp=Z,208nm,1.3s
INK Inuvik 69.27 342⇑*i*P P **18 37 52.1 -0.1**
comp=Z,208nm,1.3s,mb5.9
SUMG Summit 70.00 13 *e*P P **18 37 55.0 -1.6**
comp=Z,197nm,0.9s,mb6.0
DIV Divide 70.68 333 *e*P P **18 38 00.8 0.0**
comp=Z,241nm,1.3s,mb6.0
DIV LR LR
comp=Z,17μm,20.0s,MS6.3
TVO Taravao 70.78 248 *e*P P **18 38 04.1 +1.9**
comp=Z,192nm,1.4s,mb5.8
BORG Borgarnes 70.95 23 LR LR 19 06 34.2
comp=Z,5μm,21.2s,MS5.7,baz=254,slow=34
BORG Borgarnes 70.95 23 PFAKE 18 38 10.0 +7.5
BORG LR LR
comp=Z,1μm,20.0s,MS5.1
PPT Papeete 71.02 249 *e*P P **18 38 05.0 +1.3**
comp=Z,108nm,1.3s,mb5.6
PPT Papeete 71.02 249 *e*S S 18 47 19.1 +2.7
PPT *e*SS SS 18 51 51.6 -0.2
PPT *e*LQ 18 56 52.6
PPT *e*LR LR 18 59 54.5
comp=Z,3μm,26.0s,baz=62
PPT Papeete 71.02 249 LR LR 19 02 43.3
comp=Z,2μm,18.4s,MS5.3,baz=73,slow=30
PAE Paea 71.05 248 *e*P P **18 38 05.4 +1.5**
comp=Z,229nm,1.1s,mb6.0
POHA Pohakuloa 71.72 288 PFAKE 18 38 20.0 +12
POHA LR LR
comp=Z,5μm,19.0s,MS5.8
PLOU Loures 72.10 52 *e*P P **18 38 09.5 -0.3**
comp=Z,161nm,1.2s,mb5.8
PTEO Sao Teotonio 72.33 53 *e*P P **18 38 11.7 +0.5**
comp=Z,160nm,1.1s,mb5.9
PTEO *e*pP pP 18 38 21.5 +1.0
PMR Palmer 72.36 333 *e*P P **18 38 10.7 -0.3**
PMR pmax pmax
comp=Z,97nm,1.4s,mb5.5
PMR Palmer 72.36 333 *e*P P **18 38 10.7 -0.3**
comp=Z,97nm,1.4s,mb5.5
ILAR Eielson Array 72.41 336 P P **18 38 10.5 -0.7**
comp=Z,31nm,0.7s,mb5.3,baz=113,slow=3.7,SNR=206
ILAR LR LR 19 13 07.3
comp=Z,2μm,20.2s,MS5.3,baz=120,slow=38
TBI Tubuai 72.48 243 *e*S S 18 47 36.8 +3.8
TBI *e*SS SS 18 52 11.9 -2.1
TBI *e*LQ 18 57 23.0
TBI *e*LR LR 19 00 49.4
comp=Z,7μm,28.8s,baz=67
SLKM Skilak Lake 72.57 331 *e*P P **18 38 11.9 -0.3**
EMAZ Mazaricos 72.59 47 P P **18 38 13.0 +0.3**
comp=Z,268nm,1.0s,mb6.1
MOE Montemor 72.69 52 *e*P P **18 38 12.5 -0.9**
MOE *e*- pP 18 38 22.3 -0.4
EZAM Zamans 72.72 48 P P **18 38 13.7 +0.2**
comp=Z,168nm,0.9s,mb6.0
FIB Fire Island 72.72 332 *e*P P **18 38 13.7 +0.6**
comp=Z,87nm,1.0s,mb5.6
FIB LR LR
comp=Z,3μm,20.0s,MS5.5
PTOM Tomar 72.73 51 *e*P P **18 38 13.3 -0.3**
comp=Z,145nm,1.3s,mb5.8
PTOM *e*pP pP 18 38 23.9 +1.1
COLA College 72.84 336*e*/*i*P P **18 38 13.7 0.0**
COLA College 72.84 336⇑*i*P P **18 38 13.5 -0.1**
comp=Z,50nm,0.9s,mb5.5
COLA LR LR
comp=Z,3μm,20.0s,MS5.5
STS Santiago 72.90 48 P P **18 38 14.9 +0.4**
comp=Z,130nm,1.0s,mb5.8
MCK McKinley 72.92 335⇑*e*P P **18 38 14.5 +0.3**
comp=Z,71nm,1.4s,mb5.4
MCK LR LR
comp=Z,2μm,21.0s,MS5.4
EVO Evora 72.96 52 *e*P P **18 38 13.8 -1.1**
comp=Z,242nm,0.9s,mb5.8
EVO *e*R
comp=Z,4μm,22.5s
PBEJ Beja 73.04 53 *e*P P **18 38 15.1 -0.3**
comp=Z,67nm,1.2s,mb5.5
PBEJ *e*pP pP 18 38 25.3 +0.6
KDAK Kodiak Island 73.08 328 P P **18 38 15.3 +0.1**
comp=Z,20nm,0.9s,mb5.0,baz=97,slow=6.1,SNR=3.7
KDAK LR LR 19 15 35.9
comp=Z,2μm,19.1s,MS5.3,baz=111,slow=40
KDAK Kodiak Island 73.08 328 P P **18 38 15.3 +0.1**
KDAK LR LR 19 15 35.9
SCO Scoresbysund 73.15 18 *i* P P **18 38 13.8 -1.6**
comp=Z,22nm,0.9s,mb5.1
ELOB Lobios 73.17 49 P P **18 38 16.7 +0.6**
comp=Z,367nm,1.8s,mb6.0
PVIS Viseu 73.20 50 *e*P P **18 38 16.0 -0.3**
comp=Z,160nm,1.2s,mb5.8
PVIS *e*pP pP 18 38 26.2 +0.6
EGRO El Granado 73.32 53 P P **18 38 17.3 +0.2**
comp=Z,235nm,1.5s,mb5.9
PVRL Vila Real 73.38 49 *e*P P **18 38 17.4 +0.1**
comp=Z,122nm,1.3s,mb5.7
MTE Manteigas 73.45 50 *e*P P **18 38 17.7 0.0**
comp=Z,77nm,1.3s,mb5.5
MTE *e*pP pP 18 38 28.2 +1.2
MTE *e*S S 18 47 51.1 +7.3
MTE *e*LQ 18 57 37.6
MTE *e*LR LR 19 01 23.7
comp=Z,4μm,22.6s

MTE Manteigas 73.45 50 *e*P P **18 38 17.6 -0.1**
comp=Z,58nm,0.8s,mb5.6
PCBR Castelo Branco 73.46 51 *e*P P **18 38 17.4 -0.4**
comp=Z,108nm,0.9s,mb5.8
PCBR *e*pP pP 18 38 27.6 +0.5
PMSA Palmer Station 73.53 172 PFAKE 18 38 30.0 +12
PMSA LR LR
comp=Z,2μm,19.0s,MS5.3
EBAD Badajoz 73.75 52 P P **18 38 18.8 -0.7**
comp=Z,179nm,1.5s,mb5.8
ERUA La Rua 73.89 48 P P **18 38 20.6 +0.4**
comp=Z,99nm,1.0s,mb5.7
EPON Pontenova 73.96 47 P P **18 38 20.1 -0.5**
comp=Z,276nm,1.4s,mb6.0
EMIN Mina Concepcio 73.97 53 P P **18 38 19.9 -1.0**
comp=Z,154nm,1.4s,mb5.7
KIP Kipapa 73.99 290⇑*e*P P **18 38 22.0 +0.8**
ECAL Calabor 74.16 49 P P **18 38 21.5 -0.4**
comp=Z,245nm,1.3s,mb6.0
ESPR Espera 74.58 54 P P **18 38 25.1 +0.7**
comp=Z,135nm,1.0s,mb5.8
EJIF Jimena Fronter 74.88 54 P P **18 38 26.9 +0.7**
comp=Z,34nm,0.8s,mb5.3
DCN Croghan 74.93 37 *e*P P **18 38 22.6 -3.5**
SVW2 Sparrevohn 75.26 331 *e*P P **18 38 27.1 -0.7**
DLF Lyons Farm 75.37 37 *e*P P **18 38 24.8 -3.8**
EARI Arriondas 75.37 47 P P **18 38 28.2 -0.6**
comp=Z,515nm,1.7s,mb6.2
EMIJ Mijas 75.45 54 P P **18 38 28.5 -0.9**
comp=Z,113nm,1.3s,mb5.6
IMA2 Indian Mountai 75.51 336 *e*P P **18 38 29.2 +0.1**
EADA Adamuz 75.64 53 P P **18 38 29.5 -1.0**
comp=Z,74nm,0.9s,mb5.6
ELUQ Luque 75.87 53 P P **18 38 31.3 -0.5**
comp=Z,27nm,0.8s,mb5.2
ELOJ Sierra Loja 75.96 54 P P **18 38 32.7 +0.4**
comp=Z,54nm,0.8s,mb5.5
GUD Guadarrama 76.04 50 P P **18 38 33.2 +0.5**
comp=Z,57nm,0.8s,mb5.5
ESDC Sonseca Array 76.16 51 P P **18 38 33.3 0.0**
comp=Z,59nm,0.7s,mb5.6,baz=274,slow=5.4,SNR=272
ESLA Sonseca Array 76.16 51⇓*i*P P **18 38 33.5 +0.2**
comp=Z,23nm,0.9s,mb5.1
ESLA LR LR
comp=Z,15μm,22.0s,MS6.3
ERON Agron 76.23 54 P P **18 38 34.8 +1.0**
comp=Z,35nm,0.7s,mb5.4
EBAN Banos Encina 76.26 53 P P **18 38 33.4 -0.5**
comp=Z,36nm,0.7s,mb5.4
ECOG Cogollos-Vega 76.42 54 P P **18 38 35.4 +0.6**
comp=Z,46nm,0.7s,mb5.5
LIC Lamto 76.61 85 *e*P P **18 38 34.9 -1.4**
comp=Z,216nm,0.9s,mb5.8
LIC *e*R
comp=Z,4μm,22.2s
HSA Swansea 76.66 39 *e*P P **18 38 34.6 -1.2**
ELAN Lanestosa 76.66 47 P P **18 38 35.3 -0.7**
comp=Z,172nm,1.2s,mb5.9
DAG Danmarks Havn 76.67 12⇓*i*P P **18 38 33.7 -1.8**
comp=Z,39nm,0.9s,mb5.3
comp=Z,8μm,19.0s
DAG Danmarks Havn 76.67 12⇓*e*P P **18 38 33.7 -1.8**
DAG pmax pmax
comp=Z,39nm,0.9s,mb5.3
DAG MLR MLR
comp=Z,8μm,19.0s,MS6.0
DAG MLR MLR
comp=N,5μm,20.0s,MS6.1
DAG MLR MLR
comp=E,7μm,19.0s,MS6.1
DAG Danmarks Havn 76.67 12⇓*e*P P **18 38 33.7 -1.8**
comp=E,39nm,0.9s,mb5.3
DAG LR LR
comp=Z,8μm,19.0s,MS6.0
DBIC Dimbokro 76.73 85 P P **18 38 36.2 -0.8**
comp=Z,44nm,0.8s,mb5.4,baz=269,slow=5.1,SNR=63
DBIC LR LR 19 09 48.5
comp=Z,3μm,21.4s,MS5.6,baz=250,slow=34
DBIC Dimbokro 76.73 85⇓*i*P P **18 38 36.2 -0.8**
comp=Z,80nm,1.0s,mb5.6
DBIC LR LR
comp=Z,3μm,21.0s,MS5.6
EQES Quesada 76.82 53 P P **18 38 37.3 +0.2**
comp=Z,158nm,1.0s,mb5.9
HEX Exmoor 76.83 39 *e*P P **18 38 36.0 -0.8**
EAB Aberfoyle 76.95 34 *e*P P **18 38 36.6 -0.8**
EAB AMb AMB 18 38 38.0
comp=Z,62nm,1.2s,mb5.4
EBER Berja 76.96 54 P P **18 38 38.2 +0.3**
comp=Z,172nm,1.0s,mb5.9
ROSF Rostrenen 77.00 42 *e*P P **18 38 37.5 -0.3**
comp=Z,286nm,1.1s,mb5.8
EHUE Huescar 77.20 53 P P **18 38 40.2 +1.0**
comp=Z,219nm,1.4s,mb5.9
EVIA Vianos 77.28 52 P P **18 38 40.7 +1.1**
comp=Z,22nm,0.6s,mb5.3
EAU Auchinoon 77.42 35 *e*P P **18 38 39.3 -0.6**
EAU AMb AMB 18 38 44.2
comp=Z,136nm,1.7s,mb5.6
SGMF Saint Gilles 77.47 42⇑*i*P P **18 38 39.9 -0.6**
comp=Z,320nm,1.3s,mb5.8
ESK Eskdalemuir 77.51 35 *e*P P **18 38 39.0 -1.5**
ESK AMb AMB 18 38 45.3
comp=Z,127nm,1.7s,mb5.6
ESK Eskdalemuir 77.51 35 *e*P P **18 38 39.1 -1.4**
comp=Z,46nm,1.0s,mb5.4
ESK LR LR
comp=Z,510nm,19.0s,MS4.9
EDI Edinburgh 77.57 34 *e*P P **18 38 38.9 -2.0**
EDI AMb AMB 18 38 41.5
comp=Z,114nm,1.5s,mb5.6
EBL Broad Law 77.64 35 *e*P P **18 38 40.3 -0.9**
ETOB Tobarra 78.03 52 P P **18 38 44.0 +0.3**
comp=Z,97nm,0.9s,mb5.7
EALK Alkurruntz 78.07 48 P P **18 38 44.1 +0.2**
comp=Z,251nm,1.2s,mb6.0
KWE Weaver Farm 78.16 37 *e*P P **18 38 42.8 -1.3**
KWE AMb AMB 18 38 46.1
comp=Z,161nm,1.8s,mb5.7
LHO Holmfirth 78.18 37 *e*P P **18 38 42.9 -1.3**
OSSF Osses 78.25 47⇓*e*P P **18 38 45.1 +0.3**
EMUR La Murta 78.27 53 P P **18 38 44.3 -0.7**
comp=Z,43nm,0.9s,mb5.4
SJPF Ste Jean 78.28 48⇑*i*P P **18 38 45.4 +0.4**
comp=Z,356nm,0.8s,mb6.0
KBI1 Birley Grange 78.36 37 *e*P P **18 38 44.1 -1.1**
KBI1 AMb AMB 18 38 46.8
comp=Z,133nm,1.1s,mb5.8
LARF Larrau 78.45 48⇓*e*P P **18 38 47.2 +1.3**
ECHE Chera 78.47 51 P P **18 38 47.1 +1.0**
comp=Z,13nm,0.6s,mb5.0
GRR Gorron 78.61 42 *e*P P **18 38 46.4 -0.3**
comp=Z,446nm,1.0s,mb6.0
LCHF La Chataignera 78.66 44⇓*e*P P **18 38 47.6 +0.6**
ATE Arette 78.66 48⇓*e*P P **18 38 47.6 +0.5**
ETSF Etsaut 78.77 48⇑*i*P P **18 38 48.1 +0.4**
comp=Z,108nm,0.9s,mb5.5
ESAC San Caprasio 78.83 49 P P **18 38 47.8 -0.2**
comp=Z,692nm,1.7s,mb6.3
EMOS Mosqueruela 78.84 50 P P **18 38 48.7 +0.5**
comp=Z,78nm,0.9s,mb5.6
FLN La Foliniere 78.87 42 *e*P P **18 38 47.9 -0.2**
comp=Z,377nm,1.2s,mb5.9
FLN *e*R
comp=Z,2μm,21.2s
TRIS Tristan da Cun 78.94 130 PFAKE 18 39 00.0 +11
TRIS LR LR
comp=Z,6μm,20.0s,MS5.9
EBEN Beniarda 79.06 52 P P **18 38 49.8 +0.5**
comp=Z,284nm,2.1s,mb5.8
MFF Saint Martin d 79.07 44 *e*P P **18 38 49.0 -0.2**
comp=Z,362nm,0.9s,mb6.0
VIEF Viey 79.19 48⇓*e*P P **18 38 51.0 +1.0**
LABF Labassere 79.23 48⇓*e*P P **18 38 51.0 +0.8**
EBIE Bielsa 79.28 48 P P **18 38 50.0 -0.5**
comp=Z,345nm,1.7s,mb6.0
EPF Esparros 79.42 48⇑*i*P P **18 38 51.5 +0.3**
comp=Z,283nm,1.0s,mb5.8
RESF Ens 79.42 48⇓*e*P P **18 38 52.4 +1.1**
ERTA Horta de San J 79.45 50 P P **18 38 50.9 -0.5**
comp=Z,299nm,1.8s,mb5.9
EBR Ebro Roquetas 79.57 50 *i* P P **18 38 53.5 +1.4**
LFF La Frestale 79.69 46⇑*i*P P **18 38 52.5 -0.1**
comp=Z,291nm,1.0s,mb5.9
MLS Moulis 79.98 48⇓*e*P P **18 38 54.8 +0.6**
EPOB Poblet 80.00 49 P P **18 38 53.5 -0.9**
comp=Z,47nm,0.8s,mb5.5

EANR 'Ain N'Sour 80.20 55 P P 18 38 56.0 +0.4
RJF Les Rejaudoux 80.24 45⇑*i*P P 18 38 55.3 -0.2
comp=Z,391nm,1.4s,mb5.9
EIBI Ibiza 80.28 52 P P 18 38 55.3 -0.6
comp=Z,72nm,0.8s,mb5.7
EMIR Miracle 80.32 49 P P 18 38 55.4 -0.7
comp=Z,238nm,1.2s,mb6.0
ETRT Tiaret 80.39 55 P P 18 38 57.0 +0.4
ECHA Ech Chlef 80.41 55 P P 18 38 57.5 +0.8
UNV Unalaska Valle 80.44 323 *e*P P 18 38 57.5 +1.1
comp=Z,210nm,0.9s,mb6.1
UNV LR LR
comp=Z,7μm,21.0s,MS6.0
EBNR Beni Rached 80.53 55 P P 18 38 58.5 +1.2
CAF Calviac 80.63 46⇑*i*P P 18 38 57.4 -0.3
comp=Z,198nm,0.9s,mb5.7
MTLF Montolieu 80.79 47 *e*P P 18 38 58.3 -0.2
comp=Z,367nm,1.2s,mb5.9
VERF Verneugheol 80.91 45⇓*e*P P 18 38 59.4 +0.3
HYF Humbligny 80.97 43 *e*P P 18 38 59.2 -0.2
FRNF Fournols 80.97 45⇓*e*P P 18 39 00.0 +0.6
FILF Fillols 81.07 48⇓*e*P P 18 39 00.3 +0.3
BGF Bois d'Agland 81.14 44 *e*P P 18 38 59.8 -0.5
comp=Z,298nm,1.0s,mb5.9
TNA Tin City 81.25 335⇑*i*P P 18 39 01.5 +1.0
comp=Z,31nm,1.2s,mb5.1
TNA LR LR
comp=Z,3μm,21.0s,MS5.6
SJAF Saint Jean de 81.31 48⇓*e*P P 18 39 02.0 +0.7
EJON La Jonquera 81.32 48 P P 18 39 01.4 +0.1
comp=Z,162nm,1.1s,mb5.9
AGO Saint Agoulin 81.35 45 *e*P P 18 39 01.4 0.0
ETOS Mallorca 81.38 51 P P 18 39 01.1 -0.6
comp=Z,556nm,2.2s,mb6.1
LBL Lubilhac 81.46 45 *e*P P 18 39 02.9 +0.9
AVF Avril sur Loir 81.47 44 *e*P P 18 39 01.2 -0.8
comp=Z,168nm,1.2s,mb5.6
SSF Saint Saulge 81.57 44 *e*P P 18 39 01.6 -0.9
comp=Z,113nm,1.2s,mb5.4
EMHD Djebel Mahouad 81.69 55 P P 18 39 00.0 -3.3
PLDF La Plantade 81.69 45⇓*e*P P 18 39 03.6 +0.4
COLF Collangettes 81.76 45⇓*e*P P 18 39 04.3 +0.8
LOR Lormes 81.80 43⇑*i*P P 18 39 03.0 -0.7
comp=Z,130nm,1.1s,mb5.5
LOR *e*R
comp=Z,3μm,22.5s
SMF Signal de Mont 81.82 44 *e*P P 18 39 03.0 -0.8
comp=Z,356nm,1.6s,mb5.7
LASF Ste Croix 81.95 47⇑*i*P P 18 39 04.9 +0.4
comp=Z,188nm,1.0s,mb5.7
BER Bergen 82.20 30 *e*P P 18 39 10.8 +5.3
BER Bergen 82.20 30 *e*P P 18 39 12.0 +6.5
GIVF Givet 82.31 40 *e*P P 18 39 05.8 -0.5
comp=Z,168nm,1.4s,mb5.5
VIVF Saint-Julien-l 82.49 46⇑*i*P P 18 39 07.9 +0.6
comp=Z,372nm,0.9s,mb6.0
MEZF Maizieres J'vi 82.55 42⇑*i*P P 18 39 07.1 -0.4
comp=Z,215nm,1.2s,mb5.8
PRAF Pradon 82.91 47⇓*e*P P 18 39 10.7 +1.2
OG05 Jujurieux 82.97 45⇓*e*P P 18 39 10.0 +0.2
HGN Heimansgroeve 82.99 40 *e*P P 18 39 09.2 -0.6
comp=Z,71nm,1.5s,mb5.5
GELF Grande-Etoile 83.13 47⇓*e*P P 18 39 11.3 +0.6
THEF They Montfort 83.18 42⇓*e*P P 18 39 11.1 +0.3
SMRF Simiane la Rot 83.19 47⇑*i*P P 18 39 11.5 +0.5
comp=Z,95nm,1.0s,mb5.5
WLF Walferdange 83.20 41⇓*i*P P 18 39 11.0 +0.1
comp=Z,76nm,1.1s,mb5.6
VILF Villemus 83.30 47⇓*e*P P 18 39 12.4 +0.9
PUYF Puyloubier 83.31 47⇓*e*P P 18 39 12.4 +0.8
KBS Kingsbay 83.33 11 *e*P P 18 39 11.9 +0.9
KBS AMb AMB 18 39 13.4
comp=Z,101nm,1.6s,mb5.6
KBS AMS AMS 19 19 28.2
comp=Z,3μm,18.9s,MS5.6
KBS Kingsbay 83.33 11⇑*e*P P 18 39 11.2 +0.1
KBS Kingsbay 83.33 11 *e*P P 18 39 11.9 +0.9
comp=Z,101nm,1.6s,mb5.6
KBS LR LR
comp=Z,2582μm,18.9s
ORIF Oris-en-Rattie 83.34 46 *e*P P 18 39 12.4 +0.7
comp=Z,216nm,0.9s,mb5.9
ORIF *e*R
comp=Z,4μm,22.8s
CABF La Chapelle 83.36 44⇑*i*P P 18 39 11.6 -0.2
comp=Z,205nm,1.0s,mb5.8
STOF St-Etienne Org 83.43 47⇓*e*P P 18 39 13.1 +0.9
HAU Haudompre 83.44 43 *e*P P 18 39 11.6 -0.6
comp=Z,130nm,1.3s,mb5.5
HAU *e*R
comp=Z,2μm,22.0s
WTSB Winterswijk 83.45 39 *e*P P 18 39 12.0 -0.1
comp=Z,116nm,1.4s,mb5.7
TAVF Tavernes 83.57 47⇓*e*P P 18 39 13.7 +0.8
SET Setif 83.66 54 P P 18 39 15.0 +1.4
CKHR Kef el Ahmar 83.77 55 P P 18 39 16.0 +1.9
RUP Ruppelstein 83.78 41⇓*e*P P 18 39 14.5 +0.6
RUP Ruppelstein 83.78 41⇓*e*P P 18 39 14.1 +0.2
HINF Hinteralfeld 83.79 43 *e*P P 18 39 13.2 -0.8
comp=Z,211nm,1.6s,mb5.7
OG01 Vacheresse 83.80 44⇓*e*P P 18 39 14.5 +0.5
RSL Roselend 83.81 45⇓*e*P P 18 39 14.9 +0.8
LOMF Lomont 83.81 43⇓*e*P P 18 39 14.1 0.0
BNI Bardonecchia 83.90 45⇓*e*P P 18 39 15.7 +1.1
comp=Z,48nm,1.0s,mb5.6
LPL La Plagne 83.90 45 *e*P P 18 39 15.2 +0.6
comp=Z,68nm,0.9s,mb5.5
LPG La Plagne 83.91 45 *e*P P 18 39 15.4 +0.8
comp=Z,107nm,1.0s,mb5.6
LMR La Mourre 83.92 47 *e*P P 18 39 14.5 -0.2
comp=Z,158nm,1.2s,mb5.7
ECH Echery 83.97 42⇓*e*P P 18 39 15.2 +0.4
MOF Molkenrain 83.98 43 *e*P P 18 39 15.0 +0.1
MBDF Montbardon 83.99 46 *e*P P 18 39 15.6 +0.6
comp=Z,130nm,1.0s,mb5.7
FRF La Foret Royal 84.00 47 *e*P P 18 39 14.9 -0.2
comp=Z,124nm,1.0s,mb5.7
CDF Champ du Feu 84.03 42 *e*P P 18 39 14.6 -0.6
comp=Z,109nm,1.2s,mb5.5
SURF Saint Ours 84.04 46⇓*e*P P 18 39 16.8 +1.5
WLS Welschbruch 84.08 42⇓*e*P P 18 39 15.4 0.0
ABH Alteburg 84.08 41⇓*e*P P 18 39 15.9 +0.5
CMER Merouana 84.11 55 P P 18 39 18.0 +2.1
BBS Basel-Blauen 84.27 43⇓*e*P P 18 39 16.5 +0.1
LIBD Limburg 84.27 42⇓*e*P P 18 39 16.5 +0.1
LANF Langenberg 84.33 41⇓*e*P P 18 39 17.2 +0.6
MVIF Mont Vial 84.33 47⇓*e*P P 18 39 17.3 +0.5
KONO Kongsberg 84.39 31 *e*P P 18 39 16.6 -0.1
KONO LR LR
comp=Z,2μm,20.0s,MS5.5
TOUF Mont Tournerai 84.39 46⇓*e*P P 18 39 18.0 +0.9
MUD Monsted U'grnd 84.47 34 *i*S S 18 49 45.4 +5.3
comp=Z,1μm,18.0s
MUD Monsted U'grnd 84.47 34 *i*P P 18 39 17.4 +0.2
MUD *i*S S 18 49 45.4 +5.3
MUD pmax pmax
comp=Z,26nm,1.0s,mb5.3
MUD MLR MLR
comp=Z,1μm,18.0s,MS5.4
MUD Monsted U'grnd 84.47 34 *i*P P 18 39 17.4 +0.2
comp=Z,26nm,1.0s,mb5.3
MUD *i* 18 39 31.8
MUD *i*S S 18 49 45.4 +5.3
KTD Kalmit 84.48 41 *e*P P 18 39 17.8 +0.4
KIZ Kirchzarten 84.50 42⇓*e*P P 18 39 17.5 0.0
REVF Revere 84.50 47⇓*e*P P 18 39 18.0 +0.3
AUTN L'Aution 84.52 46⇓*e*P P 18 39 18.6 +0.9
CASM Ain Smara 84.53 54 P P 18 39 19.0 +1.0
SBF Sospel 84.54 47 *e*P P 18 39 17.7 -0.1
comp=Z,170nm,1.1s,mb5.8
FELD Feldberg 84.56 43⇓*e*P P 18 39 18.0 +0.2
SAOF Saorge 84.61 46⇓*e*P P 18 39 18.8 +0.6
TNS Taunus Mts 84.63 40 *e*P P 18 39 18.4 +0.3
TNS pmax pmax
comp=Z,6.0nm,1.5s
TNS Taunus Mts 84.63 40 *e*P P 18 39 18.4 +0.3
comp=Z,107nm,1.5s,mb5.8
CKFL Kef-Lekhel 84.70 54 P P 18 39 19.0 +0.2
BFO Black Forest 84.73 42 *e*P P 18 39 18.1 -0.6
BFO pmax pmax
comp=Z,1.0nm,1.1s
BFO Black Forest 84.73 42 *e*P P 18 39 18.1 -0.6
comp=Z,44nm,1.1s,mb5.5
CAEH 'Ain El Ouahch 84.77 54 P P 18 39 19.5 +0.3
SWS Schriesheim 84.86 41 *e*P P 18 39 19.1 -0.2
NAO01 NORSAR Array S 84.90 29⇑*i*P P 18 39 19.9 +0.7
comp=Z,131nm,1.4s,mb5.9
NAO01 LR LR
comp=Z,2μm,21.0s,MS5.5
TOD Tromm 84.92 41⇓*e*P P 18 39 19.5 -0.1
TOD Tromm 84.92 41⇓*e*P P 18 39 19.8 +0.2
LBG Lerchenberg 85.01 42 *e*P P 18 39 20.2 +0.2
NB2 NORSAR Subarra 85.04 29 P P 18 39 19.4 -0.5
comp=Z,161nm,1.7s,mb5.9,baz=277,slow=4.8
NB2 NORSAR Subarra 85.04 29 P P 18 39 19.4 -0.5
baz=277,slow=5.1
NB2 NORSAR Subarra 85.04 29 P P 18 39 19.4 -0.5
NB2 pmax pmax
comp=Z,161nm,1.7s,mb5.9
NOA NORSAR Array B 85.04 29 P P 18 39 19.8 -0.1
comp=Z,23nm,1.0s,mb5.3,baz=276,slow=4.8,SNR=28
NOA LR LR 19 15 25.2
comp=Z,978nm,19.8s,MS5.2,baz=270,slow=34
SPAK Spaichingen 85.06 42⇓*e*P P 18 39 20.4 +0.1
STU Stuttgart 85.26 42⇓*i*P P 18 39 21.5 +0.2
STU pmax pmax
comp=Z,101nm,1.1s,mb5.9
STU Stuttgart 85.26 42⇓*i*P P 18 39 21.5 +0.2
comp=Z,101nm,1.1s,mb5.9
GUT Gutenstein 85.28 42 *e*P P 18 39 21.4 0.0
BSEG Bad Segeberg 85.39 36 *e*P P 18 39 21.9 +0.1
BUCH Bad Urach 85.40 42⇓*e*P P 18 39 22.4 +0.4
SIND Sindeldorf 85.47 41⇓*e*P P 18 39 22.5 +0.2
CLZ Clausthal 85.67 38 *e*P P 18 39 23.5 +0.3
CLZ pmax pmax
comp=Z,84nm,1.2s,mb5.8
CLZ Clausthal 85.67 38 *e*P P 18 39 23.5 +0.3
comp=Z,84nm,1.2s,mb5.8
BJO Bjornoya 85.71 15 *e* 18 49 48.3
MOR8 Moi Rana 85.75 24 *e*P P 18 39 23.9 +0.6
PGF Pioggiola 85.81 48⇑*i*P P 18 39 24.1 -0.1
comp=Z,206nm,0.9s,mb6.0
DAVA Damuels 85.89 43 *i*P P 18 39 25.1 +0.7
comp=Z,89nm,0.9s,mb6.0,SNR=22
DAVA Damuels 85.89 43 *i*P P 18 39 25.1 +0.7
comp=Z,89nm,0.9s,mb6.0
DAVOX Davos 85.95 44 LR LR 19 13 47.6
comp=Z,1μm,21.2s,MS5.3,baz=278,slow=33
HDH Heidenheim 85.95 42 *e*P P 18 39 25.0 +0.3
COP Copenhagen 86.37 34 *i*P P 18 39 28.2 +1.5
comp=Z,42nm,1.0s,mb5.6
COP Copenhagen 86.37 34 *i*S S 18 49 58.4 -0.2
comp=Z,680nm,21.0s
COP Copenhagen 86.37 34 *e*P P 18 39 28.2 +1.5
comp=Z,42nm,1.0s,mb5.6
COP *i*S S 18 49 58.4 -0.2
COP LR LR
comp=Z,680nm,21.0s,MS5.0
VSL Villasalto 86.46 51⇓*i*P P 18 39 28.2 +0.7
comp=Z,123nm,0.9s,mb6.1
GRA1 Grafenberg Arr 86.47 40 *e*P P 18 39 27.7 +0.4
comp=Z,77nm,1.0s,mb5.9
GRA1 *e*pP pP 18 39 37.2 +0.4
GRA1 *e*S S 18 50 05.5 +5.8
GRA1 *e*SS SS 18 56 03.2 +20
GRF Grafenberg Arr 86.47 40 *e*P P 18 39 27.7 +0.4
GRF *e*S S 18 50 05.5 +5.8
GRF pmax pmax
comp=Z,77nm,1.0s,mb5.9
GRF MLR MLR
comp=Z,2μm,19.6s,MS5.5
GRF Grafenberg Arr 86.47 40 *e*P P 18 39 27.7 +0.4
GRF *e*S S 18 50 05.5 +5.8
GRF pmax pmax
comp=Z,77nm,1.0s,mb5.9
GRF Grafenberg Arr 86.47 40 *e*P P 18 39 27.7 +0.4
comp=Z,77nm,1.0s,mb5.9
GRF *e*pP pP 18 39 37.2 +0.4
GRF *e*S S 18 50 05.5 +5.8
GRF *e*SS SS 18 56 03.2 +20
GRF LR LR
comp=Z,2μm,19.6s,MS5.5
MOX Moxa 86.59 40⇓*i*P P 18 39 27.7 -0.2
comp=Z,logA/T=1.8,mb5.8
MOX pP pP 18 39 38.0 +0.6
MOX S S 18 49 57.0 -3.9
MOX SS SS 18 56 00.0 +15
MOX L 19 17 50.0
MOX Moxa 86.59 40⇓*e*P P 18 39 27.7 -0.2
MOX *e*S S 18 49 57.0 -3.9
MOX pmax pmax
comp=Z,118nm,1.8s,mb5.8
MOX MLR MLR
comp=Z,2μm,22.0s,MS5.3
MOX Moxa 86.59 40⇓*e*P P 18 39 27.7 -0.2
comp=Z,118nm,1.8s,mb5.8
MOX *e*pP pP 18 39 38.0 +0.6
MOX *e*S S 18 49 57.0 -3.9
MOX *e*SS SS 18 56 00.0 +15
MOX LR LR
comp=Z,2μm,22.0s,MS5.3
VLC Villacollemand 86.62 46⇓*i*P P 18 39 27.4 -0.8
comp=Z,90nm,1.0s,mb6.0
MOTA Moosalm 86.70 43⇓*i*P P 18 39 28.5 0.0
comp=Z,91nm,1.6s,mb5.8,SNR=13
MOTA Moosalm 86.70 43⇓*i*P P 18 39 28.5 0.0
MOTA pmax pmax
comp=Z,91nm,1.6s,mb5.8
MOTA Moosalm 86.70 43⇓*i*P P 18 39 28.5 0.0
comp=Z,91nm,1.6s,mb5.8
FUR Furstenfeldbru 86.71 42 *e*P P 18 39 28.8 +0.3
FUR pmax pmax
comp=Z,58nm,1.0s,mb5.8
FUR Furstenfeldbru 86.71 42 *e*P P 18 39 28.8 +0.3
comp=Z,58nm,1.0s,mb5.8
TRO Tromso 86.74 20 *e*P P 18 39 26.6 -1.6
TRO AMS AMS 19 15 40.3
comp=Z,1μm,17.0s,MS5.4
SQTA Sankt Quirin 86.79 43⇑*i*P P 18 39 29.1 +0.2
comp=Z,74nm,1.3s,mb5.7,SNR=19
SQTA Sankt Quirin 86.79 43⇑*i*P P 18 39 29.1 +0.2
SQTA pmax pmax
comp=Z,74nm,1.3s,mb5.8
NKC Novy Kostel 87.18 40 *e*P P 18 39 31.5 +0.8
NKC *e*pP pP 18 39 40.7 +0.5
NKC *e*S S 18 50 14.1 +7.7
NKC AMS AMS 19 10 40.0
comp=Z,4μm,24.4s
NKC Novy Kostel 87.18 40 *e*P P 18 39 31.5 +0.8
NKC *e*pP pP 18 39 40.7 +0.5
NKC *e*SKS SKS 18 50 14.1 +12
CLL Collm 87.36 39 ||P P 18 39 32.0 +0.4
comp=Z,logA/T=1.8,mb5.8
CLL *i* *SP sP 18 39 40.9 -3.2
CLL *e*PP PP 18 43 00.0 +1.5
CLL *e* 18 49 58.0
CLL *e*S S 18 50 11.0 +2.8
CLL *e*PS PS 18 51 06.0 -8.8
CLL *e*PPS PPS 18 51 35.0 -6.2
CLL *e*SS SS 18 56 06.0 +10
CLL Collm 87.36 39⇓*i*P P 18 39 32.0 +0.4
CLL *i* *SP sP 18 39 40.9 -3.2
CLL *e* 18 49 58.0
CLL *e*S S 18 50 11.0 +2.8
CLL pmax pmax
comp=Z,60nm,0.9s,mb5.8
CLL MLR MLR
comp=Z,2μm,17.4s,MS5.6
CLL Collm 87.36 39⇓*i*P P 18 39 32.0 +0.4
comp=Z,60nm,0.9s,mb5.8
CLL *i* sP sP 18 39 40.9 -3.2
CLL *e*SKS SKS 18 49 58.0 -4.9
CLL *e*S S 18 50 11.0 +2.8
CLL LR LR
comp=Z,2μm,17.4s,MS5.6
WET Wettzell 87.62 41 *e*P P 18 39 33.2 +0.3
WET pmax pmax
comp=Z,77nm,1.0s,mb5.9
WET Wettzell 87.62 41 *e*P P 18 39 33.2 +0.3
comp=Z,77nm,1.0s,mb5.9
RUE Ruedersdorf 87.65 37 *e*P P 18 39 32.6 -0.3
comp=Z,29nm,0.9s,mb5.5
BSD Bornholm Skovb 87.86 35⇓*i*P P 18 39 33.6 -0.3
comp=Z,36nm,1.0s,mb5.6
BSD Bornholm Skovb 87.86 35 *i*S S 18 50 01.7 -11
comp=Z,1μm,18.0s
BSD Bornholm Skovb 87.86 35⇓*e*P P 18 39 33.6 -0.3
BSD *i*S S 18 50 01.7 -11
BSD pmax pmax
comp=Z,37nm,1.0s,mb5.6
BSD Bornholm Skovb 87.86 35⇓*e*P P 18 39 33.6 -0.3
comp=Z,36nm,1.0s,mb5.6
BSD *i*S S 18 50 01.7 -11
BRG Berggiesshubel 88.02 39 *i*P P 18 39 34.8 +0.1
BRG S S 18 50 06.0 -8.3
BRG pmax pmax
comp=Z,38nm,1.0s,mb5.6
BRG MLR MLR
comp=N,2μm,25.3s,MS5.6
BRG MLR MLR
comp=E,2μm,25.5s,MS5.6
BRG MLR MLR
comp=Z,2μm,21.4s,MS5.6
BRG Berggiesshubel 88.02 39 *i*P P 18 39 34.9 +0.1
comp=Z,38nm,1.0s,mb5.6
BRG *i* pP 18 39 44.6 +0.3
BRG *e*PP PP 18 42 52.6 -11
BRG S S 18 50 06.0 -8.3
KHC Kasperske Hory 88.08 41 *e*P P 18 39 35.3 +0.3
KHC *e*pP pP 18 39 44.8 +0.3
KHC *e*SKS SKS 18 50 08.7 +1.2
KHC AMS AMS 19 09 50.0
comp=Z,4μm,27.0s
KHC Kasperske Hory 88.08 41 *e*P P 18 39 35.3 +0.3
KHC *e* 18 50 08.7
KHC MLR MLR
comp=Z,4μm,27.0s,MS5.7
KHC Kasperske Hory 88.08 41 *e*P P 18 39 35.3 +0.3
KHC *e*pP pP 18 39 44.8 +0.3
KHC *e*SKS SKS 18 50 08.7 +1.2
KHC LR LR
comp=Z,4μm,27.0s,MS5.7
GERES GERESS Array B 88.20 41 P P 18 39 35.4 -0.2
comp=Z,17nm,0.8s,mb5.3,baz=270,slow=2.7,SNR=108
GERES LR LR 19 14 37.7
comp=Z,1μm,21.6s,MS5.3,baz=282,slow=33
KBA Koelnbreinsper 88.26 43⇑*i*P P 18 39 36.1 +0.2
comp=Z,61nm,0.9s,mb5.8,SNR=44
KBA Koelnbreinsper 88.26 43⇑*i*P P 18 39 36.1 +0.1
KBA pmax pmax
comp=Z,61nm,0.9s,mb5.8
KTK1 Kautokeino 88.38 20 *e*P P 18 39 36.4 +0.4
PRA Prague 88.47 40 P P 18 39 37.0 +0.1
PVCC Panska Ves 88.47 39 *e*P P 18 39 37.4 +0.5
PVCC *e*pP pP 18 39 46.8 +0.4
PVCC AMS AMS 19 11 20.0
comp=Z,3μm,27.1s
PVCC Panska Ves 88.47 39 *e*P P 18 39 37.4 +0.5
PVCC MLR MLR
comp=Z,3μm,27.1s,MS5.6
ROBS Robic 88.50 44 *e*P P 18 39 37.3 +0.1
ROBS *e* pP 18 39 46.3 -0.4
PRU Pruhonice 88.55 40 *e*P P 18 39 37.4 +0.1
PRU *e*pP pP 18 39 46.1 -0.7
PRU *e*SKS SKS 18 50 08.2 -2.2
PRU AMS AMS 19 11 30.0
comp=Z,4μm,25.5s
PRU Pruhonice 88.55 40 *e*P P 18 39 37.4 +0.1
PRU *e*pP pP 18 39 46.1 -0.7
PRU *e*SKS SKS 18 50 08.2 -2.2
PRU LR LR
comp=Z,4μm,25.5s,MS5.7
MOA Molln 88.74 42⇑*i*P P 18 39 38.1 -0.1
comp=Z,22nm,0.9s,mb5.5,SNR=19
VOY Vojsko 88.80 44 *e*P P 18 39 38.8 +0.2
VOY *e* pP 18 39 47.7 -0.4
ARCES ARCESS Array B 88.98 20 P P 18 39 38.0 -1.0
comp=Z,33nm,1.0s,mb5.6,baz=288,slow=3.8,SNR=21
ARCES PP PP 18 43 09.7 -1.4
comp=Z,6.2nm,0.9s,baz=297,slow=2.7,SNR=4.5
ARCES LR LR 19 20 11.1
comp=Z,2μm,20.5s,MS5.5,baz=73,slow=36
ARE0 ARCESS Array S 88.98 20 *e*P P 18 39 38.5 -0.4
AQU L'Aquila 89.07 48 *e*P P 18 39 41.5 +1.6
comp=Z,20nm,1.0s,mb5.4
OBKA Obir 89.17 43⇑*i*P P 18 39 40.2 -0.1
comp=Z,18nm,1.1s,mb5.3
OBKA Obir 89.17 43⇑*i*P P 18 39 40.2 -0.1
comp=Z,18nm,1.1s,mb5.3
LJU Ljubljana 89.23 44 *e*P P 18 39 41.2 +0.5
TREC Trest 89.28 40 *e*P P 18 39 41.2 +0.4
TREC AMS AMS 19 11 50.0
comp=Z,4μm,27.3s
UPC Upice 89.38 39 *e*P P 18 39 41.5 +0.3
UPC *e*pP pP 18 39 48.6 -2.1
KEV Kevo 89.40 19 *e*P P 18 39 39.7 -1.2
KEV pmax pmax
comp=Z,29nm,0.9s,mb5.6
KEV MLR MLR
comp=Z,3μm,21.0s,MS5.7
KEV Kevo 89.40 19 *e*P P 18 39 39.7 -1.2
comp=Z,29nm,0.9s,mb5.6
KEV LR LR
comp=Z,3μm,21.0s,MS5.7
KSP Ksiaz 89.49 39 *e*P P 18 39 42.5 +0.8
KSP MLR MLR 19 12 50.1
comp=Z,4μm,27.5s,MS5.7
KSP Ksiaz 89.49 39 *e*P P 18 39 41.9 +0.2
KSP *e*SKS SKS 18 50 09.5 -6.6
KSP *e*S S 18 50 31.0 +3.1
KSP *e*SS SS 18 56 32.0 +4.8
KSP LR LR
comp=Z,5μm,27.5s,MS5.8
PERS Pernice 89.53 43 *e*P P 18 39 41.8 -0.2
DPC Dobruska-Polom 89.61 39 *e*P P 18 39 42.2 -0.1
DPC *e*pP pP 18 39 51.7 -0.1
DPC AMS AMS 19 12 10.0
comp=Z,3μm,27.2s
DPC Dobruska-Polom 89.61 39 *e*P P 18 39 42.2 -0.1
DPC MLR MLR
comp=Z,3μm,27.2s,MS5.6
ARSA Arzberg 89.69 42⇓*i*P P 18 39 42.6 -0.2
comp=Z,20nm,1.1s,mb5.4,SNR=10
ARSA Arzberg 89.69 42⇓*i*P P 18 39 42.6 -0.2
comp=Z,20nm,1.0s,mb5.4
BOJS Bojanci 89.83 44 *e*P P 18 39 43.7 +0.2
BOJS *e* 18 39 51.1
SOP Sopron 90.29 42⇓*e*P P 18 39 45.9 +0.3
MORC Moravsky Berou 90.49 40 *e*P P 18 39 46.7 +0.3
MORC pmax pmax
comp=Z,20nm,1.1s,mb5.4
MORC Moravsky Berou 90.49 40 *e*P P 18 39 46.7 +0.2
comp=Z,20nm,1.1s,mb5.4
ZST Bratislava 90.55 41 *i*P P 18 39 47.2 +0.5
BILL Bilibino 90.76 340*c* *i*P P 18 39 46.5 -0.7
BILL pmax pmax
comp=Z,45nm,1.0s,mb5.8
BILL MLR MLR
comp=Z,2μm,19.0s,MS5.6
BILL Bilibino 90.76 340 *e*P P 18 39 47.8 +0.6
comp=Z,98nm,1.3s,mb6.0
BILL LR LR
comp=Z,2μm,20.0s,MS5.6
OKC Ostrava-Krasne 90.86 40 *e*P P 18 39 46.3 -1.8
OKC *e*pP pP 18 39 53.4 -4.2
OKC *e*SKS SKS 18 50 14.8 -10
OKC AMS AMS 19 13 00.0
comp=Z,3μm,27.8s
AFI Afiamalu 91.33 256 LR LR 19 11 45.2
comp=Z,700nm,19.7s,MS5.1,baz=81,slow=30
AFI Afiamalu 91.33 256 PFAKE 18 40 00.0 +9.0
AFI LR LR
comp=Z,1μm,22.0s,MS5.4
SRO Srobarova 91.42 42 *i*P P 18 39 51.2 +0.5
SRO *e* 18 40 08.4
RHK1 Bakonya 91.64 43⇑*i*P P 18 39 52.3 +0.5
VNA3 Neumayer Olymp 91.71 162 *e* P 18 39 57.4 +5.9
VNA3 Neumayer Olymp 91.71 162 *e* P 18 39 59.8 +8.3
VNA3 Neumayer Olymp 91.71 162 *e* P 18 40 03.5 +12
VNA3 Neumayer Olymp 91.71 162 P P 18 39 50.5 -1.0
VNA3 *e* 18 39 57.4
VNA3 *e* pP 18 39 59.8 -1.2
VNA3 *e* 18 40 03.5
KAF Kangasniemi 91.80 26 *ep* P 18 39 50.7 -1.4
comp=Z,20nm,1.2s,mb5.3
KAF Kangasniemi 91.80 26 *e*P P 18 39 50.7 -1.4
KAF pmax pmax
comp=Z,20nm,1.2s,mb5.3

OJC	**Ojcow**	**91.81**	**39**	*e*P	**P**	**18 39 52.8**	**+0.4**			
OJC				*e*PP	PP	18 43 30.4	-3.7			
OJC				*e*S	S	18 50 49.3	+0.6			
OJC				MLR	MLR	19 21 12.3				
	comp=Z,2µm,19.3s,MS5.6									
FINES	**FINESS Array B**	**91.93**	**27**	P	**P**	**18 39 51.5**	**-1.2**			
	comp=Z,5.4nm,0.9s,mb4.9,baz=264,slow=2.1,SNR=19									
FINES				PP	PP	18 43 35.1	+0.4			
	comp=Z,3.5nm,0.8s,baz=214,slow=6.9,SNR=4.7									
FINES				LR	LR	19 16 28.0				
	comp=Z,2µm,21.4s,MS5.5,baz=283,slow=32									
FINES	**FINESS Array B**	**91.93**	**27**	P	**P**	**18 39 51.5**	**-1.2**			
FINES				PP	PP	18 43 35.1	+0.4			
FINES				LR	LR	19 16 28.0				
VNA1	**Neumayer--Stat**	**91.96**	**161**	*e*	**P**	**18 40 01.0**	**+8.3**			
VNA1	**Neumayer--Stat**	**91.96**	**161**	*e*	**P**	**18 40 09.9**	**+17**			
VNA1	**Neumayer--Stat**	**91.96**	**161**	P	**P**	**18 39 58.5**	**+5.8**			
VNA1				*e*		18 40 01.0				
VNA1				*e*	pP	18 40 09.9	+7.7			
PKSM	**Moragy**	**92.00**	**43**	⇓*i*P	**P**	**18 39 53.7**	**+0.3**			
SMY	**Shemya**	**92.09**	**324**	PFAKE		18 40 10.0	+16			
SMY				LR	LR					
	comp=Z,3µm,20.0s,MS5.7									
TIP	**Timpagrande**	**92.15**	**50**	*e*P	**P**	**18 39 53.7**	**-0.7**			
VNA2	**Neumayer--Watz**	**92.32**	**161**	*e*	**P**	**18 40 00.2**	**+5.9**			
VNA2	**Neumayer--Watz**	**92.32**	**161**	*e*	**P**	**18 40 03.0**	**+8.7**			
VNA2	**Neumayer--Watz**	**92.32**	**161**	*e*	**P**	**18 40 06.0**	**+12**			
VNA2	**Neumayer--Watz**	**92.32**	**161**	*e*	**P**	**18 40 12.6**	**+18**			
VNA2	**Neumayer--Watz**	**92.32**	**161**	P	**P**	**18 39 53.5**	**-0.8**			
VNA2				*e*		18 40 00.2				
VNA2				*e*	pP	18 40 03.0	-0.8			
VNA2				*e*		18 40 06.0				
VNA2				*e*		18 40 12.6				
VNA2				*e*		18 43 33.1				
VNA2				*e*		18 44 51.8				
NIE	**Niedzica**	**92.33**	**40**	*e*P	**P**	**18 39 56.3**	**+1.4**			
APA	**Apatity**	**92.42**	**20**⇑	*e*P	**P**	**18 39 51.0**	**-3.9**			
APA				*e*S	S	18 51 00.0	+6.3			
APA				*e*SS	SS	18 57 11.0	+2.1			
APA				pmax	pmax					
	comp=Z,10.0nm,1.0s,mb5.1									
APA				MLR	MLR					
	comp=Z,2µm,21.0s,MS5.4									
PSZ	**Piszkesteto**	**92.43**	**41**⇑	*i*PcP	PcP	18 39 56.8	+0.5			
PSZ				*i* PP	PP	18 43 42.6	+3.5			
PSZ	**Piszkesteto**	**92.43**	**41**⇑	*i*P	**P**	**18 39 56.9**	**+1.5**			
PSZ				*i*		18 43 42.6				
FX1	**Attu Island--F**	**92.60**	**324**	P	**P**	**18 39 55.9**	**-0.1**			
	comp=Z,37nm,0.8s,mb5.9,baz=201,slow=23,SNR=4.2									
FX1	**Attu Island--F**	**92.60**	**324**	*e*P	**P**	**18 39 57.0**	**+1.0**			
KECS	**Kecovo**	**92.68**	**41**	*i* P	**P**	**18 39 57.2**	**+0.7**			
SUW	**Suwalki**	**92.80**	**35**	*e*P	**P**	**18 39 57.0**	**+0.1**			
SUW				MLR	MLR	19 17 29.1				
	comp=Z,2µm,27.4s,MS5.5									
SUW	**Suwalki**	**92.80**	**35**	*e*P	**P**	**18 39 57.0**	**+0.1**			
STHS	**Stebnicka Huta**	**92.92**	**39**	*i* P	**P**	**18 39 58.7**	**+1.1**			
STHS				*e*sP	sP	18 40 04.5	-5.6			
STHS				*e*PP	PP	18 43 46.9	+3.9			
VSU	**Vasula**	**93.26**	**30***d*	*i*P	**P**	**18 39 57.9**	**-1.0**			
VSU	**Vasula**	**93.26**	**30**	*i* Pr		18 39 57.9				
JOF	**Joensuu**	**93.64**	**25**	*e*p	**P**	**18 39 59.1**	**-1.5**			
	comp=Z,19nm,0.8s,mb5.6									
KOLS	**Kolonicke sedl**	**93.70**	**40**	*e*P	**P**	**18 40 02.6**	**+1.4**			
KOLS				*e*	pP	18 40 10.3	-0.4			
KWP	**Kalwaria**	**93.78**	**39**	*e*P	**P**	**18 40 01.5**	**0.0**			
KWP				MLR	MLR	19 14 58.2				
	comp=Z,3µm,26.4s,MS5.6									
KWP	**Kalwaria**	**93.78**	**39**	*e*P	**P**	**18 40 01.5**	**0.0**			
SNAA	**Sanae**	**93.93**	**162**	P	**P**	**18 40 07.7**	**+6.0**			
SNAA	**Sanae**	**93.93**	**162**	*e*	**P**	**18 40 10.3**	**+8.6**			
SNAA	**Sanae**	**93.93**	**162**	*e*	**P**	**18 40 13.9**	**+12**			
SNAA	**Sanae**	**93.93**	**162**	*e*	**P**	**18 40 21.0**	**+19**			
SNAA	**Sanae**	**93.93**	**162**	LR	LR	19 18 10.2				
	comp=Z,212nm,20.8s,MS4.6,baz=157,slow=33									
SNAA	**Sanae**	**93.93**	**162**	*e*P	**P**	**18 39 59.5**	**-2.2**			
SNAA				pmax	pmax					
	comp=Z,36nm,1.3s									
SNAA	**Sanae**	**93.93**	**162**	*e*P	**P**	**18 39 59.5**	**-2.2**			
	comp=Z,36nm,1.3s,mb5.7									
BZS	**Buzias**	**94.16**	**43**	⇓P	**P**	**18 40 03.8**	**+0.4**			
MNK	**Minsk**	**95.22**	**33**	*e*P	**P**	**18 40 15.0**	**+7.0**			
AKASG	**Malin Array Be**	**97.39**	**37**	P	**P**	**18 40 15.8**	**-2.1**			
	comp=Z,0.2nm,0.3s,baz=283,slow=3.4,SNR=6.0									
AKASG	**Malin Array Be**	**97.39**	**37**	P	**P**	**18 40 15.8**	**-2.2**			
QSPA	**South Pole Qui**	**97.68**	**180**	*e*P	**P**	**18 40 18.7**	**0.0**			
	comp=Z,51nm,1.3s,mb5.9									
QSPA				LR	LR					
	comp=Z,2µm,21.0s,MS5.7									
KLMR	**Klimovskoe**	**98.05**	**25***c*	*i*P	**P**	**18 40 17.8**	**-2.9**			
KLMR				*e*SS	SS	18 58 30.7	+2.4			
KLMR				pmax	pmax					
	comp=Z,60nm,2.0s,mb5.8									
KLMR				pmax	pmax					
	comp=Z,110nm,5.8s									
TIXI	**Tiksi**	**98.21**	**350**	*e*P	**P**	**18 40 18.5**	**-2.7**			
SEY	**Seymchan**	**98.29**	**338**⇑	*e*P	**P**	**18 40 22.5**	**+0.8**			
KIS	**Kishinev**	**98.48**	**40**	*e*P	**P**	**18 40 27.0**	**+4.0**			
KIS				MLR	MLR					
	comp=Z,2µm,22.0s,MS5.5									
KIS				MLR	MLR					
	comp=E,2µm,21.0s									
KIS				MLR	MLR					
	comp=Z,3µm,23.0s									
NVL	**N'lazarevskaya**	**98.56**	**160**	*e*P	**P**	**18 40 30.8**	**+8.0**			
NVL				*e*		18 40 32.1				
NVL				*e*S		18 50 57.3				
NVL				*e*		18 51 45.4				
FUNA	**Funafuti**	**99.48**	**263**	PFAKE		18 40 40.0	+12			
FUNA				LR	LR					
	comp=Z,4µm,19.0s,MS6.0									
OBN	**Obninsk**	**99.56**	**31**⇑	*i*P	**P**	**18 40 27.0**	**-0.7**			
OBN				*e*		18 44 31.3				
OBN				pmax	pmax					
	comp=Z,21nm,1.2s,mb5.4									
OBN	**Obninsk**	**99.56**	**31**⇑	*i*P	**P**	**18 40 27.1**	**-0.6**			
OBN				LR	LR					
	comp=Z,2µm,19.0s,MS5.6									
MOS	**Moscow**	**99.79**	**30**	*e*P	**P**	**18 40 37.1**	**+8.4**			
MOS				*e*		18 44 37.0				
MOS				MLR	MLR					
	comp=Z,1µm,21.2s,MS5.4									
PET	**Petropavlovsk**	**100.66**	**328**	PFAKE		18 40 40.0	+7.3			
PET				LR	LR					
	comp=Z,1µm,21.0s,MS5.4									
MA2	**Magadan**	**100.89**	**336**	PFAKE		18 40 50.0	+16			
MA2				LR	LR					
	comp=Z,1µm,20.0s,MS5.5									
TSUM	**Tsumeb**	**101.77**	**108**	*e*Pdif	P	18 40 38.5	0.0			
	comp=Z,16nm,1.2s									
TSUM				LR	LR					
	comp=Z,5µm,22.0s,MS6.0									
SBA	**Scott Base**	**101.82**	**192**	PFAKE		18 40 50.0	+13			
SBA				LR	LR					
	comp=Z,1µm,20.0s,MS5.5									
VNDA	**Vanda**	**102.92**	**192**	PFAKE		18 40 50.0	+7.7			
VNDA				LR	LR					
	comp=Z,1µm,19.0s,MS5.5									
BR131	**Keskin Array S**	**104.46**	**46**	PFAKE		18 41 00.0	+10			
BR131				LR	LR					
	comp=Z,614nm,19.0s,MS5.2									
BRTR	**Keskin Array B**	**104.46**	**46**	Pdiff	Pdif	18 40 50.4	+0.6			
	comp=Z,0.6nm,0.6s,baz=225,slow=5.2,SNR=4.6									
BRTR				PP	PP	18 45 08.2	-3.4			
	comp=Z,1.6nm,0.8s,baz=309,slow=4.6,SNR=3.9									
BRTR				PKKPbc		18 56 40.2				
	comp=Z,0.4nm,0.5s,baz=72,slow=3.9,SNR=4.0									
SNZO	**South Karori**	**104.80**	**229**	PFAKE		18 41 00.0	+8.7			
SNZO				LR	LR					
	comp=Z,2µm,19.0s,MS5.7									
YAK	**Yakutsk**	**106.22**	**345**	PKP		18 45 09.6				
YAK				LR	LR					
	comp=Z,2µm,20.0s,MS5.6									
SYO	**Syowa Base**	**108.21**	**161**	⇓P	Pdif	18 41 27.0	+21			
SYO	**Syowa Base**	**108.21**	**161**	⇑PP	PP	18 45 31.7	-7.1			
SYO	**Syowa Base**	**108.21**	**161**	⇓*e*P	Pdif	18 41 27.0	+21			
SYO				⇑*e*PP	PP	18 45 31.7	-7.1			
ARU	**Arti**	**108.46**	**22**	*e*PKP		18 45 12.4				
ARU				LR	LR					
	comp=Z,424nm,22.0s,MS5.0									
KIV	**Kislovodsk**	**108.57**	**39**	*e*P	Pdif	18 41 07.4	-0.4			
KIV				*e*		18 51 39.7				
KIV				pmax	pmax					
	comp=Z,2.0nm,0.7s									
KIV				MLR	MLR					
	comp=Z,900nm,20.0s,MS5.3									
KIV	**Kislovodsk**	**108.57**	**39**	PFAKE		18 45 30.0				
KIV				LR	LR					
	comp=Z,1µm,21.0s,MS5.4									
LBTB	**Lobatse**	**109.39**	**114**	PFAKE		18 45 30.0				
LBTB				LR	LR					
	comp=Z,5µm,20.0s,MS6.1									
LSZ	**Lusaka**	**111.68**	**103**	PFAKE		18 45 30.0	+6.4			
LSZ				LR	LR					
	comp=Z,3µm,19.0s,MS5.9									
GNI	**Garni**	**111.86**	**41**	PFAKE		18 45 30.0	+6.6			
GNI				LR	LR					
	comp=Z,657nm,22.0s,MS5.2									
YSS	**Yuzh-Sakhalins**	**112.52**	**328**	*i* PKIKP	PKPdf	18 45 38.0	+13			
YSS				*e*		18 46 09.0				
YSS				*e*		18 52 04.0				
YSS				*e*SS	SS	19 02 08.0	+22			
YSS	**Yuzh-Sakhalins**	**112.52**	**328**	PFAKE		18 45 30.0	+5.5			
YSS				LR	LR					
	comp=Z,2µm,21.0s,MS5.7									
AKTO	**Aktyubinsk**	**112.68**	**26**	PKKPbc		18 56 16.2				
	comp=Z,2.2nm,0.9s,baz=136,slow=6.9,SNR=4.3									
ZRNK	**Zerenda**	**114.85**	**19**	*e*PKIKP	PKPdf	18 45 24.0	-5.0			
BRVK	**Borovoye**	**115.16**	**18**	*e*PKP	PKPdf	18 45 25.4	-4.2			
BRVK				LR	LR					
	comp=Z,450nm,22.0s,MS5.0									
HABR	**Khabarovsk**	**115.17**	**334**	*i* P	Pdif	18 41 28.9	-7.8			
BVAR	**Borovoye Array**	**115.22**	**18**	PKP	PKPdf	18 45 25.0	-4.7			
	comp=Z,2.9nm,0.8s,baz=315,slow=2.1,SNR=14									
BVAR				PP	PP	18 46 23.7	-6.4			
	comp=Z,3.4nm,0.9s,baz=304,slow=5.3,SNR=5.8									
BVAR				PKKPbc		18 56 07.7				
	comp=Z,2.4nm,1.1s,baz=180,slow=1.5,SNR=5.3									
ZAL	**Zalesovo**	**117.66**	**9**	PKP	PKPdf	18 45 29.4	-4.9			
	comp=Z,3.8nm,0.8s,baz=185,slow=2.3,SNR=23									
ZAL	**Zalesovo**	**117.66**	**9**	PKP	PKPdf	18 45 29.4	-4.9			
HNR	**Honiara**	**118.50**	**263**	PFAKE		18 45 40.0	+3.0			
HNR				LR	LR					
	comp=Z,2µm,21.0s,MS5.6									
KMBO	**Kilima Mbogo**	**119.42**	**87**	PFAKE		18 45 50.0	+11			
KMBO				LR	LR					
	comp=Z,1µm,21.0s,MS5.5									
KURK	**Kurchatov**	**119.54**	**14**	*i* PKIKP	PKPdf	18 45 33.2	-4.9			
KURK	**Kurchatov**	**119.54**	**14**	*e*PKPdf	PKPdf	18 45 32.9	-5.2			
KURK				LR	LR					
	comp=Z,680nm,20.0s,MS5.3									
MDJ	**Mudanjiang**	**120.54**	**334**	PKP	PKPdf	18 45 35.5	-4.8			
MDJ				PP	PP	18 47 02.5	-4.1			
MDJ				SS	SS	19 03 33.3	+2.2			
MDJ				PP	PP					
	comp=Z,140nm,5.2s									
MDJ				LR	LR					
	comp=N,1µm,29.0s,MS5.7									
MDJ				LR	LR					
	comp=E,3µm,30.8s,MS5.7									
MDJ				LR	LR					
	comp=Z,2µm,42.3s									
CASY	**Casey**	**120.82**	**186**	PFAKE		18 45 50.0	+10			
CASY				LR	LR					
	comp=Z,2µm,20.0s,MS5.7									
MOY	**Mondy**	**120.83**	**358**	*e*PKIKP	PKPdf	18 45 37.0	-3.6			
MAJO	**Matsushiro**	**121.89**	**322**	*e*PKIKP	PKPdf	18 45 38.7	-4.4			
MAJO				MLR	MLR					
	comp=Z,1µm,21.0s,MS5.6									
MAT	**Matsushiro**	**121.89**	**322**	PKP	PKPdf	18 45 38.3	-4.8			
MAT	**Matsushiro**	**121.89**	**322**	*e*PKP	PKPdf	18 45 38.0	-5.1			
MJAR	**Matsushiro Arr**	**121.89**	**322**	PKP	PKPdf	18 45 37.9	-5.1			
	comp=Z,4.3nm,0.8s,baz=62,slow=2.0,SNR=10									
MJAR	**Matsushiro Arr**	**121.89**	**322**	PKP	PKPdf	18 45 37.9	-5.1			
CN2	**Changchun**	**122.93**	**336**	*e*PKP	PKPdf	18 45 37.3	-7.5			
CN2				PP	PP	18 47 21.0	-2.3			
CN2				PP	PP					
	comp=Z,200nm,4.0s									
CN2				LR	LR					
	comp=N,1µm,20.0s,MS5.7									
CN2				LR	LR					
	comp=E,900nm,20.0s,MS5.7									
CN2				LR	LR					
	comp=Z,2µm,21.0s,MS5.7									
MKAR	**Makanchi Array**	**124.06**	**13**	PKP	PKPdf	18 45 41.1	-5.9			
	comp=Z,5.8nm,0.8s,baz=358,slow=2.3,SNR=44									
MKAR				PKKPbc		18 55 37.2				
	comp=Z,0.7nm,0.8s,baz=138,slow=4.2,SNR=4.6									
MKAR	**Makanchi Array**	**124.06**	**13**	PKP	PKPdf	18 45 41.1	-5.9			
MKAR				PKKPbc		18 55 37.2				
ULN	**Ulaanbaatar**	**124.08**	**352**	*e*PKIKP	PKPdf	18 45 42.1	-4.9			
ULN				MLR	MLR					
	comp=Z,2µm,20.0s,MS5.8									
TAU	**Tasmania Unive**	**124.19**	**223**	PFAKE		18 45 50.0	+2.6			
TAU				LR	LR					
	comp=Z,463nm,21.0s,MS5.1									
SONM	**Songino Array**	**124.20**	**353**	PKP	PKPdf	18 45 42.3	-4.9			
	comp=Z,12nm,0.7s,baz=338,slow=1.6,SNR=102									
SONM				PP	PP	18 47 28.0	-3.8			
	comp=Z,3.0nm,0.9s,slow=4.3,SNR=3.8									
SONM				PKKPbc		18 55 28.2				
	comp=Z,1.0nm,0.9s,baz=177,slow=3.7,SNR=5.7									
SONM				SKKP		18 59 44.6				
	comp=Z,0.7nm,0.9s,baz=187,slow=5.7,SNR=3.9									
USP	**Ospenovka**	**125.08**	**21**	P	PKPdf	18 45 44.9	-4.2			
	SNR=16									
EKS2	**Erkin-Say**	**125.35**	**22**	P	PKPdf	18 45 46.2	-3.4			
	SNR=15									
CHMS	**Chumysh**	**125.40**	**21**	P	PKPdf	18 45 45.8	-3.9			
	SNR=6.8									
CNB	**Canberra Magne**	**125.40**	**232**	*e*P	PKPdf	18 45 45.7	-4.2			
	comp=Z,26nm,1.1s									
AAK	**Ala-Archa**	**125.64**	**21**	P	PKPdf	18 45 46.7	-3.5			
	SNR=9.7									
AAK	**Ala-Archa**	**125.64**	**21**	*e*PKPdf	PKPdf	18 45 44.5	-5.6			
AAK				LR	LR					
	comp=Z,573nm,20.0s,MS5.2									
TKM2	**Tokmak 2**	**125.76**	**20**	P	PKPdf	18 45 46.4	-4.0			
	SNR=9.0									
KBK	**Karagaybulak**	**125.77**	**21**	P	PKPdf	18 45 46.8	-3.7			
	SNR=8.9									
AML	**Almayashu**	**125.78**	**22**	P	PKPdf	18 45 47.1	-3.4			
	SNR=25									
UCH	**Uchtor**	**126.00**	**21**	P	PKPdf	18 45 47.3	-3.6			
	SNR=24									
KZA	**Kyzart**	**126.39**	**21**	P	PKPdf	18 45 48.6	-3.0			
	SNR=6.8									
ULHL	**Ulahol**	**126.58**	**20**	P	PKPdf	18 45 48.8	-3.1			
	SNR=5.7									
KS15	**Wonju Array Si**	**126.99**	**330**	*e*PKPdf	PKPdf	18 45 47.7	-5.2			
INCN	**Inchon**	**127.57**	**331**	PFAKE		18 46 00.0	+5.9			
INCN				LR	LR					
	comp=Z,2µm,20.0s,MS5.7									
WMQ	**Urumqi**	**127.94**	**9**	PKP	PKPdf	18 45 50.0	-4.6			
WMQ				PP	PP	18 47 57.8	+1.4			
WMQ				PKS	PKS	18 49 25.3	+0.2			
WMQ				SS	SS	19 05 05.3	+0.8			
WMQ				PP	PP					
	comp=Z,530nm,6.5s									
WMQ				LR	LR					
	comp=N,2µm,22.0s,MS5.9									
WMQ				LR	LR					
	comp=E,2µm,24.0s,MS5.9									
WMQ				LR	LR					
	comp=Z,2µm,24.0s,MS5.8									
GUMO	**Guam**	**128.64**	**294**	PFAKE		18 46 00.0	+3.3			
GUMO				LR	LR					
	comp=Z,1µm,20.0s,MS5.6									
HHC	**Hu-ho-hao-te**	**130.06**	**346**	*e*PKP	PKPdf	18 45 55.0	-3.7			
HHC				PP	PP	18 48 13.3	+3.0			
HHC				PKS	PKS	18 49 29.3	+0.3			
HHC				SKS	SKS	18 53 01.0	-5.8			
HHC				SKKS		18 55 06.3				
HHC				SS	SS	19 05 28.5	-2.4			
HHC				PP	PP					
	comp=Z,280nm,9.9s									
HHC				LR	LR					
	comp=N,1µm,21.4s,MS5.7									
HHC				LR	LR					
	comp=E,920nm,20.2s,MS5.7									
HHC				LR	LR					
	comp=Z,2µm,22.6s,MS5.7									
CTA	**Charters Tower**	**131.46**	**250**	*e*P	PKPdf	18 45 58.3	-3.6			
	comp=Z,11nm,1.5s									
CTAO	**Charters Tower**	**131.46**	**250**	*e*PKIKP	PKPdf	18 45 57.9	-4.0			
CTAO				MLR	MLR					
	comp=Z,669nm,19.0s,MS5.4									
STKA	**Stephens Creek**	**132.65**	**233**	*e*P	PKPdf	18 45 59.0	-4.9			
	comp=Z,9.6nm,1.1s									
STKA	**Stephens Creek**	**132.65**	**233**	PKP	PKPdf	18 45 58.9	-5.0			
	comp=Z,3.1nm,0.8s,baz=183,slow=9.9,SNR=5.8									
GTA	**Gaotai**	**133.11**	**358**	PKP	PKPdf	18 46 00.5	-4.0			
GTA				XPKP		18 46 07.5				
GTA				PP	PP	18 48 27.0	-2.7			
GTA				PKS	PKS	18 49 34.8	+0.1			
GTA				SKS	SKS	18 53 06.5	-7.8			
GTA				SKKS		18 55 14.0				
GTA				PP	PP					
	comp=Z,370nm,5.7s									
GTA				LR	LR					
	comp=N,2µm,21.7s,MS5.8									
GTA				LR	LR					
	comp=E,810nm,19.8s,MS5.8									
GTA				LR	LR					
	comp=Z,2µm,23.6s,MS5.8									
SSE	**Sheshan**	**135.37**	**331**	*e*PKP	PKPdf	18 46 01.5	-7.5			
SSE				PP	PP	18 48 43.3	-1.1			
SSE				PP	PP					
	comp=Z,140nm,3.9s									
SSE				LR	LR					
	comp=N,600nm,28.0s,MS5.8									
SSE				LR	LR					
	comp=E,2µm,28.1s,MS5.8									
SSE				LR	LR					
	comp=Z,1µm,20.4s									
LZH	**Lanzhou**	**136.09**	**353**	*e*PKP	PKPdf	18 46 06.8	-3.3			
LZH				XPKP		18 46 11.5				
LZH				PP	PP	18 48 44.0	-4.6			
LZH				SKKS		18 55 38.0				
LZH				SS	SS	19 06 43.5	-0.4			
LZH				PP	PP					
	comp=Z,350nm,6.0s									
LZH				LR	LR					
	comp=N,3µm,21.0s									
LZH				LR	LR					
	comp=Z,4µm,22.0s,MS6.1									
MSEY	**Mahe Island**	**137.92**	**88**	PFAKE		18 46 20.0	+5.9			
MSEY				LR	LR					
	comp=Z,332nm,21.0s,MS5.0									
WHN	**Wuhan**	**138.78**	**338**	*e*PKP	PKPdf	18 46 04.5	-11			
NDI	**New Delhi**	**138.79**	**28**	*e*P	PKPdf	18 46 10.0	-5.3			
TATO	**Taipei**	**140.13**	**325**	PFAKE		18 46 30.0	+12			
TATO				LR	LR					
	comp=Z,2µm,21.0s,MS5.8									
ENH	**Enshi**	**140.61**	**344**	*e*PKPpre		18 46 07.5				
CD2	**Chengdu**	**141.20**	**352**	PKP	PKPdf	18 46 15.0	-4.6			
CD2				APKP		18 46 26.5				
CD2				PKS	PKS	18 49 48.5	-0.8			
CD2				SKS	SKS	18 53 19.0	-9.2			
CD2				LR	LR					
	comp=E,780nm,21.6s									
CD2				LR	LR					
	comp=Z,1µm,21.6s,MS5.5									
ASPA	**Alice Springs**	**141.85**	**241**	*e*P	PKPdf	18 46 09.3	-12			
KOLN	**Koldanda**	**142.21**	**21**	*e*P	PKPdf	18 46 12.3	-9.1			
	comp=Z,141nm,1.5s									
LSA	**Lhasa**	**142.31**	**9**	PKP	PKPdf	18 46 13.3	-8.2			
LSA	**Lhasa**	**142.31**	**9**	*e*PKPpre		18 46 12.9				
GKN	**Gorkha**	**142.34**	**19**	*e*P	PKPdf	18 46 12.4	-9.2			
	comp=Z,124nm,0.8s									
WB2	**Warramunga Arr**	**142.49**	**247**	*e*P	PKPdf	18 46 13.5	-8.6			
WRAB	**Tennant Creek**	**142.49**	**247**	*e*PKHKP		18 46 13.3				
WRAB				MLR	MLR					
	comp=Z,467nm,20.0s,MS5.2									
WRA	**Warramunga Arr**	**142.50**	**247**	PKhKP		18 46 13.3				
	comp=Z,16nm,0.9s,baz=105,slow=2.9,SNR=76									
KKN	**Kakani**	**142.75**	**18**	*e*P	PKPdf	18 46 13.8	-8.5			
	comp=Z,99nm,0.8s									
GUN	**Gumba**	**142.81**	**17**	*e*P	PKPdf	18 46 14.8	-7.6			
	comp=Z,284nm,0.9s									
DMN	**Daman**	**142.86**	**19**	*e*P	PKPdf	18 46 14.3	-8.2			
	comp=Z,132nm,0.9s									
PKI	**Pulchoki**	**142.99**	**18**	*e*P	PKPdf	18 46 14.9	-7.9			
	comp=Z,123nm,0.9s									
JIRN	**Jiri**	**143.14**	**17**	*e*P	PKPbc	18 46 14.8	-1.2			
	comp=Z,127nm,0.9s									
BHPL	**Bhopal**	**143.42**	**32**	*e*P	PKPbc	18 46 16.1	-0.9			
BHPL				AMb	AMB	18 46 17.6				
	comp=Z,41nm,1.2s									
POO	**Poona**	**144.89**	**42**	*e*P	PKPbc	18 46 19.5	-1.8			
POO				AMb	AMB	18

CHG	**Chiang Mai**	**153.65**	**357**	⇑P	PKPdf	18 46 42.6	+2.6
	comp=Z,14nm,0.8s							
DGAR	**Diego Garcia**	**154.96**	**91**	PFAKE		18 46 50.0	+8.1
DGAR				LR	LR			
	comp=Z,726nm,19.0s,MS5.5							
KKTK	**Khon Kaen**	**155.61**	**348**	PN	PKPdf	18 46 36.0	-6.6
NST	**Nakhon Sawan**	**156.68**	**354**	P	PKPab	18 47 05.0	-5.8
KKM	**Kota Kinabalu**	**157.06**	**306**	*e*PKPdf	PKPdf	18 46 39.5	-5.3
PALK	**Pallekele**	**157.45**	**49**	*e*PKPab	PKPab	18 47 12.9	-1.4
PALK				LR	LR			
	comp=Z,300nm,21.0s,MS5.1							
KSM	**Kuching**	**164.49**	**305**	*e*PKPdf	PKPdf	18 46 48.4	-4.4
KSM				*e*PKPab	PKPab	18 47 44.1	-0.6
KULM	**Kulim**	**166.79**	**347**	*e*PKPdf	PKPdf	18 46 50.2	-4.5
KULM				*e*PKPab	PKPab	18 47 53.3	-1.4
PSI	**Prapat**	**169.52**	**353**	PKP	PKPdf	18 46 51.9	-4.5
	comp=Z,12nm,0.9s							
PSI				PKPab	PKPab	18 48 04.7	-2.0
	comp=Z,7.7nm,0.7s,baz=20,slow=3.5,SNR=3.8							
COCO	**West Island**	**175.44**	**169**	PFAKE		18 47 10.0	+11
COCO				LR	LR			
	comp=Z,616nm,22.0s							

*NEIC **30** 18:39:46.8, 68.00N×167.33W, h10km, ML3.5(AEIC), After AEIC.*
*IDC **30** 18:39:49.7±4.8, 68.83N×167.93W, mb3.1/2, mb1 3.8/4, mb1mx3.4/22, mbtmp3.4/4, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx3.2/19, Error ellipse: s-maj=79.9km s-min=60.3km az=19.0*

ISC 30 18:39:47.0±1.6, 68.0N±0.1×167.5W±0.3, h10km, n10, σ0§82/12, mb3.1/2, Bering Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.44**	**185**	P	**Pn**	**18 40 27.0**	**-0.6**
TNA				S	**Sn**	**18 40 58.8**	**+1.1**
GAMB	**Gambell**	**4.57**	**204**	P	**Pn**	**18 40 57.6**	**-0.2**
GCSA	**Galena City Sc**	**5.35**	**122**	P	**Pn**	**18 41 08.6**	**-0.3**
IM3	**Indian Mountai**	**5.73**	**104**	P	**Pn**	**18 41 13.6**	**-0.7**
TT01	**Tatalina**	**6.96**	**132**	P	**Pn**	**18 41 30.8**	**-0.8**
ILAR	**Eielson Array**	**8.84**	**102**	Pn	**P**	**18 41 56.6**	**-1.1**
	0.4nm,0.3s,baz=303,slow=14,SNR=11							
ILAR				Sn	**Sn**	**18 43 39.2**	**+0.7**
	0.3nm,0.3s,baz=305,slow=25,SNR=5.4							
INK	**Inuvik**	**12.55**	**73**	Pn	**P**	**18 42 48.8**	**+0.6**
	0.3nm,0.3s,baz=300,slow=8.1,SNR=3.6							
INK				LR	LR	18 48 21.9		
	comp=Z,240nm,21.9s,baz=257,slow=41							
YKA	**Yellowknife Ar**	**22.17**	**79**	P	**P**	**18 44 45.7**	**+1.4**
	0.3nm,0.5s,mb3.0,baz=304,slow=10,SNR=3.2							
YKA	**Yellowknife Ar**	**22.17**	**79**	P	**P**	**18 44 45.7**	**+1.4**
TXAR	**Lajitas Array**	**53.35**	**102**	P	**P**	**18 49 13.9**	**+5.6**
	0.2nm,0.6s,mb3.2,baz=315,slow=5.3,SNR=4.0							

*PRU **30** 18:47:04.0, 50.25N×18.73E*
WAR 30 18:47:02.9, 50.28N×18.84E, h1km, MW2.5, Mw2.4, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.62**	**95**	*e*PG	Pg	18 47 15.0	-0.2
OJC				*e*SG	Sg	18 47 23.0	-0.5
OKC	**Ostrava-Krasne**	**0.63**	**225**	*e*PG	Pg	18 47 13.3	-2.1
OKC				*e*SG	Sg	18 47 22.1	-1.7
	17nm,0.6s						
NIE	**Niedzica**	**1.29**	**132**	*e*PG	Pg	18 47 27.0	-1.6
NIE				*e*SG	Sg	18 47 45.0	-0.7
DPC	**Dobruska-Polom**	**1.61**	**273**	*e*PG	Pg	18 47 31.6	-3.5
DPC				*e*SG	Sg	18 47 52.4	-4.2
	10.0nm,0.5s						
KSP	**Ksiaz**	**1.72**	**290**	*e*PG	Pg	18 47 35.0	-2.2
KSP				*e*SG	Sg	18 47 57.0	-3.1
STHS	**Stebnicka Huta**	**1.78**	**118**	*e*PN	Pn	18 47 36.1	+1.1
STHS				*e*SN	Sn	18 48 00.9	+2.3
STHS				*e*LG		18 48 10.0	
UPC	**Upice**	**1.82**	**278**	*e*SG	Sg	18 47 59.6	-4.0
UPC	**Upice**	**1.82**	**278**	*e*SG	Sg	18 47 59.6	-4.0
KECS	**Kecovo**	**2.10**	**148**	*e*PN	Pn	18 47 42.0	+2.4
KECS				*e*SN	Sn	18 48 06.0	-0.6
KECS				*e*LG		18 48 20.0	
PRU	**Pruhonice**	**2.78**	**266**	*e*SG	Sg	18 48 28.9	-6.5
BRG	**Berggiesshubel**	**3.18**	**283**	Sg	Sg	18 48 44.2	-4.4
KHC	**Kasperske Hory**	**3.60**	**253**	*e*SG	Sg	18 48 54.8	-8.0
KHC	**Kasperske Hory**	**3.60**	**253**	*e*Sg	Sg	18 48 54.8	-8.0
CLL	**Collm**	**3.84**	**288**	*e*SG	Sg	18 49 07.0	-3.8
CLL	**Collm**	**3.84**	**288**	*e*Sg	Sg	18 49 07.0	-3.8

IDC 30 18:55:21.0±3.0, 9.27N×92.47E, mb3.3/4, mb1 3.4/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=117.1km s-min=26.9km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.39**	**349**	P	P	19 02 44.8	-1.0
	0.3nm,0.7s,baz=169,slow=8.0,SNR=4.6						
SONM	**Songino Array**	**40.20**	**15**	P	P	19 02 59.2	-1.7
	0.2nm,0.2s,baz=200,slow=8.6,SNR=4.2						
BVAR	**Borovoye Array**	**47.15**	**342**	P	P	19 03 54.3	-2.7
	0.2nm,0.3s,baz=139,slow=9.1,SNR=4.7						
WRA	**Warramunga Arr**	**50.41**	**125**	P	P	19 04 20.6	-2.1
	0.2nm,0.4s,baz=306,slow=8.5,SNR=12						

MOS 30 19:09:19.9±1.1, 42.44N×46.84E, h15km, mb3.7/1, 1C-1D, Error ellipse: s-maj=22.2km s-min=8.8km az=40.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNBR	**Gunib**	**0.10**	**121**	⇑*i*PG	Pg	19 09 26.2	+2.9
GNBR				*e*S	Sb	19 09 34.0	+8.9
GNBR				pmax	pmax		
	comp=Z,85nm,0.3s						
KMKR	**Kumukh**	**0.36**	**149**	⇓*i*PG	Pg	19 09 28.0	+0.3
KMKR				*i* S	Sb	19 09 37.0	+4.3
KMKR				pmax	pmax		
	comp=Z,63nm,0.2s						
DBC	**Dubki**	**0.58**	**359**	*i* PG	Pg	19 09 31.5	-0.2
DBC				*i* S	Sb	19 09 43.0	+4.2
URKR	**Urkarakh**	**0.65**	**115**	*e*PG	Pg	19 09 32.0	-1.1
URKR				*e*S	Sb	19 09 43.5	+2.6
KSMR	**Kasumkent**	**1.27**	**131**	*e*PG	Pg	19 09 44.0	-1.5
KSMR				*i* S	Sb	19 10 02.0	+2.9
SNJR	**Sundja**	**1.62**	**293**	*e*PN	Pn	19 09 49.7	+1.5
SNJR				*e*S	Sn	19 10 11.6	+2.7
VLKR	**Vladikavkaz**	**1.71**	**291**	*e*PN	Pn	19 09 50.3	+0.9
VLKR				*e*S	Sn	19 10 13.3	+2.3
LACR	**Lac**	**1.92**	**282**	*e*PN	Pn	19 09 51.9	-0.5
ARNR	**Ardon**	**2.03**	**292**	*e*PN	Pn	19 09 55.2	+1.2
KMSR	**Komsomolskaya**	**2.09**	**297**	*e*PN	Pn	19 09 56.2	+1.3
KMSR				*e*S	Sn	19 10 23.7	+2.9
LSNR	**Lesken**	**2.38**	**291**	*e*PN	Pn	19 09 59.9	+0.9
LSNR				*e*S	Sn	19 10 29.7	+1.7
DIGR	**Digorskoe uzhe**	**2.45**	**282**	*e*PN	Pn	19 09 59.3	-0.7
DIGR				*e*S	Sn	19 10 28.7	-1.2

*FUNV **30** 19:21:42.9, 6.74N×73.16W, h172km, MW3.0*
*IDC **30** 19:21:43.5±0.8, 6.82N×73.04W, h155km±18km, mb2.9/1, mb1 3.3/3, mb1mx3.0/21, mbtmp3.5/3, Error ellipse: s-maj=70.1km s-min=7.7km az=132.0*

ISC 30 19:21:43.0±0.9, 6.91N±0.08×73.1W±0.1, h167km±9km, n9, σ0§95/15, mb3.2/1, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**40**	⇑*i*P	**P**	**19 22 12.9**	**+1.2**
CAPV				*i* S	**Sa**	**19 22 34.2**	**+0.3**
ROSC	**El Rosal**	**2.38**	**211**	P	**P**	**19 22 25.1**	**+1.0**
	17nm,0.3s,baz=277,slow=16,SNR=34						
ROSC				S	**S**	**19 22 54.1**	**-1.5**
	24nm,0.3s,baz=78,slow=20,SNR=11						
VIGV	**El Vigia**	**2.58**	**42**	*e*P	**P**	**19 22 27.4**	**+0.8**
VIGV				*e*S	**S**	**19 23 00.5**	**+0.5**
SOCV	**Socops**	**2.62**	**58**	*e*P	**P**	**19 22 27.8**	**+0.9**
SOCV				*e*S	**S**	**19 22 60.0**	**-0.8**
SDV	**Santo Domingo**	**3.14**	**51**	P	**P**	**19 22 34.5**	**+1.0**
	8.5nm,0.3s,baz=242,slow=8.1,SNR=52						
SDV				S	**S**	**19 23 11.5**	**-0.7**
	11nm,0.3s,baz=72,slow=21,SNR=21						
VIRV	**Villa del Rosa**	**3.64**	**11**	*i* P	**P**	**19 22 39.7**	**-0.1**
VIRV				*e*S	**S**	**19 23 22.2**	**-1.4**
BAUV	**El Baul**	**5.41**	**68**	*e*P	**P**	**19 23 01.3**	**-1.6**
BAUV				*e*S	**S**	**19 23 59.9**	**-4.9**
YKA	**Yellowknife Ar**	**63.19**	**340**	P	**P**	**19 31 55.4**	**+0.2**
	0.2nm,0.5s,mb3.2,baz=133,slow=6.5,SNR=6.0						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	PKPdf	19 41 17.2	+7.4
	0.4nm,0.9s,baz=106,slow=3.1,SNR=6.2						

*NEIC **30** 19:31:59.8±2.3, 36.25N×71.26E, h186km±19km, mb3.8/3, Error ellipse: s-maj=20.3km s-min=12.8km az=198.0*
*IDC **30** 19:32:01.2±6.1, 36.30N×71.26E, h199km±55km, mb3.2/6, mb1 3.3/10, mb1mx3.1/22, mbtmp3.8/10, Error ellipse: s-maj=36.2km s-min=19.0km az=26.0*
*NNC **30** 19:32:10.4±5.0, 37.12N×71.26E, h209km±30km, mb2.8, mpv4.3, Error ellipse: s-maj=55.2km s-min=26.1km az=18.0*

ISC 30 19:32:00.5±0.9, 36.34N±0.05×71.2E±0.1, h209km±11km, n35, σ0§81/41, mb3.3/6, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.09**	**18**	P	**P**	**19 33 30.0**	**+0.2**
	SNR=232						
UCH	**Uchtor**	**6.40**	**22**	P	**P**	**19 33 34.3**	**+0.4**
	SNR=24						
KZA	**Kyzart**	**6.52**	**27**	P	**P**	**19 33 35.9**	**+0.5**
	SNR=18						
EKS2	**Erkin-Say**	**6.61**	**17**	P	**P**	**19 33 36.6**	**+0.1**
	SNR=11						
AAK	**Ala-Archa**	**6.77**	**21**	P	**P**	**19 33 39.0**	**+0.4**
	SNR=24						
AAK	**Ala-Archa**	**6.77**	**21**	*e*Pn	**P**	**19 33 37.7**	**-0.9**
	24nm,0.4s						
KK31	**Karatay Array**	**6.78**	**355**	P	**P**	**19 33 37.9**	**-0.8**
	8.7nm,0.3s,baz=180,slow=13,SNR=567						
KK31				⇑S	**S**	**19 34 47.4**	**-7.8**
	5.2nm,0.4s,baz=190,slow=25,SNR=9.7						
KBK	**Karagaybulak**	**6.93**	**23**	P	**P**	**19 33 41.4**	**+0.8**
	SNR=16						
ULHL	**Ulahol**	**7.06**	**32**	P	**P**	**19 33 42.2**	**-0.1**
	SNR=11						
SMLA	**Simla**	**7.17**	**135**	*e*P	**P**	**19 33 45.2**	**+1.5**
SMLA				*e*S	**S**	**19 35 02.7**	**-1.7**
	319nm,0.4s						
CHMS	**Chumysh**	**7.18**	**21**	P	**P**	**19 33 44.0**	**+0.1**
	SNR=15						
USP	**Ospenovka**	**7.36**	**19**	P	**P**	**19 33 45.7**	**-0.5**
	SNR=10						
TKM2	**Tokmak 2**	**7.38**	**26**	P	**P**	**19 33 46.9**	**+0.4**
	SNR=23						
TKM2	**Tokmak 2**	**7.38**	**26**	⇓P	**P**	**19 33 46.6**	**+0.1**
	19nm,0.7s						
KLP	**Kalpa**	**7.54**	**127**	*e*P	**P**	**19 33 50.6**	**+2.0**
KLP				*e*S	**S**	**19 35 12.8**	**-0.3**
KLP				*e*S	**S**	**19 35 13.1**	**0.0**
KLP				AML	AML	19 35 15.8	
	comp=N,155nm,0.6s						
KLP				AML	AML	19 35 18.5	
	comp=E,143nm,0.4s						
KHET	**Khetri**	**9.10**	**154**	*e*P	**P**	**19 34 09.8**	**+0.9**
KHET				*e*S	**S**	**19 35 46.9**	**-2.3**
KHET				AML	AML	19 35 50.5	
	comp=N,7.7nm,0.2s						
KHET				AML	AML	19 35 51.8	
	comp=E,12nm,0.3s						
MK31	**Makanchi Array**	**13.31**	**35**	P	**P**	**19 35 02.1**	**-0.3**
	comp=E,0.7nm,0.4s,baz=238,slow=13,SNR=35						
MKAR	**Makanchi Array**	**13.31**	**35**	P	**P**	**19 35 02.4**	**0.0**
	comp=E,0.5nm,0.3s,baz=212,slow=13,SNR=20						
AB31	**Akbulak array**	**15.31**	**331**	⇑P	**P**	**19 35 28.6**	**+1.4**
	comp=E,0.9nm,0.4s,baz=147,slow=12,SNR=27						
AB31				⇑S	**S**	**19 38 10.8**	**-0.2**
	comp=E,1.0nm,0.6s,baz=154,slow=23,SNR=3.0						
VOSK	**Vostochnaya**	**16.38**	**359**	⇓P	**P**	**19 35 38.8**	**-1.3**
	comp=E,2.2nm,1.1s						
ZRNK	**Zerenda**	**16.68**	**355**	⇑P	**P**	**19 35 43.2**	**-0.4**
	comp=E,3.8nm,1.4s						
ZRNK	**Zerenda**	**16.68**	**355**	*e*P	**P**	**19 35 43.0**	**-0.6**
	comp=E,1.0nm,0.4s						
BVA0	**Borovoye Array**	**16.69**	**358**	P	**P**	**19 35 42.9**	**-0.8**
	comp=E,0.2nm,0.6s,baz=283,slow=39,SNR=24						
BVAR	**Borovoye Array**	**16.69**	**358**	P	**P**	**19 35 43.5**	**-0.3**
	comp=E,0.6nm,0.3s,baz=161,slow=9.2,SNR=19						
BRVK	**Borovoye**	**16.73**	**358**	*e*P	**P**	**19 35 43.5**	**-0.7**
	comp=E,1.5nm,0.4s						
AKTK	**Aktyubinsk**	**17.01**	**330**	P	**P**	**19 35 46.9**	**-0.5**
AKTO	**Aktyubinsk**	**17.01**	**330**	⇑P	**P**	**19 35 46.8**	**-0.6**
	comp=E,1.0nm,1.2s						
AKTO	**Aktyubinsk**	**17.01**	**330**	P	**P**	**19 35 46.9**	**-0.5**
	comp=E,0.3nm,0.3s,baz=129,slow=11,SNR=5.9						
ZAL	**Zalesovo**	**19.96**	**24**	P	**P**	**19 36 18.3**	**+0.3**
	comp=E,0.4nm,0.3s,baz=260,slow=8.4,SNR=3.6						
BRTR	**Keskin Array B**	**29.66**	**288**	P	**P**	**19 37 48.8**	**+0.1**
	comp=E,0.3nm,0.5s,mb3.1,baz=80,slow=8.8,SNR=3.7						
FINES	**FINESS Array B**	**37.72**	**326**	P	**P**	**19 38 57.5**	**+0.2**
	comp=E,0.7nm,0.4s,mb3.5,baz=135,slow=8.5,SNR=8.8						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**19 39 27.8**	**+0.6**
	comp=E,2.6nm,0.9s,mb3.7,baz=114,slow=8.0,SNR=15						
NOA	**NORSAR Array B**	**44.62**	**323**	P	**P**	**19 39 53.2**	**-0.1**
	comp=E,1.1nm,0.9s,mb3.2,baz=97,slow=7.7,SNR=2.7						
YKA	**Yellowknife Ar**	**81.40**	**3**	P	**P**	**19 43 55.6**	**+0.9**
	comp=E,0.2nm,0.5s,mb3.0,baz=353,slow=4.9,SNR=6.3						
WRA	**Warramunga Arr**	**81.74**	**122**	P	**P**	**19 43 57.6**	**+0.3**
	comp=E,0.6nm,0.6s,mb3.4,baz=324,slow=4.9,SNR=16						

*NEIC **30** 19:47:31.3±1.7, 11.52N×93.55E, h30km, mb3.8/3, Error ellipse: s-maj=32.3km s-min=23.9km az=70.0*
*IDC **30** 19:47:40.5±8.3, 13.54N×92.42E, mb3.6/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=178.4km s-min=51.6km az=146.0*

ISC 30 19:47:29.3±2.4, 11.5N±0.2×93.5E±0.3, h30km, n12, σ0§48/12, mb3.6/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**17.51**	**338**	*e*P	**P**	**19 51 32.6**	**-0.5**
PKI	**Pulchoki**	**17.73**	**336**	*e*P	**P**	**19 51 36.8**	**+1.0**
GUN	**Gumba**	**17.86**	**337**	*e*P	**P**	**19 51 37.8**	**+0.5**
	14nm,0.9s						
DMN	**Daman**	**17.89**	**335**	*e*P	**P**	**19 51 38.2**	**+0.4**
KKN	**Kakani**	**17.98**	**336**	*e*P	**P**	**19 51 38.5**	**-0.4**
	18nm,1.1s						
GKN	**Gorkha**	**18.43**	**334**	*e*P	**P**	**19 51 44.0**	**-0.6**
	6.4nm,0.5s						
KOLN	**Koldanda**	**18.70**	**332**	*e*P	**P**	**19 51 47.3**	**-0.4**
MKAR	**Makanchi Array**	**36.47**	**347**	P	**P**	**19 54 27.9**	**-5.6**
	0.6nm,0.8s,mb3.2,baz=180,slow=8.5,SNR=5.3						
SONM	**Songino Array**	**37.83**	**14**	P	**P**	**19 54 44.9**	**0.0**
	0.9nm,1.1s,mb3.4,baz=207,slow=6.4,SNR=4.4						
ZAL	**Zalesovo**	**42.92**	**352**	P	**P**	**19 55 22.4**	**-4.6**
	0.6nm,0.3s,mb3.8,baz=291,slow=8.6,SNR=3.3						
BRTR	**Keskin Array B**	**59.66**	**309**	P	**P**	**19 57 33.4**	**0.0**
	0.7nm,0.7s,mb3.8,baz=112,slow=7.8,SNR=3.8						
GERES	**GERESS Array B**	**74.76**	**318**	P	**P**	**19 59 08.4**	**0.0**
	0.2nm,0.4s,mb3.4,baz=104,slow=5.5,SNR=3.7						

*BJI **30** 20:00:21.8, 0.14N×97.32E, h22km, mB5.0, mb4.8, Ms4.9, Msz4.6*
*IDC **30** 20:00:31.4±0.9, 1.07N×97.09E, h21km±5km, mb4.0/9, mb1 4.1/10, mb1mx3.9/19, mbtmp4.1/10, ML3.6/1, Error ellipse: s-maj=34.6km s-min=16.1km az=50.0*
*NEIC **30** 20:00:31.4±0.5, 1.03N×97.19E, mb4.6/15, Error ellipse: s-maj=11.3km s-min=7.4km az=225.0*
*MOS **30** 20:00:31.2±1.0, 1.09N×97.14E, h33km, mb4.8/10, Error ellipse: s-maj=18.8km s-min=10.7km az=98.7*

ISC 30 20:00:29.7±0.6, 1.07N±0.07×97.16E±0.07, h22km, h22km±.4km:pP-P, n54, σ1§04/51, mb4.5/30, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.46**	**46**	Pn	**Pn**	**20 01 09.9**	**+0.5**
	13nm,0.3s,baz=220,slow=7.5,SNR=56						
IPM	**Ipoh**	**5.20**	**48**	P	**Pn**	**20 01 48.4**	**+0.1**
KULM	**Kulim**	**5.45**	**40**	*e*Pn	**Pn**	**20 01 51.5**	**-0.3**
KULM				*e*pPn		20 01 57.7	

KGM	**Kluang**	**6.23**	**81**	P	**Pn**	**20 02 03.7**	**+0.9**
KKM	**Kota Kinabalu**	**19.65**	**75**	P	**P**	**20 04 59.1**	**-1.0**
KKM	**Kota Kinabalu**	**19.65**	**75**	*e*P	**P**	**20 04 59.1**	**-1.0**
TSM	**Tawau**	**20.93**	**81**	P	**P**	**20 05 15.6**	**+2.0**
KMI	**Kunming**	**24.51**	**12**	⇓P	**P**	**20 05 51.0**	**+2.0**
KMI				AP		20 05 56.8	
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,590nm,14.5s						
GYA	**Guiyang**	**26.85**	**19**	⇑*i*P	**P**	**20 06 12.3**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**28.45**	**339**	*e*P	**P**	**20 06 26.3**	**+1.0**
	comp=Z,33nm,1.1s,mb4.9						
PKI	**Pulchoki**	**28.66**	**338**	*e*P	**P**	**20 06 29.0**	**+1.8**
	comp=Z,16nm,0.9s,mb4.7						
PKI	**Pulchoki**	**28.66**	**338**	*e*P	**P**	**20 06 29.0**	**+1.8**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
GUN	**Gumba**	**28.79**	**339**	*e*P	**P**	**20 06 28.8**	**+0.4**
	comp=Z,62nm,1.2s,mb5.2						
DMN	**Daman**	**28.81**	**337**	*e*P	**P**	**20 06 30.4**	**+1.9**
	comp=Z,13nm,0.8s,mb4.7						
KKN	**Kakani**	**28.91**	**338**	*e*P	**P**	**20 06 29.5**	**+0.1**
	comp=Z,26nm,1.0s,mb4.9						
KKN	**Kakani**	**28.91**	**338**	*e*P	**P**	**20 06 29.5**	**+0.1**
KKN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
LSA	**Lhasa**	**29.04**	**349**	P	**P**	**20 06 31.5**	**+0.9**
LSA	**Lhasa**	**29.04**	**349**	*e*P	**P**	**20 06 31.0**	**+0.4**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**29.04**	**349**	*e*P	**P**	**20 06 31.0**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.2						
GKN	**Gorkha**	**29.34**	**337**	*e*P	**P**	**20 06 33.5**	**+0.1**
	comp=Z,22nm,1.0s,mb4.9						
KOLN	**Koldanda**	**29.56**	**335**	*e*P	**P**	**20 06 35.7**	**+0.4**
	comp=Z,15nm,0.7s,mb4.8						
ENH	**Enshi**	**31.32**	**21**	*e*P	**P**	**20 06 48.7**	**-2.1**
	comp=Z,14nm,0.8s,mb4.9						
ENH				*e*pP	pP	20 06 55.3	-2.1
XAN	**Xi'an**	**34.60**	**17**	P	**P**	**20 07 17.5**	**-1.8**
XAN				AP	pP	20 07 24.5	-1.4
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GTA	**Gaotai**	**38.24**	**3**	*e*P	**P**	**20 07 50.0**	**0.0**
GTA				AP	pP	20 07 56.5	-0.1
GTA				XP	sP	20 07 59.8	+0.4
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**42.00**	**122**	P	**P**	**20 08 21.3**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=42						
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P	**P**	**20 08 21.4**	**0.0**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P	**P**	**20 08 21.4**	**0.0**
	comp=Z,6.1nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**42.01**	**122**	*e*P	**P**	**20 08 20.9**	**-0.5**
ASPA	**Alice Springs**	**43.35**	**127**	*e*P	**P**	**20 08 32.7**	**+0.4**
SONM	**Songino Array**	**47.27**	**8**	P	**P**	**20 09 03.2**	**-0.1**
	comp=Z,1.8nm,0.4s,mb4.3,baz=190,slow=9.3,SNR=36						
SONM				PcP	PcP	20 10 34.6	-0.1
	comp=Z,1.1nm,0.7s,baz=198,slow=2.8,SNR=4.3						
SONM				pPcP		20 10 41.1	
	comp=Z,0.6nm,0.5s,baz=190,slow=4.2,SNR=4.9						
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**20 09 04.0**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.4,baz=162,slow=9.1,SNR=55						
ULN	**Ulaanbaatar**	**47.40**	**9**	*e*P	**P**	**20 09 04.4**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**47.40**	**9**	*e*P	**P**	**20 09 04.4**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.2						
CN2	**Changchun**	**49.44**	**27**	*e*P	**P**	**20 09 18.5**	**-1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HIA	**Hailar**	**51.78**	**19**	*e*P	**P**	**20 09 36.9**	**-1.0**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HIA	**Hailar**	**51.78**	**19**	*e*P	**P**	**20 09 36.9**	**-1.0**
	comp=Z,6.3nm,0.8s,mb4.6						
KURK	**Kurchatov**	**51.91**	**345**	P	**P**	**20 09 38.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.7						
KURK	**Kurchatov**	**51.91**	**345**	P	**P**	**20 09 38.7**	**-0.2**
	comp=Z,3.4nm,0.3s,mb4.8						
STKA	**Stephens Creek**	**53.30**	**132**	P	**P**	**20 09 50.0**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.3,baz=312,slow=9.8,SNR=8.7						
STKA				pP	pP	20 09 56.2	-0.2
	comp=Z,7.1nm,0.7s,baz=307,slow=9.8,SNR=8.3						
STKA	**Stephens Creek**	**53.30**	**132**	*e*P	**P**	**20 09 49.8**	**+0.3**
STKA				*e*pP	pP	20 09 56.6	+0.2
ZAL	**Zalesovo**	**53.67**	**351**	P	**P**	**20 09 51.4**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.5,baz=291,slow=6.6,SNR=19						
NVS	**Novosibirsk**	**54.80**	**350**	*e*P	**P**	**20 09 57.5**	**-2.7**
NVS				pmax	pmax		
	comp=N,3.0nm,1.1s						
NVS				p

KK31 ⇑Sn **Sn** **20 09 10.4 -9.1**
comp=N,1.1nm,0.5s,baz=148,slow=24,SNR=7.9
AB31 Akbulak array 18.19 332 P **P** **20 09 28.6 +1.8**
comp=N,0.1nm,0.3s,slow=0.1,SNR=7.5

*NEIC **30** 21:03:15.3±0.4, 43.99N×105.50W, ML3.2, Error ellipse: s-maj=6.0km s-min=4.8km az=175.0, Suspected Mining explosion.*
NEIC 35 km [20 miles] S of Gillette.
*IDC **30** 21:03:16.6±1.8, 43.95N×105.60W, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, ML3.4/3, Error ellipse: s-maj=50.1km s-min=8.8km az=147.0*
ISC 30 21:03:13.7±0.5,**43.96N**±0.04×**105.52W**±0.06,**n39,** σ0§**84**/39,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.08**	**81**	*e*P	**Pb**	**21 03 35.6**	**+0.7**
RWWY	**Rawlins**	**2.59**	**209**	*e*P	**Pn**	**21 03 59.6**	**+2.1**
PHWY	**Pilot Hill**	**2.66**	**179**	*e*P	**Pn**	**21 03 59.7**	**+1.2**
LAO	**LASA Array**	**2.77**	**350**	*e*P	**Pn**	**21 04 01.0**	**+0.9**
PDAR	**Pinedale Array**	**3.18**	**249**	Pn	**Pn**	**21 04 10.9**	**+5.0**
	2.7nm,0.3s,baz=76,slow=15,SNR=48						
PDAR				Lg		21 04 52.8	
	2.9nm,0.3s,baz=72,slow=23,SNR=6.7						
GCMT	**Greycliff**	**3.47**	**303**	P	**Pn**	**21 04 10.2**	**+0.1**
LKWY	**Lake**	**3.56**	**281**	P	**Pn**	**21 04 12.2**	**+0.8**
LOHW	**Long Hollow**	**3.70**	**266**	*e*P	**Pn**	**21 04 14.2**	**+0.9**
MOOW	**Moose Ponds**	**3.79**	**269**	P	**Pn**	**21 04 14.2**	**-0.4**
SNOW	**Snow King Moun**	**3.83**	**264**	P	**Pn**	**21 04 16.2**	**+1.0**
YFT	**Old Faithful**	**3.86**	**279**	P	**Pn**	**21 04 15.9**	**+0.4**
IMW	**Indian Meadow**	**3.92**	**271**	*e*P	**Pn**	**21 04 16.8**	**+0.4**
REDW	**Red Top Meadow**	**3.92**	**263**	P	**Pn**	**21 04 16.4**	**0.0**
YMR	**Madison River**	**3.97**	**282**	*e*P	**Pn**	**21 04 17.2**	**0.0**
ISCO	**Idaho Springs**	**4.16**	**181**	*e*P	**Pn**	**21 04 20.6**	**+0.7**
AHID	**Auburn Hatcher**	**4.24**	**256**	*e*P	**Pn**	**21 04 20.9**	**-0.1**
QLMT	**Earthquake Lak**	**4.33**	**284**	P	**Pn**	**21 04 22.3**	**+0.1**
DGMT	**Dagmar**	**4.60**	**11**	P	**Pn**	**21 04 25.5**	**-0.6**
BOZ	**Bozeman (W)**	**4.67**	**293**	P	**Pn**	**21 04 27.7**	**+0.6**
SMCO	**Snowmass**	**4.90**	**193**	P	**Pn**	**21 04 30.1**	**-0.3**
EGMT	**Eagleton**	**5.02**	**325**	*e*P	**Pn**	**21 04 31.0**	**-1.1**
HWUT	**Hardware Ranch**	**5.04**	**244**	P	**Pn**	**21 04 31.1**	**-1.2**
TCUT	**Toone Canyon**	**5.20**	**239**	P	**Pn**	**21 04 34.0**	**-0.6**
HRY	**Holter Researc**	**5.23**	**304**	P	**Pn**	**21 04 34.5**	**-0.6**
DLMT	**Dillon**	**5.24**	**288**	P	**Pn**	**21 04 34.9**	**-0.3**
MCMT	**McKenzie Canyo**	**5.33**	**282**	P	**Pn**	**21 04 36.5**	**+0.1**
DAU	**Daniels Canyon**	**5.54**	**232**	P	**Pn**	**21 04 39.3**	**-0.2**
SPUT	**South Promonto**	**5.76**	**245**	P	**Pn**	**21 04 41.7**	**-0.8**
SRU	**San Rafael**	**6.13**	**219**	P	**Pn**	**21 04 47.2**	**-0.6**
PV10	**Paradox Valley**	**6.18**	**207**	P	**Pn**	**21 04 48.4**	**0.0**
PV01	**Paradox Valley**	**6.26**	**203**	P	**Pn**	**21 04 49.7**	**+0.1**
TMUT	**Trail Mountain**	**6.32**	**224**	P	**Pn**	**21 04 50.0**	**-0.3**
DUG	**Dugway**	**6.61**	**238**	P	**Pn**	**21 04 55.4**	**+1.0**
MSU	**Marysvale**	**7.40**	**225**	*e*P	**Pn**	**21 05 04.3**	**-1.3**
MVU	**Marysvale**	**7.43**	**225**	P	**Pn**	**21 05 05.6**	**-0.4**
ULM	**Lac du Bonnet**	**9.09**	**43**	Pn	**P**	**21 05 27.2**	**-2.0**
	1.0nm,0.3s,baz=227,slow=10,SNR=13						
ULM				Lg		21 07 57.4	
	0.2nm,0.3s,baz=139,slow=20,SNR=2.4						
WUAZ	**Wupatki**	**9.56**	**210**	P	**P**	**21 05 33.8**	**-1.8**
YKA	**Yellowknife Ar**	**19.31**	**347**	P	**P**	**21 07 44.0**	**+1.4**
	0.1nm,0.3s,baz=163,slow=12,SNR=5.1						
YKA	**Yellowknife Ar**	**19.31**	**347**	P	**P**	**21 07 44.0**	**+1.4**

*THR **30** 21:06:14.0±0.4, 32.17N×49.21E, h15km±2km, ML3.0*
*KISR **30** 21:06:14.0±0.5, 32.24N×49.21E, h33km, ML3.2*
*CSEM **30** 21:06:14.7±0.1, 32.21N×49.23E, h16km, ML3.5/3, Error ellipse: s-maj=2.0km s-min=1.0km az=112.0*
ISC 30 21:06:15.3±0.6,**32.22N**±0.05×**49.2E**±0.1,**h15**km,**n13,** σ0§**47**/22,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.32**	**251**	*e*PG	**Pg**	**21 06 21.3**	**-1.0**
SHGR				AML	AML	21 06 32.6	
	comp=N,2μm,0.5s						
ASAO	**Ashtian**	**2.44**	**17**	*e*PN	**Pn**	**21 06 55.9**	**+0.7**
NASN	**Na'in**	**3.14**	**78**	*e*PN	**Pn**	**21 07 04.9**	**-0.3**
NASN				*e*SG	**Sg**	**21 07 51.0**	**-8.8**
NASN				AML	AML	21 07 55.2	
	comp=N,37nm,0.5s						
NASN	**Na'in**	**3.14**	**78**	*e*Pn	**Pn**	**21 07 04.9**	**-0.3**
	SNR=52						
NASN				*e*Sg	**Sg**	**21 07 51.0**	**-8.8**
	comp=N,37nm,0.5s,SNR=90						
SNGE	**Sanandaj**	**3.24**	**333**	*e*PN	**Pn**	**21 07 07.3**	**+0.5**
SNGE				*e*SG	**Sg**	**21 07 57.1**	**-6.3**
SNGE				AML	AML	21 08 14.4	
	comp=N,26nm,0.6s						
SNGE	**Sanandaj**	**3.24**	**333**	*e*Pn	**Pn**	**21 07 07.3**	**+0.6**
	SNR=52						
SNGE				*e*Sg	**Sg**	**21 07 57.1**	**-6.2**
	comp=N,26nm,0.6s,SNR=90						
KBD	**Kabd**	**3.28**	**203**	*e*P	**Pn**	**21 07 07.3**	**0.0**
KBD				*e*S	**Sn**	**21 07 46.8**	**+0.4**
KBD				AML	AML	21 07 49.2	
	comp=Z,105nm,0.3s						
NAY	**Al-Naaiem**	**3.39**	**210**	*e*P	**Pn**	**21 07 08.6**	**-0.2**
NAY				*e*S	**Sn**	**21 07 49.4**	**+0.4**
RDF	**Al-Radifah**	**3.56**	**203**	*e*P	**Pn**	**21 07 11.0**	**-0.2**
RDF				*e*S	**Sn**	**21 07 54.0**	**+0.5**
RDF				AML	AML	21 07 55.4	
	comp=Z,34nm,0.4s						
QRN	**Al-Qurain**	**3.62**	**198**	*e*P	**Pn**	**21 07 11.6**	**-0.5**
QRN				AML	AML	21 07 55.9	
	comp=Z,39nm,0.2s						
THKV	**Tehran--Karaj**	**3.96**	**21**	*e*PN	**Pn**	**21 07 16.5**	**-0.3**
THKV				*e*SG	**Sg**	**21 08 17.6**	**-9.5**
THKV				AML	AML	21 08 31.1	
	comp=E,19nm,0.6s						
THKV	**Tehran--Karaj**	**3.96**	**21**	*e*Pn	**Pn**	**21 07 16.5**	**-0.4**
	SNR=52						
THKV				*e*Sg	**Sg**	**21 08 17.6**	**-9.5**
	comp=E,19nm,0.6s,SNR=90						
CHTH	**Charan**	**4.03**	**23**	*e*PN	**Pn**	**21 07 17.9**	**0.0**

*NIED **30** 21:07:00, 22.40N×121.30E, h62km, Mw4.4 Best double couple: M0 3.87×10^15 NP1:φs179°, δ90°, λ54°. NP2:φs89°, δ36°, λ179°.*
*MOS **30** 21:07:26.8±0.9, 22.38N×121.28E, h33km, mb4.5/7, Error ellipse: s-maj=20.8km s-min=9.5km az=117.5*
*BJI **30** 21:07:27.4, 22.57N×121.20E, h16km, mB4.6, mb4.2, ML4.4, Ms4.1, Msz3.7*
*NEIC **30** 21:07:31.3±0.9, 22.38N×121.24E, h57km±8km, mb4.3/11, Error ellipse: s-maj=9.7km s-min=7.5km az=201.0*
NEIC Recorded [2 TAP] in T'ai-tung and P'ing-tung; [1 TAP] in Chia-i, Kao-hsiung and T'ai-nan Counties.
*IDC **30** 21:07:33.5±3.9, 22.40N×121.31E, h77km±35km, mb3.9/16, mb1 4.0/17, mb1mx3.9/23, mbtmp4.2/17, MS3.5/4, Ms1 3.6/4, ms1mx3.1/28, Error ellipse: s-maj=22.7km s-min=15.3km az=61.0*
*JMA **30** 21:07:33.1±0.2, 22.45N×121.32E, h96km, M4.4*
ISC 30 21:07:31.2±0.4,**22.41N**±0.02×**121.21E**±0.04,**h71**km±5km, **n73,** σ0§**97**/88,**mb4.2**/27,**1C-4D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**1.79**	**11**	*e*Pn	**P**	**21 07 59.3**	**-1.4**
YHNB	**Yeheng**	**2.25**	**4**	*e*Pn	**P**	**21 08 07.5**	**+0.4**
TATO	**Taipei**	**2.56**	**6**	*e*Pn	**P**	**21 08 11.4**	**-0.1**
YOJ	**Yonaguni jima**	**2.63**	**39**	P	**P**	**21 08 13.3**	**+0.9**
YOJ				S	**S**	**21 08 43.8**	**+0.6**
HATJ	**Hateruma jima**	**2.90**	**55**	P	**P**	**21 08 16.8**	**+0.6**
HATJ				S	**S**	**21 08 49.8**	**-0.1**
IRIF	**Iriomote-Funau**	**3.01**	**50**	P	**P**	**21 08 18.1**	**+0.4**
IRIF				S	**S**	**21 08 53.3**	**+0.6**
JKRS	**Kuro-shima**	**3.15**	**54**	P	**P**	**21 08 20.3**	**+0.6**
JKRS				S	**S**	**21 08 56.3**	**0.0**
JIJ	**Ishigaki jima**	**3.33**	**54**	P	**P**	**21 08 22.3**	**+0.2**
JIJ				S	**S**	**21 08 58.9**	**-1.7**
QZH	**Quanzhou**	**3.48**	**317**	⇓*i*P	**P**	**21 08 20.8**	**-3.5**
QZH				S	**S**	**21 08 56.3**	**-8.1**
QZH				Smax			
	comp=N,2μm,0.4s						
QZH				Smax			
	comp=E,1μm,0.3s						
JTJ	**Tarama**	**3.90**	**55**	P	**P**	**21 08 30.6**	**+0.4**
JTJ				S	**S**	**21 09 14.3**	**-0.7**
PIP	**Pasuquin**	**4.10**	**188**	⇓*e*P	**P**	**21 08 32.9**	**-0.1**
PIP				*e*S	**S**	**21 09 19.2**	**-0.9**
SGCP	**Mt. Cagua**	**4.22**	**169**	*e*P	**P**	**21 08 35.5**	**+0.9**
SGCP				*e*S	**S**	**21 09 22.4**	**-0.7**
JMJ	**Miyako jima 2**	**4.45**	**57**	P	**P**	**21 08 38.0**	**+0.2**
JMJ				S	**S**	**21 09 28.2**	**-0.5**
JOGS	**Gusukube**	**4.51**	**58**	P	**P**	**21 08 39.2**	**+0.6**
JOGS				*e*S	**S**	**21 09 30.7**	**+0.5**
APYP	**Conner**	**4.53**	**180**	*e*P	**P**	**21 08 39.8**	**+0.9**
APYP				*e*S	**S**	**21 09 28.9**	**-1.8**
CVP	**Callao Caves**	**4.72**	**173**	⇓*i*P	**P**	**21 08 42.5**	**+0.9**
CVP				*i* S	**S**	**21 09 35.0**	**-0.5**
ABRA	**Dolores**	**4.76**	**186**	*e*P	**P**	**21 08 42.2**	**+0.1**
BCPH	**Baguio City Da**	**6.03**	**186**	⇓*i*P	**P**	**21 09 01.0**	**+1.4**
BCPH				*i* S	**S**	**21 10 08.5**	**+0.4**
BOLP	**Bolinao**	**6.12**	**192**	*e*P	**P**	**21 09 03.0**	**+2.0**
BOLP				*e*S	**S**	**21 10 07.6**	**-2.8**
BALP	**Baler**	**6.64**	**177**	*e*P	**P**	**21 09 09.5**	**+1.2**
SCZP	**Santa Cruz**	**6.71**	**191**	*e*P	**P**	**21 09 09.7**	**+0.4**
JOW	**Kunigami**	**7.79**	**54**	P	**P**	**21 09 22.0**	**-2.1**
	comp=E,2.4nm,0.3s,baz=207,slow=15,SNR=7.5						
JOW				LR	LR	21 11 35.1	
	comp=E,86nm,21.8s,baz=184,slow=31						
NJ2	**Nanjing**	**9.83**	**348**	*e*P	**P**	**21 09 48.3**	**-3.6**
NJ2				XP		21 10 02.8	
NJ2				S	**S**	**21 11 33.0**	**-8.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,70nm,3.5s						
NJ2				Smax			
	comp=N,160nm,0.9s						
NJ2				Smax			
	comp=E,110nm,0.9s						
NJ2				LR	LR		
	comp=N,1μm,13.9s						
NJ2				LR	LR		
	comp=E,130nm,15.3s						
NJ2				LR	LR		
	comp=Z,260nm,14.5s						
WHN	**Wuhan**	**10.16**	**324**	*e*P	**P**	**21 09 54.0**	**-2.5**
ENH	**Enshi**	**13.10**	**309**	*e*Pn	**P**	**21 10 33.8**	**-2.0**
	comp=Z,10nm,0.7s						
GYA	**Guiyang**	**13.84**	**290**	⇑*i*P	**P**	**21 10 44.8**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,130nm,4.5s						
CD2	**Chengdu**	**17.73**	**302**	P	**P**	**21 11 35.8**	**+0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CD2				LR	LR		
	comp=N,270nm,11.4s						
CD2				LR	LR		
	comp=Z,230nm,12.0s						
HHC	**Hu-ho-hao-te**	**20.11**	**338**	*e*P	**P**	**21 12 02.5**	**+0.9**
HHC				AP		21 12 08.0	
HHC				XP		21 12 13.0	
HHC				PP	PP	21 12 25.8	+2.8
HHC				AMB	AMB		
	comp=Z,140nm,5.6s						
HHC				LR	LR		
	comp=N,270nm,13.1s						
HHC				LR	LR		
	comp=E,140nm,11.0s						
HHC				LR	LR		
	comp=Z,130nm,13.1s						
LZH	**Lanzhou**	**20.33**	**316**	*e*P	**P**	**21 12 05.0**	**+1.0**
LZH				AP		21 12 11.5	
LZH				XP		21 12 15.5	
LZH				PP	PP	21 12 24.5	-1.6
LZH				*e*S	**S**	**21 15 41.0**	**-1.9**
LZH				XS		21 15 50.5	
LZH				SS	SS	21 16 12.0	-4.4
LZH				AMB	AMB		
	comp=Z,50nm,1.5s						
LZH				AMB	AMB		
	comp=Z,230nm,4.2s						
LZH				LR	LR		
	comp=E,560nm,9.1s						
LZH				LR	LR		
	comp=Z,780nm,10.0s						
MJAR	**Matsushiro Arr**	**20.38**	**43**	P	**P**	**21 12 04.8**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=114,slow=8.6,SNR=4.0						
MJAR	**Matsushiro Arr**	**20.38**	**43**	P	**P**	**21 12 04.8**	**+0.3**
ULN	**Ulaanbaatar**	**27.82**	**339**	*e*P	**P**	**21 13 15.0**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.2						
ULN	**Ulaanbaatar**	**27.82**	**339**	*e*P	**P**	**21 13 15.0**	**-0.8**
	comp=Z,2.9nm,0.4s,mb4.2						
LSA	**Lhasa**	**27.91**	**291**	P	**P**	**21 13 19.0**	**+2.2**
LSA	**Lhasa**	**27.91**	**291**	*e*P	**P**	**21 13 18.6**	**+1.8**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**27.91**	**291**	*e*P	**P**	**21 13 18.6**	**+1.8**
	comp=Z,4.9nm,0.6s,mb4.2						
ASAJ	**Asahikawa**	**27.93**	**34**	P	**P**	**21 13 16.6**	**-0.2**
	comp=Z,7.4nm,0.7s,mb4.3,baz=87,slow=16,SNR=9.0						
ASAJ				LR	LR	21 23 46.9	
	comp=Z,426nm,18.9s,baz=70,slow=35						
SONM	**Songino Array**	**28.01**	**338**	P	**P**	**21 13 17.1**	**-0.4**
	comp=Z,6.2nm,0.7s,mb4.2,baz=151,slow=9.7,SNR=60						
SONM				LR	LR	21 25 53.6	
	comp=Z,88nm,18.5s,baz=195,slow=39						
GUN	**Gumba**	**32.37**	**287**	*e*P	**P**	**21 13 57.3**	**+1.1**
	comp=Z,16nm,1.0s,mb4.7						
KKN	**Kakani**	**32.89**	**287**	*e*P	**P**	**21 14 00.8**	**0.0**
	comp=Z,9.9nm,1.1s,mb4.6						
KKN	**Kakani**	**32.89**	**287**	*e*P	**P**	**21 14 00.8**	**0.0**
KKN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
DMN	**Daman**	**33.04**	**286**	*e*P	**P**	**21 14 02.5**	**+0.4**
	comp=Z,18nm,1.2s,mb4.8						
GKN	**Gorkha**	**33.47**	**287**	*e*P	**P**	**21 14 05.9**	**+0.1**
KOLN	**Koldanda**	**34.38**	**287**	*e*P	**P**	**21 14 11.9**	**-1.7**
	comp=Z,12nm,1.1s,mb4.6						
MKAR	**Makanchi Array**	**39.63**	**317**	P	**P**	**21 14 58.2**	**+0.7**
	comp=Z,3nm,0.7s,mb4.1,baz=115,slow=9.6,SNR=29						
ZAL	**Zalesovo**	**41.75**	**328**	P	**P**	**21 15 16.2**	**+1.4**
	comp=Z,4.6nm,0.6s,mb4.4,baz=351,slow=6.3,SNR=25						
NVS	**Novosibirsk**	**43.01**	**329**	*e*P	**P**	**21 15 25.3**	**+0.1**
KURK	**Kurchatov**	**43.47**	**321**	P	**P**	**21 15 29.6**	**+0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**43.47**	**321**	P	**P**	**21 15 29.6**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**44.00**	**162**	*e*P	**P**	**21 15 32.7**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**44.00**	**162**	*e*P	**P**	**21 15 32.7**	**-0.9**
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Ar**	**44.01**	**162**	P	**P**	**21 15 32.9**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.1,baz=344,slow=8.8,SNR=13						
WRA				PcP	PcP	21 17 17.6	-1.1
	comp=Z,0.5nm,0.5s,baz=345,slow=3.7,SNR=5.9						
BVAR	**Borovoye Array**	**49.06**	**322**	P	**P**	**21 16 13.6**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=106,slow=8.3,SNR=7.6						
BVAR				PcP	PcP	21 17 35.3	-0.8
	comp=Z,0.9nm,0.5s,baz=123,slow=3.2,SNR=4.4						
BRVK	**Borovoye**	**49.13**	**322**	*e*P	**P**	**21 16 13.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**49.13**	**322**	*e*P	**P**	**21 16 13.8**	**+0.2**
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**49.84**	**321**	*e*P	**P**	**21 16 19.0**	**0.0**
ZRNK				*e*	pP	21 16 35.1	-1.8
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**49.84**	**321**	*e*P	**P**	**21 16 19.0**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.1						
ZRNK				*e*	pP	21 16 35.1	-1.8
STKA	**Stephens Creek**	**57.40**	**159**	P	**P**	**21 17 14.4**	**-0.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=6.7,slow=16,SNR=2.9						
JOF	**Joensuu**	**70.26**	**331**	*e*p	**P**	**21 18 37.2**	**-1.2**
	comp=Z,4.4nm,0.8s,mb4.3						
KEV	**Kevo**	**70.62**	**338**	*e*p	**P**	**21 18 39.9**	**-0.7**
	comp=Z,23nm,1.4s,mb4.8						
KEV	**Kevo**	**70.62**	**338**	*e*P	**P**	**21 18 39.9**	**-0.7**
KEV				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.8						
ILAR	**Eielson Array**	**70.77**	**27**	P	**P**	**21 18 41.7**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.7,baz=293,slow=8.0,SNR=10						
ARCES	**ARCESS Array B**	**71.18**	**338**	P	**P**	**21 18 43.8**	**-0.2**
	comp=Z,1.2nm,0.6s,mb3.9,baz=69,slow=10,SNR=5.9						
KAF	**Kangasniemi**	**72.70**	**331**	*e*p	**P**	**21 18 53.5**	**+0.5**
FINES	**FINESS Array B**	**72.98**	**330**	P	**P**	**21 18 53.8**	**-0.8**
	comp=Z,1.8nm,0.7s,mb4.0,baz=63,slow=4.3,SNR=9.6						
BRTR	**Keskin Array B**	**74.24**	**307**	P	**P**	**21 19 03.6**	**+1.1**
	comp=Z,0.4nm,0.4s,mb3.5,baz=164,slow=5.2,SNR=4.7						
INK	**Inuvik**	**74.86**	**22**	P	**P**	**21 19 04.8**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.2,baz=284,slow=6.0,SNR=14						
NOA	**NORSAR Array B**	**79.80**	**332**	P	**P**	**21 19 33.0**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=56,slow=7.8,SNR=3.6						
NOA				LR	LR	21 58 31.5	
	comp=Z,31nm,18.4s,baz=355,slow=38						
GERES	**GERESS Array B**	**84.22**	**321**	P	**P**	**21 19 57.1**	**+1.0**
	comp=Z,0.7nm,0.9s,mb3.5,baz=56,slow=4.8,SNR=4.2						
YKA	**Yellowknife Ar**	**84.59**	**23**	P	**P**	**21 19 57.4**	**-0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=311,slow=4.8,SNR=34						
YKA	**Yellowknife Ar**	**84.59**	**23**	P	**P**	**21 19 57.4**	**-0.2**
SDV	**Santo Domingo**	**146.80**	**22**	*e*PKPdf	PKPdf	21 27 06.4	+2.1
SDV				*e*PKPbc	PKPbc	21 27 07.3	+1.4
OTAV	**Otavalo**	**150.44**	**43**	*e*PKPbc	PKPdf	21 27 17.8	+7.7

*NIED **30** 21:13:00, 32.20N×142.10E, h8km, Mw4.4 Best double couple: M0 4.09×10^15 NP1:φs301°, δ88°, λ90°. NP2:φs117°, δ2°, λ87°.*
*IDC **30** 21:13:00.9±0.8, 32.16N×141.85E, mb4.0/14, mb1 4.1/17, mb1mx4.0/25, mbtmp4.0/17, ML4.1/3, Error ellipse: s-maj=20.4km s-min=16.8km az=49.0*
*JMA **30** 21:13:02.2±0.3, 32.19N×142.08E, h93km, M3.9*
*MOS **30** 21:13:03.9±1.0, 32.21N×141.88E, h36km, mb4.7/6, Error ellipse: s-maj=22.0km s-min=8.6km az=116.8*
*BJI **30** 21:13:05.4, 32.54N×141.75E, h29km, mB5.0, mb4.1, Ms4.7, Msz4.3*
*NEIC **30** 21:13:06.2±1.5, 32.12N×141.74E, h37km±11km, mb4.7/7, MW4.3(NIED), Error ellipse: s-maj=12.2km s-min=10.7km az=137.0*
ISC 30 21:13:01.1±1.6,**32.16N**±0.04×**141.98E**±0.08,**h20**km±12km, **n54,** σ0§**99**/67,**mb4.2**/23,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.05**	**298**	P	**Pn**	**21 13 36.5**	**+1.3**
JHJ	**Hachijo jima 2**	**2.08**	**298**	Pn	**Pn**	**21 13 36.9**	**+1.3**
	48nm,0.3s,baz=242,slow=22,SNR=10						
JHJ				Sn	**Sn**	**21 14 02.4**	**+1.3**
	95nm,0.3s,baz=78,slow=23,SNR=5.8						
BSO1	**Boso 1**	**2.62**	**342**	P	**Pn**	**21 13 43.2**	**-0.1**
BSO1				*e*S	**Sn**	**21 14 16.2**	**+1.4**
BSO3	**Boso 3**	**2.90**	**335**	P	**Pn**	**21 13 47.6**	**+0.3**
BSO3				S	**Sn**	**21 14 23.2**	**+1.2**
BSO4	**Boso 4**	**3.13**	**335**	P	**Pn**	**21 13 50.8**	**+0.2**
BSO4				S	**Sn**	**21 14 28.2**	**+0.4**
JIM2	**Oshima 3**	**3.32**	**321**	*e*S	**Sn**	**21 14 31.3**	**-1.2**
JOD2	**Odawara 2**	**3.92**	**323**	P	**Pn**	**21 14 01.9**	**+0.2**
JRY	**Ryogami san**	**4.61**	**327**	P	**Pn**	**21 14 11.7**	**+0.1**
JAG	**Ashikaga**	**4.74**	**335**	P	**Pn**	**21 14 12.7**	**-0.6**
JAG				S	**Sn**	**21 15 06.6**	**-1.8**
CBIJ	**Chichi jima**	**5.05**	**178**	Pn	**Pn**	**21 14 18.4**	**+0.6**
	32nm,0.3s,baz=6.0,slow=23,SNR=14						
CBIJ				Sn	**Sn**	**21 15 14.2**	**-2.1**
	43nm,0.3s,baz=314,slow=23,SNR=6.6						
CBIJ	**Chichi jima**	**5.05**	**178**	P	**Pn**	**21 14 17.9**	**+0.1**
CBIJ				S	**Sn**	**21 15 14.1**	**-2.2**
MJAR	**Matsushiro Arr**	**5.37**	**326**	Pn	**Pn**	**21 14 21.8**	**-0.4**
	3.2nm,0.3s,baz=151,slow=12,SNR=25						
MJAR				Sn	**Sn**	**21 15 23.1**	**-1.1**
	2.2nm,0.3s,baz=27,slow=18,SNR=5.0						
MAJO	**Matsushiro**	**5.37**	**326**	*e*P	**Pn**	**21 14 23.6**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,60nm,1.2s						
MAJO	**Matsushiro**	**5.37**	**326**	*e*Pn	**Pn**	**21 14 23.6**	**+1.3**
	comp=Z,60nm,1.2s						
MAT	**Matsushiro**	**5.37**	**326**	P	**Pn**	**21 14 23.0**	**+0.8**
MAT				S	**Sn**	**21 15 22.2**	**-2.0**
MAT	**Matsushiro**	**5.37**	**326**	P	**Pn**	**21 14 23.6**	**+1.4**
MAT				S	**Sn**	**21 15 22.4**	**-1.8**
MAT	**Matsushiro**	**5.37**	**326**	*e*P	**Pn**	**21 14 23.0**	**+0.8**
MAT				*e*S	**Sn**	**21 15 22.0**	**-2.2**
JMM	**Marumori**	**5.77**	**351**	P	**Pn**	**21 14 26.2**	**-1.7**
JMM				S	**Sn**	**21 15 26.8**	**-7.6**
JMK	**Ichinoseki**	**6.80**	**355**	P	**Pn**	**21 14 41.1**	**-1.4**
JMK				S	**Sn**	**21 15 52.1**	**-8.0**
ASAJ	**Asahikawa**	**11.95**	**2**	Pn	**P**	**21 15 51.9**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=67,slow=31,SNR=7.7						
ASAJ	**Asahikawa**	**11.95**	**2**	P	**P**	**21 15 51.9**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**31.11**	**311**	P	**P**	**21 19 21.7**	**+1.4**
	comp=Z,2.9nm,1.0s,mb4.0,baz=116,slow=8.2,SNR=12						
BOD	**Bodaibo**	**31.96**	**332**	*e*P

az=55.0
*JMA **30** 21:14:48.8±0.2,32.23N×142.02E,h18km,M4.7*
*BJI **30** 21:14:49.9,32.19N×141.80E,h29km,mB4.8,mb4.5,Ms4.2,Msz4.0*
*NEIC **30** 21:14:52.4±2.2,32.15N×141.73E,h27km±14km,mb4.8/33,Error ellipse: s-maj=7.3km s-min=5.7km az=104.0*
*MOS **30** 21:14:52.9±0.8,32.31N×141.70E,h36km,mb5.0/29,Error ellipse: s-maj=16.0km s-min=5.9km az=119.1*

ISC 30 21:14:50.0±0.3,32.15N±0.03×141.83E±0.04,h24km, h24km±3.6km:pP-P,n145,σ1s08/162,mb4.6/57,MS4.1/4, 2C-5D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**1.95**	**300**	P		**Pn**	**21 15 23.3**	**+1.1**
JHJ2				*e*S		**Sn**	**21 15 48.6**	**+2.4**
JHJ	**Hachijo jima 2**	**1.98**	**300**	Pn		**Pn**	**21 15 23.7**	**+1.1**
	107nm,0.3s,baz=181,slow=12,SNR=4.5							
JHJ				Sn		**Sn**	**21 15 48.4**	**+1.5**
	158nm,0.3s,baz=81,slow=22,SNR=4.8							
JHJ				LR		LR	21 16 17.6	
	comp=Z,1μm,18.0s,baz=127,slow=46							
BSO1	**Boso 1**	**2.60**	**344**	P		**Pn**	**21 15 31.1**	**-0.3**
BSO1				*e*S		**Sn**	**21 16 01.6**	**-0.9**
BSO2	**Boso 2**	**2.75**	**341**	*e*S		**Sn**	**21 16 07.6**	**+1.3**
BSO3	**Boso 3**	**2.87**	**338**	*e*S		**Sn**	**21 16 08.3**	**-1.1**
JKO	**Kozu shima**	**3.04**	**313**	P		**Pn**	**21 15 39.1**	**+1.4**
JKO				*e*S		**Sn**	**21 16 14.8**	**+1.1**
BSO4	**Boso 4**	**3.09**	**337**	P		**Pn**	**21 15 38.6**	**+0.1**
BSO4				*e*S		**Sn**	**21 16 16.1**	**+1.0**
JIM2	**Oshima 3**	**3.25**	**323**	*e*S		**Sn**	**21 16 20.6**	**+1.5**
JOD2	**Odawara 2**	**3.85**	**324**	P		**Pn**	**21 15 49.6**	**+0.3**
JOD2				*e*S		**Sn**	**21 16 32.6**	**-1.8**
JYN	**Shimob**	**4.32**	**322**	*e*S		**Sn**	**21 16 47.1**	**+1.0**
JRY	**Ryogami san**	**4.56**	**329**	P		**Pn**	**21 15 58.9**	**-0.4**
JRY				*e*S		**Sn**	**21 16 52.7**	**+0.5**
JAG	**Ashikaga**	**4.70**	**336**	P		**Pn**	**21 16 00.5**	**-0.7**
JAG				*e*S		**Sn**	**21 16 53.7**	**-2.0**
CBIJ	**Chichi jima**	**5.05**	**176**	Pn		**Pn**	**21 16 05.4**	**-0.8**
	31nm,0.3s,baz=270,slow=20,SNR=2.8							
CBIJ				Sn		**Sn**	**21 17 00.2**	**-4.2**
	46nm,0.3s,baz=281,slow=22,SNR=3.6							
CBIJ	**Chichi jima**	**5.05**	**176**	P		**Pn**	**21 16 03.0**	**-3.2**
CBIJ				*e*S		**Sn**	**21 17 01.3**	**-3.2**
MJAR	**Matsushiro Arr**	**5.31**	**327**	Pn		**Pn**	**21 16 09.6**	**-0.2**
	5.0nm,0.3s,baz=152,slow=12,SNR=12							
MJAR				Sn		**Sn**	**21 17 09.8**	**-1.2**
	9.9nm,0.3s,baz=151,slow=15,SNR=5.1							
MJAR	**Matsushiro Arr**	**5.31**	**327**	Pn		**Pn**	**21 16 09.6**	**-0.2**
MJAR				Sn		**Sn**	**21 17 09.8**	**-1.2**
MAJO	**Matsushiro**	**5.31**	**327**	*e*P		**Pn**	**21 16 09.9**	**0.0**
MAT	**Matsushiro**	**5.31**	**327**	P		**Pn**	**21 16 09.3**	**-0.6**
MAT				S		**Sn**	**21 17 07.8**	**-3.2**
MAT	**Matsushiro**	**5.31**	**327**	P		**Pn**	**21 16 10.0**	**+0.1**
MAT				*e*S		**Sn**	**21 17 10.2**	**-0.8**
MAT	**Matsushiro**	**5.31**	**327**	*e*P		**Pn**	**21 16 09.0**	**-0.9**
MAT				*e*S		**Sn**	**21 17 08.0**	**-3.0**
JMM	**Marumori**	**5.76**	**352**	P		**Pn**	**21 16 14.8**	**-1.5**
JMM				*e*S		**Sn**	**21 17 14.5**	**-8.0**
JNS	**Sasagawa**	**6.02**	**341**	*e*S		**Sn**	**21 17 25.0**	**-3.8**
ASAJ	**Asahikawa**	**11.96**	**3**	Pn		**P**	**21 17 38.3**	**-3.7**
	1.5nm,0.3s,baz=180,slow=12,SNR=5.6							
ASAJ	**Asahikawa**	**11.96**	**3**	P		**P**	**21 17 38.3**	**-3.7**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**14.80**	**2**	P		**P**	**21 18 17.7**	**-1.8**
YSS				MLR		MLR		
	comp=Z,500nm,14.0s							
HABR	**Khabarovsk**	**17.09**	**344**	*i* P		**P**	**21 18 49.7**	**+0.9**
HABR				*e*S		**S**	**21 21 54.6**	**-2.1**
HABR				pmax		pmax		
	comp=Z,65nm,1.7s							
CN2	**Changchun**	**17.35**	**317**	*e*P		**P**	**21 18 50.5**	**-1.6**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.3s							
CN2				LR		LR		
	comp=N,500nm,14.0s							
CN2				LR		LR		
	comp=E,500nm,14.0s							
CN2				LR		LR		
	comp=Z,300nm,18.0s							
SNY	**Shenyang**	**17.46**	**309**	⇓P		**P**	**21 18 55.3**	**+1.8**
SNY				AMB		AMB		
	comp=Z,20nm,1.2s							
SNY				AMB		AMB		
	comp=Z,100nm,7.4s							
SNY				LR		LR		
	comp=N,650nm,12.1s							
SNY				LR		LR		
	comp=Z,480nm,14.4s							
SSE	**Sheshan**	**17.62**	**272**	*e*P		**P**	**21 18 52.5**	**-3.0**
SSE				AP			21 19 00.3	
SSE				XP			21 19 06.0	
SSE				S		**S**	**21 22 07.8**	**-1.0**
SSE				AMB		AMB		
	comp=Z,20nm,0.6s							
SSE				AMB		AMB		
	comp=Z,170nm,4.0s							
SSE				LR		LR		
	comp=N,30nm,20.4s							
SSE				LR		LR		
	comp=E,150nm,20.4s							
SSE				LR		LR		
	comp=Z,150nm,18.3s							
KLR	**Kul'dur**	**18.67**	**339**	*e*P		**P**	**21 19 02.8**	**-5.6**
YHNB	**Yeheng**	**19.46**	**253**	P		**P**	**21 19 16.6**	**-1.3**
NJ2	**Nanjing**	**19.46**	**276**	*e*P		**P**	**21 19 18.8**	**+0.9**
NJ2				AP			21 19 27.0	
NJ2				XP			21 19 29.5	
NJ2				PP		PP	21 19 33.0	-2.6
NJ2				S		**S**	**21 22 51.0**	**+0.4**
NJ2				AMB		AMB		
	comp=Z,60nm,1.0s							
NJ2				AMB		AMB		
	comp=Z,250nm,5.8s							
NJ2				LR		LR		
	comp=N,420nm,25.1s							
NJ2				LR		LR		
	comp=E,590nm,21.5s							
NJ2				LR		LR		
	comp=Z,450nm,23.3s							
HIA	**Hailar**	**23.79**	**322**	*e*P		**P**	**21 20 01.0**	**-0.5**
HIA				pmax		pmax		
	comp=Z,11nm,0.8s							
HIA	**Hailar**	**23.79**	**322**	*e*P		**P**	**21 20 00.9**	**-0.6**
	comp=Z,11nm,0.8s,mb4.3							
HHC	**Hu-ho-hao-te**	**25.73**	**298**	*e*P		**P**	**21 20 20.0**	**-0.2**
HHC				AP		pP	21 20 25.5	-1.8
HHC				XP		sP	21 20 28.8	-1.7
HHC				S		**S**	**21 24 50.0**	**+4.8**
HHC				XS			21 24 58.0	
HHC				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.3							
HHC				AMB		AMB		
	comp=Z,150nm,3.7s							
HHC				LR		LR		
	comp=N,200nm,11.9s,MS4.2							
HHC				LR		LR		
	comp=E,400nm,14.3s,MS4.2							
HHC				LR		LR		
	comp=Z,330nm,14.3s,MS4.0							
XAN	**Xi'an**	**27.57**	**283**	P		**P**	**21 20 35.0**	**-2.2**
XAN				AP		pP	21 20 45.0	+0.7
XAN				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.4							
ENH	**Enshi**	**27.67**	**275**	*e*P		**P**	**21 20 34.9**	**-3.2**
	comp=Z,4.0nm,0.7s,mb4.2							
CIT	**Chita**	**28.60**	**322**	*e*P		**P**	**21 20 50.3**	**+4.1**
CIT				pmax		pmax		
	comp=Z,43nm,2.5s,mb4.7							
ULN	**Ulaanbaatar**	**30.61**	**311**	*e*P		**P**	**21 21 04.3**	**+0.1**
ULN				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.7							
ULN	**Ulaanbaatar**	**30.61**	**311**	*e*P		**P**	**21 21 04.2**	**0.0**
	comp=Z,13nm,1.0s,mb4.7							
YAK	**Yakutsk**	**30.91**	**349**	*e*P		**P**	**21 21 05.3**	**-1.4**
YAK				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.5							
YAK	**Yakutsk**	**30.91**	**349**	*e*P		**P**	**21 21 05.2**	**-1.4**
	comp=Z,4.6nm,0.6s,mb4.5							
SONM	**Songino Array**	**31.02**	**311**	P		**P**	**21 21 07.9**	**0.0**
	comp=Z,7.3nm,1.0s,mb4.5,baz=109,slow=7.0,SNR=12							
BOD	**Bodaibo**	**31.92**	**332**	*e*P		**P**	**21 21 14.4**	**-1.2**
BOD				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.6							
GTA	**Gaotai**	**34.60**	**294**	*e*P		**P**	**21 21 38.0**	**-1.1**
GTA				AP		pP	21 21 47.0	+0.7
GTA				XP		sP	21 21 50.5	+1.1
LSA	**Lhasa**	**43.22**	**281**	*e*P		**P**	**21 22 51.2**	**+0.2**
LSA				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.1							
LSA	**Lhasa**	**43.22**	**281**	*e*P		**P**	**21 22 51.2**	**+0.2**
	comp=Z,2.4nm,0.5s,mb4.2							
WMQ	**Urumqi**	**43.52**	**302**	P		**P**	**21 22 54.5**	**+1.3**
WMQ				AP		pP	21 23 01.5	+1.0
WMQ				XP		sP	21 23 06.5	+3.0
WMQ				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,70nm,4.6s							
WMQ				LR		LR		
	comp=N,110nm,18.2s,MS3.8							
WMQ				LR		LR		
	comp=E,50nm,18.0s,MS3.8							
WMQ				LR		LR		
	comp=Z,60nm,17.0s,MS3.6							
ZAL	**Zalesovo**	**45.57**	**316**	P		**P**	**21 23 09.3**	**-0.2**
	comp=Z,3.2nm,0.6s,mb4.4,baz=5.6,slow=7.7,SNR=11							
NVS	**Novosibirsk**	**46.55**	**317**	*e*P		**P**	**21 23 16.0**	**-1.3**
NVS				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.9							
NVS				pmax		pmax		
	comp=N,3.0nm,0.9s							
NVS				pmax		pmax		
	comp=E,10.0nm,0.7s							
MK31	**Makanchi Array**	**47.14**	**306**	*i* P		**P**	**21 23 22.3**	**+0.2**
MK31				pmax		pmax		
	comp=Z,20nm,0.7s,mb5.2							
MKAR	**Makanchi Array**	**47.14**	**306**	P		**P**	**21 23 22.3**	**+0.2**
	comp=Z,13nm,0.7s,mb5.0,baz=90,slow=9.7,SNR=32							
JIRN	**Jiri**	**48.00**	**280**	*e*P		**P**	**21 23 29.0**	**-0.1**
	comp=Z,59nm,0.6s							
GUN	**Gumba**	**48.17**	**280**	*e*P		**P**	**21 23 30.3**	**-0.1**
	comp=Z,91nm,1.0s							
PKI	**Pulchoki**	**48.68**	**280**	*e*P		**P**	**21 23 33.5**	**-0.8**
	comp=Z,28nm,0.8s,mb5.3							
PKI	**Pulchoki**	**48.68**	**280**	*e*P		**P**	**21 23 33.5**	**-0.8**
PKI				pmax		pmax		
	comp=Z,14nm,0.8s,mb5.0							
KKN	**Kakani**	**48.71**	**280**	*e*P		**P**	**21 23 34.1**	**-0.5**
	comp=Z,51nm,0.9s,mb5.6							
KKN	**Kakani**	**48.71**	**280**	*e*P		**P**	**21 23 34.1**	**-0.5**
KKN				pmax		pmax		
	comp=Z,25nm,0.9s,mb5.2							
DMN	**Daman**	**48.92**	**280**	*e*P		**P**	**21 23 35.8**	**-0.4**
	comp=Z,26nm,0.9s,mb5.3							
GKN	**Gorkha**	**49.18**	**281**	*e*P		**P**	**21 23 37.6**	**-0.6**
	comp=Z,40nm,0.8s,mb5.5							
KURK	**Kurchatov**	**49.32**	**312**	*e*P		**P**	**21 23 38.1**	**-0.8**
KURK				pmax		pmax		
	comp=Z,33nm,1.0s,mb5.3							
KURK	**Kurchatov**	**49.32**	**312**	*e*P		**P**	**21 23 38.1**	**-0.8**
	comp=Z,34nm,1.0s,mb5.3							
KOLN	**Koldanda**	**50.12**	**281**	*e*P		**P**	**21 23 44.8**	**-0.6**
	comp=Z,34nm,0.9s,mb5.3							
WRAB	**Tennant Creek**	**52.28**	**189**	*e*P		**P**	**21 24 01.2**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,16nm,0.8s,mb5.0							
WRAB	**Tennant Creek**	**52.28**	**189**	*e*P		**P**	**21 24 01.2**	**-0.7**
	comp=Z,16nm,0.8s,mb5.0							
WB2	**Warramunga Arr**	**52.29**	**189**	*e*P		**P**	**21 24 01.5**	**-0.4**
WRA	**Warramunga Arr**	**52.29**	**189**	P		**P**	**21 24 01.5**	**-0.5**
	comp=Z,7.5nm,0.7s,mb4.8,baz=4.5,slow=7.6,SNR=20							
FITZ	**Fitzroy Crossi**	**52.32**	**200**	*e*P		**P**	**21 24 01.7**	**-0.5**
	comp=Z,6.8nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**53.23**	**302**	*e*P		**P**	**21 24 07.4**	**-1.3**
AAK				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
AAK	**Ala-Archa**	**53.23**	**302**	*e*P		**P**	**21 24 07.4**	**-1.2**
	comp=Z,7.8nm,1.0s,mb4.6							
ILAR	**Eielson Array**	**53.48**	**30**	P		**P**	**21 24 09.5**	**-0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=271,slow=6.1,SNR=9.2							
BVAR	**Borovoye Array**	**54.11**	**315**	P		**P**	**21 24 15.0**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.4,baz=94,slow=9.3,SNR=14							
BRVK	**Borovoye**	**54.25**	**315**	*e*P		**P**	**21 24 15.7**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
BRVK	**Borovoye**	**54.25**	**315**	*e*P		**P**	**21 24 15.7**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.4							
ZRNK	**Zerenda**	**55.03**	**315**	*e*P		**P**	**21 24 20.9**	**-0.8**
ZRNK				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.8							
ZRNK	**Zerenda**	**55.03**	**315**	*e*P		**P**	**21 24 20.9**	**-0.8**
	comp=Z,12nm,1.2s,mb4.8							
KK31	**Karatay Array**	**55.98**	**303**	*i* P		**P**	**21 24 28.4**	**-0.2**
KK31				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
ASPA	**Alice Springs**	**56.02**	**189**	*e*P		**P**	**21 24 30.7**	**+1.5**
HYB	**Hyderabad**	**58.55**	**272**	*i* P		**P**	**21 24 46.5**	**-0.7**
HYB	**Hyderabad**	**58.55**	**272**	*e*P		**P**	**21 24 46.5**	**-0.7**
INK	**Inuvik**	**58.60**	**26**	P		**P**	**21 24 46.3**	**-0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=0.5,slow=2.7,SNR=5.4							
INK	**Inuvik**	**58.60**	**26**	*e*P		**P**	**21 24 48.2**	**+1.4**
INK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
INK	**Inuvik**	**58.60**	**26**	*e*P		**P**	**21 24 48.2**	**+1.4**
	comp=Z,3.3nm,0.8s,mb4.4							
ARU	**Arti**	**60.29**	**321**	⇑*i*P		**P**	**21 24 58.0**	**-0.7**
ARU				*e*			21 25 40.7	
ARU				*e*			21 27 09.9	
ARU				*e*SS		SS	21 37 08.9	+0.4
ARU				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
ARU	**Arti**	**60.29**	**321**	*e*P		**P**	**21 24 57.7**	**-1.0**
	comp=Z,8.1nm,0.8s,mb4.8							
AKTK	**Aktyubinsk**	**62.25**	**314**	P		**P**	**21 25 11.2**	**-0.9**
AKTO	**Aktyubinsk**	**62.25**	**314**	P		**P**	**21 25 11.2**	**-0.9**
	comp=Z,5.4nm,0.8s,mb4.7,baz=77,slow=11,SNR=8.1							
STKA	**Stephens Creek**	**63.68**	**180**	P		**P**	**21 25 20.8**	**-0.9**
	comp=Z,1.2nm,0.9s,mb3.9,baz=349,slow=16,SNR=1.7							
RES	**Resolute Bay**	**67.24**	**14**	*e*P		**P**	**21 25 43.4**	**-0.5**
RES				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
RES	**Resolute Bay**	**67.24**	**14**	*e*P		**P**	**21 25 43.4**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.4							
YKA	**Yellowknife Ar**	**67.87**	**29**	P		**P**	**21 25 47.6**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=298,slow=6.6,SNR=11							
ARCES	**ARCESS Array B**	**68.69**	**340**	P		**P**	**21 25 54.0**	**+0.9**
	comp=Z,5.8nm,1.1s,mb4.4,baz=49,slow=8.3,SNR=3.4							
OBN	**Obninsk**	**72.23**	**324**	⇑*e*P		**P**	**21 26 15.5**	**+0.7**
OBN				*e*			21 26 32.3	
OBN				*e*S		S	21 35 38.1	+3.4
OBN				*e*SS		SS	21 40 15.3	+0.8
OBN				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
OBN				MLR		MLR		
	comp=Z,100nm,15.0s,MS4.2							
FINES	**FINESS Array B**	**73.30**	**333**	P		**P**	**21 26 20.8**	**-0.1**
	comp=Z,1.2nm,0.4s,mb4.1,baz=59,slow=5.7,SNR=11							
FINES	**FINESS Array B**	**73.30**	**333**	P		**P**	**21 26 20.8**	**-0.1**
KIV	**Kislovodsk**	**74.40**	**312**	⇓*i*P		**P**	**21 26 28.3**	**+0.7**
KIV				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.0							
KIV	**Kislovodsk**	**74.40**	**312**	*e*P		**P**	**21 26 29.4**	**+1.9**
	comp=Z,14nm,0.8s,mb4.9							
AKASG	**Malin Array Be**	**78.39**	**323**	P		**P**	**21 26 49.8**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.2,baz=46,slow=5.7,SNR=11							
AKASG	**Malin Array Be**	**78.39**	**323**	*i* P		**P**	**21 26 49.9**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NB2	**NORSAR Subarra**	**78.82**	**338**	P		**P**	**21 26 52.3**	**+0.3**
	comp=Z,6.1nm,0.9s,mb4.5,baz=39,slow=5.3							
NB2	**NORSAR Subarra**	**78.82**	**338**	P		**P**	**21 26 52.3**	**+0.3**
NB2				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
NOA	**NORSAR Array B**	**78.82**	**338**	P		**P**	**21 26 52.5**	**+0.5**
	comp=Z,3.6nm,0.8s,mb4.4,baz=40,slow=5.3,SNR=9.5							
HWUT	**Hardware Ranch**	**80.30**	**47**	P		**P**	**21 27 03.1**	**+2.7**
	comp=Z,6.0nm,1.0s,mb4.5							
DUG	**Dugway**	**80.31**	**49**	P		**P**	**21 27 04.9**	**+4.5**
DUG				pmax		pmax		
	comp=Z,6.0nm,1.3s,mb4.4							
DUG	**Dugway**	**80.31**	**49**	P		**P**	**21 27 04.9**	**+4.5**
	comp=Z,6.2nm,1.3s,mb4.4							
PDAR	**Pinedale Array**	**80.86**	**45**	P		**P**	**21 27 03.9**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=297,slow=3.3,SNR=3.6							
KWP	**Kalwaria**	**82.31**	**325**	*e*P		**P**	**21 27 12.3**	**+1.6**
KWP	**Kalwaria**	**82.31**	**325**	*e*P		**P**	**21 27 12.3**	**+1.6**
BR131	**Keskin Array S**	**82.37**	**312**	*e*P		**P**	**21 27 12.5**	**+1.3**
	comp=Z,2.4nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**82.37**	**312**	P		**P**	**21 27 12.6**	**+1.4**
	comp=Z,3.7nm,0.9s,mb4.3,baz=107,slow=3.7,SNR=14							
KOLS	**Kolonicke sedl**	**82.98**	**325**	*e*P		**P**	**21 27 15.3**	**+1.1**
STHS	**Stebnicka Huta**	**83.16**	**326**	*e*P		**P**	**21 27 16.7**	**+1.6**
STHS				*e*			21 27 33.3	
OJC	**Ojcow**	**83.29**	**327**	*e*P		**P**	**21 27 17.0**	**+1.2**
ULM	**Lac du Bonnet**	**83.39**	**33**	P		**P**	**21 27 17.2**	**+1.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=243,slow=4.5,SNR=3.9							
KECS	**Kecovo**	**84.16**	**325**	*e*P		**P**	**21 27 20.8**	**+0.6**
KECS				*e*			21 27 44.7	
OKC	**Ostrava-Krasne**	**84.32**	**327**	*e*P		**P**	**21 27 20.6**	**-0.3**
KSP	**Ksiaz**	**84.44**	**329**	*e*P		**P**	**21 27 23.0**	**+1.5**
KSP	**Ksiaz**	**84.44**	**329**	*e*P		**P**	**21 27 22.6**	**+1.1**
MORC	**Moravsky Berou**	**84.64**	**327**	*e*P		**P**	**21 27 23.6**	**+1.1**
MORC				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.5							
MORC	**Moravsky Berou**	**84.64**	**327**	*e*P		**P**	**21 27 23.6**	**+1.0**
	comp=Z,3.8nm,1.0s,mb4.5							
DPC	**Dobruska-Polom**	**84.78**	**328**	*e*P		**P**	**21 27 24.6**	**+1.4**
UPC	**Upice**	**84.80**	**329**	*e*P		**P**	**21 27 24.7**	**+1.4**
PSZ	**Piszkesteto**	**84.84**	**325**	*e*P		**P**	**21 27 25.1**	**+1.5**
PSZ				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.8							
PSZ	**Piszkesteto**	**84.84**	**325**	*e*P		**P**	**21 27 25.1**	**+1.6**
	comp=Z,8.1nm,1.1s,mb4.8							
CLL	**Collm**	**85.50**	**331**	⇓P		**P**	**21 27 27.4**	**+0.6**
	comp=Z,logA/T=1.0,mb5.0							
CLL				*i* *PP		pP	21 27 32.8	-1.8
CLL				*e*			21 27 41.0	
CLL	**Collm**	**85.50**	**331**	⇓*i*P		**P**	**21 27 27.4**	**+0.6**
CLL				*e*			21 27 41.0	
CLL				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb5.0							
CLL	**Collm**	**85.50**	**331**	⇓*i*P		**P**	**21 27 27.4**	**+0.6**
	comp=Z,9.0nm,0.9s,mb5.0							
CLL				*i* pP		pP	21 27 32.8	-1.8
CLL				*e*			21 27 41.0	
KHC	**Kasperske Hory**	**86.89**	**329**	*e*P		**P**	**21 27 31.4**	**-2.3**
GERES	**GERESS Array B**	**87.04**	**329**	P		**P**	**21 27 34.5**	**0.0**
	comp=Z,1.0nm,0.9s,mb4.0,baz=45,slow=5.7,SNR=4.9							
SCHQ	**Schefferville**	**89.92**	**16**	LR		LR	22 10 53.7	
	comp=Z,110nm,19.1s,MS4.3,baz=64,slow=37							
CDF	**Champ du Feu**	**90.09**	**332**	*e*P		**P**	**21 27 49.5**	**+0.5**
LOR	**Lormes**	**92.37**	**333**	*e*P		**P**	**21 28 00.0**	**+0.5**
LPL	**La Plagne**	**92.63**	**330**	*e*P		**P**	**21 28 01.5**	**+0.8**
	comp=Z,5.2nm,0.7s,mb4.8							
LPL	**La Plagne**	**92.63**	**330**	*e*P		**P**	**21 28 01.5**	**+0.8**
LPL				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.8							
LPG	**La Plagne**	**92.64**	**330**	*e*P		**P**	**21 28 01.6**	**+0.9**
	comp=Z,5.3nm,0.7s,mb4.8							
LPG	**La Plagne**	**92.64**	**330**	*e*P		**P**	**21 28 01.6**	**+0.9**
LPG				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.9							
SSF	**Saint Saulge**	**92.68**	**333**	*e*P		**P**	**21 28 01.2**	**+0.3**
TXAR	**Lajitas Array**	**92.81**	**53**	P		**P**	**21 28 02.8**	**+0.9**
	comp=Z,1.1nm,0.8s,mb4.3,baz=322,slow=1.1,SNR=6.1							
AVF	**Avril sur Loir**	**92.96**	**333**	*e*P		**P**	**21 28 02.7**	**+0.5**
	comp=Z,15nm,1.1s,mb5.0							
AVF	**Avril sur Loir**	**92.96**	**333**	*e*P		**P**	**21 28 02.7**	**+0.5**
AVF				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb5.1							
MBDF	**Montbardon**	**93.25**	**330**	*e*P		**P**	**21 28 03.6**	**0.0**
	comp=Z,7.9nm,0.9s,mb4.9							
MBDF	**Montbardon**	**93.25**	**330**	*e*P		**P**	**21 28 03.6**	**0.0**
MBDF				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.8							
ORIF	**Oris-en-Rattie**	**93.47**	**330**	*e*P		**P**	**21 28 05.0**	**+0.4**
	comp=Z,13nm,1.0s,mb5.0							
LPAZ	**La Paz**	**148.58**	**67**	PKPbc		PKPdf	21 34 39.9	+3.6
	comp=Z,1.3nm,0.6s,baz=17,slow=7.7,SNR=5.9							
SIV	**San Ignacio**	**153.70**	**58**	PKPbc		PKPdf	21 34 49.6	+5.7
	comp=Z,1.0nm,0.8s,baz=297,slow=11,SNR=3.8							
SIV				PKPab		PKPab	21 35 00.8	-1.6
	comp=Z,1.3nm,0.7s,baz=275,slow=9.4,SNR=3.8							

IDC 30 21:36:43.0±7.0,19.32S×68.48W,h180km±48km,mb3.6/1, mb1 3.5/3,mb1mx3.2/17,mbtmp3.7/3,Error ellipse: s-maj=89.3km s-min=34.5km az=35.0,Chile-Bolivia border region

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time | Res |
|---|---|---|---|---|---|---|---

ALMR					*e*S	S	22 27 47.8	-2.0	
ALMR					eS	S	22 27 47.8	-2.0	
ALMR					AML	AML	22 27 48.9		
	comp=E,95nm,0.2s								
PTOM	**Tomar**	**2.06**	**71**	*e*Pn	P	P	22 27 29.9	-0.8	
PTOM				*e*Sn	S	S	22 27 52.4	-3.0	
	comp=E,29nm,0.1s								
PTOM	**Tomar**	**2.06**	**71**	Pn	P	P	22 27 29.9	-0.8	
PTOM				Sn	S	S	22 27 52.4	-3.0	
	comp=E,14nm,0.1s								
MOE	**Montemor**	**2.06**	**102**	*e*Pn	P	P	22 27 28.8	-2.0	
MOE				eSn	S	S	22 27 51.1	-4.4	
PTEO	**Sao Teotonio**	**2.24**	**129**	*e*Pn	P	P	22 27 32.0	-1.4	
PTEO				eSn	S	S	22 27 55.9	-4.1	
	comp=E,14nm,0.4s								
PTEO	**Sao Teotonio**	**2.24**	**129**	*e*Pn	P	P	22 27 32.0	-1.4	
PTEO				eSn	S	S	22 27 55.9	-4.1	
	comp=E,14nm,0.4s								
EVO	**Evora**	**2.32**	**100**	*e*Pn	P	P	22 27 31.8	-2.7	
EVO				eSn	S	S	22 27 56.5	-5.5	
	comp=E,29nm,0.2s								
MORF	**Marmelete**	**2.44**	**132**	*e*P	P	P	22 27 34.9	-1.4	
MORF				eS	S	S	22 28 00.1	-5.1	
MORF				eS	S	S	22 28 00.1	-5.1	
MORF				AML	AML	AML	22 28 02.7		
	comp=N,17nm,0.2s								
PBEJ	**Beja**	**2.58**	**110**	*e*Pn	P	P	22 27 36.7	-1.5	
PBEJ				eSn	S	S	22 28 04.3	-4.3	
	comp=N,14nm,0.2s								
PBEJ	**Beja**	**2.58**	**110**	Pn	P	P	22 27 36.7	-1.5	
PBEJ				Sn	S	S	22 28 04.3	-4.3	
	comp=N,7.0nm,0.2s								
PCBR	**Castelo Branco**	**2.81**	**71**	*e*Pn	P	P	22 27 40.2	-1.3	
PCBR				eSn	S	S	22 28 10.2	-4.3	
	comp=N,8.2nm,0.1s								
PCBR	**Castelo Branco**	**2.81**	**71**	Pn	P	P	22 27 40.2	-1.3	
PCBR				Sn	S	S	22 28 10.2	-4.3	
	comp=N,4.1nm,0.1s								
PVIS	**Viseu**	**2.91**	**52**	*e*Pn	P	P	22 27 41.5	-1.5	
PVIS				eSn	S	S	22 28 12.6	-4.6	
	comp=N,14nm,0.1s								
PVIS	**Viseu**	**2.91**	**52**	Pn	P	P	22 27 41.5	-1.5	
PVIS				Sn	S	S	22 28 12.6	-4.6	
	comp=N,6.9nm,0.1s								
MTE	**Manteigas**	**2.97**	**60**	*e*Pn	P	P	22 27 42.2	-1.7	
MTE				eSn	S	S	22 28 14.4	-4.3	
	comp=N,15nm,0.3s								
MTE	**Manteigas**	**2.97**	**60**	Pn	P	P	22 27 42.2	-1.7	
MTE				Sn	S	S	22 28 14.4	-4.3	
	comp=N,7.3nm,0.3s								
EBAD	**Badajoz**	**3.06**	**93**	P	P	P	22 27 43.3	-1.8	
	comp=N,1.1nm,0.1s,SNR=54								
EBAD					S	S	22 28 16.4	-4.5	
	comp=N,38nm,0.1s,SNR=5.6								
EBAD	**Badajoz**	**3.06**	**93**	P	P	P	22 27 43.3	-1.8	
	comp=N,1.1nm,0.1s,SNR=54								
EBAD					S	S	22 28 16.4	-4.5	
	comp=N,38nm,0.1s,SNR=5.6								
EGRO	**El Granado**	**3.06**	**117**	⇓P	P	P	22 27 43.5	-1.6	
	comp=N,1.7nm,0.1s,SNR=18								
EGRO					S	S	22 28 16.7	-4.3	
	comp=N,22nm,0.2s,SNR=7.9								
EGRO	**El Granado**	**3.06**	**117**	⇓P	P	P	22 27 43.5	-1.6	
EGRO					S	S	22 28 16.3	-4.7	
EGRO	**El Granado**	**3.06**	**117**	P	P	P	22 27 43.5	-1.6	
	comp=N,1.7nm,0.1s,SNR=18								
EGRO					S	S	22 28 16.7	-4.3	
	comp=N,22nm,0.2s,SNR=7.9								
PVRL	**Vila Real**	**3.37**	**46**	*e*Pn	P	P	22 27 47.7	-1.8	
PCAB	**Cabril**	**3.52**	**38**	*e*Pn	P	P	22 27 49.8	-1.8	
PCAB				eSn	S	S	22 28 27.6	-5.0	
	comp=N,11nm,0.2s								
PCAB	**Cabril**	**3.52**	**38**	Pn	P	P	22 27 49.8	-1.8	
PCAB				Sn	S	S	22 28 27.6	-5.0	
	comp=N,5.7nm,0.2s								
EMIN	**Mina Concepcio**	**3.55**	**108**	P	P	P	22 27 50.3	-1.7	
	comp=N,3.5nm,0.1s,SNR=50								
EMIN					S	S	22 28 27.7	-5.6	
	comp=N,9.8nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.55**	**108**	P	P	P	22 27 50.3	-1.7	
	comp=N,3.5nm,0.1s,SNR=50								
EMIN					S	S	22 28 27.7	-5.6	
	comp=N,9.8nm,0.2s,SNR=7.9								
EZAM	**Zamans**	**3.60**	**27**	⇓P	P	P	22 27 50.8	-2.0	
	comp=N,2.5nm,0.1s,SNR=18								
EZAM					S	S	22 28 27.9	-6.8	
	comp=N,13nm,0.2s,SNR=11								
EZAM	**Zamans**	**3.60**	**27**	⇓P	P	P	22 27 50.8	-2.0	
EZAM					S	S	22 28 28.5	-6.2	
ELOB	**Lobios**	**3.63**	**36**	P	P	P	22 27 51.5	-1.6	
	comp=N,2.7nm,0.1s,SNR=42								
ELOB					S	S	22 28 30.2	-5.1	
	comp=N,18nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**3.63**	**36**	P	P	P	22 27 51.5	-1.6	
ELOB					S	S	22 28 30.3	-5.0	
ELOB	**Lobios**	**3.63**	**36**	P	P	P	22 27 51.5	-1.7	
	comp=N,2.7nm,0.1s,SNR=42								
ELOB					S	S	22 28 30.3	-5.0	
EMAZ	**Mazaricos**	**4.24**	**20**		S	S	22 28 42.3	-8.5	
	comp=N,11nm,0.1s,SNR=7.9								
STS	**Santiago**	**4.31**	**24**	P	P	P	22 27 59.7	-3.1	
	comp=N,2.2nm,0.1s,SNR=7.9								
STS					S	S	22 28 46.7	-5.8	
	comp=N,6.1nm,0.1s,SNR=4.0								
STS	**Santiago**	**4.31**	**24**	P	P	P	22 28 58.5	-4.3	
STS					S	S	22 28 41.7	-11	
STS	**Santiago**	**4.31**	**24**	P	P	P	22 27 58.5	-4.3	
STS					S	S	22 28 46.7	-5.8	
	comp=N,6.1nm,0.1s,SNR=4.0								
ECAL	**Calabor**	**4.36**	**46**	P	P	P	22 28 01.5	-2.1	
	comp=N,4.9nm,0.1s,SNR=7.9								
ECAL					S	S	22 28 47.6	-6.3	
	comp=N,4.4nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**4.36**	**46**	P	P	P	22 28 01.5	-2.1	
	comp=N,4.9nm,0.1s,SNR=7.9								
ECAL					S	S	22 28 47.6	-6.2	
	comp=N,4.4nm,0.2s,SNR=7.9								
ERUA	**La Rua**	**4.47**	**39**	P	P	P	22 28 03.0	-2.1	
	comp=N,4.9nm,0.2s,SNR=9.7								
ERUA					S	S	22 28 50.5	-6.1	
	comp=N,2.6nm,0.2s,SNR=7.9								
ERUA	**La Rua**	**4.47**	**39**	P	P	P	22 28 03.4	-1.6	
ERUA					S	S	22 28 49.5	-7.0	
ERUA	**La Rua**	**4.47**	**39**	P	P	P	22 28 03.4	-1.7	
ERUA					S	S	22 28 50.5	-6.1	
	comp=N,2.6nm,0.2s,SNR=7.9								
ESPR	**Espera**	**4.52**	**116**	P	P	P	22 28 04.1	-1.7	
	comp=N,2.2nm,0.2s,SNR=7.9								
ESPR					S	S	22 28 52.6	-5.3	
	comp=N,15nm,0.2s,SNR=7.9								
ESPR	**Espera**	**4.52**	**116**	P	P	P	22 28 04.1	-1.7	
	comp=N,2.2nm,0.2s,SNR=7.9								
ESPR					S	S	22 28 52.6	-5.3	
	comp=N,15nm,0.2s,SNR=7.9								
LIJA	**Lijar**	**4.82**	**114**		P	P	22 28 08.2	-1.9	
LIJA					S	S	22 29 02.0	-3.5	
LIJA	**Lijar**	**4.82**	**114**	*i* P	P	P	22 28 08.2	-1.9	
LIJA				eS	S	S	22 29 02.0	-3.5	
EADA	**Adamuz**	**5.04**	**97**	P	P	P	22 28 10.7	-2.4	
	comp=N,2.4nm,0.1s,SNR=7.9								
EADA					S	S	22 29 03.1	-7.8	
	comp=N,6.9nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**5.04**	**97**	P	P	P	22 28 10.7	-2.4	
EADA					S	S	22 29 03.5	-7.3	
EADA	**Adamuz**	**5.04**	**97**	P	P	P	22 28 10.7	-2.4	
	comp=N,2.4nm,0.1s,SNR=7.9								
EADA					S	S	22 29 03.1	-7.8	
	comp=N,6.9nm,0.2s,SNR=7.9								
EPON	**Pontenova**	**5.20**	**32**	P	P	P	22 28 12.8	-2.7	
	comp=N,7.4nm,0.1s,SNR=7.9								
EPON					S	S	22 29 06.8	-8.3	
	comp=N,5.7nm,0.3s,SNR=7.9								
EPON	**Pontenova**	**5.20**	**32**	P	P	P	22 28 12.8	-2.7	
EPON					S	S	22 29 05.9	-9.2	
EPON	**Pontenova**	**5.20**	**32**	P	P	P	22 28 12.8	-2.6	
	comp=N,7.4nm,0.1s,SNR=7.9								
EPON					S	S	22 29 05.9	-9.2	
ELUQ	**Luque**	**5.42**	**103**	P	P	P	22 28 15.4	-3.1	
	comp=N,0.5nm,0.1s,SNR=7.9								
ELUQ					S	S	22 29 13.1	-7.4	
	comp=N,2.3nm,0.2s,SNR=7.9								
ELUQ	**Luque**	**5.42**	**103**	P	P	P	22 28 15.4	-3.1	
ELUQ					S	S	22 29 13.3	-7.2	
EMIJ	**Mijas**	**5.43**	**114**	P	P	P	22 28 16.4	-2.2	
	comp=N,0.7nm,0.1s,SNR=4.0								
EMIJ					S	S	22 29 14.1	-6.7	
	comp=N,6.1nm,0.3s,SNR=7.9								
EMIJ	**Mijas**	**5.43**	**114**	P	P	P	22 28 15.4	-3.2	
EMIJ					S	S	22 29 13.7	-7.1	
ESDC	**Sonseca Array**	**5.44**	**80**	⇑P	P	P	22 28 16.3	-2.5	
	comp=N,6.7nm,0.1s,baz=263,slow=13,SNR=18								
ESDC					S	S	22 29 12.5	-8.6	
	comp=N,7.8nm,0.3s,baz=265,slow=23,SNR=18								
ESDC	**Sonseca Array**	**5.44**	**80**	⇑P	P	P	22 28 16.4	-2.4	
ESDC					S	S	22 29 13.3	-7.7	
ESDC	**Sonseca Array**	**5.44**	**80**	P	P	P	22 28 16.3	-2.5	
	comp=N,6.7nm,0.1s,SNR=18								
ESDC					S	S	22 29 12.5	-8.6	
	comp=N,7.8nm,0.3s,SNR=18								
GUD	**Guadarrama**	**5.47**	**70**	P	P	P	22 28 16.7	-2.5	
	comp=N,1.5nm,0.2s,SNR=6.9								
GUD					S	S	22 29 14.4	-7.4	
	comp=N,1.3nm,0.2s,SNR=5.2								
GUD	**Guadarrama**	**5.47**	**70**	P	P	P	22 28 16.7	-2.5	
	comp=N,1.5nm,0.2s,SNR=6.9								
GUD					S	S	22 29 14.4	-7.5	
	comp=N,1.3nm,0.2s,SNR=5.2								
ELOJ	**Sierra Loja**	**5.64**	**107**	P	P	P	22 28 17.9	-3.7	
	comp=N,0.9nm,0.2s,SNR=7.9								
ELOJ					S	S	22 29 18.3	-7.8	
	comp=N,1.6nm,0.2s,SNR=7.9								
ELOJ	**Sierra Loja**	**5.64**	**107**	P	P		22 28 18.7	-2.8	
ELOJ					S	S	22 29 18.7	-7.4	
ELOJ	**Sierra Loja**	**5.64**	**107**	P	P		22 28 18.7	-2.9	
ELOJ					S	S	22 29 18.7	-7.4	
EBAN	**Banos Encina**	**5.65**	**96**	P	P	P	22 28 19.0	-2.7	
	comp=N,2.6nm,0.2s,SNR=8.3								
EBAN					S	S	22 29 17.6	-8.7	
	comp=N,8.4nm,0.4s,SNR=7.9								
EBAN	**Banos Encina**	**5.65**	**96**	P	P		22 28 19.0	-2.7	
EBAN					S	S	22 29 17.9	-8.4	
EBAN	**Banos Encina**	**5.65**	**96**	P	P		22 28 19.0	-2.7	
	comp=N,2.6nm,0.2s,SNR=8.3								
EBAN					S	S	22 29 17.9	-8.4	
EARI	**Arriondas**	**6.11**	**43**	P	P		22 28 26.0	-2.1	
	comp=N,1.8nm,0.2s,SNR=7.9								
EARI					S	S	22 29 30.8	-7.0	
	comp=N,3.9nm,0.5s,SNR=4.0								
EARI	**Arriondas**	**6.11**	**43**	P	P		22 28 26.0	-2.1	
	comp=N,1.8nm,0.2s,SNR=7.9								
EARI					S	S	22 29 30.8	-7.0	
	comp=N,3.9nm,0.5s,SNR=4.0								
EQUE	**Quentar**	**6.16**	**104**	S	S		22 29 31.3	-7.7	
	comp=N,6.3nm,0.4s,SNR=7.9								
EQES	**Quesada**	**6.28**	**98**	P	P		22 28 28.3	-2.2	
	comp=N,0.4nm,0.2s,SNR=7.9								
EQES					S	S	22 29 34.3	-7.6	
	comp=N,2.0nm,0.3s,SNR=7.9								
EQES	**Quesada**	**6.28**	**98**	P	P		22 28 27.6	-2.9	
EQES					S	S	22 29 34.6	-7.3	
EQES	**Quesada**	**6.28**	**98**	P	P		22 28 27.5	-3.0	
EQES					S	S	22 29 34.3	-7.6	
	comp=N,2.0nm,0.3s,SNR=7.9								
EVIA	**Vianos**	**6.58**	**90**	P	P		22 28 31.9	-2.9	
	comp=N,0.7nm,0.1s,SNR=4.0								
EVIA					S	S	22 29 39.7	-10	
	comp=N,2.1nm,0.3s,SNR=7.9								
EVIA	**Vianos**	**6.58**	**90**	P	P		22 28 31.0	-3.8	
EVIA					S	S	22 29 39.7	-10	
EBER	**Berja**	**6.68**	**106**	P	P		22 28 34.5	-1.6	
	comp=N,0.9nm,0.3s,SNR=7.9								
EBER					S	S	22 29 45.2	-6.6	
	comp=N,6.9nm,0.6s,SNR=7.9								
EBER	**Berja**	**6.68**	**106**	P	P		22 28 34.5	-1.6	
	comp=N,0.9nm,0.3s,SNR=7.9								
EBER					S	S	22 29 45.2	-6.7	
	comp=N,6.9nm,0.6s,SNR=7.9								
ELAN	**Lanestosa**	**7.08**	**51**	P	P		22 28 38.5	-3.2	
	comp=N,0.7nm,0.2s,SNR=7.9								
ELAN					S	S	22 29 52.4	-9.4	
	comp=N,2.2nm,0.4s,SNR=4.0								
ELAN	**Lanestosa**	**7.08**	**51**	P	P		22 28 38.5	-3.3	
	comp=N,0.7nm,0.2s,SNR=7.9								
ELAN					S	S	22 29 52.4	-9.5	
	comp=N,2.2nm,0.4s,SNR=4.0								
ETOB	**Tobarra**	**7.33**	**90**	P	P		22 28 42.5	-2.8	
	comp=N,0.4nm,0.2s,SNR=7.9								
ETOB					S	S	22 29 59.1	-9.0	
	comp=N,2.1nm,0.4s,SNR=7.9								
ETOB	**Tobarra**	**7.33**	**90**	P	P		22 28 42.5	-2.7	
ETOB					S	S	22 29 57.7	-10	
ETOB	**Tobarra**	**7.33**	**90**	P	P		22 28 42.5	-2.7	
	comp=N,0.4nm,0.2s,SNR=7.9								
ETOB					S	S	22 29 59.1	-9.0	
	comp=N,2.1nm,0.4s,SNR=7.9								
EMOS	**Mosqueruela**	**8.18**	**77**	P	P		22 28 54.5	-2.6	
	comp=N,0.5nm,0.2s,SNR=7.4								
EMOS					S	S	22 30 18.8	-11	
	comp=N,3.0nm,0.5s,SNR=7.9								
EMOS	**Mosqueruela**	**8.18**	**77**	P	P		22 28 54.5	-2.6	
EMOS					S	S	22 30 19.3	-10	
EMOS	**Mosqueruela**	**8.18**	**77**	P	P		22 28 54.5	-2.6	
	comp=N,0.5nm,0.2s,SNR=7.4								
EMOS					S	S	22 30 19.3	-10	
SJPF	**Ste Jean**	**8.42**	**57**	*e*Pn	P		22 28 57.3	-3.0	
SJPF				*e*Sn	S		22 30 24.5	-11	
ESAC	**San Caprasio**	**8.44**	**68**	P	P		22 28 56.9	-3.8	
	comp=N,4.5nm,0.2s,SNR=4.0								
ESAC					S	S	22 30 27.2	-8.7	
	comp=N,17nm,0.4s,SNR=4.0								
ESAC	**San Caprasio**	**8.44**	**68**	P	P		22 28 56.9	-3.8	
ESAC					S	S	22 30 28.7	-7.2	
ESAC	**San Caprasio**	**8.44**	**68**	P	P		22 28 56.9	-3.8	
	comp=N,4.5nm,0.2s,SNR=4.0								
ESAC					S	S	22 30 27.2	-8.6	
	comp=N,17nm,0.4s,SNR=4.0								
ETSF	**Etsaut**	**8.77**	**60**	*e*Pn	P		22 29 02.3	-2.9	
ETSF				*e*Sn	S		22 30 33.1	-11	
	comp=N,1.2nm,0.3s								
ERTA	**Horta de San J**	**8.87**	**73**	P	P		22 29 02.6	-4.0	
	comp=N,0.4nm,0.2s,SNR=4.0								
ERTA					S	S	22 30 36.1	-10	
	comp=N,0.8nm,0.4s,SNR=4.0								
ERTA	**Horta de San J**	**8.87**	**73**	P	P		22 29 02.6	-4.0	
ERTA					S	S	22 30 34.1	-12	
ERTA	**Horta de San J**	**8.87**	**73**	P	P		22 29 02.6	-4.0	
	comp=N,0.4nm,0.2s,SNR=4.0								
ERTA					S	S	22 30 34.1	-12	
EGRA	**Graus**	**9.14**	**66**	P	P		22 29 06.9	-3.4	
	comp=N,0.7nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**9.17**	**63**	P	P		22 29 08.6	-2.2	
	comp=N,0.6nm,0.1s,SNR=15								
EBIE					S	S	22 30 44.7	-9.2	
	comp=N,0.7nm,0.3s,SNR=4.0								
EBIE	**Bielsa**	**9.17**	**63**	P	P		22 29 08.6	-2.2	
EBIE					S	S	22 30 45.1	-8.8	
EBIE	**Bielsa**	**9.17**	**63**	P	P		22 29 08.6	-2.2	
EBIE					S	S	22 30 45.1	-8.8	
EPF	**Esparros**	**9.43**	**61**	*e*Pn	P		22 29 10.2	-4.2	
EPF				*e*Sn	S		22 30 49.0	-11	
	comp=N,1.8nm,0.4s								
ROSF	**Rostrenen**	**10.88**	**28**	*e*Pn	P		22 29 30.0	-4.1	
MFF	**Saint Martin d**	**10.99**	**43**	*e*Pn	P		22 29 31.7	-4.0	
SGMF	**Saint Gilles**	**11.08**	**30**	*e*Pn	P		22 29 32.4	-4.5	
GRR	**Gorron**	**11.89**	**34**	*e*Pn	P		22 29 43.7	-4.2	
FLN	**La Foliniere**	**12.34**	**34**	*e*Pn	P		22 29 49.6	-4.3	
	baz=214								

*IDC **30** 22:35:43.1±1.0,32.19N×141.98E,mb3.9/7,mb1 4.0/10, mb1mx3.8/22,mbtmp3.9/10,ML3.9/3,MS3.5/1,Ms1 3.5/1, ms1mx2.6/27,Error ellipse: s-maj=31.4km s-min=18.0km az=62.0*
*BJI **30** 22:35:46.3,31.95N×141.75E,h35km,mB4.7,mb3.8*
*JMA **30** 22:35:46.5±0.3,32.25N×142.02E,h60km,M3.8*
*NEIC **30** 22:35:48.0±3.1,32.14N×141.83E,h29km±21km,mb4.5/8, Error ellipse: s-maj=14.8km s-min=10.2km az=82.0*

ISC 30 22:35:45.9±1.9,**32.22N**±0.05×**141.98E**±0.10,**h33**km±14km, **n33**,σ0**870**/41,**mb4.3**/15,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.03**	**297**	P	**Pn**	**22 36 19.6**	**+1.0**
JHJ	**Hachijo jima 2**	**2.06**	**296**	Pn	**Pn**	**22 36 19.4**	**+0.4**
	51nm,0.3s,baz=104,slow=23,SNR=9.6						
JHJ				LR	LR	22 36 43.9	
	comp=Z,1μm,21.6s,baz=117,slow=30						
JHJ				Sn	**Sn**	**22 36 44.7**	**+0.9**
	99nm,0.3s,baz=240,slow=23,SNR=6.0						
BSO1	**Boso 1**	**2.57**	**341**	P	**Pn**	**22 36 26.4**	**+0.2**
BSO1				*e*S	**Sn**	**22 36 57.4**	**+0.7**
BSO3	**Boso 3**	**2.85**	**335**	P	**Pn**	**22 36 30.3**	**0.0**
JYT	**Yasato**	**4.26**	**340**	P	**Pn**	**22 36 51.3**	**+1.0**
JYT				S	**Sn**	**22 37 39.3**	**-0.3**
JHO	**Hitachi**	**4.54**	**345**	P	**Pn**	**22 36 53.0**	**-1.1**
JAG	**Ashikaga**	**4.69**	**334**	P	**Pn**	**22 36 56.1**	**-0.2**
JAG				S	**Sn**	**22 37 49.4**	**-0.9**
CBIJ	**Chichi jima**	**5.11**	**178**	Pn	**Pn**	**22 37 01.1**	**-1.2**
	18nm,0.3s,baz=290,slow=22,SNR=24						
CBIJ				Sn	**Sn**	**22 37 54.9**	**-6.0**
	16nm,0.3s,baz=329,slow=19,SNR=2.9						
MJAR	**Matsushiro Arr**	**5.32**	**325**	Pn	**Pn**	**22 37 05.5**	**+0.3**
	1.9nm,0.3s,baz=153,slow=12,SNR=17						
MJAR				Sn	**Sn**	**22 38 05.6**	**-0.6**
	2.2nm,0.3s,baz=5.3,slow=32,SNR=6.6						
MAJO	**Matsushiro**	**5.33**	**325**	*e*Pn	**Pn**	**22 37 05.2**	**0.0**
	12nm,0.7s						
MAT	**Matsushiro**	**5.33**	**325**	P	**Pn**	**22 37 05.3**	**0.0**
MAT				S	**Sn**	**22 38 04.3**	**-2.0**
MAT	**Matsushiro**	**5.33**	**325**	*e*P	**Pn**	**22 37 05.0**	**-0.3**
MAT				*e*S	**Sn**	**22 38 04.0**	**-2.3**
HHC	**Hu-ho-hao-te**	**25.82**	**298**	*e*P	**P**	**22 41 15.3**	**-0.5**
HHC				AMB	AMB		
	comp=Z,100nm,5.6s						
ULN	**Ulaanbaatar**	**30.66**	**311**	*e*P	**P**	**22 42 00.1**	**+0.7**
	comp=Z,3.3nm,1.1s,mb4.1						
SONM	**Songino Array**	**31.07**	**311**	P	**P**	**22 42 04.1**	**+0.9**
	comp=Z,1.1nm,0.8s,mb3.7,baz=107,slow=9.1,SNR=8.3						
ZAL	**Zalesovo**	**45.61**	**316**	P	**P**	**22 44 05.0**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=25,slow=5.7,SNR=4.5						
ZAL	**Zalesovo**	**45.61**	**316**	P	**P**	**22 44 05.0**	**+0.3**
MKAR	**Makanchi Array**	**47.20**	**306**	P	**P**	**22 44 18.1**	**+0.7**
	comp=Z,3.1nm,0.7s,mb4.3,baz=90,slow=9.9,SNR=35						
JIRN	**Jiri**	**48.11**	**280**	*e*P	**P**	**22 44 25.0**	**+0.3**
	comp=Z,14nm,0.6s,mb5.2						
GUN	**Gumba**	**48.29**	**280**	*e*P	**P**	**22 44 26.3**	**+0.3**
	comp=Z,10nm,0.6s,mb5.0						
PKI	**Pulchoki**	**48.80**	**280**	*e*P	**P**	**22 44 29.2**	**-0.7**
KKN	**Kakani**	**48.83**	**280**	*e*P	**P**	**22 44 30.1**	**-0.1**
	comp=Z,8.4nm,0.8s,mb4.8						
GKN	**Gorkha**	**49.29**	**281**	*e*P	**P**	**22 44 33.4**	**-0.4**
	comp=Z,10nm,0.8s,mb4.9						
KURK	**Kurchatov**	**49.37**	**312**	*e*P	**P**	**22 44 34.2**	**+0.2**
	comp=Z,1.4nm,0.4s,mb4.3						
KOLN	**Koldanda**	**50.23**	**281**	*e*P	**P**	**22 44 40.5**	**-0.5**
	comp=Z,13nm,1.3s,mb4.8						
WB2	**Warramunga Arr**	**52.38**	**189**	*e*P	**P**	**22 44 57.0**	**-0.3**
WRA	**Warramunga Arr**	**52.38**	**189**	P	**P**	**22 44 56.9**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.1,baz=5.7,slow=7.6,SNR=33						
ZRNK	**Zerenda**	**55.07**	**315**	P	**P**	**22 45 16.4**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.9						
YKA	**Yellowknife Ar**	**67.75**	**29**	P	**P**	**22 46 43.1**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.4,baz=299,slow=6.6,SNR=5.9						
JOF	**Joensuu**	**70.44**	**333**	*e*p	**P**	**22 46 59.5**	**+1.0**
KAF	**Kangasniemi**	**72.81**	**334**	*e*p	**P**	**22 47 06.0**	**-6.6**
FINES	**FINESS Array B**	**73.30**	**333**	P	**P**	**22 47 15.8**	**+0.2**
	comp=Z,1.6nm,0.9s,mb4.0,baz=344,slow=10,SNR=2.7						
AKASG	**Malin Array Be**	**78.41**	**323**	P	**P**	**22 47 44.1**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=46,slow=5.8,SNR=4.3						

*IDC **30** 23:10:52.9±8.8,14.19N×92.14W,mb3.6/3,mb1 3.9/4, mb1mx3.7/18,mbtmp3.5/4,ML3.5/1,MS3.4/1,Ms1 3.3/1, ms1mx2.6/26,Error ellipse: s-maj=194.9km s-min=100.3km az=16.0*
*CASC **30** 23:11:06.9±2.6, 14.37N×92.64W,h20km±20km,MD4.3*

ISC 30 23:11:04.8±2.4,**14.4N**±0.3×**92.8W**±0.2,**h85**km±25km,**n15**, σ0**99**/13,**mb3.7**/3,**5C,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**1.79**	**78**⇑	*e*P	**P**	**23 11 33.6**	**-1.0**
TP2				*e*S	**S**	**23 11 57.0**	**+0.4**
FUG	**Fuego 3**	**1.93**	**88**⇑	*e*P	**P**	**23 11 35.7**	**-0.7**
PCG	**Pacaya**	**2.16**	**

0.2nm,0.6s,baz=92,slow=6.9,SNR=7.8
ILAR Eielson Array 82.86 11 P P 23 42 25.6 -1.4
0.7nm,1.1s,baz=224,slow=6.4,SNR=4.2
BRTR Keskin Array B 146.23 320 PKPbc PKPbc 23 49 43.5 +1.1
0.6nm,0.9s,baz=76,slow=5.1,SNR=3.9

IDC 30 23:33:29.1±3.6, 1.56S×100.09E, mb3.5/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=146.2km s-min=25.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.48**	**345**	Pn	Pn	23 34 38.3	-1.6
	0.6nm,0.3s,baz=180,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**38.14**	**121**	P	P	23 40 50.5	-1.6
	0.2nm,0.6s,baz=304,slow=9.0,SNR=4.6						
SONM	**Songino Array**	**49.50**	**6**	P	P	23 42 22.3	-1.1
	0.5nm,0.6s,baz=196,slow=7.3,SNR=4.4						
MKAR	**Makanchi Array**	**50.63**	**344**	P	P	23 42 29.4	-2.7
	0.7nm,0.5s,baz=157,slow=8.7,SNR=21						
TXAR	**Lajitas Array**	**144.30**	**37**	PKP	PKPdf	23 53 06.0	-3.6
	0.3nm,0.5s,baz=222,slow=1.1,SNR=5.8						

BJI 30 23:37:47.8, 33.14N×104.63E, h19km, ML3.4, Msz3.7, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.34**	**199**	P	Pn	23 38 27.5	+1.4
CD2				PG	Pn	23 38 30.3	+4.2
CD2				SG	Sn	23 38 59.3	+4.7
CD2				Smax			
	comp=N,230nm,0.5s						
CD2				Smax			
	comp=E,180nm,0.6s						
LZH	**Lanzhou**	**3.01**	**348**	P	Pn	23 38 35.0	-0.6
LZH				PG	Pn	23 38 40.0	+4.4
LZH				S	Sn	23 39 14.5	+3.0
LZH				SG	Sn	23 39 22.0	+10
LZH				Smax			
	comp=N,240nm,0.6s						
LZH				Smax			
	comp=E,300nm,0.7s						
LZH				LR	LR		
	comp=E,560nm,3.6s						
LZH				LR	LR		
	comp=Z,540nm,4.5s						
XAN	**Xi'an**	**3.69**	**75**	P	Pn	23 38 45.8	+0.5
XAN				PG	Pn	23 38 55.5	+10
XAN				S	Sn	23 39 30.0	+1.2
XAN				SG	Sn	23 39 43.5	+15
XAN				Smax			
	comp=N,100nm,0.4s						
XAN				Smax			
	comp=E,70nm,0.4s						

SKHL 30 23:47:06.1±2.5, 44.45N×149.43E, h38km±3km, mb4.6/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.36**	**306**	*e*P	P	23 47 27.2	-1.8
KUR				AMB	AMB	23 47 28.0	
	80nm,0.5s						
KUR				AMB	AMB	23 47 28.0	
	150nm,0.5s						
KUR				*i* S	S	23 47 43.0	-3.1
YUK	**Yuzh-Kuril'sk**	**2.60**	**262**	*i* P	P	23 47 46.3	-0.4
YUK				AMB	AMB	23 47 46.5	
	130nm,0.2s						
YUK				*i* S	S	23 48 12.6	-4.7
YUK				A		23 48 16.0	
	550nm,0.3s						
YUK				A		23 48 16.0	
	720nm,0.3s						

*BJI **30** 23:55:58.3, 4.90N×94.55E, h45km, mB5.0, mb4.9, Ms4.0, Msz3.6*
*MOS **30** 23:56:01.0±1.0, 5.48N×94.51E, h33km, mb4.8/15, Error ellipse: s-maj=18.6km s-min=7.4km az=116.1*
*IDC **30** 23:56:03.8±3.0, 5.35N×94.51E, h47km±29km, mb4.2/15, mb1 4.3/16, mb1mx4.2/24, mbtmp4.5/16, ML4.1/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/30, Error ellipse: s-maj=37.7km s-min=15.6km az=45.0*
*NEIC **30** 23:56:04.7±0.4, 5.51N×94.55E, mb4.6/21, Error ellipse: s-maj=13.8km s-min=6.5km az=220.0*
ISC 30 23:56:02.4±0.4, 5.46N±0.07×94.59E±0.05, h47km, h47km±3.5km: pP-P, n86, σ0§96/84, mb4.6/46, MS3.5/3, 1C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.07**	**121**	P	**P**	**23 57 20.1**	**+2.2**
	6.7nm,0.3s,baz=306,slow=13,SNR=27						
PSI				S	**S**	**23 58 16.3**	**+0.3**
	4.6nm,0.3s,baz=306,slow=19,SNR=2.4						
PSI				LR	LR	23 59 44.7	
	comp=Z,223nm,20.1s,baz=290,slow=43						
PSI	**Prapat**	**5.07**	**121**	P	**P**	**23 57 20.1**	**+2.2**
PSI				S	**S**	**23 58 16.3**	**+0.3**
PSI				LR	LR	23 59 44.7	
KULM	**Kulim**	**6.04**	**91**	*e*Pn	**P**	**23 57 32.7**	**+1.3**
KULM				*e*Sn	**S**	**23 58 38.2**	**-1.9**
JIRN	**Jiri**	**23.48**	**341**	*e*P	**P**	**00 01 08.7**	**-0.1**
	60nm,0.6s,mb5.2						
PKI	**Pulchoki**	**23.66**	**339**	*e*P	**P**	**00 01 10.3**	**-0.2**
	10nm,0.4s,mb4.7						
PKI	**Pulchoki**	**23.66**	**339**	*e*P	**P**	**00 01 10.3**	**-0.2**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.3						
DMN	**Daman**	**23.80**	**339**	*e*P	**P**	**00 01 12.2**	**+0.3**
	comp=Z,10nm,0.3s,mb4.7						
GUN	**Gumba**	**23.81**	**341**	*e*P	**P**	**00 01 12.0**	**0.0**
	comp=Z,54nm,0.7s,mb5.1						
GYA	**Guiyang**	**23.85**	**28**	⇓*i*P	**P**	**00 01 15.0**	**+2.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
KKN	**Kakani**	**23.90**	**339**	*e*P	**P**	**00 01 12.7**	**-0.2**
	comp=Z,15nm,0.4s,mb4.8						
KKN	**Kakani**	**23.90**	**339**	*e*P	**P**	**00 01 12.7**	**-0.2**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**24.32**	**353**	P	**P**	**00 01 19.8**	**+2.8**
LSA	**Lhasa**	**24.32**	**353**	*e*P	**P**	**00 01 19.2**	**+2.2**
LSA				pmax	pmax		
	comp=Z,13nm,0.4s,mb4.7						
LSA	**Lhasa**	**24.32**	**353**	*e*P	**P**	**00 01 19.2**	**+2.2**
	comp=Z,13nm,0.4s,mb4.7						
GKN	**Gorkha**	**24.33**	**338**	*e*P	**P**	**00 01 17.6**	**+0.5**
	comp=Z,24nm,0.3s,mb5.1						
KOLN	**Koldanda**	**24.52**	**336**	*e*P	**P**	**00 01 20.0**	**+1.0**
	comp=Z,43nm,0.6s,mb5.2						
ENH	**Enshi**	**28.39**	**28**	*e*P	**P**	**00 01 54.1**	**-0.6**
	comp=Z,7.7nm,0.3s,mb4.8						
XAN	**Xi'an**	**31.39**	**23**	P	**P**	**00 02 20.5**	**-0.8**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GTA	**Gaotai**	**34.12**	**7**	*e*P	**P**	**00 02 45.0**	**0.0**
GTA				AP	pP	00 02 54.0	-3.5
GTA				XP	sP	00 02 59.3	-4.1
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NJ2	**Nanjing**	**34.85**	**38**	*e*P	**P**	**00 02 52.0**	**+0.7**
NJ2				AP	pP	00 03 03.3	-0.5
NJ2				XP	sP	00 03 05.3	-4.5
NJ2				S	**S**	**00 08 22.0**	**+3.9**
NJ2				XS		00 08 38.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,230nm,5.0s						
NJ2				LR	LR		
	comp=N,450nm,13.2s						
NJ2				LR	LR		
	comp=E,370nm,22.4s						
NJ2				LR	LR		
	comp=Z,210nm,21.0s						
SSE	**Sheshan**	**35.69**	**41**	*e*P	**P**	**00 02 58.0**	**-0.4**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,50nm,5.0s						
SSE				LR	LR		
	comp=N,10.0nm,22.5s,MS3.2						
SSE				LR	LR		
	comp=E,50nm,22.6s,MS3.2						
SSE				LR	LR		
	comp=Z,50nm,21.0s,MS3.2						
AAK	**Ala-Archa**	**41.08**	**337**	*e*P	**P**	**00 03 44.4**	**+1.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**41.08**	**337**	*e*P	**P**	**00 03 44.4**	**+1.1**
	comp=Z,2.9nm,0.7s,mb4.0						
MKAR	**Makanchi Array**	**42.52**	**347**	P	**P**	**00 03 55.6**	**+0.5**
	comp=Z,14nm,0.6s,mb4.9,baz=170,slow=8.3,SNR=168						
SONM	**Songino Array**	**43.41**	**12**	P	**P**	**00 04 02.5**	**+0.1**
	comp=Z,4.4nm,0.6s,mb4.4,baz=190,slow=8.0,SNR=52						
SONM				PcP	PcP	00 05 50.7	+0.1
	comp=Z,1.1nm,0.4s,baz=195,slow=4.0,SNR=13						
ULN	**Ulaanbaatar**	**43.58**	**12**	*e*P	**P**	**00 04 03.2**	**-0.4**
ULN				*e*		00 05 51.0	
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**43.58**	**12**	*e*P	**P**	**00 04 03.2**	**-0.4**
	comp=Z,4.1nm,0.6s,mb4.3						
ULN				*e*PcP	PcP	00 05 51.0	-0.2
WRA	**Warramunga Arr**	**46.53**	**124**	P	**P**	**00 04 27.5**	**-0.1**
	comp=Z,5.7nm,0.6s,mb4.7,baz=304,slow=9.2,SNR=49						
WRAB	**Tennant Creek**	**46.54**	**124**	*e*P	**P**	**00 04 27.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**46.54**	**124**	*e*P	**P**	**00 04 27.5**	**-0.1**
	comp=Z,8.3nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**46.54**	**124**	*e*P	**P**	**00 04 27.4**	**-0.2**
CN2	**Changchun**	**46.84**	**31**	*e*P	**P**	**00 04 30.0**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
KURK	**Kurchatov**	**47.04**	**346**	*e*P	**P**	**00 04 31.7**	**+0.5**
KURK				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
KURK	**Kurchatov**	**47.04**	**346**	*e*P	**P**	**00 04 31.7**	**+0.6**
	comp=Z,16nm,0.6s,mb5.1						
ASPA	**Alice Springs**	**48.05**	**129**	*e*P	**P**	**00 04 39.3**	**-0.2**
HIA	**Hailar**	**48.57**	**22**	*e*P	**P**	**00 04 43.0**	**-0.1**
HIA				*e*	pP	00 04 56.4	+0.5
HIA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HIA	**Hailar**	**48.57**	**22**	*e*P	**P**	**00 04 43.0**	**-0.1**
	comp=Z,3.9nm,0.5s,mb4.7						
HIA				*e*	pP	00 04 56.4	+0.5
MJAR	**Matsushiro Arr**	**50.47**	**46**	LR	LR	00 26 48.3	
	comp=Z,105nm,19.3s,MS3.9,baz=55,slow=36						
BRVK	**Borovoye**	**51.46**	**341**	*e*P	**P**	**00 05 04.5**	**-0.7**
BRVK				*e**PP	pP	00 05 18.2	+0.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**51.46**	**341**	*e*P	**P**	**00 05 04.5**	**-0.6**
	comp=Z,3.2nm,0.5s,mb4.5						
BRVK				*e*pP	pP	00 05 18.2	+0.1
ZRNK	**Zerenda**	**51.78**	**341**	*e*P	**P**	**00 05 07.2**	**-0.4**
ZRNK				*e**PP	pP	00 05 20.5	0.0
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
ZRNK	**Zerenda**	**51.78**	**341**	*e*P	**P**	**00 05 07.2**	**-0.4**
	comp=Z,3.9nm,0.4s,mb4.7						
ZRNK				*e*pP	pP	00 05 20.4	-0.1
AKTK	**Aktyubinsk**	**54.27**	**332**	P	**P**	**00 05 25.1**	**-0.9**
AKTO	**Aktyubinsk**	**54.27**	**332**	P	**P**	**00 05 25.1**	**-0.9**
	comp=Z,1.4nm,0.3s,mb4.4,baz=127,slow=8.6,SNR=9.4						
BOD	**Bodaibo**	**54.38**	**13**	*e*P	**P**	**00 05 25.6**	**-1.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KMBO	**Kilima Mbogo**	**57.63**	**265**	LR	LR	00 29 47.5	
	comp=Z,38nm,19.1s,MS3.5,baz=77,slow=35						
STKA	**Stephens Creek**	**58.14**	**133**	P	**P**	**00 05 51.0**	**-3.1**
	comp=Z,1.8nm,0.8s,mb4.2,baz=323,slow=10.0,SNR=3.5						
ARU	**Arti**	**58.27**	**337**	⇓*i*P	**P**	**00 05 53.3**	**-1.3**
ARU				*e*		00 06 44.1	
ARU				*e*		00 08 02.1	
ARU				*e*S	**S**	**00 13 56.1**	**+4.7**
ARU				*e*SS	SS	00 17 47.1	+1.8
ARU				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.4						
KIV	**Kislovodsk**	**59.40**	**319**	⇈*e*P	**P**	**00 06 01.4**	**-1.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
BR131	**Keskin Array S**	**64.34**	**312**	*e*P	**P**	**00 06 34.3**	**-1.5**
	comp=Z,1.5nm,0.7s,mb4.1						
BRTR	**Keskin Array B**	**64.34**	**312**	P	**P**	**00 06 34.5**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.3,baz=128,slow=7.5,SNR=19						
OBN	**Obninsk**	**67.64**	**328**	*e*P	**P**	**00 06 55.2**	**-1.3**
OBN				*e*	pP	00 07 10.7	+0.7
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
IDI	**Anoyia**	**70.31**	**305**	P	**P**	**00 07 13.5**	**+0.2**
	comp=Z,5.5nm,0.7s,mb4.6,baz=74,slow=8.3,SNR=5.3						
AKASG	**Malin Array Be**	**70.31**	**322**	P	**P**	**00 07 11.6**	**-1.4**
	comp=Z,2.1nm,0.5s,mb4.3,baz=89,slow=5.3,SNR=13						
VRI	**Vrincioaia**	**70.74**	**317**	⇓P	**P**	**00 07 16.6**	**+0.9**
VRI	**Vrincioaia**	**70.74**	**317**	⇓P	**P**	**00 07 16.6**	**+0.8**
MLR	**Muntele Rosu**	**71.20**	**316**	P	**P**	**00 07 18.8**	**+0.3**
	comp=Z,3.5nm,0.7s,mb4.4,baz=195,slow=16,SNR=8.2						
MLR	**Muntele Rosu**	**71.20**	**316**	⇓P	**P**	**00 07 19.2**	**+0.7**
MLR	**Muntele Rosu**	**71.20**	**316**	⇓P	**P**	**00 07 19.2**	**+0.7**
BURAR	**Bucovina Array**	**72.12**	**318**	⇓P	**P**	**00 07 24.8**	**+0.9**
BURAR	**Bucovina Array**	**72.12**	**318**	⇓P	**P**	**00 07 24.8**	**+0.9**
JOF	**Joensuu**	**73.20**	**335**	*e*p	**P**	**00 07 28.4**	**-1.6**
	comp=Z,0.2nm,0.2s,mb3.7						
FINES	**FINESS Array B**	**75.04**	**332**	P	**P**	**00 07 40.2**	**-0.4**
	comp=Z,1.7nm,0.5s,mb4.2,baz=102,slow=5.8,SNR=23						
KAF	**Kangasniemi**	**75.12**	**333**	*e*p	**P**	**00 07 38.6**	**-2.6**
OJC	**Ojcow**	**76.10**	**320**	*e*P	**P**	**00 07 46.8**	**-0.2**
KEV	**Kevo**	**77.24**	**341**	*e*p	**P**	**00 07 53.8**	**+0.7**
	comp=Z,0.4nm,0.3s,mb3.8						
ARCES	**ARCESS Array B**	**77.67**	**340**	P	**P**	**00 07 55.8**	**+0.4**
	comp=Z,1.0nm,0.3s,mb4.2,baz=101,slow=6.5,SNR=28						
BILL	**Bilibino**	**78.15**	**21**	*e*P	**P**	**00 07 58.4**	**+0.3**
BILL				*e*S	S	00 17 51.2	+3.6
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
DPC	**Dobruska-Polom**	**78.33**	**320**	*e*P	**P**	**00 08 00.0**	**+0.6**
PERS	**Pernice**	**78.82**	**316**	*e*P	**P**	**00 08 02.5**	**+0.3**
GERES	**GERESS Array B**	**79.91**	**319**	P	**P**	**00 08 08.9**	**+0.8**
	comp=Z,4.4nm,0.7s,mb4.5,baz=97,slow=5.2,SNR=47						
KHC	**Kasperske Hory**	**80.01**	**319**	*e*P	**P**	**00 08 08.7**	**+0.1**
GRA1	**Grafenberg Arr**	**81.57**	**319**	*e*P	**P**	**00 08 18.0**	**+1.2**
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**81.57**	**319**	*e*P	**P**	**00 08 18.0**	**+1.2**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**81.57**	**319**	*e*P	**P**	**00 08 18.0**	**+1.2**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**81.57**	**319**	*e*P	**P**	**00 08 18.0**	**+1.2**
	comp=Z,4.0nm,0.9s,mb4.3						
DAVOX	**Davos**	**82.42**	**316**	P	**P**	**00 08 22.4**	**+1.1**
	comp=Z,7.4nm,0.6s,mb4.8,baz=124,slow=6.6,SNR=20						
LPG	**La Plagne**	**84.62**	**315**	*e*P	**P**	**00 08 33.2**	**+0.8**
	comp=Z,11nm,0.8s,mb4.7						
LPG	**La Plagne**	**84.62**	**315**	*e*P	**P**	**00 08 33.2**	**+0.8**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
ESDC	**Sonseca Array**	**93.10**	**310**	P	**P**	**00 09 12.2**	**-0.7**
	comp=Z,0.5nm,0.6s,mb4.1,baz=57,slow=3.7,SNR=4.3						
INK	**Inuvik**	**99.17**	**16**	P	**P**	**00 09 40.1**	**+0.4**
	comp=Z,0.9nm,0.7s,mb4.4,baz=339,slow=2.9,SNR=3.8						
YKA	**Yellowknife Ar**	**108.65**	**14**	PP	PP	00 14 49.0	-7.9
	comp=Z,0.2nm,0.7s,baz=336,slow=7.7,SNR=5.5						
ULM	**Lac du Bonnet**	**123.78**	**8**	PKP	PKPdf	00 14 56.6	+1.2
	comp=Z,1.5nm,0.6s,baz=350,slow=1.6,SNR=5.9						
NVAR	**Mina Array Bea**	**126.73**	**32**	PKP	PKPdf	00 15 03.6	+2.1
	comp=Z,0.9nm,0.4s,baz=279,slow=4.3,SNR=5.3						
PDAR	**Pinedale Array**	**127.23**	**22**	PKP	PKPdf	00 15 04.2	+1.9
	comp=Z,1.0nm,0.6s,baz=83,slow=2.4,SNR=8.3						
TXAR	**Lajitas Array**	**141.21**	**26**	PKP	PKPdf	00 15 33.0	+4.2
	comp=Z,0.7nm,0.3s,baz=281,SNR=11						

*NNC **31** 00:12:54.1±7.6, 37.03N×71.05E, h158km±76km, mb3.0, mpv4.3, Error ellipse: s-maj=63.8km s-min=37.2km az=24.0*
ISC 31 00:12:46.0±1.3, 36.34N±0.07×71.2E±0.2, h178km±26km, n19, σ1§12/26, 6C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.44**	**133**	*e*S	**S**	**00 15 09.0**	**+0.1**
AML	**Almayashu**	**6.09**	**18**	P	**P**	**00 14 14.4**	**-0.6**
	SNR=88						
UCH	**Uchtor**	**6.41**	**22**	P	**P**	**00 14 18.8**	**-0.4**
	SNR=33						
EKS2	**Erkin-Say**	**6.62**	**17**	P	**P**	**00 14 21.5**	**-0.4**
	SNR=18						
AAK	**Ala-Archa**	**6.78**	**21**	P	**P**	**00 14 25.4**	**+1.4**
	SNR=7.3						
KK31	**Karatay Array**	**6.78**	**356**	⇓P	**P**	**00 14 22.7**	**-1.4**
	5.0nm,0.3s,baz=183,slow=13,SNR=299						
KK31				⇑S	**S**	**00 15 31.6**	**-8.9**
	19nm,0.5s,baz=200,slow=33,SNR=5.1						
SDNR	**Sundarnagar**	**6.78**	**134**	*e*P	**P**	**00 14 26.0**	**+1.9**
SDNR				*e*S	**S**	**00 15 39.2**	**-1.3**
KBK	**Karagaybulak**	**6.93**	**23**	P	**P**	**00 14 28.3**	**+2.2**
	SNR=16						
CHMS	**Chumysh**	**7.19**	**21**	P	**P**	**00 14 28.8**	**-0.6**
	SNR=16						
TKM2	**Tokmak 2**	**7.39**	**26**	P	**P**	**00 14 32.1**	**+0.1**
	SNR=30						
TKM2	**Tokmak 2**	**7.39**	**26**	⇓P	**P**	**00 14 31.1**	**-1.0**
	18nm,0.5s						
TKM2				⇑S	**S**	**00 15 49.2**	**-5.6**
	6.2nm,0.6s						
KLP	**Kalpa**	**7.55**	**127**	*e*P	**P**	**00 14 36.9**	**+2.7**
KLP				*e*S	**S**	**00 15 57.2**	**-1.4**
KLP				AML	AML	00 16 02.5	
	comp=N,90nm,0.2s						
KLP				AML	AML	00 16 13.7	
	comp=E,81nm,0.4s						
KHET	**Khetri**	**9.10**	**154**	*e*P	**P**	**00 14 54.2**	**-0.4**
KHET				*e*S	**S**	**00 16 31.2**	**-4.0**
KHET				AML	AML	00 16 34.7	
	comp=N,18nm,0.3s						
KHET				AML	AML	00 16 35.6	
	comp=E,15nm,0.5s						
MK31	**Makanchi Array**	**13.32**	**35**	⇑P	**P**	**00 15 49.6**	**+0.6**
	comp=E,1.3nm,0.7s,baz=220,slow=14,SNR=18						
AB31	**Akbulak array**	**15.32**	**331**	⇓P	**P**	**00 16 13.9**	**0.0**
	comp=E,0.7nm,0.3s,baz=142,slow=11,SNR=31						
AB31				⇑S	**S**	**00 18 54.0**	**-4.5**
	comp=E,3.1nm,0.7s,baz=156,slow=21,SNR=8.6						
VOSK	**Vostochnaya**	**16.39**	**359**	⇓P	**P**	**00 16 25.7**	**-1.4**
	comp=E,1.9nm,0.7s						
ZRNK	**Zerenda**	**16.69**	**355**	⇓P	**P**	**00 16 30.6**	**-0.1**
	comp=E,1.3nm,0.6s						
BVA0	**Borovoye Array**	**16.70**	**358**	P	**P**	**00 16 32.0**	**+1.2**
	comp=E,0.4nm,0.7s,baz=166,slow=12,SNR=15						
AKTO	**Aktyubinsk**	**17.02**	**330**	⇑P	**P**	**00 16 35.1**	**+0.5**
	comp=E,0.9nm,1.1s						
AKTO				⇑S	**S**	**00 19 36.0**	**-0.5**
	comp=E,0.3nm,0.7s						

*NEIC **31** 00:35:40.5±0.5, 15.61N×93.44W, mb3.9/6, MD4.3(MEX), Error ellipse: s-maj=13.2km s-min=6.8km az=40.0*
*MEX **31** 00:35:41.7±0.8, 15.77N×93.51W, h92km±19km, MD4.3*
*IDC **31** 00:35:42.2±0.8, 15.99N×92.75W, h98km±6km, mb3.7/11, mb1 3.9/12, mb1mx3.7/23, mbtmp4.0/12, MS3.1/1, Ms1 3.1/1, ms1mx2.5/27, Error ellipse: s-maj=50.9km s-min=12.3km az=56.0*
ISC 31 00:35:38.8±0.6, 15.67N±0.05×93.50W±0.04, h92km±6km, h97km±1.6km: pP-P, n38, σ1§36/46, mb3.9/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.44**	**65**	*e*P	**P**	**00 36 05.4**	**+1.0**
CCIG				*i* S	**S**	**00 36 24.1**	**+0.8**
TUIG	**Tuzandepetl**	**2.51**	**339**	*i* P	**P**	**00 36 18.1**	**-0.6**
TUIG				*i* S	**S**	**00 36 47.3**	**-1.1**
TUIG	**Tuzandepetl**	**2.51**	**339**	*i* P	**P**	**00 36 14.6**	**-4.1**
TUIG				*i* S	**S**	**00 36 42.8**	**-5.7**
HUIG	**Huatulco**	**2.52**	**273**	*i* P	**P**	**00 36 20.0**	**+1.2**
HUIG				*i* S	**S**	**00 36 48.6**	**0.0**
OXX	**Oaxaca**	**3.40**	**295**	*i* P	**P**	**00 36 35.8**	**+4.8**
VHO	**Vista Hermosa**	**3.41**	**295**	*i* P	**P**	**00 36 32.2**	**+1.2**
VHO				*i* S	**S**	**00 37 08.3**	**-2.2**
SCIG		**3.95**	**34**	*i* P	**P**	**00 36 38.5**	**0.0**
SCIG				*i* S	**S**	**00 37 21.2**	**-2.8**
LVIG	**Laguna Verde**	**4.90**	**326**	*i* P	**P**	**00 36 51.1**	**-0.5**
LVIG				*i* S	**S**	**00 37 43.0**	**-4.5**
PPM	**Popocatepetl**	**5.95**	**305**	*i* P	**P**	**00 37 07.1**	**+1.2**
PPM				*i* S	**S**	**00 38 10.3**	**-3.0**
YAIG	**Yautepec**	**6.20**	**302**	*i* P	**P**	**00 37 10.3**	**+1.0**
YAIG				*i* S	**S**	**00 38 18.0**	**-1.4**
JTS	**JuntasAbangare**	**9.89**	**122**	*e*P	**P**	**00 37 59.7**	**-0.2**
	11nm,0.7s						
JCT	**Junction City**	**15.84**	**340**	P	**P**	**00 39 18.1**	**+0.4**
	4.7nm,0.6s						
TXAR	**Lajitas Array**	**16.52**	**327**	P	**P**	**00 39 30.4**	**+4.2**
	0.3nm,0.3s,baz=152,slow=13,SNR=23						
DWPF	**Disney**	**16.67**	**40**	*e*P	**P**	**00 39 28.7**	**+0.6**
MNTX	**Cornudas Mount**	**19.29**	**328**	*e*P	**P**	**00 40 00.6**	**+1.7**
	2.6nm,0.8s						
WMOK	**Wichita Mounta**	**19.57**	**347**	P	**P**	**00 40 01.2**	**-0.7**
	12nm,1.2s						
WMOK				*e*S	**S**	**00 43 35.9**	**+3.2**
OTAV	**Otavalo**	**21.35**	**135**	*e*P	**P**	**00 40 18.8**	**-1.5**
	2.1nm,0.8s,mb3.5						
ANMO	**Albuquerque**	**22.45**	**331**	P	**P**	**00 40 33.9**	**+3.0**
	0.9nm,0.5s,mb3.3,baz=150,slow=8.3,SNR=5.0						
ANMO				pP		00 40 53.8	
	1.4nm,0.7s,baz=144,slow=10,SNR=3.8						
ANMO	**Albuquerque**	**22.45**	**331**	P	**P**	**00 40 33.9**	**+3.0**
ANMO				pP		00 40 53.8	
SDV	**Santo Domingo**	**23.32**	**104**	LR	LR	00 49 24.5	
	comp=Z,53nm,20.1s,baz=43,slow=36						
NVAR	**Mina Array Bea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.96**	**135**	*eP*	**P**	**01 58 04.7**	**+0.8**
PBA				*eS*	**S**	**01 58 19.4**	**-0.4**
VIS	**Vishakhapatnam**	**9.97**	**303**	*eP*	**P**	**02 00 04.8**	**+0.5**
VIS	comp=Z,35nm,0.2s			AMb	AMB	02 00 06.3	
VIS				*eS*	**S**	**02 01 47.8**	**-7.0**
VIS	comp=E,66nm,0.2s			AML	AML	02 01 53.1	
VIS	comp=N,72nm,0.3s			AML	AML	02 01 53.1	
BOK	**Bokaro**	**12.80**	**334**	*eP*	**P**	**02 00 41.7**	**-0.1**
BOK				*eS*	**S**	**02 02 52.3**	**-10**
BOK	comp=N,9.3nm,0.4s			AML	AML	02 02 55.5	
BOK	comp=E,11nm,0.3s			AML	AML	02 02 55.5	
JIRN	**Jiri** comp=E,7.5nm,0.3s	**16.19**	**341**	*eP*	**P**	**02 01 22.5**	**-2.6**
PKI	**Pulchoki** comp=E,10nm,0.5s	**16.38**	**339**	*eP*	**P**	**02 01 27.1**	**-0.2**
DMN	**Daman** comp=E,6.6nm,0.3s	**16.52**	**338**	*eP*	**P**	**02 01 29.5**	**+0.4**
GKN	**Gorkha** comp=E,10nm,0.3s	**17.05**	**337**	*eP*	**P**	**02 01 34.0**	**-1.7**
KOLN	**Koldanda** comp=E,6.9nm,0.3s	**17.26**	**334**	*eP*	**P**	**02 01 39.4**	**+1.0**
KAD	**Karad**	**17.96**	**288**	*ex*	x	02 05 05.9	
MKAR	**Makanchi Array** comp=E,0.4nm,0.7s,mb3.4,baz=162,slow=7.7,SNR=4.5	**35.31**	**348**	P	**P**	**02 04 32.2**	**+3.2**
SONM	**Songino Array** comp=E,0.3nm,0.8s,mb3.3,baz=207,slow=6.4,SNR=2.8	**37.36**	**16**	P	**P**	**02 04 47.7**	**+1.5**
FITZ	**Fitzroy Crossi** comp=E,5.2nm,0.4s,mb4.6	**44.88**	**132**	*eP*	**P**	**02 05 47.9**	**-0.2**
WRA	**Warramunga Arr** comp=E,1.4nm,0.4s,mb4.3,baz=307,slow=8.2,SNR=25	**52.55**	**127**	P	**P**	**02 06 46.9**	**-0.4**
WRA	comp=E,0.5nm,0.5s,baz=320,slow=3.0,SNR=7.3			PcP	PcP	02 07 59.0	+2.9
WB2	**Warramunga Arr**	**52.56**	**127**	*eP*	**P**	**02 06 47.0**	**-0.4**

*ATH **31** 02:26:09.9,35.78N×29.53E,h42km±10km,MD3.1/4*
*ISK **31** 02:26:10.1,35.85N×29.19E,h13km,MD3.3*
*NEIC **31** 02:26:10.1,35.85N×29.19E,h13km,MD3.3(ISK),*
ML3.1(NIC),After ISK.
*CSEM **31** 02:26:11.6±0.1,35.96N×29.45E,h40km,Mw3.5,Error*
ellipse: s-maj=3.4km s-min=1.6km az=27.0
*NIC **31** 02:26:14.9±0.4,36.01N×29.69E,h51km,ML3.1,MW3.5*
ISC 31 02:26:10.1±0.9,35.74N±0.05×29.36E±0.03,h19km±8km,
n21,σ1°13/31,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.45**	**24**	*eP*	**Pb**	**02 26 19.8**	**+0.6**
KSL				*eS*	**Sb**	**02 26 26.5**	**+1.1**
AKAS	**Kas**	**0.53**	**22**	*i* P	**Pb**	**02 26 20.6**	**0.0**
AKAS				*i* S	**Sb**	**02 26 28.6**	**+0.8**
FETY	**Fethiye**	**0.92**	**346**	PG	**Pb**	**02 26 25.2**	**-2.0**
FETY				SG	**Sb**	**02 26 37.4**	**-1.6**
ELL	**Elmali**	**1.10**	**24**	*e*PG	**Pb**	**02 26 31.3**	**+1.0**
ARG	**Arkhangelos**	**1.11**	**296**	*e*P	**Pb**	**02 26 32.0**	**+1.6**
ARG	**Arkhangelos**	**1.11**	**296**	*e*Pn	**Pn**	**02 26 33.0**	**+2.3**
DALT	**Dalyan (Mudla)**	**1.18**	**331**	*e*PG	**Pb**	**02 26 30.8**	**-0.8**
DALT				*e*SG	**Sb**	**02 26 45.0**	**-1.5**
GOLH	**Golhisar**	**1.50**	**6**	*i* P	**Pn**	**02 26 35.4**	**-1.0**
GOLH				*i* S	**Sn**	**02 26 57.4**	**+1.9**
YER	**Yerkesik**	**1.64**	**328**	*e*PN	**Pn**	**02 26 37.8**	**-0.5**
DAT	**Datca**	**1.75**	**305**	*e*PN	**Pn**	**02 26 37.8**	**-2.0**
KARP	**Karpathos**	**1.80**	**265**	*e*P	**Pn**	**02 26 41.5**	**+0.9**
BCK	**Bucak**	**1.98**	**30**	*e*PN	**Pn**	**02 26 44.0**	**+0.8**
DENT	**Denizli**	**2.03**	**353**	*e*PN	**Pn**	**02 26 43.3**	**-0.6**
BODT	**Bodrum**	**2.11**	**309**	*e*PN	**Pn**	**02 26 44.0**	**-1.1**
ISP	**Isparta**	**2.29**	**23**	Pn	**Pn**	**02 26 48.6**	**+1.0**
AKMC	**Akamas** 2.1nm,0.2s	**2.53**	**105**	P	**Pn**	**02 26 51.3**	**+0.3**
AKMC				S	**Sn**	**02 27 20.2**	**-1.4**
PPCY	**Paphos** 1.7nm,0.1s	**2.59**	**108**	P	**Pn**	**02 26 52.4**	**+0.5**
PPCY				S	**Sn**	**02 27 22.7**	**-0.4**
ERMK	**Ermenek**	**3.01**	**72**	*i* P	**Pn**	**02 26 58.3**	**+0.4**
ERMK				*i* S	**Sn**	**02 27 34.3**	**+0.4**
NPS	**Neapolis**	**3.09**	**262**	*e*P	**Pn**	**02 26 59.5**	**+0.5**
NPS				*e*S	**Sn**	**02 27 36.5**	**+0.6**
MAMC	**Mammari**	**3.20**	**99**	P	**Pn**	**02 27 01.1**	**+0.5**
CSS	**Prodhromos**	**3.34**	**102**	P	**Pn**	**02 27 02.4**	**-0.1**
CSS				S	**Sn**	**02 27 39.6**	**-2.5**

IDC 31 02:32:09.9±15.0,2.92S×68.01E,mb3.6/3,mb1 3.8/3,
mb1mx3.5/18,mbtmp3.6/3,MS3.7/9,Ms1 3.7/9,
ms1mx3.6/21,Error ellipse: s-maj=451.1km
s-min=42.3km az=68.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo** comp=Z,58nm,19.5s,baz=97,slow=31	**30.79**	**273**	LR	LR	02 48 03.4	
PSI	**Prapat** comp=Z,188nm,19.3s,baz=172,slow=32	**31.42**	**80**	LR	LR	02 48 44.5	
BOSA	**Boshof** comp=Z,38nm,19.1s,baz=230,slow=35	**48.02**	**233**	LR	LR	02 59 52.0	
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=173,slow=6.2,SNR=3.6	**51.08**	**13**	P	P	02 41 14.1	-2.2
MKAR	comp=Z,41nm,18.6s,baz=91,slow=33			LR	LR	03 00 23.2	
ZAL	**Zalesovo** comp=Z,59nm,18.9s,baz=84,slow=38	**58.37**	**12**	LR	LR	03 08 42.2	
SONM	**Songino Array** 0.9nm,0.9s,baz=229,slow=6.3,SNR=8.8	**60.66**	**29**	P	P	02 42 23.1	-2.2
SONM	comp=Z,164nm,19.9s,baz=185,slow=36			LR	LR	03 08 16.9	
MAW	**Mawson** comp=Z,150nm,20.9s,baz=255,slow=29	**64.66**	**182**	LR	LR	03 03 27.6	
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=286,slow=5.8,SNR=5.0	**66.78**	**110**	P	P	02 43 03.9	-2.0
FINES	**FINESS Array B** comp=Z,61nm,19.8s,baz=323,slow=38	**71.78**	**340**	LR	LR	03 18 02.2	
MJAR	**Matsushiro Arr** comp=Z,60nm,18.9s,baz=65,slow=38	**75.97**	**51**	LR	LR	03 20 49.0	

IDC 31 02:42:33.5±3.6,20.51S×175.40W,mb4.0/2,mb1 4.2/2,
mb1mx3.7/15,mbtmp4.0/2,Error ellipse:
s-maj=209.4km s-min=40.8km az=147.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 2.2nm,0.7s,baz=87,slow=10,SNR=4.6	**39.98**	**245**	P	P	02 50 10.3	-1.3
WB2	**Warramunga Arr**	**47.00**	**261**	*e*P	P	02 51 06.3	-2.3
WRA	**Warramunga Arr** 1.3nm,0.5s,baz=97,slow=8.2,SNR=20	**47.01**	**261**	P	P	02 51 06.6	-2.1
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=144,slow=1.3,SNR=4.8	**112.97**	**313**	PKiKP		03 01 12.0	
AKASG	**Malin Array Be** 1.0nm,0.4s,baz=41,slow=4.0,SNR=12	**144.16**	**333**	PKP	PKPdf	03 02 08.7	-4.2
BRTR	**Keskin Array B** 0.8nm,0.6s,baz=135,slow=3.9,SNR=7.1	**148.62**	**314**	PKPbc	PKPdf	03 02 22.9	+2.1
GERES	**GERESS Array B** 0.5nm,0.8s,baz=37,slow=6.7,SNR=4.4	**150.80**	**348**	PKPbc	PKPdf	03 02 28.3	+4.4

*NAO **31** 02:48:26.0±2.7,61.41N×4.69E,ML2.8*
*BER **31** 02:48:28.9±3.9,61.24N×4.65E,h11km,MD2.1,ML2.5,*
MW2.3,ML2.8(NAO)
*NEIC **31** 02:48:28.9,61.28N×4.57E,h15km,ML2.8(NAO),*
ML2.7(BER),After BER.
NEIC Felt in the Vilnesfjorden area.
*CSEM **31** 02:48:28.2±0.2,61.19N×4.74E,h15km,ML2.5,Error*
ellipse: s-maj=5.1km s-min=2.0km az=107.0
ISC 31 02:48:28.1±0.6,61.24N±0.02×5.17E±0.10,h2km±6km,n35,
σ1°26/62,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUE	**Sulen**	**0.27**	**228**	*eP*	**Pg**	**02 48 33.2**	**-0.2**
SUE				*eS*	**Sg**	**02 48 36.7**	**-0.3**
SUE	comp=Z,389nm,0.1s			AML	AML	02 48 37.3	
SUE	**Sulen** SNR=117	**0.27**	**228**	*eP*	**Pg**	**02 48 33.2**	**-0.3**
FOO	**Floro**	**0.37**	**351**	*eP*	**Pg**	**02 48 35.8**	**+0.3**
FOO				*eS*	**Sg**	**02 48 40.9**	**+0.5**
FOO	comp=Z,887nm,0.2s			AML	AML	02 48 41.7	
HYA	**Hoyanger**	**0.50**	**98**	*eP*	**Pg**	**02 48 42.9**	**+4.8**
HYA				*eS*	**Sg**	**02 48 53.1**	**+8.4**
ASK	**Askoy**	**0.76**	**179**	*eP*	**Pg**	**02 48 43.5**	**+0.3**
ASK				*eS*	**Sg**	**02 48 55.4**	**+2.1**
ASK	comp=Z,180nm,0.2s			AML	AML	02 48 57.4	
ASK	**Askoy**	**0.76**	**179**	*eP*	**Pg**	**02 48 43.5**	**+0.3**
ASK				*eS*	**Sg**	**02 48 55.4**	**+2.1**
ASK	**Askoy** SNR=70	**0.76**	**179**	*eP*	**Pg**	**02 48 43.5**	**+0.3**
ASK	comp=Z,180nm,0.2s,SNR=70			*eS*	**Sg**	**02 48 55.4**	**+2.1**
RUND	**Rundenannen**	**0.83**	**173**	*eP*	**Pb**	**02 48 45.3**	**+0.4**
RUND				*eS*	**Sb**	**02 48 57.6**	**+1.3**
RUND	comp=Z,90nm,0.2s			AML	AML	02 48 58.1	
RUND	**Rundenannen** SNR=70	**0.83**	**173**	*eP*	**Pb**	**02 48 45.3**	**+0.4**
RUND	comp=Z,90nm,0.2s,SNR=70			*eS*	**Sb**	**02 48 57.6**	**+1.2**
BER	**Bergen**	**0.86**	**175**	*eP*	**Pb**	**02 48 45.4**	**0.0**
BER				*eS*	**Sb**	**02 48 58.4**	**+1.2**
BER	comp=Z,95nm,0.3s			AML	AML	02 49 00.7	
BER	**Bergen** SNR=70	**0.86**	**175**	*eP*	**Pb**	**02 48 45.4**	**0.0**
BER	comp=Z,95nm,0.3s,SNR=70			*eS*	**Sb**	**02 48 58.4**	**+1.2**
EGD	**Espegrend**	**0.97**	**178**	*eP*	**Pb**	**02 48 47.2**	**-0.1**
EGD				*eS*	**Sb**	**02 49 01.0**	**+0.7**
EGD	comp=Z,174nm,0.1s			AML	AML	02 49 02.4	
EGD	**Espegrend** SNR=70	**0.97**	**178**	*eP*	**Pb**	**02 48 47.2**	**-0.1**
EGD	comp=Z,174nm,0.1s,SNR=70			*eS*	**Sb**	**02 49 01.0**	**+0.6**
ODD1	**Odda**	**1.51**	**151**	*eP*	**Pn**	**02 48 55.7**	**-0.6**
ODD1				*e*Pg	**Pg**	**02 48 57.3**	**-1.0**
ODD1				*eS*	**Sb**	**02 49 16.5**	**+0.3**
ODD1	comp=Z,209nm,0.2s			AML	AML	02 49 19.5	
ODD1	**Odda**	**1.51**	**151**	*eP*	**Pn**	**02 48 55.7**	**-0.6**
ODD1				*e*Pg	**Pg**	**02 48 57.3**	**-1.0**
ODD1				*eS*	**Sb**	**02 49 18.9**	**+2.7**
MOL	**Molde**	**1.75**	**39**	*eP*	**Pn**	**02 49 00.5**	**+0.8**
MOL				*eS*	**Sn**	**02 49 23.9**	**+1.0**
MOL	comp=Z,96nm,0.2s			AML	AML	02 49 27.5	
MOL	**Molde**	**1.75**	**39**	*eP*	**Pn**	**02 49 00.5**	**+0.8**
MOL				*eS*	**Sn**	**02 49 24.6**	**+1.7**
MOL	**Molde** SNR=50	**1.75**	**39**	*eP*	**Pn**	**02 49 00.5**	**+0.8**
MOL				*eS*	**Sn**	**02 49 24.6**	**+1.7**
BLS5	**Blasjo**	**1.93**	**160**	*eP*	**Pn**	**02 49 02.5**	**+0.2**
BLS5				*eS*	**Sn**	**02 49 26.2**	**-1.3**
BLS5	comp=Z,38nm,0.3s			AML	AML	02 49 32.3	
BLS5	**Blasjo** SNR=50	**1.93**	**160**	*eP*	**Pn**	**02 49 02.5**	**+0.2**
BLS5	comp=Z,38nm,0.3s,SNR=50			*eS*	**Sn**	**02 49 26.2**	**-1.2**
DOMB	**Dombas**	**2.03**	**65**	*e*	**Pn**	**02 49 01.5**	**-2.2**
DOMB	**Dombas**	**2.03**	**65**	*e*P	**Pn**	**02 49 01.5**	**-2.2**
KMY	**Karmoy**	**2.03**	**179**	*e*P	**Pn**	**02 49 02.2**	**-2.6**
KMY				*e*Pg	**Pg**	**02 49 04.3**	**-4.4**
KMY				*e*S	**Sn**	**02 49 26.3**	**-3.7**
KMY	**Karmoy** SNR=93	**2.03**	**179**	*e*Pg	**Pg**	**02 49 04.3**	**-4.4**
KMY	SNR=50			*eS*	**Sn**	**02 49 26.3**	**-3.7**
STAV	**Stavanger**	**2.33**	**173**	*e*Sg	**Sg**	**02 49 41.1**	**-4.4**
NAO01	**NORSAR Array S**	**2.81**	**96**	*e*Pn	**Pn**	**02 49 15.7**	**+0.8**
NAO01	**NORSAR Array S**	**2.81**	**96**	*e*Pn	**Pn**	**02 49 15.7**	**+0.8**
NB2	**NORSAR Subarra** baz=278,slow=14	**2.94**	**91**	Pn	**Pn**	**02 49 17.2**	**+0.5**
NB2				Pg	**Pg**	**02 49 22.6**	**-4.2**
NB2	baz=281,slow=28			Lg		02 50 05.7	
NB2	**NORSAR Subarra** baz=278,slow=13,SNR=130	**2.94**	**91**	Pn	**Pn**	**02 49 17.2**	**+0.5**
OSL	**Oslo**	**3.04**	**113**	*e*Sg	**Sg**	**02 50 07.6**	**-1.5**
SNART	**Snartemo**	**3.08**	**160**	*e*P	**Pn**	**02 49 17.5**	**-1.3**
SNART				*e*Sg	**Sg**	**02 50 05.0**	**-5.8**
HFS	**Hagfors** baz=278,slow=14	**4.34**	**101**	Pn	**Pn**	**02 49 36.0**	**-0.5**
HFS	baz=288,slow=37			Sn	**Sn**	**02 50 29.9**	**+1.4**
HFS	baz=286,slow=37			Lg		02 50 51.7	
HFS	**Hagfors** baz=278,slow=14,SNR=2.7	**4.34**	**101**	Pn	**Pn**	**02 49 36.0**	**-0.6**
FIA0	**FINESS Array S** baz=283,slow=12	**10.04**	**80**	Pn	**P**	**02 50 53.9**	**-2.4**
FIA0	baz=266,slow=28			Lg		02 53 47.0	
FIA0	**FINESS Array S** baz=283,slow=12,SNR=5.0	**10.04**	**80**	Pn	**P**	**02 50 53.9**	**-2.3**

*CSEM **31** 02:52:49.2±0.1,35.91N×27.96E,h10km,ML3.1,Error*
ellipse: s-maj=2.6km s-min=1.1km az=76.0
*ATH **31** 02:52:51.0,35.61N×28.25E,h54km±1km,MD2.7/3*
*HLW **31** 02:52:53.5,35.94N×27.95E,h33km,Mb3.1*
ISC 31 02:52:50.9±0.9,36.09N±0.09×27.8E±0.1,h90km±9km,n12,
σ0°73/16,2C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.28**	**62**	*eP*	**P**	**02 53 04.7**	**+0.5**
ARG				*eS*	**S**	**02 53 14.5**	**+0.2**
DAT	**Datca**	**0.67**	**343**	*e*PG	**P**	**02 53 06.6**	**-0.8**
DAT				*e*SG	**S**	**02 53 15.6**	**-4.0**
KARP	**Karpathos**	**0.76**	**225**	*eP*	**P**	**02 53 08.3**	**0.0**
KARP				*eS*	**S**	**02 53 20.8**	**-0.3**
YER	**Yerkesik**	**1.11**	**19**	*e*PG	**P**	**02 53 11.7**	**-0.5**
ELL	**Elmali**	**1.81**	**68**	*e*PN	**P**	**02 53 22.2**	**+1.1**
NPS	**Neapolis**	**1.98**	**246**	*e*P	**P**	**02 53 25.5**	**+2.2**
NPS	**Neapolis**	**1.98**	**246**	*e*Pn	**P**	**02 53 24.3**	**+1.0**
SLUM		**5.07**	**206**	P	**P**	**02 54 06.0**	**0.0**
SWA1		**7.03**	**195**	P	**P**	**02 54 33.1**	**0.0**
SWA1				S	**S**	**02 55 45.9**	**-6.2**
AMAG	**Maghara**	**7.05**	**139**	⇑P	**P**	**02 54 32.5**	**-0.8**
SWA2		**7.11**	**197**	P	**P**	**02 54 33.5**	**-0.6**
HFRF	**Wahat Farafira**	**8.92**	**177**	⇑P	**P**	**02 54 58.7**	**0.0**

IGQ 31 03:19:33.2,1.75S×80.78W,h16km±8km,mb4.5,9C-6D,
Error ellipse: s-maj=8.5km s-min=2.6km az=17.3,Near
coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.49**	**206**	⇑P	Pb	03 19 42.9	0.0
JAMA	**Jama**	**1.58**	**21**	⇓P	Pn	03 20 01.7	+0.9
JAMA				S	Sn	03 20 24.6	+3.6
MAG1	**Magdalena**	**1.94**	**31**	⇑P	Pn	03 20 06.5	+0.5
QIL1	**Quilotoa**	**2.05**	**64**	⇓P	Pn	03 20 07.4	-0.1
IGUA	**Igualata**	**2.15**	**83**	⇑P	Pn	03 20 10.1	+1.1
CUSU	**Cusua**	**2.31**	**83**	P	Pn	03 20 13.4	+2.1
JUIV	**Juive**	**2.33**	**82**	P	Pn	03 20 13.3	+1.7
ULBA	**Ulba**	**2.39**	**83**	P	Pn	03 20 14.1	+1.7
PISA	**Pisayambo**	**2.49**	**74**	⇑P	Pn	03 20 15.8	+2.0
PISA				S	Sn	03 20 46.5	+2.5
CAMI	**Rancho Maria**	**2.51**	**65**	⇓P	Pn	03 20 16.2	+2.1
NAS1	**Nasa**	**2.55**	**64**	P	Pn	03 20 16.8	+2.1
VC1	**Cotopaxi 1**	**2.62**	**65**	⇓P	Pn	03 20 18.7	+3.1
TAMB	**Tambo**	**2.62**	**67**	P	Pn	03 20 18.4	+2.7
JUA2	**San Juan 2**	**2.65**	**55**	⇑P	Pn	03 20 17.4	+1.2
TERV	**Terraza Guagua**	**2.67**	**54**	P	Pn	03 20 17.6	+1.2
TERV				S	Sn	03 20 54.3	+5.5
PINO	**Pino**	**2.68**	**54**	⇑P	Pn	03 20 17.5	+0.9
ANTI	**Antisana**	**2.92**	**64**	⇓P	Pn	03 20 17.6	+1.0
COTA	**Cotacachi**	**3.20**	**50**	⇑P	Pn	03 20 22.8	+2.9
ANGU	**Angureal**	**3.29**	**57**	⇓P	Pn	03 20 25.8	+1.9
CAYA	**Cayambe**	**3.32**	**57**	⇑P	Pn	03 20 28.6	+3.4
CAYA				S	Sn	03 20 29.1	+3.4
LAV3	**Lava3-Reventad**	**3.55**	**63**	P	Pn	03 21 15.9	+11
CONE	**Cono NE Rev Vo**	**3.55**	**62**	P	Pn	03 20 34.7	+5.8
						03 20 34.2	+5.4

*IDC **31** 03:19:36.8±5.2,27.57S×177.09W,h36km±41km,mb4.0/9,*
mb1 4.3/10,mb1mx4.2/13,mbtmp4.2/10,ML4.1/1,MS4.1/13,
Ms1 4.1/13,ms1mx3.9/28,Error ellipse: s-maj=26.1km
s-min=24.8km az=4.0
*NEIC **31** 03:19:36.6±2.7,27.60S×177.12W,h39km±25km,mb4.5/3,*
Error ellipse: s-maj=24.0km s-min=16.7km az=173.0
ISC 31 03:19:35.2±0.6,27.55S±0.07×177.2W±0.1,h33km,n47,
σ0°88/26,mb4.3/12,MS4.2/11,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 1µm,0.3s,baz=69,slow=4.4,SNR=62	**1.81**	**200**	Pn	**Pn**	**03 20 05.4**	**+0.7**
RAO	2µm,0.3s,baz=267,slow=23,SNR=9.9			Sn	**Sn**	**03 20 26.7**	**0.0**
RAO	comp=Z,2µm,21.6s,baz=270,slow=41			LR	LR	03 20 52.2	
RAO	**Raoul Island**	**1.81**	**200**	*e*Pn	**Pn**	**03 20 05.3**	**+0.6**
RAO				*e*Sn	**Sn**	**03 20 27.3**	**+0.6**
URZ	**Urewera** 1.3nm,0.3s,baz=112,slow=7.8,SNR=4.5	**11.70**	**203**	Pn	**P**	**03 22 19.3**	**-3.5**
URZ	4.3nm,0.3s,baz=202,slow=21,SNR=13			Sn	**S**	**03 24 22.3**	**-11**
AFI	**Afiamalu** 4.0nm,0.3s,baz=146,slow=3.7,SNR=5.8	**14.48**	**22**	Pn	**P**	**03 22 55.1**	**-4.7**
AFI	3.3nm,0.3s,baz=299,slow=23,SNR=3.8			Sn	**S**	**03 25 24.1**	**-16**
DZM	**Mont Dzumac** comp=Z,1µm,21.3s,baz=199,slow=33	**15.82**	**287**	LR	LR	03 28 16.4	
RAR	**Rarotonga** 1.5nm,0.3s,baz=227,slow=1.8,SNR=7.3	**17.07**	**72**	Pn	**P**	**03 23 26.1**	**-6.8**
RAR	comp=Z,508nm,19.1s,baz=278,slow=31			LR	LR	03 28 22.0	
TBI	**Tubuai** 1µm,27.2s,baz=252	**25.37**	**87**	*e*LR	LR	03 30 41.8	
PAE	**Paea** 117nm,0.3s	**27.27**	**75**	*e*T		03 53 02.3	
PPT	**Papeete** 1µm,26.2s,baz=250	**27.32**	**75**	*e*LR	LR	03 31 36.6	
PPT	**Papeete** 13nm,0.4s	**27.32**	**75**	*e*T		03 53 05.7	
PPT	**Papeete** comp=Z,349nm,20.5s,MS3.9,baz=278,slow=30	**27.32**	**75**	LR	LR	03 33 06.7	
TVO	**Taravao** 16nm,0.3s	**27.50**	**75**	*e*T		03 53 19.7	
HNR	**Honiara** comp=Z,251nm,18.9s,MS3.8,baz=355,slow=34	**28.10**	**306**	LR	LR	03 35 22.9	
CTA	**Charters Tower** 1.8nm,0.3s,mb4.5,baz=110,slow=15,SNR=2.5	**34.16**	**275**	P	**P**	**03 26 20.3**	**+0.8**
CTA	comp=Z,652nm,19.3s,MS4.4,baz=49,slow=34			LR	LR	03 38 42.8	
STKA	**Stephens Creek** 1.9nm,0.6s,mb4.2,baz=89,slow=12,SNR=8.3	**35.90**	**253**	P	**P**	**03 26 34.5**	**+0.3**
STKA	comp=Z,440nm,20.1s,MS4.2,baz=278,slow=34			LR	LR	03 39 48.8	
RKT	**Rikitea** 794nm,27.5s,baz=263	**38.28**	**93**	*e*LR	LR	03 36 40.8	
RKT	**Rikitea** 4.5nm,0.4s	**38.28**	**93**	*e*T		04 06 49.0	
ASPA	**Alice Springs**	**44.05**	**264**	*e*P	**P**	**03 27 42.2**	**+0.4**
WB2	**Warramunga Arr**	**44.77**	**269**	*e*P	**P**	**03 27 46.7**	**-0.9**
WRAB	**Tennant Creek** 4.1nm,0.6s,mb4.4	**44.77**	**269**	*e*P	**P**	**03 27 46.2**	**-1.4**
WRA	**Warramunga Arr** 1.9nm,0.4s,mb4.3,baz=107,slow=7.9,SNR=8.6	**44.78**	**269**	P	**P**	**03 27 46.9**	**-0.8**
WRA	2.1nm,0.8s,baz=101,slow=3.7,SNR=4.7			PcP	PcP	03 29 30.5	+0.6
VNDA	**Vanda** 1.1nm,0.6s,mb4.0,baz=9.1,slow=5.3,SNR=9.2	**50.99**	**186**	P	**P**	**03 28 35.9**	**+0.5**
CBIJ	**Chichi jima** comp=Z,147nm,18.4s,MS4.2,baz=162,slow=32	**66.90**	**321**	LR	LR	03 55 51.5	
MAW	**Mawson** 6.2nm,0.9s,mb4.5,baz=193,slow=6.6,SNR=4.4	**75.22**	**200**	P	**P**	**03 31 14.9**	**-0.8**
JOW	**Kunigami** comp=Z,133nm,20.9s,MS4.2,baz=75,slow=30	**75.30**	**311**	LR	LR	03 57 49.3	
MJAR	**Matsushiro Arr** 9.2nm,0.8s,mb4.8,baz=156,slow=5.9,SNR=20	**76.32**	**324**	P	**P**	**03 31 23.3**	**+0.7**
MJAR	comp=Z,97nm,21.7s,MS4.1,baz=175,slow=30			LR	LR	03 58 24.2	
MAT	**Matsushiro**	**76.33**	**324**	P	**P**	**03 31 24.2**	**+1.6**
MAT	**Matsushiro** 22nm,1.1s,mb5.0	**76.33**	**324**	*e*P	**P**	**03 31 24.0**	**+1.4**
PLCA	**Paso Flores** comp=Z,93nm,19.6s,MS4.2,baz=72,slow=30	**83.93**	**133**	LR	LR	04 00 54.4	
NVAR	**Mina Array Bea** 0.9nm,0.8s,mb4.1,baz=218,slow=8.1,SNR=5.3	**85.67**	**42**	P	**P**	**03 32 11.8**	**-0.1**
SONM	**Songino Array** 0.3nm,0.9s,baz=101,slow=7.3,SNR=3.0	**101.50**	**318**	P	P	03 33 25.2	+0.4
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=134,slow=1.0,SNR=4.5	**116.46**	**311**	PKP	PKPdf	03 38 14.5	-1.1
ARCES	**ARCESS Array B** 3.5nm,0.9s,baz=225,slow=1.7,SNR=6.1	**135.95**	**349**	PKP	PKPdf	03 38 52.9	+0.7
FINES	**FINESS Array B** 1.5nm,0.8s,baz=56,slow=3.8,SNR=8.2	**142.69**	**342**	PKhKP		03 39 00.7	
NB2	**NORSAR Subarra** 1.9nm,0.7s,baz=16,slow=4.0	**146.03**	**353**	PKPabc	PKPdf	03 39 10.9	+0.8
NOA	**NORSAR Array B** 3.3nm,0.8s,baz=14,slow=2.4,SNR=8.4	**146.03**	**353**	PKPbc	PKPbc	03 39 10.8	-0.4
NOA	**NORSAR Array B**	**146.03**	**353**	PKPbc	PKPbc	03 39 10.8	-0.4
MALT	**Malatya**	**148.41**	**299**	*e*PKPbc	PKPdf	03 39 19.1	+4.3
AKASG	**Malin Array Be** 2.9nm,0.5s,baz=41,slow=3.2,SNR=19	**149.40**	**326**	PKPbc	PKPdf	03 39 20.1	+4.1
BR131	**Keskin Array S**	**151.74**	**303**	*e*PKPbc	PKPdf	03 39 26.2	+6.3
BRTR	**Keskin Array B** 0.9nm,0.5s,baz=135,slow=4.6,SNR=7.6	**151.74**	**303**	PKPbc	PKPdf	03 39 26.2	+6.4

*NEIC **31** 03:25:17.1±0.9,3.66S×100.94E,h30km,mb4.3/2,Error*
ellipse: s-maj=36.7km s-min=9.8km az=54.0
*IDC **31** 03:25:19.1±4.5,3.61S×100.95E,h44km±39km,mb3.8/7,*
mb1 3.9/8,mb1mx3.7/17,mbtmp4.0/8,ML3.7/1,MS3.1/1,
Ms1 3.1/1,ms1mx2.9/24,Error ellipse: s-maj=51.5km
s-min=19.1km az=52.0
ISC 31 03:25:17.6±3.2,3.5S±0.2×101.1E±0.2,h44km±27km,n18,
σ0°94/16,mb4.3/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 1.5nm,0.3s,baz=156,slow=21,SNR=5.3	**6.60**	**341**	P	**P**	**03 26 54.1**	**-0.3**
PSI	comp=Z

JCT	**Junction City**	**146.65**	**34**	*e*PKPbc	PKPbc	03 44 57.8	+2.7

*THR **31** 03:27:53.9±0.7,32.18N×49.15E,h18km±4km, ML3.0*
*KISR **31** 03:27:53.3±0.8,32.24N×49.24E,h33km, ML3.1*
*CSEM **31** 03:27:54.5±0.1,32.22N×49.15E,h16km, ML3.0, Error ellipse: s-maj=5.8km s-min=2.1km az=113.0*

ISC 31 03:27:53.9±1.6,**32.18N**±0.05×**49.12E**±0.08,**h2**km±12km, **n10**,σ**90**/15,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.27**	**256**	*e*PG	**Pg**	**03 28 00.5**	**+1.1**
SHGR				AML	AML	03 28 14.5	
	comp=E,3μm,0.6s						
ASAO	**Ashtian**	**2.49**	**18**	*e*PN	**Pn**	**03 28 36.1**	**+0.1**
ASAO				*e*SG	**Sb**	**03 29 11.7**	**+1.5**
ASAO				AML	AML	03 29 16.6	
	comp=E,81nm,0.5s						
NASN	**Na'in**	**3.18**	**78**	*e*PN	**Pn**	**03 28 44.8**	**-1.2**
NASN				*e*SG	**Sb**	**03 29 32.7**	**+2.3**
NASN				AML	AML	03 29 44.9	
	comp=E,34nm,0.6s						
KBD	**Kabd**	**3.23**	**203**	*e*P	**Pn**	**03 28 47.0**	**+0.3**
KBD				*e*S	**Sn**	**03 29 26.4**	**+0.2**
KBD				AML	AML	03 29 28.2	
	comp=Z,72nm,0.4s						
SNGE	**Sanandaj**	**3.26**	**334**	*e*PN	**Pn**	**03 28 46.5**	**-0.6**
SNGE				AML	AML	03 29 46.4	
	comp=N,36nm,0.5s						
NAY	**Al-Naaiem**	**3.33**	**209**	*e*P	**Pn**	**03 28 47.6**	**-0.5**
NAY				*e*S	**Sn**	**03 29 29.3**	**+0.5**
RDF	**Al-Radifah**	**3.51**	**203**	*e*P	**Pn**	**03 28 50.7**	**+0.1**
RDF				*e*S	**Sn**	**03 29 33.2**	**-0.1**
RDF				AML	AML	03 29 34.9	
	comp=Z,36nm,0.5s						
QRN	**Al-Qurain**	**3.57**	**197**	*e*P	**Pn**	**03 28 51.0**	**-0.5**
QRN				AML	AML	03 29 35.5	
	comp=Z,26nm,0.3s						
CHTH	**Charan**	**4.08**	**24**	*e*PN	**Pn**	**03 28 57.8**	**-1.0**
DAMV	**Damavand**	**4.18**	**34**	*e*PN	**Pn**	**03 28 59.0**	**-1.2**

*VIE **31** 03:38:07.5±1.1,49.92N×17.20E,mb1.6/1,ML2.9/3, Error ellipse: s-maj=8.9km s-min=3.6km az=162.0*
*PRU **31** 03:38:10.2,49.72N×17.38E,h12km, Tectonic Event*
*NEIC **31** 03:38:10.0±0.6,49.76N×17.37E,h10km,ML2.6(PRU), Error ellipse: s-maj=9.3km s-min=6.8km az=191.0*
*CSEM **31** 03:38:11.1±0.1,49.77N×17.27E,h2km,ML3.2/2, Error ellipse: s-maj=1.9km s-min=1.4km az=34.0*

IPEC 31 03:38:09.9±0.1,**49.75N×17.42E,h19**km,**ML2.0/3,2C-1D, Error ellipse: s-maj=0.8km s-min=0.7km az=159.0, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.08**	**68**	*e*P	Pb	03 38 14.2	+0.6
MORC				*e*S	Sb	03 38 17.3	+1.2
MORC	**Moravsky Berou**	**0.08**	**68**	*e*Pg	Pb	03 38 14.7	+1.1
MORC				*e*Sg	Sb	03 38 17.4	+1.3
	306nm,0.1s						
OKC	**Ostrava-Krasne**	**0.48**	**79**	*e*PG	Pb	03 38 19.1	-0.4
OKC				*e*SG	Sb	03 38 25.9	-0.2
	120nm,0.3s						
VRAC	**Vranov**	**0.69**	**231**	*e*Pg	Pb	03 38 23.5	+0.3
VRAC				*e*Sg	Sb	03 38 32.0	-0.3
	58nm,0.1s						
JAVC	**Velka Javorina**	**0.90**	**170**	P	Pb	03 38 29.4	+2.7
JAVC	**Velka Javorina**	**0.90**	**170**	*e*Pg	Pb	03 38 29.1	+2.4
DPC	**Dobruska-Polom**	**0.93**	**311**	*e*PG	Pb	03 38 28.0	+0.8
DPC				*e*SG	Sb	03 38 40.2	+1.0
	82nm,0.3s						
DPC	**Dobruska-Polom**	**0.93**	**311**	*e*Pg	Pb	03 38 27.9	+0.7
DPC				*e*Sg	Sb	03 38 39.6	+0.4
KRUC	**Moravsky**	**0.96**	**225**	P	Pb	03 38 27.7	+0.1
KRUC	**Moravsky**	**0.96**	**225**	*e*Pg	Pb	03 38 27.9	+0.2
KRUC				*e*Sg	Sb	03 38 39.9	0.0
	18nm,0.1s						
UPC	**Upice**	**1.19**	**311**	*e*PG	Pb	03 38 32.6	+1.1
UPC				*e*SG	Sb	03 38 48.2	+1.7
UPC	**Upice**	**1.19**	**311**	*e*Pg	Pb	03 38 31.8	+0.3
UPC				*e*Sg	Sb	03 38 46.7	+0.2
SMOL	**Smolenice**	**1.23**	**180**	*e*PN	Pn	03 38 34.9	+2.6
SMOL				*e*SN	Sn	03 38 50.4	+1.9
KSP	**Ksiaz**	**1.32**	**327**	*e*Pg	Pn	03 38 34.4	+0.9
KSP				*e*Sg	Sb	03 38 51.0	+0.7
TREC	**Trest**	**1.34**	**251**	*e*PG	Pn	03 38 33.5	-0.3
TREC	**Trest**	**1.34**	**251**	*e*Pg	Pn	03 38 33.4	-0.4
TREC				*e*Sg	Sb	03 38 51.8	+0.9
VYHS	**Vyhne**	**1.56**	**143**	*e*PN	Pn	03 38 39.6	+2.6
VYHS				*e*		03 38 58.1	
ZST	**Bratislava**	**1.56**	**188**	*e*PN	Pn	03 38 39.9	+2.9
ZST				*e*		03 38 56.4	
OJC	**Ojcow**	**1.61**	**72**	*e*Pg	Pn	03 38 37.6	0.0
OJC				*e*Sg	Sn	03 39 00.5	+2.5
OJC	**Ojcow**	**1.61**	**72**	*e*Pn	Pn	03 38 37.4	-0.2
OJC	**Ojcow**	**1.61**	**72**	*e*Pg	Pn	03 38 37.6	0.0
OJC				*e*Sg	Sn	03 39 00.5	+2.5
PRU	**Pruhonice**	**1.88**	**279**	*e*PG	Pn	03 38 43.5	+1.9
PRU				*e*SG	Sn	03 39 06.9	+2.0
	8.8nm,0.3s						
PRU	**Pruhonice**	**1.88**	**279**	*e*Pn	Pn	03 38 40.7	-0.9
PRU	**Pruhonice**	**1.88**	**279**	*e*Pg	Pn	03 38 43.5	+1.9
PRU				*e*Sg	Sn	03 39 07.0	+2.1
NIE	**Niedzica**	**1.91**	**99**	*e*Pg	Pn	03 38 45.9	+3.9
NIE				*e*Sg	Sn	03 39 10.9	+5.2
PVCC	**Panska Ves**	**2.00**	**294**	*e*PN	Pn	03 38 43.6	+0.4
PVCC				*e*PG	Pn	03 38 46.1	+2.9
PVCC	**Panska Ves**	**2.00**	**294**	*e*Pn	Pn	03 38 42.8	-0.4
PVCC	**Panska Ves**	**2.00**	**294**	*e*Pg	Pn	03 38 46.1	+2.9
PVCC				*e*Sg	Sn	03 39 12.9	+5.0
BRG	**Berggiesshubel**	**2.50**	**298**	Pg	Pn	03 38 56.0	+5.6
BRG				Sg	Sn	03 39 27.6	+6.9
BRG	**Berggiesshubel**	**2.50**	**298**	Pg	Pn	03 38 56.0	+5.6
BRG				Sg	Sn	03 39 27.6	+6.9
STHS	**Stebnicka Huta**	**2.51**	**96**	*e*PG	Pn	03 38 58.4	+7.8
STHS				*e*SG	Sn	03 39 32.0	+12
STHS				eLG		03 39 40.0	
KHC	**Kasperske Hory**	**2.58**	**258**	*e*PN	Pn	03 38 50.6	-1.0
KHC				*e*PG	Pn	03 38 56.7	+5.1
KHC				*ex*	x	03 39 28.5	
KHC				*e*SG	Sn	03 39 31.0	+8.2
KHC	**Kasperske Hory**	**2.58**	**258**	*e*Pn	Pn	03 38 50.5	-1.1
KHC	**Kasperske Hory**	**2.58**	**258**	*e*Pg	Pn	03 38 56.7	+5.1
KHC				*e*Sn	Sn	03 39 22.2	-0.6
KHC				*e*Sg	Sn	03 39 30.9	+8.1
MOA	**Molln**	**2.82**	**229**	⇓*i*Pn	Pn	03 38 53.4	-1.6
MOA				⇑*i*Sg	Sn	03 39 41.1	+12
	comp=E,3.6nm,0.2s						
MOA	**Molln**	**2.82**	**229**	*e*Pn	Pn	03 38 54.7	-0.3
MOA				Sg	Sn	03 39 41.1	+12
	3.6nm,0.2s						
CLL	**Collm**	**3.23**	**301**	*i* SG	Sn	03 39 50.9	+12
BURAR	**Bucovina Array**	**5.58**	**109**	⇑P	Pn	03 39 31.6	-2.6

*MOS **31** 03:39:08.5±1.9,46.13N×149.65E,h169km, mb4.5/2, Error ellipse: s-maj=19.7km s-min=11.4km az=52.3*
*BJI **31** 03:39:09.8,46.56N×149.78E,h189km,mB4.5,mb4.4*
*NEIC **31** 03:39:10.3±1.6,46.09N×149.62E,h172km±17km,mb4.3/4, Error ellipse: s-maj=17.6km s-min=12.0km az=144.0*
*IDC **31** 03:39:12.6±2.6,46.26N×149.44E,h188km±26km, mb3.7/15,mb1 4.0/16,mb1mx3.8/24,mbtmp4.2/16, Error ellipse: s-maj=22.3km s-min=14.2km az=157.0*
*JMA **31** 03:39:13.3±0.6,45.46N×149.60E,h176km, M4.1*

ISC 31 03:39:08.1±0.7,**45.86N**±0.08×**149.86E**±0.10,**h168**km±6km, **n78**,σ1**29**/88,**mb4.4**/25,**3C**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.53**	**247**α	*i*PN	**P**	**03 39 37.7**	**-2.0**
KUR				*i* S	**S**	**03 40 01.8**	**-2.3**
KUR				pmax	pmax		
	comp=Z,4μm,1.4s						
KUR				pmax	pmax		
	comp=N,230nm,0.7s						
KUR				pmax	pmax		
	comp=E,340nm,0.7s						
KUR				pmax	pmax		
	comp=Z,1μm,0.7s						
KUR				smax			
	comp=N,380nm,0.8s						
KUR				smax			
	comp=E,910nm,0.8s						
KUR				smax			
	comp=N,4μm,1.6s						
KUR				smax			
	comp=E,10μm,1.6s						
YUK	**Yuzh-Kuril'sk**	**3.37**	**239**	*e*PN	**P**	**03 40 02.8**	**+1.3**
YUK				*i* S	**S**	**03 40 44.0**	**+1.4**
YUK				pmax	pmax		
	comp=Z,470nm,0.3s						
YUK				pmax	pmax		
	comp=N,330nm,0.5s						
YUK				pmax	pmax		
	comp=E,280nm,0.4s						
YUK				smax			
	comp=N,810nm,0.4s						
YUK				smax			
	comp=E,490nm,0.4s						
YUK				smax			
	comp=N,4μm,0.8s						
NEM2	**Nemuro 2**	**3.85**	**231**	P	**P**	**03 40 07.5**	**-0.2**
NEM2				*e*S	**S**	**03 40 50.3**	**-3.3**
JRA	**Rausu**	**3.87**	**242**	P	**P**	**03 40 09.5**	**+1.6**
JNK	**Nakash**	**4.31**	**240**	P	**P**	**03 40 14.7**	**+1.1**
JTKR	**Abashiri--Toko**	**4.63**	**248**	P	**P**	**03 40 18.9**	**+1.2**
JAK	**Akkeshi**	**4.67**	**234**	P	**P**	**03 40 18.3**	**0.0**
JAK				*e*S	**S**	**03 41 09.0**	**-3.6**
JMP	**Maruseppu**	**4.97**	**250**	P	**P**	**03 40 23.2**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.03**	**285**	⇑*i*PN	**P**	**03 40 23.2**	**+0.2**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				pmax	pmax		
	comp=E,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.03**	**285**	*e*P	**P**	**03 40 22.1**	**-1.0**
JAR	**Ashorobuto**	**5.05**	**242**	P	**P**	**03 40 24.4**	**+1.2**
JOB	**Onbets**	**5.23**	**238**	P	**P**	**03 40 26.2**	**+0.6**
JOB				*e*S	**S**	**03 41 23.0**	**-2.7**
JKK2	**Kamakawa 2**	**5.43**	**251**	P	**P**	**03 40 29.8**	**+1.6**
ASAJ	**Asahikawa**	**5.44**	**254**	P	**P**	**03 40 30.1**	**+1.8**
	comp=E,6.9nm,0.3s,baz=72,slow=14,SNR=48						
ASAJ	**Asahikawa**	**5.44**	**254**	P	**P**	**03 40 30.0**	**+1.7**
ASAJ	**Asahikawa**	**5.44**	**254**	PN	**P**	**03 40 30.1**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
JWK2	**Keihoku**	**5.61**	**267**	P	**P**	**03 40 32.4**	**+1.8**
JCH	**Churui**	**5.68**	**237**	P	**P**	**03 40 31.3**	**-0.2**
JCH				*e*S	**S**	**03 41 31.5**	**-4.8**
JFR	**Furan**	**5.85**	**245**	P	**P**	**03 40 34.8**	**+1.0**
JAB	**Ashibetsu**	**5.93**	**249**	P	**P**	**03 40 36.8**	**+2.0**
JHR	**Hokuryu**	**6.16**	**253**	P	**P**	**03 40 40.0**	**+2.1**
JEM	**Erimo**	**6.18**	**234**	P	**P**	**03 40 39.3**	**+1.2**
JBT2	**Biratori 2**	**6.19**	**243**	P	**P**	**03 40 38.4**	**+0.1**
JNBK	**Urakawa-nobuka**	**6.24**	**238**	P	**P**	**03 40 37.7**	**-1.3**
JNBK				*e*S	**S**	**03 41 42.9**	**-6.8**
JEW	**Eniwo**	**6.74**	**246**	P	**P**	**03 40 46.4**	**+0.8**
JKB	**Kayabe**	**7.51**	**241**	P	**P**	**03 40 54.3**	**-1.5**
JKB				*e*S	**S**	**03 42 13.5**	**-6.3**
JSH	**Shimam**	**7.74**	**249**	P	**P**	**03 40 59.1**	**+0.2**
JYM2	**Yakumo 2**	**7.79**	**245**	P	**P**	**03 40 58.7**	**-0.9**
JYM2				*e*S	**S**	**03 42 21.3**	**-5.3**
JSR	**Shiriuchi**	**8.09**	**241**	P	**P**	**03 41 02.2**	**-1.3**
JSR				*e*S	**S**	**03 42 26.4**	**-7.2**
JTM	**Tenmabayashi**	**8.17**	**235**	P	**P**	**03 41 02.2**	**-2.3**
JTM				*e*S	**S**	**03 42 26.5**	**-8.9**
JANG	**Nango**	**8.20**	**231**	P	**P**	**03 41 02.7**	**-2.3**
JANG				*e*S	**S**	**03 42 27.6**	**-8.6**
JTH	**Tanohata**	**8.33**	**228**	P	**P**	**03 41 06.2**	**-0.5**
JOSM	**Okushiri--Mats**	**8.38**	**247**	P	**P**	**03 41 07.0**	**-0.4**
JRG	**Rokugo**	**9.37**	**230**	P	**P**	**03 41 19.5**	**-0.8**
JIO	**Ouri**	**9.72**	**223**	*e*S	**P**	**03 41 23.8**	**-1.1**
MJAR	**Matsushiro Arr**	**12.78**	**227**	P	**P**	**03 42 04.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=33,slow=15,SNR=8.5						
MAT	**Matsushiro**	**12.78**	**227**	P	**P**	**03 42 06.1**	**+1.6**
MAT	**Matsushiro**	**12.78**	**227**	*e*PN	**P**	**03 42 06.0**	**+1.5**
MAT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MAT	**Matsushiro**	**12.78**	**227**	*e*P	**P**	**03 42 06.0**	**+1.5**
	comp=Z,8.0nm,1.0s						
MDJ	**Mudanjiang**	**14.33**	**272**	P	**P**	**03 42 25.5**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,50nm,4.1s						
MDJ	**Mudanjiang**	**14.33**	**272**	*e*P	**P**	**03 42 25.0**	**+0.9**
CN2	**Changchun**	**17.42**	**272**	*e*P	**P**	**03 43 01.0**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
SONM	**Songino Array**	**29.50**	**290**	P	**P**	**03 44 56.6**	**-1.8**
	comp=Z,0.7nm,0.6s,mb3.6,baz=94,slow=7.7,SNR=6.7						
GTA	**Gaotai**	**36.87**	**278**	*e*P	**P**	**03 46 01.3**	**-0.4**
MCK	**McKinley**	**37.78**	**40**	*e*P	**P**	**03 46 08.3**	**-0.8**
MCK				pmax	pmax		
	comp=Z,17nm,1.9s,mb4.3						
MCK	**McKinley**	**37.78**	**40**	*e*P	**P**	**03 46 08.3**	**-0.8**
	comp=Z,17nm,1.9s,mb4.3						
ILAR	**Eisn Array**	**38.64**	**38**	P	**P**	**03 46 15.5**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.0,baz=264,slow=7.6,SNR=33						
GYA	**Guiyang**	**39.31**	**256**	P	**P**	**03 46 23.0**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
INK	**Inuvik**	**43.60**	**32**	P	**P**	**03 46 56.2**	**-0.3**
	comp=Z,7.0nm,0.5s,mb4.6,baz=302,slow=6.7,SNR=158						
INK	**Inuvik**	**43.60**	**32**	P	**P**	**03 46 56.2**	**-0.3**
MKAR	**Makanchi Array**	**45.34**	**297**	P	**P**	**03 47 08.3**	**-2.3**
	comp=Z,0.5nm,0.5s,mb3.4,baz=68,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**45.34**	**297**	P	**P**	**03 47 08.3**	**-2.3**
DLBC	**Dease Lake**	**47.82**	**44**	P	**P**	**03 47 31.4**	**+1.6**
	comp=Z,2.9nm,0.9s,mb3.9,baz=293,slow=13,SNR=5.4						
LSA	**Lhasa**	**48.05**	**272**	*e*P	**P**	**03 47 33.7**	**+1.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**48.05**	**272**	*e*P	**P**	**03 47 33.7**	**+1.6**
	comp=Z,5.7nm,0.6s,mb4.4						
JIRN	**Jiri**	**52.75**	**273**	*e*P	**P**	**03 48 08.2**	**+0.6**
	comp=Z,46nm,0.7s,mb5.3						
GUN	**Gumba**	**52.81**	**273**	*e*P	**P**	**03 48 08.3**	**+0.2**
	comp=Z,17nm,0.4s,mb5.1						
YKA	**Yellowknife Ar**	**52.97**	**35**	P	**P**	**03 48 07.9**	**-0.9**
	comp=Z,2.8nm,0.5s,mb4.2,baz=300,slow=6.9,SNR=69						
YKA	**Yellowknife Ar**	**52.97**	**35**	P	**P**	**03 48 07.9**	**-0.9**
KKN	**Kakani**	**53.31**	**274**	*e*P	**P**	**03 48 12.3**	**+0.6**
	comp=Z,22nm,0.6s,mb5.0						
PKI	**Pulchoki**	**53.35**	**273**	*e*P	**P**	**03 48 12.0**	**0.0**
	comp=Z,14nm,0.5s,mb4.9						
DMN	**Daman**	**53.54**	**274**	*e*P	**P**	**03 48 13.6**	**+0.2**
	comp=Z,22nm,0.7s,mb5.0						
GKN	**Gorkha**	**53.62**	**274**	*e*P	**P**	**03 48 14.0**	**0.0**
	comp=Z,25nm,0.5s,mb5.2						
KOLN	**Koldanda**	**54.49**	**275**	*e*P	**P**	**03 48 20.3**	**0.0**
	comp=Z,24nm,0.8s,mb5.0						
NVAR	**Mina Array Bea**	**64.84**	**60**	P	**P**	**03 49 32.1**	**+1.3**
	comp=Z,1.7nm,0.6s,mb4.1,baz=292,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**66.99**	**196**	P	**P**	**03 49 46.4**	**+1.6**
	comp=Z,1.5nm,0.6s,mb4.0,baz=16,slow=6.7,SNR=5.8						
BW06	**Boulder Array**	**67.08**	**52**	*e*P	**P**	**03 49 44.7**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**67.08**	**52**	P	**P**	**03 49 45.4**	**+0.3**
	comp=Z,3.2nm,0.5s,mb4.4,baz=324,slow=1.0,SNR=31						
NB2	**NORSAR Subarra**	**68.31**	**340**	P	**P**	**03 49 48.5**	**-3.8**
	comp=Z,0.7nm,0.6s,mb3.6,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.31**	**340**	P	**P**	**03 49 48.9**	**-3.4**
	comp=Z,0.7nm,0.5s,mb3.6,baz=28,slow=6.5,SNR=3.7						
NOA	**NORSAR Array B**	**68.31**	**340**	P	**P**	**03 49 48.9**	**-3.4**
HFS	**Hagfors**	**68.47**	**338**	P	**P**	**03 49 50.3**	**-3.0**
	comp=Z,4.6nm,1.0s,mb4.2,baz=63,slow=3.3,SNR=4.2						
ULM	**Lac du Bonnet**	**68.65**	**39**	P	**P**	**03 49 53.5**	**-1.1**
	comp=Z,1.4nm,0.4s,mb4.0,baz=301,slow=11,SNR=5.2						
SCHQ	**Schefferville**	**74.98**	**21**	P	**P**	**03 50 31.4**	**-0.4**
	comp=Z,3.1nm,0.5s,mb4.2,baz=311,slow=9.3,SNR=12						
GERES	**GERESS Array B**	**78.23**	**332**	P	**P**	**03 50 48.1**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=45,slow=5.7,SNR=6.3						
TXAR	**Lajitas Array**	**79.89**	**58**	P	**P**	**03 51 00.8**	**+1.5**
	comp=Z,1.7nm,0.5s,mb4.0,baz=295,slow=4.4,SNR=53						
TBI	**Tubuai**	**88.13**	**127**	*e*T		03 50 40.7	
	comp=Z,30nm,0.4s						
BDFB	**Brasilia**	**146.35**	**32**	PKPbc	PKPbc	03 58 31.4	+2.5
	comp=Z,1.4nm,0.5s,baz=341,slow=5.6,SNR=5.9						

*PGC **31** 03:44:50.9,48.26N×129.02W,h10km,MLSn3.4/1,Mw4.0, Northern Juan de Fuca ridge.*
*IDC **31** 03:44:52.6±1.1,48.50N×128.71W,mb3.6/7,mb1 3.9/13, mb1mx3.8/26,mbtmp3.6/13,ML3.6/5,MS3.3/6,Ms1 3.3/6, ms1mx3.1/30,Error ellipse: s-maj=23.2km s-min=11.7km az=55.0*
*NEIC **31** 03:44:54.5±0.7,48.55N×128.59W,h10km,mb4.1/3,Error ellipse: s-maj=14.2km s-min=6.5km az=46.0*

ISC 31 03:44:50.8±1.0,**48.44N**±0.04×**128.74W**±0.06,**h1**km±8km, **n61**,σ0**93**/80,**mb3.7**/8,**MS3.2**/2,**Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.78**	**36**	Pn	**Pn**	**03 45 23.2**	**+0.2**
EDB				Sn	**Sn**	**03 45 45.7**	**-1.0**
EDB				Trac		03 45 49.0	
	comp=N,23nm,0.2s						
BPBC	**Brooks Peninsu**	**1.83**	**20**	Pn	**Pn**	**03 45 23.8**	**+0.1**
OZB	**Mount Ozzard**	**2.21**	**75**	Pn	**Pn**	**03 45 28.9**	**-0.3**
OZB				Sn	**Sn**	**03 45 57.5**	**0.0**
OZB				Trac		03 45 58.4	
	comp=Z,9.0nm,0.1s						
MAYB	**Maynard**	**2.21**	**27**	Pn	**Pn**	**03 45 29.6**	**+0.4**
MAYB				Sn	**Sn**	**03 45 57.5**	**0.0**
	comp=Z,35nm,0.3s						
MAYB				Trac		03 45 58.9	
	comp=Z,35nm,0.3s						
WOSB	**Woss**	**2.23**	**39**	Pn	**Pn**	**03 45 30.1**	**+0.7**
WOSB				Sn	**Sn**	**03 45 58.5**	**+0.5**
	comp=Z,26nm,0.5s						
WOSB				Trac		03 45 59.1	
	comp=Z,26nm,0.5s						
BTB	**Buttle Lake**	**2.35**	**63**	Pn	**Pn**	**03 45 31.9**	**+0.7**
BTB				Sn	**Sn**	**03 46 01.9**	**+0.7**
	comp=Z,38nm,0.3s						
BTB				Trac		03 46 02.7	
	comp=Z,38nm,0.3s						
PHC	**Port Hardy**	**2.42**	**20**	Pn	**Pn**	**03 45 32.2**	**+0.1**
PHC				Sn	**Sn**	**03 46 03.7**	**+0.8**
PHC				Trac		03 46 03.8	
	comp=Z,14nm,0.4s						
NCRB	**Newcastle Ridg**	**2.63**	**41**	Pn	**Pn**	**03 45 35.9**	**+0.7**
NCRB				Sn	**Sn**	**03 46 08.1**	**-0.1**
	comp=Z,25nm,0.4s						
NCRB				Trac		03 46 10.3	
	comp=Z,25nm,0.4s						
ALB	**Alberni**	**2.71**	**71**	Pn	**Pn**	**03 45 35.8**	**-0.5**
ALB				Sn	**Sn**	**03 46 10.4**	**+0.2**
	comp=Z,13nm,0.5s						
ALB				Trac		03 46 14.4	
	comp=Z,13nm,0.5s						
CBB	**Campbell River**	**2.72**	**53**	Pn	**Pn**	**03 45 37.5**	**+1.0**
CBB				Sn	**Sn**	**03 46 11.7**	**+1.1**
CBB				Trac		03 46 16.2	
	comp=Z,19nm,0.6s						
MGB	**Mount Grey**	**2.74**	**77**	Pn	**Pn**	**03 45 36.0**	**-0.7**
MGB				Sn	**Sn**	**03 46 10.0**	**-0.9**
MGB				Trac		03 46 12.0	
	comp=Z,12nm,0.3s						
PFB	**Port Renfrew**	**2.86**	**86**	Pn	**Pn**	**03 45 37.9**	**-0.6**
PFB				Sn	**Sn**	**03 46 12.1**	**-1.9**
PFB				Trac		03 46 14.1	
	comp=Z,9.1nm,0.5s						
TXB	**Texada**	**3.09**	**64**	Pn	**Pn**	**03 45 42.2**	**+0.4**
TXB				Sn	**Sn**	**03 46 21.5**	**+1.5**
	comp=Z,8.0nm,0.2s						
TXB				Trac		03 46 23.2	
	comp=Z,8.0nm,0.2s						
NLLB	**Nanaimo Lost L**	**3.23**	**74**	Pn	**Pn**	**03 45 44.2**	**+0.5**
NLLB				Sn	**Sn**	**03 46 25.1**	**+1.7**
NLLB				Trac		03 46 31.4	
	comp=Z,12nm,0.5s						
LZB	**Mount Lazard**	**3.27**	**85**	Pn	**Pn**	**03 45 43.5**	**-0.8**
LZB				Sn	**Sn**	**03 46 22.9**	**-1.5**
LZB				Trac		03 46 30.0	
	comp=Z,8.1nm,0.9s						
SHB	**Sechelt**	**3.40**	**68**	Pn	**Pn**	**03 45 46.2**	**+0.1**
SHB				Sn	**Sn**	**03 46 28.1**	**+0.4**
SHB				Trac		03 46 33.8	
	comp=Z,20nm,0.5s						
GOBB	**Galiano Island**	**3.50**	**80**	Pn	**Pn**	**03 45 48.4**	**+0.8**
PGC	**Sidney**	**3.52**	**85**	Pn	**Pn**	**03 45 47.0**	**-0.8**
PGC				Sn	**Sn**	**03 46 31.0**	**+0.3**
PGC				Trac		03 46 35.3	
	comp=Z,10.0nm,0.5s						
PGC	**Sidney**	**3.52**	**85**	*e*P	**Pn**	**03 45 46.7**	**-1.1**
VGZ	**Gonzales**	**3.60**	**88**	Pn	**Pn**	**03 45 47.0**	**-2.1**
VGZ				Sn	**Sn**	**03 46 30.9**	**-2.0**
VGZ				Trac		03 46 33.3	
	comp=Z,3.0nm,0.1s						
SNB	**Saturna Island**	**3.71**	**83**	Pn	**Pn**	**03 45 50.7**	**+0.2**
BIB	**Bowen Island**	**3.71**	**73**	Pn	**Pn**	**03 45 50.8**	**+0.2**
BIB				Sn	**Sn**	**03 46 37.9**	**+2.4**
	comp=Z,7.0nm,0.5s						
BIB				Trac		03 46 41.8	
	comp=Z,7.0nm,0.5s						
BBB	**Bella Bella**	**3.77**	**6**	Pn	**Pn**	**03 45 51.4**	**0.0**
	16nm,0.3s,baz=196,slow=12,SNR=289						
BBB				Sn	**Sn**	**03 46 35.2**	**-1.9**
	5.7nm,0.3s,ba

0.5nm,0.8s,mb3.7,baz=281,slow=6.8,SNR=3.6
MKAR Makanchi Array 81.37 339 P **P** **03 57 09.1 -1.0**
0.3nm,0.6s,mb3.5,baz=14,slow=5.6,SNR=3.9

*HEL **31** 03:45:40.5±0.2, 67.63N×33.82E, ML2.5, ML2.3(BER), ML2.3(NAO), Explosion*
*NAO **31** 03:45:41.6±2.3, 67.70N×33.55E, ML2.3*
*IDC **31** 03:45:44.0±2.6, 67.69N×33.15E, mb1 3.4/4, mb1mx3.0/22, mbtmp3.3/4, ML3.1/4, Error ellipse: s-maj=28.6km s-min=9.3km az=74.0*
ISC 31 03:45:37.5±1.1, 67.54N±0.04×33.9E±0.2, n22, σ1°54/41, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
APA0	**Apatity Array**	**0.34**	**282**	*i* P		**Pg**	**03 45 46.2**	**+1.9**
APA0				*i* S		**Sg**	**03 45 50.3**	**+1.3**
APA0				*e*RG			03 45 51.2	
APA0	**Apatity Array**	**0.34**	**282**	Pg	Pg	**Pg**	**03 45 46.2**	**+1.9**
	baz=77,slow=16							
APA0				Lg			03 45 50.3	
	baz=81,slow=37							
APA0				Rg			03 45 51.2	
	baz=81,slow=37							
KU4	**Liikasenvaara**	**2.06**	**237**	*e*P		**Pn**	**03 46 17.9**	**+4.1**
KU4				*e*S		**Sn**	**03 46 43.1**	**+2.5**
SGF	**Sodankyl**	**2.83**	**271**	*e*P		**Pn**	**03 46 26.2**	**+1.4**
SGF				*e*S		**Sn**	**03 46 59.2**	**-0.8**
SGF				*e*SB		**Sb**	**03 47 04.7**	**+0.6**
SGF				MSG			03 47 06.9	
	comp=Z,16nm,0.2s							
KEV	**Kevo**	**3.36**	**315**	*e*P		**Pn**	**03 46 33.4**	**+1.1**
KEV				*e*S		**Sn**	**03 47 11.1**	**-2.3**
ARA0	**ARCESS Array S**	**3.67**	**307**	*e*P		**Pn**	**03 46 37.1**	**+0.3**
ARA0				*e*PG		**Pg**	**03 46 45.4**	**-5.4**
ARA0				*e*S		**Sn**	**03 47 17.4**	**-4.0**
ARA0				*e*SB		**Sb**	**03 47 28.2**	**-0.2**
ARA0	**ARCESS Array S**	**3.67**	**307**	Pn		**Pn**	**03 46 37.1**	**+0.3**
	baz=122,slow=16							
ARA0				Pg		**Pg**	**03 46 45.4**	**-5.4**
	baz=118,slow=16							
ARA0				Sn		**Sn**	**03 47 17.4**	**-4.0**
	baz=132,slow=28							
ARA0				Lg			03 47 28.2	
	baz=128,slow=28							
ARCES	**ARCESS Array B**	**3.67**	**307**	Pn		**Pn**	**03 46 37.1**	**+0.4**
	comp=Z,3.3nm,0.3s,baz=122,slow=15,SNR=622							
ARCES				Sn		**Sn**	**03 47 18.0**	**-3.4**
	comp=Z,2.3nm,0.3s,baz=134,slow=25,SNR=8.1							
ARCES				Lg			03 47 28.0	
	comp=Z,10nm,0.3s,baz=117,slow=34,SNR=16							
OUL	**Oulu**	**4.05**	**236**	*e*P		**Pn**	**03 46 44.6**	**+2.5**
OUL				*e*S		**Sn**	**03 47 30.8**	**-0.2**
KTK1	**Kautokeino**	**4.22**	**295**	*e*P		**Pn**	**03 46 43.8**	**-0.7**
KTK1				AML		AML	03 47 59.6	
	comp=Z,16nm,0.5s							
KJN	**Kajaani**	**4.29**	**219**	*e*P		**Pn**	**03 46 48.1**	**+2.5**
KJN				*e*S		**Sn**	**03 47 37.7**	**+0.6**
KJN				*e*SG		**Sg**	**03 47 54.2**	**-6.2**
KJN				MSG			03 47 56.2	
	comp=Z,12nm,0.4s							
JOF	**Joensuu**	**4.76**	**194**	*e*P		**Pn**	**03 46 53.3**	**+1.0**
JOF				*e*S		**Sn**	**03 47 48.3**	**-0.7**
JOF				*e*SG		**Sg**	**03 48 09.8**	**-6.3**
KEF	**Keuruu**	**6.61**	**220**	*e*S		**Sn**	**03 48 32.8**	**-2.5**
FIA0	**FINESS Array S**	**6.98**	**212**	Pn		**Pn**	**03 47 24.1**	**+0.7**
	baz=27,slow=14							
FIA0				Sn		**Sn**	**03 48 42.4**	**-2.2**
	baz=12,slow=28							
FIA0				Lg			03 49 16.4	
	baz=16,slow=28							
FIA0	**FINESS Array S**	**6.98**	**212**	*e*P		**Pn**	**03 47 24.1**	**+0.7**
FIA0				*e*S		**Sn**	**03 48 42.4**	**-2.2**
FIA0				*e*SG			03 49 16.4	
FINES	**FINESS Array B**	**6.98**	**212**	Pn		**Pn**	**03 47 24.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=9.6							
FINES				Sn		**Sn**	**03 48 42.5**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=27,slow=23,SNR=6.7							
FINES				Lg			03 49 19.1	
	comp=Z,1.3nm,0.3s,baz=32,slow=26,SNR=3.6							
HFS	**Hagfors**	**11.54**	**240**	Pn		**P**	**03 48 24.4**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=61,slow=15,SNR=4.1							
NB2	**NORSAR Subarra**	**11.74**	**247**	Pn		**P**	**03 48 26.2**	**-2.9**
	baz=44,slow=12							
NB2	**NORSAR Subarra**	**11.74**	**247**	*e*P		**P**	**03 48 26.2**	**-2.9**
NOA	**NORSAR Array B**	**11.74**	**247**	Pn		**P**	**03 48 27.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=40,slow=11,SNR=2.9							
SPA0	**Spitsbergen Ar**	**11.78**	**342**	Pn		**P**	**03 48 23.9**	**-5.7**
	baz=142,slow=16							
SPA0	**Spitsbergen Ar**	**11.78**	**342**	*e*P		**P**	**03 48 23.9**	**-5.7**

*IDC **31** 04:14:08.3±1.3, 24.42N×122.20E, mb3.3/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/10, Error ellipse: s-maj=64.6km s-min=25.9km az=66.0*
*NEIC **31** 04:14:09.3±3.5, 24.38N×122.12E, h6km±21km, MG3.4(JMA), Error ellipse: s-maj=34.2km s-min=12.3km az=86.0*
*JMA **31** 04:14:11.9±0.3, 24.78N×121.93E, h47km, M3.4*
ISC 31 04:14:12.0±0.5, 24.35N±0.06×121.88E±0.03, h35km±8km, n14, σ0°74/21, mb3.2/4, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
NACB	**Ninganchiao**	**0.31**	**237**	*e*P		**P**	**04 14 19.4**	**-0.6**
NACB				*e*S		**S**	**04 14 26.4**	**+0.7**
YHNB	**Yeheng**	**0.56**	**305**	*e*P		**P**	**04 14 23.2**	**-0.2**
YHNB				*e*S		**S**	**04 14 30.6**	**-1.0**
TATO	**Taipei**	**0.72**	**330**	*e*P		**P**	**04 14 25.3**	**-0.4**
TATO				*e*S		**S**	**04 14 36.7**	**+1.0**
YOJ	**Yonaguni jima**	**1.03**	**83**	P		**P**	**04 14 30.2**	**+0.1**
YOJ				S		**S**	**04 14 43.6**	**0.0**
IRIF	**Iriomote-Funau**	**1.68**	**90**	P		**P**	**04 14 39.4**	**-0.1**
IRIF				S		**S**	**04 14 59.8**	**-0.2**
HATJ	**Hateruma jima**	**1.78**	**99**	*e*S		**S**	**04 14 55.3**	**+2.9**
JKRS	**Kuro-shima**	**1.94**	**93**	P		**P**	**04 14 43.9**	**+0.8**
JKRS				S		**S**	**04 15 06.8**	**+0.2**
JIJ	**Ishigaki jima**	**2.06**	**89**	P		**P**	**04 14 44.7**	**-0.1**
JIJ				S		**S**	**04 15 08.3**	**-1.2**
JTJ	**Tarama**	**2.58**	**83**	P		**P**	**04 14 52.4**	**+0.1**
JTJ				*e*S		**S**	**04 15 22.3**	**-0.6**
JOW	**Kunigami**	**6.28**	**65**	LR		LR	04 18 16.2	
	comp=Z,81nm,20.0s,baz=341,slow=41							
SONM	**Songino Array**	**26.47**	**336**	P		**P**	**04 19 48.5**	**+0.9**
	0.2nm,0.5s,mb2.9,baz=149,slow=12,SNR=4.0							
MKAR	**Makanchi Array**	**38.67**	**316**	P		**P**	**04 21 34.4**	**+0.5**
	0.3nm,0.5s,mb3.3,baz=97,slow=10.0,SNR=9.6							
WRA	**Warramunga Arr**	**45.66**	**164**	P		**P**	**04 22 30.8**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=345,slow=8.7,SNR=4.7							
YKA	**Yellowknife Ar**	**82.57**	**23**	P		**P**	**04 26 31.7**	**-0.6**
	0.1nm,0.5s,mb3.1,baz=311,slow=5.2,SNR=6.6							

*NEIC **31** 04:34:47.1, 15.69N×94.80W, h20km, MD4.2(MEX), After MEX.*
MEX 31 04:34:47.1±0.6, 15.70N×94.80W, h20km±12km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**1.27**	**273**	*e*P		Pn	04 35 06.2	-3.7
HUIG				*i* S		Sb	04 35 21.7	-4.3
VHO	**Vista Hermosa**	**2.31**	**307**	*i* P		Pn	04 35 22.6	-2.2
VHO				*i* S		Sn	04 35 48.3	-4.6
TUIG	**Tuzandepetl**	**2.35**	**9**	*i* P		Pn	04 35 21.5	-3.9
TUIG				*i* S		Sn	04 35 49.3	-4.6
TUIG	**Tuzandepetl**	**2.35**	**9**	*i* P		Pn	04 35 24.6	-0.8
TUIG				*i* S		Sn	04 35 49.3	-4.6
CCIG	**Comitan**	**2.62**	**77**	*e*P		Pn	04 35 26.4	-2.9
CCIG				*i* S		Sn	04 35 55.8	-5.1
PPM	**Popocatepetl**	**4.96**	**313**	*i* P		Pn	04 36 05.0	+2.5
PPM				*i* S		Sn	04 37 00.0	+0.1

*IDC **31** 04:39:35.3±0.5, 2.49N×30.69W, mb4.3/23, mb1 4.4/23, mb1mx4.4/25, mbtmp4.3/23, MS4.0/18, Ms1 4.0/18, ms1mx3.9/28, Error ellipse: s-maj=16.5km s-min=12.6km az=159.0*
*HRVD **31** 04:39:36.8±0.6, 2.28N×30.60W, h12km, MW4.8/36, Centroid moment Tensor Solution. LP body waves: s6,c9; Mantle waves: s36,c48; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.36±.08; Mθθ=0.13±.10; Mφφ=1.23±.09; Mrθ=1.29±.33; Mθφ=0.16±.07; Mφr=1.22±.30; Best double couple: Mo2.177×10¹⁶ NP1:φs175°, δ22°, λ-129°. NP2: φs37°, δ73°, λ-75°. Principal axes: T 1.972, Plg26°, Azm115°; N .411, Plg14°, Azm212°; P -2.383, Plg60°, Azm327°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 04:39:36.9±0.2, 2.43N×30.74W, h10km, mb4.9/33 Error ellipse: s-maj=8.1km s-min=4.9km az=147.0*
ISC 31 04:39:35.1±0.4, 2.45N±0.07×30.70W±0.06, h10km, (h19km±1.6km: pP-P), n97, σ0°67/91, mb4.6/54, MS4.0/18, 7C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BDFB	**Brasilia**	**24.83**	**223**	P		**P**	**04 45 00.9**	**+1.7**
	3.0nm,0.9s,mb3.8,baz=58,slow=11,SNR=4.4							
BDFB				LR		LR	04 53 39.5	
	comp=Z,301nm,20.1s,MS3.8,baz=79,slow=34							
LIC	**Lamto**	**25.87**	**81**	*e*P		**P**	**04 45 08.1**	**-0.9**
	93nm,1.2s,mb4.9							
LIC				*e*R				
	839nm,21.8s							
DBIC	**Dimbokro**	**26.09**	**80**	P		**P**	**04 45 10.3**	**-0.8**
	9.3nm,1.0s,mb4.3,baz=244,slow=12,SNR=8.1							
DBIC				LR		LR	04 53 20.8	
	comp=Z,496nm,19.4s,MS4.1,baz=243,slow=32							
SAML	**Samuel**	**34.30**	**250**	*e*P		**P**	**04 46 23.0**	**-1.1**
	10nm,1.2s,mb4.6							
SIV	**San Ignacio**	**35.17**	**238**	P		**P**	**04 46 32.2**	**+0.6**
	0.6nm,0.3s,mb4.0,baz=47,slow=15,SNR=6.0							
SDV	**Santo Domingo**	**40.22**	**281**	P		**P**	**04 47 13.9**	**0.0**
	2.3nm,0.9s,mb3.9,baz=75,slow=16,SNR=2.8							
LPAZ	**La Paz**	**41.40**	**242**	P		**P**	**04 47 26.5**	**+3.0**
	2.6nm,0.8s,mb3.9,baz=47,slow=9.2,SNR=6.1							
LPAZ				LR		LR	05 04 24.9	
	comp=Z,458nm,18.2s,MS4.4,baz=270,slow=36							
LPAZ	**La Paz**	**41.40**	**242**	P		**P**	**04 47 26.5**	**+3.0**
LPAZ				LR		LR	05 04 24.9	
EVO	**Evora**	**41.47**	**27**	*e*P		**P**	**04 47 23.7**	**-0.2**
	20nm,1.1s,mb4.4							
EVO				*e*R				
	145nm,21.5s							
ROSC	**El Rosal**	**43.60**	**274**	P		**P**	**04 47 42.7**	**+1.0**
	2.3nm,0.7s,mb4.0,baz=97,slow=18,SNR=3.8							
ROSC				LR		LR	05 07 10.0	
	comp=Z,188nm,18.9s,MS4.0,baz=198,slow=38							
ESDC	**Sonseca Array**	**44.30**	**30**	P		**P**	**04 47 48.4**	**+1.4**
	3.4nm,0.7s,mb4.2,baz=224,slow=8.8,SNR=20							
ESLA	**Sonseca Array**	**44.30**	**30**	*e*P		**P**	**04 47 45.9**	**-1.1**
	8.1nm,1.3s,mb4.3							
SJPF	**Ste Jean**	**48.25**	**29**	*e*P		**P**	**04 48 19.1**	**+0.9**
	216nm,1.7s,mb5.6							
ETSF	**Etsaut**	**48.41**	**30**	*e*P		**P**	**04 48 20.0**	**+0.5**
	42nm,1.2s,mb5.0							
EPF	**Esparros**	**48.96**	**30**	*e*P		**P**	**04 48 24.2**	**+0.5**
	46nm,1.1s,mb5.1							
CFAA	**Coronel Fontan**	**49.17**	**223**	P		**P**	**04 48 25.1**	**-0.4**
	0.2nm,0.8s,baz=37,slow=17,SNR=4.3							
MTLF	**Montolieu**	**50.13**	**31**	*e*P		**P**	**04 48 33.0**	**+0.3**
	45nm,1.4s,mb5.0							
LFF	**La Frestale**	**50.55**	**29**	*e*P		**P**	**04 48 36.2**	**+0.3**
	201nm,1.6s,mb5.5							
CAF	**Calviac**	**51.19**	**30**	*e*P		**P**	**04 48 41.0**	**+0.3**
	68nm,1.4s,mb5.1							
RJF	**Les Rejaudoux**	**51.20**	**29**	*e*P		**P**	**04 48 41.3**	**+0.5**
MFF	**Saint Martin d**	**51.39**	**27**	*e*P		**P**	**04 48 42.4**	**+0.2**
ROSF	**Rostrenen**	**51.44**	**23**	*e*P		**P**	**04 48 43.0**	**+0.5**
	240nm,1.6s,mb5.6							
LASF	**Ste Croix**	**51.50**	**31**	*e*P		**P**	**04 48 43.0**	**-0.1**
	41nm,1.2s,mb4.9							
SGMF	**Saint Gilles**	**51.65**	**24**	*e*P		**P**	**04 48 44.2**	**0.0**
	314nm,1.6s							
TSUM	**Tsumeb**	**52.09**	**117**	P		**P**	**04 48 47.8**	**-0.1**
	3.3nm,1.0s,mb4.2,baz=263,slow=8.9,SNR=5.1							
TSUM				LR		LR	05 06 42.9	
	comp=Z,240nm,18.0s,MS4.3,baz=137,slow=31							
SMRF	**Simiane la Rot**	**52.34**	**33**	*e*P		**P**	**04 48 49.7**	**+0.2**
	12nm,0.9s,mb4.5							
GRR	**Gorron**	**52.46**	**25**	*e*P		**P**	**04 48 50.7**	**+0.4**
	118nm,1.3s,mb5.3							
VIVF	**Saint-Julien-l**	**52.46**	**31**	*e*P		**P**	**04 48 50.9**	**+0.6**
	16nm,0.9s,mb4.6							
BGF	**Bois d'Agland**	**52.74**	**29**	*e*P		**P**	**04 48 52.2**	**-0.2**
FLN	**La Foliniere**	**52.90**	**25**	*e*P		**P**	**04 48 53.2**	**-0.4**
AVF	**Avril sur Loir**	**53.15**	**29**	*e*P		**P**	**04 48 55.6**	**+0.1**
SSF	**Saint Saulge**	**53.42**	**29**	*e*P		**P**	**04 48 57.8**	**+0.4**
	32nm,1.3s,mb4.8							
MBDF	**Montbardon**	**53.48**	**33**	*e*P		**P**	**04 48 58.7**	**+0.8**
	38nm,1.1s,mb4.9							
BNI	**Bardonecchia**	**53.65**	**32**	*e*P		**P**	**04 48 58.1**	**-1.0**
	60nm,1.5s,mb5.3							
LOR	**Lormes**	**53.74**	**29**	*e*P		**P**	**04 49 00.1**	**+0.4**
	53nm,1.6s,mb4.9							
CABF	**La Chapelle**	**54.38**	**31**	*e*P		**P**	**04 49 04.7**	**+0.3**
	97nm,1.5s,mb5.2							
MEZF	**Maizieres J'vi**	**55.18**	**28**	*e*P		**P**	**04 49 10.4**	**+0.1**
HAU	**Haudompre**	**55.46**	**29**	*e*P		**P**	**04 49 12.9**	**+0.6**
	54nm,1.3s,mb5.1							
HINF	**Hinteralfeld**	**55.58**	**30**	*e*P		**P**	**04 49 14.0**	**+0.8**
BAIF	**Baives**	**55.90**	**26**	*e*P		**P**	**04 49 15.4**	**-0.1**
	53nm,1.2s,mb5.1							
PLCA	**Paso Flores**	**56.27**	**216**	PcP		PcP	04 50 14.9	-0.8
	1.7nm,0.9s,baz=44,slow=2.2,SNR=4.1							
PLCA				LR		LR	05 13 55.2	
	comp=Z,142nm,20.0s,MS4.1,baz=34,slow=37							
CADS	**Cadrg**	**58.27**	**35**	*e*P		**P**	**04 49 32.4**	**+0.1**
CEY	**Cerknica**	**58.40**	**36**	*e*P		**P**	**04 49 33.3**	**0.0**
LJU	**Ljubljana**	**58.63**	**35**	*e*P		**P**	**04 49 35.0**	**+0.2**
LJU				*e*			04 49 41.3	
VISS	**Visnje**	**58.67**	**36**	*e*P		**P**	**04 49 35.3**	**+0.1**
GRA1	**Grafenberg Arr**	**58.99**	**30**	*e*P		**P**	**04 49 37.2**	**-0.2**
	12nm,1.3s,mb4.8							
GRA1				*e*pP		pP	04 49 43.5	+3.0
GRF	**Grafenberg Arr**	**58.99**	**30**	*e*P		**P**	**04 49 37.2**	**-0.2**
	12nm,1.3s,mb4.8							
GRF				*e*pP		pP	04 49 43.5	+3.0
GERES	**GERESS Array B**	**59.77**	**32**	P		**P**	**04 49 42.3**	**-0.4**
	1.6nm,0.7s,mb4.2,baz=233,slow=6.7,SNR=17							
GERES				LR		LR	05 13 05.4	
	comp=Z,125nm,20.2s,MS4.0,baz=186,slow=34							
KHC	**Kasperske Hory**	**59.87**	**32**	*e*P		**P**	**04 49 42.5**	**-0.9**
SCHQ	**Schefferville**	**59.90**	**337**	P		**P**	**04 49 42.4**	**-1.1**
	7.0nm,1.0s,mb4.7,baz=103,slow=8.1,SNR=4.4							
SCHQ	**Schefferville**	**59.90**	**337**	P		**P**	**04 49 42.4**	**-1.1**
LBTB	**Lobatse**	**60.98**	**120**	P		**P**	**04 49 50.5**	**-0.8**
	3.4nm,0.9s,mb4.5,baz=270,slow=11,SNR=3.2							
LBTB				LR		LR	05 10 40.9	
	comp=Z,104nm,20.2s,MS4.0,baz=285,slow=31							
ZST	**Bratislava**	**61.27**	**34**	*e*P		**P**	**04 49 52.8**	**-0.2**
ZST				*e*			04 49 58.9	
SMOL	**Smolenice**	**61.63**	**34**	*e*P		**P**	**04 50 01.5**	**+6.1**
SRO	**Srobarova**	**61.77**	**35**	*e*P		**P**	**04 49 55.6**	**-0.7**
BOSA	**Boshof**	**61.87**	**124**	P		**P**	**04 49 56.9**	**-0.4**
	4.5nm,1.0s,mb4.5,baz=280,slow=6.1,SNR=2.9							
BOSA				LR		LR	05 10 54.2	
	comp=Z,126nm,21.5s,MS4.0,baz=122,slow=30							
UPC	**Upice**	**61.96**	**32**	*e*P		**P**	**04 49 57.3**	**-0.3**
VYHS	**Vyhne**	**62.42**	**35**	*e*P		**P**	**04 50 04.9**	**+4.2**
BZS	**Buzias**	**62.68**	**39**	↑P		**P**	**04 50 02.9**	**+0.4**
BZS	**Buzias**	**62.68**	**39**	↑P		**P**	**04 50 02.9**	**+0.4**
PSZ	**Piszkesteto**	**62.74**	**36**	↑*i*P		**P**	**04 50 03.5**	**+0.7**
KECS	**Kecovo**	**63.36**	**35**	*e*P		**P**	**04 50 13.6**	**+6.7**
KECS				*e*		pP	04 50 18.2	+8.2
STHS	**Stebnicka Huta**	**64.25**	**35**	*e*		**P**	**04 50 13.4**	**+0.7**
STHS				*e*pP		pP	04 50 33.9	+18
KOLS	**Kolonicke sedl**	**64.61**	**36**	*e*		pP	04 50 35.9	+18
MLR	**Muntele Rosu**	**65.38**	**40**	LR		LR	05 17 54.6	
	comp=Z,84nm,18.6s,MS4.0,baz=110,slow=35							
MLR	**Muntele Rosu**	**65.38**	**40**	↑P		**P**	**04 50 20.8**	**+0.7**
MLR	**Muntele Rosu**	**65.38**	**40**	↑P		**P**	**04 50 20.8**	**+0.7**
VRI	**Vrincioaia**	**66.03**	**40**	↑P		**P**	**04 50 20.6**	**-3.7**
VRI	**Vrincioaia**	**66.03**	**40**	↑P		**P**	**04 50 20.6**	**-3.7**
NB2	**NORSAR Subarra**	**66.48**	**21**	P		**P**	**04 50 26.9**	**0.0**
	2.3nm,0.8s,mb4.3,baz=226,slow=6.2							
NOA	**NORSAR Array B**	**66.48**	**21**	P		**P**	**04 50 26.9**	**0.0**
	4.5nm,0.9s,mb4.5,baz=227,slow=6.4,SNR=5.2							
NOA				LR		LR	05 17 17.5	
	comp=Z,29nm,18.3s,MS3.5,baz=70,slow=34							
NOA	**NORSAR Array B**	**66.48**	**21**	P		**P**	**04 50 26.9**	**0.0**
NOA				LR		LR	05 17 17.5	
KMBO	**Kilima Mbogo**	**68.03**	**92**	LR		LR	05 17 25.1	
	comp=Z,90nm,19.7s,MS4.0,baz=59,slow=33							
BRTR	**Keskin Array B**	**68.85**	**48**	P		**P**	**04 50 42.4**	**+0.2**
	2.2nm,0.8s,mb4.2,baz=239,slow=6.0,SNR=13							
BR131	**Keskin Array S**	**68.86**	**48**	*e*P		**P**	**04 50 42.3**	**+0.1**
	2.8nm,0.8s,mb4.2							
AKASG	**Malin Array Be**	**69.44**	**36**	P		**P**	**04 50 45.1**	**-0.4**
	3.2nm,0.7s,mb4.4,baz=248,slow=6.7,SNR=14							
SUMG	**Summit**	**70.20**	**358**	*e*P		**P**	**04 50 49.4**	**-0.4**
	5.5nm,0.8s,mb4.5							
JCT	**Junction City**	**70.78**	**301**	*e*P		**P**	**04 50 53.9**	**-0.2**
	11nm,1.1s,mb4.7							
MALT	**Malatya**	**72.17**	**51**	*e*P		**P**	**04 51 02.8**	**+0.5**
	3.5nm,0.9s,mb4.3							
ULM	**Lac du Bonnet**	**72.43**	**322**	P		**P**	**04 51 02.1**	**-1.4**
	2.1nm,0.8s,mb4.1,baz=124,slow=1.7,SNR=4.4							
ULM				LR		LR	05 16 48.4	
	comp=Z,117nm,18.9s,MS4.2,baz=122,slow=31							
FINES	**FINESS Array B**	**72.52**	**25**	P		**P**	**04 51 04.1**	**+0.1**
	4.2nm,1.0s,mb4.3,baz=180,slow=3.8,SNR=6.2							
FINES				LR		LR	05 18 09.5	
	comp=Z,43nm,20.9s,MS3.7,baz=355,slow=32							
FINES	**FINESS Array B**	**72.52**	**25**	P		**P**	**04 51 04.1**	**+0.1**
FINES				LR		LR	05 18 09.5	
TXAR	**Lajitas Array**	**73.96**	**300**	P		**P**	**04 51 13.0**	**0.0**
	1.5nm,0.8s,mb4.0,baz=119,slow=7.0,SNR=15							
TXAR				LR		LR	05 22 17.0	
	comp=Z,58nm,21.1s,MS3.8,baz=315,slow=35							
MNTX	**Cornudas Mount**	**75.69**	**302**	*e*P		**P**	**04 51 21.9**	**-1.0**
	5.5nm,0.8s,mb4.0							
ARCES	**ARCESS Array B**	**76.39**	**18**	P		**P**	**04 51 25.9**	**-0.2**
	4.3nm,1.0s,mb4.3,baz=243,slow=5.4,SNR=3.6							
SDCO	**Great Sand Dun**	**76.49**	**308**	*e*P		**P**	**04 51 27.5**	**+0.1**
	1.4nm,0.7s,mb4.0							
DGMT	**Dagmar**	**77.25**	**319**	*e*P		**P**	**04 51 31.3**	**0.0**
	23nm,1.0s,mb5.1							
LAO	**LASA Array**	**78.30**	**317**	*e*P		**P**	**04 51 37.3**	**+0.2**
	8.6nm,0.8s,mb4.7							
PDAR	**Pinedale Array**	**80.16**	**313**	P		**P**	**04 51 48.3**	**+1.0**
	0.9nm,0.8s,mb3.7,baz=90,slow=6.6,SNR=6.9							
PDAR				LR		LR	05 21 12.2	
	comp=Z,162nm,18.7s,MS4.4,baz=99,slow=31							
RES	**Resolute Bay**	**80.99**	**346**	*e*P		**P**	**04 51 50.2**	**-0.9**
	5.4nm,1.2s,mb4.3							
EDM	**Edmonton**	**83.64**	**323**	*e*P		**P**	**04 52 04.7**	**-0.5**
YKA	**Yellowknife Ar**	**85.01**	**332**	P		**P**	**04 52 10.9**	**-0.9**
	5.3nm,0.9s,mb4.7,baz=100,slow=5.1,SNR=83							
YKA				LR		LR	05 24 41.4	
	comp=Z,109nm,18.2s,MS4.3,baz=150,slow=32							
YKW3	**Yellowknife Ar**	**85.02**	**332**	*e*P		**P**	**04 52 10.7**	**-1.2**
NVAR	**Mina Array Bea**	**86.61**	**308**	P		**P**	**04 52 20.2**	**-0.2**
	0.6nm,0.7s,mb4.0,baz=60,slow=0.7,SNR=4.2							
ILAR	**Eielson Array**	**98.66**	**337**	P		**P**	**04 53 15.1**	**-0.4**
	0.7nm,0.9s,mb4.2,baz=60,slow=2.3,SNR=4.1							
ILAR				LR		LR	05 33 08.8	
	comp=Z,117nm,21.6s,MS4.3,baz=1.4,slow=33							
STKA	**Stephens Creek**	**149.85**	**167**	PKPbc		PKPdf	04 59 26.8	+2.5
	3.5nm,1.0s,baz=250,slow=2.8,SNR=4.3							
WRA	**Warramunga Arr**	**157.29**	**141**	PKP		PKPdf	04 59 33.1	-2.0
	0.7nm,1.0s,baz=272,slow=4.9,SNR=5.1							

IDC 31 05:02:07.4±2.0, 7.63S×125.94E, mb3.9/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=156.6km s-min=43.5km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.70**	**147**	Pn		P	05 05 36.6	-2.0
	0.5nm,0.3s,baz=321,slow=13,SNR=7.7							
WRA				Sn		S	05 08 12.3	-11
	0.2nm,0.3s,baz=325,slow=22,SNR=4.9							
SONM	**Songino Array**	**57.87**	**345**	P		P	05 12 01.1	-2.3
	0.5n

mb1 3.3/6,mb1mx3.1/24,mbtmp3.4/6,ML3.4/4,Error ellipse: s-maj=41.3km s-min=10.2km az=106.0
*NEIC **31** 06:07:08.2±0.7,59.95N×152.71W,h89km±8km,Error ellipse: s-maj=10.6km s-min=8.8km az=125.0*
ISC 31 06:07:06.9±0.6,59.95N±0.06×152.7W±0.2,h99km±9km, n14,σ0§78/18,mb3.8/2,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**1.34**	**64**	*eP*	**P**	**06 07 32.5**	**+0.8**
SLKM				*eS*	**S**	**06 07 50.6**	**+0.6**
FIB	**Fire Island**	**1.73**	**44**	*eP*	**P**	**06 07 38.4**	**+1.9**
SVW2	**Sparrevohn**	**1.85**	**310**	*eP*	**P**	**06 07 37.9**	**-0.1**
KDAK	**Kodiak Island**	**2.17**	**179**	P	**P**	**06 07 42.4**	**+0.1**
	13nm,0.3s,baz=36,slow=8.6,SNR=62						
KDAK				S	**S**	**06 08 07.8**	**-0.7**
	4.9nm,0.3s,baz=286,slow=23,SNR=12						
PMR	**Palmer**	**2.39**	**45**	*eP*	**P**	**06 07 45.0**	**-0.4**
PMR				*eS*	**S**	**06 08 12.8**	**-1.2**
SML	**Sawmill**	**2.82**	**47**	P	**P**	**06 07 50.9**	**-0.4**
MCK	**McKinley**	**4.19**	**23**	*eP*	**P**	**06 08 10.4**	**+0.4**
COLA	**College**	**5.43**	**22**	*eP*	**P**	**06 08 26.1**	**-0.6**
ILAR	**Eielson Array**	**5.54**	**27**	P	**P**	**06 08 27.6**	**-0.7**
	1.3nm,0.3s,baz=214,slow=14,SNR=50						
ILAR				S	**S**	**06 09 27.2**	**-4.0**
	0.4nm,0.3s,baz=225,slow=22,SNR=2.7						
IMA2	**Indian Mountai**	**6.16**	**356**	*eP*	**P**	**06 08 36.9**	**0.0**
INK	**Inuvik**	**11.78**	**37**	P	**P**	**06 09 52.6**	**0.0**
	0.1nm,0.3s,baz=240,slow=14,SNR=10						
YKA	**Yellowknife Ar**	**18.32**	**66**	P	**P**	**06 11 15.5**	**+0.3**
	0.1nm,0.3s,baz=278,slow=10,SNR=7.2						
SONM	**Songino Array**	**54.96**	**306**	P	**P**	**06 16 30.6**	**+1.1**
	0.6nm,0.5s,mb3.9,baz=45,slow=6.3,SNR=3.6						
BVAR	**Borovoye Array**	**62.20**	**332**	P	**P**	**06 17 18.8**	**-0.8**
	0.3nm,0.5s,mb3.6,baz=349,slow=7.3,SNR=3.8						

*ATH **31** 06:07:41.3,38.04N×26.90E,h59km±9km,MD3.0/3*
*CSEM **31** 06:07:42.5±0.2,38.10N×26.63E,h20km,MD3.0,Error ellipse: s-maj=6.6km s-min=4.0km az=129.0*
*ISK **31** 06:07:44.4,38.17N×26.71E,h25km,MD3.0*
*NEIC **31** 06:07:44.4,38.17N×26.71E,h25km,MD3.0(ISK),After ISK,*
ISC 31 06:07:43.9±0.9,38.14N±0.04×26.64E±0.08,h21km±8km, n12,σ0§91/21,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.46**	**160**	*eP*	**Pb**	**06 07 52.5**	**-0.7**
SMG				*eS*	**Sb**	**06 07 59.6**	**+0.1**
SMG	**Samos**	**0.46**	**160**	*eP*	**Pb**	**06 07 52.5**	**-0.7**
SMG				*eS*	**Sb**	**06 07 59.8**	**+0.3**
IZM	**Izmir**	**0.55**	**62**	PG	**Pb**	**06 07 54.8**	**0.0**
IZM				SG	**Sb**	**06 08 03.0**	**+0.7**
KDAG	**Bornova**	**0.56**	**62**	*i* P	**Pb**	**06 07 53.7**	**-1.2**
KDAG				*i* S	**Sb**	**06 08 02.1**	**-0.3**
AYDN	**Tasoluk**	**1.09**	**116**	*i* P	**Pn**	**06 08 04.3**	**+0.2**
AYDN				*i* S	**Sb**	**06 08 18.4**	**+0.7**
PRK	**Paraskevi**	**1.14**	**345**	*eP*	**Pn**	**06 08 03.9**	**-1.0**
PRK				*eS*	**Sn**	**06 08 21.3**	**+1.3**
AYVA	**Ayvalik**	**1.17**	**2**	*i* P	**Pn**	**06 08 05.3**	**0.0**
AYVA				*i* S	**Sn**	**06 08 24.1**	**+3.4**
AKS	**Akhisar**	**1.18**	**51**	PN	**Pn**	**06 08 05.4**	**0.0**
AKS				SN	**Sn**	**06 08 19.7**	**-1.2**
BODT	**Bodrum**	**1.20**	**153**	*e*PN	**Pn**	**06 08 06.2**	**+0.5**
APE	**Apeiranthos**	**1.39**	**220**	*e*PN	**Pn**	**06 08 09.2**	**+0.9**
APE	**Apeiranthos**	**1.39**	**220**	*e*P	**Pn**	**06 08 06.6**	**-1.7**
BTOK	**Tokmak**	**1.95**	**33**	*i* P	**Pn**	**06 08 21.0**	**+4.6**
BTOK				*i* S	**Sn**	**06 08 45.9**	**+5.4**

*IDC **31** 06:29:34.8±0.6,7.49N×82.30W,mb4.3/15,mb1 4.5/17, mb1mx4.4/25,mbtmp4.3/17,MS3.7/10,Ms1 3.7/10, ms1mx3.5/35,Error ellipse: s-maj=27.3km s-min=11.7km az=54.0*
*NEIC **31** 06:29:36.0±0.3,7.50N×82.32W,h10km,mb4.5/11,Error ellipse: s-maj=9.6km s-min=4.9km az=50.0*
ISC 31 06:29:34.3±0.3,7.51N±0.06×82.28W±0.06,h10km,n46, σ0§94/45,mb4.3/26,MS3.8/9,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**3.82**	**317**	*e*Pn	**Pn**	**06 30 32.9**	**-1.6**
JTS				*e*Sg	**Sg**	**06 31 36.9**	**-4.6**
OTAV	**Otavalo**	**8.17**	**152**	*e*P	**P**	**06 31 35.0**	**-0.9**
	18nm,0.8s						
ROSC	**El Rosal**	**8.34**	**108**	Pn	**P**	**06 31 41.6**	**+3.5**
	1.7nm,0.3s,baz=5.4,slow=0.9,SNR=17						
ROSC				Sn	**Sn**	**06 33 19.8**	**+6.6**
	4.2nm,0.3s,baz=66,slow=23,SNR=6.6						
ROSC				LR	LR	06 34 28.5	
	comp=Z,275nm,21.9s,baz=341,slow=35						
SDV	**Santo Domingo**	**11.61**	**82**	Pn	**P**	**06 32 23.2**	**0.0**
	0.3nm,0.3s,baz=287,slow=9.2,SNR=11						
SDV				Sn	**S**	**06 34 27.1**	**-6.9**
	1.1nm,0.3s,baz=290,slow=20,SNR=6.9						
SJG	**San Juan**	**18.91**	**55**	P	**P**	**06 33 58.6**	**+0.9**
	1.7nm,0.3s,baz=326,slow=9.2,SNR=5.5						
CPD	**Cerro la Pandu**	**19.07**	**55**	*eP*	**P**	**06 33 59.2**	**-0.3**
MTP	**Monte Pirata**	**19.39**	**56**	*eP*	**P**	**06 34 02.6**	**-0.7**
NNA	**Nana**	**20.11**	**164**	*eP*	**P**	**06 34 09.5**	**-1.8**
	6.0nm,0.6s						
SAML	**Samuel**	**25.09**	**130**	*eP*	**P**	**06 34 59.8**	**-1.0**
	8.0nm,1.0s,mb4.2						
ARE	**Arequipa**	**26.10**	**156**	*eP*	**P**	**06 35 12.0**	**+1.7**
LPAZ	**La Paz**	**27.48**	**149**	P	**P**	**06 35 23.3**	**+0.4**
	3.4nm,0.9s,mb3.9,baz=329,slow=11,SNR=9.7						
LPAZ				LR	LR	06 48 04.9	
	comp=Z,84nm,18.3s,MS3.4,baz=298,slow=40						
JCT	**Junction City**	**28.14**	**327**	*eP*	**P**	**06 35 27.8**	**-1.0**
	26nm,1.5s,mb4.6						
TXAR	**Lajitas Array**	**29.60**	**320**	P	**P**	**06 35 42.2**	**+0.3**
	1.8nm,0.8s,mb3.9,baz=132,slow=8.4,SNR=23						
TXAR				PcP	PcP	06 38 47.2	+0.4
	0.3nm,0.9s,baz=117,slow=2.0,SNR=3.3						
TXAR				LR	LR	06 49 51.5	
	comp=Z,60nm,21.2s,MS3.2,baz=275,slow=41						
TXAR	**Lajitas Array**	**29.60**	**320**	P	**P**	**06 35 42.2**	**+0.3**
TXAR				PcP	PcP	06 38 47.2	+0.4
TXAR				LR	LR	06 49 51.5	
SIV	**San Ignacio**	**31.41**	**138**	P	**P**	**06 35 57.5**	**-0.6**
	5.9nm,0.8s,mb4.5,baz=313,slow=9.7,SNR=37						
MNTX	**Cornudas Mount**	**32.29**	**321**	*eP*	**P**	**06 36 05.0**	**-0.7**
	4.1nm,0.9s,mb4.3						
ANMO	**Albuquerque**	**35.20**	**324**	P	**P**	**06 36 31.6**	**+0.8**
	6.5nm,0.9s,mb4.5,baz=137,slow=8.1,SNR=23						
TUC	**Tucson**	**36.20**	**317**	*eP*	**P**	**06 36 40.0**	**+0.7**
	8.0nm,1.0s,mb4.6						
SDCO	**Great Sand Dun**	**36.73**	**328**	*eP*	**P**	**06 36 43.5**	**-0.1**
	8.2nm,1.2s,mb4.4						
SADO	**Sadowa**	**37.22**	**4**	LR	LR	06 52 06.1	
	comp=Z,106nm,18.8s,MS3.7,baz=352,slow=36						
PV10	**Paradox Valley**	**39.09**	**326**	*eP*	**P**	**06 37 03.4**	**0.0**
SRU	**San Rafael**	**40.43**	**325**	*eP*	**P**	**06 37 15.2**	**+0.6**
	12nm,0.9s,mb4.6						
NEN	**Nelson**	**40.89**	**318**	*eP*	**P**	**06 37 19.5**	**+1.2**
BDFB	**Brasilia**	**41.01**	**124**	P	**P**	**06 37 19.7**	**+0.2**
	2.1nm,0.6s,mb3.9,baz=251,slow=7.5,SNR=5.1						
BDFB				LR	LR	06 55 18.3	
	comp=Z,133nm,18.3s,MS3.8,baz=177,slow=38						
CFAA	**Coronel Fontan**	**41.15**	**162**	P	**P**	**06 37 21.4**	**+0.9**
	0.2nm,0.6s,baz=347,slow=5.2,SNR=5.2						
BW06	**Boulder Array**	**42.54**	**330**	*eP*	**P**	**06 37 31.4**	**-0.5**
	5.8nm,1.4s,mb4.1						
PDAR	**Pinedale Array**	**42.54**	**330**	P	**P**	**06 37 31.8**	**-0.1**
	5.1nm,1.3s,mb4.1,baz=143,slow=7.4,SNR=7.4						
PDAR				LR	LR	06 56 37.4	
	comp=Z,92nm,20.0s,MS3.7,baz=137,slow=38						
HWUT	**Hardware Ranch**	**42.74**	**327**	*eP*	**P**	**06 37 33.3**	**-0.2**
	6.0nm,1.0s,mb4.3						
TPH	**Tonopah**	**43.84**	**319**	*eP*	**P**	**06 37 44.0**	**+1.5**
	28nm,1.3s,mb4.8						
ULM	**Lac du Bonnet**	**44.09**	**347**	P	**P**	**06 37 41.8**	**-2.5**
	3.2nm,0.6s,mb4.2,baz=166,slow=11,SNR=12						
ELK	**Elko**	**44.23**	**324**	P	**P**	**06 37 46.2**	**+0.6**
	3.9nm,0.8s,mb4.2,baz=135,slow=3.4,SNR=15						
NVAR	**Mina Array Bea**	**44.74**	**319**	P	**P**	**06 37 51.7**	**+1.9**
	9.1nm,0.7s,mb4.7,baz=135,slow=7.0,SNR=50						
NVAR				LR	LR	06 58 38.0	
	comp=Z,74nm,19.4s,MS3.6,baz=245,slow=39						
NVAR	**Mina Array Bea**	**44.74**	**319**	P	**P**	**06 37 51.7**	**+1.9**
NVAR				LR	LR	06 58 38.0	
GCMT	**Greycliff**	**44.86**	**333**	*eP*	**P**	**06 37 50.2**	**-0.4**
WVOR	**Wild Horse Val**	**47.27**	**323**	*eP*	**P**	**06 38 10.2**	**+0.4**
	36nm,1.2s,mb5.2						
PLCA	**Paso Flores**	**49.21**	**168**	P	**P**	**06 38 24.6**	**-0.3**
	2.4nm,0.7s,mb4.3,baz=336,slow=7.9,SNR=10.0						
YBH	**Yreka Blue Hor**	**49.38**	**320**	P	**P**	**06 38 25.6**	**-0.5**
	2.3nm,0.9s,mb4.2,baz=168,slow=9.3,SNR=3.6						
YKA	**Yellowknife Ar**	**59.73**	**343**	P	**P**	**06 39 40.0**	**-1.4**
	1.9nm,0.8s,mb4.2,baz=137,slow=7.1,SNR=47						
YKA	**Yellowknife Ar**	**59.73**	**343**	P	**P**	**06 39 40.0**	**-1.4**
DLBC	**Dease Lake**	**62.54**	**334**	P	**P**	**06 40 00.4**	**-0.1**
	3.4nm,1.0s,mb4.4,baz=135,slow=4.3,SNR=4.0						
INK	**Inuvik**	**69.43**	**342**	P	**P**	**06 40 44.9**	**+0.5**
	1.7nm,0.9s,mb4.0,baz=148,slow=7.7,SNR=4.9						
ILAR	**Eielson Array**	**72.57**	**336**	P	**P**	**06 41 03.2**	**-0.1**
	1.1nm,0.8s,mb3.9,baz=114,slow=4.5,SNR=14						
ESDC	**Sonseca Array**	**76.26**	**51**	P	**P**	**06 41 26.0**	**+0.8**
	1.2nm,0.6s,mb4.0,baz=272,slow=5.5,SNR=13						
JMIC	**Jan Mayen**	**77.67**	**19**	LR	LR	07 16 41.0	
	comp=Z,117nm,18.7s,MS4.2,baz=76,slow=36						
HFS	**Hagfors**	**86.52**	**30**	LR	LR	07 17 10.0	
	comp=Z,125nm,19.0s,MS4.3,baz=70,slow=33						
MLR	**Muntele Rosu**	**97.23**	**42**	LR	LR	07 25 22.0	
	comp=Z,60nm,18.1s,MS4.1,baz=202,slow=34						

*IDC **31** 06:31:39.3±1.8,25.82N×90.49E,mb3.7/4,mb1 3.9/4, mb1mx3.5/20,mbtmp3.7/4,Error ellipse: s-maj=68.3km s-min=27.1km az=62.0*
NEIC 31 06:31:44.0±1.1,25.73N×90.38E,h35km,mb4.2/1,Error ellipse: s-maj=36.5km s-min=14.5km az=72.0, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.01**	**10**	*e*Pn	P	06 32 44.2	-0.4
LSA				*e*Pg	P	06 32 53.9	+9.3
LSA				*e*Sn	S	06 33 32.8	+1.7
LSA				*e*Sg	S	06 33 46.6	+15
MKAR	**Makanchi Array**	**21.98**	**345**	P	P	06 36 34.3	-2.2
	1.0nm,0.5s,baz=167,slow=8.1,SNR=20						
SONM	**Songino Array**	**25.42**	**26**	P	P	06 37 07.6	-2.3
	0.5nm,0.5s,baz=211,slow=8.6,SNR=3.7						
FINES	**FINESS Array B**	**55.49**	**328**	P	P	06 41 15.4	-2.0
	1.2nm,0.8s,baz=90,slow=5.7,SNR=4.3						
WRA	**Warramunga Arr**	**62.33**	**132**	P	P	06 42 03.7	-1.7
	0.9nm,0.6s,baz=321,slow=7.1,SNR=6.2						
WRAB	**Tennant Creek**	**62.33**	**132**	P	P	06 42 02.7	-2.8
	1.2nm,0.7s						

*IDC **31** 06:55:53.0±4.6,13.64N×91.83W,mb3.7/4,mb1 4.0/5, mb1mx3.7/19,mbtmp3.6/5,ML3.3/1,Error ellipse: s-maj=146.2km s-min=67.8km az=38.0*
*CASC **31** 06:55:56.0±2.8,13.38N×92.32W,h20km±999km,MD4.5*
ISC 31 06:55:54.6±4.1,13.1N±0.5×92.3W±0.2,h44km±33km,n13, σ1§04/8,mb3.7/4,1D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**2.11**	**59**	*e*P	**P**	**06 56 28.4**	**+0.2**
IXG				*e*S	**S**	**06 56 53.5**	**+0.2**
RTR	**El Retiro**	**2.72**	**72**	*e*P	Px	06 57 13.3	
RTR				*e*S	Sx	06 57 46.1	
SBLS	**San Blas**	**2.73**	**74**	*e*P	Px	06 57 13.1	
SBLS				*e*S	Sx	06 57 46.8	
SNJE	**San Jose**	**2.75**	**73**	*e*P	Px	06 57 13.3	
SNJE				*e*S	Sx	06 57 46.5	
BOQS	**Boqueron**	**3.02**	**77**	*e*P	Px	06 57 17.9	
BOQS				*e*S	Sx	06 57 54.1	
LFRS	**El Faro**	**3.21**	**80**	*e*P	Px	06 57 20.6	
LFRS				*e*S	Sx	06 57 56.6	
MRL	**Marmol**	**3.22**	**52**	*e*P	**P**	**06 56 43.6**	**-0.4**
LBRS	**Las Brisas**	**3.25**	**78**	*e*P	Px	06 57 27.8	
LBRS				*e*S	Sx	06 58 08.2	
TXAR	**Lajitas Array**	**19.30**	**329**	P	**P**	**07 00 18.0**	**-0.7**
	0.0nm,0.3s,baz=162,slow=12,SNR=7.8						
ANMO	**Albuquerque**	**25.26**	**332**	P	**P**	**07 01 19.6**	**+1.3**
	0.4nm,0.4s,mb3.3,baz=174,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**34.20**	**322**	P	**P**	**07 02 38.7**	**+0.7**
	0.6nm,0.7s,mb3.6,baz=159,slow=7.7,SNR=2.8						
YKA	**Yellowknife Ar**	**51.85**	**347**	P	**P**	**07 04 59.0**	**-1.3**
	1.8nm,0.7s,mb4.1,baz=150,slow=7.5,SNR=34						
YKA				PcP	PcP	07 06 14.4	+1.5
	0.3nm,0.7s,baz=147,slow=3.5,SNR=6.1						
ILAR	**Eielson Array**	**63.56**	**337**	P	**P**	**07 06 22.7**	**0.0**
	0.7nm,0.8s,mb3.7,baz=128,slow=4.6,SNR=6.3						

WEL 31 07:01:33.5±0.4,35.98S×178.40E,h12km,ML3.5/4,Error ellipse: s-maj=5.4km s-min=2.8km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.59**	**183**	P*	Pb	07 01 59.5	-2.8
MXZ				*e*S*	Sb	07 02 18.8	-3.5
PUZ	**Puketiti**	**2.10**	**183**	*e*PN	Pn	07 02 07.4	-1.5
PUZ				*e*SN	Sn	07 02 32.3	-2.9
MWZ	**Matawai**	**2.46**	**196**	P*	Pb	07 02 12.9	-4.4
MWZ				S*	Sb	07 02 40.6	-6.9
URZ	**Urewera**	**2.50**	**204**	P*	Pb	07 02 13.0	-5.0
URZ				S*	Sb	07 02 42.1	-6.7

*IDC **31** 07:02:12.7±2.4,15.01S×177.32W,h359km±24km,mb3.2/8, mb1 3.6/9,mb1mx3.4/16,mbtmp4.0/9,Error ellipse: s-maj=37.1km s-min=16.1km az=142.0*
*NEIC **31** 07:02:13.0±1.4,15.10S×177.20W,h364km±15km,Error ellipse: s-maj=31.5km s-min=13.3km az=148.0*
ISC 31 07:02:12.1±1.5,15.2S±0.2×177.2W±0.2,h364km±17km, n20,σ0§80/15,mb3.5/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.43**	**77**	P	**P**	**07 03 38.0**	**+0.4**
	39nm,0.3s,baz=60,slow=1.7,SNR=67						
AFI	**Afiamalu**	**5.43**	**77**	*e*Pn	**P**	**07 03 37.4**	**-0.2**
STKA	**Stephens Creek**	**40.98**	**239**	P	**P**	**07 09 22.2**	**-0.1**
	1.3nm,0.5s,mb3.4,baz=74,slow=7.4,SNR=3.5						
STKA	**Stephens Creek**	**40.98**	**239**	P	**P**	**07 09 22.2**	**-0.1**
WB2	**Warramunga Arr**	**46.29**	**257**	*e*P	**P**	**07 10 05.0**	**+0.3**
WRA	**Warramunga Arr**	**46.30**	**257**	P	**P**	**07 10 04.0**	**-0.8**
	0.8nm,0.7s,mb3.0,baz=89,slow=7.7,SNR=5.7						
WRA				PcP	PcP	07 11 32.1	-1.6
	0.6nm,0.6s,baz=91,slow=3.5,SNR=5.3						
ASPA	**Alice Springs**	**46.67**	**252**	*e*P	**P**	**07 10 07.4**	**-0.2**
VNDA	**Vanda**	**63.27**	**185**	P	**P**	**07 12 04.5**	**+0.1**
	0.8nm,0.8s,mb3.3,baz=2.4,slow=7.1,SNR=4.2						
VNDA	**Vanda**	**63.27**	**185**	*e*P	**P**	**07 12 04.4**	**0.0**
NVAR	**Mina Array Bea**	**76.67**	**44**	P	**P**	**07 13 24.6**	**-0.8**
	0.6nm,0.6s,mb3.5,baz=230,slow=10,SNR=4.1						
ILAR	**Eielson Array**	**82.97**	**13**	P	**P**	**07 13 57.2**	**-0.8**
	1.6nm,0.9s,mb3.9,baz=211,slow=5.4,SNR=18						
ANMO	**Albuquerque**	**83.51**	**51**	P	**P**	**07 14 01.9**	**+0.6**
	0.5nm,0.6s,mb3.5,baz=293,slow=7.7,SNR=3.1						
TXAR	**Lajitas Array**	**83.57**	**57**	P	**P**	**07 14 03.1**	**+1.3**
	1.0nm,0.8s,mb3.7,baz=219,slow=7.0,SNR=11						
ENH	**Enshi**	**83.69**	**304**	*e*P	**P**	**07 14 03.9**	**+1.6**
PDAR	**Pinedale Array**	**84.59**	**43**	P	**P**	**07 14 05.4**	**-1.2**
	0.5nm,0.6s,mb3.5,baz=207,slow=3.3,SNR=4.7						
MKAR	**Makanchi Array**	**108.03**	**315**	PKiKP		07 19 57.0	
	0.2nm,0.5s,baz=185,slow=2.4,SNR=4.5						
BVAR	**Borovoye Array**	**115.42**	**322**	PKP	PKPdf	07 20 11.3	+0.5
	0.5nm,0.5s,SNR=4.3						
ARCES	**ARCESS Array B**	**123.81**	**351**	PKP	PKPdf	07 20 27.1	+0.4
	2.7nm,0.8s,slow=1.2,SNR=4.7						
BRTR	**Keskin Array B**	**143.58**	**318**	PKP	PKPdf	07 21 04.0	-0.1
	2.2nm,0.8s,baz=90,slow=2.5,SNR=12						
GERES	**GERESS Array B**	**145.23**	**347**	PKPbc	PKPbc	07 21 08.4	+1.0
	0.5nm,0.4s,slow=1.3,SNR=5.2						

*KNET **31** 07:09:54.3,42.69N×75.42E,h20km,ml1.4*
*NNC **31** 07:09:56.0±3.7,42.69N×75.74E,mb2.9,mpv2.5,Error ellipse: s-maj=49.2km s-min=18.1km az=76.0*
ISC 31 07:09:55.5±0.6,42.70N±0.03×75.44E±0.04,h20km,n12, σ0§70/24,14C-8D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.25**	**28**	P	**Pb**	**07 10 01.1**	**-0.2**
	66nm,0.2s,SNR=174						
TKM2				⇑S	**Sb**	**07 10 05.2**	**0.0**
	148nm,0.1s						
TKM2	**Tokmak 2**	**0.25**	**28**	⇓P	**Pb**	**07 10 01.0**	**-0.3**
	10nm,0.2s						
TKM2				⇑S	**Sb**	**07 10 04.8**	**-0.4**
	55nm,0.4s						
KBK	**Karagaybulak**	**0.37**	**263**	⇑P	**Pb**	**07 10 02.5**	**-0.7**
	8.4nm,0.1s,SNR=30						
KBK				⇓S	**Sb**	**07 10 07.8**	**-0.7**
	30nm,0.1s						
CHMS	**Chumysh**	**0.59**	**300**	⇓P	**Pb**	**07 10 06.5**	**-0.4**
	3.7nm,0.2s						
CHMS				⇑S	**Sb**	**07 10 14.5**	**-0.3**
	17nm,0.1s						
KZA	**Kyzart**	**0.64**	**193**	P	**Pb**	**07 10 07.5**	**-0.4**
	5.7nm,0.1s,SNR=12						
KZA				⇓S	**Sb**	**07 10 15.9**	**-0.5**
	33nm,0.3s						
AAK	**Ala-Archa**	**0.70**	**265**	⇑P	**Pb**	**07 10 08.3**	**-0.6**
	2.6nm,0.2s						
AAK				⇑S	**Sb**	**07 10 17.7**	**-0.3**
	7.5nm,0.2s						
ULHL	**Ulahol**	**0.75**	**127**	⇓P	**Pb**	**07 10 09.7**	**0.0**
	1.6nm,0.1s,SNR=13						
ULHL				⇑S	**Sb**	**07 10 20.1**	**+0.7**
	8.0nm,0.2s						
UCH	**Uchtor**	**0.83**	**236**	⇑P	**Pb**	**07 10 10.6**	**-0.5**
	2.0nm,0.2s,SNR=11						
UCH				⇑S	**Sb**	**07 10 21.3**	**-0.6**
	4.8nm,0.1s						
USP	**Ospenovka**	**0.89**	**310**	⇑P	**Pb**	**07 10 11.8**	**-0.3**
	1.8nm,0.1s,SNR=5.7						
USP				⇑S	**Sb**	**07 10 23.9**	**+0.4**
	6.7nm,0.1s						
EKS2	**Erkin-Say**	**1.23**	**269**	⇑P	**Pn**	**07 10 18.6**	**+0.8**
	1.7nm,0.1s,SNR=12						
EKS2				⇑S	**Sb**	**07 10 35.4**	**+2.1**
	4.0nm,0.2s						
AML	**Almayashu**	**1.41**	**247**	⇓P	**Pn**	**07 10 21.5**	**+1.1**
	1.2nm,0.1s,SNR=7.2						
AML				⇓S	**Sn**	**07 10 39.4**	**+0.8**
	3.6nm,0.3s						
KK31	**Karatay Array**	**3.64**	**278**	⇓Pn	**Pn**	**07 11 02.5**	**+10**
	0.8nm,0.7s,baz=98,slow=16,SNR=8.3						
KK31				⇑Sn	**Sn**	**07 11 47.6**	**+12**
	0.7nm,0.5s,baz=98,slow=30,SNR=5.2						

*IDC **31** 07:18:31.0±1.2,5.22S×102.27E,mb4.2/9,mb1 4.3/9, mb1mx4.1/17,mbtmp4.2/9,MS3.4/2,Ms1 3.4/2, ms1mx2.7/33,Error ellipse: s-maj=63.2km s-min=19.2km az=51.0*
*BJI **31** 07:18:33.0,5.20S×102.40E,h30km,mB5.0,mb4.8*
*NEIC **31** 07:18:35.5±0.8,5.16S×102.41E,h30km,mb4.3/3,Error ellipse: s-maj=43.0km s-min=9.8km az=47.0*
ISC 31 07:18:34.5±1.0,5.0S±0.2×102.5E±0.3,h33km,n19, σ0§95/15,mb4.3/13,MS3.4/1,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.57**	**335**	LR	LR	07 24 21.5	
	comp=Z,172nm,19.0s,baz=169,slow=41						
NWAO	**Narrogin (SRO)**	**30.96**	**155**	LR	LR	07 36 47.1	
	comp=Z,85nm,18.9s,MS3.4,baz=287,slow=36						
WRA	**Warramunga Arr**	**34.32**	**118**	P	**P**	**07 25 18.9**	**-1.4**
	0.6nm,0.4s,mb3.9,baz=294,slow=10.0,SNR=5.2						
WRAB	**Tennant Creek**	**34.33**	**118**	P	**P**	**07 25 19.2**	**-1.2**
	4.6nm,1.0s,mb4.4						
WB2	**Warramunga Arr**	**34.33**	**118**	*e*P	**P**	**07 25 20.7**	**+0.3**
ASPA	**Alice Springs**	**35.46**	**125**	*e*P	**P**	**07 25 31.2**	**+1.2**
STKA	**Stephens Creek**	**45.27**	**131**	P	**P**	**07 26 51.9**	**+0.9**
	5.9nm,0.6s,mb4.6,baz=303,slow=7.4,SNR=33						
WMQ	**Urumqi**	**50.44**	**346**	*e*P	**P**	**07 27 32.5**	**+1.4**
WMQ				AP	pP	07 27 37.3	-3.7
WMQ				XP	sP	07 27 39.5	-5.6
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,80nm,4.2s						
SONM	**Songino Array**	**52.76**	**3**	P	**P**	**07 27 49.9**	**+1.4**
	comp=Z,7.1nm,0.7s,mb4.7,baz=183,slow=9.1,SNR=52						
SONM				PcP	PcP	07 28 59.1	+1.3
	comp=Z,0.5nm,0.4s,baz=173,slow=4.7,SNR=3.3						
MKAR	**Makanchi Array**	**54.63**	**343**	P	**P**	**07 28 02.0**	**-0.3**
	comp=Z,2.0nm,0.4s,mb4.5,baz=148,slow=9.2,SNR=85						
KURK	**Kurchatov**	**59.22**	**343**	*e*P	**P**	**07 28 33.8**

0.5nm,0.8s,mb3.1,baz=231,slow=8.0,SNR=5.9
AKASG Malin Array Be 143.00 330 PKP PKPdf 08 27 48.4 -1.3
1.4nm,0.5s,baz=42,slow=4.0,SNR=12

NNC 31 08:23:59.7±8.4, 41.68N×81.08E, h26km±73km, mb4.0, mpv3.7, 3C-3D, Error ellipse: s-maj=86.2km s-min=26.4km az=147.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.25**	**289**	⇓Pn	Pn	08 25 00.3	-4.3
TKM2	17nm,1.2s			⇑Sn	Sn	08 25 52.9	-1.1
	31nm,0.9s						
MK31	**Makanchi Array**	**5.18**	**9**	Pn	Pn	08 25 19.9	+2.2
MK31	13nm,0.9s,baz=196,slow=12,SNR=24			⇑Sn	Sn	08 26 19.8	+2.3
	33nm,1.4s						
MK31				⇓Lg		08 26 40.4	
	24nm,1.1s,baz=185,slow=25						
KURK	**Kurchatov**	**9.20**	**350**	⇑Pn	P	08 26 09.3	-4.6
KURK	2.1nm,1.0s			⇓Lg		08 28 50.2	
	8.1nm,1.3s						

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*IDC **31** 08:30:05.6±1.4, 53.97N×161.57W, mb3.6/5, mb1 3.9/10, mb1mx3.7/27, mbtmp3.8/10, ML3.9/5, Error ellipse: s-maj=30.5km s-min=16.1km az=159.0*
*NEIC **31** 08:30:10.7±1.2, 54.14N×161.45W, h30km, Error ellipse: s-maj=30.1km s-min=11.7km az=162.0*

ISC 31 08:30:10.2±0.9, 54.5N±0.1×161.6W±0.1, h33km, n14, σ1§55/17, mb3.6/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**2.95**	**259**	*e*P	**P**	**08 30 55.1**	**-0.6**
UNV				*e*S	**S**	**08 31 27.9**	**-2.3**
KDAK	**Kodiak Island**	**6.02**	**53**	Pn	**Pn**	**08 31 38.1**	**-1.2**
KDAK	3.5nm,0.3s,baz=187,slow=3.3,SNR=43			Sn	**Sn**	**08 32 45.4**	**-2.4**
	0.5nm,0.3s,baz=344,slow=17,SNR=3.8						
SLKM	**Skilak Lake**	**8.58**	**41**	*e*Pn	**P**	**08 32 16.9**	**+2.0**
ILAR	**Eielson Array**	**12.65**	**30**	Pn	**P**	**08 33 08.9**	**-1.5**
	0.2nm,0.3s,baz=216,slow=13,SNR=13						
ILAR				Sn	**S**	**08 35 29.9**	**-1.2**
	0.1nm,0.3s,baz=207,slow=8.6,SNR=3.6						
DAWY	**Dawson**	**14.76**	**41**	*e*P	**P**	**08 33 38.8**	**+0.9**
FX1	**Attu Island--F**	**15.00**	**274**	Pn	**P**	**08 33 41.6**	**+0.6**
	1.5nm,0.3s,baz=262,slow=20,SNR=6.9						
DLBC	**Dease Lake**	**17.79**	**64**	P	**P**	**08 34 18.2**	**+1.8**
	0.1nm,0.3s,baz=320,slow=17,SNR=5.1						
INK	**Inuvik**	**19.02**	**33**	P	**P**	**08 34 32.0**	**+0.5**
	0.4nm,0.3s,baz=224,slow=12,SNR=34						
YKA	**Yellowknife Ar**	**25.29**	**53**	P	**P**	**08 35 35.4**	**+0.8**
	0.7nm,0.7s,mb3.3,baz=265,slow=9.9,SNR=22						
TXAR	**Lajitas Array**	**48.23**	**97**	P	**P**	**08 38 47.4**	**-2.0**
	0.2nm,0.6s,mb3.3,baz=301,slow=5.1,SNR=4.4						
TXAR	**Lajitas Array**	**48.23**	**97**	P	**P**	**08 38 47.4**	**-2.0**
FINES	**FINESS Array B**	**64.22**	**356**	P	**P**	**08 40 46.5**	**+3.4**
	1.3nm,0.8s,mb4.0,baz=18,slow=4.4,SNR=4.2						
BVAR	**Borovoye Array**	**64.49**	**328**	P	**P**	**08 40 47.6**	**+2.5**
	1.1nm,0.6s,mb4.1,baz=38,slow=8.2,SNR=8.0						
MKAR	**Makanchi Array**	**65.53**	**317**	P	**P**	**08 40 53.0**	**+1.1**
	0.3nm,0.7s,mb3.5,baz=27,slow=5.4,SNR=4.4						

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*IDC **31** 09:17:24.1±2.9, 30.14N×42.01W, mb3.7/8, mb1 4.1/8, mb1mx3.8/24, mbtmp3.7/8, MS3.7/7, Ms1 3.7/7, ms1mx3.4/29, Error ellipse: s-maj=95.6km s-min=23.6km az=176.0*

ISC 31 09:17:23.8±2.7, 30.1N±0.6×42.0W±0.2, h10km, n13, σ0§84/8, mb3.6/8, MS3.6/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**24.99**	**247**	LR	LR	09 30 31.4	
	comp=Z,50nm,21.0s,MS3.0,baz=98,slow=32						
SCHQ	**Schefferville**	**30.41**	**331**	LR	LR	09 34 30.1	
	comp=Z,99nm,19.2s,MS3.5,baz=74,slow=34						
ROSC	**El Rosal**	**39.49**	**237**	LR	LR	09 39 53.5	
	comp=Z,68nm,19.1s,MS3.5,baz=34,slow=34						
DBIC	**Dimbokro**	**42.00**	**116**	LR	LR	09 39 16.4	
	comp=Z,110nm,21.6s,MS3.7,baz=18,slow=31						
DAVOX	**Davos**	**43.11**	**52**	LR	LR	09 40 01.6	
	comp=Z,138nm,20.3s,MS3.8,baz=271,slow=32						
GERES	**GERESS Array B**	**45.80**	**50**	P	**P**	**09 25 47.0**	**-0.3**
	0.5nm,0.7s,mb3.6,baz=262,slow=6.9,SNR=4.0						
TXAR	**Lajitas Array**	**52.92**	**286**	P	**P**	**09 26 43.1**	**+0.6**
	1.1nm,1.0s,mb3.7,baz=95,slow=7.7,SNR=9.0						
PDAR	**Pinedale Array**	**54.41**	**303**	P	**P**	**09 26 52.8**	**-0.5**
	1.5nm,0.8s,mb4.0,baz=77,slow=6.9,SNR=11						
PDAR				LR	LR	09 48 33.5	
	comp=Z,173nm,18.7s,MS4.2,baz=312,slow=34						
YKA	**Yellowknife Ar**	**55.74**	**328**	P	**P**	**09 27 01.8**	**-0.8**
	0.4nm,0.8s,mb3.5,baz=85,slow=7.3,SNR=7.8						
YKA				PcP	PcP	09 28 01.5	-0.3
	0.2nm,0.7s,baz=92,slow=4.7,SNR=4.5						
YKA				LR	LR	09 48 07.8	
	comp=Z,94nm,20.8s,MS3.9,baz=75,slow=33						
BRTR	**Keskin Array B**	**61.10**	**59**	P	**P**	**09 27 40.0**	**-0.4**
	1.1nm,0.8s,mb4.0,baz=284,slow=5.9,SNR=4.6						
NVAR	**Mina Array Bea**	**61.91**	**300**	P	**P**	**09 27 45.1**	**-0.8**
	0.2nm,0.4s,mb3.6,baz=83,slow=7.3,SNR=3.1						
ILAR	**Eielson Array**	**69.13**	**334**	P	**P**	**09 28 33.6**	**+1.7**
	0.1nm,0.6s,mb3.0,baz=50,slow=3.3,SNR=3.5						
BVAR	**Borovoye Array**	**78.56**	**35**	P	**P**	**09 29 27.4**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=315,slow=2.1,SNR=4.3						

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*BJI **31** 09:29:26.2, 26.97S×175.70W, h44km, mB5.6, mb5.3, Ms5.3, Msz4.6*
*IDC **31** 09:29:26.6±3.4, 27.09S×176.37W, h30km±23km, mb4.9/16, mb1 5.0/17, mb1mx4.9/19, mbtmp5.1/17, MS4.5/17, Ms1 4.5/17, ms1mx4.3/26, Error ellipse: s-maj=16.3km s-min=13.2km az=158.0*
*MOS **31** 09:29:26.4±1.0, 27.07S×176.54W, h33km, mb5.4/24, MS4.5/4, Error ellipse: s-maj=12.3km s-min=10.2km az=77.4*
*HRVD **31** 09:29:27.4±0.2, 27.07S×176.07W, h13km, MW5.2/67, Centroid moment Tensor Solution. LP body waves: s56,c100;Mantle waves: s67,c122; Half duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr5.84±.19; Mθθ0.68±.15; Mφφ-6.52±.16; Mrθ1.53±.35; Mrφ-1.37±.11; Mθφ4.25±.39; Best double couple: M0 7.763×10^16 NP1:φs183°, δ28°, λ78°. NP2:φs17°, δ63°, λ96°. Principal axes: T 7.333, Plg71°, Azm300°; N .858, Plg6°, Azm194°; P -8.193, Plg18°, Azm102°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 09:29:27.4±0.2, 27.18S×176.43W, h35km, mb5.2/32, MS4.7/7 Error ellipse: s-maj=8.4km s-min=5.3km az=147.0*

ISC 31 09:29:26.5±0.2, 27.17S±0.05×176.45W±0.06, h37km, h37km±1.4km: pP-P, n234, σ1§11/129, mb5.2/58, MS4.6/26, 15C-10D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.45**	**212**	Pn	**P**	**09 30 05.4**	**+0.5**
	841nm,0.3s,baz=107,slow=2.1,SNR=43						
RAO				LR	LR	09 30 34.9	
	comp=Z,2μm,21.3s,baz=36,slow=27						
RAO				Sn	**S**	**09 30 36.9**	**+2.9**
	2μm,0.3s,baz=58,slow=22,SNR=9.0						
RAO	**Raoul Island**	**2.45**	**212**	*e*Pn	**P**	**09 30 05.7**	**+0.8**
RAO				*e*Sn	**S**	**09 30 35.4**	**+1.4**
URZ	**Urewera**	**12.31**	**204**	Pn	**P**	**09 32 11.2**	**-11**
	0.4nm,0.3s,baz=156,slow=15,SNR=5.6						
URZ				Sn	**S**	**09 34 27.0**	**-12**
	8.7nm,0.3s,baz=204,slow=20,SNR=13						
AFI	**Afiamalu**	**13.89**	**19**	Pn	**P**	**09 32 33.1**	**-10**
	7.8nm,0.3s,baz=16,slow=6.4,SNR=14						
AFI				Sn	S	09 34 56.8	-20
	3.2nm,0.3s,baz=61,slow=22,SNR=3.9						
AFI	**Afiamalu**	**13.89**	**19**	*e*Pn	**P**	**09 32 33.9**	**-9.3**
	304nm,1.0s						
SNZO	**South Karori**	**15.88**	**205**	*e*Pn	**P**	**09 33 07.3**	**-1.6**
	64nm,0.9s						
RAR	**Rarotonga**	**16.32**	**72**	Pn	**P**	**09 33 03.4**	**-11**
	2.2nm,0.3s,baz=255,slow=6.9,SNR=12						
RAR				Sn	S	09 35 45.7	-28
	1.5nm,0.3s,baz=70,slow=15,SNR=3.1						
RAR				LR	LR	09 38 09.9	
	comp=Z,978nm,19.7s,baz=246,slow=32						
DZM	**Mont Dzumac**	**16.36**	**284**	*e*P	**P**	**09 33 19.3**	**+4.2**
DZM	**Mont Dzumac**	**16.36**	**284**	Pn	**P**	**09 33 20.5**	**+5.4**
	1.2nm,0.3s,baz=89,slow=15,SNR=12						
DZM				LR	LR	09 38 37.7	
	comp=Z,4μm,18.2s,baz=200,slow=34						
DZM	**Mont Dzumac**	**16.36**	**284**	*e*P	**P**	**09 33 19.2**	**+4.2**
RPZ	**Rata Peaks**	**19.36**	**208**	P	**P**	**09 33 46.4**	**-5.4**
	1.0nm,0.3s,baz=346,slow=7.2,SNR=6.1						
RPZ				S	**S**	**09 37 12.5**	**-10**
	1.5nm,0.3s,baz=347,slow=20,SNR=5.6						
TBI	**Tubuai**	**24.68**	**87**	*e*LQ		09 39 02.0	
TBI				*e*LR	LR	09 40 04.3	
	2μm,30.5s						
PPT	**Papeete**	**26.57**	**75**	*e*LQ		09 39 48.2	
PPT				*e*LR	LR	09 40 51.5	
	3μm,30.0s						
PPT	**Papeete**	**26.57**	**75**	LR	LR	09 43 42.5	
	comp=Z,570nm,19.1s,MS4.1,baz=251,slow=32						
HNR	**Honiara**	**28.43**	**304**	P	**P**	**09 35 17.8**	**-2.4**
	62nm,0.8s,mb5.3,baz=109,slow=7.1,SNR=4.2						
HNR				LR	LR	09 45 20.9	
	comp=Z,1μm,18.2s,MS4.6,baz=137,slow=34						
CNB	**Canberra Magne**	**30.23**	**246**	*e*P	**P**	**09 35 37.1**	**+1.1**
	20nm,1.0s,mb4.8						
TOO	**Toolangi**	**33.58**	**242**	*e*P	**P**	**09 36 04.7**	**-0.6**
	21nm,1.0s,mb5.0						
TOO	**Toolangi**	**33.58**	**242**	*e*P	**P**	**09 36 04.7**	**-0.6**
TOO				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
CTA	**Charters Tower**	**34.80**	**274**	⇓*i*P	**P**	**09 36 16.7**	**+0.8**
	comp=Z,40nm,0.5s,mb5.6						
CTA	**Charters Tower**	**34.80**	**274**	P	**P**	**09 36 16.4**	**+0.5**
	comp=Z,40nm,0.5s,mb5.6,baz=102,slow=11,SNR=118						
CTA				LR	LR	09 49 27.2	
	comp=Z,2μm,18.2s,MS4.9,baz=88,slow=34						
CTA	**Charters Tower**	**34.80**	**274**	⇓*i*P	**P**	**09 36 16.7**	**+0.8**
CTA				pmax	pmax		
	comp=Z,40nm,0.5s						
CTAO	**Charters Tower**	**34.80**	**274**	*e*P	**P**	**09 36 16.2**	**+0.3**
CTAO				*e**PP	pP	09 36 26.4	0.0
CTAO				pmax	pmax		
	comp=Z,42nm,0.5s,mb5.6						
CTAO				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.9						
CTAO	**Charters Tower**	**34.80**	**274**	*e*Pn	**P**	**09 36 16.2**	**+0.3**
	comp=Z,42nm,0.5s,mb5.6						
CTAO				*e*pP	pP	09 36 26.4	0.0
CTAO				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
STKA	**Stephens Creek**	**36.65**	**252**	⇑*i*P	**P**	**09 36 30.7**	**-0.8**
	comp=Z,5.9nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**36.65**	**252**	P	**P**	**09 36 30.8**	**-0.7**
	comp=Z,7.4nm,0.6s,mb4.7,baz=97,slow=9.2,SNR=16						
STKA				PcP	PcP	09 38 54.4	+0.1
	comp=Z,7.7nm,0.8s,baz=69,slow=1.5,SNR=5.7						
STKA				LR	LR	09 50 37.0	
	comp=Z,1μm,18.7s,MS4.8,baz=86,slow=35						
RKT	**Rikitea**	**37.64**	**93**	*e*P	**P**	**09 36 37.4**	**-2.5**
	comp=Z,90nm,1.2s,mb5.4						
RKT	**Rikitea**	**37.64**	**93**	*e*S	**S**	**09 42 22.3**	**-4.5**
RKT				*e*LR	LR	09 46 04.6	
	comp=Z,1μm,33.5s						
PMG	**Port Moresby**	**38.61**	**290**	P	**P**	**09 36 47.7**	**-0.4**
	comp=Z,18nm,0.8s,mb4.8,baz=150,slow=21,SNR=6.6						
ASPA	**Alice Springs**	**44.75**	**263**	*e*P	**P**	**09 37 37.0**	**-1.4**
WB2	**Warramunga Arr**	**45.44**	**268**	*e*P	**P**	**09 37 42.2**	**-1.8**
WB2				*e*S	**S**	**09 44 17.8**	**-4.4**
WRAB	**Tennant Creek**	**45.45**	**268**	*e*P	**P**	**09 37 42.2**	**-1.8**
WRAB				*e*		09 39 23.0	
WRAB				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.1						
WRAB				MLR	MLR		
	comp=Z,283nm,21.0s,MS4.2						
WRAB	**Tennant Creek**	**45.45**	**268**	*e*P	**P**	**09 37 42.2**	**-1.9**
	comp=Z,20nm,0.6s,mb5.1						
WRAB				*e*PcP	PcP	09 39 23.0	-0.1
WRAB				LR	LR		
	comp=Z,283nm,21.0s,MS4.2						
WRA	**Warramunga Arr**	**45.45**	**268**	P	**P**	**09 37 42.5**	**-1.6**
	comp=Z,17nm,0.7s,mb5.0,baz=108,slow=7.6,SNR=134						
WRA				PcP	PcP	09 39 22.6	-0.5
	comp=Z,9.3nm,0.8s,baz=107,slow=3.4,SNR=8.3						
WRA				S	**S**	**09 44 24.5**	**+2.2**
	comp=Z,2.3nm,0.8s,baz=108,slow=12,SNR=7.5						
SBA	**Scott Base**	**51.35**	**184**	*e*P	**P**	**09 38 31.3**	**+2.2**
SBA				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.4						
SBA	**Scott Base**	**51.35**	**184**	*e*P	**P**	**09 38 31.2**	**+2.2**
	comp=Z,58nm,1.1s,mb5.4						
VNDA	**Vanda**	**51.44**	**186**	P	**P**	**09 38 29.6**	**-0.2**
	comp=Z,4.4nm,0.8s,mb4.5,baz=2.6,slow=6.0,SNR=18						
VNDA				LR	LR	09 56 48.9	
	comp=Z,380nm,18.8s,MS4.5,baz=9.5,slow=32						
VNDA	**Vanda**	**51.44**	**186**	*e*P	**P**	**09 38 30.3**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**51.44**	**186**	*e*P	**P**	**09 38 30.3**	**+0.5**
	comp=Z,11nm,0.9s,mb4.8						
KIP	**Kipapa**	**51.49**	**22**	*e*P	**P**	**09 38 30.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.82**	**267**	*e*P	**P**	**09 38 46.7**	**-1.5**
	comp=Z,18nm,0.9s,mb5.0						
CASY	**Casey**	**58.63**	**207**	*e*P	**P**	**09 39 21.0**	**-1.0**
MIR	**Mirnyy**	**65.61**	**206**	*d*/P	**P**	**09 40 08.8**	**+0.2**
MIR				pmax	pmax		
	comp=Z,203nm,1.8s,mb5.8						
KKM	**Kota Kinabalu**	**72.91**	**286**	P	**P**	**09 40 52.8**	**-1.6**
JOW	**Kunigami**	**75.55**	**311**	P	**P**	**09 41 08.4**	**-0.9**
	comp=Z,44nm,0.7s,mb5.5,baz=143,slow=2.1,SNR=11						
JOW				LR	LR	10 09 35.5	
	comp=Z,198nm,18.1s,MS4.5,baz=147,slow=32						
MAW	**Mawson**	**75.80**	**200**	P	**P**	**09 41 09.7**	**-0.3**
	comp=Z,16nm,0.6s,mb5.1,baz=121,slow=8.5,SNR=34						
MAW				LR	LR	10 14 37.3	
	comp=Z,518nm,18.7s,MS4.9,baz=94,slow=36						
KSM	**Kuching**	**75.81**	**279**	*e*P	**P**	**09 41 10.6**	**-0.6**
MJAR	**Matsushiro Arr**	**76.40**	**324**	P	**P**	**09 41 13.8**	**-0.2**
	comp=Z,21nm,0.8s,mb5.1,baz=161,slow=5.6,SNR=34						
MJAR				LR	LR	10 08 18.7	
	comp=Z,198nm,21.8s,MS4.4,baz=115,slow=30						
MAJO	**Matsushiro**	**76.41**	**324**	*e*P	**P**	**09 41 13.8**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,82nm,1.3s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,507nm,22.0s,MS4.8						
MAJO	**Matsushiro**	**76.41**	**324**	*e*P	**P**	**09 41 13.8**	**-0.2**
	comp=Z,82nm,1.3s,mb5.5						
MAJO				LR	LR		
	comp=Z,507nm,22.0s,MS4.8						
MAT	**Matsushiro**	**76.41**	**324**	P	**P**	**09 41 13.3**	**-0.8**
MAT	**Matsushiro**	**76.41**	**324**	*e*P	**P**	**09 41 13.0**	**-1.1**
MAT				pmax	pmax		
	comp=Z,209nm,1.8s,mb5.8						
MAT	**Matsushiro**	**76.41**	**324**	*e*P	**P**	**09 41 13.0**	**-1.1**
	comp=Z,209nm,1.8s,mb5.8						
JNU	**Nakatsue**	**78.09**	**317**	P	**P**	**09 41 22.8**	**-0.8**
	comp=Z,46nm,1.0s,mb5.4,baz=89,slow=0.2,SNR=67						
ASAJ	**Asahikawa**	**80.24**	**331**	LR	LR	10 15 14.2	
	comp=Z,372nm,19.6s,MS4.7,baz=180,slow=34						
SYO	**Syowa Base**	**80.56**	**192**	⇓P	**P**	**09 41 35.6**	**-0.5**
SYO	**Syowa Base**	**80.56**	**192**	⇑PcP	PcP	09 41 41.5	-1.8
SYO	**Syowa Base**	**80.56**	**192**	⇓*e*P	**P**	**09 41 35.6**	**-0.5**
SYO				⇑*i*PcP	PcP	09 41 41.5	-1.8
SNAA	**Sanae**	**81.33**	**178**	*e*P	**P**	**09 41 39.9**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,34nm,1.1s						
SNAA	**Sanae**	**81.33**	**178**	*e*P	**P**	**09 41 39.9**	**-0.3**
	comp=Z,34nm,1.1s,mb5.2						
MWC	**Mount Wilson**	**82.38**	**45**	*e*P	**P**	**09 41 46.2**	**-0.1**
MWC				*e*pP	pP	09 41 58.3	+0.7
YSS	**Yuzh-Sakhalins**	**82.46**	**333**	⇑*e*P	**P**	**09 41 48.0**	**+1.5**
YSS				*e*		09 42 02.5	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**82.46**	**333**	*e*P	**P**	**09 41 46.8**	**+0.3**
	comp=Z,33nm,0.9s,mb5.3						
YSS				LR	LR		
	comp=Z,261nm,21.0s,MS4.6						
PET	**Petropavlovsk**	**82.75**	**345**	*e*P	**P**	**09 41 57.9**	**+10**
PET				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.7						
KS15	**Wonju Array Si**	**82.82**	**319**	*e*P	**P**	**09 41 48.9**	**+0.4**
KS15				*e*pP	pP	09 41 59.7	-0.2
SSE	**Sheshan**	**83.04**	**310**	*e*P	**P**	**09 41 48.0**	**-1.8**
SSE				AMB	AMB		
SSE	comp=Z,40nm,0.9s,mb5.5			AMB	AMB		
	comp=Z,190nm,4.4s						
SSE				LR	LR		
	comp=Z,190nm,36.1s,MS4.2						
INCN	**Inchon**	**83.59**	**318**	*e*P	**P**	**09 41 50.3**	**-2.1**
PLCA	**Paso Flores**	**83.70**	**133**	P	**P**	**09 41 52.3**	**-0.6**
	comp=Z,13nm,1.1s,mb5.0,baz=233,slow=5.4,SNR=16						
PLCA				LR	LR	10 11 40.6	
	comp=Z,190nm,19.4s,MS4.5,baz=240,slow=30						
PLCA	**Paso Flores**	**83.70**	**133**	*e*P	**P**	**09 41 52.5**	**-0.4**
PLCA				*e**PP	pP	09 42 04.3	0.0
PLCA				pmax	pmax		
	comp=Z,16nm,1.1s						
PLCA				MLR	MLR		
	comp=Z,365nm,22.0s						
PLCA	**Paso Flores**	**83.70**	**133**	*e*P	**P**	**09 41 52.5**	**-0.4**
	comp=Z,16nm,1.1s,mb5.1						
PLCA				*e*pP	pP	09 42 04.3	0.0
PLCA				LR	LR		
	comp=Z,365nm,22.0s,MS4.7						
NVAR	**Mina Array Bea**	**84.94**	**42**	P	**P**	**09 41 59.4**	**+0.2**
	comp=Z,9.3nm,1.0s,mb4.9,baz=222,slow=8.8,SNR=33						
NJ2	**Nanjing**	**85.21**	**310**	*e*P	**P**	**09 42 02.3**	**+1.6**
NJ2				PP	PP	09 45 23.0	+2.9
NJ2				S	S	09 52 19.0	-7.6
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,310nm,5.4s						
NJ2				LR	LR		
	comp=N,720nm,20.3s,MS5.2						
NJ2				LR	LR		
	comp=E,610nm,19.5s,MS5.2						
NJ2				LR	LR		
	comp=Z,340nm,24.5s,MS4.7						
NEN	**Nelson**	**85.32**	**46**	*e*P	**P**	**09 42 01.3**	**+0.1**
TPH	**Tonopah**	**85.36**	**43**	*e*P	**P**	**09 42 01.5**	**+0.2**
	comp=Z,33nm,1.3s,mb5.3						
TPH				*e*pP	pP	09 42 13.9	+1.2
TPH				*e*sP	sP	09 42 19.0	+2.4
TUC	**Tucson**	**86.03**	**51**	*e*P	**P**	**09 42 05.2**	**+0.5**
TUC				*e**PP	pP	09 42 18.0	+1.9
TUC				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.2						
TUC				MLR	MLR		
	comp=Z,339nm,19.0s,MS4.8						
TUC	**Tucson**	**86.03**	**51**	*e*P	**P**	**09 42 05.2**	**+0.6**
	comp=Z,20nm,1.3s,mb5.2						
TUC				*e*pP	pP	09 42 18.0	+1.9
TUC				LR	LR		
	comp=Z,339nm,19.0s,MS4.8						
PSI	**Prapat**	**86.49**	**275**	P	**P**	**09 42 06.7**	**-0.6**
	comp=Z,14nm,0.9s,mb5.2,baz=160,slow=4.5,SNR=9.4						
PSI	**Prapat**	**86.49**	**275**	P	**P**	**09 42 06.7**	**-0.7**
MDJ	**Mudanjiang**	**86.76**	**325**	P	**P**	**09 42 09.0**	**+1.0**
MDJ				AP	pP	09 42 18.5	-0.9
MDJ				XP	sP	09 42 22.3	-1.0
MDJ				PP	PP	09 45 30.3	-2.6
MDJ				S	S	09 52 42.0	+0.8
MDJ				XS		09 53 01.3	
MDJ				SS	SS	09 58 22.5	-4.0
MDJ				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,110nm,4.7s						
MDJ				LR	LR		
	comp=N,110nm,30.4s,MS4.2						
MDJ				LR	LR		
	comp=E,80nm,31.4s,MS4.2						
MDJ				LR	LR		
	comp=Z,130nm,22.1s						
MDJ	**Mudanjiang**	**86.76**	**325**	*e*P	**P**	**09 42 09.4**	**+1.4**
	comp=Z,23nm,1.1s,mb5.3						
MDJ				*e*pP	pP	09 42 20.2	+0.8
MDJ				*e*sP	sP	09 42 25.6	+2.3
HABR	**Khabarovsk**	**86.91**	**330**	*i*P	**P**	**09 42 08.9**	**+0.3**
HABR				pmax	pmax		
	comp=Z,61nm,1.4s,mb5.6						
WVOR	**Wild Horse Val**	**87.36**	**39**	*e*P	**P**	**09 42 10.8**	**-0.2**
WVOR				*e**PP	pP	09 42 20.0	-2.4
WVOR				pmax	pmax		
	comp=Z,28nm,1.7s,mb5.2						
WVOR	**Wild Horse Val**	**87.36**	**39**	*e*P	**P**	**09 42 10.8**	**-0.2**
	comp=Z,28nm,1.7s,mb5.2						
WVOR				*e*pP	pP	09 42 20.0	-2.4
WUAZ	**Wupatki**	**87.50**	**48**	*e*P	**P**	**09 42 12.2**	**+0.5**
	comp=Z,22nm,1.3s,mb5.2						
WUAZ				*e*pP	pP	09 42 23.1	-0.2
WHN	**Wuhan**	**87.52**	**306**	⇓P	**P**	**09 42 13.5**	**+1.5**
ARUT	**Antelope Range**	**87.52**	**45**	*e*P	**P**	**09 42 12.7**	**+0.9**
DL2	**Dalian**	**87.53**	**316**	P	**P**	**09 42 13.3**	**+1.4**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.6						
SNY	**Shenyang**	**88.20**	**320**	⇓P	**P**	**09 42 15.8**	**+0.8**
SNY				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.2						
CN2	**Changchun**	**88.42**	**322**	*e*P	**P**	**09 42 16.8**	**+0.8**
CN2				*e*AP	pP	09 42 27.3	-0.2
CN2				*e*S	S	09 52 58.8	+2.0
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
MSU	**Marysvale**	**88.75**	**45**	*e*P	**P**	**09 42 18.2**	**+0.5**
MSU				*e*pP	pP	09 42 30.7	+1.5
MSU				*e*sP	sP	09 42 35.8

SNOW	**Snow King Moun**	**92.54**	**42**	*e*P		**P**	**09 42 35.8**	**+0.5**
	comp=Z,26nm,1.1s,mb5.6								
TNA	**Tin City**	**92.66**	**4**	*e*P		**P**	**09 42 35.7**	**+0.5**
	comp=Z,12nm,1.3s,mb5.2								
IMW	**Indian Meadow**	**92.68**	**41**	*e*P		**P**	**09 42 36.5**	**+0.7**
	comp=Z,11nm,1.0s,mb5.2								
PDAR	**Pinedale Array**	**92.85**	**43**	P		**P**	**09 42 35.1**	**-1.6**
	comp=Z,2.9nm,1.0s,mb4.7,baz=237,slow=4.5,SNR=18								
PDAR				LR		LR	10 18 25.3		
	comp=Z,257nm,18.5s,MS4.7,baz=253,slow=32								
QLMT	**Earthquake Lak**	**92.94**	**40**	*e*P		**P**	**09 42 37.8**	**+0.8**
JCT	**Junction City**	**92.95**	**57**	*e*P		**P**	**09 42 36.7**	**-0.8**
	comp=Z,15nm,1.4s,mb5.2								
SEY	**Seymchan**	**93.16**	**346**	*e*P		**P**	**09 42 35.2**	**-2.4**
XAN	**Xi'an**	**93.27**	**307**	P		**P**	**09 42 40.3**	**+1.5**
XAN				AP		pP	09 42 51.0	+0.6
XAN				AMB		AMB			
	comp=Z,10.0nm,1.2s,mb5.1								
BOZ	**Bozeman (W)**	**93.31**	**39**	*e*P		**P**	**09 42 38.7**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.8								
BOZ				*e*pP		pP	09 42 50.5	+0.3
LKWY	**Lake**	**93.39**	**41**	*e*P		**P**	**09 42 39.6**	**+0.5**
	comp=Z,5.1nm,0.8s,mb5.0								
CHRT	**Chiangrai**	**93.58**	**290**	⇑P		**P**	**09 42 42.0**	**+1.5**
KMI	**Kunming**	**93.60**	**296**	P		**P**	**09 42 42.5**	**+2.0**
KMI				AP		pP	09 42 54.8	+2.7
KMI				XP		sP	09 42 59.3	+3.5
KMI				PP		PP	09 46 27.3	-1.1
KMI				SKS		SKS	09 53 11.5	+1.1
KMI				S		S	09 53 42.0	-1.5
KMI				AMB		AMB			
	comp=Z,20nm,1.4s,mb5.3								
KMI				AMB		AMB			
	comp=Z,190nm,4.9s								
KMI				LR		LR			
	comp=Z,90nm,23.0s,MS4.2								
HRY	**Holter Researc**	**93.83**	**39**	P		**P**	**09 42 39.7**	**-1.3**
ILAR	**Eielson Array**	**94.48**	**12**	P		**P**	**09 42 41.6**	**-1.9**
	comp=Z,3.1nm,0.9s,mb4.8,baz=217,slow=4.7,SNR=24								
ILAR				LR		LR	10 26 27.0		
	comp=Z,130nm,18.3s,MS4.4,baz=358,slow=36								
HHC	**Hu-ho-hao-te**	**94.98**	**314**	*e*P		**P**	**09 42 47.5**	**+1.0**
HHC				XP		sP	09 43 01.8	0.0
HHC				AMB		AMB			
	comp=Z,10.0nm,1.3s,mb5.1								
HHC				AMB		AMB			
	comp=Z,60nm,3.6s								
HHC				LR		LR			
	comp=N,170nm,13.1s,MS4.8								
HHC				LR		LR			
	comp=E,120nm,11.9s,MS4.8								
HHC				LR		LR			
	comp=Z,150nm,20.2s								
CD2	**Chengdu**	**95.53**	**302**	⇑*i*P		**P**	**09 42 51.0**	**+1.8**
CD2				AP		pP	09 43 06.8	+6.1
CD2				PP		PP	09 46 47.5	+4.8
CD2				SKS		SKS	09 53 22.8	+1.9
CD2				S		S	09 54 04.5	+4.6
CD2				XS			09 54 22.5		
CD2				AMB		AMB			
	comp=Z,10.0nm,1.2s,mb5.1								
CD2				AMB		AMB			
	comp=Z,90nm,6.0s								
CD2				LR		LR			
	comp=N,220nm,4.5s								
CD2				LR		LR			
	comp=Z,90nm,8.4s								
BILL	**Bilibino**	**95.78**	**354**	*e*P		**P**	**09 42 49.7**	**+0.3**
BILL				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb5.2								
BILL	**Bilibino**	**95.78**	**354**	*e*P		**P**	**09 42 49.6**	**+0.2**
	comp=Z,7.4nm,0.9s,mb5.1								
RSSD	**Black Hills**	**96.96**	**44**	*e*P		**P**	**09 42 55.0**	**-0.4**
RSSD				*e**PP		pP	09 43 06.9	0.0
RSSD				pmax		pmax			
	comp=Z,13nm,1.0s,mb5.3								
RSSD	**Black Hills**	**96.96**	**44**	*e*P		**P**	**09 42 55.0**	**-0.3**
	comp=Z,13nm,1.0s,mb5.3								
RSSD				*e*pP		pP	09 43 06.9	0.0
LPAZ	**La Paz**	**98.18**	**113**	LR		LR	10 19 00.8		
	comp=Z,111nm,19.4s,MS4.4,baz=272,slow=30								
SONM	**Songino Array**	**101.66**	**318**	P		P	09 43 14.9	-1.6
	comp=Z,0.2nm,0.3s,baz=108,slow=4.7,SNR=4.6								
SONM				PKiKP			09 47 38.6		
	comp=Z,1.0nm,1.0s,baz=90,slow=1.5,SNR=3.6								
YKA	**Yellowknife Ar**	**101.95**	**25**	P		P	09 43 15.9	-1.6
	comp=Z,0.7nm,1.0s,baz=223,slow=4.4,SNR=8.3								
YKA				PP		PP	09 47 26.3	-5.0
	comp=Z,0.8nm,1.1s,baz=240,slow=7.1,SNR=5.2								
YKA				PKiKP			09 47 37.8		
	comp=Z,0.4nm,0.8s,baz=250,slow=1.2,SNR=8.4								
YKA				PKKPbc			09 59 18.2		
	comp=Z,0.2nm,0.7s,baz=52,slow=2.3,SNR=4.6								
GTA	**Gaotai**	**102.23**	**308**	*e*P		Pdif	09 43 21.3	+2.0
GTA				AP			09 43 28.5		
MKAR	**Makanchi Array**	**116.71**	**311**	PKP		PKPdf	09 48 06.2	-0.7
	comp=Z,3.4nm,0.7s,baz=68,slow=2.6,SNR=36								
MKAR				PKKPbc			09 58 34.8		
	comp=Z,0.3nm,0.8s,baz=315,slow=1.7,SNR=3.7								
MKAR	**Makanchi Array**	**116.71**	**311**	⇑*i*PKIKP		PKPdf	09 48 07.1	+0.2
NVS	**Novosibirsk**	**117.56**	**320**	*e*PKIKP		PKPdf	09 48 07.1	-1.2
NVS				pmax		pmax			
	comp=N,4.0nm,1.2s								
NVS				pmax		pmax			
	comp=E,5.0nm,1.2s								
NVS				pmax		pmax			
	comp=Z,8.0nm,1.2s								
KURK	**Kurchatov**	**119.77**	**315**	*e*PKIKP		PKPdf	09 48 13.0	+0.2
TKM2	**Tokmak 2**	**120.66**	**306**	PKIKP		PKPdf	09 48 15.2	+0.5
TKM2				pmax		pmax			
	comp=Z,4.0nm,0.9s								
AAK	**Ala-Archa**	**121.41**	**305**	*e*PKIKP		PKPdf	09 48 16.2	+0.1
KKAR	**Karatay Array**	**124.37**	**305**	*i* PKIKP		PKPdf	09 48 22.2	+0.3
KKAR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
VOSK	**Vostochnaya**	**124.64**	**317**	PKIKP		PKPdf	09 48 21.9	-0.2
VOSK				pmax		pmax			
	comp=Z,9.0nm,0.9s								
BVA0	**Borovoye Array**	**125.00**	**317**	*i* PKIKP		PKPdf	09 48 23.4	+0.6
BVA0				pmax		pmax			
	comp=Z,2.0nm,1.0s								
BVAR	**Borovoye Array**	**125.00**	**317**	PKP		PKPdf	09 48 23.1	+0.3
	comp=Z,6.3nm,0.8s,baz=88,slow=1.1,SNR=36								
BRVK	**Borovoye**	**125.07**	**317**	*e*PKIKP		PKPdf	09 48 23.7	+0.8
ZRNK	**Zerenda**	**125.84**	**317**	*e*PKIKP		PKPdf	09 48 24.6	+0.2
ARU	**Arti**	**131.41**	**323**	*i* PKIKP		PKPdf	09 48 36.8	+1.9
ARU				*e*			09 50 55.8		
ARU				eSS		SS	10 08 19.3	-6.3
ARU	**Arti**	**131.41**	**323**	*e*PKPdf		PKPdf	09 48 35.0	0.0
SOKR	**Solikamsk**	**131.48**	**327**	⇑*i*PKIKP		PKPdf	09 48 35.8	+0.8
SOKR				pmax		pmax			
	comp=Z,20nm,1.0s								
AB31	**Akbulak array**	**131.77**	**313**	*i* PKIKP		PKPdf	09 48 36.5	+0.7
AB31				pmax		pmax			
	comp=Z,2.0nm,0.7s								
AKTK	**Aktyubinsk**	**132.87**	**315**	PKP		PKPdf	09 48 38.8	+0.9
AKTO	**Aktyubinsk**	**132.87**	**315**	PKP		PKPdf	09 48 38.8	+0.9
	comp=Z,3.1nm,0.8s,baz=37,slow=3.3,SNR=12								
ARCES	**ARCESS Array B**	**135.71**	**349**	PKP		PKPdf	09 48 42.8	+0.2
	comp=Z,6.0nm,0.7s,slow=1.2,SNR=11								
KLMR	**Klimovskoe**	**138.50**	**334**	*e*PKIKP		PKPdf	09 48 48.4	+0.4
KLMR				pmax		pmax			
	comp=Z,30nm,1.6s								
FINES	**FINESS Array B**	**142.53**	**342**	PKhKP			09 48 51.5		
	comp=Z,2.0nm,0.6s,baz=90,slow=1.9,SNR=10								
FINES	**FINESS Array B**	**142.53**	**342**	PKP		PKPdf	09 48 51.5	-3.5
OBN	**Obninsk**	**143.22**	**328**	*i* PKIKP		PKPdf	09 48 58.0	+1.7
OBN				pmax		pmax			
	comp=Z,18nm,1.2s								
GNI	**Garni**	**143.66**	**302**	*e*PKIKP		PKPdf	09 48 57.2	-0.4
ONI	**Oni**	**144.19**	**306**	P		PKPbc	09 48 58.7	+0.9
KIV	**Kislovodsk**	**144.41**	**308**	*i* PKIKP		PKPdf	09 48 58.6	-0.2
KIV				pmax		pmax			
	comp=Z,26nm,1.5s								
HAKT	**HAKKARI**	**144.77**	**297**	*i* P		PKPbc	09 48 59.6	0.0
MSL	**Mosul**	**145.36**	**295**	*ex*		x	09 49 03.0		
ARTV	**Artvin**	**145.60**	**304**	*i* P		PKPdf	09 49 02.0	+1.0
NB2	**NORSAR Subarra**	**145.74**	**353**	PKPabc		PKPdf	09 49 01.4	+0.9
	comp=Z,46nm,1.0s,baz=19,slow=3.1								
NB2	**NORSAR Subarra**	**145.74**	**353**	PKPa			09 49 01.4		
	baz=19,slow=3.2								
NOA	**NORSAR Array B**	**145.74**	**353**	PKPbc		PKPbc	09 49 01.1	-0.3
	comp=Z,20nm,0.9s,baz=7.2,slow=2.7,SNR=37								
SOC	**Sochi**	**146.58**	**309**	*i* PKHKP			09 48 56.2		
MARD	**Mardin**	**147.11**	**297**	*i* P		PKPdf	09 49 06.4	+2.8
KONO	**Kongsberg**	**147.26**	**354**	*i* PKP2		PKPab	09 49 05.2	-4.2
MNK	**Minsk**	**147.41**	**334**	⇓*e*PKIKP		PKPdf	09 49 05.0	+1.5
MNK				pmax		pmax			
	comp=Z,280nm,1.0s								
KELT	**Kelkit**	**147.80**	**303**	*i* P		PKPdf	09 49 08.9	+4.3
ELZG	**Elazig**	**148.34**	**300**	*i* P		PKPdf	09 49 10.3	+4.7
MALT	**Malatya**	**148.80**	**300**	*e*PKPbc		PKPdf	09 49 13.0	+6.7
MALT				*e*PKPab		PKPab	09 49 17.6	+1.3
AKASG	**Malin Array Be**	**149.44**	**327**	PKP		PKPdf	09 49 07.5	+0.6
	comp=Z,9.7nm,1.0s,baz=38,slow=2.7,SNR=6.7								
AKASG				PKPbc		PKPdf	09 49 12.3	+5.4
	comp=Z,17nm,0.7s,baz=38,slow=3.4,SNR=91								
AKASG	**Malin Array Be**	**149.44**	**327**	PKP		PKPdf	09 49 07.5	+0.6
AKASG				PKPbc		PKPdf	09 49 12.3	+5.4
SUW	**Suwalki**	**149.53**	**337**	*e*PKP		PKPdf	09 49 12.7	+5.7
GZT	**Gaziantep**	**149.64**	**298**	*i* P		PKPdf	09 49 13.3	+5.7
SIM	**Simferopol'**	**149.83**	**314**	⇓*e*PKP2		PKPab	09 49 14.7	-5.5
SIM				pmax		pmax			
	comp=Z,38nm,0.8s								
MUD	**Monsted U'grnd**	**150.46**	**354**	⇑*i*P		PKPdf	09 49 16.4	+8.1
	comp=Z,88nm,1.5s								
MUD	**Monsted U'grnd**	**150.46**	**354**	⇑*i*PKIKP		PKPdf	09 49 16.4	+8.1
MUD				pmax		pmax			
	comp=Z,88nm,1.5s								
BOYT	**Boyabat**	**150.64**	**307**	*i* P		PKPdf	09 49 15.4	+6.4
COBT	**Iskenderun**	**150.81**	**297**	*i* P		PKPdf	09 49 06.7	-2.8
BSD	**Bornholm Skovb**	**150.87**	**347**	*i* P		PKPdf	09 49 14.4	+5.4
	comp=Z,74nm,1.3s								
BSD				*i*			09 49 27.2		
KSHT	**Keshet**	**151.56**	**290**	P		PKPab	09 49 29.1	+1.2
CDAG	**Cicekdag**	**151.57**	**304**	*i* P		PKPdf	09 49 13.5	+2.9
BALT	**Daday**	**151.67**	**308**	*i* P		PKPdf	09 49 17.5	+6.9
BR131	**Keskin Array S**	**152.08**	**304**	*e*PKPbc		PKPdf	09 49 19.1	+7.8
BRTR	**Keskin Array B**	**152.08**	**304**	PKPbc		PKPdf	09 49 18.2	+6.9
	comp=Z,3.9nm,0.8s,baz=135,slow=3.6,SNR=15								
HNTI	**Hanita**	**152.09**	**290**	P		PKPab	09 49 30.8	+0.7
ZFRI	**Zfri**	**152.14**	**285**	P		PKPab	09 49 31.4	+1.0
SLTI	**Sal'it**	**152.24**	**288**	P		PKPab	09 49 31.7	+0.9
PRNI	**Paran**	**152.29**	**284**	P		PKPab	09 49 32.2	+1.2
MBH	**Mount Berech**	**152.35**	**283**	P		PKPab	09 49 32.2	+0.9
KMTI	**Karmit**	**152.53**	**284**	P		PKPab	09 49 32.8	+0.8
BSEG	**Bad Segeberg**	**152.79**	**351**	*e*PKIKP		PKPdf	09 49 21.2	+9.4
KWP	**Kalwaria**	**153.16**	**332**	*e*PKP		PKPdf	09 49 22.2	+10
CSS	**Prodhromos**	**153.40**	**294**	*e*PKPab		PKPab	09 49 35.1	-0.5
RUE	**Ruedersdorf**	**153.58**	**346**	*e*PKPbc		PKPdf	09 49 22.4	+9.4
OJC	**Ojcow**	**153.83**	**336**	*e*PKPdf		PKPdf	09 49 14.5	+1.1
OJC				⇑*e*PKPb			09 49 22.5		
OJC				*e*PKPab		PKPab	09 49 34.4	-2.5
KOLS	**Kolonicke sedl**	**153.88**	**331**	*e*PKP		PKPdf	09 49 15.3	+1.8
KOLS				*e*			09 49 35.5		
STHS	**Stebnicka Huta**	**153.93**	**333**	*e*PKP		PKPdf	09 49 23.6	+10
STHS				*e*			09 49 38.1		
STHS				*e*			09 49 56.2		
KSP	**Ksiaz**	**154.44**	**341**	*e*PKP		PKPdf	09 49 24.7	+10
KSP	**Ksiaz**	**154.44**	**341**	*e*PKIKP		PKPdf	09 49 24.4	+10
KSP				*e*			09 49 35.9		
MLR	**Muntele Rosu**	**154.45**	**322**	PKPbc		PKPdf	09 49 25.0	+11
	comp=Z,1.8nm,0.6s,baz=339,slow=12,SNR=3.2								
OKC	**Ostrava-Krasne**	**154.74**	**338**	*e*PKPDF		PKPdf	09 49 14.1	-0.5
OKC				*e*PKPAB		PKPab	09 49 39.2	-1.4
UPC	**Upice**	**154.82**	**341**	*e*PKPAB		PKPab	09 49 40.0	-1.0
CLL	**Collm**	**154.85**	**346**	*e*PKIKP		PKPdf	09 49 16.0	+1.3
	comp=Z,logA/T=1.0								
CLL				*i* PKP1		PKPdf	09 49 24.9	+10
CLL				*i* *PPKP			09 49 36.3		
CLL				*i* PKP2		PKPab	09 49 39.7	-1.4
CLL				*i* *PKP2			09 49 50.2		
CLL				*e*PP		PP	09 53 18.0	0.0
DPC	**Dobruska-Polom**	**154.87**	**341**	*e*PKPDF		PKPdf	09 49 16.5	+1.7
DPC				*e*PKPAB		PKPab	09 49 40.0	-1.2
KECS	**Kecovo**	**154.97**	**333**	*e*PKP		PKPdf	09 49 16.5	+1.6
KECS				*e*			09 49 27.0		
KECS				*e*			09 49 41.2		
BRG	**Berggiesshubel**	**155.04**	**344**	*e*PKIKP		PKPdf	09 49 16.0	+1.1
BRG				*e*			09 49 25.8		
BRG				*e*			09 49 37.3		
PVCC	**Panska Ves**	**155.20**	**343**	*e*PKPDF		PKPdf	09 49 21.3	+6.1
PVCC				*e*pPKP			09 49 51.5		
VYHS	**Vyhne**	**155.61**	**335**	*e*PKP		PKPab	09 49 44.3	-0.1
PSZ	**Piszkesteto**	**155.66**	**333**	*e*PKPab		PKPab	09 49 44.0	-0.6
PRU	**Pruhonice**	**155.70**	**343**	*e*PKPAB		PKPab	09 49 43.1	-1.7
MOX	**Moxa**	**155.76**	**347**	*e*PKP2		PKPab	09 49 44.2	-0.8
MOX				pmax		pmax			
	comp=Z,17nm,1.5s								
NKC	**Novy Kostel**	**155.98**	**346**	*e*PKPAB		PKPab	09 49 45.6	-0.4
SMOL	**Smolenice**	**156.11**	**337**	*e*PKP		PKPab	09 49 46.6	0.0
ZST	**Bratislava**	**156.50**	**337**	*e*PKP		PKPdf	09 49 19.3	+2.3
ZST				*e*			09 49 48.4		
KHC	**Kasperske Hory**	**156.74**	**343**	*e*PKPDF		PKPdf	09 49 18.9	+1.6
KHC				*e*pPKP			09 49 29.0		
KHC				*e*PKPAB		PKPab	09 49 48.6	-0.7
GERES	**GERESS Array B**	**156.97**	**343**	PKP		PKPdf	09 49 17.1	-0.5
	comp=Z,1.4nm,1.0s,baz=284,slow=11,SNR=3.7								
BAIF	**Baives**	**157.13**	**359**	*e*PKP2		PKPab	09 49 51.4	+0.5
LIC	**Lamto**	**157.63**	**157**	⇑*i*PKIKP		PKPdf	09 49 20.7	+1.1
	comp=Z,14nm,1.1s								
DBIC	**Dimbokro**	**158.10**	**157**	PKP		PKPdf	09 49 19.9	-0.2
	comp=Z,5.5nm,1.1s,baz=171,slow=7.9,SNR=3.4								
DBIC				PKPab		PKPab	09 49 54.2	-2.0
	comp=Z,4.7nm,0.9s,baz=102,slow=5.5,SNR=3.6								
DBIC	**Dimbokro**	**158.10**	**157**	PKP		PKPdf	09 49 19.9	-0.2
DBIC				PKPab		PKPab	09 49 54.2	-2.0
FLN	**La Foliniere**	**158.21**	**7**	*e*PKP2		PKPab	09 49 54.3	-1.3
	comp=Z,35nm,1.0s								
GROS	**Grobnik**	**158.54**	**337**	*e*PKPab		PKPab	09 49 55.8	-1.3
HAU	**Haudompre**	**159.08**	**355**	*e*PKP2		PKPab	09 49 58.2	-1.2
VISS	**Visnje**	**159.34**	**337**	*e*PKPab		PKPab	09 49 59.2	-1.4
CEY	**Cerknica**	**159.54**	**338**	*e*PKPab		PKPab	09 50 00.2	-1.3
SSF	**Saint Saulge**	**160.14**	**0**	*e*PKP2		PKPab	09 50 02.9	-1.1
	comp=Z,9.3nm,0.9s								
AVF	**Avril sur Loir**	**160.41**	**0**	*e*PKP2		PKPab	09 50 03.9	-1.2
LPL	**La Plagne**	**161.51**	**353**	*e*PKP2		PKPab	09 50 09.9	-0.1
LPG	**La Plagne**	**161.53**	**353**	*e*PKP2		PKPab	09 50 10.1	+0.1
	comp=Z,15nm,1.0s								
ORIF	**Oris-en-Rattie**	**162.19**	**355**	*e*PKP2		PKPab	09 50 13.2	+0.3
	comp=Z,25nm,1.0s								
SMRF	**Simiane la Rot**	**163.15**	**355**	*e*PKP2		PKPab	09 50 16.9	-0.2
ESDC	**Sonseca Array**	**166.04**	**25**	PKP		PKPdf	09 49 29.2	+1.7
	comp=Z,1.1nm,0.8s,baz=344,slow=3.2,SNR=5.9								
ESDC				PKPab		PKPab	09 50 28.6	-1.3
	comp=Z,1.9nm,0.9s,baz=326,slow=3.4,SNR=4.8								

*NEIC **31** 10:06:24.8±1.3, 17.91S×175.30W, h239km±19km, mb4.1/2, Error ellipse: s-maj=25.7km s-min=12.7km az=109.0*
*IDC **31** 10:06:25.2±2.2, 17.87S×175.29W, h240km±25km, mb3.4/4, mb1 3.6/5, mb1mx3.3/16, mbtmp4.0/5, Error ellipse: s-maj=34.4km s-min=16.9km az=98.0*

ISC 31 10:06:22.8±1.8, 17.8S±0.1×175.4W±0.2, h228km±26km, n10, σ1§07/12, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.17**	**42**	P	**P**	**10 07 43.2**	**+2.5**
	14nm,0.3s,baz=164,slow=3.5,SNR=24						
AFI				S	**S**	**10 08 40.1**	**-1.3**
	25nm,0.3s,baz=100,slow=20,SNR=12						
URZ	**Urewera**	**21.44**	**196**	P	**P**	**10 10 54.0**	**+0.5**
	3.0nm,0.3s,mb4.3,baz=3.2,slow=3.3,SNR=11						
URZ				S	**S**	**10 14 35.9**	**+3.7**
	4.2nm,1.0s,baz=197,slow=19,SNR=3.0						
SNZO	**South Karori**	**24.95**	**198**	*e*P	**P**	**10 11 24.8**	**-2.1**
CTAO	**Charters Tower**	**36.32**	**260**	*e*P	**P**	**10 13 06.2**	**-0.5**
	12nm,1.3s,mb4.2						
WB2	**Warrnanunga Arr**	**47.49**	**259**	*e*P	**P**	**10 14 36.5**	**-0.4**
WRAB	**Tennant Creek**	**47.49**	**259**	*e*P	**P**	**10 14 37.0**	**+0.1**
	8.7nm,1.2s,mb4.0						
WRA	**Warramunga Arr**	**47.50**	**259**	P	**P**	**10 14 37.2**	**+0.1**
	1.0nm,0.5s,mb3.4,baz=94,slow=7.0,SNR=36						
ASPA	**Alice Springs**	**47.61**	**254**	*e*P	**P**	**10 14 38.4**	**+0.5**
MJAR	**Matsushiro Arr**	**69.57**	**321**	P	**P**	**10 17 08.8**	**-0.1**
	1.1nm,1.1s,mb3.4,baz=148,slow=6.1,SNR=4.1						
ILAR	**Eielson Array**	**85.14**	**12**	P	**P**	**10 18 34.3**	**+0.4**
	0.7nm,1.0s,mb3.4,baz=233,slow=6.5,SNR=6.9						

*IDC **31** 10:23:27.9±0.7, 28.06N×139.66E, h425km±7km, mb3.3/15, mb1 3.4/18, mb1mx3.4/24, mbtmp4.0/18, Error ellipse: s-maj=17.2km s-min=11.2km az=65.0*
*MOS **31** 10:23:28.0±0.8, 28.04N×139.55E, h444km, mb3.9/9, Error ellipse: s-maj=25.1km s-min=10.2km az=115.4*
*JMA **31** 10:23:29.2±0.2, 28.26N×140.35E, h445km, M3.8*

*NEIC **31** 10:23:30.1±1.6, 28.08N×139.54E, h451km±15km, mb4.0/3, Error ellipse: s-maj=16.2km s-min=14.0km az=48.0*

ISC 31 10:23:27.3±0.5, 28.10N±0.05×139.6E±0.1, h433km±5km, n57, σ0§85/63, mb3.7/24, 1C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.48**	**113**	P	**P**	**10 24 29.9**	**+0.1**
	113nm,0.3s,baz=300,slow=24,SNR=44						
CBIJ				S	**S**	**10 25 18.1**	**-0.9**
	86nm,0.3s,baz=281,slow=22,SNR=13						
CBIJ	**Chichi jima**	**2.48**	**113**	P	**P**	**10 24 29.7**	**-0.1**
JHHJ	**Haha-jima-NKT**	**2.69**	**122**	P	**P**	**10 24 31.3**	**0.0**
JHHJ				S	**S**	**10 25 21.4**	**-0.3**
JHJ	**Hachijo jima 2**	**5.00**	**1**	P	**P**	**10 24 53.0**	**+1.4**
	14nm,0.3s,baz=228,slow=19,SNR=2.4						
JHJ				S	**S**	**10 25 58.6**	**+0.6**
	23nm,0.3s,baz=243,slow=19,SNR=3.2						
JIM2	**Oshima 3**	**6.60**	**359**	P	**P**	**10 25 09.6**	**+1.3**
BSO1	**Boso 1**	**6.63**	**10**	P	**P**	**10 25 09.0**	**+0.3**
BSO1				*e*S	**S**	**10 26 26.9**	**-1.8**
BSO3	**Boso 3**	**6.72**	**6**	P	**P**	**10 25 10.8**	**+1.2**
BSO3				*e*S	**S**	**10 26 29.2**	**-1.2**
JIE	**Ise**	**6.75**	**339**	P	**P**	**10 25 13.8**	**+3.8**
BSO4	**Boso 4**	**6.90**	**5**	P	**P**	**10 25 12.4**	**+0.9**
BSO4				*e*S	**S**	**10 26 33.4**	**-0.4**
JHU	**Hanno**	**7.74**	**358**	P	**P**	**10 25 20.4**	**-0.4**
JRY	**Ryogami san**	**7.92**	**356**	P	**P**	**10 25 23.4**	**+0.6**
JRY				*e*S	**S**	**10 26 53.0**	**-1.1**
JYT	**Yasato**	**8.12**	**3**	P	**P**	**10 25 25.3**	**+0.3**
JAG	**Ashikaga**	**8.30**	**359**	P	**P**	**10 25 26.4**	**-0.7**
JAG				*e*S	**S**	**10 27 01.1**	**-0.7**
MJAR	**Matsushiro Arr**	**8.50**	**352**	P	**P**	**10 25 30.7**	**+1.3**
	0.3nm,0.3s,baz=166,slow=9.9,SNR=8.8						
JHO	**Hitachi**	**8.52**	**5**	P	**P**	**10 25 30.0**	**+0.4**
JFK	**Kawauchi**	**9.30**	**6**	P	**P**	**10 25 38.8**	**+0.5**
JMK	**Ichinoseki**	**10.90**	**7**	P	**P**	**10 25 56.9**	**+0.5**
SONM	**Songino Array**	**32.43**	**316**	P	**P**	**10 29 22.0**	**+1.1**
	0.8nm,0.6s,mb3.2,baz=124,slow=8.1,SNR=7.7						
SONM				PcP	PcP	10 31 56.1	-0.5
	0.3nm,0.4s,baz=134,slow=2.7,SNR=6.5						
BILL	**Bilibino**	**43.02**	**14**	*e*P	**P**	**10 30 43.8**	**-3.9**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb3.8						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s						
ZAL	**Zalesovo**	**47.26**	**319**	P	**P**	**10 31 20.9**	**-0.1**
	comp=Z,0.5nm,0.3s,mb3.4,baz=349,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**48.03**	**187**	P	**P**	**10 31 26.5**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.0,baz=5.2,slow=7.6,SNR=13						
WRA				PcP	PcP	10 32 47.4	-0.2
	comp=Z,0.4nm,0.6s,baz=359,slow=3.8,SNR=5.4						
MKAR	**Makanchi Array**	**48.09**	**309**	P	**P**	**10 31 27.2**	**-0.2**
	comp=Z,0.2nm,0.4s,mb2.8,baz=86,slow=11,SNR=8.7

comp=Z,58nm,0.4s
DLBC Dease Lake 4.51 213 Pn **Pn** **10 50 05.8 +2.2**
DLBC Sn **Sn** **10 50 56.4 -0.3**
DLBC Lg 10 51 12.9
WHY Whitehorse 4.85 254 Pn **Pn** **10 50 09.7 +1.4**
WHY Pg **Pg** **10 50 23.9 -6.4**
WHY Sn **Sn** **10 51 03.4 -1.9**
WHY Sg **Sg** **10 51 24.4 -11**
WHY Trac 10 51 34.8
comp=Z,59nm,0.6s
WHY Whitehorse 4.85 254 Pn **Pn** **10 50 09.7 +1.4**
WHY *e*Pg **Pg** **10 50 23.9 -6.4**
WHY *e*Sn **Sn** **10 51 03.4 -1.9**
WHY *e*Sg **Sg** **10 51 24.4 -11**
YKW3 Yellowknife Ar 5.01 82 Pn **Pn** **10 50 13.5 +2.9**
YKW3 Pn **Pn** **10 50 14.1 +3.4**
YKW3 Pg **Pg** **10 50 31.7 -1.9**
YKW3 Pg **Pg** **10 50 31.8 -1.7**
YKW3 Sn **Sn** **10 51 10.2 +0.9**
YKW3 Sn **Sn** **10 51 11.6 +2.3**
YKW3 Sg **Sg** **10 51 36.0 -4.2**
YKW3 Sg **Sg** **10 51 36.4 -3.9**
YKW3 Trac 10 51 40.6
comp=Z,62nm,0.5s
YKW3 Trac 10 51 40.6
comp=Z,62nm,0.5s
YKW3 Yellowknife Ar 5.01 82 *e*Pn **Pn** **10 50 15.0 +4.3**
YKW3 *e*Sn **Sn** **10 51 11.3 +2.0**
YKA Yellowknife Ar 5.01 83 Pn **Pn** **10 50 13.3 +2.6**
3.0nm,0.3s,baz=268,slow=13,SNR=154
YKA Pg **Pg** **10 50 30.4 -3.3**
4.2nm,0.3s,baz=270,slow=18,SNR=42
YKA Sn **Sn** **10 51 10.4 +0.9**
5.4nm,0.3s,baz=272,slow=18,SNR=4.8
YKA Lg 10 51 33.5
8.6nm,0.3s,baz=270,slow=30,SNR=7.2
YKA Yellowknife Ar 5.01 83 Pn **Pn** **10 50 13.3 +2.6**
YKA Pg **Pg** **10 50 30.4 -3.3**
YKA Sn **Sn** **10 51 10.4 +1.0**
YKA Lg 10 51 33.5
HYT Haines Junctio 5.98 261 Pn **Pn** **10 50 26.0 +1.6**
HYT Sg **Sg** **10 51 59.6 -13**
HYT Trac 10 52 07.7
comp=Z,47nm,0.7s
HYT Haines Junctio 5.98 261 Pn **Pn** **10 50 26.0 +1.6**
HYT *e*Sg **Sg** **10 51 59.6 -13**
PLBC Pleasant Camp 6.08 247 *e*Pn **Pn** **10 50 27.4 +1.6**
PLBC *e*Sg **Sg** **10 52 01.6 -14**
BMBC Bull Mountain 6.49 164 Pn **Pn** **10 50 33.1 +1.5**
BMBC Sn **Sn** **10 51 45.9 -0.5**
BMBC Sg **Sg** **10 52 20.4 -9.3**
BMBC Trac 10 52 25.6
comp=Z,53nm,0.5s
BMBC Trac 10 52 25.6
comp=Z,53nm,0.5s
BMBC Bull Mountain 6.49 164 *e*Pn **Pn** **10 50 33.1 +1.5**
BMBC *e*Sn **Sn** **10 51 45.9 -0.5**
BMBC *e*Sg **Sg** **10 52 20.4 -9.3**
DAWY Dawson 6.59 292 Pn **Pn** **10 50 33.0 +0.1**
DAWY Sn **Sn** **10 51 45.2 -3.6**
DAWY Sg **Sg** **10 52 21.0 -12**
DAWY Trac 10 52 29.4
comp=Z,31nm,0.6s
DAWY Dawson 6.59 292 *e*Pn **Pn** **10 50 32.5 -0.5**
DAWY *e*Sn **Sn** **10 51 48.5 -0.3**
INK Inuvik 6.93 334 Pn **Pn** **10 50 37.8 +0.1**
3.9nm,0.3s,baz=156,slow=9.4,SNR=81
INK Sn **Sn** **10 51 56.1 -1.2**
2.0nm,0.3s,baz=194,slow=22,SNR=5.2
INK Lg 10 52 34.8
1.5nm,0.3s,baz=234,slow=25,SNR=6.1
INK Inuvik 6.93 334 Pn **Pn** **10 50 37.7 0.0**
INK Sn **Sn** **10 51 53.6 -3.7**
INK Trac 10 52 01.6
comp=Z,13nm,0.3s
INK Trac 10 52 01.6
comp=Z,13nm,0.3s
INK Inuvik 6.93 334 *e*Pn **Pn** **10 50 37.7 0.0**
0.3nm,0.9s
INK *e*Sn **Sn** **10 51 57.0 -0.4**
FSB Fort Saint Jam 7.86 176 Pn **Pn** **10 50 53.8 +2.9**
FSB Sg **Sg** **10 53 00.6 -15**
FSB Trac 10 53 18.1
comp=Z,27nm,1.0s
FSB Fort Saint Jam 7.86 176 *e*Pn **Pn** **10 50 53.8 +2.9**
FSB *e*Sg **Sg** **10 53 00.6 -15**
ILAR Eielson Air 9.90 294 Pn **P** **10 51 18.9 0.0**
0.1nm,0.3s,baz=98,slow=10,SNR=15
ILAR Lg 10 54 08.9
0.2nm,0.3s,baz=102,slow=30,SNR=7.6
MNB Mounoet Dainar 10.80 156 Pn **P** **10 51 32.7 +1.5**
MNB Sn **S** **10 53 29.6 -3.6**
EDM Edmonton 11.12 139 Pn **P** **10 51 36.0 +0.5**
EDM Sn **S** **10 53 37.3 -3.6**
EDM Trac 10 54 51.1
comp=Z,8.0nm,0.5s
EDM Trac 10 54 51.1
comp=Z,8.0nm,0.5s
DOWB Downie Slide 11.43 158 Pn **P** **10 51 41.5 +1.7**
DOWB Trac 10 55 16.5
comp=Z,39nm,0.6s
SLEB Sale Mountain 11.84 157 Pn **P** **10 51 45.7 +0.4**
SLEB Trac 10 55 18.6
comp=Z,6.0nm,0.8s
FCC Fort Churchill 15.71 89 Pn **P** **10 52 35.5 -0.6**
FCC Sn **S** **10 55 18.2 -12**
FCC Sg 10 57 08.8
FCC Trac 10 57 27.9
comp=Z,11nm,0.7s
FCC Trac 10 57 27.9
comp=Z,11nm,0.7s
FCC Fort Churchill 15.71 89 *e*Pn **P** **10 52 35.3 -0.9**
16nm,1.0s
RES Resolute Bay 16.40 29 Pn **P** **10 52 43.1 -1.8**
RES Sn **S** **10 55 35.6 -11**
RES Trac 10 55 39.8
comp=Z,5.0nm,0.5s
RES Trac 10 55 39.8
comp=Z,5.0nm,0.5s
RES Resolute Bay 16.40 29 *e*Pn **P** **10 52 43.5 -1.4**
4.3nm,0.6s
EGMT Eagleton 16.78 141 *e*Pn **P** **10 52 49.2 -0.7**
5.3nm,0.7s
ULM Lac du Bonnet 20.12 113 P **P** **10 53 32.7 +2.6**
0.6nm,0.3s,baz=329,slow=15,SNR=3.8
ULM Lac du Bonnet 20.12 113 Pn **P** **10 53 28.5 -1.6**
ULM Lac du Bonnet 20.12 113 P **P** **10 53 32.7 +2.6**
PDAR Pinedale Array 21.68 147 P **P** **10 53 50.5 +4.3**
0.6nm,0.9s,mb3.0,baz=270,slow=3.0,SNR=4.0

BJI 31 11:27:46.4,45.03N×114.82E,h18km,mb3.9,ML4.0, Msz3.4,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**7.71**	**95**	*e*PG	Pn	11 30 02.5	+22
CN2				Smax			
	comp=N,100nm,0.8s						
CN2				Smax			
	comp=E,100nm,0.8s						
GTA	**Gaotai**	**12.45**	**248**	*e*P	P	11 30 46.5	+0.8
GTA				AP		11 30 56.5	
GTA				XP		11 31 01.0	

*IDC **31** 11:33:20.6±7.4, 6.61S×152.45E, h43km±69km, mb3.4/4, mb1 3.7/5, mb1mx3.5/13, mbtmp3.7/5, ML2.8/1, Error ellipse: s-maj=66.2km s-min=46.4km az=135.0*

ISC 31 11:33:19.8±5.3, 6.6S±0.3×152.4E±0.3, h48km±42km, n7, σ0°69/8, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.87**	**241**	P	**P**	**11 34 46.4**	**+0.1**
	1.5nm,0.3s,baz=68,slow=5.5,SNR=6.8						
PMG				S	**S**	**11 35 52.9**	**-0.3**
	2.1nm,0.3s,baz=88,slow=13,SNR=5.9						
WB2	**Warramunga Arr**	**21.96**	**231**	*e*P	**P**	**11 38 11.9**	**+0.7**
WRA	**Warramunga Arr**	**21.97**	**231**	P	**P**	**11 38 11.4**	**+0.1**
	1.4nm,0.9s,mb3.4,baz=55,slow=11,SNR=8.5						
FITZ	**Fitzroy Crossi**	**28.45**	**244**	*e*P	**P**	**11 39 11.9**	**-0.8**
	12nm,1.5s,mb4.3						
SONM	**Songino Array**	**67.58**	**328**	P	**P**	**11 44 13.8**	**+0.4**
	0.7nm,0.6s,mb3.9,baz=141,slow=6.2,SNR=9.3						
MKAR	**Makanchi Array**	**81.36**	**319**	P	**P**	**11 45 33.3**	**+0.3**
	0.3nm,0.8s,mb3.3,baz=101,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**83.95**	**22**	P	**P**	**11 45 45.1**	**-0.7**
	0.7nm,0.8s,mb3.8,baz=240,slow=4.9,SNR=6.4						

*IDC **31** 11:39:24.8±2.0, 27.08S×176.38W, mb4.1/4, mb1 4.3/6, mb1mx4.0/15, mbtmp4.1/6, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/25, Error ellipse: s-maj=51.7km s-min=24.3km az=116.0*
*NEIC **31** 11:39:25.4±1.0, 27.07S×176.26W, h10km, mb4.6/3, Error ellipse: s-maj=26.8km s-min=13.1km az=115.0*

ISC 31 11:39:22.7±1.1, 26.99S±0.09×176.2W±0.2, h10km, n21, σ1§17/20, mb4.2/6, MS3.4/2, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.72**	**214**	Pn	**Pn**	**11 40 07.6**	**+0.4**
	136nm,0.3s,baz=102,slow=19,SNR=5.5						
RAO				Sn	**Sn**	**11 40 40.7**	**+0.2**
	375nm,0.3s,baz=88,slow=23,SNR=13						
RAO	**Raoul Island**	**2.72**	**214**	Pn	**Pn**	**11 40 07.6**	**+0.4**
RAO				*e*Pn	**Pn**	**11 40 08.5**	**+1.3**
RAO				Sn	**Sn**	**11 40 40.7**	**+0.2**
URZ	**Urewera**	**12.57**	**205**	Pn	**P**	**11 42 21.7**	**-2.7**
	0.6nm,0.3s,baz=286,slow=15,SNR=4.0						
URZ				Sn	**S**	**11 44 31.3**	**-14**
	2.0nm,0.3s,baz=227,slow=22,SNR=15						
AFI	**Afiamalu**	**13.66**	**18**	Pn	**P**	**11 42 38.5**	**-0.5**
	1.3nm,0.3s,baz=258,slow=19,SNR=3.8						
AFI	**Afiamalu**	**13.66**	**18**	Pn	**P**	**11 42 37.9**	**-1.1**
AFI				Pn	**P**	**11 42 38.5**	**-0.5**
TBI	**Tubuai**	**24.45**	**87**	*e*LR	LR	11 50 18.9	
	122nm,28.8s						
PPT	**Papeete**	**26.31**	**75**	*e*LR	LR	11 51 10.9	
	56nm,21.2s						
PPT	**Papeete**	**26.31**	**75**	LR	LR	11 53 42.2	
	comp=Z,50nm,18.1s,MS3.1,baz=188,slow=32						
CTA	**Charters Tower**	**35.01**	**273**	P	**P**	**11 46 19.6**	**+2.1**
	3.6nm,0.5s,mb4.6,baz=114,slow=14,SNR=16						
CTA				LR	LR	11 59 19.9	
	comp=Z,154nm,18.4s,MS3.8,baz=48,slow=34						
CTAO	**Charters Tower**	**35.01**	**273**	*e*P	**P**	**11 46 19.7**	**+2.2**
	2.7nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**36.91**	**252**	P	**P**	**11 46 33.6**	**+0.1**
	0.7nm,0.5s,mb3.8,baz=75,slow=17,SNR=3.5						
ASPA	**Alice Springs**	**44.99**	**263**	*e*P	**P**	**11 47 39.7**	**-0.5**
WB2	**Warramunga Arr**	**45.67**	**268**	*e*P	**P**	**11 47 44.6**	**-1.0**
WRAB	**Tennant Creek**	**45.67**	**268**	*e*P	**P**	**11 47 45.2**	**-0.5**
	8.7nm,1.3s,mb4.5						
WRA	**Warramunga Arr**	**45.68**	**268**	P	**P**	**11 47 44.7**	**-1.0**
	1.2nm,0.7s,mb4.0,baz=106,slow=7.7,SNR=16						
QSPA	**South Pole Qui**	**63.11**	**180**	*e*P	**P**	**11 49 53.3**	**+1.1**
	5.1nm,0.9s,mb4.7						
MJAR	**Matsushiro Arr**	**76.39**	**324**	P	**P**	**11 51 15.6**	**+1.5**
	1.1nm,0.8s,mb3.9,baz=142,slow=9.0,SNR=4.5						
MJAR	**Matsushiro Arr**	**76.39**	**324**	P	**P**	**11 51 15.6**	**+1.5**
NB2	**NORSAR Subarra1**	**45.59**	**354**	PKPabc	PKPdf	11 59 05.9	+2.3
	0.8nm,0.8s,baz=20,slow=3.5						
HFS	**Hagfors**	**146.18**	**351**	PKPbc	PKPbc	11 59 06.8	+4.1
	2.2nm,0.6s,baz=63,slow=3.2,SNR=7.8						
AKASG	**Malin Array Be**	**149.41**	**328**	PKPbc	PKPdf	11 59 14.2	+4.1
	0.7nm,0.6s,baz=45,slow=4.1,SNR=5.0						

WEL 31 11:39:51.1±0.3, 45.14S×167.44E, h119km±2km, ML3.5/12, 1C-1D, Error ellipse: s-maj=2.5km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**210**	PN	P	11 40 07.9	-0.6
DCZ				SN	S	11 40 20.4	-1.2
MLZ	**Mavora Lakes**	**0.56**	**112**	↑PN	P	11 40 09.2	-0.3
MLZ				SN	S	11 40 22.4	-1.0
MSZ	**Milford Sound**	**0.58**	**37**	PN	P	11 40 09.5	-0.1
MSZ				SN	S	11 40 23.0	-0.6
WHZ	**Wether Hill Ro**	**0.84**	**155**	PN	P	11 40 11.6	-0.2
WHZ				SN	S	11 40 26.5	-0.8
WKZ	**Wanaka**	**1.16**	**75**	PN	P	11 40 14.9	-0.3
WKZ				SN	S	11 40 32.1	-0.9
EAZ	**Earnscleugh**	**1.32**	**95**	PN	P	11 40 16.3	-0.7
EAZ				SN	S	11 40 34.6	-1.9
JCZ	**Jackson Bay**	**1.42**	**42**	PN	P	11 40 17.3	-0.7
JCZ				SN	S	11 40 37.2	-1.2
TUZ	**Tuapeka**	**1.75**	**119**	↓PN	P	11 40 21.2	-0.6
TUZ				SN	S	11 40 42.4	-2.7
LBZ	**Lake Benmore**	**2.09**	**70**	PN	P	11 40 24.2	-2.0
FOZ	**Fox Glacier**	**2.25**	**47**	PN	P	11 40 26.8	-1.5
ODZ	**Otahua Downs**	**2.27**	**89**	PN	P	11 40 26.7	-1.8
WVZ	**Waitaha Valley**	**3.14**	**50**	ePN	P	11 40 36.7	-3.5
LTZ	**Lake Taylor**	**4.21**	**58**	ePN	P	11 40 52.8	-1.8
DSZ	**Denniston Hort**	**4.64**	**45**	ePN	P	11 40 56.5	-4.0

*IDC **31** 11:57:03.2±4.2, 34.52N×22.87E, mb3.9/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=81.6km s-min=29.9km az=11.0*
*CSEM **31** 11:57:12.0±0.3, 34.64N×23.11E, h28km±2km, MD3.4, Error ellipse: s-maj=8.2km s-min=2.8km az=74.0*
*HLW **31** 11:57:13.1,34.80N×23.33E, h33km, Mb3.3*
*ATH **31** 11:57:15.7,35.08N×23.43E, h25km, MD3.4/9*

ISC 31 11:57:12.7±0.8, 34.68N±0.05×23.4E±0.1, h70km±8km, n23, σ1§27/29, mb3.6/4, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.63**	**75**	*e*PN	**P**	**11 57 27.5**	**+0.5**
GVD				*e*SN	**S**	**11 57 36.5**	**-1.0**
GVD	**Gavdhos**	**0.63**	**75**	*e*Pn	**P**	**11 57 26.8**	**-0.2**
GVD				*e*Sn	**S**	**11 57 36.5**	**-1.0**
VAM	**Vamos**	**1.01**	**44**	*e*PN	**P**	**11 57 30.1**	**-1.4**
VAM				*e*SN	**S**	**11 57 40.1**	**-5.4**
IDI	**Anoyia**	**1.40**	**64**	Pn	**P**	**11 57 36.7**	**-0.2**
	6.3nm,0.3s,baz=252,slow=13,SNR=39						
IDI				Sn	**S**	**11 58 00.4**	**+5.6**
	9.3nm,0.3s,baz=22,slow=21,SNR=8.6						
KYTH	**Kithira**	**1.62**	**351**	*e*PN	**P**	**11 57 39.2**	**-0.6**
XRY	**Khrisi**	**1.94**	**84**	*e*PN	**P**	**11 57 48.5**	**+4.3**
NPS	**Neapolis**	**1.95**	**72**	*e*PN	**P**	**11 57 46.8**	**+2.5**
VLI	**Veliai**	**2.06**	**351**	*e*PN	**P**	**11 57 45.5**	**-0.3**
APE	**Apeiranthos**	**2.97**	**36**	*e*PN	**P**	**11 57 58.6**	**-0.1**
KARP	**Karpathos**	**3.24**	**73**	↑PN	**P**	**11 58 05.5**	**+3.0**
KARP	**Karpathos**	**3.24**	**73**	*e*Pn	**P**	**11 58 04.5**	**+2.0**
SLUM		**3.54**	**153**	↑P	**P**	**11 58 07.3**	**+0.7**
SLUM		**3.54**	**153**	P	**P**	**11 58 07.3**	**+0.6**
EVR	**Evrytania**	**4.40**	**344**	*e*PN	**P**	**11 58 18.8**	**+0.1**
HMAT	**Matruh**	**4.77**	**138**	P	**P**	**11 58 24.2**	**+0.4**
HMAT				S	**S**	**11 59 16.1**	**-2.1**
SWA2		**5.71**	**161**	P	**P**	**11 58 37.8**	**+1.1**
SWA1		**5.76**	**159**	P	**P**	**11 58 38.3**	**+0.9**
SWA1				S	**S**	**11 59 40.3**	**-2.6**
HFRF	**Wahat Farafira**	**8.63**	**149**	P	**P**	**11 59 17.4**	**+0.3**
GERES	**GERESS Array B**	**15.86**	**336**	Pn	**P**	**12 00 54.2**	**+1.5**
	0.1nm,0.3s,baz=152,slow=10,SNR=4.6						
HFS	**Hagfors**	**26.23**	**349**	P	**P**	**12 02 41.2**	**-1.4**
	0.9nm,0.4s,mb3.5,baz=140,slow=11,SNR=6.6						
ARCES	**ARCESS Array B**	**34.93**	**1**	P	**P**	**12 03 56.7**	**-2.6**
	0.9nm,0.7s,mb3.7,baz=180,slow=9.7,SNR=5.9						
MKAR	**Makanchi Array**	**45.28**	**56**	P	**P**	**12 05 25.4**	**+0.5**
	0.5nm,0.3s,mb3.7,baz=264,slow=7.7,SNR=33						
SONM	**Songino Array**	**60.94**	**50**	P	**P**	**12 07 20.8**	**+0.3**
	0.2nm,0.4s,mb3.5,baz=283,slow=7.1,SNR=7.0						

*IDC **31** 12:13:58.6±0.5, 29.00S×71.41W, mb4.5/10, mb1 4.6/13, mb1mx4.5/17, mbtmp4.4/13, ML4.4/2, MS4.0/15, Ms1 4.0/15, ms1mx3.9/21, Error ellipse: s-maj=23.3km s-min=14.9km az=88.0*
*MOS **31** 12:13:58.7±1.2, 29.01S×71.48W, h10km, mb5.4/4, Error ellipse: s-maj=17.4km s-min=10.7km az=88.1*
*BJI **31** 12:14:01.2, 29.00S×71.50W, h25km, mB5.2, Ms4.9, Msz4.9*
*GUC **31** 12:14:02.6±0.8, 29.14S×71.09W, h4km±6km, MD4.9, ML5.3*
*NEIC **31** 12:14:02.2±2.1, 28.99S×71.52W, h25km±14km, mb5.1/14, Error ellipse: s-maj=11.9km s-min=5.9km az=80.0*
*HRVD **31** 12:14:02.2±0.5, 29.21S×71.79W, h25km±2km, MW5.0/40, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s40,c63; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.07±.19; Mθθ1.30±.13; Mφφ-1.37±.15; Mrθ-2.25±.41; Mrφ0.01±.10; Mθφ-3.24±.44; Best double couple: M=4.151×10^16^ NP1:φ311°, δ18°, λ5°. NP2:φ217°, δ88°, λ108°. Principal axes: T 3.956, Plg44°, Azm144°; N .39, Plg18°, Azm36°; P -4.346, Plg41°, Azm290°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 12:14:02.7±0.6, 28.99S±0.02×71.45W±0.08, h40km±6km, n113, σ1§11/83, mb4.8/21, MS4.1/13, 10C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.93**	**169**	↑*i*P	**P**	**12 14 20.8**	**+1.4**
LSCH				*i* S	**S**	**12 14 32.8**	**+1.1**
LSCH				AMP		12 14 34.6	
	comp=N,102μm,0.3s						
CPCH	**Copiapo**	**1.89**	**31**	*e*P	**P**	**12 14 36.1**	**+3.0**
CPCH				*i* S	**P**	**12 15 00.6**	**+4.7**
CPCH				AMP		12 15 06.6	
	comp=E,52μm,0.2s						
CDCH	**Caldera**	**1.99**	**16**	*e*P	**P**	**12 14 34.7**	**+0.2**
CDCH				*i* S	**S**	**12 14 58.1**	**-0.3**
CDCH				AMP		12 14 59.6	
	comp=N,8μm,0.6s						
CMCH	**Combarbala**	**2.21**	**170**	↓*i*P	**P**	**12 14 38.2**	**+0.6**
CMCH				*i* S	**S**	**12 15 04.7**	**+0.8**
CMCH				AMP		12 15 20.4	
	comp=N,75μm,0.6s						
ILCH	**Illapel**	**2.65**	**175**	↑*i*P	**P**	**12 14 44.6**	**+0.7**
ILCH				*i* S	**S**	**12 15 17.8**	**+2.7**
ILCH				AMP		12 15 32.1	
	comp=N,7μm,0.5s						
CHNG	**Los Chungos**	**2.88**	**181**	AMP		12 15 28.1	
	comp=E,4μm,0.5s						
JACH	**Jahuel**	**3.75**	**169**	*e*P	**P**	**12 15 00.3**	**+0.7**
JACH				*i* S	**S**	**12 15 43.4**	**+0.3**
CFAA	**Coronel Fontan**	**3.81**	**134**	Pn	**P**	**12 15 03.0**	**+2.6**
	comp=E,6.8nm,0.3s,baz=314,slow=12,SNR=428						
CFAA				Sn	**S**	**12 15 45.8**	**+1.3**
	comp=E,18nm,0.3s,baz=301,slow=4.2,SNR=4.4						
CFAA				Lg		12 16 04.0	
	comp=E,86nm,0.3s,baz=194,slow=14,SNR=28						
CFAA				LR	LR	12 16 36.7	
	comp=E,406nm,18.9s,baz=322,slow=42						
PEL	**Peldehue**	**4.19**	**171**	↓*i*P	**P**	**12 15 05.7**	**-0.1**
PEL				*i* S	**S**	**12 15 53.7**	**-0.5**
FCH	**Farellones**	**4.43**	**167**	↑*i*P	**P**	**12 15 09.8**	**+0.5**
FCH				*i* S	**S**	**12 16 00.8**	**+0.5**
CLCH	**Cerro Calan**	**4.46**	**170**	*e*P	**P**	**12 15 09.8**	**+0.2**
CLCH				*i* S	**S**	**12 16 00.7**	**-0.3**
SAN	**Santiago**	**4.50**	**172**	↓*i*P	**P**	**12 15 10.4**	**+0.2**
SAN				*i* S	**S**	**12 16 01.1**	**-0.9**
FSR	**Penalolen**	**4.54**	**170**	↑*i*P	**P**	**12 15 10.6**	**-0.2**
FSR				*i* S	**S**	**12 16 02.5**	**-0.6**
ANTU	**Antumapu**	**4.62**	**172**	↑*i*P	**P**	**12 15 11.7**	**-0.2**
ANTU				*i* S	**S**	**12 16 04.4**	**-0.5**
PCH	**Pirque**	**4.68**	**170**	↓*i*P	**P**	**12 15 12.7**	**-0.1**
PCH				*i* S	**S**	**12 16 06.3**	**-0.4**
CHCH	**Chadas Angostu**	**4.97**	**172**	↓*i*P	**P**	**12 15 16.1**	**-0.8**
CHCH				*i* S	**S**	**12 16 12.9**	**-1.0**
NICH	**Los Niches**	**6.00**	**178**	↑*i*P	**P**	**12 15 29.2**	**-2.0**
NICH				*i* S	**S**	**12 16 36.0**	**-3.5**
LVC	**Limon Verde**	**6.75**	**20**	↓*i*P	**P**	**12 15 40.1**	**-1.7**
LVC				*i* S	**S**	**12 16 54.2**	**-4.1**
LVC	**Limon Verde**	**6.75**	**20**	*e*Pn	**P**	**12 15 39.6**	**-2.2**
	comp=E,70nm,0.9s						
PLCA	**Paso Flores**	**11.74**	**177**	Pn	**P**	**12 16 47.6**	**-2.9**
	comp=E,1.0nm,0.3s,baz=336,slow=11,SNR=29						
PLCA				Lg		12 20 13.8	
	comp=E,0.4nm,0.3s,baz=76,slow=20,SNR=2.7						
PLCA				LR	LR	12 21 29.8	
	comp=E,754nm,21.7s,baz=350,slow=38						
PLCA	**Paso Flores**	**11.74**	**177**	*e*Pn	**P**	**12 16 47.2**	**-3.2**
PLCA				Pn	**P**	**12 16 47.6**	**-2.9**
PLCA				Lg		12 20 13.8	
PLCA				LR	LR	12 21 29.8	
TRQA	**Tornquist**	**12.00**	**141**	*e*Pn	**P**	**12 16 51.8**	**-2.2**
	comp=E,75nm,0.9s						
ARE	**Arequipa**	**12.47**	**360**	*e*P	**P**	**12 16 57.0**	**-3.4**
CPUP	**Villa Florida**	**12.79**	**81**	P	**P**	**12 17 04.8**	**+0.2**
CPUP				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CPUP	**Villa Florida**	**12.79**	**81**	Pn	**P**	**12 17 04.8**	**+0.1**
	comp=Z,1.5nm,1.0s						
LPAZ	**La Paz**	**13.01**	**14**	Pn	**P**	**12 17 05.0**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=198,slow=8.2,SNR=10						
LPAZ	**La Paz**	**13.01**	**14**	*e*Pn	**P**	**12 17 04.7**	**-2.9**
LPAZ				Pn	**P**	**12 17 05.0**	**-2.5**
SIV	**San Ignacio**	**16.09**	**39**	Pn	**P**	**12 17 44.3**	**-3.4**
	comp=Z,0.7nm,0.3s,baz=241,slow=9.4,SNR=12						
SAML	**Samuel**	**21.40**	**23**	*e*P	**P**	**12 18 49.0**	**-0.1**
	comp=Z,32nm,1.0s,mb4.6						
EFI	**East Falkland**	**24.77**	**160**	*e*P	**P**	**12 19 21.2**	**-0.7**
	comp=Z,46nm,0.8s,mb5.1						
BDFB	**Brasilia**	**25.36**	**63**	P	**P**	**12 19 28.1**	**+0.2**
	comp=Z,24nm,0.7s,mb4.9,baz=242,slow=7.9,SNR=35						
BAO	**Brasilia Array**	**25.38**	**63**	P	**P**	**12 19 28.0**	**-0.1**
USHA	**Ushuaia**	**25.91**	**176**	P	**P**	**12 19 32.0**	**-0.6**
	comp=Z,63nm,0.9s,mb5.1,baz=325,slow=6.0,SNR=17						
USHA				LR	LR	12 30 29.6	
	comp=Z,530nm,18.6s,MS4.1,baz=130,slow=38						
ROSC	**El Rosal**	**33.77**	**355**	LR	LR	12 34 24.0	
	comp=Z,90nm,18.4s,MS3.5,baz=208,slow=36						
SDV	**Santo Domingo**	**37.66**	**1**	*e*P	**P**	**12 21 14.1**	**-1.9**
	comp=Z,3.4nm,0.7s,mb4.2						
SNAA	**Sanae**	**56.05**	**159**	LR	LR	12 45 59.3	
	comp=Z,88nm,18.8s,MS3.9,baz=225,slow=34						
SNAA	**Sanae**	**56.05**	**159**	↑*e*P	**P**	**12 23 38.2**	**-1.3**
SNAA				pmax	pmax		
	comp=Z,27nm,0.8s						
SNAA	**Sanae**	**56.05**	**159**	↑*e*P	**P**	**12 23 38.2**	**-1.3**
	comp=Z,27nm,0.8s,mb5.3						
NVL	**N'lazarevskaya**	**60.73**	**158**	↓*i*P	**P**	**12 24 10.7**	**-1.5**
NVL				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.2						
QSPA	**South Pole Qui**	**61.23**	**180**	*e*P	**P**	**12 24 14.1**	**-1.4**
	comp=Z,28nm,0.9s,mb5.4						
JCT	**Junction City**	**65.03**	**333**	*e*P	**P**	**12 24 41.3**	**+0.1**
JCT				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
JCT	**Junction City**	**65.03**	**333**	*e*P	**P**	**12 24 41.3**	**+0.1**
	comp=Z,9.7nm,0.7s,mb4.9						
TXAR	**Lajitas Array**	**65.66**	**329**	P	**P**	**12 24 45.4**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=148,slow=7.5,SNR=18						
TXAR				LR	LR	12 47 24.3	
	comp=Z,97nm,21.9s,MS4.0,baz=210,slow=30						
TXAR				PKPPKP		12 53 25.4	
	comp=Z,0.7nm,1.0s,baz=315,slow=3.5,SNR=4.1						
VNDA	**Vanda**	**69.10**	**191**	P	**P**	**12 25 06.8**	**+0.7**
	comp=Z,2.7nm,0.9s,mb4.2,baz=127,slow=2.0,SNR=11						
VNDA				LR	LR	12 56 00.1	
	comp=Z,49nm,18.1s,MS3.8,baz=233,slow=36						
VNDA	**Vanda**	**69.10**	**

comp=Z,0.4nm,0.7s,baz=117,slow=3.3,SNR=3.7
PDAR LR LR 12 57 54.7
comp=Z,73nm,20.6s,MS4.0,baz=333,slow=33
NVAR Mina Array Bea 80.09 324 P **P** **12 26 11.8 +1.7**
comp=Z,0.3nm,0.5s,baz=143,slow=9.0,SNR=3.0
NVAR PKKPbc 12 44 54.9
comp=Z,0.2nm,0.3s,baz=304,slow=5.0,SNR=4.2
NVAR Mina Array Bea 80.09 324 P **P** **12 26 11.8 +1.7**
NVAR PKKPbc 12 44 54.9
TSUM Tsumeb 80.11 106 *e*P **P** **12 26 11.1 +0.6**
comp=Z,25nm,1.4s,mb5.0
ELK Elko 80.39 328 LR LR 12 57 01.2
comp=Z,149nm,21.4s,MS4.3,baz=165,slow=32
ULM Lac du Bonnet 81.81 344 P **P** **12 26 21.5 +2.7**
comp=Z,2.4nm,1.0s,mb4.1,baz=216,slow=10,SNR=3.4
ULM Lac du Bonnet 81.81 344 P **P** **12 26 21.5 +2.7**
BOSA Boshof 81.96 118 P **P** **12 26 20.4 +0.3**
comp=Z,18nm,0.8s,mb5.0,baz=252,slow=4.7,SNR=36
BOSA LR LR 12 57 39.3
comp=Z,154nm,19.4s,MS4.4,baz=226,slow=32
MCMT McKenzie Canyo 82.60 332 P **P** **12 26 25.0 +2.0**
LBTB Lobatse 83.95 115 *e*P **P** **12 26 30.6 +0.3**
LBTB pmax pmax
comp=Z,38nm,1.0s,mb5.5
LBTB Lobatse 83.95 115 *e*P **P** **12 26 30.6 +0.3**
comp=Z,38nm,1.0s,mb5.5
CASY Casey 85.02 181 *e*P **P** **12 26 35.3 +0.6**
comp=Z,19nm,0.9s,mb5.2
NEW Newport 87.12 331 LR LR 13 03 44.9
comp=Z,186nm,18.3s,MS4.5,baz=170,slow=34
LSZ Lusaka 90.87 108 *e*P **P** **12 27 04.2 +0.3**
LSZ pmax pmax
comp=Z,22nm,1.5s,mb5.3
LSZ Lusaka 90.87 108 *e*P **P** **12 27 04.2 +0.3**
comp=Z,22nm,1.5s,mb5.3
YKA Yellowknife Ar 97.49 341 P **P** **12 27 32.8 -0.2**
comp=Z,0.1nm,0.8s,baz=257,slow=8.2,SNR=3.8
YKA LR LR 13 16 43.4
comp=Z,79nm,19.6s,MS4.2,baz=225,slow=39
INK Inuvik 107.16 340 PKKPbc 12 43 41.5
comp=Z,2.6nm,1.1s,baz=190,slow=6.0,SNR=4.8
AKASG Malin Array Be 118.38 45 PKP PKPdf 12 32 46.1 +0.4
comp=Z,1.3nm,0.7s,baz=261,slow=3.3,SNR=9.8
ASPA Alice Springs 122.24 208 *e*P PKPdf 12 32 54.3 +0.4
OBN Obninsk 123.39 41 *i* PKIKP PKPdf 12 32 56.8 +1.4
OBN pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 125.02 34 *e*PKIKP PKPdf 12 32 58.9 +0.6
KLMR pmax pmax
comp=Z,50nm,2.5s
WB2 Warramunga Arr 125.35 210 *e*P PKPdf 12 33 00.5 +0.5
WRA Warramunga Arr 125.35 210 PKP PKPdf 12 33 00.6 +0.6
comp=Z,7.3nm,0.7s,baz=162,slow=1.6,SNR=129
KIV Kislovodsk 126.31 55 *i* PKIKP PKPdf 12 33 03.0 +1.7
BILL Bilibino 128.52 336 *i* PKIKP PKPdf 12 33 06.2 +1.3
BILL pmax pmax
comp=Z,3.0nm,1.4s
FITZ Fitzroy Crossi 130.36 202 *e*P PKPdf 12 33 11.3 +1.6
comp=Z,6.9nm,0.8s
ARU Arti 135.55 37 *i* PKIKP PKPdf 12 33 20.1 +1.8
SEY Seymchan 135.88 333 *i* PKIKP PKPdf 12 33 20.3 +1.5
AB31 Akbulak array 138.06 47 *i* PKIKP PKPdf 12 33 25.0 +1.8
ZRNK Zerenda 142.43 39 *e*PKIKP PKPdf 12 33 33.1 +2.3
ZRNK *e* 12 33 36.3
BVA0 Borovoye Array 143.16 39 *i* PKIKP PKPdf 12 33 31.1 -0.9
BVA0 pmax pmax
comp=Z,1.0nm,1.0s
VOSK Vostochnaya 143.62 39 PKIKP PKPdf 12 33 31.2 -1.6
VOSK pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 146.47 55 *i* PKP2 PKPab 12 33 40.5 -2.0
KKAR pmax pmax
comp=Z,3.0nm,0.6s
NVS Novosibirsk 148.37 28↑ *i* PKIKP PKPdf 12 33 42.2 +1.5
NVS pmax pmax
comp=Z,22nm,1.0s
NVS pmax pmax
comp=E,2.0nm,0.6s
KURK Kurchatov 148.74 38 *e*PKPdf PKPdf 12 33 42.3 +0.8
KURK *e*PKPbc PKPbc 12 33 47.2 +5.8
KURK *e*PKPab PKPab 12 33 52.2 +0.9
EKS2 Erkin-Say 148.91 55 P PKPdf 12 33 49.0 +7.0
SNR=14
AML Almayashu 148.98 56 P PKPdf 12 33 46.4 +4.2
SNR=8.1
USP Ospenovka 149.26 53 P PKPdf 12 33 48.9 +6.3
SNR=15
AAK Ala-Archa 149.43 54 P PKPdf 12 33 50.5 +7.6
SNR=13
AAK Ala-Archa 149.43 54 *e*PKPbc PKPdf 12 33 49.4 +6.5
AAK *e*PKPab PKPab 12 33 54.3 -0.1
FRU Bishkek 149.46 54↑ *e*PKP2 PKPab 12 33 50.6 -3.9
FRU pmax pmax
comp=Z,50nm,1.7s
CHMS Chumysh 149.51 54 P PKPdf 12 33 50.2 +7.2
SNR=8.5
UCH Uchtor 149.55 55 P PKPdf 12 33 51.3 +8.2
SNR=18
ZAL Zalesovo 149.65 28 PKP PKPdf 12 33 44.7 +1.9
comp=Z,21nm,0.9s,baz=174,slow=3.2,SNR=66
ZAL PKPbc PKPdf 12 33 49.4 +6.6
comp=Z,21nm,0.9s,baz=169,slow=2.7,SNR=88
ZAL Zalesovo 149.65 28 PKP PKPdf 12 33 44.7 +1.9
ZAL PKPbc PKPdf 12 33 49.4 +6.6
KBK Karagaybulak 149.75 54 P PKPdf 12 33 51.5 +8.1
SNR=11
KZA Kyzart 150.12 55 P PKPdf 12 33 52.6 +8.6
SNR=5.6
TKM2 Tokmak 2 150.13 53 P PKPdf 12 33 51.7 +7.8
SNR=9.9
TKM2 Tokmak 2 150.13 53 PKIKP PKPdf 12 33 46.4 +2.4
TKM2 pmax pmax
comp=Z,11nm,0.8s
HYB Hyderabad 150.20 106 *e*PKIKP PKPdf 12 33 51.0 +6.2
ULHL Ulahol 150.78 54 P PKPdf 12 33 52.7 +7.8
SNR=6.1
BOD Bodaibo 150.93 354 *e*PKIKP PKPdf 12 33 45.0 +0.3
BOD pmax pmax
comp=Z,6.0nm,1.3s
KSM Kuching 152.58 184 *e*PKPbc PKPdf 12 33 56.4 +8.0
KSM *e*PKPab PKPab 12 34 07.4 -1.1
MKAR Makanchi Array 152.89 42 PKP PKPdf 12 33 49.6 +1.8
comp=Z,1.0nm,0.8s,baz=270,slow=1.2,SNR=9.0
MKAR PKPbc PKPdf 12 33 56.8 +8.9
comp=Z,7.7nm,0.7s,baz=328,slow=2.0,SNR=72
MKAR PKPab PKPab 12 34 09.0 +0.3
comp=Z,4.4nm,0.7s,baz=297,slow=2.7,SNR=10
MJAR Matsushiro Arr 154.02 295 PKPab PKPab 12 34 12.6 -1.3
comp=Z,1.3nm,1.0s,baz=105,slow=2.3,SNR=4.7
SONM Songino Array 161.11 4 PKP PKPdf 12 34 00.9 +2.8
comp=Z,1.1nm,0.8s,baz=312,slow=1.7,SNR=9.8
SONM PKPab PKPab 12 34 44.7 +0.9
comp=Z,1.5nm,1.0s,baz=327,slow=4.3,SNR=6.7
GTA Gaotai 167.35 33 *e*PKP PKPdf 12 34 06.8 +2.7
GTA APKP 12 34 15.8
GTA XPKP 12 34 19.8
SSE Sheshan 168.85 284 *e*PKP PKPdf 12 34 03.0 -2.2
SSE LR LR
comp=N,10.0nm,33.5s
SSE LR LR
comp=E,60nm,33.6s
NJ2 Nanjing 170.61 291 *e*PKP PKPdf 12 34 04.3 -2.0
NJ2 PKP2 PKPab 12 35 29.0 +3.1
NJ2 PP PP 12 39 22.0 +4.8
NJ2 PP PP
comp=Z,260nm,11.0s
NJ2 LR LR
comp=N,270nm,18.4s
NJ2 LR LR
comp=E,300nm,24.1s
NJ2 LR LR
comp=Z,270nm,26.0s

*CSEM **31** 12:14:03.6±0.3,45.47N×16.01E,h10km,ML2.6/1,Error ellipse: s-maj=6.2km s-min=4.4km az=167.0*
*VIE **31** 12:14:05.5±0.7,45.52N×15.88E,h8km,ML2.6/1,Error ellipse: s-maj=4.0km s-min=3.3km az=111.0*
LJU 31 12:14:04.5,45.49N×15.92E,2C-1D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCIS	**Gornji Cirnik**	**0.43**	**332**	*i* Pg	Pg	12 14 13.1	-0.1
GCIS				*i* Sg	Sg	12 14 19.2	+0.2
BOJS	**Bojanci**	**0.47**	**273**↑ *i* Pg		Pg	12 14 13.9	0.0
BOJS				*e*Sg	Sg	12 14 20.4	+0.2
CRES	**Cresnjev**	**0.47**	**316** *i* Pg		Pg	12 14 14.0	+0.1
OBKA	**Obir**	**1.40**	**317** ⇓ *i* Pg		Pg	12 14 31.8	-0.7
OBKA				⇑ *i* Sg	Sg	12 14 50.6	-0.6
	comp=E,50nm,0.6s						
VOY	**Vojsko**	**1.52**	**292** *e*Pn		Pn	12 14 33.8	+0.7
VOY				*e*Sn	Sn	12 14 54.3	+0.5
RHK1	**Bakonya**	**1.62**	**67** *e*S		Sb	12 14 52.2	-3.8

*GUC **31** 12:39:28.3±1.1,39.86S×71.76W,h145km±31km,ML5.6*
*IDC **31** 12:39:28.6±0.9,39.86S×71.33W,h147km±5km,mb4.1/10, mb1 4.2/12,mb1mx4.1/17,mbtmp4.6/12,Error ellipse: s-maj=26.1km s-min=11.1km az=85.0*
*NEIC **31** 12:39:28.3±0.8,39.87S×71.36W,h146km±6km,mb4.6/11, Error ellipse: s-maj=12.8km s-min=5.7km az=85.0*
ISC 31 12:39:26.9±0.4,39.83S±0.03×71.42W±0.08,h148km±4km, n48,σ1§10/56,mb4.3/17,2C-6D,Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**1.12**	**144**	P	**P**	**12 39 53.5**	**+0.7**
	85nm,0.3s,baz=313,slow=9.0,SNR=2336						
PLCA				S	**S**	**12 40 13.2**	**+0.5**
	30nm,0.3s,baz=66,slow=22,SNR=28						
VLCH	**Valdivia**	**1.41**	**270**⇓ *e*P		**P**	**12 39 53.9**	**-1.7**
VLCH				*i* S	**S**	**12 40 13.3**	**-4.5**
VLCH				AMP		12 40 15.4	
	comp=N,104μm,0.7s						
TMU	**Temuco**	**1.43**	**320**⇓ *i* P		**P**	**12 39 56.4**	**+0.6**
TMU				*i* S	**S**	**12 40 17.6**	**-0.6**
AGCH	**Angol**	**2.25**	**333** *i* P		**P**	**12 40 06.4**	**+1.1**
AGCH				*i* S	**S**	**12 40 34.5**	**-0.2**
AGCH				AMP		12 40 39.9	
	comp=N,30μm,0.4s						
CCHI	**Chillan**	**3.26**	**351**⇑ *i* P		**P**	**12 40 19.9**	**+1.6**
CCHI				*i* S	**S**	**12 40 57.9**	**+0.4**
CCHI				AMP		12 41 02.6	
	comp=N,9μm,0.5s						
COCH	**Cobquecura**	**3.84**	**343** *e*P		**P**	**12 40 26.5**	**+0.6**
COCH				*i* S	**S**	**12 41 09.2**	**-2.0**
LNCH	**Linares**	**3.98**	**358**⇓ *i* P		**P**	**12 40 29.2**	**+1.6**
LNCH				*i* S	**S**	**12 41 15.0**	**+0.7**
CNCO	**Chanco**	**4.18**	**347** *e*P		**P**	**12 40 31.1**	**+0.8**
CNCO				*i* S	**S**	**12 41 16.2**	**-2.9**
TALC	**Talca**	**4.42**	**358** *e*P		**P**	**12 40 33.9**	**+0.4**
TALC				*i* S	**S**	**12 41 24.5**	**-0.4**
NICH	**Los Niches**	**4.82**	**2**⇓ *i* P		**P**	**12 40 39.6**	**+0.9**
NICH				*i* S	**S**	**12 41 34.9**	**+0.7**
SFDO	**San Fernando**	**5.21**	**4**⇑ *i* P		**P**	**12 40 44.3**	**+0.3**
RCDM	**Rinconada Maip**	**6.34**	**5** *e*P		**P**	**12 40 58.3**	**-0.8**
CLCH	**Cerro Calan**	**6.46**	**7** *e*P		**P**	**12 40 59.6**	**-1.0**
FCH	**Farellones**	**6.55**	**8** *e*P		**P**	**12 41 01.1**	**-0.7**
PEL	**Peldehue**	**6.70**	**5** *e*P		**P**	**12 41 02.4**	**-1.5**
TRQA	**Tornquist**	**7.57**	**79** *e*Pn		**P**	**12 41 16.3**	**+0.8**
	comp=N,19nm,0.5s						
CFAA	**Coronel Fontan**	**8.60**	**18** P		**P**	**12 41 28.2**	**-1.1**
	comp=N,5.1nm,0.3s,baz=195,slow=12,SNR=302						
CFAA				S	**S**	**12 43 03.3**	**-1.6**
	comp=N,1.9nm,0.3s,baz=319,slow=18,SNR=10						
EFI	**East Falkland**	**15.05**	**146** *e*Pn		**P**	**12 42 53.2**	**+0.5**
	comp=N,42nm,0.6s						
USHA	**Ushuaia**	**15.15**	**173** P		**P**	**12 42 53.3**	**-0.6**
	comp=N,2.2nm,0.3s,baz=332,slow=11,SNR=12						
LVC	**Limon Verde**	**17.29**	**8** *e*Pn		**P**	**12 43 22.6**	**+2.0**
	comp=N,42nm,0.8s						
LVC				*e*S	**S**	**12 46 26.0**	**-0.3**
CPUP	**Villa Florida**	**17.87**	**45** *e*P		**P**	**12 43 24.9**	**-2.5**
	comp=N,72nm,0.3s						
ARE	**Arequipa**	**23.28**	**360** *e*P		**P**	**12 44 25.0**	**+2.9**
LPAZ	**La Paz**	**23.63**	**8** P		**P**	**12 44 28.1**	**+2.7**
	comp=N,16nm,0.7s,mb4.7,baz=182,slow=6.6,SNR=38						
SIV	**San Ignacio**	**25.41**	**24** P		**P**	**12 44 42.8**	**+0.5**
	comp=N,31nm,1.0s,mb4.8,baz=213,slow=8.7,SNR=92						
NNA	**Nana**	**28.14**	**349** *e*P		**P**	**12 45 06.5**	**-0.8**
	comp=N,5.5nm,0.8s,mb4.3						
BDFB	**Brasilia**	**31.59**	**47** P		**P**	**12 45 37.0**	**-0.8**
	comp=N,22nm,0.6s,mb5.1,baz=223,slow=6.0,SNR=30						
BAO	**Brasilia Array**	**31.61**	**47** P		**P**	**12 45 37.0**	**-0.9**
SAML	**Samuel**	**31.61**	**16** *e*P		**P**	**12 45 37.5**	**-0.5**
	comp=N,3.3nm,0.7s,mb4.2						
OTAV	**Otavalo**	**40.39**	**349** *e*P		**P**	**12 46 53.4**	**+1.5**
	comp=N,6.3nm,1.3s,mb4.1						
ROSC	**El Rosal**	**44.54**	**356** P		**P**	**12 47 27.4**	**+1.8**
	comp=N,2.8nm,0.3s,mb4.3,baz=98,slow=17,SNR=3.9						
SNAA	**Sanae**	**46.04**	**156** P		**P**	**12 47 35.9**	**-0.9**
	comp=N,2.5nm,0.7s,mb4.0,baz=279,slow=5.8,SNR=21						
SDV	**Santo Domingo**	**48.47**	**1** *e*P		**P**	**12 47 56.0**	**-0.4**
	comp=N,9.6nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**50.42**	**180** *e*P		**P**	**12 48 10.2**	**-0.2**
	comp=N,6.9nm,0.6s,mb4.5						
SYO	**Syowa Base**	**60.29**	**157** ⇓ P		**P**	**12 49 19.6**	**-1.9**
SYO	**Syowa Base**	**60.29**	**157** ⇓ *e*P		**P**	**12 49 19.6**	**-1.9**
MAW	**Mawson**	**67.47**	**163** P		**P**	**12 50 07.3**	**-0.9**
	comp=N,2.8nm,0.7s,mb4.2,baz=227,slow=14,SNR=3.1						
TXAR	**Lajitas Array**	**75.06**	**331** P		**P**	**12 50 54.4**	**+0.4**
	comp=N,0.5nm,0.6s,mb3.3,baz=154,slow=9.6,SNR=9.9						
TXAR				pP	pP	12 51 28.8	-1.8
	comp=N,0.7nm,1.0s,baz=153,slow=5.6,SNR=3.0						
TXAR	**Lajitas Array**	**75.06**	**331** P		**P**	**12 50 54.4**	**+0.4**
TXAR				pP	pP	12 51 28.8	-1.8
DBIC	**Dimbokro**	**76.66**	**69** P		**P**	**12 51 04.0**	**+0.7**
	comp=N,5.9nm,0.4s,mb4.5,baz=197,slow=5.9,SNR=25						
DBIC	**Dimbokro**	**76.66**	**69** P		**P**	**12 51 04.0**	**+0.7**
BOSA	**Boshof**	**76.98**	**116** P		**P**	**12 51 04.8**	**0.0**
	comp=N,9.4nm,0.7s,mb4.6,baz=237,slow=3.8,SNR=20						
TSUM	**Tsumeb**	**77.22**	**104** *e*P		**P**	**12 51 06.5**	**+0.3**
	comp=N,6.0nm,1.3s,mb4.1						
LBTB	**Lobatse**	**79.46**	**114** *e*P		**P**	**12 51 18.4**	**+0.1**
	comp=N,13nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**89.17**	**333** P		**P**	**12 52 07.1**	**+0.6**
	comp=N,0.6nm,0.8s,mb3.6,baz=135,slow=6.3,SNR=4.5						
AKTK	**Aktyubinsk**	**143.44**	**56** PKP		PKPdf	12 58 44.4	+1.4
AKTO	**Aktyubinsk**	**143.44**	**56** PKP		PKPdf	12 58 44.4	+1.4
	comp=N,0.5nm,0.4s,baz=315,slow=4.3,SNR=3.6						
BVAR	**Borovoye Array**	**150.93**	**50** PKPbc		PKPdf	12 59 03.5	+8.4
	comp=N,0.5nm,0.7s,baz=270,slow=3.0,SNR=4.1						
MKAR	**Makanchi Array**	**159.70**	**61** PKPab		PKPab	12 59 48.5	-0.3
	comp=N,1.3nm,1.0s,baz=280,slow=2.4,SNR=12						

*CSEM **31** 13:17:20.9±2.4,36.75N×6.99W,h17km±13km,mb3.5/4, Error ellipse: s-maj=25.8km s-min=7.0km az=27.0,After MDD*
MDD 31 13:17:20.9±2.4,36.75N×6.99W,h16km±13km,mbLg1.7/2, Error ellipse: s-maj=25.7km s-min=7.0km az=27.0, PRXIMO SIN SOLUCIN,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGRO	**El Granado**	**0.87**	**333**	P	Pb	13 17 36.6	-0.6
	2.6nm,0.8s,SNR=31						
EGRO				S	Sb	13 17 48.6	+0.2
	4.8nm,0.1s,SNR=9.0						
EGRO	**El Granado**	**0.87**	**333**	P	Pb	13 17 36.6	-0.6
	2.6nm,0.8s,SNR=31						
EGRO				S	Sb	13 17 48.6	+0.2
	3.1nm,0.1s,SNR=9.0						
ESPR	**Espera**	**0.92**	**82**	P	Pb	13 17 37.3	-0.7
	1.1nm,0.3s,SNR=6.2						
ESPR				S	Sb	13 17 49.9	+0.3
	8.9nm,0.3s,SNR=5.8						
ESPR	**Espera**	**0.92**	**82**	P	Pb	13 17 37.3	-0.6
	1.1nm,0.3s,SNR=6.2						
ESPR				S	Sb	13 17 49.9	+0.2
	4.2nm,0.2s,SNR=5.8						
EMIN	**Mina Concepcio**	**1.04**	**14**	P	Pb	13 17 40.0	-0.1
	1.0nm,0.6s,SNR=10						
EMIN				S	Sb	13 17 53.1	-0.2
	0.5nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**1.04**	**14**	P	Pb	13 17 40.0	-0.1
	1.0nm,0.6s,SNR=10						
EMIN				S	Sb	13 17 53.1	-0.2
	2.0nm,0.1s,SNR=11						
EBAD	**Badajoz**	**2.00**	**359**	P	Pn	13 17 52.5	-2.0
	5.2nm,1.1s,SNR=6.4						
EBAD				S	Sn	13 18 16.9	-2.4
	0.7nm,0.0s,SNR=5.7						
EBAD	**Badajoz**	**2.00**	**359**	P	Pn	13 17 52.5	-2.0
	5.2nm,1.1s,SNR=6.4						
EBAD				S	Sn	13 18 16.9	-2.4
	0.2nm,0.1s,SNR=5.7						

*NIED **31** 13:26:00,33.10N×131.40E,h125km,Mw4.7 Best double couple: Ms1.39×10^16 NP1:φs51°,δ53°,λ80°. NP2:φs248°, δ38°,λ103°.*
*BJI **31** 13:26:36.5,32.70N×131.87E,h125km,mB4.9,mb4.6*
*IDC **31** 13:26:42.2±0.3,33.10N×131.20E,h126km±2km,mb3.8/17, mb1 4.0/22,mb1mx4.0/27,mbtmp4.3/22,MS3.2/2, Ms1 3.2/2,ms1mx2.6/50,Error ellipse: s-maj=9.6km s-min=8.7km az=145.0*
*JMA **31** 13:26:42.9±0.1,33.13N×131.40E,h123km±1km,M4.5 Broadband fault plane solution: P waves. NP1:φs243°, δ35°,λ92°. NP2:φs61°,δ55°,λ89°. Principal axes: T Plg80°, Azm325°; N Plg1°, Azm62°; P Plg10°, Azm152°; JMA Felt II J1.*
*NEIC **31** 13:26:42.2±0.3,33.04N×131.31E,mb4.6/22, MW4.7(NIED) Error ellipse: s-maj=7.6km s-min=6.3km az=120.0*
NEIC Recorded [1 JMA] in Hiroshima, Okayama and Yamaguchi Prefectures, Honshu. Also Recorded [1 JMA] in Ehime and Kochi Prefectures, Shikoku.
*MOS **31** 13:26:42.0±1.2,33.11N×131.28E,h142km,mb4.5/17, Error ellipse: s-maj=9.3km s-min=6.1km az=94.6*
ISC 31 13:26:41.1±0.2,33.04N±0.03×131.35E±0.04,h126km, h126km±1.5km:pP-P,n131,σ1§36/145,mb4.5/45,10C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OIT2	**Oita 2**	**0.26**	**20**	P	**P**	**13 27 00.3**	**+1.7**
OIT2				S	**S**	**13 27 13.3**	**+1.2**
JUS	**Usuki**	**0.34**	**85** ⇑ P		**P**	**13 27 00.4**	**+1.4**
JUS				S	**S**	**13 27 13.3**	**+0.7**
JNU	**Nakatsue**	**0.40**	**282** P		**P**	**13 27 01.2**	**+1.9**
	2μm,0.3s,baz=68,slow=2.2,SNR=4527						
JNU				S	**S**	**13 27 14.6**	**+1.4**
	2μm,0.3s,baz=191,slow=34,SNR=63						
JIU2	**Izumi 2**	**0.67**	**223** ⇑ P		**P**	**13 27 03.2**	**+2.3**
JIU2				S	**S**	**13 27 18.3**	**+2.2**
JTZ	**Takazaki**	**1.16**	**191** ⇑ P		**P**	**13 27 07.8**	**+2.3**
JTZ				S	**S**	**13 27 26.3**	**+2.4**
JSJ	**Shimokoshiki**	**1.94**	**226** ⇑ P		**P**	**13 27 17.1**	**+2.6**
JSJ				S	**S**	**13 27 42.5**	**+2.7**
KS15	**Wonju Array Si**	**5.23**	**328**⇓ *i* Pn		**P**	**13 27 59.7**	**+1.4**
INCN	**Inchon**	**5.88**	**320**⇓ *i* Pn		**P**	**13 28 08.5**	**+1.5**
	353nm,0.8s						
MAJO	**Matsushiro**	**6.64**	**56** *e*P		**P**	**13 28 18.9**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,31nm,0.7s						
MAJO	**Matsushiro**	**6.64**	**56** *e*Pn		**P**	**13 28 18.9**	**+1.5**
	comp=Z,31nm,0.7s						
MAT	**Matsushiro**	**6.64**	**56** P		**P**	**13 28 18.9**	**+1.5**
MAT				S	**S**	**13 29 30.3**	**-1.8**
MAT	**Matsushiro**	**6.64**	**56** *e*P		**P**	**13 28 19.0**	**+1.6**
MAT				*e*S	**S**	**13 29 30.0**	**-2.1**
MAT				pmax	pmax		
	comp=Z,14nm,0.4s						
MAT	**Matsushiro**	**6.64**	**56** *e*P		**P**	**13 28 19.0**	**+1.6**
	comp=Z,14nm,0.4s						
MAT				*e*S	**S**	**13 29 30.0**	**-2.1**
MJAR	**Matsushiro Arr**	**6.64**	**56** P		**P**	**13 28 19.2**	**+1.8**
	comp=Z,5.7nm,0.3s,baz=242,slow=13,SNR=62						
MJAR				S	**S**	**13 29 32.1**	**0.0**
	comp=Z,1.8nm,0.3s,baz=223,slow=17,SNR=4.2						
MJAR				LR	LR	13 31 01.6	
	comp=Z,82nm,19.3s,baz=335,slow=39						
MJAR	**Matsushiro Arr**	**6.64**	**56** P		**P**	**13 28 19.2**	**+1.8**
MJAR				S	**S**	**13 29 32.1**	**0.0**
MJAR				LR	LR	13 31 01.6	
JOW	**Kunigami**	**6.74**	**204** P		**P**	**13 28 18.0**	**-0.7**
	comp=Z,3.4nm,0.3s,baz=80,slow=19,SNR=13						
JOW				S	**S**	**13 29 31.0**	**-3.4**
	comp=Z,16nm,0.3s,baz=76,slow=28,SNR=9.4						
JHJ	**Hachijo jima 2**	**7.08**	**87** P		**P**	**13 28 25.1**	**+1.6**
	comp=Z,76nm,0.3s,baz=66,slow=4.5,SNR=9.7						
VLA	**Vladivostok**	**10.07**	**2** *i* P		**P**	**13 29 03.8**	**+0.4**
VLA				pmax	pmax		
	comp=Z,139nm,2.1s						
SNY	**Shenyang**	**10.72**	**327** ⇓ P		**P**	**13 29 15.0**	**+2.9**
SNY				S	**S**	**13 31 19.0**	**+8.7**
SNY				AMB	AMB		
	comp=Z,60nm,1.3s						
SNY				AMB	AMB		
	comp=Z,180nm,7.5s						
SNY				LR	LR		
	comp=N,660nm,6.6s						
SNY				LR	LR		
	comp=Z,650nm,10.8s						
CBIJ	**Chichi jima**	**11.10**	**119** P		**P**	**13 29 20.0**	**+3.0**
	comp=Z,11nm,0.3s,baz=308,slow=20,SNR=5.5						
MDJ	**Mudanjiang**	**11.64**	**354** P		**P**	**13 29 26.5**	**+2.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,130nm,6.1s						
MDJ	**Mudanjiang**	**11.64**	**354**⇓ *e*Pn		**P**	**13 29 26.5**	**+2.3**
	comp=Z,43nm,1.3s						
CN2	**Changchun**	**11.70**	**338** *e*P		**P**	**13 29 27.3**	**+2.4**
CN2				*e*S	**S**	**13 31 35.5**	**+2.2**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,600nm,10.0s						
CN2				LR	LR		
	comp=E,400nm,10.0s						
CN2				LR	LR		
	comp=Z,400nm,11.0s						
YHNB	**Yeheng**	**12.07**	**229** *e*Pn		**P**	**13 29 32.2**	**+2.3**
YHNB				*e*Sn	**S**	**13 31 39.7**	**-2.6**
TIA	**Tai'an**	**12.14**	**289** *e*P		**P**	**13 29 33.5**	**+2.8**
TIA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
ASAJ	**Asahikawa**	**14.12**	**35** P		**P**	**13 29 56.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=224,slow=17,SNR=6.6						
ASAJ	**Asahikawa**	**14.12**	**35** P		**P**	**13 29 56.0**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WHN	**Wuhan**	**14.67**	**265** ⇓ P		**P**	**13 30 09.0**	**+5.6**
HABR	**Khabarovsk**	**15.67**	**9** *e*P		**P**	**13 30 15.6**	**-0.3**
HABR				*e*S	**S**	**13 33 08.5**	**+2.9**
HABR				pmax	pmax		
	comp=Z,61nm,1.8s						
KLR	**Kul'dur**	**16.18**	**1** *e*P		**P**	**13 30 20.7**	**-1.5**
KLR				*e*S	**S**	**13 33 22.8**	**+5.6**
KLR				pmax	pmax		
	comp=E,16nm,0.8s						
KLR				pmax	pmax		
	comp=Z,36nm,0.8s						
KLR				smax			
	comp=E,75nm,2.4s						
YSS	**Yuzh-Sakhalins**	**16.39**	**29** *e*P		**P**	**13 30 23.2**	**-1.7**
YSS				pmax	pmax		
	comp=Z,45nm,1.2s						
YSS	**Yuzh-Sakhalins**	**16.39**	**29** *e*Pn		**P**	**13 30 23.2**	**-1.7**
	comp=Z,45nm,1.2s						
HIA	**Hailar**	**18.38**	**335**⇑ *e*P		**P**	**13 30 48.7**	**+0.1**
HIA				pmax	pmax		
	comp=Z,49nm,1.3s						
HIA	**Hailar**	**18.38**	**335**⇑ *e*P		**P**	**13 30 48.7**	**+0.1**
	comp=Z,49nm,1.3s						
BTO	**Baotou**	**18.64**	**300** *e*P		**P**	**13 30

comp=Z,60nm,1.1s,mb4.8
CD2 AMB AMB
comp=Z,160nm,4.8s
CD2 LR LR
comp=E,140nm,4.5s
CD2 LR LR
comp=Z,180nm,9.0s
SONM Songino Array 23.93 316 P **P** **13 31 44.6 +0.4**
comp=Z,20nm,1.0s,mb4.4,baz=130,slow=8.9,SNR=66
SONM pP 13 32 10.4
comp=Z,3.1nm,0.8s,baz=126,slow=12,SNR=2.5
SONM sP 13 32 24.6
comp=Z,8.8nm,1.1s,baz=132,slow=8.8,SNR=3.3
SONM PcP PcP 13 35 23.6 -1.1
comp=Z,0.4nm,0.5s,baz=66,slow=2.1,SNR=4.2
GTA Gaotai 26.14 293 *e*P **P** **13 32 04.3 -0.8**
BOD Bodaibo 27.44 340 *e*P **P** **13 32 13.4 -3.5**
YAK Yakutsk 29.03 358 *e*P **P** **13 32 27.8 -3.2**
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
YAK Yakutsk 29.03 358 P **P** **13 32 27.6 -3.5**
comp=Z,16nm,0.8s,mb4.7
MA2 Magadan 29.51 20 *e*P **P** **13 32 34.5 -0.8**
MA2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
MA2 Magadan 29.51 20 *e*P **P** **13 32 34.5 -0.9**
comp=Z,5.8nm,0.8s,mb4.3
SEY Seymchan 32.74 18 *e*P **P** **13 33 02.4 -1.1**
LSA Lhasa 34.34 275 *e*P **P** **13 33 18.9 +1.3**
WMQ Urumqi 35.48 301 *e*P **P** **13 33 26.8 -0.3**
WMQ AMB AMB
comp=Z,20nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,150nm,5.0s
WMQ LR LR
comp=N,150nm,22.0s
WMQ LR LR
comp=E,80nm,22.0s
WMQ LR LR
comp=Z,100nm,24.0s
TIXI Tiksi 38.70 359 *e*P **P** **13 33 49.8 -4.0**
ZAL Zalesovo 38.82 317 P **P** **13 33 53.4 -1.6**
comp=Z,1.3nm,0.4s,mb4.1,baz=73,slow=2.8,SNR=7.6
ZAL PcP PcP 13 36 02.7 -1.5
comp=Z,1.1nm,0.4s,baz=12,slow=4.0,SNR=5.8
ZAL Zalesovo 38.82 317 P **P** **13 33 53.4 -1.6**
ZAL PcP PcP 13 36 02.7 -1.5
JIRN Jiri 39.11 274 *e*P **P** **13 33 58.6 +1.0**
GUN Gumba 39.29 275 *e*P **P** **13 33 59.5 +0.4**
comp=Z,61nm,0.8s,mb5.5
MK31 Makanchi Array 39.43 305 *i* P **P** **13 33 59.3 -0.7**
MK31 pmax pmax
comp=Z,15nm,1.0s,mb4.8
MKAR Makanchi Array 39.43 305 P **P** **13 33 59.1 -1.0**
comp=Z,7.8nm,0.9s,mb4.5,baz=92,slow=10,SNR=55
MKAR PcP PcP 13 36 04.4 -1.9
comp=Z,2.9nm,0.9s,baz=91,slow=3.7,SNR=6.7
MKAR pPcP 13 36 38.1
comp=Z,1.5nm,0.9s,baz=63,slow=5.4,SNR=4.0
MKAR ScP 13 39 41.2
comp=Z,1.1nm,1.1s,baz=135,slow=2.0,SNR=3.5
PKI Pulchoki 39.79 275 *e*P **P** **13 34 03.3 0.0**
KKN Kakani 39.83 275 *e*P **P** **13 34 02.9 -0.7**
comp=Z,86nm,1.6s,mb5.3
NVS Novosibirsk 39.91 318 *e*P **P** **13 34 01.0 -3.0**
NVS *e* 13 36 04.5
GKN Gorkha 40.30 276 *e*P **P** **13 34 07.0 -0.4**
BILL Bilibino 40.38 19 *i* P **P** **13 34 08.0 +0.4**
BILL *e**PP pP 13 34 35.9 -0.3
BILL pmax pmax
comp=Z,23nm,1.4s,mb4.8
BILL MLR MLR
comp=Z,100nm,20.0s
BILL Bilibino 40.38 19 *e*P **P** **13 34 07.5 -0.1**
comp=Z,5.2nm,0.4s,mb4.7
KOLN Koldanda 41.24 276 *e*P **P** **13 34 14.8 -0.4**
comp=Z,44nm,1.2s,mb5.2
KURK Kurchatov 42.08 311 *e*P **P** **13 34 20.6 -1.1**
KURK *e**PP pP 13 34 50.1 -0.3
KURK *e**SP sP 13 35 04.5 -0.7
KURK pmax pmax
comp=Z,12nm,1.3s,mb4.5
KURK Kurchatov 42.08 311 *e*P **P** **13 34 20.6 -1.1**
comp=Z,12nm,1.3s,mb4.5
KURK *e*pP pP 13 34 50.1 -0.3
KURK *e*sP sP 13 35 04.5 -0.7
PSI Prapat 42.73 232 P **P** **13 34 27.1 -0.5**
comp=Z,4.3nm,0.7s,mb4.3,baz=318,slow=4.5,SNR=4.0
TKM2 Tokmak 2 44.32 300 P **P** **13 34 40.5 +0.5**
TKM2 pmax pmax
comp=Z,23nm,1.0s,mb4.9
KBK Karagaybulak 44.83 299 P **P** **13 34 44.4 +0.4**
SNR=12
CHMS Chumysh 44.93 300 P **P** **13 34 44.6 -0.2**
SNR=7.7
FRU Bishkek 45.05 300 *e*P **P** **13 34 45.8 0.0**
FRU pmax pmax
comp=Z,34nm,1.4s,mb4.9
USP Ospenovka 45.08 300 P **P** **13 34 45.8 -0.2**
SNR=9.9
AAK Ala-Archa 45.16 299 *e*P **P** **13 34 45.5 -1.2**
AAK *e**PP pP 13 35 17.8 +2.2
AAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
AAK Ala-Archa 45.16 299 *e*P **P** **13 34 45.5 -1.2**
comp=Z,9.2nm,1.0s,mb4.5
AAK *e*pP pP 13 35 17.8 +2.2
UCH Uchtor 45.20 299 P **P** **13 34 48.1 +1.1**
SNR=17
AML Almayashu 45.82 299 P **P** **13 34 52.5 +0.7**
SNR=18
VOSK Vostochnaya 46.90 314 P **P** **13 34 57.8 -2.4**
VOSK pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
BVA0 Borovoye Array 47.26 314 *i* P **P** **13 35 01.9 -1.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
BRVK Borovoye 47.32 314⇑ *e*P **P** **13 35 02.1 -1.4**
BRVK *e* 13 36 31.5
BRVK pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
BRVK Borovoye 47.32 314⇑ *e*P **P** **13 35 02.1 -1.4**
comp=Z,2.4nm,0.4s,mb4.3
BRVK *e*PcP PcP 13 36 31.5 -1.4
KK31 Karatay Array 47.99 301 *i* P **P** **13 35 08.4 -0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
KKAR Karatay Array 47.99 301 *e*P **P** **13 35 08.4 -0.5**
KKAR pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
ZRNK Zerenda 48.09 314 *e*P **P** **13 35 08.3 -1.2**
ZRNK *e**PP pP 13 35 38.7 0.0
ZRNK *e* 13 36 33.9
ZRNK *e* 13 37 07.4
ZRNK pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
ZRNK Zerenda 48.09 314 *e*P **P** **13 35 08.3 -1.2**
comp=Z,10nm,0.9s,mb4.7
ZRNK *e*pP pP 13 35 38.7 -0.1
ZRNK *e*PcP PcP 13 36 33.9 -1.7
ZRNK *e*PP PP 13 37 07.4 +5.0
FITZ Fitzroy Crossi 51.14 187 *e*P **P** **13 35 33.0 -0.3**
comp=Z,14nm,2.0s,mb4.7
WRAB Tennant Creek 52.75 176 *e*P **P** **13 35 43.9 -1.4**
WRAB *e**PP pP 13 36 14.3 -0.7
WRA Warramunga Arr 52.76 176 P **P** **13 35 44.4 -1.0**
comp=Z,1.7nm,0.4s,mb4.5,baz=354,slow=7.9,SNR=30
WRA pP pP 13 36 13.5 -1.6
comp=Z,3.0nm,0.7s,baz=355,slow=8.1,SNR=6.4
WRA sP sP 13 36 30.0 +1.1
comp=Z,2.0nm,0.9s,baz=355,slow=8.0,SNR=2.8
WRA PcP PcP 13 36 53.4 +0.2
comp=Z,2.4nm,1.2s,baz=355,slow=3.9,SNR=5.6
WB2 Warramunga Arr 52.76 176 *e*P **P** **13 35 44.4 -1.0**
ARU Arti 53.89 319 *e*P **P** **13 35 51.1 -2.1**
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ARU Arti 53.89 319 *e*P **P** **13 35 51.1 -2.1**
comp=Z,4.8nm,1.0s,mb4.5
AB31 Akbulak array 54.17 310 P **P** **13 35 53.7 -1.6**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
CTAO Charters Tower 54.71 163 *e*P **P** **13 35 58.7 -1.0**
CTAO pmax pmax
comp=Z,17nm,1.4s,mb4.9
CTAO Charters Tower 54.71 163 *e*P **P** **13 35 58.7 -1.0**
comp=Z,17nm,1.4s,mb4.9
ASPA Alice Springs 56.44 177 *e*P **P** **13 36 11.2 -0.9**
COLA College 56.77 30 *e*P **P** **13 36 12.9 -0.9**
COLA pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
COLA College 56.77 30 *e*P **P** **13 36 12.9 -1.0**
comp=Z,4.6nm,1.0s,mb4.5
ILAR Eielson Array 57.19 30 P **P** **13 36 15.4 -1.4**
comp=Z,2.3nm,0.8s,mb4.3,baz=271,slow=5.8,SNR=20
ILAR pP pP 13 36 45.5 -1.4
comp=Z,1.9nm,0.7s,baz=279,slow=7.3,SNR=6.7
INK Inuvik 61.59 25 *e*P **P** **13 36 45.8 -1.2**
INK *e**PP pP 13 37 16.1 -1.4
INK pmax pmax
comp=Z,50nm,1.9s
INK Inuvik 61.59 25 *e*P **P** **13 36 45.8 -1.2**
comp=Z,50nm,1.9s,mb5.2
INK *e*pP pP 13 37 16.1 -1.4
ARCES ARCESS Array B 64.70 338 P **P** **13 37 05.3 -2.0**
comp=Z,7.7nm,1.1s,mb4.5,baz=62,slow=7.6,SNR=12
STKA Stephens Creek 65.29 170 P **P** **13 37 11.3 -0.4**
comp=Z,2.7nm,0.5s,mb4.3,baz=327,slow=7.1,SNR=4.5
STKA pP pP 13 37 42.2 -0.4
comp=Z,3.5nm,0.6s,baz=343,slow=8.4,SNR=3.8
STKA sP sP 13 37 57.0 +0.6
comp=Z,2.8nm,0.7s,baz=111,slow=1.4,SNR=2.3
KIV Kislovodsk 67.08 308 *e*P **P** **13 37 22.1 -0.8**
KIV pmax pmax
comp=Z,17nm,1.2s,mb4.8
KIV Kislovodsk 67.08 308 *e*P **P** **13 37 20.4 -2.5**
comp=Z,10nm,1.1s,mb4.6
GNI Garni 67.26 304 LR LR 14 08 12.9
comp=Z,40nm,18.6s,baz=140,slow=37
FINES FINESS Array B 68.31 330 P **P** **13 37 27.8 -2.4**
comp=Z,1.0nm,0.4s,mb4.0,baz=78,slow=5.7,SNR=19
FINES pP pP 13 37 59.4 -1.8
comp=Z,1.9nm,0.6s,baz=74,slow=6.2,SNR=3.1
FINES FINESS Array B 68.31 330 P **P** **13 37 27.8 -2.3**
FINES sP sP 13 37 59.4 -1.8
RES Resolute Bay 68.36 12 *e*P **P** **13 37 29.5 -0.8**
RES pmax pmax
comp=Z,14nm,1.1s,mb4.7
RES Resolute Bay 68.36 12 *e*P **P** **13 37 29.5 -0.8**
comp=Z,14nm,1.1s,mb4.7
YKA Yellowknife Ar 71.24 27 P **P** **13 37 47.4 -0.4**
comp=Z,1.3nm,0.9s,mb3.8,baz=296,slow=5.8,SNR=15
YKA pP pP 13 38 18.6 -0.6
comp=Z,0.9nm,0.7s,baz=301,slow=6.3,SNR=6.4
YKA sP sP 13 38 32.1 -0.8
comp=Z,1.2nm,0.8s,baz=300,slow=5.8,SNR=4.8
YKA Yellowknife Ar 71.24 27 P **P** **13 37 47.4 -0.5**
YKA pP pP 13 38 18.6 -0.7
YKA sP sP 13 38 32.1 -0.8
AKASG Malin Array Be 72.15 319 P **P** **13 37 51.4 -2.1**
comp=Z,0.6nm,0.4s,mb3.8,baz=45,slow=6.2,SNR=5.1
AKASG pP pP 13 38 23.6 -1.4
comp=Z,1.5nm,0.6s,baz=52,slow=6.8,SNR=3.4
AKASG sP sP 13 38 37.6 -1.0
comp=Z,0.4nm,0.5s,baz=50,slow=6.5,SNR=3.3
NB2 NORSAR Subarra 74.41 334 P **P** **13 38 04.0 -2.4**
comp=Z,1.2nm,0.6s,mb3.8,baz=47,slow=5.6
NB2 NORSAR Subarra 74.41 334 P **P** **13 38 04.0 -2.4**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
NOA NORSAR Array B 74.41 334 P **P** **13 38 04.5 -1.9**
comp=Z,1.7nm,0.8s,mb3.8,baz=47,slow=5.8,SNR=4.7
NOA pP pP 13 38 35.2 -2.9
comp=Z,1.7nm,0.7s,baz=48,slow=5.8,SNR=3.5
NOA NORSAR Array B 74.41 334 P **P** **13 38 04.5 -1.9**
NOA pP pP 13 38 35.2 -2.9
SUMG Summit 74.44 357 *e*P **P** **13 38 06.7 +0.3**
comp=Z,26nm,1.1s,mb4.9
SUMG *e*pP pP 13 38 37.5 -0.5
BRTR Keskin Array B 75.02 308 P **P** **13 38 09.5 -0.8**
comp=Z,2.3nm,0.9s,mb3.9,baz=104,slow=5.1,SNR=9.4
BRTR pP pP 13 38 41.2 -0.8
comp=Z,4.1nm,1.0s,baz=90,slow=4.9,SNR=6.2
OJC Ojcow 77.43 322 *e*P **P** **13 38 23.4 -0.2**
GERES GERESS Array B 81.38 324 P **P** **13 38 43.8 -1.1**
comp=Z,0.5nm,0.8s,baz=14,slow=4.0,SNR=3.3
NVAR Mina Array Bea 83.89 48 P **P** **13 38 59.0 +1.2**
comp=Z,1.0nm,0.6s,mb3.8,baz=268,slow=4.8,SNR=8.7
NVAR pP pP 13 39 31.2 +1.0
comp=Z,2.0nm,0.8s,baz=287,slow=6.1,SNR=6.1
DUG Dugway 86.08 44 *e*P **P** **13 39 09.8 +1.1**
DUG *e**PP pP 13 39 42.2 +1.0
PDAR Pinedale Array 86.20 40 P **P** **13 39 09.9 +0.8**
comp=Z,0.8nm,0.9s,mb3.7,baz=333,slow=3.3,SNR=5.8
PDAR pP pP 13 39 41.4 -0.3
comp=Z,2.6nm,1.1s,baz=333,slow=3.3,SNR=6.4
ULM Lac du Bonnet 87.15 28 P **P** **13 39 13.8 +0.2**
comp=Z,2.0nm,0.9s,mb4.1,baz=1.5,slow=7.6,SNR=4.2
ULM pP pP 13 39 45.1 -1.1
comp=Z,4.1nm,1.0s,baz=302,slow=4.9,SNR=4.0
ULM Lac du Bonnet 87.15 28 P **P** **13 39 13.8 +0.2**
ULM pP pP 13 39 45.1 -1.1
PV10 Paradox Valley 89.47 43 P **P** **13 39 23.4 -1.5**
PV01 Paradox Valley 89.91 43 *e*P **P** **13 39 27.2 +0.3**
SCHQ Schefferville 91.10 10 *e*P **P** **13 39 33.2 +1.1**
ANMO Albuquerque 93.33 44 *e*P **P** **13 39 44.7 +1.8**
DBIC Dimbokro 122.66 305 PKP PKPdf 13 45 22.6 +0.2
comp=Z,1.3nm,0.5s,baz=58,slow=4.2,SNR=6.7
DBIC Dimbokro 122.66 305 PKIKP PKPdf 13 45 22.6 +0.2
DBIC pmax pmax
comp=Z,1.0nm,0.5s
QSPA South Pole Qui 122.79 180 *e*PKPdf PKPdf 13 45 22.2 +1.0

*IDC **31** 13:58:49.1±2.9,28.75N×33.00E,mb3.7/10,mb1 3.8/12, mb1mx3.7/23,mbtmp3.6/12,ML3.1/2,Error ellipse: s-maj=58.7km s-min=25.6km az=16.0*
*CSEM **31** 13:58:51.6±0.1,28.69N×32.89E,h40km,Mw4.2,Error ellipse: s-maj=1.4km s-min=1.1km az=96.0*
*HLW **31** 13:58:52.5,28.73N×32.93E,h21km,Mb4.0*
*NEIC **31** 13:58:52.5,28.73N×32.93E,h21km,ML4.4(GII), ML4.0(HLW),After HLW.*
*GII **31** 13:58:54.1±0.5,28.93N×33.09E,h6km±29km,mb4.4/12, ML4.4/12,Mw4.2/3*

ISC 31 13:58:51.7±0.2,28.71N±0.02×32.92E±0.02,h33km±5km, n88,σ078/105,mb3.6/10,24C-16D,Egypt

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HRDS	**Abu Rudays**	**0.33**	**90**	⇑*i*P		**P**	**13 58 59.8**	**0.0**
HRDS				S		**S**	**13 59 04.5**	**-1.0**
GRB	**Gharib**	**0.46**	**195**	⇓P		**P**	**13 59 02.2**	**+0.6**
GRB				S		**S**	**13 59 09.3**	**+0.7**
ZAF		**0.66**	**330**	⇑*i*P		**P**	**13 59 04.8**	**+0.3**
ZNM		**0.66**	**356**	P		**P**	**13 59 05.0**	**+0.4**
ZNM				S		**S**	**13 59 14.6**	**+0.7**
TR2		**0.77**	**115**	⇓*e*P		**P**	**13 59 07.2**	**+1.0**
HKAT	**Jabal Katrina**	**0.96**	**101**	⇓*e*P		**P**	**13 59 09.4**	**+0.6**
HKAT				S		**S**	**13 59 21.5**	**+0.1**
SUZ		**1.13**	**356**	⇑P		**P**	**13 59 12.1**	**+0.9**
TR1		**1.15**	**128**	⇓*e*P		**P**	**13 59 12.0**	**+0.6**
SHRM		**1.34**	**127**	⇑*e*P		**P**	**13 59 14.8**	**+0.4**
SHRM				S		**S**	**13 59 31.1**	**0.0**
SHRM		**1.34**	**127**	P		**P**	**13 59 14.8**	**+0.5**
SHRM				S		**S**	**13 59 31.1**	**-0.1**
GLL	**Jalalah**	**1.37**	**309**	⇓*e*P		**P**	**13 59 15.5**	**+0.8**
HHAG	**Hagoal**	**1.43**	**330**	⇑P		**P**	**13 59 16.4**	**+0.8**
HHAG				S		**S**	**13 59 32.9**	**-0.5**
HDHB	**Dhahab**	**1.49**	**89**	⇑P		**P**	**13 59 16.8**	**+0.4**
HSAF	**As Saff**	**1.50**	**307**	⇑P		**P**	**13 59 17.7**	**+1.1**
HNKL	**Nakhl**	**1.52**	**37**	⇓*e*P		**P**	**13 59 17.5**	**+0.5**
HNKL				S		**S**	**13 59 34.9**	**-0.9**
KOT	**Kottamia**	**1.54**	**322**	⇓*e*P		**P**	**13 59 17.8**	**+0.6**
KOT				S		**S**	**13 59 35.8**	**-0.5**
NUB		**1.54**	**78**	P		**P**	**13 59 17.5**	**+0.3**
HHRG	**Al Ghardaqah**	**1.59**	**159**	⇑*e*P		**P**	**13 59 18.6**	**+0.7**
HHRG				S		**S**	**13 59 37.4**	**-0.1**
HHRG	**Al Ghardaqah**	**1.59**	**159**	P		**P**	**13 59 18.6**	**+0.7**
HHRG				S		**S**	**13 59 37.3**	**-0.2**
HBST	**Basata**	**1.66**	**72**	⇓P		**P**	**13 59 19.5**	**+0.6**
ASUT		**1.78**	**223**	⇓*e*P		**P**	**13 59 21.4**	**+0.9**
HLW	**Helwan**	**1.79**	**310**	P		**P**	**13 59 21.1**	**+0.3**
HLW				S		**S**	**13 59 41.6**	**-1.0**
AYT	**Al 'Ayyat**	**1.84**	**303**	⇑P		**P**	**13 59 22.7**	**+1.3**
SQR		**1.91**	**308**	⇓P		**P**	**13 59 22.8**	**+0.4**
FYM	**Al Fayyum**	**1.91**	**301**	⇑P		**P**	**13 59 23.8**	**+1.3**
FYM				S		**S**	**13 59 44.9**	**-0.7**
AMAG	**Maghara**	**1.94**	**7**	⇓*e*P		**P**	**13 59 22.7**	**-0.1**
EIL	**Elat**	**2.01**	**61**	Pn		**P**	**13 59 24.4**	**+0.5**
MBH	**Mount Berech**	**2.05**	**58**	Pn		**P**	**13 59 24.8**	**+0.4**
KMTI	**Karmit**	**2.10**	**48**	Pn		**P**	**13 59 25.2**	**+0.1**
AQBJ	**Aqaba**	**2.12**	**61**	Pn		**P**	**13 59 25.9**	**+0.5**
HMYD	**Mayadein**	**2.15**	**301**	⇓P		**P**	**13 59 26.0**	**+0.2**
HNAT	**Natroun**	**2.22**	**295**	⇑*e*P		**P**	**13 59 27.5**	**+0.6**
HSFG		**2.31**	**157**	⇓*e*P		**P**	**13 59 28.9**	**+0.7**
HSFG				S		**S**	**13 59 55.0**	**-0.8**
PRNI	**Paran**	**2.44**	**47**	Pn		**P**	**13 59 30.6**	**+0.6**
RMNI	**Mount Ramon**	**2.47**	**40**	Pn		**P**	**13 59 30.3**	**-0.1**
KZIT	**Kziot**	**2.54**	**30**	Pn		**P**	**13 59 31.3**	**-0.1**
KZIT				Sn		**S**	**14 00 01.0**	**-0.4**
SVTA	**Shivta**	**2.66**	**33**	Pn		**P**	**13 59 33.4**	**+0.2**
ZFRI	**Zfri**	**2.69**	**46**	Pn		**P**	**13 59 33.7**	**+0.1**
RTMM	**Retamin**	**2.79**	**33**	Pn		**P**	**13 59 35.1**	**+0.1**
MASH	**Mash'abbe Sade**	**2.79**	**35**	Pn		**P**	**13 59 35.3**	**+0.2**
HQSR		**3.22**	**156**	⇑P		**P**	**13 59 41.4**	**+0.3**
HBRG	**Burj al 'Arab**	**3.26**	**305**	⇑P		**P**	**13 59 42.1**	**+0.4**
MZDA	**Masada**	**3.34**	**39**	Pn		**P**	**13 59 42.3**	**-0.6**
MZDA				Sn		**S**	**14 00 19.2**	**-2.7**
DSI	**Dead Sea**	**3.56**	**36**	Pn		**P**	**13 59 45.8**	**-0.1**
AWBH		**3.56**	**265**	⇓P		**P**	**13 59 45.5**	**-0.4**
HEDF	**Idfu**	**3.61**	**176**	⇑P		**P**	**13 59 46.8**	**+0.1**
HADB		**3.67**	**155**	⇑P		**P**	**13 59 47.5**	**-0.1**
MKRJ	**Makawir**	**3.68**	**39**	Pn		**P**	**13 59 47.2**	**-0.5**
GTR	**Jabal at Tayr**	**3.82**	**214**	⇑P		**P**	**13 59 49.4**	**-0.3**
AKRG	**Al Kharijah**	**3.86**	**215**	⇑P		**P**	**13 59 49.5**	**-0.7**
SLTI	**Sal'it**	**3.96**	**27**	Pn		**P**	**13 59 52.4**	**+0.7**
EMRS	**Mersa Alam**	**4.06**	**155**	⇑P		**P**	**13 59 53.0**	**-0.1**
OFRI	**'Ofer**	**4.28**	**24**	Pn		**P**	**13 59 55.5**	**-0.8**
MMLI	**Mount Malkishu**	**4.29**	**29**	Pn		**P**	**13 59 56.1**	**-0.3**
HFRF	**Wahat Farafira**	**4.37**	**250**	⇑P		**P**	**13 59 56.3**	**-1.1**
HDK1	**Dakhla**	**4.45**	**226**	⇓P		**P**	**13 59 57.7**	**-0.9**
HAGS	**Hagol**	**4.69**	**156**	⇑P		**P**	**14 00 02.4**	**+0.3**
HAGS	**Hagol**	**4.69**	**156**	P		**P**	**14 00 02.3**	**+0.2**
APRS		**4.75**	**205**	⇑P		**P**	**14 00 02.5**	**-0.4**
HNTI	**Hanita**	**4.77**	**23**	Pn		**P**	**14 00 02.4**	**-0.8**
KSHT	**Keshet**	**4.93**	**30**	Pn		**P**	**14 00 05.5**	**+0.1**
HRI	**Mount Hermon**	**5.14**	**27**	Pn		**P**	**14 00 07.8**	**-0.6**
ASHG	**Umm Shaghir**	**5.54**	**192**	P		**P**	**14 00 13.6**	**-0.4**
HMAT	**Matruh**	**5.59**	**297**	⇑P		**P**	**14 00 14.0**	**-0.6**
BHL	**Bhannes**	**5.68**	**24**	*e*Pn		**P**	**14 00 15.2**	**-0.7**
HMSM	**Jabal Masmas**	**5.88**	**189**	⇑P		**P**	**14 00 18.0**	**-0.7**
HSHL	**Bi'r Shalatayn**	**6.01**	**158**	P		**P**	**14 00 19.9**	**-0.7**
HWQ	**Hawqa**	**6.12**	**24**	*e*Pn		**P**	**14 00 21.4**	**-0.8**
HKFR	**Khafra**	**6.27**	**194**	⇓P		**P**	**14 00 23.4**	**-0.8**
SWA1		**6.34**	**277**	P		**P**	**14 00 24.0**	**-1.3**
SWA2		**6.56**	**276**	P		**P**	**14 00 26.7**	**-1.7**
AADN	**Adndan**	**6.68**	**191**	⇑P		**P**	**14 00 29.4**	**-0.6**
SLUM		**7.23**	**294**	P		**P**	**14 00 36.8**	**-1.0**
IDI	**Anoyia**	**9.46**	**316**	Pn		**P**	**14 01 05.5**	**-3.2**
IDI	0.5nm,0.3s,baz=71,slow=9.8,SNR=3.5			Sn		**S**	**14 02 57.0**	**+2.0**
	2.1nm,0.3s,baz=9.2,slow=22,SNR=4.5							
MALT	**Malatya**	**10.62**	**24**	*e*Pn		**P**	**14 01 23.5**	**-1.1**
	4.7nm,0.8s							
BRTR	**Keskin Array B**	**11.00**	**3**	Pn		**P**	**14 01 28.4**	**-1.4**
	0.1nm,0.3s,baz=302,slow=12,SNR=3.5							
AKASG	**Malin Array Be**	**22.14**	**354**	P		**P**	**14 03 45.4**	**-0.6**
	2.7nm,0.7s,mb3.6,baz=171,slow=10,SNR=10							
GERES	**GERESS Array B**	**24.95**	**329**	P		**P**	**14 04 15.6**	**+2.3**
	1.2nm,0.6s,mb3.6,baz=144,slow=9.4,SNR=9.4							
DAVOX	**Davos**	**25.49**	**321**	P		**P**	**14 04 19.6**	**+1.1**
	1.0nm,0.5s,mb3.6,baz=148,slow=19,SNR=2.6							
FINES	**FINESS Array B**	**33.05**	**354**	P		**P**	**14 05 25.3**	**-0.7**
	1.3nm,0.5s,mb4.1,baz=157,slow=9.6,SNR=12							
BVAR	**Borovoye Array**	**36.68**	**38**	P		**P**	**14 05 56.8**	**-0.2**
	0.5nm,0.5s,mb3.6,baz=214,slow=5.3,SNR=4.9							
ARCES	**ARCESS Array B**	**41.09**	**356**	P		**P**	**14 06 33.1**	**-0.5**
	1.0nm,0.6s,mb3.7,baz=180,slow=7.3,SNR=7.3							
MKAR	**Makanchi Array**	**42.25**	**51**	P		**P**	**14 06 43.9**	**+0.6**
	0.1nm,0.4s,mb2.8,baz=245,slow=7.7,SNR=4.7							
MKAR	**Makanchi Array**	**42.25**	**51**	P		**P**	**14 06 43.9**	**+0.6**
ZAL	**Zalesovo**	**45.08**	**41**	P		**P**	**14 07 06.2**	**0.0**
	0.6nm,0.6s,mb3.6,baz=181,slow=11,SNR=3.6							
ZAL	**Zalesovo**	**45.08**	**41**	P		**P**	**14 07 06.2**	**0.0**
YKA	**Yellowknife Ar**	**85.46**	**346**	P		**P**	**14 11 28.0**	**+1.2**
	0.2nm,0.6s,mb3.4,baz=28,slow=5.5,SNR=6.1							
ILAR	**Eielson Array**	**86.83**	**360**	P		**P**	**14 11 34.6**	**+1.2**
	0.2nm,0.5s,mb3.6,baz=303,slow=3.8,SNR=4.5							

*NEIC **31** 14:02:38.9,38.51N×39.27E,h5km,MD3.5(ISK),After ISK,*
*CSEM **31** 14:02:38.9,38.51N×39.27E,h5km,MD3.5,After ISK*

ISK 31 14:02:38.9,38.51N×39.27E,h5km,MD3.5,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.23**	**267**	*i* P		Pg	14 02 44.7	+1.2
ELZG				*i* S		Sg	14 02 51.6	+5.0
PTK	**Pertek**	**0.39**	**14**	*i* PG		Pg	14 02 47.5	+0.7
MYA	**Malataya**	**0.69**	**255**	PG		Pg	14 02 53.6	+0.9
MALT	**Malatya**	**0.69**	**254**	PG		Pg	14 02 52.9	+0.1
MALT				SG		Sg	14 03 04.4	+2.4
DIY	**Diyarbakir**	**0.97**	**129**	PG		Pg	14 02 58.5	+0.2
URFA	**Urfa**	**1.12**	**199**	PN		Pn	14 03 01.2	0.0
ATAB	**Bozova**	**1.29**	**217**	*i* P		Pb	14 03 04.6	+1.2
ATAB				*i* S		Sb	14 03 23.4	+3.2
BNGL	**BINGOL**	**1.53**	**73**	*i* P		Pn	14 03 09.4	+2.4
BNGL				*i* S		Sb	14 03 33.4	+6.3
KELT	**Kelkit**	**1.64**	**360**	*i* P		Pn	14 03 10.9	+2.4
KELT				*i* S		Sb	14 03 34.3	+4.2
MARD	**Mardin**	**1.69**	**135**	*i* P		Pn	14 03 09.2	0.0
MARD				*i* S		Sn	14 03 27.8	-3.6
BEST	**Besiri**	**1.69**	**111**	*i* P		Pn	14 03 10.8	+1.5
BEST				*i* S		Sn	14 03 33.2	+1.6
BTMT	**Batman**	**1.77**	**100**	PN		Pn	14 03 10.3	+0.2
GZT	**Gaziantep**	**1.78**	**230**	*i* P		Pn	14 03 11.2	+0.7
GZT				*i* S		Sn	14 03 34.0	+0.2
GAZ	**Gaziantep**	**2.11**	**231**	PN		Pn	14 03 16.9	+1.6
EZM	**Erzurum**	**2.14**	**49**	*e*PN		Pn	14 03 18.0	+2.3
ERZM	**Erzurum**	**2.14**	**49**	*i* P		Pn	14 03 18.3	+2.5
ERZM				*i* S		Sn	14 03 49.6	+6.5
SVST	**Sivas**	**2.20**	**306**	*i* P		Pn	14 03 22.0	+5.4
SVST				*i* S		Sn	14 03 52.7	+8.1
SVSK	**Karacayir**	**2.26**	**309**	*e*PN		Pn	14 03 19.6	+2.2
COBT	**Iskenderun**	**3.12**	**231**	*i* P		Pn	14 03 29.3	-0.4
COBT				*i* S		Sn	14 04 13.2	+5.5
HAKT	**HAKKARI**	**3.63**	**104**	*i* P		Pn	14 03 37.6	+0.7
HAKT				*i* S		Sn	14 04 36.6	+16
MSL	**Mosul**	**3.76**	**125**	*ex*		x	14 04 42.0	

IDC 31 14:13:57.1±2.3,0.08S×97.77E,mb3.8/4,mb1 3.8/5, mb1mx3.6/18,mbtmp3.7/5,ML2.8/1,Error ellipse: s-maj=71.4km s-min=26.4km az=60.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PSI	**Prapat**	**3.08**	**22**	Pn		Pn	14 14 46.3	-1

Broadband fault plane solution: P waves. NP1:ϕs189°, δ18°,λ93°. NP2:ϕs6°, δ72°,λ89°. Principal axes: T Plg63°, Azm275°; N Plg1°, Azm7°; P Plg27°, Azm97°;
JMA Felt II J1.
*MOS **31** 14:32:28.3±0.7,35.79N×139.97E,h88km,mb4.3/5 Error ellipse: s-maj=25.5km s-min=11.2km az=130.3*
*NEIC **31** 14:32:28.7,35.93N×140.14E,h61km,mb4.4/5,After JMA.*
*IDC **31** 14:32:29.7±1.6,35.78N×139.99E,h83km±14km,mb3.6/10, mb1 3.8/11,mb1mx3.6/22,mbtmp3.9/11,MS3.1/2, Ms1 3.1/2,ms1mx2.5/32,Error ellipse: s-maj=23.9km s-min=7.6km az=64.0*

ISC 31 14:32:26.8±0.5,35.88N±0.04×140.18E±0.06,h74km±3km, n43,σ0s84/56,mb4.0/14,2C-7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.34**	**1**	⇑P		**P**		**14 32 39.0**	**+0.2**
JYT				S		**S**		**14 32 46.7**	**-1.0**
TOK	**Tokyo**	**0.40**	**241**	⇓P		**P**		**14 32 40.5**	**+1.3**
JAG	**Ashikaga**	**0.80**	**313**	⇓P		**P**		**14 32 43.7**	**+0.4**
JAG				S		**S**		**14 32 54.7**	**-0.9**
JRY	**Ryogami san**	**1.05**	**278**	⇓P		**P**		**14 32 47.1**	**+0.8**
JRY				S		**S**		**14 33 00.6**	**-0.3**
JOD2	**Odawara 2**	**1.09**	**236**	⇓P		**P**		**14 32 47.2**	**+0.4**
JOD2				S		**S**		**14 33 00.6**	**-1.2**
BSO3	**Boso 3**	**1.11**	**166**	⇑P		**P**		**14 32 47.8**	**+0.7**
JKT	**Katashina**	**1.16**	**320**	⇓P		**P**		**14 32 48.1**	**+0.3**
JKT				eS		**S**		**14 33 02.6**	**-0.9**
JIM2	**Oshima 3**	**1.32**	**208**	P		**P**		**14 32 49.6**	**-0.4**
JYN	**Shimob**	**1.39**	**254**	⇓P		**P**		**14 32 51.6**	**+0.7**
JYN				S		**S**		**14 33 08.4**	**-0.4**
MJAR	**Matsushiro Arr** 39nm,0.3s,baz=97,slow=14,SNR=1119	**1.73**	**293**	P		**P**		**14 32 55.9**	**+0.5**
MJAR				S		**S**		**14 33 16.7**	**+0.2**
	24nm,0.3s,baz=140,slow=13,SNR=7.4								
MAJO	**Matsushiro**	**1.73**	**293**	⇓iPn		**P**		**14 32 56.5**	**+1.1**
MAJO				eSn		**S**		**14 33 16.1**	**-0.5**
MAT	**Matsushiro**	**1.73**	**293**	P		**P**		**14 32 55.9**	**+0.5**
MAT				S		**S**		**14 33 18.3**	**+1.7**
MAT	**Matsushiro**	**1.73**	**293**	eP		**P**		**14 32 56.0**	**+0.6**
MAT				eS		**S**		**14 33 18.0**	**+1.4**
JHJ	**Hachijo jima 2** 55nm,0.3s,baz=296,slow=2.8,SNR=10	**2.78**	**187**	P		**P**		**14 33 10.9**	**+0.9**
JHJ				S		**S**		**14 33 42.1**	**-0.4**
	85nm,0.3s,baz=134,slow=20,SNR=6.9								
ASAJ	**Asahikawa** 0.9nm,0.3s,baz=227,slow=30,SNR=12	**8.43**	**12**	P		**P**		**14 34 25.6**	**-2.6**
ASAJ				S		**S**		**14 35 57.2**	**-5.5**
	0.8nm,0.3s,baz=129,slow=33,SNR=3.4								
ASAJ	**Asahikawa**	**8.43**	**12**	P		**P**		**14 34 25.7**	**-2.6**
ASAJ				S		**S**		**14 35 57.2**	**-5.5**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ASAJ				smax					
	comp=N,1.0nm,0.3s								
CBIJ	**Chichi jima** comp=N,7.9nm,0.3s,baz=304,slow=15,SNR=5.1	**8.93**	**168**	P		**P**		**14 34 31.3**	**-3.7**
CBIJ				S		**S**		**14 36 03.6**	**-11**
	comp=N,9.4nm,0.3s,baz=271,slow=19,SNR=3.3								
JOW	**Kunigami** comp=N,64nm,20.4s,baz=150,slow=35	**13.59**	**232**	LR		LR		14 40 17.4	
HHC	**Hu-ho-hao-te**	**22.93**	**291**	eP		**P**		**14 37 25.5**	**+0.6**
HHC				AP				14 37 35.0	
HHC				XP				14 37 38.0	
HHC				XS				14 41 42.0	
HHC				AMB	AMB				
	comp=Z,50nm,4.5s								
HHC				LR	LR				
	comp=N,140nm,10.9s								
HHC				LR	LR				
	comp=E,110nm,8.7s								
HHC				LR	LR				
	comp=Z,140nm,14.2s								
ENH	**Enshi** comp=Z,10nm,0.8s,mb4.3	**26.26**	**267**	eP		**P**		**14 37 55.4**	**-1.4**
SONM	**Songino Array** comp=Z,0.8nm,0.8s,mb3.3,baz=96,slow=8.5,SNR=4.3	**27.63**	**306**	P		**P**		**14 38 08.3**	**-0.9**
SONM				LR	LR			14 48 16.5	
	comp=Z,42nm,18.2s,baz=356,slow=34								
GTA	**Gaotai**	**31.97**	**289**	eP		**P**		**14 38 47.5**	**-0.2**
GTA				AP		pP		14 38 56.8	-8.7
GTA				XP		sP		14 39 01.0	-13
ZAL	**Zalesovo** comp=Z,0.9nm,0.5s,mb3.7,baz=18,slow=9.8,SNR=7.6	**41.98**	**313**	P		**P**		**14 40 12.4**	**+0.8**
NVS	**Novosibirsk**	**42.93**	**315**	eP		**P**		**14 40 18.5**	**-1.0**
MKAR	**Makanchi Array** comp=Z,1.8nm,0.8s,mb3.9,baz=91,slow=9.9,SNR=21	**43.90**	**303**	P		**P**		**14 40 27.2**	**-0.2**
KURK	**Kurchatov**	**45.87**	**309**	eP		**P**		**14 40 42.9**	**-0.2**
KURK				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.1								
KURK	**Kurchatov** comp=Z,3.4nm,0.7s,mb4.2	**45.87**	**309**	eP		**P**		**14 40 42.9**	**-0.2**
ILAR	**Eielson Array** comp=Z,1.4nm,0.9s,mb4.0,baz=273,slow=6.5,SNR=16	**50.99**	**32**	P		**P**		**14 41 24.0**	**+1.4**
ZRNK	**Zerenda**	**51.46**	**313**	P		**P**		**14 41 27.4**	**+1.1**
ZRNK				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.5								
ZRNK	**Zerenda** comp=Z,3.9nm,0.9s,mb4.4	**51.46**	**313**	P		**P**		**14 41 27.4**	**+1.1**
WRAB	**Tennant Creek**	**55.78**	**187**	eP		**P**		**14 41 58.2**	**-0.4**
WRAB				pmax	pmax				
	comp=Z,9.0nm,1.2s,mb4.7								
WRAB	**Tennant Creek** comp=Z,9.2nm,1.2s,mb4.7	**55.78**	**187**	eP		**P**		**14 41 58.2**	**-0.3**
WB2	**Warramunga Arr**	**55.79**	**187**	eP		**P**		**14 41 57.9**	**-0.7**
WRA	**Warramunga Arr** comp=Z,2.5nm,0.9s,mb4.2,baz=0.9,slow=7.8,SNR=29	**55.79**	**187**	P		**P**		**14 41 57.6**	**-1.1**
AKTK	**Aktyubinsk**	**58.71**	**312**	P		**P**		**14 42 18.5**	**-0.2**
AKTO	**Aktyubinsk** comp=Z,0.9nm,0.6s,mb4.0,baz=71,slow=14,SNR=4.0	**58.71**	**312**	P		**P**		**14 42 18.5**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.8s,mb3.3,baz=301,slow=6.5,SNR=7.0	**65.30**	**30**	P		**P**		**14 43 03.5**	**+1.0**
FINES	**FINESS Array B** comp=Z,1.8nm,0.8s,mb4.0,baz=45,slow=3.9,SNR=4.3	**69.37**	**332**	P		**P**		**14 43 28.0**	**0.0**
AKASG	**Malin Array Be** comp=Z,1.2nm,0.5s,mb3.9,baz=48,slow=6.0,SNR=8.9	**74.60**	**322**	P		**P**		**14 43 59.1**	**-0.1**
NB2	**NORSAR Subarra** comp=Z,2.1nm,0.8s,mb3.9,baz=42,slow=5.8	**74.86**	**337**	P		**P**		**14 44 00.9**	**+0.5**
NB2	**NORSAR Subarra**	**74.86**	**337**	P		**P**		**14 44 00.9**	**+0.5**
NB2				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb3.9								
NOA	**NORSAR Array B** comp=Z,1.8nm,0.8s,mb3.9,baz=40,slow=5.7,SNR=4.3	**74.86**	**337**	P		**P**		**14 44 01.2**	**+0.7**
NOA	**NORSAR Array B**	**74.86**	**337**	P		**P**		**14 44 01.2**	**+0.8**
NOA				pmax	pmax				
	comp=Z,2.0nm,0.8s								

MDD 31 15:05:14.0±3.8,32.37N×7.79W,mb4.1/3,Error ellipse: s-maj=45.5km s-min=32.8km az=96.0,PRXIMO SOLUCIN POBRE,Morocco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESPR	**Espera** SNR=7.9	**4.76**	**19**	Pn		Pn		15 06 25.9	-2.8
ESPR				Sn		Sn		15 07 19.1	-6.4
	3.8nm,0.3s,SNR=7.9								
ESPR	**Espera** 2.0nm,0.2s,SNR=7.9	**4.76**	**19**	P		Pn		15 06 25.9	-2.8
ESPR				S		Sn		15 07 19.1	-6.4
	3.8nm,0.3s,SNR=7.9								
EMIJ	**Mijas** 0.2nm,0.1s,SNR=7.9	**4.87**	**30**	Pn		Pn		15 06 28.0	-2.2
EMIJ				Sn		Sn		15 07 21.4	-6.8
	6.7nm,0.5s,SNR=7.9								
EGRO	**El Granado** 1.9nm,0.2s,SNR=9.0	**5.16**	**3**	Pn		Pn		15 06 31.6	-2.8
EGRO				Sn		Sn		15 07 28.4	-7.1
	1.4nm,0.1s								
EGRO	**El Granado** 1.9nm,0.2s,SNR=9.0	**5.16**	**3**	P		Pn		15 06 31.6	-2.7
EGRO				S		Sn		15 07 28.4	-7.1
	1.4nm,0.1s								
EMIN	**Mina Concepcio** 0.4nm,0.1s,SNR=8.6	**5.46**	**9**	Pn		Pn		15 06 35.1	-3.5
EMIN				Sn		Sn		15 07 35.1	-8.0
	1.9nm,0.3s,SNR=9.4								
EMIN	**Mina Concepcio** 0.4nm,0.1s,SNR=8.6	**5.46**	**9**	P		Pn		15 06 35.1	-3.5
EMIN				S		Sn		15 07 35.1	-8.0
	1.9nm,0.3s,SNR=9.4								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBEJ	**Beja**	**5.64**	**359**	eSn		Sn		15 07 39.3	-8.4
EADA	**Adamuz** 0.3nm,0.1s,SNR=11	**6.35**	**24**	Pn		Pn		15 06 47.4	-3.8
EADA				Sn		Sn		15 07 55.8	-10
	0.9nm,0.2s,SNR=7.9								
EADA	**Adamuz** 0.3nm,0.1s,SNR=11	**6.35**	**24**	P		Pn		15 06 47.4	-3.8
EADA				S		Sn		15 07 55.8	-10
	0.9nm,0.2s,SNR=7.9								
EBAD	**Badajoz** 1.1nm,0.2s,SNR=7.9	**6.40**	**5**	Pn		Pn		15 06 48.4	-3.5
EBAD				Sn		Sn		15 07 50.2	-16
	2.0nm,0.2s,SNR=4.0								
EBAD	**Badajoz** 1.1nm,0.2s,SNR=7.9	**6.40**	**5**	P		Pn		15 06 48.4	-3.5
EBAD				S		Sn		15 07 50.2	-16
	2.0nm,0.2s,SNR=4.0								
EBAN	**Banos Encina** 1.1nm,0.1s,SNR=4.0	**6.64**	**28**	Pn		Pn		15 06 50.9	-4.3

*IDC **31** 15:05:51.9±2.7,2.73N×96.01E,mb3.8/5,mb1 4.0/5, mb1mx3.7/19,mbtmp3.8/5,Error ellipse: s-maj=111.5km s-min=26.1km az=56.0*
*NEIC **31** 15:05:54.9±1.0,2.51N×95.83E,h30km,mb4.2/2,Error ellipse: s-maj=23.9km s-min=13.1km az=47.0*

ISC 31 15:05:53.3±1.1,2.5N±0.2×95.9E±0.1,h30km,n13, σ0s57/13,mb4.2/12,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.50**	**60**	ePn		**Pn**		**15 07 15.5**	**+0.1**
JIRN	**Jiri** 19nm,0.8s,mb4.7	**26.66**	**341**	eP		**P**		**15 11 32.4**	**+0.7**
GUN	**Gumba** 14nm,0.7s,mb4.6	**26.99**	**340**	eP		**P**		**15 11 35.2**	**+0.5**
KKN	**Kakani** 18nm,0.9s,mb4.6	**27.09**	**339**	eP		**P**		**15 11 35.7**	**+0.1**
LSA	**Lhasa** 4.3nm,0.8s,mb4.0	**27.40**	**351**	eP		**P**		**15 11 38.5**	**+0.1**
GKN	**Gorkha** 17nm,0.9s,mb4.7	**27.52**	**338**	eP		**P**		**15 11 39.6**	**+0.1**
KOLN	**Koldanda** 5.1nm,0.6s,mb4.3	**27.71**	**336**	eP		**P**		**15 11 41.5**	**+0.2**
WRA	**Warramunga Arr** 0.3nm,0.4s,mb3.3,baz=301,slow=9.2,SNR=7.8	**43.85**	**122**	P		**P**		**15 14 00.2**	**+1.1**
WRAB	**Tennant Creek** 5.8nm,1.2s,mb4.2	**43.86**	**122**	eP		**P**		**15 13 58.1**	**-0.9**
MKAR	**Makanchi Array** 1.4nm,0.6s,mb4.1,baz=158,slow=8.8,SNR=25	**45.66**	**347**	P		**P**		**15 14 12.9**	**-0.2**
SONM	**Songino Array** 1.8nm,0.7s,mb4.1,baz=190,slow=9.0,SNR=18	**46.04**	**10**	P		**P**		**15 14 15.7**	**-0.4**
SONM				PcP		PcP		15 15 53.2	+0.5
	0.4nm,0.6s,baz=221,slow=2.2,SNR=3.3								
ZAL	**Zalesovo** 1.2nm,0.8s,mb3.9,baz=283,slow=5.9,SNR=12	**52.05**	**352**	P		**P**		**15 15 02.0**	**-0.5**
BVAR	**Borovoye Array** 0.7nm,0.6s,mb3.9,baz=143,slow=9.0,SNR=6.3	**54.58**	**341**	P		**P**		**15 15 20.3**	**-0.9**

*IDC **31** 15:07:26.9±2.0,14.78S×175.96W,h303km±28km,mb3.3/5, mb1 3.7/6,mb1mx3.4/15,mbtmp4.0/6,Error ellipse: s-maj=74.7km s-min=15.5km az=147.0*

ISC 31 15:07:26.5±1.6,14.8S±0.6×176.0W±0.3,h311km±26km, n10,σ0s47/10,mb3.6/6,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 37nm,0.3s,baz=37,slow=1.8,SNR=83	**4.16**	**78**	P		**P**		**15 08 34.7**	**-0.8**
AFI				S		**S**		**15 09 30.2**	**+0.6**
	6.7nm,0.3s,baz=53,slow=21,SNR=1.6								
CTA	**Charters Tower** 4.0nm,0.5s,mb4.2	**36.36**	**256**	eP		**P**		**15 14 04.0**	**+0.7**
STKA	**Stephens Creek** 3.6nm,0.4s,mb4.0,baz=83,slow=9.6,SNR=36	**42.20**	**239**	P		**P**		**15 14 50.7**	**-0.4**
WB2	**Warramunga Arr**	**47.55**	**256**	eP		**P**		**15 15 33.9**	**+0.5**
WRA	**Warramunga Arr** 3.7nm,1.0s,mb3.7,baz=82,slow=6.5,SNR=41	**47.56**	**256**	P		**P**		**15 15 33.3**	**-0.3**
ASPA	**Alice Springs**	**47.94**	**251**	eP		**P**		**15 15 36.2**	**-0.2**
TXAR	**Lajitas Array** 0.6nm,1.0s,mb3.3,baz=252,slow=4.0,SNR=4.3	**82.37**	**57**	P		**P**		**15 19 15.8**	**+0.2**
ILAR	**Eielson Array** 0.3nm,0.4s,mb3.4,baz=213,slow=5.3,SNR=23	**82.38**	**12**	P		**P**		**15 19 14.7**	**-0.2**
PDAR	**Pinedale Array** 0.2nm,0.6s,mb3.1,baz=304,slow=3.3,SNR=3.5	**83.51**	**43**	P		**P**		**15 19 21.0**	**-0.1**
BRTR	**Keskin Array B** 1.3nm,0.9s,baz=52,slow=4.6,SNR=3.7	**144.13**	**319**	PKP		PKPdf		15 26 27.4	+2.0

*ATH **31** 15:17:31.7,38.15N×26.61E,h36km±2km,MD2.8/3*
*ISK **31** 15:17:31.8,38.22N×26.66E,h19km,MD2.7*
*NEIC **31** 15:17:31.8,38.22N×26.66E,h19km,MD2.7(ISK),After ISK.*
*CSEM **31** 15:17:32.3±0.2,38.14N×26.76E,h20km±2km,MD2.7, Error ellipse: s-maj=8.6km s-min=4.5km az=143.0*

ISC 31 15:17:31.3±0.8,38.20N±0.03×26.58E±0.05,h7km±5km, n12,σ0s90/20,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.16**	**5**	*i* P		**Pg**		**15 17 34.9**	**+0.1**
URLA				*i* S		**Sg**		**15 17 38.1**	**+1.0**
BLCB	**Balcova**	**0.41**	**63**	PG		**Pg**		**15 17 39.6**	**0.0**
BLCB				SG		**Sg**		**15 17 44.8**	**-0.3**
SMG	**Samos**	**0.53**	**157**	ePB		**Pb**		**15 17 42.3**	**-0.2**
SMG				eSB		**Sb**		**15 17 50.1**	**0.0**
IZM	**Izmir**	**0.57**	**70**	PG		**Pg**		**15 17 43.0**	**+0.2**
KDAG	**Bornova**	**0.58**	**69**	*i* P		**Pg**		**15 17 41.9**	**-1.0**
KDAG				*i* S		**Sg**		**15 17 50.0**	**-0.7**
PRK	**Paraskevi**	**1.07**	**347**	ePN		**Pn**		**15 17 52.8**	**+0.1**
PRK				eSN		**Sn**		**15 18 08.2**	**+0.3**
AYDN	**Tasoluk**	**1.16**	**117**	*i* P		**Pb**		**15 17 53.7**	**+0.4**
AYDN				*i* S		**Sb**		**15 18 09.1**	**+0.7**
AKS	**Akhisar**	**1.18**	**55**	PN		**Pn**		**15 17 52.9**	**-1.3**
AKS				SN		**Sn**		**15 18 08.9**	**-1.8**
APE	**Apeiranthos**	**1.40**	**217**	ePN		**Pn**		**15 17 57.7**	**+0.3**
APE	**Apeiranthos**	**1.40**	**217**	ePb		**Pb**		**15 17 56.4**	**-1.0**
APE	**Apeiranthos**	**1.40**	**217**	ePn		**Pn**		**15 17 57.7**	**+0.3**
MANT	**Manisa**	**1.58**	**79**	*i* P		**Pn**		**15 18 02.2**	**+2.2**
MANT				*i* S		**Sb**		**15 18 22.0**	**+1.3**

*ATH **31** 15:34:40.5,38.22N×26.54E,h14km±4km,MD3.0/3*
*ISK **31** 15:34:40.8,38.23N×26.57E,h18km,MD2.8*
*NEIC **31** 15:34:40.8,38.23N×26.57E,h18km,MD2.8(ISK),After ISK.*
*CSEM **31** 15:34:42.0±0.1,38.21N×26.69E,h20km,MD2.8,Error ellipse: s-maj=4.1km s-min=2.1km az=125.0*

ISC 31 15:34:40.6±0.7,38.20N±0.03×26.54E±0.04,h2km±6km, n18,σ1s07/30,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**16**	*i* P		**Pg**		**15 34 44.0**	**+0.1**
URLA				*i* S		**Sg**		**15 34 47.3**	**+1.2**
BLCB	**Balcova**	**0.44**	**65**	PG		**Pg**		**15 34 49.8**	**+0.5**
BLCB				SG		**Sg**		**15 34 55.6**	**+0.4**
SMG	**Samos**	**0.55**	**154**	ePB		**Pg**		**15 34 51.4**	**-0.1**
SMG				eSB		**Sg**		**15 34 59.5**	**+0.8**
IZM	**Izmir**	**0.60**	**71**	PG		**Pg**		**15 34 52.4**	**-0.2**
IZM				SG		**Sg**		**15 35 01.4**	**+0.7**
KDAG	**Bornova**	**0.61**	**70**	*i* P		**Pg**		**15 34 51.4**	**-1.3**
KDAG				*i* S		**Sg**		**15 35 00.3**	**-0.5**
PRK	**Paraskevi**	**1.06**	**349**	ePG		**Pg**		**15 34 59.8**	**-2.0**
PRK				eSB		**Sb**		**15 35 15.2**	**-0.4**
AYVA	**Ayvalik**	**1.11**	**6**	*i* P		**Pb**		**15 35 02.5**	**+0.3**
AYVA				*i* S		**Sb**		**15 35 20.2**	**+3.2**
AYDN	**Tasoluk**	**1.19**	**116**	*i* P		**Pb**		**15 35 03.9**	**+0.4**
AYDN				*i* S		**Sb**		**15 35 16.2**	**-3.0**
AKS	**Akhisar**	**1.21**	**55**	PN		**Pn**		**15 35 03.0**	**-1.4**
BODT	**Bodrum**	**1.29**	**151**	ePN		**Pn**		**15 35 05.1**	**-0.5**
BDRM	**Kayabasi**	**1.34**	**147**	*i* P		**Pb**		**15 35 07.3**	**+1.2**
BDRM				*i* S		**Sb**		**15 35 24.1**	**+0.5**
APE	**Apeiranthos**	**1.38**	**216**	ePN		**Pn**		**15 35 06.1**	**-0.8**
APE	**Apeiranthos**	**1.38**	**216**	ePB		**Pb**		**15 35 07.4**	**+0.6**
APE				eSB		**Sb**		**15 35 26.3**	**+1.5**
APE	**Apeiranthos**	**1.38**	**216**	ePb		**Pb**		**15 35 07.4**	**+0.6**
APE				eSb		**Sb**		**15 35 26.3**	**+1.5**
MANT	**Manisa**	**1.61**	**79**	*i* P		**Pn**		**15 35 11.4**	**+1.2**
MANT				*i* S		**Sb**		**15 35 32.1**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAT	**Datca**	**1.69**	**150**	ePN		**Pn**		**15 35 10.0**	**-1.2**
YER	**Yerkesik**	**1.75**	**127**	ePN		**Pn**		**15 35 12.0**	**-0.1**
KARP	**Karpathos**	**2.69**	**169**	ePB		**Pb**		**15 35 26.2**	**-3.0**

*IDC **31** 15:51:48.2±0.8,9.91S×75.18W,h87km±5km,mb3.9/10, mb1 4.1/14,mb1mx3.9/24,mbtmp4.2/14,Error ellipse: s-maj=29.4km s-min=12.4km az=54.0*
*NEIC **31** 15:51:48.6±0.3,9.86S×75.18W,mb4.6/9,Error ellipse: s-maj=9.4km s-min=4.8km az=60.0*

ISC 31 15:51:47.2±0.3,9.84S±0.04×75.25W±0.05,h87km, h87km±4.1km:pP-P,n35,σ0s87/39,mb4.3/19,1C,Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.64**	**216**	⇑ePn		**P**		**15 52 30.4**	**+1.6**
NNA				eSn		**S**		**15 52 59.4**	**-0.4**
ARE	**Arequipa**	**7.53**	**151**	eP		**P**		**15 53 37.0**	**+0.8**
LPAZ	**La Paz** 0.4nm,0.3s,baz=335,slow=16,SNR=13	**9.44**	**133**	P		**P**		**15 54 02.1**	**0.0**
LPAZ				S		**S**		**15 55 42.0**	**-5.3**
	0.4nm,0.3s,baz=153,slow=19,SNR=3.0								
OTAV	**Otavalo** 27nm,0.8s	**10.51**	**342**	Pn		**P**		**15 54 16.9**	**+0.2**
SAML	**Samuel** 0.3nm,0.6s	**11.94**	**87**	ePn		**P**		**15 54 35.5**	**-0.4**
SAML				eSn		**S**		**15 56 40.5**	**-7.1**
LVC	**Limon Verde** 5.4nm,0.8s	**14.08**	**155**	ePn		**P**		**15 55 02.7**	**-1.1**
ROSC	**El Rosal** 1.0nm,0.3s,baz=101,slow=17,SNR=2.7	**14.63**	**4**	P		**P**		**15 55 12.5**	**+1.4**
ROSC				S		**S**		**15 57 56.0**	**+4.7**
	0.5nm,0.3s,baz=89,slow=22,SNR=1.7								
SIV	**San Ignacio** 0.5nm,0.3s,baz=298,slow=12,SNR=9.5	**15.11**	**115**	P		**P**		**15 55 17.3**	**+0.1**
SIV				S		**S**		**15 58 04.3**	**+1.9**
	0.4nm,0.3s,baz=38,slow=19,SNR=3.8								
SDV	**Santo Domingo** baz=283,slow=21,SNR=1.6	**19.17**	**14**	P		**P**		**15 56 05.2**	**-1.3**
SDV	**Santo Domingo**	**19.17**	**14**	P		**P**		**15 56 05.2**	**-1.3**
JTS	**JuntasAbangare** 42nm,1.4s,mb4.6	**22.21**	**334**	eP		**P**		**15 56 39.7**	**+2.3**
CFAA	**Coronel Fontan** 0.2nm,0.6s,baz=358,slow=10,SNR=5.7	**22.61**	**164**	P		**P**		**15 56 41.2**	**-0.2**
CFAA				sP				15 57 09.3	
	0.5nm,0.9s,baz=335,slow=11,SNR=4.2								
CFAA	**Coronel Fontan** 2.5nm,0.6s,mb4.3,baz=148,slow=9.0,SNR=39	**22.61**	**164**	P		**P**		**15 56 41.2**	**-0.2**
CFAA				sP				15 57 09.3	
CPUP	**Villa Florida** 17nm,1.2s,mb4.2	**23.60**	**136**	eP		**P**		**15 56 49.8**	**-1.1**
OXF	**Oxford** 6.7nm,0.7s,mb4.5	**46.11**	**344**	eP		**P**		**16 00 04.7**	**+0.1**
LTX	**Lajitas** 2.2nm,0.6s,mb4.2	**47.62**	**326**	eP		**P**		**16 00 16.2**	**-0.3**
TXAR	**Lajitas Array** 2.5nm,0.6s,mb4.3,baz=148,slow=9.0,SNR=39	**47.62**	**326**	P		**P**		**16 00 17.6**	**+1.1**
ANMO	**Albuquerque** 2.5nm,1.3s,mb4.1	**53.45**	**328**	eP		**P**		**16 01 00.9**	**+0.2**
SDCO	**Great Sand Dun** 3.7nm,0.6s,mb4.6	**55.16**	**331**	eP		**P**		**16 01 12.7**	**-0.4**
WUAZ	**Wupatki** 9.8nm,0.9s,mb4.8	**56.55**	**325**	eP		**P**		**16 01 24.3**	**+1.1**
RSSD	**Black Hills** 6.2nm,1.2s,mb4.5	**59.72**	**336**	eP		**P**		**16 01 44.8**	**-0.3**
PDAR	**Pinedale Array** 1.4nm,0.6s,mb4.2,baz=121,slow=8.0,SNR=13	**61.02**	**332**	P		**P**		**16 01 53.6**	**-0.3**
HWUT	**Hardware Ranch** 8.0nm,0.7s,mb4.9	**61.11**	**330**	eP		**P**		**16 01 54.4**	**-0.1**
ELK	**Elko** 1.7nm,0.8s,mb4.1,baz=110,slow=3.7,SNR=7.8	**62.40**	**327**	P		**P**		**16 02 02.4**	**-0.9**
ULM	**Lac du Bonnet** 6.6nm,0.8s,mb4.7,baz=161,slow=7.2,SNR=12	**62.49**	**345**	P		**P**		**16 02 02.7**	**-1.0**
ULM				pP		pP		16 02 23.3	-2.7
	1.8nm,0.3s,baz=154,slow=7.5,SNR=4.9								
ULM	**Lac du Bonnet**	**62.49**	**345**	P		**P**		**16 02 02.7**	**-1.0**
ULM				pP		pP		16 02 23.3	-2.7
NVAR	**Mina Array Bea** 0.7nm,0.4s,mb3.9,baz=145,slow=5.3,SNR=5.2	**62.58**	**323**	P		**P**		**16 02 04.5**	**+0.1**
NEW	**Newport** 1.5nm,0.7s,mb4.0,baz=136,slow=4.6,SNR=6.9	**68.65**	**331**	P		**P**		**16 02 42.7**	**-0.5**
NEW	**Newport**	**68.65**	**331**	P		**P**		**16 02 42.7**	**-0.5**
DBIC	**Dimbokro** 3.8nm,0.6s,mb4.4,baz=265,slow=5.9,SNR=9.3	**72.01**	**80**	P		**P**		**16 03 03.1**	**-1.0**
YKA	**Yellowknife Ar** 1.1nm,0.7s,mb3.7,baz=142,slow=6.0,SNR=29	**78.26**	**343**	P		**P**		**16 03 38.4**	**-0.4**
YKA				pP		pP		16 04 02.2	+0.3
	2.4nm,0.7s,baz=136,slow=6.4,SNR=20								
YKA	**Yellowknife Ar**	**78.26**	**343**	P		**P**		**16 03 38.4**	**-0.4**
YKA				pP		pP		16 04 02.2	+0.3
INK	**Inuvik** 4.0nm,0.9s,mb4.5,baz=116,slow=4.4,SNR=23	**87.99**	**342**	P		**P**		**16 04 28.4**	**+0.1**
INK				pP		pP		16 04 52.9	+1.0
	1.3nm,0.6s,baz=100,slow=7.1,SNR=3.8								
ILAR	**

CALA eS Sg 16 26 33.9 -0.1
PCED Cedros 0.26 324 eS Sg 16 26 34.7 -0.4
34nm,0.3s
ROSA Rosais 0.37 35 eP Pg 16 26 32.6 -1.1
ROSA eS Sg 16 26 37.4 -1.3

BJI ***31*** *16:33:43.3, 57.33N× 120.95E, h8km, mB4.9, mb4.3, ML4.8, Ms4.4, Msz4.1*
IDC ***31*** *16:33:43.9± 0.6, 57.33N× 120.64E, mb4.1/25, mb1 4.3/27, mb1mx4.3/31, mbtmp4.1/27, ML3.5/2, MS3.8/14, Ms1 3.8/14, ms1mx3.5/41, Error ellipse: s-maj=16.1km s-min=12.3km az=2.0*
BYKL ***31*** *16:33:44.0± 0.4, 57.36N× 120.76E*
MOS ***31*** *16:33:44.7± 1.1, 57.46N× 120.64E, h17km, mb4.8/18, Error ellipse: s-maj=9.0km s-min=6.3km az=104.9*
NEIC ***31*** *16:33:45.8± 3.0, 57.41N× 120.60E, h13km± 19km, mb4.7/24, Error ellipse: s-maj=9.5km s-min=4.9km az=171.0*

ISC 31 16:33:43.7±0.2, 57.41N±0.02×120.60E±0.04, h10km, n185, σ1°15°/208, mb4.4/56, MS3.8/16, 4C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.59**	**215**	*e*Pg		**Pg**	**16 33 55.1**	**-0.6**
KHNR				*e*			16 33 55.6	
KHNR				*e*Sg		**Sg**	**16 34 02.9**	**-0.8**
YKLR	**Yuktali**	**1.00**	**144**	*e*Pg		**Pg**	**16 34 02.5**	**-1.3**
YKLR				*e*Sg		**Sg**	**16 34 14.5**	**-2.6**
YKLR				Smax			16 34 22.9	
	5μm,0.5s							
CRS	**Chara**	**1.37**	**249**	*e*Pn		**Pn**	**16 34 10.1**	**+1.1**
CRS				*e*Pg		**Pg**	**16 34 10.6**	**-0.5**
CRS				*e*Pb		**Pb**	**16 34 11.9**	**+2.9**
CRS				max			16 34 12.9	
	1μm,0.0s							
CRS				*e*Sg		**Sg**	**16 34 28.6**	**-0.8**
CRS				Smax			16 34 29.7	
	5μm,1.0s							
CRS	**Chara**	**1.37**	**249**	*e*P		**Pn**	**16 34 11.2**	**+2.2**
CRS				*e*SG		**Sg**	**16 34 29.0**	**-0.4**
NRGR	**Nerungri**	**2.38**	**107**	*e*P		**Pn**	**16 34 24.5**	**+1.1**
NRGR				S		**Sn**	**16 34 53.1**	**+0.3**
CLNS	**Chul'man**	**2.41**	**102**	*e*Pg		**Pg**	**16 34 26.1**	**-5.7**
CLNS				*e*			16 34 28.4	
CLNS				*e*Sg		**Sg**	**16 34 56.3**	**-7.7**
CLNS	**Chul'man**	**2.41**	**102**	*e*P		**Pn**	**16 34 25.0**	**+1.1**
CLNS				*e*SN		**Sn**	**16 34 56.0**	**+2.3**
ALDR	**Aldan**	**2.83**	**63**	*e*Pn		**Pn**	**16 34 30.3**	**+0.4**
ALDR				*e*Pg		**Pg**	**16 34 33.3**	**-6.9**
ALDR				Pmax			16 34 40.8	
	4μm,0.3s							
ALDR				*e*Sg		**Sg**	**16 35 08.8**	**-9.2**
ALDR				Smax			16 35 10.5	
	8μm,0.6s							
NLYR	**Nelyaty**	**2.84**	**253**	*e*Pn		**Pn**	**16 34 32.4**	**+2.4**
NLYR				*e*Pg		**Pg**	**16 34 34.5**	**-5.9**
NLYR				Pmax			16 34 39.0	
	710nm,0.9s							
NLYR				*e*Sg		**Sg**	**16 35 11.8**	**-6.4**
NLYR				Smax			16 35 22.1	
	5μm,1.3s							
NLYR	**Nelyaty**	**2.84**	**253**	*e*P		**Pn**	**16 34 32.4**	**+2.4**
NLYR				*e*			16 35 11.2	
NLYR				pmax	pmax			
	comp=Z,702nm,1.0s							
NLYR				smax				
	comp=E,5μm,1.3s							
TUP	**Tupik**	**3.01**	**187**	*e*Pn		**Pn**	**16 34 32.7**	**+0.3**
TUP				*e*Pg		**Pg**	**16 34 37.4**	**-6.5**
TUP				Pmax			16 34 39.6	
	comp=E,838nm,1.1s							
TUP				*e*Sg		**Sg**	**16 35 15.6**	**-8.4**
TUP				Smax			16 35 19.2	
	comp=E,4μm,1.4s							
TUP	**Tupik**	**3.01**	**187**	*e*P		**Pn**	**16 34 32.7**	**+0.3**
TUP				*e*S		**Sn**	**16 35 07.4**	**-1.5**
TUP				pmax	pmax			
	comp=Z,756nm,0.6s							
TUP				smax				
	comp=E,3μm,1.0s							
TUP	**Tupik**	**3.01**	**187**	*e*P		**Pn**	**16 34 38.1**	**+5.7**
TNDR	**Tynda**	**3.23**	**133**	*e*Pn		**Pn**	**16 34 35.3**	**-0.2**
TNDR				*e*			16 34 37.6	
TNDR				*e*			16 34 44.9	
TNDR				*e*			16 35 13.2	
TNDR				*e*Sg		**Sg**	**16 35 21.3**	**-10**
TNDR				Smax			16 35 24.8	
	comp=E,5μm,0.4s							
BOD	**Bodaibo**	**3.57**	**279**	⇑*i*Pn		**Pn**	**16 34 42.5**	**+2.1**
BOD				*e*			16 34 44.5	
BOD				*e*Pg		**Pg**	**16 34 48.7**	**-6.4**
BOD				Pmax			16 34 53.6	
	comp=E,180nm,1.1s							
BOD				*e*Sn		**Sn**	**16 35 25.0**	**+1.8**
BOD				*e*Sg		**Sg**	**16 35 36.6**	**-6.1**
BOD				Smax			16 35 44.8	
	comp=E,2μm,1.3s							
BOD	**Bodaibo**	**3.57**	**279**	*e*P		**Pn**	**16 34 49.9**	**+9.5**
BOD				pmax	pmax			
	comp=Z,179nm,0.6s							
SVKR	**Severomuysk**	**4.09**	**255**	*e*Pg		**Pg**	**16 34 58.9**	**-6.4**
SVKR				Pmax			16 35 19.0	
	comp=Z,198nm,0.7s							
SVKR				*e*Sg		**Sg**	**16 35 53.9**	**-5.9**
SVKR				Smax			16 36 00.1	
	comp=Z,3μm,1.7s							
SVKR	**Severomuysk**	**4.09**	**255**	*e*P		**Pn**	**16 35 00.4**	**+13**
SVKR				*e*S		**Sn**	**16 35 36.1**	**-0.1**
SVKR				pmax	pmax			
	comp=Z,218nm,1.4s							
SVKR				smax				
	comp=N,3μm,1.3s							
UKT	**Uakit**	**4.32**	**247**	*e*Pn		**Pn**	**16 34 52.9**	**+1.8**
UKT				*e*Pg		**Pg**	**16 35 02.3**	**-7.7**
UKT				Pmax			16 35 27.8	
	comp=N,163nm,1.0s							
UKT				*e*Sg		**Sg**	**16 35 58.9**	**-8.7**
UKT				Smax			16 36 06.4	
	comp=N,1μm,1.4s							
UKT	**Uakit**	**4.32**	**247**	*e*P		**Pn**	**16 35 05.5**	**+14**
UKT				pmax	pmax			
	comp=Z,91nm,0.6s							
YOA	**Uoyan**	**5.05**	**259**	*e*Sg		**Sg**	**16 36 21.4**	**-10**
YOA				Smax			16 36 32.5	
	comp=Z,5μm,2.2s							
ZEA	**Zeya**	**5.27**	**131**	*e*Pn		**Pn**	**16 35 01.5**	**-2.9**
ZEA				*e*Pg		**Pg**	**16 35 16.8**	**-12**
ZEA				Pmax			16 35 21.0	
	comp=Z,49nm,0.6s							
ZEA				*e*Sn		**Sn**	**16 35 57.5**	**-8.4**
ZEA				*e*Sg		**Sg**	**16 36 24.2**	**-15**
ZEA				Smax			16 36 26.3	
	comp=Z,2μm,0.8s							
KMO	**Kumora**	**5.41**	**258**	*e*Pn		**Pn**	**16 35 07.6**	**+1.2**
KMO				*e*			16 35 24.0	
KMO				*e*Sg		**Sg**	**16 36 32.1**	**-12**
KMO				Smax			16 36 39.7	
	comp=Z,1μm,1.1s							
KMO	**Kumora**	**5.41**	**258**	*e*P		**Pn**	**16 35 09.1**	**+2.7**
KMO				*e*S		**Sn**	**16 36 08.2**	**-1.3**
KMO				pmax	pmax			
	comp=Z,65nm,0.7s							
KMO				smax				
	comp=N,1μm,1.1s							
YLYR	**Ulyunkhan**	**5.86**	**248**	*e*Pn		**Pn**	**16 35 13.9**	**+1.2**
YLYR				*e*			16 35 23.1	
YLYR				*e*Pg		**Pg**	**16 35 29.6**	**-11**
YLYR				Pmax			16 36 20.7	
	comp=N,65nm,1.8s							
YLYR				*e*Sg		**Sg**	**16 36 46.7**	**-12**
YLYR				Smax			16 36 51.3	
	comp=N,1μm,1.8s							
YLYR	**Ulyunkhan**	**5.86**	**248**	*e*P		**Pn**	**16 35 13.9**	**+1.2**
YLYR				pmax	pmax			
	comp=Z,53nm,0.9s							
NIZ	**Nizh Angarsk**	**6.33**	**260**	*e*Pn		**Pn**	**16 35 19.7**	**+0.3**
NIZ				*e*Pg		**Pg**	**16 35 38.8**	**-11**
NIZ				Pmax			16 36 21.7	
	comp=Z,44nm,1.4s							
NIZ				*e*Sg		**Sg**	**16 37 01.8**	**-13**
NIZ				Smax			16 37 14.7	
	comp=Z,830nm,2.3s							
YAK	**Yakutsk**	**6.52**	**41**	*e*P		**Pn**	**16 35 21.1**	**-1.1**
YAK				*e*			16 36 30.6	
YAK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
YAK				smax				
	comp=N,98nm,0.8s							
YAK				smax				
	comp=E,73nm,0.7s							
YAK				smax				
	comp=Z,61nm,0.7s							
YAK				MLR	MLR			
	comp=Z,112nm,5.0s							
YAK	**Yakutsk**	**6.52**	**41**	*e*Pn		**Pn**	**16 35 16.9**	**-5.2**
	comp=Z,75nm,0.6s							
YAK				*e*S		Sn	16 36 59.2	+22
CIT	**Chita**	**6.76**	**220**	*e*Pg		**Pg**	**16 35 45.4**	**-13**
CIT				Pmax			16 35 48.6	
	comp=Z,161nm,1.4s							
CIT				*e*Sg		**Sg**	**16 37 13.5**	**-15**
CIT				Smax			16 37 22.1	
	comp=Z,2μm,1.8s							
SYVR	**Suvo**	**7.09**	**243**	*e*Pn		**Pn**	**16 35 30.6**	**+0.4**
SYVR				*e*			16 35 54.4	
SYVR				*e*Sg		**Sg**	**16 37 25.2**	**-15**
SYVR				Smax			16 37 33.9	
	comp=Z,1μm,1.9s							
HIA	**Hailar**	**8.17**	**184**	*e*P		**P**	**16 35 39.8**	**-5.4**
HIA				pmax	pmax			
	comp=Z,9.0nm,0.5s							
HIA	**Hailar**	**8.17**	**184**	*e*Pn		**P**	**16 35 39.8**	**-5.5**
	comp=Z,8.6nm,0.5s							
HIA				*e*S		Sn	16 37 57.2	+39
OGRR	**Ongureny**	**8.28**	**248**	*e*Pn		**P**	**16 35 47.8**	**+1.0**
OGRR				*e*Pg		P	16 36 15.2	+28
OGRR				Pmax			16 36 27.5	
	comp=Z,32nm,1.9s							
OGRR				*e*Sg		**Sg**	**16 38 02.7**	**-17**
OGRR				Smax			16 38 21.4	
	comp=Z,342nm,2.3s							
KPC	**Khapcheranga**	**9.13**	**216**	*e*Pn		**P**	**16 35 56.8**	**-1.8**
KPC				*e*Sg		Sg	16 38 24.1	-24
KPC				Smax			16 38 36.8	
	comp=Z,609nm,1.9s							
TRG	**Tyrgan**	**9.40**	**246**	*e*Sg		Sx	16 38 36.5	
TRG				Smax			16 38 50.7	
	comp=Z,305nm,2.2s							
KAB	**Kabansk**	**9.68**	**242**	*e*Sg		Sx	16 38 45.6	
KLR	**Kul'dur**	**10.55**	**136**	*e*P		**P**	**16 36 13.8**	**-4.1**
KLR				*e*			16 38 19.0	
KLR				MLR	MLR			
	comp=N,2μm,7.0s							
KLR				MLR	MLR			
	comp=E,2μm,7.0s							
KLR				MLR	MLR			
	comp=Z,700nm,7.0s							
LSTR	**Listvyanka**	**10.68**	**245**	*e*Sg		Sx	16 39 15.6	
LSTR				Smax			16 39 26.8	
	comp=Z,248nm,1.8s							
IRK	**Irkutsk**	**10.74**	**248**	*e*Sg		Sx	16 39 18.9	
IRK				Smax			16 39 49.4	
	comp=Z,295nm,1.3s							
TLY	**Talaya**	**11.38**	**247**	*e*		rx	16 37 05.5	
TLY				*e*Sg		Sx	16 39 38.8	
TLY				Smax			16 39 59.4	
	comp=Z,161nm,2.0s							
ARS	**Arshan**	**11.86**	**250**	*e*Sg		Sx	16 39 52.7	
ARS				Smax			16 40 19.7	
	comp=Z,366nm,1.3s							
BTGS	**Batagay**	**12.11**	**26**	*e*		rx	16 38 38.3	
BTGS				*e*Sg		Sx	16 39 58.9	
MOY	**Mondy**	**12.73**	**252**	*e*Sg		Sx	16 40 21.7	
MOY				Smax			16 40 46.1	
	comp=Z,270nm,1.4s							
MOY	**Mondy**	**12.73**	**252**	*e*P		**P**	**16 36 49.8**	**+2.3**
SONM	**Songino Array**	**12.87**	**228**	Pn		**P**	**16 36 48.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=34,slow=10,SNR=14							
SONM				Lg			16 40 29.3	
	comp=Z,2.7nm,0.3s,baz=34,slow=31,SNR=8.2							
SONM				LR		LR	16 42 03.5	
	comp=Z,272nm,21.4s,baz=11,slow=39							
SONM	**Songino Array**	**12.87**	**228**	Pn		**P**	**16 36 48.8**	**-0.5**
SONM				Lg			16 40 29.3	
SONM				LR		LR	16 42 03.5	
ORL	**Orlik**	**12.88**	**257**	*e*Pn		**P**	**16 36 49.4**	**0.0**
ORL				*e*Sg			16 40 26.9	
ORL				Smax			16 40 46.1	
	comp=Z,176nm,2.3s							
UNR	**Ust'-Nera**	**13.06**	**47**	*e*Sg		Sx	16 40 27.3	
MOMR	**Moma**	**13.90**	**40**	*e*Sg		Sx	16 40 55.4	
TIXI	**Tiksi**	**14.71**	**10**	*e*P		**P**	**16 37 04.6**	**-8.7**
KRAR	**Krasnoyarsk**	**15.25**	**277**	*e*P		**P**	**16 37 16.7**	**-3.7**
KRAR				pmax	pmax			
	comp=Z,8.0nm,0.5s							
MA2	**Magadan**	**15.85**	**69**	*e*P		**P**	**16 37 28.1**	**-0.1**
MA2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MA2	**Magadan**	**15.85**	**69**	*e*Pn		**P**	**16 37 27.7**	**-0.5**
	comp=Z,19nm,0.8s							
VLA	**Vladivostok**	**15.99**	**149**	*i* P		**P**	**16 37 34.8**	**+4.7**
VLA				pmax	pmax			
	comp=Z,29nm,1.2s							
SEY	**Seymchan**	**16.62**	**57**	*e*P		**P**	**16 37 36.8**	**-1.3**
ASAJ	**Asahikawa**	**19.13**	**125**	P		**P**	**16 38 09.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=328,slow=13,SNR=4.7							
ASAJ				LR		LR	16 45 38.8	
	comp=Z,87nm,21.2s,baz=173,slow=38							
ZAL	**Zalesovo**	**20.34**	**275**	P		**P**	**16 38 22.6**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=41,slow=9.8,SNR=17							
NVS	**Novosibirsk**	**20.82**	**279**	*e*P		**P**	**16 38 27.1**	**-0.4**
NVS				*e*S		**S**	**16 42 12.9**	**-1.9**
NVS				pmax	pmax			
	comp=Z,13nm,1.3s							
NVS				pmax	pmax			
	comp=N,11nm,1.6s							
NVS				pmax	pmax			
	comp=E,15nm,1.5s							
NVS				smax				
	comp=N,30nm,2.3s							
NVS				smax				
	comp=E,9.0nm,1.4s							
GTA	**Gaotai**	**22.53**	**226**	*e*P		**P**	**16 38 45.5**	**+0.8**
GTA				AP			16 38 52.0	
GTA				XP			16 38 55.5	
GTA				S		**S**	**16 42 56.5**	**+10**
GTA				LR	LR			
	comp=N,540nm,10.3s,MS4.5							
GTA				LR	LR			
	comp=E,720nm,10.3s,MS4.5							
GTA				LR	LR			
	comp=Z,430nm,9.5s							
BILL	**Bilibino**	**22.87**	**44**	*e*P		**P**	**16 38 49.2**	**+1.4**
BILL	**Bilibino**	**22.87**	**44**	*e*P		**P**	**16 38 48.9**	**+1.0**
	comp=Z,6.4nm,0.8s,mb4.1							
MJAR	**Matsushiro Arr**	**23.94**	**143**	P		**P**	**16 38 59.0**	**+0.5**
	comp=Z,1.9nm,0.7s,mb3.6,baz=329,slow=9.9,SNR=8.3							
MJAR				LR		LR	16 47 10.7	
	comp=Z,160nm,21.7s,MS3.5,baz=300,slow=34							
KURK	**Kurchatov**	**25.20**	**273**	*e*P		**P**	**16 39 11.3**	**+0.8**
KURK	**Kurchatov**	**25.20**	**273**	*e*P		**P**	**16 39 10.7**	**+0.2**
	comp=Z,7.0nm,1.0s,mb4.2							
NJ2	**Nanjing**	**25.38**	**183**	*e*P		**P**	**16 39 13.3**	**+0.9**
NJ2				AP		pP	16 39 17.5	+2.2
NJ2				XP		sP	16 39 20.3	+3.6
NJ2				PP		PP	16 39 52.3	+1.0
NJ2				S		**S**	**16 43 37.0**	**+0.8**
NJ2				XS			16 43 44.0	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb4.6							
NJ2				AMB	AMB			
	comp=Z,350nm,4.0s							
NJ2				LR	LR			
	comp=N,670nm,14.9s							
NJ2				LR	LR			
	comp=E,360nm,24.0s							
NJ2				LR	LR			
	comp=Z,290nm,15.8s,MS3.9							
MKAR	**Makanchi Array**	**25.48**	**262**	P		**P**	**16 39 14.1**	**+0.9**
	comp=Z,2.5nm,0.8s,mb3.8,baz=56,slow=7.5,SNR=25							
SSE	**Sheshan**	**26.31**	**179**	*e*P		**P**	**16 39 21.8**	**+0.7**
SSE				AP		pP	16 39 28.0	+4.0
SSE				XP		sP	16 39 30.5	+5.2
SSE				S		**S**	**16 43 56.3**	**+4.6**
SSE				XS			16 44 05.5	
SSE				SCS		ScS	16 50 14.5	-0.6
SSE				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.4							
SSE				AMB	AMB			
	comp=Z,190nm,4.4s							
SSE				LR	LR			
	comp=N,70nm,17.4s,MS3.3							
SSE				LR	LR			
	comp=E,20nm,17.4s,MS3.3							
SSE				LR	LR			
	comp=Z,90nm,20.1s,MS3.3							
JHJ	**Hachijo jima 2**	**27.59**	**143**	LR		LR	16 50 46.2	
	comp=Z,149nm,18.8s,MS3.6,baz=319,slow=37							
BVAR	**Borovoye Array**	**28.44**	**283**	P		**P**	**16 39 40.3**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.7,baz=97,slow=12,SNR=5.3							
ZRNK	**Zerenda**	**29.20**	**284**	*e*P		**P**	**16 39 46.3**	**-0.8**
ZRNK				pmax	pmax			
	comp=Z,5.0nm,1.5s,mb4.0							
ZRNK	**Zerenda**	**29.20**	**284**	*e*P		**P**	**16 39 46.2**	**-0.9**
	comp=Z,4.9nm,1.5s,mb4.0							
JOW	**Kunigami**	**31.04**	**167**	LR		LR	16 53 31.0	
	comp=Z,251nm,18.1s,MS3.9,baz=118,slow=38							
AAK	**Ala-Archa**	**32.40**	**263**	*e*P		**P**	**16 40 16.2**	**+0.8**
AAK	**Ala-Archa**	**32.40**	**263**	*e*P		**P**	**16 40 13.7**	**-1.8**
	comp=Z,3.9nm,1.1s,mb4.2							
ARU	**Arti**	**32.84**	**295**	*e*P		**P**	**16 40 18.5**	**-0.7**
ARU				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
ARU				MLR	MLR			
	comp=Z,100nm,16.0s,MS3.6							
AKTK	**Aktyubinsk**	**36.31**	**287**	P		**P**	**16 40 50.9**	**+1.9**
AKTO	**Aktyubinsk**	**36.31**	**287**	P		**P**	**16 40 50.9**	**+1.9**
	comp=Z,1.4nm,0.5s,mb4.1,baz=69,slow=12,SNR=7.3							
GUN	**Gumba**	**38.26**	**234**	*e*P		**P**	**16 41 07.3**	**+1.7**
	comp=Z,15nm,0.9s,mb4.7							
KKN	**Kakani**	**38.63**	**235**	*e*P		**P**	**16 41 10.6**	**+1.9**
	comp=Z,20nm,0.8s,mb4.9							
GKN	**Gorkha**	**38.73**	**236**	*e*P		**P**	**16 41 11.5**	**+1.9**
	comp=Z,36nm,1.0s,mb5.1							
DMN	**Daman**	**38.86**	**235**	*e*P		**P**	**16 41 11.6**	**+0.9**
	comp=Z,31nm,1.2s,mb4.9							
KEV	**Kevo**	**39.06**	**327**	*e*p		**P**	**16 41 10.8**	**-1.1**
	comp=Z,15nm,1.0s,mb4.7							
KEV	**Kevo**	**39.06**	**327**	*e*P		**P**	**16 41 10.8**	**-1.1**
KEV				pmax	pmax			
	comp=Z,15nm,1.0s,mb4.7							
KLMR	**Klimovskoe**	**39.26**	**310**	*c i*P		**P**	**16 41 14.3**	**+0.7**
KLMR				*e*S		**S**	**16 47 18.1**	**+4.2**
KLMR				pmax	pmax			
	comp=Z,60nm,2.0s,mb5.0							
KLMR				smax				
	comp=E,540nm,4.6s							
KOLN	**Koldanda**	**39.40**	**237**	*e*P		**P**	**16 41 16.9**	**+1.8**
	comp=E,17nm,0.9s,mb4.8							
ARCES	**ARCESS Array B**	**39.63**	**327**	P		**P**	**16 41 17.5**	**+0.9**
	comp=E,5.7nm,1.0s,mb4.2,baz=55,slow=8.6,SNR=9.7							
ARCES				LR		LR	17 02 15.2	
	comp=E,112nm,18.6s,MS3.7,baz=186,slow=43							
ARCES	**ARCESS Array B**	**39.63**	**327**	P		**P**	**16 41 17.5**	**+0.9**
ARCES				LR		LR	17 02 15.2	
JOF	**Joensuu**	**41.35**	**316**	*e*p		**P**	**16 41 30.6**	**-0.2**
	comp=E,10nm,1.0s,mb4.4							
ILAR	**Eielson Array**	**41.45**	**40**	P		**P**	**16 41 32.1**	**+0.5**
	comp=E,2.1nm,0.8s,mb3.8,baz=302,slow=9.8,SNR=32							
INK	**Inuvik**	**43.49**	**31**	P		**P**	**16 41 49.1**	**+1.1**
	comp=E,2.4nm,0.9s,mb3.9,baz=329,slow=7.9,SNR=7.7							
INK				LR		LR	17 01 31.8	
	comp=E,119nm,19.9s,MS3.8,baz=105,slow=38							
KAF	**Kangasniemi**	**43.69**	**317**	*e*p		**P**	**16 41 50.0**	**+0.2**
	comp=E,7.7nm,1.0s,mb4.4							
KAF	**Kangasniemi**	**43.69**	**317**	*e*P		**P**	**16 41 50.0**	**+0.2**
KAF				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.4							
FINES	**FINESS Array B**	**44.20**	**317**	P		**P**	**16 41 53.9**	**0.0**
	comp=Z,9.4nm,1.0s,mb4.5,baz=46,slow=6.4,SNR=23							
FINES				LR		LR	17 00 38.0	
	comp=Z,139nm,20.7s,MS3.9,baz=128,slow=36							
FINES	**FINESS Array B**	**44.20**	**317**	*i* P		**P**	**16 41 54.2**	**+0.3**
FINES				pmax	pmax			
	comp=Z,9.0nm,1.0s							
FINES	**FINESS Array B**	**44.20**	**317**	P		**P**	**16 41 53.9**	**0.0**
FINES				LR		LR	17 00 38.0	
GUMO	**Guam**	**47.46**	**147**	LR		LR	17 00 05.6	
	comp=Z,115nm,21.1s,MS3.8,baz=129,slow=33							
HFS	**Hagfors**	**49.52**	**321**	P		**P**	**16 42 35.5**	**-0.3**
	comp=Z,6.8nm,0.5s,mb5.0,baz=68,slow=8.0,SNR=52							
NB2	**NORSAR Subarra**	**49.68**	**323**	P		**P**	**16 42 37.1**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.5,baz=40,slow=7.4							
NB2	**NORSAR Subarra**	**49.68**	**323**	P		**P**	**16 42 37.1**	**+0.1**
NB2				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
NOA	**NORSAR Array B**	**49.68**	**323**	P		**P**	**16 42 37.3**	**+0.3**
	comp=Z,2.2nm,0.4s,mb4.5,baz=43,slow=7.9,SNR=8.9							
NOA				LR		LR	17 05 33.1	
	comp=Z,74nm,21.2s,MS3.7,baz=190,slow=38							
AKASG	**Malin Array Be**	**50.16**	**304**	P		**P**	**16 42 39.8**	**-1.0**
	comp=Z,0.8nm,0.4s,mb4.1,baz=40,slow=8.4,SNR=11							
AKASG	**Malin Array Be**	**50.16**	**304**	*i* P		**P**	**16 42 41.2**	**+0.4**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
YKA	**Yellowknife Ar**	**53.03**	**29**	P		**P**	**16 43 01.1**	**-1.3**
	comp=Z,1.0nm,0.7s,mb3.8,baz=330,slow=7.0,SNR=19							
YKA				LR		LR	17 09 11.4	
	comp=Z,80nm,19.3s,MS3.8,baz=305,slow=40							
YKA	**Yellowknife Ar**	**53.03**	**29**	*i* P		**P**	**16 43 01.5**	**-0.9**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**53.03**	**29**	P		**P**	**16 43 01.1**	**-1.3**
YKA				LR		LR	17 09 11.4	
BURAR	**Bucovina Array**	**54.21**	**304**	⇑P		**P**	**16 43 12.1**	**+0.9**
BURAR	**Bucovina Array**	**54.21**	**304**	⇑P		**P**	**16 43 12.1**	**+0.9**
KOLS	**Kolonicke sedl**	**54.52**	**307**	*e*P		**P**	**16 43 12.9**	**-0.6**
KOLS				*e*			16 43 21.8	
KOLS	**Kolonicke sedl**	**54.52**	**307**	*e*P		**P**	**16 43 05.4**	**-8.1**
KOLS				*e*			16 43 12.9	
STHS	**Stebnicka Huta**	**54.60**	**308**	*e*pP		pP	16 43 16.0	-1.1
KECS	**Kecovo**	**55.63**	**307**	*e*P		**P**	**16 43 21.1**	**-0.5**
DPC	**Dobruska-Polom**	**55.94**	**311**	*e*P		**P**	**16 43 24.2**	**+0.5**
UPC	**Upice**	**55.94**	**312**	*e*P		**P**	**16 43 23.7**	**-0.1**
BRTR	**Keskin Array B**	**56.13**	**292**	PcP		PcP	16 44 22.8	-0.3
	comp=Z,1.2nm,1.0s,baz=34,slow=4.5,SNR=3.6							
VYHS	**Vyhne**	**56.33**	**309**	*e*P		**P**	**16 43 27.0**	**+0.4**
BRG	**Berggiesshubel**	**

comp=Z,22nm,1.4s,mb5.1
FLN La Foliniere 63.54 321 *e*P P **16 44 14.3 -1.6**
comp=Z,121nm,1.4s,mb5.4
FLN La Foliniere 63.54 321 *e*P P **16 44 14.3 -1.6**
FLN pmax pmax
comp=Z,60nm,1.4s,mb5.4
SSF Saint Saulge 63.57 317 *e*P P **16 44 14.9 -1.3**
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SSF Saint Saulge 63.57 317 *e*P P **16 44 14.9 -1.3**
comp=Z,5.8nm,0.9s,mb4.6
LPL La Plagne 63.65 314 *e*P P **16 44 15.7 -1.0**
comp=Z,55nm,1.5s,mb5.1
LPL La Plagne 63.65 314 *e*P P **16 44 15.7 -1.0**
LPL pmax pmax
comp=Z,28nm,1.5s,mb5.1
LPG La Plagne 63.65 314 *e*P P **16 44 15.5 -1.2**
comp=Z,10nm,0.9s,mb4.6
LPG La Plagne 63.65 314 *e*P P **16 44 15.5 -1.2**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
AVF Avril sur Loir 63.85 317 *e*P P **16 44 16.9 -1.2**
BNI Bardonecchia 64.05 314 *e*P P **16 44 19.0 -0.4**
BNI pmax pmax
comp=Z,20nm,1.2s,mb5.0
BNI Bardonecchia 64.05 314 *e*P P **16 44 19.0 -0.4**
comp=Z,20nm,1.2s,mb5.0
MBDF Montbardon 64.29 314 *e*P P **16 44 19.9 -1.0**
comp=Z,9.5nm,0.7s,mb4.6
MBDF Montbardon 64.29 314 *e*P P **16 44 19.9 -1.0**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
NEW Newport 64.38 39 LR LR 17 14 15.1
comp=Z,138nm,18.6s,MS4.2,baz=53,slow=38
ORIF Oris-en-Rattie 64.48 314 *e*P P **16 44 21.1 -1.0**
comp=Z,18nm,1.1s,mb4.7
SBF Sospel 64.75 313 *e*P P **16 44 23.1 -0.8**
VIVF Saint-Julien-l 64.99 315 *e*P P **16 44 24.3 -1.2**
comp=Z,13nm,1.0s,mb4.6
VIVF Saint-Julien-l 64.99 315 *e*P P **16 44 24.3 -1.2**
VIVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
PGF Pioggiola 65.21 311 *e*P P **16 44 26.0 -0.9**
FRF La Foret Royal 65.31 313 *e*P P **16 44 26.5 -1.1**
SMRF Simiane la Rot 65.39 314 *e*P P **16 44 26.9 -1.1**
LMR La Mourre 65.56 313 *e*P P **16 44 28.0 -1.2**
RJF Les Rejaudoux 65.79 317 *e*P P **16 44 28.9 -1.7**
LASF Ste Croix 65.96 315 *e*P P **16 44 30.4 -1.3**
MTLF Montolieu 67.21 316 *e*P P **16 44 38.5 -1.2**
comp=Z,20nm,1.2s,mb4.7
MTLF Montolieu 67.21 316 *e*P P **16 44 38.5 -1.2**
MTLF pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
DLMT Dillon 68.42 37 *e*P P **16 44 48.2 +1.0**
comp=Z,8.3nm,1.1s,mb4.7
ULM Lac du Bonnet 68.58 24 LR LR 17 15 16.7
comp=Z,88nm,18.1s,MS4.0,baz=29,slow=36
MCMT McKenzie Canyo 68.81 38 *e*P P **16 44 50.4 +0.7**
ELK Elko 71.59 42 P P **16 45 08.6 +1.9**
comp=Z,2.0nm,0.8s,mb4.1,baz=313,slow=6.9,SNR=7.3
ELK Elko 71.59 42 P P **16 45 08.6 +1.9**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 71.59 42 *e*P P **16 45 08.4 +1.7**
PDAR Pinedale Array 71.73 37 P P **16 45 07.2 -0.2**
comp=Z,0.9nm,0.7s,mb3.8,baz=7.6,slow=3.2,SNR=8.0
PDAR LR LR 17 20 18.2
comp=Z,69nm,19.4s,MS3.9,baz=164,slow=39
HWUT Hardware Ranch 72.11 38 *e*P P **16 45 10.1 +0.3**
comp=Z,7.4nm,0.9s,mb4.6
NVAR Mina Array Bea 72.49 45 P P **16 45 13.5 +1.5**
comp=Z,1.4nm,0.8s,mb3.9,baz=316,slow=4.3,SNR=4.4
ESDC Sonseca Array 72.68 318 P P **16 45 13.9 +0.9**
comp=Z,1.3nm,0.6s,mb4.1,baz=24,slow=6.3,SNR=9.2
SMCO Snowmass 75.81 36 *e*P P **16 45 32.8 +1.6**
comp=Z,7.5nm,1.1s,mb4.5
WRA Warramunga Arr 77.90 167 P P **16 45 41.8 -1.4**
comp=Z,2.9nm,0.9s,mb4.2,baz=354,slow=6.5,SNR=18
MDT Midelt 79.01 316 P P **16 45 49.9 +0.9**
comp=Z,2.5nm,1.0s,mb4.1,baz=18,slow=6.4,SNR=2.9
ANMO Albuquerque 79.83 38 P P **16 45 55.1 +1.8**
comp=Z,0.8nm,0.7s,mb3.8,baz=330,slow=8.1,SNR=3.1
TXAR Lajitas Array 85.91 38 P P **16 46 25.5 +0.8**
comp=Z,0.8nm,0.9s,mb3.9,baz=270,slow=2.5,SNR=5.0
TXAR Lajitas Array 85.91 38 P P **16 46 25.5 +0.8**
QSPA South Pole Qui 147.16 180 *e*PKPdf PKPdf 16 53 25.4 -0.5

*MOS **31** 16:46:38.5±1.2,57.42N×120.74E,h10km,mb4.2/1,Error ellipse: s-maj=24.3km s-min=17.5km az=46.2*
BYKL 31 16:46:37.2±0.4,57.40N×120.74E,1C,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.64**	**221**	*e*Pg	Pg	16 46 49.2	-0.7
KHNR				*e*Sg	Sg	16 46 56.9	-1.4
YKLR	**Yuktali**	**0.95**	**148**	*e*Pg	Pg	16 46 55.1	-1.1
YKLR				*e*Sg	Sg	16 47 07.5	-1.4
YKLR				Smax			
	471nm,0.2s						
CRS	**Chara**	**1.44**	**251**	⇑ *i*Pg	Pg	16 47 04.2	-1.7
CRS				*e*Pb	Pb	16 47 05.6	+1.0
CRS				*i* Sg	Sg	16 47 22.5	-2.5
CRS				max			
	222nm,0.8s						
CRS				Smax			
	470nm,1.1s						
CRS	**Chara**	**1.44**	**251**	*e*P	Pn	16 47 04.6	+0.1
CRS				*e*		16 47 23.0	
CRS				pmax	pmax		
	comp=Z,113nm,0.3s						
CRS				smax			
	comp=E,302nm,0.4s						
NRGR	**Nerungri**	**2.30**	**107**	*e*P	Pn	16 47 20.3	+3.4
NRGR				S	Sn	16 47 47.6	+1.2
CLNS	**Chul'man**	**2.33**	**102**	*e*Pg	Pg	16 47 18.8	-5.0
CLNS				*e*		16 47 21.2	
CLNS				*e*		16 47 48.3	
CLNS				*e*Sg	Sg	16 47 50.6	-4.3
CLNS				max			
	comp=E,169nm,0.2s						
CLNS				Smax			
	comp=E,3μm,0.5s						
CLNS	**Chul'man**	**2.33**	**102**	*e*P	Pn	16 47 18.7	+1.3
CLNS				*e*S	Sn	16 47 48.1	+0.9
CLNS				pmax	pmax		
	comp=N,1.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.3s						
CLNS				pmax	pmax		
	comp=N,13nm,0.3s						
CLNS				pmax	pmax		
	comp=E,22nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,37nm,0.3s						
CLNS				smax			
	comp=E,29nm,0.2s						
CLNS				smax			
	comp=N,58nm,0.3s						
CLNS				smax			
	comp=Z,28nm,0.3s						
CLNS				smax			
	comp=E,501nm,0.4s						
CLNS				smax			
	comp=N,119nm,0.3s						
CLNS				smax			
	comp=Z,48nm,0.3s						
CLNS				MLR	MLR		
	comp=Z,20nm,10.0s						
ALDR	**Aldan**	**2.77**	**62**	*e*Pn	Pn	16 47 21.3	-2.3
ALDR				*e*Pg	Pg	16 47 26.1	-6.3
ALDR				*e*Sg	Sg	16 48 02.6	-6.7
ALDR				Pmax			
	comp=Z,87nm,0.2s						
ALDR				Smax			
	comp=Z,1μm,0.3s						
NLYR	**Nelyaty**	**2.91**	**254**	*e*Pn	Pn	16 47 25.7	+0.1
NLYR				*e*Pg	Pg	16 47 29.6	-5.6
NLYR				*e*		16 47 32.0	
NLYR				*e*Sn	Sn	16 47 59.8	-1.9
NLYR				*e*Sg	Sg	16 48 06.6	-7.3
NLYR				max			
	comp=Z,115nm,0.9s						
NLYR				Smax			
	comp=Z,568nm,1.1s						
NLYR	**Nelyaty**	**2.91**	**254**	*e*P	Pn	16 47 25.1	-0.5
NLYR				*e*		16 48 05.8	
NLYR				pmax	pmax		
	comp=Z,112nm,0.7s						
NLYR				smax			
	comp=E,566nm,1.0s						
TUP	**Tupik**	**3.02**	**189**	*e*Pn	Pn	16 47 26.6	-0.5
TUP				*e*Pg	Pg	16 47 30.8	-6.6
TUP				*e*Sg	Sg	16 48 09.7	-7.9
TUP				Pmax			
	comp=E,132nm,0.8s						
TUP				Smax			
	comp=E,530nm,0.9s						
TUP	**Tupik**	**3.02**	**189**	*e*P	Pn	16 47 27.0	-0.1
TUP				*e*S	Sn	16 48 01.0	-3.5
TUP				pmax	pmax		
	comp=Z,95nm,0.6s						
TUP				smax			
	comp=E,504nm,0.9s						
TNDR	**Tynda**	**3.17**	**134**	*e*Pn	Pn	16 47 29.4	+0.1
TNDR				*e*		16 47 31.3	
TNDR				*e*Sg	Sg	16 48 15.8	-6.8
TNDR				Smax			
	comp=E,2μm,0.4s						
BOD	**Bodaibo**	**3.65**	**279**	*e*Pn	Pn	16 47 35.5	-0.6
BOD				*e*Pg	Pg	16 47 39.7	-10
BOD				*e*		16 47 44.3	
BOD				*e*Sg	Sg	16 48 26.9	-12
BOD				max			
	comp=E,30nm,1.0s						
BOD				Smax			
	comp=E,208nm,1.0s						
BOD	**Bodaibo**	**3.65**	**279**	*e*P	Pn	16 47 36.4	+0.3
BOD				*e*		16 48 28.3	
BOD				pmax	pmax		
	comp=Z,30nm,0.7s						
BOD				smax			
	comp=N,210nm,0.8s						
SVKR	**Severomuysk**	**4.16**	**255**	*e*Pg	Pg	16 47 52.1	-8.1
SVKR				*e*Sg	Sg	16 48 47.4	-8.2
SVKR				Pmax			
	comp=N,47nm,0.5s						
SVKR				Smax			
	comp=N,388nm,1.2s						
UKT	**Uakit**	**4.39**	**247**	*e*Pg	Pg	16 47 55.8	-9.0
UKT				*e*		16 48 01.9	
UKT				*e*Sg	Sg	16 48 52.5	-11
UKT				max			
	comp=N,20nm,1.2s						
UKT				Smax			
	comp=N,117nm,1.9s						
UKT	**Uakit**	**4.39**	**247**	*e*P	Pn	16 47 56.9	+10
UKT				pmax	pmax		
	comp=Z,16nm,0.5s						
YOA	**Uoyan**	**5.12**	**259**	*e*Sg	Sg	16 49 14.7	-13
YOA				Smax			
	comp=Z,693nm,1.5s						
ZEA	**Zeya**	**5.21**	**132**	*e*Pg	Pg	16 48 09.8	-11
ZEA				*e*Sn	Sn	16 48 51.6	-8.3
ZEA				*e*Sg	Sg	16 49 16.9	-14
ZEA				Pmax			
	comp=Z,20nm,0.3s						
ZEA				Smax			
	comp=Z,83nm,0.8s						
KMO	**Kumora**	**5.48**	**258**	*e*Pn	Pn	16 48 00.3	-1.8
KMO				*e*Sg	Sg	16 49 27.2	-12
KMO				Smax			
	comp=Z,180nm,1.6s						
KMO	**Kumora**	**5.48**	**258**	*e*P	Pn	16 48 01.0	-1.1
KMO				pmax	pmax		
	comp=Z,13nm,0.8s						
YLYR	**Ulyunkhan**	**5.92**	**249**	*e*Pn	Pn	16 48 07.3	-1.0
YLYR				*e*Sg	Sg	16 49 41.1	-13
YLYR				Smax			
	comp=Z,112nm,1.4s						
NIZ	**Nizh Angarsk**	**6.40**	**260**	*e*Sg	Sg	16 49 54.4	-16
NIZ				Smax			
	comp=Z,91nm,2.2s						
YAK	**Yakutsk**	**6.48**	**40**	*e*P	Pn	16 48 17.1	+0.9
YAK				*e*		16 49 25.8	
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK				smax			
	comp=N,11nm,1.0s						
YAK				smax			
	comp=Z,9.0nm,0.9s						
YAK				smax			
	comp=E,7.0nm,0.7s						
YAK				smax			
	comp=N,67nm,0.7s						
YAK				smax			
	comp=Z,63nm,1.2s						
YAK				smax			
	comp=E,92nm,1.6s						
YAK				MLR	MLR		
	comp=Z,55nm,10.0s						
CIT	**Chita**	**6.81**	**221**	*e*Pg	Pg	16 48 40.0	-13
CIT				*e*Sg	Sg	16 50 07.4	-16
CIT				Pmax			
	comp=Z,30nm,1.3s						
CIT				Smax			
	comp=Z,247nm,1.8s						
SYVR	**Suvo**	**7.16**	**243**	*e*	Pn	16 48 50.6	+25
SYVR				*e*Sg	Sg	16 50 19.3	-16
SYVR				Smax			
	comp=Z,170nm,1.7s						
OGRR	**Ongureny**	**8.35**	**249**	*e*Sg	Sg	16 50 55.8	-19
OGRR				Smax			
	comp=Z,32nm,2.0s						
KPC	**Khapcheranga**	**9.17**	**216**	*e*Sg	Sg	16 51 20.1	-22
KPC				Smax			
	comp=Z,58nm,1.6s						
TRG	**Tyrgan**	**9.47**	**247**	*e*Sg	Sg	16 51 29.1	-23
TRG				Smax			
	comp=Z,36nm,2.1s						
LSTR	**Listvyanka**	**10.74**	**246**	*e*Sg	S	16 52 11.1	+54
LSTR				Smax			
	comp=Z,34nm,2.2s						
ARS	**Arshan**	**11.92**	**250**	*e*Sg	S	16 52 45.8	+59
ARS				Smax			
	comp=Z,35nm,1.2s						
MOY	**Mondy**	**12.80**	**252**	*e*Sg	S	16 53 12.8	+65
MOY				Smax			
	comp=Z,28nm,1.8s						
ORL	**Orlik**	**12.95**	**257**	*e*Sg	S	16 53 17.7	+67
ORL				Smax			
	comp=Z,18nm,2.4s						
UNR	**Ust'-Nera**	**13.01**	**47**	*e*Sg	S	16 53 21.8	+69

IDC 31 16:49:11.6±6.2,26.74N×141.02E,h32km±45km,mb3.3/4, mb1 3.6/4,mb1mx3.3/20,mbtmp3.5/4,Error ellipse: s-maj=32.3km s-min=24.0km az=132.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.10**	**71**	Pn	Pn	16 49 30.1	-0.8
	55nm,0.3s,baz=270,slow=20,SNR=23						
CBIJ				Sn	Sn	16 49 44.5	-0.6
	85nm,0.3s,baz=279,slow=22,SNR=14						
WRA	**Warramunga Arr**	**46.86**	**189**	P	P	16 57 38.8	-1.9
	1.1nm,0.6s,baz=11,slow=8.6,SNR=8.0						
MKAR	**Makanchi Array**	**49.90**	**310**	P	P	16 58 00.7	-3.4
	0.2nm,0.6s,baz=94,slow=9.1,SNR=3.4						
INK	**Inuvik**	**63.78**	**24**	P	P	16 59 41.6	-0.7
	0.5nm,0.6s,baz=239,slow=5.9,SNR=4.3						
YKA	**Yellowknife Ar**	**72.94**	**28**	P	P	17 00 36.8	-2.5
	0.3nm,0.7s,baz=292,slow=6.0,SNR=5.3						
PLCA	**Paso Flores**	**150.45**	**126**	PKPbc	PKPdf	17 08 58.6	-1.2
	0.9nm,0.8s,baz=243,slow=6.1,SNR=3.4						
LPAZ	**La Paz**	**151.02**	**75**	PKPbc	PKPdf	17 09 03.8	+2.5
	0.8nm,0.6s,baz=270,slow=3.0,SNR=3.7						

*IDC **31** 17:15:05.0±5.9,20.06N×122.06E,mb3.7/5,mb1 3.9/5, mb1mx3.6/19,mbtmp3.7/5,MS4.0/1,Ms1 4.0/1, ms1mx2.8/31,Error ellipse: s-maj=160.5km s-min=50.6km az=16.0*
*NEIC **31** 17:15:10.0±1.8,20.52N×122.17E,h15km,Error ellipse: s-maj=37.0km s-min=30.7km az=82.0*
*MAN **31** 17:15:12.9,19.96N×122.50E,mb4.6,ML3.5,MS3.4*

ISC 31 17:15:08.4±1.0,20.53N±0.05×122.0E±0.2,h10km,n12, σ0°87/14,mb3.6/5,MS4.0/1,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.74**	**195**	*e*P	Pn	17 15 53.5	+0.3
APYP				*e*S	Sn	17 16 24.4	-2.2
CVP	**Callao Caves**	**2.81**	**183**	*e*P	Pn	17 15 55.0	+0.7
ABRA	**Dolores**	**3.10**	**203**	*e*P	Pn	17 16 00.3	+2.0
ABRA				*e*S	Sn	17 16 35.9	+0.1
YHNB	**Yeheng**	**4.16**	**352**	*e*Pn	Pn	17 16 13.5	+0.1
YHNB				*e*Sn	Sn	17 17 10.5	+7.8
SONM	**Songino Array**	**30.02**	**339**	P	P	17 21 19.2	-0.3
	0.6nm,0.8s,mb3.4,baz=153,slow=8.1,SNR=5.2						
MKAR	**Makanchi Array**	**41.51**	**319**	P	P	17 22 57.2	-0.1
	0.5nm,0.5s,mb3.4,baz=106,slow=9.6,SNR=12						
ZAL	**Zalesovo**	**43.72**	**329**	P	P	17 23 15.5	+0.3
	0.6nm,0.6s,mb3.5,baz=356,slow=4.9,SNR=4.7						
ZAL	**Zalesovo**	**43.72**	**329**	P	P	17 23 15.5	+0.2
HNR	**Honiara**	**47.76**	**125**	LR	LR	17 42 04.3	
	comp=Z,166nm,18.0s,MS4.0,baz=170,slow=34						
BVAR	**Borovoye Array**	**50.98**	**322**	P	P	17 24 11.7	-0.5
	1.1nm,0.6s,mb4.0,baz=105,slow=8.0,SNR=11						
BRVK	**Borovoye**	**51.05**	**322**	*e*P	P	17 24 12.9	+0.2
YKA	**Yellowknife Ar**	**86.04**	**23**	P	P	17 27 49.4	-0.7
	0.5nm,0.6s,mb3.9,baz=308,slow=4.5,SNR=23						

*MOS **31** 17:16:21.2±0.9,2.57S×138.77E,h33km,mb5.0/14,Error ellipse: s-maj=14.0km s-min=6.6km az=109.9*
*BJI **31** 17:16:22.2,2.79S×139.00E,h60km,mB5.0,mb4.8,Ms4.6, Msz4.1*
*IDC **31** 17:16:24.1±2.8,2.61S×138.80E,h44km±26km,mb4.5/16, mb1 4.5/19,mb1mx4.5/21,mbtmp4.7/19,ML4.4/3,MS3.8/9, Ms1 3.8/9,ms1mx3.4/24,Error ellipse: s-maj=20.3km s-min=12.5km az=61.0*
*NEIC **31** 17:16:24.6±1.2,2.61S×138.78E,h48km±12km,mb4.8/19, Error ellipse: s-maj=8.7km s-min=6.4km az=76.0*
ISC 31 17:16:22.4±1.5,2.62S±0.05×138.89E±0.05,h45km±14km, h41km±3.6km:pP-P,n115,σ0°95/105,mb4.8/54,MS3.9/12, 4D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**6.83**	**244**	P	P	17 18 05.0	+2.5
	553nm,1.1s						
PMG	**Port Moresby**	**10.63**	**130**	P	P	17 18 55.3	+0.3
	1.5nm,0.3s,baz=304,slow=17,SNR=9.5						
PMG				S	S	17 20 51.9	-1.7
	1.2nm,0.3s,baz=168,slow=19,SNR=2.0						
KAKA	**Kakadu**	**11.88**	**212**	*e*P	P	17 19 35.4	+23
	182nm,0.4s						
KAKA				*e*S	S	17 21 43.3	+19
GUMO	**Guam**	**17.16**	**20**	LR	LR	17 25 58.3	
	comp=Z,102nm,19.7s,baz=203,slow=33						
WRAB	**Tennant Creek**	**17.77**	**194**	*e*P	P	17 20 27.0	-1.2
WRAB				*e*		17 23 34.2	
WRAB				pmax	pmax		
	comp=Z,103nm,0.6s						
WRAB	**Tennant Creek**	**17.77**	**194**	*e*Pn	P	17 20 26.9	-1.2
	comp=Z,103nm,0.6s						
WRAB				*ep*Pn		17 20 36.2	
WRAB				*e*Sn	S	17 23 34.2	-7.8
WB2	**Warramunga Arr**	**17.78**	**194**	*e*P	P	17 20 27.2	-1.1
WB2				*e*S	S	17 23 34.3	-7.9
WRA	**Warramunga Arr**	**17.78**	**194**	P	P	17 20 27.1	-1.2
	comp=Z,8.0nm,0.3s,baz=17,slow=13,SNR=165						
WRA				S	S	17 23 33.9	-8.3
	comp=Z,5.6nm,0.3s,baz=9.8,slow=22,SNR=6.5						
CTA	**Charters Tower**	**18.79**	**158**	*e*P	P	17 20 41.7	+1.0
	comp=Z,12nm,0.6s						
CTA	**Charters Tower**	**18.79**	**158**	P	P	17 20 40.8	+0.1
	comp=Z,0.4nm,0.3s,baz=323,slow=15,SNR=4.9						
CTA	**Charters Tower**	**18.79**	**158**	*e*P	P	17 20 41.7	+1.0
CTA				pmax	pmax		
	comp=Z,12nm,0.6s						
CTAO	**Charters Tower**	**18.79**	**158**	*e*P	P	17 20 42.2	+1.5
CTAO				pmax	pmax		
	comp=Z,14nm,0.7s						
CTAO	**Charters Tower**	**18.79**	**158**	*e*P	P	17 20 42.2	+1.5
	comp=Z,14nm,0.7s						
CTAO				*ep*Pn		17 20 51.0	
PCI	**Palu**	**19.12**	**275**	P	P	17 20 45.2	+0.7
	comp=Z,315nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.14**	**219**	*e*P	P	17 20 54.9	-0.6
	comp=Z,40nm,0.5s						
FITZ				*e*S	S	17 24 28.0	-6.1
ASPA	**Alice Springs**	**21.47**	**193**	*e*P	P	17 21 09.4	+0.3
ASPA				*e*S	S	17 25 00.1	+0.6
HNR	**Honiara**	**21.99**	**109**	P	P	17 21 16.7	+2.4
	comp=Z,27nm,0.6s,mb4.8,baz=246,slow=10.0,SNR=3.5						
TGY	**Tagaytay City**	**24.35**	**313**	P	P	17 21 37.0	-0.5
	comp=Z,72nm,0.6s,mb5.3,baz=270,slow=2.8,SNR=6.0						
STKA	**Stephens Creek**	**29.21**	**175**	*e*P	P	17 22 22.4	+0.3
	comp=Z,4.3nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**29.21**	**175**	P	P	17 22 22.1	0.0
	comp=Z,5.8nm,0.7s,mb4.4,baz=340,slow=8.6,SNR=27						
STKA				LR	LR	17 34 09.2	
	comp=Z,94nm,19.2s,MS3.4,baz=0.9,slow=36						
CNB	**Canberra Magne**	**33.95**	**165**	*e*P	P	17 23 05.7	+2.1
	comp=Z,14nm,0.8s,mb5.0						
KLBR	**Kellerberrin**	**35.03**	**212**	*e*P	P	17 23 12.7	-0.2
	comp=Z,133nm,1.6s,mb5.6						
JNU	**Nakatsue**	**36.35**	**349**	P	P	17 23 24.9	+0.8
	comp=Z,27nm,0.9s,mb5.2,baz=132,slow=7.1,SNR=7.3						
SSE	**Sheshan**	**37.53**	**335**	*e*P	P	17 23 32.5	-1.5
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,50nm,5.5s						
SSE				LR	LR		
	comp=Z,40nm,18.1s,MS3.3						
MJAR	**Matsushiro Arr**	**38.97**	**359**	P	P	17 23 44.9	-1.0
	comp=Z,1.9nm,0.6s,mb4.0,baz=180,slow=8.8,SNR=15						
MJAR				LR	LR	17 38 19.6	
	comp=Z,149nm,19.6s,MS3.8,baz=185,slow=34						
MAJO	**Matsushiro**	**38.97**	**359**	*e*P	P	17 23 46.0	+0.1
NJ2	**Nanjing**	**39.38**	**333**	*e*P	P	17 23 51.3	+1.9
NJ2				AP	pP	17 24 04.0	+2.3
NJ2				XP	sP	17 24 09.5	+2.2
NJ2				PP	PP	17 25 29.5	+5.4
NJ2				S	S	17 29 50.0	+2.6
NJ2				XS		17 30 12.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,410nm,4.4s						
NJ2				LR	LR		
	comp=N,430nm,18.3s,MS4.5						
NJ2				LR	LR		
	comp=E,500nm,20.9s,MS4.5						
NJ2				LR	LR		
	comp=Z,350nm,23.8s,MS4.1						
PSI	**Prapat**	**40.31**	**277**	P	P	17 23 56.2	-1.1
	comp=Z,12nm,0.8s,mb4.7,baz=113,slow=6.0,SNR=14						
ENH	**Enshi**	**43.10**	**322**	*e*P	P	17 24 19.4	-0.7
	comp=Z,10nm,0.7s,mb4.7						
VLA	**Vladivostok**	**45.97**	**353**	*e*P	P	17 24 43.0	0.0
VLA				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.2						
XAN	**Xi'an**	**46.11**	**325**	P	P	17 24 44.5	+0.3
XAN				AP	pP	17 24 56.5	-0.2
SNY	**Shenyang**	**46.38**	**344**	‖P	P	17 24 46.8	+0.6
SNY				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
ASAJ	**Asahikawa**	**46.65**	**4**	LR	LR	17 45 59.1	
	comp=Z,68nm,18.7s,MS3.6,baz=349,slow=38						
CD2	**Chengdu**	**47.24**	**318**	P	P	17 24 53.8	+0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
MDJ	**Mudanjiang**	**47.76**	**351**	P	P	17 24 57.5	+0.5
MDJ				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,60nm,4.8s						
MDJ	**Mudanjiang**	**47.76**	**351**	*e*P	P	17 24 57.3	+0.3
	comp=Z,27nm,1.1s,mb5.2						
CN2	**Changchun**	**47.77**	**347**	*e*P	P	17 24 57.0	-0.1
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
YSS	**Yuzh-Sakhalins**	**49.48**	**3**	*e*P	P	17 25 11.0	+0.7
YSS				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
HHC	**Hu-ho-hao-te**	**49.94**	**333**	*e*P	P	17 25 14.8	+0.9
HHC				AP	pP	17 25 23.8	-2.6

HHC				XP	sP	17 25 32.5	+0.7	
HHC				AMB	AMB			
	comp=Z,80nm,5.2s							
HHC				LR	LR			
	comp=N,100nm,10.9s,MS4.2							
HHC				LR	LR			
	comp=E,90nm,13.9s,MS4.2							
HHC				LR	LR			
	comp=Z,90nm,10.9s,MS4.0							
HIA	**Hailar**	**54.28**	**345**	*e*P	**P**	**17 25 46.2**	**-0.1**	
HIA				pmax	pmax			
	comp=Z,15nm,1.0s							
HIA	**Hailar**	**54.28**	**345**	*e*P	**P**	**17 25 46.2**	**-0.1**	
	comp=Z,15nm,1.0s,mb4.9							
GTA	**Gaotai**	**55.11**	**323**	*e*P	**P**	**17 25 53.0**	**+0.6**	
LSA	**Lhasa**	**55.80**	**309**	P	**P**	**17 25 57.0**	**-0.6**	
LSA	**Lhasa**	**55.80**	**309**	*e*P	**P**	**17 25 58.8**	**+1.2**	
LSA				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
LSA	**Lhasa**	**55.80**	**309**	*e*P	**P**	**17 25 58.8**	**+1.2**	
	comp=Z,3.1nm,0.7s,mb4.5							
SONM	**Songino Array**	**57.72**	**335**	P	**P**	**17 26 11.0**	**0.0**	
	comp=Z,1.9nm,0.5s,mb4.4,baz=156,slow=7.6,SNR=40							
SONM				LR	LR	17 51 06.5		
	comp=Z,109nm,19.1s,MS4.0,baz=217,slow=36							
CIT	**Chita**	**58.52**	**342**	*e*P	**P**	**17 26 15.9**	**-0.6**	
CIT				pmax	pmax			
	comp=Z,42nm,1.6s,mb5.2							
JIRN	**Jiri**	**58.94**	**305**	*e*P	**P**	**17 26 20.4**	**+0.7**	
	comp=Z,15nm,0.8s,mb5.1							
GUN	**Gumba**	**59.29**	**305**	*e*P	**P**	**17 26 22.8**	**+0.7**	
KKN	**Kakani**	**59.74**	**304**	*e*P	**P**	**17 26 25.3**	**0.0**	
	comp=Z,15nm,0.8s,mb5.1							
DMN	**Daman**	**59.81**	**304**	*e*P	**P**	**17 26 25.6**	**-0.2**	
GKN	**Gorkha**	**60.34**	**304**	*e*P	**P**	**17 26 28.0**	**-1.4**	
	comp=Z,13nm,0.7s,mb5.1							
CLNS	**Chul'man**	**60.35**	**351**	*e*P	**P**	**17 26 28.7**	**-0.3**	
CLNS				pmax	pmax			
	comp=Z,28nm,0.9s,mb5.3							
CLNS				pmax	pmax			
	comp=N,12nm,0.8s							
CLNS				pmax	pmax			
	comp=E,11nm,0.9s							
KOLN	**Koldanda**	**61.12**	**304**	*e*P	**P**	**17 26 33.4**	**-1.3**	
	comp=E,13nm,0.8s,mb5.1							
MA2	**Magadan**	**62.72**	**7**	*e*P	**P**	**17 26 44.7**	**-0.2**	
MA2				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb5.0							
MA2				pmax	pmax			
	comp=N,4.0nm,0.9s							
MA2	**Magadan**	**62.72**	**7**	*e*P	**P**	**17 26 44.3**	**-0.6**	
	comp=N,20nm,0.9s,mb5.2							
MOY	**Mondy**	**62.91**	**335**	*e*P	**P**	**17 26 47.0**	**+0.7**	
YAK	**Yakutsk**	**64.86**	**355**	*d i*P	**P**	**17 26 58.2**	**-0.7**	
YAK				pmax	pmax			
	comp=Z,67nm,0.8s,mb5.7							
YAK	**Yakutsk**	**64.86**	**355**	*e*P	**P**	**17 26 57.5**	**-1.3**	
	comp=Z,68nm,0.9s,mb5.7							
SEY	**Seymchan**	**66.17**	**7**	*e*P	**P**	**17 27 06.4**	**-0.9**	
KRAR	**Krasnoyarsk**	**69.39**	**334**	*e*P	**P**	**17 27 25.8**	**-1.6**	
KRAR				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4							
MK31	**Makanchi Array**	**69.83**	**322**	*i* P	**P**	**17 27 30.6**	**+0.3**	
MK31				pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.6							
MKAR	**Makanchi Array**	**69.83**	**322**	P	**P**	**17 27 30.9**	**+0.6**	
	comp=Z,7.0nm,0.5s,mb4.8,baz=101,slow=8.4,SNR=126							
ZAL	**Zalesovo**	**71.96**	**330**	P	**P**	**17 27 42.5**	**-0.5**	
	comp=Z,2.5nm,0.6s,mb4.3,baz=356,slow=5.2,SNR=24							
TKM2	**Tokmak 2**	**72.61**	**317**	P	**P**	**17 27 48.0**	**+1.0**	
TKM2				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
BILL	**Bilibino**	**73.05**	**10**	*e*P	**P**	**17 27 49.1**	**-0.1**	
BILL				*e**PP	pP	17 28 01.7	-0.7	
BILL				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.6							
BILL	**Bilibino**	**73.05**	**10**	*e*P	**P**	**17 27 49.1**	**-0.1**	
	comp=Z,8.5nm,1.1s,mb4.6							
BILL				*e*pP	pP	17 28 01.7	-0.7	
NVS	**Novosibirsk**	**73.21**	**330**	*e*P	**P**	**17 27 48.3**	**-2.0**	
AAK	**Ala-Archa**	**73.27**	**316**	*e*P	**P**	**17 27 49.9**	**-1.1**	
AAK				pmax	pmax			
	comp=Z,3.0nm,1.7s,mb4.0							
AAK				MLR	MLR			
	comp=Z,100nm,18.0s,MS4.1							
KURK	**Kurchatov**	**73.75**	**325**	*e*P	**P**	**17 27 53.9**	**+0.3**	
KURK				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.5							
KURK	**Kurchatov**	**73.75**	**325**	*e*P	**P**	**17 27 53.9**	**+0.3**	
	comp=Z,3.5nm,0.5s,mb4.5							
TIXI	**Tiksi**	**74.43**	**357**	*e*P	**P**	**17 27 55.5**	**-1.6**	
VNDA	**Vanda**	**75.85**	**175**	P	**P**	**17 28 05.5**	**+0.3**	
	comp=Z,2.8nm,0.6s,mb4.4,baz=333,slow=7.1,SNR=30							
VNDA				LR	LR	18 01 50.2		
	comp=Z,69nm,18.5s,MS4.0,baz=130,slow=36							
VOSK	**Vostochnaya**	**78.91**	**325**	P	**P**	**17 28 21.3**	**-1.3**	
VOSK				pmax	pmax			
	comp=Z,10.0nm,1.4s,mb4.5							
BVA0	**Borovoye Array**	**79.34**	**325**	*i* P	**P**	**17 28 25.0**	**0.0**	
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9							
BVAR	**Borovoye Array**	**79.34**	**325**	P	**P**	**17 28 25.4**	**+0.4**	
	comp=Z,6.6nm,0.7s,mb4.7,baz=111,slow=7.5,SNR=50							
BRVK	**Borovoye**	**79.42**	**325**	*e*P	**P**	**17 28 25.8**	**+0.4**	
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
BRVK	**Borovoye**	**79.42**	**325**	*e*P	**P**	**17 28 25.8**	**+0.4**	
	comp=Z,5.7nm,0.9s,mb4.5							
ZRNK	**Zerenda**	**80.11**	**325**	*e*P	**P**	**17 28 29.1**	**-0.1**	
ZRNK				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7							
ZRNK	**Zerenda**	**80.11**	**325**	*e*P	**P**	**17 28 29.1**	**-0.1**	
	comp=Z,12nm,1.1s,mb4.7							
KDAK	**Kodiak Island**	**80.94**	**30**	P	**P**	**17 28 34.5**	**+1.1**	
	comp=Z,23nm,0.7s,mb5.2,baz=248,slow=4.9,SNR=9.5							
MAW	**Mawson**	**82.27**	**202**	LR	LR	18 02 01.9		
	comp=Z,117nm,18.3s,MS4.3,baz=244,slow=33							
MCK	**McKinley**	**84.53**	**25**	*e*P	**P**	**17 28 51.7**	**+0.1**	
MCK				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.7							
MCK	**McKinley**	**84.53**	**25**	*e*P	**P**	**17 28 51.7**	**+0.1**	
	comp=Z,6.1nm,0.9s,mb4.7							
AB31	**Akbulak array**	**84.77**	**320**	*i* P	**P**	**17 28 52.8**	**-0.4**	
AB31				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.4							
DIV	**Divide**	**85.24**	**28**	*e*P	**P**	**17 28 56.4**	**+1.2**	
	comp=Z,86nm,0.6s,mb6.0							
COLA	**College**	**85.31**	**24**	*d i*P	**P**	**17 28 55.8**	**+0.3**	
COLA	**College**	**85.31**	**24**	*e*P	**P**	**17 28 55.4**	**-0.1**	
	comp=Z,9.4nm,0.8s,mb5.0							
ILAR	**Eielson Array**	**85.68**	**24**	P	**P**	**17 28 56.5**	**-0.7**	
	comp=Z,12nm,0.7s,mb5.2,baz=263,slow=4.4,SNR=167							
ILAR				LR	LR	18 10 37.8		
	comp=Z,89nm,18.2s,MS4.2,baz=188,slow=38							
AKTK	**Aktyubinsk**	**86.19**	**321**	P	**P**	**17 28 59.8**	**-0.4**	
AKTO	**Aktyubinsk**	**86.19**	**321**	P	**P**	**17 28 59.8**	**-0.4**	
	comp=Z,0.6nm,0.5s,mb4.1,baz=180,slow=4.1,SNR=4.2							
ARU	**Arti**	**86.82**	**327**	‖ *i* P	**P**	**17 29 02.6**	**-0.5**	
ARU				*e*		17 32 25.2		
ARU				*e*PPP	PPP	17 34 21.0	-4.5	
ARU				*e*S	S	17 39 26.1	-10	
ARU				*e*SS	SS	17 45 21.8	+0.3	
ARU				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.5							
ARU	**Arti**	**86.82**	**327**	*e*P	**P**	**17 29 02.4**	**-0.7**	
QSPA	**South Pole Qui**	**87.32**	**180**	*e*P	**P**	**17 29 06.1**	**+1.0**	
	comp=Z,4.1nm,0.5s,mb4.9							
DAWY	**Dawson**	**88.71**	**26**	*e*P	**P**	**17 29 13.4**	**+1.5**	
INK	**Inuvik**	**91.52**	**22**	P	**P**	**17 29 24.9**	**-0.2**	
	comp=Z,0.8nm,0.6s,mb4.2,baz=289,slow=7.7,SNR=6.1							
INK	**Inuvik**	**91.52**	**22**	P	**P**	**17 29 24.9**	**-0.2**	
KIV	**Kislovodsk**	**96.28**	**314**	*i* P	**P**	**17 29 50.3**	**+3.0**	
OBN	**Obninsk**	**99.19**	**325**	*e*P	**P**	**17 29 59.4**	**-0.8**	
OBN				pmax	pmax			
	comp=Z,9.0nm,1.6s,mb5.0							
YKA	**Yellowknife Ar**	**99.91**	**27**	P	**P**	**17 30 03.3**	**0.0**	
	comp=Z,0.4nm,0.6s,mb4.0,baz=285,slow=5.0,SNR=9.6							
YKA				PP	PP	17 34 07.1	-3.9	
	comp=Z,0.4nm,0.9s,baz=275,slow=6.7,SNR=3.7							
YKA				LR	LR	18 15 38.8		
	comp=Z,52nm,18.4s,MS4.1,baz=260,slow=36							
YKA	**Yellowknife Ar**	**99.91**	**27**	P	**P**	**17 30 03.4**	**0.0**	
YKA				PP	PP	17 34 07.1	-3.9	
YKA				LR	LR	18 15 38.8		
ARCES	**ARCESS Array B**	**100.49**	**341**	P	P	17 30 04.8	-1.1	
	comp=Z,3.1nm,0.9s,baz=53,slow=6.1,SNR=5.0							
PDAR	**Pinedale Array**	**107.52**	**46**	PKiKP		17 34 46.5		
	comp=Z,0.4nm,0.7s,slow=1.5,SNR=3.7							
TXAR	**Lajitas Array**	**115.10**	**59**	PKP	PKPdf	17 35 00.6	+1.3	
	comp=Z,0.3nm,0.5s,baz=182,slow=2.9,SNR=10							
DAVOX	**Davos**	**117.72**	**323**	PKP	PKPdf	17 35 05.0	+1.2	
	comp=Z,1.4nm,0.5s,baz=268,slow=15,SNR=5.2							
SWET	**Sewanee**	**127.32**	**47**	*e*PKPdf	PKPdf	17 35 20.5	-2.4	
PLCA	**Paso Flores**	**129.17**	**151**	PKP	PKPdf	17 35 28.6	+2.4	
	comp=Z,0.8nm,0.6s,baz=276,slow=2.5,SNR=5.4							
DBIC	**Dimbokro**	**143.65**	**278**	PKP	PKPdf	17 35 52.4	-1.0	
	comp=Z,2.2nm,0.5s,baz=86,slow=5.3,SNR=7.1							
DBIC	**Dimbokro**	**143.65**	**278**	PKP	PKPdf	17 35 52.4	-1.0	
DBIC				*e*PKPdf	PKPdf	17 35 57.4	+4.0	
ROSC	**El Rosal**	**146.78**	**85**	PKPbc	PKPbc	17 36 02.5	+2.2	
	comp=Z,3.7nm,0.5s,baz=98,slow=22,SNR=4.8							
CPUP	**Villa Florida**	**147.22**	**152**	*e*PKP2	PKPab	17 36 03.6	-1.9	
LPAZ	**La Paz**	**147.35**	**126**	PKP	PKPdf	17 36 03.0	+3.3	
	comp=Z,7.9nm,0.9s,baz=181,slow=2.0,SNR=16							
LPAZ				PKPbc	PKPdf	17 36 05.2	+5.5	
	comp=Z,8.3nm,0.9s,baz=239,slow=2.7,SNR=12							
LPAZ	**La Paz**	**147.35**	**126**	PKP	PKPdf	17 36 03.0	+3.3	
LPAZ				PKPbc	PKPdf	17 36 05.2	+5.5	
SDV	**Santo Domingo**	**149.99**	**77**	*e*PKPdf	PKPdf	17 36 05.5	+1.4	
SDV				*e*PKPbc	PKPdf	17 36 10.0	+6.0	
SDV				*e*PKPab	PKPab	17 36 17.1	+0.2	
MTP	**Monte Pirata**	**151.52**	**56**	*e*PKPdf	PKPdf	17 36 07.9	+1.7	
MTP				*e*PKPbc	PKPdf	17 36 13.7	+7.5	

PLV 31 17:22:05.8±1.4, 23.30N×104.14E, h4km±7km, MD3.9, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**2.16**	**209**	*e*PN	Pn	17 22 42.1	-1.1
DBV				*e*PG	Pg	17 22 47.0	-1.9
DBV				*e*SG	Sg	17 23 16.1	-1.6
TDV	**Tam Dao**	**2.30**	**142**	*e*Pn	Pn	17 22 44.0	-1.1
TDV				*e*Pg	Pg	17 22 50.4	-1.2
TDV				*e*Sg	Sg	17 23 20.4	-1.8
MTZV	**Met**	**2.68**	**130**	*e*Pn	Pn	17 22 49.6	-1.0
MTZV				*e*Pg	Pg	17 22 57.7	-1.6
MTZV				*e*Sg	Sg	17 23 32.2	-2.9
HNV	**Hanoi**	**2.72**	**145**	*e*Pn	Pn	17 22 51.0	-0.1
HNV				*e*Pg	Pg	17 22 58.6	-1.5
HNV				*e*Sg	Sg	17 23 34.5	-1.8
BGV	**Bac-Giang**	**2.78**	**135**	*e*Pn	Pn	17 22 51.8	-0.1
BGV				*e*Pg	Pg	17 22 59.7	-1.6
BGV				*e*Sg	Sg	17 23 34.7	-3.6
DSV	**Doi Son**	**3.19**	**147**	*e*Pn	Pn	17 22 55.8	-2.0
DSV				*e*Pg	Pg	17 23 07.2	-2.3
DSV				*e*Sg	Sg	17 23 48.2	-3.9
YTV	**Yen Tu**	**3.20**	**131**	*e*Pn	Pn	17 22 57.7	-0.2
YTV				*e*Pg	Pg	17 23 07.0	-2.7
YTV				*e*Sg	Sg	17 23 50.2	-2.2
PLV	**Phu-Lien**	**3.39**	**137**	*e*Pn	Pn	17 22 59.7	-0.9
PLV				*e*Pg	Pg	17 23 10.1	-3.4
PLV				*e*Sg	Sg	17 23 54.4	-4.3

MAN 31 17:30:09.8, 10.83N×122.09E, h3km, mb4.7, ML3.6, MS3.6, 2D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.54**	**112**	*e*P	Pg	17 30 20.5	-0.1
GUIM				*e*S	Sg	17 30 26.5	-1.2
KALP	**Kalibo**	**0.88**	**16**	*e*P	Pb	17 30 29.9	+2.6
KALP				*e*S	Sg	17 30 42.0	+2.9
RCP	**Roxas**	**0.97**	**42**	‖ *e*P	Pb	17 30 28.6	-0.4
RCP				*e*S	Sb	17 30 44.2	+2.2
CUYO	**Cuyo Island**	**1.05**	**271**	*e*P	Pb	17 30 32.0	+1.7
CUYO				*e*S	Sb	17 30 47.2	+3.0
OTRP	**Odiongan**	**1.52**	**358**	*e*P	Pn	17 30 37.9	-0.2
OTRP				*e*S	Sb	17 30 58.0	0.0
SNPH	**Sibulan**	**1.86**	**142**	‖ *i* P	Pn	17 30 43.5	+0.6
SNPH				*i* S	Sn	17 31 08.5	+1.2
SJMP	**San Jose**	**1.88**	**330**	*e*P	Pn	17 30 43.1	0.0
SJMP				*e*S	Sn	17 31 28.6	+21
TBP	**Tagbilaran**	**2.08**	**123**	*e*P	Pn	17 30 46.4	+0.3
TBP				*e*S	Sn	17 31 12.9	+0.1
BUSP	**Coron**	**2.19**	**302**	*e*P	Pn	17 30 47.2	-0.4
BUSP				*e*S	Sn	17 31 21.8	+6.2
OCLP	**Ormoc**	**2.49**	**85**	*e*P	Pn	17 30 51.9	0.0
OCLP				*e*S	Sn	17 31 24.1	+0.9
DCPH	**Dipolog City**	**2.56**	**151**	*e*P	Pn	17 30 50.6	-2.3
DCPH				*e*S	Sn	17 31 24.3	-0.6
BOAC	**Boac**	**2.62**	**355**	*e*P	Pn	17 30 52.8	-1.1
BOAC				*e*S	Sn	17 31 25.7	-0.9
ENPP	**El Nido**	**2.64**	**278**	*e*P	Pn	17 30 53.9	-0.1
ENPP				*e*S	Sn	17 31 24.0	-3.0
MSLP	**Maasin**	**2.81**	**104**	*e*P	Pn	17 30 57.0	+0.5
MSLP				*e*S	Sn	17 31 30.8	-0.7
PLP	**Palo**	**2.86**	**83**	*e*P	Pn	17 30 56.2	-1.0
PLP				*e*S	Sn	17 31 31.9	-0.7
CNP	**Catarman**	**3.03**	**56**	*e*P	Pn	17 31 00.1	+0.5
CNP				*e*S	Sn	17 31 37.0	+0.2
IPIL	**Ipil**	**3.06**	**171**	*e*P	Pn	17 30 59.5	-0.6
IPIL				*e*S	Sn	17 31 32.9	-4.8
PAGZ	**Pagadian**	**3.23**	**157**	*e*P	Pn	17 31 03.4	+1.0
PAGZ				*e*S	Sn	17 31 43.1	+1.1
LUBP	**Lubang**	**3.40**	**328**	*e*P	Pn	17 31 05.0	+0.2
LUBP				*e*S	Sn	17 31 43.7	-2.6
PVCP	**Virac**	**3.41**	**36**	*e*P	Pn	17 31 05.1	+0.1
BUTP	**Butuan**	**3.94**	**118**	*e*P	Pn	17 31 12.8	+0.2
BUKP	**Musuan**	**4.15**	**135**	*e*P	Pn	17 31 16.0	+0.4

*IDC **31** 17:32:42.9±2.2, 18.80N×145.58E, h198km±22km, mb3.4/8, mb1 3.6/10, mb1mx3.3/23, mbtmp3.9/10, Error ellipse: s-maj=28.8km s-min=15.2km az=93.0*
*NEIC **31** 17:32:43.6±1.5, 18.78N×145.64E, h206km±16km, mb4.2/1, Error ellipse: s-maj=28.3km s-min=11.8km az=95.0*
ISC 31 17:32:42.6±1.7, 18.79N±0.09×145.6E±0.3, h210km±17km, n16, σ0°81/16, mb3.6/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.21**	**188**	P	**P**	**17 34 00.7**	**+0.1**
	6.4nm,0.3s,baz=180,slow=20,SNR=2.1						
GUMO				S	**S**	**17 35 01.1**	**-0.1**
	9.7nm,0.3s,baz=218,slow=16,SNR=3.5						
GUMO	**Guam**	**5.21**	**188**	P	**P**	**17 34 00.7**	**+0.1**
GUMO				S	**S**	**17 35 01.1**	**-0.1**
MJAR	**Matsushiro Arr**	**18.84**	**341**	P	**P**	**17 36 49.1**	**+0.4**
	0.1nm,0.3s,baz=169,slow=11,SNR=3.1						
WRAB	**Tennant Creek**	**40.02**	**197**	*e*P	**P**	**17 39 58.8**	**0.0**
	3.7nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**40.03**	**197**	*e*P	**P**	**17 39 59.3**	**+0.5**
WRA	**Warramunga Arr**	**40.04**	**197**	P	**P**	**17 39 58.8**	**0.0**
	1.3nm,0.5s,mb3.6,baz=19,slow=8.7,SNR=29						
WRA				PcP	PcP	17 41 59.2	-0.8
	0.3nm,0.5s,baz=17,slow=3.6,SNR=4.9						
ASPA	**Alice Springs**	**43.71**	**196**	*e*P	**P**	**17 40 28.2**	**-0.5**
ILAR	**Eielson Array**	**63.62**	**26**	P	**P**	**17 42 51.0**	**-1.9**
	0.6nm,0.7s,mb3.4,baz=254,slow=6.2,SNR=6.6						
BVAR	**Borovoye Array**	**66.34**	**320**	P	**P**	**17 43 10.3**	**-0.1**
	1.0nm,0.6s,mb3.6,baz=93,slow=8.4,SNR=8.4						
INK	**Inuvik**	**69.34**	**23**	P	**P**	**17 43 27.8**	**-1.0**
	0.4nm,0.4s,mb3.4,baz=204,slow=3.4,SNR=2.6						
YKA	**Yellowknife Ar**	**77.96**	**28**	P	**P**	**17 44 19.3**	**+0.7**
	0.7nm,0.6s,mb3.5,baz=288,slow=5.5,SNR=15						
ARCES	**ARCESS Array B**	**82.38**	**342**	P	**P**	**17 44 42.6**	**+0.9**
	2.6nm,0.9s,mb3.9,baz=74,slow=8.8,SNR=5.7						
ELK	**Elko**	**84.65**	**49**	P	**P**	**17 44 55.6**	**+1.7**
	0.2nm,0.3s,mb3.3,baz=284,slow=4.2,SNR=3.4						
FINES	**FINESS Array B**	**86.76**	**335**	P	**P**	**17 45 03.0**	**-0.7**
	0.4nm,0.4s,mb3.5,baz=63,slow=4.3,SNR=7.6						
CFAA	**Coronel Fontan**	**146.98**	**119**	PKPbc	PKPbc	17 52 02.8	+2.5
	0.1nm,0.4s,baz=219,slow=3.7,SNR=4.4						
LPAZ	**La Paz**	**147.79**	**91**	PKPbc	PKPdf	17 52 06.0	+6.0
	0.4nm,0.4s,baz=267,slow=6.7,SNR=4.6						

*INMG **31** 17:49:23.7±0.8, 35.89N×8.72W, h10km, ML2.3, Error ellipse: s-maj=4.4km s-min=2.6km az=52.0*
*NEIC **31** 17:49:23.4, 35.91N×8.55W, MN2.5(MDD), After MDD.*
*IGIL **31** 17:49:25.1, 36.05N×8.83W, h0km, ML2.3*
MDD 31 17:49:23.0±1.5, 35.96N×8.64W, mb3.9/8, 1C, Error ellipse: s-maj=14.3km s-min=7.5km az=45.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.35**	**359**	*e*P	Pb	17 49 47.5	-1.3
MORF				*e*S	Sb	17 50 04.4	-2.1
MORF				*e*S	Sb	17 50 04.4	-2.1
MORF				AML	AML	17 50 07.4	
	comp=E,47nm,0.1s						
PTEO	**Sao Teotonio**	**1.59**	**357**	*e*Pn	Pn	17 49 50.8	-1.7
PTEO				*e*Sn	Sn	17 50 11.3	-2.7
	comp=E,20nm,0.1s						
PTEO	**Sao Teotonio**	**1.59**	**357**	Pn	Pn	17 49 50.8	-1.7
PTEO				Sn	Sn	17 50 11.3	-2.7
	comp=E,10nm,0.1s						
ERIP	**Rio Piedras**	**1.80**	**38**	⇑P	Pn	17 49 54.6	-0.9
	comp=E,3.8nm,0.1s,SNR=18						
ERIP				S	Sn	17 50 17.3	-2.0
	comp=E,23nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.83**	**30**	P	Pn	17 49 55.1	-0.9
	comp=E,2.5nm,0.1s,SNR=31						
EGRO				S	Sn	17 50 18.4	-1.7
	comp=E,9.5nm,0.1s,SNR=9.9						
EGRO	**El Granado**	**1.83**	**30**	Pn	Pn	17 49 55.1	-0.9
EGRO				Sn	Sn	17 50 17.4	-2.7
PBEJ	**Beja**	**2.16**	**16**	*e*Pn	Pn	17 49 59.3	-1.3
PBEJ				*e*Sn	Sn	17 50 25.8	-2.7
	comp=E,10nm,0.2s						
PBEJ	**Beja**	**2.16**	**16**	Pn	Pn	17 49 59.3	-1.3
PBEJ				Sn	Sn	17 50 25.8	-2.7
	comp=E,5.1nm,0.2s						
EMIN	**Mina Concepcio**	**2.40**	**40**	P	Pn	17 50 02.5	-1.6
	comp=E,0.7nm,0.1s,SNR=21						
EMIN				S	Sn	17 50 31.2	-3.4
	comp=E,4.1nm,0.1s,SNR=5.9						
ESPR	**Espera**	**2.42**	**67**	P	Pn	17 50 02.4	-2.0
	comp=E,4.1nm,0.1s,SNR=40						
ESPR				S	Sn	17 50 31.4	-3.7
	comp=E,12nm,0.3s						
MOE	**Montemor**	**2.57**	**5**	*e*Sn	Sn	17 50 34.9	-4.2
EJIF	**Jimena Fronter**	**2.61**	**78**	P	Pn	17 50 05.5	-1.6
	comp=E,2.9nm,0.2s,SNR=15						
EJIF				S	Sn	17 50 33.3	-6.7
	comp=E,0.9nm,0.2s						
EBAD	**Badajoz**	**3.08**	**24**	P	Pn	17 50 12.1	-1.7
	comp=E,1.4nm,0.1s,SNR=9.3						
EBAD				S	Sn	17 50 48.8	-3.1
	comp=E,3.2nm,0.1s,SNR=8.8						
EMIJ	**Mijas**	**3.18**	**78**	P	Pn	17 50 11.9	-3.4
	comp=E,1.6nm,0.2s,SNR=10						
EMIJ				S	Sn	17 50 49.9	-4.6
	comp=E,1.4nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**3.18**	**78**	Pn	Pn	17 50 11.9	-3.4
EMIJ				Sn	Sn	17 50 48.4	-6.0
PTOM	**Tomar**	**3.66**	**3**	*e*Pn	Pn	17 50 19.5	-2.6
PTOM				*e*Sn	Sn	17 51 01.2	-5.4
	comp=E,9.0nm,0.2s						
PTOM	**Tomar**	**3.66**	**3**	Pn	Pn	17 50 19.5	-2.6
PTOM				Sn	Sn	17 51 01.2	-5.4
	comp=E,4.5nm,0.2s						
ELOJ	**Sierra Loja**	**3.80**	**70**	P	Pn	17 50 21.9	-2.1
	comp=E,0.9nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**3.80**	**70**	Pn	Pn	17 50 21.9	-2.1
ELOJ				Sn	Sn	17 51 01.3	-8.9
ELUQ	**Luque**	**3.86**	**64**	P	Pn	17 50 22.0	-2.9
	comp=E,0.6nm,0.2s,SNR=7.9						
ELUQ				S	Sn	17 51 06.4	-5.2
	comp=E,1.1nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**3.86**	**64**	Pn	Pn	17 50 21.5	-3.4
ELUQ				Sn	Sn	17 51 03.6	-7.9
EADA	**Adamuz**	**3.92**	**55**	P	Pn	17 50 23.2	-2.6
	comp=E,1.1nm,0.1s,SNR=22						
EADA				S	Sn	17 51 07.9	-5.3
	comp=E,4.5nm,0.1s						
EADA	**Adamuz**	**3.92**	**55**	Pn	Pn	17 50 23.6	-2.3
EADA				Sn	Sn	17 51 08.0	-5.3
PCBR	**Castelo Branco**	**3.98**	**13**	*e*Pn	Pn	17 50 23.9	-2.8
PCBR		

WRA	**Warramunga Arr**	**46.96**	**188**	P		**P**	**18 11 58.5**	**0.0**
	1.4nm,0.6s,mb4.1,baz=10,slow=8.6,SNR=22							
MKAR	**Makanchi Array**	**49.73**	**310**	P		**P**	**18 12 19.1**	**-0.6**
	0.3nm,0.7s,mb3.5,baz=98,slow=10,SNR=3.6							
BVAR	**Borovoye Array**	**57.43**	**317**	P		**P**	**18 13 16.6**	**+0.1**
	0.2nm,0.5s,mb3.4,baz=82,slow=10,SNR=2.6							
ILAR	**Eielson Array**	**58.47**	**29**	P		**P**	**18 13 23.1**	**-0.5**
	0.8nm,1.0s,mb3.7,baz=239,slow=5.9,SNR=4.6							
YKA	**Yellowknife Ar**	**72.89**	**28**	P		**P**	**18 14 56.2**	**+0.2**
	0.7nm,0.7s,mb3.7,baz=296,slow=6.3,SNR=12							
PDAR	**Pinedale Array**	**85.19**	**44**	P		**P**	**18 16 03.8**	**+0.8**
	0.5nm,0.5s,mb3.9,baz=270,slow=0.9,SNR=6.1							
PLCA	**Paso Flores**	**150.61**	**126**	PKPbc	PKPdf		18 23 19.7	+2.8
	0.8nm,0.6s,baz=233,slow=6.5,SNR=4.9							
LPAZ	**La Paz**	**151.10**	**75**	PKPbc	PKPdf		18 23 22.5	+4.1
	0.9nm,0.4s,baz=251,slow=6.5,SNR=5.9							

*IDC **31** 18:24:35.4±2.2,20.35S×178.44W,h550km±28km,mb3.1/6, mb1 3.5/8,mb1mx3.3/15,mbtmp4.2/8, Error ellipse: s-maj=30.6km s-min=16.7km az=141.0*
*NEIC **31** 18:24:35.5±1.1,20.38S×178.36W,h553km±14km,mb4.2/2, Error ellipse: s-maj=17.9km s-min=11.1km az=131.0*

ISC 31 18:24:33.8±1.3,20.5S±0.1×178.4W±0.1,h540km±20km, n20,σ1°01/17,mb3.7/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.78**	**177**	*eP*		**P**	**18 26 37.4**	**-2.5**
	230nm,0.4s							
AFI	**Afiamalu**	**9.06**	**45**	P		**P**	**18 26 44.0**	**+1.2**
	7.9nm,0.3s,baz=209,slow=7.1,SNR=5.2							
AFI	**Afiamalu**	**9.06**	**45**	*eP*		**P**	**18 26 43.4**	**+0.6**
URZ	**Urewera**	**18.17**	**191**	*eP*		**P**	**18 28 14.4**	**+0.5**
	1.7nm,0.3s,baz=335,slow=4.9,SNR=7.4							
SNZO	**South Karori**	**21.61**	**194**	*eP*		**P**	**18 28 46.3**	**+0.3**
CTA	**Charters Tower**	**33.13**	**264**	*eP*		**P**	**18 30 28.0**	**+1.2**
	6.2nm,0.4s,mb4.5							
CTAO	**Charters Tower**	**33.13**	**264**	*eP*		**P**	**18 30 28.1**	**+1.4**
	5.4nm,0.3s,mb4.6							
STKA	**Stephens Creek**	**37.48**	**244**	*eP*		**P**	**18 31 04.1**	**+1.4**
	2.4nm,0.9s,mb3.7							
STKA	**Stephens Creek**	**37.48**	**244**	P		**P**	**18 31 02.7**	**0.0**
	2.6nm,0.7s,mb3.9,baz=77,slow=7.7,SNR=8.1							
ASPA	**Alice Springs**	**44.18**	**257**	*eP*		**P**	**18 31 56.6**	**+0.3**
WB2	**Warramunga Arr**	**44.23**	**262**	*eP*		**P**	**18 31 56.4**	**-0.4**
WRA	**Warramunga Arr**	**44.25**	**262**	P		**P**	**18 31 56.7**	**-0.2**
	1.9nm,0.5s,mb3.9,baz=97,slow=8.0,SNR=96							
QSPA	**South Pole Qui**	**69.62**	**180**	*eP*		**P**	**18 34 50.0**	**+0.2**
MJAR	**Matsushiro Arr**	**69.95**	**324**	P		**P**	**18 34 50.4**	**-2.0**
	0.8nm,0.6s,mb3.5,baz=156,slow=6.4,SNR=10							
TXAR	**Lajitas Array**	**87.33**	**57**	P		**P**	**18 36 25.4**	**+0.8**
	0.4nm,0.8s,mb3.1,baz=202,slow=6.7,SNR=4.2							
ILAR	**Eielson Array**	**88.34**	**13**	P		**P**	**18 36 27.2**	**-1.2**
	0.7nm,0.4s,mb3.7,baz=216,slow=5.6,SNR=12							
PDAR	**Pinedale Array**	**89.17**	**43**	P		**P**	**18 36 33.1**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=214,slow=5.3,SNR=4.2							
AKASG	**Malin Array Be**	**142.79**	**331**	PKhKP			18 43 02.3	
	1.8nm,0.4s,baz=43,slow=4.1,SNR=22							
BRTR	**Keskin Array B**	**146.53**	**312**	PKPbc		PKPbc	18 43 14.9	+1.0
	0.7nm,0.6s,baz=147,slow=5.8,SNR=4.1							
GERES	**GERESS Array B**	**150.05**	**344**	PKPbc		PKPdf	18 43 23.8	+6.5
	0.4nm,0.6s,baz=56,slow=4.8,SNR=5.5							

*IDC **31** 18:28:54.0±1.6,20.34S×178.41W,h552km±18km,mb3.4/8, mb1 3.8/11,mb1mx3.6/17,mbtmp4.5/11, Error ellipse: s-maj=22.8km s-min=14.0km az=136.0*
*NEIC **31** 18:28:54.4±1.0,20.33S×178.43W,h558km±12km,mb4.6/5, Error ellipse: s-maj=16.1km s-min=9.9km az=140.0*

ISC 31 18:28:52.6±0.9,20.3S±0.1×178.4W±0.1,h545km±14km, n49,σ1°01/29,mb4.1/10,2C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.99**	**46**	P		**P**	**18 31 01.8**	**+0.8**
	13nm,0.3s,baz=20,slow=4.1,SNR=11							
AFI				S		**S**	**18 32 42.1**	**-1.3**
	1.8nm,0.3s,baz=223,slow=21,SNR=3.9							
AFI	**Afiamalu**	**8.99**	**46**	*eP*		**P**	**18 31 02.0**	**+1.0**
	185nm,1.3s							
AFI				S		**S**	**18 32 42.1**	**-1.3**
AFI				*eS*		**S**	**18 32 42.6**	**-0.8**
DZM	**Mont Dzumac**	**14.22**	**260**	P		**P**	**18 31 56.4**	**+2.3**
	1.6nm,0.3s,baz=103,slow=22,SNR=20							
URZ	**Urewera**	**18.30**	**191**	P		**P**	**18 32 32.6**	**-1.1**
	3.5nm,0.3s,baz=330,slow=2.8,SNR=15							
URZ				S		**S**	**18 35 27.2**	**-4.8**
	0.2nm,0.3s,slow=20,SNR=3.3							
RPZ	**Rata Peaks**	**24.94**	**198**	P		**P**	**18 33 34.1**	**-0.4**
	12nm,0.9s,mb4.5,baz=19,slow=14,SNR=5.9							
CNB	**Canberra Magne**	**32.00**	**235**	*eP*		**P**	**18 34 36.6**	**+0.9**
	13nm,1.0s,mb4.4							
CTA	**Charters Tower**	**33.11**	**264**	*eP*		**P**	**18 34 46.1**	**+1.0**
	15nm,0.4s,mb4.9							
CTAO	**Charters Tower**	**33.11**	**264**	*eP*		**P**	**18 34 45.8**	**+0.7**
	18nm,0.4s,mb4.9							
STKA	**Stephens Creek**	**37.51**	**244**	*eP*		**P**	**18 35 22.3**	**+0.9**
	1.7nm,0.3s,mb4.0							
STKA	**Stephens Creek**	**37.51**	**244**	P		**P**	**18 35 22.1**	**+0.7**
	2.8nm,0.3s,mb4.2,baz=91,slow=11,SNR=24							
ASPA	**Alice Springs**	**44.18**	**257**	*eP*		**P**	**18 36 14.7**	**-0.1**
WB2	**Warramunga Arr**	**44.22**	**262**	*eP*		**P**	**18 36 14.4**	**-0.8**
WRAB	**Tennant Creek**	**44.22**	**262**	*eP*		**P**	**18 36 13.3**	**-1.9**
	6.4nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**44.23**	**262**	P		**P**	**18 36 14.7**	**-0.5**
	5.0nm,0.5s,mb4.3,baz=97,slow=8.1,SNR=133							
WRA				S		**S**	**18 42 05.7**	**-4.0**
	0.7nm,0.9s,baz=87,slow=14,SNR=3.9							
QSPA	**South Pole Qui**	**69.76**	**180**	*eP*		**P**	**18 39 08.7**	**-0.2**
MJAR	**Matsushiro Arr**	**69.82**	**324**	P		**P**	**18 39 09.5**	**-0.5**
	1.7nm,0.5s,mb3.8,baz=155,slow=6.1,SNR=28							
MJAR	**Matsushiro Arr**	**69.82**	**324**	P		**P**	**18 39 09.5**	**-0.5**
MAT	**Matsushiro**	**69.82**	**324**	P		**P**	**18 39 09.4**	**-0.6**
MAT	**Matsushiro**	**69.82**	**324**	*eP*		**P**	**18 39 09.0**	**-1.0**
NVAR	**Mina Array Bea**	**81.16**	**44**	P		**P**	**18 40 13.7**	**+1.2**
	0.3nm,0.5s,baz=225,slow=7.7,SNR=3.7							
ENH	**Enshi**	**85.60**	**304**	*eP*		**P**	**18 40 34.5**	**-0.2**
TXAR	**Lajitas Array**	**87.29**	**58**	P		**P**	**18 40 44.0**	**+1.3**
	0.6nm,0.8s,mb3.3,baz=226,slow=5.5,SNR=7.1							
ILAR	**Eielson Array**	**88.22**	**13**	P		**P**	**18 40 45.5**	**-0.7**
	2.9nm,0.8s,mb4.1,baz=221,slow=5.6,SNR=26							
PDAR	**Pinedale Array**	**89.10**	**43**	P		**P**	**18 40 51.6**	**+0.8**
	0.7nm,0.6s,mb3.7,baz=213,slow=3.8,SNR=8.3							
MKAR	**Makanchi Array**	**110.78**	**314**	PKiKP			18 46 22.9	
	0.5nm,0.5s,baz=170,slow=0.9,SNR=11							
ARCES	**ARCESS Array B**	**128.66**	**349**	PKP		PKPdf	18 46 56.9	-0.4
	4.0nm,0.9s,baz=59,slow=1.0,SNR=12							
FINES	**FINESS Array B**	**135.48**	**343**	PKhKP			18 47 03.1	
	2.3nm,0.9s,baz=90,slow=1.9,SNR=3.4							
FINES				PKP		PKPdf	18 47 11.7	+1.5
	3.0nm,1.0s,baz=72,slow=6.0,SNR=6.3							
FINES				SKPbc			18 49 50.3	
	1.9nm,1.0s,baz=27,slow=4.3,SNR=3.3							
NB2	**NORSAR Subarra**	**138.75**	**353**	PKPabc		PKPdf	18 47 07.6	-8.5
	2.4nm,1.1s,baz=5.0,slow=3.4							
AKASG	**Malin Array Be**	**142.66**	**331**	PKhKP			18 47 20.4	
	5.3nm,0.4s,baz=42,slow=4.0,SNR=61							
AKASG	**Malin Array Be**	**142.66**	**331**	PKP		PKPdf	18 47 20.4	-2.8
BRTR	**Keskin Array B**	**146.42**	**312**	PKPbc		PKPbc	18 47 33.0	+1.1
	1.7nm,0.5s,baz=123,slow=2.9,SNR=13							
BURAR	**Bucovina Array**	**146.70**	**330**	⇑P		PKPdf	18 47 34.6	+4.4
KOLS	**Kolonicke sedl**	**146.97**	**335**	*e*PKP		PKPdf	18 47 35.2	+4.6
STHS	**Stebnicka Huta**	**146.98**	**336**	*e*PKP		PKPdf	18 47 35.0	+4.4
STHS				*e*			18 47 38.6	
KSP	**Ksiaz**	**147.39**	**343**	*e*P		PKPdf	18 47 36.0	+4.8
UPC	**Upice**	**147.77**	**343**	*e*PKPbc		PKPdf	18 47 36.9	+5.1
CLL	**Collm**	**147.79**	**347**	⇓P		PKPdf	18 47 36.7	+4.9
	logA/T=1.2							
CLL				*i* *PP			18 47 41.1	
CLL	**Collm**	**147.79**	**347**	⇓*i*P		PKPdf	18 47 36.7	+4.9
CLL				*i* pP			18 47 41.1	
DPC	**Dobruska-Polom**	**147.83**	**342**	*e*PKPbc		PKPdf	18 47 37.2	+5.3
DPC				*e*PKPab		PKPab	18 47 42.0	-0.6
BRG	**Berggiesshubel**	**147.98**	**345**	*i* P		PKPdf	18 47 37.1	+5.0
BRG				*i*			18 47 42.0	
KECS	**Kecovo**	**148.03**	**336**	*e*PKP		PKPdf	18 47 37.6	+5.3
KECS				*e*			18 47 42.0	
PVCC	**Panska Ves**	**148.14**	**344**	*e*PKPbc		PKPdf	18 47 37.7	+5.3
PVCC				*e*PKPab		PKPab	18 47 42.7	-1.1
VYHS	**Vyhne**	**148.63**	**338**	*e*PKP		PKPdf	18 47 37.9	+4.6
PRU	**Pruhonice**	**148.64**	**344**	*e*P		PKPdf	18 47 38.9	+5.7
PRU				*e*			18 47 45.1	
NKC	**Novy Kostel**	**148.92**	**346**	*e*PKPbc		PKPdf	18 47 40.3	+6.6
NKC				*e*PKPab		PKPab	18 47 46.7	-0.3
KHC	**Kasperske Hory**	**149.68**	**344**	*e*PKPbc		PKPdf	18 47 41.4	+6.5
KHC				*e*PKPab		PKPab	18 47 49.2	-1.0
KHC	**Kasperske Hory**	**149.68**	**344**	*e*P		PKPdf	18 47 41.4	+6.5
BZS	**Buzias**	**149.84**	**331**	⇑P		PKPdf	18 47 41.8	+6.5
GERES	**GERESS Array B**	**149.91**	**344**	PKPbc		PKPdf	18 47 41.8	+6.5
	1.4nm,0.5s,baz=20,slow=1.6,SNR=12							

IDC 31 18:37:01.7±2.3,2.44N×97.28E,mb3.6/5,mb1 3.7/5, mb1mx3.5/18,mbtmp3.6/5,Error ellipse: s-maj=94.7km s-min=30.3km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.63**	**123**	P		P	18 45 00.1	-1.7
	0.3nm,0.6s,baz=303,slow=9.1,SNR=3.5							
SONM	**Songino Array**	**45.90**	**9**	P		P	18 45 26.1	-1.7
	0.2nm,0.4s,baz=190,slow=9.2,SNR=5.4							
MKAR	**Makanchi Array**	**46.06**	**346**	P		P	18 45 27.4	-1.7
	0.3nm,0.5s,baz=157,slow=8.9,SNR=13							
ZAL	**Zalesovo**	**52.35**	**351**	P		P	18 46 15.2	-2.2
	0.5nm,0.3s,baz=320,slow=24,SNR=3.9							
FINES	**FINESS Array B**	**78.94**	**332**	P		P	18 49 06.8	-1.8
	1.8nm,1.0s,baz=124,slow=5.0,SNR=2.5							

*IDC **31** 19:08:43.8±0.5, 10.81N×42.61W,mb4.2/22,mb1 4.3/22, mb1mx4.3/25,mbtmp4.2/22,MS3.9/16,Ms1 3.9/16, ms1mx3.8/25,Error ellipse: s-maj=16.1km s-min=12.8km az=130.0*
*NEIC **31** 19:08:45.5±0.3, 10.80N×42.61W,h10km,mb4.6/6,Error ellipse: s-maj=8.8km s-min=7.4km az=118.0*

ISC 31 19:08:43.8±0.4,10.81N±0.07×42.59W±0.07,h10km,n41, σ0°96/37,mb4.2/26,MS3.9/16,1C,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**17.82**	**158**	*e*P		**P**	**19 12 54.4**	**+0.8**
	19nm,0.9s							
SJG	**San Juan**	**23.92**	**290**	P		**P**	**19 14 00.9**	**+1.9**
	9.4nm,0.6s,mb4.4,baz=70,slow=20,SNR=3.6							
BDFB	**Brasilia**	**26.82**	**192**	P		**P**	**19 14 26.7**	**+0.3**
	2.6nm,0.8s,mb3.8,baz=35,slow=12,SNR=3.5							
BDFB				LR		LR	19 24 27.7	
	comp=Z,490nm,18.5s,MS4.1,baz=5,slow=35							
SDV	**Santo Domingo**	**27.69**	**269**	P		**P**	**19 14 33.4**	**-0.9**
	5.7nm,0.8s,mb4.2,baz=84,slow=4.6,SNR=8.6							
SAML	**Samuel**	**28.37**	**227**	⇑*e*P		**P**	**19 14 40.5**	**0.0**
	29nm,0.9s,mb4.9							
ROSC	**El Rosal**	**31.97**	**262**	P		**P**	**19 15 13.4**	**+0.9**
	6.7nm,0.6s,mb4.6,baz=108,slow=22,SNR=5.4							
ROSC				LR		LR	19 28 17.6	
	comp=Z,216nm,18.6s,MS3.9,baz=64,slow=37							
SIV	**San Ignacio**	**32.30**	**215**	P		**P**	**19 15 15.9**	**+0.5**
	7.4nm,0.7s,mb4.6,baz=49,slow=9.3,SNR=45							
LPAZ	**La Paz**	**36.92**	**224**	P		**P**	**19 15 56.1**	**+1.2**
	21nm,0.8s,mb5.0,baz=38,slow=7.5,SNR=73							
LPAZ				LR		LR	19 32 14.0	
	comp=Z,74nm,20.4s,MS3.5,baz=97,slow=38							
OTAV	**Otavalo**	**37.15**	**256**	*e*P		**P**	**19 15 56.8**	**-0.1**
	15nm,1.1s,mb4.7							
DBIC	**Dimbokro**	**37.51**	**93**	P		**P**	**19 15 60.0**	**+0.1**
	18nm,0.9s,mb4.8,baz=263,slow=10,SNR=22							
DBIC				LR		LR	19 28 19.4	
	comp=Z,126nm,20.1s,MS3.7,baz=257,slow=31							
DBIC	**Dimbokro**	**37.51**	**93**	P		**P**	**19 15 60.0**	**+0.1**
DBIC				LR		LR	19 28 19.4	
ARE	**Arequipa**	**39.39**	**227**	*e*P		**P**	**19 16 15.0**	**-0.6**
MDT	**Midelt**	**41.19**	**52**	LR		LR	19 29 36.7	
	comp=Z,140nm,19.7s,MS3.8,baz=71,slow=30							
ESDC	**Sonseca Array**	**44.70**	**43**	P		**P**	**19 16 58.9**	**0.0**
	0.3nm,0.6s,mb3.3,baz=225,slow=9.1,SNR=3.2							
SADO	**Sadowa**	**46.13**	**324**	LR		LR	19 31 44.7	
	comp=Z,120nm,22.0s,MS3.8,baz=91,slow=30							
SCHQ	**Schefferville**	**47.91**	**341**	P		**P**	**19 17 24.0**	**-0.1**
	7.4nm,0.8s,mb4.8,baz=150,slow=6.7,SNR=5.6							
SCHQ	**Schefferville**	**47.91**	**341**	P		**P**	**19 17 24.0**	**-0.1**
OXF	**Oxford**	**48.68**	**307**	*e*P		**P**	**19 17 31.9**	**+1.7**
	26nm,1.1s,mb5.2							
CFAA	**Coronel Fontan**	**48.81**	**209**	P		**P**	**19 17 30.7**	**-0.6**
	0.6nm,0.7s,mb3.7,baz=26,slow=7.6,SNR=11							
CFAA	**Coronel Fontan**	**48.81**	**209**	P		**P**	**19 17 30.7**	**-0.6**
PLCA	**Paso Flores**	**57.42**	**205**	P		**P**	**19 18 33.4**	**-1.8**
	4.1nm,1.0s,mb4.4,baz=21,slow=8.6,SNR=9.4							
PLCA				LR		LR	19 42 48.1	
	comp=Z,81nm,19.3s,MS3.8,baz=14,slow=36							
ULM	**Lac du Bonnet**	**58.67**	**323**	P		**P**	**19 18 41.5**	**-2.2**
	2.0nm,0.6s,mb4.3,baz=121,slow=9.5,SNR=8.3							
ULM				LR		LR	19 38 17.6	
	comp=Z,99nm,20.2s,MS3.9,baz=17,slow=30							
ULM	**Lac du Bonnet**	**58.67**	**323**	P		**P**	**19 18 41.5**	**-2.2**
ULM				LR		LR	19 38 17.6	
TXAR	**Lajitas Array**	**59.62**	**298**	P		**P**	**19 18 49.2**	**-1.4**
	0.7nm,0.6s,mb3.9,baz=118,slow=7.7,SNR=8.6							
TXAR				LR		LR	19 42 59.1	
	comp=Z,75nm,21.6s,MS3.8,baz=355,slow=34							
TXAR	**Lajitas Array**	**59.62**	**298**	P		**P**	**19 18 49.2**	**-1.4**
TXAR				LR		LR	19 42 59.1	
GERES	**GERESS Array B**	**60.00**	**39**	P		**P**	**19 18 52.8**	**-0.1**
	0.2nm,0.3s,mb3.6,baz=270,slow=7.8,SNR=2.0							
GERES				LR		LR	19 40 24.5	
	comp=Z,132nm,18.2s,MS4.1,baz=287,slow=32							
GERES	**GERESS Array B**	**60.00**	**39**	P		**P**	**19 18 52.8**	**-0.1**
GERES				LR		LR	19 40 24.5	
NB2	**NORSAR Subarra**	**63.57**	**26**	P		**P**	**19 19 19.8**	**+3.1**
	2.6nm,0.9s,mb4.3,baz=245,slow=6.5							
NOA	**NORSAR Array B**	**63.57**	**26**	P		**P**	**19 19 18.1**	**+1.4**
	1.4nm,1.0s,mb4.0,baz=243,slow=6.6,SNR=2.8							
NOA				LR		LR	19 41 14.4	
	comp=Z,81nm,20.7s,MS3.9,baz=260,slow=31							
PDAR	**Pinedale Array**	**65.85**	**312**	P		**P**	**19 19 31.6**	**-0.2**
	0.2nm,0.4s,mb3.5,baz=76,slow=11,SNR=3.1							
PDAR				LR		LR	19 44 34.3	
	comp=Z,97nm,19.7s,MS4.0,baz=336,slow=33							
BGU	**Big Grassy Mou**	**68.23**	**310**	*e*P		**P**	**19 19 47.0**	**+0.1**
CHMT	**Chamberlain Mo**	**68.98**	**316**	*e*P		**P**	**19 19 50.6**	**-0.8**
AKASG	**Malin Array Be**	**70.20**	**40**	P		**P**	**19 19 58.5**	**-0.3**
	2.7nm,0.8s,mb4.2,baz=274,slow=4.2,SNR=6.2							
FINES	**FINESS Array B**	**70.42**	**28**	P		**P**	**19 20 00.5**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=262,slow=9.8,SNR=2.7							
FINES				LR		LR	19 44 04.7	
	comp=Z,112nm,20.9s,MS4.1,baz=289,slow=30							
YKA	**Yellowknife Ar**	**72.19**	**332**	P		**P**	**19 20 09.3**	**-1.3**
	0.9nm,0.7s,mb3.8,baz=103,slow=6.2,SNR=17							
YKA				LR		LR	19 48 10.9	
	comp=Z,57nm,20.1s,MS3.8,baz=85,slow=33							
BRTR	**Keskin Array B**	**72.61**	**52**	P		**P**	**19 20 13.5**	**0.0**
	0.9nm,0.9s,mb3.7,baz=259,slow=6.3,SNR=3.9							
BOSA	**Boshof**	**76.29**	**123**	P		**P**	**19 20 34.0**	**-0.9**
	3.0nm,0.9s,mb4.2,baz=319,slow=8.2,SNR=4.0							
BOSA				LR		LR	19 47 33.8	
	comp=Z,102nm,19.3s,MS4.2,baz=45,slow=30							
KMBO	**Kilima Mbogo**	**80.24**	**93**	LR		LR	19 52 24.6	
	comp=Z,98nm,18.3s,MS4.2,baz=90,slow=33							
INK	**Inuvik**	**80.39**	**338**	*e*P		**P**	**19 20 57.0**	**+0.4**
	3.7nm,0.9s,mb4.3							
ILAR	**Eielson Array**	**86.31**	**335**	P		**P**	**19 21 28.0**	**+1.1**
	2.0nm,0.8s,mb4.4,baz=66,slow=3.8,SNR=16							
WRA	**Warramunga Arr**	**170.45**	**162**	PKPab		PKPab	19 30 09.9	-1.6
	1.1nm,0.9s,baz=204,slow=4.2,SNR=4.5							

*JMA **31** 19:55:21.3±0.4,32.16N×142.05E,h80km,M3.1*
*NEIC **31** 19:55:21.3,32.16N×142.05E,h80km,MG3.1(JMA),After JMA.*
*IDC **31** 19:55:23.7±1.2,31.77N×140.94E,mb3.5/4,mb1 3.7/6, mb1mx3.6/20,mbtmp3.6/6,ML3.6/2,Error ellipse: s-maj=37.2km s-min=17.8km az=68.0*

ISC 31 19:55:21.6±0.8,32.25N±0.05×142.1E±0.1,h33km,n22, σ1°23/35,mb3.6/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.09**	**295**	P		**P**	**19 55 55.0**	**+0.1**
JHJ	**Hachijo jima 2**	**2.12**	**295**	Pn		**Pn**	**19 55 54.4**	**-1.1**
	18nm,0.3s,baz=312,slow=12,SNR=3.9							
JHJ					Sn	**Sn**	**19 56 15.2**	**-5.7**
	17nm,0.3s,baz=145,slow=16,SNR=3.2							
BSO1	**Boso 1**	**2.57**	**339**	P		**P**	**19 56 02.4**	**+0.6**
BSO1				*e*S		**S**	**19 56 35.2**	**+3.0**
BSO2	**Boso 2**	**2.73**	**337**	*e*S		**S**	**19 56 38.3**	**+2.1**
BSO3	**Boso 3**	**2.86**	**333**	P		**P**	**19 56 07.6**	**+1.6**
BSO3				*e*S		**S**	**19 56 40.5**	**+0.9**
BSO4	**Boso 4**	**3.09**	**333**	P		**P**	**19 56 09.4**	**+0.1**
BSO4				*e*S		**S**	**19 56 46.4**	**+0.9**
JIM2	**Oshima 3**	**3.31**	**319**	P		**P**	**19 56 13.6**	**+1.3**
JOD2	**Odawara 2**	**3.90**	**321**	P		**P**	**19 56 20.9**	**+0.2**
JOD2				*e*S		**S**	**19 57 06.0**	**0.0**
JYT	**Yasato**	**4.26**	**339**	P		**P**	**19 56 26.8**	**+0.9**
JYT				*e*S		**S**	**19 57 13.3**	**-1.9**
JHU	**Hanno**	**4.28**	**328**	P		**P**	**19 56 25.9**	**-0.2**
JHU				*e*S		**S**	**19 57 13.2**	**-2.3**
JYN	**Shimob**	**4.37**	**319**	P		**P**	**19 56 28.7**	**+1.3**
JYN				*e*S		**S**	**19 57 18.6**	**+0.7**
JHO	**Hitachi**	**4.53**	**345**	P		**P**	**19 56 28.8**	**-0.8**
JHO				*e*S		**S**	**19 57 19.5**	**-2.3**
JRY	**Ryogami san**	**4.59**	**326**	P		**P**	**19 56 30.8**	**+0.3**
JRY				*e*S		**S**	**19 57 22.5**	**-0.8**
JAG	**Ashikaga**	**4.70**	**333**	P		**P**	**19 56 32.1**	**+0.1**
JAG				*e*S		**S**	**19 57 23.6**	**-2.5**
CBIJ	**Chichi jima**	**5.13**	**179**	Pn		**Pn**	**19 56 36.8**	**-1.6**
	7.6nm,0.3s,baz=132,slow=19,SNR=4.8							
CBIJ					Sn	**Sn**	**19 57 29.9**	**-7.4**
	4.8nm,0.3s,baz=84,slow=19,SNR=2.2							
JFK	**Kawauchi**	**5.20**	**349**	P		**P**	**19 56 38.1**	**-1.0**
JFK				*e*S		**S**	**19 57 34.1**	**-4.7**
MJAR	**Matsushiro Arr**	**5.34**	**324**	Pn		**Pn**	**19 56 41.2**	**0.0**
	0.9nm,0.3s,baz=149,slow=12,SNR=20							
MJAR					Sn	**Sn**	**19 57 41.1**	**-1.3**
	0.4nm,0.3s,baz=322,slow=14,SNR=3.1							
MAJO	**Matsushiro**	**5.34**	**324**	*e*P		**P**	**19 56 40.4**	**-0.8**
SONM	**Songino Array**	**31.11**	**310**	P		**P**	**20 01 41.8**	**+2.7**
	0.3nm,0.6s,mb3.3,baz=115,slow=9.4,SNR=3.2							
MKAR	**Makanchi Array**	**47.25**	**306**	P		**P**	**20 03 54.1**	**+0.8**
	0.5nm,0.5s,mb3.7,baz=86,slow=9.4,SNR=16							
WRA	**Warramunga Arr**	**52.42**	**189**	P		**P**	**20 04 33.0**	**-0.2**
	0.7nm,0.6s,mb3.8,baz=5.8,slow=7.6,SNR=10.0							
ILAR	**Eielson Array**	**53.29**	**30**	P		pP	20 04 50.7	+1.6
	0.7nm,1.2s,baz=264,slow=8.2,SNR=2.6							

*IDC **31** 19:55:25.0±0.9, 10.62N×42.61W,mb3.9/9,mb1 4.1/9, mb1mx3.9/22,mbtmp3.9/9,MS3.7/9,Ms1 3.7/9, ms1mx3.5/22,Error ellipse: s-maj=28.0km s-min=23.0km az=91.0*
*NEIC **31** 19:55:26.5±0.7, 10.64N×42.60W,h10km,mb4.4/1,Error ellipse: s-maj=20.7km s-min=15.3km az=98.0*

ISC 31 19:55:24.8±0.8,10.6N±0.1×42.6W±0.2,h10km,n18, σ1°17/13,mb4.0/10,MS3.7/9,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**26.65**	**192**	LR		LR	20 10 58.4	
	comp

comp=E,4μm,0.4s
CLNS Chul'man 2.40 96 *e*P **Pn** **20 14 46.4 +0.4**
CLNS *e*S **Sn** **20 15 16.6 +0.9**
CLNS pmax pmax
comp=Z,8.0nm,0.2s
CLNS pmax pmax
comp=N,4.0nm,0.3s
CLNS pmax pmax
comp=E,3.0nm,0.2s
CLNS pmax pmax
comp=Z,61nm,0.3s
CLNS pmax pmax
comp=N,17nm,0.2s
CLNS pmax pmax
comp=E,59nm,0.4s
CLNS smax
comp=E,37nm,0.3s
CLNS smax
comp=N,14nm,0.2s
CLNS smax
comp=Z,9.0nm,0.2s
CLNS smax
comp=N,623nm,0.5s
CLNS smax
comp=E,465nm,0.4s
CLNS smax
comp=Z,260nm,0.4s
CLNS MLR MLR
comp=Z,70nm,13.0s
NLYR Nelyaty 2.74 258 *e*Pn **Pn** **20 14 53.6 +2.8**
NLYR *e*Pg **Pg** **20 14 57.6 -3.1**
NLYR *e* 20 15 04.5
NLYR *e*Sg **Sg** **20 15 35.1 -2.2**
NLYR max
comp=Z,122nm,0.5s
NLYR Smax
comp=Z,571nm,1.1s
NLYR Nelyaty 2.74 258 *e*P **Pn** **20 14 53.7 +2.9**
NLYR *e* 20 15 33.1
NLYR pmax pmax
comp=Z,125nm,0.3s
NLYR smax
comp=E,572nm,1.1s
TUP Tupik 2.77 187 *e*Pn **Pn** **20 14 53.8 +2.6**
TUP *e*Pg **Pg** **20 14 58.2 -3.0**
TUP *e*Sg **Sg** **20 15 36.7 -1.4**
TUP Pmax
comp=E,123nm,1.1s
TUP Smax
comp=E,402nm,0.9s
TUP Tupik 2.77 187 *e*P **Pn** **20 14 53.7 +2.5**
TUP *e* 20 15 37.1
TUP pmax pmax
comp=Z,76nm,0.4s
TUP smax
comp=E,371nm,0.6s
ALDR Aldan 2.98 59 *e*Pn **Pn** **20 14 51.2 -2.9**
ALDR *e*Pg **Pg** **20 14 54.2 -11**
ALDR *e* 20 14 59.5
ALDR *e* 20 15 25.7
ALDR *e*Sg **Sg** **20 15 30.6 -14**
TNDR Tynda 3.09 129⇓ *i*Pn **Pn** **20 14 56.6 +0.8**
TNDR *e* 20 14 58.1
TNDR *e* 20 15 33.9
TNDR *i* Sg **Sg** **20 15 42.7 -6.2**
TNDR Smax
comp=E,2μm,0.3s
BOD Bodaibo 3.59 283 *e*Pn **Pn** **20 15 04.0 +1.2**
BOD *e* 20 15 13.2
BOD *e*Sg **Sg** **20 15 57.2 -8.2**
BOD *e* 20 16 03.1
BOD max
comp=E,162nm,1.0s
BOD Bodaibo 3.59 283 *e*P **Pn** **20 15 03.0 +0.2**
BOD pmax pmax
comp=Z,23nm,0.5s
SVKR Severomuysk 4.00 258 *e*Pg **Pg** **20 15 18.9 -6.8**
SVKR *e*Sg **Sg** **20 16 14.0 -5.0**
SVKR Pmax
comp=Z,39nm,0.5s
SVKR Smax
comp=Z,263nm,1.4s
UKT Uakit 4.20 249 *e*Pn **Pn** **20 15 14.8 +3.3**
UKT *e*Pg **Pg** **20 15 23.8 -6.0**
UKT *e* 20 15 27.3
UKT *e*Sg **Sg** **20 16 20.2 -5.6**
UKT max
comp=Z,15nm,0.7s
UKT Smax
comp=Z,83nm,1.6s
UKT Uakit 4.20 249 *e*P Px 20 15 24.1
UKT pmax pmax
comp=Z,13nm,0.5s
YOA Uoyan 4.97 262 *e*Sg Sx 20 16 45.3
YOA Smax
comp=Z,435nm,1.0s
YOA Uoyan 4.97 262 *e*P Px 20 15 38.0
YOA pmax pmax
comp=Z,35nm,0.4s
ZEA Zeya 5.14 129 *e*Pn **Pn** **20 15 22.1 -2.7**
ZEA *e*Pg Px 20 15 37.8
ZEA *e*Sg Sx 20 16 44.8
ZEA Pmax
comp=Z,15nm,0.3s
ZEA Smax
comp=Z,58nm,0.5s
KMO Kumora 5.33 260 *e*Pg Px 20 15 43.6
KMO *e*Sg Sx 20 16 55.1
KMO *e* 20 17 03.0
KMO Pmax
comp=Z,8.0nm,0.5s
KMO max
comp=Z,139nm,1.0s
KMO Kumora 5.33 260 *e*P **Pn** **20 15 28.8 +1.3**
KMO pmax pmax
comp=Z,9.0nm,0.6s
YLYR Ulyunkhan 5.74 250 *e*Pn **Pn** **20 15 35.4 +2.1**
YLYR *e* 20 15 50.8
YLYR *e*Sg **Sg** **20 17 10.2 -6.8**
YLYR Smax
comp=Z,101nm,1.9s
YLYR Ulyunkhan 5.74 250 *e*P Px 20 15 51.0
NIZ Nizh Angarsk 6.25 262 *e*Sg Sx 20 17 22.8
NIZ Smax
comp=Z,52nm,1.5s
CIT Chita 6.56 221 *e*Sg Sx 20 17 35.0
CIT Smax
comp=Z,162nm,1.5s
YAK Yakutsk 6.73 40 *e*P Px 20 15 26.9
YAK *e* 20 16 50.9
YAK pmax pmax
comp=Z,4.0nm,0.6s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=Z,12nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax
comp=N,9.0nm,0.8s
YAK smax
comp=Z,11nm,0.9s
YAK smax
comp=E,11nm,0.7s
YAK smax
comp=N,87nm,0.8s
YAK smax
comp=Z,42nm,0.9s
YAK smax
comp=E,40nm,0.7s
YAK MLR MLR
comp=Z,4.0nm,4.0s
SYVR Suvo 6.95 244 *e*Pg Px 20 16 14.8
SYVR *e*Sg Sx 20 17 48.3
SYVR Pmax
comp=Z,39nm,0.5s
SYVR Smax
comp=Z,88nm,1.8s
OGRR Ongureny 8.17 250 *e*Sg Sx 20 18 24.8
OGRR Smax
comp=Z,38nm,1.6s
KPC Khapcheranga 8.92 216 *e*Pn **P** **20 16 18.0 +0.2**
KPC *e*Sg Sx 20 18 46.8
KPC Smax
comp=Z,58nm,1.1s
KPC Khapcheranga 8.92 216 *e*P **P** **20 16 16.7 -1.1**
KPC pmax pmax
comp=Z,2.0nm,0.3s
TRG Tyrgan 9.28 248 *e*Sg Sx 20 18 59.4
TRG Smax
comp=Z,29nm,1.7s
TLY Talaya 11.26 248 *e*Sg Sx 20 19 57.6
TLY Smax
comp=Z,14nm,1.3s
ARS Arshan 11.74 251 *e*Sg Sx 20 20 14.8
ARS Smax
comp=Z,28nm,1.9s
MOY Mondy 12.62 252 *e*Sg Sx 20 20 42.9
SONM Songino Array 12.69 229 Lg 20 20 46.5
comp=Z,0.5nm,0.3s,baz=34,slow=29,SNR=9.8
ORL Orlik 12.79 258 *e*Sg Sx 20 20 44.5
ORL Smax
comp=Z,12nm,2.7s
MKAR Makanchi Array 25.41 262 P **P** **20 19 36.1 +1.3**
comp=Z,0.3nm,0.8s,mb2.9,baz=51,slow=8.2,SNR=4.0
ILAR Eielson Array 41.65 40 P **P** **20 21 53.5 -1.8**
comp=Z,0.2nm,0.6s,mb3.0,baz=293,slow=5.2,SNR=4.4
FINES FINESS Array B 44.35 317 P **P** **20 22 15.9 -1.4**
comp=Z,0.6nm,0.5s,mb3.6,baz=45,slow=11,SNR=6.2
FINES FINESS Array B 44.35 317 P **P** **20 22 15.9 -1.4**
FINES pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 49.85 323 P **P** **20 22 59.6 -0.9**
comp=Z,0.4nm,0.4s,mb3.8,baz=50,slow=8.9,SNR=3.0

*MOS **31** 21:20:25.3±1.4,52.58N×159.32E,h53km,mb4.3/2,Error ellipse: s-maj=19.6km s-min=7.8km az=73.6*
MOS Felt (III) at Petropavlovsk-Kamchatskii.
*KRSC **31** 21:20:26.0±1.1,52.60N×159.28E,h51km±5km,ML4.3*
*IDC **31** 21:20:27.1±3.5,52.71N×159.17E,h68km±36km,mb3.3/4,mb1 3.8/6,mb1mx3.4/22,mbtmp3.9/6,ML3.8/2,Error ellipse: s-maj=33.0km s-min=21.5km az=160.0*
*NEIC **31** 21:20:27.3±1.2,52.74N×159.06E,h68km±9km,mb4.0/1,Error ellipse: s-maj=24.1km s-min=14.5km az=126.0*
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.
ISC 31 21:20:26.1±0.5,52.60N±0.04×159.28E±0.07,h61km±4km,n52,σ0°94/71,mb3.6/6,1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.50**	**251**	*i* P	**P**	**21 20 37.8**	**-0.4**
RUS				*e*S	**S**	**21 20 46.5**	**-0.5**
PET	**Petropavlovsk**	**0.57**	**318**	*i* P	**P**	**21 20 38.8**	**-0.2**
PET				*i* S	**S**	**21 20 47.4**	**-1.0**
PET	**Petropavlovsk**	**0.57**	**318**	⇓*i* Pn	**P**	**21 20 38.7**	**-0.3**
PET				*e*Sn	**S**	**21 20 47.6**	**-0.8**
NLC	**Nalytchevo**	**0.57**	**4**	P	**P**	**21 20 38.5**	**-0.5**
NLC				S	**S**	**21 20 47.1**	**-1.4**
NLC	**Nalytchevo**	**0.57**	**4**	*i* P	**P**	**21 20 38.6**	**-0.4**
NLC				*e*S	**S**	**21 20 47.2**	**-1.3**
UGLR	**Uglovaya**	**0.67**	**336**	*i* P	**P**	**21 20 40.3**	**+0.2**
SPN	**Mys Shipunski**	**0.67**	**42**	*i* P	**P**	**21 20 40.2**	**+0.1**
SPN				*e*S	**S**	**21 20 50.5**	**-0.1**
SDLR	**Sedlovina**	**0.72**	**341**	*i* P	**P**	**21 20 40.7**	**0.0**
SMAR	**Somma**	**0.72**	**337**	*i* P	**P**	**21 20 40.7**	**-0.1**
KRMR	**Karymshinskiy**	**0.74**	**289**	*i* P	**P**	**21 20 40.7**	**-0.2**
KRMR				*i* S	**S**	**21 20 51.3**	**-0.6**
GRL	**Gorelyy**	**0.74**	**267**	*i* P	**P**	**21 20 41.7**	**+0.8**
GRL				*i* S	**S**	**21 20 52.2**	**+0.2**
AVH	**Avacha**	**0.74**	**334**	*i* P	**P**	**21 20 41.3**	**+0.3**
AVH				*e*S	**S**	**21 20 52.4**	**+0.3**
KOK	**Koryaka**	**0.80**	**331**	*i* P	**P**	**21 20 41.9**	**+0.2**
KOK				*e*S	**S**	**21 20 53.5**	**+0.3**
APC	**Apacha**	**1.33**	**285**	*i* P	**P**	**21 20 48.6**	**-0.4**
APC				*i* S	**S**	**21 21 05.5**	**-0.5**
APC				Smax			
	400nm,1.1s						
GNL	**Ganaly**	**1.36**	**324**	*i* P	**P**	**21 20 49.4**	**-0.1**
GNL				*e*S	**S**	**21 21 06.4**	**-0.4**
KII	**Karymskiy**	**1.44**	**4**	P	**P**	**21 20 50.9**	**+0.3**
KII				S	**S**	**21 21 09.4**	**+0.7**
KII	**Karymskiy**	**1.44**	**4**	*i* P	**P**	**21 20 50.7**	**+0.1**
KII				*i* S	**S**	**21 21 09.0**	**+0.3**
MIPR	**Malaya Ipel'ka**	**1.58**	**259**	*i* P	**P**	**21 20 52.6**	**+0.2**
MKZ	**Mys Kozlova**	**2.44**	**36**	P	**P**	**21 21 04.1**	**-0.5**
MKZ				S	**S**	**21 21 32.2**	**-1.1**
MKZ	**Mys Kozlova**	**2.44**	**36**	*e*P	**P**	**21 21 04.1**	**-0.5**
MKZ				*i* S	**S**	**21 21 33.6**	**+0.3**
TUMR	**Tumrok**	**2.74**	**10**	*e*P	**P**	**21 21 09.3**	**+0.6**
SKR	**Severo-Kuril's**	**2.75**	**227**	*e*P	**P**	**21 21 09.7**	**+0.8**
SKR				*e*S	**S**	**21 21 41.6**	**+0.6**
ALID	**Alaid**	**2.89**	**235**	P	**P**	**21 21 11.1**	**+0.2**
ESO	**Esso**	**3.35**	**354**	*i* P	**P**	**21 21 16.9**	**-0.4**
ESO				Smax			
	20nm,0.7s						
KPT	**Kopyto**	**3.42**	**9**	*e*P	**P**	**21 21 18.6**	**+0.3**
KOZ	**Kozyrevsk**	**3.48**	**5**	P	**P**	**21 21 20.4**	**+1.2**
KOZ	**Kozyrevsk**	**3.48**	**5**	*e*P	**P**	**21 21 19.6**	**+0.4**
KOZR	**Kozyr**	**3.49**	**6**	PN	**P**	**21 21 20.4**	**+1.1**
LGNR	**Loginova**	**3.59**	**13**	*e*P	**P**	**21 21 22.1**	**+1.5**
CIRR	**Tsirk**	**3.63**	**13**	*e*P	**P**	**21 21 21.6**	**+0.4**
SRDR	**Sredinnyy**	**3.73**	**4**	*e*P	**P**	**21 21 23.5**	**+0.8**
KLY	**Klyuchi**	**3.81**	**12**	*i* P	**P**	**21 21 24.9**	**+1.2**
BDR	**Baidarnaya**	**4.13**	**15**	*i* P	**P**	**21 21 29.5**	**+1.2**
KBTR	**Krutoberegovo**	**4.17**	**28**	P	**P**	**21 21 28.7**	**-0.1**
KBTR				S	**S**	**21 22 15.3**	**-1.3**
KBTR	**Krutoberegovo**	**4.17**	**28**	*e*P	**P**	**21 21 28.7**	**-0.1**
SRKR	**Sorokina**	**4.21**	**14**	*e*P	**P**	**21 21 30.4**	**+1.0**
FX1	**Attu Island--F**	**8.43**	**83**	P	**P**	**21 22 26.2**	**-1.8**
	4.1nm,0.3s,baz=284,slow=17,SNR=58						
FX1				S	**S**	**21 23 53.4**	**-9.3**
	11nm,0.3s,baz=305,slow=24,SNR=14						
ASAJ	**Asahikawa**	**13.94**	**239**	P	**P**	**21 23 42.6**	**+0.9**
	0.7nm,0.3s,baz=57,slow=12,SNR=8.2						
ASAJ	**Asahikawa**	**13.94**	**239**	P	**P**	**21 23 42.7**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**15.85**	**10**	*e*P	**P**	**21 24 04.5**	**-1.9**
BILL				pmax	pmax		
	comp=Z,13nm,2.5s						
VLA	**Vladivostok**	**20.57**	**253**	*e*P	**P**	**21 25 04.7**	**+2.8**
VLA				pmax	pmax		
	comp=Z,19nm,1.3s						
VLA				MLR	MLR		
	comp=Z,400nm,23.0s						
MAJO	**Matsushiro**	**21.85**	**231**	*e*P	**P**	**21 25 14.2**	**-0.7**
MAT	**Matsushiro**	**21.85**	**231**	P	**P**	**21 25 13.7**	**-1.2**
MAT	**Matsushiro**	**21.85**	**231**	*e*P	**P**	**21 25 14.0**	**-0.9**
MAT				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
MAT	**Matsushiro**	**21.85**	**231**	*e*P	**P**	**21 25 14.0**	**-0.9**
	comp=Z,4.0nm,0.6s,mb4.0						
MJAR	**Matsushiro Arr**	**21.85**	**231**	P	**P**	**21 25 14.5**	**-0.4**
	comp=Z,1.3nm,0.5s,mb3.6,baz=22,slow=10,SNR=17						
COLA	**College**	**29.10**	**44**	*e*P	**P**	**21 26 23.8**	**+1.2**
MKAR	**Makanchi Array**	**47.92**	**296**	P	**P**	**21 28 57.0**	**-2.9**
	comp=Z,0.1nm,0.5s,mb3.1,baz=53,slow=6.2,SNR=3.5						
BVAR	**Borovoye Array**	**50.31**	**308**	P	**P**	**21 29 15.4**	**-2.7**
	comp=Z,0.3nm,0.4s,mb3.7,baz=59,slow=9.4,SNR=4.1						
TXAR	**Lajitas Array**	**71.29**	**66**	P	**P**	**21 31 40.3**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=295,slow=5.9,SNR=3.9						
WRAB	**Tennant Creek**	**75.41**	**204**	*e*P	**P**	**21 32 07.7**	**+2.8**
WRA	**Warramunga Arr**	**75.42**	**204**	P	**P**	**21 32 03.2**	**-1.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=15,slow=5.9,SNR=5.4						

*IDC **31** 21:22:24.5±1.8,10.28S×112.09E,mb3.6/6,mb1 3.8/6,mb1mx3.7/15,mbtmp3.7/6,Error ellipse: s-maj=67.4km s-min=22.2km az=50.0*
*NEIC **31** 21:22:29.2±1.3,10.24S×112.18E,h30km,Error ellipse: s-maj=50.9km s-min=14.8km az=53.0*
ISC 31 21:22:27.7±1.7,10.2S±0.3×112.1E±0.4,h33km,n7,σ0°54/7,mb3.7/6,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.51**	**117**	P	**P**	**21 27 36.5**	**+0.8**
	2.3nm,0.8s,mb3.6,baz=289,slow=11,SNR=12						
STKA	**Stephens Creek**	**34.75**	**133**	P	**P**	**21 29 16.4**	**-0.7**
	1.1nm,0.8s,mb3.9,baz=315,slow=11,SNR=2.9						
MJAR	**Matsushiro Arr**	**52.59**	**26**	P	**P**	**21 31 39.9**	**-0.6**
	0.6nm,0.9s,mb3.5,baz=190,slow=7.6,SNR=4.3						
MJAR	**Matsushiro Arr**	**52.59**	**26**	P	**P**	**21 31 39.9**	**-0.6**
SONM	**Songino Array**	**58.02**	**355**	P	**P**	**21 32 20.2**	**+0.6**
	0.4nm,0.7s,mb3.5,baz=177,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**62.70**	**337**	P	**P**	**21 32 51.5**	**-0.1**
	0.4nm,0.5s,mb3.8,baz=152,slow=7.6,SNR=14						
BVAR	**Borovoye Array**	**72.34**	**335**	P	**P**	**21 33 52.0**	**0.0**
	0.4nm,0.6s,mb3.5,baz=146,slow=5.2,SNR=3.7						

*IDC **31** 21:31:25.7±1.3,35.93N×119.68W,mb3.4/3,mb1 3.6/8,mb1mx3.5/23,mbtmp3.3/8,ML3.6/5,Error ellipse: s-maj=19.1km s-min=13.0km az=123.0*
*NEIC **31** 21:31:28.4,35.98N×119.83W,h25km,ML3.9(NCEDC),After NCEDC.*
NEIC Felt [III] at Clovis, Fresno, Lemoore, Porterville, Selma and Tulare; [II] at Hanford, Kingsburg, Sanger and Visalia.
ISC 31 21:31:27.5±0.6,35.97N±0.06×119.77W±0.07,h25km,n26,σ1°17/27,mb3.3/3,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISA	**Isabella**	**1.09**	**106**	*e*P	**Pn**	**21 31 48.2**	**+0.8**
LRV	**Little Rabbit**	**1.11**	**295**	*e*P	**Pn**	**21 31 47.3**	**-0.3**
SAO	**San Andreas Ge**	**1.57**	**301**	*e*P	**Pn**	**21 31 53.3**	**-0.9**
DAC	**Darwin (Calif)**	**1.79**	**79**	*e*P	**Pn**	**21 31 58.8**	**+1.5**
MWC	**Mount Wilson**	**2.23**	**141**	*e*Pn	**Pn**	**21 32 03.7**	**0.0**
GSC	**Goldstone**	**2.50**	**104**	*e*Pn	**Pn**	**21 32 08.0**	**+0.5**
NVAR	**Mina Array Bea**	**2.72**	**25**	Pn	**Pn**	**21 32 12.6**	**+1.9**
	4.2nm,0.3s,baz=209,slow=16,SNR=62						
NVAR				Pg	**Pn**	**21 32 16.2**	**+5.6**
	33nm,0.3s,baz=204,slow=22,SNR=81						
NVAR				Lg		21 32 51.3	
	47nm,0.3s,baz=215,slow=34,SNR=6.5						
TPH	**Tonopah**	**2.93**	**43**	*e*Pn	**Pn**	**21 32 14.2**	**+0.6**
PFO	**Pinyon Flat Ob**	**3.60**	**130**	*e*Pn	**Pn**	**21 32 22.9**	**-0.3**
OHCM	**Honcut**	**3.63**	**338**	Pn	**Pn**	**21 32 22.2**	**-1.4**
NEN	**Nelson**	**4.01**	**93**	*e*Pn	**Pn**	**21 32 29.0**	**0.0**
BAR	**Barrett**	**4.16**	**141**	*e*Pn	**Pn**	**21 32 30.5**	**-0.6**
GLA	**Glamis**	**5.01**	**124**	*e*Pn	**Pn**	**21 32 41.5**	**-1.6**
ARUT	**Antelope Range**	**5.39**	**68**	Pn	**Pn**	**21 32 47.1**	**-1.3**
ELK	**Elko**	**5.95**	**35**	Pn	**Pn**	**21 32 57.2**	**+0.8**
	1.6nm,0.3s,baz=228,slow=11,SNR=13						
ELK				Lg		21 34 33.2	
	5.5nm,0.3s,baz=316,slow=16,SNR=9.0						
ELK	**Elko**	**5.95**	**35**	Pn	**Pn**	**21 32 57.2**	**+0.8**
ELK				Lg		21 34 33.2	
YBH	**Yreka Blue Hor**	**6.20**	**339**	Pn	**Pn**	**21 33 01.3**	**+1.5**
	0.2nm,0.3s,baz=101,slow=16,SNR=2.5						
YBH				Lg		21 34 36.3	
	0.2nm,0.3s,baz=72,slow=20,SNR=2.7						
WVOR	**Wild Horse Val**	**6.52**	**7**	Pn	**Pn**	**21 33 02.8**	**-1.6**
MVU	**Marysvale**	**6.54**	**65**	Pn	**Pn**	**21 33 02.9**	**-1.7**
MSU	**Marysvale**	**6.57**	**65**	Pn	**Pn**	**21 33 04.2**	**-0.9**
DUG	**Dugway**	**6.92**	**50**	*e*Pn	**Pn**	**21 33 07.8**	**-2.3**
PDAR	**Pinedale Array**	**10.42**	**46**	Pn	**P**	**21 33 59.5**	**+1.0**
	0.1nm,0.3s,baz=201,slow=15,SNR=3.1						
PDAR				Lg		21 36 52.4	
	0.0nm,0.3s,baz=127,slow=15,SNR=2.7						
TXAR	**Lajitas Array**	**15.08**	**111**	Pn	**P**	**21 35 02.5**	**+1.8**
	0.1nm,0.3s,baz=287,slow=13,SNR=3.9						
YKA	**Yellowknife Ar**	**26.75**	**5**	P	**P**	**21 37 07.0**	**+0.3**
	0.1nm,0.6s,mb2.5,baz=190,slow=9.7,SNR=3.8						
YKA				PcP	PcP	21 40 28.7	-1.3
	0.1nm,0.4s,baz=175,slow=2.0,SNR=6.2						
ILAR	**Eielson Array**	**33.10**	**339**	P	**P**	**21 38 04.0**	**+0.8**
	0.6nm,0.8s,mb3.7,baz=158,slow=8.0,SNR=10						
SONM	**Songino Array**	**86.93**	**331**	P	**P**	**21 44 13.0**	**+1.7**
	0.4nm,0.6s,mb3.8,baz=42,slow=4.4,SNR=5.4						

*NEIC **31** 21:43:36.6±1.1,14.42S×73.47W,h62km±15km,Error ellipse: s-maj=23.6km s-min=13.7km az=209.0*
*IDC **31** 21:43:37.7±6.8,14.71S×73.71W,h84km±60km,mb3.4/3,mb1 3.8/4,mb1mx3.5/18,mbtmp3.8/4,ML4.3/1,Error ellipse: s-maj=83.1km s-min=40.0km az=63.0*
ISC 31 21:43:32.2±1.4,14.7S±0.1×73.5W±0.1,h54km±19km,n14,σ0°93/14,1C,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**2.57**	**132**⇑ *i*P		**P**	**21 44 19.4**	**+6.9**
NNA	**Nana**	**4.26**	**309**	*e*Pn	**P**	**21 44 36.5**	**+0.2**
NNA				*e*Sn	**S**	**21 45 25.0**	**-0.3**
LPAZ	**La Paz**	**5.38**	**107**	P	**P**	**21 44 59.2**	**+7.3**
	4.6nm,0.3s,baz=287,slow=10,SNR=52						
LPAZ	**La Paz**	**5.38**	**107**	P	**P**	**21 44 59.2**	**+7.3**
LVC	**Limon Verde**	**8.95**	**152**	*e*Pn	**P**	**21 45 42.3**	**+0.8**
	8.1nm,0.6s						
LVC				*e*Sn	**S**	**21 47 19.2**	**-2.7**
SAML	**Samuel**	**11.60**	**61**	*e*Pn	**P**	**21 46 16.8**	**-0.7**
	8.5nm,0.7s						
SAML				*e*Sn	**S**	**21 48 20.0**	**-6.4**
SDV	**Santo Domingo**	**23.63**	**7**	P	**P**	**21 48 41.4**	**+1.9**
	1.9nm,0.8s,baz=258,slow=19,SNR=4.8						
SDV	**Santo Domingo**	**23.63**	**7**	*e*P	**P**	**21 48 40.9**	**+1.4**
TXAR	**Lajitas Array**	**52.62**	**326**	P	**P**	**21 52 42.4**	**-0.7**
	0.3nm,0.4s,baz=160,slow=12,SNR=8.1						
YKA	**Yellowknife Ar**	**83.42**	**342**	P	**P**	**21 55 54.5**	**-0.3**
	0.6nm,0.8s,baz=137,slow=5.2,SNR=13						
YKA	**Yellowknife Ar**	**83.42**	**342**	P	**P**	**21 55 54.5**	**-0.3**
WRA	**Warramunga Arr**	**136.00**	**219**	PKP	PKPdf	22 02 49.2	+1.0
	0.5nm,0.6s,baz=136,slow=1.9,SNR=5.3						
MJAR	**Matsushiro Arr**	**144.38**	**313**	PKP	PKPdf	22 03 01.6	-1.1
	1.2nm,0.8s,baz=74,slow=1.0,SNR=6.2						
SONM	**Songino Array**	**147.00**	**0**	PKPbc	PKPbc	22 03 10.8	+2.4
	2.0nm,0.7s,baz=332,slow=2.5,SNR=24						

WEL 31 22:01:59.6±0.4,36.14S×177.69E,h260km±5km,ML3.7/7,Error ellipse: s-maj=9.5km s-min=7.1km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.50**	**161**	PN	P	22 02 38.9	-0.3
MXZ				SN	S	22 03 09.8	-0.2
PUZ	**Puketiti**	**1.98**	**167**	PN	P	22 02 42.8	-0.2
PUZ				SN	S	22 03 16.2	-0.6
URZ	**Urewera**	**2.16**	**192**	PN	P	22 02 44.7	-0.1
URZ				SN	S	22 03 18.9	-0.9
MWZ	**Matawai**	**2.19**	**183**	PN	P	22 02 45.3	+0.3
MWZ				SN	S	22 03 19.9	-0.4
KNZ	**Kokohu**	**2.87**	**180**	PN	P	22 02 51.3	-0.5
BKZ	**Black Stump Fm**	**3.16**	**197**	PN	P	22 02 54.0	-1.0
TSZ	**Takapari Road**	**4.14**	**199**	PN	P	22 03 04.2	-1.8

*THR **31** 22:09:10.4±0.3,30.71N×48.75E,h28km±5km,ML3.0*
*CSEM **31** 22:09:12.0±0.2,30.88N×49.03E,h12km,ML2.7,Error ellipse: s-maj=11.1km s-min=2.3km az=104.0*
*KISR **31** 22:09:13.0±0.4,30.74N×49.12E,h34km,ML2.9*
ISC 31 22:09:11.7±2.1,30.87N±0.07×49.0E±0.2,h9km±16km,n8,σ0°66/13,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.25**	**351**	*e*Pg	**Pg**	**22 09 35.7**	**-1.0**
SHGR				*e*Sg	**Sg**	**22 09 54.2**	**+0.8**
SHGR				AML	AML	22 10 01.9	
	comp=N,355nm,0.6s						
KBD	**Kabd**	**2.05**	**215**	*e*P	**Pn**	**22 09 47.0**	**+0.1**
KBD				*e*S	**Sn**	**22 10 12.6**	**-0.2**
KBD				AML	AML	22 10 14.8	
	comp=Z,189nm,0.4s						
NAY	**Al-Naaiem**	**2.24**	**224**	*e*P	**Pn**	**22 09 50.0**	**+0.4**
NAY				AML	AML	22 10 18.2	
	comp=Z,29nm,0.4s						
NAY				*e*S	**Sn**	**22 10 18.2**	**+0.6**
NAY	**Al-Naaiem**	**2.24**	**224**	*e*P	**Pn**	**22 09 50.0**	**+0.4**
NAY				*e*S	**Sn**	**22 10 18.2**	**+0.6**
RDF	**Al-Radifah**	**2.33**	**214**	*e*P	**Pn**	**22 09 51.0**	**+0.2**
RDF				*e*S	**Sn**	**22 10 19.3**	**-0.5**
RDF				AML	AML	22 10 24.9	
	comp=Z,62nm,0.3s						
QRN	**Al-Qurain**	**2.33**	**205**	*e*P	**Pn**	**22 09 50.9**	**0.0**
QRN				AML	AML	22 10 25.3	
	comp=Z,63nm,0.2s						
ASAO	**Ashtian**	**3.76**	**13**	*e*Pn	**Pn**	**22 10 12.0**	**+0.8**
ASAO				AML	AML	22 11 30.3	
	comp=N,16nm,0.6s						
SNGE	**Sanandaj**	**4.44**	**342**	*e*Pn	**Pn**	**22 10 19.6**	**-1.3**
SNGE				AML	AML	22 11 19.1	
	comp=N,13nm,0.4s						

*NEIC **31** 22:19:00.8,44.29S×169.57E,h5km,ML3.8(WEL),After*

WEL.

WEL 31 22:19:00.8±0.1, 44.30S×169.57E, h5km, ML3.6/10, 2C-1D, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBZ	**Lake Benmore**	**0.45**	**101**	PG	Pg	22 19 10.1	+0.3
LBZ				SG	Sg	22 19 16.4	+0.6
LBZ	**Lake Benmore**	**0.45**	**101**	P	Pg	22 19 10.1	+0.3
LBZ				S	Sg	22 19 16.4	+0.6
JCZ	**Jackson Bay**	**0.63**	**291**	P*	Pb	22 19 12.9	-0.9
JCZ				SG	Sg	22 19 20.5	-1.2
JCZ	**Jackson Bay**	**0.63**	**291**	P	Pg	22 19 12.9	-0.4
WKZ	**Wanaka**	**0.66**	**217**	⇑P*	Pb	22 19 13.5	-0.8
WKZ	**Wanaka**	**0.66**	**217**	P	Pg	22 19 13.5	-0.4
FOZ	**Fox Glacier**	**0.74**	**7**	P*	Pb	22 19 15.2	-0.5
FOZ	**Fox Glacier**	**0.74**	**7**	P	Pg	22 19 15.2	-0.4
FOZ				S	Sg	22 19 24.4	-1.0
EAZ	**Earnscleugh**	**0.95**	**191**	⇑P*	Pb	22 19 18.5	-0.8
EAZ				S*	Sb	22 19 31.6	-0.4
EAZ	**Earnscleugh**	**0.95**	**191**	P	Pb	22 19 18.5	-0.8
ODZ	**Otahua Downs**	**1.07**	**135**	⇓P*	Pb	22 19 20.8	-0.5
ODZ				S*	Sb	22 19 34.7	-0.7
ODZ	**Otahua Downs**	**1.07**	**135**	P	Pb	22 19 20.8	-0.5
RPZ	**Rata Peaks**	**1.22**	**62**	P*	Pb	22 19 23.6	-0.3
RPZ				S*	Sb	22 19 38.8	-1.0
RPZ	**Rata Peaks**	**1.22**	**62**	*e*P	Pb	22 19 23.7	-0.2
MSZ	**Milford Sound**	**1.23**	**252**	P*	Pb	22 19 24.1	-0.1
MSZ				S*	Sb	22 19 39.9	-0.3
MSZ	**Milford Sound**	**1.23**	**252**	P	Pb	22 19 24.2	0.0
MLZ	**Mavora Lakes**	**1.44**	**223**	PN	Pn	22 19 28.0	+0.3
MLZ	**Mavora Lakes**	**1.44**	**223**	*e*P	Pn	22 19 28.1	+0.5
WVZ	**Waitaha Valley**	**1.49**	**35**	PN	Pn	22 19 27.7	-0.5
WVZ	**Waitaha Valley**	**1.49**	**35**	*e*P	Pn	22 19 27.7	-0.6
TUZ	**Tuapeka**	**1.66**	**179**	PN	Pn	22 19 29.5	-1.2
TUZ	**Tuapeka**	**1.66**	**179**	P	Pn	22 19 29.5	-1.2
WHZ	**Wether Hill Ro**	**1.96**	**215**	*e*PN	Pn	22 19 33.7	-1.4
WHZ	**Wether Hill Ro**	**1.96**	**215**	P	Pn	22 19 33.7	-1.4
DCZ	**Deep Cove**	**2.08**	**235**	*e*PN	Pn	22 19 35.9	-0.8
DCZ	**Deep Cove**	**2.08**	**235**	P	Pn	22 19 36.2	-0.6
LTZ	**Lake Taylor**	**2.48**	**53**	*e*P	Pn	22 19 41.6	-0.9
DSZ	**Denniston Nort**	**3.03**	**33**	PN	Pn	22 19 49.3	-1.0
DSZ	**Denniston Nort**	**3.03**	**33**	*e*P	Pn	22 19 49.3	-1.0
THZ	**Tophouse**	**3.52**	**45**	*e*PN	Pn	22 19 55.5	-1.8
THZ	**Tophouse**	**3.52**	**45**	*e*P	Pn	22 19 57.4	+0.1
QRZ	**Quartz Range**	**4.10**	**33**	*e*P	Pn	22 20 04.4	-1.1
CTAO	**Charters Tower**	**30.97**	**314**	P	P	22 25 14.9	-6.2
AFI	**Afiamalu**	**34.22**	**34**	P	P	22 25 47.4	-2.1

*IDC **31** 22:46:37.1±1.8, 1.71N×96.90E, mb4.0/4, mb1 4.1/4, mb1mx3.8/17, mbtmp4.0/4, ML2.6/1, Error ellipse: s-maj=38.3km s-min=26.3km az=32.0*
*NEIC **31** 22:46:53.5±3.0, 2.46N×97.87E, h116km±19km, mb4.2/1, Error ellipse: s-maj=59.5km s-min=20.2km az=55.0*

ISC 31 22:46:36.2±5.8, 1.7N±0.2×96.81E±0.09, h8km±38km, n8, σ0§73/9, mb4.0/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.37**	**63**	Pn	**Pn**	**22 47 16.1**	**+0.2**
	1.8nm,0.3s,baz=280,slow=6.1,SNR=18						
PSI				Sn	**Sn**	**22 47 45.4**	**0.0**
	7.6nm,0.3s,baz=268,slow=20,SNR=8.2						
ENH	**Enshi**	**30.84**	**22**	P	**P**	**22 52 49.3**	**-5.8**
WRA	**Warramunga Arr**	**42.63**	**122**	P	**P**	**22 54 34.9**	**-0.2**
	0.5nm,0.6s,mb3.5,baz=301,slow=9.0,SNR=6.2						
MKAR	**Makanchi Array**	**46.65**	**346**	P	**P**	**22 55 07.7**	**+0.8**
	1.0nm,0.4s,mb4.1,baz=161,slow=8.8,SNR=48						
SONM	**Songino Array**	**46.68**	**9**	P	**P**	**22 55 07.2**	**0.0**
	0.6nm,0.3s,mb4.0,baz=191,slow=9.0,SNR=15						
KURK	**Kurchatov**	**51.20**	**345**	*e*P	**P**	**22 55 40.6**	**-1.4**
	2.7nm,0.9s,mb4.2						
BRVK	**Borovoye**	**55.70**	**341**	*e*P	**P**	**22 56 14.8**	**-0.5**
ARCES	**ARCESS Array B**	**81.92**	**340**	P	**P**	**22 58 58.6**	**+1.2**
	3.6nm,0.9s,mb4.3,baz=97,slow=7.3,SNR=3.6						

MAN 31 23:01:16.2, 11.81N×124.20E, h10km, mb4.3, ML3.2, MS3.0, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.83**	**33**	*e*P	Pb	23 01 32.3	0.0
CNP				*e*S	Sb	23 01 45.2	+2.0
OCLP	**Ormoc**	**0.85**	**152**	*e*P	Pb	23 01 32.3	-0.2
OCLP				*e*S	Sb	23 01 46.0	+2.3
BESP	**Borongan**	**1.23**	**99**	*e*P	Pn	23 01 38.7	-0.3
RCP	**Roxas**	**1.45**	**260**	⇓P	Pn	23 01 41.0	-1.5
LLP	**Lapu-Lapu**	**1.50**	**189**	⇑*i*P	Pn	23 01 42.6	-0.7
LLP				*i* S	Sb	23 02 03.7	+1.1
MSLP	**Maasin**	**1.78**	**159**	*e*P	Pn	23 01 45.7	-1.7
MSLP				*e*S	Sn	23 02 16.2	+6.0
PVCP	**Virac**	**1.78**	**358**	*e*P	Pn	23 01 46.7	-0.6
PVCP				*e*S	Sn	23 02 12.1	+1.9
GUIM	**Jordan**	**1.97**	**234**	*e*P	Pn	23 01 49.9	-0.1
GUIM				*e*S	Sn	23 02 15.0	0.0

*NNC **31** 23:27:12.9±21.0, 34.42N×72.45E, mb3.7, mpv3.5, Error ellipse: s-maj=487.4km s-min=155.7km az=91.0*

ISC 31 23:27:03.3±1.1, 34.1N±0.2×73.4E±0.7, h10km, n4, σ2§21/6, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHET	**Khetri**	**6.38**	**161**	*e*S	**Sn**	**23 29 52.1**	**-1.2**
KUDL	**Kundal**	**6.52**	**155**	*e*P	**Pn**	**23 28 47.1**	**+5.4**
KUDL				*e*S	**Sn**	**23 29 57.7**	**+0.7**
KK31	**Karatay Array**	**9.24**	**347**	P	**P**	**23 29 22.4**	**+2.7**
	0.8nm,0.3s,baz=157,slow=12,SNR=38						
KK31				⇑S	**Sn**	**23 31 02.4**	**-2.4**
	0.2nm,0.3s,baz=166,slow=22,SNR=5.8						
AB31	**Akbulak array**	**18.11**	**331**	⇑P	**P**	**23 31 16.6**	**+0.1**
	2.0nm,1.2s						

*MOS **31** 23:29:36.8±1.0, 57.45N×120.76E, h9km, mb4.1/1, Error ellipse: s-maj=24.4km s-min=18.8km az=50.3*

BYKL 31 23:29:35.7±0.5, 57.40N×120.72E, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.63**	**220**	*e*Pg	Pg	23 29 48.5	+0.3
KHNR				*e*Sg	Sg	23 29 56.5	-0.1
YKLR	**Yuktali**	**0.96**	**147**	*e*Pg	Pg	23 29 54.3	-0.5
YKLR				*e*Sg	Sg	23 30 06.7	-0.9
YKLR				Smax			
	1μm,0.5s						
CRS	**Chara**	**1.43**	**250**	⇑*i*Pg	Pg	23 30 03.4	-0.8
CRS				*i* Sg	Sg	23 30 21.1	-2.1
CRS				Pmax			
	177nm,0.7s						
CRS				Smax			
	522nm,0.8s						
CRS	**Chara**	**1.43**	**250**	*e*P	Pb	23 30 03.9	+1.0
CRS				*e*		23 30 22.1	
CRS				pmax	pmax		
	comp=Z,71nm,0.4s						
CRS				smax			
	comp=E,392nm,0.4s						
NRGR	**Nerungri**	**2.31**	**107**	*e*P	Pn	23 30 17.3	+1.7
NRGR				S	Sn	23 30 45.3	+0.2
CLNS	**Chul'man**	**2.34**	**102**	*e*Pg	Pg	23 30 18.0	-4.5
CLNS				*e*		23 30 21.1	
CLNS				*e*Sg	Sg	23 30 48.4	-5.4
CLNS	**Chul'man**	**2.34**	**102**	*e*P	Pn	23 30 17.3	+1.3
CLNS				*e*		23 30 48.3	
CLNS				pmax	pmax		
	comp=Z,117nm,0.7s						
CLNS				pmax	pmax		
	comp=N,17nm,0.4s						
CLNS				pmax	pmax		
	comp=E,63nm,0.7s						
CLNS				smax			
	comp=E,636nm,0.9s						
CLNS				smax			
	comp=Z,310nm,0.7s						
CLNS				smax			
	comp=N,313nm,0.5s						
ALDR	**Aldan**	**2.77**	**62**	*e*Pg	Pg	23 30 25.9	-5.2
ALDR				*e*Sg	Sg	23 31 01.9	-6.2
NLYR	**Nelyaty**	**2.90**	**254**	*e*Pg	Pg	23 30 25.2	-8.3
NLYR				*e*		23 30 29.4	
NLYR				*e*Sg	Sg	23 31 03.2	-8.9
NLYR				max			
	comp=N,130nm,0.4s						
NLYR				Smax			
	comp=N,464nm,1.1s						
NLYR	**Nelyaty**	**2.90**	**254**	*e*P	Pn	23 30 25.7	+1.8
NLYR				*e*		23 31 05.5	
NLYR				pmax	pmax		
	comp=Z,133nm,0.3s						
NLYR				smax			
	comp=E,452nm,1.1s						
TUP	**Tupik**	**3.01**	**189**	*e*Pn	Pn	23 30 25.6	0.0
TUP				*e*Pg	Pg	23 30 27.6	-8.3
TUP				*e*		23 30 29.8	
TUP				*e*		23 30 35.7	
TUP				*e*Sg	Sg	23 31 08.5	-7.5
TUP				max			
	comp=E,195nm,0.8s						
TUP				Smax			
	comp=E,388nm,1.0s						
TUP	**Tupik**	**3.01**	**189**	*e*P	Pn	23 30 25.4	-0.2
TUP				*e*S	Sn	23 31 00.8	-2.1
TUP				pmax	pmax		
	comp=Z,196nm,0.6s						
TUP				smax			
	comp=E,276nm,0.9s						
TNDR	**Tynda**	**3.17**	**134**	*e*Pn	Pn	23 30 28.3	+0.4
TNDR				*e*		23 30 29.7	
TNDR				*e*		23 30 38.6	
TNDR				*e*Sn	Sn	23 31 05.4	-1.6
TNDR				*e*Sg	Sg	23 31 14.5	-6.9
TNDR				Smax			
	comp=E,2μm,0.6s						
BOD	**Bodaibo**	**3.64**	**279**	*e*Pn	Pn	23 30 34.9	+0.4
BOD				*e*Pg	Pg	23 30 39.8	-8.5
BOD				*e*		23 30 44.4	
BOD				*e*Sg	Sg	23 31 28.9	-7.9
BOD				max			
	comp=E,27nm,1.0s						
BOD				Smax			
	comp=E,203nm,0.9s						
BOD	**Bodaibo**	**3.64**	**279**	*e*P	Pn	23 30 34.7	+0.2
BOD				*e*		23 31 28.6	
BOD				pmax	pmax		
	comp=Z,27nm,0.7s						
BOD				smax			
	comp=N,203nm,0.9s						
SVKR	**Severomuysk**	**4.15**	**255**	*e*Sg	Sg	23 31 45.8	-7.9
SVKR				Smax			
	comp=N,340nm,1.3s						
UKT	**Uakit**	**4.38**	**247**	*e*Pn	Pn	23 30 45.7	+0.7
UKT				*e*		23 30 55.8	
UKT				*e*		23 31 23.1	
UKT				*e*Sg	Sg	23 31 51.0	-10
UKT				Smax			
	comp=N,97nm,1.0s						
UKT	**Uakit**	**4.38**	**247**	*e*P	Pn	23 30 57.8	+13
UKT				pmax	pmax		
	comp=Z,13nm,0.5s						
YOA	**Uoyan**	**5.11**	**259**	*e*Sg	Sg	23 32 14.8	-11
YOA				Smax			
	comp=Z,541nm,2.2s						
KMO	**Kumora**	**5.47**	**258**	*e*Pg	Pg	23 31 14.1	-11
KMO				*e*		23 31 18.1	
KMO				*e*		23 31 25.1	
KMO				*e*Sg	Sg	23 32 26.5	-11
KMO				max			
	comp=Z,14nm,1.0s						
KMO				Smax			
	comp=Z,165nm,1.4s						
KMO	**Kumora**	**5.47**	**258**	*e*P	Pn	23 31 01.5	+1.1
KMO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
YLYR	**Ulyunkhan**	**5.91**	**249**	*e*Pn	Pn	23 31 06.8	+0.1
YLYR				*e*		23 31 25.3	
YLYR				*e*Sg	Sg	23 32 39.7	-13
YLYR				Smax			
	comp=Z,115nm,1.3s						
YLYR	**Ulyunkhan**	**5.91**	**249**	*e*P	Pn	23 31 23.8	+17
NIZ	**Nizh Angarsk**	**6.39**	**260**	*e*Sg	Sg	23 32 52.3	-16
NIZ				Smax			
	comp=Z,76nm,2.5s						
YAK	**Yakutsk**	**6.49**	**41**	*e*Pn		23 32 33.3	
YAK				*e*Sg	Sg	23 32 55.0	-17
YAK				Smax			
	comp=Z,486nm,0.7s						
YAK	**Yakutsk**	**6.49**	**41**	*e*P	Pn	23 31 13.3	-1.5
YAK				*e*		23 32 24.4	
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK				smax			
	comp=N,15nm,0.9s						
YAK				smax			
	comp=E,13nm,0.7s						
YAK				smax			
	comp=Z,8.0nm,0.7s						
YAK				smax			
	comp=N,92nm,0.7s						
YAK				smax			
	comp=Z,63nm,1.0s						
YAK				smax			
	comp=E,53nm,0.7s						
YAK				MLR	MLR		
	comp=Z,28nm,9.0s						
CIT	**Chita**	**6.80**	**221**	*e*Pg	Pg	23 31 38.1	-13
CIT				*e*Sg	Sg	23 33 06.8	-15
CIT				Pmax			
	comp=Z,27nm,1.6s						
CIT				Smax			
	comp=Z,160nm,1.1s						
CIT	**Chita**	**6.80**	**221**	*e*P	Pn	23 31 39.5	+20
CIT				pmax	pmax		
	comp=Z,27nm,1.3s						
SYVR	**Suvo**	**7.15**	**243**	*e*Sg	Sg	23 33 18.2	-15
SYVR				Smax			
	comp=Z,117nm,1.2s						
OGRR	**Ongureny**	**8.34**	**249**	*e*Sg	Sg	23 33 53.1	-20
OGRR				Smax			
	comp=Z,59nm,1.8s						
KPC	**Khapcheranga**	**9.16**	**216**	*e*	P	23 31 52.4	+0.2
KPC				*e*Sg	Sg	23 34 16.5	-24
KPC				Smax			
	comp=Z,90nm,1.2s						
TRG	**Tyrgan**	**9.46**	**247**	*e*Sg	Sg	23 34 26.8	-24
TRG				Smax			
	comp=Z,51nm,2.3s						
LSTR	**Listvyanka**	**10.73**	**246**	*e*Sg	S	23 35 05.0	+49
LSTR				Smax			
	comp=Z,7.0nm,0.8s						
MOY	**Mondy**	**12.79**	**252**	*e*Sg	S	23 36 09.3	+64
MOY				Smax			
	comp=Z,31nm,1.7s						
ORL	**Orlik**	**12.94**	**257**	*e*Sg	S	23 36 14.7	+65
ORL				Smax			
	comp=Z,17nm,2.2s						
UNR	**Ust'-Nera**	**13.01**	**47**	*e*Sg	S	23 36 18.2	+67

*ATH **31** 23:37:08.1, 38.67N×22.80E, h12km±2km, MD3.3/12, ML3.3*
*THE **31** 23:37:08.7, 38.66N×22.96E, h10km, ML3.2*
*NEIC **31** 23:37:08.0, 38.67N×22.80E, h12km, ML3.3(ATH), After ATH.*
*CSEM **31** 23:37:08.6±0.1, 38.67N×22.85E, h0km, ML3.3, Error ellipse: s-maj=2.4km s-min=1.6km az=70.0*

ISC 31 23:37:08.7±0.3, 38.67N±0.02×22.89E±0.03, h12km, n26, σ1§17/37, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.09**	**102**	*e*PG	**Pg**	**23 37 11.4**	**-0.1**
LKR				*e*SG	**Sg**	**23 37 13.8**	**+0.4**
AGG	**Agios Georgios**	**0.56**	**309**	*e*Pg	**Pg**	**23 37 19.0**	**-1.1**
AGG				*e*Sg	**Sg**	**23 37 29.2**	**+1.5**
NEO	**Neokhori**	**0.69**	**22**	*e*PB	**Pb**	**23 37 22.2**	**+0.1**
NEO				*e*SB	**Sb**	**23 37 32.0**	**+0.7**
XOR	**Xorichti**	**0.73**	**19**	*e*Pg	**Pg**	**23 37 23.4**	**-0.1**
XOR				*e*Sg	**Sg**	**23 37 33.3**	**-0.1**
MGER	**Gerania Oros**	**0.74**	**157**	*e*PB	**Pb**	**23 37 22.0**	**-1.1**
MPAR	**Parnis Oros**	**0.85**	**128**	*e*PG	**Pg**	**23 37 24.5**	**-1.2**
MPAR				*e*SB	**Sb**	**23 37 38.0**	**+2.1**
EVR	**Evrytania**	**0.88**	**287**	*e*PB	**Pb**	**23 37 24.4**	**-1.0**
EVR				*e*SB	**Sb**	**23 37 34.0**	**-2.8**
ATH	**Athens Observa**	**0.96**	**137**	*e*PG	**Pg**	**23 37 26.7**	**-1.2**
ATH				*e*SB	**Sb**	**23 37 40.6**	**+1.5**
PTL	**Penteli**	**0.99**	**129**	*e*PN	**Pn**	**23 37 27.8**	**-0.5**
NAIG	**Nisos Aigina**	**1.03**	**152**	*e*PN	**Pn**	**23 37 28.2**	**-0.6**
RLS	**Riolos of Patr**	**1.27**	**242**	*e*PB	**Pb**	**23 37 31.0**	**-1.1**
RLS				*e*SB	**Sb**	**23 37 48.2**	**-0.1**
PAIG	**Paliouri**	**1.40**	**26**	*e*Pg	**Pg**	**23 37 33.7**	**-3.0**
LIT	**Litokhoron**	**1.46**	**348**	*e*Pg	**Pg**	**23 37 35.1**	**-2.9**
LIT				*e*Sg	**Sg**	**23 37 57.1**	**-0.3**
ITM	**Ithomi**	**1.67**	**207**	*e*PB	**Pb**	**23 37 39.2**	**+0.3**
LKD	**Levkas**	**1.75**	**272**	*e*Pb	**Pb**	**23 37 41.3**	**+1.0**
PLG	**Polygyros**	**1.76**	**14**	*e*PN	**Pn**	**23 37 39.5**	**+0.2**
KZN	**Kozani**	**1.85**	**333**	*e*PN	**Pn**	**23 37 41.6**	**+1.0**
OUR	**Ouranopolis**	**1.87**	**27**	*e*Pb	**Pb**	**23 37 40.9**	**-1.4**
VLS	**Valsamata**	**1.87**	**255**	*e*PG	**Pg**	**23 37 41.8**	**-4.3**
IGT	**Igoumenitsa**	**2.17**	**294**	*e*Pn	**Pn**	**23 37 46.9**	**+1.8**
IGT				*e*Sn	**Sn**	**23 38 15.0**	**+2.9**
SOH	**Sokhos**	**2.18**	**9**	*e*Pn	**Pn**	**23 37 45.4**	**+0.1**
GRG	**Griva**	**2.31**	**351**	*e*Pn	**Pn**	**23 37 47.5**	**+0.3**
KYTH	**Kithira**	**2.39**	**177**	*e*PN	**Pn**	**23 37 49.0**	**+0.7**
FNA	**Florina**	**2.41**	**332**	*e*Pn	**Pn**	**23 37 48.9**	**+0.2**
FNA				*e*Sn	**Sn**	**23 38 20.7**	**+2.4**
KNT	**Kendrikon**	**2.49**	**0**	*e*Pn	**Pn**	**23 37 49.8**	**+0.1**
VAM	**Vamos**	**3.42**	**162**	*e*PN	**Pn**	**23 38 03.7**	**+0.6**

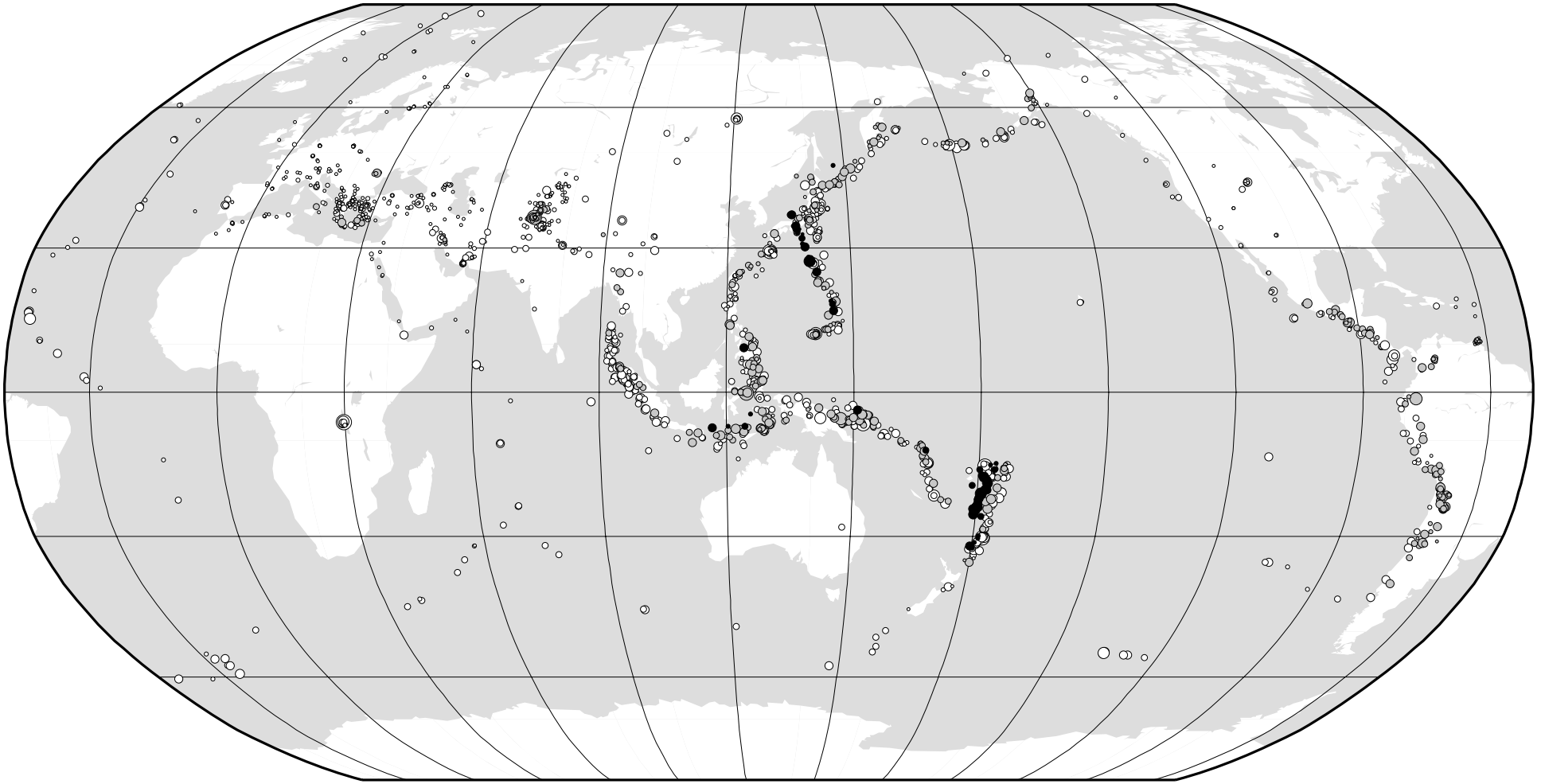
*NIED **31** 23:40:00, 40.90N×143.20E, h29km, Mw3.9 Best double couple: M0 8.67×10^14 NP1:φs28°, δ60°, λ97°. NP2:φs194°, δ31°, λ78°.*
*JMA **31** 23:40:34.6±0.1, 40.94N×143.15E, h40km, M4.1*
*MOS **31** 23:40:35.0±1.3, 41.02N×143.00E, h43km, mb4.5/3, Error ellipse: s-maj=16.0km s-min=9.6km az=82.1*
*IDC **31** 23:40:37.4±2.2, 40.93N×143.02E, h48km±18km, mb3.7/13, mb1 3.8/15, mb1mx3.7/25, mbtmp3.9/15, ML3.4/2, Error ellipse: s-maj=20.6km s-min=14.3km az=110.0*
*NEIC **31** 23:40:39.2±1.8, 40.91N×142.95E, h66km±20km, mb4.5/3, MW3.9(NIED), Error ellipse: s-maj=19.3km s-min=14.8km az=176.0*

ISC 31 23:40:34.7±0.6, 40.96N±0.03×143.20E±0.06, h42km±5km, n48, σ0§86/63, mb4.0/17, 5C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.06**	**358**	⇑P	**P**	**23 40 53.7**	**+0.5**
JEM				*e*S	**S**	**23 41 06.3**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.36**	**346**	⇑P	**P**	**23 40 58.2**	**+0.5**
JANG	**Nango**	**1.41**	**246**	⇓P	**P**	**23 40 57.7**	**-0.6**
JTH	**Tanohata**	**1.44**	**226**	P	**P**	**23 40 58.2**	**-0.5**
JTM	**Tenmabayashi**	**1.62**	**265**	⇓P	**P**	**23 41 01.1**	**-0.3**
JTM				*e*S	**S**	**23 41 20.6**	**-0.6**
JCH	**Churui**	**1.66**	**4**	P	**P**	**23 41 02.4**	**+0.5**
JCH				*e*S	**S**	**23 41 21.5**	**-0.6**
JOT	**Ohata**	**1.68**	**285**	⇓P	**P**	**23 41 01.8**	**-0.3**
JOT				*e*S	**S**	**23 41 22.1**	**-0.5**
JKB	**Kayabe**	**1.88**	**300**	⇑P	**P**	**23 41 04.9**	**0.0**
JKB				*e*S	**S**	**23 41 27.7**	**+0.2**
JOM	**Ohasama**	**2.08**	**225**	*e*S	**S**	**23 41 33.1**	**+0.5**
JFR	**Furan**	**2.25**	**349**	P	**P**	**23 41 11.5**	**+1.2**
JFR				*e*S	**S**	**23 41 37.6**	**+0.6**
JEW	**Eniwo**	**2.29**	**326**	P	**P**	**23 41 11.9**	**+1.1**
JAK	**Akkeshi**	**2.32**	**28**	⇑P	**P**	**23 41 11.1**	**-0.2**
JAK				*e*S	**S**	**23 41 37.8**	**-1.0**
JAR	**Ashoroubuto**	**2.38**	**10**	⇓P	**P**	**23 41 11.9**	**-0.2**
JAR				*e*S	**S**	**23 41 39.3**	**-0.9**
JMK	**Ichinoseki**	**2.51**	**218**	⇑P	**P**	**23 41 14.4**	**+0.4**
JMK				*e*S	**S**	**23 41 44.1**	**+0.4**
JKK2	**Kamakawa 2**	**2.93**	**354**	P	**P**	**23 41 20.5**	**+0.5**
JYK	**Kaneyama**	**2.98**	**228**	P	**P**	**23 41 21.1**	**+0.4**
ASAJ	**Asahikawa**	**3.19**	**352**	P	**P**	**23 41 24.5**	**+0.9**
	4.0nm,0.3s,baz=192,slow=9.1,SNR=26						
ASAJ				S	**S**	**23 42 02.4**	**+1.6**
	8.5nm,0.3s,baz=8.0,slow=30,SNR=5.9						
ASAJ	**Asahikawa**	**3.19**	**352**	P	**P**	**23 41 24.5**	**+0.9**
ASAJ				S	**S**	**23 42 02.4**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,9.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.65**	**32**	*e*P	**P**	**23 41 29.3**	**-0.9**
YUK				*e*S	**S**	**23 42 09.5**	**-3.0**
YUK				smax			
	comp=N,680nm,0.4s						
YUK				smax			
	comp=E,380nm,0.4s						
MAJO	**Matsushiro**	**5.88**	**223**	*e*P	**P**	**23 42 01.2**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,12nm,0.6s						
MAJO	**Matsushiro**	**5.88**	**223**	*e*Pn	**P**	**23 42 01.2**	**-0.4**
	comp=Z,12nm,0.6s						
MAT	**Matsushiro**	**5.88**	**223**	P	**P**	**23 42 01.4**	**-0.1**
MAT				*e*S	**S**	**23 43 16.4**	**+7.7**
MAT	**Matsushiro**	**5.88**	**223**	*e*P	**P**	**23 42 02.0**	**+0.5**
MAT				S	**S**	**23 43 16.0**	**+7.3**
MAT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAT	**Matsushiro**	**5.88**	**223**	*e*P	**P**	**23 42 02.0**	**+0.5**
	comp=Z,5.3nm,0.6s						
MAT				S	**S**	**23 43 16.0**	**+7.3**
MJAR	**Matsushiro Arr**	**5.88**	**223**	P	**P**	**23 42 01.5**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=30,slow=14,SNR=32						
BOD	**Bodaibo**	**25.12**	**322**	*e*P	**P**	**23 45 53.0**	**-3.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
SONM	**Songino Array**	**26.99**	**297**	P	**P**	**23 46 14.1**	**-0.2**
	comp=Z,1.2nm,0.5s,mb3.7,baz=81,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**43.33**	**299**	P	**P**	**23 48 33.4**	**-0.6**
	comp=Z,1.1nm,0.6s,mb3.8,baz=82,slow=10,SNR=28						
KURK	**Kurchatov**	**44.71**	**305**	*e*P	**P**	**23 48 44.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**44.71**	**305**	*e*P	**P**	**23 48 44.4**	**-0.7**
	comp=Z,3.1nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**45.46**	**34**	P	**P**	**23 48 52.1**	**+1.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=257,slow=5.5,SNR=12						
BVAR	**Borovoye Array**	**49.04**	**310**	P	**P**	**23 49 18.6**	**-0.4**
	comp=Z,2.8nm,0.4s,mb4.6,baz=76,slow=9.3,SNR=27						
BRVK	**Borovoye**	**49.09**	**310**	*e*P	**P**	**23 49 18.8**	**-0.6**
ZRNK	**Zerenda**	**49.86**	**310**	*e*P	**P**	**23 49 23.6**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
ZRNK	**Zerenda**	**49.86**	**310**	*e*P	**P**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.04**	**263**	Pn			**P**	**23 48 13.8**	**-0.1**
LSA	**Lhasa**	**20.84**	**359**	*e*P			**P**	**23 50 16.2**	**-0.3**
	8.2nm,0.8s								
MKAR	**Makanchi Array**	**38.75**	**350**	P			**P**	**23 52 58.6**	**+0.6**
	1.5nm,0.7s,mb3.8,baz=168,slow=8.1,SNR=14								
SONM	**Songino Array**	**40.87**	**15**	P			**P**	**23 53 15.4**	**-0.2**
	0.6nm,0.5s,mb3.5,baz=198,slow=8.0,SNR=7.4								
WRA	**Warramunga Arr**	**50.70**	**125**	P			**P**	**23 54 34.0**	**0.0**
	0.8nm,0.5s,mb4.0,baz=304,slow=8.6,SNR=11								
YAK	**Yakutsk**	**59.93**	**20**	P			**P**	**23 55 34.0**	**-6.3**

ISC Computed Locations for December 2005



Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

1952 Events